Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1s15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*SOME **01** 00:01:43.2,40.67N×72.35E,h5km*
*KRNET **01** 00:01:44.2±0.1,40.64N×72.28E,h14km,mb3.0*
*ISU **01** 00:01:45,40.60N×72.30E,h15km*
*NNC **01** 00:01:46.8±1.0,40.74N×72.34E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=8.5km s-min=3.8km az=177.0

ISC 01 00:01:44.1±1.1,**40.68N**±0.02×**72.36E**±0.02,**h16**km±10km,
n39,σ1§**43**/66,**19C-11D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.36**	**116**	⇓*i*P	**Pb**	**00 01 52.4**	**+0.3**
	baz=7.0						
OHH				⇓*i*S	**Sb**	**00 01 58.1**	**+0.5**
	baz=7.0						
FRG	**Fergana**	**0.44**	**277**	*e*P	**Pb**	**00 01 54.0**	**+0.4**
FRG				*e*S	**Sb**	**00 02 01.0**	**+1.0**
ARSB	**Arslanbob**	**0.79**	**36**	⇑*i*P	**Pn**	**00 02 00.7**	**-0.1**
	baz=38						
ARSB				⇑*i*S	**Sn**	**00 02 13.1**	**+0.7**
	baz=38						
SFK	**Sufi-Kurgan**	**1.10**	**127**	⇓*i*P	**Pg**	**00 02 05.4**	**0.0**
	baz=23						
SFK				⇓*i*S	**Sn**	**00 02 21.5**	**+1.5**
	baz=23						
SFK	**Sufi-Kurgan**	**1.10**	**127**	*e*P	**Pn**	**00 02 05.0**	**-0.1**
SFK				*e*P	**Sn**	**00 02 21.0**	**+1.0**
TRKS	**Terek-Say**	**1.25**	**313**	⇑*i*P	**Pn**	**00 02 06.5**	**-0.6**
	baz=15						
TRKS				⇑*i*S	**Sb**	**00 02 22.8**	**-0.7**
	baz=15						
DRK	**Karamyk**	**1.28**	**200**	⇑*i*P	**Pb**	**00 02 07.5**	**-0.5**
	baz=97						
DRK				⇑*i*S	**Sg**	**00 02 24.6**	**-0.9**
	baz=97						
BTK	**Batken**	**1.34**	**243**	⇑*i*P	**Pn**	**00 02 08.0**	**-0.2**
	baz=43						
BTK				⇑*i*S	**Sn**	**00 02 25.5**	**-0.2**
	baz=43						
BTK	**Batken**	**1.34**	**243**	*e*P	**Pn**	**00 02 08.0**	**-0.2**
BTK				*e*S	**Sg**	**00 02 30.0**	**+2.7**
AML	**Almayashu**	**1.76**	**34**	⇓*i*P	**Pg**	**00 02 18.5**	**+0.6**
	baz=35						
AML				⇓*i*S	**Sg**	**00 02 43.4**	**+2.6**
	baz=35						
MNAS	**Manas**	**1.81**	**3**	⇑*e*P	**Pg**	**00 02 18.7**	**-0.1**
	baz=5.0						
MNAS				⇑*i*S	**Sg**	**00 02 43.8**	**+1.6**
	baz=5.0						
ARLS	**Aral**	**1.89**	**51**	⇓*i*P	**Pg**	**00 02 20.5**	**+0.1**
	baz=51						
ARLS				⇓*i*S	**Sg**	**00 02 47.2**	**+2.3**
	baz=51						
CHMG	**Chimgan**	**1.98**	**297**	*e*P	**Pg**	**00 02 21.0**	**-1.1**
CHMG				*e*S	**Sg**	**00 02 48.0**	**+0.2**
MRKS	**Merke**	**2.16**	**17**	*e*P	**Pg**	**00 02 24.6**	**-0.9**
	15nm,0.3s						
MRKS				*e*S	**Sg**	**00 02 55.0**	**+1.4**
	41nm,0.4s						
MRKS	**Merke**	**2.16**	**17**	Pg	**Pg**	**00 02 25.7**	**+0.2**
	15nm,0.3s						
MRKS				Lg	Lg	00 02 55.7	
	41nm,0.4s						
EKS2	**Erkin-Say**	**2.24**	**28**	*e*P	**Pb**	**00 02 25.4**	**+1.1**
	baz=29						
EKS2				*i* S	**Sg**	**00 02 55.6**	**-0.6**
	baz=29						
IUG	**Iuzhnay**	**2.28**	**311**	*e*P	**Pb**	**00 02 26.0**	**+1.0**
	4.8nm,0.1s						
IUG				*e*S	**Sg**	**00 02 57.2**	**-0.4**
	59nm,0.2s						
IUG	**Iuzhnay**	**2.28**	**311**	Pg	**Pg**	**00 02 26.7**	**-1.3**
	250nm,0.2s						
IUG				Lg	Lg	00 02 57.3	
	59nm,0.2s						
AAK	**Ala-Archa**	**2.52**	**39**	⇑*i*P	**Pb**	**00 02 29.6**	**+0.5**
	baz=39						
AAK				⇑*i*S	**Sb**	**00 03 02.5**	**+2.6**
	baz=39						
AAK	**Ala-Archa**	**2.52**	**39**	⇑Pn	**Pb**	**00 02 29.6**	**+0.5**
	8.1nm,0.5s						
AAK				⇓Lg	Lg	00 03 06.0	
	20nm,0.4s						
KBK	**Karagaybulak**	**2.76**	**44**	⇑*i*P	**Pb**	**00 02 33.0**	**-0.2**
	baz=44						
KBK				⇑*i*S	**Sb**	**00 03 08.6**	**+1.7**
	baz=44						
KK31	**Karatay Array**	**2.79**	**331**	⇑Pg	**Pg**	**00 02 36.5**	**-0.9**
	1.4nm,0.3s,baz=154,slow=13,SNR=13						
KK31				⇑Lg	Lg	00 03 14.5	
	11nm,0.6s,baz=152,slow=25,SNR=6.4						
USP	**Ospenovka**	**3.03**	**31**	⇑*i*P	**Pb**	**00 02 36.4**	**-1.3**
	baz=32						
USP				⇑*i*S	**Sb**	**00 03 14.4**	**-0.1**
	baz=32						
BOOM	**Boomskoye usch**	**3.23**	**55**	⇓*i*P	**Pb**	**00 02 39.5**	**-1.7**
	baz=55						
BOOM				⇓*i*S	**Sb**	**00 03 19.9**	**-0.5**
	baz=55						
SGDS	**Sogindy**	**3.24**	**31**	Pg	**Pg**	**00 02 44.8**	**-1.3**
	3.3nm,0.3s						
SGDS				Lg	Lg	00 03 27.3	
	9.9nm,0.3s						
KST	**Kastek**	**3.58**	**48**	*e*P	**Pg**	**00 02 50.3**	**-2.2**
	6.3nm,0.2s						
KST				*e*S	**Sg**	**00 03 38.8**	**-0.1**
	8.9nm,0.4s						
KST	**Kastek**	**3.58**	**48**	Pg	**Pg**	**00 02 51.8**	**-0.8**
	6.3nm,0.2s						
KST				Lg	Lg	00 03 39.4	
	8.9nm,0.4s						
DGS	**Degeres**	**3.60**	**44**	*e*P	**Pg**	**00 02 51.9**	**-1.2**
	3.9nm,0.3s						
DGS				*e*S	**Sg**	**00 03 41.5**	**+1.7**
	4.8nm,0.3s						
DGS	**Degeres**	**3.60**	**44**	Pg	**Pg**	**00 02 52.2**	**-1.0**
	3.9nm,0.3s						
DGS				Lg	Lg	00 03 39.8	
	4.8nm,0.3s						
KRBS	**Karabastau**	**3.89**	**38**	*e*P	**Pg**	**00 02 56.8**	**-1.7**
	2.5nm,0.3s						
KRBS				*e*S	**Sg**	**00 03 50.0**	**+1.1**
	6.4nm,0.4s						
KRBS	**Karabastau**	**3.89**	**38**	Pg	**Pg**	**00 02 56.8**	**-1.7**
	2.5nm,0.3s						
KRBS				Lg	Lg	00 03 48.0	
	6.4nm,0.4s						
MTBS	**Maitube**	**3.90**	**50**	*e*P	**Pg**	**00 02 56.3**	**-2.4**
	0.8nm,0.2s						
MTBS				*e*S	**Sg**	**00 03 49.4**	**+0.2**
	6.8nm,0.2s						
MTBS	**Maitube**	**3.90**	**50**	Pg	**Pg**	**00 02 57.1**	**-1.6**
	2.2nm,0.1s						
MTBS				Lg	Lg	00 03 48.0	
	6.8nm,0.2s						
KUU	**Kurty**	**4.36**	**41**	*e*P	**Pg**	**00 03 04.3**	**-3.2**
	1.3nm,0.4s						
KUU				*e*S	**Sg**	**00 04 03.0**	**-1.0**
	5.9nm,0.3s						
KUU	**Kurty**	**4.36**	**41**	Pg	**Pg**	**00 03 05.5**	**-2.0**
	1.4nm,0.3s						
KUU				Lg	Lg	00 04 02.9	
	5.9nm,0.3s						
KTBS	**Karatobe**	**4.41**	**45**	*e*P	**Pg**	**00 03 05.3**	**-3.2**
	1.2nm,0.3s						
KTBS				*e*S	**Sg**	**00 04 04.7**	**-0.9**
	12nm,0.3s						
KTBS	**Karatobe**	**4.41**	**45**	Pg	**Pg**	**00 03 06.1**	**-2.5**
	1.2nm,0.3s						
KTBS				Lg	Lg	00 04 04.7	
	12nm,0.3s						
CHKK	**Chushkaly**	**4.67**	**46**	*e*P	**Pg**	**00 03 10.5**	**-3.0**
	0.7nm,0.2s						
CHKK				*e*S	**Sg**	**00 04 13.7**	**-0.2**
	5.9nm,0.2s						
CHKK	**Chushkaly**	**4.67**	**46**	Pg	**Pg**	**00 03 11.6**	**-1.9**
	1.5nm,0.5s						
CHKK				Lg	Lg	00 04 13.0	
	5.9nm,0.2s						

*IDC **01** 00:01:58.4±1.9,5.72S×150.92E,h0km,mb3.9/4,*
mb1 4.2/4,mb1mx3.6/45,mbtmp3.9/4,Error ellipse:
s-maj=110.2km s-min=25.9km az=128.0
*NEIC **01** 00:02:02.5±0.9,6.3S±0.2×151.2E±0.2,h10km±2km,*
mb4.0/6,Error ellipse: s-maj=37.6km s-min=6.9km
az=136.0

ISC 01 00:01:58.5±1.9,**6.4S**±0.2×**151.6E**±0.4,**h10**km,**n12,**
g0§80/13,mb4.0/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.22**	**15**	Pn	**Pg**	**00 02 40.6**	**-0.5**
RABL				Sn	**Sg**	**00 03 11.0**	**+1.0**
WB0	**Warramunga Arr**	**21.36**	**230**	P	**P**	**00 06 46.5**	**+0.3**
WB0				IAmb	IAmb	00 07 03.5	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**21.37**	**229**	P	**P**	**00 06 46.7**	**+0.4**
WR0				IAmb	IAmb	00 07 05.2	
	comp=Z,20nm,1.6s						
WB2	**Warramunga Arr**	**21.50**	**229**	P	**P**	**00 06 47.4**	**-0.3**
WB2				IAmb	IAmb	00 07 06.4	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**21.51**	**229**	P	**P**	**00 06 48.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=53,slow=10,SNR=11						
WRA	**Warramunga Arr**	**21.51**	**229**	P	**P**	**00 06 48.4**	**+0.7**
AS31	**Alice Springs**	**24.19**	**223**	P	**P**	**00 07 16.3**	**+0.9**
AS31				IAmb	IAmb	00 07 29.7	
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**24.19**	**223**	P	**P**	**00 07 16.9**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=56,slow=9.1,SNR=15						
SOEI	**Soe**	**27.24**	**261**	P	**P**	**00 07 43.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.86**	**243**	P	**P**	**00 07 47.7**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=60,slow=8.1,SNR=1.4						
ILAR	**Eielson Array**	**84.05**	**22**	P	**P**	**00 14 28.8**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=247,slow=5.5,SNR=11						
TORD	**Torodi Ar. Bea**	**149.57**	**285**	PKPbc	**PKPbc**	**00 21 48.9**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=44,slow=2.1,SNR=4.4						

*IDC **01** 00:02:27.9±0.6,29.91N×50.69E,h0km,mb4.2/30,*
mb1 4.2/36,mb1mx4.2/55,mbtmp4.2/36,ML3.9/6,MS3.0/5,
Ms1 3.0/5,ms1mx2.8/53,Error ellipse: s-maj=13.6km
s-min=11.6km az=174.0
*NEIC **01** 00:02:29.9±1.2,29.88N±0.06×50.71E±0.07,h10km±1km,*
mb4.4/57,mb_Lg4.4(TEH),Error ellipse: s-maj=10.9km
s-min=10.6km az=190.0
*TEH **01** 00:02:30.3,30.01N×50.67E,h14km,ML4.5*
*THR **01** 00:02:30.2±0.3,30.12N×50.68E,h14km±5km,ML4.4*
*MOS **01** 00:02:30.1±1.3,29.92N×50.68E,h26km,mb4.5/29,Error*
ellipse: s-maj=6.2km s-min=4.4km az=102.6
*DSN **01** 00:02:35.4±1.4,29.43N×50.72E,h10km,ML4.2/10,Error*
ellipse: s-maj=20.9km s-min=6.5km az=4.0
*OMAN **01** 00:02:39.3±0.7,29.30N×50.63E,h35km±70km,mb5.6/30,*
ml5.2/1,ms2.8/1,Error ellipse: s-maj=34.3km
s-min=10.9km az=357.0

ISC 01 00:02:29.3±0.3,**29.83N**±0.03×**50.63E**±0.03,**h10**km,**n370,**
σ1§82/408,**mb4.3**/85,**MS3.2**/6,**19C-9D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.83**	**337**	*e*Pg	**Pg**	**00 02 44.2**	**-1.1**
KAZ1	**Kazerun**	**0.91**	**103**	*e*Pg	**Pg**	**00 02 47.3**	**+0.6**
AHBU	**AHRAM**	**1.13**	**149**	*e*Pg	**Pn**	**00 02 55.3**	**+4.1**
KLNJ	**Kolanjah**	**1.44**	**35**	*e*Pg	**Pn**	**00 02 53.3**	**-2.4**
KLNJ				*e*Sg	**Sb**	**00 03 13.1**	**-1.8**
SHI	**Shiraz**	**1.65**	**96**	P	**Pn**	**00 03 00.7**	**+2.2**
SHI	**Shiraz**	**1.65**	**96**	*e*Pg	**Pb**	**00 03 01.2**	**+1.3**
SHI				*e*		00 03 27.0	
	comp=Z,54μm,0.4s						
IBRJ	**Brojen**	**2.14**	**15**	*e*Pn	**Pn**	**00 03 06.4**	**+1.1**
AHWZ	**Ahwaz**	**2.27**	**312**	*e*Pn	**Pn**	**00 03 09.0**	**+2.2**
IRAM	**Ramesheh**	**2.48**	**37**	*e*Pn	**Pn**	**00 03 10.9**	**+0.9**
SHK1	**Shahrekord**	**2.50**	**5**	*e*Pn	**Pn**	**00 03 10.8**	**+0.6**
QIR1	**Qir**	**2.51**	**122**	*e*Pn	**Pn**	**00 03 13.7**	**+3.5**
QIR1				*e*		00 04 02.0	
	comp=Z,31μm,0.4s						
UMR	**Umm Al-Rimmam**	**2.55**	**264**	*e*P	**Pb**	**00 03 14.5**	**-0.6**
QRN	**Al-Qurain**	**2.60**	**246**	*e*P	**Pb**	**00 03 16.0**	**-0.4**
SHGR	**Shooshtar-Gavs**	**2.76**	**326**	*e*Pn	**Pn**	**00 03 13.1**	**-0.4**
SHGR				*e*Sg	**Sn**	**00 03 50.0**	**+3.1**
SHGR	**Shooshtar-Gavs**	**2.76**	**326**	*e*Pn	**Pn**	**00 03 13.1**	**-0.4**
IGAR	**Gharneh**	**2.83**	**25**	*e*Pn	**Pn**	**00 03 15.5**	**+0.6**
RDF	**Al-Radifah**	**2.83**	**252**	*e*P	**Pb**	**00 03 19.1**	**-0.9**
IPIR	**Pirpir**	**2.85**	**4**	*e*Pn	**Pn**	**00 03 16.8**	**+1.7**
JHRM	**Jahrom**	**2.90**	**116**	*e*Pn	**Pn**	**00 03 17.8**	**+2.2**
JHRM				*e*		00 04 16.9	
	comp=Z,14μm,1.4s						
LMD1	**Lamerd**	**3.34**	**137**	*e*Pn	**Pn**	**00 03 26.4**	**+4.8**
LMD1				*e*		00 04 34.8	
	comp=Z,9μm,1.1s						
ISAD	**Sadrabad**	**3.35**	**51**	*e*Pn	**Pn**	**00 03 23.0**	**+1.0**
IZEF	**Zefreh**	**3.38**	**25**	*e*Pn	**Pn**	**00 03 25.2**	**+0.8**
IKLH	**Kolahrood**	**3.57**	**13**	*e*Pn	**Pn**	**00 03 26.1**	**+1.1**
IMEH	**Mehriz**	**3.77**	**65**	*e*Pn	**Pn**	**00 03 29.3**	**+1.6**
IMEH				*e*		00 04 41.1	
	comp=Z,5μm,1.2s						
LAR1	**LAR**	**3.93**	**122**	*e*Pn	**Pn**	**00 03 31.8**	**+2.0**
LAR1				*e*		00 04 58.1	
	comp=Z,10μm,1.5s						
QAM	**Ghamsar**	**3.98**	**10**	*e*Pn	**Pn**	**00 03 31.7**	**+1.2**
ICHK	**Chekchek**	**4.04**	**53**	*e*Pn	**Pn**	**00 03 31.5**	**+0.1**
BMDN	**Meydan**	**4.12**	**339**	*e*Pn	**Pn**	**00 03 33.0**	**+0.5**
ANAR	**Anarak**	**4.27**	**38**	*e*Pn	**Pn**	**00 03 35.2**	**+0.7**
KRSH	**Karshahi**	**4.32**	**17**	*e*Pn	**Pn**	**00 03 35.9**	**+0.7**
IKFM	**Kafar-mosalman**	**4.38**	**328**	*e*Pn	**Pn**	**00 03 37.3**	**+1.5**
IDOB	**Doab**	**4.46**	**333**	*e*Pn	**Pn**	**00 03 37.7**	**+0.5**
IBAF	**Bafgh**	**4.60**	**66**	*e*Pn	**Pn**	**00 03 40.3**	**+1.2**
HSAM	**Samen**	**4.69**	**339**	*e*Pn	**Pn**	**00 03 41.4**	**+1.0**
ISFB	**Sefidab**	**4.71**	**16**	*e*Pn	**Pn**	**00 03 41.0**	**+0.5**
KHGB	**Koh Gabri**	**5.10**	**82**	*e*Pn	**Pn**	**00 03 47.1**	**+1.1**
KHGB				*e*		00 05 32.9	
	comp=Z,3μm,2.0s						
HAGD	**Aghdareh**	**5.13**	**346**	*e*Pn	**Pn**	**00 03 47.0**	**+0.6**
IBZA	**Bozab**	**5.18**	**334**	*e*Pn	**Pn**	**00 03 48.2**	**+1.0**
NGRK	**Negar Kerman**	**5.31**	**91**	*e*Pn	**Pn**	**00 03 51.2**	**+2.2**
NGRK				*e*		00 04 57.4	
	comp=Z,2μm,0.4s						
KRBR	**Kerman**	**5.33**	**87**	*e*Pn	**Pn**	**00 03 51.0**	**+1.8**
KRBR				IAML		00 04 56.0	
	comp=E,464nm,1.0s						
KRBR				IAML		00 05 02.4	
	comp=N,110nm,0.6s						
KRBR	**Kerman**	**5.33**	**87**	*e*Pn	**Pn**	**00 03 51.0**	**+1.8**
TVBK	**TV Kerman**	**5.33**	**87**	*e*Pn	**Pn**	**00 03 51.6**	**+2.4**
TVBK				*e*		00 05 33.8	
	comp=Z,2μm,0.7s						
KCHF	**Cheshme Sefid,**	**5.37**	**326**	*e*Pn	**Pn**	**00 03 52.0**	**+2.3**
KER	**Kermanshah**	**5.42**	**328**	*e*Pn	**Pn**	**00 03 51.9**	**+1.6**
IALM	**Almabolaq**	**5.43**	**338**	*e*Pn	**Pn**	**00 03 51.1**	**+0.6**
GENO	**Geno**	**5.44**	**115**	*e*Pn	**Pn**	**00 03 52.2**	**+1.5**
IRAZ	**Razeghan**	**5.59**	**354**	*e*Pn	**Pn**	**00 03 53.3**	**+0.6**
IHSB	**Hasanabad**	**5.62**	**5**	*e*Pn	**Pn**	**00 03 54.7**	**+1.7**
IGHG	**Ghaleghazi**	**5.65**	**324**	*e*Pn	**Pn**	**00 03 55.6**	**+2.0**
IBND	**Bandar-abas**	**5.71**	**113**	*e*Pn	**Pn**	**00 03 53.3**	**-0.9**
SLWR	**Sila**	**5.82**	**170**	P	**Pn**	**00 04 00.3**	**+4.6**
IMHD	**Mahdasht**	**5.83**	**0**	*e*Pn	**Pn**	**00 03 56.7**	**+0.7**
ILAS	**Lasjerd**	**5.87**	**19**	*e*Pn	**Pn**	**00 03 57.2**	**+0.6**
QABG	**Abgarm-Qazvin**	**5.92**	**352**	*e*Pn	**Pn**	**00 03 55.9**	**-1.4**
ILIN	**Lien**	**5.94**	**330**	*e*Pn	**Pn**	**00 03 57.9**	**+0.3**
CHMN	**Cheshme madani**	**6.00**	**88**	*e*Pn	**Pn**	**00 04 00.3**	**+1.8**
IDHR	**Dehrash**	**6.04**	**325**	*e*Pn	**Pn**	**00 03 59.4**	**+0.6**
TPRV	**Parvadeh(Tabas**	**6.08**	**57**	*e*Pn	**Pn**	**00 04 00.0**	**+0.7**
SHME	**Shamm**	**6.16**	**126**	P	**Pn**	**00 04 02.3**	**+1.9**
SHME	**Shamm**	**6.16**	**126**	*e*Pn	**Pn**	**00 04 02.0**	**+1.6**
SHME	**Shamm**	**6.16**	**126**	P	**Pn**	**00 04 02.9**	**+2.5**
SHME				S	**Sn**	**00 05 11.4**	**+0.4**
GHWR	**Ruwais**	**6.18**	**161**	*e*Pn	**Pn**	**00 04 04.4**	**+3.7**
GHWR	**Ruwais**	**6.18**	**161**	P	**Pn**	**00 04 05.3**	**+4.6**
IANJ	**Anjilo**	**6.26**	**25**	*e*Pn	**Pn**	**00 04 02.8**	**+0.8**
BANOM	**Banah**	**6.35**	**126**	*i* P	**Pn**	**00 04 05.0**	**+1.9**
	SNR=31						
BANOM				S	**Sn**	**00 05 15.2**	**-0.6**
BANOM	**Banah**	**6.35**	**126**	*e*Pn	**Pn**	**00 04 04.2**	**+1.1**
BANOM	**Banah**	**6.35**	**126**	P	**Pn**	**00 04 04.9**	**+1.9**
	SNR=6.2						
BANOM				S	**Sn**	**00 05 15.3**	**-0.5**
	SNR=7.2						
ISHM	**Shahmirzad**	**6.36**	**20**	*e*Pn	**Pn**	**00 04 03.3**	**-0.1**
AJN	**Ajban**	**6.53**	**143**	*e*Pn	**Pn**	**00 04 08.7**	**+3.3**
AJN	**Ajban**	**6.53**	**143**	P	**Pn**	**00 04 08.8**	**+3.3**
IGZV	**Ghazvin**	**6.54**	**357**	*e*Pn	**Pn**	**00 04 06.2**	**+0.4**
TNSJ	**Nastanj**	**6.54**	**49**	*e*Pn	**Pn**	**00 04 06.3**	**+0.6**
IPRN	**Peran**	**6.55**	**12**	*e*Pn	**Pn**	**00 04 06.7**	**+0.9**
QALM	**Alamut, Qazvin**	**6.58**	**0**	*e*Pn	**Pn**	**00 04 06.3**	**0.0**
NAZ	**Nazwa, Dubai**	**6.58**	**136**	P	**Pn**	**00 04 08.3**	**+2.2**
NAZ	**Nazwa, Dubai**	**6.58**	**136**	*e*Pn	**Pn**	**00 04 08.1**	**+1.9**
NAZ	**Nazwa, Dubai**	**6.58**	**136**	P	**Pn**	**00 04 08.6**	**+2.4**
MASF	**Masafi**	**6.62**	**131**	P	**Pn**	**00 04 08.4**	**+1.6**
	SNR=9.0						
MASF				S	**Sn**	**00 05 21.9**	**-0.5**
	SNR=9.0						
MSFE	**Esma-Masafi**	**6.63**	**131**	P	**Pn**	**00 04 08.2**	**+1.3**
MSFE	**Esma-Masafi**	**6.63**	**131**	*e*Pn	**Pn**	**00 04 08.2**	**+1.3**
ASUD	**Al Ashush, Dub**	**6.67**	**140**	*i* P	**Pn**	**00 04 10.1**	**+2.8**
	SNR=52						
ASUD	**Al Ashush, Dub**	**6.67**	**140**	*e*Pn	**Pn**	**00 04 09.5**	**+2.2**
ASUD	**Al Ashush, Dub**	**6.67**	**140**	P	**Pn**	**00 04 10.5**	**+3.2**
	SNR=51						
TKDS	**Koohdasht(Taba**	**6.69**	**54**	*e*Pn	**Pn**	**00 04 08.3**	**+0.5**
MZWR	**Madinat Zayed**	**6.71**	**154**	*e*Pn	**Pn**	**00 04 12.0**	**+4.1**
MZWR	**Madinat Zayed**	**6.71**	**154**	P	**Pn**	**00 04 12.7**	**+4.8**
FAQ	**Al Faqa, Dubai**	**6.72**	**138**	*i* P	**Pn**	**00 04 10.0**	**+1.9**
	SNR=6.9						
FAQ	**Al Faqa, Dubai**	**6.72**	**138**	*e*Pn	**Pn**	**00 04 10.0**	**+1.9**
FAQ	**Al Faqa, Dubai**	**6.72**	**138**	P	**Pn**	**00 04 11.0**	**+2.9**
	SNR=6.9						
MDH	**Madha**	**6.76**	**131**	P	**Pn**	**00 04 09.8**	**+1.2**
MDH	**Madha**	**6.76**	**131**	*e*Pn	**Pn**	**00 04 09.9**	**+1.2**
MDH	**Madha**	**6.76**	**131**	P	**Pn**	**00 04 11.4**	**+2.7**
MDH				S	**Sn**	**00 05 24.1**	**-1.6**
QSDN	**Sirdan**	**6.76**	**350**	*e*Pn	**Pn**	**00 04 09.3**	**+0.5**
UOSS	**Minazif**	**6.95**	**133**	P	**Pn**	**00 04 12.4**	**+1.2**
UOSS	**Minazif**	**6.95**	**133**	Pn	**Pn**	**00 04 12.6**	**+1.4**
UOSS				Sn	**Sn**	**00 05 25.7**	**-4.6**
UOSS	**Minazif**	**6.95**	**133**	*e*Pn	**Pn**	**00 04 13.3**	**+2.1**
UOSS	**Minazif**	**6.95**	**133**	P	**Pn**	**00 04 12.4**	**+1.2**
UOSS				S	**Sn**	**00 05 28.2**	**-2.1**
HATD	**Hatta, Dubai**	**6.99**	**134**	*i* P	**Pn**	**00 04 14.0**	**+2.3**
	SNR=7.3						
HATD	**Hatta, Dubai**	**6.99**	**134**	*e*Pn	**Pn**	**00 04 14.4**	**+2.6**
HATD	**Hatta, Dubai**	**6.99**	**134**	P	**Pn**	**00 04 14.3**	**+2.5**
	SNR=8.0						
HATD				S	**Sn**	**00 05 30.0**	**-1.4**
ASHO	**Ashiyiah**	**7.05**	**135**	*i* P	**Pn**	**00 04 14.1**	**+1.5**
	SNR=10						
ASHO	**Ashiyiah**	**7.05**	**135**	*e*Pn	**Pn**	**00 04 14.9**	**+2.3**
ASHO	**Ashiyiah**	**7.05**	**135**	P	**Pn**	**00 04 15.5**	**+2.9**
	SNR=10						
ASHO				S	**Sn**	**00 05 30.0**	**-2.8**
IGLO	**Ghaloghah**	**7.17**	**21**	*e*Pn	**Pn**	**00 04 15.8**	**+1.4**
ALNE	**Al Ain**	**7.35**	**140**	*i* P	**Pn**	**00 04 18.2**	**+1.5**
	SNR=27						
ALNE	**Al Ain**	**7.35**	**140**	*e*Pn	**Pn**	**00 04 19.2**	**+2.5**
ALNE	**Al Ain**	**7.35**	**140**	P	**Pn**	**00 04 19.3**	**+2.5**
	SNR=26						
ITEG	**Tejag**	**7.59**	**64**	*e*Pn	**Pn**	**00 04 20.5**	**+0.4**
IKOO	**Kooshah**	**7.63**	**68**	*e*Pn	**Pn**	**00 04 21.6**	**+0.8**
SOHO	**SOHO**	**7.74**	**136**	*i* P	**Pn**	**00 04 22.6**	**+0.5**
	SNR=8.8						
SOHO	**SOHO**	**7.74**	**136**	*e*Pn	**Pn**	**00 04 23.7**	**+1.6**
SOHO	**SOHO**	**7.74**	**136**	P	**Pn**	**00 04 23.9**	**+1.8**
SOHO				S	**Sn**	**00 05 47.8**	**-2.1**
RAYN	**Ar Rayn**	**7.78**	**217**	*i* P	**Pn**	**00 04 24.8**	**+2.1**
	SNR=105						
RAYN	**Ar Rayn**	**7.78**	**217**	P	**Pn**	**00 04 24.7**	**+2.1**
RAYN						00 05 52.0	
RAYN	**Ar Rayn**	**7.78**	**217**	Pn	**Pn**	**00 04 24.7**	**+2.1**
RAYN				Sn	**Sn**	**00 05 52.0**	**+1.1**
RAYN	**Ar Rayn**	**7.78**	**217**	P	**Pn**	**00 04 25.0**	**+2.3**
AFRZ	**Afriz**	**8.00**	**61**	*e*Pn	**Pn**	**00 04 24.8**	**-0.9**
NHDN	**Nehbandan**	**8.27**	**77**	*e*Pn	**Pn**	**00 04 31.4**	**+2.0**
ISRB	**Sarab**	**8.34**	**344**	*e*Pn	**Pn**	**00 04 30.2**	**-0.3**
ARQ	**Araqi**	**8.35**	**139**	P	**Pn**	**00 04 33.0**	**+2.5**
	SNR=25						
ARQ				S	**Sn**	**00 06 03.5**	**-1.3**
IMON	**Monand**	**8.41**	**64**	*e*Pn	**Pn**	**00 04 33.7**	**+2.2**
HOQ	**Hoqain**	**8.63**	**135**	P	**Pn**	**00 04 37.0**	**+2.7**
HOQ				S	**Sn**	**00 06 09.4**	**-2.3**
SBZV	**Sabzevar**	**8.77**	**40**	*e*Pn	**Pn**	**00 04 37.0**	**+0.6**
ZHDN	**Zahedan**	**8.88**	**90**	*e*Pn	**Pn**	**00 04 39.2**	**+1.4**
IHRS	**Heris**	**8.97**	**342**	*e*Pn	**Pn**	**00 04 39.2**	**+0.1**
BIDL	**Bidbid**	**9.19**

comp=Z,26nm,1.0s
CSS Mathiatis 15.47 294 Pn **Pn** **00 06 08.9 +1.3**
CSS IAmb IAmb 00 06 13.1

comp=Z,14nm,1.1s
SOC Sochi 16.25 331 *e*P **Pn** **00 06 14.7 -2.9**
SOC *e* 00 09 15.4
SOC MLR MLR

comp=Z,72nm,8.0s
KBL Kabul 16.28 68 P **Pn** **00 06 18.6 +0.3**
KBL pmax pmax

comp=Z,9.0nm,1.1s
KBL Kabul 16.28 68 **Pn** **00 06 18.6 +0.3**
BRTR Keskin Array B 17.07 310 P **Pn** **00 06 29.3 +1.2**
comp=Z,0.3nm,0.3s,baz=133,slow=13,SNR=14
BR131 Keskin Array S 17.07 310 P **Pn** **00 06 29.4 +1.2**
BR131 pmax pmax

comp=Z,5.0nm,0.8s
BR131 Keskin Array S 17.07 310 **Pn** **00 06 29.4 +1.2**
ANTO Ankara 17.70 309 P **P** **00 06 38.1 +1.2**
ANTO pmax pmax

comp=Z,6.0nm,0.8s
ANTO Ankara 17.70 309 **P** **00 06 38.1 +1.2**
ILGA Ilgaz 17.72 314 **Pn** **00 06 38.2 +1.8**
ISP Isparta 18.48 301 P **P** **00 06 45.6 0.0**
ISP pmax pmax

comp=Z,5.0nm,0.7s
ISP Isparta 18.48 301 **P** **00 06 45.5 0.0**
ELL Elmali 18.62 297 P **Pn** **00 06 49.0 +1.6**
ELL pmax pmax

comp=Z,24nm,0.6s
ELL Elmali 18.62 297 P **Pn** **00 06 49.0 +1.6**
MDUB Mudurnu 19.07 309 P **P** **00 06 53.0 +1.1**
MDUB IAmb IAmb 00 06 57.5

comp=Z,29nm,0.8s
BTK Batken 19.40 53 P **P** **00 06 54.5 -1.1**
BTK pmax pmax

comp=Z,17nm,1.4s
BTK Batken 19.40 53 P **P** **00 06 54.5 -1.1**
ATD Arta Tunnel 19.60 203 P **P** **00 06 58.1 +0.2**
comp=Z,0.3nm,0.3s,baz=296,slow=23,SNR=2.0
ATD LR LR 00 15 05.9

comp=Z,44nm,20.4s,baz=32,slow=38
ATD Arta Tunnel 19.60 203 P **P** **00 06 58.5 +0.7**
ATD IAmb IAmb 00 07 07.8

comp=Z,11nm,0.9s
DRK Karamyk 19.86 55 P **P** **00 07 01.4 +0.5**
DRK IAmb IAmb 00 07 11.7

comp=Z,16nm,1.1s
MANT Manisa 20.16 301 P **P** **00 07 05.7 +1.6**
KARP Karpathos 20.54 292 P **P** **00 07 09.2 +1.3**
AB31 Akbulak array 20.65 18 P **P** **00 07 08.3 -0.7**
ABKAR Akbulak array 20.65 18 P **P** **00 07 08.5 -0.5**
ABKAR Akbulak array 20.65 18 P **P** **00 07 07.8 -1.2**
KK31 Karatay Array 20.70 45 *i* P **P** **00 07 10.0 +0.4**
KK31 Karatay Array 20.70 45 P **P** **00 07 09.5 -0.1**
KK31 IAmb IAmb 00 07 19.0

comp=Z,20nm,0.8s
KKAR Karatay Array 20.70 45 P **P** **00 07 09.5 -0.1**
KKAR pmax pmax

comp=Z,21nm,0.9s
KKAR Karatay Array 20.70 45 P **P** **00 07 09.5 -0.1**
KKAR IAmb IAmb 00 07 19.0

comp=Z,20nm,0.8s
KKAR Karatay Array 20.70 45 P **P** **00 07 09.2 -0.4**
AKTO Aktyubinsk 21.32 13 P **P** **00 07 14.5 -1.7**
comp=Z,2.6nm,0.5s,baz=195,slow=10.0,SNR=14
ARSB Arslanbob 21.43 52 P **P** **00 07 16.9 -0.7**
ARSB pmax pmax

comp=Z,23nm,0.9s
ARSB Arslanbob 21.43 52 P **P** **00 07 16.9 -0.7**
SANT Santorini 22.04 294 P **P** **00 07 25.1 +1.0**
SANT IAmb IAmb 00 07 29.5

comp=Z,22nm,1.1s
IDI Anoyia 22.34 291 P **P** **00 07 29.4 +2.1**
comp=Z,9.3nm,0.6s,baz=96,slow=14,SNR=20
IDI Anoyia 22.34 291 ⇓P **P** **00 07 29.7 +2.4**
IDI Anoyia 22.34 291 P **P** **00 07 27.6 +0.3**
IDI IAmb IAmb 00 07 33.4

comp=Z,17nm,1.0s
VRH Novokhopyorsk 22.36 345 *e*P **P** **00 07 26.5 -0.8**
VRH pmax pmax

comp=Z,50nm,0.6s
BELG Belogornoye 22.65 355 P **P** **00 07 28.1 -2.3**
comp=Z,4.0nm,0.4s,baz=9.3,slow=2.5,SNR=6.8
BELG Belogornoye 22.65 355 *i* P **P** **00 07 30.9 +0.5**
BELG pmax pmax

comp=Z,6.0nm,0.9s
JURR Jurilovca 22.74 317 ⇓P **P** **00 07 33.3 +1.9**
ALN Alexandroupoli 22.81 306 P **P** **00 07 33.3 +1.1**
ALN pmax pmax

comp=Z,4.0nm,0.8s
ALN Alexandroupoli 22.81 306 P **P** **00 07 33.3 +1.1**
TIRR Tirgusor 22.85 316 ⇑P **P** **00 07 34.4 +1.8**
TIRR Tirgusor 22.85 316 P **P** **00 07 32.3 -0.3**
TIRR pmax pmax

comp=Z,18nm,1.0s
TIRR Tirgusor 22.85 316 P **P** **00 07 32.3 -0.3**
TIRR IAmb IAmb 00 07 41.9

comp=Z,18nm,1.0s
KSH Kashi 22.91 58 P **P** **00 07 28.2 -5.3**
KSH PP **PnPn** **00 07 51.6 -6.3**
KSH pmax pmax

comp=Z,7.0nm,0.5s
KSH pmax pmax

comp=Z,66nm,2.6s
KSH L L

comp=Z,530nm,13.5s
KSH L L

comp=Z,220nm,9.5s
KSH L L

comp=Z,150nm,7.6s
VSR Storozhevoye 23.01 341 *e*P **P** **00 07 32.1 -2.1**
VSR pmax pmax

comp=Z,20nm,1.1s
AAK Ala-Archa 23.01 50 P **P** **00 07 33.8 -0.8**
comp=Z,0.7nm,0.3s,baz=212,slow=13,SNR=1.5
AAK LR LR 00 17 18.7

comp=Z,83nm,19.4s,baz=116,slow=39
AAK Ala-Archa 23.01 50 P **P** **00 07 35.3 +0.7**
AAK pmax pmax

comp=Z,9.0nm,0.8s
AAK Ala-Archa 23.01 50 P **P** **00 07 35.3 +0.7**
AAK IAmb IAmb 00 07 47.1

comp=Z,9.5nm,0.8s
TPGR Topolog 23.06 317 ⇑P **P** **00 07 36.6 +1.7**
TLBR Topalu 23.12 316 ⇑P **P** **00 07 36.8 +1.4**
LPSR Galich'ya Gora 24.33 343 *e*P **P** **00 07 45.8 -1.2**
LPSR pmax pmax

comp=Z,10.0nm,0.8s
ISR Istrita 24.33 315 ⇑P **P** **00 07 47.7 +0.5**
VRI Vrincioaia 24.61 317 ⇓P **P** **00 07 50.7 +1.0**
NEHR Nehoiu 24.64 316 ⇑P **P** **00 07 50.9 +0.9**
PLOR Plostina 24.65 317 ⇑P **P** **00 07 52.1 +2.1**
MLR Muntele Rosu 24.88 316 P **P** **00 07 53.2 +0.9**
comp=Z,5.8nm,0.8s,baz=47,slow=4.1
MLR Muntele Rosu 24.88 316 ⇓P **P** **00 07 54.2 +1.9**
MLR Muntele Rosu 24.88 316 P **P** **00 07 54.5 +2.2**
MLR pmax pmax

comp=Z,14nm,0.8s
MLR Muntele Rosu 24.88 316 P **P** **00 07 54.5 +2.2**
ITM Ithomi 24.96 295 P **P** **00 07 54.2 +1.2**
ITM IAmb IAmb 00 08 03.5

comp=Z,6.3nm,0.8s
TESR Tescani 25.00 318 ⇑P **P** **00 07 54.1 +0.8**
HUMR Humele 25.02 313 ⇓P **P** **00 07 54.1 +0.7**
LIT Litokhoron 25.14 302 P **P** **00 07 55.1 +0.6**
LIT pmax pmax

comp=Z,9.0nm,1.1s
LIT Litokhoron 25.14 302 P **P** **00 07 55.1 +0.6**
LIT IAmb IAmb 00 07 59.5

comp=Z,8.5nm,1.1s
VTS Vitosha 25.39 308 ⇑P **P** **00 07 57.9 +1.0**
VTS Vitosha 25.39 308 P **P** **00 07 58.0 +1.0**
VTS pmax pmax

comp=Z,3.0nm,0.9s
VTS Vitosha 25.39 308 P **P** **00 07 58.0 +1.0**
VOIR 25.40 315 ⇑P **P** **00 07 59.1 +2.1**
VAY Valandovo 25.43 304 *i* P **P** **00 07 57.7 +0.6**
DOPR Dopca 25.46 316 ⇑P **P** **00 07 59.1 +1.7**
BIZ Bicaz 25.55 319 ⇓P **P** **00 07 59.2 +1.0**
ARR Arges 25.63 314 ⇓P **P** **00 08 00.3 +1.3**
PRAR RASCA 25.72 320 ⇑P **P** **00 08 00.4 +0.7**
FNA Florina 26.14 303 P **P** **00 08 04.7 +1.0**
FNA pmax pmax

comp=Z,7.0nm,1.0s
FNA Florina 26.14 303 P **P** **00 08 04.7 +1.0**
FNA IAmb IAmb 00 08 21.6

comp=Z,6.7nm,1.0s
AKASG Malin Array Be 26.30 328 P **P** **00 08 04.4 -0.5**
comp=Z,2.0nm,0.5s,baz=132,slow=8.3,SNR=20
AKASG Malin Array Be 26.30 328 P **P** **00 08 03.3 -1.7**
AKASG pmax pmax

comp=Z,2.0nm,0.9s
AKASG Malin Array Be 26.30 328 **P** **00 08 03.3 -1.7**
AKBB Malin Array Si 26.30 328 *i* P **P** **00 08 04.5 -0.4**
AKBB Malin Array Si 26.30 328 P **P** **00 08 04.5 -0.4**
BURAR Bucovina Array 26.43 319 ⇑P **P** **00 08 07.9 +1.7**
BURAR Bucovina Array 26.43 319 P **P** **00 08 06.1 -0.1**
BURAR pmax pmax

comp=Z,8.0nm,0.9s
BURAR Bucovina Array 26.43 319 P **P** **00 08 06.1 -0.1**
BURAR IAmb IAmb 00 08 20.7

comp=Z,8.0nm,0.9s
SKO Skopje 26.43 305 *i* P **P** **00 08 07.8 +1.6**
BUR08 Bucovina Ar. S 26.45 319 IAmb IAmb 00 08 22.1

comp=Z,5.7nm,0.8s
ARCR ARCALIA 26.64 318 ⇑P **P** **00 08 09.4 +1.3**
OHR Ohrid 26.65 303 *i* P P 00 07 57.5 -11
GZR Gura Zlata 26.80 313 ⇑P **P** **00 08 10.5 +0.9**
ARU Arti 27.17 10 P **P** **00 08 12.1 -0.6**
comp=Z,0.6nm,0.5s,baz=177,slow=4.6,SNR=3.5
ARU Arti 27.17 10 *d* i P **P** **00 08 11.5 -1.2**
ARU S **S** **00 12 51.4 +0.3**
ARU pmax pmax

comp=Z,7.0nm,1.6s
ARU Arti 27.17 10 P **P** **00 08 12.2 -0.5**
ARU IAmb IAmb 00 08 27.5

comp=Z,4.8nm,0.9s
OBN Obninsk 27.20 342 P **P** **00 08 14.4 +1.5**
comp=Z,3.4nm,0.5s,baz=145,slow=12,SNR=3.9
OBN LR LR 00 20 04.4

comp=Z,14nm,19.1s,baz=354,slow=39
OBN Obninsk 27.20 342 *de* P **P** **00 08 14.4 +1.5**
OBN *e* 00 09 00.8
OBN *e* S **S** **00 12 47.7 -3.9**
OBN pmax pmax

comp=Z,23nm,1.0s
OBN MLR MLR

comp=Z,49nm,20.0s
OBN Obninsk 27.20 342 P **P** **00 08 13.2 +0.3**
BRVK Borovoye 27.31 26 *ce* P **P** **00 08 14.0 0.0**
BRVK pmax pmax

comp=Z,5.0nm,1.0s
BRVK Borovoye 27.31 26 P **P** **00 08 14.0 0.0**
BVAR Borovoye Array 27.32 26 P **P** **00 08 13.5 -0.6**
comp=Z,1.7nm,0.5s,baz=240,slow=23,SNR=18
MOS Moscow 27.50 344 *e*P **P** **00 08 20.6 +5.0**
KOLS Kolonicke sedl 28.80 319 *e*P **P** **00 08 26.5 -0.8**
KOLS Kolonicke sedl 28.80 319 *e*P **P** **00 08 26.5 -0.8**
CRVS Cervenica-Dubn 29.24 319 *e*P **P** **00 08 32.5 +1.2**
CRVS Cervenica-Dubn 29.24 319 *e*P **P** **00 08 32.5 +1.2**
TIP Timpagrande 29.29 298 P **P** **00 08 32.5 +0.7**
TIP IAmb IAmb 00 08 36.1

comp=Z,7.0nm,1.4s
KURBB Kurchatov Arra 29.46 37 P **P** **00 08 33.9 +0.7**
comp=Z,3.4nm,0.9s,baz=238,slow=9.4,SNR=13
KURK Kurchatov 29.56 37 P **P** **00 08 33.9 -0.2**
MNK Minsk 29.61 333 *i* P **P** **00 08 35.6 +1.2**
MNK *i* 00 09 30.8
MNK *i* PPP PPP 00 09 39.0
MNK *i* S **S** **00 13 32.6 +3.1**
MNK *i* SS **SnSn** **00 15 03.1 +5.4**
MNK *i* 00 15 22.5
MNK *i* 00 19 16.3
MNK pmax pmax

comp=N,13nm,1.3s
MNK pmax pmax

comp=Z,4.0nm,1.0s
MNK pmax pmax

comp=E,2.0nm,1.3s
MNK MLR MLR

comp=Z,81nm,20.0s
MNK MLR MLR

comp=E,5.0nm,19.0s
MNK MLR MLR

comp=N,56nm,22.0s
MNK Minsk 29.61 333 *i* P **P** **00 08 35.7 +1.3**
comp=E,2.0nm,1.3s
MNK *i* P **P** **00 08 35.7 +1.3**

comp=N,13nm,1.3s
MNK *i* P **P** **00 08 35.7 +1.3**

comp=Z,4.0nm,1.0s,baz=137
MNK *i* PP PP 00 09 30.8 -10
MNK *i* PPP PPP 00 09 39.1
MNK *i* S **S** **00 13 32.6 +3.2**
MNK *i* SS **SnSn** **00 15 03.1 +5.5**
MNK *i* SSS SSS 00 15 17.8
MNK *i* PcS **PcS** **00 15 22.6 +0.8**
MNK *i* LQ LQ 00 18 13.4
MNK *i* ScS **ScS** **00 19 16.3 +0.9**
MNK *i* LR LR 00 20 29.1
MNK *i* LRM MLR 00 21 47.7

comp=Z,81nm,20.4s
MNK *i* LRM MLR 00 21 59.8

comp=E,5.0nm,19.1s
MNK *i* LRM MLR 00 22 29.6

comp=N,56nm,21.6s
MAKZ Makanchi 29.61 46 P **P** **00 08 34.5 -0.1**
MAKZ pmax pmax

comp=Z,3.0nm,0.7s
MAKZ Makanchi 29.61 46 P **P** **00 08 34.5 -0.1**
MAKZ IAmb IAmb 00 08 39.8

comp=Z,3.3nm,0.7s
MK31 Makanchi Array 29.80 47 P **P** **00 08 36.3 0.0**
MK31 pmax pmax

comp=Z,3.0nm,0.9s
MK31 Makanchi Array 29.80 47 P **P** **00 08 36.3 0.0**
MKAR Makanchi Array 29.80 47 P **P** **00 08 36.5 +0.2**
comp=Z,2.9nm,0.8s,baz=238,slow=6.7,SNR=13
MKAR PcP **PcP** **00 11 42.3 +2.7**
comp=Z,0.4nm,0.7s,baz=231,slow=4.1,SNR=2.2
MKAR Makanchi Array 29.80 47 P **P** **00 08 36.0 -0.2**
LANS Liptovska Anna 30.51 318 *e*P **P** **00 08 44.2 +1.6**
LANS Liptovska Anna 30.51 318 *e*P **P** **00 08 44.2 +1.6**
PAOL Paolisi 31.23 301 P **P** **00 08 49.1 +0.1**
PAOL IAmb IAmb 00 08 53.2

comp=Z,3.9nm,0.8s
KLMR Klimovskoe 31.90 350 *e*P **P** **00 08 51.9 -2.6**
KLMR pmax pmax

comp=Z,8.0nm,0.6s
KLMR Klimovskoe 31.90 350 *e*P **P** **00 08 52.0 -2.6**
KLMR AMP 00 08 53.8

comp=Z,8.0nm,0.6s
MORC Moravsky Berou 31.91 318 P **P** **00 08 55.4 +0.5**
MORC pmax pmax

comp=Z,7.0nm,1.5s
MORC Moravsky Berou 31.91 318 P **P** **00 08 55.4 +0.5**
MORC IAmb IAmb 00 08 58.2

comp=Z,7.5nm,1.5s
PRGR Permogore 31.98 355 *e*P **P** **00 08 53.8 -1.4**
PRGR pmax pmax

comp=Z,6.0nm,0.9s
ARSA Arzberg 32.15 313 *e*P **P** **00 08 57.7 +0.6**
comp=Z,3.5nm,1.2s
CONA Conrad Observa 32.18 314 *e*P **P** **00 08 58.1 +0.8**
comp=Z,4.7nm,1.3s
SOKA Soboth 32.28 311 *e*P **P** **00 08 59.1 +0.9**
comp=Z,1.9nm,0.5s
KRLC Kraliky 32.49 318 *e*P **P** **00 08 59.9 -0.1**
KRLC Kraliky 32.49 318 *e*P **P** **00 08 59.9 -0.1**
WMQ Urumqi 32.50 54 *e*P **P** **00 09 02.5 +2.3**
WMQ pP sP 00 09 05.7 +1.0
WMQ pmax pmax

comp=Z,19nm,0.7s
WMQ pmax pmax

comp=Z,140nm,4.3s
OBKA Obir 32.54 311 *e*P **P** **00 09 03.5 +2.9**
comp=Z,2.9nm,1.2s
NRCA Norcia 32.62 304 IAmb IAmb 00 09 14.8
comp=Z,5.3nm,0.9s
DPC Dobruska-Polom 32.87 318 *e*P **P** **00 09 03.4 +0.1**
DPC Dobruska-Polom 32.87 318 *e*P **P** **00 09 03.4 +0.1**
OSTC Ostas 33.02 319 *e*P **P** **00 09 03.0 -1.6**
OSTC *ex* **pP** **00 09 11.0 +3.2**
MURB Monte Urbino 33.12 304 P **P** **00 09 06.7 +1.1**
CHVC Chvalec 33.13 319 *e*P **P** **00 09 05.6 0.0**
MOA Molln 33.16 313 *e*P **P** **00 09 08.8 +3.0**
comp=Z,4.8nm,1.1s
KBA Koelnbreinsper 33.51 311 *e*P **P** **00 09 09.9 +0.9**
comp=Z,4.6nm,1.0s
GERES GERESS Array B 33.85 315 P **P** **00 09 11.9 -0.1**
comp=Z,0.2nm,0.3s,baz=96,slow=10.0,SNR=2.2
GERES PcP **PcP** **00 11 50.0 -0.7**
comp=Z,0.1nm,0.3s,baz=146,slow=1.9,SNR=3.7
ABTA Abfaltersbach 33.95 311 *e*P **P** **00 09 13.8 +0.9**
comp=Z,2.8nm,1.2s
KHC Kasperske Hory 34.03 315 *e*P **P** **00 09 10.6 -2.8**
KHC *e* 00 09 16.4
KHC Kasperske Hory 34.03 315 *e*P **P** **00 09 10.6 -2.8**
KHC *ep*P **pP** **00 09 16.4 -0.2**
DGZ Jazzator, Alta 34.09 44 *i* P **P** **00 09 14.0 -0.1**
DGZ pmax pmax

comp=Z,4.0nm,0.7s
ZAA0 Zalesovo Array 34.50 36 P **P** **00 09 16.6 -0.8**
ZAA0 IAmb IAmb 00 09 25.4

comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 34.50 36 P **P** **00 09 17.4 -0.1**
comp=Z,6.4nm,0.9s,baz=249,slow=9.4,SNR=21
ZALV Zalesovo Beam 34.50 36 *i* P **P** **00 09 17.3 -0.1**
ZALV pmax pmax

comp=Z,7.0nm,0.9s
WTTA Wattenberg 34.67 311 *e*P **P** **00 09 18.8 -0.4**
comp=Z,7.1nm,1.4s
WATA Walderalm 34.73 311 *e*P **P** **00 09 19.4 -0.3**
comp=Z,4.5nm,0.9s
SQTA Sankt Quirin 34.94 311 *e*P **P** **00 09 22.4 +0.9**
comp=Z,3.1nm,0.9s
KEST Kesra 35.01 291 LR LR 00 27 30.8
comp=Z,38nm,18.3s,baz=320,slow=43
KEST Kesra 35.01 291 P **P** **00 09 23.1 +0.9**
KEST IAmb IAmb 00 09 28.4

comp=Z,7.5nm,1.1s
MOTA Moosalm 35.05 311 *e*P **P** **00 09 22.7 +0.3**
comp=Z,6.3nm,1.2s
FETA Feichten 35.21 310 *e*P **P** **00 09 23.1 -0.7**
comp=Z,4.8nm,1.7s
RETA Reutte 35.31 311 *e*P **P** **00 09 24.0 -0.5**
comp=Z,3.5nm,1.1s
FINES FINESS Array B 35.52 340 P **P** **00 09 25.1 -1.0**
comp=Z,1.7nm,0.4s,baz=148,slow=8.8,SNR=20
DAVA Damuels 35.83 311 *e*P **P** **00 09 29.9 +0.7**
comp=Z,3.0nm,0.6s
BFO Black Forest 37.10 312 *i* P **P** **00 09 42.0 +2.1**
NOA NORSAR Array B 40.61 332 P **P** **00 10 07.3 -1.8**
comp=Z,0.2nm,0.6s,baz=132,slow=6.7,SNR=2.7
GTA Gaotai 41.15 63 ⇑P **P** **00 10 14.8 +0.8**
GTA pP pP 00 10 18.6 +1.4
GTA sP sP 00 10 21.3 +2.8
GTA pmax pmax

comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 42.27 347 P **P** **00 10 22.3 -0.2**
comp=Z,2.7nm,0.9s,baz=161,slow=7.7,SNR=5.4
MOY Mondy 42.91 45 *e*P **P** **00 10 29.6 +1.5**
ZAK Zakamensk 44.13 47 *e*P **P** **00 10 35.8 -2.2**
ZAK pmax pmax

comp=Z,4.0nm,1.0s
NRIK Noril'sk 44.82 18 P **P** **00 10 42.5 -0.6**
comp=Z,2.8nm,0.8s,baz=207,slow=4.5,SNR=3.3
NRIK Noril'sk 44.82 18 *ce* P **P** **00 10 42.7 -0.4**
NRIK pmax pmax

comp=Z,6.0nm,0.9s
NRIK Noril'sk 44.82 18 P **P** **00 10 43.9 +0.8**
NRIK IAmb IAmb 00 10 47.9

comp=Z,5.0nm,0.9s
ESDC Sonseca Array 45.31 298 P **P** **00 10 47.2 -0.3**
comp=Z,1.5nm,1.1s,baz=95,slow=8.0,SNR=6.9
SONM Songino Array 45.97 51 P **P** **00 10 52.2 -0.4**
comp=Z,1.6nm,0.8s,baz=273,slow=8.8,SNR=7.2
SONM Songino Array 45.97 51 P **P** **00 10 52.8 +0.2**
SONM pmax pmax

comp=Z,3.0nm,1.1s
SONM Songino Array 45.97 51 P **P** **00 10 52.8 +0.2**
ULN Ulaanbaatar 46.41 51 *i* P **P** **00 10 56.0 -0.2**
ULN pmax pmax

comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 46.41 51 P **P** **00 10 55.9 -0.2**
ULN IAmb IAmb 00 10 57.5

comp=Z,4.8nm,1.1s
TOA0 Torodi Ar. Sit 48.09 261 P **P** **00 11 11.0 +1.5**
TORD Torodi Ar. Bea 48.09 261 P **P** **00 11 11.2 +1.8**
comp=Z,5.5nm,0.9s,baz=58,slow=8.1,SNR=16
TORD Torodi Ar. Bea 48.09 261 P **P** **00 11 10.3 +0.8**
XAN Xi'an 49.08 69 P **P** **00 11 16.9 -0.1**
XAN pP sP 00 11 23.8 +2.3
XAN pmax pmax

comp=Z,15nm,0.9s
HHC Hu-ho-hao-te 50.01 60 *e*P **P** **00 11 24.6 +0.6**
HHC pmax pmax

comp=Z,17nm,0.7s
HHC pmax pmax

comp=Z,89nm,5.6s
KOWA Kowa 52.40 266 P **P** **00 11 43.1 +1.0**
PSI Prapat 53.03 111 P **P** **00 11 46.6 -0.3**
PSI pmax pmax

comp=Z,10.0nm,1.5s
RPSI Rantau Prapat 53.09 111 P **P** **00 11 46.6 -0.6**
RPSI IAmb IAmb 00 11 49.5

comp=Z,10nm,1.5s
DBIC Dimbokro 56.89 258 P **P** **00 12 15.2 +0.4**
comp=Z,6.2nm,0.9s,baz=108,slow=6.4,SNR=2.1
TIXI Tiksi 58.29 21 *ce* P **P** **00 12 24.0 +0.2**
TIXI Tiksi 58.29 21 P **P** **00 12 23.4 -0.3**
TIXI IAmb IAmb 00 12 29.3

comp=Z,4.3nm,1.1s
ZEA Zeya 58.83 42 *e*P **P** **00 12 26.6 -1.2**
ZEA pmax pmax

comp=Z,10.0nm,0.3s
CN2 Changchun 59.59 54 *e*P P 00 12 40.1 +6.8
KLR Kul'dur 62.50 47 *ce* P **P** **00 12 52.6 -0.4**
KLR pmax pmax

comp=Z,4.0nm,1.1s
BOSA Boshof 62.97 205 P **P** **00 12 57.8 +1.5**
comp=Z,8.8nm,1.1s,baz=356,slow=7.7,SNR=3.9
KS19 Wonju Array Si 63.08 60 P **P** **00 12 56.7 -0.3**
KSAR Wonju Array Be 63.12 61 P **P** **00 12 56.4 -0.8**
KSAR Wonju Array Be 63.12 61 P **P** **00 12 56.4 -0.8**
KSRS Korea Array 63.14 60 P **P** **00 12 56.8 -0.6**
comp=Z,4.0nm,0.7s,baz=282,slow=7.4,SNR=11
BILL Bilibino 71.51 21 P **P** **00 13 50.5 +0.6**
FRB Frobisher Bay 75.23 336 P **P** **00 14 11.8 -0.1**
comp=Z,2.1nm,0.5s,baz=55,slow=8.6,SNR=3.5
BATI Baumata 80.65 107 P **P** **00 14 42.8 -0.1**
comp=Z,17nm,0.6s,baz=52,slow=1.9,SNR=5.3
TOLK Toolik Lake Re 80.69 7 P **P** **00 14 42.9 +0.7**
COLD Coldfoot 81.97 8 IAmb IAmb 00 14 58.4
comp=Z,2.9nm,0.8s
INK Inuvik 82.11 2 P **P** **00 14 48.4 -1.3**
comp=Z,2.1nm,1.0s,baz=341,slow=15,SNR=2.0
BMAR Burnt Mountain 82.36 6 P **P** **00 14 52.2 +1.1**
ILAR Eielson Array 84.72 7 P **P** **00 15 02.5 -0.6**
comp=Z,0.9nm,0.7s,baz=327,slow=4.4,SNR=7.1
FITZ Fitzroy Crossi 86.51 113 P **P** **00 15 13.0 +0.2**
comp=Z,5.9nm,0.7s,baz=285,slow=1.5,SNR=15
YKA Yellowknife Ar 87.23 353 P **P** **00 15 15.1 -0.5**
comp=Z,0.4nm,0.5s,baz=24,slow=3.4,SNR=1.9
WRA Warramunga Arr 94.49 110 P **P** **00 15 50.4 +0.2**
comp=Z,0.5nm,0.8s,baz=307,slow=4.4,SNR=2.5
ASAR Alice Springs 95.99 114 P **P** **00 15 56.4 -0.7**
comp=Z,0.5nm,0.6s,baz=309,slow=4.8,SNR=5.7

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*ISK **01** 00:20:52.6, 34.°96N×26.°80E, h13km, ML2.6/16*
*NIC **01** 00:20:52.9±0.0, 34.°96N×26.°79E, h16km±1km, Ml3.3/3*
*ATH **01** 00:20:55.4, 35.°15N×26.°72E, h18km±2km, ML2.5/7, Error ellipse: s-maj=4.9km s-min=1.2km az=159.0*
*THE **01** 00:20:55.5, 35.°16N×26.°69E, h0km±1km, ML2.5/5, Error ellipse: s-maj=4.3km s-min=0.8km az=156.0*

ISC 01 00:20:53.7±1.2, **35.04N**±0.05×**26.81E**±0.03, **h15**km±9km, **n69**, **σ0.91**/85, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.49**	**279**	P	**Pg**	**Pg**	**00 21 03.0**	**-0.5**
ZKR				S	**Sg**	**Sg**	**00 21 10.4**	**+0.3**
ZKR				AML	AML	AML	00 21 10.8	
	comp=N,2804μm,0.3s							
ZKR				AML	AML	AML	00 21 11.3	
	comp=E,4131μm,0.3s							
ZKR	**Zakros**	**0.49**	**279**	P	**Pg**	**Pg**	**00 21 03.0**	**-0.5**
ZKR				S	**Sg**	**Sg**	**00 21 10.4**	**+0.3**
	comp=E,2μm,0.3s							
ZKR	**Zakros**	**0.49**	**279**	PG	**Pg**	**Pg**	**00 21 03.0**	**-0.5**
ZKR				SG	**Sg**	**Sg**	**00 21 10.5**	**+0.4**
ZKR	**Zakros**	**0.49**	**279**	P	**Pg**	**Pg**	**00 21 03.0**	**-0.5**

ZKR					AML	AML	00 21 09.5		
	comp=E,2.3nm,0.3s								
ZKR					AML	AML	00 21 09.5		
	comp=E,2.3nm,0.3s								
ZKR					AML	AML	00 21 10.0		
	comp=E,3.7nm,0.3s								
ZKR					AML	AML	00 21 10.0		
	comp=E,3.7nm,0.3s								
ZKR					S	**Sg**	**00 21 10.4**	**+0.3**	
KARP	**Karpathos**	**0.58**	**29**	P	**Pb**	**00 21 06.0**	**+0.2**		
KARP				S	**Sb**	**00 21 14.3**	**+0.4**		
KARP				AML	AML	00 21 16.9			
	comp=N,5967µm,0.2s								
KARP				AML	AML	00 21 17.1			
	comp=E,7557µm,0.4s								
KARP	**Karpathos**	**0.58**	**29**	P	**Pb**	**00 21 05.8**	**+0.1**		
KARP				S	**Sn**	**00 21 15.9**	**-1.1**		
	comp=E,3µm,0.3s								
KARP	**Karpathos**	**0.58**	**29**	PG	**Pb**	**00 21 05.9**	**+0.2**		
KARP				SG	**Sn**	**00 21 15.6**	**-1.3**		
KARP	**Karpathos**	**0.58**	**29**	P	**Pb**	**00 21 05.9**	**+0.1**		
KARP				S	**Sn**	**00 21 15.8**	**-1.1**		
KARP				AML	AML	00 21 16.5			
	comp=E,7.5nm,0.4s								
KARP				AML	AML	00 21 16.5			
	comp=E,7.5nm,0.4s								
KARP				AML	AML	00 21 16.5			
	comp=E,6.0nm,0.2s								
KARP				AML	AML	00 21 16.5			
	comp=E,6.0nm,0.2s								
NPS	**Neapolis**	**1.01**	**283**	P	**Pb**	**00 21 12.5**	**-0.5**		
NPS				S	**Sb**	**00 21 24.6**	**-1.4**		
NPS				AML	AML	00 21 30.1			
	comp=N,660µm,0.5s								
NPS				AML	AML	00 21 32.5			
	comp=E,933µm,0.5s								
NPS	**Neapolis**	**1.01**	**283**	P	**Pb**	**00 21 12.7**	**-0.2**		
NPS				S	**Sb**	**00 21 26.4**	**+0.4**		
	comp=E,400nm,0.5s								
LAST	**Lasithi**	**1.10**	**277**	P	**Pb**	**00 21 13.9**	**-0.6**		
LAST				S	**Sb**	**00 21 26.9**	**-1.9**		
LAST				AML	AML	00 21 33.6			
	comp=N,247µm,0.6s								
LAST				AML	AML	00 21 43.3			
	comp=E,355µm,0.8s								
LAST	**Lasithi**	**1.10**	**277**	P	**Pb**	**00 21 13.9**	**-0.6**		
LAST				S	**Sg**	**00 21 30.3**	**+1.0**		
	comp=E,138nm,0.7s								
NIS1	**Nisyros Isl.**	**1.59**	**11**	PN	**Pb**	**00 21 22.4**	**-0.5**		
ARG	**Arkhangelos**	**1.59**	**42**	P	**Pb**	**00 21 23.5**	**+0.6**		
ARG				AML	AML	00 21 51.4			
	comp=E,219µm,0.3s								
ARG				AML	AML	00 21 54.5			
	comp=N,155µm,0.4s								
ARG	**Arkhangelos**	**1.59**	**42**	P	**Pb**	**00 21 23.6**	**+0.7**		
ARG				S	**Sg**	**00 21 45.3**	**+0.3**		
	comp=N,92nm,0.3s								
ARG	**Arkhangelos**	**1.59**	**42**	PN	**Pn**	**00 21 22.3**	**+0.9**		
NISR	**Nisiros**	**1.59**	**9**	P	**Pn**	**00 21 21.6**	**+0.2**		
NISR	**Nisiros**	**1.59**	**9**	P	**Pn**	**00 21 21.6**	**+0.2**		
IDI	**Anoyia**	**1.59**	**280**	P	**Pn**	**00 21 22.6**	**+1.1**		
IDI				S	**Sn**	**00 21 42.7**	**+0.8**		
IDI				AML	AML	00 21 49.1			
	comp=E,92µm,0.3s								
IDI				AML	AML	00 21 55.0			
	comp=N,134µm,0.4s								
IDI	**Anoyia**	**1.59**	**280**	P	**Pn**	**00 21 22.6**	**+1.1**		
IDI				S	**Sb**	**00 21 44.5**	**+1.6**		
IDI	**Anoyia**	**1.59**	**280**	PN	**Pn**	**00 21 21.4**	**-0.1**		
SIVA	**Sivas**	**1.64**	**270**	P	**Pn**	**00 21 24.2**	**+2.1**		
SIVA				AML	AML	00 21 51.1			
	comp=E,273µm,0.4s								
SIVA				AML	AML	00 21 54.1			
	comp=N,203µm,0.8s								
SIVA	**Sivas**	**1.64**	**270**	P	**Pn**	**00 21 23.5**	**+1.4**		
KOSK	**Kos Island**	**1.71**	**5**	PN	**Pb**	**00 21 24.2**	**-0.8**		
SANT	**Santorini**	**1.73**	**321**	P	**Pn**	**00 21 23.4**	**+0.1**		
SANT	**Santorini**	**1.73**	**321**	P	**Pn**	**00 21 23.4**	**+0.1**		
SANT	**Santorini**	**1.73**	**321**	PN	**Pn**	**00 21 23.9**	**+0.6**		
THR8	**Santorini-Mono**	**1.74**	**322**	P	**Pn**	**00 21 23.8**	**+0.3**		
THR8	**Santorini-Mono**	**1.74**	**322**	P	**Pn**	**00 21 23.8**	**+0.3**		
THR6	**Thira Island,**	**1.75**	**319**	P	**Pn**	**00 21 23.6**	**0.0**		
THR6	**Thira Island,**	**1.75**	**319**	P	**Pn**	**00 21 23.6**	**0.0**		
THR9	**Santorini-Faro**	**1.77**	**318**	P	**Pb**	**00 21 25.2**	**-0.7**		
THR9	**Santorini-Faro**	**1.77**	**318**	P	**Pb**	**00 21 25.2**	**-0.7**		
THR3	**Thira Island,**	**1.78**	**320**	P	**Pn**	**00 21 24.1**	**+0.1**		
THR3	**Thira Island,**	**1.78**	**320**	P	**Pn**	**00 21 24.1**	**+0.1**		
THT2	**Imerovigli**	**1.79**	**321**	PN	**Pn**	**00 21 24.9**	**+0.7**		
DAT	**Datca**	**1.80**	**20**	PN	**Pn**	**00 21 25.4**	**+1.0**		
THR5	**Thira Island,**	**1.82**	**320**	P	**Pn**	**00 21 25.2**	**+0.6**		
THR5	**Thira Island,**	**1.82**	**320**	P	**Pn**	**00 21 24.4**	**-0.2**		
BODT	**Bodrum**	**2.06**	**11**	PN	**Pn**	**00 21 28.6**	**+0.7**		
TURN	**Turunc**	**2.09**	**33**	PN	**Pn**	**00 21 29.4**	**+1.2**		
VAM	**Vamos**	**2.17**	**280**	P	**Pn**	**00 21 31.0**	**+1.6**		
VAM	**Vamos**	**2.17**	**280**	P	**Pn**	**00 21 30.9**	**+1.6**		
GVDS	**Gavdos**	**2.24**	**266**	PN	**Pn**	**00 21 30.8**	**+0.4**		
GVD	**Gavdhos**	**2.25**	**266**	P	**Pn**	**00 21 32.8**	**+2.3**		
GVD	**Gavdhos**	**2.25**	**266**	PN	**Pn**	**00 21 30.4**	**0.0**		
APE	**Apeiranthos**	**2.28**	**333**	P	**Pn**	**00 21 31.4**	**+0.5**		
APE	**Apeiranthos**	**2.28**	**333**	P	**Pn**	**00 21 31.4**	**+0.5**		
APE	**Apeiranthos**	**2.28**	**333**	PN	**Pn**	**00 21 32.0**	**+1.1**		
APE	**Apeiranthos**	**2.28**	**333**	P	**Pn**	**00 21 30.8**	**-0.1**		
DALY	**Dalyan (Mula)**	**2.32**	**40**	PN	**Pn**	**00 21 32.6**	**+1.2**		
IMMV	**Iera Moni Meta**	**2.35**	**281**	P	**Pn**	**00 21 33.6**	**+1.7**		
IMMV	**Iera Moni Meta**	**2.35**	**281**	P	**Pn**	**00 21 33.3**	**+1.4**		
IMMV	**Iera Moni Meta**	**2.35**	**281**	PN	**Pn**	**00 21 32.2**	**+0.3**		
MLSB	**Milas**	**2.38**	**19**	PN	**Pn**	**00 21 33.7**	**+1.3**		
YER	**Yerkesik**	**2.41**	**29**	PN	**Pn**	**00 21 33.9**	**+1.2**		
FETY	**Fethiye**	**2.44**	**49**	PN	**Pn**	**00 21 33.5**	**+0.4**		
KNDR	**Palaiochora Ch**	**2.57**	**275**	PN	**Pn**	**00 21 35.9**	**+1.1**		
AKAS	**Kas**	**2.57**	**62**	PN	**Pn**	**00 21 35.0**	**0.0**		
GCAM	**G?zelcaml?**	**2.68**	**7**	PN	**Pn**	**00 21 38.4**	**+2.0**		
CAME	**Cameli-Denizli**	**2.77**	**46**	PN	**Pn**	**00 21 39.2**	**+1.4**		
AYDB	**Zeytinkoy-Aydi**	**3.03**	**16**	PN	**Pn**	**00 21 42.9**	**+1.6**		
ELL	**Elmali**	**3.04**	**55**	PN	**Pn**	**00 21 42.7**	**+1.2**		
KTHA	**Kythira Island**	**3.29**	**293**	PN	**Pn**	**00 21 45.8**	**+1.1**		
AKMS	**Akamas**	**4.53**	**89**	P	**Pn**	**00 22 02.0**	**+0.1**		
ALFC	**Alefka**	**4.75**	**87**	P	**Pn**	**00 22 04.9**	**0.0**		
ALFC				S	**Sn**	**00 22 59.4**	**-0.2**		
ALFC				AML	AML	00 22 59.6			
	comp=N,0.1nm,0.6s								
ALFC				AML	AML	00 22 59.6			
	comp=N,0.1nm,0.6s								
ALFC				AML	AML	00 23 03.5			
	comp=N,0.1nm,0.8s								
ALFC				AML	AML	00 23 03.5			
	comp=N,0.1nm,0.8s								
SZAC	**Souni**	**5.00**	**92**	P	**Pn**	**00 22 08.0**	**-0.3**		
ASGA	**Asgata**	**5.30**	**91**	P	**Pn**	**00 22 11.8**	**-0.6**		
MVOU	**Mavrovouni**	**5.60**	**88**	P	**Pn**	**00 22 16.7**	**+0.2**		

*THE **01** 00:31:55.3, 42°.92N×18°.24E, h8km±31km, ML3.6/6, Error ellipse: s-maj=40.8km s-min=3.1km az=314.0*
*LDG **01** 00:31:57.9±0.3, 42°.72N×18°.64E, h17km, ML4.0/34, Error ellipse: s-maj=8.2km s-min=5.3km az=170.0*
*BGR **01** 00:31:57.1±0.7, 42°.58N×19°.19E, h10km, ML4.5, Error ellipse: s-maj=22.2km s-min=12.2km az=62.0*
*NEIC **01** 00:31:58.8±1.7, 42°.88N±0°.04×18°.68E±0°.05, h10km±1km, mb4.0/12, ML3.8(PDG), ML4.1/2(BUC), Error ellipse: s-maj=6.5km s-min=5.5km az=194.0*
*PDG **01** 00:31:58.9±0.5, 42°.84N×18°.71E, h19km, MD3.9/14, ML3.7/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*TIR **01** 00:31:58.8, 42°.71N×18°.58E, h40km±8km, Ml4.0*
*IDC **01** 00:32:01.1±2.3, 42°.83N×18°.68E, h33km±19km, mb3.6/10, mb1 3.8/23, mb1mx3.6/56, mbtmp3.8/23, ML3.6/11, MS3.4/19, Ms1 3.4/19, ms1mx3.2/56, Error ellipse: s-maj=12.3km s-min=9.8km az=8.0*
*PRU **01** 00:32:01.8±0.0, 42°.93N×18°.84E, h15km, M4.0*
ISC 01 00:31:58.8±0.7, 42°.82N±0°.02×18°.65E±0°.02, h20km±2km, n371, σ2?08/461, mb3.9/10, MS3.5/10, 43C-25D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.12**	**316**	⇓*i*	Pg		**Pg**	**00 32 03.3**	**+0.2**
BRY				*i*	Sg		**Sg**	**00 32 06.9**	**+0.9**
NKME	**Niksic**	**0.23**	**102**	⇑*i*	Pg		**Pb**	**00 32 03.7**	**-0.4**
NKME				*i*	Sg		**Sg**	**00 32 07.9**	**-0.3**
NKY	**Niksic**	**0.25**	**90**	⇓*i*	Pg		**Pg**	**00 32 03.6**	**-1.2**
NKY				*e*	Sg		**Sb**	**00 32 08.2**	**-0.3**
CEME	**Cevo**	**0.33**	**144**	⇑*i*	Pg		**Pg**	**00 32 05.2**	**-0.8**
CEME				*i*	Sg		**Sb**	**00 32 11.3**	**+0.2**
HCY	**Herceg Novi**	**0.39**	**198**	⇓*i*	Pg		**Pb**	**00 32 06.9**	**-0.1**
HCY				*i*	Sg		**Sn**	**00 32 15.1**	**-1.0**
UPM	**Unac-Piva**	**0.43**	**26**	⇑*i*	Pg		**Pg**	**00 32 07.0**	**-0.8**
UPM				*e*	Sg		**Sg**	**00 32 13.7**	**-0.2**
BUM	**Brajici-Budva**	**0.55**	**161**	⇓*i*	Pg		**Pg**	**00 32 09.3**	**-0.5**
BUM				*i*	Sg		**Sn**	**00 32 18.7**	**-1.4**
PDG	**Podgorica**	**0.59**	**131**	⇓	P		**Pb**	**00 32 09.2**	**-1.2**
PDG				⇓	S		**Sb**	**00 32 19.0**	**+0.7**
PDG	**Podgorica**	**0.59**	**131**		Pg		**Pb**	**00 32 09.2**	**-1.2**
PDG							**Sb**	**00 32 19.4**	**+1.1**
TTG	**Podgorica**	**0.59**	**131**	⇓*i*	Pg		**Pb**	**00 32 09.1**	**-1.2**
TTG				*i*	Sg		**Sb**	**00 32 19.5**	**+1.2**
KOME	**Kolasin**	**0.64**	**87**	⇓*i*	Pg		**Pb**	**00 32 10.2**	**-1.1**
KOME				*i*	Sg		**Sg**	**00 32 19.9**	**-0.2**
STON	**Ston**	**0.70**	**275**	*i*	Pg		**Pb**	**00 32 12.2**	**-0.1**
STON					Sg		**Sn**	**00 32 23.3**	**-0.5**
DRME	**Dracevica, Mon**	**0.74**	**148**	⇓*i*	Pg		**Pb**	**00 32 12.6**	**-0.4**
DRME				*i*	Sg		**Sn**	**00 32 24.9**	**0.0**
PLE	**Pljevlja**	**0.75**	**46**	⇓*i*	Pg		**Pb**	**00 32 12.7**	**-0.5**
PLE				*i*	Sg		**Sg**	**00 32 23.7**	**+0.2**
IVA	**Berane**	**0.92**	**86**	⇓*i*	Pg		**Pb**	**00 32 15.3**	**-0.7**
IVA				*e*	Sg		**Sn**	**00 32 29.2**	**-0.1**
ULC	**Ulcinj**	**0.96**	**153**	⇓*i*	Pg		**Pb**	**00 32 16.4**	**-0.3**
ULC				*i*	Sg		**Sn**	**00 32 32.2**	**+1.9**
PVY	**Plav**	**0.99**	**102**	⇓*i*	Pg		**Pb**	**00 32 16.9**	**-0.4**
PVY				*i*	Sg		**Sn**	**00 32 31.9**	**+0.7**
BCI	**Bajram Curri**	**1.14**	**113**		P		**Pb**	**00 32 19.7**	**-0.1**
	baz=106								
BCI					S		**Sg**	**00 32 36.5**	**+0.7**
	baz=106								
BCI						AMP			
	comp=N,7.7nm,0.5s,baz=106								
PUK	**Puka**	**1.20**	**130**		P		**Pb**	**00 32 21.1**	**+0.2**
	baz=123								
PUK					S		**Sg**	**00 32 37.5**	**-0.3**
	baz=123								
PUK						AMP			
	comp=N,6.9nm,0.4s,baz=123								
MAKA	**Makarska**	**1.29**	**292**	*i*	Pg		**Pg**	**00 32 23.3**	**-0.3**
MAKA					Sg		**Sg**	**00 32 41.8**	**+1.3**
LSTV	**Lastovo**	**1.30**	**269**	*i*	Pg		**Pb**	**00 32 23.1**	**+0.6**
LSTV					Sg		**Sb**	**00 32 39.7**	**+1.0**
RICI	**Ricice**	**1.30**	**302**	*i*	Pg		**Pg**	**00 32 24.1**	**+0.1**
RICI					Sg		**Sg**	**00 32 42.4**	**+1.4**
DIVS	**Divibare**	**1.61**	**37**				**Pn**	**00 32 26.3**	**+0.1**
TIR	**Tirane**	**1.72**	**148**		P		**Pb**	**00 32 29.7**	**-0.1**
TIR					S		**Sg**	**00 32 54.5**	**+0.1**
	comp=N,1µm,0.8s								
TIR	**Tirane**	**1.72**	**148**	⇑	P		**Pb**	**00 32 29.5**	**-0.2**
TIR	**Tirane**	**1.72**	**148**				**Pb**	**00 32 28.9**	**-0.8**
TIR	**Tirane**	**1.72**	**148**		P		**Pb**	**00 32 29.6**	**-0.2**
	baz=144								
TIR					S		**Sb**	**00 32 50.5**	**-0.4**
	baz=144								
TIR						AMP			
	comp=E,4.8nm,0.8s,baz=144								
KIJV	**Kijevo**	**2.02**	**307**	*i*	Pn		**Pb**	**00 32 35.3**	**+0.4**
KIJV					Sn		**Sg**	**00 33 02.7**	**-1.2**
SKO	**Skopje**	**2.23**	**111**	*i*	Pn		**Pb**	**00 32 37.1**	**-1.3**
OHR	**Ohrid**	**2.34**	**136**	*i*	Pn		**Pb**	**00 32 39.4**	**-0.9**
NOCI	**Noci**	**2.35**	**211**		P		**Pn**	**00 32 36.4**	**+0.1**
	baz=212								
NOCI					S		**Sn**	**00 33 04.6**	**+0.1**
	baz=212								
ZIRJ	**Zirje**	**2.35**	**292**	*e*	Pn		**Pb**	**00 32 38.7**	**-1.8**
ZIRJ					Sn		**Sb**	**00 33 08.3**	**-0.8**
BOVS	**Bovan**	**2.38**	**69**	⇑	P		**Pn**	**00 32 36.7**	**+0.1**
BOVS				⇑	S		**Sn**	**00 33 07.4**	**+2.1**
BOVS	**Bovan**	**2.38**	**69**				**Pn**	**00 32 36.7**	**+0.1**
BOVS							**Sn**	**00 33 07.4**	**+2.1**
MORI	**Morici**	**2.39**	**297**	*e*	Pn		**Pb**	**00 32 39.9**	**-1.2**
MORI					Sn		**Sb**	**00 33 09.7**	**-0.6**
SGRT	**San Giovanni R**	**2.40**	**245**		Pn		**Pn**	**00 32 38.2**	**+1.0**
SGRT	**San Giovanni R**	**2.40**	**245**		P		**Pn**	**00 32 38.1**	**+1.0**
	baz=247								
VLO	**Vlora**	**2.43**	**165**		P		**Pn**	**00 32 38.9**	**+1.5**
	baz=162								
FRGS	**Fruska Gora**	**2.49**	**19**	⇑	P		**Pn**	**00 32 38.4**	**+0.2**
FRGS	**Fruska Gora**	**2.49**	**19**				**Pn**	**00 32 38.4**	**+0.2**
MATE	**Matera**	**2.61**	**215**	⇑	P		**Pn**	**00 32 41.3**	**+1.5**
MATE				⇑	S		**Sb**	**00 33 15.2**	**-1.3**
MATE	**Matera**	**2.61**	**215**				**Pn**	**00 32 41.3**	**+1.5**
MATE							**Sb**	**00 33 15.2**	**-1.3**
UDBI	**Udbina**	**2.71**	**310**	*i*	Pn		**Pb**	**00 32 45.6**	**-1.0**
UDBI					Sn		**Sb**	**00 33 17.3**	**-2.1**
KBN	**Korca**	**2.71**	**143**		P		**Pn**	**00 32 43.5**	**+2.2**
KBN					S		**Sb**	**00 33 18.5**	**-1.0**
	comp=E,605nm,0.9s								
KBN	**Korca**	**2.71**	**143**		P		**Pn**	**00 32 43.4**	**+2.1**
	baz=140								
KBN						AMP			
	comp=N,2.8nm,0.8s,baz=140								
SCTE	**Santa Cesarea**	**2.74**	**183**				**Pn**	**00 32 42.5**	**+0.8**
DUGI	**Dugi Otok**	**2.87**	**295**	*i*	Pn		**Pn**	**00 32 45.9**	**+2.5**
DUGI				*i*	Sn		**Sn**	**00 33 20.0**	**+2.6**
FNA	**Florina**	**2.88**	**134**		P		**Pn**	**00 32 45.9**	**+2.3**
FNA	**Florina**	**2.88**	**134**				**Pn**	**00 32 45.6**	**+2.0**
FNA	**Florina**	**2.88**	**134**		P		**Pn**	**00 32 45.8**	**+2.2**
	baz=131								
MDVR	**Moldovita**	**2.96**	**47**	⇓	P		**Pn**	**00 32 44.8**	**0.0**
MDVR				⇑	S		**Sn**	**00 33 21.1**	**+1.4**
MDVR	**Moldovita**	**2.96**	**47**				**Pn**	**00 32 44.8**	**0.0**
MDVR							**Sn**	**00 33 21.1**	**+1.4**
NEST	**Nestorio**	**3.00**	**142**		P		**Pn**	**00 32 47.3**	**+2.0**
LSK	**Leskovik**	**3.04**	**151**		P		**Pn**	**00 32 47.2**	**+1.4**
LSK	**Leskovik**	**3.04**	**151**		P		**Pn**	**00 32 47.0**	**+1.2**
	baz=148								
LSK						AMP			
	comp=N,2.7nm,1.5s,baz=148								
BLKB	**Belogradchik**	**3.05**	**73**	⇑	S		**Sn**	**00 33 22.4**	**+0.5**
BLKB	**Belogradchik**	**3.05**	**73**				**Sn**	**00 33 22.4**	**+0.5**
SRN	**Sarande**	**3.10**	**160**		P		**Pn**	**00 32 47.0**	**+0.4**
SRN	**Sarande**	**3.10**	**160**		P		**Pn**	**00 32 47.1**	**+0.5**
	baz=158								
SRN						AMP			
	comp=N,1.5nm,1.6s,baz=158								
BANR	**Banloc**	**3.13**	**34**	⇑	P		**Pn**	**00 32 47.9**	**+1.0**
BANR	**Banloc**	**3.13**	**34**				**Pn**	**00 32 47.9**	**+1.0**
KEK	**Kerkira**	**3.22**	**164**		P		**Pn**	**00 32 48.6**	**+0.4**
NVLJ	**Novalja**	**3.25**	**304**	*e*	Pn		**Pn**	**00 32 51.6**	**+3.0**
VAY	**Valandovo**	**3.28**	**116**	*i*	Pn		**Pn**	**00 32 50.8**	**+1.7**
GRG	**Griva**	**3.36**	**122**		P		**Pn**	**00 32 52.1**	**+1.9**
VTS	**Vitosha**	**3.38**	**92**	⇓	P		**Pn**	**00 32 51.7**	**+1.1**
VTS				⇑	S		**Sn**	**00 33 33.6**	**+3.3**
VTS	**Vitosha**	**3.38**	**92**		Pn		**Pn**	**00 32 51.2**	**+0.6**
VTS							**Sn**	**00 33 29.9**	**-0.4**
MORH	**Mrgy, Hungar**	**3.40**	**360**	⇓	P		**Pn**	**00 32 51.0**	**+0.4**
MORH	**Mrgy, Hungar**	**3.40**	**360**				**Pn**	**00 32 51.0**	**+0.4**
HERR	**Herculane**	**3.42**	**52**	⇓	P		**Pn**	**00 32 51.3**	**+0.3**
HERR				⇓	S		**Sn**	**00 33 33.2**	**+2.3**
HERR	**Herculane**	**3.42**	**52**				**Pn**	**00 32 51.3**	**+0.3**
HERR							**Sn**	**00 33 33.2**	**+2.3**
KZN	**Kozani**	**3.43**	**136**		P		**Pn**	**00 32 53.1**	**+1.9**
PUNG	**Punghina**	**3.44**	**63**	⇑	P		**Pn**	**00 32 52.2**	**+1.0**
PUNG	**Punghina**	**3.44**	**63**				**Pn**	**00 32 52.2**	**+1.0**
RMGR	**Halanga-Turnu**	**3.46**	**56**	⇑	P		**Pn**	**00 32 52.4**	**+0.8**
RMGR	**Halanga-Turnu**	**3.46**	**56**				**Pn**	**00 32 52.4**	**+0.8**
KPRO	**Kipourio**	**3.51**	**144**		P		**Pn**	**00 32 54.1**	**+1.8**
IGT	**Igoumenitsa**	**3.52**	**158**		P		**Pn**	**00 32 52.6**	**+0.3**
IGT	**Igoumenitsa**	**3.52**	**158**		P		**Pn**	**00 32 52.9**	**+0.5**
	baz=156								
BZS	**Buzias**	**3.52**	**36**	⇓	P		**Pn**	**00 32 52.1**	**-0.2**
BZS	**Buzias**	**3.52**	**36**				**Pn**	**00 32 52.1**	**-0.2**
PAOL	**Paolisi**	**3.53**	**241**				**Pn**	**00 32 54.2**	**+1.6**
ZAG	**Zagreb**	**3.57**	**328**	*i*	Pn		**Pn**	**00 32 56.0**	**+3.0**
KNT	**Kendrikon**	**3.57**	**116**		P		**Pn**	**00 32 55.0**	**+1.9**
INTR	**Introdacqua**	**3.60**	**259**		Pn		**Pn**	**00 32 55.1**	**+1.9**
OZLJ	**Ozalj**	**3.62**	**322**	*e*	Pn		**Pb**	**00 32 58.0**	**-4.0**
PTJ	**Puntijarka**	**3.64**	**329**	*i*	Pn		**Pn**	**00 32 56.5**	**+2.4**
KALN	**Kalnik**	**3.67**	**335**	*e*	Pn		**Pn**	**00 32 56.2**	**+1.8**
AQU	**L'Aquila**	**3.90**	**265**		Pn		**Pn**	**00 32 59.3**	**+1.6**
TIP	**Timpagrande**	**3.91**	**202**	⇓	P		**Pn**	**00 32 58.0**	**+0.2**
TIP	**Timpagrande**	**3.91**	**202**				**Pn**	**00 32 58.0**	**+0.2**
RIY	**Rijeka**	**3.91**	**311**	*i*	Pn		**Pn**	**00 33 00.8**	**+3.1**
GZR	**Gura Zlata**	**3.93**	**48**	⇑	P		**Pn**	**00 32 58.5**	**+0.4**
GZR				⇑	S		**Sn**	**00 33 45.3**	**+1.6**
GZR	**Gura Zlata**	**3.93**	**48**				**Pn**	**00 32 58.5**	**+0.4**
GZR							**Sn**	**00 33 45.3**	**+1.6**
LIT	**Litokhoron**	**3.96**	**132**		P		**Pn**	**00 32 59.9**	**+1.5**
LIT	**Litokhoron**	**3.96**	**132**				**Pn**	**00 32 59.6**	**+1.1**
KOGS	**Kog**	**4.02**	**336**	*i*	Pn		**Pn**	**00 33 01.0**	**+1.8**
KOGS				*e*	Sn		**Sn**	**00 33 45.6**	**0.0**
SOH	**Sokhos**	**4.04**	**118**		P		**Pn**	**00 33 01.6**	**+2.0**
SRS	**Serrai**	**4.06**	**113**		P		**Pn**	**00 33 01.8**	**+2.0**
SIRR	**Siria**	**4.07**	**31**	⇑	P		**Pn**	**00 33 00.8**	**+0.9**
SIRR	**Siria**	**4.07**	**31**				**Pn**	**00 33 00.8**	**+0.9**
NRCA	**Norcia**	**4.07**	**272**				**Pn**	**00 33 01.7**	**+1.7**
THL	**Klokotos Trika**	**4.12**	**141**		P		**Pn**	**00 33 02.0**	**+1.4**
NVR	**Nevrokopi**	**4.14**	**109**		P		**Pn**	**00 33 03.3**	**+2.3**
LKD2	**Lefkada island**	**4.30**	**159**		P		**Pn**	**00 33 03.1**	**0.0**
DEV	**Deva**	**4.33**	**43**	⇑	P		**Pn**	**00 33 03.6**	**+0.2**
DEV	**Deva**	**4.33**	**43**				**Pn**	**00 33 03.6**	**+0.2**
MURB	**Monte Urbino**	**4.51**	**278**				**Pn**	**00 33 08.2**	**+2.2**
LOT	**Lotru**	**4.53**	**53**	⇑	P		**Pn**	**00 33 07.5**	**+1.2**
LOT	**Lotru**	**4.53**	**53**				**Pn**	**00 33 07.5**	**+1.2**
TRI	**Trieste**	**4.55**	**311**		Pn		**Pn**	**00 33 08.2**	**+1.8**
EVR	**Evrytania**	**4.57**	**147**		P		**Pn**	**00 33 09.1**	**+2.2**
PERS	**Pernice**	**4.58**	**328**	*i*	Pn		**Pn**	**00 33 09.2**	**+2.3**
PERS				*i*	Sn		**Sn**	**00 34 00.1**	**+0.6**
PERS					IAML			00 34 02.3	
	comp=Z,205nm,0.5s								
MAKR	**Makrakomi, Fth**	**4.62**	**144**		P		**Pn**	**00 33 09.2**	**+1.6**
BSZH	**Besenyszg**	**4.63**	**14**	⇑	P		**Pn**	**00 33 08.1**	**+0.5**
BSZH	**Besenyszg**	**4.63**	**14**				**Pn**	**00 33 08.1**	**+0.5**
SOKA	**Soboth**	**4.64**	**328**	*i*	Pn		**Pn**	**00 33 10.2**	**+2.3**
	comp=Z,3.8nm,0.2s,SNR=74								
SOKA				*e*	Sn		**Sn**	**00 34 01.9**	**+0.6**
	comp=Z,96nm,0.5s								
OBKA	**Obir**	**4.71**	**323**	*i*	Pn		**Pn**	**00 33 11.9**	**+3.1**
	comp=Z,15nm,0.4s,SNR=32								
OBKA				*e*	Sn		**Sn**	**00 34 05.4**	**+2.4**
	comp=Z,80nm,0.5s								
OBKA	**Obir**	**4.71**	**323**	*e*	Pn		**Pn**	**00 33 11.7**	**+2.9**
	SNR=47								
KAVA	**Kavala**	**4.74**	**111**		P		**Pn**	**00 33 11.7**	**+2.6**
PAIG	**Paliouri**	**4.76**	**126**		P		**Pn**	**00 33 10.4**	**+1.0**
KEF3	**Kipouria, Keph**	**4.79**	**164**		P		**Pn**	**00 33 08.5**	**-1.3**
XOR	**Xorichti**	**4.86**	**134**		P		**Pn**	**00 33 11.5**	**+0.6**
VLS	**Valsamata**	**4.86**	**162**		P		**Pn**	**00 33 09.8**	**-1.1**
ANX	**Ano Chora**	**4.89**	**148**		P		**Pn**	**00 33 13.0**	**+1.6**
HUMR	**Humele**	**4.90**	**67**

VRI	**Vrincioaia**	**6.54**	**59**	⇑P		**Pn**	**00 33 35.6**	**+1.7**
VRI	**Vrincioaia**	**6.54**	**59**			**Pn**	**00 33 35.6**	**+1.7**
KOLS	**Kolonicke sedl**	**6.62**	**21**	*e*PN		**Pn**	**00 33 36.3**	**+1.4**
KOLS				*e*SN		**Sn**	**00 34 47.5**	**-2.3**
VRAC	**Vranov**	**6.65**	**348**	Pn		**Pn**	**00 33 36.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=172,slow=12,SNR=6.6							
VRAC				Sn		**Sn**	**00 34 49.2**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=226,slow=15,SNR=1.9							
VRAC				LR		LR	00 36 55.7	
	comp=Z,235nm,18.7s,baz=176,slow=44							
VRAC	**Vranov**	**6.65**	**348**	⇑P		**Pn**	**00 33 35.9**	**+0.6**
VRAC	**Vranov**	**6.65**	**348**	*e*PN		**Pn**	**00 33 37.1**	**+1.7**
VRAC				*e*SN		**Sn**	**00 34 49.4**	**-1.1**
VRAC	**Vranov**	**6.65**	**348**			**Pn**	**00 33 35.9**	**+0.6**
WTTA	**Wattenberg**	**6.67**	**314**	*i* Pn		**Pn**	**00 33 38.1**	**+2.3**
	comp=Z,8.9nm,0.4s,SNR=21							
WTTA				*e*Sn		**Sn**	**00 34 53.1**	**+1.8**
	comp=Z,77nm,0.6s							
WTTA	**Wattenberg**	**6.67**	**314**	*e*Pn		**Pn**	**00 33 38.5**	**+2.8**
	SNR=29							
BURAR	**Bucovina Array**	**6.67**	**42**	⇑P		**Pn**	**00 33 37.1**	**+1.3**
BURAR	**Bucovina Array**	**6.67**	**42**	Pn		**Pn**	**00 33 35.7**	**0.0**
BURAR	**Bucovina Array**	**6.67**	**42**			**Pn**	**00 33 37.0**	**+1.3**
BUR08	**Bucovina Ar. S**	**6.68**	**42**			**Pn**	**00 33 36.6**	**+0.7**
CLTB	**Caltabellotta**	**6.68**	**220**			**Pn**	**00 33 37.4**	**+1.4**
NIE	**Niedzica**	**6.70**	**9**	*e*P		**Pn**	**00 33 38.0**	**+1.9**
NIE				*e*S		**Sn**	**00 34 52.9**	**+1.0**
CKRC	**Cesky Krumlov**	**6.73**	**335**	*e*PN		**Pn**	**00 33 38.1**	**+1.7**
CKRC				*e*SN		**Sn**	**00 34 51.7**	**-0.7**
WATA	**Walderalm**	**6.75**	**314**	*i* Pn		**Pn**	**00 33 39.4**	**+2.6**
	comp=Z,1.4nm,0.1s,SNR=24							
WATA				*e*Sn		**Sn**	**00 34 56.9**	**+3.8**
	comp=Z,45nm,0.4s							
TESR	**Tescani**	**6.79**	**54**	⇓P		**Pn**	**00 33 38.9**	**+1.6**
TESR	**Tescani**	**6.79**	**54**			**Pn**	**00 33 38.9**	**+1.6**
STHS	**Stebnicka Huta**	**6.84**	**14**	*e*PN		**Pn**	**00 33 40.7**	**+2.7**
STHS				*e*SN		**Sn**	**00 34 54.8**	**-0.5**
TREC	**Trest**	**6.84**	**342**	*e*PN		**Pn**	**00 33 40.8**	**+2.8**
SQTA	**Sankt Quirin**	**6.87**	**312**	*i* Pn		**Pn**	**00 33 41.6**	**+3.2**
	comp=Z,8.6nm,0.3s,SNR=16							
SQTA				*e*Sn		**Sn**	**00 35 00.5**	**+4.4**
	comp=Z,73nm,0.5s							
GEC2	**GERESS Array S**	**6.95**	**332**	*e*Pn		**Pn**	**00 33 42.5**	**+3.0**
	SNR=28							
GEC2				*e*Sn		**Sn**	**00 34 57.7**	**-0.4**
	SNR=4.6							
GERES	**GERESS Array B**	**6.95**	**332**	Pn		**Pn**	**00 33 42.0**	**+2.4**
	comp=Z,3.4nm,0.3s,baz=155,slow=13,SNR=118							
GERES				Sn		**Sn**	**00 34 57.7**	**-0.4**
	comp=Z,8.5nm,0.3s,baz=144,slow=23,SNR=15							
GERES				LR		LR	00 36 48.9	
	comp=Z,159nm,19.4s,baz=131,slow=41							
MOTA	**Moosalm**	**7.00**	**313**	*i* Pn		**Pn**	**00 33 43.2**	**+2.9**
	comp=Z,11nm,0.5s,SNR=19							
MOTA				*e*Sn		**Sn**	**00 35 01.4**	**+1.9**
	comp=Z,30nm,0.6s							
MORC	**Moravsky Berou**	**7.00**	**354**	⇑P		**Pn**	**00 33 41.7**	**+1.4**
MORC	**Moravsky Berou**	**7.00**	**354**	*e*PN		**Pn**	**00 33 42.0**	**+1.7**
MORC				*e*SN		**Sn**	**00 34 58.2**	**-1.1**
MORC	**Moravsky Berou**	**7.00**	**354**	Pn		**Pn**	**00 33 41.7**	**+1.4**
MORC	**Moravsky Berou**	**7.00**	**354**			**Pn**	**00 33 41.7**	**+1.4**
GORR	**Gorreto**	**7.01**	**288**	P		**Pn**	**00 33 43.0**	**+2.6**
FETA	**Feichten**	**7.02**	**310**	*e*Pn		**Pn**	**00 33 43.1**	**+2.5**
	comp=Z,1.4nm,0.4s							
FETA				*e*Sn		**Sn**	**00 35 04.1**	**+4.2**
	comp=Z,15nm,0.6s							
TLBR	**Topalu**	**7.03**	**73**	⇑P		**Pn**	**00 33 42.0**	**+1.5**
TLBR	**Topalu**	**7.03**	**73**			**Pn**	**00 33 42.0**	**+1.5**
OKC	**Ostrava-Krasne**	**7.03**	**357**	*e*PN		**Pn**	**00 33 41.6**	**+1.0**
OKC				*e*SN		**Sn**	**00 34 58.1**	**-1.8**
PGF	**Pioggiola**	**7.12**	**271**	*e*Pn		**Pn**	**00 33 42.0**	**+0.1**
PGF				*e*Sn		**Sn**	**00 34 54.9**	**-7.3**
	comp=Z,15nm,0.7s							
CFR	**Carcaliu**	**7.24**	**68**	⇑P		**Pn**	**00 33 43.4**	**+0.1**
CFR	**Carcaliu**	**7.24**	**68**			**Pn**	**00 33 43.4**	**+0.1**
KHC	**Kasperske Hory**	**7.24**	**333**	*e*PN		**Pn**	**00 33 45.8**	**+2.4**
KHC				*ex*		x	00 33 54.0	
KHC				*e*SN		**Sn**	**00 35 04.2**	**-0.8**
KHC				*ex*		x	00 35 23.0	
TIRR	**Tirgusor**	**7.27**	**74**	⇑P		**Pn**	**00 33 45.2**	**+1.4**
TIRR	**Tirgusor**	**7.27**	**74**	⇑P		**Pn**	**00 33 45.2**	**+1.4**
TIRR	**Tirgusor**	**7.27**	**74**	Pn		**Pn**	**00 33 45.0**	**+1.2**
TIRR	**Tirgusor**	**7.27**	**74**			**Pn**	**00 33 45.2**	**+1.4**
RETA	**Reutte**	**7.27**	**313**	*e*Pn		**Pn**	**00 33 46.1**	**+2.1**
	comp=Z,0.6nm,0.4s							
RETA				*e*Sn		**Sn**	**00 35 08.6**	**+2.6**
	comp=Z,15nm,0.4s							
TPGR	**Topolog**	**7.35**	**71**	⇓P		**Pn**	**00 33 46.2**	**+1.2**
TPGR	**Topolog**	**7.35**	**71**			**Pn**	**00 33 46.2**	**+1.2**
KRLC	**Kraliky**	**7.38**	**351**	*e*PN		**Pn**	**00 33 46.0**	**+0.7**
DAVOX	**Davos/Dischmat**	**7.39**	**305**	Pn		**Pn**	**00 33 47.7**	**+2.0**
	comp=Z,1.5nm,0.3s,baz=129,slow=14,SNR=25							
DAVOX				Sn		**Sn**	**00 35 09.6**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=331,slow=13,SNR=6.7							
DAVOX				LR		LR	00 37 07.3	
	comp=Z,171nm,18.1s,baz=109,slow=41							
OJC	**Ojcow**	**7.45**	**6**	*e*P		**Pn**	**00 33 48.5**	**+2.2**
OJC				*e*S		**Sn**	**00 35 04.8**	**-5.3**
WET	**Wettzell**	**7.50**	**330**	*e*Pn		**Pn**	**00 33 50.4**	**+3.4**
	SNR=3.9							
PCP	**Piancastagn**	**7.53**	**287**	P		**Pn**	**00 33 47.6**	**+0.1**
TUE	**Stuetta**	**7.58**	**302**			**Pn**	**00 33 50.5**	**+2.2**
DAVA	**Damuels**	**7.65**	**309**	*e*Pn		**Pn**	**00 33 52.7**	**+3.5**
	comp=Z,2.2nm,0.3s							
DAVA				*e*Sn		**Sn**	**00 35 18.6**	**+3.2**
	comp=Z,30nm,0.5s							
DAVA	**Damuels**	**7.65**	**309**	*e*Pn		**Pn**	**00 33 52.7**	**+3.5**
	SNR=8.5							
DAVA				*e*Sn		**Sn**	**00 35 18.3**	**+2.9**
	SNR=3.2							
CANO	**Canova, Maglio**	**7.70**	**284**	P		**Pn**	**00 33 50.5**	**+0.7**
DPC	**Dobruska-Polom**	**7.71**	**349**	*e*PN		**Pn**	**00 33 52.6**	**+2.7**
PRU	**Pruhonice**	**7.71**	**340**	*e*PN		**Pn**	**00 33 53.6**	**+3.7**
VSL	**Villasalto**	**7.74**	**248**			**Pn**	**00 33 51.9**	**+1.5**
UBR	**Ueberruh**	**7.74**	**312**	*e*Pn		**Pn**	**00 33 52.1**	**+1.7**
	SNR=8.0							
PLONS	**Plons/SG**	**7.82**	**306**	*e*Pn		**Pn**	**00 33 54.4**	**+2.9**
	SNR=11							
IMI	**Imperia**	**7.92**	**282**	P		**Pn**	**00 33 52.6**	**-0.2**
OSTC	**Ostas**	**7.92**	**349**	*e*PN		**Pn**	**00 33 54.1**	**+1.3**
CHVC	**Chvalec**	**7.98**	**348**	*e*PN		**Pn**	**00 33 54.9**	**+1.3**
MGRO	**Montegrosso**	**7.99**	**283**	P		**Pn**	**00 33 54.1**	**+0.2**
SBF	**Sospel**	**8.24**	**281**	*e*Pn		**Pn**	**00 33 57.5**	**+0.2**
SBF				*e*Sn		**Sn**	**00 35 22.0**	**-7.9**
	comp=Z,27nm,0.4s							
ROTZ	**Rotzenmuhle**	**8.26**	**330**	*e*Pn		**Pn**	**00 33 59.8**	**+2.3**
	SNR=3.0							
ROTZ				*e*Sn		**Sn**	**00 35 27.6**	**-2.5**
	SNR=3.0							
MANZ	**Manzenberg**	**8.47**	**330**	*e*Pn		**Pn**	**00 34 02.8**	**+2.4**
	SNR=3.5							
MANZ				*e*Sn		**Sn**	**00 35 34.2**	**-1.3**
	SNR=3.2							
RSP	**Reno Superiore**	**8.54**	**290**	P		**Pn**	**00 33 59.4**	**-2.0**
NKC	**Novy Kostel**	**8.56**	**332**	*e*PN		**Pn**	**00 34 04.7**	**+3.1**
GRA1	**Grafenberg Arr**	**8.59**	**326**			**Pn**	**00 34 03.5**	**+1.6**
GRF	**Grafenberg Arr**	**8.59**	**326**	*e*Pn		**Pn**	**00 34 04.2**	**+2.3**
	SNR=3.9							
GRFO	**Grafenberg**	**8.59**	**326**			**Pn**	**00 34 04.5**	**+2.6**
WERN	**Wernitzgruen**	**8.63**	**332**	*e*Pn		**Pn**	**00 34 06.0**	**+3.4**
	SNR=4.6							
BRG	**Berggiesshubel**	**8.68**	**340**	*e*P		Pn	00 34 13.4	+10
BRG				Amp			00 34 16.1	
	comp=Z,4.8nm,1.0s							
BRG				*ex*		x	00 35 41.5	
BRG				Amp			00 35 43.8	
	comp=Z,7.0nm,0.7s							
BRG				*ex*		x	00 36 04.7	
BRG				Amp			00 36 07.5	
	comp=Z,13nm,0.8s							
BRG				*ex*		x	00 36 17.1	
BRG				Amp			00 36 39.5	
	comp=Z,11nm,0.9s							
SLE	**Schleitheim**	**8.70**	**308**	*e*Pn		**Pn**	**00 34 04.9**	**+1.4**
	SNR=4.1							
TANN	**Tannenbergstha**	**8.71**	**333**	*e*Pn		**Pn**	**00 34 07.1**	**+3.4**
	SNR=4.7							
GUNZ	**Gunzen**	**8.71**	**332**	*e*Pn		**Pn**	**00 34 07.1**	**+3.4**
	SNR=6.3							
WERD	**Werda**	**8.79**	**332**	*e*Sn		**Sn**	**00 35 42.8**	**-0.4**
	SNR=3.0							
FRF	**La Foret Royal**	**8.80**	**279**	*e*P		**Pn**	**00 34 05.5**	**+0.6**
FRF				*e*Sn		**Sn**	**00 35 35.5**	**-8.0**
	comp=Z,12nm,0.5s							
MBDF	**Montbardon**	**8.81**	**287**	*e*P		**Pn**	**00 34 07.3**	**+2.2**
MBDF				*e*Sn		**Sn**	**00 35 35.7**	**-8.1**
	comp=Z,44nm,0.7s							
STU	**Stuttgart**	**8.89**	**315**			**Pn**	**00 34 08.2**	**+2.1**
LMR	**La Mourre**	**8.90**	**277**	*e*Pn		**Pn**	**00 34 07.1**	**+0.8**
LMR				*e*Sn		**Sn**	**00 35 38.5**	**-7.5**
	comp=Z,4.5nm,0.4s							
IDI	**Anoyia**	**8.94**	**145**	Pn		**Pn**	**00 34 04.5**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=1.2							
IDI				Sn		**Sn**	**00 35 40.1**	**-7.0**
	comp=Z,0.3nm,0.3s,baz=290,slow=22,SNR=1.5							
IDI	**Anoyia**	**8.94**	**145**	Pn		**Pn**	**00 34 07.0**	**+0.1**
LPG	**La Plagne**	**8.96**	**291**	*e*Pn		**Pn**	**00 34 06.0**	**-1.4**
LPG				*e*Sn		Sn	00 35 38.7	-9.2
	comp=Z,68nm,0.7s							
LPL	**La Plagne**	**8.98**	**292**	*e*P		**Pn**	**00 34 09.2**	**+1.6**
LPL				*e*Sn		**Sn**	**00 35 40.1**	**-8.1**
	comp=Z,37nm,0.5s							
BFO	**Black Forest**	**9.10**	**311**	Pn		**Pn**	**00 34 10.1**	**+1.2**
BFO	**Black Forest**	**9.10**	**311**	*e*Pn		**Pn**	**00 34 10.0**	**+1.1**
	SNR=8.3							
MOX	**Moxa**	**9.20**	**331**	*e*Pn		**Pn**	**00 34 13.4**	**+3.1**
	SNR=7.2							
CLL	**Collm**	**9.33**	**338**	*e*Pn		**Pn**	**00 34 15.0**	**+3.0**
	comp=Z,16nm,1.6s							
CLL				*e*Sn		Sn	00 35 42.0	-14
CLL				*e*Sb			00 36 15.0	
CLL				*e*			00 36 45.0	
CLL				*e*Sg			00 36 56.0	
CLL	**Collm**	**9.33**	**338**	Pn		**Pn**	**00 34 14.4**	**+2.4**
ORIF	**Oris-en-Rattie**	**9.46**	**287**	*e*P		**Pn**	**00 34 15.1**	**+1.1**
ORIF				*e*Sn		Sn	00 35 50.8	-9.0
	comp=Z,39nm,0.6s							
MILB	**Miltenberg**	**9.54**	**321**	*e*Pn		**Pn**	**00 34 16.8**	**+1.8**
	SNR=3.8							
SMRF	**Simiane la Rot**	**9.59**	**281**	*e*P		**Pn**	**00 34 16.8**	**+1.1**
SMRF				*e*Sn		**Sn**	**00 35 55.6**	**-7.3**
	comp=Z,14nm,0.8s							
HINF	**Hinteralfeld**	**9.70**	**305**	*e*P		**Pn**	**00 34 19.0**	**+1.8**
HINF				*e*Sn		**Sn**	**00 36 00.4**	**-5.1**
	comp=Z,21nm,0.6s							
CABF	**La Chapelle**	**9.71**	**297**	*e*Pn		**Pn**	**00 34 16.6**	**-0.9**
CABF				*e*Sn		Sn	00 35 57.0	-9.0
	comp=Z,38nm,0.8s							
CDF	**Champ du Feu**	**9.73**	**309**	*e*Pn		**Pn**	**00 34 16.8**	**-0.9**
CDF				*e*Sn		Sn	00 35 57.3	-9.2
	comp=Z,13nm,0.6s							
KARP	**Karpathos**	**9.81**	**135**	Pn		**Pn**	**00 34 19.9**	**+1.1**
HAU	**Haudompre**	**10.08**	**305**	*e*P		**Pn**	**00 34 24.0**	**+1.5**
HAU				*e*Sn		**Sn**	**00 36 10.6**	**-4.4**
	comp=Z,48nm,0.7s							
KEST	**Kesra**	**10.10**	**229**	Pn		**Pn**	**00 34 26.7**	**+4.0**
	comp=Z,0.2nm,0.3s,baz=341,slow=6.3,SNR=5.2							
KEST				LR		LR	00 38 55.5	
	comp=Z,154nm,19.2s,baz=18,slow=41							
VIVF	**Saint-Julien-l**	**10.31**	**286**	*e*Pn		**Pn**	**00 34 24.4**	**-1.1**
VIVF				*e*Sn		**Sn**	**00 36 12.1**	**-8.3**
	comp=Z,20nm,0.8s							
PAGF	**Fort de Pagny**	**10.71**	**307**	*e*P		**Pn**	**00 34 33.5**	**+2.6**
PAGF				*e*Sn		Sn	00 36 20.4	-10
AKASG	**Malin Array Be**	**10.71**	**39**	Pn		**Pn**	**00 34 31.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=13,SNR=7.2							
AKASG				Lg		Lg	00 37 42.8	
	comp=Z,0.1nm,0.3s,baz=226,slow=28,SNR=5.1							
LASF	**Ste Croix**	**10.83**	**282**	*e*P		**Pn**	**00 34 35.8**	**+3.1**
LASF				*e*Sn		Sn	00 36 23.8	-10
	comp=Z,1.2nm,0.5s							
SFTF	**Sexfontaines**	**10.96**	**304**	*e*P		**Pn**	**00 34 37.8**	**+3.3**
SFTF				*e*Sn		Sn	00 36 27.1	-9.4
	comp=Z,4.3nm,0.6s							
MEZF	**Maizieres J'vi**	**11.08**	**306**	*e*P		**Pn**	**00 34 39.1**	**+3.0**
MEZF				*e*Sn		Sn	00 36 29.4	-10
	comp=Z,10nm,0.5s							
SMF	**Signal de Mont**	**11.21**	**295**	*e*Pn		**Pn**	**00 34 37.3**	**-0.5**
SMF				*e*Sn		Sn	00 36 33.1	-9.4
	comp=Z,34nm,0.7s							
LOR	**Lormes**	**11.37**	**298**	*e*Pn		**Pn**	**00 34 39.2**	**-0.9**
LOR				*e*Sn		**Sn**	**00 36 39.7**	**-6.8**
	comp=Z,23nm,0.6s							
SSF	**Saint Saulge**	**11.54**	**297**	*e*Pn		**Pn**	**00 34 41.3**	**-1.1**
SSF				*e*Sn		**Sn**	**00 36 44.4**	**-6.2**
	comp=Z,15nm,0.7s							
AVF	**Avril sur Loir**	**11.57**	**295**	*e*Pn		**Pn**	**00 34 42.4**	**-0.4**
AVF				*e*Sn		Sn	00 36 41.4	-10
	comp=Z,16nm,0.8s							
BRTR	**Keskin Array B**	**11.69**	**100**	LR		LR	00 40 02.3	
	comp=Z,197nm,18.2s,baz=296,slow=41							
BGF	**Bois d'Agland**	**11.86**	**294**	*e*Pn		**Pn**	**00 34 45.9**	**-0.8**
BGF				*e*Sn		Sn	00 36 49.4	-8.9
	comp=Z,15nm,0.6s							
GIVF	**Givet**	**11.99**	**312**	*e*Pn		**Pn**	**00 34 45.6**	**-2.9**
GIVF				*e*Sn		Sn	00 36 50.5	-11
	comp=Z,2.6nm,0.2s							
MTLF	**Montolieu**	**12.03**	**278**	*e*P		**Pn**	**00 34 51.7**	**+2.6**
CAF	**Calviac**	**12.16**	**286**	*e*P		**Pn**	**00 34 52.6**	**+1.8**
CAF				*e*Sn		Sn	00 36 55.9	-10
	comp=Z,0.6nm,0.4s							
HYF	**Humbligny**	**12.17**	**297**	*e*Pn		**Pn**	**00 34 47.7**	**-3.2**
HYF				*e*Sn		Sn	00 36 55.6	-10
BAIF	**Baives**	**12.31**	**311**	*e*P		Pn	00 34 57.8	+5.0
RJF	**Les Rejaudoux**	**12.58**	**287**	*e*P		**Pn**	**00 34 59.5**	**+3.0**
RJF				*e*Sn		Sn	00 37 04.4	-12
	comp=Z,2.3nm,0.6s							
NACGM	**Naroch**	**13.22**	**21**	*i* P		**Pn**	**00 35 06.6**	**+1.4**
MFF	**Saint Martin d**	**13.89**	**292**	*e*P		**Pn**	**00 35 16.8**	**+2.4**
MFF				*e*Sn		Sn	00 37 36.9	-11
	comp=Z,1.2nm,0.4s							
LDF	**La Druitiere**	**14.32**	**300**	*e*Pn		**Pn**	**00 35 18.3**	**-2.0**
LDF				*e*Sn		Sn	00 37 46.8	-12
	comp=Z,1.2nm,0.6s							
FLN	**La Foliniere**	**14.60**	**301**	*e*Pn		**Pn**	**00 35 21.0**	**-3.1**
FLN				*e*Sn		Sn	00 37 53.4	-12
	comp=Z,0.8nm,0.3s							
GRR	**Gorron**	**14.73**	**299**	*e*Pn		**Pn**	**00 35 24.8**	**-1.2**
GRR				*e*Sn		Sn	00 37 56.8	-12
	comp=Z,0.5nm,0.2s							
SGMF	**Saint Gilles**	**15.81**	**297**	*e*P		**Pn**	**00 35 40.9**	**+0.8**
SGMF				*e*Sn		Sn	00 38 22.4	-12
	comp=Z,0.9nm,0.3s							
QUIF	**Quistinic**	**16.14**	**296**	*e*P		**P**	**00 35 46.6**	**-0.9**
QUIF				*e*Sn		**Sn**	**00 38 34.1**	**-8.6**
	comp=Z,0.2nm,0.2s							
ROSF	**Rostrenen**	**16.29**	**297**	*e*P		**Pn**	**00 35 47.6**	**+1.3**
ROSF				*e*Sn		Sn	00 38 33.8	-13
	comp=Z,0.5nm,0.3s							
MMAI	**Mount Meron Ar**	**16.42**	**121**	Pn		**Pn**	**00 35 47.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=311,slow=13,SNR=2.2							
OBN	**Obninsk**	**16.96**	**37**	Pn		**Pn**	**00 35 52.0**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=326,slow=3.6,SNR=6.5							
OBN	**Obninsk**	**16.96**	**37**	IAmb		IAmb	00 35 55.3	
	comp=Z,7.7nm,0.8s							
ESDC	**Sonseca Array**	**17.29**	**267**	P		**P**	**00 36 00.7**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=47,slow=5.6,SNR=5.3							
ESDC				LR		LR	00 42 34.5	
	comp=Z,74nm,21.4s,baz=60,slow=37							
HFS	**Hagfors**	**17.61**	**352**	P		**P**	**00 36 03.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=165,slow=13,SNR=8.0							
HFS				LR		LR	00 43 26.5	
	comp=Z,54nm,19.9s,baz=177,slow=39							
KONO	**Kongsberg**	**17.75**	**345**			**Pn**	**00 36 04.9**	**+0.4**
KONO				IAmb		IAmb	00 36 13.7	
	comp=Z,15nm,1.1s							
NC602	**NORSAR Array S**	**18.46**	**349**	P		**P**	**00 36 12.8**	**-0.2**
NAO01	**NORSAR Array S**	**18.66**	**348**	P		**P**	**00 36 15.3**	**0.0**
NB201	**NORSAR Array S**	**18.79**	**349**	P		**P**	**00 36 17.0**	**+0.3**
NOA	**NORSAR Array B**	**18.80**	**349**	P		**P**	**00 36 16.9**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=164,slow=10,SNR=3.6							
NOA				LR		LR	00 44 40.1	
	comp=Z,77nm,19.0s,baz=165,slow=40							
NC405	**NORSAR Array S**	**18.80**	**350**	P		**P**	**00 36 16.6**	**-0.1**
NC405				IAmb		IAmb	00 36 23.5	
	comp=Z,10nm,0.9s							
NBO00	**NORSAR Array S**	**18.85**	**348**	P		**Pn**	**00 36 17.9**	**0.0**
NBO00				IAmb		IAmb	00 36 30.5	
	comp=Z,8.4nm,0.8s							
EKA	**Eskdalemuir Ar**	**18.90**	**319**	P		**P**	**00 36 17.9**	**0.0**
	baz=115,slow=8.4,SNR=4.6							
ESK	**Eskdalemuir**	**18.91**	**319**	P		**Pn**	**00 36 18.7**	**0.0**
NC303	**NORSAR Array S**	**18.95**	**349**	P		**P**	**00 36 18.8**	**+0.3**
NC303				IAmb		IAmb	00 36 31.1	
	comp=Z,8.2nm,1.1s							
NC204	**NORSAR Array S**	**19.09**	**348**	P		**Pn**	**00 36 20.5**	**-0.3**
FINES	**FINESS Array B**	**19.18**	**11**	P		**Pn**	**00 36 22.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=185,slow=9.5,SNR=10							
FINES				LR		LR	00 44 34.1	
	comp=Z,126nm,21.0s,baz=221,slow=39							
FINES	**FINESS Array B**	**19.18**	**11**	P		**Pn**	**00 36 21.8**	**-0.1**
FIA1	**FINESS Array S**	**19.18**	**11**	P		**Pn**	**00 36 21.8**	**-0.1**
MDT	**Midelt**	**20.85**	**249**	P		**P**	**00 36 40.0**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=94,slow=11,SNR=4.9							
MDT				LR		LR	00 44 01.8	
	comp=Z,97nm,19.3s,baz=83,slow=34							
BELG	**Belogornoye**	**21.63**	**54**	P		**P**	**00 36 48.1**	**+0.6**
	comp=Z,6.2nm,1.0s,baz=247,slow=22,SNR=5.3							
KLMR	**Klimovskoe**	**22.02**	**28**	*e*		**P**	**00 36 49.4**	**-2.2**
KLMR				AMP			00 36 56.9	
	comp=Z,35nm,1.5s							
ARCES	**ARCESS Array B**	**27.02**	**5**	LR		LR	00 49 17.6	
	comp=Z,141nm,18.8s,baz=165,slow=38							
AKTO	**Aktyubinsk**	**27.82**	**60**	LR		LR	00 50 30.8	
	comp=Z,66nm,20.2s,baz=281,slow=40							
TOA0	**Torodi Ar. Sit**	**33.00**	**211**	P		**P**	**00 38 33.4**	**+0.9**
TOA0				IAmb		IAmb	00 38 35.0	
	comp=Z,2.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**33.00**	**211**	P		**P**	**00 38 33.7**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=15,slow=9.3,SNR=6.5							
TORD				LR		LR	00 52 16.3	
	comp=Z,65nm,18.5s,baz=150,slow=37							
TORD	**Torodi Ar. Bea**	**33.00**	**211**	P		**P**	**00 38 33.4**	**+0.9**
DBIC	**Dimbokro**	**41.55**	**217**	LR		LR	00 57 05.8	
	comp=Z,47nm,18.6s,baz=36,slow=36							
NRIK	**Noril'sk**	**43.36**	**29**	LR		LR	01 00 38.0	
	comp=Z,102nm,18.6s,baz=243,slow=40							
ZALV	**Zalesovo Beam**	**43.78**	**51**	LR		LR	00 59 50.7	
	comp=Z,76nm,19.3s,baz=280,slow=38							
MKAR	**Makanchi Array**	**44.23**	**62**	P		**P**	**00 40 07.3**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=286,slow=7.1,SNR=2.1							
MKAR				LR		LR	01 01 09.3	
	comp=Z,56nm,18.3s,baz=280,slow=40							
WMQ	**Urumqi**	**48.87**	**64**	*e*P		**P**	**00 40 46.3**	**+3.2**
TLY	**Talaya**	**55.26**	**49**	LR		LR	01 06 43.1	
	comp=Z,80nm,18.7s,baz=314,slow=38							
YAK	**Yakutsk**	**61.79**	**30**	LR		LR	01 12 04.5	
	comp=Z,75nm,19.9s,baz=268,slow=39							
YKA	**Yellowknife Ar**	**68.55**	**339**	P		**P**	**00 42 59.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=42,slow=5.8,SNR=2.0							
CMAR	**Chiang Mai Arr**	**70.68**	**83**	P		**P**	**00 43 12.8**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=296,slow=4.8,SNR=1.6							
ULM	**Lac du Bonnet**	**71.15**	**322**	P		**P**	**00 43 15.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=21,slow=8.6,SNR=3.1							
ULM	**Lac du Bonnet**	**71.15**	**322**	IAmb		IAmb	00 43 16.7	
	comp=Z,3.3nm,1

H11S2	**WAKE ISLAND Hy**	**27.64**	**23**	T	T	01 23 06.5		
	baz=203,slow=75,SNR=91							
H11S1	**WAKE ISLAND Hy**	**27.66**	**23**	T	T	01 23 24.7		
	baz=203,slow=75,SNR=36							
KNRA	**Kununurra**	**27.75**	**250**	P	**P**	**00 54 56.8**	**-0.3**	
KNRA				IAmb	IAmb	00 54 57.4		
	comp=Z,16nm,1.1s							
STKA	**Stephens Creek**	**27.95**	**206**	P	**P**	**00 54 58.9**	**+0.2**	
	comp=Z,4.1nm,1.0s,baz=21,slow=13,SNR=3.6							
STKA				LR	LR	01 05 35.5		
	comp=Z,108nm,18.1s,baz=24,slow=35							
SANI	**Sanana**	**30.07**	**278**	P	**P**	**00 55 17.8**	**+0.1**	
	comp=Z,27nm,1.0s							
FITZ	**Fitzroy Crossi**	**31.29**	**247**	P	**P**	**00 55 27.4**	**-1.0**	
	comp=Z,14nm,0.8s,baz=88,slow=7.7,SNR=21							
FITZ	**Fitzroy Crossi**	**31.29**	**247**	P	**P**	**00 55 27.6**	**-0.8**	
FITZ				IAmb	IAmb	00 55 28.5		
	comp=Z,16nm,0.8s							
KNTN	**Kanton**	**32.69**	**84**	P	**P**	**00 55 43.0**	**+2.2**	
MMRI	**Maumere**	**33.22**	**265**	P	**P**	**00 55 43.9**	**-1.5**	
MMRI	**Maumere**	**33.22**	**265**	P	**P**	**00 55 44.8**	**-0.6**	
	comp=Z,114nm,0.9s							
KAPI	**Kappang**	**35.84**	**271**	P	**P**	**00 56 07.3**	**-0.8**	
TUWZ	**Tuamarina**	**37.82**	**157**	P	**P**	**00 56 25.8**	**+1.3**	
BSWZ	**Blackbirch Sta**	**38.04**	**158**	P	**P**	**00 56 27.1**	**+0.7**	
MSWZ	**Moikau Station**	**38.32**	**156**	P	**P**	**00 56 28.5**	**-0.2**	
JTM	**Tenmabayashi**	**49.54**	**345**	P	**P**	**00 57 59.0**	**+0.4**	
JTM				IAmb	IAmb	00 58 13.1		
	comp=Z,17nm,1.1s							
DLV	**T Lat**	**50.66**	**292**	P	**P**	**00 58 06.6**	**-1.3**	
KSRS	**Korea Array**	**51.39**	**332**	P	**P**	**00 58 12.8**	**+0.1**	
	comp=Z,0.6nm,0.3s,baz=144,slow=8.7,SNR=4.4							
ASAJ	**Asahikawa**	**52.35**	**348**	LR	LR	01 19 40.2		
	comp=Z,77nm,19.6s,baz=116,slow=35							
NJ2	**Nanjing**	**52.48**	**320**	*e*P	**P**	**00 58 21.3**	**+0.4**	
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
PPT	**Papeete**	**54.26**	**106**	LR	LR	01 18 46.8		
	comp=Z,69nm,18.6s,baz=319,slow=33							
USRK	**Ussuriysk Ar.**	**55.40**	**339**	P	**P**	**00 58 42.9**	**+0.9**	
	comp=Z,3.8nm,0.9s,baz=145,slow=6.4,SNR=4.6							
USRK				LR	LR	01 19 50.0		
	comp=Z,66nm,21.3s,baz=179,slow=33							
MDJ	**Mudanjiang**	**56.62**	**338**	P	**P**	**00 58 52.2**	**+1.5**	
MDJ				pmax	pmax			
	comp=Z,16nm,2.4s							
MDJ				pmax	pmax			
	comp=Z,230nm,4.0s							
CN2	**Changchun**	**57.61**	**334**	*e*P	P	00 59 03.9	+6.2	
ENH	**Enshi**	**57.86**	**312**	P	**P**	**00 58 58.9**	**-0.9**	
ENH				IAmb	IAmb	00 59 11.3		
	comp=Z,8.1nm,1.1s							
GSI	**Gunungsitoli**	**58.63**	**276**	P	**P**	**00 59 04.0**	**-1.5**	
PHIT	**Phitsanulok**	**59.76**	**295**	P	**P**	**00 59 14.0**	**+0.8**	
UTTA	**Uttaradit**	**59.82**	**295**	P	**P**	**00 59 15.1**	**+1.5**	
KLR	**Kul'dur**	**59.90**	**342**	P	**P**	**00 59 13.7**	**+0.2**	
	comp=Z,0.7nm,0.3s,baz=138,slow=6.5,SNR=5.5							
SRDT	**SRDT**	**60.07**	**291**	P	**P**	**00 59 16.0**	**+0.6**	
XAN	**Xi'an**	**60.30**	**316**	P	**P**	**00 59 16.6**	**-0.1**	
XAN				pP	pP	00 59 23.0	-7.6	
XAN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KMI	**Kunming**	**60.69**	**304**	⇑P	**P**	**00 59 21.2**	**+1.5**	
KMI				pP	sP	00 59 43.4	+4.1	
KMI				pmax	pmax			
	comp=Z,17nm,0.8s							
CM35	**Chiang Mai Arr**	**61.38**	**296**	P	**P**	**00 59 25.0**	**+0.7**	
CM36	**Chiang Mai Arr**	**61.38**	**295**	P	**P**	**00 59 25.0**	**+0.7**	
CM34	**Chiang Mai Arr**	**61.45**	**296**	P	**P**	**00 59 26.0**	**+1.3**	
CM04	**Chiang Mai Arr**	**61.45**	**295**	P	**P**	**00 59 26.1**	**+1.4**	
CM09	**Chiang Mai Arr**	**61.45**	**295**	P	**P**	**00 59 26.2**	**+1.5**	
CM01	**Chiang Mai Arr**	**61.48**	**295**	P	**P**	**00 59 26.6**	**+1.8**	
CM05	**Chiang Mai Arr**	**61.48**	**295**	P	**P**	**00 59 26.2**	**+1.3**	
CM02	**Chiang Mai Arr**	**61.49**	**295**	P	**P**	**00 59 26.0**	**+1.0**	
CM31	**Chiang Mai Arr**	**61.50**	**295**	P	**P**	**00 59 26.8**	**+1.7**	
CM31	**Chiang Mai Arr**	**61.50**	**295**	P	**P**	**00 59 26.0**	**+0.9**	
CMAR	**Chiang Mai Arr**	**61.50**	**295**	P	**P**	**00 59 26.2**	**+1.1**	
	comp=Z,12nm,0.9s,baz=117,slow=4.9,SNR=48							
CMAR				LR	LR	01 25 50.8		
	comp=Z,36nm,19.1s,baz=194,slow=36							
CMAR	**Chiang Mai Arr**	**61.50**	**295**	P	**P**	**00 59 25.7**	**+0.6**	
CM15	**Chiang Mai Arr**	**61.52**	**295**	P	**P**	**00 59 26.0**	**+0.8**	
CM13	**Chiang Mai Arr**	**61.52**	**295**	P	**P**	**00 59 26.4**	**+1.3**	
CMMT	**Chiang Mai**	**61.61**	**296**	P	**P**	**00 59 25.0**	**-0.8**	
CM33	**Chiang Mai Arr**	**61.62**	**296**	P	**P**	**00 59 26.0**	**+0.2**	
CHTO	**Chiang Mai**	**61.62**	**296**	P	**P**	**00 59 26.0**	**+0.1**	
CM32	**Chiang Mai Arr**	**61.65**	**296**	P	**P**	**00 59 27.0**	**+0.9**	
HHC	**Hu-ho-hao-te**	**62.62**	**323**	*e*P	**P**	**00 59 34.3**	**+2.0**	
HHC				pmax	pmax			
	comp=Z,14nm,0.8s							
HHC				pmax	pmax			
	comp=Z,57nm,6.2s							
HHC				L	L			
	comp=Z,160nm,13.6s							
HHC				L	L			
	comp=Z,120nm,14.5s							
HHC				L	L			
	comp=Z,140nm,14.5s							
GSTR	**Great Sitkin T**	**63.72**	**19**	P	**P**	**00 59 38.8**	**-0.4**	
HIA	**Hailar**	**64.34**	**335**	P	**P**	**00 59 43.1**	**-0.3**	
HIA				IAmb	IAmb	00 59 45.4		
	comp=Z,13nm,1.1s							
LZH	**Lanzhou**	**64.92**	**315**	⇑P	**P**	**00 59 50.5**	**+2.9**	
LZH				pP	PcP	01 00 16.5	-3.9	
LZH				pmax	pmax			
	comp=Z,21nm,1.3s							
LZH				pmax	pmax			
	comp=Z,78nm,6.0s							
ULN	**Ulaanbaatar**	**69.50**	**327**	P	**P**	**01 00 16.4**	**+0.1**	
ULN				IAmb	IAmb	01 00 18.4		
	comp=Z,5.1nm,0.9s							
SONM	**Songino Array**	**69.83**	**327**	P	**P**	**01 00 19.4**	**+1.1**	
	comp=Z,4.6nm,0.8s,baz=124,slow=5.3,SNR=20							
SONM				LR	LR	01 29 47.3		
	comp=Z,45nm,21.6s,baz=92,slow=35							
SONM	**Songino Array**	**69.83**	**327**	P	**P**	**01 00 18.9**	**+0.5**	
SONM				IAmb	IAmb	01 00 20.2		
	comp=Z,4.2nm,0.8s							
BILL	**Bilibino**	**75.34**	**4**	P	**P**	**01 00 51.4**	**+0.9**	
BILL				IAmb	IAmb	01 01 03.2		
	comp=Z,6.6nm,0.5s							
WMQ	**Urumqi**	**79.41**	**317**	*e*P	**P**	**01 01 14.9**	**+1.0**	
QSPA	**South Pole Qui**	**82.87**	**180**	P	**P**	**01 01 31.3**	**-0.7**	
QSPA				IAmb	IAmb	01 01 42.7		
	comp=Z,4.2nm,0.8s							
ILAR	**Eielson Array**	**83.21**	**21**	P	**P**	**01 01 32.8**	**-0.7**	
	comp=Z,0.5nm,0.5s,baz=250,slow=4.6,SNR=7.1							
BCPM	**Bancas Point**	**83.81**	**27**	P	**P**	**01 01 38.5**	**+1.8**	
MK31	**Makanchi Array**	**83.98**	**319**	IAmb	IAmb	01 01 40.1		
	comp=Z,7.6nm,0.8s							
MKAR	**Makanchi Array**	**83.98**	**319**	P	**P**	**01 01 38.3**	**+0.4**	
	comp=Z,7.7nm,0.7s,baz=104,slow=5.5,SNR=60							
MAKZ	**Makanchi**	**84.19**	**318**	P	**P**	**01 01 38.9**	**0.0**	
MAW	**Mawson**	**84.58**	**203**	P	**P**	**01 01 40.0**	**-0.4**	
	comp=Z,6.4nm,1.0s,baz=90,slow=8.2,SNR=4.9							
MAW	**Mawson**	**84.58**	**203**	P	**P**	**01 01 40.4**	**-0.1**	
ZAA0	**Zalesovo Array**	**84.69**	**326**	P	**P**	**01 01 40.4**	**-0.8**	
ZAA0				IAmb	IAmb	01 01 42.6		
	comp=Z,6.9nm,1.1s							
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**01 01 41.6**	**+0.4**	
	comp=Z,4.1nm,0.7s,baz=106,slow=6.3,SNR=16							
KURK	**Kurchatov**	**87.38**	**322**	P	**P**	**01 01 54.6**	**0.0**	
KURBB	**Kurchatov Arra**	**87.41**	**322**	P	**P**	**01 01 54.6**	**-0.2**	
	comp=Z,1.4nm,0.8s,baz=106,slow=3.2,SNR=14							
NRIK	**Noril'sk**	**89.09**	**341**	P	**P**	**01 02 01.9**	**-0.4**	
	comp=Z,3.1nm,0.8s,baz=116,slow=3.5,SNR=7.5							
NRIK	**Noril'sk**	**89.09**	**341**	P	**P**	**01 02 01.9**	**-0.4**	
NRIK				IAmb	IAmb	01 02 02.8		
	comp=Z,5.9nm,1.1s							
INK	**Inuvik**	**89.56**	**21**	P	**P**	**01 02 04.5**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=282,slow=2.5,SNR=4.1							
INK	**Inuvik**	**89.56**	**21**	IAmb	IAmb	01 02 14.8		
	comp=Z,3.2nm,1.1s							
BVAR	**Borovoye Array**	**92.83**	**323**	P	**P**	**01 02 19.4**	**-0.7**	
	comp=Z,2.5nm,0.9s,baz=142,slow=14,SNR=14							
BRVK	**Borovoye**	**92.90**	**323**	P	**P**	**01 02 19.5**	**-0.8**	
BRVK				IAmb	IAmb	01 02 21.2		
	comp=Z,4.6nm,1.0s							
PDAR	**Pinedale Array**	**98.23**	**48**	LR	LR	01 39 18.0		
	comp=Z,43nm,21.2s,baz=212,slow=31							
ARCES	**ARCESS Array B**	**109.91**	**343**	PKiKP	**PKiKP**	**01 07 38.5**	**+0.4**	
	comp=Z,1.6nm,0.8s,baz=60,slow=3.2,SNR=6.7							
AKASG	**Malin Array Be**	**118.06**	**325**	PKP	**PKPdf**	**01 07 53.4**	**-0.8**	
	comp=Z,0.2nm,0.3s,baz=65,slow=2.1,SNR=5.6							
BRTR	**Keskin Array B**	**119.01**	**312**	PKP	**PKPdf**	**01 07 55.8**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=0.0,slow=2.6,SNR=3.6							
NOA	**NORSAR Array B**	**120.05**	**341**	PKP	**PKPdf**	**01 07 57.1**	**-0.7**	
	comp=Z,1.2nm,0.8s,baz=48,slow=1.8,SNR=4.4							
CLL	**Collm**	**126.26**	**332**	*i* PKPdf	**PKPdf**	**01 08 10.2**	**+0.2**	
	comp=Z,6.0nm,1.0s							
GERES	**GERESS Array B**	**127.53**	**329**	PKP	**PKiKP**	**01 08 13.5**	**+0.4**	
	comp=Z,1.4nm,0.8s,baz=79,slow=2.9,SNR=9.6							
LPAZ	**La Paz**	**130.75**	**119**	PKP	**PKPdf**	**01 08 20.2**	**0.0**	
	comp=Z,1.5nm,1.1s,baz=41,slow=5.3,SNR=3.7							
DAVOX	**Davos/Dischmat**	**130.83**	**329**	PKP	**PKPdf**	**01 08 18.1**	**-1.0**	
	comp=Z,1.5nm,0.8s,baz=174,slow=13,SNR=4.6							
PBRG	**Braganca**	**142.11**	**339**	*e*PKP	**PKiKP**	**01 08 43.2**	**+0.3**	
MVO	**Moncorvo**	**142.78**	**338**	*e*PKP	**PKiKP**	**01 08 46.1**	**+1.8**	
ESDC	**Sonseca Array**	**142.80**	**334**	PKhKP	PKPpre	01 08 37.9		
	comp=Z,1.0nm,1.1s,baz=64,slow=1.6,SNR=4.5							
PMRV	**Marv??o**	**144.42**	**337**	*e*PKP	**PKPdf**	**01 08 43.6**	**-0.4**	
PESTR	**Estremoz**	**144.99**	**337**	*e*PKP	**PKPdf**	**01 08 45.0**	**0.0**	
PMTG	**Montargil**	**145.05**	**338**	*e*PKP	**PKPbc**	**01 08 42.9**	**-1.6**	
PBAR	**Barrancos**	**145.36**	**336**	*e*PKP	**PKPab**	**01 08 46.8**	**+1.1**	
EVO	**Evora**	**145.44**	**337**	*e*PKP	**PKPdf**	**01 08 45.9**	**+0.1**	
BDFB	**Brasilia**	**147.37**	**134**	PKPbc	**PKPbc**	**01 08 51.7**	**-0.5**	
	comp=Z,4.1nm,0.7s,baz=217,slow=4.0,SNR=9.8							
BDFB	**Brasilia**	**147.37**	**134**		**PKPbc**	**01 08 52.7**	**+0.5**	
TORD	**Torodi Ar. Bea**	**153.77**	**285**	PKPbc	**PKPbc**	**01 09 06.8**	**-0.7**	
	comp=Z,1.4nm,0.8s,baz=60,slow=1.8,SNR=5.8							

MOS ***01*** *00:49:16.7±1.1, 44.˚04N×146.˚97E, h95km, mb3.8/7, Error ellipse: s-maj=9.6km s-min=8.9km az=86.8*

SKHL ***01*** *00:49:17.9±0.3, 44.˚00N×146.˚90E, h89km±4km, mb4.8/5, msha5.5/3*

JMA ***01*** *00:49:18.1±0.2, 44.˚03N×146.˚99E, h79km±4km, M4.3*

JMA Felt I J1.

NIED ***01*** *00:49:18.1, 44.˚03N×146.˚99E, h79km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.45; Mθθ-0.14; Mφφ-0.32; Mrθ-0.52; Mθφ-0.10; Mφr-0.90; Fault plane solution: M0 1.12000×10¹⁵ NP1: φs210.00000°, δ79.00000°, λ91.00000°. NP2:φs22.00000°, δ11.00000°, λ82.00000°.*

NEIC ***01*** *00:49:19.4±1.5, 44.˚19N±0.˚07×146.˚9E±0.˚1, h100km±8km, mb4.2/18 Error ellipse: s-maj=13.4km s-min=10.7km az=98.0*

IDC ***01*** *00:49:20.6±2.0, 44.˚19N×146.˚73E, h109km±17km, mb3.7/20, mb1 3.9/23, mb1mx3.6/62, mbtmp4.1/23, MS3.2/2, Ms1 3.2/2, ms1mx2.5/39, Error ellipse: s-maj=19.2km s-min=13.3km az=168.0*

ISC 01 00:49:17.8±0.8, 44.˚06N±0.˚04×146.˚94E±0.˚05, h85km±6km, n120,σ1§41/132, mb4.0/41, 11C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.78**	**269**	*c*	*i*	PN	**Pn**	**00 49 34.5**	**-0.2**
YUK						S	**Sn**	**00 49 46.5**	**-0.7**
YUK						pmax	pmax		
	comp=N,3μm,0.2s								
YUK						pmax	pmax		
	comp=E,4μm,0.2s								
YUK						pmax	pmax		
	comp=Z,19μm,0.2s								
YUK						smax	smax		
	comp=N,11nm,0.3s								
YUK						smax	smax		
	comp=E,8.0nm,0.1s								
YUK	**Yuzh-Kuril'sk**	**0.78**	**269**		*i*	P	**Pn**	**00 49 34.4**	**-0.2**
YUK						AMB	AMB	00 49 35.2	
	comp=E,1μm,0.4s								
YUK						S	**Sn**	**00 49 46.5**	**-0.7**
YUK						A	A	00 49 51.0	
	comp=E,1μm,0.3s								
YUK						A	A	00 49 51.0	
	comp=E,1μm,0.3s								
GRPR	**Tuman**	**0.84**	**266**	*c*	*i*	PN	**Pn**	**00 49 35.7**	**+0.3**
GRPR						S	**Sn**	**00 49 48.4**	**-0.1**
GRPR						pmax	pmax		
	comp=N,2μm,0.2s								
GRPR						pmax	pmax		
	comp=E,2μm,0.2s								
GRPR						pmax	pmax		
	comp=Z,4μm,0.2s								
GRPR						smax	smax		
	comp=N,17nm,0.4s								
GRPR						smax	smax		
	comp=E,13nm,0.4s								
GRPR	**Tuman**	**0.84**	**266**		*i*	P	**Pn**	**00 49 35.7**	**+0.3**
GRPR						AMB	AMB	00 49 36.0	
	comp=E,440nm,0.2s								
GRPR						S	**Sn**	**00 49 48.4**	**-0.1**
GRPR						A	A	00 49 50.7	
	comp=E,2μm,0.4s								
GRPR						A	A	00 49 50.7	
	comp=E,1μm,0.4s								
GLVR	**Golovnino**	**1.07**	**253**		*e*	PN	**Pn**	**00 49 35.7**	**-2.3**
NEM2	**Nemuro 2**	**1.11**	**232**		⇑	P	**Pn**	**00 49 38.7**	**+0.3**
NEM2						*e*S	**Sn**	**00 49 53.4**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.11**	**232**	⇑	*i*	PN	**Pn**	**00 49 38.8**	**+0.3**
NMR						S	**Sn**	**00 49 53.6**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.11**	**232**		*i*	P	**Pn**	**00 49 38.8**	**+0.3**
NMR						S	**Sn**	**00 49 53.6**	**-0.4**
RUSJ	**Misakicho**	**1.22**	**273**	⇑	*i*	PN	**Pn**	**00 49 40.3**	**+0.5**
RUSJ						S	**Sn**	**00 49 58.8**	**+2.5**
JRA	**Rausu**	**1.31**	**265**		⇑	P	**Pn**	**00 49 41.7**	**+0.7**
JRA						*e*S	**Sn**	**00 49 59.1**	**+0.7**
KUR	**Kuril'sk**	**1.35**	**29**	*c*	*i*	PN	**Pn**	**00 49 41.9**	**+0.5**
KUR						S	**Sn**	**00 49 59.9**	**+0.7**
KUR						smax	smax		
	comp=E,3.0nm,0.3s								
KUR						smax	smax		
	comp=N,2.0nm,0.2s								
KUR	**Kuril'sk**	**1.35**	**29**		*i*	P	**Pn**	**00 49 42.0**	**+0.5**
KUR						AMB	AMB	00 49 42.6	
	comp=N,240nm,0.4s								
KUR						S	**Sn**	**00 49 59.9**	**+0.7**
KUR						A	A	00 50 01.3	
	comp=N,250nm,0.3s								
KUR						A	A	00 50 01.3	
	comp=N,330nm,0.3s								
JNSB	**Nemuroshibetsu**	**1.42**	**259**		⇑	P	**Pn**	**00 49 43.5**	**+1.2**
JNSB						*e*S	**Sn**	**00 50 02.2**	**+1.3**
JKHN	**Kushirohamanak**	**1.62**	**234**		⇑	P	**Pn**	**00 49 45.4**	**+0.6**
JKHN						*e*S	**Sn**	**00 50 05.6**	**+0.3**
JNK	**Nakash**	**1.67**	**254**		⇑	P	**Pn**	**00 49 46.4**	**+0.8**
JNK						*e*S	**Sn**	**00 50 06.8**	**+0.2**
JAK	**Akkeshi**	**1.94**	**238**			P	**Pn**	**00 49 49.4**	**+0.3**
JAK						*e*S	**Sn**	**00 50 12.8**	**-0.1**
JTKR	**Abashiri--Toko**	**2.19**	**269**		⇓	P	**Pn**	**00 49 53.2**	**+0.9**
JAR	**Ashorobuto**	**2.42**	**253**		⇓	P	**Pn**	**00 49 57.1**	**+1.7**
JAR						*e*S	**Sn**	**00 50 26.2**	**+2.0**
JOB	**Onbets**	**2.54**	**244**			P	**Pn**	**00 49 58.4**	**+1.4**
JOB						*e*S	**Sn**	**00 50 27.8**	**+0.8**
JMP	**Maruseppu**	**2.58**	**270**		⇓	P	**Pn**	**00 49 58.8**	**+1.2**
JMP						*e*S	**Sn**	**00 50 29.1**	**+1.0**
JCH	**Churui**	**2.98**	**242**			P	**Pn**	**00 50 03.6**	**+0.7**
JCH						*e*S	**Sn**	**00 50 37.1**	**-0.6**
JKK2	**Kamakawa 2**	**3.03**	**268**			P	**Pn**	**00 50 05.1**	**+1.5**
JKA	**Kamikawa-asahi**	**3.12**	**273**		Pn		**Pn**	**00 50 06.4**	**+1.5**
JKA					Sn		**Sn**	**00 50 43.3**	**+2.1**
JKA	**Kamikawa-asahi**	**3.12**	**273**		*e*P		**Pn**	**00 50 06.9**	**+2.0**
ASAJ	**Asahikawa**	**3.13**	**273**		P		**Pn**	**00 50 06.9**	**+2.0**
	comp=N,12nm,0.3s,baz=44,slow=15,SNR=18								
ASAJ					S		**Sn**	**00 50 41.9**	**+0.6**
	comp=N,12nm,0.3s,baz=128,slow=26,SNR=3.7								
ASAJ	**Asahikawa**	**3.13**	**273**		P		**Pn**	**00 50 06.8**	**+1.9**
JSE	**Soyaes**	**3.24**	**288**		⇓	P	**Pn**	**00 50 07.3**	**+0.8**
JFR	**Furan**	**3.28**	**256**		P		**Pn**	**00 50 09.0**	**+2.0**
JEM	**Erimo**	**3.44**	**235**				**Pn**	**00 50 10.2**	**+1.0**
JEM						Sn	**Sn**	**00 50 51.5**	**+2.6**
ERM	**Erimo**	**3.44**	**235**		PN		**Pn**	**00 50 11.5**	**+2.3**
ERM								00 50 53.0	
ERM	**Erimo**	**3.44**	**235**		Pn		**Pn**	**00 50 11.4**	**+2.3**
ERM					Sn		**Sn**	**00 50 53.0**	**+4.1**
JNBK	**Urakawa-nobuka**	**3.54**	**241**		P		**Pn**	**00 50 11.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.13**	**316**		*e*PN		**Pn**	**00 50 19.1**	**+0.6**
YSS					*e*S		**Sn**	**00 51 02.9**	**-2.6**
YSS					pmax	pmax			
	comp=Z,30nm,0.6s								
YSS					smax	smax			
	comp=N,70nm,1.2s								
YSS	**Yuzh-Sakhalins**	**4.13**	**316**				**Pn**	**00 50 18.5**	**+0.1**
YSS							**Sn**	**00 51 04.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.13**	**316**	*e*	P		**Pn**	**00 50 19.1**	**+0.6**
YSS					AMB	AMB		00 50 20.4	
	comp=N,30nm,0.6s								
YSS				*e*	S		**Sn**	**00 51 04.0**	**-1.5**
YSS					A	A		00 51 06.7	
	comp=N,70nm,1.0s								
JEW	**Eniwo**	**4.18**	**255**		Pn		**Pn**	**00 50 20.8**	**+1.6**
JTM	**Tenmabayashi**	**5.43**	**235**				**Pn**	**00 50 36.5**	**+0.2**
TEY	**Ternei**	**7.45**	**281**	⇑	*e*PN		**Pn**	**00 51 06.4**	**+2.7**
TEY					pmax	pmax			
	comp=N,10.0nm,0.5s								
TEY					pmax	pmax			
	comp=Z,30nm,0.8s								
TEY					pmax	pmax			
	comp=E,20nm,0.8s								
TEY	**Ternei**	**7.45**	**281**	*e*P			**Pn**	**00 51 06.4**	**+2.7**
TEY					AMB	AMB		00 51 07.1	
	comp=E,10.0nm,0.5s								
JMM	**Marumori**	**7.73**	**219**		Pn		**Pn**	**00 51 07.6**	**-0.1**
JSD	**Sado**	**8.89**	**230**		Pn		**Pn**	**00 51 22.9**	**-0.5**
MAJO	**Matsushiro**	**10.03**	**225**	*i*	PN		**Pn**	**00 51 38.8**	**-0.2**
MJAR	**Matsushiro Arr**	**10.03**	**225**		P		**Pn**	**00 51 38.9**	**-0.1**
	comp=E,0.1nm,0.3s,baz=44,slow=12,SNR=1.8								
PETK	**Petropavlovsk-**	**11.51**	**34**		P		Pn	00 52 04.6	+5.5
	comp=E,0.2nm,0.3s,baz=235,slow=17,SNR=3.0								
KLR	**Kul'dur**	**11.64**	**302**		P		**Pn**	**00 52 01.7**	**+0.9**
	comp=E,0.1nm,0.3s,baz=115,slow=15,SNR=10								
KSRS	**Korea Array**	**15.83**	**252**		P		**Pn**	**00 52 54.5**	**-1.1**
	comp=E,0.3nm,0.3s,baz=56,slow=14,SNR=4.8								
KSRS					LR	LR		00 59 36.0	
	comp=E,45nm,18.4s,baz=130,slow=39								
ZEA	**Zeya**	**16.12**	**314**	*e*P			P	00 53 07.5	+6.7
ZEA					pmax	pmax			
	comp=E,10.0nm,0.3s								
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.3s								
BILL	**Bilibino**	**26.11**	**16**	⇓	*e*P		**P**	**00 54 47.8**	**+4.5**
BILL					*e*			00 55 29.8	
BILL					pmax	pmax			
	comp=Z,2.0nm,1.1s								
BILL					MLR	MLR			
	comp=Z,46nm,19.0s								
BILL	**Bilibino**	**26.11**	**16**	*e*P			**P**	**00 54 47.8**	**+4.5**
SONM	**Songino Array**	**28.21**	**292**	P			**P**	**00 55 02.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=71,slow=9.1,SNR=5.0								
TIXI	**Tiksi**	**29.03**	**348**	LR			LR	01 09 20.4	
	comp=Z,64nm,18.7s,baz=310,slow=42								
TIXI	**Tiksi**	**29.03**	**348**	*i*	P		**P**	**00 55 09.9**	**+0.6**
TIXI	**Tiksi**	**29.03**	**348**	*e*	P		**P**	**00 55 09.9**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**29.43**	**139**	T	T		T	01 26 07.5	
	baz=330,slow=75,SNR=305								
H11N1	**WAKE ISLAND Hy**	**29.45**	**139**	T	T		T	01 26 11.7	
	baz=330,slow=75,SNR=509								
H11N3	**WAKE ISLAND Hy**	**29.45**	**139**	T	T		T	01 26 10.2	
	baz=330,slow=75,SNR=205								
H11S1	**WAKE ISLAND Hy**	**30.40**	**141**	T	T		T	01 27 19.6	
	baz=349,slow=74,SNR=1237								
H11S2	**WAKE ISLAND Hy**	**30.42**	**141**	T	T		T	01 27 20.8	
	baz=340,slow=74,SNR=737								
IMAR	**Indian Mountai**	**38.48**	**34**	P			**P**	**00 56 30.0**	**-1.1**
NRIK	**Noril'sk**	**38.91**	**331**	*i*	P		**P**	**00 56 35.9**	**+1.2**
NRIK					pmax	pmax			
	comp=Z,1.0nm,1.0s								
KDAK	**Kodiak Island**	**39.16**	**48**	P			**P**	**00 56 36.6**	**-0.3**
	comp=Z,2.7nm,0.4s,baz=324,slow=5.5,SNR=11								
KDAK	**Kodiak Island**	**39.16**	**48**	IAmb			IAmb	00 56 39.0	
	comp=Z,10nm,1.1s								
DGZ	**Jazzator, Alta**	**40.13**	**300**	*i*	P		**P

DAVOX	**Davos/Dischmat**	**81.91**	**332**	P		**P**	**01 01 27.4**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=40,slow=6.1,SNR=2.5							
TXAR	**Lajitas Array**	**82.61**	**56**	P		**P**	**01 01 32.7**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=296,slow=4.0,SNR=17							
IDI	**Anoyia**	**85.09**	**316**	P		**P**	**01 01 43.6**	**-0.7**
	comp=Z,8.0nm,0.9s,baz=36,slow=8.7,SNR=3.4							
IDI	**Anoyia**	**85.09**	**316**	IAmb		IAmb	01 01 47.0	
	comp=Z,7.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**114.86**	**322**	PKP		**PKiKP**	**01 07 47.5**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=24,slow=2.3,SNR=1.9							
H03N2	**Juan Fernandez**	**143.12**	**89**	T		T	03 47 59.9	
	baz=304,slow=77,SNR=5.3							
H03N3	**Juan Fernandez**	**143.13**	**89**	T		T	03 47 55.8	
	baz=304,slow=77,SNR=5.9							
H03N1	**Juan Fernandez**	**143.13**	**89**	T		T	03 48 07.6	
	baz=304,slow=77,SNR=6.1							

AEIC ***01*** *01:06:17±1.9,51˚.82N±0˚.10×178˚.36E±0˚.08,h112km±4km, Error ellipse: s-maj=14.1km s-min=6.8km az=187.0*
MOS ***01*** *01:06:17.4±1.1,51˚.93N×178˚.56E,h120km, mb4.2/23, Error ellipse: s-maj=9.9km s-min=9.4km az=87.6*
NEIC ***01*** *01:06:17.5±1.6,51˚.87N±0˚.09×178˚.47E±0˚.08, h110km±4km,mb4.5/203,ML3.9(AEIC),Error ellipse: s-maj=13.9km s-min=6.9km az=187.0*
IDC ***01*** *01:06:18.6±0.9,52˚.03N×178˚.48E,h116km±6km,mb3.9/24, mb1 4.1/26,mb1mx4.0/44,mbtmp4.3/26,MS3.2/3, Ms1 3.1/3,ms1mx2.6/38,Error ellipse: s-maj=17.0km s-min=8.8km az=168.0*

ISC 01 01:06:17.6±0.6,51˚.81N±0˚.07×178˚.44E±0˚.04,h111km±4km, n270,σ1§11/225,mb4.4/124,6C-2D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.14**	**18**		**Pn**	**01 06 32.7**	**-0.3**
LSNW	**Little Sitkin**	**0.16**	**16**		**Pn**	**01 06 32.7**	**-0.4**
LSPA	**Little Sitkin**	**0.16**	**29**		**Pn**	**01 06 32.7**	**-0.3**
AMKA	**Amchitka**	**0.69**	**129**	Pn	**Pn**	**01 06 36.2**	**+0.3**
AMKA					**Sn**	**01 06 49.4**	**-0.4**
CESW	**Semis' Southwe**	**0.70**	**82**		**Pn**	**01 06 35.8**	**-0.2**
CEAP	**Semis' Anvil P**	**0.73**	**75**		**Pn**	**01 06 36.4**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.78**	**83**		**Pn**	**01 06 36.6**	**0.0**
GALAA	**Gareloi Lava P**	**1.73**	**91**		**Pn**	**01 06 47.4**	**+0.2**
GALAA					**Sn**	**01 07 10.9**	**+1.1**
GAEA	**Gareloi East**	**1.75**	**90**		**Pn**	**01 06 47.5**	**+0.1**
TASE	**Tanaga Southea**	**2.19**	**88**		**Pn**	**01 06 52.9**	**-0.1**
TAFP	**Tanaga Falls P**	**2.22**	**86**		**Pn**	**01 06 53.1**	**-0.3**
TAFP					**Sn**	**01 07 20.9**	**+0.1**
KIMD	**Kanaga Island**	**2.69**	**89**		**Pn**	**01 06 59.1**	**-0.3**
KIMD					**Sn**	**01 07 32.2**	**+0.6**
KICM	**Kanaga Island**	**2.71**	**86**		**Pn**	**01 06 59.9**	**+0.2**
KIKV	**Kanaga Island**	**2.72**	**87**		**Pn**	**01 06 59.6**	**-0.3**
KIWB	**Kanaga Island**	**2.73**	**87**	Pn	**Pn**	**01 06 59.3**	**-0.7**
SMY	**Shemya**	**2.82**	**291**	Pn	**Pn**	**01 06 60.0**	**-1.2**
SMY					**Sn**	**01 07 33.6**	**-1.1**
ADK	**Adak**	**3.02**	**87**	P	**Pn**	**01 07 02.9**	**-0.9**
ADK	**Adak**	**3.02**	**87**		**Pn**	**01 07 02.9**	**-0.9**
ADAG	**Mount Adagdak**	**3.07**	**85**		**Pn**	**01 07 04.0**	**-0.5**
GSTD	**Great Sitkin T**	**3.36**	**84**		**Pn**	**01 07 07.7**	**-0.7**
GSMY	**Great Sitkin M**	**3.41**	**84**		**Pn**	**01 07 08.3**	**-0.7**
GSTR	**Great Sitkin T**	**3.41**	**83**		**Pn**	**01 07 08.2**	**-0.9**
ATKA	**Atka Island**	**4.56**	**82**	Pn	**Pn**	**01 07 23.8**	**-0.6**
KOKL	**Mount Kliuchef**	**4.57**	**81**		**Pn**	**01 07 24.7**	**+0.2**
KOFP	**Korovin Flat P**	**4.63**	**81**		**Pn**	**01 07 25.5**	**+0.2**
NIKH	**Nikolski High**	**7.86**	**77**	Pn	**Pn**	**01 08 09.5**	**+0.5**
NIKH	**Nikolski High**	**7.86**	**77**	P		01 08 09.7	
	baz=267,SNR=5.8						
SPIA	**Saint Paul Isl**	**8.49**	**46**	Pn	**Pn**	**01 08 18.5**	**+1.0**
SPIA	**Saint Paul Isl**	**8.49**	**46**	P		01 08 18.0	
	baz=236,SNR=13						
AKUT	**Akutan**	**9.80**	**70**	Pn	**Pn**	**01 08 36.8**	**+1.5**
FALS	**False Pass**	**11.26**	**67**	Pn	**Pn**	**01 08 55.4**	**+0.4**
FALS	**False Pass**	**11.26**	**67**	P		01 08 55.2	
	baz=262						
PET	**Petropavlovsk**	**12.14**	**284**	*i* P	**Pn**	**01 09 08.6**	**+2.0**
PEA0B	**Petropavlovsk-**	**12.71**	**284**	*i* P	**Pn**	**01 09 15.0**	**+0.9**
PEA0B	**Petropavlovsk-**	**12.71**	**284**	Pn	**Pn**	**01 09 14.9**	**+0.8**
PETK	**Petropavlovsk-**	**12.71**	**284**	P	**Pn**	**01 09 14.3**	**+0.2**
	1.8nm,0.3s,baz=92,slow=18,SNR=12						
PETK				S	**Sn**	**01 11 27.3**	**-6.6**
	0.6nm,0.3s,baz=83,slow=20,SNR=1.9						
SDPT	**Sand Point**	**13.00**	**66**	Pn	**Pn**	**01 09 15.7**	**-2.1**
SDPT	**Sand Point**	**13.00**	**66**	P		01 09 14.9	
	baz=263,SNR=6.4						
GAMB	**Gambell**	**13.07**	**20**	P	**Pn**	**01 09 21.3**	**+2.6**
SKR	**Severo-Kuril's**	**14.02**	**274**	*ce*P	**Pn**	**01 09 32.5**	**+1.4**
SII	**Sitkinak Islan**	**16.65**	**63**	Pn	**Pn**	**01 10 02.2**	**-1.8**
SII	**Sitkinak Islan**	**16.65**	**63**	P		01 10 01.4	
	baz=265						
SVW2	**Sparrevohn**	**16.99**	**47**	P	**P**	**01 10 09.4**	**+1.3**
OHAK	**Old Harbor**	**17.20**	**61**	P	**P**	**01 10 07.7**	**-2.8**
OHAK				IAmb	IAmb	01 10 12.0	
	comp=Z,20nm,1.0s						
OHAK	**Old Harbor**	**17.20**	**61**	P		01 10 07.4	
	baz=264						
BILL	**Bilibino**	**17.32**	**345**	*e*P	**Pn**	**01 10 13.2**	**+1.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BILL	**Bilibino**	**17.32**	**345**	P	**Pn**	**01 10 12.8**	**+0.8**
MA2	**Magadan**	**17.32**	**307**	LR	LR	01 15 31.6	
	comp=Z,47nm,21.9s,baz=186,slow=32						
TTA	**Tatalina**	**17.57**	**41**	P	**P**	**01 10 14.8**	**+0.2**
TTA				pmax	pmax		
	comp=Z,12nm,0.8s						
TTA	**Tatalina**	**17.57**	**41**	P	**P**	**01 10 14.8**	**+0.2**
TTA	**Tatalina**	**17.57**	**41**	P		01 10 15.2	
	baz=242,SNR=15						
KDAK	**Kodiak Island**	**17.65**	**59**	P	**P**	**01 10 12.8**	**-2.6**
	comp=Z,7.3nm,0.3s,baz=232,slow=2.2,SNR=80						
KDAK	**Kodiak Island**	**17.65**	**59**	P	**P**	**01 10 12.8**	**-2.6**
KDAK				IAmb	IAmb	01 10 15.5	
	comp=Z,17nm,0.4s						
KDAK	**Kodiak Island**	**17.65**	**59**	P		01 10 12.4	
	baz=263						
RSO	**Redoubt South**	**18.10**	**50**	P	**Pn**	**01 10 21.8**	**+0.1**
SPCR	**Spurr Chakacha**	**18.57**	**48**	P		01 10 24.0	
	baz=253,SNR=11						
CNPM	**China Poot**	**18.62**	**54**	P	**P**	**01 10 25.9**	**-0.2**
SPU	**Mount Spurr**	**18.63**	**48**	P	**Pn**	**01 10 27.4**	**-0.4**
BRLK	**Bradley Lake**	**18.85**	**53**	P	**P**	**01 10 27.9**	**-0.6**
BRSE	**Bradley Lake S**	**18.91**	**53**	P		01 10 26.8	
	baz=259,SNR=10.0						
SKT	**Skwentna**	**19.11**	**46**	P		01 10 30.3	
	baz=252,SNR=6.6						
PPLA	**Purkeypile**	**19.14**	**43**	IAmb	IAmb	01 10 37.9	
	comp=Z,25nm,1.0s						
PPLA	**Purkeypile**	**19.14**	**43**	P		01 10 31.1	
	baz=248,SNR=9.2						
SUA	**Susitna One**	**19.32**	**48**	IAmb	IAmb	01 10 38.5	
	comp=Z,27nm,1.0s						
SUA	**Susitna One**	**19.32**	**48**	P		01 10 33.4	
	baz=254,SNR=18						
CHUM	**Lake Minchumin**	**19.48**	**40**	P		01 10 34.7	
	baz=245,SNR=14						
O22K	**Cooper Landing**	**19.56**	**51**	P		01 10 33.6	
	baz=258						
SEW	**Seward**	**19.62**	**52**	IAmb	IAmb	01 10 42.6	
	comp=Z,25nm,0.8s						
SEW	**Seward**	**19.62**	**52**	P		01 10 34.4	
	baz=259						
M22K	**Willow**	**19.68**	**47**	P		01 10 35.6	
	baz=254						
RC01	**Rabbit Creek A**	**19.69**	**49**	IAmb	IAmb	01 10 41.5	
	comp=Z,21nm,0.7s						
RC01	**Rabbit Creek A**	**19.69**	**49**	P		01 10 36.5	
	baz=256,SNR=7.6						
KTH	**Kantishna Hill**	**19.92**	**42**	IAmb	IAmb	01 10 44.3	
	comp=Z,19nm,0.8s						
IMAR	**Indian Mountai**	**19.94**	**34**	P	**P**	**01 10 40.6**	**+0.3**
PMR	**Palmer**	**20.10**	**48**	P		01 10 41.2	
	baz=256						
BPAW	**Bear Paw Mtn.**	**20.10**	**41**	IAmb	IAmb	01 10 43.7	
	comp=Z,12nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.10**	**41**	P		01 10 41.1	
	baz=247,SNR=16						
H21K	**Melozitna Rive**	**20.11**	**35**	P		01 10 42.0	
	baz=240						
TRF	**Thorofare Moun**	**20.15**	**43**	IAmb	IAmb	01 10 45.7	
	comp=Z,20nm,0.8s						
TRF	**Thorofare Moun**	**20.15**	**43**	P		01 10 42.1	
	baz=249,SNR=14						
GHO	**Glory Hole Cre**	**20.24**	**48**	IAmb	IAmb	01 10 58.8	
	comp=Z,23nm,0.8s						
PWL	**Port Wells**	**20.31**	**51**	IAmb	IAmb	01 10 44.0	
	comp=Z,25nm,0.8s						
KNK	**Knik Glacier**	**20.37**	**49**	P	**P**	**01 10 44.8**	**-0.2**
KNK	**Knik Glacier**	**20.37**	**49**	P		01 10 44.2	
	baz=257,SNR=9.1						
SML	**Sawmill**	**20.52**	**48**	P	**P**	**01 10 46.3**	**-0.3**
SML	**Sawmill**	**20.52**	**48**	P		01 10 45.1	
	baz=256,SNR=10						
MLY	**Manley**	**20.59**	**38**	P		01 10 46.9	
	baz=245,SNR=17						
WAT2	**Susitna Watana**	**20.72**	**45**	P		01 10 46.9	
	baz=253,SNR=29						
BWN	**Browne**	**20.75**	**41**	P	**P**	**01 10 50.1**	**+1.1**
BWN				IAmb	IAmb	01 11 18.1	
	comp=Z,33nm,1.1s						
MCK	**McKinley**	**20.81**	**42**	P		01 10 48.1	
	baz=250,SNR=5.9						
GLI	**Glacier Island**	**20.91**	**51**	P		01 10 48.7	
	baz=260,SNR=6.2						
WAT6	**Susitna Watana**	**20.98**	**46**	P		01 10 50.4	
	baz=255,SNR=18						
NEA2	**Nenana**	**21.07**	**40**	IAmb	IAmb	01 11 19.7	
	comp=Z,13nm,0.8s						
NEA2	**Nenana**	**21.07**	**40**	P		01 10 51.7	
	baz=248,SNR=13						
Q23K	**Middleton Isla**	**21.08**	**55**	P		01 10 51.9	
	baz=264						
HIN	**Hinchinbrook I**	**21.12**	**52**	P	**P**	**01 10 52.0**	**-1.1**
I23K	**Minto, Yukon-K**	**21.17**	**39**	P		01 10 52.9	
	baz=246,SNR=11						
H23K	**Yukon River**	**21.38**	**37**	P		01 10 55.8	
	baz=244,SNR=13						
EYAK	**Cordova Ski Ar**	**21.51**	**52**	P		01 10 54.5	
	baz=262						
KLU	**Klutina**	**21.58**	**49**	P		01 10 55.1	
	baz=260,SNR=7.7						
M24K	**Tolsona, Glenn**	**21.58**	**48**	P	**P**	**01 10 58.3**	**+0.3**
M24K				IAmb	IAmb	01 11 00.6	
	comp=Z,30nm,0.9s						
M24K	**Tolsona, Glenn**	**21.58**	**48**	P		01 10 57.3	
	baz=258,SNR=11						
TCOL	**CIGO, UAF Yank**	**21.65**	**40**	P		01 10 57.1	
	baz=249						
COLA	**College**	**21.65**	**40**	*d* P	**P**	**01 10 58.6**	**0.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
COLA	**College**	**21.65**	**40**	P	**P**	**01 10 57.9**	**-0.8**
COLA	**College**	**21.66**	**40**	P		01 10 56.7	
	baz=249						
COLD	**Coldfoot**	**21.80**	**33**	P		01 10 58.4	
	baz=240						
HDA	**Harding Lake**	**21.86**	**41**	P		01 10 59.6	
	baz=251						
HDA				P		01 10 59.6	
	baz=251						
POKR	**Poker Plat Res**	**21.91**	**40**	P	**P**	**01 11 00.2**	**-1.2**
POKR				IAmb	IAmb	01 11 02.1	
	comp=Z,11nm,0.8s						
POKR	**Poker Plat Res**	**21.91**	**40**	P		01 10 59.7	
	baz=249						
ILAR	**Eielson Array**	**22.01**	**41**	P	**P**	**01 11 00.5**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=242,slow=9.3,SNR=25						
ILAR				ScP	**ScP**	**01 18 19.8**	**-3.0**
	comp=Z,0.9nm,0.7s,baz=262,slow=3.2,SNR=8.9						
ILAR	**Eielson Array**	**22.01**	**41**	P	**P**	**01 11 01.4**	**-1.0**
H24K	**Noodor Dome**	**22.01**	**38**	P		01 11 01.7	
	baz=247,SNR=16						
PAX	**Paxson**	**22.09**	**46**	IAmb	IAmb	01 11 04.2	
	comp=Z,13nm,0.8s						
PAX	**Paxson**	**22.09**	**46**	P		01 11 01.9	
	baz=256						
HARP	**HAARP**	**22.11**	**47**	P		01 11 02.3	
	baz=258						
BMRM	**Bremner River**	**22.12**	**51**	IAmb	IAmb	01 11 03.9	
	comp=Z,20nm,0.9s						
BMRM	**Bremner River**	**22.12**	**51**	P		01 11 02.0	
	baz=262						
N25K	**Chitina, Valde**	**22.22**	**49**	IAmb	IAmb	01 11 31.1	
	comp=Z,12nm,0.8s						
N25K	**Chitina, Valde**	**22.22**	**49**	P		01 11 03.7	
	baz=261						
GLB	**Gilahina Butte**	**22.57**	**50**	IAmb	IAmb	01 11 10.8	
	comp=Z,19nm,0.6s						
VRDI	**Verde Repeater**	**22.71**	**51**	P	**P**	**01 11 09.4**	**-0.5**
VRDI				IAmb	IAmb	01 11 11.9	
	comp=Z,17nm,0.7s						
TOLK	**Toolik Lake Re**	**22.72**	**30**	P	**P**	**01 11 09.3**	**-0.5**
TOLK				IAmb	IAmb	01 11 11.7	
	comp=Z,11nm,0.7s						
TOLK	**Toolik Lake Re**	**22.73**	**30**	P		01 11 08.7	
	baz=238,SNR=12						
PRP	**Porcupine Dome**	**22.80**	**39**	IAmb	IAmb	01 11 11.7	
	comp=Z,9.4nm,0.5s						
PRP	**Porcupine Dome**	**22.80**	**39**	P		01 11 08.5	
	baz=250,SNR=12						
CRQE	**Cirque**	**22.83**	**52**	P		01 11 09.3	
	baz=264,SNR=17						
MENT	**Mentasta**	**22.87**	**46**	IAmb	IAmb	01 11 14.9	
	comp=Z,12nm,0.6s						
DOT	**Dot Lake**	**22.87**	**44**	IAmb	IAmb	01 11 12.1	
	comp=Z,12nm,0.8s						
MCARA	**McCarthy VSAT**	**22.94**	**50**	IAmb	IAmb	01 11 14.2	
	comp=Z,32nm,0.9s						
MCARA	**McCarthy VSAT**	**22.94**	**50**	P		01 11 10.0	
	baz=263,SNR=7.7						
SCRK	**Sand Creek**	**22.98**	**44**	P		01 11 10.2	
	baz=256,SNR=11						
FYU	**Fort Yukon**	**23.28**	**37**	P	**P**	**01 11 14.3**	**-0.7**
FYU				IAmb	IAmb	01 11 17.0	
	comp=Z,13nm,0.8s						
MESA	**MESA**	**23.35**	**54**	P		01 11 15.1	
	baz=267,SNR=7.3						
YAH	**Yahtse**	**23.47**	**53**	IAmb	IAmb	01 11 18.7	
	comp=Z,27nm,0.8s						
BARN	**Barnard Glacie**	**23.56**	**51**	P	**P**	**01 11 17.6**	**-0.2**
CTG	**Chitna Glacier**	**23.71**	**52**	P		01 11 18.2	
	baz=266,SNR=16						
L27K	**Beaver Creek,**	**23.74**	**46**	P	**P**	**01 11 18.7**	**-0.5**
L27K				IAmb	IAmb	01 11 20.9	
	comp=Z,22nm,1.0s						
L27K	**Beaver Creek,**	**23.74**	**46**	P		01 11 18.5	
	baz=260,SNR=35						
K27K	**Chicken**	**23.81**	**44**	P		01 11 19.4	
	baz=258						
BMAR	**Burnt Mountain**	**23.84**	**35**	P	**P**	**01 11 20.0**	**-0.1**
PINM	**Pinnacle**	**24.20**	**54**	P		01 11 22.0	
	baz=268,SNR=7.1						
EGAK	**Eagle**	**24.36**	**42**	IAmb	IAmb	01 11 25.5	
	comp=Z,28nm,0.9s						
EGAK	**Eagle**	**24.36**	**42**	P		01 11 24.0	
	baz=257,SNR=34						
DAWY	**Dawson**	**24.98**	**44**	IAmb	IAmb	01 11 33.0	
	comp=Z,12nm,0.7s						
HYT	**Haines Junctio**	**25.57**	**52**	P	**P**	**01 11 36.1**	**+0.2**
WHY	**Whitehorse**	**26.86**	**52**	P		01 11 46.2	
	baz=272						
SIT	**Sitka**	**26.97**	**60**	P		01 11 47.6	
	baz=279						
JIS	**Juneau Island**	**27.30**	**58**	IAmb	IAmb	01 11 52.1	
	comp=Z,10.0nm,0.9s						
INK	**Inuvik**	**28.10**	**36**	P	**P**	**01 11 58.3**	**0.0**
	comp=Z,1.1nm,0.3s,baz=236,slow=9.8,SNR=16						
INK	**Inuvik**	**28.10**	**36**	P	**P**	**01 11 57.9**	**-0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**28.10**	**36**	P	**P**	**01 11 57.9**	**-0.4**
INK	**Inuvik**	**28.10**	**36**	P		01 11 57.5	
	baz=258						
WRAK	**Wrangell Islan**	**28.70**	**61**	P		01 12 02.9	
	baz=282						
KLR	**Kul'dur**	**29.41**	**284**	P	**P**	**01 12 10.4**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=67,slow=8.3,SNR=20						
TIXI	**Tiksi**	**29.41**	**331**	ScP	**ScP**	**01 18 42.0**	**-2.0**
	comp=Z,3.2nm,0.7s,baz=99,slow=2.1,SNR=8.4						
USRK	**Ussuriysk Ar.**	**31.54**	**275**	P	**P**	**01 12 29.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=66,slow=13,SNR=1.4						
C36M	**Paulatuk**	**31.64**	**35**	P	**P**	**01 12 30.2**	**+0.7**
C36M				IAmb	IAmb	01 12 42.8	
	comp=Z,20nm,1.4s						
C36M	**Paulatuk**	**31.64**	**35**	P		01 12 29.1	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**33.27**	**200**	T	T	01 48 08.1	
	baz=11,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	**33.28**	**200**	T	T	01 48 08.8	
	baz=11,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**33.29**	**200**	T	T	01 48 12.8	
	baz=11,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**34.50**	**200**	T	T	01 49 46.8	
	baz=11,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**34.52**	**200**	T	T	01 49 40.4	
	baz=11,slow=76,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**34.52**	**200**	T	T	01 49 48.7	
	baz=11,slow=76,SNR=4.5						
YKA	**Yellowknife Ar**	**36.18**	**46**	P	**P**	**01 13 08.8**	**0.0**
	comp=Z,1.4nm,0.4s,baz=286,slow=7.5,SNR=10						
YKA				pP	**pP**	**01 13 35.1**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=288,slow=8.6,SNR=5.0						
YKA				LR	LR	01 28 05.6	
	comp=Z,24nm,20.4s,baz=0.0,slow=36						
NLWA	**Neilton Lookou**	**36.80**	**73**	P	**P**	**01 13 14.9**	**+0.5**
NLWA				IAmb	IAmb	01 13 38.1	
	comp=Z,9.6nm,1.4s						
A04D	**Lummi Island**	**36.86**	**71**	P		01 13 14.0	
	baz=298						
D03D	**Eldon**	**37.20**	**73**	P		01 13 16.6	
	baz=299,SNR=5.8						
B05A	**Bryant**	**37.44**	**71**	P		01 13 16.9	
	baz=298						
KSRS	**Korea Array**	**37.92**	**268**	P	**P**	**01 13 25.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=65,slow=9.6,SNR=4.9						
E04D	**Cinebar**	**37.99**	**74**	P		01 13 22.9	
	baz=300						
H04D	**Lebanon**	**38.95**	**77**	P		01 13 31.7	
	baz=302						
B08A	**Colville Reser**	**39.01**	**70**	IAmb	IAmb	01 13 33.1	
	comp=Z,8.6nm,1.2s						
I04A	**Tendick Farm,**	**39.54**	**78**	P		01 13 36.1	
	baz=303						
L02E	**Cave Junction**	**39.72**	**80**	P		01 13 37.5	
	baz=305						
HAWA	**Hanford**	**39.88**	**72**	IAmb	IAmb	01 13 40.6	
	comp=Z,12nm,1.2s						
I05D	**Terrebonne, OR**	**39.89**	**76**	P		01 13 38.6	
	baz=303						
C09A	**Chrisman Ranch**	**39.90**	**70**	IAmb	IAmb	01 13 40.2	
	comp=Z,6.5nm,1.0s						
J04D	**Umpqua Nationa**	**40.03**	**78**	P		01 13 40.7	
	baz=304						
NEW	**Newport**	**40.33**	**69**	P	**P**	**01 13 43.1**	**-0.8**
	comp=Z,4.0nm,0.4s,baz=291,slow=10,SNR=20						
NEW	**Newport**	**40.33**	**69**	IAmb	IAmb	01 13 44.2	
	comp=Z,4.6nm,0.6s						
NEW	**Newport**	**40.34**	**69**	P		01 13 42.0	
	baz=300,SNR=9.3						
L04D	**Klamath Falls**	**40.48**	**80**	P		01 13 44.7	
	baz=305						
YBH	**Yreka Blue Hor**	**40.51**	**80**	P	**P**	**01 13 46.3**	**+0.8**
	comp=Z,6.8nm,0.8s,baz=0.0,slow=8.1,SNR=10						
YBH	**Yreka Blue Hor**	**40.51**	**80**	P	**P**	**01 13 46.0**	**+0.5**
YBH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YBH	**Yreka Blue Hor**	**40.51**	**80**	P	**P**	**01 13 46.0**	**+0.5**
YBH				IAmb	IAmb	01 13 47.7	
	comp=Z,5.8nm,0.8s						
K04D	**Chiloquin, OR**	**40.59**	**79**	P		01 13 43.8	
	baz=305						
M02C	**Callahan**	**40.62**	**81**	P		01 13 45.3	
	baz=306						
KMRM	**Mail Ridge**	**40.78**	**83**	P	**P**	**01 13 49.8**	**+2.1**
KMRM				IAmb	IAmb	01 13 50.0	
	comp=Z,7.2nm,0.7s						
N02D	**Trinity Center**	**40.95**	**81**	P		01 13 48.4	
	baz=306						
M04C	**Macdoel**	**41.02**	**80**	P		01 13 47.2	
	baz=305,SNR=5.7						
K05A	**Summer Lake**	**41.05**	**78**	P	**P**	**01 13 51.0**	**+1.0**
K05A				IAmb	IAmb	01 13 51.3	
	comp=Z,4.5nm,0.5s						
WDC	**Whiskeytown Da**	**41.29**	**82**	P	**P**	**01 13 52.7**	**+1.0**
WDC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WDC	**Whiskeytown Da**	**41.29**	**82**	P	**P**	**01 13 52.7**	**+1.0**
WDC				IAmb	IAmb	01 13 53.6	
	comp=Z,7.2nm,1.1s						
O02D	**Mt. Diablo Mer**	**41.37**	**82**	P		01 13 51.7	
	baz=307						
MOD	**Modoc Plateau**	**41.88**	**79**	IAmb	IAmb	01 13 58.7	
	comp=Z,6.0nm,0.6s						
O03E	**Paynes Creek**	**41.91**	**82**	P		01 13 56.7	
	baz=307,SNR=8.5						
HOPS	**Hopland Field**	**41.91**	**84**	IAmb	IAmb	01 13 58.8	
	comp=Z,13nm,1.0s						
ORV	**Oroville**	**42.54**	**82**	P	**P**	**01 14 01.9**	**0.0**
ORV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ORV	**Oroville**	**42.54**	**82**	P	**P**	**01 14 01.9**	**0.0**
ORV				IAmb	IAmb	01 14 02.8	
	comp=Z,6.2nm,0.7s						
WVOR	**Wild Horse Val**	**42.59**	**77**	IAmb	IAmb	01 14 03.2	
	comp=Z,3.1nm,0.5s						
MSO	**Missoula**	**42.92**	**69**	P	**P**	**01 14 04.1**	**-1.0**
MSO				IAmb	IAmb	01 14 04.7	
	comp=Z,6.3nm,1.1s						
MSO	**Missoula**	**42.92**	**69**	P		01 14 03.2	
	baz=303						
BEKR	**Beckworth**	**43.05**	**81**	IAmb	IAmb	01 14 07.4	
	comp=Z,9.6nm,1.2s						
NRIK	**Noril'sk**	**43.15**	**329**	*i* P	**P**	**01 14 08.0**	**+1.5**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PAHR	**Pah Rah Range**	**43.75**	**81**	IAmb	IAmb	01 14 13.2	
	comp=Z,7.6nm,1.0s						
VCNR	**Virginia City**	**43.83**	**81**	P	**P**	**01 14 11.6**	**-0.9**
VCNR				IAmb	IAmb	01 14 17.9	
	comp=Z,7.5nm,1.0s						
TLY	**Talaya**	**44.37**	**301**	*e*P	**P**	**01 14 16.0**	**-0.5**
WAKR	**Walker**	**44.45**	**82**	IAmb	IAmb	01 14 18.9	
	comp=Z,6.5nm,0.6s						
HLID	**Hailey**	**44.47**	**73**	P		01 14 15.6	
	baz=305,SNR=7.7						
ULN	**Ulaanbaatar**	**44.52**	**294**	*ce*P	**P**	**01 14 18.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MCMT	**McKenzie Canyo**	**44.66**	**71**	P	**P**	**01 14 17.7**	**-1.5**
EGMT	**Eagleton**	**44.67**	**65**	P		01 14 17.2	
	baz=303						
SONM

RLMT **Red Lodge** 46.58 68 IAmb IAmb 01 14 34.9
comp=Z,9.5nm,1.1s
RLMT **Red Lodge** 46.58 68 P 01 14 31.7
baz=306,SNR=5.4
CWC **Cottonwood Cre** 46.59 83 P 01 14 33.8
baz=310
ISA **Isabella, Lake** 46.85 84 P 01 14 35.3
baz=311
BGU **Big Grassy Mou** 46.86 75 P **P** **01 14 36.1 -0.2**
NJ2 **Nanjing** 47.09 269 *e*P **P** **01 14 38.4 +0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MPMC **Manual Prospec** 47.20 83 P 01 14 39.0
baz=311
SPR3 **Spring Creek 3** 47.27 78 IAmb IAmb 01 14 41.4
comp=Z,5.0nm,0.6s
FURC **Furnace Creek,** 47.33 82 P 01 14 39.3
baz=310
TPNV **Topopah Spring** 47.39 81 IAmb IAmb 01 14 41.8
comp=Z,10.0nm,0.9s
TPNV **Topopah Spring** 47.39 81 P 01 14 39.6
baz=310,SNR=6.2
LAO **LASA Array** 47.40 65 P 01 14 38.6
baz=305
DUG **Dugway, Tooele** 47.44 76 IAmb IAmb 01 14 41.5
comp=Z,4.6nm,0.6s
DUG **Dugway, Tooele** 47.44 76 P 01 14 39.5
baz=308,SNR=9.7
PDAR **Pinedale Array** 47.80 71 P **P** **01 14 42.5 -1.2**
comp=Z,3.6nm,0.8s,baz=305,slow=4.3,SNR=24
BW06 **Boulder Array** 47.80 71 P 01 14 41.2
baz=307,SNR=5.8
PRN **Pahroc Range** 47.83 80 IAmb IAmb 01 14 45.2
comp=Z,19nm,1.4s
PSUT **Pine Spring** 47.85 78 IAmb IAmb 01 14 44.7
comp=Z,5.8nm,0.5s
SHOC **Shoshone, Teco** 48.05 83 P 01 14 44.4
baz=311
BFSC **Mount Baldy Ra** 48.29 85 P 01 14 45.7
baz=312
HEC **Hector,Ludlow** 48.72 84 P 01 14 48.3
baz=312,SNR=5.1
CCUT **Cedar City** 48.77 79 P **P** **01 14 50.8 -0.4**
MURC **Murrieta** 49.00 86 P 01 14 52.1
baz=312
GMRC **Granite Mounta** 49.16 83 P 01 14 52.9
baz=312,SNR=6.2
KNB **Kanab** 49.45 79 IAmb IAmb 01 14 58.0
comp=Z,3.4nm,0.7s
BELC **Belle Mtn. Jos** 49.48 84 P 01 14 55.1
baz=312,SNR=5.1
PKCU **Pink Cliffs** 49.48 78 P **P** **01 14 57.1 +0.4**
SRU **San Rafael Swe** 49.49 75 IAmb IAmb 01 14 57.4
comp=Z,4.1nm,0.6s
109C **Camp Elliot, M** 49.54 86 P 01 14 56.2
baz=313
K22A **Casper** 49.65 69 P 01 14 55.9
baz=308
IRM **Iron Mountain** 49.90 83 P 01 14 59.1
baz=312
BAR **Barrett** 49.95 86 IAmb IAmb 01 15 00.8
comp=Z,4.5nm,0.7s
MONP2 **Monument Peak** 49.96 86 P 01 14 59.4
baz=313
CBX **Cerro Bola** 50.20 86 P **P** **01 15 02.9 +0.9**
CBX IAmb IAmb 01 15 03.8
comp=Z,4.5nm,0.7s
O20A **White River Ci** 50.21 73 IAmb IAmb 01 15 01.8
comp=Z,8.7nm,1.1s
O20A **White River Ci** 50.21 73 P 01 15 00.2
baz=309,SNR=5.5
IKP **In-Ko-Pah, Jac** 50.32 86 P 01 15 02.3
baz=313
GLA **Glamis** 50.84 84 P **P** **01 15 06.7 0.0**
GLA pmax pmax
comp=Z,10.0nm,0.7s
GLA **Glamis** 50.84 84 P **P** **01 15 06.7 0.0**
GLA **Glamis** 50.84 84 P 01 15 05.6
baz=313,SNR=6.8
ULM **Lac du Bonnet** 50.87 56 P **P** **01 15 05.3 -1.3**
comp=Z,1.1nm,0.3s,baz=304,slow=11,SNR=2.7
N23A **Red Feather La** 51.08 71 P 01 15 07.1
baz=310
WUAZ **Wupatki** 51.31 80 P **P** **01 15 10.1 -0.2**
WUAZ IAmb IAmb 01 15 11.1
comp=Z,3.4nm,0.5s
WUAZ **Wupatki** 51.31 80 P 01 15 09.4
baz=312
Y14A **Wickenburg** 51.36 82 IAmb IAmb 01 15 11.8
comp=Z,6.5nm,1.3s
SPX **San Pedro Mart** 51.82 87 P **P** **01 15 14.7 +0.3**
SPX IAmb IAmb 01 15 15.7
comp=Z,3.3nm,0.8s
MVCO **Mesa Verde** 51.94 76 P 01 15 13.8
baz=311
ISCO **Idaho Springs** 51.98 72 P 01 15 14.0
baz=310
AGMN **Agassiz Nation** 52.07 58 P 01 15 13.1
baz=308
ZALV **Zalesovo Beam** 52.47 312 PcP **PcP** **01 16 28.1 +0.5**
comp=Z,2.5nm,0.7s,baz=28,slow=3.7,SNR=9.3
ZALV ScP **ScP** **01 20 14.3 +0.2**
comp=Z,0.5nm,0.5s,baz=76,slow=6.1,SNR=2.6
S22A **4UR Ranch, Cre** 52.59 74 P 01 15 19.0
baz=311
214A **Organ Pipe Nat** 52.83 84 IAmb IAmb 01 15 22.4
comp=Z,3.6nm,0.8s
214A **Organ Pipe Nat** 52.83 84 P 01 15 20.4
baz=314
X18A **Snowflake** 52.84 79 IAmb IAmb 01 15 22.8
comp=Z,3.6nm,0.5s
B35A **Bob, Littlefor** 53.14 56 P **P** **01 15 22.3 -1.2**
B35A IAmb IAmb 01 15 22.9
comp=Z,5.1nm,0.9s
SDCO **Great Sand Dun** 53.38 73 IAmb IAmb 01 15 26.3
comp=Z,5.1nm,1.4s
SDCO **Great Sand Dun** 53.38 73 P 01 15 24.4
baz=312
LZH **Lanzhou** 53.61 284 ⇓P **P** **01 15 30.5 +3.2**
LZH pP pP 01 15 45.5 -8.3
LZH pmax pmax
comp=Z,16nm,1.0s
GTA **Gaotai** 53.80 290 *e*P **P** **01 15 29.3 +0.7**
GTA pP pP 01 15 56.6 +1.4
GTA pmax pmax
comp=Z,7.0nm,0.7s
TUC **Tucson** 53.83 82 P **P** **01 15 29.3 +0.4**
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC **Tucson** 53.83 82 P **P** **01 15 29.3 +0.4**
TUC IAmb IAmb 01 15 30.1
comp=Z,4.0nm,1.1s
TUC **Tucson** 53.83 82 P 01 15 27.1
baz=314
DGZ **Jazzator, Alta** 53.91 307 *i* P **P** **01 15 30.6 +1.4**
DGZ pmax pmax
comp=Z,3.0nm,1.6s
T25A **Trinidad** 54.43 73 IAmb IAmb 01 15 56.7
comp=Z,5.6nm,0.7s
T25A **Trinidad** 54.43 73 P 01 15 32.1
baz=312
ANMO **Albuquerque** 54.68 77 P 01 15 34.5
baz=313
BNM **Barren Site** 55.12 77 P **P** **01 15 37.3 -1.0**
121A **Cookes Peak, D** 55.52 80 P **P** **01 15 40.6 -0.5**
121A IAmb IAmb 01 16 06.0
comp=Z,4.6nm,1.2s
121A **Cookes Peak, D** 55.52 80 P 01 15 40.8
baz=314
SPMN **Marine on St.** 55.65 59 P 01 15 39.8
baz=311
N35A **Tabor** 57.01 64 P **P** **01 15 50.4 -1.1**
ARCES **ARCESS Array B** 57.35 349 P **P** **01 15 53.1 -0.3**
comp=Z,3.4nm,1.1s,baz=30,slow=7.5,SNR=1.0
MNTX **Cornudas Mount** 57.56 79 IAmb IAmb 01 15 56.5
comp=Z,3.1nm,0.7s
MNTX **Cornudas Mount** 57.56 79 P 01 15 54.8
baz=315,SNR=6.6
WMQ **Urumqi** 57.65 301 *e*P **P** **01 15 58.6 +2.6**
KSU1 **Kansas State U** 57.66 67 P 01 15 53.8
baz=313
I40A **Norwalk** 57.70 59 P **P** **01 15 55.5 -0.7**
MKAR **Makanchi Array** 58.40 307 P **P** **01 16 00.3 -0.8**
comp=Z,0.8nm,0.4s,baz=46,slow=6.1,SNR=12
MKAR **Makanchi Array** 58.40 307 P **P** **01 16 00.6 -0.5**
MKAR **Makanchi Array** 58.40 307 P **P** **01 16 00.6 -0.5**
JFWS **Jewell Farm** 58.57 59 P 01 15 59.8
baz=313
I42A **Draeger Farm,** 58.61 58 P **P** **01 16 01.7 -0.8**
I42A IAmb IAmb 01 16 16.1
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 59.40 72 P **P** **01 16 07.6 -0.6**
WMOK pmax pmax
comp=Z,2.0nm,0.9s
WMOK **Wichita Mounta** 59.40 72 P **P** **01 16 07.6 -0.6**
WMOK IAmb IAmb 01 16 12.1
comp=Z,2.4nm,0.8s
BRVK **Borovoye** 59.45 318 *ce*P **P** **01 16 08.1 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.5s
BRVK **Borovoye** 59.45 318 P **P** **01 16 08.1 -0.1**
BRVK IAmb IAmb 01 16 08.9
comp=Z,2.5nm,0.5s
K43A **Burlington** 59.73 58 P **P** **01 16 09.2 -1.1**
TX32 **Lajitas Array** 60.27 79 P **P** **01 16 13.8 -0.5**
TX32 IAmb IAmb 01 16 14.7
comp=Z,3.1nm,0.6s
TXAR **Lajitas Array** 60.28 79 P **P** **01 16 14.2 -0.1**
comp=Z,2.2nm,0.5s,baz=305,slow=5.2,SNR=36
TXAR ScP **ScP** **01 20 47.7 -1.3**
comp=Z,0.5nm,0.8s,baz=335,slow=5.7,SNR=4.9
TXAR **Lajitas Array** 60.28 79 P **P** **01 16 13.7 -0.6**
ABTX **Abilene, Hawle** 60.38 74 P 01 16 13.3
baz=315
SCHQ **Schefferville** 60.71 37 P **P** **01 16 16.1 -0.7**
comp=Z,1.7nm,0.6s,baz=306,slow=6.5,SNR=5.1
SCHQ **Schefferville** 60.71 37 P **P** **01 16 15.7 -1.1**
HDIL **Hopedale** 60.72 61 P **P** **01 16 15.8 -1.2**
HDIL **Hopedale** 60.72 61 P 01 16 13.4
baz=315
P43A **Skaggs, Pawnee** 61.24 62 P **P** **01 16 19.3 -1.2**
P43A IAmb IAmb 01 16 32.1
comp=Z,7.5nm,0.9s
ARU **Arti** 61.31 327 *ci* P **P** **01 16 20.6 -0.2**
ARU S **S** **01 24 33.8 +1.8**
ARU SS **SS** **01 28 35.9 +2.7**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU **Arti** 61.31 327 P **P** **01 16 20.9 +0.1**
CHGQ **Chibougamau** 61.35 45 P 01 16 18.0
baz=318
U40A **Yellville** 61.70 66 P 01 16 22.0
baz=315
JCT **Junction City** 61.80 76 P 01 16 22.9
baz=316
SFIN **Lafayette** 62.03 60 P **P** **01 16 25.0 -0.8**
SFIN **Lafayette** 62.03 60 P 01 16 24.4
baz=316
WHTX **Lake Whitney,** 62.12 73 P 01 16 25.9
baz=316
FCAR **Ozark Folk Cen** 62.45 66 P **P** **01 16 26.2 -2.5**
MIAR **Mount Ida** 62.58 68 P 01 16 28.2
baz=316
ALGO **Algonquin Park** 62.58 50 P 01 16 27.5
baz=317
D55A **Sainte-Anne-du** 62.99 48 P 01 16 29.5
baz=318
D56A **ZEC Mazanza, M** 63.30 47 P 01 16 32.0
baz=318
USIN **University of** 63.45 62 P **P** **01 16 33.3 -2.0**
E56A **St. Veronique** 63.55 48 P 01 16 33.3
baz=318
P48A **Milroy** 63.58 59 P **P** **01 16 34.6 -1.6**
LATQ **La Tuque** 63.94 46 P 01 16 35.6
baz=319
D58A **Chemin du LacG** 64.11 46 P 01 16 37.4
baz=319
KDJ **Kajisay** 64.29 306 P **P** **01 16 40.9 -0.1**
KDJ pmax pmax
comp=Z,22nm,1.4s
KDJ **Kajisay** 64.29 306 P **P** **01 16 40.9 -0.1**
WVT **Waverly** 64.69 63 P **P** **01 16 42.2 -1.2**
WVT pmax pmax
comp=Z,3.0nm,0.8s
WVT **Waverly** 64.69 63 P **P** **01 16 42.2 -1.2**
WVT **Waverly** 64.69 63 P 01 16 41.5
baz=317
FINES **FINESS Array B** 64.96 346 P **P** **01 16 42.8 -2.0**
comp=Z,2.6nm,0.9s,baz=354,slow=1.9,SNR=5.6
FINES **FINESS Array B** 64.96 346 P **P** **01 16 44.7 -0.1**
FINES **FINESS Array B** 64.96 346 P **P** **01 16 44.7 -0.1**
OXF **Oxford** 64.98 66 P 01 16 43.4
baz=317
Q51A **Peebles** 65.00 58 P **P** **01 16 44.7 -0.7**
D61A **St Aubert, Com** 65.22 44 P 01 16 44.7
baz=321
K56A **Middlesex** 65.34 52 P 01 16 46.1
baz=319
F60A **Warwick** 65.39 46 P 01 16 46.8
baz=320
U49A **Red Boiling Sp** 65.54 62 IAmb IAmb 01 16 49.4
comp=Z,5.0nm,1.1s
CLTN **Cedars of Leba** 65.54 62 IAmb IAmb 01 16 48.5
comp=Z,3.5nm,0.6s
L56A **Greenwood** 65.65 52 P 01 16 48.4
baz=319
T50A **Nancy** 65.68 61 P **P** **01 16 49.0 -0.8**
MOQ **Mont Orford** 65.75 47 P **P** **01 16 49.0 -1.2**
F61A **St Evariste** 65.81 46 P 01 16 49.2
baz=320
J58A **Rennes** 65.83 50 P 01 16 48.6
baz=319
G61A **St-Isidore-de-** 66.10 47 P 01 16 50.1
baz=320
K58A **Earlville** 66.11 51 P 01 16 49.6
baz=319
J59A **Piesco** 66.12 50 P 01 16 50.6
baz=320
I59A **Olmsteadville** 66.16 49 P 01 16 50.9
baz=320
SWET **Sewanee** 66.41 63 P **P** **01 16 53.0 -1.5**
SWET IAmb IAmb 01 16 53.5
comp=Z,2.7nm,0.5s
ABKAR **Akbulak array** 66.53 321 P **P** **01 16 55.4 +0.4**
SSPA **Standing Stone** 66.61 54 P **P** **01 16 55.3 -0.4**
SSPA **Standing Stone** 66.61 54 P 01 16 53.3
baz=319
KK31 **Karatay Array** 66.81 311 P **P** **01 16 56.4 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KK31 **Karatay Array** 66.81 311 P **P** **01 16 56.4 -0.6**
KK31 IAmb IAmb 01 16 59.0
comp=Z,2.3nm,0.6s
KKAR **Karatay Array** 66.81 311 P **P** **01 16 56.7 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR **Karatay Array** 66.81 311 P **P** **01 16 56.7 -0.3**
KKAR IAmb IAmb 01 16 59.0
comp=Z,2.3nm,0.6s
H62A **Milan** 66.82 47 P 01 16 54.5
baz=321
BATG **Bathurst New B** 66.91 42 P **P** **01 16 56.5 -1.0**
CPCT **Cooper Cave** 67.01 62 P **P** **01 16 56.4 -1.9**
CPCT IAmb IAmb 01 16 57.7
comp=Z,6.4nm,1.5s
NOA **NORSAR Array B** 67.03 353 P **P** **01 16 56.8 -1.3**
comp=Z,0.6nm,0.7s,baz=18,slow=7.5,SNR=1.7
NOA pP **PcP** **01 17 26.0 +0.4**
comp=Z,1.8nm,0.8s,baz=8.2,slow=6.5,SNR=4.8
FAKI **Fak Fak** 67.08 231 P **P** **01 16 58.1 -0.8**
FPAL **Fort Paine** 67.08 63 P **P** **01 16 57.2 -1.7**
FPAL IAmb IAmb 01 16 57.7
comp=Z,2.8nm,0.6s
TKL **Tuckaleechee C** 67.26 61 P **P** **01 16 58.7 -1.2**
TKL pmax pmax
comp=Z,4.0nm,1.2s
TKL **Tuckaleechee C** 67.26 61 P **P** **01 16 58.7 -1.2**
N59A **State Game Lan** 67.45 52 P 01 16 58.8
baz=320
V53A **Saluda** 67.77 60 P **P** **01 17 02.4 -0.8**
BG3 **Lake Jocassee** 68.22 61 P **P** **01 17 05.4 -0.6**
LMN **Caledonia Moun** 68.57 42 P **P** **01 17 06.9 -1.0**
LMN IAmb IAmb 01 17 23.1
comp=Z,12nm,1.1s
KMSC **Kings Mountain** 68.97 60 P **P** **01 17 09.4 -1.1**
KMSC **Kings Mountain** 68.97 60 P 01 17 08.6
baz=319
GOGA **Godfrey** 69.11 62 P 01 17 09.2
baz=319
HODGE **Hodges** 69.15 61 P **P** **01 17 11.0 -0.7**
HODGE IAmb IAmb 01 17 11.3
comp=Z,3.5nm,0.5s
CMAR **Chiang Mai Arr** 69.26 274 P **P** **01 17 13.4 +0.8**
comp=Z,1.7nm,0.5s,baz=26,slow=6.6,SNR=8.9
BIRD **Birdtown, Kers** 69.81 60 P **P** **01 17 14.9 -0.9**
GAR **Garm** 70.07 308 P **P** **01 17 17.3 -0.2**
GAR IAmb IAmb 01 17 19.9
comp=Z,7.3nm,0.6s
AKASG **Malin Array Be** 74.58 340 P **P** **01 17 42.8 -1.1**
comp=Z,0.4nm,0.3s,baz=22,slow=6.1,SNR=5.2
AKASG pP **pP** **01 18 10.5 -1.1**
comp=Z,2.9nm,0.5s,baz=20,slow=6.2,SNR=3.3
MTN **Manton Dam** 76.27 228 P **P** **01 17 54.4 +0.5**
GEYT **Alibeck** 76.58 315 LR LR 01 55 45.4
comp=Z,30nm,18.5s,baz=225,slow=39
KIV **Kislovodsk** 77.23 329 *e*P **P** **01 18 01.1 +1.9**
KIV pmax pmax
comp=Z,9.0nm,1.1s
BURAR **Bucovina Array** 78.33 342 P **P** **01 18 05.4 +0.2**
BURAR pmax pmax
comp=Z,1.0nm,0.8s
BURAR **Bucovina Array** 78.33 342 P **P** **01 18 05.1 -0.1**
KNRA **Kununurra** 79.84 228 P **P** **01 18 14.5 +1.0**
WB0 **Warramunga Arr** 80.99 222 P **P** **01 18 20.1 +0.5**
WB0 IAmb IAmb 01 18 20.6
comp=Z,5.7nm,0.7s
WR0 **Warramunga Arr** 81.10 221 P **P** **01 18 19.6 -0.6**
WR0 IAmb IAmb 01 18 21.4
comp=Z,4.7nm,0.7s
WB2 **Warramunga Arr** 81.16 221 P **P** **01 18 20.7 +0.1**
WB2 IAmb IAmb 01 18 22.0
comp=Z,7.2nm,0.8s
WRA **Warramunga Arr** 81.17 221 P **P** **01 18 21.1 +0.5**
comp=Z,4.8nm,0.7s,baz=32,slow=6.2,SNR=29
WRA **Warramunga Arr** 81.17 221 P **P** **01 18 20.7 +0.1**
FITZ **Fitzroy Crossi** 83.40 230 P **P** **01 18 33.5 +1.3**
FITZ IAmb IAmb 01 18 34.3
comp=Z,9.7nm,0.9s
BR131 **Keskin Array S** 83.81 333 P **P** **01 18 34.3 -0.1**
BR131 pmax pmax
comp=Z,3.0nm,1.4s
BR131 **Keskin Array S** 83.81 333 P **P** **01 18 34.3 -0.1**
BRTR **Keskin Array B** 83.81 333 P **P** **01 18 34.4 -0.1**
comp=Z,0.6nm,0.5s,baz=27,slow=3.4,SNR=6.2
BRTR **Keskin Array B** 83.81 333 *ce*P **P** **01 18 35.5 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR **Keskin Array B** 83.81 333 P **P** **01 18 34.6 +0.1**
ASAR **Alice Springs** 84.68 220 P **P** **01 18 39.5 +0.8**
comp=Z,5.7nm,0.3s,baz=24,slow=5.1,SNR=25
STKA **Stephens Creek** 89.39 211 P **P** **01 19 03.2 +2.0**
comp=Z,5.0nm,0.6s,baz=354,slow=5.5,SNR=13
TORD **Torodi Ar. Bea** 115.25 356 PKP **PKiKP** **01 24 44.6 -1.4**
comp=Z,0.6nm,0.5s,baz=357,slow=1.8,SNR=7.5
TORD **Torodi Ar. Bea** 115.25 356 PKiKP **PKiKP** **01 24 44.9 -1.1**
DBIC **Dimbokro** 121.68 4 PKP **PKPdf** **01 24 57.3 -1.1**
comp=Z,9.1nm,1.0s,baz=312,slow=1.5,SNR=2.2
MAW **Mawson** 145.77 218 PKPbc **PKPab** **01 25 43.0 +0.3**
comp=Z,5.5nm,0.6s,baz=125,slow=2.8,SNR=8.5
MAW **Mawson** 145.77 218 PKIKP **PKPdf** **01 25 40.9 -0.4**
MAW **Mawson** 145.77 218 **PKPdf** **01 25 40.9 -0.4**
BOSA **Boshof** 149.39 309 PKPbc **PKPbc** **01 25 53.5 +0.2**
comp=Z,3.6nm,0.5s,baz=46,slow=3.2,SNR=17

IDC ***01*** *01:18:17.4± 1.0, 27.27N× 128.86E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.7/35, mbtmp3.6/10, ML3.3/1, MS2.9/2, Ms1 3.0/2, ms1mx2.6/33, Error ellipse: s-maj=41.4km s-min=19.4km az=74.0*

NIED ***01*** *01:18:22.3, 27.31N× 128.88E, h31km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.75; Mθθ=0.23; Mφφ=0.52; Mrθ=0.55; Mθφ=0.21; Mφr=0.80; Fault plane solution: M₀1.19000×10¹⁵ NP1: φs=213.00000°, δ=72.00000°, λ=-87.00000°. NP2: φs=24.00000°, δ=18.00000°, λ=-98.00000°.*

JMA ***01*** *01:18:22.2, 27.31N× 128.88E, h31km± 1km, M3.7*

JMA Felt II J1.

ISC 01 01:18:21.0± 1.2, 27.25N± 0.04, 128.94E± 0.04, h24km± 9km, n35, σ 0.91/41, mb3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.34**	**289**	P			Pn	**01 18 29.3**	**-1.2**
JOKE				S			Sb	**01 18 34.3**	**+0.5**
JYRO	**Yoronjima**	**0.49**	**243**	P			Pn	**01 18 32.1**	**-0.3**
JYRO				S			Sn	**01 18 38.8**	**-1.3**
JTK	**Tokunoshima**	**0.54**	**1**	P			Pb	**01 18 32.1**	**+0.3**
JTK				S			Sb	**01 18 38.7**	**-0.5**
JOW	**Kunigami**	**0.72**	**235**	P			Pn	**01 18 36.0**	**+0.3**
JOW				S			Sn	**01 18 45.5**	**-0.4**
JIH	**Iheya**	**0.89**	**256**	P			Pn	**01 18 37.9**	**-0.1**
JIH				S			Sn	**01 18 49.8**	**-0.3**
JAMN	**Amaminishikomi**	**1.01**	**12**	P			Pb	**01 18 39.6**	**-0.3**
JAMN				S			Sb	**01 18 52.1**	**-0.7**
JNTH	**Nagotoyohara**	**1.09**	**229**	P			Pb	**01 18 41.9**	**+0.7**
JNTH				eS			Sn	**01 18 55.9**	**+0.8**
JAM	**Amami Oshima**	**1.30**	**27**	P			Pb	**01 18 44.4**	**-0.4**
JZK	**Kikaishima**	**1.40**	**41**	P			Pb	**01 18 45.9**	**-0.6**
JJT3	**Tamagusuku3**	**1.51**	**223**	P			Pb	**01 18 47.8**	**-0.5**
JJT3				*e*S			Sb	**01 19 07.1**	**+0.2**
JAGN	**Aguni-jima**	**1.65**	**247**	P			Pb	**01 18 49.3**	**-1.4**
JAGN				S			Sb	**01 19 09.7**	**-1.3**
JTAJ	**Takarajima**	**1.91**	**7**	P			Pn	**01 18 51.9**	**-0.2**
JTAJ				S			Sn	**01 19 15.2**	**-0.2**
JKE	**Kume jima 2**	**2.13**	**245**	P			Pn	**01 18 56.3**	**+1.3**
JKE				S			Sn	**01 19 21.7**	**+1.0**
JKDJ	**Kitadaitoujima**	**2.48**	**121**	P			Pn	**01 19 00.1**	**+0.3**
JKDJ				S			Sn	**01 19 27.8**	**-1.5**
JNN	**Nakanoshima**	**2.71**	**17**	P			Pn	**01 19 03.6**	**+0.5**
JNN				*e*S			Sn	**01 19 36.1**	**+0.9**
JYAK	**Yakushimahirau**	**3.29**	**24**	P			Pn	**01 19 10.9**	**0.0**
JYAK				*e*S			Sn	**01 19 48.0**	**-1.2**
JNU	**Nakatsue**	**6.09**	**16**	Pn			Pn	**01 19 50.6**	**+1.0**
	0.8nm,0.3s,baz=133,slow=8.6,SNR=3.4								
KSRS	**Korea Array**	**10.21**	**355**	Pn			Pn	**01 20 48.5**	**+2.5**
	0.3nm,0.3s,baz=169,slow=14,SNR=4.6								
DAV	**Davao City (W)**	**20.32**	**190**	LR			LR	01 30 13.1	
	comp=Z,23nm,19.2s,baz=318,slow=35								
SONM	**Songino Array**	**27.06**	**325**	P			**P**	**01 24 02.4**	**+0.8**
	0.5nm,0.7s,baz=119,slow=8.7,SNR=2.1								
CMAR	**Chiang Mai Arr**	**28.93**	**259**	LR			LR	01 36 59.0	
	comp=Z,31nm,19.8s,baz=125,slow=39								
H11N2	**WAKE ISLAND Hy**	**35.51**	**94**	T			T	02 02 56.7	
	baz=290,slow=74,SNR=32								
H11N1	**WAKE ISLAND Hy**	**35.51**	**94**	T			T	02 02 57.1	
	baz=290,slow=74,SNR=22								
H11N3	**WAKE ISLAND Hy**	**35.52**	**94**	T			T	02 02 58.4	
	baz=290,slow=74,SNR=29								
H11S3	**WAKE ISLAND Hy**	**35.74**	**96**	T			T	02 03 19.2	
	baz=292,slow=75,SNR=3.6								
H11S1	**WAKE ISLAND Hy**	**35.75**	**96**	T			T	02 03 17.4	
	baz=292,slow=75,SNR=3.9								
H11S2	**WAKE ISLAND Hy**	**35.76**	**96**	T			T	02 03 20.1	
	baz=292,slow=75,SNR=6.2								
MKAR	**Makanchi Array**	**41.34**	**311**	P			**P**	**01 26 03.8**	**-1.1**
	0.3nm,0.7s,baz=117,slow=8.8,SNR=2.4								
KURBB	**Kurchatov Arra**	**44.56**	**316**	P			**P**	**01 26 29.9**	**-0.9**
	0.5nm,0.5s,baz=102,slow=8.6,SNR=4.5								
WRA	**Warramunga Arr**	**47.20**	**173**	P			**P**	**01 26 52.1**	**+0.2**
	1.5nm,0.9s,baz=348,slow=8.7,SNR=5.4								
ASAR	**Alice Springs**	**50.84**	**174**	P			**P**	**01 27 20.5**	**+0.7**
	1.0nm,0.9s,baz=352,slow=7.7,SNR=9.2								
ILAR	**Eielson Array**	**63.25**	**29**	P			**P**	**01 28 47.0**	**-0.1**
	0.4nm,0.8s,baz=284,slow=5.5,SNR=3.2								
FINES	**FINESS Array B**	**72.29**	**331**	P			**P**	**01 29 43.8**	**-0.4**
	2.7nm,1.0s,baz=64,slow=4.4,SNR=6.5								
BRTR	**Keskin Array B**	**76.91**	**308**	P			**P**	**01 30 12.9**	**+1.3**
	0.2nm,0.7s,baz=99,slow=5.4,SNR=2.5								
NOA	**NORSAR Array B**	**78.68**	**334**	P			**P**	**01 30 20.0**	**-0.9**
	0.4nm,0.8s,baz=55,slow=7.1,SNR=1.6								

NOU 01 01:38:13.2, 15.52S× 166.74E, h22km, MLv 4.7, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.45**	**81**	P			Pn	01 38 23.6	-0.8
DVP	**Devils Point**	**2.59**	**148**	P			Pn	01 38 54.2	+0.3
KOUNC	**Koumac, New Ca**	**5.52**	**205**	P			Pn	01 39 34.5	+0.4
DZM	**Mont Dzumac**	**6.52**	**182**	P			Pn	01 39 47.3	-0.7
OUENC	**Ouen Island, N**	**6.86**	**179**	P			Pn	01 39 52.4	-0.2

IDC ***01*** *01:55:45.0± 1.7, 1.22S× 146.69E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/34, mbtmp3.9/7, MS3.4/7, Ms1 3.5/7,*

ms1mx3.1/29,Error ellipse: s-maj=65.8km s-min=20.7km az=106.0
*NEIC **01** 01:55:47.8±1.0, 1.29S±0.0°×146.60E±0.04, h10km±2km, mb4.0/7,Error ellipse: s-maj=14.4km s-min=7.2km az=346.0*

ISC 01 01:55:47.0±0.9, 1.3S±0.1°×146.7E±0.2, h10km, n28, σ0.9 94/17, mb3.9/12, MS3.4/5, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**1.04**	**138**		**Pn**	**01 56 08.1**	**+0.4**
PMG	**Port Moresby**	**8.10**	**177**	LR	LR	02 00 07.6	
	comp=Z,102nm,20.7s,baz=314,slow=32						
HNR	**Honiara**	**15.51**	**122**	LR	LR	02 05 44.2	
	comp=Z,218nm,18.9s,baz=310,slow=39						
WB0	**Warramunga Arr**	**21.96**	**212**	P	**P**	**02 00 40.8**	**-0.3**
WB0				IAmb	IAmb	02 00 42.6	
	comp=Z,5.0nm,1.0s						
WR0	**Warramunga Arr**	**22.04**	**212**	P	**P**	**02 00 41.3**	**-0.7**
WR0				IAmb	IAmb	02 00 54.0	
	comp=Z,5.8nm,0.9s						
WB2	**Warramunga Arr**	**22.12**	**212**	P	**P**	**02 00 42.3**	**-0.6**
WB2				IAmb	IAmb	02 01 00.2	
	comp=Z,6.3nm,0.7s						
WRA	**Warramunga Arr**	**22.13**	**212**	P	**P**	**02 00 42.0**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=33,slow=11,SNR=13						
WRA	**Warramunga Arr**	**22.13**	**212**	P	**P**	**02 00 42.8**	**-0.2**
DAV	**Davao City (W)**	**22.61**	**292**	LR	LR	02 09 05.6	
	comp=Z,62nm,19.9s,baz=304,slow=35						
ASAR	**Alice Springs**	**25.47**	**208**	P	**P**	**02 01 15.8**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=37,slow=8.8,SNR=19						
ASAR				LR	LR	02 12 08.7	
	comp=Z,200nm,19.4s,baz=44,slow=38						
FITZ	**Fitzroy Crossi**	**26.57**	**230**	P	**P**	**02 01 26.6**	**+1.1**
	comp=Z,3.9nm,1.1s,baz=52,slow=12,SNR=1.6						
FITZ				LR	LR	02 11 56.7	
	comp=Z,73nm,18.3s,baz=61,slow=36						
FITZ	**Fitzroy Crossi**	**26.57**	**230**	P	**P**	**02 01 24.8**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**27.81**	**44**	T	T	02 30 41.1	
	baz=235						
H11S2	**WAKE ISLAND Hy**	**27.82**	**44**	T	T	02 30 40.3	
	baz=235,SNR=75						
H11S1	**WAKE ISLAND Hy**	**27.83**	**44**	T	T	02 30 44.9	
	baz=235						
H11N1	**WAKE ISLAND Hy**	**28.79**	**43**	T	T	02 31 53.1	
	baz=226,slow=76,SNR=62						
H11N2	**WAKE ISLAND Hy**	**28.80**	**43**	T	T	02 31 51.9	
	baz=226,slow=76,SNR=96						
H11N3	**WAKE ISLAND Hy**	**28.80**	**43**	T	T	02 31 54.2	
	baz=226,slow=76,SNR=71						
STKA	**Stephens Creek**	**30.82**	**188**	LR	LR	02 13 51.3	
	comp=Z,85nm,18.7s,baz=24,slow=35						
KSRS	**Korea Array**	**42.26**	**338**	P	**P**	**02 03 41.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=147,slow=9.4,SNR=1.7						
CMAR	**Chiang Mai Arr**	**50.84**	**295**	LR	LR	02 27 51.2	
	comp=Z,47nm,18.1s,baz=204,slow=38						
MK31	**Makanchi Array**	**73.67**	**320**	P	**P**	**02 07 22.3**	**+1.2**
MK31				IAmb	IAmb	02 07 22.8	
	comp=Z,1.2nm,1.0s						
MKAR	**Makanchi Array**	**73.67**	**320**	P	**P**	**02 07 19.7**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=106,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**73.67**	**320**	P	**P**	**02 07 20.4**	**-0.7**
MAKZ	**Makanchi**	**73.88**	**320**	P	**P**	**02 07 23.3**	**+1.0**
MAKZ				IAmb	IAmb	02 07 40.2	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**74.86**	**327**	P	**P**	**02 07 26.3**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=80,slow=8.9,SNR=2.3						
ILAR	**Eielson Array**	**81.30**	**23**	P	**P**	**02 08 02.9**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=259,slow=5.0,SNR=5.3						
ILAR	**Eielson Array**	**81.30**	**23**	P	**P**	**02 08 02.7**	**-0.7**

IDC 01 01:57:27.3±11.0, 4.90S×154.88E, h547km±144km, mb3.0/5, mb1 3.2/5, mb1mx2.8/37, mbtmp3.9/5, Error ellipse: s-maj=88.1km s-min=24.1km az=10.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.42**	**148**	P	P	02 01 27.3	-0.2
	2.3nm,0.5s,baz=247,slow=5.7,SNR=6.3						
WRA	**Warramunga Arr**	**24.97**	**231**	P	P	02 02 08.1	0.0
	1.7nm,0.4s,baz=56,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**27.52**	**225**	P	P	02 02 30.7	+0.2
	1.2nm,0.5s,baz=54,slow=8.4,SNR=5.1						
FITZ	**Fitzroy Crossi**	**31.45**	**243**	P	P	02 03 04.0	-0.5
	1.8nm,0.6s,baz=54,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**81.77**	**319**	P	P	02 08 49.6	+0.4
	0.3nm,0.7s,baz=96,slow=4.3,SNR=2.3						
BRTR	**Keskin Array B**	**116.91**	**312**	PKP	PKPdf	02 15 10.0	-0.6
	0.4nm,0.6s,baz=119,slow=2.9,SNR=3.5						

WEL 01 02:08:46.1,41°S±1°×17°E±°, h83km±10km, M3.4/53, ML3.6/49, MLv3.4/53, Error ellipse: s-maj=0.0km s-min=0.0km az=85.4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPWZ	**Castlepoint**	**0.06**	**177**	P	Pn	02 08 58.7	+0.9
BFZ	**Birch Farm**	**0.17**	**13**	P	Pn	02 08 56.7	-1.5
TIWZ	**Tintock**	**0.25**	**287**	P	Pn	02 08 55.2	-3.3
PRWZ	**Pori Road**	**0.34**	**330**	P	Pn	02 08 54.8	-4.2
TMWZ	**Te Maipa**	**0.35**	**222**	P	Pn	02 08 59.8	+0.8
ANWZ	**Angora Road**	**0.44**	**29**	P	Pn	02 08 59.8	+0.1
MRZ	**Mangatainoka R**	**0.51**	**292**	P	Pn	02 08 55.9	-4.3
HOWZ	**Holdsworth Sta**	**0.52**	**264**	P	Pn	02 08 58.2	-2.2
DVHZ	**Dannevirke**	**0.55**	**358**	P	Pn	02 08 58.0	-2.6
POWZ	**Post Office Ro**	**0.56**	**324**	P	Pn	02 08 56.1	-4.6
MTW	**Mount Morrison**	**0.61**	**239**	P	Pn	02 09 01.4	+0.3
TRWZ	**Traveller**	**0.67**	**215**	P	Pn	02 09 03.9	+2.1
PRHZ	**Porangahau**	**0.67**	**30**	P	Pn	02 09 02.6	+0.9
OGWZ	**Otaki Gorge**	**0.78**	**272**	P	Pn	02 09 01.1	-1.7
PAWZ	**Paruwai Farm**	**0.79**	**227**	P	Pn	02 09 04.5	+1.6
WPHZ	**Waipukurau**	**0.81**	**13**	P	Pn	02 09 03.5	+0.4
TSZ	**Takapari Road**	**0.81**	**347**	P	Pn	02 09 00.9	-2.4
CAW	**Cannon Point**	**0.89**	**253**	P	Pn	02 09 04.2	+0.1
MSWZ	**Moikau Station**	**0.91**	**231**	P	Pn	02 09 05.5	+1.1
OHWZ	**Ohakea**	**0.93**	**313**	P	Pn	02 09 02.3	-2.2
PNHZ	**Pukenui**	**0.93**	**0**	P	Pn	02 09 04.0	-0.6
PXZ	**Pawanui**	**0.96**	**32**	P	Pn	02 09 06.3	+1.5
KIW	**Kapiti Island**	**0.98**	**269**	P	Pn	02 09 04.4	-0.7
PLWZ	**Palliser**	**1.01**	**224**	P	Pn	02 09 07.2	+1.7
BHW	**Baring Head**	**1.15**	**240**	P	Pn	02 09 07.9	+0.8
WEL	**Wellington**	**1.17**	**248**	P	Pn	02 09 08.1	+0.8
KAHZ	**Kahuranaki**	**1.17**	**26**	P	Pn	02 09 08.9	+1.4
KRHZ	**Kereru**	**1.21**	**6**	P	Pn	02 09 08.0	0.0
BHHZ	**Black Hill Sta**	**1.36**	**356**	P	Pn	02 09 09.8	-0.1
WAZ	**Wanganui**	**1.43**	**319**	P	Pn	02 09 10.6	-0.1
KWHZ	**Kaweka Forest**	**1.43**	**7**	P	Pn	02 09 11.2	+0.5
MCHZ	**McNeill Hill**	**1.45**	**15**	P	Pn	02 09 12.0	+1.0
MOVZ	**Moawhango**	**1.48**	**347**	P	Pn	02 09 11.2	-0.2
TCW	**Tory Channel**	**1.50**	**255**	P	Pn	02 09 11.7	+0.2
MTVZ	**Mangateitei**	**1.56**	**339**	P	Pn	02 09 12.7	+0.2
WNVZ	**Wahianoa**	**1.59**	**343**	P	Pn	02 09 13.1	+0.3
TRVZ	**Turoa**	**1.63**	**342**	P	Pn	02 09 13.8	+0.4
WHVZ	**Whangaehu Hut**	**1.63**	**343**	P	Pn	02 09 14.0	+0.5
TUVZ	**Tukino**	**1.63**	**345**	P	Pn	02 09 14.0	+0.5
FWVZ	**Far West T-bar**	**1.67**	**343**	P	Pn	02 09 14.4	+0.4
BKZ	**Black Stump Fm**	**1.70**	**8**	P	Pn	02 09 14.5	+0.3
ARHZ	**Aropaoanui**	**1.70**	**21**	P	Pn	02 09 15.6	+1.5
SNVZ	**South Ngauruho**	**1.71**	**345**	P	Pn	02 09 15.0	+0.4
DUWZ	**D'Urville Isla**	**1.73**	**271**	P	Pn	02 09 14.2	-0.3
NGZ	**Ngauruhoe**	**1.73**	**344**	P	Pn	02 09 15.3	+0.6
OTVZ	**Oturere**	**1.73**	**346**	P	Pn	02 09 15.2	+0.5
CMWZ	**Cape Campbell**	**1.74**	**238**	P	Pn	02 09 22.6	+7.9
ETVZ	**East Tongariro**	**1.75**	**348**	P	Pn	02 09 15.8	+0.9
NNVZ	**North Ngauruho**	**1.77**	**345**	P	Pn	02 09 15.8	+0.5
TMVZ	**Te Maari**	**1.77**	**348**	P	Pn	02 09 15.6	+0.4
NTVZ	**North Tongariro**	**1.79**	**347**	P	Pn	02 09 15.8	+0.3
WTVZ	**West Tongariro**	**1.79**	**345**	P	Pn	02 09 16.1	+0.6
TUWZ	**Tuamarina**	**1.80**	**250**	P	Pn	02 09 15.7	+0.3
KRVZ	**Karewarewa**	**1.80**	**346**	P	Pn	02 09 16.5	+0.9
NMHZ	**Naumai**	**1.81**	**15**	P	Pn	02 09 16.9	+1.2
RITZ	**Rihia Road**	**1.89**	**352**	P	Pn	02 09 18.7	+2.1
BSWZ	**Blackbirch Sta**	**1.95**	**243**	P	Pn	02 09 18.4	+1.0
LREZ	**Lake Rotokare**	**1.95**	**315**	P	Pn	02 09 18.6	+1.2
VRZ	**Vera Road**	**2.05**	**327**	P	Pn	02 09 19.2	+0.5
RAHZ	**Arahi**	**2.05**	**20**	P	Pn	02 09 19.7	+1.0
MTHZ	**Maungataniwha**	**2.05**	**14**	P	Pn	02 09 19.7	+0.8
KNZ	**Kokohu**	**2.15**	**32**	P	Pn	02 09 20.9	+0.9
NNZ	**Nelson**	**2.16**	**259**	P	Pn	02 09 21.2	+1.0
WATZ	**Wairara**	**2.17**	**350**	P	Pn	02 09 20.3	-0.1
PREZ	**Palmer Road**	**2.17**	**313**	P	Pn	02 09 22.2	+1.8
NEZ	**North Egmont**	**2.25**	**314**	P	Pn	02 09 23.3	+1.7
KHEZ	**Kahui Hut**	**2.28**	**312**	P	Pn	02 09 23.6	+1.6
NMEZ	**Namu Road**	**2.28**	**308**	P	Pn	02 09 23.8	+1.9
ALRZ	**Allen Road**	**2.29**	**3**	P	Pn	02 09 28.8	+6.9
RTZ	**Ruatahuna**	**2.31**	**15**	P	Pn	02 09 23.1	+0.7
PKE	**Pukeiti**	**2.37**	**314**	P	Pn	02 09 25.3	+2.2
NBEZ	**Newall Road No**	**2.38**	**311**	P	Pn	02 09 26.1	+2.9
KHZ	**Kahutara**	**2.53**	**231**	P	Pn	02 09 26.0	+0.9
HIZ	**Hauiti**	**2.55**	**336**	P	Pn	02 09 27.6	+2.2
TLZ	**Tolley Road**	**2.57**	**348**	P	Pn	02 09 30.1	+4.4
THZ	**Tophouse**	**2.64**	**249**	P	Pn	02 09 27.4	+0.6
MWZ	**Matawai**	**2.71**	**23**	P	Pn	02 09 27.9	+0.3
QRZ	**Quartz Range**	**2.78**	**269**	P	Pn	02 09 28.5	0.0
RUGZ	**Raukumara Rang**	**3.10**	**22**	P	Pn	02 09 33.3	+0.3
PKGZ	**Pakihiroa**	**3.30**	**27**	P	Pn	02 09 36.6	+1.0
HAZ	**Te Kaha**	**3.32**	**22**	P	Pn	02 09 36.8	+1.0
DSZ	**Dennistone Nort**	**3.43**	**253**	P	Pn	02 09 39.6	+2.3
LTZ	**Lake Taylor**	**3.51**	**235**	P	Pn	02 09 39.9	+1.4
OKCZ	**Okains Bay**	**3.70**	**218**	P	Pn	02 09 42.5	+1.6
TMZ	**Timaru**	**5.21**	**226**	P	Pn	02 10 03.0	+1.4

*SOME **01** 02:48:22.0, 47.33N×81.85E, h10km*
*ASRS **01** 02:48:22.9±0.4, 47.7N×3.9×8.2E±°, h10km, MLh3.5/6, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **01** 02:48:24.8±1.2, 47.21N×82.24E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=7.5km s-min=5.5km az=127.0*

ISC 01 02:48:21.5±0.8, 47.27N±0.03×82.20E±0.04, h10km, n37, σ1.9 71/70, 20C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK05	**Makanchi Array**	**0.47**	**173**	⇑P	**Pb**	**02 48 31.9**	**-0.1**
MK05				⇓S	**Sb**	**02 48 38.7**	**-0.3**
MK31	**Makanchi Array**	**0.47**	**173**	⇑P	**Pb**	**02 48 31.9**	**-0.1**
	4.4nm,0.2s,baz=269,slow=4.7,SNR=5376						
MK31				⇑S	**Sb**	**02 48 38.9**	**-0.2**
	77nm,0.2s,baz=211,slow=76,SNR=184						
MKAR	**Makanchi Array**	**0.47**	**173**	P	**Pb**	**02 48 31.9**	**-0.1**
MKAR				S	**Sb**	**02 48 39.0**	**-0.1**
MAKZ	**Makanchi**	**0.48**	**199**	P	**Pb**	**02 48 32.8**	**+0.7**
MAKZ				S	**Sb**	**02 48 40.3**	**+1.0**
MAKZ	**Makanchi**	**0.48**	**199**	⇑P	**Pb**	**02 48 32.9**	**+0.8**
	7.8nm,0.4s						
MAKZ				⇑S	**Sb**	**02 48 40.9**	**+1.6**
	54nm,0.6s						
MK09	**Makanchi Array**	**0.49**	**174**	⇓P	**Pb**	**02 48 32.3**	**0.0**
MK09				⇑S	**Sb**	**02 48 39.6**	**0.0**
MK06	**Makanchi Array**	**0.50**	**173**	⇑P	**Pb**	**02 48 32.2**	**-0.2**
MK06				⇑S	**Sb**	**02 48 39.5**	**-0.2**
MK04	**Makanchi Array**	**0.50**	**173**	⇑P	**Pb**	**02 48 32.3**	**-0.1**
MK04				⇑S	**Sb**	**02 48 39.3**	**-0.5**
MK01	**Makanchi Array**	**0.50**	**172**	⇑P	**Pb**	**02 48 32.3**	**-0.1**
MK01				⇓S	**Sb**	**02 48 39.5**	**-0.2**
MK02	**Makanchi Array**	**0.50**	**172**	⇑P	**Pb**	**02 48 32.2**	**-0.2**
MK02				⇑S	**Sb**	**02 48 39.6**	**-0.3**
MK03	**Makanchi Array**	**0.50**	**172**	⇑P	**Pb**	**02 48 32.3**	**-0.2**
MK03				⇓S	**Sb**	**02 48 39.8**	**-0.1**
MK08	**Makanchi Array**	**0.51**	**173**	⇑P	**Pb**	**02 48 32.6**	**-0.1**
MK08				⇑S	**Sb**	**02 48 40.0**	**-0.1**
MK07	**Makanchi Array**	**0.52**	**171**	⇑P	**Pb**	**02 48 32.5**	**-0.2**
MK07				⇑S	**Sb**	**02 48 40.0**	**-0.2**
ZSN	**Zaisan**	**1.82**	**83**	*e*P	**Pn**	**02 48 54.2**	**+1.3**
	9.0nm,0.1s						
ZSN				*e*S	**Sn**	**02 49 18.0**	**+1.9**
	38nm,0.1s						
ZSN	**Zaisan**	**1.82**	**83**	P	**Pn**	**02 48 53.2**	**+0.3**
	8.6nm,0.1s						
ZSN				P	**Pb**	**02 48 53.9**	**-1.1**
	7.2nm,0.1s						
ZSN				S	**Sn**	**02 49 17.7**	**+1.6**
	34nm,0.2s						
ZSN				S	**Sn**	**02 49 18.0**	**+1.9**
	36nm,0.3s						
KAPS	**Kapalarasan**	**2.79**	**226**	*e*P	**Pb**	**02 49 10.9**	**-0.7**
	0.9nm,0.1s						
KAPS				*e*S	**Sb**	**02 49 45.7**	**-0.2**
	7.1nm,0.4s						
KAPS	**Kapalarasan**	**2.79**	**226**	Pg	**Pb**	**02 49 10.6**	**-1.0**
	0.8nm,0.1s						
KAPS				Pg	**Pb**	**02 49 10.9**	**-0.7**
	0.9nm,0.1s						
KAPS				Lg	Lg	02 49 45.7	
	7.1nm,0.4s						
KAPS				Lg	Lg	02 49 46.4	
	7.8nm,0.2s						
DJR	**Jarkent**	**3.38**	**211**	*e*P	**Pb**	**02 49 22.2**	**+0.6**
	0.9nm,0.1s						
DJR				*e*S	**Sb**	**02 50 05.0**	**+2.2**
	3.8nm,0.3s						
DJR	**Jarkent**	**3.38**	**211**	Pg	**Pb**	**02 49 19.9**	**-1.8**
	2.2nm,0.1s						
DJR				Pg	**Pg**	**02 49 21.6**	**-4.8**
	0.9nm,0.1s						
DJR				Lg	Lg	02 50 03.3	
	3.8nm,0.3s						
DJR				Lg	Lg	02 50 03.4	
	5.5nm,0.3s						
UKR	**Ust'-Kan**	**4.04**	**24**	P	**Pn**	**02 49 25.2**	**+1.7**
UKR				S	**Sn**	**02 50 12.3**	**+1.3**
KURBB	**Kurchatov Arra**	**4.14**	**326**	⇓Pn	**Pb**	**02 49 32.5**	**-1.9**
	0.8nm,0.3s						
KURBB				⇑Lg	Lg	02 50 33.9	
	38nm,0.7s						
DGZ	**Jazzator, Alta**	**4.25**	**53**	P	**Pn**	**02 49 28.0**	**+1.6**
DGZ				S	**Sn**	**02 50 17.0**	**+0.9**
ARXS	**Arharly**	**4.32**	**227**	*e*P	**Pg**	**02 49 42.1**	**-2.3**
	1.6nm,0.3s						
ARXS				*e*S	**Sg**	**02 50 39.6**	**-0.7**
	10nm,0.5s						
ARXS	**Arharly**	**4.32**	**227**	Pg	**Pn**	**02 49 30.6**	**+3.2**
ARXS				Lg	Lg	02 50 41.5	
PDGK	**Podgornoye**	**4.38**	**207**	Pg	**Pb**	**02 49 41.2**	**+2.7**
PDGK				Pg	**Pg**	**02 49 42.5**	**-2.8**
	0.9nm,0.3s						
PDGK				Lg	Lg	02 50 39.4	
	3.5nm,0.3s						
PDGK				Lg	Lg	02 50 39.5	
	3.3nm,0.3s						
PDGK	**Podgornoye**	**4.38**	**207**	⇑Pn	**Pn**	**02 49 31.2**	**+3.1**
	1.5nm,0.2s						
PDGK				⇓Lg	Lg	02 50 40.2	
	10nm,0.9s						
KPKS	**Kokpek**	**4.54**	**214**	*e*P	**Pg**	**02 49 45.8**	**-2.6**
	8.6nm,0.1s						
KPKS				*e*S	**Sg**	**02 50 45.9**	**-1.2**
	20nm,0.5s						
SHLS	**Shalkode**	**4.54**	**206**	*e*P	**Pg**	**02 49 45.4**	**-3.1**
	2.7nm,0.3s						
SHLS				*e*S	**Sg**	**02 50 44.7**	**-2.6**
	9.2nm,0.3s						
SHLS	**Shalkode**	**4.54**	**206**	Pg	**Pb**	**02 49 44.3**	**+2.9**
	4.6nm,0.2s						
SHLS				Lg	Lg	02 50 42.2	
	9.2nm,0.3s						
CHBI	**Chibit, Altay**	**4.64**	**47**	P	**Pn**	**02 49 33.7**	**+1.9**
CHBI				S	**Sn**	**02 50 26.2**	**+0.4**
UZB	**Uzunbulak**	**4.69**	**210**	*e*P	**Pg**	**02 49 48.9**	**-2.4**
	1.4nm,0.3s						
UZB				*e*S	**Sg**	**02 50 50.8**	**-1.3**
	6.7nm,0.5s						
UZB	**Uzunbulak**	**4.69**	**210**	Pg	**Pg**	**02 49 48.1**	**-3.3**
	1.4nm,0.3s						
UZB				Lg	Lg	02 50 49.6	
	6.7nm,0.5s						
AKAR	**Aktash**	**4.71**	**48**	P	**Pn**	**02 49 34.2**	**+1.5**
AKAR				S	**Sn**	**02 50 29.6**	**+2.2**
CUR	**Chagan-Uzun**	**4.96**	**53**	P	**Pn**	**02 49 38.1**	**+1.9**
CUR				S	**Sn**	**02 50 34.8**	**+1.1**
ULGR	**Ulagan, Altay**	**5.07**	**46**	P	**Pn**	**02 49 39.1**	**+1.5**
ULGR				S	**Sn**	**02 50 37.0**	**+0.8**
KTBS	**Karatobe**	**5.26**	**230**	Pg	**Pb**	**02 49 56.6**	**+3.0**
	0.6nm,0.2s						
KTBS				Lg	Lg	02 51 03.0	
	14nm,0.3s						
TEL	**Teeli**	**6.45**	**51**	P	**Pn**	**02 49 56.3**	**-0.3**
TEL				S	**Sn**	**02 51 14.1**	**+3.8**

IDC 01 03:04:53.8±2.4, 7.47S×127.93E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/32, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=296.1km s-min=32.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.87**	**154**	Pn	Pn	03 08 12.5	+0.7
	0.2nm,0.3s,baz=332,slow=13,SNR=9.2						
WRA				Sn	Sn	03 10 35.0	-12
	0.9nm,0.3s,baz=344,slow=21,SNR=6.6						
ASAR	**Alice Springs**	**17.10**	**161**	P	Pn	03 08 53.8	-0.6
	baz=345,slow=11,SNR=3.0						
ASAR				S	Sn	03 11 56.4	-8.9
	0.2nm,0.3s,baz=342,slow=24,SNR=5.6						
MKAR	**Makanchi Array**	**67.51**	**328**	P	P	03 15 51.8	0.0
	0.4nm,0.6s,baz=122,slow=7.3,SNR=6.6						

*IDC **01** 04:27:00.5±1.9, 8.20S×74.61W, h177km±33km, mb3.6/2, mb1 3.4/7, mb1mx3.2/32, mbtmp4.0/7, MS3.4/1, Ms1 3.4/1, ms1mx2.5/27, Error ellipse: s-maj=32.7km s-min=14.9km az=62.0*
*VAO **01** 04:27:09.3±1.4, 8.16S×73.64W, h152km±6km, mbR3.7*

ISC 01 04:27:00.6±0.8, 8.20S±0.08×74.48W±0.07, h151km, n21, σ1.5 77/23, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**1.82**	**75**	*e*P	**Pn**	**04 27 34.5**	**+0.7**
ATAH	**Atahualpa**	**4.03**	**285**	P	**Pn**	**04 28 00.8**	**-0.9**
	16nm,0.3s,baz=84,slow=2.4,SNR=222						
ATAH				S	**Sn**	**04 28 47.9**	**-1.1**
	15nm,0.3s,baz=4.8,slow=10,SNR=9.5						
NNA	**Nana**	**4.43**	**212**	P	**Pn**	**04 28 07.3**	**+0.7**
	2.3nm,0.3s,baz=10,slow=5.8,SNR=6.9						
NNA				S	**Sn**	**04 28 58.2**	**+0.2**
	16nm,0.3s,baz=235,slow=13,SNR=14						
ETMB	**Extrema**	**8.32**	**102**	*e*P	**Pn**	**04 28 56.1**	**-2.3**
LPAZ	**La Paz**	**10.15**	**143**	P	**Pn**	**04 29 22.4**	**-0.8**
	0.1nm,0.3s,baz=345,slow=12,SNR=8.1						
SIV	**San Ignacio**	**15.22**	**122**	P	**Pn**	**04 30 28.3**	**+0.5**
	0.2nm,0.3s,baz=306,slow=9.2,SNR=4.4						
SIV				LR	LR	04 36 04.4	
	comp=Z,173nm,21.9s,baz=128,slow=36						
PTGA	**Pitinga**	**16.25**	**64**	P	**P**	**04 30 41.0**	**+0.3**
	1.6nm,0.3s,baz=311,slow=19,SNR=6.6						
PTLB	**Pontes e Lacer**	**16.64**	**117**	*e*P	**Pn**	**04 30 45.5**	**+0.2**
SDV	**Santo Domingo**	**17.40**	**13**	*e*P	**Pn**	**04 30 59.8**	**+5.2**
BOAV	**Boa Vista**	**17.45**	**53**	*e*P	**Pn**	**04 30 54.9**	**-0.1**
CLDB	**Colider**	**18.61**	**100**	*e*P	**P**	**04 31 06.8**	**+0.1**
NPGB	**Novo Progresso**	**18.98**	**88**	*e*P	**P**	**04 31 10.2**	**-0.6**
ITTB	**Itaituba**	**19.01**	**80**	*e*P	**P**	**04 31 10.5**	**-0.5**
MALB	**Monte Alegre**	**21.09**	**74**	*e*P	**P**	**04 31 33.2**	**-0.2**
PP1B	**Ponte de Pedra**	**21.25**	**118**	*e*P	**P**	**04 31 36.2**	**+1.2**
ARAG	**Araguaiana, MT**	**23.38**	**111**	*e*P	**P**	**04 31 57.4**	**+1.4**
ITRB	**Iturama**	**26.01**	**119**	*e*P	**P**	**04 32 22.5**	**+2.7**
PCMB	**Pacaembu**	**26.04**	**123**	*e*P	**P**	**04 32 21.9**	**+1.8**
IPMB	**Ipameri, GO**	**27.33**	**113**	*e*P	**P**	**04 32 32.8**	**+1.1**
DBIC	**Dimbokro**	**70.97**	**80**	P	**P**	**04 38 00.1**	**-2.2**
	5.2nm,1.0s,baz=245,slow=4.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**78.55**	**75**	P	**P**	**04 38 43.8**	**-2.2**
	0.3nm,0.5s,baz=271,slow=5.6,SNR=2.3						

*MOS **01** 04:46:51.9±1.1, 42.78N×143.04E, h127km, mb4.2/2, Error ellipse: s-maj=25.0km s-min=10.5km az=59.7*
*IDC **01** 04:46:51.2±1.7, 42.95N×142.85E, h94km±25km, mb3.6/4, mb1 3.7/6, mb1mx3.3/33, mbtmp3.9/6, Error ellipse: s-maj=42.5km s-min=13.5km az=138.0*
*JMA **01** 04:46:53.9±0.1, 42.82N×143.07E, h106km±1km, M3.1*
*SKHL **01** 04:46:53.1±0.1, 42.80N×143.20E, h127km±7km, mb4.5/1, msha5.3/1*
*NEIC **01** 04:46:53.4±2.0, 42.83N±0.03×143.03E±0.09, h117km±7km, mb4.0/8, Error ellipse: s-maj=9.7km s-min=4.4km az=85.0*

ISC 01 04:46:52.7±0.7, 42.77N±0.04×143.09E±0.04, h119km±5km, n56, σ1.9 06/72, mb4.0/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCH	**Churui**	**0.25**	**127**	P	**Pn**	**04 47 09.1**

INK	**Inuvik**	**48.73**	**29**	P	**P**	**04 55 24.6**	**-0.1**
INK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
INK	**Inuvik**	**48.73**	**29**	P	**P**	**04 55 24.6**	**-0.1**
INK				IAmb	IAmb	04 55 25.6		
	comp=Z,3.2nm,1.1s							
ABKAR	**Akbulak array**	**55.34**	**308**	P	**P**	**04 56 14.7**	**+0.8**
ABKAR				IAmb	IAmb	04 56 14.7		
	comp=Z,1.0nm,0.5s							
RES	**Resolute Bay**	**56.73**	**16**	P	**P**	**04 56 23.4**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=320,slow=3.2,SNR=8.0							
RES	**Resolute Bay**	**56.73**	**16**	P	**P**	**04 56 22.6**	**-0.8**
FINES	**FINESS Array B**	**64.36**	**332**	P	**P**	**04 57 15.1**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=38,slow=7.0,SNR=5.8							
FINES	**FINESS Array B**	**64.36**	**332**	P	**P**	**04 57 14.3**	**-1.1**
SUMG	**Summit**	**64.95**	**1**	P	**P**	**04 57 19.9**	**+0.3**
SUMG				pmax	pmax			
	comp=Z,9.0nm,1.4s							
SUMG	**Summit**	**64.95**	**1**	P	**P**	**04 57 19.9**	**+0.3**

IDC 01 04:52:00.1±346.0, 15°.29N×43°.47E, h0km, Error ellipse: s-maj=153.6km s-min=85.2km az=14.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I19DJ	**I19DJ**	**3.80**	**184**	*i*		05 15 30.0	
	baz=3.9,slow=314,SNR=0.7						
I48TN	**KESRA INFRASON**	**36.70**	**310**	*i*		08 37 20.0	
	baz=113,slow=324,SNR=0.7						
I26DE	**FREYUNG INFRAS**	**41.40**	**330**	*i*		09 04 52.2	
	baz=132,slow=323,SNR=1.4						

IDC 01 05:10:17.0±2.4, 7°.76S×146°.99E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=70.4km s-min=15.0km az=78.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.64**	**174**	Pg	Pn	05 10 47.1	0.0
	38nm,0.3s,baz=21,slow=6.3,SNR=29						
PMG				Lg	Lg	05 11 08.7	
	66nm,0.3s,baz=309,slow=23,SNR=31						
WRA	**Warramunga Arr**	**17.23**	**224**	P	Pn	05 14 18.6	-0.6
	0.1nm,0.3s,baz=53,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**20.19**	**217**	P	P	05 14 53.8	+0.4
	1.0nm,0.6s,baz=38,slow=12,SNR=10						
MKAR	**Makanchi Array**	**78.84**	**321**	P	P	05 22 21.8	-0.2
	0.2nm,0.4s,baz=100,slow=7.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**145.47**	**282**	PKPbc	PKPbc	05 29 57.5	-0.7
	0.4nm,0.8s,baz=81,slow=3.8,SNR=4.4						

*JMA **01** 05:17:16.3±0.1, 24°.37N×122°.06E, h71km±2km*
*TAP **01** 05:17:16.8, 24°.42N×122°.09E, h64km±1km, ML3.2, B*
ISC 01 05:17:17.4±1.2, 24°.43N±0°.02×122°.09E±0°.03, h63km±7km, n97, σ0°68/165, 3C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.28**	**310**	*i* P	**Pn**	**05 17 27.9**	**+0.1**
TWC	baz=311			*i* S	**Sn**	**05 17 36.0**	**+0.8**
EHP	**Heping Village**	**0.34**	**250**	*e*S	**Sn**	**05 17 36.9**	**+0.9**
	baz=250						
NDS	**Dongshan**	**0.40**	**301**	*i* P	**Pn**	**05 17 29.0**	**+0.3**
NDS	baz=301			*i* S	**Sn**	**05 17 37.3**	**+0.5**
EGS		**0.44**	**341**	*i* P	**Pn**	**05 17 29.1**	**0.0**
EGS	baz=342			S	**Sn**	**05 17 37.4**	**0.0**
ILA	**Ilan**	**0.46**	**317**	P	**Pn**	**05 17 29.3**	**+0.1**
ILA	baz=318			S	**Sn**	**05 17 37.9**	**+0.1**
TWE	**Neicheng**	**0.48**	**307**	↓*i* P	**Pn**	**05 17 29.7**	**+0.3**
TWE	baz=308			*i* S	**Sn**	**05 17 38.8**	**+0.6**
NTC	**Toucheng**	**0.49**	**331**	P	**Pn**	**05 17 29.8**	**+0.3**
NTC	baz=331			*e*S	**Sn**	**05 17 38.1**	**-0.2**
NACB	**Ninganchiao**	**0.52**	**241**	P	**Pn**	**05 17 29.4**	**-0.4**
NACB	baz=241			S	**Sn**	**05 17 38.7**	**-0.1**
ENTT	**Nioudou**	**0.52**	**294**	*i* P	**Pn**	**05 17 30.0**	**+0.1**
ENTT	baz=294			*i* S	**Sn**	**05 17 39.2**	**+0.3**
NDT	**Datong Townshi**	**0.55**	**288**	*i* P	**Pn**	**05 17 30.6**	**+0.4**
NDT	baz=289			*i* S	**Sn**	**05 17 39.6**	**+0.1**
TWD	**Chiawan**	**0.57**	**233**	*i* P	**Pn**	**05 17 30.0**	**-0.4**
TWD	baz=232			S	**Sn**	**05 17 39.2**	**-0.5**
TWB1	**Santiao Chiao**	**0.59**	**351**	↓*i* P	**Pn**	**05 17 30.0**	**-0.5**
TWB1	baz=351			*i* S	**Sn**	**05 17 39.0**	**-1.1**
TIPB	**Shuangxi**	**0.59**	**336**	*i* P	**Pn**	**05 17 30.4**	**-0.2**
TIPB	baz=336			*i* S	**Sn**	**05 17 39.8**	**-0.6**
ETLH	**Xiulin Townshi**	**0.60**	**249**	P	**Pn**	**05 17 30.5**	**-0.3**
ETLH	baz=248			S	**Sn**	**05 17 40.1**	**-0.4**
HWA	**Hwalien**	**0.63**	**225**	P	**Pn**	**05 17 30.8**	**-0.3**
HWA	baz=224			S	**Sn**	**05 17 41.1**	**+0.1**
NWLT	**Wulai**	**0.64**	**303**	*i* P	**Pn**	**05 17 31.4**	**+0.2**
NWLT	baz=303			S	**Sn**	**05 17 41.5**	**+0.2**
NNSB	**Datong**	**0.65**	**270**	P	**Pn**	**05 17 31.0**	**-0.3**
NNSB	baz=270			S	**Sn**	**05 17 41.3**	**-0.2**
NNSH	**Datong**	**0.65**	**270**	P	**Pn**	**05 17 30.9**	**-0.4**
NNSH	baz=270			S	**Sn**	**05 17 41.3**	**-0.3**
NNS	**Nan Shan**	**0.65**	**271**	*i* P	**Pn**	**05 17 31.1**	**-0.4**
NNS	baz=271			*i* S	**Sn**	**05 17 41.2**	**-0.6**
YHNB	**Yeheng**	**0.69**	**290**	P	**Pn**	**05 17 31.8**	**-0.1**
YHNB	baz=290			S	**Sn**	**05 17 42.2**	**-0.3**
NWF	**Wu-fen Shan**	**0.70**	**336**	*i* P	**Pn**	**05 17 31.7**	**-0.2**
NWF	baz=336			*i* S	**Sn**	**05 17 41.9**	**-0.7**
WFSB	**Wu-fen Shan**	**0.70**	**336**	P	**Pn**	**05 17 31.7**	**-0.2**
WFSB	baz=336			S	**Sn**	**05 17 41.8**	**-0.7**
ETM	**Tongmen**	**0.71**	**230**	P	**Pn**	**05 17 31.6**	**-0.4**
ETM	baz=230			S	**Sn**	**05 17 42.1**	**-0.6**
TEYL	**Yanliau Villag**	**0.72**	**219**	P	**Pn**	**05 17 31.7**	**-0.4**
TEYL	baz=220			S	**Sn**	**05 17 43.0**	**+0.2**
TWA	**Mucha**	**0.72**	**320**	*i* P	**Pn**	**05 17 32.1**	**0.0**
TWA	baz=320			S	**Sn**	**05 17 42.8**	**-0.1**
NHDH	**Xindian Distri**	**0.74**	**316**	*i* P	**Pn**	**05 17 32.6**	**+0.3**
NHDH	baz=316			*i* S	**Sn**	**05 17 43.7**	**+0.4**
TATO	**Taipei**	**0.77**	**315**	P	**Pn**	**05 17 32.7**	**-0.1**
TATO	baz=315			S	**Sn**	**05 17 44.0**	**0.0**
TNOU	**National Taiwa**	**0.78**	**338**	P	**Pn**	**05 17 32.1**	**-0.6**
TNOU	baz=338			S	**Sn**	**05 17 43.1**	**-1.0**
FUSS	**Fushou**	**0.79**	**257**	*i* P	**Pn**	**05 17 33.4**	**+0.2**
FUSS	baz=257			*e*S	**Sn**	**05 17 44.8**	**0.0**
WHF	**Hehuan Shan**	**0.80**	**250**	⇑*i*P	**Pn**	**05 17 33.3**	**-0.2**
WHF	baz=249			*i* S	**Sn**	**05 17 44.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.84**	**87**	P	**Pn**	**05 17 34.9**	**+1.4**
	baz=86						
TWT	**Tachien**	**0.85**	**258**	P	**Pn**	**05 17 34.5**	**+0.6**
TWT	baz=258			*i* S	**Sn**	**05 17 46.2**	**+0.2**
ESL	**Shilin**	**0.86**	**225**	*i* P	**Pn**	**05 17 33.0**	**-0.8**
ESL	baz=224			S	**Sn**	**05 17 45.2**	**-0.6**
YM01	**YM01**	**0.86**	**327**	P	**Pn**	**05 17 33.1**	**-0.8**
YM01	baz=326			S	**Sn**	**05 17 45.6**	**-0.3**
TDCB	**Techi**	**0.87**	**259**	⇑P	**Pn**	**05 17 34.3**	**+0.2**
TDCB	baz=258			S	**Sn**	**05 17 46.2**	**-0.1**
YM08	**YM08**	**0.88**	**329**	P	**Pn**	**05 17 33.3**	**-0.8**
YM08	baz=329			*e*S	**Sn**	**05 17 47.0**	**+0.6**
TWS1	**Kuangyinshan**	**0.91**	**318**	*i* P	**Pn**	**05 17 34.5**	**+0.1**
TWS1	baz=318			*i* S	**Sn**	**05 17 47.9**	**+0.9**
CHGB	**Renai**	**0.91**	**247**	⇑P	**Pn**	**05 17 34.8**	**+0.1**
CHGB	baz=246			S	**Sn**	**05 17 47.1**	**-0.3**
ANP	**Anpu**	**0.92**	**326**	P	**Pn**	**05 17 34.2**	**-0.4**
ANP	baz=326			S	**Sn**	**05 17 48.2**	**+0.9**
NTY	**Taoyuan**	**0.92**	**308**	S	**Sn**	**05 17 47.7**	**+0.5**
NTST	**Danshui**	**0.94**	**322**	*i* P	**Pn**	**05 17 34.9**	**+0.1**
NTST	baz=321			S	**Sn**	**05 17 48.5**	**+0.9**
TWY	**Chenhua**	**0.95**	**332**	*e*P	**Pn**	**05 17 35.0**	**+0.1**
TWY	baz=332			*e*S	**Sn**	**05 17 48.4**	**+0.4**
OWD	**Renai**	**0.96**	**241**	*e*P	**Pn**	**05 17 35.2**	**0.0**
OWD	baz=240			*e*S	**Sn**	**05 17 48.6**	**+0.2**
NJD	**Zhudong**	**0.96**	**289**	S	**Sn**	**05 17 49.5**	**+1.3**
EGFH	**Guangfu**	**0.97**	**219**	P	**Pn**	**05 17 34.4**	**-0.8**
EGFH	baz=218			*e*S	**Sn**	**05 17 48.1**	**-0.2**
NCU	**National Centr**	**0.98**	**304**	S	**Sn**	**05 17 49.0**	**+0.3**
LIOB	**Emei**	**1.00**	**283**	*i* P	**Pn**	**05 17 36.0**	**+0.3**
LIOB	baz=282			S	**Sn**	**05 17 49.6**	**+0.4**
NSTT	**Nanjuang**	**1.01**	**282**	*i* P	**Pn**	**05 17 36.1**	**+0.3**
NSTT	baz=281			*i* S	**Sn**	**05 17 49.6**	**+0.2**
WHP	**Taichung City**	**1.05**	**262**	*i* P	**Pn**	**05 17 37.3**	**+1.0**
WHP	baz=262			*i* S	**Sn**	**05 17 51.2**	**+0.8**
NHW	**Xinwu Township**	**1.11**	**302**	*e*S	**Sn**	**05 17 51.8**	**+0.2**
HGSD	**Ruisui**	**1.11**	**213**	*e*P	**Pn**	**05 17 36.5**	**-0.6**
HGSD	baz=213			*e*S	**Sn**	**05 17 51.4**	**-0.2**
WPL	**Puli Township**	**1.11**	**248**	P	**Pn**	**05 17 37.5**	**+0.5**
WPL	baz=248			S	**Sn**	**05 17 52.0**	**+0.3**
DPDB	**Guoxing**	**1.13**	**250**	P	**Pn**	**05 17 38.0**	**+0.7**
DPDB	baz=250			S	**Sn**	**05 17 53.4**	**+1.2**
WCS	**Beigang Elemen**	**1.14**	**251**	*e*P	**Pn**	**05 17 38.0**	**+0.6**
WCS	baz=251			*e*S	**Sn**	**05 17 53.7**	**+1.4**
EHY	**Hungye**	**1.16**	**218**	P	**Pn**	**05 17 36.5**	**-1.2**
PCYT	**Pengchaiyu**	**1.20**	**359**	P	**Pn**	**05 17 37.7**	**-0.5**
PCYT	baz=359			S	**Sn**	**05 17 53.9**	**+0.3**
TWQ1	**Liyutan**	**1.20**	**267**	P	**Pn**	**05 17 39.4**	**+1.1**
TWQ1	baz=266			*e*S	**Sn**	**05 17 54.0**	**+0.1**
NSY	**Sanyi**	**1.21**	**270**	*e*P	**Pn**	**05 17 38.0**	**-0.3**
NSY	baz=269			S	**Sn**	**05 17 53.9**	**-0.1**
SMLT	**Sun Moon Lake**	**1.22**	**244**	P	**Pn**	**05 17 38.9**	**+0.4**
SMLT	baz=243			S	**Sn**	**05 17 53.7**	**-0.5**
SSLB	**Suanglung**	**1.22**	**239**	*e*P	**Pn**	**05 17 38.7**	**+0.3**
SSLB	baz=238			*e*S	**Sn**	**05 17 55.5**	**+1.3**
TYC	**Yuchr**	**1.24**	**245**	P	**Pn**	**05 17 39.3**	**+0.6**
TYC	baz=245			S	**Sn**	**05 17 54.9**	**+0.2**
YULB	**Yu-li**	**1.26**	**215**	P	**Pn**	**05 17 38.0**	**-1.0**
YULB	baz=215			*e*S	**Sn**	**05 17 55.2**	**+0.1**
EYUL	**Yuli**	**1.29**	**213**	*e*P	**Pn**	**05 17 39.6**	**+0.3**
TWF1	**Yuli**	**1.29**	**214**	P	**Pn**	**05 17 38.4**	**-1.0**
TWF1	baz=213			S	**Sn**	**05 17 55.3**	**-0.6**
WDJ	**Dajia District**	**1.32**	**267**	*e*P	**Pn**	**05 17 39.8**	**0.0**
WWF	**Wufeng**	**1.33**	**254**	*e*S	**Sn**	**05 17 58.0**	**+1.3**
WJS	**Zhushan**	**1.38**	**244**	*e*P	**Pn**	**05 17 41.1**	**+0.5**
WJS	baz=244			*e*S	**Sn**	**05 17 58.1**	**+0.1**
FULB	**Fuli**	**1.42**	**211**	*e*P	**Pn**	**05 17 40.7**	**-0.5**
CHKT	**Chengkung**	**1.48**	**207**	P	**Pn**	**05 17 40.8**	**-1.1**
CHKT	baz=206			S	**Sn**	**05 17 58.8**	**-1.5**
ALS	**Alishan**	**1.49**	**232**	*e*P	**Pn**	**05 17 42.7**	**+0.4**
IRIF	**Iriomote-Funau**	**1.50**	**93**	*e*S	**Sn**	**05 18 00.4**	**-0.3**
CHN5	**Tsauling**	**1.53**	**238**	*e*P	**Pn**	**05 17 43.0**	**+0.3**
ELDTW	**Lidau**	**1.58**	**219**	*e*P	**Pn**	**05 17 42.6**	**-0.7**
ELDTW	baz=218			S	**Sn**	**05 18 02.5**	**-0.3**
HATJ	**Hateruma jima**	**1.61**	**103**	*e*S	**Sn**	**05 18 03.8**	**+0.4**
EDH	**Donghe**	**1.62**	**207**	*e*P	**Pn**	**05 17 42.7**	**-1.1**
EDH	baz=206			*e*S	**Sn**	**05 18 02.4**	**-1.2**
STYH	**Taoyuan**	**1.74**	**224**	*e*P	**Pn**	**05 17 46.0**	**+0.6**
STYH	baz=224			*e*S	**Sn**	**05 18 06.9**	**+0.4**
CHN4	**Tsaushan**	**1.74**	**232**	*e*P	**Pn**	**05 17 46.7**	**+1.3**
TPUB	**Ta-pu**	**1.75**	**230**	*e*P	**Pn**	**05 17 46.5**	**+1.0**
TPUB	baz=230			*e*S	**Sn**	**05 18 07.1**	**+0.3**
JKRS	**Kuro-shima**	**1.76**	**96**	P	**Pn**	**05 17 47.5**	**+1.9**
JKRS				S	**Sn**	**05 18 07.6**	**+0.5**
WTP	**Ta-pu**	**1.79**	**229**	*e*P	**Pn**	**05 17 47.2**	**+1.0**
WTP	baz=228			*e*S	**Sn**	**05 18 07.5**	**-0.4**
LDUT	**Ludao**	**1.84**	**198**	*e*P	**Pn**	**05 17 45.3**	**-1.4**
TWGBT	**Beinan**	**1.85**	**210**	*e*P	**Pn**	**05 17 47.2**	**+0.3**
TWG	**Pinlang**	**1.85**	**210**	*e*P	**Pn**	**05 17 47.1**	**+0.2**
TWG	baz=210			*e*S	**Sn**	**05 18 08.5**	**-0.8**
TWK	**Hsinying**	**1.87**	**232**	*e*P	**Pn**	**05 17 47.7**	**+0.6**
TWK	baz=231			*e*S	**Sn**	**05 18 09.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.87**	**92**	P	**Pn**	**05 17 47.7**	**+0.5**
JIJ				S	**Sn**	**05 18 09.2**	**-0.6**
WSF	**Szhu**	**1.88**	**246**	*e*P	**Pn**	**05 17 47.7**	**+0.5**
	baz=245						
SLGT	**Liugui**	**1.95**	**223**	*e*P	**Pn**	**05 17 49.5**	**+1.3**
	baz=222						
JISG	**Ishigakijimahi**	**2.03**	**85**	P	**Pn**	**05 17 48.2**	**-1.1**
JISG				S	**Sn**	**05 18 13.5**	**-0.1**
TSMG	**Majia**	**2.17**	**218**	*e*P	**Pn**	**05 17 52.1**	**+0.9**
	baz=217						
MASBT	**Mashibuluo**	**2.25**	**217**	*e*P	**Pn**	**05 17 53.0**	**+0.7**
	baz=216						
VWUC	**VWUC**	**2.47**	**284**	*e*P	**Pn**	**05 17 54.1**	**-1.2**
	baz=283						
SLIU	**Shizi**	**2.50**	**209**	*e*P	**Pn**	**05 17 58.5**	**+2.7**
	baz=208						
WDGT	**Dungji**	**2.51**	**243**	*e*P	**Pn**	**05 17 55.7**	**-0.2**
	baz=242						
MATB	**Ma-tsu**	**2.59**	**312**	*e*P	**Pn**	**05 17 55.8**	**-1.1**
	baz=311						
PTMZ	**Houxiangcun**	**2.77**	**283**	*e*P	**Pn**	**05 17 58.7**	**-0.7**
	baz=282						
LYJJ	**Jianjiangzhen**	**2.98**	**316**	*e*P	**Pn**	**05 18 01.5**	**-0.8**
	baz=315						
XPSS	**Dashiqiu**	**3.02**	**326**	*e*P	**Pn**	**05 18 02.2**	**-0.7**
	baz=325						

*IDC **01** 05:19:37.6±1.1, 50°.11S×128°.31E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/32, mbtmp3.9/5, MS3.5/9, Ms1 3.5/9, ms1mx3.4/16, Error ellipse: s-maj=63.4km s-min=19.9km az=97.0*
ISC 01 05:19:38.6±1.4, 50°.1S±0°.1×128°.0E±0°.5, h10km, n14, σ0°91/6, mb3.7/4, MS3.5/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**18.23**	**321**	T	T	05 42 37.2	
	baz=148,slow=74,SNR=3.8						
H01W2	**Cape Leeuwin H**	**18.24**	**321**	T	T	05 42 39.1	
	baz=148,slow=74,SNR=6.2						
H01W3	**Cape Leeuwin H**	**18.25**	**321**	T	T	05 42 38.1	
	baz=148,slow=74,SNR=7.2						
NWAO	**Narrogin (SRO)**	**18.90**	**331**	LR	LR	05 29 23.5	
	comp=Z,191nm,20.1s,baz=139,slow=31						
STKA	**Stephens Creek**	**20.85**	**34**	P	**P**	**05 24 21.2**	**+0.8**
	5.2nm,0.9s,baz=210,slow=11,SNR=6.4						
STKA				LR	LR	05 30 51.4	
	comp=Z,143nm,21.4s,baz=205,slow=32						
ASAR	**Alice Springs**	**26.78**	**12**	P	**P**	**05 25 18.8**	**+0.1**
	2.0nm,0.7s,baz=185,slow=9.1,SNR=19						
ASAR				LR	LR	05 34 52.0	
	comp=Z,100nm,20.5s,baz=147,slow=34						
VNDA	**Vanda**	**30.36**	**166**	P	**P**	**05 25 49.2**	**-0.7**
	1.0nm,0.8s,baz=317,slow=8.7,SNR=6.2						
VNDA				LR	LR	05 36 23.1	
	comp=Z,126nm,21.2s,baz=331,slow=33						
WRA	**Warramunga Arr**	**30.51**	**12**	P	**P**	**05 25 51.0**	**-0.9**
	0.9nm,0.8s,baz=188,slow=13,SNR=4.9						
WRA				LR	LR	05 36 57.1	
	comp=Z,107nm,20.4s,baz=150,slow=34						
FITZ	**Fitzroy Crossi**	**31.97**	**356**	LR	LR	05 37 46.6	
	comp=Z,102nm,18.7s,baz=183,slow=34						
MAW	**Mawson**	**35.85**	**216**	LR	LR	05 37 46.4	
	comp=Z,98nm,22.0s,baz=306,slow=30						
QSPA	**South Pole Qui**	**40.03**	**180**	P	**P**	**05 27 14.1**	**+0.6**
	1.7nm,0.9s,baz=336,slow=4.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**72.90**	**331**	LR	LR	06 02 07.1	
	comp=Z,13nm,20.4s,baz=205,slow=35						
PLCA	**Paso Flores**	**88.11**	**166**	LR	LR	06 09 16.9	
	comp=Z,35nm,18.9s,baz=175,slow=34						
ESDC	**Sonseca Array**	**144.93**	**272**	PKPbc	**PKPdf**	**05 39 15.8**	**+0.4**
	2.3nm,0.8s,baz=108,slow=2.4,SNR=11						

INET 01 05:29:32.4, 11°.41N×86°.05W, h77km, MW3.7, Near coast of Nicaragua

IDC 01 05:36:27.0±3.6, 55°.77N×86°.24E, h0km, mb1 2.7/3, mb1mx2.6/46, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=30.0km s-min=29.4km az=163.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**205**	*i*		05 48 05.0	
	baz=20,slow=315,SNR=3.2						
ZALV	**Zalesovo Beam**	**2.00**	**205**	Pn	Pn	05 37 01.1	-0.8
	1.5nm,0.3s,baz=24,slow=16,SNR=17						
ZALV				Lg	Lg	05 37 30.7	
	1.8nm,0.3s,baz=24,slow=26,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.93**	**225**	Pn	Pn	05 38 10.1	+0.5
	0.0nm,0.3s,baz=45,slow=13,SNR=2.5						
KURBB				Lg	Lg	05 40 07.6	
	0.0nm,0.3s,baz=43,slow=28,SNR=4.9						
MKAR	**Makanchi Array**	**9.32**	**197**	Pn	Pn	05 38 42.1	-0.4
	0.1nm,0.3s,baz=17,slow=10,SNR=2.1						

WEL 01 05:48:05.5, 39°S±2°×17°9E±°, h24km±6km, M3.2/20, ML3.5/20, MLv3.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=69.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.31**	**306**	P	Pb	05 48 12.8	+0.3
PRGZ	**Paritu Road**	**0.56**	**243**	P	Pn	05 48 18.0	0.0
TKGZ	**Te Karaka**	**0.58**	**293**	P	Pb	05 48 17.0	+0.1
TKGZ				S	Sn	05 48 26.1	-0.7
PUZ	**Puketiti**	**0.63**	**340**	P	Pb	05 48 17.6	-0.3
PUZ				S	Sb	05 48 26.6	+0.3
TWGZ	**Tauwhareparae**	**0.65**	**318**	P	Pb	05 48 18.2	0.0
TWGZ				S	Sn	05 48 28.3	-0.4
MHGZ	**Mahia Peninsul**	**0.69**	**225**	P	Pn	05 48 20.4	+0.7
KNZ	**Kokohu**	**0.76**	**242**	P	Pn	05 48 20.3	-0.3
WMGZ	**Waiomatatini S**	**0.85**	**354**	P	Pn	05 48 21.8	-0.1
WMGZ				S	Sn	05 48 34.6	+1.0
MWZ	**Matawai**	**0.85**	**293**	P	Pb	05 48 21.2	-0.4
MWZ				S	Sb	05 48 32.4	-0.2
PKGZ	**Pakihiroa**	**0.85**	**335**	P	Pb	05 48 21.5	-0.2
PKGZ				S	Sb	05 48 33.2	+0.5
RAGZ	**Rawiri**	**0.89**	**281**	P	Pb	05 48 21.9	-0.3
SNGZ	**Shannon Statio**	**0.94**	**263**	P	Pb	05 48 22.8	-0.2
RUGZ	**Raukumara Rang**	**0.97**	**316**	P	Pb	05 48 22.7	-1.0
HAZ	**Te Kaha**	**1.08**	**327**	P	Pn	05 48 24.3	-0.7
WHHZ	**Waihua**	**1.09**	**247**	P	Pb	05 48 25.4	-0.2
MXZ	**Matakaoa Point**	**1.11**	**351**	P	Pb	05 48 26.1	0.0
RAHZ	**Arahi**	**1.15**	**257**	P	Pn	05 48 26.0	-0.1
URZ	**Urewera**	**1.18**	**290**	P	Pn	05 48 26.1	-0.3
MTHZ	**Maungataniwha**	**1.33**	**261**	P	Pn	05 48 28.8	+0.2
ARHZ	**Aropaoanui**	**1.33**	**243**	P	Pn	05 48 29.2	+0.6
MUGZ	**Murupara**	**1.39**	**277**	P	Pn	05 48 29.5	+0.2
NMHZ	**Naumai**	**1.41**	**252**	P	Pn	05 48 29.8	+0.1
MARZ	**Manawahe**	**1.61**	**294**	P	Pb	05 48 37.2	+2.8
MCHZ	**McNeill Hill**	**1.62**	**241**	P	Pn	05 48 33.5	+1.0
TARZ	**Mount Tarawera**	**1.64**	**285**	P	Pb	05 48 38.0	+2.9
MRHZ	**Matea Rd**	**1.66**	**264**	P	Pb	05 48 36.5	+1.1
BKZ	**Black Stump Fm**	**1.66**	**252**	P	Pn	05 48 33.3	+0.2
PRRZ	**Plateau Road**	**1.68**	**275**	P	Pb	05 48 37.0	+1.3
KAHZ	**Kahuranaki**	**1.71**	**228**	P	Pn	05 48 34.1	+0.4

ALRZ	**Allen Road**	**1.71**	**273**	P	Pb	05 48 36.7 +0.4
OPRZ	**Ohinepanea**	**1.76**	**297**	P	Pb	05 48 35.7 -1.3
HRRZ	**Handcock Road**	**1.78**	**278**	P	Pb	05 48 41.0 +3.6
KWHZ	**Kaweka Forest**	**1.81**	**245**	P	Pn	05 48 35.2 +0.1
HSRZ	**Hossack Road**	**1.83**	**280**	P	Pb	05 48 39.5 +1.3
KRHZ	**Kereru**	**1.94**	**239**	P	Pn	05 48 36.8 -0.2
BHHZ	**Black Hill Sta**	**2.09**	**246**	P	Pn	05 48 39.0 0.0
PNHZ	**Pukenui**	**2.19**	**235**	P	Pn	05 48 40.6 +0.2
TMVZ	**Te Maari**	**2.25**	**258**	P	Pn	05 48 43.2 +1.9
NTVZ	**North Tongarir**	**2.27**	**258**	P	Pn	05 48 42.3 +0.8
TSZ	**Takapari Road**	**2.43**	**234**	P	Pn	05 48 43.3 -0.3
DVHZ	**Dannevirke**	**2.45**	**227**	P	Pn	05 48 43.1 -0.8
BFZ	**Birch Farm**	**2.67**	**220**	P	Pn	05 48 45.2 -1.8
PRWZ	**Pori Road**	**2.73**	**225**	P	Pn	05 48 47.0 -0.7
MRZ	**Mangatainoka R**	**3.02**	**228**	P	Pn	05 48 50.1 -1.8
OGWZ	**Otaki Gorge**	**3.36**	**229**	P	Pn	05 48 55.0 -1.4
GVZ	**Greta Valley S**	**5.99**	**222**	P	Pn	05 49 36.5 +4.0

*UPA **01** 05:52:04.7±0.5, 8°.88N×77°.90W, h71km±12km, MW3.8*
*RSNC **01** 05:52:06.3±1.1, 9°.05N×77°.84W, h40km±13km, ML2.1*
ISC 01 05:52:05.0±1.3, 9°.08N±0°.08×77°.86W±0°.03, h45km±26km, n13, σ0°.95/23, 1C-4D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPD2	**Meteti**	**0.55**	**197**	⇓ *i* P	**Pn**	**05 52 16.2**	**-0.3**
	baz=26,slow=2.9						
UPD2				*e*S	**Sn**	**05 52 24.9**	**+0.2**
UPD2	**Meteti**	**0.55**	**197**	⇓ *i* P	**Pn**	**05 52 16.2**	**-0.3**
UPD2				*e*S	**Sn**	**05 52 25.0**	**+0.2**
UPD2				*i*		05 52 29.0	
	comp=Z,59nm,0.2s						
CAPC	**Capurgana**	**0.66**	**131**	⇑ *i* P	**Pn**	**05 52 17.9**	**-0.1**
CAPC				*e*S	**Sn**	**05 52 28.1**	**+0.7**
CHPO	**Chepo, Panama**	**1.25**	**274**	⇓ *e*P	**Pn**	**05 52 25.8**	**-0.1**
CHPO				*i* S	**Sn**	**05 52 40.6**	**-0.9**
LCBC	**Los crdobas,**	**1.49**	**98**	*e*S	**Sn**	**05 52 47.8**	**+0.3**
UPA	**Univ. de Panam**	**1.66**	**267**	*e*P	**Pn**	**05 52 30.9**	**-0.7**
UPA				*i* S	**Sn**	**05 52 51.1**	**-0.6**
ARRA3	**Arrajian, Pana**	**1.78**	**267**	*e*P	**Pn**	**05 52 33.9**	**+0.7**
PTAC	**Punta Ardita,**	**1.92**	**179**	*e*P	**Pn**	**05 52 34.8**	**-0.3**
PTAC				*e*S	**Sn**	**05 52 58.7**	**+0.7**
BCIP	**Isla Barro Col**	**1.96**	**273**	⇓ *e*P	**Pn**	**05 52 35.5**	**-0.2**
BCIP				*i* S	**Sn**	**05 52 58.3**	**-0.8**
BCIP	**Isla Barro Col**	**1.96**	**273**	*e*P	**Pn**	**05 52 37.4**	**+1.7**
BCIP				*e*S	**Sn**	**05 53 00.3**	**+1.2**
BCIP				*i*		05 53 06.4	
	comp=Z,6.1nm,0.5s						
MOTC	**Monteria, Cord**	**2.19**	**98**	*e*P	**Pn**	**05 52 39.8**	**+1.0**
MOTC				*e*S	**Sn**	**05 53 04.2**	**-0.5**
MOTC				*i*		05 53 05.6	
	comp=Z,3.7nm,0.1s						
SMLC	**San Martn de**	**3.75**	**94**	*e*P	**Pn**	**05 53 01.1**	**+0.7**
SMLC				*e*S	**Sn**	**05 53 40.7**	**-2.6**
SMLC				*i*		05 53 46.1	
	comp=Z,6.5nm,0.1s						
CRJC	**Cerrejon, Guaj**	**5.27**	**68**	*e*P	**Pn**	**05 53 21.4**	**+0.1**
CRJC				*i*		05 54 20.4	
	comp=Z,4.3nm,0.3s						

*NEIC **01** 06:24:51.9±1.6, 7°.4S±0°.2×156°.30E±0°.09, h10km±2km, mb4.2/7, Error ellipse: s-maj=29.4km s-min=8.2km az=26.0*
*IDC **01** 06:24:58.3±1.4, 6°.77S×154°.71E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/36, mbtmp3.9/7, ML3.9/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/51, Error ellipse: s-maj=52.6km s-min=24.5km az=130.0*
ISC 01 06:24:51.9±1.0, 7°.4S±0°.1×156°.2E±0°.1, h10km, n19, σ1s63/15, mb4.2/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.20**	**119**	Pn	**Pn**	**06 25 55.2**	**-0.9**
RABL	**Rabaul**	**5.14**	**308**	Pn	**Pn**	**06 26 08.9**	**-0.2**
PMG	**Port Moresby**	**9.21**	**257**	LR	LR	06 30 03.4	
	comp=Z,137nm,18.2s,baz=332,slow=38						
CTA	**Charters Tower**	**15.92**	**216**	Pn	**P**	**06 28 40.5**	**+0.6**
	0.3nm,0.3s,baz=34,slow=14,SNR=1.4						
CTAO	**Charters Tower**	**15.92**	**216**	Pn	**Pn**	**06 28 36.1**	**-0.1**
CTAO				IAmb	IAmb	06 28 46.5	
	comp=Z,5.2nm,0.9s						
DZM	**Mont Dzumac**	**17.61**	**147**	LR	LR	06 34 35.3	
	comp=Z,84nm,18.9s,baz=37,slow=30						
WR0	**Warramunga Arr**	**24.48**	**237**	P	**P**	**06 30 11.4**	**-0.1**
WR0				IAmb	IAmb	06 30 28.5	
	comp=Z,12nm,1.3s						
WB0	**Warramunga Arr**	**24.51**	**238**	P	**P**	**06 30 10.6**	**-1.2**
WB0				IAmb	IAmb	06 30 30.2	
	comp=Z,4.2nm,0.9s						
WB2	**Warramunga Arr**	**24.63**	**237**	P	**P**	**06 30 12.4**	**-0.4**
WB2				IAmb	IAmb	06 30 36.7	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**24.64**	**237**	P	**P**	**06 30 11.3**	**-1.6**
	comp=Z,2.9nm,1.0s,baz=59,slow=9.6,SNR=8.8						
WRA				LR	LR	06 40 08.6	
	comp=Z,97nm,18.1s,baz=165,slow=38						
ASAR	**Alice Springs**	**26.87**	**230**	P	**P**	**06 30 34.5**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=65,slow=8.5,SNR=9.5						
KNRA	**Kununurra**	**28.13**	**251**	P	**P**	**06 30 44.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**31.64**	**247**	P	**P**	**06 31 14.5**	**-1.0**
FITZ				IAmb	IAmb	06 31 23.4	
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**62.06**	**295**	P	**P**	**06 35 11.2**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=90,slow=3.9,SNR=5.5						
ILAR	**Eielson Array**	**83.28**	**21**	P	P	06 37 26.0	+7.5
	comp=Z,0.4nm,0.8s,baz=253,slow=5.4,SNR=2.6						
MKAR	**Makanchi Array**	**84.51**	**318**	P	**P**	**06 37 25.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=107,slow=5.0,SNR=7.4						
MKAR	**Makanchi Array**	**84.51**	**318**	P	**P**	**06 37 26.4**	**+1.1**
NVAR	**Mina Array Bea**	**90.99**	**52**	P	P	06 38 09.3	+12
	comp=Z,1.0nm,0.8s,baz=248,slow=6.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**154.32**	**285**	PKPbc	**PKiKP**	**06 44 57.8**	**+4.2**
	comp=Z,0.8nm,0.5s,baz=71,slow=1.9,SNR=5.6						

IDC 01 06:29:45.7±1.9, 1°.29S×147°.00E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/32, mbtmp3.6/4, MS3.7/2, Ms1 3.7/2, ms1mx2.9/43, Error ellipse: s-maj=116.6km s-min=30.1km az=121.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**15.21**	**123**	LR	LR	06 38 29.9	
	comp=Z,84nm,19.6s,baz=62,slow=34						
WRA	**Warramunga Arr**	**22.29**	**213**	P	P	06 34 43.4	-1.5
	1.2nm,0.8s,baz=34,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**25.61**	**209**	P	P	06 35 17.2	+0.2
	0.9nm,0.7s,baz=37,slow=8.9,SNR=6.5						
FITZ	**Fitzroy Crossi**	**26.81**	**230**	P	P	06 35 29.2	+1.3
	3.2nm,1.0s,baz=45,slow=4.3,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**27.60**	**44**	T	T	07 04 43.7	
	baz=228,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**27.61**	**44**	T	T	07 04 38.2	
	baz=228,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**27.61**	**44**	T	T	07 04 43.9	
	baz=228,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**28.58**	**42**	T	T	07 05 52.3	
	baz=226,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.59**	**42**	T	T	07 05 55.1	
	baz=226,slow=76,SNR=38						
H11N2	**WAKE ISLAND Hy**	**28.59**	**42**	T	T	07 05 51.7	
	baz=226,slow=76,SNR=78						
RAR	**Rarotonga**	**55.50**	**115**	LR	LR	06 58 29.5	
	comp=Z,247nm,21.2s,baz=240,slow=31						
ILAR	**Eielson Array**	**81.18**	**23**	P	P	06 42 02.9	-0.2
	0.2nm,0.8s,baz=257,slow=3.6,SNR=2.2						

NNC 01 06:45:44.8±0.9, 7°.37S×70°.31E, h0km, mb4.0, mpv3.6, 4C-4D, Error ellipse: s-maj=76.8km s-min=48.3km az=179.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.58**	**2**	⇑ P	Pn	06 47 10.4	+1.3
	5.4nm,0.5s,baz=180,slow=13,SNR=47						
KK31				⇓ S	Sn	06 48 15.7	+1.8
	0.9nm,0.3s,baz=190,slow=25,SNR=4.1						
TKM2	**Tokmak 2**	**6.74**	**35**	⇓ P	Pn	06 47 23.7	-1.5
	1.2nm,0.4s						
TKM2				⇓ S	Sn	06 48 41.8	-1.0

	2.5nm,1.1s					
AB31	**Akbulak array**	**13.93**	**331**	⇑ P	Pn	06 49 03.5 +0.2
	1.1nm,0.6s,baz=137,slow=14,SNR=29					
AB31				⇑ S	Sn	06 51 40.5 +1.9
	0.6nm,0.6s,baz=157,slow=23,SNR=4.5					
AKTO	**Aktyubinsk**	**15.63**	**330**	⇓ P	Pn	06 49 28.2 +2.0
	6.0nm,0.9s					
AKTO				⇑ S	Sn	06 52 23.4 +3.4
	1.0nm,0.8s					

*NEIC **01** 06:47:49.6±2.8, 10°.6S±0°.1×165°.96E±0°.08, h141km±13km, mb4.3/5, Error ellipse: s-maj=21.1km s-min=11.0km az=179.0*
*IDC **01** 06:47:59.3±10.0, 11°.16S×166°.03E, h255km±120km, mb3.4/5, mb1 3.6/6, mb1mx3.2/56, mbtmp4.1/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=83.6km s-min=28.3km az=161.0*
ISC 01 06:47:50.0±0.9, 10°.73S±0°.10×165°.97E±0°.10, h150km, n17, σ1s31/17, mb4.0/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.84**	**166**	Pn	**Pn**	**06 49 00.4**	**-1.0**
HNR	**Honiara**	**6.07**	**282**	Pn	**Pn**	**06 49 18.0**	**+0.3**
DZM	**Mont Dzumac**	**11.29**	**178**	P	**Pn**	**06 50 28.9**	**+1.9**
	2.3nm,0.3s,baz=333,slow=12,SNR=29						
DZM				S	**Sn**	**06 52 30.3**	**-1.7**
	0.1nm,0.3s,baz=335,slow=23,SNR=1.6						
DZM	**Mont Dzumac**	**11.29**	**178**		**Pn**	**06 50 29.0**	**+1.9**
PINNC	**Pines Island,**	**11.90**	**173**	Pn	**Pn**	**06 50 37.6**	**+2.6**
FUNA	**Funafuti**	**13.22**	**82**	Pn	**Pn**	**06 50 52.4**	**+0.3**
CTA	**Charters Tower**	**21.14**	**242**	P	**P**	**06 52 23.2**	**-0.2**
	2.9nm,0.6s,baz=65,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**21.14**	**242**	P	**P**	**06 52 24.2**	**+0.8**
CTAO				IAmb	IAmb	06 52 51.4	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**31.72**	**250**	P	**P**	**06 53 59.3**	**-0.6**
WB0				IAmb	IAmb	06 54 14.6	
	comp=Z,8.2nm,1.2s						
WB2	**Warramunga Arr**	**31.79**	**249**	P	**P**	**06 53 59.6**	**-0.9**
WRA	**Warramunga Arr**	**31.80**	**249**	P	**P**	**06 53 59.4**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=81,slow=8.8,SNR=9.4						
WRA	**Warramunga Arr**	**31.80**	**249**	P	**P**	**06 54 00.4**	**-0.2**
ASAR	**Alice Springs**	**33.13**	**243**	P	**P**	**06 54 10.9**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=75,slow=8.4,SNR=6.3						
FITZ	**Fitzroy Crossi**	**39.68**	**255**	P	**P**	**06 55 07.1**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=85,slow=4.1,SNR=9.2						
FITZ	**Fitzroy Crossi**	**39.68**	**255**	P	**P**	**06 55 07.2**	**-0.5**
FITZ				IAmb	IAmb	06 55 07.6	
	comp=Z,4.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.83**	**236**	LR	LR	07 16 54.9	
	comp=Z,39nm,20.3s,baz=102,slow=35						
ILAR	**Eielson Array**	**83.14**	**18**	P	**P**	**06 59 58.2**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=236,slow=5.4,SNR=5.3						

IDC 01 06:51:32.2±3.2, 54°.26N×87°.38E, h0km, mb1 2.7/2, mb1mx2.7/66, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=27.0km s-min=19.2km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**259**	*i*		07 00 02.1	
	baz=79,slow=311,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.54**	**259**	Pg	Pn	06 51 59.4	-1.5
	1.1nm,0.3s,baz=78,slow=14,SNR=12						
ZALV				Lg	Lg	06 52 21.8	
	1.0nm,0.3s,baz=76,slow=31,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.52**	**240**	Pn	Pn	06 53 09.9	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=4.5						
KURBB				Sn	Sn	06 54 23.2	-1.1
	0.0nm,0.3s,baz=43,slow=21,SNR=2.7						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	06 53 32.8	+1.2
	0.1nm,0.3s,baz=24,slow=12,SNR=5.4						
MKAR				Lg	Lg	06 55 51.5	
	0.1nm,0.3s,baz=20,slow=28,SNR=5.2						

*IDC **01** 06:52:39.4±0.5, 44°.47N×129°.70W, h0km, mb4.7/38, mb1 4.8/46, mb1mx4.7/66, mbtmp4.7/46, ML4.1/8, MS5.3/24, Ms1 5.3/24, ms1mx5.1/33, Error ellipse: s-maj=15.2km s-min=8.1km az=36.0*
*MOS **01** 06:52:40.2±1.3, 44°.41N×129°.82W, h15km, mb5.4/70, MS5.4/36, Error ellipse: s-maj=6.7km s-min=4.3km az=113.0*
*NEIC **01** 06:52:41.5, 44°.45N×129°.76W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.09; $M_{\theta\theta}$-3.17; $M_{\phi\phi}$3.08; $M_{r\theta}$-0.48; $M_{\theta\phi}$-3.11; $M_{\phi r}$-0.68; Fault plane solution: $M_0$4.48000×10^{17} NP1:ϕ_s22.43000°, δ88.18000°, λ-10.40000°. NP2:ϕ_s112.76000°, δ79.60000°, λ-178.15000°. Principal axes: T 4.4084, Plg6.0000°, Azm68.0000°; N 0.1480, Plg79.0000°, Azm193.0000°; P -4.5564, Plg9.0000°, Azm337.0000°;*
*NEIC **01** 06:52:41.3±1.8, 44°.46N±0°.07×129°.8W±0°.1, h10km±1km, mb5.4/459, ML4.4/14, Ms_20 5.5/699, Mwb5.7/45, Mww5.8, Mwc5.8(GCMT) Error ellipse: s-maj=14.3km s-min=10.3km az=229.0*
*BJI **01** 06:52:42.8±0.0, 45°.25N×129°.82W, h14km, mB5.5/63, mb5.0/59, Ms5.7/68, Ms7 5.5/65*
*BGR **01** 06:52:42.4±0.0, 44°.16N×129°.94W, h10km, mb5.3, Ms5.7*
*NEIC **01** 06:52:43, 44°.33N×130°.11W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.94; $M_{\theta\theta}$-4.31; $M_{\phi\phi}$5.25; $M_{r\theta}$0.54; $M_{\theta\phi}$-4.70; $M_{\phi r}$0.90; Fault plane solution: $M_0$6.83000×10^{17} NP1:ϕ_s293.00000°, δ81.00000°, λ-177.00000°. NP2:ϕ_s202.00000°, δ87.00000°, λ-9.00000°. Principal axes: T 7.2226, Plg4.0000°, Azm248.0000°; N -0.8565, Plg80.0000°, Azm4.0000°; P -6.3662, Plg9.0000°, Azm157.0000°;*
*GCMT **01** 06:52:43.3±0.1, 44°.35N±0.01×130°.13W±0°.01, h15km, MW5.8/166, Moment Tensor Solution. s142,c269; s166,c456; Duration: 1s9 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.65±.05; $M_{\theta\theta}$-4.18±.05; $M_{\phi\phi}$4.83±.04; $M_{r\theta}$0.99±.15; $M_{\theta\phi}$-4.38±.04; $M_{\phi r}$-0.08±.14; Best double couple: $M_0$6.37000×10^{17} NP1:ϕ_s203.00000°, δ81.00000°, λ-4.00000°. NP2:ϕ_s293.00000°, δ86.00000°, λ-171.00000°. Principal axes: T 6.6360, Plg4.0000°, Azm68.0000°; N -0.5320, Plg80.0000°, Azm317.0000°; P -6.1050, Plg9.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 06:52:49, 44°.34N×129°.91W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.27; $M_{\theta\theta}$-3.26; $M_{\phi\phi}$4.53; $M_{r\theta}$-2.42; $M_{\theta\phi}$-4.24; $M_{\phi r}$0.23; Fault plane solution: $M_0$6.34000×10^{17} NP1:ϕ_s19.00000°, δ66.00000°, λ-11.00000°. NP2:ϕ_s114.00000°, δ80.00000°, λ-155.00000°. Principal axes: T 6.5805, Plg9.0000°, Azm245.0000°; N -0.5027, Plg64.0000°, Azm136.0000°; P -6.0778, Plg24.0000°, Azm339.0000°;*
ISC 01 06:52:40.5±0.5, 44°.28N±0°.03×129°.81W±0°.03, h10km±2km, h10km:pP-P, n1111, σ2s04/848, mb5.3/298, MS5.5/410, 34C-62D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
J20D	**J20D**	**1.94**	**87**	P	**Pn**	**06 53 10.8**	**-2.3**
J20D				S	**Sn**	**06 53 36.6**	**-0.7**
J28D	**J28D**	**2.04**	**68**	P	**Pn**	**06 53 12.2**	**-2.2**
J28D				S	**Sn**	**06 53 37.6**	**-2.1**
G37D	**G37D**	**2.47**	**131**	P	**Pn**	**06 53 18.6**	**-1.7**
G37D				S	**Sn**	**06 53 49.8**	**-0.4**
J19D	**J19D**	**2.55**	**91**	P	**Pn**	**06 53 19.5**	**-1.9**
J19D				S	**Sn**	**06 53 53.7**	**+1.5**
J27D	**J27D**	**2.57**	**76**	P	**Pn**	**06 53 19.5**	**-2.2**
J27D				S	**Sb**	**06 53 56.2**	**-1.6**
J11D	**J11D**	**2.60**	**105**	P	**Pn**	**06 53 19.5**	**-2.5**
J11D				S	**Sb**	**06 53 56.7**	**-1.9**
G29D	**G29D**	**2.62**	**141**	P	**Pn**	**06 53 21.5**	**-0.9**
G29D				S	**Sn**	**06 53 52.3**	**-1.8**
G36D	**G36D**	**2.80**	**130**	P	**Pn**	**06 53 23.5**	**-1.3**
G36D				S	**Sn**	**06 53 59.6**	**+1.3**
G35D	**G35D**	**3.03**	**124**	P	**Pn**	**06 53 27.9**	**-0.2**
G35D				S	**Sn**	**06 54 06.0**	**+1.8**
G22D	**G22D**	**3.14**	**155**	P	**Pn**	**06 53 28.3**	**-1.2**
G22D				S	**Sn**	**06 54 08.9**	**+2.1**
G20D	**G20D**	**3.56**	**142**	P	**Pn**	**06 53 34.7**	**-0.7**

G20D				S	**Sn**	**06 54 16.7** -0.6
G21D	**G21D**	**3.61**	**150**	P	**Pn**	**06 53 35.2** -0.8
G21D				S	**Sb**	**06 54 25.0** -2.6
G13D	**G13D**	**3.79**	**158**	P	**Pn**	**06 53 37.6** -0.9
G13D				S	**Sn**	**06 54 25.5** +2.5
G33D	**G33D**	**3.99**	**112**	P	**Pb**	**06 53 47.4** -3.3
G33D				S	**Sb**	**06 54 35.3** -3.7
KEBM	**Edson Butte**	**4.22**	**108**		**Pn**	**06 53 45.1** +0.2
KEBM				IAML		06 55 01.1
	comp=E,515nm,1.9s					
KEBM				IAML		06 55 55.5
	comp=N,459nm,4.2s					
I02D	**Swisshome**	**4.29**	**90**	P		06 53 45.7
	baz=276,SNR=17					
I02D				S		06 54 34.0
	baz=276					
G05D7	**G05D7**	**4.39**	**160**	P	**Pn**	**06 53 47.4** +0.8
G05D7				S	**Sb**	**06 54 45.0** -5.0
J01E	**Myrtle Point**	**4.41**	**103**	P		06 53 46.9
	baz=289,SNR=21					
J01E				S		06 54 39.2
	baz=289					
M16D	**M16D**	**4.51**	**124**	P	**Pn**	**06 53 51.8** +3.1
M16D				S	**Sb**	**06 54 49.0** -5.0
KBO	**Bosley Butte**	**4.58**	**115**	Pn	**Pn**	**06 53 49.2** -0.5
KBO				IAML		06 54 56.5
	comp=E,254nm,2.5s					
KBO				IAML		06 55 00.6
	comp=N,324nm,2.7s					
COR	**Corvallis**	**4.67**	**84**	P	**Pn**	**06 53 49.9** -1.1
COR	**Corvallis**	**4.67**	**84**		**Pn**	**06 53 51.3** +0.3
COR				IAML		06 54 56.1
	comp=N,323nm,2.0s					
G04D	**G04D**	**4.70**	**150**	P	**Pn**	**06 53 52.3** +1.5
G04D				S	**Sb**	**06 54 59.7** +0.9
G10D	**G10D**	**4.70**	**137**	P	**Pn**	**06 53 52.3** +1.3
G10D				S	**Sn**	**06 54 49.9** +4.6
I03D	**Drain, OR**	**4.70**	**95**	P		06 53 51.2
	baz=281,SNR=91					
I03D				S		06 54 44.8
	baz=281					
K02D	**Willamette Mer**	**4.75**	**107**	P		06 53 51.9
	baz=294,SNR=44					
K02D				S		06 54 46.9
	baz=294					
G03D	**McMinnville, O**	**4.76**	**76**	P		06 53 51.7
	baz=263,SNR=234					
E03A	**Lebam**	**4.95**	**61**	Pn	**Pn**	**06 53 53.1** -1.7
E03A				IAML		06 54 39.0
	comp=N,283nm,1.3s					
L02E	**Cave Junction**	**5.01**	**113**	P		06 53 56.9
	baz=299,SNR=54					
L02E				S		06 54 54.8
	baz=299					
G03D7	**G03D7**	**5.02**	**146**	P	**Pn**	**06 53 57.2** +1.9
G03D7				S	**Sb**	**06 55 04.6** -3.5
H04D	**Lebanon**	**5.08**	**85**	P		06 53 56.8
	baz=272,SNR=177					
F04D	**Rainier, OR**	**5.13**	**67**	P		06 53 56.9
	baz=253,SNR=118					
KRMB	**Red Mountain**	**5.14**	**120**		**Pn**	**06 53 60.0** +2.4
FS44D	**FS44D**	**5.16**	**131**	P	**Pn**	**06 53 59.6** +2.0
FS44D				S	**Sb**	**06 55 08.5** -4.2
NLWA	**Neilton Lookou**	**5.19**	**51**	Pn	**Pn**	**06 53 56.5** -1.7
NLWA				IAML		06 55 01.2
	comp=N,227nm,0.7s					
G09D	**G09D**	**5.21**	**132**	P	**Pn**	**06 54 00.6** +2.2
G09D				S	**Sn**	**06 55 05.1** +6.6
FS41D	**FS41D**	**5.25**	**133**	P	Pn	06 54 04.5 +5.7
HUMO	**Hull Mountain**	**5.26**	**106**	Pn	**Pn**	**06 53 59.7** +0.5
HUMO				IAML		06 55 25.4
	comp=E,133nm,2.0s					
FS16D	**FS16D**	**5.30**	**133**	P	**Pn**	**06 54 02.5** +3.1
FS16D				S	**Sb**	**06 55 11.4** -5.1
FS13D	**FS13D**	**5.30**	**134**	P	**Pn**	**06 54 01.6** +2.2
FS13D				S	**Sb**	**06 55 10.4** -6.0
FS09D	**FS09D**	**5.34**	**134**	P	**Pn**	**06 54 00.1** +0.2
FS09D				S	**Sb**	**06 55 11.4** -6.2
I04A	**Tendick Farm,**	**5.36**	**93**	P		06 53 59.6
	baz=280,SNR=161					
I04A				S		06 55 01.3
	baz=280					
FS10D	**FS10D**	**5.40**	**134**	P	**Pn**	**06 54 01.6** +0.7
FS10D				S	**Sb**	**06 55 13.4** -6.2
H04A	**Detroit Lake**	**5.47**	**83**		**Pn**	**06 54 01.1** -0.9
FS07D	**FS07D**	**5.49**	**134**	P	**Pn**	**06 54 05.0** +2.9
FS07D				S	**Sb**	**06 55 15.3** -6.7
JCC	**Jacoby Creek,**	**5.50**	**127**		**Pn**	**06 54 03.4** +1.1
E04D	**Cinebar**	**5.58**	**63**	P		06 54 02.4
	baz=250,SNR=410					
FS08D	**FS08D**	**5.59**	**133**	S	**Sb**	**06 55 20.2** -4.9
FS04D	**FS04D**	**5.63**	**134**	S	**Sb**	**06 55 20.7** -5.6
FS04D				P	Pn	06 54 17.4 +6.2
KHMM	**Horse Mountain**	**5.63**	**125**		**Pn**	**06 54 05.9** +1.5
J04D	**Umpqua Nationa**	**5.68**	**98**	P		06 54 06.2
	baz=285,SNR=211					
D03D	**Eldon**	**5.71**	**53**	P		06 54 03.9
	baz=239,SNR=343					
D04E	**Lakebay**	**5.72**	**57**	P		06 54 05.2
	baz=243,SNR=689					
G01D	**G01D**	**5.77**	**136**	P	**Pn**	**06 54 07.4** +1.5
G01D				S	**Sn**	**06 55 19.2** +7.1
YBH	**Yreka Blue Hor**	**5.80**	**114**	Pn	**Pn**	**06 54 07.6** +1.0
	comp=E,1.5nm,0.3s,baz=303,slow=7.3,SNR=116					
YBH				Sn	**Sb**	**06 55 23.4** -7.8
	baz=273,slow=8.2,SNR=0.8					
YBH				LR	LR	06 56 03.2
	comp=E,15μm,21.5s,baz=302,slow=35					
YBH	**

E08A Dider Farm, El 7.89 70 Pn 06 54 35.2 +0.1
BBB Bella Bella 7.99 8 Pn Pn 06 54 35.4 -1.1
comp=E,2.0nm,0.3s,baz=185,slow=9.2,SNR=16
BBB Sn Sn 06 56 12.8 +6.1
comp=E,1.2nm,0.3s,baz=209,slow=15,SNR=3.1
BBB LR LR 06 56 45.4
comp=E,11µm,19.6s,baz=186,slow=32
BBB Bella Bella 7.99 8 Pn 06 54 35.0 -1.5
MCCM Marconi Confer 8.05 137 Pn Pn 06 54 39.1 +1.7
D08A Wollman Farm, 8.12 66 Pn Pn 06 54 38.1 -0.1
J08A Circle Bar Ran 8.25 92 Pn Pn 06 54 40.7 +0.4
BEKR Beckworth 8.30 119 Pn Pn 06 54 45.8 +4.8
B08A Colville Reser 8.32 57 Pn Pn 06 54 39.6 -1.4
WVOR Wild Horse Val 8.35 99 P Pn 06 54 41.9 +0.3
WVOR Wild Horse Val 8.35 99 Pn 06 54 41.9 +0.3
AFDM Forest Hills D 8.50 126 Pn Pn 06 54 46.5 +3.0
E09A Wood Farm, Sta 8.51 71 Pn 06 54 43.5 -0.1
C09A Chrisman Ranch 8.76 62 Pn Pn 06 54 46.3 -0.8
RUBR Rubicon Trail 8.92 123 Pn 06 54 54.2 +4.8
BMO Blue Mountains 8.95 82 Pn 06 54 50.0 +0.2
PAHR Pah Rah Range 9.01 117 Pn 06 54 56.2 +5.5
F10A Beach Ranch, E 9.06 75 Pn 06 54 51.1 -0.2
DIB Dawson Inlet, 9.10 350 Pn Pn 06 54 53.2 +1.5
NEW Newport 9.65 61 Pn Pn 06 54 58.1 -1.2
comp=E,3.5nm,0.3s,baz=245,slow=11,SNR=93
NEW LR LR 06 58 34.4
comp=E,42µm,20.2s,baz=256,slow=37
NEW Newport 9.65 61 P Pn 06 54 58.0 -1.3
NEW Newport 9.65 61 Pn Pn 06 54 58.0 -1.3
NEW Newport 9.65 61 P 06 54 57.7
baz=251,SNR=98
MFID Camas Ranch 10.14 90 Pn Pn 06 55 06.4 +0.2
NVAR Mina Array Bea 10.44 120 Pn Pn 06 55 12.5 +2.2
comp=E,0.7nm,0.3s,baz=296,slow=12,SNR=45
NVAR LR LR 06 59 08.8
comp=E,20µm,20.2s,baz=306,slow=37
NVAR Mina Array Bea 10.44 120 Pn 06 55 14.2 +3.9
PMPB Monarch Peak 10.59 136 Pn Pn 06 55 15.2 +2.9
MLAC Mammoth, Mammo 10.63 125 P 06 55 15.5
baz=313
HLID Hailey 11.13 88 Pn Pn 06 55 20.7 +0.9
HLID Hailey 11.13 88 P 06 55 21.1
baz=280,SNR=95
VOG Valley Oaks Go 11.25 131 P 06 55 23.0
baz=319
PAGB Antelope Grade 11.25 136 Pn 06 55 22.4 +1.1
ELK Elko 11.32 103 Pn Pn 06 55 25.0 +2.6
comp=E,0.6nm,0.3s,baz=300,slow=12,SNR=183
ELK LR LR 06 59 58.7
comp=E,12µm,18.2s,baz=291,slow=39
ELK Elko 11.32 103 P Pn 06 55 24.8 +2.4
ELK Elko 11.32 103 Pn Pn 06 55 24.8 +2.4
TPH Tonopah 11.33 119 P Pn 06 55 26.4 +3.9
TPH Tonopah 11.33 119 Pn 06 55 26.4 +3.9
JTMT Jette 11.34 67 Pn Pn 06 55 22.4 -0.1
TIN Tinemaha, Big 11.37 125 P 06 55 27.7
baz=314,SNR=13
CRAG Craig 11.40 350 Pn Pn 06 55 24.4 +1.3
CRAG Craig 11.40 350 P 06 55 23.0
baz=168,SNR=18
MSO Missoula 11.42 72 Pn 06 55 23.2 -0.4
MSO Missoula 11.42 72 P 06 55 23.1
baz=264,SNR=166
SMMC Simmler 11.71 137 P 06 55 28.9
baz=324
BCYI Bear Canyon 11.76 84 Pn 06 55 30.1 +1.7
VES Vestal, Richgr 11.77 132 P 06 55 30.1
baz=320,SNR=41
CWC Cottonwood Cre 11.88 127 P 06 55 34.6
baz=316
GRAC Grapevine Rang 11.92 123 P 06 55 32.3
baz=312,SNR=14
MCMT McKenzie Canyo 12.12 81 Pn 06 55 34.2 +0.9
PKM Mcpherson Peak 12.14 137 P 06 55 34.9
baz=324,SNR=6.9
R11A Troy Canyon, C 12.22 114 P 06 55 39.6
baz=304,SNR=24
ISA Isabella, Lake 12.23 131 P Pn 06 55 37.6 +2.9
ISA Isabella, Lake 12.23 131 Pn Pn 06 55 37.6 +2.9
ISA Isabella, Lake 12.23 131 P 06 55 37.7
baz=319,SNR=75
WRAK Wrangell Islan 12.26 353 Pn 06 55 37.9 +3.0
WRAK Wrangell Islan 12.26 353 P 06 55 36.9
baz=171,SNR=18
DLMT Dillon 12.28 79 Pn 06 55 36.9 +1.5
LRM Limekiln Ridge 12.38 77 Pn 06 55 38.1 +1.2
ARVC Arvin 12.44 134 P 06 55 39.0
baz=321,SNR=20
SBC Santa Barbara 12.54 138 P 06 55 40.7
baz=325
FURC Furnace Creek, 12.58 124 P 06 55 43.9
baz=313,SNR=124
TPNV Topopah Spring 12.63 121 P Pn 06 55 44.6 +4.3
TPNV Topopah Spring 12.63 121 Pn 06 55 44.6 +4.3
TPNV Topopah Spring 12.63 121 P 06 55 43.4
baz=310,SNR=86
HVU Hansel Valley 12.72 95 P Pn 06 55 44.3 +2.9
HVU Hansel Valley 12.72 95 Pn 06 55 44.3 +2.9
SPR3 Spring Creek 3 12.72 109 Pn Pn 06 55 46.7 +5.1
LRMC Laurel Mtn Rad 12.80 129 P 06 55 45.0
baz=318
BGU Big Grassy Mou 12.81 99 Pn 06 55 45.6 +2.9
HRY Holter Researc 12.85 73 Pn 06 55 42.6 -0.6
OSI Osito Audit: C 12.90 135 Pn 06 55 46.4 +2.6
OSI Osito Audit: C 12.90 135 P 06 55 45.4
baz=322
SCZ2 Santa Cruz Isl 12.95 139 P 06 55 47.4
baz=326
EDW2 Edwards Air Fo 13.07 132 P 06 55 48.3
baz=320,SNR=47
PRN Pahroc Range 13.11 117 Pn Pn 06 55 50.8 +4.0
QLMT Earthquake Lak 13.13 81 Pn 06 55 48.9 +1.8
DUG Dugway, Tooele 13.24 102 P 06 55 50.3
baz=294,SNR=15
SIT Sitka 13.25 347 P Pn 06 55 49.4 +1.0
SIT Sitka 13.25 347 Pn Pn 06 55 49.4 +1.0
SIT Sitka 13.25 347 P 06 55 48.4
baz=162,SNR=8.1
YHL Hebgen Lake 13.30 81 Pn 06 55 51.6 +2.1
SHOC Shoshone, Teco 13.31 124 P 06 55 51.4
baz=314,SNR=32
DECC Green Verdugo 13.38 135 P 06 55 52.1
baz=322
YMR Madison River 13.47 82 Pn 06 55 55.0 +3.2
YHH Holmes Hill 13.54 81 Pn Pn 06 55 52.3 -0.4
MWC Mount Wilson 13.54 134 P Pn 06 55 57.3 +4.5
MWC Mount Wilson 13.54 134 Pn 06 55 57.3 +4.5
SHPR Sheep Range 13.59 120 Pn Pn 06 55 57.8 +4.5
SNCC San Nicolas Is 13.62 141 P 06 55 57.1
baz=328
RRX Edison Barstow 13.62 129 P 06 55 56.8
baz=318
HWUT Hardware Ranch 13.63 95 Pn 06 55 56.6 +2.6
AHID Auburn Hatcher 13.67 90 Pn 06 55 56.5 +2.1
YNR Norris Junctio 13.67 81 Pn 06 55 58.0 +3.6
BFSC Mount Baldy Ra 13.74 133 P 06 55 57.3
baz=321,SNR=90
H17A Grant Village 13.77 83 P 06 55 59.0
baz=277,SNR=14
CTU Camp Tracy 13.80 99 Pn Pn 06 55 57.9 +1.6
FMP Fort Macarthur 13.83 136 P 06 55 57.8
baz=324
TUQ Turquoise Moun 13.84 125 P 06 56 01.1
baz=315,SNR=13
CIS Catalina Islan 14.02 137 P 06 56 00.3
baz=325
HEC Hector,Ludlow 14.03 128 P 06 56 01.7
baz=317,SNR=14
YMP Mirror Lake Pl 14.04 81 Pn 06 56 01.4 +1.9
BBRC Big Bear Solar 14.12 131 P 06 56 02.5
baz=320
CCUT Cedar City 14.13 113 Pn P 06 56 05.0 -3.5
TCRU Three Creeks R 14.20 108 P 06 56 05.6 -3.7
SCI2 San Clemente I 14.30 138 P 06 56 04.3
baz=326,SNR=7.8
EGMT Eagleton 14.39 68 P 06 56 03.5
baz=263,SNR=44
GMRC Granite Mounta 14.45 126 P 06 56 07.9
baz=316,SNR=104
MURC Murrieta 14.48 133 P 06 56 07.1
baz=322
RLMT Red Lodge 14.64 80 P 06 56 09.3
baz=275,SNR=19
BESE Bessie Mountai 14.65 350 Pn 06 56 08.9 +1.2
MTPU Mount Pierson 14.66 109 Pn 06 56 10.4 +2.2

BW06 Boulder Array 14.77 89 Pn 06 56 11.8 +2.2
BW06 Boulder Array 14.77 89 P 06 56 11.5
baz=283,SNR=33
PDAR Pinedale Array 14.77 89 Pn Pn 06 56 11.4 +1.9
comp=E,0.3nm,0.3s,baz=287,slow=12,SNR=36
PDAR LR LR 07 01 59.1
comp=E,23µm,20.0s,baz=283,slow=38
PDAR Pinedale Array 14.77 89 Pn Pn 06 56 11.0 +1.4
KNB Kanab 14.79 114 P P 06 56 13.5 -2.2
KNB Kanab 14.79 114 P 06 56 13.5 -2.2
BELC Belle Mtn. Jos 14.82 129 P 06 56 12.4
baz=319,SNR=27
PFO Pinyon Flats O 14.86 131 Pn Pn 06 56 12.7 +2.0
comp=E,0.1nm,0.3s,baz=321,slow=11,SNR=22
PFO LR LR 07 01 30.2
comp=E,20µm,18.5s,baz=306,slow=36
PFO Pinyon Flats O 14.86 131 *d* P Pn 06 56 12.5 +1.8
PFO Pinyon Flats O 14.86 131 Pn Pn 06 56 12.9 +2.2
PFO Pinyon Flats O 14.86 131 P 06 56 12.8
baz=320,SNR=18
TPFO Pinon Flats 14.87 131 P 06 56 12.8
baz=320,SNR=20
P17A Butcher Ranch, 14.99 102 IAmb IAmb 06 56 35.7
comp=Z,140nm,1.2s
NEE2 Needles Airpor 15.07 124 P 06 56 15.8
baz=314
109C Camp Elliot, M 15.08 135 Pn Pn 06 56 15.4 +1.8
109C IAmb IAmb 06 56 25.5
comp=Z,150nm,1.2s
109C Camp Elliot, M 15.08 135 P 06 56 14.0
baz=323,SNR=7.4
IRM Iron Mountain 15.19 127 P 06 56 17.7
baz=317,SNR=259
W13A Hualapai Mount 15.29 121 Pn P 06 56 19.2 -2.2
W13A IAmb IAmb 06 56 28.7
comp=Z,341nm,1.3s
BC3 Big Chuckawall 15.38 129 P 06 56 19.9
baz=318,SNR=58
RDMU Red Mountain 15.40 97 IAmb IAmb 06 56 28.5
comp=Z,197nm,0.9s
MONP2 Monument Peak 15.44 133 P 06 56 20.5
baz=322,SNR=47
BAR Barrett 15.47 134 Pn Pn 06 56 20.9 +2.2
U15A North Rim 15.47 114 IAmb IAmb 06 56 40.8
comp=Z,240nm,1.1s
TKX Tecate 15.59 134 Pn 06 56 22.4 +2.1
TKX IAmb IAmb 06 56 40.9
comp=Z,252nm,1.7s
PDMCI Parker Dam,Lak 15.68 124 P 06 56 25.0
baz=315,SNR=101
SWSC Sam W. Stewart 15.73 131 P 06 56 24.0
baz=321,SNR=30
RMX La Rumorosa 15.84 133 IAmb IAmb 06 56 35.7
comp=Z,229nm,1.1s
GLA Glamis 16.18 129 P 06 56 29.7
baz=319,SNR=18
CPBX Cerro Prieto 16.40 131 P 06 56 33.8 +0.4
CPBX IAmb IAmb 06 57 05.9
comp=Z,330nm,1.2s
O20A White River Ci 16.50 97 Pn Pn 06 56 33.3 +1.2
O20A IAmb IAmb 06 56 53.1
comp=Z,255nm,1.1s
O20A White River Ci 16.50 97 P 06 56 33.3
baz=292,SNR=91
WUAZ Wupatki 16.61 116 P P 06 56 37.2 +1.2
WUAZ Wupatki 16.61 116 P 06 56 36.9
baz=308,SNR=50
WHY Whitehorse 16.68 351 IAmb IAmb 06 56 41.5
comp=Z,5nm,1.9s
WHY Whitehorse 16.68 351 P 06 56 33.9
baz=167,SNR=66
LAO LASA Array 16.70 73 IAmb IAmb 06 56 48.5
comp=Z,348nm,1.3s
LAO LASA Array 16.70 73 P 06 56 35.1
baz=271,SNR=40
RWWY Rawlins 16.73 91 Pn Pn 06 56 34.5 -0.6
BCPM Bancas Point 16.78 343 Pn 06 56 34.8 -0.5
BCPM IAmb IAmb 06 57 13.1
comp=Z,643nm,1.8s
K22A Casper 16.98 87 IAmb IAmb 06 57 09.1
comp=Z,331nm,1.8s
K22A Casper 16.98 87 P 06 56 38.2
baz=284,SNR=24
PINM Pinnacle 17.05 342 P 06 56 37.9
baz=153,SNR=22
PCA Pinnacle 17.05 342 IAmb IAmb 06 57 09.6
comp=Z,627nm,1.7s
SPX San Pedro Mart 17.40 135 IAmb IAmb 06 56 53.0
comp=Z,268nm,1.3s
MESA MESA 17.52 340 Pn 06 56 44.2 -0.5
MESA MESA 17.52 340 P 06 56 44.4
baz=150,SNR=28
TABL Table Mountain 17.55 341 IAmb IAmb 06 57 10.0
comp=Z,859nm,2.0s
MVCO Mesa Verde 17.60 106 P 06 56 47.9 +0.8
MVCO Mesa Verde 17.60 106 P 06 56 48.2
baz=301,SNR=53
YAH Yahtse 17.63 340 Pn Pn 06 56 45.5 -0.6
SFX San Felipe 17.71 133 P P 06 56 49.1 +1.1
SMCO Snowmass 17.77 99 Pn Pn 06 56 47.8 -0.5
BGLC Bering Glacier 17.82 338 P 06 56 47.3
baz=147
N23A Red Feather La 17.88 93 P 06 56 49.9
baz=289,SNR=61
W18A Petrified Fore 17.92 114 IAmb IAmb 06 57 03.2
comp=Z,795nm,1.8s
W18A Petrified Fore 17.92 114 P 06 56 53.1
baz=307,SNR=23
GRNC Granite Creek 17.95 341 IAmb IAmb 06 57 19.7
comp=Z,583nm,1.7s
CTGM Chitina Glacie 18.06 342 IAmb IAmb 06 57 03.5
comp=Z,370nm,1.7s
CTG Chitna Glacier 18.07 342 P 06 56 51.0
baz=152,SNR=16
DGMT Dagmar 18.13 68 Pn 06 56 51.9 -0.3
DGMT IAmb IAmb 06 56 56.6
comp=Z,506nm,1.1s
DGMT Dagmar 18.13 68 P 06 56 52.1
baz=267,SNR=44
214A Organ Pipe Nat 18.13 127 P 06 56 55.8
baz=318,SNR=153
Q23K Middleton Isla 18.20 332 P 06 56 51.6
baz=139
BARN Barnard Glacie 18.22 341 P Pn 06 56 52.9 -0.5
BARN IAmb IAmb 06 56 56.5
comp=Z,522nm,1.7s
HMT Hamilton 18.27 337 IAmb IAmb 06 57 16.6
comp=Z,549nm,1.8s
CRQE Cirque 18.30 339 P 06 56 54.2
baz=148,SNR=53
CRQM Cirque 18.32 339 Pn 06 56 54.0 -0.6
RSSD Black Hills 18.46 81 P P 06 56 55.7 -0.8
RSSD pmax pmax
comp=Z,76nm,1.2s
RSSD Black Hills 18.46 81 P 06 56 55.7 -0.8
RSSD Black Hills 18.46 81 P 06 56 57.1
baz=280
ISCO Idaho Springs 18.50 96 P P 06 56 56.4 -0.6
ISCO pmax pmax
comp=Z,110nm,1.1s
ISCO Idaho Springs 18.50 96 P P 06 56 56.4 -0.6
ISCO Idaho Springs 18.50 96 P 06 56 57.8
baz=292,SNR=126
S22A 4UR Ranch, Cre 18.50 103 P 06 56 59.1
baz=298
MCARA McCarthy VSAT 18.83 340 IAmb IAmb 06 57 39.3
comp=Z,377nm,1.5s
MCARA McCarthy VSAT 18.83 340 P 06 56 59.9
baz=149,SNR=16
EYAK Cordova Ski Ar 18.88 335 IAmb IAmb 06 57 19.3
comp=Z,614nm,1.9s
EYAK Cordova Ski Ar 18.88 335 P 06 56 59.9
baz=142
BMRM Bremner River 18.89 337 IAmb IAmb 06 57 03.9
comp=Z,590nm,1.9s
BMRM Bremner River 18.89 337 P 06 57 00.4
baz=145,SNR=11
GLB Gilahina Butte 19.08 339 P 06 57 02.4 -0.5
GLB IAmb IAmb 06 57 07.5
comp=Z,422nm,1.9s
TUC Tucson 19.08 122 P Pn 06 57 05.6 +1.7
TUC Tucson 19.08 122 P 06 57 05.9
baz=315
Q24A Divide 19.16 98 P 06 57 06.8
baz=295,SNR=18
FID Port Fidalgo 19.26 335 IAmb IAmb 06 57 08.4
comp=Z,396nm,1.6s

N25K Chitina, Valde 19.42 338 P P 06 57 06.6 -0.1
N25K IAmb IAmb 06 57 31.9
comp=Z,542nm,2.0s
N25K Chitina, Valde 19.42 338 P 06 57 06.7
baz=146,SNR=37
SDCO Great Sand Dun 19.43 101 P Pn 06 57 10.3 +1.9
SDCO Great Sand Dun 19.43 101 P 06 57 10.0
baz=298,SNR=124
GLI Glacier Island 19.55 334 IAmb IAmb 06 57 15.3
comp=Z,312nm,1.4s
GLI Glacier Island 19.55 334 P 06 57 08.4
baz=140
KDAK Kodiak Island 19.56 322 P P 06 57 07.2 -0.8
comp=Z,0.3nm,0.3s,baz=134,slow=8.5,SNR=9.6
KDAK LR LR 07 02 38.8
comp=Z,20µm,20.5s,baz=151,slow=31
KDAK Kodiak Island 19.56 322 *d* P P 06 57 06.9 -1.2
KDAK pmax pmax
comp=Z,223nm,1.6s
KDAK Kodiak Island 19.56 322 P P 06 57 07.8 -0.3
KDAK IAmb IAmb 06 57 20.3
comp=Z,556nm,1.9s
KDAK Kodiak Island 19.56 322 P 06 57 06.9
baz=124
OHAK Old Harbor 19.57 320 P P 06 57 07.7 -0.5
OHAK Old Harbor 19.57 320 P 06 57 06.5
baz=121,SNR=21
SII Sitkinak Islan 19.67 317 P P 06 57 09.3 -0.1
SII IAmb IAmb 06 57 11.7
comp=Z,439nm,1.4s
SII Sitkinak Islan 19.67 317 P 06 57 08.2
baz=118,SNR=10
KLU Klutina 19.69 337 IAmb IAmb 06 57 15.1
comp=Z,521nm,1.8s
KLU Klutina 19.69 337 P 06 57 08.9
baz=144,SNR=28
SEW Seward 19.77 330 IAmb IAmb 06 57 23.5
comp=Z,272nm,1.6s
SEW Seward 19.77 330 P 06 57 09.7
baz=134
BRSE Bradley Lake S 20.00 328 P 06 57 11.8
baz=131,SNR=6.1
CNPM China Poot 20.05 327 P 06 57 11.9 -1.5
CNPM IAmb IAmb 06 57 58.9
comp=Z,327nm,1.8s
L27K Beaver Creek, 20.05 344 IAmb IAmb 06 57 19.6
comp=Z,420nm,2.0s
L27K Beaver Creek, 20.05 344 P 06 57 13.1
baz=154,SNR=69
BRLK Bradley Lake 20.07 328 P 06 57 11.8 -1.9
BRLK IAmb IAmb 06 57 17.3
comp=Z,219nm,1.6s
O22K Cooper Landing 20.13 331 P 06 57 13.7
baz=134
ANMO Albuquerque 20.21 109 P Pn 06 57 17.6 +0.1
comp=Z,27nm,1.0s,baz=305,slow=11,SNR=74
ANMO LR LR 07 04 57.3
comp=Z,5µm,18.3s,baz=300,slow=36
ANMO Albuquerque 20.21 109 *c i* P Pn 06 57 18.2 +0.7
ANMO pmax pmax
comp=Z,120nm,2.0s
ANMO Albuquerque 20.21 109 P Pn 06 57 18.2 +0.7
ANMO Albuquerque 20.21 109 P 06 57 18.1
baz=305
HARP HAARP 20.23 339 P 06 57 16.0
baz=146,SNR=14
M24K Tolsona, Glenn 20.26 338 P 06 57 16.0
baz=144,SNR=22
YKA Yellowknife Ar 20.27 21 P P 06 57 14.4 -1.4
comp=Z,28nm,1.1s,baz=208,slow=11,SNR=21
YKA LR LR 07 03 29.9
comp=Z,3µm,20.9s,baz=0.0,slow=32
HOM Homer 20.29 327 IAMs_20 IAMs_20 07 03 03.3
comp=Z,15µm,19.0s
HOM Homer 20.29 327 P 06 57 15.3
baz=129
MENT Mentasta 20.34 342 P P 06 57 16.7 +0.1
MENT IAmb IAmb 06 57 26.8
comp=Z,274nm,1.6s
MENT IAMs_20 IAMs_20 07 03 25.9
comp=Z,23µm,20.0s
SCM Sheep Creek Mo 20.37 336 IAMs_20 IAMs_20 07 03 22.9
comp=Z,17µm,18.0s
KNK Knik Glacier 20.39 334 IAMs_20 IAMs_20 07 03 00.5
comp=Z,18µm,21.0s
KNK Knik Glacier 20.39 334 P 06 57 16.8
baz=138,SNR=25
Y22D IRIS PASSCAL I 20.40 112 P 06 57 21.4
baz=307,SNR=14
T25A Trinidad 20.49 102 P 06 57 21.6
baz=299,SNR=341
E28A Huff 20.52 73 IAMs_20 IAMs_20 07 05 10.5
comp=Z,32µm,20.0s
DAWY Dawson 20.55 348 P P 06 57 17.7 -1.2
DAWY IAMs_20 IAMs_20 07 03 47.5
comp=Z,26µm,20.0s
RC01 Rabbit Creek A 20.57 332 P P 06 57 17.9 -1.2
RC01 IAMs_20 IAMs_20 07 03 04.4
comp=Z,17µm,20.0s
RC01 Rabbit Creek A 20.57 332 P 06 57 18.6
baz=136,SNR=28
319A Douglas 20.64 122 P Pn 06 57 22.3 -0.3
319A IAmb IAmb 06 57 32.5
comp=Z,215nm,1.2s
SML Sawmill 20.65 335 IAMs_20 IAMs_20 07 03 21.4
comp=Z,16µm,19.0s
SML Sawmill 20.65 335 P 06 57 19.6
baz=140,SNR=38
OGNE Ogallala 20.68 90 P P 06 57 21.4 +0.9
OGNE Ogallala 20.68 90 P 06 57 21.9
baz=289,SNR=20
PMR Palmer 20.74 333 IAmb IAmb 06 57 29.9
comp=Z,182nm,1.4s
PMR Palmer 20.74 333 P 06 57 20.2
baz=138,SNR=17
FFC Flin Flon 20.74 50 P P 06 57 20.7 -0.3
FFC pmax pmax
comp=Z,690nm,1.8s
FFC Flin Flon 20.74 50 P P 06 57 20.7 -0.3
FFC Flin Flon 20.74 50 IAMs_20 IAMs_20 07 05 20.2
comp=Z,29µm,19.0s
FIS Fire Island 20.77 332 IAMs_20 IAMs_20 07 03 10.7
comp=Z,16µm,20.0s
PAX Paxson 20.79 340 P P 06 57 20.5 -1.0
PAX pmax pmax
comp=Z,286nm,1.6s
PAX Paxson 20.79 340 P P 06 57 20.5 -1.0
PAX IAmb IAmb 06 57 45.4
comp=Z,286nm,1.6s
PAX IAMs_20 IAMs_20 07 03 24.7
comp=Z,19µm,22.0s
PAX Paxson 20.79 340 P 06 57 21.4
baz=147
121A Cookes Peak, D 20.80 117 IAMs_20 IAMs_20 07 05 21.0
comp=Z,17µm,21.0s
121A Cookes Peak, D 20.80 117 P 06 57 25.9
baz=311,SNR=112
GHO Glory Hole Cre 20.81 334 P P 06 57 21.4 -0.4
GHO IAMs_20 IAMs_20 07 03 14.5
comp=Z,18µm,22.0s
CAPN Captain Cook N 20.84 330 P 06 57 22.6
baz=132
KSCO Kaye Shedlock' 20.94 95 IAmb IAmb 06 57 39.2
comp=Z,203nm,1.1s
KSCO Kaye Shedlock' 20.94 95 P 06 57 25.5
baz=294,SNR=51
K27K Chicken 20.97 345 IAMs_20 IAMs_20 07 03 58.6
comp=Z,21µm,19.0s
K27K Chicken 20.97 345 P 06 57 23.2
baz=155,SNR=29
DOT Dot Lake 21.04 342 IAmb IAmb 06 57 49.1
comp=Z,282nm,1.8s
DOT IAMs_20 IAMs_20 07 03 58.3
comp=Z,28µm,19.0s
WAT6 Susitna Watana 21.08 337 P 06 57 24.3
baz=142,SNR=51
M22K Willow 21.18 333 P 06 57 24.1
baz=136,SNR=16
SUA Susitna One 21.18 332 P 06 57 25.1
baz=134,SNR=20
MDND Maddock 21.19 70 IAMs_20 IAMs_20 07 05 30.3
comp=Z,17µm,19.0s
MDND Maddock 21.20 70 P 06 57 27.4
baz=272,SNR=15
SCRK Sand Creek 21.31 343 P P 06 57 26.6 -0.6
SCRK IAmb IAmb 06 57 48.1
comp=Z,153nm,1.4s

SCRK IAMs_20 IAMs_20 07 04 07.6
comp=Z,27µm,20.0s
SCRK Sand Creek 21.31 343 P 06 57 26.7
baz=151,SNR=62
HSIG 21.40 129 P **P** **06 57 30.5 +2.3**
HSIG IAmb IAmb 06 57 34.4
comp=Z,175nm,1.3s
EGAK Eagle 21.50 347 IAMs_20 IAMs_20 07 04 16.2
comp=Z,17µm,21.0s
EGAK Eagle 21.50 347 P 06 57 28.5
baz=157,SNR=24
SPCR Spurr Chakacha 21.51 330 P 06 57 28.4
baz=132,SNR=44
WAT2 Susitna Watana 21.62 336 P 06 57 29.5
baz=141,SNR=41
CUT Chulitna 21.70 334 IAMs_20 IAMs_20 07 03 42.2
comp=Z,17µm,21.0s
CUT Chulitna 21.70 334 P 06 57 30.0
baz=137
SKT Skwentna 21.81 332 IAmb IAmb 06 57 39.3
comp=Z,421nm,1.9s
SKT IAMs_20 IAMs_20 07 03 55.1
comp=Z,17µm,19.0s
SKT Skwentna 21.81 332 P 06 57 31.2
baz=134,SNR=8.3
SUSD Miller 22.00 79 P 06 57 35.3
baz=281,SNR=14
RND Reindeer 22.04 337 P **P** **06 57 34.0 -1.0**
RND pmax pmax
comp=Z,305nm,1.4s
RND MLR MLR
comp=Z,19µm,18.0s
RND Reindeer 22.04 337 P **P** **06 57 34.0 -1.0**
RND IAmb IAmb 06 57 54.5
comp=Z,305nm,1.4s
RND IAMs_20 IAMs_20 07 04 35.1
comp=Z,19µm,18.0s
SRIG Santa Rosalia 22.05 134 IAmb IAmb 06 57 41.2
comp=Z,258nm,1.3s
MCK McKinley 22.32 337 IAmb IAmb 06 58 09.1
comp=Z,127nm,1.2s
MCK IAMs_20 IAMs_20 07 04 28.5
comp=Z,16µm,19.0s
MCK McKinley 22.32 337 P 06 57 37.0
baz=142,SNR=30
HDA Harding Lake 22.36 340 IAmb IAmb 06 57 58.3
comp=Z,268nm,1.6s
HDA IAMs_20 IAMs_20 07 04 25.3
comp=Z,17µm,21.0s
HDA Harding Lake 22.36 340 P 06 57 37.2
baz=146,SNR=34
HDA P 06 57 37.2
baz=146,SNR=34
SDPT Sand Point 22.48 310 P **P** **06 57 37.3 -2.3**
SDPT IAmb IAmb 06 57 56.3
comp=Z,187nm,1.1s
SDPT Sand Point 22.48 310 P 06 57 39.6
baz=106
TRF Thorofare Moun 22.49 336 IAMs_20 IAMs_20 07 04 30.0
comp=Z,18µm,19.0s
TRF Thorofare Moun 22.49 336 P 06 57 38.7
baz=139,SNR=66
K31A O'Neill 22.54 83 P **P** **06 57 41.4 +0.9**
K31A IAMs_20 IAMs_20 07 06 32.9
comp=Z,19µm,19.0s
IL31 22.64 341 P **P** **06 57 38.9 -2.4**
IL31 IAmb IAmb 06 57 49.1
comp=Z,144nm,1.5s
ILAR Eielson Array 22.64 341 P **P** **06 57 40.4 -1.0**
comp=Z,50nm,1.2s,baz=153,slow=8.3,SNR=77
ILAR LR LR 07 04 56.4
comp=Z,16µm,21.2s,baz=158,slow=33
PPLA Purkeypile 22.67 333 IAMs_20 IAMs_20 07 04 23.7
comp=Z,16µm,21.0s
PPLA Purkeypile 22.67 333 P 06 57 40.4
baz=135
WRH Wood River Hil 22.69 339 IAMs_20 IAMs_20 07 04 34.2
comp=Z,15µm,21.0s
SVW2 Sparrevohn 22.72 327 IAmb IAmb 06 57 49.1
comp=Z,232nm,1.4s
SVW2 IAMs_20 IAMs_20 07 04 41.0
comp=Z,14µm,18.0s
KTH Kantishna Hill 22.75 335 IAmb IAmb 06 58 04.4
comp=Z,310nm,1.5s
KTH IAMs_20 IAMs_20 07 04 38.0
comp=Z,16µm,19.0s
CCB Clear Creek Bu 22.76 340 IAmb IAmb 06 57 44.5
comp=Z,179nm,1.4s
CCB IAMs_20 IAMs_20 07 04 37.0
comp=Z,18µm,22.0s
BWN Browne 22.81 338 P **P** **06 57 41.2 -1.9**
BWN IAMs_20 IAMs_20 07 04 52.3
comp=Z,14µm,18.0s
MNTX Cornudas Mount 22.89 115 IAMs_20 IAMs_20 07 06 51.3
comp=Z,13µm,19.0s
MNTX Cornudas Mount 22.89 115 P 06 57 46.6
baz=311,SNR=58
COLA College 22.96 340*d i* P **P** **06 57 43.1 -1.5**
COLA pmax pmax
comp=Z,91nm,1.8s
COLA College 22.96 340 P **P** **06 57 43.2 -1.5**
COLA College 22.96 340 P 06 57 43.1
baz=145
TCOL CIGO, UAF Yank 22.96 340 P **P** **06 57 43.5 -1.1**
TCOL IAmb IAmb 06 57 56.6
comp=Z,109nm,1.4s
TCOL CIGO, UAF Yank 22.96 340 P 06 57 43.2
baz=145,SNR=8.7
PRP Porcupine Dome 22.98 343 IAmb IAmb 06 58 11.5
comp=Z,142nm,1.5s
PRP IAMs_20 IAMs_20 07 05 08.8
comp=Z,24µm,19.0s
PRP Porcupine Dome 22.98 343 P 06 57 44.1
baz=150,SNR=9.9
D32A Dogwood Acres, 22.99 71 P **P** **06 57 44.5 -0.6**
D32A IAmb IAmb 06 57 53.9
comp=Z,213nm,1.2s
D32A IAMs_20 IAMs_20 07 06 35.8
comp=Z,23µm,20.0s
CAST Castle Rocks 23.01 334 P 06 57 43.8
baz=136
NEA2 Nenana 23.04 339 P **P** **06 57 43.6 -1.9**
NEA2 IAmb IAmb 06 57 47.5
comp=Z,230nm,1.4s
NEA2 Nenana 23.04 339 P 06 57 44.0
baz=143,SNR=23
POKR Poker Plat Res 23.06 341 IAmb IAmb 06 58 01.1
comp=Z,102nm,1.2s
POKR IAMs_20 IAMs_20 07 04 59.0
comp=Z,18µm,21.0s
POKR Poker Plat Res 23.06 341 P 06 57 44.6
baz=146,SNR=9.0
CBKS Cedar Bluff 23.09 93 IAMs_20 IAMs_20 07 07 06.9
comp=Z,15µm,19.0s
CBKS Cedar Bluff 23.09 93 P 06 57 47.1
baz=294,SNR=18
MDM Murphy Dome 23.12 340 IAmb IAmb 06 57 48.5
comp=Z,215nm,1.8s
MDM IAMs_20 IAMs_20 07 04 48.6
comp=Z,15µm,22.0s
BPAW Bear Paw Mtn. 23.18 336 IAmb IAmb 06 58 19.5
comp=Z,134nm,1.5s
BPAW IAMs_20 IAMs_20 07 04 52.3
comp=Z,14µm,20.0s
BPAW Bear Paw Mtn. 23.18 336 P 06 57 44.8
baz=139,SNR=28
MSTX Muleshoe 23.27 107 IAmb IAmb 06 57 51.5
comp=Z,123nm,1.3s
MSTX Muleshoe 23.27 107 P 06 57 49.7
baz=305,SNR=19
BGNE Belgrade 23.32 86 IAMs_20 IAMs_20 07 07 00.5
comp=Z,24µm,18.0s
BGNE Belgrade 23.32 86 P 06 57 48.9
baz=288,SNR=6.5
CHUM Lake Minchumin 23.42 335 P 06 57 47.7
baz=136,SNR=19
I23K Minto, Yukon-K 23.56 339 P 06 57 49.8
baz=143,SNR=52
F33A 5 Mile Ranch, 23.63 74 P **P** **06 57 51.5 -0.1**
ULM Lac du Bonnet 23.65 63 P **P** **06 57 50.2 -1.4**
comp=Z,38nm,0.8s,baz=273,slow=10,SNR=46
ULM Lac du Bonnet 23.65 63*c i* P **P** **06 57 51.5 -0.2**
ULM Lac du Bonnet 23.65 63 P **P** **06 57 51.3 -0.4**
ULM IAmb IAmb 06 57 52.1
comp=Z,105nm,1.1s
ULM IAMs_20 IAMs_20 07 06 51.8
comp=Z,18µm,21.0s
AGMN Agassiz Nation 23.68 68 IAmb IAmb 06 57 53.9
comp=Z,160nm,1.1s
AGMN IAMs_20 IAMs_20 07 06 54.0
comp=Z,12µm,19.0s
AGMN Agassiz Nation 23.68 68 P 06 57 52.0
baz=273,SNR=87
H24K Noodor Dome 23.77 342 P 06 57 52.0
baz=146,SNR=56
ECSD EROS Data Cent 23.80 80 IAmb IAmb 06 58 14.9
comp=Z,169nm,1.2s
ECSD EROS Data Cent 23.80 80 P 06 57 53.3
baz=283,SNR=116
MLY Manley 23.83 338 IAmb IAmb 06 58 07.6
comp=Z,280nm,1.8s
MLY IAMs_20 IAMs_20 07 05 34.3
comp=Z,14µm,18.0s
MLY Manley 23.83 338 P 06 57 51.7
baz=140,SNR=38
FYU Fort Yukon 23.84 345 IAMs_20 IAMs_20 07 05 48.5
comp=Z,19µm,19.0s
FALS False Pass 24.00 308 P 06 57 54.8
baz=102
TTA Tatalina 24.00 330 P **P** **06 57 53.6 -1.5**
TTA pmax pmax
comp=Z,168nm,1.6s
TTA MLR MLR
comp=Z,12µm,21.0s
TTA Tatalina 24.00 330 P **P** **06 57 53.5 -1.5**
TTA IAmb IAmb 06 58 18.8
comp=Z,168nm,1.6s
TTA Tatalina 24.00 330 P 06 57 53.7
baz=129,SNR=34
N33A J Bar K, Exete 24.03 87 IAMs_20 IAMs_20 07 07 24.5
comp=Z,21µm,21.0s
H23K Yukon River 24.15 340 P 06 57 55.5
baz=144,SNR=64
INK Inuvik 24.16 357 P **P** **06 57 55.7 -0.6**
comp=Z,18nm,1.2s,baz=164,slow=10,SNR=19
INK LR LR 07 06 42.0
comp=Z,13µm,21.4s,baz=169,slow=35
INK Inuvik 24.16 357 P **P** **06 57 55.8 -0.6**
INK pmax pmax
comp=Z,32nm,1.0s
INK Inuvik 24.16 357 IAmb IAmb 06 57 58.4
comp=Z,106nm,1.6s
INK IAMs_20 IAMs_20 07 06 21.6
comp=Z,17µm,22.0s
INK Inuvik 24.16 357 P 06 57 55.1
baz=173,SNR=12
L34A Svendsen Farm, 24.42 84 IAMs_20 IAMs_20 07 07 41.6
comp=Z,21µm,19.0s
BMAR Burnt Mountain 24.50 346 P **P** **06 57 59.2 -0.3**
U32A Winter Ranch, 24.67 98 IAmb IAmb 06 58 20.6
comp=Z,62nm,1.1s
KAN10 Anthony SW Sta 24.98 96 P **P** **06 58 04.9 +0.8**
OK032 Salt Plains WL 25.04 96 IAMs_20 IAMs_20 07 08 12.8
comp=Z,12µm,22.0s
B35A Bob, Littlefor 25.10 68 IAMs_20 IAMs_20 07 07 36.5
comp=Z,13µm,21.0s
KAN01 Argonia South 25.20 95 P **P** **06 58 06.8 +0.6**
KAN01 IAmb IAmb 06 58 09.1
comp=Z,126nm,1.1s
AKUT Akutan 25.22 306 P **P** **06 58 05.1 -1.0**
KSU1 Kansas State U 25.22 90 P **P** **06 58 06.4 +0.1**
KSU1 IAmb IAmb 06 58 09.6
comp=Z,125nm,1.1s
KSU1 Kansas State U 25.22 90 IAMs_20 IAMs_20 07 08 24.2
comp=Z,15µm,18.0s
KSU1 Kansas State U 25.22 90 P 06 58 07.6
baz=293,SNR=36
C36M Paulatuk 25.30 5 P **P** **06 58 05.2 -1.5**
C36M IAMs_20 IAMs_20 07 07 39.7
comp=Z,23µm,20.0s
C36M Paulatuk 25.30 5 P 06 58 06.2
baz=190
KAN09 Caldwell North 25.31 95 IAmb IAmb 06 58 10.1
comp=Z,134nm,1.1s
CROK Carrier 25.34 97 P **P** **06 58 08.5 +1.1**
CROK IAMs_20 IAMs_20 07 08 34.8
comp=Z,17µm,21.0s
COLD Coldfoot 25.45 342 IAmb IAmb 06 58 23.5
comp=Z,91nm,1.3s
COLD IAMs_20 IAMs_20 07 06 24.9
comp=Z,17µm,21.0s
COLD Coldfoot 25.45 342 P 06 58 07.7
baz=144,SNR=30
KAN13 South Haven SW 25.47 95 IAmb IAmb 06 58 11.6
comp=Z,152nm,1.2s
F36A Milaca 25.54 74 P **P** **06 58 08.8 -0.3**
F36A IAmb IAmb 06 58 38.0
comp=Z,59nm,1.1s
F36A IAMs_20 IAMs_20 07 08 13.5
comp=Z,23µm,19.0s
TX31 Lajitas Ar. Si 25.56 117 P **P** **06 58 11.3 +1.7**
TX32 Lajitas Array 25.56 117 P **P** **06 58 11.0 +1.4**
TXAR Lajitas Array 25.56 117 P **P** **06 58 11.3 +1.8**
comp=Z,28nm,0.9s,baz=301,slow=7.2,SNR=161
TXAR LR LR 07 08 47.9
comp=Z,4µm,19.0s,baz=0.0,slow=38
WMOK Wichita Mounta 25.64 101 P **P** **06 58 11.4 +1.2**
WMOK pmax pmax
comp=Z,243nm,1.6s
WMOK Wichita Mounta 25.64 101 P 06 58 11.4
baz=302,SNR=151
LPIG La Paz 25.68 135 P **P** **06 58 13.4 +2.9**
comp=Z,63nm,1.1s,baz=107,slow=4.8,SNR=5.8
LPIG LR LR 07 07 00.8
comp=Z,8µm,19.6s,baz=322,slow=33
I37A Lemond, Waseca 26.00 78 P **P** **06 58 13.7 +0.4**
I37A IAmb IAmb 06 58 33.5
comp=Z,187nm,1.6s
I37A IAMs_20 IAMs_20 07 08 30.9
comp=Z,15µm,18.0s
BCOK Bluff Creek, N 26.01 98 IAMs_20 IAMs_20 07 08 44.6
comp=Z,21µm,21.0s
FCC Fort Churchill 26.14 44 P **P** **06 58 13.8 -0.6**
FCC pmax pmax
comp=Z,172nm,1.5s
FCC MLR MLR
comp=Z,11µm,19.0s
FCC Fort Churchill 26.14 44 P **P** **06 58 13.8 -0.6**
FCC IAmb IAmb 06 58 36.0
comp=Z,172nm,1.5s
FCC IAMs_20 IAMs_20 07 08 15.7
comp=Z,11µm,19.0s
SPMN Marine on St. 26.16 75 P **P** **06 58 15.5 +0.8**
SPMN IAmb IAmb 06 58 43.4
comp=Z,58nm,1.0s
SPMN IAMs_20 IAMs_20 07 08 34.8
comp=Z,19µm,20.0s
SPMN Marine on St. 26.16 75 P 06 58 15.4
baz=282,SNR=15
ABTX Abilene, Hawle 26.19 106 P **P** **06 58 16.3 +1.1**
ABTX IAmb IAmb 06 58 19.8
comp=Z,195nm,1.6s
ABTX Abilene, Hawle 26.19 106 P 06 58 16.4
baz=306,SNR=24
T35A Sooner Cattle 26.20 95 P **P** **06 58 16.0 +0.8**
T35A IAmb IAmb 06 58 33.3
comp=Z,102nm,1.1s
T35A IAMs_20 IAMs_20 07 08 57.5
comp=Z,11µm,18.0s
OK025 Westminster Rd 26.24 98 P **P** **06 58 16.2 +0.7**
OK025 IAmb IAmb 06 58 26.2
comp=Z,124nm,1.0s
OK025 IAMs_20 IAMs_20 07 08 51.7
comp=Z,11µm,21.0s
OKCFA Oklahoma City 26.24 99 P **P** **06 58 16.7 +1.1**
QUOK Quay 26.40 96 IAmb IAmb 06 58 19.4
comp=Z,120nm,1.3s
OK031 S. Brethren Rd 26.41 97 IAmb IAmb 06 58 19.4
comp=Z,158nm,1.4s
OK031 IAMs_20 IAMs_20 07 09 06.2
comp=Z,11µm,21.0s
OK030 Cody Creek RV 26.46 97 IAmb IAmb 06 58 19.9
comp=Z,179nm,1.4s
OK030 IAMs_20 IAMs_20 07 09 07.6
comp=Z,11µm,21.0s
TOLK Toolik Lake Re 26.48 344 P **P** **06 58 17.2 -0.3**
TOLK IAmb IAmb 06 58 37.0
comp=Z,129nm,1.6s
TOLK IAMs_20 IAMs_20 07 07 22.3
comp=Z,20µm,20.0s
TOLK Toolik Lake Re 26.48 344 P 06 58 17.4
baz=147,SNR=31
SCIA State Center 26.69 82 IAmb IAmb 06 58 22.7
comp=Z,158nm,1.2s
SCIA State Center 26.69 82 P 06 58 20.5
baz=288,SNR=6.4
E38A The Farm, Brul 26.77 71 IAmb IAmb 06 58 49.3
comp=Z,65nm,1.1s
E38A IAMs_20 IAMs_20 07 08 51.9
comp=Z,21µm,20.0s
K38A Parkersburg 26.79 80 P **P** **06 58 21.2 +0.7**
K38A IAmb IAmb 06 58 38.2
comp=Z,174nm,1.5s
NIKH Nikolski High 26.94 303 P 06 58 21.6
baz=93
N38A Joes South For 27.03 85 P **P** **06 58 23.1 +0.4**
N38A IAmb IAmb 06 58 25.1
comp=Z,191nm,1.6s
N38A IAMs_20 IAMs_20 07 09 05.7
comp=Z,18µm,21.0s
LOOK Love County 27.16 101 IAmb IAmb 06 58 28.7
comp=Z,121nm,1.0s
TUL1 Leonard 27.18 96 P 06 58 24.5
baz=299,SNR=12
P38A Dawn 27.23 87 IAmb IAmb 06 58 30.5
comp=Z,93nm,1.2s
JCT Junction City 27.37 110 IAmb IAmb 06 58 30.7
comp=Z,104nm,1.2s
JCT IAMs_20 IAMs_20 07 10 06.4
comp=Z,9µm,18.0s
JCT Junction City 27.37 110 P 06 58 26.7
baz=309,SNR=43
Z35A Perchaven, San 27.46 102 P **P** **06 58 26.0 -0.6**
Z35A IAmb IAmb 06 58 35.6
comp=Z,56nm,0.9s
U38A Gravette 27.94 94 P **P** **06 58 31.4 +0.5**
U38A IAmb IAmb 06 58 48.0
comp=Z,63nm,1.1s
G40A Rib Lake 27.95 74 IAmb IAmb 06 58 53.5
comp=Z,65nm,1.1s
I40A Norwalk 27.98 77 IAMs_20 IAMs_20 07 09 43.2
comp=Z,20µm,19.0s
WHTX Lake Whitney, 28.07 105 P **P** **06 58 32.4 +0.4**
WHTX IAmb IAmb 06 58 44.8
comp=Z,45nm,1.1s
WHTX Lake Whitney, 28.07 105 P 06 58 33.0
baz=306
X37A Clayton 28.13 98 IAmb IAmb 06 59 00.7
comp=Z,150nm,1.6s
X37A IAMs_20 IAMs_20 07 09 49.8
comp=Z,10µm,22.0s
S39A Bolivar 28.15 91 P **P** **06 58 33.1 +0.4**
S39A IAmb IAmb 06 58 55.0
comp=Z,66nm,1.1s
S39A IAMs_20 IAMs_20 07 10 13.8
comp=Z,13µm,18.0s
SPIA Saint Paul Isl 28.20 312 P 06 58 33.0
baz=99
P40A Paris 28.33 86 P **P** **06 58 33.9 -0.4**
HHAR Hobbs 28.33 94 IAmb IAmb 06 58 51.6
comp=Z,92nm,1.6s
ANM Nome 28.37 328 IAMs_20 IAMs_20 07 08 29.7
comp=Z,12µm,19.0s
ANM Nome 28.37 328 P 06 58 32.7
baz=118
JFWS Jewell Farm 28.50 79 IAmb IAmb 06 58 37.5
comp=Z,63nm,0.8s
JFWS Jewell Farm 28.50 79 P 06 58 35.2
baz=287,SNR=20
R40A Maddies Statio 28.66 89 IAMs_20 IAMs_20 07 10 20.1
comp=Z,19µm,20.0s
435B Jarrell 28.69 107 P 06 58 38.6
baz=308
D41A Chassel 28.72 70 P **P** **06 58 38.3 +0.6**
D41A IAmb IAmb 06 59 05.7
comp=Z,86nm,1.1s
D41A IAMs_20 IAMs_20 07 10 00.4
comp=Z,14µm,20.0s
N41A Harden Midland 28.76 83 P **P** **06 58 38.5 +0.4**
N41A IAMs_20 IAMs_20 07 10 26.4
comp=Z,14µm,18.0s
W39A Magazine 28.96 96 IAMs_20 IAMs_20 07 10 41.6
comp=Z,10µm,18.0s
W39A Magazine 28.96 96 P 06 58 40.0
baz=300,SNR=13
833A Chaparral WMA, 29.02 113 P 06 58 42.1
baz=312,SNR=5.3
U40A Yellville 29.08 93 IAmb IAmb 06 59 01.8
comp=Z,182nm,1.9s
U40A Yellville 29.08 93 P 06 58 41.5
baz=298,SNR=14
Z38A Mt. Pleasant 29.10 100 IAmb IAmb 06 59 01.4
comp=Z,81nm,1.1s
Z38A IAMs_20 IAMs_20 07 10 45.5
comp=Z,9µm,20.0s
MGMO Mountain Grove 29.14 91 IAMs_20 IAMs_20 07 10 45.0
comp=Z,12µm,18.0s
I42A Draeger Farm, 29.17 76 P **P** **06 58 41.4 -0.3**
I42A IAmb IAmb 06 58 46.9
comp=Z,75nm,1.0s
I42A IAMs_20 IAMs_20 07 10 19.6
comp=Z,19µm,21.0s
L42A Oliver, Polo 29.18 80 IAMs_20 IAMs_20 07 10 46.3
comp=Z,8µm,18.0s
237A Washetta, Mont 29.21 103 IAMs_20 IAMs_20 07 11 06.7
comp=Z,9µm,19.0s
F42A Maple Grove Fa 29.26 72 IAmb IAmb 06 58 59.5
comp=Z,48nm,1.1s
MIAR Mount Ida 29.43 97 P **P** **06 58 45.0 +0.9**
MIAR pmax pmax
comp=Z,141nm,1.8s
MIAR MLR MLR
comp=Z,12µm,19.0s
MIAR Mount Ida 29.43 97 P **P** **06 58 45.0 +0.9**
MIAR IAmb IAmb 06 59 10.3
comp=Z,141nm,1.8s
MIAR IAMs_20 IAMs_20 07 11 20.1
comp=Z,12µm,19.0s
MIAR Mount Ida 29.43 97 P 06 58 45.3
baz=301,SNR=13
RDOG Red Dog Mine 29.43 335 IAMs_20 IAMs_20 07 09 11.5
comp=Z,11µm,18.0s
RDOG Red Dog Mine 29.43 335 P 06 58 43.0
baz=127
735A Kenedy 29.73 110 IAmb IAmb 06 58 52.4
comp=Z,64nm,1.0s
735A IAMs_20 IAMs_20 07 11 39.1
comp=Z,11µm,19.0s
TNA Tin City 29.79 329 IAMs_20 IAMs_20 07 09 24.3
comp=Z,12µm,19.0s
TNA Tin City 29.79 329 P 06 58 46.3
baz=117
H43A Windswept, Lux 29.81 75 IAmb IAmb 06 58 48.9
comp=Z,39nm,0.8s
FCAR Ozark Folk Cen 29.82 93 IAmb IAmb 06 58 49.6
comp=Z,79nm,1.9s
FCAR IAMs_20 IAMs_20 07 10 46.1
comp=Z,9µm,22.0s
K43A Burlington 29.91 78 P **P** **06 58 49.3 +1.1**
K43A IAMs_20 IAMs_20 07 10 53.4
comp=Z,11µm,19.0s
HDIL Hopedale 29.93 83 P **P** **06 58 48.6 +0.1**
HDIL IAMs_20 IAMs_20 07 11 12.2
comp=Z,11µm,19.0s
HDIL Hopedale 29.93 83 P 06 58 49.3
baz=291,SNR=21
SLM Saint Louis 29.98 87 P **P** **06 58 49.3 +0.4**
SLM pmax pmax
comp=Z,29nm,0.8s
SLM MLR MLR
comp=Z,23µm,20.0s
SLM Saint Louis 29.98 87 P **P** **06 58 49.3 +0.4**
WHAR Wooly Hollow 29.98 94 IAmb IAmb 06 58 51.2
comp=Z,90nm,1.4s
X40A Basin Creek Fa 29.99 96 IAMs_20 IAMs_20 07 11 44.8
comp=Z,12µm,18.0s
X40A Basin Creek Fa 29.99 96 P 06 58 49.3
baz=301
T42A Van Buren 30.04 90 IAmb IAmb 06 59 10.9
comp=Z,105nm,1.8s
T42A IAMs_20 IAMs_20 07 11 13.7
comp=Z,12µm,18.0s
W41B Gary Mavity, V 30.07 95 P 06 58 50.4
baz=300,SNR=15
A21K Barrow 30.09 343 IAMs_20 IAMs_20 07 10 17.6
comp=Z,14µm,20.0s
A21K Barrow 30.09 343 P 06 58 48.8
baz=140
P43A Skaggs, Pawnee 30.10 85 IAMs_20 IAMs_20 07 10 59.9
comp=Z,15µm,20.0s
FVM French Village 30.11 88 IAmb IAmb 06 58 51.7
comp=Z,128nm,1.9s
NATX Nacogdoches 30.15 102 IAmb IAmb 06 59 12.8

comp=Z,38nm,0.9s
NATX Nacogdoches 30.15 102 P 06 58 52.0
baz=305
ATKA Atka Island 30.19 301 P **P** **06 58 49.3 -1.3**
WLAR White Oak Lake 30.20 98 IAMs_20 IAMs_20 07 11 56.5
comp=Z,10µm,19.0s
L44A Lake County Fo 30.37 79 P 06 58 52.9
baz=289
HKT Hockley 30.40 107*c i* P **P** **06 58 54.6 +2.0**
HKT pmax pmax
comp=Z,96nm,1.5s
HKT Hockley 30.40 107 P **P** **06 58 51.3 -1.3**
HKT IAmb IAmb 06 58 59.5
comp=Z,108nm,1.4s
LCAR Lake Charles 30.43 92 P **P** **06 58 52.8 -0.1**
LCAR IAmb IAmb 06 58 55.1
comp=Z,81nm,1.4s
GAMB Gambell 30.58 324 IAMs_20 IAMs_20 07 09 37.4
comp=Z,10µm,18.0s
GAMB Gambell 30.58 324 P 06 58 54.0
baz=109
PBMO Poplar Bluff 30.63 90 IAmb IAmb 06 58 56.2
comp=Z,92nm,1.6s
PBMO IAMs_20 IAMs_20 07 11 32.3
comp=Z,11µm,19.0s
Z41A Richland Creek 30.64 98 P 06 58 56.0
baz=302
O44A Mansfield 30.66 83 P **P** **06 58 55.1 +0.1**
O44A IAMs_20 IAMs_20 07 11 34.7
comp=Z,12µm,18.0s
Q44A Meyer Farm, Va 30.75 86 P **P** **06 58 55.0 -0.6**
Q44A IAmb IAmb 06 59 14.5
comp=Z,41nm,1.1s
ZAIG Zacatecas 31.00 125 P **P** **06 59 00.4 +1.9**
HBAR Harrisburg 31.03 93 P **P** **06 58 59.0 +0.9**
CCAR Cane Creek 31.04 96 IAMs_20 IAMs_20 07 12 08.6
comp=Z,10µm,18.0s
G45A Suttons Bay 31.13 73 IAmb IAmb 06 59 03.2
comp=Z,58nm,1.1s
PARMO Parma 31.16 90 IAMs_20 IAMs_20 07 11 57.5
comp=Z,15µm,18.0s
GNAR Gosnell 31.29 92 IAMs_20 IAMs_20 07 12 02.0
comp=Z,8µm,18.0s
PEBM Pemiscott Bayo 31.34 91 IAMs_20 IAMs_20 07 12 02.9
comp=Z,9µm,18.0s
HENM Henderson Moun 31.34 90 IAMs_20 IAMs_20 07 12 02.2
comp=Z,14µm,18.0s
PENMO Penman 31.35 90 IAMs_20 IAMs_20 07 12 03.5
comp=Z,13µm,18.0s
SFIN Lafayette 31.56 82 P **P** **06 59 03.5 +0.7**
SFIN Lafayette 31.56 82 P 06 59 03.5
baz=292,SNR=11
L46A Eue Claire 31.56 79 IAMs_20 IAMs_20 07 11 53.1
comp=Z,10µm,19.0s
HICK Hickman 31.60 90 IAMs_20 IAMs_20 07 12 10.9
comp=Z,13µm,18.0s
LNXT Lenox 31.61 91 IAMs_20 IAMs_20 07 12 12.3
comp=Z,10µm,18.0s
GLAT Glass 31.68 90 IAMs_20 IAMs_20 07 12 14.1
comp=Z,13µm,18.0s
E46A Sault Ste Mari 31.73 70 IAMs_20 IAMs_20 07 11 46.0
comp=Z,13µm,21.0s
ADK Adak 31.75 301 P **P** **06 59 03.5 -0.9**
ADK pmax pmax
comp=Z,163nm,1.5s
ADK MLR MLR
comp=Z,4µm,21.0s
ADK Adak 31.75 301 P **P** **06 59 03.5 -0.9**
441A DeRidder 31.76 103 IAmb IAmb 06 59 10.8
comp=Z,78nm,1.3s
P46A Rosedale 31.76 83 IAmb IAmb 06 59 08.8
comp=Z,44nm,1.1s
P46A IAMs_20 IAMs_20 07 12 09.8
comp=Z,10µm,19.0s
HALT Halls 31.80 91 IAMs_20 IAMs_20 07 12 26.5
comp=Z,11µm,18.0s
GLMI Grayling 31.90 73 P 06 59 05.9
baz=286,SNR=7.0
143A Socs Landing, 31.93 98 IAmb IAmb 06 59 10.3
comp=Z,74nm,1.4s
143A IAMs_20 IAMs_20 07 13 10.5
comp=Z,10µm,18.0s
342A Flagon Creek P 32.01 101 IAmb IAmb 06 59 25.3
comp=Z,54nm,1.1s
342A IAMs_20 IAMs_20 07 11 50.7
comp=Z,10µm,22.0s
USIN University of 32.10 87 P **P** **06 59 07.9 +0.3**
HLK Haleakala 32.11 232 IAMs_20 IAMs_20 07 07 20.0
comp=Z,14µm,21.0s
J47A Sunmer 32.20 76 P **P** **06 59 09.3 +0.9**
W45A Hickory Valley 32.27 92 IAMs_20 IAMs_20 07 12 12.0
comp=Z,8µm,22.0s
N47A Urbana 32.37 80 P **P** **06 59 10.2 +0.2**
N47A IAmb IAmb 06 59 12.6
comp=Z,58nm,1.2s
HPAH Hawaii Prepara 32.38 230 IAMs_20 IAMs_20 07 08 59.4
comp=Z,9µm,19.0s
BLO Bloomington 32.42 84 IAmb IAmb 06 59 29.6
comp=Z,69nm,1.1s
BLO IAMs_20 IAMs_20 07 12 31.4
comp=Z,11µm,19.0s
OXF Oxford 32.43 93 P 06 59 11.5
baz=300
POHA Pohakuloa 32.51 230 IAMs_20 IAMs_20 07 09 40.9
comp=Z,7µm,19.0s
NPOC North of Pu'u 32.58 229 IAMs_20 IAMs_20 07 09 15.7
comp=Z,14µm,19.0s
JCUZ Jacuzzi 32.58 228 IAMs_20 IAMs_20 07 09 15.8
comp=Z,14µm,19.0s
KIP Kipapa 32.60 235 IAMs_20 IAMs_20 07 07 45.0
comp=Z,15µm,20.0s
HMH Humu'ula Sheep 32.61 229 IAMs_20 IAMs_20 07 08 26.5
comp=Z,9µm,22.0s
HATHI Halema'uma'u T 32.64 229 IAMs_20 IAMs_20 07 09 16.2
comp=Z,12µm,21.0s
SBLHI Steaming Bluff 32.64 229 IAMs_20 IAMs_20 07 07 51.2
comp=Z,13µm,22.0s
BYL Byron's Ledge 32.65 229 IAMs_20 IAMs_20 07 09 32.4
comp=Z,11µm,20.0s
MLH Mauna Loa 32.65 229 IAMs_20 IAMs_20 07 09 17.5
comp=Z,13µm,18.0s
OBL Observatory Le 32.66 229 IAMs_20 IAMs_20 07 08 28.7
comp=Z,11µm,18.0s
Y45A Yeager Farm, C 32.66 95 IAMs_20 IAMs_20 07 11 57.3
comp=Z,8µm,20.0s
UWE Uwekahuna 32.66 229 IAMs_20 IAMs_20 07 07 50.7
comp=Z,14µm,22.0s
NPH North Pit 32.66 229 IAMs_20 IAMs_20 07 07 50.7
comp=Z,13µm,22.0s
KKO Keanakako`i 32.66 229 IAMs_20 IAMs_20 07 09 17.8
comp=Z,10µm,18.0s
RIM Rim 32.67 229 IAMs_20 IAMs_20 07 07 51.0
comp=Z,14µm,22.0s
HON Honolulu 32.67 235 IAMs_20 IAMs_20 07 09 04.9
comp=Z,9µm,22.0s
WRMHI West Rim 32.67 229 IAMs_20 IAMs_20 07 07 51.1
comp=Z,15µm,22.0s
SDHHI Sand Hill 32.68 229 IAMs_20 IAMs_20 07 08 05.4
comp=Z,10µm,18.0s
MLOA Mauna Loa Obse 32.72 229 IAMs_20 IAMs_20 07 07 37.3
comp=Z,13µm,21.0s
HUH Hualalai 32.74 230 IAMs_20 IAMs_20 07 11 05.8
comp=Z,11µm,18.0s
HLP Hilina Pali 32.77 229 IAMs_20 IAMs_20 07 08 41.6
comp=Z,10µm,22.0s
MWH Moku'aweowe 32.77 229 IAMs_20 IAMs_20 07 08 18.7
comp=Z,10µm,18.0s
AIN Ainahou 32.79 229 IAMs_20 IAMs_20 07 07 54.1
comp=Z,11µm,18.0s
WVT Waverly 32.79 90 P **P** **06 59 13.2 -0.5**
WVT pmax pmax
comp=Z,55nm,1.7s
WVT MLR MLR
comp=Z,14µm,19.0s
WVT Waverly 32.79 90 P **P** **06 59 13.2 -0.5**
WVT IAmb IAmb 06 59 16.5
comp=Z,55nm,1.6s
WVT Waverly 32.79 90 IAMs_20 IAMs_20 07 12 47.5
comp=Z,14µm,19.0s
WVT Waverly 32.79 90 P 06 59 13.7
baz=298
VBMS Vicksburg 32.83 98 IAMs_20 IAMs_20 07 13 38.1
comp=Z,9µm,19.0s
VBMS Vicksburg 32.83 98 P 06 59 15.2
baz=303
KHLU Kahalu`u 32.84 230 IAMs_20 IAMs_20 07 09 23.6
comp=Z,12µm,19.0s
L48A N Adams 32.89 78 IAmb IAmb 06 59 17.6
comp=Z,87nm,1.2s
L48A IAMs_20 IAMs_20 07 12 43.3
comp=Z,13µm,18.0s
WCI Wyandotte Cave 32.97 85 P **P** **06 59 14.3 -1.0**
WCI pmax pmax
comp=Z,14nm,0.9s
WCI MLR MLR
comp=Z,15µm,19.0s
WCI Wyandotte Cave 32.97 85 P **P** **06 59 14.2 -1.0**
WCI Wyandotte Cave 32.97 85 IAMs_20 IAMs_20 07 12 49.9
comp=Z,15µm,19.0s
WCI Wyandotte Cave 32.97 85 P 06 59 15.4
baz=295
KHU Kahuku 32.97 229 IAMs_20 IAMs_20 07 08 16.1
comp=Z,12µm,21.0s
P48A Milroy 33.09 83 IAmb IAmb 06 59 32.8
comp=Z,81nm,1.4s
344A Westbrook Farm 33.09 99 IAmb IAmb 06 59 20.1
comp=Z,98nm,1.4s
344A IAMs_20 IAMs_20 07 14 00.3
comp=Z,10µm,19.0s
PLAL Pickwick Lake 33.15 92 IAmb IAmb 06 59 19.8
comp=Z,76nm,1.4s
PLAL IAMs_20 IAMs_20 07 13 09.3
comp=Z,8µm,18.0s
AAM Ann Arbor 33.32 77 IAmb IAmb 06 59 21.6
comp=Z,87nm,1.5s
AAM Ann Arbor 33.32 77 P 06 59 18.5
baz=290
N49A Columbus Grove 33.42 80 P **P** **06 59 19.2 0.0**
N49A IAmb IAmb 06 59 20.2
comp=Z,47nm,1.0s
N49A IAMs_20 IAMs_20 07 13 26.5
comp=Z,7µm,20.0s
P49A Miami Univ. Ec 33.57 82 IAmb IAmb 06 59 39.1
comp=Z,65nm,1.4s
P49A Miami Univ. Ec 33.57 82 P 06 59 20.4
baz=293,SNR=9.9
O49A Covington 33.59 81 IAmb IAmb 06 59 36.4
comp=Z,104nm,1.8s
146A Union 33.64 96 IAmb IAmb 06 59 25.0
comp=Z,114nm,1.8s
V48A Smith Brothers 33.69 90 P **P** **06 59 21.8 +0.2**
V48A IAMs_20 IAMs_20 07 13 15.4
comp=Z,13µm,21.0s
R49A Shelbyville 33.75 84 IAMs_20 IAMs_20 07 13 14.4
comp=Z,11µm,20.0s
K50A Casco 33.88 76 IAmb IAmb 06 59 27.9
comp=Z,55nm,0.9s
CLTN Cedars of Leba 33.88 89 IAMs_20 IAMs_20 07 13 20.3
comp=Z,16µm,21.0s
346A Big Creek Wild 34.03 98 IAmb IAmb 06 59 30.0
comp=Z,71nm,1.1s
346A IAMs_20 IAMs_20 07 14 28.0
comp=Z,10µm,18.0s
Z47A Carrollton 34.05 94 P **P** **06 59 25.4 +0.7**
Z47A IAMs_20 IAMs_20 07 12 51.3
comp=Z,8µm,19.0s
M50A Fremont 34.05 78 IAMs_20 IAMs_20 07 13 20.1
comp=Z,7µm,22.0s
545A Edgard 34.07 101 IAMs_20 IAMs_20 07 15 35.2
comp=Z,10µm,22.0s
U49A Red Boiling Sp 34.09 88 P **P** **06 59 25.5 +0.5**
X48A Hartselle 34.15 92 P **P** **06 59 25.6 0.0**
X48A IAmb IAmb 06 59 27.2
comp=Z,123nm,1.9s
RES Resolute Bay 34.18 16 P **P** **06 59 25.5 +0.2**
comp=Z,7.1nm,0.7s,baz=232,slow=11,SNR=14
RES Resolute Bay 34.18 16 P **P** **06 59 26.2 +0.9**
RES pmax pmax
comp=Z,34nm,1.0s
RES Resolute Bay 34.18 16 IAmb IAmb 06 59 40.3
comp=Z,35nm,1.1s
R50A Paris 34.35 84 IAMs_20 IAMs_20 07 13 41.5
comp=Z,9µm,18.0s
ACSO Alum Creek Sta 34.53 80 IAmb IAmb 06 59 44.8
comp=Z,135nm,1.8s
ACSO IAMs_20 IAMs_20 07 13 37.8
comp=Z,9µm,20.0s
ACSO Alum Creek Sta 34.53 80 P 06 59 28.8
baz=293,SNR=8.0
T50A Nancy 34.53 86 P **P** **06 59 28.9 0.0**
SWET Sewanee 34.58 90 P **P** **06 59 29.6 +0.2**
SWET IAmb IAmb 06 59 32.2
comp=Z,70nm,1.6s
SWET IAMs_20 IAMs_20 07 13 52.9
comp=Z,12µm,18.0s
N51A Ashland 34.70 79 IAmb IAmb 06 59 45.4
comp=Z,64nm,1.1s
N51A IAMs_20 IAMs_20 07 14 06.3
comp=Z,10µm,21.0s
Q51A Peebles 34.75 82 P **P** **06 59 31.1 +0.4**
Q51A IAmb IAmb 06 59 32.8
comp=Z,79nm,1.5s
P51A Williamsport 34.77 81 P **P** **06 59 31.1 +0.2**
P51A IAmb IAmb 06 59 48.1
comp=Z,48nm,1.0s
FPAL Fort Paine 35.14 91 P **P** **06 59 34.4 +0.2**
FPAL IAmb IAmb 06 59 38.7
comp=Z,39nm,0.9s
FPAL IAMs_20 IAMs_20 07 14 11.8
comp=Z,11µm,18.0s
S51A Beattyville 35.15 85 IAMs_20 IAMs_20 07 14 07.7
comp=Z,12µm,19.0s
P52A Corning 35.36 81 IAMs_20 IAMs_20 07 14 13.0
comp=Z,7µm,18.0s
P52A Corning 35.37 81 P 06 59 35.2
baz=294
MATQ Matagami 35.38 62 P 06 59 34.1
baz=282
O52A Adamsville 35.38 80 IAMs_20 IAMs_20 07 14 37.4
comp=Z,9µm,18.0s
V51A Loudon 35.44 88 P **P** **06 59 36.5 -0.2**
SADO Sadowa 35.65 71 IAmb IAmb 06 59 42.4
comp=Z,41nm,1.0s
X51A Calhoun 35.67 90 IAmb IAmb 06 59 51.7
comp=Z,55nm,0.9s
X51A IAMs_20 IAMs_20 07 14 27.7
comp=Z,12µm,19.0s
TZTN Tazewell 35.67 86 P **P** **06 59 38.9 +0.2**
TZTN IAmb IAmb 06 59 40.6
comp=Z,89nm,1.7s
TZTN Tazewell 35.67 86 P 06 59 38.9
baz=298,SNR=8.9
M53A Wi Miller and 35.70 77 P 06 59 39.1
baz=292
O53A New Philadelph 35.77 79 P **P** **06 59 40.0 +0.5**
O53A IAmb IAmb 06 59 54.9
comp=Z,45nm,1.1s
O53A IAMs_20 IAMs_20 07 14 49.7
comp=Z,7µm,19.0s
O53A New Philadelph 35.77 79 P 06 59 39.7
baz=293,SNR=6.2
N53A Lisbon 35.82 78 IAmb IAmb 06 59 56.0
comp=Z,101nm,1.3s
N53A IAMs_20 IAMs_20 07 14 25.9
comp=Z,10µm,19.0s
VLDQ Val d'Or 35.87 65 IAmb IAmb 06 59 47.4
comp=Z,64nm,1.5s
VLDQ IAMs_20 IAMs_20 07 13 55.4
comp=Z,6µm,18.0s
BRAL Brewton 35.87 97 IAMs_20 IAMs_20 07 15 03.6
comp=Z,7µm,19.0s
BRAL Brewton 35.87 97 P 06 59 41.5
baz=304
ERPA Erie 35.94 76 P 06 59 40.9
baz=291
P53A Whipple 35.95 80 P **P** **06 59 40.0 -1.0**
P53A IAMs_20 IAMs_20 07 14 31.4
comp=Z,8µm,19.0s
LSQQ Lebel-sur-Quev 35.95 63 P 06 59 40.3
baz=283
V52A Sevierville 35.96 87 P **P** **06 59 41.0 -0.2**
ALLY Alegheny Colle 36.00 76 P **P** **06 59 41.7 +0.3**
R53A Hurricane 36.03 83 IAMs_20 IAMs_20 07 14 52.7
comp=Z,7µm,19.0s
ALGO Algonquin Park 36.04 69 P 06 59 41.5
baz=287,SNR=7.1
Z51A Franklin 36.07 92 IAmb IAmb 06 59 55.1
comp=Z,52nm,1.2s
Z51A IAMs_20 IAMs_20 07 13 51.5
comp=Z,8µm,22.0s
H53A Bobcaygeon 36.09 71 P 06 59 41.5
baz=286
G54A Lake Saint Pet 36.17 70 P 06 59 42.8
baz=288,SNR=9.1
N54A Moraine State 36.36 77 P **P** **06 59 44.9 +0.3**
N54A IAmb IAmb 07 00 00.8
comp=Z,74nm,1.2s
N54A IAMs_20 IAMs_20 07 14 42.1
comp=Z,12µm,21.0s
N54A Moraine State 36.36 77 P 06 59 44.4
baz=293,SNR=11
M54A Oil Creek Stat 36.38 76 IAmb IAmb 06 59 45.8
comp=Z,50nm,1.1s
M54A Oil Creek Stat 36.38 76 P 06 59 44.9
baz=292,SNR=8.3
O54A Avella 36.39 79 P **P** **06 59 45.0 +0.2**
O54A IAmb IAmb 07 00 00.8
comp=Z,83nm,1.4s
O54A IAMs_20 IAMs_20 07 14 43.9
comp=Z,8µm,19.0s
Q54A Coxs Mills 36.55 81 IAmb IAmb 06 59 50.7
comp=Z,49nm,0.9s
Y52A Lilburn 36.59 91 IAmb IAmb 06 59 51.0
comp=Z,44nm,1.1s
V53A Saluda 36.60 87 P **P** **06 59 47.2 +0.4**
MEDO Medina 36.63 73 IAmb IAmb 06 59 50.5
comp=Z,44nm,1.0s
S54A Dingess, Beckl 36.71 83 P **P** **06 59 47.3 -0.3**
152A Waverly Hall 36.73 93 P **P** **06 59 47.7 -0.1**
WVNY West Valley, N 36.80 75 P **P** **06 59 47.0 -1.3**
WVNY IAmb IAmb 06 59 58.5
comp=Z,134nm,1.9s
U54A Nelsons Funny 36.92 85 IAMs_20 IAMs_20 07 15 05.5
comp=Z,13µm,20.0s
MCWV Mont Chateau 36.97 79 IAMs_20 IAMs_20 07 15 04.4
comp=Z,8µm,20.0s
MCWV Mont Chateau 36.97 79 P 06 59 50.0
baz=294
M55A Ridgway 37.03 76 IAmb IAmb 07 00 05.7
comp=Z,113nm,1.2s
J55A Hilton 37.04 73 IAMs_20 IAMs_20 07 15 07.7
comp=Z,12µm,19.0s
352A Blakely 37.22 95 IAmb IAmb 07 00 04.3
comp=Z,52nm,1.1s
352A IAMs_20 IAMs_20 07 14 40.1
comp=Z,7µm,21.0s
E55A Montcerf-Lytto 37.22 67 P 06 59 51.1
baz=287
GOGA Godfrey 37.25 91 P **P** **06 59 52.4 +0.3**
GOGA pmax pmax
comp=Z,33nm,1.1s
GOGA Godfrey 37.25 91 IAMs_20 IAMs_20 07 15 26.6
comp=Z,10µm,19.0s
GOGA Godfrey 37.25 91 P 06 59 52.4
baz=301,SNR=12
R55A Marlinton 37.35 82 IAmb IAmb 06 59 58.1
comp=Z,48nm,1.0s
CHGQ Chibougamau 37.42 61 P 06 59 52.6
baz=283
D55A Sainte-Anne-du 37.45 66 P 06 59 53.2
baz=287,SNR=7.9
K56A Middlesex 37.58 74 P 06 59 54.7
baz=291
BLA Blacksburg 37.61 83 IAmb IAmb 06 59 59.8
comp=Z,45nm,1.1s
BLA IAMs_20 IAMs_20 07 15 43.5
comp=Z,6µm,18.0s
BLA Blacksburg 37.61 83 P 06 59 55.7
baz=297,SNR=15
L56A Greenwood 37.62 74 P 06 59 54.5
baz=292
O56A Blue Knob Stat 37.63 78 IAmb IAmb 07 00 16.4
comp=Z,113nm,1.8s
O56A IAMs_20 IAMs_20 07 15 31.7
comp=Z,11µm,18.0s
O56A Blue Knob Stat 37.63 78 P 06 59 55.2
baz=294,SNR=7.3
J56A Wolcott 37.69 72 P 06 59 55.5
baz=291
E56A St. Veronique 37.87 67 P 06 59 56.5
baz=287
D56A ZEC Mazanza, M 37.91 66 P 06 59 57.2
baz=287,SNR=8.3
154A Montrose 37.92 92 IAmb IAmb 07 00 10.0
comp=Z,66nm,1.4s
154A IAMs_20 IAMs_20 07 15 49.4
comp=Z,7µm,21.0s
KMSC Kings Mountain 37.92 87 P 06 59 57.8
baz=299,SNR=14
SSPA Standing Stone 37.96 77 P **P** **06 59 58.2 0.0**
SSPA IAmb IAmb 06 59 59.8
comp=Z,157nm,1.9s
SSPA Standing Stone 37.96 77 P 06 59 57.7
baz=294
U56A King 38.03 85 IAMs_20 IAMs_20 07 15 49.8
comp=Z,9µm,19.0s
TIGA Tifton 38.20 94 P 07 00 00.3
baz=303
J57A Williamstown 38.23 72 IAMs_20 IAMs_20 07 15 43.3
comp=Z,11µm,19.0s
J57A Williamstown 38.24 72 P 07 00 00.0
baz=291
I57A Carthage 38.28 71 P 06 59 59.9
baz=290
553A Crawfordville 38.29 96 P **P** **07 00 01.0 0.0**
553A IAmb IAmb 07 00 03.6
comp=Z,180nm,1.6s
H57A Richville 38.29 70 P 07 00 00.5
baz=290
F57A Harrington 38.32 68 P 07 00 00.7
baz=288
P57A Homestead Farm 38.34 79 IAmb IAmb 07 00 17.9
comp=Z,86nm,1.5s
G57A Newington 38.35 69 P 07 00 01.0
baz=289
JSC Jenkinsville 38.39 88 P **P** **07 00 01.2 -0.6**
JSC pmax pmax
comp=Z,20nm,1.2s
JSC MLR MLR
comp=Z,10µm,20.0s
JSC Jenkinsville 38.39 88 P **P** **07 00 01.2 -0.6**
JSC IAMs_20 IAMs_20 07 16 00.7
comp=Z,9µm,20.0s
T57A Hurt 38.53 83 P **P** **07 00 02.2 -0.8**
T57A IAMs_20 IAMs_20 07 16 31.1
comp=Z,10µm,18.0s
BINY Binghamton 38.68 74 P 07 00 03.7
baz=292
K58A Earlville 38.71 73 P 07 00 04.1
baz=292
255A Hazlehurst 38.73 92 IAMs_20 IAMs_20 07 16 25.1
comp=Z,7µm,19.0s
J58A Remsen 38.74 72 P 07 00 04.2
baz=291
LONY Lake Ozonia 38.78 69 P **P** **07 00 04.1 -0.9**
LONY Lake Ozonia 38.78 69 P 07 00 04.5
baz=290
L58A Harry Jones Me 38.83 74 P 07 00 04.6
baz=292
I58A Old Forge 38.83 71 P 07 00 04.4
baz=291
W57A Gilead 38.87 86 P **P** **07 00 05.2 -0.6**
F58A St-Lin Laurent 38.89 67 P 07 00 04.9
baz=289
PAGS Pennsylvania G 38.94 77 IAMs_20 IAMs_20 07 16 12.2
comp=Z,9µm,21.0s
G58A Ormstown 38.96 68 P 07 00 05.4
baz=290
R58B Mineral 39.08 81 P **P** **07 00 08.1 +0.5**
R58B IAMs_20 IAMs_20 07 15 59.4
comp=Z,6µm,20.0s
E58A La Victoria 39.08 66 P 07 00 07.0
baz=288,SNR=5.5
LATQ La Tuque 39.10 65 P **P** **07 00 06.9 -0.7**
LATQ La Tuque 39.10 65 P 07 00 06.7
baz=287
EUNU Eureka 39.11 11 IAmb IAmb 07 00 26.2
comp=Z,112nm,2.0s
D58A Chemin du LacG 39.12 65 P 07 00 07.3
baz=288,SNR=5.9
H58A Gabriels 39.12 70 P 07 00 07.7
baz=290,SNR=10
Y57A Sumter 39.15 88 P **P** **07 00 07.8 -0.3**
SDMD Soldier's Deli 39.19 78 P **P** **07 00 08.1 -0.3**
SDMD IAMs_20 IAMs_20 07 16 55.1
comp=Z,6µm,19.0s
V58A Windy Hill, Pi 39.19 85 IAMs_20 IAMs_20 07 16 25.7
comp=Z,8µm,22.0s
J59A Piesco 39.23 71 P 07 00 08.6
baz=291,SNR=5.5
K59A Cooperstown 39.25 72 P 07 00 08.8
baz=292,SNR=12

MVL	Millersville	39.29	77	IAMs_20	IAMs_20	07 16 23.6													
	comp=Z,9μm,21.0s																		
N59A	State Game Lan	39.32	75	P	P	07 00 09.5	-0.1												
N59A				IAmb	IAmb	07 00 24.7													
	comp=Z,86nm,1.4s																		
N59A	State Game Lan	39.32	75	P		07 00 09.5													
	baz=294																		
CBN	Corbin Frederi	39.33	80	IAMs_20	IAMs_20	07 16 37.0													
	comp=Z,7μm,18.0s																		
CBN	Corbin Frederi	39.33	80	P		07 00 10.1													
	baz=296																		
L59A	Walton	39.33	73	P		07 00 09.2													
	baz=292																		
H59A	Cadyville	39.37	69	P		07 00 09.4													
	baz=290																		
FRNY	Flat Rock	39.37	69	P	P	07 00 09.6	-0.3												
FRNY				IAMs_20	IAMs_20	07 16 16.2													
	comp=Z,9μm,18.0s																		
I59A	Olmsteadville	39.54	70	P		07 00 11.0													
	baz=291																		
E59A	St. Maurice	39.55	66	P		07 00 10.6													
	baz=289																		
F59A	Saint Guilaume	39.57	67	P		07 00 11.0													
	baz=289																		
LUPA	Lehigh Univers	39.73	76	P	P	07 00 13.0	0.0												
LUPA				IAmb	IAmb	07 00 28.2													
	comp=Z,74nm,1.2s																		
257A	Skidaway Islan	39.75	91	IAMs_20	IAMs_20	07 16 54.9													
	comp=Z,7μm,20.0s																		
NHSC	New Hope	39.76	89	IAmb	IAmb	07 00 25.6													
	comp=Z,61nm,1.1s																		
NHSC	New Hope	39.77	89	P		07 00 13.1													
	baz=302																		
D59A	Saint-Raymond	39.83	65	P		07 00 12.4													
	baz=288																		
WUPA	West Chester U	39.84	77	IAMs_20	IAMs_20	07 16 40.1													
	comp=Z,6μm,21.0s																		
P60A	Greenville	39.87	77	P		07 00 13.9													
	baz=295																		
U59A	Littleton	39.88	83	P	P	07 00 13.9	-0.3												
U59A				IAMs_20	IAMs_20	07 17 12.6													
	comp=Z,7μm,21.0s																		
I60A	Shoreham	39.92	70	P		07 00 14.4													
	baz=291																		
K60A	Five Rivers En	39.96	72	P		07 00 14.6													
	baz=292																		
CMIG	Matias Romero	39.97	122	P	P	07 00 15.8	+0.7												
	comp=Z,45nm,1.1s,baz=312,slow=7.9,SNR=20																		
J60A	Lant Hill Farm	40.05	71	P		07 00 15.6													
	baz=292,SNR=10																		
H60A	Morristown	40.06	69	P		07 00 15.6													
	baz=291,SNR=9.8																		
TRY	Troy	40.07	72	IAmb	IAmb	07 00 30.5													
	comp=Z,129nm,1.8s																		
F60A	Warwick	40.08	67	P		07 00 15.2													
	baz=289																		
MOQ	Mont Orford	40.10	68	P	P	07 00 15.3	-0.8												
656A	Willston	40.11	95	IAMs_20	IAMs_20	07 16 42.7													
	comp=Z,6μm,19.0s																		
VT1	Waterbury	40.11	69	IAMs_20	IAMs_20	07 16 38.8													
	comp=Z,12μm,21.0s																		
G60A	Masonville	40.12	68	P		07 00 15.4													
	baz=290																		
BILL	Bilibino	40.23	328⇓	eP	P	07 00 14.9	-1.9												
BILL				e		07 01 47.8													
BILL				i S	S	07 06 29.7	+6.3												
BILL				pmax	pmax														
	comp=Z,48nm,1.4s																		
BILL				MLR	MLR														
	comp=Z,6μm,16.0s																		
BILL	Bilibino	40.23	328	P	P	07 00 14.7	-2.0												
BILL				IAMs_20	IAMs_20	07 16 03.3													
	comp=Z,6μm,18.0s																		
T60A	Surry	40.26	81	P	P	07 00 18.1	+0.7												
T60A				IAmb	IAmb	07 00 47.5													
	comp=Z,48nm,0.8s																		
E60A	Ste Agathe de	40.28	66	P		07 00 16.7													
	baz=289																		
CNNC	Cliffs of the	40.34	85	IAMs_20	IAMs_20	07 17 10.9													
	comp=Z,8μm,20.0s																		
CNNC	Cliffs of the	40.34	85	P		07 00 18.7													
	baz=300																		
L61A	Hillsdale 1, H	40.35	73	P		07 00 17.4													
	baz=293																		
K61A	Williamstown	40.37	72	P		07 00 18.6													
	baz=293																		
Q61A	Milford	40.48	78	P		07 00 19.8													
	baz=296																		
P61A	Hammonton	40.52	77	IAMs_20	IAMs_20	07 17 11.0													
	comp=Z,11μm,21.0s																		
KSCT	Kent School, K	40.59	73	IAMs_20	IAMs_20	07 17 08.6													
	comp=Z,11μm,19.0s																		
H61A	Lyndonville	40.59	69	P		07 00 20.0													
	baz=291																		
G61A	St-Isidore-de-	40.59	67	P		07 00 19.6													
	baz=290																		
I61A	Oroboro, Fairl	40.62	70	P		07 00 20.2													
	baz=292																		
LBNH	Lisbon	40.70	69	IAmb	IAmb	07 00 24.1													
	comp=Z,98nm,1.5s																		
LBNH				IAMs_20	IAMs_20	07 16 57.2													
	comp=Z,10μm,22.0s																		
LBNH	Lisbon	40.70	69	P		07 00 21.2													
	baz=291																		
F61A	St Evariste	40.71	66	P		07 00 20.7													
	baz=290																		
S61A	Accomac	40.77	80	IAMs_20	IAMs_20	07 17 31.0													
	comp=Z,8μm,18.0s																		
D61A	St Aubert, Com	40.84	64	P		07 00 21.3													
	baz=289																		
L61B	Northampton	40.85	72	P		07 00 22.5													
	baz=293																		
SCHQ	Schefferville	40.86	52	P	P	07 00 21.2	-1.0												
	comp=Z,9.9nm,0.9s,baz=286,slow=9.7,SNR=6.6																		
SCHQ	Schefferville	40.86	52	IAmb	IAmb	07 00 30.7													
	comp=Z,130nm,1.9s																		
E61A	Lac Etchemin	40.89	65	P		07 00 22.2													
	baz=290																		
MIDW	Midway	40.97	263	IAMs_20	IAMs_20	07 12 07.8													
	comp=Z,11μm,21.0s																		
V61A	Roper	41.01	83	IAMs_20	IAMs_20	07 17 56.5													
	comp=Z,8μm,19.0s																		
H62A	Milan	41.09	68	P	P	07 00 24.1	0.0												
H62A	Milan	41.09	68	P		07 00 24.4													
	baz=291																		
M62A	Hamden	41.10	73	P		07 00 24.2													
	baz=294																		
J62A	Henniker	41.15	70	P		07 00 25.2													
	baz=292																		
I62A	Tamworth	41.23	69	P		07 00 25.3													
	baz=292																		
G62A	West of Eustis	41.28	67	IAmb	IAmb	07 00 26.6													
	comp=Z,88nm,1.7s																		
G62A	West of Eustis	41.28	67	P		07 00 26.0													
	baz=291																		
J63A	Strafford	41.62	70	P		07 00 28.4													
	baz=293																		
DWPF	Disney Wildern	41.62	96	P	P	07 00 29.3	+0.6												
DWPF				IAmb	IAmb	07 00 32.2													
	comp=Z,60nm,1.2s																		
DWPF	Disney Wildern	41.62	96	P		07 00 29.2													
	baz=306																		
I63A	Otisfield	41.67	69	IAMs_20	IAMs_20	07 17 36.8													
	comp=Z,9μm,19.0s																		
I63A	Otisfield	41.67	69	P		07 00 28.6													
	baz=292																		
H63A	New Sharon	41.80	68	P		07 00 30.0													
	baz=292																		
L63A	North Scituate	41.82	72	P		07 00 29.1													
	baz=294																		
G63A	Kingsbury	41.92	67	P		07 00 30.6													
	baz=291																		
F63A	Nahmakanta, Br	42.05	66	IAmb	IAmb	07 00 41.9													
	comp=Z,104nm,1.8s																		
F63A				IAMs_20	IAMs_20	07 18 31.7													
	comp=Z,6μm,20.0s																		
F63A	Nahmakanta, Br	42.05	66	P		07 00 31.7													
	baz=291																		
PKME	Peaks-Kenny Pk	42.08	67	IAMs_20	IAMs_20	07 18 34.6													
	comp=Z,6μm,19.0s																		
PKME	Peaks-Kenny Pk	42.08	67	P		07 00 31.7													
	baz=291																		
WVL	Waterville	42.09	68	IAMs_20	IAMs_20	07 18 30.9													
	comp=Z,7μm,19.0s																		
D63A	Stockholm	42.23	64	P		07 00 33.1													
	baz=290,SNR=6.6																		
E63A	Oxbow	42.24	65	IAMs_20	IAMs_20	07 17 22.7													
	comp=Z,9μm,20.0s																		
E63A	Oxbow	42.24	65	P		07 00 32.8													
	baz=290																		
CCIG	Comitan	42.28	119	P	P	07 00 36.6	+2.2												
CCIG				IAmb	IAmb	07 01 13.8													
	comp=Z,66nm,1.3s																		
I64A	Boothbay	42.35	69	P		07 00 34.0													
	baz=293																		
H64A	Troy	42.35	67	P		07 00 34.7													
	baz=292																		
PQI	Presque Isle	42.41	64	IAMs_20	IAMs_20	07 18 02.2													
	comp=Z,10μm,20.0s																		
G64A	Maxfield	42.44	66	P		07 00 34.9													
	baz=292																		
F64A	Sherman	42.48	65	IAMs_20	IAMs_20	07 18 05.2													
	comp=Z,8μm,19.0s																		
F64A	Sherman	42.48	65	P		07 00 34.7													
	baz=291																		
E64A	Bridgewater	42.62	64	P		07 00 36.4													
	baz=291																		
H65A	Eastbrook	42.98	67	P		07 00 39.2													
	baz=292																		
G65A	Princeton	43.24	66	IAMs_20	IAMs_20	07 18 37.2													
	comp=Z,9μm,18.0s																		
G65A	Princeton	43.24	66	P		07 00 40.9													
	baz=292																		
JOHN	Johnston Islan	43.24	243	IAMs_20	IAMs_20	07 14 21.3													
	comp=Z,8μm,19.0s																		
061Z	Ochoppi	43.34	98	IAMs_20	IAMs_20	07 20 08.7													
	comp=Z,8μm,20.0s																		
BATG	Bathurst New B	43.46	63	IAmb	IAmb	07 00 58.8													
	comp=Z,115nm,2.0s																		
EMMW	East Machias	43.49	67	IAMs_20	IAMs_20	07 19 27.0													
	comp=Z,6μm,19.0s																		
H66A	Whiting	43.56	66	P		07 00 43.6													
	baz=293																		
GGN	Saint George	43.74	66	IAmb	IAmb	07 00 47.6													
	comp=Z,140nm,1.6s																		
GGN				IAMs_20	IAMs_20	07 18 52.9													
	comp=Z,7μm,18.0s																		
LMN	Caledonia Moun	44.79	64	P	P	07 00 54.2	+0.1												
LMN				IAmb	IAmb	07 00 57.8													
	comp=Z,37nm,1.1s																		
NEEM	North Greenlan	44.80	18	i P	P	07 00 53.9	-0.2												
NEEM				IAmb	IAmb	07 01 04.5													
	comp=Z,61nm,1.2s																		
MTO3	Montecristo	45.45	118	P	P	07 01 01.1	+1.1												
MTO3				IAmb	IAmb	07 01 18.9													
	comp=Z,36nm,1.2s																		
MTO3				IAMs_20	IAMs_20	07 19 13.0													
	comp=Z,5μm,22.0s																		
HAL	Halifax	46.05	65	IAMs_20	IAMs_20	07 20 24.7													
	comp=Z,8μm,18.0s																		
SFJD	Kangerlussuaq	46.15	32	eP	P	07 01 05.2	+0.5												
SFJD	Kangerlussuaq	46.15	32	eP	P	07 01 05.1	+0.5												
SFJD	Kangerlussuaq	46.15	32	P	P	07 01 04.5	-0.1												
SFJD				IAmb	IAmb	07 01 14.8													
	comp=Z,52nm,1.4s																		
SFJD	Kangerlussuaq	46.15	32	IAMs_20	IAMs_20	07 20 32.2													
	comp=Z,9μm,19.0s																		
PET	Petropavlovsk	46.22	307	eP	P	07 01 05.5	+0.2												
PET				eS	S	07 07 47.3	-4.1												
PET				pmax	pmax														
	comp=Z,95nm,1.4s																		
SEY	Seymchan	46.52	322	P	P	07 01 06.4	-1.1												
	comp=Z,4.9nm,0.9s,baz=82,slow=10,SNR=6.1																		
SEY	Seymchan	46.52	322	d iP	P	07 01 07.7	+0.2												
PEA0B	Petropavlovsk-	46.73	308⇓	eP	P	07 01 09.5	+0.1												
PETK	Petropavlovsk-	46.73	308	P	P	07 01 10.3	+0.9												
	comp=Z,11nm,0.8s,baz=80,slow=12,SNR=11																		
PETK				LR	LR	07 18 27.7													
	comp=Z,2μm,19.8s,baz=82,slow=33																		
TGUH	Tegucigalpa,Un	47.04	116	P	P	07 01 11.6	-0.7												
GBN	Guysborough	47.08	63	P	P	07 01 12.5	+0.3												
DY2G	Dye2	47.96	32	i P	P	07 01 18.9	-0.1												
DY2G				IAmb	IAmb	07 01 22.4													
	comp=Z,19nm,0.8s																		
SKR	Severo-Kuril's	48.53	305	eP	P	07 01 23.5	+0.2												
SKR				eS	S	07 08 27.4	+3.0												
SKR				MLR	MLR														
	comp=Z,2μm,14.0s																		
XMAS	Kiritimati	48.66	218	IAMs_20	IAMs_20	07 20 37.2													
	comp=Z,4μm,20.0s																		
SUMG	Summit	48.83	24	i P	P	07 01 26.0	+0.2												
SUMG				IAmb	IAmb	07 01 31.0													
	comp=Z,28nm,1.0s																		
SUMG	Summit	48.83	24	i P	P	07 01 26.0	+0.2												
SUMG				pmax	pmax														
	comp=Z,28nm,1.0s																		
SUMG	Summit	48.83	24	P	P	07 01 25.5	-0.4												
SUMG				IAmb	IAmb	07 01 35.0													
	comp=Z,24nm,0.8s																		
BOAB	BOACO BROADBAN	49.27	116	IAMs_20	IAMs_20	07 18 10.4													
	comp=Z,8μm,22.0s																		
ICESG	Greenland Ices	49.56	28	i P	P	07 01 32.7	+1.3												
ICESG				IAmb	IAmb	07 01 38.5													
	comp=Z,25nm,0.9s																		
NRS	Narsarsuaq	50.02	39	IAMs_20	IAMs_20	07 22 32.7													
	comp=Z,6μm,18.0s																		
GTBY	Guantanamo Bay	51.23	100	IAMs_20	IAMs_20	07 25 13.7													
	comp=Z,4μm,19.0s																		
DAG	Danmarks Havn	51.87	16	i P	P	07 01 48.0	-0.3												
DAG				IAmb	IAmb	07 01 51.8													
	comp=Z,19nm,0.9s																		
DAG	Danmarks Havn	51.87	16	i P	P	07 01 48.0	-0.3												
DAG				pmax	pmax														
	comp=Z,19nm,0.9s																		
TIXI	Tiksi	52.03	337	P	P	07 01 47.9	-1.6												
	comp=Z,5.9nm,0.7s,baz=62,slow=8.5,SNR=13																		
TIXI	Tiksi	52.03	337⇑	eP	P	07 01 47.6	-1.9												
TIXI	Tiksi	52.03	337	P	P	07 01 46.8	-2.7												
TIXI				IAMs_20	IAMs_20	07 24 10.6													
	comp=Z,4μm,20.0s																		
DBG	Daneborg	52.84	19	i P	P	07 01 56.0	+0.4												
DBG				IAmb	IAmb	07 02 00.1													
	comp=Z,32nm,0.9s																		
TAOE	Nuku Hiva Isla	53.71	193	eLR	LR	07 17 34.4													
	comp=Z,4μm,25.3s																		
TAOE	Nuku Hiva Isla	53.71	193	eT	T	07 59 44.6													
	comp=Z,288nm,0.2s																		
SCO	Scoresbysund	54.46	23	i P	P	07 02 11.0	+3.6												
SCO	Scoresbysund	54.46	23	i P	P	07 02 11.0	+3.6												
SDDR	Presa de Saban	54.56	98	P	P	07 02 09.5	+0.6												
SDDR				IAmb	IAmb	07 02 26.2													
	comp=Z,33nm,1.1s																		
SDDR				IAMs_20	IAMs_20	07 27 13.7													
	comp=Z,3μm,18.0s																		
KBS	Kingsbay	55.00	8	IAMs_20	IAMs_20	07 25 54.9													
	comp=Z,4μm,18.0s																		
NKL	Nikolayevsk	56.00	313	eP	P	07 02 16.9	-1.9												
NKL				i		07 04 23.2													
NKL				eS	S	07 10 06.1	-0.6												
NKL				pmax	pmax														
	comp=E,74nm,0.9s																		
NKL				pmax	pmax														
	comp=Z,51nm,1.6s																		
NKL				smax	smax														
	comp=E,271nm,2.2s																		
NKL				smax	smax														
	comp=N,1.0nm,1.2s																		
NKL				MLR	MLR														
	comp=E,1μm,22.0s																		
NKL				MLR	MLR														
	comp=Z,838nm,15.0s																		
YAK	Yakutsk	56.50	326	LR	LR	07 25 01.6													
	comp=Z,2μm,21.2s,baz=78,slow=34																		
YAK	Yakutsk	56.50	326	eP	P	07 02 20.1	-2.1												
YAK				e*PP	pwP	07 02 27.4	-0.6												
YAK				ePPP	PPP	07 05 50.7													
YAK				eS	S	07 10 08.4	-4.8												
YAK				pmax	pmax														
	comp=N,9.0nm,1.3s																		
YAK				pmax	pmax														
	comp=Z,39nm,1.5s																		
YAK				pmax	pmax														
	comp=E,17nm,1.2s																		
YAK				smax	smax														
	comp=E,422nm,5.9s																		
YAK				smax	smax														
	comp=N,235nm,4.6s																		
YAK				MLR	MLR														
	comp=Z,3μm,19.0s																		
YAK				MLR	MLR														
	comp=N,2μm,19.0s																		
YAK				MLR	MLR														
	comp=E,1μm,13.0s																		
H11N2	WAKE ISLAND Hy	57.48	266	T	T	08 04 33.6													
	baz=49,slow=75																		
H11N3	WAKE ISLAND Hy	57.48	266	T	T	08 04 33.6													
	baz=49,slow=75																		
H11N1	WAKE ISLAND Hy	57.49	266	T	T	08 04 32.3													
	baz=49,slow=75																		
YUK	Yuzh-Kuril'sk	57.78	302	eP	P	07 02 31.8	+0.3												
YUK				e		07 03 24.4													
YUK				e		07 04 39.7													
YUK				ePPP	PPP	07 05 57.1													
YUK				eS	S	07 10 31.5	+1.0												
YUK				e		07 12 21.4													
YUK				eSS	SS	07 14 23.3	+2.9												
YUK				pmax	pmax														
	comp=Z,304nm,1.4s																		
YUK				pmax	pmax														
	comp=Z,190nm,1.3s																		
YUK				pmax	pmax														
	comp=E,121nm,1.6s																		
YUK				pmax	pmax														
	comp=N,146nm,1.1s																		
YUK				MLR	MLR														
	comp=N,560nm,15.0s																		
YUK				MLR	MLR														
	comp=Z,550nm,15.0s																		
YUK				MLR	MLR														
	comp=E,843nm,12.0s																		
WAKE	Wake Island	57.94	266	IAMs_20	IAMs_20	07 19 23.9													
	comp=Z,5μm,22.0s																		
YSS	Yuzh-Sakhalins	58.07	306	eP	P	07 02 34.8	+1.3												
YSS				e*SP	pwP	07 02 39.4	0.0												
YSS				e		07 03 28.3													
YSS				eS	S	07 10 35.0	+0.9												
YSS				ePS	PnS	07 10 45.9	+1.0												
YSS				eSSS	SSS	07 16 41.3													
H11S1	WAKE ISLAND Hy	58.41	265	T	T	08 05 48.5													
	baz=48,slow=75,SNR=1528																		
H11S2	WAKE ISLAND Hy	58.42	265	T	T	08 05

USRK Ussuriysk Ar. 65.81 309 P **P** **07 03 25.8 +0.2**
comp=Z,3.7nm,1.0s,baz=58,slow=4.7,SNR=10
USRK LR LR 07 30 42.6
comp=Z,2μm,19.8s,baz=38,slow=35
USRK Ussuriysk Ar. 65.81 309 P **P** **07 03 25.1 -0.6**
USRK Ussuriysk Ar. 65.81 309 P **P** **07 03 25.1 -0.6**
GRGR Grenville 66.01 96 IAMs_20 IAMs_20 07 37 15.9
comp=Z,2μm,18.0s
TARA Tarawa 66.13 247 IAMs_20 IAMs_20 07 25 28.7
comp=Z,4μm,20.0s
MDJ Mudanjiang 66.88 310 P **P** **07 03 30.2 -2.3**
MDJ pP pwP 07 03 42.4 +4.0
MDJ S **S** **07 12 26.6 +1.5**
MDJ pmax pmax
comp=Z,620nm,8.1s
MDJ L L
comp=Z,1μm,22.8s
MDJ L L
comp=Z,2μm,21.5s
MDJ L L
comp=Z,2μm,20.1s
MAJO Matsushiro 66.89 299↓ *e*P **P** **07 03 34.1 +1.4**
MAJO pmax pmax
comp=Z,23nm,1.0s
MAJO Matsushiro 66.89 299 P **P** **07 03 33.4 +0.6**
MAJO IAmb IAmb 07 03 43.3
comp=Z,16nm,0.9s
MAT Matsushiro 66.89 299 P **P** **07 03 33.0 +0.3**
MAT S **S** **07 12 27.4 +1.9**
MJAR Matsushiro Arr 66.89 299 P **P** **07 03 33.9 +1.2**
comp=Z,1.4nm,0.4s,baz=38,slow=5.6,SNR=9.4
MJAR LR LR 07 27 41.4
comp=Z,860nm,21.1s,baz=70,slow=31
MJAR Matsushiro Arr 66.89 299 P **P** **07 03 33.2 +0.4**
MJAR pmax pmax
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 66.89 299 P **P** **07 03 33.2 +0.4**
RKT Rikitea 67.24 185 *e*S **S** **07 12 31.3 +1.8**
comp=Z,4μm,28.0s
RKT *e*LQ LQ 07 20 49.3
comp=Z,7μm,28.5s
RKT *e*LR LR 07 23 50.0
comp=Z,5μm,27.8s
RKT Rikitea 67.24 185 *e*T T 08 16 44.8
comp=Z,22nm,0.3s
LVZ Lovozero 67.53 6↓ *e*P **P** **07 03 37.4 +1.1**
LVZ pmax pmax
comp=Z,89nm,1.5s
LVZ Lovozero 67.53 6 P **P** **07 03 35.3 -1.0**
LVZ IAMs_20 IAMs_20 07 32 58.8
comp=Z,2μm,19.0s
APA Apatity 67.75 7↓ *i*P **P** **07 03 38.1 +0.5**
APA *i* 07 03 45.2
APA *i* PPP PPP 07 07 43.0
APA *i* S **S** **07 12 35.0 +0.1**
APA *i* 07 13 37.0
APA *i* SS **SS** **07 16 54.0 -0.9**
APA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 68.81 319 IAMs_20 IAMs_20 07 33 25.5
comp=Z,2μm,19.0s
MSF Maaselka 68.93 9 P **P** **07 03 45.9 +0.9**
MSF pmax pmax
comp=Z,27nm,1.4s
CN2 Changchun 69.66 312 *e*P **P** **07 03 54.7 +4.8**
CN2 *e*S **S** **07 12 50.1 -8.2**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,430nm,5.0s
CN2 L L
comp=Z,3μm,22.0s
CN2 L L
comp=Z,2μm,22.0s
CN2 L L
comp=Z,1μm,21.0s
TBI Tubuai 69.67 199 *e*S **S** **07 13 00.8 +2.4**
comp=Z,1μm,28.8s
TBI *e*LQ LQ 07 21 18.9
comp=Z,6μm,30.0s
TBI *e*LR LR 07 25 03.1
comp=Z,684nm,26.5s
TBI Tubuai 69.67 199 *e*T T 08 19 42.9
comp=Z,70nm,0.2s
NC303 NORSAR Array S 70.24 19 IAmb IAmb 07 04 01.4
comp=Z,30nm,0.8s
JCJ Chichijima 70.27 289 IAMs_20 IAMs_20 07 27 38.8
comp=Z,4μm,20.0s
NB2 NORSAR Subarra 70.36 19 P **P** **07 03 54.1 +0.1**
baz=334,slow=5.9
NOA NORSAR Array B 70.36 19 P **P** **07 03 53.8 -0.3**
comp=Z,12nm,0.9s,baz=334,slow=5.9,SNR=22
NOA LR LR 07 32 35.2
comp=Z,2μm,21.1s,baz=325,slow=34
ROSA Rosais 71.29 54 IAMs_20 IAMs_20 07 32 57.9
comp=Z,5μm,21.0s
SNY Shenyang 72.01 311 ⇑P **P** **07 04 06.0 +1.8**
SNY S **S** **07 13 28.0 +2.4**
SNY pmax pmax
comp=Z,480nm,7.3s
SNY L L
comp=Z,2μm,15.6s
SNY L L
comp=Z,1μm,13.1s
SNY L L
comp=Z,1μm,19.3s
TBTG Tabatinga, AM 72.02 115 *e*P **P** **07 04 02.2 -2.4**
JOF Joensuu 72.09 9 P **P** **07 04 06.3 +2.0**
JOF pmax pmax
comp=Z,27nm,2.8s
KSRS Korea Array 72.55 305 P **P** **07 04 08.9 +1.4**
comp=Z,0.8nm,0.5s,baz=52,slow=6.7,SNR=6.7
KSRS LR LR 07 33 34.0
comp=Z,627nm,19.8s,baz=48,slow=34
FIA1 FINESS Array S 72.83 12 P **P** **07 04 09.5 +0.7**
FIA1 IAmb IAmb 07 04 25.5
comp=Z,74nm,1.5s
FINES FINESS Array B 72.83 12 P **P** **07 04 09.1 +0.3**
comp=Z,11nm,0.9s,baz=127,slow=1.0,SNR=11
FINES FINESS Array B 72.83 12 *i* P **P** **07 04 09.6 +0.8**
FINES pmax pmax
comp=Z,11nm,1.0s
FINES FINESS Array B 72.83 12 P **P** **07 04 08.8 0.0**
CZSB Cruzeiro do Su 72.93 119 *e*P **P** **07 04 11.0 +0.9**
IRK Irkutsk 73.16 329 *e*P **P** **07 04 09.4 -1.6**
IRK pmax pmax
comp=Z,68nm,2.0s
VALR Valaam 73.55 10 *e*P **P** **07 04 15.4 +2.4**
VALR pmax pmax
comp=Z,93nm,1.3s
BOAV Boa Vista 73.58 103 *e*P **P** **07 04 14.8 +0.8**
TJN Taejon 73.61 305⇑ *e*P **P** **07 04 13.5 -0.3**
TLY Talaya 73.85 329 *c i*P **P** **07 04 15.5 +0.5**
TLY *e* 07 04 31.2
TLY *e* 07 07 03.3
TLY *e*S **S** **07 13 49.5 +3.2**
TLY *e* 07 14 15.5
TLY *e*SS **SS** **07 18 33.9 +4.8**
TLY pmax pmax
comp=Z,155nm,1.8s
TLY MLR MLR
comp=Z,7μm,14.0s
TLY Talaya 73.85 329 IAMs_20 IAMs_20 07 37 05.6
comp=Z,4μm,19.0s
PRGR Permogore 74.37 2 *e*P **P** **07 04 16.6 -1.2**
PRGR pmax pmax
comp=Z,58nm,1.3s
MOY Mondy 74.83 330 *e*P **P** **07 04 21.5 +0.6**
MOY pmax pmax
comp=Z,49nm,1.9s
KLMR Klimovskoe 74.86 5 *e*P **P** **07 04 19.4 -1.3**
KLMR *e* 07 07 10.5
KLMR *e*S **S** **07 13 56.6 -0.7**
KLMR *e*SS **SS** **07 18 45.1 +1.2**
KLMR pmax pmax
comp=Z,67nm,1.4s
KLMR MLR MLR
comp=Z,1μm,16.0s
KLMR Klimovskoe 74.86 5 *e*P **P** **07 04 19.4 -1.3**
KLMR AMP 07 04 29.4
comp=Z,67nm,1.4s
KLMR *e*PP **PP** **07 07 10.6 +3.3**
KLMR *e*S **S** **07 13 56.7 -0.6**
KLMR *e*S **S** **07 13 56.7 -0.6**
KLMR *e*SS **SS** **07 18 45.2 +1.3**
KLMR *e*SS **SS** **07 18 45.2 +1.3**
KLMR LQ LQ 07 30 33.1
KLMR LQ LQ 07 30 33.1
KLMR LR LR 07 32 10.9
KLMR AMP 07 36 44.4
comp=Z,1μm,16.2s
ZAK Zakamensk 75.03 328 *e*P **P** **07 04 20.8 -1.2**
ZAK pmax pmax
comp=Z,18nm,1.7s
DL2 Dalian 75.12 310 P **P** **07 04 22.8 +0.2**
DL2 S **S** **07 14 03.0 +2.1**
DL2 SS **SS** **07 18 45.2 -3.8**
DL2 pmax pmax
comp=Z,26nm,1.1s
DL2 pmax pmax
comp=Z,520nm,6.5s
DL2 L L
comp=Z,1μm,20.7s
DL2 L L
comp=Z,2μm,22.6s
DL2 L L
comp=Z,1μm,17.7s
ULN Ulaanbaatar 75.52 324 *d i*P **P** **07 04 25.6 +0.6**
ULN pmax pmax
comp=Z,34nm,1.7s
ULN Ulaanbaatar 75.52 324 P **P** **07 04 23.8 -1.2**
ULN IAmb IAmb 07 04 31.8
comp=Z,51nm,1.7s
ULN Ulaanbaatar 75.52 324 IAMs_20 IAMs_20 07 37 30.3
comp=Z,4μm,19.0s
SONM Songino Array 75.82 325 P **P** **07 04 26.6 -0.1**
comp=Z,5.6nm,0.8s,baz=49,slow=4.7,SNR=13
SONM Songino Array 75.82 325 P **P** **07 04 25.5 -1.2**
SONM pmax pmax
comp=Z,65nm,1.6s
SONM Songino Array 75.82 325 P **P** **07 04 25.5 -1.2**
SONM IAmb IAmb 07 04 33.6
comp=Z,65nm,1.6s
PTGA Pitinga 76.19 105 P **P** **07 04 28.9 -0.2**
PTGA IAmb IAmb 07 04 46.7
comp=Z,45nm,1.3s
PTGA Pitinga 76.19 105 *e*P **P** **07 04 30.4 +1.3**
BSEG Bad Segeberg 76.40 23 *e*L L 07 39 53.8
comp=Z,3μm,19.1s
BJI Beijing 77.20 314 P **P** **07 04 33.0 -1.4**
BJI S **S** **07 14 22.6 -1.2**
BJI SS **SS** **07 19 19.9 -0.6**
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI pmax pmax
comp=Z,210nm,6.6s
BJI L L
comp=Z,290nm,17.4s
BJI L L
comp=Z,990nm,20.3s
BJI L L
comp=Z,900nm,23.7s
UCC Uccle 77.28 28 IAMs_20 IAMs_20 07 36 08.3
comp=Z,3μm,21.0s
GUMO Guam 77.32 277 IAMs_20 IAMs_20 07 31 15.2
comp=Z,2μm,20.0s
KIRV Kirov 77.49 0↓ *e*P **P** **07 04 35.4 -0.3**
ZAA0 Zalesovo Array 77.77 340 P **P** **07 04 37.0 -0.3**
ZAA0 IAmb IAmb 07 04 43.5
comp=Z,39nm,1.4s
ZAA0 IAMs_20 IAMs_20 07 40 46.4
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 77.77 340 P **P** **07 04 37.1 -0.3**
comp=Z,2.3nm,0.6s,baz=15,slow=6.2,SNR=7.7
ZALV Zalesovo Beam 77.77 340 *i* P **P** **07 04 38.0 +0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 77.77 340 P **P** **07 04 36.5 -0.9**
BMRD Maredsous 77.84 28 *d*pP **pP** **07 04 40.0 -0.3**
BMRD *d*PcP pwP 07 04 45.8 +1.8
BGES Gesves 77.88 28 *d*P **P** **07 04 39.0 +0.9**
BGES *d*PcP **pwP** **07 04 45.6 +1.4**
BGES *d*x x 07 06 15.8
BCLA Clavier 77.92 27 *b*P **P** **07 04 37.7 -0.6**
BCLA *d*pP **pP** **07 04 40.8 +0.1**
BCLA *d*sP **sP** **07 04 42.1 +0.5**
BCLA *d*PcP **PcP** **07 04 46.4 -1.7**
DOU Dourbes 77.96 28 κP **P** **07 04 38.9 +0.4**
DOU *d*sP **sP** **07 04 42.2 +0.4**
DOU *d*PcP **PcP** **07 04 48.0 -0.3**
DOU *d*x x 07 06 11.6
MEM Membach 77.99 27 κP **P** **07 04 38.8 +0.2**
MEM *d*x x 07 06 08.8
BTNL Ternell 78.05 27 *d*P **P** **07 04 40.1 +1.1**
BTNL *d*x x 07 05 00.2
PABE Paberze 78.13 15 IAMs_20 IAMs_20 07 41 35.2
comp=Z,2μm,20.0s
ETMB Extrema 78.64 116 *e*P **P** **07 04 42.7 0.0**
WLF Walferdange 78.85 27 IAMs_20 IAMs_20 07 37 55.7
comp=Z,2μm,20.0s
CLF Chambon-Foret 78.89 31 IAmb IAmb 07 04 60.0
comp=Z,79nm,1.4s
HHC Hu-ho-hao-te 78.91 317 *e*P **P** **07 04 42.7 -1.4**
HHC S **S** **07 14 40.4 -2.0**
HHC SS **SS** **07 19 40.4 -5.9**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,460nm,6.4s
HHC L L
comp=Z,1μm,14.5s
HHC L L
comp=Z,1μm,14.0s
HHC L L
comp=Z,2μm,14.5s
TNS Taunus Mts 79.11 26 *e*L L 07 40 30.3
comp=Z,4μm,18.4s
NACGM Naroch 79.20 14 *i* P **P** **07 04 41.6 -3.6**
ARU Arti 79.41 355 P **P** **07 04 45.9 -0.4**
comp=Z,1.4nm,0.5s,baz=157,slow=22,SNR=2.2
ARU Arti 79.41 355 *d i*P **P** **07 04 46.8 +0.5**
ARU 07 07 47.8
ARU S **S** **07 14 50.9 +4.0**
ARU SS **SS** **07 19 48.6 -4.0**
ARU pmax pmax
comp=Z,28nm,1.2s
ARU MLR MLR
comp=Z,1μm,20.0s
ARU Arti 79.41 355 P **P** **07 04 46.0 -0.4**
PGAV Gavieira, Arco 79.44 40 *e*S **S** **07 14 52.6 +4.6**
PGAV *e*SS **SS** **07 19 59.0 +4.9**
PGAV Gavieira, Arco 79.44 40 *e*LR LR 07 30 19.7
comp=Z,2μm,16.0s
CLL Collm 79.49 23 *e*P **P** **07 04 47.0 +0.1**
comp=Z,24nm,1.2s
CLL *i* PcP **PcP** **07 04 54.2 -0.7**
comp=Z,26nm,0.9s
CLL *e*PP **PP** **07 07 42.0 -4.4**
CLL *e*S **S** **07 14 49.0 +1.1**
CLL *e*PS **PnS** **07 15 36.0 +5.4**
CLL *e*SS **SS** **07 19 54.0 0.0**
CLL *e*SSS SSS 07 23 24.0
CLL *e*(SSSS) 07 25 18.0
CLL Lm MLR 07 42 00.0
comp=N,2μm,18.9s
CLL Lm MLR 07 42 00.0
comp=E,600nm,20.3s
CLL Lm MLR 07 42 00.0
comp=Z,3μm,19.4s
CLL Collm 79.49 23 *e*P **P** **07 04 47.0 +0.1**
CLL *i* 07 04 54.2
CLL *e*S **S** **07 14 49.0 +1.1**
CLL pmax pmax
comp=Z,24nm,1.2s
CLL MLR MLR
comp=Z,3μm,19.4s
CLL Collm 79.49 23 P **P** **07 04 46.2 -0.7**
CLL IAmb IAmb 07 04 55.1
comp=Z,20nm,0.8s
CLL IAMs_20 IAMs_20 07 42 04.3
comp=Z,3μm,19.0s
CLL Collm 79.49 23 *e*L L 07 42 04.7
comp=Z,3μm,19.4s
MOX Moxa 79.69 24 *e*L L 07 42 17.1
comp=Z,3μm,18.4s
MILB Miltenberg 79.71 26 *e*L L 07 40 50.8
comp=Z,4μm,18.9s
MNK Minsk 79.77 13 *i* P **P** **07 04 49.0 +0.7**
MNK *i* 07 04 56.6
MNK *i* 07 07 49.4
MNK *i* PPP PPP 07 09 38.3
MNK *i* S **S** **07 14 50.6 -0.2**
MNK *i* SS **SS** **07 19 58.9 +0.8**
MNK *i* SSS SSS 07 23 26.7
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK pmax pmax
comp=N,11nm,0.8s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,1μm,18.0s
MNK Minsk 79.77 13 *i* P **P** **07 04 49.0 +0.7**
comp=E,2.0nm,0.9s
MNK *i* P **P** **07 04 49.0 +0.7**
comp=N,11nm,0.8s
MNK *i* P **P** **07 04 49.0 +0.7**
comp=Z,20nm,1.0s,baz=164
MNK *i* PcP **PcP** **07 04 56.6 +0.6**
MNK *i* PP **PP** **07 07 49.5 +0.9**
MNK *i* PPP PPP 07 09 38.3
MNK *i* S **S** **07 14 50.6 -0.2**
MNK *i* SS **SS** **07 19 59.0 +0.9**
MNK *i* SSS SSS 07 23 26.7
MNK *i* LQ LQ 07 34 04.9
MNK *i* LR LR 07 39 45.8
MNK *i* LRM MLR 07 40 44.4
comp=Z,1μm,18.8s
MNK *i* LRM MLR 07 40 53.1
comp=E,51nm,15.2s
MNK *i* LRM MLR 07 40 58.1
comp=N,1μm,18.1s
MOS Moscow 79.78 7 *e*P **P** **07 04 50.8 +2.4**
MOS pmax pmax
comp=Z,56nm,1.5s
MOS MLR MLR
comp=Z,2μm,20.0s
SAML Samuel 79.98 113 P **P** **07 04 49.0 -1.0**
SAML pmax pmax
comp=Z,39nm,1.8s
SAML MLR MLR
comp=Z,800nm,20.0s
SAML Samuel 79.98 113 P **P** **07 04 49.0 -1.0**
POLO Lamas de Olo 80.12 40 *e*P **P** **07 04 53.0 +2.4**
comp=Z,19nm,1.8s
BRG Berggiesshubel 80.14 22 *e*P **P** **07 04 50.5 +0.1**
BRG Amp 07 04 59.5
comp=Z,33nm,1.1s
BRG Berggiesshubel 80.14 22 SS SS 07 20 03.0 -0.8
BRG Amp 07 43 27.0
comp=Z,2.0nm,15.1s
BRG Amp 07 43 32.0
comp=N,1.0nm,15.3s
BRG Amp 07 43 36.0
comp=E,1.1nm,16.2s
PVRL Vila Real 80.23 40 *e*P **P** **07 04 53.6 +2.4**
comp=E,30nm,1.6s
PBRG Braganca 80.27 39 *e*P **P** **07 04 54.0 +2.6**
comp=E,24nm,1.7s
NKC Novy Kostel 80.29 24 *e*P **P** **07 04 53.5 +2.2**
NKC *e*S **S** **07 14 58.3 +1.7**
NKC MLR MLR
comp=Z,2μm,17.2s
NKC Novy Kostel 80.29 24 *e*P **P** **07 04 53.5 +2.2**
NKC *e*S **S** **07 14 58.3 +1.7**
NKC AMS AMS 07 42 10.0
comp=Z,2μm,17.2s
OBN Obninsk 80.30 8 P **P** **07 04 50.0 -1.1**
comp=Z,4.9nm,0.4s,baz=199,slow=5.2,SNR=4.5
OBN Obninsk 80.30 8↓ *e*P **P** **07 04 51.8 +0.6**
OBN *e* 07 04 58.3
OBN *e*S S 07 15 08.7 +12
OBN *i* SS **SS** **07 20 11.2 +5.3**
OBN pmax pmax
comp=Z,108nm,1.8s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 80.30 8 IAmb IAmb 07 04 58.9
comp=Z,84nm,1.2s
OBN IAMs_20 IAMs_20 07 41 23.4
comp=Z,2μm,19.0s
GRA1 Grafenberg Arr 80.42 24 IAMs_20 IAMs_20 07 42 54.1
comp=Z,3μm,18.0s
GRF Grafenberg Arr 80.42 24 *e*P **P** **07 04 53.4 +1.4**
comp=Z,40nm,1.4s,baz=338,slow=4.9
GRF *e*L L 07 42 00.9
comp=Z,3μm,18.3s
GRFO Grafenberg 80.42 24 IAMs_20 IAMs_20 07 42 00.1
comp=Z,3μm,18.0s
ECH Echery 80.44 28 P **P** **07 04 51.4 -0.7**
ECH pmax pmax
comp=Z,20nm,1.1s
ECH MLR MLR
comp=Z,2μm,20.0s
ECH Echery 80.44 28 P **P** **07 04 51.4 -0.7**
ECH IAMs_20 IAMs_20 07 40 01.7
comp=Z,2μm,20.0s
PVIS Viseu 80.59 41 *e*P **P** **07 04 55.3 +2.2**
comp=Z,26nm,1.6s
PVCC Panska Ves 80.62 22 AMS AMS 07 41 40.0
comp=Z,2μm,19.5s
MVO Moncorvo 80.64 40 *e*P **P** **07 04 55.8 +2.4**
comp=Z,25nm,1.2s
MVO Moncorvo 80.64 40 *e*S S 07 15 10.7 +10
MVO *e*SS **SS** **07 20 18.1 +6.0**
MVO *e*LQ LQ 07 25 46.4
MVO *e*LR LR 07 29 32.0
comp=Z,3μm,18.0s
BFO Black Forest 80.72 27 P **P** **07 04 52.9 -0.8**
BFO Black Forest 80.72 27 *e*L L 07 41 36.2
comp=Z,3μm,18.1s
KSP Ksiaz 80.79 21 *e*P **P** **07 04 54.7 +0.8**
PCAS Casmilo, Conde 80.83 42 *e*P **P** **07 04 54.8 +0.5**
comp=Z,39nm,1.7s
TIY Taiyuan 80.88 315 *e*P P 07 05 00.4 +5.7
TIY PP **PP** **07 08 05.5 +7.1**
TIY S **S** **07 14 58.9 -4.3**
DGZ Jazzator, Alta 80.91 337↓ *i*P **P** **07 04 55.1 +0.3**
DGZ pmax pmax
comp=Z,65nm,1.7s
CHVC Chvalec 80.96 21 *e*P **P** **07 04 57.1 +2.2**
CHVC AMS AMS 07 42 40.0
comp=Z,2μm,18.5s
SSE Sheshan 80.97 305 P **P** **07 04 53.7 -1.5**
SSE S **S** **07 15 01.6 -2.5**
SSE pmax pmax
comp=Z,21nm,0.7s
SSE pmax pmax
comp=Z,71nm,5.3s
SSE L L
comp=Z,350nm,17.4s
SSE L L
comp=Z,340nm,17.5s
MALB Monte Alegre 80.98 101 *e*P **P** **07 04 55.8 +0.3**
PRA Prague 81.00 22 AMS AMS 07 38 20.0
comp=Z,2μm,20.9s
MTE Manteigas 81.00 41 *e*S **S** **07 15 06.4 +2.0**
MTE *e*SS **SS** **07 20 22.7 +5.2**
MTE *e*LQ LQ 07 25 45.8
MTE *e*LR LR 07 31 16.9
comp=Z,2μm,18.0s
MTE Manteigas 81.00 41 IAMs_20 IAMs_20 07 39 11.8
comp=Z,3μm,18.0s
UPC Upice 81.02 21 AMS AMS 07 42 40.0
comp=Z,2μm,17.4s
OSTC Ostas 81.03 21 *e*P **P** **07 04 58.1 +2.9**
OSTC AMS AMS 07 44 40.0
comp=Z,2μm,15.7s
PRU Pruhonice 81.10 22 *e*S **S** **07 15 04.7 -0.2**
PRU AMS AMS 07 42 00.0
comp=Z,2μm,19.9s
DPC Dobruska-Polom 81.25 21 *e*P **P** **07 04 56.8 +0.4**
DPC *e*S **S** **07 15 09.4 +2.8**
DPC MLR MLR
comp=Z,2μm,19.0s
DPC Dobruska-Polom 81.25 21 *e*P **P** **07 04 56.8 +0.4**
DPC *e*S **S** **07 15 09.4 +2.8**
DPC AMS AMS 07 42 50.0
comp=Z,2μm,19.0s
WET Wettzell 81.40 24 *e*L L 07 43 27.2
comp=Z,3μm,18.1s
PCBR Castelo Branco 81.48 41 *e*P **P** **07 05 00.1 +2.3**
comp=Z,24nm,1.3s
MCPB Macapa, AP 81.49 99 *e*P **P** **07 04 59.6 +1.4**

BRVK Borovoye 81.51 348 ⇓ eP P 07 04 57.8 +0.1
BRVK pmax pmax
comp=Z,35nm,1.1s
BRVK Borovoye 81.51 348 P P 07 04 56.2 -1.5
BRVK IAmb IAmb 07 05 05.4
comp=Z,31nm,1.1s
BRVK Borovoye 81.51 348 IAMs_20 IAMs_20 07 42 23.9
comp=Z,2µm,20.0s
BVAR Borovoye Array 81.53 348 P P 07 04 56.7 -1.1
comp=Z,5.6nm,1.0s,baz=111,slow=8.1,SNR=12
KHC Kasperske Hory 81.61 23 eP P 07 05 00.4 +2.0
KHC e 07 05 05.0
KHC eS S 07 15 10.3 0.0
KHC MLR MLR
comp=Z,2µm,20.3s
KHC Kasperske Hory 81.61 23 eP P 07 05 00.4 +2.0
KHC ex PcP 07 05 05.0 +0.8
KHC eS S 07 15 10.3 0.0
KHC AMS AMS 07 41 30.0
comp=Z,2µm,20.3s
KRLC Kraliky 81.62 21 eP P 07 05 00.7 +2.3
KRLC MLR MLR
comp=Z,2µm,16.2s
KRLC Kraliky 81.62 21 eP P 07 05 00.7 +2.3
KRLC AMS AMS 07 45 10.0
comp=Z,2µm,16.2s
NJ2 Nanjing 81.63 307 eP P 07 04 58.3 -0.4
NJ2 sP pwP 07 05 04.8 0.0
NJ2 S S 07 15 10.4 -0.6
NJ2 sS SKSac 07 15 17.1 -1.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,240nm,3.9s
NJ2 L L
comp=Z,1µm,18.9s
NJ2 L L
comp=Z,2µm,22.7s
NJ2 L L
comp=Z,770nm,14.5s
ITTB Itaituba 81.73 104 eP P 07 04 60.0 +0.6
PMOZ Porto Moniz, M 81.79 52 eLR LR 07 31 33.3
comp=Z,2µm,18.0s
FUR Furstenfeldbru 81.80 25 eL L 07 40 31.4
comp=Z,4µm,21.0s
PMRV Marv??o 81.84 41 eP P 07 05 02.0 +2.3
comp=Z,33nm,1.7s
PMRV Marv??o 81.84 41 eS S 07 15 17.7 +4.7
PMRV Marv??o 81.84 41 eLQ LQ 07 26 14.1
PMRV eLR LR 07 31 42.2
comp=Z,2µm,18.0s
GEC2 GERESS Array S 81.90 23 P P 07 04 58.7 -1.3
GEC2 IAMs_20 IAMs_20 07 44 29.2
comp=Z,2µm,18.0s
GEC2 GERESS Array S 81.90 23 eL L 07 43 50.7
comp=Z,2µm,20.8s
GERES GERESS Array B 81.90 23 P P 07 04 59.7 -0.3
comp=Z,3.9nm,0.9s,baz=344,slow=4.4,SNR=17
GERES GERESS Array B 81.90 23 P P 07 04 59.9 -0.1
GERES GERESS Array B 81.90 23 P P 07 04 59.9 -0.1
PMPST Porto Santo, M 82.08 51 eP P 07 04 58.5 -2.6
MORC Moravsky Berou 82.09 21 ⇓ P P 07 05 02.1 +1.2
MORC Moravsky Berou 82.09 21 eP P 07 05 00.6 -0.3
MORC Moravsky Berou 82.09 21 ⇓ P P 07 05 02.1 +1.2
MORC Moravsky Berou 82.09 21 IAMs_20 IAMs_20 07 44 02.0
comp=Z,2µm,18.0s
SENIN Lac Senin/Sane 82.09 28 P P 07 05 00.5 -0.7
SENIN IAMs_20 IAMs_20 07 41 34.6
comp=Z,3µm,19.0s
CKRC Cesky Krumlov 82.10 23 eS S 07 15 14.2 -1.1
CKRC AMS AMS 07 44 40.0
comp=Z,2µm,16.4s
SEM Semipalatinsk 82.13 341 eP P 07 04 59.3 -2.1
comp=Z,68nm,3.5s,baz=341
SEM i S S 07 15 14.2 -1.9
comp=Z,39nm,3.4s,baz=341
SEM eLR LR 07 42 48.1
comp=Z,679nm,16.7s,baz=341
SEM Semipalatinsk 82.13 341 eP P 07 04 59.2 -2.1
SEM i S S 07 15 14.1 -1.9
SEM pmax pmax
comp=Z,68nm,3.5s
SEM smax smax
comp=N,39nm,3.4s
SEM MLR MLR
comp=Z,679nm,17.0s
DAVA Damuels 82.14 26 eP P 07 05 03.9 +2.6
comp=Z,14nm,1.2s
OKC Ostrava-Krasne 82.18 20 AMS AMS 07 43 10.0
comp=Z,1µm,18.3s
PESTR Estremoz 82.19 42 eP P 07 05 02.9 +1.3
comp=Z,46nm,1.9s
PESTR Estremoz 82.19 42 P P 07 05 02.4 +0.8
PESTR IAMs_20 IAMs_20 07 40 19.3
comp=Z,1µm,18.0s
KURK Kurchatov 82.21 342 P P 07 05 01.2 -0.2
KURK Kurchatov 82.21 342 P P 07 05 01.2 -0.2
OJC Ojcow 82.23 19 eP P 07 05 04.4 +2.9
OJC Ojcow 82.23 19 P P 07 05 00.7 -0.8
OJC pmax pmax
comp=Z,18nm,0.9s
OJC MLR MLR
comp=Z,2µm,21.0s
OJC Ojcow 82.23 19 P P 07 05 00.7 -0.8
OJC IAmb IAmb 07 05 09.6
comp=Z,18nm,0.9s
OJC IAMs_20 IAMs_20 07 39 53.3
comp=Z,2µm,21.0s
RETA Reutte 82.24 26 eP P 07 05 02.7 +1.0
comp=Z,5.4nm,0.9s
EVO Evora 82.25 42 eP P 07 05 02.1 +0.2
comp=Z,45nm,1.6s
VRAC Vranov 82.27 21 ⇑ P P 07 05 04.3 +2.5
VRAC Vranov 82.27 21 eP P 07 05 01.8 0.0
VRAC Vranov 82.27 21 ⇑ P P 07 05 04.3 +2.5
KURBB Kurchatov Arra 82.31 342 P P 07 05 01.2 -0.8
comp=Z,4.9nm,0.9s,baz=20,slow=5.1,SNR=20
KURBB Kurchatov Arra 82.31 342 P P 07 05 00.2 -1.8
PNCL Nicolau / Gran 82.33 43 eP P 07 05 04.7 +2.4
comp=Z,42nm,1.7s
LPAZ La Paz 82.34 121 P P 07 05 02.8 -0.5
comp=Z,12nm,0.9s,baz=342,slow=7.6,SNR=20
LPAZ La Paz 82.34 121 P P 07 05 02.7 -0.5
LPAZ pmax pmax
comp=Z,19nm,0.8s
LPAZ La Paz 82.34 121 P P 07 05 02.7 -0.5
LPAZ IAmb IAmb 07 05 20.1
comp=Z,19nm,0.8s
LPAZ La Paz 82.34 121 eP P 07 05 03.4 +0.1
KRUC Moravsky 82.44 22 eP P 07 05 03.1 +0.4
MOTA Moosalm 82.47 26 eP P 07 05 05.4 +2.4
comp=Z,7.5nm,0.9s
SANVU Saraoutou 82.50 240 IAMs_20 IAMs_20 07 39 51.2
comp=Z,2µm,19.0s
SQTA Sankt Quirin 82.62 26 eP P 07 05 05.0 +1.2
comp=Z,6.6nm,0.5s
WATA Walderalm 82.63 25 eP P 07 05 04.9 +1.0
comp=Z,15nm,1.0s
FETA Feichten 82.64 26 eP P 07 05 06.5 +2.6
comp=Z,6.8nm,0.9s
TUE Stuetta 82.69 27 P P 07 05 04.3 +0.1
TUE IAmb IAmb 07 05 13.7
comp=Z,35nm,1.2s
MESJ Messejana 82.69 43 eP P 07 05 03.2 -0.9
MESJ IAmb IAmb 07 05 06.2
comp=Z,79nm,2.1s
MESJ eS S 07 15 20.9 -0.9
MESJ Messejana 82.69 43 eP P 07 05 03.3 -0.9
MESJ eS S 07 15 20.9 -0.9
WTTA Wattenberg 82.71 25 eP P 07 05 05.6 +1.3
comp=Z,15nm,1.0s
HNR Honiara 82.74 249 LR LR 07 34 33.3
comp=Z,5µm,21.8s,baz=64,slow=30
PFVI Vila Bisbo 82.95 44 IAMs_20 IAMs_20 07 41 20.6
comp=Z,2µm,19.0s
MOA Molln 82.96 23 i P P 07 05 09.3 +3.9
comp=Z,22nm,1.7s,SNR=6.1
JAVC Velka Javorina 82.96 21 eP P 07 05 05.0 -0.5
LPSR Galich'ya Gora 83.01 7 eP P 07 05 06.1 +0.6
LPSR pmax pmax
comp=Z,30nm,1.2s
LPSR MLR MLR
comp=Z,1µm,17.0s
BNI Bardonecchia 83.02 29 IAMs_20 IAMs_20 07 41 25.1
comp=Z,4µm,21.0s
PB16 IPOC Station P 83.08 124 IAmb IAmb 07 05 17.0
comp=Z,74nm,1.9s
LANS Liptovska Anna 83.14 20 eP P 07 05 09.4 +3.0
LANS Liptovska Anna 83.14 20 eP P 07 05 09.4 +3.0
PAB San Pablo 83.16 39 IAMs_20 IAMs_20 07 39 51.8
comp=Z,2µm,18.0s
ESBB Sonseca Array 83.23 39 IAMs_20 IAMs_20 07 39 56.7
comp=Z,1µm,18.0s
ESDC Sonseca Array 83.23 39 P P 07 05 05.3 -1.7
comp=Z,4.4nm,1.0s,baz=316,slow=4.4,SNR=15
ES14 SONSECA Array 83.24 39 IAMs_20 IAMs_20 07 41 06.8
comp=Z,3µm,18.0s
ES01 SONSECA Array 83.25 39 IAMs_20 IAMs_20 07 40 50.9
comp=Z,2µm,18.0s
ES02 SONSECA Array 83.25 39 IAMs_20 IAMs_20 07 40 50.9
comp=Z,2µm,18.0s
ES03 SONSECA Array 83.25 39 IAMs_20 IAMs_20 07 40 34.2
comp=Z,2µm,18.0s
ES12 SONSECA Array 83.27 39 IAMs_20 IAMs_20 07 41 07.7
comp=Z,3µm,18.0s
ES11 SONSECA Array 83.28 39 IAMs_20 IAMs_20 07 41 07.7
comp=Z,3µm,18.0s
PVAQ Vaqueiros 83.28 43 eS S 07 15 35.3 +7.5
PVAQ Vaqueiros 83.28 43 eLQ LQ 07 26 50.1
PVAQ eLR LR 07 32 19.3
comp=Z,2µm,18.0s
PVAQ Vaqueiros 83.28 43 IAMs_20 IAMs_20 07 39 17.3
comp=Z,2µm,19.0s
CONA Conrad Observa 83.34 22 eP P 07 05 08.2 +0.7
comp=Z,11nm,1.3s
KBA Koelnbreinsper 83.39 24 i P P 07 05 08.8 +1.0
comp=Z,23nm,1.1s,SNR=8.1
ZST Bratislava 83.43 22 eP P 07 05 11.1 +3.3
ZST Bratislava 83.43 22 eP P 07 05 11.1 +3.3
KWP Kalwaria Pacla 83.44 18 IAMs_20 IAMs_20 07 43 30.6
comp=Z,2µm,20.0s
ABTA Abfaltersbach 83.44 25 i P P 07 05 09.5 +1.5
comp=Z,27nm,1.3s,SNR=8.8
LVV L'vov 83.54 17 eP P 07 05 07.7 -0.7
LVV eS S 07 15 26.7 -3.3
LVV eSS SS 07 20 50.8 -3.5
LVV eSSS SSS 07 24 17.7
VYHS Vyhne 83.60 20 eP P 07 05 11.8 +3.1
VYHS Vyhne 83.60 20 eP P 07 05 11.8 +3.1
MNMC Minye Minye 83.65 124 P P 07 05 09.4 -0.2
MNMC IAmb IAmb 07 05 30.9
comp=Z,27nm,0.8s
AKASG Malin Array Be 83.66 13 P P 07 05 09.2 +0.3
comp=Z,9.1nm,0.8s,baz=346,slow=4.5,SNR=22
AKASG Malin Array Be 83.66 13 i P P 07 05 10.5 +1.6
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 83.66 13 P P 07 05 08.3 -0.6
AKASG IAmb IAmb 07 05 14.9
comp=Z,41nm,1.9s
AKBB Malin Array Si 83.66 13 deP P 07 05 08.4 -0.5
AKBB pmax pmax
comp=Z,29nm,1.1s
AKBB Malin Array Si 83.66 13 IAMs_20 IAMs_20 07 39 48.3
comp=Z,2µm,21.0s
BELG Belogornoye 83.68 2 P P 07 05 09.0 0.0
comp=Z,16nm,1.0s,baz=102,slow=3.5,SNR=8.7
BELG Belogornoye 83.68 2 deP P 07 05 09.7 +0.7
BELG pmax pmax
comp=Z,9.0nm,1.4s
ZSN Zaisan 83.68 337 eP P 07 05 07.8 -1.4
comp=Z,29nm,2.1s,baz=337
ZSN eS S 07 15 38.1 +6.6
comp=Z,94nm,3.7s,baz=337
ZSN Zaisan 83.68 337 eP P 07 05 07.7 -1.4
ZSN eS S 07 15 38.0 +6.6
ZSN pmax pmax
comp=Z,29nm,2.1s
ZSN smax smax
comp=N,94nm,3.7s
ZOU Zoufplan 83.75 25 IAmb IAmb 07 05 17.3
comp=Z,18nm,0.8s
CTI Castel Tesino 83.80 26 P P 07 05 09.3 -0.6
CTI pmax pmax
comp=Z,93nm,1.9s
CTI Castel Tesino 83.80 26 P P 07 05 09.3 -0.6
SALO Salr 83.82 27 P P 07 05 10.0 0.0
CRVS Cervenica-Dubn 83.84 19 eP P 07 05 14.4 +4.4
CRVS Cervenica-Dubn 83.84 19 eP P 07 05 14.4 +4.4
ARSA Arzberg 83.86 23 eP P 07 05 11.5 +1.4
comp=Z,27nm,1.7s
MYKA Terra Mystica 83.88 24 eP P 07 05 11.3 +1.0
comp=Z,12nm,1.2s
STAL STALIGIAL 83.94 25 IAmb IAmb 07 05 21.0
comp=Z,47nm,1.7s
KOLS Kolonicke sedl 84.00 18 eP P 07 05 12.9 +2.2
KOLS Kolonicke sedl 84.00 18 eP P 07 05 12.9 +2.2
PRED Cave del Predi 84.03 25 IAmb IAmb 07 05 34.5
comp=Z,19nm,1.2s
BRZS Berezniki 84.09 346 eP P 07 05 10.8 -0.4
comp=Z,26nm,2.6s,baz=346
BRZS eS S 07 15 34.9 -0.6
comp=Z,58nm,4.5s,baz=346
BRZS Berezniki 84.09 346 eP P 07 05 10.7 -0.4
BRZS eS S 07 15 34.9 -0.6
BRZS pmax pmax
comp=Z,26nm,2.6s
BRZS smax smax
comp=N,58nm,4.5s
PB11 IPOC Station P 84.10 125 P P 07 05 10.4 -1.3
SOKA Soboth 84.25 23 i P P 07 05 12.3 +0.2
comp=N,34nm,1.3s,SNR=20
OBKA Obir 84.26 24 eP P 07 05 12.8 +0.6
comp=N,13nm,1.0s
CADS Cadrg 84.28 24 eP P 07 05 10.8 -1.4
CADS e 07 05 26.0
CADS e 07 06 43.1
CADS eS S 07 15 34.0 -3.6
CADS eSS SS 07 21 11.6 +6.1
CADS e 07 27 14.9
UZH Uzhgorod 84.29 18 ⇑ i P P 07 05 12.6 +0.4
UZH i 07 05 16.8
UZH i S S 07 15 35.5 -2.0
UZH MLR MLR
comp=Z,200nm,18.0s
PSZ Piszkesteto 84.39 20 ⇓ P P 07 05 13.9 +1.0
PSZ Piszkesteto 84.39 20 P P 07 05 12.6 -0.3
PSZ pmax pmax
comp=Z,54nm,1.3s
PSZ Piszkesteto 84.39 20 P P 07 05 12.6 -0.3
PSZ IAMs_20 IAMs_20 07 43 44.0
comp=Z,2µm,20.0s
VSR Storozhevoye 84.40 7 eP P 07 05 14.3 +1.6
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,2µm,16.0s
TEOL Teolo 84.42 26 IAMs_20 IAMs_20 07 45 15.0
comp=Z,3µm,18.0s
VRH Novokhopyorsk 84.61 5 eP P 07 05 13.5 -0.2
VRH pmax pmax
comp=Z,10.0nm,1.0s
VRH MLR MLR
comp=Z,1µm,15.0s
MSSA Maissana 84.64 28 IAmb IAmb 07 05 23.2
comp=Z,24nm,1.1s
MSSA IAMs_20 IAMs_20 07 45 14.0
comp=Z,3µm,18.0s
TRI Trieste 84.75 25 IAMs_20 IAMs_20 07 43 52.7
comp=Z,3µm,20.0s
VILB Vilhena 84.90 113 eP P 07 05 16.7 +1.0
MK31 Makanchi Array 84.98 338 d i P P 07 05 15.9 +0.1
MK31 Makanchi Array 84.98 338 IAmb IAmb 07 05 22.2
comp=Z,24nm,1.6s
MKAR Makanchi Array 84.98 338 P P 07 05 15.0 -0.8
comp=Z,1.3nm,0.8s,baz=47,slow=5.3,SNR=10
MKAR Makanchi Array 84.98 338 P P 07 05 14.4 -1.4
MKAR Makanchi Array 84.98 338 P P 07 05 14.4 -1.4
MAKZ Makanchi 85.05 339 P P 07 05 14.2 -1.9
MAKZ Makanchi 85.05 339 P P 07 05 15.4 -0.7
VLC Villacollemand 85.07 28 P P 07 05 15.9 -0.4
VLC IAmb IAmb 07 05 49.3
comp=Z,37nm,1.1s
VLC IAMs_20 IAMs_20 07 44 22.4
comp=Z,2µm,19.0s
PB01 IPOC Station P 85.19 125 IAmb IAmb 07 05 26.5
comp=Z,32nm,0.9s
WHN Wuhan 85.31 309 ⇑ P P 07 05 22.1 +4.5
WHN S S 07 15 46.1 -2.1
WHN L L
comp=Z,860nm,10.7s
WHN L L
comp=Z,1µm,10.5s
WHN L L
comp=Z,2µm,16.3s
AKTO Aktyubinsk 85.42 355 P P 07 05 16.9 -1.0
comp=Z,7.4nm,1.0s,baz=5.4,slow=4.4,SNR=13
AKTO Aktyubinsk 85.42 355 P P 07 05 17.3 -0.6
GTA Gaotai 85.44 324 eP P 07 05 18.8 +0.5
GTA pP pwP 07 05 23.6 -1.0
GTA sP sP 07 05 26.0 +4.3
GTA PP PP 07 08 36.5 +0.8
GTA S S 07 15 47.4 -2.2
GTA sS sS 07 15 54.1 +0.2
GTA SS SS 07 21 20.9 -2.3
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,160nm,8.0s
GTA L L
comp=Z,2µm,24.4s
GTA L L
comp=Z,3µm,24.7s
GTA L L
comp=Z,3µm,20.4s
XAN Xi'an 85.52 315 P P 07 05 18.0 -0.7
XAN pP pwP 07 05 26.7 +1.9
XAN S S 07 15 46.8 -3.5
XAN SS SS 07 21 19.6 -5.0
XAN pmax pmax
comp=Z,15nm,1.4s
XAN pmax pmax
comp=Z,460nm,6.7s
XAN L L
comp=Z,1µm,17.3s
XAN L L
comp=Z,2µm,15.9s
XAN L L
comp=Z,2µm,19.5s
MORH Mrgy, Hungar 85.66 21 ⇓ P P 07 05 20.1 +1.0
TMAB Tom-Au,PA,Br 85.71 97 eP P 07 05 19.4 -0.4
OTUK Ortayu 85.82 345 P P 07 05 18.3 -1.7
BUR08 Bucovina Ar. S 85.85 17 P P 07 05 19.2 -1.0
BUR08 IAmb IAmb 07 05 42.2
comp=Z,35nm,1.4s
BURAR Bucovina Array 85.88 17 ⇓ P P 07 05 23.0 +2.6
BURAR Bucovina Array 85.88 17 ⇓ P P 07 05 23.0 +2.6
OSSC Osservatorio P 85.92 27 P P 07 05 19.3 -1.2
OSSC IAmb IAmb 07 05 28.7
comp=Z,27nm,1.1s
OSSC IAMs_20 IAMs_20 07 43 12.8
comp=Z,2µm,22.0s
PB09 IPOC Station P 85.92 126 IAmb IAmb 07 05 36.6
comp=Z,43nm,1.3s
SORM Soroca 85.98 14 ⇓ P P 07 05 20.9 +0.2
SORM Soroca 85.98 14 ⇓ P P 07 05 20.9 +0.2
DRGR 86.12 19 ⇑ P P 07 05 26.3 +4.8
DRGR 86.12 19 ⇑ P P 07 05 26.3 +4.8
WMQ Urumqi 86.12 334 eP P 07 05 21.3 -0.3
WMQ pP pwP 07 05 27.5 -0.3
WMQ S S 07 15 55.2 -0.8
WMQ pmax pmax
comp=Z,30nm,0.7s
WMQ pmax pmax
comp=Z,460nm,6.3s
WMQ L L
comp=Z,3µm,19.3s
WMQ L L
comp=Z,3µm,21.1s
WMQ L L
comp=Z,6µm,18.3s
ARCR ARCALIA 86.20 17 ⇑ P P 07 05 25.0 +3.2
CART Cartagena 86.27 38 IAMs_20 IAMs_20 07 42 27.0
comp=Z,2µm,18.0s
CLDB Colider 86.34 109 eP P 07 05 22.8 -0.1
SIRR Siria 86.37 19 ⇓ P P 07 05 23.1 +0.5
LZH Lanzhou 86.37 319 eP P 07 05 22.2 -0.9
LZH sP pwP 07 05 28.9 -0.4
LZH PP PP 07 08 45.1 +1.6
LZH SKS SKSac 07 15 45.9 -3.8
LZH S S 07 15 54.3 -4.6
LZH sS sS 07 16 03.5 +0.3
LZH SS SS 07 21 31.9 -5.3
LZH pmax pmax
comp=Z,32nm,1.3s
LZH pmax pmax
comp=Z,330nm,6.5s
LZH L L
comp=Z,2µm,17.0s
LZH L L
comp=Z,3µm,16.3s
LZH L L
comp=Z,2µm,19.2s
CASP Castiglione de 86.45 28 P P 07 05 22.3 -0.8
CASP IAmb IAmb 07 05 39.4
comp=Z,54nm,1.3s
AB31 Akbulak array 86.45 354 i P P 07 05 22.3 -0.7
ABKAR Akbulak array 86.45 354 P P 07 05 22.2 -0.8
ABKAR IAmb IAmb 07 05 31.4
comp=Z,51nm,1.4s
LIFNC LIFOU 86.54 237 IAMs_20 IAMs_20 07 36 20.4
comp=Z,2µm,20.0s
BIZ Bicaz 86.71 16 ⇑ P P 07 05 25.6 +1.3
LVC Limon Verde 86.75 126 P P 07 05 25.0 -0.1
LVC pmax pmax
comp=Z,16nm,0.9s
LVC Limon Verde 86.75 126 P P 07 05 25.0 -0.1
LVC IAmb IAmb 07 05 34.6
comp=Z,16nm,0.8s
LVC Limon Verde 86.75 126 eP P 07 05 26.0 +0.9
FRGS Fruska Gora 86.94 21 ⇓ P P 07 05 27.2 +1.7
BZS Buzias 86.97 20 ⇓ P P 07 05 27.3 +1.7
BZS Buzias 86.97 20 ⇓ P P 07 05 27.3 +1.7
QZH Quanzhou 87.03 302 P P 07 05 27.8 +1.6
QZH S S 07 16 04.5 -0.7
QZH SS SS 07 21 42.7 -4.5
QZH pmax pmax
comp=Z,290nm,6.9s
QZH L L
comp=Z,520nm,14.7s
QZH L L
comp=Z,890nm,17.5s
QZH L L
comp=Z,720nm,18.2s
PRPB Parauapebas 87.15 101 eP P 07 05 26.8 -0.1
TESR Tescani 87.22 16 ⇑ P P 07 05 28.3 +1.4
PTLB Pontes e Lacer 87.42 114 eP P 07 05 28.3 +0.3
OZUR 87.45 17 ⇓ P P 07 05 34.0 +6.0
GZR Gura Zlata 87.45 19 ⇓ P P 07 05 33.9 +5.8
GZR Gura Zlata 87.45 19 ⇓ P P 07 05 33.9 +5.9
DOPR Dopca 87.49 17 ⇓ P P 07 05 27.4 -0.8
TDK Taldyqorghan 87.63 340 eP P 07 05 27.1 -1.7
comp=Z,50nm,3.3s,baz=340
TDK eLR LR 07 45 29.6
comp=Z,1µm,16.2s,baz=340
TDK Taldyqorghan 87.63 340 eP P 07 05 27.1 -1.7
TDK pmax pmax
comp=Z,50nm,3.3s
TDK MLR MLR
comp=Z,1µm,16.0s
AQU L'Aquila 87.67 26 IAMs_20 IAMs_20 07 45 28.1
comp=Z,3µm,20.0s
MDVR Moldovita 87.77 20 ⇑ P P 07 05 29.8 +0.3
HERR Herculane 87.85 19 ⇓ P P 07 05 31.7 +1.8
PLOR Plostina 87.86 16 ⇓ P P 07 05 29.6 -0.3
PLOR Plostina 87.86 16 ⇓ P P 07 05 29.6 -0.3
VRI Vrincioaia 87.86 16 ⇓ P P 07 05 30.5 +0.6
VRI Vrincioaia 87.86 16 ⇓ P P 07 05 30.5 +0.6
VOIR 87.92 17 ⇑ P P 07 05 31.8 +1.5
VOIR 87.92 17 ⇑ P P 07 05 31.8 +1.5
DZM Mont Dzumac 88.01 236 eP P 07 05 33.3 +2.4
comp=Z,49nm,1.6s
DZM Mont Dzumac 88.01 236 eS S 07 16 18.2 +3.7
comp=Z,1µm,24.9s
DZM Mont Dzumac 88.01 236 eLR LR 07 33 21.3
comp=Z,5µm,21.4s
DZM Mont Dzumac 88.01 236 P P 07 05 32.7 +1.8
comp=Z,3.4nm,0.9s,baz=39,slow=5.4,SNR=3.3
DZM Mont Dzumac 88.01 236 P P 07 05 31.9 +1.0
MLR Muntele Rosu 88.06 17 ⇑ P P 07 05 28.1 -2.9
MLR Muntele Rosu 88.06 17 ⇑ P P 07 05 28.1 -2.9
MLR Muntele Rosu 88.06 17 IAMs_20 IAMs_20 07 43 12.8
comp=Z,2µm,20.0s
CFR Carcaliu 88.80 15 ⇓ P P 07 05 35.1 +0.8
CFR Carcaliu 88.80 15 ⇓ P P 07 05 35.1 +0.8

VSL	Villasalto	88.85	30		IAMs_20	IAMs_20	07 44 59.5			
	comp=Z,2µm,19.0s									
KPKS	Kokpek	89.00	340	*eP*		**P**	**07 05 34.7**	**-0.8**		
	baz=340									
KPKS	Kokpek	89.00	340	*eP*		**P**	**07 05 34.6**	**-0.8**		
CHKK	Chushkaly	89.05	341	*eP*		**P**	**07 05 34.1**	**-1.5**		
	baz=341									
CHKK	Chushkaly	89.05	341	*eP*		**P**	**07 05 34.1**	**-1.5**		
SHLS	Shalkode	89.10	339	*eP*		**P**	**07 05 34.2**	**-1.8**		
	baz=339									
SHLS				*eS*		**SKSac**	**07 16 00.7**	**-5.2**		
	baz=339									
SHLS	Shalkode	89.10	339	*eP*		**P**	**07 05 34.1**	**-1.8**		
SHLS				*eS*		**SKSac**	**07 16 00.7**	**-5.2**		
TPGR	Topolog	89.16	15	⇑P		**P**	**07 05 36.1**	**0.0**		
KUU	Kurty	89.16	341	*eP*		**P**	**07 05 34.5**	**-1.6**		
	baz=341									
KUU	Kurty	89.16	341	*eP*		**P**	**07 05 34.5**	**-1.6**		
UZB	Uzynbulak	89.22	339	*eP*		**P**	**07 05 35.4**	**-1.2**		
	comp=Z,15nm,1.8s,baz=339									
UZB				*eS*		**SKSac**	**07 16 08.5**	**+1.8**		
	baz=339									
UZB	Uzynbulak	89.22	339	*eP*		**P**	**07 05 35.3**	**-1.2**		
UZB				*eS*		**SKSac**	**07 16 08.4**	**+1.8**		
UZB				pmax	pmax					
	comp=Z,15nm,1.8s									
PAOL	Paolisi	89.24	26		IAMs_20	IAMs_20	07 46 17.5			
	comp=Z,3µm,20.0s									
SATY	Saty	89.46	340	*eP*		**P**	**07 05 36.4**	**-1.3**		
	comp=Z,20nm,2.2s,baz=340									
SATY	Saty	89.46	340	*eP*		**P**	**07 05 36.3**	**-1.4**		
SATY				pmax	pmax					
	comp=Z,20nm,2.2s									
TIRR	Tirgusor	89.54	15	⇑P		**P**	**07 05 37.4**	**-0.5**		
TIRR	Tirgusor	89.54	15	⇑P		**P**	**07 05 37.3**	**-0.5**		
AAA	Alma-Ata	89.68	341	*eP*		**P**	**07 05 37.7**	**-1.0**		
	baz=341									
AAA				*eS*		**SKSac**	**07 16 01.6**	**-7.6**		
	baz=341									
AAA	Alma-Ata	89.68	341	*eP*		**P**	**07 05 37.6**	**-1.0**		
AAA				*eS*		**SKSac**	**07 16 01.5**	**-7.6**		
MDOK	Medeo	89.69	341	*eP*		**P**	**07 05 37.9**	**-0.9**		
	baz=341									
MDOK				*eS*		**SKSac**	**07 16 07.4**	**-2.0**		
	baz=341									
MDOK	Medeo	89.69	341	*eP*		**P**	**07 05 37.9**	**-0.9**		
MDOK				*eS*		**SKSac**	**07 16 07.4**	**-2.0**		
MTBS	Maitube	89.86	341	*eP*		**P**	**07 05 38.6**	**-0.9**		
	baz=341									
MTBS	Maitube	89.86	341	*eP*		**P**	**07 05 38.6**	**-0.9**		
SGDS	Sogindy	89.96	342	*eP*		**P**	**07 05 39.9**	**0.0**		
	baz=342									
SGDS				*eS*		**SKSac**	**07 16 08.2**	**-2.7**		
	baz=342									
SGDS	Sogindy	89.96	342	*eP*		**P**	**07 05 39.9**	**0.0**		
SGDS				*eS*		**SKSac**	**07 16 08.1**	**-2.7**		
VTS	Vitosha	90.18	20	⇑P		**P**	**07 05 41.8**	**+0.7**		
VTS	Vitosha	90.18	20	⇑P		**P**	**07 05 41.7**	**+0.7**		
VTS	Vitosha	90.18	20		IAMs_20	IAMs_20	07 47 13.1			
	comp=Z,2µm,21.0s									
TKM2	Tokmak 2	90.25	342	P		**P**	**07 05 41.0**	**-0.5**		
TIR	Tirane	90.51	22		IAMs_20	IAMs_20	07 48 16.9			
	comp=Z,3µm,20.0s									
FRU1	Bishkek	90.58	342		IAMs_20	IAMs_20	07 49 10.5			
	comp=Z,2µm,18.0s									
ANN	Anapa	90.58	9	*eP*		**P**	**07 05 40.0**	**-2.6**		
ANN				pmax	pmax					
	comp=Z,29nm,1.0s									
ANN				MLR	MLR					
	comp=Z,1µm,16.0s									
BOOM	Boomskoye usch	90.58	341		IAMs_20	IAMs_20	07 50 02.3			
	comp=Z,3µm,18.0s									
SMTB	Santa Maria do	90.60	102	*eP*		**P**	**07 05 44.0**	**+0.8**		
CD2	Chengdu	90.63	316	P		**P**	**07 05 44.5**	**+1.3**		
CD2				sP	pwP		07 05 49.3	-0.2		
CD2				PP	**PP**		**07 09 22.0**	**+4.5**		
CD2				S	**S**		**07 16 38.8**	**-0.3**		
CD2				SS	**SS**		**07 22 37.0**	**-2.1**		
CD2				pmax	pmax					
	comp=Z,10.0nm,0.4s									
CD2				pmax	pmax					
	comp=Z,280nm,5.7s									
CD2				L	L					
	comp=Z,2µm,19.1s									
CD2				L	L					
	comp=Z,3µm,15.7s									
CD2				L	L					
	comp=Z,2µm,17.7s									
KDJ	Kajisay	90.63	340		IAMs_20	IAMs_20	07 47 31.7			
	comp=Z,1µm,19.0s									
KK31	Karatay Array	91.12	345	*i* P		**P**	**07 05 45.2**	**-0.1**		
KKAR	Karatay Array	91.12	345	P		**P**	**07 05 44.6**	**-0.7**		
KKAR	Karatay Array	91.12	345	P		**P**	**07 05 44.6**	**-0.7**		
SCTE	Santa Cesarea	91.30	24		IAMs_20	IAMs_20	07 49 10.9			
	comp=Z,2µm,18.0s									
PMG	Port Moresby	91.54	258	LR		LR	07 39 30.2			
	comp=Z,3µm,21.7s,baz=104,slow=31									
PMG	Port Moresby	91.54	258		IAMs_20	IAMs_20	07 39 18.1			
	comp=Z,3µm,21.0s									
TIP	Timpagrande	91.61	25		IAMs_20	IAMs_20	07 48 53.3			
	comp=Z,2µm,18.0s									
PP1B	Ponte de Pedra	91.78	113	*eP*		**P**	**07 05 48.9**	**+0.4**		
NBPS	Pedro II - PI	91.86	94	*eP*		**P**	**07 05 49.0**	**-0.1**		
KIV	Kislovodsk	91.89	5	*eP*		**P**	**07 05 49.5**	**+0.6**		
KIV				*e*			07 16 21.9			
KIV				*e*SS	SS		07 22 59.5	+3.2		
KIV				pmax	pmax					
	comp=Z,30nm,1.1s									
KIV				pmax	pmax					
	comp=Z,56nm,4.8s									
KIV				MLR	MLR					
	comp=Z,3µm,20.0s									
KIV	Kislovodsk	91.89	5		IAMs_20	IAMs_20	07 50 20.0			
	comp=Z,1µm,19.0s									
CLTB	Caltabellotta	91.91	29		IAMs_20	IAMs_20	07 46 06.5			
	comp=Z,3µm,22.0s									
SOC	Sochi	92.02	8	*eP*		**P**	**07 05 45.6**	**-3.8**		
SOC				*e*			07 09 28.8			
SOC				*e*PPP	PPP		07 11 28.1			
SOC				*e*S	**SKSac**		**07 16 17.8**	**-4.6**		
SOC				*e*SS	**SS**		**07 22 57.3**	**-0.7**		
SOC				MLR	MLR					
	comp=Z,1µm,18.0s									
IUG	Iuzhnay	92.13	345	*eP*		**P**	**07 05 50.4**	**+0.3**		
	baz=345									
IUG	Iuzhnay	92.13	345	*eP*		**P**	**07 05 50.4**	**+0.3**		
KEST	Kesra	92.15	32		IAMs_20	IAMs_20	07 49 19.1			
	comp=Z,2µm,18.0s									
CEL	Celeste	92.18	26		IAMs_20	IAMs_20	07 47 38.4			
	comp=Z,2µm,19.0s									
ALN	Alexandroupoli	92.47	18		IAMs_20	IAMs_20	07 45 57.6			
	comp=Z,1µm,20.0s									
GYA	Guiyang	92.71	312	⇑P		**P**	**07 05 50.1**	**-2.9**		
GYA				sP	pwP		07 05 58.5	-0.7		
GYA				PP	**PP**		**07 09 37.0**	**+2.8**		
GYA				S	**S**		**07 16 54.2**	**-4.0**		
GYA				pmax	pmax					
	comp=Z,2.0nm,1.2s									
GYA				L	L					
	comp=Z,100nm,15.7s									
GYA				L	L					
	comp=Z,120nm,17.3s									
MAK	Makhachkala	93.11	2	*eP*		P	07 05 49.5	-4.9		
MAK				*e*			07 16 19.9			
MAK				*e*SS	SS		07 23 17.5	+4.0		
MAK				*e*SSS	SSS		07 26 53.6			
MAK				pmax	pmax					
	comp=Z,77nm,1.0s									
MAK				MLR	MLR					
	comp=Z,1µm,18.0s									
ILGA	Ilgaz	93.77	12		IAMs_20	IAMs_20	07 49 49.7			
	comp=Z,2µm,21.0s									
WDD	Wied Dalam	93.93	28		IAMs_20	IAMs_20	07 51 18.9			
	comp=Z,2µm,19.0s									
MXZ	Matakaoa Point	94.02	219		IAMs_20	IAMs_20	07 42 10.1			
	comp=Z,2µm,20.0s									
MT01	Popeta	94.26	135		IAMs_20	IAMs_20	07 39 20.8			
	comp=Z,1µm,20.0s									
MT09	Talagante	94.32	134		IAMs_20	IAMs_20	07 38 55.5			
	comp=Z,2µm,20.0s									
OUZ	Omahuta	94.34	223		IAMs_20	IAMs_20	07 44 57.5			
	comp=Z,2µm,20.0s									
BO01	Tunca	94.75	135		IAMs_20	IAMs_20	07 39 07.0			
	comp=Z,2µm,22.0s									
ANTO	Ankara	94.78	13		IAMs_20	IAMs_20	07 54 27.5			
	comp=Z,1µm,20.0s									
GO05	Huala	94.81	136		IAMs_20	IAMs_20	07 39 30.7			
	comp=Z,1µm,21.0s									
ITM	Ithomi	94.97	22		IAMs_20	IAMs_20	07 52 25.9			
	comp=Z,2µm,18.0s									
BDFB	Brasilia	95.03	107		IAMs_20	IAMs_20	07 51 39.2			
	comp=Z,1µm,21.0s									
BRTR	Keskin Array B	95.05	13	P		**P**	**07 06 02.6**	**-1.0**		
	comp=Z,1.1nm,0.8s,baz=342,slow=1.6,SNR=4.7									
BRTR	Keskin Array B	95.05	13	*i* P		**P**	**07 06 05.6**	**+2.0**		
BRTR				pmax	pmax					
	comp=Z,1.0nm,0.8s									
URZ	Urewera	95.13	219		IAMs_20	IAMs_20	07 44 49.5			
	comp=Z,1µm,20.0s									
BO02	Sierra Bellavi	95.22	135		IAMs_20	IAMs_20	07 39 21.5			
	comp=Z,1µm,22.0s									
DAV	Davao City (W)	95.44	285		IAMs_20	IAMs_20	07 40 39.0			
	comp=Z,2µm,21.0s									
KMI	Kunming	95.86	314	⇑P		**P**	**07 06 08.3**	**+0.7**		
KMI				pP	sP		07 06 11.0	0.0		
KMI				PP	**PP**		**07 10 01.1**	**+2.3**		
KMI				SKS	**SKSac**		**07 16 44.9**	**+0.5**		
KMI				S	**S**		**07 17 20.5**	**-5.5**		
KMI				SS	**SS**		**07 23 53.2**	**-1.4**		
KMI				pmax	pmax					
	comp=Z,10.0nm,1.3s									
KMI				pmax	pmax					
	comp=Z,130nm,5.1s									
KMI				L	L					
	comp=Z,1µm,19.3s									
KMI				L	L					
	comp=Z,850nm,16.7s									
KMI				L	L					
	comp=Z,2µm,18.2s									
BKZ	Black Stump Fm	96.15	219		IAMs_20	IAMs_20	07 43 42.5			
	comp=Z,2µm,20.0s									
ISP	Isparta	96.36	16		IAMs_20	IAMs_20	07 52 54.8			
	comp=Z,1µm,21.0s									
HIZ	Hauiti	96.37	220		IAMs_20	IAMs_20	07 44 54.4			
	comp=Z,2µm,19.0s									
QIZ	Qiongzhong	96.76	305	P		**P**	**07 06 11.0**	**-0.5**		
QIZ				S		**S**	**07 17 33.5**	**0.0**		
QIZ				L	L					
	comp=Z,710nm,19.6s									
QIZ				L	L					
	comp=Z,940nm,22.1s									
QIZ				L	L					
	comp=Z,920nm,17.3s									
SIJI	Sorong	97.00	276	LR		LR	07 41 37.1			
	comp=Z,2µm,21.6s,baz=20,slow=30									
BFZ	Birch Farm	97.49	218		IAMs_20	IAMs_20	07 41 14.9			
	comp=Z,2µm,21.0s									
ASHT	Ashkhabad	97.82	353		IAMs_20	IAMs_20	07 55 31.1			
	comp=Z,2µm,20.0s									
KARP	Karpathos	97.83	19		IAMs_20	IAMs_20	07 53 04.7			
	comp=Z,1µm,21.0s									
GYA0B	ALIBECK ARRAY	97.85	354		IAMs_20	IAMs_20	07 55 44.0			
	comp=Z,3µm,21.0s									
SNZO	South Karori	98.68	219		IAMs_20	IAMs_20	07 44 50.6			
	comp=Z,2µm,21.0s									
NNZ	Nelson	99.21	220		IAMs_20	IAMs_20	07 44 19.6			
	comp=Z,2µm,21.0s									
QRZ	Quartz Range	99.30	221		IAMs_20	IAMs_20	07 44 23.8			
	comp=Z,2µm,20.0s									
LL03	Petrohue	99.43	140		IAMs_20	IAMs_20	07 43 56.0			
	comp=Z,2µm,18.0s									
NIL	Nilore	99.64	341		IAMs_20	IAMs_20	07 54 40.0			
	comp=Z,3µm,20.0s									
KBL	Kabul	99.69	344		IAMs_20	IAMs_20	07 53 33.3			
	comp=Z,2µm,22.0s									
EIDS	Eidsvold	100.00	244		IAMs_20	IAMs_20	07 42 23.4			
	comp=Z,2µm,22.0s									
HRA	Herat	100.94	350		IAMs_20	IAMs_20	07 54 03.8			
	comp=Z,2µm,21.0s									
LTZ	Lake Taylor	100.95	219		IAMs_20	IAMs_20	07 42 46.7			
	comp=Z,2µm,22.0s									
LL02	Futaleuf	101.30	141		IAMs_20	IAMs_20	07 42 35.5			
	comp=Z,1µm,20.0s									
ARMA	Armidale	103.15	240		IAMs_20	IAMs_20	07 44 18.0			
	comp=Z,2µm,21.0s									
MTN	Manton Dam	105.30	267		IAMs_20	IAMs_20	07 49 57.9			
	comp=Z,2µm,20.0s									
SOEI	Soe	108.14	274		IAMs_20	IAMs_20	07 56 18.2			
	comp=Z,1µm,20.0s									
KNRA	Kununurra	108.90	266		IAMs_20	IAMs_20	07 49 45.2			
	comp=Z,2µm,21.0s									
ASAR	Alice Springs	110.47	257	PKiKP		**PKiKP**	**07 11 13.2**	**+0.1**		
	comp=Z,0.8nm,0.8s,baz=67,slow=2.3,SNR=5.0									
RAYN	Ar Rayn	112.39	5		IAMs_20	IAMs_20	08 08 53.8			
	comp=Z,909nm,19.0s									
FITZ	Fitzroy Crossi	112.73	267		IAMs_20	IAMs_20	07 51 48.9			
	comp=Z,1µm,21.0s									
RPSI	Rantau Prapat	116.15	303		IAMs_20	IAMs_20	08 09 23.3			
	comp=Z,895nm,20.0s									
PALK	Pallekele	121.76	324		IAMs_20	IAMs_20	08 11 45.0			
	comp=Z,944nm,22.0s									
SBA	Scott Base	127.73	194	PKIKP		**PKiKP**	**07 11 47.7**	**+2.6**		
SBA	Scott Base	127.73	194	PKPdf		**PKiKP**	**07 11 47.7**	**+2.6**		
VNDA	Vanda	128.42	195	PKP		**PKPdf**	**07 11 45.7**	**-0.1**		
	comp=Z,1.5nm,0.8s,baz=296,slow=2.4,SNR=9.0									
VNDA	Vanda	128.42	195	PKIKP		**PKiKP**	**07 11 46.8**	**+0.4**		
VNDA	Vanda	128.42	195			**PKiKP**	**07 11 46.8**	**+0.4**		
LODK	Lodwar	130.68	20		IAMs_20	IAMs_20	08 16 16.9			
	comp=Z,1µm,18.0s									
MBAR	Mbarara	133.19	27		IAMs_20	IAMs_20	08 14 13.1			
	comp=Z,1µm,20.0s									
QSPA	South Pole Qui	134.08	180	PKPdf		**PKiKP**	**07 11 58.1**	**-0.2**		
KIBK	Kibwezi	136.87	18		IAMs_20	IAMs_20	08 25 51.3			
	comp=Z,853nm,19.0s									
MSEY	Mahe Island	140.28	352		IAMs_20	IAMs_20	08 17 32.1			
	comp=Z,795nm,19.0s									
VNA3	Neumayer Olymp	140.81	154	PKPdf		**PKPdf**	**07 12 10.0**	**+0.8**		
CASY	Casey	141.27	214		IAMs_20	IAMs_20	08 03 49.6			
	comp=Z,2µm,21.0s									
VNA1	Neumayer--Stat	141.38	153	PKPdf		**PKPdf**	**07 12 10.8**	**+0.7**		
VNA2	Neumayer--Watz	141.60	153	PKPdf		**PKPdf**	**07 12 11.4**	**+0.8**		
	baz=265,slow=0.6									
SNAA	Sanae	142.82	155	PKPdf		**PKPdf**	**07 12 14.3**	**+1.5**		
SNAA	Sanae	142.82	155		IAMs_20	IAMs_20	08 03 53.5			
	comp=Z,1µm,20.0s									
SYO	Syowa Base	154.62	171	⇑*e*PKPbc		**PKiKP**	**07 12 41.6**	**+1.4**		
SYO	Syowa Base	154.62	171	⇑*ep*PKPbc		pPKPbc	07 12 46.1	+3.4		

IDC ***01*** *06:54:10.0±3.0, 53.78N×88.20E, h0km, mb1 3.2/3, mb1mx3.0/67, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=24.7km s-min=17.8km az=59.0*
NNC ***01*** *06:54:09.2±5.0, 53.62N×88.28E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=40.4km s-min=20.1km az=58.0, Suspected Mining explosion.*

ISC 01 06:54:08.7±3.3, 53.8N±0.1×88.2E±0.2, h0km, n8, σ1s38/13, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**277**	*i*		07 06	25.3		
	baz=93,slow=314,SNR=0.7								
ZAA0	**Zalesovo Array**	**2.01**	**277**	⇓Pn	**Pn**	**06**	**54**	**44.5**	**+0.6**
	3.9nm,0.8s								
ZAA0				⇑Sn	**Sg**	**06**	**55**	**13.7**	**+0.4**
	9.6nm,0.8s								
ZALV	**Zalesovo Beam**	**2.01**	**277**	Pn	**Pb**	**06**	**54**	**45.1**	**-1.0**
	3.0nm,0.3s,baz=89,slow=12,SNR=27								
ZALV				Lg	Lg	06	55	13.9	
	6.3nm,0.3s,baz=95,slow=25,SNR=11								
KURBB	**Kurchatov Arra**	**6.73**	**246**	Pn	**Pn**	**06**	**55**	**50.4**	**+1.8**
	0.2nm,0.3s,baz=62,slow=14,SNR=14								
KURBB				Sn	**Sn**	**06**	**57**	**06.5**	**+0.6**
	0.1nm,0.3s,baz=76,slow=27,SNR=3.0								
KURBB				Lg	Lg	06	57	44.5	
	0.1nm,0.3s,baz=61,slow=32,SNR=8.3								
KURBB	**Kurchatov Arra**	**6.73**	**246**	⇑Pn	**Pn**	**06**	**55**	**48.9**	**+0.3**
	1.9nm,0.3s								
KURBB				⇓Sn	**Sn**	**06**	**57**	**04.5**	**-1.4**
	7.0nm,0.7s								
KURBB				⇑Lg	Lg	06	57	42.2	
	7.6nm,0.8s								
MK31	**Makanchi Array**	**7.94**	**211**	⇑Pn	**Pn**	**06**	**56**	**05.6**	**+0.3**
	1.6nm,0.8s,baz=30,slow=14,SNR=8.7								
MK31				⇑Sn	**Sn**	**06**	**57**	**36.6**	**+0.8**
	0.9nm,0.8s,baz=30,slow=22								
MK31				⇑Lg	Lg	06	58	20.2	
	1.6nm,0.8s,baz=20,slow=32,SNR=4.8								
MKAR	**Makanchi Array**	**7.94**	**211**	Pn	**Pn**	**06**	**56**	**07.9**	**+2.6**
	0.1nm,0.3s,baz=25,slow=18,SNR=3.6								
MKAR				Sn	**Sn**	**06**	**57**	**35.9**	**+0.1**
	0.1nm,0.3s,baz=19,slow=28,SNR=2.8								
MKAR				Lg	Lg	06	58	25.0	
	0.1nm,0.3s,baz=22,slow=28,SNR=3.4								
MAKZ	**Makanchi**	**8.03**	**212**	⇓Pn	**Pn**	**06**	**56**	**04.4**	**-2.1**
	1.8nm,1.0s								
MAKZ				⇑Sn	**Sn**	**06**	**57**	**37.2**	**-0.6**
	0.6nm,0.6s								
MAKZ				⇑Lg	Lg	06	58	18.7	
	2.7nm,1.0s								

IDC ***01*** *06:54:06.8±1.2, 44.50N×129.34W, h0km, mb4.4/22, mb1 4.5/24, mb1mx4.4/59, mbtmp4.4/24, ML3.9/1, Error ellipse: s-maj=36.1km s-min=20.1km az=24.0*
NEIC ***01*** *06:54:10.8±3.0, 44.20N±0.08×129.8W±0.1, h10km±1km, mb5.2/38, ML4.3/4, Error ellipse: s-maj=17.2km s-min=10.6km az=236.0*

ISC 01 06:54:10.1±0.5, 44.27N±0.08×129.87W±0.07, h10km, n112, σ1s97/98, mb5.0/53, 1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KEBM	**Edson Butte**	**4.26**	**107**	Pn	**Pn**	**06**	**55**	**15.6**	**+0.5**
KEBM				IAML		06	55	46.9	
	comp=E,398nm,2.3s								
NLWA	**Neilton Lookou**	**5.23**	**51**	Pn	**Pn**	**06**	**55**	**28.0**	**-0.4**
NLWA				IAML		06	58	31.5	
	comp=E,151nm,5.0s								
H04A	**Detroit Lake**	**5.51**	**83**	Pn	**Pn**	**06**	**55**	**30.0**	**-2.3**
JCC	**Jacoby Creek,**	**5.52**	**127**	Pn	**Pn**	**06**	**55**	**31.0**	**-1.3**
KHMM	**Horse Mountain**	**5.66**	**125**	Pn	**Pn**	**06**	**55**	**33.1**	**-1.3**
YBH	**Yreka Blue Hor**	**5.83**	**113**	Pn	**Pn**	**06**	**55**	**37.2**	**+0.5**
PINE	**Pine Mountain**	**6.46**	**91**	Pn	**Pn**	**06**	**55**	**43.2**	**-2.2**
KCPM	**Cahto Peak**	**6.55**	**132**	Pn	**Pn**	**06**	**55**	**45.1**	**-1.5**
LTY	**Liberty**	**7.09**	**62**	Pn	Pn	06	55	51.1	-2.9
B06A	**Marblemount**	**7.19**	**51**	Pn	Pn	06	55	52.6	-2.5
HOPS	**Hopland Field**	**7.33**	**134**	Pn	**Pn**	**06**	**55**	**55.0**	**-2.1**
SIT	**Sitka**	**13.26**	**347**	Pn	**Pn**	**06**	**57**	**18.2**	**+0.1**
TCRU	**Three Creeks R**	**14.23**	**107**	Pn	**Pn**	**06**	**57**	**34.4**	**+2.5**
GCMT	**Greycliff**	**14.37**	**77**		**P**	**06**	**57**	**40.4**	**-0.3**
U15A	**North Rim**	**15.50**	**114**		**P**	**06**	**57**	**54.2**	**+0.7**
U15A				IAmb	IAmb	06	58	18.6	
	comp=Z,132nm,1.5s								
X16A	**Lo Mia Camp, P**	**17.29**	**118**		**P**	**06**	**58**	**12.1**	**-1.1**
TUC	**Tucson**	**19.11**	**122**	P	**Pn**	**06**	**58**	**33.7**	**-0.2**
KDAK	**Kodiak Island**	**19.54**	**322**	P	**P**	**06**	**58**	**37.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=158,slow=6.5,SNR=6.2								
KDAK	**Kodiak Island**	**19.54**	**322**	P	**Pn**	**06**	**58**	**39.9**	**+1.1**
YKA	**Yellowknife Ar**	**20.30**	**21**	P	**P**	**06**	**58**	**40.9**	**-4.9**
	baz=215,slow=10,SNR=1.1								
SUA	**Susitna One**	**21.17**	**332**	P	**P**	**06**	**58**	**57.4**	**+2.0**
SUA				IAmb	IAmb	06	59	02.7	
	comp=Z,211nm,1.5s								
RSO	**Redoubt South**	**21.22**	**328**	P	**P**	**06**	**58**	**57.1**	**+1.0**
SPU	**Mount Spurr**	**21.43**	**330**	P	**P**	**06**	**58**	**58.2**	**+0.1**
RND	**Reindeer**	**22.04**	**337**	P	**P**	**06**	**59**	**06.8**	**+2.2**
SDPT	**Sand Point**	**22.46**	**310**	P	**P**	**06**	**59**	**07.8**	**-1.3**
K31A	**O'Neill**	**22.59**	**83**	P	**P**	**06**	**59**	**09.9**	**-0.8**
ILAR	**Eielson Array**	**22.64**	**341**	P	**P**	**06**	**59**	**08.2**	**-2.9**
	comp=Z,8.9nm,1.1s,baz=148,slow=8.6,SNR=1.3								
ILAR	**Eielson Array**	**22.64**	**341**	P	**P**	**06**	**59**	**12.9**	**+1.9**
SVW2	**Sparrevohn**	**22.71**	**327**	P	**P**	**06**	**59**	**14.3**	**+2.5**
SVW2				IAmb	IAmb	06	59	19.8	
	comp=Z,84nm,1.1s								
CCB	**Clear Creek Bu**	**22.76**	**340**	P	**P**	**06**	**59**	**12.6**	**+0.3**
CCB				IAmb	IAmb	06	59	20.8	
	comp=Z,127nm,1.4s								
NEA2	**Nenana**	**23.04**	**339**	P	**P**	**06**	**59**	**17.3**	**+2.1**
B35A	**Bob, Littlefor**	**25.14**	**68**	P	**P**	**06**	**59**	**34.9**	**-0.3**
B35A				IAmb	IAmb	06	59	41.4	
	comp=Z,81nm,1.1s								
IMAR	**Indian Mountai**	**25.37**	**337**	P	**P**	**06**	**59**	**39.9**	**+2.8**
TX31	**Lajitas Ar. Si**	**25.59**	**117**	P	**P**	**06**	**59**	**38.5**	**-1.1**
TX31				IAmb	IAmb	06	59	43.8	
	comp=Z,102nm,1.3s								
TX32	**Lajitas Array**	**25.59**	**117**	P	**P**	**06**	**

DAVA	Damuels	82.17	26	*e*P		P	07 06 40.0	+8.8
	comp=Z,20nm,1.4s							
RETA	Reutte	82.27	26	*e*P		P	07 06 39.3	+7.7
	comp=Z,5.3nm,1.2s							
VRAC	Vranov	82.30	21	*e*P		**P**	**07 06 33.7**	**+2.1**
KURBB	Kurchatov Arra	82.31	342	P		**P**	**07 06 28.2**	**-3.4**
	comp=Z,1.2nm,0.8s,baz=24,slow=4.9,SNR=0.9							
KRUC	Moravsky	82.47	22	*e*P		**P**	**07 06 34.5**	**+2.0**
MOTA	Moosalm	82.50	26	*e*P		P	07 06 41.9	+9.0
	comp=Z,15nm,1.2s							
SQTA	Sankt Quirin	82.64	26	*e*P		P	07 06 42.3	+8.7
	comp=Z,27nm,1.5s							
WATA	Walderalm	82.66	25	*e*P		**P**	**07 06 37.4**	**+3.7**
	comp=Z,28nm,1.3s							
FETA	Feichten	82.67	26	*e*P		P	07 06 41.3	+7.5
	comp=Z,15nm,1.9s							
WTTA	Wattenberg	82.74	25	*e*P		**P**	**07 06 37.9**	**+3.7**
	comp=Z,32nm,1.5s							
JAVC	Velka Javorina	82.99	21	*e*P		**P**	**07 06 36.3**	**+1.0**
MOA	Molln	82.99	23	*e*P		**P**	**07 06 38.6**	**+3.3**
	comp=Z,14nm,1.3s							
ESDC	Sonseca Array	83.27	39	P		P	07 06 31.8	-5.2
	comp=Z,1.0nm,0.8s,baz=305,slow=4.5,SNR=1.6							
ESDC	Sonseca Array	83.27	39	P		**P**	**07 06 39.6**	**+2.7**
ESDC				IAmb		IAmb	07 06 47.7	
	comp=Z,19nm,1.5s							
CONA	Conrad Observa	83.36	22	*e*P		**P**	**07 06 39.7**	**+2.4**
	comp=Z,0.3nm,0.7s							
KBA	Koelnbreinsper	83.42	24	*e*P		**P**	**07 06 39.9**	**+2.2**
	comp=Z,20nm,1.1s							
ABTA	Abfaltersbach	83.47	25	*e*P		**P**	**07 06 41.3**	**+3.5**
	comp=Z,14nm,1.1s							
AKASG	Malin Array Be	83.68	13	P		P	07 06 33.6	-5.1
	comp=Z,0.9nm,0.5s,baz=347,slow=4.6,SNR=1.0							
ARSA	Arzberg	83.89	23	*e*P		**P**	**07 06 40.9**	**+0.9**
	comp=Z,21nm,1.2s							
MYKA	Terra Mystica	83.91	24	*e*P		**P**	**07 06 41.5**	**+1.4**
	comp=Z,8.0nm,0.9s							
SOKA	Soboth	84.27	23	*e*P		**P**	**07 06 43.5**	**+1.5**
	comp=Z,29nm,1.5s							
OBKA	Obir	84.29	24	*e*P		**P**	**07 06 43.2**	**+1.1**
	comp=Z,19nm,1.1s							
PSZ	Piszkesteto	84.42	20	P		**P**	**07 06 45.5**	**+2.8**
MKAR	Makanchi Array	84.97	338	P		**P**	**07 06 42.2**	**-3.3**
	comp=Z,0.8nm,0.8s,baz=28,slow=3.4,SNR=0.9							
MKAR	Makanchi Array	84.97	338	P		**P**	**07 06 47.2**	**+1.7**
MAKZ	Makanchi	85.04	339	P		**P**	**07 06 46.7**	**+0.9**
MAKZ				IAmb		IAmb	07 06 48.6	
	comp=Z,19nm,1.1s							
MAKZ	Makanchi	85.04	339	IAmb		IAmb	07 06 48.6	
	comp=Z,19nm,1.1s							
ABKAR	Akbulak array	86.46	354	P		**P**	**07 06 55.5**	**+2.8**
KKAR	Karatay Array	91.12	345	P		**P**	**07 07 16.2**	**+1.2**
BRTR	Keskin Array B	95.07	13	P		**P**	**07 07 30.6**	**-2.8**
	comp=Z,1.0nm,1.0s,baz=101,slow=1.5,SNR=1.5							
LSZ	Lusaka	145.61	40	PKPbc		**PKPdf**	**07 13 46.6**	**-2.5**
	comp=Z,3.1nm,0.6s,baz=1.1,slow=2.0,SNR=1.0							
SYO	Syowa Base	154.61	171	∥*e*PKPbc		**PKiKP**	**07 14 11.6**	**+1.7**

*IDC **01** 06:54:58.6±1.8, 1°.37N× 126°.37E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/50, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=119.6km s-min=23.0km az=68.0*
*NEIC **01** 06:55:01.2±1.7, 1°.3N±0°.2× 126°.29E±0°.03, h14km±8km, mb4.2/6, Error ellipse: s-maj=23.9km s-min=4.4km az=181.0*
*DJA **01** 06:55:02.7±0.5, 1°N±6°× 12°6E±°, h10km, M3.5/5, MLv3.5/5*
ISC 01 06:55:04.8±1.1, **1°.35N**±0°.10× **126°.52E**±0°.09, **h47**km, **n17, σ0§59/15, mb4.0/7, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.03	124	Pn	**Pn**	**06 55 23.1**	**+0.2**
TNTI	Ternate	1.03	124	P	**Pn**	**06 55 23.2**	**+0.4**
SGSI	Sangihe	2.52	337	P	**Pn**	**06 55 43.5**	**+0.2**
GTOI	Gorontalo	3.58	259	P	**Pn**	**06 55 58.1**	**+0.3**
LUWI	Luwuk	4.44	238	Pn	Pn	06 56 03.9	-5.7
TTSI	Tana Toraja	8.00	237	P	Pn	06 57 04.1	+5.6
FITZ	Fitzroy Crossi	19.35	183	P	**P**	**06 59 25.8**	**-0.7**
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=1.5						
WB0	Warramunga Arr	22.37	160	P	**P**	**06 59 58.9**	**-0.3**
WB0				IAmb	IAmb	07 00 02.6	
	comp=Z,6.1nm,1.0s						
WRA	Warramunga Arr	22.51	160	P	**P**	**07 00 00.2**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=339,slow=11,SNR=34						
WRA	Warramunga Arr	22.51	160	P	**P**	**06 59 59.6**	**-1.1**
WB2	Warramunga Arr	22.52	160	P	**P**	**07 00 00.6**	**-0.2**
WB2				IAmb	IAmb	07 00 03.8	
	comp=Z,7.4nm,0.8s						
WR0	Warramunga Arr	22.60	160	P	**P**	**07 00 01.2**	**-0.3**
WR0				IAmb	IAmb	07 00 04.2	
	comp=Z,6.4nm,1.1s						
ASAR	Alice Springs	25.89	164	P	**P**	**07 00 33.5**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=345,slow=12,SNR=15						
MK31	Makanchi Array	59.38	326	P	**P**	**07 05 02.4**	**-0.1**
MK31				IAmb	IAmb	07 05 20.5	
	comp=Z,12nm,1.4s						
MKAR	Makanchi Array	59.38	326	P	**P**	**07 05 02.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=120,slow=7.0,SNR=9.1						
MKAR	Makanchi Array	59.38	326	P	**P**	**07 05 01.8**	**-0.7**
MAKZ	Makanchi	59.57	326	P	**P**	**07 05 03.9**	**+0.2**

*ANF **01** 06:56:13.8±3.9, 44°.31N× 129°.88W, h10km, ML4.8/4, Error ellipse: s-maj=42.9km s-min=8.5km az=78.0, Hypocentre not reviewed by the ISC*
*IDC **01** 06:56:15.7±5.4, 44°.47N× 129°.30W, h0km, mb3.8/1, mb1 3.9/5, mb1mx3.6/59, mbtmp3.5/5, ML3.2/4, Error ellipse: s-maj=89.1km s-min=33.6km az=67.0*
*NEIC **01** 06:56:18.1±2.4, 44°.3N±0°.1× 129°.46W±0°.04, h10km±2km, ML4.1/14, Error ellipse: s-maj=17.8km s-min=4.7km az=349.0*
ISC 01 06:56:13.5±3.4, **44°.3N**±0°.1× **129°.9W**±0°.3, **h10**km, **n24, σ1§26/24, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.31	107	Pn	**Pn**	**06 57 16.6**	**-2.5**
KEBM				IAML		06 58 38.0	
	comp=E,300nm,4.8s						
KEBM				IAML		06 59 28.5	
	comp=N,205nm,4.7s						
I02D	Swisshome	4.39	90	P		06 57 19.6	
	baz=275						
J01E	Myrtle Point	4.50	102	P		06 57 21.1	
	baz=287						
KBO	Bosley Butte	4.66	114	Pn	**Pn**	**06 57 23.4**	**-0.5**
COR	Corvallis	4.77	84	Pn	**Pn**	**06 57 24.9**	**-0.5**
COR				IAML		06 58 01.9	
	comp=N,186nm,4.1s						
COR				IAML		06 58 36.6	
	comp=N,154nm,4.3s						
I03D	Drain, OR	4.79	95	P		06 57 25.3	
	baz=280						
K02D	Willamette Mer	4.83	107	P		06 57 25.9	
	baz=292						
G03D	McMinnville, O	4.85	76	P		06 57 25.6	
	baz=262,SNR=23						
E03A	Lebam	5.04	61	Pn	**Pn**	**06 57 27.9**	**-1.1**
E03A				IAML		06 58 28.9	
	comp=N,174nm,4.1s						
H04D	Lebanon	5.17	85	P		06 57 30.2	
	baz=270,SNR=11						
F04D	Rainier, OR	5.23	67	P		06 57 30.8	
	baz=252						
NLWA	Neilton Lookou	5.27	52	Pn	**Pn**	**06 57 31.3**	**-1.0**
HUMO	Hull Mountain	5.35	106	Pn	**Pn**	**06 57 34.4**	**+1.0**
H04A	Detroit Lake	5.57	83	Pn	**Pn**	**06 57 36.5**	**+0.2**
H04A				IAML		06 58 32.4	
	comp=N,105nm,3.8s						
E04D	Cinebar	5.68	64	P		06 57 36.9	
	baz=249,SNR=27						
D03D	Eldon	5.79	53	P		06 57 38.4	
	baz=238,SNR=46						
D04E	Lakebay	5.80	57	P		06 57 39.2	
	baz=243,SNR=43						
YBH	Yreka Blue Hor	5.88	113	Pn	**Pn**	**06 57 41.9**	**+1.2**
	comp=N,0.1nm,0.3s,baz=296,slow=13,SNR=2.2						
G05D	Wamic, OR	6.22	78	P		06 57 45.7	
	baz=264,SNR=19						
F05D	White Salmon	6.22	72	P		06 57 45.6	
	baz=258,SNR=43						
LON	Longmire	6.23	64	Pn	**Pn**	**06 57 45.4**	**-0.1**
PGC	Sidney	6.27	43	Pn	**Pn**	**06 57 44.8**	**-1.1**
D05A	Enumclaw	6.29	60	Pn	**Pn**	**06 57 46.9**	**+0.7**
PINE	Pine Mountain	6.51	91	Pn	**Pn**	**06 57 50.4**	**+1.0**
B05A	Bryant	6.75	51	P		06 57 52.1	
	baz=237,SNR=56						
LTY	Liberty	7.14	62	Pn	**Pn**	**06 57 58.7**	**+0.7**
A05A	Maple Falls	7.19	46	Pn	**Pn**	**06 57 58.3**	**-0.2**
C06D	Leavenworth	7.28	57	P		06 57 59.2	
	baz=243,SNR=5.2						
HOPS	Hopland Field	7.36	133	Pn	**Pn**	**06 58 02.6**	**+1.6**
G08A	Pilot Rock	7.88	79	Pn	**Pn**	**06 58 08.2**	**0.0**
E08A	Dider Farm, El	7.98	70	Pn	**Pn**	**06 58 10.2**	**+0.8**
C09A	Chrisman Ranch	8.85	62	Pn	**Pn**	**06 58 21.1**	**-0.3**
BMO	Blue Mountains	9.04	82	Pn	**Pn**	**06 58 24.8**	**+0.6**
NVAR	Mina Array Bea	10.51	120	Pn	**Pn**	**06 58 46.9**	**+2.6**
	comp=N,0.1nm,0.3s,baz=294,slow=16,SNR=0.8						
TCRU	Three Creeks R	14.28	107	Pn	**Pn**	**06 59 33.3**	**-2.6**
PDAR	Pinedale Array	14.87	89	Pn	**Pn**	**06 59 44.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=279,slow=7.2,SNR=1.3						
YKA	Yellowknife Ar	20.32	21	P	**P**	**07 00 50.4**	**+1.0**
	comp=N,0.1nm,0.3s,baz=211,slow=11,SNR=2.4						
TXAR	Lajitas Array	25.64	117	P	**P**	**07 01 42.4**	**-0.9**
	comp=N,2.0nm,0.9s,baz=304,slow=8.6,SNR=3.9						

*IDC **01** 06:57:06.9±3.8, 44°.46N× 129°.71W, h0km, mb3.5/3, mb1 4.1/6, mb1mx3.7/58, mbtmp3.7/6, ML2.9/3, Error ellipse: s-maj=87.8km s-min=21.9km az=51.0*
*NEIC **01** 06:57:07.6±2.4, 44°.53N±0°.09× 129°.8W±0°.2, h10km±2km, ML4.2/12, Error ellipse: s-maj=23.6km s-min=15.9km az=264.0*
ISC 01 06:57:09.2±1.9, **44°.57N**±0°.09× **129°.6W**±0°.2, **h13**km, **n33, σ1§41/32, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.20	112	Pn	**Pn**	**06 58 14.3**	**+1.5**
KEBM				IAML		07 00 03.7	
	comp=E,244nm,5.0s						
KEBM				IAML		07 00 26.4	
	comp=N,221nm,4.4s						
COR	Corvallis	4.52	88	Pn	**Pn**	**06 58 15.9**	**-1.4**
KBO	Bosley Butte	4.59	119	Pn	**Pn**	**06 58 18.4**	**+0.1**
E03A	Lebam	4.70	63	Pn	**Pn**	**06 58 18.8**	**-0.8**
E03A				IAML		07 00 24.5	
	comp=E,212nm,4.9s						
NLWA	Neilton Lookou	4.91	53	Pn	**Pn**	**06 58 22.2**	**-0.4**
NLWA				IAML		07 00 47.2	
	comp=E,179nm,4.7s						
KRMB	Red Mountain	5.18	124	Pn	**Pn**	**06 58 23.1**	**-3.3**
KRMB				IAML		06 59 20.7	
	comp=N,110nm,4.5s						
KRMB				IAML		07 01 53.0	
	comp=E,132nm,4.9s						
H04A	Detroit Lake	5.31	86	Pn	**Pn**	**06 58 27.5**	**-0.7**
JCC	Jacoby Creek,	5.58	130	Pn	**Pn**	**06 58 29.7**	**-2.1**
KHMM	Horse Mountain	5.70	128	Pn	**Pn**	**06 58 34.8**	**+1.2**
YBH	Yreka Blue Hor	5.80	117	Pn	**Pn**	**06 58 36.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=294,slow=20,SNR=3.4						
PGC	Sidney	5.89	44	Pn	**Pn**	**06 58 35.5**	**-0.5**
LON	Longmire	5.90	66	Pn	**Pn**	**06 58 36.2**	**-0.1**
D05A	Enumclaw	5.94	61	Pn	**Pn**	**06 58 37.7**	**+0.9**
PINE	Pine Mountain	6.30	94	Pn	**Pn**	**06 58 41.3**	**-0.6**
WDC	Whiskeytown Da	6.58	125	Pn	**Pn**	**06 58 45.1**	**-0.5**
LTY	Liberty	6.80	64	Pn	**Pn**	**06 58 48.8**	**+0.1**
A05A	Maple Falls	6.81	47	Pn	**Pn**	**06 58 49.3**	**+0.6**
B06A	Marblemount	6.86	52	Pn	**Pn**	**06 58 49.9**	**+0.5**
HOPS	Hopland Field	7.42	136	Pn	**Pn**	**06 58 54.1**	**-3.0**
G08A	Pilot Rock	7.61	81	Pn	**Pn**	**06 58 59.0**	**-0.7**
E08A	Dider Farm, El	7.67	72	Pn	**Pn**	**06 59 00.9**	**+0.5**
D08A	Wollman Farm,	7.88	68	Pn	**Pn**	**06 59 05.9**	**+2.5**
MCCM	Marconi Confer	8.18	139	Pn	**Pn**	**06 59 06.1**	**-1.4**
WVOR	Wild Horse Val	8.27	101	Pn	**Pn**	**06 59 10.1**	**+1.2**
BMO	Blue Mountains	8.78	84	Pn	**Pn**	**06 59 15.8**	**-0.1**
LHV	Little Huntoon	10.47	123	Pn	**Pn**	**06 59 41.1**	**+2.3**
NVAR	Mina Array Bea	10.47	122	Pn	**Pn**	**06 59 40.8**	**+1.7**
	comp=E,0.1nm,0.3s,baz=285,slow=12,SNR=2.8						
JTMT	Jette	11.11	68	Pn	**Pn**	**06 59 47.5**	**-0.2**
MSO	Missoula	11.20	73	Pn	**Pn**	**06 59 49.3**	**+0.3**
ELK	Elko	11.27	105	Pn	**Pn**	**06 59 51.6**	**+1.6**
	comp=E,0.1nm,0.3s,baz=281,slow=16,SNR=4.3						
YKA	Yellowknife Ar	19.96	21	P	Pn	07 01 41.9	-0.5
	comp=E,2.5nm,0.9s,baz=210,slow=12,SNR=2.7						
ILAR	Eielson Array	22.42	341	P	**P**	**07 02 07.7**	**+0.5**
	comp=E,2.7nm,1.1s,baz=157,slow=7.8,SNR=2.3						
TXAR	Lajitas Array	25.58	118	P	**P**	**07 02 36.8**	**-1.2**
	comp=E,1.3nm,0.9s,baz=302,slow=9.3,SNR=2.5						

*IDC **01** 07:01:18.1±1.9, 44°.44N× 129°.67W, h0km, mb3.8/6, mb1 4.0/12, mb1mx3.8/54, mbtmp3.8/12, ML3.5/6, Error ellipse: s-maj=35.7km s-min=15.3km az=46.0*
*NEIC **01** 07:01:21.1±1.8, 44°.52N±0°.09× 129°.7W±0°.1, h10km±2km, mb4.3/42, ML4.1/14, Error ellipse: s-maj=18.6km s-min=13.0km az=242.0*
ISC 01 07:01:20.9±0.9, **44°.52N**±0°.10× **129°.7W**±0°.1, **h13**km, **n106, σ1§07/95, mb4.3/16, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	Swisshome	4.23	94	P		07 02 23.4	
	baz=278,SNR=15						
KEBM	Edson Butte	4.23	111	Pn	**Pn**	**07 02 23.5**	**-1.7**
KEBM				IAML		07 03 09.7	
	comp=N,218nm,4.8s						
KEBM				IAML		07 04 32.2	
	comp=E,216nm,4.8s						
J01E	Myrtle Point	4.40	106	P		07 02 25.5	
	baz=290,SNR=7.5						
COR	Corvallis	4.58	87		**Pn**	**07 02 29.1**	**-0.7**
COR				IAML		07 05 07.0	
	comp=E,118nm,4.9s						
KBO	Bosley Butte	4.62	118	Pn	**Pn**	**07 02 29.9**	**-0.6**
G03D	McMinnville, O	4.63	79	P		07 02 29.8	
	baz=264,SNR=56						
I03D	Drain, OR	4.66	98	P		07 02 29.4	
	baz=282,SNR=8.7						
I03D				S		07 03 30.6	
	baz=282						
K02D	Willamette Mer	4.75	110	P		07 02 30.5	
	baz=295,SNR=7.2						
E03A	Lebam	4.77	63		**Pn**	**07 02 32.5**	**0.0**
E03A				IAML		07 04 52.6	
	comp=E,133nm,4.6s						
E03A				IAML		07 05 05.8	
	comp=N,113nm,4.3s						
F04D	Rainier, OR	4.98	69	P		07 02 35.1	
	baz=254,SNR=18						
NLWA	Neilton Lookou	4.98	53		**Pn**	**07 02 35.4**	**0.0**
NLWA				IAML		07 03 52.2	
	comp=N,150nm,5.0s						
NLWA				IAML		07 04 52.3	
	comp=N,118nm,4.9s						
H04D	Lebanon	4.99	88	P		07 02 35.4	
	baz=273,SNR=9.0						
KRMB	Red Mountain	5.21	123	Pn	**Pn**	**07 02 39.7**	**+1.2**
KRMB				IAML		07 04 55.5	
	comp=E,73nm,4.9s						
HUMO	Hull Mountain	5.27	109		**Pn**	**07 02 39.4**	**0.0**
H04A	Detroit Lake	5.38	86		**Pn**	**07 02 40.9**	**0.0**
E04D	Cinebar	5.42	65	P		07 02 41.6	
	baz=251,SNR=81						
D03D	Eldon	5.51	55	P		07 02 42.8	
	baz=240,SNR=224						
D04E	Lakebay	5.53	59	P		07 02 43.5	
	baz=244,SNR=170						
J04D	Umpqua Nationa	5.64	100	P		07 02 45.3	
	baz=286,SNR=6.7						
YBH	Yreka Blue Hor	5.83	116	Pn	**Pn**	**07 02 46.3**	**-0.9**
	comp=E,0.3nm,0.3s,baz=285,slow=10,SNR=7.7						
YBH	Yreka Blue Hor	5.83	116		**Pn**	**07 02 49.6**	**+2.4**
PGC	Sidney	5.97	44	Pn	**Pn**	**07 02 49.2**	**+0.3**
LON	Longmire	5.97	65		**Pn**	**07 02 49.6**	**+0.6**
F05D	White Salmon	5.99	74	P		07 02 50.1	
	baz=260,SNR=42						
I05D	Terrebonne, OR	6.00	89	P		07 02 49.3	
	baz=275						
G05D	Wamic, OR	6.01	80	P		07 02 50.1	
	baz=266,SNR=37						
D05A	Enumclaw	6.02	61		**Pn**	**07 02 51.2**	**+1.7**
K04D	Chiloquin, OR	6.08	105	P		07 02 50.6	
	baz=291						
PINE	Pine Mountain	6.35	94		**Pn**	**07 02 54.5**	**+0.1**
A04D	Lummi Island	6.39	46	P		07 02 55.6	
	baz=232,SNR=18						
B05A	Bryant	6.46	52	P		07 02 56.5	
	baz=238,SNR=299						
WDC	Whiskeytown Da	6.60	124	Pn	**Pn**	**07 03 00.1**	**+2.5**
KCPM	Cahto Peak	6.64	135	Pn	**Pn**	**07 02 57.8**	**-0.6**
K05A	Summer Lake	6.65	103	Pn	**Pn**	**07 02 59.2**	**+0.8**
LTY	Liberty	6.88	63		**Pn**	**07 03 02.2**	**+0.7**
A05A	Maple Falls	6.89	47		**Pn**	**07 03 02.9**	**+1.3**
B06A	Marblemount	6.94	52		**Pn**	**07 03 03.2**	**+1.0**
C06D	Leavenworth	7.00	58	P		07 03 04.0	
	baz=244,SNR=14						
F07A	Phinny Hill Vi	7.05	75		**Pn**	**07 03 04.3**	**+0.5**
E07A	Sunnyside	7.21	70		**Pn**	**07 03 07.6**	**+1.6**
I07A	Izee	7.34	90		**Pn**	**07 03 08.8**	**+0.9**
HAWA	Hanford	7.40	72		**Pn**	**07 03 09.4**	**+0.9**
HOPS	Hopland Field	7.42	136		**Pn**	**07 03 07.7**	**-1.3**
G08A	Pilot Rock	7.67	80		**Pn**	**07 03 12.7**	**+0.2**
GDXM	Geysers	7.71	135		**Pn**	**07 03 12.3**	**-0.6**
E08A	Dider Farm, El	7.74	72		**Pn**	**07 03 14.9**	**+1.6**
BBB	Bella Bella	7.74	7	Pn	**Pn**	**07 03 12.6**	**-0.6**
	comp=E,0.2nm,0.3s,baz=236,slow=3.6,SNR=1.8						
ORV	Oroville	7.87	126		**Pn**	**07 03 15.8**	**+0.7**
D08A	Wollman Farm,	7.96	68		**Pn**	**07 03 16.8**	**+0.6**
B08A	Colville Reser	8.13	58		**Pn**	**07 03 19.0**	**+0.4**
J08A	Circle Bar Ran	8.19	94		**Pn**	**07 03 22.1**	**+2.5**
BEKR	Beckworth	8.36	121	Pn	**Pn**	**07 03 23.8**	**+1.9**
C09A	Chrisman Ranch	8.59	64	Pn	**Pn**	**07 03 24.7**	**-0.2**
BMO	Blue Mountains	8.85	84		**Pn**	**07 03 28.9**	**+0.4**
F10A	Beach Ranch, E	8.93	76		**Pn**	**07 03 30.6**	**+1.0**
NEW	Newport	9.47	62	Pn	**Pn**	**07 03 36.9**	**-0.1**
	comp=E,1.0nm,0.3s,baz=245,slow=12,SNR=14						
NEW	Newport	9.47	62	P		07 03 36.6	
	baz=252						
CMB	Columbia Colle	9.55	130		**Pn**	**07 03 40.2**	**+2.1**
PLID	Pearl Lake	9.77	82	Pn	**Pn**	**07 03 42.4**	**+1.1**
SAO	San Andreas Ge	9.97	138	Pn	**Pn**	**07 03 44.3**	**+0.4**
NVAR	Mina Array Bea	10.50	122	Pn	**Pn**	**07 03 50.0**	**-1.3**
	comp=E,0.1nm,0.3s,baz=308,slow=6.4,SNR=1.4						
NVAR	Mina Array Bea	10.50	122		**Pn**	**07 03 50.8**	**-0.5**
JTMT	Jette	11.18	68	Pn	**Pn**	**07 04 01.0**	**+0.5**
MSO	Missoula	11.28	73		**Pn**	**07 04 02.2**	**+0.4**
MSO	Missoula	11.28	73	P		07 04 01.7	
	baz=264,SNR=9.9						
ELK	Elko	11.31	104	Pn	**Pn**	**07 04 03.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=298,slow=11,SNR=6.9						
ELK	Elko	11.31	104	Pn	**Pn**	**07 04 04.0**	**+1.6**
DLMT	Dillon	12.16	80		**Pn**	**07 04 14.3**	**+0.4**
ISA	Isabella, Lake	12.33	132	Pn	**Pn**	**07 04 14.9**	**-1.3**
SPR3	Spring Creek 3	12.73	110		**Pn**	**07 04 24.0**	**+2.1**
YPP	Pitchstone Pla	13.53	84		**Pn**	**07 04 34.1**	**+1.4**
HWUT	Hardware Ranch	13.58	96		**Pn**	**07 04 34.2**	**+0.8**
CCUT	Cedar City	14.16	114	Pn	**Pn**	**07 04 43.2**	**+1.9**
GCMT	Greycliff	14.20	78	Pn	**Pn**	**07 04 42.6**	**+0.8**
EGMT	Eagleton	14.23	69	Pn	**Pn**	**07 04 41.9**	**-0.3**
LCMT	Little Creek M	14.55	115		**Pn**	**07 04 47.0**	**+0.4**
MTPU	Mount Pierson	14.67	110	Pn	**Pn**	**07 04 46.5**	**-1.9**
PDAR	Pinedale Array	14.70	90	Pn	**Pn**	**07 04 50.4**	**+1.7**
	comp=E,0.1nm,0.3s,baz=269,slow=18,SNR=3.2						
SRU	San Rafael Swe	15.28	104	IAmb	IAmb	07 05 04.8	
	comp=Z,25nm,1.0s						
RDMU	Red Mountain	15.36	98	IAmb	IAmb	07 05 06.4	
	comp=Z,11nm,0.9s						
W13A	Hualapai Mount	15.36	122		**Pn**	**07 04 58.2**	**+0.8**
U15A	North Rim	15.51	115		**Pn**	**07 05 01.1**	**+1.6**
O20A	White River Ci	16.46	98	P	**P**	**07 05 14.1**	**-0.3**
RWWY	Rawlins	16.67	92	Pn	**Pn**	**07 05 13.8**	**-0.6**
RWWY				IAmb	IAmb	07 05 33.6	
	comp=Z,15nm,1.1s						
MVCO	Mesa Verde	17.60	107		**Pn**	**07 05 23.7**	**-2.4**
MVCO				IAmb	IAmb	07 05 37.5	
	comp=Z,26nm,1.4s						
DGMT	Dagmar	17.97	68	IAmb	IAmb	07 05 34.7	
	comp=Z,29nm,1.0s						
CRQM	Cirque	18.12	338	P	**P**	**07 05 33.1**	**+0.5**
CRQM				IAmb	IAmb	07 05 36.6	
	comp=Z,41nm,1.2s						
X18A	Snowflake	18.18	117	P	**P**	**07 05 33.9**	**+0.4**
214A	Organ Pipe Nat	18.22	128	P	**P**	**07 05 33.5**	**-0.2**
YKA	Yellowknife Ar	20.02	21	P	**P**	**07 05 54.5**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=205,slow=10.0,SNR=3.7						
E28A	Huff	20.38	74	P	**P**	**07 05 58.2**	**+1.0**
T25A	Trinidad	20.46	102	IAmb	IAmb	07 06 01.6	
	comp=Z,22nm,0.9s						
T25A	Trinidad	20.46	102	P		07 05 59.3	
	baz=299,SNR=11						
DOT	Dot Lake	20.83	342	P	**P**	**07 06 02.4**	**+0.4**
121A	Cookes Peak, D	20.85	118	P	**P**	**07 06 02.6**	**+0.1**
121A				IAmb	IAmb	07 06 08.5	
	comp=Z,12nm,0.9s						
WAT6	Susitna Watana	20.89	336	P		07 06 02.5	
	baz=142,SNR=7.8						
KSCO	Kaye Shedlock'	20.89	96	P	**P**	**07 06 02.1**	**-0.8**
KSCO				IAmb	IAmb	07 06 08.4	
	comp=Z,24nm,1.3s						
SRIG	Santa Ros

*IDC **01** 07:01:44.6±2.2,6˚82S×129˚88E,h132km±24km,mb3.2/2, mb1 3.5/7,mb1mx3.2/56,mbtmp3.9/7,Error ellipse: s-maj=38.7km s-min=20.1km az=95.0*

ISC 01 07:01:41.9±0.9,6˚93S±0˚06×130˚1E±0˚1,h104km,n7, σ3°23/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.13**	**11**	P	**Pn**	**07 03 12.2**	**+2.2**
	2.8nm,0.3s,baz=224,slow=23,SNR=23						
SIJI				S	**Sn**	**07 04 15.3**	**-3.6**
	3.2nm,0.3s,baz=225,slow=23,SNR=7.9						
BATI	**Baumata**	**7.13**	**242**	P	**Pn**	**07 03 25.4**	**+1.8**
	12nm,0.3s,baz=319,slow=4.0,SNR=7.4						
FITZ	**Fitzroy Crossi**	**11.91**	**201**	P	**Pn**	**07 04 29.9**	**+1.5**
	0.4nm,0.3s,baz=33,slow=8.7,SNR=44						
FITZ				S	**Sn**	**07 06 35.0**	**-4.5**
	1.1nm,0.3s,baz=110,slow=23,SNR=14						
WRA	**Warramunga Arr**	**13.59**	**163**	P	**Pn**	**07 04 52.9**	**+2.6**
	0.7nm,0.3s,baz=334,slow=15,SNR=19						
WRA				S	**Sn**	**07 07 16.5**	**-3.5**
	1.0nm,0.3s,baz=326,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.05**	**168**	P	**Pn**	**07 05 37.8**	**+3.9**
	0.3nm,0.3s,baz=350,slow=9.6,SNR=12						
ASAR				S	**Sn**	**07 08 42.2**	**-1.4**
	0.3nm,0.3s,baz=324,slow=17,SNR=4.5						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**07 12 29.7**	**-1.5**
	0.2nm,0.4s,baz=116,slow=9.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**72.48**	**328**	P	**P**	**07 12 55.5**	**-1.6**
	0.1nm,0.3s,baz=130,slow=5.1,SNR=4.6						

*NDI **01** 07:12:04.6±1.4,26˚54N×96˚18E,h114km,ML4.0*
*NEIC **01** 07:12:09.0±0.9,26˚3N±0˚1×95˚8E±0˚2,h115km±10km, mb4.3/11,Error ellipse: s-maj=25.2km s-min=12.3km az=49.0*
*IDC **01** 07:12:09.0±3.7,26˚15N×95˚57E,h126km±35km,mb3.4/7, mb1 3.6/8,mb1mx3.3/52,mbtmp3.8/8,Error ellipse: s-maj=44.2km s-min=15.9km az=58.0*

ISC 01 07:12:06.7±0.9,26˚51N±0˚06×96˚02E±0˚07,h104km±8km, n32,σ1°22/40,mb4.0/13,4C,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	**Lekhapani**	**0.84**	**350**	↑*e*P	**Pn**	**07 12 24.7**	**-1.1**
LKP				*e*S	**Sn**	**07 12 38.9**	**-1.2**
LKP				IAML		07 12 39.9	
	comp=N,3μm,0.2s						
LKP				IAML		07 12 40.1	
	comp=E,4μm,0.2s						
MOKO	**MOKOCHONG**	**1.36**	**262**	↑*e*P	**Pn**	**07 12 32.2**	**+0.6**
MOKO				*e*S	**Sn**	**07 12 51.5**	**+1.0**
MOKO				IAML		07 12 55.2	
	comp=N,2μm,0.5s						
KOHI	**KOHIMA**	**1.89**	**246**	*e*P	**Pn**	**07 12 38.6**	**+0.4**
KOHI				*e*S	**Sn**	**07 13 03.9**	**+1.8**
KOHI				IAML		07 13 10.9	
	comp=E,458nm,0.6s						
KOHI				IAML		07 13 11.1	
	comp=N,650nm,0.4s						
ITAN	**ITANAGAR**	**2.15**	**288**	↑*e*P	**Pn**	**07 12 41.5**	**+0.2**
ITAN				*e*S	**Sn**	**07 13 07.8**	**-0.1**
ITAN				IAML		07 13 10.7	
	comp=N,2μm,0.2s						
ZIRO	**ZIRO**	**2.18**	**298**	*e*P	**Pn**	**07 12 41.4**	**-0.6**
ZIRO				*e*S	**Sn**	**07 13 07.8**	**-1.2**
ZIRO				IAML		07 13 11.1	
	comp=N,7μm,0.5s						
ZIRO				IAML		07 13 11.7	
	comp=E,6μm,0.6s						
IMP	**Imphal**	**2.50**	**229**	*e*P	**Pn**	**07 12 45.6**	**-0.4**
IMP				*e*S	**Sn**	**07 13 16.1**	**-0.2**
SHL	**Shillong**	**3.83**	**257**	↑*e*P	**Pn**	**07 13 03.0**	**-0.9**
SHL				*i* PN	**Pn**	**07 13 04.5**	**+0.6**
SHL				*e*S	**Sn**	**07 13 46.6**	**-1.6**
SHL				IAML		07 13 48.6	
	comp=E,206nm,0.1s						
SHL				*i* SN	**Sn**	**07 13 50.0**	**+1.8**
SHL	**Shillong**	**3.83**	**257**	Pn	**Pn**	**07 13 03.1**	**-0.8**
LSA	**Lhasa**	**5.35**	**308**		**Pn**	**07 13 27.0**	**+2.4**
GTK	**Tadong**	**6.67**	**279**	*e*P	**Pn**	**07 13 41.9**	**-0.3**
GTK				*e*S	**Sn**	**07 14 53.3**	**-3.6**
GTK				IAML		07 14 57.7	
	comp=E,96nm,0.5s						
GTK				IAML		07 14 58.0	
	comp=N,103nm,0.4s						
CHTO	**Chiang Mai**	**8.12**	**160**	Pn	**Pn**	**07 14 02.1**	**+0.2**
CM31	**Chiang Mai Arr**	**8.46**	**161**	Pn	**Pn**	**07 14 07.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**8.46**	**161**	P	**Pn**	**07 14 05.8**	**-0.6**
	comp=N,0.5nm,0.3s,baz=331,slow=14,SNR=12						
CMAR	**Chiang Mai Arr**	**8.46**	**161**		**Pn**	**07 14 05.5**	**-1.0**
SONM	**Songino Array**	**22.80**	**18**	P	P	07 17 05.6	+5.0
	comp=N,0.6nm,0.4s,baz=2.2,slow=7.6,SNR=3.7						
MK31	**Makanchi Array**	**22.98**	**335**		**P**	**07 17 03.8**	**+1.4**
MKAR	**Makanchi Array**	**22.98**	**335**	P	**P**	**07 17 05.3**	**+3.0**
	comp=N,0.3nm,0.6s,baz=147,slow=8.8,SNR=4.2						
BRVK	**Borovoye**	**32.74**	**331**	P	P	07 18 31.5	+2.2
BRVK				IAmb	IAmb	07 18 52.6	
	comp=Z,2.1nm,1.1s						
FAKI	**Fak Fak**	**45.62**	**124**	P	**P**	**07 20 16.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.86**	**144**	P	**P**	**07 21 11.8**	**-0.1**
FITZ				IAmb	IAmb	07 21 26.0	
	comp=Z,9.8nm,1.4s						
AKASG	**Malin Array Be**	**55.45**	**315**	P	**P**	**07 21 28.7**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=76,slow=6.1,SNR=2.9						
AKASG	**Malin Array Be**	**55.45**	**315**	P	**P**	**07 21 30.6**	**+0.2**
AKASG				IAmb	IAmb	07 21 32.8	
	comp=Z,1.4nm,1.4s						
WB0	**Warramunga Arr**	**59.18**	**137**	P	**P**	**07 21 56.9**	**-0.1**
WB0				IAmb	IAmb	07 21 58.2	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**59.28**	**137**	P	**P**	**07 21 57.5**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=322,slow=7.6,SNR=37						
WB2	**Warramunga Arr**	**59.29**	**137**	P	**P**	**07 21 57.7**	**0.0**
WB2				IAmb	IAmb	07 21 58.4	
	comp=Z,3.8nm,0.8s						
WR0	**Warramunga Arr**	**59.42**	**137**	P	**P**	**07 21 58.5**	**0.0**
WR0				IAmb	IAmb	07 22 25.5	
	comp=Z,6.2nm,1.2s						
AS31	**Alice Springs**	**61.89**	**140**	P	**P**	**07 22 15.7**	**+0.4**
AS31				IAmb	IAmb	07 22 16.7	
	comp=Z,2.3nm,1.4s						
ASAR	**Alice Springs**	**61.89**	**140**	P	**P**	**07 22 15.4**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=324,slow=6.6,SNR=34						
NOA	**NORSAR Array B**	**64.70**	**328**	P	**P**	**07 22 33.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=81,slow=6.4,SNR=1.5						
BBOO	**Buckleboo**	**70.23**	**145**	P	**P**	**07 23 09.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**88.02**	**284**	P	**P**	**07 24 45.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=62,slow=5.8,SNR=2.3						
TXAR	**Lajitas Array**	**121.36**	**20**	PKP	**PKiKP**	**07 30 47.7**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=316,slow=2.5,SNR=2.4						

*IDC **01** 07:19:20.8±3.0,44˚28N×129˚72W,h0km,mb3.5/4, mb1 3.7/7,mb1mx3.5/46,mbtmp3.4/7,ML2.7/3,Error ellipse: s-maj=65.0km s-min=19.9km az=51.0*
*NEIC **01** 07:19:22.1±1.9,44˚38N±0˚09×129˚5W±0˚1,h10km±2km, mb3.9/15,ML3.3/15,Error ellipse: s-maj=19.8km s-min=12.5km az=237.0*

ISC 01 07:19:22.1±1.3,44˚40N±0˚10×129˚6W±0˚1,h13km,n75, σ1°48/69,mb3.8/7,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**4.09**	**110**	Pn	**Pn**	**07 20 26.2**	**+1.9**
KBO	**Bosley Butte**	**4.46**	**117**	Pn	**Pn**	**07 20 27.8**	**-1.8**
COR	**Corvallis**	**4.48**	**85**	Pn	**Pn**	**07 20 29.6**	**-0.1**
E03A	**Lebam**	**4.73**	**61**	Pn	**Pn**	**07 20 32.0**	**-1.1**
E03A				IAML		07 21 10.1	
	comp=E,26nm,1.2s						
E03A				IAML		07 21 10.9	
	comp=N,28nm,0.8s						
NLWA	**Neilton Lookou**	**4.97**	**51**	Pn	**Pn**	**07 20 35.5**	**-1.0**
NLWA				IAML		07 21 18.1	
	comp=N,20nm,2.7s						
NLWA				IAML		07 21 39.7	
	comp=N,16nm,4.7s						
KRMB	**Red Mountain**	**5.04**	**123**	Pn	**Pn**	**07 20 36.8**	**-0.7**
KRMB				IAML		07 21 53.4	
	comp=E,15nm,4.6s						
KRMB				IAML		07 23 32.7	
	comp=N,16nm,4.3s						
HUMO	**Hull Mountain**	**5.12**	**108**	Pn	**Pn**	**07 20 37.8**	**-0.7**
H04A	**Detroit Lake**	**5.28**	**84**	Pn	**Pn**	**07 20 40.4**	**-0.3**
H04A				IAML		07 21 27.9	
	comp=E,13nm,3.0s						
YBH	**Yreka Blue Hor**	**5.68**	**116**	Pn	**Pn**	**07 20 48.8**	**+2.6**
	comp=E,0.2nm,0.3s,baz=313,slow=3.8,SNR=4.1						
YBH	**Yreka Blue Hor**	**5.68**	**116**	Pn	**Pn**	**07 20 47.8**	**+1.5**
LON	**Longmire**	**5.93**	**64**	Pn	**Pn**	**07 20 49.6**	**0.0**
D05A	**Enumclaw**	**5.98**	**60**	Pn	**Pn**	**07 20 50.7**	**+0.4**
PGC	**Sidney**	**5.99**	**43**	Pn	**Pn**	**07 20 48.8**	**-1.6**
PINE	**Pine Mountain**	**6.24**	**93**	Pn	**Pn**	**07 20 54.5**	**+0.5**
K05A	**Summer Lake**	**6.51**	**102**	Pn	**Pn**	**07 20 59.1**	**+1.3**
LTY	**Liberty**	**6.84**	**62**	Pn	**Pn**	**07 21 02.3**	**+0.2**
A05A	**Maple Falls**	**6.90**	**45**	Pn	**Pn**	**07 21 02.5**	**-0.3**
B06A	**Marblemount**	**6.93**	**51**	Pn	**Pn**	**07 21 02.2**	**-1.2**
F07A	**Phinny Hill Vi**	**6.97**	**74**	Pn	**Pn**	**07 21 02.1**	**-1.8**
I07A	**Izee**	**7.23**	**89**	Pn	**Pn**	**07 21 06.8**	**-0.8**
HOPS	**Hopland Field**	**7.26**	**136**	Pn	**Pn**	**07 21 07.5**	**-0.4**
HAWA	**Hanford**	**7.33**	**71**	Pn	**Pn**	**07 21 09.2**	**+0.3**
GDXM	**Geysers**	**7.54**	**135**	Pn	**Pn**	**07 21 09.7**	**-2.1**
G08A	**Pilot Rock**	**7.59**	**80**	Pn	**Pn**	**07 21 13.5**	**+1.0**
E08A	**Dider Farm, El**	**7.67**	**70**	Pn	**Pn**	**07 21 15.8**	**+2.3**
ORV	**Oroville**	**7.71**	**126**	Pn	**Pn**	**07 21 13.5**	**-0.6**
BBB	**Bella Bella**	**7.85**	**7**	Pn	**Pn**	**07 21 16.1**	**+0.1**
D08A	**Wollman Farm,**	**7.90**	**67**	Pn	**Pn**	**07 21 16.6**	**-0.1**
B08A	**Colville Reser**	**8.10**	**57**	Pn	**Pn**	**07 21 18.9**	**-0.6**
AFDM	**Forest Hills D**	**8.42**	**127**	Pn	**Pn**	**07 21 22.8**	**-1.0**
C09A	**Chrisman Ranch**	**8.55**	**63**	Pn	**Pn**	**07 21 25.9**	**+0.3**
PAHR	**Pah Rah Range**	**8.90**	**118**	Pn	**Pn**	**07 21 28.1**	**-2.4**
VCNR	**Virginia City**	**8.98**	**121**	Pn	**Pn**	**07 21 31.2**	**-0.4**
NEW	**Newport**	**9.43**	**61**	Pn	**Pn**	**07 21 36.5**	**-1.2**
NVAR	**Mina Array Bea**	**10.34**	**121**	Pn	**Pn**	**07 21 52.7**	**+2.4**
	comp=E,0.1nm,0.3s,baz=280,slow=14,SNR=4.4						
NVAR	**Mina Array Bea**	**10.34**	**121**	Pn	**Pn**	**07 21 50.4**	**+0.1**
ELK	**Elko**	**11.17**	**104**	Pn	**Pn**	**07 22 06.4**	**+4.7**
	comp=E,0.1nm,0.3s,baz=286,slow=12,SNR=2.0						
ELK	**Elko**	**11.17**	**104**	Pn	**Pn**	**07 22 02.0**	**+0.3**
BCYI	**Bear Canyon**	**11.57**	**85**	Pn	**Pn**	**07 22 05.8**	**-1.3**
SPR3	**Spring Creek 3**	**12.59**	**110**	Pn	**Pn**	**07 22 19.9**	**-1.2**
PSUT	**Pine Spring**	**13.14**	**111**	Pn	**Pn**	**07 22 28.8**	**+0.1**
SZCU	**Shurtz Canyon**	**14.16**	**113**	Pn	**Pn**	**07 22 43.9**	**+1.4**
EGMT	**Eagleton**	**14.18**	**68**	Pn	**Pn**	**07 22 45.1**	**+2.5**
MTPU	**Mount Pierson**	**14.52**	**110**	Pn	**Pn**	**07 22 44.1**	**-3.6**
KNB	**Kanab**	**14.66**	**114**	Pn	**Pn**	**07 22 51.9**	**+2.5**
PKCU	**Pink Cliffs**	**14.76**	**112**	Pn	**Pn**	**07 22 49.6**	**-1.2**
WUAZ	**Wupatki**	**16.50**	**116**	Pn	**Pn**	**07 23 13.2**	**-0.1**
HYT	**Haines Junctio**	**17.13**	**347**	Pn	**Pn**	**07 23 20.2**	**-0.9**
X16A	**Lo Mia Camp, P**	**17.15**	**119**	Pn	**Pn**	**07 23 20.9**	**-0.8**
YKA	**Yellowknife Ar**	**20.10**	**20**	P	**P**	**07 23 56.0**	**+0.7**
	comp=E,0.5nm,0.7s,baz=198,slow=12,SNR=3.6						
BNM	**Barren Site**	**20.43**	**112**	P	**P**	**07 23 59.2**	**0.0**
FFC	**Flin Flon**	**20.53**	**50**	P	**P**	**07 23 59.1**	**-0.8**
FFC				IAmb	IAmb	07 24 00.9	
	comp=Z,5.8nm,1.3s						
319A	**Douglas**	**20.55**	**122**	P	**P**	**07 23 57.8**	**-2.7**
319A				IAmb	IAmb	07 24 06.8	
	comp=Z,4.8nm,0.9s						
SML	**Sawmill**	**20.63**	**334**	P	**P**	**07 24 01.4**	**+0.3**
SML				IAmb	IAmb	07 24 09.9	
	comp=Z,11nm,1.0s						
121A	**Cookes Peak, D**	**20.69**	**118**	P	**P**	**07 24 02.5**	**+0.4**
121A				IAmb	IAmb	07 24 08.6	
	comp=Z,4.0nm,0.9s						
PMR	**Palmer**	**20.72**	**333**	P	**P**	**07 24 02.2**	**+0.3**
PMR				IAmb	IAmb	07 24 13.7	
	comp=Z,13nm,1.5s						
ILAR	**Eielson Array**	**22.60**	**341**	P	**P**	**07 24 23.9**	**+1.8**
	comp=Z,1.9nm,1.1s,baz=157,slow=8.5,SNR=11						
ILAR	**Eielson Array**	**22.60**	**341**	P	**P**	**07 24 21.7**	**-0.4**
WRH	**Wood River Hil**	**22.65**	**339**	P	**P**	**07 24 22.9**	**+0.3**
WRH				IAmb	IAmb	07 24 31.2	
	comp=Z,4.9nm,1.2s						
CCB	**Clear Creek Bu**	**22.72**	**340**	P	**P**	**07 24 25.2**	**+1.8**
CCB				IAmb	IAmb	07 24 28.4	
	comp=Z,3.7nm,1.1s						
KTH	**Kantishna Hill**	**22.73**	**335**	P	**P**	**07 24 24.1**	**+0.5**
KTH				IAmb	IAmb	07 24 27.4	
	comp=Z,5.1nm,1.2s						
MNTX	**Cornudas Mount**	**22.77**	**116**	P	**P**	**07 24 23.9**	**-0.4**
BWN	**Browne**	**22.78**	**337**	P	**P**	**07 24 24.0**	**0.0**
NEA2	**Nenana**	**23.00**	**338**	P	**P**	**07 24 29.4**	**+3.1**
ULM	**Lac du Bonnet**	**23.43**	**64**	P	**P**	**07 24 33.5**	**+2.7**
	comp=Z,3.0nm,0.9s,baz=277,slow=8.4,SNR=3.1						
TX31	**Lajitas Ar. Si**	**25.45**	**117**	P	**P**	**07 24 49.7**	**-0.1**
TX32	**Lajitas Array**	**25.45**	**117**	P	**P**	**07 24 49.8**	**0.0**
TX32				IAmb	IAmb	07 24 50.9	
	comp=Z,2.6nm,1.1s						
TXAR	**Lajitas Array**	**25.45**	**117**	P	**P**	**07 24 50.0**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=296,slow=8.0,SNR=19						
TXAR	**Lajitas Array**	**25.45**	**117**	P	**P**	**07 24 50.4**	**+0.5**
H11N3	**WAKE ISLAND Hy**	**57.67**	**266**	T	T	08 31 18.6	
	baz=49,slow=75,SNR=359						
H11N2	**WAKE ISLAND Hy**	**57.67**	**266**	T	T	08 31 16.5	
	baz=49,slow=75,SNR=172						
H11N1	**WAKE ISLAND Hy**	**57.68**	**266**	T	T	08 31 15.5	
	baz=49,slow=75,SNR=162						
H11S1	**WAKE ISLAND Hy**	**58.60**	**266**	T	T	08 32 26.5	
	baz=48,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**58.61**	**266**	T	T	08 32 31.8	
	baz=48,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**58.62**	**266**	T	T	08 32 32.1	
	baz=48,slow=75,SNR=11						

*IDC **01** 07:19:40.7±2.1,44˚29N×129˚77W,h0km,mb3.6/5, mb1 3.9/10,mb1mx3.7/48,mbtmp3.8/10,ML3.6/3,MS3.9/1, Ms1 3.9/1,ms1mx3.2/39,Error ellipse: s-maj=39.8km s-min=17.4km az=49.0*
*NEIC **01** 07:19:40.4±2.4,44˚32N±0˚08×129˚8W±0˚2,h10km±2km, mb4.2/17,ML3.4/9,Error ellipse: s-maj=18.7km s-min=13.5km az=268.0*

ISC 01 07:19:41.4±1.2,44˚3N±0˚1×129˚8W±0˚1,h15km,n63, σ1°30/60,mb4.1/9,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**4.19**	**108**	Pn	**Pn**	**07 20 43.1**	**-1.6**
KBO	**Bosley Butte**	**4.54**	**115**	Pn	**Pn**	**07 20 49.9**	**+0.3**
KBO				IAML		07 21 34.7	
	comp=N,40nm,4.4s						
COR	**Corvallis**	**4.64**	**84**	Pn	**Pn**	**07 20 51.1**	**+0.3**
COR				IAML		07 22 04.9	
	comp=N,36nm,4.6s						
COR				IAML		07 22 17.9	
	comp=N,35nm,3.7s						
E03A	**Lebam**	**4.92**	**60**	Pn	**Pn**	**07 20 54.1**	**-0.6**
E03A				IAML		07 22 05.1	
	comp=N,24nm,3.0s						
E03A				IAML		07 23 29.5	
	comp=E,22nm,2.4s						
NLWA	**Neilton Lookou**	**5.16**	**51**	Pn	**Pn**	**07 20 57.2**	**-0.9**
H04A	**Detroit Lake**	**5.44**	**83**	Pn	**Pn**	**07 21 00.9**	**-1.0**
KHMM	**Horse Mountain**	**5.60**	**125**	Pn	**Pn**	**07 21 04.1**	**-0.1**
YBH	**Yreka Blue Hor**	**5.76**	**114**	Pn	**Pn**	**07 21 07.0**	**+0.6**
LON	**Longmire**	**6.11**	**63**	Pn	**Pn**	**07 21 10.6**	**-0.5**
D05A	**Enumclaw**	**6.17**	**59**	Pn	**Pn**	**07 21 12.0**	**+0.1**
PGC	**Sidney**	**6.17**	**43**	Pn	**Pn**	**07 21 11.0**	**-0.9**
PINE	**Pine Mountain**	**6.38**	**91**	Pn	**Pn**	**07 21 15.2**	**+0.2**
LTY	**Liberty**	**7.02**	**62**	Pn	**Pn**	**07 21 24.3**	**+0.6**
A05A	**Maple Falls**	**7.08**	**46**	Pn	**Pn**	**07 21 24.9**	**+0.4**
B06A	**Marblemount**	**7.12**	**51**	Pn	**Pn**	**07 21 23.2**	**-1.8**
F07A	**Phinny Hill Vi**	**7.15**	**73**	Pn	**Pn**	**07 21 23.0**	**-2.3**
HOPS	**Hopland Field**	**7.28**	**134**	Pn	**Pn**	**07 21 27.6**	**+0.5**
I07A	**Izee**	**7.38**	**88**	Pn	**Pn**	**07 21 28.4**	**-0.3**
HAWA	**Hanford**	**7.51**	**70**	Pn	**Pn**	**07 21 31.3**	**+1.0**
G08A	**Pilot Rock**	**7.75**	**79**	Pn	**Pn**	**07 21 33.1**	**-0.7**
E08A	**Dider Farm, El**	**7.85**	**70**	Pn	**Pn**	**07 21 34.5**	**-0.5**
BBB	**Bella Bella**	**7.99**	**7**	Pn	**Pn**	**07 21 38.4**	**+1.6**
	comp=E,0.3nm,0.3s,baz=341,slow=16,SNR=3.5						
D08A	**Wollman Farm,**	**8.09**	**66**	Pn	**Pn**	**07 21 38.4**	**+0.2**
AFDM	**Forest Hills D**	**8.46**	**126**	Pn	**Pn**	**07 21 43.1**	**-0.4**
C09A	**Chrisman Ranch**	**8.73**	**62**	Pn	**Pn**	**07 21 47.5**	**+0.5**
VCNR	**Virginia City**	**9.04**	**120**	Pn	**Pn**	**07 21 48.5**	**-3.1**
NEW	**Newport**	**9.62**	**61**	Pn	**Pn**	**07 22 00.9**	**+1.7**
	comp=E,0.4nm,0.3s,baz=196,slow=9.6,SNR=4.8						
NEW	**Newport**	**9.62**	**61**	Pn	**Pn**	**07 21 57.0**	**-2.2**
NVAR	**Mina Array Bea**	**10.40**	**120**	Pn	**Pn**	**07 22 11.9**	**+1.7**
	baz=288,slow=13,SNR=2.6						
MDPB	**Devils Postpil**	**10.45**	**126**	Pn	**Pn**	**07 22 10.1**	**-0.8**
PAGB	**Antelope Grade**	**11.22**	**136**	Pn	**Pn**	**07 22 20.6**	**-0.6**
ELK	**Elko**	**11.29**	**103**	Pn	**Pn**	**07 22 25.9**	**+3.7**
	baz=275,slow=11,SNR=3.8						
SNOW	**Snow King Moun**	**13.74**	**87**	Pn	**Pn**	**07 22 56.2**	**+0.4**
CCUT	**Cedar City**	**14.09**	**113**	Pn	**Pn**	**07 22 57.6**	**-3.0**
TCRU	**Three Creeks R**	**14.16**	**108**	Pn	**Pn**	**07 23 03.0**	**+1.5**
MSU	**Marysvale**	**14.39**	**108**	Pn	**Pn**	**07 23 05.4**	**+0.7**
LCMT	**Little Creek M**	**14.47**	**114**	Pn	**Pn**	**07 23 04.9**	**-0.9**
PFO	**Pinyon Flats O**	**14.83**	**131**	LR	LR	07 28 19.7	
	comp=E,440nm,19.3s,baz=110,slow=35						
P17A	**Butcher Ranch,**	**14.95**	**102**	Pn	**Pn**	**07 23 13.8**	**+1.5**
RDMU	**Red Mountain**	**15.36**	**97**	Pn	**Pn**	**07 23 16.6**	**-1.1**
Y14A	**Wickenburg**	**16.57**	**123**	Pn	**Pn**	**07 23 31.2**	**-2.0**
MVCO	**Mesa Verde**	**17.56**	**106**	Pn	**Pn**	**07 23 44.1**	**-1.7**
KDAK	**Kodiak Island**	**19.58**	**322**	P	**Pn**	**07 24 09.5**	**-0.5**
	comp=E,0.2nm,0.3s,baz=119,slow=10,SNR=3.7						
ANMO	**Albuquerque**	**20.17**	**110**	P	Pn	07 24 18.1	+0.7
	comp=E,1.1nm,0.7s,baz=296,slow=7.1,SNR=3.9						
YKA	**Yellowknife Ar**	**20.27**	**21**	P	Pn	07 24 17.6	-0.4
	comp=E,2.3nm,0.9s,baz=209,slow=11,SNR=3.0						
OGNE	**Ogallala**	**20.64**	**90**	P	**P**	**07 24 21.3**	**+1.0**
OGNE				IAmb	IAmb	07 24 28.3	
	comp=Z,11nm,0.9s						
FFC	**Flin Flon**	**20.71**	**50**	P	**P**	**07 24 20.2**	**-0.7**
FFC				IAmb	IAmb	07 24 27.9	
	comp=Z,9.9nm,1.1s						
PMR	**Palmer**	**20.76**	**333**	P	**P**	**07 24 20.9**	**-0.5**
PMR				IAmb	IAmb	07 24 21.6	
	comp=Z,17nm,1.5s						
ILAR	**Eielson Array**	**22.66**	**341**	P	**P**	**07 24 42.5**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=150,slow=6.6,SNR=4.0						
NEA2	**Nenana**	**23.06**	**339**	P	**P**	**07 24 45.7**	**-0.2**
F33A	**5 Mile Ranch,**	**23.60**	**74**	P	**P**	**07 24 51.5**	**+0.1**
ULM	**Lac du Bonnet**	**23.62**	**63**	P	**P**	**07 24 52.9**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=288,slow=5.3,SNR=3.9						
AGMN	**Agassiz Nation**	**23.65**	**68**	P	**P**	**07 24 52.3**	**+0.3**
AGMN				IAmb	IAmb	07 24 58.5	
	comp=Z,4.3nm,0.8s						
ECSD	**EROS Data Cent**	**23.76**	**80**	P	**P**	**07 24 53.7**	**+0.6**
ECSD				IAmb	IAmb	07 25 07.2	
	comp=Z,12nm,1.5s						
FYU	**Fort Yukon**	**23.86**	**345**	P	**P**	**07 24 52.5**	**-1.2**
R32A	**Long Quarter,**	**23.94**	**93**	P	**P**	**07 24 54.3**	**-0.6**
R32A				IAmb	IAmb	07 25 14.6	
	comp=Z,4.4nm,0.8s						
COLD	**Coldfoot**	**25.46**	**342**	P	**P**	**07 25 07.5**	**-0.9**
COLD				IAmb	IAmb	07 25 24.9	
	comp=Z,8.2nm,1.3s						
F36A	**Milaca**	**25.51**	**74**	P	**P**	**07 25 09.9**	**+0.9**
F36A				IAmb	IAmb	07 25 34.1	
	comp=Z,6.2nm,1.2s						
TX31	**Lajitas Ar. Si**	**25.53**	**117**	P	**P**	**07 25 10.6**	**+1.1**
TX32	**Lajitas Array**	**25.53**	**117**	P	**P**	**07 25 10.1**	**+0.7**
TXAR	**Lajitas Array**	**25.53**	**117**	P	**P**	**07 25 11.7**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=290,slow=8.1,SNR=13						
TXAR	**Lajitas Array**	**25.53**	**117**	P	**P**	**07 25 10.7**	**+1.2**
WMOK	**Wichita Mounta**	**25.60**	**101**	P	**P**	**07 25 11.8**	**+1.8**
WMOK				IAmb	IAmb	07 25 20.3	
	comp=Z,6.8nm,1.1s						

IDC 01 07:38:14.1±2.0,8˚25S×129˚87E,h0km,mb3.7/1, mb1 3.9/4,mb1mx3.5/40,mbtmp3.7/4,ML3.6/3,Error ellipse: s-maj=68.2km s-min=28.6km az=77.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.62**	**202**	Pn	Pn	07 40 48.2	+0.6
	0.3nm,0.3s,baz=25,slow=11,SNR=12						
FITZ				Sn	Sn	07 42 43.5	-3.9
	0.8nm,

az=45.0

*IDC **01** 08:33:39.2±3.9,5.°07S×153.°90E,h136km±35km,mb3.6/10, mb1 3.8/12,mb1mx3.5/44,mbtmp4.1/12,Error ellipse: s-maj=26.6km s-min=17.9km az=96.0*

ISC 01 08:33:36.2±0.7,5.°01S±0.°07×154.°02E±0.°10,h105km,n31, σ1§25/31,mb3.9/12,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.01**	**294**	Pn		**Pn**	**08 34 10.2**	**+1.0**
RABL				Sn		**Sn**	**08 34 36.4**	**+2.0**
PMG	**Port Moresby**	**8.09**	**237**	P		**Pn**	**08 35 33.2**	**+2.4**
	3.6nm,0.3s,baz=39,slow=8.4,SNR=6.8							
PMG				S		**Sn**	**08 36 60.0**	**-0.7**
	4.3nm,0.3s,baz=241,slow=19,SNR=7.2							
PMG	**Port Moresby**	**8.09**	**237**	Pn		**Pn**	**08 35 33.7**	**+2.8**
PATS	**Pohnpei**	**12.52**	**20**	Pn		**Pn**	**08 36 31.4**	**+0.7**
CTA	**Charters Tower**	**16.79**	**206**	P		**P**	**08 37 25.6**	**+0.1**
	0.2nm,0.3s,baz=20,slow=14,SNR=5.3							
EIDS	**Eidsvold**	**20.44**	**188**	P		**P**	**08 38 06.5**	**+1.1**
EIDS				IAmb	IAmb		08 38 09.3	
	comp=Z,5.3nm,0.7s							
DZM	**Mont Dzumac**	**20.80**	**146**	P		**P**	**08 38 10.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=323,slow=20,SNR=1.3							
DZM	**Mont Dzumac**	**20.80**	**146**	P		**P**	**08 38 11.3**	**+2.0**
DZM				IAmb	IAmb		08 38 34.7	
	comp=Z,8.0nm,1.1s							
WR0	**Warramunga Arr**	**24.09**	**230**	P		**P**	**08 38 41.9**	**-0.2**
WR0				IAmb	IAmb		08 39 04.6	
	comp=Z,6.4nm,1.2s							
WB0	**Warramunga Arr**	**24.09**	**231**	P		**P**	**08 38 42.1**	**-0.1**
WB0				IAmb	IAmb		08 38 55.5	
	comp=Z,6.6nm,1.1s							
WB2	**Warramunga Arr**	**24.22**	**230**	P		**P**	**08 38 43.4**	**0.0**
WB2				IAmb	IAmb		08 39 11.2	
	comp=Z,5.0nm,1.0s							
WRA	**Warramunga Arr**	**24.23**	**231**	P		**P**	**08 38 42.5**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=56,slow=10,SNR=44							
WRA	**Warramunga Arr**	**24.23**	**231**	P		**P**	**08 38 42.6**	**-0.9**
AS31	**Alice Springs**	**26.83**	**224**	P		**P**	**08 39 06.4**	**-0.6**
ASAR	**Alice Springs**	**26.83**	**224**	P		**P**	**08 39 06.2**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=56,slow=9.1,SNR=38							
STKA	**Stephens Creek**	**29.16**	**202**	P		**P**	**08 39 26.4**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=44,slow=15,SNR=5.0							
STKA	**Stephens Creek**	**29.16**	**202**	P		**P**	**08 39 27.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.63**	**243**	P		**P**	**08 39 39.0**	**-1.7**
	comp=Z,2.5nm,0.8s,baz=72,slow=11,SNR=2.1							
FITZ	**Fitzroy Crossi**	**30.63**	**243**	P		**P**	**08 39 39.7**	**-1.0**
FITZ				IAmb	IAmb		08 40 04.8	
	comp=Z,8.2nm,1.2s							
BBOO	**Buckleboo**	**32.35**	**209**	P		**P**	**08 39 54.7**	**-0.9**
MORW	**Morawa**	**43.17**	**232**	P		**P**	**08 41 25.6**	**-1.2**
MJAR	**Matsushiro Arr**	**43.90**	**342**	P		**P**	**08 41 30.7**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=158,slow=13,SNR=6.4							
MJAR	**Matsushiro Arr**	**43.90**	**342**	IAmb		IAmb	08 41 57.5	
	comp=Z,2.7nm,1.3s							
PETK	**Petropavlovsk-**	**57.98**	**3**	P		**P**	**08 43 18.4**	**+0.7**
	comp=Z,2.8nm,1.0s,baz=170,slow=7.3,SNR=4.3							
CMAR	**Chiang Mai Arr**	**59.06**	**295**	P		**P**	**08 43 26.1**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=116,slow=6.5,SNR=4.3							
SONM	**Songino Array**	**67.15**	**327**	P		**P**	**08 44 19.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=140,slow=4.2,SNR=3.8							
SONM	**Songino Array**	**67.15**	**327**	IAmb		IAmb	08 44 22.8	
	comp=Z,3.4nm,1.4s							
MKAR	**Makanchi Array**	**81.28**	**319**	P		**P**	**08 45 40.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=91,slow=8.4,SNR=9.6							
ZAA0	**Zalesovo Array**	**82.00**	**326**	P		**P**	**08 45 45.0**	**+0.6**
ZALV	**Zalesovo Beam**	**82.00**	**326**	P		**P**	**08 45 45.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**151.52**	**288**	PKPbc		**PKPbc**	**08 53 17.2**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=97,slow=2.4,SNR=1.8							

*IDC **01** 08:57:17.6±0.7,3.°85S×98.°93E,h0km,mb4.3/21, mb1 4.4/22,mb1mx4.2/65,mbtmp4.3/22,ML4.4/2,MS3.7/10, Ms1 3.7/10,ms1mx3.4/45,Error ellipse: s-maj=23.8km s-min=11.9km az=47.0*

*NEIC **01** 08:57:19.9±2.7,3.°90S±0.°07×98.°96E±0.°08,h10km±1km, mb4.6/38,Error ellipse: s-maj=13.2km s-min=10.7km az=244.0*

*DJA **01** 08:57:19.4±0.4,4.°S±3.°×9.°9E±.°,h10km,M4.9/25,mB5.5/13, mb4.7/25,MLv5.1/18,Mw(mB)4.9/13*

*GCMT **01** 08:57:22.0±0.4,3.°88S±0.°02×98.°96E±0.°02,h17km±2km, MW4.8/85,Moment Tensor Solution. s9,c9; s85,c105; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.12±.13; Mθθ0.03±.10; Mφφ0.09±.12; Mrθ-0.88±.29; Mrφ-2.17±.09; Mθφ-0.43±.28; Best double couple: Mo2.37800×10^16^ NP1:φ358.00000°,δ69.00000°,λ-10.00000°. NP2: φ92.00000°,δ81.00000°,λ-159.00000°. Principal axes: T 2.2770, Plg8.0000°, Azm224.0000°; N 0.2020, Plg67.0000°, Azm115.0000°; P -2.4790, Plg22.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 08:57:18.9±0.5,3.°95S±0.°06×98.°90E±0.°07,h10km,n143, σ2§01/130,mb4.5/56,MS3.9/17,1C,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SISI	**Saibi**	**2.61**	**4**	P		**Pn**	**08 57 58.6**	**-2.6**
KRJI	**Kerinci**	**3.16**	**54**	P		**Pn**	**08 58 06.7**	**-2.1**
KSI	**Kapahiang**	**3.70**	**86**	P		**Pn**	**08 58 15.0**	**-1.2**
PBSI	**Pulau Batu**	**3.91**	**351**	P		**Pn**	**08 58 16.1**	**-3.0**
SDSI	**Sungai Dareh**	**3.92**	**40**	P		**Pn**	**08 58 17.6**	**-1.6**
MNAI	**Manna**	**4.07**	**96**			**Pn**	**08 58 20.2**	**-1.1**
MNAI	**Manna**	**4.07**	**96**	P		**Pn**	**08 58 20.2**	**-1.1**
LHSI	**Lahat**	**4.62**	**89**	P		**Pn**	**08 58 27.8**	**-1.0**
BKNI	**Bangkinang**	**4.75**	**27**	Pn		**Pn**	**08 58 29.6**	**-1.1**
BKNI	**Bangkinang**	**4.75**	**27**	P		**Pn**	**08 58 28.3**	**-2.4**
MNSI	**Mandailing Nat**	**4.76**	**8**	P		**Pn**	**08 58 28.1**	**-2.6**
RGRI	**Rengat**	**4.96**	**44**	P		**Pn**	**08 58 31.6**	**-1.9**
LWLI	**Liwa**	**5.26**	**102**	P		**Pn**	**08 58 37.0**	**-0.7**
	5.1nm19µm375nm,0.6s							
MDSI	**Maura Dua**	**5.30**	**96**	P		**Pn**	**08 58 37.2**	**-0.9**
	1.0nm2µm61nm,0.5s							
GSI	**Gunungsitoli**	**5.38**	**346**	Pn		**Pn**	**08 58 39.0**	**-0.3**
GSI	**Gunungsitoli**	**5.38**	**346**	P		**Pn**	**08 58 38.6**	**-0.7**
	0.5nm40nm,1.2s							
SBSI	**Sibolga**	**5.46**	**360**	P		Pn	08 58 36.0	-4.4
	1.9nm5µm108nm,0.5s							
KASI	**Kota Agung**	**5.80**	**106**	P		**Pn**	**08 58 43.9**	**-1.1**
PMBI	**Palembang**	**5.95**	**80**	Pn		**Pn**	**08 58 44.8**	**-2.3**
RPSI	**Rantau Prapat**	**6.60**	**0**			**Pn**	**08 58 53.7**	**-2.3**
RPSI	**Rantau Prapat**	**6.60**	**0**			**Pn**	**08 58 53.5**	**-2.6**
DSRI	**Dabo**	**6.64**	**59**	P		**Pn**	**08 58 55.1**	**-1.5**
	0.2nm945nm46nm,1.1s							
PSI	**Prapat**	**6.70**	**0**	Pn		**Pn**	**08 58 53.5**	**-4.1**
	1.5nm,0.3s,baz=178,slow=9.2,SNR=4.9							
TPTI		**7.36**	**347**	P		**Pn**	**08 59 05.0**	**-1.5**
	0.1nm652nm17nm,0.8s							
DBJI	**Dramaga**	**8.24**	**109**	P		**Pn**	**08 59 18.3**	**-0.3**
	28µm72nm,1.1s							
COCO	**West Island**	**8.44**	**194**	Pn		**Pn**	**08 59 21.0**	**-0.3**
LEM	**Lembang**	**9.14**	**109**	Pn		**Pn**	**08 59 30.6**	**-0.6**
	22nm,0.3s,baz=216,slow=8.2,SNR=34							
LEM	**Lembang**	**9.14**	**109**	P		**Pn**	**08 59 31.3**	**+0.2**
	2µm110nm,1.1s							
LHMI	**Lhok Sumawe**	**9.32**	**348**	Pn		**Pn**	**08 59 34.7**	**+1.3**
CISI	**Cisompet, Garu**	**9.57**	**112**	Pn		**Pn**	**08 59 35.3**	**-1.6**
CISI	**Cisompet, Garu**	**9.57**	**112**	P		**Pn**	**08 59 35.0**	**-1.9**
	5µm238nm,1.0s							
KPJI	**Karang Pucung**	**10.54**	**109**	P		**Pn**	**08 59 49.6**	**-0.5**
	55nm,0.4s							
SMRI	**Semarang**	**11.90**	**106**	Pn		**Pn**	**09 00 08.5**	**-0.3**
UGM	**Wanagama**	**12.22**	**109**	Pn		**Pn**	**09 00 11.7**	**-1.4**
UGM	**Wanagama**	**12.22**	**109**	P		**Pn**	**09 00 11.7**	**-1.4**
	131nm,1.5s							
PWJI	**Pagerwojo**	**13.46**	**108**	P		**Pn**	**09 00 28.4**	**-1.7**
	47nm,0.9s							
JAGI	**Jajag, Banyuwa**	**15.82**	**107**	Pn		**Pn**	**09 01 00.5**	**-1.4**
JAGI				IAmb		IAmb	09 01 10.5	
	comp=Z,84nm,1.5s							
BBKI	**Banjar Baru**	**15.92**	**89**	P		**Pn**	**09 01 03.1**	**-0.1**
	comp=Z,2µmcomp=Z,34nm,1.2s							
PLAI	**Plampang**	**19.38**	**105**	P		**P**	**09 01 45.0**	**-0.1**
	comp=Z,31nm,1.0s							
UTHA	**Uthaitani**	**19.39**	**2**	P		Pn	09 01 55.9	+10
	comp=Z,12nm,1.0s							
UBPT	**Khong Chiam**	**20.18**	**19**	P		**P**	**09 01 54.5**	**+0.7**
KAPI	**Kappang**	**20.82**	**94**	P		**P**	**09 01 59.2**	**-1.6**
	comp=Z,37nm,1.1s,baz=238,slow=6.9,SNR=5.8							
KAPI	**Kappang**	**20.82**	**94**	P		**P**	**09 02 00.1**	**-0.8**
SPSI	**Sidrap Palu**	**20.82**	**91**	P		Pn	09 02 06.3	+3.0
TTSI	**Tana Toraja**	**20.90**	**88**	P		**P**	**09 02 01.1**	**-0.6**
	comp=Z,22nm,1.5s							
PHIT	**Phitsanulok**	**21.05**	**4**	P		**P**	**09 02 05.5**	**+2.2**
	comp=Z,64nm,0.9s							
BNSI	**Bone**	**21.16**	**92**	P		**P**	**09 02 02.9**	**-1.6**
	comp=Z,699nmcomp=Z,34nm,1.5s							
PALK	**Pallekele**	**21.30**	**302**	LR		LR	09 08 34.5	
	comp=Z,296nm,21.7s,baz=225,slow=32							
MHMT	**Maesarieng**	**22.00**	**358**	P		**P**	**09 02 20.1**	**+6.6**
	comp=Z,25nm,1.0s							
CM01	**Chiang Mai Arr**	**22.23**	**0**	P		**P**	**09 02 20.7**	**+4.8**
	comp=Z,158nmcomp=Z,11nm,0.7s							
CM13	**Chiang Mai Arr**	**22.23**	**0**	P		**P**	**09 02 19.1**	**+3.2**
	comp=Z,121nmcomp=Z,14nm,0.8s							
CM02	**Chiang Mai Arr**	**22.24**	**0**	P		**P**	**09 02 19.2**	**+3.2**
	comp=Z,112nmcomp=Z,13nm,0.8s							
CM09	**Chiang Mai Arr**	**22.25**	**0**	P		**P**	**09 02 19.6**	**+3.5**
	comp=Z,168nmcomp=Z,18nm,0.8s							
CM15	**Chiang Mai Arr**	**22.26**	**0**	P		**P**	**09 02 22.1**	**+5.8**
	comp=Z,1µmcomp=Z,17nm,0.8s							
CM31	**Chiang Mai Arr**	**22.26**	**0**	P		**P**	**09 02 18.1**	**+1.8**
CM31					IAmb	IAmb	09 02 28.0	
	comp=Z,18nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.26**	**0**	P		**P**	**09 02 16.0**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=190,slow=9.8,SNR=14							
CMAR					LR	LR	09 10 16.2	
	comp=Z,151nm,20.6s,baz=218,slow=35							
CMAR	**Chiang Mai Arr**	**22.26**	**0**	P		**P**	**09 02 15.8**	**-0.5**
CM36	**Chiang Mai Arr**	**22.32**	**0**	P		**P**	**09 02 20.0**	**+3.1**
TOLI2	**Tolitoli**	**22.44**	**77**	P		**P**	**09 02 16.0**	**-2.3**
TOLI2					IAmb	IAmb	09 02 36.8	
	comp=Z,34nm,1.0s							
CM32	**Chiang Mai Arr**	**22.46**	**360**	P		**P**	**09 02 23.0**	**+4.6**
CM35	**Chiang Mai Arr**	**22.48**	**1**	P		**P**	**09 02 28.0**	**+9.4**
CHTO	**Chiang Mai**	**22.62**	**0**	P		**P**	**09 02 20.7**	**+0.6**
CM34	**Chiang Mai Arr**	**22.65**	**1**	P		**P**	**09 02 25.0**	**+4.5**
APSI	**Ampana**	**22.93**	**83**	P		P	09 02 34.2	+11
LUWI	**Luwuk**	**24.02**	**84**	P		**P**	**09 02 33.8**	**-0.6**
CRAI	**Chiangrai**	**24.07**	**3**	P		**P**	**09 02 36.4**	**+1.8**
GTOI	**Gorontalo**	**24.52**	**80**	P		**P**	**09 02 38.0**	**-0.9**
	comp=Z,296nmcomp=Z,26nm,1.0s							
QIZ	**Qiongzhong**	**25.25**	**25**	P		**P**	**09 02 45.5**	**+0.2**
QIZ				S		**S**	**09 07 16.4**	**+5.3**
QIZ				pmax	pmax			
	comp=Z,17nm,1.7s							
QIZ				pmax	pmax			
	comp=Z,300nm,15.2s							
QIZ				L	L			
	comp=Z,280nm,19.6s							
QIZ				L	L			
	comp=Z,560nm,19.6s							
QIZ				L	L			
	comp=Z,220nm,11.3s							
BATI	**Baumata**	**25.34**	**106**	P		**P**	**09 02 45.2**	**-1.1**
	comp=Z,72nm,1.0s,baz=304,slow=21,SNR=4.1							
SLVN	**Son La**	**25.60**	**11**	P		**P**	**09 02 48.4**	**-0.1**
SLVN					IAmb	IAmb	09 03 10.7	
	comp=Z,24nm,1.5s							
H08S2	**Diego Garcia H**	**26.52**	**261**	T		T	09 31 44.3	
	baz=86,slow=74,SNR=97							
H08S3	**Diego Garcia H**	**26.53**	**261**	T		T	09 31 47.1	
	SNR=75							
H08S1	**Diego Carcia H**	**26.54**	**261**	T		T	09 31 46.0	
	baz=94,slow=74,SNR=102							
PSA00	**Pilbara Seismi**	**26.85**	**133**	P		**P**	**09 02 59.8**	**0.0**
PSA00	**Pilbara Seismi**	**26.85**	**133**	P		**P**	**09 03 00.5**	**+0.6**
PSA00					IAmb	IAmb	09 03 04.2	
	comp=Z,22nm,1.4s							
KMI	**Kunming**	**29.14**	**7**	⇑P		**P**	**09 03 23.4**	**+2.9**
KMI				pP		pwP	09 03 27.2	-1.4
KMI				pmax	pmax			
	comp=Z,13nm,0.5s							
KMI				L	L			
	comp=Z,220nm,13.4s							
KMI				L	L			
	comp=Z,370nm,14.6s							
KMI				L	L			
	comp=Z,220nm,15.4s							
FITZ	**Fitzroy Crossi**	**29.71**	**120**	P		**P**	**09 03 25.4**	**-0.1**
	comp=Z,14nm,1.0s,baz=309,slow=4.4,SNR=10							
FITZ					LR	LR	09 13 57.3	
	comp=Z,219nm,21.6s,baz=271,slow=34							
FITZ	**Fitzroy Crossi**	**29.71**	**120**	P		**P**	**09 03 26.3**	**+0.8**
FITZ					IAmb	IAmb	09 03 28.1	
	comp=Z,14nm,1.0s							
SHL	**Shillong**	**30.11**	**347**	P		**P**	**09 03 29.7**	**+0.6**
SHL					IAmb	IAmb	09 03 47.4	
	comp=Z,6.4nm,0.7s							
KNRA	**Kununurra**	**31.60**	**114**	P		**P**	**09 03 40.4**	**-1.8**
FAKI	**Fak Fak**	**33.31**	**89**	P		**P**	**09 03 55.2**	**-2.0**
H01W3	**Cape Leeuwin H**	**33.87**	**157**	T		T	09 39 46.4	
	baz=334,slow=76,SNR=20							
H01W2	**Cape Leeuwin H**	**33.89**	**157**	T		T	09 39 46.2	
H01W1	**Cape Leeuwin H**	**33.89**	**157**	T		T	09 39 47.5	
	baz=334,slow=76,SNR=18							
WB0	**Warramunga Arr**	**38.01**	**117**			**P**	**09 04 37.4**	**-0.1**
WB0					IAmb	IAmb	09 04 38.5	
	comp=Z,8.4nm,1.0s							
WRA	**Warramunga Arr**	**38.02**	**118**	P		**P**	**09 04 38.0**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=293,slow=8.8,SNR=26							
WRA	**Warramunga Arr**	**38.02**	**118**	P		**P**	**09 04 37.6**	**-0.1**
WRAB	**Tennant Creek**	**38.02**	**118**	P		**P**	**09 04 37.9**	**+0.2**
WRAB					IAmb	IAmb	09 04 39.2	
	comp=Z,12nm,0.9s							
WB2	**Warramunga Arr**	**38.03**	**118**			**P**	**09 04 38.0**	**+0.3**
WB2					IAmb	IAmb	09 04 39.2	
	comp=Z,13nm,0.9s							
WR0	**Warramunga Arr**	**38.20**	**118**			**P**	**09 04 39.5**	**+0.3**
WR0					IAmb	IAmb	09 04 40.3	
	comp=Z,16nm,1.1s							
FORT	**Forrest**	**38.32**	**137**	P		**P**	**09 04 40.8**	**+0.8**
FORT					IAmb	IAmb	09 04 59.4	
	comp=Z,22nm,1.1s							
XAN	**Xi'an**	**38.95**	**13**	P		P	09 04 56.6	+11
XAN				pP		pwP	09 04 59.7	+6.3
XAN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
XAN				L	L			
	comp=Z,280nm,21.7s							
XAN				L	L			
	comp=Z,790nm,20.6s							
XAN				L	L			
	comp=Z,440nm,14.3s							
ASAR	**Alice Springs**	**39.06**	**123**	P		**P**	**09 04 47.2**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=299,slow=8.6,SNR=17							
AS31	**Alice Springs**	**39.06**	**123**	P		**P**	**09 04 46.1**	**-0.3**
LZH	**Lanzhou**	**40.09**	**6**	*e*P		**P**	**09 04 55.8**	**+0.9**
LZH				pP		sP	09 04 59.7	+2.6
LZH				sP		pwP	09 05 01.6	-1.4
LZH				pmax	pmax			
	comp=Z,19nm,1.0s							
LZH				pmax	pmax			
	comp=Z,73nm,5.2s							
NJ2	**Nanjing**	**40.52**	**26**	*e*P		**P**	**09 05 00.0**	**+1.7**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
SSE	**Sheshan**	**40.82**	**30**	P		**P**	**09 05 01.4**	**+0.6**
SSE				S		**S**	**09 11 14.3**	**+2.3**
SSE				pmax	pmax			
	comp=Z,15nm,0.8s							
SSE				pmax	pmax			
	comp=Z,27nm,3.6s							
SSE				L	L			
	comp=Z,110nm,16.2s							
SSE				L	L			
	comp=Z,150nm,16.1s							
GTA	**Gaotai**	**43.15**	**1**	*e*P		**P**	**09 05 19.3**	**-0.6**
GTA				pP		pwP	09 05 36.4	+8.4
GTA				sP		sP	09 05 46.2	+24
GTA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,74nm,5.3s							
GTA				L	L			
	comp=Z,130nm,16.7s							
GTA				L	L			
	comp=Z,400nm,17.4s							
GTA				L	L			
	comp=Z,130nm,16.4s							
HHC	**Hu-ho-hao-te**	**46.06**	**13**	*e*P		**P**	**09 05 46.2**	**+3.1**
HHC				pmax	pmax			
	comp=Z,12nm,0.7s							
HHC				pmax	pmax			
	comp=Z,67nm,6.1s							
HHC				L	L			
	comp=Z,210nm,16.2s							
HHC				L	L			
	comp=Z,450nm,16.2s							
HHC				L	L			
	comp=Z,220nm,16.2s							
JNU	**Nakatsue**	**47.70**	**37**	P		**P**	**09 05 57.0**	**+0.9**
WMQ	**Urumqi**	**48.61**	**349**	*e*P		**P**	**09 06 05.5**	**+2.6**
WMQ				pmax	pmax			
	comp=Z,27nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,130nm,3.9s							
STKA	**Stephens Creek**	**48.72**	**130**	P		**P**	**09 06 04.8**	**+0.8**
	comp=Z,7.9nm,0.9s,baz=307,slow=5.7,SNR=12							
STKA					LR	LR	09 25 31.9	
	comp=Z,77nm,20.8s,baz=314,slow=35							
STKA	**Stephens Creek**	**48.72**	**130**	P		**P**	**09 06 05.1**	**+1.2**
CTAO	**Charters Tower**	**48.81**	**113**	P		**P**	**09 06 05.0**	**+0.3**
GUMO	**Guam**	**48.83**	**68**	LR		LR	09 29 00.2	
	comp=Z,26nm,18.4s,baz=181,slow=39							
KSAR	**Wonju Array Be**	**49.22**	**31**	P		**P**	**09 06 06.4**	**-1.1**
KSRS	**Korea Array**	**49.24**	**31**	P		**P**	**09 06 07.2**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=224,slow=8.8,SNR=6.0							
KSRS					LR	LR	09 29 10.7	
	comp=Z,81nm,18.3s,baz=236,slow=39							
JMN	**Monobe**	**49.95**	**39**	P		**P**	**09 06 13.6**	**+0.3**
SONM	**Songino Array**	**51.98**	**6**	P		**P**	**09 06 28.3**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=184,slow=9.0,SNR=5.2							
MK31	**Makanchi Array**	**52.61**	**346**	P		**P**	**09 06 33.0**	**0.0**
MK31					IAmb	IAmb	09 06 37.2	
	comp=Z,4.7nm,0.9s							
MKAR	**Makanchi Array**	**52.61**	**346**	P		**P**	**09 06 32.7**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=152,slow=8.8,SNR=17							
MKAR					LR	LR	09 31 37.5	
	comp=Z,70nm,21.5s,baz=155,slow=39							
MKAR	**Makanchi Array**	**52.61**	**346**	P		**P**	**09 06 33.1**	**+0.1**
MAKZ	**Makanchi**	**52.70**	**345**	P		**P**	**09 06 33.3**	**-0.4**
MAKZ					IAmb	IAmb	09 06 59.9	
	comp=Z,7.6nm,1.4s							
KK31	**Karatay Array**	**53.39**	**334**	P		**P**	**09 06 39.3**	**+0.4**
KKAR	**Karatay Array**	**53.39**	**334**	P		**P**	**09 06 37.9**	**-0.9**
MJAR	**Matsushiro Arr**	**54.47**	**39**	P		**P**	**09 06 48.3**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=206,slow=8.1,SNR=2.3							
MJAR	**Matsushiro Arr**	**54.47**	**39**	P		**P**	**09 06 45.6**	**-1.3**
GEYT	**Alibeck**	**56.25**	**322**	P		**P**	**09 06 59.6**	**-0.1**
	comp=Z,7.4nm,0.6s,baz=110,slow=8.1,SNR=3.6							
GEYT	**Alibeck**	**56.25**	**322**	IAmb		IAmb	09 07 00.5	
	comp=Z,31nm,1.2s							
USA0B	**Ussuriysk Arra**	**56.38**	**28**	P		**P**	**09 07 01.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**56.38**	**28**	P		**P**	**09 07 00.1**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=184,slow=5.8,SNR=2.3							
USRK	**Ussuriysk Ar.**	**56.38**	**28**	P		**P**	**09 07 01.1**	**+0.7**
KURBB	**Kurchatov Arra**	**57.11**	**345**	P		**P**	**09 07 04.7**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=162,slow=6.5,SNR=8.2							
KURK	**Kurchatov**	**57.17**	**345**	P		**P**	**09 07 04.7**	**-1.2**
ZAA0	**Zalesovo Array**	**58.88**	**350**	P		**P**	**09 07 16.6**	**-1.2**
ZAA0					IAmb	IAmb	09 07 28.8	
	comp=Z,9.5nm,1.1s							
ZALV	**Zalesovo Beam**	**58.88**	**350**	P		**P**	**09 07 17.3**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=181,slow=4.9,SNR=9.1							
ZALV	**Zalesovo Beam**	**58.88**	**350**	P		**P**	**09 07 17.6**	**-0.2**
KLR	**Kul'dur**	**60.15**	**24**	P		**P**	**09 07 26.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=180,slow=8.1,SNR=2.5							
BVAR	**Borovoye Array**	**61.63**	**341**	P		**P**	**09 07 35.4**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=161,slow=18,SNR=6.0							
BRVK	**Borovoye**	**61.70**	**341**	P		**P**	**09 07 38.7**	**+1.5**
BRVK					IAmb	IAmb	09 07 47.3	
	comp=Z,3.5nm,0.7s							
ABKAR	**Akbulak array**	**62.83**	**332**	P		**P**	**09 07 44.1**	**-0.7**
ABKAR					IAmb	IAmb	09 07 55.3	
	comp=Z,6.0nm,0.9s							
AKTO	**Aktyubinsk**	**64.54**	**332**	P		**P**	**09 07 55.4**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=152,slow=7.3,SNR=4.3							
MAW	**Mawson**	**68.14**	**194**	P		**P**	**09 08 20.9**	**+2.0**
MAW					IAmb	IAmb	09 08 23.2	
	comp=Z,2.3nm,0.9s							
MATP	**Matopo**	**70.27**	**250**	P		**P**	**09 08 34.1**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=18,slow=4.5,SNR=4.0							
NRIK	**Noril'sk**	**73.55**	**356**	P		**P**	**09 08 50.3**	**-1.4**
	comp=Z,3.5nm,1.0s,baz=173,slow=1.2,SNR=

CAME				SG	Sn	09 25 19.5	-0.3	
AKAS	**Kas**	**0.43**	**143**	*i* P	Pb	09 25 12.9	-0.1	
AKAS				IAML		09 25 21.0		
	comp=E,737nm,0.3s							
AKAS				*i* S	Sn	09 25 21.1	-0.1	
AKAS				IAML		09 25 22.0		
	comp=N,1μm,0.3s							
AKAS	**Kas**	**0.43**	**143**	PG	Pb	09 25 12.9	-0.1	
AKAS				SG	Sn	09 25 20.8	-0.3	
ELL	**Elmali**	**0.53**	**71**	PG	Pn	09 25 15.6	0.0	
ELL				SG	Sn	09 25 24.3	+0.6	
ELL	**Elmali**	**0.53**	**71**	P	Pn	09 25 15.4	-0.2	
ELL				S	Sn	09 25 25.6	+1.8	
CAEL	**Denizli, Camel**	**0.55**	**3**	*i* P	Pn	09 25 15.0	-0.9	
CAEL				IAML		09 25 27.0		
	comp=E,158nm,0.5s							
CAEL				IAML		09 25 27.0		
	comp=N,194nm,0.5s							
CAEL				*i* S	Sn	09 25 27.0	+2.8	
DALY	**Dalyan (Mula)**	**0.56**	**296**	*i* P	Pn	09 25 15.0	-0.8	
DALY				*i* S	Sn	09 25 23.5	-0.7	
DALY				IAML		09 25 25.0		
	comp=N,849nm,0.2s							
DALY				IAML		09 25 25.0		
	comp=E,511nm,0.4s							
DALY	**Dalyan (Mula)**	**0.56**	**296**	PG	Pn	09 25 15.2	-0.7	
DALY				SG	Sn	09 25 23.9	-0.4	
GOLH	**Golhisar**	**0.70**	**18**	*i* P	Pn	09 25 17.7	-0.2	
GOLH				*i* S	Sn	09 25 28.1	+0.3	
GOLH				IAML		09 25 30.0		
	comp=E,97nm,1.0s							
GOLH				IAML		09 25 32.0		
	comp=N,149nm,0.5s							
TURN	**Turunc**	**0.86**	**284**	*i* P	Pn	09 25 19.8	-0.2	
TURN				*i* S	Sn	09 25 31.6	0.0	
TURN				IAML		09 25 33.0		
	comp=N,304nm,0.2s							
TURN				IAML		09 25 35.0		
	comp=E,182nm,0.3s							
TURN	**Turunc**	**0.86**	**284**	PG	Pn	09 25 19.9	-0.1	
MRSB	**Marmaris-Mugla**	**0.89**	**280**	PG	Pn	09 25 20.4	0.0	
AKUM	**Antalya-Kumluc**	**0.89**	**106**	*i* P	Pb	09 25 20.9	+0.3	
AKUM				*i* S	Sn	09 25 35.9	+3.5	
AKUM				IAML		09 25 36.0		
	comp=E,445nm,0.4s							
AKUM				IAML		09 25 43.0		
	comp=N,118nm,0.4s							
TAVA	**DENIZLI_Tavas**	**0.94**	**342**	*i* P	Pb	09 25 21.4	-0.2	
TAVA				*i* S	Sn	09 25 34.0	+0.3	
TAVA				IAML		09 25 35.0		
	comp=N,218nm,0.2s							
TAVA				IAML		09 25 35.0		
	comp=E,197nm,0.2s							
YER	**Yerkesik**	**0.98**	**305**	PG	Pb	09 25 21.8	-0.3	
ARG	**Arkhangelos**	**1.00**	**249**	PG	Pb	09 25 22.1	-0.3	
ARG	**Arkhangelos**	**1.00**	**249**	P	Pb	09 25 22.0	-0.5	
ARG				S	Sn	09 25 36.1	+1.0	
MULA	**Mugla, Merkez-**	**1.03**	**312**	*i* P	Pb	09 25 22.9	-0.1	
MULA				*i* S	Sn	09 25 36.9	+0.9	
MULA				IAML		09 25 38.0		
	comp=N,267nm,0.4s							
BCK	**Bucak**	**1.37**	**49**	PN	Pb	09 25 28.0	-0.8	
MLSB	**Milas**	**1.41**	**301**	PN	Pb	09 25 27.9	-1.5	
BASM	**Basmaki-Afyon**	**1.48**	**24**	PN	Pb	09 25 29.3	-1.3	
BDRM	**Kayabasi**	**1.56**	**289**	*i* P	Pb	09 25 31.3	-0.6	
BDRM				*i* S	Sb	09 25 51.7	+0.5	
BDRM				IAML		09 25 52.0		
	comp=N,239nm,0.4s							
BDRM				IAML		09 25 53.0		
	comp=E,120nm,0.5s							
AYDN	**Tasoluk**	**1.56**	**314**	*i* P	Pb	09 25 31.5	-0.5	
AYDN				*i* S	Sb	09 25 52.0	+0.6	
AYDN				IAML		09 25 54.0		
	comp=E,68nm,0.3s							
AYDN				IAML		09 25 54.0		
	comp=N,48nm,0.3s							
ISP	**Isparta**	**1.59**	**38**	PN	Pb	09 25 31.2	-1.4	
BODT	**Bodrum**	**1.66**	**288**	PN	Pn	09 25 31.5	+0.5	
NIS1	**Nisyros Isl.**	**1.69**	**272**	PN	Pn	09 25 31.8	+0.3	
AYDB	**Zeytinkoy-Aydi**	**1.77**	**321**	PN	Pn	09 25 33.2	+0.6	
KZIL	**AFYON_Kizioren**	**1.81**	**22**	*i* P	Pn	09 25 33.8	+0.5	
KZIL				*i* S	Sb	09 25 59.6	+0.9	
KZIL				IAML		09 26 02.0		
	comp=E,25nm,0.6s							
KZIL				IAML		09 26 06.0		
	comp=N,23nm,0.8s							
DDIM	**Aydin, Didim**	**1.86**	**299**	*i* S	Sb	09 25 59.2	-0.7	
GCAM	**G?zelcaml?**	**1.99**	**305**	*i* P	Pn	09 25 36.5	+1.0	
GCAM				IAML		09 26 02.0		
	comp=N,74nm,0.3s							
GCAM				*i* S	Sb	09 26 02.0	-1.5	
GCAM				IAML		09 26 18.0		
	comp=E,52nm,1.2s							
GCAM	**G?zelcaml?**	**1.99**	**305**	PN	Pn	09 25 36.2	+0.7	
KULA	**Kula-Manisa**	**2.00**	**346**	PN	Pn	09 25 36.8	+1.0	
KARP	**Karpathos**	**2.00**	**240**	PN	Pn	09 25 36.4	+0.7	
KARP	**Karpathos**	**2.00**	**240**	P	Pn	09 25 36.1	+0.3	
KARP				S	Sn	09 26 00.3	+0.4	
KARP				AML	AML	09 26 01.5		
	comp=E,0.2nm,0.1s							
KARP				AML	AML	09 26 01.5		
	comp=E,0.2nm,0.1s							
KARP				AML	AML	09 26 01.5		
	comp=E,0.3nm,0.5s							
KARP				AML	AML	09 26 01.5		
	comp=E,0.3nm,0.5s							
SEDI	**Konya, Seydise**	**2.16**	**65**	*i* P	Pb	09 25 40.5	-1.8	
SEDI				*i* S	Sn	09 26 05.7	+1.7	
SEDI				IAML		09 26 11.0		
	comp=N,24nm,0.5s							
SEDI				IAML		09 26 12.0		
	comp=E,25nm,0.5s							
SHUT	**Suhut-Afyon**	**2.22**	**27**	PN	Pn	09 25 40.0	+1.2	
GAZI	**Gazipasa**	**2.47**	**97**	*i* P	Pn	09 25 42.0	-0.2	
GAZI				*i* S	Sn	09 26 11.9	+0.5	
GAZI				IAML		09 26 12.0		
	comp=N,23nm,0.5s							
GAZI				IAML		09 26 15.0		
	comp=E,27nm,0.3s							
ZKR	**Zakros**	**2.88**	**241**	P	Pn	09 25 48.8	+0.9	
ZKR				S	Sn	09 26 22.6	+0.9	
AKMS	**Akamas**	**2.93**	**121**	⇑P	Pn	09 25 47.9	-0.6	
AKMS				S	Sn	09 26 21.4	-1.3	
AKMS				AML	AML	09 26 21.5		
	comp=E,0.3nm,0.7s							
AKMS				AML	AML	09 26 21.5		
	comp=E,0.3nm,0.7s							
AKMS				AML	AML	09 26 21.9		
	comp=E,0.4nm,0.3s							
AKMS				AML	AML	09 26 21.9		
	comp=E,0.4nm,0.3s							
ALFC	**Alefka**	**3.04**	**117**	P	Pn	09 25 49.1	-1.0	
ALFC				AML	AML	09 26 24.2		
	comp=E,0.3nm,0.2s							
ALFC				AML	AML	09 26 24.2		
	comp=E,0.3nm,0.2s							
ALFC				S	Sn	09 26 24.4	-1.1	
ALFC				AML	AML	09 26 24.8		
	comp=E,0.2nm,0.2s							
ALFC				AML	AML	09 26 24.8		
	comp=E,0.2nm,0.2s							
NATA	**Nata**	**3.22**	**123**	P	Pn	09 25 51.9	-0.6	
SZAC	**Souni**	**3.45**	**121**	⇓P	Pn	09 25 55.7	+0.1	
SZAC				AML	AML	09 26 35.5		
	comp=E,0.2nm,0.2s							
SZAC				AML	AML	09 26 36.6		
	comp=E,0.2nm,0.3s							
ASGA	**Asgata**	**3.69**	**118**	P	Pn	09 25 58.6	-0.3	
MVOU	**Mavrovouni**	**3.86**	**112**	P	Pn	09 26 01.5	+0.3	
OSC2	**CSNet OBS 4**	**4.27**	**144**	P	Pn	09 26 06.7	-0.1	

*IDC **01** 09:34:25.5±5.1,6°.57S×154°.98E,h52km±44km,mb3.5/7, mb1 3.8/9,mb1mx3.6/35,mbtmp3.8/9,ML1.8/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/25,Error ellipse: s-maj=29.1km s-min=28.1km az=61.0*

ISC 01 09:34:25.9±0.8,6°.6S±0°.2×155°.0E±0°.1,h56km,n14, σ0962/12,mb3.7/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.68**	**120**	LR	LR	09 37 51.0	
	comp=Z,189nm,20.0s,baz=238,slow=36						
PMG	**Port Moresby**	**8.23**	**250**	P	**Pn**	**09 36 22.7**	**0.0**
	comp=Z,10nm,0.8s						
342A	**Flagon Creek P**	**16.06**	**8**	Pn	**Pn**	**10 15 15.3**	**-1.1**
TXAR	**Lajitas Array**	**16.10**	**331**	Pn	**Pn**	**10 15 17.2**	**+0.2**
TX31	**Lajitas Ar. Si**	**16.10**	**331**		**P**	**10 15 18.1**	**-1.9**
WHTX	**Lake Whitney,**	**16.69**	**352**	P	**P**	**10 15 26.5**	**0.0**
WHTX				IAmb	IAmb	10 15 36.5	
	comp=Z,24nm,1.0s						
ABTX	**Abilene, Hawle**	**17.70**	**346**		**P**	**10 15 37.5**	**-0.1**
ABTX				IAmb	IAmb	10 15 42.1	
	comp=Z,12nm,0.9s						
MNTX	**Cornudas Mount**	**18.88**	**331**	P	**Pn**	**10 15 53.0**	**+1.6**
MIAR	**Mount Ida**	**19.09**	**3**	P	**Pn**	**10 15 54.8**	**+0.9**
MSTX	**Muleshoe**	**19.84**	**340**	P	**Pn**	**10 16 01.9**	**-1.1**
BCOK	**Bluff Creek, N**	**20.33**	**353**	P	**P**	**10 16 06.2**	**-0.2**
OK031	**S. Brethren Rd**	**20.55**	**355**	IAmb	IAmb	10 16 17.8	
	comp=Z,8.6nm,0.6s						
U40A	**Yellville**	**20.94**	**4**	P	**P**	**10 16 13.1**	**+0.1**
U40A				IAmb	IAmb	10 16 31.6	
	comp=Z,7.3nm,1.1s						
T35A	**Sooner Cattle**	**21.48**	**356**	P	**P**	**10 16 17.9**	**-0.9**
T35A				IAmb	IAmb	10 16 27.7	
	comp=Z,12nm,0.9s						
BNM	**Barren Site**	**21.50**	**332**	P	**P**	**10 16 22.1**	**+2.8**
KAN13	**South Haven SW**	**21.66**	**354**	P	**P**	**10 16 21.1**	**+0.4**
KAN13				IAmb	IAmb	10 16 47.3	
	comp=Z,9.0nm,1.0s						
WUAZ	**Wupatki**	**24.93**	**326**	IAmb	IAmb	10 17 08.0	
	comp=Z,3.4nm,0.7s						
SMCO	**Snowmass**	**25.99**	**338**	IAmb	IAmb	10 17 17.4	
	comp=Z,4.3nm,0.9s						
LCMT	**Little Creek M**	**27.05**	**326**	IAmb	IAmb	10 17 24.1	
	comp=Z,14nm,1.4s						
MTPU	**Mount Pierson**	**27.29**	**329**	P	**P**	**10 17 16.5**	**+1.6**

*IDC **01** 10:13:45.2±1.6,44°.44N×129°.61W,h0km,mb3.6/8, mb1 3.8/14,mb1mx3.7/68,mbtmp3.6/14,ML3.4/6,MS3.5/7, Ms1 3.5/7,ms1mx3.2/42,Error ellipse: s-maj=32.9km s-min=13.6km az=43.0*

*NEIC **01** 10:13:45.7±2.0,44°.48N±0°.09×129°.8W±0°.2,h10km±2km, mb4.0/6,ML3.3/10,Error ellipse: s-maj=19.5km s-min=13.7km az=247.0*

*ANF **01** 10:13:55.7±1.8,44°.79N×128°.82W,h10km,ML3.6/14, Error ellipse: s-maj=20.6km s-min=4.1km az=92.0, Hypocentre not reviewed by the ISC*

ISC 01 10:13:47.2±1.3,44°.5N±0°.1×129°.7W±0°.1,h13km,n88, σ1917/81,mb3.7/6,MS3.4/4,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**4.21**	**110**	Pn	**Pn**	**10 14 48.8**	**-2.2**
KEBM				IAML		10 16 34.5	
	comp=E,42nm,2.8s						
KEBM				IAML		10 17 08.9	
	comp=N,42nm,2.8s						
J01E	**Myrtle Point**	**4.38**	**105**	S		10 15 41.7	
	baz=296						
COR	**Corvallis**	**4.58**	**86**		**Pn**	**10 14 55.4**	**-0.7**
G03D	**McMinnville, O**	**4.65**	**78**	P		10 14 55.6	
	baz=266,SNR=17						
K02D	**Willamette Mer**	**4.73**	**110**	S		10 15 50.7	
	baz=301						
E03A	**Lebam**	**4.80**	**62**	Pn	**Pn**	**10 14 58.4**	**-0.6**
E03A				IAML		10 15 37.2	
	comp=E,27nm,1.9s						
E03A				IAML		10 16 00.3	
	comp=N,22nm,2.0s						
H04D	**Lebanon**	**4.99**	**87**	P		10 15 01.4	
	baz=276						
F04D	**Rainier, OR**	**5.00**	**69**	P		10 15 01.2	
	baz=254,SNR=6.9						
L02E	**Cave Junction**	**5.01**	**115**	S		10 15 57.7	
	baz=307						
NLWA	**Neilton Lookou**	**5.02**	**52**	Pn	**Pn**	**10 15 01.5**	**-0.7**
NLWA				IAML		10 16 04.6	
	comp=N,16nm,1.4s						
NLWA				IAML		10 16 12.3	
	comp=N,14nm,1.6s						
HUMO	**Hull Mountain**	**5.25**	**108**	Pn	**Pn**	**10 15 04.7**	**-0.6**
H04A	**Detroit Lake**	**5.38**	**85**	Pn	**Pn**	**10 15 06.7**	**-0.4**
E04D	**Cinebar**	**5.44**	**65**	P		10 15 06.8	
	baz=250,SNR=27						
D03D	**Eldon**	**5.54**	**54**	P		10 15 08.6	
	baz=237,SNR=12						
D04E	**Lakebay**	**5.56**	**58**	P		10 15 09.1	
	baz=242,SNR=14						
J04D	**Umpqua Nationa**	**5.63**	**100**	P		10 15 12.2	
	baz=290						
YBH	**Yreka Blue Hor**	**5.80**	**116**	Pn	**Pn**	**10 15 11.6**	**-1.4**
	comp=N,0.2nm,0.3s,baz=295,slow=10,SNR=11						
YBH				Sn	**Sn**	**10 16 19.8**	**+0.4**
	comp=N,0.0nm,0.3s,baz=233,slow=14,SNR=0.7						
YBH				LR	LR	10 17 03.2	
	comp=N,244nm,20.4s,baz=303,slow=35						
YBH	**Yreka Blue Hor**	**5.80**	**116**	Pn	**Pn**	**10 15 12.8**	**-0.2**
L04D	**Klamath Falls**	**5.85**	**110**	P		10 15 14.7	
	baz=301						
LON	**Longmire**	**6.00**	**65**		**Pn**	**10 15 15.3**	**-0.3**
I05D	**Terrebonne, OR**	**6.00**	**88**	P		10 15 15.5	
	baz=277						
F05D	**White Salmon**	**6.00**	**73**	P		10 15 14.7	
	baz=261,SNR=26						
PGC	**Sidney**	**6.02**	**44**	Pn	**Pn**	**10 15 15.3**	**-0.4**
G05D	**Wamic, OR**	**6.02**	**80**	P		10 15 16.0	
	baz=268,SNR=7.3						
D05A	**Enumclaw**	**6.05**	**60**		**Pn**	**10 15 17.1**	**+0.9**
PINE	**Pine Mountain**	**6.35**	**93**	Pn	**Pn**	**10 15 20.3**	**-0.3**
B05A	**Bryant**	**6.50**	**51**	P		10 15 22.4	
	baz=236,SNR=59						
K05A	**Summer Lake**	**6.63**	**102**	Pn	**Pn**	**10 15 25.0**	**+0.5**
LTY	**Liberty**	**6.90**	**63**		**Pn**	**10 15 28.1**	**+0.1**
A05A	**Maple Falls**	**6.93**	**46**		**Pn**	**10 15 28.7**	**+0.3**
B06A	**Marblemount**	**6.98**	**52**		**Pn**	**10 15 29.0**	**0.0**
O03E	**Paynes Creek**	**7.18**	**123**	P		10 15 36.2	
	baz=313						
I07A	**Izee**	**7.34**	**89**	Pn	**Pn**	**10 15 34.9**	**+0.8**
HOPS	**Hopland Field**	**7.38**	**135**		**Pn**	**10 15 33.1**	**-1.4**
HAWA	**Hanford**	**7.42**	**71**	Pn	**Pn**	**10 15 34.2**	**-0.4**
GDXM	**Geysers**	**7.66**	**135**		**Pn**	**10 15 37.2**	**-1.2**
G08A	**Pilot Rock**	**7.68**	**80**	Pn	**Pn**	**10 15 37.9**	**-0.9**
E08A	**Dider Farm, El**	**7.76**	**71**	Pn	**Pn**	**10 15 39.2**	**-0.5**
BBB	**Bella Bella**	**7.80**	**7**	Pn	**Pn**	**10 15 41.4**	**+1.1**
	comp=N,0.2nm,0.3s,baz=178,slow=17,SNR=3.2						
BBB				LR	LR	10 17 57.9	
	comp=N,185nm,18.3s,baz=137,slow=32						
ORV	**Oroville**	**7.83**	**126**	Pn	**Pn**	**10 15 40.3**	**-0.5**
D08A	**Wollman Farm,**	**7.98**	**67**	Pn	**Pn**	**10 15 42.1**	**-0.7**
B08A	**Colville Reser**	**8.16**	**58**	Pn	**Pn**	**10 15 43.2**	**-2.1**
J08A	**Circle Bar Ran**	**8.19**	**94**	Pn	**Pn**	**10 15 43.5**	**-2.2**
WVOR	**Wild Horse Val**	**8.31**	**100**		**Pn**	**10 15 48.4**	**+1.0**
BEKR	**Beckworth**	**8.32**	**120**		**Pn**	**10 15 48.2**	**+0.6**
AFDM	**Forest Hills D**	**8.54**	**127**	Pn	**Pn**	**10 15 49.9**	**-0.7**
C09A	**Chrisman Ranch**	**8.62**	**63**	Pn	**Pn**	**10 15 50.0**	**-1.5**
BMO	**Blue Mountains**	**8.85**	**83**		**Pn**	**10 15 53.7**	**-1.1**
F10A	**Beach Ranch, E**	**8.94**	**76**		**Pn**	**10 15 55.9**	**-0.1**
VCNR	**Virginia City**	**9.10**	**121**		**Pn**	**10 16 00.2**	**+1.8**
NEW	**Newport**	**9.50**	**62**	Pn	**Pn**	**10 16 02.1**	**-1.5**
	comp=N,0.4nm,0.3s,baz=266,slow=6.8,SNR=5.9						
NEW	**Newport**	**9.50**	**62**	P		10 16 02.1	
	baz=251						
CMB	**Columbia Colle**	**9.51**	**129**		**Pn**	**10 16 04.5**	**+0.7**
MFID	**Camas Ranch**	**10.07**	**91**	Pn	**Pn**	**10 16 11.3**	**-0.2**
KVN	**Kaiserville**	**10.21**	**118**	Pn	**Pn**	**10 16 14.6**	**+1.0**
NVAR	**Mina Array Bea**	**10.46**	**121**	Pn	**Pn**	**10 16 17.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=303,slow=15,SNR=2.7						
NVAR				LR	LR	10 19 59.0	
	comp=N,253nm,21.0s,baz=308,slow=36						
MDPB	**Devils Postpil**	**10.53**	**127**	Pn	**Pn**	**10 16 18.8**	**+0.8**
HLID	**Hailey**	**11.06**	**89**	Pn	**Pn**	**10 16 24.4**	**-0.7**
JTMT	**Jette**	**11.21**	**68**	Pn	**Pn**	**10 16 26.4**	**-0.6**
ELK	**Elko**	**11.29**	**104**	Pn	**Pn**	**10 16 29.9**	**+1.5**
	comp=N,0.1nm,0.3s,baz=300,slow=7.5,SNR=8.5						
ELK	**Elko**	**11.29**	**104**	Pn	**Pn**	**10 16 28.3**	**-0.1**
MSO	**Missoula**	**11.29**	**72**	Pn	**Pn**	**10 16 25.6**	**-2.6**
BCYI	**Bear Canyon**	**11.67**	**85**	Pn	**Pn**	**10 16 33.5**	**0.0**
MCMT	**McKenzie Canyo**	**12.02**	**82**	Pn	**Pn**	**10 16 38.0**	**-0.3**
DLMT	**Dillon**	**12.17**	**80**	Pn	**Pn**	**10 16 39.1**	**-1.2**
SPR3	**Spring Creek 3**	**12.71**	**110**	Pn	**Pn**	**10 16 47.3**	**-0.6**
PRN	**Pahroc Range**	**13.12**	**117**	Pn	**Pn**	**10 16 55.0**	**+1.7**
YHL	**Hebgen Lake**	**13.20**	**82**	Pn	**Pn**	**10 16 54.7**	**+0.2**
PSUT	**Pine Spring**	**13.27**	**111**	Pn	**Pn**	**10 16 56.1**	**+0.8**
YMR	**Madison River**	**13.37**	**83**	Pn	**Pn**	**10 16 58.8**	**+2.0**
YHH	**Holmes Hill**	**13.44**	**82**	Pn	**Pn**	**10 16 58.5**	**+0.7**

*IDC **01** 10:13:32.3±0.8,15°.36N×94°.80W,h16km±7km,MD4.3*

*NEIC **01** 10:11:34.6±2.0,15°.5N±0°.1×94°.70W±0°.08,h28km±6km, mb4.2/21,Error ellipse: s-maj=19.1km s-min=9.3km az=202.0*

ISC 01 10:11:33.2±0.8,15°.40N±0°.06×94°.79W±0°.03,h35km,n51, σ2817/64,mb4.2/5,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.32**	**286**	*e*P	**Pn**	**10 11 52.8**	**-2.3**
HUIG				*i* S	**Sn**	**10 12 07.9**	**-3.5**
PCIG		**1.55**	**79**	*e*P	**Pn**	**10 11 55.6**	**-2.6**
PCIG				*i* S	**Sn**	**10 12 13.3**	**-3.9**
PANG	**Puerto Angel**	**1.64**	**279**	*i* P	**Pn**	**10 11 57.4**	**-2.1**
PANG				*i* S	**Sn**	**10 12 16.4**	**-3.0**
CMIG	**Matias Romero**	**1.68**	**357**	*e*P	**Pn**	**10 11 58.0**	**-2.1**
CMIG				*e*S	**Sn**	**10 12 18.3**	**-2.2**
TGIG		**2.11**	**49**	*e*P	**Pn**	**10 12 04.7**	**-1.4**
TGIG				*e*S	**Sn**	**10 12 28.6**	**-2.6**
PEIG	**Puerto Escondi**	**2.34**	**285**	*e*P	**Pn**	**10 12 07.5**	**-1.8**
PEIG				*i* S	**Sn**	**10 12 34.3**	**-2.5**
THIG		**2.49**	**101**	*e*P	**Pn**	**10 12 08.6**	**-2.6**
THIG				*e*S	**Sn**	**10 12 37.4**	**-3.0**
VHO	**Vista Hermosa**	**2.50**	**312**	*e*P	**Pn**	**10 12 11.7**	**+0.2**
VHO				*i* S	**Sn**	**10 12 39.4**	**-1.4**
CCIG	**Comitan**	**2.70**	**71**	*e*P	**Pn**	**10 12 15.4**	**+1.1**
CCIG				*e*S	**Sn**	**10 12 46.5**	**+0.6**
CCIG	**Comitan**	**2.70**	**71**		**Pn**	**10 12 14.3**	**0.0**
YOIG	**Yosondua**	**3.01**	**299**	*e*P	**Pn**	**10 12 19.1**	**+0.4**
YOIG				*e*S	**Sn**	**10 12 52.8**	**-1.0**
RTAL	**Retalhuleu**	**3.12**	**106**	Pn	**Pn**	**10 12 18.4**	**-1.5**
HUEH	**Huehuetenango**	**3.18**	**91**	Pn	**Pn**	**10 12 21.4**	**+0.5**
PNIG	**Pinotepa**	**3.35**	**288**	*e*P	**Pn**	**10 12 22.2**	**-0.9**
PNIG				*e*S	**Sn**	**10 12 57.3**	**-4.5**
TOIG	**Toxpalan**	**3.45**	**321**	*e*P	**Pn**	**10 12 26.8**	**+2.2**
TOIG				*e*S	**Sn**	**10 13 05.4**	**+1.1**
HLIG	**Huajuapan de L**	**3.76**	**310**	*e*P	**Pn**	**10 12 29.6**	**+0.6**
HLIG				*i* S	**Sn**	**10 13 14.2**	**+2.1**
TLIG	**Tlapa**	**4.21**	**301**	*e*P	**Pn**	**10 12 35.2**	**+0.2**
TLIG				*e*S	**Sn**	**10 13 20.9**	**-2.1**
TLIG	**Tlapa**	**4.21**	**301**		**Pn**	**10 12 36.0**	**+1.1**
LVIG	**Laguna Verde**	**4.57**	**340**	*e*P	**Pn**	**10 12 38.5**	**-1.3**
LVIG				*e*S	**Sn**	**10 13 23.9**	**-7.8**
PETF	**Flores**	**4.97**	**72**	Pn	**Pn**	**10 12 44.7**	**-0.7**
PPM	**Popocatepetl**	**5.17**	**315**	*e*P	**Pn**	**10 12 51.4**	**+2.9**
PPM				*e*S	**Sn**	**10 13 44.7**	**-2.5**
ESQI	**Esquipulas**	**5.34**	**98**	Pn	**Pn**	**10 12 51.9**	**+1.4**
YAIG	**Yautepec**	**5.34**	**311**	*i* P	**Pn**	**10 12 49.7**	**-0.9**
YAIG				*e*P	**Pn**	**10 12 52.4**	**+1.8**
MTO3	**Montecristo**	**5.35**	**100**		**Pn**	**10 12 50.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**7.40**	**99**	Pn	**Pn**	**10 13 19.9**	**+1.0**
ORTG	**Ortega, Santa**	**10.39**	**118**		**Pn**	**10 14 02.6**	**+2.8**
JTS	**Las Juntas de**	**10.86**	**117**	Pn	**Pn**	**10 14 07.9**	**+1.7**
CAO2	**Cobano, Puntar**	**11.03**	**120**	Pn	**Pn**	**10 14 10.7**	**+2.1**
PEZE	**Perez Zeledon,**	**12.39**	**118**		**Pn**	**10 14 31.1**	**+3.8**
DRK0	**Durika**	**12.82**	**117**		**Pn**	**10 14 35.2**	**+2.0**
SOR	**Soroa**	**13.34**	**55**	Pn	**Pn**	**10 14 37.5**	**-2.6**
435B	**Jarrell**	**15.52**	**351**	Pn	**Pn**	**10 15 09.0**	**-0.5**
435B				IAmb	IAmb	10 15 18.0	
	comp=Z,20nm,0.8s						
JCT	**Junction City**	**15.70**	**344**	Pn	**Pn**	**10 15 11.1**	**-0.6**
JCT				IAmb	IAmb	10 15 27.0	

YPP	**Pitchstone Pla**	**13.53**	**84**	Pn	**Pn**	**10 17 00.4**	**+1.5**
TPAW	**Teton Pass**	**13.55**	**88**	Pn	**Pn**	**10 17 01.0**	**+1.8**
HWUT	**Hardware Ranch**	**13.58**	**96**	Pn	**Pn**	**10 16 59.2**	**-0.3**
FLWY	**Flagg Ranch**	**13.63**	**85**	Pn	**Pn**	**10 17 01.7**	**+1.4**
REDW	**Red Top Meadow**	**13.64**	**88**	Pn	**Pn**	**10 17 02.6**	**+2.1**
SNOW	**Snow King Moun**	**13.69**	**88**	Pn	**Pn**	**10 17 01.2**	**0.0**
CCUT	**Cedar City**	**14.13**	**114**	Pn	**Pn**	**10 17 08.6**	**+1.5**
TCRU	**Three Creeks R**	**14.18**	**108**	Pn	**Pn**	**10 17 08.9**	**+1.1**
GCMT	**Greycliff**	**14.21**	**78**	Pn	**Pn**	**10 17 09.4**	**+1.3**
EGMT	**Eagleton**	**14.26**	**68**	Pn	**Pn**	**10 17 09.3**	**+0.6**
PDAR	**Pinedale Array**	**14.70**	**90**	Pn	**Pn**	**10 17 17.9**	**+3.0**
	comp=N,0.1nm,0.3s,baz=268,slow=12,SNR=2.5						
KNB	**Kanab**	**14.79**	**114**	Pn	**Pn**	**10 17 15.3**	**-0.8**
P17A	**Butcher Ranch,**	**14.96**	**103**	Pn	**Pn**	**10 17 18.0**	**-0.3**
P17A				IAmb	IAmb	10 17 39.2	
	comp=Z,6.5nm,1.3s						
SRU	**San Rafael Swe**	**15.27**	**104**	Pn	**Pn**	**10 17 23.4**	**+0.9**
W13A	**Hualapai Mount**	**15.32**	**122**	Pn	**Pn**	**10 17 22.9**	**-0.3**
W13A				IAmb	IAmb	10 17 37.0	
	comp=Z,9.4nm,1.3s						
RDMU	**Red Mountain**	**15.35**	**98**	Pn	**Pn**	**10 17 22.6**	**-0.9**
U15A	**North Rim**	**15.48**	**115**	Pn	**Pn**	**10 17 26.9**	**+1.5**
U15A				IAmb	IAmb	10 17 41.4	
	comp=Z,16nm,1.3s						
YKA	**Yellowknife Ar**	**20.08**	**21**	P	**P**	**10 18 20.8**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=220,slow=11,SNR=3.7						
ANMO	**Albuquerque**	**20.20**	**110**	P	**P**	**10 18 21.1**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=284,slow=8.3,SNR=1.8						
ILAR	**Eielson Array**	**22.50**	**341**	P	**P**	**10 18 46.2**	**+0.1**
	comp=Z,1.3nm,1.1s,baz=162,slow=6.5,SNR=9.0						
ILAR	**Eielson Array**	**22.50**	**341**	P	**P**	**10 18 42.8**	**-3.3**
ULM	**Lac du Bonnet**	**23.50**	**64**	P	**P**	**10 18 55.5**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=255,slow=7.3,SNR=3.5						
ULM				LR	LR	10 27 40.5	
	comp=Z,239nm,19.3s,baz=302,slow=36						
ULM	**Lac du Bonnet**	**23.50**	**64**	IAmb	IAmb	10 18 58.4	
	comp=Z,5.1nm,0.9s						
INK	**Inuvik**	**23.99**	**357**	P	**P**	**10 19 02.1**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=243,slow=16,SNR=2.1						
INK				LR	LR	10 27 56.4	
	comp=Z,140nm,18.4s,baz=152,slow=35						
TXAR	**Lajitas Array**	**25.58**	**117**	P	**P**	**10 19 15.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=309,slow=7.1,SNR=7.6						
TXAR				LR	LR	10 29 55.7	
	comp=Z,79nm,20.5s,baz=0.0,slow=36						
LPIG	**La Paz**	**25.75**	**136**	LR	LR	10 28 01.1	
	comp=Z,115nm,19.8s,baz=314,slow=33						
H11N3	**WAKE ISLAND Hy**	**57.56**	**266**	T	T	11 25 44.1	
	baz=49,slow=75,SNR=480						
H11N2	**WAKE ISLAND Hy**	**57.56**	**266**	T	T	11 25 44.0	
	baz=49,slow=75,SNR=262						
H11N1	**WAKE ISLAND Hy**	**57.58**	**266**	T	T	11 25 43.1	
	baz=49,slow=75,SNR=312						
H11S1	**WAKE ISLAND Hy**	**58.50**	**265**	T	T	11 26 55.7	
	baz=48,slow=75,SNR=99						
H11S2	**WAKE ISLAND Hy**	**58.51**	**265**	T	T	11 26 56.6	
	baz=48,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**58.52**	**265**	T	T	11 26 57.9	
	baz=48,slow=75,SNR=56						
NOA	**NORSAR Array B**	**70.17**	**19**	P	**P**	**10 24 59.3**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=334,slow=6.0,SNR=1.7						
SONM	**Songino Array**	**75.72**	**325**	P	**P**	**10 25 32.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=57,slow=5.3,SNR=5.9						

*IDC **01** 10:16:09.4±1.3, 34˚.55N×135˚.52E, h0km, mb3.3/3, mb1 3.4/7, mb1mx3.3/60, mbtmp3.3/7, ML2.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/40, Error ellipse: s-maj=29.4km s-min=24.5km az=82.0*

*JMA **01** 10:16:10.0, 34˚.79N×135˚.36E, h11km, M3.8 Broadband fault plane solution: P waves. NP1:ϕ=240.00000°, δ77.00000°, λ171.00000°. NP2:ϕ=333.00000°, δ81.00000°, λ14.00000°. Principal axes: T Plg16.0000°, Azm197.0000°; N Plg74.0000°, Azm6.0000°; P Plg3.0000°, Azm106.0000°;*

JMA Felt II J1.

*NIED **01** 10:16:10.0, 34˚.79N×135˚.37E, h11km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.43; Mθθ3.86; Mϕϕ=3.43; Mrθ=1.13; Mθϕ=1.77; Mϕr=1.91; Fault plane solution: M0=4.63000×10^14 NP1: ϕs=147.00000°, δ86.00000°, λ-29.00000°. NP2: ϕs=239.00000°, δ61.00000°, λ-176.00000°.*

ISC 01 10:16:10.1±1.0, 34˚.79N±0˚.03×135˚.38E±0˚.02, h8km±8km, n22, σ1=05/34, mb3.3/3, 6C-7D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIK	**Miki**	**0.27**	**275**	⇓P	**Pg**	**10 16 15.5**	**+0.1**
JMIK				*e*S	**Sg**	**10 16 19.4**	**+0.4**
JHE	**Heguri**	**0.29**	**117**	⇓P	**Pg**	**10 16 15.9**	**+0.2**
JHE				S	**Sg**	**10 16 20.2**	**+0.7**
JKS	**Kasai**	**0.48**	**294**	⇓P	**Pg**	**10 16 19.2**	**-0.2**
JKS				S	**Sg**	**10 16 25.5**	**-0.2**
JAWN	**Awajishima-nag**	**0.49**	**233**	⇑P	**Pg**	**10 16 19.3**	**-0.3**
JAWN				*e*S	**Sg**	**10 16 26.1**	**0.0**
JWT	**Wachi**	**0.50**	**2**	⇑P	**Pg**	**10 16 19.7**	**0.0**
JWT				S	**Sg**	**10 16 26.1**	**-0.1**
JWY	**Kouya**	**0.59**	**162**	⇑P	**Pg**	**10 16 21.2**	**-0.3**
JWY				S	**Sg**	**10 16 29.1**	**-0.2**
TSUJ	**Tsu 2**	**0.86**	**95**	⇓P	**Pg**	**10 16 26.0**	**-0.6**
TSUJ				S	**Sg**	**10 16 37.5**	**-0.3**
JKY	**Yasaka**	**0.87**	**345**	⇑P	**Pg**	**10 16 26.3**	**-0.5**
JKY				S	**Sg**	**10 16 37.5**	**-0.7**
JKN2	**Miekihoku**	**0.92**	**126**	⇓P	**Pg**	**10 16 27.1**	**-0.6**
JKN2				S	**Sg**	**10 16 39.2**	**-0.5**
JWM	**Minabe**	**0.93**	**181**	⇑P	**Pg**	**10 16 27.6**	**-0.4**
JTNC	**Tanabenakahech**	**0.98**	**169**	⇑P	**Pg**	**10 16 28.3**	**-0.7**
JTNC				S	**Sg**	**10 16 41.5**	**-0.2**
JKSM	**Kasumi**	**0.99**	**324**	⇓P	**Pg**	**10 16 28.1**	**-1.0**
JKSM				S	**Sg**	**10 16 41.2**	**-0.8**
JAD	**Aida**	**1.01**	**279**	⇓P	**Pg**	**10 16 28.0**	**-1.4**
JAD				*e*S	**Sg**	**10 16 41.5**	**-1.0**
MAT	**Matsushiro**	**2.90**	**52**	P	**Pn**	**10 16 57.1**	**+0.6**
MAT				*e*S	**Sn**	**10 17 31.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.90**	**52**	Pn	**Pn**	**10 16 57.4**	**+0.9**
	0.6nm,0.3s,baz=241,slow=14,SNR=26						
MJAR				Lg	Lg	10 17 40.7	
	3.3nm,0.3s,baz=154,slow=26,SNR=3.4						
JNU	**Nakatsue**	**4.09**	**247**	Pn	**Pn**	**10 17 13.2**	**+0.3**
	0.8nm,0.3s,baz=60,slow=5.3,SNR=6.7						
JNU				Lg	Lg	10 18 16.4	
	0.9nm,0.3s,baz=37,slow=13,SNR=2.9						
KSRS	**Korea Array**	**6.59**	**296**	Pn	**Pn**	**10 17 50.2**	**+3.0**
	0.2nm,0.3s,baz=112,slow=14,SNR=2.5						
ASAJ	**Asahikawa**	**10.86**	**29**	LR	LR	10 22 45.7	
	comp=Z,93nm,18.9s,baz=352,slow=36						
KLR	**Kul'dur**	**14.68**	**351**	Pn	**P**	**10 19 42.7**	**-1.6**
	0.1nm,0.3s,baz=140,slow=16,SNR=3.6						
SONM	**Songino Array**	**25.21**	**310**	P	**P**	**10 21 39.3**	**+3.0**
	0.4nm,0.6s,baz=128,slow=9.5,SNR=2.2						
WRA	**Warramunga Ar**	**54.43**	**181**	P	**P**	**10 25 36.2**	**-1.7**
	0.4nm,0.6s,baz=356,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**58.15**	**182**	P	**P**	**10 26 04.0**	**-0.4**
	0.1nm,0.6s,baz=9.2,slow=12,SNR=5.4						

ISC 01 10:18:05.5±1.1, 49˚.19N±0˚.05×18˚.94E±0˚.05, h10km, n5, σ0=89/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.35**	**96**	*e*PG	**Pb**	**10 18 13.7**	**-0.1**
LANS				*e*SG	**Sb**	**10 18 20.0**	**+0.6**
VYHS	**Vyhne**	**0.70**	**186**	*e*PG	**Pb**	**10 18 18.6**	**-0.3**
VYHS				*e*SG	**Sb**	**10 18 31.1**	**+1.7**
KOLL	**Kolacno**	**0.70**	**210**	*e*PG	**Pg**	**10 18 18.1**	**-1.0**
JAVC	**Velka Javorina**	**0.90**	**249**	*e*PG	**Pb**	**10 18 23.3**	**+0.1**
JAVC				*e*SG	**Sn**	**10 18 36.8**	**-0.5**
MORC	**Moravsky Berou**	**1.09**	**304**	*e*PG	**Pg**	**10 18 26.3**	**-0.1**
MORC				*e*SG	**Sn**	**10 18 41.8**	**-0.2**

*NEIC **01** 10:20:23.4±2.4, 44˚.50N±0˚.08×129˚.7W±0˚.1, h10km±2km, mb4.1/14, ML3.2/10, Error ellipse: s-maj=17.2km s-min=12.0km az=292.0*

*IDC **01** 10:20:23.0±2.5, 44˚.62N×129˚.46W, h0km, mb3.2/4, mb1 3.6/10, mb1mx3.5/62, mbtmp3.3/10, ML3.3/6, Error ellipse: s-maj=43.1km s-min=19.8km az=55.0*

ISC 01 10:20:24.2±1.6, 44˚.5N±0˚.1×129˚.7W±0˚.2, h13km, n74, σ1=12/67, mb4.0/5, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**4.55**	**87**	Pn	**Pn**	**10 21 31.8**	**-0.9**
COR				IAML		10 22 51.4	
	33nm,1.8s						
E03A	**Lebam**	**4.74**	**63**	Pn	**Pn**	**10 21 34.9**	**-0.5**
E03A				IAML		10 22 24.1	
	comp=N,16nm,1.3s						
NLWA	**Neilton Lookou**	**4.96**	**53**	Pn	**Pn**	**10 21 37.7**	**-0.7**
NLWA				IAML		10 22 35.2	
	comp=N,12nm,3.9s						
NLWA				IAML		10 22 41.1	
	comp=N,18nm,1.5s						
KRMB	**Red Mountain**	**5.17**	**123**	Pn	**Pn**	**10 21 41.3**	**-0.2**
KRMB				IAML		10 23 59.5	
	comp=N,16nm,4.8s						
KRMB				IAML		10 24 55.1	
	comp=E,12nm,2.2s						
HUMO	**Hull Mountain**	**5.24**	**109**	Pn	**Pn**	**10 21 41.0**	**-1.1**
H04A	**Detroit Lake**	**5.34**	**86**	Pn	**Pn**	**10 21 43.0**	**-0.6**
YBH	**Yreka Blue Hor**	**5.80**	**116**	Pn	**Pn**	**10 21 50.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=288,slow=9.8,SNR=9.0						
YBH	**Yreka Blue Hor**	**5.80**	**116**	Pn	**Pn**	**10 21 50.7**	**+0.7**
LON	**Longmire**	**5.94**	**65**		**Pn**	**10 21 52.0**	**+0.1**
PGC	**Sidney**	**5.95**	**44**	Pn	**Pn**	**10 21 51.9**	**0.0**
D05A	**Enumclaw**	**5.99**	**61**		**Pn**	**10 21 53.5**	**+1.1**
PINE	**Pine Mountain**	**6.32**	**94**	Pn	**Pn**	**10 21 56.7**	**-0.5**
K05A	**Summer Lake**	**6.61**	**103**	Pn	**Pn**	**10 22 00.8**	**-0.5**
LTY	**Liberty**	**6.85**	**63**		**Pn**	**10 22 04.6**	**+0.3**
A05A	**Maple Falls**	**6.87**	**47**		**Pn**	**10 22 05.6**	**+1.1**
B06A	**Marblemount**	**6.92**	**52**		**Pn**	**10 22 05.8**	**+0.6**
I07A	**Izee**	**7.30**	**90**	Pn	**Pn**	**10 22 10.9**	**+0.2**
HAWA	**Hanford**	**7.37**	**72**		**Pn**	**10 22 10.7**	**-0.7**
HOPS	**Hopland Field**	**7.40**	**136**	Pn	**Pn**	**10 22 09.8**	**-2.1**
G08A	**Pilot Rock**	**7.64**	**80**	Pn	**Pn**	**10 22 13.8**	**-1.4**
E08A	**Dider Farm, El**	**7.71**	**71**	Pn	**Pn**	**10 22 15.8**	**-0.2**
ORV	**Oroville**	**7.84**	**126**	Pn	**Pn**	**10 22 18.4**	**+0.5**
D08A	**Wollman Farm,**	**7.93**	**68**	Pn	**Pn**	**10 22 19.1**	**+0.1**
B08A	**Colville Reser**	**8.10**	**58**		**Pn**	**10 22 21.3**	**-0.2**
J08A	**Circle Bar Ran**	**8.16**	**94**	Pn	**Pn**	**10 22 24.1**	**+1.7**
WVOR	**Wild Horse Val**	**8.29**	**101**		**Pn**	**10 22 25.4**	**+1.2**
BMO	**Blue Mountains**	**8.81**	**84**		**Pn**	**10 22 30.9**	**-0.4**
F10A	**Beach Ranch, E**	**8.90**	**76**		**Pn**	**10 22 33.0**	**+0.5**
NEW	**Newport**	**9.44**	**62**	Pn	**Pn**	**10 22 38.5**	**-1.4**
	comp=E,0.2nm,0.3s,baz=216,slow=10.0,SNR=4.9						
CMB	**Columbia Colle**	**9.52**	**130**		**Pn**	**10 22 41.2**	**+0.2**
PLID	**Pearl Lake**	**9.73**	**82**	Pn	**Pn**	**10 22 45.8**	**+1.8**
NVAR	**Mina Array Bea**	**10.47**	**122**	Pn	**Pn**	**10 22 56.0**	**+1.8**
	comp=E,0.0nm,0.3s,baz=290,slow=12,SNR=4.3						
HLID	**Hailey**	**11.02**	**90**		**Pn**	**10 23 02.6**	**+0.9**
JTMT	**Jette**	**11.15**	**68**	Pn	**Pn**	**10 23 03.5**	**+0.1**
MSO	**Missoula**	**11.24**	**73**		**Pn**	**10 23 03.8**	**-0.9**
ELK	**Elko**	**11.28**	**105**	Pn	**Pn**	**10 23 07.1**	**+1.9**
	comp=E,0.1nm,0.3s,baz=252,slow=1.0,SNR=5.0						
ELK	**Elko**	**11.28**	**105**	Pn	**Pn**	**10 23 06.3**	**+1.1**
BCYI	**Bear Canyon**	**11.63**	**85**		**Pn**	**10 23 11.4**	**+1.3**
MCMT	**McKenzie Canyo**	**11.98**	**83**		**Pn**	**10 23 16.1**	**+1.3**
SPR3	**Spring Creek 3**	**12.70**	**110**	Pn	**Pn**	**10 23 26.1**	**+1.3**
PRN	**Pahroc Range**	**13.12**	**118**		**Pn**	**10 23 30.6**	**+0.2**
YHL	**Hebgen Lake**	**13.16**	**82**		**Pn**	**10 23 32.6**	**+1.7**
TPAW	**Teton Pass**	**13.51**	**88**	Pn	**Pn**	**10 23 36.4**	**+0.6**
HWUT	**Hardware Ranch**	**13.55**	**96**		**Pn**	**10 23 35.8**	**-0.4**
CCUT	**Cedar City**	**14.12**	**114**		**Pn**	**10 23 45.6**	**+1.5**
TCRU	**Three Creeks R**	**14.17**	**109**	P	**Pn**	**10 23 46.4**	**+1.6**
EGMT	**Eagleton**	**14.21**	**69**		**Pn**	**10 23 45.9**	**+0.8**
LCMT	**Little Creek M**	**14.51**	**115**		**Pn**	**10 23 49.8**	**+0.4**
PDAR	**Pinedale Array**	**14.66**	**90**	Pn	**Pn**	**10 23 55.2**	**+3.7**
	comp=E,0.1nm,0.3s,baz=40,slow=53,SNR=1.6						
KNB	**Kanab**	**14.79**	**115**		**Pn**	**10 23 52.9**	**-0.2**
SRU	**San Rafael Swe**	**15.25**	**104**	Pn	**Pn**	**10 24 00.0**	**+0.7**
W13A	**Hualapai Mount**	**15.33**	**122**		**Pn**	**10 24 02.6**	**+2.2**
U15A	**North Rim**	**15.48**	**116**		**Pn**	**10 24 02.6**	**+0.3**
U15A				IAmb	IAmb	10 24 09.2	
	comp=Z,6.6nm,1.1s						
O20A	**White River Ci**	**16.43**	**98**	Pn	**Pn**	**10 24 13.4**	**-1.2**
PCA	**Pinnacle**	**16.85**	**341**	P	**Pn**	**10 24 18.8**	**-0.9**
PCA				IAmb	IAmb	10 24 24.5	
	comp=Z,32nm,1.4s						
YKA	**Yellowknife Ar**	**20.01**	**21**	P	**P**	**10 24 56.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=2.4						
ANMO	**Albuquerque**	**20.19**	**110**	P	**P**	**10 24 58.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=331,slow=12,SNR=4.3						
T25A	**Trinidad**	**20.43**	**102**	P	**P**	**10 25 00.1**	**-1.2**
T25A				IAmb	IAmb	10 25 03.8	
	comp=Z,11nm,0.9s						
319A	**Douglas**	**20.68**	**122**	P	**P**	**10 25 04.4**	**+0.4**
319A				IAmb	IAmb	10 25 12.0	
	comp=Z,6.3nm,0.9s						
KSCO	**Kaye Shedlock'**	**20.86**	**96**	P	**P**	**10 25 05.5**	**-0.3**
KSCO				IAmb	IAmb	10 25 09.9	
	comp=Z,9.3nm,1.1s						
ILAR	**Eielson Array**	**22.45**	**341**	P	**P**	**10 25 23.3**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=161,slow=5.7,SNR=4.6						
ULM	**Lac du Bonnet**	**23.45**	**64**	P	**P**	**10 25 30.6**	**-2.4**
	comp=Z,2.9nm,0.9s,baz=252,slow=4.4,SNR=2.9						
ULM	**Lac du Bonnet**	**23.45**	**64**	IAmb	IAmb	10 25 42.1	
	comp=Z,5.3nm,1.0s						
F33A	**5 Mile Ranch,**	**23.47**	**75**	P	**P**	**10 25 32.4**	**-0.9**
ECSD	**EROS Data Cent**	**23.65**	**80**	P	**P**	**10 25 35.0**	**-0.2**
ECSD				IAmb	IAmb	10 25 35.6	
	comp=Z,6.6nm,1.1s						
B35A	**Bob, Littlefor**	**24.91**	**68**	P	**P**	**10 25 46.2**	**-0.5**
B35A				IAmb	IAmb	10 25 47.9	
	comp=Z,4.8nm,1.0s						
TXAR	**Lajitas Array**	**25.58**	**118**	P	**P**	**10 25 51.8**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=294,slow=8.1,SNR=9.3						
WMOK	**Wichita Mounta**	**25.58**	**102**	P	**P**	**10 25 52.8**	**-0.2**
H11N3	**WAKE ISLAND Hy**	**57.60**	**266**	T	T	11 32 21.8	
	baz=49,slow=75,SNR=78						
H11N2	**WAKE ISLAND Hy**	**57.60**	**266**	T	T	11 32 45.0	
	baz=49,slow=75,SNR=51						
H11N1	**WAKE ISLAND Hy**	**57.62**	**266**	T	T	11 32 43.8	
	baz=49,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy**	**58.54**	**265**	T	T	11 33 38.1	
	baz=48,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**58.55**	**265**	T	T	11 34 04.6	
	baz=48,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**58.56**	**265**	T	T	11 34 02.0	
	baz=48,slow=75,SNR=20						

*BJI **01** 10:28:43.7±0.0, 6˚.28S×130˚.84E, h127km, mB4.9/33, mb5.1/64*

*NEIC **01** 10:28:46.0±2.2, 6˚.08S±0˚.06×130˚.70E±0˚.07, h109km±5km, mb5.1/86, Error ellipse: s-maj=10.3km s-min=8.1km az=78.0*

*DJA **01** 10:28:46.8±0.2, 6˚S±2˚×13˚1E±˚, h118km±4km, M5.0/40, mB5.4/26, mb5.1/40, MLv5.3/12, Mw(mB)4.9/26*

*MOS **01** 10:28:46.1±0.9, 6˚.11S×130˚.67E, h134km, mb5.1/34, Error ellipse: s-maj=9.8km s-min=5.0km az=116.7*

*IDC **01** 10:28:47.0±1.4, 6˚.10S×130˚.68E, h124km±13km, mb4.6/37, mb1 4.6/41, mb1mx4.5/54, mbtmp5.0/41, MS3.5/9, Ms1 3.5/9, ms1mx3.3/50, Error ellipse: s-maj=11.4km s-min=7.9km az=75.0*

ISC 01 10:28:46.3±0.2, 6˚.16S±0˚.03×130˚.75E±0˚.04, h124km, n440, σ1=61/429, mb5.0/122, 106C-22D, Fault plane solution: NP1:ϕs111.98203°, δ21.86500°, λ55.67891°. **NP2:** ϕs328.32062°, δ72.08661°, λ102.74899°. **Principal axes:** T Plg60.8952°, Azm257.0325°; N Plg12.1213°, Azm144.3397°; P Plg26.0241°, Azm48.3205°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.83**	**333**	P	**Pn**	**10 29 18.7**	**+0.8**
SAUI	**Saumlaki**	**1.89**	**163**	Pn	**Pn**	**10 29 20.2**	**+1.5**
SAUI	**Saumlaki**	**1.89**	**163**	P	**Pn**	**10 29 20.1**	**+1.5**
MSAI	**Masohi**	**3.33**	**327**	P	**Pn**	**10 29 37.4**	**+0.3**
FAKI	**Fak Fak**	**3.55**	**25**	Pn	**Pn**	**10 29 39.0**	**-1.0**
FAKI	**Fak Fak**	**3.55**	**25**	P	**Pn**	**10 29 39.0**	**-1.0**
KMPI	**Kaimana, Papua**	**3.85**	**50**	P	**Pn**	**10 29 44.2**	**+0.3**
NLAI	**Namlea**	**4.65**	**308**	P	**Pn**	**10 29 56.0**	**+1.4**
SIJI	**Sorong**	**5.28**	**6**	P	**Pn**	**10 30 01.5**	**-1.6**
	73nm,0.3s,baz=202,slow=11,SNR=135						
SIJI				S	**Sn**	**10 30 57.8**	**-5.2**
	120nm,0.3s,baz=277,slow=23,SNR=16						
SWI	**Sorong**	**5.29**	**6**	P	**Pn**	**10 30 01.6**	**-1.6**
	3.9nm21μm311nm,0.6s						
SANI	**Sanana**	**6.26**	**310**	P	**Pn**	**10 30 16.7**	**+0.4**
	0.7nm2μm200nm,0.6s						
MTN	**Manton Dam**	**6.65**	**177**	P	**Pn**	**10 30 20.9**	**-0.7**
	baz=6.7,SNR=720						
MTN				S	**Sn**	**10 31 31.7**	**-4.4**
	baz=6.7						
MTN	**Manton Dam**	**6.65**	**177**	Pn	**Pn**	**10 30 21.8**	**+0.2**
KDU	**Kakadu**	**6.71**	**165**	P	**Pn**	**10 30 21.1**	**-1.2**
	baz=6.8,SNR=346						
KDU				S	**Sn**	**10 31 31.8**	**-5.5**
	baz=6.8						
BAKI	**Biak**	**7.28**	**48**	P	**Pn**	**10 30 31.3**	**+1.3**
	3.5nm9μm930nm,1.0s						
SOEI	**Soe**	**7.35**	**240**	Pn	**Pn**	**10 30 31.7**	**+0.6**
SOEI	**Soe**	**7.35**	**240**	P	**Pn**	**10 30 31.7**	**+0.6**
	5.0nm4μm382nm,0.7s						
TNTI	**Ternate**	**7.67**	**334**	Pn	**Pn**	**10 30 34.4**	**-1.0**
TNTI	**Ternate**	**7.67**	**334**	P	**Pn**	**10 30 35.9**	**+0.6**
BATI	**Baumata**	**8.08**	**240**	P	**Pn**	**10 30 41.4**	**+0.4**
	100nm,0.3s,baz=131,slow=2.4,SNR=27						
BATI				S	**Sn**	**10 32 07.8**	**-3.0**
	108nm,0.3s,baz=130,slow=23,SNR=7.9						
BATI	**Baumata**	**8.08**	**240**	P	**Pn**	**10 30 41.5**	**+0.6**
	3μm166nm,0.6s						
MMRI	**Maumere**	**8.79**	**253**	Pn	**Pn**	**10 30 51.3**	**+0.8**
MMRI	**Maumere**	**8.79**	**253**	P	**Pn**	**10 30 52.7**	**+2.2**
	101nm,1.1s						
LUWI	**Luwuk**	**9.44**	**302**	Pn	**Pn**	**10 30 59.3**	**0.0**
LUWI	**Luwuk**	**9.44**	**302**	P	Pn	10 31 14.4	+15
KNRA	**Kununurra**	**9.66**	**191**	Pn	**Pn**	**10 30 60.0**	**-2.2**
MMPI	**Merauke**	**9.83**	**104**	P	**Pn**	**10 31 05.7**	**+1.2**
	11μm648nm,0.6s						
GENI	**Genyem**	**10.04**	**70**	P	**Pn**	**10 31 08.4**	**+1.1**
APSI	**Ampana**	**10.47**	**300**	P	**Pn**	**10 31 15.7**	**+2.6**
	725nm54nm,1.3s						
BNSI	**Bone**	**10.74**	**279**	P	**Pn**	**10 31 18.5**	**+1.8**
	738nm90nm,0.7s						
BASI	**Baing, Sumba**	**10.84**	**247**	P	**Pn**	**10 31 18.7**	**+0.6**
	2μm173nm,0.8s						
MRSI	**Marisa**	**10.99**	**307**	P	**Pn**	**10 31 20.6**	**+0.5**
	96nm,1.1s						
KAPI	**Kappang**	**11.00**	**275**	P	**P**	**10 31 27.0**	**-2.9**
	1.6nm,0.3s,baz=118,slow=11,SNR=7.0						
KAPI	**Kappang**	**11.00**	**275**	P	**Pn**	**10 31 21.0**	**+0.7**
KAPI	**Kappang**	**11.00**	**275**	Pn	**Pn**	**10 31 21.0**	**+0.7**
SPSI	**Sidrap Palu**	**11.15**	**281**	P	**Pn**	**10 31 24.0**	**+1.8**
	30nm,1.1s						
TTSI	**Tana Toraja**	**11.32**	**285**	P	**Pn**	**10 31 28.0**	**+3.5**
	2μm54nm,0.9s						
WBSI	**Waikabubak, Su**	**11.77**	**252**	P	**Pn**	**10 31 31.3**	**+0.9**
	2μm152nm,0.5s						
FITZ	**Fitzroy Crossi**	**12.87**	**202**	P	**Pn**	**10 31 41.0**	**-3.8**
	8.4nm,0.3s,baz=31,slow=11,SNR=96						
FITZ				S	Sn	10 33 52.6	-14
	12nm,0.3s,baz=26,slow=12,SNR=11						
FITZ				LR	LR	10 37 29.4	
	comp=Z,157nm,18.4s,baz=30,slow=40						
FITZ	**Fitzroy Crossi**	**12.87**	**202**	Pn	**Pn**	**10 31 41.1**	**-3.7**
PLAI	**Plampang**	**13.13**	**258**	P	**Pn**	**10 31 47.3**	**-0.9**
	2μm114nm,0.5s						
DDMP	**Don Marcelino,**	**13.18**	**337**	*e*P	**Pn**	**10 31 50.8**	**+2.0**
MATI	**Mati**	**13.77**	**341**	*e*P	**P**	**10 32 01.4**	**+0.7**
WB0	**Warramunga Arr**	**13.98**	**166**	Pn	**Pn**	**10 31 55.2**	**-4.0**
TWSI	**Taliwang, Sumb**	**13.98**	**259**	P	**Pn**	**10 31 59.8**	**+0.6**
	699nm41nm,0.6s						
DAV	**Davao City (W)**	**14.12**	**338**	P	**P**	**10 32 06.3**	**+1.7**
	38nm,0.3s,baz=184,slow=0.8,SNR=7.2						
WRAB	**Tennant Creek**	**14.13**	**166**	*i* P	**Pn**	**10 32 00.4**	**-0.6**

MACP **Maragondon, Ca** 22.60 334 *e*P P **10 33 36.1 -0.6**
CISI **Cisompet, Garu** 22.81 265 P P **10 33 36.3 -2.5**
CISI **Cisompet, Garu** 22.81 265 P P **10 33 39.6 +0.7**
comp=Z,2µmcomp=Z,279nm,0.8s
GIRL **Giralia** 22.86 223 P P **10 33 40.1 +1.0**
baz=23,SNR=22
GIRL **Giralia** 22.86 223 P P **10 33 39.5 +0.4**
LEM **Lembang** 22.99 267 P P **10 33 40.4 -0.3**
comp=Z,222nm,1.2s,baz=81,slow=10.0,SNR=14
LEM LR LR 10 44 00.7
comp=Z,110nm,21.4s,baz=94,slow=40
LEM **Lembang** 22.99 267 P P **10 33 41.7 +1.0**
comp=Z,1µmcomp=Z,80nm,0.9s
TPI **Tanjungpandan** 23.27 277 P P **10 33 42.2 -0.9**
comp=Z,382nmcomp=Z,45nm,1.1s
MEEK **Meekatharra** 23.42 208 P P **10 33 44.2 -0.2**
baz=24,SNR=30
QLP **Quilpie** 24.04 149 P P **10 33 51.5 +1.5**
baz=24,SNR=12
GUMO **Guam** 24.11 35 P P **10 33 51.1 +0.4**
comp=Z,88nm,0.7s,baz=23,slow=22,SNR=3.6
GUMO **Guam** 24.11 35 P P **10 33 51.2 +0.5**
GUMO pmax pmax
comp=Z,400nm,1.4s
GUMO **Guam** 24.11 35 P P **10 33 51.2 +0.5**
FORT **Forrest** 24.62 186 P P **10 33 55.9 +0.7**
baz=25,SNR=42
FORT **Forrest** 24.62 186 P P **10 33 56.1 +0.9**
FORT IAmb IAmb 10 34 42.1
comp=Z,55nm,0.8s
KMBL **Kambalda** 26.42 197 P P **10 34 12.1 +0.7**
baz=27,SNR=75
MORW **Morawa** 26.69 210 P P **10 34 14.3 +0.4**
baz=27,SNR=29
MORW **Morawa** 26.69 210 P P **10 34 14.4 +0.5**
BBOO **Buckleboo** 26.98 170 P P **10 34 17.0 +0.6**
baz=27,SNR=12
BBOO **Buckleboo** 26.98 170 P P **10 34 17.1 +0.6**
STKA **Stephens Creek** 27.52 160 P P **10 34 22.3 +0.9**
comp=Z,5.4nm,0.3s,baz=335,slow=7.9,SNR=53
STKA LR LR 10 45 20.7
comp=Z,112nm,19.2s,baz=358,slow=36
STKA **Stephens Creek** 27.52 160 P P **10 34 22.2 +0.9**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** 27.52 160 P P **10 34 22.1 +0.9**
BLDU **Ballidu** 27.68 207 P P **10 34 23.3 +0.6**
baz=28,SNR=20
KLBR **Kellerberrin** 28.07 204 P P **10 34 26.7 +0.5**
baz=28,SNR=85
HTT **Hallett** 28.18 165 P P **10 34 29.1 +1.9**
baz=28,SNR=9.0
CMSA **Cobar Meteorol** 28.87 153 P P **10 34 34.8 +1.6**
baz=29,SNR=20
MUN **Mundaring** 29.06 206 P P **10 34 35.6 +0.6**
baz=29,SNR=15
NWAO **Narrogin (SRO)** 29.46 204 P P **10 34 39.3 +0.8**
comp=Z,36nm,0.5s,baz=42,slow=7.9,SNR=58
NWAO LR LR 10 49 30.6
comp=Z,82nm,19.9s,baz=38,slow=42
NWAO **Narrogin (SRO)** 29.46 204 P P **10 34 39.4 +0.8**
baz=30,SNR=39
NWAO **Narrogin (SRO)** 29.46 204 P P **10 34 39.3 +0.8**
NWAO IAmb IAmb 10 34 40.0
comp=Z,31nm,0.6s
NWAO **Narrogin (SRO)** 29.46 204 P P **10 34 39.3 +0.8**
NWAO IAmb IAmb 10 34 39.9
comp=Z,39nm,0.6s
PATS **Pohnpei** 30.38 65 P P **10 34 46.6 -0.3**
ARMA **Armidale** 31.11 143 P P **10 34 54.3 +1.0**
ARMA IAmb IAmb 10 34 58.2
comp=Z,50nm,1.5s
SSLB **Suanglung** 31.26 343 P P **10 34 53.6 -0.9**
YOJ **Yonaguni jima** 31.36 346 P P **10 34 54.2 -1.1**
YOJ pmax pmax
comp=Z,187nm,2.0s
YOJ **Yonaguni jima** 31.36 346 P P **10 34 54.1 -1.1**
ARPS **Mount Arapiles** 32.11 163 P P **10 35 03.7 +1.9**
baz=32,SNR=9.7
SKLT **Songkhla** 32.85 293 P P **10 35 09.0 +0.5**
comp=Z,6.0nm,0.9s
UBPT **Khong Chiam** 32.88 311 P P **10 35 08.6 -0.2**
comp=Z,17nm,1.1s
UBPT **Khong Chiam** 32.88 311 IAmb IAmb 10 35 09.6
comp=Z,33nm,1.1s
RPSI **Rantau Prapat** 32.97 285 P P **10 35 08.0 -1.6**
PSI **Prapat** 33.00 285 P P **10 35 10.3 +0.3**
comp=Z,62nm,0.8s,baz=178,slow=0.5,SNR=24
PSI LR LR 10 49 54.9
comp=Z,124nm,18.3s,baz=90,slow=38
PSI **Prapat** 33.00 285 P P **10 35 08.0 -2.0**
PSI pmax pmax
comp=Z,71nm,0.8s
CAN **Canberra** 33.54 152 P P **10 35 16.5 +2.2**
CAN pmax pmax
comp=Z,97nm,1.7s
CAN **Canberra** 33.54 152 P P **10 35 16.5 +2.2**
CAN IAmb IAmb 10 35 33.1
comp=Z,97nm,1.7s
GSI **Gunungsitoli** 33.94 282 P P **10 35 15.8 -2.2**
TOO **Toolangi** 34.03 159 P P **10 35 18.8 +0.2**
baz=34,SNR=7.2
TOO **Toolangi** 34.03 159 P P **10 35 18.9 +0.4**
TOO pmax pmax
comp=Z,47nm,1.5s
TOO **Toolangi** 34.03 159 P P **10 35 18.9 +0.4**
TOO IAmb IAmb 10 35 50.7
comp=Z,48nm,1.5s
JCJ **Chichijima** 34.86 18 LR LR 10 46 57.9
comp=Z,76nm,20.9s,baz=120,slow=31
KHON **Khomkaen** 35.54 309 P P **10 35 31.9 +0.2**
comp=Z,118nm,0.9s
CHAI **Chaiyaphum** 35.94 308 P P **10 35 34.0 -1.1**
comp=Z,70nm,0.7s
PHET **Kaeng Krachan** 36.26 302 P P **10 35 38.0 +0.1**
comp=Z,562nmcomp=Z,45nm,0.9s
NONG **Nongkai** 36.35 312 P P **10 35 38.2 -0.4**
comp=Z,35nm,1.0s
SANVU **Saraoutou** 36.92 107 P P **10 35 45.0 +1.5**
UTHA **Uthaitani** 37.77 305 P P **10 35 50.0 -0.7**
comp=Z,645nmcomp=Z,76nm,0.8s
PHIT **Phitsanulok** 37.90 308 P P **10 35 52.0 +0.3**
comp=Z,2µmcomp=Z,240nm,0.9s
DZM **Mont Dzumac** 37.92 118 P P **10 35 53.4 +1.4**
comp=Z,15nm,0.6s,baz=267,slow=8.7,SNR=27
DZM **Mont Dzumac** 37.92 118 P P **10 35 52.6 +0.6**
DZM IAmb IAmb 10 35 54.3
comp=Z,15nm,0.8s
SLVN **Son La** 37.95 317 P P **10 35 52.4 +0.2**
SLVN IAmb IAmb 10 35 53.6
comp=Z,24nm,1.5s
ONTNC **Ouen Toro** 38.01 119 P P **10 35 53.7 +1.1**
ONTNC IAmb IAmb 10 35 56.1
comp=Z,27nm,0.8s
KHLT **Khaolaem Dam** 38.08 303 P P **10 35 52.9 -0.3**
comp=Z,415nmcomp=Z,33nm,0.8s
UTTA **Uttaradit** 38.12 309 P P **10 35 54.0 +0.5**
comp=Z,51nm,0.9s
OUENC **Ouen Island, N** 38.38 119 P P **10 35 57.0 +1.3**
OUENC IAmb IAmb 10 35 58.3
comp=Z,14nm,0.6s
UMPA **Umpang Tak** 38.60 306 P P **10 35 57.0 -0.6**
comp=Z,4µmcomp=Z,40nm,1.0s
PINNC **Pines Island,** 38.98 119 P P **10 36 02.3 +1.6**
PINNC IAmb IAmb 10 36 04.2
comp=Z,28nm,0.8s
JNU **Nakatsue** 39.06 0 P P **10 36 01.6 +0.4**
comp=Z,15nm,1.0s,baz=256,slow=21,SNR=4.1
JNU **Nakatsue** 39.06 0 IAmb IAmb 10 36 27.0
comp=Z,33nm,1.3s
NJ2 **Nanjing** 39.65 344 ⇓*i*P P **10 36 07.3 +1.2**
NJ2 pmax pmax
comp=Z,22nm,0.6s
CM36 **Chiang Mai Arr** 39.69 309 P P **10 36 06.0 -0.7**
CM04 **Chiang Mai Arr** 39.72 309 P P **10 36 07.2 +0.4**
comp=Z,210nmcomp=Z,20nm,1.2s
CM09 **Chiang Mai Arr** 39.73 309 P P **10 36 07.5 +0.5**
comp=Z,190nmcomp=Z,19nm,0.9s
WHN **Wuhan** 39.73 338 ⇑P P **10 36 07.6 +0.8**
WHN pmax pmax
comp=Z,90nm,0.9s
CM35 **Chiang Mai Arr** 39.74 309 P P **10 36 07.0 -0.1**
CM05 **Chiang Mai Arr** 39.74 308 P P **10 36 07.0 -0.1**
comp=Z,150nmcomp=Z,15nm,1.2s
CM01 **Chiang Mai Arr** 39.74 309 P P **10 36 07.5 +0.5**
comp=Z,217nmcomp=Z,21nm,1.2s

CM02 **Chiang Mai Arr** 39.76 309 P P **10 36 07.6 +0.4**
comp=Z,176nmcomp=Z,17nm,1.2s
CM31 **Chiang Mai Arr** 39.78 309 P P **10 36 07.9 +0.5**
comp=Z,15µmcomp=Z,274nm,0.6s
CM31 **Chiang Mai Arr** 39.78 309 P P **10 36 06.9 -0.5**
CM31 IAmb IAmb 10 36 08.7
comp=Z,48nm,1.3s
CMAR **Chiang Mai Arr** 39.78 309 P P **10 36 06.3 -1.0**
comp=Z,8.5nm,0.6s,baz=139,slow=7.4,SNR=57
CMAR PcP PcP **10 38 12.8 +1.4**
comp=Z,1.1nm,0.4s,baz=149,slow=2.4,SNR=4.5
CMAR ScP ScP **10 41 48.8 -0.2**
comp=Z,3.1nm,0.9s,baz=161,slow=3.1,SNR=13
CM13 **Chiang Mai Arr** 39.78 308 P P **10 36 07.8 +0.3**
comp=Z,167nmcomp=Z,17nm,0.9s
CM15 **Chiang Mai Arr** 39.79 309 P P **10 36 07.0 -0.5**
CM34 **Chiang Mai Arr** 39.84 309 P P **10 36 07.0 -0.9**
GYA **Guiyang** 39.96 325 ⇓P P **10 36 08.9 0.0**
GYA pmax pmax
comp=Z,4.0nm,1.1s
CM32 **Chiang Mai Arr** 39.96 309 P P **10 36 09.0 +0.1**
CMMT **Chiang Mai** 39.98 309 P P **10 36 08.0 -1.0**
comp=Z,226nmcomp=Z,19nm,1.3s
CHTO **Chiang Mai** 39.98 309 P P **10 36 09.1 0.0**
CHTO pmax pmax
comp=Z,95nm,1.6s
CHTO **Chiang Mai** 39.98 309 P P **10 36 09.1 0.0**
CHTO IAmb IAmb 10 36 10.2
comp=Z,95nm,1.6s
CM33 **Chiang Mai Arr** 39.98 309 P P **10 36 08.0 -1.1**
MHMT **Maesarieng** 40.41 307 P P **10 36 12.4 -0.2**
JHS **Saijyo** 41.00 3 P P **10 36 18.1 +0.9**
KMI **Kunming** 41.34 320 ⇓P P **10 36 21.4 +1.0**
KMI pP pP 10 36 48.9 +1.2
KMI pmax pmax
comp=Z,22nm,1.2s
JWT **Wachi** 41.45 6 P P **10 36 21.0 +0.1**
JWT IAmb IAmb 10 36 36.7
comp=Z,18nm,0.6s
ENH **Enshi** 41.57 332 IAmb IAmb 10 36 22.5
comp=Z,34nm,0.8s
TJN **Taejon** 42.43 356 ⇓*i*P P **10 36 28.7 -0.1**
MAJO **Matsushiro** 43.05 9 ⇓*e*P P **10 36 32.2 -1.6**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MAJO **Matsushiro** 43.05 9 P P **10 36 31.3 -2.5**
MJAR **Matsushiro Arr** 43.05 9 P P **10 36 32.6 -1.2**
comp=Z,3.2nm,0.6s,baz=193,slow=8.7,SNR=9.3
KSAR **Wonju Array Be** 43.46 357 P P **10 36 37.9 +0.8**
KSAR **Wonju Array Be** 43.46 357 P P **10 36 37.9 +0.8**
KSRS **Korea Array** 43.47 357 P P **10 36 37.6 +0.6**
comp=Z,2.1nm,0.7s,baz=178,slow=11,SNR=10
JSD **Sado** 44.52 8 P P **10 36 43.4 -2.2**
JMM **Marumori** 44.79 11 P P **10 36 48.0 +0.3**
XAN **Xi'an** 45.00 334 P P **10 36 48.9 -0.6**
XAN pmax pmax
comp=Z,49nm,0.8s
CD2 **Chengdu** 45.01 327 *e*P P **10 36 50.2 +0.6**
MSVF **Nonsavu** 47.55 108 P P **10 37 11.4 +1.6**
comp=Z,6.5nm,0.8s,baz=335,slow=19,SNR=3.1
BJT **Baijiatuan** 47.88 345 IAmb IAmb 10 37 12.8
comp=Z,22nm,0.7s
BJI **Beijing** 47.90 345 P P **10 37 12.0 +0.1**
BJI pmax pmax
comp=Z,29nm,0.8s
OUZ **Omahuta** 48.85 132 P P **10 37 21.5 +2.1**
LZH **Lanzhou** 49.02 331 ⇑P P **10 37 21.5 +0.6**
LZH pmax pmax
comp=Z,37nm,1.5s
LZH pmax pmax
comp=Z,140nm,6.2s
LZH L L
comp=Z,230nm,15.2s
LZH L L
comp=Z,250nm,12.7s
LZH L L
comp=Z,260nm,16.4s
CN2 **Changchun** 49.96 355 *e*P P 10 37 34.4 +6.8
HHC **Hu-ho-hao-te** 49.99 341 *e*P P **10 37 30.3 +2.3**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,100nm,6.5s
HHC L L
comp=Z,210nm,15.3s
HHC L L
comp=Z,170nm,14.5s
HHC L L
comp=Z,150nm,14.5s
USA0B **Ussuriysk Arra** 50.14 1 ⇓*e*P P **10 37 29.8 +0.9**
USRK **Ussuriysk Ar.** 50.14 1 P P **10 37 29.5 +0.6**
comp=Z,4.2nm,0.8s,baz=172,slow=6.9,SNR=10
WHZ **Wether Hill Ro** 50.99 147 P P **10 37 36.4 +1.0**
ASAJ **Asahikawa** 51.17 11 P P **10 37 37.2 +0.5**
comp=Z,9nm,0.4s,baz=201,slow=6.5,SNR=6.8
YUK **Yuzh-Kuril'sk** 51.79 14 *e*P P **10 37 41.7 +0.4**
YUK *e* 10 38 53.1
YUK *e* 10 39 40.4
YUK *e*PPP PPP 10 40 44.7
YUK *e*S S **10 44 55.3 +1.5**
YUK *e* 10 47 20.0
YUK *e*SS SS **10 48 34.5 +2.2**
YUK pmax pmax
comp=Z,243nm,1.5s
YUK pmax pmax
comp=Z,136nm,1.0s
YUK pmax pmax
comp=N,90nm,0.9s
YUK pmax pmax
comp=E,126nm,0.8s
TUWZ **Tuamarina** 52.02 139 P P **10 37 43.0 -0.1**
LSA **Lhasa** 52.12 315 P P **10 37 44.5 -0.1**
LSA pmax pmax
comp=E,95nm,1.1s
LSA **Lhasa** 52.12 315 P P **10 37 44.7 +0.1**
LSA pmax pmax
comp=Z,21nm,0.9s
LSA **Lhasa** 52.12 315 P P **10 37 44.7 +0.1**
LSA IAmb IAmb 10 37 46.3
comp=Z,21nm,0.9s
BHW **Baring Head** 52.62 139 P P **10 37 47.0 -0.5**
ODAN **Odare** 53.28 310 *e*P P **10 37 52.7 -0.2**
TAPN **Taplejung** 53.29 311 *e*P P **10 37 52.6 -0.5**
GTA **Gaotai** 53.61 330 ⇑P P **10 37 55.5 +0.6**
GTA PcP PcP **10 39 01.3 +1.4**
GTA pmax pmax
comp=Z,27nm,0.9s
GTA pmax pmax
comp=Z,89nm,5.6s
GTA L L
comp=Z,120nm,15.6s
GTA L L
comp=Z,100nm,16.0s
GTA L L
comp=Z,110nm,16.0s
RAMN **Ramite** 53.93 310 *e*P P **10 37 57.8 +0.1**
YSS **Yuzh-Sakhalins** 53.94 10 ⇓*e*P P **10 37 59.9 +2.9**
YSS pmax pmax
comp=Z,55nm,1.8s
JIRN **Jiri** 54.60 310 *e*P P **10 38 02.5 -0.2**
GUN **Gumba** 54.97 310 *e*P P **10 38 05.2 -0.1**
comp=Z,139nm,0.8s
PKI **Pulchoki** 55.16 310 *e*P P **10 38 06.0 -0.6**
KLR **Kul'dur** 55.16 1 P P **10 38 06.3 +0.5**
comp=Z,3.5nm,0.9s,baz=289,slow=1.8,SNR=11
KLR **Kul'dur** 55.16 1 ⇓*i*P P **10 38 06.7 +0.9**
KLR pmax pmax
comp=Z,7.0nm,1.0s
PKIN **Phulchoki** 55.17 310 *e*P P **10 38 06.0 -0.6**
KKN **Kakani** 55.36 310 *e*P P **10 38 07.8 -0.2**
comp=Z,39nm,0.6s
DMN **Daman** 55.41 310 *e*P P **10 38 08.2 -0.1**
GKN **Gorkha** 55.96 310 *e*P P **10 38 11.9 -0.3**
HYB **Hyderabad** 56.62 295 *i* P P **10 38 16.5 -0.4**
KOLN **Koldanda** 56.65 309 *e*P P **10 38 17.0 -0.1**
DANN **Dangsing** 56.81 310 *e*P P **10 38 18.1 -0.2**
PYUN **Piuthan** 57.28 309 *e*P P **10 38 21.6 +0.1**
comp=Z,246nm,1.0s
ULN **Ulaanbaatar** 57.70 341 *c i*P P **10 38 25.0 +0.9**
ULN pmax pmax
comp=Z,29nm,0.7s
ULN **Ulaanbaatar** 57.70 341 P P **10 38 24.5 +0.4**
SONM **Songino Array** 57.89 341 P P **10 38 26.2 +0.9**
comp=Z,10nm,0.7s,baz=158,slow=6.8,SNR=59
SONM **Songino Array** 57.89 341 P P **10 38 26.1 +0.8**

SONM pmax pmax
comp=Z,10.0nm,0.7s
SONM **Songino Array** 57.89 341 P P **10 38 26.1 +0.8**
SONM IAmb IAmb 10 38 27.2
comp=Z,10nm,0.7s
ZEA **Zeya** 59.74 358 *e*P P **10 38 39.2 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZAK **Zakamensk** 61.12 340 *e*P P **10 38 47.4 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
CASY **Casey** 61.65 189 P P **10 38 51.7 +1.1**
CASY IAmb IAmb 10 38 52.5
comp=Z,20nm,1.3s
NDI **New Delhi** 62.07 307 *e*P P **10 38 53.0 -1.1**
TLY **Talaya** 62.12 341 P P **10 38 54.8 +0.8**
comp=Z,5.1nm,0.7s,baz=192,slow=2.8,SNR=8.9
TLY **Talaya** 62.12 341 *c i*P P **10 38 54.9 +0.9**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY **Talaya** 62.12 341 P P **10 38 54.3 +0.3**
MOY **Mondy** 62.98 340 *e*P P **10 39 01.0 +1.1**
MOY pmax pmax
comp=Z,33nm,1.8s
WMQ **Urumqi** 63.10 326 P P **10 39 02.5 +1.7**
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.3s
PETK **Petropavlovsk-** 63.30 18 P P **10 39 03.0 +1.2**
comp=Z,5.8nm,0.8s,baz=177,slow=7.2,SNR=5.2
BOD **Bodaibo** 65.19 350 *e*P P **10 39 14.6 +0.6**
BOD pmax pmax
comp=Z,14nm,1.1s
ZSN **Zaisan** 66.95 328 *e*P P **10 39 25.8 +0.2**
baz=328
ZSN **Zaisan** 66.95 328 *e*P P **10 39 25.7 +0.2**
DGZ **Jazzator, Alta** 67.13 331 *c i*P P **10 39 27.6 +0.8**
DGZ pmax pmax
comp=Z,44nm,1.3s
NIL **Nilore** 67.24 310 P P **10 39 27.6 0.0**
NIL pmax pmax
comp=Z,23nm,0.8s
NIL **Nilore** 67.24 310 P P **10 39 27.6 0.0**
NIL IAmb IAmb 10 39 28.6
comp=Z,22nm,0.8s
SHLS **Shalkode** 67.52 322 ⇑*i*P P **10 39 28.3 -1.1**
comp=Z,35nm,0.8s,baz=322
SHLS **Shalkode** 67.52 322 *c i*P P **10 39 28.2 -1.1**
SHLS pmax pmax
comp=Z,35nm,0.8s
UZB **Uzynbulak** 67.78 322 ⇑*i*P P **10 39 31.7 +0.6**
comp=Z,26nm,1.0s,baz=322
UZB **Uzynbulak** 67.78 322 *c i*P P **10 39 31.6 +0.6**
UZB pmax pmax
comp=Z,26nm,1.0s
KSH **Kashi** 67.91 317 P P **10 39 32.7 +0.8**
KSH S S **10 48 22.9 +2.0**
KSH ScS **SKiKP** **10 49 16.0 0.0**
KSH pmax pmax
comp=Z,23nm,0.5s
KSH pmax pmax
comp=Z,58nm,3.1s
KSH L L
comp=Z,2µm,18.2s
KSH L L
comp=Z,800nm,19.0s
KSH L L
comp=Z,97nm,14.2s
MK31 **Makanchi Array** 67.94 326 *c i*P P **10 39 32.5 +0.7**
MKAR **Makanchi Array** 67.94 326 P P **10 39 32.5 +0.7**
comp=Z,75nm,0.7s,baz=121,slow=8.2,SNR=677
MKAR S S **10 48 16.8 -3.9**
comp=Z,0.6nm,0.8s,baz=129,slow=11,SNR=3.8
YAK **Yakutsk** 67.99 359 P P **10 39 32.4 +0.7**
comp=Z,8.4nm,0.4s,baz=354,slow=0.1,SNR=6.3
YAK **Yakutsk** 67.99 359 *e*P P **10 39 32.1 +0.4**
YAK *e**PP **pwP** **10 40 08.6 +1.3**
YAK *e* 10 42 08.5
YAK *e*S S **10 48 19.1 -1.6**
YAK *e* 10 49 02.3
YAK *e*SS SS **10 52 48.0 +2.5**
YAK pmax pmax
comp=Z,26nm,0.7s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,215nm,5.2s
YAK pmax pmax
comp=N,66nm,4.3s
YAK pmax pmax
comp=E,75nm,4.3s
YAK smax smax
comp=E,100nm,4.4s
YAK smax smax
comp=N,130nm,4.4s
YAK **Yakutsk** 67.99 359 IAmb IAmb 10 39 33.0
comp=Z,32nm,0.8s
SATY **Saty** 68.12 321 ⇑*i*P P **10 39 33.8 +0.7**
comp=Z,36nm,0.8s,baz=321
SATY **Saty** 68.12 321 *c i*P P **10 39 33.8 +0.7**
SATY pmax pmax
comp=Z,36nm,0.8s
MAKZ **Makanchi** 68.12 326 P P **10 39 33.3 +0.4**
MAKZ pmax pmax
comp=Z,71nm,0.9s
MAKZ **Makanchi** 68.12 326 P P **10 39 33.3 +0.4**
KPKS **Kokpek** 68.16 322 ⇑*i*P P **10 39 33.9 +0.5**
comp=Z,44nm,0.7s,baz=322
KPKS **Kokpek** 68.16 322 *c i*P P **10 39 33.8 +0.5**
KPKS pmax pmax
comp=Z,44nm,0.7s
KDJ **Kajisay** 68.41 320 P P **10 39 35.2 +0.2**
KDJ pmax pmax
comp=Z,41nm,0.8s
KDJ **Kajisay** 68.41 320 P P **10 39 35.2 +0.2**
MDOK **Medeo** 69.02 321 *e*P P **10 39 38.1 -0.6**
baz=321
MDOK **Medeo** 69.02 321 *e*P P **10 39 38.1 -0.6**
ARXS **Arharly** 69.08 322 *e*P P **10 39 38.8 -0.2**
AAA **Alma-Ata** 69.12 321 *e*P P **10 39 39.4 +0.1**
baz=321
AAA **Alma-Ata** 69.12 321 *e*P P **10 39 39.4 +0.1**
TDK **Taldyqorghan** 69.15 323 *e*P P **10 39 39.2 -0.1**
baz=323
TDK **Taldyqorghan** 69.15 323 *e*P P **10 39 39.2 -0.1**
BOOM **Boomskoye usch** 69.38 320 P P **10 39 42.0 +1.0**
BOOM pmax pmax
comp=Z,47nm,1.0s
BOOM **Boomskoye usch** 69.38 320 P P **10 39 42.0 +1.0**
BOOM IAmb IAmb 10 39 43.0
comp=Z,47nm,0.9s
MTBS **Maitube** 69.39 321 ⇑*i*P P **10 39 41.5 +0.5**
baz=321
MTBS **Maitube** 69.39 321 *c i*P P **10 39 41.4 +0.5**
CHKK **Chushkaly** 69.41 321 ⇑*i*P P **10 39 41.1 +0.1**
baz=322
CHKK **Chushkaly** 69.41 321 ⇑*i*P P **10 39 41.1 +0.1**
TKM2 **Tokmak 2** 69.82 320 P P **10 39 44.6 +0.9**
SNR=49
KUU **Kurty** 69.83 321 ⇑*i*P P **10 39 44.0 +0.4**
comp=Z,88nm,0.8s,baz=321
KUU **Kurty** 69.83 321 *c i*P P **10 39 44.0 +0.4**
KUU pmax pmax
comp=Z,88nm,0.8s
KBK **Karagaybulak** 70.10 320 P P **10 39 46.7 +1.3**
SNR=16
AAK **Ala-Archa** 70.39 319 P P **10 39 48.3 +1.1**
SNR=21
CHMS **Chumysh** 70.39 320 P P **10 39 48.0 +1.0**
SNR=8.5
AML **Almayashu** 70.67 319 P P **10 39 50.5 +1.4**
SNR=7.0
AML **Almayashu** 70.67 319 *i* P P **10 39 50.3 +1.2**
SNR=64
USP **Ospenovka** 70.69 320 P P **10 39 49.6 +0.8**
SNR=35
SGDS **Sogindy** 70.69 320 ⇑*i*P P **10 39 48.9 0.0**
comp=Z,12nm,0.8s,baz=320
SGDS **Sogindy** 70.69 320 *c i*P P **10 39 48.9 0.0**
SGDS pmax pmax
comp=Z,12nm,0.8s
KBL **Kabul** 70.80 310 P P **10 39 50.3 +0.5**
KBL pmax pmax

	comp=Z,48nm,1.0s					
KBL	**Kabul**	**70.80 310**	P	**P**	**10 39 50.3**	**+0.5**
KBL			IAmb	IAmb	10 39 51.1	
	comp=Z,48nm,1.0s					
SEY	**Seymchan**	**70.85 10**	P	**P**	**10 39 50.5**	**+1.2**
	comp=Z,6.4nm,0.7s,baz=183,slow=3.7,SNR=18					
SEY	**Seymchan**	**70.85 10**	*i* P	**P**	**10 39 49.9**	**+0.6**
EKS2	**Erkin-Say**	**70.86 319**	P	**P**	**10 39 51.4**	**+1.4**
	SNR=34					
ZAA0	**Zalesovo Array**	**71.17 333**	IAmb	IAmb	10 39 52.1	
	comp=Z,19nm,0.8s					
ZALV	**Zalesovo Beam**	**71.17 333**	P	**P**	**10 39 51.3**	**0.0**
	comp=Z,10nm,0.6s,baz=108,slow=4.8,SNR=42					
ZALV	**Zalesovo Beam**	**71.17 333**	*i* P	**P**	**10 39 51.2**	**-0.2**
ZALV			pmax	pmax		
	comp=Z,16nm,0.8s					
SEM	**Semipalatinsk**	**71.17 329**	*e*P	**P**	**10 39 50.4**	**-1.4**
	baz=329					
SEM	**Semipalatinsk**	**71.17 329**	*e*P	**P**	**10 39 50.3**	**-1.4**
GAR	**Garm**	**71.61 314**	P	**P**	**10 39 54.6**	**0.0**
BTK	**Batken**	**71.69 316**	IAmb	IAmb	10 39 57.6	
	comp=Z,33nm,0.7s					
KURBB	**Kurchatov Arra**	**72.19 328**	P	**P**	**10 39 58.2**	**+0.7**
	comp=Z,24nm,0.8s,baz=129,slow=5.2,SNR=33					
KURBB			S	**S**	**10 49 03.5**	**-6.6**
	comp=Z,1.1nm,0.9s,baz=135,slow=12,SNR=5.0					
KURK	**Kurchatov**	**72.19 328**	P	**P**	**10 39 58.2**	**+0.6**
DZA	**Taraz**	**72.57 318**	*e*P	**P**	**10 39 59.7**	**-0.5**
	baz=318					
DZA	**Taraz**	**72.57 318**	*e*P	**P**	**10 39 59.6**	**-0.5**
IUG	**Iuzhnay**	**73.12 317**⇑	*i* P	**P**	**10 40 03.5**	**+0.1**
	baz=317					
IUG	**Iuzhnay**	**73.12 317**	*c i* P	**P**	**10 40 03.5**	**+0.1**
VNDA	**Vanda**	**73.19 173**	P	**P**	**10 40 04.3**	**+1.2**
	comp=Z,5.2nm,0.8s,baz=317,slow=6.5,SNR=29					
VNDA			LR	LR	11 12 37.4	
	comp=Z,45nm,18.6s,baz=275,slow=36					
VNDA	**Vanda**	**73.19 173**	P	**P**	**10 40 04.3**	**+1.2**
KK31	**Karatay Array**	**73.20 318**	IAmb	IAmb	10 40 05.4	
	comp=Z,32nm,0.9s					
KKAR	**Karatay Array**	**73.20 318**	P	**P**	**10 40 03.9**	**+0.1**
KKAR	**Karatay Array**	**73.20 318**	P	**P**	**10 40 03.9**	**+0.1**
KKAR	**Karatay Array**	**73.20 318**	IAmb	IAmb	10 40 05.4	
	comp=Z,32nm,0.9s					
SBA	**Scott Base**	**74.07 173**	P	**P**	**10 40 10.7**	**+2.5**
SBA			pmax	pmax		
	comp=Z,4.0nm,0.8s					
SBA	**Scott Base**	**74.07 173**	P	**P**	**10 40 10.7**	**+2.5**
BRZS	**Berezniki**	**75.04 325**⇑	*i* P	**P**	**10 40 14.3**	**-0.1**
	comp=Z,12nm,0.9s,baz=326					
BRZS	**Berezniki**	**75.04 325**	*c i* P	**P**	**10 40 14.2**	**-0.1**
BRZS			pmax	pmax		
	comp=Z,12nm,0.9s					
MAW	**Mawson**	**76.00 201**	P	**P**	**10 40 21.0**	**+1.6**
	comp=Z,11nm,0.6s,baz=86,slow=5.0,SNR=19					
MAW	**Mawson**	**76.00 201**	P	**P**	**10 40 20.9**	**+1.4**
	baz=76,SNR=15					
MAW	**Mawson**	**76.00 201**	P	**P**	**10 40 20.1**	**+0.7**
MAW			pmax	pmax		
	comp=Z,7.0nm,1.2s					
MAW	**Mawson**	**76.00 201**	P	**P**	**10 40 20.1**	**+0.7**
HRA	**Herat**	**76.03 308**	P	**P**	**10 40 20.1**	**-0.4**
WSAR	**Wadi Sarin**	**76.17 296**	P	**P**	**10 40 21.9**	**+0.6**
	comp=Z,10nm,0.6s,baz=144,slow=5.1,SNR=20					
TIXI	**Tiksi**	**77.66 359**	P	**P**	**10 40 28.6**	**0.0**
	comp=Z,5.1nm,0.4s,baz=159,slow=5.3,SNR=26					
TIXI	**Tiksi**	**77.66 359**‖	*e*P	**P**	**10 40 28.2**	**-0.4**
TIXI	**Tiksi**	**77.66 359**	P	**P**	**10 40 27.8**	**-0.8**
BVAR	**Borovoye Array**	**77.75 328**	P	**P**	**10 40 28.4**	**-1.1**
	comp=Z,14nm,0.8s,baz=243,slow=13,SNR=55					
BRVK	**Borovoye**	**77.83 328**	*c i* P	**P**	**10 40 30.0**	**+0.1**
BRVK			pmax	pmax		
	comp=Z,61nm,1.7s					
BRVK	**Borovoye**	**77.83 328**	P	**P**	**10 40 29.8**	**-0.2**
BRVK			IAmb	IAmb	10 40 31.1	
	comp=Z,26nm,0.8s					
SHAO	**Shalim**	**77.87 290**	P	**P**	**10 40 31.2**	**+0.3**
SOHO	**SOHO**	**78.24 296**	*i* P	**P**	**10 40 32.7**	**-0.2**
	SNR=18					
SOCY	**Socotra**	**78.44 284**	IAmb	IAmb	10 40 34.8	
	comp=Z,34nm,0.6s					
MDH	**Madha**	**78.70 297**	P	**P**	**10 40 34.4**	**-0.9**
UOSS	**Minazif**	**78.70 297**	*i* P	**P**	**10 40 35.3**	**0.0**
	SNR=6.2					
UOSS	**Minazif**	**78.70 297**	P	**P**	**10 40 35.4**	**0.0**
UOSS			IAmb	IAmb	10 40 36.2	
	comp=Z,17nm,0.8s					
HATD	**Hatta, Dubai**	**78.74 297**	P	**P**	**10 40 36.1**	**+0.5**
ASHO	**Ashiyiah**	**78.78 297**	*i* P	**P**	**10 40 36.4**	**+0.6**
	SNR=6.8					
BANOM	**Banah**	**78.83 298**	*i* P	**P**	**10 40 36.6**	**+0.6**
	SNR=14					
MSFE	**Esma-Masafi**	**78.83 297**	*i* P	**P**	**10 40 36.8**	**+0.7**
	SNR=13					
SHME	**Shamm**	**79.00 298**	*i* P	**P**	**10 40 37.5**	**+0.6**
	SNR=16					
NAZ	**Nazwa, Dubai**	**79.20 297**	P	**P**	**10 40 38.5**	**+0.4**
FAQ	**Al Faqa, Dubai**	**79.21 297**	*i* P	**P**	**10 40 38.5**	**+0.3**
	SNR=7.5					
ASUD	**Al Ashush, Dub**	**79.42 296**	P	**P**	**10 40 39.9**	**+0.7**
GEYT	**Alibeck**	**80.24 310**	P	**P**	**10 40 44.3**	**+0.8**
	comp=Z,16nm,0.7s,baz=186,slow=6.0,SNR=17					
GYA0B	**ALIBECK ARRAY**	**80.24 310**	P	**P**	**10 40 44.4**	**+0.8**
GYA0B			IAmb	IAmb	10 40 45.1	
	comp=Z,21nm,0.9s					
NRIK	**Noril'sk**	**80.93 346**	P	**P**	**10 40 46.7**	**+0.3**
	comp=Z,16nm,0.8s,baz=134,slow=5.0,SNR=17					
NRIK	**Noril'sk**	**80.93 346**	*c i* P	**P**	**10 40 46.9**	**+0.5**
NRIK			pmax	pmax		
	comp=Z,25nm,0.9s					
NRIK	**Noril'sk**	**80.93 346**	P	**P**	**10 40 47.0**	**+0.5**
NRIK			IAmb	IAmb	10 40 49.5	
	comp=Z,18nm,0.8s					
QSPA	**South Pole Qui**	**83.81 180**	P	**P**	**10 41 02.1**	**+0.4**
AKTO	**Aktyubinsk**	**83.87 322**	P	**P**	**10 41 02.4**	**+0.2**
	comp=Z,10nm,0.7s,baz=110,slow=7.4,SNR=31					
SYO	**Syowa Base**	**84.71 201**⇑	*e*P	**P**	**10 41 07.0**	**+1.0**
SYO	**Syowa Base**	**84.71 201**‖	*e*PcP	**PcP**	**10 41 12.0**	**+2.8**
ARU	**Arti**	**85.39 328**	P	**P**	**10 41 08.8**	**-0.8**
	comp=Z,2.8nm,0.2s,baz=150,slow=3.0,SNR=17					
ARU	**Arti**	**85.39 328**	*c i* P	**P**	**10 41 08.9**	**-0.7**
ARU			S	**S**	**10 51 21.4**	**-8.7**
ARU			SS	**SS**	**10 57 04.1**	**-3.9**
ARU			pmax	pmax		
	comp=Z,21nm,1.0s					
ARU	**Arti**	**85.39 328**	P	**P**	**10 41 08.8**	**-0.8**
ARU			IAmb	IAmb	10 41 10.3	
	comp=Z,22nm,1.0s					
QRN	**Al-Qurain**	**86.67 299**	*e*P	**P**	**10 41 15.8**	**-0.8**
UMR	**Umm Al-Rimmam**	**86.97 300**	*e*P	**P**	**10 41 17.2**	**-0.8**
RDF	**Al-Radifah**	**87.02 299**	*e*P	**P**	**10 41 17.2**	**-1.1**
MIB	**Mutribah**	**87.33 300**	*e*P	**P**	**10 41 19.3**	**-0.5**
RST	**Umm Al-Ruwaisa**	**87.58 300**	*e*P	**P**	**10 41 19.5**	**-1.4**
RAYN	**Ar Rayn**	**88.09 294**	*i* P	**P**	**10 41 23.8**	**+0.3**
	SNR=21					
RAYN	**Ar Rayn**	**88.09 294**	P	**P**	**10 41 23.2**	**-0.3**
RAYN			pmax	pmax		
	comp=Z,35nm,1.0s					
RAYN	**Ar Rayn**	**88.09 294**	P	**P**	**10 41 23.2**	**-0.3**
RAYN			IAmb	IAmb	10 41 24.6	
	comp=Z,35nm,1.0s					
ATD	**Arta Tunnel**	**89.17 282**	P	**P**	**10 41 30.0**	**+1.2**
	comp=Z,16nm,0.8s,baz=219,slow=3.8,SNR=6.6					
BELG	**Belogornoye**	**90.64 323**	P	**P**	**10 41 35.9**	**+1.2**
	comp=Z,18nm,0.6s,baz=58,slow=3.4,SNR=7.1					
BELG	**Belogornoye**	**90.64 323**	*d i* P	**P**	**10 41 36.0**	**+1.2**
BELG			pmax	pmax		
	comp=Z,4.0nm,0.9s					
KIRV	**Kirov**	**90.70 329**‖	*e*P	**P**	**10 41 33.5**	**-1.3**
GNI	**Garni**	**90.88 310**⇑	*e*P	**P**	**10 41 38.0**	**+1.6**
GNI			pmax	pmax		
	comp=Z,7.0nm,1.0s					
COLD	**Coldfoot**	**91.41 22**	P	**P**	**10 41 38.5**	**+0.5**
ILAR	**Eielson Array**	**92.27 25**	P	**P**	**10 41 40.8**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=267,slow=4.5,SNR=14					
NEY	**Neytrino**	**92.74 313**⇑	*e*P	**P**	**10 41 42.0**	**-2.9**
NEY			pmax	pmax		
	comp=Z,4.0nm,1.0s					
KMBO	**Kilima Mbogo**	**93.36 269**	P	**P**	**10 41 48.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=38,slow=6.2,SNR=5.0					
KLMR	**Klimovskoe**	**95.93 331**	*e*P	**P**	**10 41 54.3**	**-4.6**
KLMR			pmax	pmax		
	comp=Z,17nm,1.1s					
KLMR	**Klimovskoe**	**95.93 331**	*e*P	**P**	**10 41 54.4**	**-4.5**
KLMR			AMP		10 41 57.8	
	comp=Z,17nm,1.1s					
SNAA	**Sanae**	**96.65 193**	P	**P**	**10 42 02.9**	**+0.8**
SNAA	**Sanae**	**96.65 193**⇑	*e*P	**P**	**10 42 02.7**	**+0.6**
SNAA			pmax	pmax		
	comp=Z,6.0nm,1.0s					
SNAA	**Sanae**	**96.65 193**	P	**P**	**10 42 03.1**	**+1.0**
SNAA			IAmb	IAmb	10 42 03.8	
	comp=Z,4.4nm,0.9s					
OBN	**Obninsk**	**97.40 325**‖	*e*P	**P**	**10 42 04.5**	**-1.1**
OBN			pmax	pmax		
	comp=Z,11nm,0.5s					
VNA2	**Neumayer--Watz**	**98.21 193**	P	Pdif	10 42 09.9	+0.8
	baz=112,slow=3.0					
VNA3	**Neumayer Olymp**	**98.46 192**	P	Pdif	10 42 10.5	+0.3
BR131	**Keskin Array S**	**99.37 309**‖	*e*P	**Pdif**	**10 42 13.9**	**-1.1**
BRTR	**Keskin Array B**	**99.37 309**	P	**Pdif**	**10 42 13.9**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=134,slow=5.3,SNR=5.9					
BRTR			PP	**PP**	**10 46 17.9**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=83,slow=10,SNR=3.7					
BRTR	**Keskin Array B**	**99.37 309**	P	**Pdif**	**10 42 14.0**	**-1.1**
ARCES	**ARCESS Array B**	**101.05 340**	P	**Pdif**	**10 42 20.8**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=87,slow=4.6,SNR=4.6					
AKASG	**Malin Array Be**	**102.04 320**	P	**Pdif**	**10 42 24.9**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=70,slow=4.1,SNR=4.2					
FINES	**FINESS Array B**	**102.38 332**	P	**Pdif**	**10 42 26.1**	**-1.6**
	comp=Z,2.5nm,0.7s,baz=57,slow=7.0,SNR=3.9					
FINES	**FINESS Array B**	**102.38 332**	*i* P	**Pdif**	**10 42 26.7**	**-1.0**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
YKA	**Yellowknife Ar**	**106.67 26**	PKKPbc	PKKPbc	10 58 15.9	-2.6
	comp=Z,0.5nm,0.5s,baz=134,slow=1.7,SNR=4.6					
NVAR	**Mina Array Bea**	**110.19 51**	PKKPbc	PKKPbc	10 58 06.9	+0.1
	comp=Z,0.6nm,0.6s,baz=118,slow=3.5,SNR=6.9					
GERES	**GERESS Array B**	**112.25 321**	PKiKP	**PKiKP**	**10 47 06.3**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=349,slow=1.4,SNR=4.8					
ABTA	**Abfaltersbach**	**113.63 319**	*e*P	**PKiKP**	**10 47 08.9**	**-1.4**
	comp=Z,3.3nm,1.0s					
WTTA	**Wattenberg**	**114.05 319**	*e*P	PKPdf	10 47 10.9	-0.3
	comp=Z,3.8nm,0.4s					
MOTA	**Moosalm**	**114.37 320**	*e*P	PKPdf	10 47 10.7	-1.1
	comp=Z,1.4nm,0.5s					
FETA	**Feichten**	**114.71 319**	*e*P	**PKiKP**	**10 47 12.2**	**-0.2**
	comp=Z,5.7nm,1.4s					
DAVA	**Damuels**	**115.17 320**	*e*P	**PKiKP**	**10 47 12.9**	**-0.4**
	comp=Z,2.0nm,0.5s					
PDAR	**Pinedale Array**	**115.77 45**	PKKPbc	PKKPbc	10 57 47.2	-1.1
	comp=Z,0.6nm,0.6s,baz=82,slow=6.6,SNR=5.0					
MNTX	**Cornudas Mount**	**121.88 56**	PKPdf	**PKiKP**	**10 47 27.8**	**+1.2**
TXAR	**Lajitas Array**	**123.86 59**	PKP	**PKiKP**	**10 47 31.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=242,slow=2.7,SNR=6.1					
TXAR			PKKPbc	**PKKPbc**	**10 57 17.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=97,slow=5.9,SNR=5.7					
TXAR	**Lajitas Array**	**123.86 59**	PKIKP	**PKiKP**	**10 47 31.0**	**+0.2**
ESDC	**Sonseca Array**	**127.42 316**	PP	PP	10 49 35.6	-2.6
	comp=Z,0.5nm,0.4s,baz=54,slow=8.2,SNR=3.3					
ESDC			SKPab	SKPab	10 50 43.8	
	comp=Z,0.7nm,0.8s,baz=48,slow=3.6,SNR=4.4					
S39A	**Bolivar**	**129.17 45**	PKPdf	**PKPdf**	**10 47 40.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**129.37 282**	PKP	**PKPdf**	**10 47 41.5**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=69,slow=1.9,SNR=11					
TORD			SKPbc	SKPab	10 50 50.5	-0.4
	comp=Z,3.1nm,0.7s,baz=62,slow=4.1,SNR=11					
TORD	**Torodi Ar. Bea**	**129.37 282**	PKPdf	**PKiKP**	**10 47 41.8**	**-0.2**
PLCA	**Paso Flores**	**129.40 159**	SKPbc	SKPbc	10 50 51.1	-0.2
	comp=Z,3.7nm,0.8s,baz=259,slow=5.7,SNR=6.3					
SCHQ	**Schefferville**	**129.44 13**	SKPbc	SKPab	10 50 49.7	-0.4
	comp=Z,2.6nm,0.9s,baz=263,slow=5.8,SNR=3.8					
MTE	**Manteigas**	**129.47 319**	*i* LQ	LQ	10 50 50.9	
PVIS	**Viseu**	**129.53 319**	*i* LQ	LQ	10 50 52.2	
PCBR	**Castelo Branco**	**129.71 318**	*i* LQ	LQ	10 50 51.7	
PMRN	**Marv??o**	**129.86 318**	*i* LQ	LQ	10 50 52.0	
PBAR	**Barrancos**	**130.24 316**	*i* LQ	LQ	10 50 53.6	
PMTG	**Montargil**	**130.60 318**	*i* LQ	LQ	10 50 54.9	
PBEJ	**Beja**	**130.88 316**	*i* LQ	LQ	10 50 56.7	
PVAQ	**Vaqueiros**	**131.08 316**	*i* LQ	LQ	10 50 57.4	
DBIC	**Dimbokro**	**135.89 273**	SKPbc	**SKPbc**	**10 51 12.6**	**-1.5**
	comp=Z,5.6nm,0.8s,baz=135,slow=2.5,SNR=5.3					
PB06	**IPOC Station P**	**145.10 146**		**PKPdf**	**10 48 11.3**	**+1.1**
LVC	**Limon Verde**	**145.54 147**	PKP2	**PKiKP**	**10 48 13.9**	**-1.3**
LVC	**Limon Verde**	**145.54 147**		**PKiKP**	**10 48 13.9**	**-1.3**
ITAB	**Concordia**	**146.69 175**		**PKPab**	**10 48 15.3**	**-0.3**
CPUP	**Villa Florida**	**146.77 167**	PKPbc	**PKPbc**	**10 48 14.4**	**-0.1**
	comp=Z,7.9nm,0.8s,baz=202,slow=2.6,SNR=18					
CPUP			SKPbc	**SKPbc**	**10 51 41.6**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=153,slow=4.3,SNR=4.3					
CPUP	**Villa Florida**	**146.77 167**		**PKPbc**	**10 48 15.2**	**+0.6**
PB11	**IPOC Station P**	**147.34 143**		**PKPab**	**10 48 17.6**	**-1.0**
PB08	**IPOC Station P**	**147.35 144**		**PKPab**	**10 48 18.2**	**-0.7**
PB16	**IPOC Station P**	**148.51 141**		**PKiKP**	**10 48 21.3**	**-0.4**
LPAZ	**La Paz**	**150.91 140**	PKPbc	**PKiKP**	**10 48 27.9**	**+1.1**
	comp=Z,5.8nm,0.4s,baz=15,slow=2.2,SNR=39					
TRCB	**Terra Rica**	**151.03 174**		**PKiKP**	**10 48 26.7**	**+0.5**

HEL 01 10:32:57.8±0.5, 67.20N×20.91E, h0km, ML1.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KLF	**Kolari**	**1.19**	**87**	PG		Pg	10 33 19.5	-1.0
	baz=275							
KLF				SN		Sb	10 33 37.6	+0.6
HEF	**Hetta**	**1.60**	**39**	*e*P		Pn	10 33 26.6	-0.7
HEF	**Hetta**	**1.60**	**39**	PG		Pn	10 33 26.3	-0.9
HEF				MSG			10 33 45.5	
	comp=Z,2.6nm,0.2s							
HEF				SN		Sn	10 33 48.2	-0.4
TOF	**Tornio**	**1.77**	**128**	PG		Pn	10 33 29.4	-0.2
TOF				MSG			10 33 50.7	
	comp=Z,2.6nm,0.2s							
TOF				SG		Sb	10 33 53.3	-0.4
KIF	**Kilpisjarvi**	**1.81**	**359**	*e*P		Pn	10 33 30.8	+0.6
KIF	**Kilpisjarvi**	**1.81**	**359**	PG		Pn	10 33 30.8	+0.6
KIF				MSG			10 33 52.7	
	comp=Z,2.4nm,0.2s							
KIF				SG		Sb	10 33 55.4	+0.5
RNF	**Rovaniemi**	**2.10**	**104**	PG		Pn	10 33 35.0	+0.9
	baz=293							
RNF				SG		Sb	10 34 04.1	+0.9
SGF	**Sodankyl**	**2.19**	**81**	SG		Sg	10 34 07.3	-0.7

IDC 01 10:41:27.9±1.8, 1.13N×127.51E, h0km, mb3.1/3, mb1 3.4/4, mb1mx3.1/64, mbtmp3.2/4, ML3.5/1, Error ellipse: s-maj=67.4km s-min=27.5km az=58.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**4.25**	**118**	Pn		Pn	10 42 32.9	-1.0
	2.9nm,0.3s,baz=335,slow=22,SNR=6.1							
WRA	**Warramunga Arr**	**21.99**	**163**	P		P	10 46 23.6	-0.2
	0.5nm,0.7s,baz=339,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**25.42**	**166**	P		P	10 46 58.0	+0.5
	0.2nm,0.5s,baz=344,slow=10.0,SNR=4.4							
MKAR	**Makanchi Array**	**60.12**	**326**	P		P	10 51 37.2	-0.1
	0.1nm,0.4s,baz=123,slow=7.2,SNR=2.4							

*IDC **01** 10:46:22.9±0.7, 44.43N×129.77W, h0km, mb4.2/28, mb1 4.3/35, mb1mx4.3/64, mbtmp4.2/35, ML3.7/7, MS4.7/45, Ms1 4.7/45, ms1mx4.6/62, Error ellipse: s-maj=20.9km s-min=9.6km az=32.0*

*BJI **01** 10:46:23.0±0.0, 44.50N×129.60W, h10km, mB5.3/25, mb4.8/32, Ms5.1/21, Ms7 4.9/19*

*NEIC **01** 10:46:26, 44.33N×129.99W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.29; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$ 1.37; $M_{r\theta}$0.24; $M_{\theta\phi}$-1.30; $M_{\phi r}$0.38; Fault plane solution: $M_0$1.86000×10^{17} NP1:ϕ_s292.00000°, δ75.00000°, λ-174.00000°. NP2:ϕ_s201.00000°, δ84.00000°, λ-15.00000°. Principal axes: T 1.9596, Plg7.0000°, Azm247.0000°; N -0.2211, Plg74.0000°, Azm1.0000°; P -1.7385, Plg15.0000°, Azm156.0000°;*

*NEIC **01** 10:46:27.6, 44.52N×129.59W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.41; $M_{\theta\theta}$-1.58; $M_{\phi\phi}$ 1.17; $M_{r\theta}$-0.25; $M_{\theta\phi}$-1.10; $M_{\phi r}$-0.07; Fault plane solution: $M_0$1.82000×10^{17} NP1:ϕ_s25.42000°, δ85.06000°, λ-3.93000°. NP2:ϕ_s115.76000°, δ86.08000°, λ-175.05000°. Principal axes: T 1.5579, Plg1.0000°, Azm251.0000°; N 0.4364, Plg84.0000°, Azm154.0000°; P -1.9943, Plg6.0000°, Azm341.0000°;*

*GCMT **01** 10:46:27.2±0.1, 44.36N±0.01×129.99W±0.01, h12km, MW5.4/150, Moment Tensor Solution. s100,c161; s150,c283; Duration: 1$\pm$2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.21$\pm$.02; $M_{\theta\theta}$-1.02$\pm$.02; $M_{\phi\phi}$1.23$\pm$.02; $M_{r\theta}$0.33$\pm$.05; $M_{\theta\phi}$-1.14$\pm$.02; $M_{\phi r}$0.01$\pm$.04; Best double couple: $M_0$1.64000×10^{17} NP1:ϕ_s202.00000°, δ78.00000°, λ-7.00000°. NP2:ϕ_s293.00000°, δ84.00000°, λ-168.00000°. Principal axes: T 1.7140, Plg4.0000°, Azm67.0000°; N -0.1440, Plg77.0000°, Azm322.0000°; P -1.5670, Plg13.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 10:46:27.3±2.9, 44.54N±0.08×129.7W±0.1, h10km±1km, mb4.8/208, ML3.7/16, Mwb5.4/17, Mww5.4, Mwc5.4(GCMT) Error ellipse: s-maj=16.3km s-min=10.4km az=230.0*

*BGR **01** 10:46:33.6±0.0, 44.36N×129.74W, h10km, mb5.1, Ms5.0*

*NEIC **01** 10:46:35, 44.35N×129.68W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.64; $M_{\theta\theta}$-0.76; $M_{\phi\phi}$ 1.40; $M_{r\theta}$-0.18; $M_{\theta\phi}$-1.26; $M_{\phi r}$-0.47; Fault plane solution: $M_0$1.82000×10^{17} NP1:ϕ_s112.00000°, δ68.00000°, λ-168.00000°. NP2:ϕ_s17.00000°, δ79.00000°, λ-22.00000°. Principal axes: T 2.0292, Plg8.0000°, Azm66.0000°; N -0.5300, Plg65.0000°, Azm173.0000°; P -1.4992, Plg24.0000°, Azm333.0000°;*

ISC 01 10:46:26.0±0.3, 44.48N±0.04×129.73W±0.05, h10km, n371, s821/286, mb4.7/121, MS4.8/53, 1C-3D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
J20D	**J20D**	**1.88**	**93**	P		**Pn**	**10 46 55.8**	**-2.0**
J20D				S		**Sn**	**10 47 19.3**	**-2.1**
J28D	**J28D**	**1.92**	**72**	P		**Pn**	**10 46 56.7**	**-1.6**
J28D				S		**Sn**	**10 47 20.6**	**-1.6**
J27D	**J27D**	**2.47**	**80**	P		**Pn**	**10 47 05.2**	**-0.7**
J27D				S		**Sb**	**10 47 39.4**	**-1.1**
J19D	**J19D**	**2.50**	**96**	P		**Pn**	**10 47 02.3**	**-4.1**
J19D				S		**Sn**	**10 47 36.9**	**+0.2**
G37D	**G37D**	**2.56**	**135**	P		**Pn**	**10 47 03.1**	**-4.0**
G37D				S		**Sn**	**10 47 31.3**	**-6.8**
J11D	**J11D**	**2.60**	**110**	P		**Pn**	**10 47 04.0**	**-3.7**
J11D				S		**Sn**	**10 47 33.0**	**-6.1**
G29D	**G29D**	**2.74**	**145**	P		Pn	10 47 04.8	-4.8
G29D				S		**Sn**	**10 47 37.0**	**-5.6**
G36D	**G36D**	**2.88**	**133**	P		Pn	10 47 07.0	-4.5
G36D				S		**Sn**	**10 47 42.7**	**-3.3**
G35D	**G35D**	**3.09**	**127**	P		**Pn**	**10 47 12.1**	**-2.4**
G35D				S		**Sn**	**10 47 48.8**	**-2.5**
G22D	**G22D**	**3.29**	**157**	P		Pn	10 47 12.4	-4.8
G22D				S		**Sn**	**10 47 52.2**	**-3.9**
G20D	**G20D**	**3.69**	**144**	P		Pn	10 47 18.1	-4.5
G20D				S		**Sb**	**10 48 13.2**	**-2.3**
G21D	**G21D**	**3.75**	**153**	P		**Pn**	**10 47 21.0**	**-2.4**
G21D				S		**Sn**	**10 48 07.2**	**-0.3**
G13D	**G13D**	**3.96**	**160**	P		**Pn**	**10 47 22.3**	**-4.0**
G13D				S		**Sn**	**10 48 11.5**	**-1.1**
G33D	**G33D**	**4.01**	**115**	S		**Sn**	**10 48 20.1**	**+5.7**
KEBM	**Edson Butte**	**4.23**	**110**			**Pn**	**10 47 27.7**	**-2.8**
KEBM				IAML			10 48 59.6	
	comp=E,117nm,3.7s							
I02D	**Swisshome**	**4.24**	**93**	P			10 47 28.6	
	baz=278,SNR=32							
I02D				S			10 48 17.5	
	baz=278							
J01E	**Myrtle Point**	**4.40**	**105**	P			10 47 30.9	
	baz=291,SNR=12							
G05D7	**G05D7**	**4.56**	**161**	P		**Pn**	**10 47 32.6**	**-1.8**
G05D7				S		**Sn**	**10 48 28.5**	**+1.4**
M16D	**M16D**	**4.58**	**126**	P		**Pn**	**10 47 39.8**	**+4.8**
M16D				S		**Sn**	**10 48 30.2**	**+1.9**
COR	**Corvallis**	**4.60**	**86**			**Pn**	**10 47 34.7**	**-0.8**
COR				IAML			10 48 45.9	
	comp=E,80nm,1.6s							
KBO	**Bosley Butte**	**4.61**	**118**			**Pn**	**10 47 37.1**	**+1.3**
KBO				IAML			10 49 48.2	
	comp=N,81nm,4.5s							
G03D	**McMinnville, O**	**4.66**	**79**	P			10 47 35.3	
	ba

baz=305,SNR=5.5
M02C S 10 49 02.1
baz=305
LON Longmire 6.00 65 Pn 10 47 54.8 -0.1
PGC Sidney 6.01 44 Pn 10 47 54.8 -0.1
I05D Terrebonne, OR 6.01 88 P 10 47 53.8
baz=275,SNR=18
F05D White Salmon 6.01 74 P 10 47 54.6
baz=260,SNR=87
G05D Wamic, OR 6.03 80 P 10 47 55.0
baz=266,SNR=73
D05A Enumclaw 6.05 61 Pn 10 47 56.5 +1.0
K04D Chiloquin, OR 6.09 105 P 10 47 56.3
baz=292
N02D Trinity Center 6.25 122 P 10 47 58.8
baz=308
PINE Pine Mountain 6.36 93 Pn **Pn 10 47 59.7 -0.3**
M04C Macdoel 6.37 112 P 10 48 00.3
baz=299
A04D Lummi Island 6.43 46 P 10 48 00.6
baz=231,SNR=14
B05A Bryant 6.50 52 P 10 48 01.7
baz=237,SNR=150
WDC Whiskeytown Da 6.59 124 Pn **Pn 10 48 04.5 +1.7**
K05A Summer Lake 6.65 102 Pn **Pn 10 48 04.4 +0.5**
O02D Mt. Diablo Mer 6.70 127 P 10 48 05.8
baz=314
LTY Liberty 6.91 63 Pn 10 48 07.5 +0.2
C06D Leavenworth 7.03 58 P 10 48 09.1
baz=244,SNR=16
F07A Phinny Hill Vi 7.07 75 Pn **Pn 10 48 08.4 -1.0**
O03E Paynes Creek 7.21 123 P 10 48 11.9
baz=309,SNR=17
E07A Sunnyside 7.24 70 Pn 10 48 12.6 +0.7
I07A Izee 7.35 90 Pn **Pn 10 48 13.9 +0.5**
MOD Modoc Plateau 7.36 107 Pn **Pn 10 48 15.2 +1.6**
HAWA Hanford 7.43 71 Pn **Pn 10 48 14.7 +0.4**
G08A Pilot Rock 7.70 80 Pn **Pn 10 48 17.8 -0.4**
E08A Dider Farm, El 7.77 71 Pn **Pn 10 48 19.4 +0.4**
BBB Bella Bella 7.79 7 Pn **Pn 10 48 21.6 +2.4**
comp=N,0.5nm,0.3s,baz=193,slow=11,SNR=7.7
BBB Sn **Sn 10 49 51.1 +3.7**
baz=4.7,slow=24,SNR=0.5
BBB LR LR 10 50 29.9
comp=N,3µm,19.0s,baz=184,slow=32
BBB Bella Bella 7.79 7 Pn 10 48 23.3 +4.1
ORV Oroville 7.86 126 Pn **Pn 10 48 21.5 +1.2**
D08A Wollman Farm, 7.99 67 Pn **Pn 10 48 22.3 +0.2**
B08A Colville Reser 8.16 58 Pn **Pn 10 48 24.3 -0.2**
J08A Circle Bar Ran 8.21 94 Pn **Pn 10 48 25.8 +0.6**
WVOR Wild Horse Val 8.33 100 Pn 10 48 28.2 +1.4
AFDM Forest Hills D 8.57 127 Pn **Pn 10 48 31.4 +1.3**
DIB Dawson Inlet, 8.92 349 Pn 10 48 36.7 +2.0
H02S1 DAWSON INLET T 8.92 349 Pn **Pn 10 48 39.0 +4.3**
SNR=27
H02S1 T T 10 57 43.4
VCNR Virginia City 9.13 121 Pn 10 48 40.1 +2.2
NEW Newport 9.50 62 Pn **Pn 10 48 41.7 -1.1**
comp=N,0.6nm,0.3s,baz=246,slow=10,SNR=17
NEW Sn **Sn 10 50 34.5 +4.8**
baz=99,slow=6.2,SNR=1.1
NEW LR LR 10 52 17.1
comp=N,12µm,20.2s,baz=251,slow=37
NEW Newport 9.50 62 P 10 48 41.5
baz=251,SNR=19
YERR Yerington 9.57 121 Pn 10 48 45.9 +2.0
SAO San Andreas Ge 9.95 138 Pn 10 48 52.4 +3.5
MFID Camas Ranch 10.09 91 Pn **Pn 10 48 50.5 -0.4**
RYN Ryan 10.23 121 Pn 10 48 54.7 +1.7
KVN Kaiserville 10.24 118 Pn **Pn 10 48 54.8 +1.7**
LHV Little Huntoon 10.48 123 Pn 10 48 58.3 +2.2
NVAR Mina Array Bea 10.49 121 Pn **Pn 10 48 58.0 +1.5**
comp=N,0.1nm,0.3s,baz=283,slow=14,SNR=14
NVAR Lg Lg 10 51 44.7
comp=N,0.0nm,0.3s,baz=303,slow=28,SNR=0.9
NVAR LR LR 10 52 50.0
comp=N,6µm,18.8s,baz=306,slow=37
NVAR Mina Array Bea 10.49 121 Pn 10 48 58.3 +1.8
MDPB Devils Postpil 10.55 127 Pn 10 49 00.1 +2.7
MLAC Mammoth, Mammo 10.69 126 P 10 49 00.1
baz=314
HLID Hailey 11.07 89 P 10 49 03.5
baz=280,SNR=14
JTMT Jette 11.21 68 Pn 10 49 06.6 +0.3
CRAG Craig 11.21 350 Pn **Pn 10 49 07.4 +1.3**
CRAG Craig 11.21 350 P 10 49 06.9
baz=167,SNR=10
MSO Missoula 11.30 72 Pn 10 49 07.2 -0.3
MSO Missoula 11.30 72 P 10 49 07.0
baz=264,SNR=34
ELK Elko 11.31 104 Pn **Pn 10 49 09.6 +1.8**
comp=N,0.1nm,0.3s,baz=295,slow=12,SNR=20
ELK Sn **Sn 10 51 18.0 +3.6**
comp=N,0.1nm,0.3s,baz=242,slow=21,SNR=1.5
ELK LR LR 10 53 31.6
comp=N,3µm,20.3s,baz=290,slow=38
ELK Elko 11.31 104 Pn **Pn 10 49 07.8 -0.1**
VOG Valley Oaks Go 11.34 132 P 10 49 08.4
baz=320
TPH Tonopah 11.38 120 Pn 10 49 11.4 +2.7
TIN Tinemaha, Big 11.44 126 P 10 49 10.1
baz=315
SMMC Simmler 11.81 137 P 10 49 16.3
baz=325
VES Vestal, Richgr 11.86 133 P 10 49 13.8
baz=321
CWC Cottonwood Cre 11.96 128 P 10 49 17.2
baz=317
GRAC Grapevine Rang 11.98 124 P 10 49 16.4
baz=313
WRAK Wrangell Islan 12.07 353 Pn 10 49 21.6 +3.8
WRAK Wrangell Islan 12.07 353 P 10 49 18.8
baz=170
PKM Mcpherson Peak 12.24 138 P 10 49 21.1
baz=325
R11A Troy Canyon, C 12.25 115 Pn **Pn 10 49 23.7 +3.1**
R11A Troy Canyon, C 12.25 115 P 10 49 22.2
baz=305
ISA Isabella, Lake 12.31 132 P 10 49 21.4
baz=320
ARVC Arvin 12.54 134 P 10 49 25.0
baz=322
FURC Furnace Creek, 12.64 125 P 10 49 25.9
baz=314,SNR=29
SBC Santa Barbara 12.65 139 P 10 49 25.1
baz=326
TPNV Topopah Spring 12.69 122 P 10 49 26.7
baz=311,SNR=22
SPR3 Spring Creek 3 12.73 110 Pn 10 49 30.1 +2.7
HRY Holter Researc 12.74 74 Pn 10 49 27.4 +0.2
OSI Osito Audit: C 12.99 136 P 10 49 27.6
baz=323
SCZ2 Santa Cruz Isl 13.06 140 P 10 49 29.0
baz=327
SIT Sitka 13.07 346 Pn **Pn 10 49 35.9 +4.4**
SIT Sitka 13.07 346 P 10 49 32.3
baz=161
EDW2 Edwards Air Fo 13.16 133 P 10 49 32.1
baz=321
DUG Dugway, Tooele 13.23 103 Pn 10 49 33.4 -0.5
DUG Dugway, Tooele 13.23 103 P 10 49 32.0
baz=295
ECR Eagle Creek 13.35 90 Pn **Pn 10 49 38.4 +2.7**
SHOC Shoshone, Teco 13.38 125 P 10 49 33.2
baz=315,SNR=8.4
DECC Green Verdugo 13.48 135 P 10 49 35.4
baz=323
AHID Auburn Hatcher 13.61 91 Pn 10 49 40.9 +1.7
PASC Pasadena Art C 13.62 135 Pn **Pn 10 49 42.7 +3.6**
H17A Grant Village 13.69 84 Pn **Pn 10 49 41.5 +1.2**
H17A Grant Village 13.69 84 P 10 49 38.5
baz=277,SNR=6.8
RRX Edison Barstow 13.70 130 P 10 49 38.2
baz=319
SNCC San Nicolas Is 13.73 141 P 10 49 40.7
baz=328
LOHW Long Hollow 13.79 87 Pn 10 49 43.0 +1.4
BFSC Mount Baldy Ra 13.83 134 P 10 49 39.1
baz=322
TUQ Turquoise Moun 13.90 126 P 10 49 41.9
baz=315
FMP Fort Macarthur 13.93 137 P 10 49 43.0
baz=325
CIS Catalina Islan 14.12 138 P 10 49 43.1
baz=326
BBRC Big Bear Solar 14.21 132 P 10 49 45.7
baz=320
EGMT Eagleton 14.27 69 P 10 49 43.7
baz=263,SNR=24
SCI2 San Clemente I 14.41 139 P 10 49 47.7
baz=327
BESE Bessie Mountai 14.47 349 Pn 10 49 53.8 +3.1
GMRC Granite Mounta 14.52 127 P 10 49 49.0
baz=317
RLMT Red Lodge 14.55 80 P 10 49 50.0
baz=275,SNR=5.9
MURC Murrieta 14.57 134 P 10 49 49.4
baz=323
BW06 Boulder Array 14.71 90 P 10 49 51.9
baz=284
PD31 Pinedale Array 14.71 90 Pn **Pn 10 49 53.8 -0.5**
PDAR Pinedale Array 14.71 90 Pn **Pn 10 49 55.5 +1.2**
comp=N,0.1nm,0.3s,baz=286,slow=11,SNR=9.1
PDAR Sn **Sn 10 52 43.5 +6.1**
comp=N,0.1nm,0.3s,baz=164,slow=16,SNR=1.7
PDAR LR LR 10 55 41.2
comp=N,7µm,19.6s,baz=284,slow=38
PDAR Pinedale Array 14.71 90 Pn **Pn 10 49 56.5 +2.2**
BELC Belle Mtn. Jos 14.90 130 P 10 49 56.1
baz=319
PFO Pinyon Flats O 14.95 132 Pn **Pn 10 49 57.2 -0.2**
comp=N,0.2nm,0.3s,baz=319,slow=13,SNR=5.2
PFO Sn **Sn 10 52 45.0 +1.9**
baz=280,slow=7.0,SNR=1.2
PFO LR LR 10 55 12.3
comp=N,5µm,18.4s,baz=308,slow=35
PFO Pinyon Flats O 14.95 132 Pn **Pn 10 49 59.4 +2.0**
PFO Pinyon Flats O 14.95 132 P 10 49 56.2
baz=321
TPFO Pinon Flats 14.96 132 P 10 49 56.6
baz=321
NEE2 Needles Airpor 15.13 125 P 10 50 00.2
baz=315
109C Camp Elliot, M 15.18 135 P **P 10 50 05.4 0.0**
109C Camp Elliot, M 15.18 135 P 10 49 58.3
baz=324
IRM Iron Mountain 15.26 128 P 10 50 00.2
baz=317,SNR=15
W13A Hualapai Mount 15.34 122 Pn **Pn 10 50 04.9 +2.1**
W13A IAmb IAmb 10 50 15.4
comp=Z,50nm,1.3s
RDMU Red Mountain 15.37 98 IAmb IAmb 10 50 28.0
comp=Z,58nm,1.3s
BC3 Big Chuckawall 15.46 129 P 10 50 01.7
baz=319
U15A North Rim 15.50 115 Pn **Pn 10 50 06.8 +1.9**
U15A IAmb IAmb 10 50 29.8
comp=Z,61nm,1.2s
MONP2 Monument Peak 15.53 134 P 10 50 04.0
baz=323
TKX Tecate 15.69 135 Pn **Pn 10 50 06.2 -0.8**
PDMCI Parker Dam,Lak 15.74 125 P 10 50 06.0
baz=316,SNR=12
SWSC Sam W. Stewart 15.81 132 P 10 50 07.3
baz=321,SNR=5.6
CCX Cicese 16.22 136 P **P 10 50 18.2 +1.2**
GLA Glamis 16.26 130 Pn 10 50 14.2 -0.2
GLA Glamis 16.26 130 P 10 50 13.2
baz=320
O20A White River Ci 16.47 98 Pn 10 50 18.1 +0.8
O20A White River Ci 16.47 98 P 10 50 15.8
baz=293,SNR=13
WHY Whitehorse 16.50 351 P 10 50 17.8
baz=166,SNR=7.6
LAO LASA Array 16.59 74 P 10 50 17.9
baz=271
WUAZ Wupatki 16.64 116 IAmb IAmb 10 50 33.8
comp=Z,74nm,1.4s
WUAZ Wupatki 16.64 116 P 10 50 18.7
baz=309,SNR=9.6
Y14A Wickenburg 16.67 123 P 10 50 22.6 +0.6
PINM Pinnacle 16.88 342 P 10 50 22.6
baz=153
PCA Pinnacle 16.88 342 P **P 10 50 26.3 +2.1**
PCA IAmb IAmb 10 50 46.6
comp=Z,116nm,1.2s
K22A Casper 16.91 88 P **P 10 50 24.6 -0.2**
K22A Casper 16.91 88 P 10 50 20.5
baz=284
113A Mohawk Valley, 17.06 128 P 10 50 26.9 +0.5
X16A Lo Mia Camp, P 17.30 119 P **P 10 50 29.9 +0.7**
MESA MESA 17.36 339 P 10 50 29.8 +0.2
MESA MESA 17.36 339 P 10 50 28.7
baz=149
TABL Table Mountain 17.39 341 P 10 50 32.3 +2.3
TABL IAmb IAmb 10 50 58.6
comp=Z,114nm,1.5s
YAH Yahtse 17.47 340 P 10 50 31.4 +0.5
YAH IAmb IAmb 10 50 47.9
comp=Z,109nm,1.4s
MVCO Mesa Verde 17.60 107 IAmb IAmb 10 50 42.8
comp=Z,73nm,1.4s
MVCO Mesa Verde 17.60 107 P 10 50 30.6
baz=302
BGLC Bering Glacier 17.66 337 P 10 50 30.7
baz=146
SFX San Felipe 17.81 134 P **Pn 10 50 33.6 -0.2**
N23A Red Feather La 17.84 93 P 10 50 33.5
baz=290,SNR=8.6
CTGM Chitina Glacie 17.90 341 IAmb IAmb 10 51 00.1
comp=Z,83nm,1.4s
CTG Chitna Glacier 17.90 341 P 10 50 35.6
baz=152
W18A Petrified Fore 17.95 115 IAmb IAmb 10 50 43.8
comp=Z,90nm,1.4s
W18A Petrified Fore 17.95 115 P 10 50 35.5
baz=308,SNR=6.0
DGMT Dagmar 18.00 68 IAmb IAmb 10 50 40.1
comp=Z,98nm,1.2s
DGMT Dagmar 18.00 68 P 10 50 35.4
baz=267,SNR=8.5
Q23K Middleton Isla 18.05 332 P 10 50 36.9
baz=138
BARN Barnard Glacie 18.06 341 P **P 10 50 38.9 +1.6**
BARN IAmb IAmb 10 51 03.2
comp=Z,88nm,1.4s
CRQE Cirque 18.14 339 P 10 50 38.4
baz=148,SNR=14
CRQM Cirque 18.16 339 P **P 10 50 39.2 +0.7**
CRQM IAmb IAmb 10 50 48.5
comp=Z,126nm,1.3s
214A Organ Pipe Nat 18.21 128 P 10 50 38.1
baz=319
RSSD Black Hills 18.38 82 Pn 10 50 39.3 -1.8
RSSD Black Hills 18.38 82 P 10 50 39.3
baz=280
ISCO Idaho Springs 18.46 96 P 10 50 41.0
baz=293,SNR=21
S22A 4UR Ranch, Cre 18.49 103 P 10 50 41.7
baz=299,SNR=18
MCARA McCarthy VSAT 18.67 340 P **Pn 10 50 45.9 +1.7**
MCARA IAmb IAmb 10 51 08.5
comp=Z,54nm,1.2s
MCARA McCarthy VSAT 18.67 340 P 10 50 45.0
baz=149
EYAK Cordova Ski Ar 18.73 335 P 10 50 44.4
baz=142
BMRM Bremner River 18.73 337 P **Pn 10 50 48.1 +3.1**
BMRM Bremner River 18.73 337 P 10 50 45.2
baz=145
GLB Gilahina Butte 18.91 339 P **Pn 10 50 48.1 +0.9**
GLB IAmb IAmb 10 51 15.9
comp=Z,51nm,1.4s
Q24A Divide 19.13 98 P 10 50 49.5
baz=295
TUC Tucson 19.13 123 P **Pn 10 50 50.4 +0.3**
TUC Tucson 19.13 123 P 10 50 50.5
baz=315
N25K Chitina, Valde 19.26 338 P **Pn 10 50 51.6 +0.2**
N25K Chitina, Valde 19.26 338 P 10 50 50.1
baz=146
GLI Glacier Island 19.40 334 P 10 50 51.2
baz=140
SDCO Great Sand Dun 19.42 102 P **P 10 50 52.7 +0.1**
SDCO Great Sand Dun 19.42 102 P 10 50 51.3
baz=298,SNR=20
KDAK Kodiak Island 19.44 321 P **P 10 50 51.6 -0.7**
comp=Z,0.1nm,0.3s,baz=104,slow=16,SNR=3.4
KDAK S **S 10 54 33.2 +1.3**
comp=Z,0.1nm,0.3s,baz=287,slow=8.9,SNR=1.4
KDAK LR LR 10 56 25.0
comp=Z,5µm,20.3s,baz=150,slow=31
KDAK Kodiak Island 19.44 321 IAmb IAmb 10 51 13.6
comp=Z,114nm,1.5s
KDAK Kodiak Island 19.44 321 P 10 50 51.0
baz=123
OHAK Old Harbor 19.46 319 IAmb IAmb 10 51 03.7
comp=Z,95nm,1.4s
OHAK Old Harbor 19.46 319 P 10 50 52.5
baz=120
KLU Klutina 19.53 336 P **P 10 50 53.9 +0.5**
KLU IAmb IAmb 10 51 13.8
comp=Z,52nm,1.3s
KLU Klutina 19.53 336 P 10 50 52.8
baz=143
SII Sitkinak Islan 19.57 317 P **Pn 10 50 54.6 -0.4**
SII Sitkinak Islan 19.57 317 P 10 50 52.8
baz=117
SEW Seward 19.63 330 P 10 50 52.6
baz=134
PWL Port Wells 19.79 333 P **Pn 10 50 57.2 -0.5**
BRSE Bradley Lake S 19.86 328 P 10 50 56.0
baz=130
BCAR Beaver Creek A 19.87 344 P **Pn 10 50 59.1 +0.4**
L27K Beaver Creek, 19.88 344 P **Pn 10 50 58.6 -0.2**
L27K Beaver Creek, 19.88 344 P 10 50 56.7
baz=153
O22K Cooper Landing 19.99 330 P 10 50 58.2
baz=134
HARP HAARP 20.07 339 P 10 51 00.0
baz=146
YKA Yellowknife Ar 20.07 21 P **P 10 50 58.7 -0.4**
comp=Z,16nm,1.1s,baz=210,slow=10,SNR=11
YKA LR LR 10 57 31.4
comp=Z,270nm,20.8s,baz=0.0,slow=33
M24K Tolsona, Glenn 20.10 337 P Pn 10 51 02.9 +1.5
M24K IAmb IAmb 10 51 12.8
comp=Z,94nm,1.4s
M24K Tolsona, Glenn 20.10 337 P 10 51 01.0
baz=144
HOM Homer 20.16 327 P 10 51 01.8
baz=129
MENT Mentasta 20.18 341 P Pn 10 51 03.1 +0.8
SCM Sheep Creek Mo 20.21 335 P **P 10 51 01.5 +0.7**
SCM IAmb IAmb 10 51 13.4
comp=Z,83nm,1.2s
ANMO Albuquerque 20.22 110 P **P 10 51 01.1 -0.2**
comp=Z,4.7nm,1.1s,baz=309,slow=11,SNR=11
ANMO LR LR 10 59 26.6
comp=Z,1µm,21.9s,baz=302,slow=39
ANMO Albuquerque 20.22 110 P **P 10 51 01.5 +0.3**
ANMO Albuquerque 20.22 110 P 10 51 01.9
baz=306
KNK Knik Glacier 20.24 333 P 10 51 01.7
baz=138
LENM Lemitar 20.34 113 P **P 10 51 02.8 +0.3**
DAWY Dawson 20.38 348 P Pn 10 51 05.5 +0.9
E28A Huff 20.41 74 P **P 10 51 02.0 -1.0**
RC01 Rabbit Creek A 20.42 332 IAmb IAmb 10 51 14.9
comp=Z,76nm,1.2s
RC01 Rabbit Creek A 20.42 332 P 10 51 03.5
baz=135
Y22D IRIS PASSCAL I 20.43 113 P Pn 10 51 05.3 -0.2
Y22D IRIS PASSCAL I 20.43 113 P 10 51 03.1
baz=308
T25A Trinidad 20.47 102 P **P 10 51 03.8 -0.2**
T25A Trinidad 20.47 102 P 10 51 04.4
baz=299,SNR=55
SML Sawmill 20.50 334 P Pn 10 51 07.7 +1.6
SML Sawmill 20.50 334 P 10 51 04.9
baz=139,SNR=6.2
FFC Flin Flon 20.57 50 P **P 10 51 05.2 +0.5**
FFC IAmb IAmb 10 51 14.5
comp=Z,38nm,0.9s
BNM Barren Site 20.57 112 P **P 10 51 05.5 +0.4**
PMR Palmer 20.59 333 IAmb IAmb 10 51 18.1
comp=Z,34nm,1.2s
PMR Palmer 20.59 333 P 10 51 03.7
baz=137,SNR=6.6
OGNE Ogallala 20.62 90 P 10 51 04.7
baz=289
PAX Paxson 20.62 339 P Pn 10 51 06.8 -0.8
PAX IAmb IAmb 10 51 14.4
comp=Z,37nm,1.3s
PAX Paxson 20.62 339 P 10 51 06.3
baz=146,SNR=5.6
319A Douglas 20.70 122 P **P 10 51 07.3 +0.9**
319A IAmb IAmb 10 51 15.2
comp=Z,41nm,1.0s
K27K Chicken 20.80 345 IAmb IAmb 10 51 33.0
comp=Z,36nm,1.3s
K27K Chicken 20.80 345 P 10 51 08.1
baz=154
121A Cookes Peak, D 20.84 117 P **P 10 51 08.7 +0.8**
121A IAmb IAmb 10 51 16.3
comp=Z,51nm,1.2s
121A Cookes Peak, D 20.84 117 P 10 51 08.3
baz=312,SNR=19
DOT Dot Lake 20.87 342 P **P 10 51 08.4 +0.5**
KSCO Kaye Shedlock' 20.90 96 P **P 10 51 08.3 -0.3**
KSCO IAmb IAmb 10 51 13.1
comp=Z,61nm,1.1s
KSCO Kaye Shedlock' 20.90 96 P 10 51 07.3
baz=294,SNR=13
WAT6 Susitna Watana 20.92 336 P 10 51 07.5
baz=141,SNR=14
M22K Willow 21.03 332 P 10 51 08.8
baz=136
SUA Susitna One 21.04 331 P 10 51 09.5
baz=134
MDND Maddock 21.07 70 P **P 10 51 10.2 0.0**
MDND IAmb IAmb 10 51 16.8
comp=Z,72nm,1.1s
MDND Maddock 21.07 70 P 10 51 08.1
baz=272
SCRK Sand Creek 21.14 342 P **P 10 51 11.7 +0.8**
SCRK Sand Creek 21.14 342 P 10 51 11.8
baz=150,SNR=15
SPU Mount Spurr 21.30 330 P **P 10 51 13.3 +0.7**
EGAK Eagle 21.32 346 P 10 51 13.7
baz=157
SPCR Spurr Chakacha 21.37 329 P 10 51 12.2
baz=131
WAT2 Susitna Watana 21.46 336 P 10 51 13.7
baz=140
CUT Chulitna 21.55 334 P 10 51 14.0
baz=136
SKT Skwentna 21.66 332 P 10 51 15.9
baz=134
RND Reindeer 21.88 337 P **P 10 51 19.3 +0.5**
RND IAmb IAmb 10 51 32.2
comp=Z,28nm,1.2s
SUSD Miller 21.91 79 P 10 51 16.5
baz=281
SRIG Santa Rosalia 22.15 135 IAmb IAmb 10 51 28.7
comp=Z,48nm,1.3s
MCK McKinley 22.16 337 IAmb IAmb 10 51 34.8
comp=Z,60nm,1.5s
MCK McKinley 22.16 337 P 10 51 20.6
baz=141
HDA Harding Lake 22.19 340 P **P 10 51 22.0 -0.1**
HDA IAmb IAmb 10 51 39.0
comp=Z,48nm,1.3s
HDA Harding Lake 22.19 340 P 10 51 20.2
baz=146
HDA P 10 51 20.2
baz=146
TRF Thorofare Moun 22.34 335 IAmb IAmb 10 51 35.2
comp=Z,47nm,1.1s
TRF Thorofare Moun 22.34 335 P 10 51 22.1
baz=138,SNR=11
SDPT Sand Point 22.40 310 P **P 10 51 27.1 +2.8**
SDPT Sand Point 22.40 310 P 10 51 23.1
baz=106
K31A O'Neill 22.46 84 P **P 10 51 24.2 -1.0**
IL31 22.48 341 IAmb IAmb 10 51 48.8
comp=Z,30nm,1.3s
ILAR Eielson Array 22.48 341 P **P 10 51 24.9 -0.2**
comp=Z,3.2nm,1.0s,baz=152,slow=8.3,SNR=30
ILAR LR LR 10 58 42.2
comp=Z,4µm,21.1s,baz=157,slow=33
ILAR Eielson Array 22.48 341 P **P 10 51 24.6 -0.5**
PPLA Purkeypile 22.52 333 P 10 51 24.8
baz=134
CCB Clear Creek Bu 22.60 340 IAmb IAmb 10 51 53.4
comp=Z,32nm,1.2s
COLA College 22.80 340 P 10 51 27.5
baz=145
TCOL CIGO, UAF Yank 22.80 340 P 10 51 26.4
baz=145

PRP **Porcupine Dome** 22.81 343 P 10 51 27.6
baz=150
NEA2 **Nenana** 22.88 338 IAmb IAmb 10 51 47.0
comp=Z,61nm,1.3s
NEA2 **Nenana** 22.88 338 P 10 51 28.4
baz=142
POKR **Poker Plat Res** 22.90 341 P 10 51 26.2
baz=146
MNTX **Cornudas Mount** 22.92 116 P **P** **10 51 29.9 -0.2**
MNTX **Cornudas Mount** 22.92 116 P 10 51 28.5
baz=311,SNR=9.7
MDM **Murphy Dome** 22.96 340 P **P** **10 51 29.7 -0.5**
BPAW **Bear Paw Mtn.** 23.03 336 P 10 51 29.2
baz=138
CBKS **Cedar Bluff** 23.04 94 P **P** **10 51 30.2 -1.1**
CBKS IAmb IAmb 10 51 34.1
comp=Z,40nm,1.1s
CBKS **Cedar Bluff** 23.04 94 P 10 51 28.6
baz=294
BGNE **Belgrade** 23.25 86 P 10 51 31.8
baz=288
CHUM **Lake Minchumin** 23.27 335 P 10 51 32.3
baz=136
MSTX **Muleshoe** 23.27 108 IAmb IAmb 10 52 02.8
comp=Z,34nm,1.4s
MSTX **Muleshoe** 23.28 108 P 10 51 31.3
baz=305
I23K **Minto, Yukon-K** 23.40 339 IAmb IAmb 10 51 47.3
comp=Z,58nm,1.3s
I23K **Minto, Yukon-K** 23.40 339 P 10 51 35.0
baz=142,SNR=7.4
ULM **Lac du Bonnet** 23.51 64 P **P** **10 51 35.0 -0.9**
comp=Z,12nm,0.9s,baz=265,slow=10,SNR=13
ULM LR LR 11 00 44.9
comp=Z,4µm,21.5s,baz=277,slow=37
ULM **Lac du Bonnet** 23.51 64 P **P** **10 51 34.2 -1.6**
ULM IAmb IAmb 10 51 46.0
comp=Z,37nm,1.1s
AGMN **Agassiz Nation** 23.56 69 P 10 51 33.4
baz=274
H24K **Noodor Dome** 23.60 341 P 10 51 35.2
baz=146,SNR=6.9
MLY **Manley** 23.67 338 P 10 51 36.8
baz=140,SNR=8.4
ECSD **EROS Data Cent** 23.71 80 IAmb IAmb 10 51 47.0
comp=Z,47nm,1.1s
ECSD **EROS Data Cent** 23.71 80 P 10 51 37.2
baz=284,SNR=19
TTA **Tatalina** 23.86 330 P 10 51 39.1
baz=128
FALS **False Pass** 23.92 308 P 10 51 38.9
baz=101
R32A **Long Quarter,** 23.93 94 IAmb IAmb 10 51 59.2
comp=Z,30nm,1.1s
INK **Inuvik** 23.97 357 P **P** **10 51 40.4 +0.3**
comp=Z,5.3nm,0.9s,baz=164,slow=13,SNR=4.9
INK LR LR 11 00 36.3
comp=Z,3µm,18.6s,baz=168,slow=36
INK **Inuvik** 23.97 357 P 10 51 40.5
baz=173
H23K **Yukon River** 23.99 340 P 10 51 40.8
baz=143,SNR=8.9
BMAR **Burnt Mountain** 24.32 346 P **P** **10 51 47.0 +3.5**
L34A **Svendsen Farm,** 24.34 84 IAmb IAmb 10 51 53.2
comp=Z,38nm,1.0s
OK032 **Salt Plains WL** 25.00 97 IAmb IAmb 10 51 59.9
comp=Z,29nm,1.1s
C36M **Paulatuk** 25.10 5 P 10 51 48.7
baz=189
KSU1 **Kansas State U** 25.16 91 P 10 51 50.1
baz=293
IMAR **Indian Mountai** 25.22 337 P **P** **10 51 51.5 0.0**
KAN09 **Caldwell North** 25.27 96 IAmb IAmb 10 52 02.2
comp=Z,27nm,1.0s
COLD **Coldfoot** 25.28 341 IAmb IAmb 10 52 16.9
comp=Z,18nm,1.3s
COLD **Coldfoot** 25.28 341 P 10 51 49.7
baz=144
KAN13 **South Haven SW** 25.43 96 IAmb IAmb 10 52 04.2
comp=Z,23nm,0.8s
F36A **Milaca** 25.43 74 IAmb IAmb 10 52 03.6
comp=Z,13nm,1.1s
TX32 **Lajitas Array** 25.60 117 IAmb IAmb 10 52 02.0
comp=Z,21nm,1.3s
TXAR **Lajitas Array** 25.60 117 P **P** **10 51 55.0 -0.5**
comp=Z,4.3nm,0.8s,baz=301,slow=8.1,SNR=29
WMOK **Wichita Mounta** 25.62 102 P **P** **10 51 55.3 -0.2**
WMOK **Wichita Mounta** 25.62 102 P 10 51 55.2
baz=302,SNR=41
LPIG **La Paz** 25.78 136 LR LR 11 00 43.3
comp=Z,2µm,20.4s,baz=323,slow=33
T35A **Sooner Cattle** 26.16 95 IAmb IAmb 10 52 09.2
comp=Z,29nm,1.1s
ABTX **Abilene, Hawle** 26.19 107 IAmb IAmb 10 52 29.9
comp=Z,26nm,1.1s
ABTX **Abilene, Hawle** 26.19 107 P 10 51 59.8
baz=306
TOLK **Toolik Lake Re** 26.31 344 IAmb IAmb 10 52 14.7
comp=Z,17nm,1.1s
TOLK **Toolik Lake Re** 26.31 344 P 10 52 02.5
baz=146
X34A **Smith Ranch, M** 26.36 101 IAmb IAmb 10 52 12.1
comp=Z,27nm,1.1s
E38A **The Farm, Brul** 26.65 72 IAmb IAmb 10 52 32.7
comp=Z,22nm,1.2s
LOOK **Love County** 27.14 101 IAmb IAmb 10 52 12.5
comp=Z,23nm,1.0s
P38A **Dawn** 27.17 88 IAmb IAmb 10 52 18.4
comp=Z,26nm,0.9s
JCT **Junction City** 27.38 111 IAmb IAmb 10 52 16.5
comp=Z,16nm,1.1s
JCT **Junction City** 27.38 111 P 10 52 10.4
baz=309
G40A **Rib Lake** 27.84 74 IAmb IAmb 10 52 24.8
comp=Z,13nm,0.9s
U38A **Gravette** 27.90 94 IAmb IAmb 10 52 33.9
comp=Z,26nm,1.5s
L40A **Anamosa** 27.97 81 IAmb IAmb 10 52 26.5
comp=Z,25nm,1.0s
WHTX **Lake Whitney,** 28.06 105 IAmb IAmb 10 52 35.3
comp=Z,31nm,1.4s
WHTX **Lake Whitney,** 28.06 105 P 10 52 15.8
baz=306
S39A **Bolivar** 28.10 91 IAmb IAmb 10 52 32.6
comp=Z,11nm,1.1s
COWI **Conover** 28.39 72 IAmb IAmb 10 52 33.4
comp=Z,12nm,1.1s
JFWS **Jewell Farm** 28.40 79 IAmb IAmb 10 52 21.1
comp=Z,21nm,0.9s
JFWS **Jewell Farm** 28.41 79 P 10 52 19.3
baz=287
R40A **Maddies Statio** 28.60 89 IAmb IAmb 10 52 30.6
comp=Z,17nm,1.1s
W39A **Magazine** 28.92 96 IAmb IAmb 10 52 33.0
comp=Z,14nm,1.2s
W39A **Magazine** 28.92 96 P 10 52 24.3
baz=300
U40A **Yellville** 29.03 93 IAmb IAmb 10 52 31.3
comp=Z,15nm,1.4s
U40A **Yellville** 29.03 93 P 10 52 26.8
baz=298
MGMO **Mountain Grove** 29.09 91 IAmb IAmb 10 52 32.2
comp=Z,22nm,1.5s
CCM **Cathedral Cave** 29.43 89 P **P** **10 52 29.1 -0.5**
E43A **Lone Tree Farm** 29.79 71 IAmb IAmb 10 52 41.9
comp=Z,12nm,1.1s
HDIL **Hopedale** 29.85 83 P 10 52 33.0
baz=291
WHAR **Wooly Hollow** 29.94 95 IAmb IAmb 10 52 42.7
comp=Z,17nm,1.2s
W41B **Gary Mavity, V** 30.03 95 P 10 52 34.9
baz=300
LCAR **Lake Charles** 30.38 93 IAmb IAmb 10 52 38.5
comp=Z,20nm,1.5s
HKT **Hockley** 30.40 107 P **P** **10 52 39.0 +0.8**
HKT IAmb IAmb 10 52 50.6
comp=Z,23nm,1.4s
PBMO **Poplar Bluff** 30.57 91 IAmb IAmb 10 52 47.7
comp=Z,11nm,1.2s
OXF **Oxford** 32.38 94 P 10 52 55.3
baz=300
WVT **Waverly** 32.73 90 P **P** **10 53 01.4 +2.7**
WVT IAmb IAmb 10 53 06.5
comp=Z,8.8nm,1.2s
WVT **Waverly** 32.73 90 P 10 52 57.9
baz=298
PLAL **Pickwick Lake** 33.10 92 IAmb IAmb 10 53 20.9
comp=Z,8.3nm,1.1s

RES **Resolute Bay** 33.97 16 P **P** **10 53 08.3 -0.8**
comp=Z,5.0nm,0.9s,baz=225,slow=12,SNR=5.1
RES **Resolute Bay** 33.97 16 P **P** **10 53 08.9 -0.2**
RES IAmb IAmb 10 53 17.8
comp=Z,8.1nm,0.8s
Z47A **Carrollton** 34.01 95 IAmb IAmb 10 53 19.1
comp=Z,13nm,0.9s
P51A **Williamsport** 34.68 82 IAmb IAmb 10 53 24.1
comp=Z,12nm,0.9s
W50A **Signal Mountai** 34.98 90 IAmb IAmb 10 53 45.9
comp=Z,13nm,1.3s
FPAL **Fort Paine** 35.08 91 IAmb IAmb 10 53 45.9
comp=Z,13nm,1.1s
MATQ **Matagami** 35.24 62 P 10 53 18.9
baz=282
TZTN **Tazewell** 35.60 87 IAmb IAmb 10 53 26.7
comp=Z,12nm,1.4s
TZTN **Tazewell** 35.60 87 P 10 53 22.7
baz=296
O53A **New Philadelph** 35.68 79 P 10 53 22.3
baz=293
LSQQ **Lebel-sur-Quev** 35.81 63 P 10 53 24.1
baz=283
P53A **Whipple** 35.86 81 IAmb IAmb 10 53 29.7
comp=Z,21nm,1.3s
G54A **Lake Saint Pet** 36.05 70 P 10 53 25.0
baz=288
N54A **Moraine State** 36.26 78 P 10 53 28.4
baz=293
M54A **Oil Creek Stat** 36.28 77 P 10 53 28.6
baz=292
Q54A **Coxs Mills** 36.46 81 IAmb IAmb 10 53 39.6
comp=Z,8.1nm,0.8s
Y52A **Lilburn** 36.53 91 IAmb IAmb 10 53 40.3
comp=Z,22nm,1.5s
GOGA **Godfrey** 37.19 91 P 10 53 34.9
baz=291
R55A **Marlinton** 37.27 82 IAmb IAmb 10 53 47.5
comp=Z,13nm,1.1s
D55A **Sainte-Anne-du** 37.31 66 P 10 53 35.1
baz=287
BLA **Blacksburg** 37.53 84 P 10 53 39.6
baz=297
O56A **Blue Knob Stat** 37.53 78 P 10 53 38.6
baz=294
E56A **St. Veronique** 37.74 67 P 10 53 41.1
baz=287
D56A **ZEC Mazanza, M** 37.78 66 P 10 53 41.1
baz=287
KMSC **Kings Mountain** 37.85 87 P 10 53 42.7
baz=300
H57A **Richville** 38.17 70 P 10 53 44.7
baz=290
BINY **Binghamton** 38.57 74 P 10 53 47.6
baz=292
K58A **Earlville** 38.59 73 P 10 53 47.5
baz=292
J58A **Remsen** 38.62 72 P 10 53 46.2
baz=291
I58A **Old Forge** 38.72 71 P 10 53 49.1
baz=291
L58A **Harry Jones Me** 38.72 74 P 10 53 48.0
baz=293
D58A **Chemin du LacG** 38.98 65 P 10 53 50.9
baz=288
H58A **Gabriels** 39.00 70 P 10 53 50.5
baz=290
J59A **Piesco** 39.12 71 P 10 53 52.1
baz=291
K59A **Cooperstown** 39.13 73 P 10 53 52.6
baz=292
I60A **Shoreham** 39.80 70 P 10 53 57.2
baz=291
J60A **Lant Hill Farm** 39.93 71 P 10 53 59.8
baz=292
H60A **Morristown** 39.94 69 P 10 53 58.9
baz=291
F60A **Warwick** 39.95 67 P 10 53 58.7
baz=290
BILL **Bilibino** 40.09 328 P **P** **10 54 00.5 -0.7**
E60A **Ste Agathe de** 40.15 66 P 10 54 00.4
baz=289
K61A **Williamstown** 40.25 72 P 10 54 02.5
baz=293
H61A **Lyndonville** 40.47 69 P 10 54 04.5
baz=291
I61A **Oroboro, Fairl** 40.49 70 P 10 54 04.4
baz=292
LBNH **Lisbon** 40.57 69 P 10 54 04.8
baz=291
F61A **St Evariste** 40.58 66 P 10 54 03.6
baz=290
SCHQ **Schefferville** 40.70 52 P **P** **10 54 05.1 -1.2**
comp=Z,6.1nm,1.0s,baz=292,slow=6.5,SNR=3.9
SCHQ LR LR 11 10 57.1
comp=Z,3µm,21.0s,baz=282,slow=36
E61A **Lac Etchemin** 40.76 66 P 10 54 05.6
baz=290
D63A **Stockholm** 42.09 64 P 10 54 16.0
baz=290
E64A **Bridgewater** 42.49 65 P 10 54 20.1
baz=291
NEEM **North Greenlan** 44.59 18 *i* P **P** **10 54 38.9 +0.9**
NEEM IAmb IAmb 10 54 42.5
comp=Z,6.4nm,0.9s
PETK **Petropavlovsk-** 46.66 308 P **P** **10 54 53.5 -0.8**
comp=Z,2.0nm,0.5s,baz=74,slow=15,SNR=4.7
PETK LR LR 11 12 34.9
comp=Z,492nm,20.7s,baz=82,slow=34
SUMG **Summit** 48.62 24 *i* P **P** **10 55 10.0 +0.2**
SUMG IAmb IAmb 10 55 16.1
comp=Z,7.0nm,0.8s
SUMG **Summit** 48.62 24 P **P** **10 55 08.2 -1.6**
ICESG **Greenland Ices** 49.36 28 *i* P **P** **10 55 17.1 +1.7**
ICESG IAmb IAmb 10 55 23.5
comp=Z,12nm,0.9s
DAG **Danmarks Havn** 51.67 16 *i* P **P** **10 55 31.9 -0.4**
DAG IAmb IAmb 10 55 36.9
comp=Z,3.5nm,0.9s
TIXI **Tiksi** 51.87 337 P **P** **10 55 32.2 -1.7**
comp=Z,3.6nm,0.8s,baz=78,slow=7.1,SNR=11
TIXI **Tiksi** 51.87 337 P **P** **10 55 32.3 -1.7**
DBG **Daneborg** 52.64 19 *i* P **P** **10 55 40.2 +0.6**
DBG IAmb IAmb 10 55 44.7
comp=Z,5.3nm,1.0s
TAOE **Nuku Hiva Isla** 53.91 193 *e*LR LR 11 11 27.2
comp=Z,526nm,24.7s
TAOE **Nuku Hiva Isla** 53.91 193 *e*T T 11 53 29.3
comp=Z,162nm,0.2s
H11N3 **WAKE ISLAND Hy** 57.55 266 T T 11 58 18.1
baz=49,slow=75,SNR=2598
H11N2 **WAKE ISLAND Hy** 57.55 266 T T 11 58 17.7
baz=49,slow=75,SNR=1745
H11N1 **WAKE ISLAND Hy** 57.56 266 T T 11 58 22.4
baz=49,slow=75,SNR=418
H11S1 **WAKE ISLAND Hy** 58.49 265 T T 11 59 31.0
baz=48,slow=76,SNR=201
H11S2 **WAKE ISLAND Hy** 58.49 265 T T 11 59 37.5
baz=48,slow=76,SNR=146
H11S3 **WAKE ISLAND Hy** 58.50 265 T T 11 59 26.7
baz=48,slow=76,SNR=163
VAH **Vaihoa** 61.63 200 *e*T T 12 03 08.9
comp=Z,32nm,0.4s
ROSC **El Rosal** 62.39 112 LR LR 11 25 13.7
comp=Z,299nm,22.0s,baz=336,slow=37
KLR **Kul'dur** 62.76 313 P **P** **10 56 49.5 -1.6**
comp=Z,0.5nm,0.4s,baz=56,slow=13,SNR=2.7
KLR LR LR 11 23 28.0
comp=Z,381nm,19.2s,baz=37,slow=35
NRIK **Noril'sk** 63.21 346 P **P** **10 56 53.7 -0.1**
comp=Z,5.0nm,0.8s,baz=8.7,slow=6.9,SNR=5.7
NRIK LR LR 11 24 16.3
comp=Z,821nm,22.0s,baz=76,slow=36
OTAV **Otavalo** 63.22 119 P **P** **10 56 54.1 -1.0**
OTAV IAmb IAmb 10 57 17.4
comp=Z,8.6nm,1.1s
TIAR **Tiarei** 64.28 201 *e*T T 12 06 27.0
comp=Z,5.6nm,0.2s
PPT2 **Papeete2** 64.37 201 *e*S **S** **11 05 40.8 +0.4**
comp=Z,582nm,24.5s
PPT2 *e*LQ LQ 11 13 04.9
comp=Z,4µm,28.5s
PPT2 *e*LR LR 11 16 12.3
comp=Z,440nm,23.8s
PPT2 **Papeete2** 64.37 201 *e*T T 12 06 32.7
comp=Z,8.3nm,0.2s
ARCES **ARCESS Array B** 64.85 9 P **P** **10 57 00.7 -3.9**
comp=Z,5.9nm,1.0s,baz=354,slow=8.2,SNR=2.1

ARCES LR LR 11 28 34.2
comp=Z,300nm,18.0s,baz=340,slow=39
USRK **Ussuriysk Ar.** 65.73 309 P **P** **10 57 10.1 -0.6**
comp=Z,3.0nm,1.0s,baz=90,slow=13,SNR=2.4
USRK LR LR 11 24 29.2
comp=Z,419nm,19.6s,baz=39,slow=35
MJAR **Matsushiro Arr** 66.84 299 P **P** **10 57 16.5 -1.5**
comp=Z,1.0nm,0.9s,baz=22,slow=3.2,SNR=2.9
MJAR LR LR 11 25 13.1
comp=Z,205nm,18.9s,baz=35,slow=35
MJAR **Matsushiro Arr** 66.84 299 IAmb IAmb 10 57 30.2
comp=Z,5.5nm,1.4s
MAT **Matsushiro** 66.84 299 P **P** **10 57 19.7 +1.7**
MAT S **S** **11 06 08.2 -2.4**
RKT **Rikitea** 67.44 185 *e*LQ LQ 11 14 30.5
comp=Z,2µm,29.8s
RKT *e*LR LR 11 17 41.8
comp=Z,2µm,29.8s
RKT **Rikitea** 67.44 185 *e*T T 12 10 27.5
comp=Z,12nm,0.3s
AFI **Afiamalu** 69.55 224 LR LR 11 22 32.6
comp=Z,372nm,18.7s,baz=38,slow=31
TBI **Tubuai** 69.87 199 *e*LR LR 11 18 33.8
comp=Z,343nm,28.5s,baz=22
TBI **Tubuai** 69.87 199 *e*T T 12 13 25.8
comp=Z,18nm,0.2s
NOA **NORSAR Array B** 70.16 19 P **P** **10 57 37.6 -0.7**
comp=Z,4.3nm,1.0s,baz=333,slow=5.8,SNR=5.6
NOA LR LR 11 26 19.4
comp=Z,388nm,20.8s,baz=325,slow=34
RAR **Rarotonga** 70.91 210 LR LR 11 23 30.2
comp=Z,379nm,19.7s,baz=12,slow=31
HFS **Hagfors** 71.53 18 LR LR 11 26 60.0
comp=Z,46nm,19.6s,baz=336,slow=34
KSRS **Korea Array** 72.48 305 P **P** **10 57 51.7 -1.0**
comp=Z,0.3nm,0.4s,baz=98,slow=19,SNR=1.2
KSRS LR LR 11 26 50.1
comp=Z,173nm,19.4s,baz=55,slow=34
FINES **FINESS Array B** 72.63 12 P **P** **10 57 52.1 -1.0**
comp=Z,3.7nm,0.9s,baz=321,slow=5.7,SNR=4.0
FINES LR LR 11 28 11.4
comp=Z,378nm,20.3s,baz=356,slow=34
TLY **Talaya** 73.71 329 P **P** **10 57 58.4 -1.4**
comp=Z,2.7nm,0.7s,baz=354,slow=7.3,SNR=5.6
TLY LR LR 11 30 22.2
comp=Z,721nm,19.2s,baz=32,slow=36
TLY **Talaya** 73.71 329 P **P** **10 57 59.9 +0.1**
TLY IAmb IAmb 10 58 10.9
comp=Z,9.7nm,1.1s
KLMR **Klimovskoe** 74.66 5 *e*P **P** **10 58 03.9 -1.2**
KLMR AMP 10 58 16.2
comp=Z,30nm,1.5s
SONM **Songino Array** 75.69 325 P **P** **10 58 09.4 -2.0**
comp=Z,3.8nm,1.0s,baz=42,slow=3.5,SNR=14
SONM LR LR 11 31 56.8
comp=Z,866nm,19.2s,baz=40,slow=36
SONM **Songino Array** 75.69 325 P **P** **10 58 11.6 +0.1**
SONM IAmb IAmb 10 58 22.2
comp=Z,9.1nm,1.1s
PTGA **Pitinga** 76.19 105 P **P** **10 58 16.0 +1.4**
PTGA IAmb IAmb 10 58 22.5
comp=Z,13nm,1.2s
BSEG **Bad Segeberg** 76.19 23 *e*L L 11 33 38.9
comp=Z,708nm,18.7s
GUMO **Guam** 77.36 277 LR LR 11 25 36.0
comp=Z,249nm,21.4s,baz=59,slow=30
ZALV **Zalesovo Beam** 77.60 340 P **P** **10 58 20.2 -1.8**
comp=Z,1.3nm,0.8s,baz=7.1,slow=3.6,SNR=5.2
ZALV LR LR 11 34 52.8
comp=Z,580nm,18.1s,baz=28,slow=38
ZALV **Zalesovo Beam** 77.60 340 P **P** **10 58 21.7 -0.3**
BGES **Gesves** 77.68 28 *d*P **P** **10 58 22.2 -0.3**
BGES *dx* x 10 58 55.5
DOU **Dourbes** 77.76 28 *d*P **P** **10 58 21.9 -1.0**
MSVF **Nonsavu** 78.08 230 LR LR 11 24 48.6
comp=Z,1µm,21.5s,baz=25,slow=30
HHC **Hu-ho-hao-te** 78.81 317 *e*P **P** **10 58 30.7 +1.7**
HHC S **S** **11 08 27.6 +0.7**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.9s
HHC L L
comp=Z,380nm,15.3s
HHC L L
comp=Z,390nm,16.6s
TNS **Taunus Mts** 78.90 26 *e*L L 11 32 41.4
comp=Z,946nm,20.5s
ARU **Arti** 79.22 355 P **P** **10 58 29.2 -1.6**
comp=Z,1.9nm,0.2s,baz=249,slow=6.1,SNR=1.3
ARU LR LR 11 34 37.9
comp=Z,306nm,19.9s,baz=354,slow=36
ARU **Arti** 79.22 355 IAmb IAmb 10 58 38.3
comp=Z,13nm,0.9s
CLL **Collm** 79.28 23 *e*P **P** **10 58 33.0 +1.7**
CLL *i* sP **pwP** **10 58 37.8 +0.5**
comp=Z,11nm,0.9s
CLL *e*S **S** **11 08 28.0 -3.3**
CLL *e*SS **SS** **11 13 42.0 +5.4**
CLL *e*SSS SSS 11 17 06.0
CLL *e*SSSS 11 19 24.0
CLL Lm MLR 11 35 00.0
comp=N,600nm,18.6s
CLL Lm MLR 11 35 00.0
comp=E,200nm,20.8s
CLL Lm MLR 11 35 00.0
comp=Z,600nm,19.9s
CLL **Collm** 79.28 23 *e*L L 11 35 58.8
comp=Z,650nm,19.9s
MOX **Moxa** 79.48 24 *e*L L 11 36 01.2
comp=Z,872nm,18.4s
MILB **Miltenberg** 79.51 26 *e*L L 11 34 44.0
comp=Z,1µm,18.3s
BRG **Berggiesshubel** 79.93 22 *e*P **P** **10 58 36.2 +1.3**
BRG Amp 10 58 37.6
comp=Z,8.0nm,1.5s
BRG *ex* x 10 58 42.4
BRG Amp 10 58 43.1
comp=Z,10nm,1.0s
GRF **Grafenberg Arr** 80.22 25 *e*P P 10 58 43.3 +6.9
comp=Z,17nm,0.7s,baz=337,slow=4.8
GRF *e*L L 11 35 34.9
comp=Z,685nm,18.6s
BFO **Black Forest** 80.52 27 *e*L L 11 32 28.5
comp=Z,705nm,22.0s
SSE **Sheshan** 80.90 305 P **P** **10 58 40.7 +0.3**
SSE S **S** **11 08 49.1 +0.1**
SSE pmax pmax
comp=Z,11nm,0.8s
SSE pmax pmax
comp=Z,15nm,3.7s
SSE L L
comp=Z,190nm,20.1s
SSE L L
comp=Z,92nm,19.7s
DPC **Dobruska-Polom** 81.04 21 *e*P **P** **10 58 43.0 +2.1**
WET **Wettzell** 81.19 24 *e*L L 11 37 28.9
comp=Z,332nm,18.3s
BRVK **Borovoye** 81.33 348 P **P** **10 58 40.7 -1.6**
BRVK IAmb IAmb 10 58 50.3
comp=Z,10nm,0.9s
BVAR **Borovoye Array** 81.35 348 P **P** **10 58 39.8 -2.6**
comp=Z,3.4nm,1.0s,baz=150,slow=13,SNR=9.4
KHC **Kasperske Hory** 81.41 23 *e*P **P** **10 58 46.1 +3.3**
KRLC **Kraliky** 81.41 21 *e*P **P** **10 58 42.5 -0.4**
NJ2 **Nanjing** 81.56 307 *e*P **P** **10 58 44.4 +0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,80nm,3.5s
NJ2 L L
comp=Z,260nm,14.2s
NJ2 L L
comp=Z,470nm,18.5s
NJ2 L L
comp=Z,540nm,20.4s
FUR **Furstenfeldbru** 81.59 25 *e*L L 11 34 15.5
comp=Z,993nm,21.4s
GEC2 **GERESS Array S** 81.70 23 *e*L L 11 37 36.2
comp=Z,477nm,19.8s
GERES **GERESS Array B** 81.70 23 P **P** **10 58 43.1 -1.4**
comp=Z,0.3nm,0.3s,baz=276,slow=25,SNR=1.9
DAVA **Damuels** 81.94 26 *e*P **P** **10 58 47.8 +2.0**
comp=Z,7.0nm,1.1s
SEM **Semipalatinsk** 81.96 341 *e*P **P** **10 58 44.6 -1.4**
baz=341
KURK **Kurchatov** 82.04 342 P **P** **10 58 44.4 -1.6**

RETA	**Reutte**	**82.04**	**26**	*e*P		P		10 58 51.7 +5.4
	comp=Z,3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**82.15**	**342**	P		**P**		**10 58 44.4 -2.2**
	comp=Z,2.9nm,0.9s,baz=19,slow=4.6,SNR=11							
MOTA	**Moosalm**	**82.27**	**26**	*e*P		**P**		**10 58 50.1 +2.5**
	comp=Z,5.4nm,0.9s							
LPAZ	**La Paz**	**82.39**	**122**	P		**P**		**10 58 46.2 -2.9**
	comp=Z,4.0nm,0.8s,baz=334,slow=5.6,SNR=12							
LPAZ	**La Paz**	**82.39**	**122**	IAmb		IAmb		10 58 51.3
	comp=Z,4.8nm,0.8s							
SQTA	**Sankt Quirin**	**82.42**	**26**	*e*P		**P**		**10 58 51.5 +3.3**
	comp=Z,9.9nm,1.0s							
WATA	**Walderalm**	**82.42**	**25**	*e*P		**P**		**10 58 48.9 +0.5**
	comp=Z,9.6nm,1.4s							
FETA	**Feichten**	**82.44**	**26**	*e*P		**P**		**10 58 50.8 +2.3**
	comp=Z,4.6nm,1.0s							
WTTA	**Wattenberg**	**82.51**	**25**	*e*P		**P**		**10 58 48.7 -0.2**
	comp=Z,4.4nm,1.0s							
MOA	**Molln**	**82.76**	**24**	*e*P		**P**		**10 58 51.6 +1.7**
	comp=Z,2.4nm,0.7s							
ESDC	**Sonseca Array**	**83.05**	**39**	P		**P**		**10 58 49.8 -1.9**
	comp=Z,1.5nm,0.9s,baz=310,slow=4.2,SNR=4.6							
ESDC				LR		LR		11 34 07.2
	comp=Z,560nm,18.0s,baz=350,slow=34							
CONA	**Conrad Observa**	**83.14**	**23**	*e*P		**P**		**10 58 53.5 +1.6**
	comp=Z,7.4nm,1.3s							
KBA	**Koelnbreinsper**	**83.19**	**24**	*e*P		**P**		**10 58 54.6 +2.2**
	comp=Z,5.3nm,0.9s							
ABTA	**Abfaltersbach**	**83.24**	**25**	*e*P		**P**		**10 58 55.1 +2.6**
	comp=Z,8.3nm,1.3s							
AKASG	**Malin Array Be**	**83.45**	**13**	P		**P**		**10 58 52.4 -1.0**
	comp=Z,0.7nm,0.5s,baz=350,slow=4.4,SNR=12							
AKASG				LR		LR		11 33 55.4
	comp=Z,386nm,21.1s,baz=320,slow=34							
AKBB	**Malin Array Si**	**83.45**	**13**	P		**P**		**10 58 52.0 -1.4**
AKBB				IAmb		IAmb		10 59 00.6
	comp=Z,14nm,1.5s							
ZSN	**Zaisan**	**83.52**	**337**	*e*P		**P**		**10 58 53.1 -0.8**
	baz=337							
CIMO	**Cimolais**	**83.61**	**25**	IAmb		IAmb		10 59 11.4
	comp=Z,12nm,1.4s							
ARSA	**Arzberg**	**83.66**	**23**	*e*P		P		10 59 01.4 +6.8
	comp=Z,7.5nm,0.8s							
MYKA	**Terra Mystica**	**83.68**	**24**	*e*P		**P**		**10 58 55.2 +0.4**
	comp=Z,3.8nm,1.0s							
PRED	**Cave del Predi**	**83.83**	**25**	IAmb		IAmb		10 59 04.5
	comp=Z,12nm,1.3s							
BRZS	**Berezniki**	**83.91**	**346**	*e*P		**P**		**10 58 55.4 -0.4**
	baz=346							
SOKA	**Soboth**	**84.04**	**24**	*e*P		**P**		**10 58 57.0 +0.3**
	comp=Z,7.7nm,1.2s							
OBKA	**Obir**	**84.06**	**24**	*e*P		**P**		**10 58 57.7 +0.9**
	comp=Z,7.4nm,1.1s							
PB11	**IPOC Station P**	**84.17**	**125**	P		**P**		**10 58 57.5 -0.1**
MK31	**Makanchi Array**	**84.82**	**339**	IAmb		IAmb		10 59 10.6
	comp=Z,6.6nm,1.4s							
MKAR	**Makanchi Array**	**84.82**	**339**	P		**P**		**10 59 00.5 0.0**
	comp=Z,1.1nm,1.0s,baz=64,slow=5.5,SNR=6.7							
MKAR				LR		LR		11 39 05.3
	comp=Z,877nm,20.2s,baz=23,slow=37							
MKAR	**Makanchi Array**	**84.82**	**339**	P		**P**		**10 59 00.2 -0.3**
MAKZ	**Makanchi**	**84.89**	**339**	P		**P**		**10 59 00.5 -0.4**
MAKZ				IAmb		IAmb		10 59 11.6
	comp=Z,8.6nm,1.1s							
XAN	**Xi'an**	**85.42**	**315**	P		P		10 58 56.0 -7.8
XAN				pP		pP		10 58 59.1 -7.2
XAN	**Xi'an**	**85.42**	**315**	S		**S**		**11 09 28.3 -6.7**
XAN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
XAN				L		L		
	comp=Z,280nm,15.2s							
XAN				L		L		
	comp=Z,450nm,15.2s							
XAN				L		L		
	comp=Z,520nm,18.4s							
XAN	**Xi'an**	**85.42**	**315**	S		**SKiKP**		**11 07 48.9 +0.5**
RAO	**Raoul Island**	**85.55**	**221**	LR		LR		11 28 39.5
	comp=Z,447nm,21.7s,baz=24,slow=30							
WMQ	**Urumqi**	**85.97**	**334**	*e*P		**P**		**10 59 09.9 +3.5**
WMQ				pmax		pmax		
	comp=Z,17nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,120nm,5.3s							
WMQ				L		L		
	comp=Z,660nm,20.1s							
WMQ				L		L		
	comp=Z,850nm,22.1s							
WMQ				L		L		
	comp=Z,1μm,20.3s							
LZH	**Lanzhou**	**86.26**	**319**	*e*P		**P**		**10 59 09.1 +1.0**
LZH				sP		pwP		10 59 14.3 +0.5
LZH				S		**S**		**11 09 38.8 -4.6**
LZH				sS		sS		11 09 48.3 +0.9
LZH				pmax		pmax		
	comp=Z,26nm,1.6s							
LZH				pmax		pmax		
	comp=Z,130nm,6.0s							
LZH				L		L		
	comp=Z,610nm,15.7s							
LZH				L		L		
	comp=Z,990nm,15.2s							
LZH				L		L		
	comp=Z,520nm,19.5s							
LZH	**Lanzhou**	**86.26**	**319**	S		**S**		**11 09 45.0 +1.6**
LZH	**Lanzhou**	**86.26**	**319**	sS		sS		11 09 51.7 +4.3
ABKAR	**Akbulak array**	**86.27**	**354**	P		**P**		**10 59 08.2 +0.6**
ABKAR	**Akbulak array**	**86.27**	**354**	IAmb		IAmb		10 59 15.6
	comp=Z,9.9nm,1.1s							
DZM	**Mont Dzumac**	**88.16**	**236**	*e*LR		LR		11 27 10.5
	comp=Z,1μm,21.6s							
SHLS	**Shalkode**	**88.94**	**339**	*e*P		**P**		**10 59 19.1 -1.6**
	baz=339							
UZB	**Uzynbulak**	**89.06**	**339**	*e*P		**P**		**10 59 20.4 -1.0**
	baz=340							
CD2	**Chengdu**	**90.52**	**316**	*e*P		**P**		**10 59 30.0 +1.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KKAR	**Karatay Array**	**90.95**	**345**	P		**P**		**10 59 30.7 +0.7**
PMG	**Port Moresby**	**91.64**	**259**	LR		LR		11 32 24.1
	comp=Z,720nm,22.0s,baz=108,slow=30							
KEST	**Kesra**	**91.96**	**32**	LR		LR		11 39 45.4
	comp=Z,366nm,19.8s,baz=297,slow=35							
BRTR	**Keskin Array B**	**94.85**	**13**	LR		LR		11 45 10.6
	comp=Z,311nm,18.4s,baz=2.0,slow=37							
BDFB	**Brasilia**	**95.03**	**107**	LR		LR		11 46 04.1
	comp=Z,235nm,19.9s,baz=314,slow=38							
URZ	**Urewera**	**95.32**	**219**	LR		LR		11 37 00.8
	comp=Z,238nm,18.6s,baz=31,slow=32							
DAV	**Davao City (W)**	**95.44**	**285**	LR		LR		11 34 49.6
	comp=Z,460nm,21.8s,baz=56,slow=30							
GNI	**Garni**	**95.61**	**4**	LR		LR		11 48 25.2
	comp=Z,140nm,18.9s,baz=18,slow=39							
KMI	**Kunming**	**95.77**	**314**	⇑P		**P**		**10 59 54.3 +1.6**
KMI				pP		sP		10 59 57.2 +1.0
KMI				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,90nm,4.9s							
KMI				L		L		
	comp=Z,230nm,17.4s							
KMI				L		L		
	comp=Z,250nm,20.7s							
KMI				L		L		
	comp=Z,340nm,26.9s							
QIZ	**Qiongzhong**	**96.70**	**305**	P		**P**		**10 59 59.0 +2.2**
QIZ				S		**S**		**11 11 22.4 +3.9**
QIZ				L		L		
	comp=Z,260nm,20.6s							
QIZ				L		L		
	comp=Z,320nm,20.6s							
QIZ				L		L		
	comp=Z,260nm,15.1s							
SIJI	**Sorong**	**97.04**	**276**	LR		LR		11 34 20.2
	comp=Z,318nm,22.0s,baz=38,slow=30							
GEYT	**Alibeck**	**97.66**	**354**	LR		LR		11 49 30.9
	comp=Z,412nm,19.6s,baz=25,slow=39							

*IDC **01** 10:53:26.9±0.4,63˚.90N×155˚.45E,h0km,mb4.3/34, mb1 4.5/38,mb1mx4.4/57,mbtmp4.3/38,ML5.2/2,MS4.1/14, Ms1 4.1/14,ms1mx3.7/64,Error ellipse: s-maj=11.9km s-min=7.3km az=140.0*
*MOS **01** 10:53:26.6±0.9,63˚.90N×155˚.45E,h11km,mb4.9/44, MS4.1/8,Error ellipse: s-maj=9.8km s-min=5.2km az=84.1*
MOS Felt (III) at Omsukchan; (II) at Seymchan.

*NEIC **01** 10:53:28.4±2.0,63˚.84N±0˚.08×155˚.50E±0˚.10,h10km±1km, mb4.7/188,Error ellipse: s-maj=14.9km s-min=4.3km az=153.0*
*NERS **01** 10:53:30.5±0.0,63˚.69N×155˚.52E,h31km,Felt I=IV MSK at Omsukchan(133km), I=III at Seimchan(180km)*
ISC 01 10:53:29.1±0.8,63.76N±0˚.04×155˚.42E±0˚.03,h17km±4km, n344,σ1%46/357,mb4.7/167,MS4.3/20,19C-16D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OMS	**Omsukchan**	**1.26**	**172**	⇑*i*	P*g*	**Pn**		**10 53 51.9**	**0.0**
OMS					e*Sg*	**Sn**		**10 54 09.5**	**+1.1**
OMS	**Omsukchan**	**1.26**	**172**	⇑*i*	*P*	**Pn**		**10 53 51.9**	**0.0**
OMS					*e*			10 54 09.5	
SEY	**Seymchan**	**1.60**	**240**		Pg	**Pb**		**10 53 57.6**	**-0.5**
	2μm,0.3s,baz=69,slow=13,SNR=2180								
SEY					Lg	Lg		10 54 20.8	
	3μm,0.3s,baz=272,slow=13,SNR=26								
SEY	**Seymchan**	**1.60**	**240**	⇑*i*	*P*	**Pb**		**10 53 57.6**	**-0.5**
SEY					e*Pg*	**Pg**		**10 53 59.6**	**-0.2**
SEY					Pgmax			10 53 59.9	
	8μm,0.4s								
SEY					e*Sg*	**Sg**		**10 54 21.8**	**+1.2**
SEY					Sgmax			10 54 23.2	
	24μm,0.2s								
SEY	**Seymchan**	**1.60**	**240**	⇑*i*	*P*	**Pb**		**10 53 57.6**	**-0.5**
SEY					*e*			10 54 21.8	
SEY					pmax	pmax			
	comp=Z,8μm,0.4s								
SEY					smax	smax			
	comp=N,24μm,0.2s								
TLAR	**Talaya**	**2.99**	**209**	*e*P		**Pn**		**10 54 17.2**	**+1.6**
TLAR				e*Pg*		**Pg**		**10 54 26.3**	**0.0**
TLAR				Pgmax				10 54 27.0	
	comp=N,4μm,0.6s								
TLAR				e*Sg*		**Sg**		**10 55 04.5**	**-0.6**
TLAR				Sgmax				10 55 13.1	
	comp=N,13μm,0.4s								
TLAR				Sgmax				10 55 13.1	
	comp=N,14μm,0.4s								
TLAR	**Talaya**	**2.99**	**209**	*e*P		**Pn**		**10 54 17.2**	**+1.6**
TLAR				*e*				10 55 04.5	
TLAR				pmax		pmax			
	comp=Z,4μm,0.6s								
TLAR				smax		smax			
	comp=N,1μm,0.4s								
SUUS	**Susuman**	**3.42**	**256**	⇓*i*	*P*	**Pn**		**10 54 23.5**	**+2.0**
SUUS				e*Pg*		**Pg**		**10 54 34.7**	**+0.2**
SUUS				Pgmax				10 54 37.4	
	comp=N,2μm,0.6s								
SUUS				e*Sg*		**Sg**		**10 55 20.3**	**+1.5**
SUUS				Sgmax				10 55 23.8	
	comp=N,10μm,0.6s								
SUUS	**Susuman**	**3.42**	**256**	⇓*i*	*P*	**Pn**		**10 54 23.5**	**+2.0**
SUUS				*e*				10 55 00.3	
SUUS				pmax		pmax			
	comp=Z,2μm,0.6s								
SUUS				smax		smax			
	comp=N,10μm,0.6s								
OCHR	**Omchak**	**4.06**	**242**	⇑*i*	*P*	**Pn**		**10 54 32.5**	**+2.1**
OCHR				e*Pg*		**Pg**		**10 54 45.4**	**-1.4**
OCHR				Pgmax				10 54 47.2	
	comp=N,880nm,0.4s								
OCHR				e*Sg*		**Sg**		**10 55 40.2**	**+0.9**
OCHR				Sgmax				10 55 46.9	
	comp=N,2μm,0.6s								
OCHR				Sgmax				10 55 46.9	
	comp=N,2μm,0.5s								
OCHR				Sgmax				10 55 46.9	
	comp=N,8μm,0.7s								
MGD	**Magadan 1**	**4.34**	**213**	*e*P		**Pn**		**10 54 34.9**	**+0.8**
MGD				e*Pg*		**Pg**		**10 54 48.7**	**-3.3**
MGD				Pgmax				10 54 54.0	
	comp=N,450nm,0.4s								
MGD				e*Sg*		**Sg**		**10 55 46.2**	**-1.9**
MGD				Sgmax				10 55 50.7	
	comp=N,3μm,0.4s								
MGD				Sgmax				10 55 50.7	
	comp=N,5μm,0.4s								
MA2	**Magadan**	**4.75**	**210**		Pn	**Pn**		**10 54 41.4**	**+1.6**
	comp=N,22nm,0.3s,baz=358,slow=7.1,SNR=67								
MA2					Sn	**Sn**		**10 55 36.8**	**+2.5**
	comp=N,49nm,0.3s,baz=24,slow=23,SNR=5.7								
MA2					Lg	Lg		10 56 00.3	
	comp=N,240nm,0.3s,baz=135,slow=23,SNR=8.4								
MA2	**Magadan**	**4.75**	**210**	*e*P		**Pn**		**10 54 41.3**	**+1.6**
MA2				e*Pg*		**Pg**		**10 54 57.1**	**-2.8**
MA2				Pgmax				10 54 59.9	
	comp=N,410nm,0.5s								
MA2				e*Sg*		**Sg**		**10 56 00.2**	**-1.1**
MA2				Sgmax				10 56 08.7	
	comp=N,2μm,0.6s								
MA2	**Magadan**	**4.75**	**210**		Pn	**Pn**		**10 54 41.6**	**+1.8**
BILL	**Bilibino**	**6.17**	**41**	*c*	*iP*	**Pn**		**10 54 58.5**	**-0.7**
BILL					pmax	pmax			
	comp=Z,90nm,0.8s								
BILL					MLR	MLR			
	comp=Z,2μm,2.0s								
BILL	**Bilibino**	**6.17**	**41**		Pn	**Pn**		**10 54 58.5**	**-0.7**
OKHR	**Okhotsk**	**7.29**	**238**	*e*P		**Pn**		**10 55 15.5**	**+1.0**
OKHR					Pmax			10 55 21.5	
	comp=Z,150nm,0.4s								
OKHR				e*Sg*		**Sg**		**10 57 21.5**	**-1.2**
OKHR				Sgmax				10 57 40.3	
	comp=Z,1μm,0.6s								
OKHR				Sgmax				10 57 40.3	
	comp=Z,4μm,0.8s								
PEA0B	**Petropavlovsk-**	**10.75**	**173**	*i*	P	**Pn**		**10 56 05.0**	**+3.0**
PETK	**Petropavlovsk-**	**10.75**	**173**		Pn	**Pn**		**10 56 05.1**	**+3.1**
	comp=Z,0.8nm,0.3s,baz=330,slow=11,SNR=6.4								
PETK					LR	LR		10 59 52.4	
	comp=Z,345nm,18.3s,baz=9.1,slow=35								
YAK	**Yakutsk**	**11.83**	**273**		Pn	**Pn**		**10 56 18.5**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=259,slow=1.7,SNR=4.9								
YAK					Lg	Lg		10 59 40.4	
	comp=Z,0.1nm,0.3s,baz=82,slow=20,SNR=2.9								
YAK					LR	LR		11 01 08.6	
	comp=Z,1μm,18.6s,baz=82,slow=39								
YAK	**Yakutsk**	**11.83**	**273**	*e*P		**Pn**		**10 56 17.7**	**+1.0**
YAK				e*S*		**Sn**		**10 58 30.2**	**+2.1**
YAK				pmax		pmax			
	comp=Z,29nm,0.9s								
YAK				pmax		pmax			
	comp=N,4.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,7.0nm,0.9s								
YAK				smax		smax			
	comp=N,69nm,1.7s								
YAK				smax		smax			
	comp=E,79nm,1.3s								
YAK				MLR		MLR			
	comp=Z,893nm,16.0s								
YAK				MLR		MLR			
	comp=N,300nm,14.0s								
YAK				MLR		MLR			
	comp=E,626nm,15.0s								
OKH	**Okha**	**12.10**	**218**	*de*	P	Pn		10 56 13.9	-6.5
OKH					MLR	MLR			
	comp=N,900nm,13.0s								
OKH					MLR	MLR			
	comp=Z,600nm,13.0s								
OKH					MLR	MLR			
	comp=E,1μm,13.0s								
TIXI	**Tiksi**	**12.68**	**320**		Pn	**Pn**		**10 56 28.9**	**+0.7**
	comp=E,18nm,0.3s,baz=118,slow=16,SNR=246								
TIXI					Sn	Sn		10 58 38.3	-10
	comp=E,4.6nm,0.3s,baz=342,slow=19,SNR=2.7								
TIXI					Lg	Lg		11 00 08.2	
	baz=58,slow=15,SNR=3.1								
TIXI					LR	LR		11 02 18.7	
	comp=E,129nm,18.4s,baz=140,slow=42								
TIXI	**Tiksi**	**12.68**	**320**	*d*	*iP*	**Pn**		**10 56 29.0**	**+0.7**
TIXI	**Tiksi**	**12.68**	**320**		P*n*	**Pn**		**10 56 29.0**	**+0.8**
GAMB	**Gambell**	**14.45**	**75**	P				10 56 50.9	
	baz=285								
TNA	**Tin City**	**15.65**	**67**		Pn	**Pn**		**10 57 08.6**	**+0.3**
TNA					IAmb	IAmb		10 57 20.5	
	comp=Z,42nm,1.0s								
GRNR	**Gornyy**	**16.49**	**227**	⇑*i*	*P*	**P**		**10 57 25.8**	**+4.0**
GRNR					pmax	pmax			
	comp=Z,8.0nm,0.8s								
ANM	**Nome**	**16.93**	**70**	P		**Pn**		**10 57 23.7**	**-1.0**
ANM					pmax	pmax			
	comp=Z,37nm,1.2s								
ANM	**Nome**	**16.93**	**70**	Pn		**Pn**		**10 57 23.7**	**-1.0**
ZEA	**Zeya**	**17.57**	**248**	*e*P		**P**		**10 57 35.2**	**+1.5**
ZEA				*e*S		**Sn**		**11 00 41.7**	**-5.9**
ZEA				pmax		pmax			
	comp=N,30nm,1.1s								
ZEA				pmax		pmax			
	comp=E,40nm,0.9s								
ZEA				pmax		pmax			
	comp=Z,50nm,0.9s								
ZEA				pmax		pmax			
	comp=Z,100nm,5.4s								
ZEA				smax		smax			
	comp=E,10.0nm,0.7s								
ZEA				MLR		MLR			
	comp=E,500nm,6.0s								
ZEA				MLR		MLR			
	comp=N,600nm,7.0s								
ZEA				MLR		MLR			
	comp=Z,900nm,8.0s								
YSS	**Yuzh-Sakhalins**	**18.25**	**209**	*e*P		**Pn**		**10 57 38.8**	**-2.4**
YSS				e*S*		**Sn**		**11 00 55.6**	**-8.7**
YSS				MLR		MLR			
	comp=Z,700nm,13.0s								
YSS				MLR		MLR			
	comp=N,500nm,15.0s								
ADK	**Adak**	**18.84**	**116**	P		**Pn**		**10 57 48.5**	**+0.2**
ADK				pmax		pmax			
	comp=Z,33nm,0.9s								
ADK	**Adak**	**18.84**	**116**	P		**Pn**		**10 57 48.5**	**+0.2**
KUR	**Kuril'sk**	**19.05**	**197**	⇑*i*	*P*	**Pn**		**10 57 52.3**	**+1.4**
A21K	**Barrow**	**19.28**	**46**	P		**Pn**		**10 57 52.8**	**-0.7**
A21K				IAmb		IAmb		10 57 54.2	
	comp=Z,41nm,0.8s								
A21K	**Barrow**	**19.28**	**46**	P				10 57 52.3	
	baz=271								
KLR	**Kul'dur**	**19.38**	**232**	P		**Pn**		**10 57 56.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=20,slow=13,SNR=14								
KLR				Lg		Lg		11 03 46.1	
	comp=Z,0.1nm,0.3s,baz=327,slow=12,SNR=3.9								
KLR	**Kul'dur**	**19.38**	**232**	⇑*e*	*P*	**Pn**		**10 57 56.1**	**+1.3**
KLR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KLR				MLR		MLR			
	comp=Z,842nm,13.0s								
YUK	**Yuzh-Kuril'sk**	**20.51**	**200**	⇓*e*	*P*	Pn		10 58 08.1	0.0
BOD	**Bodaibo**	**20.75**	**273**	*e*P		**P**		**10 58 08.9**	**+0.4**
BOD				pmax		pmax			
	comp=Z,93nm,1.5s								
ASAJ	**Asahikawa**	**21.00**	**206**	P		**P**		**10 58 13.5**	**+2.3**
	comp=Z,66nm,1.1s,baz=356,slow=9.1,SNR=7.0								
ASAJ				LR		LR		11 06 36.4	
	comp=Z,252nm,19.8s,baz=144,slow=37								
ASAJ	**Asahikawa**	**21.00**	**206**	P		**P**		**10 58 12.7**	**+1.4**
ASAJ				pmax		pmax			
	comp=Z,102nm,1.2s								
JKA	**Kamikawa-asahi**	**21.00**	**206**	P		**P**		**10 58 12.7**	**+1.4**
IMAR	**Indian Mountai**	**21.22**	**61**	P		**P**		**10 58 13.8**	**+0.4**
NIKH	**Nikolski High**	**21.31**	**104**	P		**P**		**10 58 15.8**	**+1.3**
NIKH				IAmb		IAmb		10 58 19.3	
	comp=Z,50nm,1.0s								
NIKH	**Nikolski High**	**21.31**	**104**	P				10 58 15.6	
	baz=315								
TTA	**Tatalina**	**21.39**	**70**	P		**P**		**10 58 15.7**	**+0.2**
TTA				pmax		pmax			
	comp=Z,24nm,1.2s								
TTA	**Tatalina**	**21.39**	**70**	P		**P**		**10 58 15.7**	**+0.2**
TTA	**Tatalina**	**21.39**	**70**	P				10 58 15.1	
	baz=294,SNR=10								
TOLK	**Toolik Lake Re**	**22.05**	**53**	P		**P**		**10 58 22.1**	**-0.3**
TOLK				IAmb		IAmb		10 58 42.0	
	comp=Z,42nm,0.9s								
TOLK	**Toolik Lake Re**	**22.05**	**53**	P				10 58 22.2	
	baz=284,SNR=39								
COLD	**Coldfoot**	**22.20**	**57**	P		**P**		**10 58 23.6**	**-0.4**
COLD				IAmb		IAmb		10 58 44.3	
	comp=Z,43nm,1.1s								
COLD	**Coldfoot**	**22.20**	**57**	P				10 58 23.8	
	baz=287,SNR=48								
SVW2	**Sparrevohn**	**22.39**	**74**	P		**P**		**10 58 26.5**	**+0.5**
SVW2				IAmb		IAmb		10 58 33.4	
	comp=Z,21nm,0.9s								
CHUM	**Lake Minchumin**	**22.53**	**66**	P				10 58 27.4	
	baz=294								
MLY	**Manley**	**22.72**	**63**	P		**P**		**10 58 29.2**	**-0.5**
MLY	**Manley**	**22.72**	**63**	P				10 58 29.1	
	baz=292,SNR=18								
H23K	**Yukon River**	**22.90**	**60**	P				10 58 30.7	
	baz=291,SNR=25								
ERM	**Erimo**	**22.92**	**204**	*de*	P	**P**		**10 58 30.8**	**-1.0**
ERM				pmax		pmax			
	comp=Z,35nm,1.0s								
ERM	**Erimo**	**22.92**	**204**	P		**P**		**10 58 30.6**	**-1.2**
ERM				IAmb		IAmb		10 58 36.4	
	comp=Z,29nm,0.9s								
BPAW	**Bear Paw Mtn.**	**22.98**	**65**	P		**P**		**10 58 32.2**	**-0.2**
BPAW	**Bear Paw Mtn.**	**22.98**	**65**	P				10 58 32.0	
	baz=294,SNR=7.2								
PPLA	**Purkeypile**	**23.00**	**68**	P		**P**		**10 58 32.1**	**-0.5**
PPLA				IAmb		IAmb		10 58 58.5	
	comp=Z,24nm,1.1s								
PPLA	**Purkeypile**	**23.00**	**68**	P				10 58 31.8	
	baz=296,SNR=7.7								
I23K	**Minto, Yukon-K**	**23.22**	**62**	P		**P**		**10 58 35.4**	**+0.7**
I23K				IAmb		IAmb		10 59 03.8	
	comp=Z,24nm,1.1s								
I23K	**Minto, Yukon-K**	**23.22**	**62**	P				10 58 34.5	
	baz=292,SNR=8.6								
KTH	**Kantishna Hill**	**23.23**	**66**	P		**P**		**10 58 34.0**	**-0.9**
KTH				IAmb		IAmb		10 58 53.3	
	comp=Z,17nm,0.9s								
SDPT	**Sand Point**	**23.42**	**90**	P		**P**		**10 58 35.5**	**-1.3**
SDPT				IAmb		IAmb		10 58 47.3	
	comp=Z,25nm,0.8s								
SDPT	**Sand Point**	**23.43**	**90**	P				10 58 37.2	
	baz=309								
TRF	**Thorofare Moun**	**23.54**	**66**	P		**P**		**10 58 37.5**	**-0.6**
TRF				IAmb		IAmb		10 58 40.1	
	comp=Z,19nm,0.9s								
H24K	**Noodor Dome**	**23.54**	**59**	P				10 58 37.5	
	baz=292,SNR=12								
TRF	**Thorofare Moun**	**23.54**	**66**	P				10 58 37.1	
	baz=296,SNR=16								
NEA2	**Nenana**	**23.55**	**63**	P		**P**		**10 58 37.3**	**-0.7**
NEA2	**Nenana**	**23.55**	**63**	P				10 58 37.5	
	baz=294,SNR=5.2								
BWN	**Browne**	**23.56**	**64**	P		**P**		**10 58 37.7**	**-0.4**
BWN				IAmb		IAmb		10 58 55.2	

HIA Hailar 24.02 250⇑ *i*P **P 10 58 43.3 +0.6**
HIA pmax pmax
comp=Z,5.0nm,0.6s
CCB Clear Creek Bu 24.03 62 P **P 10 58 41.8 -0.7**
MDJ Mudanjiang 24.11 230 P **P 10 58 44.6 +1.1**
MDJ pP sP 10 58 53.6 +2.4
MDJ S **S 11 03 03.6 +3.5**
MDJ ScP **ScP 11 05 56.4 -4.9**
MDJ PcS **PcS 11 06 00.2 -3.4**
MDJ Mudanjiang 24.11 230 ScS ScS 11 09 45.6 -2.8
MDJ pmax pmax
comp=Z,7.0nm,2.1s
MDJ pmax pmax
comp=Z,260nm,3.6s
MDJ L L
comp=Z,900nm,10.4s
MDJ L L
comp=Z,260nm,10.4s
MDJ L L
comp=Z,940nm,12.4s
MDJ Mudanjiang 24.11 230 P **P 10 58 44.6 +1.1**
MDJ IAmb IAmb 10 59 08.8
comp=Z,29nm,0.9s
BMAR Burnt Mountain 24.20 55 P **P 10 58 45.0 +0.8**
SUA Susitna One 24.26 71 IAmb IAmb 10 58 52.5
comp=Z,18nm,1.0s
SUA Susitna One 24.26 71 P 10 58 44.5
baz=299
IL31 24.34 62 P **P 10 58 44.3 -1.1**
IL31 IAmb IAmb 10 59 08.8
comp=Z,16nm,0.8s
ILAR Eielson Array 24.34 62 P **P 10 58 45.1 -0.3**
comp=Z,12nm,0.9s,baz=280,slow=7.7,SNR=94
M22K Willow 24.38 70 P 10 58 45.4
baz=299
WAT2 Susitna Watana 24.45 66 P 10 58 45.5
baz=297
HDA Harding Lake 24.46 62 P **P 10 58 46.1 -0.5**
HDA Harding Lake 24.46 62 P 10 58 46.2
baz=295,SNR=28
HDA P 10 58 46.2
baz=295,SNR=28
GHO Glory Hole Cre 24.87 69 P **P 10 58 49.4 -1.0**
GHO IAmb IAmb 10 58 55.5
comp=Z,31nm,1.0s
PMR Palmer 24.87 69 P 10 58 49.5
baz=300
WAT6 Susitna Watana 24.97 67 P 10 58 49.6
baz=298
CNPM China Poot 25.05 75 P **P 10 58 51.6 -0.3**
CNPM IAmb IAmb 10 59 04.0
comp=Z,21nm,1.0s
SML Sawmill 25.10 69 P **P 10 58 52.5 +0.1**
SML Sawmill 25.10 69 P 10 58 51.4
baz=300,SNR=6.5
BRSE Bradley Lake S 25.15 74 P 10 58 51.6
baz=303
KNK Knik Glacier 25.24 69 P **P 10 58 52.8 -0.9**
KNK Knik Glacier 25.24 69 P 10 58 53.1
baz=300,SNR=12
KDAK Kodiak Island 25.44 79 P **P 10 58 54.5 -0.9**
comp=Z,10.0nm,0.8s,baz=314,slow=9.4,SNR=8.1
KDAK LR LR 11 08 60.0
comp=Z,367nm,19.2s,baz=336,slow=37
KDAK Kodiak Island 25.44 79 IAmb IAmb 10 59 11.0
comp=Z,22nm,1.1s
KDAK Kodiak Island 25.45 79 P 10 58 55.0
baz=306
OHAK Old Harbor 25.46 81 P **P 10 58 52.9 -2.8**
OHAK IAmb IAmb 10 59 15.5
comp=Z,25nm,1.2s
OHAK Old Harbor 25.46 81 P 10 58 54.4
baz=306
SII Sitkinak Islan 25.47 83 P **P 10 58 55.1 -0.6**
SII Sitkinak Islan 25.47 83 P 10 58 54.9
baz=308
SCM Sheep Creek Mo 25.50 68 P **P 10 58 55.6 -0.4**
SCM pmax pmax
comp=Z,34nm,0.8s
SCM Sheep Creek Mo 25.50 68 P **P 10 58 55.6 -0.4**
SEW Seward 25.50 73 P **P 10 58 55.5 -0.4**
SEW IAmb IAmb 10 59 04.3
comp=Z,27nm,1.0s
SEW Seward 25.50 73 P 10 58 54.7
baz=302
PWL Port Wells 25.57 71 P **P 10 58 55.8 -0.8**
PAX Paxson 25.70 65 P **P 10 58 56.6 -1.3**
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 25.70 65 P **P 10 58 56.5 -1.3**
PAX Paxson 25.70 65 P 10 58 56.7
baz=299
SCRK Sand Creek 25.82 62 P **P 10 58 57.0 -2.0**
SCRK Sand Creek 25.82 62 P 10 58 57.7
baz=297,SNR=5.1
M24K Tolsona, Glenn 25.84 67 P **P 10 58 58.9 -0.2**
M24K Tolsona, Glenn 25.84 67 P 10 58 59.3
baz=300,SNR=6.6
DOT Dot Lake 25.94 63 P **P 10 58 58.2 -1.7**
DOT IAmb IAmb 10 59 01.6
comp=Z,16nm,0.9s
HARP HAARP 26.11 66 P 10 59 01.0
baz=300
NRIK Noril'sk 26.24 312 P **P 10 59 03.0 +0.4**
comp=Z,14nm,1.0s,baz=82,slow=14,SNR=6.7
NRIK Noril'sk 26.24 312*c i*P **P 10 59 02.8 +0.2**
NRIK pmax pmax
comp=Z,23nm,1.3s
NRIK Noril'sk 26.24 312 P **P 10 59 02.4 -0.2**
NRIK IAmb IAmb 10 59 08.4
comp=Z,20nm,1.1s
KLU Klutina 26.25 68 P **P 10 59 03.5 +0.6**
KLU Klutina 26.25 68 P 10 59 02.4
baz=301
CN2 Changchun 26.28 235 *e*P **P 10 59 04.2 +1.1**
CN2 *ep*P sP 10 59 16.9 +6.1
CN2 *e*S **S 11 03 32.8 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 L L
comp=Z,2μm,20.0s
CN2 L L
comp=Z,1μm,20.0s
CN2 L L
comp=Z,810nm,14.0s
MENT Mentasta 26.42 64 P **P 10 59 03.0 -1.3**
MENT IAmb IAmb 10 59 07.9
comp=Z,9.6nm,0.7s
K27K Chicken 26.54 61 P 10 59 04.0
baz=298
EGAK Eagle 26.55 59 P **P 10 59 04.1 -1.3**
EGAK Eagle 26.55 59 P 10 59 04.8
baz=297,SNR=8.4
N25K Chitina, Valde 26.73 67 IAmb IAmb 10 59 20.2
comp=Z,13nm,0.8s
N25K Chitina, Valde 26.74 67 P 10 59 07.0
baz=301,SNR=7.3
EYAK Cordova Ski Ar 26.82 70 P 10 59 08.0
baz=303
BMRM Bremner River 27.07 68 P 10 59 10.2
baz=302
L27K Beaver Creek, 27.11 63 P 10 59 09.8
baz=300,SNR=5.9
BCAR Beaver Creek A 27.12 63 P **P 10 59 09.3 -1.3**
MCARA McCarthy VSAT 27.50 66 P 10 59 13.9
baz=302
DAWY Dawson 27.56 60 P **P 10 59 12.9 -1.6**
INK Inuvik 27.72 49 P **P 10 59 16.4 +0.6**
comp=Z,5.8nm,0.8s,baz=299,slow=17,SNR=8.1
INK LR LR 11 12 50.2
comp=Z,126nm,21.1s,baz=210,slow=42
INK Inuvik 27.72 49 P **P 10 59 14.9 -1.0**
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 27.72 49 P **P 10 59 14.9 -1.0**
INK IAmb IAmb 10 59 37.9
comp=Z,16nm,1.0s
INK Inuvik 27.72 49 P 10 59 16.7
baz=296,SNR=7.9
CRQM Cirque 27.79 68 P **P 10 59 17.2 +0.5**
CRQM IAmb IAmb 10 59 41.8
comp=Z,17nm,0.8s
CRQE Cirque 27.81 68 P 10 59 16.9
baz=303
BARN Barnard Glacie 28.23 66 P **P 10 59 20.4 -0.3**
GRNC Granite Creek 28.37 67 P **P 10 59 21.6 -0.4**
GRNC IAmb IAmb 10 59 26.8
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 29.19 209 P **P 10 59 31.5 +2.2**
comp=Z,2.3nm,0.9s,baz=358,slow=9.0,SNR=4.6
TLY Talaya 29.28 270 P **P 10 59 31.4 +1.5**
comp=Z,1.8nm,0.4s,baz=235,slow=16,SNR=1.4
TLY Lg Lg 11 08 47.9
comp=Z,2.3nm,0.4s,baz=274,slow=20,SNR=3.1
TLY Talaya 29.28 270 *e*P **P 10 59 31.5 +1.5**
TLY pmax pmax
comp=Z,4.0nm,1.1s
PCA Pinnacle 29.34 67 P **P 10 59 27.8 -2.7**
PCA IAmb IAmb 10 59 36.1
comp=Z,13nm,0.7s
PINM Pinnacle 29.34 67 P 10 59 27.3
baz=305
C36M Paulatuk 30.29 44 P **P 10 59 38.8 +0.2**
C36M IAmb IAmb 10 59 43.5
comp=Z,7.5nm,0.6s
C36M Paulatuk 30.29 44 P 10 59 38.4
baz=300
MOY Mondy 30.47 273 *e*P **P 10 59 42.4 +1.8**
MOY pmax pmax
comp=Z,12nm,1.5s
ULN Ulaanbaatar 30.56 262⇓ *e*P **P 10 59 43.7 +2.3**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 30.87 262 P **P 10 59 46.7 +2.5**
comp=Z,1.5nm,0.8s,baz=50,slow=7.9,SNR=4.3
SONM PcP **PcP 11 02 41.1 +0.7**
comp=Z,2.0nm,0.9s,baz=8.6,slow=2.6,SNR=4.0
SONM Lg Lg 11 09 50.0
comp=Z,14nm,1.3s,baz=50,slow=25,SNR=16
SONM LR LR 11 12 54.8
comp=Z,494nm,19.1s,baz=39,slow=38
SONM Songino Array 30.87 262 IAmb IAmb 10 59 55.1
comp=Z,2.2nm,1.0s
KSRS Korea Array 31.11 225 P **P 10 59 47.4 +1.3**
comp=Z,1.8nm,0.9s,baz=20,slow=8.3,SNR=5.4
KSRS PcP **PcP 11 02 41.2 +0.2**
comp=Z,0.6nm,0.6s,baz=3.3,slow=3.8,SNR=2.3
WHY Whitehorse 31.18 63 P 10 59 46.5
baz=307
EUNU Eureka 32.26 17 P **P 10 59 56.6 +0.7**
EUNU IAmb IAmb 11 00 02.6
comp=Z,13nm,0.8s
TJN Taejon 32.27 225*d i*P **P 10 59 59.1 +2.7**
HHC Hu-ho-hao-te 34.23 249 *e*P **P 11 00 15.8 +2.2**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,83nm,5.2s
DLBC Dease Lake 34.50 64 P **P 11 00 16.6 +0.8**
RES Resolute Bay 34.53 26 P **P 11 00 15.5 -0.2**
comp=Z,1.5nm,0.5s,baz=318,slow=7.4,SNR=9.2
RES Resolute Bay 34.53 26 P **P 11 00 15.8 +0.1**
RES pmax pmax
comp=Z,12nm,1.4s
RES Resolute Bay 34.53 26 P **P 11 00 15.8 +0.1**
RES IAmb IAmb 11 00 20.2
comp=Z,12nm,1.4s
ZALV Zalesovo Beam 35.92 288 P **P 11 00 27.4 -0.5**
comp=Z,1.7nm,0.7s,baz=64,slow=6.7,SNR=4.9
ZALV PP **PnPn 11 01 46.4 -1.9**
comp=Z,3.4nm,0.8s,baz=39,slow=12,SNR=4.2
ZALV PcP **PcP 11 02 54.7 +0.3**
comp=Z,1.8nm,0.4s,baz=43,slow=2.1,SNR=4.7
ZALV Zalesovo Beam 35.92 288 *i* P **P 11 00 29.1 +1.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 37.49 50 P **P 11 00 41.1 -0.1**
comp=Z,5.5nm,0.8s,baz=309,slow=8.3,SNR=11
YKA LR LR 11 16 30.3
comp=Z,168nm,19.8s,baz=0.0,slow=37
YKA Yellowknife Ar 37.49 50 *i* P **P 11 00 41.0 -0.1**
YKA pmax pmax
comp=Z,5.0nm,0.7s
DGZ Jazzator, Alta 37.87 281⇓ *i*P **P 11 00 46.6 +1.9**
DGZ pmax pmax
comp=Z,9.0nm,1.7s
NJ2 Nanjing 39.08 233 *e*P **P 11 00 56.0 +1.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
SEM Semipalatinsk 40.43 287 *e*P **P 11 01 04.9 -1.2**
baz=288
SEM Semipalatinsk 40.43 287 *e*P **P 11 01 04.9 -1.2**
GTA Gaotai 40.45 260⇑P **P 11 01 08.0 +1.6**
GTA pP sP 11 01 14.1 0.0
GTA sP pP 11 01 17.6 +5.6
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,57nm,5.6s
GTA L L
comp=Z,500nm,18.5s
GTA L L
comp=Z,510nm,19.3s
GTA L L
comp=Z,710nm,18.9s
ZSN Zaisan 40.68 281 *e*P **P 11 01 08.6 +0.5**
baz=281
ZSN Zaisan 40.68 281 *e*P **P 11 01 08.5 +0.5**
XAN Xi'an 41.13 246 P P 11 01 19.3 +7.4
XAN pP sP 11 01 24.8 +5.1
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN L L
comp=Z,860nm,15.9s
XAN L L
comp=Z,1μm,13.1s
XAN L L
comp=Z,1μm,12.0s
LZH Lanzhou 41.49 253 *e*P **P 11 01 16.5 +1.5**
LZH pP pP 11 01 20.0 -0.6
LZH sP sP 11 01 21.9 -0.9
WMQ Urumqi 42.26 275 *e*P **P 11 01 24.1 +3.0**
WMQ pP sP 11 01 28.6 -0.3
WMQ sP pP 11 01 32.4 +5.7
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.3s
WMQ L L
comp=Z,1μm,12.3s
WMQ L L
comp=Z,750nm,15.5s
WMQ L L
comp=Z,590nm,9.3s
MK31 Makanchi Array 42.31 282 P **P 11 01 21.6 +0.2**
MK31 pmax pmax
comp=Z,4.0nm,1.2s
MK31 Makanchi Array 42.31 282 P **P 11 01 21.6 +0.2**
MKAR Makanchi Array 42.31 282 P **P 11 01 21.8 +0.4**
comp=Z,0.6nm,0.4s,baz=52,slow=7.1,SNR=9.4
MKAR Makanchi Array 42.31 282 P **P 11 01 21.6 +0.2**
ARCES ARCESS Array B 42.42 336 P **P 11 01 21.1 -0.9**
comp=Z,3.6nm,0.8s,baz=44,slow=7.1,SNR=5.1
BVAR Borovoye Array 42.51 297 P **P 11 01 22.7 -0.3**
comp=Z,5.8nm,0.7s,baz=238,slow=9.7,SNR=26
BRVK Borovoye 42.53 297*c i*P **P 11 01 23.6 +0.6**
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 42.53 297 P **P 11 01 24.0 +0.9**
SUMG Summit 43.60 6 P **P 11 01 32.1 +0.1**
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 43.60 6 P **P 11 01 32.1 +0.1**
SUMG IAmb IAmb 11 01 36.6
comp=Z,14nm,0.9s
BRZS Berezniki 43.91 293 *e*P **P 11 01 33.6 -0.7**
baz=293
BRZS *e*S **S 11 08 00.2 -4.4**
baz=293
BRZS Berezniki 43.91 293 *e*P **P 11 01 33.6 -0.7**
BRZS *e*S **S 11 08 00.1 -4.4**
ARU Arti 44.33 308 P **P 11 01 37.5 0.0**
comp=Z,2.6nm,0.2s,baz=26,slow=4.5,SNR=13
ARU Arti 44.33 308*c i*P **P 11 01 37.7 +0.2**
ARU PP **PP 11 03 15.7 -4.9**
ARU S **S 11 08 11.4 +1.0**
ARU SS **SS 11 11 21.3 -7.2**
ARU pmax pmax
comp=Z,22nm,1.1s
B05A Bryant 45.15 69 P 11 01 44.4
baz=322
D03D Eldon 45.31 71 P 11 01 44.6
baz=322
CD2 Chengdu 45.98 250 *e*P **P 11 01 51.0 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
B08A Colville Reser 46.21 67 P **P 11 01 52.0 -0.6**
SHLS Shalkode 46.41 281 *e*P **P 11 01 52.2 -2.2**
baz=281
SHLS Shalkode 46.41 281 *e*P **P 11 01 52.1 -2.2**
LTY Liberty 46.53 69 P **P 11 01 55.4 +0.1**
UZB Uzynbulak 46.61 282 *e*P **P 11 01 56.1 +0.2**
baz=282
UZB Uzynbulak 46.61 282 *e*P **P 11 01 56.1 +0.2**
KLMR Klimovskoe 46.68 323 *e*P **P 11 01 54.4 -1.6**
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 46.68 323 *e*P **P 11 01 54.5 -1.6**
KLMR AMP 11 02 00.5
comp=Z,16nm,1.3s
FCC Fort Churchill 46.89 42 P **P 11 01 57.6 -0.1**
FCC pmax pmax
comp=Z,30nm,1.3s
FCC Fort Churchill 46.89 42 P **P 11 01 57.6 -0.1**
SATY Saty 46.95 282 *e*P **P 11 01 58.5 -0.1**
baz=282
SATY Saty 46.95 282 *e*P **P 11 01 58.5 -0.1**
KUU Kurty 47.17 285 *e*P **P 11 01 59.6 -0.7**
baz=285
KUU Kurty 47.17 285 *e*P **P 11 01 59.5 -0.7**
NEW Newport 47.19 66 P 11 01 59.9
baz=323
MDOK Medeo 47.45 283 *e*P **P 11 02 02.4 -0.1**
baz=283
MDOK Medeo 47.45 283 *e*P **P 11 02 02.4 -0.1**
MTBS Maitube 47.75 284 *e*P **P 11 02 02.8 -2.0**
baz=284
MTBS Maitube 47.75 284 *e*P **P 11 02 02.7 -2.0**
G05D Wamic, OR 47.87 71 P 11 02 05.6
baz=324
SGDS Sogindy 48.26 286 *e*P **P 11 02 07.7 -1.0**
baz=286
SGDS Sogindy 48.26 286 *e*P **P 11 02 07.7 -1.0**
GYA Guiyang 48.72 244 P **P 11 02 13.8 +1.3**
GYA pP pP 11 02 18.8 +0.7
GYA pmax pmax
comp=Z,3.0nm,1.2s
J04D Umpqua Nationa 49.16 73 P 11 02 16.0
baz=325
PINE Pine Mountain 49.20 72 P **P 11 02 17.3 +1.2**
PINE IAmb IAmb 11 02 28.6
comp=Z,5.9nm,0.9s
FINES FINESS Array B 49.44 331 P **P 11 02 16.1 -1.3**
comp=Z,4.3nm,0.9s,baz=36,slow=10.0,SNR=7.9
FINES FINESS Array B 49.44 331 P **P 11 02 16.6 -0.8**
FINES FINESS Array B 49.44 331 P **P 11 02 16.6 -0.8**
ABKAR Akbulak array 49.54 301 P **P 11 02 18.9 +0.6**
ABKAR Akbulak array 49.54 301 IAmb IAmb 11 02 19.7
comp=Z,7.2nm,0.7s
MSO Missoula 49.62 64 P 11 02 19.0
baz=324,SNR=6.8
K04D Chiloquin, OR 49.81 73 P 11 02 20.6
baz=325
L04D Klamath Falls 49.91 74 P 11 02 21.2
baz=325
K05A Summer Lake 50.09 73 P **P 11 02 24.1 +1.2**
K05A IAmb IAmb 11 02 40.1
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 50.13 75 P **P 11 02 24.3 +1.3**
comp=Z,2.2nm,0.8s,baz=317,slow=9.7,SNR=4.8
PLID Pearl Lake 50.20 67 P **P 11 02 23.6 -0.2**
KK31 Karatay Array 50.30 289 P **P 11 02 25.3 +1.1**
KK31 pmax pmax
comp=Z,12nm,1.1s
KK31 Karatay Array 50.30 289 P **P 11 02 25.3 +1.1**
KK31 IAmb IAmb 11 02 26.3
comp=Z,12nm,1.1s
KKAR Karatay Array 50.30 289 P **P 11 02 24.9 +0.7**
KKAR pmax pmax
comp=Z,12nm,1.1s
KKAR Karatay Array 50.30 289 P **P 11 02 24.9 +0.7**
KKAR IAmb IAmb 11 02 26.3
comp=Z,12nm,1.1s
M02C Callahan 50.35 75 P 11 02 25.2
baz=325
M04C Macdoel 50.46 74 P 11 02 24.9
baz=325
N02D Trinity Center 50.75 75 P 11 02 26.7
baz=326
LRM Limekiln Ridge 51.04 64 P **P 11 02 30.9 +0.9**
BELG Belogornoye 51.34 312⇑ *e*P **P 11 02 32.0 +0.2**
BELG pmax pmax
comp=Z,4.0nm,1.0s
DLMT Dillon 51.36 64 P **P 11 02 33.3 +1.0**
KMI Kunming 51.50 247⇑P **P 11 02 33.9 +0.3**
KMI pP pP 11 02 38.8 -0.5
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI L L
comp=Z,460nm,15.3s
KMI L L
comp=Z,700nm,16.5s
KMI L L
comp=Z,230nm,16.5s
MFID Camas Ranch 51.65 68 P **P 11 02 34.9 +0.4**
O03E Paynes Creek 51.70 75 P 11 02 34.8
baz=326
VSU Vasula 51.97 329⇓ *i*P **P 11 02 35.9 -0.6**
VSU pmax pmax
comp=Z,65nm,1.1s
HLID Hailey 52.11 67 P **P 11 02 38.6 +0.6**
HLID Hailey 52.11 67 P 11 02 38.4
baz=326,SNR=15
OBN Obninsk 52.41 321⇑ *e*P **P 11 02 39.7 -0.1**
OBN *e* 11 03 52.8
OBN *e* 11 04 35.8
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,164nm,17.0s
YHH Holmes Hill 52.53 64 P **P 11 02 42.1 +0.8**
NOA NORSAR Array B 52.62 339 P **P 11 02 40.3 -1.0**
comp=Z,0.7nm,0.4s,baz=18,slow=7.4,SNR=3.5
YNE Yellowstone No 52.68 63 P **P 11 02 42.9 +0.6**
RLMT Red Lodge 52.88 62 P **P 11 02 44.3 +0.6**
RLMT IAmb IAmb 11 02 49.5
comp=Z,9.6nm,1.0s
RLMT Red Lodge 52.88 62 P 11 02 44.4
baz=326
H17A Grant Village 52.97 64 P **P 11 02 44.1 -0.4**
H17A Grant Village 52.97 64 P 11 02 46.5
baz=326,SNR=7.6
YPP Pitchstone Pla 52.98 64 P **P 11 02 44.8 +0.3**
FLWY Flagg Ranch 53.18 64 P **P 11 02 47.0 +1.1**
FLWY IAmb IAmb 11 02 52.2
comp=Z,8.7nm,0.8s
MOOW Moose Ponds 53.44 64 P **P 11 02 48.1 +0.2**
ULM Lac du Bonnet 53.47 49 P **P 11 02 46.7 -0.9**
comp=Z,3.1nm,0.6s,baz=302,slow=7.1,SNR=5.1
ULM LR LR 11 26 34.6
comp=Z,208nm,19.0s,baz=315,slow=37
TPAW Teton Pass 53.57 65 P **P 11 02 49.5 +0.6**
TPAW IAmb IAmb 11 02 57.6
comp=Z,13nm,1.2s
LOHW Long Hollow 53.61 64 P **P 11 02 50.3 +1.2**
PNTR Pine Nut 53.65 74 P **P 11 02 50.8 +1.3**
PNTR IAmb IAmb 11 02 57.3
comp=Z,8.9nm,0.9s
REDW Red Top Meadow 53.72 65 P **P 11 02 50.3 +0.4**
LPSR Galich'ya Gora 53.92 318 *e*P **P 11 02 49.2 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ELK Elko 54.11 70 P **P 11 02 53.5 +0.7**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 54.11 70 P **P 11 02 53.5 +0.7**
WAKR Walker 54.20 75 P **P 11 02 54.3 +0.8**
WAKR IAmb IAmb 11 02 59.4
comp=Z,4.9nm,0.8s
HVU Hansel Valley 54.26 67 P **P 11 02 54.7 +0.9**
HVU pmax pmax
comp=Z,13nm,0.9s
HVU Hansel Valley 54.26 67 P **P 11 02 54.7 +0.9**
VRH Novokhopyorsk 54.27 315 *e*P **P 11 02 50.7 -2.8**
VRH pmax pmax
comp=Z,6.0nm,0.8s
KVN Kaiserville 54.32 73 P **P 11 02 54.8 +0.5**

KVN pmax pmax
comp=Z,5.0nm,0.8s
KVN Kaiserville 54.32 73 P P 11 02 54.8 +0.5
KVN lAmb lAmb 11 03 00.1
comp=Z,5.2nm,0.8s
SLVN Son La 54.42 244 P P 11 02 55.4 +0.4
SLVN lAmb lAmb 11 03 03.1
comp=Z,12nm,1.1s
BW06 Boulder Array 54.73 64 P P 11 02 57.5 +0.2
BW06 lAmb lAmb 11 03 05.2
comp=Z,6.7nm,0.9s
PD31 Pinedale Array 54.73 64 lAmb lAmb 11 03 03.0
comp=Z,7.6nm,1.1s
PDAR Pinedale Array 54.73 64 P P 11 02 57.9 +0.6
comp=Z,8.3nm,1.0s,baz=349,slow=3.3,SNR=28
PDAR LR LR 11 26 47.5
comp=Z,121nm,20.1s,baz=338,slow=37
BW06 Boulder Array 54.73 64 P 11 02 57.5
baz=327,SNR=10
NVAR Mina Array Bea 54.75 74 P P 11 02 58.9 +1.4
comp=Z,2.2nm,0.7s,baz=311,slow=7.3,SNR=9.8
NVAR Mina Array Bea 54.75 74 P P 11 02 57.7 +0.2
HWUT Hardware Ranch 54.90 66 P P 11 02 58.9 +0.4
HWUT lAmb lAmb 11 03 05.1
comp=Z,9.8nm,0.9s
VSR Storozhevoye 55.05 317 *eP* **P 11 02 57.2 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MDPB Devils Postpil 55.09 75 P P 11 03 00.3 +0.3
MDPB lAmb lAmb 11 03 06.2
comp=Z,7.5nm,1.0s
AGMN Agassiz Nation 55.14 50 P P 11 02 59.2 -0.7
AGMN lAmb lAmb 11 03 04.0
comp=Z,5.8nm,0.7s
AGMN Agassiz Nation 55.14 50 P 11 02 59.4
baz=329
MNK Minsk 55.27 326 *i* P **P 11 03 00.0 -0.7**
MNK *i* 11 04 01.2
MNK *i* 11 05 03.3
MNK *i* PPP PPP 11 06 14.5
MNK *i* S **S 11 10 42.6 -0.6**
MNK *i* 11 12 48.7
MNK *i* SS **SS 11 14 28.2 +1.6**
MNK pmax pmax
comp=N,30nm,1.1s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=N,352nm,20.0s
MNK MLR MLR
comp=Z,347nm,24.0s
MNK MLR MLR
comp=E,19nm,20.0s
MNK Minsk 55.27 326 *i* P **P 11 03 00.1 -0.7**
comp=E,4.0nm,0.9s
MNK *i* P **P 11 03 00.1 -0.7**
comp=N,30nm,1.1s
MNK *i* P **P 11 03 00.1 -0.7**
comp=Z,13nm,0.8s,baz=205
MNK *i* PcP **PcP 11 04 01.2 -0.1**
MNK *i* PP **PP 11 05 03.4 -0.4**
MNK *i* PPP PPP 11 06 14.5
MNK *i* ScP **ScP 11 07 59.3 +0.5**
MNK *i* S **S 11 10 42.7 -0.5**
MNK *i* ScS **ScS 11 12 48.7 +0.3**
MNK *i* SS **SS 11 14 28.2 +1.7**
MNK *i* SSS SSS 11 16 48.9
MNK *i* LQ LQ 11 22 38.9
MNK *i* LR LR 11 27 01.8
MNK *i* LRM MLR 11 29 10.2
comp=N,352nm,19.9s
MNK *i* LRM MLR 11 29 25.6
comp=Z,347nm,24.4s
MNK *i* LRM MLR 11 29 36.4
comp=E,19nm,19.9s
PMPB Monarch Peak 55.54 77 P P 11 03 03.7 +0.7
PMPB lAmb lAmb 11 03 23.6
comp=Z,7.8nm,0.9s
DUG Dugway, Tooele 55.57 68 P P 11 03 04.5 +1.2
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 55.57 68 P P 11 03 04.5 +1.2
DUG lAmb lAmb 11 03 09.2
comp=Z,6.3nm,1.0s
DUG Dugway, Tooele 55.58 68 P 11 03 03.9
baz=328
RSSD Black Hills 55.75 59 P 11 03 04.7
baz=328
SPR3 Spring Creek 3 55.95 70 P P 11 03 07.6 +1.3
SPR3 lAmb lAmb 11 03 13.1
comp=Z,6.0nm,0.8s
CWC Cottonwood Cre 56.52 75 P 11 03 11.3
baz=328
VES Vestal, Richgr 56.60 76 P 11 03 11.0
baz=328
TPNV Topopah Spring 56.87 73 lAmb lAmb 11 03 18.7
comp=Z,9.3nm,1.1s
TPNV Topopah Spring 56.87 73 P 11 03 13.2
baz=328
ISA Isabella, Lake 57.01 76 P 11 03 14.1
baz=328
FURC Furnace Creek, 57.02 74 P 11 03 14.6
baz=328
PKM Mcpherson Peak 57.09 77 P 11 03 14.2
baz=328
SCHQ Schefferville 57.30 28 P P 11 03 14.5 -0.7
comp=Z,1.0nm,0.4s,baz=245,slow=18,SNR=2.1
SCHQ Schefferville 57.30 28 lAmb lAmb 11 03 33.3
comp=Z,15nm,1.5s
O20A White River Ci 57.49 65 lAmb lAmb 11 03 24.6
comp=Z,7.7nm,1.1s
O20A White River Ci 57.49 65 P 11 03 17.6
baz=329
MTPU Mount Pierson 57.66 69 P P 11 03 20.3 +1.9
N23A Red Feather La 57.75 62 P 11 03 18.3
baz=329
EDW2 Edwards Air Fo 57.88 76 P 11 03 19.2
baz=329
F36A Milaca 58.05 50 lAmb lAmb 11 03 24.4
comp=Z,5.3nm,0.8s
LCMT Little Creek M 58.09 71 lAmb lAmb 11 03 27.3
comp=Z,5.1nm,0.8s
KNB Kanab 58.26 70 lAmb lAmb 11 03 29.6
comp=Z,9.1nm,0.9s
TUQ Turquoise Moun 58.30 74 P 11 03 23.2
baz=329
AKASG Malin Array Be 58.37 323 P P 11 03 21.4 -1.3
comp=Z,2.7nm,0.7s,baz=27,slow=7.2,SNR=6.4
BFSC Mount Baldy Ra 58.57 76 P 11 03 25.3
baz=329,SNR=5.4
CHTO Chiang Mai 58.69 248 P P 11 03 26.0 +0.6
CHTO pmax pmax
comp=Z,13nm,1.3s
CHTO Chiang Mai 58.69 248 P P 11 03 26.0 +0.6
CHTO lAmb lAmb 11 03 31.9
comp=Z,13nm,1.3s
SMCO Snowmass 58.81 64 P P 11 03 27.2 +0.7
SMCO lAmb lAmb 11 03 34.2
comp=Z,11nm,1.2s
ISCO Idaho Springs 58.82 63 lAmb lAmb 11 03 32.3
comp=Z,7.8nm,1.2s
ISCO Idaho Springs 58.82 63 P 11 03 27.2
baz=329
ECSD EROS Data Cent 58.82 54 lAmb lAmb 11 03 36.7
comp=Z,6.7nm,0.8s
ECSD EROS Data Cent 58.82 54 P 11 03 24.9
baz=331,SNR=7.1
GMRC Granite Mounta 58.96 74 P 11 03 28.3
baz=329
U15A North Rim 58.98 70 P P 11 03 29.3 +1.7
CMAR Chiang Mai Arr 59.01 247 P P 11 03 28.1 +0.5
comp=Z,1.7nm,0.7s,baz=13,slow=7.2,SNR=11
BELC Belle Mtn. Jos 59.49 75 P 11 03 30.8
baz=329
IRM Iron Mountain 59.72 74 P 11 03 33.3
baz=329
GEYT Alibeck 59.76 295 P P 11 03 34.0 +1.4
comp=Z,5.2nm,0.6s,baz=255,slow=2.3,SNR=6.7
MVCO Mesa Verde 59.88 67 P 11 03 33.5
baz=330
S22A 4UR Ranch, Cre 60.10 65 P 11 03 33.4
baz=330
WUAZ Wupatki 60.15 70 P 11 03 34.2
baz=329

LSQQ Lebel-sur-Quev 60.25 37 P 11 03 34.8
baz=336
MONP2 Monument Peak 60.26 76 P 11 03 35.1
baz=329
KIV Kislovodsk 60.29 310 *eP* **P 11 03 38.1 +1.8**
KIV pmax pmax
comp=Z,24nm,1.1s
SWSC Sam W. Stewart 60.48 75 P 11 03 36.6
baz=330
SDCO Great Sand Dun 60.63 64 P P 11 03 39.0 +0.1
SDCO lAmb lAmb 11 03 44.6
comp=Z,6.5nm,1.1s
SDCO Great Sand Dun 60.63 64 P 11 03 38.1
baz=330,SNR=11
CBX Cerro Bola 60.65 76 P P 11 03 39.3 +0.5
KSCO Kaye Shedlock' 60.67 61 P 11 03 38.8
baz=330
I40A Norwalk 60.77 49 P P 11 03 39.0 -0.4
ZEI Tsey 60.90 308 *eP* **P 11 03 39.4 -1.2**
ZEI pmax pmax
comp=Z,3.0nm,0.5s
NEY Neytrino 60.90 310⇑ *eP* **P 11 03 43.7 +3.2**
NEY pmax pmax
comp=Z,3.0nm,1.0s
X16A Lo Mia Camp, P 61.06 71 P P 11 03 43.3 +1.6
X16A lAmb lAmb 11 03 48.4
comp=Z,4.5nm,0.8s
CLL Collm 61.56 334 *i* P **P 11 03 43.4 -1.2**
comp=Z,10.0nm,0.9s
CLL *es*P **pP 11 03 47.0 -3.3**
CLL Collm 61.56 334 *i* P **P 11 03 43.4 -1.2**
CLL *e* 11 03 47.0
CLL pmax pmax
comp=Z,10.0nm,0.9s
T25A Trinidad 61.59 63 P 11 03 44.7
baz=330
CBKS Cedar Bluff 61.95 59 P 11 03 47.3
baz=331
MORC Moravsky Berou 62.07 331 P P 11 03 47.6 -0.6
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 62.07 331 P P 11 03 47.6 -0.6
MORC lAmb lAmb 11 03 48.7
comp=Z,5.9nm,0.8s
D55A Sainte-Anne-du 62.52 37 P 11 03 50.5
baz=337
ANMO Albuquerque 62.67 66⇓ *iP* **P 11 03 54.2 +1.6**
ANMO Albuquerque 62.67 66 P 11 03 51.4
baz=330
D56A ZEC Mazanza, M 62.68 36 P 11 03 51.0
baz=338
ALGO Algonquin Park 62.80 39 P 11 03 52.7
baz=336
GNI Garni 62.93 306⇓ *eP* **P 11 03 54.9 +0.7**
GNI pmax pmax
comp=Z,5.0nm,0.6s
TUC Tucson 63.16 71 P 11 03 56.0
baz=330
G54A Lake Saint Pet 63.29 39 P 11 03 54.5
baz=337
MEM Membach 63.47 339 *dP* **P 11 03 56.3 -1.1**
BTNL Ternell 63.48 339 *dP* **P 11 03 56.8 -0.7**
comp=Z,8.5nm,0.8s
TRQ Mont Tremblant 63.50 36 P P 11 03 58.8 +1.1
GERES GERESS Array B 63.77 333 P P 11 03 59.2 -0.3
comp=Z,2.4nm,0.6s,baz=32,slow=5.2,SNR=14
H53A Bobcaygeon 63.91 40 P 11 03 57.9
baz=336
MLR Muntele Rosu 64.03 323 P P 11 04 01.0 -0.3
MLR pmax pmax
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 64.03 323 P P 11 04 01.0 -0.3
MLR lAmb lAmb 11 04 03.3
comp=Z,3.5nm,0.7s
P40A Paris 64.14 53 P P 11 04 00.8 -1.2
HDIL Hopedale 64.19 50 P 11 04 00.5
baz=334
CONA Conrad Observa 64.19 331 *eP* **P 11 04 01.6 -0.7**
comp=Z,3.0nm,0.8s
L48A N Adams 64.53 46 P P 11 04 03.3 -1.2
319A Douglas 64.60 71 P P 11 04 06.1 +0.8
319A lAmb lAmb 11 04 11.3
comp=Z,5.8nm,0.8s
MOA Molln 64.60 332 *eP* **P 11 04 04.1 -0.8**
comp=Z,4.6nm,0.8s
ARSA Arzberg 64.90 331 *eP* **P 11 04 06.7 -0.2**
comp=Z,4.4nm,0.8s
E64A Bridgewater 64.99 32 P 11 04 05.7
baz=340
R40A Maddies Statio 65.17 53 P P 11 04 08.6 -0.1
R40A lAmb lAmb 11 04 18.3
comp=Z,5.6nm,0.7s
H58A Gabriels 65.27 37 P 11 04 08.6
baz=338
KBA Koelnbreinsper 65.52 333 *eP* **P 11 04 10.7 -0.4**
comp=Z,4.3nm,0.6s
SOKA Soboth 65.55 331 *eP* **P 11 04 10.5 -0.6**
comp=Z,2.2nm,0.5s
WATA Walderalm 65.63 334 *eP* **P 11 04 11.4 -0.4**
comp=Z,4.1nm,0.8s
WTTA Wattenberg 65.69 334 *eP* **P 11 04 11.1 -1.1**
comp=Z,4.8nm,0.8s
MOTA Moosalm 65.72 334 *eP* **P 11 04 10.8 -1.5**
comp=Z,3.1nm,0.9s
CCM Cathedral Cave 65.74 53 P P 11 04 15.3 +2.9
CCM pmax pmax
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 65.74 53 P P 11 04 15.3 +2.9
CCM lAmb lAmb 11 04 16.4
comp=Z,7.6nm,0.9s
G63A Kingsbury 65.79 33 P 11 04 10.9
baz=340
SQTA Sankt Quirin 65.81 334 *eP* **P 11 04 12.0 -0.9**
comp=Z,2.1nm,0.4s
OBKA Obir 65.82 331 *eP* **P 11 04 12.7 -0.2**
comp=Z,13nm,0.7s
MYKA Terra Mystica 65.89 332 *eP* **P 11 04 13.0 -0.4**
comp=Z,1.2nm,0.5s
WMOK Wichita Mounta 65.89 60 lAmb lAmb 11 04 20.3
comp=Z,4.9nm,0.8s
WMOK Wichita Mounta 65.89 60 P 11 04 13.2
baz=332
MNTX Cornudas Mount 65.93 67 P P 11 04 14.3 +0.5
MNTX Cornudas Mount 65.93 67 P 11 04 14.1
baz=332
DAVA Damuels 66.00 335 *eP* **P 11 04 12.8 -1.4**
comp=Z,2.4nm,0.6s
ABTA Abfaltersbach 66.01 333 *eP* **P 11 04 13.2 -1.0**
comp=Z,1.7nm,0.6s
PRED Cave del Predi 66.08 332 P P 11 04 13.9 -0.7
PRED lAmb lAmb 11 04 20.2
comp=Z,4.4nm,1.0s
FVM French Village 66.09 52 lAmb lAmb 11 04 18.8
comp=Z,6.9nm,0.9s
FETA Feichten 66.10 334 *eP* **P 11 04 14.1 -0.7**
comp=Z,4.9nm,0.8s
ZOU Zoufplan 66.10 333 P P 11 04 14.7 -0.2
ZOU lAmb lAmb 11 04 21.2
comp=Z,5.0nm,0.7s
G65A Princeton 66.20 32 P P 11 04 16.7 +1.5
G65A Princeton 66.20 32 P 11 04 14.3
baz=341
M54A Oil Creek Stat 66.40 42 P P 11 04 15.4 -1.2
M54A Oil Creek Stat 66.40 42 P 11 04 15.2
baz=337
K58A Earlville 66.41 39 P 11 04 15.4
baz=338
L56A Greenwood 66.44 40 P 11 04 15.7
baz=337
ACSO Alum Creek Sta 66.55 45 P 11 04 15.9
baz=336
K59A Cooperstown 66.61 38 P 11 04 17.5
baz=338
P49A Miami Univ. Ec 66.63 47 P 11 04 17.4
baz=335
U40A Yellville 66.68 55 P 11 04 17.8
baz=333
N54A Moraine State 66.81 43 P 11 04 17.0
baz=337
BINY Binghamton 66.83 39 P 11 04 16.7
baz=338
TUE Stuetta 66.89 335 lAmb lAmb 11 04 27.4
comp=Z,4.7nm,0.8s
BR131 Keskin Array S 67.06 315 *d iP* **P 11 04 21.6 +0.5**
BRTR Keskin Array B 67.06 315 P **P 11 04 21.6 +0.5**
comp=Z,2.3nm,0.7s,baz=37,slow=4.1,SNR=10
BRTR Keskin Array B 67.06 315 P **P 11 04 21.0 0.0**

O53A New Philadelph 67.08 44 P P 11 04 19.8 -1.2
O53A New Philadelph 67.08 44 P 11 04 19.5
baz=336
L59A Walton 67.10 38 P 11 04 19.6
baz=338
P52A Corning 67.36 45 P 11 04 20.7
baz=336
O54A Avella 67.40 43 P P 11 04 22.5 -0.5
ABTX Abilene, Hawle 67.42 62 P 11 04 22.5
baz=332
SSPA Standing Stone 67.73 41 P 11 04 23.0
baz=338
O56A Blue Knob Stat 67.87 42 P 11 04 24.5
baz=337
W41B Gary Mavity, V 67.96 55 P 11 04 25.3
baz=334
WVT Waverly 68.66 51 P P 11 04 30.6 -0.4
WVT pmax pmax
comp=Z,8.0nm,0.9s
WVT Waverly 68.66 51 P P 11 04 30.6 -0.4
WVT Waverly 68.66 51 P 11 04 30.3
baz=335
TXAR Lajitas Array 68.71 67 P P 11 04 32.3 +0.8
comp=Z,0.4nm,0.5s,baz=310,slow=4.3,SNR=5.6
TXAR LR LR 11 36 55.5
comp=Z,142nm,19.4s,baz=0.0,slow=38
S51A Beattyville 68.71 47 P P 11 04 34.1 +2.9
T50A Nancy 68.87 48 P P 11 04 32.2 0.0
U49A Red Boiling Sp 69.01 49 lAmb lAmb 11 04 37.2
comp=Z,6.8nm,0.8s
JCT Junction City 69.26 63 P 11 04 33.8
baz=333
OXF Oxford 69.57 53 P 11 04 34.8
baz=335
PLAL Pickwick Lake 69.61 52 lAmb lAmb 11 04 42.8
comp=Z,4.9nm,0.9s
TZTN Tazewell 69.73 47 P 11 04 35.9
baz=336
BLA Blacksburg 70.11 45 P 11 04 38.6
baz=337
SWET Sewanee 70.14 50 lAmb lAmb 11 04 43.6
comp=Z,6.9nm,0.7s
CPCT Cooper Cave 70.40 49 lAmb lAmb 11 04 45.6
comp=Z,4.7nm,0.8s
TKL Tuckaleechee C 70.46 48 lAmb lAmb 11 04 51.8
comp=Z,5.9nm,0.8s
T57A Hurt 70.67 44 lAmb lAmb 11 04 48.2
comp=Z,5.5nm,0.8s
FPAL Fort Paine 70.86 50 P P 11 04 44.4 -0.2
FPAL lAmb lAmb 11 04 48.3
comp=Z,6.9nm,0.7s
HKT Hockley 71.28 60 *eP* **P 11 04 46.2 -0.8**
HKT pmax pmax
comp=Z,12nm,3.2s
KMSC Kings Mountain 71.73 46 P 11 04 49.1
baz=337,SNR=5.7
TIP Timpagrande 72.29 327 P P 11 04 52.9 -0.3
TIP lAmb lAmb 11 04 58.2
comp=Z,9.8nm,1.3s
BIRD Birdtown, Kers 72.46 46 P P 11 04 56.1 +1.9
GOGA Godfrey 72.61 49 P 11 04 53.9
baz=337
PSI Prapat 73.23 240 P P 11 04 59.4 +0.4
PSI pmax pmax
comp=Z,14nm,0.8s
RPSI Rantau Prapat 73.32 240 P P 11 04 59.4 -0.1
ESDC Sonseca Array 75.61 344 P P 11 05 11.9 -0.7
comp=Z,1.9nm,0.8s,baz=3.5,slow=6.3,SNR=12
RAYN Ar Rayn 77.49 298 P P 11 05 23.8 +0.3
RAYN pmax pmax
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 77.49 298 P P 11 05 23.8 +0.3
RAYN lAmb lAmb 11 05 24.8
comp=Z,6.4nm,0.8s
KNRA Kununurra 81.83 206 P P 11 05 46.8 0.0
CTA Charters Tower 83.88 189 P P 11 05 57.6 +0.3
comp=Z,2.5nm,0.6s,baz=21,slow=6.1,SNR=4.5
FITZ Fitzroy Crossi 84.81 208 P P 11 06 02.1 0.0
WB0 Warramunga Arr 84.86 200 P P 11 06 02.3 0.0
WB0 lAmb lAmb 11 06 09.0
comp=Z,7.5nm,0.9s
WRAB Tennant Creek 85.03 200 *c iP* **P 11 06 03.2 0.0**
WRAB pmax pmax
comp=Z,11nm,1.1s
WB2 Warramunga Arr 85.04 200 P P 11 06 03.7 +0.5
WRA Warramunga Arr 85.04 200 P P 11 06 03.3 +0.1
comp=Z,4.1nm,0.7s,baz=12,slow=5.5,SNR=37
WRA LR LR 11 42 57.6
comp=Z,893nm,21.6s,baz=50,slow=35
WRA Warramunga Arr 85.04 200 P P 11 06 03.0 -0.3
COCO West Island 87.79 237 *i* **P P 11 06 15.8 -1.0**
ASAR Alice Springs 88.76 200 P P 11 06 21.5 +0.2
comp=Z,1.3nm,0.6s,baz=9.6,slow=4.7,SNR=33
ASAR LR LR 11 47 24.7
comp=Z,813nm,19.1s,baz=46,slow=36
PPT Papeete 91.47 129 LR LR 11 39 21.0
comp=Z,67nm,21.0s,baz=320,slow=30
PLCA Paso Flores 144.79 71 PKP PKPbc 11 13 03.1 +0.1
comp=Z,4.0nm,1.0s,baz=302,slow=8.6,SNR=5.3
MAW Mawson 146.61 224 PKPbc PKPbc 11 13 08.1 +0.4
comp=Z,8.4nm,0.9s,baz=14,slow=3.1,SNR=5.9

SOME **01** *11:02:21.5, 39˚.40N×75˚.43E, h0km*
IDC **01** *11:02:24.2±1.1, 39˚.21N×75˚.22E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.5/51, mbtmp3.8/7, Error ellipse: s-maj=29.0km s-min=25.5km az=24.0*
KRNET **01** *11:02:25.9±0.1, 39˚.46N×75˚.45E, mb4.1*
NNC **01** *11:02:28.6±1.6, 39˚.58N×75˚.47E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=13.3km s-min=9.5km az=139.0*
ISC 01 11:02:25.9±1.5, 39˚.32N±0˚.05×75˚.52E±0˚.04, h4km±10km, n71, σ2s 03/103, mb3.9/6, 32C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.40**	**61**	Sg	**Sg**	**11 02 38.2**	**-0.7**
KSH	**Kashi**	**0.40**	**61**	SME			
	4µm,0.3s						
KSH	**Kashi**	**0.40**	**61**	SMN			
	6µm,0.3s						
KSH	**Kashi**	**0.40**	**61**	Pg	**Pg**	**11 02 33.7**	**+0.1**
SFK	**Sufi-Kurgan**	**1.70**	**295⇑**	*iP*	**Pn**	**11 02 55.5**	**-1.0**
SFK	baz=91		**⇑**	*iS*	**Sn**	**11 03 17.7**	**-1.2**
	baz=91						
OHH	**Osh**	**2.42**	**301⇑**	*iP*	**Pn**	**11 03 07.2**	**+0.9**
OHH	baz=98		**⇑**	*iS*	**Sn**	**11 03 36.8**	**+0.4**
	baz=98						
ARLS	**Aral**	**2.69**	**341⇓**	*iP*	**Pn**	**11 03 10.6**	**+0.5**
	baz=41						
ARLS			**⇓**	*iS*	**Sn**	**11 03 42.3**	**-0.9**
	baz=41						
ARSB	**Arslanbob**	**2.79**	**317⇑**	*iP*	**Pn**	**11 03 11.8**	**+0.5**
	baz=15						
ARSB			**⇑**	*iS*	**Sn**	**11 03 45.2**	**-0.3**
	baz=15						
DRK	**Karamyk**	**2.89**	**274⇑**	*eP*	**Pn**	**11 03 14.4**	**+1.5**
	baz=72						
DRK			**⇑**	*iS*	**Sn**	**11 03 49.2**	**+1.0**
	baz=72						
ULHL	**Ulahol**	**2.97**	**10⇑**	*eP*	**Pn**	**11 03 14.8**	**+0.8**
	baz=12						
ULHL			**⇑**	*iS*	**Sn**	**11 03 50.3**	**+0.2**
	baz=12						
ULHL	**Ulahol**	**2.97**	**10**	P	**Pn**	**11 03 17.0**	**+3.1**
	SNR=16						
KDJ	**Kajisay**	**3.07**	**24⇑**	*eP*	**Pn**	**11 03 16.3**	**+0.9**
	baz=26						
KDJ			**⇑**	*iS*	**Sn**	**11 03 52.9**	**+0.3**
	baz=26						
AML	**Almayashu**	**3.13**	**334⇑**	*eP*	**Pn**	**11 03 16.6**	**+0.3**
	baz=34						
AML			**⇑**	*iS*	**Sn**	**11 03 54.1**	**-0.2**
	baz=34						
AML	**Almayashu**	**3.13**	**334**	P	**Pn**	**11 03 16.8**	**+0.5**
	SNR=12						
BOOM	**Boomskoye usch**	**3.18**	**6⇑**	*eP*	**Pn**	**11 03 17.6**	**+0.8**
	baz=7.0						
BOOM			**⇑**	*iS*	**Sn**	**11 03 55.4**	**+0.2**
	baz=7.0						
KBK	**Karagaybulak**	**3.36**	**353⇑**	*iP*	**Pn**	**11 03 20.1**	**+0.9**
	baz=53						
KBK			**⇑**	*iS*	**Sn**	**11 03 59.3**	**-0.3**
	baz=53						
KBK	**Karagaybulak**	**3.36**	**353**	P	**Pn**	**11 03 21.2**	**+1.9**

SNR=16
FRU1 Bishkek 3.55 349⇑*i*P Pn 11 03 22.9 +1.1
baz=50
FRU1 ⇑*i*S Sn 11 04 04.5 +0.3
baz=50
EKS2 Erkin-Say 3.59 339⇑*e*P Pn 11 03 22.9 +0.6
baz=39
EKS2 ⇑*e*S Sn 11 04 04.7 -0.5
baz=39
EKS2 Erkin-Say 3.59 339 P Pb 11 03 29.4 -0.5
SNR=7.6
TKM2 Tokmak 2 3.59 1⇓*i*P Pn 11 03 23.0 +0.5
baz=2.0
TKM2 ⇓*i*S Sn 11 04 05.0 -0.5
baz=2.0
TKM2 Tokmak 2 3.59 1 P Pn 11 03 24.4 +1.8
SNR=33
TKM2 Tokmak 2 3.59 1 ⇓Pn Pn 11 03 24.6 +2.1
40nm,0.7s
TKM2 ⇑Lg Lg 11 04 15.5
134nm,0.7s
BTK Batken 3.70 283⇑*e*P Pn 11 03 25.5 +1.6
baz=81
BTK ⇑*i*S Sn 11 04 09.3 +1.3
baz=81
CHMS Chumysh 3.72 351⇓*i*P Pn 11 03 24.5 +0.5
baz=52
CHMS ⇓*i*S Sn 11 04 07.8 -0.5
baz=52
CHMS Chumysh 3.72 351 P Pn 11 03 25.9 +1.8
SNR=11
KST Kastek 3.73 5 *e*P Pb 11 03 30.5 -1.9
50nm,0.5s
KST *e*S Sb 11 04 21.1 +3.1
144nm,0.5s
KST Kastek 3.73 5 Pg Pb 11 03 29.8 -2.6
50nm,0.5s
KST Lg Lg 11 04 16.7
144nm,0.5s
IZV Izvestkoviy 3.80 12 *e*P Pb 11 03 32.0 -1.6
29nm,0.4s
IZV *e*S Sb 11 04 24.0 +4.0
100nm,0.5s
IZV Izvestkoviy 3.80 12 Pg Pb 11 03 34.3 +0.7
29nm,0.4s
IZV Lg Lg 11 04 24.2
100nm,0.5s
ANVS Anan'yevo 3.82 24⇓*i*P Pn 11 03 27.0 +1.4
baz=26
ANVS ⇓*i*S Sn 11 04 11.4 +0.4
baz=26
MRKS Merke 3.83 334 *e*P Pb 11 03 32.5 -1.6
19nm,0.4s
MRKS *e*S Sb 11 04 24.5 +3.7
73nm,0.5s
MRKS Merke 3.83 334 Pg Pb 11 03 34.0 -0.1
19nm,0.4s
MRKS Lg Lg 11 04 24.5
73nm,0.5s
MTBS Maitube 3.86 10 *e*P Pb 11 03 32.4 -2.2
21nm,0.3s
MTBS *e*S Sb 11 04 24.6 +2.8
42nm,0.4s
MTBS Maitube 3.86 10 Pg Pb 11 03 33.5 -1.1
21nm,0.3s
MTBS Lg Lg 11 04 23.4
42nm,0.4s
MNAS Manas 3.90 325⇓*i*P Pn 11 03 27.8 +1.1
baz=25
MNAS ⇓*i*S Sn 11 04 12.7 -0.2
baz=25
DGS Degeres 3.92 3 *e*P Pb 11 03 34.3 -1.2
61nm,0.5s
DGS *e*S Sb 11 04 27.7 +4.3
80nm,0.8s
DGS Degeres 3.92 3 Pg Pb 11 03 36.3 +0.7
61nm,0.5s
DGS Lg Lg 11 04 27.7
80nm,0.8s
TRKS Terek-Say 4.00 305⇑*e*P Pn 11 03 28.6 +0.5
baz=3.0
TRKS ⇑*i*S Sn 11 04 14.3 -1.2
baz=3.0
MDOK Medeo 4.00 16 *e*P Pb 11 03 35.0 -2.0
24nm,0.5s
MDOK *e*S Sb 11 04 29.2 +3.3
72nm,0.5s
MDOK Medeo 4.00 16 Pg Pb 11 03 37.9 +0.9
24nm,0.6s
MDOK Lg Lg 11 04 26.0
118nm,0.9s
MDOK Medeo 4.00 16 Pg Pb 11 03 37.6 +0.6
24nm,0.5s
MDOK Lg Lg 11 04 29.4
72nm,0.5s
USP Ospenovka 4.01 349 P Pn 11 03 29.8 +1.7
SNR=7.3
GAR Garm 4.06 267⇑*i*P Pn 11 03 31.1 +2.3
baz=65
GAR ⇑*i*S Sn 11 04 18.3 +1.5
baz=65
KOTS Kotyrbulak 4.09 17 *e*P Pb 11 03 37.2 -1.2
41nm,0.3s
KOTS *e*S Sb 11 04 32.8 +4.6
65nm,0.6s
KOTS Kotyrbulak 4.09 17 Pg Pb 11 03 39.4 +1.0
41nm,0.3s
KOTS Lg Lg 11 04 32.8
65nm,0.6s
SGDS Sogindy 4.18 351 Pg Pb 11 03 39.7 -0.3
33nm,0.4s
SGDS Lg Lg 11 04 32.8
71nm,1.0s
SATY Saty 4.32 29 *e*P Pb 11 03 44.1 +1.7
8.1nm,0.6s
SATY *e*S Sg 11 04 44.8 +0.2
38nm,0.6s
KRBS Karabastau 4.37 1 *e*P Pb 11 03 41.1 -2.1
11nm,0.3s
KRBS *e*S Sb 11 04 39.7 +3.4
75nm,0.4s
KRBS Karabastau 4.37 1 Pg Pb 11 03 42.9 -0.3
11nm,0.3s
KRBS Lg Lg 11 04 38.9
75nm,0.4s
KTBS Karatobe 4.47 11 *e*P Pb 11 03 43.6 -1.4
8.7nm,0.5s
KTBS *e*S Sb 11 04 43.9 +4.8
69nm,0.6s
KTBS Karatobe 4.47 11 Pg Pb 11 03 45.9 +1.0
15nm,0.3s
KTBS Lg Lg 11 04 43.9
92nm,0.3s
KUU Kurty 4.61 7 *e*P Pb 11 03 45.7 -1.5
10nm,0.4s
KUU *e*S Sb 11 04 47.4 +4.3
98nm,0.5s
KUU Kurty 4.61 7 Pg Pb 11 03 48.4 +1.2
10nm,0.4s
KUU Lg Lg 11 04 47.3
98nm,0.5s
UZB Uzynbulak 4.64 34 *e*P Pb 11 03 48.7 +0.8
2.6nm,0.6s
UZB *e*S Sg 11 04 52.4 -2.6
21nm,0.6s
CHKK Chushkaly 4.66 13 *e*P Pb 11 03 46.8 -1.3
18nm,0.4s
CHKK *e*S Sb 11 04 49.4 +4.9
40nm,0.4s
CHKK Chushkaly 4.66 13 Pg Pb 11 03 49.6 +1.5
18nm,0.4s
CHKK Lg Lg 11 04 49.5
40nm,0.4s
KPKS Kokpek 4.77 29 *e*P Pb 11 03 50.3 +0.1
21nm,0.6s
KPKS *e*S Sg 11 04 55.2 -4.0
50nm,0.6s
PDGK Podgornoye 4.99 35 ⇓Pg Pb 11 03 55.0 +1.1
14nm,0.7s
PDGK Lg Lg 11 04 58.7
107nm,1.4s
IUG Iuzhnay 5.03 306 *e*P Pb 11 03 54.4 -0.2
13nm,0.4s
IUG *e*S Sb 11 05 02.0 +6.6
61nm,1.0s
ARXS Arharly 5.18 19 *e*P Pb 11 03 59.0 +2.0
21nm,0.7s
ARXS *e*S Sg 11 05 10.0 -2.2
12nm,0.5s

KK31 Karatay Array 5.34 317 ⇑Pn Pn 11 03 44.9 -1.5
1.3nm,0.5s,baz=125,slow=12,SNR=12
KK31 ⇑Pg Pb 11 04 02.8 +3.1
7.7nm,0.7s,baz=135,slow=16,SNR=6.9
KK31 ⇑Lg Lg 11 05 10.4
13nm,0.7s,baz=124,slow=30,SNR=3.9
CHCP Chirah Chowk 5.94 199 P Pb 11 04 02.0 -7.9
CEP Cherat 6.21 209 P Pb 11 04 05.5 -9.1
MKAR Makanchi Array 8.96 31 Pn Pn 11 04 40.2 +4.3
baz=212,slow=14,SNR=2.0
MKAR Lg Lg 11 07 12.3
0.1nm,0.3s,baz=223,slow=30,SNR=2.9
BRTR Keskin Array B 32.10 284 P P 11 08 52.8 -1.3
0.6nm,0.6s,baz=90,slow=8.0,SNR=2.9
FINES FINESS Array B 37.26 323 P P 11 09 36.1 -2.2
3.1nm,0.9s,baz=115,slow=8.1,SNR=4.8
ARCES ARCESS Array B 39.99 335 P P 11 09 58.8 -2.4
3.5nm,1.0s,baz=106,slow=8.9,SNR=6.0
TORD Torodi Ar. Bea 69.32 270 P P 11 13 32.7 -2.0
1.1nm,0.5s,baz=43,slow=6.2,SNR=8.3
WRA Warramunga Arr 80.57 125 P P 11 14 39.3 -0.3
0.4nm,0.9s,baz=307,slow=5.2,SNR=1.9
ASAR Alice Springs 83.06 128 P P 11 14 51.8 -0.9
0.4nm,0.8s,baz=316,slow=6.4,SNR=3.2

*IDC **01** 11:10:00.6±0.7,25°.62S×179°.66E,h480km±7km,mb4.2/26, mb1 4.2/30,mb1mx4.2/43,mbtmp5.0/30,Error ellipse: s-maj=9.3km s-min=8.5km az=33.0*
*NEIC **01** 11:10:00.3±1.6,25°.61S±0°.08×179°.71E±0°.05,h484km±6km, mb4.7/102,Error ellipse: s-maj=13.2km s-min=5.4km az=156.0*
*NOU **01** 11:10:01.0,25°.70S×179°.92E,h507km,mb4.9,South of Fiji Islands*
ISC 01 11:10:01.6±0.3,25°.68S±0°.04×179°.71E±0°.06,h500km, n272,σ1§35/299,mb4.7/75,6C-3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.12**	**150**	P	**P**	**11 11 22.3**	**+1.4**
RIZ				S	**S**	**11 12 25.3**	**-0.3**
RAO	**Raoul Island**	**4.13**	**150**	P	**P**	**11 11 20.0**	**-0.9**
	907nm,0.3s,baz=354,slow=2.1,SNR=33						
RAO				S	**S**	**11 12 23.7**	**-2.0**
	63nm,0.3s,baz=62,slow=23,SNR=0.9						
RAO	**Raoul Island**	**4.13**	**150**	P	**P**	**11 11 19.4**	**-1.5**
RAO	**Raoul Island**	**4.13**	**150**	P	**P**	**11 11 20.0**	**-0.9**
GLKZ	**Green Lake**	**4.14**	**150**	P	**P**	**11 11 22.7**	**+1.7**
GLKZ				S	**S**	**11 12 24.1**	**-1.8**
LKBA	**Tubou, Lakemba**	**7.54**	**11**	P	**P**	**11 11 52.1**	**-1.3**
MSVF	**Nonsavu**	**8.06**	**349**	P	**P**	**11 11 56.9**	**-1.9**
	6.1nm,0.3s,baz=113,slow=20,SNR=33						
MSVF	**Nonsavu**	**8.06**	**349**		**P**	**11 11 56.1**	**-2.7**
TAVE	**Taveuni**	**8.94**	**2**	P	**P**	**11 12 08.1**	**+0.2**
DGTI	**Dogotuki**	**9.34**	**0**	P	**P**	**11 12 12.2**	**+0.1**
OUZ	**Omahuta**	**10.87**	**208**	P	**P**	**11 12 27.4**	**-0.6**
OUZ	**Omahuta**	**10.87**	**208**	P	**P**	**11 12 28.3**	**+0.3**
WCZ	**Waipu Caves**	**11.21**	**203**	P	**P**	**11 12 33.3**	**+1.7**
MARNC	**Mare, Loyalty**	**11.50**	**289**	P	**P**	**11 12 32.6**	**-2.3**
MARNC	**Mare, Loyalty**	**11.50**	**289**	P	**P**	**11 12 35.8**	**+0.9**
KUZ	**Kuaotunu**	**11.54**	**196**	P	**P**	**11 12 35.8**	**+0.7**
PINNC	**Pines Island,**	**11.61**	**283**	P	**P**	**11 12 35.1**	**-0.9**
PINNC	**Pines Island,**	**11.61**	**283**	P	**P**	**11 12 37.4**	**+1.4**
MXZ	**Matakaoa Point**	**11.90**	**185**	P	**P**	**11 12 38.2**	**-0.7**
MXZ	**Matakaoa Point**	**11.90**	**185**	P	**P**	**11 12 40.0**	**+1.0**
MXZ				S	**S**	**11 14 45.1**	**-3.5**
EPAZ	**Eden Park BICE**	**11.94**	**200**	P	**P**	**11 12 42.1**	**+2.9**
WTAZ	**Waiatarua**	**12.04**	**200**	P	**P**	**11 12 41.3**	**+0.9**
HAZ	**Te Kaha**	**12.15**	**187**	P	**P**	**11 12 40.9**	**-0.6**
HAZ				S	**S**	**11 14 49.3**	**-4.0**
WMGZ	**Waiomatatini S**	**12.15**	**185**	P	**P**	**11 12 42.8**	**+1.2**
WMGZ				S	**S**	**11 14 51.2**	**-2.2**
OUENC	**Ouen Island, N**	**12.20**	**283**		**P**	**11 12 41.0**	**-1.4**
OUENC	**Ouen Island, N**	**12.20**	**283**	P	**P**	**11 12 44.0**	**+1.7**
PKGZ	**Pakihiroa**	**12.25**	**186**	P	**P**	**11 12 42.4**	**-0.2**
PKGZ				S	**S**	**11 14 51.7**	**-3.7**
YATNC	**Mamie plateau,**	**12.27**	**284**	P	**P**	**11 12 44.7**	**+1.6**
TGRZ	**Tauranga**	**12.36**	**193**	P	**P**	**11 12 45.4**	**+1.6**
RUGZ	**Raukumara Rang**	**12.37**	**188**	P	**P**	**11 12 43.7**	**-0.2**
RUGZ				S	**S**	**11 14 52.2**	**-5.6**
PUZ	**Puketiti**	**12.41**	**185**	P	**P**	**11 12 43.4**	**-1.0**
PUZ				S	**S**	**11 14 52.0**	**-6.6**
OPRZ	**Ohinepanea**	**12.42**	**192**	P	**P**	**11 12 43.5**	**-0.8**
LIFNC	**LIFOU**	**12.46**	**291**	P	**P**	**11 12 44.0**	**-1.1**
TOZ	**Tahuroa Road**	**12.53**	**196**	P	**P**	**11 12 46.3**	**+0.8**
TWGZ	**Tauwhareparae**	**12.54**	**186**	P	**P**	**11 12 46.0**	**+0.2**
TWGZ				S	**S**	**11 14 57.8**	**-3.4**
DZM	**Mont Dzumac**	**12.66**	**284**	*e*P	**P**	**11 12 48.2**	**+0.9**
	118nm,0.9s						
DZM	**Mont Dzumac**	**12.66**	**284**	P	**P**	**11 12 47.7**	**+0.4**
	1.5nm,0.3s,baz=127,slow=20,SNR=49						
DZM				ScP	**ScP**	**11 20 31.0**	**+3.6**
	0.7nm,0.3s,baz=197,slow=4.3,SNR=9.7						
DZM	**Mont Dzumac**	**12.66**	**284**		**P**	**11 12 46.3**	**-1.0**
DZM	**Mont Dzumac**	**12.66**	**284**	P	**P**	**11 12 48.6**	**+1.3**
URZ	**Urewera**	**12.73**	**189**	P	**P**	**11 12 45.8**	**-1.9**
	15nm,0.3s,baz=119,slow=23,SNR=42						
URZ				S	**S**	**11 15 01.3**	**-3.4**
	5.8nm,0.3s,baz=306,slow=23,SNR=4.2						
URZ	**Urewera**	**12.73**	**189**		**P**	**11 12 46.7**	**-0.9**
URZ	**Urewera**	**12.73**	**189**	P	**P**	**11 12 45.4**	**-2.3**
URZ				S	**S**	**11 15 02.5**	**-2.1**
NOUC	**Port Laguerre**	**12.77**	**283**	P	**P**	**11 12 49.8**	**+1.4**
RAGZ	**Rawiri**	**12.92**	**188**	P	**P**	**11 12 46.2**	**-3.6**
RAGZ				S	**S**	**11 15 07.9**	**-0.6**
HIZ	**Hauiti**	**13.43**	**197**	P	**P**	**11 12 55.0**	**-0.2**
BKZ	**Black Stump Fm**	**13.71**	**191**		**P**	**11 12 58.5**	**+0.4**
AFI	**Afiamalu**	**14.18**	**36**	P	P	11 12 58.7	-4.7
	6.0nm,0.3s,baz=250,slow=1.8,SNR=7.8						
AFI	**Afiamalu**	**14.18**	**36**		**P**	**11 12 60.0**	**-3.4**
AFI	**Afiamalu**	**14.18**	**36**	P	**P**	**11 13 01.6**	**-1.8**
KOUNC	**Koumac, New Ca**	**15.08**	**287**	P	**P**	**11 13 13.4**	**+0.7**
BFZ	**Birch Farm**	**15.23**	**190**	P	**P**	**11 13 14.6**	**+0.5**
SANVU	**Saraoutou**	**15.51**	**309**	P	**P**	**11 13 16.3**	**-1.0**
MSWZ	**Moikau Station**	**16.12**	**192**	P	**P**	**11 13 21.0**	**-2.4**
SNZO	**South Karori**	**16.13**	**194**	P	**P**	**11 13 22.3**	**-1.0**
SNZO				IAmb	IAmb	11 13 31.8	
	comp=Z,42nm,0.9s						
BHW	**Baring Head**	**16.19**	**193**	P	**P**	**11 13 23.2**	**-0.8**
QRZ	**Quartz Range**	**16.24**	**200**	P	**P**	**11 13 24.0**	**-0.5**
PLWZ	**Palliser**	**16.27**	**192**		**P**	**11 13 23.8**	**-1.1**
NNZ	**Nelson**	**16.36**	**197**	P	**P**	**11 13 24.5**	**-1.2**
TUWZ	**Tuamarina**	**16.42**	**196**	P	**P**	**11 13 24.9**	**-1.5**
CMWZ	**Cape Campbell**	**16.66**	**194**	P	**P**	**11 13 28.1**	**-0.8**
BSWZ	**Blackbirch Sta**	**16.70**	**195**	P	**P**	**11 13 28.4**	**-1.0**
THZ	**Tophouse**	**17.00**	**198**	P	**P**	**11 13 31.3**	**-1.1**
KHZ	**Kahutara**	**17.45**	**195**	P	**P**	**11 13 36.0**	**-0.6**
LTZ	**Lake Taylor**	**18.12**	**198**	P	**P**	**11 13 42.1**	**-0.8**
LTZ				IAmb	IAmb	11 13 56.4	
	comp=Z,20nm,0.6s						
OXZ	**Oxford**		**18.69**	**198**	P	**P**	**11 13 47.0**	**-1.0**
MQZ	**McQueen's Vall**		**18.88**	**196**	P	**P**	**11 13 49.1**	**-0.6**
MQZ					IAmb	IAmb	11 13 56.5	
	comp=Z,34nm,1.0s						
RPZ	**Rata Peaks**		**19.32**	**199**	P	**P**	**11 13 53.7**	**-0.2**
RPZ					IAmb	IAmb	11 14 03.5	
	comp=Z,52nm,1.3s						
RAR	**Rarotonga**		**19.34**	**81**	P	**P**	**11 13 52.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=190,slow=5.9,SNR=4.0						
FOZ	**Fox Glacier**		**19.55**	**202**	P	**P**	**11 13 55.1**	**-0.8**
FOZ					IAmb	IAmb	11 14 10.2	
	comp=Z,42nm,1.0s						
LBZ	**Lake Benmore**		**20.20**	**200**	P	**P**	**11 14 00.8**	**-1.0**
LBZ					IAmb	IAmb	11 14 15.5	
	comp=Z,50nm,1.5s						
ODZ	**Otahua Downs**		**20.66**	**198**	P	**P**	**11 14 06.1**	**+0.1**
ODZ					IAmb	IAmb	11 14 18.2	
	comp=Z,12nm,1.1s						
WKZ	**Wanaka**		**20.97**	**202**	P	**P**	**11 14 08.2**	**-0.6**
WKZ					IAmb	IAmb	11 14 36.4	
	comp=Z,35nm,1.1s						
MLZ	**Mavora Lakes**		**21.75**	**202**	P	**P**	**11 14 15.1**	**-0.8**
MLZ					IAmb	IAmb	11 14 21.0	
	comp=Z,20nm,1.0s						
WHZ	**Wether Hill Ro**		**22.26**	**202**	P	**P**	**11 14 20.8**	**+0.3**
WHZ					IAmb	IAmb	11 14 35.4	
	comp=Z,17nm,1.1s						
HNR	**Honiara**		**24.77**	**307**	P	**P**	**11 14 41.9**	**-1.2**
	comp=Z,167nm,0.8s,baz=123,slow=3.2,SNR=5.3						
HNR	**Honiara**		**24.77**	**307**	P	**P**	**11 14 41.6**	**-1.6**
ARMA	**Armidale**		**25.20**	**253**	P	**P**	**11 14 47.1**	**+0.1**
ARMA					IAmb	IAmb	11 14 49.6	

	comp=Z,24nm,0.7s						
EIDS	**Eidsvold**		**25.82**	**264**	P	**P**	**11 14 52.8**	**+0.4**
TARA	**Tarawa**		**27.67**	**345**	P	**P**	**11 15 07.6**	**-1.1**
TARA	**Tarawa**		**27.67**	**345**	P	**P**	**11 15 08.0**	**-0.8**
CAN	**Canberra**		**28.06**	**243**	P	**P**	**11 15 12.5**	**+0.5**
CAN					IAmb	IAmb	11 15 31.0	
	comp=Z,43nm,1.3s						
CTA	**Charters Tower**		**31.27**	**273**	P	**P**	**11 15 40.9**	**+0.8**
	comp=Z,83nm,0.8s,baz=98,slow=11,SNR=131						
CTA					ScP	**ScP**	**11 21 18.7**	**+3.9**
	comp=Z,9.1nm,0.9s,baz=140,slow=0.9,SNR=8.9						
CTAO	**Charters Tower**		**31.27**	**273**	P	**P**	**11 15 40.3**	**+0.2**
TOO	**Toolangi**		**31.29**	**239**	P	**P**	**11 15 40.4**	**+0.4**
TOO					IAmb	IAmb	11 15 52.6	
	comp=Z,37nm,1.5s						
STKA	**Stephens Creek**		**33.85**	**251**	P	**P**	**11 16 02.1**	**+0.2**
	comp=Z,20nm,0.5s,baz=96,slow=11,SNR=106						
STKA					S	**S**	**11 20 49.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=228,slow=19,SNR=2.9						
STKA	**Stephens Creek**		**33.85**	**251**	P	**P**	**11 16 02.7**	**+0.9**
PMG	**Port Moresby**		**34.87**	**292**	P	**P**	**11 16 10.5**	**-0.1**
	comp=Z,85nm,0.8s,baz=111,slow=9.4						
PMG	**Port Moresby**		**34.87**	**292**	P	**P**	**11 16 10.2**	**-0.5**
PMG	**Port Moresby**		**34.87**	**292**	P	**P**	**11 16 10.7**	**+0.1**
BBOO	**Buckleboo**		**38.53**	**249**	P	**P**	**11 16 40.6**	**-0.1**
BBOO					IAmb	IAmb	11 16 41.2	
	comp=Z,40nm,1.1s						
MANU	**Manus Island**		**39.00**	**302**	P	**P**	**11 16 44.2**	**-0.5**
MANU					IAmb	IAmb	11 16 45.4	
	comp=Z,43nm,1.0s						
AS31	**Alice Springs**		**41.52**	**263**	P	**P**	**11 17 05.1**	**+0.3**
AS31					IAmb	IAmb	11 17 06.2	
	comp=Z,18nm,0.6s						
ASAR	**Alice Springs**		**41.52**	**263**	P	**P**	**11 17 05.0**	**+0.2**
	comp=Z,37nm,0.5s,baz=92,slow=7.5,SNR=1161						
ASAR					ScP	**ScP**	**11 21 56.4**	**+3.3**
	comp=Z,2.8nm,1.1s,baz=105,slow=3.5,SNR=6.7						
ASAR					S	**S**	**11 22 43.8**	**-0.3**
	comp=Z,12nm,0.9s,baz=99,slow=16,SNR=33						
ASAR	**Alice Springs**		**41.52**	**263**	P	**P**	**11 17 05.0**	**+0.2**
WR0	**Warramunga Arr**		**41.87**	**268**	P	**P**	**11 17 07.3**	**-0.3**
WB2	**Warramunga Arr**		**42.05**	**268**	P	**P**	**11 17 09.1**	**+0.1**
WRAB	**Tennant Creek**		**42.05**	**268**	P	**P**	**11 17 08.4**	**-0.7**
WRA	**Warramunga Arr**		**42.06**	**268**	P	**P**	**11 17 08.7**	**-0.4**
	comp=Z,51nm,0.5s,baz=103,slow=7.6,SNR=457						
WRA					ScP	**ScP**	**11 21 59.6**	**+4.3**
	comp=Z,8.8nm,1.2s,baz=110,slow=4.3,SNR=7.7						
WRA					S	**S**	**11 22 48.0**	**-3.9**
	comp=Z,13nm,0.9s,baz=101,slow=14,SNR=19						
WRA	**Warramunga Arr**		**42.06**	**268**	P	**P**	**11 17 08.3**	**-0.8**
WB0	**Warramunga Arr**		**42.06**	**268**	P	**P**	**11 17 08.8**	**-0.4**
GENI	**Genyem**		**44.40**	**295**	P	**P**	**11 17 27.3**	**-0.1**
	comp=Z,79nm,1.4s						
FORT	**Forrest**		**45.47**	**251**	P	**P**	**11 17 34.8**	**-0.7**
FORT					IAmb	IAmb	11 17 36.0	
	comp=Z,34nm,0.7s						
KNRA	**Kununurra**		**48.45**	**271**	P	**P**	**11 17 58.6**	**+0.5**
FITZ	**Fitzroy Crossi**		**50.46**	**267**	P	**P**	**11 18 13.4**	**+0.4**
FITZ					IAmb	IAmb	11 18 14.3	
	comp=Z,44nm,1.1s						
FAKI	**Fak Fak**		**50.87**	**288**	P	**P**	**11 18 15.2**	**-0.9**
FAKI					IAmb	IAmb	11 18 16.5	
	comp=Z,33nm,1.4s						
VNDA	**Vanda**		**52.59**	**185**	P	**P**	**11 18 28.8**	**+1.3**
	comp=Z,3.9nm,0.6s,baz=357,slow=7.8,SNR=25						
VNDA					PcP	**PcP**	**11 19 30.5**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=32,slow=3.7,SNR=4.9						
VNDA					ScP	**ScP**	**11 22 41.2**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=0.9,slow=3.1,SNR=5.1						
VNDA	**Vanda**		**52.59**	**185**	P	**P**	**11 18 28.8**	**+1.3**
SBA	**Scott Base**		**52.59**	**183**	P	**P**	**11 18 28.3**	**+0.8**
SBA					IAmb	IAmb	11 18 31.1	
	comp=Z,26nm,1.0s						
SIJI	**Sorong**		**52.77**	**290**	P	**P**	**11 18 29.6**	**-0.2**
	comp=Z,60nm,0.9s,baz=68,slow=4.9,SNR=15						
PSA00	**Pilbara Seismi**		**54.61**	**261**	P	**P**	**11 18 41.8**	**-1.0**
PSA00	**Pilbara Seismi**		**54.61**	**261**	P	**P**	**11 18 42.4**	**-0.3**
PSA00					IAmb	IAmb	11 18 43.4	
	comp=Z,12nm,1.1s						
MORW	**Morawa**		**56.03**	**251**	P	**P**	**11 18 52.1**	**-0.6**
CASY	**Casey**		**58.40**	**206**	P	**P**	**11 19 08.1**	**-0.1**
CASY					IAmb	IAmb	11 19 08.9	
	comp=Z,27nm,0.8s						
GIRL	**Giralia**		**59.27**	**258**	P	**P**	**11 19 15.6**	**+0.8**
QSPA	**South Pole Qui**		**64.41**	**180**	P	**P**	**11 19 49.1**	**+1.3**
	comp=Z,50nm,0.6s,baz=357,slow=0.6,SNR=210						
QSPA	**South Pole Qui**		**64.41**	**180**	P	**P**	**11 19 49.2**	**+1.4**
LEM	**Lembang**		**70.95**	**272**	P	**P**	**11 20 29.0**	**+0.2**
	comp=Z,23nm,0.6s,baz=48,slow=8.9,SNR=5.9						
JYT	**Yasato**		**71.99**	**327**	P	**P**	**11 20 34.2**	**+0.1**
JYT					IAmb	IAmb	11 20 35.2	
	comp=Z,24nm,0.8s						
JGF	**Kuroka**		**72.93**	**325**	P	**P**	**11 20 39.2**	**-0.4**
MJAR	**Matsushiro Arr**		**73.22**	**326**	P	**P**	**11 20 41.2**	**-0.1**
	comp=Z,18nm,0.8s,baz=160,slow=5.6,SNR=42						
MJAR	**Matsushiro Arr**		**73.22**	**326**	P	**P**	**11 20 41.2**	**-0.1**
MJAR					IAmb	IAmb	11 20 41.9	
	comp=Z,13nm,0.8s						
MAT	**Matsushiro**		**73.22**	**326**	P	**P**	**11 20 41.2**	**-0.1**
JMN	**Monobe**		**73.40**	**321**	P	**P**	**11 20 42.4**	**0.0**
JMN					IAmb	IAmb	11 20 43.4	
	comp=Z,22nm,1.0s						
JWT	**Wachi**		**73.72**	**323**	P	**P**	**11 20 44.4**	**+0.3**
JWT					IAmb	IAmb	11 20 45.2	
	comp=Z,20nm,0.7s						
YOJ	**Yonaguni jima**		**74.10**	**308**	P	**P**	**11 20 45.6**	**-0.9**
JSD	**Sado**		**74.36**	**327**	P	**P**	**11 20 47.6**	**-0.1**
JSD					IAmb	IAmb	11 20 48.9	
	comp=Z,20nm,0.9s						
JNU	**Nakatsue**		**74.69**	**319**	P	**P**	**11 20 49.5**	**-0.2**
	comp=Z,8.4nm,0.8s,baz=212,slow=0.7,SNR=6.8						
JNU	**Nakatsue**		**74.69**	**319**	P	**P**	**11 20 49.3**	**-0.4**
BELA	**Belgrano 2**		**74.70**	**173**	P	**P**	**11 20 49.5**	**+0.4**
BELA					IAmb	IAmb	11 20 49.8	
	comp=Z,27nm,0.6s						
JHS	**Saijyo**		**74.76**	**322**	P	**P**	**11 20 50.3**	**+0.3**
JHS					IAmb	IAmb	11 20 52.1	
	comp=Z,30nm,1.1s						
MAW	**Mawson**		**76.00**	**201**	P	**P**	**11 20 57.3**	**+0.9**
	comp=Z,11nm,0.8s,baz=120,slow=7.1,SNR=13						
MAW	**Mawson**		**76.00**	**201**	P	**P**	**11 20 57.1**	**+0.7**
ADK	**Adak**		**77.30**	**2**	P	**P**	**11 21 03.8**	**+0.2**
ADK					IAmb	IAmb	11 21 04.2	
	comp=Z,27nm,0.8s						
ASAJ	**Asahikawa**		**77.33**	**334**	P	**P**	**11 21 05.7**	**+1.7**
	comp=Z,7.7nm,0.8s,baz=304,slow=4.8,SNR=2.3						
NIKH	**Nikolski High**		**78.95**	**7**	P	**P**	**11 21 13.0**	**+0.5**
KSRS	**Korea Array**		**79.45**	**321**	P	**P**	**11 21 16.4**	**+1.0**
	comp=Z,8.0nm,0.7s,baz=134,slow=5.5,SNR=39						
KSAR	**Wonju Array Be**		**79.46**	**320**	P	**P**	**11 21 16.2**	**+0.6**
KS19	**Wonju Array Si**		**79.51**	**321**	P	**P**	**11 21 16.3**	**+0.4**
GO10	**Punta Arenas**		**80.50**	**145**	P	**P**	**11 21 21.4**	**+0.4**
GO09	**Cerro Castillo**		**80.75**	**143**	P	**P**	**11 21 23.4**	**+1.1**
GO09					IAmb	IAmb	11 21 31.0	
	comp=Z,35nm,1.3s						
PEA0B	**Petropavlovsk-**		**80.77**	**347**	P	**P**	**11 21 21.7**	**-0.4**
PEA0B					IAmb	IAmb	11 21 35.5	
	comp=Z,66nm,1.4s						
PETK	**Petropavlovsk-**		**80.77**	**347**	P	**P**	**11 21 22.4**	**+0.3**
	comp=Z,10nm,0.8s,baz=140,slow=7.6,SNR=8.7						
PETK	**Petropavlovsk-**		**80.77**	**347**	P	**P**	**11 21 22.1**	**+0.1**
SYO	**Syowa Base**		**81.22**	**194**	⇑*e*P	**P**	**11 21 24.2**	**-0.1**

VNA3	**Neumayer Olymp**	**83.12**	**177**	pP	pP	11 23 18.9	-3.6		
GSI	**Gunungsitoli**	**83.47**	**275**	P	**P**	**11 21 36.8**	**-0.1**		
GSI				IAmb	IAmb	11 21 49.6			
	comp=Z,23nm,0.7s								
VNA2	**Neumayer--Watz**	**83.53**	**178**	P	**P**	**11 21 35.1**	**-0.9**		
	baz=170,slow=4.2								
VNA2	**Neumayer--Watz**	**83.53**	**178**	PcP	**PcP**	**11 21 38.4**	**-0.7**		
VNA2	**Neumayer--Watz**	**83.53**	**178**	pP	pP	11 23 20.0	-4.5		
VNA1	**Neumayer--Stat**	**83.77**	**177**	P	**P**	**11 21 35.9**	**-1.3**		
VNA1	**Neumayer--Stat**	**83.77**	**177**	PcP	**PcP**	**11 21 39.1**	**-1.0**		
VNA1	**Neumayer--Stat**	**83.77**	**177**	pP	pP	11 23 21.4	-4.4		
SLBS	**Sierra La Lagu**	**83.91**	**60**	P	**P**	**11 21 39.3**	**+0.5**		
SLBS				IAmb	IAmb	11 21 41.4			
	comp=Z,9.8nm,0.8s								
CMB	**Columbia Colle**	**84.67**	**43**	P	**P**	**11 21 43.0**	**+0.8**		
AFDM	**Forest Hills D**	**84.88**	**42**	P	**P**	**11 21 43.6**	**+0.4**		
LL02	**Futaleuf**	**85.11**	**136**	P	**P**	**11 21 45.7**	**+1.3**		
LL02				IAmb	IAmb	11 21 46.8			
	comp=Z,28nm,0.8s								
CN2	**Changchun**	**85.17**	**324**	*e*P	**P**	**11 21 45.4**	**+1.0**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
BEKR	**Beckworth**	**85.83**	**42**	P	**P**	**11 21 47.8**	**-0.2**		
HSIG		**85.94**	**55**	P	**P**	**11 21 47.2**	**-1.3**		
HSIG				IAmb	IAmb	11 21 50.9			
	comp=Z,6.5nm,0.8s								
113A	**Mohawk Valley,**	**85.95**	**51**	P	**P**	**11 21 48.6**	**+0.1**		
KLR	**Kul'dur**	**85.95**	**331**	P	**P**	**11 21 49.1**	**+1.0**		
	comp=Z,3.2nm,0.8s,baz=159,slow=2.5,SNR=11								
NVAR	**Mina Array Bea**	**86.21**	**44**	P	**P**	**11 21 51.1**	**+1.2**		
	comp=Z,1.3nm,0.8s,baz=215,slow=7.4,SNR=12								
NVAR	**Mina Array Bea**	**86.21**	**44**	P	**P**	**11 21 50.5**	**+0.6**		
TPH	**Tonopah**	**86.68**	**45**	P	**P**	**11 21 51.8**	**-0.2**		
TPH				IAmb	IAmb	11 21 54.5			
	comp=Z,19nm,1.1s								
KVN	**Kaiserville**	**86.71**	**44**	P	**P**	**11 21 52.4**	**+0.2**		
PLCA	**Paso Flores**	**87.21**	**134**	P	**P**	**11 21 56.2**	**+1.6**		
	comp=Z,6.2nm,0.7s,baz=243,slow=4.7,SNR=12								
PLCA	**Paso Flores**	**87.21**	**134**	P	**P**	**11 21 56.0**	**+1.4**		
PLCA				IAmb	IAmb	11 21 57.4			
	comp=Z,29nm,1.5s								
TUC	**Tucson**	**87.81**	**53**	P	**P**	**11 21 58.2**	**+0.9**		
TUC				IAmb	IAmb	11 22 00.7			
	comp=Z,7.1nm,1.0s								
EFI	**East Falkland**	**87.84**	**148**	P	**P**	**11 21 58.3**	**+1.2**		
BJI	**Beijing**	**88.14**	**317**	P	**P**	**11 21 59.9**	**+1.3**		
BJI				pmax	pmax				
	comp=Z,11nm,0.9s								
319A	**Douglas**	**88.40**	**54**	P	**P**	**11 22 00.6**	**+0.4**		
319A				IAmb	IAmb	11 22 03.5			
	comp=Z,16nm,1.0s								
WVOR	**Wild Horse Val**	**88.43**	**41**	P	**P**	**11 21 59.7**	**-0.3**		
X16A	**Lo Mia Camp, P**	**88.47**	**50**	P	**P**	**11 22 00.8**	**+0.3**		
LCMT	**Little Creek M**	**88.66**	**47**	P	**P**	**11 22 01.6**	**+0.2**		
CCUT	**Cedar City**	**88.88**	**47**	P	**P**	**11 22 01.9**	**-0.6**		
HPIG		**88.89**	**59**	P	**P**	**11 22 02.9**	**+0.2**		
HPIG				IAmb	IAmb	11 22 04.7			
	comp=Z,5.7nm,0.8s								
I07A	**Izee**	**88.94**	**39**	P	**P**	**11 22 02.3**	**-0.1**		
KNB	**Kanab**	**88.95**	**48**	P	**P**	**11 22 01.3**	**-1.4**		
U15A	**North Rim**	**88.98**	**48**	P	**P**	**11 22 02.2**	**-0.8**		
SPR3	**Spring Creek 3**	**89.06**	**45**	P	**P**	**11 22 03.6**	**+0.3**		
J08A	**Circle Bar Ran**	**89.08**	**40**	P	**P**	**11 22 02.4**	**-0.7**		
PKCU	**Pink Cliffs**	**89.52**	**48**	P	**P**	**11 22 04.2**	**-1.3**		
PKCU				IAmb	IAmb	11 22 08.8			
	comp=Z,6.1nm,1.0s								
XAN	**Xi'an**	**89.64**	**308**	P	**P**	**11 22 06.8**	**+1.0**		
XAN				pmax	pmax				
	comp=Z,17nm,0.9s								
KMI	**Kunming**	**89.86**	**298**	⇑P	**P**	**11 22 08.9**	**+1.6**		
KMI				pmax	pmax				
	comp=Z,12nm,1.3s								
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P	**P**	**11 22 09.3**	**+2.0**		
	comp=Z,3.0nm,0.8s,baz=133,slow=3.3,SNR=16								
CMAR				PP	**PP**	**11 25 48.7**	**-0.4**		
	comp=Z,1.1nm,0.7s,baz=131,slow=4.6,SNR=5.9								
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P	**P**	**11 22 08.1**	**+0.8**		
MTPU	**Mount Pierson**	**89.93**	**47**	P	**P**	**11 22 08.2**	**+0.8**		
MTPU				IAmb	IAmb	11 22 10.6			
	comp=Z,4.8nm,0.9s								
CHTO	**Chiang Mai**	**90.06**	**291**	P	**P**	**11 22 08.1**	**+0.1**		
CHTO				IAmb	IAmb	11 22 10.5			
	comp=Z,7.4nm,0.8s								
BO02	**Sierra Bellavi**	**90.18**	**129**	P	**P**	**11 22 07.9**	**-0.6**		
BO02				IAmb	IAmb	11 22 10.4			
	comp=Z,11nm,0.8s								
MT01	**Popeta**	**90.33**	**128**	P	**P**	**11 22 09.3**	**+0.2**		
MT09	**Talagante**	**90.57**	**128**	P	**P**	**11 22 09.9**	**-0.5**		
MT09				IAmb	IAmb	11 22 11.9			
	comp=Z,17nm,1.1s								
MNTX	**Cornudas Mount**	**91.44**	**55**	P	**P**	**11 22 12.8**	**-1.4**		
HHC	**Hu-ho-hao-te**	**91.49**	**315**	*e*P	**P**	**11 22 15.1**	**+0.8**		
HHC				pmax	pmax				
	comp=Z,24nm,0.7s								
HHC				pmax	pmax				
	comp=Z,130nm,6.7s								
TX31	**Lajitas Ar. Si**	**91.59**	**58**	P	**P**	**11 22 16.0**	**+1.0**		
TX31				IAmb	IAmb	11 22 17.4			
	comp=Z,15nm,1.0s								
TX32	**Lajitas Array**	**91.59**	**58**	P	**P**	**11 22 15.5**	**+0.5**		
TX32				IAmb	IAmb	11 22 17.4			
	comp=Z,4.6nm,0.9s								
TXAR	**Lajitas Array**	**91.59**	**58**	P	**P**	**11 22 16.4**	**+1.3**		
	comp=Z,2.9nm,0.9s,baz=216,slow=6.4,SNR=35								
SRU	**San Rafael Swe**	**91.60**	**47**	P	**P**	**11 22 15.8**	**+0.9**		
SRU				IAmb	IAmb	11 22 16.9			
	comp=Z,4.4nm,1.0s								
TRF	**Thorofare Moun**	**91.94**	**13**	P	**P**	**11 22 14.8**	**-1.0**		
TRF				IAmb	IAmb	11 22 16.4			
	comp=Z,4.5nm,0.8s								
ILAR	**Eielson Array**	**93.82**	**14**	P	**P**	**11 22 23.6**	**-0.6**		
	comp=Z,0.5nm,0.7s,baz=223,slow=4.9,SNR=11								
ILAR				PP	**PP**	**11 26 15.9**	**-2.8**		
	comp=Z,0.5nm,0.8s,baz=221,slow=6.6,SNR=2.5								
PDAR	**Pinedale Array**	**94.15**	**44**	P	**P**	**11 22 27.0**	**+0.4**		
	comp=Z,0.3nm,0.7s,baz=201,slow=4.8,SNR=2.1								
LZH	**Lanzhou**	**94.26**	**308**	⇓P	**P**	**11 22 27.6**	**+0.4**		
LZH				pP	pwP	11 24 23.9	+0.8		
LZH				pmax	pmax				
	comp=Z,20nm,1.3s								
LZH				pmax	pmax				
	comp=Z,130nm,5.7s								
SONM	**Songino Array**	**98.28**	**319**	P	Pdif	11 22 45.3	+0.4		
	comp=Z,1.0nm,0.9s,baz=160,slow=4.7,SNR=4.3								
MKAR	**Makanchi Array**	**113.16**	**312**	PP	**PP**	**11 28 39.7**	**-1.6**		
	comp=Z,0.4nm,0.9s,baz=103,slow=8.8,SNR=3.6								
MKAR				SKP		11 30 31.5			
	comp=Z,1.6nm,0.8s,baz=70,slow=3.1,SNR=9.2								
MKAR				PKKPbc	**PKKPbc**	**11 38 30.1**	**+0.3**		
	comp=Z,0.9nm,0.6s,baz=277,slow=3.9,SNR=8.5								
KURBB	**Kurchatov Arra**	**116.34**	**316**	PKP	**PKPdf**	**11 27 46.7**	**-0.9**		
	comp=Z,0.8nm,0.3s,baz=109,slow=2.0,SNR=4.5								
KURBB				PP	**PP**	**11 28 56.7**	**-6.5**		
	comp=Z,0.8nm,0.8s,baz=92,slow=6.8,SNR=5.0								
KURBB				SKP		11 30 37.1			
	comp=Z,2.1nm,0.8s,baz=110,slow=2.1,SNR=11								
BVAR	**Borovoye Array**	**121.59**	**318**	PKP	**PKPdf**	**11 27 57.2**	**-0.5**		
	comp=Z,0.8nm,0.5s,baz=162,slow=10,SNR=5.1								
AKTO	**Aktyubinsk**	**129.39**	**315**	PKP	**PKPdf**	**11 28 13.5**	**+0.9**		
	comp=Z,1.3nm,0.6s,baz=184,slow=1.6,SNR=4.6								
AKTO				SKPbc	SKPbc	11 30 48.3	+0.8		
	comp=Z,0.6nm,0.4s,baz=129,slow=7.7,SNR=4.3								
GEYT	**Alibeck**	**129.62**	**299**	SKPbc	SKPbc	11 30 52.1	+3.4		
	comp=Z,5.7nm,0.8s,baz=211,slow=1.7,SNR=7.6								
KIRV	**Kirov**	**132.29**	**327**	SKPbc	**SKPab**	**11 30 59.7**	**+0.4**		
	comp=Z,11nm,0.5s,baz=232,slow=2.1,SNR=4.5								
ARCES	**ARCESS Array B**	**133.57**	**348**	PKP	**PKPdf**	**11 28 20.3**	**+0.3**		
	comp=Z,4.0nm,0.9s,baz=51,slow=7.1,SNR=4.4								
ARCES				SKPbc	**SKPab**	**11 31 03.8**	**-0.8**		
	comp=Z,15nm,0.9s,baz=52,slow=3.2,SNR=13								
KMBO	**Kilima Mbogo**	**134.99**	**239**	SKPbc	**SKPbc**	**11 31 11.0**	**+2.8**		
	comp=Z,2.0nm,0.3s,baz=52,slow=5.4,SNR=6.2								
BELG	**Belogornoye**	**135.34**	**320**	SKPbc	**SKPbc**	**11 31 09.0**	**+1.4**		
	comp=Z,30nm,0.9s,baz=60,slow=2.7,SNR=5.5								
FINES	**FINESS Array B**	**140.04**	**341**	PKhKP	PKPpre	11 28 24.8			
	comp=Z,3.0nm,0.7s,baz=46,slow=4.0,SNR=2.6								
FINES				SKPbc	**SKiKP**	**11 31 23.2**	**+0.1**		
	comp=Z,14nm,0.7s,baz=93,slow=3.8,SNR=19								
FINES	**FINESS Array B**	**140.04**	**341**		**PKPdf**	**11 28 32.3**	**+0.2**		
MARD	**Mardin**	**143.38**	**299**	PKPdf	PKPbc	11 28 38.3	+0.9		
NC303	**NORSAR Array S**	**143.59**	**351**		PKPab	11 28 36.9	-0.1		
NB201	**NORSAR Array S**	**143.77**	**350**		PKPab	11 28 37.8	+0.1		
NOA	**NORSAR Array B**	**143.79**	**351**	PKP	PKPbc	11 28 37.3	-0.5		
	comp=Z,3.1nm,0.7s,baz=16,slow=5.0,SNR=31								
NA001	**NORSAR Array S**	**144.03**	**351**		PKPbc	11 28 38.6	+0.1		
NC602	**NORSAR Array S**	**144.03**	**350**		PKPbc	11 28 38.2	-0.3		
PABE	**Paberze**	**145.34**	**336**	PKPdf	**PKPbc**	**11 28 42.8**	**+0.1**		
AKASG	**Malin Array Be**	**146.31**	**326**	PKPbc	**PKPbc**	**11 28 45.2**	**-0.4**		
	comp=Z,6.1nm,0.6s,baz=42,slow=4.0,SNR=12								
AKASG				SKPbc	**SKiKP**	**11 31 38.5**	**+2.1**		
	comp=Z,6.9nm,0.8s,baz=47,slow=2.7,SNR=8.4								
ILGA	**Ilgaz**	**147.97**	**307**		**PKPbc**	**11 28 50.4**	**-0.2**		
MMAI	**Mount Meron Ar**	**148.16**	**292**	PKPbc	**PKiKP**	**11 28 52.6**	**+0.1**		
	comp=Z,10nm,0.6s,baz=69,slow=5.4,SNR=12								
BR131	**Keskin Array S**	**148.41**	**305**		**PKPbc**	**11 28 50.9**	**-0.8**		
BR131				PKPab	**PKPab**	**11 28 57.1**	**+0.2**		
BRTR	**Keskin Array B**	**148.41**	**305**	PKPbc	**PKPbc**	**11 28 51.7**	**0.0**		
	comp=Z,2.2nm,0.7s,baz=135,slow=4.0,SNR=11								
BRTR				PKPab	**PKPab**	**11 28 57.0**	**+0.2**		
	comp=Z,7.7nm,0.7s,baz=113,slow=3.5,SNR=26								
BRTR	**Keskin Array B**	**148.41**	**305**		**PKPbc**	**11 28 51.5**	**-0.1**		
BRTR				PKPab	**PKPab**	**11 28 57.7**	**+0.8**		
CSS	**Mathiatis**	**149.66**	**296**	PKPdf	**PKPdf**	**11 28 48.9**	**-0.6**		
CSS					**PKiKP**	**11 28 55.7**	**+0.3**		
CSS				PKPab	**PKPab**	**11 29 02.1**	**+0.1**		
MDUB	**Mudurnu**	**149.96**	**307**		**PKPbc**	**11 28 54.6**	**-0.8**		
MDUB					**PKPab**	**11 29 02.6**	**-0.7**		
CFR	**Carcaliu**	**150.00**	**318**	⇑P	**PKPbc**	**11 28 55.2**	**+0.1**		
KWP	**Kalwaria Pacla**	**150.18**	**329**		**PKPbc**	**11 28 55.4**	**0.0**		
KWP				PKPab	**PKPab**	**11 29 03.7**	**+0.1**		
BIZ	**Bicaz**	**150.20**	**322**	⇓P	**PKiKP**	**11 28 56.8**	**+0.6**		
BUR08	**Bucovina Ar. S**	**150.26**	**324**	PKPdf	**PKPdf**	**11 28 49.2**	**-0.9**		
BUR08					**PKPbc**	**11 28 56.5**	**+0.7**		
BURAR	**Bucovina Array**	**150.27**	**324**	⇑P	**PKiKP**	**11 28 57.6**	**+1.2**		
BURAR	**Bucovina Array**	**150.27**	**324**		**PKPbc**	**11 28 56.5**	**+0.7**		
BURAR				PKPab	**PKPab**	**11 29 04.9**	**+0.6**		
EKA	**Eskdalemuir Ar**	**150.31**	**3**	PKPbc	**PKPbc**	**11 28 55.4**	**-0.1**		
	comp=Z,0.7nm,0.3s,baz=357,slow=2.8,SNR=3.8								
HARR	**Harsova**	**150.37**	**317**	⇑P	**PKPbc**	**11 28 56.3**	**+0.3**		
MLR	**Muntele Rosu**	**151.13**	**320**	PKPbc	**PKiKP**	**11 28 58.9**	**+0.6**		
	comp=Z,1.9nm,0.6s,baz=28,slow=5.0,SNR=3.5								
MLR	**Muntele Rosu**	**151.13**	**320**	⇑P	**PKPbc**	**11 28 58.2**	**+0.3**		
CRVS	**Cernavica-Dubn**	**151.27**	**329**	*e*PKP	**PKiKP**	**11 28 59.6**	**+1.3**		
CLL	**Collm**	**152.47**	**342**	*i* PKPbc	**PKPbc**	**11 29 00.7**	**+0.2**		
	comp=Z,8.0nm,1.0s								
CLL				*e*PKPab	**PKPab**	**11 29 13.0**	**-0.2**		
	comp=Z,10.0nm,0.8s								
VRAC	**Vranov**	**153.00**	**335**	PKPbc	**PKPbc**	**11 29 02.2**	**+0.4**		
	comp=Z,2.2nm,0.4s,baz=114,slow=5.7,SNR=2.3								
VTS	**Vitosha**	**154.36**	**317**	PKPab	**PKPab**	**11 29 22.5**	**+0.7**		
GERES	**GERESS Array B**	**154.42**	**338**	PKPab	**PKPab**	**11 29 21.8**	**+0.1**		
	comp=Z,0.5nm,0.2s,baz=26,slow=3.4,SNR=4.2								
WTTA	**Wattenberg**	**156.48**	**339**	*e*P	**PKPab**	**11 29 29.3**	**-1.5**		
	comp=Z,5.9nm,1.0s								
RETA	**Reutte**	**156.55**	**341**	*e*P	**PKPab**	**11 29 31.4**	**+0.5**		
	comp=Z,7.1nm,1.0s								
MOTA	**Moosalm**	**156.57**	**340**	*e*P	**PKPab**	**11 29 31.6**	**+0.5**		
	comp=Z,8.0nm,1.1s								
SQTA	**Sankt Quirin**	**156.65**	**340**	*e*P	**PKPab**	**11 29 31.9**	**+0.4**		
	comp=Z,2.9nm,0.5s								
FETA	**Feichten**	**156.98**	**340**	*e*P	**PKPab**	**11 29 32.2**	**-0.7**		
	comp=Z,5.7nm,1.2s								
DAVA	**Damuels**	**156.98**	**342**	*e*P	**PKPab**	**11 29 33.2**	**+0.3**		
	comp=Z,7.6nm,1.1s								
DAVOX	**Davos/Dischmat**	**157.44**	**342**	PKPab	**PKPab**	**11 29 35.6**	**+0.6**		
	comp=Z,7.0nm,0.7s,baz=10,slow=4.5,SNR=13								
LIC	**Lamto**	**160.13**	**166**	*e*PKP2	**PKPab**	**11 29 47.8**	**+0.7**		
	comp=Z,53nm,1.0s								
KIC	**Kosan Boka**	**160.32**	**167**	*e*PKP2	**PKPab**	**11 29 48.4**	**+0.4**		
	comp=Z,18nm,0.7s								
TIC	**Toumodi**	**160.53**	**166**	*e*PKP2	**PKPab**	**11 29 49.6**	**+0.6**		
DBIC	**Dimonkro**	**160.59**	**166**	PKPab	**PKPab**	**11 29 49.9**	**+0.7**		
	comp=Z,8.5nm,0.9s,baz=141,slow=7.5,SNR=5.1								
ESDC	**Sonseca Array**	**165.71**	**12**	PKPab	**PKPab**	**11 30 11.2**	**0.0**		
	comp=Z,1.4nm,0.8s,baz=339,slow=3.9,SNR=8.5								
ESDC	**Sonseca Array**	**165.71**	**12**		**PKPab**	**11 30 10.7**	**-0.5**		
TOA0	**Torodi Ar. Sit**	**167.39**	**189**	PKPab	**PKPab**	**11 30 19.4**	**+0.4**		
TORD	**Torodi Ar. Bea**	**167.39**	**189**	PKP	**PKPdf**	**11 29 10.5**	**-0.1**		
	comp=Z,1.2nm,0.8s,baz=56,slow=0.2,SNR=4.5								
TORD				PKPab	**PKPab**	**11 30 19.3**	**+0.3**		
	comp=Z,6.6nm,0.7s,baz=172,slow=3.7,SNR=23								
TORD	**Torodi Ar. Bea**	**167.39**	**189**	PKPdf	**PKPdf**	**11 29 10.9**	**+0.3**		
TORD				PKPab	**PKPab**	**11 30 19.3**	**+0.3**		

IDC 01 11:11:32.9±2.5, 27.16N×139.94E, h68km±61km, mb2.6/4, mb1 2.7/5, mb1mx2.4/63, mbtmp3.7/5, Error ellipse: s-maj=149.2km s-min=40.2km az=88.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.00**	**91**	P		P	P	11 12 54.3	+1.1
	12nm,0.3s,baz=280,slow=23,SNR=20								
JCJ				S		S	S	11 13 58.8	+0.1
	17nm,0.3s,baz=264,slow=23,SNR=15								
SONM	**Songino Array**	**33.30**	**317**	P		P	P	11 17 19.1	+0.1
	0.4nm,0.3s,baz=131,slow=8.3,SNR=4.3								
ZALV	**Zalesovo Beam**	**48.13**	**319**	P		P	P	11 19 14.0	-1.1
	0.7nm,0.4s,baz=90,slow=4.3,SNR=2.2								
MKAR	**Makanchi Array**	**48.89**	**310**	P		P	P	11 19 21.8	+1.0
	0.3nm,0.4s,baz=88,slow=7.5,SNR=5.5								
BVAR	**Borovoye Array**	**56.64**	**317**	P		P	P	11 20 15.0	-0.2
	0.7nm,0.4s,baz=79,slow=10,SNR=5.1								

*SOME **01** 11:14:54.7, 39.52N×75.42E, h10km*
*NNC **01** 11:14:55.2±3.4, 39.49N×75.16E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=26.8km s-min=19.8km az=131.0*
*KRNET **01** 11:14:56.6±0.1, 39.43N×75.42E, mb3.3*

ISC 01 11:14:59.9±1.5, 39.65N±0.07×75.38E±0.04, h10km, n38, σ1°78/65, 25C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.49**	**285**	⇑*i*P		P	**Pn**	**11 15 26.8**	**-0.1**
	baz=92								
SFK				⇑*i*S		S	**Sg**	**11 15 48.1**	**+0.3**
	baz=92								
OHH	**Osh**	**2.17**	**294**	⇑*i*P		P	**Pb**	**11 15 38.5**	**-0.8**
	baz=99								
OHH				⇑*i*S		S	**Sg**	**11 16 08.7**	**-1.0**
	baz=99								
ARLS	**Aral**	**2.34**	**340**	⇑*i*P		P	**Pb**	**11 15 41.6**	**-0.8**
	baz=41								
ARLS				⇑*i*S		S	**Sg**	**11 16 14.7**	**-0.6**
	baz=41								
ARSB	**Arslanbob**	**2.47**	**313**	⇑*i*P		P	**Pb**	**11 15 43.3**	**-1.3**
	baz=16								
ARSB				⇑*i*S		S	**Sg**	**11 16 16.9**	**-2.5**
	baz=16								
ULHL	**Ulahol**	**2.67**	**14**	⇑*i*P		P	**Pb**	**11 15 45.9**	**-2.1**
	baz=12								
ULHL				⇑*i*S		S	**Sg**	**11 16 22.4**	**-3.4**
	baz=12								
DRK	**Karamyk**	**2.77**	**268**	⇑*i*P		P	**Pn**	**11 15 45.1**	**+0.5**
	baz=72								
DRK				⇑*i*S		S	**Sb**	**11 16 20.7**	**-3.1**
	baz=72								
AML	**Almayashu**	**2.78**	**333**	⇑*i*P		P	**Pb**	**11 15 47.7**	**-2.3**
	baz=35								
AML				⇑*i*S		S	**Sb**	**11 16 24.7**	**+0.4**
	baz=35								
BOOM	**Boomskoye usch**	**2.87**	**8**	⇓*i*P		P	**Pb**	**11 15 49.2**	**-2.1**
	baz=7.0								
BOOM				⇓*i*S		S	**Sb**	**11 16 27.4**	**+1.0**
	baz=7.0								
KBK	**Karagaybulak**	**3.02**	**354**	⇑*i*P		P	**Pb**	**11 15 51.2**	**-2.7**
	baz=54								
KBK				⇑*i*S		S	**Sb**	**11 16 31.1**	**+0.3**
	baz=54								
FRU1	**Bishkek**	**3.20**	**350**	⇓*i*P		P	**Pb**	**11 15 54.1**	**-2.9**
	baz=50								
FRU1				⇓*i*S		S	**Sb**	**11 16 36.0**	**-0.1**
	baz=50								
TKM2	**Tokmak 2**	**3.27**	**3**	⇑Pn		P	**Pn**	**11 15 52.0**	**+0.6**
	6.1nm,0.6s								
TKM2				⇑Lg		Lg	Lg	11 16 46.1	
	21nm,0.8s								
KST	**Kastek**	**3.42**	**7**	*e*P		P	**Pb**	**11 16 00.7**	**+0.1**
	8.2nm,0.3s								
KST				*e*S		S	**Sg**	**11 16 48.4**	**-1.2**
	24nm,0.5s								
KST	**Kastek**	**3.42**	**7**	Pg		P	**Pb**	**11 16 00.0**	**-0.6**
	8.2nm,0.3s								
KST				Lg		Lg	Lg	11 16 48.4	
	24nm,0.5s								
MRKS	**Merke**	**3.49**	**333**	*e*P		P	**Pb**	**11 16 02.7**	**+0.9**
	3.6nm,0.3s								
MRKS				*e*S		S	**Sg**	**11 16 51.9**	**-0.1**
	14nm,0.5s								
MRKS	**Merke**	**3.49**	**333**	Pg		P	**Pb**	**11 16 02.7**	**+0.9**
	3.6nm,0.3s								
MRKS				Lg		Lg	Lg	11 16 51.9	
	14nm,0.5s								
IZV	**Izvestkoviy**	**3.50**	**15**	*e*P		P	**Pb**	**11 16 03.2**	**+1.0**
	4.2nm,0.5s								
IZV				*e*S		S	**Sg**	**11 16 52.6**	**+0.1**
	16nm,0.6s								
BTK	**Batken**	**3.53**	**278**	⇑*i*P		P	**Pn**	**11 15 55.9**	**+1.0**
	baz=81								
BTK				⇑*i*S		S	**Sn**	**11 16 39.6**	**+2.8**
	baz=81								
MTBS	**Maitube**	**3.56**	**13**	*e*P		P	**Pb**	**11 16 02.7**	**-0.4**
	2.3nm,0.3s								
MTBS				*e*S		S	**Sg**	**11 16 52.1**	**-2.3**
	11nm,0.3s								
MTBS	**Maitube**	**3.56**	**13**	Pg		P	**Pb**	**11 16 02.7**	**-0.4**
	2.8nm,0.3s								
MTBS				Lg		Lg	Lg	11 16 52.1	
	11nm,0.3s								
MNAS	**Manas**	**3.57**	**323**	⇑*i*P		P	**Pn**	**11 15 58.1**	**+2.6**
	baz=25								
MNAS				⇑*i*S		S	**Sb**	**11 16 44.0**	**-2.6**
	baz=25								
DGS	**Degeres**	**3.60**	**5**	*e*P		P	**Pb**	**11 16 04.4**	**+0.7**
	5.2nm,0.6s								
DGS				*e*S		S	**Sg**	**11 16 54.7**	**-0.8**
	10.0nm,0.5s								
DGS	**Degeres**	**3.60**	**5**	Pg		P	**Pb**	**11 16 04.0**	**+0.3**
	8.0nm,0.5s								
DGS				Lg		Lg	Lg	11 16 54.7	
	10.0nm,0.5s								
MDOK	**Medeo**	**3.72**	**19**	*e*P		P	**Pb**	**11 16 05.9**	**0.0**
	3.0nm,0.6s								
MDOK				*e*S		S	**Sg**	**11 16 57.2**	**-2.3**
	9.1nm,1.5s								
TRKS	**Terek-Say**	**3.73**	**302**	⇑*i*P		P	**Pn**	**11 15 59.0**	**+1.3**
	baz=3.0								
TRKS				⇑*i*S		S	**Sn**	**11 16 45.3**	**+3.5**
	baz=3.0								
KOTS	**Kotyrbulak**	**3.81**	**19**	*e*P		P	**Pb**	**11 16 05.2**	**-2.1**
	12nm,0.3s								
KOTS				*e*S		S	**Sb**	**11 16 55.8**	**+2.2**
	12nm,0.5s								
KOTS	**Kotyrbulak**	**3.81**	**19**	Pg		P	**Pb**	**11 16 05.2**	**-2.1**
	12nm,0.3s								
KOTS				Lg		Lg	Lg	11 16 55.7	
	12nm,0.5s								
SGDS	**Sogindy**	**3.84**	**352**	Pg		P	**Pb**	**11 16 08.0**	**+0.3**
	5.1nm,0.4s								
SGDS				Lg		Lg	Lg	11 17 00.7	
	8.4nm,0.8s

FITZ					IAmb	IAmb	11 24 34.7		
	comp=Z,9.7nm,1.4s								
NIL	**Nilore**	**115.90**	**299**			**PKiKP**	**11 33 34.2**	**+2.1**	
BFO	**Black Forest**	**150.36**	**352**			**PKPdf**	**11 34 36.5**	**+1.7**	

*NEIC **01** 11:17:48.6±2.6, 18°.72N±0°.07×65°.08W±0°.03, h22km±2km, Error ellipse: s-maj=10.7km s-min=3.9km az=167.0*
*RSPR **01** 11:17:48.4, 18°.80N×65°.02W, h15km±1km, MD2.8/5*
ISC 01 11:17:46.6±1.1, 18°.86N±0°.05×65°.08W±0°.03, h10km, n23, σ0§79/32, 11C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.52**	**167**	⇑*eP*	**Pg**	**11 17 56.8**	**+0.2**
STVI	**Saint Thomas**	**0.52**	**167**	⇑*eP*	**Pg**	**11 17 56.8**	**+0.2**
STVI				*eS*	**Sg**	**11 18 03.4**	**0.0**
STVI	**Saint Thomas**	**0.52**	**167**		**Pg**	**11 17 56.8**	**+0.2**
STVI					**Sg**	**11 18 03.4**	**0.0**
CUPR	**Culebra, Puert**	**0.58**	**200**	⇑*eP*	**Pg**	**11 17 58.3**	**+0.5**
CUPR	**Culebra, Puert**	**0.58**	**200**	*eS*	**Sb**	**11 18 06.4**	**-0.7**
CUPR	**Culebra, Puert**	**0.58**	**200**		**Pg**	**11 17 58.3**	**+0.5**
CUPR					**Sb**	**11 18 06.4**	**-0.7**
ABV	**Anegada**	**0.72**	**100**	⇑*eP*	**Pg**	**11 17 59.9**	**-0.6**
ABV	**Anegada**	**0.72**	**100**	⇑*eP*	**Pg**	**11 17 59.9**	**-0.6**
ABVI	**Anegada Island**	**0.72**	**100**		**Pg**	**11 17 59.9**	**-0.6**
MTP	**Monte Pirata**	**0.88**	**211**	⇑*eP*	**Pg**	**11 18 03.3**	**-0.2**
MTP	**Monte Pirata**	**0.88**	**211**	⇑*eP*	**Pg**	**11 18 03.3**	**-0.2**
MTP				*eS*	**Sg**	**11 18 14.5**	**-0.5**
MTP	**Monte Pirata**	**0.88**	**211**		**Pg**	**11 18 03.3**	**-0.2**
MTP					**Sg**	**11 18 14.5**	**-0.5**
CBYP	**Canovanas**	**0.94**	**232**	⇑*eP*	**Pg**	**11 18 04.3**	**-0.3**
CBYP	**Canovanas**	**0.94**	**232**	⇑*eP*	**Pg**	**11 18 04.3**	**-0.3**
CBYP				*eS*	**Sg**	**11 18 16.3**	**-0.7**
CBYP	**Canovanas**	**0.94**	**232**		**Pg**	**11 18 04.3**	**-0.3**
CBYP					**Sg**	**11 18 16.3**	**-0.7**
HUMP	**Col San Antoni**	**1.02**	**226**	⇑*eP*	**Pg**	**11 18 05.3**	**-0.9**
HUMP	**Col San Antoni**	**1.02**	**226**	⇑*eP*	**Pg**	**11 18 05.3**	**-0.9**
HUMP				*eS*	**Sg**	**11 18 18.1**	**-1.4**
HUMP	**Col San Antoni**	**1.02**	**226**		**Pg**	**11 18 05.3**	**-0.9**
HUMP					**Sg**	**11 18 18.1**	**-1.4**
SJG	**San Juan**	**1.26**	**234**	Pn	**Pg**	**11 18 12.0**	**+1.2**
SJG				IAML		11 18 17.0	
	28nm,0.3s						
SEUS	**St. Eustatius**	**2.41**	**124**	Pn	**Pn**	**11 18 27.2**	**+1.1**
SEUS				IAML		11 19 28.8	
	comp=E,462nm,0.1s						
ANWB	**Willy Bob**	**3.34**	**110**	Pn	**Pn**	**11 18 38.8**	**-0.1**
ANWB				IAML		11 19 16.9	
	comp=E,68nm,1.6s						
ANWB				IAML		11 20 45.1	
	comp=E,78nm,1.9s						
SDDR	**Presa de Saban**	**5.88**	**272**	Pn	**Pn**	**11 19 15.5**	**+1.6**
GRTK	**Grand Turk**	**6.27**	**296**	Pn	**Pn**	**11 19 20.4**	**+1.3**

*WEL **01** 11:18:00.6±0.4, 46°.S±4°×17°.0E±°, h5km, M4.7/12, ML4.8/12, MLv4.7/12, Error ellipse: s-maj=0.0km s-min=0.0km az=158.5*
*IDC **01** 11:18:00.0±1.3, 45°.68S×170°.05E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/34, mbtmp4.2/7, ML3.6/1, Error ellipse: s-maj=39.4km s-min=25.0km az=60.0*
*NEIC **01** 11:18:01.4±1.3, 45°.73S±0°.05×170°.1E±0°.1, h9km±3km, mb4.3/9, ML4.7(WEL), Error ellipse: s-maj=12.0km s-min=4.7km az=123.0*
ISC 01 11:18:00.9±1.0, 45°.75S±0°.04×170°.13E±0°.03, h10km±7km, n110, σ1§26/112, mb4.2/9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHSZ	**Highcliff Hill**	**0.35**	**113**	P	**Pg**	**11 18 08.3**	**+0.4**
HHSZ				S	**Sg**	**11 18 12.6**	**-0.1**
TUZ	**Tuapeka**	**0.41**	**239**	P	**Pg**	**11 18 09.3**	**+0.4**
TUZ				S	**Sg**	**11 18 14.2**	**-0.2**
EAZ	**Earnscleugh**	**0.78**	**311**	P	**Pb**	**11 18 16.0**	**-0.4**
ODZ	**Otahua Downs**	**0.79**	**27**		**Pb**	**11 18 16.6**	**-0.1**
ODZ				Sg	**Sg**	**11 18 26.3**	**-0.1**
ODZ	**Otahua Downs**	**0.79**	**27**	P	**Pb**	**11 18 16.7**	**0.0**
SYZ	**Scrubby Hill**	**1.05**	**221**	P	**Pg**	**11 18 20.3**	**-0.8**
SYZ				S	**Sg**	**11 18 34.0**	**-0.7**
WKZ	**Wanaka**	**1.21**	**319**	Pn	**Pn**	**11 18 24.3**	**+0.4**
WKZ	**Wanaka**	**1.21**	**319**	P	**Pn**	**11 18 24.3**	**+0.4**
WKZ				S	**Sn**	**11 18 40.9**	**+0.6**
LBZ	**Lake Benmore**	**1.36**	**2**	Pn	**Pn**	**11 18 26.1**	**+0.2**
LBZ	**Lake Benmore**	**1.36**	**2**	P	**Pn**	**11 18 26.0**	**+0.1**
MLZ	**Mavora Lakes**	**1.47**	**284**	Pn	**Pn**	**11 18 27.3**	**-0.1**
MLZ	**Mavora Lakes**	**1.47**	**284**	P	**Pn**	**11 18 27.5**	**+0.1**
TMZ	**Timaru**	**1.50**	**25**	P	**Pn**	**11 18 27.6**	**-0.2**
WHZ	**Wether Hill Ro**	**1.54**	**264**		**Pn**	**11 18 28.0**	**-0.3**
WHZ	**Wether Hill Ro**	**1.54**	**264**	P	**Pn**	**11 18 28.0**	**-0.3**
WHZ				S	**Sn**	**11 18 48.3**	**0.0**
APZ	**The Paps**	**1.84**	**233**	P	**Pn**	**11 18 31.9**	**-0.7**
MSZ	**Milford Sound**	**1.89**	**304**	P	**Pn**	**11 18 34.1**	**+0.9**
JCZ	**Jackson Bay**	**1.93**	**330**	P	**Pb**	**11 18 35.0**	**-1.1**
ARCZ	**Arundel**	**1.95**	**23**	P	**Pn**	**11 18 33.9**	**-0.1**
RPZ	**Rata Peaks**	**2.14**	**18**	Pn	**Pn**	**11 18 36.5**	**0.0**
RPZ	**Rata Peaks**	**2.14**	**18**	P	**Pn**	**11 18 36.6**	**0.0**
WACZ	**Wakanui South**	**2.17**	**35**	P	**Pn**	**11 18 36.8**	**-0.3**
FOZ	**Fox Glacier**	**2.23**	**354**	Pn	**Pn**	**11 18 38.1**	**+0.3**
FOZ	**Fox Glacier**	**2.23**	**354**	P	**Pb**	**11 18 40.3**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**2.44**	**3**	P	**Pn**	**11 18 42.1**	**+1.4**
MHCZ	**Mount Hutt**	**2.44**	**25**	P	**Pn**	**11 18 41.5**	**+0.7**
PYZ	**Puysegur Point**	**2.44**	**259**	Pn	**Pn**	**11 18 40.2**	**-0.6**
PYZ	**Puysegur Point**	**2.44**	**259**	P	**Pn**	**11 18 40.4**	**-0.4**
RACZ	**Rakaia**	**2.48**	**36**	P	**Pn**	**11 18 40.8**	**-0.4**
WVZ	**Waitaha Valley**	**2.71**	**9**	P	**Pn**	**11 18 45.1**	**+0.7**
MQZ	**McQueen's Vall**	**2.72**	**42**	Pn	**Pn**	**11 18 44.7**	**+0.2**
MQZ	**McQueen's Vall**	**2.72**	**42**	P	**Pn**	**11 18 44.9**	**+0.3**
AKCZ	**Akaroa Harbour**	**2.72**	**48**	P	**Pn**	**11 18 44.3**	**-0.3**
OXZ	**Oxford**	**2.78**	**30**	Pn	**Pn**	**11 18 44.8**	**-0.6**
OXZ	**Oxford**	**2.78**	**30**	P	**Pn**	**11 18 44.8**	**-0.6**
OKCZ	**Okains Bay**	**2.91**	**47**	P	**Pn**	**11 18 47.5**	**+0.3**
LTZ	**Lake Taylor**	**3.34**	**28**	Pn	**Pn**	**11 18 53.0**	**-0.2**
LTZ	**Lake Taylor**	**3.34**	**28**	P	**Pn**	**11 18 52.8**	**-0.3**
GVZ	**Greta Valley S**	**3.47**	**38**	P	**Pn**	**11 18 57.4**	**+2.4**
KHZ	**Kahutara**	**4.14**	**38**	Pn	**Pn**	**11 19 03.7**	**-0.3**
KHZ	**Kahutara**	**4.14**	**38**	P	**Pn**	**11 19 03.5**	**-0.5**
DSZ	**Denniston Nort**	**4.18**	**17**	P	**Pn**	**11 19 04.4**	**-0.3**
THZ	**Tophouse**	**4.46**	**28**	Pn	**Pn**	**11 19 09.0**	**+0.4**
THZ	**Tophouse**	**4.46**	**28**	P	**Pn**	**11 19 08.6**	**0.0**
BSWZ	**Blackbirch Sta**	**4.86**	**35**	Pn	**Pn**	**11 19 15.4**	**+1.4**
BSWZ	**Blackbirch Sta**	**4.86**	**35**	P	**Pn**	**11 19 16.4**	**+2.4**
CMWZ	**Cape Campbell**	**4.97**	**38**	Pn	**Pn**	**11 19 16.1**	**+0.6**
NNZ	**Nelson**	**5.11**	**29**	Pn	**Pn**	**11 19 17.4**	**0.0**
NNZ	**Nelson**	**5.11**	**29**	P	**Pn**	**11 19 19.0**	**+1.6**
TUWZ	**Tuamarina**	**5.13**	**34**		**Pn**	**11 19 17.7**	**+0.1**
TUWZ	**Tuamarina**	**5.13**	**34**	P	**Pn**	**11 19 20.9**	**+3.3**
QRZ	**Quartz Range**	**5.22**	**20**		**Pn**	**11 19 19.1**	**+0.1**
QRZ	**Quartz Range**	**5.22**	**20**	P	**Pn**	**11 19 20.7**	**+1.7**
TCW	**Tory Channel**	**5.45**	**35**	P	**Pn**	**11 19 25.0**	**+3.0**
BHW	**Baring Head**	**5.54**	**40**	Pn	**Pn**	**11 19 24.5**	**+1.2**
BHW	**Baring Head**	**5.54**	**40**	P	**Pn**	**11 19 24.5**	**+1.2**
SNZO	**South Karori**	**5.54**	**38**	Pn	**Pn**	**11 19 24.5**	**+1.2**
PLWZ	**Palliser**	**5.59**	**43**	Pn	**Pn**	**11 19 25.0**	**+1.0**
PLWZ	**Palliser**	**5.59**	**43**	P	**Pn**	**11 19 25.8**	**+1.8**
WEL	**Wellington**	**5.59**	**39**	P	**Pn**	**11 19 26.1**	**+2.1**
DUWZ	**D'Urville Isla**	**5.66**	**31**	P	**Pn**	**11 19 28.8**	**+3.7**
MSWZ	**Moikau Station**	**5.71**	**42**	Pn	**Pn**	**11 19 25.3**	**-0.3**
MSWZ	**Moikau Station**	**5.71**	**42**	P	**Pn**	**11 19 26.7**	**+1.1**
PAWZ	**Paruwai Farm**	**5.82**	**43**	P	**Pn**	**11 19 29.3**	**+2.1**
CAW	**Cannon Point**	**5.87**	**39**	P	**Pn**	**11 19 28.1**	**+0.3**
TRWZ	**Traveller**	**5.93**	**45**	P	**Pn**	**11 19 29.5**	**+0.8**
KIW	**Kapiti Island**	**6.00**	**37**	P	**Pn**	**11 19 31.9**	**+2.3**
OGWZ	**Otaki Gorge**	**6.15**	**38**	P	**Pn**	**11 19 32.4**	**+0.7**
HOWZ	**Holdsworth Sta**	**6.24**	**41**	P	**Pn**	**11 19 35.7**	**+2.8**
TMWZ	**Te Maipa**	**6.25**	**44**	P	**Pn**	**11 19 38.1**	**+4.9**
MRZ	**Mangatainoka R**	**6.46**	**40**	P	**Pn**	**11 19 35.3**	**-0.6**
TIWZ	**Tintock**	**6.50**	**42**	P	**Pn**	**11 19 37.4**	**+0.7**
PRWZ	**Pori Road**	**6.72**	**41**	P	**Pn**	**11 19 42.3**	**+2.8**
BFZ	**Birch Farm**	**6.75**	**44**	Pn	**Pn**	**11 19 40.2**	**+0.3**
BFZ	**Birch Farm**	**6.75**	**44**	P	**Pn**	**11 19 40.5**	**+0.6**
DVHZ	**Dannevirke**	**7.01**	**41**	P	**Pn**	**11 19 45.9**	**+2.3**
NBEZ	**Newall Road No**	**7.04**	**24**	P	**Pn**	**11 19 47.2**	**+3.3**
TSZ	**Takapari Road**	**7.11**	**39**	P	**Pn**	**11 19 47.9**	**+2.9**
URZ	**Urewera**	**9.11**	**37**	Pn	**Pn**	**11 20 12.2**	**-0.1**
	0.7nm,0.3s,baz=299,slow=23,SNR=1.6						
URZ					Sn	**Sn**	**11 21 49.0**	**-5.7**
	0.8nm,0.3s,baz=305,slow=23,SNR=1.7						
URZ	**Urewera**	**9.11**	**37**			**Pn**	**11 20 11.9**	**-0.3**
OUZ	**Omahuta**	**10.84**	**15**	Pn		**Pn**	**11 20 35.6**	**-0.4**
MCQ	**Macquarie Isla**	**11.31**	**215**	Pn		**Pn**	**11 20 42.3**	**0.0**
CAN	**Canberra**	**19.09**	**296**	P		**P**	**11 22 23.4**	**-0.2**
CAN				IAmb		IAmb	11 22 29.3		
	comp=Z,19nm,1.0s								
BBOO	**Buckleboo**	**29.14**	**284**	P		**P**	**11 24 01.1**	**-0.8**
CTA	**Charters Tower**	**32.27**	**315**	P		**P**	**11 24 29.1**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=150,slow=8.1,SNR=2.9								
AS31	**Alice Springs**	**36.59**	**295**	P		**P**	**11 25 07.9**	**+0.7**
ASAR	**Alice Springs**	**36.59**	**295**	P		**P**	**11 25 07.5**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=131,slow=6.8,SNR=11								
ASAR	**Alice Springs**	**36.59**	**295**	P		**P**	**11 25 07.6**	**+0.5**
WR0	**Warramunga Arr**	**38.93**	**299**	P		**P**	**11 25 27.5**	**+0.6**
WR0				IAmb		IAmb	11 25 45.5		
	comp=Z,8.4nm,1.4s								
WB2	**Warramunga Arr**	**39.06**	**299**	P		**P**	**11 25 28.2**	**+0.3**
WB2				IAmb		IAmb	11 25 32.6		
	comp=Z,5.2nm,0.7s								
WRA	**Warramunga Arr**	**39.07**	**299**	P		**P**	**11 25 27.9**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=136,slow=7.9,SNR=16								
WRA	**Warramunga Arr**	**39.07**	**299**	P		**P**	**11 25 28.3**	**+0.3**
WB0	**Warramunga Arr**	**39.17**	**299**	P		**P**	**11 25 29.1**	**+0.2**
WB0				IAmb		IAmb	11 25 40.1		
	comp=Z,13nm,1.4s								
QSPA	**South Pole Qui**	**44.38**	**180**	P		**P**	**11 26 12.3**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=42,slow=0.4,SNR=7.1								
QSPA	**South Pole Qui**	**44.38**	**180**	P		**P**	**11 26 12.1**	**+0.9**
QSPA				IAmb		IAmb	11 26 12.9		
	comp=Z,8.0nm,1.4s								
FITZ	**Fitzroy Crossi**	**45.93**	**292**	P		**P**	**11 26 23.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=135,slow=7.1,SNR=6.0								
FITZ	**Fitzroy Crossi**	**45.93**	**292**	P		**P**	**11 26 24.1**	**+0.2**
MTN	**Manton Dam**	**46.49**	**302**	P		**P**	**11 26 28.5**	**+0.2**
H03S2	**Juan Fernandez**	**79.20**	**128**	T		T	12 57 05.2		
	baz=222,slow=74,SNR=26								
H03S1	**Juan Fernandez**	**79.21**	**128**	T		T	12 57 08.1		
	baz=222,slow=74,SNR=30								
H03S3	**Juan Fernandez**	**79.22**	**128**	T		T	12 57 07.2		
	baz=222,slow=74,SNR=30								
H03N3	**Juan Fernandez**	**79.49**	**127**	T		T	12 57 23.5		
	baz=226,slow=72,SNR=43								
H03N2	**Juan Fernandez**	**79.49**	**127**	T		T	12 57 25.2		
	baz=226,slow=72,SNR=54								
H03N1	**Juan Fernandez**	**79.50**	**127**	T		T	12 57 20.0		
	baz=226,slow=72,SNR=52								
KSRS	**Korea Array**	**91.12**	**328**	P		**P**	**11 31 06.3**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=163,slow=4.6,SNR=2.9								
HHC	**Hu-ho-hao-te**	**100.84**	**319**	*eP*		**Pdif**	**11 31 50.2**	**+0.6**
HHC				pmax		pmax			
	comp=Z,33nm,0.7s								
HHC				pmax		pmax			
	comp=Z,110nm,7.7s								
TORD	**Torodi Ar. Bea**	**146.06**	**200**	PKPbc		**PKPdf**	**11 37 41.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=184,slow=1.9,SNR=3.1								
BRTR	**Keskin Array B**	**147.79**	**275**	PKPbc		**PKPbc**	**11 37 46.0**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=131,slow=5.1,SNR=11								
AKASG	**Malin Array Be**	**153.71**	**295**	PKPab		**PKPab**	**11 38 11.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=81,slow=3.4,SNR=4.6								
AKASG	**Malin Array Be**	**153.71**	**295**	PKPdf		**PKPdf**	**11 37 50.7**	**-0.6**
AKASG				PKPbc		**PKiKP**	**11 38 00.3**	**+1.1**
AKASG						**PKPab**	**11 38 12.4**	**+0.3**

NNC 01 11:40:40.4±10.0, 37°.60N×71°.19E, h158km±144km, mb2.9, mpv3.6, 4C-4D, Error ellipse: s-maj=94.1km s-min=50.5km az=15.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.52**	**355**	⇓P		Pn	11 42 01.7	+0.9
	3.4nm,0.5s,baz=183,slow=14,SNR=25							
KK31				⇑S		Sn	11 43 05.8	+2.1
	6.2nm,0.6s,baz=178,slow=24							
TKM2	**Tokmak 2**	**6.29**	**31**	⇓P		Pn	11 42 10.5	-0.8
	5.5nm,1.1s							
TKM2				⇓S		Sn	11 43 20.5	-2.0
	3.1nm,1.1s							
AB31	**Akbulak array**	**14.21**	**329**	⇑P		Pn	11 43 55.5	+1.0
	0.5nm,0.5s,baz=138,slow=10,SNR=19							
AB31				⇑S		Sn	11 46 31.3	-0.7
	2.1nm,1.1s							
AKTO	**Aktyubinsk**	**15.92**	**328**	⇓P		P	11 44 17.7	+1.7
	5.2nm,0.8s							
AKTO				⇑S		S	11 47 09.9	-2.7
	1.6nm,0.9s							

*IDC **01** 11:57:14.6±0.5, 18°.18S×70°.97W, h0km, mb4.8/21, mb1 4.8/25, mb1mx4.8/29, mbtmp4.7/25, ML4.2/4, MS3.9/11, Ms1 3.9/11, ms1mx3.7/24, Error ellipse: s-maj=17.8km s-min=11.3km az=67.0*
*VAO **01** 11:57:16.9±0.2, 18°.21S×70°.98W, h10km, mb4.9*
*MOS **01** 11:57:17.6±1.1, 18°.13S×71°.05W, h32km, mb5.0/36, Error ellipse: s-maj=14.3km s-min=6.3km az=112.6*
*ARE **01** 11:57:17±1.8, 18°.28S±0°.05×71°.21W±0°.07, h32km±3km, Error ellipse: s-maj=9.3km s-min=7.4km az=77.0*
*NEIC **01** 11:57:19.1±2.0, 18°.33S±0°.05×71°.26W±0°.07, h32km±3km, mb5.0/263, Mwr4.6/36, Mww4.7, ML4.6(ARE), ML4.9(GUC), Error ellipse: s-maj=9.5km s-min=7.6km az=74.0*
*NEIC **01** 11:57:19.2, 18°.30S×71°.22W, h36km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.04; Mθθ-0.08; Mϕϕ-0.96; Mrθ-0.13; Mϕr-0.27; Mϕr-0.44; Fault plane solution: M₀1.13000×10¹⁶ NP1:ϕs175.96000°, δ56.33000°, λ103.05000°. NP2:ϕs333.27000°, δ35.83000°, λ71.28000°. Principal axes: T 1.1558, Plg75.0000°, Azm124.0000°; N -0.0528, Plg11.0000°, Azm349.0000°; P -1.1030, Plg10.0000°, Azm257.0000°;*
*GUC **01** 11:57:20.4±0.7, 18°.29S×71°.18W, h37km±7km, ML5.0*
*NEIC **01** 11:57:20, 18°.30S×71°.22W, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.27; Mθθ-0.09; Mϕϕ-1.19; Mrθ0.03; Mϕϕ0.59; Mϕr-0.95; Fault plane solution: M₀1.66000×10¹⁶ NP1:ϕs322.00000°, δ30.00000°, λ66.00000°. NP2:ϕs169.00000°, δ63.00000°, λ103.00000°. Principal axes: T 1.6141, Plg69.0000°, Azm107.0000°; N 0.0970, Plg12.0000°, Azm343.0000°; P -1.7112, Plg17.0000°, Azm250.0000°;*
*BJI **01** 11:57:21.0±0.0, 18°.40S×71°.20W, h40km, mB5.1/3, Ms5.6/8, Ms7 5.4/8*
ISC 01 11:57:17.8±0.8, 18°.27S±0°.04×71°.22W±0°.05, h26km±5km, n566, σ1§09/553, mb5.0/155, MS4.0/10, 15C-11D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**0.84**	**97**	⇓*iP*		**Pb**	**11 57 34.3**	**+0.6**
AP01				*i* S		**Sn**	**11 57 45.7**	**+0.3**
AP01				IAML			11 57 50.0	
	comp=N,144µm,0.4s							
AP01	**Chacalluta**	**0.84**	**97**			**Pb**	**11 57 34.4**	**+0.6**
PSGC	**Pisagua**	**1.68**	**142**	*i* P		**Pn**	**11 57 46.7**	**+1.0**
PSGC				*i* S		**Sn**	**11 58 06.7**	**+0.3**
PSGC				IAML			11 58 12.1	
	comp=E,17µm,0.6s							
PSGCX	**Pisagua**	**1.68**	**142**	Pn		**Pn**	**11 57 46.8**	**+1.2**
MNMC	**Minye Minye**	**1.76**	**119**	⇓*iP*		**Pn**	**11 57 48.3**	**+1.3**
MNMC				*i* S		**Sn**	**11 58 10.2**	**+1.5**
MNMC				IAML			11 58 16.5	
	comp=N,39µm,0.7s							
MNMC	**Minye Minye**	**1.76**	**119**			**Pn**	**11 57 48.2**	**+1.3**
PB11	**IPOC Station P**	**2.09**	**135**	⇑*iP*		**Pn**	**11 57 52.9**	**+1.5**
PB11				*i* S		**Sn**	**11 58 18.1**	**+1.3**
PB11	**IPOC Station P**	**2.09**	**135**	Pn		**Pn**	**11 57 53.1**	**+1.7**
TA02	**Huaiquique**	**2.24**	**153**	⇑*iP*		**Pn**	**11 57 54.7**	**+1.5**
TA02				*i* S		**Sn**	**11 58 21.0**	**+0.9**
TA02				IAML			11 58 22.3	
	comp=N,9µm,0.5s							
TA02	**Huaiquique**	**2.24**	**153**			**Pn**	**11 57 54.7**	**+1.5**
TA01	**Diego Aracena**	**2.48**	**157**	⇑*iP*		**Pn**	**11 57 57.6**	**+1.0**
TA01				*i* S		**Sn**	**11 58 25.2**	**-1.0**
TA01				IAML			11 58 45.9	
	comp=N,5µm,0.5s							
TA01	**Diego Aracena**	**2.48**	**157**			**Pn**	**11 57 57.6**	**+1.0**
PB08	**IPOC Station P**	**2.70**	**134**	⇑*iP*		**Pn**	**11 58 01.6**	**+1.7**
PB08				*i* S		**Sn**	**11 58 33.7**	**+1.8**
PB08				IAML			11 58 42.5	
	comp=N,5µm,0.6s							
PB08	**IPOC Station P**	**2.70**	**134**			**Pn**	**11 58 01.1**	**+1.2**
PATCX	**Punta Patache**	**2.73**	**159**			**Pn**	**11 58 00.8**	**+0.7**
PB01	**IPOC Station P**	**3.21**	**150**	⇑*iP*		**Pn**	**11 58 07.6**	**+1.0**
PB01				*i* S		**Sn**	**11 58 40.9**	**-3.1**
PB01				IAML			11 59 00.2	
	comp=N,3µm,0.4s							
PB01	**IPOC Station P**	**3.21**	**150**	Pn		**Pn**	**11 58 07.8**	**+1.1**
LPAZ	**La Paz**	**3.55**	**57**	Pn		**Pb**	**11 58 17.1**	**-3.1**
	comp=N,12nm,0.3s,baz=238,slow=7.9,SNR=215							
LPAZ	**La Paz**	**3.55**	**57**	P		**Pn**	**11 58 16.2**	**+4.4**
LPAZ	**La Paz**	**3.55**	**57**			**Pn**	**11 58 16.2**	**+4.4**
PB07	**IPOC Station P**	**3.66**	**160**	⇑*iP*		**Pn**	**11 58 13.6**	**+0.6**
PB07				*i* S		**Sn**	**11 58 49.9**	**-5.5**
PB07	**IPOC Station P**	**3.66**	**160**			**Pn**	**11 58 13.5**	**+0.6**
PB09	**IPOC Station P**	**3.97**	**152**			**Pn**	**11 58 19.1**	**+1.8**
PB04	**IPOC Station P**	**4.17**	**166**	⇑*iP*		**Pn**	**11 58 19.9**	**-0.1**
PB04	**IPOC Station P**	**4.17**	**166**	Pn		**Pn**	**11 58 19.8**	**-0.1**
PB05	**IPOC Station P**	**4.66**	**168**	⇑*iP*		**Pn**	**11 58 26.1**	**-0.5**
PB05				*i* S		**Sn**	**11 59 18.2**	**-1.8**
PB06	**IPOC Station P**	**4.68**	**161**			**Pn**	**11 58 26.9**	**0.0**
LVC	**Limon Verde**	**4.83**	**154**	Pn		**Pn**	**11 58 30.8**	**+1.6**
	comp=N,102nm,0.3s,baz=352,slow=8.7,SNR=1303							
LVC				Sn		**Sn**	**11 59 25.0**	**+0.4**
	comp=N,92nm,0.3s,baz=161,slow=16,SNR=9.7							
LVC				Lg		Lg	11 59 46.0		
	comp=N,107nm,0.3s,baz=45,slow=19,SNR=3.6							
LVC				LR		LR	12 00 25.8		
	comp=N,2µm,20.2s,baz=342,slow=40								
LVC	**Limon Verde**	**4.83**	**154**	P		**Pn**	**11 58 30.6**	**+1.4**
LVC	**Limon Verde**	**4.83**	**154**	Pn		**Pn**	**11 58 30.6**	**+1.4**
LVC	**Limon Verde**	**4.83**	**154**	*eP*		**Pn**	**11 58 28.4**	**-0.8**
GO02	**Mina Guanaco**	**7.03**	**168**	Pn		**Pn**	**11 58 58.9**	**-0.4**
AC01	**Pan de Azucar**	**7.86**	**176**			**Pn**	**11 59 08.5**	**-2.0**
NNA	**Nana**	**8.28**	**318**	Pn		**Pn**	**11 59 19.1**	**+2.8**
	comp=N,2.0nm,0.3s,baz=232,slow=11,SNR=2.3								
NNA				Sn		**Sn**	**12 00 45.4**	**-3.6**
	comp=N,4.5nm,0.3s,baz=198,slow=8.6,SNR=1.5								
NNA				LR		LR	12 02 39.3		
	comp=N,387nm,19.4s,baz=166,slow=39								
NNA	**Nana**	**8.28**	**318**	P		**Pn**	**11 59 16.1**	**-0.2**
NNA	**Nana**	**8.28**	**318**	Pn		**Pn**	**11 59 16.1**	**-0.2**
AC02	**Maricunga**	**8.74**	**168**	Pn		**Pn**	**11 59 23.1**	**0.0**
GO03	**Copiap**	**9.32**	**175**			**Pn**	**11 59 29.1**	**-1.6**
ETMB	**Extrema**	**9.70**	**31**	*eP*		**Pn**	**11 59 35.0**	**-0.8**
AC04	**Llanos de Chal**	**9.89**	**179**	Pn		**Pn**	**11 59 34.8**	**-3.6**
SIV	**San Ignacio**	**9.96**	**78**	Pn		**Pn**	**11 59 40.3**	**+0.9**
	comp=N,7.9nm,0.3s,baz=270,slow=12,SNR=137								
CZSB	**Cruzeiro do Su**	**10.57**	**352**	*eP*		**Pn**	**11 59 48.5**	**+0.7**
LCO	**Las Campanas**	**10.70**	**178**	P		**Pn**	**11 59 48.7**	**-1.1**
LCO	**Las Campanas**	**10.70**	**178**	Pn		**Pn**	**11 59 48.7**	**-1.1**
VILB	**Vilhena**	**11.85**	**65**	*eP*		**Pn**	**12 00 03.8**	**-1.6**
GO04	**Tololo Observa**

ROSC **El Rosal** 23.16 352 P P 12 02 22.1 -0.8
VAO **Valinhos** 23.17 106 eP P 12 02 22.4 -0.2
MALB **Monte Alegre** 23.30 47 eP P 12 02 24.0 +0.1
RREF **El Recreo** 23.38 350 eP P 12 02 26.2 +0.8
GUY2C **Guyana, Caldas** 23.70 350 eP P 12 02 30.2 +2.0
NORC **Norcasia** 23.95 351 eP P 12 02 30.1 -0.2
RUSC **La Rusia** 24.08 355 eP P 12 02 30.9 -1.0
PRPB **Paraúapebas** 24.09 63 eP P 12 02 31.4 -0.1
PARB **Paraibuna** 24.44 106 eP P 12 02 34.8 +0.1
CBOC **Ciudad Bolivar** 24.44 348 eP P 12 02 34.8 -0.1
HELC **Santa Helena** 24.67 350 eP P 12 02 37.7 +0.5
SMTB **Santa Maria do** 24.77 71 eP P 12 02 37.0 -0.8
BARC **Barichara** 24.78 355 eP P 12 02 38.0 0.0
ESAR **Angra dos Reis** 25.48 105 eP P 12 02 43.8 -0.3
ZARC **Zaragoza, Cauc** 25.85 352 eP P 12 02 46.7 -0.7
MCPB **Macapa, AP** 25.91 49 eP P 12 02 46.8 -1.2
JANB **Januaria** 25.96 87 eP P 12 02 47.1 -1.5
SDBA **SAO DESIDERIO** 26.02 81 eP P 12 02 48.7 -0.4
MC01 **Montes Claros** 26.05 91 eP P 12 02 47.8 -1.6
VAS01 **Vassouras-RJ** 26.34 103 eP P 12 02 51.8 -0.1
SDV **Santo Domingo** 26.99 1 P P 12 02 56.6 -1.3
comp=Z,3.8nm,0.4s,baz=201,slow=8.6,SNR=6.9
SDV **Santo Domingo** 26.99 1 eP P 12 02 57.4 -0.6
SMLC **San Martn de** 27.05 354 eP P 12 02 56.1 -2.2
CAM01 **Campos-RJ** 27.97 102 eP P 12 03 06.6 0.0
SJMB **Sao Joao De Ma** 28.47 96 eP P 12 03 10.0 -1.1
BSFB **Barra de Sao F** 28.78 96 eP P 12 03 12.4 -1.5
ALF01 **Guarapari-ES** 28.83 100 eP P 12 03 13.4 -0.8
PCRV **Puerto La Cruz** 29.00 13 P P 12 03 15.2 -0.6
comp=Z,16nm,1.2s,baz=9.5,slow=6.1,SNR=2.1
RIB01 **Linhares ES** 29.18 97 eP P 12 03 15.9 -1.5
NAN01 **Guarapari, ES** 29.55 94 eP P 12 03 19.3 -1.3
MDP **Montagnes des** 29.58 40 P P 12 03 19.8 -1.1
comp=Z,5.7nm,0.6s,baz=206,slow=9.0,SNR=4.6
GUA01 **Guaratinga, BA** 30.00 92 eP P 12 03 23.5 -1.1
NBIT **Itapeh - BA** 30.62 89 eP P 12 03 30.0 -0.1
ROSB **Rosrio** 30.62 63 eP P 12 03 30.1 -0.1
GDU01 **Guandu, BA** 30.73 86 eP P 12 03 29.6 -1.5
NBPN **Ponto Novo - B** 30.88 81 eP P 12 03 31.1 -1.3
NBPS **Pedro II - PI** 32.21 68 eP P 12 03 43.5 -0.7
NBLA **Lagarto - SE** 33.10 82 eP P 12 03 50.0 -1.9
NBPB **Pedra_Branca-C** 33.36 72 eP P 12 03 53.7 -0.6
NBMA **Muriti-CE** 33.39 75 eP P 12 03 53.5 -0.9
NBMO **Morrinhos-CE** 33.95 68 eP P 12 03 58.7 -0.6
NBAN **Anadia - AL** 34.92 81 eP P 12 04 06.3 -1.4
NBCL **Cascavel-CE** 35.09 71 eP P 12 04 09.3 +0.1
NBPA **Parau_RN** 35.52 74 eP P 12 04 11.8 -1.1
NBRF **Rio Formoso -** 36.30 80 eP P 12 04 19.1 -0.5
SJG **San Juan** 36.49 8 P P 12 04 18.9 -2.2
SJG pmax pmax
comp=Z,37nm,1.1s
SJG **San Juan** 36.49 8 P P 12 04 18.9 -2.2
SJG IAmb IAmb 12 04 19.6
comp=Z,37nm,1.1s
NBPV **Pedro Velho** 36.94 76 eP P 12 04 23.6 -1.4
MTO3 **Monteristo** 37.06 330 P P 12 04 25.0 -1.2
PMSA **Palmer Station** 46.72 176 eP P 12 05 45.8 +1.4
553A **Crawfordville** 49.83 345 P P 12 06 09.3 +0.6
TIGA **Tifton** 50.83 346 P 12 06 16.3
baz=165
TIGA **Tifton** 50.83 346 P P 12 06 15.5 -0.7
TIGA IAmb IAmb 12 06 17.5
comp=Z,24nm,0.9s
352A **Blakely** 51.19 345 P P 12 06 18.7 -0.2
BRAL **Brewton** 51.45 343 P 12 06 20.7
baz=161
NHSC **New Hope** 51.80 350 P 12 06 23.3
baz=169
152A **Waverly Hall** 52.27 346 P P 12 06 26.2 -0.9
152A IAmb IAmb 12 06 44.3
comp=Z,11nm,0.9s
Y60A **Bolivia** 52.41 353 P P 12 06 28.2 +0.2
GOGA **Godfrey** 52.70 347 P 12 06 29.2
baz=166
GOGA **Godfrey** 52.70 347 P P 12 06 30.0 -0.2
GOGA pmax pmax
comp=Z,5.0nm,0.9s
GOGA **Godfrey** 52.70 347 P P 12 06 30.0 -0.2
Y57A **Sumter** 52.72 350 P P 12 06 30.7 +0.4
JSC **Jenkinsville** 53.13 350 P P 12 06 33.2 -0.1
JSC pmax pmax
comp=Z,8.0nm,1.0s
JSC **Jenkinsville** 53.13 350 P P 12 06 33.1 -0.1
BIRD **Birdtown, Kers** 53.35 350 P P 12 06 34.9 -0.1
HKT **Hockley** 53.49 333⇑ eP P 12 06 37.1 +1.1
HKT pmax pmax
comp=Z,8.0nm,1.0s
833A **Chaparral WMA,** 53.74 329 P 12 06 37.9
baz=146
W57A **Gilead** 53.78 351 P P 12 06 38.0 -0.1
W57A IAmb IAmb 12 06 40.5
comp=Z,17nm,0.9s
KMSC **Kings Mountain** 53.98 350 P 12 06 40.0
baz=168
KMSC **Kings Mountain** 53.98 350 P P 12 06 39.5 -0.1
KMSC IAmb IAmb 12 06 42.0
comp=Z,13nm,0.9s
BG3 **Lake Jocassee** 54.12 348 P P 12 06 41.2 +0.5
V58A **Windy Hill, Pi** 54.28 352 P P 12 06 41.7 0.0
W52A **Murphy** 54.42 347 P P 12 06 42.7 -0.1
W52A IAmb IAmb 12 06 43.7
comp=Z,13nm,1.1s
X48A **Hartselle** 54.55 344 P P 12 06 43.8 0.0
X48A IAmb IAmb 12 06 44.2
comp=Z,10nm,0.9s
V53A **Saluda** 54.76 348 P P 12 06 45.0 -0.3
W50A **Signal Mountai** 54.83 346 P P 12 06 45.3 -0.6
W50A IAmb IAmb 12 06 46.4
comp=Z,11nm,0.8s
CPCT **Cooper Cave** 54.89 347 P P 12 06 45.9 -0.3
CPCT IAmb IAmb 12 06 47.0
comp=Z,8.8nm,1.0s
TKL **Tuckaleechee C** 54.94 348 P P 12 06 45.8 -0.7
TKL pmax pmax
comp=Z,16nm,1.0s
TKL **Tuckaleechee C** 54.94 348 P P 12 06 45.8 -0.7
TKL IAmb IAmb 12 06 47.1
comp=Z,16nm,1.0s
SWET **Sewanee** 54.99 345 P P 12 06 46.5 -0.6
SWET IAmb IAmb 12 06 47.3
comp=Z,12nm,0.8s
U56A **King** 55.01 351 P P 12 06 47.2 +0.1
V52A **Sevierville** 55.08 348 P P 12 06 46.8 -0.7
V51A **Loudon** 55.20 347 P P 12 06 47.7 -0.7
V51A IAmb IAmb 12 06 49.0
comp=Z,11nm,0.9s
237A **Washetta, Mont** 55.27 335 P P 12 06 50.6 +1.6
T59A **Double "B" Far** 55.27 354 P P 12 06 48.9 0.0
OXF **Oxford** 55.27 342 P 12 06 47.7
baz=159
PLAL **Pickwick Lake** 55.33 343 P P 12 06 48.6 -0.7
PLAL IAmb IAmb 12 06 49.3
comp=Z,9.2nm,1.0s
U54A **Nelsons Funny** 55.41 350 P P 12 06 49.7 -0.3
U54A IAmb IAmb 12 06 51.1
comp=Z,20nm,0.9s
T57A **Hurt** 55.49 352 P P 12 06 50.7 +0.2
V48A **Smith Brothers** 55.71 345 P P 12 06 51.2 -1.0
V48A IAmb IAmb 12 07 09.7
comp=Z,10nm,0.8s
X43A **Marvell** 55.73 340 P 12 06 51.4
baz=157
WLAR **White Oak Lake** 55.73 338 P P 12 06 53.0 +0.8
TZTN **Tazewell** 55.75 348 P 12 06 51.6
baz=166,SNR=5.1
TZTN **Tazewell** 55.75 348 P P 12 06 51.6 -0.7
TZTN IAmb IAmb 12 06 53.0
comp=Z,17nm,1.2s
BLA **Blacksburg** 55.86 351 P 12 06 52.5
baz=170
CLTN **Cedars of Leba** 55.92 345 P P 12 06 53.0 -0.6
WHTX **Lake Whitney,** 55.95 333 P 12 06 53.6
baz=150,SNR=7.1
WHTX **Lake Whitney,** 55.95 333 P P 12 06 54.7 +0.8
Z38A **Mt. Pleasant** 56.04 336 P P 12 06 55.0 +0.5
U49A **Red Boiling Sp** 56.20 346 P P 12 06 55.5 -0.1
U49A IAmb IAmb 12 06 55.8
comp=Z,6.6nm,0.7s
S57A **Dark Hollow, R** 56.20 353 P P 12 06 55.8 +0.2
R58B **Mineral** 56.28 354 P P 12 06 56.7 +0.5
R58B IAmb IAmb 12 06 57.8
comp=Z,26nm,1.1s

WVT **Waverly** 56.34 344 P 12 06 55.4
baz=161
WVT **Waverly** 56.34 344 P P 12 06 56.1 -0.5
WVT pmax pmax
comp=Z,13nm,0.8s
WVT **Waverly** 56.34 344 P P 12 06 56.1 -0.5
WVT IAmb IAmb 12 06 56.9
comp=Z,13nm,0.8s
T50A **Nancy** 56.47 347 P P 12 06 57.0 -0.6
T50A IAmb IAmb 12 06 57.9
comp=Z,11nm,0.9s
S54A **Dingess, Beckl** 56.57 350 P P 12 06 58.2 -0.1
MIAR **Mount Ida** 56.67 338 P 12 06 58.8
baz=155,SNR=17
MIAR **Mount Ida** 56.67 338 P P 12 06 59.5 +0.5
MIAR pmax pmax
comp=Z,17nm,0.8s
MIAR **Mount Ida** 56.67 338 P P 12 06 59.5 +0.5
MIAR IAmb IAmb 12 07 00.2
comp=Z,17nm,0.8s
TXAR **Lajitas Array** 56.75 326 P P 12 07 00.6 +0.8
comp=Z,1.1nm,0.8s,baz=150,slow=8.6,SNR=12
TXAR LR LR 12 30 06.9
comp=Z,52nm,21.0s,baz=0.0,slow=35
TXAR **Lajitas Array** 56.75 326 P P 12 07 00.2 +0.4
TXAR **Lajitas Array** 56.75 326 P P 12 07 00.2 +0.4
W41B **Gary Mavity, V** 56.77 339 P 12 06 59.2
baz=156,SNR=6.4
S51A **Beattyville** 56.82 348 P P 12 06 59.1 -0.9
S51A IAmb IAmb 12 07 00.4
comp=Z,9.1nm,0.9s
R55A **Marlinton** 56.87 352 P P 12 07 01.1 +0.7
R55A IAmb IAmb 12 07 13.1
comp=Z,12nm,0.6s
WHAR **Wooly Hollow** 56.90 339 P P 12 07 00.0 -0.6
WHAR IAmb IAmb 12 07 01.5
comp=Z,11nm,0.9s
T47A **Sharon Grove** 56.97 345 P P 12 07 00.3 -0.7
T47A IAmb IAmb 12 07 01.5
comp=Z,18nm,0.8s
Z35A **Perchaven, San** 57.02 334 P P 12 07 02.6 +1.1
LCAR **Lake Charles** 57.24 341 P P 12 07 02.4 -0.6
LCAR IAmb IAmb 12 07 03.4
comp=Z,10nm,0.9s
W39A **Magazine** 57.33 338 P 12 07 03.9
baz=154,SNR=8.7
W39A **Magazine** 57.33 338 P P 12 07 04.3 +0.7
W39A IAmb IAmb 12 07 05.5
comp=Z,14nm,0.8s
X37A **Clayton** 57.37 336 P P 12 07 04.2 +0.3
FCAR **Ozark Folk Cen** 57.39 340 P P 12 07 03.1 -0.9
FCAR IAmb IAmb 12 07 04.4
comp=Z,7.1nm,0.8s
ABTX **Abilene, Hawle** 57.45 332 P 12 07 04.8
baz=148,SNR=7.7
ABTX **Abilene, Hawle** 57.45 332 P P 12 07 04.8 +0.1
ABTX IAmb IAmb 12 07 06.2
comp=Z,19nm,0.9s
Q56A **Snyder Ridge,** 57.49 353 P P 12 07 05.6 +0.8
LOOK **Love County** 57.56 334 P P 12 07 06.2 +0.9
LOOK IAmb IAmb 12 07 07.2
comp=Z,17nm,0.8s
R50A **Paris** 57.58 348 P P 12 07 04.8 -0.6
R50A IAmb IAmb 12 07 22.9
comp=Z,20nm,1.2s
SDMD **Soldier's Deli** 57.62 355 P P 12 07 05.6 0.0
SDMD IAmb IAmb 12 07 06.4
comp=Z,9.1nm,1.0s
Q54A **Coxs Mills** 57.66 351 P P 12 07 05.7 -0.2
PBMO **Poplar Bluff** 57.68 342 P P 12 07 05.4 -0.7
PBMO IAmb IAmb 12 07 06.5
comp=Z,17nm,0.8s
P57A **Homestead Farm** 57.80 354 P P 12 07 07.7 +0.9
P57A IAmb IAmb 12 07 09.1
comp=Z,26nm,1.2s
Q52A **Bidwell** 57.86 350 P P 12 07 07.1 -0.2
Q52A IAmb IAmb 12 07 08.0
comp=Z,14nm,0.9s
P60A **Greenville** 57.92 356 P 12 07 07.6
baz=175
WCI **Wyandotte Cave** 57.95 346 P 12 07 06.7
baz=163
WCI **Wyandotte Cave** 57.95 346 P P 12 07 07.8 -0.2
WCI pmax pmax
comp=Z,18nm,0.8s
WCI **Wyandotte Cave** 57.95 346 P P 12 07 07.8 -0.2
WCI IAmb IAmb 12 07 24.8
comp=Z,18nm,0.8s
U40A **Yellville** 58.05 339 P 12 07 08.4
baz=156,SNR=11
U40A **Yellville** 58.05 339 P P 12 07 08.6 -0.2
U40A IAmb IAmb 12 07 09.5
comp=Z,12nm,0.8s
T42A **Van Buren** 58.11 341 P P 12 07 08.3 -0.8
T42A IAmb IAmb 12 07 09.1
comp=Z,6.2nm,0.7s
MVL **Millersville** 58.16 355 P P 12 07 09.8 +0.5
MVL IAmb IAmb 12 07 10.9
comp=Z,21nm,0.9s
MCWV **Mont Chateau** 58.18 352 P 12 07 09.5
baz=170
MCWV **Mont Chateau** 58.19 352 P P 12 07 10.2 +0.6
S44A **Carbondale** 58.20 343 P P 12 07 09.0 -0.7
SIUC **Southern Illin** 58.20 343 P P 12 07 09.2 -0.6
P53A **Whipple** 58.23 351 P P 12 07 09.9 0.0
X34A **Smith Ranch, M** 58.35 334 P P 12 07 11.5 +0.6
HHAR **Hobbs** 58.36 338 P P 12 07 10.7 -0.2
HHAR IAmb IAmb 12 07 11.9
comp=Z,16nm,1.2s
P52A **Corning** 58.49 350 P 12 07 09.5
baz=168
P51A **Williamsport** 58.51 349 P P 12 07 11.1 -0.8
P51A IAmb IAmb 12 07 28.5
comp=Z,15nm,0.9s
MGMO **Mountain Grove** 58.59 340 P P 12 07 11.9 -0.6
MGMO IAmb IAmb 12 07 13.2
comp=Z,13nm,0.9s
O56A **Blue Knob Stat** 58.63 353 P 12 07 13.5
baz=172,SNR=7.2
O56A **Blue Knob Stat** 58.63 353 P P 12 07 13.3 +0.6
TUL1 **Leonard** 58.70 337 P 12 07 13.3
baz=153
FVM **French Village** 58.80 342 P P 12 07 13.2 -0.7
FVM pmax pmax
comp=Z,16nm,0.8s
FVM **French Village** 58.80 342 P P 12 07 13.2 -0.7
P49A **Miami Univ. Ec** 58.87 348 P 12 07 13.1
baz=165
P49A **Miami Univ. Ec** 58.87 348 P P 12 07 13.9 -0.5
P49A IAmb IAmb 12 07 14.2
comp=Z,18nm,0.9s
SSPA **Standing Stone** 58.93 354 P 12 07 14.7
baz=173
SSPA **Standing Stone** 58.93 354 P P 12 07 14.5 -0.2
O53A **New Philadelph** 58.95 351 P 12 07 14.7
baz=169
PAL **Palisades** 59.02 358 P 12 07 15.4
baz=177
N59A **State Game Lan** 59.03 356 P 12 07 15.7
baz=175
OK030 **Cody Creek RV** 59.09 336 P P 12 07 16.1 +0.1
OK030 IAmb IAmb 12 07 17.0
comp=Z,14nm,0.8s
OK031 **S. Brethren Rd** 59.13 336 P P 12 07 16.3 0.0
ACSO **Alum Creek Sta** 59.22 350 P 12 07 16.5
baz=167
ACSO **Alum Creek Sta** 59.22 350 P P 12 07 16.2 -0.6
OK029 **Liberty Lake** 59.24 335 P P 12 07 17.0 0.0
Q44A **Meyer Farm, Va** 59.27 344 P P 12 07 15.8 -1.3
Q44A IAmb IAmb 12 07 17.5
comp=Z,16nm,0.8s
QUOK **Quay** 59.27 336 P P 12 07 17.3 0.0
M63A **Gales Ferry** 59.37 359 P 12 07 17.1
baz=179
S39A **Bolivar** 59.42 340 P P 12 07 17.8 -0.5
S39A IAmb IAmb 12 07 19.0
comp=Z,12nm,0.8s
M62A **Hamden** 59.42 359 P 12 07 18.1
baz=178
O49A **Covington** 59.43 348 P P 12 07 18.2 0.0
N54A **Moraine State** 59.49 352 P 12 07 18.8
baz=170,SNR=5.6
N54A **Moraine State** 59.49 352 P P 12 07 18.8 +0.2
M64A **Tiverton** 59.51 0 P 12 07 18.8
baz=180

MNTX **Cornudas Mount** 59.52 326 P 12 07 19.2
baz=142,SNR=5.8
MNTX **Cornudas Mount** 59.52 326 P P 12 07 18.5 -0.6
R40A **Maddies Statio** 59.63 341 P P 12 07 19.4 -0.3
R40A IAmb IAmb 12 07 20.1
comp=Z,9.0nm,0.8s
L63A **North Scituate** 59.83 360 P 12 07 20.9
baz=180
M55A **Ridgway** 59.84 353 P P 12 07 21.1 +0.1
T35A **Sooner Cattle** 59.85 337 P P 12 07 21.5 +0.3
T35A IAmb IAmb 12 07 39.4
comp=Z,14nm,0.8s
BRYW **Bryant College** 59.88 360 P P 12 07 21.8 +0.5
L64A **Middleborough** 59.90 0 P 12 07 21.2
baz=180
M54A **Oil Creek Stat** 59.98 353 P 12 07 22.2
baz=171,SNR=6.3
M54A **Oil Creek Stat** 59.98 353 P P 12 07 22.5 +0.5
MSTX **Muleshoe** 60.02 330 P 12 07 22.5
baz=145,SNR=6.6
MSTX **Muleshoe** 60.02 330 P P 12 07 22.4 -0.2
MSTX IAmb IAmb 12 07 24.4
comp=Z,19nm,1.1s
M53A **WI Miller and** 60.05 352 P 12 07 22.6
baz=170
CROK **Carrier** 60.06 335 P P 12 07 22.5 -0.2
P43A **Skaggs, Pawnee** 60.09 344 P P 12 07 22.2 -0.6
N49A **Columbus Grove** 60.11 349 P P 12 07 22.6 -0.2
L58A **Harry Jones Me** 60.16 356 P 12 07 23.6
baz=175
ALLY **Allegheny Colle** 60.18 352 P P 12 07 23.6 +0.2
SFIN **Lafayette** 60.19 346 P 12 07 22.4
baz=163
SFIN **Lafayette** 60.19 346 P P 12 07 23.2 -0.2
SFIN IAmb IAmb 12 07 40.0
comp=Z,9.3nm,0.8s
L61A **Hillsdale 1, H** 60.19 358 P 12 07 23.2
baz=178
L59A **Walton** 60.26 357 P 12 07 24.0
baz=176,SNR=6.6
L59A **Walton** 60.26 357 P P 12 07 24.4 +0.4
KAN13 **South Haven SW** 60.31 336 P P 12 07 24.8 +0.5
BINY **Binghamton** 60.32 356 P 12 07 24.2
baz=175
BINY **Binghamton** 60.32 356 P P 12 07 24.0 -0.4
L56A **Greenwood** 60.38 355 P 12 07 24.6
baz=173
L61B **Northampton** 60.43 359 P 12 07 24.8
baz=178
HRV **Adam Dziewonsk** 60.47 360 P 12 07 25.3
baz=180
ERPA **Erie** 60.62 353 P 12 07 26.1
baz=170
K63A **Dunstable** 60.65 360 P 12 07 26.1
baz=180
K61A **Williamstown** 60.66 358 P 12 07 26.2
baz=178
P40A **Paris** 60.70 342 P P 12 07 26.3 -0.7
P40A IAmb IAmb 12 07 27.4
comp=Z,8.4nm,1.0s
WVNY **West Valley, N** 60.75 354 P P 12 07 27.8 +0.5
K59A **Cooperstown** 60.83 357 P 12 07 28.0
baz=176,SNR=7.1
K58A **Earlville** 60.86 356 P 12 07 28.5
baz=175,SNR=6.5
K58A **Earlville** 60.86 356 P P 12 07 28.2 +0.1
HDIL **Hopedale** 60.89 344 P 12 07 27.3
baz=160
K56A **Middlesex** 60.92 355 P 12 07 27.7
baz=173
J62A **Henniker** 61.19 360 P 12 07 29.7
baz=179
J60A **Lant Hill Farm** 61.24 358 P 12 07 30.6
baz=178
P38A **Dawn** 61.25 340 P P 12 07 30.3 -0.4
P38A IAmb IAmb 12 07 31.9
comp=Z,9.3nm,0.8s
319A **Douglas** 61.41 323 P P 12 07 32.3 +0.2
319A IAmb IAmb 12 07 57.2
comp=Z,5.7nm,0.8s
J58A **Remsen** 61.44 357 P 12 07 31.7
baz=176
121A **Cookes Peak, D** 61.45 325 P 12 07 31.4
baz=140
121A **Cookes Peak, D** 61.45 325 P P 12 07 32.9 +0.4
J59A **Piesco** 61.50 357 P 12 07 32.8
baz=176,SNR=5.6
J59A **Piesco** 61.50 357 P P 12 07 32.8 +0.4
J57A **Williamstown** 61.53 356 P 12 07 32.5
baz=175
I58A **Old Forge** 61.75 357 P 12 07 34.1
baz=176
I59A **Olmsteadville** 61.80 358 P 12 07 34.5
baz=177,SNR=5.0
KSU1 **Kansas State U** 61.82 338 P 12 07 34.3
baz=153
I60A **Shoreham** 61.83 358 P 12 07 35.3
baz=178
I64A **Boothbay** 61.90 1 P 12 07 35.2
baz=182
I61A **Oroboro, Fairl** 61.90 359 P 12 07 35.4
baz=179
I63A **Otisfield** 62.01 1 P 12 07 36.5
baz=181
BNM **Barren Site** 62.09 327 P P 12 07 37.7 +1.0
LBNH **Lisbon** 62.20 359 P 12 07 37.7
baz=179
LBNH **Lisbon** 62.21 359 P P 12 07 37.5 +0.5
LBNH pmax pmax
comp=Z,40nm,1.1s
LBNH **Lisbon** 62.21 359 P P 12 07 37.5 +0.5
BELA **Belgrano 2** 62.24 172 P P 12 07 38.2 +1.3
BELA IAmb IAmb 12 07 39.7
comp=Z,21nm,1.3s
LENM **Lemitar** 62.28 327 P P 12 07 39.4 +1.5
H58A **Gabriels** 62.44 358 P 12 07 39.0
baz=177
J47A **Sunmer** 62.47 349 P P 12 07 38.2 -0.6
H61A **Lyndonville** 62.50 359 P 12 07 39.8
baz=179
H62A **Milan** 62.53 0 P 12 07 39.8
baz=180
H60A **Morristown** 62.54 359 P 12 07 39.8
baz=178
H57A **Richville** 62.54 357 P 12 07 39.0
baz=176,SNR=5.5
ANMO **Albuquerque** 62.62 328 P 12 07 40.7
baz=142
ANMO **Albuquerque** 62.62 328⇑ eP P 12 07 41.3 +1.0
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO **Albuquerque** 62.62 328 P P 12 07 41.1 +0.8
H64A **Troy** 62.63 2 P 12 07 39.8
baz=182
H63A **New Sharon** 62.63 1 P 12 07 40.6
baz=181
H59A **Cadyville** 62.65 358 P 12 07 40.5
baz=177
LONY **Lake Ozonia** 62.66 357 P 12 07 40.5
baz=176
H65A **Eastbrook** 62.72 2 P 12 07 40.8
baz=183
CBKS **Cedar Bluff** 62.76 335 P 12 07 41.2
baz=150
L40A **Anamosa** 62.81 343 P P 12 07 40.9 -0.2
L40A IAmb IAmb 12 07 58.6
comp=Z,12nm,1.0s
FRNY **Flat Rock** 62.83 358 P P 12 07 41.9 +0.7
FRNY IAmb IAmb 12 07 42.9
comp=Z,17nm,1.0s
H66A **Whiting** 62.85 3 P 12 07 40.9
baz=184
H53A **Bobcaygeon** 62.90 354 P 12 07 41.9
baz=172
G60A **Masonville** 63.07 359 P 12 07 43.6
baz=179
G63A **Kingsbury** 63.09 1 P 12 07 43.4
baz=182
SADO **Sadowa** 63.15 354 P P 12 07 42.7 -0.6
G57A **Newington** 63.16 357 P 12 07 43.5
baz=176
G58A **Ormstown** 63.16 358 P 12 07 43.8
baz=177
G62A **West of Eustis** 63.18 1 P 12 07 43.9
baz=181,SNR=11
G62A **West of Eustis** 63.18 1 P P 12 07 44.4 +0.9

G61A **St-Isidore-de-** **63.24 360** P 12 07 44.8
baz=180,SNR=5.3

G65A **Princeton** **63.25 3** P 12 07 44.8
baz=184

PKME **Peaks-Kenny Pk** **63.25 2** P 12 07 44.3
baz=182

G65A **Princeton** **63.25 3** P **P** **12 07 44.6 +0.7**

G64A **Maxfield** **63.25 2** P 12 07 45.1
baz=183

JFWS **Jewell Farm** **63.35 344** P 12 07 44.2
baz=160

JFWS **Jewell Farm** **63.35 344** P **P** **12 07 44.1 -0.6**
JFWS pmax pmax
comp=Z,11nm,0.7s

JFWS **Jewell Farm** **63.35 344** P **P** **12 07 44.1 -0.6**
JFWS lAmb lAmb 12 07 45.1
comp=Z,11nm,0.7s

T25A **Trinidad** **63.38 331** P 12 07 46.2
baz=145,SNR=5.8

T25A **Trinidad** **63.38 331** P **P** **12 07 45.7 +0.4**

G54A **Lake Saint Pet** **63.67 355** P 12 07 46.6
baz=173,SNR=5.6

VNA3 **Neumayer Olymp** **63.81 162** P **P** **12 07 48.7 +1.3**

VNA3 **Neumayer Olymp** **63.81 162** PcP **PcP** **12 08 24.3 +1.1**

VNA3 **Neumayer Olymp** **63.81 162** pP pP 12 07 58.6 +3.2

VNA3 **Neumayer Olymp** **63.81 162** sP sP 12 08 02.1 +3.8

F64A **Sherman** **63.88 2** P 12 07 48.6
baz=183

214A **Organ Pipe Nat** **63.90 321** P 12 07 49.9
baz=136

F60A **Warwick** **63.93 359** P 12 07 48.7
baz=179

F61A **St Evariste** **63.94 0** P 12 07 49.1
baz=180

I42A **Draeger Farm,** **63.95 346** P **P** **12 07 47.9 -0.7**
I42A lAmb lAmb 12 07 59.8
comp=Z,9.4nm,0.8s

VNA1 **Neumayer--Stat** **64.04 161** P **P** **12 07 50.5 +1.6**

VNA1 **Neumayer--Stat** **64.04 161** pP pP 12 08 00.3 +3.6

VNA1 **Neumayer--Stat** **64.04 161** sP sP 12 08 03.4 +3.7

X18A **Snowflake** **64.14 325** P **P** **12 07 51.2 +0.8**

ALGO **Algonquin Park** **64.22 355** P 12 07 50.2
baz=173

TRQ **Mont Tremblant** **64.26 357** P **P** **12 07 50.8 +0.1**

E58A **La Victoria** **64.36 358** P 12 07 51.3
baz=178,SNR=5.6

SDCO **Great Sand Dun** **64.38 330** P 12 07 52.9
baz=144,SNR=22

SDCO **Great Sand Dun** **64.38 330** P **P** **12 07 52.1 +0.2**
SDCO lAmb lAmb 12 07 54.2
comp=Z,11nm,0.9s

E61A **Lac Etchemin** **64.40 1** P 12 07 52.3
baz=181

VNA2 **Neumayer--Watz** **64.40 161** P **P** **12 07 52.5 +1.1**
baz=286,slow=7.5

VNA2 **Neumayer--Watz** **64.40 161** PcP **PcP** **12 08 25.9 +0.3**

VNA2 **Neumayer--Watz** **64.40 161** pP pP 12 08 01.1 +2.0

VNA2 **Neumayer--Watz** **64.40 161** sP sP 12 08 04.5 +2.3

E63A **Oxbow** **64.43 2** P 12 07 52.2
baz=183

E63A **Oxbow** **64.43 2** P **P** **12 07 51.8 +0.1**
E63A lAmb lAmb 12 07 52.9
comp=Z,24nm,1.1s

E64A **Bridgewater** **64.45 3** P 12 07 52.0
baz=184

E56A **St. Veronique** **64.60 357** P 12 07 53.2
baz=176,SNR=8.2

D60A **Saint Jean D'O** **64.88 0** P 12 07 55.3
baz=180

X16A **Lo Mia Camp, P** **64.88 324** P **P** **12 07 54.8 -0.4**

S22A **4UR Ranch, Cre** **65.01 329** P 12 07 56.7
baz=143,SNR=5.8

113A **Mohawk Valley,** **65.04 321** P **P** **12 07 56.1 +0.1**

D63A **Stockholm** **65.06 2** P 12 07 56.4
baz=183

D58A **Chemin du LacG** **65.07 359** P 12 07 56.2
baz=178,SNR=10

D56A **ZEC Mazanza, M** **65.09 357** P 12 07 55.9
baz=176,SNR=5.6

D55A **Sainte-Anne-du** **65.09 357** P 12 07 56.2
baz=176,SNR=6.3

Q24A **Divide** **65.20 331** P 12 07 57.3
baz=144

I37A **Lemond, Waseca** **65.22 343** P **P** **12 07 57.0 0.0**

LATQ **La Tuque** **65.36 359** P 12 07 58.2
baz=178

LATQ **La Tuque** **65.36 359** P **P** **12 07 58.5 +0.7**
LATQ lAmb lAmb 12 07 59.3
comp=Z,12nm,1.1s

BATG **Bathurst New B** **65.40 4** P **P** **12 07 58.6 +0.6**
BATG lAmb lAmb 12 07 59.5
comp=Z,20nm,1.0s

E46A **Sault Ste Mari** **65.41 350** P **P** **12 07 57.4 -0.7**
E46A lAmb lAmb 12 08 14.9
comp=Z,14nm,0.9s

MVCO **Mesa Verde** **65.42 328** P 12 07 59.6
baz=141

MVCO **Mesa Verde** **65.42 328** P **P** **12 07 59.7 +1.0**

Y14A **Wickenburg** **65.43 322** P **P** **12 07 59.7 +1.1**

WUAZ **Wupatki** **65.65 325** P 12 08 01.1
baz=138,SNR=6.5

WUAZ **Wupatki** **65.65 325** P **P** **12 08 01.1 +0.9**
WUAZ lAmb lAmb 12 08 03.9
comp=Z,12nm,1.1s

E43A **Lone Tree Farm** **65.90 348** P **P** **12 08 01.9 +0.6**
E43A lAmb lAmb 12 08 12.2
comp=Z,8.5nm,0.7s

ECSD **EROS Data Cent** **65.95 340** P 12 08 01.8
baz=154,SNR=12

ECSD **EROS Data Cent** **65.95 340** P **P** **12 08 01.2 -0.4**
ECSD lAmb lAmb 12 08 02.8
comp=Z,23nm,1.2s

SNAA **Sanae** **66.02 161** P **P** **12 08 03.0 +1.0**

SNAA **Sanae** **66.02 161** pP pP 12 08 12.9 +3.2

SNAA **Sanae** **66.02 161** sP sP 12 08 17.5 +4.8

SNAA **Sanae** **66.02 161** *c iP* **P** **12 08 02.9 +1.0**
SNAA pmax pmax
comp=Z,26nm,1.2s

SNAA **Sanae** **66.02 161** P **P** **12 08 02.3 +0.4**

ISCO **Idaho Springs** **66.08 332** P 12 08 03.7
baz=144,SNR=7.4

ISCO **Idaho Springs** **66.08 332** P **P** **12 08 03.8 +0.8**
ISCO pmax pmax
comp=Z,5.0nm,1.0s

ISCO **Idaho Springs** **66.08 332** P **P** **12 08 03.8 +0.8**

COWI **Conover** **66.09 346** P **P** **12 08 01.9 -0.6**
COWI lAmb lAmb 12 08 03.3
comp=Z,9.5nm,1.0s

SPMN **Marine on St.** **66.17 343** P 12 08 03.3
baz=158

SPMN **Marine on St.** **66.17 343** P **P** **12 08 02.7 -0.3**
SPMN lAmb lAmb 12 08 04.2
comp=Z,17nm,0.8s

SMCO **Snowmass** **66.21 330** P **P** **12 08 04.5 +0.5**
SMCO lAmb lAmb 12 08 06.4
comp=Z,6.8nm,0.8s

VLDQ **Val d'Or** **66.31 355** P **P** **12 08 04.6 +0.8**
VLDQ lAmb lAmb 12 08 21.8
comp=Z,12nm,0.9s

SWSC **Sam W. Stewart** **66.39 320** P 12 08 05.3
baz=134

CBX **Cerro Bola** **66.50 319** P **P** **12 08 05.9 +0.3**

BC3 **Big Chuckawall** **66.67 321** P 12 08 08.3
baz=134

MONP2 **Monument Peak** **66.74 319** P 12 08 08.7
baz=133

BAR **Barrett** **66.75 319** P **P** **12 08 07.5 +0.5**
BAR lAmb lAmb 12 08 10.2
comp=Z,11nm,0.8s

W13A **Hualapai Mount** **66.76 323** P **P** **12 08 07.4 +0.1**

U15A **North Rim** **66.83 325** P **P** **12 08 07.0 -0.8**

IRM **Iron Mountain** **66.83 321** P 12 08 08.5
baz=134,SNR=5.8

D41A **Chassel** **66.88 347** P **P** **12 08 07.6 +0.1**

F36A **Milaca** **66.96 343** P **P** **12 08 07.3 -0.7**
F36A lAmb lAmb 12 08 08.8
comp=Z,15nm,0.9s

N23A **Red Feather La** **67.12 332** P 12 08 10.4
baz=144

LSQQ **Lebel-sur-Quev** **67.22 356** P 12 08 10.1
baz=174

PHWY **Pilot Hill** **67.23 333** P **P** **12 08 10.7 +0.4**

BELC **Belle Mtn. Jos** **67.24 321** P 12 08 11.1
baz=134

PFO **Pinyon Flats O** **67.25 320** P 12 08 12.4
baz=133

PFO **Pinyon Flats O** **67.25 320** *iP* **P** **12 08 13.1 +2.7**
PFO pmax pmax
comp=Z,11nm,1.0s

PFO **Pinyon Flats O** **67.25 320** P **P** **12 08 11.5 +1.1**

KNB **Kanab** **67.55 325** P **P** **12 08 14.2 +2.0**
KNB pmax pmax
comp=Z,35nm,1.5s

KNB **Kanab** **67.55 325** P **P** **12 08 14.2 +2.0**

O20A **White River Ci** **67.57 330** P 12 08 13.1
baz=142,SNR=5.3

O20A **White River Ci** **67.57 330** P **P** **12 08 11.7 -0.6**
O20A lAmb lAmb 12 08 14.7
comp=Z,12nm,1.1s

GMRC **Granite Mounta** **67.58 321** P 12 08 13.3
baz=134,SNR=5.4

F33A **5 Mile Ranch,** **67.74 341** P **P** **12 08 12.4 -0.5**
F33A lAmb lAmb 12 08 33.8
comp=Z,8.2nm,0.7s

LCMT **Little Creek M** **67.78 325** P **P** **12 08 13.6 0.0**

SRU **San Rafael Swe** **67.90 328** P **P** **12 08 15.1 +0.7**
SRU pmax pmax
comp=Z,7.0nm,0.8s

SRU **San Rafael Swe** **67.90 328** P **P** **12 08 15.1 +0.7**
SRU lAmb lAmb 12 08 16.7
comp=Z,7.1nm,0.8s

CHGQ **Chibougamau** **67.93 358** P 12 08 14.1
baz=177,SNR=7.0

MTPU **Mount Pierson** **67.96 326** P **P** **12 08 15.7 +0.6**

MATQ **Matagami** **67.96 356** P 12 08 14.2
baz=174,SNR=8.1

HEC **Hector,Ludlow** **68.01 321** P 12 08 17.1
baz=134

TUQ **Turquoise Moun** **68.18 322** P 12 08 18.1
baz=134

CCUT **Cedar City** **68.23 325** P **P** **12 08 17.6 +1.0**
CCUT lAmb lAmb 12 08 20.3
comp=Z,11nm,0.9s

P17A **Butcher Ranch,** **68.28 328** P **P** **12 08 17.8 +1.0**
P17A lAmb lAmb 12 08 19.3
comp=Z,11nm,0.9s

CIS **Catalina Islan** **68.32 319** P 12 08 18.5
baz=132

BFSC **Mount Baldy Ra** **68.41 320** P 12 08 19.2
baz=132

SHPR **Sheep Range** **68.49 323** P **P** **12 08 19.1 +1.0**

RDMU **Red Mountain** **68.55 329** P **P** **12 08 19.4 +0.9**
RDMU lAmb lAmb 12 08 20.1
comp=Z,6.6nm,0.7s

K22A **Casper** **68.79 333** P 12 08 20.6
baz=144,SNR=6.1

K22A **Casper** **68.79 333** P **P** **12 08 20.4 +0.5**
K22A lAmb lAmb 12 08 21.4
comp=Z,7.6nm,0.8s

SNCC **San Nicolas Is** **68.92 318** P 12 08 22.4
baz=131

RSSD **Black Hills** **68.96 335** P 12 08 21.7
baz=147

RSSD **Black Hills** **68.96 335** P **P** **12 08 21.2 +0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.8s

RSSD **Black Hills** **68.96 335** P **P** **12 08 21.1 +0.2**

EDW2 **Edwards Air Fo** **69.05 320** P 12 08 22.9
baz=132,SNR=7.3

PRN **Pahroc Range** **69.06 324** P **P** **12 08 21.2 -0.4**

PSUT **Pine Spring** **69.21 325** P **P** **12 08 23.8 +1.1**
PSUT lAmb lAmb 12 08 25.8
comp=Z,10.0nm,0.8s

LRMC **Laurel Mtn Rad** **69.26 321** P 12 08 23.9
baz=133

B35A **Bob, Littlefor** **69.31 344** P **P** **12 08 21.6 -1.1**
B35A lAmb lAmb 12 08 23.3
comp=Z,9.9nm,1.1s

TPNV **Topopah Spring** **69.42 323** P 12 08 25.9
baz=134,SNR=16

TPNV **Topopah Spring** **69.42 323** P **P** **12 08 24.1 +0.2**
TPNV pmax pmax
comp=Z,14nm,1.1s

TPNV **Topopah Spring** **69.42 323** P **P** **12 08 24.1 +0.2**
TPNV lAmb lAmb 12 08 27.5
comp=Z,14nm,1.1s

FURC **Furnace Creek,** **69.44 322** P 12 08 26.1
baz=134,SNR=16

JLU **Jordanelle** **69.49 328** P **P** **12 08 26.1 +1.7**
JLU lAmb lAmb 12 08 27.0
comp=Z,7.4nm,0.8s

LIC **Lamto** **69.64 76** *eP* **P** **12 08 27.1 +1.5**
comp=Z,87nm,1.5s

SPR3 **Spring Creek 3** **69.81 325** P **P** **12 08 27.6 +1.1**

TIC **Toumodi** **69.81 76** *eP* **P** **12 08 28.2 +1.6**

AGMN **Agassiz Nation** **69.83 343** P **P** **12 08 25.5 -0.4**
AGMN lAmb lAmb 12 08 46.0
comp=Z,7.1nm,0.8s

ISA **Isabella, Lake** **69.86 320** P 12 08 28.6
baz=132,SNR=9.3

ISA **Isabella, Lake** **69.86 320** P **P** **12 08 28.1 +1.5**
ISA pmax pmax
comp=Z,11nm,0.9s

ISA **Isabella, Lake** **69.86 320** P **P** **12 08 28.1 +1.5**
ISA lAmb lAmb 12 08 29.9
comp=Z,11nm,0.9s

DUG **Dugway, Tooele** **69.88 327** P 12 08 28.4
baz=138,SNR=9.2

DUG **Dugway, Tooele** **69.88 327** P **P** **12 08 28.2 +1.6**
DUG pmax pmax
comp=Z,14nm,1.1s

DUG **Dugway, Tooele** **69.88 327** P **P** **12 08 28.2 +1.6**
DUG lAmb lAmb 12 08 29.6
comp=Z,14nm,1.1s

KIC **Kosan Boka** **69.96 76** *eP* **P** **12 08 26.3 -1.2**
comp=Z,37nm,0.5s

DBIC **Dimbokro** **69.97 76** P **P** **12 08 26.6 -1.0**
comp=Z,20nm,0.6s,baz=231,slow=5.9,SNR=24

DBIC **Dimbokro** **69.97 76** P **P** **12 08 26.5 -1.0**
DBIC pmax pmax
comp=Z,43nm,1.2s

DBIC **Dimbokro** **69.97 76** P **P** **12 08 26.5 -1.0**

R11A **Troy Canyon, C** **70.03 324** P 12 08 29.8
baz=135,SNR=11

R11A **Troy Canyon, C** **70.03 324** P **P** **12 08 29.4 +1.7**

CWC **Cottonwood Cre** **70.14 321** P 12 08 30.3
baz=133

PKM **Mcpherson Peak** **70.17 319** P 12 08 30.0
baz=131,SNR=6.1

BW06 **Boulder Array** **70.24 331** P 12 08 29.9
baz=141

PD31 **Pinedale Array** **70.24 331** P **P** **12 08 29.0 +0.1**

PDAR **Pinedale Array** **70.24 331** P **P** **12 08 29.6 +0.6**
comp=Z,1.5nm,0.7s,baz=145,slow=5.4,SNR=11

PDAR LR LR 12 41 25.6
comp=Z,81nm,18.5s,baz=137,slow=38

PDAR **Pinedale Array** **70.24 331** P **P** **12 08 28.6 -0.4**

BW06 **Boulder Array** **70.24 331** P **P** **12 08 29.2 +0.3**

HWUT **Hardware Ranch** **70.31 329** P **P** **12 08 29.8 +0.5**
HWUT lAmb lAmb 12 08 33.5
comp=Z,7.4nm,0.8s

VES **Vestal, Richgr** **70.35 320** P 12 08 31.0
baz=132

BGU **Big Grassy Mou** **70.53 328** P **P** **12 08 31.6 +1.0**
BGU lAmb lAmb 12 08 33.1
comp=Z,8.7nm,1.0s

SMMC **Simmler** **70.56 319** P 12 08 32.7
baz=131

NVL **N'lazarevskaya** **70.61 160** *eP* **P** **12 08 27.3 -3.2**
NVL pmax pmax
comp=Z,22nm,0.9s

TIN **Tinemaha, Big** **70.65 322** P 12 08 33.1
baz=133

TPH **Tonopah** **70.76 323** P **P** **12 08 32.1 -0.1**
TPH pmax pmax
comp=Z,30nm,1.0s

TPH **Tonopah** **70.76 323** P **P** **12 08 32.1 -0.1**

HVU **Hansel Valley** **71.03 328** P **P** **12 08 34.1 +0.4**
HVU pmax pmax
comp=Z,8.0nm,0.9s

HVU **Hansel Valley** **71.03 328** P **P** **12 08 34.1 +0.4**
HVU lAmb lAmb 12 08 35.8
comp=Z,7.8nm,0.9s

REDW **Red Top Meadow** **71.31 331** P **P** **12 08 36.3 +0.9**

SNOW **Snow King Moun** **71.34 331** P **P** **12 08 36.1 +0.5**

LOHW **Long Hollow** **71.38 331** P **P** **12 08 36.4 +0.5**

MLAC **Mammoth, Mammo** **71.39 322** P 12 08 37.2
baz=132

TPAW **Teton Pass** **71.45 331** P **P** **12 08 37.4 +1.1**

MDPB **Devils Postpil** **71.54 322** P **P** **12 08 38.9 +2.0**
MDPB lAmb lAmb 12 08 40.0
comp=Z,8.4nm,0.9s

NV11 **Mina Array Sit** **71.54 323** P **P** **12 08 38.3 +1.5**

ELK **Elko** **71.55 326** P **P** **12 08 37.7 +0.8**
ELK pmax pmax
comp=Z,6.0nm,1.0s

ELK **Elko** **71.55 326** P **P** **12 08 37.7 +0.8**

MOOW **Moose Ponds** **71.55 331** P **P** **12 08 37.8 +1.0**

ULM **Lac du Bonnet** **71.61 344** P **P** **12 08 36.2 -0.5**
comp=Z,6.4nm,0.6s,baz=154,slow=4.3,SNR=12

ULM LR LR 12 43 02.7
comp=Z,64nm,19.1s,baz=60,slow=38

ULM **Lac du Bonnet** **71.61 344** *iP* **P** **12 08 36.7 0.0**

ULM **Lac du Bonnet** **71.61 344** P **P** **12 08 36.7 0.0**
ULM lAmb lAmb 12 08 36.8
comp=Z,8.7nm,0.7s

LHV **Little Huntoon** **71.62 322** P **P** **12 08 39.0 +2.0**
LHV lAmb lAmb 12 08 40.7
comp=Z,10nm,0.9s

NVAR **Mina Array Bea** **71.62 323** P **P** **12 08 39.8 +2.3**
comp=Z,3.4nm,0.8s,baz=152,slow=6.8,SNR=27

NVAR LR LR 12 40 15.7
comp=Z,56nm,18.2s,baz=140,slow=36

NVAR **Mina Array Bea** **71.62 323** P **P** **12 08 38.2 +0.8**

FLWY **Flagg Ranch** **71.79 331** P **P** **12 08 39.9 +1.6**
FLWY lAmb lAmb 12 08 41.1
comp=Z,13nm,0.9s

QSPA **South Pole Qui** **71.90 180** P **P** **12 08 39.6 +1.0**
QSPA lAmb lAmb 12 08 41.0
comp=Z,13nm,0.8s

KVN **Kaiserville** **71.93 323** P **P** **12 08 40.4 +1.2**
KVN pmax pmax
comp=Z,9.0nm,1.0s

KVN **Kaiserville** **71.93 323** P **P** **12 08 40.4 +1.2**

LAO **LASA Array** **71.95 335** P 12 08 39.9
baz=145

LAO **LASA Array** **71.95 335** P **P** **12 08 39.4 +0.4**
LAO lAmb lAmb 12 08 41.7
comp=Z,24nm,1.5s

RLMT **Red Lodge** **71.96 333** P 12 08 40.3
baz=142,SNR=5.9

RLMT **Red Lodge** **71.96 333** P **P** **12 08 40.9 +1.6**
RLMT lAmb lAmb 12 08 41.6
comp=Z,14nm,1.2s

H17A **Grant Village** **71.97 331** P 12 08 41.1
baz=141

YNE **Yellowstone No** **72.19 332** P **P** **12 08 41.5 +0.8**
YNE lAmb lAmb 12 08 43.1
comp=Z,22nm,0.9s

WAKR **Walker** **72.33 322** P **P** **12 08 41.8 +0.1**

YMR **Madison River** **72.36 331** P **P** **12 08 43.6 +1.9**

YHH **Holmes Hill** **72.40 332** P **P** **12 08 43.3 +1.3**

YHB **Horse Butte** **72.53 331** P **P** **12 08 42.9 +0.2**
YHB lAmb lAmb 12 08 45.7
comp=Z,9.0nm,0.9s

YERR **Yerington** **72.54 323** P **P** **12 08 42.8 0.0**
YERR lAmb lAmb 12 08 46.2
comp=Z,19nm,1.4s

YHL **Hebgen Lake** **72.60 331** P **P** **12 08 44.3 +1.1**
YHL lAmb lAmb 12 08 46.5
comp=Z,18nm,1.3s

GCMT **Greycliff** **72.66 333** P **P** **12 08 44.5 +1.1**

SCHQ **Schefferville** **72.90 3** P **P** **12 08 44.6 +0.2**
comp=Z,9.4nm,0.9s,baz=175,slow=5.1,SNR=9.5

SCHQ **Schefferville** **72.90 3** P **P** **12 08 45.2 +0.8**
SCHQ lAmb lAmb 12 08 45.5
comp=Z,14nm,1.0s

VCNR **Virginia City** **72.98 323** P **P** **12 08 46.3 +0.8**
VCNR lAmb lAmb 12 08 48.9
comp=Z,14nm,1.3s

PAHR **Pah Rah Range** **73.10 323** P **P** **12 08 48.3 +2.2**
PAHR lAmb lAmb 12 08 49.6
comp=Z,14nm,0.9s

HLID **Hailey** **73.17 329** P 12 08 47.9
baz=137,SNR=16

HLID **Hailey** **73.17 329** P **P** **12 08 47.7 +1.2**
HLID lAmb lAmb 12 08 49.6
comp=Z,10nm,1.1s

BCYI **Bear Canyon** **73.23 330** P **P** **12 08 47.2 +0.3**

MCMT **McKenzie Canyo** **73.35 330** P **P** **12 08 49.0 +1.4**

AFDM **Forest Hills D** **73.52 322** P **P** **12 08 48.3 -0.2**

DLMT **Dillon** **73.64 331** P **P** **12 08 48.3 -0.9**

MFID **Camas Ranch** **73.77 328** P **P** **12 08 51.0 +1.0**
MFID lAmb lAmb 12 08 53.1
comp=Z,22nm,1.1s

BEKR **Beckworth** **73.77 323** P **P** **12 08 50.1 0.0**

KOWA **Kowa** **73.79 68** P **P** **12 08 49.5 -0.9**
KOWA lAmb lAmb 12 09 07.2
comp=Z,19nm,0.8s

ORV **Oroville** **74.23 322** P **P** **12 08 54.0 +1.5**
ORV pmax pmax
comp=Z,19nm,1.1s

ORV **Oroville** **74.23 322** P **P** **12 08 54.0 +1.5**
ORV lAmb lAmb 12 08 56.0
comp=Z,19nm,1.1s

HRY **Holter Researc** **74.32 332** P **P** **12 08 54.3 +1.3**

EGMT **Eagleton** **74.45 334** P 12 08 54.2
baz=142,SNR=6.3

EGMT **Eagleton** **74.45 334** P **P** **12 08 54.4 +0.6**
EGMT lAmb lAmb 12 08 55.7
comp=Z,8.6nm,0.9s

O03E **Paynes Creek** **74.89 322** P 12 08 57.1
baz=131

PLID **Pearl Lake** **75.06 329** P **P** **12 08 58.3 +0.8**
PLID lAmb lAmb 12 08 59.9
comp=Z,11nm,1.1s

MOD **Modoc Plateau** **75.09 324** P **P** **12 08 58.9 +1.1**
MOD lAmb lAmb 12 09 01.4
comp=Z,8.6nm,0.8s

J08A **Circle Bar Ran** **75.09 326** P **P** **12 08 58.9 +1.2**

MSO **Missoula** **75.36 331** P 12 09 00.2
baz=138,SNR=6.0

MSO **Missoula** **75.36 331** P **P** **12 09 00.2 +1.1**

O02D **Mt. Diablo Mer** **75.39 322** P 12 09 00.5
baz=130

WDC **Whiskeytown Da** **75.50 322** P **P** **12 09 00.1 +0.2**
WDC pmax pmax
comp=Z,5.0nm,0.9s

WDC **Whiskeytown Da** **75.50 322** P **P** **12 09 00.1 +0.2**

BMO **Blue Mountains** **75.54 328** P **P** **12 08 59.2 -0.9**
BMO pmax pmax
comp=Z,8.0nm,0.9s

BMO **Blue Mountains** **75.54 328** P **P** **12 08 59.2 -0.9**

N02D **Trinity Center** **75.85 322** P 12 09 02.8
baz=130

M04C **Macdoel** **75.87 323** P 12 09 03.5
baz=131

K05A **Summer Lake** **75.97 325** P **P** **12 09 03.9 +1.1**
K05A lAmb lAmb 12 09 06.2
comp=Z,17nm,1.0s

I07A **Izee** **76.13 326** P **P** **12 09 05.1 +1.5**
I07A lAmb lAmb 12 09 06.7
comp=Z,9.5nm,0.9s

JTMT **Jette** **76.20 332** P **P** **12 09 03.5 -0.4**

M02C **Callahan** **76.20 323** P 12 09 05.2
baz=130

F10A **Beach Ranch, E** **76.29 329** P **P** **12 09 03.9 -0.6**

YBH **Yreka Blue Hor** **76.34 323** P **P** **12 09 04.7 0.0**
YBH pmax pmax
comp=Z,6.0nm,1.1s

YBH **Yreka Blue Hor** **76.34 323** P **P** **12 09 04.7 0.0**

L04D **Klamath Falls** **76.42 324** P 12 09 06.4
baz=131

G08A **Pilot Rock** **76.68 328** P **P** **12 09 06.4 -0.3**

PINE **Pine Mountain** **76.70 325** P **P** **12 09 08.3 +1.4**
PINE lAmb lAmb 12 09 10.3
comp=Z,15nm,0.9s

J04D **Umpqua Nationa** **76.98 324** P 12 09 09.5
baz=131,SNR=5.1

L02E **Cave Junction** **77.12 323** P 12 09 10.8
baz=130

E09A **Wood Farm, Sta** **77.13 329** P **P** **12 09 09.6 +0.6**
E09A lAmb lAmb 12 09 11.4
comp=Z,9.5nm,0.9s

I05D **Terrebonne, OR** **77.28 326** P 12 09 11.4
baz=132,SNR=8.0

K02D **Willamette Mer** **77.50 323** P 12 09 12.7
baz=130

I04A **Tendick Farm,** **77.50 325** P 12 09 12.1
baz=131

HAWA **Hanford** **77.73 328** P **P** **12 09 13.9 +1.5**
HAWA lAmb lAmb 12 09 15.5
comp=Z,16nm,0.9s

G05D **Wamic, OR** **77.87 326** P 12 09 14.7
baz=132

NEW **Newport** **77.88 331** P 12 09 14.8
baz=136

NEW	**Newport**	**77.88**	**331**		P	**P**	**12 09 13.6**	**+0.4**		
NEW					pmax	pmax				
	comp=Z,9.0nm,1.5s									
NEW	**Newport**	**77.88**	**331**		P	**P**	**12 09 13.6**	**+0.4**		
D08A	**Wollman Farm,**	**77.89**	**329**		P	**P**	**12 09 14.5**	**+1.3**		
I03D	**Drain, OR**	**77.96**	**324**		P		12 09 15.4			
	baz=130									
C09A	**Chrisman Ranch**	**78.09**	**330**		P	**P**	**12 09 15.0**	**+0.6**		
C09A					IAmb	IAmb	12 09 17.2			
	comp=Z,13nm,0.9s									
TOA0	**Torodi Ar. Sit**	**78.37**	**72**		P	**P**	**12 09 15.0**	**-1.6**		
TORD	**Torodi Ar. Bea**	**78.37**	**72**		P	**P**	**12 09 15.5**	**-1.1**		
	comp=Z,24nm,0.8s,baz=258,slow=5.4,SNR=74									
TORD					LR	LR	12 43 02.6			
	comp=Z,293nm,18.5s,baz=260,slow=35									
TORD	**Torodi Ar. Bea**	**78.37**	**72**		P	**P**	**12 09 15.0**	**-1.6**		
TORD					IAmb	IAmb	12 09 16.4			
	comp=Z,24nm,0.9s									
G03D	**McMinnville, O**	**78.89**	**325**		P		12 09 20.6			
	baz=130									
LTY	**Liberty**	**78.89**	**328**		P	**P**	**12 09 20.0**	**+1.1**		
LTY					IAmb	IAmb	12 09 21.7			
	comp=Z,14nm,1.1s									
B08A	**Colville Reser**	**78.99**	**330**		P	**P**	**12 09 20.0**	**+0.6**		
LON	**Longmire**	**79.13**	**327**		P	**P**	**12 09 20.7**	**+0.5**		
LON					pmax	pmax				
	comp=Z,4.0nm,0.9s									
LON	**Longmire**	**79.13**	**327**		P	**P**	**12 09 20.7**	**+0.5**		
E04D	**Cinebar**	**79.39**	**327**		P		12 09 23.3			
	baz=131									
D05A	**Enumclaw**	**79.51**	**327**		P	**P**	**12 09 23.2**	**+1.1**		
VNDA	**Vanda**	**79.64**	**190**		P	**P**	**12 09 24.7**	**+2.2**		
	comp=Z,4.0nm,0.9s,baz=125,slow=6.2,SNR=24									
VNDA	**Vanda**	**79.64**	**190**		P	**P**	**12 09 22.5**	**0.0**		
VNDA					pmax	pmax				
	comp=Z,5.0nm,0.9s									
VNDA	**Vanda**	**79.64**	**190**		P	**P**	**12 09 22.5**	**0.0**		
B06A	**Marblemount**	**80.15**	**329**		P	**P**	**12 09 26.3**	**+0.7**		
B06A					IAmb	IAmb	12 09 27.6			
	comp=Z,15nm,0.8s									
B05A	**Bryant**	**80.28**	**328**		P		12 09 27.2			
	baz=132,SNR=8.9									
D03D	**Eldon**	**80.31**	**327**		P		12 09 27.4			
	baz=131									
NLWA	**Neilton Lookou**	**80.62**	**327**		P	**P**	**12 09 28.8**	**+0.7**		
NLWA					IAmb	IAmb	12 09 31.4			
	comp=Z,16nm,1.1s									
A04D	**Lummi Island**	**80.89**	**328**		P		12 09 31.2			
	baz=131									
PBDV	**Barranco-do-Ve**	**81.19**	**46**	*e*P		**P**	**12 09 33.1**	**+1.6**		
PBDV				*i* LQ		LQ	12 09 44.5			
PGC	**Sidney**	**81.22**	**328**		P	**P**	**12 09 31.5**	**+0.3**		
PGC					IAmb	IAmb	12 09 34.2			
	comp=Z,18nm,0.9s									
PNCL	**Nicolau / Gran**	**81.23**	**45**	*e*P		**P**	**12 09 32.8**	**+1.2**		
PNCL				*i* LQ		LQ	12 09 42.9			
PCVE	**Castro Verde**	**81.32**	**46**	*e*P		**P**	**12 09 33.4**	**+1.3**		
PCVE				*i* LQ		LQ	12 09 44.3			
PBEJ	**Beja**	**81.64**	**46**	*e*P		**P**	**12 09 34.9**	**+1.1**		
PBEJ				*i* LQ		LQ	12 09 44.5			
PSBE	**So Bento**	**81.79**	**44**	*e*P		**P**	**12 09 37.0**	**+2.4**		
EVO	**Evora**	**81.80**	**45**	*e*P		**P**	**12 09 35.6**	**+1.0**		
EVO				*i* LQ		LQ	12 09 46.6			
PMTG	**Montargil**	**81.93**	**44**	*e*P		**P**	**12 09 36.4**	**+1.1**		
PMTG				*i* LQ		LQ	12 09 47.6			
PESTR	**Estremoz**	**82.25**	**45**	*e*P		**P**	**12 09 38.2**	**+1.2**		
PCAS	**Casmilo, Conde**	**82.26**	**44**	*e*P		**P**	**12 09 37.9**	**+0.9**		
PCAS				*i* LQ		LQ	12 09 48.8			
PBAR	**Barrancos**	**82.27**	**46**	*e*P		**P**	**12 09 38.2**	**+1.1**		
PBAR				*i* LQ		LQ	12 09 49.2			
PMRV	**Marv??o**	**82.67**	**44**	*i* LQ		LQ	12 09 50.4			
PCBR	**Castelo Branco**	**82.83**	**44**	*e*P		**P**	**12 09 40.5**	**+0.6**		
PCBR				*i* LQ		LQ	12 09 52.2			
MTE	**Manteigas**	**83.07**	**44**	*e*P		**P**	**12 09 42.3**	**+1.0**		
MTE				*i* LQ		LQ	12 09 56.0			
POLO	**Lamas de Olo**	**83.41**	**43**	*e*P		**P**	**12 09 44.2**	**+1.1**		
POLO				*i* LQ		LQ	12 09 54.9			
PGAV	**Gavieira, Arco**	**83.41**	**42**	*e*P		**P**	**12 09 44.0**	**+0.9**		
PGAV				*i* LQ		LQ	12 09 56.5			
MVO	**Moncorvo**	**83.80**	**43**	*e*P		**P**	**12 09 46.0**	**+1.0**		
MVO				*i* LQ		LQ	12 09 57.0			
PBRG	**Braganca**	**84.31**	**43**	*e*P		**P**	**12 09 48.4**	**+0.8**		
PBRG				*i* LQ		LQ	12 09 58.5			
PAB	**San Pablo**	**84.78**	**46**		P	**P**	**12 09 50.3**	**+0.2**		
PAB					pmax	pmax				
	comp=Z,27nm,1.0s									
PAB	**San Pablo**	**84.78**	**46**		P	**P**	**12 09 50.3**	**+0.2**		
ESDC	**Sonseca Array**	**85.10**	**46**		P	**P**	**12 09 52.5**	**+0.8**		
	comp=Z,12nm,0.9s,baz=251,slow=5.6,SNR=45									
ESDC					LR	LR	12 44 10.6			
	comp=Z,68nm,21.4s,baz=140,slow=33									
ESDC	**Sonseca Array**	**85.10**	**46**		P	**P**	**12 09 52.2**	**+0.6**		
ESDC					IAmb	IAmb	12 09 53.6			
	comp=Z,16nm,1.1s									
ESBB	**Sonseca Array**	**85.10**	**46**		P	**P**	**12 09 51.8**	**+0.1**		
BOSA	**Boshof**	**86.89**	**119**		P	**P**	**12 10 00.6**	**-0.4**		
	comp=Z,2.9nm,0.9s,baz=236,slow=3.9,SNR=3.7									
YKA	**Yellowknife Ar**	**87.44**	**341**		P	**P**	**12 10 03.0**	**+0.5**		
	comp=Z,25nm,0.8s,baz=136,slow=5.1,SNR=59									
MAW	**Mawson**	**88.03**	**164**		P	**P**	**12 10 06.7**	**+1.3**		
	comp=Z,12nm,1.0s,baz=224,slow=5.7,SNR=8.8									
MAW	**Mawson**	**88.03**	**164**		P	**P**	**12 10 05.2**	**-0.2**		
MAW					pmax	pmax				
	comp=Z,2.0nm,0.9s									
MAW	**Mawson**	**88.03**	**164**		P	**P**	**12 10 05.2**	**-0.2**		
KEST	**Kesra**	**93.12**	**53**		P	**P**	**12 10 30.0**	**+0.2**		
	comp=Z,3.8nm,0.8s,baz=292,slow=4.4,SNR=6.4									
SUMG	**Summit**	**93.23**	**9**		P	**P**	**12 10 30.2**	**+0.3**		
SUMG					pmax	pmax				
	comp=Z,9.0nm,0.7s									
SUMG	**Summit**	**93.23**	**9**		P	**P**	**12 10 30.2**	**+0.3**		
OXZ	**Oxford**	**95.68**	**221**		P	**P**	**12 10 42.1**	**+0.6**		
INK	**Inuvik**	**97.18**	**341**		P		12 10 47.8			
	baz=122									
INK	**Inuvik**	**97.19**	**341**		P	Pdif	12 10 47.7	+0.1		
	comp=Z,1.4nm,0.9s,baz=68,slow=5.9,SNR=4.9									
L27K	**Beaver Creek,**	**97.68**	**334**		P		12 10 50.6			
	baz=115									
K27K	**Chicken**	**98.20**	**335**		P		12 10 52.6			
	baz=115									
GERES	**GERESS Array B**	**100.27**	**42**		P	**Pdif**	**12 11 02.1**	**+0.1**		
	comp=Z,1.6nm,0.9s,baz=270,slow=5.3,SNR=5.7									
ILAR	**Eielson Array**	**100.41**	**335**		P	**Pdif**	**12 11 02.7**	**+0.6**		
	comp=Z,0.3nm,0.8s,baz=134,slow=2.6,SNR=2.0									
HOM	**Homer**	**100.85**	**329**		P		12 11 05.0			
	baz=108									
H11S2	**WAKE ISLAND Hy**	**125.25**	**280**		T	T	14 34 05.2			
	baz=100,slow=74,SNR=232									
H11N3	**WAKE ISLAND Hy**	**125.25**	**282**		T	T	14 34 06.2			
	baz=99,slow=74,SNR=46									
H11S1	**WAKE ISLAND Hy**	**125.26**	**280**		T	T	14 34 05.8			
	baz=100,slow=74,SNR=204									
H11S3	**WAKE ISLAND Hy**	**125.27**	**280**		T	T	14 34 02.5			
	baz=100,slow=74,SNR=184									
H11N2	**WAKE ISLAND Hy**	**125.27**	**282**		T	T	14 34 11.8			
	baz=99,slow=74,SNR=70									
H11N1	**WAKE ISLAND Hy**	**125.27**	**282**		T	T	14 34 07.1			
	baz=99,slow=74,SNR=29									
TIXI	**Tiksi**	**125.33**	**352**	⇓*i* PKIKP		**PKiKP**	**12 16 16.6**	**+0.6**		
SEY	**Seymchan**	**126.29**	**337**	⇓*i* PKIKP		**PKiKP**	**12 16 18.4**	**+0.3**		
ARU	**Arti**	**126.64**	**32**	*i* PKIKP		**PKPdf**	**12 16 18.2**	**-0.4**		
ARU							12 18 14.7			
ARU							12 23 26.7			
ARU					SS	SS	12 35 14.3	-4.6		
ABKAR	**Akbulak array**	**130.18**	**40**		pPKPdf	pPKPdf	12 16 34.0	+0.1		
ASAR	**Alice Springs**	**131.64**	**211**		PKP	**PKPdf**	**12 16 28.5**	**-0.7**		
	comp=Z,2.8nm,0.8s,baz=148,slow=2.1,SNR=24									
ASAR	**Alice Springs**	**131.64**	**211**		PKiKP	**PKPdf**	**12 16 29.5**	**+0.3**		
ASAR	**Alice Springs**	**131.64**	**211**		PKPdf	**PKPdf**	**12 16 29.5**	**+0.3**		
ASAR					pPKPdf	**pPKPdf**	**12 16 38.9**	**+1.2**		
WRA	**Warramunga Arr**	**134.49**	**215**		PKP	**PKiKP**	**12 16 35.4**	**-0.6**		
	comp=Z,4.4nm,0.8s,baz=152,slow=1.8,SNR=23									
WRAB	**Tennant Creek**	**134.50**	**215**	⇑*i* PKIKP		**PKiKP**	**12 16 36.3**	**+0.3**		
ZALV	**Zalesovo Beam**	**139.87**	**22**		PKP	**PKiKP**	**12 16 44.7**	**-1.2**		
	comp=Z,5.1nm,0.8s,baz=303,slow=3.0,SNR=10									
ZALV	**Zalesovo Beam**	**139.87**	**22**		PKIKP	**PKPdf**	**12 16 43.8**	**+0.3**		
ZALV	**Zalesovo Beam**	**139.87**	**22**			**PKPdf**	**12 16 43.8**	**+0.3**		
KLR	**Kul'dur**	**143.98**	**334**	⇑*e*PKIKP		**PKPdf**	**12 16 50.8**	**-0.2**		
MK31	**Makanchi Array**	**144.16**	**32**	*d i* PKIKP		PKPbc	12 16 49.9	+0.4		
MKAR	**Makanchi Array**	**144.16**	**32**	PKP		PKPbc	12 16 49.8	+0.2		
	comp=Z,3.8nm,0.7s,baz=324,slow=4.5,SNR=36									
MKAR	**Makanchi Array**	**144.16**	**32**	PKIKP		PKPbc	12 16 49.5	0.0		
MKAR	**Makanchi Array**	**144.16**	**32**	PKPdf		PKPbc	12 16 49.5	0.0		
MKAR						pPKPdf	12 17 00.1	+0.3		

DGZ	**Jazzator, Alta**	**144.25**	**24**	*c i* PKIKP		**PKPdf**	**12 16 50.8**	**-0.8**		
MOY	**Mondy**	**146.11**	**9**	*e* PKP2		**PKPab**	**12 16 56.8**	**+0.6**		
MOY					pmax	pmax				
	comp=Z,29nm,1.8s									
TLY	**Talaya**	**146.41**	**6**	*d i* PKP2		**PKPab**	**12 16 58.3**	**+1.0**		
USA0B	**Ussuriysk Arra**	**147.63**	**328**	⇓*e* PKIKP		**PKPdf**	**12 16 57.8**	**+0.5**		
USRK	**Ussuriysk Ar.**	**147.63**	**328**	PKPbc		**PKiKP**	**12 17 01.3**	**-0.8**		
	comp=Z,16nm,0.9s,baz=22,slow=1.0,SNR=20									
USRK	**Ussuriysk Ar.**	**147.63**	**328**	PKPbc		**PKiKP**	**12 17 01.3**	**-0.8**		
USRK						**sPKPbc**	**12 17 11.8**	**+0.5**		
ZAK	**Zakamensk**	**147.66**	**7**	*e* PKIKP		**PKPdf**	**12 16 57.6**	**+0.3**		
ZAK					pmax	pmax				
	comp=Z,11nm,1.3s									
HIA	**Hailar**	**147.84**	**346**	⇓*i* PKP2		**PKPbc**	**12 17 00.3**	**-0.2**		
MJAR	**Matsushiro Arr**	**148.35**	**311**	PKPbc		**PKiKP**	**12 17 03.5**	**-0.5**		
	comp=Z,24nm,0.8s,baz=95,slow=1.3,SNR=65									
MJAR	**Matsushiro Arr**	**148.35**	**311**			**PKiKP**	**12 17 03.4**	**-0.5**		
MJAR						**pPKPab**	**12 17 13.6**	**0.0**		
MAJO	**Matsushiro**	**148.35**	**311**	⇓*e* PKIKP		**PKPdf**	**12 16 58.6**	**-0.2**		
WMQ	**Urumqi**	**148.95**	**30**	*e* PKPbc		**PKPdf**	**12 16 59.7**	**+0.1**		
WMQ					L	L				
	comp=Z,880nm,19.5s									
WMQ					L	L				
	comp=Z,840nm,16.7s									
WMQ					L	L				
	comp=Z,2μm,21.9s									
SONM	**Songino Array**	**150.45**	**3**	PKP		**PKPdf**	**12 17 03.4**	**+1.4**		
	comp=Z,8.8nm,0.9s,baz=342,slow=1.4,SNR=8.3									
SONM					PKPbc	**PKiKP**	**12 17 08.2**	**+0.2**		
	comp=Z,11nm,0.8s,baz=323,slow=1.7,SNR=45									
ULN	**Ulaanbaatar**	**150.45**	**2**	⇑*i* PKIKP		**PKiKP**	**12 17 08.3**	**+0.3**		
HYB	**Hyderabad**	**151.22**	**87**	*i* PKP		**PKiKP**	**12 17 10.5**	**+0.1**		
KSRS	**Korea Array**	**154.56**	**323**	PKP		**PKPdf**	**12 17 09.8**	**+1.6**		
	comp=Z,1.9nm,1.0s,baz=48,slow=1.9,SNR=6.9									
HHC	**Hu-ho-hao-te**	**157.37**	**355**	*e* PKP		**PKPdf**	**12 17 10.9**	**-1.0**		
HHC					L	L				
	comp=Z,410nm,18.7s									
HHC					L	L				
	comp=Z,350nm,17.0s									
HHC					L	L				
	comp=Z,390nm,18.7s									
LZH	**Lanzhou**	**161.72**	**13**	*e* PKP		PKPdf	12 17 08.7	-8.5		
LZH					pPKP	pPKPdf	12 17 13.2	-12		
LZH					L	L				
	comp=Z,320nm,17.3s									
LZH					L	L				
	comp=Z,300nm,17.4s									
LZH					L	L				
	comp=Z,150nm,20.1s									
NJ2	**Nanjing**	**163.54**	**328**	*e* PKP		**PKPdf**	**12 17 18.1**	**-0.7**		
XAN	**Xi'an**	**164.29**	**360**	PKP		**PKPdf**	**12 17 21.0**	**+1.5**		
XAN					sPKP		12 17 33.9			
XAN					L	L				
	comp=Z,420nm,18.4s									
XAN					L	L				
	comp=Z,330nm,19.5s									
XAN					L	L				
	comp=Z,480nm,21.7s									
CD2	**Chengdu**	**166.61**	**19**		PKP	**PKPdf**	**12 17 21.0**	**-0.6**		
CM32	**Chiang Mai Arr**	**170.56**	**86**		P	**PKPab**	**12 18 42.0**	**+0.2**		
CMAR	**Chiang Mai Arr**	**170.65**	**87**		PKP	**PKPdf**	**12 17 24.3**	**-0.2**		
	comp=Z,0.5nm,0.3s,baz=326,slow=0.3,SNR=6.1									
CMAR						PKPab	**PKPab**	**12 18 41.8**	**-0.5**	
	comp=Z,3.5nm,0.9s,baz=276,slow=6.3,SNR=17									
CM05	**Chiang Mai Arr**	**170.66**	**88**		P	**PKPab**	**12 18 44.1**	**+1.9**		
CM02	**Chiang Mai Arr**	**170.66**	**87**		P	**PKPab**	**12 18 43.1**	**+0.9**		
CM04	**Chiang Mai Arr**	**170.69**	**88**		P	**PKPab**	**12 18 43.6**	**+1.3**		
CM09	**Chiang Mai Arr**	**170.70**	**87**		P	**PKPab**	**12 18 43.0**	**+0.6**		
CM36	**Chiang Mai Arr**	**170.80**	**87**		P	**PKPab**	**12 18 43.0**	**+0.1**		
CM35	**Chiang Mai Arr**	**170.85**	**86**		P	**PKPab**	**12 18 43.0**	**-0.1**		
PHIT	**Phitsanulok**	**171.96**	**96**		P	**PKPab**	**12 18 49.4**	**+1.4**		

IDC 01 12:02:33.6±2.1,0.°04S×126.°04E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/27,mbtmp3.2/3,Error ellipse: s-maj=171.0km s-min=28.7km az=65.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.39**	**158**	P	P	12 07 22.6	-0.4
	0.3nm,0.4s,baz=337,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**24.70**	**163**	P	P	12 07 57.0	+0.3
	0.1nm,0.3s,baz=342,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**60.27**	**327**	P	P	12 12 43.9	-0.1
	0.2nm,0.4s,baz=134,slow=8.3,SNR=2.4						

DDA 01 12:15:39.2,38.°62N×26.°10E,h8km±3km,ML1.6,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.47**	**124**	*i* P	Pg	12 15 48.5	+0.2
URLA				*i* S	Sg	12 15 54.8	+0.4
URLA				IAML		12 15 59.0	
	comp=E,27nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.49**	**140**	*i* P	Pb	12 15 49.5	-0.6
ZEYE				*i* S	Sb	12 15 56.6	-0.8
ZEYE				IAML		12 15 57.0	
	comp=N,95nm,0.2s						
ZEYE				IAML		12 15 57.0	
	comp=E,130nm,0.2s						
DGB	**zmir**	**0.84**	**133**	*i* P	Pg	12 15 54.7	-0.6
DGB				IAML		12 16 06.0	
	comp=N,23nm,0.8s						
DGB				*i* S	Sb	12 16 07.9	+0.6
DGB				IAML		12 16 26.0	
	comp=E,29nm,1.0s						
KOCA	**Canakkale, Ayv**	**0.88**	**2**	*i* P	Pg	12 15 55.9	-0.2
KOCA				IAML		12 16 08.0	
	comp=E,36nm,0.9s						
KOCA				IAML		12 16 28.0	
	comp=N,38nm,1.0s						
BUHA	**Balikesir, Bur**	**1.16**	**40**	*i* P	Pg	12 16 01.2	-0.2
BUHA				*i* S	Sn	12 16 18.2	+0.5
BUHA				IAML		12 16 19.0	
	comp=N,8.1nm,0.4s						
BUHA				IAML		12 16 21.0	
	comp=E,17nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**1.17**	**17**	*i* P	Pb	12 16 01.2	-0.4
BAYC				*i* S	Sn	12 16 17.9	-0.1
BAYC				IAML		12 16 24.0	
	comp=N,9.4nm,0.2s						
BAYC				IAML		12 16 24.0	
	comp=E,6.7nm,0.3s						

*SKO **01** 12:16:11.8,41.°66N×19.°48E,h36km*
*TIR **01** 12:16:11.6,41.°78N×19.°69E,h29km±1km,Md2.8*
*PDG **01** 12:16:12.4±0.1,41.°74N×19.°75E,h12km,ML2.5/13,Error ellipse: s-maj=0.3km s-min=0.3km az=90.0*
*RHSSO **01** 12:16:12.3±0.9,41.°68N×19.°74E,h6km±3km,ML2.5/7*
*BEO **01** 12:16:13.1±0.3,41.°79N×19.°91E,h0km,ML2.3/10*
ISC 01 12:16:12.7±1.0,41.°75N±0.°02×19.°75E±0.°02,h12km±8km, n59,σ1°08/101,16C-10D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.31**	**20**	P	**Pg**	**12 16 19.1**	**+0.1**
	baz=30						
TIR	**Tirane**	**0.41**	**168**	*e* Pg	**Pb**	**12 16 21.2**	**-0.8**
TIR				*e* Sg	**Sb**	**12 16 27.3**	**-0.9**
TIR	**Tirane**	**0.41**	**168**	⇓P	**Pb**	**12 16 21.4**	**-0.6**
TIR				⇓S	**Sb**	**12 16 28.6**	**+0.3**
TIR	**Tirane**	**0.41**	**168**	P	**Pb**	**12 16 21.4**	**-0.6**
	baz=162						
TIR				S	**Sb**	**12 16 29.2**	**+1.0**
	baz=162						
TIR	**Tirane**	**0.41**	**168**	*i* Pg	**Pb**	**12 16 21.4**	**-0.6**
ULC	**Ulcinj**	**0.43**	**299**	⇓*i* Pg	**Pg**	**12 16 20.8**	**-0.4**
ULC				*i* Sg	**Sg**	**12 16 27.7**	**+0.7**
PHP	**Peshkopia**	**0.52**	**97**	P	**Pb**	**12 16 23.2**	**-0.6**
	baz=99						
PHP				S	**Sb**	**12 16 32.5**	**+1.1**
	baz=99						
DRME	**Dracevica, Mon**	**0.60**	**316**	⇓*i* Pg	**Pg**	**12 16 23.9**	**-0.6**
DRME				*e* Sg	**Sb**	**12 16 33.9**	**+0.1**
DRME	**Dracevica, Mon**	**0.60**	**316**	⇑*i* Pg	**Pg**	**12 16 24.2**	**-0.3**
DRME				*i* Sg	**Sb**	**12 16 33.6**	**-0.2**
BCI	**Bajram Curri**	**0.66**	**21**	P	**Pg**	**12 16 25.1**	**-0.5**
	baz=25						
BCI				S	**Sb**	**12 16 35.2**	**-0.2**
	baz=25						
PDG	**Podgorica**	**0.77**	**332**	*e* Pg	**Pg**	**12 16 27.0**	**-0.6**
PDG				*e* Sg	**Sb**	**12 16 38.5**	**0.0**
PDG	**Podgorica**	**0.77**	**332**	⇓P	**Pn**	**12 16 29.3**	**-0.1**
PDG	**Podgorica**	**0.77**	**332**	*e* Pg	**Pg**	**12 16 26.9**	**-0.6**
PDG				*e* Sg	**Sb**	**12 16 38.6**	**0.0**
PDG	**Podgorica**	**0.77**	**332**	*i* Pg	**Pg**	**12 16 27.1**	**-0.5**
TTG	**Podgorica**	**0.77**	**332**	⇓*i* Pg	**Pg**	**12 16 27.0**	**-0.6**
TTG				*i* Sg	**Sb**	**12 16 39.1**	**+0.6**
BUM	**Brajici-Budva**	**0.84**	**311**	⇑*i* Pg	**Pg**	**12 16 28.2**	**-0.8**
BUM				*i* Sg	**Sn**	**12 16 41.7**	**-1.2**
PVY	**Plav**	**0.86**	**10**	⇑*i* Pg	**Pg**	**12 16 28.5**	**-0.8**
PVY				*i* Sg	**Sb**	**12 16 42.1**	**+0.9**
CEME	**Cevo**	**1.01**	**322**	⇑*i* Pg	**Pg**	**12 16 31.3**	**-0.8**
CEME				*i* Sg	**Sn**	**12 16 47.2**	**+0.3**
OHR	**Ohrid**	**1.02**	**129**	*i* Pg	**Pn**	**12 16 33.0**	**+0.1**
OHR				*i* Sg	**Sn**	**12 16 48.0**	**+0.9**
KOME	**Kolasin**	**1.11**	**351**	⇑*i* Pg	**Pb**	**12 16 33.1**	**-0.9**
KOME				*i* Sg	**Sn**	**12 16 50.8**	**+1.2**
IVA	**Berane**	**1.12**	**5**	⇑*i* Pg	**Pb**	**12 16 33.4**	**-0.8**
IVA				*i* Sg	**Sn**	**12 16 51.3**	**+1.4**
HCY	**Herceg Novi**	**1.16**	**307**	*e* Pg	**Pb**	**12 16 34.1**	**-0.7**
HCY				*e* Sg	**Sn**	**12 16 50.9**	**+0.2**
HCY	**Herceg Novi**	**1.16**	**307**	⇑*i* Pg	**Pb**	**12 16 33.9**	**-0.9**
HCY				*e* Sg	**Sn**	**12 16 52.3**	**+1.6**
NKME	**Niksic**	**1.17**	**330**	⇑*i* Pg	**Pb**	**12 16 34.3**	**-0.7**
NKME				*i* Sg	**Sn**	**12 16 53.0**	**+1.9**
NKY	**Niksic**	**1.20**	**332**	⇑*i* Pg	**Pn**	**12 16 34.7**	**-0.8**
NKY				*i* Sg	**Sn**	**12 16 53.9**	**+2.1**
TREB	**Trebinje**	**1.42**	**313**	*e* Pg	**Pg**	**12 16 39.8**	**-0.1**
TREB				*e* Sg	**Sg**	**12 16 59.3**	**+0.9**
TREB	**Trebinje**	**1.42**	**313**	*e* Pg	**Pb**	**12 16 38.6**	**-0.5**
TREB				*e* Sg	**Sg**	**12 16 59.2**	**+0.9**
BRY	**Bratogost**	**1.46**	**322**	⇑*i* Pg	**Pb**	**12 16 39.5**	**-0.4**
BRY				*e* Sg	**Sg**	**12 17 01.8**	**+2.2**
SJES	**Sjenica**	**1.52**	**6**	*e* Pn	**Pg**	**12 16 41.4**	**-0.4**
SJES				*e* Sg	**Sb**	**12 17 00.7**	**+0.5**
FNA	**Florina**	**1.56**	**128**	P	**Pg**	**12 16 42.2**	**-0.5**
	baz=127						
FNA				S	**Sg**	**12 17 03.8**	**+0.8**
	baz=127						
UPM	**Unac-Piva**	**1.58**	**337**	*e* Pn	**Pb**	**12 16 41.5**	**-0.4**
UPM				*e* Sn	**Sg**	**12 17 03.2**	**-0.3**
UPM	**Unac-Piva**	**1.58**	**337**	⇓*i* Pn	**Pb**	**12 16 41.6**	**-0.4**
UPM				*i* Sn	**Sg**	**12 17 04.4**	**+0.9**
PLE	**Pljevlja**	**1.60**	**351**	⇑*i* Pn	**Pb**	**12 16 41.7**	**-0.6**
PLE				*i* Sn	**Sg**	**12 17 05.0**	**+0.8**
IVAS	**Ivanjica**	**1.85**	**9**	*e* Pn	**Pb**	**12 16 45.5**	**-1.0**
IVAS				*e* Sg	**Sg**	**12 17 11.5**	**-1.0**
BARS	**Barje**	**1.87**	**55**	*e* Pn	**Pn**	**12 16 42.1**	**-2.4**
BARS				*e* Sg	**Sn**	**12 17 07.3**	**-0.8**
RUDO	**Rudo**	**1.89**	**352**	*e* Pn	**Pb**	**12 16 46.6**	**-0.5**
RUDO				*e* Sn	**Sb**	**12 17 11.2**	**+0.5**
STON	**Ston**	**1.89**	**307**	*e* Pn	**Pb**	**12 16 47.2**	**+0.1**
STON				*e* Sg	**Sg**	**12 17 14.7**	**+1.3**
STON	**Ston**	**1.89**	**307**	*e* Pn	**Pn**	**12 16 45.6**	**+0.8**
STON				*e* Sn	**Sb**	**12 17

MSWZ	**Moikau Station**	**16.65**	**192**	P		**P**	**12 37 56.5**	**-2.2**
SNZO	**South Karori**	**16.66**	**193**	P		**P**	**12 37 57.1**	**-1.5**
QRZ	**Quartz Range**	**16.75**	**199**	P		**P**	**12 37 59.9**	**+0.2**
TUWZ	**Tuamarina**	**16.94**	**195**	P		**P**	**12 38 00.1**	**-1.4**
THZ	**Tophouse**	**17.51**	**197**	P		**P**	**12 38 06.2**	**-0.9**
KHZ	**Kahutara**	**17.97**	**195**	P		**P**	**12 38 10.8**	**-0.3**
KHZ				IAmb	IAmb		12 38 24.1	
	comp=Z,43nm,1.2s							
LTZ	**Lake Taylor**	**18.63**	**197**	P		**P**	**12 38 16.0**	**-1.2**
CTA	**Charters Tower**	**31.25**	**272**	P		**P**	**12 40 10.8**	**+1.3**
	comp=Z,6.6nm,0.3s,baz=104,slow=11,SNR=11							
CTAO	**Charters Tower**	**31.25**	**272**	P		**P**	**12 40 09.5**	**0.0**
CTAO				IAmb	IAmb		12 40 11.4	
	comp=Z,8.7nm,0.8s							
AS31	**Alice Springs**	**41.60**	**262**	P		**P**	**12 41 35.2**	**+0.2**
ASAR	**Alice Springs**	**41.60**	**262**	P		**P**	**12 41 35.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=92,slow=7.0,SNR=63							
ASAR				ScP		**ScP**	**12 46 24.1**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=98,slow=4.1,SNR=2.6							
ASAR				S		**S**	**12 47 12.2**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=101,slow=14,SNR=9.5							
ASAR	**Alice Springs**	**41.60**	**262**	P		**P**	**12 41 34.6**	**-0.4**
WR0	**Warramunga Arr**	**41.90**	**268**	P		**P**	**12 41 37.2**	**-0.2**
WR0				IAmb	IAmb		12 41 44.0	
	comp=Z,11nm,1.5s							
WB2	**Warramunga Arr**	**42.07**	**268**	P		**P**	**12 41 39.0**	**+0.2**
WB2				IAmb	IAmb		12 41 39.3	
	comp=Z,4.6nm,0.7s							
WB0	**Warramunga Arr**	**42.08**	**268**	P		**P**	**12 41 38.7**	**-0.2**
WB0				IAmb	IAmb		12 41 39.2	
	comp=Z,4.6nm,0.8s							
WRA	**Warramunga Arr**	**42.09**	**268**	P		**P**	**12 41 38.6**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=100,slow=8.0,SNR=59							
WRA				ScP		**ScP**	**12 46 25.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=95,slow=3.7,SNR=3.3							
WRA				S		**S**	**12 47 19.4**	**-2.1**
	comp=Z,1.1nm,0.9s,baz=99,slow=14,SNR=5.0							
WRA	**Warramunga Arr**	**42.09**	**268**	P		**P**	**12 41 38.8**	**-0.1**
KNRA	**Kununurra**	**48.44**	**271**	P		**P**	**12 42 28.3**	**+0.6**
KNRA				IAmb	IAmb		12 42 37.4	
	comp=Z,24nm,1.4s							
FITZ	**Fitzroy Crossi**	**50.49**	**267**	P		**P**	**12 42 43.6**	**+0.9**
VNDA	**Vanda**	**53.13**	**185**	P		**P**	**12 43 01.9**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=21,slow=6.7,SNR=9.7							
VNDA	**Vanda**	**53.13**	**185**	P		**P**	**12 42 59.7**	**-1.2**
CASY	**Casey**	**58.89**	**206**	P		**P**	**12 43 40.6**	**-0.3**
CASY				IAmb	IAmb		12 43 59.1	
	comp=Z,21nm,1.4s							
QSPA	**South Pole Qui**	**64.95**	**180**	P		**P**	**12 44 18.9**	**-1.7**
QSPA				IAmb	IAmb		12 44 23.6	
	comp=Z,5.7nm,0.9s							
MAW	**Mawson**	**76.50**	**201**	P		**P**	**12 45 29.4**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=136,slow=8.1,SNR=6.5							
MAW	**Mawson**	**76.50**	**201**	P		**P**	**12 45 29.2**	**+0.6**
SNAA	**Sanae**	**83.43**	**179**	P		**P**	**12 46 04.4**	**-0.6**
SNAA	**Sanae**	**83.43**	**179**	P		**P**	**12 46 04.5**	**-0.6**
SNAA				IAmb	IAmb		12 46 06.2	
	comp=Z,7.6nm,1.5s							
SLBS	**Sierra La Lagu**	**83.64**	**60**	P		**P**	**12 46 07.2**	**+0.3**
SLBS				IAmb	IAmb		12 46 35.1	
	comp=Z,9.0nm,1.2s							
VNA3	**Neumayer Olymp**	**83.65**	**177**	P		**P**	**12 46 05.2**	**-0.9**
VNA2	**Neumayer--Watz**	**84.07**	**178**	P		**P**	**12 46 07.1**	**-1.0**
	baz=180,slow=4.5							
VNA1	**Neumayer--Stat**	**84.31**	**177**	P		**P**	**12 46 09.0**	**-0.3**
YBH	**Yreka Blue Hor**	**85.20**	**39**	P		**P**	**12 46 15.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=207,slow=4.5,SNR=3.7							
YBH	**Yreka Blue Hor**	**85.20**	**39**	P		**P**	**12 46 14.7**	**+0.5**
NVAR	**Mina Array Bea**	**85.82**	**44**	P		**P**	**12 46 17.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=220,slow=10,SNR=4.6							
TXAR	**Lajitas Array**	**91.30**	**58**	P		**P**	**12 46 43.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=198,slow=5.5,SNR=6.3							
ARCES	**ARCESS Array B**	**133.04**	**348**	PKP		**PKPdf**	**12 52 48.1**	**-0.3**
	comp=Z,8.3nm,1.1s,baz=27,slow=3.0,SNR=4.0							
ARCES	**ARCESS Array B**	**133.04**	**348**			**PKPdf**	**12 52 48.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**167.93**	**189**	PKPab		**PKPab**	**12 54 50.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=181,slow=3.3,SNR=4.2							

*NEIC **01** 12:53:44.8±1.2, 11°.5S±0°.1×166°.7E±0°.1, h217^{km}±15^{km}, mb4.3/14, Error ellipse: s-maj=22.0km s-min=13.7km az=223.0*

*IDC **01** 12:53:52.5±7.9, 11°.77S×166°.60E, h282^{km}±86^{km}, mb3.3/6, mb1 3.4/7, mb1mx3.2/44, mbtmp3.9/7, Error ellipse: s-maj=74.0km s-min=26.3km az=160.0*

ISC 01 12:53:48.4±0.8, 11°.77S±0°.09×166°.7E±0°.1, h250^{km}, n26, σ1°08/27, mb3.9/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**3.68**	**173**	Pn		**Pn**	**12 54 47.0**	**-1.5**
DZM	**Mont Dzumac**	**10.25**	**182**	P		**P**	**12 56 14.2**	**-1.4**
	0.9nm,0.3s,baz=34,slow=18,SNR=18							
DZM				S		**S**	**12 58 05.9**	**+0.5**
	0.1nm,0.3s,baz=296,slow=20,SNR=1.8							
DZM	**Mont Dzumac**	**10.25**	**182**			**P**	**12 56 13.7**	**-1.9**
FUNA	**Funafuti**	**12.68**	**76**			**Pn**	**12 56 40.2**	**-0.2**
EIDS	**Eidsvold**	**20.05**	**225**	P		**P**	**12 58 04.2**	**+1.2**
EIDS				IAmb	IAmb		12 58 05.3	
	comp=Z,11nm,0.6s							
CTA	**Charters Tower**	**21.35**	**245**	P		**P**	**12 58 17.1**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=61,slow=13,SNR=5.1							
CTAO	**Charters Tower**	**21.35**	**245**	P		**P**	**12 58 17.5**	**+1.0**
CTAO				IAmb	IAmb		12 58 38.4	
	comp=Z,5.9nm,1.3s							
MANU	**Manus Island**	**21.50**	**295**	P		**P**	**12 58 15.5**	**-2.5**
MANU				IAmb	IAmb		12 58 39.6	
	comp=Z,18nm,1.1s							
ARMA	**Armidale**	**23.26**	**215**	P		**P**	**12 58 34.7**	**+0.8**
BKZ	**Black Stump Fm**	**28.63**	**164**	P		**P**	**12 59 23.8**	**+1.9**
STKA	**Stephens Creek**	**30.61**	**225**	P		**P**	**12 59 40.5**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=76,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**30.61**	**225**	P		**P**	**12 59 40.1**	**+0.7**
WR0	**Warramunga Arr**	**31.98**	**251**	P		**P**	**12 59 51.6**	**+0.1**
WR0				IAmb	IAmb		12 59 56.7	
	comp=Z,10nm,1.4s							
WB0	**Warramunga Arr**	**32.09**	**252**	P		**P**	**12 59 53.0**	**+0.5**
WB0				IAmb	IAmb		13 00 07.5	
	comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**32.15**	**251**	P		**P**	**12 59 52.9**	**-0.2**
WB2				IAmb	IAmb		13 00 20.6	
	comp=Z,6.3nm,1.4s							
WRA	**Warramunga Arr**	**32.16**	**251**	P		**P**	**12 59 53.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=85,slow=9.2,SNR=18							
WRA	**Warramunga Arr**	**32.16**	**251**	P		**P**	**12 59 52.1**	**-1.0**
AS31	**Alice Springs**	**33.35**	**245**	P		**P**	**13 00 02.7**	**-0.8**
ASAR	**Alice Springs**	**33.35**	**245**	P		**P**	**13 00 03.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=68,slow=10,SNR=46							
ASAR	**Alice Springs**	**33.35**	**245**	P		**P**	**13 00 02.7**	**-0.8**
BBOO	**Buckleboo**	**35.07**	**228**	P		**P**	**13 00 18.5**	**+0.6**
BBOO				IAmb	IAmb		13 00 25.8	
	comp=Z,21nm,1.5s							
KNRA	**Kununurra**	**37.06**	**260**	P		**P**	**13 00 35.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**40.14**	**256**	P		**P**	**13 01 01.5**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=63,slow=8.7,SNR=10							
FITZ	**Fitzroy Crossi**	**40.14**	**256**	P		**P**	**13 01 00.9**	**+0.3**
FITZ				IAmb	IAmb		13 01 25.0	
	comp=Z,7.3nm,1.3s							
ILAR	**Eielson Array**	**83.89**	**18**	P		**P**	**13 05 50.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=236,slow=5.2,SNR=5.8							
ARCES	**ARCESS Array B**	**117.27**	**346**	PKP		**PKiKP**	**13 12 04.0**	**+0.6**
	comp=Z,5.7nm,1.1s,baz=27,slow=1.0,SNR=1.6							

*BJI **01** 12:57:50.0±0.0, 86°.20N×31°.90E, h12^{km}, mB5.2/56, mb5.0/72, Ms4.9/67, Ms7 4.6/63*

*IDC **01** 12:57:50.7±0.3, 86°.15N×32°.22E, h0^{km}, mb4.8/41, mb1 4.9/44, mb1mx4.8/53, mbtmp4.8/44, ML4.9/3, MS4.1/38, Ms1 4.1/38, ms1mx4.0/46, Error ellipse: s-maj=9.1km s-min=8.2km az=71.0*

*GCMT **01** 12:57:51.5±0.1, 86°.12N±0°.01×31°.7E±0°.1, h12^{km}, MW5.1/136, Moment Tensor Solution. s75,c100; s136,c232; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-5.86±.09; M$_{tt}$0.98±.09; M$_{pp}$4.88±.08; M$_{rt}$-0.07±.29; M$_{rp}$2.34±.07; M$_{tp}$-0.25±.25; Best double couple: M$_o$5.92400×10^{16} NP1:φ$_s$206.00000°, δ44.00000°, λ-89.00000°. NP2:φ$_s$25.00000°, δ46.00000°, λ-91.00000°. Principal axes: T 5.9820, Plg1.0000°, Azm115.0000°; N -0.1150, Plg0.0000°, Azm25.0000°; P -5.8660, Plg89.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

*MOS **01** 12:57:51.7±0.9, 86°.14N×31°.69E, h18^{km}, mb5.3/126 Error ellipse: s-maj=63.2km s-min=3.0km az=90.4*

*NEIC **01** 12:57:52.5±1.2, 86°.11N±0°.07×3°2E±°, h10^{km}±1^{km}, mb5.2/471, Error ellipse: s-maj=13.1km s-min=12.0km az=82.0*

*IEPN **01** 12:57:55.0, 85°.95N×35°.13E, h10^{km}*

ISC 01 12:57:53.3±0.6, 86°.02N±0°.03×31°.27E±0°.03, h16^{km}±3^{km}, n1089, σ1°73/1242, mb5.1/402, MS4.2/66, 109C-194D,
Fault plane solution: NP1:φ$_s$195.12460°, δ59.71313°, λ-88.57013°. **NP2:**φ$_s$12.29114°, δ30.31741°, λ-92.44647°.
Principal axes: T Plg14.7019°, Azm284.0794°; N Plg1.2347°, Azm14.4034°; P Plg75.2440°, Azm109.0970°;
North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**5.53**	**152**	⇓	*iP*	**Pn**	**12 59 13.9**	**-0.7**
ZFI2					*i* S	**Sn**	**13 00 11.4**	**-6.2**
	354nm,0.5s							
ZFI2					*e*tx	tx	13 03 16.8	
ZFI	**Zemlya Franca-**	**5.53**	**152**	⇓	*iP*	**Pn**	**12 59 14.5**	**-0.1**
ZFI					*i* S	**Sn**	**13 00 11.8**	**-5.9**
NOR	**Nord**	**6.49**	**255**		*e*	**Pn**	**12 59 28.6**	**+0.7**
	baz=35,slow=9.3							
NOR					*i* P	**Pn**	**12 59 29.0**	**+1.1**
NOR					*i* S	**Sn**	**13 00 39.5**	**-1.8**
NOR				IAMs_20		IAMs_20	13 02 14.8	
	comp=Z,3μm,5.4s							
NOR	**Nord**	**6.49**	**255**		*i* P	**Pn**	**12 59 28.9**	**+1.1**
NOR					*i* S	**Sn**	**13 00 39.5**	**-1.8**
NOR	**Nord**	**6.49**	**255**		Pn	**Pn**	**12 59 28.8**	**+0.9**
NOR	**Nord**	**6.49**	**255**		*eP*	**Pn**	**12 59 29.0**	**+1.1**
NOR					*eS*	**Sn**	**13 00 46.5**	**+5.2**
KBS	**Kingsbay**	**7.49**	**209**		*i* P	**Pn**	**12 59 41.6**	**+0.1**
KBS	**Kingsbay**	**7.49**	**209**		P	**Pn**	**12 59 41.1**	**-0.6**
KBS	**Kingsbay**	**7.49**	**209**		Pn	**Pn**	**12 59 39.9**	**-1.6**
KBS					Sn	**Sn**	**13 01 00.7**	**-5.2**
KBS	**Kingsbay**	**7.49**	**209**		*eP*	**Pn**	**12 59 40.6**	**-0.9**
KBS				IVmB_BB			12 59 54.9	
	comp=Z,3μm,0.6s							
KBS					*eS*	**Sn**	**13 01 01.4**	**-4.4**
KBS	**Kingsbay**	**7.49**	**209**		Pn	**Pn**	**12 59 41.0**	**-0.5**
KBS	**Kingsbay**	**7.49**	**209**	⇑	*iP*	**Pn**	**12 59 39.9**	**-1.6**
KBS					*i* S	**Sn**	**13 00 58.7**	**-7.2**
SPA0	**Spitsbergen Ar**	**8.10**	**202**		Pn	**Pn**	**12 59 48.5**	**-1.4**
	baz=25,slow=16							
SPA0	**Spitsbergen Ar**	**8.10**	**202**		Pn	**Pn**	**12 59 48.5**	**-1.4**
	baz=25,slow=16							
BRBA	**Barentsburg A**	**8.27**	**205**		Pn	**Pn**	**12 59 52.1**	**-0.2**
BRBA					Sn	**Sn**	**13 01 22.6**	**-2.6**
BRBA	**Barentsburg A**	**8.27**	**205**		Pn	**Pn**	**12 59 52.1**	**-0.2**
BRBA					Sn	**Sn**	**13 01 22.6**	**-2.6**
HSPB	**Hornsund (broa**	**9.29**	**202**		*eP*	**Pn**	**13 00 06.8**	**+0.6**
HSPB	**Hornsund (broa**	**9.29**	**202**		Pn	**Pn**	**13 00 07.0**	**+0.7**
HSPB					Sn	**Sn**	**13 01 44.3**	**-5.8**
HSPB	**Hornsund (broa**	**9.29**	**202**		Pn	**Pn**	**13 00 07.0**	**+0.7**
HSPB					Sn	**Sn**	**13 01 44.3**	**-5.8**
HSPB	**Hornsund (broa**	**9.29**	**202**		*eP*	**Pn**	**13 00 06.4**	**+0.2**
HSPB					*eS*	**Sn**	**13 01 44.0**	**-6.1**
HOPEN	**Hopen**	**9.61**	**189**		Pn	**Pn**	**13 00 09.7**	**-0.8**
HOPEN					Sn	**Sn**	**13 01 51.9**	**-6.0**
HOPEN	**Hopen**	**9.61**	**189**		*eP*	**Pn**	**13 00 09.6**	**-0.9**
HOPEN				IVmB_BB			13 00 26.0	
	comp=Z,1μm,1.0s							
HOPEN					*eS*	Sn	13 01 47.8	-10
HOPEN	**Hopen**	**9.61**	**189**		*eP*	**Pn**	**13 00 09.5**	**-1.1**
HOPEN					*eS*	Sn	13 01 48.7	-9.2
DAG	**Danmarks Havn**	**11.16**	**246**	⇑	*iP*	**Pn**	**13 00 32.3**	**+0.5**
DAG				IAmb		IAmb	13 00 34.0	
	comp=Z,153nm,1.2s							
DAG	**Danmarks Havn**	**11.16**	**246**	⇑	*iP*	**Pn**	**13 00 32.2**	**+0.5**
DAG				pmax		pmax		
	comp=Z,150nm,1.2s							
DAG	**Danmarks Havn**	**11.16**	**246**	⇑	*iP*	**Pn**	**13 00 32.0**	**+0.3**
DAG					*eS*	**Sn**	**13 02 37.2**	**+1.4**
BJO1	**Bjornoya**	**11.71**	**196**		Pn	**Pn**	**13 00 36.1**	**-3.3**
BJO1	**Bjornoya**	**11.71**	**196**		*eP*	**Pn**	**13 00 36.4**	**-3.0**
BJO1					*eS*	Sn	13 02 38.3	-11
BJO1	**Bjornoya**	**11.71**	**196**		*eP*	**Pn**	**13 00 35.4**	**-3.9**
BJO1					*eS*	Sn	13 02 34.8	-15
EUNU	**Eureka**	**12.38**	**314**			**Pn**	**13 00 44.2**	**-4.4**
NEEM	**North Greenlan**	**12.73**	**280**	⇑	*iP*	**Pn**	**13 00 49.7**	**-3.7**
NEEM				IAmb		IAmb	13 00 51.6	
	comp=Z,241nm,0.9s							
DBG	**Daneborg**	**13.65**	**244**		*i* P	**Pn**	**13 01 05.2**	**-0.6**
DBG	**Daneborg**	**13.65**	**244**		Pn	**Pn**	**13 01 04.7**	**-1.1**
DBG	**Daneborg**	**13.65**	**244**		*eP*	**Pn**	**13 01 05.1**	**-0.7**
TULEG	**Thule**	**14.78**	**295**	⇓	*iP*	Pn	13 01 15.2	-5.9
TULEG				IAmb		IAmb	13 01 16.1	
	comp=Z,494nm,1.1s							
TULEG	**Thule**	**14.78**	**295**		Pn	Pn	13 01 14.5	-6.6
HAMF	**Hammerfest**	**15.52**	**189**		*eP*	**Pn**	**13 01 29.0**	**-1.9**
JMIC	**Jan Mayen**	**16.25**	**229**	LR		LR	13 05 21.5	
	comp=Z,227nm,18.2s,baz=52,slow=28							
KEV	**Kevo**	**16.38**	**185**	P		**Pn**	**13 01 41.7**	**-0.3**
KEV				pmax		pmax		
	comp=Z,40nm,0.9s							
KEV	**Kevo**	**16.38**	**185**		*eP*	**Pn**	**13 01 41.7**	**-0.3**
KEV	**Kevo**	**16.38**	**185**			**Pn**	**13 01 41.7**	**-0.3**
SUMG	**Summit**	**16.56**	**262**		*i* P	**Pn**	**13 01 41.0**	**-3.7**
SUMG				IAmb		IAmb	13 01 43.1	
	comp=Z,172nm,1.0s							
SUMG	**Summit**	**16.56**	**262**		*i* P	**Pn**	**13 01 41.0**	**-3.7**
SUMG				pmax		pmax		
	comp=Z,170nm,1.0s							
SUMG	**Summit**	**16.56**	**262**		Pn	**Pn**	**13 01 40.7**	**-4.0**
SUMG				IAmb		IAmb	13 01 42.9	
	comp=Z,234nm,1.1s							
TRO	**Tromso**	**16.60**	**195**		*eP*	**P**	**13 01 46.2**	**-1.1**
TRO				IVmBBB			13 01 58.5	
	comp=Z,832nm,2.5s							
ARA0	**ARCESS Array S**	**16.61**	**187**		P	**Pn**	**13 01 44.4**	**-0.6**
	baz=22,slow=7.4							
ARA0	**ARCESS Array S**	**16.61**	**187**		P	**Pn**	**13 01 44.4**	**-0.6**
	baz=22,slow=7.4							
ARA0					*eP*	**P**	**13 01 45.1**	**-2.3**
ARA0					*eS*	Sn	13 04 38.2	-11
ARCES	**ARCESS Array B**	**16.61**	**187**		Pn	**Pn**	**13 01 44.2**	**-0.8**
	baz=13,slow=11,SNR=26							
ARCES					Sn	**Sn**	**13 04 38.7**	**-10**
	baz=8.8,slow=18,SNR=2.0							
ARCES					LR	LR	13 08 20.5	
	comp=Z,154nm,19.1s,baz=15,slow=38							
ARCES	**ARCESS Array B**	**16.61**	**187**		P	**Pn**	**13 01 44.7**	**-0.3**
ARCES					pmax	pmax		
	comp=Z,46nm,0.8s							
ARCES	**ARCESS Array B**	**16.61**	**187**			**Pn**	**13 01 44.7**	**-0.3**
JETT	**Jettan, Norway**	**16.66**	**193**		P	**P**	**13 01 46.9**	**-0.9**
JETT					*eP*	**P**	**13 01 47.0**	**-0.9**
AMDE	**Amderma**	**17.03**	**143**	⇓	*iP*	**Pn**	**13 01 47.9**	**-2.2**
	comp=Z,48nm,0.8s							
AMDE					S	Sn	13 04 36.5	-22
KTK1	**Kautokeino**	**17.16**	**190**		*eP*	**Pn**	**13 01 48.8**	**-3.1**
KTK1					*eS*	**Sn**	**13 04 52.1**	**-10**
KIF	**Kilpisjarvi**	**17.20**	**193**		P	**Pn**	**13 01 52.4**	**+0.1**
KIF	**Kilpisjarvi**	**17.20**	**193**		P	**Pn**	**13 01 52.4**	**+0.1**
KIF					*eP*	**Pn**	**13 01 52.5**	**+0.1**
SCO	**Scoresbysund**	**17.52**	**243**		*i* P	**P**	**13 02 01.0**	**+3.6**
SCO				IAmb		IAmb	13 02 03.4	
	comp=Z,60nm,0.9s							
SCO	**Scoresbysund**	**17.52**	**243**		P	**P**	**13 01 58.0**	**+0.6**
SCO				pmax		pmax		
	comp=Z,65nm,0.9s							
SCO	**Scoresbysund**	**17.52**	**243**		P	**P**	**13 01 58.0**	**+0.6**
UPNV	**Upernavik**	**17.59**	**280**		*i* P	**Pn**	**13 01 50.6**	**-6.6**
UPNV				IAmb		IAmb	13 01 54.6	
	comp=Z,31nm,0.8s							
HEF	**Hetta**	**17.76**	**189**		*eP*	**P**	**13 02 00.9**	**+0.9**
RES	**Resolute Bay**	**18.06**	**316**		P	**Pn**	**13 01 58.6**	**-4.3**
	comp=Z,2.7nm,0.3s,baz=20,slow=13,SNR=59							
RES					S	Sn	13 05 08.0	-16
	baz=62,slow=17,SNR=2.8							
RES					LR	LR	13 08 41.5	
	comp=Z,1μm,19.8s,baz=1.5,slow=36							
RES	**Resolute Bay**	**18.06**	**316**		P	**Pn**	**13 01 58.1**	**-4.8**
RES					pmax	pmax		
	comp=Z,60nm,0.9s							
RES	**Resolute Bay**	**18.06**	**316**			**Pn**	**13 01 58.1**	**-4.8**
LVZ	**Lovozero**	**18.24**	**176**		*d* P	**Pn**	**13 02 04.9**	**-0.4**
LVZ					pmax	pmax		
	comp=Z,197nm,1.7s							
LVZ	**Lovozero**	**18.24**	**176**			**Pn**	**13 02 04.7**	**-0.6**
LVZ				IAmb		IAmb	13 02 06.6	
	comp=Z,186nm,1.3s							
STEI	**Steigen**	**18.39**	**199**		*eP*	P	13 01 58.7	-8.2
APA0	**Apatity Array**	**18.53**	**178**		P	**P**	**13 02 06.1**	**-2.4**
APA0	**Apatity Array**	**18.53**	**178**		P	**P**	**13 02 06.1**	**-2.4**
N2NF	**Nordfold**	**18.56**	**199**		*eP*	**Pn**	**13 02 13.9**	**+4.9**
APA	**Apatity**	**18.57**	**177**	⇓	*iP*	**P**	**13 02 06.8**	**-2.1**
APA					*i* S	**Sn**	**13 05 26.0**	**-10**
APA				pmax		pmax		
	comp=Z,20nm,0.7s							
NRIK	**Noril'sk**	**18.85**	**114**		P	**P**	**13 02 10.2**	**-1.7**
	comp=Z,4.4nm,0.3s,baz=3.2,slow=9.3,SNR=98							
NRIK				LR		LR	13 09 48.8	
	comp=Z,1μm,20.0s,baz=356,slow=38							
NRIK	**Noril'sk**	**18.85**	**114**		*ci* P	**P**	**13 02 09.4**	**-2.6**
NRIK				pmax		pmax		
	comp=Z,193nm,1.0s							
NRIK	**Noril'sk**	**18.85**	**114**	P		**P**	**13 02 09.7**	**-2.3**
NRIK				IAmb		IAmb	13 02 23.5	
	comp=Z,152nm,1.1s							
FAUS	**Fauske**	**18.94**	**199**		*eP*	**Pn**	**13 02 14.8**	**+1.2**
TIXI	**Tiksi**	**19.39**	**71**	P		**P**	**13 02 17.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=266,slow=0.9,SNR=4.5							
TIXI				LR		LR	13 08 50.8	
	comp=Z,445nm,21.1s,baz=348,slow=34							
TIXI	**Tiksi**	**19.39**	**71**		*ce* P	**Pn**	**13 02 18.9**	**-0.2**
TIXI	**Tiksi**	**19.39**	**71**	P		**P**	**13 02 17.3**	**-0.6**
ICESG	**Greenland Ices**	**20.07**	**261**		*i* P	Pn	13 02 26.9	-0.7
MSF	**Maaselka**	**20.23**	**183**	P		Pn	13 02 29.5	+0.4
MSF				pmax		pmax		
	comp=Z,87nm,1.3s							
LSH	**Leshukonskoye**	**21.41**	**163**		*eP*	**P**	**13 02 41.0**	**+1.2**
	comp=Z,117nm,0.8s							
LSH				S		S	13 06 10.5	-26
A21K	**Barrow**	**22.77**	**7**	P		**P**	**13 02 52.3**	**-1.9**
A21K				IAmb		IAmb	13 02 57.2	
	comp=Z,69nm,1.1s							
A21K	**Barrow**	**22.77**	**7**	P			13 02 51.6	
	baz=358,SNR=7.7							
SFJD	**Kangerlussuaq**	**22.90**	**271**	P		**P**	**13 02 56.7**	**+1.0**
	comp=Z,47nm,0.8s,baz=4.8,slow=10,SNR=22							
SFJD				LR		LR	13 11 20.7	
	comp=Z,901nm,18.8s,baz=6.0,slow=35							
SFJD	**Kangerlussuaq**	**22.90**	**271**		*i* P	**P**	**13 02 57.0**	**+1.3**
SFJD				IAmb		IAmb	13 03 00.1	
	comp=Z,43nm,1.0s							
SFJD	**Kangerlussuaq**	**22.90**	**271**		*i* P	**P**	**13 02 57.0**	**+1.3**
SFJD				pmax		pmax		
	comp=Z,43nm,1.0s							
SFJD	**Kangerlussuaq**	**22.90**	**271**	P		**P**	**13 02 56.3**	**+0.6**
SFJD				IAmb		IAmb	13 02 59.9	
	comp=Z,63nm,0.9s							
DY2G	**Dye2**	**23.12**	**267**		*i* P	**P**	**13 02 58.8**	**+0.6**
DY2G				IAmb		IAmb	13 03 02.4	
	comp=Z,33nm,1.0s							
TBLU	**Trondheim**	**23.21**	**204**		*eP*	**P**	**13 02 58.3**	**-0.5**
JOF	**Joensuu**	**23.23**	**180**	P		**P**	**13 03 00.1**	**+1.0**
JOF				pmax		pmax		
	comp=Z,39nm,1.0s							
ANGG	**Ammassalik, Gr**	**23.37**	**258**	P		**P**	**13 03 01.4**	**+1.0**
ANGG				IAmb		IAmb	13 03 13.0	
	comp=Z,107nm,1.3s							
SUF	**Sumiainen**	**23.45**	**186**	P		**P**	**13 03 02.4**	**+1.1**
SUF				pmax		pmax		
	comp=Z,42nm,1.3s							
MOL	**Molde**	**23.97**	**207**		*eP*	**P**	**13 03 06.8**	**+0.5**
**A

BMAR Burnt Mountain 26.70 356 P **P** **13 03 30.0 -1.1**
KONO Kongsberg 26.84 205⇑ *e*P **P** **13 03 33.7 +1.4**
KONO pmax pmax
comp=Z,74nm,1.3s
KONO Kongsberg 26.84 205 P **P** **13 03 34.1 +1.9**
KONO lAmb lAmb 13 03 35.4
comp=Z,96nm,1.4s
COLD Coldfoot 26.91 1 P **P** **13 03 31.4 -1.5**
COLD lAmb lAmb 13 03 35.8
comp=Z,41nm,1.1s
COLD Coldfoot 26.91 1 P 13 03 31.7
baz=360,SNR=43
FRB Frobisher Bay 27.35 287 P **P** **13 03 37.9 +1.0**
comp=Z,3.6nm,0.5s,baz=13,slow=10,SNR=7.3
FRB PcP **PcP** **13 06 54.7 -0.5**
comp=Z,2.6nm,0.6s,baz=90,slow=4.0,SNR=3.9
FRB LR LR 13 13 46.2
comp=Z,614nm,21.1s,baz=11,slow=35
KIRV Kirov 27.81 160 P **P** **13 03 41.1 +0.2**
comp=Z,5.9nm,0.4s,baz=4.9,slow=10,SNR=5.3
KIRV Kirov 27.81 160⇑ *e*P **P** **13 03 41.9 +0.9**
IMAR Indian Mountai 28.15 4 P **P** **13 03 42.3 -1.7**
H24K Noodor Dome 28.31 359 P 13 03 44.5
baz=0.1,SNR=30
H23K Yukon River 28.32 1 P 13 03 44.5
baz=360,SNR=16
TNA Tin City 28.39 17 P 13 03 44.6
baz=357
PRP Porcupine Dome 28.63 357 P 13 03 45.6
baz=0.4
YAK Yakutsk 28.96 74 P **P** **13 03 49.6 -1.6**
comp=Z,40nm,0.8s,baz=21,slow=0.6,SNR=3.8
YAK LR LR 13 15 01.9
comp=Z,546nm,21.6s,baz=66,slow=36
YAK Yakutsk 28.96 74 *e*P **P** **13 03 49.6 -1.6**
YAK *e**PP **sP** **13 03 57.6 +1.0**
YAK *e*PPP PPP 13 04 50.4
YAK *e* 13 06 57.6
YAK *e*S **S** **13 08 38.9 -2.0**
YAK *e*SS **SnSn** **13 10 01.6 -1.9**
YAK *e*SSS SSS 13 10 35.5
YAK pmax pmax
comp=Z,85nm,1.0s
YAK pmax pmax
comp=N,34nm,1.3s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK smax smax
comp=N,90nm,4.0s
YAK smax smax
comp=E,45nm,2.1s
YAK MLR MLR
comp=Z,851nm,25.0s
YAK MLR MLR
comp=N,1μm,27.0s
YAK MLR MLR
comp=E,157nm,14.0s
YAK Yakutsk 28.96 74 P **P** **13 03 49.9 -1.4**
I23K Minto, Yukon-K 29.00 1 P **P** **13 03 51.5 -0.1**
I23K Minto, Yukon-K 29.00 1 P 13 03 48.1
baz=360
POKR Poker Plat Res 29.03 359 P **P** **13 03 51.6 -0.3**
POKR Poker Plat Res 29.03 359 P 13 03 45.7
baz=0.1
MLY Manley 29.12 2 P **P** **13 03 52.1 -0.6**
MLY Manley 29.12 2 P 13 03 51.0
baz=360,SNR=16
MDM Murphy Dome 29.19 360 P **P** **13 03 52.6 -0.7**
COLA College 29.28 359*d* *i*P **P** **13 03 54.0 0.0**
COLA pmax pmax
comp=Z,18nm,1.1s
COLA College 29.28 359 P **P** **13 03 53.8 -0.2**
COLA College 29.28 359 P 13 03 51.0
baz=0.1
TCOL CIGO, UAF Yank 29.28 359 P **P** **13 03 54.2 +0.2**
TCOL CIGO, UAF Yank 29.28 359 P 13 03 51.0
baz=0.1
EGAK Eagle 29.34 353 P **P** **13 03 54.0 -0.6**
EGAK Eagle 29.34 353 P 13 03 53.6
baz=1.0,SNR=20
IL31 29.38 358 P **P** **13 03 54.7 -0.2**
ILAR Eielson Array 29.38 358 P **P** **13 03 54.7 -0.2**
comp=Z,17nm,1.0s,baz=357,slow=7.5,SNR=76
ILAR LR LR 13 16 04.2
comp=Z,182nm,20.4s,baz=13,slow=37
ILAR Eielson Array 29.38 358 P **P** **13 03 55.0 0.0**
ILAR Eielson Array 29.38 358 P **P** **13 03 55.0 0.0**
ANM Nome 29.44 15 P 13 03 53.3
baz=358
SEY Seymchan 29.48 53 P **P** **13 03 55.4 -0.4**
comp=Z,5.4nm,0.7s,baz=7.3,slow=5.2,SNR=5.9
SEY PcP **PcP** **13 07 00.8 +0.3**
comp=Z,6.9nm,0.8s,baz=79,slow=3.8,SNR=6.5
SEY Seymchan 29.48 53⇓ *e*P **P** **13 03 54.5 -1.3**
CCB Clear Creek Bu 29.51 359 P **P** **13 03 55.8 -0.2**
NEA2 Nenana 29.56 0 P 13 03 53.6
baz=360
WRH Wood River Hil 29.68 359 P **P** **13 03 57.4 -0.3**
WRH lAmb lAmb 13 04 01.1
comp=Z,37nm,1.1s
HDA Harding Lake 29.74 358 P **P** **13 03 57.5 -0.7**
HDA Harding Lake 29.74 358 P 13 03 56.6
baz=0.2,SNR=14
HDA P 13 03 56.6
baz=0.2,SNR=14
DAWY Dawson 30.04 352 P **P** **13 03 59.3 -1.5**
BPAW Bear Paw Mtn. 30.05 2 P **P** **13 04 00.6 -0.3**
BPAW lAmb lAmb 13 04 03.9
comp=Z,26nm,1.0s
BPAW Bear Paw Mtn. 30.05 2 P 13 03 59.8
baz=360,SNR=14
GAMB Gambell 30.10 20 P 13 03 59.4
baz=357
K27K Chicken 30.10 354 P **P** **13 04 01.3 -0.1**
K27K Chicken 30.10 354 P 13 03 59.8
baz=0.8,SNR=16
SCRK Sand Creek 30.17 356 P **P** **13 04 01.9 -0.2**
SCRK Sand Creek 30.17 356 P 13 04 00.6
baz=0.6,SNR=18
ARU Arti 30.24 150*c* *i*P **P** **13 04 03.8 +1.2**
ARU 13 07 02.0
ARU S **S** **13 09 05.1 +4.1**
ARU SS **SnSn** **13 10 35.8 +1.1**
ARU pmax pmax
comp=Z,34nm,1.4s
ARU MLR MLR
comp=Z,553nm,20.0s
ARU Arti 30.24 150 P **P** **13 04 03.2 +0.6**
ARU lAmb lAmb 13 04 05.3
comp=Z,38nm,1.4s
CHUM Lake Minchumin 30.27 3 P 13 04 00.4
baz=360
MCK McKinley 30.42 0 P **P** **13 04 05.0 +0.8**
MCK pmax pmax
comp=Z,8.0nm,1.1s
MCK McKinley 30.42 0 P **P** **13 04 05.0 +0.8**
MCK McKinley 30.43 0 P 13 04 01.6
baz=360
DOT Dot Lake 30.50 356 P **P** **13 04 03.7 -1.1**
DOT lAmb lAmb 13 04 08.2
comp=Z,33nm,1.1s
KTH Kantishna Hill 30.60 2 P **P** **13 04 06.3 +0.5**
KTH lAmb lAmb 13 04 09.6
comp=Z,26nm,1.0s
ISAL Salakas 30.62 186 *e*P **P** **13 04 06.5 +0.5**
TRF Thorofare Moun 30.71 1 P **P** **13 04 06.6 -0.2**
PABE Paberze 30.71 188 *e*P **P** **13 04 07.2 +0.5**
PABE Paberze 30.71 188 P **P** **13 04 06.7 -0.1**
TRF Thorofare Moun 30.71 1 P 13 04 04.3
baz=360
YKA Yellowknife Ar 31.05 330 P **P** **13 04 08.7 -1.0**
comp=Z,5.6nm,0.9s,baz=1.4,slow=8.3,SNR=8.9
YKA PcP **PcP** **13 07 04.3 -0.3**
comp=Z,5.3nm,0.9s,baz=3.2,slow=2.4,SNR=7.7
YKA LR LR 13 16 11.4
comp=Z,466nm,21.6s,baz=0.0,slow=36
BCAR Beaver Creek A 31.07 354 P **P** **13 04 09.7 -0.2**
L27K Beaver Creek, 31.07 354 P **P** **13 04 09.3 -0.7**
L27K lAmb lAmb 13 04 13.0
comp=Z,24nm,1.1s
L27K Beaver Creek, 31.07 354 P 13 04 09.3
baz=0.9,SNR=31
OBN Obninsk 31.08 174 LR LR 13 17 20.6
comp=Z,64nm,18.5s,baz=24,slow=38
OBN Obninsk 31.08 174⇑ *e*P **P** **13 04 11.5 +1.5**
OBN *e* 13 05 15.1
OBN *i*S **S** **13 09 10.3 -3.8**
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,377nm,15.0s
PAX Paxson 31.18 357 P **P** **13 04 09.6 -1.4**
PAX pmax pmax
comp=Z,12nm,1.2s
PAX Paxson 31.18 357 P **P** **13 04 09.6 -1.4**
PAX Paxson 31.18 357 P 13 04 08.3
baz=0.4
WAT2 Susitna Watana 31.20 360 P 13 04 08.8
baz=360,SNR=20
TTA Tatalina 31.20 6 P **P** **13 04 10.5 -0.6**
TTA pmax pmax
comp=Z,15nm,1.1s
TTA Tatalina 31.20 6 P **P** **13 04 10.5 -0.6**
TTA Tatalina 31.20 6 P 13 04 09.2
baz=359,SNR=15
MENT Mentasta 31.21 356 P **P** **13 04 11.3 +0.2**
MENT lAmb lAmb 13 04 15.1
comp=Z,40nm,1.0s
PPLA Purkeypile 31.26 3 P **P** **13 04 11.7 0.0**
PPLA Purkeypile 31.26 3 P 13 04 11.1
baz=360,SNR=16
NACGM Naroch 31.29 185 *i*P P 13 04 00.0 -12
WAT6 Susitna Watana 31.58 359 P 13 04 11.5
baz=0.1
EKA Eskdalemuir Ar 31.62 218 P **P** **13 04 16.1 +1.4**
comp=Z,2.7nm,0.7s,baz=7.8,slow=6.7,SNR=4.6
MNK Minsk 31.68 184 *i*P **P** **13 04 12.6 -2.7**
MNK *i*PPP PPP 13 05 26.4
MNK *i* 13 07 08.3
MNK *i*S **S** **13 09 24.0 +0.4**
MNK *i*SS **SnSn** **13 11 13.2 +3.4**
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,48nm,1.0s
MNK pmax pmax
comp=N,45nm,1.3s
MNK MLR MLR
comp=E,21nm,16.0s
MNK MLR MLR
comp=Z,202nm,16.0s
MNK MLR MLR
comp=N,350nm,21.0s
MNK Minsk 31.68 184 *i*P **P** **13 04 12.6 -2.7**
comp=E,3.0nm,0.8s
MNK *i*P **P** **13 04 12.6 -2.7**
comp=N,45nm,1.3s
MNK *i*P **P** **13 04 12.6 -2.7**
comp=Z,48nm,1.0s,baz=180
MNK *i*PP **PP** **13 05 17.2 -10**
MNK *i*PPP PPP 13 05 26.5
MNK *i*PcP **PcP** **13 07 08.4 +1.9**
MNK *i*S **S** **13 09 24.1 +0.5**
MNK *i*SS **SnSn** **13 11 13.2 +3.4**
MNK *i*SSS SSS 13 11 28.4
MNK *i*LQ LQ 13 14 16.8
MNK *i*LR LR 13 17 18.0
MNK *i*LRM MLR 13 18 26.0
MNK *i*LRM MLR 13 18 44.8
comp=E,21nm,16.3s
MNK *i*LRM MLR 13 18 45.5
comp=Z,202nm,15.6s
MNK *i*LRM MLR 13 18 45.5
comp=N,350nm,21.0s
CUT Chulitna 31.76 1 P **P** **13 04 15.7 -0.2**
CUT Chulitna 31.76 1 P 13 04 13.8
baz=360
HARP HAARP 31.76 357 P 13 04 13.0
baz=0.4
M24K Tolsona, Glenn 32.05 358 P **P** **13 04 18.3 -0.3**
M24K lAmb lAmb 13 04 19.6
comp=Z,28nm,0.9s
M24K Tolsona, Glenn 32.05 358 P 13 04 15.1
baz=0.3
BOD Bodaibo 32.07 91 *e*P **P** **13 04 17.8 -0.9**
BOD pmax pmax
comp=Z,18nm,1.0s
SKT Skwentna 32.18 2 P **P** **13 04 18.7 -0.9**
SKT Skwentna 32.18 2 P 13 04 18.2
baz=360,SNR=18
SCM Sheep Creek Mo 32.33 359 P **P** **13 04 19.9 -1.2**
SCM pmax pmax
comp=Z,32nm,0.8s
SCM Sheep Creek Mo 32.33 359 P **P** **13 04 19.9 -1.2**
SCM lAmb lAmb 13 04 29.4
comp=Z,32nm,0.8s
SML Sawmill 32.36 360 P 13 04 19.6
baz=360,SNR=9.5
GHO Glory Hole Cre 32.39 0 P **P** **13 04 21.3 -0.3**
GHO lAmb lAmb 13 04 24.9
comp=Z,23nm,0.9s
M22K Willow 32.41 1 P 13 04 19.7
baz=360,SNR=8.5
BSEG Bad Segeberg 32.54 203 *e*P **P** **13 04 24.8 +2.0**
comp=Z,37nm,1.2s,baz=3.4,slow=8.7
N25K Chitina, Valde 32.55 356 P **P** **13 04 22.7 -0.3**
N25K lAmb lAmb 13 04 25.4
comp=Z,23nm,1.1s
N25K Chitina, Valde 32.55 356 P 13 04 21.3
baz=0.5,SNR=10
PMR Palmer 32.57 0 P 13 04 20.1
baz=360
KLU Klutina 32.67 358 P **P** **13 04 23.3 -0.8**
KLU Klutina 32.67 358 P 13 04 22.3
baz=0.3
SUA Susitna One 32.70 2 P **P** **13 04 23.5 -0.8**
SUA Susitna One 32.70 2 P 13 04 22.5
baz=360,SNR=11
GLB Gilahina Butte 32.71 356 P **P** **13 04 24.5 +0.2**
GLB lAmb lAmb 13 04 27.7
comp=Z,29nm,1.0s
MA2 Magadan 32.73 55 P **P** **13 04 24.4 -0.1**
comp=Z,23nm,0.9s,baz=17,slow=9.1,SNR=5.0
MA2 LR LR 13 17 10.0
comp=Z,196nm,21.0s,baz=344,slow=36
MA2 Magadan 32.73 55⇓ *e*P **P** **13 04 23.8 -0.7**
MA2 pmax pmax
comp=Z,25nm,1.0s
MA2 Magadan 32.73 55 P **P** **13 04 24.1 -0.4**
MA2 lAmb lAmb 13 04 25.1
comp=Z,40nm,1.0s
KNK Knik Glacier 32.75 360 P **P** **13 04 24.0 -0.7**
KNK lAmb lAmb 13 04 27.6
comp=Z,31nm,1.0s
KNK Knik Glacier 32.75 360 P 13 04 21.2
baz=360
MCARA McCarthy VSAT 32.76 355 P **P** **13 04 25.0 +0.2**
MCARA lAmb lAmb 13 04 27.6
comp=Z,26nm,1.0s
MCARA McCarthy VSAT 32.77 355 P 13 04 21.6
baz=0.7
VRDI Verde Repeater 32.92 355 P **P** **13 04 26.8 +0.4**
VRDI lAmb lAmb 13 04 28.5
comp=Z,22nm,0.9s
SPCR Spurr Chakacha 32.96 3 P 13 04 21.7
baz=360
SVW2 Sparrevohn 33.04 6 P **P** **13 04 26.8 -0.4**
SVW2 lAmb lAmb 13 04 30.0
comp=Z,29nm,1.3s
RC01 Rabbit Creek A 33.08 1 P **P** **13 04 27.3 -0.2**
RC01 Rabbit Creek A 33.08 1 P 13 04 23.5
baz=360
BARN Barnard Glacie 33.08 354 P **P** **13 04 28.2 +0.4**
BARN lAmb lAmb 13 04 30.6
comp=Z,21nm,1.1s
CTGM Chitina Glacie 33.17 353 P **P** **13 04 28.4 -0.2**
CTGM lAmb lAmb 13 04 31.4
comp=Z,34nm,1.1s
CTG Chitna Glacier 33.17 353 P 13 04 27.2
baz=0.9,SNR=14
BMRM Bremner River 33.19 356 P **P** **13 04 27.4 -1.1**
BMRM Bremner River 33.19 356 P 13 04 25.8
baz=0.5
HYT Haines Junctio 33.27 350 P **P** **13 04 29.3 -0.1**
HYT lAmb lAmb 13 04 33.1
comp=Z,37nm,1.0s
GLI Glacier Island 33.29 359 P 13 04 25.4
baz=0.1
CRQM Cirque 33.39 355 P **P** **13 04 29.7 -0.8**
CRQM lAmb lAmb 13 04 33.0
comp=Z,32nm,1.1s
CAPN Captain Cook N 33.40 2 P 13 04 26.3
baz=360
CRQE Cirque 33.40 355 P 13 04 27.1
baz=0.7
WHY Whitehorse 33.41 348 P **P** **13 04 29.6 -0.8**
WHY Whitehorse 33.41 348 P 13 04 29.3
baz=1.6,SNR=6.5
GRNC Granite Creek 33.41 354 P **P** **13 04 30.5 -0.2**
LPSR Galich'ya Gora 33.62 172 *e*P **P** **13 04 33.1 +0.8**
LPSR pmax pmax
comp=Z,20nm,1.2s
O22K Cooper Landing 33.69 1 P 13 04 31.9
baz=360
TABL Table Mountain 33.70 353 P **P** **13 04 33.0 -0.1**
RSO Redoubt South 33.70 4 P **P** **13 04 33.9 +0.7**
HIN Hinchinbrook I 33.77 358 P **P** **13 04 33.8 +0.3**
YAH Yahtse 33.78 354 P **P** **13 04 33.6 -0.3**
YAH lAmb lAmb 13 04 36.7
comp=Z,24nm,1.0s
HMT Hamilton 33.82 356 P **P** **13 04 34.3 +0.3**
HMT lAmb lAmb 13 04 37.2
comp=Z,39nm,1.3s
FCC Fort Churchill 33.87 310 P **P** **13 04 34.9 +0.6**
FCC pmax pmax
comp=Z,46nm,1.1s
FCC Fort Churchill 33.87 310 P **P** **13 04 34.9 +0.6**
FCC lAmb lAmb 13 04 36.9
comp=Z,46nm,1.1s
MESA MESA 33.97 354 P **P** **13 04 35.8 +0.3**
MESA lAmb lAmb 13 04 45.5
comp=Z,46nm,1.2s
BELG Belogornoye 33.97 162*d* *i*P **P** **13 04 35.9 +0.6**
BELG pmax pmax
comp=Z,8.0nm,0.9s
NRDL Niedersach Rie 33.98 203 *e*P **P** **13 04 37.5 +2.1**
comp=Z,52nm,1.2s,baz=3.4,slow=8.7
ZAA0 Zalesovo Array 33.99 122 P **P** **13 04 36.7 +1.2**
ZALV Zalesovo Beam 33.99 122 P **P** **13 04 36.9 +1.4**
comp=Z,6.7nm,0.7s,baz=352,slow=8.0,SNR=20
ZALV PcP **PcP** **13 07 12.5 -0.4**
comp=Z,5.9nm,0.8s,baz=306,slow=3.4,SNR=5.1
ZALV LR LR 13 19 41.6
comp=Z,318nm,20.7s,baz=358,slow=39
PCA Pinnacle 34.03 352 P **P** **13 04 36.0 0.0**
PCA lAmb lAmb 13 04 39.4
comp=Z,36nm,1.1s
PINM Pinnacle 34.04 352 P 13 04 34.7
baz=1.0,SNR=7.9
SEW Seward 34.07 1 P 13 04 34.4
baz=360
BRVK Borovoye 34.10 137*d* *i*P **P** **13 04 38.4 +2.0**
BRVK pmax pmax
comp=Z,64nm,1.7s
BRVK Borovoye 34.10 137 P **P** **13 04 38.3 +1.8**
BRVK lAmb lAmb 13 04 48.0
comp=Z,28nm,0.8s
BRVK Borovoye 34.10 137 P **P** **13 04 38.5 +2.0**
BRVK P **P** **13 04 38.5 +2.0**
FLTG Flechtingen 34.12 202 *e*P **P** **13 04 37.9 +1.4**
comp=Z,30nm,1.2s,baz=3.4,slow=8.7
ASSE Asse, Remlinge 34.33 203 *e*P **P** **13 04 40.3 +1.9**
comp=Z,54nm,1.3s,baz=3.4,slow=8.7
BRSE Bradley Lake S 34.43 2 P 13 04 36.2
baz=360
CLZ Clausthal 34.63 203 *e*P **P** **13 04 43.2 +2.1**
comp=Z,50nm,1.1s,baz=3.4,slow=8.7
GTTG Gottingen 34.94 203 *e*P **P** **13 04 45.9 +2.2**
comp=Z,70nm,1.2s,baz=3.4,slow=8.7
VSR Storozhevoye 35.01 171 *e*P **P** **13 04 44.1 -0.2**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 35.05 169 *e*P **P** **13 04 44.4 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.5s
CLL Collm 35.10 200⇓ *i*P **P** **13 04 46.2 +1.1**
comp=Z,46nm,1.0s
CLL *e*S **S** **13 10 12.0 -4.5**
CLL Lm MLR 13 18 00.0
comp=N,200nm,20.5s
CLL Lm MLR 13 18 00.0
comp=E,100nm,18.7s
CLL Lm MLR 13 18 00.0
comp=Z,300nm,20.9s
CLL Collm 35.10 200⇓ *i*P **P** **13 04 46.2 +1.1**
CLL *e*S **S** **13 10 12.0 -4.5**
CLL pmax pmax
comp=Z,46nm,1.0s
CLL MLR MLR
comp=Z,300nm,20.9s
CLL Collm 35.10 200 P **P** **13 04 45.4 +0.3**
CLL lAmb lAmb 13 04 47.6
comp=Z,38nm,1.0s
CLL Collm 35.10 200 *e*P **P** **13 04 46.3 +1.2**
comp=Z,46nm,1.0s,baz=3.4,slow=8.7
CLL *e*L L 13 18 08.1
comp=Z,268nm,20.9s
BUG Bochum--Univer 35.12 206 *e*P **P** **13 04 47.1 +1.8**
comp=Z,101nm,1.6s,baz=3.4,slow=8.7
NEUB Neuenburg 35.23 201 *e*P **P** **13 04 47.9 +1.7**
comp=Z,58nm,1.2s,baz=3.4,slow=8.7
KASTN Kahler Asten 35.33 205 *e*P **P** **13 04 49.4 +2.3**
comp=Z,27nm,1.1s,baz=3.4,slow=8.7
FBE Freiberg 35.48 200 *e*P **P** **13 04 50.0 +1.6**
comp=Z,80nm,1.0s,baz=3.4,slow=8.7
AKASG Malin Array Be 35.49 182 P **P** **13 04 48.9 +0.5**
comp=Z,14nm,0.6s,baz=360,slow=9.0,SNR=43
AKASG PcP **PcP** **13 07 16.7 -0.6**
comp=Z,7.2nm,0.8s,baz=358,slow=2.9,SNR=11
AKASG LR LR 13 18 53.0
comp=Z,222nm,21.6s,baz=355,slow=35
AKASG Malin Array Be 35.49 182 P **P** **13 04 48.6 +0.2**
AKASG PcP **PcP** **13 07 16.6 -0.7**
AKBB Malin Array Si 35.49 182*d* *i*P **P** **13 04 48.9 +0.5**
AKBB pmax pmax
comp=Z,24nm,0.8s
AKBB Malin Array Si 35.49 182 P **P** **13 04 48.9 +0.5**
AKBB lAmb lAmb 13 04 52.0
comp=Z,22nm,0.8s
BESE Bessie Mountai 35.49 348 P **P** **13 04 49.0 +0.5**
BESE lAmb lAmb 13 04 51.5
comp=Z,26nm,1.2s
KSP Ksiaz 35.49 196 *e*P **P** **13 04 49.9 +1.4**
BRG Berggiesshubel 35.51 199 *e*P **P** **13 04 50.0 +1.4**
BRG Amp 13 04 52.1
comp=Z,51nm,1.2s
BRG *ex* x 13 05 04.1
BRG Amp 13 05 06.9
comp=Z,25nm,1.4s
BRG Berggiesshubel 35.51 199 *e*P **P** **13 04 50.1 +1.4**
comp=Z,214nm,1.2s,baz=3.4,slow=8.7
UBBA Unterbreizbach 35.66 203 *e*P **P** **13 04 51.5 +1.7**
comp=Z,26nm,1.6s,baz=3.4,slow=8.7
CHVC Chvalec 35.75 197 *e*P **P** **13 04 52.1 +1.3**
MOX Moxa 35.80 201 *e*P **P** **13 04 53.2 +2.0**
comp=Z,70nm,1.0s,baz=3.4,slow=8.7
MOX *e*L L 13 20 52.6
comp=Z,141nm,19.6s
PLN Plauen 35.94 201 *e*P **P** **13 04 54.2 +1.8**
comp=Z,46nm,1.1s,baz=3.4,slow=8.7
WERD Werda 35.98 201 *e*P **P** **13 04 54.5 +1.9**
comp=Z,48nm,1.2s,baz=3.4,slow=8.7
DPC Dobruska-Polom 35.98 196 *e*P **P** **13 04 54.2 +1.4**
DPC Dobruska-Polom 35.98 196 *e*P **P** **13 04 54.2 +1.4**
MEM Membach 35.99 208 *d*P **P** **13 04 54.6 +1.8**
TANN Tannenbergstha 36.00 201 *e*P **P** **13 04 54.8 +1.9**
comp=Z,38nm,1.1s,baz=3.4,slow=8.7
BTNL Ternell 36.01 207 *d*P **P** **13 04 51.9 -1.1**
BTNL *dx* x 13 05 24.5
AHRW Bad Neuenahr-A 36.03 206 *e*P **P** **13 04 54.9 +1.8**
comp=Z,69nm,1.6s,baz=3.4,slow=8.7
OJC Ojcow 36.05 193 *e*P **P** **13 04 54.8 +1.5**
OJC Ojcow 36.05 193 P **P** **13 04 54.0 +0.7**
OJC pmax pmax
comp=Z,58nm,0.9s
OJC Ojcow 36.05 193 P **P** **13 04 54.0 +0.7**
GUNZ Gunzen 36.06 201 *e*P **P** **13 04 55.4 +2.0**
comp=Z,58nm,1.1s,baz=3.4,slow=8.7
SCHQ Schefferville 36.10 284 P **P** **13 04 54.0 +0.3**
comp=Z,4.7nm,0.7s,baz=2.4,slow=12,SNR=5.6
SCHQ LR LR 13 19 35.7
comp=Z,536nm,20.5s,baz=57,slow=36
SCHQ Schefferville 36.10 284 P **P** **13 04 54.5 +0.8**
WERN Wernitzgruen 36.13 201 *e*P **P** **13 04 56.2 +2.2**
comp=Z,95nm,1.1s,baz=3.4,slow=8.7
NKC Novy Kostel 36.19 201 *e*P **P** **13 04 57.0 +2.5**
NKC Novy Kostel 36.19 201 *e*P **P** **13 04 57.0 +2.5**
BCLA Clavier 36.21 208 κP **P** **13 04 56.1 +1.5**
AKTO Aktyubinsk 36.22 151 P **P** **13 04 55.3 +0.6**

BGES Gesves 36.25 209 κP P 13 04 56.1 +1.1
KRLC Kraliky 36.25 196 *e*P P 13 04 56.1 +1.0
KRLC Kraliky 36.25 196 *e*P P 13 04 56.1 +1.0
TNS Taunus Mts 36.30 205 *e*P P 13 04 57.4 +1.8
comp=Z,35nm,1.3s,baz=3.4,slow=8.7
TNS *e*L L 13 18 09.9
comp=Z,209nm,20.9s
BMRD Maredsous 36.34 209 *d*P P 13 04 57.4 +1.6
PRU Pruhonice 36.38 198 *e*P P 13 04 58.1 +2.0
PRU MLR MLR
comp=Z,200nm,14.3s
PRU Pruhonice 36.38 198 *e*P P 13 04 58.1 +2.0
PRU AMS AMS 13 22 40.0
comp=Z,200nm,14.3s
KDAK Kodiak Island 36.39 3 P P 13 04 54.4 -1.7
comp=Z,20nm,1.0s,baz=53,slow=10,SNR=5.2
KDAK Kodiak Island 36.39 3 P P 13 04 55.5 -0.5
KDAK pmax pmax
comp=Z,19nm,1.0s
KDAK Kodiak Island 36.39 3 P P 13 04 55.5 -0.5
KDAK Kodiak Island 36.39 3 P 13 04 52.8
baz=360
LVV L'vov 36.40 188 *e*P P 13 04 57.2 +0.9
LVV *e* 13 06 19.7
LVV *e*PPP PPP 13 06 44.8
LVV *e*S S 13 10 37.7 +1.1
LVV *e*SSS SSS 13 13 36.9
LVV MLR MLR
comp=E,200nm,15.0s
LVV MLR MLR
comp=N,400nm,14.0s
LVV MLR MLR
comp=Z,300nm,14.0s
MANZ Manzenberg 36.44 201 *e*P P 13 04 58.5 +1.9
comp=Z,22nm,1.2s,baz=3.4,slow=8.7
OKC Ostrava-Krasne 36.46 194 *e*P P 13 04 58.2 +1.4
OKC MLR MLR
comp=Z,400nm,17.3s
OKC Ostrava-Krasne 36.46 194 *e*P P 13 04 58.2 +1.4
OKC AMS AMS 13 22 50.0
comp=Z,400nm,17.3s
MORC Moravsky Berou 36.53 195 ⇑P P 13 04 59.4 +1.9
MORC Moravsky Berou 36.53 195 *e*P P 13 04 58.9 +1.4
MORC Moravsky Berou 36.53 195 P P 13 04 58.4 +0.9
MORC pmax pmax
comp=Z,44nm,1.1s
MORC Moravsky Berou 36.53 195 P P 13 04 58.4 +0.9
MORC IAmb IAmb 13 05 00.3
comp=Z,44nm,1.1s
KWP Kalwaria Pacla 36.60 189 *e*P P 13 04 59.7 +1.7
KWP Kalwaria Pacla 36.60 189 P P 13 04 58.9 +0.9
KWP pmax pmax
comp=Z,79nm,1.1s
KWP Kalwaria Pacla 36.60 189 P P 13 04 58.9 +0.9
ROTZ Rotzenmuhle 36.66 201 *e*P P 13 05 00.6 +2.1
comp=Z,48nm,1.0s,baz=3.4,slow=8.7
MILB Miltenberg 36.67 204 *e*P P 13 05 00.7 +2.1
comp=Z,44nm,1.0s,baz=3.4,slow=8.7
MILB *e*L L 13 18 22.5
comp=Z,171nm,21.6s
PBCC Pribram 36.70 199 *e*P P 13 05 00.8 +2.0
GRA1 Grafenberg Arr 36.76 202 P P 13 05 01.3 +2.0
GRA1 IAmb IAmb 13 05 02.7
comp=Z,44nm,0.9s
GRF Grafenberg Arr 36.76 202 P P 13 05 01.3 +2.0
GRF pmax pmax
comp=Z,44nm,0.9s
GRF Grafenberg Arr 36.76 202 *e*P P 13 05 01.5 +2.2
comp=Z,55nm,1.0s,baz=3.4,slow=8.7
GRF *e*L L 13 21 25.6
comp=Z,180nm,18.9s
GRFO Grafenberg 36.76 202 P P 13 05 01.1 +1.8
GRFO pmax pmax
comp=Z,45nm,0.9s
GRFO Grafenberg 36.76 202 P P 13 05 01.1 +1.8
GRFO IAmb IAmb 13 05 02.6
comp=Z,45nm,0.9s
STHS Stebnicka Huta 36.84 191 *e*P P 13 05 01.4 +1.4
STHS Stebnicka Huta 36.84 191 *e*P P 13 05 01.4 +1.4
NIE Niedzica 36.85 192 *e*P P 13 05 02.1 +1.9
WLF Walferdange 36.93 207 *e*P P 13 05 03.2 +2.4
comp=Z,45nm,1.4s,baz=3.4,slow=8.7
IRK Irkutsk 36.94 102 *e*P P 13 04 57.0 -3.9
IRK pmax pmax
comp=Z,60nm,1.6s
OHAK Old Harbor 36.95 4 P P 13 04 59.9 -0.9
OHAK Old Harbor 36.95 4 P 13 04 59.8
baz=359,SNR=14
KURBB Kurchatov Arra 36.95 129 P P 13 05 00.5 -0.4
VRAC Vranov 37.02 196 ⇑P P 13 05 03.8 +2.2
VRAC Vranov 37.02 196 *e*P P 13 05 03.1 +1.5
VRAC Vranov 37.02 196 P P 13 05 03.6 +2.0
SIT Sitka 37.02 348 P 13 04 58.8
baz=1.5
ZEA Zeya 37.05 79 *e*P P 13 05 02.2 +0.5
ZEA *e* 13 06 33.3
ZEA *e* 13 07 16.1
ZEA *e*S S 13 10 43.6 -2.7
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA pmax pmax
comp=E,100nm,5.0s
ZEA pmax pmax
comp=Z,100nm,4.5s
ZEA smax smax
comp=E,100nm,5.2s
ZEA smax smax
comp=N,200nm,7.2s
LANS Liptovska Anna 37.13 193 *e*P P 13 05 05.0 +2.5
LANS pmax pmax
comp=Z,15nm,0.8s
LANS Liptovska Anna 37.13 193 *e*P P 13 05 05.0 +2.5
SEM Semipalatinsk 37.26 127 *e*P P 13 05 02.9 -0.9
baz=127
SEM *e*S S 13 10 51.7 +1.6
baz=127
SEM Semipalatinsk 37.26 127 *e*P P 13 05 02.9 -0.9
SEM *e*S S 13 10 51.6 +1.6
KHC Kasperske Hory 37.26 199 *e*P P 13 05 05.8 +2.1
KHC Kasperske Hory 37.26 199 *e*P P 13 05 05.8 +2.1
KHC *ex* x 13 05 18.5
WET Wettzell 37.27 200 *e*P P 13 05 06.1 +2.4
comp=Z,87nm,1.9s,baz=3.4,slow=8.7
WET *e*L L 13 17 56.5
comp=Z,170nm,20.9s
KRUC Moravsky 37.27 196 *e*P P 13 05 05.1 +1.4
BRZS Berezniki 37.28 135 ⇓ *i*P P 13 05 05.1 +1.3
comp=Z,10.0nm,0.6s,baz=135
BRZS *e*S S 13 10 55.1 +5.1
baz=135
BRZS Berezniki 37.28 135 *d i*P P 13 05 05.1 +1.3
BRZS *e*S S 13 10 55.1 +5.1
BRZS pmax pmax
comp=Z,10.0nm,0.6s
MOY Mondy 37.29 105 *e*P P 13 05 05.0 +1.0
MOY pmax pmax
comp=Z,70nm,2.0s
KOLS Kolonicke sedl 37.31 190 *e*P P 13 05 05.8 +1.8
KOLS Kolonicke sedl 37.31 190 *e*P P 13 05 05.8 +1.8
CRVS Cervenica-Dubn 37.35 191 *e*P P 13 05 06.2 +1.8
CRVS pmax pmax
comp=Z,42nm,1.0s
CRVS Cervenica-Dubn 37.35 191 *e*P P 13 05 06.2 +1.8
JAVC Velka Javorina 37.45 195 *e*P P 13 05 07.4 +2.1
TLY Talaya 37.46 103 *e*P P 13 05 04.9 -0.4
TLY *e* 13 06 34.4
TLY *e*PPP PPP 13 06 51.2
TLY *e* 13 07 26.3
TLY *e*S S 13 10 54.9 +2.2
TLY pmax pmax
comp=Z,49nm,1.7s
TLY MLR MLR
comp=N,974nm,18.0s
TLY Talaya 37.46 103 P P 13 05 04.0 -1.3
TLY P P 13 05 04.0 -1.3
AB31 Akbulak array 37.46 149 *i* P P 13 05 06.5 +1.2
ABKAR Akbulak array 37.46 149 P P 13 05 06.4 +1.1
GEC2 GERESS Array S 37.55 199 P P 13 05 08.0 +1.9
GEC2 IAmb IAmb 13 05 09.5
comp=Z,34nm,1.2s
GEC2 GERESS Array S 37.55 199 *e*P P 13 05 08.4 +2.2
comp=Z,44nm,1.3s,baz=3.4,slow=8.7
GEC2 *e*L L 13 19 43.3
comp=Z,212nm,21.4s
GERES GERESS Array B 37.55 199 P P 13 05 08.2 +2.0
comp=Z,11nm,0.9s,baz=10,slow=8.1,SNR=49
GERES PcP PcP 13 07 22.6 -1.1
comp=Z,0.5nm,0.3s,baz=43,slow=4.4,SNR=1.9
GERES LR LR 13 20 05.1
comp=Z,235nm,20.6s,baz=8.5,slow=35
CKRC Cesky Krumlov 37.56 198 *e*P P 13 05 08.0 +1.9
SII Sitkinak Islan 37.60 5 P P 13 05 05.9 -0.6
SII Sitkinak Islan 37.61 5 P 13 05 04.6
baz=359,SNR=8.7
UZH Uzhgorod 37.61 190 ⇓ *i*P P 13 05 07.6 +1.1
UZH *i* 13 05 11.2
UZH *e* 13 05 15.5
WRAK Wrangell Islan 37.62 345 P 13 05 04.6
baz=1.8
STU Stuttgart 37.73 204 *e*P P 13 05 09.8 +2.2
comp=Z,60nm,1.1s,baz=3.4,slow=8.7
KECS Kecovo 37.78 192 *e*P P 13 05 09.6 +1.6
KECS Kecovo 37.78 192 *e*P P 13 05 09.6 +1.6
VYHS Vyhne 37.80 194 *e*P P 13 05 10.0 +1.8
VYHS Vyhne 37.80 194 *e*P P 13 05 10.0 +1.8
SMOL Smolenice 37.80 195 *e*P P 13 05 10.8 +2.6
SMOL pmax pmax
comp=Z,41nm,1.4s
SMOL Smolenice 37.80 195 *e*P P 13 05 10.8 +2.6
SORM Soroca 38.06 183 ⇑P P 13 05 10.7 +0.4
SORM Soroca 38.06 183 P P 13 05 11.0 +0.7
ZST Bratislava 38.12 195 *e*P P 13 05 13.1 +2.2
ZST pmax pmax
comp=Z,200nm,1.7s
ZST Bratislava 38.12 195 *e*P P 13 05 13.1 +2.2
BFO Black Forest 38.20 205 P P 13 05 12.7 +1.1
BFO pmax pmax
comp=Z,40nm,1.1s
BFO Black Forest 38.20 205 P P 13 05 12.7 +1.1
BFO IAmb IAmb 13 05 14.9
comp=Z,40nm,1.1s
BFO Black Forest 38.20 205 *e*P P 13 05 13.6 +2.0
comp=Z,49nm,1.2s,baz=3.4,slow=8.7
BFO *e*L L 13 18 54.5
comp=Z,236nm,19.1s
FUR Furstenfeldbru 38.28 202 *e*P P 13 05 14.6 +2.3
baz=3.4,slow=8.7
FUR *e*L L 13 21 36.7
comp=Z,179nm,18.3s
FFC Flin Flon 38.30 317 P P 13 05 12.3 0.0
FFC pmax pmax
comp=Z,13nm,1.3s
FFC Flin Flon 38.30 317 P P 13 05 12.3 0.0
ECH Echery 38.35 206 P P 13 05 14.0 +1.1
ECH pmax pmax
comp=Z,38nm,1.1s
ECH Echery 38.35 206 P P 13 05 13.9 +1.1
ECH IAmb IAmb 13 05 15.9
comp=Z,38nm,1.1s
PSZ Piszkesteto 38.35 192 ⇓P P 13 05 15.5 +2.5
PSZ Piszkesteto 38.35 192 P P 13 05 14.0 +1.0
PSZ pmax pmax
comp=Z,54nm,1.2s
PSZ Piszkesteto 38.35 192 P P 13 05 14.0 +1.0
PSZ IAmb IAmb 13 05 16.2
comp=Z,54nm,1.2s
DGZ Jazzator, Alta 38.38 120 *de*P P 13 05 14.1 +0.9
DGZ pmax pmax
comp=Z,26nm,1.4s
CONA Conrad Observa 38.42 197 *i* P P 13 05 15.3 +1.9
comp=Z,40nm,1.2s,SNR=19
CONA *e*P PcP 13 07 27.5 +1.1
comp=Z,6.4nm,1.1s
SRO Srobarova 38.48 194 *e*P P 13 05 15.9 +2.0
SRO Srobarova 38.48 194 *e*P P 13 05 15.9 +2.0
MOA Molln 38.53 198 *i* P P 13 05 16.0 +1.7
comp=Z,33nm,1.4s,SNR=10
MOA *e*P PcP 13 07 27.4 +0.8
comp=Z,7.0nm,0.9s
BMR Baia Mare 38.55 188 ⇓P P 13 05 17.1 +2.5
BUR08 Bucovina Ar. S 38.57 187 P P 13 05 15.6 +0.8
CRAG Craig 38.58 346 P 13 05 12.8
baz=1.6
BURAR Bucovina Array 38.60 187 ⇑P P 13 05 17.1 +2.0
BURAR Bucovina Array 38.60 187 P P 13 05 16.1 +1.1
BURAR Bucovina Array 38.60 187 P P 13 05 16.0 +1.1
RJOB Jochberg 38.67 200 *e*P P 13 05 17.7 +2.1
comp=Z,89nm,1.0s,baz=3.4,slow=8.7
CLF Chambon-Foret 38.70 211 P P 13 05 17.6 +1.8
CLF IAmb IAmb 13 05 18.6
comp=Z,38nm,0.9s
ZAK Zakamensk 38.73 103 *e*P P 13 05 17.0 +0.9
ZAK pmax pmax
comp=Z,12nm,1.6s
UBR Ueberruh 38.80 203 *e*P P 13 05 19.0 +2.3
comp=Z,69nm,1.7s,baz=3.4,slow=8.7
RETA Reutte 38.98 202 *e*P P 13 05 20.4 +2.2
comp=Z,31nm,1.4s,SNR=9.6
RETA *i* P PcP 13 07 30.0 +1.8
comp=Z,7.5nm,1.3s
ARSA Arzberg 39.10 197 *e*P PcP 13 07 28.9 +0.4
comp=Z,6.6nm,0.9s
MOTA Mosalm 39.11 202 *i* P P 13 05 21.2 +1.9
comp=Z,25nm,1.2s,SNR=8.4
MOTA *e*P PcP 13 07 29.2 +0.6
comp=Z,9.5nm,0.9s
WTTA Wattenberg 39.18 201 *e*P P 13 05 22.1 +2.2
comp=Z,18nm,1.2s,SNR=5.7
WTTA *e*P PcP 13 07 28.5 -0.3
comp=Z,5.3nm,0.8s
DAVA Damuels 39.20 203 *e*P P 13 05 22.6 +2.4
comp=Z,14nm,1.1s
DAVA *i* P PcP 13 07 29.7 +0.8
comp=Z,14nm,1.1s
SQTA Sankt Quirin 39.23 202 *i* P P 13 05 22.5 +2.2
comp=Z,13nm,1.0s
BIZ Bicaz 39.27 186 ⇓P P 13 05 22.6 +2.0
KBA Koelnbreinsper 39.32 199 *i* P P 13 05 23.7 +2.6
comp=Z,22nm,1.1s,SNR=10
FETA Feichten 39.44 202 *i* P P 13 05 24.1 +1.9
comp=Z,15nm,1.3s,SNR=6.4
DRGR 39.45 189 ⇓P P 13 05 23.7 +1.6
DRGR 39.45 189 P P 13 05 24.0 +1.9
PETK Petropavlovsk- 39.57 50 P P 13 05 22.4 -0.6
comp=Z,11nm,0.9s,baz=24,slow=5.0,SNR=4.8
PETK Petropavlovsk- 39.57 50 P P 13 05 22.0 -1.0
ABTA Abfaltersbach 39.67 200 *e*P P 13 05 25.3 +1.3
comp=Z,9.0nm,1.0s
ABTA *i* P PcP 13 07 30.8 +0.5
comp=Z,12nm,1.2s
SOKA Soboth 39.68 198 *i* P P 13 05 26.1 +2.0
comp=Z,31nm,1.5s,SNR=14
SOKA *e*P PcP 13 07 30.5 +0.2
comp=Z,8.3nm,1.0s
TESR Tescani 39.69 185 ⇓P P 13 05 25.3 +1.3
PERS Pernice 39.72 197 *i* P P 13 05 26.3 +1.9
comp=Z,67nm,1.6s
MYKA Terra Mystica 39.76 199 *i* P P 13 05 27.0 +2.3
comp=Z,24nm,1.1s,SNR=14
ZOU Zoufplan 39.85 200 P P 13 05 27.4 +1.7
ZOU IAmb IAmb 13 05 29.1
comp=Z,67nm,1.3s
OBKA Obir 39.86 198 *i* P P 13 05 27.9 +2.3
comp=Z,34nm,1.0s,SNR=17
PRED Cave del Predi 39.95 199 P P 13 05 27.8 +1.5
SIRR Siria 39.98 190 ⇑P P 13 05 28.5 +2.0
TUE Stuetta 40.03 204 P P 13 05 29.1 +2.0
TUE IAmb IAmb 13 05 30.9
comp=Z,67nm,1.4s
GORS Gorjuse 40.07 199 *i* P P 13 05 29.0 +1.8
MORH Mrgy, Hungar 40.08 194 ⇑P P 13 05 29.2 +2.0
CIMO Cimolais 40.11 200 P P 13 05 28.6 +1.1
STAL STALIGIAL 40.15 200 P P 13 05 28.8 +0.9
SENIN Lac Senin/Sane 40.20 206 P P 13 05 30.4 +1.9
VRI Vrincioaia 40.34 185 ⇓P P 13 05 31.3 +1.8
VRI Vrincioaia 40.34 185 P P 13 05 31.9 +2.5
PLOR Plostina 40.35 185 ⇓P P 13 05 31.5 +1.9
CTI Castel Tesino 40.39 201 P P 13 05 31.6 +1.6
CTI pmax pmax
comp=Z,65nm,1.4s
CTI Castel Tesino 40.39 201 P P 13 05 31.6 +1.6
CTI IAmb IAmb 13 05 33.0
comp=Z,65nm,1.4s
ZSN Zaisan 40.47 123 ⇓ *i*P P 13 05 31.1 +0.6
comp=Z,14nm,0.8s,baz=122
ZSN *e*PP PnPn 13 07 08.6 +1.2
baz=122
ZSN *e*S S 13 11 41.9 +3.8
baz=122
ZSN Zaisan 40.47 123 *d i*P P 13 05 31.1 +0.6
ZSN *e* 13 07 08.5
ZSN *e*S S 13 11 41.8 +3.8
ZSN pmax pmax
comp=Z,15nm,0.8s
GRNR Gornyy 40.62 70 ⇓ *i*P P 13 05 31.2 -0.5
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=Z,160nm,16.0s
GRNR MLR MLR
comp=N,160nm,15.0s
GRNR MLR MLR
comp=E,140nm,15.0s
BZS Buzias 40.63 190 ⇓P P 13 05 33.8 +1.9
BZS Buzias 40.63 190 P P 13 05 34.0 +2.2
CEY Cerknica 40.63 198 *i* P P 13 05 33.2 +1.3
comp=Z,71nm,1.4s
MLR Muntele Rosu 40.72 186 ⇑P P 13 05 34.2 +1.4
MLR Muntele Rosu 40.72 186 P P 13 05 33.4 +0.7
MLR pmax pmax
comp=Z,24nm,1.3s
MLR Muntele Rosu 40.72 186 P P 13 05 33.4 +0.7
VOIR 40.78 187 ⇑P P 13 05 34.9 +1.8
DIB Dawson Inlet, 40.84 345 P P 13 05 33.7 +0.3
DIB IAmb IAmb 13 05 36.3
comp=Z,47nm,1.1s
GZR Gura Zlata 40.84 189 ⇓P P 13 05 35.6 +1.9
GZR Gura Zlata 40.84 189 P P 13 05 36.0 +2.3
MAKZ Makanchi 40.94 126 P P 13 05 35.7 +1.2
MAKZ pmax pmax
comp=Z,21nm,0.9s
MAKZ Makanchi 40.94 126 P P 13 05 35.7 +1.2
MK31 Makanchi Array 40.98 125 P P 13 05 34.9 +0.2
MK31 pmax pmax
comp=Z,28nm,1.5s
MK31 Makanchi Array 40.98 125 P P 13 05 34.9 +0.2
MKAR Makanchi Array 40.98 125 P P 13 05 35.0 +0.3
comp=Z,9.3nm,0.7s,baz=345,slow=8.1,SNR=50
MKAR LR LR 13 25 17.5
comp=Z,993nm,20.4s,baz=343,slow=40
MKAR Makanchi Array 40.98 125 P P 13 05 34.4 -0.3
NIKH Nikolski High 40.99 18 P 13 05 32.6
baz=358
CFR Carcaliu 41.02 183 ⇓P P 13 05 35.8 +0.9
FRGS Fruska Gora 41.12 192 ⇓P P 13 05 38.1 +2.3
GOF Gofitskoye 41.22 167 ⇑ *e*P P 13 05 38.8 +2.1
GOF pmax pmax
comp=Z,21nm,0.4s
TPGR Topolog 41.34 183 ⇓P P 13 05 39.1 +1.4
HERR Herculane 41.36 190 ⇓P P 13 05 40.0 +2.1
ANN Anapa 41.41 173 *e*P P 13 05 37.5 -0.7
ANN pmax pmax
comp=Z,36nm,1.0s
ANN MLR MLR
comp=Z,389nm,12.0s
MDVR Moldovita 41.47 190 ⇓P P 13 05 40.6 +1.8
SONM Songino Array 41.48 101 P P 13 05 39.6 +0.7
comp=Z,5.2nm,0.8s,baz=342,slow=7.7,SNR=27
SONM PP PnPn 13 07 17.7 -1.5
comp=Z,3.3nm,0.9s,baz=342,slow=10,SNR=3.9
SONM LR LR 13 23 57.2
comp=Z,498nm,18.8s,baz=358,slow=38
SONM Songino Array 41.48 101 P P 13 05 39.8 +0.8
SONM pmax pmax
comp=Z,13nm,1.2s
SONM Songino Array 41.48 101 P P 13 05 39.8 +0.8
ULN Ulaanbaatar 41.49 100 *de*P P 13 05 39.7 +0.6
ULN pmax pmax
comp=Z,35nm,1.7s
ULN Ulaanbaatar 41.49 100 P P 13 05 39.9 +0.8
ULN Ulaanbaatar 41.49 100 P P 13 05 37.3 -1.8
ULN P P 13 05 37.3 -1.8
HARR Harsova 41.51 184 ⇓P P 13 05 40.2 +1.2
CHGQ Chibougamau 41.51 290 P 13 05 38.5
baz=5.7
BNI Bardonecchia 41.53 206 P P 13 05 41.2 +1.8
BNI pmax pmax
comp=Z,20nm,1.3s
BNI Bardonecchia 41.53 206 P P 13 05 41.2 +1.8
ATKA Atka Island 41.63 23 P P 13 05 39.2 -0.7
ATKA IAmb IAmb 13 05 40.5
comp=Z,73nm,1.1s
TIRR Tirgusor 41.74 183 ⇑P P 13 05 41.8 +0.9
TIRR Tirgusor 41.74 183 P P 13 05 41.6 +0.7
TIRR pmax pmax
comp=Z,36nm,1.0s
TIRR Tirgusor 41.74 183 P P 13 05 41.6 +0.7
TIRR IAmb IAmb 13 05 43.2
comp=Z,36nm,1.0s
BBB Bella Bella 41.77 341 P P 13 05 40.9 -0.2
comp=Z,32nm,1.0s,baz=359,slow=6.7,SNR=9.5
BBB LR LR 13 22 58.7
comp=Z,299nm,21.9s,baz=12,slow=36
BBB Bella Bella 41.77 341 P P 13 05 40.7 -0.3
BBB IAmb IAmb 13 05 43.8
comp=Z,43nm,1.1s
KLR Kul'dur 41.84 75 *d i*P P 13 05 41.0 -0.7
KLR pmax pmax
comp=Z,18nm,0.9s
KLR MLR MLR
comp=Z,260nm,16.0s
MATQ Matagami 41.87 293 P 13 05 41.7
baz=5.5
ZCCA Zocca 42.10 202 P P 13 05 43.3 -0.7
ZCCA IAmb IAmb 13 06 03.4
comp=Z,34nm,1.1s
MSSA Maissana 42.18 203 P P 13 05 46.1 +1.5
MSSA IAmb IAmb 13 05 47.4
comp=Z,76nm,1.4s
VLC Villacollemand 42.31 202 P P 13 05 47.2 +1.5
VLC IAmb IAmb 13 05 48.9
comp=Z,56nm,1.2s
KIV Kislovodsk 42.32 168 P P 13 05 48.1 +2.3
KIV Kislovodsk 42.32 168 *e*P P 13 05 47.3 +1.5
KIV pmax pmax
comp=Z,66nm,0.9s
KIV MLR MLR
comp=Z,683nm,16.0s
KIV Kislovodsk 42.32 168 P P 13 05 47.5 +1.7
KIV Kislovodsk 42.32 168 P P 13 05 47.9 +2.1
KIV P P 13 05 47.9 +2.1
ULM Lac du Bonnet 42.46 311 P P 13 05 46.2 -0.5
comp=Z,25nm,0.8s,baz=1.6,slow=7.4,SNR=21
ULM LR LR 13 22 43.9
comp=Z,700nm,21.3s,baz=354,slow=35
ULM Lac du Bonnet 42.46 311 P P 13 05 46.0 -0.7
ULM pmax pmax
comp=Z,34nm,0.9s
ULM Lac du Bonnet 42.46 311 P P 13 05 46.0 -0.7
ULM IAmb IAmb 13 05 48.9
comp=Z,34nm,0.9s
LSQQ Lebel-sur-Quev 42.53 292 P 13 05 46.8
baz=5.5
TDK Taldyqorghan 42.55 130 *e*P P 13 05 47.8 +0.2
baz=129
TDK *e*PP PP 13 07 28.3 +2.3
baz=129
TDK *e*S S 13 12 10.5 +1.6
baz=129
TDK Taldyqorghan 42.55 130 *e*P P 13 05 47.8 +0.2
TDK *e* 13 07 28.2
TDK *e*S S 13 12 10.4 +1.6
SOC Sochi 42.65 171 *e*P P 13 05 50.8 +2.4
SOC *e* 13 07 25.4
SOC *e*PPP PPP 13 08 08.0
SOC *e*S S 13 12 16.8 +6.5
SOC *e*SS SS 13 15 25.1 +4.9
SOC *e*SSS SSS 13 16 01.1
SOC MLR MLR
comp=Z,531nm,19.0s
NCK Nalchik 42.79 167 ⇑ *e*P P 13 05 52.5 +2.9
NCK pmax pmax
comp=Z,82nm,1.4s
OSSC Osservatorio P 42.92 201 P P 13 05 52.4 +1.7
MURB Monte Urbino 43.15 200 P P 13 05 53.8 +1.2
MURB IAmb IAmb 13 05 57.0
comp=Z,83nm,1.3s
MAK Makhachkala 43.40 163 *e*P P 13 05 50.1 -4.3
MAK *e* 13 07 33.3
MAK *e*S S 13 12 16.6 -4.7
MAK *e*SS SS 13 15 32.6 -2.2
MAK pmax pmax
comp=Z,42nm,0.4s
VLDQ Val d'Or 43.50 293 P P 13 05 54.6 -0.6
ZEI Tsey 43.50 166 *e*P P 13 05 55.9 +0.4

ZEI pmax pmax
comp=Z,25nm,1.5s
KUU Kurty 43.54 132 ⇓ *i* P **P 13 05 56.9 +1.2**
comp=Z,42nm,0.6s,baz=131
KUU *e* PP **PP 13 07 37.2 +0.5**
baz=131
KUU *e* S **S 13 12 24.8 +1.3**
baz=131
KUU Kurty 43.54 132 *d i* P **P 13 05 56.8 +1.2**
KUU *e* 13 07 37.1
KUU *e* S **S 13 12 24.7 +1.3**
KUU pmax pmax
comp=Z,42nm,0.6s
NRCA Norcia 43.57 199 P **P 13 05 57.1 +1.2**
BATG Bathurst New B 43.57 282 P **P 13 05 57.1 +1.3**
BATG IAmb IAmb 13 06 00.6
comp=Z,57nm,1.2s
VTS Vitosha 43.61 189 ⇑ P **P 13 05 57.4 +1.0**
VTS Vitosha 43.61 189 P **P 13 05 56.4 0.0**
VTS pmax pmax
comp=Z,19nm,1.1s
VTS Vitosha 43.61 189 P **P 13 05 56.4 0.0**
CHKK Chushkaly 43.62 131 ⇓ *i* P **P 13 05 57.4 +1.1**
baz=131
CHKK Chushkaly 43.62 131 ⇓ *i* P **P 13 05 57.3 +1.1**
CASP Castiglione de 43.67 202 P **P 13 05 56.4 -0.2**
CASP IAmb IAmb 13 05 58.9
comp=Z,53nm,1.0s
PDG Podgorica 43.85 193 ⇓ P **P 13 05 59.7 +1.6**
PDG Podgorica 43.85 193 P **P 13 05 58.3 +0.3**
PDG IAmb IAmb 13 06 00.1
comp=Z,43nm,1.0s
SGDS Sogindy 43.90 134 ⇓ *i* P **P 13 06 00.1 +1.6**
comp=Z,12nm,0.8s,baz=133
SGDS *e* PP **PcP 13 07 44.0 -0.3**
baz=133
SGDS *e* S **S 13 12 36.2 +7.4**
baz=133
SGDS Sogindy 43.90 134 *d i* P **P 13 06 00.1 +1.6**
SGDS *e* 13 07 44.0
SGDS *e* S **S 13 12 36.1 +7.4**
SGDS pmax pmax
comp=Z,12nm,0.8s
D63A Stockholm 43.95 284 P 13 05 57.2
baz=5.5
AQU L'Aquila 44.04 199 P **P 13 06 01.6 +1.9**
AQU pmax pmax
comp=Z,88nm,1.3s
AQU L'Aquila 44.04 199 P **P 13 06 01.6 +1.9**
KK31 Karatay Array 44.04 138 *i* P **P 13 06 01.2 +1.6**
KK31 Karatay Array 44.04 138 P **P 13 06 01.2 +1.6**
KK31 IAmb IAmb 13 06 06.1
comp=Z,25nm,0.9s
KKAR Karatay Array 44.04 138 P **P 13 06 01.2 +1.6**
KKAR pmax pmax
comp=Z,25nm,1.0s
KKAR Karatay Array 44.04 138 P **P 13 06 01.6 +1.9**
KKAR Karatay Array 44.04 138 P **P 13 06 01.2 +1.6**
KKAR IAmb IAmb 13 06 06.1
comp=Z,25nm,0.9s
USP Ospenovka 44.07 134 P **P 13 06 02.0 +2.1**
SNR=12
KPKS Kokpek 44.09 130 *e* P **P 13 06 00.7 +0.6**
baz=129
KPKS *e* PP **PcP 13 07 44.7 -0.3**
baz=129
KPKS *e* S **S 13 12 39.1 +7.4**
baz=129
KPKS Kokpek 44.09 130 *e* P **P 13 06 00.7 +0.6**
KPKS *e* 13 07 44.6
KPKS *e* S **S 13 12 39.1 +7.4**
SNOP Sinop 44.18 176 P **P 13 06 02.4 +1.7**
D58A Chemin du LacG 44.21 288 P 13 06 01.0
baz=5.4
B35A Bob, Littlefor 44.23 308 P **P 13 06 00.7 -0.3**
B35A IAmb IAmb 13 06 03.5
comp=Z,34nm,1.1s
WMQ Urumqi 44.25 120 *e* P **P 13 06 03.1 +1.7**
WMQ pP pP 13 06 06.2 +0.7
WMQ sP pwP 13 06 15.8 +6.0
WMQ PcP **PcP 13 07 49.2 +3.7**
WMQ S **S 13 12 39.5 +5.5**
WMQ pmax pmax
comp=Z,36nm,1.7s
WMQ pmax pmax
comp=Z,450nm,4.3s
WMQ L L
comp=Z,880nm,20.7s
WMQ L L
comp=Z,830nm,17.5s
WMQ L L
comp=Z,2µm,21.5s
AAA Alma-Ata 44.26 131 *e* P **P 13 06 02.4 +0.9**
baz=131
AAA *e* S **S 13 12 39.9 +5.9**
baz=131
AAA Alma-Ata 44.26 131 *e* P **P 13 06 02.3 +0.9**
AAA *e* S **S 13 12 39.9 +5.9**
DZA Taraz 44.29 137 *e* P **P 13 06 00.4 -1.3**
baz=137
DZA *e* S **S 13 12 42.9 +8.4**
baz=137
DZA Taraz 44.29 137 *e* P **P 13 06 00.4 -1.3**
DZA *e* S **S 13 12 42.9 +8.4**
MDOK Medeo 44.31 131 *i* P **P 13 06 03.3 +1.3**
baz=131
MDOK *e* PP **PP 13 07 44.4 -0.6**
baz=131
MDOK *e* S **S 13 12 38.3 +3.3**
baz=131
MDOK Medeo 44.31 131 *i* P **P 13 06 03.2 +1.3**
MDOK *e* 13 07 44.3
MDOK *e* S **S 13 12 38.2 +3.3**
MTBS Maitube 44.31 132 *e* P **P 13 06 03.2 +1.3**
baz=131
MTBS *e* PP **PcP 13 07 49.8 +4.1**
baz=131
MTBS Maitube 44.31 132 *e* P **P 13 06 03.1 +1.3**
MTBS *e* 13 07 49.8
CHMS Chumysh 44.35 134 P **P 13 06 04.9 +2.7**
SNR=11
INTR Introdacqua 44.37 199 P **P 13 06 03.1 +0.8**
D56A ZEC Mazanza, M 44.38 290 P 13 06 02.1
baz=5.4
AGMN Agassiz Nation 44.40 310 P **P 13 06 01.9 -0.5**
AGMN Agassiz Nation 44.40 310 P 13 06 00.8
baz=4.4,SNR=18
UZB Uzynbulak 44.43 129 *e* P **P 13 06 03.2 +0.2**
baz=129
UZB *e* PP **PcP 13 07 45.5 -0.7**
baz=129
UZB Uzynbulak 44.43 129 *e* P **P 13 06 03.1 +0.2**
UZB *e* 13 07 45.4
SHLS Shalkode 44.44 129 *e* P **P 13 06 04.8 +1.8**
comp=Z,26nm,0.9s,baz=128
SHLS *e* S **S 13 12 39.1 +2.3**
baz=128
SHLS Shalkode 44.44 129 *e* P **P 13 06 04.8 +1.8**
SHLS *e* S **S 13 12 39.1 +2.3**
SHLS pmax pmax
comp=Z,26nm,0.9s
D55A Sainte-Anne-du 44.46 291 P 13 06 01.9
baz=5.3
WALA Waterton Lakes 44.47 328 P **P 13 06 03.1 0.0**
TKM2 Tokmak 2 44.47 133 P **P 13 06 05.6 +2.2**
SNR=14
SATY Saty 44.48 130 *e* P **P 13 06 03.5 +0.2**
comp=Z,20nm,0.9s,baz=129
SATY *e* PP **PP 13 07 50.9 +4.0**
baz=129
SATY Saty 44.48 130 *e* P **P 13 06 03.5 +0.2**
SATY *e* 13 07 50.8
SATY pmax pmax
comp=Z,20nm,0.9s
STIP Stip 44.55 190 *i* P **P 13 06 03.8 +0.2**
SGRT San Giovanni R 44.59 197 P **P 13 06 04.7 +0.6**
DGMT Dagmar 44.65 318 P **P 13 06 04.4 0.0**
DGMT Dagmar 44.65 318 P 13 06 03.6
baz=3.9,SNR=10
AAK Ala-Archa 44.70 134 P **P 13 06 07.2 +2.2**
SNR=15
KBK Karagaybulak 44.70 134 P **P 13 06 07.6 +2.5**
SNR=10
E61A Lac Etchemin 44.72 286 P 13 06 05.8
baz=5.4

A05A Maple Falls 44.80 335 P **P 13 06 05.3 -0.3**
YSS Yuzh-Sakhalins 44.83 65 ⇑ *i* P **P 13 06 05.4 -0.4**
YSS *e** SP **sP 13 06 12.5 +1.2**
YSS *e* 13 07 49.3
YSS *e* PPP PPP 13 08 29.3
YSS *e* S **S 13 12 39.8 -2.2**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,500nm,13.0s
YSS Yuzh-Sakhalins 44.83 65 P **P 13 06 05.4 -0.4**
E60A Ste Agathe de 44.84 287 P 13 06 06.8
baz=5.4
AKH Akhalkalaki 44.87 167 P **P 13 06 09.4 +2.9**
LMN Caledonia Moun 44.90 280 P **P 13 06 07.8 +1.3**
LMN IAmb IAmb 13 06 10.5
comp=Z,32nm,1.1s
E56A St. Veronique 44.91 290 P 13 06 04.2
baz=5.3
VAY Valandovo 44.91 189 *i* P **P 13 06 07.6 +1.0**
BOOM Boomskoye usch 44.92 133 P **P 13 06 08.1 +1.2**
BOOM pmax pmax
comp=Z,53nm,0.7s
BOOM Boomskoye usch 44.92 133 P **P 13 06 08.1 +1.2**
IUG Iuzhnay 44.98 139 *e* P **P 13 06 09.5 +2.2**
baz=138
IUG Iuzhnay 44.98 139 *e* P **P 13 06 09.4 +2.2**
KNT Kendrikon 45.07 189 P **P 13 06 09.1 +1.2**
SRS Serrai 45.11 188 P **P 13 06 09.0 +0.8**
GBN Guysborough 45.12 277 P **P 13 06 09.7 +1.6**
GBN IAmb IAmb 13 06 15.8
comp=Z,28nm,1.1s
F64A Sherman 45.14 284 P 13 06 08.2
baz=5.4
AML Almayashu 45.17 135 P **P 13 06 12.0 +3.0**
SNR=10
AML Almayashu 45.17 135 *i* P **P 13 06 12.0 +3.0**
SNR=12
PGC Sidney 45.19 336 P **P 13 06 07.9 -0.7**
PGC IAmb IAmb 13 06 11.1
comp=Z,38nm,1.1s
D41A Chassel 45.23 303 P **P 13 06 10.1 +1.0**
D41A IAmb IAmb 13 06 12.6
comp=Z,43nm,1.2s
B06A Marblemount 45.26 335 P **P 13 06 09.6 +0.4**
B06A IAmb IAmb 13 06 10.9
comp=Z,19nm,1.0s
PBRG Braganca 45.28 220 *e* P **P 13 06 11.3 +1.7**
comp=Z,28nm,1.2s
ALN Alexandroupoli 45.31 186 P **P 13 06 11.5 +1.8**
ALN pmax pmax
comp=Z,54nm,1.4s
ALN Alexandroupoli 45.31 186 P **P 13 06 11.4 +1.8**
ALN IAmb IAmb 13 06 12.5
comp=Z,54nm,1.4s
EGMT Eagleton 45.34 324 P **P 13 06 09.2 -0.8**
EGMT IAmb IAmb 13 06 12.1
comp=Z,34nm,1.0s
EGMT Eagleton 45.34 324 P 13 06 08.3
baz=3.4,SNR=18
KDJ Kajisay 45.34 131 P **P 13 06 10.7 +0.5**
KDJ pmax pmax
comp=Z,34nm,1.1s
KDJ Kajisay 45.34 131 P **P 13 06 10.7 +0.5**
KDJ IAmb IAmb 13 06 21.6
comp=Z,34nm,1.1s
F63A Nahmakanta, Br 45.35 284 P 13 06 10.4
baz=5.4
B08A Colville Reser 45.35 333 P **P 13 06 09.5 -0.6**
NEW Newport 45.38 331 P **P 13 06 09.7 -0.6**
comp=Z,20nm,1.1s,baz=7.7,slow=8.0,SNR=10.0
NEW Newport 45.38 331 P **P 13 06 10.3 +0.1**
NEW pmax pmax
comp=Z,32nm,1.2s
NEW Newport 45.38 331 P **P 13 06 10.3 +0.1**
NEW IAmb IAmb 13 06 13.6
comp=Z,32nm,1.1s
NEW Newport 45.38 331 P 13 06 08.9
baz=2.8,SNR=20
FNA Florina 45.47 191 P **P 13 06 11.8 +0.7**
FNA Florina 45.47 191 P **P 13 06 11.4 +0.4**
FNA pmax pmax
comp=Z,57nm,1.0s
FNA Florina 45.47 191 P **P 13 06 11.4 +0.4**
E46A Sault Ste Mari 45.67 299 P **P 13 06 12.7 +0.2**
E46A IAmb IAmb 13 06 16.3
comp=Z,33nm,1.2s
MATE Matera 45.67 196 ⇑ P **P 13 06 13.4 +0.8**
ALGO Algonquin Park 45.69 293 P 13 06 10.1
baz=5.1
MDUB Mudurnu 45.72 180 P **P 13 06 14.2 +1.1**
G65A Princeton 45.74 283 P 13 06 12.8
baz=5.4
JTMT Jette 45.79 328 P **P 13 06 13.6 0.0**
PKME Peaks-Kenny Pk 45.80 284 P 13 06 12.6
baz=5.3
E43A Lone Tree Farm 45.82 302 P **P 13 06 13.9 +0.2**
E43A IAmb IAmb 13 06 16.4
comp=Z,35nm,1.2s
E38A The Farm, Brul 45.85 306 P **P 13 06 13.7 -0.3**
E38A IAmb IAmb 13 06 16.4
comp=Z,26nm,1.0s
C09A Chrisman Ranch 45.88 332 P **P 13 06 14.3 +0.1**
C09A IAmb IAmb 13 06 16.7
comp=Z,20nm,0.9s
G62A West of Eustis 45.92 286 P 13 06 13.1
baz=5.3
G61A St-Isidore-de- 45.93 287 P 13 06 13.6
baz=5.3
MVO Moncorvo 45.93 221 *e* P **P 13 06 16.2 +1.4**
comp=Z,15nm,0.9s
ARSB Arslanbob 45.94 136 P **P 13 06 16.5 +1.6**
ARSB Arslanbob 45.94 136 P **P 13 06 16.5 +1.6**
LIT Litokhoron 46.13 189 P **P 13 06 18.0 +1.7**
LIT pmax pmax
comp=Z,23nm,1.0s
LIT Litokhoron 46.13 189 P **P 13 06 18.0 +1.7**
LIT IAmb IAmb 13 06 18.6
comp=Z,23nm,1.0s
H66A Whiting 46.14 282 P 13 06 15.6
baz=5.3
GNI Garni 46.15 166 P **P 13 06 19.2 +2.6**
GNI Garni 46.15 166 *d i* P **P 13 06 19.2 +2.6**
GNI pmax pmax
comp=Z,20nm,1.3s
GNI Garni 46.15 166 P **P 13 06 18.7 +2.1**
GNI P **P 13 06 18.7 +2.1**
SCTE Santa Cesarea 46.22 194 P **P 13 06 17.8 +0.9**
COWI Conover 46.22 304 P **P 13 06 16.2 -0.7**
COWI IAmb IAmb 13 06 19.1
comp=Z,20nm,0.9s
G58A Ormstown 46.23 289 P 13 06 16.0
baz=5.2
G59A Clarenceville 46.24 288 P 13 06 15.4
baz=5.2,SNR=5.8
G54A Lake Saint Pet 46.24 293 P 13 06 17.8
baz=5.1
MDJ Mudanjiang 46.29 78 P **P 13 06 16.5 -0.9**
MDJ S **S 13 13 02.5 -0.6**
MDJ ScS **ScS 13 16 10.8 -0.4**
MDJ pmax pmax
comp=Z,44nm,1.3s
MDJ pmax pmax
comp=Z,230nm,3.8s
MDJ L L
comp=Z,220nm,6.1s
MDJ L L
comp=Z,180nm,4.3s
MDJ L L
comp=Z,340nm,14.4s
MDJ Mudanjiang 46.29 78 P **P 13 06 16.7 -0.7**
D03D Eldon 46.29 336 P 13 06 18.0
baz=2.3
ANTO Ankara 46.32 178 P **P 13 06 18.7 +0.9**
ANTO pmax pmax
comp=Z,61nm,0.7s
ANTO Ankara 46.32 178 P **P 13 06 18.7 +0.9**
BR231 Keskin MP Arra 46.34 178 P **P 13 06 19.6 +1.5**
E28A Huff 46.37 315 P **P 13 06 17.7 -0.4**
NLWA Neilton Lookou 46.46 337 P **P 13 06 19.4 +0.7**
BR131 Keskin Array S 46.46 177 P **P 13 06 21.0 +2.0**
BR131 pmax pmax
comp=Z,29nm,1.2s
BR131 Keskin Array S 46.46 177 P **P 13 06 20.9 +2.0**
BR131 IAmb IAmb 13 06 22.2
comp=Z,29nm,1.1s
BR131 Keskin Array S 46.46 177 P **P 13 06 21.0 +2.0**
SNR=16
BRTR Keskin Array B 46.46 177 P **P 13 06 20.9 +1.8**
comp=Z,9.3nm,1.0s,baz=358,slow=4.0,SNR=43
BRTR PcP **PcP 13 07 53.5 +0.1**
comp=Z,3.7nm,0.9s,baz=35,slow=2.3,SNR=3.9
BRTR LR LR 13 29 31.1
comp=Z,260nm,18.2s,baz=360,slow=41
BRTR Keskin Array B 46.46 177 *ce* P **P 13 06 20.8 +1.8**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 46.46 177 P **P 13 06 20.1 +1.1**
F42A Maple Grove Fa 46.50 303 P **P 13 06 18.6 -0.5**
F42A IAmb IAmb 13 06 21.8
comp=Z,38nm,1.2s
LAO LASA Array 46.52 320 P **P 13 06 19.4 +0.1**
LAO LASA Array 46.52 320 P 13 06 18.8
baz=3.6,SNR=38
D05A Enumclaw 46.61 335 P **P 13 06 19.8 -0.1**
D08A Wollman Farm, 46.64 332 P **P 13 06 20.9 +0.8**
THL Klokotos Trika 46.68 190 P **P 13 06 20.8 +0.3**
MSO Missoula 46.70 327 P **P 13 06 20.5 -0.2**
MSO Missoula 46.70 327 P 13 06 19.9
baz=3.0,SNR=44
H59A Cadyville 46.71 289 P 13 06 20.5
baz=5.2
F36A Milaca 46.71 308 P **P 13 06 21.7 +1.0**
F36A IAmb IAmb 13 06 22.8
comp=Z,15nm,1.0s
HRY Holter Researc 46.73 325 P **P 13 06 20.2 -0.8**
CN2 Changchun 46.81 82 *e* P **P 13 06 21.0 -0.5**
CN2 *e* S **S 13 13 08.9 -1.8**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 L L
comp=Z,200nm,14.0s
CN2 L L
comp=Z,200nm,14.0s
CN2 L L
comp=Z,200nm,16.0s
USA0B Ussuriysk Arra 46.87 76 P **P 13 06 21.0 -0.9**
USA0B pmax pmax
comp=Z,16nm,1.0s
USA0B Ussuriysk Arra 46.87 76 P **P 13 06 21.0 -0.9**
USA0B IAmb IAmb 13 06 22.0
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 46.87 76 P **P 13 06 20.7 -1.2**
comp=Z,9.8nm,0.9s,baz=352,slow=7.2,SNR=15
USRK PcP **PcP 13 07 53.9 -0.5**
comp=Z,4.7nm,0.9s,baz=332,slow=2.8,SNR=5.0
USRK Ussuriysk Ar. 46.87 76 P **P 13 06 21.0 -0.9**
F33A 5 Mile Ranch, 46.88 311 P **P 13 06 21.7 -0.3**
VSL Villasalto 46.99 203 P **P 13 06 23.9 +0.9**
LON Longmire 47.04 335 P **P 13 06 23.2 -0.2**
LON pmax pmax
comp=Z,67nm,1.5s
LON Longmire 47.04 335 P **P 13 06 23.2 -0.2**
BTK Batken 47.09 138 P **P 13 06 24.5 +0.6**
BTK pmax pmax
comp=Z,29nm,1.0s
BTK Batken 47.09 138 P **P 13 06 24.5 +0.6**
BTK IAmb IAmb 13 06 27.1
comp=Z,29nm,1.0s
PCAS Casmilo, Conde 47.11 222 *e* P **P 13 06 25.6 +1.7**
comp=Z,28nm,1.4s
G40A Rib Lake 47.11 305 P **P 13 06 24.0 +0.1**
G40A IAmb IAmb 13 06 26.4
comp=Z,20nm,1.1s
TIP Timpagrande 47.14 195 ⇑ P **P 13 06 25.6 +1.4**
TIP Timpagrande 47.14 195 P **P 13 06 25.4 +1.2**
E09A Wood Farm, Sta 47.16 331 P **P 13 06 24.6 +0.4**
E07A Sunnyside 47.17 333 P **P 13 06 24.2 -0.1**
E07A IAmb IAmb 13 06 26.8
comp=Z,24nm,1.0s
E08A Dider Farm, El 47.21 332 P **P 13 06 24.8 +0.1**
E08A IAmb IAmb 13 06 27.3
comp=Z,20nm,1.1s
MAKR Makrakomi, Fth 47.23 190 P **P 13 06 26.1 +1.2**
E04D Cinebar 47.26 336 P 13 06 22.7
baz=2.3,SNR=14
PCBR Castelo Branco 47.27 221 *e* P **P 13 06 27.1 +1.9**
comp=Z,29nm,1.6s
ESBB Sonseca Array 47.28 217 P **P 13 06 26.3 +1.0**
ESDC Sonseca Array 47.29 217 P **P 13 06 26.4 +1.0**
comp=Z,8.7nm,1.0s,baz=2.1,slow=8.2,SNR=39
ESDC LR LR 13 24 58.3
comp=Z,172nm,18.0s,baz=15,slow=34
ESDC Sonseca Array 47.29 217 P **P 13 06 26.4 +1.0**
SPMN Marine on St. 47.30 307 P **P 13 06 25.1 -0.3**
SPMN IAmb IAmb 13 06 28.5
comp=Z,24nm,1.1s
SPMN Marine on St. 47.30 307 P 13 06 24.3
baz=1.4
I61A Oroboro, Fairl 47.32 287 P 13 06 24.5
baz=5.2
EVR Evrytania 47.33 190 P **P 13 06 26.9 +1.2**
HAWA Hanford 47.33 333 P **P 13 06 25.0 -0.5**
HAWA IAmb IAmb 13 06 28.2
comp=Z,23nm,1.0s
PAB San Pablo 47.43 218 P **P 13 06 27.7 +1.2**
PAB pmax pmax
comp=Z,30nm,1.2s
PAB San Pablo 47.43 218 P **P 13 06 27.7 +1.2**
PAB IAmb IAmb 13 06 29.2
comp=Z,30nm,1.1s
LKD2 Lefkada island 47.47 191 P **P 13 06 27.6 +0.9**
I60A Shoreham 47.48 288 P 13 06 25.5
baz=5.1
ATAL Atalanti 47.53 189 P **P 13 06 28.0 +0.8**
I57A Carthage 47.54 290 P 13 06 26.5
baz=5.1
GCMT Greycliff 47.56 323 P **P 13 06 27.4 -0.1**
LRM Limekiln Ridge 47.64 326 P **P 13 06 27.8 -0.5**
ASAJ Asahikawa 47.65 65 P **P 13 06 25.4 -2.6**
comp=Z,20nm,1.1s,baz=298,slow=8.2,SNR=4.0
ASAJ LR LR 13 27 27.4
comp=Z,256nm,19.1s,baz=348,slow=37
ANX Ano Chora 47.65 190 P **P 13 06 29.2 +1.0**
PMRV Marv??o 47.68 221 *e* P **P 13 06 30.1 +1.7**
comp=Z,34nm,1.1s
MANT Manisa 47.70 183 P **P 13 06 30.0 +1.2**
DRK Karamyk 47.72 137 P **P 13 06 30.1 +1.1**
I58A Old Forge 47.74 290 P 13 06 28.8
baz=5.1
H43A Windswept, Lux 47.77 302 P **P 13 06 30.1 +1.1**
EFP Efpalio 47.81 190 P **P 13 06 31.1 +1.7**
CHOS Chios island 47.81 186 P **P 13 06 26.5 -3.0**
F07A Phinny Hill Vi 47.84 333 P **P 13 06 28.1 -1.3**
F07A IAmb IAmb 13 06 33.6
comp=Z,16nm,0.9s
KSH Kashi 47.89 133 P **P 13 06 34.3 +4.2**
KSH pP pwP 13 06 39.1 +0.5
KSH PP **PP 13 08 26.8 +5.1**
KSH S **S 13 13 29.4 +3.1**
KSH pmax pmax
comp=Z,15nm,0.4s
KSH pmax pmax
comp=Z,240nm,4.1s
KSH L L
comp=Z,2µm,17.5s
KSH L L
comp=Z,740nm,15.6s
KSH L L
comp=Z,810nm,17.8s
J63A Strafford 47.89 286 P 13 06 30.3
baz=5.1
F05D White Salmon 47.89 334 P 13 06 29.8
baz=2.4
J59A Piesco 47.94 289 P 13 06 28.3
baz=5.0
LAKA Lakka 48.00 190 P **P 13 06 32.4 +1.5**
PMTG Montargil 48.08 222 *e* P **P 13 06 32.7 +1.3**
comp=Z,35nm,1.4s
VLS Valsamata 48.08 191 P **P 13 06 32.3 +0.8**
J60A Lant Hill Farm 48.08 288 P 13 06 31.3
baz=5.1
J57A Williamstown 48.09 291 P 13 06 31.0
baz=5.0
DLMT Dillon 48.11 326 P **P 13 06 31.4 -0.4**
DLMT IAmb IAmb 13 06 34.9
comp=Z,22nm,1.1s
GAR Garm 48.13 139 P **P 13 06 33.8 +1.9**

PSDA Pessada-Kefalo 48.14 191 P **P** **13 06 32.9 +1.0**
RLS Riolos of Patr 48.19 190 P **P** **13 06 33.8 +1.5**
KLV Kalavryta, Ach 48.19 190 P **P** **13 06 33.1 +0.7**
RLMT Red Lodge 48.21 323 P **P** **13 06 32.5 -0.2**
RLMT IAmb IAmb 13 06 35.1
comp=Z,17nm,1.1s
RLMT Red Lodge 48.22 323 P 13 06 30.6
baz=3.3,SNR=9.1
PESTR Estremoz 48.25 221 *e*P **P** **13 06 34.2 +1.4**
comp=Z,34nm,1.1s
PESTR Estremoz 48.25 221 P **P** **13 06 33.4 +0.6**
PESTR IAmb IAmb 13 06 35.8
comp=Z,20nm,1.4s
DRO Drossia 48.29 190 P **P** **13 06 34.7 +1.6**
YNE Yellowstone No 48.36 324 P **P** **13 06 33.4 -0.5**
VLMS Volimes, Zakyn 48.38 191 P **P** **13 06 34.5 +0.7**
G08A Pilot Rock 48.41 332 P **P** **13 06 34.3 +0.3**
G08A IAmb IAmb 13 06 37.4
comp=Z,32nm,1.1s
I42A Draeger Farm, 48.41 303 P **P** **13 06 33.8 -0.2**
I42A IAmb IAmb 13 06 36.7
comp=Z,21nm,1.0s
SUSD Miller 48.41 313 P **P** **13 06 33.9 -0.1**
SUSD Miller 48.41 313 P 13 06 32.8
baz=4.0,SNR=5.3
CHGR Chuyangaron 48.42 140 P **P** **13 06 35.6 +1.5**
I40A Norwalk 48.51 305 P **P** **13 06 34.7 0.0**
I37A Lemond, Waseca 48.54 308 P **P** **13 06 35.0 0.0**
YHL Hebgen Lake 48.56 325 P **P** **13 06 35.2 -0.3**
QLMT Earthquake Lak 48.59 325 P **P** **13 06 35.4 -0.2**
YHH Holmes Hill 48.61 324 P **P** **13 06 35.5 -0.3**
G03D McMinnville, O 48.62 336 P 13 06 34.6
baz=2.2
YMP Mirror Lake Pl 48.63 324 P **P** **13 06 35.7 -0.3**
YMP IAmb IAmb 13 06 38.7
comp=Z,32nm,1.1s
MCMT McKenzie Canyo 48.65 326 P **P** **13 06 35.8 -0.3**
YHB Horse Butte 48.66 325 P **P** **13 06 35.9 -0.2**
YNR Norris Junctio 48.68 324 P **P** **13 06 37.5 +1.2**
YNR IAmb IAmb 13 06 42.3
comp=Z,20nm,0.9s
AMT Artemida-Makis 48.71 190 P **P** **13 06 37.8 +1.5**
GEYT Alibeck 48.71 152 P **P** **13 06 38.5 +2.1**
comp=Z,24nm,0.9s,baz=288,slow=7.2,SNR=27
GEYT LR LR 13 30 42.6
comp=Z,272nm,21.1s,baz=5.0,slow=40
GEYT Alibeck 48.71 152 P **P** **13 06 38.0 +1.6**
GYA0B ALIBECK ARRAY 48.71 152 P **P** **13 06 38.4 +2.1**
YMR Madison River 48.74 324 P **P** **13 06 36.7 0.0**
YMR IAmb IAmb 13 06 44.7
comp=Z,26nm,1.1s
HHC Hu-ho-hao-te 48.78 96 *e*P **P** **13 06 36.1 -0.9**
HHC S **S** **13 13 36.7 -2.2**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,160nm,6.0s
HHC L L
comp=Z,380nm,15.3s
HHC L L
comp=Z,350nm,16.2s
HHC L L
comp=Z,400nm,17.0s
BMO Blue Mountains 48.79 330 P **P** **13 06 37.7 +0.7**
BMO pmax pmax
comp=Z,20nm,1.2s
BMO Blue Mountains 48.79 330 P **P** **13 06 37.7 +0.7**
BMO IAmb IAmb 13 06 47.1
comp=Z,20nm,1.2s
CLTB Caltabellotta 48.81 199 P **P** **13 06 37.8 +0.5**
L61B Northampton 48.83 287 P 13 06 37.3
baz=5.0
PBAR Barrancos 48.91 220 *e*P **P** **13 06 39.3 +1.4**
comp=Z,25nm,1.2s
RSSD Black Hills 48.98 318 P **P** **13 06 38.2 -0.4**
RSSD pmax pmax
comp=Z,68nm,0.9s
RSSD Black Hills 48.98 318 P **P** **13 06 38.2 -0.4**
RSSD Black Hills 48.98 318 P 13 06 38.4
baz=3.6
H17A Grant Village 48.99 324 P **P** **13 06 40.0 +1.2**
H17A IAmb IAmb 13 06 43.5
comp=Z,27nm,0.9s
ECSD EROS Data Cent 48.99 311 P **P** **13 06 38.2 -0.3**
H17A Grant Village 48.99 324 P 13 06 38.5
baz=3.2,SNR=25
ECSD EROS Data Cent 49.00 311 P 13 06 37.6
baz=4.1,SNR=52
ITM Ithomi 49.06 190 P **P** **13 06 39.7 +0.7**
ITM Ithomi 49.06 190 P **P** **13 06 39.6 +0.7**
H04A Detroit Lake 49.12 335 P **P** **13 06 40.0 +0.6**
H04A IAmb IAmb 13 06 42.0
comp=Z,24nm,1.2s
YPP Pitchstone Pla 49.13 324 P **P** **13 06 41.0 +1.2**
APE Apeiranthos 49.13 186 ⇓P **P** **13 06 39.7 +0.1**
K50A Casco 49.14 297 P **P** **13 06 40.5 +1.0**
RAFF Raffo Rosso 49.14 198 P **P** **13 06 40.3 +0.6**
RAFF IAmb IAmb 13 06 43.0
comp=Z,28nm,1.1s
H04D Lebanon 49.29 336 P 13 06 39.3
baz=2.2,SNR=7.5
FLWY Flagg Ranch 49.31 324 P **P** **13 06 41.5 +0.4**
L63A North Scituate 49.34 286 P 13 06 41.2
baz=5.0
GTA Gaotai 49.42 108 ⇓P **P** **13 06 42.1 +0.2**
GTA pP sP 13 06 46.6 -0.6
GTA sP pwP 13 06 49.8 -1.6
GTA PcP **PcP** **13 08 03.2 -0.7**
GTA PP **PP** **13 08 37.9 +2.3**
GTA S **S** **13 13 49.0 +1.1**
GTA sS sS 13 13 55.1 +0.5
GTA SS **SS** **13 17 12.9 -6.1**
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,170nm,6.0s
GTA L L
comp=Z,1μm,20.7s
GTA L L
comp=Z,560nm,19.6s
GTA L L
comp=Z,1μm,22.5s
I05D Terrebonne, OR 49.44 334 P 13 06 40.4
baz=2.3,SNR=9.0
L58A Harry Jones Me 49.44 290 P 13 06 42.7
baz=4.9
L56A Greenwood 49.46 292 P 13 06 43.3
baz=4.8
JFWS Jewell Farm 49.46 305 P **P** **13 06 42.9 +0.9**
JFWS pmax pmax
comp=Z,25nm,1.0s
JFWS Jewell Farm 49.46 305 P **P** **13 06 42.9 +0.9**
JFWS IAmb IAmb 13 06 44.4
comp=Z,25nm,1.0s
JFWS Jewell Farm 49.46 305 P 13 06 41.6
baz=4.4
I07A Izee 49.63 332 P **P** **13 06 43.1 -0.4**
I07A IAmb IAmb 13 06 54.4
comp=Z,22nm,1.2s
MOOW Moose Ponds 49.65 324 P **P** **13 06 43.9 +0.2**
ERM Erimo 49.77 65 *ce*P **P** **13 06 42.7 -1.6**
ERM pmax pmax
comp=Z,40nm,1.3s
ERM Erimo 49.77 65 P **P** **13 06 43.4 -0.9**
ERM IAmb IAmb 13 06 51.6
comp=Z,33nm,0.8s
LOHW Long Hollow 49.78 324 P **P** **13 06 44.7 0.0**
LOHW IAmb IAmb 13 06 47.7
comp=Z,20nm,1.0s
PBDV Barranco-do-Ve 49.88 221 *e*P **P** **13 06 48.2 +2.9**
BJI Beijing 49.91 92 P **P** **13 06 43.6 -1.8**
BJI S **S** **13 13 53.7 -0.7**
BJI SS **SS** **13 17 26.7 +0.1**
BJI pmax pmax
comp=Z,9.0nm,0.9s
BJI pmax pmax
comp=Z,260nm,4.6s
BJI L L
comp=Z,140nm,26.5s
BJI L L
comp=Z,170nm,15.1s
BJI L L
comp=Z,470nm,46.4s
TPAW Teton Pass 49.91 324 P **P** **13 06 46.1 +0.4**
TPAW IAmb IAmb 13 06 59.4
comp=Z,25nm,1.3s
SNOW Snow King Moun 49.93 324 P **P** **13 06 46.3 +0.4**
SNOW IAmb IAmb 13 06 49.1
comp=Z,24nm,1.2s
PINE Pine Mountain 49.97 334 P **P** **13 06 46.9 +0.8**
PINE IAmb IAmb 13 06 50.0
comp=Z,24nm,1.1s
HLID Hailey 49.98 328 P **P** **13 06 45.3 -0.8**
HLID Hailey 49.98 328 P 13 06 44.5
baz=2.9,SNR=19
I04A Tendick Farm, 50.01 335 P 13 06 45.3
baz=2.2
REDW Red Top Meadow 50.04 324 P **P** **13 06 46.2 -0.4**
I03D Drain, OR 50.14 336 P 13 06 46.0
baz=2.1
MFID Camas Ranch 50.17 329 P **P** **13 06 47.2 -0.3**
MFID IAmb IAmb 13 06 50.5
comp=Z,20nm,1.1s
M55A Ridgway 50.20 293 P **P** **13 06 49.0 +1.4**
M55A IAmb IAmb 13 06 52.7
comp=Z,27nm,1.2s
M54A Oil Creek Stat 50.22 294 P 13 06 48.1
baz=4.7
J08A Circle Bar Ran 50.32 331 P **P** **13 06 48.8 +0.1**
J08A IAmb IAmb 13 06 52.5
comp=Z,22nm,1.0s
L42A Oliver, Polo 50.33 304 P **P** **13 06 49.5 +0.9**
L42A IAmb IAmb 13 06 51.5
comp=Z,41nm,1.0s
L40A Anamosa 50.36 305 P **P** **13 06 49.1 +0.2**
L40A IAmb IAmb 13 06 51.6
comp=Z,47nm,1.2s
J04D Umpqua Nationa 50.56 335 P 13 06 48.6
baz=2.2,SNR=9.7
K22A Casper 50.56 320 P **P** **13 06 49.8 -0.8**
K22A Casper 50.56 320 P 13 06 49.1
baz=3.4,SNR=52
BW06 Boulder Array 50.58 323 P **P** **13 06 49.9 -0.9**
BW06 IAmb IAmb 13 06 53.0
comp=Z,33nm,1.0s
PD31 Pinedale Array 50.58 323 P **P** **13 06 49.5 -1.3**
PD31 IAmb IAmb 13 06 53.0
comp=Z,32nm,1.1s
PDAR Pinedale Array 50.58 323 P **P** **13 06 49.9 -0.9**
comp=Z,22nm,0.9s,baz=7.4,slow=4.6,SNR=58
PDAR LR LR 13 27 13.0
comp=Z,156nm,21.8s,baz=2.5,slow=35
PDAR Pinedale Array 50.58 323 P **P** **13 06 49.7 -1.1**
BW06 Boulder Array 50.58 323 P 13 06 49.2
baz=3.2,SNR=40
SCIA State Center 50.63 307 P **P** **13 06 50.2 -0.6**
SCIA IAmb IAmb 13 06 53.3
comp=Z,31nm,1.1s
SCIA State Center 50.63 307 P 13 06 50.7
baz=4.1
AHID Auburn Hatcher 50.64 324 P **P** **13 06 50.2 -1.1**
J01E Myrtle Point 50.69 337 P 13 06 50.7
baz=2.1
KEST Kesra 50.75 203 P **P** **13 06 53.2 +1.3**
comp=Z,69nm,1.0s,baz=297,slow=2.2,SNR=42
KEST LR LR 13 28 25.2
comp=Z,95nm,19.2s,baz=335,slow=36
KEST Kesra 50.75 203 P **P** **13 06 53.4 +1.4**
KEST Kesra 50.75 203 P **P** **13 06 53.8 +1.8**
SNR=22
N54A Moraine State 50.78 294 P 13 06 51.8
baz=4.7
JTM Tenmabayashi 50.86 67 P **P** **13 06 51.2 -1.4**
JTM IAmb IAmb 13 07 00.5
comp=Z,35nm,1.0s
K05A Summer Lake 51.03 334 P **P** **13 06 54.9 +0.7**
N49A Columbus Grove 51.08 298 P **P** **13 06 54.8 +0.5**
N49A IAmb IAmb 13 06 57.3
comp=Z,37nm,1.2s
K02D Willamette Mer 51.15 336 P 13 06 53.7
baz=2.1,SNR=10
HUMO Hull Mountain 51.21 336 P **P** **13 06 55.4 +0.1**
HUMO IAmb IAmb 13 06 58.7
comp=Z,32nm,1.3s
N47A Urbana 51.22 300 P **P** **13 06 55.4 +0.1**
N47A IAmb IAmb 13 06 58.4
comp=Z,30nm,1.1s
WVOR Wild Horse Val 51.25 332 P **P** **13 06 55.8 +0.1**
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR Wild Horse Val 51.25 332 P **P** **13 06 55.8 +0.1**
WVOR IAmb IAmb 13 06 58.9
comp=Z,22nm,1.1s
O56A Blue Knob Stat 51.38 293 P **P** **13 06 57.8 +1.1**
O56A Blue Knob Stat 51.38 293 P 13 06 56.6
baz=4.7
BGNE Belgrade 51.39 312 P **P** **13 06 56.8 +0.1**
BGNE Belgrade 51.40 312 P 13 06 55.9
baz=3.8
RWWY Rawlins 51.55 321 P **P** **13 06 57.2 -0.9**
O53A New Philadelph 51.57 295 P **P** **13 06 58.3 +0.3**
O53A IAmb IAmb 13 07 01.2
comp=Z,48nm,1.4s
O53A New Philadelph 51.57 295 P 13 06 59.0
baz=4.6
O54A Avella 51.58 295 P **P** **13 06 58.6 +0.5**
O54A IAmb IAmb 13 07 07.0
comp=Z,26nm,1.2s
L04D Klamath Falls 51.58 335 P 13 06 57.2
baz=2.2,SNR=8.7
L02E Cave Junction 51.68 336 P 13 06 58.2
baz=2.1
HVU Hansel Valley 51.69 326 P **P** **13 06 58.7 -0.4**
HVU pmax pmax
comp=Z,24nm,0.9s
HVU Hansel Valley 51.69 326 P **P** **13 06 58.7 -0.4**
HVU IAmb IAmb 13 07 01.6
comp=Z,24nm,0.9s
ACSO Alum Creek Sta 51.70 297 P **P** **13 07 00.1 +1.2**
ACSO IAmb IAmb 13 07 02.4
comp=Z,44nm,1.4s
ACSO Alum Creek Sta 51.70 297 P 13 06 59.4
baz=4.5
O52A Adamsville 51.74 296 P **P** **13 07 00.6 +1.4**
O52A IAmb IAmb 13 07 02.7
comp=Z,46nm,1.4s
HDIL Hopedale 51.76 303 P 13 06 58.7
baz=4.3
SFIN Lafayette 51.80 301 P **P** **13 06 59.7 +0.1**
SFIN IAmb IAmb 13 07 02.8
comp=Z,22nm,1.1s
SFIN Lafayette 51.80 301 P 13 07 00.1
baz=4.4
N35A Tabor 51.81 309 P **P** **13 06 58.8 -0.9**
HWUT Hardware Ranch 51.82 325 P **P** **13 06 59.6 -0.4**
HWUT IAmb IAmb 13 07 02.5
comp=Z,38nm,0.9s
O49A Covington 51.82 299 P **P** **13 07 00.1 +0.2**
O49A IAmb IAmb 13 07 02.6
comp=Z,55nm,1.4s
MOD Modoc Plateau 51.84 333 P **P** **13 06 59.9 -0.2**
MOD IAmb IAmb 13 07 03.8
comp=Z,22nm,1.1s
PHWY Pilot Hill 51.86 319 P **P** **13 06 60.0 -0.5**
PHWY IAmb IAmb 13 07 03.3
comp=Z,39nm,1.2s
TIY Taiyuan 51.96 96 *e*P **P** **13 07 02.6 +1.6**
TIY S **S** **13 14 25.1 +2.0**
TIY SS **SS** **13 18 00.8 +1.4**
TIY pmax pmax
comp=Z,11nm,0.4s
TIY L L
comp=Z,260nm,13.6s
TIY L L
comp=Z,190nm,8.6s
TIY L L
comp=Z,340nm,18.1s
M04C Macdoel 52.00 335 P 13 07 00.5
baz=2.2,SNR=14
OGNE Ogallala 52.05 316 P **P** **13 07 01.5 -0.2**
OGNE Ogallala 52.05 316 P 13 07 00.9
baz=3.6,SNR=7.2
YBH Yreka Blue Hor 52.08 335 P **P** **13 07 01.0 -0.8**
comp=Z,2.4nm,0.9s,baz=49,slow=3.7,SNR=7.5
YBH Yreka Blue Hor 52.08 335 P **P** **13 07 01.1 -0.8**
YBH pmax pmax
comp=Z,9.0nm,1.2s
YBH Yreka Blue Hor 52.08 335 P **P** **13 07 01.1 -0.8**
N23A Red Feather La 52.29 319 P 13 07 02.3
baz=3.3,SNR=44
KRMB Red Mountain 52.32 337 P **P** **13 07 03.3 -0.4**
KRMB IAmb IAmb 13 07 08.2
comp=Z,36nm,1.4s
P53A Whipple 52.34 296 P **P** **13 07 03.8 +0.1**
P53A IAmb IAmb 13 07 06.8
comp=Z,26nm,1.1s
HRA Herat 52.39 147 P **P** **13 07 06.2 +1.8**
HRA IAmb IAmb 13 07 07.6
comp=Z,31nm,1.4s
M02C Callahan 52.42 336 P 13 07 02.8
baz=2.1,SNR=12
P49A Miami Univ. Ec 52.50 299 P **P** **13 07 05.0 +0.1**
P49A IAmb IAmb 13 07 07.8
comp=Z,30nm,1.3s
P49A Miami Univ. Ec 52.50 299 P 13 07 04.6
baz=4.4
KBL Kabul 52.51 140 P **P** **13 07 05.8 +0.5**
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 52.51 140 P **P** **13 07 05.8 +0.5**
KBL IAmb IAmb 13 07 07.4
comp=Z,33nm,0.8s
KBL Kabul 52.51 140 P **P** **13 07 06.4 +1.1**
SNR=15
KBL P **P** **13 07 06.4 +1.1**
SNR=15
BGU Big Grassy Mou 52.55 326 P **P** **13 07 05.1 -0.3**
BGU IAmb IAmb 13 07 08.8
comp=Z,36nm,1.2s
P48A Milroy 52.62 299 P **P** **13 07 05.4 -0.4**
P48A IAmb IAmb 13 07 08.6
comp=Z,58nm,1.4s
CTU Camp Tracy 52.74 325 P **P** **13 07 06.5 -0.4**
RDMU Red Mountain 52.77 323 P **P** **13 07 07.1 0.0**
RDMU IAmb IAmb 13 07 09.6
comp=Z,43nm,1.3s
Q54A Coxs Mills 52.80 295 P **P** **13 07 07.5 +0.3**
JLU Jordanelle 52.81 325 P **P** **13 07 07.5 0.0**
ELK Elko 52.82 328 P **P** **13 07 07.7 +0.2**
ELK pmax pmax
comp=Z,18nm,1.5s
ELK Elko 52.82 328 P **P** **13 07 07.7 +0.2**
N02D Trinity Center 52.84 335 P 13 07 05.5
baz=2.1
Q52A Bidwell 52.92 296 P **P** **13 07 07.4 -0.5**
Q52A IAmb IAmb 13 07 11.1
comp=Z,25nm,1.1s
Q51A Peebles 52.92 297 P **P** **13 07 08.9 +0.9**
Q51A IAmb IAmb 13 07 10.4
comp=Z,26nm,1.2s
P38A Dawn 52.92 307 P **P** **13 07 07.6 -0.4**
P40A Paris 52.93 306 P **P** **13 07 08.1 0.0**
KHMM Horse Mountain 52.96 336 P **P** **13 07 08.9 +0.4**
KHMM IAmb IAmb 13 07 12.9
comp=Z,33nm,1.4s
LZH Lanzhou 52.99 105 ⇑P **P** **13 07 10.3 +1.5**
LZH pP pP 13 07 13.3 +0.7
LZH sP sP 13 07 15.1 +0.9
LZH PP **PP** **13 09 10.7 +2.6**
LZH S **S** **13 14 38.0 +0.6**
LZH SS **SS** **13 18 18.4 +2.5**
LZH pmax pmax
comp=Z,43nm,1.1s
LZH pmax pmax
comp=Z,210nm,6.0s
LZH L L
comp=Z,570nm,15.4s
LZH L L
comp=Z,530nm,15.6s
LZH L L
comp=Z,530nm,17.4s
O20A White River Ci 53.15 322 P **P** **13 07 09.3 -0.6**
O20A IAmb IAmb 13 07 12.4
comp=Z,28nm,1.0s
O20A White River Ci 53.15 322 P 13 07 07.4
baz=3.1,SNR=14
WDC Whiskeytown Da 53.22 335 P **P** **13 07 10.0 -0.2**
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC Whiskeytown Da 53.22 335 P **P** **13 07 10.0 -0.2**
KS19 Wonju Array Si 53.25 80 P **P** **13 07 10.2 -0.2**
DUG Dugway, Tooele 53.27 326 P **P** **13 07 10.4 -0.4**
DUG pmax pmax
comp=Z,18nm,0.9s
DUG Dugway, Tooele 53.27 326 P **P** **13 07 10.4 -0.4**
DUG IAmb IAmb 13 07 13.4
comp=Z,18nm,0.9s
DUG Dugway, Tooele 53.28 326 P 13 07 09.2
baz=2.8,SNR=16
KSRS Korea Array 53.30 80 P **P** **13 07 10.0 -0.8**
comp=Z,12nm,0.9s,baz=355,slow=6.9,SNR=39
KSRS LR LR 13 29 12.8
comp=Z,187nm,21.7s,baz=4.0,slow=35
KSAR Wonju Array Be 53.31 80 P **P** **13 07 09.6 -1.3**
KSAR Wonju Array Be 53.31 80 P **P** **13 07 09.6 -1.3**
ISCO Idaho Springs 53.36 319 P **P** **13 07 11.1 -0.5**
ISCO pmax pmax
comp=Z,37nm,1.0s
ISCO Idaho Springs 53.36 319 P **P** **13 07 11.1 -0.5**
ISCO IAmb IAmb 13 07 14.5
comp=Z,37nm,0.9s
ISCO Idaho Springs 53.36 319 P 13 07 09.8
baz=3.3,SNR=41
JSD Sado 53.42 70 P **P** **13 07 10.7 -1.0**
JSD IAmb IAmb 13 07 11.5
comp=Z,35nm,1.0s
R55A Marlinton 53.46 294 P **P** **13 07 12.9 +0.9**
O03E Paynes Creek 53.49 334 P 13 07 10.9
baz=2.2,SNR=20
R53A Hurricane 53.52 296 P **P** **13 07 12.6 +0.1**
R53A IAmb IAmb 13 07 15.4
comp=Z,26nm,1.2s
NIL Nilore 53.59 136 P **P** **13 07 14.1 +1.0**
NIL pmax pmax
comp=Z,52nm,1.0s
NIL Nilore 53.59 136 P **P** **13 07 14.1 +1.0**
KSU1 Kansas State U 53.61 310 P **P** **13 07 13.9 +0.8**
KSU1 IAmb IAmb 13 07 14.8
comp=Z,28nm,0.8s
KSU1 Kansas State U 53.61 310 P 13 07 11.6
baz=3.8
O02D Mt. Diablo Mer 53.63 335 P 13 07 12.4
baz=2.1,SNR=8.7
R50A Paris 53.72 298 P **P** **13 07 14.4 +0.5**
JMM Marumori 53.75 68 P **P** **13 07 12.7 -1.4**
R49A Shelbyville 53.76 299 P **P** **13 07 13.8 -0.4**
R49A IAmb IAmb 13 07 17.2
comp=Z,34nm,1.3s
TIA Tai'an 53.78 91 P **P** **13 07 14.7 +0.3**
TIA S **S** **13 14 49.0 +1.2**
TIA pmax pmax
comp=Z,31nm,0.9s
TIA pmax pmax
comp=Z,160nm,3.6s
TIA L L
comp=Z,230nm,15.7s
TIA L L
comp=Z,140nm,11.8s
TIA L L
comp=Z,370nm,15.7s
BEKR Beckworth 53.87 333 P **P** **13 07 14.9 -0.2**
BEKR IAmb IAmb 13 07 18.2
comp=Z,21nm,1.2s
S57A Dark Hollow, R 53.90 293 P **P** **13 07 15.8 +0.6**
P17A Butcher Ranch, 53.91 324 P **P** **13 07 15.1 -0.4**
P17A IAmb IAmb 13 07 18.8
comp=Z,34nm,1.1s
PAHR Pah Rah Range 54.00 332 P **P** **13 07 16.5 +0.4**
PAHR IAmb IAmb 13 07 19.5
comp=Z,22nm,1.3s
KSCO Kaye Shedlock' 54.01 316 P **P** **13 07 15.9 -0.3**
KSCO Kaye Shedlock' 54.01 316 P 13 07 15.1
baz=3.5,SNR=6.2
SMCO Snowmass 54.04 320 P **P** **13 07 17.0 +0.2**
SMCO IAmb IAmb 13 07 19.7
comp=Z,39nm,1.1s
CBKS Cedar Bluff 54.06 313 P **P** **13 07 17.2 +0.8**
CBKS pmax pmax
comp=Z,45nm,1.1s
CBKS Cedar Bluff 54.06 313 P **P** **13 07 17.2 +0.8**
CBKS Cedar Bluff 54.06 313 P 13 07 15.7
baz=3.6
KCPM Cahto Peak 54.15 336 P **P** **13 07 17.6 +0.4**
KCPM IAmb IAmb 13 07 21.4
comp=Z,22nm,1.0s
Q24A Divide 54.17 318 P 13 07 16.2

baz=3.3,SNR=10
R40A Maddies Statio 54.18 306 P **P** **13 07 17.2 0.0**
ORV Oroville 54.22 334 P **P** **13 07 16.6 -0.9**
ORV pmax pmax
comp=Z,7.0nm,1.2s
ORV Oroville 54.22 334 P **P** **13 07 16.6 -0.9**
SRU San Rafael Swe 54.26 324 P **P** **13 07 17.3 -0.8**
SRU pmax pmax
comp=Z,21nm,1.0s
SRU San Rafael Swe 54.26 324 P **P** **13 07 17.3 -0.8**
SRU IAmb IAmb 13 07 20.3
comp=Z,22nm,1.0s
TJN Taejon 54.33 81*de*P **P** **13 07 18.9 +0.6**
R32A Long Quarter, 54.40 312 P **P** **13 07 18.8 -0.1**
VCNR Virginia City 54.42 332 P **P** **13 07 19.6 +0.4**
SPR3 Spring Creek 3 54.53 327 P **P** **13 07 21.1 +0.9**
SPR3 IAmb IAmb 13 07 24.8
comp=Z,42nm,1.3s
BLA Blacksburg 54.54 294 P **P** **13 07 20.2 +0.3**
BLA pmax pmax
comp=Z,27nm,1.2s
BLA Blacksburg 54.54 294 P **P** **13 07 20.2 +0.3**
BLA IAmb IAmb 13 07 29.3
comp=Z,27nm,1.2s
BLA Blacksburg 54.54 294 P 13 07 20.0
baz=4.4
SIUC Southern Illin 54.58 303 P **P** **13 07 20.9 +0.7**
SIUC IAmb IAmb 13 07 22.5
comp=Z,33nm,0.9s
S44A Carbondale 54.60 303 P **P** **13 07 20.6 +0.3**
KVN Kaiserville 54.61 331 P **P** **13 07 20.4 -0.2**
KVN pmax pmax
comp=Z,27nm,1.0s
KVN Kaiserville 54.61 331 P **P** **13 07 20.4 -0.2**
KVN IAmb IAmb 13 07 24.0
comp=Z,27nm,1.0s
PNTR Pine Nut 54.62 332 P **P** **13 07 21.3 +0.6**
PNTR IAmb IAmb 13 07 24.1
comp=Z,40nm,1.2s
YERR Yerington 54.71 332 P **P** **13 07 21.7 +0.4**
AFDM Forest Hills D 54.80 334 P **P** **13 07 20.9 -0.9**
AFDM IAmb IAmb 13 07 25.0
comp=Z,30nm,1.5s
HOPS Hopland Field 54.82 336 P **P** **13 07 22.5 +0.6**
HOPS IAmb IAmb 13 07 26.1
comp=Z,48nm,1.4s
S39A Bolivar 54.84 307 P **P** **13 07 21.2 -0.9**
S39A IAmb IAmb 13 07 24.2
comp=Z,38nm,1.1s
TCRU Three Creeks R 54.84 325 P **P** **13 07 22.9 +0.6**
TCRU IAmb IAmb 13 07 25.5
comp=Z,29nm,1.1s
PV07 Paradox Valley 54.85 322 P **P** **13 07 22.4 0.0**
MAJO Matsushiro 54.90 70*d*iP **P** **13 07 20.6 -1.9**
MAJO pmax pmax
comp=Z,21nm,1.3s
MAJO Matsushiro 54.90 70 P **P** **13 07 21.2 -1.3**
MAJO IAmb IAmb 13 07 22.2
comp=Z,19nm,1.2s
MJAR Matsushiro Arr 54.90 70 P **P** **13 07 21.2 -1.3**
comp=Z,12nm,1.0s,baz=355,slow=7.3,SNR=31
MJAR PcP **PcP** **13 08 23.6 -0.7**
comp=Z,3.6nm,0.9s,baz=3.5,slow=4.3,SNR=2.9
MJAR LR LR 13 30 16.1
comp=Z,140nm,22.0s,baz=45,slow=36
MJAR Matsushiro Arr 54.90 70 P **P** **13 07 22.1 -0.4**
MJAR pmax pmax
comp=Z,13nm,1.2s
MJAR Matsushiro Arr 54.90 70 P **P** **13 07 22.1 -0.4**
PSUT Pine Spring 54.97 327 P **P** **13 07 23.2 -0.1**
PSUT IAmb IAmb 13 07 26.4
comp=Z,20nm,1.0s
GDXM Geysers 55.00 335 P **P** **13 07 23.6 +0.3**
GDXM IAmb IAmb 13 07 28.0
comp=Z,21nm,1.2s
T50A Nancy 55.01 299 P **P** **13 07 22.7 -0.5**
RYN Ryan 55.05 331 P **P** **13 07 23.6 -0.1**
RYN IAmb IAmb 13 07 27.1
comp=Z,26nm,1.0s
T47A Sharon Grove 55.18 301 P **P** **13 07 25.4 +1.0**
T47A IAmb IAmb 13 07 26.6
comp=Z,33nm,1.4s
WAKR Walker 55.20 332 P **P** **13 07 25.3 +0.4**
R11A Troy Canyon, C 55.22 328 P 13 07 23.9
baz=2.6,SNR=5.3
NV11 Mina Array Sit 55.23 331 P **P** **13 07 24.5 -0.6**
NV11 IAmb IAmb 13 07 28.1
comp=Z,18nm,1.1s
NVAR Mina Array Bea 55.24 331 P **P** **13 07 25.1 -0.1**
comp=Z,11nm,1.1s,baz=11,slow=4.4,SNR=28
NVAR LR LR 13 31 01.7
comp=Z,313nm,21.6s,baz=1.0,slow=36
NVAR Mina Array Bea 55.24 331 P **P** **13 07 24.8 -0.4**
MGMO Mountain Grove 55.31 306 P **P** **13 07 25.3 -0.2**
U54A Nelsons Funny 55.32 296 P **P** **13 07 25.4 -0.1**
T42A Van Buren 55.37 305 P **P** **13 07 24.9 -1.0**
XAN Xi'an 55.37 100 P **P** **13 07 26.2 +0.2**
XAN pP pP 13 07 30.2 +0.3
XAN PcP **PcP** **13 08 28.0 +1.8**
XAN S **S** **13 15 03.7 -5.6**
XAN ScS **ScS** **13 17 09.4 -4.6**
XAN SS **SS** **13 18 51.3 -1.9**
XAN pmax pmax
comp=Z,16nm,1.0s
XAN pmax pmax
comp=Z,210nm,5.9s
XAN L L
comp=Z,420nm,18.4s
XAN L L
comp=Z,340nm,16.3s
XAN L L
comp=Z,480nm,20.6s
MTPU Mount Pierson 55.40 325 P **P** **13 07 26.8 +0.3**
TZTN Tazewell 55.40 297 P **P** **13 07 26.0 -0.1**
TZTN IAmb IAmb 13 07 29.3
comp=Z,24nm,1.2s
TZTN Tazewell 55.40 297 P 13 07 25.7
baz=4.3,SNR=5.4
SDCO Great Sand Dun 55.41 319 P **P** **13 07 25.4 -1.1**
SDCO Great Sand Dun 55.41 319 P 13 07 24.8
baz=3.2,SNR=28
LHV Little Huntoon 55.42 331 P **P** **13 07 27.1 +1.0**
LHV IAmb IAmb 13 07 30.6
comp=Z,29nm,1.2s
S22A 4UR Ranch, Cre 55.47 320 P 13 07 25.9
baz=3.1,SNR=121
TPH Tonopah 55.55 330 P **P** **13 07 27.3 -0.2**
TPH pmax pmax
comp=Z,118nm,1.0s
TPH Tonopah 55.55 330 P **P** **13 07 27.2 -0.2**
U49A Red Boiling Sp 55.57 300 P **P** **13 07 27.0 -0.3**
PBMO Poplar Bluff 55.58 304 P **P** **13 07 27.5 +0.1**
PBMO IAmb IAmb 13 07 29.5
comp=Z,19nm,1.1s
KAN01 Argonia South 55.61 311 P **P** **13 07 27.9 +0.2**
KAN09 Caldwell North 55.62 311 P **P** **13 07 27.9 +0.2**
KAN10 Anthony SW Sta 55.66 312 P **P** **13 07 28.2 +0.2**
CMB Columbia Colle 55.70 333 P **P** **13 07 27.9 -0.4**
CMB pmax pmax
comp=Z,11nm,1.3s
CMB Columbia Colle 55.70 333 P **P** **13 07 27.9 -0.4**
JGF Kuroka 55.78 71 P **P** **13 07 27.5 -1.3**
JGF IAmb IAmb 13 07 31.7
comp=Z,18nm,1.0s
T35A Sooner Cattle 55.78 310 P **P** **13 07 27.6 -1.3**
SZCU Shurtz Canyon 55.88 326 P **P** **13 07 30.1 +0.3**
SZCU IAmb IAmb 13 07 32.8
comp=Z,22nm,1.0s
CCUT Cedar City 55.93 326 P **P** **13 07 30.0 -0.2**
CCUT IAmb IAmb 13 07 33.3
comp=Z,20nm,1.1s
T25A Trinidad 55.96 318 P **P** **13 07 29.8 -0.5**
T25A IAmb IAmb 13 07 32.7
comp=Z,19nm,1.0s
T25A Trinidad 55.96 318 P 13 07 28.9
baz=3.3,SNR=12
JWT Wachi 55.97 73 P **P** **13 07 29.8 -0.4**
JWT IAmb IAmb 13 07 30.5
comp=Z,24nm,1.2s
OK032 Salt Plains WL 55.98 312 P **P** **13 07 29.6 -0.7**
PKCU Pink Cliffs 56.00 325 P **P** **13 07 31.8 +1.0**
INU Inuyama 56.01 72 P **P** **13 07 29.6 -0.8**
INU IAmb IAmb 13 07 31.0
comp=Z,20nm,1.1s
CLTN Cedars of Leba 56.02 300 P **P** **13 07 30.2 -0.3**

MLAC Mammoth, Mammo 56.05 332 P 13 07 31.6
baz=2.3
MDPB Devils Postpil 56.06 332 P **P** **13 07 31.5 +0.4**
MDPB IAmb IAmb 13 07 34.8
comp=Z,24nm,1.0s
MVCO Mesa Verde 56.07 322 P **P** **13 07 31.5 +0.3**
MVCO Mesa Verde 56.07 322 P 13 07 30.0
baz=3.0,SNR=47
WVT Waverly 56.08 302 P **P** **13 07 30.2 -0.7**
WVT pmax pmax
comp=Z,22nm,1.3s
WVT Waverly 56.08 302 P **P** **13 07 30.2 -0.7**
WVT IAmb IAmb 13 07 33.6
comp=Z,22nm,1.2s
WVT Waverly 56.08 302 P 13 07 29.5
baz=4.1
V52A Sevierville 56.10 297 P **P** **13 07 31.1 -0.1**
U40A Yellville 56.14 306 P **P** **13 07 31.2 -0.2**
PRN Pahroc Range 56.14 328 P **P** **13 07 31.9 +0.3**
PRN IAmb IAmb 13 07 40.6
comp=Z,35nm,1.2s
U40A Yellville 56.14 306 P 13 07 29.1
baz=3.9,SNR=6.8
U38A Gravette 56.14 308 P **P** **13 07 31.2 -0.2**
U38A IAmb IAmb 13 07 32.4
comp=Z,28nm,1.1s
V51A Loudon 56.19 298 P **P** **13 07 31.7 -0.1**
V53A Saluda 56.23 297 P **P** **13 07 31.3 -0.8**
CROK Carrier 56.27 311 P **P** **13 07 32.6 +0.2**
HHAR Hobbs 56.27 307 P **P** **13 07 31.6 -0.8**
HHAR IAmb IAmb 13 07 33.5
comp=Z,20nm,1.1s
TKL Tuckaleechee C 56.30 298 P **P** **13 07 32.5 -0.1**
TKL pmax pmax
comp=Z,11nm,1.0s
TKL Tuckaleechee C 56.30 298 P **P** **13 07 32.5 -0.1**
LCAR Lake Charles 56.33 305 P **P** **13 07 31.8 -1.0**
V48A Smith Brothers 56.40 300 P **P** **13 07 32.5 -0.8**
V48A IAmb IAmb 13 07 35.9
comp=Z,18nm,1.1s
KNB Kanab 56.45 326 P **P** **13 07 33.5 -0.3**
KNB pmax pmax
comp=Z,33nm,1.1s
KNB Kanab 56.45 326 P **P** **13 07 33.5 -0.3**
KNB IAmb IAmb 13 07 36.9
comp=Z,33nm,1.1s
LCMT Little Creek M 56.47 326 P **P** **13 07 34.9 +1.0**
MIB Mutribah 56.52 163 *e*P **P** **13 07 34.4 +0.2**
QUOK Quay 56.53 310 P **P** **13 07 33.8 -0.4**
CPCT Cooper Cave 56.55 298 P **P** **13 07 34.5 +0.1**
FCAR Ozark Folk Cen 56.56 306 P **P** **13 07 33.6 -0.8**
TIN Tinemaha, Big 56.61 331 P 13 07 33.6
baz=2.3,SNR=8.3
GRAC Grapevine Rang 56.63 330 P 13 07 34.4
baz=2.4,SNR=17
TPNV Topopah Spring 56.64 329 P **P** **13 07 33.8 -1.4**
TPNV pmax pmax
comp=Z,16nm,1.1s
TPNV Topopah Spring 56.64 329 P **P** **13 07 33.8 -1.4**
TPNV IAmb IAmb 13 07 37.5
comp=Z,16nm,1.1s
TPNV Topopah Spring 56.64 329 P 13 07 34.2
baz=2.5,SNR=17
TUL1 Leonard 56.75 309 P 13 07 33.4
baz=3.7,SNR=6.5
OK031 S. Brethren Rd 56.76 310 P **P** **13 07 35.6 -0.2**
UMR Umm Al-Rimmam 56.78 163 *e*P **P** **13 07 36.4 +0.4**
OK030 Cody Creek RV 56.78 310 P **P** **13 07 36.0 0.0**
RST Umm Al-Ruwaisa 56.82 164 *e*P **P** **13 07 35.9 -0.3**
W50A Signal Mountai 56.85 299 P **P** **13 07 37.2 +0.7**
W52A Murphy 56.87 298 P **P** **13 07 36.7 +0.1**
W52A IAmb IAmb 13 07 38.9
comp=Z,18nm,1.1s
SWET Sewanee 56.87 300 P **P** **13 07 36.9 +0.3**
BG3 Lake Jocassee 56.91 297 P **P** **13 07 36.8 -0.1**
OK029 Liberty Lake 56.95 311 P **P** **13 07 36.2 -0.9**
SAO San Andreas Ge 57.00 334 P **P** **13 07 37.7 +0.2**
SAO pmax pmax
comp=Z,15nm,1.2s
SAO San Andreas Ge 57.00 334 P **P** **13 07 37.7 +0.2**
U15A North Rim 57.01 325 P **P** **13 07 37.2 -0.7**
U15A IAmb IAmb 13 07 40.5
comp=Z,17nm,0.9s
SHPR Sheep Range 57.04 328 P **P** **13 07 38.3 +0.2**
SHPR IAmb IAmb 13 07 41.3
comp=Z,29nm,1.0s
BIRD Birdtown, Kers 57.10 294 P **P** **13 07 39.1 +0.9**
BIRD IAmb IAmb 13 07 41.6
comp=Z,17nm,1.1s
FURC Furnace Creek, 57.14 330 P 13 07 37.7
baz=2.4
WHAR Wooly Hollow 57.17 306 P **P** **13 07 38.7 0.0**
WHAR IAmb IAmb 13 07 40.3
comp=Z,22nm,1.3s
CWC Cottonwood Cre 57.21 331 P 13 07 38.9
baz=2.3
PLAL Pickwick Lake 57.23 302 P **P** **13 07 38.7 -0.4**
W41B Gary Mavity, V 57.28 306 P 13 07 38.3
baz=3.9
W39A Magazine 57.35 307 P **P** **13 07 39.1 -0.9**
W39A IAmb IAmb 13 07 42.3
comp=Z,21nm,1.1s
W39A Magazine 57.35 307 P 13 07 38.8
baz=3.8,SNR=7.5
JSC Jenkinsville 57.51 295 P **P** **13 07 41.0 -0.1**
JSC pmax pmax
comp=Z,7.0nm,1.1s
JSC Jenkinsville 57.51 295 P **P** **13 07 41.0 -0.1**
FPAL Fort Paine 57.52 299 P **P** **13 07 40.2 -1.1**
PMPB Monarch Peak 57.52 333 P **P** **13 07 42.0 +0.6**
PMPB IAmb IAmb 13 07 45.1
comp=Z,29nm,1.0s
X48A Hartselle 57.70 301 P **P** **13 07 41.4 -1.0**
OXF Oxford 57.78 303 P 13 07 42.1
baz=4.0
JNU Nakatsue 57.81 78 P **P** **13 07 43.0 -0.4**
comp=Z,38nm,1.0s,baz=21,slow=8.1,SNR=16
JNU Nakatsue 57.81 78 P **P** **13 07 42.8 -0.5**
WUAZ Wupatki 57.88 324 P **P** **13 07 44.0 0.0**
WUAZ Wupatki 57.88 324 P 13 07 42.6
baz=2.8,SNR=29
MIAR Mount Ida 57.98 307 P **P** **13 07 43.6 -0.9**
MIAR pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 57.98 307 P **P** **13 07 43.6 -0.9**
MIAR IAmb IAmb 13 07 47.3
comp=Z,28nm,1.1s
MIAR Mount Ida 57.98 307 P 13 07 42.9
baz=3.8,SNR=14
PAGB Antelope Grade 57.99 333 P **P** **13 07 44.9 +0.4**
PAGB IAmb IAmb 13 07 47.7
comp=Z,32nm,1.1s
X40A Basin Creek Fa 58.00 306 P **P** **13 07 44.2 -0.4**
X40A Basin Creek Fa 58.00 306 P 13 07 43.8
baz=3.8
ISA Isabella, Lake 58.00 331 P **P** **13 07 44.4 -0.3**
ISA pmax pmax
comp=Z,22nm,1.4s
ISA Isabella, Lake 58.00 331 P **P** **13 07 44.4 -0.3**
ISA IAmb IAmb 13 07 54.4
comp=Z,22nm,1.4s
ISA Isabella, Lake 58.00 331 P 13 07 43.8
baz=2.3,SNR=6.7
X37A Clayton 58.04 309 P **P** **13 07 45.5 +0.6**
X37A IAmb IAmb 13 07 47.2
comp=Z,20nm,1.0s
NJ2 Nanjing 58.04 90 *e*P **P** **13 07 44.1 -0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 L L
comp=Z,360nm,18.9s
NJ2 L L
comp=Z,200nm,15.6s
NJ2 L L
comp=Z,490nm,18.5s
WMOK Wichita Mounta 58.07 312 P **P** **13 07 44.8 -0.3**
WMOK pmax pmax
comp=Z,32nm,1.2s
WMOK Wichita Mounta 58.07 312 P **P** **13 07 44.8 -0.3**
WMOK IAmb IAmb 13 07 47.4
comp=Z,32nm,1.1s
WMOK Wichita Mounta 58.07 312 P 13 07 43.2
baz=3.5,SNR=24
Y52A Lilburn 58.10 298 P **P** **13 07 44.7 -0.6**
CD2 Chengdu 58.13 105 P **P** **13 07 46.0 +0.4**

CD2 S **S** **13 15 47.0 +1.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 L L
comp=Z,880nm,18.1s
CD2 L L
comp=Z,540nm,17.7s
TUQ Turquoise Moun 58.14 329 P 13 07 44.7
baz=2.5
LRMC Laurel Mtn Rad 58.16 330 P 13 07 44.3
baz=2.3
X34A Smith Ranch, M 58.16 311 P **P** **13 07 46.1 +0.4**
X34A IAmb IAmb 13 08 12.9
comp=Z,40nm,1.4s
W18A Petrified Fore 58.21 323 P **P** **13 07 46.5 +0.2**
W18A Petrified Fore 58.21 323 P 13 07 44.5
baz=2.9,SNR=9.5
ANMO Albuquerque 58.24 319 P **P** **13 07 45.5 -1.0**
comp=Z,19nm,1.1s,baz=354,slow=6.3,SNR=20
ANMO Albuquerque 58.24 319*d*iP **P** **13 07 45.6 -0.9**
ANMO pmax pmax
comp=Z,32nm,1.3s
ANMO Albuquerque 58.24 319 P **P** **13 07 46.1 -0.4**
ANMO IAmb IAmb 13 07 49.5
comp=Z,31nm,1.2s
ANMO Albuquerque 58.24 319 P 13 07 46.1
baz=3.1
Y49A Blount Mountai 58.25 300 P **P** **13 07 45.0 -1.3**
W13A Hualapai Mount 58.40 327 P **P** **13 07 47.7 +0.1**
W13A IAmb IAmb 13 07 50.7
comp=Z,24nm,1.1s
Y45A Yeager Farm, C 58.43 303 P **P** **13 07 47.6 0.0**
GOGA Godfrey 58.51 297 P **P** **13 07 47.0 -1.2**
GOGA pmax pmax
comp=Z,11nm,1.2s
GOGA Godfrey 58.51 297 P **P** **13 07 47.0 -1.2**
GOGA Godfrey 58.51 297 P 13 07 47.1
baz=4.1
LSA Lhasa 58.52 118 P **P** **13 07 49.8 +1.0**
LSA Lhasa 58.52 118 P **P** **13 07 49.6 +0.8**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 58.52 118 P **P** **13 07 49.6 +0.8**
LSA IAmb IAmb 13 08 00.3
comp=Z,15nm,0.7s
LOOK Love County 58.73 310 P **P** **13 07 49.9 +0.2**
HEC Hector,Ludlow 58.76 329 P 13 07 48.6
baz=2.4,SNR=8.3
EDW2 Edwards Air Fo 58.77 331 P 13 07 48.7
baz=2.3,SNR=15
GMRC Granite Mounta 58.78 328 P 13 07 49.5
baz=2.5,SNR=27
X18A Snowflake 58.81 323 P **P** **13 07 49.8 -0.6**
WLAR White Oak Lake 58.81 306 P **P** **13 07 50.4 +0.2**
PKM Mcpherson Peak 58.82 332 P 13 07 49.2
baz=2.2
X16A Lo Mia Camp, P 58.98 324 P **P** **13 07 51.5 -0.2**
X16A IAmb IAmb 13 07 55.0
comp=Z,22nm,1.2s
MSTX Muleshoe 59.04 316 P **P** **13 07 51.7 -0.3**
MSTX Muleshoe 59.04 316 P 13 07 50.2
baz=3.2
BNM Barren Site 59.04 320 P **P** **13 07 51.0 -1.1**
LENM Lemitar 59.04 320 P **P** **13 07 51.8 -0.2**
SSE Sheshan 59.15 88 P **P** **13 07 52.2 -0.4**
SSE S **S** **13 15 56.9 -2.0**
SSE pmax pmax
comp=Z,19nm,1.0s
SSE pmax pmax
comp=Z,100nm,5.0s
SSE L L
comp=Z,81nm,19.6s
SSE L L
comp=Z,110nm,19.6s
ENH Enshi 59.16 99 P **P** **13 07 52.8 +0.1**
PDMCI Parker Dam,Lak 59.20 327 P 13 07 51.5
baz=2.5,SNR=12
WHN Wuhan 59.22 95 P **P** **13 07 52.4 -0.7**
WHN S **S** **13 16 02.8 +3.0**
WHN pmax pmax
comp=Z,34nm,0.8s
WHN L L
comp=Z,180nm,9.0s
WHN L L
comp=Z,280nm,10.0s
WHN L L
comp=Z,640nm,30.5s
152A Waverly Hall 59.33 298 P **P** **13 07 53.8 0.0**
152A IAmb IAmb 13 07 56.5
comp=Z,18nm,1.4s
IRM Iron Mountain 59.38 328 P 13 07 53.3
baz=2.5,SNR=18
BFSC Mount Baldy Ra 59.39 330 P 13 07 53.5
baz=2.3,SNR=18
MWC Mount Wilson 59.42 331 P **P** **13 07 54.5 -0.2**
MWC pmax pmax
comp=Z,48nm,1.2s
MWC Mount Wilson 59.42 331 P **P** **13 07 54.5 -0.2**
PASC Pasadena Art C 59.48 331 P **P** **13 07 55.3 +0.5**
PASC IAmb IAmb 13 07 57.9
comp=Z,26nm,1.2s
Y14A Wickenburg 59.52 326 P **P** **13 07 54.5 -0.7**
Y14A IAmb IAmb 13 07 58.5
comp=Z,22nm,1.1s
BELC Belle Mtn. Jos 59.57 329 P 13 07 54.7
baz=2.4,SNR=29
BC3 Big Chuckawall 59.90 328 P 13 07 57.3
baz=2.5
PFO Pinyon Flats O 59.98 329i *e*P **P** **13 07 58.3 -0.2**
PFO pmax pmax
comp=Z,26nm,1.1s
PFO Pinyon Flats O 59.98 329 P **P** **13 07 58.2 -0.3**
PFO IAmb IAmb 13 08 01.2
comp=Z,17nm,1.1s
TPFO Pinon Flats 59.98 329 P 13 07 57.1
baz=2.4
MURC Murrieta 60.01 330 P 13 07 56.8
baz=2.3
ABTX Abilene, Hawle 60.22 313 P **P** **13 07 59.4 -0.6**
ABTX IAmb IAmb 13 08 02.1
comp=Z,18nm,0.9s
ABTX Abilene, Hawle 60.22 313 P 13 07 59.2
baz=3.4
CIS Catalina Islan 60.25 331 P 13 07 59.4
baz=2.2
SAKB Bahrain 60.40 160 P **P** **13 08 02.2 +1.0**
GLA Glamis 60.47 327 P **P** **13 08 01.5 -0.3**
GLA pmax pmax
comp=Z,26nm,1.2s
GLA Glamis 60.47 327 P **P** **13 08 01.5 -0.3**
GLA IAmb IAmb 13 08 04.7
comp=Z,26nm,1.1s
GLA Glamis 60.47 327 P 13 08 00.3
baz=2.5,SNR=6.7
SHME Shamm 60.48 154 P **P** **13 08 03.0 +1.1**
SHME Shamm 60.48 154 P **P** **13 08 02.4 +0.6**
SHMA Al-Shehemyia 60.53 160 P **P** **13 08 02.9 +0.7**
BANOM Banah 60.61 154 P **P** **13 08 03.4 +0.6**
BANOM Banah 60.61 154 P **P** **13 08 03.7 +1.0**
BANOM P **P** **13 08 03.7 +1.0**
SWSC Sam W. Stewart 60.62 328 P 13 08 01.2
baz=2.4
MONP2 Monument Peak 60.69 329 P 13 08 02.9
baz=2.4,SNR=5.1
121A Cookes Peak, D 60.70 321 P **P** **13 08 02.7 -0.8**
121A IAmb IAmb 13 08 05.9
comp=Z,15nm,1.1s
121A Cookes Peak, D 60.70 321 P 13 08 02.4
baz=2.9,SNR=8.2
113A Mohawk Valley, 60.72 326 P **P** **13 08 03.0 -0.4**
113A IAmb IAmb 13 08 06.2
comp=Z,17nm,1.1s
BAR Barrett 60.91 329 P **P** **13 08 04.3 -0.4**
BAR IAmb IAmb 13 08 07.7
comp=Z,23nm,1.1s
TKX Tecate 61.02 329 P **P** **13 08 05.5 0.0**
TKX IAmb IAmb 13 08 08.3
comp=Z,23nm,1.1s
TUC Tucson 61.05 323 P **P** **13 08 05.5 -0.3**
TUC pmax pmax
comp=Z,39nm,1.1s
TUC Tucson 61.05 323 P **P** **13 08 05.5 -0.3**
TUC Tucson 61.05 323 P 13 08 05.5
baz=2.7
MASF Masafi 61.16 154 P **P** **13 08 07.8 +1.3**
SNR=7.9

MSFE	**Esma-Masafi**	**61.17**	**154**	*i* P		**P**	**13 08 07.9**	**+1.4**
	SNR=14							
MDH	**Madha**	**61.23**	**154**	*i* P		**P**	**13 08 07.8**	**+0.9**
	SNR=7.0							
MDH	**Madha**	**61.23**	**154**	P		**P**	**13 08 07.5**	**+0.5**
CBX	**Cerro Bola**	**61.28**	**329**	P		**P**	**13 08 07.3**	**0.0**
MNTX	**Cornudas Mount**	**61.42**	**318**	P		**P**	**13 08 07.8**	**-0.4**
MNTX	**Cornudas Mount**	**61.42**	**318**	P			13 08 07.6	
	baz=3.0,SNR=6.1							
214A	**Organ Pipe Nat**	**61.49**	**325**	P		**P**	**13 08 08.2**	**-0.5**
214A				IAmb		IAmb	13 08 11.2	
	comp=Z,14nm,1.1s							
214A	**Organ Pipe Nat**	**61.49**	**325**	P			13 08 06.9	
	baz=2.6,SNR=6.7							
NAZ	**Nazwa, Dubai**	**61.52**	**155**	P		**P**	**13 08 10.2**	**+1.3**
NAZ	**Nazwa, Dubai**	**61.52**	**155**	P		**P**	**13 08 09.9**	**+1.0**
UOSS	**Minazif**	**61.58**	**154**	*i* P		**P**	**13 08 10.0**	**+0.7**
	SNR=7.3							
UOSS	**Minazif**	**61.58**	**154**	P		**P**	**13 08 09.5**	**+0.2**
UOSS				IAmb		IAmb	13 08 16.4	
	comp=Z,24nm,1.0s							
UOSS	**Minazif**	**61.58**	**154**	P		**P**	**13 08 09.9**	**+0.5**
UOSS				P		**P**	**13 08 09.9**	**+0.5**
TRNA	**Turayna**	**61.66**	**159**	P		**P**	**13 08 10.7**	**+0.9**
HATD	**Hatta, Dubai**	**61.70**	**154**	*i* P		**P**	**13 08 11.1**	**+0.9**
	SNR=9.3							
HATD	**Hatta, Dubai**	**61.70**	**154**	P		**P**	**13 08 11.0**	**+0.9**
FAQ	**Al Faqa, Dubai**	**61.76**	**155**	P		**P**	**13 08 11.3**	**+0.8**
ASHO	**Ashiyiah**	**61.84**	**154**	*i* P		**P**	**13 08 12.1**	**+1.0**
	SNR=8.3							
ASHO	**Ashiyiah**	**61.84**	**154**	P		**P**	**13 08 11.9**	**+0.8**
ASUD	**Al Ashush, Dub**	**61.88**	**155**	P		**P**	**13 08 12.4**	**+1.1**
ASUD	**Al Ashush, Dub**	**61.88**	**155**	P		**P**	**13 08 12.4**	**+1.1**
319A	**Douglas**	**61.92**	**322**	P		**P**	**13 08 11.7**	**0.0**
JCT	**Junction City**	**62.36**	**313**	P		**P**	**13 08 14.0**	**-0.6**
JCT				pmax		pmax		
	comp=Z,56nm,1.2s							
JCT	**Junction City**	**62.36**	**313**	P		**P**	**13 08 14.0**	**-0.6**
JCT	**Junction City**	**62.36**	**313**	P			13 08 12.7	
	baz=3.3,SNR=15							
SOHO	**SOHO**	**62.40**	**154**	*i* P		**P**	**13 08 16.0**	**+1.2**
	SNR=9.1							
SOHO	**SOHO**	**62.40**	**154**	P		**P**	**13 08 15.1**	**+0.3**
ALNE	**Al Ain**	**62.45**	**155**	P		**P**	**13 08 16.5**	**+1.3**
ALNE	**Al Ain**	**62.45**	**155**	P		**P**	**13 08 16.3**	**+1.1**
	SNR=7.2							
GHWR	**Ruwais**	**62.47**	**158**	P		**P**	**13 08 16.4**	**+1.1**
SFX	**San Felipe**	**62.48**	**327**	P		**P**	**13 08 15.3**	**0.0**
SPX	**San Pedro Mart**	**62.50**	**328**	P		**P**	**13 08 16.6**	**+0.7**
SPX				IAmb		IAmb	13 08 19.1	
	comp=Z,17nm,1.0s							
HKT	**Hockley**	**62.68**	**309⇑**	*i* P		**P**	**13 08 16.2**	**-0.3**
HKT				pmax		pmax		
	comp=Z,17nm,1.7s							
RAYN	**Ar Rayn**	**62.74**	**165**	*i* P		**P**	**13 08 18.8**	**+1.7**
	SNR=14							
RAYN	**Ar Rayn**	**62.74**	**165**	P		**P**	**13 08 18.2**	**+1.0**
RAYN				pmax		pmax		
	comp=Z,19nm,1.0s							
RAYN	**Ar Rayn**	**62.74**	**165**	P		**P**	**13 08 18.2**	**+1.0**
RAYN				IAmb		IAmb	13 08 19.9	
	comp=Z,19nm,0.9s							
GYA	**Guiyang**	**62.75**	**103**	⇑P		**P**	**13 08 18.2**	**+0.9**
GYA				pP		pP	13 08 20.2	-1.0
GYA				PP		**PP**	**13 10 34.6**	**-0.4**
GYA				S		**S**	**13 16 45.6**	**+0.4**
GYA				pmax		pmax		
	comp=Z,6.0nm,0.7s							
GYA				pmax		pmax		
	comp=Z,35nm,4.7s							
HOQ	**Hoqain**	**62.97**	**153**	P		**P**	**13 08 18.9**	**+0.2**
BIDO	**Bidbid**	**63.06**	**152**	P		**P**	**13 08 20.3**	**+1.1**
BIDO				P		**P**	**13 08 20.3**	**+1.1**
ARQ	**Araqi**	**63.19**	**154**	P		**P**	**13 08 20.8**	**+0.7**
ARQ				P		**P**	**13 08 20.8**	**+0.7**
WSAR	**Wadi Sarin**	**63.36**	**152**	P		**P**	**13 08 22.3**	**+1.1**
SMDO	**Samad**	**63.52**	**152**	P		**P**	**13 08 23.3**	**+0.9**
TX31	**Lajitas Ar. Si**	**63.70**	**316**	P		**P**	**13 08 22.1**	**-1.4**
TX32	**Lajitas Array**	**63.70**	**316**	P		**P**	**13 08 22.8**	**-0.7**
TX32				IAmb		IAmb	13 08 25.7	
	comp=Z,16nm,1.1s							
TXAR	**Lajitas Array**	**63.70**	**316**	P		**P**	**13 08 22.3**	**-1.2**
	comp=Z,7.5nm,0.9s,baz=350,slow=3.4,SNR=45							
TXAR				LR		LR	13 36 13.1	
	comp=Z,456nm,20.5s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**63.70**	**316**	P		**P**	**13 08 22.7**	**-0.8**
TXAR	**Lajitas Array**	**63.70**	**316**	P		**P**	**13 08 22.6**	**-0.8**
UMZA	**Um Al Zommool**	**63.77**	**155**	P		**P**	**13 08 24.6**	**+0.7**
BSY	**Bisya**	**63.80**	**153**	P		**P**	**13 08 24.8**	**+0.6**
KMI	**Kunming**	**63.81**	**107**	⇑P		**P**	**13 08 24.5**	**0.0**
KMI				pP		pP	13 08 27.5	-0.9
KMI				sP		sP	13 08 29.7	-0.2
KMI				PcP		**PcP**	**13 09 00.1**	**-0.1**
KMI				S		**S**	**13 16 57.6**	**-1.0**
KMI				SS		**SS**	**13 21 03.4**	**-2.7**
KMI				pmax		pmax		
	comp=Z,19nm,0.9s							
KMI				pmax		pmax		
	comp=Z,170nm,4.0s							
KMI				L		L		
	comp=Z,590nm,20.2s							
KMI				L		L		
	comp=Z,260nm,21.1s							
KMI				L		L		
	comp=Z,710nm,19.5s							
WBK	**Wadi Bani Khal**	**63.99**	**151**	P		**P**	**13 08 26.7**	**+1.2**
WBK				P		**P**	**13 08 26.7**	**+1.2**
JMDO	**Jabal Madar**	**64.20**	**152**	P		**P**	**13 08 27.1**	**+0.3**
JMDO				P		**P**	**13 08 27.1**	**+0.3**
HSIG		**64.33**	**323**	P		**P**	**13 08 26.9**	**-0.6**
JLN	**Jalan Bani Buh**	**64.47**	**151**	P		**P**	**13 08 29.5**	**+1.1**
JLN				P		**P**	**13 08 29.5**	**+1.1**
JCJ	**Chichijima**	**64.55**	**67**	LR		LR	13 39 05.9	
	comp=Z,50nm,18.2s,baz=5.5,slow=38							
QZH	**Quanzhou**	**65.08**	**91**	*eP*		**P**	**13 08 32.6**	**+0.2**
QZH				S		**S**	**13 17 17.2**	**+3.4**
QZH				L		L		
	comp=Z,210nm,20.8s							
QZH				L		L		
	comp=Z,220nm,14.5s							
QZH				L		L		
	comp=Z,240nm,18.5s							
MHTO	**MHTO**	**65.58**	**153**	P		**P**	**13 08 35.8**	**+0.2**
MHTO				P		**P**	**13 08 35.8**	**+0.2**
HPIG		**66.18**	**318**	P		**P**	**13 08 39.0**	**-0.8**
HPIG				IAmb		IAmb	13 08 42.5	
	comp=Z,22nm,1.4s							
DQM	**DQM**	**66.61**	**153**	P		**P**	**13 08 42.0**	**-0.4**
TPUB	**Ta-pu**	**66.85**	**89**	P		**P**	**13 08 43.5**	**-0.4**
SLVN	**Son La**	**67.65**	**106**	P		**P**	**13 08 48.7**	**-0.4**
SLVN				IAmb		IAmb	13 08 50.7	
	comp=Z,18nm,1.0s							
DOK	**Doka**	**67.82**	**157**	P		**P**	**13 08 50.4**	**+0.4**
DOK				P		**P**	**13 08 50.4**	**+0.4**
WHFO	**Wadi Hawf**	**68.50**	**157**	P		**P**	**13 08 54.2**	**-0.2**
WHFO				P		**P**	**13 08 54.2**	**-0.2**
POO	**Poona**	**68.66**	**136**	*eP*		**P**	**13 08 51.0**	**-4.4**
RBK	**Rabkut**	**68.93**	**157**	P		**P**	**13 08 56.7**	**-0.3**
ABTO	**Aybut**	**69.05**	**157**	P		**P**	**13 08 57.4**	**-0.4**
ABTO				P		**P**	**13 08 57.4**	**-0.4**
CM33	**Chiang Mai Arr**	**69.82**	**111**	P		**P**	**13 09 01.0**	**-1.5**
CHTO	**Chiang Mai**	**69.83**	**111**	P		**P**	**13 09 01.7**	**-0.9**
CHTO				pmax		pmax		
	comp=Z,19nm,1.0s							
CHTO	**Chiang Mai**	**69.83**	**111**	P		**P**	**13 09 01.7**	**-0.9**
CHTO				IAmb		IAmb	13 09 02.8	
	comp=Z,19nm,1.0s							
CHTO	**Chiang Mai**	**69.83**	**111**	P		**P**	**13 09 01.7**	**-0.9**
CHTO				P		**P**	**13 09 01.7**	**-0.9**
CMMT	**Chiang Mai**	**69.83**	**111**	P		**P**	**13 09 00.0**	**-2.6**
CM35	**Chiang Mai Arr**	**69.97**	**111**	P		**P**	**13 09 02.0**	**-1.4**
CM32	**Chiang Mai Arr**	**69.98**	**111**	P		**P**	**13 09 03.0**	**-0.5**
HYB	**Hyderabad**	**70.00**	**132**	*i* P		**P**	**13 09 03.0**	**-0.7**
CM36	**Chiang Mai Arr**	**70.13**	**111**	P		**P**	**13 09 03.0**	**-1.4**
ZAIG	**Zacatecas**	**70.17**	**315**	P		**P**	**13 09 05.1**	**+0.1**
ZAIG				IAmb		IAmb	13 09 08.6	
	comp=Z,24nm,1.3s							
CM31	**Chiang Mai Arr**	**70.18**	**111**	P		**P**	**13 09 04.6**	**-0.1**
CM31	**Chiang Mai Arr**	**70.18**	**111**	P		**P**	**13 09 04.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**70.18**	**111**	P		**P**	**13 09 04.3**	**-0.4**
	comp=Z,20nm,0.9s,baz=348,slow=7.5,SNR=91							
CMAR				LR		LR	13 42 11.8	
	comp=Z,761nm,20.7s,baz=29,slow=38							

CM15	**Chiang Mai Arr**	**70.18**	**111**	P		**P**	**13 09 04.0**	**-0.7**
CM09	**Chiang Mai Arr**	**70.19**	**111**	P		**P**	**13 09 04.7**	**-0.1**
CM02	**Chiang Mai Arr**	**70.20**	**111**	P		**P**	**13 09 04.7**	**-0.1**
CM13	**Chiang Mai Arr**	**70.21**	**111**	P		**P**	**13 09 04.7**	**-0.2**
CM01	**Chiang Mai Arr**	**70.22**	**111**	P		**P**	**13 09 04.0**	**-0.9**
CM05	**Chiang Mai Arr**	**70.23**	**111**	P		**P**	**13 09 04.0**	**-1.1**
CM04	**Chiang Mai Arr**	**70.24**	**111**	P		**P**	**13 09 04.0**	**-1.1**
QIZ	**Qiongzhong**	**70.34**	**100**	P		**P**	**13 09 03.4**	**-2.3**
QIZ				S		**S**	**13 18 21.3**	**+4.3**
QIZ				L		L		
	comp=Z,160nm,17.2s							
QIZ				L		L		
	comp=Z,270nm,15.7s							
QIZ				L		L		
	comp=Z,240nm,20.6s							
UTTA	**Uttaradit**	**70.99**	**109**	P		**P**	**13 09 09.8**	**+0.2**
PHIT	**Phitsanulok**	**71.53**	**110**	P		**P**	**13 09 13.0**	**+0.1**
KOWA	**Kowa**	**72.34**	**216**	P		**P**	**13 09 18.3**	**+0.5**
KOWA				IAmb		IAmb	13 09 19.7	
	comp=Z,25nm,1.4s							
TOA0	**Torodi Ar. Sit**	**73.46**	**210**	P		**P**	**13 09 24.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.46**	**210**	P		**P**	**13 09 24.4**	**-0.1**
	comp=Z,4.8nm,1.1s,baz=353,slow=4.7,SNR=14							
TORD				LR		LR	13 41 24.1	
	comp=Z,99nm,19.4s,baz=5.0,slow=36							
TORD	**Torodi Ar. Bea**	**73.46**	**210**	P		**P**	**13 09 24.3**	**-0.1**
UBPT	**Khong Chiam**	**73.76**	**105**	P		**P**	**13 09 26.4**	**+0.2**
UBPT				IAmb		IAmb	13 09 27.4	
	comp=Z,20nm,1.1s							
TLIG	**Tlapa**	**75.14**	**311**	P		**P**	**13 09 34.6**	**+0.3**
TLIG				IAmb		IAmb	13 09 47.4	
	comp=Z,17nm,1.1s							
CMIG	**Matias Romero**	**75.41**	**307**	P		**P**	**13 09 36.7**	**+1.0**
	comp=Z,6.7nm,1.0s,baz=22,slow=7.2,SNR=4.4							
MTO3	**Montecristo**	**77.76**	**301**	P		**P**	**13 09 49.3**	**0.0**
GUMO	**Guam**	**78.13**	**66**	LR		LR	13 45 03.5	
	comp=Z,30nm,20.3s,baz=68,slow=36							
DBIC	**Dimbokro**	**80.15**	**216**	LR		LR	13 45 16.9	
	comp=Z,35nm,19.8s,baz=11,slow=35							
SDV	**Santo Domingo**	**82.02**	**282**	*eP*		**P**	**13 10 13.4**	**+1.1**
LODK	**Lodwar**	**82.61**	**176**	P		**P**	**13 10 16.2**	**+0.9**
PSI	**Prapat**	**85.70**	**112**	P		**P**	**13 10 29.8**	**-1.3**
PSI				pmax		pmax		
	comp=Z,21nm,0.9s							
RPSI	**Rantau Prapat**	**85.81**	**112**	P		**P**	**13 10 29.8**	**-1.7**
RPSI				IAmb		IAmb	13 10 31.1	
	comp=Z,21nm,0.9s							
ROSC	**El Rosal**	**86.28**	**286**	LR		LR	13 50 47.2	
	comp=Z,81nm,19.4s,baz=34,slow=37							
MBAR	**Mbarara**	**86.59**	**181**	*ceP*		**P**	**13 10 37.5**	**+2.0**
MBAR				pmax		pmax		
	comp=Z,9.0nm,1.7s							
ITTB	**Itaituba**	**94.12**	**267**	*eP*		**P**	**13 11 11.4**	**+0.9**
NPGB	**Novo Progresso**	**96.75**	**266**	*eP*		**P**	**13 11 22.9**	**+0.3**
WRA	**Warramunga Arr**	**110.68**	**78**	PKiKP		**PKiKP**	**13 16 23.7**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=3.6,slow=3.3,SNR=4.5							
WRA				PKKPbc		**PKKPbc**	**13 27 21.6**	**+1.6**
	comp=Z,1.2nm,1.0s,baz=197,slow=3.8,SNR=5.3							
WRA				PKKPab		**PKKPab**	**13 27 30.5**	**-1.7**
	comp=Z,1.2nm,1.0s,baz=184,slow=3.0,SNR=4.6							
ASAR	**Alice Springs**	**114.34**	**79**	PKP	PKPdf		13 16 29.6	-1.6
	comp=Z,1.1nm,0.9s,baz=345,slow=2.8,SNR=7.3							
ASAR				PKKPbc		**PKKPbc**	**13 27 10.0**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=197,slow=2.9,SNR=4.1							
ASAR				PKKPab		**PKKPab**	**13 27 18.7**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=158,slow=3.1,SNR=5.5							
CPUP	**Villa Florida**	**116.01**	**267**	PKP		**PKPdf**	**13 16 33.4**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=98,slow=3.8,SNR=3.1							
STKA	**Stephens Creek**	**123.02**	**72**	PKP		**PKPdf**	**13 16 45.6**	**-2.1**
	comp=Z,1.7nm,0.8s,baz=338,slow=5.4,SNR=3.4							
STKA	**Stephens Creek**	**123.02**	**72**	PKIKP		**PKiKP**	**13 16 48.1**	**+0.2**
STKA	**Stephens Creek**	**123.02**	**72**			**PKiKP**	**13 16 48.1**	**+0.2**
BO02	**Sierra Bellavi**	**125.35**	**279**	PKPdf		**PKPdf**	**13 16 51.9**	**-0.2**
PLCA	**Paso Flores**	**131.25**	**278**	PKP		**PKPdf**	**13 17 03.3**	**+0.2**
	comp=Z,11nm,1.0s,baz=339,slow=1.6,SNR=8.1							
PLCA	**Paso Flores**	**131.25**	**278**	*eP*		**PKiKP**	**13 17 04.9**	**+0.8**
GO10	**Punta Arenas**	**143.64**	**277**	PKPdf		**PKPdf**	**13 17 27.0**	**+1.5**
USHA	**Ushuaia**	**145.13**	**274**	PKPbc		**PKPbc**	**13 17 27.2**	**-0.3**
	comp=Z,38nm,0.9s,baz=43,slow=2.4,SNR=5.2							
MAW	**Mawson**	**153.98**	**153**	PKPbc		**PKiKP**	**13 17 49.7**	**+0.1**
	comp=Z,9.7nm,0.9s,baz=317,slow=4.9,SNR=9.5							
MAW	**Mawson**	**153.98**	**153**	PKIKP		**PKPdf**	**13 17 40.6**	**-0.9**
MAW				PKP		**PKPbc**	**13 17 49.6**	**0.0**
MAW	**Mawson**	**153.98**	**153**	PKPdf		**PKPdf**	**13 17 40.6**	**-0.9**
MAW						**PKPbc**	**13 17 49.6**	**0.0**
MAW				PKPab		**PKPab**	**13 18 04.8**	**+1.6**
SYO	**Syowa Base**	**154.91**	**173⇓**	*e*PKPdf		**PKPdf**	**13 17 45.0**	**+2.2**
SYO	**Syowa Base**	**154.91**	**173⇓**	*e*PKPbc		**PKiKP**	**13 17 54.4**	**+2.9**
VNA1	**Neumayer--Stat**	**157.30**	**213**	PKPab		**PKPab**	**13 18 18.4**	**+0.9**
VNA2	**Neumayer--Watz**	**157.54**	**213**	PKPab		**PKPab**	**13 18 19.1**	**+0.5**
VNA3	**Neumayer Olymp**	**157.95**	**214**	PKPab		**PKPab**	**13 18 20.6**	**+0.3**
SNAA	**Sanae**	**158.13**	**208**	PKPab		**PKPab**	**13 18 21.5**	**+0.4**
SNAA	**Sanae**	**158.13**	**208**	PKPab		**PKPab**	**13 18 21.3**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=16,slow=2.1,SNR=4.6							
SNAA	**Sanae**	**158.13**	**208**	PKP2		**PKPab**	**13 18 22.1**	**+1.0**
SNAA	**Sanae**	**158.13**	**208**			**PKPab**	**13 18 22.1**	**+1.0**
BELA	**Belgrano 2**	**165.69**	**231**			**PKPdf**	**13 17 55.0**	**+0.5**
BELA						**PKPab**	**13 18 54.5**	**+0.4**
VNDA	**Vanda**	**169.59**	**66**	PKPab		**PKPab**	**13 19 09.3**	**-1.9**
	comp=Z,1.2nm,1.0s,baz=322,slow=6.1,SNR=4.4							
QSPA	**South Pole Qui**	**176.03**	**179**	PKPab		**PKPab**	**13 19 39.8**	**-0.4**
	comp=Z,7.2nm,1.1s,baz=227,slow=3.2,SNR=7.1							
QSPA	**South Pole Qui**	**176.03**	**179**	PKPdf		**PKPdf**	**13 18 00.7**	**+0.4**
QSPA						**PKPab**	**13 19 39.8**	**-0.4**

PRU 01 13:12:22.2±0.0, 49.87N×18.45E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**261**	*e*PG		Pg		13 12 25.6	-0.4
OKC				*e*SG		Sg		13 12 29.3	+0.7
	comp=Z,11nm,0.5s								
MORC	**Moravsky Berou**	**0.59**	**261**	*e*PG		Pg		13 12 33.1	-0.5
MORC				*e*SG		Sg		13 12 40.8	-0.5
KRLC	**Kraliky**	**1.10**	**281**	*e*SG		Sg		13 12 56.6	-0.8
JAVC	**Velka Javorina**	**1.13**	**207**	*e*PG		Pg		13 12 43.6	-0.3
VRAC	**Vranov**	**1.33**	**246**	*e*PG		Pg		13 12 45.9	-1.8
VRAC				*e*SG		Sg		13 13 04.7	-0.3
DPC	**Dobruska-Polom**	**1.45**	**290**	*e*PG		Pn		13 12 48.7	-1.1
DPC				*e*SG		Sg		13 13 07.9	-0.9
DPC	**Dobruska-Polom**	**1.45**	**290**	*e*		Pn		13 12 48.7	-1.1

*NAO **01** 13:34:26.4±1.5, 59.69N×22.28E, ML2.4*
*HEL **01** 13:34:26.7, 59.71N×22.29E, h0km, ML2.4, Explosion*
*HEL **01** 13:34:26.6±0.1, 59.71N×22.29E, h0km, ML2.4, ML2.8(UPP), Explosion*
*UPP **01** 13:34:27.2±1.5, 59.81N×22.16E, h0km, ML2.8, Suspected explosion*
*IDC **01** 13:34:27.6±1.7, 59.82N×22.27E, h0km, mb1 3.3/4, mb1mx3.0/47, mbtmp3.2/4, ML2.3/4, Error ellipse: s-maj=22.9km s-min=7.6km az=161.0*
*BER **01** 13:34:28.3±2.8, 59.73N×22.06E, h0km, ML2.4(NAO), Suspected explosion*
*DNK **01** 13:34:45.9±1.7, 60.02N×19.87E, h0km, ML2.8(UPP), Suspected explosion*

ISC 01 13:34:24.5±0.7, 59.80N±0.03×22.31E±0.02, h0km, n68, σ1§68/83, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.90**	**131**	*eP*		**Pg**		**13 34 41.0**	**-0.6**
EE01				*eS*		**Sg**		**13 34 52.9**	**-0.4**
MEF	**Metsahovi**	**1.13**	**67**	*eP*		**Pb**		**13 34 47.4**	**+0.6**
MEF	**Metsahovi**	**1.13**	**67**	*eP*		**Pb**		**13 34 47.4**	**+0.6**
MEF				*eS*		**Sb**		**13 35 02.3**	**+0.3**
MEF				MSG				13 35 03.5	
	comp=Z,37nm,0.2s								
AAL	**Aland**	**1.23**	**289**	P		**Pg**		**13 34 48.6**	**+0.6**
AAL	**Aland**	**1.23**	**289**	*eP*		**Pg**		**13 34 48.6**	**+0.6**
RAF	**Rauma**	**1.25**	**348**	*eP*		**Pn**		**13 34 50.4**	**+1.1**
RAF	**Rauma**	**1.25**	**348**	*eP*		**Pn**		**13 34 50.2**	**+1.0**
RAF				*eS*		**Sn**		**13 35 08.1**	**+1.3**
RAF				MSG				13 35 09.2	
	comp=Z,39nm,0.2s								
MTSE	**Matsula**	**1.34**	**144**	*eP*		**Pg**		**13 34 49.1**	**-1.0**
MTSE	**Matsula**	**1.34**	**144**	*eP*		**Pg**		**13 34 49.3**	**-0.7**
EE02	**Kiisa, Saku**	**1.36**	**116**	*eP*		**Pg**		**13 34 50.1**	**-0.5**
EE02				*eS*		**Sg**		**13 35 06.5**	**-1.7**
NUR	**Nurmijrvi**	**1.37**	**58**	*eP*		**Pb**		**13 34 51.8**	**+0.9**

NRTU	**Norrtaelje**	**1.87**	**268**	P		**Pn**	**13 34 58.7**	**+1.1**
NRTU				S		**Sb**	**13 35 24.0**	**+0.7**
NRTU	**Norrtaelje**	**1.87**	**268**	P		**Pn**	**13 34 58.7**	**+1.1**
NRTU				S		**Sb**	**13 35 24.0**	**+0.7**
NRTU	**Norrtaelje**	**1.87**	**268**	*eP*		**Pn**	**13 34 58.7**	**+1.1**
NRTU				*eS*		**Sb**	**13 35 24.0**	**+0.7**
ARBE	**Arbavere**	**1.90**	**100**	*eP*		**Pb**	**13 35 00.4**	**+0.4**
PVF	**Pernaja**	**1.92**	**66**	*eP*		**Pb**	**13 35 01.1**	**+0.7**
GRAU	**Graesoe**	**1.96**	**287**	P		**Pn**	**13 35 00.5**	**+1.5**
GRAU	**Graesoe**	**1.96**	**287**	P		**Pn**	**13 35 00.5**	**+1.5**
GRAU	**Graesoe**	**1.96**	**287**	*eP*		**Pn**	**13 35 00.5**	**+1.5**
FORU	**Forsmark**	**2.15**	**288**	P		**Pb**	**13 35 03.9**	**-0.4**
FORU	**Forsmark**	**2.15**	**288**	P		**Pb**	**13 35 03.9**	**-0.4**
FORU	**Forsmark**	**2.15**	**288**	*eP*		**Pb**	**13 35 03.9**	**-0.4**
SLIT	**Slitere, Latvi**	**2.18**	**180**	*eP*		Pn	13 34 55.8	-6.2
SLIT				IAML			13 35 03.5	
	comp=Z,175nm,0.2s							
SLIT	**Slitere, Latvi**	**2.18**	**180**	*eP*		**Pn**	**13 35 02.5**	**+0.5**
EE03	**Tooma soojaam,**	**2.23**	**113**	*e*PB		**Pb**	**13 35 05.3**	**-0.3**
EE03				*e*SG		**Sb**	**13 35 34.2**	**+0.4**
FLYU	**Flymyra**	**2.25**	**280**	P		**Pn**	**13 35 04.8**	**+1.8**
FLYU	**Flymyra**	**2.25**	**280**	P		**Pn**	**13 35 04.8**	**+1.8**
FLYU	**Flymyra**	**2.25**	**280**	*eP*		**Pn**	**13 35 04.8**	**+1.8**
NYNU	**Nynaeshamn**	**2.34**	**252**	P		**Pn**	**13 35 06.1**	**+2.0**
NYNU	**Nynaeshamn**	**2.34**	**252**	P		**Pn**	**13 35 06.1**	**+2.0**
NYNU	**Nynaeshamn**	**2.34**	**252**	*eP*		**Pn**	**13 35 06.1**	**+2.0**
FIA0	**FINESS Array S**	**2.48**	**47**	Pn		**Pb**	**13 35 09.9**	**+0.1**
	baz=227,slow=14							
FIA0				Sn		**Sg**	**13 35 43.0**	**-1.1**
	baz=222,slow=22							
FIA0	**FINESS Array S**	**2.48**	**47**	Pn		**Pb**	**13 35 09.9**	**+0.1**
	baz=227,slow=14							
FIA0				Sn		**Sg**	**13 35 43.0**	**-1.1**
	baz=222,slow=22							
FIA0	**FINESS Array S**	**2.48**	**47**	*eP*		**Pb**	**13 35 09.8**	**-0.1**
FINES	**FINESS Array B**	**2.48**	**47**	Pn		**Pb**	**13 35 10.0**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=228,slow=13,SNR=56							
FINES				Sn		**Sg**	**13 35 42.8**	**-1.4**
	comp=Z,6.5nm,0.3s,baz=228,slow=21,SNR=34							
FIA1	**FINESS Array S**	**2.48**	**47**	*eP*		**Pb**	**13 35 09.8**	**-0.1**
FIBU	**Brunna**	**2.50**	**274**	P		**Pb**	**13 35 09.0**	**-1.3**
FIBU	**Brunna**	**2.50**	**274**	P		**Pb**	**13 35 09.0**	**-1.3**
BACU	**Backbrunna**	**2.63**	**273**	P		**Pn**	**13 35 10.5**	**+2.4**
BACU	**Backbrunna**	**2.63**	**273**	P		**Pn**	**13 35 10.5**	**+2.4**
BACU	**Backbrunna**	**2.63**	**273**	*eP*		**Pn**	**13 35 10.5**	**+2.4**
OSTU	**Oestervaala**	**2.63**	**282**	P		**Pn**	**13 35 10.1**	**+1.9**
OSTU	**Oestervaala**	**2.63**	**282**	P		**Pn**	**13 35 10.1**	**+1.9**
OSTU	**Oestervaala**	**2.63**	**282**	*eP*		**Pn**	**13 35 10.1**	**+1.9**
VSU	**Vasula**	**2.65**	**119**	*eP*		**Pn**	**13 35 10.8**	**+2.5**
VSU	**Vasula**	**2.65**	**119**	Pn		**Pn**	**13 35 10.9**	**+2.6**
VSU	**Vasula**	**2.65**	**119**	Pn		**Pn**	**13 35 10.9**	**+2.6**
VSU	**Vasula**	**2.65**	**119**	*eP*		**Pn**	**13 35 10.8**	**+2.5**
**KE

JTNC				S	**S**	13 45 42.3	-0.8		
JYTA	**Yamagatataniai**	**1.11**	**12**	P	**Pn**	13 45 06.9	+0.9		
JYTA				S	**S**	13 45 44.2	+0.3		
JWT	**Wachi**	**1.16**	**312**	P	**Pn**	13 45 06.8	+0.6		
JWT				S	**S**	13 45 43.6	-0.7		
TK02	**Tokai 2**	**1.22**	**117**	P	**Pn**	13 45 07.5	+1.2		
TK02				S	**S**	13 45 45.2	+0.9		
JKG	**Kaga**	**1.77**	**357**	P	**Pn**	13 45 10.1	+0.6		
JAI	**Aioi**	**1.80**	**247**	P	**Pn**	13 45 10.1	+0.3		
JYN	**Shimobe**	**1.98**	**59**	P	**Pn**	13 45 11.4	+0.4		
JMN	**Monobe**	**2.27**	**251**	P	**Pn**	13 45 13.5	+0.4		
JOD2	**Odawara 2**	**2.30**	**70**	P	**Pn**	13 45 14.2	+1.0		
MAT	**Matsushiro**	**2.49**	**35**	P	**Pn**	13 45 15.2	+0.6		
MAT				eS	**S**	13 46 00.2	+0.7		
MAT	**Matsushiro**	**2.49**	**35**	P	**Pn**	13 45 15.2	+0.6		
MJAR	**Matsushiro Arr**	**2.49**	**35**	P	**Pn**	13 45 15.3	+0.7		
	0.9nm,0.3s,baz=212,slow=8.7,SNR=62								
JRY	**Ryogami san**	**2.51**	**52**	P	**Pn**	13 45 15.6	+0.8		
JHS	**Saijyo**	**2.79**	**281**	P	**Pn**	13 45 17.8	+0.6		
JHJ	**Hachijo jima 2**	**3.10**	**116**	P	**Pn**	13 45 20.3	+0.4		
	8.0nm,0.3s,baz=330,slow=20,SNR=1.3								
JTO	**Tosashimizu**	**3.46**	**243**	P	**Pn**	13 45 23.3	+0.1		
JNU	**Nakatsue**	**4.84**	**255**	P	**Pn**	13 45 37.5	+0.2		
	1.5nm,0.3s,baz=68,slow=9.7,SNR=16								
KSRS	**Korea Array**	**7.51**	**296**	P	**P**	13 46 09.1	+0.4		
	baz=106,slow=13,SNR=2.3								
ASAJ	**Asahikawa**	**10.71**	**25**	P	**Pn**	13 46 46.2	+1.1		
	0.5nm,0.3s,baz=230,slow=7.9,SNR=5.9								
ASAJ				S	**S**	13 48 40.2	-5.0		
	0.1nm,0.3s,baz=134,slow=31,SNR=1.8								
SONM	**Songino Array**	**26.07**	**310**	P	**P**	13 49 23.5	+2.5		
	0.3nm,0.6s,baz=111,slow=6.3,SNR=1.9								
MKAR	**Makanchi Array**	**42.10**	**304**	P	**P**	13 51 37.6	+0.5		
	0.3nm,0.4s,baz=84,slow=10,SNR=7.5								
ILAR	**Eielson Array**	**53.76**	**31**	P	**P**	13 53 05.5	+0.4		
	0.4nm,0.6s,baz=266,slow=6.2,SNR=5.7								
WRA	**Warramunga Arr**	**54.18**	**182**	P	**P**	13 53 07.2	-1.4		
	0.2nm,0.3s,baz=0.9,slow=7.7,SNR=6.8								

*UPP **01** 13:44:36.6±1.3,59.°76N×22.°25E,h0km,ML2.0,Suspected explosion*
*HEL **01** 13:44:36.7±0.1,59.°72N×22.°29E,h0km,ML2.1, ML2.0(UPP), Explosion*
*HEL **01** 13:44:36.8,59.°73N×22.°27E,h0km,ML2.1,Explosion*
*IDC **01** 13:44:39.0±1.8,59.°80N×22.°35E,h0km,mb1 3.2/4, mb1mx3.0/50,mbtmp3.1/4,ML2.1/4,Error ellipse: s-maj=22.8km s-min=7.8km az=165.0*
*DNK **01** 13:44:55.1±1.9,59.°98N×20.°00E,h0km,ML2.0(UPP), Suspected explosion*

ISC 01 13:44:35.6±0.8,59.80N±0.°04×22.38E±0.°02,h0km,n41, σ1s14/52,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE01	**Perakula, Nova**	**0.87**	**133**	*eP*	**Pg**	**13 44 51.7**	**-0.6**
MEF	**Metsahovi**	**1.09**	**67**	*eP*	**Pb**	**13 44 57.5**	**+0.2**
MEF				*eS*	**Sn**	**13 45 13.6**	**-0.3**
MEF				MSG		13 45 15.0	
	comp=Z,14nm,0.1s						
AAL	**Aland**	**1.25**	**288**	P	**Pg**	**13 44 59.0**	**-0.7**
AAL				S	**Sg**	**13 45 16.4**	**+0.5**
AAL	**Aland**	**1.25**	**288**	*eP*	**Pg**	**13 44 59.0**	**-0.7**
AAL				*eS*	**Sg**	**13 45 16.4**	**+0.5**
RAF	**Rauma**	**1.26**	**346**	*eP*	**Pn**	**13 45 00.5**	**0.0**
RAF				MSG		13 45 24.1	
	comp=Z,14nm,0.1s						
MTSE	**Matsula**	**1.32**	**145**	*eP*	**Pg**	**13 44 59.8**	**-1.0**
EE02	**Kiisa, Saku**	**1.33**	**116**	*eP*	**Pg**	**13 45 00.3**	**-0.8**
EE02				*eSN*	**Sn**	**13 45 21.5**	**+1.7**
NUR	**Nurmijrvi**	**1.34**	**57**	*eP*	**Pn**	**13 45 01.8**	**+0.3**
NUR				*eS*	**Sn**	**13 45 21.0**	**+1.0**
ARBE	**Arbavere**	**1.87**	**100**	*eS*	**Sn**	**13 45 34.2**	**+1.1**
PVF	**Pernaja**	**1.89**	**65**	*eP*	**Pb**	**13 45 11.2**	**+0.2**
PVF				*eS*	**Sg**	**13 45 36.6**	**+0.3**
PVF				MSG		13 45 43.3	
	comp=Z,20nm,0.1s						
NRTU	**Norrtaelje**	**1.90**	**268**	P	**Pn**	**13 45 09.1**	**-0.2**
NRTU	**Norrtaelje**	**1.90**	**268**	P	**Pn**	**13 45 09.1**	**-0.2**
NRTU	**Norrtaelje**	**1.90**	**268**	*eP*	**Pn**	**13 45 09.1**	**-0.2**
GRAU	**Graesoe**	**2.00**	**287**	P	**Pn**	**13 45 10.9**	**+0.4**
GRAU	**Graesoe**	**2.00**	**287**	P	**Pn**	**13 45 10.9**	**+0.4**
GRAU	**Graesoe**	**2.00**	**287**	*eP*	**Pn**	**13 45 10.9**	**+0.4**
FORU	**Forsmark**	**2.18**	**287**	P	**Pn**	**13 45 13.9**	**+0.8**
FORU	**Forsmark**	**2.18**	**287**	P	**Pn**	**13 45 13.9**	**+0.8**
FORU	**Forsmark**	**2.18**	**287**	*eP*	**Pn**	**13 45 13.9**	**+0.8**
SLIT	**Slitere, Latvi**	**2.18**	**181**	*eP*	**Pn**	**13 45 13.5**	**+0.4**
EE03	**Tooma soojaam,**	**2.20**	**131**	*eSB*	**Sb**	**13 45 14.8**	**-0.3**
FLYU	**Flymyra**	**2.28**	**280**	P	**Pn**	**13 45 15.3**	**+0.8**
FLYU	**Flymyra**	**2.28**	**280**	P	**Pn**	**13 45 15.3**	**+0.8**
FLYU	**Flymyra**	**2.28**	**280**	*eP*	**Pn**	**13 45 15.3**	**+0.8**
NYNU	**Nynaeshamn**	**2.38**	**252**	P	**Pn**	**13 45 16.2**	**+0.5**
NYNU	**Nynaeshamn**	**2.38**	**252**	P	**Pn**	**13 45 16.2**	**+0.5**
NYNU	**Nynaeshamn**	**2.38**	**252**	*eP*	**Pn**	**13 45 16.2**	**+0.5**
FINES	**FINESS Array B**	**2.46**	**46**	Pn	**Pb**	**13 45 20.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=233,slow=14,SNR=19						
FINES				Sn	**Sg**	**13 45 53.0**	**-1.4**
	comp=Z,5.6nm,0.3s,baz=234,slow=24,SNR=17						
FIBU	**Brunna**	**2.54**	**274**	P	**Pn**	**13 45 18.7**	**+0.7**
FIBU	**Brunna**	**2.54**	**274**	P	**Pn**	**13 45 18.7**	**+0.7**
FIBU	**Brunna**	**2.54**	**274**	*eP*	**Pn**	**13 45 18.7**	**+0.7**
VSU	**Vasula**	**2.62**	**119**	*eP*	**Pn**	**13 45 20.2**	**+1.1**
VSU				*ePB*	**Pb**	**13 45 22.0**	**-1.4**
VSU				*eSG*	**Sb**	**13 45 56.7**	**+0.8**
KEF	**Keuruu**	**2.66**	**26**	MSG		13 46 08.2	
	comp=Z,7.0nm,0.1s						
VJF	**Virojoki**	**2.69**	**72**	*eP*	**Pn**	**13 45 22.4**	**+2.4**
VJF				MSG		13 46 06.0	
	comp=Z,8.1nm,0.1s						
IGGU	**Iggoen**	**2.73**	**295**	P	**Pn**	**13 45 21.5**	**+0.8**
IGGU	**Iggoen**	**2.73**	**295**	P	**Pn**	**13 45 21.5**	**+0.8**
IGGU	**Iggoen**	**2.73**	**295**	*eP*	**Pn**	**13 45 21.5**	**+0.8**
EE04	**Vaivara Sinima**	**2.83**	**96**	*eS*	**Sn**	**13 45 58.3**	**+1.6**
HFS	**Hagfors**	**4.38**	**278**	Pn	**Pn**	**13 45 45.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=90,slow=19,SNR=2.1						
HFS				Sn	**Sn**	**13 46 35.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=87,slow=26,SNR=1.3						
HFS				Lg	Lg	13 46 54.4	
	comp=Z,1.0nm,0.3s,baz=91,slow=29,SNR=2.7						
NOA	**NORSAR Array B**	**5.67**	**287**	Pn	**Pn**	**13 46 02.6**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=92,slow=14,SNR=6.4						
NOA				Sn	**Sn**	**13 47 07.5**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=131,slow=22,SNR=1.2						
NOA				Lg	Lg	13 47 34.2	
	comp=Z,0.1nm,0.3s,baz=97,slow=19,SNR=1.5						
ARCES	**ARCESS Array B**	**9.86**	**6**	Pn	**Pn**	**13 47 00.5**	**+2.1**
	baz=186,slow=13,SNR=9.3						
ARCES				Sn	**Sn**	**13 48 45.1**	**-4.5**
	baz=190,slow=26,SNR=2.1						

*HEL **01** 13:47:55.7,59.°68N×22.°28E,h0km,ML2.3,Explosion*
*IDC **01** 13:47:56.6±1.7,59.°70N×22.°33E,h0km,mb1 3.2/4, mb1mx2.9/51,mbtmp3.1/4,ML2.4/4,Error ellipse: s-maj=22.2km s-min=7.5km az=163.0*
*UPP **01** 13:47:57.2±1.2,59.°73N×22.°09E,h0km,ML2.9,Suspected explosion*
*NAO **01** 13:47:57.2±1.4,59.°80N×22.°26E,ML2.2*
*BER **01** 13:47:58.7±3.6,59.°75N×22.°16E,h0km,ML2.2(NAO), Suspected explosion*
*DNK **01** 13:48:15.6±2.8,60.°09N×19.°82E,h0km,ML2.9(UPP), Suspected explosion*

ISC 01 13:47:53.7±0.7,59.70N±0.°03×22.35E±0.°02,h0km,n88, σ1s47/103,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE01	**Perakula, Nova**	**0.81**	**127**	*eP*	**Pb**	**13 48 10.7**	**+0.1**
MEF	**Metsahovi**	**1.15**	**62**	*eP*	**Pn**	**13 48 17.0**	**0.0**
MEF	**Metsahovi**	**1.15**	**62**	*eP*	**Pn**	**13 48 16.9**	**-0.1**
MEF	**Metsahovi**	**1.15**	**62**	*eP*	**Pn**	**13 48 16.8**	**-0.2**
MEF				*eS*	**Sn**	**13 48 32.6**	**-0.9**
MEF				MSG		13 48 35.3	
	comp=Z,19nm,0.1s						
MTSE	**Matsula**	**1.24**	**142**	*eP*	**Pn**	**13 48 18.5**	**+0.4**
MTSE	**Matsula**	**1.24**	**142**	*eP*	**Pb**	**13 48 18.0**	**+0.1**
AAL	**Aland**	**1.28**	**293**	P	**Pg**	**13 48 18.3**	**+0.1**
AAL	**Aland**	**1.28**	**293**	*eP*	**Pg**	**13 48 18.3**	**+0.1**
EE02	**Kiisa, Saku**	**1.30**	**112**	*eP*	**Pn**	**13 48 19.6**	**+0.5**
EE02				*eSB*	**Sn**	**13 48 37.5**	**+0.4**
RAF	**Rauma**	**1.36**	**348**	*eP*	**Pb**	**13 48 20.3**	**+0.3**
RAF	**Rauma**	**1.36**	**348**	*eP*	**Pb**	**13 48 20.2**	**+0.2**
RAF	**Rauma**	**1.36**	**348**	*eP*	**Pg**	**13 48 20.0**	**+0.2**
RAF				*eS*	**Sb**	**13 48 38.1**	**+0.1**
RAF				MSG		13 48 39.1	
	comp=Z,32nm,0.2s						
NUR	**Nurmijrvi**	**1.41**	**54**	*eP*	**Pb**	**13 48 21.4**	**+0.6**
NUR				*eS*	**Sn**	**13 48 40.1**	**+0.3**
NRTU	**Norrtaelje**	**1.89**	**271**	P	**Pb**	**13 48 28.8**	**-0.1**
NRTU	**Norrtaelje**	**1.89**	**271**	P	**Pb**	**13 48 28.8**	**-0.1**
NRTU	**Norrtaelje**	**1.89**	**271**	*eP*	**Pb**	**13 48 28.8**	**-0.1**
PVF	**Pernaja**	**1.95**	**63**	*eP*	**Pg**	**13 48 30.7**	**-0.4**
PVF				*eS*	**Sg**	**13 48 55.9**	**-0.5**
PVF				MSG		13 48 58.6	
	comp=Z,24nm,0.2s						
GRAU	**Graesoe**	**2.02**	**290**	P	**Pn**	**13 48 30.1**	**+1.2**
GRAU				S	**Sb**	**13 48 56.8**	**0.0**
GRAU	**Graesoe**	**2.02**	**290**	P	**Pn**	**13 48 30.1**	**+1.2**
GRAU				S	**Sb**	**13 48 56.8**	**0.0**
GRAU	**Graesoe**	**2.02**	**290**	*eP*	**Pn**	**13 48 30.1**	**+1.2**
GRAU				*eS*	**Sb**	**13 48 56.8**	**0.0**
SLIT	**Slitere, Latvi**	**2.07**	**181**	*eP*	**Pb**	**13 48 31.1**	**-1.0**
SLIT	**Slitere, Latvi**	**2.07**	**181**	*eP*	**Pb**	**13 48 31.9**	**-0.2**
SLIT	**Slitere, Latvi**	**2.07**	**181**	*eP*	**Pb**	**13 48 31.5**	**-0.6**
EE03	**Tooma soojaam,**	**2.17**	**111**	*eSG*	**Sg**	**13 49 03.6**	**+0.1**
FORU	**Forsmark**	**2.21**	**290**	P	**Pb**	**13 48 33.5**	**-0.8**
FORU	**Forsmark**	**2.21**	**290**	P	**Pb**	**13 48 33.5**	**-0.8**
FORU	**Forsmark**	**2.21**	**290**	*eP*	**Pb**	**13 48 33.5**	**-0.8**
FLYU	**Flymyra**	**2.29**	**283**	P	**Pb**	**13 48 34.6**	**-1.2**
FLYU	**Flymyra**	**2.29**	**283**	P	**Pb**	**13 48 34.6**	**-1.2**
FLYU	**Flymyra**	**2.29**	**283**	*eP*	**Pb**	**13 48 34.6**	**-1.2**
NYNU	**Nynaeshamn**	**2.33**	**255**	P	**Pb**	**13 48 35.7**	**-0.7**
NYNU	**Nynaeshamn**	**2.33**	**255**	P	**Pb**	**13 48 35.7**	**-0.7**
NYNU	**Nynaeshamn**	**2.33**	**255**	*eP*	**Pb**	**13 48 35.7**	**-0.7**
UPP	**Uppsala**	**2.40**	**276**	P	**Pb**	**13 48 36.7**	**-0.9**
UPP	**Uppsala**	**2.40**	**276**	*eP*	**Pb**	**13 48 36.7**	**-0.9**
FIBU	**Brunna**	**2.54**	**277**	P	**Pb**	**13 48 38.5**	**-1.5**
FIBU	**Brunna**	**2.54**	**277**	P	**Pb**	**13 48 38.5**	**-1.5**
FIA0	**FINESS Array S**	**2.54**	**45**	Pn	**Pb**	**13 48 39.5**	**-0.6**
	baz=221,slow=14						
FIA0				Sn	**Sb**	**13 49 12.5**	**+0.7**
	baz=224,slow=28						
FIA0	**FINESS Array S**	**2.54**	**45**	Pn	**Pb**	**13 48 39.5**	**-0.6**
	baz=221,slow=14						
FIA0				Sn	**Sb**	**13 49 12.5**	**+0.7**
	baz=224,slow=28						
FINES	**FINESS Array B**	**2.54**	**45**	Pn	**Pb**	**13 48 39.5**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=226,slow=14,SNR=23						
FINES				Sn	**Sb**	**13 49 12.5**	**+0.7**
	comp=Z,8.7nm,0.3s,baz=230,slow=23,SNR=32						
FIA1	**FINESS Array S**	**2.54**	**45**	MSG		13 49 14.8	
	comp=Z,28nm,0.2s						
VSU	**Vasula**	**2.58**	**117**	*eP*	**Pb**	**13 48 38.9**	**-1.8**
VSU	**Vasula**	**2.58**	**117**	*eP*	**Pb**	**13 48 40.4**	**-0.3**
VSU	**Vasula**	**2.58**	**117**	Pn	**Pb**	**13 48 40.1**	**-0.6**
VSU				Sn	**Sb**	**13 49 13.8**	**+0.9**
VSU	**Vasula**	**2.58**	**117**	Pn	**Pb**	**13 48 40.1**	**-0.6**
VSU				Sn	**Sb**	**13 49 13.8**	**+0.9**
VSU	**Vasula**	**2.58**	**117**	*eP*	**Pb**	**13 48 39.4**	**-1.3**
BACU	**Backbrunna**	**2.66**	**276**	P	**Pn**	**13 48 40.1**	**+2.4**
BACU	**Backbrunna**	**2.66**	**276**	P	**Pn**	**13 48 40.1**	**+2.4**
BACU	**Backbrunna**	**2.66**	**276**	*eP*	**Pn**	**13 48 40.1**	**+2.4**
OSTU	**Oestervaala**	**2.68**	**284**	P	**Pn**	**13 48 40.0**	**+2.0**
OSTU	**Oestervaala**	**2.68**	**284**	P	**Pn**	**13 48 40.0**	**+2.0**
OSTU	**Oestervaala**	**2.68**	**284**	*eP*	**Pn**	**13 48 40.0**	**+2.0**
KEF	**Keuruu**	**2.77**	**25**	MSG		13 49 23.3	
	comp=Z,7.6nm,0.2s						
IGGU	**Iggoen**	**2.77**	**297**	P	**Pn**	**13 48 41.1**	**+1.9**
IGGU	**Iggoen**	**2.77**	**297**	P	**Pn**	**13 48 41.1**	**+1.9**
IGGU	**Iggoen**	**2.77**	**297**	*eP*	**Pn**	**13 48 41.1**	**+1.9**
GOTU	**Gotland**	**2.82**	**226**	P	**Pn**	**13 48 42.1**	**+2.2**
GOTU	**Gotland**	**2.82**	**226**	P	**Pn**	**13 48 42.1**	**+2.2**
GOTU	**Gotland**	**2.82**	**226**	*eP*	**Pn**	**13 48 42.1**	**+2.2**
EE04	**Vaivara Sinima**	**2.83**	**94**	*ePG*	**Pg**	**13 48 47.1**	**-0.8**
VIKU	**Vikbolandet**	**3.15**	**250**	P	**Pn**	**13 48 46.5**	**+2.0**
VIKU	**Vikbolandet**	**3.15**	**250**	P	**Pn**	**13 48 46.5**	**+2.0**
VIKU	**Vikbolandet**	**3.15**	**250**	*eP*	**Pn**	**13 48 46.5**	**+2.0**
ARNU	**Arnoeviken**	**3.16**	**311**	P	**Pn**	**13 48 46.9**	**+2.3**
ARNU	**Arnoeviken**	**3.16**	**311**	P	**Pn**	**13 48 46.9**	**+2.3**
ARNU	**Arnoeviken**	**3.16**	**311**	*eP*	**Pn**	**13 48 46.9**	**+2.3**
FALU	**Falun**	**3.36**	**287**	P	**Pn**	**13 48 49.2**	**+1.9**
FALU	**Falun**	**3.36**	**287**	P	**Pn**	**13 48 49.2**	**+1.9**
FALU	**Falun**	**3.36**	**287**	*eP*	**Pn**	**13 48 49.2**	**+1.9**
PBUR	**Paburge**	**3.69**	**184**	*eP*	**Pb**	**13 48 57.6**	**-2.0**
PABE	**Paberze**	**4.29**	**168**	*eP*	**Pn**	**13 49 03.9**	**+3.8**
HFS	**Hagfors**	**4.38**	**279**	Pn	**Pn**	**13 49 03.6**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=95,slow=13,SNR=14						
HFS				Sn	**Sn**	**13 49 54.6**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=92,slow=26,SNR=1.7						
HFS				Lg	Lg	13 50 11.6	
	comp=Z,1.5nm,0.3s,baz=93,slow=29,SNR=5.4						
HFS	**Hagfors**	**4.38**	**279**	Pn	**Pn**	**13 49 03.3**	**+2.0**
	baz=80,slow=16						
HFS				Sn	**Sn**	**13 49 53.1**	**+0.1**
	baz=100,slow=37						
HFS				Lg	Lg	13 50 11.2	
	baz=78,slow=37						
HFS	**Hagfors**	**4.38**	**279**	Pn	**Pn**	**13 49 03.3**	**+2.0**
	baz=80,slow=16						
HFS				Sn	**Sn**	**13 49 53.1**	**+0.1**
	baz=100,slow=37						
HFS				Sg	**Sg**	**13 50 11.2**	**-3.0**
	baz=78,slow=37						
IIGN	**Ignalina**	**4.83**	**153**	IAML		13 48 48.8	
	comp=Z,2.9nm,0.5s						
IDID	**Didziasalis**	**4.99**	**150**	IAML		13 48 42.8	
	comp=Z,2.5nm,0.5s						
NRA0	**NORESS Array S**	**5.49**	**286**	Pn	**Pn**	**13 49 18.4**	**+1.8**
	baz=103,slow=12						
NRA0	**NORESS Array S**	**5.49**	**286**	Pn	**Pn**	**13 49 18.4**	**+1.8**
	baz=103,slow=12						
NB2	**NORSAR Subarra**	**5.69**	**288**	Pn	**Pn**	**13 49 20.6**	**+1.2**
	baz=98,slow=12						
NB2	**NORSAR Subarra**	**5.69**	**288**	Pn	**Pn**	**13 49 20.6**	**+1.2**
	baz=98,slow=12						
NOA	**NORSAR Array B**	**5.69**	**288**	Pn	**Pn**	**13 49 20.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=100,slow=12,SNR=14						
NOA				Sn	**Sn**	**13 50 23.6**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=100,slow=18,SNR=1.6						
NOA				Lg	Lg	13 50 52.3	
	comp=Z,0.1nm,0.3s,baz=123,slow=22,SNR=1.7						
HOMB	**Homborsund**	**7.30**	**265**	*i*	**Pn**	**13 49 41.5**	**+0.1**
HOMB				*i*		13 50 58.5	
SNART	**Snartemo**	**7.93**	**267**	*i*	**Pn**	**13 49 51.6**	**+1.5**
SNART				*i*		13 51 15.6	
APA0	**Apatity Array**	**9.23**	**26**	Pn	**Pn**	**13 50 10.7**	**+3.0**
	baz=221,slow=10						
APA0	**Apatity Array**	**9.23**	**26**	Pn	**Pn**	**13 50 10.7**	**+3.0**
	baz=221,slow=10						
ARA0	**ARCESS Array S**	**9.97**	**6**	Pn	**Pn**	**13 50 18.4**	**+0.4**
	baz=188,slow=14						
ARA0	**ARCESS Array S**	**9.97**	**6**	Pn	**Pn**	**13 50 18.4**	**+0.4**
	baz=188,slow=14						
ARCES	**ARCESS Array B**	**9.97**	**6**	Pn	**Pn**	**13 50 17.6**	**-0.4**
	baz=186,slow=13,SNR=18						
ARCES				Sn	**Sn**	**13 52 06.7**	**-3.7**
	baz=196,slow=22,SNR=1.4						

IDC 01 13:48:03.3±2.8,59.50N×22.58E,h0km,mb1 3.3/4, mb1mx3.0/50,mbtmp3.2/4,ML2.5/4,Error ellipse: s-maj=43.1km s-min=11.2km az=156.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.61**	**40**	Pn	**Pn**	**13 48 47.4**	**+0.8**
	1.4nm,0.3s,baz=226,slow=14,SNR=12						
FINES				Sn	**Sn**	**13 49 20.9**	**+1.9**
	8.9nm,0.3s,baz=226,slow=24,SNR=15						
HFS	**Hagfors**	**4.53**	**282**	Pn	**Pn**	**13 49 12.3**	**-0.8**
	0.6nm,0.3s,baz=94,slow=14,SNR=11						
NOA	**NORSAR Array B**	**5.86**	**290**	Pn	**Pn**	**13 49 28.5**	**-2.9**
	0.1nm,0.3s,baz=101,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**10.15**	**6**	Pn	**Pn**	**13 50 27.0**	**-3.1**
	baz=185,slow=12,SNR=8.1						

*IDC **01** 13:55:13.3±1.4,28.°09N×129.°72E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/39,mbtmp3.5/5,ML3.2/1,MS3.4/3, Ms1 3.4/3,ms1mx2.8/28,Error ellipse: s-maj=68.9km s-min=23.7km az=78.0*
*JMA **01** 13:55:14.5±0.1,28.°02N×130.°25E,h36km±1km,M3.3 JMA Felt I J1.*

ISC 01 13:55:15.1±1.3,28.01N±0.°04×130.18E±0.°06,h19km±3km, n23,σ1s02/30,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.35**	**328**	P	**Pg**	**13 55 23.3**	**+0.7**
JZK				S	**Sb**	**13 55 29.8**	**+1.7**
JAM	**Amami Oshima**	**0.65**	**308**	P	**Pb**	**13 55 27.6**	**-0.1**
JAM				S	**Sb**	**13 55 37.0**	**+0.8**
JAMN	**Amaminishikomi**	**0.92**	**285**	P	**Pb**	**13 55 31.8**	**-0.6**
JAMN				*eS*	**Sb**	**13 55 44.3**	**+0.1**
JTK	**Tokunoshima**	**1.11**	**259**	P	**Pn**	**13 55 35.4**	**-0.3**
JTK				*eS*	**Sb**	**13 55 50.3**	**+0.5**
JTAJ	**Takarajima**	**1.43**	**323**	P	**Pn**	**13 55 39.5**	**-0.4**
JTAJ				S	**Sn**	**13 55 57.7**	**-0.5**
JOKE	**Okinoerabujima**	**1.57**	**246**	P	**Pn**	**13 55 42.1**	**+0.2**
JYRO	**Yoronjima**	**1.83**	**238**	P	**Pn**	**13 55 45.4**	**0.0**
JIH	**Iheya**	**2.19**	**244**	P	**Pn**	**13 55 50.2**	**-0.3**
JYAK	**Yakushimahirau**	**2.24**	**7**	P	**Pn**	**13 55 50.8**	**-0.3**
JYAK				*eS*	**Sn**	**13 56 16.9**	**-1.3**
JKDJ	**Kitadaitoujima**	**2.28**	**154**	*eS*	**Sn**	**13 56 17.8**	**-1.5**
JNTH	**Nagotoyohara**	**2.43**	**233**	P	**Pn**	**13 55 53.6**	**-0.2**
JKC	**Kuchinoerabu**	**2.44**	**0**	P	**Pn**	**13 55 53.9**	**0.0**
JKC				*eS*	**Sn**	**13 56 22.1**	**-1.1**
JMTN	**Minamitane**	**2.46**	**15**	P	**Pn**	**13 55 54.0**	**-0.2**
JMTN				S	**Sn**	**13 56 22.6**	**-1.1**
JTN	**Tanegashima 3**	**2.72**	**15**	P	**Pn**	**13 55 57.6**	**-0.2**
JTN				*eS*	**Sn**	**13 56 29.4**	**-0.8**
JKE	**Kume jima 2**	**3.46**	**242**	P	**Pn**	**13 56 07.6**	**-0.3**
JNU	**Nakatsue**	**5.13**	**7**	Pn	**Pn**	**13 56 31.7**	**+0.8**
	1.1nm,0.3s,baz=198,slow=6.1,SNR=15						
JNU				Sn	**Sn**	**13 57 28.0**	**-1.6**
	1.6nm,0.3s,baz=80,slow=23,SNR=6.1						
KSRS	**Korea Array**	**9.60**	**349**	LR	LR	14 01 36.4	
	comp=Z,73nm,18.9s,baz=170,slow=40						
PETK	**Petropavlovsk-**	**32.27**	**31**	LR	LR	14 16 42.6	
	comp=Z,45nm,18.7s,baz=217,slow=40						
MKAR	**Makanchi Array**	**41.69**	**310**	P	**P**	**14 03 01.1**	**-1.4**
	0.1nm,0.5s,baz=108,slow=9.4,SNR=2.1						
WRA	**Warramunga Arr**	**47.84**	**175**	P	**P**	**14 03 53.2**	**+1.5**
	0.4nm,0.5s,baz=353,slow=8.6,SNR=3.0						
ASAR	**Alice Springs**	**51.50**	**176**	P	**P**	**14 04 22.1**	**+2.5**
	0.2nm,0.6s,baz=12,slow=13,SNR=4.6						
MSVF	**Nonsavu**	**64.92**	**129**	LR	LR	14 30 58.8	
	comp=Z,95nm,19.0s,baz=28,slow=33						
FINES	**FINESS Array B**	**72.17**	**331**	P	**P**	**14 06 37.6**	**-0.7**
	4.4nm,1.0s,baz=64,slow=3.2,SNR=6.1						

*BJI **01** 14:07:46.8±0.0,4.°37N×95.°49E,h87km,mB4.9/36, mb4.9/62,Ms4.1/14,Ms7 3.8/12*
*NEIC **01** 14:07:50.2±1.7,4.°65N±0.°07×95.°57E±0.°08,h73km±5km, mb5.0/119,Md5.0(DJA),Error ellipse: s-maj=11.9km s-min=9.8km az=86.0*
*MOS **01** 14:07:50.3±0.9,4.°74N×95.°64E,h93km,mb5.0/58,Error ellipse: s-maj=7.5km s-min=4.3km az=107.2*
*IDC **01** 14:07:50.5±0.6,4.°77N×95.°71E,h73km±5km,mb4.3/24, mb1 4.4/26,mb1mx4.4/32,mbtmp4.7/26,MS3.4/10, Ms1 3.5/10,ms1mx3.2/45,Error ellipse:

CMMT Chiang Mai 14.45 13 P **Pn** 14 11 12.8 +1.9
320nm35nm,1.0s
CM33 Chiang Mai Arr 14.45 13 P **Pn** 14 11 13.0 +2.1
CM34 Chiang Mai Arr 14.53 14 P **Pn** 14 11 14.0 +2.1
DLV T Lat 14.67 60 P **P** 14 11 17.4 -0.8
PALK Pallekele 15.02 281 P **P** 14 11 21.6 -0.3
3.0nm,0.3s,baz=189,slow=15,SNR=17
PALK S Sn 14 13 51.7 -12
3.7nm,0.3s,baz=104,slow=21,SNR=9.6
PALK Pallekele 15.02 281 P **P** 14 11 20.6 -1.3
PALK pmax pmax
comp=Z,71nm,0.8s
PALK Pallekele 15.02 281 P **P** 14 11 20.6 -1.3
PALK IAmb IAmb 14 11 27.5
comp=Z,71nm,0.8s
NONG Nongkai 15.24 28 P **P** 14 11 23.4 -0.8
comp=Z,4µmcomp=Z,75nm,1.1s
CRAI Chiangrai 16.16 16 P **P** 14 11 36.0 +1.5
STKI Sintang 16.52 106 P **P** 14 11 39.6 +1.1
CISI Cisompet, Garu 17.21 135 Pn **Pn** 14 11 41.7 -4.1
MDRS Chennai 17.29 300 *eP* **P** 14 11 50.5 +3.5
VIS Vishakhapatnam 17.67 318 *eP* **Pn** 14 11 53.0 +1.8
VIS IAmb IAmb 14 11 54.2
comp=Z,20nm,0.9s
XMIS Christmas Isla 18.08 146 **P** 14 11 54.2 -1.5
XMIS IAmb IAmb 14 12 20.8
comp=Z,63nm,1.2s
SLVN Son La 18.44 25 P **P** 14 11 59.7 0.0
SMRI Semarang 18.85 128 P **P** 14 12 03.1 -1.0
SMRI IAmb IAmb 14 12 30.5
comp=Z,40nm,0.6s
UGM Wanagama 19.45 130 P **P** 14 12 10.0 -0.7
QIZ Qiongzhong 19.94 43 P **Pn** 14 12 17.2 -1.2
QIZ sS **sS** 14 16 22.6 +0.4
QIZ L L
comp=Z,220nm,15.1s
QIZ L L
comp=Z,170nm,16.7s
QIZ L L
comp=Z,140nm,24.5s
QIZ Qiongzhong 19.94 43 P **P** 14 12 16.9 +0.9
MTKI Muara Teweh, K 20.09 106 P Pn 14 12 19.4 -0.7
comp=Z,18nm,0.8s
BBKI Banjar Baru 20.87 112 P **P** 14 12 27.5 +1.4
comp=Z,8µmcomp=Z,44nm,0.9s
HYB Hyderabad 20.95 309 *i* P Pn 14 12 30.0 -0.2
comp=Z,38nm,0.8s
HYB *e*S **S** 14 16 20.0 +3.8
HYB Hyderabad 20.95 309 *eP* Pn 14 12 28.8 -1.4
HYB IAmb IAmb 14 12 30.1
comp=Z,35nm,0.9s
KOHI KOHIMA 20.99 356 *eP* **P** 14 12 25.3 -2.1
KOHI IAmb IAmb 14 12 31.6
comp=Z,27nm,0.7s
SHL Shillong 21.09 351 *eP* **P** 14 12 27.2 -1.3
BOK Bokaro 21.20 335 *eP* **P** 14 12 29.7 +0.2
KMI Kunming 21.48 18 ⇑P **P** 14 12 35.2 +2.5
KMI pP sP 14 12 53.9 -4.7
KMI sP pP 14 13 01.7 +13
KMI pmax pmax
comp=Z,40nm,1.0s
KMI pmax pmax
comp=Z,150nm,3.7s
MOKO MOKOCHONG 21.56 357 *eP* **P** 14 12 31.0 -2.5
MOKO AMP 14 12 37.6
comp=Z,21nm,0.4s
KMMI Kalianget 21.73 122 P **P** 14 12 41.2 +6.0
ABJI Asem Bagus 22.35 124 P P 14 13 00.0 +18
ZIRO ZIRO 22.80 356 *eP* **P** 14 12 45.2 -1.5
ZIRO IAmb IAmb 14 12 46.2
comp=Z,30nm,0.8s
ODAN Odare 23.42 341 *eP* **P** 14 12 53.3 +0.5
comp=Z,31nm,0.6s
RAMN Ramite 23.77 340 *eP* **P** 14 12 57.2 +1.3
comp=Z,40nm,0.5s
TAPN Taplejung 23.78 342 *eP* **P** 14 12 57.1 +1.0
comp=Z,21nm,0.6s
GYA Guiyang 24.13 25 ⇑P **P** 14 13 00.4 +1.4
GYA sP sP 14 13 26.6 -0.2
GYA pmax pmax
comp=Z,6.0nm,0.8s
JIRN Jiri 24.56 340 *eP* **P** 14 13 04.2 +1.0
comp=Z,80nm,0.6s
PKI Pulchoki 24.76 338 *eP* **P** 14 13 05.3 +0.3
comp=Z,13nm,0.5s
PKIN Phulchoki 24.77 338 *eP* **P** 14 13 05.5 +0.5
comp=Z,19nm,0.5s
GUN Gumba 24.90 339 *eP* **P** 14 13 07.1 +0.8
comp=Z,83nm,0.6s
KKN Kakani 25.01 338 *eP* **P** 14 13 07.7 +0.6
comp=Z,29nm,0.6s
LSA Lhasa 25.25 351 P **P** 14 13 09.9 +0.3
LSA pmax pmax
comp=Z,130nm,0.9s
LSA Lhasa 25.25 351 P **P** 14 13 09.1 -0.5
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 25.25 351 P **P** 14 13 09.1 -0.5
LSA IAmb IAmb 14 13 11.2
comp=Z,24nm,0.7s
TOLI2 Tolitoli 25.41 97 P **P** 14 13 10.1 -0.6
TOLI2 IAmb IAmb 14 13 15.4
comp=Z,30nm,0.9s
GKN Gorkha 25.44 337 *eP* **P** 14 13 12.0 +1.0
comp=Z,42nm,0.4s
BHPL Bhopal 25.47 318 *eP* **P** 14 13 11.3 +0.1
KOLN Koldanda 25.66 335 *eP* **P** 14 13 14.3 +1.3
comp=Z,88nm,0.8s
H08S2 Diego Garcia H 26.08 242 T T 14 40 27.3
baz=61,slow=75,SNR=798
H08S3 Diego Garcia H 26.08 242 T T 14 40 28.4
baz=61,slow=75,SNR=392
H08S1 Diego Carcia H 26.09 242 T T 14 40 27.0
baz=61,slow=75,SNR=628
DANN Dangsing 26.10 336 *eP* **P** 14 13 18.1 +1.0
comp=Z,43nm,0.4s
CD2 Chengdu 27.22 16 P **P** 14 13 26.8 -0.1
GTOI Gorontalo 27.69 98 P **P** 14 13 30.6 -0.6
comp=Z,180nmcomp=Z,18nm,0.7s
ENH Enshi 28.66 26 P **P** 14 13 38.7 -1.0
SSLB Suanglung 30.98 50 P **P** 14 13 58.8 -1.6
SSLB IAmb IAmb 14 14 06.7
comp=Z,12nm,0.8s
YULB Yu-li 31.03 51 P **P** 14 13 59.6 -1.1
YULB IAmb IAmb 14 14 03.4
comp=Z,14nm,0.9s
WHN Wuhan 31.24 32 ⇑P **P** 14 14 02.9 +0.4
SMLA Simla 31.52 329 *eP* **P** 14 14 05.3 +0.5
SMLA IAmb IAmb 14 14 07.4
comp=Z,34nm,1.1s
XAN Xi'an 31.75 21 P **P** 14 14 06.7 -0.3
XAN pP pP 14 14 22.9 -2.8
XAN pmax pmax
comp=Z,48nm,0.5s
XAN L L
comp=Z,100nm,20.6s
XAN L L
comp=Z,120nm,19.5s
XAN L L
comp=Z,150nm,19.5s
SOEI Soe 31.97 117 P **P** 14 14 07.5 -1.7
SOEI IAmb IAmb 14 14 27.7
comp=Z,13nm,0.8s
LZH Lanzhou 32.19 13 *eP* **P** 14 14 11.0 +0.1
LZH pP pP 14 14 33.8 +4.1
LZH sP sP 14 14 41.5 +2.5
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,97nm,5.2s
LZH L L
comp=Z,140nm,14.1s
LZH L L
comp=Z,120nm,13.7s
LZH L L
comp=Z,98nm,16.2s
DHRM DHARAMSHALA 32.85 329 *eP* **P** 14 14 16.0 -0.9
DHRM IAmb IAmb 14 14 18.2
comp=Z,34nm,0.7s
DHRM *e*S **S** 14 19 23.0 -5.9
YOJ Yonaguni jima 32.92 51 P **P** 14 14 17.2 -0.1
YOJ pmax pmax
comp=Z,28nm,0.9s
YOJ Yonaguni jima 32.92 51 P **P** 14 14 17.2 -0.1
YOJ IAmb IAmb 14 14 41.7
comp=Z,28nm,0.9s
GTA Gaotai 34.80 6 ⇑P **P** 14 14 32.9 -0.7
GTA pP pP 14 14 54.8 +2.3
GTA sP sP 14 15 08.1 +6.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
NJ2 Nanjing 34.90 36 *eP* **P** 14 14 35.6 +1.3
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PSA00 Pilbara Seismi 35.29 139 P **P** 14 14 37.1 -0.7
PSA00 Pilbara Seismi 35.29 139 P **P** 14 14 37.8 0.0
PSA00 IAmb IAmb 14 15 03.0
comp=Z,8.0nm,1.5s
NIL Nilore 35.55 327 P **P** 14 14 39.3 -0.7
NIL pmax pmax
comp=Z,77nm,0.7s
NIL Nilore 35.55 327 P **P** 14 14 39.3 -0.7
SWI Sorong 36.07 98 P **P** 14 14 45.9 +1.3
comp=Z,32nm,0.9s
FITZ Fitzroy Crossi 37.29 128 LR LR 14 32 00.8
comp=Z,47nm,18.9s,baz=302,slow=39
FITZ Fitzroy Crossi 37.29 128 P **P** 14 14 54.5 -0.4
baz=37,SNR=9.8
FITZ Fitzroy Crossi 37.29 128 P **P** 14 14 53.3 -1.6
FAKI Fak Fak 37.40 101 P **P** 14 14 54.9 -1.1
FAKI IAmb IAmb 14 14 59.0
comp=Z,11nm,0.7s
JOW Kunigami 38.21 51 P **P** 14 15 01.6 -1.0
JOW IAmb IAmb 14 15 04.7
comp=Z,28nm,0.9s
KNRA Kununurra 38.57 122 P **P** 14 15 04.3 -1.4
KNRA IAmb IAmb 14 15 32.0
comp=Z,34nm,1.5s
HHC Hu-ho-hao-te 38.79 19 *eP* **P** 14 15 09.0 +1.6
HHC pmax pmax
comp=Z,41nm,0.8s
HHC pmax pmax
comp=Z,74nm,4.9s
MTN Manton Dam 39.37 117 P **P** 14 15 11.9 -0.6
baz=39,SNR=25
MTN Manton Dam 39.37 117 P **P** 14 15 11.1 -1.3
WMQ Urumqi 39.62 351 *eP* **P** 14 15 14.8 +0.6
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,130nm,4.7s
BJT Baijiatuau 39.80 25 P **P** 14 15 15.4 -0.3
BJT pmax pmax
comp=Z,30nm,0.6s
BJT Baijiatuau 39.80 25 P **P** 14 15 15.4 -0.3
KDU Kakadu 40.51 116 P **P** 14 15 22.3 +0.5
baz=40,SNR=8.8
KDJ Kajisay 40.76 339 P **P** 14 15 24.3 +0.5
KDJ pmax pmax
comp=Z,23nm,0.7s
KDJ Kajisay 40.76 339 P **P** 14 15 24.3 +0.5
KDJ IAmb IAmb 14 15 25.9
comp=Z,23nm,0.7s
DRK Karamyk 40.80 331 P **P** 14 15 25.0 +0.7
SHLS Shalkode 40.91 342 *eP* **P** 14 15 23.6 -1.4
comp=Z,8.5nm,0.6s,baz=342
SHLS Shalkode 40.91 342 *eP* **P** 14 15 23.6 -1.4
SHLS pmax pmax
comp=Z,8.0nm,0.6s
UZB Uzynbulak 41.04 341 *eP* **P** 14 15 26.1 +0.1
comp=Z,6.6nm,0.6s,baz=341
UZB Uzynbulak 41.04 341 *eP* **P** 14 15 26.1 +0.1
UZB pmax pmax
comp=Z,7.0nm,0.6s
SATY Saty 41.16 341 *eP* **P** 14 15 27.5 +0.5
comp=Z,11nm,0.7s,baz=341
SATY Saty 41.16 341 *eP* **P** 14 15 27.5 +0.5
SATY pmax pmax
comp=Z,11nm,0.7s
KPKS Kokpek 41.43 341 *eP* **P** 14 15 29.1 -0.2
comp=Z,7.8nm,0.6s,baz=341
KPKS Kokpek 41.43 341 *eP* **P** 14 15 29.0 -0.2
KPKS pmax pmax
comp=Z,8.0nm,0.6s
BOOM Boomskoye usch 41.52 338 P **P** 14 15 30.2 +0.1
BOOM pmax pmax
comp=Z,16nm,0.8s
BOOM Boomskoye usch 41.52 338 P **P** 14 15 30.2 +0.1
BOOM IAmb IAmb 14 15 31.4
comp=Z,16nm,0.8s
MDOK Medeo 41.71 340 *eP* **P** 14 15 32.0 +0.4
baz=340
MDOK Medeo 41.71 340 *eP* **P** 14 15 31.9 +0.4
BTK Batken 41.72 331 P **P** 14 15 32.6 +1.0
BTK pmax pmax
comp=Z,39nm,0.8s
BTK Batken 41.72 331 P **P** 14 15 32.6 +1.0
ARSB Arslanbob 41.74 334 P **P** 14 15 32.4 +0.6
ARSB pmax pmax
comp=Z,41nm,0.7s
ARSB Arslanbob 41.74 334 P **P** 14 15 32.4 +0.6
MTBS Maitube 41.90 339 *eP* **P** 14 15 32.7 -0.3
baz=339
MTBS Maitube 41.90 339 *eP* **P** 14 15 32.7 -0.3
TKM2 Tokmak 2 42.02 338 P **P** 14 15 34.7 +0.5
SNR=9.1
KBK Karagaybulak 42.05 337 P **P** 14 15 35.5 +1.1
SNR=17
AML Almayashu 42.10 336 P **P** 14 15 36.2 +1.2
SNR=20
JSU Suzuyama 42.23 47 P **P** 14 15 36.2 +0.3
JSU IAmb IAmb 14 15 37.7
comp=Z,12nm,0.7s
CHKK Chushkaly 42.34 340 *eP* **P** 14 15 35.2 -1.3
baz=340
CHKK Chushkaly 42.34 340 *eP* **P** 14 15 35.2 -1.3
ARXS Arharly 42.38 341 *eP* **P** 14 15 36.7 -0.2
EKS2 Erkin-Say 42.51 336 P **P** 14 15 39.4 +1.3
SNR=6.9
KUU Kurty 42.60 339 *eP* **P** 14 15 37.4 -1.3
baz=339
KUU Kurty 42.60 339 *eP* **P** 14 15 37.3 -1.3
USP Ospenovka 42.74 337 P **P** 14 15 40.6 +0.9
SNR=15
SGDS Sogindy 42.84 337 *eP* **P** 14 15 40.5 -0.2
comp=Z,3.0nm,0.6s,baz=337
SGDS Sogindy 42.84 337 *eP* **P** 14 15 40.4 -0.2
SGDS pmax pmax
comp=Z,3.0nm,0.6s
TJN Taejon 42.99 39 *c i* P **P** 14 15 42.0 +0.1
JTU Tsushima 43.18 42 P **P** 14 15 43.5 +0.1
WRKA Warakurna 43.39 134 P **P** 14 15 45.8 +0.5
baz=344,SNR=7.9
JNU Nakatsue 43.40 45 P **P** 14 15 45.5 +0.2
JNU IAmb IAmb 14 15 46.7
comp=Z,16nm,0.8s
MK31 Makanchi Array 43.52 347 P **P** 14 15 45.6 -0.4
MK31 pmax pmax
comp=Z,14nm,0.8s
MK31 Makanchi Array 43.52 347 P **P** 14 15 45.6 -0.4
MK31 IAmb IAmb 14 15 47.0
comp=Z,14nm,0.8s
MKAR Makanchi Array 43.52 347 P **P** 14 15 45.7 -0.3
comp=Z,22nm,0.8s,baz=164,slow=8.1,SNR=201
MKAR PcP **PcP** 14 17 33.5 +0.9
comp=Z,1.5nm,0.5s,baz=192,slow=4.6,SNR=1.7
MKAR ScP **ScP** 14 21 18.4 +1.0
comp=Z,0.5nm,0.7s,baz=130,slow=5.8,SNR=2.8
MAKZ Makanchi 43.61 346 P **P** 14 15 45.9 -0.8
MAKZ pmax pmax
comp=Z,18nm,0.6s
MAKZ Makanchi 43.61 346 P **P** 14 15 45.9 -0.8
MAKZ IAmb IAmb 14 15 47.1
comp=Z,18nm,0.6s
ZSN Zaisan 43.62 349 *eP* **P** 14 15 46.5 -0.2
baz=349
ZSN Zaisan 43.62 349 *eP* **P** 14 15 46.5 -0.2
IUG Iuzhnay 43.72 332 *eP* **P** 14 15 48.1 +0.3
baz=332
IUG Iuzhnay 43.72 332 *eP* **P** 14 15 48.1 +0.3
KSAR Wonju Array Be 43.99 38 P **P** 14 15 49.6 -0.3
KSAR Wonju Array Be 43.99 38 P **P** 14 15 49.6 -0.3
SONM Songino Array 44.01 10 P **P** 14 15 49.7 -0.3
comp=Z,7.4nm,0.6s,baz=190,slow=8.6,SNR=64
SONM PcP **PcP** 14 17 35.1 +0.7
comp=Z,2.7nm,0.6s,baz=208,slow=3.7,SNR=11
SONM ScP **ScP** 14 21 18.8 -0.7
comp=Z,0.9nm,0.8s,baz=192,slow=3.2,SNR=7.4
SONM LR LR 14 36 01.6
comp=Z,54nm,19.3s,baz=206,slow=38
SONM Songino Array 44.01 10 P **P** 14 15 49.7 -0.3
KS19 Wonju Array Si 44.02 38 P **P** 14 15 50.3 +0.1
KSRS Korea Array 44.03 38 P **P** 14 15 50.3 +0.2
comp=Z,9.4nm,0.7s,baz=220,slow=9.1,SNR=47
KSRS PcP **PcP** 14 17 34.9 +0.4
comp=Z,1.6nm,0.6s,baz=218,slow=3.2,SNR=6.3
KSRS LR LR 14 35 32.4
comp=Z,27nm,18.4s,baz=216,slow=38
ULN Ulaanbaatar 44.16 11 *c i* P **P** 14 15 50.7 -0.6
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 44.16 11 P **P** 14 15 50.6 -0.6
ULN IAmb IAmb 14 15 53.3
comp=Z,7.3nm,0.5s
KK31 Karatay Array 44.26 334 P **P** 14 15 52.0 0.0
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 44.26 334 P **P** 14 15 52.0 0.0
KKAR Karatay Array 44.26 334 P **P** 14 15 52.0 0.0
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 44.26 334 P **P** 14 15 52.0 0.0
WB0 Warramunga Arr 45.23 124 P **P** 14 15 59.8 -0.2
WB0 IAmb IAmb 14 16 20.2
comp=Z,19nm,0.6s
WRA Warramunga Arr 45.27 124 P **P** 14 16 00.6 +0.3
comp=Z,16nm,0.6s,baz=302,slow=9.2,SNR=151
WRA pP **pP** 14 16 18.4 -1.0
comp=Z,16nm,0.6s,baz=302,slow=9.2,SNR=11
WRA PcP **PcP** 14 17 39.3 +0.2
comp=Z,2.7nm,0.7s,baz=310,slow=2.8,SNR=2.5
WRA ScP **ScP** 14 21 24.9 -0.1
comp=Z,1.5nm,0.9s,baz=315,slow=3.5,SNR=6.4
WRA Warramunga Arr 45.27 124 P **P** 14 16 00.1 -0.2
WRAB Tennant Creek 45.27 124 *c i* P **P** 14 16 00.8 +0.5
WRAB pmax pmax
comp=Z,16nm,0.6s
WRAB Tennant Creek 45.27 124 P **P** 14 16 00.4 +0.1
WRAB IAmb IAmb 14 16 01.5
comp=Z,21nm,0.6s
WB2 Warramunga Arr 45.27 124 P **P** 14 16 00.5 +0.1
WB2 IAmb IAmb 14 16 08.2
comp=Z,18nm,0.7s
DGZ Jazzator, Alta 45.41 353 ⇓ *i* P **P** 14 16 01.6 +0.4
DGZ pmax pmax
comp=Z,3.0nm,0.5s
WR0 Warramunga Arr 45.44 124 P **P** 14 16 01.7 0.0
WR0 IAmb IAmb 14 16 22.6
comp=Z,24nm,0.8s
JMN Monobe 45.85 46 P **P** 14 16 05.6 +0.8
JHS Saijyo 45.98 44 P **P** 14 16 06.2 +0.4
AS31 Alice Springs 46.78 129 P **P** 14 16 12.3 +0.1
AS31 IAmb IAmb 14 16 21.1
comp=Z,5.3nm,0.5s
ASAR Alice Springs 46.78 129 P **P** 14 16 12.8 +0.6
comp=Z,11nm,0.6s,baz=302,slow=7.9,SNR=442
ASAR PcP **PcP** 14 17 45.5 +1.1
comp=Z,2.6nm,0.6s,baz=298,slow=3.1,SNR=5.3
ASAR ScP **ScP** 14 21 31.1 -0.2
comp=Z,0.7nm,0.9s,baz=311,slow=4.5,SNR=3.2
ASAR LR LR 14 38 58.5
comp=Z,66nm,18.4s,baz=332,slow=40
ASAR Alice Springs 46.78 129 P **P** 14 16 12.4 +0.2
ASAR 14 17 45.5
ASAR Alice Springs 46.78 129 P **P** 14 16 12.4 +0.2
FORT Forrest 46.96 141 P **P** 14 16 13.9 +0.5
CN2 Changchun 47.04 30 *eP* **P** 14 16 13.7 -0.1
CN2 pmax pmax
comp=Z,20nm,0.7s
TLY Talaya 47.34 7 ⇓ *eP* **P** 14 16 17.0 +0.9
TLY pmax pmax
comp=Z,5.0nm,0.7s
GEYT Alibeck 47.54 319 P **P** 14 16 19.8 +1.8
comp=Z,33nm,0.9s,baz=152,slow=9.8,SNR=8.5
JWT Wachi 47.72 45 P **P** 14 16 19.3 0.0
JWT IAmb IAmb 14 16 20.1
comp=Z,9.0nm,0.6s
KURBB Kurchatov Arra 47.99 345 P **P** 14 16 20.5 -0.6
INU Inuyama 48.90 46 P **P** 14 16 27.9 -0.5
INU IAmb IAmb 14 16 29.3
comp=Z,20nm,0.8s
HIA Hailar 48.95 21 P **P** 14 16 28.6 0.0
HIA pmax pmax
comp=Z,35nm,0.7s
HIA Hailar 48.95 21 P **P** 14 16 28.6 0.0
BRZS Berezniki 49.13 341 *eP* **P** 14 16 28.5 -1.5
baz=341
BRZS Berezniki 49.13 341 *eP* **P** 14 16 28.4 -1.5
JGF Kuroka 49.27 46 P **P** 14 16 30.8 -0.4
JGF IAmb IAmb 14 16 32.0
comp=Z,19nm,0.7s
GUMO Guam 49.38 76 LR LR 14 39 38.2
comp=Z,15nm,18.8s,baz=169,slow=39
MDJ Mudanjiang 49.72 32 P **P** 14 16 34.0 -0.4
MDJ PcS **PcS** 14 21 53.9 +2.7
MDJ S **S** 14 23 38.8 +1.2
MDJ pmax pmax
comp=Z,19nm,1.4s
MDJ pmax pmax
comp=Z,130nm,4.0s
MDJ L L
comp=Z,220nm,13.6s
MDJ L L
comp=Z,190nm,13.3s
MDJ L L
comp=Z,160nm,14.6s
MDJ Mudanjiang 49.72 32 P **P** 14 16 34.0 -0.4
ZAA0 Zalesovo Array 49.91 352 P **P** 14 16 35.1 -0.6
ZAA0 IAmb IAmb 14 16 36.3
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 49.91 352 P **P** 14 16 35.5 -0.2
comp=Z,15nm,0.5s,baz=175,slow=7.0,SNR=62
ZALV PcP **PcP** 14 17 54.5 -0.5
comp=Z,1.9nm,0.5s,baz=157,slow=3.2,SNR=1.5
ZALV ScP **ScP** 14 21 43.1 -0.8
comp=Z,1.1nm,0.5s,baz=150,slow=3.2,SNR=2.7
ZALV Zalesovo Beam 49.91 352 P **P** 14 16 35.2 -0.5
QIS Mount Isa 49.95 122 P **P** 14 16 37.0 +0.4
baz=50,SNR=9.7
MAT Matsushiro 50.32 45 P **P** 14 16 39.1 -0.1
MAJO Matsushiro 50.32 45 *d i* P **P** 14 16 40.0 +0.8
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 50.32 45 P **P** 14 16 39.4 +0.2
MAJO IAmb IAmb 14 16 40.9
comp=Z,10nm,0.9s
MJAR Matsushiro Arr 50.32 45 P **P** 14 16 40.0 +0.8
comp=Z,8.3nm,0.8s,baz=243,slow=8.6,SNR=19
MJAR PcP **PcP** 14 17 57.9 +0.9
comp=Z,3.1nm,0.7s,baz=230,slow=2.2,SNR=6.3
MJAR LR LR 14 38 08.8
comp=Z,43nm,21.8s,baz=240,slow=36
USA0B Ussuriysk Arra 50.73 33 P **P** 14 16 42.1 0.0
USA0B pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 50.73 33 P **P** 14 16 42.1 0.0
USA0B IAmb IAmb 14 16 44.8
comp=Z,12nm,0.9s
USRK Ussuriysk Ar. 50.73 33 P **P** 14 16 42.5 +0.4
comp=Z,11nm,0.8s,baz=241,slow=8.1,SNR=18
USRK Ussuriysk Ar. 50.73 33 P **P** 14 16 42.1 +0.1
USRK Ussuriysk Ar. 50.73 33 P **P** 14 16 42.1 +0.1
JSD Sado 51.09 43 P **P** 14 16 44.4 -0.5
JSD IAmb IAmb 14 16 45.4
comp=Z,19nm,0.7s
JYT Yasato 51.60 46 P **P** 14 16 47.4 -1.3
RAYN Ar Rayn 51.74 296 P **P** 14 16 49.7 -0.4
RAYN pmax pmax
comp=Z,4.0nm,0.8s
RAYN Ar Rayn 51.74 296 P **P** 14 16 49.6 -0.4
BRVK Borovoye 52.53 341 P **P** 14 16 54.8 -0.6
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 52.53 341 P **P** 14 16 54.8 -0.6
BRVK IAmb IAmb 14 16 55.8
comp=Z,11nm,0.6s
JMM Marumori 52.77 45 P **P** 14 16 57.2 -0.2
MTSU Mount Surprise 53.12 117 P **P** 14 17 00.7 +0.4
baz=53,SNR=12
PMG Port Moresby 53.27 105 *ceP* **P** 14 17 00.8 -0.7
PMG pmax pmax
comp=Z,14nm,0.6s
PMG Port Moresby 53.27 105 P **P** 14 17 00.7 -0.7
BBOO Buckleboo 53.49 137 P **P** 14 17 02.6 -0.2
BBOO IAmb IAmb 14 17 29.5
comp=Z,20nm,1.1s

AB31 Akbulak array 53.72 332 *i* P **P** **14 17 04.5 +0.3**
ABKAR Akbulak array 53.72 332 P **P** **14 17 04.5 +0.3**
ABKAR IAmb IAmb 14 17 05.8
comp=Z,25nm,1.1s
ABKAR Akbulak array 53.72 332 P **P** **14 17 04.3 +0.2**
KLR Kul'dur 53.95 29*c i*P **P** **14 17 06.8 +0.9**
KLR pmax pmax
comp=Z,29nm,1.0s
JTM Tenmabayashi 54.33 42 P **P** **14 17 08.7 -0.1**
ZEA Zeya 55.33 22 *e*P **P** **14 17 16.4 +0.7**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=Z,40nm,0.6s
AKTO Aktyubinsk 55.44 332 P **P** **14 17 16.5 -0.1**
JEW Eniwo 55.59 40 P **P** **14 17 18.7 +0.9**
HTT Hallett 55.81 136 P **P** **14 17 20.5 +0.9**
baz=56,SNR=5.6
ERM Erimo 56.30 41⇑ *e*P **P** **14 17 23.7 +0.8**
ERM pmax pmax
comp=Z,22nm,1.0s
ERM Erimo 56.30 41 P **P** **14 17 23.4 +0.6**
ERM IAmb IAmb 14 17 24.1
comp=Z,19nm,1.0s
JEM Erimo 56.30 41 P **P** **14 17 24.0 +1.1**
JEM IAmb IAmb 14 17 32.8
comp=Z,15nm,0.8s
QLP Quilpie 56.38 126 P **P** **14 17 25.1 +1.4**
baz=56,SNR=6.2
STKA Stephens Creek 56.87 133 P **P** **14 17 27.1 0.0**
comp=Z,2.4nm,0.6s,baz=296,slow=7.8,SNR=8.9
STKA pP **pP** **14 17 45.9 -1.1**
comp=Z,5.2nm,0.9s,baz=6.7,slow=12,SNR=4.6
STKA Stephens Creek 56.87 133 P **P** **14 17 27.2 0.0**
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 56.87 133 P **P** **14 17 27.2 0.0**
ASAJ Asahikawa 56.95 39 P **P** **14 17 28.0 +0.6**
ASAJ pmax pmax
comp=Z,29nm,1.1s
JKA Kamikawa-asahi 56.95 39 P **P** **14 17 28.0 +0.5**
MAK Makhachkala 57.06 319 *e*P **P** **14 17 26.3 -2.0**
MAK *e**PP **pP** **14 17 47.1 -1.1**
MAK *e**SP **sP** **14 17 56.0 -1.0**
MAK *e* 14 19 32.7
MAK *e*S **S** **14 25 15.4 -1.8**
MAK pmax pmax
comp=Z,19nm,0.3s
RABL Rabaul 57.21 98 P **P** **14 17 29.8 0.0**
GRNR Gornyy 57.24 30⇑ *i*P **P** **14 17 30.1 +0.7**
GRNR pmax pmax
comp=Z,10.0nm,0.6s
GRNR MLR MLR
comp=E,100nm,19.0s
GRNR MLR MLR
comp=N,110nm,15.0s
GRNR MLR MLR
comp=Z,120nm,18.0s
YSS Yuzh-Sakhalins 58.47 36⇑ *e*P **P** **14 17 38.8 +0.7**
YSS *e* 14 18 05.4
YSS pmax pmax
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 58.47 36 P **P** **14 17 38.1 0.0**
KMBO Kilima Mbogo 58.55 266 P **P** **14 17 42.8 +3.2**
comp=Z,1.3nm,0.4s,baz=77,slow=8.8,SNR=2.4
KMBO pP **pP** **14 18 00.4 +1.2**
comp=Z,1.9nm,0.5s,baz=59,slow=5.5,SNR=3.1
KMBO LR LR 14 41 11.7
comp=Z,43nm,18.1s,baz=94,slow=34
ZEI Tsey 59.36 318 *e*P **P** **14 17 45.5 +0.9**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 59.39 337*c i*P **P** **14 17 43.9 -0.3**
ARU 14 18 29.1
ARU 14 19 52.5
ARU S **S** **14 25 48.2 +1.2**
ARU SS **SS** **14 29 37.8 -5.3**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU Arti 59.39 337 P **P** **14 17 43.4 -0.9**
ARU IAmb IAmb 14 17 44.9
comp=Z,12nm,0.9s
CMSA Cobar Meteorol 59.75 131 P **P** **14 17 48.3 +1.1**
baz=60,SNR=39
RMQ Roma 60.03 124 P **P** **14 17 51.0 +1.7**
baz=60,SNR=4.9
TYV Tymovskoe 60.49 32 *e*P P 14 17 45.9 -6.0
TYV *e*S S 14 25 51.0 -10
TYV pmax pmax
comp=Z,300nm,2.9s
TYV pmax pmax
comp=Z,16nm,1.7s
TYV smax smax
comp=N,400nm,3.6s
TYV smax smax
comp=E,13nm,1.5s
KIV Kislovodsk 60.65 319 *e*P **P** **14 17 54.4 +1.1**
KIV pmax pmax
comp=Z,23nm,1.0s
YAK Yakutsk 62.59 17*c i*P **P** **14 18 05.1 -0.7**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK Yakutsk 62.59 17 P **P** **14 18 04.5 -1.3**
ARMA Armidale 63.88 127 P **P** **14 18 13.1 -2.0**
ARMA IAmb IAmb 14 18 18.1
comp=Z,28nm,1.4s
CAN Canberra 63.94 133 P **P** **14 18 16.1 +0.7**
CAN pmax pmax
comp=Z,64nm,1.5s
CAN Canberra 63.94 133 P **P** **14 18 16.1 +0.7**
VRH Novokhopyorsk 64.37 326 *e*P **P** **14 18 17.4 -0.4**
VRH pmax pmax
comp=Z,40nm,0.8s
KIRV Kirov 64.51 335*d i*P **P** **14 18 18.6 +0.1**
NRIK Noril'sk 64.80 357 P **P** **14 18 19.8 -0.5**
comp=Z,9.8nm,0.8s,baz=156,slow=7.4,SNR=7.2
NRIK Noril'sk 64.80 357*c i*P **P** **14 18 19.7 -0.5**
NRIK pmax pmax
comp=Z,8.0nm,0.8s
NRIK Noril'sk 64.80 357 P **P** **14 18 19.3 -1.0**
NRIK IAmb IAmb 14 18 20.6
comp=Z,7.6nm,0.8s
SNOP Sinop 65.10 314 P **P** **14 18 22.8 +0.1**
SNOP IAmb IAmb 14 18 24.6
comp=Z,12nm,0.8s
BRTR Keskin Array B 65.61 312 P **P** **14 18 26.8 +0.5**
comp=Z,2.8nm,0.6s,baz=126,slow=7.3,SNR=18
BRTR Keskin Array B 65.61 312 P **P** **14 18 26.2 -0.1**
BR131 Keskin Array S 65.61 312 P **P** **14 18 26.0 -0.3**
BR131 pmax pmax
comp=Z,7.0nm,1.0s
BR131 Keskin Array S 65.61 312 P **P** **14 18 26.0 -0.3**
VORD Divnogorie 65.65 325 *e*P **P** **14 18 25.2 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 65.82 325 *e*P **P** **14 18 25.8 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
ILGA Ilgaz 65.90 313 P **P** **14 18 27.5 -0.7**
LPSR Galich'ya Gora 66.54 326 *e*P **P** **14 18 30.4 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
PRGR Permogore 67.84 337 *e*P **P** **14 18 39.0 -0.8**
PRGR pmax pmax
comp=Z,39nm,0.9s
OBN Obninsk 68.84 328⇓ *e*P **P** **14 18 46.5 +0.3**
OBN *e* 14 19 10.5
OBN *e* 14 21 19.9
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,39nm,14.0s
MA2 Magadan 68.96 27⇑ *i*P **P** **14 18 46.9 +0.1**
MA2 pmax pmax
comp=Z,18nm,0.7s
MA2 Magadan 68.96 27 P **P** **14 18 46.6 -0.2**
MA2 IAmb IAmb 14 18 48.0
comp=Z,22nm,0.8s
KARP Karpathos 69.78 306 P **P** **14 18 53.6 +1.2**
KARP IAmb IAmb 14 18 55.5
comp=Z,27nm,0.8s
PETK Petropavlovsk- 69.79 35 P **P** **14 18 51.5 -0.7**
PETK Petropavlovsk- 69.79 35 P **P** **14 18 51.5 -0.7**
KLMR Klimovskoe 69.95 334 *e*P **P** **14 18 51.4 -1.5**
KLMR pmax pmax
comp=Z,7.0nm,0.5s
KLMR Klimovskoe 69.95 334 *e*P **P** **14 18 51.4 -1.5**
KLMR AMP 14 18 53.9
comp=Z,7.0nm,0.5s
TIXI Tiksi 70.09 11*c i*P **P** **14 18 52.4 -1.2**
TIXI Tiksi 70.09 11 P **P** **14 18 52.0 -1.6**
TIXI IAmb IAmb 14 18 53.4
comp=Z,20nm,0.6s
PET Petropavlovsk 70.31 35 P **P** **14 18 55.1 -0.2**
TLCR 70.42 316⇓ P **P** **14 18 57.2 +1.1**
TIRR Tirgusor 70.53 316⇑ P **P** **14 18 57.3 +0.5**
TIRR Tirgusor 70.53 316 P **P** **14 18 56.8 0.0**
TIRR pmax pmax
comp=Z,38nm,0.7s
TIRR Tirgusor 70.53 316 P **P** **14 18 56.8 0.0**
TPGR Topolog 70.61 316⇑ P **P** **14 18 58.0 +0.6**
CFR Carcaliu 70.88 316⇑ P **P** **14 18 59.7 +0.8**
HARR Harsova 70.92 316⇓ P **P** **14 19 00.1 +1.0**
SEY Seymchan 71.25 24⇓ P **P** **14 19 00.1 -0.7**
SORM Soroca 71.44 319⇑ P **P** **14 19 02.4 +0.3**
AKASG Malin Array Be 71.55 322 P **P** **14 19 02.4 -0.4**
comp=Z,2.1nm,0.5s,baz=86,slow=5.5,SNR=20
AKASG Malin Array Be 71.55 322 *i* P **P** **14 19 02.4 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.55 322 P **P** **14 19 01.9 -0.9**
AKBB Malin Array Si 71.55 322*ce*P **P** **14 19 02.4 -0.4**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 71.55 322 P **P** **14 19 02.2 -0.6**
AKBB IAmb IAmb 14 19 04.1
comp=Z,5.8nm,0.6s
IDI Anoyia 71.58 306⇑ P **P** **14 19 04.8 +1.4**
IDI Anoyia 71.58 306 P **P** **14 19 04.0 +0.6**
IDI IAmb IAmb 14 19 05.3
comp=Z,9.1nm,0.6s
VRI Vrincioaia 72.00 317⇑ P **P** **14 19 07.0 +1.4**
PLOR Plostina 72.05 317⇑ P **P** **14 19 07.8 +1.8**
TESR Tescani 72.19 317⇓ P **P** **14 19 07.7 +0.9**
MLR Muntele Rosu 72.46 316⇑ P **P** **14 19 09.7 +1.2**
MLR Muntele Rosu 72.46 316 P **P** **14 19 09.2 +0.6**
MLR pmax pmax
comp=Z,11nm,0.8s
MLR Muntele Rosu 72.46 316 P **P** **14 19 09.2 +0.6**
MLR IAmb IAmb 14 19 10.9
comp=Z,11nm,0.8s
BIZ Bicaz 72.65 318⇑ P **P** **14 19 10.4 +0.9**
ARR Arges 73.34 316⇑ P **P** **14 19 14.2 +0.5**
MNK Minsk 73.37 326 *i* P **P** **14 19 14.4 +0.8**
MNK *i* *PP **pP** **14 19 35.4 +1.2**
MNK *i* 14 21 58.5
MNK *i* PPP PPP 14 23 43.5
MNK *i* S **SKiKP** **14 28 37.5 +0.1**
MNK *i* *SS **SKKSac** **14 29 13.9 +0.9**
MNK *i* SS **SS** **14 33 21.9 +2.0**
MNK pmax pmax
comp=Z,21nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK MLR MLR
comp=E,5.0nm,14.0s
MNK MLR MLR
comp=N,54nm,21.0s
MNK MLR MLR
comp=Z,62nm,17.0s
MNK Minsk 73.37 326 *i* P **P** **14 19 14.4 +0.8**
comp=E,2.0nm,1.0s
MNK *i* P **P** **14 19 14.4 +0.8**
comp=N,10.0nm,0.7s
MNK *i* P **P** **14 19 14.4 +0.8**
comp=Z,21nm,1.0s,baz=285
MNK *i* pP **pP** **14 19 35.4 +1.2**
MNK *i* PP **PP** **14 21 58.5 +0.6**
MNK *i* PPP PPP 14 23 43.5
MNK *i* S **SKiKP** **14 28 37.6 +0.2**
MNK *i* sS **SKKSac** **14 29 13.9 +0.9**
MNK *i* SS **SS** **14 33 22.0 +2.1**
MNK *i* SSS SSS 14 36 43.4
MNK *i* LR LR 14 50 51.4
MNK *i* LRM MLR 14 52 34.9
comp=E,5.0nm,14.5s
MNK *i* LRM MLR 14 52 41.4
comp=N,54nm,21.0s
MNK *i* LRM MLR 14 52 44.3
comp=Z,62nm,16.6s
BURAR Bucovina Array 73.38 318⇑ P **P** **14 19 15.4 +1.5**
BURAR Bucovina Array 73.38 318 P **P** **14 19 14.7 +0.8**
BURAR IAmb IAmb 14 19 16.1
comp=Z,8.1nm,0.6s
BUR08 Bucovina Ar. S 73.39 318 P **P** **14 19 14.4 +0.4**
VTS Vitosha 73.88 313⇓ P **P** **14 19 18.1 +1.0**
VTS Vitosha 73.88 313 P **P** **14 19 15.5 -1.6**
VTS pmax pmax
comp=Z,3.0nm,0.7s
VTS Vitosha 73.88 313 P **P** **14 19 15.5 -1.6**
VALR Valaam 73.98 333 *e*P **P** **14 19 16.7 -0.3**
VALR pmax pmax
comp=Z,26nm,0.8s
LIT Litokhoron 74.09 310 P **P** **14 19 17.3 -0.8**
LIT pmax pmax
comp=Z,10.0nm,0.7s
LIT Litokhoron 74.09 310 P **P** **14 19 17.3 -0.8**
LIT IAmb IAmb 14 19 18.7
comp=Z,10nm,0.7s
NACGM Naroch 74.09 326 *i* P **P** **14 19 17.2 -0.6**
ITM Ithomi 74.18 307 P **P** **14 19 18.6 -0.2**
ITM IAmb IAmb 14 19 20.0
comp=Z,12nm,0.7s
IDID Didziasalis 74.22 326 *e*P **P** **14 19 19.3 +0.8**
IIGN Ignalina 74.52 326 *e*P **P** **14 19 20.9 +0.6**
HERR Herculane 74.81 315⇑ P **P** **14 19 23.3 +1.1**
DRGR 74.91 317⇑ P **P** **14 19 24.0 +1.2**
LVZ Lovozero 75.05 340 P **P** **14 19 22.5 -0.6**
LVZ Lovozero 75.05 340 P **P** **14 19 22.5 -0.6**
VSU Vasula 75.06 330⇓ *e*P **P** **14 19 23.9 +0.6**
VSU pmax pmax
comp=Z,135nm,1.6s
BOSA Boshof 75.13 239 P **P** **14 19 26.8 +2.3**
comp=Z,3.1nm,0.9s,baz=98,slow=4.8,SNR=4.5
BOSA Boshof 75.13 239 P **P** **14 19 25.3 +0.8**
BOSA pmax pmax
comp=Z,5.0nm,0.9s
BOSA Boshof 75.13 239 P **P** **14 19 25.3 +0.8**
BOVS Bovan 75.14 314⇑ P **P** **14 19 24.0 -0.1**
KWP Kalwaria Pacla 75.39 320 P **P** **14 19 25.0 -0.5**
KWP pmax pmax
comp=Z,221nm,1.1s
KWP Kalwaria Pacla 75.39 320 P **P** **14 19 25.0 -0.5**
BZS Buzias 75.48 316⇑ P **P** **14 19 26.7 +0.7**
SIRR Siria 75.54 316⇓ P **P** **14 19 27.4 +1.0**
KOLS Kolonicke sedl 75.55 319 *e*P **P** **14 19 27.7 +1.3**
KOLS Kolonicke sedl 75.55 319 *e*P **P** **14 19 27.7 +1.3**
PABE Paberze 75.80 326 *e*P **P** **14 19 27.6 0.0**
CRVS Cervenica-Dubn 76.08 319 *e*P **P** **14 19 30.7 +1.3**
CRVS pmax pmax
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn 76.08 319 *e*P **P** **14 19 30.7 +1.3**
FIA1 FINESS Array S 76.20 332 P **P** **14 19 29.8 0.0**
FIA1 IAmb IAmb 14 19 32.6
comp=Z,42nm,1.4s
FINES FINESS Array B 76.20 332 P **P** **14 19 29.8 0.0**
comp=Z,4.6nm,0.5s,baz=108,slow=6.1,SNR=27
FINES FINESS Array B 76.20 332 P **P** **14 19 29.6 -0.2**
DIVS Divibare 76.42 314 P **P** **14 19 31.0 -0.5**
PDG Podgorica 76.78 312⇑ P **P** **14 19 33.8 +0.3**
PDG Podgorica 76.78 312 P **P** **14 19 32.9 -0.6**
PDG IAmb IAmb 14 19 34.5
comp=Z,7.7nm,0.8s
PSZ Piszkesteto 76.97 318⇑ P **P** **14 19 35.6 +1.1**
PSZ Piszkesteto 76.97 318 P **P** **14 19 34.6 +0.1**
PSZ pmax pmax
comp=Z,9.0nm,0.7s
PSZ Piszkesteto 76.97 318 P **P** **14 19 34.6 +0.1**
PSZ IAmb IAmb 14 19 36.5
comp=Z,8.5nm,0.7s
PBUR Paburge 77.04 326 *e*P **P** **14 19 35.1 +0.5**
OJC Ojcow 77.34 320 *e*P **P** **14 19 37.9 +1.4**
OJC Ojcow 77.34 320 P **P** **14 19 35.8 -0.7**
OJC pmax pmax
comp=Z,15nm,0.6s
OJC Ojcow 77.34 320 P **P** **14 19 35.8 -0.7**
OJC IAmb IAmb 14 19 38.4
comp=Z,14nm,0.6s
MORH Mrgy, Hungar 77.61 316⇑ P **P** **14 19 39.1 +1.1**
VYHS Vyhne 77.74 319 *e*P **P** **14 19 39.7 +0.9**
VYHS Vyhne 77.74 319 *e*P **P** **14 19 39.7 +0.9**
KEV Kevo 78.32 341 P **P** **14 19 41.4 -0.1**
KEV pmax pmax
comp=Z,34nm,1.2s
KEV Kevo 78.32 341 P **P** **14 19 41.4 -0.1**
KEV IAmb IAmb 14 19 49.1
comp=Z,34nm,1.2s
TIP Timpagrande 78.41 309⇑ P **P** **14 19 44.2 +1.5**
TIP Timpagrande 78.41 309 P **P** **14 19 43.7 +1.0**
BILL Bilibino 78.54 21⇑ *e*P **P** **14 19 41.7 -1.0**
BILL *e* 14 19 53.3
BILL *e* 14 22 43.8
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 78.54 21 P **P** **14 19 42.3 -0.4**
MORC Moravsky Berou 78.73 320⇑ P **P** **14 19 45.6 +1.4**
MORC Moravsky Berou 78.73 320 P **P** **14 19 44.3 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 78.73 320 P **P** **14 19 44.3 +0.1**
ARCES ARCESS Array B 78.75 340 P **P** **14 19 44.7 +0.8**
comp=Z,5.8nm,0.5s,baz=92,slow=5.8,SNR=72
ARCES ARCESS Array B 78.75 340 P **P** **14 19 44.2 +0.3**
ARCES pmax pmax
comp=Z,13nm,1.1s
ARCES ARCESS Array B 78.75 340 P **P** **14 19 44.2 +0.3**
ARCES IAmb IAmb 14 19 45.8
comp=Z,13nm,1.1s
ZST Bratislava 78.86 318 *e*P **P** **14 19 46.6 +1.7**
ZST pmax pmax
comp=Z,31nm,0.7s
ZST Bratislava 78.86 318 *e*P **P** **14 19 46.6 +1.7**
KRLC Kraliky 79.25 320 *e*P **P** **14 19 48.5 +1.4**
KRLC Kraliky 79.25 320 *e*P **P** **14 19 48.5 +1.4**
DPC Dobruska-Polom 79.57 320 *e*P **P** **14 19 50.4 +1.6**
DPC Dobruska-Polom 79.57 320 *e*P **P** **14 19 50.4 +1.6**
CONA Conrad Observa 79.67 318 *i* P **P** **14 19 50.4 +1.0**
comp=Z,2.0nm,0.7s
ARSA Arzberg 79.84 317 *i* P **P** **14 19 52.2 +1.9**
comp=Z,2.9nm,0.5s
PERS Pernice 80.08 316 *i* P **P** **14 19 52.9 +1.3**
PDKS Podkum 80.12 316 *i* P **P** **14 19 53.2 +1.4**
SOKA Soboth 80.14 316 *e*P **P** **14 19 53.4 +1.4**
comp=Z,5.9nm,0.9s,SNR=6.1
OBKA Obir 80.46 316 *e*P **P** **14 19 53.3 -0.5**
comp=Z,3.6nm,0.6s
CRNS Crni Vrh 80.64 316 *i* P **P** **14 19 55.8 +1.1**
MOA Molln 80.73 318 *i* P **P** **14 19 56.5 +1.4**
comp=Z,1.6nm,0.4s
CKRC Cesky Krumlov 80.76 319 *e*P **P** **14 19 57.2 +2.0**
PRED Cave del Predi 81.14 316 P **P** **14 19 57.5 +0.1**
PRED IAmb IAmb 14 19 59.0
comp=Z,10nm,0.7s
GEC2 GERESS Array S 81.16 319 P **P** **14 19 57.7 +0.2**
GERES GERESS Array B 81.16 319 P **P** **14 19 58.6 +1.1**
comp=Z,6.0nm,0.8s,baz=89,slow=5.9,SNR=31
GERES pP **pP** **14 20 18.9 +0.5**
comp=Z,1.4nm,0.6s,baz=90,slow=7.1,SNR=3.4
GERES GERESS Array B 81.16 319 P **P** **14 19 57.4 0.0**
GERES GERESS Array B 81.16 319 P **P** **14 19 57.4 0.0**
KHC Kasperske Hory 81.26 319 *e*P **P** **14 19 58.9 +1.0**
KHC Kasperske Hory 81.26 319 *e*P **P** **14 19 58.9 +1.0**
KBA Koelnbreinsper 81.32 317 *i* P **P** **14 19 59.0 +0.6**
comp=Z,2.8nm,0.5s
ZOU Zoufplan 81.55 316 P **P** **14 19 58.5 -1.2**
STAL STALIGIAL 81.72 316 P **P** **14 20 00.3 0.0**
STAL IAmb IAmb 14 20 02.0
comp=Z,21nm,1.3s
CLL Collm 81.74 321 *e*P **P** **14 19 59.0 -1.3**
comp=Z,5.0nm,1.1s
CLL *e*PP **PP** **14 23 03.0 -5.1**
CLL Collm 81.74 321 *e*P **P** **14 19 59.0 -1.3**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CIMO Cimolais 81.91 316 P **P** **14 20 01.5 +0.2**
CIMO IAmb IAmb 14 20 03.2
comp=Z,14nm,0.7s
CTI Castel Tesino 82.45 316 P **P** **14 20 04.9 +0.6**
CTI pmax pmax
comp=Z,8.0nm,0.8s
CTI Castel Tesino 82.45 316 P **P** **14 20 04.9 +0.6**
CTI IAmb IAmb 14 20 06.4
comp=Z,8.5nm,0.8s
WTTA Wattenberg 82.49 317 *i* P **P** **14 20 05.0 +0.4**
comp=Z,4.7nm,0.5s
WATA Walderalm 82.53 317 *i* P **P** **14 20 04.5 -0.2**
comp=Z,2.8nm,0.6s
SQTA Sankt Quirin 82.78 317 *i* P **P** **14 20 06.5 +0.5**
comp=Z,5.5nm,0.5s
MOTA Moosalm 82.85 317 *i* P **P** **14 20 06.7 +0.3**
comp=Z,5.5nm,0.6s
RETA Reutte 83.09 317 *i* P **P** **14 20 08.0 +0.5**
comp=Z,7.6nm,0.6s
FETA Feichten 83.10 317 *i* P **P** **14 20 08.4 +0.7**
comp=Z,4.8nm,0.9s
NOA NORSAR Array B 83.22 331 P **P** **14 20 07.7 -0.1**
comp=Z,3.3nm,0.9s,baz=92,slow=5.6,SNR=6.1
KEST Kesra 84.25 305 P **P** **14 20 15.8 +2.1**
comp=Z,4.0nm,0.6s,baz=293,slow=5.4,SNR=6.0
SENIN Lac Senin/Sane 85.47 316 P **P** **14 20 20.5 +0.7**
NOR Nord 88.61 352 *i* P **P** **14 20 33.3 -0.7**
NOR IAmb IAmb 14 20 34.7
comp=Z,14nm,0.9s
NOR Nord 88.61 352 *i* P **P** **14 20 33.3 -0.7**
NOR pmax pmax
comp=Z,14nm,0.9s
VNDA Vanda 89.52 169 P **P** **14 20 39.9 +1.6**
comp=Z,0.6nm,0.7s,baz=303,slow=7.3,SNR=5.4
DAG Danmarks Havn 90.90 348 *i* P **P** **14 20 44.3 -0.4**
DAG IAmb IAmb 14 20 46.0
comp=Z,2.2nm,0.5s
DAG Danmarks Havn 90.90 348 *i* P **P** **14 20 44.3 -0.4**
DAG pmax pmax
comp=Z,2.0nm,0.5s
A21K Barrow 91.25 18 P **P** **14 20 46.8 +0.4**
A21K Barrow 91.25 18 P 14 20 46.7
baz=288
TORD Torodi Ar. Bea 92.72 283 P **P** **14 20 56.0 +1.5**
comp=Z,0.2nm,0.5s,baz=80,slow=8.1,SNR=2.3
TORD pP **pP** **14 21 15.0 -0.7**
comp=Z,2.1nm,1.1s,baz=100,slow=4.5,SNR=4.2
TORD LR LR 15 01 46.4
comp=Z,59nm,18.0s,baz=160,slow=35
IMAR Indian Mountai 94.03 23 P **P** **14 20 59.7 +0.3**
SDPT Sand Point 94.07 34 P 14 20 59.1
baz=284
TTA Tatalina 94.14 26 P 14 21 00.5
baz=288
ESDC Sonseca Array 94.37 310 P **P** **14 21 03.4 +1.7**
comp=Z,0.3nm,0.3s,baz=53,slow=5.0,SNR=4.3
TOLK Toolik Lake Re 94.49 19 P **P** **14 21 01.8 +0.3**
TOLK IAmb IAmb 14 21 03.3
comp=Z,11nm,1.1s
TOLK Toolik Lake Re 94.49 19 P 14 21 02.1
baz=295
H21K Melozitna Rive 94.52 23 P 14 21 02.0
baz=292
COLD Coldfoot 94.87 21 P 14 21 03.8
baz=294
I21K Tanana 95.02 23 P 14 21 04.8
baz=292
CHUM Lake Minchumin 95.37 24 P 14 21 05.2
baz=292
MLY Manley 95.56 23 P **P** **14 21 06.5 +0.1**
MLY IAmb IAmb 14 21 08.8
comp=Z,2.8nm,1.0s
MLY Manley 95.56 23 P 14 21 06.6
baz=294
H23K Yukon River 95.69 22 P 14 21 07.5
baz=295
PPLA Purkeypile 95.80 25 P 14 21 08.0
baz=292
BPAW Bear Paw Mtn. 95.83 24 P **P** **14 21 07.9 +0.2**
BPAW Bear Paw Mtn. 95.83 24 P 14 21 08.1
baz=293
NEEM North Greenlan 95.93 353 *i* P **P** **14 21 08.7 +0.4**

NEEM				IAmb	IAmb	14 21 10.1	
	comp=Z,10.0nm,0.9s						
I23K	**Minto, Yukon-K**	**96.04**	**23**	P		14 21 09.4	
	baz=295						
H24K	**Noodor Dome**	**96.30**	**22**	P		14 21 09.7	
	baz=296						
NEA2	**Nenana**	**96.39**	**23**	P		14 21 10.8	
	baz=295						
SKT	**Skwentna**	**96.43**	**26**	P		14 21 10.3	
	baz=292						
RSO	**Redoubt South**	**96.44**	**28**	P	**P**	**14 21 11.3**	**+0.5**
MCK	**McKinley**	**96.81**	**24**	P		14 21 12.3	
	baz=295						
SUA	**Susitna One**	**96.97**	**26**	P		14 21 12.9	
	baz=293						
M22K	**Willow**	**97.13**	**26**	P		14 21 13.8	
	baz=294						
ILAR	**Eielson Array**	**97.15**	**23**	P	**P**	**14 21 12.4**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=293,slow=3.8,SNR=9.0						
ILAR				PP	**PP**	**14 25 06.3**	**-3.9**
	comp=Z,0.5nm,0.9s,baz=298,slow=7.8,SNR=4.7						
RC01	**Rabbit Creek A**	**97.57**	**26**	P		14 21 16.3	
	baz=294						
WAT6	**Susitna Watana**	**97.80**	**25**	P		14 21 17.3	
	baz=296						
SML	**Sawmill**	**97.88**	**26**	P		14 21 17.1	
	baz=295						
SCRK	**Sand Creek**	**98.64**	**23**	P		14 21 20.7	
	baz=300						
INK	**Inuvik**	**99.65**	**17**	P		14 21 24.6	
	baz=310						
L27K	**Beaver Creek,**	**99.94**	**23**	P		14 21 25.7	
	baz=302						
SCHQ	**Schefferville**	**118.94**	**348**	PKP	**PKiKP**	**14 26 30.3**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=226,slow=15,SNR=2.4						
L02E	**Cave Junction**	**121.37**	**33**	P		14 26 35.8	
	baz=313						
J04D	**Umpqua Nationa**	**121.42**	**32**	P		14 26 35.5	
	baz=314						
M02C	**Callahan**	**122.30**	**34**	P		14 26 37.6	
	baz=313						
M04C	**Macdoel**	**122.58**	**33**	P		14 26 37.4	
	baz=314						
O03E	**Paynes Creek**	**123.63**	**34**	P		14 26 39.7	
	baz=314						
ULM	**Lac du Bonnet**	**124.42**	**9**	PKP	**PKPdf**	**14 26 40.3**	**-0.1**
	comp=Z,4.0nm,0.5s,baz=1.1,slow=3.8,SNR=7.6						
NVAR	**Mina Array Bea**	**126.86**	**33**	PKP	**PKiKP**	**14 26 47.0**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=333,slow=1.9,SNR=8.0						
PDAR	**Pinedale Array**	**127.58**	**23**	PKP	**PKPdf**	**14 26 46.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=111,slow=2.7,SNR=7.5						
D55A	**Sainte-Anne-du**	**127.94**	**352**	P		14 26 47.5	
	baz=11						
F63A	**Nahmakanta, Br**	**128.03**	**346**	P		14 26 48.7	
	baz=20						
ECSD	**EROS Data Cent**	**130.59**	**12**		**PKPdf**	**14 26 51.4**	**-1.0**
TXAR	**Lajitas Array**	**141.48**	**28**	PKhKP	PKPpre	14 27 06.8	
	comp=Z,0.5nm,0.6s,baz=79,slow=2.7,SNR=5.4						
TXAR				PKP	**PKiKP**	**14 27 15.3**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=239,slow=0.7,SNR=5.1						
TXAR				SKPbc	**SKPbc**	**14 30 43.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=186,slow=1.2,SNR=7.6						
TXAR	**Lajitas Array**	**141.48**	**28**	PKHKP	PKPpre	14 27 06.5	
TXAR	**Lajitas Array**	**141.48**	**28**	PKPpre	PKPpre	14 27 06.5	
CPUP	**Villa Florida**	**146.30**	**227**	PKPbc	**PKPab**	**14 27 24.0**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=129,slow=3.1,SNR=11						
CPUP	**Villa Florida**	**146.30**	**227**	PKIKP	**PKPdf**	**14 27 20.0**	**-1.5**
CPUP	**Villa Florida**	**146.30**	**227**	PKPdf	**PKPdf**	**14 27 20.0**	**-1.5**
LPAZ	**La Paz**	**160.27**	**233**	PKP	**PKPdf**	**14 27 44.2**	**+1.7**
	comp=Z,2.0nm,0.9s,baz=37,slow=1.0,SNR=6.6						

*IDC **01** 14:15:08.7±1.6, 14°.15N×120°.68E, h142km±19km, mb3.1/4, mb1 3.3/4, mb1mx3.0/34, mbtmp3.5/4, Error ellipse: s-maj=141.9km s-min=18.6km az=67.0*

*MAN **01** 14:15:08.3, 14°.22N×120°.33E, h122km, MS3.1*

ISC 01 14:15:08.2±0.9, 14°.19N±0°.04×120°.42E±0°.10, h138km±7km, n16, σ1s02/25, mb3.5/4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACP	**Maragondon, Ca**	**0.30**	**75**	*eP*	**Pn**	**14 15 26.4**	**-1.0**
MACP				*eS*	**Sn**	**14 15 41.8**	**-0.1**
LUBP	**Lubang**	**0.48**	**201**	*eP*	**Pn**	**14 15 27.9**	**-0.3**
LUBP				*eS*	**Sn**	**14 15 43.0**	**-0.4**
LUBP	**Lubang**	**0.48**	**201**	⇑*iP*	**Pn**	**14 15 29.3**	**+1.1**
LUBP				*eS*	**Sn**	**14 15 43.6**	**+0.3**
TGY	**Tagaytay City**	**0.51**	**100**	P	**Pn**	**14 15 29.4**	**+1.0**
	85nm,0.3s,baz=167,slow=1.8,SNR=8.5						
TGY				S	**Sn**	**14 15 44.2**	**+0.6**
	114nm,0.3s,baz=194,slow=16,SNR=7.4						
PGP	**Puerto Galera**	**0.85**	**143**	⇑*eP*	**Pn**	**14 15 30.8**	**0.0**
PGP				*i* S	**Sn**	**14 15 48.0**	**+0.2**
LQP	**Lukban**	**1.08**	**94**	*eP*	**Pn**	**14 15 33.5**	**+0.6**
PCPH	**Palayan**	**1.51**	**25**	⇓*iP*	**Pn**	**14 15 36.6**	**-0.4**
SJMP	**San Manuel, Pa**	**1.84**	**158**	*eP*	**Pn**	**14 15 41.2**	**+0.3**
SJMP				*eS*	**Sn**	**14 16 03.6**	**-2.2**
SMPP	**San Manuel, Pa**	**1.97**	**7**	*eP*	**Pn**	**14 15 41.0**	**-1.3**
SMPP				*eS*	**Sn**	**14 16 07.3**	**-1.1**
BOLP	**Bolinao**	**2.23**	**347**	*eP*	**Pn**	**14 15 46.0**	**+0.4**
BOLP				*eS*	**Sn**	**14 16 12.6**	**-1.7**
CAUP	**Cauayan**	**3.05**	**26**	*eP*	**Pn**	**14 15 56.7**	**+0.9**
APYP	**Conner**	**3.74**	**12**	*eP*	**Pn**	**14 16 04.9**	**+0.2**
APYP				*eS*	**Sn**	**14 16 48.9**	**+0.3**
SONM	**Songino Array**	**35.52**	**344**	P	**P**	**14 21 52.6**	**+0.8**
	0.4nm,0.4s,baz=163,slow=9.7,SNR=4.6						
WRA	**Warramunga Arr**	**36.58**	**158**	P	**P**	**14 21 59.4**	**-1.6**
	0.3nm,0.4s,baz=335,slow=10.0,SNR=2.0						
ASAR	**Alice Springs**	**39.87**	**161**	P	**P**	**14 22 27.9**	**-0.7**
	0.4nm,0.4s,baz=336,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**45.48**	**323**	P	**P**	**14 23 14.8**	**+1.2**
	0.1nm,0.4s,baz=132,slow=8.4,SNR=1.5						

*NEIC **01** 14:24:33.9±2.1, 4°.84S±0°.08×152°.5E±0°.1, h68km±7km, mb4.2/14, Error ellipse: s-maj=15.8km s-min=11.0km az=63.0*

*IDC **01** 14:24:36.4±4.3, 4°.91S×152°.51E, h97km±38km, mb3.6/9, mb1 3.7/11, mb1mx3.5/32, mbtmp3.9/11, MS3.7/1, Ms1 3.7/1, ms1mx2.6/33, Error ellipse: s-maj=25.7km s-min=22.5km az=32.0*

ISC 01 14:24:31.7±0.8, 4°.8S±0°.1×152°.6E±0°.1, h58km, n30, σ1s18/27, mb4.0/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.73**	**321**	Pn	Pn	14 24 50.0	+3.8
PMG	**Port Moresby**	**7.12**	**229**	P	**Pn**	**14 26 15.9**	**+2.6**
	0.4nm,0.3s,baz=220,slow=21,SNR=1.3						
PMG				S	**Sn**	**14 27 32.6**	**-0.3**
	4.0nm,0.3s,baz=182,slow=14,SNR=9.2						
CTA	**Charters Tower**	**16.45**	**202**	P	**P**	**14 28 20.4**	**-0.3**
	0.1nm,0.3s,baz=11,slow=16,SNR=2.0						
SIJI	**Sorong**	**21.68**	**280**	P	**P**	**14 29 19.3**	**+1.4**
	2.1nm,0.3s,baz=103,slow=12,SNR=3.6						
DZM	**Mont Dzumac**	**21.80**	**143**	P	**P**	**14 29 20.9**	**+1.7**
	2.1nm,0.5s,baz=298,slow=17,SNR=7.4						
DZM	**Mont Dzumac**	**21.80**	**143**	IAmb	IAmb	14 29 38.6	
	comp=Z,9.6nm,1.3s						
MTN	**Manton Dam**	**22.69**	**248**	P	**P**	**14 29 28.1**	**-0.6**
MTN				IAmb	IAmb	14 29 33.5	
	comp=Z,7.7nm,0.8s						
WB0	**Warramunga Arr**	**23.19**	**228**	P	**P**	**14 29 32.9**	**-0.9**
WB0				IAmb	IAmb	14 29 58.3	
	comp=Z,7.2nm,1.2s						
WR0	**Warramunga Arr**	**23.20**	**228**	P	**P**	**14 29 33.2**	**-0.6**
WR0				IAmb	IAmb	14 29 37.9	
	comp=Z,4.9nm,0.9s						
WB2	**Warramunga Arr**	**23.33**	**228**	P	**P**	**14 29 34.0**	**-1.1**
WB2				IAmb	IAmb	14 29 38.9	
	comp=Z,5.6nm,0.3s						
WRA	**Warramunga Arr**	**23.34**	**228**	P	**P**	**14 29 34.3**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=51,slow=9.7,SNR=23						
WRA	**Warramunga Arr**	**23.34**	**228**	P	**P**	**14 29 33.9**	**-1.3**
ARMA	**Armidale**	**25.54**	**182**	P	**P**	**14 29 55.2**	**0.0**
KNRA	**Kununurra**	**25.83**	**243**	P	**P**	**14 29 58.0**	**0.0**
AS31	**Alice Springs**	**26.06**	**222**	P	**P**	**14 29 59.0**	**-1.0**
ASAR	**Alice Springs**	**26.06**	**222**	P	**P**	**14 29 59.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=54,slow=9.0,SNR=26						
ASAR	**Alice Springs**	**26.06**	**222**	P	**P**	**14 29 59.0**	**-1.0**
MSVF	**Nonsavu**	**28.02**	**119**	LR	LR	14 42 34.6	
	comp=Z,147nm,18.9s,baz=336,slow=38						
FITZ	**Fitzroy Crossi**	**29.52**	**241**	P	**P**	**14 30 30.1**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=57,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**29.52**	**241**	P	**P**	**14 30 29.2**	**-1.8**
FITZ				IAmb	IAmb	14 30 30.8	
	comp=Z,16nm,1.5s						
FORT	**Forrest**	**34.71**	**219**	P	**P**	**14 31 14.7**	**-1.5**
MORW	**Morawa**	**42.23**	**231**	P	**P**	**14 32 17.7**	**-1.7**
MORW				IAmb	IAmb	14 32 37.1	
	comp=Z,7.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**57.70**	**295**	P	**P**	**14 34 18.1**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=123,slow=5.6,SNR=15						
SONM	**Songino Array**	**66.20**	**328**	P	**P**	**14 35 14.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=106,slow=7.2,SNR=2.0						
SONM	**Songino Array**	**66.20**	**328**	IAmb	IAmb	14 35 22.6	
	comp=Z,1.7nm,1.4s						
VNDA	**Vanda**	**72.88**	**178**	P	**P**	**14 35 54.5**	**+0.4**
VNDA				IAmb	IAmb	14 36 13.8	
	comp=Z,3.5nm,1.4s						
ZALV	**Zalesovo Beam**	**81.02**	**326**	P	**P**	**14 36 39.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=119,slow=5.1,SNR=2.2						
ILAR	**Eielson Array**	**82.19**	**22**	P	**P**	**14 36 46.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=242,slow=5.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**150.13**	**288**	PKPbc	**PKiKP**	**14 44 17.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=73,slow=2.4,SNR=16						
TORD	**Torodi Ar. Bea**	**150.13**	**288**		**PKPbc**	**14 44 16.2**	**-1.0**

*NSSP **01** 14:28:49.9, 41°.72N×44°.97E, h10km, Ms2.9*

*TIF **01** 14:28:50.9, 41°.69N×45°.17E, h18km*

ISC 01 14:28:50.5±1.2, 41°.76N±0°.03×45°.19E±0°.04, h14km±10km, n19, σ1s15/37, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEAG	**Tbilisi Sea**	**0.29**	**271**	P	**Pb**	**14 28 57.4**	**-0.1**
SEAG				S	**Sb**	**14 29 02.5**	**+0.2**
BTNK	**Botanikuri**	**0.30**	**256**	P	**Pg**	**14 28 57.2**	**+0.4**
BTNK				S	**Sb**	**14 29 02.4**	**-0.2**
KZRT	**Kazreti**	**0.70**	**238**	P	**Pg**	**14 29 04.3**	**+0.1**
KZRT				S	**Sb**	**14 29 14.0**	**-0.1**
DDFL	**Dedoflistskaro**	**0.76**	**114**	P	**Pn**	**14 29 08.9**	**+2.0**
DDFL				S	**Sn**	**14 29 19.0**	**+0.8**
LGD	**Lagodekhi**	**0.79**	**84**	P	**Pn**	**14 29 07.2**	**0.0**
LGD				S	**Sn**	**14 29 18.9**	**+0.1**
DMNI	**Dmanisi**	**0.87**	**241**	P	**Pg**	**14 29 07.0**	**-0.3**
DMNI				S	**Sn**	**14 29 19.0**	**-1.9**
GUDG	**Gudauri**	**0.89**	**323**	P	**Pb**	**14 29 04.3**	**-3.5**
GUDG				S	**Sb**	**14 29 16.6**	**-3.0**
PNSH	**Pansheti**	**0.98**	**334**	P	**Pb**	**14 29 09.1**	**-0.3**
PNSH				S	**Sn**	**14 29 25.3**	**+1.6**
BRNG	**Burnasheti**	**1.03**	**263**	P	**Pg**	**14 29 10.8**	**+0.3**
BRNG				S	**Sn**	**14 29 25.7**	**+0.6**
MTEO	**Meteo**	**1.04**	**332**	P	**Pb**	**14 29 10.9**	**+0.3**
BKRG	**Bakuriani**	**1.25**	**271**	P	**Pb**	**14 29 14.0**	**0.0**
BKRG				S	**Sg**	**14 29 32.2**	**+1.3**
BGD	**Bogdanovka**	**1.29**	**248**	P	**Pg**	**14 29 14.9**	**-0.5**
BGD				S	**Sg**	**14 29 32.4**	**0.0**
AKH	**Akhalkalaki**	**1.32**	**255**	P	**Pg**	**14 29 15.4**	**-0.5**
AKH				S	**Sg**	**14 29 33.2**	**0.0**
ONI	**Oni**	**1.54**	**303**	P	**Pg**	**14 29 20.3**	**+0.3**
ONI				S	**Sg**	**14 29 40.5**	**+0.4**
GNI	**Garni**	**1.64**	**192**	*i* P	**Pg**	**14 29 21.7**	**-0.4**
GNI				*i* S	**Sg**	**14 29 44.6**	**+1.2**
ARUZ	**Aruch**	**1.69**	**210**	*i* P	**Pb**	**14 29 21.0**	**-0.5**
ARUZ				*i* S	**Sg**	**14 29 42.9**	**-2.1**
TKB	**Tkibuli**	**1.74**	**291**	P	**Pb**	**14 29 22.6**	**+0.3**
TKB				S	**Sb**	**14 29 45.0**	**+0.9**
ABS	**Abastumani**	**1.78**	**271**	P	**Pb**	**14 29 23.0**	**-0.1**
ABS				S	**Sg**	**14 29 47.2**	**-0.6**
NRKZ	**NAREK**	**1.80**	**193**	*i* P	**Pg**	**14 29 24.1**	**-0.9**
NRKZ				*i* S	**Sg**	**14 29 48.5**	**0.0**

*SOME **01** 14:41:00.2, 37°.42N×72°.07E, h0km*

*NNC **01** 14:41:06.7±2.4, 36°.14N×70°.29E, h100km±28km, mb4.9, mpv5.5, Error ellipse: s-maj=21.2km s-min=11.1km az=164.0*

*MOS **01** 14:41:07.0±1.1, 36°.16N×70°.53E, h113km, mb4.9/60, Error ellipse: s-maj=4.7km s-min=3.0km az=79.1*

*NEIC **01** 14:41:08.6±1.6, 36°.12N±0°.05×70°.34E±0°.07, h115km±3km, mb4.8/183, Error ellipse: s-maj=8.2km s-min=6.8km az=121.0*

*BJI **01** 14:41:08.0±0.0, 36°.15N×70°.49E, h119km, mB4.8/35, mb4.8/57*

*IDC **01** 14:41:08.7±0.5, 35°.98N×70°.40E, h119km±4km, mb4.3/37, mb1 4.4/39, mb1mx4.3/54, mbtmp4.7/39, MS3.5/16, Ms1 3.5/16, ms1mx3.2/53, Error ellipse: s-maj=9.5km s-min=7.8km az=20.0*

*GCMT **01** 14:41:09.6±0.3, 36°.18N±0°.02×70°.31E±0°.03, h104km±3km, MW4.8/93, Moment Tensor Solution. s19,c19; s93,c127; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.12±.07; Mθθ -2.26±.08; Mφφ 0.14±.07; Mrθ 0.78±.08; Mrφ -0.19±.09; Mθφ -0.26±.06; Best double couple: Mo 2.34900×10^16 NP1: φs 257.00000°, δ 36.00000°, λ 76.00000°. NP2: φs 94.00000°, δ 55.00000°, λ 100.00000°. Principal axes: T 2.2950, Plg 77.0000°, Azm 38.0000°; N 0.1130, Plg 8.0000°, Azm 268.0000°; P -2.4040, Plg 10.0000°, Azm 177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 14:41:07.2±0.3, 36°.10N±0°.03×70°.39E±0°.03, h104km±2km, h104km:pP-P, n660, σ1s69/734, mb4.8/209, 50C-38D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.90**	**216**	PN	**Pn**	**14 41 41.1**	**+2.2**
KBL	**Kabul**	**1.90**	**216**	Pn	**Pn**	**14 41 41.0**	**+2.2**
CEP	**Cherat**	**2.59**	**151**	P	**Pn**	**14 41 49.9**	**+2.1**
CHGR	**Chuyangaron**	**2.74**	**339**		**Pn**	**14 41 50.2**	**+0.5**
GAR	**Garm**	**2.90**	**359**	Pn	**Pn**	**14 41 53.0**	**+1.2**
NIL	**Nilore**	**3.39**	**135**	PN	**Pn**	**14 42 00.4**	**+2.1**
NIL	**Nilore**	**3.39**	**135**	Pn	**Pn**	**14 42 00.4**	**+2.1**
CHCP	**Chirah Chowk**	**3.39**	**135**	P	**Pn**	**14 42 00.4**	**+2.1**
DRK	**Karamyk**	**3.56**	**18**	Pn	**Pn**	**14 42 02.5**	**+1.8**
BTK	**Batken**	**3.97**	**5**	PN	**Pn**	**14 42 08.0**	**+1.9**
BTK	**Batken**	**3.97**	**5**	Pn	**Pn**	**14 42 08.0**	**+1.9**
JMU	**Jammu**	**5.03**	**131**	*eP*	**Pn**	**14 42 19.0**	**-1.3**
JMU				*eS*	**Sn**	**14 43 13.5**	**-3.7**
KSH	**Kashi**	**5.59**	**51**	P	**Pn**	**14 42 24.5**	**-3.5**
KSH				S	Sn	14 43 19.8	-11
KSH				SMN			
	3μm,0.3s						
KSH				SME			
	2μm,0.3s						
ARSB	**Arslanbob**	**5.60**	**20**	PN	**Pn**	**14 42 28.0**	**-0.2**
ARSB	**Arslanbob**	**5.60**	**20**	Pn	**Pn**	**14 42 28.0**	**-0.2**
THN	**Thein Dam**	**5.73**	**128**	*eP*	**Pn**	**14 42 30.5**	**+0.7**
IUG	**luzhnay**	**6.05**	**358**	*eP*	**Pn**	**14 42 35.0**	**+0.8**
	13μm,0.2s						
IUG				*eS*	**Sn**	**14 43 41.2**	**-0.9**
	3μm,0.4s						
IUG	**luzhnay**	**6.05**	**358**	⇓*iP*	**Pn**	**14 42 34.8**	**+0.6**
	baz=357						
IUG				*eS*	**Sn**	**14 43 41.1**	**-0.9**
	baz=357						
IUG	**luzhnay**	**6.05**	**358**	*ePN*	**Pn**	**14 42 35.0**	**+0.8**
DHRM	**DHARAMSHALA**	**6.22**	**126**	*eP*	**Pn**	**14 42 36.0**	**-0.7**
DHRM				IAmb	IAmb	14 42 37.4	
	comp=Z,342nm,0.6s						
CHM	**Chimkent**	**6.24**	**355**	*eS*	**Sn**	**14 43 44.9**	**-1.8**
	baz=354						
AML	**Almayashu**	**6.55**	**22**	P	**Pn**	**14 42 41.6**	**+0.3**
	SNR=896						
DZA	**Taraz**	**6.83**	**6**	*eP*	**Pn**	**14 42 45.2**	**+0.5**
	comp=Z,778nm,0.5s						
DZA				*eS*	**Sn**	**14 43 59.5**	**-1.4**
	comp=Z,3μm,0.4s						
DZA	**Taraz**	**6.83**	**6**	⇓*iP*	**Pn**	**14 42 45.2**	**+0.5**
	baz=5.6						
DZA				*eS*	**Sn**	**14 43 59.4**	**-1.5**
	baz=5.6						
DZA	**Taraz**	**6.83**	**6**	*ePN*	**Pn**	**14 42 45.2**	**+0.5**
BHK	**Bhakra**	**6.86**	**131**	*eP*	**Pn**	**14 42 42.0**	**-3.2**
HRA	**Herat**	**6.88**	**258**	Pn	**Pn**	**14 42 46.0**	**+0.4**
KK31	**Karatay Array**	**7.00**	**1**	⇑P	**Pn**	**14 42 47.0**	**0.0**
	comp=Z,210nm,0.5s,baz=187,slow=13,SNR=2394						
KK31				⇓S	**Sn**	**14 44 06.5**	**+1.5**
	comp=Z,346nm,0.5s,baz=190,slow=22,SNR=9.3						
KK31	**Karatay Array**	**7.00**	**1**	PN	**Pn**	**14 42 47.1**	**0.0**
KK31				S	**Sn**	**14 44 06.5**	**+1.5**
KK31	**Karatay Array**	**7.00**	**1**	Pn	**Pn**	**14 42 46.9**	**0.0**
KKAR	**Karatay Array**	**7.00**	**1**	PN	**Pn**	**14 42 46.9**	**-0.1**
KKAR	**Karatay Array**	**7.00**	**1**	Pn	**Pn**	**14 42 46.9**	**-0.1**
EKS2	**Erkin-Say**	**7.06**	**21**	P	**Pn**	**14 42 48.1**	**+0.1**
	SNR=178						
KBK	**Karagaybulak**	**7.44**	**27**	P	**Pn**	**14 42 54.0**	**+0.8**
	SNR=95						
FRU1	**Bishkek**	**7.46**	**25**	PN	**Pn**	**14 42 53.8**	**+0.4**
FRU1	**Bishkek**	**7.46**	**25**	Pn	**Pn**	**14 42 53.8**	**+0.4**
SMLA	**Simla**	**7.52**	**129**	*eP*	**Pn**	**14 42 53.4**	**-0.7**
ULHL	**Ulahol**	**7.64**	**35**	P	**Pn**	**14 42 56.8**	**+0.9**
	SNR=10.0						
CHMS	**Chumysh**	**7.67**	**25**	P	**Pn**	**14 42 56.5**	**+0.3**
	SNR=329						
BOOM	**Boomskoye usch**	**7.70**	**32**	PN	**Pn**	**14 42 56.5**	**-0.2**
BOOM	**Boomskoye usch**	**7.70**	**32**	Pn	**Pn**	**14 42 56.5**	**-0.2**
USP	**Ospenovka**	**7.83**	**23**	P	**Pn**	**14 42 58.0**	**-0.4**
	SNR=132						
TKM2	**Tokmak 2**	**7.92**	**29**	P	**Pn**	**14 43 00.0**	**+0.4**
	SNR=78						
TKM2	**Tokmak 2**	**7.92**	**29**	⇑P	**Pn**	**14 42 59.2**	**-0.5**
	comp=Z,112nm,0.5s						
TKM2				⇓S	**Sn**	**14 44 26.6**	**-1.0**
	comp=Z,101nm,0.6s						
TKM2	**Tokmak 2**	**7.92**	**29**	PN	**Pn**	**14 42 59.2**	**-0.5**
KDJ	**Kajisay**	**8.01**	**39**	PN	**Pn**	**14 43 00.7**	**-0.2**
KDJ	**Kajisay**	**8.01**	**39**	Pn	**Pn**	**14 43 00.7**	**-0.2**
SGDS	**Sogindy**	**8.04**	**23**	⇓*iP*	**Pn**	**14 43 00.6**	**-0.6**
	baz=23						
SGDS				*eS*	**Sn**	**14 44 27.3**	**-3.1**
	baz=23						
SGDS	**Sogindy**	**8.04**	**23**	*di*PN	**Pn**	**14 43 00.6**	**-0.6**
KST	**Kastek**	**8.16**	**30**	*eP*	**Pn**	**14 43 03.1**	**+0.1**
	comp=Z,125nm,0.4s						
KST				*eS*	**Sn**	**14 44 29.3**	**-4.2**
	comp=Z,187nm,0.8s						
KST	**Kastek**	**8.16**	**30**	*e*PN	**Pn**	**14 43 03.1**	**+0.1**
DGS	**Degeres**	**8.26**	**29**	*eP*	**Pn**	**14 43 03.9**	**-0.3**
	comp=Z,86nm,0.7s						
DGS				*eS*	**Sn**	**14 44 30.8**	**-4.9**
	comp=Z,76nm,0.7s						
DGS	**Degeres**	**8.26**	**29**	*e*PN	**Pn**	**14 43 03.9**	**-0.3**
MTBS	**Maitube**	**8.43**	**32**	*eP*	**Pn**	**14 43 06.5**	**0.0**
	comp=Z,79nm,0.4s						
MTBS				*eS*	**Sn**	**14 44 35.3**	**-4.7**
	comp=Z,102nm,0.6s						
MTBS	**Maitube**	**8.43**	**32**	⇓*iP*	**Pn**	**14 43 06.5**	**0.0**
	baz=32						
MTBS				*eS*	**Sn**	**14 44 38.2**	**-1.7**
	baz=32						
MTBS	**Maitube**	**8.43**	**32**	*di*PN	**Pn**	**14 43 06.4**	**-0.1**
IZV	**Izvestkoviy**	**8.43**	**33**	*eP*	**Pn**	**14 43 06.9**	**+0.3**
	comp=Z,49nm,0.3s						
IZV				*eS*	**Sn**	**14 44 36.3**	**-3.9**
	comp=Z,67nm,0.6s						
IZV	**Izvestkoviy**	**8.43**	**33**	*e*PN	**Pn**	**14 43 06.9**	**+0.3**
DDI	**Dehra Dun**	**8.63**	**130**	*eP*	**Pn**	**14 43 08.7**	**-0.5**
DDI				IAmb	IAmb	14 43 11.1	
	comp=Z,430nm,0.2s						
AAA	**Alma-Ata**	**8.70**	**33**	*eP*	**Pn**	**14 43 09.5**	**-0.8**
	baz=34						
AAA	**Alma-Ata**	**8.70**	**33**	*e*PN	**Pn**	**14 43 09.4**	**-0.8**
MDOK	**Medeo**	**8.73**	**34**	*eP*	**Pn**	**14 43 09.5**	**-1.2**
	baz=34						
MDOK				*eS*	**Sn**	**14 44 46.0**	**-1.3**
	baz=34						
MDOK	**Medeo**	**8.73**	**34**	⇑P	**Pn**	**14 43 11.2**	**+0.6**
	comp=Z,137nm,1.0s						
MDOK				S	**Sn**	**14 44 47.5**	**+0.2**
	comp=Z,101nm,0.8s						
MDOK	**Medeo**	**8.73**	**34**	*e*PN	**Pn**	**14 43 09.4**	**-1.2**
KOTS	**Kotyrbulak**	**8.81**	**34**	*eP*	**Pn**	**14 43 12.6**	**+0.8**
	comp=Z,126nm,0.4s						
KOTS				*eS*	**Sn**	**14 44 45.7**	**-3.7**
	comp=Z,101nm,1.0s						
KOTS	**Kotyrbulak**	**8.81**	**34**	*e*PN	**Pn**	**14 43 12.6**	**+0.8**
PRZ	**Przheval'sk**	**8.90**	**42**	PN	**Pn**	**14 43 13.7**	**+0.7**
PRZ	**Przheval'sk**	**8.90**	**42**		**Pn**	**14 43 13.7**	**+0.7**
KTBS	**Karatobe**	**9.01**	**31**	*eP*	**Pn**	**14 43 13.3**	**-1.1**
	comp=Z,15nm,0.5s						
KTBS				*eS*	**Sn**	**14 44 46.3**	**-7.8**
	comp=Z,57nm,0.3s						
KTBS	**Karatobe**	**9.01**	**31**	*e*PN	**Pn**	**14 43 13.3**	**-1.1**
KUU	**Kurty**	**9.03**	**29**	*eP*	**Pn**	**14 43 13.5**	**-1.1**
	comp=Z,37nm,0.3s						
KUU				*eS*	**Sn**	**14 44 47.2**	**-7.1**
	comp=Z,54nm,0.8s						
KUU	**Kurty

MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 13.91 36 Pn **Pn 14 44 17.7 -2.0**
KOLN Koldanda 13.95 123 *eP* **Pn 14 44 16.9 -3.6**
comp=Z,69nm,0.3s
KOLN Koldanda 13.95 123 *eP* **Pn 14 44 16.9 -3.6**
comp=Z,103nm,0.6s
KOLN *eS* Sn 14 46 42.2 -12
comp=Z,408nm,0.8s
BRZS Berezniki 13.98 6⇓*iP* **Pn 14 44 18.3 -2.3**
baz=6.1
BRZS Berezniki 13.98 6*dP* **Pn 14 44 18.2 -2.3**
BHPL Bhopal 14.19 153 *eP* **Pn 14 44 19.2 -4.2**
GKN Gorkha 14.52 120 *eP* **Pn 14 44 24.3 -3.6**
comp=Z,182nm,0.3s
GKN Gorkha 14.52 120 *eP* **Pn 14 44 24.2 -3.6**
comp=Z,101nm,0.3s
DMN Daman 15.09 120 *eP* **Pn 14 44 31.7 -3.4**
comp=Z,62nm,0.3s
DMN Daman 15.09 120 *eP* **Pn 14 44 32.1 -3.0**
comp=Z,62nm,0.3s
KKN Kakani 15.10 119 *eP* **Pn 14 44 32.1 -3.1**
comp=Z,179nm,0.5s
KKN Kakani 15.10 119 *eP* **Pn 14 44 33.1 -2.1**
comp=Z,115nm,0.3s
AB31 Akbulak array 15.21 333 ⇑P **Pn 14 44 35.0 -1.1**
comp=Z,70nm,0.4s,baz=144,slow=16,SNR=100
AB31 ⇓S **Sn 14 47 20.8 -3.2**
comp=Z,41nm,0.6s,baz=159,slow=23,SNR=11
AB31 Akbulak array 15.21 333 P **Pn 14 44 35.2 -1.0**
AB31 S **Sn 14 47 20.8 -3.2**
ABKAR Akbulak array 15.21 333 **Pn 14 44 35.1 -1.0**
PKIN Phulchoki 15.31 119 *eP* **Pn 14 44 34.9 -3.0**
comp=Z,164nm,0.4s
PKIN Phulchoki 15.31 119 *eP* **Pn 14 44 35.0 -3.0**
comp=Z,113nm,0.5s
PKI Pulchoki 15.33 119 *eP* **Pn 14 44 35.2 -3.0**
comp=Z,76nm,0.3s
PKI Pulchoki 15.33 119 *eP* **Pn 14 44 35.2 -3.0**
comp=Z,53nm,0.3s
WMQ Urumqi 15.34 55 *eP* **Pn 14 44 38.8 +0.9**
WMQ sP sP 14 45 11.0 -3.1
WMQ S **Sn 14 47 20.5 -6.8**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ L L
comp=Z,550nm,7.1s
WMQ L L
comp=Z,510nm,8.9s
WMQ L L
comp=Z,440nm,6.7s
GUN Gumba 15.46 118 *eP* **Pn 14 44 37.0 -2.8**
comp=Z,143nm,0.4s
GUN Gumba 15.46 118 *eP* **Pn 14 44 37.1 -2.8**
comp=Z,48nm,0.3s
ZSN Zaisan 15.63 39⇓*iP* **Pn 14 44 41.6 0.0**
baz=39
ZSN Zaisan 15.63 39*dP* **Pn 14 44 41.6 0.0**
KURBB Kurchatov Arra 15.67 20 P **Pn 14 44 39.6 -2.2**
comp=Z,0.7nm,0.3s,baz=215,slow=12,SNR=55
KURBB Kurchatov Arra 15.67 20 ⇑P **Pn 14 44 38.1 -3.8**
comp=Z,63nm,0.8s
KURBB Kurchatov Arra 15.67 20 P **Pn 14 44 38.6 -3.3**
KURK Kurchatov 15.77 20 P **Pn 14 44 39.7 -3.6**
KURK Kurchatov 15.77 20 P **Pn 14 44 39.6 -3.6**
JIRN Jiri 15.83 118 *eP* **Pn 14 44 41.7 -2.8**
comp=Z,201nm,0.4s
JIRN Jiri 15.83 118 *eP* **Pn 14 44 42.3 -2.2**
comp=Z,106nm,0.3s
SEM Semipalatinsk 15.99 23 *eP* **Pn 14 44 42.6 -3.5**
baz=24
SEM Semipalatinsk 15.99 23 *eP* **Pn 14 44 42.6 -3.5**
WSAR Wadi Sarin 16.37 222 P **P 14 44 51.5 -0.3**
comp=Z,0.5nm,0.3s,baz=67,slow=10,SNR=7.1
WSAR Wadi Sarin 16.37 222 P **P 14 44 51.5 -0.3**
UOSS Minazif 16.50 232 **Pn 14 44 52.4 -0.1**
RAMN Ramite 16.54 119 *eP* **Pn 14 44 50.7 -2.5**
comp=Z,63nm,0.3s
RAMN Ramite 16.54 119 *eP* **Pn 14 44 50.7 -2.5**
comp=Z,59nm,0.3s
AKTO Aktyubinsk 16.89 332 P **P 14 44 57.5 +0.1**
comp=Z,18nm,0.3s,baz=136,slow=14,SNR=154
AKTO S **Sn 14 47 58.5 -6.1**
comp=Z,4.3nm,0.3s,baz=259,slow=22,SNR=5.7
AKTO Aktyubinsk 16.89 332 ⇓P **P 14 44 57.9 +0.5**
comp=Z,141nm,0.9s
AKTO ⇓S **Sn 14 47 59.6 -5.0**
comp=Z,51nm,0.7s
AKTO Aktyubinsk 16.89 332 P **P 14 44 57.9 +0.5**
AKTO S **Sn 14 47 59.6 -5.0**
AKTO Aktyubinsk 16.89 332 P **P 14 44 57.5 +0.1**
BVAR Borovoye Array 16.93 0 P **Pn 14 44 57.2 -0.2**
comp=Z,8.7nm,0.3s,baz=108,slow=14,SNR=57
BVAR Borovoye Array 16.93 0 P **Pn 14 44 57.2 -0.2**
BVAR Borovoye Array 16.93 0 P **Pn 14 44 57.2 -0.2**
BRVK Borovoye 16.96 360 ⇑P **Pn 14 44 57.3 -0.5**
comp=Z,83nm,1.1s
BRVK Borovoye 16.96 360*dP* **Pn 14 44 55.6 -2.2**
BRVK pmax pmax
comp=Z,99nm,1.7s
BRVK Borovoye 16.96 360 **Pn 14 44 56.9 -0.9**
BRVK IAmb IAmb 14 45 21.1
comp=Z,113nm,1.3s
TAPN Taplejung 17.11 116 *eP* **Pn 14 44 58.4 -1.8**
comp=Z,131nm,0.6s
TAPN Taplejung 17.11 116 *eP* **Pn 14 44 59.3 -0.9**
comp=Z,131nm,0.6s
ODAN Odare 17.16 118 *eP* **Pn 14 44 59.0 -1.8**
comp=Z,200nm,0.8s
ODAN Odare 17.16 118 *eP* **Pn 14 44 58.9 -1.8**
comp=Z,200nm,0.8s
LKRN Lenkeran, Azer 17.36 285 P **Pn 14 45 05.3 +2.5**
POO Poona 17.77 169 *eP* **P 14 45 07.0 -0.3**
POO IAmb IAmb 14 45 09.5
comp=Z,31nm,0.9s
BOK Bokaro 18.16 128⇑*eP* **P 14 45 11.9 +0.4**
BOK IAmb IAmb 14 45 14.7
comp=Z,41nm,0.7s
DGZ Jazzator, Alta 18.40 37*ciP* **P 14 45 14.7 +0.5**
DGZ pmax pmax
comp=Z,115nm,0.5s
LSA Lhasa 18.55 104 P **Pn 14 45 19.2 +1.5**
LSA pmax pmax
comp=Z,280nm,0.7s
LSA Lhasa 18.55 104 P **Pn 14 45 17.6 -0.1**
LSA pmax pmax
comp=Z,64nm,0.5s
LSA Lhasa 18.55 104 **Pn 14 45 17.6 -0.1**
SEKA Sheki 18.80 293 P **Pn 14 45 22.1 +2.0**
MNGR Mingechevir, A 18.82 291 P **Pn 14 45 23.2 +2.9**
MAK Makhachkala 18.90 298 *eP* **P 14 45 18.1 -1.4**
MAK *eS* **S 14 48 48.4 -0.3**
MAK pmax pmax
comp=Z,53nm,0.5s
MAK MLR MLR
comp=Z,144nm,10.0s
KAD Karad 19.02 169⇑*iP* **Pn 14 45 22.7 -0.1**
ZKTA Zakatala 19.29 294 P **Pn 14 45 28.3 +2.5**
GANJ Ganja 19.39 291 P **Pn 14 45 29.3 +2.3**
DDFL Dedoflistskaro 19.63 293 P **Pn 14 45 32.7 +2.8**
NAX Nakhchivan 19.93 286 P **Pn 14 45 35.2 +1.7**
HYB Hyderabad 19.97 157 *iP* **Pn 14 45 33.0 -0.9**
comp=Z,85nm,0.8s
HYB Hyderabad 19.97 157 *eP* **P 14 45 31.6 +0.3**
HYB IAmb IAmb 14 45 32.8
comp=Z,73nm,0.6s
GROC Groznyy 20.18 298 *eP* **P 14 45 34.4 +1.1**
GROC *eS* **S 14 49 16.0 +2.0**
GROC *e**SS **sS 14 49 48.7 +0.3**
GROC pmax pmax
comp=Z,96nm,1.1s
QRN Al-Qurain 20.31 255 *eP* **P 14 45 35.5 +0.7**
MIB Mutribah 20.31 259 *eP* **P 14 45 35.7 +0.8**
ZAA0 Zalesovo Array 20.49 25 ⇑P **P 14 45 37.3 +0.8**
comp=Z,44nm,0.6s
ZAA0 Zalesovo Array 20.49 25 P **P 14 45 37.2 +0.6**
ZALV Zalesovo Beam 20.49 25 P **P 14 45 37.3 +0.7**
comp=Z,331nm,0.4s,baz=216,slow=10.0,SNR=461
ZALV S **S 14 49 19.5 -0.4**
comp=Z,1.2nm,0.4s,baz=217,slow=18,SNR=1.1
ZALV Zalesovo Beam 20.49 25 *iP* **P 14 45 37.2 +0.7**
ZALV pmax pmax
comp=Z,331nm,0.4s
ZALV Zalesovo Beam 20.49 25 P **P 14 45 37.2 +0.7**

ZALV Zalesovo Beam 20.49 25 **S 14 49 19.5 -0.4**
GNI Garni 20.55 289 P Pn 14 45 40.3 -0.4
comp=Z,66nm,0.7s,baz=89,slow=2.6,SNR=22
GNI LR LR 14 56 39.8
comp=Z,92nm,20.8s,baz=150,slow=45
GNI Garni 20.55 289 *eP* Pn 14 45 40.8 +0.1
GNI pmax pmax
comp=Z,207nm,1.3s
RST Umm Al-Ruwaisa 20.71 258 *eP* **P 14 45 39.2 0.0**
GOA Goa 20.75 171 *eP* Pn 14 45 42.0 -1.0
GOA IAmb IAmb 14 45 42.9
comp=Z,89nm,1.2s
KZRT Kazreti 20.91 293 P Pn 14 45 44.3 -0.5
SHL Shillong 21.19 114 *eP* **P 14 45 44.9 +0.3**
SHL IAmb IAmb 14 45 47.8
comp=Z,51nm,0.5s
ZEI Tsey 21.46 296 *eP* **P 14 45 48.6 +1.2**
ZEI pmax pmax
comp=Z,19nm,1.3s
AKH Akhalkalaki 21.59 292 P **P 14 45 51.8 +3.1**
VIS Vishakhapatnam 21.60 145⇑*eP* **P 14 45 50.5 +1.8**
VIS IAmb IAmb 14 45 55.9
comp=Z,60nm,0.8s
ZIRO ZIRO 21.66 107 *eP* **P 14 45 50.1 +0.6**
ITAN ITANAGAR 21.74 108 *eP* **P 14 45 49.9 -0.3**
ITAN IAmb IAmb 14 45 54.9
comp=Z,101nm,0.6s
ONI Oni 21.76 296 P **P 14 45 55.6 +5.2**
NCK Nalchik 21.81 298⇓*eP* **P 14 45 52.3 +1.5**
NCK pmax pmax
comp=Z,74nm,1.6s
GEVA Gevas 21.85 284 P **P 14 45 51.5 0.0**
ARU Arti 21.86 342 P **P 14 45 52.6 +1.5**
comp=Z,13nm,0.5s,baz=160,slow=9.8,SNR=55
ARU S **S 14 49 49.5 +3.3**
comp=Z,3.5nm,0.4s,baz=137,slow=22,SNR=4.1
ARU Arti 21.86 342*ciP* **P 14 45 52.0 +0.8**
ARU 14 46 15.3
ARU S **S 14 49 50.2 +3.9**
ARU SS **SnSn 14 50 26.8 +5.4**
ARU pmax pmax
comp=Z,258nm,1.5s
ARU Arti 21.86 342 P **P 14 45 50.8 -0.4**
GOF Gofitskoye 22.53 302⇑*eP* **P 14 46 01.1 +2.8**
GOF pmax pmax
comp=Z,37nm,0.3s
KIV Kislovodsk 22.54 299 *eP* **P 14 45 59.6 +1.0**
KIV *eS* **S 14 50 01.0 +2.7**
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,173nm,14.0s
KIV Kislovodsk 22.54 299 P **P 14 45 58.4 -0.1**
KIV IAmb IAmb 14 46 15.2
comp=Z,54nm,1.1s
MOKO MOKOCHONG 22.77 109 *eP* **P 14 46 01.8 +0.7**
MOKO IAmb IAmb 14 46 14.4
comp=Z,96nm,0.9s
KOHI KOHIMA 22.78 110 *eP* **P 14 46 02.0 +0.9**
KOHI IAmb IAmb 14 46 03.6
comp=Z,47nm,1.1s
BELG Belogornoye 22.90 322 P **P 14 46 03.2 +1.4**
comp=Z,42nm,0.5s,baz=270,slow=1.7,SNR=28
BELG Belogornoye 22.90 322*ciP* **P 14 46 02.3 +0.4**
BELG pmax pmax
comp=Z,25nm,1.2s
BELG Belogornoye 22.90 322 P **P 14 46 03.2 +1.4**
GTA Gaotai 23.45 73 ⇑P **P 14 46 09.1 +1.7**
GTA pP pP 14 46 30.7 +0.8
GTA sP sP 14 46 48.1 +4.7
GTA S **S 14 50 16.2 +3.2**
GTA pmax pmax
comp=Z,46nm,1.5s
GTA pmax pmax
comp=Z,220nm,6.2s
GTA L L
comp=Z,100nm,16.4s
GTA L L
comp=Z,150nm,14.9s
GTA L L
comp=Z,94nm,18.5s
RAYN Ar Rayn 24.88 247 P **P 14 46 19.5 -0.9**
RAYN pmax pmax
comp=Z,23nm,1.2s
RAYN Ar Rayn 24.88 247 P **P 14 46 19.5 -0.9**
VRH Novokhopyorsk 25.44 315 *eP* **P 14 46 26.6 +1.5**
VRH pmax pmax
comp=Z,50nm,1.6s
MALT Malatya 25.49 285 P **P 14 46 29.2 +3.4**
KIRV Kirov 26.39 335 P **P 14 46 35.0 +1.5**
comp=Z,23nm,0.4s,baz=126,slow=2.3,SNR=17
KIRV Kirov 26.39 335*ciP* **P 14 46 34.9 +1.4**
KIRV Kirov 26.39 335 P **P 14 46 35.0 +1.5**
ANN Anapa 26.39 299 *eP* **P 14 46 34.2 +0.5**
ANN *e**PP **pP 14 46 57.9 +0.9**
ANN *e* 14 47 19.8
ANN *eS* **S 14 51 00.7 +1.3**
ANN pmax pmax
comp=Z,46nm,1.5s
MOY Mondy 26.74 45 *eP* **P 14 46 38.4 +1.4**
MOY pmax pmax
comp=Z,27nm,1.7s
VSR Storozhevoye 26.92 314 *eP* **P 14 46 37.5 -0.9**
VSR pmax pmax
comp=Z,30nm,1.1s
LZH Lanzhou 26.96 80 *eP* **P 14 46 41.0 +1.8**
LZH pP pP 14 47 08.1 +4.5
LZH sP sP 14 47 21.1 +4.8
LZH SS SS 14 52 26.5 -40
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.7s
LZH L L
comp=Z,170nm,12.5s
LZH L L
comp=Z,180nm,13.0s
LZH L L
comp=Z,100nm,13.0s
LPSR Galich'ya Gora 27.60 317 *eP* **P 14 46 45.2 +0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
ZAK Zakamensk 27.63 49 *eP* **P 14 46 44.3 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.6s
CD2 Chengdu 28.22 91 *eP* **P 14 46 50.0 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
TLY Talaya 28.28 46*ciP* **P 14 46 52.2 +1.6**
TLY pmax pmax
comp=Z,5.0nm,0.7s
MMAI Mount Meron Ar 28.88 274 LR LR 15 00 01.1
comp=Z,73nm,19.5s,baz=195,slow=39
SONM Songino Array 28.97 55 P **P 14 46 58.1 +1.2**
comp=Z,8.8nm,0.9s,baz=256,slow=9.2,SNR=51
SONM PcP **PcP 14 50 02.0 -1.0**
comp=Z,1.7nm,0.8s,baz=276,slow=4.2,SNR=2.8
SONM LR LR 15 00 17.2
comp=Z,71nm,18.2s,baz=260,slow=40
SONM Songino Array 28.97 55 P **P 14 46 58.1 +1.2**
SONM 14 50 02.0
SONM Songino Array 28.97 55 P **P 14 46 57.4 +0.5**
BR131 Keskin Array S 29.09 288 P **P 14 46 57.8 -0.2**
BR131 pmax pmax
comp=Z,11nm,1.2s
BR131 Keskin Array S 29.09 288 P **P 14 46 57.8 -0.2**
BRTR Keskin Array B 29.09 288 P **P 14 46 59.1 +1.2**
comp=Z,3.7nm,0.9s,baz=95,slow=7.4,SNR=18
BRTR PcP **PcP 14 50 04.0 +0.4**
comp=Z,0.7nm,0.6s,baz=135,slow=1.7,SNR=4.1
BRTR Keskin Array B 29.09 288 P **P 14 46 59.2 +1.2**
BRTR 14 50 04.0
BRTR Keskin Array B 29.09 288 P **P 14 46 58.1 +0.1**
BRTR Keskin Array B 29.09 288 **PcP 14 50 04.0 +0.4**
ULN Ulaanbaatar 29.41 55⇑*eP* **P 14 47 01.6 +0.8**
ULN pmax pmax
comp=Z,12nm,1.0s
MOS Moscow 29.66 322 *eP* **P 14 47 01.2 -1.5**
MOS *e* 14 47 34.7
MOS pmax pmax
comp=Z,36nm,0.7s
KMI Kunming 29.79 102 ⇑P **P 14 47 06.7 +2.2**
KMI pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 29.92 320⇓*eP* **P 14 47 06.2 +1.2**

OBN *e**PP **pP 14 47 30.5 +1.9**
OBN *e* 14 48 03.4
OBN pmax pmax
comp=Z,15nm,0.4s
PRGR Permogore 29.94 336 *eP* **P 14 47 04.5 -0.5**
PRGR *e**SP **sP 14 47 37.7 -3.7**
PRGR pmax pmax
comp=Z,12nm,0.6s
CM15 Chiang Mai Arr 30.70 117 P **P 14 47 14.0 +1.8**
comp=Z,81nmcomp=Z,6.5nm,1.0s
CM13 Chiang Mai Arr 30.70 117 P **P 14 47 14.4 +2.1**
comp=Z,74nmcomp=Z,5.1nm,0.9s
CM31 Chiang Mai Arr 30.70 117 P **P 14 47 14.0 +1.7**
comp=Z,188nm,1.2s
CM31 Chiang Mai Arr 30.70 117 P **P 14 47 12.9 +0.6**
CMAR Chiang Mai Arr 30.70 117 P **P 14 47 13.1 +0.8**
comp=Z,5.4nm,0.9s,baz=295,slow=8.0,SNR=35
CMAR ScP **ScP 14 53 38.4 -2.5**
comp=Z,0.5nm,0.4s,baz=252,slow=4.2,SNR=4.4
CMAR Chiang Mai Arr 30.70 117 P **P 14 47 13.1 +0.8**
CMAR Chiang Mai Arr 30.70 117 P **P 14 47 12.7 +0.4**
CMAR Chiang Mai Arr 30.70 117 **ScP 14 53 38.4 -2.5**
CM02 Chiang Mai Arr 30.72 117 P **P 14 47 14.6 +2.1**
comp=Z,70nmcomp=Z,8.8nm,1.2s
CM01 Chiang Mai Arr 30.74 117 P **P 14 47 14.8 +2.2**
comp=Z,90nmcomp=Z,8.9nm,1.0s
CM05 Chiang Mai Arr 30.74 117 P **P 14 47 14.7 +2.0**
comp=Z,63nmcomp=Z,4.2nm,0.9s
CM09 Chiang Mai Arr 30.75 117 P **P 14 47 15.0 +2.3**
comp=Z,76nmcomp=Z,7.9nm,1.0s
CM04 Chiang Mai Arr 30.77 117 P **P 14 47 15.0 +2.1**
comp=Z,82nmcomp=Z,6.5nm,1.0s
BTO Baotou 31.22 70 *eP* **P 14 47 13.3 -3.5**
XAN Xi'an 31.47 82 P **P 14 47 19.3 +0.3**
XAN pP pP 14 47 43.6 -0.1
XAN pmax pmax
comp=Z,17nm,0.8s
XAN L L
comp=Z,120nm,15.2s
XAN L L
comp=Z,72nm,14.1s
XAN L L
comp=Z,110nm,15.2s
KLMR Klimovskoe 31.59 331 *eP* **P 14 47 19.4 -0.2**
KLMR pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 31.59 331 *eP* **P 14 47 19.4 -0.2**
KLMR AMP 14 47 23.9
comp=Z,10.0nm,0.6s
GYA Guiyang 32.30 97 P **P 14 47 26.9 +0.5**
GYA pmax pmax
comp=Z,3.0nm,1.0s
UTTA Uttaradit 32.33 116 P **P 14 47 28.8 +2.3**
comp=Z,18nm,0.5s
HHC Hu-ho-hao-te 32.37 69 *eP* **P 14 47 27.5 +0.6**
HHC pmax pmax
comp=Z,39nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.3s
HHC L L
comp=Z,240nm,15.3s
HHC L L
comp=Z,200nm,16.2s
HHC L L
comp=Z,150nm,15.3s
PHIT Phitsanulok 32.59 117 P **P 14 47 30.0 +1.1**
comp=Z,54nm,0.9s
TPGR Topolog 32.79 299 ⇑P **P 14 47 31.5 +1.1**
AKASG Malin Array Be 32.81 309 P **P 14 47 30.7 +0.3**
comp=Z,3.7nm,0.4s,baz=83,slow=7.4,SNR=21
AKASG PcP **PcP 14 50 11.6 -1.3**
comp=Z,1.8nm,0.5s,baz=72,slow=3.5,SNR=4.5
AKASG LR LR 15 03 36.2
comp=Z,41nm,18.0s,baz=30,slow=41
AKASG Malin Array Be 32.81 309 P **P 14 47 30.5 0.0**
AKASG 14 50 11.6
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 32.81 309 P **P 14 47 30.5 0.0**
AKBB Malin Array Si 32.81 309*ciP* **P 14 47 30.7 +0.2**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 32.81 309 P **P 14 47 30.7 +0.2**
CFR Carcaliu 33.00 299 ⇑P **P 14 47 33.0 +0.9**
UTHA Uthaitani 33.00 121 P **P 14 47 34.9 +2.5**
comp=Z,16nm,0.8s
ENH Enshi 33.08 89 P **P 14 47 34.0 +0.9**
ENH IAmb IAmb 14 47 47.1
comp=Z,25nm,1.1s
PBKT Sadao Pong 33.40 118 P **P 14 47 36.8 +1.0**
PBKT IAmb IAmb 14 47 37.9
comp=Z,14nm,0.9s
VRI Vrincioaia 34.00 300 ⇑P **P 14 47 42.8 +2.0**
NONG Nongkai 34.03 113 P **P 14 47 42.1 +0.7**
comp=Z,46nm,0.9s
PLOR Plostina 34.05 300 ⇑P **P 14 47 43.5 +2.2**
TESR Tescani 34.07 302 ⇑P **P 14 47 41.9 +0.5**
MNK Minsk 34.44 316 *iP* **P 14 47 44.4 -0.1**
MNK *i* *PP **pP 14 48 07.1 -1.3**
MNK *i* 14 49 02.1
MNK *i* 14 50 18.6
MNK *i* S **S 14 53 04.8 -0.1**
MNK *i* *SS **sS 14 53 44.5 -3.0**
MNK *i* SS **SnSn 14 55 25.0 -1.4**
MNK *i* 14 57 56.9
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=N,90nm,18.0s
MNK MLR MLR
comp=E,3.0nm,15.0s
MNK MLR MLR
comp=Z,32nm,14.0s
MNK Minsk 34.44 316 *iP* **P 14 47 44.5 0.0**
comp=E,1.0nm,0.9s
MNK *i* P **P 14 47 44.5 0.0**
comp=N,16nm,0.8s
MNK *i* P **P 14 47 44.5 0.0**
comp=Z,11nm,0.8s,baz=287
MNK *i* pP **pP 14 48 07.1 -1.2**
MNK *i* PP **PnPn 14 49 02.1 -0.8**
MNK *i* PcP **PcP 14 50 18.6 +1.1**
MNK *i* S **S 14 53 04.9 0.0**
MNK *i* sS **sS 14 53 44.5 -3.0**
MNK *i* SS **SS 14 55 25.1 -13**
MNK *i* ScS **ScS 14 57 57.0 +1.2**
MNK *i* LR LR 15 00 33.2
MNK *i* LRM MLR 15 03 09.9
comp=E,3.0nm,15.2s
MNK *i* LRM MLR 15 03 09.9
comp=N,90nm,18.1s
MNK *i* LRM MLR 15 03 09.9
comp=Z,32nm,13.8s
MLR Muntele Rosu 34.55 300 LR LR 15 05 40.7
comp=Z,80nm,18.7s,baz=100,slow=42
MLR Muntele Rosu 34.55 300 ⇓P **P 14 47 47.9 +2.1**
CHAI Chaiyaphum 34.57 117 P **P 14 47 47.4 +1.4**
comp=Z,28nm,1.1s
NRIK Noril'sk 34.61 11 P **P 14 47 47.6 +1.8**
comp=Z,20nm,0.4s,baz=209,slow=5.8,SNR=37
NRIK LR LR 15 03 26.2
comp=Z,100nm,19.5s,baz=184,slow=38
NRIK Noril'sk 34.61 11*ciP* **P 14 47 47.1 +1.3**
NRIK pmax pmax
comp=Z,15nm,0.5s
NRIK Noril'sk 34.61 11 P **P 14 47 47.2 +1.4**
ATD Arta Tunnel 34.88 232 LR LR 15 02 42.9
comp=Z,75nm,19.3s,baz=30,slow=37
PHET Kaeng Krachan 34.99 124 P P 14 47 55.3 +5.6
comp=Z,24nm,1.0s
BURAR Bucovina Array 35.09 303 ⇑P **P 14 47 51.3 +1.0**
BURAR Bucovina Array 35.09 303 P **P 14 47 50.6 +0.3**
BUR08 Bucovina Ar. S 35.10 303 P **P 14 47 50.9 +0.4**
NACGM Naroch 35.16 316 *iP* **P 14 47 50.6 0.0**
VOIR 35.18 300 ⇑P **P 14 47 52.3 +1.2**
VOIR 35.18 300 P **P 14 47 52.4 +1.3**
VOIR pmax pmax
comp=Z,3.0nm,0.6s
ARR Arges 35.47 300 ⇑P **P 14 47 55.1 +1.6**
IIGN Ignalina 35.58 317 *eP* **P 14 47 55.6 +1.3**
ARCR ARCALIA 35.66 302 ⇑P **P 14 47 57.3 +2.2**

BJI Beijing 35.96 70 P **P** **14 47 59.5 +1.8**
BJI S **S** **14 53 30.3 +1.8**
BJI pmax pmax
comp=Z,14nm,0.9s
BJI L L
comp=Z,63nm,11.7s
BJI L L
comp=Z,110nm,17.8s
BOD Bodaibo 35.98 39 *e*P **P** **14 47 58.1 +0.5**
BOD pmax pmax
comp=Z,19nm,1.4s
SANT Santorini 35.99 284 P **P** **14 47 58.8 +0.7**
LVV L'vov 36.01 307 *e*P **P** **14 47 59.4 +1.4**
VSU Vasula 36.19 322 *e*P **P** **14 48 00.6 +1.2**
VSU Vasula 36.19 322⇓*e*P **P** **14 48 00.1 +0.6**
VSU pmax pmax
comp=Z,88nm,1.2s
VTS Vitosha 36.65 295 ⇑P **P** **14 48 04.7 +0.9**
VTS Vitosha 36.65 295 P **P** **14 48 03.4 -0.4**
VTS pmax pmax
comp=Z,3.0nm,0.6s
VTS Vitosha 36.65 295 P **P** **14 48 03.4 -0.4**
IDI Anoyia 36.70 283 ⇓P **P** **14 48 04.4 +0.2**
IDI Anoyia 36.70 283 P **P** **14 48 03.9 -0.2**
IDI IAmb IAmb 14 48 29.2
comp=Z,13nm,1.1s
GZR Gura Zlata 36.78 300 ⇓P **P** **14 48 05.6 +0.9**
DRGR 36.78 302 ⇑P **P** **14 48 06.4 +1.6**
PABE Paberze 36.87 317 *e*P **P** **14 48 06.7 +1.5**
WHN Wuhan 36.91 86 ⇑P **P** **14 48 06.9 +0.9**
WHN pmax pmax
comp=Z,22nm,0.6s
UBPT Khong Chiam 37.51 114 P **P** **14 48 11.7 +0.6**
UBPT Khong Chiam 37.51 114 P **P** **14 48 11.3 +0.2**
UBPT IAmb IAmb 14 48 11.5
comp=Z,9.8nm,0.6s
FIA1 FINESS Array S 37.54 327 P **P** **14 48 11.3 +0.4**
FINES FINESS Array B 37.54 327 P **P** **14 48 11.7 +0.8**
comp=Z,7.6nm,0.4s,baz=117,slow=8.0,SNR=40
FINES LR LR 15 04 24.8
comp=Z,77nm,19.0s,baz=172,slow=37
FINES FINESS Array B 37.54 327 *i*P **P** **14 48 11.6 +0.8**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 37.54 327 P **P** **14 48 11.4 +0.6**
MDVR Moldovita 37.56 299 ⇓P **P** **14 48 12.9 +1.5**
BZS Buzias 37.58 300 ⇑P **P** **14 48 12.8 +1.3**
LVZ Lovozero 37.65 339 P **P** **14 48 12.4 +0.6**
LVZ pmax pmax
comp=Z,104nm,1.5s
LVZ Lovozero 37.65 339 P **P** **14 48 12.4 +0.6**
BOVS Bovan 37.66 297 ⇑P **P** **14 48 12.9 +0.8**
MEF Metsahovi 37.89 324 *e*P **P** **14 48 15.4 +1.6**
SUF Sumiainen 38.00 329 P **P** **14 48 16.1 +1.4**
SUF pmax pmax
comp=Z,26nm,1.1s
FNA Florina 38.27 292 P **P** **14 48 17.4 0.0**
FNA pmax pmax
comp=Z,6.0nm,1.0s
FNA Florina 38.27 292 P **P** **14 48 17.4 0.0**
ITM Ithomi 38.56 286 P **P** **14 48 19.8 0.0**
QIZ Qiongzhong 38.59 105 P **P** **14 48 18.4 -1.7**
QIZ S **S** **14 54 10.0 +1.3**
QIZ sS **sS** **14 54 57.8 +5.9**
QIZ L L
comp=Z,150nm,12.7s
DIVS Divibare 38.85 298 P **P** **14 48 22.2 0.0**
MORH Mrgy, Hungar 39.62 301 ⇑P **P** **14 48 29.5 +1.1**
NJ2 Nanjing 40.02 81 *e*P **P** **14 48 32.0 0.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
JAVC Velka Javorina 40.14 305 *e*P **P** **14 48 33.8 +1.0**
MORC Moravsky Berou 40.20 307 ⇑P **P** **14 48 34.7 +1.4**
MORC Moravsky Berou 40.20 307 *e*P **P** **14 48 33.8 +0.5**
SCTE Santa Cesarea 40.59 292 P **P** **14 48 36.1 -0.4**
SCTE IAmb IAmb 14 48 54.6
comp=Z,26nm,1.0s
KRLC Kraliky 40.69 307 *e*P **P** **14 48 38.4 +1.1**
KRLC Kraliky 40.69 307 *e*P **P** **14 48 38.4 +1.1**
VRAC Vranov 40.83 306 ⇑P **P** **14 48 39.1 +0.7**
VRAC Vranov 40.83 306 *e*P **P** **14 48 38.6 +0.1**
DPC Dobruska-Polom 40.98 308 *e*P **P** **14 48 41.2 +1.5**
DPC Dobruska-Polom 40.98 308 *e*P **P** **14 48 41.2 +1.5**
KEV Kevo 40.99 339 P **P** **14 48 40.1 +0.7**
KEV pmax pmax
comp=Z,72nm,1.3s
KEV Kevo 40.99 339 P **P** **14 48 40.1 +0.7**
CHVC Chvalec 41.15 308 *e*P **P** **14 48 42.7 +1.7**
ARA0 ARCESS Array S 41.33 338 *e*P **P** **14 48 43.7 +1.5**
ARCES ARCESS Array B 41.33 338 P **P** **14 48 43.5 +1.2**
comp=Z,6.3nm,0.4s,baz=119,slow=8.3,SNR=90
ARCES LR LR 15 06 40.8
comp=Z,92nm,21.8s,baz=155,slow=37
ARCES ARCESS Array B 41.33 338 P **P** **14 48 43.2 +1.0**
ARCES pmax pmax
comp=Z,54nm,1.3s
ARCES ARCESS Array B 41.33 338 P **P** **14 48 43.2 +1.0**
CONA Conrad Observa 41.39 304 *i*P **P** **14 48 44.2 +1.1**
comp=Z,11nm,1.1s
ARSA Arzberg 41.67 303 *e*P **P** **14 48 45.8 +0.5**
comp=Z,4.2nm,1.4s
GROS Grobnik 41.76 302 *i*P **P** **14 48 46.9 +0.8**
KTK1 Kautokeino 41.79 337 *e*P **P** **14 48 47.0 +1.1**
SOKA Soboth 42.06 302 *i*P **P** **14 48 49.6 +1.0**
comp=Z,3.5nm,0.5s
TIP Timpagrande 42.06 291 ⇓P **P** **14 48 48.3 -0.4**
TIP Timpagrande 42.06 291 P **P** **14 48 48.7 0.0**
TIP IAmb IAmb 14 48 50.1
comp=Z,19nm,1.4s
SGRT San Giovanni R 42.28 295 P **P** **14 48 50.5 0.0**
SGRT IAmb IAmb 14 48 51.9
comp=Z,18nm,0.8s
PSI Prapat 42.34 135 P **P** **14 48 51.5 +0.2**
comp=Z,5.3nm,0.4s,baz=360,slow=8.6,SNR=3.9
PSI Prapat 42.34 135 P **P** **14 48 51.5 +0.2**
OBKA Obir 42.41 302 *i*P **P** **14 48 52.5 +1.1**
comp=Z,3.7nm,0.8s
HAMF Hammerfest 42.42 339 *e*P **P** **14 48 51.7 +0.6**
RPSI Rantau Prapat 42.43 135 P **P** **14 48 51.0 -0.8**
RPSI Rantau Prapat 42.43 135 P **P** **14 48 51.5 -0.3**
BRG Berggiesshubel 42.48 309 *e*P **P** **14 48 52.8 +0.9**
BRG Amp 14 48 55.9
comp=Z,4.1nm,0.6s
BRG *ex* x 14 49 27.5
BRG Amp 14 49 28.8
comp=Z,4.9nm,0.6s
BRG *ex* x 14 49 44.5
BRG Amp 14 49 45.5
comp=Z,8.2nm,1.1s
MOZS Mozjanca 42.51 302 *i*P **P** **14 48 53.4 +1.2**
ZEA Zeya 42.71 47 *e*P **P** **14 48 55.2 +1.6**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
GERES GERESS Array B 42.76 306 P **P** **14 48 54.9 +0.7**
comp=Z,0.9nm,0.4s,baz=98,slow=7.1,SNR=6.4
GERES PP **PP** **14 50 35.8 +0.6**
comp=Z,0.3nm,0.3s,baz=72,slow=9.0,SNR=3.8
GERES GERESS Array B 42.76 306 P **P** **14 48 54.9 +0.7**
KHC Kasperske Hory 42.82 306 *e*P P 14 48 45.0 -10
GSI Gunungsitoli 42.82 138 P **P** **14 48 55.5 +0.6**
GSI IAmb IAmb 14 48 58.0
comp=Z,27nm,1.1s
JETT Jettan, Norway 42.93 337 *e*P **P** **14 48 56.6 +1.3**
CLL Collm 43.06 309 *e*P **P** **14 48 57.0 +0.5**
CLL *e*(pP) **pP** **14 49 26.0 +4.6**
CLL *e*PP **PP** **14 50 37.0 -1.3**
CLL Collm 43.06 309 P **P** **14 48 56.5 0.0**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 43.06 309 P **P** **14 48 56.5 0.0**
HFS Hagfors 43.08 322 LR LR 15 07 25.9
comp=Z,76nm,19.0s,baz=146,slow=36
KBA Koelnbreinsper 43.17 303 *i*P **P** **14 48 58.4 +0.7**
comp=Z,2.0nm,0.5s
STAL STALIGIAL 43.71 302 P **P** **14 49 01.6 -0.2**
CIMO Cimolais 43.88 302 P **P** **14 49 03.1 -0.1**
FAUS Fauske 43.93 333 *e*P **P** **14 49 04.3 +1.1**
STEI Steigen 44.11 334 *e*P **P** **14 49 05.5 +0.9**
NC405 NORSAR Array S 44.17 323 P **P** **14 49 05.4 +0.1**
NC602 NORSAR Array S 44.21 323 *e*P **P** **14 49 06.2 +0.6**
NC602 NORSAR Array S 44.21 323 P **P** **14 49 05.3 -0.3**
NC602 IAmb IAmb 14 49 07.3
comp=Z,25nm,1.1s
WTTA Wattenberg 44.30 304 *i*P **P** **14 49 06.6 -0.1**
comp=Z,3.6nm,0.5s
NC303 NORSAR Array S 44.35 324 P **P** **14 49 07.2 +0.5**
NC303 IAmb IAmb 14 49 07.9
comp=Z,33nm,1.4s
NB201 NORSAR Array S 44.37 323 P **P** **14 49 07.2 +0.3**
RAFF Raffo Rosso 44.39 289 P **P** **14 49 07.1 -0.3**
RAFF IAmb IAmb 14 49 10.5
comp=Z,32nm,1.0s
NB2 NORSAR Subarra 44.41 323 P **P** **14 49 06.9 -0.3**
baz=100,slow=7.9
NOA NORSAR Array B 44.41 323 P **P** **14 49 06.9 -0.3**
comp=Z,3.6nm,0.4s,baz=97,slow=7.8,SNR=28
NOA LR LR 15 08 51.8
comp=Z,53nm,18.1s,baz=100,slow=37
NOA NORSAR Array B 44.41 323 P **P** **14 49 06.9 -0.3**
NOA NORSAR Array B 44.41 323 P **P** **14 49 06.9 -0.3**
KONS Konsvik 44.52 331 *e*P **P** **14 49 08.7 +0.8**
NAO01 NORSAR Array S 44.54 323 P **P** **14 49 08.8 +0.5**
NSS Namsos 44.58 328 *e*P **P** **14 49 09.3 +0.8**
YAK Yakutsk 44.58 35*c i*P **P** **14 49 08.3 -0.1**
YAK pmax pmax
comp=Z,23nm,0.8s
YAK Yakutsk 44.58 35 P **P** **14 49 08.4 -0.1**
YAK IAmb IAmb 14 49 12.4
comp=Z,26nm,0.9s
SQTA Sankt Quirin 44.60 304 *e*P **P** **14 49 09.7 +0.6**
comp=Z,2.0nm,0.4s
NBO00 NORSAR Array S 44.62 323 P **P** **14 49 09.1 +0.3**
NC204 NORSAR Array S 44.65 324 P **P** **14 49 09.2 +0.1**
NC204 IAmb IAmb 14 49 10.7
comp=Z,32nm,1.1s
MOTA Moosalm 44.65 304 *e*P **P** **14 49 08.8 -0.7**
comp=Z,6.1nm,1.0s
LOF Lofoten 44.78 334 *e*P **P** **14 49 10.4 +0.4**
FETA Feichten 44.95 303 *e*P **P** **14 49 11.7 -0.2**
comp=Z,2.0nm,0.4s
MDJ Mudanjiang 45.03 60 P **P** **14 49 12.7 +0.3**
SSLB Suanglung 45.05 91 P **P** **14 49 13.8 +1.0**
SSLB IAmb IAmb 14 49 15.5
comp=Z,24nm,1.0s
KONO Kongsberg 45.09 321 P **P** **14 49 13.1 +0.6**
KONO pmax pmax
comp=Z,47nm,1.3s
KONO Kongsberg 45.09 321 *e*P **P** **14 49 13.5 +1.0**
KONO Kongsberg 45.09 321 P **P** **14 49 13.1 +0.6**
CLTB Caltabellotta 45.16 290 P **P** **14 49 13.3 -0.3**
CLTB IAmb IAmb 14 49 17.7
comp=Z,27nm,1.4s
OSSC Osservatorio P 45.20 298 P **P** **14 49 13.6 -0.1**
HOPEN Hopen 45.27 346 *e*P **P** **14 49 16.4 +2.6**
TJN Taejon 45.37 72*d i*P **P** **14 49 14.9 -0.2**
KS19 Wonju Array Si 45.42 70 P **P** **14 49 16.0 +0.4**
KS19 IAmb IAmb 14 49 17.8
comp=Z,20nm,1.0s
KSAR Wonju Array Be 45.46 70 P **P** **14 49 15.8 0.0**
KSAR Wonju Array Be 45.46 70 P **P** **14 49 15.8 0.0**
KSRS Korea Array 45.48 70 P **P** **14 49 16.3 +0.3**
comp=Z,12nm,1.0s,baz=279,slow=7.0,SNR=37
KSRS PcP **PcP** **14 50 52.1 -1.0**
comp=Z,2.4nm,0.8s,baz=282,slow=2.8,SNR=2.5
KSRS Korea Array 45.48 70 P **P** **14 49 16.3 +0.3**
KSRS 14 50 52.2
KSRS Korea Array 45.48 70 P **P** **14 49 16.3 +0.3**
DAVA Damuels 45.48 304 *e*P **P** **14 49 16.2 +0.1**
comp=Z,6.5nm,0.4s
DAVOX Davos/Dischmat 45.56 303 LR LR 15 11 26.3
comp=Z,36nm,18.5s,baz=80,slow=40
KLR Kul'dur 45.78 53⇑*i*P **P** **14 49 18.2 0.0**
KLR pmax pmax
comp=Z,10.0nm,0.8s
MSSA Maissana 46.26 300 P **P** **14 49 21.9 -0.2**
MSSA IAmb IAmb 14 49 30.4
comp=Z,14nm,1.2s
TIXI Tiksi 46.33 22*c i*P **P** **14 49 22.7 +0.5**
TIXI Tiksi 46.33 22 P **P** **14 49 22.5 +0.4**
USRK Ussuriysk Ar. 46.80 60 P **P** **14 49 26.4 +0.2**
comp=Z,2.5nm,0.5s,baz=282,slow=8.6,SNR=7.5
USRK PcP **PcP** **14 50 57.3 -0.4**
comp=Z,0.9nm,0.4s,baz=313,slow=4.1,SNR=1.5
USRK Ussuriysk Ar. 46.80 60 P **P** **14 49 26.4 +0.2**
USRK 14 50 57.3
USRK Ussuriysk Ar. 46.80 60 P **P** **14 49 27.3 +1.1**
SENIN Lac Senin/Sane 47.39 303 P **P** **14 49 30.6 -0.4**
JTU Tsushima 47.53 74 P **P** **14 49 30.2 -1.8**
JTU IAmb IAmb 14 49 33.4
comp=Z,23nm,1.1s
SPA0 Spitsbergen Ar 47.77 347 *e*P **P** **14 49 35.3 +2.0**
BNI Bardonecchia 48.08 301 P **P** **14 49 36.1 -0.2**
BNI pmax pmax
comp=Z,11nm,1.4s
BNI Bardonecchia 48.08 301 P **P** **14 49 36.1 -0.2**
KMBO Kilima Mbogo 48.19 227 P **P** **14 49 38.4 +0.8**
comp=Z,1.2nm,0.4s,baz=56,slow=15,SNR=4.0
KMBO Kilima Mbogo 48.19 227 P **P** **14 49 38.4 +0.8**
KMBO Kilima Mbogo 48.19 227 P **P** **14 49 38.4 +0.8**
KEST Kesra 48.69 289 P **P** **14 49 42.4 +1.3**
comp=Z,7.0nm,0.4s,baz=30,slow=1.3,SNR=20
KEST Kesra 48.69 289 P **P** **14 49 41.6 +0.6**
KIBK Kibwezi 48.70 225 P **P** **14 49 40.9 -0.5**
KBS Kingsbay 48.90 347 *i*P **P** **14 49 43.5 +1.6**
KBS Kingsbay 48.90 347*c i*P **P** **14 49 43.4 +1.6**
KBS pmax pmax
comp=Z,26nm,1.0s
KBS Kingsbay 48.90 347 *e*P **P** **14 49 43.4 +1.5**
KBS Kingsbay 48.90 347 P **P** **14 49 43.1 +1.2**
JNU Nakatsue 49.17 75 P **P** **14 49 44.8 0.0**
JSU Suzuyama 49.44 77 P **P** **14 49 47.4 +0.6**
JSU IAmb IAmb 14 49 48.6
comp=Z,10nm,0.8s
JOW Kunigami 49.61 84 P **P** **14 49 47.1 -0.9**
JOW IAmb IAmb 14 50 02.6
comp=Z,21nm,1.3s
JHS Saijyo 50.24 72 P **P** **14 49 52.0 -0.8**
JHS IAmb IAmb 14 49 53.4
comp=Z,7.4nm,0.7s
JMN Monobe 51.29 73 P **P** **14 50 00.2 -0.5**
JMN IAmb IAmb 14 50 11.6
comp=Z,24nm,1.3s
MBAR Mbarara 51.87 234*ce*P **P** **14 50 06.5 +1.2**
MBAR pmax pmax
comp=Z,14nm,1.7s
MBAR Mbarara 51.87 234 P **P** **14 50 05.1 -0.2**
MBAR IAmb IAmb 14 50 06.8
comp=Z,14nm,1.1s
JWT Wachi 51.89 70 P **P** **14 50 05.2 +0.1**
ESK Eskdalemuir 52.26 316 P **P** **14 50 07.8 +0.3**
ESK pmax pmax
comp=Z,38nm,1.5s
ESK Eskdalemuir 52.26 316 P **P** **14 50 07.8 +0.3**
JSD Sado 53.08 66 P **P** **14 50 12.8 -1.0**
JSD IAmb IAmb 14 50 14.0
comp=Z,6.3nm,0.8s
INU Inuyama 53.10 70 P **P** **14 50 13.2 -0.7**
INU IAmb IAmb 14 50 14.1
comp=Z,8.3nm,1.0s
YSS Yuzh-Sakhalins 53.46 54⇓*i*P **P** **14 50 16.5 +0.1**
YSS pmax pmax
comp=Z,54nm,1.7s
YSS Yuzh-Sakhalins 53.46 54 P **P** **14 50 16.2 -0.3**
MAJO Matsushiro 53.56 68*c i*P **P** **14 50 16.5 -0.9**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAJO Matsushiro 53.56 68 P **P** **14 50 16.1 -1.2**
MAJO IAmb IAmb 14 50 17.8
comp=Z,9.3nm,1.1s
MAT Matsushiro 53.56 68 P **P** **14 50 16.4 -1.0**
MJAR Matsushiro Arr 53.56 68 P **P** **14 50 17.4 -0.1**
comp=Z,4.7nm,0.9s,baz=291,slow=9.4,SNR=14
MJAR pP **pP** **14 50 46.8 +2.9**
comp=Z,3.7nm,0.9s,baz=288,slow=9.3,SNR=4.0
MJAR Matsushiro Arr 53.56 68 P **P** **14 50 17.0 -0.4**
MJAR pmax pmax
comp=Z,6.0nm,1.2s
MJAR Matsushiro Arr 53.56 68 P **P** **14 50 17.0 -0.4**
JEW Eniwo 53.79 60 P **P** **14 50 18.9 0.0**
JTM Tenmabayashi 54.19 62 P **P** **14 50 21.0 -0.8**
JTM IAmb IAmb 14 50 23.2
comp=Z,20nm,1.2s
DAG Danmarks Havn 54.98 344 *i*P **P** **14 50 27.9 +0.8**
DAG Danmarks Havn 54.98 344 *i*P **P** **14 50 27.8 +0.8**
MA2 Magadan 54.99 38 P **P** **14 50 28.7 +1.4**
comp=Z,5.6nm,0.3s,baz=216,slow=8.7,SNR=2.9
MA2 LR LR 15 15 01.6
comp=Z,1μm,20.4s,baz=172,slow=37
MA2 Magadan 54.99 38*ce*P **P** **14 50 29.2 +1.9**
MA2 pmax pmax
comp=Z,20nm,1.1s
MA2 Magadan 54.99 38 P **P** **14 50 27.5 +0.2**
MA2 IAmb IAmb 14 50 28.7
comp=Z,23nm,1.1s
JMM Marumori 55.01 66 P **P** **14 50 26.6 -1.2**
SEY Seymchan 55.03 34 P **P** **14 50 29.1 +1.6**
comp=Z,3.7nm,0.4s,baz=233,slow=7.8,SNR=25
SEY Seymchan 55.03 34⇓*e*P **P** **14 50 29.1 +1.6**
SEY Seymchan 55.03 34 P **P** **14 50 29.1 +1.6**
JYT Yasato 55.17 68 P **P** **14 50 27.3 -1.7**
ERM Erimo 55.26 60 P **P** **14 50 29.0 -0.5**
ERM pmax pmax
comp=Z,18nm,1.0s
ERM Erimo 55.26 60 P **P** **14 50 29.0 -0.5**
ERM IAmb IAmb 14 50 49.3
comp=Z,18nm,1.0s
DBG Daneborg 55.80 341 *i*P **P** **14 50 34.9 +1.9**
CISI Cisompet, Garu 55.87 133 P **P** **14 50 32.3 -2.0**
CISI IAmb IAmb 14 50 43.1
comp=Z,22nm,1.4s
ESBB Sonseca Array 57.20 298 P **P** **14 50 42.6 -0.9**
ESBB IAmb IAmb 14 50 45.2
comp=Z,13nm,1.4s
ESDC Sonseca Array 57.21 298 P **P** **14 50 43.9 +0.3**
comp=Z,3.5nm,0.9s,baz=56,slow=7.4,SNR=23
ESDC Sonseca Array 57.21 298 P **P** **14 50 42.8 -0.7**
PAB San Pablo 57.53 298 P **P** **14 50 45.1 -0.7**
PAB pmax pmax
comp=Z,18nm,1.4s
PAB San Pablo 57.53 298 P **P** **14 50 45.1 -0.7**
PAB IAmb IAmb 14 50 47.1
comp=Z,18nm,1.4s
TOLI2 Tolitoli 58.16 115 P **P** **14 50 51.0 +0.5**
TOLI2 IAmb IAmb 14 50 53.9
comp=Z,5.3nm,0.7s
PBRG Braganca 58.37 301 *e*P **P** **14 50 51.9 +0.3**
MVO Moncorvo 58.81 301 *e*P **P** **14 50 56.3 +1.6**
BILL Bilibino 59.19 26*de*P **P** **14 50 57.8 +1.0**
BILL *e**PP **pP** **14 51 21.8 -1.7**
BILL *e* 14 53 09.5
BILL *e*S **S** **14 58 55.8 -0.2**
BILL pmax pmax
comp=Z,18nm,1.3s
BILL Bilibino 59.19 26 P **P** **14 50 57.6 +0.9**
POLO Lamas de Olo 59.26 301 *e*P **P** **14 50 58.7 +0.8**
comp=Z,11nm,1.8s
PGAV Gavieira, Arco 59.36 302 *e*P **P** **14 50 59.5 +0.9**
comp=Z,39nm,1.5s
MTE Manteigas 59.47 300 *e*P **P** **14 51 00.6 +1.3**
comp=Z,25nm,1.6s
PVIS Viseu 59.59 300 *e*P **P** **14 51 01.0 +0.9**
comp=Z,24nm,1.4s
PCBR Castelo Branco 59.64 299 *e*P **P** **14 51 01.7 +1.3**
PMRV Marv??o 59.74 299 *e*P **P** **14 51 02.4 +1.3**
comp=Z,16nm,2.0s
PBAR Barrancos 60.00 297 *e*P **P** **14 51 03.3 +0.5**
comp=Z,17nm,1.9s
SFS San Fernando 60.10 295 P **P** **14 51 02.2 -1.3**
SFS San Fernando 60.10 295 P **P** **14 51 02.2 -1.3**
PESTR Estremoz 60.11 298 *e*P **P** **14 51 04.1 +0.5**
comp=Z,18nm,1.4s
PMTG Montargil 60.48 299 *e*P **P** **14 51 06.7 +0.6**
comp=Z,19nm,1.5s
EVO Evora 60.55 298 *e*P **P** **14 51 07.5 +0.9**
comp=Z,25nm,1.4s
PEA0B Petropavlovsk- 60.60 44 P **P** **14 51 06.4 -0.3**
PEA0B pmax pmax
comp=Z,93nm,1.5s
PEA0B Petropavlovsk- 60.60 44 P **P** **14 51 06.4 -0.3**
PETK Petropavlovsk- 60.60 44 P **P** **14 51 06.6 -0.1**
comp=Z,1.6nm,0.4s,baz=311,slow=4.2,SNR=11
PETK Petropavlovsk- 60.60 44 P **P** **14 51 06.6 -0.1**
PETK Petropavlovsk- 60.60 44 P **P** **14 51 06.1 -0.6**
PVAQ Vaqueiros 60.81 297 *e*P **P** **14 51 08.1 -0.2**
PVAQ Vaqueiros 60.81 297 P **P** **14 51 08.7 +0.4**
PVAQ IAmb IAmb 14 51 09.2
comp=Z,18nm,1.1s
PBDV Barranco-do-Ve 61.03 297 *e*P **P** **14 51 11.0 +1.1**
comp=Z,57nm,1.8s
PNCL Nicolau / Gran 61.09 298 *e*P **P** **14 51 11.3 +1.0**
SUMG Summit 61.28 341 *i*P **P** **14 51 12.8 +1.4**
SUMG IAmb IAmb 14 51 15.5
comp=Z,15nm,0.7s
SUMG Summit 61.28 341 P **P** **14 51 12.9 +1.4**
SUMG pmax pmax
comp=Z,44nm,1.3s
SUMG Summit 61.28 341 P **P** **14 51 12.9 +1.4**
NEEM North Greenlan 61.32 348 *i*P **P** **14 51 12.7 +1.1**
KAPI Kappang 61.67 121 P **P** **14 51 13.9 -0.5**
KAPI Kappang 61.67 121 P **P** **14 51 13.9 -0.5**
KAPI IAmb IAmb 14 51 15.7
comp=Z,19nm,1.1s
VOI Vohitsoka 61.86 205 P **P** **14 51 16.4 +0.8**
TNTI Ternate 63.31 110 P **P** **14 51 25.4 0.0**
TNTI IAmb IAmb 14 51 27.7
comp=Z,32nm,1.4s
EUNU Eureka 63.37 356 P **P** **14 51 25.8 +0.9**
EUNU IAmb IAmb 14 51 32.8
comp=Z,13nm,1.4s
TULEG Thule 64.75 350 P **P** **14 51 34.1 +0.3**
TULEG IAmb IAmb 14 51 35.5
comp=Z,22nm,1.3s
TOA0 Torodi Ar. Sit 65.21 268 P **P** **14 51 35.9 -1.9**
TOA0 IAmb IAmb 14 51 36.9
comp=Z,9.8nm,0.8s
TORD Torodi Ar. Bea 65.21 268 P **P** **14 51 36.4 -1.4**
comp=Z,5.4nm,0.3s,baz=48,slow=6.4,SNR=60
TORD pP **pP** **14 52 06.1 +1.5**
comp=Z,5.9nm,0.6s,baz=45,slow=6.1,SNR=3.6
TORD Torodi Ar. Bea 65.21 268 P **P** **14 51 36.0 -1.8**
TORD IAmb IAmb 14 51 37.4
comp=Z,11nm,1.0s
DY2G Dye2 66.96 337 *i*P **P** **14 51 48.9 +0.4**
A21K Barrow 67.83 15 P **P** **14 51 53.9 +0.3**
A21K Barrow 67.83 15 P **P** **14 51 53.3**
baz=320
SFJD Kangerlussuaq 67.95 339 P **P** **14 51 53.7 -0.7**
comp=Z,3.9nm,0.5s,baz=72,slow=5.5,SNR=6.0
SFJD Kangerlussuaq 67.95 339 P **P** **14 51 54.2 -0.2**
SFJD pmax pmax
comp=Z,20nm,1.2s
SFJD Kangerlussuaq 67.95 339 P **P** **14 51 54.2 -0.2**
SFJD IAmb IAmb 14 51 55.7
comp=Z,20nm,1.2s
SOEI Soe 68.17 121 P **P** **14 51 55.9 -0.7**
RDOG Red Dog Mine 68.80 19 P **P** **14 51 59.4 -0.3**
RDOG IAmb IAmb 14 52 21.9
comp=Z,8.1nm,0.6s
RDOG Red Dog Mine 68.80 19 P 14 51 58.8
baz=316
RES Resolute Bay 69.07 356 P **P** **14 52 01.4 +0.3**
comp=Z,1.1nm,0.4s,baz=34,slow=7.0,SNR=6.5
RES Resolute Bay 69.07 356 P **P** **14 52 01.8 +0.6**
RES pmax pmax
comp=Z,6.0nm,1.3s
RES Resolute Bay 69.07 356 P **P** **14 52 01.8 +0.6**
GAMB Gambell 69.08 25 P 14 52 00.6
baz=310
KOWA Kowa 69.09 273 P **P** **14 52 01.4 -1.0**
TNA Tin City 69.12 22 P **P** **14 52 02.5 +0.8**
TNA Tin City 69.12 22 P 14 52 01.5
baz=312
FAKI Fak Fak 69.41 110 P **P** **14 52 03.6 -0.6**
FAKI IAmb IAmb 14 52 05.0
comp=Z,18nm,1.1s
ANM Nome 70.60 22 P 14 52 11.2
baz=315
TOLK Toolik Lake Re 71.44 14 P **P** **14 52 16.1 +0.3**
TOLK Toolik Lake Re 71.44 14 P 14 52 16.0
baz=327
GIRL Giralia 71.64 138 P **P** **14 52 18.1 +0.6**
COLD Coldfoot 72.49 15 P **P** **14 52 22.6 +0.5**
COLD IAmb IAmb 14 52 25.1
comp=Z,13nm,1.1s
COLD Coldfoot 72.49 15 P 14 52 22.2
baz=326
IMAR Indian Mountai 72.71 17 P **P** **14 52 23.1 -0.3**
AMKA Amchitka 72.99 38 P **P** **14 52 25.6 +0.3**
BMAR Burnt Mountain 73.45 13 P **P** **14 52 28.8 +1.0**
H23K Yukon River 73.82 16 P 14 52 29.5
baz=327

PSA00	**Pilbara Seismi**	**74.00**	**133**	P	**P**	**14 52 31.2**	**-0.4**
PSA00				IAmb	IAmb	14 52 32.5	
	comp=Z,17nm,1.4s						
PSA00	**Pilbara Seismi**	**74.00**	**133**	P	**P**	**14 52 31.1**	**-0.4**
PSA00				IAmb	IAmb	14 52 32.5	
	comp=Z,22nm,1.2s						
LBTB	**Lobatse**	**74.05**	**222**	P	**P**	**14 52 32.1**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,22nm,1.3s						
LBTB	**Lobatse**	**74.05**	**222**	P	**P**	**14 52 32.1**	**+0.2**
LBTB				IAmb	IAmb	14 52 33.6	
	comp=Z,22nm,1.2s						
FYU	**Fort Yukon**	**74.08**	**14**	P	**P**	**14 52 32.1**	**+0.7**
H24K	**Noodor Dome**	**74.17**	**15**	P		14 52 31.3	
	baz=329						
DBIC	**Dimbokro**	**74.18**	**267**	P	**P**	**14 52 32.0**	**-0.9**
	comp=Z,9.2nm,0.8s,baz=24,slow=6.5,SNR=8.7						
DBIC	**Dimbokro**	**74.18**	**267**	P	**P**	**14 52 31.7**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,16nm,1.0s						
DBIC	**Dimbokro**	**74.18**	**267**	P	**P**	**14 52 31.7**	**-1.1**
DBIC				IAmb	IAmb	14 52 33.5	
	comp=Z,16nm,1.0s						
MLY	**Manley**	**74.21**	**17**	P	**P**	**14 52 32.4**	**+0.1**
MLY				IAmb	IAmb	14 52 35.0	
	comp=Z,7.3nm,0.5s						
MLY	**Manley**	**74.21**	**17**	P		14 52 32.0	
	baz=326,SNR=7.5						
KIC	**Kosan Boka**	**74.27**	**266**	*e*P	**P**	**14 52 32.1**	**-1.3**
	comp=Z,30nm,0.9s						
C36M	**Paulatuk**	**74.33**	**5**	P	**P**	**14 52 32.6**	**-0.1**
TIC	**Toumodi**	**74.33**	**267**	*e*P	**P**	**14 52 32.5**	**-1.2**
C36M	**Paulatuk**	**74.33**	**5**	P		14 52 32.2	
	baz=348						
INK	**Inuvik**	**74.38**	**9**	P	**P**	**14 52 33.7**	**+0.6**
	comp=Z,9.8nm,0.4s,baz=339,slow=5.8,SNR=26						
INK				pP	**pP**	**14 53 04.2**	**+3.3**
	comp=Z,8.6nm,0.8s,baz=356,slow=5.4,SNR=3.1						
INK	**Inuvik**	**74.38**	**9**	P	**P**	**14 52 33.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,44nm,1.5s						
INK	**Inuvik**	**74.38**	**9**	P	**P**	**14 52 33.5**	**+0.4**
INK				IAmb	IAmb	14 52 35.6	
	comp=Z,44nm,1.5s						
INK	**Inuvik**	**74.38**	**9**	P		14 52 32.4	
	baz=340,SNR=8.7						
I23K	**Minto, Yukon-K**	**74.43**	**16**	P	**P**	**14 52 33.7**	**+0.2**
I23K				IAmb	IAmb	14 52 35.9	
	comp=Z,28nm,1.4s						
I23K	**Minto, Yukon-K**	**74.43**	**16**	P		14 52 33.0	
	baz=328						
TTA	**Tatalina**	**74.57**	**20**	P	**P**	**14 52 34.8**	**+0.4**
TTA				pmax	pmax		
	comp=Z,15nm,1.4s						
TTA	**Tatalina**	**74.57**	**20**	P	**P**	**14 52 34.8**	**+0.4**
TTA	**Tatalina**	**74.57**	**20**	P		14 52 33.8	
	baz=323						
LIC	**Lamto**	**74.58**	**266**	*e*P	**P**	**14 52 34.0**	**-1.1**
	comp=Z,137nm,1.7s						
CHUM	**Lake Minchumin**	**74.78**	**18**	P		14 52 35.0	
	baz=325						
MDM	**Murphy Dome**	**74.84**	**16**	P	**P**	**14 52 35.8**	**-0.1**
MDM				IAmb	IAmb	14 52 37.4	
	comp=Z,30nm,1.4s						
POKR	**Poker Plat Res**	**74.88**	**16**	P	**P**	**14 52 36.2**	**+0.1**
POKR	**Poker Plat Res**	**74.89**	**16**	P		14 52 36.1	
	baz=329,SNR=11						
BPAW	**Bear Paw Mtn.**	**74.93**	**17**	P	**P**	**14 52 36.0**	**-0.4**
BPAW	**Bear Paw Mtn.**	**74.93**	**17**	P		14 52 35.6	
	baz=326,SNR=6.1						
NEA2	**Nenana**	**74.97**	**16**	P	**P**	**14 52 36.1**	**-0.5**
NEA2				IAmb	IAmb	14 52 38.4	
	comp=Z,33nm,1.4s						
NEA2	**Nenana**	**74.97**	**16**	P		14 52 36.1	
	baz=328,SNR=9.0						
TCOL	**CIGO, UAF Yank**	**75.00**	**16**	P		14 52 36.5	
	baz=329						
COLA	**College**	**75.00**	**16**	*c i*P	**P**	**14 52 36.9**	**+0.2**
COLA				pmax	pmax		
	comp=Z,21nm,1.5s						
COLA	**College**	**75.00**	**16**	P		14 52 37.2	
	baz=329						
FITZ	**Fitzroy Crossi**	**75.05**	**126**	P	**P**	**14 52 37.3**	**-0.3**
FITZ				IAmb	IAmb	14 52 38.2	
	comp=Z,15nm,1.2s						
CCB	**Clear Creek Bu**	**75.21**	**16**	P	**P**	**14 52 37.5**	**-0.4**
BWN	**Browne**	**75.23**	**17**	P	**P**	**14 52 38.4**	**+0.3**
BWN				IAmb	IAmb	14 52 44.1	
	comp=Z,35nm,1.2s						
IL31		**75.30**	**16**	P	**P**	**14 52 37.7**	**-0.7**
ILAR	**Eielson Array**	**75.30**	**16**	P	**P**	**14 52 37.9**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=294,slow=4.5,SNR=60						
ILAR				pP	**pP**	**14 53 09.1**	**+2.7**
	comp=Z,4.1nm,0.9s,baz=317,slow=5.1,SNR=5.3						
ILAR				LR	LR	15 29 17.4	
	comp=Z,46nm,18.0s,baz=272,slow=38						
ILAR	**Eielson Array**	**75.30**	**16**	P	**P**	**14 52 37.9**	**-0.6**
ILAR				*PP	**pP**	**14 53 09.1**	**+2.7**
ILAR	**Eielson Array**	**75.30**	**16**	P	**P**	**14 52 37.5**	**-1.0**
KTH	**Kantishna Hill**	**75.40**	**18**	P	**P**	**14 52 39.0**	**-0.2**
KTH				IAmb	IAmb	14 52 40.2	
	comp=Z,42nm,1.5s						
KNRA	**Kununurra**	**75.43**	**122**	P	**P**	**14 52 39.6**	**-0.3**
KNRA				IAmb	IAmb	14 52 41.3	
	comp=Z,23nm,1.1s						
HDA	**Harding Lake**	**75.60**	**16**	P	**P**	**14 52 39.2**	**-1.1**
HDA	**Harding Lake**	**75.60**	**16**	P		14 52 39.5	
	baz=330						
HDA				P		14 52 39.5	
	baz=330						
ATKA	**Atka Island**	**75.62**	**35**	P	**P**	**14 52 40.1**	**-0.4**
PPLA	**Purkeypile**	**75.63**	**19**	P	**P**	**14 52 40.5**	**-0.1**
PPLA				IAmb	IAmb	14 52 41.5	
	comp=Z,11nm,0.5s						
PPLA	**Purkeypile**	**75.63**	**19**	P		14 52 39.9	
	baz=326						
TRF	**Thorofare Moun**	**75.64**	**18**	P	**P**	**14 52 41.7**	**+1.0**
TRF	**Thorofare Moun**	**75.64**	**18**	P		14 52 39.8	
	baz=327						
MCK	**McKinley**	**75.73**	**17**	P	**P**	**14 52 41.0**	**0.0**
MCK				pmax	pmax		
	comp=Z,45nm,1.5s						
MCK	**McKinley**	**75.73**	**17**	P	**P**	**14 52 41.0**	**0.0**
MCK				IAmb	IAmb	14 52 42.7	
	comp=Z,45nm,1.5s						
MCK	**McKinley**	**75.73**	**17**	P		14 52 41.0	
	baz=328,SNR=6.9						
RND	**Reindeer**	**76.03**	**17**	P	**P**	**14 52 42.1**	**-0.6**
RND				pmax	pmax		
	comp=Z,35nm,1.5s						
RND	**Reindeer**	**76.03**	**17**	P	**P**	**14 52 42.1**	**-0.6**
RND				IAmb	IAmb	14 52 43.2	
	comp=Z,35nm,1.5s						
SVW2	**Sparrevohn**	**76.16**	**21**	P	**P**	**14 52 43.9**	**+0.5**
EGAK	**Eagle**	**76.45**	**13**	P	**P**	**14 52 45.8**	**+0.7**
EGAK				IAmb	IAmb	14 52 46.6	
	comp=Z,16nm,1.5s						
EGAK	**Eagle**	**76.45**	**13**	P		14 52 44.9	
	baz=334						
WAT2	**Susitna Watana**	**76.47**	**17**	P		14 52 44.3	
	baz=328						
SKT	**Skwentna**	**76.56**	**19**	P	**P**	**14 52 45.0**	**-0.7**
SKT				IAmb	IAmb	14 52 46.8	
	comp=Z,17nm,1.0s						
SKT	**Skwentna**	**76.56**	**19**	P		14 52 44.8	
	baz=326,SNR=7.4						
SCRK	**Sand Creek**	**76.61**	**15**	P	**P**	**14 52 46.1**	**0.0**
SCRK				IAmb	IAmb	14 52 48.3	
	comp=Z,22nm,1.5s						
SCRK	**Sand Creek**	**76.61**	**15**	P		14 52 45.4	
	baz=332,SNR=8.0						
DOT	**Dot Lake**	**76.89**	**15**	P	**P**	**14 52 46.9**	**-0.7**
K27K	**Chicken**	**76.95**	**14**	P		14 52 47.5	
	baz=334						
WAT6	**Susitna Watana**	**77.00**	**17**	P		14 52 47.4	
	baz=329,SNR=8.5						
SPCR	**Spurr Chakacha**	**77.03**	**20**	P		14 52 47.7	
	baz=326						
M22K	**Willow**	**77.12**	**18**	P		14 52 48.4	
	baz=327						
BOSA	**Boshof**	**77.12**	**220**	P	**P**	**14 52 49.2**	**-0.2**
	comp=Z,8.9nm,1.0s,baz=16,slow=3.9,SNR=8.0						
BOSA				pP	**pP**	**14 53 19.1**	**+1.7**
	comp=Z,10nm,0.8s,baz=45,slow=6.4,SNR=5.5						
BOSA				LR	LR	15 30 50.4	
	comp=Z,84nm,19.3s,baz=168,slow=39						
BOSA	**Boshof**	**77.12**	**220**	P	**P**	**14 52 49.1**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,23nm,1.3s						
BOSA	**Boshof**	**77.12**	**220**	P	**P**	**14 52 49.1**	**-0.2**
BOSA				IAmb	IAmb	14 52 51.0	
	comp=Z,23nm,1.2s						
PAX	**Paxson**	**77.18**	**16**	P	**P**	**14 52 48.9**	**-0.4**
PAX				pmax	pmax		
	comp=Z,12nm,0.7s						
PAX	**Paxson**	**77.18**	**16**	P	**P**	**14 52 48.9**	**-0.4**
PAX				IAmb	IAmb	14 52 50.3	
	comp=Z,12nm,0.7s						
PAX	**Paxson**	**77.18**	**16**	P		14 52 49.0	
	baz=331,SNR=15						
SUA	**Susitna One**	**77.20**	**19**	P	**P**	**14 52 48.9**	**-0.5**
SUA				IAmb	IAmb	14 52 52.6	
	comp=Z,14nm,1.1s						
SUA	**Susitna One**	**77.20**	**19**	P		14 52 48.5	
	baz=327						
GHO	**Glory Hole Cre**	**77.40**	**18**	P	**P**	**14 52 49.9**	**-0.6**
GHO				IAmb	IAmb	14 52 51.6	
	comp=Z,30nm,1.3s						
DAWY	**Dawson**	**77.43**	**13**	P	**P**	**14 52 50.2**	**-0.4**
DAWY				IAmb	IAmb	14 52 52.0	
	comp=Z,13nm,1.2s						
PMR	**Palmer**	**77.51**	**18**	P		14 52 50.6	
	baz=328						
SML	**Sawmill**	**77.52**	**18**	P	**P**	**14 52 50.3**	**-0.8**
SML	**Sawmill**	**77.52**	**18**	P		14 52 50.6	
	baz=329,SNR=10						
SCM	**Sheep Creek Mo**	**77.74**	**17**	P	**P**	**14 52 51.8**	**-0.6**
SCM				pmax	pmax		
	comp=Z,26nm,1.2s						
SCM	**Sheep Creek Mo**	**77.74**	**17**	P	**P**	**14 52 51.8**	**-0.6**
SCM				IAmb	IAmb	14 52 55.9	
	comp=Z,26nm,1.2s						
HARP	**HAARP**	**77.75**	**16**	P		14 52 51.9	
	baz=331,SNR=6.3						
MORW	**Morawa**	**77.76**	**140**	P	**P**	**14 52 51.9**	**-0.8**
MORW				IAmb	IAmb	14 52 53.2	
	comp=Z,25nm,1.2s						
M24K	**Tolsona, Glenn**	**77.78**	**17**	P	**P**	**14 52 53.0**	**+0.4**
RC01	**Rabbit Creek A**	**77.78**	**19**	P	**P**	**14 52 52.2**	**-0.3**
RC01				IAmb	IAmb	14 52 53.5	
	comp=Z,12nm,0.5s						
M24K	**Tolsona, Glenn**	**77.78**	**17**	P		14 52 52.6	
	baz=330,SNR=6.2						
RC01	**Rabbit Creek A**	**77.78**	**19**	P		14 52 52.1	
	baz=328						
KNK	**Knik Glacier**	**77.83**	**18**	P	**P**	**14 52 52.5**	**-0.3**
KNK				IAmb	IAmb	14 52 54.0	
	comp=Z,12nm,0.8s						
KNK	**Knik Glacier**	**77.83**	**18**	P		14 52 52.3	
	baz=329,SNR=5.2						
L27K	**Beaver Creek,**	**77.87**	**14**	P	**P**	**14 52 53.2**	**+0.1**
L27K	**Beaver Creek,**	**77.87**	**14**	P		14 52 52.9	
	baz=334,SNR=6.8						
BCAR	**Beaver Creek A**	**77.88**	**14**	P	**P**	**14 52 53.0**	**-0.1**
O22K	**Cooper Landing**	**78.30**	**19**	P		14 52 55.2	
	baz=328						
PWL	**Port Wells**	**78.33**	**18**	P	**P**	**14 52 55.1**	**-0.5**
PWL				IAmb	IAmb	14 53 08.3	
	comp=Z,13nm,1.1s						
FALS	**False Pass**	**78.35**	**28**	P	**P**	**14 52 54.9**	**-0.9**
FALS	**False Pass**	**78.35**	**28**	P		14 52 55.1	
	baz=318						
KLU	**Klutina**	**78.37**	**17**	P	**P**	**14 52 55.6**	**-0.3**
KLU				IAmb	IAmb	14 52 57.9	
	comp=Z,23nm,1.3s						
KLU	**Klutina**	**78.38**	**17**	P		14 52 55.3	
	baz=331,SNR=6.3						
N25K	**Chitina, Valde**	**78.58**	**16**	P	**P**	**14 52 56.3**	**-0.7**
N25K	**Chitina, Valde**	**78.58**	**16**	P		14 52 56.0	
	baz=332						
BRLK	**Bradley Lake**	**78.59**	**20**	P	**P**	**14 52 55.7**	**-1.4**
BRLK				IAmb	IAmb	14 52 59.2	
	comp=Z,31nm,1.4s						
GLI	**Glacier Island**	**78.63**	**18**	P	**P**	**14 52 56.8**	**-0.4**
GLI				IAmb	IAmb	14 53 01.6	
	comp=Z,32nm,1.2s						
GLI	**Glacier Island**	**78.63**	**18**	P		14 52 56.7	
	baz=330						
BRSE	**Bradley Lake S**	**78.65**	**20**	P		14 52 56.9	
	baz=327						
SEW	**Seward**	**78.69**	**19**	P	**P**	**14 52 56.8**	**-0.7**
SEW				IAmb	IAmb	14 52 59.4	
	comp=Z,21nm,1.2s						
SEW	**Seward**	**78.69**	**19**	P		14 52 57.2	
	baz=328						
CNPM	**China Poot**	**78.69**	**20**	P	**P**	**14 52 56.9**	**-0.7**
CNPM				IAmb	IAmb	14 53 02.5	
	comp=Z,35nm,1.3s						
FID	**Port Fidalgo**	**78.89**	**17**	P	**P**	**14 52 58.4**	**-0.2**
FID				IAmb	IAmb	14 52 59.9	
	comp=Z,12nm,0.6s						
GLB	**Gilahina Butte**	**78.90**	**16**	P	**P**	**14 52 58.9**	**+0.1**
SDPT	**Sand Point**	**79.08**	**27**	P	**P**	**14 52 58.6**	**-1.2**
SDPT	**Sand Point**	**79.08**	**27**	P		14 52 59.1	
	baz=320						
BMRM	**Bremner River**	**79.14**	**17**	P	**P**	**14 52 60.0**	**-0.1**
BMRM				IAmb	IAmb	14 53 01.6	
	comp=Z,17nm,1.0s						
BMRM	**Bremner River**	**79.14**	**17**	P		14 52 59.3	
	baz=332						
HIN	**Hinchinbrook I**	**79.19**	**18**	P	**P**	**14 53 00.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**79.24**	**17**	P	**P**	**14 53 01.0**	**+0.4**
EYAK				IAmb	IAmb	14 53 02.2	
	comp=Z,39nm,1.4s						
EYAK	**Cordova Ski Ar**	**79.24**	**17**	P		14 53 00.1	
	baz=331						
BARN	**Barnard Glacie**	**79.71**	**15**	P	**P**	**14 53 03.5**	**+0.1**
BARN				IAmb	IAmb	14 53 06.4	
	comp=Z,17nm,1.3s						
KDAK	**Kodiak Island**	**79.76**	**22**	P	**P**	**14 53 03.5**	**+0.1**
	comp=Z,11nm,0.4s,baz=332,slow=3.1,SNR=46						
KDAK	**Kodiak Island**	**79.76**	**22**	P	**P**	**14 53 03.1**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,27nm,1.2s						
KDAK	**Kodiak Island**	**79.76**	**22**	P	**P**	**14 53 03.1**	**-0.3**
KDAK				IAmb	IAmb	14 53 04.9	
	comp=Z,27nm,1.2s						
KDAK	**Kodiak Island**	**79.76**	**22**	P		14 53 03.3	
	baz=326						
HMT	**Hamilton**	**79.78**	**17**	P	**P**	**14 53 03.9**	**+0.4**
HMT				IAmb	IAmb	14 53 33.2	
	comp=Z,22nm,1.2s						
CTG	**Chitna Glacier**	**79.87**	**15**	P		14 53 03.6	
	baz=334						
CTGM	**Chitina Glacie**	**79.87**	**15**	P	**P**	**14 53 04.1**	**0.0**
CTGM				IAmb	IAmb	14 53 06.5	
	comp=Z,24nm,1.5s						
OHAK	**Old Harbor**	**80.01**	**22**	P	**P**	**14 53 04.7**	**-0.1**
OHAK				IAmb	IAmb	14 53 07.6	
	comp=Z,28nm,1.1s						
OHAK	**Old Harbor**	**80.01**	**22**	P		14 53 04.2	
	baz=326						
SII	**Sitkinak Islan**	**80.27**	**23**	P		14 53 05.8	
	baz=325						
YAH	**Yahtse**	**80.32**	**16**	P	**P**	**14 53 06.0**	**-0.7**
YAH				IAmb	IAmb	14 53 07.8	
	comp=Z,21nm,0.8s						
HYT	**Haines Junctio**	**80.76**	**13**	P	**P**	**14 53 08.5**	**-0.4**
WHY	**Whitehorse**	**81.39**	**12**	P	**P**	**14 53 11.3**	**-1.0**
WHY	**Whitehorse**	**81.39**	**12**	P		14 53 11.5	
	baz=340						
YKA	**Yellowknife Ar**	**81.67**	**2**	P	**P**	**14 53 13.9**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=355,slow=5.2,SNR=28						
YKA	**Yellowknife Ar**	**81.67**	**2**	*i* P	**P**	**14 53 13.8**	**+0.4**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YKA	**Yellowknife Ar**	**81.67**	**2**	P	**P**	**14 53 13.9**	**+0.4**
WRA	**Warramunga Arr**	**82.20**	**121**	P	**P**	**14 53 15.8**	**-1.2**
	comp=Z,4.3nm,0.3s,baz=324,slow=4.9,SNR=183						
WRA				pP	**pP**	**14 53 44.9**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=322,slow=4.7,SNR=3.7						
WRA				PKKPbc	**PKKPbc**	**15 11 44.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=125,slow=2.1,SNR=14						
WRA	**Warramunga Arr**	**82.20**	**121**	P	**P**	**14 53 15.8**	**-1.2**
WRA				*PP	**pP**	**14 53 44.9**	**-0.3**
WRA	**Warramunga Arr**	**82.20**	**121**	P	**P**	**14 53 15.7**	**-1.2**
WRA	**Warramunga Arr**	**82.20**	**121**		pP	14 53 44.9	-0.3
WRAB	**Tennant Creek**	**82.20**	**121**	*e*P	**P**	**14 53 15.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,11nm,1.7s						
WB2	**Warramunga Arr**	**82.21**	**121**	P	**P**	**14 53 15.6**	**-1.4**
WB2				IAmb	IAmb	14 53 16.8	
	comp=Z,9.2nm,0.5s						
SCHQ	**Schefferville**	**82.27**	**337**	P	**P**	**14 53 16.6**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=203,slow=6.9,SNR=5.0						
SCHQ	**Schefferville**	**82.27**	**337**	P	**P**	**14 53 16.6**	**-0.2**
SCHQ	**Schefferville**	**82.27**	**337**	IAmb	IAmb	14 53 17.3	
	comp=Z,4.8nm,1.1s						
WR0	**Warramunga Arr**	**82.35**	**121**	P	**P**	**14 53 15.9**	**-1.8**
AS31	**Alice Springs**	**84.43**	**124**	P	**P**	**14 53 26.9**	**-1.4**
ASAR	**Alice Springs**	**84.43**	**124**	P	**P**	**14 53 27.2**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=314,slow=4.6,SNR=120						
ASAR				pP	**pP**	**14 53 57.7**	**+0.9**
	comp=Z,5.4nm,1.0s,baz=307,slow=5.3,SNR=5.1						
ASAR				PKKP	PKKPdf	15 11 20.1	-12
	comp=Z,0.2nm,0.6s,baz=212,slow=2.4,SNR=5.9						
ASAR	**Alice Springs**	**84.43**	**124**	P	**P**	**14 53 27.3**	**-1.1**
ASAR				*PP	**pP**	**14 53 57.7**	**+0.9**
ASAR	**Alice Springs**	**84.43**	**124**	P	**P**	**14 53 27.0**	**-1.4**
ASAR				pP	**pP**	**14 53 57.5**	**+0.7**
CHGQ	**Chibougamau**	**88.86**	**338**	P		14 53 48.6	
	baz=28						
E63A	**Oxbow**	**89.89**	**333**	P		14 53 53.1	
	baz=32						
MATQ	**Matagami**	**89.95**	**340**	P		14 53 53.6	
	baz=25						
LSQQ	**Lebel-sur-Quev**	**90.39**	**339**	P		14 53 56.1	
	baz=26						
CTA	**Charters Tower**	**90.83**	**114**	P	**P**	**14 53 57.6**	**-1.5**
	comp=Z,2.1nm,0.4s,baz=331,slow=4.6,SNR=10						
CTA	**Charters Tower**	**90.83**	**114**	P	**P**	**14 53 57.6**	**-1.5**
CTA	**Charters Tower**	**90.83**	**114**	P	**P**	**14 53 57.6**	**-1.5**
H66A	**Whiting**	**90.85**	**331**	P		14 53 58.4	
	baz=33						
D55A	**Sainte-Anne-du**	**91.77**	**337**	P		14 54 02.3	
	baz=27						
ULM	**Lac du Bonnet**	**93.17**	**351**	LR	LR	15 41 54.7	
	comp=Z,35nm,19.2s,baz=8.5,slow=39						
ALGO	**Algonquin Park**	**93.51**	**339**	P		14 54 10.9	
	baz=25						
LONY	**Lake Ozonia**	**93.61**	**336**	P		14 54 11.0	
	baz=28						
K63A	**Dunstable**	**94.23**	**333**	P		14 54 12.4	
	baz=30						
I58A	**Old Forge**	**94.57**	**336**	P		14 54 15.4	
	baz=27						
PGC	**Sidney**	**94.73**	**9**	P	**P**	**14 54 17.0**	**+0.4**
M66A	**Nantucket**	**94.93**	**331**	P		14 54 16.5	
	baz=31						
STKA	**Stephens Creek**	**94.95**	**126**	P	**P**	**14 54 19.0**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=333,slow=8.3,SNR=2.9						
STKA	**Stephens Creek**	**94.95**	**126**	P	**P**	**14 54 19.0**	**+1.2**
STKA	**Stephens Creek**	**94.95**	**126**	P	**P**	**14 54 19.0**	**+1.2**
J57A	**Williamstown**	**95.16**	**336**	P		14 54 17.7	
	baz=27						
M63A	**Gales Ferry**	**95.54**	**333**	P		14 54 19.0	
	baz=30						
L58A	**Harry Jones Me**	**96.33**	**335**	P		14 54 23.0	
	baz=27						
VNA3	**Neumayer Olymp**	**120.65**	**202**	PKPdf	**PKPdf**	**14 59 45.1**	**-0.5**
LPAZ	**La Paz**	**138.26**	**287**	PKP	**PKPdf**	**15 00 20.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=38,slow=3.6,SNR=3.8						
LPAZ	**La Paz**	**138.26**	**287**	PKIKP	**PKPdf**	**15 00 20.9**	**-0.5**
LPAZ	**La Paz**	**138.26**	**287**		**PKPdf**	**15 00 20.9**	**-0.5**
PLCA	**Paso Flores**	**149.22**	**249**	PKPbc	**PKPbc**	**15 00 43.7**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=3.4,slow=6.2,SNR=10.0						
PLCA	**Paso Flores**	**149.22**	**249**	PKP2	**PKPbc**	**15 00 43.7**	**+0.2**

HEL 01 14:46:09.3±0.6, 62.74N×22.77E, h0km, ML0.8, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.31**	**351**	PG	Pg		14 46 14.7	-0.4
VAF				SG	Sg		14 46 18.5	-0.6
KEF	**Keuruu**	**1.13**	**120**	PG	Pg		14 46 30.0	-0.9
KEF				MSG			14 46 43.8	
	comp=Z,0.6nm,0.2s							
SUF	**Sumiainen**	**1.56**	**89**	PG	Pn		14 46 36.4	-1.8
	baz=281							
SUF				MSG			14 46 56.0	
	comp=Z,0.5nm,0.2s							
KAF	**Kangasniemi**	**1.76**	**109**	PG	Pn		14 46 40.7	-0.3
	baz=289							
OUF	**Merijarvi**	**1.85**	**27**	PG	Pn		14 46 43.0	+0.7
	baz=197							
OUF				MSG			14 47 04.5	
	comp=Z,0.4nm,0.2s							
OUF				SN	Sn		14 47 06.7	+0.3
ARBE	**Arbavere**	**3.66**	**153**	SN	Sn		14 47 45.8	-5.1
JOF	**Joensuu**	**3.92**	**84**	SN	Sn		14 47 58.5	+1.2
MTSE	**Matsula**	**4.07**	**172**	SG	Sb		14 48 14.7	+3.2

*IDC **01** 14:46:30.7±1.1, 44°29N×130°35W, h0km, mb3.7/10, mb1 4.0/17, mb1mx3.8/60, mbtmp3.8/17, ML3.7/7, MS3.9/34, Ms1 3.9/34, ms1mx3.9/45, Error ellipse: s-maj=32.8km s-min=12.0km az=41.0*

*GCMT **01** 14:46:33.7±0.3, 44°41N±0°02×130°27W±0°02, h15km±1km, MW4.9/99, Moment Tensor Solution. s18,c22; s99,c148; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.49±.13; Mθθ-1.77±.10; Mφφ2.26±.11; Mrθ-0.70±.23; Mθφ-1.95±.10; Mφr0.27±.18; Best double couple: Mo2.91100×10^16 NP1:φs23.00000°, δ74.00000°, λ-4.00000°. NP2: φs114.00000°, δ86.00000°, λ-164.00000°. Principal axes: T 3.1240, Plg8.0000°, Azm247.0000°; N -0.4240, Plg73.0000°, Azm128.0000°; P -2.6980, Plg14.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 14:46:34.7±1.6, 44°49N±0°08×129°8W±0°1, h10km±1km, mb4.4/58, ML3.3/14 Error ellipse: s-maj=17.1km s-min=11.8km az=238.0*

ISC 01 14:46:34.2±0.7, 44°46N±0°08×129°95W±0°09, h15km, n166, σ1s07/140, mb4.3/21, MS4.0/27, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.37**	**109**			**Pn**	**14 47 38.9**	**-1.2**
KEBM				IAML			14 49 28.0	
	comp=N,32nm,3.5s							
KEBM				IAML			14 49 34.8	
	comp=E,34nm,2.4s	

D03D Eldon 5.69 55 P 14 47 58.3
baz=239,SNR=18
D04E Lakebay 5.71 59 P 14 47 59.1
baz=244,SNR=41
J04D Umpqua Nationa 5.80 99 P 14 48 00.6
baz=285,SNR=24
YBH Yreka Blue Hor 5.96 115 Pn **Pn** **14 48 03.8 +1.8**
comp=E,0.7nm,0.3s,baz=294,slow=11,SNR=17
YBH LR LR 14 49 57.5
comp=E,472nm,21.6s,baz=299,slow=34
YBH Yreka Blue Hor 5.96 115 **Pn** **14 48 02.0 0.0**
L04D Klamath Falls 6.01 109 P 14 48 03.5
baz=295
PGC Sidney 6.14 45 Pn **Pn** **14 48 04.1 -0.2**
LON Longmire 6.16 65 **Pn** **14 48 04.8 +0.1**
F05D White Salmon 6.17 74 P 14 48 05.6
baz=260,SNR=50
I05D Terrebonne, OR 6.17 88 P 14 48 05.4
baz=274
G05D Wamic, OR 6.19 80 P 14 48 06.4
baz=266,SNR=22
D05A Enumclaw 6.20 61 **Pn** **14 48 06.1 +1.0**
PINE Pine Mountain 6.52 93 **Pn** **14 48 10.6 +0.8**
A04D Lummi Island 6.56 47 P 14 48 10.1
baz=232,SNR=7.5
B05A Bryant 6.64 52 P 14 48 11.4
baz=237,SNR=74
WDC Whiskeytown Da 6.71 123 Pn **Pn** **14 48 12.2 0.0**
K05A Summer Lake 6.80 102 **Pn** **14 48 12.8 -0.9**
A05A Maple Falls 7.06 47 **Pn** **14 48 17.6 +0.7**
LTY Liberty 7.06 63 **Pn** **14 48 17.3 +0.3**
B06A Marblemount 7.12 52 **Pn** **14 48 18.3 +0.6**
C06D Leavenworth 7.18 58 P 14 48 18.4
baz=244
F07A Phinny Hill Vi 7.23 75 **Pn** **14 48 19.8 +0.5**
O03E Paynes Creek 7.33 122 P 14 48 21.9
baz=308,SNR=7.2
E07A Sunnyside 7.40 70 **Pn** **14 48 22.4 +0.7**
HOPS Hopland Field 7.50 134 **Pn** **14 48 23.4 +0.4**
MOD Modoc Plateau 7.50 107 Pn **Pn** **14 48 21.2 -1.9**
I07A Izee 7.51 89 **Pn** **14 48 24.0 +0.7**
HAWA Hanford 7.58 72 **Pn** **14 48 23.5 -0.6**
GDXM Geysers 7.78 134 **Pn** **14 48 28.3 +1.3**
BBB Bella Bella 7.83 8 Pn **Pn** **14 48 30.3 +2.8**
comp=E,0.7nm,0.3s,baz=197,slow=14,SNR=11
BBB LR LR 14 50 36.5
comp=E,416nm,19.2s,baz=164,slow=31
BBB Bella Bella 7.83 8 **Pn** **14 48 29.5 +2.0**
G08A Pilot Rock 7.85 80 **Pn** **14 48 27.6 -0.4**
E08A Dider Farm, El 7.92 71 **Pn** **14 48 28.6 -0.2**
ORV Oroville 7.97 125 Pn **Pn** **14 48 30.8 +1.3**
D08A Wollman Farm, 8.14 67 **Pn** **14 48 31.3 -0.5**
B08A Colville Reser 8.31 58 Pn **Pn** **14 48 33.7 -0.5**
J08A Circle Bar Ran 8.36 94 Pn **Pn** **14 48 35.1 +0.2**
WVOR Wild Horse Val 8.48 100 **Pn** **14 48 36.4 -0.1**
E09A Wood Farm, Sta 8.55 72 **Pn** **14 48 36.7 -0.6**
C09A Chrisman Ranch 8.77 63 Pn **Pn** **14 48 37.8 -0.7**
DIB Dawson Inlet, 8.91 350 Pn **Pn** **14 48 42.5 +0.2**
H02S1 DAWSON INLET T 8.91 350 Pn **Pn** **14 48 42.5 +0.2**
H02S1 T T 14 57 46.2
BMO Blue Mountains 9.02 83 **Pn** **14 48 43.7 -0.3**
F10A Beach Ranch, E 9.11 76 **Pn** **14 48 45.0 -0.2**
PAHR Pah Rah Range 9.18 117 Pn **Pn** **14 48 46.7 +0.5**
PNTR Pine Nut 9.41 121 Pn **Pn** **14 48 48.9 -0.5**
NEW Newport 9.65 62 Pn **Pn** **14 48 51.9 -0.7**
comp=E,1.8nm,0.3s,baz=255,slow=13,SNR=15
NEW LR LR 14 52 28.3
comp=E,2µm,20.3s,baz=253,slow=36
NEW Newport 9.65 62 Pn **Pn** **14 48 51.5 -1.0**
NEW Newport 9.65 62 P 14 48 51.9
baz=251,SNR=8.4
NVAR Mina Array Bea 10.61 121 Pn **Pn** **14 49 09.8 +4.0**
comp=E,0.1nm,0.3s,baz=294,slow=14,SNR=8.1
NVAR LR LR 14 52 52.8
comp=E,518nm,20.0s,baz=308,slow=35
CRAG Craig 11.21 351 Pn **Pn** **14 49 15.6 +1.8**
HLID Hailey 11.23 89 Pn **Pn** **14 49 14.0 -0.3**
JTMT Jette 11.37 68 Pn **Pn** **14 49 16.0 -0.1**
MSO Missoula 11.46 72 Pn **Pn** **14 49 17.4 +0.1**
MSO Missoula 11.46 72 P 14 49 18.0
baz=264
ELK Elko 11.46 104 Pn **Pn** **14 49 21.2 +3.7**
comp=E,0.1nm,0.3s,baz=300,slow=9.7,SNR=15
ELK LR LR 14 53 33.9
comp=E,540nm,20.9s,baz=290,slow=36
ELK Elko 11.46 104 Pn **Pn** **14 49 17.3 -0.2**
BCYI Bear Canyon 11.84 85 **Pn** **14 49 20.1 -2.7**
WRAK Wrangell Islan 12.07 354 **Pn** **14 49 26.5 +0.9**
MCMT McKenzie Canyo 12.19 82 **Pn** **14 49 26.8 -0.7**
DLMT Dillon 12.34 80 **Pn** **14 49 29.1 -0.3**
SIT Sitka 13.06 347 Pn **Pn** **14 49 40.1 +1.0**
SIT Sitka 13.06 347 P 14 49 41.4
baz=162
YHH Holmes Hill 13.61 82 Pn **Pn** **14 49 46.0 -0.9**
HWUT Hardware Ranch 13.75 96 **Pn** **14 49 49.1 +0.4**
FLWY Flagg Ranch 13.80 85 Pn **Pn** **14 49 49.2 -0.3**
YNE Yellowstone No 14.19 81 P **P** **14 50 01.7 -0.6**
GCMT Greycliff 14.38 78 Pn **Pn** **14 49 57.3 -0.1**
EGMT Eagleton 14.42 69 **Pn** **14 49 58.1 +0.3**
EGMT Eagleton 14.42 69 P 14 49 57.6
baz=263,SNR=5.3
MTPU Mount Pierson 14.81 110 Pn **Pn** **14 50 03.1 -0.3**
PDAR Pinedale Array 14.87 89 Pn **P** **14 50 09.2 -0.6**
comp=E,0.2nm,0.3s,baz=285,slow=10,SNR=5.4
PDAR LR LR 14 55 54.1
comp=E,967nm,20.1s,baz=284,slow=37
KNB Kanab 14.94 114 Pn **Pn** **14 50 04.8 -0.3**
PFO Pinyon Flats O 15.05 131 Pn **Pn** **14 50 07.1 +0.7**
comp=E,0.2nm,0.3s,baz=292,slow=12,SNR=2.1
PFO LR LR 14 55 24.1
comp=E,730nm,18.1s,baz=304,slow=35
W13A Hualapai Mount 15.46 122 P **P** **14 50 16.9 +0.4**
RDMU Red Mountain 15.52 97 P **P** **14 50 16.8 -0.2**
MONP2 Monument Peak 15.62 133 P 14 50 15.8
baz=322
U15A North Rim 15.63 115 P **P** **14 50 18.3 -0.1**
U15A IAmb IAmb 14 50 28.1
comp=Z,14nm,1.0s
BAR Barrett 15.66 134 Pn **Pn** **14 50 14.4 +0.1**
WHY Whitehorse 16.50 351 Pn **Pn** **14 50 26.0 +1.0**
WHY Whitehorse 16.50 351 P 14 50 26.2
baz=167,SNR=6.7
O20A White River Ci 16.62 98 Pn **Pn** **14 50 26.1 -0.7**
LAO LASA Array 16.75 74 P **P** **14 50 30.1 -0.3**
LAO IAmb IAmb 14 50 43.0
comp=Z,22nm,1.2s
LAO LASA Array 16.75 74 P 14 50 27.8
baz=271,SNR=7.7
Y14A Wickenburg 16.79 123 P **P** **14 50 31.6 +0.7**
PINM Pinnacle 16.85 342 P 14 50 31.7
baz=154
HYT Haines Junctio 17.00 347 **Pn** **14 50 31.1 -0.3**
HYT IAmb IAmb 14 50 44.0
comp=Z,28nm,1.4s
MESA MESA 17.32 340 **P** **14 50 37.0 +0.1**
MESA MESA 17.32 340 P 14 50 37.4
baz=150
TABL Table Mountain 17.36 341 P **P** **14 50 38.3 +1.1**
TABL IAmb IAmb 14 50 39.5
comp=Z,62nm,1.3s
MVCO Mesa Verde 17.75 107 **Pn** **14 50 40.8 -0.1**
N23A Red Feather La 17.99 93 P 14 50 44.3
baz=290
BARN Barnard Glacie 18.03 341 P **Pn** **14 50 44.8 +0.6**
BARN IAmb IAmb 14 50 58.5
comp=Z,22nm,1.1s
TGL Tana Glacier 18.04 339 **Pn** **14 50 44.9 +0.6**
TGL IAmb IAmb 14 50 48.2
comp=Z,45nm,1.4s
CRQE Cirque 18.11 339 P 14 50 45.5
baz=148,SNR=7.3
CRQM Cirque 18.12 339 P **Pn** **14 50 45.8 +0.5**
CRQM IAmb IAmb 14 50 48.9
comp=Z,50nm,1.2s
DGMT Dagmar 18.16 68 P **P** **14 50 46.7 +0.7**
DGMT IAmb IAmb 14 50 51.5
comp=Z,42nm,1.1s
DGMT Dagmar 18.16 68 P 14 50 44.0
baz=267
ISCO Idaho Springs 18.62 96 P 14 50 52.0
baz=293
MCARA McCarthy VSAT 18.63 340 P **P** **14 50 51.2 +0.1**
MCARA IAmb IAmb 14 50 58.1
comp=Z,30nm,1.3s
MCARA McCarthy VSAT 18.63 340 P 14 50 53.5
baz=149
S22A 4UR Ranch, Cre 18.64 103 P 14 50 52.4
baz=299
BMRM Bremner River 18.69 337 P 14 50 52.2
baz=145
N25K Chitina, Valde 19.22 338 P **P** **14 50 58.8 +1.2**
N25K IAmb IAmb 14 51 02.6
comp=Z,23nm,1.4s
N25K Chitina, Valde 19.22 338 P 14 50 58.6
baz=146
KDAK Kodiak Island 19.36 322 P **P** **14 50 58.1 -0.9**
comp=Z,0.1nm,0.3s,baz=140,slow=10,SNR=1.4
KDAK LR LR 14 56 27.5
comp=Z,515nm,20.6s,baz=150,slow=31
KLU Klutina 19.49 337 P 14 51 01.7
baz=144
SDCO Great Sand Dun 19.57 102 P 14 51 03.5
baz=298
PWL Port Wells 19.73 333 P **P** **14 51 04.2 +1.0**
L27K Beaver Creek, 19.86 344 P **P** **14 51 05.0 +0.5**
L27K IAmb IAmb 14 51 14.4
comp=Z,17nm,1.4s
L27K Beaver Creek, 19.86 344 P 14 51 06.3
baz=154
HARP HAARP 20.03 339 P 14 51 08.1
baz=146
M24K Tolsona, Glenn 20.06 337 Pn 14 51 08.8 +0.3
M24K Tolsona, Glenn 20.06 337 P 14 51 09.6
baz=144
YKA Yellowknife Ar 20.15 21 P **P** **14 51 07.8 +0.2**
comp=Z,0.7nm,0.7s,baz=208,slow=12,SNR=1.8
YKA LR LR 14 57 29.3
comp=Z,77nm,18.8s,baz=0.0,slow=32
SCM Sheep Creek Mo 20.17 336 P **P** **14 51 09.4 +1.5**
KNK Knik Glacier 20.19 334 P **P** **14 51 09.5 +1.4**
KNK IAmb IAmb 14 51 20.4
comp=Z,41nm,1.4s
KNK Knik Glacier 20.19 334 P 14 51 10.3
baz=139
ANMO Albuquerque 20.36 110 P **P** **14 51 11.4 +1.1**
comp=Z,2.5nm,0.8s,baz=298,slow=10,SNR=6.6
ANMO LR LR 14 59 43.1
comp=Z,286nm,18.1s,baz=302,slow=38
ANMO Albuquerque 20.36 110 P **P** **14 51 10.2 -0.2**
ANMO Albuquerque 20.36 110 P 14 51 11.0
baz=305
SML Sawmill 20.45 335 P Pn 14 51 13.7 +0.6
SML Sawmill 20.45 335 P 14 51 13.0
baz=140,SNR=11
E28A Huff 20.56 74 P **P** **14 51 12.8 +0.5**
PAX Paxson 20.59 340 P **P** **14 51 13.9 +1.4**
PAX IAmb IAmb 14 51 25.9
comp=Z,20nm,1.4s
PAX Paxson 20.59 340 P 14 51 14.1
baz=147
GHO Glory Hole Cre 20.61 334 P **P** **14 51 13.3 +0.6**
T25A Trinidad 20.62 102 P **P** **14 51 14.2 +1.1**
T25A IAmb IAmb 14 51 18.1
comp=Z,27nm,1.1s
T25A Trinidad 20.62 102 P 14 51 15.0
baz=299,SNR=16
FFC Flin Flon 20.70 50 P **P** **14 51 12.9 -0.8**
FFC IAmb IAmb 14 51 18.2
comp=Z,18nm,1.0s
DOT Dot Lake 20.84 342 P **P** **14 51 15.6 +0.4**
DOT IAmb IAmb 14 51 26.7
comp=Z,20nm,1.4s
WAT6 Susitna Watana 20.88 337 P 14 51 16.3
baz=142
121A Cookes Peak, D 20.97 117 P 14 51 16.6
baz=311
M22K Willow 20.98 333 P 14 51 17.1
baz=136
SUA Susitna One 20.98 332 **P** **14 51 16.9 +0.2**
SUA Susitna One 20.98 332 P 14 51 17.6
baz=134
SCRK Sand Creek 21.12 343 P **P** **14 51 18.2 0.0**
SCRK IAmb IAmb 14 51 24.1
comp=Z,20nm,1.4s
SCRK Sand Creek 21.12 343 P 14 51 18.6
baz=151
SPU Mount Spurr 21.25 330 P **P** **14 51 19.1 -0.4**
EGAK Eagle 21.31 347 P 14 51 20.7
baz=157
WAT2 Susitna Watana 21.42 336 P 14 51 22.0
baz=141
SKT Skwentna 21.61 332 P **P** **14 51 24.4 +1.0**
SKT Skwentna 21.61 332 P 14 51 24.7
baz=134
MCK McKinley 22.12 337 P 14 51 31.2
baz=142
HDA Harding Lake 22.16 340 P **P** **14 51 27.3 -2.0**
HDA Harding Lake 22.16 340 P 14 51 28.9
baz=146
HDA P 14 51 28.9
baz=146
TRF Thorofare Moun 22.29 336 P 14 51 31.0
baz=139
ILAR Eielson Array 22.45 341 P **P** **14 51 31.7 -0.7**
comp=Z,4.0nm,1.0s,baz=157,slow=8.7,SNR=17
ILAR LR LR 14 58 45.5
comp=Z,473nm,20.8s,baz=157,slow=33
ILAR Eielson Array 22.45 341 P **P** **14 51 31.4 -0.9**
PPLA Purkeypile 22.47 333 P 14 51 33.6
baz=135
WRH Wood River Hil 22.49 339 P **P** **14 51 31.6 -1.2**
CCB Clear Creek Bu 22.57 340 P **P** **14 51 32.8 -0.8**
CCB IAmb IAmb 14 51 44.5
comp=Z,15nm,1.2s
NEA2 Nenana 22.84 339 P **P** **14 51 34.8 -1.8**
NEA2 Nenana 22.84 339 P 14 51 35.8
baz=143
BPAW Bear Paw Mtn. 22.99 336 P 14 51 36.7
baz=139
MNTX Cornudas Mount 23.05 115 P **P** **14 51 38.9 -0.1**
MNTX Cornudas Mount 23.05 115 P 14 51 38.0
baz=311
CHUM Lake Minchumin 23.22 335 P 14 51 40.2
baz=136
I23K Minto, Yukon-K 23.36 339 P **P** **14 51 41.3 -0.5**
I23K Minto, Yukon-K 23.36 339 P 14 51 42.3
baz=143
H24K Noodor Dome 23.57 342 P 14 51 44.0
baz=146
MLY Manley 23.63 338 P **P** **14 51 44.4 -0.1**
MLY IAmb IAmb 14 52 07.6
comp=Z,9.6nm,1.4s
MLY Manley 23.63 338 P 14 51 43.3
baz=140
ULM Lac du Bonnet 23.66 64 P **P** **14 51 43.0 -1.9**
comp=Z,3.0nm,0.5s,baz=270,slow=6.3,SNR=3.8
ULM LR LR 15 01 05.1
comp=Z,724nm,18.2s,baz=274,slow=36
ULM Lac du Bonnet 23.66 64 P **P** **14 51 43.4 -1.5**
ULM IAmb IAmb 14 51 46.6
comp=Z,14nm,1.2s
F33A 5 Mile Ranch, 23.68 75 P **P** **14 51 44.9 -0.2**
AGMN Agassiz Nation 23.71 69 P **P** **14 51 44.7 -0.7**
AGMN IAmb IAmb 14 51 49.3
comp=Z,10nm,0.9s
AGMN Agassiz Nation 23.71 69 P 14 51 44.3
baz=274
TTA Tatalina 23.80 330 P **P** **14 51 46.6 +0.4**
TTA IAmb IAmb 14 52 11.2
comp=Z,16nm,1.3s
TTA Tatalina 23.80 330 P 14 51 46.4
baz=129
ECSD EROS Data Cent 23.86 80 P **P** **14 51 46.8 -0.1**
ECSD EROS Data Cent 23.86 80 P 14 51 45.3
baz=284,SNR=6.5
H23K Yukon River 23.95 340 P 14 51 47.2
baz=144,SNR=5.9
INK Inuvik 23.98 357 LR LR 15 00 49.7
comp=Z,442nm,18.4s,baz=174,slow=36
B35A Bob, Littlefor 25.13 68 P **P** **14 51 58.9 +0.5**
B35A IAmb IAmb 14 52 04.1
comp=Z,16nm,1.1s
IMAR Indian Mountai 25.18 337 P **P** **14 51 58.5 -0.1**
COLD Coldfoot 25.25 342 P 14 52 00.1
baz=144
TX31 Lajitas Ar. Si 25.73 117 P **P** **14 52 04.4 +0.3**
TX31 IAmb IAmb 14 52 10.3
comp=Z,8.2nm,1.0s
TX32 Lajitas Array 25.73 117 P **P** **14 52 04.6 +0.5**
TXAR Lajitas Array 25.73 117 P **P** **14 52 05.7 +1.6**
comp=Z,0.9nm,0.6s,baz=297,slow=8.1,SNR=12
TXAR LR LR 15 02 02.2
comp=Z,139nm,20.7s,baz=0.0,slow=36
TXAR Lajitas Array 25.73 117 P **P** **14 52 04.4 +0.3**
WMOK Wichita Mounta 25.77 101 P **P** **14 52 05.0 +0.6**
WMOK IAmb IAmb 14 52 15.5
comp=Z,9.4nm,0.9s
WMOK Wichita Mounta 25.77 101 P 14 52 05.5
baz=302,SNR=9.1
LPIG La Paz 25.87 135 LR LR 15 01 04.5
comp=Z,271nm,19.1s,baz=328,slow=34
TOLK Toolik Lake Re 26.29 344 P 14 52 09.5
baz=147
JCT Junction City 27.52 110 P 14 52 21.9
baz=309
FPAL Fort Paine 35.24 91 P **P** **14 53 28.0 -0.1**
FPAL IAmb IAmb 14 53 34.6
comp=Z,3.6nm,0.7s
J57A Williamstown 38.28 72 P 14 53 53.4
baz=291
I58A Old Forge 38.87 71 P 14 53 58.6
baz=291
L58A Harry Jones Me 38.88 74 P 14 53 58.2
baz=292
PETK Petropavlovsk- 46.55 308 P **P** **14 54 58.6 -2.3**
comp=Z,2.2nm,0.9s,baz=85,slow=10,SNR=1.0
PETK LR LR 15 12 17.3
comp=Z,104nm,19.2s,baz=75,slow=33
SUMG Summit 48.71 24 P **P** **14 55 18.9 +0.9**
H11N2 WAKE ISLAND Hy 57.39 266 T T 15 58 02.6
baz=49,slow=75,SNR=349
H11N3 WAKE ISLAND Hy 57.39 266 T T 15 58 06.0
baz=49,slow=75,SNR=452
H11N1 WAKE ISLAND Hy 57.41 266 T T 15 58 07.1
baz=49,slow=75,SNR=322
H11S1 WAKE ISLAND Hy 58.33 265 T T 15 59 21.9
baz=48,slow=75,SNR=150
H11S2 WAKE ISLAND Hy 58.34 265 T T 15 59 21.3
baz=48,slow=75,SNR=142
H11S3 WAKE ISLAND Hy 58.35 265 T T 15 59 17.9
baz=48,slow=75,SNR=117
ROSC El Rosal 62.52 112 LR LR 15 25 47.5
comp=Z,46nm,21.9s,baz=245,slow=38
KLR Kul'dur 62.66 313 LR LR 15 23 18.9
comp=Z,106nm,19.5s,baz=52,slow=35
NRIK Noril'sk 63.20 346 LR LR 15 25 48.8
comp=Z,99nm,19.9s,baz=46,slow=37
ARCES ARCESS Array B 64.90 9 LR LR 15 27 20.6
comp=Z,83nm,18.1s,baz=205,slow=38
USRK Ussuriysk Ar. 65.63 309 LR LR 15 24 41.9
comp=Z,66nm,19.0s,baz=55,slow=35
MJAR Matsushiro Arr 66.72 299 LR LR 15 21 18.9
comp=Z,57nm,21.4s,baz=200,slow=31
AFI Afiamalu 69.42 224 LR LR 15 19 12.3
comp=Z,103nm,19.9s,baz=30,slow=28
NOA NORSAR Array B 70.23 19 LR LR 15 26 36.4
comp=Z,80nm,20.7s,baz=325,slow=34
FINES FINESS Array B 72.68 12 LR LR 15 28 40.5
comp=Z,53nm,21.0s,baz=234,slow=35
SONM Songino Array 75.62 325 P **P** **14 58 16.9 -1.6**
comp=Z,0.4nm,0.8s,baz=46,slow=3.9,SNR=2.3
SONM LR LR 15 29 31.9
comp=Z,126nm,20.6s,baz=44,slow=34
SONM Songino Array 75.62 325 P **P** **14 58 18.9 +0.4**
SONM IAmb IAmb 14 58 24.4
comp=Z,5.5nm,1.3s
ZAA0 Zalesovo Array 77.57 340 P **P** **14 58 31.7 +2.5**
ZAA0 IAmb IAmb 14 58 37.2
comp=Z,3.7nm,1.2s
ZALV Zalesovo Beam 77.57 340 LR LR 15 35 05.6
comp=Z,59nm,18.2s,baz=26,slow=38
ZALV Zalesovo Beam 77.57 340 P **P** **14 58 31.7 +2.5**
MSVF Nonsavu 77.94 230 LR LR 15 24 07.4
comp=Z,239nm,20.6s,baz=8.4,slow=29
HHC Hu-ho-hao-te 78.72 317 *e*P **P** **14 58 37.4 +1.4**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,91nm,5.2s
HHC L L
comp=Z,240nm,13.6s
HHC L L
comp=Z,190nm,13.6s
HHC L L
comp=Z,170nm,12.8s
KURBB Kurchatov Arra 82.12 342 P **P** **14 58 54.3 +0.3**
comp=Z,0.8nm,0.8s,baz=19,slow=3.8,SNR=6.5
LPAZ La Paz 82.52 121 P **P** **14 58 56.0 -1.2**
comp=Z,0.9nm,0.7s,baz=292,slow=5.4,SNR=5.4
ESDC Sonseca Array 83.16 39 LR LR 15 34 17.8
comp=Z,98nm,18.0s,baz=320,slow=34
AKASG Malin Array Be 83.51 13 P **P** **14 58 60.0 -1.1**
comp=Z,0.1nm,0.3s,baz=337,slow=4.0,SNR=2.0
AKASG LR LR 15 34 12.6
comp=Z,54nm,20.8s,baz=335,slow=34
AKASG Malin Array Be 83.51 13 P **P** **14 59 00.0 -1.1**
MKAR Makanchi Array 84.78 338 P **P** **14 59 06.2 -1.6**
comp=Z,0.3nm,0.8s,baz=48,slow=6.4,SNR=2.4
MKAR LR LR 15 38 58.5
comp=Z,156nm,19.2s,baz=23,slow=37
XAN Xi'an 85.33 315 P P 14 59 04.8 -6.0
XAN pP PcP 14 59 08.3 -5.5
XAN pmax pmax
comp=Z,3.0nm,1.6s
WMQ Urumqi 85.92 334 *e*P **P** **14 59 15.4 +1.8**
BRTR Keskin Array B 94.91 13 LR LR 15 42 36.4
comp=Z,42nm,20.0s,baz=356,slow=35
BDFB Brasilia 95.18 107 LR LR 15 45 56.0
comp=Z,83nm,21.4s,baz=352,slow=37
GEYT Alibeck 97.67 354 LR LR 15 49 25.3
comp=Z,59nm,19.1s,baz=25,slow=39

*ISK **01** 14:54:12.4, 37˚.52N×44˚.07E, h1km, ML4.0/12*
*ISN **01** 14:54:13.8±1.2, 37˚.54N×43˚.62E, h0km±125km, ML4.0*
*IDC **01** 14:54:14.3±1.0, 37˚.52N×43˚.82E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.4/49, mbtmp3.5/10, ML3.5/4, MS3.0/2, Ms1 3.0/2, ms1mx2.4/54, Error ellipse: s-maj=17.3km s-min=11.4km az=113.0*
*TEH **01** 14:54:15.7, 37˚.60N×43˚.89E, h10km, ML3.9*
*DDA **01** 14:54:16.5, 37˚.51N×43˚.88E, h13km±1km, MW4.0*
ISC 01 14:54:16.3±0.9, 37˚.56N±0˚.02×43˚.90E±0˚.02, h11km±6km, n86, σ1°63/118, mb3.4/5, 9C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAKT	**HAKKARI**	**0.15**	**268**	⇑*i*P	**Pg**	**14 54 19.6**	**-0.3**
HAKT				*i* S	**Sg**	**14 54 22.8**	**+0.3**
HAKT				IAML		14 54 23.0	
	comp=E,66µm,0.4s						
HAKT				IAML		14 54 24.0	
	comp=N,45µm,0.3s						
HAKT	**HAKKARI**	**0.15**	**268**	*e*Pg	**Pg**	**14 54 19.6**	**-0.3**
YOVA	**Hakkari_Yksek**	**0.31**	**85**	⇑*i*P	**Pg**	**14 54 21.9**	**-0.8**
YOVA				*i* S	**Sb**	**14 54 28.6**	**-0.6**
YOVA	**Hakkari_Yksek**	**0.31**	**85**	*e*Pg	**Pg**	**14 54 21.9**	**-0.8**
CUKT	**Cukurca**	**0.39**	**216**	⇑*i*P	**Pg**	**14 54 23.1**	**-1.0**
CUKT				*i* S	**Sg**	**14 54 29.0**	**-0.2**
CUKT	**Cukurca**	**0.39**	**216**	PG	**Pg**	**14 54 22.7**	**-1.4**
CUKT				SG	**Sg**	**14 54 29.6**	**+0.3**
CUKT	**Cukurca**	**0.39**	**216**	*e*Pg	**Pg**	**14 54 23.1**	**-1.0**
GEVA	**Gevas**	**1.00**	**319**	⇓*i*P	**Pg**	**14 54 33.8**	**-1.8**
GEVA				*i* S	**Sb**	**14 54 48.6**	**-0.4**
GEVA	**Gevas**	**1.00**	**319**	*e*Pg	**Pg**	**14 54 33.8**	**-1.8**
TVAN	**Van**	**1.04**	**338**	⇓*i*P	**Pg**	**14 54 34.9**	**-1.5**
TVAN				*i* S	**Sn**	**14 54 51.0**	**-0.6**
TVAN	**Van**	**1.04**	**338**	*e*Pg	**Pg**	**14 54 34.9**	**-1.5**
AKDM	**Akdamar-Van**	**1.05**	**317**	PN	**Pg**	**14 54 35.1**	**-1.5**
AKDM				SN	**Sn**	**14 54 53.4**	**+1.4**
AKDM	**Akdamar-Van**	**1.05**	**317**	*e*Pg	**Pg**	**14 54 35.1**	**-1.5**
VANB	**Van**	**1.11**	**339**	PN	**Pg**	**14 54 34.6**	**-3.0**
VANB	**Van**	**1.11**	**339**	*e*Pn	**Pg**	**14 54 34.5**	**-3.0**
PERV	**Siirt/Pervari-**	**1.14**	**290**	⇑*i*P	**Pb**	**14 54 36.8**	**-1.3**
PERV				*i* S	**Sn**	**14 54 56.5**	**+0.5**
PERV				IAML		14 54 55.0	
	comp=N,7µm,0.5s						
PERV				IAML		14 55 00.0	
	comp=E,6µm,0.5s						
SIRT	**Sirnak**	**1.16**	**267**	PN	**Pb**	**14 54 38.2**	**-0.2**
SIRT				SN	**Sn**	**14 54 57.2**	**+2.7**
SIRT	**Sirnak**	**1.16**	**267**	*e*Pn	**Pb**	**14 54 37.8**	**-0.6**
SIRN	**Sırnak**	**1.18**	**267**	⇑*i*P	**Pb**	**14 54 37.8**	**-1.0**
SIRN				*i* S	**Sg**	**14 54 54.6**	**+0.3**
SIRN	**Sırnak**	**1.18**	**267**	*e*Pn	**Pb**	**14 54 37.9**	**-0.9**
MSL	**Mosul**	**1.32**	**209**	*e*Pn	**Pn**	**14 54 40.5**	**-0.2**

MSL				*e*Sn		**Sb**	**14 54 58.2**	**+0.2**
MSL				AML		AML	14 55 02.4	
	comp=E,3μm,0.9s							
MSL				AML		AML	14 55 02.5	
	comp=N,10μm,0.7s							
VMUR	**Van-Muradiye**	**1.45**	**350**	⇓*i*P		**Pb**	**14 54 43.0**	**-0.4**
VMUR				*i* S		**Sg**	**14 55 05.6**	**+2.7**
ADCV	**BITLIS_Adilcev**	**1.55**	**324**	*e*P		**Pn**	**14 54 44.2**	**+0.2**
ADCV				*i* S		**Sg**	**14 55 08.6**	**+2.4**
CLDR	**Caldiran**	**1.58**	**1**	⇑*i*P		**Pn**	**14 54 44.1**	**-0.3**
CLDR				*i* S		**Sb**	**14 55 06.1**	**+0.4**
CLDR	**Caldiran**	**1.58**	**1**	PN		**Pn**	**14 54 43.1**	**-1.4**
SRTM	**Siirt_Merkez**	**1.62**	**286**	⇑*i*P		**Pb**	**14 54 46.0**	**-0.3**
SRTM				*i* S		**Sg**	**14 55 10.5**	**+2.0**
SRTM				IAML			14 55 17.0	
	comp=N,1μm,0.7s							
SRTM				IAML			14 55 18.0	
	comp=E,2μm,1.3s							
SRTM	**Siirt_Merkez**	**1.62**	**286**	*e*Pn		**Pb**	**14 54 46.1**	**-0.2**
BLIS	**Bitlis-Merkez**	**1.64**	**302**	⇓*i*P		**Pb**	**14 54 46.6**	**-0.1**
BLIS				*i* S		**Sg**	**14 55 11.4**	**+2.2**
BLIS				IAML			14 55 16.0	
	comp=N,682nm,1.2s							
BLIS	**Bitlis-Merkez**	**1.64**	**302**	*e*Pn		**Pb**	**14 54 46.8**	**+0.1**
MAHB	**Mahabad**	**1.65**	**118**	*e*Pg		**Pb**	**14 54 46.9**	**+0.1**
MAHB				*e*			14 55 12.7	
	comp=Z,30μm,0.6s							
GURO	**Guroymak-BITLI**	**1.77**	**304**	PN		**Pn**	**14 54 47.2**	**+0.2**
IMRD	**Marand**	**1.83**	**51**	*e*Pn		**Pn**	**14 54 48.5**	**+0.6**
IMRD				*e*			14 55 01.9	
	comp=Z,7μm,0.5s							
MLAZ	**Malazgirt-MUS**	**1.90**	**327**	PN		**Pn**	**14 54 48.7**	**-0.1**
ITBZ	**Tabriz**	**1.90**	**69**	*e*Pn		**Pn**	**14 54 49.7**	**+0.8**
DYDN	**Diyadin**	**1.98**	**355**	*e*P		**Pn**	**14 54 50.7**	**+0.7**
DYDN				*i* S		**Sg**	**14 55 21.8**	**+1.7**
MIDY	**Mardin/Midyat-**	**1.99**	**266**	⇓*i*P		**Pb**	**14 54 52.2**	**-0.4**
MIDY				*i* S		**Sg**	**14 55 20.0**	**-0.4**
MIDY				IAML			14 55 25.0	
	comp=N,801nm,0.6s							
MIDY				IAML			14 55 32.0	
	comp=E,740nm,0.6s							
BTMN	**Batman**	**2.11**	**280**	*i* P		**Pb**	**14 54 53.4**	**-1.2**
BTMN				*i* S		**Sg**	**14 55 24.7**	**+0.7**
AGRB	**Hanur-Agry**	**2.13**	**341**	PN		**Pn**	**14 54 51.7**	**-0.3**
IKRK	**Kirkuk**	**2.19**	**170**	*e*Pn		**Pn**	**14 54 53.0**	**+0.4**
IKRK				*e*Sn		**Sb**	**14 55 22.5**	**-0.5**
IKRK				AML		AML	14 55 40.6	
	comp=N,906nm,0.8s							
IKRK				AML		AML	14 55 42.3	
	comp=E,786nm,0.4s							
MUSM	**Mu-Merkez**	**2.21**	**302**	⇑*i*P		**Pn**	**14 54 54.2**	**+1.2**
MUSM				*i* S		**Sg**	**14 55 28.8**	**+1.5**
MUSM				IAML			14 55 33.0	
	comp=N,310nm,1.1s							
MUSM				IAML			14 55 38.0	
	comp=E,185nm,0.8s							
SVAN	**Silvan-Diyarba**	**2.21**	**286**	⇑*i*P		**Pb**	**14 54 55.5**	**-0.9**
SVAN				*i* S		**Sb**	**14 55 23.8**	**0.0**
SVAN	**Silvan-Diyarba**	**2.21**	**286**	PN		**Pn**	**14 54 53.8**	**+0.8**
KOTA	**Agri, Merkez-K**	**2.30**	**347**	*i* P		**Pb**	**14 54 58.3**	**+0.4**
KOTA				*i* S		**Sg**	**14 55 30.1**	**-0.2**
IGDI	**IGDIR**	**2.31**	**3**	*i* P		**Pb**	**14 54 56.4**	**-1.5**
IGDI				*i* S		**Sg**	**14 55 31.4**	**+1.0**
TASB	**TASBURUN-IGDIR**	**2.43**	**6**	PN		**Pn**	**14 54 55.1**	**-1.0**
EATA	**Eleskirt**	**2.54**	**335**	*i* P		**Pb**	**14 55 02.2**	**0.0**
EATA				*i* S		**Sg**	**14 55 40.8**	**+2.6**
IHRS	**Heris**	**2.60**	**72**	*e*Pn		**Pn**	**14 55 00.5**	**+2.0**
IHRS				*e*			14 55 51.2	
	comp=Z,5μm,1.3s							
SLHN	**Bingol, Solhan**	**2.66**	**303**	*i* P		**Pb**	**14 55 04.7**	**+0.8**
SLHN				*i* S		**Sg**	**14 55 43.8**	**+2.2**
GNI	**Garni**	**2.67**	**14**	Pn		**Pn**	**14 55 00.5**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=185,slow=3.7,SNR=6.5							
GNI				Pg		**Pg**	**14 55 06.0**	**-1.4**
	comp=Z,4.8nm,0.3s,baz=24,slow=9.6,SNR=15							
GNI				Lg		Lg	14 55 42.2	
	comp=Z,3.2nm,0.3s,baz=359,slow=20,SNR=11							
GNI	**Garni**	**2.67**	**14**	PN		**Pn**	**14 54 58.1**	**-1.3**
IHSH	**Hashtrud**	**2.69**	**94**	*e*Pn		**Pn**	**14 55 01.4**	**+1.5**
MAZI	**Mazidag**	**2.75**	**269**	PN		**Pn**	**14 55 01.1**	**+0.7**
HANI	**Diyarbakir_Han**	**2.89**	**288**	*i* P		**Pn**	**14 55 04.5**	**+2.1**
HANI				*i* S		**Sg**	**14 55 51.4**	**+2.3**
BNGB	**Bingl**	**2.91**	**300**	PN		**Pn**	**14 55 03.6**	**+1.0**
ISRB	**Sarab**	**3.00**	**84**	*e*			14 55 16.8	
	comp=Z,2μm,0.8s							
ISRB				*e*Pn		**Pn**	**14 55 06.6**	**+2.6**
DYBB	**Diyarbakir**	**3.00**	**279**	PN		**Pn**	**14 55 04.8**	**+0.9**
DIYA	**Diyarbakir**	**3.01**	**278**	*e*P		**Pn**	**14 55 06.2**	**+2.1**
DIYA				*i* S		**Sg**	**14 55 55.8**	**+2.7**
EAK	**Akyaka**	**3.13**	**356**	*e*P		**Pb**	**14 55 11.0**	**-1.0**
EAK				*i* S		**Sg**	**14 56 01.7**	**+5.0**
KOVA	**Elazig, Kovanc**	**3.42**	**291**	*e*P		**Pn**	**14 55 13.1**	**+3.5**
KOVA				*i* S		**Sg**	**14 56 10.7**	**+4.7**
IDHR	**Dehrash**	**3.50**	**144**	*e*Pn		**Pn**	**14 55 12.4**	**+1.6**
ILIN	**Lien**	**3.62**	**136**	*e*Pn		**Pn**	**14 55 14.7**	**+2.2**
KCHF	**Cheshme Sefid,**	**4.16**	**141**	*e*Pn		**Pn**	**14 55 21.5**	**+1.6**
IBZA	**Bozab**	**4.46**	**133**	*e*Pn		**Pn**	**14 55 25.8**	**+1.8**
IBDR	**Badra**	**4.74**	**159**	*e*Pn		**Pn**	**14 55 29.0**	**+1.3**
IBDR				*e*Sn		**Sn**	**14 56 25.0**	**+2.3**
HAGD	**Aghdareh**	**5.05**	**121**	*e*Pn		**Pn**	**14 55 35.4**	**+3.3**
HSAM	**Samen**	**5.08**	**130**	*e*Pn		**Pn**	**14 55 35.1**	**+2.5**
IDOB	**Doab**	**5.13**	**136**	*e*Pn		**Pn**	**14 55 35.3**	**+2.0**
IKFM	**Kafar-mosalman**	**5.16**	**140**	*e*Pn		**Pn**	**14 55 35.0**	**+1.6**
IRAZ	**Razeghan**	**5.32**	**112**	*e*Pn		**Pn**	**14 55 38.0**	**+2.2**
BMDN	**Meydan**	**5.58**	**133**	*e*Pn		**Pn**	**14 55 39.9**	**+0.4**
NSR	**Nassriya**	**6.79**	**163**	*e*Pn		**Pn**	**14 55 58.0**	**+2.1**
NSR				*e*Sn		**Sn**	**14 57 14.0**	**+0.7**
IPIR	**Pirpir**	**7.52**	**128**	*e*Pn		**Pn**	**14 56 07.9**	**+1.8**
KRSH	**Karshahi**	**7.60**	**116**	*e*Pn		**Pn**	**14 56 11.1**	**+4.0**
MIB	**Mutribah**	**8.25**	**159**	*e*P		**Pn**	**14 56 15.7**	**-0.3**
MIB				*e*S		Sn	14 57 40.5	-8.7
MMAI	**Mount Meron Ar**	**8.29**	**239**	Pn		**Pn**	**14 56 15.7**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=58,slow=16,SNR=2.3							
MMAI				Lg		Lg	14 58 35.9	
	comp=Z,1.0nm,0.3s,baz=74,slow=26,SNR=2.2							
BRTR	**Keskin Array B**	**8.31**	**288**	Pn		**Pn**	**14 56 17.9**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=110,slow=12,SNR=1.8							
RST	**Umm Al-Ruwaisa**	**8.45**	**161**	*e*P		**Pn**	**14 56 15.9**	**-2.7**
RDF	**Al-Radifah**	**9.14**	**159**	*e*P		**Pn**	**14 56 26.5**	**-1.6**
AKTO	**Aktyubinsk**	**16.36**	**34**	LR		LR	15 05 15.0	
	comp=Z,27nm,20.6s,baz=225,slow=40							
AKASG	**Malin Array Be**	**16.79**	**326**	Pn		**Pn**	**14 58 08.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=134,slow=12,SNR=1.6							
WSAR	**Wadi Sarin**	**19.08**	**134**	P		**P**	**14 58 37.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=343,slow=14,SNR=4.6							
ARU	**Arti**	**21.28**	**23**	P		**P**	**14 59 01.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=182,slow=13,SNR=3.2							
ARU				LR		LR	15 09 51.4	
	comp=Z,64nm,18.6s,baz=192,slow=44							
GERES	**GERESS Array B**	**24.57**	**307**	P		**P**	**14 59 35.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=103,slow=8.2,SNR=1.3							
MKAR	**Makanchi Array**	**29.66**	**60**	P		**P**	**15 00 22.5**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=264,slow=8.5,SNR=2.1							
CMAR	**Chiang Mai Arr**	**51.45**	**96**	P		**P**	**15 03 22.3**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=288,slow=8.1,SNR=9.6							
LSZ	**Lusaka**	**54.60**	**199**	P		**P**	**15 03 45.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=350,slow=6.1,SNR=2.1							

IDC 01 15:07:29.6±4.5, 5°.00S×150°.64E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/34, mbtmp3.7/5, ML1.3/1, Error ellipse: s-maj=124.0km s-min=35.0km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.58**	**218**	Pn			Pn	15 08 53.3	-0.6
	0.6nm,0.3s,baz=6.3,slow=9.2,SNR=1.9								
PMG				Sn			Sn	15 09 47.1	-12
	1.1nm,0.3s,baz=256,slow=14,SNR=1.7								
WRA	**Warramunga Arr**	**21.73**	**225**	P			P	15 12 22.7	-0.1
	2.1nm,0.6s,baz=51,slow=10,SNR=10								
ASAR	**Alice Springs**	**24.59**	**219**	P			P	15 12 51.8	+0.1
	0.7nm,0.7s,baz=56,slow=8.9,SNR=19								
FITZ	**Fitzroy Crossi**	**27.68**	**240**	P			P	15 13 20.1	+0.4
	1.8nm,0.9s,baz=67,slow=7.7,SNR=1.8								
MKAR	**Makanchi Array**	**79.07**	**319**	P			P	15 19 35.8	-0.1
	0.3nm,0.8s,baz=104,slow=6.1,SNR=1.9								

*SOME **01** 15:08:12.5, 40°.77N×78°.52E, h10km*
*NNC **01** 15:08:13.1±1.4, 40°.82N×78°.47E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=9.6km s-min=6.4km az=171.0*

ISC 01 15:08:08.3±3.8, 40°.5N±0°.2×78°.7E±0°.1, h5km±23km, n24, σ0s 77/38, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SATY	**Saty**	**2.55**	**355**	*e*P			**Pb**	**15 08 54.5**	**0.0**
	7.9nm,0.4s								
SATY				*e*S			**Sb**	**15 09 25.0**	**-1.2**
	15nm,0.3s								
SATY	**Saty**	**2.55**	**355**	Pg			**Pb**	**15 08 54.5**	**0.0**
	7.9nm,0.4s								
SATY				Lg			Lg	15 09 25.1	
	15nm,0.3s								
UZB	**Uzynbulak**	**2.64**	**5**	*e*P			**Pb**	**15 08 56.1**	**+0.1**
	2.3nm,0.1s								
UZB				*e*S			**Sb**	**15 09 27.7**	**-1.1**
	7.4nm,0.3s								
UZB	**Uzynbulak**	**2.64**	**5**	Pg			**Pb**	**15 08 56.1**	**+0.1**
	2.3nm,0.1s								
UZB				Lg			Lg	15 09 28.0	
	7.4nm,0.3s								
SHLS	**Shalkode**	**2.70**	**12**	*e*P			**Pg**	**15 09 00.2**	**+0.2**
	11nm,0.2s								
SHLS				*e*S			**Sg**	**15 09 34.5**	**-0.4**
	26nm,0.3s								
SHLS	**Shalkode**	**2.70**	**12**	Pg			**Pg**	**15 08 59.8**	**-0.1**
	11nm,0.2s								
SHLS				Lg			Lg	15 09 34.5	
	26nm,0.3s								
MDOK	**Medeo**	**2.91**	**336**	*e*P			**Pb**	**15 09 01.1**	**+0.3**
	2.2nm,0.3s								
MDOK				*e*S			**Sb**	**15 09 36.1**	**-0.7**
	6.2nm,1.0s								
MDOK	**Medeo**	**2.91**	**336**	⇓Pg			**Pb**	**15 09 00.1**	**-0.8**
	4.3nm,0.8s								
MDOK				⇑Lg			Lg	15 09 34.1	
	14nm,0.9s								
IZV	**Izvestkoviy**	**2.96**	**329**	*e*P			**Pb**	**15 09 01.9**	**+0.3**
	2.3nm,0.1s								
IZV				*e*S			**Sb**	**15 09 37.5**	**-0.6**
	7.4nm,0.4s								
IZV	**Izvestkoviy**	**2.96**	**329**	Pg			**Pb**	**15 09 01.9**	**+0.3**
	2.3nm,0.1s								
IZV				Lg			Lg	15 09 37.1	
	7.4nm,0.4s								
KOTS	**Kotyrbulak**	**2.96**	**337**	*e*P			**Pb**	**15 09 01.4**	**-0.2**
	7.0nm,0.3s								
KOTS				*e*S			**Sb**	**15 09 36.6**	**-1.5**
	14nm,0.5s								
KOTS	**Kotyrbulak**	**2.96**	**337**	Pg			**Pb**	**15 09 01.4**	**-0.2**
	7.0nm,0.3s								
KOTS				Lg			Lg	15 09 36.6	
	14nm,0.5s								
KURS	**Kuram**	**2.99**	**353**	*e*P			**Pb**	**15 09 02.8**	**+0.7**
	4.3nm,0.3s								
KURS				*e*S			**Sb**	**15 09 39.0**	**+0.1**
	13nm,0.4s								
MTBS	**Maitube**	**3.11**	**328**	*e*P			**Pb**	**15 09 04.9**	**+0.8**
	1.2nm,0.2s								
MTBS				*e*S			**Sb**	**15 09 42.6**	**+0.3**
	6.4nm,0.4s								
KST	**Kastek**	**3.25**	**322**	*e*P			**Pb**	**15 09 07.4**	**+1.0**
	2.2nm,0.2s								
KST				*e*S			**Sb**	**15 09 46.9**	**+0.6**
	5.2nm,0.6s								
KST	**Kastek**	**3.25**	**322**	Pg			**Pb**	**15 09 07.0**	**+0.6**
	2.2nm,0.2s								
KST				Lg			Lg	15 09 46.7	
	5.2nm,0.6s								
TKM2	**Tokmak 2**	**3.34**	**317**	⇑Pg			**Pb**	**15 09 06.6**	**-1.5**
	1.8nm,0.7s								
TKM2				⇑Lg			Lg	15 09 50.0	
	2.3nm,0.5s								
DGS	**Degeres**	**3.49**	**322**	*e*P			**Pb**	**15 09 10.3**	**-0.3**
	1.2nm,0.3s								
DGS				*e*S			**Sb**	**15 09 52.1**	**-1.2**
	3.7nm,0.3s								
DGS	**Degeres**	**3.49**	**322**	Pg			**Pb**	**15 09 10.3**	**-0.3**
	1.2nm,0.3s								
DGS				Lg			Lg	15 09 51.3	
	3.7nm,0.3s								
KTBS	**Karatobe**	**3.52**	**335**	*e*P			**Pb**	**15 09 11.9**	**+0.8**
	1.2nm,0.4s								
KTBS				*e*S			**Sb**	**15 09 54.6**	**+0.4**
	4.4nm,0.3s								
CHKK	**Chushkaly**	**3.56**	**340**	*e*P			**Pb**	**15 09 12.9**	**+1.1**
	1.0nm,0.0s								
CHKK				*e*S			**Sb**	**15 09 56.4**	**+1.0**
	13nm,0.5s								
ARXS	**Arharly**	**3.75**	**350**	*e*P			**Pb**	**15 09 15.9**	**+0.9**
	2.2nm,0.4s								
ARXS				*e*S			**Sb**	**15 10 01.7**	**+1.1**
	7.5nm,0.4s								
KRBS	**Karabastau**	**3.89**	**326**	*e*P			**Pb**	**15 09 18.2**	**+0.8**
	0.4nm,0.4s								
KRBS				*e*S			**Sb**	**15 10 05.1**	**+0.4**
	3.0nm,0.4s								
KRBS	**Karabastau**	**3.89**	**326**	Pg			**Pb**	**15 09 18.2**	**+0.8**
	0.4nm,0.4s								
KRBS				Lg			Lg	15 10 05.1	
	3.0nm,0.4s								

*IDC **01** 15:10:41.0±7.3, 5°.89S×150°.47E, h49km±56km, mb3.6/5, mb1 3.7/6, mb1mx3.4/36, mbtmp3.8/6, ML1.2/1, Error ellipse: s-maj=66.8km s-min=34.6km az=92.0*

ISC 01 15:10:40.5±1.9, 5°.9S±0°.2×150°.6E±0°.3, h48km, n7, σ0s 41/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85**	**224**	P			**Pn**	**15 11 51.2**	**+0.2**
	0.7nm,0.3s,baz=324,slow=16,SNR=1.2								
PMG				S			**Sn**	**15 12 45.9**	**0.0**
	2.5nm,0.3s,baz=98,slow=21,SNR=5.9								
WRA	**Warramunga Arr**	**21.07**	**227**	P			**P**	**15 15 20.7**	**-0.1**
	1.9nm,0.6s,baz=51,slow=10,SNR=18								
ASAR	**Alice Springs**	**23.86**	**221**	P			**P**	**15 15 49.4**	**-0.2**
	0.9nm,0.7s,baz=60,slow=7.9,SNR=14								
STKA	**Stephens Creek**	**27.17**	**197**	P			**P**	**15 16 19.3**	**-0.3**
	3.0nm,0.8s,baz=14,slow=11,SNR=5.9								
FITZ	**Fitzroy Crossi**	**27.18**	**241**	P			**P**	**15 16 19.7**	**-0.1**
	2.7nm,0.9s,baz=67,slow=9.0,SNR=2.8								
SONM	**Songino Array**	**66.09**	**329**	P			**P**	**15 21 22.5**	**-0.3**
	0.1nm,0.3s,baz=119,slow=8.4,SNR=1.7								
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc			**PKPbc**	**15 30 23.8**	**+0.8**
	1.0nm,0.6s,baz=58,slow=1.5,SNR=4.6								

NOU 01 15:15:06.1, 16°.14S×167°.03E, h6km, MLv4.0, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**4.62**	**178**	P			Pn	15 16 16.5	+0.1
KOUNC	**Koumac, New Ca**	**5.10**	**210**	P			Pn	15 16 23.2	+0.1
MARNC	**Mare, Loyalty**	**5.40**	**170**	P			Pn	15 16 27.0	-0.2
DZM	**Mont Dzumac**	**5.93**	**185**	P			Pn	15 16 34.2	-0.3
NOUC	**Port Laguerre**	**5.97**	**186**	P			Pn	15 16 35.3	+0.2
OUENC	**Ouen Island, N**	**6.25**	**182**	P			Pn	15 16 38.6	-0.3
PINNC	**Pines Island,**	**6.45**	**177**	P			Pn	15 16 42.2	+0.5

ROM 01 15:16:04.1±0.1, 41°.970N±0°.010×14°.718E±0°.010, h13km±1km, ML2.4/34, 8C-10D, Error ellipse: s-maj=1.2km s-min=0.2km az=209.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FRES	**Fresagrandinar**	**0.04**	**275**	⇓P			Pg	15 16 07.0	+0.5
FRES				S			Sg	15 16 08.4	+0.1
TRIV	**Trivento**	**0.24**	**212**	⇑P			Pg	15 16 09.6	+0.4
TRIV				S			Sb	15 16 14.6	+0.2
TRIV				AML		AML			
	comp=N,1016μm,0.9s								
TRIV				AML		AML			
	comp=E,984μm,0.8s								
CIGN	**Sant'Elia a Pi**	**0.34**	**156**	⇓P			Pg	15 16 11.3	+0.3
CIGN				S			Sb	15 16 17.6	+0.2
CIGN				AML		AML			
	comp=N,238μm,0.9s								
CIGN				AML		AML			
	comp=E,182μm,0.6s								
CIGN				AML		AML			
	comp=N,239μm,0.9s								
CAFR	**Castel Frentan**	**0.38**	**313**	P			Pb	15 16 12.6	0.0
CAFR				AML		AML			
	comp=N,1345μm,0.1s								
CAFR				AML		AML			
	comp=E,7μm,0.4s								
MELA	**Melanoc ??? S**	**0.40**	**131**	P			Pg	15 16 12.0	-0.2
MELA				S			Sb	15 16 18.6	-0.5
MELA				AML		AML			
	comp=E,945μm,0.1s								
MELA				AML		AML			
	comp=N,1400μm,0.3s								
MELA				AML		AML			
	comp=N,1495μm,0.2s								
MELA				AML		AML			
	comp=E,945μm,0.1s								
MELA				AML		AML			
	comp=N,1405μm,0.3s								
MELA				AML		AML			
	comp=E,1140μm,0.1s								
MELA				AML		AML			
	comp=E,946μm,0.1s								
LPEL	**Lama dei Pelig**	**0.41**	**281**	P			Pg	15 16 12.7	+0.4
LPEL				S			Sb	15 16 19.2	-0.1
LPEL				AML		AML			
	comp=N,2685μm,0.1s								
LPEL				AML		AML			
	comp=E,1875μm,0.3s								
LPEL				AML		AML			
	comp=N,2690μm,0.1s								
BSSO	**Busso**	**0.43**	**192**	P			Pg	15 16 13.0	+0.3
BSSO				S			Sb	15 16 20.0	-0.1
BSSO				AML		AML			
	comp=N,396μm,0.3s								
BSSO				AML		AML			
	comp=E,214μm,0.3s								
BSSO				AML		AML			
	comp=N,176μm,0.3s								
BSSO				AML		AML			
	comp=E,516μm,0.3s								
BSSO				AML		AML			
	comp=N,395μm,0.3s								
MIDA	**Miranda**	**0.48**	**227**	⇑P			Pg	15 16 13.2	-0.3
MIDA				S			Sg	15 16 20.5	+0.6
GATE	**Gambatesa**	**0.48**	**162**	P			Pb	15 16 14.4	+0.1
GATE				AML		AML			
	comp=E,132μm,1.2s								
GATE				AML		AML			
	comp=N,155μm,0.4s								
RNI2	**Rionero Sannit**	**0.50**	**238**	⇑P			Pg	15 16 13.9	-0.1
RNI2				AML		AML			
	comp=E,423μm,0.2s								
RNI2				AML		AML			
	comp=N,338μm,0.7s								
RNI2				AML		AML			
	comp=N,354μm,0.7s								
RNI2				AML		AML			
	comp=E,466μm,0.2s								
SACR	**S. Croce Del S**	**0.57**	**181**	P			Pg	15 16 14.8	-0.5
SACR				AML		AML			
	comp=E,3266μm,1.6s								
SACR				AML		AML			
	comp=N,93μm,0.5s								
SACR				AML		AML			
	comp=E,114μm,1.3s								
SACR				AML		AML			
	comp=N,94μm,0.9s								
SACR				AML		AML			
	comp=N,94μm,0.9s								
INTR	**Introdacqua**	**0.61**	**274**	⇑P			Pg	15 16 15.6	-0.4
INTR				S			Sb	15 16 24.8	-0.3
INTR				AML		AML			
	comp=E,1310μm,0.2s								
INTR				AML		AML			
	comp=N,1925μm,0.2s								
TREM	**Isole Tremiti**	**0.61**	**75**	P			Pg	15 16 16.1	+0.1
TREM				AML		AML			
	comp=N,668μm,0.6s								
TREM				AML		AML			
	comp=E,564μm,0.5s								
CERA	**Filignano**	**0.64**	**235**	⇑P			Pg	15 16 15.7	-1.0
CERA				AML		AML			
	comp=E,302μm,0.5s								
CERA				AML		AML			
	comp=N,277μm,0.6s								
VAGA	**Valle Agricola**	**0.66**	**213**	P			Pg	15 16 16.3	-0.7
VAGA				AML		AML			
	comp=N,774μm,1.0s								
VAGA				AML		AML			
	comp=E,334μm,1.3s								
T0110	**Collepietro**	**0.74**	**290**	P			Pg	15 16 18.0	-0.5
T0110				S			Sb	15 16 29.3	+0.3
T0110				AML		AML			
	comp=E,472μm,0.9s								
T0110				AML		AML			
	comp=N,372μm,0.9s								
T0110				AML		AML			
	comp=E,472μm,0.9s								
T0110				AML		AML			
	comp=N,372μm,0.9s								
VCEL	**Villa Celiera**	**0.78**	**303**	P			Pg	15 16 18.7	-0.5
VCEL				S			Sb	15 16 30.7	+0.7
VCEL				AML		AML			
	comp=E,706μm,0.5s								
VCEL				AML		AML			
	comp=N,504μm,0.4s								
POFI	**Posta Fibreno**	**0.79**	**252**	⇑P			Pg	15 16 18.2	-1.2
POFI				S			Sg	15 16 29.7	-0.2
POFI				AML		AML			
	comp=E,168μm,1.0s								
POFI				AML		AML			
	comp=N,134μm,0.2s								
SGRT	**San Giovanni R**	**0.80**	**105**	P			Pg	15 16 19.1	-0.4
SGRT				AML		AML			
	comp=E,832μm,0.5s								
SGRT				AML		AML			
	comp=N,480μm,1.2s								
SGRT				AML		AML			

SNAL				AML	AML			
	comp=E,116μm,1.1s							
SNAL				AML	AML			
	comp=N,103μm,1.5s							
SNAL				AML	AML			
	comp=N,104μm,1.5s							
SNAL				AML	AML			
	comp=N,105μm,1.5s							
SNAL				AML	AML			
	comp=E,115μm,1.1s							
CAPA	**Cerignola FG**	**1.16 134**		P	Pb	15 16 25.9	0.0	
CAPA				AML	AML			
	comp=E,232μm,1.0s							
CAPA				AML	AML			
	comp=N,338μm,0.8s							
VULT	**Monte Vulture**	**1.22 146**		P	Pg	15 16 27.5	-0.1	
VULT				AML	AML			
	comp=E,171μm,0.4s							
VULT				AML	AML			
	comp=N,224μm,0.5s							
VULT				AML	AML			
	comp=E,170μm,0.4s							
VULT				AML	AML			
	comp=N,224μm,0.5s							
SMA1	**SAN MARTINO**	**1.22 303**	⇓	P	Pg	15 16 28.9	+1.3	
SMA1				AML	AML			
	comp=E,231μm,0.8s							
SMA1				AML	AML			
	comp=N,272μm,0.7s							
MRLC	**Muro Lucano**	**1.34 154**		P	Pg	15 16 30.3	+0.4	
PALZ	**Palazzo San Ge**	**1.39 137**		P	Pn	15 16 29.1	0.0	
PALZ				AML	AML			
	comp=N,160μm,0.5s							
PALZ				AML	AML			
	comp=N,160μm,0.5s							
PALZ				AML	AML			
	comp=E,169μm,0.7s							
NRCA	**Norcia**	**1.47 307**	⇓	P	Pg	15 16 32.7	+0.4	
NRCA				AML	AML			
	comp=E,129μm,0.3s							
NRCA				AML	AML			
	comp=N,136μm,0.4s							
ACER	**Acerenza**	**1.50 142**		P	Pb	15 16 31.4	-0.4	
ACER				AML	AML			
	comp=E,108μm,0.4s							
ACER				AML	AML			
	comp=N,94μm,0.5s							
CDRU	**Civita di Ruta**	**1.54 163**		P	Pb	15 16 32.4	-0.2	
CDRU				AML	AML			
	comp=N,34μm,0.9s							
CDRU				AML	AML			
	comp=E,45μm,1.0s							
CSP1	**Cessapalombo**	**1.58 316**	⇓	P	Pg	15 16 34.2	-0.3	
FDMO	**Fiordimonte**	**1.61 312**	⇓	P	Pg	15 16 34.8	-0.2	
FDMO				AML	AML			
	comp=E,67μm,0.2s							
FDMO				AML	AML			
	comp=N,89μm,0.5s							
TRE1	**Treia**	**1.69 323**		S	Sb	15 16 56.0	-0.3	
AMUR	**Altamura**	**1.77 126**		P	Pn	15 16 34.8	+0.4	
AMUR				AML	AML			
	comp=N,104μm,0.5s							
AMUR				AML	AML			
	comp=E,95μm,0.4s							
LSTV	**Lastovo**	**1.80 63**	*e*	Pn	Pb	15 16 35.9	-1.0	
ZIRJ	**Zirje**	**1.82 22**		Sg	Sn	15 16 58.5	+0.7	
ZIRJ	**Zirje**	**1.82 22**	*e*	Pn	Pn	15 16 35.9	+0.9	
MORI	**Morici**	**2.03 21**	*e*	Pn	Pb	15 16 39.7	-1.1	
MORI				Sn	Sn	15 17 04.5	+1.4	
DUGI	**Dugi Otok**	**2.04 7**	*e*	Pn	Pn	15 16 39.2	+1.2	
FSSB	**Fossombrone**	**2.24 321**	⇑	P	Pg	15 16 46.3	-0.6	
RICI	**Ricice**	**2.34 49**	*e*	Pn	Pn	15 16 42.1	-0.1	
RICI				Sn	Sb	15 17 13.0	-1.9	
KIJV	**Kijevo**	**2.38 31**	*e*	Pn	Pn	15 16 43.9	+1.1	
KIJV				Sn	Sn	15 17 11.4	-0.4	
TDS	**Terranova Siba**	**2.62 151**	⇓	P	Pn	15 16 44.0	-2.0	
TDS				AML	AML			
	comp=E,20μm,1.5s							
TDS				AML	AML			
	comp=N,16μm,0.4s							
UDBI	**Udbina**	**2.67 16**	*e*	Pn	Pb	15 16 50.0	-1.7	
UDBI				Sn	Sn	15 17 20.4	+1.4	
MTRZ	**Monterenzio**	**3.38 316**	⇓	P	Pb	15 17 05.0	+1.1	
ZCCA	**Zocca**	**3.63 312**		P	Pg	15 17 14.7	+1.2	
MAIM	**Mastiano**	**3.66 303**		S	Sn	15 17 43.0	-0.4	
MAGA	**Magasa**	**4.82 324**		S	Sn	15 18 12.0	-0.1	
BOSI	**Bolzano**	**5.14 333**	⇓	P	Pb	15 17 37.9	+4.1	
HPAC	**Pachino**	**5.28 177**	⇑	P	Pn	15 17 26.2	+3.7	
MILN	**Milano**	**5.30 313**	⇓	P	Pn	15 17 24.5	+1.6	

*IDC **01** 15:18:29.6±1.0,53˚.96N×161˚.58E,h0km,mb3.4/7, mb1 3.8/9,mb1mx3.5/48,mbtmp3.5/9,ML3.3/2,MS3.1/1, Ms1 3.1/1,ms1mx2.5/35,Error ellipse: s-maj=44.8km s-min=18.9km az=153.0*

*KRSC **01** 15:18:32.0±1.5,53˚.73N×161˚.73E,h40km±24km,ML3.9*

ISC 01 15:18:29.1±1.7,53˚.84N±0˚.04×161˚.63E±0˚.06,h2km±11km, n45,σ1§09/62,mb3.5/7,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.21**	**233**	*e*P	**Pg**	**15 18 53.0**	**+0.7**
SPN				*e*S	**Sg**	**15 19 08.3**	**+0.3**
KZV	**Kizimen**	**1.50**	**329**	*e*P	**Pg**	**15 18 59.4**	**+1.6**
KZV				*e*S	**Sg**	**15 19 18.3**	**+1.1**
NLC	**Nalytchevo**	**1.52**	**245**	*e*P	**Pg**	**15 18 59.5**	**+1.3**
TUMD	**Tumrok D**	**1.55**	**333**	*e*P	**Pg**	**15 18 59.7**	**+1.0**
TUMD				*e*S	**Sg**	**15 19 18.9**	**+0.2**
TUMR	**Tumrok**	**1.69**	**330**	*e*P	**Pg**	**15 19 02.4**	**+1.0**
TUMR				*e*S	**Sg**	**15 19 23.7**	**+0.4**
SMAR	**Somma**	**1.78**	**252**	*e*P	**Pb**	**15 19 02.4**	**-0.2**
UGLR	**Uglovaya**	**1.79**	**251**	*e*P	**Pb**	**15 19 02.6**	**-0.1**
KRER	**Koryakskii**	**1.80**	**254**	*e*P	**Pb**	**15 19 02.8**	**-0.1**
AVH	**Avacha**	**1.82**	**253**	*e*P	**Pg**	**15 19 03.3**	**-0.6**
AVH				*e*S	**Sb**	**15 19 25.6**	**-0.8**
KRX	**Arik**	**1.84**	**256**	*e*P	**Pb**	**15 19 03.1**	**-0.4**
KRX				*e*S	**Sb**	**15 19 25.2**	**-1.9**
KOK	**Koryaka**	**1.87**	**254**	*e*P	**Pb**	**15 19 03.5**	**-0.5**
DALK	**Dalny**	**1.90**	**246**	*e*P	**Pg**	**15 19 06.2**	**+0.7**
PET	**Petropavlovsk**	**1.96**	**247**	*e*P	**Pb**	**15 19 04.6**	**-0.9**
PET				*e*S	**Sb**	**15 19 28.1**	**-2.2**
KMNR	**Kamenistaya**	**2.09**	**338**	*e*P	**Pg**	**15 19 09.0**	**-0.1**
KMNR				*e*S	**Sg**	**15 19 36.0**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.18**	**346**	*e*P	**Pg**	**15 19 10.9**	**+0.1**
BZGR				*e*S	**Sg**	**15 19 39.2**	**+0.2**
GNL	**Ganaly**	**2.19**	**268**	*e*P	**Pb**	**15 19 09.3**	**-0.3**
GNL				*e*S	**Sb**	**15 19 36.3**	**-0.9**
BZMR	**Bezymyannaya**	**2.20**	**343**	*e*P	**Pg**	**15 19 11.1**	**-0.2**
BZMR				*e*S	**Sg**	**15 19 39.9**	**0.0**
BZWR	**Bezymyannyi-We**	**2.23**	**343**	*e*P	**Pg**	**15 19 12.1**	**+0.3**
ZLN	**Zelenaya**	**2.24**	**348**	*e*P	**Pg**	**15 19 11.4**	**-0.5**
KIRR	**Kirishev**	**2.25**	**341**	*e*P	**Pg**	**15 19 12.0**	**-0.2**
LGNR	**Loginova**	**2.32**	**347**	*e*P	**Pg**	**15 19 13.8**	**+0.3**
CIRR	**Tsirk**	**2.34**	**348**	*e*P	**Pg**	**15 19 13.6**	**-0.3**
RUS	**Russkaya**	**2.34**	**234**	*e*P	**Pb**	**15 19 11.3**	**-0.8**
PETK	**Petropavlovsk-** 5.7nm,0.3s,baz=73,slon=18,SNR=49	**2.46**	**254**	Pn	**Pb**	**15 19 12.8**	**-1.3**
PETK				Sn	**Sb**	**15 19 44.0**	**-0.8**
	10nm,0.3s,baz=34,slow=20,SNR=10						
KBTR	**Krutoberegovo**	**2.47**	**16**	*e*P	**Pb**	**15 19 13.4**	**-0.9**
KBTR				*e*S	**Sb**	**15 19 43.3**	**-1.9**
MTVR	**Mutnovka**	**2.48**	**238**	*e*P	**Pb**	**15 19 12.1**	**-2.3**
GRL	**Gorelyy**	**2.50**	**240**	*e*P	**Pb**	**15 19 13.7**	**-1.0**
GRL				*e*S	**Sb**	**15 19 45.4**	**-0.5**
KLY	**Klyuchi**	**2.54**	**348**	*e*P	**Pb**	**15 19 15.0**	**-0.5**
KLY				*e*S	**Sb**	**15 19 46.4**	**-0.8**
ASAK	**Asacha**	**2.68**	**239**	*e*P	**Pb**	**15 19 15.6**	**-2.2**
ASAK				*e*S	**Sb**	**15 19 51.2**	**+0.1**
ESO	**Esso**	**2.69**	**322**	*e*P	**Pb**	**15 19 17.1**	**-0.9**
SRDR	**Sredinnyy**	**2.72**	**337**	*e*P	**Pb**	**15 19 17.7**	**-0.8**
BDR	**Baidarnaya**	**2.75**	**355**	*e*P	**Pb**	**15 19 19.5**	**+0.5**
SMKR	**Semkarok**	**2.75**	**358**	*e*P	**Pb**	**15 19 18.7**	**-0.4**
SMKR				*e*S	**Sb**	**15 19 52.9**	**-0.4**
APC	**Apacha**	**2.83**	**253**	*e*P	**Pb**	**15 19 18.4**	**-1.9**
APC				*e*S	**Sb**	**15 19 53.9**	**-1.5**
BKI	**Bering**	**2.88**	**60**	*e*S	**Sn**	**15 19 49.6**	**-1.5**
KDTR	**Khodutka, Kamc**	**2.96**	**228**	*e*S	**Sn**	**15 19 54.4**	**+1.2**
ASAJ	**Asahikawa** 0.4nm,0.3s,baz=73,slow=15,SNR=4.6	**15.79**	**240**	Pn	**P**	**15 22 14.6**	**-1.8**
TIXI	**Tiksi** comp=Z,47nm,19.4s,baz=196,slow=41	**22.80**	**334**	LR	LR	15 34 01.4	
MJAR	**Matsushiro Arr**	**23.73**	**233**	P	**P**	**15 23 44.6**	**+2.2**
	0.9nm,0.6s,baz=16,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**27.64**	**46**	P	**P**	**15 24 18.5**	**+0.8**
	0.3nm,0.8s,baz=270,slow=8.1,SNR=2.4						
MKAR	**Makanchi Array**	**48.66**	**296**	P	**P**	**15 27 12.5**	**-1.8**
	0.1nm,0.5s,baz=54,slow=7.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**59.23**	**259**	P	**P**	**15 28 33.1**	**+1.3**
	0.2nm,0.4s,baz=20,slow=5.8,SNR=1.9						
TXAR	**Lajitas Array**	**69.50**	**68**	P	**P**	**15 29 40.8**	**+1.6**
	0.3nm,0.5s,baz=288,slow=4.0,SNR=4.3						
WRA	**Warramunga Arr**	**77.15**	**206**	P	**P**	**15 30 24.9**	**+0.8**
	0.4nm,0.6s,baz=17,slow=5.8,SNR=2.6						
ASAR	**Alice Springs**	**80.82**	**206**	P	**P**	**15 30 43.8**	**-0.3**
	0.3nm,0.9s,baz=11,slow=4.3,SNR=2.2						

*MAN **01** 15:47:21.1,6˚.06N×126˚.74E,h19km,MS4.0*

*NEIC **01** 15:47:23.1±0.8,5˚.99N±0˚.10×126˚.7E±0˚.1,h66km±18km, mb4.5/11,Error ellipse: s-maj=22.9km s-min=8.1km az=56.0*

*DJA **01** 15:47:24.1±1.2,6˚.N±4˚×12˚.7E±˚,h33km±20km,M4.3/7, mB4.8/4,mb4.5/7,MLv4.3/6,Mw(mB)4.1/4*

*IDC **01** 15:47:24.2±2.4,6˚.02N×126˚.80E,h83km±19km,mb3.5/5, mb1 3.7/7,mb1mx3.4/43,mbtmp3.9/7,MS2.9/1,Ms1 2.9/1, ms1mx2.4/33,Error ellipse: s-maj=53.0km s-min=12.6km az=61.0*

ISC 01 15:47:23.40.9,**5˚.94N**±0˚.05×**126˚.65E**±0˚.07,**h72**km±10km, **n43,σ1§73/52,mb4.2/8,1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.95**	**280**	*e*P	**Pn**	**15 47 39.7**	**-1.7**
DDMP				*e*S	**Sn**	**15 47 55.4**	**+0.6**
MATI	**Mati**	**1.07**	**339**	*e*P	Pn	15 47 38.7	-4.3
DAV	**Davao City (W)**	**1.55**	**317**	P	**Pn**	**15 47 49.8**	**+0.7**
	84nm,0.3s,baz=72,slon=1.6,SNR=6.1						
DAV				S	**Sn**	**15 48 11.4**	**+2.9**
	64nm,0.3s,baz=278,slow=22,SNR=26						
DAV	**Davao City (W)**	**1.55**	**317**		**Pn**	**15 47 49.1**	**0.0**
KCP	**Kidapawan**	**1.88**	**304**	⇓*e*P	**Pn**	**15 47 52.9**	**-0.7**
KCP				*i* S	**Sn**	**15 48 16.1**	**-0.3**
SKMP	**Bagumbayan, Su**	**2.17**	**285**	*e*P	**Pn**	**15 47 56.5**	**-0.9**
SKMP				*e*S	**Sn**	**15 48 20.8**	**-2.7**
SGSI	**Sangihe**	**2.50**	**207**	P	**Pn**	**15 48 03.3**	**+1.4**
SGSI				S	**Sn**	**15 48 35.0**	**+3.5**
CGP	**Cagayan de Oro**	**3.16**	**322**	⇑*e*P	**Pn**	**15 48 12.4**	**+1.6**
CGP				*e*S	**Sn**	**15 48 49.3**	**+1.7**
BUTP	**Butuan**	**3.18**	**341**	*e*P	**Pn**	**15 48 11.0**	**-0.1**
BUTP				*e*S	Sn	15 48 56.8	+9.0
PAGZ	**Pagadian**	**3.76**	**300**	*e*P	**Pn**	**15 48 18.8**	**-0.1**
PAGZ				*e*S	**Sn**	**15 48 58.8**	**-3.2**
GLSP	**General Luna,**	**3.85**	**352**	*e*P	**Pn**	**15 48 19.1**	**-1.2**
GLSP				*e*S	**Sn**	**15 49 08.0**	**+3.6**
TNTI	**Ternate**	**5.18**	**172**		**Pn**	**15 48 38.9**	**+0.4**
TNTI	**Ternate**	**5.18**	**172**	P	**Pn**	**15 48 40.4**	**+1.9**
	0.2nm51nm,0.8s						
TNTI				S	**Sn**	**15 49 39.3**	**+2.3**
	0.2nm51nm,0.8s						
GTOI	**Gorontalo**	**6.40**	**215**	P	**Pn**	**15 48 56.8**	**+1.7**
	0.1nm248nm24nm,0.7s						
MRSI	**Marisa**	**7.18**	**221**	P	**Pn**	**15 49 09.1**	**+3.3**
	0.4nm813nm99nm,0.6s						
TOLI2	**Tolitoli**	**7.57**	**231**		**Pn**	**15 49 10.9**	**-0.2**
LUWI	**Luwuk**	**7.95**	**209**	Pn	**Pn**	**15 49 17.9**	**+1.6**
SANI	**Sanana**	**7.96**	**185**	P	**Pn**	**15 49 17.1**	**+0.6**
	499nm15nm,0.8s						
SIJI	**Sorong**	**8.19**	**146**	P	**Pn**	**15 49 19.4**	**-0.1**
	0.8nm,0.3s,baz=228,slon=23,SNR=3.5						
SIJI				S	**Sn**	**15 50 46.6**	**-3.9**
	0.3nm,0.3s,baz=210,slow=23,SNR=1.5						
NLAI	**Namlea**	**9.13**	**177**	P	**Pn**	**15 49 34.5**	**+2.1**
LQP	**Lukban**	**9.55**	**329**	*e*P	**Pn**	**15 49 41.3**	**+2.9**
FAKI	**Fak Fak**	**10.43**	**147**	Pn	**Pn**	**15 49 48.7**	**-1.4**
BKB	**Balikpapan**	**12.09**	**234**	Pn	**Pn**	**15 50 10.2**	**-2.6**
SRPI	**Serui, Papua**	**12.32**	**129**	P	P	15 50 31.7	+6.2
KAPI	**Kappang**	**12.88**	**212**	P	**Pn**	**15 50 24.8**	**+1.2**
	3.3nm,0.3s,baz=79,slow=9.7,SNR=3.9						
KAPI				LR	LR	15 56 32.3	
	comp=Z,54nm,18.3s,baz=302,slow=42						
KAPI	**Kappang**	**12.88**	**212**		**Pn**	**15 50 24.0**	**+0.4**
SOEI	**Soe**	**15.77**	**189**	P	**P**	**15 51 06.1**	**+2.2**
SOEI				IAmb	IAmb	15 51 44.2	
	comp=Z,73nm,1.7s						
JAGI	**Jajag, Banyuwa**	**18.98**	**221**	Pn	**Pn**	**15 51 42.1**	**+1.4**
JAGI				IAmb	IAmb	15 51 53.3	
	comp=Z,44nm,1.4s						
MTN	**Manton Dam**	**19.19**	**167**	P	**P**	**15 51 41.0**	**-0.5**
KNRA	**Kununurra**	**21.58**	**174**	P	**P**	**15 52 07.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.91**	**182**	P	**P**	**15 52 31.4**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=359,slow=8.1,SNR=9.2						
FITZ	**Fitzroy Crossi**	**23.91**	**182**	P	**P**	**15 52 31.1**	**+0.4**
FITZ				IAmb	IAmb	15 53 08.1	
	comp=Z,37nm,1.9s						
WB0	**Warramunga Arr**	**26.66**	**164**	P	**P**	**15 52 55.1**	**-0.5**
WB0				IAmb	IAmb	15 53 39.1	
	comp=Z,20nm,1.6s						
WRA	**Warramunga Arr**	**26.81**	**164**	P	**P**	**15 52 58.2**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=342,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**26.81**	**164**	P	**P**	**15 52 56.5**	**-0.5**
WB2	**Warramunga Arr**	**26.81**	**164**	P	**P**	**15 52 56.5**	**-0.6**
WB2				IAmb	IAmb	15 53 47.4	
	comp=Z,29nm,1.9s						
WR0	**Warramunga Arr**	**26.88**	**163**	P	**P**	**15 52 57.4**	**-0.3**
WR0				IAmb	IAmb	15 53 49.2	
	comp=Z,32nm,1.9s						
ASAR	**Alice Springs**	**30.27**	**167**	P	**P**	**15 53 27.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=346,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**15 56 27.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=346,slow=2.5,SNR=6.7						
FORT	**Forrest**	**36.54**	**178**	P	**P**	**15 54 21.9**	**-0.2**
STKA	**Stephens Creek**	**40.22**	**160**	P	**P**	**15 54 52.8**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=4.3,slow=7.4,SNR=5.2						
STKA	**Stephens Creek**	**40.22**	**160**	IAmb	IAmb	15 55 17.6	
	comp=Z,6.3nm,1.9s						
MKAR	**Makanchi Array**	**55.71**	**324**	P	**P**	**15 56 51.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=116,slow=8.2,SNR=6.8						
MKAR				PcP	**PcP**	**15 57 51.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=112,slow=4.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**122.14**	**289**	PKP	**PKPdf**	**16 06 09.5**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=60,slow=3.1,SNR=2.9						

*IDC **01** 15:51:35.4±0.6,39˚.84N×143˚.24E,h0km,mb4.1/21, mb1 4.2/24,mb1mx4.1/43,mbtmp4.1/24,ML3.9/3,MS3.6/13, Ms1 3.6/13,ms1mx3.3/43,Error ellipse: s-maj=19.8km s-min=12.3km az=91.0*

*NIED **01** 15:51:37.2,39˚.91N×143˚.34E,h19km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.55; Mθθ-0.10; Mφφ-1.45; Mrθ0.99; Mθφ-0.80; Mφr1.57; Fault plane solution: M0 2.51000×10^15^ NP1:φs31.00000°, δ69.00000°,λ,95.00000°. NP2:φs197.00000°,δ22.00000°, λ,78.00000°.*

*JMA **01** 15:51:37.2±0.3,39˚.91N×143˚.34E,h19km±5km,M4.4*

*MOS **01** 15:51:37.9±1.0,39˚.91N×143˚.30E,h27km,mb4.6/23, MS4.0/4,Error ellipse: s-maj=8.3km s-min=5.0km az=97.9*

*NEIC **01** 15:51:38.9±1.4,39˚.82N±0˚.06×143˚.3E±0˚.1,h22km±4km, mb4.6/52,Error ellipse: s-maj=12.2km s-min=7.5km az=112.0*

ISC 01 15:51:35.0±1.3,**39˚.83N**±0˚.04×**143˚.43E**±0˚.04,**h1**km±7km, **n200,σ1§48/207,mb4.4/61,MS3.9/16,10C-10D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.21**	**276**	P	**Pg**	**15 51 57.8**	**-0.8**
JTH				*e*S	**Sg**	**15 52 13.1**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.27**	**259**	P	**Pg**	**15 51 59.3**	**0.0**
MIYJ				*e*S	**Sg**	**15 52 15.7**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.38**	**286**	P	**Pn**	**15 51 59.8**	**-1.5**
JANG	**Nango**	**1.57**	**291**	P	**Pn**	**15 52 03.0**	**-0.9**
JOM	**Ohasama**	**1.69**	**258**	P	**Pb**	**15 52 06.3**	**-0.6**
JMK	**Ichinoseki**	**1.93**	**244**	P	**Pn**	**15 52 09.3**	**+0.4**
JMK				*e*S	**Sn**	**15 52 32.5**	**-1.2**
JTM	**Tenmabayashi**	**2.04**	**299**	P	**Pn**	**15 52 10.6**	**+0.1**
JTM	**Tenmabayashi**	**2.04**	**299**	Pn	**Pn**	**15 52 10.6**	**+0.1**
JIO	**Ouri**	**2.13**	**230**	P	**Pn**	**15 52 11.6**	**0.0**
JIO				*e*S	**Sn**	**15 52 36.5**	**-2.1**
JAH	**Hinai**	**2.18**	**280**	P	**Pn**	**15 52 13.0**	**+0.7**
ERM	**Erimo**	**2.19**	**355**	⇓*e*P	**Pn**	**15 52 13.6**	**+1.1**
ERM	**Erimo**	**2.19**	**355**	Pn	**Pn**	**15 52 13.4**	**+0.9**
JEM	**Erimo**	**2.19**	**355**	P	**Pn**	**15 52 13.7**	**+1.2**
JEM	**Erimo**	**2.19**	**355**	Pn	**Sg**	**15 52 43.8**	**-1.6**
JOT	**Ohata**	**2.39**	**311**	P	**Pn**	**15 52 15.0**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.50**	**348**	P	**Pn**	**15 52 17.9**	**+1.2**
JNBK				*e*S	**Sn**	**15 52 47.6**	**-0.2**
JYK	**Kaneyama**	**2.55**	**250**	P	**Pn**	**15 52 18.4**	**+0.9**
JKB	**Kayabe**	**2.75**	**319**	P	**Pn**	**15 52 21.0**	**+0.9**
JKB				*e*S	**Sn**	**15 52 53.6**	**-0.3**
JCH	**Churui**	**2.78**	**359**	P	**Pn**	**15 52 21.0**	**+0.4**
JCH				*e*S	**Sn**	**15 52 52.1**	**-2.7**
JMM	**Marumori**	**2.85**	**227**		**Pn**	**15 52 21.2**	**-0.4**
JEW	**Eniwo**	**3.36**	**334**		**Pn**	**15 52 30.0**	**+1.5**
NMR	**Nemuro--Hokkai**	**3.93**	**25**	⇓*i*P	**Pn**	**15 52 36.4**	**0.0**
NMR				*i* S	**Sn**	**15 53 18.5**	**-4.6**
GLVR	**Golovnino**	**4.20**	**21**	*e*P	**Pn**	**15 52 41.3**	**+1.2**
GLVR				*e*S	**Sn**	**15 53 26.1**	**-3.7**
GLVR				pmax	pmax		
	comp=Z,213nm,0.5s						
GLVR				smax	smax		
	comp=E,3μm,0.4s						
GLVR				smax	smax		
	comp=N,1μm,0.5s						
JKA	**Kamikawa-asahi**	**4.33**	**352**	Pn	**Pn**	**15 52 43.3**	**+1.5**
ASAJ	**Asahikawa**	**4.33**	**352**	Pn	**Pn**	**15 52 43.4**	**+1.6**
	comp=N,5.4nm,0.3s,baz=202,slow=11,SNR=56						
ASAJ				Sn	**Sn**	**15 53 33.1**	**+0.2**
	comp=N,2.9nm,0.3s,baz=75,slow=5.0,SNR=3.9						
JSD	**Sado**	**4.42**	**248**	Pn	**Pn**	**15 52 43.3**	**+0.2**
JYT	**Yasato**	**4.42**	**216**	Pn	**Pn**	**15 52 41.5**	**-1.6**
RUSJ	**Misakicho**	**4.48**	**17**	*e*P	**Pn**	**15 52 44.9**	**+1.0**
RUSJ				*e*S	**Sn**	**15 53 34.9**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**4.57**	**23**	*e*P	**Pn**	**15 52 44.9**	**-0.3**
YUK				*e*S	**Sn**	**15 53 33.6**	**-5.4**
YUK				pmax	pmax		
	comp=Z,269nm,1.5s						
YUK				pmax	pmax		
	comp=Z,216nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,690nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**5.24**	**233**	*e*P	**Pn**	**15 52 56.8**	**+2.3**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**5.27**	**233**	P	**Pn**	**15 52 56.7**	**+1.9**
MAJO	**Matsushiro**	**5.27**	**233**	Pn	**Pn**	**15 52 56.7**	**+1.9**
MJAR	**Matsushiro Arr**	**5.27**	**233**	Pn	**Pn**	**15 52 56.3**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=42,slow=12,SNR=65						
MJAR				LR	LR	15 55 09.6	
	comp=Z,272nm,20.2s,baz=55,slow=42						
MJB9	**Matsu-Tunnel**	**5.27**	**233**		**Pn**	**15 52 55.8**	**+0.9**
MAT	**Matsushiro**	**5.27**	**233**	P	**Pn**	**15 52 56.8**	**+2.0**
MAT				*e*S	**Sn**	**15 53 55.5**	**-0.7**
KUR	**Kuril'sk**	**6.31**	**30**	*e*P	**Pn**	**15 53 10.8**	**+1.7**
KUR				*e*S	**Sn**	**15 54 17.8**	**-4.0**
KUR				pmax	pmax		
	comp=Z,62nm,0.7s						
KUR				pmax	pmax		
	comp=N,20nm,0.3s						
KUR				pmax	pmax		
	comp=E,18nm,0.5s						
KUR				smax	smax		
	comp=N,175nm,0.3s						
KUR				smax	smax		
	comp=E,100nm,0.2s						
JGF	**Kuroka**	**6.41**	**231**		**Pn**	**15 53 11.3**	**+0.8**
JSG	**Sagara**	**6.63**	**221**	Pn	**Pn**	**15 53 14.5**	**+1.0**
INU	**Inuyama**	**6.78**	**231**	Pn	**Pn**	**15 53 16.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**7.14**	**356**	*e*P	**Pn**	**15 53 23.7**	**+3.3**
YSS				*e*		15 54 45.4	
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.14**	**356**	Pn	**Pn**	**15 53 21.7**	**+1.3**
JHJ2	**Mitsune**	**7.31**	**205**	Pn	**Pn**	**15 53 22.6**	**-0.3**
JHJ	**Hachijo jima 2**	**7.32**	**205**	Pn	**Pn**	**15 53 22.4**	**-0.5**
	comp=N,18nm,0.3s,baz=353,slow=20,SNR=16						
JHJ				Sn	**Sn**	**15 54 38.2**	**-8.4**
	comp=N,9.3nm,0.3s,baz=67,slow=23,SNR=1.3						
JWT	**Wachi**	**7.83**	**237**	Pn	**Pn**	**15 53 31.4**	**+1.5**
JHS	**Saijyo**	**9.52**	**243**	Pn	**Pn**	**15 53 53.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**9.57**	**301**	P	**Pn**	**15 53 55.3**	**+1.5**
USA0B	**Ussuriysk Arra**	**9.57**	**

YULB IAmb IAmb 15 57 21.4
comp=Z,11nm,1.0s
WHN Wuhan 25.42 258 ⇓P **P** **15 57 04.0 -0.1**
WHN S S 16 01 51.6 +20
WHN pmax pmax
comp=Z,40nm,0.6s
WHN L L
comp=Z,630nm,17.2s
WHN L L
comp=Z,250nm,15.2s
WHN L L
comp=Z,310nm,16.6s
ULN Ulaanbaatar 27.24 299*c i*P **P** **15 57 20.5 -0.1**
ULN pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 27.24 299 P **P** **15 57 18.6 -2.0**
ULN IAmb IAmb 15 57 21.7
comp=Z,8.8nm,1.1s
SONM Songino Array 27.68 299 P **P** **15 57 24.5 0.0**
comp=Z,5.0nm,0.8s,baz=97,slow=8.8,SNR=26
SONM LR LR 16 09 00.7
comp=Z,242nm,18.3s,baz=99,slow=38
SONM Songino Array 27.68 299 P **P** **15 57 24.2 -0.3**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 27.68 299 P **P** **15 57 24.2 -0.3**
XAN Xi'an 28.07 269 P **P** **15 57 26.0 -2.0**
XAN pP pwP 15 57 34.9 +4.3
XAN S **S** **16 02 19.0 +5.3**
XAN pmax pmax
comp=Z,5.0nm,1.0s
XAN pmax pmax
comp=Z,99nm,4.4s
XAN L L
comp=Z,110nm,17.4s
XAN L L
comp=Z,260nm,16.3s
XAN L L
comp=Z,190nm,17.4s
H11N2 WAKE ISLAND Hy 28.42 128 T T 16 27 27.3
baz=318,slow=75,SNR=291
H11N1 WAKE ISLAND Hy 28.43 128 T T 16 27 27.3
baz=318,slow=75,SNR=188
H11N3 WAKE ISLAND Hy 28.43 128 T T 16 27 27.3
baz=318,slow=75,SNR=267
ENH Enshi 29.23 262 P **P** **15 57 37.0 -1.4**
H11S1 WAKE ISLAND Hy 29.24 130 T T 16 28 33.2
baz=322,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 29.24 130 T T 16 28 34.4
baz=322,slow=76,SNR=28
H11S2 WAKE ISLAND Hy 29.26 130 T T 16 28 35.4
baz=322,slow=76,SNR=22
TLY Talaya 29.81 307 P **P** **15 57 43.2 -0.1**
comp=Z,1.3nm,0.4s,baz=150,slow=4.7,SNR=4.1
TLY Talaya 29.81 307 *eP* **P** **15 57 44.3 +1.0**
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,356nm,16.0s
TLY Talaya 29.81 307 P **P** **15 57 43.2 -0.1**
ZAK Zakamensk 29.90 304 *eP* **P** **15 57 43.3 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
LZH Lanzhou 31.26 276 *eP* **P** **15 57 56.4 0.0**
LZH pP pwP 15 58 01.7 +2.7
LZH pmax pmax
comp=Z,21nm,1.3s
TIXI Tiksi 32.73 352 P **P** **15 58 06.9 -1.8**
comp=Z,0.4nm,0.3s,baz=134,slow=13,SNR=2.0
TIXI Tiksi 32.73 352⇓ *eP* **P** **15 58 09.0 +0.3**
GYA Guiyang 33.31 258 ⇓P **P** **15 58 14.0 -0.5**
GYA pP pwP 15 58 23.3 +6.3
GYA pmax pmax
comp=Z,2.0nm,0.9s
GTA Gaotai 33.35 284 ⇑P **P** **15 58 14.8 +0.1**
GTA pP pwP 15 58 24.4 +7.5
GTA sP sP 15 58 27.8 +13
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,82nm,6.2s
GTA L L
comp=Z,82nm,16.7s
GTA L L
comp=Z,240nm,16.0s
GTA L L
comp=Z,240nm,17.8s
QIZ Qiongzhong 35.55 244 P **P** **15 58 33.2 -0.6**
QIZ S **S** **16 04 06.7 -3.7**
QIZ pmax pmax
comp=Z,16nm,1.8s
QIZ L L
comp=Z,120nm,17.7s
QIZ L L
comp=Z,180nm,17.6s
QIZ L L
comp=Z,140nm,16.7s
KMI Kunming 37.00 259 ⇑P **P** **15 58 45.7 -0.7**
KMI pP pwP 15 58 56.4 +7.4
KMI sP sP 15 58 59.8 +14
KMI pmax pmax
comp=Z,13nm,1.4s
KMI L L
comp=Z,140nm,16.7s
KMI L L
comp=Z,130nm,14.6s
KMI L L
comp=Z,180nm,14.2s
DGZ Jazzator, Alta 40.11 303*c i*P **P** **15 59 13.1 +0.9**
DGZ pmax pmax
comp=Z,11nm,0.7s
WMQ Urumqi 41.06 294 *eP* **P** **15 59 22.2 +2.2**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,160nm,3.9s
ZAA0 Zalesovo Array 41.27 310 P **P** **15 59 21.1 -0.3**
ZAA0 IAmb IAmb 15 59 22.2
comp=Z,9.0nm,0.5s
ZALV Zalesovo Beam 41.27 310 P **P** **15 59 20.9 -0.5**
comp=Z,8.5nm,0.4s,baz=94,slow=8.4,SNR=37
ZALV PcP **PcP** **16 01 20.2 +0.1**
comp=Z,1.3nm,0.5s,baz=66,slow=2.9,SNR=3.8
ZALV Zalesovo Beam 41.27 310 *eP* **P** **15 59 21.7 +0.2**
ZALV pmax pmax
comp=Z,9.0nm,0.4s
NRIK Noril'sk 41.43 334⇓ *iP* **P** **15 59 22.9 +0.3**
NRIK pmax pmax
comp=Z,8.0nm,2.0s
IMAR Indian Mountai 43.44 32 P **P** **15 59 41.3 +2.3**
CHTO Chiang Mai 43.54 254 P **P** **15 59 40.1 -0.3**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 43.54 254 P **P** **15 59 40.1 -0.3**
RSO Redoubt South 43.73 40 P **P** **15 59 45.3 +3.6**
CMAR Chiang Mai Arr 43.77 254 P **P** **15 59 41.8 -0.4**
comp=Z,0.8nm,0.4s,baz=47,slow=6.5,SNR=10
CMAR LR LR 16 17 36.2
comp=Z,25nm,18.2s,baz=180,slow=36
CMAR Chiang Mai Arr 43.77 254 *eP* **P** **15 59 42.7 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 43.77 254 P **P** **15 59 42.2 0.0**
MK31 Makanchi Array 44.04 300 P **P** **15 59 43.5 -0.6**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 44.04 300 P **P** **15 59 43.5 -0.6**
MK31 IAmb IAmb 15 59 44.9
comp=Z,3.7nm,0.7s
MKAR Makanchi Array 44.04 300 P **P** **15 59 44.0 -0.2**
comp=Z,5.2nm,0.8s,baz=84,slow=9.6,SNR=35
MKAR Makanchi Array 44.04 300 P **P** **15 59 43.6 -0.6**
MAKZ Makanchi 44.24 300 P **P** **15 59 45.3 -0.5**
MAKZ pmax pmax
comp=Z,6.0nm,1.1s
MAKZ Makanchi 44.24 300 P **P** **15 59 45.3 -0.5**
MAKZ IAmb IAmb 15 59 46.7
comp=Z,6.1nm,1.1s
BWN Browne 45.19 35 P **P** **15 59 55.2 +2.2**
BWN IAmb IAmb 15 59 57.6
comp=Z,20nm,1.3s
ILAR Eielson Array 46.29 34 P **P** **16 00 03.0 +1.3**
comp=Z,0.9nm,0.8s,baz=265,slow=6.0,SNR=7.0
ILAR Eielson Array 46.29 34 P **P** **16 00 02.4 +0.7**
DOT Dot Lake 47.60 35 P **P** **16 00 13.2 +1.1**
SCRK Sand Creek 47.60 35 P **P** **16 00 13.2 +1.0**

BCAR Beaver Creek A 48.70 36 P **P** **16 00 22.6 +2.0**
BRVK Borovoye 49.95 311 P **P** **16 00 30.0 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 49.95 311 P **P** **16 00 30.0 -0.2**
BRVK IAmb IAmb 16 00 31.4
comp=Z,5.5nm,0.8s
HYT Haines Junctio 51.12 38 P **P** **16 00 41.5 +2.5**
KK31 Karatay Array 53.13 299 P **P** **16 00 53.1 -1.1**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 53.13 299 P **P** **16 00 53.1 -1.1**
KK31 IAmb IAmb 16 00 54.6
comp=Z,3.7nm,0.8s
KKAR Karatay Array 53.13 299 P **P** **16 00 53.2 -1.0**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 53.13 299 P **P** **16 00 53.2 -1.0**
KKAR IAmb IAmb 16 00 54.6
comp=Z,3.7nm,0.8s
HLK Haleakala 54.43 92 P **P** **16 01 05.0 +0.7**
GAR Garm 54.96 294 P **P** **16 01 07.3 -0.5**
GAR IAmb IAmb 16 01 24.9
comp=Z,9.9nm,1.2s
ARU Arti 55.34 318*d i*P **P** **16 01 09.9 -0.1**
ARU 16 03 13.8
ARU S **S** **16 08 54.8 -0.1**
ARU SS **SS** **16 12 39.5 +0.9**
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU MLR MLR
comp=Z,150nm,14.0s
ARU Arti 55.34 318 P **P** **16 01 09.4 -0.6**
ARU IAmb IAmb 16 01 11.2
comp=Z,4.9nm,0.9s
CHGR Chuyangaron 55.92 295 P **P** **16 01 13.5 -1.2**
EUNU Eureka 57.18 9 P **P** **16 01 23.4 +0.4**
EUNU IAmb IAmb 16 01 41.6
comp=Z,5.3nm,1.4s
ABKAR Akbulak array 57.37 309 P **P** **16 01 24.1 -0.6**
ABKAR Akbulak array 57.37 309 P **P** **16 01 24.3 -0.4**
ABKAR IAmb IAmb 16 01 25.4
comp=Z,5.3nm,0.7s
KBL Kabul 57.92 290 P **P** **16 01 27.1 -1.9**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 57.92 290 P **P** **16 01 27.1 -1.9**
KBL IAmb IAmb 16 01 29.3
comp=Z,8.6nm,0.9s
KIRV Kirov 58.99 322⇓ *eP* **P** **16 01 36.2 +0.4**
WB0 Warramunga Arr 59.89 190 P **P** **16 01 42.6 +0.2**
WB0 IAmb IAmb 16 01 52.2
comp=Z,11nm,1.4s
FITZ Fitzroy Crossi 59.98 200 P **P** **16 01 43.5 +0.5**
comp=Z,2.0nm,1.0s,baz=74,slow=4.4,SNR=2.0
WR0 Warramunga Arr 60.06 190 P **P** **16 01 43.1 -0.5**
WR0 IAmb IAmb 16 01 53.2
comp=Z,11nm,1.4s
WB2 Warramunga Arr 60.06 190 P **P** **16 01 43.4 -0.2**
WB2 IAmb IAmb 16 02 02.0
comp=Z,6.9nm,1.1s
WRA Warramunga Arr 60.07 190 P **P** **16 01 43.6 -0.1**
comp=Z,1.4nm,0.7s,baz=7.5,slow=6.9,SNR=16
WRA Warramunga Arr 60.07 190 *eP* **P** **16 01 44.1 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 60.07 190 P **P** **16 01 43.5 -0.1**
ARCES ARCESS Array B 61.94 339 LR LR 16 31 17.6
comp=Z,59nm,18.8s,baz=205,slow=38
BELG Belogornoye 62.84 317*c i*P **P** **16 02 02.2 +0.1**
BELG pmax pmax
comp=Z,3.0nm,0.8s
AS31 Alice Springs 63.79 190 P **P** **16 02 09.1 +0.4**
ASAR Alice Springs 63.79 190 P **P** **16 02 09.1 +0.4**
comp=Z,0.6nm,0.6s,baz=360,slow=5.5,SNR=13
ASAR Alice Springs 63.79 190 P **P** **16 02 09.4 +0.7**
ASAR Alice Springs 63.79 190 P **P** **16 02 09.3 +0.7**
GEYT Alibeck 63.88 299 LR LR 16 31 50.5
comp=Z,60nm,18.1s,baz=200,slow=38
DZM Mont Dzumac 65.22 156 LR LR 16 27 55.4
comp=Z,51nm,20.1s,baz=356,slow=33
MSVF Nonsavu 65.74 144 LR LR 16 23 52.1
comp=Z,24nm,21.6s,baz=175,slow=29
FIA1 FINESS Array S 67.08 332 P **P** **16 02 29.7 +0.2**
FINES FINESS Array B 67.08 332 P **P** **16 02 29.8 +0.3**
comp=Z,3.0nm,0.7s,baz=58,slow=4.7,SNR=7.7
FINES FINESS Array B 67.08 332 P **P** **16 02 29.4 -0.1**
SUMG Summit 67.88 1 P **P** **16 02 35.7 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,1.3s
SUMG Summit 67.88 1 P **P** **16 02 35.7 +0.7**
SUMG IAmb IAmb 16 02 45.2
comp=Z,9.9nm,1.3s
KIV Kislovodsk 70.27 311 *eP* **P** **16 02 51.1 +1.2**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,182nm,18.0s
KIV Kislovodsk 70.27 311 P **P** **16 02 50.8 +0.9**
STKA Stephens Creek 71.37 182 P **P** **16 02 56.9 +0.6**
comp=Z,1.0nm,0.7s,baz=330,slow=8.1,SNR=1.9
PABE Paberze 71.99 329 P **P** **16 03 00.1 +0.2**
PABE IAmb IAmb 16 03 01.0
comp=Z,9.0nm,0.7s
NC405 NORSAR Array S 72.01 338 P **P** **16 03 00.1 +0.1**
NVAR Mina Array Bea 72.06 55 P **P** **16 03 03.0 +2.0**
comp=Z,0.2nm,0.5s,baz=279,slow=8.1,SNR=2.0
NC204 NORSAR Array S 72.15 338 P **P** **16 03 01.3 +0.3**
NB201 NORSAR Array S 72.18 338 P **P** **16 03 01.3 +0.2**
NOA NORSAR Array B 72.21 338 P **P** **16 03 01.5 +0.2**
comp=Z,2.0nm,0.7s,baz=39,slow=5.9,SNR=5.1
NOA LR LR 16 38 45.8
comp=Z,43nm,18.2s,baz=45,slow=39
NBO00 NORSAR Array S 72.35 338 P **P** **16 03 02.8 +0.8**
UOSS Minazif 72.46 288 P **P** **16 03 03.2 -0.1**
UOSS IAmb IAmb 16 03 15.1
comp=Z,5.6nm,1.0s
AKASG Malin Array Be 73.05 323 P **P** **16 03 05.8 -0.6**
comp=Z,1.2nm,0.5s,baz=44,slow=6.1,SNR=6.4
AKASG Malin Array Be 73.05 323*c e*P **P** **16 03 06.1 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.05 323 IAmb IAmb 16 03 07.3
comp=Z,2.6nm,1.5s
AKBB Malin Array Si 73.05 323⇑ *eP* **P** **16 03 06.0 -0.4**
AKBB pmax pmax
comp=Z,3.0nm,1.0s
MORW Morawa 73.13 205 P **P** **16 03 06.8 -0.2**
TOO Toolangi 77.05 178 P **P** **16 03 30.0 +0.5**
TOO pmax pmax
comp=Z,18nm,1.3s
TOO Toolangi 77.05 178 P **P** **16 03 30.0 +0.5**
BUR08 Bucovina Ar. S 77.07 322 P **P** **16 03 30.4 +0.5**
BURAR Bucovina Array 77.09 322 P **P** **16 03 30.4 +0.5**
BR131 Keskin Array S 78.17 312⇓ *eP* **P** **16 03 35.9 -0.2**
BRTR Keskin Array B 78.17 312 P **P** **16 03 35.9 -0.2**
comp=Z,0.7nm,0.7s,baz=83,slow=3.9,SNR=4.9
BRTR Keskin Array B 78.17 312 P **P** **16 03 36.7 +0.5**
BRTR Keskin Array B 78.17 312 P **P** **16 03 36.6 +0.5**
MORC Moravsky Berou 78.87 328 P **P** **16 03 39.8 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 78.87 328 P **P** **16 03 39.8 +0.1**
MORC IAmb IAmb 16 03 41.4
comp=Z,3.4nm,0.9s
KRLC Kraliky 78.94 328 *eP* **P** **16 03 41.0 +0.9**
KRLC Kraliky 78.94 328 *eP* **P** **16 03 41.0 +0.9**
CLL Collm 79.44 331 *eP* **P** **16 03 43.0 +0.3**
CLL Collm 79.44 331 *eP* **P** **16 03 43.0 +0.3**
X18A Snowflake 79.73 54 P **P** **16 03 45.7 +0.8**
X18A IAmb IAmb 16 03 46.9
comp=Z,2.4nm,0.6s
KHC Kasperske Hory 80.97 329 *eP* **P** **16 03 52.0 +0.9**
KHC Kasperske Hory 80.97 329 *eP* **P** **16 03 52.0 +0.9**
GERES GERESS Array B 81.15 329 P **P** **16 03 52.4 +0.3**
comp=Z,0.6nm,0.6s,baz=32,slow=6.3,SNR=4.8
VTS Vitosha 81.69 320 P **P** **16 03 55.6 +0.4**
VTS pmax pmax
comp=Z,3.0nm,0.8s
VTS Vitosha 81.69 320 P **P** **16 03 55.6 +0.4**
VTS IAmb IAmb 16 03 57.0
comp=Z,3.4nm,0.8s
TXAR Lajitas Array 87.17 54 P **P** **16 04 25.3 +2.1**
comp=Z,0.2nm,0.3s,baz=307,slow=3.3,SNR=2.0
O53A New Philadelph 90.50 33 P **P** **16 04 38.6 +0.1**

ESDC Sonseca Array 95.45 335 LR LR 16 53 43.7
comp=Z,57nm,18.4s,baz=65,slow=39
LPAZ La Paz 143.90 59 PKP **PKPdf** **16 11 13.8 +0.5**
comp=Z,0.3nm,0.4s,baz=317,slow=5.3,SNR=1.7

KMA 01 16:01:29.2±0.6, 36.76N×129.96E, h18km±3km, Error ellipse: s-maj=5.4km s-min=2.1km az=79.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSULJ	**Uljin**	**0.45**	**263**	P	Pg	16 01 38.4	+0.1
	SNR=138						
KSULJ	**Uljin**	**0.45**	**263**	P	Pg	16 01 38.4	+0.1
	SNR=138						
KSULJ				S	Sb	16 01 44.8	0.0
KSYOD	**Yeongdeok**	**0.52**	**240**	P	Pg	16 01 39.2	-0.4
	SNR=107						
KSYOD	**Yeongdeok**	**0.52**	**240**	P	Pg	16 01 39.2	-0.4
	SNR=107						
IMWB	**Imwonan-gil**	**0.69**	**314**	P	Pb	16 01 42.6	-0.1
	SNR=72						
IMWB				S	Sg	16 01 52.2	+0.3
IMWB	**Imwonan-gil**	**0.69**	**314**	P	Pb	16 01 42.6	-0.1
	SNR=72						
IMWB				S	Sg	16 01 52.1	+0.2
KSPHA	**Pohang**	**0.74**	**220**	P	Pb	16 01 43.3	-0.2
	SNR=37						
KSPHA	**Pohang**	**0.74**	**220**	P	Pb	16 01 43.3	-0.2
	SNR=37						
KSADO	**Andong**	**0.88**	**247**	P	Pb	16 01 46.1	+0.1
	SNR=11						
KSADO	**Andong**	**0.88**	**247**	P	Pb	16 01 46.1	+0.1
	SNR=11						
KSTBA	**Taebaek**	**0.88**	**294**	P	Pb	16 01 46.2	+0.2
	SNR=35						
KSTBA	**Taebaek**	**0.88**	**294**	P	Pb	16 01 46.2	+0.2
	SNR=35						
KSYOC	**YEONGCHEON**	**1.13**	**226**	P	Pn	16 01 50.1	0.0
	SNR=6.4						
KSUSN	**Ulsan**	**1.25**	**213**	P	Pb	16 01 52.1	-0.2
	SNR=19						
KSDAG	**Daegu**	**1.31**	**221**	P	Pn	16 01 52.6	0.0
	SNR=30						
KSDAG	**Daegu**	**1.31**	**221**	P	Pn	16 01 52.6	0.0
	SNR=30						

*NAO **01** 16:05:40.8±8.0, 79.39N×3.43E, h5km±64km, ML3.1*
*IDC **01** 16:05:42.1±0.7, 79.28N×3.36E, h0km, mb3.7/11,*
mb1 3.9/15, mb1mx3.6/52, mbtmp3.8/15, ML3.2/4, MS3.2/13,
Ms1 3.3/13, ms1mx3.0/50, Error ellipse: s-maj=23.1km
s-min=13.9km az=38.0
*DNK **01** 16:05:43.0±6.7, 79.51N×2.48E, h35km±88km, ML2.2*
*NEIC **01** 16:05:43.7±3.0, 79.3N±0.1×3.4E±0.4, h10km±1km,*
mb4.0/8, Error ellipse: s-maj=17.4km s-min=13.8km
az=13.0
*BER **01** 16:05:43.4±4.0, 79.37N×3.84E, h12km±30km, ML2.5,*
ML3.2(DNK), Confirmed Earthquake
*IEPN **01** 16:05:44.0, 79.12N×3.86E, h10km*
ISC 01 16:05:43.1±0.5, 79.29N±0.05×3.59E±0.05, h16km, n78,
σ2.968/85, mb3.7/14, MS3.3/9, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.63**	**99**	*i* P	**Pn**	**16 06 09.5**	**-1.6**
KBS	**Kingsbay**	**1.63**	**99**	Pn	**Pn**	**16 06 09.7**	**-1.4**
KBS				Lg	Lg	16 06 27.2	
KBS	**Kingsbay**	**1.63**	**99**	*eP*	**Pn**	**16 06 09.6**	**-1.4**
KBS				*eS*	**Sn**	**16 06 27.9**	**-3.7**
KBS				IAML		16 06 42.4	
	comp=Z,79nm,0.7s						
KBS	**Kingsbay**	**1.63**	**99**	Pn	**Pn**	**16 06 09.4**	**-1.6**
KBS	**Kingsbay**	**1.63**	**99**	⇑*iP*	**Pn**	**16 06 09.4**	**-1.6**
KBS				*eS*	**Sn**	**16 06 27.1**	**-4.5**
BRBA	**Barentsburg A**	**2.43**	**115**	Pn	**Pn**	**16 06 22.1**	**0.0**
BRBA				Sn	**Sn**	**16 06 50.0**	**-1.4**
BRBA	**Barentsburg A**	**2.43**	**115**	Pn	**Pn**	**16 06 22.1**	**0.0**
BRBA				Sn	**Sn**	**16 06 50.0**	**-1.4**
SPA0	**Spitsbergen Ar**	**2.74**	**108**	Pn	**Pn**	**16 06 26.0**	**-0.3**
	baz=309,slow=12						
SPA0				Sn	**Sn**	**16 06 56.7**	**-2.4**
	baz=297,slow=12						
SPA0	**Spitsbergen Ar**	**2.74**	**108**	Pn	**Pn**	**16 06 26.0**	**-0.3**
	baz=309,slow=12						
SPA0				Sn	**Sn**	**16 06 56.7**	**-2.4**
	baz=297,slow=12						
SPA0				IAML		16 07 10.4	
	comp=Z,54nm,0.8s						
HSPB	**Hornsund (broa**	**3.36**	**127**	Pn	**Pn**	**16 06 33.7**	**-1.1**
HSPB				Sn	**Sn**	**16 07 09.2**	**-5.1**
HSPB	**Hornsund (broa**	**3.36**	**127**	*eP*	**Pn**	**16 06 34.0**	**-0.8**
HSPB				*eS*	**Sn**	**16 07 10.1**	**-4.2**
HSPB				IAML		16 07 16.2	
	comp=Z,26nm,0.6s						
HSPB	**Hornsund (broa**	**3.36**	**127**	*eP*	**Pn**	**16 06 33.5**	**-1.3**
HSPB				*eS*	**Sn**	**16 07 10.3**	**-4.0**
NOR	**Nord**	**4.08**	**314**	*i* P	**Pn**	**16 06 41.8**	**-2.8**
NOR	**Nord**	**4.08**	**314**	Pn	**Pn**	**16 06 42.5**	**-2.2**
NOR	**Nord**	**4.08**	**314**	*i* P	**Pn**	**16 06 42.7**	**-1.9**
NOR				*eS*	**Sn**	**16 07 28.3**	**-3.6**
DAG	**Danmarks Havn**	**5.24**	**253**	*e*	**Pn**	**16 06 57.9**	**-2.8**
	baz=59,slow=16						
DAG				*i* P	**Pn**	**16 06 58.0**	**-2.6**
DAG				*i* S	**Sn**	**16 07 52.6**	**-8.0**
DAG				IAML		16 07 53.8	
	comp=Z,14nm,0.4s						
DAG	**Danmarks Havn**	**5.24**	**253**	*e*	**Pn**	**16 06 57.9**	**-2.8**
	baz=59,slow=16						
DAG				*i* P	**Pn**	**16 06 58.6**	**-2.1**
DAG				IAML		16 07 53.8	
	comp=Z,14nm,0.4s						
HOPEN	**Hopen**	**5.27**	**111**	Pn	**Pn**	**16 06 59.9**	**-1.0**
HOPEN				Sn	**Sn**	**16 07 56.0**	**-5.2**
HOPEN	**Hopen**	**5.27**	**111**	*eP*	**Pn**	**16 07 00.6**	**-0.4**
HOPEN				*eS*	**Sn**	**16 07 56.1**	**-5.0**
HOPEN				IAML		16 07 59.5	
	comp=Z,15nm,0.4s						
HOPEN	**Hopen**	**5.27**	**111**	*eP*	**Pn**	**16 06 59.5**	**-1.5**
HOPEN				*eS*	**Sn**	**16 07 55.8**	**-5.4**
BJO1	**Bjornoya**	**5.92**	**136**	Pn	**Pn**	**16 07 08.7**	**-1.2**
BJO1	**Bjornoya**	**5.92**	**136**	Pn	**Pn**	**16 07 08.7**	**-1.2**
BJO1	**Bjornoya**	**5.92**	**136**	*eP*	**Pn**	**16 07 08.7**	**-1.2**
BJO1				S	**Sn**	**16 08 12.0**	**-5.3**
DBG	**Daneborg**	**7.32**	**240**	*i* P	**Pn**	**16 07 27.2**	**-2.0**
DBG				*i* S	Sn	16 08 41.6	-10
DBG				IAML		16 08 50.3	
	comp=Z,6.4nm,0.4s						
DBG	**Daneborg**	**7.32**	**240**	Pn	**Pn**	**16 07 27.3**	**-1.9**
DBG				Sn	Sn	16 08 41.6	-10
DBG	**Daneborg**	**7.32**	**240**	*i* P	**Pn**	**16 07 27.6**	**-1.5**
DBG				IAML		16 08 50.3	
	comp=Z,6.4nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.62**	**58**	*eP*	**Pn**	**16 07 32.1**	**-1.1**
ZFI2				*eS*	**Sn**	**16 08 52.0**	**-7.0**
	comp=Z,7.0nm,1.3s						
NEEM	**North Greenlan**	**10.82**	**288**	*i* P	**Pn**	**16 08 13.6**	**-3.7**
NEEM				*i* S	Sn	16 10 05.5	-12
NEEM				*i*		16 10 07.3	
SCO	**Scoresbysund**	**10.91**	**230**	*i* P	**Pn**	**16 08 18.0**	**-0.2**
SCO	**Scoresbysund**	**10.91**	**230**	*i* P	**Pn**	**16 08 18.0**	**-0.2**
SCO	**Scoresbysund**	**10.91**	**230**	Pn	**Pn**	**16 08 18.2**	**0.0**
ARA0	**ARCESS Array S**	**11.29**	**138**	Pn	**Pn**	**16 08 21.8**	**-1.8**
	baz=318,slow=14						
ARA0	**ARCESS Array S**	**11.29**	**138**	Pn	**Pn**	**16 08 21.8**	**-1.8**
	baz=318,slow=14						
ARCES	**ARCESS Array B**	**11.29**	**138**	Pn	**Pn**	**16 08 23.8**	**+0.2**
	baz=347,slow=10.0,SNR=9.5						
ARCES				LR	LR	16 12 27.6	
	comp=Z,79nm,21.3s,baz=15,slow=36						
ARCES	**ARCESS Array B**	**11.29**	**138**	Pn	**Pn**	**16 08 24.4**	**+0.8**
SUMG	**Summit**	**11.89**	**258**	*i* P	**Pn**	**16 08 30.3**	**-1.7**
SUMG	**Summit**	**11.89**	**258**	*i* P	**Pn**	**16 08 30.3**	**-1.7**
SUMG	**Summit**	**11.89**	**258**	Pn	**Pn**	**16 08 29.1**	**-2.9**
TULEG	**Thule**	**14.48**	**297**	*i* P	Pn	16 08 58.1	-8.8
TULEG	**Thule**	**14.48**	**297**	*i* P	Pn	16 09 00.9	-6.0
TULEG	**Thule**	**14.48**	**297**	Pn	Pn	16 08 59.0	-7.9
EUNU	**Eureka**	**14.68**	**317**	Pn	**Pn**	**16 09 05.0**	**-4.7**
ICESG	**Greenland Ices**	**15.03**	**252**	*i* P	**Pn**	**16 09 10.6**	**-4.2**
ICESG	**Greenland Ices**	**15.03**	**252**	*i* P	**Pn**	**16 09 10.6**	**-4.2**
NOA	**NORSAR Array B**	**18.49**	**168**	LR	LR	16 15 40.6	
	comp=Z,44nm,20.1s,baz=270,slow=32						

SFJD	**Kangerlussuaq**	**18.86 260**	LR	LR	16 17 44.3	
	comp=Z,88nm,20.4s,baz=33,slow=38					
FINES	**FINESS Array B**	**19.16 146**	P	**Pn**	**16 10 06.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=319,slow=7.6,SNR=4.7					
FINES			LR	LR	16 17 25.7	
	comp=Z,45nm,21.2s,baz=315,slow=37					
HFS	**Hagfors**	**19.50 165**	P	**Pn**	**16 10 10.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=15,slow=8.0,SNR=5.5					
HFS	**Hagfors**	**19.50 165**	P	**Pn**	**16 10 11.2**	**+0.9**
	baz=22,slow=11					
HFS	**Hagfors**	**19.50 165**	P	**Pn**	**16 10 11.2**	**+0.9**
	baz=22,slow=11					
RES	**Resolute Bay**	**20.00 310**	P	**P**	**16 10 13.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=16,slow=14,SNR=6.6					
RES	**Resolute Bay**	**20.00 310**	P	**P**	**16 10 13.9**	**-0.5**
RES			IAmb	IAmb	16 10 16.1	
	comp=Z,6.3nm,1.1s					
NRIK	**Noril'sk**	**22.27 69**	P	**P**	**16 10 40.0**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=13,slow=6.8,SNR=4.9					
FRB	**Frobisher Bay**	**25.13 275**	P	**P**	**16 11 07.7**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=27,slow=13,SNR=4.2					
FRB			LR	LR	16 21 13.9	
	comp=Z,74nm,19.2s,baz=356,slow=37					
KIRV	**Kirov**	**25.16 118**	LR	LR	16 21 33.7	
	comp=Z,59nm,18.8s,baz=312,slow=38					
ARU	**Arti**	**28.78 109**	LR	LR	16 24 25.6	
	comp=Z,67nm,21.0s,baz=40,slow=39					
AKASG	**Malin Array Be**	**30.07 147**	P	**P**	**16 11 51.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=349,slow=9.3,SNR=5.1					
INK	**Inuvik**	**30.58 330**	LR	LR	16 25 17.2	
	comp=Z,20nm,20.8s,baz=224,slow=38					
INK	**Inuvik**	**30.58 330**	P	**P**	**16 11 57.5**	**+2.1**
BURAR	**Bucovina Array**	**32.75 153**	P	**P**	**16 12 17.2**	**+2.4**
BURAR			IAmb	IAmb	16 12 18.3	
	comp=Z,1.4nm,0.9s					
AKTO	**Aktyubinsk**	**34.43 113**	P	**P**	**16 12 31.4**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=338,slow=11,SNR=2.1					
EGAK	**Eagle**	**34.70 334**	P	**P**	**16 12 34.2**	**+2.8**
EGAK			IAmb	IAmb	16 12 36.1	
	comp=Z,2.9nm,1.1s					
ILAR	**Eielson Array**	**35.14 338**	P	**P**	**16 12 36.9**	**+1.7**
	comp=Z,1.1nm,1.0s,baz=5.0,slow=7.8,SNR=7.2					
BPAW	**Bear Paw Mtn.**	**36.07 341**	P	**P**	**16 12 42.7**	**-0.6**
BPAW			IAmb	IAmb	16 12 57.6	
	comp=Z,4.2nm,1.3s					
KURK	**Kurchatov**	**37.91 92**	P	**P**	**16 13 02.1**	**+3.2**
KURBB	**Kurchatov Arra**	**37.98 92**	P	**P**	**16 13 02.1**	**+2.6**
	comp=Z,0.9nm,0.2s,baz=336,slow=8.0,SNR=4.5					
BRTR	**Keskin Array B**	**41.39 144**	P	**P**	**16 13 28.8**	**+0.6**
	comp=Z,1.1nm,1.0s,baz=322,slow=3.8,SNR=4.4					
BRTR			LR	LR	16 32 10.6	
	comp=Z,41nm,19.2s,baz=7.5,slow=38					
BRTR	**Keskin Array B**	**41.39 144**	P	**P**	**16 13 28.6**	**+0.4**
MK31	**Makanchi Array**	**42.36 90**	P	**P**	**16 13 38.6**	**+2.7**
MKAR	**Makanchi Array**	**42.36 90**	P	**P**	**16 13 38.9**	**+3.0**
	comp=Z,0.4nm,0.6s,baz=337,slow=7.2,SNR=6.2					
MKAR			LR	LR	16 34 52.7	
	comp=Z,51nm,18.5s,baz=326,slow=41					
ULM	**Lac du Bonnet**	**42.83 291**	LR	LR	16 30 17.1	
	comp=Z,47nm,18.5s,baz=64,slow=34					
PDAR	**Pinedale Array**	**52.38 301**	LR	LR	16 38 34.0	
	comp=Z,31nm,20.8s,baz=186,slow=38					
NVAR	**Mina Array Bea**	**57.97 308**	LR	LR	16 39 24.6	
	comp=Z,52nm,18.1s,baz=240,slow=35					
TXAR	**Lajitas Array**	**64.51 293**	P	**P**	**16 16 21.4**	**+2.6**
	comp=Z,0.4nm,0.6s,baz=55,slow=4.3,SNR=6.3					
TXAR	**Lajitas Array**	**64.51 293**	P	**P**	**16 16 20.1**	**+1.3**
TORD	**Torodi Ar. Bea**	**66.16 182**	P	**P**	**16 16 30.6**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=354,slow=7.7,SNR=2.1					
CMAR	**Chiang Mai Arr**	**72.99 81**	P	**P**	**16 17 11.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=343,slow=7.9,SNR=4.2					
ASAR	**Alice Springs**	**120.20 54**	PKP	**PKiKP**	**16 24 33.3**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=352,slow=2.8,SNR=2.3					

JMA 01 16:06:19.4±0.1, 37.51N×141.51E, h46km±1km, M3.5,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.53**	**254**	P	Pn	16 06 30.7	-0.1
JFK				S	Sn	16 06 38.3	-0.6
JMST	**Minamisoumatoc**	**0.54**	**294**	P	Pn	16 06 30.8	-0.1
JMST				S	Sn	16 06 38.7	-0.4
JMM	**Marumori**	**0.67**	**302**	P	Pn	16 06 32.8	+0.2
JMM				S	Sn	16 06 42.1	0.0
ONAJ	**Iwakimizuishiy**	**0.70**	**235**	P	Pn	16 06 32.9	-0.1
ONAJ				S	Sn	16 06 42.0	-0.9
JIKH	**Ishinomakikobu**	**0.80**	**357**	P	Pn	16 06 34.3	0.0
JIKH				S	Sn	16 06 44.5	-0.7
JFT	**Otama**	**0.93**	**271**	P	Pn	16 06 36.8	+0.7
JFT				S	Sn	16 06 48.9	+0.5
JIO	**Ouri**	**0.95**	**352**	P	Pn	16 06 36.5	+0.1
JIO				S	Sn	16 06 48.1	-0.7
JOU	**Okura**	**1.08**	**322**	P	Pn	16 06 38.3	+0.1
JOU				S	Sn	16 06 52.9	+0.8
JYS	**Shirataka**	**1.35**	**302**	P	Pn	16 06 42.3	+0.5
JFY	**Yanaizu**	**1.44**	**266**	P	Pn	16 06 43.6	+0.5
JMK	**Ichinoseki**	**1.46**	**351**	P	Pn	16 06 43.7	+0.4
JMK				*e*S	Sn	16 07 01.2	0.0
MAT	**Matsushiro**	**2.81**	**251**	P	Pn	16 07 02.7	+0.8
MAT				*e*S	Sn	16 07 35.4	+0.8

*NEIC **01** 16:23:17.1±2.1,0.17N±0.07×123.35E±0.08,h197km±4km, mb4.3/27, Error ellipse: s-maj=11.4km s-min=10.0km az=113.0*
*DJA **01** 16:23:18.4±0.3,0.7N±3.7×12.3E±., h184km±3km, M4.2/13, mb4.2/5, mB4.8/3, MLv4.2/13, Mw(mB)4.1/3*
*IDC **01** 16:23:18.9±2.4,0.15N×123.40E, h217km±26km, mb3.5/11, mb1 3.7/14, mb1mx3.4/46, mbtmp4.1/14, MS3.3/2, Ms1 3.3/2, ms1mx2.6/25, Error ellipse: s-maj=24.3km s-min=9.9km az=70.0*

ISC 01 16:23:16.7±0.5, 0.13N±0.05×123.31E±0.06, h200km, n64,
σ1§16/71, mb4.0/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.58**	**329**	P	**Pn**	**16 23 46.3**	**+2.1**
GTOI				S	**Sn**	**16 24 07.1**	**+1.6**
KMSI	**Cibinong**	**0.80**	**57**	P	**Pn**	**16 23 47.2**	**+1.9**
LUWI	**Luwuk**	**1.28**	**205**	Pn	**Pn**	**16 23 48.8**	**+0.1**
LUWI	**Luwuk**	**1.28**	**205**	P	**Pn**	**16 23 49.0**	**+0.4**
LUWI				S	**Sn**	**16 24 11.7**	**-1.8**
MRSI	**Marisa**	**1.41**	**284**	P	**Pn**	**16 23 50.4**	**+0.8**
MRSI				S	**Sn**	**16 24 14.2**	**-0.9**
APSI	**Ampana**	**1.96**	**238**	P	**Pn**	**16 23 55.8**	**+1.0**
APSI				S	**Sn**	**16 24 23.8**	**-0.6**
TOLI2	**Tolitoli**	**2.71**	**291**		**Pn**	**16 24 04.1**	**+1.1**
SANI	**Sanana**	**3.45**	**129**	P	**Pn**	**16 24 10.6**	**-1.2**
TNTI	**Ternate**	**4.11**	**81**	Pn	**Pn**	**16 24 20.0**	**+0.1**
TNTI	**Ternate**	**4.11**	**81**	P	**Pn**	**16 24 20.3**	**+0.4**
SGSI	**Sangihe**	**4.17**	**32**	P	**Pn**	**16 24 23.8**	**+3.1**
TTSI	**Tana Toraja**	**4.70**	**228**	P	**Pn**	**16 24 29.5**	**+2.1**
NLAI	**Namlea**	**5.06**	**132**	P	**Pn**	**16 24 33.1**	**+1.2**
	0.4nm3µm42nm,0.6s						
SPSI	**Sidrap Palu**	**5.39**	**221**	P	**Pn**	**16 24 37.9**	**+1.7**
	0.1nm509nm34nm,0.7s						
BNSI	**Bone**	**5.52**	**215**	P	**Pn**	**16 24 39.0**	**+1.1**
	0.1nm22nm,0.9s						
KAPI	**Kappang**	**6.23**	**215**	P	**Pn**	**16 24 48.9**	**+2.0**
	6.2nm,0.3s,baz=18,slow=8.5,SNR=14						
KAPI	**Kappang**	**6.23**	**215**		**Pn**	**16 24 45.9**	**-1.1**
FAKI	**Fak Fak**	**9.44**	**109**	Pn	**Pn**	**16 25 29.8**	**+0.9**
BATI	**Baumata**	**10.28**	**178**	P	**Pn**	**16 25 42.7**	**+3.0**
	2.1nm,0.3s,baz=322,slow=2.6,SNR=5.4						
JAGI	**Jajag, Banyuwa**	**12.50**	**227**		**P**	**16 26 12.7**	**+0.7**
MTN	**Manton Dam**	**15.05**	**149**	P	**P**	**16 26 40.6**	**+0.3**
MTN				IAmb	IAmb	16 26 42.0	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**16.61**	**161**	P	**P**	**16 26 57.5**	**0.0**
FITZ	**Fitzroy Crossi**	**18.26**	**173**	P	**P**	**16 27 16.3**	**+0.8**
	comp=Z,24nm,0.3s,baz=1.7,slow=8.1,SNR=82						
FITZ	**Fitzroy Crossi**	**18.26**	**173**	P	**P**	**16 27 15.8**	**+0.3**
DLV	**T Lat**	**18.82**	**309**	P	**Pn**	**16 27 24.4**	**-0.3**
DLV				IAmb	IAmb	16 27 37.0	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**21.84**	**189**	P	**P**	**16 27 52.8**	**-0.6**
PSA00				IAmb	IAmb	16 27 57.7	
	comp=Z,17nm,1.4s						
PSA00	**Pilbara Seismi**	**21.84**	**189**	P	**P**	**16 27 53.1**	**-0.4**
PSA00				IAmb	IAmb	16 27 54.2	
	comp=Z,4.2nm,1.4s						
WB0	**Warramunga Arr**	**22.57**	**152**	P	**P**	**16 27 60.0**	**-0.4**
WB0				IAmb	IAmb	16 28 05.4	
	comp=Z,4.4nm,1.1s						
WRAB	**Tennant Creek**	**22.69**	**152**	P	**P**	**16 28 00.8**	**-0.7**
WRAB				IAmb	IAmb	16 28 03.0	
	comp=Z,7.0nm,0.5s						
WRA	**Warramunga Arr**	**22.69**	**152**	P	**P**	**16 28 01.6**	**+0.1**
	comp=Z,4.7nm,0.4s,baz=337,slow=10,SNR=58						
WRA	**Warramunga Arr**	**22.69**	**152**	P	**P**	**16 28 00.2**	**-1.3**
WB2	**Warramunga Arr**	**22.70**	**152**	P	**P**	**16 28 01.5**	**0.0**
WB2				IAmb	IAmb	16 28 03.0	
	comp=Z,5.8nm,0.5s						
WR0	**Warramunga Arr**	**22.80**	**152**	P	**P**	**16 28 02.3**	**-0.2**
WR0				IAmb	IAmb	16 28 03.9	
	comp=Z,8.4nm,0.6s						
TPUB	**Ta-pu**	**23.17**	**354**	P	**P**	**16 28 06.2**	**+0.4**
TPUB				IAmb	IAmb	16 28 09.4	
	comp=Z,13nm,0.8s						
YULB	**Yu-li**	**23.20**	**355**	P	**P**	**16 28 04.4**	**-1.6**
YULB				IAmb	IAmb	16 28 27.3	
	comp=Z,8.4nm,1.0s						
YOJ	**Yonaguni jima**	**24.18**	**359**	P	**P**	**16 28 12.9**	**-2.0**
AS31	**Alice Springs**	**25.80**	**157**	P	**P**	**16 28 29.9**	**+0.3**
ASAR	**Alice Springs**	**25.80**	**157**	P	**P**	**16 28 30.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=328,slow=9.0,SNR=39						
ASAR				pP	**pP**	**16 29 09.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=331,slow=11,SNR=7.2						
ASAR				PcP	**PcP**	**16 31 54.6**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=338,slow=2.2,SNR=1.6						
ASAR	**Alice Springs**	**25.80**	**157**	P	**P**	**16 28 29.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.07**	**309**	P	**P**	**16 29 10.4**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=136,slow=6.9,SNR=10.0						
CMAR	**Chiang Mai Arr**	**30.07**	**309**	P	**P**	**16 29 07.9**	**+0.3**
CHTO	**Chiang Mai**	**30.27**	**309**	P	**P**	**16 29 10.2**	**+0.8**
CHTO				IAmb	IAmb	16 29 12.9	
	comp=Z,2.6nm,0.8s						
FORT	**Forrest**	**31.07**	**172**	P	**P**	**16 29 16.3**	**+0.1**
BBOO	**Buckleboo**	**34.91**	**161**	P	**P**	**16 29 49.7**	**+0.3**
STKA	**Stephens Creek**	**36.24**	**153**	P	**P**	**16 30 01.6**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=337,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**36.24**	**153**	IAmb	IAmb	16 30 02.6	
	comp=Z,1.1nm,1.4s						
JHJ2	**Mitsune**	**36.30**	**24**	P	**P**	**16 29 58.6**	**-2.6**
JWT	**Wachi**	**36.74**	**17**	P	**P**	**16 30 05.6**	**+0.6**
JWT				IAmb	IAmb	16 30 22.4	
	comp=Z,12nm,1.3s						
MJAR	**Matsushiro Arr**	**38.77**	**19**	P	**P**	**16 30 21.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=192,slow=9.0,SNR=6.4						
JSD	**Sado**	**40.16**	**18**	P	**P**	**16 30 32.6**	**-0.7**
JSD				IAmb	IAmb	16 30 33.5	
	comp=Z,3.3nm,0.9s						
USA0B	**Ussuriysk Arra**	**44.55**	**9**	P	**P**	**16 31 09.0**	**+0.3**
USA0B				IAmb	IAmb	16 31 23.7	
	comp=Z,13nm,1.3s						
USRK	**Ussuriysk Ar.**	**44.55**	**9**	P	**P**	**16 31 09.3**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=190,slow=5.9,SNR=7.0						
USRK	**Ussuriysk Ar.**	**44.55**	**9**	P	**P**	**16 31 08.8**	**+0.2**
ASAJ	**Asahikawa**	**47.04**	**19**	P	**P**	**16 31 29.1**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=242,slow=10,SNR=9.1						
SONM	**Songino Array**	**49.73**	**345**	P	**P**	**16 31 49.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=161,slow=7.9,SNR=12						
SONM				PcP	**PcP**	**16 33 06.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=159,slow=3.4,SNR=2.4						
SONM	**Songino Array**	**49.73**	**345**	P	**P**	**16 31 47.3**	**-1.5**
TLY	**Talaya**	**53.98**	**345**	LR	LR	16 56 26.0	
	comp=Z,16nm,18.6s,baz=146,slow=37						
MK31	**Makanchi Array**	**58.66**	**328**	P	**P**	**16 32 52.5**	**-0.6**
MK31				IAmb	IAmb	16 32 54.9	
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**58.66**	**328**	P	**P**	**16 32 53.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=127,slow=8.8,SNR=18						
MKAR				PcP	**PcP**	**16 33 40.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=169,slow=3.1,SNR=4.5						
MKAR	**Makanchi Array**	**58.66**	**328**	P	**P**	**16 32 52.6**	**-0.6**
MKAR					**PcP**	**16 33 40.3**	**-0.7**
MAKZ	**Makanchi**	**58.84**	**328**	P	**P**	**16 32 54.0**	**-0.3**
TIXI	**Tiksi**	**71.49**	**2**	P	**P**	**16 34 14.3**	**-0.9**
TIXI				IAmb	IAmb	16 34 15.3	
	comp=Z,3.2nm,0.6s						
NRIK	**Noril'sk**	**73.13**	**347**	P	**P**	**16 34 23.8**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=180,slow=5.8,SNR=3.7						
NRIK				LR	LR	17 09 54.2	
	comp=Z,31nm,19.0s,baz=40,slow=38						
VNDA	**Vanda**	**80.34**	**172**	P	**P**	**16 35 05.3**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=347,slow=6.7,SNR=3.1						

*IDC **01** 16:26:32.3±2.0,35°42S×179°04W,h0km,mb4.2/5, mb1 4.3/7, mb1mx4.0/34, mbtmp4.2/7, ML3.6/2, Error ellipse: s-maj=50.9km s-min=29.6km az=136.0*
*NEIC **01** 16:26:35.0±1.4,35°4S±0°1×179°2W±0°2,h10km±2km, mb4.5/13, Error ellipse: s-maj=29.3km s-min=16.7km az=130.0*

ISC 01 16:26:36.9±1.2, 35°5S±0°1×179°0W±0°2, h35km, n31,
σ1§18/32, mb4.3/12, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.04**	**225**	Pn	**Pn**	**16 27 21.2**	**-1.2**
URZ	**Urewera**	**4.21**	**227**	Pn	**Pn**	**16 27 39.3**	**+0.8**
	3.1nm,0.3s,baz=121,slow=24,SNR=48						
URZ				Sn	**Sn**	**16 28 29.5**	**+3.2**
	6.7nm,0.3s,baz=149,slow=24,SNR=3.9						
BKZ	**Black Stump Fm**	**5.17**	**223**	Pn	**Pn**	**16 27 52.4**	**+0.5**
HIZ	**Hauiti**	**5.80**	**236**	Pn	**Pn**	**16 27 59.7**	**-0.7**
BFZ	**Birch Farm**	**6.44**	**214**	Pn	**Pn**	**16 28 09.0**	**-0.1**
MSWZ	**Moikau Station**	**7.48**	**216**	Pn	**Pn**	**16 28 21.9**	**-1.6**
TUWZ	**Tuamarina**	**8.15**	**221**	Pn	**Pn**	**16 28 31.0**	**-1.7**
OXZ	**Oxford**	**10.49**	**219**	Pn	**Pn**	**16 29 04.1**	**-0.6**
DZM	**Mont Dzumac**	**18.43**	**312**	P	**Pn**	**16 30 49.9**	**+0.2**
	0.2nm,0.3s,baz=126,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**18.43**	**312**	P	**Pn**	**16 30 49.9**	**+0.2**
ARMA	**Armidale**	**25.12**	**273**	P	**P**	**16 31 56.1**	**-2.6**
ARMA				IAmb	IAmb	16 31 59.1	
	comp=Z,40nm,1.4s						
TAU	**Tasmania Unive**	**27.03**	**244**	P	**P**	**16 32 14.5**	**-1.2**
KNTN	**Kanton**	**33.20**	**13**	P	**P**	**16 33 10.7**	**+0.2**
CTA	**Charters Tower**	**34.15**	**287**	P	**P**	**16 33 19.7**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=151,slow=13,SNR=2.0						
AS31	**Alice Springs**	**42.27**	**273**	P	**P**	**16 34 26.8**	**-0.4**
AS31				IAmb	IAmb	16 34 38.9	
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**42.28**	**273**	P	**P**	**16 34 27.1**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=115,slow=7.7,SNR=121						
ASAR	**Alice Springs**	**42.28**	**273**	P	**P**	**16 34 26.6**	**-0.6**
WR0	**Warramunga Arr**	**43.55**	**278**	P	**P**	**16 34 36.5**	**-1.0**
WR0				IAmb	IAmb	16 34 38.4	
	comp=Z,7.8nm,1.2s						
WB2	**Warramunga Arr**	**43.71**	**278**	P	**P**	**16 34 37.5**	**-1.3**
WB2				IAmb	IAmb	16 34 55.9	
	comp=Z,5.1nm,1.0s						
WRAB	**Tennant Creek**	**43.71**	**278**	P	**P**	**16 34 37.6**	**-1.2**
WRAB				IAmb	IAmb	16 34 40.1	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	**43.72**	**278**	P	**P**	**16 34 37.5**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=120,slow=7.6,SNR=22						
WRA	**Warramunga Arr**	**43.72**	**278**	P	**P**	**16 34 37.7**	**-1.1**
WB0	**Warramunga Arr**	**43.76**	**278**	P	**P**	**16 34 38.1**	**-1.2**
WB0				IAmb	IAmb	16 34 49.7	
	comp=Z,7.1nm,1.1s						
FORT	**Forrest**	**44.17**	**260**	P	**P**	**16 34 42.3**	**0.0**
FORT				IAmb	IAmb	16 34 53.1	
	comp=Z,32nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.72**	**274**	P	**P**	**16 35 40.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**52.00**	**253**	P	**P**	**16 35 42.7**	**-0.1**
PSA00	**Pilbara Seismi**	**54.73**	**267**	P	**P**	**16 36 02.5**	**-0.4**
KSRS	**Korea Array**	**87.68**	**320**	P	**P**	**16 39 22.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=129,slow=5.2,SNR=2.4						
PETK	**Petropavlovsk-**	**90.50**	**346**	P	**P**	**16 39 36.3**	**+1.8**
	comp=Z,6.5nm,1.1s,baz=117,slow=5.5,SNR=1.9						
FINES	**FINESS Array B**	**149.51**	**336**	PKPbc	**PKiKP**	**16 46 22.5**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=359,slow=5.8,SNR=9.1						
BRTR	**Keskin Array B**	**153.88**	**289**	PKPbc	**PKPbc**	**16 46 32.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=134,slow=3.6,SNR=3.8						

*JMA **01** 16:30:51.5±0.1, 36.35N×137.42E, h248km±2km, M3.3*
*IDC **01** 16:30:52.0±0.5, 36.42N×137.46E, h244km±6km, mb3.3/7, mb1 3.5/9, mb1mx3.1/46, mbtmp3.9/9, Error ellipse: s-maj=33.5km s-min=13.7km az=81.0*
*NEIC **01** 16:30:52.0±1.3, 36.41N±0.06×137.35E±0.09, h242km±5km, mb4.1/13, Error ellipse: s-maj=10.4km s-min=9.0km az=100.0*

ISC 01 16:30:51.7±0.6, 36.42N±0.05×137.42E±0.06, h245km±5km,
n63, σ1§03/71, mb3.9/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.20**	**338**	P	**Pn**	**16 31 23.6**	**+0.3**
JGN	**Niukaw**	**0.22**	**204**	P	**Pn**	**16 31 23.5**	**-0.1**
MAJO	**Matsushiro**	**0.64**	**79**	Pn	**Pn**	**16 31 24.6**	**+0.1**
MAT	**Matsushiro**	**0.64**	**79**	P	**Pn**	**16 31 24.9**	**+0.4**
MAT				S	**S**	**16 31 50.3**	**0.0**
MAT	**Matsushiro**	**0.64**	**79**	P	**Pn**	**16 31 24.9**	**+0.4**
MAT				*e*S	**S**	**16 31 50.6**	**+0.3**
MJAR	**Matsushiro Arr**	**0.64**	**79**	P	**Pn**	**16 31 25.1**	**+0.6**
	3.2nm,0.3s,baz=249,slow=5.9,SNR=233						
MJAR				S	**S**	**16 31 51.1**	**+0.8**
	0.5nm,0.3s,baz=294,slow=12,SNR=20						
MJAR	**Matsushiro Arr**	**0.64**	**79**		**Pn**	**16 31 24.5**	**0.0**
JGF	**Kuroka**	**0.82**	**184**		**Pn**	**16 31 24.4**	**-1.1**
JKG	**Kaga**	**0.89**	**261**	P	**Pn**	**16 31 25.8**	**+0.2**
JYTA	**Yamagatataniai**	**1.00**	**214**	P	**Pn**	**16 31 25.7**	**-0.5**
JYTA				*e*S	**S**	**16 31 51.9**	**-1.4**
JSZ	**Suzu**	**1.03**	**357**	P	**Pn**	**16 31 26.9**	**+0.6**
JSZ				*e*S	**S**	**16 31 53.7**	**+0.1**
INU	**Inuyama**	**1.12**	**197**		**Pn**	**16 31 25.9**	**-1.1**
JRY	**Ryogami san**	**1.26**	**108**	P	**Pn**	**16 31 28.1**	**+0.2**
JYN	**Shimob**	**1.29**	**135**	P	**Pn**	**16 31 27.8**	**-0.4**
JAG	**Ashikaga**	**1.64**	**89**	P	**Pn**	**16 31 30.4**	**-0.2**
JSD	**Sado**	**1.75**	**22**	P	**Pn**	**16 31 32.3**	**+0.8**
JSD				S	**S**	**16 32 03.3**	**+0.5**
JSD	**Sado**	**1.75**	**22**	Pn	**Pn**	**16 31 32.2**	**+0.8**
JOD2	**Odawara 2**	**1.78**	**130**	P	**Pn**	**16 31 31.9**	**0.0**
JOD2				*e*S	**S**	**16 32 02.8**	**-0.6**
JSG	**Sagara**	**1.85**	**160**	Pn	**Pn**	**16 31 32.0**	**-0.5**
JWT	**Wachi**	**2.00**	**236**	P	**Pn**	**16 31 33.4**	**-0.3**
JWT	**Wachi**	**2.00**	**236**		**Pn**	**16 31 33.2**	**-0.6**
JNS	**Sasagawa**	**2.06**	**47**	P	**Pn**	**16 31 35.1**	**+0.9**
JIE	**Ise**	**2.11**	**196**	P	**Pn**	**16 31 34.7**	**-0.1**
JYT	**Yasato**	**2.25**	**94**	Pn	**Pn**	**16 31 35.8**	**-0.2**
JAW	**Awa shima**	**2.50**	**35**	P	**Pn**	**16 31 39.5**	**+1.0**
JTNC	**Tanabenakahech**	**2.99**	**210**	S	**S**	**16 32 23.9**	**-1.1**
JMM	**Marumori**	**3.05**	**61**	Pn	**Pn**	**16 31 45.0**	**+0.6**
JHS	**Saijyo**	**3.78**	**249**	Pn	**Pn**	**16 31 52.0**	**-0.7**
JHJ	**Hachijo jima 2**	**3.82**	**149**	S	**S**	**16 32 43.6**	**+1.6**
	6.4nm,0.3s,baz=53,slow=9.3,SNR=1.7						
JMN	**Monobe**	**3.96**	**228**	Pn	**Pn**	**16 31 54.4**	**-0.5**
JTM	**Tenmabayashi**	**5.21**	**32**	Pn	**Pn**	**16 32 10.2**	**+0.4**
JEW	**Eniwo**	**7.12**	**25**	Pn	**Pn**	**16 32 32.9**	**-0.8**
ERM	**Erimo**	**7.14**	**37**	Pn	**Pn**	**16 32 32.1**	**-1.9**
JSU	**Suzuyama**	**7.58**	**232**		**Pn**	**16 32 40.1**	**+0.3**
KSAR	**Wonju Array Be**	**7.71**	**280**	Pn	**Pn**	**16 32 40.7**	**-0.5**
ASAJ	**Asahikawa**	**8.64**	**26**	P	**Pn**	**16 32 51.6**	**-1.3**
	3.9nm,0.3s,baz=221,slow=13,SNR=74						
ASAJ				S	**S**	**16 34 25.1**	**-5.7**
	0.4nm,0.3s,baz=274,slow=22,SNR=1.7						
JKA	**Kamikawa-asahi**	**8.64**	**26**	Pn	**Pn**	**16 32 51.4**	**-1.6**
YSS	**Yuzh-Sakhalins**	**11.25**	**19**	Pn	**Pn**	**16 33 24.4**	**-1.4**
JOW	**Kunigami**	**12.33**	**222**	P	**P**	**16 33 42.8**	**+0.6**
KLR	**Kul'dur**	**13.46**	**344**	P	**Pn**	**16 33 52.5**	**-0.7**
	0.2nm,0.3s,baz=163,slow=9.1,SNR=4.1						
MK31	**Makanchi Array**	**41.73**	**302**	P	**P**	**16 38 17.6**	**+0.8**
**M

IGAR	**Gharneh**	**2.81**	**73**	*e*Pn		**Pn**	**17 05 40.7**	**+1.1**
IKLH	**Kolahrood**	**2.85**	**53**	*e*Pn		**Pn**	**17 05 42.0**	**+1.9**
IKLH				*e*			17 06 31.7	
	comp=Z,902nm,0.8s							
RDF	**Al-Radifah**	**2.92**	**203**	*e*P		**Pn**	**17 05 41.3**	**+0.5**
RDF				*e*S		**Sn**	**17 06 16.6**	**+0.5**
IBZA	**Bozab**	**2.95**	**344**	*e*Pn		**Pn**	**17 05 42.4**	**+1.0**
QRN	**Al-Qurain**	**2.99**	**196**	*e*P		**Pn**	**17 05 42.2**	**+0.5**
QRN				*e*S		**Sn**	**17 06 18.1**	**+0.4**
IRAM	**Ramesheh**	**3.01**	**86**	*e*Pn		**Pn**	**17 05 43.5**	**+1.2**
ASAO	**Ashtian**	**3.07**	**18**	*e*Pn		**Pn**	**17 05 45.3**	**+2.2**
ASAO				*e*Sg		**Sg**	**17 06 31.5**	**-1.4**
ASAO	**Ashtian**	**3.07**	**18**	*e*Pn		**Pn**	**17 05 45.3**	**+2.2**
IZEF	**Zefreh**	**3.20**	**66**	*e*Pn		**Pn**	**17 05 46.1**	**+1.2**
GHVR	**GHOM**	**3.50**	**35**	*e*Sg		**Sg**	**17 06 44.2**	**-2.5**
NASN	**Na'in**	**3.55**	**70**	IAML			17 06 35.5	
	comp=E,27nm,0.4s							
KRSH	**Karshahi**	**3.61**	**49**	*e*Pn		**Pn**	**17 05 51.7**	**+1.2**
IDHR	**Dehrash**	**3.69**	**327**	*e*Pn		**Pn**	**17 05 52.5**	**+0.9**
IDHR				*e*			17 06 41.2	
	comp=Z,334nm,0.3s							
IRAZ	**Razeghan**	**3.87**	**13**	*e*Pn		**Pn**	**17 05 55.6**	**+1.6**
ISFB	**Sefidab**	**3.93**	**45**	*e*Pn		**Pn**	**17 05 55.7**	**+0.9**
IVRN	**Varamin**	**4.13**	**35**	*e*Pn		**Pn**	**17 05 58.6**	**+1.2**
ANAR	**Anarak**	**4.41**	**68**	*e*Pn		**Pn**	**17 06 01.9**	**+0.6**
ISHM	**Shahmirzad**	**5.57**	**40**	*e*Pn		**Pn**	**17 06 18.9**	**+1.5**

NEIC ***01*** *17:19:31.9±1.3, 47°.56N±0°.03×92°.64W±0°.05, h0km±2km, mb_Lg2.6/16, Error ellipse: s-maj=6.5km s-min=4.3km az=44.0*

IDC ***01*** *17:19:32.6±4.7, 47°.59N×92°.67W, h0km, mb1 2.4/1, mb1mx2.4/37, mbtmp2.4/1, ML1.3/1, Error ellipse: s-maj=77.1km s-min=28.9km az=53.0*

ISC 01 17:19:31.2±1.0, 47°.59N±0°.05×92°.67W±0°.06, h0km, n19, σ0s91/15, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
B35A	**Bob, Littlefor**	**1.05**	**318**			**Pb**	**17 19 52.8**	**+0.5**
E38A	**The Farm, Brul**	**1.24**	**142**	P		**Pg**	**17 19 54.6**	**-0.4**
E38A				Sg		**Sg**	**17 20 11.6**	**+0.6**
F36A	**Milaca**	**1.82**	**199**			**Pn**	**17 20 04.2**	**+0.4**
AGMN	**Agassiz Nation**	**2.26**	**290**	Pn		**Pn**	**17 20 10.7**	**+0.8**
AGMN				IAmb_Lg			17 20 44.3	
	comp=Z,32nm,0.8s							
SPMN	**Marine on St.**	**2.36**	**182**			**Pn**	**17 20 11.2**	**0.0**
SPMN				Sn		**Sb**	**17 20 42.8**	**-1.5**
COWI	**Conover**	**2.84**	**120**			**Pn**	**17 20 17.4**	**-0.4**
COWI				IAmb_Lg			17 20 59.0	
	comp=Z,12nm,1.0s							
G40A	**Rib Lake**	**2.88**	**143**			**Pn**	**17 20 19.4**	**+1.1**
F33A	**5 Mile Ranch,**	**3.04**	**236**			**Pn**	**17 20 19.4**	**-1.2**
F33A				IAmb_Lg			17 21 12.3	
	comp=Z,19nm,0.9s							
ULM	**Lac du Bonnet**	**3.40**	**323**	Pn		**Pn**	**17 20 25.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=145,slow=16,SNR=2.5							
ULM				Sn		**Sn**	**17 21 06.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=149,slow=14,SNR=2.0							
ULM				Lg		Lg	17 21 17.5	
	comp=Z,4.8nm,0.3s,baz=31,slow=22,SNR=26							
ULM	**Lac du Bonnet**	**3.40**	**323**	Pn		**Pn**	**17 20 24.9**	**-0.6**
I10CA	**LAC DU BONNET**	**3.43**	**321**	*i*			17 40 00.0	
	baz=138,slow=314,SNR=4.2							
I37A	**Lemond, Waseca**	**3.61**	**188**	IAmb_Lg			17 21 28.4	
	comp=Z,12nm,0.9s							
I40A	**Norwalk**	**3.96**	**158**	IAmb_Lg			17 21 35.7	
	comp=Z,9.6nm,0.8s							
E43A	**Lone Tree Farm**	**4.07**	**105**	Pn		**Pn**	**17 20 35.0**	**+0.3**
I42A	**Draeger Farm,**	**4.53**	**143**	IAmb_Lg			17 21 52.4	
	comp=Z,16nm,0.7s							
H43A	**Windswept, Lux**	**4.62**	**131**	IAmb_Lg			17 22 01.9	
	comp=Z,11nm,0.8s							
ECSD	**EROS Data Cent**	**4.74**	**217**			**Pn**	**17 20 45.6**	**+1.7**
JFWS	**Jewell Farm**	**4.97**	**159**	IAmb_Lg			17 22 12.8	
	comp=Z,11nm,0.9s							
I56US	**NEWPORT INFRAS**	**16.39**	**281**	*i*			18 57 30.0	
	baz=83,slow=312,SNR=3.9							

AUST ***01*** *17:25:04.6±0.8, 30°.54S×117°.09E, h8km±5km, Error ellipse: s-maj=5.3km s-min=3.7km az=51.0*

CUPWA 01 17:25:06.8±2.2, 30°.58S×117°.01E, h2km±42km, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLDU	**Ballidu**	**0.27**	**262**	P		Pg	17 25 11.5	-0.5
	baz=0.3							
BLDU				S		Sg	17 25 15.1	-0.3
	baz=0.3							
BLDU	**Ballidu**	**0.27**	**262**	P		Pg	17 25 10.2	-1.8
BLDU				S		Sg	17 25 14.2	-1.2
BENC	**Bencubbin**	**0.76**	**108**	P		Pg	17 25 19.2	-2.3
BENC				S		Sg	17 25 29.2	-2.2
KLBR	**Kellerberrin**	**1.19**	**148**	P		Pg	17 25 28.6	-1.1
	baz=1.2							
KLBR				S		Sg	17 25 43.5	-1.7
	baz=1.2							
KLBR	**Kellerberrin**	**1.19**	**148**	P		Pg	17 25 27.2	-2.5
KLBR				S		Sg	17 25 42.2	-3.0
QUAI	**Quairading**	**1.47**	**167**	S		Sb	17 25 51.2	-2.8
MUN	**Mundaring**	**1.56**	**206**	P		Pn	17 25 34.7	-0.9
	baz=1.6							
MUN				S		Sn	17 25 55.2	-1.2
	baz=1.6							
MUN	**Mundaring**	**1.56**	**206**	P		Pn	17 25 33.2	-2.4
MUN				S		Sn	17 25 54.2	-2.2
MORW	**Morawa**	**1.73**	**330**	P		Pn	17 25 36.6	-1.3
	baz=1.7							
MORW				S		Sn	17 25 58.0	-2.5
	baz=1.7							
MORW	**Morawa**	**1.73**	**330**	P		Pn	17 25 35.2	-2.7
MORW				S		Sn	17 25 57.2	-3.3
PING	**Pingelly**	**1.92**	**181**	P		Pn	17 25 39.2	-1.4
PING				SG		Sn	17 26 05.2	-0.2
NWAO	**Narrogin (SRO)**	**2.35**	**175**	P		Pn	17 25 44.0	-2.5
	baz=2.4							
MEEK	**Meekatharra**	**4.17**	**20**	P		Pn	17 26 07.4	-4.2
	baz=4.1							
MEEK				S		Sn	17 26 53.9	-6.9
	baz=4.1							
MEEK	**Meekatharra**	**4.17**	**20**	P		Pn	17 26 06.2	-5.4
MEEK				S		Sn	17 26 52.2	-8.7
KMBL	**Kambalda**	**4.25**	**102**	P		Pn	17 26 07.9	-4.8
	baz=4.2							
KMBL	**Kambalda**	**4.25**	**102**	P		Pn	17 26 06.2	-6.5

ANF ***01*** *17:35:34.1±0.2, 35°.81N×96°.99W, h6km, ML4.2/17, Error ellipse: s-maj=2.3km s-min=1.7km az=150.0*

NEIC ***01*** *17:35:34, 35°.79N×96°.99W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=0.41; Mθθ=1.76; Mφφ=-1.34; Mrθ=0.04; Mrφ=-1.09; Mθφ=0.89; Fault plane solution: M=2.12000×10^14 NP1:φ=329.55000°, δ=77.02000°, λ=-24.66000°. NP2:φ=65.44000°, δ=66.01000°, λ=-165.77000°. Principal axes: T 2.1424, Plg7.0000°, Azm19.0000°; N -0.0397, Plg62.0000°, Azm123.0000°; P -2.1027, Plg27.0000°, Azm285.0000°;*

TUL ***01*** *17:35:34±0.9, 35°.79N±0°.04×96°.99W±0°.05, h6km±7km, ML3.8, mb_Lg3.6/127(NEIC), Mwr3.5/35(NEIC) Error ellipse: s-maj=5.8km s-min=5.2km az=157.0*

NEIC ***01*** *17:35:34.1±0.8, 35°.812N±0°.008×96°.99W±0°.03, h4km±8km, Error ellipse: s-maj=4.1km s-min=0.4km az=73.0*

ISC 01 17:35:34.1±1.1, 35°.81N±0°.02×97°.00W±0°.02, h7km±9km, n126, σ0s51/111, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.19**	**41**	Pg		**Pg**	**17 35 38.4**	**+0.5**
OK030	**Cody Creek RV**	**0.21**	**55**	Pg		**Pg**	**17 35 38.7**	**+0.5**
OK005	**Luther M Schoo**	**0.22**	**226**			**Pg**	**17 35 38.6**	**+0.1**
OK001	**Jones High Sch**	**0.34**	**224**	Pg		**Pg**	**17 35 40.8**	**0.0**
OK025	**Westminster Rd**	**0.36**	**231**	Pg		**Pg**	**17 35 41.1**	**0.0**
OK029	**Liberty Lake**	**0.37**	**268**	Pg		**Pg**	**17 35 41.6**	**+0.3**
OK011	**Prague**	**0.41**	**142**	Pg		**Pg**	**17 35 42.0**	**0.0**
OK009	**Oakdale Elemen**	**0.41**	**237**			**Pg**	**17 35 42.3**	**+0.2**
QUOK	**Quay**	**0.43**	**33**	Pg		**Pg**	**17 35 42.8**	**+0.4**
BCOK	**Bluff Creek, N**	**0.52**	**253**			**Pg**	**17 35 44.2**	**+0.1**
OKCFA	**Oklahoma City**	**0.54**	**224**			**Pg**	**17 35 44.4**	**-0.1**
OKCFA	**Oklahoma City**	**0.54**	**224**	P		**Pg**	**17 35 44.4**	**-0.1**
	baz=42,SNR=38							
OKCFA				S		**Sg**	**17 35 51.9**	**+0.4**
	baz=42							
OKCFA	**Oklahoma City**	**0.54**	**224**	P			17 35 44.4	
	baz=42,SNR=38							
OKCFA				S			17 35 51.9	
	baz=42							
OKCSW	**OKLAHOMA CITY**	**0.54**	**222**			**Pg**	**17 35 44.4**	**-0.1**
FNO	**Franklin**	**0.64**	**211**			**Pg**	**17 35 45.9**	**-0.5**
FNO				IAmb_Lg			17 35 54.7	
	comp=Z,1μm,1.0s							
W35A	**Tecumseh**	**0.66**	**171**	Pg		**Pg**	**17 35 46.2**	**-0.6**
W35A				IAmb_Lg			17 35 54.8	
	comp=Z,1μm,0.9s							
TUL1	**Leonard**	**0.98**	**84**	P		**Pg**	**17 35 52.1**	**-0.9**
	baz=264							
TUL1				S		**Sg**	**17 36 05.1**	**-0.6**
	baz=264							
TUL1	**Leonard**	**0.98**	**84**	P			17 35 52.0	
	baz=264,SNR=147							
TUL1				S			17 36 05.5	
	baz=264							
TUL1	**Leonard**	**0.98**	**84**	P			17 35 52.1	
	baz=264							
TUL1				S			17 36 05.1	
	baz=264							
CROK	**Carrier**	**1.06**	**311**			**Pg**	**17 35 54.2**	**-0.2**
T35A	**Sooner Cattle**	**1.17**	**19**	Pg		**Pg**	**17 35 55.9**	**-0.6**
T35B	**Sooner Cattle**	**1.17**	**19**	P		**Pg**	**17 35 56.0**	**-0.6**
	baz=200							
T35B				S		**Sg**	**17 36 11.9**	**+0.1**
	baz=200							
T35B	**Sooner Cattle**	**1.17**	**19**	P			17 35 56.0	
	baz=200							
T35B				S			17 36 11.9	
	baz=200							
GC02	**Grant County #**	**1.25**	**326**			**Pg**	**17 35 57.6**	**-0.5**
KAN13	**South Haven SW**	**1.26**	**342**			**Pn**	**17 35 57.9**	**-0.3**
X34A	**Smith Ranch, M**	**1.39**	**210**	Pn		**Pn**	**17 35 59.5**	**-0.4**
X34A				IAmb_Lg			17 36 19.4	
	comp=Z,320nm,0.8s							
OK032	**Salt Plains WL**	**1.40**	**316**			**Pn**	**17 36 00.1**	**+0.1**
KAN09	**Caldwell North**	**1.42**	**339**			**Pn**	**17 36 00.2**	**-0.1**
KAN09				IAmb_Lg			17 36 20.2	
	comp=Z,389nm,0.9s							
KAN01	**Argonia South**	**1.48**	**336**	Pn		**Pn**	**17 36 01.2**	**0.0**
KAN01				IAmb_Lg			17 36 23.6	
	comp=Z,355nm,0.8s							
KAN10	**Anthony SW Sta**	**1.58**	**326**			**Pn**	**17 36 02.9**	**+0.2**
KAN08	**Anthony NE Sta**	**1.62**	**331**			**Pn**	**17 36 03.6**	**+0.5**
KAN16	**Harper SW Stat**	**1.66**	**329**			**Pb**	**17 36 04.5**	**-0.5**
KAN16				IAmb_Lg			17 36 31.0	
	comp=Z,305nm,0.7s							
KAN12	**Harper NE Stat**	**1.69**	**332**			**Pn**	**17 36 04.6**	**+0.5**
U32A	**Winter Ranch,**	**1.72**	**290**			**Pn**	**17 36 05.1**	**+0.6**
U32A	**Winter Ranch,**	**1.72**	**290**	P		**Pn**	**17 36 05.4**	**+0.8**
	baz=109,SNR=24							
U32A				Sb		**Sg**	**17 36 29.2**	**-0.2**
	baz=109							
U32A	**Winter Ranch,**	**1.72**	**290**	P			17 36 05.4	
	baz=109,SNR=24							
U32A				Sb			17 36 29.2	
	baz=109							
X37A	**Clayton**	**1.80**	**132**			**Pn**	**17 36 06.2**	**+0.6**
X37A				IAmb_Lg			17 36 33.7	
	comp=Z,475nm,0.7s							
X37A	**Clayton**	**1.80**	**132**	P		**Pn**	**17 36 06.2**	**+0.6**
	baz=313,SNR=63							
X37A				S		**Sn**	**17 36 28.8**	**+0.1**
	baz=313							
X37A	**Clayton**	**1.80**	**132**	P			17 36 06.2	
	baz=313,SNR=63							
X37A				S			17 36 28.8	
	baz=313							
WMOK	**Wichita Mounta**	**1.81**	**234**	Pn		**Pn**	**17 36 06.0**	**+0.2**
WMOK	**Wichita Mounta**	**1.81**	**234**	P		**Pn**	**17 36 05.9**	**+0.2**
	baz=53,SNR=91							
WMOK				S		**Sb**	**17 36 30.5**	**0.0**
	baz=53							
WMOK	**Wichita Mounta**	**1.81**	**234**	P			17 36 05.9	
	baz=53							
WMOK				S			17 36 30.5	
	baz=53							
WMOK	**Wichita Mounta**	**1.81**	**234**	P			17 36 05.9	
	baz=53,SNR=91							
WMOK				S			17 36 30.5	
	baz=53							
LOOK	**Love County**	**1.82**	**185**			**Pn**	**17 36 06.3**	**+0.5**
LOOK				IAmb_Lg			17 36 33.8	
	comp=Z,267nm,1.0s							
U38A	**Gravette**	**2.21**	**73**			**Pn**	**17 36 11.8**	**+0.6**
U38A	**Gravette**	**2.21**	**73**	P		**Pn**	**17 36 11.6**	**+0.4**
	baz=254,SNR=87							
U38A	**Gravette**	**2.21**	**73**	P			17 36 11.6	
	baz=254,SNR=87							
Z35A	**Perchaven, San**	**2.48**	**185**			**Pn**	**17 36 15.5**	**+0.6**
Z35A	**Perchaven, San**	**2.48**	**185**	P		**Pn**	**17 36 15.1**	**+0.2**
	baz=4.5,SNR=34							
Z35A	**Perchaven, San**	**2.48**	**185**	P			17 36 15.1	
	baz=4.5,SNR=34							
HHAR	**Hobbs**	**2.52**	**78**			**Pn**	**17 36 16.0**	**+0.5**
W39A	**Magazine**	**2.69**	**102**			**Pn**	**17 36 18.1**	**+0.3**
W39A	**Magazine**	**2.69**	**102**	P		**Pn**	**17 36 18.3**	**+0.5**
	baz=284,SNR=23							
W39A				S		**Sn**	**17 36 51.9**	**+1.3**
	baz=284							
W39A	**Magazine**	**2.69**	**102**	P			17 36 18.0	
	baz=284,SNR=33							
W39A				S			17 36 51.2	
	baz=284							
W39A	**Magazine**	**2.69**	**102**	P			17 36 18.3	
	baz=284,SNR=23							
W39A				S			17 36 51.9	
	baz=284							
R32A	**Long Quarter,**	**2.95**	**333**			**Pn**	**17 36 22.0**	**+0.6**
Z38A	**Mt. Pleasant**	**3.04**	**146**			**Pn**	**17 36 22.9**	**+0.3**
Z38A				IAmb_Lg			17 37 10.0	
	comp=Z,280nm,0.8s							
Z38A	**Mt. Pleasant**	**3.04**	**146**	P		**Pn**	**17 36 23.3**	**+0.8**
	baz=327							
Z38A				S		**Sn**	**17 37 00.5**	**+1.4**
	baz=327							
Z38A	**Mt. Pleasant**	**3.04**	**146**	P			17 36 23.3	
	baz=327							
Z38A				S			17 37 00.5	
	baz=327							
MIAR	**Mount Ida**	**3.07**	**113**	Pn		**Pn**	**17 36 23.8**	**+0.7**
MIAR				IAmb_Lg			17 37 14.7	
	comp=Z,121nm,0.7s							
MIAR	**Mount Ida**	**3.07**	**113**	P		**Pn**	**17 36 23.8**	**+0.7**
	baz=295,SNR=20							
MIAR				S		**Sn**	**17 37 00.9**	**+0.8**
	baz=295							
MIAR	**Mount Ida**	**3.07**	**113**	P			17 36 23.8	
	baz=295,SNR=11							
MIAR				S			17 37 00.6	
	baz=295							
MIAR	**Mount Ida**	**3.07**	**113**	P			17 36 23.8	
	baz=295,SNR=20							
MIAR				S			17 37 00.9	
	baz=295							
KSU1	**Kansas State U**	**3.30**	**5**			**Pn**	**17 36 26.7**	**+0.5**
KSU1				IAmb_Lg			17 37 23.5	
	comp=Z,141nm,0.7s							
KSU1	**Kansas State U**	**3.30**	**5**	P			17 36 26.6	
	baz=186							
KSU1				S			17 37 06.1	
	baz=186							
U40A	**Yellville**	**3.40**	**80**			**Pn**	**17 36 27.5**	**0.0**
U40A				IAmb_Lg			17 37 28.7	
	comp=Z,156nm,0.7s							
U40A	**Yellville**	**3.40**	**80**	P		**Pn**	**17 36 27.6**	**0.0**
	baz=262,SNR=25							
U40A	**Yellville**	**3.40**	**80**	P			17 36 27.2	
	baz=262							
U40A				S			17 37 08.6	
	baz=262							
U40A	**Yellville**	**3.40**	**80**	P			17 36 27.6	
	baz=262,SNR=25							
U40A				P			17 36 27.6	
	baz=262,SNR=25							
S39A	**Bolivar**	**3.50**	**56**			**Pn**	**17 36 29.6**	**+0.7**
S39A				IAmb_Lg			17 37 29.5	
	comp=Z,134nm,0.7s							
S39A	**Bolivar**	**3.50**	**56**	P		**Pn**	**17 36 29.6**	**+0.7**
	baz=239,SNR=21							
S39A				S		**Sn**	**17 37 12.0**	**+1.4**
	baz=239							
S39A	**Bolivar**	**3.50**	**56**	P			17 36 29.6	
	baz=239,SNR=21							
S39A				S			17 37 12.0	
	baz=239							
X40A	**Basin Creek Fa**	**3.66**	**110**			**Pn**	**17 36 31.9**	**+0.8**
X40A	**Basin Creek Fa**	**3.66**	**110**	P		**Pn**	**17 36 31.4**	**+0.3**
	baz=292,SNR=7.2							
X40A	**Basin Creek Fa**	**3.66**	**110**	P			17 36 31.8	
	baz=292,SNR=27							
X40A				S			17 37 15.0	
	baz=292							
X40A	**Basin Creek Fa**	**3.66**	**110**	P			17 36 31.4	
	baz=292,SNR=7.2							
X40A				P			17 36 31.4	
	baz=292,SNR=7.2							
CBKS	**Cedar Bluff**	**3.71**	**325**	Pn		**Pn**	**17 36 32.2**	**+0.3**
CBKS				IAmb_Lg			17 37 41.6	
	comp=Z,186nm,1.1s							
CBKS	**Cedar Bluff**	**3.71**	**325**	S			17 37 15.5	
	baz=143							
WHTX	**Lake Whitney,**	**3.83**	**186**			**Pn**	**17 36 33.3**	**-0.1**
WHTX	**Lake Whitney,**	**3.83**	**186**	P		**Pn**	**17 36 33.3**	**-0.1**
	baz=5.4							
WHTX	**Lake Whitney,**	**3.83**	**186**	P			17 36 33.3	
	baz=5.4							
WHTX				Sb			17 37 29.2	
	baz=5.4							
WHTX	**Lake Whitney,**	**3.83**	**186**	P			17 36 33.3	
	baz=5.4							
WLAR	**White Oak Lake**	**3.83**	**122**			**Pn**	**17 36 34.5**	**+0.9**
WLAR				IAmb_Lg			17 37 41.4	
	comp=Z,163nm,0.8s							
ABTX	**Abilene, Hawle**	**3.86**	**215**			**Pn**	**17 36 34.4**	**+0.4**
ABTX	**Abilene, Hawle**	**3.86**	**215**	Pb			17 36 43.0	
	baz=34							
ABTX				S			17 37 19.8	
	baz=34							
WHAR	**Wooly Hollow**	**3.87**	**96**			**Pn**	**17 36 34.4**	**+0.3**
WHAR				IAmb_Lg			17 37 39.3	
	comp=Z,171nm,1.0s							
237A	**Washetta, Mont**	**3.92**	**165**			**Pn**	**17 36 34.8**	**+0.1**
237A	**Washetta, Mont**	**3.92**	**165**	P		**Pn**	**17 36 34.5**	**-0.2**
	baz=346,SNR=5.8							
237A				S		**Sn**	**17 37 20.8**	**-0.3**
	baz=346							
237A	**Washetta, Mont**	**3.92**	**165**	P			17 36 34.5	
	baz=346,SNR=5.8							
237A				S			17 37 20.8	
	baz=346							
W41B	**Gary Mavity, V**	**3.92**	**98**	P		**Pn**	**17 36 35.3**	**+0.6**
	baz=281,SNR=44							
W41B	**Gary Mavity, V**	**3.92**	**98**	P			17 36 35.2	
	baz=281,SNR=42							
W41B				S			17 37 21.2	
	baz=281							
W41B	**Gary Mavity, V**	**3.92**	**98**	P			17 36 35.3	
	baz=281,SNR=44							
FCAR	**Ozark Folk Cen**	**3.96**	**87**			**Pn**	**17 36 35.0**	**-0.2**
FCAR				IAmb_Lg			17 37 43.8	
	comp=Z,110nm,0.8s							
MGMO	**Mountain Grove**	**4.04**	**69**			**Pn**	**17 36 36.7**	**+0.3**
MGMO				IAmb_Lg			17 37 49.3	
	comp=Z,141nm,0.7s							
Z41A	**Richland Creek**	**4.29**	**125**	Pb			17 36 49.9	
	baz=308							
Z41A				S			17 37 29.0	
	baz=308							
NATX	**Nacogdoches**	**4.48**	**154**	IAmb_Lg			17 38 02.0	
	comp=Z,77nm,0.8s							
R40A	**Maddies Statio**	**4.52**	**55**	Pn		**Pn**	**17 36 43.3**	**+0.3**
R40A	**Maddies Statio**	**4.52**	**55**	P		**Pn**	**17 36 43.3**	**+0.3**
	baz=238,SNR=27							
R40A	**Maddies Statio**	**4.52**	**55**	P			17 36 43.3	
	baz=238,SNR=27							
CCAR	**Cane Creek**	**4.69**	**112**			**Pn**	**17 36 45.8**	**+0.5**
CCAR				IAmb_Lg			17 38 12.9	
	comp=Z,93nm,0.9s							
CCAR	**Cane Creek**	**4.69**	**112**	S		**Sn**	**17 37 40.3**	**+0.3**
	baz=295							
CCAR	**Cane Creek**	**4.69**	**112**	S			17 37 40.3	
	baz=295							
P38A	**Dawn**	**4.70**	**35**			**Pn**	**17 36 45.7**	**+0.3**
P38A				IAmb_Lg			17 38 09.1	
	comp=Z,94nm,0.7s							
LCAR	**Lake Charles**	**4.75**	**85**			**Pn**	**17 36 45.9**	**-0.2**
LCAR				IAmb_Lg			17 38 07.2	
	comp=Z,80nm,0.9s							
T42A	**Van Buren**	**4.91**	**74**			**Pn**	**17 36 48.6**	**+0.3**
T42A				IAmb_Lg			17 38 18.6	
	comp=Z,99nm,0.9s							
T42A	**Van Buren**	**4.91**	**74**	P		**Pn**	**17 36 48.6**	**+0.3**
	baz=257,SNR=5.9							
T42A	**Van Buren**	**4.91**	**74**	P			17 36 48.6	
	baz=257,SNR=5.9							
N33A	**J Bar K, Exete**	**4.94**	**356**	Pn		**Pn**	**17 36 48.9**	**+0.2**
N33A				IAmb_Lg			17 38 14.3	
	comp=Z,87nm,0.8s							
435B	**Jarrell**	**5.04**	**186**			**Pn**	**17 36 49.9**	**-0.1**
435B				IAmb_Lg			17 38 20.3	
	comp=Z,102nm,0.9s							
435B	**Jarrell**	**5.04**	**186**	Sb			17 38 08.9	
	baz=5.3							
MSTX	**Muleshoe**	**5.09**	**251**			**Pn**	**17 36 50.8**	**-0.1**
MSTX	**Muleshoe**	**5.09**	**251**	P			17 36 50.9	
	baz=67							
CCM	**Cathedral Cave**	**5.12**	**62**	IAmb_Lg			17 38 14.8	
	comp=Z,126nm,0.9s							
N35A	**Tabor**	**5.16**	**11**	Pn		**Pn**	**17 36 51.8**	**+0.1**
PBMO	**Poplar Bluff**	**5.39**	**78**	IAmb_Lg			17 38 25.7	
	comp=Z,142nm,0.8s							
P40A	**Paris**	**5.40**	**45**			**Pn**	**17 36 55.7**	**+0.6**
LPAR	**Lepanto**	**5.45**	**90**	IAmb_Lg			17 38 41.9	
	comp=Z,116nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.51**	**307**	Pn		**Pn**	**17 36 56.8**	**+0.1**
KSCO				IAmb_Lg			17 38 34.8	
	comp=Z,124nm,0.8s							
143A	**Socs Landing,**	**5.57**	**122**	Pn		**Pn**	**17 36 57.8**	**+0.4**
BGNE	**Belgrade**	**5.66**	**351**	Pn		**Pn**	**17 36 59.1**	**+0.4**
BGNE				IAmb_Lg			17 38 49.5	
	comp=Z,

P43A	**Skaggs, Pawnee**	**7.05**	**55**	Pn	**Pn**	**17 37 17.6**	**-0.1**
Q44A	**Meyer Farm, Va**	**7.07**	**62**	lAmb_Lg		17 39 28.1	
	comp=Z,125nm,0.8s						
SDCO	**Great Sand Dun**	**7.09**	**288**		**Pn**	**17 37 19.3**	**+0.7**
SDCO				lAmb_Lg		17 39 32.0	
	comp=Z,57nm,1.1s						
SDCO	**Great Sand Dun**	**7.09**	**288**	P		17 37 18.5	
	baz=103						
Q24A	**Divide**	**7.21**	**298**	S		17 38 40.5	
	baz=114						
PLAL	**Pickwick Lake**	**7.33**	**94**		**Pn**	**17 37 21.4**	**-0.2**
WVT	**Waverly**	**7.44**	**85**	S		17 38 44.7	
	baz=270						
K38A	**Parkersburg**	**7.58**	**24**		**Pn**	**17 37 24.5**	**-0.4**
K38A				lAmb_Lg		17 39 45.0	
	comp=Z,110nm,0.7s						
HDIL	**Hopedale**	**7.70**	**50**	Pn	**Pn**	**17 37 25.5**	**-1.0**
HDIL	**Hopedale**	**7.70**	**50**	P		17 37 25.7	
	baz=234						
HDIL				S		17 38 49.6	
	baz=234						
L40A	**Anamosa**	**7.70**	**34**	Pn	**Pn**	**17 37 26.0**	**-0.6**
L40A				lAmb_Lg		17 39 37.6	
	comp=Z,88nm,0.7s						
ISCO	**Idaho Springs**	**7.90**	**303**	Pn	**Pn**	**17 37 29.1**	**-0.6**
ISCO				lAmb_Lg		17 39 56.8	
	comp=Z,51nm,0.8s						
ISCO	**Idaho Springs**	**7.90**	**303**	P		17 37 30.0	
	baz=119						
ECSD	**EROS Data Cent**	**7.92**	**2**	Pn	**Pn**	**17 37 29.5**	**-0.1**
ECSD	**EROS Data Cent**	**7.92**	**2**	P		17 37 28.8	
	baz=182						
O44A	**Mansfield**	**8.01**	**55**	lAmb_Lg		17 39 53.0	
	comp=Z,101nm,0.7s						
MNTX	**Cornudas Mount**	**8.10**	**242**	Pn	**Pn**	**17 37 31.7**	**-0.4**
MNTX	**Cornudas Mount**	**8.10**	**242**	P		17 37 31.6	
	baz=57						
L42A	**Oliver, Polo**	**8.42**	**40**	lAmb_Lg		17 40 09.6	
	comp=Z,106nm,0.8s						
PHWY	**Pilot Hill**	**8.60**	**312**	lAmb_Lg		17 40 14.8	
	comp=Z,61nm,0.9s						
I37A	**Lemond, Waseca**	**8.65**	**18**	lAmb_Lg		17 40 25.0	
	comp=Z,46nm,0.9s						
SUSD	**Miller**	**8.75**	**351**	lAmb_Lg		17 40 37.4	
	comp=Z,45nm,0.7s						
JFWS	**Jewell Farm**	**8.81**	**34**	lAmb_Lg		17 40 11.9	
	comp=Z,82nm,0.8s						
WCI	**Wyandotte Cave**	**8.89**	**71**	lAmb_Lg		17 40 14.9	
	comp=Z,66nm,0.8s						
U49A	**Red Boiling Sp**	**9.10**	**82**	lAmb_Lg		17 40 30.0	
	comp=Z,31nm,1.0s						
MVCO	**Mesa Verde**	**9.37**	**282**	lAmb_Lg		17 40 54.1	
	comp=Z,32nm,1.3s						
FPAL	**Fort Paine**	**9.41**	**94**	lAmb_Lg		17 40 36.7	
	comp=Z,38nm,1.1s						
I40A	**Norwalk**	**9.44**	**29**	lAmb_Lg		17 40 46.8	
	comp=Z,45nm,0.9s						
W50A	**Signal Mountai**	**9.55**	**90**	lAmb_Lg		17 40 58.3	
	comp=Z,33nm,0.7s						
O20A	**White River Ci**	**9.87**	**299**	lAmb_Lg		17 41 05.1	
	comp=Z,35nm,1.2s						
P48A	**Milroy**	**9.87**	**65**	lAmb_Lg		17 40 52.8	
	comp=Z,68nm,0.9s						
T50A	**Nancy**	**9.87**	**79**	lAmb_Lg		17 40 53.8	
	comp=Z,26nm,0.8s						
RSSD	**Black Hills**	**9.90**	**329**	lAmb_Lg		17 41 02.6	
	comp=Z,56nm,1.1s						
RWWY	**Rawlins**	**9.90**	**309**	lAmb_Lg		17 40 55.2	
	comp=Z,75nm,1.2s						

*NEIC **01** 17:55:55.0±1.3,21˚18S±0˚06×179˚0W±0˚2, h614km±9km, mb4.6/37, Error ellipse: s-maj=21.7km s-min=8.5km az=82.0*
*IDC **01** 17:55:57.7±1.5,21˚07S×179˚28W, h635km±16km, mb3.1/9, mb1 3.3/10, mb1mx3.1/25, mbtmp4.1/10, Error ellipse: s-maj=19.9km s-min=15.8km az=133.0*

ISC 01 17:55:55.2±0.5, 21˚19S±0˚08×179˚0W±0˚1, h619km, n67, σ1$54/62, mb4.4/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.42**	**321**	P	**P**	**17 57 26.7**	**+1.5**
	17nm,0.3s,baz=144,slow=17,SNR=53						
MSVF	**Nonsavu**	**4.42**	**321**	P	**P**	**17 57 26.5**	**+1.3**
AFI	**Afiamalu**	**10.00**	**45**	P	**P**	**17 58 13.0**	**-1.6**
	1.3nm,0.3s,baz=349,slow=8.6,SNR=3.9						
OUZ	**Omahuta**	**15.41**	**203**	P	**P**	**17 59 05.3**	**-0.8**
OUZ				lAmb	lAmb	17 59 10.0	
	comp=Z,29nm,0.9s						
URZ	**Urewera**	**17.33**	**190**	P	**P**	**17 59 21.3**	**-2.4**
	comp=Z,2.6nm,0.3s,baz=122,slow=23,SNR=12						
URZ	**Urewera**	**17.33**	**190**	lAmb	lAmb	17 59 23.2	
	comp=Z,40nm,1.2s						
BKZ	**Black Stump Fm**	**18.32**	**191**	P	**P**	**17 59 30.4**	**-2.4**
BKZ				lAmb	lAmb	17 59 40.2	
	comp=Z,39nm,1.5s						
KNTN	**Kanton**	**19.64**	**22**	P	**P**	**17 59 42.5**	**-2.5**
KNTN				lAmb	lAmb	17 59 56.0	
	comp=Z,38nm,1.1s						
BFZ	**Birch Farm**	**19.84**	**191**	P	**P**	**17 59 42.6**	**-3.8**
SNZO	**South Karori**	**20.75**	**193**	P	**P**	**17 59 51.3**	**-3.2**
BHW	**Baring Head**	**20.81**	**193**	P	**P**	**17 59 52.6**	**-2.5**
QRZ	**Quartz Range**	**20.85**	**198**	P	**P**	**17 59 54.1**	**-1.4**
PLWZ	**Palliser**	**20.88**	**192**	P	**P**	**17 59 54.8**	**-1.0**
NNZ	**Nelson**	**20.98**	**196**	P	**P**	**17 59 56.1**	**-0.5**
TUWZ	**Tuamarina**	**21.04**	**195**	P	**P**	**17 59 55.9**	**-1.2**
BSWZ	**Blackbirch Sta**	**21.32**	**195**	P	**P**	**17 59 58.0**	**-1.7**
THZ	**Tophouse**	**21.61**	**197**	P	**P**	**18 00 00.8**	**-1.6**
KHZ	**Kahutara**	**22.07**	**195**	P	**P**	**18 00 04.9**	**-1.4**
LTZ	**Lake Taylor**	**22.73**	**197**	P	**P**	**18 00 10.7**	**-1.6**
LTZ				lAmb	lAmb	18 00 28.9	
	comp=Z,56nm,1.4s						
OXZ	**Oxford**	**23.30**	**197**	P	**P**	**18 00 16.4**	**-0.9**
OXZ				lAmb	lAmb	18 00 18.4	
	comp=Z,32nm,1.1s						
HNR	**Honiara**	**23.38**	**297**	P	**P**	**18 00 17.0**	**-1.4**
MQZ	**McQueen's Vall**	**23.50**	**195**	P	**P**	**18 00 17.9**	**-1.0**
MQZ				lAmb	lAmb	18 00 23.8	
	comp=Z,42nm,1.1s						
RPZ	**Rata Peaks**	**23.93**	**198**	P	**P**	**18 00 20.1**	**-2.7**
RPZ				lAmb	lAmb	18 00 29.0	
	comp=Z,36nm,1.2s						
FOZ	**Fox Glacier**	**24.14**	**200**	P	**P**	**18 00 22.3**	**-2.4**
MLZ	**Mavora Lakes**	**26.33**	**201**	P	**P**	**18 00 40.8**	**-3.2**
MLZ				lAmb	lAmb	18 00 49.3	
	comp=Z,43nm,1.4s						
WHZ	**Wether Hill Ro**	**26.85**	**200**	P	**P**	**18 00 45.9**	**-2.6**
WHZ				lAmb	lAmb	18 00 50.8	
	comp=Z,23nm,0.9s						
CTA	**Charters Tower**	**32.48**	**266**	P	**P**	**18 01 37.3**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=105,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**32.48**	**266**	P	**P**	**18 01 37.0**	**-0.2**
CTAO				lAmb	lAmb	18 01 38.3	
	comp=Z,5.0nm,0.8s						
STKA	**Stephens Creek**	**36.63**	**245**	P	**P**	**18 02 12.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=106,slow=6.2,SNR=6.2						
BBOO	**Buckleboo**	**41.39**	**244**	P	**P**	**18 02 49.3**	**-0.3**
BBOO				lAmb	lAmb	18 02 57.7	
	comp=Z,27nm,1.4s						
WR0	**Warramunga Arr**	**43.38**	**263**	P	**P**	**18 03 04.2**	**-1.0**
ASAR	**Alice Springs**	**43.44**	**258**	P	**P**	**18 03 05.6**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=87,slow=7.4,SNR=11						
ASAR				ScP	**ScP**	**18 07 33.6**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=103,slow=4.1,SNR=4.5						
ASAR				S	**S**	**18 08 48.2**	**-2.7**
	comp=Z,1.3nm,0.8s,baz=94,slow=16,SNR=9.3						
ASAR	**Alice Springs**	**43.44**	**258**	P	**P**	**18 03 04.9**	**-0.7**
WB0	**Warramunga Arr**	**43.55**	**263**	P	**P**	**18 03 06.1**	**-0.4**
WB2	**Warramunga Arr**	**43.56**	**263**	P	**P**	**18 03 06.2**	**-0.4**
WRA	**Warramunga Arr**	**43.57**	**263**	P	**P**	**18 03 06.1**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=96,slow=8.7,SNR=26						
MTN	**Manton Dam**	**48.23**	**272**	P	**P**	**18 03 40.7**	**-1.1**
MTN				lAmb	lAmb	18 03 49.9	
	comp=Z,21nm,1.3s						
KNRA	**Kununurra**	**49.67**	**267**	P	**P**	**18 03 52.1**	**-0.3**
KNRA				lAmb	lAmb	18 04 11.9	
	comp=Z,28nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.00**	**263**	P	**P**	**18 04 09.4**	**+0.2**
FITZ				lAmb	lAmb	18 04 19.3	
	comp=Z,13nm,1.5s						
SOEI	**Soe**	**55.58**	**273**	P	**P**	**18 04 36.0**	**+1.4**
SOEI				lAmb	lAmb	18 04 36.5	
	comp=Z,34nm,1.3s						
SBA	**Scott Base**	**57.12**	**184**	P	**P**	**18 04 44.1**	**+0.2**
VNDA	**Vanda**	**57.14**	**185**	P	**P**	**18 04 46.3**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=356,slow=7.9,SNR=20						
VNDA	**Vanda**	**57.14**	**185**	P	**P**	**18 04 46.2**	**+2.2**
QSPA	**South Pole Qui**	**68.88**	**180**	P	**P**	**18 06 00.8**	**+1.5**
QSPA				lAmb	lAmb	18 06 01.8	
	comp=Z,9.6nm,0.9s						
MJAR	**Matsushiro Arr**	**70.21**	**324**	P	**P**	**18 06 07.7**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=164,slow=6.1,SNR=6.1						
MJAR	**Matsushiro Arr**	**70.21**	**324**	lAmb	lAmb	18 06 08.5	
	comp=Z,1.6nm,0.8s						
MAT	**Matsushiro**	**70.21**	**324**	P	**P**	**18 06 07.4**	**-0.1**
ADK	**Adak**	**72.79**	**2**	P	**P**	**18 06 22.5**	**+0.4**
ADK				lAmb	lAmb	18 06 51.7	
	comp=Z,36nm,1.3s						
PETK	**Petropavlovsk-**	**76.70**	**346**	P	**P**	**18 06 45.3**	**+1.4**
	comp=Z,5.9nm,0.9s,baz=111,slow=7.9,SNR=2.3						
BELA	**Belgrano 2**	**78.99**	**173**	P	**P**	**18 06 56.5**	**+0.6**
TRF	**Thorofare Moun**	**87.33**	**12**	P	**P**	**18 07 37.6**	**+0.2**
TRF				lAmb	lAmb	18 07 38.8	
	comp=Z,5.5nm,0.8s						
SNAA	**Sanae**	**87.34**	**179**	P	**P**	**18 07 36.7**	**-0.7**
VNA3	**Neumayer Olymp**	**87.51**	**177**	P	**P**	**18 07 38.3**	**+0.1**
VNA1	**Neumayer--Stat**	**88.17**	**177**	P	**P**	**18 07 42.2**	**+1.0**
ILAR	**Eielson Array**	**89.20**	**13**	P	**P**	**18 07 46.3**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=215,slow=5.2,SNR=7.4						
ILAR	**Eielson Array**	**89.20**	**13**	P	**P**	**18 07 46.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**18 07 49.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=119,slow=3.1,SNR=7.1						
KAN10	**Anthony SW Sta**	**95.64**	**52**		pP	18 10 28.7	-0.2
ARCES	**ARCESS Array B**	**129.43**	**349**	SKPbc	SKPbc	18 16 19.7	+0.6
	comp=Z,5.4nm,1.0s,baz=2.8,slow=3.7,SNR=4.2						
FINES	**FINESS Array B**	**136.16**	**343**	SKPbc	**SKPbc**	**18 16 40.4**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=8.5,slow=3.9,SNR=6.9						
AKASG	**Malin Array Be**	**143.15**	**330**	PKP	PKPab	18 14 17.8	-0.2
	comp=Z,2.8nm,0.4s,baz=43,slow=4.5,SNR=29						
AKASG	**Malin Array Be**	**143.15**	**330**		PKPab	18 14 18.0	0.0
AKBB	**Malin Array Si**	**143.15**	**330**		PKPab	18 14 17.7	-0.2
BRTR	**Keskin Array B**	**146.59**	**311**	PKPbc	**PKPbc**	**18 14 28.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=128,slow=2.9,SNR=3.8						
CLL	**Collm**	**148.51**	**346**	*e*PKPbc	**PKPbc**	**18 14 34.0**	**+0.7**
GERES	**GERESS Array B**	**150.59**	**343**	PKPbc	**PKPbc**	**18 14 37.8**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=15,slow=5.8,SNR=4.9						
GERES	**GERESS Array B**	**150.59**	**343**		**PKPbc**	**18 14 38.9**	**+0.4**

*GUC **01** 18:12:27.1±0.7,30˚64S×70˚31W, h10km±3km, ML4.3*
*NEIC **01** 18:12:28.1±1.8,30˚62S±0˚04×70˚25W±0˚06, h3km±12km, Error ellipse: s-maj=7.4km s-min=5.0km az=71.0*

ISC 01 18:12:29.4±1.5, 30˚61S±0˚02×70˚45W±0˚08, h11km±10km, n56, σ1$10/74, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO03	**El Pedregal**	**0.30**	**222**	⇓*i*P	**Pg**	**18 12 35.9**	**+0.3**
CO03				*i* S	**Sb**	**18 12 42.6**	**+0.7**
CO03	**El Pedregal**	**0.30**	**222**	⇓*i*P	**Pg**	**18 12 35.9**	**+0.3**
CO03				*i* S	**Sb**	**18 12 42.6**	**+0.7**
CO03	**El Pedregal**	**0.30**	**222**	Pg	**Pg**	**18 12 35.8**	**+0.3**
GO04	**Tololo Observa**	**0.53**	**326**	*e*P	**Pg**	**18 12 40.3**	**+0.5**
GO04				*i* S	**Sn**	**18 12 50.5**	**-1.6**
GO04	**Tololo Observa**	**0.53**	**326**	*e*P	**Pg**	**18 12 40.1**	**+0.3**
GO04				*i* S	**Sn**	**18 12 50.4**	**-1.7**
GO04	**Tololo Observa**	**0.53**	**326**	Pg	**Pg**	**18 12 40.5**	**+0.7**
CO02	**Combarbal**	**0.75**	**218**	Pg	**Pg**	**18 12 43.1**	**-0.9**
CO05	**La Serena**	**0.97**	**315**	⇑*i*P	**Pb**	**18 12 48.0**	**-0.2**
CO05				*i* S	**Sn**	**18 13 04.0**	**+1.4**
CO05	**La Serena**	**0.97**	**315**	⇑*i*P	**Pb**	**18 12 48.0**	**-0.2**
CO05				*i* S	**Sn**	**18 13 04.0**	**+1.4**
LCO	**Las Campanas**	**1.61**	**352**	Pn	**Pn**	**18 12 57.1**	**-0.8**
ZON	**Zonda**	**1.79**	**122**		Pn	18 12 54.5	-5.6
VA03	**San Esteban**	**2.15**	**182**	*e*P	**Pn**	**18 13 05.5**	**+0.3**
VA03				*i* S	**Sb**	**18 13 34.3**	**-0.6**
VA03				lAML		18 13 35.9	
	comp=N,3μm,0.3s						
VA03	**San Esteban**	**2.15**	**182**	*e*P	**Pn**	**18 13 05.5**	**+0.3**
VA03				*i* S	**Sb**	**18 13 34.0**	**-1.0**
VA03				lAML		18 13 35.9	
	comp=N,3μm,0.3s						
VA03	**San Esteban**	**2.15**	**182**		**Pn**	**18 13 05.4**	**+0.3**
ROCH	**El Roble**	**2.40**	**191**	⇑*i*P	**Pn**	**18 13 08.9**	**+0.2**
ROCH				*i* S	**Sb**	**18 13 41.4**	**-1.0**
ROCH				lAML		18 13 44.5	
	comp=N,2μm,0.3s						
ROCH	**El Roble**	**2.40**	**191**	⇑*i*P	**Pn**	**18 13 08.9**	**+0.2**
ROCH				*i* S	**Sb**	**18 13 41.4**	**-1.0**
ROCH				lAML		18 13 44.5	
	comp=N,2μm,0.3s						
AC04	**Llanos de Chal**	**2.46**	**347**	*e*P	**Pn**	**18 13 10.4**	**+1.0**
AC04				*i* S	**Sb**	**18 13 44.3**	**+0.4**
AC04	**Llanos de Chal**	**2.46**	**347**	*e*P	**Pn**	**18 13 10.4**	**+1.0**
AC04				*i* S	**Sb**	**18 13 44.3**	**+0.4**
AC04	**Llanos de Chal**	**2.46**	**347**	Pn	**Pn**	**18 13 10.7**	**+1.3**
VA01	**Torpederas**	**2.61**	**203**	*e*P	**Pn**	**18 13 12.1**	**+0.7**
VA01				*i* S	**Sb**	**18 13 46.9**	**-1.3**
VA01				lAML		18 13 49.4	
	comp=E,724nm,0.4s						
VA01	**Torpederas**	**2.61**	**203**	*e*P	**Pn**	**18 13 12.1**	**+0.7**
VA01				*i* S	**Sb**	**18 13 46.9**	**-1.3**
VA01				lAML		18 13 49.4	
	comp=E,724nm,0.4s						
VA01	**Torpederas**	**2.61**	**203**		**Pn**	**18 13 12.0**	**+0.7**
MT02	**Curacav**	**2.70**	**192**	*e*P	**Pn**	**18 13 12.7**	**-0.1**
MT02				*i* S	**Sb**	**18 13 48.6**	**-2.3**
MT02	**Curacav**	**2.70**	**192**	*e*P	**Pn**	**18 13 12.7**	**-0.1**
MT02				*i* S	**Sb**	**18 13 48.6**	**-2.3**
MT02	**Curacav**	**2.70**	**192**		**Pn**	**18 13 12.6**	**-0.2**
MT05	**Renca**	**2.78**	**185**	*e*P	**Pn**	**18 13 14.3**	**+0.4**
MT05	**Renca**	**2.78**	**185**	*e*P	**Pn**	**18 13 14.3**	**+0.4**
MT05	**Renca**	**2.78**	**185**	Pn	**Pn**	**18 13 14.3**	**+0.4**
MT03	**Universidad Ad**	**2.87**	**181**	*e*P	**Pn**	**18 13 16.0**	**+0.8**
MT03	**Universidad Ad**	**2.87**	**181**	*e*P	**Pn**	**18 13 16.0**	**+0.8**
MT03	**Universidad Ad**	**2.87**	**181**		**Pn**	**18 13 15.4**	**+0.3**
GO03	**Copiap**	**3.01**	**4**	*e*P	**Pn**	**18 13 17.6**	**+0.6**
GO03	**Copiap**	**3.01**	**4**	*e*P	**Pn**	**18 13 17.6**	**+0.6**
GO03	**Copiap**	**3.01**	**4**		**Pn**	**18 13 17.4**	**+0.4**
MT09	**Talagante**	**3.19**	**188**	*e*P	**Pn**	**18 13 19.9**	**+0.4**
MT09				*i* S	**Sb**	**18 14 04.0**	**-1.0**
MT09				lAML		18 14 07.7	
	comp=N,1μm,0.3s						
MT09	**Talagante**	**3.19**	**188**	*e*P	**Pn**	**18 13 19.9**	**+0.4**
MT09				*i* S	**Sb**	**18 14 04.0**	**-1.0**
MT09				lAML		18 14 07.7	
	comp=N,1μm,0.3s						
MT09	**Talagante**	**3.19**	**188**		**Pn**	**18 13 19.4**	**-0.1**
VA05	**Santo Domingo**	**3.19**	**198**		**Pn**	**18 13 19.9**	**+0.5**
LMEL	**Las Melosas**	**3.23**	**176**	*e*P	**Pn**	**18 13 20.9**	**+0.7**
LMEL	**Las Melosas**	**3.23**	**176**	*e*P	**Pn**	**18 13 20.9**	**+0.7**
MT01	**Popeta**	**3.31**	**192**	*e*P	**Pn**	**18 13 21.6**	**+0.5**
MT01	**Popeta**	**3.31**	**192**	*e*P	**Pn**	**18 13 21.6**	**+0.5**
MT01	**Popeta**	**3.31**	**192**		**Pn**	**18 13 21.2**	**+0.1**
BO01	**Tunca**	**3.81**	**188**	*e*P	**Pn**	**18 13 28.2**	**+0.3**
BO01				*i* S	**Sn**	**18 14 15.3**	**+2.7**
BO01	**Tunca**	**3.81**	**188**	*e*P	**Pn**	**18 13 28.2**	**+0.3**
BO01				*i* S	**Sn**	**18 14 15.3**	**+2.7**
BO01	**Tunca**	**3.81**	**188**		**Pn**	**18 13 28.0**	**+0.1**
AC02	**Maricunga**	**3.94**	**17**		**Pn**	**18 13 31.8**	**+1.7**
BO02	**Sierra Bellavi**	**4.18**	**184**	*e*P	**Pn**	**18 13 33.6**	**+0.5**
BO02	**Sierra Bellavi**	**4.18**	**184**	*e*P	**Pn**	**18 13 33.6**	**+0.5**
BO02	**Sierra Bellavi**	**4.18**	**184**	Pn	**Pn**	**18 13 33.3**	**+0.2**
AC01	**Pan de Azucar**	**4.45**	**358**		**Pn**	**18 13 36.5**	**-0.3**
GO05	**Huala**	**4.56**	**195**		**Pn**	**18 13 38.0**	**-0.2**
GO02	**Mina Guanaco**	**5.48**	**8**	Pn	**Pn**	**18 13 48.7**	**-2.5**
PB14	**IPOC Station P**	**5.96**	**0**		**Pn**	**18 13 54.3**	**-3.6**
PB15	**IPOC Station P**	**7.43**	**7**		**Pn**	**18 14 15.7**	**-2.2**
LVC	**Limon Verde**	**8.09**	**10**	Pn	Pn	18 14 22.8	-4.3

*NIC **01** 18:32:37.5±0.0,36˚57N×31˚66E, h44km±20km, Ml2.6/3*
*ISK **01** 18:32:37.2,36˚08N×31˚17E, h12km, ML2.4/12*
*DDA **01** 18:32:39.2,36˚26N×31˚28E, h10km±2km, ML2.1*

ISC 01 18:32:37.6±1.3, 36˚22N±0˚04×31˚29E±0˚02, h15km±10km, n30, σ1$00/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEPZ	**Antalya-Kepez**	**0.72**	**21**	*i* P	**Pn**	**18 32 53.0**	**-0.3**
KEPZ				*i* S	**Sn**	**18 33 02.7**	**-1.6**
AKUM	**Antalya-Kumluc**	**0.77**	**278**	*i* P	**Pn**	**18 32 54.4**	**+0.5**
AKUM				*i* S	**Sn**	**18 33 05.0**	**-0.2**
AKUM				lAML		18 33 10.0	
	comp=N,76nm,0.8s						
AKUM				lAML		18 33 12.0	
	comp=E,84nm,0.5s						
GAZI	**Gazipasa**	**0.83**	**89**	*i* P	**Pn**	**18 32 55.5**	**+0.7**
GAZI				*i* S	**Sb**	**18 33 05.3**	**+0.4**
GAZI				lAML		18 33 08.0	
	comp=N,96nm,0.5s						
GAZI				lAML		18 33 08.0	
	comp=E,88nm,0.6s						
GAZI	**Gazipasa**	**0.83**	**89**	PG	**Pn**	**18 32 55.8**	**+1.0**
ELL	**Elmali**	**1.23**	**296**	PN	**Pg**	**18 33 00.6**	**-0.7**
ELL				SN	**Sn**	**18 33 17.5**	**+0.8**
ELL	**Elmali**	**1.23**	**296**	P	**Pg**	**18 33 01.3**	**0.0**
ELL				S	**Sn**	**18 33 19.1**	**+2.4**
SEYD	**Seydisehir-KON**	**1.26**	**20**	PN	**Pg**	**18 33 02.9**	**+1.0**
SEDI	**Konya, Seydise**	**1.28**	**17**	*i* P	**Pg**	**18 33 02.4**	**0.0**
AKAS	**Kas**	**1.36**	**271**	PN	**Pn**	**18 33 01.3**	**-0.8**
AKAS				SN	**Sb**	**18 33 19.1**	**-0.9**
AKMS	**Akamas**	**1.48**	**144**	P	**Pn**	**18 33 03.9**	**+0.3**
AKMS				S	**Sb**	**18 33 25.0**	**+1.7**
AKMS				AML	AML	18 33 29.4	
	comp=E,0.3nm,0.4s						
AKMS				AML	AML	18 33 29.4	
	comp=E,0.3nm,0.4s						
AKMS				AML	AML	18 33 33.2	
	comp=E,0.2nm,0.2s						
AKMS				AML	AML	18 33 33.2	
	comp=E,0.2nm,0.2s						
TEKE	**Tekeli-Mersin**	**1.48**	**93**	PN	**Pg**	**18 33 05.7**	**-0.4**
TEKE				SN	**Sg**	**18 33 26.5**	**+1.1**
ALFC	**Alefka**	**1.51**	**134**	P	**Pn**	**18 33 03.7**	**-0.4**
ALFC				S	**Sn**	**18 33 23.5**	**0.0**
ALFC				AML	AML	18 33 28.9	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	18 33 28.9	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	18 33 31.8	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	18 33 31.8	
	comp=E,0.2nm,0.3s						
BERE	**Bereket-Mersin**	**1.57**	**85**	PN	**Pg**	**18 33 07.2**	**-0.6**
KKBE	**Karaman, Kazim**	**1.66**	**53**	*i* P	**Pg**	**18 33 09.3**	**-0.3**
KKBE				*i* S	**Sg**	**18 33 30.7**	**-0.4**
KKBE				IAML		18 33 36.0	
	comp=N,16nm,0.4s						
LEF	**Lefka**	**1.71**	**130**	PN	**Pn**	**18 33 06.6**	**-0.2**
GOLH	**Golhisar**	**1.71**	**307**	*i* P	**Pg**	**18 33 10.2**	**-0.4**
TEVE	**Tevekalti-Mers**	**1.76**	**82**	PN	**Pb**	**18 33 09.9**	**+0.3**
GULN	**MERSIN_Gulnar**	**1.83**	**91**	*i* P	**Pb**	**18 33 10.9**	**+0.2**
GULN				*i* S	**Sb**	**18 33 33.6**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.83**	**91**	PN	**Pb**	**18 33 10.7**	**-0.1**
DOGA	**KONYA_Doganhis**	**1.91**	**9**	*i* P	**Pb**	**18 33 11.7**	**-0.5**
KONT	**Konya--Tatoy**	**1.92**	**26**	*i* P	**Pb**	**18 33 12.7**	**+0.3**
KONT	**Konya--Tatoy**	**1.92**	**26**	PN	**Pg**	**18 33 13.1**	**-1.4**
IKL	**Isikli**	**1.94**	**89**	PN	**Pb**	**18 33 12.3**	**-0.4**
SZAC	**Souni**	**1.96**	**138**	P	**Pn**	**18 33 10.4**	**+0.1**
SZAC				S	**Sn**	**18 33 35.9**	**+1.2**
SZAC				AML	AML	18 33 46.8	
	comp=N,0.2nm,0.4s						
SZAC				AML	AML	18 33 46.8	
	comp=N,0.2nm,0.4s						
SZAC				AML	AML	18 33 49.2	
	comp=N,0.1nm,0.3s						
SZAC				AML	AML	18 33 49.2	
	comp=N,0.1nm,0.3s						
KEBE	**Keben-Mersin**	**1.97**	**83**	PN	**Pb**	**18 33 12.9**	**-0.4**
CSS	**Mathiatis**	**2.09**	**126**	PN	**Pn**	**18 33 13.0**	**+0.9**
CSS	**Mathiatis**	**2.09**	**126**	P	**Pn**	**18 33 10.9**	**-1.1**
ASGA	**Asgata**	**2.15**	**131**	S	**Sn**	**18 33 38.7**	**-0.6**
MVOU	**Mavrovouni**	**2.26**	**121**	P	**Pn**	**18 33 12.1**	**-2.3**
MVOU				S	**Sn**	**18 33 39.4**	**-2.6**
KERG	**Konya-Eregli**	**2.57**	**

SHLS	**Shalkode**	**4.03**	**264**	*eP*	**Pn**	**18 58 49.6**	**+1.9**
	32nm,0.4s							
SHLS				*eS*	**Sn**	**18 59 33.9**	**-1.1**
	182nm,0.3s							
SHLS	**Shalkode**	**4.03**	**264**	Pg	**Pn**	**18 58 49.6**	**+1.9**
	32nm,0.4s							
SHLS				Lg	Lg	18 59 33.9		
	182nm,0.3s							
KAPS	**Kapalarasan**	**4.29**	**293**	*eP*	**Pb**	**18 59 00.8**	**-0.5**
	1.2nm,0.3s							
KAPS				*eS*	**Sb**	**18 59 53.2**	**+0.1**
	5.9nm,0.6s							
KAPS	**Kapalarasan**	**4.29**	**293**	Pg	**Pb**	**18 59 00.8**	**-0.5**
	1.2nm,0.3s							
KAPS				Lg	Lg	18 59 53.2		
	5.9nm,0.6s							
UZB	**Uzynbulak**	**4.35**	**264**	*eP*	**Pb**	**18 59 02.1**	**-0.2**
	9.6nm,0.4s							
UZB				*eS*	**Sb**	**18 59 54.7**	**-0.2**
	39nm,0.4s							
UZB	**Uzynbulak**	**4.35**	**264**	Pg	**Pb**	**18 59 02.1**	**-0.2**
	9.6nm,0.4s							
UZB				Lg	Lg	18 59 54.7		
	39nm,0.4s							
KPKS	**Kokpek**	**4.55**	**269**	*eP*	**Pb**	**18 59 05.3**	**-0.5**
	27nm,0.7s							
KPKS				*eS*	**Sb**	**19 00 00.4**	**-0.3**
	106nm,0.5s							
SATY	**Saty**	**4.80**	**264**	*eP*	**Pb**	**18 59 09.9**	**-0.2**
	5.5nm,0.1s							
SATY				*eS*	**Sb**	**19 00 08.7**	**+0.6**
	27nm,0.4s							
SATY	**Saty**	**4.80**	**264**	Pg	**Pb**	**18 59 09.8**	**-0.4**
	7.7nm,0.4s							
SATY				Lg	Lg	19 00 08.7		
	27nm,0.4s							
ARXS	**Arharly**	**5.16**	**278**	*eP*	**Pb**	**18 59 15.5**	**-0.6**
	11nm,0.6s							
ARXS				*eS*	**Sb**	**19 00 18.1**	**0.0**
	23nm,0.5s							
KOTS	**Kotyrbulak**	**5.71**	**268**	*eP*	**Pb**	**18 59 29.3**	**+3.6**
	6.5nm,0.4s							
KOTS				*eS*	**Sb**	**19 00 41.3**	**+7.0**
	18nm,0.4s							
CHKK	**Chushkaly**	**5.76**	**274**	*eP*	**Pb**	**18 59 29.6**	**+3.3**
	3.1nm,0.3s							
CHKK				*eS*	**Sb**	**19 00 42.2**	**+6.9**
	11nm,0.4s							
MDOK	**Medeo**	**5.77**	**267**	*eP*	**Pb**	**18 59 29.3**	**+2.7**
	5.2nm,0.6s							
MDOK				*eS*	**Sb**	**19 00 41.9**	**+6.0**
	10nm,0.7s							
MDOK	**Medeo**	**5.77**	**267**	Pn	**Pn**	**18 59 13.4**	**+1.7**
	13nm,1.2s							
MDOK				Lg	Lg	19 00 40.0		
	16nm,0.7s							
KTBS	**Karatobe**	**5.98**	**273**	*eP*	Pb	18 59 35.5	+5.3	
	2.9nm,0.6s							
KTBS				*eS*	**Sg**	**19 00 52.2**	**-5.6**	
	15nm,0.8s							
IZV	**Izvestkoviy**	**6.11**	**266**	*eP*	**Pb**	**18 59 35.4**	**+3.0**
	5.3nm,0.7s							
IZV				*eS*	**Sb**	**19 00 52.1**	**+6.6**
	13nm,0.5s							
KUU	**Kurty**	**6.22**	**275**	*eP*	**Pb**	**18 59 36.7**	**+2.4**
	2.5nm,0.4s							
KUU				*eS*	**Sb**	**19 00 54.1**	**+5.3**
	16nm,0.6s							
KUU	**Kurty**	**6.22**	**275**	Pg	**Pb**	**18 59 36.7**	**+2.4**
	2.5nm,0.4s							
KUU				Lg	Lg	19 00 54.1		
	16nm,0.6s							
KST	**Kastek**	**6.57**	**267**	*eP*	**Pb**	**18 59 42.8**	**+2.5**
	2.7nm,1.0s							
KST				*eS*	**Sb**	**19 01 04.7**	**+5.8**
	6.0nm,0.7s							
DGS	**Degeres**	**6.69**	**269**	*eP*	Pb	18 59 48.3	+6.1	
	4.0nm,0.4s							
DGS				*eS*	**Sg**	**19 01 14.3**	**-6.0**	
	8.4nm,0.8s							
KRBS	**Karabastau**	**6.71**	**273**	*eP*	**Pb**	**18 59 45.6**	**+3.0**
	0.9nm,0.3s							
KRBS				*eS*	**Sb**	**19 01 09.0**	**+6.2**
	3.5nm,0.6s							
TKM2	**Tokmak 2**	**6.86**	**267**	⇑Pn	**Pn**	**18 59 29.1**	**+2.5**
	2.7nm,0.8s							
TKM2				⇑Lg	Lg	19 01 14.5		
	8.2nm,0.8s							
SEM	**Semipalatinsk**	**7.41**	**336**	*eP*	**Pg**	**19 00 06.3**	**-1.4**
	3.4nm,0.3s							
SEM				*eS*	**Sg**	**19 01 44.8**	**+1.1**
	22nm,0.9s							
SEM	**Semipalatinsk**	**7.41**	**336**	Pg	**Pg**	**19 00 06.3**	**-1.4**
	3.4nm,0.3s							
SEM				Lg	Lg	19 01 44.8		
	22nm,0.9s							
KURBB	**Kurchatov Arra**	**8.16**	**330**	Pn	**Pn**	**18 59 44.4**	**+0.1**
	0.1nm,0.3s,baz=147,slow=12,SNR=9.6							
KURBB				Sn	**Sn**	**19 01 17.3**	**+0.8**	
	0.3nm,0.3s,baz=321,slow=18,SNR=6.4							
KURBB				Lg	Lg	19 02 06.8		
	0.3nm,0.3s,baz=158,slow=32,SNR=11							
KURBB	**Kurchatov Arra**	**8.16**	**330**	⇓Pn	**Pn**	**18 59 44.5**	**+0.1**
	1.8nm,0.6s							
KURBB				⇓Lg	Lg	19 02 08.4		
	49nm,0.7s							
ZALV	**Zalesovo Beam**	**10.24**	**360**	Pn	**Pn**	**19 00 13.4**	**+0.8**
	0.4nm,0.3s,baz=188,slow=9.8,SNR=6.3							
ZALV				Sn	**Sn**	**19 02 07.6**	**+0.2**	
	0.8nm,0.3s,baz=175,slow=24,SNR=8.3							
ZALV				Lg	Lg	19 03 19.7		
	0.2nm,0.3s,baz=192,slow=26,SNR=2.7							
SONM	**Songino Array**	**15.52**	**67**	Pn	**P**	**19 01 29.8**	**+0.7**	
	0.0nm,0.3s,baz=262,slow=10,SNR=4.4							
AKTO	**Aktyubinsk**	**19.46**	**300**	LR	LR	19 10 10.9		
	comp=Z,32nm,20.7s,baz=114,slow=39							
AKASG	**Malin Array Be**	**37.70**	**301**	P	**P**	**19 04 59.4**	**-1.7**	
	0.1nm,0.3s,baz=61,slow=9.0,SNR=3.2							
FINES	**FINESS Array B**	**38.36**	**318**	P	**P**	**19 05 04.4**	**-2.2**	
	2.5nm,0.9s,baz=121,slow=16,SNR=2.0							
TORD	**Torodi Ar. Bea**	**76.19**	**275**	P	**P**	**19 09 31.1**	**-3.3**	
	0.5nm,0.9s,baz=32,slow=5.4,SNR=1.7							
STKA	**Stephens Creek**	**91.31**	**135**	LR	LR	19 55 20.0		
	comp=Z,56nm,18.2s,baz=206,slow=38							

IDC 01 19:08:34.4±8.4, 34°.62N×80°.18E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/33, mbtmp3.2/3, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/16, Error ellipse: s-maj=168.8km s-min=34.6km az=78.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.27**	**7**	Pn	Pn	19 11 31.1	+0.8
	0.1nm,0.3s,baz=190,slow=12,SNR=4.2						
CMAR	**Chiang Mai Arr**	**23.19**	**129**	P	P	19 13 42.9	0.0
	0.4nm,0.6s,baz=316,slow=11,SNR=4.7						
SONM	**Songino Array**	**23.59**	**48**	P	P	19 13 46.8	-0.1
	0.3nm,0.5s,baz=255,slow=9.3,SNR=4.9						
ARCES	**ARCESS Array B**	**45.80**	**336**	LR	LR	19 36 00.4	
	comp=Z,50nm,18.3s,baz=10.0,slow=36						

*ANF **01** 19:19:43.9±0.2, 35°.81N×96°.98W, h6km, ML3.6/12, Error ellipse: s-maj=2.7km s-min=1.9km az=148.0*
*TUL **01** 19:19:43.8±1.5, 35°.79N±0°.03×96°.99W±0°.03, h6km±5km, ML3.5, mb_Lg3.2/108(NEIC), Error ellipse: s-maj=4.7km s-min=1.7km az=135.0*
*NEIC **01** 19:19:44.3±1.7, 35°.80N±0°.03×97°.01W±0°.03, h10km±4km, Error ellipse: s-maj=5.3km s-min=1.7km az=136.0*
ISC 01 19:19:44.4±1.0, 35°.81N±0°.02×97°.00W±0°.02, h7km±8km, n108, σ0°82/100, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.20**	**41**	Pg	**Pg**	**19 19 48.2**	**-0.1**
OK031				Sg	**Sg**	**19 19 51.5**	**+0.5**
OK030	**Cody Creek RV**	**0.21**	**55**	Pg	**Pg**	**19 19 48.4**	**-0.2**
OK030				Sg	**Sg**	**19 19 51.9**	**+0.4**
OK005	**Luther M Schoo**	**0.22**	**226**	Pg	**Pg**	**19 19 48.2**	**-0.5**
OK005				Sg	**Sg**	**19 19 51.6**	**-0.1**
OK025	**Westminster Rd**	**0.36**	**231**	Pg	**Pg**	**19 19 50.9**	**-0.4**
OK025				Sg	**Sg**	**19 19 56.2**	**+0.2**
OK029	**Liberty Lake**	**0.37**	**269**	Pg	**Pg**	**19 19 51.3**	**-0.3**
OK029				Sg	**Sg**	**19 19 56.7**	**+0.2**
OK011	**Prague**	**0.41**	**141**	Pg	**Pg**	**19 19 51.7**	**-0.7**
OK011				Sg	**Sg**	**19 19 57.3**	**-0.3**
OK009	**Oakdale Elemen**	**0.41**	**237**	Pg	**Pg**	**19 19 51.3**	**-1.1**
OK009				Sg	**Sg**	**19 19 58.1**	**+0.3**
QUOK	**Quay**	**0.43**	**33**	Pg	**Pg**	**19 19 52.6**	**-0.2**
QUOK				Sg	**Sg**	**19 19 58.9**	**+0.4**
BCOK	**Bluff Creek, N**	**0.52**	**253**		**Pg**	**19 19 53.6**	**-0.8**
BCOK				Sg	**Sg**	**19 20 01.4**	**+0.3**
OKCFA	**Oklahoma City**	**0.54**	**224**	Pg	**Pg**	**19 19 54.0**	**-0.7**
OKCFA				Sg	**Sg**	**19 20 01.7**	**0.0**
OKCFA	**Oklahoma City**	**0.54**	**224**	P	**Pg**	**19 19 54.1**	**-0.7**
	baz=45,SNR=14						
OKCFA				S	**Sg**	**19 20 01.7**	**0.0**
	baz=45						
OKCFA	**Oklahoma City**	**0.54**	**224**	P		19 19 54.1	
	baz=45,SNR=14						
OKCFA				S		19 20 01.7	
	baz=45						
OKCSW	**OKLAHOMA CITY**	**0.54**	**222**	Pg	**Pg**	**19 19 53.8**	**-0.9**
OKCSW				Sg	**Sg**	**19 20 01.6**	**-0.1**
FNO	**Franklin**	**0.64**	**211**		**Pg**	**19 19 55.8**	**-0.9**
FNO				Sg	**Sg**	**19 20 04.7**	**-0.3**
FNO				lAmb_Lg		19 20 04.9	
	comp=Z,518nm,0.7s						
W35A	**Tecumseh**	**0.66**	**171**		**Pg**	**19 19 56.0**	**-1.0**
W35A				lAmb_Lg		19 20 05.0	
	comp=Z,445nm,0.9s						
TUL1	**Leonard**	**0.99**	**84**	P	**Pg**	**19 20 01.8**	**-1.5**
	baz=263,SNR=73						
TUL1				S	**Sg**	**19 20 15.1**	**-1.0**
	baz=263						
TUL1	**Leonard**	**0.99**	**84**	P		19 20 01.8	
	baz=263,SNR=73						
TUL1				S		19 20 15.1	
	baz=263						
CROK	**Carrier**	**1.06**	**311**		**Pg**	**19 20 04.0**	**-0.7**
T35A	**Sooner Cattle**	**1.18**	**19**		**Pg**	**19 20 05.8**	**-1.1**
T35A				Sg	**Sg**	**19 20 21.9**	**-0.3**
T35B	**Sooner Cattle**	**1.18**	**19**	P	**Pg**	**19 20 05.8**	**-1.1**
	baz=199,SNR=224						
T35B				S	**Sg**	**19 20 21.8**	**-0.4**
	baz=199						
T35B	**Sooner Cattle**	**1.18**	**19**	P		19 20 05.8	
	baz=199,SNR=224						
T35B				S		19 20 21.8	
	baz=199						
GC02	**Grant County #**	**1.25**	**327**		**Pg**	**19 20 07.5**	**-0.9**
GC02				Sn	**Sg**	**19 20 24.6**	**-0.1**
KAN13	**South Haven SW**	**1.27**	**342**		**Pg**	**19 20 07.6**	**-1.1**
KAN13				Sn	**Sg**	**19 20 25.0**	**-0.1**
X34A	**Smith Ranch, M**	**1.38**	**210**		**Pn**	**19 20 09.3**	**-0.8**
OK032	**Salt Plains WL**	**1.40**	**316**		**Pn**	**19 20 09.9**	**-0.4**
KAN09	**Caldwell North**	**1.42**	**340**	Pn	**Pn**	**19 20 10.1**	**-0.5**
KAN01	**Argonia South**	**1.48**	**336**		**Pn**	**19 20 11.2**	**-0.3**
KAN01				lAmb_Lg		19 20 33.4	
	comp=Z,104nm,0.9s						
KAN10	**Anthony SW Sta**	**1.58**	**326**		**Pn**	**19 20 13.1**	**+0.1**
KAN08	**Anthony NE Sta**	**1.62**	**331**		**Pn**	**19 20 13.6**	**+0.2**
KAN08				lAmb_Lg		19 20 39.5	
	comp=Z,132nm,0.7s						
KAN16	**Harper SW Stat**	**1.66**	**329**		**Pn**	**19 20 14.1**	**+0.1**
KAN12	**Harper NE Stat**	**1.69**	**332**		**Pn**	**19 20 14.8**	**+0.4**
U32A	**Winter Ranch,**	**1.72**	**290**		**Pn**	**19 20 14.7**	**-0.1**
U32A	**Winter Ranch,**	**1.72**	**290**	P	**Pn**	**19 20 14.5**	**-0.3**
	baz=109,SNR=18						
U32A				S	**Sb**	**19 20 38.6**	**+0.4**
	baz=109						
U32A	**Winter Ranch,**	**1.72**	**290**	P		19 20 14.5	
	baz=109,SNR=18						
U32A				S		19 20 38.6	
	baz=109						
X37A	**Clayton**	**1.80**	**132**		**Pn**	**19 20 15.9**	**0.0**
X37A	**Clayton**	**1.80**	**132**	P	**Pn**	**19 20 15.4**	**-0.5**
	baz=313,SNR=20						
X37A				S	**Sn**	**19 20 38.9**	**-0.1**
	baz=313						
X37A	**Clayton**	**1.80**	**132**	P		19 20 15.4	
	baz=313,SNR=20						
X37A				S		19 20 38.9	
	baz=313						
WMOK	**Wichita Mounta**	**1.81**	**234**	Pn	**Pn**	**19 20 15.8**	**-0.2**
WMOK	**Wichita Mounta**	**1.81**	**234**	P	**Pn**	**19 20 15.8**	**-0.2**
	baz=54,SNR=38						
WMOK				S	**Sn**	**19 20 40.0**	**+0.9**
	baz=54						
WMOK	**Wichita Mounta**	**1.81**	**234**	P		19 20 15.8	
	baz=54,SNR=38						
WMOK				S		19 20 40.0	
	baz=54						
LOOK	**Love County**	**1.82**	**185**		**Pn**	**19 20 16.2**	**+0.1**
U38A	**Gravette**	**2.21**	**73**		**Pn**	**19 20 22.0**	**+0.5**
U38A				lAmb_Lg		19 20 55.0	
	comp=Z,111nm,0.8s						
U38A	**Gravette**	**2.21**	**73**	P	**Pn**	**19 20 22.1**	**+0.7**
	baz=254,SNR=40						
U38A	**Gravette**	**2.21**	**73**	P		19 20 22.1	
	baz=254,SNR=40						
Z35A	**Perchaven, San**	**2.48**	**185**		**Pn**	**19 20 25.5**	**+0.4**
Z35A	**Perchaven, San**	**2.48**	**185**	P	**Pn**	**19 20 26.1**	**+0.9**
	baz=5.0						
Z35A	**Perchaven, San**	**2.48**	**185**	P		19 20 26.1	
	baz=5.0						
HHAR	**Hobbs**	**2.52**	**78**		**Pn**	**19 20 26.5**	**+0.7**
W39A	**Magazine**	**2.69**	**102**	Pn	**Pn**	**19 20 27.9**	**-0.1**
W39A	**Magazine**	**2.69**	**102**	P	**Pn**	**19 20 28.0**	**-0.1**
	baz=284,SNR=20						
W39A	**Magazine**	**2.69**	**102**	P		19 20 28.0	
	baz=284,SNR=20						
R32A	**Long Quarter,**	**2.95**	**333**		**Pb**	**19 20 39.0**	**+1.7**
Z38A	**Mt. Pleasant**	**3.04**	**146**	Pn	**Pn**	**19 20 30.9**	**-1.9**
Z38A				lAmb_Lg		19 21 19.4	
	comp=Z,88nm,0.8s						
MIAR	**Mount Ida**	**3.07**	**113**		**Pn**	**19 20 33.1**	**-0.2**
MIAR				lAmb_Lg		19 21 25.5	
	comp=Z,47nm,0.8s						
MIAR	**Mount Ida**	**3.07**	**113**	P	**Pn**	**19 20 33.4**	**+0.1**
	baz=295,SNR=16						
MIAR				S	**Sn**	**19 21 10.8**	**+0.4**
	baz=295						
MIAR	**Mount Ida**	**3.07**	**113**	P		19 20 33.4	
	baz=295,SNR=16						
MIAR				S		19 21 10.8	
	baz=295						
KSU1	**Kansas State U**	**3.30**	**5**		**Pn**	**19 20 36.9**	**+0.3**
KSU1				lAmb_Lg		19 21 33.6	
	comp=Z,47nm,0.8s						
U40A	**Yellville**	**3.40**	**80**		**Pn**	**19 20 38.2**	**+0.3**
U40A				lAmb_Lg		19 21 30.7	
	comp=Z,64nm,0.8s						
S39A	**Bolivar**	**3.50**	**56**		**Pn**	**19 20 39.7**	**+0.5**
S39A	**Bolivar**	**3.50**	**56**	P	**Pn**	**19 20 39.5**	**+0.3**
	baz=238,SNR=17						
S39A				S	**Sn**	**19 21 21.8**	**+0.9**
	baz=238						
S39A	**Bolivar**	**3.50**	**56**	P		19 20 39.5	
	baz=238,SNR=17						
S39A				S		19 21 21.8	
	baz=238						
X40A	**Basin Creek Fa**	**3.66**	**110**		**Pn**	**19 20 42.4**	**+1.0**
X40A				lAmb_Lg		19 21 46.0	
	comp=Z,61nm,0.8s						
WHTX	**Lake Whitney,**	**3.82**	**186**		**Pn**	**19 20 43.9**	**+0.3**
WHTX	**Lake Whitney,**	**3.82**	**186**	Sb	**Sb**	**19 21 41.1**	**+2.4**
	baz=5.7						
WHTX	**Lake Whitney,**	**3.82**	**186**	Sb		19 21 41.1	
	baz=5.7						
WLAR	**White Oak Lake**	**3.83**	**122**	lAmb_Lg		19 21 51.5	
	comp=Z,46nm,0.7s						
ABTX	**Abilene, Hawle**	**3.86**	**215**		**Pn**	**19 20 44.4**	**+0.2**
ABTX				lAmb_Lg		19 21 47.6	
	comp=Z,45nm,1.2s						
WHAR	**Wooly Hollow**	**3.88**	**96**	Pn	**Pn**	**19 20 44.2**	**-0.1**
WHAR				lAmb_Lg		19 21 51.8	
	comp=Z,77nm,1.2s						
W41B	**Gary Mavity, V**	**3.93**	**98**	P	**Pn**	**19 20 45.1**	**0.0**
	baz=280,SNR=24						
W41B				S	**Sn**	**19 21 31.4**	**0.0**
	baz=280						
W41B	**Gary Mavity, V**	**3.93**	**98**	P		19 20 45.1	
	baz=280,SNR=24						
W41B				S		19 21 31.4	
	baz=280						
FCAR	**Ozark Folk Cen**	**3.96**	**87**		**Pn**	**19 20 45.5**	**0.0**
FCAR				lAmb_Lg		19 21 54.4	
	comp=Z,54nm,0.8s						
MGMO	**Mountain Grove**	**4.04**	**69**		**Pn**	**19 20 47.0**	**+0.3**
MGMO				lAmb_Lg		19 22 01.6	
	comp=Z,40nm,0.8s						
R40A	**Maddies Statio**	**4.52**	**55**		**Pn**	**19 20 53.6**	**+0.3**
CCAR	**Cane Creek**	**4.69**	**112**	lAmb_Lg		19 22 23.9	
	comp=Z,28nm,0.7s						
P38A	**Dawn**	**4.70**	**35**	Pn	**Pn**	**19 20 56.2**	**+0.5**
P38A				lAmb_Lg		19 22 20.5	
	comp=Z,65nm,0.9s						
LCAR	**Lake Charles**	**4.75**	**85**		**Pn**	**19 20 55.6**	**-0.8**
LCAR				lAmb_Lg		19 22 18.5	
	comp=Z,49nm,1.0s						
T42A	**Van Buren**	**4.92**	**74**		**Pn**	**19 20 58.6**	**-0.1**
T42A				lAmb_Lg		19 22 15.8	
	comp=Z,41nm,0.8s						
MSTX	**Muleshoe**	**5.09**	**251**	lAmb_Lg		19 22 25.4	
	comp=Z,26nm,1.1s						
CCM	**Cathedral Cave**	**5.13**	**62**	lAmb_Lg		19 22 24.1	
	comp=Z,60nm,0.7s						
PBMO	**Poplar Bluff**	**5.39**	**78**	Pn	**Pn**	**19 21 05.8**	**+0.6**
PBMO				lAmb_Lg		19 22 34.3	
	comp=Z,63nm,0.8s						
P40A	**Paris**	**5.41**	**45**	Pn	**Pn**	**19 21 06.6**	**+1.2**
P40A				lAmb_Lg		19 22 38.8	
	comp=Z,74nm,0.8s						
LPAR	**Lepanto**	**5.45**	**90**	lAmb_Lg		19 22 41.8	
	comp=Z,69nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.50**	**307**	lAmb_Lg		19 22 44.2	
	comp=Z,42nm,0.7s						
BGNE	**Belgrade**	**5.67**	**351**	lAmb_Lg		19 22 56.7	
	comp=Z,53nm,0.8s						
FVM	**French Village**	**5.70**	**66**	lAmb_Lg		19 22 50.0	
	comp=Z,46nm,0.8s						
N38A	**Joes South For**	**5.79**	**30**	Pn	**Pn**	**19 21 10.4**	**-0.3**
PEBM	**Pemiscott Bayo**	**5.80**	**85**	Pn	**Pn**	**19 21 10.4**	**-0.4**
JCT	**Junction City**	**5.81**	**205**		**Pn**	**19 21 11.6**	**+0.6**
JCT				lAmb_Lg		19 22 53.1	
	comp=Z,58nm,0.9s						
SLM	**Saint Louis**	**6.09**	**60**	lAmb_Lg		19 22 54.9	
	comp=Z,52nm,0.9s						
T25A	**Trinidad**	**6.12**	**285**	Pn	**Pn**	**19 21 13.5**	**-2.0**
T25A				lAmb_Lg		19 23 13.2	
	comp=Z,42nm,0.8s						
L34A	**Svendsen Farm,**	**6.17**	**4**	lAmb_Lg		19 23 08.9	
	comp=Z,57nm,0.8s						
OXF	**Oxford**	**6.35**	**100**	Pn	**Pn**	**19 21 17.2**	**-1.2**
OXF				lAmb_Lg		19 23 13.1	
	comp=Z,34nm,1.1s						
W45A	**Hickory Valley**	**6.41**	**94**	lAmb_Lg		19 23 09.5	
	comp=Z,35nm,0.8s						
OGNE	**Ogallala**	**6.48**	**324**	lAmb_Lg		19 23 20.7	
	comp=Z,48nm,0.7s						
T45A	**Paducah**	**6.84**	**77**	lAmb_Lg		19 23 35.5	
	comp=Z,40nm,0.7s						
N41A	**Harden Midland**	**6.88**	**43**	Pn	**Pn**	**19 21 24.3**	**-1.3**
SDCO	**Great Sand Dun**	**7.09**	**288**		**Pn**	**19 21 29.1**	**+0.2**
SDCO				lAmb_Lg		19 23 32.3	
	comp=Z,18nm,1.1s						
WVT	**Waverly**	**7.44**	**85**	lAmb_Lg		19 23 45.3	
	comp=Z,16nm,1.0s						
K38A	**Parkersburg**	**7.58**	**24**	lAmb_Lg		19 23 51.6	
	comp=Z,26nm,0.8s						
L40A	**Anamosa**	**7.70**	**34**	lAmb_Lg		19 23 46.9	
	comp=Z,35nm,0.7s						
ANMO	**Albuquerque**	**7.77**	**266**	Pn	**Pn**	**19 21 35.6**	**-2.6**
ECSD	**EROS Data Cent**	**7.92**	**2**		**Pn**	**19 21 38.0**	**-1.9**
O44A	**Mansfield**	**8.01**	**55**	lAmb_Lg		19 24 08.8	
	comp=Z,38nm,0.7s						
L42A	**Oliver, Polo**	**8.42**	**41**	Pn	**Pn**	**19 21 45.7**	**-1.1**
L42A				lAmb_Lg		19 24 18.9	
	comp=Z,38nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.56**	**223**	Pn	**Pn**	**19 21 46.5**	**-2.3**
TXAR	**Lajitas Array**	**8.56**	**223**	Pn	**Pn**	**19 21 47.9**	**-1.0**
PHWY	**Pilot Hill**	**8.60**	**312**	lAmb_Lg		19 24 24.0	
	comp=Z,18nm,0.8s						
I37A	**Lemond, Waseca**	**8.65**	**18**	lAmb_Lg		19 24 35.1	
	comp=Z,17nm,0.8s						
JFWS	**Jewell Farm**	**8.81**	**34**	lAmb_Lg		19 24 28.5	
	comp=Z,25nm,0.7s						
WCI	**Wyandotte Cave**	**8.90**	**71**	lAmb_Lg		19 24 24.6	
	comp=Z,31nm,0.7s						
SFIN	**Lafayette**	**9.04**	**57**	lAmb_Lg		19 24 28.9	
	comp=Z,33nm,0.7s						
U49A	**Red Boiling Sp**	**9.10**	**82**	lAmb_Lg		19 24 36.9	
	comp=Z,23nm,1.2s						
I40A	**Norwalk**	**9.45**	**29**	lAmb_Lg		19 25 06.0	
	comp=Z,20nm,0.8s						
121A	**Cookes Peak, D**	**9.51**	**253**	lAmb_Lg		19 24 56.8	
	comp=Z,14nm,1.1s						
W50A	**Signal Mountai**	**9.55**	**90**	lAmb_Lg		19 25 08.8	
	comp=Z,18nm,0.9s						
250A	**Grady**	**9.70**	**110**	lAmb_Lg		19 24 58.9	
	comp=Z,21nm,0.7s						
R49A	**Shelbyville**	**9.77**	**72**	lAmb_Lg		19 25 01.5	
	comp=Z,13nm,0.7s						
P48A	**Milroy**	**9.88**	**65**	lAmb_Lg		19 24 51.6	
	comp=Z,22nm,0.7s						
T50A	**Nancy**	**9.88**	**79**	lAmb_Lg		19 24 54.2	
	comp=Z,11nm,0.8s						
RWWY	**Rawlins**	**9.90**	**309**	lAmb_Lg		19 25 09.8	
	comp=Z,26nm,1.2s						
PDAR	**Pinedale Array**	**11.95**	**309**		Pn	19 22 30.4	-5.0

*NEIC **01** 19:29:38.1±1.4, 0°.92N±0°.09×123°.91E±0°.04, h221km±11km, mb4.2/13, Error ellipse: s-maj=13.6km s-min=6.2km az=172.0*
*DJA **01** 19:29:40.4±0.5, 1°N±5°×12°4E±°, h225km±5km, M3.8/9, MLv3.8/9*
*IDC **01** 19:29:44.3±4.4, 0°.84N×123°.77E, h300km±52km, mb3.2/8, mb1 3.3/9, mb1mx3.0/42, mbtmp3.9/9, Error ellipse: s-maj=44.7km s-min=14.1km az=70.0*
ISC 01 19:29:39.5±0.6, 0°.86N±0°.06×123°.93E±0°.05, h250km, n35, σ1°49/38, mb3.8/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.29**	**171**	P	**Pn**	**19 30 10.2**	**-1.8**
KMSI				S	**S**	**19 30 34.0**	**-3.5**
GTOI	**Gorontalo**	**0.95**	**256**	P	**Pn**

STKA	**Stephens Creek**	**36.61**	**154**	P		**P**	**19 36 23.8**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=326,slow=11,SNR=3.9							
USRK	**Ussuriysk Ar.**	**43.74**	**8**	P		**P**	**19 37 20.2**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=195,slow=7.0,SNR=5.5							
SONM	**Songino Array**	**49.20**	**344**	P		**P**	**19 38 02.3**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=164,slow=8.8,SNR=5.7							
MKAR	**Makanchi Array**	**58.38**	**328**	P		**P**	**19 39 08.2**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=127,slow=8.0,SNR=42							
ZALV	**Zalesovo Beam**	**61.92**	**335**	P		**P**	**19 39 33.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=123,slow=5.3,SNR=1.9							
KKAR	**Karatay Array**	**63.48**	**319**	P		**P**	**19 39 43.5**	**+0.3**

*JMA **01** 19:31:44.6±0.2,30.°77N×143.°30E,h54km,M4.0*
*IDC **01** 19:31:45.1±0.8,30.°74N×143.°17E,h0km,mb3.9/10,*
mb1 4.0/14,mb1mx3.8/43,mbtmp3.9/14,ML3.6/4,MS3.2/3,
Ms1 3.3/3,ms1mx2.6/49,Error ellipse: s-maj=23.2km
s-min=17.0km az=74.0
*NEIC **01** 19:31:49.5±2.1,30.°82N±0.°06×143.°0E±0.°1,h28km±4km,*
mb4.1/6,Error ellipse: s-maj=17.4km s-min=7.4km
az=77.0

ISC 01 19:31:45.9±0.6,**30.°73N**±0.°05×**143.°03E**±0.°10,**h10**km,**n47,**
s1**973/51,mb4.0/12,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.61**	**311**	*eS*		**Sn**	**19 33 22.7**	**-1.9**
JHJ2	**Mitsune**	**3.62**	**312**	Pn		**Pn**	**19 32 42.1**	**0.0**
JHJ2						**Sn**	**19 33 23.1**	**-1.8**
JHJ	**Hachijo jima 2**	**3.65**	**312**	Pn		**Pn**	**19 32 42.3**	**-0.1**
	11nm,0.3s,baz=96,slow=23,SNR=9.1							
JHJ				Sn		**Sn**	**19 33 21.2**	**-4.3**
	44nm,0.3s,baz=300,slow=23,SNR=11							
CBIJ	**Chichi jima**	**3.70**	**192**	P		**Pn**	**19 32 42.1**	**-1.1**
CBIJ				S		**Sn**	**19 33 24.1**	**-2.7**
JCJ	**Chichijima**	**3.70**	**192**	Pn		**Pn**	**19 32 43.1**	**0.0**
	11nm,0.3s,baz=5.6,slow=18,SNR=24							
JCJ				Sn		**Sn**	**19 33 22.5**	**-4.3**
	38nm,0.3s,baz=275,slow=24,SNR=10							
JCJ	**Chichijima**	**3.70**	**192**	Pn		**Pn**	**19 32 44.8**	**+1.6**
JCJ						**Sn**	**19 33 23.8**	**-3.0**
BSO1	**Boso 1**	**4.28**	**337**	P		**Pn**	**19 32 49.6**	**-1.0**
JMKN	**Mikurajimanish**	**4.29**	**318**	P		**Pn**	**19 32 51.1**	**-0.2**
JMKN				*eS*		**Sn**	**19 33 38.7**	**-2.7**
BSO3	**Boso 3**	**4.58**	**333**	P		**Pn**	**19 32 54.1**	**-0.9**
JOD2	**Odawara 2**	**5.60**	**325**	P		**Pn**	**19 33 09.0**	**-0.4**
JHU	**Hanno**	**5.99**	**329**	P		**Pn**	**19 33 14.1**	**-0.6**
JHO	**Hitachi**	**6.21**	**341**	P		**Pn**	**19 33 15.8**	**-1.9**
JRY	**Ryogami san**	**6.30**	**328**	P		**Pn**	**19 33 18.4**	**-0.6**
JAG	**Ashikaga**	**6.42**	**333**	P		**Pn**	**19 33 19.4**	**-1.1**
JGF	**Kuroka**	**6.80**	**317**			**Pn**	**19 33 27.7**	**+1.9**
INU	**Inuyama**	**6.83**	**314**	Pn		**Pn**	**19 33 24.7**	**-1.5**
MJAR	**Matsushiro Arr**	**7.05**	**327**	Pn		**Pn**	**19 33 29.2**	**-0.1**
	0.4nm,0.3s,baz=149,slow=11,SNR=28							
MJAR	**Matsushiro Arr**	**7.05**	**327**			**Pn**	**19 33 28.4**	**-0.8**
MAJO	**Matsushiro**	**7.05**	**327**			**Pn**	**19 33 29.2**	**0.0**
MAT	**Matsushiro**	**7.05**	**327**	P		**Pn**	**19 33 29.4**	**+0.1**
MAT				*eS*		**Sn**	**19 34 47.1**	**-2.5**
JMM	**Marumori**	**7.35**	**346**			**Pn**	**19 33 30.7**	**-2.7**
JWT	**Wachi**	**7.85**	**307**	Pn		**Pn**	**19 33 39.0**	**-1.2**
JSD	**Sado**	**8.28**	**333**			**Pn**	**19 33 44.4**	**-1.8**
JKA	**Kamikawa-asahi**	**13.37**	**359**			**Pn**	**19 34 53.1**	**-2.5**
ASAJ	**Asahikawa**	**13.37**	**359**	Pn		**Pn**	**19 34 53.1**	**-2.5**
	0.5nm,0.3s,baz=147,slow=5.7,SNR=5.1							
ASAJ				LR		LR	19 39 37.8	
	comp=Z,38nm,21.9s,baz=167,slow=35							
KSRS	**Korea Array**	**14.19**	**302**	Pn		**Pn**	**19 35 09.7**	**+2.6**
	0.2nm,0.3s,baz=111,slow=12,SNR=9.4							
MDJ	**Mudanjiang**	**17.44**	**326**	P		**P**	**19 35 51.9**	**+1.4**
KLR	**Kul'dur**	**20.36**	**338**	P		Pn	19 36 24.7	+0.2
	2.0nm,0.6s,baz=146,slow=8.5,SNR=8.6							
ULN	**Ulaanbaatar**	**32.31**	**312**	P		**P**	**19 38 14.1**	**-1.2**
ULN				IAmb		IAmb	19 38 31.6	
	comp=Z,3.0nm,1.1s							
YAK	**Yakutsk**	**32.50**	**348**	P		**P**	**19 38 16.1**	**-0.4**
SONM	**Songino Array**	**32.73**	**312**	P		**P**	**19 38 21.1**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=90,slow=10,SNR=7.8							
SONM	**Songino Array**	**32.73**	**312**	P		**P**	**19 38 21.0**	**+2.2**
SONM				IAmb		IAmb	19 38 35.4	
	comp=Z,1.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**41.66**	**263**	LR		LR	19 58 57.1	
	comp=Z,39nm,18.1s,baz=212,slow=39							
TIXI	**Tiksi**	**41.69**	**353**	P		**P**	**19 39 34.5**	**+0.1**
TIXI				IAmb		IAmb	19 39 35.5	
	comp=Z,2.7nm,0.6s							
ZALV	**Zalesovo Beam**	**47.29**	**317**	PcP		**PcP**	**19 41 51.1**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=121,slow=3.6,SNR=4.7							
MK31	**Makanchi Array**	**48.81**	**307**	P		**P**	**19 40 30.9**	**-0.4**
MK31				IAmb		IAmb	19 40 54.1	
	comp=Z,2.2nm,1.0s							
MKAR	**Makanchi Array**	**48.81**	**307**	P		**P**	**19 40 33.0**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=91,slow=9.0,SNR=7.3							
MKAR	**Makanchi Array**	**48.81**	**307**	P		**P**	**19 40 31.3**	**0.0**
WRA	**Warramunga Arr**	**51.07**	**191**	P		**P**	**19 40 49.5**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=9.5,slow=7.8,SNR=6.7							
ILAR	**Eielson Array**	**54.19**	**30**	P		**P**	**19 41 10.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=260,slow=6.8,SNR=9.4							
ASAR	**Alice Springs**	**54.79**	**190**	P		**P**	**19 41 17.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=7.2,slow=7.7,SNR=8.0							
NVAR	**Mina Array Bea**	**77.71**	**53**	P		**P**	**19 43 43.5**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=287,slow=6.1,SNR=11							
AKASG	**Malin Array Be**	**80.13**	**324**	P		**P**	**19 43 56.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=50,slow=5.4,SNR=4.4							
HFS	**Hagfors**	**80.39**	**337**	LR		LR	20 24 21.4	
	comp=Z,27nm,18.1s,baz=234,slow=39							
BRTR	**Keskin Array B**	**84.08**	**313**	P		**P**	**19 44 17.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=128,slow=3.6,SNR=5.8							
TXAR	**Lajitas Array**	**92.84**	**53**	P		**P**	**19 45 00.4**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=284,slow=2.1,SNR=6.8							
LPAZ	**La Paz**	**148.14**	**70**	PKPbc		**PKPbc**	**19 51 34.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=196,slow=7.0,SNR=3.6							

*NEIC **01** 20:01:12.6±2.0,4.°30S±0.°08×125.°79E±0.°10,h414km±2km,*
mb4.5/53,Error ellipse: s-maj=14.5km s-min=12.1km
az=78.0
*DJA **01** 20:01:13.7±0.1,4.°5S±2.°×127.°6E±.°,h426km±3km,M4.4/30,*
mb4.8/30,mB4.9/25,MLv4.9/24,Mw(mB)4.2/25,
MwMwp5.6/2,Mwp5.8/2
*IDC **01** 20:01:13.4±0.9,4.°33S±125.°75E,h428km±10km,mb3.9/24,*
mb1 4.0/28,mb1mx3.9/44,mbtmp4.7/28,Error ellipse:
s-maj=12.8km s-min=7.2km az=74.0

ISC 01 20:01:13.0±0.3,**4.°35S**±0.°04×**125.°80E**±0.°06,**h428**km,**n161,**
s1**902**/170,**mb4.3**/46,**14C-9D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NLAI	**Namlea**	**1.70**	**50**	P		**P**	**20 02 10.3**	**+0.3**
SANI	**Sanana**	**2.29**	**5**	⇓P		**P**	**20 02 13.5**	**+0.1**
SANI	**Sanana**	**2.29**	**5**	P		**P**	**20 02 13.7**	**+0.3**
MSAI	**Masohi**	**3.27**	**72**	P		**P**	**20 02 20.0**	**-0.6**
BNDI	**Bandanaira**	**4.09**	**93**	P		**P**	**20 02 28.0**	**+0.3**
LUWI	**Luwuk**	**4.46**	**317**			**P**	**20 02 31.1**	**-0.1**
LUWI	**Luwuk**	**4.46**	**317**	⇑P		**P**	**20 02 32.1**	**+1.0**
LUWI	**Luwuk**	**4.46**	**317**	P		**P**	**20 02 32.4**	**+1.2**
KMSI	**Cibinong**	**5.21**	**340**	P		**P**	**20 02 40.0**	**+1.5**
	8.7nm29µm2µm,0.6s							
TNTI	**Ternate**	**5.32**	**17**			**P**	**20 02 39.5**	**-0.1**
TNTI	**Ternate**	**5.32**	**17**	⇓P		**P**	**20 02 39.6**	**+0.1**
TNTI	**Ternate**	**5.32**	**17**	P		**P**	**20 02 39.5**	**-0.1**
	0.7nm2µm163nm,0.7s							
APSI	**Ampana**	**5.37**	**309**	P		**P**	**20 02 41.5**	**+1.4**
MMRI	**Maumere**	**5.54**	**220**			**P**	**20 02 43.2**	**+1.4**
MMRI	**Maumere**	**5.54**	**220**	⇑P		**P**	**20 02 43.7**	**+1.9**
MMRI	**Maumere**	**5.54**	**220**	P		**P**	**20 02 43.5**	**+1.7**
	1.4nm3µm400nm,0.8s							
SOEI	**Soe**	**5.59**	**196**			**P**	**20 02 43.2**	**+0.8**
SOEI	**Soe**	**5.59**	**196**	⇑P		**P**	**20 02 43.1**	**+0.8**
SOEI	**Soe**	**5.59**	**196**	P		**P**	**20 02 43.2**	**+0.8**
	1.6nm207nm,0.7s							
BNSI	**Bone**	**5.68**	**269**	P		**P**	**20 02 45.2**	**+2.0**
	0.6nm2µm226nm,0.8s							
SPSI	**Sidrap Palu**	**6.03**	**273**	P		**P**	**20 02 48.4**	**+1.5**
	0.1nm34nm,0.7s							
KAPI	**Kappang**	**6.07**	**263**	P		**P**	**20 02 48.5**	**+1.3**
	9.5nm,0.3s,baz=100,slow=5.3,SNR=48							
KAPI	**Kappang**	**6.07**	**263**			**P**	**20 02 48.0**	**+0.8**
KAPI	**Kappang**	**6.07**	**263**	⇓P		**P**	**20 02 48.9**	**+1.6**
TTSI	**Tana Toraja**	**6.11**	**282**	P		**P**	**20 02 49.6**	**+1.9**
	0.1nm2µm29nm,1.1s							
MRSI	**Marisa**	**6.15**	**321**	P		**P**	**20 02 48.6**	**+0.5**
	1.8nm4µm510nm,0.6s							
BATI	**Baumata**	**6.20**	**200**	P		**P**	**20 02 49.4**	**+0.7**
	129nm,0.3s,baz=61,slow=3.6,SNR=168							
BATI				S		**S**	**20 04 06.3**	**-0.6**
	128nm,0.3s,baz=68,slow=20,SNR=11							
BATI	**Baumata**	**6.20**	**200**	P		**P**	**20 02 49.3**	**+0.7**
	1.1nm5µm190nm,0.7s							
SWI	**Sorong**	**6.46**	**58**	P		**P**	**20 02 52.6**	**+1.2**
	0.5nm1µm57nm,0.7s							
SIJI	**Sorong**	**6.46**	**58**	P		**P**	**20 02 52.5**	**+1.0**
	4.1nm,0.3s,baz=287,slow=6.8,SNR=24							
SIJI				S		**S**	**20 04 10.8**	**-1.2**
	4.7nm,0.3s,baz=98,slow=22,SNR=18							
FAKI	**Fak Fak**	**6.59**	**78**			**P**	**20 02 52.9**	**-0.3**
FAKI	**Fak Fak**	**6.59**	**78**	⇑P		**P**	**20 02 52.8**	**-0.3**
FAKI				⇑S		**S**	**20 04 11.0**	**-3.6**
FAKI	**Fak Fak**	**6.59**	**78**	P		**P**	**20 02 53.4**	**+0.3**
	1.0nm2µm90nm,0.8s							
TOLI2	**Tolitoli**	**7.38**	**317**			**P**	**20 03 01.7**	**0.0**
BASI	**Baing, Sumba**	**7.80**	**221**	P		**P**	**20 03 05.3**	**-1.0**
	0.9nm2µm70nm,0.5s							
KMPI	**Kaimana, Papua**	**7.91**	**85**	P		**P**	**20 03 07.9**	**+0.4**
	1.5nm88µm165nm,0.5s							
SGSI	**Sangihe**	**7.98**	**358**	P		**P**	**20 03 09.0**	**+0.8**
WBSI	**Waikabubak, Su**	**8.26**	**230**	P		**P**	**20 03 09.9**	**-1.3**
	2µm108nm,0.6s							
PLAI	**Plampang**	**9.13**	**240**	P		**P**	**20 03 21.5**	**+0.8**
TWSI	**Taliwang, Sumb**	**9.88**	**243**	P		**P**	**20 03 29.7**	**+0.8**
	881nm23nm,0.6s							
MTN	**Manton Dam**	**9.95**	**148**			**P**	**20 03 30.3**	**+0.6**
KDU	**Kakadu**	**10.59**	**142**	⇑P		**P**	**20 03 37.6**	**+0.8**
SRPI	**Serui, Papua**	**10.71**	**77**	P		**P**	**20 03 40.3**	**+2.2**
	6µm267nm,0.5s							
BAKI	**Biak**	**10.76**	**73**	P		**P**	**20 03 42.2**	**+3.5**
KNRA	**Kununurra**	**11.63**	**166**	P		**P**	**20 03 49.3**	**+1.1**
JAGI	**Jajag, Banyuwa**	**12.28**	**250**	P		**P**	**20 03 55.4**	**+0.1**
JAGI	**Jajag, Banyuwa**	**12.28**	**250**	⇑P		**P**	**20 03 55.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**13.67**	**181**	S		**S**	**20 06 34.6**	**-2.3**
	1.7nm,0.3s,baz=177,slow=19,SNR=23							
FITZ	**Fitzroy Crossi**	**13.67**	**181**	P		**P**	**20 04 10.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**13.67**	**181**	⇓P		**P**	**20 04 10.8**	**+0.5**
FITZ				⇑S		**S**	**20 06 34.8**	**-2.1**
GENI	**Genyem**	**14.44**	**84**	⇑P		**P**	**20 04 20.6**	**+1.7**
GENI	**Genyem**	**14.44**	**84**	P		**P**	**20 04 20.4**	**+1.6**
	2nm34nm,0.8s							
WB0	**Waramunga Arr**	**17.47**	**152**	P		**P**	**20 04 50.5**	**-0.5**
WRAB	**Tennant Creek**	**17.59**	**152**	P		**P**	**20 04 52.0**	**-0.4**
WRAB	**Tennant Creek**	**17.59**	**152**	⇓P		**P**	**20 04 52.0**	**-0.4**
WRA	**Warramunga Arr**	**17.59**	**152**	P		**P**	**20 04 52.0**	**-0.3**
	12nm,0.3s,baz=339,slow=10,SNR=340							
WRA				S		**S**	**20 07 52.3**	**-1.2**
	0.9nm,0.3s,baz=328,slow=18,SNR=8.4							
WRA				ScP		**ScP**	**20 12 01.9**	**-0.1**
	0.3nm,0.3s,baz=328,slow=2.2,SNR=5.1							
WRA	**Warramunga Arr**	**17.59**	**152**	P		**P**	**20 04 50.6**	**-1.8**
WB2	**Warramunga Arr**	**17.60**	**152**	P		**P**	**20 04 51.8**	**-0.6**
WR0	**Warramunga Arr**	**17.70**	**152**	P		**P**	**20 04 53.2**	**-0.3**
PSA00	**Pilbara Seismi**	**18.07**	**198**	P		**P**	**20 04 56.5**	**-0.9**
PSA00				IAmb		IAmb	20 04 58.7	
	comp=Z,22nm,0.6s							
PSA00	**Pilbara Seismi**	**18.07**	**198**	P		**P**	**20 04 55.9**	**-1.5**
PSA00				IAmb		IAmb	20 04 58.7	
	comp=Z,7.2nm,0.7s							
CISI	**Cisompet, Garu**	**18.17**	**259**	P		**P**	**20 04 56.4**	**-2.2**
CISI				IAmb		IAmb	20 05 05.5	
	comp=Z,13nm,0.7s							
CISI	**Cisompet, Garu**	**18.17**	**259**	⇑P		**P**	**20 04 56.6**	**-2.0**
CISI	**Cisompet, Garu**	**18.17**	**259**	P		**P**	**20 04 57.8**	**-0.7**
	comp=Z,2µmcomp=Z,19nm,0.6s							
WRKA	**Warakurna**	**20.71**	**174**	⇓P		**P**	**20 05 23.3**	**+1.0**
AS31	**Alice Springs**	**20.74**	**159**	P		**P**	**20 05 23.2**	**+0.6**
ASAR	**Alice Springs**	**20.74**	**159**	P		**P**	**20 05 23.3**	**+0.7**
	comp=Z,56nm,0.4s,baz=347,slow=14,SNR=339							
ASAR				S		**S**	**20 08 45.9**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=352,slow=23,SNR=9.7							
ASAR				ScP		**ScP**	**20 12 09.6**	**+0.4**
	comp=Z,2.0nm,0.4s,baz=346,slow=2.3,SNR=6.9							
ASAR	**Alice Springs**	**20.74**	**159**	P		**P**	**20 05 23.1**	**+0.5**
ASAR				pP		**ScP**	**20 12 09.4**	**+0.3**
PMG	**Port Moresby**	**21.78**	**104**	P		**P**	**20 05 33.1**	**+1.0**
	comp=Z,13nm,0.6s,baz=304,slow=5.3,SNR=3.6							
PMG	**Port Moresby**	**21.78**	**104**	IAmb		IAmb	20 05 36.1	
	comp=Z,15nm,0.8s							
CTA	**Charters Tower**	**25.33**	**130**	P		**P**	**20 06 04.5**	**+0.6**
	comp=Z,6.1nm,0.8s,baz=321,slow=12,SNR=6.2							
CTA				ScP		**ScP**	**20 12 22.5**	**+1.1**
	baz=247,slow=5.0							
CTAO	**Charters Tower**	**25.33**	**130**	P		**P**	**20 06 04.5**	**+0.6**
CTAO				IAmb		IAmb	20 06 06.1	
	comp=Z,10nm,1.0s							
MORW	**Morawa**	**26.27**	**200**	P		**P**	**20 06 12.1**	**0.0**
MORW				IAmb		IAmb	20 06 21.4	
	comp=Z,34nm,1.4s							
FORT	**Forrest**	**26.38**	**176**	P		**P**	**20 06 13.7**	**+0.7**
FORT	**Forrest**	**26.38**	**176**	⇓P		**P**	**20 06 13.7**	**+0.7**
TPUB	**Ta-pu**	**27.94**	**350**	P		**P**	**20 06 26.2**	**-0.7**
TPUB				IAmb		IAmb	20 06 26.7	
	comp=Z,31nm,0.8s							
NWAO	**Narrogin (SRO)**	**29.54**	**195**	P		**P**	**20 06 41.1**	**+0.2**
	comp=Z,8.0nm,0.6s,baz=35,slow=7.2,SNR=18							
NWAO	**Narrogin (SRO)**	**29.54**	**195**	P		**P**	**20 06 41.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**29.54**	**195**	P		**P**	**20 06 41.0**	**+0.2**
NWAO				IAmb		IAmb	20 06 47.6	
	comp=Z,52nm,1.4s							
BBOO	**Buckleboo**	**29.90**	**162**	P		**P**	**20 06 44.6**	**+0.6**
BBOO				IAmb		IAmb	20 06 45.5	
	comp=Z,27nm,0.8s							
STKA	**Stephens Creek**	**31.14**	**153**	P		**P**	**20 06 55.6**	**+0.8**
	comp=Z,17nm,0.4s,baz=333,slow=8.4,SNR=162							
STKA				pP		**pP**	**20 08 12.3**	**+1.2**
	comp=Z,3.5nm,0.6s,baz=331,slow=8.4,SNR=2.3							
STKA				ScP		**ScP**	**20 12 38.9**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=50,slow=2.2,SNR=4.4							
STKA	**Stephens Creek**	**31.14**	**153**	P		**P**	**20 06 55.5**	**+0.8**
STKA						**ScP**	**20 12 39.0**	**-0.4**
HTT	**Hallett**	**31.42**	**159**	⇓P		**P**	**20 06 58.1**	**+0.8**
EIDS	**Eidsvold**	**32.03**	**133**	P		**P**	**20 07 00.0**	**-2.5**
EIDS				IAmb		IAmb	20 07 17.9	
	comp=Z,21nm,1.4s							
CMAR	**Chiang Mai Arr**	**34.84**	**311**	P		**P**	**20 07 27.6**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=139,slow=7.3,SNR=18							
CMAR				ScP		**ScP**	**20 12 54.9**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=155,slow=3.7,SNR=9.5							
CMAR	**Chiang Mai Arr**	**34.84**	**311**	P		**P**	**20 07 26.6**	**0.0**
JCJ	**Chichijima**	**35.04**	**26**	P		**P**	**20 07 27.5**	**-0.5**
CHTO	**Chiang Mai**	**35.06**	**312**	P		**P**	**20 07 29.3**	**+0.9**
ARMA	**Armidale**	**35.59**	**140**	P		**P**	**20 07 30.4**	**-2.4**
ARMA				IAmb		IAmb	20 07 35.3	
	comp=Z,14nm,0.7s							
WHN	**Wuhan**	**36.38**	**343**	⇑P		**P**	**20 07 40.0**	**+0.8**
WHN				pmax		pmax		
	comp=Z,28nm,0.9s							
ENH	**Enshi**	**37.80**	**337**	P		**P**	**20 07 50.6**	**-0.5**
ENH				IAmb		IAmb	20 07 51.8	
	comp=Z,11nm,0.6s							
JMN	**Monobe**	**38.63**	**11**	P		**P**	**20 07 58.0**	**+0.2**
JMN				IAmb		IAmb	20 07 59.4	
	comp=Z,30nm,1.1s							
JHS	**Saijyo**	**39.73**	**9**	P		**P**	**20 08 06.9**	**+0.1**
JHS				IAmb		IAmb	20 08 08.7	
	comp=Z,14nm,0.5s							
JHS	**Saijyo**	**39.73**	**9**	⇓P		**P**	**20 08 07.3**	**+0.5**
JWT	**Wachi**	**40.44**	**12**	P		**P**	**20 08 12.6**	**+0.1**
JWT				IAmb		IAmb	20 08 13.7	
	comp=Z,16nm,0.6s							
JWT	**Wachi**	**40.44**	**12**	⇑P		**P**	**20 08 12.7**	**+0.3**
INU	**Inuyama**	**40.87**	**14**	P		**P**	**20 08 15.6**	**-0.3**
INU				IAmb		IAmb	20 08 16.7	
	comp=Z,14nm,1.0s							
JGF	**Kuroka**	**41.19**	**14**	P		**P**	**20 08 18.3**	**-0.2**
XAN	**Xi'an**	**41.37**	**339**	P		**P**	**20 08 19.0**	**-1.0**
XAN				pmax		pmax		
	comp=Z,11nm,0.7s							
KSAR	**Wonju Array Be**	**41.62**	**2**	P		**P**	**20 08 22.2**	**+0.4**
KSRS	**Korea Array**	**41.63**	**3**	P		**P**	**20 08 22.2**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=178,slow=10,SNR=22							
KS19	**Wonju Array Si**	**41.68**	**2**	P		**P**	**20 08 22.0**	**-0.3**
MAJO	**Matsushiro**	**42.30**	**15**	P		**P**	**20 08 26.3**	**-1.0**
MAJO				IAmb		IAmb	20 08 27.3	
	comp=Z,10nm,0.7s							
MAT	**Matsushiro**	**42.30**	**15**	P		**P**	**20 08 26.4**	**-0.9**
MJAR	**Matsushiro Arr**	**42.30**	**15**	P		**P**	**20 08 26.4**	**-0.9**
	comp=Z,11nm,0.8s,baz=192,slow=8.8,SNR=18							
MJAR	**Matsushiro Arr**	**42.30**	**15**	P		**P**	**20 08 26.0**	**-1.3**
JYT	**Yasato**	**42.55**	**17**	P		**P**	**20 08 27.8**	**-1.5**
DZM	**Mont Dzumac**	**43.12**	**118**	P		**P**	**20 08 35.6**	**+1.4**
	comp=Z,2.9nm,0.5s,baz=251,slow=12,SNR=7.0							
JSD	**Sado**	**43.73**	**14**	P		**P**	**20 08 38.0**	**-0.5**
JSD				IAmb		IAmb	20 08 39.0	
	comp=Z,18nm,0.5s							
JSD	**Sado**	**43.73**	**14**	⇑P		**P**	**20 08 38.2**	**-0.3**
JMM	**Marumori**	**44.25**	**17**	P		**P**	**20 08 42.5**	**-0.1**
JTM	**Tenmabayashi**	**47.04**	**16**	P		**P**	**20 09 03.9**	**-0.2**
JTM				IAmb		IAmb	20 09 05.5	
	comp=Z,24nm,0.7s							
LSA	**Lhasa**	**47.42**	**318**	P		**P**	**20 09 07.6**	**-0.2**
USRK	**Ussuriysk Ar.**	**48.64**	**6**	P		**P**	**20 09 16.4**	**+0.3**
	comp=Z,12nm,0.4s,baz=191,slow=6.9,SNR=61							
USRK	**Ussuriysk Ar.**	**48.64**	**6**	P		**P**	**20 09 15.9**	**-0.2**
MDJ	**Mudanjiang**	**48.86**	**4**	P		**P**	**20 09 17.7**	**-0.1**
MDJ				IAmb		IAmb	20 09 19.1	
	comp=Z,21nm,0.9s							
GTA	**Gaotai**	**49.70**	**334**	⇑P		**P**	**20 09 24.5**	**+0.2**
GTA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ULN	**Ulaanbaatar**	**54.54**	**345**	P		**P**	**20 09 58.9**	**-0.3**
SONM	**Songino Array**	**54.69**	**344**	P		**P**	**20 10 00.3**	**0.0**
	comp=Z,3.5nm,0.8s,baz=159,slow=8.1,SNR=21							
SONM	**Songino Array**	**54.69**	**344**	P		**P**	**20 09 59.8**	**-0.4**
RPZ	**Rata Peaks**	**55.89**	**142**	P		**P**	**20 10 09.8**	**+1.2**
TUWZ	**Tuamarina**	**56.63**	**138**	P		**P**	**20 10 13.9**	**+0.1**
PETK	**Petropavlovsk-**	**63.23**	**21**	P		**P**	**20 10 59.4**	**+1.5**
	comp=Z,6.7nm,0.6s,baz=166,slow=3.5,SNR=38							
PETK	**Petropavlovsk-**	**63.23**	**21**	P		**P**	**20 10 58.9**	**+1.1**
MK31	**Makanchi Array**	**63.76**	**328**	P		**P**	**20 11 01.0**	**-0.4**
MKAR	**Makanchi Array**	**63.76**	**328**	P		**P**	**20 11 01.3**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=114,slow=8.5,SNR=73							
MKAR				pP		**pP**	**20 12 29.4**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=122,slow=9.0,SNR=1.2							
MKAR	**Makanchi Array**	**63.76**	**328**	P		**P**	**20 11 01.1**	**-0.3**
MAKZ	**Makanchi**	**63.93**	**328**	P		**P**	**20 11 01.7**	**-0.8**
MAKZ				IAmb		IAmb	20 11 02.7	
	comp=Z,3.1nm,0.6s							
YAK	**Yakutsk**	**66.25**	**2**	P		**P**	**20 11 17.0**	**+0.2**
ZAA0	**Zalesovo Array**	**67.40**	**335**	P		**P**	**20 11 23.2**	**-1.0**
ZAA0				IAmb		IAmb	20 11 24.0	
	comp=Z,6.4nm,1.1s							
ZALV	**Zalesovo Beam**	**67.40**	**335**	P		**P**	**20 11 23.1**	**-1.0**
	comp=Z,4.0nm,0.5s,baz=131,slow=5.8,SNR=17							
ZALV	**Zalesovo Beam**	**67.40**	**335**	P		**P**	**20 11 22.5**	**-1.6**
KURBB	**Kurchatov Arra**	**68.10**	**330**	pP		pP	20 12 58.4	-0.3
	comp=Z,1.2nm,0.8s,baz=131,slow=5.9,SNR=5.3							
KKAR	**Karatay Array**	**68.62**	**320**	P		**P**	**20 11 32.4**	**+0.5**
VNDA	**Vanda**	**75.59**	**172**	P		**P**	**20 12 11.5**	**-0.

DZA					Lg	Lg	20 05 32.2	
	193nm,0.3s							
ARSB	**Arslanbob**	**2.50**	**78**	⇑*i*P	**Pb**		**20 04 56.8**	**-0.1**
ARSB	baz=77			⇑*i*S	**Sb**		**20 05 28.5**	**+0.8**
	baz=77							
ARSB	**Arslanbob**	**2.50**	**78**	*e*P	**Pg**		**20 04 59.0**	**-0.9**
ARSB				*e*S	**Sb**		**20 05 30.0**	**+2.3**
MNAS	**Manas**	**2.64**	**51**	⇓*e*P	**Pb**		**20 04 59.2**	**-0.1**
MNAS	baz=50			⇓*i*S	**Sb**		**20 05 33.0**	**+1.2**
	baz=50							
SFK	**Sufi-Kurgan**	**3.00**	**105**	⇓*i*P	**Pb**		**20 05 04.6**	**-0.8**
SFK	baz=4.0			⇓*i*S	**Sb**		**20 05 40.3**	**-1.8**
	baz=4.0							
MRKS	**Merke**	**3.23**	**53**	*e*P	**Pg**		**20 05 13.2**	**-0.5**
	5.1nm,0.4s							
MRKS	18nm,0.4s			*e*S	**Sg**		**20 05 56.3**	**+0.7**
MRKS	**Merke**	**3.23**	**53**	Pg	**Pg**		**20 05 12.4**	**-1.3**
	5.1nm,0.4s							
MRKS	5.1nm,0.3s			Pg	**Pg**		**20 05 13.1**	**-0.5**
MRKS				Lg	Lg		20 05 56.0	
	18nm,0.4s							
MRKS	18nm,0.4s			Lg	Lg		20 05 56.3	
AML	**Almayashu**	**3.24**	**65**	⇑*i*P	**Pb**		**20 05 07.6**	**-2.0**
	baz=64							
AML	baz=64			⇑*i*S	**Sb**		**20 05 47.4**	**-1.8**
EKS2	**Erkin-Say**	**3.53**	**58**	⇑*e*P	**Pb**		**20 05 11.4**	**-2.9**
	baz=57							
EKS2	baz=57			⇑*e*S	**Sb**		**20 05 54.2**	**-3.0**
ARLS	**Aral**	**3.60**	**72**	⇓*i*P	**Pb**		**20 05 12.2**	**-3.4**
	baz=71							
ARLS	baz=71			⇓*i*S	**Sb**		**20 05 55.6**	**-3.8**
AAK	**Ala-Archa**	**3.99**	**62**	⇓*e*P	**Pb**		**20 05 17.9**	**-4.3**
	baz=61							
AAK	baz=61			⇓*i*S	**Sn**		**20 06 04.9**	**+5.1**
AAK	**Ala-Archa**	**3.99**	**62**	⇑Pg	**Pg**		**20 05 28.7**	**+0.5**
	4.4nm,0.7s							
AAK	6.4nm,0.9s			⇑Lg	Lg		20 06 19.5	
SGDS	**Sogindy**	**4.47**	**53**	Pg	**Pg**		**20 05 34.9**	**-2.7**
	3.4nm,0.1s							
SGDS	8.8nm,0.5s			Lg	Lg		20 06 34.8	
TKM2	**Tokmak 2**	**4.84**	**63**	⇓Pg	**Pg**		**20 05 44.5**	**-0.2**
	1.4nm,0.5s							
TKM2	4.5nm,1.0s			⇑Lg	Lg		20 06 50.0	
DGS	**Degeres**	**5.09**	**60**	*e*P	**Pg**		**20 05 46.7**	**-2.7**
	3.0nm,0.5s							
DGS	8.0nm,0.7s			*e*S	**Sg**		**20 06 53.3**	**-2.1**
DGS	**Degeres**	**5.09**	**60**	Pg	**Pg**		**20 05 46.6**	**-2.9**
	3.1nm,0.4s							
DGS	3.0nm,0.5s			Pg	Pb		20 05 46.8	+5.8
DGS	7.9nm,0.5s			Lg	Lg		20 06 54.3	
DGS	8.0nm,0.7s			Lg	Lg		20 06 55.7	
KST	**Kastek**	**5.14**	**63**	*e*P	**Pg**		**20 05 48.6**	**-1.7**
	2.9nm,0.4s							
KST	11nm,0.6s			*e*S	**Sg**		**20 06 56.5**	**-0.4**
KST	**Kastek**	**5.14**	**63**	Pg	**Pg**		**20 05 47.2**	**-3.0**
	2.9nm,0.4s							
KST	3.1nm,0.5s			Pg	Pb		20 05 48.0	+6.2
KST	12nm,0.7s			Lg	Lg		20 06 55.5	
KST	11nm,0.6s			Lg	Lg		20 06 56.3	
KRBS	**Karabastau**	**5.25**	**55**	*e*P	**Pg**		**20 05 49.8**	**-2.5**
	0.4nm,0.1s							
KRBS	4.8nm,0.8s			*e*S	**Sg**		**20 06 59.1**	**-1.2**
KRBS	**Karabastau**	**5.25**	**55**	Pg	**Pg**		**20 05 48.8**	**-3.5**
	0.3nm,0.1s							
KRBS	4.8nm,0.8s			Lg	Lg		20 06 59.5	
MTBS	**Maitube**	**5.49**	**63**	*e*P	**Pg**		**20 05 54.8**	**-2.1**
	1.5nm,0.3s							
MTBS	5.5nm,0.3s			*e*S	**Sg**		**20 07 07.8**	**-0.1**
MTBS	**Maitube**	**5.49**	**63**	Pg	**Pg**		**20 05 54.3**	**-2.6**
	2.0nm,0.3s							
MTBS	5.5nm,0.3s			Lg	Lg		20 07 08.9	
IZV	**Izvestkoviy**	**5.58**	**65**	*e*P	**Pg**		**20 05 57.4**	**-1.3**
	2.1nm,0.6s							
IZV	7.2nm,0.6s			*e*S	**Sg**		**20 07 11.8**	**+0.9**
KUU	**Kurty**	**5.76**	**56**	*e*P	**Pg**		**20 06 00.5**	**-1.7**
	1.1nm,0.8s							
KUU	4.6nm,0.5s			*e*S	**Sg**		**20 07 16.7**	**-0.1**
KUU	**Kurty**	**5.76**	**56**	Pg	**Pg**		**20 05 57.5**	**-4.7**
	1.0nm,1.0s							
KUU	1.7nm,1.0s			Pg	Pb		20 05 58.8	+6.5
KUU	4.6nm,0.6s			Lg	Lg		20 07 14.1	
KUU	4.6nm,0.5s			Lg	Lg		20 07 14.6	
KTBS	**Karatobe**	**5.90**	**59**	*e*P	**Pg**		**20 06 01.8**	**-3.0**
	1.5nm,0.5s							
KTBS	9.0nm,0.8s			*e*S	**Sg**		**20 07 19.9**	**-1.1**
KTBS	**Karatobe**	**5.90**	**59**	Pg	**Pg**		**20 06 01.1**	**-3.7**
	1.5nm,0.5s							
KTBS	9.0nm,0.8s			Lg	Lg		20 07 20.0	
KOTS	**Kotyrbulak**	**5.99**	**64**	*e*P	**Pg**		**20 06 04.8**	**-1.8**
	2.2nm,0.4s							
KOTS	6.7nm,0.5s			*e*S	**Sg**		**20 07 24.9**	**+0.8**
KOTS	**Kotyrbulak**	**5.99**	**64**	Pg	**Pb**		**20 06 00.3**	**+4.0**
	1.6nm,0.4s							
KOTS	6.7nm,0.5s			Lg	Lg		20 07 18.9	
CHKK	**Chushkaly**	**6.16**	**58**	*e*P	**Pg**		**20 06 06.6**	**-3.2**
	0.5nm,0.1s							
CHKK	3.2nm,0.4s			*e*S	**Sg**		**20 07 27.7**	**-1.7**
CHKK	**Chushkaly**	**6.16**	**58**	Pg	**Pg**		**20 06 05.6**	**-4.1**
	0.4nm,0.1s							
CHKK	0.5nm,0.1s			Pg	Pb		20 06 06.7	+7.6
CHKK	3.2nm,0.4s			Lg	Lg		20 07 27.4	
CHKK	3.1nm,0.4s			Lg	Lg		20 07 27.7	

IDC ***01*** *20:11:28.1±0.6,44˚.52N×130˚.12W,h0km,mb4.7/33, mb1 4.8/40,mb1mx4.7/56,mbtmp4.7/40,ML4.2/7,MS5.6/42, Ms1 5.6/42,ms1mx5.5/46,Error ellipse: s-maj=17.6km s-min=9.0km az=36.0*

MOS ***01*** *20:11:29.2±1.2,44˚.48N×129˚.99W,h15km,mb5.5/82, MS5.7/54,Error ellipse: s-maj=5.5km s-min=3.8km az=118.3*

NEIC ***01*** *20:11:30.6±1.8,44˚.50N±0˚.07×130˚.0W±0˚.1,h10km±1km, mb5.5/486,ML4.7/12,Ms_20 5.8/451,Mwb5.8/57,Mww5.9, Mwc6.0(GCMT),Error ellipse: s-maj=14.6km s-min=10.5km az=231.0*

BJI ***01*** *20:11:31.6±0.0,45˚.28N×130˚.29W,h11km,mB5.7/70, mb5.0/54,Ms5.9/79,Ms7 5.7/72*

GCMT ***01*** *20:11:31.6±0.1,44˚.38N×130˚.23W,h13km,MW5.9/168, Moment Tensor Solution. s153,c320; s168,c565; Duration: 2e3 Moment tensor: Scale 10^18^Nm; Mrr-0.10±.01; Mθθ-0.66±.01; Mϕϕ0.76±.01; Mrθ0.10±.01; Mθϕ-0.69±.01; Mϕr0.05±.01; Best double couple: M0 0.99700×10^18^ NP1:ϕs293.00000°,δ85.00000°, λ-175.00000°. NP2:ϕs203.00000°,δ85.00000°, λ-5.00000°. Principal axes: T 1.0390, Plg0.0000°, Azm248.0000°; N -0.0850, Plg82.0000°, Azm340.0000°; P -0.9540, Plg8.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***01*** *20:11:31,44˚.35N×130˚.23W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.13; Mθθ-0.72; Mϕϕ0.85; Mrθ0.05; Mθϕ-0.77; Mϕr0.27; Fault plane solution: M0 1.13000×10^18^ NP1:ϕs293.00000°, δ76.00000°,λ180.00000°. NP2:ϕs23.00000°,δ90.00000°, λ14.00000°. Principal axes: T 1.1980, Plg10.0000°, Azm248.0000°; N -0.1415, Plg76.0000°, Azm24.0000°; P -1.0565, Plg9.0000°, Azm157.0000°;*

NEIC ***01*** *20:11:31.5,44˚.50N×129˚.85W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.68; Mθθ-4.35; Mϕϕ5.03; Mrθ-1.19; Mθϕ-4.97; Mϕr0.95; Fault plane solution: M0 7.02000×10^17^ NP1:ϕs21.97000°, δ78.29000°,λ1.72000°. NP2:ϕs291.62000°,δ88.32000°, λ168.28000°. Principal axes: T 7.3963, Plg9.0000°, Azm246.0000°; N -0.8144, Plg78.0000°, Azm104.0000°; P -6.5819, Plg7.0000°, Azm337.0000°;*

BGR ***01*** *20:11:32.6±0.0,44˚.36N×129˚.58W,h10km,mb5.1,Ms5.9*

NEIC ***01*** *20:11:35,44˚.49N×129˚.99W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.37; Mθθ-3.62; Mϕϕ4.98; Mrθ2.14; Mθϕ-6.90; Mϕr1.79; Fault plane solution: M0 8.68000×10^17^ NP1:ϕs288.00000°, δ73.00000°,λ-166.00000°. NP2:ϕs194.00000°, δ77.00000°,λ-17.00000°. Principal axes: T 8.8436, Plg3.0000°, Azm241.0000°; N -0.3399, Plg69.0000°, Azm339.0000°; P -8.5037, Plg21.0000°, Azm150.0000°;*

ISC 01 20:11:30.1±0.5,44˚.52N±0˚.03×129˚.99W±0˚.03,h8km±2km, h8km:pP-P,n1322,σ1s76/1263,mb5.4/315,MS5.7/320, 25C-50D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
J20D	**J20D**	**2.07**	**93**	P		**Pn**	**20 12 01.9**	**-2.9**
J20D				S		**Sn**	**20 12 27.5**	**-3.2**
J28D	**J28D**	**2.08**	**75**	P		**Pn**	**20 12 03.2**	**-1.9**
J28D				S		**Sn**	**20 12 28.3**	**-2.7**
J27D	**J27D**	**2.65**	**82**	P		**Pn**	**20 12 11.4**	**-1.4**
J27D				S		**Sn**	**20 12 46.8**	**+1.9**
J19D	**J19D**	**2.69**	**96**	P		**Pn**	**20 12 10.6**	**-2.8**
J19D				S		**Sn**	**20 12 44.4**	**-1.6**
G37D	**G37D**	**2.72**	**133**	P		Pn	20 12 08.5	-5.2
G37D				S		**Sn**	**20 12 41.1**	**-5.6**
J11D	**J11D**	**2.79**	**109**	P		**Pn**	**20 12 13.0**	**-1.7**
J11D				S		**Sn**	**20 12 49.7**	**+1.4**
G29D	**G29D**	**2.89**	**142**	P		**Pn**	**20 12 11.8**	**-4.2**
G29D				S		**Sn**	**20 12 45.6**	**-5.1**
G36D	**G36D**	**3.05**	**131**	P		**Pn**	**20 12 13.9**	**-4.3**
G36D				S		**Sn**	**20 12 49.7**	**-4.9**
G35D	**G35D**	**3.27**	**126**	P		**Pn**	**20 12 18.8**	**-2.5**
G35D				S		**Sn**	**20 12 57.9**	**-2.2**
G22D	**G22D**	**3.41**	**154**	P		**Pn**	**20 12 19.2**	**-4.0**
G22D				S		**Sn**	**20 13 00.0**	**-3.6**
G20D	**G20D**	**3.83**	**142**	P		**Pn**	**20 12 26.2**	**-2.8**
G20D				S		**Sn**	**20 13 13.6**	**-0.4**
G21D	**G21D**	**3.88**	**150**	P		**Pn**	**20 12 26.6**	**-3.0**
G21D				S		**Sn**	**20 13 12.8**	**-2.3**
G13D	**G13D**	**4.06**	**157**	P		**Pn**	**20 12 29.1**	**-3.1**
G13D				S		**Sn**	**20 13 19.0**	**-0.7**
G33D	**G33D**	**4.20**	**114**	P		**Pn**	**20 12 36.9**	**+2.6**
G33D				S		**Sn**	**20 13 22.2**	**-1.3**
KEBM	**Edson Butte**	**4.42**	**110**			**Pn**	**20 12 34.6**	**-2.9**
KEBM				IAML			20 14 09.7	
	comp=E,865nm,4.2s							
I02D	**Swisshome**	**4.43**	**93**	P			20 12 34.9	
	baz=277,SNR=20							
I02D	baz=277			S			20 13 25.4	
J01E	**Myrtle Point**	**4.59**	**105**	P			20 12 38.0	
	baz=289,SNR=50							
J01E	baz=289			S			20 13 32.2	
G05D7	**G05D7**	**4.66**	**159**	P		Pn	20 12 34.9	-5.3
G05D7				S		**Sn**	**20 13 36.3**	**+2.1**
M16D	**M16D**	**4.75**	**125**	P		**Pn**	**20 12 41.9**	**0.0**
M16D				S		**Sn**	**20 13 40.8**	**+3.7**
COR	**Corvallis**	**4.78**	**87**	P		**Pn**	**20 12 41.3**	**-1.1**
COR	**Corvallis**	**4.78**	**87**			**Pn**	**20 12 41.3**	**-1.1**
COR				IAML			20 14 13.5	
	comp=E,615nm,3.9s							
KBO	**Bosley Butte**	**4.80**	**117**			**Pn**	**20 12 41.8**	**-0.9**
KBO				IAML			20 15 10.3	
	comp=N,464nm,4.2s							
G03D	**McMinnville, O**	**4.83**	**79**	P			20 12 41.5	
	baz=264,SNR=84							
G03D	baz=264			S			20 13 39.3	
I03D	**Drain, OR**	**4.86**	**97**	P			20 12 40.9	
	baz=282,SNR=87							
I03D	baz=282			S			20 13 37.4	
K02D	**Willamette Mer**	**4.94**	**109**	P			20 12 42.8	
	baz=294,SNR=45							
K02D	baz=294			S			20 13 38.6	
E03A	**Lebam**	**4.95**	**64**	Pn		**Pn**	**20 12 43.9**	**-0.9**
E03A				IAML			20 15 15.9	
	comp=E,432nm,4.6s							
G10D	**G10D**	**4.96**	**137**	P		**Pn**	**20 12 42.7**	**-1.8**
G10D				S		**Sn**	**20 13 40.0**	**-1.9**
G04D	**G04D**	**4.96**	**150**	P		**Pn**	**20 12 39.8**	**-4.6**
G04D				S		**Sn**	**20 13 44.5**	**+2.8**
NLWA	**Neilton Lookou**	**5.15**	**54**	Pn		**Pn**	**20 12 46.6**	**-0.9**
NLWA				IAML			20 13 56.5	
	comp=E,440nm,1.9s							
F04D	**Rainier, OR**	**5.17**	**70**	P			20 12 47.0	
	baz=254,SNR=35							
H04D	**Lebanon**	**5.19**	**87**	P			20 12 47.2	
	baz=272,SNR=99							
H04D	baz=272			S			20 13 46.7	
L02E	**Cave Junction**	**5.22**	**115**	P			20 12 48.1	
	baz=299,SNR=74							
L02E	baz=299			S			20 13 47.2	
G03D7	**G03D7**	**5.29**	**146**	P		**Pn**	**20 12 48.1**	**-0.8**
G03D7				S		**Sn**	**20 13 51.5**	**+1.8**
KRMB	**Red Mountain**	**5.37**	**122**			**Pn**	**20 12 50.5**	**-0.2**
KRMB				IAML			20 15 29.0	
	comp=E,291nm,3.9s							
FS44D	**FS44D**	**5.42**	**132**	P		**Pn**	**20 12 50.5**	**-0.5**
FS44D				S		**Sn**	**20 14 00.1**	**+6.7**
HUMO	**Hull Mountain**	**5.46**	**108**	Pn		**Pn**	**20 12 51.1**	**-0.7**
G09D	**G09D**	**5.47**	**133**	P		**Pn**	**20 12 52.2**	**+0.4**
G09D				S		**Sn**	**20 14 02.2**	**+7.3**
I04A	**Tendick Farm,**	**5.50**	**95**	P			20 12 50.6	
	baz=280,SNR=107							
I04A	baz=280			S			20 13 54.1	
FS41D	**FS41D**	**5.51**	**133**	P		Pb	20 12 59.6	-6.8
FS16D	**FS16D**	**5.55**	**134**	P		**Pn**	**20 12 52.2**	**-0.7**
FS16D				S		**Sn**	**20 14 03.8**	**+7.0**
FS13D	**FS13D**	**5.56**	**135**	P		**Pn**	**20 12 53.4**	**+0.6**
FS13D				S		**Sn**	**20 14 01.0**	**+4.2**
H04A	**Detroit Lake**	**5.58**	**86**	Pn		**Pn**	**20 12 52.5**	**-0.9**
E04D	**Cinebar**	**5.60**	**66**	P			20 12 53.0	
	baz=251,SNR=174							
FS09D	**FS09D**	**5.60**	**135**	P		**Pn**	**20 12 52.6**	**-0.8**
FS09D				S		**Sn**	**20 14 01.4**	**+3.6**
FS06D	**FS06D**	**5.65**	**135**	P		**Pn**	**20 12 53.8**	**-0.3**
FS06D				S		**Sn**	**20 13 59.7**	**+0.7**
FS10D	**FS10D**	**5.66**	**134**	P		**Pn**	**20 12 54.6**	**+0.3**
FS10D				S		**Sn**	**20 14 04.3**	**+4.8**
D03D	**Eldon**	**5.67**	**55**	P			20 12 54.3	
	baz=240,SNR=128							
FS02D	**FS02D**	**5.69**	**136**	P		**Pn**	**20 12 51.8**	**-3.0**
FS02D				S		**Sn**	**20 14 01.0**	**+0.9**
D04E	**Lakebay**	**5.70**	**60**	P			20 12 55.2	
	baz=244,SNR=238							
JCC	**Jacoby Creek,**	**5.75**	**128**			**Pn**	**20 12 55.5**	**-0.2**
FS07D	**FS07D**	**5.75**	**135**	P		**Pn**	**20 12 55.9**	**+0.3**
FS07D				S		**Sn**	**20 14 07.1**	**+5.6**
J04D	**Umpqua Nationa**	**5.84**	**100**	P			20 12 56.4	
	baz=285,SNR=46							
J04D	baz=285			S			20 14 04.4	
FS08D	**FS08D**	**5.85**	**134**	S		**Sn**	**20 14 10.4**	**+6.2**
KHMM	**Horse Mountain**	**5.88**	**126**			**Pn**	**20 12 57.6**	**0.0**
FS04D	**FS04D**	**5.89**	**134**	S		**Sn**	**20 14 11.3**	**+6.0**
FS04D				S			20 13 00.4	
YBH	**Yreka Blue Hor**	**6.01**	**115**	Pn		**Pn**	**20 13 01.3**	**+1.9**
	comp=E,2.8nm,0.3s,baz=296,slow=8.9,SNR=79							
YBH	comp=E,36μm,19.3s,baz=301,slow=36			LR		LR	20 15 05.0	
YBH	**Yreka Blue Hor**	**6.01**	**115**	P		**Pn**	**20 12 59.8**	**+0.3**
YBH	**Yreka Blue Hor**	**6.01**	**115**	Pn		**Pn**	**20 12 59.8**	**+0.3**
G01D	**G01D**	**6.03**	**137**	P		**Pn**	**20 12 59.2**	**-0.3**
G01D				S		**Sn**	**20 14 09.6**	**+1.0**
L04D	**Klamath Falls**	**6.06**	**110**	P			20 13 00.3	
	baz=295,SNR=100							
L04D	baz=295			S			20 14 08.4	
M02C	**Callahan**	**6.10**	**118**	P			20 12 59.8	
	baz=304,SNR=28							
M02C	baz=304			S			20 14 11.6	
PGC	**Sidney**	**6.12**	**45**			**Pn**	**20 13 00.3**	**-0.4**
LON	**Longmire**	**6.16**	**66**	P		**Pn**	**20 13 01.0**	**-0.4**
LON	**Longmire**	**6.16**	**66**			**Pn**	**20 13 01.0**	**-0.4**
F05D	**White Salmon**	**6.18**	**74**	P			20 13 01.9	
	baz=260,SNR=386							
F05D	baz=260			S			20 14 12.3	
D05A	**Enumclaw**	**6.20**	**62**			**Pn**	**20 13 02.2**	**+0.4**
I05D	**Terrebonne, OR**	**6.20**	**89**	P			20 13 01.6	
	baz=274							
G05D	**Wamic, OR**	**6.21**	**80**	P			20 13 02.4	
	baz=266,SNR=105							
K04D	**Chiloquin, OR**	**6.28**	**105**	P			20 13 02.6	
	baz=290							
N02D	**Trinity Center**	**6.43**	**121**	P			20 13 04.7	
	baz=306,SNR=11							
A04D	**Lummi Island**	**6.54**	**47**	P			20 13 07.2	
	baz=232,SNR=19							
PINE	**Pine Mountain**	**6.55**	**93**	Pn		**Pn**	**20 13 06.3**	**-0.7**
M04C	**Macdoel**	**6.56**	**112**	P			20 13 07.5	
	baz=298,SNR=40							
B05A	**Bryant**	**6.62**	**53**	P			20 13 07.8	
	baz=238,SNR=143							
WDC	**Whiskeytown Da**	**6.76**	**123**	P		**Pn**	**20 13 10.3**	**+0.6**
WDC	**Whiskeytown Da**	**6.76**	**123**	Pn		**Pn**	**20 13 10.3**	**+0.6**
KCPM	**Cahto Peak**	**6.79**	**133**			**Pn**	**20 13 09.9**	**-0.2**
K05A	**Summer Lake**	**6.84**	**102**	Pn		**Pn**	**20 13 10.6**	**-0.4**
O02D	**Mt. Diablo Mer**	**6.88**	**127**	P			20 13 10.5	
	baz=312,SNR=26							
A05A	**Maple Falls**	**7.04**	**48**			**Pn**	**20 13 13.0**	**-0.4**
LTY	**Liberty**	**7.06**	**64**			**Pn**	**20 13 13.4**	**-0.3**
B06A	**Marblemount**	**7.10**	**53**			**Pn**	**20 13 14.3**	**+0.1**
C06D	**Leavenworth**	**7.17**	**58**	P			20 13 15.8	
	baz=244,SNR=51							
F07A	**Phinny Hill Vi**	**7.24**	**76**			**Pn**	**20 13 16.1**	**-0.1**
O03E	**Paynes Creek**	**7.39**	**122**	P			20 13 17.4	
	baz=308,SNR=49							
E07A	**Sunnyside**	**7.41**	**70**			**Pn**	**20 13 17.6**	**-0.9**
I07A	**Izee**	**7.54**	**90**	Pn		**Pn**	**20 13 19.8**	**-0.7**
MOD	**Modoc Plateau**	**7.55**	**107**			**Pn**	**20 13 20.5**	**-0.1**
HOPS	**Hopland Field**	**7.56**	**134**	Pn		**Pn**	**20 13 19.8**	**-0.8**
HAWA	**Hanford**	**7.59**	**72**	Pn		**Pn**	**20 13 20.9**	**-0.1**
BBB	**Bella Bella**	**7.77**	**9**	Pn		**Pn**	**20 13 26.1**	**+2.6**
	comp=E,3.7nm,0.3s,baz=199,slow=13,SNR=36							
BBB	comp=E,18μm,20.0s,baz=186,slow=32			LR		LR	20 15 34.6	
BBB	**Bella Bella**	**7.77**	**9**			**Pn**	**20 13 26.2**	**+2.8**
GDXM	**Geysers**	**7.85**	**134**			**Pn**	**20 13 23.6**	**-1.0**
G08A	**Pilot Rock**	**7.87**	**81**	Pn		**Pn**	**20 13 24.2**	**-0.8**
E08A	**Dider Farm, El**	**7.93**	**72**			**Pn**	**20 13 24.3**	**-1.4**
ORV	**Oroville**	**8.03**	**125**	P		**Pn**	**20 13 27.7**	**+0.6**
ORV	**Oroville**	**8.03**	**125**			**Pn**	**20 13 27.7**	**+0.6**
D08A	**Wollman Farm,**	**8.14**	**68**	Pn		**Pn**	**20 13 28.3**	**-0.3**
B08A	**Colville Reser**	**8.30**	**59**	Pn		**Pn**	**20 13 31.0**	**+0.2**
MCCM	**Marconi Confer**	**8.32**	**138**	Pn		**Pn**	**20 13 32.0**	**+1.0**
J08A	**Circle Bar Ran**	**8.39**	**94**			**Pn**	**20 13 30.8**	**-1.4**
WVOR	**Wild Horse Val**	**8.52**	**100**	P		**Pn**	**20 13 33.6**	**-0.3**
WVOR	**Wild Horse Val**	**8.52**	**100**			**Pn**	**20 13 33.6**	**-0.3**
BEKR	**Beckworth**	**8.53**	**120**			**Pn**	**20 13 37.2**	**+3.1**
E09A	**Wood Farm, Sta**	**8.56**	**72**			**Pn**	**20 13 34.0**	**-0.2**
AFDM	**Forest Hills D**	**8.74**	**126**			**Pn**	**20 13 37.2**	**+0.4**
C09A	**Chrisman Ranch**	**8.77**	**64**	Pn		**Pn**	**20 13 36.3**	**-0.9**
DIB	**Dawson Inlet,**	**8.84**	**350**	Pn		**Pn**	**20 13 41.3**	**+3.2**
BMO	**Blue Mountains**	**9.05**	**83**	P		**Pn**	**20 13 40.2**	**-0.9**
BMO	**Blue Mountains**	**9.05**	**83**			**Pn**	**20 13 40.2**	**-0.9**
F10A	**Beach Ranch, E**	**9.12**	**76**			**Pn**	**20 13 41.3**	**-0.9**
PAHR	**Pah Rah Range**	**9.23**	**118**	Pn		**Pn**	**20 13 45.3**	**+1.6**
VCNR	**Virginia City**	**9.31**	**121**			**Pn**	**20 13 47.4**	**+2.6**
PNTR	**Pine Nut**	**9.47**	**121**			**Pn**	**20 13 48.9**	**+2.0**
NEW	**Newport**	**9.65**	**63**	Pn		**Pn**	**20 13 48.8**	**-0.5**
	comp=E,5.9nm,0.3s,baz=249,slow=10,SNR=51							
NEW	comp=E,72μm,20.2s,baz=251,slow=37			LR		LR	20 17 25.3	
NEW	**Newport**	**9.65**	**63**	P		**Pn**	**20 13 47.9**	**-1.4**
NEW	**Newport**	**9.65**	**63**	Pn		**Pn**	**20 13 47.9**	**-1.4**
NEW	**Newport**	**9.65**	**63**	P			20 13 48.6	
	baz=251,SNR=43							
CMB	**Columbia Colle**	**9.71**	**129**	P		**Pn**	**20 13 51.3**	**+1.2**
CMB	**Columbia Colle**	**9.71**	**129**	Pn		**Pn**	**20 13 51.2**	**+1.2**
YERR	**Yerington**	**9.75**	**121**			**Pn**	**20 13 53.0**	**+2.1**
WAKR	**Walker**	**9.94**	**124**			**Pn**	**20 13 54.7**	**+1.4**
SAO	**San Andreas Ge**	**10.10**	**137**	P		**Pn**	**20 13 52.6**	**-2.9**
SAO	**San Andreas Ge**	**10.10**	**137**			**Pn**	**20 13 52.6**	**-2.9**
MFID	**Camas Ranch**	**10.28**	**91**			**Pn**	**20 13 58.5**	**+0.5**
RYN	**Ryan**	**10.41**	**120**			**Pn**	**20 14 01.4**	**+1.5**
KVN	**Kaiserville**	**10.42**	**118**	P		**Pn**	**20 14 02.2**	**+2.2**
KVN	**Kaiserville**	**10.42**	**118**			**Pn**	**20 14 02.2**	**+2.2**
LHV	**Little Huntoon**	**10.66**	**122**			**Pn**	**20 14 05.5**	**+2.4**
NVAR	**Mina Array Bea**	**10.67**	**121**	Pn		**Pn**	**20 14 04.7**	**+1.3**
	comp=E,0.6nm,0.3s,baz=294,slow=13,SNR=53							
NVAR	comp=E,47μm,19.0s,baz=306,slow=36			LR		LR	20 17 59.8	
NVAR	**Mina Array Bea**	**10.67**	**121**	Pn		**Pn**	**20 14 05.1**	**+1.6**
MDPB	**Devils Postpil**	**10.73**	**126**			**Pn**	**20 14 05.9**	**+1.7**
NV11	**Mina Array Sit**	**10.76**	**120**			**Pn**	**20 14 06.2**	**+1.6**
PMPB	**Monarch Peak**	**10.85**	**137**	Pn		**Pn**	**20 14 06.4**	**+0.6**
MLAC	**Mammoth, Mammo**	**10.87**	**125**	P			20 14 07.8	
	baz=313,SNR=7.7							
CRAG	**Craig**	**11.14**	**351**	Pn		**Pn**	**20 14 13.1**	**+3.5**
CRAG	**Craig**	**11.14**	**351**	P			20 14 12.8	
	baz=168,SNR=46							
HLID	**Hailey**	**11.26**	**89**	Pn		**Pn**	**20 14 12.0**	**+0.6**
HLID	**Hailey**	**11.26**	**89**	P			20 14 12.3	
	baz=280,SNR=63							
JTMT	**Jette**	**11.37**	**68**			**Pn**	**20 14 12.3**	**-0.6**
**M

baz=321
SBC Santa Barbara 12.81 138 P 20 14 31.2
baz=325
FURC Furnace Creek, 12.82 124 P 20 14 35.6
baz=313,SNR=37
TPNV Topopah Spring 12.87 121 P **Pn** **20 14 35.7 +2.3**
TPNV Topopah Spring 12.87 121 **Pn** **20 14 35.7 +2.3**
TPNV Topopah Spring 12.87 121 P 20 14 36.2
baz=310,SNR=40
HVU Hansel Valley 12.87 96 P **Pn** **20 14 34.6 +1.1**
HVU Hansel Valley 12.87 96 **Pn** **20 14 34.6 +1.1**
HRY Holter Researc 12.90 74 **Pn** **20 14 33.9 0.0**
SPR3 Spring Creek 3 12.92 110 Pn **Pn** **20 14 37.1 +2.8**
BGU Big Grassy Mou 12.98 100 Pn **Pn** **20 14 36.0 +1.0**
SIT Sitka 12.99 347 P **Pn** **20 14 37.9 +3.1**
SIT Sitka 12.99 347 Pn **Pn** **20 14 37.9 +3.1**
SIT Sitka 12.99 347 P 20 14 37.4
baz=162,SNR=23
LRMC Laurel Mtn Rad 13.05 130 P 20 14 35.5
baz=318
OSI Osito Audit: C 13.16 135 **Pn** **20 14 38.4 +1.1**
OSI Osito Audit: C 13.16 135 P 20 14 36.6
baz=322
SCZ2 Santa Cruz Isl 13.21 139 P 20 14 34.1
baz=326
QLMT Earthquake Lak 13.22 82 **Pn** **20 14 40.6 +2.4**
SPUT South Promonto 13.25 98 **Pn** **20 14 37.4 -1.4**
EDW2 Edwards Air Fo 13.33 132 P 20 14 39.4
baz=320,SNR=42
PRN Pahroc Range 13.33 117 Pn **Pn** **20 14 40.9 +1.2**
YHL Hebgen Lake 13.39 82 Pn **Pn** **20 14 42.6 +1.9**
YHB Horse Butte 13.39 82 **Pn** **20 14 42.5 +1.8**
DUG Dugway, Tooele 13.42 103 P **Pn** **20 14 41.7 +0.8**
DUG Dugway, Tooele 13.42 103 **Pn** **20 14 41.7 +0.8**
DUG Dugway, Tooele 13.42 103 P 20 14 41.7
baz=294,SNR=22
PSUT Pine Spring 13.48 111 **Pn** **20 14 43.6 +1.8**
ECR Eagle Creek 13.54 90 **Pn** **20 14 46.6 +4.0**
SHOC Shoshone, Teco 13.55 125 P 20 14 44.5
baz=314,SNR=8.6
YMR Madison River 13.56 83 **Pn** **20 14 45.8 +2.8**
YHH Holmes Hill 13.63 82 Pn **Pn** **20 14 46.0 +2.0**
DECC Green Verdugo 13.64 135 P 20 14 43.2
baz=322
YPP Pitchstone Pla 13.73 84 **Pn** **20 14 48.1 +2.9**
TPAW Teton Pass 13.75 88 Pn **Pn** **20 14 47.6 +2.1**
YNR Norris Junctio 13.76 82 **Pn** **20 14 49.7 +4.0**
PASC Pasadena Art C 13.78 135 Pn **Pn** **20 14 44.8 -1.0**
HWUT Hardware Ranch 13.79 96 **Pn** **20 14 47.6 +1.6**
AHID Auburn Hatcher 13.80 91 **Pn** **20 14 49.1 +3.0**
MWC Mount Wilson 13.80 134 P **Pn** **20 14 47.0 +0.8**
MWC Mount Wilson 13.80 134 **Pn** **20 14 47.0 +0.8**
SHPR Sheep Range 13.82 120 Pn **Pn** **20 14 48.0 +1.5**
FLWY Flagg Ranch 13.83 85 **Pn** **20 14 49.2 +2.7**
REDW Red Top Meadow 13.84 88 **Pn** **20 14 48.4 +1.5**
MOOW Moose Ponds 13.85 86 Pn **Pn** **20 14 49.0 +2.1**
RRX Edison Barstow 13.87 130 P 20 14 46.8
baz=318
H17A Grant Village 13.87 84 **Pn** **20 14 50.8 +3.6**
H17A Grant Village 13.87 84 P 20 14 49.9
baz=277,SNR=15
SNCC San Nicolas Is 13.88 141 **Pn** **20 14 46.5 -0.6**
SNCC San Nicolas Is 13.88 141 P 20 14 46.2
baz=328
SNOW Snow King Moun 13.89 88 **Pn** **20 14 50.4 +2.9**
CTU Camp Tracy 13.97 100 Pn **Pn** **20 14 49.3 +0.8**
LOHW Long Hollow 13.97 87 **Pn** **20 14 51.1 +2.5**
LKWY Lake 13.98 83 P **Pn** **20 14 51.4 +2.8**
LKWY Lake 13.98 83 **Pn** **20 14 51.4 +2.8**
BFSC Mount Baldy Ra 14.00 133 P 20 14 47.8
baz=321,SNR=23
NLU North Lily Min 14.03 103 **Pn** **20 14 50.1 +0.7**
JIS Juneau Island 14.04 350 **Pn** **20 14 52.5 +3.4**
TUQ Turquoise Moun 14.08 125 P 20 14 51.7
baz=315,SNR=5.9
FMP Fort Macarthur 14.09 136 P 20 14 47.8
baz=324
YMP Mirror Lake Pl 14.13 82 **Pn** **20 14 48.8 -2.0**
YNE Yellowstone No 14.21 81 **Pn** **20 14 48.7 -3.1**
JLU Jordanelle 14.21 100 **Pn** **20 14 52.1 +0.2**
HEC Hector,Ludlow 14.28 128 P 20 14 53.7
baz=317,SNR=25
CIS Catalina Islan 14.28 137 P 20 14 51.0
baz=325
MPU Maple Canyon 14.32 102 **Pn** **20 14 53.3 0.0**
CCUT Cedar City 14.34 113 Pn **Pn** **20 14 54.4 +0.7**
BBRC Big Bear Solar 14.37 131 P 20 14 52.9
baz=320
TCRU Three Creeks R 14.39 108 Pn **Pn** **20 14 56.0 +1.6**
BESE Bessie Mountai 14.39 350 Pn **Pn** **20 14 57.3 +3.2**
GCMT Greycliff 14.40 78 **Pn** **20 14 54.7 +0.4**
EGMT Eagleton 14.42 69 **Pn** **20 14 53.7 -0.8**
EGMT Eagleton 14.42 69 P 20 14 54.1
baz=263,SNR=32
SZCU Shurtz Canyon 14.50 113 Pn **Pn** **20 14 57.8 +2.0**
SCI2 San Clemente I 14.56 138 P 20 14 55.4
baz=326
GMRC Granite Mounta 14.69 127 P 20 14 59.0
baz=316,SNR=63
RLMT Red Lodge 14.72 80 **Pn** **20 14 59.4 +0.6**
RLMT Red Lodge 14.72 80 P 20 14 59.7
baz=275,SNR=24
LCMT Little Creek M 14.73 115 **Pn** **20 15 00.2 +1.4**
MURC Murrieta 14.74 133 P 20 14 57.1
baz=322
MTPU Mount Pierson 14.86 110 **Pn** **20 15 01.3 +0.5**
BW06 Boulder Array 14.90 90 **Pn** **20 15 02.2 +1.0**
BW06 Boulder Array 14.90 90 P 20 15 02.3
baz=284
PD31 Pinedale Array 14.90 90 P **Pn** **20 15 03.6 +2.4**
PDAR Pinedale Array 14.90 90 Pn **Pn** **20 15 04.0 +2.8**
comp=E,0.2nm,0.3s,baz=268,slow=10,SNR=17
PDAR LR LR 20 20 50.7
comp=E,39µm,20.3s,baz=284,slow=38
PDAR Pinedale Array 14.90 90 Pn **Pn** **20 15 03.2 +2.0**
KNB Kanab 15.00 114 P **Pn** **20 15 03.9 +1.4**
KNB Kanab 15.00 114 P **Pn** **20 15 03.9 +1.4**
BELC Belle Mtn. Jos 15.07 129 P 20 15 03.6
baz=319,SNR=26
PKCU Pink Cliffs 15.10 112 P **Pn** **20 15 04.5 +0.6**
PFO Pinyon Flats O 15.12 131 Pn **Pn** **20 15 04.3 +0.3**
comp=E,0.2nm,0.3s,baz=316,slow=13,SNR=27
PFO LR LR 20 20 21.0
comp=E,43µm,18.2s,baz=306,slow=35
PFO Pinyon Flats O 15.12 131 *d i* P **Pn** **20 15 03.5 -0.6**
PFO Pinyon Flats O 15.12 131 Pn **Pn** **20 15 03.5 -0.6**
PFO IAmb IAmb 20 15 11.7
comp=Z,282nm,1.6s
PFO Pinyon Flats O 15.12 131 P 20 15 03.7
baz=320,SNR=25
TPFO Pinon Flats 15.12 131 P 20 15 03.5
baz=320,SNR=23
P17A Butcher Ranch, 15.17 103 P **Pn** **20 15 05.5 +0.7**
P17A IAmb IAmb 20 15 32.5
comp=Z,441nm,1.8s
NEE2 Needles Airpor 15.31 124 P 20 15 08.3
baz=314
109C Camp Elliot, M 15.34 135 **Pn** **20 15 05.8 -1.2**
109C IAmb IAmb 20 15 16.1
comp=Z,234nm,1.5s
109C Camp Elliot, M 15.34 135 P 20 15 05.1
baz=323
IRM Iron Mountain 15.44 127 P 20 15 08.8
baz=317,SNR=57
SRU San Rafael Swe 15.48 104 P **Pn** **20 15 10.2 +1.3**
SRU pmax pmax
comp=Z,608nm,1.3s
SRU San Rafael Swe 15.48 104 P **Pn** **20 15 10.2 +1.3**
W13A Hualapai Mount 15.53 122 P **Pn** **20 15 11.0 +1.4**
W13A IAmb IAmb 20 15 23.2
comp=Z,272nm,1.3s
RDMU Red Mountain 15.56 98 P **Pn** **20 15 10.3 +0.4**
RDMU IAmb IAmb 20 15 28.7
comp=Z,333nm,1.4s
BC3 Big Chuckawall 15.63 129 P 20 15 10.9
baz=318,SNR=50
TJX Tijuana 15.67 136 P **Pn** **20 15 10.9 -0.3**
U15A North Rim 15.69 115 P **Pn** **20 15 12.9 +1.2**
U15A IAmb IAmb 20 15 23.3
comp=Z,306nm,1.2s
MONP2 Monument Peak 15.69 133 P 20 15 11.4
baz=322,SNR=67
BAR Barrett 15.73 134 Pn **Pn** **20 15 11.7 -0.3**
BAR IAmb IAmb 20 15 25.7
comp=Z,311nm,1.4s
TKX Tecate 15.85 134 P **Pn** **20 15 13.4 -0.2**
PDMCI Parker Dam,Lak 15.92 124 P 20 15 15.7
baz=315,SNR=66
SWSC Sam W. Stewart 15.98 131 P 20 15 14.8
baz=321,SNR=33
CBX Cerro Bola 16.02 135 P **Pn** **20 15 15.7 -0.3**
IKP In-Ko-Pah, Jac 16.04 133 P 20 15 16.2
baz=322,SNR=54
CCX Cicese 16.38 136 **Pn** **20 15 18.4 -1.9**
CCX IAmb IAmb 20 15 28.6
comp=Z,329nm,1.3s
UABX UABC, Campus M 16.41 131 Pn **Pn** **20 15 20.7 -0.1**
WHY Whitehorse 16.43 351 Pn **Pn** **20 15 22.1 +1.2**
WHY Whitehorse 16.43 351 P 20 15 23.3
baz=167,SNR=59
GLA Glamis 16.43 129 P **Pn** **20 15 19.9 -1.1**
GLA pmax pmax
comp=Z,402nm,1.7s
GLA Glamis 16.43 129 **Pn** **20 15 19.9 -1.1**
GLA IAmb IAmb 20 15 28.7
comp=Z,402nm,1.6s
GLA Glamis 16.43 129 P 20 15 21.0
baz=319,SNR=19
BCPM Bancas Point 16.52 343 **Pn** **20 15 22.6 +0.7**
CPBX Cerro Prieto 16.65 132 **Pn** **20 15 22.1 -1.7**
O20A White River Ci 16.66 98 Pn **Pn** **20 15 23.5 -0.6**
O20A IAmb IAmb 20 15 44.2
comp=Z,673nm,1.5s
O20A White River Ci 16.66 98 P 20 15 24.5
baz=292,SNR=32
LAO LASA Array 16.76 74 P **Pn** **20 15 25.3 +0.1**
LAO IAmb IAmb 20 15 32.9
comp=Z,943nm,1.7s
LAO LASA Array 16.76 74 P 20 15 25.9
baz=271,SNR=34
PINM Pinnacle 16.78 342 P 20 15 27.0
baz=154,SNR=38
PCA Pinnacle 16.78 342 P **Pn** **20 15 26.5 +1.1**
PCA IAmb IAmb 20 15 29.9
comp=Z,1µm,1.9s
WUAZ Wupatki 16.83 116 P **P** **20 15 27.4 -1.0**
WUAZ IAmb IAmb 20 15 35.8
comp=Z,374nm,1.4s
WUAZ Wupatki 16.83 116 P 20 15 28.5
baz=308,SNR=28
Y14A Wickenburg 16.85 123 P **Pn** **20 15 26.9 +0.6**
GUVIX Guadalupe Vict 16.86 131 **Pn** **20 15 27.1 +0.6**
RWWY Rawlins 16.87 92 P **Pn** **20 15 25.8 -0.9**
HYT Haines Junctio 16.94 347 P **P** **20 15 29.0 -0.4**
HYT IAmb IAmb 20 15 40.8
comp=Z,615nm,2.0s
K22A Casper 17.10 88 **Pn** **20 15 28.9 -0.7**
K22A Casper 17.10 88 P 20 15 28.8
baz=284,SNR=29
113A Mohawk Valley, 17.24 127 **Pn** **20 15 30.3 -0.9**
113A IAmb IAmb 20 15 44.2
comp=Z,532nm,1.7s
MESA MESA 17.25 340 P **P** **20 15 32.3 -0.6**
MESA MESA 17.25 340 P 20 15 33.2
baz=150,SNR=30
TABL Table Mountain 17.29 341 P **P** **20 15 33.4 0.0**
TABL IAmb IAmb 20 15 49.4
comp=Z,491nm,1.5s
YAH Yahtse 17.36 340 P **P** **20 15 33.8 -0.4**
X16A Lo Mia Camp, P 17.48 119 P **P** **20 15 35.0 -0.6**
BGLC Bering Glacier 17.55 338 P 20 15 36.3
baz=147
SUCK Suckling Hills 17.65 337 P **P** **20 15 37.4 +0.3**
SUCK IAmb IAmb 20 15 41.7
comp=Z,939nm,1.7s
SPX San Pedro Mart 17.66 135 **Pn** **20 15 36.3 -0.5**
GRNC Granite Creek 17.69 341 P **P** **20 15 37.7 -0.1**
GRNC IAmb IAmb 20 15 52.0
comp=Z,1µm,2.0s
MVCO Mesa Verde 17.79 107 **Pn** **20 15 38.6 +0.2**
MVCO Mesa Verde 17.79 107 P 20 15 38.7
baz=301,SNR=17
CTGM Chitina Glacie 17.80 342 **P** **20 15 39.6 +0.6**
CTGM IAmb IAmb 20 16 08.3
comp=Z,449nm,1.5s
CTG Chitna Glacier 17.80 342 P 20 15 39.8
baz=152,SNR=19
Q23K Middleton Isla 17.93 332 P 20 15 38.9
baz=139
SMCO Snowmass 17.94 99 **Pn** **20 15 39.1 -1.2**
BARN Barnard Glacie 17.96 341 P **P** **20 15 41.3 +0.6**
BARN IAmb IAmb 20 16 11.2
comp=Z,526nm,1.5s
SFX San Felipe 17.97 133 P **Pn** **20 15 40.0 -0.3**
TGL Tana Glacier 17.97 339 P **P** **20 15 41.2 +0.4**
TGL IAmb IAmb 20 15 45.0
comp=Z,987nm,1.9s
HMT Hamilton 18.00 337 P **Pn** **20 15 40.7 +0.2**
HMT IAmb IAmb 20 15 47.3
comp=Z,689nm,2.0s
N23A Red Feather La 18.02 93 P 20 15 39.8
baz=290,SNR=43
CRQE Cirque 18.04 339 P 20 15 42.2
baz=148,SNR=67
CRQM Cirque 18.05 339 P **P** **20 15 42.0 +0.3**
CRQM IAmb IAmb 20 15 54.8
comp=Z,631nm,1.3s
W18A Petrified Fore 18.14 114 P **P** **20 15 43.1 +0.3**
W18A Petrified Fore 18.14 114 P 20 15 42.0
baz=307
DGMT Dagmar 18.16 68 P **Pn** **20 15 41.6 -1.0**
DGMT Dagmar 18.16 68 P 20 15 42.4
baz=267,SNR=24
PHWY Pilot Hill 18.24 92 P **Pn** **20 15 42.7 -1.2**
X18A Snowflake 18.36 116 P **P** **20 15 46.3 +0.9**
X18A IAmb IAmb 20 15 55.2
comp=Z,433nm,1.7s
214A Organ Pipe Nat 18.38 127 P **Pn** **20 15 45.3 0.0**
214A Organ Pipe Nat 18.38 127 P 20 15 46.4
baz=318,SNR=71
RSSD Black Hills 18.56 82 P **Pn** **20 15 47.6 -0.1**
RSSD pmax pmax
comp=Z,171nm,1.4s
RSSD Black Hills 18.56 82 P **Pn** **20 15 47.6 -0.1**
RSSD Black Hills 18.56 82 P 20 15 47.7
baz=280
MCARA McCarthy VSAT 18.56 340 P **Pn** **20 15 48.1 +0.7**
MCARA IAmb IAmb 20 16 03.3
comp=Z,302nm,1.3s
MCARA McCarthy VSAT 18.56 340 P 20 15 48.7
baz=149,SNR=16
EYAK Cordova Ski Ar 18.61 335 P **Pn** **20 15 48.1 +0.2**
EYAK IAmb IAmb 20 16 17.0
comp=Z,484nm,1.8s
EYAK Cordova Ski Ar 18.61 335 P 20 15 49.3
baz=142,SNR=8.7
BMRM Bremner River 18.62 337 P **Pn** **20 15 48.9 +0.8**
BMRM IAmb IAmb 20 15 58.7
comp=Z,606nm,2.0s
BMRM Bremner River 18.62 337 P 20 15 49.5
baz=145,SNR=20
ISCO Idaho Springs 18.65 96 P **P** **20 15 47.8 -0.9**
ISCO pmax pmax
comp=Z,153nm,1.4s
ISCO Idaho Springs 18.65 96 P **P** **20 15 47.8 -0.9**
ISCO Idaho Springs 18.65 96 P 20 15 48.4
baz=293,SNR=60
S22A 4UR Ranch, Cre 18.68 103 P 20 15 49.2
baz=299,SNR=48
HIN Hinchinbrook I 18.72 334 P **Pn** **20 15 49.7 +0.3**
HIN IAmb IAmb 20 16 16.7
comp=Z,679nm,1.6s
GLB Gilahina Butte 18.81 339 P **Pn** **20 15 51.2 +0.8**
GLB IAmb IAmb 20 16 19.5
comp=Z,627nm,2.0s
FID Port Fidalgo 18.99 335 P **Pn** **20 15 54.0 +1.5**
FID IAmb IAmb 20 16 09.5
comp=Z,658nm,1.9s
N25K Chitina, Valde 19.15 338 P **Pn** **20 15 55.1 +0.6**
N25K IAmb IAmb 20 15 59.5
comp=Z,358nm,1.8s
N25K Chitina, Valde 19.15 338 P 20 15 55.5
baz=146,SNR=34
GLI Glacier Island 19.28 334 P **Pn** **20 15 56.5 +0.4**
GLI IAmb IAmb 20 16 05.9
comp=Z,316nm,1.2s
GLI Glacier Island 19.28 334 P 20 15 56.2
baz=140,SNR=12
KDAK Kodiak Island 19.29 321 P **P** **20 15 54.9 -0.2**
comp=Z,0.3nm,0.3s,baz=150,slow=8.5,SNR=12
KDAK LR LR 20 21 26.2
comp=Z,35µm,20.5s,baz=151,slow=31
KDAK Kodiak Island 19.29 321 *de* P **Pn** **20 15 55.7 -0.5**
KDAK pmax pmax
comp=Z,505nm,1.5s
KDAK Kodiak Island 19.29 321 P **P** **20 15 54.7 -0.5**
KDAK IAmb IAmb 20 16 07.4
comp=Z,379nm,1.4s
KDAK Kodiak Island 19.29 321 P 20 15 55.5
baz=124
OHAK Old Harbor 19.31 319 P **Pn** **20 15 56.3 -0.1**
OHAK Old Harbor 19.31 319 P 20 15 55.8
baz=121,SNR=27
TUC Tucson 19.31 123 P **Pn** **20 15 56.8 +0.1**
TUC pmax pmax
comp=Z,259nm,1.6s
TUC Tucson 19.31 123 **Pn** **20 15 56.8 +0.1**
TUC Tucson 19.31 123 P 20 15 57.0
baz=315
Q24A Divide 19.32 98 P 20 15 57.2
baz=295,SNR=18
SII Sitkinak Islan 19.41 317 P **P** **20 15 57.0 +0.5**
SII Sitkinak Islan 19.41 317 P 20 15 57.1
baz=118,SNR=15
KLU Klutina 19.42 337 P **Pn** **20 15 57.3 -0.5**
KLU IAmb IAmb 20 16 12.8
comp=Z,558nm,1.8s
KLU Klutina 19.42 337 P 20 15 58.1
baz=144,SNR=33
SEW Seward 19.50 330 P **Pn** **20 15 59.3 +0.7**
SEW Seward 19.50 330 P 20 15 57.7
baz=134
SDCO Great Sand Dun 19.61 102 P **Pn** **20 15 59.9 -0.6**
SDCO IAmb IAmb 20 16 10.6
comp=Z,257nm,1.4s
SDCO Great Sand Dun 19.61 102 P 20 15 60.0
baz=298,SNR=105
PWL Port Wells 19.66 333 P **P** **20 15 59.0 -0.2**
BRSE Bradley Lake S 19.73 328 P 20 16 00.7
baz=131
CNPM China Poot 19.78 327 **P** **20 16 01.2 +0.7**
CNPM IAmb IAmb 20 16 20.6
comp=Z,264nm,1.5s
BCAR Beaver Creek A 19.78 344 P **P** **20 16 01.2 +0.7**
L27K Beaver Creek, 19.79 344 P **Pn** **20 16 01.7 -0.4**
L27K IAmb IAmb 20 16 08.2
comp=Z,285nm,1.7s
L27K Beaver Creek, 19.79 344 P 20 16 02.5
baz=154,SNR=80
BRLK Bradley Lake 19.80 328 P **P** **20 16 00.5 -0.2**
BRLK IAmb IAmb 20 16 06.7
comp=Z,306nm,1.7s
O22K Cooper Landing 19.86 331 P **Pn** **20 16 03.0 +0.1**
O22K Cooper Landing 19.86 331 P 20 16 02.6
baz=134
HARP HAARP 19.96 339 P 20 16 04.8
baz=147,SNR=17
M24K Tolsona, Glenn 19.99 337 P **Pn** **20 16 04.6 0.0**
M24K Tolsona, Glenn 19.99 337 P 20 16 04.9
baz=144,SNR=44
HOM Homer 20.02 327 IAMs_20 IAMs_20 20 21 50.0
comp=Z,28µm,19.0s
HOM Homer 20.02 327 P 20 16 03.4
baz=129
MENT Mentasta 20.08 342 P Pn 20 16 05.7 +0.2
MENT IAmb IAmb 20 16 19.3
comp=Z,523nm,1.8s
SCM Sheep Creek Mo 20.10 336 P Pn 20 16 05.2 -0.6
SCM pmax pmax
comp=Z,2µm,1.8s
SCM MLR MLR
comp=Z,31µm,18.0s
SCM Sheep Creek Mo 20.10 336 P Pn 20 16 05.2 -0.6
SCM IAMs_20 IAMs_20 20 22 10.4
comp=Z,31µm,18.0s
YKA Yellowknife Ar 20.10 21 P **P** **20 16 04.7 +0.8**
comp=Z,15nm,0.8s,baz=209,slow=11,SNR=20
YKA LR LR 20 22 19.3
comp=Z,6µm,19.6s,baz=0.0,slow=32
YKA Yellowknife Ar 20.10 21 P **P** **20 16 04.7 +0.8**
YKA Yellowknife Ar 20.10 21 P **P** **20 16 04.7 +0.8**
KNK Knik Glacier 20.12 334 P **P** **20 16 05.1 +0.9**
KNK IAMs_20 IAMs_20 20 21 48.0
comp=Z,30µm,20.0s
KNK Knik Glacier 20.12 334 P 20 16 05.7
baz=139,SNR=59
DAWY Dawson 20.30 348 P Pn 20 16 07.6 -0.5
DAWY IAmb IAmb 20 16 24.6
comp=Z,339nm,1.9s
DAWY IAMs_20 IAMs_20 20 22 36.1
comp=Z,46µm,19.0s
RC01 Rabbit Creek A 20.30 332 P Pn 20 16 07.6 -0.5
RC01 IAMs_20 IAMs_20 20 21 51.9
comp=Z,30µm,20.0s
RC01 Rabbit Creek A 20.30 332 P 20 16 07.3
baz=136,SNR=19
SML Sawmill 20.38 335 P Pn 20 16 08.4 -0.7
SML IAMs_20 IAMs_20 20 22 08.4
comp=Z,28µm,19.0s
SML Sawmill 20.38 335 P 20 16 08.5
baz=140,SNR=80
ANMO Albuquerque 20.41 110 P Pn 20 16 09.3 -0.5
comp=Z,15nm,1.1s,baz=308,slow=11,SNR=42
ANMO LR LR 20 23 14.7
comp=Z,7µm,19.6s,baz=301,slow=34
ANMO Albuquerque 20.41 110 *ǁe* P **P** **20 16 06.1 -1.7**
ANMO pmax pmax
comp=Z,107nm,1.4s
ANMO Albuquerque 20.41 110 P **P** **20 16 08.6 +0.8**
ANMO Albuquerque 20.41 110 P 20 16 07.3
baz=305
PMR Palmer 20.47 333 P **P** **20 16 08.7 +0.8**
PMR pmax pmax
comp=Z,432nm,1.7s
PMR Palmer 20.47 333 P **P** **20 16 08.7 +0.8**
PMR IAmb IAmb 20 16 17.1
comp=Z,432nm,1.7s
PMR Palmer 20.47 333 P 20 16 09.4
baz=138,SNR=18
PAX Paxson 20.52 340 P **P** **20 16 08.1 -0.5**
PAX pmax pmax
comp=Z,271nm,1.4s
PAX MLR MLR
comp=Z,31µm,22.0s
PAX Paxson 20.52 340 P **P** **20 16 08.1 -0.5**
PAX IAmb IAmb 20 16 20.4
comp=Z,271nm,1.4s
PAX IAMs_20 IAMs_20 20 22 13.4
comp=Z,31µm,22.0s
PAX Paxson 20.52 340 P 20 16 09.2
baz=147,SNR=23
LENM Lemitar 20.52 112 P Pn 20 16 10.4 -0.8
GHO Glory Hole Cre 20.54 334 P **P** **20 16 08.8 -0.1**
GHO IAmb IAmb 20 16 20.1
comp=Z,324nm,1.1s
GHO IAMs_20 IAMs_20 20 22 03.0
comp=Z,29µm,21.0s
CAPN Captain Cook N 20.57 330 P 20 16 10.6
baz=132
E28A Huff 20.57 74 P **P** **20 16 09.9 +0.6**
Y22D IRIS PASSCAL I 20.61 112 P Pn 20 16 12.6 +0.4
Y22D IRIS PASSCAL I 20.61 112 P 20 16 10.6
baz=307
T25A Trinidad 20.66 102 P **P** **20 16 11.0 +0.5**
T25A IAmb IAmb 20 16 17.8
comp=Z,349nm,1.1s
T25A Trinidad 20.66 102 P 20 16 11.0
baz=299,SNR=159
FFC Flin Flon 20.69 50 P **P** **20 16 10.0 -0.4**
FFC pmax pmax
comp=Z,1µm,1.8s
FFC MLR MLR
comp=Z,48µm,19.0s
FFC Flin Flon 20.69 50 P **P** **20 16 09.9 -0.4**
FFC Flin Flon 20.69 50 IAMs_20 IAMs_20 20 24 11.9
comp=Z,48µm,19.0s
K27K Chicken 20.71 345 P **P** **20 16 11.2 +0.6**
K27K IAmb IAmb 20 16 23.9
comp=Z,281nm,1.4s
K27K IAMs_20 IAMs_20 20 22 46.2
comp=Z,39µm,19.0s
BNM Barren Site 20.76 112 P **P** **20 16 11.2 -0.4**
DOT Dot Lake 20.77 342 P **P** **20 16 12.3 +1.0**
DOT IAmb IAmb 20 16 24.2
comp=Z,386nm,1.5s
OGNE Ogallala 20.80 90 **P** **20 16 11.5 -0.4**

OGNE Ogallala 20.80 90 P 20 16 12.2
baz=289

WAT6 Susitna Watana 20.81 337 P 20 16 12.7
baz=142,SNR=60

319A Douglas 20.88 122 Pn 20 16 14.3 -1.0
319A IAmb IAmb 20 16 28.6
comp=Z,333nm,1.2s

M22K Willow 20.91 333 P 20 16 12.9
baz=136

SUA Susitna One 20.91 332 P **P** **20 16 11.7 -1.2**
SUA IAMs_20 IAMs_20 20 22 22.0
comp=Z,28µm,18.0s

SUA Susitna One 20.91 332 P 20 16 13.8
baz=135,SNR=32

RSO Redoubt South 20.96 328 P **P** **20 16 13.0 -0.6**

121A Cookes Peak, D 21.02 117 P **P** **20 16 15.4 +1.0**
121A IAMs_20 IAMs_20 20 24 32.4
comp=Z,49µm,18.0s

121A Cookes Peak, D 21.02 117 P 20 16 15.8
baz=311,SNR=131

SCRK Sand Creek 21.05 343 P **P** **20 16 14.1 -0.2**
SCRK IAmb IAmb 20 16 27.2
comp=Z,294nm,1.5s

SCRK IAMs_20 IAMs_20 20 22 55.1
comp=Z,48µm,20.0s

SCRK Sand Creek 21.05 343 P 20 16 15.8
baz=151,SNR=73

KSCO Kaye Shedlock' 21.09 96 P **P** **20 16 15.0 0.0**
KSCO IAmb IAmb 20 16 24.2
comp=Z,305nm,1.2s

KSCO Kaye Shedlock' 21.09 96 P 20 16 16.1
baz=294,SNR=16

SPU Mount Spurr 21.17 330 P **P** **20 16 15.9 +0.3**

MDND Maddock 21.23 70 P **P** **20 16 15.7 -0.7**

MDND Maddock 21.23 70 P 20 16 16.9
baz=272,SNR=11

EGAK Eagle 21.24 347 P **P** **20 16 16.4 +0.1**
EGAK IAmb IAmb 20 16 27.9
comp=Z,263nm,1.7s

EGAK IAMs_20 IAMs_20 20 23 04.0
comp=Z,31µm,20.0s

EGAK Eagle 21.24 347 P 20 16 17.5
baz=157,SNR=7.4

SPCR Spurr Chakacha 21.24 330 P 20 16 17.1
baz=132,SNR=30

WAT2 Susitna Watana 21.35 336 P 20 16 18.6
baz=141,SNR=49

CUT Chulitna 21.43 334 P **P** **20 16 19.3 +1.0**
CUT IAMs_20 IAMs_20 20 22 29.7
comp=Z,29µm,22.0s

CUT Chulitna 21.43 334 P 20 16 19.4
baz=137,SNR=23

SKT Skwentna 21.54 332 P **P** **20 16 19.6 0.0**
SKT IAmb IAmb 20 16 35.9
comp=Z,360nm,1.4s

SKT IAMs_20 IAMs_20 20 22 42.6
comp=Z,30µm,19.0s

SKT Skwentna 21.54 332 P 20 16 19.9
baz=134,SNR=44

HSIG 21.65 129 P **P** **20 16 20.6 -0.4**

RND Reindeer 21.77 337 P **P** **20 16 22.3 +0.2**
RND pmax pmax
comp=Z,418nm,1.4s

RND MLR MLR
comp=Z,37µm,18.0s

RND Reindeer 21.77 337 P **P** **20 16 22.3 +0.2**
RND IAmb IAmb 20 16 41.9
comp=Z,418nm,1.4s

RND IAMs_20 IAMs_20 20 23 23.6
comp=Z,37µm,18.0s

MCK McKinley 22.05 337 P **P** **20 16 25.5 +0.4**
MCK pmax pmax
comp=Z,211nm,1.3s

MCK MLR MLR
comp=Z,29µm,19.0s

MCK McKinley 22.05 337 P **P** **20 16 25.5 +0.4**
MCK IAmb IAmb 20 16 34.5
comp=Z,211nm,1.3s

MCK IAMs_20 IAMs_20 20 23 16.0
comp=Z,29µm,19.0s

MCK McKinley 22.05 337 P 20 16 25.9
baz=142,SNR=13

SUSD Miller 22.08 79 P **P** **20 16 24.7 -0.8**
SUSD IAmb IAmb 20 16 32.6
comp=Z,314nm,1.2s

SUSD Miller 22.08 79 P 20 16 25.5
baz=281

HDA Harding Lake 22.09 340 P **P** **20 16 25.4 -0.1**
HDA IAmb IAmb 20 16 39.1
comp=Z,201nm,1.4s

HDA IAMs_20 IAMs_20 20 23 13.8
comp=Z,28µm,21.0s

HDA Harding Lake 22.09 340 P 20 16 26.1
baz=146,SNR=55

HDA P 20 16 26.1
baz=146,SNR=55

TRF Thorofare Moun 22.22 336 P **P** **20 16 26.4 -0.6**
TRF IAMs_20 IAMs_20 20 23 18.5
comp=Z,32nm,19.0s

TRF Thorofare Moun 22.22 336 P 20 16 27.9
baz=139,SNR=74

SDPT Sand Point 22.23 310 P **P** **20 16 27.9 +0.9**

SDPT Sand Point 22.23 310 P 20 16 27.1
baz=106,SNR=22

SRIG Santa Rosalia 22.31 134 P **P** **20 16 28.1 +0.1**
SRIG IAmb IAmb 20 16 33.6
comp=Z,349nm,1.4s

EPT El Paso 22.34 117 IAMs_20 IAMs_20 20 25 15.4
comp=Z,31µm,19.0s

IL31 22.38 341 P **P** **20 16 28.4 0.0**
IL31 IAmb IAmb 20 16 41.0
comp=Z,282nm,1.5s

ILAR Eielson Array 22.38 341 P **P** **20 16 28.2 -0.3**
comp=Z,38nm,1.1s,baz=153,slow=7.6,SNR=82

ILAR PcP **PcP** **20 20 23.3 +0.2**
comp=Z,1.5nm,1.0s,baz=168,slow=4.6,SNR=3.4

ILAR LR LR 20 23 44.4
comp=Z,27µm,21.3s,baz=158,slow=33

ILAR Eielson Array 22.38 341 P **P** **20 16 27.9 -0.6**
ILAR PCP **PcP** **20 20 23.3 +0.2**

ILAR Eielson Array 22.38 341 P **P** **20 16 27.9 -0.6**

ILAR Eielson Array 22.38 341 **PcP** **20 20 23.3 +0.2**

PPLA Purkeypile 22.40 333 P **P** **20 16 28.8 -0.1**

PPLA Purkeypile 22.40 333 P 20 16 29.5
baz=135,SNR=60

WRH Wood River Hil 22.42 339 P **P** **20 16 28.2 -0.7**
WRH IAMs_20 IAMs_20 20 23 21.7
comp=Z,25µm,20.0s

SVW2 Sparrevohn 22.45 327 P **P** **20 16 28.5 -0.8**
SVW2 IAmb IAmb 20 16 41.7
comp=Z,201nm,1.3s

KTH Kantishna Hill 22.48 335 P **P** **20 16 30.1 +0.4**
KTH IAmb IAmb 20 16 56.1
comp=Z,376nm,1.6s

KTH IAMs_20 IAMs_20 20 23 16.5
comp=Z,27µm,20.0s

CCB Clear Creek Bu 22.50 340 P **P** **20 16 28.5 -1.2**
CCB IAmb IAmb 20 16 38.7
comp=Z,240nm,1.2s

CCB IAMs_20 IAMs_20 20 23 24.5
comp=Z,29µm,21.0s

BWN Browne 22.54 338 P **P** **20 16 30.2 -0.1**
BWN IAMs_20 IAMs_20 20 23 39.8
comp=Z,27µm,18.0s

K31A O'Neill 22.65 84 P **P** **20 16 31.1 -0.5**

COLA College 22.69 340 *de*P **P** **20 16 32.3 +0.5**
COLA pmax pmax
comp=Z,67nm,0.9s

COLA College 22.69 340 P **P** **20 16 31.4 -0.5**
COLA IAmb IAmb 20 16 43.4
comp=Z,362nm,1.8s

COLA College 22.69 340 IAMs_20 IAMs_20 20 23 31.9
comp=Z,27µm,22.0s

COLA College 22.69 340 P 20 16 31.4
baz=145

TCOL CIGO, UAF Yank 22.70 340 P **P** **20 16 31.6 -0.3**
TCOL IAmb IAmb 20 16 43.4
comp=Z,342nm,1.7s

TCOL CIGO, UAF Yank 22.70 340 P 20 16 31.4
baz=145

PRP Porcupine Dome 22.72 343 P **P** **20 16 32.7 +0.4**
PRP IAmb IAmb 20 16 45.3
comp=Z,213nm,1.5s

PRP IAMs_20 IAMs_20 20 23 56.3
comp=Z,42µm,19.0s

PRP Porcupine Dome 22.72 343 P 20 16 32.1
baz=150

NEA2 Nenana 22.77 339 P **P** **20 16 31.9 -0.8**
NEA2 Nenana 22.77 339 P 20 16 33.3
baz=143,SNR=78

POKR Poker Plat Res 22.80 341 P **P** **20 16 32.4 -0.6**
POKR IAmb IAmb 20 16 48.6
comp=Z,412nm,1.9s

POKR Poker Plat Res 22.80 341 IAMs_20 IAMs_20 20 23 46.5
comp=Z,30µm,21.0s

POKR Poker Plat Res 22.80 341 P 20 16 33.6
baz=146,SNR=11

MDM Murphy Dome 22.86 340 P **P** **20 16 32.8 -0.8**
MDM IAmb IAmb 20 16 50.0
comp=Z,213nm,1.4s

MDM IAMs_20 IAMs_20 20 23 37.1
comp=Z,26µm,22.0s

BPAW Bear Paw Mtn. 22.91 336 P **P** **20 16 34.2 0.0**
BPAW IAMs_20 IAMs_20 20 23 58.8
comp=Z,26µm,18.0s

BPAW Bear Paw Mtn. 22.92 336 P 20 16 33.9
baz=139,SNR=21

D32A Dogwood Acres, 23.03 72 P **P** **20 16 33.8 -1.8**

MNTX Cornudas Mount 23.11 115 P **P** **20 16 36.6 +0.1**
MNTX IAmb IAmb 20 17 04.2
comp=Z,231nm,1.9s

MNTX IAMs_20 IAMs_20 20 25 42.6
comp=Z,34µm,19.0s

MNTX Cornudas Mount 23.11 115 P 20 16 37.3
baz=311,SNR=51

CBKS Cedar Bluff 23.23 94 P **P** **20 16 37.2 -0.5**
CBKS pmax pmax
comp=Z,665nm,1.7s

CBKS MLR MLR
comp=Z,29µm,18.0s

CBKS Cedar Bluff 23.23 94 P **P** **20 16 37.2 -0.5**
CBKS IAMs_20 IAMs_20 20 26 07.1
comp=Z,29µm,18.0s

CBKS Cedar Bluff 23.23 94 P 20 16 37.5
baz=294,SNR=13

I23K Minto, Yukon-K 23.29 339 P **P** **20 16 37.0 -1.0**

I23K Minto, Yukon-K 23.29 339 P 20 16 39.2
baz=143,SNR=44

BGNE Belgrade 23.43 86 P **P** **20 16 38.7 -1.0**

BGNE Belgrade 23.43 86 P 20 16 39.9
baz=288

MSTX Muleshoe 23.47 107 P **P** **20 16 38.3 -1.9**
MSTX IAmb IAmb 20 16 43.3
comp=Z,418nm,1.9s

MSTX IAMs_20 IAMs_20 20 26 30.9
comp=Z,24µm,18.0s

MSTX Muleshoe 23.47 107 P 20 16 40.3
baz=305,SNR=5.8

H24K Noodor Dome 23.50 342 P 20 16 40.9
baz=146,SNR=44

MLY Manley 23.56 338 P **P** **20 16 39.9 -0.9**
MLY IAmb IAmb 20 16 53.5
comp=Z,296nm,1.8s

MLY IAMs_20 IAMs_20 20 24 22.8
comp=Z,27µm,18.0s

MLY Manley 23.56 338 P 20 16 40.9
baz=140,SNR=52

FYU Fort Yukon 23.58 345 P **P** **20 16 38.6 -2.3**
FYU IAmb IAmb 20 16 53.5
comp=Z,186nm,1.2s

FYU IAMs_20 IAMs_20 20 24 35.1
comp=Z,35µm,19.0s

ULM Lac du Bonnet 23.66 64 P **P** **20 16 41.9 +0.1**
comp=Z,61nm,1.0s,baz=274,slow=10,SNR=46

ULM LR LR 20 26 02.2
comp=Z,33µm,18.1s,baz=268,slow=37

ULM Lac du Bonnet 23.66 64 P **P** **20 16 40.4 -1.4**
ULM pmax pmax
comp=Z,263nm,1.5s

ULM Lac du Bonnet 23.66 64 P **P** **20 16 40.4 -1.4**
ULM IAmb IAmb 20 16 43.5
comp=Z,263nm,1.5s

F33A 5 Mile Ranch, 23.70 75 P **P** **20 16 40.9 -1.4**

AGMN Agassiz Nation 23.72 69 P **P** **20 16 40.9 -1.5**
AGMN IAMs_20 IAMs_20 20 25 44.6
comp=Z,19µm,19.0s

AGMN Agassiz Nation 23.72 69 P 20 16 42.6
baz=274,SNR=36

TTA Tatalina 23.73 330 P **P** **20 16 41.8 -0.7**
TTA pmax pmax
comp=Z,113nm,1.3s

TTA MLR MLR
comp=Z,24µm,18.0s

TTA Tatalina 23.73 330 P **P** **20 16 41.8 -0.7**
TTA IAmb IAmb 20 16 57.6
comp=Z,113nm,1.3s

TTA IAMs_20 IAMs_20 20 24 11.6
comp=Z,24µm,18.0s

TTA Tatalina 23.73 330 P 20 16 42.4
baz=129,SNR=23

FALS False Pass 23.75 308 P **P** **20 16 41.0 -1.6**

FALS False Pass 23.75 308 P 20 16 42.2
baz=102

ECSD EROS Data Cent 23.88 80 P **P** **20 16 43.2 -0.9**

ECSD EROS Data Cent 23.88 80 IAMs_20 IAMs_20 20 26 05.5
comp=Z,19µm,18.0s

ECSD EROS Data Cent 23.88 80 P 20 16 43.7
baz=284,SNR=89

H23K Yukon River 23.88 340 P 20 16 44.8
baz=144,SNR=66

INK Inuvik 23.92 357 P **P** **20 16 44.5 +0.4**
comp=Z,6.6nm,0.6s,baz=161,slow=8.7,SNR=7.6

INK LR LR 20 25 19.4
comp=Z,23µm,20.7s,baz=168,slow=35

INK Inuvik 23.92 357 P **P** **20 16 42.9 -1.2**
INK pmax pmax
comp=Z,42nm,1.2s

INK MLR MLR
comp=Z,28µm,20.0s

INK Inuvik 23.92 357 P **P** **20 16 42.9 -1.2**
INK IAMs_20 IAMs_20 20 25 20.4
comp=Z,28µm,20.0s

INK Inuvik 23.92 357 P 20 16 43.5
baz=174

R32A Long Quarter, 24.12 94 P **P** **20 16 45.5 -0.9**

N33A J Bar K, Exete 24.15 88 P **P** **20 16 46.2 -0.4**

BMAR Burnt Mountain 24.24 346 P **P** **20 16 47.1 -0.1**

L34A Svendsen Farm, 24.52 84 P **P** **20 16 50.2 +0.1**

U32A Winter Ranch, 24.83 98 P **P** **20 16 52.4 -0.5**
U32A IAmb IAmb 20 16 58.0
comp=Z,133nm,1.6s

AKUT Akutan 24.98 305 P **P** **20 16 52.9 -1.0**

C36M Paulatuk 25.08 5 P **P** **20 16 54.9 +0.2**
C36M IAMs_20 IAMs_20 20 26 28.6
comp=Z,42µm,21.0s

C36M Paulatuk 25.08 5 P 20 16 54.3
baz=190,SNR=6.4

IMAR Indian Mountai 25.11 337 P **P** **20 16 53.5 -1.5**

KAN16 Harper SW Stat 25.11 96 P **P** **20 16 54.5 -0.8**

KAN12 Harper NE Stat 25.12 96 P **P** **20 16 54.4 -1.1**

KAN10 Anthony SW Sta 25.13 96 P **P** **20 16 55.1 -0.4**

B35A Bob, Littlefor 25.13 68 P **P** **20 16 53.8 -1.6**

KAN08 Anthony NE Sta 25.17 96 P **P** **20 16 55.3 -0.6**

COLD Coldfoot 25.18 342 P **P** **20 16 55.5 -0.1**
COLD IAmb IAmb 20 17 17.7
comp=Z,134nm,1.3s

COLD IAMs_20 IAMs_20 20 25 13.4
comp=Z,29µm,21.0s

COLD Coldfoot 25.18 342 P 20 16 57.1
baz=144,SNR=44

OK032 Salt Plains WL 25.20 97 P **P** **20 16 55.3 -0.8**
OK032 IAMs_20 IAMs_20 20 27 16.0
comp=Z,22µm,21.0s

KSU1 Kansas State U 25.35 91 P **P** **20 17 57.6 +0.1**
KSU1 Kansas State U 25.35 91 IAMs_20 IAMs_20 20 27 15.2
comp=Z,29µm,18.0s

KSU1 Kansas State U 25.35 91 P 20 16 58.2
baz=293,SNR=15

KAN01 Argonia South 25.36 96 P **P** **20 16 56.5 -1.1**

N35A Tabor 25.40 86 P **P** **20 16 57.4 -0.5**

GC02 Grant County # 25.42 96 P **P** **20 16 57.8 -0.4**

KAN09 Caldwell North 25.46 96 P **P** **20 16 57.0 -1.5**

CROK Carrier 25.50 97 P **P** **20 16 58.0 -0.9**

F36A Milaca 25.60 74 P **P** **20 16 58.7 -1.0**
F36A IAmb IAmb 20 17 24.8
comp=Z,132nm,1.6s

KAN13 South Haven SW 25.62 96 P **P** **20 16 58.9 -1.1**

TX31 Lajitas Ar. Si 25.79 117 P **P** **20 17 01.3 -0.4**

TX32 Lajitas Array 25.79 117 P **P** **20 17 01.5 -0.1**

TXAR Lajitas Array 25.79 117 P **P** **20 17 01.3 -0.4**
comp=Z,21nm,0.9s,baz=305,slow=5.8,SNR=92

TXAR LR LR 20 27 39.1
comp=Z,11µm,18.7s,baz=0.0,slow=38

TXAR Lajitas Array 25.79 117 P **P** **20 17 01.1 -0.6**

TXAR Lajitas Array 25.79 117 P **P** **20 17 01.1 -0.6**

WMOK Wichita Mounta 25.81 101 P **P** **20 17 01.5 -0.2**
WMOK pmax pmax
comp=Z,514nm,2.0s

WMOK MLR MLR
comp=Z,11µm,19.0s

WMOK Wichita Mounta 25.81 101 P **P** **20 17 01.5 -0.2**

WMOK Wichita Mounta 25.81 101 P 20 17 02.0
baz=302,SNR=71

LPIG La Paz 25.94 135 P **P** **20 17 03.8 +0.9**
comp=Z,35nm,0.3s,baz=112,slow=5.3,SNR=8.3

LPIG LR LR 20 25 52.1
comp=Z,17µm,20.2s,baz=324,slow=33

LPIG La Paz 25.94 135 P **P** **20 17 03.8 +0.9**

FCC Fort Churchill 26.06 44 P **P** **20 17 03.3 -0.4**
FCC pmax pmax
comp=Z,179nm,1.5s

FCC MLR MLR
comp=Z,15µm,18.0s

FCC Fort Churchill 26.06 44 P **P** **20 17 03.3 -0.4**
FCC IAmb IAmb 20 17 19.6
comp=Z,179nm,1.5s

I37A Lemond, Waseca 26.07 78 P **P** **20 17 03.9 -0.2**
I37A IAmb IAmb 20 17 24.3
comp=Z,205nm,1.8s

BCOK Bluff Creek, N 26.17 99 P **P** **20 17 04.8 -0.2**

OK029 Liberty Lake 26.21 98 P **P** **20 17 04.7 -0.6**
OK029 IAmb IAmb 20 17 23.2
comp=Z,118nm,1.0s

OK029 IAMs_20 IAMs_20 20 27 36.9
comp=Z,19µm,22.0s

SPMN Marine on St. 26.22 75 P **P** **20 17 04.5 -0.8**
SPMN IAmb IAmb 20 17 08.0
comp=Z,127nm,1.5s

SPMN Marine on St. 26.22 75 P 20 17 05.1
baz=282,SNR=5.2

TOLK Toolik Lake Re 26.22 344 P **P** **20 17 05.2 0.0**
TOLK IAmb IAmb 20 17 10.6
comp=Z,112nm,1.4s

TOLK IAMs_20 IAMs_20 20 26 09.8
comp=Z,35µm,19.0s

TOLK Toolik Lake Re 26.22 344 P 20 17 06.1
baz=147

HPIG 26.27 124 P **P** **20 17 06.3 +0.2**

T35A Sooner Cattle 26.35 95 P **P** **20 17 06.0 -0.6**
T35A IAmb IAmb 20 17 29.2
comp=Z,152nm,1.1s

ABTX Abilene, Hawle 26.38 106 P **P** **20 17 06.7 -0.3**
ABTX IAmb IAmb 20 17 29.9
comp=Z,103nm,1.4s

ABTX Abilene, Hawle 26.38 106 P 20 17 07.0
baz=306,SNR=9.7

OK025 Westminster Rd 26.40 98 P **P** **20 17 05.7 -1.3**
OK025 IAmb IAmb 20 17 19.3
comp=Z,94nm,0.9s

OK025 IAMs_20 IAMs_20 20 27 42.9
comp=Z,18µm,21.0s

OKCFA Oklahoma City 26.40 99 P **P** **20 17 06.4 -0.7**
OKCFA IAmb IAmb 20 17 19.5
comp=Z,128nm,0.9s

SLBS Sierra La Lagu 26.47 135 P **P** **20 17 06.5 -1.2**
SLBS IAmb IAmb 20 17 16.0
comp=Z,213nm,1.6s

SLBS Sierra La Lagu 26.47 135 IAMs_20 IAMs_20 20 25 57.1
comp=Z,20µm,19.0s

FNO Franklin 26.52 99 P **P** **20 17 06.5 -1.6**

X34A Smith Ranch, M 26.55 101 P **P** **20 17 08.7 +0.2**
X34A IAmb IAmb 20 17 19.8
comp=Z,164nm,1.3s

QUOK Quay 26.56 97 P **P** **20 17 06.9 -1.5**
QUOK IAmb IAmb 20 17 11.0
comp=Z,163nm,1.5s

OK031 S. Brethren Rd 26.57 97 P **P** **20 17 07.7 -0.9**
OK031 IAmb IAmb 20 17 18.6
comp=Z,130nm,1.3s

OK031 IAMs_20 IAMs_20 20 28 08.5
comp=Z,23µm,19.0s

OK030 Cody Creek RV 26.62 97 P **P** **20 17 07.7 -1.3**
OK030 IAmb IAmb 20 17 19.1
comp=Z,193nm,1.4s

OK030 IAMs_20 IAMs_20 20 28 09.8
comp=Z,22µm,19.0s

NIKH Nikolski High 26.70 302 P **P** **20 17 09.4 -0.2**
NIKH Nikolski High 26.70 302 P 20 17 10.1
baz=93,SNR=6.7

SCIA State Center 26.79 83 P **P** **20 17 10.0 -0.5**
SCIA State Center 26.79 83 P 20 17 10.9
baz=288

E38A The Farm, Brul 26.82 72 P **P** **20 17 11.3 +0.6**
E38A IAmb IAmb 20 17 33.3
comp=Z,113nm,1.4s

K38A Parkersburg 26.88 81 P **P** **20 17 11.8 +0.5**
K38A IAmb IAmb 20 17 40.6
comp=Z,197nm,1.4s

W35A Tecumseh 26.94 99 P **P** **20 17 11.8 -0.2**
N38A Joes South For 27.14 85 P **P** **20 17 13.6 0.0**
N38A IAmb IAmb 20 17 15.8
comp=Z,178nm,1.5s

LOOK Love County 27.33 101 P **P** **20 17 13.6 -1.8**
LOOK IAmb IAmb 20 17 33.3
comp=Z,171nm,1.3s

TUL1 Leonard 27.34 96 P 20 17 14.5
baz=299

P38A Dawn 27.35 87 P **P** **20 17 14.6 -1.0**
P38A IAmb IAmb 20 17 25.3
comp=Z,229nm,1.8s

JCT Junction City 27.57 110 P **P** **20 17 16.9 -0.8**
JCT Junction City 27.57 110 P **P** **20 17 16.9 -0.8**
JCT IAMs_20 IAMs_20 20 28 40.8
comp=Z,19µm,18.0s

JCT Junction City 27.57 110 P 20 17 17.4
baz=309,SNR=13

Z35A Perchaven, San 27.64 103 P **P** **20 17 17.1 -1.1**

SPIA Saint Paul Isl 27.95 311 P 20 17 21.6
baz=99

G40A Rib Lake 28.01 74 P **P** **20 17 21.0 -0.4**
G40A IAmb IAmb 20 17 42.5
comp=Z,70nm,1.2s

I40A Norwalk 28.05 77 P **P** **20 17 21.6 -0.2**

U38A Gravette 28.09 94 P **P** **20 17 21.8 -0.4**
U38A IAmb IAmb 20 17 28.4
comp=Z,116nm,1.4s

ANM Nome 28.10 328 IAMs_20 IAMs_20 20 27 17.5
comp=Z,19µm,18.0s

ANM Nome 28.10 328 P 20 17 22.9
baz=118

L40A Anamosa 28.15 81 P **P** **20 17 22.0 -0.7**

WHTX Lake Whitney, 28.25 105 P **P** **20 17 23.0 -0.7**

WHTX Lake Whitney, 28.25 105 P 20 17 23.1
baz=306,SNR=5.4

S39A Bolivar 28.29 91 P **P** **20 17 23.4 -0.6**
S39A IAmb IAmb 20 17 30.6
comp=Z,138nm,1.5s

X37A Clayton 28.29 99 P **P** **20 17 24.1 +0.1**
X37A IAmb IAmb 20 17 45.2
comp=Z,147nm,1.5s

X37A IAMs_20 IAMs_20 20 29 15.3
comp=Z,17µm,19.0s

P40A Paris 28.45 87 P **P** **20 17 25.1 -0.3**
P40A IAmb IAmb 20 17 34.5
comp=Z,105nm,1.6s

HHAR Hobbs 28.48 94 P **P** **20 17 25.3 -0.4**
HHAR IAmb IAmb 20 17 50.0
comp=Z,98nm,1.6s

COWI Conover 28.56 72 P **P** **20 17 26.4 +0.1**

JFWS Jewell Farm 28.58 79 P **P** **20 17 26.6 +0.1**
JFWS pmax pmax
comp=Z,328nm,1.8s

JFWS MLR MLR
comp=Z,17µm,22.0s

JFWS Jewell Farm 28.58 79 P **P** **20 17 26.6 +0.1**

JFWS Jewell Farm 28.58 79 IAMs_20 IAMs_20 20 28 51.0
comp=Z,17µm,22.0s

JFWS Jewell Farm 28.58 79 P 20 17 25.6
baz=287,SNR=9.1

D41A Chassel 28.76 70 P **P** **20 17 28.9 +0.9**
D41A IAmb IAmb 20 17 30.4
comp=Z,104nm,1.3s

R40A Maddies Statio 28.79 89 P **P** **20 17 27.4 -1.0**
R40A IAmb IAmb 20 17 30.6
comp=Z,107nm,1.4s

N41A Harden Midland 28.86 84 P **P** **20 17 28.8 -0.2**

435B Jarrell 28.88 107 P **P** **20 17 27.9 -1.4**
435B IAmb IAmb 20 17 54.3

comp=Z,88nm,1.6s
435B IAMs_20 IAMs_20 20 29 27.6
comp=Z,15µm,19.0s
435B Jarrell 28.88 107 P 20 17 29.0
baz=308
W39A Magazine 29.11 96 P **P** **20 17 31.4 +0.1**
W39A IAMs_20 IAMs_20 20 29 34.1
comp=Z,18µm,18.0s
W39A Magazine 29.11 96 P 20 17 30.6
baz=300,SNR=12
RDOG Red Dog Mine 29.16 335 P **P** **20 17 31.3 -0.1**
RDOG IAMs_20 IAMs_20 20 27 59.5
comp=Z,20µm,18.0s
RDOG Red Dog Mine 29.16 335 P 20 17 32.8
baz=127
U40A Yellville 29.22 93 P **P** **20 17 31.9 -0.4**
U40A IAmb IAmb 20 17 57.4
comp=Z,183nm,1.9s
U40A Yellville 29.22 93 P 20 17 31.8
baz=298,SNR=7.3
833A Chaparral WMA, 29.23 113 P 20 17 33.0
baz=312
I42A Draeger Farm, 29.24 77 P **P** **20 17 32.9 +0.5**
I42A IAmb IAmb 20 17 34.7
comp=Z,173nm,1.4s
Z38A Mt. Pleasant 29.27 100 P **P** **20 17 31.1 -1.6**
L42A Oliver, Polo 29.27 81 P **P** **20 17 31.3 -1.3**
MGMO Mountain Grove 29.27 91 P **P** **20 17 32.2 -0.6**
MGMO IAmb IAmb 20 17 42.3
comp=Z,180nm,1.9s
F42A Maple Grove Fa 29.31 73 P **P** **20 17 33.6 +0.6**
F42A IAmb IAmb 20 17 40.5
comp=Z,188nm,1.8s
237A Washetta, Mont 29.39 103 P **P** **20 17 34.0 +0.3**
237A IAmb IAmb 20 17 56.7
comp=Z,105nm,1.1s
TNA Tin City 29.52 329 P 20 17 35.4
baz=117
MIAR Mount Ida 29.59 97 P **P** **20 17 34.9 -0.6**
MIAR pmax pmax
comp=Z,85nm,1.3s
MIAR MLR MLR
comp=Z,26µm,18.0s
MIAR Mount Ida 29.59 97 P **P** **20 17 34.9 -0.6**
MIAR IAmb IAmb 20 18 03.7
comp=Z,85nm,1.3s
MIAR IAMs_20 IAMs_20 20 30 11.6
comp=Z,26µm,18.0s
MIAR Mount Ida 29.59 97 P 20 17 35.8
baz=301,SNR=8.2
CCM Cathedral Cave 29.62 89 P **P** **20 17 35.4 -0.3**
CCM pmax pmax
comp=Z,179nm,1.8s
CCM MLR MLR
comp=Z,35µm,19.0s
CCM Cathedral Cave 29.62 89 P **P** **20 17 35.4 -0.3**
CCM IAmb IAmb 20 17 44.7
comp=Z,179nm,1.8s
A21K Barrow 29.83 343 P **P** **20 17 36.7 -0.6**
A21K IAMs_20 IAMs_20 20 28 46.5
comp=Z,23µm,20.0s
A21K Barrow 29.83 343 P 20 17 38.1
baz=140
H43A Windswept, Lux 29.88 75 P **P** **20 17 35.6 -2.4**
H43A IAmb IAmb 20 17 54.0
comp=Z,105nm,1.4s
735A Kenedy 29.94 111 P **P** **20 17 39.1 +0.5**
735A IAmb IAmb 20 17 56.2
comp=Z,48nm,0.7s
E43A Lone Tree Farm 29.95 71 P **P** **20 17 38.6 -0.1**
E43A IAmb IAmb 20 17 40.8
comp=Z,78nm,1.6s
FCAR Ozark Folk Cen 29.96 93 P **P** **20 17 37.5 -1.3**
ATKA Atka Island 29.96 301 P **P** **20 17 37.5 -1.1**
K43A Burlington 29.99 79 P **P** **20 17 38.6 -0.4**
K43A IAmb IAmb 20 18 05.3
comp=Z,173nm,1.5s
HDIL Hopedale 30.03 83 P **P** **20 17 38.0 -1.4**
HDIL IAMs_20 IAMs_20 20 30 03.3
comp=Z,19µm,19.0s
HDIL Hopedale 30.03 83 P 20 17 40.0
baz=291,SNR=6.1
SLM Saint Louis 30.10 87 P **P** **20 17 37.9 -2.1**
SLM pmax pmax
comp=Z,184nm,1.9s
SLM Saint Louis 30.10 87 P **P** **20 17 37.9 -2.1**
SLM IAmb IAmb 20 18 03.5
comp=Z,184nm,1.9s
WHAR Wooly Hollow 30.13 95 P **P** **20 17 39.3 -1.1**
WHAR IAmb IAmb 20 18 08.0
comp=Z,160nm,1.7s
X40A Basin Creek Fa 30.14 96 P **P** **20 17 40.3 -0.1**
X40A IAmb IAmb 20 18 07.0
comp=Z,92nm,1.8s
X40A IAMs_20 IAMs_20 20 30 18.4
comp=Z,19µm,20.0s
X40A Basin Creek Fa 30.14 96 P 20 17 40.4
baz=301
T42A Van Buren 30.17 91 P **P** **20 17 39.4 -1.2**
T42A IAmb IAmb 20 18 03.6
comp=Z,137nm,1.7s
P43A Skaggs, Pawnee 30.21 85 P **P** **20 17 40.5 -0.5**
P43A IAmb IAmb 20 17 56.4
comp=Z,91nm,1.2s
W41B Gary Mavity, V 30.22 95 P 20 17 41.0
baz=300,SNR=9.3
FVM French Village 30.23 89 P **P** **20 17 40.0 -1.2**
FVM pmax pmax
comp=Z,91nm,1.6s
FVM French Village 30.23 89 P **P** **20 17 40.0 -1.2**
FVM IAmb IAmb 20 17 50.9
comp=Z,91nm,1.6s
GAMB Gambell 30.32 324 IAMs_20 IAMs_20 20 28 25.0
comp=Z,17µm,18.0s
GAMB Gambell 30.32 324 P 20 17 43.7
baz=109
NATX Nacogdoches 30.33 103 P **P** **20 17 41.0 -1.1**
NATX IAmb IAmb 20 18 05.7
comp=Z,90nm,1.3s
NATX Nacogdoches 30.33 103 P 20 17 42.8
baz=305
WLAR White Oak Lake 30.36 98 P **P** **20 17 42.9 +0.5**
L44A Lake County Fo 30.45 79 P **P** **20 17 42.9 -0.2**
L44A IAmb IAmb 20 17 45.9
comp=Z,138nm,1.3s
L44A IAMs_20 IAMs_20 20 29 59.5
comp=Z,14µm,20.0s
L44A Lake County Fo 30.45 79 P 20 17 43.1
baz=289
LCAR Lake Charles 30.57 92 P **P** **20 17 42.9 -1.3**
LCAR IAmb IAmb 20 18 07.7
comp=Z,155nm,1.7s
HKT Hockley 30.59 107 eP **P** **20 17 43.9 -0.4**
HKT pmax pmax
comp=Z,84nm,1.5s
HKT Hockley 30.59 107 P **P** **20 17 45.5 +1.1**
HKT IAmb IAmb 20 17 48.0
comp=Z,127nm,1.6s
HKT Hockley 30.59 107 IAMs_20 IAMs_20 20 30 44.5
comp=Z,16µm,18.0s
HQIL Hanson Quary C 30.61 80 IAMs_20 IAMs_20 20 30 04.9
comp=Z,14µm,21.0s
M44A Midewin, Midew 30.62 81 P **P** **20 17 45.1 +0.5**
M44A IAmb IAmb 20 17 47.6
comp=Z,162nm,1.6s
KVTX Kingsville 30.74 113 P **P** **20 17 45.3 -0.5**
KVTX IAMs_20 IAMs_20 20 30 36.7
comp=Z,16µm,19.0s
PBMO Poplar Bluff 30.76 91 P **P** **20 17 44.8 -1.0**
PBMO IAmb IAmb 20 18 08.8
comp=Z,102nm,1.6s
O44A Mansfield 30.76 83 P **P** **20 17 45.9 0.0**
Z41A Richland Creek 30.81 99 P 20 17 46.9
baz=302
Q44A Meyer Farm, Va 30.86 86 P **P** **20 17 46.0 -0.7**
Q44A IAmb IAmb 20 18 01.5
comp=Z,88nm,1.4s
I45A Fountain 31.06 75 P **P** **20 17 48.1 -0.3**
HBAR Harrisburg 31.17 93 P **P** **20 17 48.2 -1.3**
G45A Suttons Bay 31.18 73 P **P** **20 17 49.9 +0.4**
CCAR Cane Creek 31.19 97 P **P** **20 17 49.8 +0.1**
S44A Carbondale 31.19 88 P **P** **20 17 47.5 -2.1**
S44A IAmb IAmb 20 18 11.7
comp=Z,105nm,1.6s
SIUC Southern Illin 31.21 88 P **P** **20 17 48.3 -1.6**
SIUC IAmb IAmb 20 18 11.8
comp=Z,62nm,1.3s
ZAIG Zacatecas 31.25 125 P **P** **20 17 50.2 -0.4**
PARMO Parma 31.30 90 P **P** **20 17 48.9 -1.7**
PARMO IAmb IAmb 20 17 58.4
comp=Z,45nm,0.5s
LPAR Lepanto 31.40 93 P **P** **20 17 49.8 -1.7**
GNAR Gosnell 31.43 92 P **P** **20 17 51.2 -0.6**
GNAR IAmb IAmb 20 18 09.7
comp=Z,44nm,0.7s
PEBM Pemiscott Bayo 31.47 91 P **P** **20 17 50.4 -1.7**
PEBM IAmb IAmb 20 18 02.3
comp=Z,63nm,1.0s
HENM Henderson Moun 31.47 90 P **P** **20 17 50.7 -1.5**
ADK Adak 31.52 300 P **P** **20 17 51.7 -0.7**
ADK pmax pmax
comp=Z,222nm,1.5s
ADK MLR MLR
comp=Z,7µm,20.0s
ADK Adak 31.52 300 P **P** **20 17 51.7 -0.7**
L46A Eue Claire 31.64 79 P **P** **20 17 52.7 -0.9**
SFIN Lafayette 31.65 82 P **P** **20 17 53.0 -0.7**
SFIN Lafayette 31.65 82 P 20 17 53.4
baz=292,SNR=7.1
E46A Sault Ste Mari 31.77 70 P **P** **20 17 54.9 +0.2**
E46A IAmb IAmb 20 17 56.7
comp=Z,114nm,1.6s
P46A Rosedale 31.86 84 P **P** **20 17 55.3 -0.2**
441A DeRidder 31.94 103 P **P** **20 17 57.2 +0.9**
441A IAmb IAmb 20 18 07.9
comp=Z,143nm,1.5s
HALT Halls 31.94 91 P **P** **20 17 55.0 -1.2**
GLMI Grayling 31.95 73 P **P** **20 17 55.5 -0.8**
GLMI IAmb IAmb 20 18 21.8
comp=Z,76nm,1.0s
GLMI Grayling 31.95 73 P 20 17 56.7
baz=286
143A Socs Landing, 32.10 98 **P** **20 17 57.2 -0.4**
143A IAmb IAmb 20 18 09.5
comp=Z,76nm,1.4s
342A Flagon Creek P 32.18 101 P **P** **20 17 58.2 -0.2**
342A IAmb IAmb 20 18 23.1
comp=Z,34nm,0.8s
USIN University of 32.21 87 P **P** **20 17 56.8 -1.9**
USIN IAmb IAmb 20 18 13.5
comp=Z,70nm,1.1s
J47A Sunmer 32.27 76 P **P** **20 17 59.9 +0.8**
W45A Hickory Valley 32.41 92 P **P** **20 17 59.4 -1.0**
N47A Urbana 32.46 81 P **P** **20 18 00.3 -0.4**
N47A IAmb IAmb 20 18 15.9
comp=Z,82nm,1.4s
BLO Bloomington 32.53 84 P **P** **20 18 00.2 -1.2**
BLO pmax pmax
comp=Z,93nm,1.4s
BLO Bloomington 32.53 84 P **P** **20 18 00.2 -1.2**
BLO IAmb IAmb 20 18 16.6
comp=Z,94nm,1.4s
OXF Oxford 32.57 94 P **P** **20 18 00.8 -1.0**
OXF pmax pmax
comp=Z,273nm,1.1s
OXF Oxford 32.57 94 P **P** **20 18 00.8 -1.0**
OXF Oxford 32.57 94 P 20 18 02.0
baz=300,SNR=29
KIP Kipapa 32.63 234 IAMs_20 IAMs_20 20 26 33.1
comp=Z,25µm,19.0s
Y45A Yeager Farm, C 32.80 95 P **P** **20 18 04.2 +0.3**
Y45A IAmb IAmb 20 18 14.6
comp=Z,88nm,1.2s
WVT Waverly 32.92 90 P **P** **20 18 04.1 -0.8**
WVT pmax pmax
comp=Z,62nm,1.7s
WVT MLR MLR
comp=Z,28µm,20.0s
WVT Waverly 32.92 90 P **P** **20 18 04.0 -0.8**
WVT Waverly 32.92 90 P 20 18 04.3
baz=298
L48A N Adams 32.97 78 P **P** **20 18 05.3 0.0**
VBMS Vicksburg 32.99 98 P **P** **20 18 05.1 -0.4**
VBMS IAmb IAmb 20 18 17.9
comp=Z,70nm,1.1s
VBMS IAMs_20 IAMs_20 20 32 19.6
comp=Z,17µm,19.0s
VBMS Vicksburg 32.99 98 P 20 18 05.9
baz=303
T47A Sharon Grove 33.04 88 P **P** **20 18 04.9 -1.0**
T47A IAmb IAmb 20 18 30.8
comp=Z,96nm,1.6s
WCI Wyandotte Cave 33.08 85 P **P** **20 18 03.9 -2.3**
WCI pmax pmax
comp=Z,69nm,1.8s
WCI MLR MLR
comp=Z,29µm,19.0s
WCI Wyandotte Cave 33.08 85 P **P** **20 18 03.9 -2.3**
WCI IAmb IAmb 20 18 21.2
comp=Z,70nm,1.8s
WCI Wyandotte Cave 33.08 85 P 20 18 05.6
baz=295
P48A Milroy 33.19 83 P **P** **20 18 06.7 -0.5**
P48A IAmb IAmb 20 18 22.1
comp=Z,93nm,1.4s
344A Westbrook Farm 33.26 100 P **P** **20 18 04.5 -3.4**
PLAL Pickwick Lake 33.29 92 P **P** **20 18 06.6 -1.5**
PLAL IAmb IAmb 20 18 18.1
comp=Z,109nm,1.6s
PLAL IAMs_20 IAMs_20 20 32 00.7
comp=Z,17µm,19.0s
AAM Ann Arbor 33.39 77 P **P** **20 18 07.4 -1.5**
AAM pmax pmax
comp=Z,80nm,1.4s
AAM MLR MLR
comp=Z,32µm,20.0s
AAM Ann Arbor 33.39 77 P **P** **20 18 07.4 -1.5**
AAM IAmb IAmb 20 18 24.9
comp=Z,80nm,1.4s
AAM Ann Arbor 33.39 77 P 20 18 09.2
baz=290
I49A Point Hope 33.44 74 P **P** **20 18 07.8 -1.5**
I49A IAmb IAmb 20 18 25.3
comp=Z,82nm,1.2s
N49A Columbus Grove 33.51 80 P **P** **20 18 08.9 -1.1**
P49A Miami Univ. Ec 33.66 82 P **P** **20 18 10.0 -1.4**
P49A IAmb IAmb 20 18 26.1
comp=Z,78nm,1.2s
P49A Miami Univ. Ec 33.67 82 P 20 18 11.0
baz=294,SNR=6.8
O49A Covington 33.68 81 P **P** **20 18 09.4 -2.0**
146A Union 33.80 96 P **P** **20 18 12.8 +0.3**
146A IAmb IAmb 20 18 23.3
comp=Z,146nm,1.9s
V48A Smith Brothers 33.82 90 P **P** **20 18 11.7 -1.0**
R49A Shelbyville 33.85 85 P **P** **20 18 11.8 -1.2**
K50A Casco 33.95 76 P **P** **20 18 11.6 -2.2**
K50A IAmb IAmb 20 18 15.6
comp=Z,145nm,1.6s
RES Resolute Bay 33.99 16 P **P** **20 18 15.0 +1.3**
comp=Z,17nm,0.9s,baz=224,slow=11,SNR=12
RES Resolute Bay 33.99 16 P **P** **20 18 14.5 +0.8**
RES pmax pmax
comp=Z,35nm,1.0s
RES MLR MLR
comp=Z,5µm,19.0s
RES Resolute Bay 33.99 16 P **P** **20 18 14.5 +0.8**
CLTN Cedars of Leba 34.01 89 P **P** **20 18 14.0 -0.3**
CLTN IAmb IAmb 20 18 39.6
comp=Z,75nm,1.8s
AMKA Amchitka 34.06 300 P **P** **20 18 14.1 -0.5**
M50A Fremont 34.13 78 P **P** **20 18 15.5 +0.1**
M50A IAmb IAmb 20 18 31.1
comp=Z,142nm,1.6s
346A Big Creek Wild 34.19 99 P **P** **20 18 14.7 -1.3**
346A IAmb IAmb 20 18 28.3
comp=Z,139nm,1.4s
Z47A Carrollton 34.20 95 P **P** **20 18 14.8 -1.3**
U49A Red Boiling Sp 34.21 88 P **P** **20 18 15.1 -1.0**
X48A Hartselle 34.29 92 P **P** **20 18 15.4 -1.4**
X48A IAmb IAmb 20 18 26.5
comp=Z,91nm,1.7s
MOIG Morelia 34.45 127 P **P** **20 18 17.1 -1.5**
R50A Paris 34.46 84 P **P** **20 18 16.9 -1.3**
ACSO Alum Creek Sta 34.62 80 P **P** **20 18 18.6 -0.9**
ACSO IAmb IAmb 20 18 35.0
comp=Z,148nm,1.6s
ACSO IAMs_20 IAMs_20 20 32 28.8
comp=Z,17µm,20.0s
ACSO Alum Creek Sta 34.62 80 P 20 18 19.5
baz=293
T50A Nancy 34.65 87 P **P** **20 18 18.3 -1.6**
SWET Sewanee 34.71 90 P **P** **20 18 19.7 -0.8**
SWET IAmb IAmb 20 18 35.5
comp=Z,89nm,1.7s
N51A Ashland 34.78 79 P **P** **20 18 21.2 +0.2**
N51A IAmb IAmb 20 18 36.3
comp=Z,181nm,1.8s
Q51A Peebles 34.84 82 P **P** **20 18 21.1 -0.4**
Q51A IAmb IAmb 20 18 37.1
comp=Z,140nm,1.6s
P51A Williamsport 34.86 82 P **P** **20 18 20.4 -1.2**
P51A IAmb IAmb 20 18 36.8
comp=Z,106nm,1.4s
Y49A Blount Mountai 35.04 92 P **P** **20 18 21.9 -1.4**
W50A Signal Mountai 35.16 90 P **P** **20 18 23.9 -0.5**
W50A IAmb IAmb 20 18 49.3
comp=Z,162nm,2.0s
S51A Beattyville 35.26 85 P **P** **20 18 24.3 -0.9**
FPAL Fort Paine 35.27 91 P **P** **20 18 24.4 -0.9**
MATQ Matagami 35.39 62 P 20 18 26.0
baz=282
P52A Corning 35.45 81 P **P** **20 18 26.8 0.0**
P52A IAmb IAmb 20 18 50.0
comp=Z,151nm,1.9s
P52A IAMs_20 IAMs_20 20 32 54.7
comp=Z,13µm,21.0s
P52A Corning 35.45 81 P 20 18 25.9
baz=294
O52A Adamsville 35.47 80 P **P** **20 18 26.7 -0.3**
O52A IAmb IAmb 20 18 42.0
comp=Z,68nm,1.6s
V51A Loudon 35.56 88 P **P** **20 18 26.8 -0.9**
CPCT Cooper Cave 35.61 89 P **P** **20 18 27.3 -0.8**
Q52A Bidwell 35.63 82 P **P** **20 18 27.4 -1.0**
Q52A IAmb IAmb 20 18 43.4
comp=Z,128nm,1.6s
SADO Sadowa 35.70 71 P **P** **20 18 28.3 -0.5**
SADO IAmb IAmb 20 18 30.1
comp=Z,72nm,1.5s
M53A WI Miller and 35.78 77 P **P** **20 18 29.4 -0.2**
M53A IAmb IAmb 20 18 33.8
comp=Z,201nm,2.0s
M53A WI Miller and 35.78 77 P 20 18 28.8
baz=292
TZTN Tazewell 35.78 86 P **P** **20 18 29.5 -0.3**
TZTN Tazewell 35.79 86 P 20 18 28.9
baz=298,SNR=13
X51A Calhoun 35.80 90 P **P** **20 18 28.7 -1.1**
X51A IAmb IAmb 20 18 31.5
comp=Z,167nm,1.7s
O53A New Philadelph 35.86 79 P **P** **20 18 29.5 -0.8**
O53A IAmb IAmb 20 18 45.6
comp=Z,172nm,1.6s
O53A IAMs_20 IAMs_20 20 33 41.3
comp=Z,14µm,19.0s
O53A New Philadelph 35.86 79 P 20 18 30.4
baz=293,SNR=8.0
VLDQ Val d'Or 35.88 65 P **P** **20 18 28.5 -1.9**
VLDQ IAmb IAmb 20 18 42.8
comp=Z,75nm,1.6s
VLDQ IAMs_20 IAMs_20 20 32 46.9
comp=Z,14µm,18.0s
N53A Lisbon 35.90 78 P **P** **20 18 30.7 0.0**
N53A IAmb IAmb 20 18 46.1
comp=Z,148nm,1.6s
LSQQ Lebel-sur-Quev 35.96 63 P 20 18 29.8
baz=283
ERPA Erie 36.01 76 P **P** **20 18 29.8 -1.7**
ERPA IAmb IAmb 20 18 47.0
comp=Z,57nm,1.2s
ERPA Erie 36.01 76 P 20 18 30.7
baz=291
BRAL Brewton 36.03 97 IAMs_20 IAMs_20 20 33 56.5
comp=Z,13µm,19.0s
BRAL Brewton 36.03 97 P 20 18 32.4
baz=304
P53A Whipple 36.04 81 P **P** **20 18 30.6 -1.2**
P53A IAmb IAmb 20 18 47.0
comp=Z,187nm,1.8s
TKL Tuckaleechee C 36.04 88 P **P** **20 18 30.5 -1.4**
TKL pmax pmax
comp=Z,50nm,1.6s
TKL Tuckaleechee C 36.04 88 P **P** **20 18 30.5 -1.4**
ALLY Alegheny Colle 36.07 77 P **P** **20 18 32.3 +0.2**
ALGO Algonquin Park 36.07 69 P 20 18 31.1
baz=287,SNR=6.4
V52A Sevierville 36.08 88 P **P** **20 18 30.7 -1.5**
R53A Hurricane 36.13 83 P **P** **20 18 32.1 -0.4**
R53A IAmb IAmb 20 18 57.4
comp=Z,71nm,1.6s
H53A Bobcaygeon 36.14 71 P 20 18 31.8
baz=288
250A Grady 36.14 95 P **P** **20 18 31.0 -1.7**
W52A Murphy 36.20 89 P **P** **20 18 32.2 -1.1**
W52A IAmb IAmb 20 18 34.6
comp=Z,82nm,1.6s
Z51A Franklin 36.21 92 P **P** **20 18 32.5 -0.9**
Z51A IAmb IAmb 20 19 00.6
comp=Z,86nm,1.5s
G54A Lake Saint Pet 36.21 70 P 20 18 33.0
baz=288,SNR=5.9
N54A Moraine State 36.44 78 P **P** **20 18 34.0 -1.2**
N54A IAmb IAmb 20 18 50.8
comp=Z,156nm,1.6s
N54A IAMs_20 IAMs_20 20 33 09.7
comp=Z,14µm,18.0s
N54A Moraine State 36.44 78 P 20 18 35.1
baz=293,SNR=9.4
M54A Oil Creek Stat 36.45 77 P **P** **20 18 34.9 -0.5**
M54A Oil Creek Stat 36.45 77 P 20 18 35.5
baz=292,SNR=14
O54A Avella 36.47 79 P **P** **20 18 35.1 -0.4**
O54A IAmb IAmb 20 18 51.0
comp=Z,140nm,1.6s
J54A Appleton 36.53 73 P **P** **20 18 35.0 -0.9**
J54A IAmb IAmb 20 18 37.5
comp=Z,109nm,1.6s
Q54A Coxs Mills 36.64 81 P **P** **20 18 35.7 -1.2**
Q54A IAmb IAmb 20 18 52.3
comp=Z,213nm,1.8s
MEDO Medina 36.69 74 P **P** **20 18 35.7 -1.6**
Y52A Lilburn 36.72 91 P **P** **20 18 37.4 -0.3**
Y52A IAmb IAmb 20 18 40.1
comp=Z,70nm,1.4s
V53A Saluda 36.72 87 P **P** **20 18 37.2 -0.6**
V53A IAmb IAmb 20 19 02.7
comp=Z,100nm,1.6s
DELO Deloro Mine 36.81 71 P **P** **20 18 38.4 +0.1**
S54A Dingess, Beckl 36.81 83 P **P** **20 18 37.6 -0.9**
S54A IAmb IAmb 20 18 53.8
comp=Z,163nm,1.6s
152A Waverly Hall 36.87 93 P **P** **20 18 38.1 -0.9**
BG3 Lake Jocassee 36.97 88 P **P** **20 18 39.8 0.0**
PLVO Plevna 37.01 70 P **P** **20 18 40.4 +0.4**
U54A Nelsons Funny 37.03 85 P **P** **20 18 40.1 -0.3**
U54A IAmb IAmb 20 18 43.0
comp=Z,114nm,1.5s
MCWV Mont Chateau 37.06 80 P **P** **20 18 39.6 -0.9**
MCWV IAmb IAmb 20 18 55.2
comp=Z,109nm,1.5s
MCWV IAMs_20 IAMs_20 20 34 04.1
comp=Z,19µm,18.0s
MCWV Mont Chateau 37.06 80 P 20 18 40.0
baz=294
J55A Hilton 37.09 73 P **P** **20 18 40.7 -0.1**
J55A IAmb IAmb 20 18 42.2
comp=Z,106nm,1.6s
M55A Ridgway 37.10 76 P **P** **20 18 40.6 -0.2**
M55A IAmb IAmb 20 18 56.5
comp=Z,188nm,1.5s
E55A Montcerf-Lytto 37.25 67 P 20 18 41.8
baz=287
451A Vernon 37.26 97 IAMs_20 IAMs_20 20 34 44.2
comp=Z,11µm,20.0s
352A Blakely 37.37 95 P **P** **20 18 42.2 -1.0**
352A IAMs_20 IAMs_20 20 33 31.9
comp=Z,11µm,20.0s
GOGA Godfrey 37.38 91 P **P** **20 18 42.5 -0.8**
GOGA pmax pmax
comp=Z,60nm,1.5s
GOGA MLR MLR
comp=Z,18µm,20.0s
GOGA Godfrey 37.38 91 P **P** **20 18 42.5 -0.8**
GOGA Godfrey 37.38 91 IAMs_20 IAMs_20 20 34 17.6
comp=Z,18µm,20.0s

GOGA Godfrey 37.38 91 P 20 18 42.9
baz=301,SNR=10.0
CHGQ Chibougamau 37.42 61 P 20 18 42.2
baz=284
PECO Prince Edward 37.42 72 P **P** **20 18 43.5 -0.1**
PECO IAmb IAmb 20 18 46.4
comp=Z,150nm,1.9s
R55A Marlinton 37.45 82 P **P** **20 18 43.0 -0.9**
R55A IAmb IAmb 20 18 59.6
comp=Z,106nm,1.4s
D55A Sainte-Anne-du 37.47 66 P 20 18 43.7
baz=287,SNR=6.1
K56A Middlesex 37.63 74 P 20 18 44.6
baz=291
TLIG Tlapa 37.64 125 P **P** **20 18 45.9 +0.1**
L56A Greenwood 37.68 75 P **P** **20 18 46.2 +0.3**
L56A Greenwood 37.68 75 P 20 18 44.9
baz=292
O56A Blue Knob Stat 37.70 78 P **P** **20 18 46.2 +0.1**
O56A IAmb IAmb 20 19 01.6
comp=Z,108nm,1.6s
O56A IAMs_20 IAMs_20 20 34 00.3
comp=Z,12µm,18.0s
O56A Blue Knob Stat 37.71 78 P 20 18 46.0
baz=294,SNR=6.2
BLA Blacksburg 37.71 84 P **P** **20 18 46.4 +0.3**
BLA pmax pmax
comp=Z,117nm,1.6s
BLA MLR MLR
comp=Z,14µm,18.0s
BLA Blacksburg 37.71 84 P **P** **20 18 46.4 +0.3**
BLA IAmb IAmb 20 18 48.1
comp=Z,117nm,1.6s
BLA IAMs_20 IAMs_20 20 34 43.4
comp=Z,14µm,18.0s
BLA Blacksburg 37.71 84 P 20 18 46.0
baz=297,SNR=8.4
J56A Wolcott 37.75 73 P 20 18 46.0
baz=291
Q56A Snyder Ridge, 37.78 80 P **P** **20 18 46.1 -0.6**
Q56A IAmb IAmb 20 19 02.6
comp=Z,188nm,1.9s
HODGE **Hodges** 37.83 89 P **P** **20 18 46.2 -0.8**
E56A St. Veronique 37.90 67 P 20 18 46.9
baz=288,SNR=5.6
D56A ZEC Mazanza, M 37.93 66 P 20 18 47.5
baz=287
SSPA Standing Stone 38.03 77 P **P** **20 18 48.6 -0.2**
SSPA IAmb IAmb 20 19 04.1
comp=Z,188nm,1.9s
SSPA Standing Stone 38.03 77 P 20 18 48.5
baz=294
KMSC Kings Mountain 38.03 87 P **P** **20 18 47.6 -1.2**
KMSC Kings Mountain 38.03 87 P 20 18 48.4
baz=299,SNR=6.6
154A Montrose 38.05 92 P **P** **20 18 47.6 -1.4**
U56A King 38.13 85 P **P** **20 18 48.8 -0.9**
M57A Sunshine Farm, 38.28 76 P **P** **20 18 50.3 -0.6**
M57A IAmb IAmb 20 18 52.5
comp=Z,98nm,1.5s
J57A Williamstown 38.28 72 P **P** **20 18 50.1 -0.8**
J57A Williamstown 38.29 72 P 20 18 49.5
baz=291
TRQ Mont Tremblant 38.31 67 P **P** **20 18 50.5 -0.6**
I57A Carthage 38.33 71 P 20 18 50.2
baz=290
H57A Richville 38.33 70 P 20 18 49.5
baz=290
TIGA Tifton 38.34 94 P **P** **20 18 50.3 -1.2**
TIGA Tifton 38.34 94 P 20 18 50.1
baz=304
F57A Harrington 38.35 68 P 20 18 48.8
baz=288
G57A Newington 38.39 69 P 20 18 51.6
baz=289
P57A Homestead Farm 38.42 79 P **P** **20 18 52.9 +0.9**
P57A IAmb IAmb 20 19 17.7
comp=Z,129nm,1.6s
553A Crawfordville 38.44 96 P **P** **20 18 51.5 -0.8**
553A IAmb IAmb 20 19 16.5
comp=Z,66nm,1.1s
S57A Dark Hollow, R 38.50 82 P **P** **20 18 51.8 -1.0**
T57A Hurt 38.63 83 P **P** **20 18 53.3 -0.6**
BINY Binghamton 38.74 74 P 20 18 54.4
baz=292
K58A Earlville 38.76 73 P **P** **20 18 54.5 -0.4**
K58A IAmb IAmb 20 19 01.0
comp=Z,132nm,1.8s
K58A Earlville 38.76 73 P 20 18 54.0
baz=292,SNR=6.7
N58A Sunbury 38.77 76 P **P** **20 18 55.0 +0.1**
N58A IAmb IAmb 20 19 10.3
comp=Z,83nm,1.2s
J58A Remsen 38.79 72 P **P** **20 18 54.4 -0.7**
J58A IAmb IAmb 20 19 10.4
comp=Z,154nm,1.9s
J58A Remsen 38.79 72 P 20 18 55.0
baz=291,SNR=5.2
LONY Lake Ozonia 38.82 70 P **P** **20 18 55.3 -0.1**
LONY Lake Ozonia 38.82 70 P 20 18 54.9
baz=290,SNR=5.9
255A Hazlehurst 38.87 92 P **P** **20 18 53.8 -2.1**
I58A Old Forge 38.88 71 P 20 18 55.5
baz=291
L58A Harry Jones Me 38.89 74 P 20 18 55.3
baz=292
BIRD Birdtown, Kers 38.90 87 P **P** **20 18 55.5 -0.6**
EUNU Eureka 38.90 11 P **P** **20 18 57.6 +1.9**
EUNU IAmb IAmb 20 19 13.5
comp=Z,144nm,2.0s
EUNU IAMs_20 IAMs_20 20 36 33.7
comp=Z,14µm,18.0s
F58A St-Lin Laurent 38.91 68 P 20 18 54.3
baz=289
W57A Gilead 38.99 86 P **P** **20 18 56.2 -0.6**
G58A Ormstown 38.99 69 P 20 18 55.4
baz=290
PAGS Pennsylvania G 39.01 77 P **P** **20 18 55.5 -1.4**
PAGS IAmb IAmb 20 19 12.2
comp=Z,125nm,1.5s
E58A La Victoria 39.11 67 P 20 18 57.4
baz=288
LATQ La Tuque 39.12 65 P 20 18 57.0
baz=288,SNR=9.6
D58A Chemin du LacG 39.14 65 P 20 18 56.6
baz=288
H58A Gabriels 39.16 70 P 20 18 57.9
baz=290,SNR=8.2
R58B Mineral 39.17 81 P **P** **20 18 58.5 +0.2**
SDMD Soldier's Deli 39.27 78 P **P** **20 18 58.0 -1.2**
J59A Piesco 39.28 71 P **P** **20 18 58.7 -0.5**
J59A Piesco 39.28 71 P 20 18 58.9
baz=291
JSRW J. Sargeant Re 39.29 81 P **P** **20 18 58.7 -0.7**
K59A Cooperstown 39.30 73 P 20 18 59.0
baz=292,SNR=8.3
V58A Windy Hill, Pi 39.30 85 P **P** **20 18 59.4 -0.1**
MVL Millersville 39.36 77 P **P** **20 18 59.6 -0.3**
L59A Walton 39.39 73 P 20 18 59.5
baz=293
N59A State Game Lan 39.39 76 P **P** **20 18 60.0 -0.2**
N59A State Game Lan 39.39 76 P 20 18 59.6
baz=294,SNR=5.4
H59A Cadyville 39.41 69 P 20 19 00.4
baz=290
FRNY Flat Rock 39.41 69 P **P** **20 18 59.7 -0.6**
FRNY IAmb IAmb 20 19 15.4
comp=Z,173nm,2.0s
FRNY IAMs_20 IAMs_20 20 35 06.9
comp=Z,18µm,19.0s
CBN Corbin Frederi 39.42 80 P **P** **20 18 59.4 -1.1**
CBN IAmb IAmb 20 19 08.3
comp=Z,56nm,0.4s
CBN IAMs_20 IAMs_20 20 35 26.7
comp=Z,14µm,18.0s
CBN Corbin Frederi 39.42 80 P 20 18 59.9
baz=296
E59A St. Maurice 39.57 66 P 20 19 02.0
baz=289
I59A Olmsteadville 39.59 71 P 20 19 01.4
baz=291
F59A Saint Guilaume 39.60 67 P 20 19 00.5
baz=289
X58A Rowland 39.75 87 P **P** **20 19 02.9 -0.3**
X58A IAmb IAmb 20 19 18.4
comp=Z,187nm,2.0s

LUPA Lehigh Univers 39.80 76 P **P** **20 19 03.1 -0.4**
D59A Saint-Raymond 39.85 65 P 20 19 02.0
baz=288
T59A Double "B" Far 39.85 82 P **P** **20 19 03.5 -0.5**
456A Hilliard 39.86 94 P **P** **20 19 04.1 0.0**
456A IAmb IAmb 20 19 13.4
comp=Z,180nm,1.6s
NHSC New Hope 39.89 89 P 20 19 03.1
baz=302
WUPA West Chester U 39.91 77 P **P** **20 19 03.5 -1.0**
P60A Greenville 39.94 77 P **P** **20 19 03.7 -1.0**
P60A IAmb IAmb 20 19 20.1
comp=Z,136nm,1.9s
P60A Greenville 39.94 77 P 20 19 03.9
baz=295
BILL Bilibino 39.96 328⇑ *e*P **P** **20 19 04.2 -0.3**
BILL *e* 20 20 40.3
BILL *i* S **S** **20 25 18.2 +8.6**
BILL pmax pmax
comp=Z,49nm,1.7s
BILL MLR MLR
comp=Z,12µm,16.0s
BILL Bilibino 39.96 328 P **P** **20 19 03.8 -0.7**
BILL IAMs_20 IAMs_20 20 35 07.7
comp=Z,13µm,18.0s
I60A Shoreham 39.96 70 P 20 19 04.2
baz=291,SNR=5.8
U59A Littleton 39.98 83 P **P** **20 19 02.4 -2.6**
K60A Five Rivers En 40.02 72 P 20 19 04.3
baz=292
CSU Charleston Sou 40.03 89 P **P** **20 19 04.3 -1.2**
J60A Lant Hill Farm 40.10 71 P 20 19 05.3
baz=292,SNR=6.9
H60A Morristown 40.10 69 P 20 19 05.6
baz=291,SNR=5.9
F60A Warwick 40.11 67 P 20 19 05.7
baz=290
MOQ Mont Orford 40.13 68 P **P** **20 19 05.7 -0.6**
VT1 Waterbury 40.15 69 P **P** **20 19 06.5 +0.1**
G60A Masonville 40.15 68 P 20 19 05.3
baz=290
656A Willston 40.26 96 P **P** **20 19 06.4 -1.0**
656A IAMs_20 IAMs_20 20 35 23.6
comp=Z,10µm,21.0s
E60A Ste Agathe de 40.31 66 P 20 19 05.8
baz=289
Y59A Loris 40.37 87 P **P** **20 19 08.0 -0.3**
L61A Hillsdale 1, H 40.41 73 P 20 19 07.4
baz=293
L61A S 20 25 23.7
baz=293
K61A Williamstown 40.42 72 P 20 19 08.0
baz=293
K61A S 20 25 23.8
baz=293
CNNC Cliffs of the 40.44 85 IAMs_20 IAMs_20 20 36 01.8
comp=Z,14µm,21.0s
CNNC Cliffs of the 40.44 85 P 20 19 08.1
baz=300
D60A Saint Jean D'O 40.47 65 P 20 19 07.7
baz=289
D60A S 20 25 20.6
baz=289
TULEG Thule 40.52 18 P **P** **20 19 08.7 -0.4**
TULEG IAMs_20 IAMs_20 20 35 55.2
comp=Z,9µm,19.0s
Q61A Milford 40.56 78 P 20 19 10.6
baz=296
Q61A S 20 25 24.1
baz=296
G61A St-Isidore-de- 40.62 68 P 20 19 10.0
baz=290
G61A S 20 25 20.8
baz=290
H61A Lyndonville 40.62 69 P 20 19 10.0
baz=291
H61A S 20 25 21.1
baz=291
PAL Palisades 40.64 75 P 20 19 09.3
baz=294
PAL S 20 25 20.4
baz=294
J61A Chester 40.64 71 P 20 19 10.2
baz=292
J61A S 20 25 23.6
baz=292
I61A Oroboro, Fairl 40.66 70 P 20 19 09.9
baz=292
LBNH Lisbon 40.73 69 P 20 19 08.3
baz=292
LBNH S 20 25 22.8
baz=292
F61A St Evariste 40.74 66 P 20 19 10.2
baz=290
F61A S 20 25 23.1
baz=290
SCHQ Schefferville 40.82 52 P **P** **20 19 12.1 +0.2**
comp=Z,15nm,1.1s,baz=276,slow=7.0,SNR=9.1
SCHQ LR LR 20 36 04.3
comp=Z,21µm,20.6s,baz=284,slow=36
SCHQ Schefferville 40.82 52 P **P** **20 19 11.1 -0.8**
D61A St Aubert, Com 40.85 64 P 20 19 10.7
baz=289
D61A S 20 25 23.8
baz=289
MIDW Midway 40.87 263 IAMs_20 IAMs_20 20 31 28.5
comp=Z,18µm,20.0s
L61B Northampton 40.90 72 P 20 19 11.5
baz=293
L61B S 20 25 24.5
baz=293
E61A Lac Etchemin 40.91 66 P 20 19 11.5
baz=290
E61A S 20 25 25.7
baz=290
N62A Caumsett State 40.98 75 P 20 19 11.8
baz=294
N62A S 20 25 24.9
baz=294
L62A Suffield 41.08 73 P 20 19 13.1
baz=294
L62A S 20 25 26.9
baz=294
K62A Royalston 41.12 72 P 20 19 14.1
baz=293
K62A S 20 25 26.6
baz=293
H62A Milan 41.12 68 IAMs_20 IAMs_20 20 37 04.2
comp=Z,8µm,18.0s
H62A Milan 41.12 68 P 20 19 13.8
baz=291
H62A S 20 25 27.2
baz=291
M62A Hamden 41.16 74 P 20 19 13.4
baz=294
M62A S 20 25 27.8
baz=294
J62A Henniker 41.19 71 P 20 19 14.9
baz=293
J62A S 20 25 27.5
baz=293
I62A Tamworth 41.26 69 P 20 19 14.1
baz=292
I62A S 20 25 30.7
baz=292
G62A West of Eustis 41.30 67 P 20 19 14.5
baz=291
G62A S 20 25 31.0
baz=291
K63A Dunstable 41.59 71 P 20 19 17.3
baz=293
K63A S 20 25 34.9
baz=293
N63A Mattituck 41.60 74 P 20 19 17.6
baz=295
D62A Allapoint, All 41.62 64 P 20 19 17.2
baz=290
D62A S 20 25 35.1
baz=290
HRV Adam Dziewonsk 41.64 71 P 20 19 17.0
baz=293
HRV S 20 25 36.8
baz=293
J63A Strafford 41.66 70 P 20 19 17.4
baz=293
J63A S 20 25 36.3
baz=293

I63A Otisfield 41.70 69 IAMs_20 IAMs_20 20 36 28.5
comp=Z,17µm,20.0s
I63A Otisfield 41.70 69 P 20 19 18.2
baz=292
I63A S 20 25 36.9
baz=292
M63A Gales Ferry 41.76 73 P 20 19 19.4
baz=294
M63A S 20 25 38.3
baz=294
DWPF Disney Wildern 41.78 96 IAMs_20 IAMs_20 20 37 21.8
comp=Z,9µm,19.0s
DWPF Disney Wildern 41.78 96 P 20 19 19.9
baz=306
DWPF S 20 25 37.9
baz=306
H63A New Sharon 41.84 68 P 20 19 20.0
baz=292
H63A S 20 25 38.6
baz=292
L63A North Scituate 41.87 72 P 20 19 19.7
baz=294
L63A S 20 25 39.5
baz=294
G63A Kingsbury 41.94 67 P 20 19 20.3
baz=292
G63A S 20 25 40.1
baz=292
F63A Nahmakanta, Br 42.07 66 P 20 19 21.6
baz=291
F63A S 20 25 42.3
baz=291
PKME Peaks-Kenny Pk 42.10 67 P 20 19 22.1
baz=291
PKME S 20 25 42.3
baz=291
WVL Waterville 42.12 68 IAMs_20 IAMs_20 20 37 21.6
comp=Z,12µm,20.0s
D63A Stockholm 42.24 64 P 20 19 23.2
baz=290,SNR=7.5
D63A S 20 25 44.3
baz=290
E63A Oxbow 42.25 65 IAMs_20 IAMs_20 20 36 47.1
comp=Z,17µm,20.0s
E63A Oxbow 42.26 65 P 20 19 22.3
baz=291
E63A S 20 25 43.5
baz=291
M64A Tiverton 42.27 73 P 20 19 24.2
baz=294
M64A S 20 25 45.4
baz=294
L64A Middleborough 42.36 72 P 20 19 25.0
baz=294
L64A S 20 25 47.3
baz=294
H64A Troy 42.38 68 P 20 19 23.7
baz=292
H64A S 20 25 47.5
baz=292
I64A Boothbay 42.38 69 P 20 19 24.6
baz=293
I64A S 20 25 49.2
baz=293
G64A Maxfield 42.46 67 P 20 19 24.9
baz=292
G64A S 20 25 50.4
baz=292
F64A Sherman 42.50 66 IAMs_20 IAMs_20 20 36 55.7
comp=Z,17µm,20.0s
F64A Sherman 42.50 66 P 20 19 24.8
baz=291
F64A S 20 25 49.3
baz=291
CCIG Comitan 42.51 119 IAMs_20 IAMs_20 20 38 44.8
comp=Z,7µm,18.0s
E64A Bridgewater 42.64 65 P 20 19 26.3
baz=291
E64A S 20 25 51.0
baz=291
L65A Cape Cod Natio 42.86 71 P 20 19 28.8
baz=294
H65A Eastbrook 43.01 67 P 20 19 30.0
baz=292
H65A S 20 25 56.3
baz=292
JOHN Johnston Islan 43.23 243 IAMs_20 IAMs_20 20 32 59.2
comp=Z,12µm,20.0s
G65A Princeton 43.26 66 P 20 19 31.5
baz=292
G65A S 20 25 59.3
baz=292
BATG Bathurst New B 43.47 63 P **P** **20 19 33.5 0.0**
061Z Ochoppi 43.51 99 IAMs_20 IAMs_20 20 39 00.6
comp=Z,15µm,19.0s
EMMW East Machias 43.52 67 P **P** **20 19 33.3 -0.6**
EMMW IAmb IAmb 20 19 51.6
comp=Z,118nm,1.7s
H66A Whiting 43.59 67 P 20 19 34.5
baz=293
H66A S 20 26 04.5
baz=293
GGN Saint George 43.76 66 IAMs_20 IAMs_20 20 37 44.4
comp=Z,13µm,19.0s
SOR Soroa 43.99 104 P **P** **20 19 38.0 0.0**
SOR pmax pmax
comp=Z,35nm,1.3s
SOR Soroa 43.99 104 P **P** **20 19 38.0 0.0**
NEEM North Greenlan 44.61 18 *i* P **P** **20 19 44.6 +1.9**
NEEM IAmb IAmb 20 19 47.1
comp=Z,32nm,0.9s
NEEM IAMs_20 IAMs_20 20 38 30.5
comp=Z,9µm,11.9s
LMN Caledonia Moun 44.80 64 P **P** **20 19 43.6 -0.6**
ESQI Esquipulas 45.57 118 P **P** **20 19 51.5 +0.8**
MTO3 Montecristo 45.68 118 P **P** **20 19 51.1 -0.6**
MTO3 IAMs_20 IAMs_20 20 38 14.6
comp=Z,9µm,21.0s
PET Petropavlovsk 45.97 307 *e*P **P** **20 19 57.5 +4.1**
PET *e* 20 21 44.0
PET *e*S **S** **20 26 39.0 +0.8**
PET pmax pmax
comp=Z,82nm,1.4s
PET pmax pmax
comp=Z,300nm,10.3s
SFJD Kangerlussuaq 46.02 32 *i* P **P** **20 19 54.3 +0.7**
SFJD IAMs_20 IAMs_20 20 39 26.4
comp=Z,9µm,15.4s
SFJD Kangerlussuaq 46.02 32 P **P** **20 19 54.3 +0.7**
SFJD pmax pmax
comp=Z,209nm,2.0s
SFJD MLR MLR
comp=Z,15µm,20.0s
SFJD Kangerlussuaq 46.02 32 P **P** **20 19 54.3 +0.7**
SFJD Kangerlussuaq 46.02 32 IAMs_20 IAMs_20 20 39 13.1
comp=Z,15µm,20.0s
SEY Seymchan 46.25 322⇑ *i* P **P** **20 19 54.8 -0.7**
SNET Serv Nac Est T 46.30 119 IAMs_20 IAMs_20 20 38 17.9
comp=Z,7µm,22.0s
PEA0B Petropavlovsk- 46.48 308 P **P** **20 19 58.8 +1.3**
PEA0B pmax pmax
comp=Z,229nm,1.5s
PEA0B Petropavlovsk- 46.48 308 P **P** **20 19 58.8 +1.3**
PETK Petropavlovsk- 46.48 308 P **P** **20 19 56.2 -1.3**
comp=Z,16nm,0.8s,baz=74,slow=12,SNR=12
PETK LR LR 20 37 35.7
comp=Z,3µm,20.5s,baz=82,slow=34
PETK Petropavlovsk- 46.48 308 P **P** **20 19 56.9 -0.6**
PETK Petropavlovsk- 46.48 308 P **P** **20 19 56.9 -0.6**
GBN Guysborough 47.09 63 P **P** **20 20 02.1 -0.2**
TGUH Tegucigalpa,Un 47.26 116 P **P** **20 20 03.3 -0.8**
TGUH IAmb IAmb 20 20 15.2
comp=Z,60nm,1.1s
TGUH Tegucigalpa,Un 47.26 116 *e*P **P** **20 20 00.7 -3.4**
DY2G Dye2 47.83 33 *i* P **P** **20 20 08.4 +0.4**
DY2G IAMs_20 IAMs_20 20 40 20.9
comp=Z,16µm,17.9s
MA2 Magadan 47.97 318 *d* *i* P **P** **20 20 09.9 +0.9**
MA2 pmax pmax
comp=Z,37nm,1.2s
MA2 Magadan 47.97 318 P **P** **20 20 10.9 +1.9**
MA2 IAmb IAmb 20 20 14.2
comp=Z,51nm,1.3s
DRLN Deer Lake 48.02 57 P **P** **20 20 09.8 +0.4**
SKR Severo-Kuril's 48.29 305 *e*P **P** **20 20 11.0 -0.5**
SKR *e*S **S** **20 27 13.6 +2.4**
SKR MLR MLR

comp=Z,2µm,15.0s
SUMG Summit 48.66 24 *i* P **P** **20 20 16.8 +2.2**
SUMG IAMs_20 IAMs_20 20 41 22.3
comp=Z,14µm,14.8s
SUMG Summit 48.66 24 P **P** **20 20 15.3 +0.7**
SUMG pmax pmax
comp=Z,110nm,1.5s
SUMG MLR MLR
comp=Z,4µm,22.0s
SUMG Summit 48.66 24 P **P** **20 20 15.3 +0.7**
XMAS Kiritimati 48.76 218 IAMs_20 IAMs_20 20 34 26.9
comp=Z,10µm,22.0s
ICESG Greenland Ices 49.41 28 *i* P **P** **20 20 20.7 +0.4**
ICESG IAmb IAmb 20 20 24.3
comp=Z,40nm,1.0s
ICESG IAMs_20 IAMs_20 20 42 33.5
comp=Z,12µm,13.8s
NRS Narsarsuaq 49.92 39 IAMs_20 IAMs_20 20 41 22.8
comp=Z,12µm,18.0s
ESPN Las Esperanzas 50.56 115 P **P** **20 20 28.6 -0.7**
ESPN IAmb IAmb 20 20 39.4
comp=Z,57nm,1.1s
MTDJ Mount Denham 50.84 104 *e*P **P** **20 20 34.6 +3.2**
ORTG Ortega, Santa 51.20 118 P **P** **20 20 32.2 -2.0**
BBSR BB Station 51.30 80 IAMs_20 IAMs_20 20 42 45.3
comp=Z,5µm,18.0s
GTBY Guantanamo Bay 51.40 100 IAMs_20 IAMs_20 20 44 15.3
comp=Z,7µm,18.0s
GTBY Guantanamo Bay 51.40 100 *e*P **P** **20 20 37.5 +1.9**
JTS Las Juntas de 51.58 117⇑ *e*P **P** **20 20 35.6 -1.3**
JTS pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 51.68 16 *i* P **P** **20 20 38.0 +1.1**
DAG IAmb IAmb 20 20 40.0
comp=Z,18nm,1.0s
DAG IAMs_20 IAMs_20 20 42 34.0
comp=Z,16µm,15.4s
DAG Danmarks Havn 51.68 16 *i* P **P** **20 20 38.0 +1.1**
DAG pmax pmax
comp=Z,18nm,1.0s
DAG MLR MLR
comp=Z,16µm,15.0s
TIXI Tiksi 51.76 337 *de*P **P** **20 20 36.5 -1.0**
TIXI Tiksi 51.76 337 P **P** **20 20 35.6 -1.9**
TIXI IAMs_20 IAMs_20 20 42 58.8
comp=Z,6µm,20.0s
DBG Daneborg 52.66 19 *i* P **P** **20 20 45.6 +1.4**
DBG IAmb IAmb 20 20 48.5
comp=Z,42nm,1.0s
DBG IAMs_20 IAMs_20 20 43 28.9
comp=Z,11µm,14.5s
TAOE Nuku Hiva Isla 53.91 192 *e*LQ LQ 20 34 08.8
comp=Z,8µm,26.2s
TAOE *e*LR LR 20 36 33.7
comp=Z,7µm,25.5s
LGNH Logne 54.10 99 P **P** **20 20 56.1 +0.5**
SCO Scoresbysund 54.29 23 P **P** **20 20 57.9 +1.7**
SCO pmax pmax
comp=Z,73nm,1.6s
SCO MLR MLR
comp=Z,6µm,18.0s
SCO Scoresbysund 54.29 23 P **P** **20 20 57.9 +1.7**
SCO IAmb IAmb 20 21 00.9
comp=Z,73nm,1.6s
SCO IAMs_20 IAMs_20 20 47 53.0
comp=Z,6µm,18.0s
SDDR Presa de Saban 54.72 98 P **P** **20 20 59.6 -0.5**
SDDR IAmb IAmb 20 21 08.6
comp=Z,32nm,1.0s
SDDR IAMs_20 IAMs_20 20 45 12.0
comp=Z,6µm,20.0s
SDDR Presa de Saban 54.72 98 *e*P **P** **20 20 59.8 -0.3**
KBS Kingsbay 54.78 8 IAMs_20 IAMs_20 20 44 43.7
comp=Z,6µm,19.0s
KUR Kuril'sk 55.70 302 *e*P **P** **20 21 09.0 +2.2**
KUR *e*S **S** **20 28 54.3 +1.1**
KUR pmax pmax
comp=Z,2µm,4.0s
KUR MLR MLR
comp=Z,1µm,10.0s
BCIP Isla Barro Col 55.73 113 *e*P **P** **20 21 04.5 -2.8**
TYV Tymovskoe 55.84 310 *e*P P 20 21 15.6 +7.9
TYV *e*S S 20 29 11.3 +16
TYV pmax pmax
comp=Z,700nm,4.6s
TYV pmax pmax
comp=Z,29nm,1.2s
TYV smax smax
comp=N,13nm,1.8s
TYV smax smax
comp=E,800nm,5.2s
TYV MLR MLR
comp=Z,3µm,15.0s
UPA Univ. de Panam 56.06 113 *e*P **P** **20 21 08.5 -1.2**
YAK Yakutsk 56.24 326 *e*P **P** **20 21 08.7 -1.7**
YAK *e*S **S** **20 28 57.1 -2.8**
YAK *e* 20 30 58.4
YAK *e*SS **SS** **20 32 39.3 -6.4**
YAK pmax pmax
comp=Z,55nm,1.5s
YAK pmax pmax
comp=N,20nm,1.6s
YAK pmax pmax
comp=E,23nm,1.3s
YAK smax smax
comp=E,767nm,4.8s
YAK smax smax
comp=N,367nm,5.3s
YAK MLR MLR
comp=Z,4µm,15.0s
YAK MLR MLR
comp=N,2µm,15.0s
YAK MLR MLR
comp=E,2µm,20.0s
YAK Yakutsk 56.24 326 P **P** **20 21 08.9 -1.5**
YAK IAmb IAmb 20 21 15.3
comp=Z,43nm,1.1s
YAK IAMs_20 IAMs_20 20 43 37.1
comp=Z,5µm,22.0s
AZU Azuero 56.47 115 *e*P **P** **20 21 12.7 0.0**
H11N3 WAKE ISLAND Hy 57.36 266 T T 21 23 33.0
baz=49,slow=75
H11N2 WAKE ISLAND Hy 57.37 266 T T 21 23 12.2
baz=49,slow=75
H11N1 WAKE ISLAND Hy 57.38 266 T T 21 23 12.3
baz=49,slow=75,SNR=9733
YUK Yuzh-Kuril'sk 57.54 302 *e*P **P** **20 21 22.2 +2.3**
YUK *i* 20 23 29.7
YUK *i* PPP PPP 20 24 44.7
YUK *i* S **S** **20 29 18.6 +0.9**
YUK *i* SS **SS** **20 33 13.0 +6.0**
YUK pmax pmax
comp=Z,249nm,1.0s
YUK MLR MLR
comp=Z,1µm,14.0s
CAPC Capurgana 57.76 112 *e*P **P** **20 21 22.8 +1.0**
BORG Borgarnes 57.79 29 IAMs_20 IAMs_20 20 45 08.4
comp=Z,6µm,19.0s
YSS Yuzh-Sakhalins 57.82 306 *e*P **P** **20 21 20.6 -1.2**
YSS *e*PPP PPP 20 24 53.6
YSS *e*S **S** **20 29 18.1 -3.1**
YSS *e*PS **PnS** **20 29 25.2 -6.3**
YSS *e*SS **SS** **20 33 11.0 -0.2**
YSS pmax pmax
comp=Z,1µm,6.8s
YSS MLR MLR
comp=Z,2µm,13.0s
WAKE Wake Island 57.83 266 IAMs_20 IAMs_20 20 38 56.6
comp=Z,6µm,22.0s
SJCC San Jacinto, C 58.30 109 *e*P **P** **20 21 27.2 +1.5**
H11S1 WAKE ISLAND Hy 58.30 265 T T 21 24 15.7
baz=48,slow=75,SNR=1111
H11S2 WAKE ISLAND Hy 58.31 265 T T 21 24 32.0
baz=48,slow=75,SNR=1319
H11S3 WAKE ISLAND Hy 58.32 265 T T 21 24 37.7
baz=48,slow=75,SNR=1007
MAPC Malpelo 58.51 119 *e*P **P** **20 21 28.0 +1.0**
MOTC Monteria, Cord 58.78 110 *e*P **P** **20 21 29.2 +0.2**
SJG San Juan 58.95 95 *e*P **P** **20 21 25.5 -4.6**
ARGC Ariguani, Magd 58.96 108 *e*P **P** **20 21 31.9 +1.7**
URIC Uribia, Colomb 59.20 105 *e*P P 20 21 26.4 -5.4
GRNR Gornyy 59.24 312⇑ *i*P **P** **20 21 29.6 -2.1**
GRNR pmax pmax
comp=Z,2.0nm,0.8s
GRNR MLR MLR
comp=E,1µm,16.0s
GRNR MLR MLR
comp=N,920nm,14.0s
GRNR MLR MLR
comp=Z,1µm,15.0s
JKA Kamikawa-asahi 59.47 303 P **P** **20 21 33.4 +0.1**
ASAJ Asahikawa 59.47 303 P **P** **20 21 33.4 0.0**
ASAJ pmax pmax
comp=Z,118nm,1.5s
LL3C La Loma 3 Cana 59.62 107 *e*P **P** **20 21 35.7 +0.9**
UREC San Jos de Ur 59.62 111 *e*P **P** **20 21 35.0 +0.2**
SMLC San Martn de 59.84 109 *e*P **P** **20 21 37.3 +1.0**
KNTN Kanton 60.02 230 IAMs_20 IAMs_20 20 42 02.7
comp=Z,9µm,18.0s
ZARC Zaragoza, Cauc 60.27 110 *e*P **P** **20 21 39.7 +0.5**
ERM Erimo 60.31 301⇓ *e*P **P** **20 21 38.8 -0.4**
ERM pmax pmax
comp=Z,34nm,1.2s
PIZC Pizarro, Choco 60.49 115 *e*P **P** **20 21 41.8 +1.1**
CBOC Ciudad Bolivar 60.70 113 *e*P **P** **20 21 44.0 +1.6**
OCAC Ocana 60.76 109 *e*P **P** **20 21 43.7 +0.9**
HELC Santa Helena 60.78 112 *e*P **P** **20 21 44.4 +1.3**
BRRC Barranca, Sant 61.32 110 *e*P **P** **20 21 47.3 +0.9**
GUY2C Guyana, Caldas 61.60 113 *e*P **P** **20 21 49.8 +0.9**
VAH Vaihoa 61.60 199 *e*T T 21 28 18.0
comp=Z,35nm,0.3s
NORC Norcasia 61.68 112 *e*P **P** **20 21 49.7 +0.8**
PAMC Pamplona, Colo 61.83 109 *e*P **P** **20 21 51.0 +0.6**
RREF El Recreo 61.85 113 *e*P **P** **20 21 52.5 +1.8**
YOTC Yotoco, Valle 61.89 114 *e*P **P** **20 21 51.2 +0.8**
BARC Barichara 62.05 110 *e*P **P** **20 21 52.6 +1.0**
ZEA Zeya 62.08 319 *e*P **P** **20 21 49.4 -1.6**
ZEA *e*S **S** **20 30 14.5 -1.3**
ZEA *e*SS **SS** **20 34 15.2 -2.4**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=E,200nm,6.5s
ZEA pmax pmax
comp=N,200nm,10.4s
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA smax smax
comp=E,600nm,6.9s
ZEA smax smax
comp=N,1µm,11.2s
TOLC Tolima 62.11 113 *e*P **P** **20 21 53.7 +1.6**
ANIL Santa Ana 62.12 113 *e*P **P** **20 21 53.8 +1.6**
SDV Santo Domingo 62.13 106 *e*P **P** **20 21 53.3 +1.2**
SPBC San Pablo de B 62.14 111 *e*P **P** **20 21 51.1 -0.9**
JTM Tenmabayashi 62.30 301 P **P** **20 21 54.4 +1.7**
JTM IAmb IAmb 20 22 00.8
comp=Z,68nm,1.3s
ANWB Willy Bob 62.36 92 IAMs_20 IAMs_20 20 47 22.2
comp=Z,6µm,21.0s
ROSC El Rosal 62.58 112 P **P** **20 21 55.5 +0.2**
comp=Z,8.5nm,0.4s,baz=2.4,slow=3.2,SNR=8.9
ROSC LR LR 20 50 23.0
comp=Z,2µm,21.9s,baz=336,slow=37
ROSC El Rosal 62.58 112 P **P** **20 21 56.7 +1.4**
ROSC pmax pmax
comp=Z,98nm,1.5s
ROSC El Rosal 62.58 112 P **P** **20 21 56.7 +1.4**
ROSC El Rosal 62.58 112 *e*P **P** **20 21 57.8 +2.5**
KLR Kul'dur 62.59 313 *d*iP **P** **20 21 54.8 +0.3**
KLR pmax pmax
comp=Z,45nm,2.1s
RUSC La Rusia 62.63 110 *e*P **P** **20 21 55.6 -0.2**
ORTC Ortega, Tolima 62.66 113 *e*P **P** **20 21 54.7 -0.8**
POPC Popayan, Colom 62.76 116 *e*P **P** **20 21 53.1 -3.2**
BBAC Balboa, Cauca 62.79 117 *e*P **P** **20 21 57.9 +1.4**
MARP Paez Belalcaza 63.00 115 *e*P **P** **20 21 59.0 +1.0**
PCON Cinco Dias 63.10 116 *e*P P 20 21 53.3 -5.7
SOTA Rioblanco 63.11 116 *e*P **P** **20 22 00.2 +1.2**
CHIC Chingaza 63.12 112 *e*P **P** **20 21 59.7 +0.7**
NRIK Noril'sk 63.13 346 P **P** **20 21 56.9 -0.8**
comp=Z,8.7nm,1.0s,baz=51,slow=5.3,SNR=9.9
NRIK LR LR 20 50 47.5
comp=Z,5µm,20.5s,baz=50,slow=37
NRIK Noril'sk 63.13 346 *d*iP **P** **20 21 56.6 -1.1**
NRIK pmax pmax
comp=Z,46nm,2.4s
NRIK Noril'sk 63.13 346 P **P** **20 21 56.7 -1.1**
NRIK IAmb IAmb 20 22 22.4
comp=Z,54nm,1.5s
NRIK IAMs_20 IAMs_20 20 50 16.1
comp=Z,6µm,20.0s
PAC1 Pacto, Paraso 63.16 119 *e*P **P** **20 21 59.5 +0.6**
CRUC La Cruz 63.33 117 *e*P **P** **20 22 01.3 +1.1**
GCUF Volcan Galeras 63.34 117 *e*P **P** **20 22 02.3 +1.9**
OTAV Otavalo 63.40 119 P **P** **20 21 57.0 -3.8**
OTAV Otavalo 63.40 119 *e*P **P** **20 22 00.4 -0.5**
OTAV Otavalo 63.40 119 *e*P **P** **20 22 00.2 -0.6**
GARC Garzon, Huila 63.80 115 *e*P **P** **20 22 04.1 +0.9**
FLOC Florencia 64.15 116 *e*P **P** **20 22 06.8 +1.5**
TIAR Tiarei 64.25 201 *e*T T 21 31 40.3
comp=Z,14nm,0.3s
KWAJ Kwajalein Atol 64.29 256 IAMs_20 IAMs_20 20 42 42.8
comp=Z,8µm,22.0s
PPT2 Papeete2 64.34 201 *e*S **S** **20 30 49.2 +4.4**
comp=Z,3µm,26.2s
PPT2 *e*LQ LQ 20 38 14.0
comp=Z,6µm,27.8s
PPT2 *e*LR LR 20 41 25.0
comp=Z,995nm,22.8s
PPT2 Papeete2 64.34 201 *e*T T 21 31 46.8
comp=Z,29nm,0.3s
PAE Paea 64.41 201 *e*T T 21 31 49.7
comp=Z,8.4nm,0.4s
KEV Kevo 64.80 9 IAMs_20 IAMs_20 20 52 41.0
comp=Z,5µm,18.0s
ARCES ARCESS Array B 64.84 9 P **P** **20 22 08.5 -0.5**
comp=Z,7.3nm,1.0s,baz=0.0,slow=11,SNR=4.2
ARCES LR LR 20 52 45.2
comp=Z,2µm,18.4s,baz=335,slow=38
ARCES ARCESS Array B 64.84 9 P **P** **20 22 08.2 -0.8**
ARCES pmax pmax
comp=Z,44nm,1.5s
ARCES ARCESS Array B 64.84 9 P **P** **20 22 08.2 -0.8**
ARCES IAmb IAmb 20 22 09.7
comp=Z,44nm,1.4s
MACC Macarena, Meta 64.90 114 *e*P **P** **20 22 10.6 +0.4**
BOD Bodaibo 65.01 328 *e*P **P** **20 22 08.6 -1.7**
BOD pmax pmax
comp=Z,30nm,1.6s
USA0B Ussuriysk Arra 65.56 309 P **P** **20 22 13.5 -0.6**
USA0B pmax pmax
comp=Z,110nm,1.8s
USA0B Ussuriysk Arra 65.56 309 P **P** **20 22 13.4 -0.6**
USRK Ussuriysk Ar. 65.56 309 P **P** **20 22 13.7 -0.4**
comp=Z,6.7nm,1.0s,baz=88,slow=15,SNR=1.9
USRK LR LR 20 49 30.0
comp=Z,3µm,19.6s,baz=39,slow=35
USRK Ussuriysk Ar. 65.56 309 P **P** **20 22 13.5 -0.6**
USRK Ussuriysk Ar. 65.56 309 P **P** **20 22 13.4 -0.6**
JSD Sado 65.70 300 P **P** **20 22 14.6 -0.5**
PTLC Puerto Leguiza 65.77 116 *e*P **P** **20 22 18.1 +2.3**
TARA Tarawa 66.11 247 IAMs_20 IAMs_20 20 43 36.5
comp=Z,7µm,21.0s
MDJ Mudanjiang 66.62 310 P **P** **20 22 19.9 -1.0**
MDJ S **S** **20 31 13.1 +0.8**
MDJ sS sS 20 31 17.4 +2.2
MDJ pmax pmax
comp=Z,630nm,5.4s
MDJ L L
comp=Z,2µm,18.4s
MDJ L L
comp=Z,4µm,21.8s
MDJ L L
comp=Z,3µm,20.4s
MAJO Matsushiro 66.66 299⇓ *e*P **P** **20 22 19.6 -1.7**
MAJO pmax pmax
comp=Z,41nm,1.6s
MAJO Matsushiro 66.66 299 P **P** **20 22 19.8 -1.5**
MAJO IAmb IAmb 20 22 26.9
comp=Z,66nm,1.6s
MAT Matsushiro 66.66 299 P **P** **20 22 20.0 -1.3**
MAT S **S** **20 31 16.6 +3.5**
MJAR Matsushiro Arr 66.66 299 P **P** **20 22 19.4 -1.9**
comp=Z,5.6nm,0.8s,baz=40,slow=5.7,SNR=7.9
MJAR LR LR 20 46 18.0
comp=Z,2µm,21.9s,baz=60,slow=31
MJAR Matsushiro Arr 66.66 299 P **P** **20 22 20.5 -0.8**
MJAR pmax pmax
comp=Z,46nm,1.7s
MJAR Matsushiro Arr 66.66 299 P **P** **20 22 20.5 -0.8**
MJAR IAmb IAmb 20 22 27.1
comp=Z,46nm,1.7s
BBGH Gun Hill 66.97 94 IAMs_20 IAMs_20 20 50 24.5
comp=Z,9µm,22.0s
LVZ Lovozero 67.31 6⇑ *e*P **P** **20 22 26.3 +1.3**
LVZ pmax pmax
comp=Z,191nm,2.5s
LVZ Lovozero 67.31 6 IAMs_20 IAMs_20 20 54 43.6
comp=Z,4µm,18.0s
RKT Rikitea 67.46 185 *e*S **S** **20 31 24.6 +2.1**
comp=Z,6µm,27.8s
RKT *e*LQ LQ 20 39 39.4
comp=Z,10µm,28.5s
RKT *e*LR LR 20 42 41.3
comp=Z,9µm,27.2s
APA Apatity 67.53 7⇓ *i*P **P** **20 22 26.4 +0.1**
APA pmax pmax
comp=Z,8.0nm,1.1s
HIA Hailar 68.55 319 P **P** **20 22 31.2 -1.9**
HIA pmax pmax
comp=Z,44nm,1.8s
HIA MLR MLR
comp=Z,3µm,18.0s
HIA Hailar 68.55 319 P **P** **20 22 31.2 -1.9**
HIA IAmb IAmb 20 22 35.1
comp=Z,44nm,1.8s
HIA Hailar 68.55 319 IAMs_20 IAMs_20 20 52 13.0
comp=Z,3µm,18.0s
PTCN Pitcairn Islan 69.25 180 IAMs_20 IAMs_20 20 44 49.6
comp=Z,6µm,19.0s
CIT Chita 69.36 324 *e*P **P** **20 22 40.2 +2.1**
CIT *e* 20 23 07.4
CIT *e* 20 25 13.3
CIT *e* 20 26 53.8
CN2 Changchun 69.41 312 *e*P **P** **20 22 38.2 -0.2**
CN2 *e*S **S** **20 31 47.8 +2.2**
CN2 SS SS 20 36 00.3 -11
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 L L
comp=Z,2µm,24.0s
CN2 L L
comp=Z,2µm,24.0s
CN2 L L
comp=Z,900nm,20.0s
TBI Tubuai 69.85 199 *e*S **S** **20 31 55.6 +4.7**
comp=Z,2µm,27.0s
TBI *e*LQ LQ 20 40 22.6
comp=Z,3µm,27.8s
TBI *e*LR LR 20 43 52.0
comp=Z,877nm,22.5s
TBI Tubuai 69.85 199 *e*T T 21 38 39.8
comp=Z,51nm,0.2s
NC300 NORSAR Array S 70.03 19 P **P** **20 22 40.8 -1.2**
NC300 IAmb IAmb 20 22 52.5
comp=Z,73nm,1.6s
NC303 NORSAR Array S 70.05 19 P **P** **20 22 43.0 +0.8**
NC303 IAmb IAmb 20 23 06.5
comp=Z,54nm,1.4s
NB2 NORSAR Subarra 70.18 19 P **P** **20 22 43.6 +0.6**
baz=333,slow=5.9
NOA NORSAR Array B 70.18 19 P **P** **20 22 42.1 -0.8**
comp=Z,6.0nm,0.9s,baz=334,slow=6.0,SNR=12
NOA LR LR 20 51 35.0
comp=Z,3µm,21.6s,baz=345,slow=34
NOA NORSAR Array B 70.18 19 P **P** **20 22 42.1 -0.8**
NOA NORSAR Array B 70.18 19 P **P** **20 22 42.1 -0.8**
NAO01 NORSAR Array S 70.28 19 P **P** **20 22 45.0 +1.5**
RAR Rarotonga 70.85 209 IAMs_20 IAMs_20 20 49 43.9
comp=Z,4µm,18.0s
KONO Kongsberg 71.01 20 IAMs_20 IAMs_20 20 54 46.0
comp=Z,4µm,20.0s
HFS Hagfors 71.55 18 P **P** **20 22 50.3 -0.9**
comp=Z,11nm,0.9s,baz=13,slow=2.0,SNR=7.9
HFS Hagfors 71.55 18 P **P** **20 22 50.3 -0.9**
HFS Hagfors 71.55 18 P **P** **20 22 50.3 -0.9**
SNY Shenyang 71.76 311⇓ P **P** **20 22 53.1 +0.3**
SNY S **S** **20 32 16.0 +3.0**
SNY pmax pmax
comp=Z,580nm,4.9s
SNY L L
comp=Z,2µm,16.1s
SNY L L
comp=Z,2µm,13.7s
SNY L L
comp=Z,2µm,19.6s
KSRS Korea Array 72.30 305 P **P** **20 22 54.8 -1.3**
comp=Z,1.8nm,0.8s,baz=54,slow=5.3,SNR=4.5
KSRS LR LR 20 52 21.4
comp=Z,1µm,19.5s,baz=46,slow=34
KSRS Korea Array 72.30 305 P **P** **20 22 54.8 -1.3**
KSRS Korea Array 72.30 305 P **P** **20 22 54.8 -1.3**
KSAR Wonju Array Be 72.33 305 P **P** **20 22 55.1 -1.2**
KSAR Wonju Array Be 72.33 305 P **P** **20 22 55.1 -1.2**
FIA1 FINESS Array S 72.62 12 P **P** **20 22 57.6 0.0**
FIA1 IAmb IAmb 20 23 13.8
comp=Z,98nm,1.7s
FINES FINESS Array B 72.63 12 P **P** **20 22 55.8 -1.8**
comp=Z,8.0nm,0.9s,baz=15,slow=7.9,SNR=9.2
FINES LR LR 20 53 28.2
comp=Z,3µm,21.1s,baz=346,slow=35
FINES FINESS Array B 72.63 12 *i* P **P** **20 22 58.2 +0.6**
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 72.63 12 P **P** **20 22 56.2 -1.4**
IRK Irkutsk 72.89 329 *e*P **P** **20 23 00.6 +1.2**
IRK pmax pmax
comp=Z,74nm,2.2s
TLY Talaya 73.58 328 P **P** **20 23 02.2 -1.3**
comp=Z,6.2nm,0.6s,baz=19,slow=5.7,SNR=12
TLY Talaya 73.58 328 *e*P **P** **20 23 03.3 -0.2**
TLY *e*S **S** **20 32 32.3 -1.3**
TLY *e*SSS SSS 20 40 21.8
TLY pmax pmax
comp=Z,96nm,1.8s
TLY MLR MLR
comp=Z,8µm,14.0s
TLY Talaya 73.58 328 P **P** **20 23 02.0 -1.5**
TLY IAmb IAmb 20 23 27.2
comp=Z,50nm,1.4s
TLY IAMs_20 IAMs_20 20 56 09.6
comp=Z,7µm,20.0s
MUD Monsted U'grnd 73.70 22 *e*P P 20 23 13.2 +9.2
MUD IAmb IAmb 20 23 15.2
comp=Z,98nm,1.4s
MUD IAMs_20 IAMs_20 20 57 45.7
comp=Z,5µm,18.3s
BOAV Boa Vista 73.76 103 *e*P **P** **20 23 04.7 -0.4**
PRGR Permogore 74.14 2 *e*P **P** **20 23 06.1 -0.4**
PRGR *e**SP **pwP** **20 23 11.9 +0.3**
PRGR pmax pmax
comp=Z,30nm,0.9s
MOY Mondy 74.56 330 *e*P **P** **20 23 09.5 +0.1**
MOY pmax pmax
comp=Z,80nm,2.8s
KLMR Klimovskoe 74.64 5 *e*P **P** **20 23 06.9 -2.5**
KLMR *e* 20 25 54.9
KLMR *e*S **S** **20 32 41.5 -3.5**
KLMR *e*SS **SS** **20 37 27.9 -2.8**
KLMR pmax pmax
comp=Z,60nm,1.4s
KLMR Klimovskoe 74.64 5 *e*P **P** **20 23 07.0 -2.5**
KLMR AMP 20 23 24.7
comp=Z,60nm,1.4s
KLMR *e*PP **PP** **20 25 55.0 -0.4**
KLMR *e*S **S** **20 32 41.6 -3.5**
KLMR *e*S **S** **20 32 41.6 -3.5**
KLMR *e*SS **SS** **20 37 28.0 -2.8**
KLMR *e*SS **SS** **20 37 28.0 -2.8**
KLMR LQ LQ 20 47 17.4
KLMR LQ LQ 20 47 17.4
KLMR LR LR 20 50 50.4
ZAK Zakamensk 74.76 328 *e*P **P** **20 23 09.0 -1.5**
ZAK pmax pmax
comp=Z,16nm,1.5s
JSU Suzuyama 74.81 299 P **P** **20 23 10.0 -1.0**
DL2 Dalian 74.86 310 P **P** **20 23 09.6 -1.6**
DL2 S **S** **20 32 46.5 -1.8**
DL2 SS **SS** **20 37 30.7 -4.7**
DL2 pmax pmax
comp=Z,34nm,1.2s

DL2 pmax pmax
comp=Z,870nm,6.9s
DL2 L L
comp=Z,2µm,21.6s
DL2 L L
comp=Z,3µm,22.6s
DL2 L L
comp=Z,2µm,20.9s
ULN Ulaanbaatar 75.25 324 *d* iP **P** **20 23 14.1 +0.6**
ULN pmax pmax
comp=Z,31nm,2.0s
ULN Ulaanbaatar 75.25 324 P **P** **20 23 13.0 -0.5**
ULN Ulaanbaatar 75.25 324 IAMs_20 IAMs_20 20 56 18.0
comp=Z,6µm,19.0s
SONM Songino Array 75.55 325 P **P** **20 23 13.8 -1.3**
comp=Z,7.0nm,0.9s,baz=46,slow=3.3,SNR=40
SONM LR LR 20 56 58.3
comp=Z,5µm,19.6s,baz=39,slow=36
SONM Songino Array 75.55 325 P **P** **20 23 13.5 -1.7**
SONM pmax pmax
comp=Z,44nm,1.4s
SONM Songino Array 75.55 325 P **P** **20 23 13.5 -1.7**
SONM IAmb IAmb 20 23 38.6
comp=Z,44nm,1.4s
VSU Vasula 75.58 12 *e*P **P** **20 23 15.6 +0.7**
VSU Vasula 75.58 12‖ *e*P **P** **20 23 16.2 +1.3**
VSU pmax pmax
comp=Z,144nm,2.4s
BSEG Bad Segeberg 76.23 23 *e*L L 20 58 52.5
comp=Z,5µm,18.6s
BSD Bornholm Skovb 76.37 20 *e*P **P** **20 23 19.6 +0.1**
PTGA Pitinga 76.38 105 P **P** **20 23 20.0 -0.1**
PTGA Pitinga 76.38 105 *e*P **P** **20 23 20.4 +0.2**
UCC Uccle 77.13 28 IAMs_20 IAMs_20 20 55 43.8
comp=Z,5µm,22.0s
GUMO Guam 77.17 276 IAMs_20 IAMs_20 20 49 30.8
comp=Z,4µm,22.0s
KIRV Kirov 77.26 0 P **P** **20 23 22.8 -1.6**
comp=Z,7.1nm,0.7s,baz=3.1,slow=5.0,SNR=2.9
KIRV Kirov 77.26 0‖ *i*P **P** **20 23 24.2 -0.2**
ZAA0 Zalesovo Array 77.50 340 P **P** **20 23 25.3 -0.6**
ZAA0 IAmb IAmb 20 23 36.2
comp=Z,44nm,1.4s
ZAA0 IAMs_20 IAMs_20 20 59 34.4
comp=Z,4µm,20.0s
ZALV Zalesovo Beam 77.50 340 P **P** **20 23 24.2 -1.7**
comp=Z,5.8nm,0.8s,baz=16,slow=5.5,SNR=20
ZALV LR LR 20 59 45.7
comp=Z,4µm,19.2s,baz=28,slow=37
ZALV Zalesovo Beam 77.50 340 *i*P **P** **20 23 25.7 -0.2**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 77.50 340 P **P** **20 23 25.0 -0.9**
BMRD Maredsous 77.69 28 *d*P **P** **20 23 28.7 +1.7**
comp=Z,27nm,1.5s
BGES Gesves 77.73 28 *d*P **P** **20 23 28.8 +1.5**
comp=Z,34nm,2.0s
BCLA Clavier 77.77 27 *d*P **P** **20 23 28.4 +0.9**
comp=Z,32nm,2.2s
DOU Dourbes 77.81 28 κP **P** **20 23 28.7 +1.0**
comp=Z,23nm,1.8s
MEM Membach 77.84 27 *b*P P 20 23 32.8 +4.9
comp=Z,30nm,2.1s
BTNL Ternell 77.90 27 *d*P **P** **20 23 29.4 +1.2**
PABE Paberze 77.94 15 *e*P **P** **20 23 28.0 -0.3**
PABE Paberze 77.94 15 P **P** **20 23 28.6 +0.3**
PABE IAmb IAmb 20 23 43.2
comp=Z,33nm,1.1s
PABE IAMs_20 IAMs_20 21 00 24.2
comp=Z,4µm,19.0s
MSVF Nonsavu 77.96 230 LR LR 20 52 48.7
comp=Z,6µm,18.8s,baz=15,slow=32
MSVF Nonsavu 77.96 230 IAMs_20 IAMs_20 20 49 41.3
comp=Z,7µm,21.0s
IIGN Ignalina 78.48 14 *e*P **P** **20 23 31.8 +0.5**
IDID Didziasalis 78.60 13 *e*P **P** **20 23 33.3 +1.3**
GKP Gorka Klasztor 78.62 19 *e*P **P** **20 23 33.3 +1.2**
HHC Hu-ho-hao-te 78.65 317 *e*P **P** **20 23 33.0 +0.3**
HHC S **S** **20 33 27.6 -2.3**
HHC ScS **SKKSac** **20 33 48.9 -0.4**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,850nm,7.0s
HHC L L
comp=Z,2µm,15.3s
HHC L L
comp=Z,2µm,14.7s
HHC L L
comp=Z,4µm,16.2s
WLF Walferdange 78.70 27 *d*P **P** **20 23 32.2 -0.4**
WLF Walferdange 78.70 27 IAMs_20 IAMs_20 20 56 46.2
comp=Z,4µm,20.0s
ETMB Extrema 78.86 116 *e*P **P** **20 23 32.6 -1.4**
TNS Taunus Mts 78.95 26 *e*L L 20 59 19.4
comp=Z,6µm,18.4s
NACGM Naroch 79.00 13 *i*P **P** **20 23 35.0 +0.9**
ARU Arti 79.16 355 *d* iP **P** **20 23 34.4 -0.6**
ARU PPP PPP 20 28 22.6
ARU S **S** **20 33 37.7 +3.1**
ARU SS **SS** **20 38 37.7 -1.5**
ARU SSS SSS 20 42 02.3
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU MLR MLR
comp=Z,2µm,19.0s
ARU Arti 79.16 355 P **P** **20 23 34.3 -0.7**
ARU IAmb IAmb 20 23 54.0
comp=Z,50nm,1.5s
SUW Suwalki 79.20 16 *e*P **P** **20 23 34.8 -0.5**
SUW Suwalki 79.20 16 IAMs_20 IAMs_20 20 55 18.7
comp=Z,3µm,22.0s
TIA Tai'an 79.28 311 P **P** **20 23 35.7 -0.4**
TIA S **S** **20 33 39.1 +2.5**
TIA pmax pmax
comp=Z,640nm,6.5s
TIA L L
comp=Z,2µm,18.2s
TIA L L
comp=Z,2µm,18.8s
TIA L L
comp=Z,2µm,20.2s
CLL Collm 79.32 23 *i*P **P** **20 23 36.7 +0.7**
comp=Z,32nm,1.4s
CLL *e*S **S** **20 33 38.0 +1.6**
CLL *e*PS **PnS** **20 34 24.0 +5.6**
CLL *e*PPS PPS 20 34 42.0
CLL *e* 20 35 18.0
CLL *e*SS **SS** **20 38 42.0 +0.2**
CLL *e*SSS SSS 20 42 12.0
CLL *e*(SSSS) 20 44 06.0
CLL Lm MLR 21 00 00.0
comp=N,4µm,19.0s
CLL Lm MLR 21 00 00.0
comp=E,1µm,18.5s
CLL Lm MLR 21 00 00.0
comp=Z,5µm,19.2s
CLL Collm 79.32 23 *i*P **P** **20 23 36.7 +0.7**
CLL *e*S **S** **20 33 38.0 +1.6**
CLL pmax pmax
comp=Z,32nm,1.4s
CLL MLR MLR
comp=Z,5µm,19.2s
CLL Collm 79.32 23 P **P** **20 23 36.5 +0.5**
CLL IAMs_20 IAMs_20 21 00 53.6
comp=Z,5µm,19.0s
CLL Collm 79.32 23 *e*P **P** **20 23 36.7 +0.7**
comp=Z,32nm,1.4s,baz=338,slow=4.8
CLL *e*L L 21 00 54.1
comp=Z,5µm,19.3s
PGAV Gavieira, Arco 79.34 40 *i*S **S** **20 33 36.0 -1.2**
PGAV Gavieira, Arco 79.34 40 *e*LQ LQ 20 44 51.2
PGAV *e*LR LR 20 49 16.2
comp=Z,4µm,16.0s
MOX Moxa 79.52 24 *e*L L 21 01 07.0
comp=Z,6µm,18.1s
MILB Miltenberg 79.56 25 *e*L L 20 59 49.3
comp=Z,7µm,18.8s
MOS Moscow 79.57 7 *e*P P 20 23 49.9 +13
MOS *e* 20 23 56.0
MOS pmax pmax
comp=Z,43nm,1.2s
MOS MLR MLR
comp=Z,3µm,19.0s
MNK Minsk 79.57 13 *i*P **P** **20 23 35.4 -1.9**
MNK *i* 20 23 43.1
MNK *i* 20 26 35.6
MNK *i*S **S** **20 33 36.2 -2.8**
MNK *i*SS **SS** **20 38 46.4 +1.1**
MNK *i*SSS SSS 20 42 12.1
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=Z,16nm,1.1s
MNK MLR MLR
comp=Z,3µm,20.0s
MNK MLR MLR
comp=E,85nm,15.0s
MNK MLR MLR
comp=N,2µm,17.0s
MNK Minsk 79.57 13 *i*P **P** **20 23 35.5 -1.8**
comp=E,1.0nm,0.9s
MNK *i*P **P** **20 23 35.5 -1.8**
comp=N,16nm,1.0s
MNK *i*P **P** **20 23 35.5 -1.8**
comp=Z,16nm,1.1s,baz=165
MNK *i* PcP **pwP** **20 23 43.1 +0.8**
MNK *i* PP **PP** **20 26 35.6 -1.3**
MNK *i* PPP PPP 20 28 19.8
MNK *i*S **S** **20 33 36.3 -2.7**
MNK *i*SS **SS** **20 38 46.4 +1.1**
MNK *i*SSS SSS 20 42 12.1
MNK *i*LQ LQ 20 53 35.4
MNK *i*LR LR 20 58 42.0
MNK *i*LRM MLR 21 00 25.5
comp=Z,3µm,19.5s
MNK *i*LRM MLR 21 00 30.5
comp=E,85nm,15.2s
MNK *i*LRM MLR 21 00 30.5
comp=N,2µm,16.6s
BRG Berggiesshubel 79.97 22 *e*P **P** **20 23 40.7 +1.1**
BRG Amp 20 23 48.3
comp=Z,76nm,1.9s
BRG *ex* x 20 23 52.8
BRG Amp 20 23 56.3
comp=Z,73nm,1.8s
BRG Berggiesshubel 79.97 22 S **S** **20 33 50.0 +6.7**
BRG Berggiesshubel 79.97 22 SS SS 20 38 54.0 +2.5
BRG Amp 21 00 25.0
comp=N,3.4nm,18.8s
BRG Amp 21 00 25.0
comp=E,0.5nm,13.9s
BRG Amp 21 00 30.0
comp=Z,4.0nm,18.6s
POLO Lamas de Olo 80.03 40 *e*P **P** **20 23 41.9 +1.7**
comp=Z,25nm,1.8s
POLO Lamas de Olo 80.03 40 *i*S **SKSac** **20 33 54.2 -3.6**
OBN Obninsk 80.09 8‖ *e*P **P** **20 23 40.2 +0.2**
OBN *e* 20 23 50.5
OBN *e* 20 26 46.3
OBN *i*S **S** **20 33 47.7 +3.4**
OBN *i*SS **SS** **20 39 00.6 +7.7**
OBN pmax pmax
comp=Z,15nm,0.6s
OBN MLR MLR
comp=Z,4µm,18.0s
OBN Obninsk 80.09 8 IAMs_20 IAMs_20 21 01 34.2
comp=Z,4µm,19.0s
NKC Novy Kostel 80.13 23 *e*P **P** **20 23 41.9 +1.4**
NKC *e*S **S** **20 33 51.6 +6.5**
NKC MLR MLR
comp=Z,3µm,16.3s
NKC Novy Kostel 80.13 23 *e*P **P** **20 23 41.9 +1.4**
NKC *e*SKS **S** **20 33 51.6 +6.5**
NKC AMS AMS 21 03 00.0
comp=Z,3µm,16.3s
PBRG Braganca 80.17 39 *e*P **P** **20 23 41.6 +0.7**
comp=Z,26nm,1.7s
PBRG Braganca 80.17 39 *i*S **SKSac** **20 33 58.5 -0.2**
PBRG Braganca 80.17 39 eLR LR 20 49 55.0
SAML Samuel 80.19 113 P **P** **20 23 39.1 -2.1**
SAML pmax pmax
comp=Z,44nm,1.8s
SAML MLR MLR
comp=Z,2µm,20.0s
SAML Samuel 80.19 113 P **P** **20 23 39.1 -2.1**
GRA1 Grafenberg Arr 80.26 24 P **P** **20 23 39.4 -1.8**
GRA1 IAMs_20 IAMs_20 21 00 41.4
comp=Z,4µm,18.0s
GRF Grafenberg Arr 80.26 24 P **P** **20 23 39.4 -1.8**
GRF pmax pmax
comp=Z,27nm,1.1s
GRF MLR MLR
comp=Z,4µm,18.0s
GRF Grafenberg Arr 80.26 24 *e*P **P** **20 23 42.0 +0.9**
comp=Z,22nm,1.3s,baz=338,slow=4.8
GRF *e*L L 21 01 44.7
comp=Z,5µm,18.0s
GRFO Grafenberg 80.26 24 P **P** **20 23 39.7 -1.5**
GRFO pmax pmax
comp=Z,29nm,1.2s
GRFO MLR MLR
comp=Z,5µm,18.0s
GRFO Grafenberg 80.26 24 P **P** **20 23 39.7 -1.5**
GRFO IAMs_20 IAMs_20 21 00 50.5
comp=Z,5µm,18.0s
ECH Echery 80.29 27 IAMs_20 IAMs_20 20 58 51.2
comp=Z,3µm,20.0s
PVCC Panska Ves 80.45 22 *e*SKS **S** **20 33 54.1 +5.7**
PVCC AMS AMS 21 00 30.0
comp=Z,4µm,19.2s
PVIS Viseu 80.50 41 *e*P **P** **20 23 44.6 +1.9**
MVO Moncorvo 80.54 40 *e*P **P** **20 23 44.3 +1.4**
comp=Z,32nm,1.7s
MVO Moncorvo 80.54 40 *i*S **S** **20 33 46.0 -3.9**
MVO Moncorvo 80.54 40 *e*LQ LQ 20 45 03.8
MVO *e*LR LR 20 49 50.5
comp=Z,5µm,16.0s
BFO Black Forest 80.57 27 P **P** **20 23 42.7 -0.2**
BFO pmax pmax
comp=Z,34nm,1.3s
BFO MLR MLR
comp=Z,4µm,18.0s
BFO Black Forest 80.57 27 P **P** **20 23 42.7 -0.2**
BFO IAMs_20 IAMs_20 21 00 41.7
comp=Z,5µm,18.0s
BFO Black Forest 80.57 27 *e*P **P** **20 23 43.5 +0.6**
comp=Z,49nm,1.6s,baz=338,slow=4.8
BFO *e*L L 20 57 45.0
comp=Z,5µm,22.0s
KSP Ksiaz 80.61 21 *e*P **P** **20 23 43.8 +0.8**
TIY Taiyuan 80.62 315 *e*P **P** **20 23 45.3 +1.9**
TIY PP **PP** **20 26 50.0 +3.7**
TIY S **S** **20 33 53.5 +2.7**
TIY pmax pmax
comp=Z,13nm,0.4s
TIY pmax pmax
comp=Z,360nm,5.4s
TIY L L
comp=Z,2µm,12.3s
TIY L L
comp=Z,1µm,12.1s
TIY L L
comp=Z,2µm,18.1s
DGZ Jazzator, Alta 80.64 336 *de*P **P** **20 23 43.3 -0.1**
DGZ pmax pmax
comp=Z,76nm,2.4s
SSE Sheshan 80.73 305 P **P** **20 23 43.5 -0.4**
SSE S **S** **20 33 50.9 -1.0**
SSE pmax pmax
comp=Z,17nm,0.8s
SSE pmax pmax
comp=Z,190nm,6.6s
SSE L L
comp=Z,680nm,20.0s
SSE L L
comp=Z,510nm,20.1s
PCAS Casmilo, Conde 80.73 42 *e*P **P** **20 23 45.1 +1.2**
comp=Z,63nm,1.8s
PCAS Casmilo, Conde 80.73 42 *i*S **SKSac** **20 34 06.5 +3.9**
CHVC Chvalec 80.78 21 *e*P **P** **20 23 41.8 -2.2**
CHVC AMS AMS 21 01 30.0
comp=Z,4µm,17.0s
PRA Prague 80.83 22 *e*S **S** **20 33 55.6 +3.2**
PRA AMS AMS 21 00 50.0
comp=Z,3µm,19.5s
UPC Upice 80.85 21 *e*SKS **S** **20 33 57.4 +4.8**
UPC AMS AMS 21 01 30.0
comp=Z,4µm,17.9s
OSTC Ostas 80.86 21 *e*P **P** **20 23 46.2 +1.8**
OSTC *e*S **S** **20 33 58.2 +5.5**
OSTC AMS AMS 21 03 30.0
comp=Z,3µm,15.7s
MTE Manteigas 80.91 41 *e*P **P** **20 23 46.1 +1.2**
MTE Manteigas 80.91 41 *i*S **SKSac** **20 34 02.5 -1.4**
MTE Manteigas 80.91 41 *e*LQ LQ 20 44 49.2
MTE *e*LR LR 20 50 06.4
comp=Z,4µm,18.0s
MTE Manteigas 80.91 41 IAMs_20 IAMs_20 20 56 56.8
comp=Z,3µm,19.0s
PRU Pruhonice 80.93 22 *e*P **P** **20 23 48.4 +3.7**
PRU *e*S **S** **20 33 57.3 +3.8**
PRU MLR MLR
comp=Z,4µm,18.8s
PRU Pruhonice 80.93 22 *e*P **P** **20 23 48.4 +3.7**
PRU *e*S **S** **20 33 57.3 +3.8**
PRU AMS AMS 21 00 50.0
comp=Z,4µm,18.8s
PSBE So Bento 81.02 42 *i*S **S** **20 33 54.9 +0.1**
PBCC Pribram 81.06 23 AMS AMS 21 01 50.0
comp=Z,2µm,18.4s
DPC Dobruska-Polom 81.07 21 *e*P **P** **20 23 47.2 +1.6**
DPC *e*S **S** **20 33 59.7 +4.7**
DPC MLR MLR
comp=Z,3µm,19.5s
DPC Dobruska-Polom 81.07 21 *e*P **P** **20 23 47.2 +1.6**
DPC *e*SKS **S** **20 33 59.7 +4.7**
DPC AMS AMS 21 01 50.0
comp=Z,3µm,19.5s
MALB Monte Alegre 81.15 101 *e*P **P** **20 23 47.0 +0.6**
PMAFR Mafra 81.22 43 *i*S **SKSac** **20 34 12.6 +6.6**
WET Wettzell 81.23 24 *e*L L 21 02 16.8
comp=Z,4µm,18.1s
BRVK Borovoye 81.25 348 *d* iP **P** **20 23 46.2 -0.2**
BRVK pmax pmax
comp=Z,32nm,1.1s
BRVK Borovoye 81.25 348 P **P** **20 23 44.5 -1.9**
BRVK Borovoye 81.25 348 IAMs_20 IAMs_20 21 01 21.1
comp=Z,4µm,20.0s
BVAR Borovoye Array 81.27 348 P **P** **20 23 45.6 -0.9**
comp=Z,3.9nm,0.9s,baz=155,slow=20,SNR=20
BVAR Borovoye Array 81.27 348 P **P** **20 23 45.6 -0.9**
BVAR Borovoye Array 81.27 348 P **P** **20 23 45.6 -0.9**
NJ2 Nanjing 81.38 307 *e*P **P** **20 23 46.3 -1.1**
NJ2 pP **sP** **20 23 51.0 +1.2**
NJ2 sP **pwP** **20 23 52.8 +0.2**
NJ2 S **S** **20 33 58.5 -0.2**
NJ2 sS **sS** **20 34 03.6 +1.9**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
NJ2 pmax pmax
comp=Z,580nm,5.0s
NJ2 L L
comp=Z,2µm,17.5s
NJ2 L L
comp=Z,3µm,19.9s
NJ2 L L
comp=Z,1µm,15.6s
PCBR Castelo Branco 81.38 41 *e*P **P** **20 23 49.0 +1.7**
KHC Kasperske Hory 81.44 23 *e*P **P** **20 23 49.2 +1.7**
KHC *e* 20 23 59.0
KHC *e*S **SKSac** **20 34 05.7 -1.5**
KHC MLR MLR
comp=Z,4µm,17.5s
KHC Kasperske Hory 81.44 23 *e*P **P** **20 23 49.2 +1.7**
KHC *ex* x 20 23 59.0
KHC *e*SKS **SKSac** **20 34 05.7 -1.5**
KHC AMS AMS 21 03 00.0
comp=Z,4µm,17.5s
KRLC Kraliky 81.44 21 *e*P **P** **20 23 48.7 +1.2**
KRLC *e*S **S** **20 34 04.1 +5.2**
KRLC MLR MLR
comp=Z,4µm,15.7s
KRLC Kraliky 81.44 21 *e*P **P** **20 23 48.7 +1.2**
KRLC *e*SKS **S** **20 34 04.1 +5.2**
KRLC AMS AMS 21 04 10.0
comp=Z,4µm,15.7s
FUR Furstenfeldbru 81.64 25 *e*L L 20 59 21.2
comp=Z,7µm,21.4s
PMTG Montargil 81.64 42 *e*P **P** **20 23 46.8 -1.9**
comp=Z,35nm,1.7s
PMTG Montargil 81.64 42 *i*S **SKSac** **20 34 14.2 +5.4**
MCPB Macapa, AP 81.66 99 *e*P **P** **20 23 49.1 0.0**
GEC2 GERESS Array S 81.73 23 P **P** **20 23 48.8 -0.4**
GEC2 IAMs_20 IAMs_20 21 03 18.5
comp=Z,4µm,18.0s
GEC2 GERESS Array S 81.73 23 *e*L L 21 01 54.6
comp=Z,3µm,19.3s
GERES GERESS Array B 81.73 23 P **P** **20 23 49.1 0.0**
comp=Z,2.4nm,0.8s,baz=343,slow=4.2,SNR=14
GERES LR LR 21 03 28.8
comp=Z,3µm,18.0s,baz=338,slow=38
GERES GERESS Array B 81.73 23 P **P** **20 23 48.5 -0.6**
GERES GERESS Array B 81.73 23 P **P** **20 23 48.5 -0.6**
PMOZ Porto Moniz, M 81.75 52 *i*S **SKSac** **20 34 12.6 +2.7**
PMOZ A A 20 58 59.8
comp=Z,4µm,18.0s
PMRV Marv??o 81.75 41 *e*P **P** **20 23 49.9 +0.6**
comp=Z,29nm,1.7s
PMRV Marv??o 81.75 41 *i*S **S** **20 34 01.2 -1.2**
PMRV Marv??o 81.75 41 *e*LQ LQ 20 45 03.8
PMRV *e*LR LR 20 50 33.7
comp=Z,3µm,16.0s
TREC Trest 81.82 22 AMS AMS 21 01 40.0
comp=Z,4µm,18.1s
SEM Semipalatinsk 81.86 341 *e*P **P** **20 23 48.5 -1.4**
baz=341
SEM *e*S **S** **20 34 04.2 +0.6**
baz=341
SEM Semipalatinsk 81.86 341 *e*P **P** **20 23 48.5 -1.4**
SEM *e*S **S** **20 34 04.2 +0.6**
MORC Moravsky Berou 81.91 21‖ P **P** **20 23 51.2 +1.2**
MORC Moravsky Berou 81.91 21 *e*P **P** **20 23 50.7 +0.7**
MORC Moravsky Berou 81.91 21 *e*S **S** **20 34 06.7 +3.0**
MORC Moravsky Berou 81.91 21‖ P **P** **20 23 51.2 +1.2**
MORC Moravsky Berou 81.91 21 P **P** **20 23 50.8 +0.8**
ITTB Itaituba 81.91 104 *e*P **P** **20 23 50.2 -0.3**
CKRC Cesky Krumlov 81.93 23 *e*P **P** **20 23 51.5 +1.4**
CKRC *e*SKS **SKSac** **20 34 09.9 -0.6**
CKRC AMS AMS 21 03 30.0
comp=Z,3µm,17.5s
KURK Kurchatov 81.94 342 P **P** **20 23 49.6 -0.5**
KURK Kurchatov 81.94 342 P **P** **20 23 49.6 -0.5**
SENIN Lac Senin/Sane 81.95 28 P **P** **20 23 50.7 +0.2**
DAVA Damuels 81.98 26 *e*P **P** **20 23 51.9 +1.3**
comp=Z,16nm,1.4s
OKC Ostrava-Krasne 82.00 20 *e*SKS **SKSac** **20 34 10.7 -0.2**
OKC AMS AMS 21 02 10.0
comp=Z,2µm,16.8s
OJC Ojcow 82.05 19 *e*P **P** **20 23 52.0 +1.3**
OJC Ojcow 82.05 19 P **P** **20 23 50.1 -0.6**
OJC pmax pmax
comp=Z,15nm,1.0s
OJC MLR MLR
comp=Z,3µm,22.0s
OJC Ojcow 82.05 19 P **P** **20 23 50.0 -0.6**
OJC IAMs_20 IAMs_20 20 58 54.1
comp=Z,3µm,22.0s
KURBB Kurchatov Arra 82.05 342 P **P** **20 23 49.6 -1.1**
comp=Z,7.0nm,0.9s,baz=18,slow=4.9,SNR=33
RETA Reutte 82.08 26 *e*P **P** **20 23 53.0 +2.0**
comp=Z,12nm,1.2s
VRAC Vranov 82.10 21 P **P** **20 23 50.6 -0.4**
comp=Z,3.3nm,0.4s,baz=323,slow=5.7,SNR=5.9
VRAC Vranov 82.10 21 *e*P **P** **20 23 51.4 +0.4**
VRAC Vranov 82.10 21 *e*S **S** **20 34 09.3 +3.7**
VRAC Vranov 82.10 21 P P **20 23 50.6 -0.4**
VRAC Vranov 82.10 21 P P **20 23 50.6 -0.4**
PESTR Estremoz 82.10 42 *e*P **P** **20 23 51.2 0.0**
comp=Z,50nm,1.9s
PESTR Estremoz 82.10 42 *i*S **SKSac** **20 34 10.9 -1.1**
PESTR Estremoz 82.10 42 *e*LQ LQ 20 45 09.6
PESTR *e*LR LR 20 50 38.3
PESTR Estremoz 82.10 42 IAMs_20 IAMs_20 20 57 46.3
comp=Z,2µm,18.0s
PNCL Nicolau / Gran 82.25 43 *e*P **P** **20 23 47.9 -4.0**
comp=Z,53nm,2.0s
PNCL Nicolau / Gran 82.25 43 *i*S **S** **20 34 10.0 +2.5**
KRUC Moravsky 82.27 22 *e*P **P** **20 23 51.8 -0.1**
KRUC Moravsky 82.27 22 *e*S **S** **20 34 11.0 +3.6**
MOTA Moosalm 82.31 26 *e*P **P** **20 23 53.7 +1.4**
comp=Z,22nm,1.5s
WATA Walderalm 82.47 25 *e*P **P** **20 23 54.2 +1.1**

comp=Z,23nm,1.3s
FETA Feichten 82.49 26 *e*P P 20 23 53.8 +0.6
comp=Z,13nm,1.0s
SANVU Saraoutou 82.51 240 IAMs_20 IAMs_20 20 56 46.0
comp=Z,4µm,19.0s
TUE Stuetta 82.53 27 P P
WTTA Wattenberg 82.55 25 *e*P P 20 23 55.0 +1.5
comp=Z,34nm,1.1s
LPAZ La Paz 82.58 121 P P 20 23 53.9 -0.7
comp=Z,16nm,0.9s,baz=337,slow=5.7,SNR=27
LPAZ La Paz 82.58 121 P P 20 23 53.8 -0.7
LPAZ pmax pmax
comp=Z,27nm,1.1s
LPAZ La Paz 82.58 121 P P 20 23 53.8 -0.7
LPAZ IAmb IAmb 20 24 04.1
comp=Z,27nm,1.1s
LPAZ La Paz 82.58 121 *e*P P 20 23 54.6 +0.1
MESJ Messejana 82.61 43 *e*P P 20 23 54.8 +1.0
MESJ IAmb IAmb 20 24 01.9
comp=Z,97nm,2.2s
MESJ *e*S S 20 34 12.5 +1.3
MESJ Messejana 82.61 43 *e*P P 20 23 54.8 +1.0
MESJ *e*S S 20 34 12.5 +1.3
HNR Honiara 82.71 249 LR LR 20 53 00.3
comp=Z,9µm,21.7s,baz=71,slow=30
LPSR Galich'ya Gora 82.79 7 *e*P P 20 23 54.1 -0.3
LPSR pmax pmax
comp=Z,10.0nm,1.4s
JAVC Velka Javorina 82.79 21 *e*P P 20 23 55.4 +0.8
JAVC Velka Javorina 82.79 21 *e*S S 20 34 18.6 +5.8
MOA Molln 82.80 23 *e*P P 20 23 56.2 +1.6
comp=Z,14nm,1.3s
PCVE Castro Verde 82.86 43 *i* S SKSac 20 34 24.9 +7.9
PFVI Vila Bisbo 82.87 44 *e*P P 20 23 50.7 -4.5
PFVI Vila Bisbo 82.87 44 *i* S SKSac 20 34 25.3 +8.2
PFVI Vila Bisbo 82.87 44 IAMs_20 IAMs_20 21 01 16.7
comp=Z,3µm,20.0s
PBAR Barrancos 82.91 42 *i* S S 20 34 03.7 -11
PBAR Barrancos 82.91 42 *e*LQ LQ 20 45 21.3
PBAR *e*LR LR 20 50 49.6
LANS Liptovska Anna 82.96 20 *e*P P 20 23 57.1 +1.6
LANS Liptovska Anna 82.96 20 *e*P P 20 23 57.1 +1.6
SMOL Smolenice 83.05 21 *e*P P 20 23 56.6 +0.7
SMOL Smolenice 83.05 21 *e*P P 20 23 56.6 +0.7
PAB San Pablo 83.06 39 IAMs_20 IAMs_20 20 58 42.7
comp=Z,4µm,18.0s
STHS Stebnicka Huta 83.13 18 *e*P P 20 23 58.4 +2.1
STHS Stebnicka Huta 83.13 18 *e*P P 20 23 58.4 +2.1
ESBB Sonseca Array 83.13 39 P P 20 23 57.5 +1.0
ESBB IAmb IAmb 20 24 08.8
comp=Z,41nm,1.9s
ESBB IAMs_20 IAMs_20 20 59 04.6
comp=Z,4µm,18.0s
ESDC Sonseca Array 83.13 39 P P 20 23 56.4 -0.2
comp=Z,2.7nm,0.9s,baz=313,slow=5.3,SNR=17
ESDC LR LR 20 58 49.3
comp=Z,3µm,18.1s,baz=330,slow=34
ESDC Sonseca Array 83.13 39 P P 20 23 56.4 -0.2
ESDC IAmb IAmb 20 24 04.5
comp=Z,32nm,1.6s
CONA Conrad Observa 83.17 22 *e*P P 20 23 57.5 +0.8
comp=Z,18nm,1.5s
PVAQ Vaqueiros 83.20 43 *i* S SKSac 20 34 24.9 +5.6
PVAQ Vaqueiros 83.20 43 *e*LR LR 20 51 16.9
comp=Z,3µm,20.0s
PVAQ Vaqueiros 83.20 43 IAMs_20 IAMs_20 20 58 54.4
comp=Z,4µm,19.0s
KBA Koelnbreinsper 83.23 24 *i* P P 20 23 58.3 +1.2
comp=Z,16nm,1.1s,SNR=13
KOLL Kolacno 83.23 21 *e*P P 20 23 58.3 +1.5
ABTA Abfaltersbach 83.28 25 *e*P P 20 23 58.2 +0.9
comp=Z,27nm,1.5s,SNR=11
PB16 IPOC Station P 83.32 124 P P 20 23 58.2 -0.1
PB16 IAmb IAmb 20 24 05.8
comp=Z,58nm,1.4s
LVV L'vov 83.35 17 *e*P P 20 23 56.1 -1.3
LVV *e* 20 24 05.7
LVV *e*PPP PPP 20 29 02.8
LVV *i* S S 20 34 15.4 -2.9
LVV MLR MLR
comp=E,800nm,17.0s
LVV MLR MLR
comp=N,2µm,18.0s
LVV MLR MLR
comp=Z,3µm,18.0s
ZSN Zaisan 83.41 337 *e*P P 20 23 57.3 -0.5
comp=Z,154nm,3.4s,baz=337
ZSN *e*S S 20 34 21.5 +2.4
baz=337
ZSN Zaisan 83.41 337 *e*P P 20 23 57.3 -0.5
ZSN *e*S S 20 34 21.5 +2.4
ZSN pmax pmax
comp=Z,154nm,3.4s
VYHS Vyhne 83.42 20 *e*P P 20 23 57.7 -0.1
VYHS Vyhne 83.42 20 *e*P P 20 23 57.7 -0.1
BELG Belogornoye 83.44 1 *c i*P P 20 23 57.3 -0.5
BELG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 83.46 13 P P 20 23 56.7 -1.2
comp=Z,5.1nm,0.7s,baz=354,slow=4.7,SNR=19
AKASG LR LR 20 59 47.3
comp=Z,3µm,21.6s,baz=335,slow=35
AKASG Malin Array Be 83.46 13 *i* P P 20 23 57.7 -0.2
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 83.46 13 P P 20 23 57.4 -0.5
AKBB Malin Array Si 83.46 13 ⇓ *i*P P 20 23 57.8 -0.1
AKBB pmax pmax
comp=Z,29nm,2.1s
AKBB Malin Array Si 83.46 13 P P 20 23 57.5 -0.4
AKBB IAmb IAmb 20 24 09.6
comp=Z,36nm,1.4s
ZOU Zoufplan 83.59 25 P P 20 23 58.7 -0.3
CTI Castel Tesino 83.64 26 P P 20 23 59.8 +0.7
CTI pmax pmax
comp=Z,15nm,1.1s
CTI MLR MLR
comp=Z,4µm,18.0s
CTI Castel Tesino 83.64 26 P P 20 23 59.8 +0.7
CTI IAMs_20 IAMs_20 21 03 51.0
comp=Z,4µm,18.0s
CIMO Cimolais 83.65 25 P P 20 23 59.5 +0.4
CRVS Cervenica-Dubn 83.66 18 *e*P P 20 24 00.5 +1.4
CRVS Cervenica-Dubn 83.66 18 *e*P P 20 24 00.5 +1.4
ARSA Arzberg 83.69 23 *e*P P 20 23 59.9 +0.6
comp=Z,42nm,2.4s,SNR=9.4
MYKA Terra Mystica 83.72 24 *i* P P 20 24 00.5 +1.0
comp=Z,5.7nm,1.0s
STAL STALIGIAL 83.78 25 P P 20 23 59.7 -0.1
KOLS Kolonicke sedl 83.81 18 *e*P P 20 24 01.6 +1.7
KOLS Kolonicke sedl 83.81 18 *e*P P 20 24 01.6 +1.7
BRZS Berezniki 83.83 346 *e*P P 20 23 58.5 -1.4
comp=Z,22nm,2.2s,baz=346
BRZS *e*S S 20 34 22.1 -1.1
baz=346
BRZS Berezniki 83.83 346 *e*P P 20 23 58.5 -1.4
BRZS *e*S S 20 34 22.1 -1.1
BRZS pmax pmax
comp=Z,22nm,2.2s
PRED Cave del Predi 83.87 24 P P 20 24 00.3 0.0
PRED IAmb IAmb 20 24 20.7
comp=Z,23nm,1.2s
MNMC Minye Minye 83.89 124 P P 20 24 00.8 0.0
SOKA Soboth 84.08 23 *i* P P 20 24 01.9 +0.6
comp=Z,26nm,1.5s,SNR=12
NPGB Novo Progresso 84.09 106 *e*P P 20 24 02.0 +0.3
OBKA Obir 84.10 24 *i* P P 20 24 02.0 +0.6
comp=Z,10nm,0.9s,SNR=6.4
UZH Uzhgorod 84.10 18 *e*P P 20 24 01.2 -0.1
UZH *e* 20 24 06.9
UZH *i* 20 24 09.9
UZH *e*S S 20 34 23.3 -2.6
UZH *e*SS SS 20 39 57.1 +4.2
CADS Cadrg 84.11 24 *e*P P 20 24 01.4 -0.1
CADS *e*S S 20 34 31.7 +5.4
CADS *e* 20 40 00.1
CADS *e* 20 46 17.7
VSR Storozhevoye 84.18 7 *e*P P 20 23 59.3 -2.3
VSR pmax pmax
comp=Z,10.0nm,1.6s
PSZ Piszkesteto 84.22 20 ⇑P P 20 24 03.2 +1.2
PSZ Piszkesteto 84.22 20 P P 20 24 02.2 +0.2
PSZ pmax pmax
comp=Z,105nm,1.8s
PSZ MLR MLR
comp=Z,3µm,20.0s
PSZ Piszkesteto 84.22 20 P P 20 24 02.2 +0.2
PSZ IAMs_20 IAMs_20 21 02 34.2
comp=Z,3µm,20.0s
TEOL Teolo 84.27 26 P P 20 24 02.3 +0.1
TEOL IAmb IAmb 20 24 17.2
comp=Z,27nm,0.9s
TEOL IAMs_20 IAMs_20 21 02 55.4
comp=Z,3µm,18.0s
PB11 IPOC Station P 84.34 125 P P 20 24 03.0 0.0
VRH Novokhopyorsk 84.39 5 *e*P P 20 24 00.8 -1.9
VRH pmax pmax
comp=Z,7.0nm,0.7s
VORD Divnogorie 84.44 7 *e*P P 20 24 01.5 -1.4
VORD pmax pmax
comp=Z,8.0nm,0.9s
MSSA Maissana 84.50 28 P P 20 24 03.5 0.0
MSSA IAMs_20 IAMs_20 21 04 04.5
comp=Z,5µm,18.0s
TRPA Tarpa 84.63 18 ⇑P P 20 24 04.6 +0.6
MK31 Makanchi Array 84.71 338 P P 20 24 03.2 -1.3
MK31 pmax pmax
comp=Z,16nm,1.4s
MK31 Makanchi Array 84.71 338 P P
MKAR Makanchi Array 84.71 338 P P 20 24 03.5 -1.0
comp=Z,2.5nm,1.0s,baz=39,slow=6.4,SNR=11
MKAR LR LR 21 03 56.9
comp=Z,6µm,20.5s,baz=19,slow=37
MKAR Makanchi Array 84.71 338 *i* P P 20 24 03.5 -1.0
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 84.71 338 P P 20 24 02.8 -1.6
MAKZ Makanchi 84.78 339 P P 20 24 02.5 -2.3
MAKZ pmax pmax
comp=Z,16nm,1.0s
MAKZ MLR MLR
comp=Z,6µm,20.0s
MAKZ Makanchi 84.78 339 P P 20 24 02.5 -2.3
VLC Villacollemand 84.92 27 P P 20 24 05.1 -0.5
VLC IAmb IAmb 20 24 15.5
comp=Z,22nm,1.0s
VLC IAMs_20 IAMs_20 21 04 17.8
comp=Z,5µm,18.0s
PB08 IPOC Station P 84.93 125 P P 20 24 05.8 -0.4
PB08 IAmb IAmb 20 24 19.6
comp=Z,46nm,1.1s
ZCCA Zocca 84.94 27 P P 20 24 07.1 +1.4
ZCCA IAmb IAmb 20 24 32.1
comp=Z,25nm,1.0s
WHN Wuhan 85.06 309 ⇑P P 20 24 07.2 +0.8
WHN S S 20 34 22.9 -13
WHN L L
comp=Z,1µm,13.7s
WHN L L
comp=Z,3µm,14.1s
WHN L L
comp=Z,4µm,16.0s
VILB Vilhena 85.11 113 *e*P P 20 24 07.1 +0.3
GTA Gaotai 85.17 324 ⇑P P 20 24 07.8 +0.7
GTA pP sP 20 24 09.9 +0.4
GTA sP pwP 20 24 12.8 +0.6
GTA PP PP 20 27 25.7 +2.1
GTA S S 20 34 36.9 -0.3
GTA pmax pmax
comp=Z,310nm,6.9s
GTA L L
comp=Z,3µm,21.4s
GTA L L
comp=Z,4µm,20.0s
GTA L L
comp=Z,5µm,20.0s
XAN Xi'an 85.26 314 P P 20 24 06.4 -1.1
XAN pP sP 20 24 10.3 +0.4
XAN SKS SKSac 20 34 30.8 -2.0
XAN pmax pmax
comp=Z,14nm,1.5s
XAN pmax pmax
comp=Z,750nm,7.3s
XAN L L
comp=Z,2µm,18.4s
XAN L L
comp=Z,3µm,14.1s
XAN L L
comp=Z,3µm,16.7s
RAO Raoul Island 85.46 221 LR LR 20 53 54.1
comp=Z,2µm,21.6s,baz=23,slow=30
MORH Mrgy, Hungar 85.49 21 ⇓P P 20 24 08.3 0.0
BUR08 Bucovina Ar. S 85.66 17 P P 20 24 08.0 -1.3
BUR08 IAmb IAmb 20 24 29.7
comp=Z,58nm,1.9s
BURAR Bucovina Array 85.69 17 ⇓P P 20 24 10.2 +0.7
BURAR Bucovina Array 85.69 17 ⇓P P 20 24 10.2 +0.7
BURAR Bucovina Array 85.69 17 P P 20 24 08.3 -1.2
OSSC Osservatorio P 85.77 27 P P 20 24 09.3 -0.5
OSSC IAMs_20 IAMs_20 21 01 27.3
comp=Z,4µm,22.0s
SORM Soroca 85.79 14 ⇓P P 20 24 09.4 -0.3
SORM Soroca 85.79 14 ⇓P P 20 24 09.4 -0.3
WMQ Urumqi 85.85 334 *e*P P 20 24 10.8 +0.5
WMQ S S 20 34 44.3 +0.7
WMQ sS ScS 20 34 51.0 -2.1
WMQ pmax pmax
comp=Z,580nm,4.5s
WMQ L L
comp=Z,4µm,18.1s
WMQ L L
comp=Z,4µm,21.3s
WMQ L L
comp=Z,10µm,19.5s
TMAB Tom-Au,PA,Br 85.87 97 *e*P P 20 24 09.2 -1.4
DRGR 85.93 18 ⇑P P 20 24 10.9 +0.3
PB04 IPOC Station P 86.06 127 P P 20 24 08.9 -2.7
LZH Lanzhou 86.11 319 *e*P P 20 24 10.4 -1.4
LZH pP pP 20 24 13.6 0.0
LZH sP sP 20 24 15.7 +1.5
LZH S S 20 34 41.5 -5.1
LZH sS pS 20 34 49.3 +0.4
LZH SS SS 20 40 22.9 -0.7
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,680nm,6.5s
LZH L L
comp=Z,3µm,16.3s
LZH L L
comp=Z,6µm,16.3s
LZH L L
comp=Z,3µm,18.4s
PRAR RASCA 86.14 16 ⇑P P 20 24 12.4 +0.9
CART Cartagena 86.17 38 IAMs_20 IAMs_20 21 01 27.2
comp=Z,4µm,18.0s
SIRR Siria 86.19 19 ⇑P P 20 24 10.9 -0.9
ABKAR Akbulak array 86.20 353 P P 20 24 10.1 -1.7
ABKAR Akbulak array 86.20 353 P P 20 24 10.2 -1.6
ABKAR IAmb IAmb 20 24 26.7
comp=Z,24nm,1.2s
CASP Castiglione de 86.30 28 IAMs_20 IAMs_20 21 03 19.3
comp=Z,4µm,18.0s
MURB Monte Urbino 86.42 26 P P 20 24 13.2 +0.1
MURB IAmb IAmb 20 24 34.4
comp=Z,29nm,1.3s
BIZ Bicaz 86.52 16 ⇑P P 20 24 19.4 +6.0
CLDB Colider 86.54 109 *e*P P 20 24 13.4 -0.5
LIFNC LIFUJ 86.56 236 IAMs_20 IAMs_20 20 54 48.3
comp=Z,4µm,21.0s
BZS Buzias 86.79 20 ⇑P P 20 24 15.2 +0.5
BZS Buzias 86.79 20 ⇑P P 20 24 15.2 +0.5
QZH Quanzhou 86.79 302 P P 20 24 17.9 +2.8
QZH PP PP 20 27 34.3 -2.8
QZH S S 20 34 53.6 +0.4
QZH pmax pmax
comp=Z,480nm,6.9s
QZH L L
comp=Z,620nm,14.2s
QZH L L
comp=Z,2µm,17.9s
QZH L L
comp=Z,1µm,18.4s
KIS Kishinev 86.97 14 *e*P P 20 24 24.0 +8.4
KIS Kishinev 86.97 14 *e*P P 20 24 24.0 +8.4
KIS MLR MLR
comp=N,700nm,17.0s
NRCA Norcia 86.99 26 P P 20 24 15.9 -0.1
TESR Tescani 87.03 16 ⇓P P 20 24 16.7 +0.8
GZR Gura Zlata 87.27 19 ⇓P P 20 24 16.3 -0.9
DOPR Dopca 87.30 17 ⇑P P 20 24 18.0 +0.7
PRPB Parauapebas 87.32 101 *e*P P 20 24 17.9 0.0
AQU L'Aquila 87.52 26 IAMs_20 IAMs_20 21 05 16.5
comp=Z,5µm,20.0s
PTLB Pontes e Lacer 87.64 114 *e*P P 20 24 19.1 0.0
PLOR Plostina 87.67 16 ⇑P P 20 24 18.8 -0.3
PLOR Plostina 87.67 16 ⇑P P 20 24 18.8 -0.3
VRI Vrincioaia 87.67 16 ⇓P P 20 24 19.2 +0.2
VRI Vrincioaia 87.67 16 ⇓P P 20 24 19.2 +0.2
HERR Herculane 87.67 19 ⇑P P 20 24 19.7 +0.7
VOIR 87.73 17 ⇓P P 20 24 19.5 0.0
VOIR 87.73 17 ⇓P P 20 24 19.5 0.0
DIVS Divibare 87.81 21 P P 20 24 19.1 -0.7
MLR Muntele Rosu 87.87 17 P P 20 24 19.9 -0.3
comp=Z,1.0nm,0.8s,baz=326,slow=21,SNR=3.2
MLR Muntele Rosu 87.87 17 ⇓P P 20 24 21.3 +1.1
MLR Muntele Rosu 87.87 17 ⇓P P 20 24 21.3 +1.1
MLR Muntele Rosu 87.87 17 P P 20 24 18.9 -1.3
MLR IAMs_20 IAMs_20 21 01 13.9
comp=Z,5µm,22.0s
DZM Mont Dzumac 88.03 236 *e*S S 20 35 10.3 +5.3
comp=Z,977nm,27.8s
DZM Mont Dzumac 88.03 236 *e*LR LR 20 52 11.7
comp=Z,7µm,21.4s
DZM Mont Dzumac 88.03 236 LR LR 20 55 34.5
comp=Z,5µm,21.4s,baz=18,slow=30
GO02 Mina Guanaco 88.58 128 P P 20 24 23.4 -0.5
CFR Carcaliu 88.60 15 ⇓P P 20 24 23.1 -0.3
CFR Carcaliu 88.60 15 ⇓P P 20 24 23.1 -0.3
VSL Villasalto 88.71 30 IAMs_20 IAMs_20 21 04 08.0
comp=Z,4µm,20.0s
KPKS Kokpek 88.74 340 *e*P P 20 24 23.5 -0.8
comp=Z,83nm,3.1s,baz=340
KPKS Kokpek 88.74 340 *e*P P 20 24 23.4 -0.8
KPKS pmax pmax
comp=Z,83nm,3.1s
SHLS Shalkode 88.83 339 *e*P P 20 24 23.7 -1.0
comp=Z,6.5nm,0.9s,baz=339
SHLS *i* S SKSac 20 34 53.1 -1.6
baz=339
SHLS Shalkode 88.83 339 *e*P P 20 24 23.7 -1.0
SHLS *i* S SKSac 20 34 53.0 -1.6
SHLS pmax pmax
comp=Z,7.0nm,0.9s
KUU Kurty 88.90 341 *e*P P 20 24 25.0 0.0
baz=341
KUU *e*S SKSac 20 34 53.7 -1.1
baz=341
KUU Kurty 88.90 341 *e*P P 20 24 24.9 0.0
KUU *e*S SKSac 20 34 53.6 -1.1
UZB Uzynbulak 88.95 339 *e*P P 20 24 24.2 -1.2
baz=339
UZB *e*S SKSac 20 34 57.3 +1.8
baz=339
UZB Uzynbulak 88.95 339 *e*P P 20 24 24.1 -1.2
UZB *e*S SKSac 20 34 57.2 +1.8
TPGR Topolog 88.96 15 ⇑P P 20 24 25.6 +0.4
ROSB Rosrio 89.06 95 *e*P P 20 24 26.1 +0.1
SATY Saty 89.19 340 *e*P P 20 24 25.6 -0.9
comp=Z,17nm,1.9s,baz=340
SATY *e*S SKSac 20 34 55.8 -0.9
baz=340
SATY Saty 89.19 340 *e*P P 20 24 25.5 -0.9
SATY *e*S SKSac 20 34 55.8 -0.9
SATY pmax pmax
comp=Z,17nm,1.9s
TIRR Tirgusor 89.35 15 ⇓P P 20 24 21.5 -5.5
TIRR Tirgusor 89.35 15 ⇓P P 20 24 21.4 -5.5
MDOK Medeo 89.42 341 *e*P P 20 24 27.5 -0.1
baz=341
MDOK *e*S SKSac 20 34 55.5 -2.7
baz=341
MDOK Medeo 89.42 341 *e*P P 20 24 27.4 -0.1
MDOK *e*S SKSac 20 34 55.4 -2.7
MTBS Maitube 89.60 341 *e*P P 20 24 29.3 +1.0
baz=341
MTBS Maitube 89.60 341 *e*P P 20 24 29.3 +1.0
SGDS Sogindy 89.70 342 *e*P P 20 24 27.7 -1.0
baz=342
SGDS Sogindy 89.70 342 *e*P P 20 24 27.7 -1.0
VTS Vitosha 90.00 19 IAMs_20 IAMs_20 21 05 52.3
comp=Z,3µm,21.0s
TIR Tirane 90.34 22 IAMs_20 IAMs_20 21 07 16.2
comp=Z,4µm,19.0s
ANN Anapa 90.36 9 *e*P P 20 24 29.7 -2.0
ANN *e* 20 28 03.3
ANN *e* 20 35 13.7
ANN *e*SS SS 20 41 28.6 +4.3
ANN pmax pmax
comp=Z,18nm,0.8s
ANN MLR MLR
comp=Z,2µm,16.0s
CD2 Chengdu 90.36 316 P P 20 24 32.3 +0.2
CD2 pP sP 20 24 35.5 +1.0
CD2 S S 20 35 28.2 +1.2
CD2 SS SS 20 41 25.0 -0.6
CD2 pmax pmax
comp=Z,590nm,6.7s
CD2 L L
comp=Z,3µm,18.4s
CD2 L L
comp=Z,4µm,15.9s
CD2 L L
comp=Z,3µm,17.3s
KDJ Kajisay 90.37 340 IAMs_20 IAMs_20 21 02 41.8
comp=Z,3µm,22.0s
SNDB Serra Nova Dou 90.39 106 *e*P P 20 24 32.4 +0.1
SMTB Santa Maria do 90.77 102 *e*P P 20 24 34.4 +0.3
KKAR Karatay Array 90.86 345 P P 20 24 31.9 -2.2
KKAR Karatay Array 90.86 345 P P 20 24 31.9 -2.2
SACV Santiago Islan 90.90 68 IAMs_20 IAMs_20 21 02 45.7
comp=Z,5µm,20.0s
SCTE Santa Cesarea 91.13 24 IAMs_20 IAMs_20 21 08 00.2
comp=Z,4µm,19.0s
GZH Guangzhou 91.33 305 P P 20 24 33.6 -2.9
GZH S S 20 35 28.7 -7.1
GZH L L
comp=Z,1µm,23.0s
GZH L L
comp=Z,3µm,21.4s
PMG Port Moresby 91.47 258 LR LR 20 57 35.8
comp=Z,4µm,21.2s,baz=112,slow=30
PMG Port Moresby 91.47 258 IAMs_20 IAMs_20 21 01 00.1
comp=Z,4µm,20.0s
CORL Corleone 91.51 28 IAMs_20 IAMs_20 21 04 23.2
comp=Z,3µm,20.0s
KIV Kislovodsk 91.67 5 *e*P P 20 24 37.6 -0.3
KIV *e* 20 35 09.8
KIV *e*SS SS 20 41 46.1 +2.7
KIV pmax pmax
comp=Z,11nm,1.0s
KIV pmax pmax
comp=Z,18nm,3.7s
KIV MLR MLR
comp=Z,5µm,20.0s
SOC Sochi 91.80 7 *e*P P 20 24 39.6 +1.2
SOC *e* 20 28 20.0
SOC *e*S SKSac 20 35 12.6 +1.1
SOC *e*SSS SSS 20 45 29.0
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC MLR MLR
comp=Z,3µm,19.0s
IUG Iuzhnay 91.87 345 *e*P P 20 24 39.2 +0.3
baz=345
IUG *e*S SKSac 20 35 08.5 -3.8
baz=345
IUG Iuzhnay 91.87 345 *e*P P 20 24 39.2 +0.3
IUG *e*S SKSac 20 35 08.4 -3.8
PP1B Ponte de Pedra 91.99 113 *e*P P 20 24 39.6 0.0
NBPS Pedro II - PI 92.01 94 *e*P P 20 24 39.6 -0.3
KEST Kesra 92.02 32 LR LR 21 04 52.4
comp=Z,3µm,20.3s,baz=274,slow=35
KEST Kesra 92.02 32 IAMs_20 IAMs_20 21 04 30.7
comp=Z,3µm,20.0s
CEL Celeste 92.03 26 IAMs_20 IAMs_20 21 06 27.8
comp=Z,4µm,19.0s
NCK Nalchik 92.18 5 ⇓ *e*P P 20 24 39.3 -0.9
NCK pmax pmax
comp=Z,11nm,0.4s
ALN Alexandroupoli 92.28 18 IAMs_20 IAMs_20 21 08 02.7
comp=Z,3µm,20.0s
GYA Guiyang 92.45 311 P P 20 24 42.1 +0.2
GYA PP PP 20 28 25.0 +2.8
GYA SKS SKSac 20 35 10.3 -5.7

GYA				S	S	20 35 44.8	-1.4		
GYA				pmax	pmax				
	comp=Z,38nm,5.5s								
GYA				L	L				
	comp=Z,200nm,19.0s								
GYA				L	L				
	comp=Z,270nm,18.6s								
RAFF	**Raffo Rosso**	**92.47**	**28**	IAMs_20	IAMs_20	21 06 22.7			
	comp=Z,3µm,20.0s								
PEXB	**Peixe**	**92.55**	**104**	*e*P	**P**	**20 24 42.3**	**+0.1**		
GROC	**Groznyy**	**92.58**	**3**	*e*P	P	20 24 33.9	-8.1		
GROC				pmax	pmax				
	comp=Z,17nm,0.7s								
MAK	**Makhachkala**	**92.88**	**2**	*e*P	P	20 24 37.5	-5.9		
MAK				*e*		20 28 21.7			
MAK				*e*PPP	PPP	20 30 26.7			
MAK				*e*		20 35 07.9			
MAK				*e*SS	SS	20 42 03.4	+3.0		
MAK				*e*SSS	SSS	20 45 40.2			
MAK				pmax	pmax				
	comp=Z,18nm,0.4s								
MAK				MLR	MLR				
	comp=Z,2µm,18.0s								
ILGA	**Ilgaz**	**93.56**	**12**	IAMs_20	IAMs_20	21 11 21.7			
	comp=Z,3µm,19.0s								
VA01	**Torpederas**	**93.65**	**134**	IAMs_20	IAMs_20	20 57 19.1			
	comp=Z,3µm,22.0s								
BTK	**Batken**	**93.74**	**344**	IAMs_20	IAMs_20	21 12 05.9			
	comp=Z,3µm,18.0s								
WDD	**Wied Dalam**	**93.78**	**28**	IAMs_20	IAMs_20	21 10 17.4			
	comp=Z,3µm,19.0s								
MT02	**Curacav**	**94.10**	**134**	IAMs_20	IAMs_20	20 57 32.9			
	comp=Z,3µm,21.0s								
DRK	**Karamyk**	**94.11**	**343**	IAMs_20	IAMs_20	21 08 23.4			
	comp=Z,4µm,22.0s								
MXZ	**Matakaoa Point**	**94.12**	**219**	IAMs_20	IAMs_20	21 01 06.6			
	comp=Z,3µm,20.0s								
VA05	**Santo Domingo**	**94.17**	**135**	IAMs_20	IAMs_20	20 57 32.7			
	comp=Z,3µm,21.0s								
OUZ	**Omahuta**	**94.42**	**223**	IAMs_20	IAMs_20	21 01 17.2			
	comp=Z,3µm,20.0s								
MT01	**Popeta**	**94.51**	**134**	IAMs_20	IAMs_20	20 57 44.0			
	comp=Z,3µm,22.0s								
MT09	**Talagante**	**94.58**	**134**	IAMs_20	IAMs_20	20 57 46.7			
	comp=Z,3µm,22.0s								
ITM	**Ithomi**	**94.80**	**22**	IAMs_20	IAMs_20	21 11 24.2			
	comp=Z,3µm,18.0s								
BR131	**Keskin Array S**	**94.85**	**13**⇓	*e*P	**P**	**20 24 52.7**	**0.0**		
BRTR	**Keskin Array B**	**94.85**	**13**	P	**P**	**20 24 51.6**	**-1.1**		
	comp=Z,0.5nm,0.8s,baz=350,slow=6.3,SNR=4.0								
BRTR	**Keskin Array B**	**94.85**	**13**	*i* P	**P**	**20 24 54.5**	**+1.8**		
BRTR	**Keskin Array B**	**94.85**	**13**	P	**P**	**20 24 50.0**	**-2.8**		
GAR	**Garm**	**94.86**	**344**	P	**P**	**20 24 52.6**	**-0.2**		
BO01	**Tunca**	**95.01**	**135**	IAMs_20	IAMs_20	20 57 57.2			
	comp=Z,3µm,22.0s								
GO05	**Huala**	**95.08**	**136**	IAMs_20	IAMs_20	20 57 22.8			
	comp=Z,3µm,22.0s								
SDBA	**SAO DESIDERIO**	**95.13**	**102**	*e*P	**P**	**20 24 53.0**	**-1.1**		
BDFB	**Brasilia**	**95.22**	**107**	LR	LR	21 11 03.7			
	comp=Z,2µm,20.5s,baz=314,slow=38								
URZ	**Urewera**	**95.23**	**219**	LR	LR	20 59 51.2			
	comp=Z,1µm,21.8s,baz=31,slow=30								
URZ	**Urewera**	**95.23**	**219**	IAMs_20	IAMs_20	21 03 38.0			
	comp=Z,2µm,20.0s								
DAV	**Davao City (W)**	**95.25**	**285**	IAMs_20	IAMs_20	21 01 40.9			
	comp=Z,3µm,20.0s								
BO02	**Sierra Bellavi**	**95.48**	**135**	IAMs_20	IAMs_20	20 58 11.6			
	comp=Z,1µm,22.0s								
GNI	**Garni**	**95.58**	**4**	LR	LR	21 13 27.4			
	comp=Z,1µm,18.9s,baz=5.0,slow=39								
KMI	**Kunming**	**95.60**	**314**	⇑P	**P**	**20 24 58.3**	**+1.8**		
KMI				pP	sP	20 25 00.5	+1.6		
KMI				PP	**PP**	**20 28 42.0**	**-4.9**		
KMI				S	**S**	**20 36 07.6**	**-6.5**		
KMI				SS	**SS**	**20 42 39.7**	**-1.5**		
KMI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KMI				pmax	pmax				
	comp=Z,190nm,7.3s								
KMI				L	L				
	comp=Z,1µm,19.5s								
KMI				L	L				
	comp=Z,2µm,24.1s								
KMI				L	L				
	comp=Z,1µm,23.9s								
ISP	**Isparta**	**96.16**	**15**	IAMs_20	IAMs_20	21 08 07.8			
	comp=Z,3µm,21.0s								
BKZ	**Black Stump Fm**	**96.25**	**219**	IAMs_20	IAMs_20	21 02 48.9			
	comp=Z,3µm,19.0s								
HIZ	**Hauiti**	**96.47**	**220**	IAMs_20	IAMs_20	21 03 42.3			
	comp=Z,2µm,19.0s								
QIZ	**Qiongzhong**	**96.52**	**305**	P	**P**	**20 24 59.9**	**-0.6**		
QIZ				PP	**PP**	**20 28 55.6**	**+1.6**		
QIZ				L	L				
	comp=Z,760nm,26.0s								
QIZ				L	L				
	comp=Z,1µm,21.6s								
QIZ				L	L				
	comp=Z,1µm,16.7s								
IDI	**Anoyia**	**97.36**	**20**	LR	LR	21 10 42.9			
	comp=Z,917nm,19.5s,baz=322,slow=36								
FAKI	**Fak Fak**	**97.57**	**273**	IAMs_20	IAMs_20	21 01 21.7			
	comp=Z,4µm,20.0s								
BFZ	**Birch Farm**	**97.59**	**218**	IAMs_20	IAMs_20	21 04 24.4			
	comp=Z,3µm,19.0s								
GEYT	**Alibeck**	**97.60**	**354**	LR	LR	21 14 33.4			
	comp=Z,3µm,19.3s,baz=235,slow=39								
GYA0B	**ALIBECK ARRAY**	**97.60**	**354**	IAMs_20	IAMs_20	21 14 31.4			
	comp=Z,4µm,20.0s								
KARP	**Karpathos**	**97.65**	**19**	IAMs_20	IAMs_20	21 11 44.8			
	comp=Z,2µm,20.0s								
SNZO	**South Karori**	**98.79**	**219**	IAMs_20	IAMs_20	21 03 39.1			
	comp=Z,3µm,20.0s								
GO06	**Curarrehue**	**98.91**	**138**	IAMs_20	IAMs_20	21 01 18.3			
	comp=Z,3µm,20.0s								
NIL	**Nilore**	**99.37**	**341**	IAMs_20	IAMs_20	21 13 28.1			
	comp=Z,4µm,20.0s								
KBL	**Kabul**	**99.43**	**344**	IAMs_20	IAMs_20	21 12 22.4			
	comp=Z,3µm,22.0s								
LL03	**Petrohue**	**99.69**	**140**	IAMs_20	IAMs_20	21 01 25.1			
	comp=Z,3µm,19.0s								
LL07	**Hotel Espejo d**	**100.55**	**141**	IAMs_20	IAMs_20	21 00 39.7			
	comp=Z,3µm,19.0s								
LL01	**San Ignacio de**	**100.67**	**140**	IAMs_20	IAMs_20	21 02 30.9			
	comp=Z,3µm,18.0s								
HRA	**Herat**	**100.68**	**350**	IAMs_20	IAMs_20	21 12 52.1			
	comp=Z,4µm,22.0s								
LL02	**Futaleuf**	**101.56**	**141**	IAMs_20	IAMs_20	21 01 15.6			
	comp=Z,2µm,20.0s								
SAUI	**Saumlaki**	**101.75**	**270**	IAMs_20	IAMs_20	21 08 10.5			
	comp=Z,4µm,21.0s								
TOLI2	**Tolitoli**	**102.83**	**284**	IAMs_20	IAMs_20	21 03 33.9			
	comp=Z,2µm,22.0s								
GO09	**Cerro Castillo**	**107.65**	**146**	IAMs_20	IAMs_20	21 04 37.8			
	comp=Z,3µm,19.0s								
SOEI	**Soe**	**107.99**	**274**	IAMs_20	IAMs_20	21 15 05.8			
	comp=Z,2µm,20.0s								
CAN	**Canberra**	**108.10**	**238**	IAMs_20	IAMs_20	21 17 05.9			
	comp=Z,2µm,20.0s								
MMRI	**Maumere**	**108.67**	**276**	IAMs_20	IAMs_20	21 12 06.7			
	comp=Z,2µm,20.0s								
ASAR	**Alice Springs**	**110.40**	**257**	PP	**PP**	**20 30 34.7**	**-3.8**		
	comp=Z,1.0nm,1.0s,baz=49,slow=4.3,SNR=4.9								
RAYN	**Ar Rayn**	**112.17**	**4**	IAMs_20	IAMs_20	21 27 50.5			
	comp=Z,1µm,19.0s								
TAU	**Tasmania Unive**	**114.02**	**233**	IAMs_20	IAMs_20	21 16 43.3			
	comp=Z,3µm,20.0s								
EFI	**East Falkland**	**114.12**	**140**	IAMs_20	IAMs_20	21 09 21.8			
	comp=Z,2µm,20.0s								
MBWA	**Marble Bar**	**118.83**	**268**	IAMs_20	IAMs_20	21 22 18.0			
	comp=Z,2µm,19.0s								
FURI	**Furi**	**125.86**	**14**	IAMs_20	IAMs_20	21 34 08.0			
	comp=Z,1µm,20.0s								
SBA	**Scott Base**	**127.93**	**194**	IAMs_20	IAMs_20	21 18 27.4			
	comp=Z,1µm,20.0s								
VNDA	**Vanda**	**128.62**	**195**	PKP	**PKPdf**	**20 30 35.9**	**-0.4**		
	comp=Z,2.2nm,0.9s,baz=98,slow=1.0,SNR=8.6								
VNDA	**Vanda**	**128.62**	**195**	PKIKP	**PKiKP**	**20 30 38.3**	**+1.4**		
VNDA	**Vanda**	**128.62**	**195**		**PKiKP**	**20 30 38.3**	**+1.4**		
LODK	**Lodwar**	**130.50**	**19**	IAMs_20	IAMs_20	21 35 08.1			
	comp=Z,2µm,18.0s								
QSPA	**South Pole Qui**	**134.32**	**180**		**PKPdf**	**20 30 47.8**	**+0.4**		
KMBO	**Kilima Mbogo**	**135.34**	**18**	PKIKP	**PKPdf**	**20 30 51.3**	**+0.1**		
	comp=Z,2.2nm,1.1s,baz=322,slow=4.0,SNR=4.2								
KMBO	**Kilima Mbogo**	**135.34**	**18**		**PKPdf**	**20 30 51.3**	**+0.1**		
KMBO	**Kilima Mbogo**	**135.34**	**18**		**PKPdf**	**20 30 51.3**	**+0.1**		
KIBK	**Kibwezi**	**136.69**	**18**	IAMs_20	IAMs_20	21 34 57.5			
	comp=Z,2µm,20.0s								
MSEY	**Mahe Island**	**140.03**	**351**	IAMs_20	IAMs_20	21 36 28.4			
	comp=Z,1µm,21.0s								
VNA3	**Neumayer Olymp**	**141.08**	**154**	PKPdf	**PKiKP**	**20 31 01.2**	**-1.2**		
CASY	**Casey**	**141.39**	**214**	IAMs_20	IAMs_20	21 21 12.3			
	comp=Z,2µm,22.0s								
SNAA	**Sanae**	**143.09**	**155**	PKPdf	**PKPdf**	**20 31 04.0**	**+0.7**		
SNAA	**Sanae**	**143.09**	**155**	IAMs_20	IAMs_20	21 25 38.6			
	comp=Z,2µm,19.0s								
NVL	**N'lazarevskaya**	**147.74**	**157**	*i* PKP2	**PKPab**	**20 31 17.9**	**+1.4**		
NVL				pmax	pmax				
	comp=Z,57nm,1.4s								
BOSA	**Boshof**	**154.70**	**59**	PKPab	**PKPab**	**20 31 47.5**	**+0.8**		
	comp=Z,12nm,0.9s,baz=344,slow=3.2,SNR=8.9								
SYO	**Syowa Base**	**154.87**	**171**⇓	*ep*PKiKP	**PKiKP**	**20 31 35.0**	**+4.2**		
SYO	**Syowa Base**	**154.87**	**171**⇓	*e*PKPab	**PKPab**	**20 31 45.8**	**-0.3**		

IDC 01 20:19:46.1±2.0, 1°.94N×127°.20E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/35, mbtmp3.4/4, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=121.4km s-min=24.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.97**	**184**	P	P	20 24 20.6	+0.6
	0.1nm,0.3s,baz=354,slow=8.4,SNR=1.4						
FITZ				LR	LR	20 33 27.6	
	comp=Z,62nm,19.1s,baz=204,slow=41						
WRA	**Warramunga Arr**	**22.85**	**162**	P	P	20 24 51.0	-0.2
	0.3nm,0.3s,baz=340,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**26.27**	**166**	P	P	20 25 22.9	-0.5
	0.1nm,0.3s,baz=346,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**59.29**	**326**	P	P	20 29 49.9	+0.2
	0.3nm,0.4s,baz=117,slow=8.8,SNR=5.8						

AEIC 01 21:13:50.7±0.6, 56°.61N±0°.04×156°.40W±0°.07, h71km±8km, ML2.6/13, ML2.8/12(NEIC), Error ellipse: s-maj=6.9km s-min=4.0km az=141.0, Alaska Península

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLK3	**Peulik 3**	**1.08**	**4**		Pn	21 14 09.6	-0.6
PLK3					Sn	21 14 24.7	-0.2
PLK1	**Peulik 1**	**1.20**	**355**		Pn	21 14 10.9	-0.8
SII	**Sitkinak Islan**	**1.23**	**91**		Pn	21 14 11.4	-0.7
SII					Sn	21 14 27.4	-0.6
SII				IAML		21 14 43.0	
	comp=N,150nm,0.6s						
VNHG	**Veniaminof 1**	**1.59**	**257**		Pn	21 14 16.0	-0.9
ANCK	**Angle Creek**	**1.67**	**17**		Pn	21 14 17.2	-0.7
KABU	**Katmai Buttres**	**1.77**	**19**		Pn	21 14 18.9	-0.4
OHAK	**Old Harbor**	**1.81**	**69**		Pn	21 14 18.8	-0.9
OHAK					Sn	21 14 40.5	-1.3
OHAK				IAML		21 14 41.8	
	comp=E,79nm,0.2s						
OHAK				IAML		21 14 41.8	
	comp=N,91nm,0.2s						
KDAK	**Kodiak Island**	**2.38**	**59**		Pn	21 14 26.4	-1.0
KDAK	**Kodiak Island**	**2.38**	**59**	IAML		21 14 54.6	
	comp=N,57nm,0.4s						
SDPT	**Sand Point**	**2.62**	**243**	Pn	Pn	21 14 29.6	-1.0
SDPT				IAML		21 15 03.2	
	comp=N,42nm,2.0s						
CNPM	**China Poot**	**4.01**	**41**		Pn	21 14 48.5	-1.0
SVW2	**Sparrevohn**	**4.52**	**5**	Pn	Pn	21 14 55.6	-0.9
SVW2				IAML		21 15 44.2	
	comp=N,8.2nm,4.7s						
SLKM	**Skilak Lake**	**5.07**	**37**		Pn	21 15 03.4	-0.7

*MDD **01** 21:18:38.9±1.8, 39°.55N×13°.01W, h0km, mb3.9/2, Error ellipse: s-maj=16.5km s-min=10.1km az=77.0, PRXIMO*
*IGIL **01** 21:18:39.8, 39°.53N×13°.30W, h55km, ML1.7*
*INMG **01** 21:18:41.0±1.2, 39°.53N×13°.45W, h10km, ML2.1, Error ellipse: s-maj=7.2km s-min=3.8km az=83.0*

ISC 01 21:18:34.0±2.8, 39°.55N±0°.05×13°.2W±0°.2, h10km, n44, σ2s43/77, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**3.13**	**100**	P	**Pb**	**21 19 27.6**	**-2.1**
	1.8nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**21 20 01.1**	**+0.3**
	6.2nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.13**	**100**	*e*Pn	**Pn**	**21 19 26.5**	**+3.1**
PMAFR				*e*Sn	**Sn**	**21 20 01.1**	**+0.3**
PMAFR				A	A	21 20 04.5	
	8.0nm,0.5s						
PCAS	**Casmilo, Conde**	**3.69**	**81**	*e*Sn	**Sn**	**21 20 13.5**	**-1.0**
PCAS				A	A	21 20 17.7	
	1.8nm,0.3s						
PMTG	**Montargil**	**3.92**	**95**	*e*Pn	**Pn**	**21 19 37.5**	**+3.3**
PMTG				*e*Sn	**Sn**	**21 20 20.9**	**+0.6**
PMTG				A	A	21 20 23.4	
	1.8nm,0.2s						
PMTG				A	A	21 20 26.8	
	3.0nm,0.7s						
PNCL	**Nicolau / Gran**	**3.95**	**110**	*e*Pn	**Pn**	**21 19 37.8**	**+3.1**
PNCL				*e*Sn	**Sn**	**21 20 19.7**	**-1.3**
PNCL				A	A	21 20 22.9	
	2.2nm,0.1s						
PTEO	**Sao Teotonio**	**4.07**	**118**	*e*Pn	**Pn**	**21 19 38.6**	**+2.3**
PTEO				*e*Sn	**Sn**	**21 20 23.4**	**-0.5**
PTEO				A	A	21 20 26.6	
	5.3nm,0.4s						
PFVI	**Vila Bisbo**	**4.23**	**123**	P	**Pn**	**21 19 39.7**	**+1.2**
	2.7nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**21 20 25.2**	**-2.7**
	5.1nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.23**	**123**	*e*Sn	**Sn**	**21 20 25.2**	**-2.7**
PVIS	**Viseu**	**4.26**	**72**	P	**Pn**	**21 19 41.5**	**+2.5**
PVIS				S	**Sn**	**21 20 28.0**	**-0.7**
	1.4nm,0.1s						
PVIS	**Viseu**	**4.26**	**72**	*e*Pn	**Pn**	**21 19 41.5**	**+2.5**
PVIS				*e*Sn	**Sn**	**21 20 28.0**	**-0.7**
PVIS				A	A	21 20 29.5	
	2.8nm,0.1s						
MESJ	**Messejana**	**4.28**	**112**	*e*P	**Pn**	**21 19 41.3**	**+2.1**
MESJ				*e*S	**Sn**	**21 20 26.3**	**-3.0**
MESJ				IAML		21 20 28.1	
	comp=N,1.3nm,0.2s						
MESJ	**Messejana**	**4.28**	**112**	P	**Pn**	**21 19 41.3**	**+2.1**
MESJ				S	**Sn**	**21 20 26.3**	**-3.0**
EZAM	**Zamans**	**4.31**	**52**	P	**Pn**	**21 19 42.8**	**+3.1**
	comp=N,1.4nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.44**	**97**	*e*Sn	**Sn**	**21 20 32.3**	**-0.9**
PCBR	**Castelo Branco**	**4.45**	**84**	S	**Sn**	**21 20 31.7**	**-1.8**
PCBR	**Castelo Branco**	**4.45**	**84**	*e*Sn	**Sn**	**21 20 31.7**	**-1.8**
PGAV	**Gavieira, Arco**	**4.48**	**56**	P	**Pn**	**21 19 44.5**	**+2.5**
PGAV				S	**Sn**	**21 20 33.0**	**-1.2**
	comp=N,2.3nm,0.7s						
PGAV	**Gavieira, Arco**	**4.48**	**56**	*e*Pn	**Pn**	**21 19 44.5**	**+2.5**
PGAV				*e*Sn	**Sn**	**21 20 33.0**	**-1.2**
PGAV				A	A	21 20 37.6	
	comp=N,2.3nm,0.7s						
PCVE	**Castro Verde**	**4.50**	**114**	P	**Pn**	**21 19 45.8**	**+3.5**
PCVE				S	**Sn**	**21 20 33.0**	**-1.7**
	comp=N,3.6nm,0.6s						
PCVE	**Castro Verde**	**4.50**	**114**	*e*Pn	**Pn**	**21 19 45.8**	**+3.5**
PCVE				*e*Sn	**Sn**	**21 20 33.0**	**-1.7**
PCVE				A	A	21 20 41.4	
	comp=N,3.6nm,0.6s						
PCAB	**Cabril**	**4.51**	**60**	P	**Pn**	**21 19 45.3**	**+2.9**
PCAB				S	**Sn**	**21 20 34.4**	**-0.6**
	comp=N,1.8nm,0.6s						
PCAB	**Cabril**	**4.51**	**60**	*e*Pn	**Pn**	**21 19 45.3**	**+2.9**
PCAB				*e*Sn	**Sn**	**21 20 34.4**	**-0.6**
PCAB				A	A	21 20 43.4	
	comp=N,3.5nm,0.6s						
PMRV	**Marv??o**	**4.53**	**90**	P	**Pn**	**21 19 45.7**	**+3.1**
PMRV				S	**Sn**	**21 20 34.0**	**-1.3**
	comp=N,1.5nm,0.2s						
PMRV	**Marv??o**	**4.53**	**90**	*e*Pn	**Pn**	**21 19 45.7**	**+3.1**
PMRV				*e*Sn	**Sn**	**21 20 34.0**	**-1.3**
PMRV				A	A	21 20 40.0	
	comp=N,1.5nm,0.2s						
POLO	**Lamas de Olo**	**4.53**	**65**	P	**Pn**	**21 19 46.1**	**+3.3**
POLO				S	**Sn**	**21 20 34.7**	**-0.9**
	comp=N,0.8nm,0.5s						
POLO	**Lamas de Olo**	**4.53**	**65**	*e*Pn	**Pn**	**21 19 46.1**	**+3.3**
POLO				*e*Sn	**Sn**	**21 20 34.7**	**-0.9**
POLO				A	A	21 20 55.7	
	comp=N,0.8nm,0.5s						
ELOB	**Lobios**	**4.56**	**58**	P	**Pn**	**21 19 46.3**	**+3.1**
	comp=N,0.8nm,0.1s,SNR=6.7						
ELOB				S	**Sn**	**21 20 34.1**	**-2.2**
	comp=N,1.4nm,0.0s,SNR=7.9						
EMAZ	**Mazaricos**	**4.67**	**42**	P	**Pn**	**21 19 47.4**	**+2.8**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**21 20 33.8**	**-5.1**
	comp=N,1.4nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.83**	**115**	P	**Pn**	**21 19 49.7**	**+2.9**
PVAQ				S	**Sn**	**21 20 40.4**	**-2.5**
	comp=N,1.6nm,0.2s						
PVAQ	**Vaqueiros**	**4.83**	**115**	*e*Pn	**Pn**	**21 19 49.7**	**+2.9**
PVAQ				*e*Sn	**Sn**	**21 20 40.4**	**-2.5**
PVAQ				A	A	21 20 44.2	
	comp=N,1.6nm,0.2s						
EBAD	**Badajoz**	**4.90**	**97**	P	**Pn**	**21 19 50.9**	**+3.1**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 20 43.0**	**-1.6**
	comp=N,1.2nm,0.1s,SNR=5.1						
EGRO	**El Granado**	**4.94**	**112**	P	**Pn**	**21 19 50.7**	**+2.4**
	comp=N,0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 20 43.5**	**-2.0**
	comp=N,0.5nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**5.01**	**69**	P	**Pn**	**21 19 52.9**	**+3.6**
	comp=N,0.5nm,0.2s,SNR=4.0						
MVO				S	**Sn**	**21 20 45.7**	**-1.6**
	comp=N,0.7nm,0.1s,SNR=6.5						
MVO	**Moncorvo**	**5.01**	**69**	*e*Sn	**Sn**	**21 20 45.9**	**-1.4**
PBAR	**Barrancos**	**5.03**	**104**	P	**Pn**	**21 19 52.5**	**+3.0**
PBAR				S	**Sn**	**21 20 46.7**	**-1.0**
	comp=N,1.1nm,0.2s						
PBAR	**Barrancos**	**5.03**	**104**	*e*Pn	**Pn**	**21 19 52.5**	**+3.0**
PBAR				*e*Sn	**Sn**	**21 20 46.7**	**-1.0**
PBAR				A	A	21 20 49.2	
	comp=N,1.1nm,0.2s						
EAGO	**Agolada(Pontev**	**5.06**	**48**	P	**Pn**	**21 19 52.5**	**+2.6**
	comp=N,0.5nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**21 20 44.7**	**-3.8**
	comp=N,1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.44**	**107**	P	**Pn**	**21 19 57.7**	**+2.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 20 55.7**	**-2.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.48**	**62**	P	**Pn**	**21 19 58.5**	**+2.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**21 20 57.4**	**-1.5**
	comp=N,1.7nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.54**	**82**	S	**Sn**	**21 20 59.3**	**-0.9**
	comp=N,0.5nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.93**	**49**	P	**Pn**	**21 20 04.8**	**+2.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**21 21 06.6**	**-3.2**
	comp=N,0.7nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.28**	**101**	S	**Sn**	**21 21 15.9**	**-2.8**
	comp=N,0.6nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**6.87**	**87**	S	**Sn**	**21 21 30.5**	**-2.7**
	comp=N,1.1nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.90**	**99**	S	**Sn**	**21 21 33.7**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						

*IDC **01** 21:43:51.8±1.5, 15°.81S×173°.61W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/33, mbtmp4.1/8, ML4.3/1, Error ellipse: s-maj=79.0km s-min=18.3km az=148.0*
*NEIC **01** 21:43:53.9±3.0, 15°.62S±0°.06×173°.5W±0°.1, h10km±1km, mb4.2/6, Error ellipse: s-maj=20.6km s-min=9.2km az=108.0*

ISC 01 21:43:56.8±0.7, 15°.68S±0°.09×173°.5W±0°.1, h35km, n20, σ1s38/22, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.46**	**44**	Pn	**Pn**	**21 44 34.2**	**-0.2**
	61nm,0.3s,baz=192,slow=2.3,SNR=24						
AFI				Sn	**Sn**	**21 44 59.4**	**-3.9**
	244nm,0.3s,baz=40,slow=23,SNR=8.0						
NIUE	**Niue**	**4.83**	**135**		**Pn**	**21 45 07.1**	**0.0**
KNTN	**Kanton**	**12.95**	**8**	Pn	**Pn**	**21 46 59.3**	**+0.8**
STKA	**Stephens Creek**	**43.78**	**240**	P	**P**	**21 51 57.7**	**-1.6**
	1.9nm,0.7s,baz=65,slow=8.1,SNR=4.8						
STKA	**Stephens Creek**	**43.78**	**240**	P	**P**	**21 51 57.9**	**-1.4**
STKA				IAmb	IAmb	21 52 14.6	
	comp=Z,2.2nm,1.5s						
WR0	**Warramunga Arr**	**49.45**	**257**	P	**P**	**21 52 43.0**	**-0.9**
WB0	**Warramunga Arr**	**49.61**	**257**	P	**P**	**21 52 45.3**	**+0.2**
WB0				IAmb	IAmb	21 53 04.2	
	comp=Z,4.3nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.07**	**258**	*iP*	**Pg**	**22 50 29.9**	**-0.2**
UPD2				*i* S	**Sg**	**22 50 32.2**	**+0.1**
UPD2				*i* S	**Sg**	**22 50 32.3**	**+0.2**
UPD2	**Meteti**	**0.07**	**258**	*eP*	**Pg**	**22 50 29.9**	**-0.2**
UPD2				*e*S	**Sg**	**22 50 32.3**	**+0.2**
UPD2				*i*		22 50 33.0	
	comp=Z,779nm,0.2s						
CAP2	**Capurgana**	**0.58**	**81**	*iP*	**Pg**	**22 50 38.4**	**0.0**
CAP2				*i* S	**Sg**	**22 50 46.8**	**+0.6**
CAPC	**Capurgana**	**0.59**	**83**	*eP*	**Pg**	**22 50 38.4**	**-0.1**
CAPC				*e*S	**Sg**	**22 50 46.7**	**+0.4**
CAPC				*i*		22 50 47.6	
	comp=Z,51nm,0.1s						
CHPO	**Chepo, Panama**	**1.31**	**298**	*e*P	**Pn**	**22 50 49.1**	**-1.3**
PTAC	**Punta Ardita,**	**1.41**	**175**	*e*S	**Sb**	**22 51 08.7**	**-2.0**
PTAC				*i*		22 51 11.3	
	comp=Z,39nm,0.2s						
UPA	**Univ. de Panam**	**1.63**	**285**	*e*P	**Pn**	**22 50 54.0**	**-0.9**
MIRA3	**Miramar, Colon**	**1.70**	**306**	*e*P	Pn	22 50 53.8	-2.1
CHOR3	**La Chorrera**	**1.83**	**281**	*e*P	**Pn**	**22 50 56.9**	**-0.8**
ZANG	**Zanguenga, Cho**	**1.94**	**282**	*e*P	**Pn**	**22 51 00.0**	**+0.8**
BCIP	**Isla Barro Col**	**1.97**	**288**	*i* P	**Pn**	**22 51 01.1**	**+1.5**
BCIP				*e*S	**Sn**	**22 51 22.0**	**-1.9**
BCIP	**Isla Barro Col**	**1.97**	**288**	*e*P	**Pn**	**22 51 01.0**	**+1.4**
BCIP				*e*S	**Sn**	**22 51 26.1**	**+2.2**
BCIP				*i*		22 51 30.4	
	comp=Z,5.5nm,0.7s						
AZU	**Azuero**	**2.43**	**252**	*e*P	**Pn**	**22 51 08.3**	**+2.3**

AEIC ***01*** *22:52:30.9±2.6,51˚14N±0˚07×177˚98W±0˚05,h28km±3km, Error ellipse: s-maj=10.0km s-min=4.3km az=167.0*

NEIC ***01*** *22:52:31.9±2.5,51˚26N±0˚06×178˚04W±0˚05,h35km±1km, mb5.1/463,ML5.2/47(AEIC),Error ellipse: s-maj=10.6km s-min=4.9km az=170.0*

MOS ***01*** *22:52:32.6±1.2,51˚47N×178˚08W,h58km,mb5.2/25, MS4.4/15,Error ellipse: s-maj=7.3km s-min=5.0km az=107.6*

IDC ***01*** *22:52:32.6±1.3,51˚44N×178˚10W,h46km±11km,mb4.4/35, mb1 4.6/38,mb1mx4.5/51,mbtmp4.7/38,ML5.1/2,MS4.2/35, Ms1 4.3/35,ms1mx4.2/47,Error ellipse: s-maj=12.6km s-min=8.9km az=164.0*

BGR ***01*** *22:52:33.3±0.0,51˚48N×178˚56W,h33km,mb5.1,Ms4.3*

BJI ***01*** *22:52:33.1±0.0,51˚79N×178˚62W,h44km,mB5.1/37, mb5.1/61,Ms4.7/39,Ms7 4.4/37*

ISC 01 22:52:32.9±0.5,51˚36N±0˚05×178˚06W±0˚03,h50km±3km, h50km:pP-P,n762,σ1§21/630,mb5.0/312,MS4.4/61, 71C-18D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.47**	**2**		**Pn**	**22 52 44.3**	**+0.3**
TAFP	**Tanaga Falls P**	**0.54**	**5**		**Pn**	**22 52 45.0**	**+0.2**
GALAA	**Gareloi Lava P**	**0.60**	**312**		**Pn**	**22 52 45.8**	**+0.4**
GAEA	**Gareloi East**	**0.60**	**315**		**Pn**	**22 52 46.0**	**+0.6**
KIMD	**Kanaga Island**	**0.65**	**52**		**Pn**	**22 52 45.3**	**-0.8**
KIWB	**Kanaga Island**	**0.75**	**49**		**Pn**	**22 52 45.3**	**-2.1**
KIKV	**Kanaga Island**	**0.76**	**47**		**Pn**	**22 52 47.1**	**-0.3**
KICM	**Kanaga Island**	**0.78**	**44**		**Pn**	**22 52 47.6**	**0.0**
ADK	**Adak**	**1.01**	**58**	P	**Pn**	**22 52 49.9**	**-0.8**
ADK						22 53 03.9	
ADK	**Adak**	**1.01**	**58**		**Pn**	**22 52 49.9**	**-0.8**
ADK				Sn	**Sn**	**22 53 03.9**	**0.0**
ADAG	**Mount Adagdak**	**1.10**	**55**		**Pn**	**22 52 52.0**	**0.0**
ETKA	**Kagalaska Isla**	**1.15**	**64**		**Pn**	**22 52 51.9**	**-0.8**
ETKA					**Sn**	**22 53 06.9**	**-0.3**
GSTD	**Great Sitkin T**	**1.38**	**59**		**Pn**	**22 52 55.7**	**-0.1**
GSMY	**Great Sitkin M**	**1.42**	**61**		**Pn**	**22 52 56.2**	**-0.2**
GSTR	**Great Sitkin T**	**1.45**	**59**	Pn	**Pn**	**22 52 56.8**	**+0.1**
CERAA	**Semis' Rag'd T**	**1.50**	**292**		**Pn**	**22 52 58.5**	**+1.1**
CESW	**Semis' Southwe**	**1.57**	**291**		**Pn**	**22 52 59.1**	**+0.7**
CEAP	**Semis' Anvil P**	**1.60**	**294**		**Pn**	**22 53 00.0**	**+1.2**
AMKA	**Amchitka**	**1.65**	**272**	Pn	**Pn**	**22 52 58.2**	**-1.2**
AMKA					**Sn**	**22 53 18.7**	**-0.8**
LSPA	**Little Sitkin**	**2.18**	**287**		**Pn**	**22 53 07.9**	**+1.2**
LSNW	**Little Sitkin**	**2.21**	**287**		**Pn**	**22 53 08.3**	**+1.1**
ATKA	**Atka Island**	**2.55**	**69**	Pn	**Pn**	**22 53 10.5**	**-1.2**
ATKA	**Atka Island**	**2.55**	**69**		**Sn**	**22 53 42.2**	**+0.8**
KOKL	**Mount Kliuchef**	**2.58**	**67**		**Pn**	**22 53 12.6**	**+0.4**
KOFP	**Korovin Flat P**	**2.63**	**68**		**Pn**	**22 53 12.9**	**+0.1**
SMY	**Shemya**	**5.03**	**289**	P	**Pn**	**22 53 46.5**	**+0.8**
SMY	**Shemya**	**5.03**	**289**	Pn	**Pn**	**22 53 46.5**	**+0.8**
NIKH	**Nikolski High**	**5.89**	**71**		**Pn**	**22 53 58.5**	**+1.0**
NIKH	**Nikolski High**	**5.89**	**71**	P		22 53 58.1	
	baz=256,SNR=40						
OKSO	**Okmok South**	**6.39**	**68**		**Pn**	**22 54 05.7**	**+1.4**
OKFG	**Magazine Ridge**	**6.54**	**68**		**Pn**	**22 54 08.8**	**+2.3**
MAPS	**Pakushin South**	**7.21**	**66**		**Pn**	**22 54 16.5**	**+1.0**
MGOD	**Makushin Gods**	**7.24**	**66**		**Pn**	**22 54 17.0**	**+0.9**
MSW	**Makushin Switc**	**7.33**	**65**		**Pn**	**22 54 18.5**	**+1.3**
MNAT	**Makushin Natee**	**7.37**	**66**		**Pn**	**22 54 19.3**	**+1.4**
MTBL	**Makushin Table**	**7.40**	**65**		**Pn**	**22 54 20.2**	**+1.9**
SPIA	**Saint Paul Isl**	**7.40**	**35**	Pn	**Pn**	**22 54 21.4**	**+3.1**
SPIA	**Saint Paul Isl**	**7.40**	**35**	P		22 54 20.6	
	baz=220,SNR=23						
AKRB	**Akutan Reef Bi**	**7.79**	**64**		**Pn**	**22 54 25.6**	**+2.1**
AKMO	**Akutan Morgan**	**7.81**	**65**		**Pn**	**22 54 26.2**	**+2.3**
AKGG	**Akutan Green G**	**7.85**	**64**		**Pn**	**22 54 26.4**	**+2.0**
AKBBA	**Akutan Broad B**	**7.86**	**65**		**Pn**	**22 54 26.2**	**+1.7**
AKLV	**Akutan Long Va**	**7.86**	**64**		**Pn**	**22 54 26.3**	**+1.7**
HSB	**Akutan Spr's B**	**7.89**	**64**		**Pn**	**22 54 26.9**	**+1.9**
AKUT	**Akutan**	**7.96**	**65**	Pn	**Pn**	**22 54 26.6**	**+0.8**
AKSA	**Akutan Strait**	**8.00**	**65**		**Pn**	**22 54 28.8**	**+2.4**
WECS	**Westdahl Cape**	**8.63**	**63**		**Pn**	**22 54 37.3**	**+2.2**
WESP	**Westdahl Peak**	**8.65**	**64**		**Pn**	**22 54 37.0**	**+1.7**
FALS	**False Pass**	**9.48**	**63**	Pn	**Pn**	**22 54 48.3**	**+1.8**
FALS	**False Pass**	**9.48**	**63**	P		22 54 46.5	
	baz=253						
SDPT	**Sand Point**	**11.24**	**62**	Pn	**Pn**	**22 55 09.9**	**-0.7**
SDPT	**Sand Point**	**11.24**	**62**	P		22 55 10.2	
	baz=255,SNR=9.5						
GAMB	**Gambell**	**12.90**	**13**	Pn	**Pn**	**22 55 35.3**	**+2.1**
GAMB	**Gambell**	**12.90**	**13**	P		22 55 34.0	
	baz=198						
PET	**Petropavlovsk**	**14.36**	**286**	*e*P	**P**	**22 56 03.4**	**+4.5**
PET				pmax	pmax		
	comp=Z,77nm,0.9s						
PET				MLR	MLR		
	comp=Z,3μm,15.0s						
PETK	**Petropavlovsk-**	**14.94**	**286**	P	**Pn**	**22 56 01.5**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=95,slow=18,SNR=9.8						
PETK				LR	LR	23 01 34.2	
	comp=Z,2μm,21.6s,baz=93,slow=36						
SII	**Sitkinak Islan**	**14.95**	**60**	Pn	**Pn**	**22 55 58.4**	**-2.4**
SII	**Sitkinak Islan**	**14.95**	**60**	P		22 55 58.2	
	baz=259,SNR=18						
OHAK	**Old Harbor**	**15.56**	**58**	Pn	**Pn**	**22 56 05.5**	**-3.2**
OHAK				IAmb	IAmb	22 56 16.8	
	comp=Z,95nm,0.5s						
OHAK	**Old Harbor**	**15.56**	**58**	P		22 56 05.4	
	baz=258,SNR=26						
SVW2	**Sparrevohn**	**15.77**	**43**	P	**Pn**	**22 56 12.8**	**+1.4**
KDAK	**Kodiak Island**	**16.05**	**56**	P	**Pn**	**22 56 12.1**	**-2.8**
	comp=Z,9.1nm,0.3s,baz=303,slow=6.2,SNR=50						
KDAK				S	**Sn**	**22 59 10.8**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=79,slow=22,SNR=6.1						
KDAK	**Kodiak Island**	**16.05**	**56**	P	**Pn**	**22 56 12.5**	**-2.4**
KDAK				pmax	pmax		
	comp=Z,74nm,0.6s						
KDAK	**Kodiak Island**	**16.05**	**56**	P	**Pn**	**22 56 12.5**	**-2.4**
KDAK				IAmb	IAmb	22 56 29.1	
	comp=Z,74nm,0.6s						
KDAK	**Kodiak Island**	**16.05**	**56**	P		22 56 12.1	
	baz=257						
TTA	**Tatalina**	**16.55**	**37**	P	**P**	**22 56 24.1**	**+0.9**
TTA				pmax	pmax		
	comp=Z,45nm,0.9s						
TTA	**Tatalina**	**16.55**	**37**	P	**P**	**22 56 24.1**	**+0.9**
TTA	**Tatalina**	**16.55**	**37**	P		22 56 23.0	
	baz=235,SNR=46						
HOM	**Homer**	**17.01**	**51**		**P**	**22 56 27.9**	**-0.4**
CNPM	**China Poot**	**17.17**	**51**		**P**	**22 56 29.9**	**-0.1**
CNPM				IAmb	IAmb	22 56 35.3	
	comp=Z,90nm,0.6s						
SPCR	**Spurr Chakacha**	**17.29**	**45**	P		22 56 31.6	
	baz=246,SNR=27						
BRLK	**Bradley Lake**	**17.41**	**51**		**Pn**	**22 56 32.0**	**0.0**
BRSE	**Bradley Lake S**	**17.47**	**51**	P		22 56 33.4	
	baz=253						
SKT	**Skwentna**	**17.90**	**43**		**P**	**22 56 39.2**	**+1.2**
SKT				IAmb	IAmb	22 56 46.8	
	comp=Z,108nm,0.8s						
SKT	**Skwentna**	**17.90**	**43**	P		22 56 39.1	
	baz=245,SNR=70						
PPLA	**Purkeypile**	**18.03**	**40**	IAmb	IAmb	22 56 57.0	
	comp=Z,76nm,0.6s						
PPLA	**Purkeypile**	**18.03**	**40**	P		22 56 40.7	
	baz=242,SNR=14						
SUA	**Susitna One**	**18.04**	**45**	P	**Pn**	**22 56 41.2**	**+1.4**
SUA	**Susitna One**	**18.04**	**45**	P		22 56 40.1	
	baz=248,SNR=5.9						
O22K	**Cooper Landing**	**18.18**	**49**	P	**Pn**	**22 56 42.4**	**+1.1**
O22K	**Cooper Landing**	**18.18**	**49**	P		22 56 40.6	
	baz=252						
SEW	**Seward**	**18.20**	**50**	IAmb	IAmb	22 56 47.0	
	comp=Z,99nm,0.6s						
SEW	**Seward**	**18.20**	**50**	P		22 56 41.4	
	baz=253,SNR=10						
RDOG	**Red Dog Mine**	**18.30**	**18**	P	**Pn**	**22 56 45.2**	**+2.4**
RC01	**Rabbit Creek A**	**18.36**	**47**	P	**Pn**	**22 56 44.1**	**+0.5**
RC01	**Rabbit Creek A**	**18.36**	**47**	P		22 56 43.2	
	baz=250,SNR=5.1						
BILL	**Bilibino**	**18.39**	**341**	*de*P	**Pn**	**22 56 45.4**	**+1.5**
BILL				*e*S	**Sn**	**23 00 08.5**	**+0.3**
BILL				pmax	pmax		
	comp=Z,53nm,0.7s						
BILL				MLR	MLR		
	comp=Z,791nm,21.0s						
BILL	**Bilibino**	**18.39**	**341**	P	**Pn**	**22 56 44.7**	**+0.9**
M22K	**Willow**	**18.42**	**45**	P		22 56 44.5	
	baz=248,SNR=7.6						
CUT	**Chulitna**	**18.61**	**43**	P	**P**	**22 56 45.8**	**0.0**
CUT				IAmb	IAmb	22 57 02.9	
	comp=Z,90nm,0.8s						
CUT	**Chulitna**	**18.61**	**43**	P		22 56 46.4	
	baz=246						
PMR	**Palmer**	**18.81**	**46**	P	**Pn**	**22 56 51.1**	**+2.2**
PMR				pmax	pmax		
	comp=Z,22nm,0.8s						
PMR	**Palmer**	**18.81**	**46**	P	**Pn**	**22 56 51.1**	**+2.2**
KTH	**Kantishna Hill**	**18.84**	**39**	IAmb	IAmb	22 56 55.0	
	comp=Z,119nm,0.7s						
PWL	**Port Wells**	**18.94**	**48**	IAmb	IAmb	22 57 00.8	
	comp=Z,52nm,0.6s						
TRF	**Thorofare Moun**	**19.05**	**40**	IAmb	IAmb	22 57 08.2	
	comp=Z,144nm,1.0s						
TRF	**Thorofare Moun**	**19.05**	**40**	P		22 56 51.7	
	baz=243,SNR=63						
KNK	**Knik Glacier**	**19.05**	**47**	P		22 56 52.1	
	baz=251,SNR=19						
BPAW	**Bear Paw Mtn.**	**19.08**	**38**	IAmb	IAmb	22 57 06.2	
	comp=Z,59nm,0.7s						
BPAW	**Bear Paw Mtn.**	**19.08**	**38**	P		22 56 51.9	
	baz=240,SNR=58						
IMAR	**Indian Mountai**	**19.15**	**31**	P	**Pn**	**22 56 53.1**	**+0.1**
SML	**Sawmill**	**19.24**	**46**	P	**Pn**	**22 56 53.7**	**-0.4**
SML	**Sawmill**	**19.24**	**46**	P		22 56 53.7	
	baz=250						
MA2	**Magadan**	**19.33**	**307**	P	**P**	**22 56 53.5**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=72,slow=10,SNR=5.3						
MA2				LR	LR	23 03 45.7	
	comp=Z,1μm,20.4s,baz=112,slow=35						
MA2	**Magadan**	**19.33**	**307**	*ie*P	**Pn**	**22 56 56.4**	**+1.3**
MA2				pmax	pmax		
	comp=Z,73nm,1.9s						
MA2	**Magadan**	**19.33**	**307**	P	**Pn**	**22 56 55.4**	**+0.3**
GLI	**Glacier Island**	**19.53**	**49**	IAmb	IAmb	22 57 02.4	
	comp=Z,72nm,0.6s						
GLI	**Glacier Island**	**19.53**	**49**	P		22 56 54.9	
	baz=254,SNR=16						
WAT2	**Susitna Watana**	**19.55**	**42**	P		22 56 55.4	
	baz=247,SNR=75						
SEY	**Seymchan**	**19.57**	**318**	P	**P**	**22 56 56.0**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=115,slow=12,SNR=39						
SEY				LR	LR	23 03 46.5	
	comp=Z,1μm,21.9s,baz=113,slow=35						
SEY	**Seymchan**	**19.57**	**318**	*ie*P	**Pn**	**22 56 57.6**	**-0.3**
Q23K	**Middleton Isla**	**19.57**	**53**	P		22 56 57.6	
	baz=259						
MID	**Middleton Isla**	**19.58**	**53**	P	**Pn**	**22 56 58.8**	**+0.7**
MID				pmax	pmax		
	comp=Z,171nm,0.6s						
MID	**Middleton Isla**	**19.58**	**53**	P	**Pn**	**22 56 58.8**	**+0.7**
RND	**Reindeer**	**19.61**	**41**	IAmb	IAmb	22 57 11.7	
	comp=Z,53nm,0.6s						
MLY	**Manley**	**19.64**	**35**	IAmb	IAmb	22 57 02.7	
	comp=Z,71nm,0.6s						
MLY	**Manley**	**19.64**	**35**	P		22 56 57.8	
	baz=238,SNR=156						
HIN	**Hinchinbrook I**	**19.70**	**50**	P	**Pn**	**22 56 59.6**	**0.0**
HIN				IAmb	IAmb	22 57 05.4	
	comp=Z,62nm,0.7s						
SCM	**Sheep Creek Mo**	**19.70**	**46**	IAmb	IAmb	22 57 05.4	
	comp=Z,84nm,0.6s						
MCK	**McKinley**	**19.72**	**40**	P		22 56 57.8	
	baz=244,SNR=31						
WAT6	**Susitna Watana**	**19.77**	**44**	P		22 56 57.7	
	baz=249,SNR=25						
FID	**Port Fidalgo**	**19.79**	**49**	IAmb	IAmb	22 57 02.9	
	comp=Z,68nm,0.8s						
NEA2	**Nenana**	**20.05**	**38**	IAmb	IAmb	22 57 15.0	
	comp=Z,178nm,1.4s						
NEA2	**Nenana**	**20.05**	**38**	P		22 57 01.7	
	baz=242,SNR=49						
EYAK	**Cordova Ski Ar**	**20.09**	**50**	P	Pn	22 57 04.3	+0.1
EYAK	**Cordova Ski Ar**	**20.09**	**50**	P		22 57 00.7	
	baz=257						
I23K	**Minto, Yukon-K**	**20.20**	**36**	IAmb	IAmb	22 57 22.1	
	comp=Z,90nm,0.8s						
I23K	**Minto, Yukon-K**	**20.20**	**36**	P		22 57 03.4	
	baz=240,SNR=52						
KLU	**Klutina**	**20.24**	**48**	IAmb	IAmb	22 57 15.4	
	comp=Z,59nm,0.7s						
KLU	**Klutina**	**20.24**	**48**	P		22 57 04.0	
	baz=254,SNR=29						
M24K	**Tolsona, Glenn**	**20.30**	**46**	P		22 57 04.3	
	baz=252,SNR=26						
H23K	**Yun River**	**20.48**	**34**	P		22 57 07.0	
	baz=238,SNR=55						
MDM	**Murphy Dome**	**20.54**	**37**	IAmb	IAmb	22 57 21.0	
	comp=Z,123nm,1.1s						
TCOL	**CIGO, UAF Yank**	**20.64**	**38**	IAmb	IAmb	22 57 24.1	
	comp=Z,66nm,0.8s						
TCOL	**CIGO, UAF Yank**	**20.64**	**38**	P		22 57 09.5	
	baz=243						
COLA	**College**	**20.64**	**38**	P	**P**	**22 57 08.5**	**+0.6**
COLA				pmax	pmax		
	comp=Z,65nm,0.8s						
COLA	**College**	**20.64**	**38**	P	**P**	**22 57 08.5**	**+0.6**
COLA				IAmb	IAmb	22 57 24.1	
	comp=Z,65nm,0.8s						
COLA	**College**	**20.64**	**38**	P		22 57 09.3	
	baz=243						
BMRM	**Bremner River**	**20.73**	**49**	P	Pn	22 57 11.4	-0.4
BMRM				IAmb	IAmb	22 57 17.7	
	comp=Z,84nm,0.8s						
BMRM	**Bremner River**	**20.73**	**49**	P		22 57 09.9	
	baz=257,SNR=20						
HMT	**Hamilton**	**20.77**	**51**	IAmb	IAmb	22 57 26.8	
	comp=Z,49nm,0.7s						
HDA	**Harding Lake**	**20.79**	**39**	P		22 57 09.5	
	baz=245						
HDA				P		22 57 09.5	
	baz=245						
HARP	**HAARP**	**20.84**	**45**	P		22 57 11.0	
	baz=253,SNR=18						
PAX	**Paxson**	**20.88**	**44**	IAmb	IAmb	22 57 28.4	
	comp=Z,60nm,0.8s						
PAX	**Paxson**	**20.88**	**44**	P		22 57 11.7	
	baz=251						
N25K	**Chitina, Valde**	**20.89**	**48**	IAmb	IAmb	22 57 23.6	
	comp=Z,77nm,0.7s						
N25K	**Chitina, Valde**	**20.89**	**48**	P		22 57 11.8	
	baz=255,SNR=80						
POKR	**Poker Plat Res**	**20.91**	**37**	P	Pn	22 57 12.3	-1.5
POKR				IAmb	IAmb	22 57 25.4	
	comp=Z,45nm,0.8s						
POKR	**Poker Plat Res**	**20.91**	**37**	P		22 57 11.3	
	baz=243,SNR=10						
SUCK	**Suckling Hills**	**20.97**	**52**	IAmb	IAmb	22 57 20.3	
	comp=Z,44nm,0.6s						
ILAR	**Eielson Array**	**20.97**	**38**	P	**P**	**22 57 10.2**	**-1.2**
	comp=Z,6.4nm,0.6s,baz=240,slow=9.8,SNR=39						
ILAR				ScP	**ScP**	**23 04 46.9**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=268,slow=3.4,SNR=6.4						
ILAR				LR	LR	23 06 32.8	
	comp=Z,941nm,18.1s,baz=242,slow=40						
COLD	**Coldfoot**	**21.03**	**30**	P		22 57 13.4	
	baz=234						
H24K	**Noodor Dome**	**21.08**	**35**	P		22 57 13.6	
	baz=241,SNR=42						
GLB	**Gilahina Butte**	**21.21**	**48**	IAmb	IAmb	22 57 20.8	
	comp=Z,38nm,0.5s						
CRQM	**Cirque**	**21.40**	**50**	P	**P**	**22 57 17.4**	**+1.1**
CRQM				IAmb	IAmb	22 57 34.8	
	comp=Z,49nm,0.6s						
CRQE	**Cirque**	**21.42**	**50**	P		22 57 16.8	
	baz=259,SNR=8.8						
TGL	**Tana Glacier**	**21.55**	**50**	P	**P**	**22 57 20.0**	**+2.2**
MCARA	**McCarthy VSAT**	**21.57**	**49**	P	**P**	**22 57 20.7**	**+2.8**
MCARA	**McCarthy VSAT**	**21.57**	**49**	P		22 57 19.7	
	baz=258,SNR=26						
MENT	**Mentasta**	**21.63**	**44**	IAmb	IAmb	22 57 32.9	
	comp=Z,41nm,0.7s						
DOT	**Dot Lake**	**21.70**	**42**	IAmb	IAmb	22 57 36.4	
	comp=Z,51nm,0.8s						
PRP	**Porcupine Dome**	**21.81**	**37**	P	**P**	**22 57 23.3**	**+2.8**
SCRK	**Sand Creek**	**21.84**	**42**	IAmb	IAmb	22 57 33.2	
	comp=Z,44nm,0.7s						
SCRK	**Sand Creek**	**21.84**	**42**	P		22 57 19.4	
	baz=250,SNR=51						
MESA	**MESA**	**21.89**	**52**	IAmb	IAmb	22 57 33.3	
	comp=Z,35nm,0.6s						
YAH	**Yahtse**	**22.01**	**52**	P	**P**	**22 57 24.2**	**+1.3**
YAH				IAmb	IAmb	22 57 33.0	
	comp=Z,43nm,0.6s						
TOLK	**Toolik Lake Re**	**22.06**	**28**	P	**P**	**22 57 23.6**	**+0.4**
TOLK				IAmb	IAmb	22 57 30.4	
	comp=Z,52nm,0.6s						
TOLK	**Toolik Lake Re**	**22.07**	**28**	P		22 57 23.3	
	baz=232,SNR=78						
BARN	**Barnard Glacie**	**22.16**	**50**	P	**P**	**22 57 25.6**	**+1.2**
A21K	**Barrow**	**22.25**	**18**	IAmb	IAmb	22 57 38.4	
	comp=Z,83nm,1.1s						
A21K	**Barrow**	**22.25**	**18**	P		22 57 25.4	
	baz=217,SNR=6.0						
CTG	**Chitna Glacier**	**22.30**	**50**	P		22 57 27.0	
	baz=261,SNR=7.6						
CTGM	**Chitina Glacie**	**22.30**	**50**	P	**P**	**22 57 28.2**	**+2.3**
CTGM				IAmb	IAmb	22 57 36.8	
	comp=Z,42nm,0.6s						
TABL	**Table Mountain**	**22.32**	**52**	P	**P**	**22 57 27.8**	**+1.6**
TABL				IAmb	IAmb	22 57 43.5	
	comp=Z,33nm,0.6s						
FYU	**Fort Yukon**	**22.37**	**35**	P	**P**	**22 57 26.5**	**+0.1**
FYU				IAmb	IAmb	22 57 30.8	
	comp=Z,60nm,0.7s						
L27K	**Beaver Creek,**	**22.50**	**45**	P		22 57 27.0	
	baz=255,SNR=20						
BCAR	**Beaver Creek A**	**22.52**	**45**	P	**P**	**22 57 27.6**	**-0.5**
K27K	**Chicken**	**22.66**	**42**	IAmb	IAmb	22 57 44.8	
	comp=Z,80nm,1.2s						
K27K	**Chicken**	**22.66**	**42**	P		22 57 29.6	
	baz=252						
PCA	**Pinnacle**	**22.72**	**53**	P	**P**	**22 57 30.9**	**+0.6**
PCA				IAmb	IAmb	22 57 46.3	
	comp=Z,36nm,0.8s						
PINM	**Pinnacle**	**22.72**	**53**	P		22 57 30.9	
	baz=264						
BMAR	**Burnt Mountain**	**23.00**	**33**	P	**P**	**22 57 33.1**	**0.0**
BCPM	**Bancas Point**	**23.02**	**53**	P	**P**	**22 57 34.7**	**+1.4**
BCPM				IAmb	IAmb	22 57 54.0	
	comp=Z,25nm,0.6s						
EGAK	**Eagle**	**23.26**	**41**	IAmb	IAmb	22 57 48.6	
	comp=Z,60nm,1.0s						
EGAK	**Eagle**	**23.26**	**41**	P		22 57 35.0	
	baz=252						
DAWY	**Dawson**	**23.80**	**43**	IAmb	IAmb	22 57 57.4	
	comp=Z,33nm,0.8s						
TYV	**Tymovskoe**	**24.47**	**284**	*e*P	**P**	**22 57 48.9**	**+2.0**
TYV				*e*		23 02 08.0	
TYV				pmax	pmax		
	comp=Z,32nm,1.0s						
TYV				pmax	pmax		
	comp=Z,300nm,2.9s						
YUK	**Yuzh-Kuril'sk**	**25.16**	**267**	*ie*P	**P**	**22 57 55.0**	**+1.8**
SIT	**Sitka**	**25.30**	**60**	P	**P**	**22 57 56.3**	**+2.0**
SIT				pmax	pmax		
	comp=Z,14nm,0.8s						
SIT	**Sitka**	**25.30**	**60**	P	**P**	**22 57 56.3**	**+2.0**
WHY	**Whitehorse**	**25.42**	**52**	P		22 57 56.3	
	baz=268						
BESE	**Bessie Mountai**	**25.45**	**57**	P	**P**	**22 57 54.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**25.78**	**276**	*e*P	**P**	**22 58 00.2**	**+1.4**
YSS				*e*S	**S**	**23 02 26.5**	**+2.2**
YSS				pmax	pmax		
	comp=Z,70nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**25.78**	**276**	P	**P**	**22 57 59.4**	**+0.6**
YSS				IAmb	IAmb	22 58 01.4	
	comp=Z,54nm,0.8s						
WRAK	**Wrangell Islan**	**27.01**	**61**	P		22 58 10.8	
	baz=278						
JKA	**Kamikawa-asahi**	**27.16**	**270**	IAmb	IAmb	22 58 25.7	
	comp=Z,49nm,1.0s						
ASAJ	**Asahikawa**	**27.17**	**270**	P	**P**	**22 58 12.9**	**+1.5**
	comp=Z,23nm,0.8s,baz=70,slow=5.4,SNR=11

comp=Z,17nm,0.7s
USA0B Ussuriysk Arra 33.76 278 P P 22 59 09.2 -0.3
USA0B IAmb IAmb 22 59 10.3
comp=Z,17nm,0.7s
USRK Ussuriysk Ar. 33.76 278 P P 22 59 09.4 -0.1
comp=Z,18nm,0.6s,baz=59,slow=7.9,SNR=59
USRK LR LR 23 14 30.8
comp=Z,195nm,19.0s,baz=66,slow=39
USRK Ussuriysk Ar. 33.76 278 P P 22 59 09.1 -0.3
MJAR Matsushiro Arr 34.24 262 P P 22 59 14.5 +0.8
comp=Z,3.0nm,0.7s,baz=52,slow=7.7,SNR=12
MJAR PcP PcP 23 01 49.6 +0.3
comp=Z,2.8nm,0.9s,baz=89,slow=3.2,SNR=4.0
MJAR ScP ScP 23 05 30.8 +0.9
comp=Z,0.6nm,0.5s,baz=266,slow=1.0,SNR=4.2
MJAR LR LR 23 11 28.7
comp=Z,139nm,21.2s,baz=85,slow=33
MJAR Matsushiro Arr 34.24 262 P P 22 59 14.9 +1.1
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 34.24 262 P P 22 59 14.8 +1.1
MAJO Matsushiro 34.24 262↑ *e*P P 22 59 14.7 +0.9
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 34.24 262 P P 22 59 14.6 +0.8
MAJO IAmb IAmb 22 59 26.6
comp=Z,22nm,0.8s
MAT Matsushiro 34.24 262 P P 22 59 14.2 +0.4
NLWA Neilton Lookou 34.83 75 P P 22 59 20.0 +1.2
NLWA IAmb IAmb 22 59 32.5
comp=Z,45nm,1.3s
YKA Yellowknife Ar 34.91 47 P P 22 59 18.7 -0.5
comp=Z,6.8nm,0.8s,baz=281,slow=7.7,SNR=14
YKA PcP PcP 23 01 51.3 +0.6
comp=Z,2.1nm,0.7s,baz=297,slow=3.4,SNR=4.4
YKA ScP ScP 23 05 32.2 +0.5
comp=Z,1.1nm,0.7s,baz=291,slow=2.7,SNR=5.3
YKA LR LR 23 14 23.6
comp=Z,472nm,21.6s,baz=0.0,slow=38
H11S1 WAKE ISLAND Hy 34.93 206 T T 23 36 31.1
baz=17,slow=76,SNR=879
A04D Lummi Island 34.94 72 P 22 59 18.9
baz=295
H11S2 WAKE ISLAND Hy 34.95 206 T T 23 36 32.2
baz=17,slow=76,SNR=795
H11S3 WAKE ISLAND Hy 34.95 206 T T 23 36 32.3
baz=17,slow=76,SNR=431
MDJ Mudanjiang 35.03 280 P P 22 59 19.4 -1.1
MDJ pP pP 22 59 31.0 -2.3
MDJ sP sP 22 59 39.1 0.0
MDJ S S **23 04 49.2 +0.2**
MDJ PcS PcS **23 05 34.4 -3.8**
MDJ pmax pmax
comp=Z,17nm,1.0s
MDJ pmax pmax
comp=Z,170nm,5.1s
MDJ L L
comp=Z,160nm,10.4s
MDJ L L
comp=Z,280nm,9.8s
MDJ L L
comp=Z,260nm,19.4s
MDJ Mudanjiang 35.03 280 P P 22 59 19.0 -1.5
MSHR Mys Shultsa 35.12 276↑ *e*P P 22 59 21.8 +0.6
MSHR pmax pmax
comp=Z,57nm,0.8s
A05A Maple Falls 35.19 71 P P 22 59 22.4 +0.6
D03D Eldon 35.24 74 P 22 59 23.3
baz=297,SNR=14
JGF Kuroka 35.37 261 IAmb IAmb 22 59 36.6
comp=Z,31nm,1.2s
E03A Lebam 35.41 76 P P 22 59 23.3 -0.4
E03A IAmb IAmb 22 59 28.3
comp=Z,36nm,1.0s
B05A Bryant 35.51 72 P 22 59 24.8
baz=296,SNR=13
B06A Marblemount 35.76 72 P P 22 59 26.8 +0.1
B06A IAmb IAmb 22 59 40.5
comp=Z,26nm,0.9s
E04D Cinebar 36.01 75 P 22 59 30.3
baz=298,SNR=17
D05A Enumclaw 36.06 74 P P 22 59 30.9 +1.6
G03D McMinnville, O 36.24 78 P 22 59 31.8
baz=300
LON Longmire 36.38 75 P P 22 59 33.3 +1.2
LON pmax pmax
comp=Z,26nm,0.7s
LON Longmire 36.38 75 P P 22 59 33.3 +1.2
LON IAmb IAmb 22 59 48.1
comp=Z,26nm,0.7s
I02D Swisshome 36.45 80 P 22 59 33.3
baz=301
COR Corvallis 36.53 79 P P 22 59 34.5 +1.1
COR pmax pmax
comp=Z,54nm,1.1s
COR Corvallis 36.53 79 P P 22 59 34.5 +1.1
JWT Wachi 36.79 263 P P 22 59 36.5 +0.9
JWT IAmb IAmb 22 59 45.9
comp=Z,14nm,0.7s
KEBM Edson Butte 36.79 82 P P 22 59 36.9 +1.2
LTY Liberty 36.82 73 P P 22 59 37.0 +1.1
LTY IAmb IAmb 22 59 49.8
comp=Z,16nm,0.8s
J01E Myrtle Point 36.89 81 P 22 59 38.0
baz=302
H04D Lebanon 36.91 78 P 22 59 37.8
baz=301,SNR=7.5
I03D Drain, OR 36.97 80 P 22 59 38.6
baz=301,SNR=6.2
F05D White Salmon 37.01 76 P 22 59 38.8
baz=299
H04A Detroit Lake 37.17 78 P P 22 59 39.1 +0.3
K02D Willamette Mer 37.30 82 P 22 59 40.6
baz=302
G05D Wamic, OR 37.42 76 P 22 59 42.0
baz=300,SNR=14
I04A Tendick Farm, 37.49 79 P 22 59 42.7
baz=302,SNR=32
L02E Cave Junction 37.64 82 P 22 59 44.1
baz=303,SNR=6.1
E07A Sunnyside 37.65 74 P P 22 59 44.5 +1.7
E07A IAmb IAmb 22 59 57.2
comp=Z,51nm,1.4s
I05D Terrebonne, OR 37.87 78 P 22 59 45.9
baz=301
HAWA Hanford 37.92 74 IAmb IAmb 22 59 59.4
comp=Z,37nm,0.8s
F07A Phinny Hill Vi 37.93 75 P P 22 59 46.7 +1.5
F07A IAmb IAmb 23 00 01.1
comp=Z,30nm,0.7s
D08A Wollman Farm, 37.97 73 IAmb IAmb 22 59 59.2
comp=Z,27nm,0.9s
J04D Umpqua Nationa 37.97 80 P 22 59 46.7
baz=302,SNR=11
CN2 Changchun 38.00 281 *e*P P 22 59 44.7 -1.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
E08A Dider Farm, El 38.16 73 P P 22 59 48.6 +1.5
E08A IAmb IAmb 23 00 01.1
comp=Z,24nm,0.8s
KHMM Horse Mountain 38.27 84 P P 22 59 48.7 +0.3
KHMM IAmb IAmb 23 00 05.5
comp=Z,30nm,1.0s
JHS Saijyo 38.40 264 P P 22 59 50.3 +1.0
PINE Pine Mountain 38.40 78 P P 22 59 51.0 +1.6
PINE IAmb IAmb 22 59 52.9
comp=Z,34nm,1.0s
L04D Klamath Falls 38.41 81 P 22 59 50.8
baz=303,SNR=8.5
YBH Yreka Blue Hor 38.42 82 P P 22 59 50.7 +1.1
comp=Z,12nm,0.9s,baz=327,slow=5.3,SNR=29
YBH Yreka Blue Hor 38.42 82 P P 22 59 51.5 +2.0
YBH pmax pmax
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 38.42 82 P P 22 59 51.5 +2.0
YBH IAmb IAmb 23 00 05.4
comp=Z,27nm,1.0s
NEW Newport 38.45 70 IAmb IAmb 23 00 03.6
comp=Z,37nm,0.8s
NEW Newport 38.46 70 P 22 59 51.0
baz=298
K04D Chiloquin, OR 38.53 80 P 22 59 51.4
baz=303
M02C Callahan 38.53 83 P 22 59 50.8
baz=304,SNR=8.7
KMRM Mail Ridge 38.66 85 P P 22 59 53.1 +1.6
KMRM IAmb IAmb 23 00 07.0
comp=Z,36nm,1.1s
E09A Wood Farm, Sta 38.70 73 IAmb IAmb 23 00 05.4
comp=Z,52nm,1.1s
HIA Hailar 38.72 292 P P 22 59 51.3 -0.5
HIA pmax pmax
comp=Z,23nm,1.0s
HIA Hailar 38.72 292 P P 22 59 51.3 -0.5
HIA IAmb IAmb 22 59 52.7
comp=Z,23nm,1.0s
N02D Trinity Center 38.86 83 P 22 59 54.1
baz=304,SNR=9.5
M04C Macdoel 38.94 82 P 22 59 54.4
baz=304,SNR=7.1
K05A Summer Lake 39.00 80 P P 22 59 54.6 +0.2
K05A IAmb IAmb 22 59 57.4
comp=Z,32nm,0.8s
I07A Izee 39.12 77 IAmb IAmb 22 59 57.7
comp=Z,26nm,0.8s
WDC Whiskeytown Da 39.18 84 P P 22 59 56.3 +0.6
WDC pmax pmax
comp=Z,13nm,0.9s
WDC Whiskeytown Da 39.18 84 P P 22 59 56.3 +0.6
O02D Mt. Diablo Mer 39.26 84 P 22 59 57.1
baz=305,SNR=13
F10A Beach Ranch, E 39.52 73 IAmb IAmb 23 00 11.7
comp=Z,30nm,1.2s
HOPS Hopland Field 39.78 86 P P 23 00 01.7 +1.0
HOPS IAmb IAmb 23 00 16.1
comp=Z,35nm,1.1s
O03E Paynes Creek 39.81 83 P 23 00 01.5
baz=305,SNR=16
MOD Modoc Plateau 39.82 80 IAmb IAmb 23 00 03.6
comp=Z,19nm,0.8s
GDXM Geysers 40.06 86 P P 23 00 04.4 +1.2
GDXM IAmb IAmb 23 00 18.9
comp=Z,34nm,1.2s
KSRS Korea Array 40.10 271 P P 23 00 04.7 +1.3
comp=Z,6.4nm,0.7s,baz=54,slow=8.1,SNR=25
KSRS LR LR 23 15 15.6
comp=Z,74nm,21.7s,baz=64,slow=34
KS19 Wonju Array Si 40.10 271 P P 23 00 04.4 +1.0
KSAR Wonju Array Be 40.13 271 P P 23 00 04.3 +0.7
KSAR Wonju Array Be 40.13 271 P P 23 00 04.3 +0.7
J08A Circle Bar Ran 40.14 77 P P 23 00 04.7 +0.8
J08A IAmb IAmb 23 00 06.0
comp=Z,20nm,0.8s
EUNU Eureka 40.18 16 P P 23 00 02.9 -0.7
JTMT Jette 40.38 69 P P 23 00 06.5 +0.8
JTMT IAmb IAmb 23 00 19.1
comp=Z,57nm,1.4s
ORV Oroville 40.43 84 P P 23 00 06.0 -0.1
ORV pmax pmax
comp=Z,7.0nm,0.9s
ORV Oroville 40.43 84 P P 23 00 06.0 -0.1
WVOR Wild Horse Val 40.55 79 P P 23 00 07.9 +0.6
WVOR pmax pmax
comp=Z,29nm,0.8s
WVOR Wild Horse Val 40.55 79 P P 23 00 07.9 +0.6
WVOR IAmb IAmb 23 00 09.5
comp=Z,29nm,0.8s
MSO Missoula 41.04 70 IAmb IAmb 23 00 24.9
comp=Z,8nm,0.9s
MSO Missoula 41.04 70 P 23 00 11.4
baz=300
AFDM Forest Hills D 41.12 85 P P 23 00 11.6 -0.3
TJN Taejon 41.12 271 *d* iP P 23 00 13.0 +1.2
PAHR Pah Rah Range 41.66 83 IAmb IAmb 23 00 31.4
comp=Z,36nm,1.1s
MFID Camas Ranch 41.73 76 P P 23 00 17.3 +0.5
VCNR Virginia City 41.73 83 IAmb IAmb 23 00 32.4
comp=Z,27nm,0.9s
PNTR Pine Nut 41.89 83 P P 23 00 19.7 +1.3
PNTR IAmb IAmb 23 00 33.7
comp=Z,48nm,1.0s
CMB Columbia Colle 42.04 85 P P 23 00 20.2 +0.8
CMB pmax pmax
comp=Z,28nm,1.4s
CMB Columbia Colle 42.04 85 P P 23 00 20.2 +0.8
YERR Yerington 42.18 83 P P 23 00 21.5 +0.8
HRY Holter Researc 42.34 69 P P 23 00 22.2 +0.4
WAKR Walker 42.34 84 P P 23 00 22.6 +0.5
JSU Suzuyama 42.38 262 P P 23 00 23.2 +0.9
HLID Hailey 42.50 75 P 23 00 24.1
baz=304,SNR=27
EGMT Eagleton 42.86 66 P P 23 00 25.8 -0.2
EGMT IAmb IAmb 23 00 29.4
comp=Z,23nm,0.8s
EGMT Eagleton 42.86 66 P 23 00 26.0
baz=301,SNR=14
PMPB Monarch Peak 42.91 88 P P 23 00 26.5 0.0
NVAR Mina Array Bea 43.09 83 P P 23 00 29.4 +1.2
comp=Z,7.4nm,0.8s,baz=292,slow=7.9,SNR=38
NVAR ScP ScP **23 06 05.8 +1.9**
comp=Z,0.1nm,0.3s,baz=193,slow=39,SNR=1.5
NVAR Mina Array Bea 43.09 83 P P 23 00 29.1 +1.0
YHL Hebgen Lake 43.72 71 IAmb IAmb 23 00 48.4
comp=Z,42nm,0.9s
YHH Holmes Hill 43.95 71 P P 23 00 35.4 +0.3
YNR Norris Junctio 44.10 71 P P 23 00 37.6 +1.4
VES Vestal, Richgr 44.22 87 P 23 00 37.3
baz=309
H17A Grant Village 44.34 71 IAmb IAmb 23 00 54.7
comp=Z,38nm,0.9s
H17A Grant Village 44.34 71 P 23 00 39.5
baz=304,SNR=13
LKWY Lake 44.35 71 P P 23 00 40.8 +2.6
LKWY pmax pmax
comp=Z,33nm,0.9s
LKWY Lake 44.35 71 P P 23 00 40.8 +2.6
LKWY IAmb IAmb 23 00 54.9
comp=Z,33nm,0.9s
PKM Mcpherson Peak 44.37 88 P 23 00 38.9
baz=310
FLWY Flagg Ranch 44.44 72 IAmb IAmb 23 00 55.5
comp=Z,30nm,0.9s
CWC Cottonwood Cre 44.47 85 P 23 00 39.7
baz=309
HVU Hansel Valley 44.51 76 IAmb IAmb 23 00 41.4
comp=Z,22nm,0.7s
NRIK Noril'sk 44.66 330 P P 23 00 40.1 +0.2
comp=Z,4.8nm,0.7s,baz=94,slow=8.6,SNR=8.4
NRIK ScP ScP **23 06 10.8 +1.3**
comp=Z,5.8nm,0.9s,baz=75,slow=4.5,SNR=6.7
NRIK LR LR 23 22 36.2
comp=Z,340nm,18.0s,baz=50,slow=40
NRIK Noril'sk 44.66 330 *c* iP P 23 00 39.9 -0.1
NRIK pmax pmax
comp=Z,13nm,1.4s
NRIK Noril'sk 44.66 330 P P 23 00 39.8 -0.2
RLMT Red Lodge 44.70 70 P 23 00 41.8
baz=304,SNR=17
ISA Isabella, Lake 44.72 87 IAmb IAmb 23 00 55.3
comp=Z,33nm,1.5s
ISA Isabella, Lake 44.72 87 P 23 00 41.2
baz=310
R11A Troy Canyon, C 44.83 81 P P 23 00 42.6 +0.5
R11A Troy Canyon, C 44.83 81 P 23 00 41.9
baz=308,SNR=5.0
BGU Big Grassy Mou 44.85 77 P P 23 00 42.7 +0.6
AHID Auburn Hatcher 44.95 74 P P 23 00 44.1 +1.1
AHID IAmb IAmb 23 00 56.2
comp=Z,50nm,1.4s
FURC Furnace Creek, 45.21 84 P 23 00 45.3
baz=309,SNR=5.2
SPR3 Spring Creek 3 45.21 80 P P 23 00 46.2 +0.9
TPNV Topopah Spring 45.29 84 IAmb IAmb 23 01 05.1
comp=Z,25nm,0.8s
TPNV Topopah Spring 45.29 84 P 23 00 46.0
baz=309,SNR=22
DUG Dugway, Tooele 45.42 78 IAmb IAmb 23 00 48.7
comp=Z,28nm,0.8s
DUG Dugway, Tooele 45.42 78 P 23 00 47.6
baz=307,SNR=17
EDW2 Edwards Air Fo 45.52 87 P 23 00 47.1
LAO LASA Array 45.61 66 IAmb IAmb 23 00 50.8
comp=Z,28nm,0.9s
LAO LASA Array 45.61 66 P 23 00 48.4
baz=303
PRN Pahroc Range 45.75 82 P P 23 00 49.8 +0.5
CTU Camp Tracy 45.77 76 IAmb IAmb 23 00 51.1
comp=Z,15nm,0.8s
PSUT Pine Spring 45.79 80 IAmb IAmb 23 01 00.6
comp=Z,17nm,0.7s
BJI Beijing 45.83 283 P P 23 00 51.0 +1.4
BJI S S **23 07 33.1 +3.3**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI L L
comp=Z,160nm,14.9s
BJI L L
comp=Z,170nm,17.6s
BW06 Boulder Array 45.87 73 IAmb IAmb 23 01 04.4
comp=Z,32nm,0.9s
BW06 Boulder Array 45.87 73 P 23 00 50.8
baz=305
PDAR Pinedale Array 45.87 73 P P 23 00 51.3 +1.0
comp=Z,19nm,0.6s,baz=303,slow=4.2,SNR=53
PDAR Pinedale Array 45.87 73 P P 23 00 51.1 +0.8
MWC Mount Wilson 45.91 88 IAmb IAmb 23 01 05.3
comp=Z,32nm,1.1s
JLU Jordanelle 46.01 76 IAmb IAmb 23 00 53.3
comp=Z,20nm,0.9s
NLU North Lily Min 46.02 77 IAmb IAmb 23 00 53.2
comp=Z,16nm,0.8s
BFSC Mount Baldy Ra 46.15 87 P 23 00 52.3
baz=311,SNR=7.0
MPU Maple Canyon 46.25 77 IAmb IAmb 23 00 55.0
comp=Z,15nm,0.8s
TLY Talaya 46.46 303 *c e*P P 23 00 56.4 +1.9
TLY pmax pmax
comp=Z,4.0nm,0.7s
HEC Hector,Ludlow 46.59 86 P 23 00 55.9
baz=310
TCRU Three Creeks R 46.61 79 IAmb IAmb 23 01 11.5
comp=Z,17nm,0.7s
ULN Ulaanbaatar 46.68 297 *d* iP P 23 00 57.8 +1.3
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 46.68 297 P P 23 00 57.0 +0.6
CCUT Cedar City 46.71 81 IAmb IAmb 23 01 12.8
comp=Z,28nm,1.4s
GMRC Granite Mounta 47.04 85 P 23 00 59.6
baz=310,SNR=8.4
SONM Songino Array 47.06 297 P P 23 00 59.2 -0.2
comp=Z,4.5nm,0.7s,baz=60,slow=6.6,SNR=45
SONM PcP PcP **23 02 32.1 +1.4**
comp=Z,2.4nm,0.6s,baz=101,slow=1.3,SNR=6.4
SONM ScP ScP **23 06 20.9 +0.8**
comp=Z,7.0nm,1.0s,baz=64,slow=2.2,SNR=18
SONM LR LR 23 21 45.0
comp=Z,828nm,19.7s,baz=60,slow=37
SONM Songino Array 47.06 297 P P 23 00 59.8 +0.3
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 47.06 297 P P 23 00 59.8 +0.3
LCMT Little Creek M 47.12 81 IAmb IAmb 23 01 14.4
comp=Z,16nm,0.8s
P17A Butcher Ranch, 47.13 77 IAmb IAmb 23 01 01.9
comp=Z,22nm,0.7s
PFO Pinyon Flats O 47.31 87 P P 23 01 02.0 +0.5
comp=Z,3.3nm,0.7s,baz=300,slow=10,SNR=3.5
PFO Pinyon Flats O 47.31 87 P P 23 01 01.3 -0.2
PFO pmax pmax
comp=Z,7.0nm,1.0s
PFO Pinyon Flats O 47.31 87 P P 23 01 01.3 -0.2
NEEM North Greenlan 47.34 14 *i* P P 23 01 01.0 -0.4
BELC Belle Mtn. Jos 47.34 86 P 23 01 01.6
baz=311
ZAK Zakamensk 47.36 301 *e*P P 23 01 00.8 -0.8
ZAK pmax pmax
comp=Z,6.0nm,1.1s
KNB Kanab 47.38 81 IAmb IAmb 23 01 17.4
comp=Z,18nm,0.9s
TIA Tai'an 47.62 278 P P 23 01 04.4 +0.6
TIA pmax pmax
comp=Z,12nm,0.8s
NEE2 Needles Airpor 47.70 85 P 23 01 04.7
baz=310
K22A Casper 47.75 71 IAmb IAmb 23 01 17.1
comp=Z,17nm,0.7s
K22A Casper 47.75 71 P 23 01 05.1
baz=306
IRM Iron Mountain 47.77 86 P 23 01 05.4
baz=311
BAR Barrett 47.79 88 IAmb IAmb 23 01 19.8
comp=Z,20nm,1.4s
MONP2 Monument Peak 47.81 88 P 23 01 05.5
baz=312
MOY Mondy 47.86 304 *e*P P 23 01 06.5 +1.0
W13A Hualapai Mount 47.94 84 P P 23 01 06.5 0.0
W13A IAmb IAmb 23 01 21.6
comp=Z,10nm,0.8s
HHC Hu-ho-hao-te 48.14 286 *e*P P 23 01 09.2 +1.4
HHC S S **23 08 05.6 +2.6**
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.3s
HHC L L
comp=Z,290nm,15.3s
HHC L L
comp=Z,260nm,16.2s
HHC L L
comp=Z,490nm,15.3s
IKP In-Ko-Pah, Jac 48.16 88 P 23 01 08.4
baz=312
O20A White River Ci 48.24 75 P 23 01 08.8
baz=308,SNR=29
PDMCI Parker Dam,Lak 48.30 85 P 23 01 09.2
baz=311,SNR=5.8
RSSD Black Hills 48.34 68 P P 23 01 09.0 -0.5
RSSD pmax pmax
comp=Z,14nm,0.7s
RSSD Black Hills 48.34 68 P P 23 01 09.0 -0.5
RSSD IAmb IAmb 23 01 14.7
comp=Z,14nm,0.7s
RSSD Black Hills 48.34 68 P 23 01 09.3
baz=306
CCX Cicese 48.34 89 IAmb IAmb 23 01 12.0
comp=Z,30nm,1.1s
GLA Glamis 48.70 87 IAmb IAmb 23 01 26.2
comp=Z,16nm,0.8s
GLA Glamis 48.70 87 P 23 01 12.4
baz=312,SNR=5.1
E28A Huff 48.81 63 IAmb IAmb 23 01 14.9
comp=Z,15nm,0.8s
N23A Red Feather La 49.16 72 P 23 01 16.8
baz=308,SNR=11
BTO Baotou 49.21 287 *e*P P 23 01 17.4 +1.3
WUAZ Wupatki 49.23 82 P 23 01 16.9
baz=310,SNR=7.4
NJ2 Nanjing 49.27 272 *e*P P 23 01 17.1 +0.6
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
ULM Lac du Bonnet 49.30 57 P P 23 01 16.6 +0.1
comp=Z,3.7nm,0.6s,baz=302,slow=6.9,SNR=5.1
SMCO Snowmass 49.60 75 P P 23 01 19.1 -0.3
SMCO IAmb IAmb 23 01 25.2
comp=Z,8.9nm,0.6s
MVCO Mesa Verde 49.92 78 IAmb IAmb 23 01 39.4
comp=Z,17nm,0.9s
MVCO Mesa Verde 49.92 78 P 23 01 21.8
baz=310,SNR=9.8
ISCO Idaho Springs 50.03 73 P 23 01 23.2
baz=309
TARA Tarawa 50.41 192 P P 23 01 24.9 -0.3
S22A 4UR Ranch, Cre 50.60 76 P 23 01 27.4
baz=310,SNR=21
214A Organ Pipe Nat 50.70 86 P 23 01 27.1
baz=312,SNR=5.7
X18A Snowflake 50.76 82 P P 23 01 28.0 0.0
X18A IAmb IAmb 23 01 43.2
comp=Z,14nm,0.7s
SUSD Miller 51.06 65 P P 23 01 29.3 -0.6
SDCO Great Sand Dun 51.40 75 P 23 01 33.4
baz=310,SNR=12
DAG Danmarks Havn 51.47 6 *e*P P 23 01 30.2 -2.2
DAG Danmarks Havn 51.47 6 *e*P P 23 01 30.2 -2.2
F33A 5 Mile Ranch, 51.70 62 P P 23 01 35.1 +0.5
TUC Tucson 51.72 84 P P 23 01 35.1 0.0
TUC pmax pmax
comp=Z,11nm,0.8s
TUC Tucson 51.72 84 P P 23 01 35.1 0.0
TUC Tucson 51.72 84 P 23 01 35.2
baz=312
KSCO Kaye Shedlock' 52.32 72 P P 23 01 40.8 +1.3
KSCO Kaye Shedlock' 52.32 72 P 23 01 40.5
baz=310
T25A Trinidad 52.46 75 IAmb IAmb 23 01 43.1
comp=Z,27nm,0.8s
T25A Trinidad 52.46 75 P 23 01 41.1

baz=310,SNR=31
ANMO Albuquerque 52.65 79 P P 23 01 42.3 +0.3
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 52.65 79 P P 23 01 42.3 +0.3
ANMO Albuquerque 52.65 79 P 23 01 42.1
baz=311
ECSD EROS Data Cent 52.83 64 P 23 01 42.2
baz=309
WHN Wuhan 53.12 274 ⇓P **P 23 01 45.7 +0.4**
SUMG Summit 53.20 14 *i* P **P 23 01 45.0 -0.8**
SUMG Summit 53.20 14 *i* P **P 23 01 45.0 -0.8**
SUMG Summit 53.20 14 P **P 23 01 45.0 -0.8**
SUMG IAmb IAmb 23 02 02.8
comp=Z,15nm,0.9s
F36A Milaca 53.20 60 P **P 23 01 45.6 -0.1**
319A Douglas 53.30 84 IAmb IAmb 23 02 04.7
comp=Z,18nm,1.1s
121A Cookes Peak, D 53.44 82 IAmb IAmb 23 01 59.5
comp=Z,16nm,0.9s
121A Cookes Peak, D 53.44 82 P 23 01 48.2
baz=313,SNR=9.1
SSLB Suanglung 53.77 263 P **P 23 01 49.7 -0.5**
SSLB IAmb IAmb 23 01 54.8
comp=Z,20nm,0.7s
SPMN Marine on St. 54.00 61 P **P 23 01 52.4 +0.8**
SPMN Marine on St. 54.00 61 P 23 01 52.1
baz=309
XAN Xi'an 54.12 281 P **P 23 01 52.7 +0.1**
XAN pP pP 23 02 05.0 -1.1
XAN pmax pmax
comp=Z,17nm,0.8s
XAN L L
comp=Z,170nm,19.5s
XAN L L
comp=Z,160nm,19.5s
XAN L L
comp=Z,140nm,19.5s
CBKS Cedar Bluff 54.17 71 P 23 01 53.0
baz=311,SNR=5.6
ZALV Zalesovo Beam 54.38 314 P **P 23 01 54.4 +0.2**
comp=Z,0.6nm,0.3s,baz=42,slow=6.6,SNR=3.1
ZALV PcP **PcP 23 02 58.0 +0.6**
comp=Z,8.6nm,0.7s,baz=33,slow=3.9,SNR=19
ZALV ScP **ScP 23 06 51.9 +0.7**
comp=Z,1.9nm,0.8s,baz=53,slow=5.7,SNR=6.0
ZALV LR LR 23 25 32.7
comp=Z,236nm,20.5s,baz=36,slow=36
I37A Lemond, Waseca 54.44 62 IAmb IAmb 23 01 57.2
comp=Z,21nm,0.8s
R32A Long Quarter, 55.03 70 P **P 23 01 58.8 -0.4**
D41A Chassel 55.09 56 P **P 23 02 00.6 +1.1**
D41A IAmb IAmb 23 02 06.2
comp=Z,15nm,0.8s
MNTX Cornudas Mount 55.50 81 IAmb IAmb 23 02 16.7
comp=Z,18nm,0.8s
MNTX Cornudas Mount 55.50 81 P 23 02 02.6
baz=313,SNR=28
MSTX Muleshoe 55.56 77 P **P 23 02 03.2 0.0**
MSTX IAmb IAmb 23 02 05.3
comp=Z,19nm,0.8s
KSU1 Kansas State U 55.82 68 P **P 23 02 04.4 -0.4**
KSU1 Kansas State U 55.82 68 P 23 02 04.9
baz=311
LZH Lanzhou 55.83 287 ⇑P **P 23 02 06.8 +1.6**
LZH sS sS 23 10 05.5 -6.0
LZH SS **SS 23 13 32.8 -1.5**
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,500nm,5.9s
LZH L L
comp=Z,460nm,15.3s
LZH L L
comp=Z,400nm,15.7s
LZH L L
comp=Z,480nm,17.6s
DGZ Jazzator, Alta 55.91 309 ⇓*eP* **P 23 02 05.0 -0.5**
DGZ pmax pmax
comp=Z,11nm,1.6s
GTA Gaotai 56.00 292 ⇑P **P 23 02 07.2 +0.9**
GTA pP pP 23 02 19.8 -0.2
GTA sP sP 23 02 25.6 -0.1
GTA ScP **ScP 23 07 01.3 +2.5**
GTA S **S 23 09 52.4 +1.6**
GTA pmax pmax
comp=Z,46nm,0.8s
GTA pmax pmax
comp=Z,160nm,8.0s
GTA L L
comp=Z,350nm,20.4s
GTA L L
comp=Z,340nm,20.0s
GTA L L
comp=Z,520nm,20.7s
ICESG Greenland Ices 56.03 17 *eP* **P 23 02 04.2 -2.1**
I40A Norwalk 56.05 61 IAmb IAmb 23 02 08.0
comp=Z,12nm,0.9s
F42A Maple Grove Fa 56.16 57 P **P 23 02 07.4 +0.2**
F42A IAmb IAmb 23 02 26.2
comp=Z,11nm,0.7s
U32A Winter Ranch, 56.22 72 P **P 23 02 07.6 -0.1**
U32A IAmb IAmb 23 02 25.9
comp=Z,17nm,0.8s
ENH Enshi 56.34 278 IAmb IAmb 23 02 26.2
comp=Z,15nm,1.1s
KAN13 South Haven SW 56.70 71 P **P 23 02 10.6 -0.5**
JFWS Jewell Farm 56.90 61 IAmb IAmb 23 02 13.9
comp=Z,14nm,0.8s
JFWS Jewell Farm 56.90 61 P 23 02 12.1
baz=311
L40A Anamosa 56.93 63 IAmb IAmb 23 02 16.4
comp=Z,9.6nm,0.7s
T35A Sooner Cattle 57.33 70 IAmb IAmb 23 02 16.6
comp=Z,20nm,0.9s
WMOK Wichita Mounta 57.46 74 IAmb IAmb 23 02 30.2
comp=Z,11nm,0.7s
WMOK Wichita Mounta 57.46 74 P 23 02 16.7
baz=313,SNR=11
QUOK Quay 57.72 71 P **P 23 02 18.4 0.0**
QUOK IAmb IAmb 23 02 32.6
comp=Z,19nm,0.8s
E46A Sault Ste Mari 57.75 55 IAmb IAmb 23 02 24.6
comp=Z,13nm,0.6s
OK030 Cody Creek RV 57.84 71 P **P 23 02 18.4 -0.8**
X34A Smith Ranch, M 58.12 73 P **P 23 02 21.2 0.0**
X34A IAmb IAmb 23 02 40.0
comp=Z,19nm,0.8s
ARCES ARCESS Array B 58.18 350 P **P 23 02 19.6 -1.5**
comp=Z,3.1nm,0.5s,baz=30,slow=7.4,SNR=15
ARCES PcP **PcP 23 03 12.4 +0.4**
comp=Z,6.5nm,0.7s,baz=348,slow=5.2,SNR=5.3
ARCES LR LR 23 28 31.0
comp=Z,131nm,20.4s,baz=30,slow=37
ARCES ARCESS Array B 58.18 350 IAmb IAmb 23 02 29.6
comp=Z,25nm,1.4s
TX32 Lajitas Array 58.20 82 IAmb IAmb 23 02 35.5
comp=Z,10nm,0.7s
TXAR Lajitas Array 58.20 82 P **P 23 02 22.1 +0.2**
comp=Z,3.5nm,0.5s,baz=302,slow=4.9,SNR=47
TXAR Lajitas Array 58.20 82 P **P 23 02 21.6 -0.4**
ABTX Abilene, Hawle 58.38 76 P **P 23 02 23.0 -0.1**
ABTX Abilene, Hawle 58.39 76 P 23 02 23.3
baz=314
TUL1 Leonard 58.44 71 P 23 02 23.2
baz=313
LVZ Lovozero 58.57 346 ⇓*eP* **P 23 02 25.2 +1.4**
LVZ pmax pmax
comp=Z,91nm,1.6s
S39A Bolivar 58.67 68 IAmb IAmb 23 02 39.1
comp=Z,10nm,0.9s
ZSN Zaisan 58.68 308 *eP* **P 23 02 25.0 +0.1**
baz=308
ZSN Zaisan 58.68 308 *eP* **P 23 02 25.0 +0.1**
SEM Semipalatinsk 58.84 313 *eP* **P 23 02 24.5 -1.7**
baz=313
SEM Semipalatinsk 58.84 313 *eP* **P 23 02 24.5 -1.7**
U38A Gravette 58.91 69 IAmb IAmb 23 02 27.2
comp=Z,14nm,0.8s
HDIL Hopedale 59.01 63 P **P 23 02 27.1 -0.2**
HDIL Hopedale 59.02 63 P 23 02 27.3
baz=313
CD2 Chengdu 59.43 282 P **P 23 02 31.0 +0.6**
CD2 S **S 23 10 36.2 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 L L
comp=Z,250nm,15.2s
CD2 L L
comp=Z,190nm,12.8s
CD2 L L
comp=Z,240nm,16.2s
LSQQ Lebel-sur-Quev 59.50 49 P 23 02 29.8
baz=314
X37A Clayton 59.60 72 IAmb IAmb 23 02 46.0
comp=Z,19nm,0.8s
MGMO Mountain Grove 59.65 67 IAmb IAmb 23 02 46.0
comp=Z,17nm,0.8s
SCHQ Schefferville 59.73 39 P **P 23 02 30.7 -1.3**
comp=Z,4.5nm,1.0s,baz=233,slow=13,SNR=4.5
SCHQ LR LR 23 29 41.2
comp=Z,342nm,18.6s,baz=291,slow=37
WMQ Urumqi 59.74 303 *eP* **P 23 02 33.8 +1.5**
WMQ pP pP 23 02 48.1 +2.0
WMQ sP sP 23 02 55.5 +3.7
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,150nm,5.1s
WMQ L L
comp=Z,410nm,21.9s
WMQ L L
comp=Z,500nm,23.5s
WMQ L L
comp=Z,940nm,21.9s
O44A Mansfield 59.75 63 P **P 23 02 32.2 -0.2**
O44A IAmb IAmb 23 02 34.4
comp=Z,13nm,0.8s
JCT Junction City 59.78 78 IAmb IAmb 23 02 46.5
comp=Z,13nm,0.8s
JCT Junction City 59.78 78 P 23 02 32.2
baz=315
U40A Yellville 59.86 68 P **P 23 02 32.0 -1.2**
U40A IAmb IAmb 23 02 33.5
comp=Z,16nm,0.8s
U40A Yellville 59.86 68 P 23 02 32.2
baz=314,SNR=16
CHGQ Chibougamau 60.10 46 P 23 02 33.7
baz=315
W39A Magazine 60.12 70 IAmb IAmb 23 02 48.1
comp=Z,15nm,0.7s
W39A Magazine 60.12 70 P 23 02 34.5
baz=314,SNR=7.9
WHTX Lake Whitney, 60.15 75 P 23 02 35.1
baz=314,SNR=9.4
SFIN Lafayette 60.35 62 P 23 02 35.8
baz=314,SNR=9.8
MK31 Makanchi Array 60.40 309 P **P 23 02 34.8 -2.0**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 60.40 309 P **P 23 02 34.8 -2.0**
MKAR Makanchi Array 60.40 309 P **P 23 02 35.3 -1.5**
comp=Z,2.1nm,0.4s,baz=40,slow=7.0,SNR=39
MKAR PcP **PcP 23 03 20.2 -1.0**
comp=Z,1.7nm,0.5s,baz=54,slow=8.2,SNR=3.5
MKAR LR LR 23 29 12.0
comp=Z,441nm,21.6s,baz=39,slow=36
MKAR PKPPKP **P'P'df 23 32 06.9 +4.0**
comp=Z,0.5nm,0.8s,baz=279,slow=2.3,SNR=3.6
MKAR Makanchi Array 60.40 309 P **P 23 02 35.1 -1.7**
T42A Van Buren 60.42 67 IAmb IAmb 23 02 38.5
comp=Z,7.5nm,0.6s
MAKZ Makanchi 60.55 309 P **P 23 02 35.9 -1.9**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 60.55 309 P **P 23 02 35.9 -1.9**
MIAR Mount Ida 60.69 70 P 23 02 38.1
baz=314,SNR=12
Z38A Mt. Pleasant 60.75 72 P **P 23 02 39.5 +0.1**
GYA Guiyang 60.78 277 *eP* **P 23 02 41.1 +1.3**
GYA pP pP 23 02 48.9 -4.5
WHAR Wooly Hollow 60.93 69 IAmb IAmb 23 02 52.8
comp=Z,12nm,0.7s
S44A Carbondale 61.01 65 P **P 23 02 40.4 -0.6**
S44A IAmb IAmb 23 02 43.5
comp=Z,14nm,0.8s
SIUC Southern Illin 61.02 65 IAmb IAmb 23 02 42.6
comp=Z,18nm,0.8s
W41B Gary Mavity, V 61.04 69 P 23 02 40.6
baz=314,SNR=17
LCAR Lake Charles 61.05 68 IAmb IAmb 23 02 56.2
comp=Z,7.1nm,0.6s
X40A Basin Creek Fa 61.17 70 IAmb IAmb 23 02 60.0
comp=Z,9.6nm,0.8s
X40A Basin Creek Fa 61.17 70 P 23 02 42.3
baz=314
ALGO Algonquin Park 61.18 52 P 23 02 42.2
baz=315
BRVK Borovoye 61.22 320 P **P 23 02 41.2 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 61.22 320 P **P 23 02 41.2 -0.9**
BLO Bloomington 61.51 62 IAmb IAmb 23 02 48.6
comp=Z,17nm,0.8s
G54A Lake Saint Pet 61.55 52 P 23 02 44.1
baz=315
833A Chaparral WMA, 61.56 79 P 23 02 45.1
baz=316
WLAR White Oak Lake 61.57 71 P **P 23 02 44.6 -0.3**
D55A Sainte-Anne-du 61.66 49 P 23 02 44.2
baz=316
H53A Bobcaygeon 61.90 53 P 23 02 47.0
baz=315
D56A ZEC Mazanza, M 61.98 49 P 23 02 47.6
baz=316
O49A Covington 62.00 60 IAmb IAmb 23 02 55.3
comp=Z,11nm,0.9s
PRGR Permogore 62.09 338 *eP* **P 23 02 47.8 -0.1**
PRGR *e**PP **pP 23 03 00.5 -1.3**
PRGR *e* 23 03 24.0
PRGR pmax pmax
comp=Z,16nm,0.6s
E56A St. Veronique 62.22 49 P 23 02 48.0
baz=316
P49A Miami Univ. Ec 62.25 61 P 23 02 48.8
baz=315,SNR=9.6
WCI Wyandotte Cave 62.30 63 P **P 23 02 48.9 -0.8**
WCI pmax pmax
comp=Z,25nm,0.8s
WCI Wyandotte Cave 62.30 63 P **P 23 02 48.9 -0.8**
WCI Wyandotte Cave 62.30 63 P 23 02 49.4
baz=315
BRZS Berezniki 62.52 317 *eP* **P 23 02 49.3 -1.7**
baz=317
BRZS Berezniki 62.52 317 *eP* **P 23 02 49.3 -1.7**
HKT Hockley 62.58 76 P **P 23 02 51.5 0.0**
HKT pmax pmax
comp=Z,24nm,1.3s
HKT Hockley 62.58 76 P **P 23 02 51.5 0.0**
HKT IAmb IAmb 23 03 04.1
comp=Z,24nm,1.3s
LATQ La Tuque 62.66 48 P 23 02 51.3
baz=317
ACSO Alum Creek Sta 62.70 59 IAmb IAmb 23 03 05.0
comp=Z,12nm,0.7s
ACSO Alum Creek Sta 62.70 59 P 23 02 52.5
baz=315
D58A Chemin du LacG 62.83 48 P 23 02 52.8
baz=317
ARU Arti 62.86 329 *c i* P **P 23 02 53.0 -0.1**
ARU *PP **pP 23 03 06.4 -0.6**
ARU 23 03 28.9
ARU S **S 23 11 17.5 -1.0**
ARU SS **SS 23 15 18.3 -4.9**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU MLR MLR
comp=Z,301nm,21.0s
ARU Arti 62.86 329 P **P 23 02 52.6 -0.5**
ARU IAmb IAmb 23 02 54.5
comp=Z,16nm,0.7s
WVT Waverly 62.92 65 P **P 23 02 54.0 +0.2**
WVT pmax pmax
comp=Z,15nm,1.0s
WVT Waverly 62.92 65 P **P 23 02 54.0 +0.2**
WVT IAmb IAmb 23 02 56.1
comp=Z,15nm,1.0s
WVT Waverly 62.92 65 P 23 02 53.1
baz=315
M53A WI Miller and 63.06 57 P 23 02 54.0
baz=316,SNR=5.1
OXF Oxford 63.16 68 P 23 02 55.8
baz=315
Q51A Peebles 63.36 60 P **P 23 02 56.7 -0.1**
M54A Oil Creek Stat 63.54 56 P 23 02 58.0
baz=316
P52A Corning 63.58 59 IAmb IAmb 23 03 10.6
comp=Z,12nm,0.8s
P52A Corning 63.58 59 P 23 02 57.9
baz=316
PLAL Pickwick Lake 63.59 66 IAmb IAmb 23 03 01.2
comp=Z,16nm,0.7s
O53A New Philadelph 63.63 58 IAmb IAmb 23 03 12.9
comp=Z,20nm,0.9s
O53A New Philadelph 63.63 58 P 23 02 58.6
baz=316
N54A Moraine State 63.76 57 IAmb IAmb 23 03 13.1
comp=Z,30nm,1.4s
N54A Moraine State 63.77 57 P 23 02 59.5
baz=316,SNR=6.8
V48A Smith Brothers 63.77 65 P **P 23 02 59.1 -0.4**
V48A IAmb IAmb 23 03 01.9
comp=Z,13nm,0.9s
KIRV Kirov 63.79 335 *ceP* **P 23 02 59.2 0.0**
U49A Red Boiling Sp 63.81 64 IAmb IAmb 23 03 02.5
comp=Z,12nm,0.8s
K56A Middlesex 63.88 54 P 23 03 00.2
baz=317,SNR=6.0
Q52A Bidwell 63.99 60 IAmb IAmb 23 03 13.6
comp=Z,16nm,0.8s
P53A Whipple 64.08 59 IAmb IAmb 23 03 15.3
comp=Z,16nm,0.8s
O54A Avella 64.12 58 P **P 23 03 01.1 -0.6**
O54A IAmb IAmb 23 03 15.8
comp=Z,16nm,0.8s
KLMR Klimovskoe 64.14 341 *eP* **P 23 03 00.9 -0.6**
KLMR *e* 23 03 34.7
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR Klimovskoe 64.14 341 *eP* **P 23 03 00.9 -0.6**
KLMR AMP 23 03 16.3
comp=Z,15nm,1.2s
KLMR *e*PcP **PcP 23 03 34.7 -1.4**
L56A Greenwood 64.17 54 P 23 03 02.3
baz=317,SNR=6.2
KMI Kunming 64.18 278 ⇑P **P 23 03 04.4 +1.8**
KMI pP pP 23 03 17.1 +0.8
KMI pmax pmax
comp=Z,9.0nm,1.1s
S51A Beattyville 64.22 62 P **P 23 03 01.5 -0.9**
S51A IAmb IAmb 23 03 17.6
comp=Z,14nm,0.7s
SHLS Shalkode 64.41 308 *eP* **P 23 03 01.9 -1.9**
baz=307
SHLS Shalkode 64.41 308 *eP* **P 23 03 01.8 -1.9**
X48A Hartselle 64.56 66 IAmb IAmb 23 03 10.1
comp=Z,11nm,0.6s
KPKS Kokpek 64.57 308 *eP* **P 23 03 03.2 -1.5**
baz=308
KPKS Kokpek 64.57 308 *eP* **P 23 03 03.2 -1.5**
D62A Allapoint, All 64.59 46 IAmb IAmb 23 03 07.1
comp=Z,14nm,1.1s
D62A Allapoint, All 64.59 46 P 23 03 03.8
baz=319
R53A Hurricane 64.62 60 IAmb IAmb 23 03 08.1
comp=Z,22nm,1.0s
SWET Sewanee 64.65 65 IAmb IAmb 23 03 07.5
comp=Z,12nm,0.9s
146A Union 64.70 69 P **P 23 03 05.5 -0.1**
Q54A Coxs Mills 64.75 59 IAmb IAmb 23 03 20.5
comp=Z,12nm,0.9s
BINY Binghamton 64.92 53 P 23 03 07.6
baz=317
TZTN Tazewell 65.03 62 IAmb IAmb 23 03 10.8
comp=Z,14nm,0.8s
TZTN Tazewell 65.03 62 P 23 03 08.1
baz=316,SNR=7.4
SSPA Standing Stone 65.10 56 P 23 03 08.2
baz=317
L58A Harry Jones Me 65.10 53 P 23 03 08.3
baz=317
V51A Loudon 65.12 63 P **P 23 03 08.5 +0.2**
V51A IAmb IAmb 23 03 11.0
comp=Z,17nm,0.7s
CPCT Cooper Cave 65.28 64 IAmb IAmb 23 03 11.9
comp=Z,9.2nm,0.7s
Y49A Blount Mountai 65.36 66 IAmb IAmb 23 03 10.7
comp=Z,13nm,0.8s
E63A Oxbow 65.37 46 P 23 03 09.3
baz=319
KUU Kurty 65.39 310 *eP* **P 23 03 09.0 -1.0**
baz=310
KUU Kurty 65.39 310 *eP* **P 23 03 08.9 -1.0**
LBNH Lisbon 65.39 49 P 23 03 09.4
baz=318
H62A Milan 65.51 49 P 23 03 10.6
baz=319
V52A Sevierville 65.51 63 P **P 23 03 10.0 -0.8**
MDOK Medeo 65.60 309 *eP* **P 23 03 10.0 -1.4**
baz=309
MDOK Medeo 65.60 309 *eP* **P 23 03 10.0 -1.4**
R55A Marlinton 65.64 59 IAmb IAmb 23 03 28.1
comp=Z,9.2nm,0.7s
X51A Calhoun 65.73 65 IAmb IAmb 23 03 24.7
comp=Z,30nm,1.3s
F64A Sherman 65.83 46 P 23 03 12.6
baz=320
W52A Murphy 65.87 64 IAmb IAmb 23 03 15.4
comp=Z,20nm,1.1s
FINES FINESS Array B 65.90 348 P **P 23 03 11.2 -1.7**
comp=Z,1.6nm,0.3s,baz=18,slow=6.3,SNR=19
FINES LR LR 23 36 37.4
comp=Z,87nm,18.1s,baz=23,slow=40
FINES FINESS Array B 65.90 348 *i* P **P 23 03 13.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.3s
MTBS Maitube 65.92 309 *eP* **P 23 03 11.3 -2.2**
baz=310
MTBS Maitube 65.92 309 *eP* **P 23 03 11.2 -2.2**
N59A State Game Lan 65.98 54 P 23 03 13.3
baz=318
U54A Nelsons Funny 66.00 61 P **P 23 03 14.2 +0.1**
V53A Saluda 66.08 63 IAmb IAmb 23 03 27.5
comp=Z,13nm,0.8s
BLA Blacksburg 66.26 60 IAmb IAmb 23 03 31.9
comp=Z,14nm,0.8s
BLA Blacksburg 66.26 60 P 23 03 16.1
baz=317
Z51A Franklin 66.46 66 IAmb IAmb 23 03 31.8
comp=Z,22nm,0.9s
BG3 Lake Jocassee 66.50 63 P **P 23 03 17.8 +0.6**
BG3 IAmb IAmb 23 03 20.3
comp=Z,18nm,0.7s
SGDS Sogindy 66.54 311 *eP* **P 23 03 13.3 -4.2**
baz=311
SGDS Sogindy 66.54 311 *eP* **P 23 03 13.2 -4.2**
Y52A Lilburn 66.69 65 IAmb IAmb 23 03 30.9
comp=Z,20nm,1.1s
V55A Taylorsville 66.83 61 IAmb IAmb 23 03 22.4
comp=Z,14nm,0.8s
U56A King 66.92 60 IAmb IAmb 23 03 37.1
comp=Z,14nm,0.7s
BRAL Brewton 66.94 69 P 23 03 20.4
baz=317
T57A Hurt 67.05 59 IAmb IAmb 23 03 36.5
comp=Z,8.9nm,0.8s
152A Waverly Hall 67.19 66 IAmb IAmb 23 03 22.2
comp=Z,14nm,0.8s
KMSC Kings Mountain 67.28 62 P 23 03 22.3
baz=317,SNR=13
SIJI Sorong 67.32 237 P **P 23 03 21.5 -1.1**
comp=Z,17nm,0.7s,baz=30,slow=6.9,SNR=15
GOGA Godfrey 67.36 65 IAmb IAmb 23 03 38.6
comp=Z,13nm,0.8s
GOGA Godfrey 67.36 65 P 23 03 22.7
baz=317,SNR=12
NOA NORSAR Array B 67.70 355 P **P 23 03 23.3 -1.1**
comp=Z,0.3nm,0.4s,baz=1.1,slow=14,SNR=8.4
NOA LR LR 23 31 37.0
comp=Z,148nm,21.8s,baz=355,slow=35
LSA Lhasa 67.88 290 P **P 23 03 28.7 +2.1**
352A Blakely 67.94 67 P **P 23 03 26.1 -0.2**
JSC Jenkinsville 67.96 63 IAmb IAmb 23 03 29.4
comp=Z,11nm,0.8s
AKTO Aktyubinsk 67.96 325 LR LR 23 35 07.5
comp=Z,350nm,21.6s,baz=35,slow=38
T59A Double "B" Far 67.98 58 IAmb IAmb 23 03 41.9
comp=Z,14nm,1.1s
W57A Gilead 68.01 61 IAmb IAmb 23 03 40.2
comp=Z,16nm,1.2s

BIRD **Birdtown, Kers** **68.13 62** lAmb lAmb 23 03 30.4
comp=Z,13nm,0.8s
154A Montrose **68.15 65** P **P** **23 03 27.2 -0.4**
ABKAR **Akbulak array** **68.23 323** P **P** **23 03 27.5 -0.4**
ABKAR **Akbulak array** **68.23 323** lAmb lAmb 23 03 29.2
comp=Z,7.0nm,0.9s
TAOE Nuku Hiva Isla **68.31 139** *e*LR LR 23 24 09.6
comp=Z,858nm,22.8s
TAOE Nuku Hiva Isla **68.31 139** *e*T T 00 17 52.6
comp=Z,41nm,0.2s
VSU Vasula **68.68 346** *e*P **P** **23 03 30.1 -0.3**
VSU Vasula **68.68 346**⇓ *e*P **P** **23 03 30.2 -0.3**
VSU pmax pmax
comp=Z,50nm,1.0s
KKAR Karatay Array **68.73 313** P **P** **23 03 30.6 -0.6**
KKAR Karatay Array **68.73 313** P **P** **23 03 30.6 -0.6**
KKAR Karatay Array **68.73 313** lAmb lAmb 23 03 32.8
comp=Z,4.7nm,0.7s
MOS Moscow **69.24 339** *e*P **P** **23 03 31.6 -2.4**
MOS pmax pmax
comp=Z,36nm,1.1s
NHSC New Hope **69.43 63** P 23 03 35.9
baz=318
BELG Belogornoye **69.68 332** LR LR 23 36 29.4
comp=Z,401nm,21.6s,baz=348,slow=38
BELG Belogornoye **69.68 332**⇑ *e*P **P** **23 03 36.4 -0.4**
BELG pmax pmax
comp=Z,7.0nm,1.4s
IUG luzhnay **69.70 313** *e*P **P** **23 03 36.5 -0.9**
baz=313
IUG luzhnay **69.70 313** *e*P **P** **23 03 36.4 -0.9**
OBN Obninsk **70.05 340**⇑ *e*P **P** **23 03 38.7 -0.3**
OBN *e* 23 06 11.1
OBN *e*S **SKSac** **23 13 35.4 0.0**
OBN pmax pmax
comp=Z,60nm,2.5s
OBN MLR MLR
comp=Z,239nm,21.0s
SHL Shillong **70.50 287** P **P** **23 03 42.3 -0.2**
SHL pmax pmax
comp=Z,225nm,1.5s
SHL Shillong **70.50 287** P **P** **23 03 42.3 -0.2**
CHTO Chiang Mai **71.20 277** P **P** **23 03 45.9 -0.7**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai **71.20 277** P **P** **23 03 45.9 -0.7**
CMAR Chiang Mai Arr **71.47 276** P **P** **23 03 48.9 +0.6**
comp=Z,2.8nm,0.5s,baz=24,slow=7.1,SNR=9.3
CMAR LR LR 23 37 06.2
comp=Z,81nm,20.7s,baz=52,slow=37
TAPN Taplejung **71.64 291** *e*P **P** **23 03 50.8 +1.2**
comp=Z,231nm,0.8s
PBUR Paburge **71.70 348** *e*P **P** **23 03 49.0 -0.1**
IDID Didziasalis **71.71 345** *e*P **P** **23 03 48.7 -0.4**
IIGN Ignalina **71.75 346** *e*P **P** **23 03 49.0 -0.4**
LPSR Galich'ya Gora **71.82 337** *e*P **P** **23 03 49.2 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
PABE Paberze **71.94 347** *e*P **P** **23 03 49.7 -0.7**
GAR Garm **72.04 310** lAmb lAmb 23 04 00.5
comp=Z,13nm,0.6s
ODAN Odare **72.20 291** *e*P **P** **23 03 53.9 +1.1**
comp=Z,92nm,0.9s
GUN Gumba **72.29 293** *e*P **P** **23 03 54.9 +1.4**
comp=Z,191nm,0.5s
JIRN Jiri **72.30 292** *e*P **P** **23 03 54.9 +1.4**
comp=Z,301nm,0.7s
MNK Minsk **72.30 344** *i* P **P** **23 03 50.9 -1.7**
MNK *i* *PP **pP** **23 04 05.2 -1.5**
MNK *i* 23 06 32.2
MNK *i* PPP PPP 23 08 16.5
MNK *i* S **S** **23 13 10.1 -1.5**
MNK *i* *SS **sS** **23 13 36.1 +0.9**
MNK *i* SS **SS** **23 17 45.6 -3.3**
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK pmax pmax
comp=N,11nm,1.1s
MNK MLR MLR
comp=Z,173nm,20.0s
MNK MLR MLR
comp=N,121nm,17.0s
MNK MLR MLR
comp=E,19nm,19.0s
MNK Minsk **72.30 344** *i* P **P** **23 03 51.0 -1.7**
comp=E,2.0nm,1.0s
MNK *i* P **P** **23 03 51.0 -1.7**
comp=N,11nm,1.1s
MNK *i* P **P** **23 03 51.0 -1.7**
comp=Z,13nm,0.8s,baz=196
MNK *i* pP **pP** **23 04 05.2 -1.5**
MNK *i* PP **PP** **23 06 32.3 -0.8**
MNK *i* PPP PPP 23 08 16.6
MNK *i* S **S** **23 13 10.1 -1.4**
MNK *i* sS **sS** **23 13 36.1 +1.0**
MNK *i* SS **SS** **23 17 45.7 -3.2**
MNK *i* SSS SSS 23 21 12.2
MNK *i* LQ LQ 23 30 51.3
MNK *i* LR LR 23 34 24.0
MNK *i* LRM MLR 23 38 07.6
comp=Z,173nm,19.6s
MNK *i* LRM MLR 23 38 09.0
comp=N,121nm,16.6s
MNK *i* LRM MLR 23 38 14.1
comp=E,19nm,18.8s
VRH Novokhopyorsk **72.39 335** *e*P **P** **23 03 50.9 -2.3**
VRH pmax pmax
comp=Z,20nm,0.6s
RAMN Ramite **72.59 291** *e*P **P** **23 03 56.1 +0.9**
comp=Z,238nm,0.7s
KKN Kakani **72.73 293** *e*P **P** **23 03 57.0 +1.1**
comp=Z,102nm,0.7s
PKI Pulchoki **72.82 293** *e*P **P** **23 03 57.2 +0.6**
comp=Z,102nm,0.8s
PKIN Phulchoki **72.82 293** *e*P **P** **23 03 57.3 +0.8**
comp=Z,83nm,0.8s
CHGR Chuyangaron **72.87 311** lAmb lAmb 23 04 11.8
comp=Z,16nm,0.7s
GKN Gorkha **72.94 293** *e*P **P** **23 03 57.9 +0.8**
comp=Z,134nm,0.8s
DMN Daman **72.96 293** *e*P **P** **23 03 58.5 +1.1**
comp=Z,112nm,0.9s
PPT Papeete **73.03 152** LR LR 23 28 05.2
comp=Z,224nm,19.9s,baz=5.0,slow=29
VSR Storozhevoye **73.04 337** *e*P **P** **23 03 55.6 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
PPT2 Papeete2 **73.05 152** *e*LR LR 23 26 21.7
comp=Z,544nm,28.0s
PPT2 Papeete2 **73.05 152** *e*T T 00 23 47.6
comp=Z,10nm,0.4s
DANN Dangsing **73.18 294** *e*P **P** **23 03 59.5 +0.8**
comp=Z,124nm,0.7s
KOLN Koldanda **73.71 294** *e*P **P** **23 04 02.4 +0.7**
comp=Z,83nm,0.9s
PYUN Piuthan **73.81 295** *e*P **P** **23 04 03.2 +0.9**
DZM Mont Dzumac **74.37 195** *e*P **P** **23 04 05.7 +0.5**
comp=Z,49nm,1.2s
DZM *e*pP **PcP** **23 04 19.4 -0.3**
comp=Z,32nm,1.2s
DZM Mont Dzumac **74.37 195** *e*LR LR 23 27 01.9
comp=Z,518nm,24.4s
DZM Mont Dzumac **74.37 195** P **P** **23 04 04.7 -0.5**
comp=Z,12nm,0.8s,baz=67,slow=10,SNR=8.6
DZM Mont Dzumac **74.37 195** P **P** **23 04 05.4 +0.2**
DZM lAmb lAmb 23 04 07.3
comp=Z,17nm,0.9s
NIL Nilore **74.80 305** P **P** **23 04 07.8 0.0**
NIL pmax pmax
comp=Z,12nm,0.7s
NIL Nilore **74.80 305** P **P** **23 04 07.8 0.0**
NIL lAmb lAmb 23 04 10.6
comp=Z,12nm,0.7s
BSEG Bad Segeberg **74.84 355** *e*L L 23 35 00.7
comp=Z,164nm,20.0s
SOR Soroa **75.58 72** P **P** **23 04 13.7 +1.4**
SOR pmax pmax
comp=Z,19nm,0.9s
SOR Soroa **75.58 72** P **P** **23 04 13.7 +1.4**
SOR lAmb lAmb 23 04 29.4
comp=Z,19nm,0.9s
AKASG Malin Array Be **75.70 342** P **P** **23 04 12.3 -0.2**
comp=Z,3.6nm,0.3s,baz=21,slow=5.8,SNR=37
AKASG LR LR 23 40 43.7
comp=Z,173nm,21.1s,baz=10.0,slow=38
AKBB Malin Array Si **75.70 342**⇓ *i*P **P** **23 04 12.1 -0.5**
AKBB pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si **75.70 342** lAmb lAmb 23 04 13.9
comp=Z,9.7nm,0.7s
KBL Kabul **76.21 308** P **P** **23 04 15.4 -0.6**
KBL pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul **76.21 308** P **P** **23 04 15.4 -0.6**
CLL Collm **77.28 353** *e*P **P** **23 04 21.0 -0.5**
CLL *e* 23 04 28.0
CLL *e*pP **PcP** **23 04 31.0 -0.9**
CLL LmH 23 41 00.0
comp=N,100nm,21.7s
CLL LmH 23 41 00.0
comp=E,200nm,18.5s
CLL Collm **77.28 353** *e*P **P** **23 04 21.0 -0.5**
CLL *e* 23 04 28.0
CLL Collm **77.28 353** *e*L L 23 35 11.4
comp=E,162nm,20.0s
LVV L'vov **77.45 346** *e*P **P** **23 04 22.9 +0.4**
GOF Gofitskoye **77.60 332**⇑ *i*P **P** **23 04 24.0 +0.6**
GOF pmax pmax
comp=Z,95nm,0.9s
BRG Berggiesshubel **77.63 352** *e*P **P** **23 04 22.7 -0.8**
BRG Amp 23 04 24.6
comp=Z,21nm,1.8s
CHVC Chvalec **77.72 351** *e*P **P** **23 04 24.5 +0.5**
CTAO Charters Tower **77.72 214** P **P** **23 04 24.1 -0.1**
CTAO pmax pmax
comp=Z,16nm,1.0s
CTAO Charters Tower **77.72 214** P **P** **23 04 24.1 -0.1**
CTAO lAmb lAmb 23 04 25.4
comp=Z,16nm,1.0s
OSTC Ostas **77.73 351** *e*P **P** **23 04 27.6 +3.5**
UPC Upice **77.80 351** AMS AMS 23 34 40.0
comp=Z,300nm,11.7s
KWP Kalwaria Pacla **77.83 346** *e*P **P** **23 04 25.8 +1.2**
PVCC Panska Ves **77.92 352** *e*P **P** **23 04 26.2 +1.1**
PVCC MLR MLR
comp=Z,300nm,12.9s
PVCC Panska Ves **77.92 352** *e*P **P** **23 04 26.2 +1.1**
PVCC AMS AMS 23 41 20.0
comp=Z,300nm,12.9s
DPC Dobruska-Polom **77.93 351** *e*P **P** **23 04 25.2 0.0**
DPC *e* 23 04 31.5
DPC MLR MLR
comp=Z,200nm,17.7s
DPC Dobruska-Polom **77.93 351** *e*P **P** **23 04 25.2 0.0**
DPC *ex* x 23 04 31.5
DPC AMS AMS 23 38 00.0
comp=Z,200nm,17.7s
MOX Moxa **78.04 354** *e*L L 23 34 29.2
comp=Z,157nm,21.0s
KRLC Kraliky **78.15 350** *e*P **P** **23 04 26.2 -0.2**
KRLC *e* 23 04 29.9
KRLC MLR MLR
comp=Z,200nm,14.4s
KRLC Kraliky **78.15 350** *e*P **P** **23 04 26.2 -0.2**
KRLC *ex* x 23 04 29.9
KRLC AMS AMS 23 37 00.0
comp=Z,200nm,14.4s
OKC Ostrava-Krasne **78.23 349** AMS AMS 23 41 00.0
comp=Z,300nm,21.1s
STHS Stebnicka Huta **78.25 347** *e*P **P** **23 04 28.5 +1.5**
STHS Stebnicka Huta **78.25 347** *e*P **P** **23 04 28.5 +1.5**
SORM Soroca **78.33 342**⇑ P **P** **23 04 27.2 -0.1**
SORM Soroca **78.33 342** P **P** **23 04 27.0 -0.3**
MEM Membach **78.35 357** *d*P **P** **23 04 27.5 +0.1**
MORC Moravsky Berou **78.36 350** *e*P **P** **23 04 28.3 +0.7**
BTNL Ternell **78.36 357** *d*P P 23 04 21.7 -5.9
BTNL *d*PcP **PcP** **23 04 37.3 +0.6**
PRA Prague **78.39 352** AMS AMS 23 42 10.0
comp=Z,400nm,23.0s
NKC Novy Kostel **78.39 353** *e*P **P** **23 04 27.9 +0.2**
NKC *e* 23 04 32.5
NKC Novy Kostel **78.39 353** *e*P **P** **23 04 27.9 +0.2**
NKC *ex* x 23 04 32.5
GEYT Alibeck **78.41 318** P **P** **23 04 28.6 +0.5**
comp=Z,5.8nm,0.6s,baz=318,slow=2.0,SNR=11
GEYT LR LR 23 41 59.4
comp=Z,469nm,21.0s,baz=230,slow=38
GEYT Alibeck **78.41 318** lAmb lAmb 23 04 40.1
comp=Z,19nm,0.8s
GROC Groznyy **78.41 329** *e*P **P** **23 04 28.3 +0.4**
GROC *e* 23 04 38.0
GROC *e* 23 07 25.6
GROC pmax pmax
comp=Z,10.0nm,0.6s
PRU Pruhonice **78.46 352** *e*P **P** **23 04 28.5 +0.5**
PRU MLR MLR
comp=Z,200nm,21.5s
PRU Pruhonice **78.46 352** *e*P **P** **23 04 28.5 +0.5**
PRU AMS AMS 23 41 20.0
comp=Z,200nm,21.5s
TBI Tubuai **78.53 153** *e*LR LR 23 28 45.7
comp=Z,571nm,29.2s,baz=348
TBI Tubuai **78.53 153** *e*T T 00 30 38.3
comp=Z,8.9nm,0.4s
KOLS Kolonicke sedl **78.58 346** *e*P **P** **23 04 30.1 +1.3**
KOLS Kolonicke sedl **78.58 346** *e*P **P** **23 04 30.1 +1.3**
TNS Taunus Mts **78.64 356** *e*L L 23 46 58.3
comp=Z,170nm,20.7s
KVAR Kislovodsk Arr **78.70 331** LR LR 23 43 52.1
comp=Z,293nm,20.4s,baz=281,slow=39
KIV Kislovodsk **78.71 331**⇑ P **P** **23 04 30.0 +0.3**
KIV Kislovodsk **78.71 331** *e*P **P** **23 04 29.7 0.0**
KIV pmax pmax
comp=Z,53nm,1.0s
KIV MLR MLR
comp=Z,586nm,18.0s
KIV Kislovodsk **78.71 331** P **P** **23 04 29.7 0.0**
KIV lAmb lAmb 23 04 31.1
comp=Z,16nm,0.9s
CRVS Cervenica-Dubn **78.73 347** *e*P **P** **23 04 30.9 +1.3**
CRVS Cervenica-Dubn **78.73 347** *e*P **P** **23 04 30.9 +1.3**
LANS Liptovska Anna **78.75 348** *e*P **P** **23 04 31.0 +1.3**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna **78.75 348** *e*P **P** **23 04 31.0 +1.3**
NCK Nalchik **78.84 330**⇑ *e*P **P** **23 04 31.2 +0.9**
NCK pmax pmax
comp=Z,45nm,0.8s
UZH Uzhgorod **78.87 346** *e*P **P** **23 04 30.2 -0.1**
UZH *e* 23 04 36.6
VRAC Vranov **78.93 350**⇑ P **P** **23 04 31.6 +0.9**
VRAC Vranov **78.93 350** *e*P **P** **23 04 31.1 +0.4**
MILB Miltenberg **78.99 355** *e*L L 23 37 37.3
comp=Z,140nm,20.4s
GRF Grafenberg Arr **79.01 354** *e*P **P** **23 04 31.5 +0.4**
comp=Z,32nm,1.5s,baz=7.9,slow=4.7
GRF *e*L L 23 34 17.2
comp=Z,174nm,20.6s
TREC Trest **79.05 351** AMS AMS 23 36 50.0
comp=Z,200nm,13.1s
KRUC Moravsky **79.19 350** *e*P **P** **23 04 32.4 +0.3**
JAVC Velka Javorina **79.25 349** *e*P **P** **23 04 34.1 +1.6**
TRPA Tarpa **79.32 346**⇑ P **P** **23 04 32.9 +0.1**
ZEI Tsey **79.39 330** *e*P **P** **23 04 31.6 -2.0**
ZEI pmax pmax
comp=Z,30nm,0.9s
KHC Kasperske Hory **79.39 352** *e*P **P** **23 04 33.8 +0.6**
KHC *e* 23 04 37.8
KHC MLR MLR
comp=Z,300nm,18.6s
KHC Kasperske Hory **79.39 352** *e*P **P** **23 04 33.8 +0.6**
KHC *ex* x 23 04 37.8
KHC AMS AMS 23 35 10.0
comp=Z,300nm,18.6s
BURAR Bucovina Array **79.39 344**⇑ P **P** **23 04 33.6 +0.2**
BURAR Bucovina Array **79.39 344** P **P** **23 04 33.3 -0.1**
BURAR Bucovina Array **79.39 344** P **P** **23 04 33.5 +0.2**
BURAR lAmb lAmb 23 04 35.3
comp=Z,17nm,0.6s
WET Wettzell **79.44 353** *e*L L 23 42 13.0
comp=Z,190nm,19.7s
KOLL Kolacno **79.44 349** *e*P **P** **23 04 34.7 +1.2**
VYHS Vyhne **79.47 349** *e*P **P** **23 04 34.8 +1.1**
VYHS Vyhne **79.47 349** *e*P **P** **23 04 34.8 +1.1**
CKRC Cesky Krumlov **79.64 352** *e*P **P** **23 04 34.4 -0.2**
GEC2 GERESS Array S **79.66 352** *e*L L 23 42 49.6
comp=Z,152nm,20.3s
GERES GERESS Array B **79.66 352** P **P** **23 04 34.3 -0.5**
comp=Z,1.3nm,0.6s,baz=23,slow=4.7,SNR=13
GERES LR LR 23 38 41.8
comp=Z,80nm,21.7s,baz=7.5,slow=35
GERES GERESS Array B **79.66 352** P **P** **23 04 34.8 0.0**
GERES GERESS Array B **79.66 352** P **P** **23 04 34.8 0.0**
VASR Vaslui **79.87 342**⇑ P **P** **23 04 37.3 +1.4**
BIZ Bicaz **79.89 343**⇑ P **P** **23 04 37.3 +1.3**
PSZ Piszkesteto **79.90 348**⇑ P **P** **23 04 37.3 +1.2**
SOC Sochi **79.91 333** *e*P **P** **23 04 35.4 -0.7**
SOC *e**PP **pP** **23 04 49.4 -1.1**
SOC *e* 23 07 39.6
SOC *e*PPP PPP 23 09 23.4
SOC *e*S **S** **23 14 36.6 +1.0**
SOC *e*SS **SS** **23 19 47.3 +2.9**
SOC *e*SSS SSS 23 23 09.8
SOC pmax pmax
comp=Z,8.0nm,0.8s
SOC MLR MLR
comp=Z,459nm,21.0s
ZST Bratislava **79.97 350** *e*P **P** **23 04 37.4 +1.1**
ZST Bratislava **79.97 350** *e*P **P** **23 04 37.4 +1.1**
ARCR ARCALIA **80.05 345**⇑ P **P** **23 04 38.8 +2.0**
TESR Tescani **80.21 343**⇑ P **P** **23 04 37.8 +0.1**
CONA Conrad Observa **80.37 351** *i* P **P** **23 04 39.4 +0.7**
comp=Z,4.3nm,0.7s
GHRR **80.50 342**⇑ P **P** **23 04 40.8 +1.6**
FUR Furstenfeldbru **80.53 354** *e*L L 23 44 21.6
comp=Z,146nm,20.2s
BFO Black Forest **80.53 356** *e*L L 23 38 12.1
comp=Z,166nm,19.7s
CJR Cluj-Napoca **80.54 345**⇑ P **P** **23 04 40.1 +0.6**
DRGR **80.60 346**⇑ P **P** **23 04 39.9 0.0**
OZUR **80.77 343**⇑ P **P** **23 04 42.3 +1.6**
AKH Akhalkalaki **80.77 330**⇑ P **P** **23 04 42.1 +1.1**
VRI Vrincioaia **80.81 343**⇑ P **P** **23 04 42.0 +1.0**
VRI Vrincioaia **80.81 343** P **P** **23 04 42.3 +1.4**
PLOR Plostina **80.84 343**⇑ P **P** **23 04 42.5 +1.3**
PLOR Plostina **80.84 343** P **P** **23 04 43.5 +2.4**
ODBI Odobesti **80.85 342**⇑ P **P** **23 04 43.5 +2.4**
DOPR Dopca **80.96 344**⇑ P **P** **23 04 42.9 +1.1**
TLCR **81.06 341**⇑ P **P** **23 04 43.2 +0.9**
ARSA Arzberg **81.07 351** *i* P **P** **23 04 41.3 -1.0**
comp=Z,6.1nm,1.1s
BISRR Bisoca **81.12 343**⇑ P **P** **23 04 44.2 +1.6**
CFR Carcaliu **81.21 342**⇑ P **P** **23 04 43.0 0.0**
CFR Carcaliu **81.21 342** P **P** **23 04 43.4 +0.4**
GRER **81.24 342**⇑ P **P** **23 04 45.6 +2.4**
MLR Muntele Rosu **81.32 343** LR LR 23 46 33.8
comp=Z,205nm,18.3s,baz=12,slow=40
MLR Muntele Rosu **81.32 343**⇑ P **P** **23 04 44.6 +0.9**
MLR Muntele Rosu **81.32 343** P **P** **23 04 45.0 +1.2**
MLR Muntele Rosu **81.32 343** lAmb lAmb 23 04 46.5
comp=Z,18nm,0.9s
WATA Walderalm **81.33 353** *i* P **P** **23 04 44.2 +0.3**
comp=Z,12nm,1.5s
MOTA Moosalm **81.36 354** *i* P **P** **23 04 44.6 +0.7**
comp=Z,10nm,1.3s
WTTA Wattenberg **81.40 353** *e*P **P** **23 04 44.9 +0.6**
comp=Z,6.5nm,0.9s
KBA Koelnbreinsper **81.45 352** *i* P **P** **23 04 45.5 +1.0**
comp=Z,16nm,0.8s
JURR Jurilovca **81.45 341**⇑ P **P** **23 04 45.1 +0.9**
TPGR Topolog **81.46 341**⇑ P **P** **23 04 44.9 +0.6**
GNI Garni **81.50 328** LR LR 23 45 33.4
comp=Z,295nm,19.9s,baz=27,slow=39
GNI Garni **81.50 328***c* *i*P **P** **23 04 45.9 +1.0**
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni **81.50 328** P **P** **23 04 45.5 +0.6**
GNI lAmb lAmb 23 04 47.2
comp=Z,13nm,0.8s
VOIR **81.53 344**⇑ P **P** **23 04 46.1 +1.3**
VOIR **81.53 344** P **P** **23 04 46.4 +1.5**
ARR Arges **81.67 344**⇑ P **P** **23 04 46.9 +1.3**
SOKA Soboth **81.69 351** *e*P **P** **23 04 46.3 +0.6**
comp=Z,11nm,0.9s,SNR=12
FETA Feichten **81.70 354** *e*P **P** **23 04 46.4 +0.6**
comp=Z,6.8nm,1.1s
HARR Harsova **81.72 342**⇑ P **P** **23 04 45.4 -0.3**
PERS Pernice **81.72 351** *i* P **P** **23 04 45.9 +0.1**
MORH Mrgy, Hungar **81.74 348**⇑ P **P** **23 04 46.9 +1.1**
MORH Mrgy, Hungar **81.74 348**⇑ *i*P **P** **23 04 43.7 -2.1**
TIRR Tirgusor **81.84 341**⇑ P **P** **23 04 46.6 +0.2**
TIRR Tirgusor **81.84 341** P **P** **23 04 46.8 +0.4**
ABTA Abfaltersbach **81.85 353** *i* P **P** **23 04 46.8 +0.3**
comp=Z,9.8nm,1.5s
OBKA Obir **81.90 351** *e*P **P** **23 04 47.2 +0.4**
comp=Z,7.5nm,0.7s
AMRR Amara **81.91 342**⇑ P **P** **23 04 47.4 +0.7**
BZS Buzias **81.92 346**⇑ P **P** **23 04 47.1 +0.4**
BZS Buzias **81.92 346** P **P** **23 04 47.1 +0.4**
GZR Gura Zlata **81.95 345**⇑ P **P** **23 04 47.3 +0.3**
PRED Cave del Predi **82.06 352** lAmb lAmb 23 04 49.8
comp=Z,15nm,0.7s
WRA Warramunga Arr **82.32 225** P **P** **23 04 48.4 -0.6**
comp=Z,3.5nm,0.8s,baz=38,slow=6.4,SNR=13
WRA LR LR 23 35 53.8
comp=Z,89nm,21.8s,baz=225,slow=32
WRA Warramunga Arr **82.32 225** P **P** **23 04 48.5 -0.6**
CRES Cresnjev **82.49 351** *e*P **P** **23 04 49.9 +0.1**
HERR Herculane **82.51 345**⇓ P **P** **23 04 50.1 +0.2**
SGRR Singureni **82.54 343**⇓ P **P** **23 04 50.1 +0.1**
FRGS Fruska Gora **82.62 347**⇑ P **P** **23 04 51.6 +1.1**
FRGS Fruska Gora **82.62 347**⇑ *i*P **P** **23 04 50.3 -0.2**
CEY Cerknica **82.68 351**⇑ *i*P **P** **23 04 49.9 -0.9**
MDVR Moldovita **82.72 346**⇑ P **P** **23 04 51.8 +0.8**
COPA Copaceanca **82.77 343**⇑ P **P** **23 04 51.2 0.0**
BOJS Bojanci **82.83 351** *e*P **P** **23 04 51.3 -0.2**
KALB Balgarevo **82.85 341**⇓ P **P** **23 04 52.1 +0.5**
KOPT Kop Dagi **82.96 331** P **P** **23 04 53.8 +1.1**
KOPT lAmb lAmb 23 04 56.7
comp=Z,9.5nm,0.9s
MRAK Mrakovica **83.14 349**⇑ *i*P **P** **23 04 53.8 +0.6**
BAIL Bailesti **83.20 345**⇑ P **P** **23 04 52.6 -0.8**
TEKS Tekeris **83.26 347**⇑ *i*P **P** **23 04 52.6 -1.2**
BLY Banja Luka **83.36 349** *e*P **P** **23 04 53.5 -0.8**
PSI Prapat **83.45 266** P **P** **23 04 54.5 -0.8**
comp=Z,4.7nm,0.4s,baz=0.2,slow=5.7,SNR=7.7
RPSI Rantau Prapat **83.54 266** lAmb lAmb 23 05 01.6
comp=Z,12nm,0.9s
ORTG Ortega, Santa **83.62 82** P **P** **23 04 55.4 -0.7**
ORTG lAmb lAmb 23 05 12.6
comp=Z,13nm,0.8s
DIVS Divibare **83.64 347**⇑ *i*P **P** **23 04 55.4 -0.4**
DIVS Divibare **83.64 347** lAmb lAmb 23 04 57.2
comp=Z,14nm,0.9s
GEVA Gevas **83.72 329** lAmb lAmb 23 04 58.2
comp=Z,22nm,1.0s
BOVS Bovan **83.84 346**⇑ P **P** **23 04 56.2 -0.5**
ILGA Ilgaz **83.88 336** lAmb lAmb 23 04 59.6
comp=Z,23nm,1.3s
BBLS Lazići **83.95 347**⇑ *i*P **P** **23 04 57.6 +0.2**
RUDO Rudo **84.20 347** *e*P **P** **23 04 58.2 -0.4**
ZCCA Zocca **84.34 353** P **P** **23 05 00.8 +1.5**
ZCCA lAmb lAmb 23 05 02.9
comp=Z,18nm,0.9s
VTS Vitosha **84.58 344**⇑ P **P** **23 05 00.7 -0.1**
VTS Vitosha **84.58 344** P **P** **23 05 00.8 +0.1**
VTS Vitosha **84.58 344** lAmb lAmb 23 05 01.8
comp=Z,13nm,0.8s
HYB Hyderabad **84.65 291** *i* P **P** **23 05 01.0 -0.3**
comp=Z,46nm,0.8s
UPM Unac-Piva **84.67 348** *e*P **P** **23 05 00.7 -0.5**
FITZ Fitzroy Crossi **84.82 233** P **P** **23 05 02.5 +0.6**
comp=Z,14nm,0.8s,baz=74,slow=2.9,SNR=18
BRY Bratogost **85.01 348** *e*P **P** **23 05 02.4 -0.5**
BR131 Keskin Array S **85.15 336***c* *i*P **P** **23 05 03.6 0.0**
BRTR Keskin Array B **85.15 336** P **P** **23 05 03.6 0.0**
comp=Z,15nm,0.7s,baz=53,slow=2.8,SNR=113
BRTR LR LR 23 48 29.9
comp=Z,144nm,19.4s,baz=41,slow=40
BRTR Keskin Array B **85.15 336** P **P** **23 05 03.5 -0.1**
STON Ston **85.15 348**⇑ *i*P **P** **23 05 01.4 -1.9**
TREB Trebinje **85.22 348** *e*P **P** **23 05 03.3 -0.4**
ANTO Ankara **85.23 337** P **P** **23 05 03.8 -0.1**
ANTO pmax pmax
comp=Z,18nm,1.0s
ANTO Ankara **85.23 337** P **P** **23 05 03.8 -0.1**
ANTO lAmb lAmb 23 05 05.6
comp=Z,18nm,0.9s
PDG Podgorica **85.38 347**⇑ P **P** **23 05 04.3 -0.2**
PDG Podgorica **85.38 347**⇑ *i*P **P** **23 05 04.1 -0.4**
HCY Herceg Novi **85.46 348** *e*P **P** **23 05 04.3 -0.7**

DRME	**Dracevica, Mon**	**85.63**	**347**	⇑*i*P		**P**	**23 05 05.6**	**-0.2**
AS31	**Alice Springs**	**85.79**	**223**	P		**P**	**23 05 06.5**	**-0.1**
ASAR	**Alice Springs**	**85.79**	**223**	P		**P**	**23 05 06.8**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=29,slow=4.7,SNR=53							
ASAR				LR		LR	23 40 13.1	
	comp=Z,71nm,19.8s,baz=28,slow=33							
ASAR	**Alice Springs**	**85.79**	**223**	P		**P**	**23 05 06.5**	**-0.1**
CASP	**Castiglione de**	**85.91**	**353**	IAmb		IAmb	23 05 07.2	
	comp=Z,12nm,0.9s							
AQU	**L'Aquila**	**86.13**	**352**	⇑*i*P		**P**	**23 05 08.4**	**+0.1**
INTR	**Introdacqua**	**86.42**	**351**	IAmb		IAmb	23 05 11.6	
	comp=Z,20nm,1.1s							
POO	**Poona**	**86.48**	**295**	*e*P		**P**	**23 05 06.0**	**-4.4**
SGRT	**San Giovanni R**	**86.48**	**350**	P		**P**	**23 05 09.1**	**-1.0**
FNA	**Florina**	**86.67**	**345**	IAmb		IAmb	23 05 11.9	
	comp=Z,9.9nm,0.7s							
POLO	**Lamas de Olo**	**87.25**	**7**	*e*P		**P**	**23 05 13.6**	**-0.3**
	comp=Z,7.8nm,1.4s							
PAOL	**Paolisi**	**87.33**	**350**	P		**P**	**23 05 13.4**	**-0.8**
PAOL				IAmb		IAmb	23 05 14.8	
	comp=Z,8.7nm,1.1s							
PVRL	**Vila Real**	**87.36**	**7**	*e*P		**P**	**23 05 14.4**	**+0.1**
	comp=Z,23nm,1.8s							
MVO	**Moncorvo**	**87.52**	**7**	*e*P		**P**	**23 05 14.8**	**-0.3**
	comp=Z,16nm,1.9s							
PVIS	**Viseu**	**87.90**	**7**	*e*P		**P**	**23 05 16.8**	**-0.1**
	comp=Z,21nm,1.8s							
MTE	**Manteigas**	**88.24**	**7**	*e*P		**P**	**23 05 17.5**	**-1.1**
	comp=Z,26nm,2.0s							
PCAS	**Casmilo, Conde**	**88.50**	**8**	*e*P		**P**	**23 05 17.8**	**-2.0**
	comp=Z,26nm,1.4s							
PCBR	**Castelo Branco**	**88.80**	**7**	*e*P		**P**	**23 05 20.5**	**-0.6**
	comp=Z,14nm,1.5s							
TIP	**Timpagrande**	**88.91**	**349**	⇑P		**P**	**23 05 21.4**	**-0.3**
ESDC	**Sonseca Array**	**89.19**	**5**	P		**P**	**23 05 22.4**	**-0.6**
	comp=Z,3.7nm,0.6s,baz=349,slow=4.1,SNR=47							
ESDC				LR		LR	23 46 48.7	
	comp=Z,73nm,19.3s,baz=355,slow=36							
ESDC	**Sonseca Array**	**89.19**	**5**	P		**P**	**23 05 22.6**	**-0.5**
PMRV	**Marv??o**	**89.22**	**7**	*e*P		**P**	**23 05 21.9**	**-1.2**
	comp=Z,18nm,1.4s							
PMTG	**Montargil**	**89.50**	**8**	*e*P		**P**	**23 05 21.1**	**-3.4**
ITM	**Ithomi**	**90.10**	**344**	IAmb		IAmb	23 05 27.0	
	comp=Z,5.7nm,0.8s							
STKA	**Stephens Creek**	**90.17**	**213**	P		**P**	**23 05 28.1**	**+0.7**
	comp=Z,14nm,0.8s,baz=358,slow=4.7,SNR=25							
STKA				LR		LR	23 42 55.0	
	comp=Z,187nm,18.9s,baz=24,slow=34							
STKA	**Stephens Creek**	**90.17**	**213**	⇑*i*P		**P**	**23 05 28.5**	**+1.2**
UOSS	**Minazif**	**90.32**	**313**	P		**P**	**23 05 26.7**	**-1.8**
UOSS				IAmb		IAmb	23 05 27.5	
	comp=Z,8.4nm,1.0s							
PBAR	**Barrancos**	**90.49**	**7**	*e*P		**P**	**23 05 28.3**	**-0.8**
	comp=Z,13nm,1.0s							
WSAR	**Wadi Sarin**	**90.63**	**310**	LR		LR	23 52 03.6	
	comp=Z,106nm,18.1s,baz=89,slow=39							
MOTC	**Monteria, Cord**	**90.86**	**75**	*e*P		**P**	**23 05 32.0**	**+0.9**
MMAI	**Mount Meron Ar**	**90.97**	**332**	LR		LR	23 50 49.6	
	comp=Z,39nm,18.2s,baz=220,slow=38							
SMLC	**San Martn de**	**91.80**	**74**	*e*P		**P**	**23 05 36.1**	**+0.6**
GUY2C	**Guyana, Caldas**	**91.83**	**77**	*e*P		**P**	**23 05 46.1**	**+0.7**
BARC	**Barichara**	**94.08**	**74**	*e*P		**P**	**23 05 47.2**	**+0.9**
TOLC	**Tolima**	**94.36**	**77**	*e*P		**P**	**23 05 49.8**	**+2.1**
ORTC	**Ortega, Tolima**	**94.93**	**78**	*e*P		**P**	**23 05 50.8**	**+0.9**
RAYN	**Ar Rayn**	**96.19**	**320**	P		**P**	**23 05 54.8**	**-0.8**
RAYN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
RAYN	**Ar Rayn**	**96.19**	**320**	P		**P**	**23 05 54.8**	**-0.8**
RAYN				IAmb		IAmb	23 05 56.0	
	comp=Z,7.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**115.76**	**0**	PKP		**PKiKP**	**23 11 08.5**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=8.7,slow=2.0,SNR=6.9							
TORD				PKKPbc		**PKKPbc**	**23 21 40.4**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=178,slow=4.5,SNR=3.9							
H03N2	**Juan Fernandez**	**120.70**	**106**	T		T	01 23 47.0	
	baz=317,slow=78,SNR=132							
H03N1	**Juan Fernandez**	**120.71**	**106**	T		T	01 23 43.1	
	baz=317,slow=78,SNR=340							
H03N3	**Juan Fernandez**	**120.71**	**106**	T		T	01 23 45.0	
	baz=317,slow=78,SNR=304							
KMBO	**Kilima Mbogo**	**121.78**	**317**	PKP		**PKiKP**	**23 11 22.1**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=331,slow=6.9,SNR=4.2							
VNDA	**Vanda**	**129.22**	**186**	PKPdf		**PKPdf**	**23 11 31.7**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=78,slow=7.4,SNR=12							
VNDA	**Vanda**	**129.22**	**186**	PKPdf		**PKPdf**	**23 11 31.7**	**-2.0**
PLCA	**Paso Flores**	**130.52**	**108**	PKP		**PKiKP**	**23 11 38.0**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=282,slow=5.8,SNR=3.1							
QSPA	**South Pole Qui**	**141.12**	**180**			PKPpre	23 11 50.7	
MAW	**Mawson**	**146.75**	**218**	PKPbc		**PKPbc**	**23 12 08.4**	**+0.6**
	comp=Z,18nm,1.0s,baz=51,slow=2.9,SNR=16							
MAW	**Mawson**	**146.75**	**218**	PKPdf		**PKPbc**	**23 12 07.2**	**-0.6**
LBTB	**Lobatse**	**148.06**	**317**	PKP2		**PKPbc**	**23 12 13.3**	**+0.5**
LBTB	**Lobatse**	**148.06**	**317**			**PKPbc**	**23 12 13.2**	**+0.5**
BOSA	**Boshof**	**151.32**	**314**	PKPbc		**PKPbc**	**23 12 21.0**	**+0.3**
	comp=Z,14nm,0.6s,baz=24,slow=1.8,SNR=38							
BOSA	**Boshof**	**151.32**	**314**	PKIKP		**PKPbc**	**23 12 20.4**	**-0.4**
BOSA	**Boshof**	**151.32**	**314**	PKPbc		**PKPbc**	**23 12 20.4**	**-0.4**
VNA3	**Neumayer Olymp**	**159.37**	**169**	PKPab		**PKPab**	**23 13 01.2**	**-0.8**
SNAA	**Sanae**	**159.51**	**176**	PKPab		**PKPab**	**23 13 00.9**	**-1.9**
SNAA	**Sanae**	**159.51**	**176**	PKPdf		**PKPdf**	**23 12 22.7**	**-1.6**
VNA2	**Neumayer--Watz**	**159.91**	**171**	PKPab		**PKPab**	**23 13 03.9**	**-0.6**
	baz=202,slow=2.0							
VNA1	**Neumayer--Stat**	**160.08**	**170**	PKPab		**PKPab**	**23 13 04.5**	**-0.6**

*IDC **01** 22:56:48.7±1.5,9°.06S×114°.83E,h0km,mb3.7/4,*
mb1 4.0/6,mb1mx3.7/34,mbtmp3.8/6,ML3.6/2,Error
ellipse: s-maj=51.2km s-min=22.0km az=52.0
*DJA **01** 22:57:04.8±0.3,9°S±6°×11°6E±°,h65km±5km,M3.8/11,*
MLv3.8/11

ISC 01 22:57:01.5±0.8,**8°87S**±0°.07×**115°50E**±0°.04,**h98**km±7km,
n23,σ2s09/32,mb3.5/4,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.35**	**304**	P	**Pn**	**22 57 18.5**	**+2.5**
DNP				S	**Sn**	**22 57 26.5**	**-0.4**
DNP	**Denpasar**	**0.35**	**304**	P	**Pn**	**22 57 18.6**	**+2.5**
SRBI	**Singaraja**	**0.83**	**340**	P	**Pn**	**22 57 21.1**	**+1.1**
SRBI				S	**Sn**	**22 57 30.7**	**-3.1**
SRBI	**Singaraja**	**0.83**	**340**	P	**Pn**	**22 57 21.1**	**+1.1**
SRBI				S	**Sn**	**22 57 34.7**	**+0.9**
TWSI	**Taliwang, Sumb**	**1.37**	**85**	P	**Pn**	**22 57 27.0**	**+1.0**
TWSI				S	**Sn**	**22 57 44.6**	**0.0**
TWSI	**Taliwang, Sumb**	**1.37**	**85**	P	**Pn**	**22 57 27.5**	**+1.5**
TWSI				S	**Sn**	**22 57 45.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.39**	**286**	P	**Pn**	**22 57 27.6**	**+1.3**
JAGI				S	**Sn**	**22 57 45.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.39**	**286**	P	**Pn**	**22 57 27.7**	**+1.4**
PLAI	**Plampang**	**2.25**	**89**	P	**Pn**	**22 57 39.5**	**+2.3**
PLAI				S	**Sn**	**22 58 06.0**	**+1.4**
PLAI	**Plampang**	**2.25**	**89**	P	**Pn**	**22 57 39.5**	**+2.3**
KMMI	**Kalianget**	**2.36**	**320**	P	**Pn**	**22 57 41.1**	**+2.4**
KMMI	**Kalianget**	**2.36**	**320**	P	**Pn**	**22 57 40.9**	**+2.2**
PWJI	**Pagerwojo**	**3.75**	**283**	P	**Pn**	**22 57 59.2**	**+1.9**
PWJI	**Pagerwojo**	**3.75**	**283**	P	**Pn**	**22 57 59.7**	**+2.4**
WBSI	**Waikabubak, Su**	**3.92**	**102**	P	**Pn**	**22 58 02.8**	**+3.3**
WBSI	**Waikabubak, Su**	**3.92**	**102**	P	**Pn**	**22 58 01.9**	**+2.4**
KAPI	**Kappang**	**5.70**	**48**	Pn	**Pn**	**22 58 24.9**	**+1.2**
	0.8nm,0.3s,baz=203,slow=13,SNR=2.0						
KAPI				Sn	**Sn**	**22 59 28.0**	**+0.2**
	0.9nm,0.3s,baz=46,slow=17,SNR=2.0						
FITZ	**Fitzroy Crossi**	**13.46**	**134**	Pn	**Pn**	**23 00 06.0**	**-2.5**
	0.3nm,0.3s,baz=304,slow=9.6,SNR=11						
FITZ				Sn	**Sn**	**23 02 31.8**	**-4.9**
	0.5nm,0.3s,baz=195,slow=18,SNR=9.1						
WRA	**Warramunga Arr**	**21.28**	**123**	P	**P**	**23 01 40.5**	**+0.3**
	1.2nm,0.4s,baz=297,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.95**	**132**	P	**P**	**23 01 58.6**	**+1.0**
	1.8nm,0.7s,baz=310,slow=9.5,SNR=16						
STKA	**Stephens Creek**	**33.33**	**137**	P	**P**	**23 03 32.0**	**+1.9**
	1.3nm,0.4s,baz=311,slow=6.4,SNR=7.9						
MKAR	**Makanchi Array**	**62.82**	**335**	P	**P**	**23 07 15.2**	**-1.5**
	0.2nm,0.3s,baz=149,slow=6.7,SNR=8.0						
CPUP	**Villa Florida**	**144.32**	**191**	PKP	**PKPdf**	**23 16 27.1**	**+0.3**
	1.1nm,0.4s,baz=186,slow=2.3,SNR=5.2						

*DJA **01** 23:12:17.1±0.4,7°S±7°×11°0E±°,h237km±4km,M3.9/13,*
mb4.1/4,mB4.8/1,MLv3.8/13,Mw(mB)4.1/1
*NEIC **01** 23:12:17.6±1.6,7°.0S±0°.1×110°.40E±0°.09,h235km±6km,*
mb4.1/12,Error ellipse: s-maj=18.9km s-min=11.1km
az=201.0

*IDC **01** 23:12:18.0±1.7,6°.88S×110°.48E,h239km±20km,mb3.4/6,*
mb1 3.7/9,mb1mx3.2/40,mbtmp4.2/9,Error ellipse:
s-maj=32.6km s-min=12.9km az=47.0

ISC 01 23:12:17.6±0.7,**7°.08S**±0°.09×**110°.48E**±0°.05,**h237**km±6km,
n41,σ1s27/47,mb3.9/10,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRI	**Semarang**	**0.05**	**309**		**Pn**	**23 12 47.8**	**-0.5**
SMRI	**Semarang**	**0.05**	**309**	P	**Pn**	**23 12 48.0**	**-0.2**
SMRI				S	**S**	**23 13 13.3**	**+1.2**
UGM	**Wanagama**	**0.83**	**177**	Pn	**Pn**	**23 12 50.0**	**-0.3**
UGM	**Wanagama**	**0.83**	**177**	P	**Pn**	**23 12 50.0**	**-0.3**
UGM				S	**S**	**23 13 15.2**	**-0.9**
TBJI	**Tambak Boyo**	**1.38**	**79**	P	**Pn**	**23 12 53.5**	**-0.3**
KPJI	**Karang Pucung**	**1.56**	**261**	P	**Pn**	**23 12 55.0**	**-0.1**
KPJI				S	**S**	**23 13 24.9**	**+0.5**
PWJI	**Pagerwojo**	**1.61**	**126**	P	**Pn**	**23 12 54.6**	**-0.9**
PWJI				S	**S**	**23 13 24.4**	**-0.9**
CISI	**Cisompet, Garu**	**2.68**	**260**	Pn	**Pn**	**23 13 05.1**	**-0.8**
CISI	**Cisompet, Garu**	**2.68**	**260**	P	**Pn**	**23 13 05.2**	**-0.8**
CISI				S	**S**	**23 13 41.9**	**-1.9**
LEM	**Lembang**	**2.85**	**275**	P	**Pn**	**23 13 08.2**	**+0.3**
	15nm,0.3s,baz=130,slow=23,SNR=43						
LEM	**Lembang**	**2.85**	**275**	P	**Pn**	**23 13 07.9**	**+0.1**
KMMI	**Kalianget**	**3.46**	**90**	P	**Pn**	**23 13 14.6**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.89**	**111**	Pn	**Pn**	**23 13 17.7**	**-1.9**
JAGI				Sn	**S**	**23 14 07.9**	**-0.6**
JAGI	**Jajag, Banyuwa**	**3.89**	**111**	P	**Pn**	**23 13 17.6**	**-1.9**
XMIS	**Christmas Isla**	**5.85**	**234**	Pn	**Pn**	**23 13 41.0**	**-2.5**
KASI	**Kota Agung**	**6.14**	**284**	P	**Pn**	**23 13 48.6**	**+1.3**
	0.4nm2µm62nm,0.5s						
TWSI	**Taliwang, Sumb**	**6.55**	**105**	P	**Pn**	**23 13 50.8**	**-1.7**
	0.1nm7.4nm,1.2s						
PLAI	**Plampang**	**7.43**	**104**	P	**Pn**	**23 14 02.4**	**-1.3**
BATI	**Baumata**	**13.40**	**104**	P	**P**	**23 15 21.3**	**+0.6**
	14nm,0.3s,baz=311,slow=4.3,SNR=8.5						
FITZ	**Fitzroy Crossi**	**18.39**	**128**	P	**P**	**23 16 17.1**	**+1.7**
	0.5nm,0.3s,baz=327,slow=7.5,SNR=19						
FITZ	**Fitzroy Crossi**	**18.39**	**128**	P	**P**	**23 16 17.1**	**+1.7**
FITZ				IAmb	IAmb	23 16 17.8	
	comp=Z,7.4nm,0.8s						
KNRA	**Kununurra**	**19.84**	**117**	P	**P**	**23 16 32.0**	**+1.0**
WB0	**Warramunga Arr**	**26.41**	**121**	P	**P**	**23 17 33.7**	**+0.8**
WB0				IAmb	IAmb	23 17 48.8	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**26.44**	**121**	P	**P**	**23 17 33.6**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=295,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**26.44**	**121**	P	**P**	**23 17 33.9**	**+0.8**
WB2	**Warramunga Arr**	**26.45**	**121**	P	**P**	**23 17 33.6**	**+0.5**
WB2				IAmb	IAmb	23 17 35.4	
	comp=Z,4.3nm,0.9s						
NWAO	**Narrogin (SRO)**	**26.47**	**167**	P	**P**	**23 17 32.5**	**-0.7**
NWAO				IAmb	IAmb	23 17 39.7	
	comp=Z,5.8nm,0.9s						
NWAO	**Narrogin (SRO)**	**26.47**	**167**	P	**P**	**23 17 32.5**	**-0.7**
NWAO				IAmb	IAmb	23 17 39.7	
	comp=Z,6.9nm,0.9s						
WR0	**Warramunga Arr**	**26.62**	**121**	P	**P**	**23 17 35.5**	**+0.9**
AS31	**Alice Springs**	**27.89**	**129**	P	**P**	**23 17 47.0**	**+1.1**
AS31				IAmb	IAmb	23 17 47.4	
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**27.89**	**129**	P	**P**	**23 17 46.9**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=303,slow=8.5,SNR=24						
ASAR	**Alice Springs**	**27.89**	**129**	P	**P**	**23 17 46.5**	**+0.6**
FORT	**Forrest**	**28.76**	**147**	P	**P**	**23 17 54.8**	**+1.3**
BBOO	**Buckleboo**	**34.92**	**141**	P	**P**	**23 18 48.0**	**+0.8**
STKA	**Stephens Creek**	**38.07**	**135**	P	**P**	**23 19 15.5**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=311,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**38.07**	**135**	P	**P**	**23 19 15.3**	**+1.5**
SONM	**Sogino Array**	**54.80**	**357**	P	**P**	**23 21 22.4**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=197,slow=4.5,SNR=2.0						
MK31	**Makanchi Array**	**59.20**	**338**	P	**P**	**23 21 50.9**	**-3.0**
MKAR	**Makanchi Array**	**59.20**	**338**	P	**P**	**23 21 52.6**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=156,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**59.20**	**338**	P	**P**	**23 21 52.0**	**-1.9**
MAW	**Mawson**	**68.31**	**198**	P	**P**	**23 22 54.5**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=30,slow=5.6,SNR=1.7						

*KRNET **01** 23:14:02.4±0.1,39°.55N×75°.36E,mb4.1*
*SOME **01** 23:14:03.9,39°.80N×75°.30E,h5km*
*NNC **01** 23:14:07.7±1.6,39°.94N×75°.29E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=12.7km s-min=9.0km az=157.0

ISC 01 23:14:05.2±1.1,**39°59N**±0°.05×**75°30E**±0°.03,**h10**km,**n74,**
σ1s43/116,45C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.45**	**288**	⇑*i*P	**Pn**	**23 14 30.7**	**-1.1**
	baz=89						
SFK				⇑*i*S	**Sn**	**23 14 51.2**	**+0.2**
	baz=89						
OHH	**Osh**	**2.15**	**297**	⇑*i*P	**Pn**	**23 14 41.7**	**+0.5**
	baz=97						
OHH				⇑*i*S	**Sn**	**23 15 10.4**	**+2.5**
	baz=97						
ARLS	**Aral**	**2.39**	**342**	⇑*i*P	**Pn**	**23 14 44.7**	**+0.1**
	baz=42						
ARLS				⇑*i*S	**Sn**	**23 15 16.1**	**+2.1**
	baz=42						
ARSB	**Arslanbob**	**2.48**	**315**	⇓*i*P	**Pn**	**23 14 46.3**	**+0.5**
	baz=15						
ARSB				⇓*i*S	**Sn**	**23 15 18.7**	**+2.5**
	baz=15						
DRK	**Karamyk**	**2.71**	**269**	⇑*i*P	**Pn**	**23 14 49.5**	**+0.4**
	baz=70						
DRK				⇑*i*S	**Sn**	**23 15 24.0**	**+1.8**
	baz=70						
ULHL	**Ulahol**	**2.75**	**15**	⇑*i*P	**Pn**	**23 14 49.8**	**+0.2**
	baz=14						
ULHL				⇑*i*S	**Sn**	**23 15 24.4**	**+1.5**
	baz=14						
ULHL	**Ulahol**	**2.75**	**15**	P	**Pn**	**23 14 49.8**	**+0.2**
	SNR=16						
AML	**Almayashu**	**2.82**	**335**	⇓*i*P	**Pn**	**23 14 51.0**	**+0.3**
	baz=34						
AML				⇓*i*S	**Sn**	**23 15 27.1**	**+2.2**
	baz=34						
AML	**Almayashu**	**2.82**	**335**	P	**Pn**	**23 14 51.2**	**+0.5**
	SNR=61						
KDJ	**Kajisay**	**2.91**	**29**	⇑*i*P	**Pn**	**23 14 51.7**	**-0.1**
	baz=28						
KDJ				⇑*i*S	**Sn**	**23 15 28.0**	**+1.1**
	baz=28						
BOOM	**Boomskoye usch**	**2.94**	**9**	⇑*i*P	**Pn**	**23 14 52.3**	**+0.1**
	baz=8.0						
BOOM				⇑*e*S	**Sn**	**23 15 29.3**	**+1.7**
	baz=8.0						
KBK	**Karagaybulak**	**3.08**	**355**	⇑*i*P	**Pn**	**23 14 54.8**	**+0.7**
	baz=54						
KBK				⇑*i*S	**Sn**	**23 15 32.4**	**+1.4**
	baz=54						
KBK	**Karagaybulak**	**3.08**	**355**	P	**Pn**	**23 14 55.1**	**+1.0**
	SNR=52						
AAK	**Ala-Archa**	**3.11**	**349**	⇑*i*P	**Pn**	**23 14 55.2**	**+0.7**
	baz=48						
AAK				⇑*i*S	**Sn**	**23 15 33.3**	**+1.6**
	baz=48						
AAK	**Ala-Archa**	**3.11**	**349**	P	**Pn**	**23 14 55.7**	**+1.2**
	SNR=102						
AAK	**Ala-Archa**	**3.11**	**349**	⇑Pn	**Pn**	**23 14 55.6**	**+1.2**
	71nm,0.5s						
AAK				⇓Lg	Lg	23 15 36.2	
	148nm,0.7s						
FRU1	**Bishkek**	**3.26**	**351**	⇑*i*P	**Pn**	**23 14 57.2**	**+0.7**
	baz=51						
FRU1				⇑*i*S	**Sn**	**23 15 37.4**	**+2.1**
	baz=51						
EKS2	**Erkin-Say**	**3.28**	**340**	⇑*i*P	**Pn**	**23 14 57.4**	**+0.6**
	baz=39						
EKS2				⇑*i*S	**Sn**	**23 15 37.7**	**+1.8**
	baz=39						
EKS2	**Erkin-Say**	**3.28**	**340**	P	**Pn**	**23 14 57.9**	**+1.1**
	SNR=36						
TKM2	**Tokmak 2**	**3.34**	**4**	⇑*i*P	**Pn**	**23 14 58.1**	**+0.5**
	baz=3.0						
TKM2				⇑*i*S	**Sn**	**23 15 38.6**	**+1.1**
	baz=3.0						
TKM2	**Tokmak 2**	**3.34**	**4**	P	**Pn**	**23 14 58.6**	**+0.9**
	SNR=75						
TKM2	**Tokmak 2**	**3.34**	**4**	⇓Pn	**Pn**	**23 14 58.2**	**+0.5**
	29nm,0.5s						
TKM2				⇓Lg	Lg	23 15 38.6	
	268nm,1.4s						
CHMS	**Chumysh**	**3.43**	**353**	⇑*i*P	**Pn**	**23 14 59.5**	**+0.7**
CHMS				⇑*i*S	**Sn**	**23 15 41.1**	**+1.5**
	baz=53						
CHMS	**Chumysh**	**3.43**	**353**	P	**Pn**	**23 14 59.8**	**+1.0**
	SNR=68						
BTK	**Batken**	**3.49**	**279**	⇑*i*P	**Pn**	**23 15 00.2**	**+0.6**
	baz=80						
BTK				⇑*i*S	**Sn**	**23 15 42.6**	**+1.6**
	baz=80						
KST	**Kastek**	**3.49**	**8**	*e*P	**Pb**	**23 15 05.9**	**-1.2**
	64nm,0.6s						
KST				*e*S	**Sb**	**23 15 50.1**	**+0.5**
	330nm,0.7s						
KST	**Kastek**	**3.49**	**8**	Pg	**Pb**	**23 15 05.9**	**-1.2**
	64nm,0.6s						
KST				Lg	Lg	23 15 50.1	
	330nm,0.7s						
MRKS	**Merke**	**3.52**	**334**	*e*P	**Pb**	**23 15 07.7**	**0.0**
	21nm,0.9s						
MRKS				*e*S	**Sb**	**23 15 53.1**	**+2.5**
	64nm,0.7s						
MRKS	**Merke**	**3.52**	**334**	Pg	**Pn**	**23 15 01.4**	**+1.3**
	10.0nm,0.5s						
MRKS				Lg	Lg	23 15 42.6	
	64nm,0.7s						
IZV	**Izvestkoviy**	**3.58**	**16**	*e*P	**Pb**	**23 15 06.1**	**-2.7**
	36nm,0.8s						
IZV				*e*S	**Sb**	**23 15 51.0**	**-1.4**
	217nm,1.1s						
IZV	**Izvestkoviy**	**3.58**	**16**	Pg	**Pb**	**23 15 06.1**	**-2.7**
	36nm,0.8s						
IZV				Lg	Lg	23 15 51.0	
	217nm,1.1s						
MNAS	**Manas**	**3.59**	**325**	⇑*i*P	**Pn**	**23 15 02.0**	**+1.0**
	baz=25						
MNAS				⇑*i*S	**Sn**	**23 15 45.3**	**+1.8**
	baz=25						
MTBS	**Maitube**	**3.64**	**13**	*e*P	**Pb**	**23 15 08.4**	**-1.3**
	15nm,0.6s						
MTBS				*e*S	**Sb**	**23 15 54.2**	**+0.3**
	122nm,0.9s						
MTBS	**Maitube**	**3.64**	**13**	Pg	**Pb**	**23 15 08.4**	**-1.3**
	15nm,0.6s						
MTBS				Lg	Lg	23 15 54.2	
	122nm,0.9s						
ANVS	**Anan'yevo**	**3.66**	**28**	⇓*e*P	**Pn**	**23 15 02.3**	**+0.3**
	baz=28						
ANVS				⇓*i*S	**Sn**	**23 15 46.0**	**+0.7**
	baz=28						
TRKS	**Terek-Say**	**3.72**	**303**	⇑*e*P	**Pn**	**23 15 02.9**	**0.0**
	baz=2.0						
TRKS				⇑*e*S	**Sn**	**23 15 47.0**	**+0.2**
	baz=2.0						
PRZ	**Przheval'sk**	**3.72**	**38**	⇑*i*P	**Pb**	**23 15 03.2**	**+0.3**
	baz=37						
PRZ				⇑*i*S	**Sn**	**23 15 47.6**	**+0.7**
	baz=37						
USP	**Ospenovka**	**3.73**	**351**	⇓*e*P	**Pn**	**23 15 03.3**	**+0.5**
	baz=50						
USP				⇓*i*S	**Sn**	**23 15 48.0**	**+1.2**
	baz=50						
USP	**Ospenovka**	**3.73**	**351**	P	**Pn**	**23 15 03.5**	**+0.6**
	SNR=40						
MDOK	**Medeo**	**3.81**	**20**	*e*P	**Pb**	**23 15 11.2**	**-1.3**
	26nm,0.9s						
MDOK				*e*S	**Sb**	**23 15 59.1**	**+0.3**
	160nm,1.1s						
MDOK	**Medeo**	**3.81**	**20**	Pg	**Pb**	**23 15 11.5**	**-1.1**
	35nm,0.8s						
MDOK				Lg	Lg	23 15 59.0	
	309nm,1.1s						
MDOK	**Medeo**	**3.81**	**20**	Pg	**Pb**	**23 15 11.2**	**-1.3**
	26nm,0.9s						
MDOK				Lg	Lg	23 15 59.1	
	160nm,1.1s						
KNDC	**Almaty**	**3.83**	**18**	⇓Pg	**Pb**	**23 15 12.3**	**-0.7**
	46nm,0.7s						
KNDC				⇓Lg	Lg	23 16 00.8	
	787nm,0.8s						
KOTS	**Kotyrbulak**	**3.89**	**20**	*e*P	**Pb**	**23 15 12.9**	**-1.0**
	42nm,0.5s						
KOTS				*e*S	**Sb**	**23 16 02.4**	**+1.2**
	239

IUG					Lg	Lg	23 16 24.8			
	207nm,0.7s									
CHGR	**Chuyangaron**	**4.87**	**261**	⇑	*i*P	**Pn**	**23 15 19.2**	**+0.6**		
	baz=61									
CHGR				⇑	*i*S	**Sn**	**23 16 15.4**	**+0.3**		
	baz=61									
PDGK	**Podgornoye**	**4.88**	**39**		Pg	**Pb**	**23 15 30.6**	**-0.4**		
	6.4nm,0.9s									
PDGK					Lg	Lg	23 16 32.1			
	19nm,1.1s									
PDGK	**Podgornoye**	**4.88**	**39**	⇑	Pn	**Pn**	**23 15 18.9**	**+0.1**		
	17nm,0.8s									
PDGK				⇑	Lg	Lg	23 16 35.0			
	64nm,1.0s									
TAS	**Tashkent**	**4.90**	**293**	⇑	*i*P	**Pn**	**23 15 20.0**	**+1.0**		
	baz=93									
TAS				⇑	*i*S	**Sn**	**23 16 16.4**	**+0.7**		
	baz=93									
KK31	**Karatay Array**	**5.03**	**316**	⇓	Pn	**Pn**	**23 15 20.1**	**-0.7**		
	0.8nm,0.3s,baz=123,slow=12,SNR=20									
KK31				⇑	Pg	**Pb**	**23 15 35.6**	**+2.1**		
	12nm,0.8s,baz=134,slow=15,SNR=17									
KK31				⇑	Lg	Lg	23 16 41.9			
	21nm,0.5s,baz=134,slow=29,SNR=5.3									
KTMS	**Ketmen**	**5.40**	**43**		*e*P	**Pb**	**23 15 40.9**	**+1.1**		
	2.3nm,0.5s									
KTMS					*e*S	**Sb**	**23 16 50.0**	**+5.3**		
	21nm,0.9s									
KTMS	**Ketmen**	**5.40**	**43**		Pg	**Pb**	**23 15 40.9**	**+1.1**		
	2.3nm,0.5s									
KTMS					Lg	Lg	23 16 50.0			
	21nm,0.9s									
KAPS	**Kapalarasan**	**6.43**	**26**		Pg	**Pb**	**23 15 57.8**	**+0.6**		
	0.4nm,0.9s									
KAPS					Lg	Lg	23 17 19.3			
	3.1nm,1.1s									

IDC ***01*** *23:20:07.3±3.5,36.°35N×106.°12E,h0km,mb3.3/4, mb1 3.7/6,mb1mx3.4/39,mbtmp3.5/6,ML4.2/2,Error ellipse: s-maj=85.2km s-min=31.3km az=90.0*

ISC 01 23:20:12.2±2.3,36.°3N±0.°2×106.°1E±0.°4,h35km,n6, σ0s78/6,mb3.5/3,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**11.48**	**1**	Pn		**Pn**	**23 22 54.2**	**+0.5**
	0.3nm,0.3s,baz=187,slow=15,SNR=5.3							
CMAR	**Chiang Mai Arr**	**18.92**	**202**	P		**P**	**23 24 30.1**	**+0.2**
	0.9nm,0.3s,baz=6.8,slow=13,SNR=4.0							
MKAR	**Makanchi Array**	**20.60**	**308**	P		**P**	**23 24 48.7**	**+0.6**
	0.4nm,0.7s,baz=111,slow=16,SNR=3.2							
ZALV	**Zalesovo Beam**	**23.00**	**327**	P		**P**	**23 25 12.9**	**-0.8**
	0.9nm,0.7s,baz=116,slow=8.8,SNR=3.6							
KURBB	**Kurchatov Arra**	**24.41**	**314**	P		**P**	**23 25 27.5**	**+0.3**
	1.5nm,0.9s,baz=118,slow=9.6,SNR=5.3							
NOA	**NORSAR Array B**	**61.20**	**326**	P		**P**	**23 30 22.4**	**-0.7**
	0.4nm,0.5s,baz=67,slow=6.7,SNR=1.8							

BGR ***01*** *23:30:08.5±0.0,36.°36N×73.°63E,h33km,mb5.2,Ms3.6*

SOME ***01*** *23:30:26.5,38.°37N×73.°28E,h10km*

IDC ***01*** *23:30:27.8±2.2,38.°00N×72.°78E,h122km±20km,mb4.3/32, mb1 4.4/36,mb1mx4.2/59,mbtmp4.7/36,MS3.5/4, Ms1 3.5/4,ms1mx2.9/53,Error ellipse: s-maj=11.3km s-min=8.7km az=5.0*

NNC ***01*** *23:30:27.4±2.6,38.°08N×72.°29E,h172km±33km,mb4.5, mpv5.3,Error ellipse: s-maj=25.3km s-min=13.2km az=172.0*

NEIC ***01*** *23:30:29.0±1.9,38.°02N±0.°05×72.°67E±0.°08,h142km±6km, mb4.8/114,Error ellipse: s-maj=9.3km s-min=7.2km az=103.0*

MOS ***01*** *23:30:28.6±1.1,38.°10N×72.°84E,h148km,mb5.1/28,Error ellipse: s-maj=4.4km s-min=3.2km az=108.6*

BJI ***01*** *23:30:29.6±0.0,37.°96N×72.°93E,h165km,mB4.7/19, mb4.8/34*

ISC 01 23:30:27.4±0.4,37.°90N±0.°03×72.°71E±0.°03,h130km±3km, h129km:pP-P,n612,σ2s03/677,mb4.8/174,58C-96D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.73**	**336**			**Pn**	**23 30 58.8**	**+0.4**
DRK				Sn		**Sn**	**23 31 20.8**	**-1.3**
GAR	**Garm**	**2.17**	**301**			**Pn**	**23 31 03.5**	**-0.1**
GAR				Sn		**Sn**	**23 31 29.6**	**-1.7**
BTK	**Batken**	**2.61**	**326**	PN		**Pn**	**23 31 09.7**	**+0.7**
BTK	**Batken**	**2.61**	**326**			**Pn**	**23 31 09.7**	**+0.7**
CHGR	**Chuyangaron**	**2.89**	**286**			**Pn**	**23 31 11.9**	**-0.8**
CEP	**Cherat**	**4.12**	**189**	P		**Pn**	**23 31 31.0**	**+2.0**
CHCP	**Chirah Chowk**	**4.26**	**174**	⇑P		**Pn**	**23 31 33.4**	**+2.7**
NIL	**Nilore**	**4.27**	**174**	PN		**Pn**	**23 31 33.0**	**+2.2**
NIL	**Nilore**	**4.27**	**174**			**Pn**	**23 31 33.5**	**+2.7**
AML	**Almayashu**	**4.29**	**10**	P		**Pn**	**23 31 30.7**	**-0.7**
	SNR=1390							
AML	**Almayashu**	**4.29**	**10**	*i* P		**Pn**	**23 31 30.9**	**-0.4**
	SNR=1406							
TAS	**Tashkent**	**4.31**	**323**	PN		**Pn**	**23 31 30.8**	**-0.5**
TAS	**Tashkent**	**4.31**	**323**	Pn		**Pn**	**23 31 30.8**	**-0.5**
KBL	**Kabul**	**4.48**	**223**	PN		**Pn**	**23 31 35.5**	**+1.8**
KBL	**Kabul**	**4.48**	**223**	Pn		**Pn**	**23 31 35.5**	**+1.8**
IUG	**luzhnay**	**4.71**	**335**	⇑	*e*P	**Pn**	**23 31 36.1**	**-0.5**
	baz=330							
IUG					*e*S	**Sn**	**23 32 25.7**	**-4.8**
	baz=330							
IUG	**luzhnay**	**4.71**	**335**	*c*	*e*PN	**Pn**	**23 31 36.1**	**-0.5**
EKS2	**Erkin-Say**	**4.82**	**9**	P		**Pn**	**23 31 38.4**	**+0.2**
	SNR=51							
MRKS	**Merke**	**4.85**	**5**	*e*P		Pn	23 31 44.8	+6.2
	164nm,0.5s							
MRKS					*e*S	**Sn**	**23 32 42.1**	**+8.2**
	2µm,0.9s							
MRKS	**Merke**	**4.85**	**5**	*e*PN		Pn	23 31 44.8	+6.2
MRKS					*e*S	**Sn**	**23 32 42.1**	**+8.2**
CHM	**Chimkent**	**5.01**	**333**	*e*P		**Pn**	**23 31 40.8**	**+0.2**
	baz=328							
CHM					*e*S	**Sn**	**23 32 33.4**	**-4.2**
	baz=328							
CHM	**Chimkent**	**5.01**	**333**	*e*PN		**Pn**	**23 31 40.8**	**+0.2**
KBK	**Karagaybulak**	**5.05**	**19**	P		**Pn**	**23 31 41.1**	**-0.2**
	SNR=223							
DZA	**Taraz**	**5.09**	**349**	⇑	*i*P	**Pn**	**23 31 41.3**	**-0.5**
	baz=346							
DZA					*e*S	**Sn**	**23 32 34.7**	**-4.8**
	baz=346							
DZA	**Taraz**	**5.09**	**349**	*c*	*i*PN	**Pn**	**23 31 41.2**	**-0.5**
ULHL	**Ulahol**	**5.11**	**31**	P		**Pn**	**23 31 41.8**	**-0.4**
	SNR=75							
FRU1	**Bishkek**	**5.12**	**16**	PN		**Pn**	**23 31 41.4**	**-0.7**
FRU1	**Bishkek**	**5.12**	**16**			**Pn**	**23 31 41.4**	**-0.7**
THW	**Thamme Wali**	**5.16**	**189**	⇑P		**Pn**	**23 31 43.6**	**+0.9**
CHMS	**Chumysh**	**5.32**	**16**	P		**Pn**	**23 31 44.9**	**+0.1**
	SNR=618							
KDJ	**Kajisay**	**5.44**	**38**	PN		**Pn**	**23 31 45.9**	**-0.6**
KDJ	**Kajisay**	**5.44**	**38**			**Pn**	**23 31 45.9**	**-0.6**
KK31	**Karatay Array**	**5.46**	**343**	⇓	P	**Pn**	**23 31 45.9**	**-0.7**
	159nm,0.3s,baz=159,slow=12,SNR=2464							
KK31				⇑	S	**Sn**	**23 32 43.1**	**-5.2**
	778nm,0.4s,baz=168,slow=22,SNR=4.1							
KK31	**Karatay Array**	**5.46**	**343**	PN		**Pn**	**23 31 45.9**	**-0.7**
KK31	**Karatay Array**	**5.46**	**343**			**Pn**	**23 31 46.1**	**-0.5**
KKAR	**Karatay Array**	**5.46**	**343**	PN		**Pn**	**23 31 45.0**	**-1.6**
KKAR	**Karatay Array**	**5.46**	**343**			**Pn**	**23 31 45.0**	**-1.6**
KKAR	**Karatay Array**	**5.46**	**343**			**Pn**	**23 31 46.1**	**-0.5**
TKM2	**Tokmak 2**	**5.47**	**23**	P		**Pn**	**23 31 46.8**	**-0.2**
	SNR=206							
TKM2	**Tokmak 2**	**5.47**	**23**	⇓	P	**Pn**	**23 31 46.5**	**-0.5**
	388nm,1.0s							
TKM2				⇑	S	**Sn**	**23 32 50.9**	**+1.9**
	293nm,0.7s							
TKM2	**Tokmak 2**	**5.47**	**23**	PN		**Pn**	**23 31 46.5**	**-0.5**
TKM2					S	**Sn**	**23 32 50.9**	**+1.9**
USP	**Ospenovka**	**5.53**	**14**	P		**Pn**	**23 31 47.2**	**-0.4**
	SNR=378							
KST	**Kastek**	**5.70**	**25**	*e*P		Pn	23 31 58.6	+8.6
	157nm,0.6s							
KST					*e*S	Sn	23 33 03.7	+9.4
	186nm,0.7s							
KST	**Kastek**	**5.70**	**25**	*e*PN		Pn	23 31 58.6	+8.6
SGDS	**Sogindy**	**5.73**	**14**	⇑	*i*P	**Pn**	**23 31 49.5**	**-0.9**
	baz=16							
SGDS					*e*S	**Sn**	**23 32 51.1**	**-3.9**
	baz=16							
SGDS	**Sogindy**	**5.73**	**14**	*c*	*i*PN	**Pn**	**23 31 49.4**	**-0.9**
SGDS					*e*S	**Sn**	**23 32 51.1**	**-3.9**
MTBS	**Maitube**	**5.94**	**27**	⇑	*i*P	**Pn**	**23 31 53.1**	**-0.1**
	baz=30							
MTBS					*e*S	Sn	23 32 42.9	-17
	baz=30							
MTBS	**Maitube**	**5.94**	**27**	*c*	*i*PN	**Pn**	**23 31 53.0**	**-0.1**
SARP	**Sargodha**	**5.97**	**180**	⇑	P	**Pn**	**23 31 53.8**	**+0.3**
AAA	**Alma-Ata**	**6.19**	**30**	⇑	*i*P	**Pn**	**23 31 56.6**	**0.0**
	baz=33							
AAA	**Alma-Ata**	**6.19**	**30**	*c*	*i*PN	**Pn**	**23 31 56.5**	**0.0**
MDOK	**Medeo**	**6.21**	**31**		*i* P	**Pn**	**23 31 56.1**	**-0.7**
	baz=34							
MDOK					*e*S	**Sn**	**23 33 02.6**	**-4.0**
	baz=34							
MDOK	**Medeo**	**6.21**	**31**	⇓	P	**Pn**	**23 31 56.3**	**-0.5**
	108nm,0.7s							
MDOK					S	**Sn**	**23 33 11.4**	**+4.8**
	498nm,1.2s							
MDOK	**Medeo**	**6.21**	**31**	*i*	PN	**Pn**	**23 31 56.1**	**-0.7**
KNDC	**Almaty**	**6.22**	**30**	⇑	P	**Pn**	**23 31 56.8**	**-0.1**
	360nm,0.8s							
PRZ	**Przheval'sk**	**6.32**	**42**	PN		**Pn**	**23 31 58.5**	**+0.2**
PRZ	**Przheval'sk**	**6.32**	**42**	Pn		**Pn**	**23 31 58.5**	**+0.2**
DHRM	**DHARAMSHALA**	**6.36**	**151**	*e*P		**Pn**	**23 31 59.0**	**-0.1**
DHRM					IAML		23 33 10.9	
	comp=E,6µm,0.4s							
DHRM					IAML		23 33 12.0	
	comp=N,5µm,0.4s							
KUU	**Kurty**	**6.58**	**24**	⇑	*i*P	**Pn**	**23 32 00.3**	**-1.5**
	baz=26							
KUU	**Kurty**	**6.58**	**24**	*c*	*i*PN	**Pn**	**23 32 00.2**	**-1.5**
SATY	**Saty**	**6.74**	**38**	⇑	*i*P	**Pn**	**23 32 02.8**	**-1.1**
	baz=42							
SATY					*e*S	**Sn**	**23 33 16.3**	**-3.0**
	baz=42							
SATY	**Saty**	**6.74**	**38**	*c*	*i*PN	**Pn**	**23 32 02.8**	**-1.1**
SATY					*e*S	**Sn**	**23 33 16.2**	**-3.0**
CHKK	**Chushkaly**	**6.77**	**27**	⇑	*i*P	**Pn**	**23 32 02.9**	**-1.3**
	baz=30							
CHKK	**Chushkaly**	**6.77**	**27**	⇑	*i*PN	**Pn**	**23 32 02.9**	**-1.3**
UZB	**Uzynbulak**	**7.11**	**41**	⇑	*i*P	**Pn**	**23 32 08.0**	**-1.0**
	baz=44							
UZB					*e*S	**Sn**	**23 33 23.8**	**-4.6**
	baz=44							
UZB	**Uzynbulak**	**7.11**	**41**	*c*	*i*PN	**Pn**	**23 32 07.9**	**-1.0**
BHK	**Bhakra**	**7.16**	**154**	*e*P		**Pn**	**23 32 07.2**	**-2.3**
BHK					*e*S	Sn	23 33 20.4	-9.0
KPKS	**Kokpek**	**7.17**	**37**	⇑	*i*P	**Pn**	**23 32 08.9**	**-0.9**
	baz=41							
KPKS	**Kokpek**	**7.17**	**37**	*c*	*i*PN	**Pn**	**23 32 08.8**	**-0.9**
SHLS	**Shalkode**	**7.35**	**42**	⇑	*i*P	**Pn**	**23 32 14.2**	**+2.1**
	baz=48							
SHLS	**Shalkode**	**7.35**	**42**	*c*	*i*PN	**Pn**	**23 32 14.2**	**+2.1**
ARXS	**Arharly**	**7.39**	**30**	*e*	PN	**Pn**	**23 32 11.0**	**-1.7**
PDGK	**Podgornoye**	**7.48**	**41**	⇑	P	**Pn**	**23 32 12.8**	**-1.1**
	comp=N,212nm,0.8s							
PDGK				⇓	S	**Sn**	**23 33 40.6**	**+3.3**
	comp=N,138nm,1.0s							
PDGK	**Podgornoye**	**7.48**	**41**		PN	**Pn**	**23 32 12.8**	**-1.1**
PDGK					S	**Sn**	**23 33 40.6**	**+3.3**
SMLA	**Simla**	**7.70**	**150**	*e*P		**Pn**	**23 32 16.1**	**-0.6**
SMLA					*e*S	**Sn**	**23 33 35.0**	**-7.4**
SMLA					IAML		23 33 36.1	
	comp=N,3µm,0.6s							
SMLA					IAML		23 33 37.9	
	comp=E,4µm,0.5s							
TDK	**Taldyqorghan**	**8.28**	**29**	*i* P		**Pn**	**23 32 23.1**	**-1.5**
	baz=32							
TDK	**Taldyqorghan**	**8.28**	**29**	*i* PN		**Pn**	**23 32 23.1**	**-1.5**
DDI	**Dehra Dun**	**8.77**	**148**	*e*P		**Pn**	**23 32 31.3**	**0.0**
DDI					*e*S	**Sn**	**23 34 00.1**	**-8.3**
DDI					IAML		23 34 05.9	
	comp=N,2µm,0.7s							
DDI					IAML		23 34 06.5	
	comp=E,1µm,0.7s							
HRA	**Herat**	**9.16**	**251**	Pn		**Pn**	**23 32 36.2**	**-0.5**
NDI	**New Delhi**	**9.94**	**156**	*e*P		**Pn**	**23 32 47.0**	**+0.1**
NDI					*e*S	**Sn**	**23 34 28.5**	**-8.2**
OTUK	**Ortayu**	**10.34**	**359**	P		**Pn**	**23 32 49.8**	**-2.4**
	comp=E,66nm,1.1s							
OTUK	**Ortayu**	**10.34**	**359**	P		**Pn**	**23 32 49.8**	**-2.4**
PTH	**Pithoragarh**	**10.41**	**141**	*e*S		Sn	23 34 33.9	-15
MAKZ	**Makanchi**	**11.22**	**35**	⇑	P	**Pn**	**23 33 02.2**	**-1.8**
	comp=E,221nm,1.2s							
MAKZ	**Makanchi**	**11.22**	**35**	P		**Pn**	**23 33 02.6**	**-1.4**
MAKZ	**Makanchi**	**11.22**	**35**	Pn		**Pn**	**23 33 02.6**	**-1.4**
MK31	**Makanchi Array**	**11.36**	**36**	⇑	P	**Pn**	**23 33 04.1**	**-1.7**
	comp=E,28nm,0.8s,baz=220,slow=12,SNR=120							
MK31	**Makanchi Array**	**11.36**	**36**	*d*	*i*P	**Pn**	**23 33 04.9**	**-0.9**
MK31	**Makanchi Array**	**11.36**	**36**			**Pn**	**23 33 04.5**	**-1.3**
MKAR	**Makanchi Array**	**11.36**	**36**		P	**Pn**	**23 33 03.2**	**-2.6**
	comp=E,2.1nm,0.3s,baz=224,slow=14,SNR=105							
MKAR	**Makanchi Array**	**11.36**	**36**		*i* P	**Pn**	**23 33 04.0**	**-1.7**
MKAR					pmax	pmax		
	comp=Z,19nm,0.8s							
MKAR	**Makanchi Array**	**11.36**	**36**		Pn	**Pn**	**23 33 04.1**	**-1.7**
GEYT	**Alibeck**	**11.53**	**275**		P	**Pn**	**23 33 05.1**	**-3.0**
	comp=Z,21nm,0.3s,baz=96,slow=10,SNR=22							
GEYT					S	**Sn**	**23 35 07.8**	**-7.3**
	comp=Z,27nm,0.3s,baz=112,slow=11,SNR=10.0							
GYA0	**ALIBECK ARRAY**	**11.53**	**275**		P	**Pn**	**23 33 04.7**	**-3.4**
GYA0B	**ALIBECK ARRAY**	**11.53**	**275**	⇓	P	**Pn**	**23 33 04.7**	**-3.4**
GYA0B				⇑	S	Sn	23 35 06.0	-9.1
GYA0B	**ALIBECK ARRAY**	**11.53**	**275**			**Pn**	**23 33 04.2**	**-3.9**
BRZS	**Berezniki**	**12.07**	**360**	⇑	*i*P	**Pn**	**23 33 12.2**	**-3.0**
	baz=360							
BRZS					*e*S	Sn	23 35 17.0	-11
	baz=360							
BRZS	**Berezniki**	**12.07**	**360**	*c*	*i*P	**Pn**	**23 33 12.1**	**-3.0**
BRZS					*e*S	Sn	23 35 17.0	-11
WMQ	**Urumqi**	**12.79**	**58**	*e*P		**Pn**	**23 33 23.5**	**-1.0**
WMQ					S	**Sn**	**23 35 41.1**	**-4.3**
WMQ					pmax	pmax		
	comp=Z,41nm,1.3s							
WMQ					pmax	pmax		
	comp=Z,250nm,3.9s							
WMQ					L	L		
	comp=Z,830nm,5.5s							
WMQ					L	L		
	comp=Z,830nm,5.9s							
WMQ					L	L		
	comp=Z,410nm,6.1s							
PYUN	**Piuthan**	**13.03**	**136**	*e*P		**Pn**	**23 33 24.8**	**-3.1**
	comp=Z,486nm,0.4s							
ZSN	**Zaisan**	**13.06**	**39**	⇑	*i*P	**Pn**	**23 33 25.2**	**-2.9**
	baz=41							
ZSN	**Zaisan**	**13.06**	**39**	*c*	*i*P	**Pn**	**23 33 25.1**	**-2.9**
DANN	**Dangsing**	**13.28**	**133**	*e*P		**Pn**	**23 33 28.5**	**-2.7**
KURBB	**Kurchatov Arra**	**13.38**	**16**	⇑P		**Pn**	**23 33 28.2**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=205,slow=12,SNR=116							
KURBB	**Kurchatov Arra**	**13.38**	**16**	⇑P		**Pn**	**23 33 27.8**	**-4.2**
	comp=Z,59nm,0.9s							
SEM	**Semipalatinsk**	**13.61**	**21**	⇑	*i*P	**Pn**	**23 33 31.7**	**-3.5**
	baz=22							
SEM	**Semipalatinsk**	**13.61**	**21**	*c*	*i*P	**Pn**	**23 33 31.7**	**-3.5**
KOLN	**Koldanda**	**13.63**	**135**	*e*P		**Pn**	**23 33 32.5**	**-3.1**
	comp=Z,196nm,0.5s							
GKN	**Gorkha**	**14.05**	**131**	*e*P		**Pn**	**23 33 37.4**	**-3.6**
	comp=Z,122nm,0.3s							
KKN	**Kakani**	**14.59**	**130**	*e*P		**Pn**	**23 33 44.0**	**-3.9**
	comp=Z,110nm,0.4s							
AB31	**Akbulak array**	**14.61**	**325**	⇑P		**Pn**	**23 33 44.2**	**-3.6**
	comp=Z,137nm,0.8s,baz=141,slow=11,SNR=1079							
AB31				⇑	S	**Sn**	**23 36 23.1**	**-6.2**
	comp=Z,124nm,0.7s,baz=132,slow=20,SNR=15							
AB31	**Akbulak array**	**14.61**	**325**	P		**Pn**	**23 33 44.2**	**-3.6**
AB31					S	**Sn**	**23 36 23.1**	**-6.2**
ABKAR	**Akbulak array**	**14.61**	**325**	P		**Pn**	**23 33 44.2**	**-3.6**
ABKAR	**Akbulak array**	**14.61**	**325**			**Pn**	**23 33 44.4**	**-3.3**
DMN	**Daman**	**14.62**	**131**	*e*P		**Pn**	**23 33 45.0**	**-3.3**
PKIN	**Phulchoki**	**14.82**	**130**	*e*P		**Pn**	**23 33 47.2**	**-3.6**
PKI	**Pulchoki**	**14.83**	**130**	*e*P		**Pn**	**23 33 47.4**	**-3.6**
	comp=Z,57nm,0.3s							
GUN	**Gumba**	**14.88**	**128**	*e*P		**Pn**	**23 33 47.9**	**-3.7**
	comp=Z,162nm,0.5s							
BHPL	**Bhopal**	**15.17**	**163**	*e*P		**Pn**	**23 33 52.5**	**-2.4**
BHPL					IAmb	IAmb	23 33 57.8	
	comp=Z,86nm,0.5s							
BVAR	**Borovoye Array**	**15.21**	**355**	P		**Pn**	**23 33 51.3**	**-3.8**
	comp=Z,2.2nm,0.3s,baz=156,slow=26,SNR=32							
BVAR					S	**Sn**	**23 36 42.2**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=182,slow=31,SNR=3.6							
JIRN	**Jiri**	**15.25**	**128**	*e*P		**Pn**	**23 33 53.2**	**-3.0**
	comp=Z,156nm,0.3s							
BRVK	**Borovoye**	**15.25**	**354**	⇑P		**Pn**	**23 33 53.5**	**-2.2**
	comp=Z,48nm,0.9s							
BRVK				⇑	S	**Sn**	**23 36 35.0**	**-10**
	comp=Z,43nm,0.9s							
BRVK	**Borovoye**	**15.25**	**354**		P	**Pn**	**23 33 53.5**	**-2.2**
BRVK					S	**Sn**	**23 36 34.9**	**-10**
BRVK	**Borovoye**	**15.25**	**354**		Pn	**Pn**	**23 33 53.1**	**-2.5**
BRVK					IAmb	IAmb	23 33 58.9	
	comp=Z,42nm,0.9s							
DGZ	**Jazzator, Alta**	**15.84**	**37**	*c*	*i*P	**Pn**	**23 34 01.1**	**-2.1**
DGZ					pmax	pmax		
	comp=E,66nm,1.0s							
RAMN	**Ramite**	**16.01**	**129**	*e*	P	**Pn**	**23 34 02.3**	**-3.2**
AKTO	**Aktyubinsk**	**16.33**	**325**		P	**Pn**	**23 34 07.6**	**-1.5**
	comp=Z,6.9nm,0.3s,baz=134,slow=12,SNR=226							
AKTO					S	Sn	23 36 57.8	-13
	comp=Z,5.1nm,0.3s,baz=339,slow=22,SNR=8.6							
AKTO	**Aktyubinsk**	**16.33**	**325**	⇓	P	**Pn**	**23 34 02.0**	**-7.1**
	comp=Z,255nm,0.9s							
AKTO				⇓	S	Sn	23 36 57.8	-13
	comp=Z,208nm,0.9s							
AKTO	**Aktyubinsk**	**16.33**	**325**		P	**Pn**	**23 34 01.9**	**-7.1**
AKTO					S	Sn	23 36 57.8	-13
TAPN	**Taplejung**	**16.43**	**125**	*e*P		**Pn**	**23 34 07.8**	**-2.9**
	comp=Z,377nm,0.7s							
ODAN	**Odare**	**16.56**	**127**	*e*P		**Pn**	**23 34 10.1**	**-2.2**
	comp=Z,275nm,0.8s							
LSA	**Lhasa**	**17.36**	**113**		P	**Pn**	**23 34 22.6**	**+0.4**
LSA					pmax	pmax		
	comp=Z,250nm,1.7s							
LSA	**Lhasa**	**17.36**	**113**		P	**Pn**	**23 34 22.1**	**-0.1**
BOK	**Bokaro**	**18.02**	**138**		IAML		23 37 39.6	
	comp=E,73nm,0.7s							
BOK					IAML		23 37 41.3	
	comp=N,48nm,0.5s							
ZAA0	**Zalesovo Array**	**18.08**	**24**	⇓	P	**P**	**23 34 27.7**	**-1.0**
	comp=N,9.6nm,0.9s							
ZAA0	**Zalesovo Array**	**18.08**	**24**		P	**P**	**23 34 26.9**	**-1.8**
ZAA0					IAmb	IAmb	23 34 29.2	
	comp=Z,49nm,0.9s							
ZALV	**Zalesovo Beam**	**18.08**	**24**		P	**P**	**23 34 28.0**	**-0.7**
	comp=Z,6.0nm,0.3s,baz=212,slow=10,SNR=146							
ZALV					S	**Sn**	**23 37 58.1**	**+5.7**
	baz=222,slow=20,SNR=7.8							
ZALV	**Zalesovo Beam**	**18.08**	**24**		P	**P**	**23 34 27.6**	**-1.1**
BANOM	**Banah**	**18.32**	**234**		P	**P**	**23 34 31.3**	**-0.4**
BANOM	**Banah**	**18.32**	**234**		P	**P**	**23 34 32.0**	**+0.4**
	SNR=49							
SHME	**Shamm**	**18.33**	**235**	*i* P		**P**	**23 34 32.4**	**+0.7**
	SNR=13							
MDH	**Madha**	**18.76**	**233**		P	**P**	**23 34 35.5**	**-1.0**
MDH	**Madha**	**18.76**	**233**		P	**P**	**23 34 36.1**	**-0.3**
	SNR=8.5							
LKRN	**Lenkeran, Azer**	**18.79**	**280**		P	**P**	**23 34 37.5**	**+0.9**
MSFE	**Esma-Masafi**	**18.80**	**233**	*i* P		**P**	**23 34 37.7**	**+0.7**
	SNR=28							
WSAR	**Wadi Sarin**	**18.95**	**224**		P	**Pn**	**23 34 40.7**	**0.0**
	comp=Z,4.0nm,0.3s,baz=65,slow=7.2,SNR=31							
BIDO	**Bidbid**	**19.01**	**225**		P	**Pn**	**23 34 41.2**	**-0.1**
UOSS	**Minazif**	**19.07**	**232**	*i* P		**P**	**23 34 40.4**	**+0.6**
	SNR=32							
UOSS	**Minazif**	**19.07**	**232**		P	**P**	**23 34 39.2**	**-0.6**
UOSS					IAmb	IAmb	23 34 45.0	
	comp=Z,64nm,0.9s							
HATD	**Hatta, Dubai**	**19.20**	**232**	*i* P		**P**	**23 34 42.0**	**+0.7**
	SNR=32							
WBK	**Wadi Bani Khal**	**19.28**	**222**		P	**Pn**	**23 34 44.5**	**0.0**
POO	**Poona**	**19.33**	**177**	*e*P		**Pn**	**23 34 44.8**	**-0.3**
POO					AMP		23 34 48.7	
	comp=N,25nm,0.6s							
ASHO	**Ashiyiah**	**19.35**	**232**		P	**P**	**23 34 43.8**	**+0.9**
ASHO	**Ashiyiah**	**19.35**	**232**		P	**Pn**	**23 34 44.4**	**-1.0**
	SNR=22							
NAZ	**Nazwa, Dubai**	**19.38**	**233**		P	**P**	**23

NCK pmax pmax
comp=Z,101nm,0.8s
BELG Belogornoye 22.71 318 P P 23 35 17.8 -0.1
comp=Z,250nm,0.9s,baz=147,slow=0.6,SNR=53
BELG S S **23 39 25.0 +8.6**
comp=Z,54nm,0.8s,baz=19,slow=9.1,SNR=5.0
AKH Akhalkalaki 22.71 288 P P 23 35 21.1 +2.7
ONI Oni 22.76 291 P P **23 35 22.5 +3.9**
RST Umm Al-Ruwaisa 22.92 256 *eP* P **23 35 21.8 +1.6**
GOF Gofitskoye 23.26 297⇑ *eP* P **23 35 24.8 +1.6**
GOF pmax pmax
comp=Z,61nm,0.8s
GEVA Gevas 23.29 280 P P **23 35 25.5 +1.7**
GEVA IAmb IAmb 23 35 28.7
comp=Z,26nm,1.0s
NEY Neytrino 23.32 293 *de*P P **23 35 26.6 +2.6**
NEY pmax pmax
comp=Z,13nm,0.8s
KVAR Kislovodsk Arr 23.39 294 P P **23 35 26.8 +2.2**
comp=Z,8.3nm,0.6s,baz=270,slow=20,SNR=9.7
KIV Kislovodsk 23.39 294 *i* P P **23 35 25.4 +0.8**
SNR=8.2
KIV Kislovodsk 23.39 294 *eP* P **23 35 25.4 +0.8**
KIV *eS* S **23 39 28.5 +0.7**
KIV pmax pmax
comp=Z,90nm,1.0s
KIV Kislovodsk 23.39 294 P P **23 35 25.1 +0.5**
MOY Mondy 24.15 46 *eP* P **23 35 33.3 +1.9**
MOY pmax pmax
comp=Z,20nm,1.4s
SHAO Shalim 24.82 222 P P **23 35 39.8 +2.2**
LZH Lanzhou 24.88 85⇑ P P **23 35 41.5 +3.3**
LZH pP pP 23 36 14.6 +7.5
LZH PP **sP** **23 36 24.1 +1.5**
LZH sP sP 23 36 28.1 +5.5
LZH S S **23 39 45.8 -6.1**
LZH sS sS 23 40 43.5 +1.1
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.5s
ZAK Zakamensk 25.04 50 *eP* P **23 35 38.1 -1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
KOPT Kop Dagi 25.06 285 P P **23 35 41.5 +1.5**
KOPT IAmb IAmb 23 35 48.0
comp=Z,28nm,0.9s
DOK Doka 25.15 225 P P **23 35 42.0 +1.4**
SNR=16
MARD Mardin 25.24 279 P P **23 35 43.6 +2.2**
MARD IAmb IAmb 23 35 45.3
comp=Z,39nm,0.8s
DMTO DMTO 25.43 223 P P **23 35 44.7 +1.6**
SNR=6.4
SOC Sochi 25.52 293 *eP* P **23 35 44.3 +0.5**
SOC *e* 23 36 31.7
SOC *eS* S **23 40 04.3 +2.8**
SOC pmax pmax
comp=Z,13nm,0.6s
VRH Novokhopyorsk 25.55 311 *eP* P **23 35 43.7 -0.2**
VRH pmax pmax
comp=Z,40nm,0.6s
KIRV Kirov 25.62 331 P P **23 35 45.8 +1.4**
comp=Z,44nm,0.7s,baz=132,slow=3.4,SNR=23
KIRV Kirov 25.62 331 *de*P P **23 35 44.9 +0.5**
TLY Talaya 25.69 48 *eP* P **23 35 47.9 +2.7**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 25.69 48 P P **23 35 45.6 +0.4**
WHFO Wadi Hawf 25.91 225 P P **23 35 49.1 +1.5**
SNR=8.7
RBK Rabkut 26.01 224 P P **23 35 50.0 +1.6**
SNR=8.9
SONM Songino Array 26.42 57 P P **23 35 53.3 +1.2**
comp=Z,1.9nm,0.8s,baz=261,slow=9.4,SNR=11
SONM Songino Array 26.42 57 P P **23 35 52.4 +0.4**
SONM Songino Array 26.42 57 P P **23 35 52.4 +0.4**
CD2 Chengdu 26.47 96 *eP* P **23 35 52.0 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ULN Ulaanbaatar 26.86 57⇑ *eP* P **23 35 56.9 +0.9**
ULN pmax pmax
comp=Z,2.0nm,0.7s
ULN Ulaanbaatar 26.86 57 P P **23 35 57.1 +1.1**
MALT Malatya 26.89 282 P P **23 35 59.6 +3.3**
VSR Storozhevoye 27.09 310 *eP* P **23 35 57.2 -0.5**
VSR pmax pmax
comp=Z,30nm,0.6s
VORR Voronezh 27.20 311 P P **23 35 59.0 +0.3**
VORR pmax pmax
comp=Z,250nm,1.2s
ANN Anapa 27.20 296 *eP* P **23 35 58.9 +0.1**
ANN *e**PP **pP** **23 36 28.8 +1.3**
ANN *e* 23 36 47.2
ANN *eS* S **23 40 28.6 +0.6**
ANN pmax pmax
comp=Z,23nm,0.7s
RAYN Ar Rayn 27.31 246 P P **23 36 00.7 +0.6**
RAYN pmax pmax
comp=Z,5.0nm,0.6s
RAYN Ar Rayn 27.31 246 P P **23 36 00.7 +0.6**
LPSR Galich'ya Gora 27.65 313 *eP* P **23 36 03.1 +0.4**
LPSR pmax pmax
comp=Z,30nm,0.7s
GAZ Gaziantep 28.05 280 P P **23 36 07.2 +0.6**
GAZ IAmb IAmb 23 36 09.9
comp=Z,24nm,0.9s
KMI Kunming 28.47 108⇑ P P **23 36 12.8 +2.3**
KMI pP pP 23 36 43.0 +3.3
KMI pmax pmax
comp=Z,7.0nm,0.9s
SNOP Sinop 28.88 290 P P **23 36 13.6 -0.2**
PRGR Permogore 29.09 333 *eP* P **23 36 15.4 0.0**
PRGR *e* 23 37 06.3
PRGR pmax pmax
comp=Z,16nm,0.8s
MOS Moscow 29.47 319 *eP* P **23 36 18.4 -0.4**
MOS *e* 23 36 50.4
MOS *e* 23 37 15.9
MOS pmax pmax
comp=Z,42nm,0.9s
SIM Simferopol' 29.57 296 *c i*P P **23 36 20.5 +0.7**
SIM pmax pmax
comp=Z,54nm,0.9s
CMMT Chiang Mai 29.75 122 P P 23 36 37.0 +15
OBN Obninsk 29.80 317 P P **23 36 22.5 +0.8**
comp=Z,3.7nm,0.3s,baz=320,slow=22,SNR=6.5
OBN Obninsk 29.80 317 *d i*P P **23 36 21.9 +0.2**
OBN *e**PP **pP** **23 36 51.8 +0.9**
OBN *e* 23 37 21.8
OBN pmax pmax
comp=Z,44nm,1.3s
OBN Obninsk 29.80 317 P P **23 36 21.2 -0.6**
CMAR Chiang Mai Arr 30.00 123 P P **23 36 25.7 +1.8**
comp=Z,0.7nm,0.3s,baz=327,slow=9.7,SNR=1.2
CMAR ScP **ScP** **23 42 56.3 +3.2**
comp=Z,0.6nm,0.3s,baz=306,slow=5.1,SNR=4.3
HHC Hu-ho-hao-te 30.02 72 *eP* P **23 36 24.7 +0.7**
HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,74nm,5.5s
ILGA Ilgaz 30.09 288 P P **23 36 24.7 -0.1**
BR131 Keskin Array S 30.34 286 P P **23 36 28.2 +1.3**
BR131 pmax pmax
comp=Z,34nm,1.2s
BR131 Keskin Array S 30.34 286 P P **23 36 28.2 +1.3**
BR131 IAmb IAmb 23 36 29.8
comp=Z,34nm,1.1s
BRTR Keskin Array B 30.34 286 P P **23 36 28.6 +1.8**
comp=Z,7.8nm,0.6s,baz=97,slow=7.9,SNR=65
MMAI Mount Meron Ar 30.64 272 P P **23 36 31.8 +2.3**
comp=Z,2.0nm,0.7s,baz=68,slow=9.1,SNR=5.9
ANTO Ankara 30.95 286 P P **23 36 32.4 +0.2**
ANTO pmax pmax
comp=Z,19nm,1.1s
ANTO Ankara 30.95 286 P P **23 36 32.4 +0.2**
ANTO IAmb IAmb 23 36 36.3
comp=Z,19nm,1.1s
KLMR Klimovskoe 30.96 329 *eP* P **23 36 30.9 -1.0**
KLMR pmax pmax
comp=Z,31nm,1.1s
KLMR Klimovskoe 30.96 329 *eP* P **23 36 30.9 -1.0**
KLMR AMP 23 36 33.0
comp=Z,31nm,1.1s

BR231 Keskin MP Arra 30.97 286 P P **23 36 34.0 +1.6**
BR231 IAmb IAmb 23 36 35.3
comp=Z,12nm,0.8s
PALK Pallekele 31.34 165 P P **23 36 38.0 +2.3**
comp=Z,22nm,0.8s,baz=92,slow=12,SNR=13
PALK LR LR 23 50 27.1
comp=Z,114nm,18.8s,baz=104,slow=38
PALK Pallekele 31.34 165 P P **23 36 34.1 -1.7**
PALK IAmb IAmb 23 36 38.6
comp=Z,22nm,0.8s
MDUB Mudurnu 32.07 288 P P **23 36 42.2 +0.2**
EIL Elat 32.26 267 P P **23 36 45.3 +1.6**
comp=Z,5.0nm,1.0s,baz=96,slow=14,SNR=4.6
NRIK Noril'sk 32.51 10 P P **23 36 45.1 -0.2**
comp=Z,8.7nm,1.0s,baz=193,slow=6.1,SNR=9.9
NRIK Noril'sk 32.51 10 *de*P P **23 36 46.1 +0.8**
NRIK pmax pmax
comp=Z,9.0nm,1.0s
NRIK Noril'sk 32.51 10 P P **23 36 44.8 -0.6**
AKASG Malin Array Be 33.16 307 P P **23 36 51.8 +0.6**
comp=Z,13nm,0.8s,baz=78,slow=7.3,SNR=60
AKASG PP **PnPn** **23 38 06.7 +0.7**
comp=Z,6.5nm,0.7s,baz=89,slow=13,SNR=5.7
AKASG Malin Array Be 33.16 307 *ce*P P **23 36 51.7 +0.4**
AKASG pmax pmax
comp=Z,13nm,0.5s
AKASG Malin Array Be 33.16 307 IAmb IAmb 23 36 52.5
comp=Z,18nm,0.8s
AKBB Malin Array Si 33.16 307 *ce*P P **23 36 51.8 +0.5**
AKBB pmax pmax
comp=Z,25nm,0.7s
KIS Kishinev 33.26 300 ⇓P P **23 36 53.2 +1.0**
JURR Jurilovca 33.29 296 ⇓P P **23 36 53.9 +1.4**
SORM Soroca 33.58 302 ⇓P P **23 36 55.5 +0.6**
TPGR Topolog 33.61 296 ⇓P P **23 36 57.0 +1.7**
TIRR Tirgusor 33.65 296 ⇓P P **23 36 57.0 +1.5**
TIRR Tirgusor 33.65 296 P P **23 36 55.4 -0.1**
TIRR pmax pmax
comp=Z,13nm,0.9s
TIRR Tirgusor 33.65 296 P P **23 36 55.4 -0.1**
TIRR IAmb IAmb 23 36 57.5
comp=Z,13nm,0.9s
MFTR Murfatlar 33.66 295 ⇓P P **23 36 57.8 +2.1**
KALB Balgarevo 33.74 294 ⇓P P **23 36 58.8 +2.4**
CFR Carcaliu 33.79 297 ⇓P P **23 36 58.3 +1.6**
CFR Carcaliu 33.79 297 P P **23 36 58.4 +1.6**
ELL Elmali 33.84 281 P P **23 36 57.7 +0.2**
ELL pmax pmax
comp=Z,47nm,0.6s
ELL Elmali 33.84 281 P P **23 36 57.7 +0.2**
VARL Varlezi 33.96 298 ⇓P P **23 37 00.4 +2.2**
HARR Harsova 33.97 296 ⇓P P **23 37 00.2 +1.8**
HARR Harsova 33.97 296 P P **23 37 00.3 +1.9**
BIR Birlad 34.09 299 ⇓P P **23 37 02.1 +2.7**
AKAS Kas 34.21 281 P P **23 37 00.2 -0.5**
AKAS IAmb IAmb 23 37 01.2
comp=Z,16nm,0.8s
GHRR 34.26 298 ⇓P P **23 37 03.8 +3.0**
MANT Manisa 34.45 285 P P **23 37 03.8 +0.9**
MNK Minsk 34.49 313 *i* P P **23 37 03.7 +1.0**
MNK *i* *PP **pP** **23 37 33.9 +1.9**
MNK *i* 23 38 26.6
MNK *i* 23 39 35.7
MNK *i* S S **23 42 21.8 +0.3**
MNK *i* *SS **sS** **23 43 15.7 +2.6**
MNK *i* 23 47 02.6
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=N,5.0nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.1s
MNK MLR MLR
comp=N,66nm,18.0s
MNK MLR MLR
comp=Z,92nm,22.0s
MNK MLR MLR
comp=E,11nm,21.0s
MNK Minsk 34.49 313 *i* P P **23 37 03.7 +1.0**
comp=E,4.0nm,1.1s
MNK *i* P P **23 37 03.7 +1.0**
comp=N,5.0nm,1.0s
MNK *i* P P **23 37 03.7 +1.0**
comp=Z,24nm,0.8s,baz=280
MNK *i* pP **pP** **23 37 34.0 +2.0**
MNK *i* PP **PP** **23 38 26.6 +3.3**
MNK *i* PcP **PcP** **23 39 35.8 +1.0**
MNK *i* S S **23 42 21.8 +0.3**
MNK *i* sS **sS** **23 43 15.7 +2.6**
MNK *i* SS **SnSn** **23 44 50.1 +2.9**
MNK *i* ScS **ScS** **23 47 02.7 -8.0**
MNK *i* LRM MLR 23 52 42.1
comp=N,66nm,18.0s
MNK *i* LRM MLR 23 52 48.1
comp=Z,92nm,22.4s
MNK *i* LRM MLR 23 52 54.1
comp=E,11nm,20.6s
ODBI Odobesti 34.52 298 ⇓P P **23 37 06.3 +3.2**
VRI Vrincioaia 34.74 298 ⇓P P **23 37 07.4 +2.4**
VRI Vrincioaia 34.74 298 P P **23 37 07.4 +2.4**
TESR Tescani 34.76 299 ⇓P P **23 37 06.9 +1.7**
PLOR Plostina 34.80 298 ⇓P P **23 37 08.1 +2.5**
PLOR Plostina 34.80 298 P P **23 37 08.0 +2.5**
ISR Istrita 34.92 297 ⇓P P **23 37 09.9 +3.3**
ISR Istrita 34.92 297 P P **23 37 10.0 +3.4**
PRAR RASCA 35.02 301 ⇓P P **23 37 08.9 +1.5**
NEHR Nehoiu 35.07 297 ⇓P P **23 37 11.0 +3.1**
BIZ Bicaz 35.12 300 ⇓P P **23 37 10.0 +1.8**
NACGM Naroch 35.19 314 *i* P P **23 37 09.9 +1.2**
IDID Didziasalis 35.29 315 *eP* P **23 37 05.5 -4.0**
MLR Muntele Rosu 35.31 298 P P **23 37 12.9 +2.8**
comp=E,46nm,0.9s,baz=66,slow=2.7,SNR=97
MLR Muntele Rosu 35.31 298 ⇓P P **23 37 12.9 +2.8**
MLR Muntele Rosu 35.31 298 P P **23 37 11.9 +1.8**
MLR pmax pmax
comp=Z,67nm,1.0s
MLR Muntele Rosu 35.31 298 P P **23 37 11.9 +1.8**
JOF Joensuu 35.36 328 P P **23 37 11.0 +1.0**
JOF pmax pmax
comp=Z,48nm,0.8s
IIGN Ignalina 35.58 315 *eP* P **23 37 13.6 +1.5**
DOPR Dopca 35.66 298 ⇓P P **23 37 15.3 +2.3**
BURAR Bucovina Array 35.70 301 ⇓P P **23 37 14.8 +1.5**
BURAR Bucovina Array 35.70 301 P P **23 37 14.9 +1.6**
BURAR Bucovina Array 35.70 301 P P **23 37 13.7 +0.5**
BURAR IAmb IAmb 23 37 16.1
comp=Z,18nm,0.8s
BUR08 Bucovina Ar. S 35.70 301 P P **23 37 13.5 +0.2**
BUR08 IAmb IAmb 23 37 15.9
comp=Z,13nm,0.8s
VOIR 35.95 298 ⇓P P **23 37 17.2 +1.8**
VOIR 35.95 298 P P **23 37 17.2 +1.8**
VSU Vasula 35.96 320 *eP* P **23 37 15.4 +0.1**
VSU Vasula 35.96 320 *de*P P **23 37 15.8 +0.6**
VSU pmax pmax
comp=Z,98nm,0.8s
HUMR Humele 36.09 296 ⇓P P **23 37 18.3 +1.8**
ARR Arges 36.24 297 ⇓P P **23 37 19.8 +1.9**
ARCR ARCALIA 36.31 300 ⇓P P **23 37 21.1 +2.7**
KARP Karpathos 36.31 281 P P **23 37 18.9 +0.3**
LVV L'vov 36.45 305 *eP* P **23 37 20.6 +1.1**
LVZ Lovozero 36.68 337⇑ *eP* P **23 37 20.9 -0.4**
LVZ pmax pmax
comp=Z,49nm,1.1s
LOT Lotru 36.84 298 ⇓P P **23 37 25.2 +2.1**
CJR Cluj-Napoca 36.85 300 ⇓P P **23 37 25.5 +2.5**
BMR Baia Mare 36.85 301 ⇓P P **23 37 25.2 +2.2**
PABE Paberze 36.88 315 *eP* P **23 37 24.3 +1.3**
PABE Paberze 36.88 315 P P **23 37 22.9 -0.1**
FINES FINESS Array B 37.10 325 P P **23 37 25.7 +0.8**
comp=Z,31nm,0.6s,baz=114,slow=9.4,SNR=170
FINES PP **PP** **23 38 52.0 +0.1**
comp=Z,7.4nm,0.7s,baz=99,slow=12,SNR=4.7
APE Apeiranthos 37.13 284 ⇓P P **23 37 26.9 +1.4**
SUW Suwalki 37.16 312 *eP* P **23 37 26.0 +0.5**
KWP Kalwaria Pacla 37.31 305 *eP* P **23 37 28.5 +1.7**
KWP Kalwaria Pacla 37.31 305 P P **23 37 27.3 +0.5**
KWP pmax pmax
comp=Z,33nm,0.7s
KWP Kalwaria Pacla 37.31 305 P P **23 37 27.3 +0.5**
DEV Deva 37.40 299 ⇓P P **23 37 30.5 +2.9**
DRGR 37.45 300 ⇓P P **23 37 30.2 +2.0**
DRGR 37.45 300 P P **23 37 30.1 +2.0**

ATD Arta Tunnel 37.45 233 P P **23 37 31.1 +2.6**
comp=Z,7.0nm,1.0s,baz=276,slow=9.5,SNR=4.2
ATD Arta Tunnel 37.45 233 P P **23 37 28.6 +0.2**
ATD IAmb IAmb 23 37 32.5
comp=Z,13nm,1.1s
TRPA Tarpa 37.47 302 ⇓P P **23 37 30.2 +2.1**
MTSE Matsula 37.51 320 *eP* P **23 37 29.3 +1.0**
GZR Gura Zlata 37.54 298 ⇓P P **23 37 30.7 +1.7**
MEF Metsahovi 37.56 322 *eP* P **23 37 29.8 +1.1**
KOLS Kolonicke sedl 37.61 304 *eP* P **23 37 30.7 +1.3**
KOLS Kolonicke sedl 37.61 304 *eP* P **23 37 30.7 +1.3**
KOLS *ePP* **PP** **23 38 54.1 -3.6**
UZH Uzhgorod 37.61 303 ⇓ *iP* P **23 37 31.0 +1.7**
UZH *e* 23 39 05.3
UZH *i* S S **23 43 06.7 -2.4**
UZH *eSS* **SS** **23 45 57.6 -1.6**
VTS Vitosha 37.61 293 ⇓P P **23 37 31.7 +2.1**
VTS Vitosha 37.61 293 P P **23 37 30.2 +0.6**
VTS pmax pmax
comp=Z,10.0nm,0.9s
VTS Vitosha 37.61 293 P P **23 37 30.2 +0.6**
VTS IAmb IAmb 23 37 32.8
comp=Z,9.9nm,0.9s
HERR Herculane 37.86 297 ⇓P P **23 37 32.3 +0.9**
LTVH Ltavrtes, Hu 37.95 301 ⇓P P **23 37 35.0 +2.8**
NJ2 Nanjing 37.96 85 *eP* P **23 37 32.2 -0.3**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
PBUR Paburge 38.09 315 *eP* P **23 37 34.5 +1.3**
SLIT Slitere, Latvi 38.11 318 *eP* P **23 37 33.0 -0.3**
CRVS Cervenica-Dubn 38.15 304 *eP* P **23 37 35.7 +1.8**
CRVS pmax pmax
comp=Z,11nm,0.9s
CRVS Cervenica-Dubn 38.15 304 *eP* P **23 37 35.7 +1.8**
CRVS *ePP* **PP** **23 38 57.7 -5.8**
IDI Anoyia 38.15 281 P P **23 37 35.5 +1.3**
comp=Z,2.1nm,0.4s,baz=350,slow=6.8,SNR=7.9
SIRR Siria 38.22 299 ⇓P P **23 37 37.2 +2.7**
STHS Stebnicka Huta 38.27 304 *eP* P **23 37 35.2 +0.3**
STHS *e* 23 39 06.8
STHS Stebnicka Huta 38.27 304 *eP* P **23 37 35.2 +0.3**
STHS *ePP* **PnPn** **23 39 06.8 -1.2**
BZS Buzias 38.33 298 ⇓P P **23 37 37.4 +2.1**
BZS Buzias 38.33 298 P P **23 37 37.5 +2.1**
MDVR Moldovita 38.37 297 ⇓P P **23 37 37.7 +1.9**
BOVS Bovan 38.55 295 ⇓P P **23 37 38.7 +1.5**
STIP Stip 38.55 292 *i* P P **23 37 37.3 0.0**
KECS Kecovo 38.82 303 *eP* P **23 37 41.2 +1.7**
KECS Kecovo 38.82 303 *eP* P **23 37 41.2 +1.7**
NIE Niedzica 38.88 304 *eP* P **23 37 42.2 +2.2**
RAF Rauma 39.01 323 *eP* P **23 37 40.3 -0.6**
SKO Skopje 39.04 293 *i* P P **23 37 42.9 +1.5**
OJC Ojcow 39.17 306 *eP* P **23 37 43.5 +1.1**
PSZ Piszkesteto 39.26 302 ⇓P P **23 37 44.8 +1.6**
PSZ Piszkesteto 39.26 302 P P **23 37 43.0 -0.2**
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 39.26 302 P P **23 37 43.0 -0.2**
PSZ IAmb IAmb 23 37 46.1
comp=Z,10.0nm,0.9s
FNA Florina 39.34 291 P P **23 37 44.1 +0.1**
FNA pmax pmax
comp=Z,12nm,0.8s
FNA Florina 39.34 291 P P **23 37 44.1 +0.1**
FNA IAmb IAmb 23 37 45.9
comp=Z,12nm,0.8s
LANS Liptovska Anna 39.44 304 *eP* P **23 37 47.0 +2.3**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 39.44 304 *eP* P **23 37 47.0 +2.3**
LANS *ePP* **PP** **23 39 18.4 +0.8**
FRGS Fruska Gora 39.65 298 ⇓P P **23 37 48.3 +1.8**
FRGS Fruska Gora 39.65 298 ⇓ *iP* P **23 37 48.1 +1.7**
DIVS Divibare 39.69 296 ⇓ *iP* P **23 37 48.3 +1.4**
DIVS Divibare 39.69 296 P P **23 37 47.7 +0.8**
DIVS IAmb IAmb 23 37 49.7
comp=Z,25nm,0.8s
ITM Ithomi 39.86 285 P P **23 37 47.5 -0.8**
ITM IAmb IAmb 23 37 49.7
comp=Z,9.2nm,0.7s
VYHS Vyhne 39.91 303 *eP* P **23 37 48.7 +0.1**
VYHS Vyhne 39.91 303 *eP* P **23 37 48.7 +0.1**
BBLS Lazići 40.15 296 ⇓ *iP* P **23 37 51.6 +1.0**
KOLL Kolacno 40.19 303 *eP* P **23 37 52.7 +1.9**
KOLL *ePP* **PP** **23 39 28.0 +2.3**
RUDO Rudo 40.22 296 *eP* P **23 37 51.9 +0.7**
MORH Mrgy, Hungar 40.30 300 ⇓P P **23 37 53.3 +1.5**
MORH Mrgy, Hungar 40.30 300 ⇓ *iP* P **23 37 53.2 +1.5**
SRO Srobarova 40.33 302 *eP* P **23 37 54.1 +2.1**
SRO Srobarova 40.33 302 *eP* P **23 37 54.1 +2.1**
ARCES ARCESS Array B 40.38 337 P P **23 37 52.9 +0.7**
comp=Z,13nm,0.8s,baz=112,slow=9.0,SNR=26
ARCES LR LR 23 54 49.6
comp=Z,84nm,20.1s,baz=235,slow=36
ARCES ARCESS Array B 40.38 337 P P **23 37 51.5 -0.7**
ARCES pmax pmax
comp=Z,19nm,1.0s
ARCES ARCESS Array B 40.38 337 P P **23 37 51.5 -0.7**
ARCES IAmb IAmb 23 37 53.8
comp=Z,19nm,1.0s
PDG Podgorica 40.54 294 ⇓P P **23 37 54.9 +1.1**
PDG Podgorica 40.54 294 *eP* P **23 37 54.5 +0.8**
PDG Podgorica 40.54 294 P P **23 37 53.4 -0.3**
PDG IAmb IAmb 23 37 55.8
comp=Z,13nm,1.1s
UPM Unac-Piva 40.63 295 ⇓ *iP* P **23 37 56.3 +1.5**
DRME Dracevica, Mon 40.64 293 *eP* P **23 37 53.6 -1.0**
JAVC Velka Javorina 40.65 304 *eP* P **23 37 57.2 +2.5**
MORC Moravsky Berou 40.65 305 ⇓P P **23 37 55.7 +1.1**
MORC Moravsky Berou 40.65 305 *eP* P **23 37 56.2 +1.6**
MORC Moravsky Berou 40.65 305 P P **23 37 55.1 +0.5**
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 40.65 305 P P **23 37 55.1 +0.5**
MORC IAmb IAmb 23 37 57.2
comp=Z,14nm,0.9s
GKP Gorka Klasztor 40.67 311 *eP* P **23 37 55.9 +1.2**
GKP Gorka Klasztor 40.67 311 *eP* P **23 37 55.3 +0.6**
SMOL Smolenice 40.84 303 *eP* P **23 37 58.1 +1.9**
SMOL pmax pmax
comp=Z,5.0nm,1.0s
SMOL Smolenice 40.84 303 *eP* P **23 37 58.1 +1.9**
BRY Bratogost 40.95 295 ⇓ *iP* P **23 37 58.6 +1.2**
HCY Herceg Novi 41.08 294 *eP* P **23 37 59.1 +0.8**
KRLC Kraliky 41.11 306 *eP* P **23 38 00.2 +1.8**
KRLC Kraliky 41.11 306 *eP* P **23 38 00.2 +1.8**
TREB Trebinje 41.13 294 *eP* P **23 37 59.5 +0.9**
VRAC Vranov 41.30 305 P P **23 38 02.0 +2.0**
comp=Z,21nm,0.8s,baz=86,slow=9.0,SNR=37
VRAC Vranov 41.30 305 ⇓P P **23 38 02.1 +2.0**
VRAC Vranov 41.30 305 *eP* P **23 38 01.8 +1.8**
VRAC Vranov 41.30 305 P P **23 38 02.0 +2.0**
KSP Ksiaz 41.36 307 *eP* P **23 38 01.9 +1.5**
DPC Dobruska-Polom 41.38 306 *eP* P **23 38 02.4 +1.7**
DPC *e* 23 39 37.3
DPC Dobruska-Polom 41.38 306 *eP* P **23 38 02.4 +1.7**
DPC *ePP* **PP** **23 39 37.3 -1.3**
KRUC Moravsky 41.46 304 *eP* P **23 38 03.0 +1.8**
CHVC Chvalec 41.53 307 *eP* P **23 38 03.5 +1.6**
CHVC *ex* x 23 39 49.5
BLY Banja Luka 41.56 298 ⇓ *iP* P **23 38 03.6 +1.5**
STON Ston 41.56 295 ⇓ *iP* P **23 38 01.8 -0.3**
UPC Upice 41.57 306 *eP* P **23 38 04.1 +2.0**
UPC Upice 41.57 306 *eP* P **23 38 04.1 +2.0**
CONA Conrad Observa 41.95 303 *i* P P **23 38 07.0 +1.7**
comp=Z,25nm,0.8s,SNR=18
TREC Trest 42.03 305 *eP* P **23 38 07.9 +2.0**
TREC Trest 42.03 305 *eP* P **23 38 07.9 +2.0**
ARSA Arzberg 42.28 302 *i* P P **23 38 09.1 +1.1**
comp=Z,11nm,0.8s,SNR=7.3
PVCC Panska Ves 42.48 307 *eP* P **23 38 11.4 +1.9**
PVCC Panska Ves 42.48 307 *eP* P **23 38 11.4 +1.9**
PRU Pruhonice 42.56 306 *eP* P **23 38 12.0 +1.9**
PRU *e* 23 39 53.9
PRU Pruhonice 42.56 306 *eP* P **23 38 12.0 +1.9**
PRU *ePP* **PP** **23 39 53.9 +2.7**
CRES Cresnjev 42.56 300 ⇓ *iP* P **23 38 11.6 +1.4**
PRA Prague 42.62 306 *eP* P **23 38 12.6 +2.0**
PRA Prague 42.62 306 *eP* P **23 38 12.6 +2.0**
SOKA Soboth 42.70 301 *i* P P **23 38 13.0 +1.6**
comp=Z,24nm,0.9s,SNR=20
BOJS Bojanci 42.76 299 *i* P P **23 38 13.4 +1.6**

MATE Matera 42.82 292 ⇓P **P 23 38 13.0 +0.7**
HFS Hagfors 42.82 321 P **P 23 38 12.8 +0.7**
comp=Z,48nm,0.7s,baz=98,slow=11,SNR=148
BRG Berggiesshubel 42.84 307 *i* P **P 23 38 14.0 +1.6**
BRG Amp 23 38 15.0
comp=Z,28nm,1.0s
BRG *ex* x 23 38 27.2
BRG Amp 23 38 29.4
comp=Z,3.7nm,0.6s
BRG *ex* x 23 39 06.7
BRG Amp 23 39 08.1
comp=Z,4.5nm,0.8s
BRG *ex* x 23 39 57.5
BRG Amp 23 40 03.7
comp=Z,15nm,1.3s
BRG Berggiesshubel 42.84 307 *eP* **P 23 38 14.0 +1.6**
comp=Z,116nm,1.0s,baz=82,slow=7.9
CKRC Cesky Krumlov 42.85 304 *eP* **P 23 38 14.4 +1.8**
PBCC Pribram 42.95 305 *eP* **P 23 38 15.1 +1.8**
RGN Rugen 42.95 313 P **P 23 38 13.5 +0.3**
MOA Molln 43.03 303 *i* P **P 23 38 15.0 +1.1**
comp=Z,13nm,0.8s,SNR=6.7
OBKA Obir 43.06 301 *i* P **P 23 38 16.0 +1.7**
comp=Z,23nm,1.1s,SNR=9.7
KSAR Wonju Array Be 43.12 73 P **P 23 38 14.9 +0.1**
KSAR Wonju Array Be 43.12 73 P **P 23 38 14.9 +0.1**
KSRS Korea Array 43.15 73 P **P 23 38 16.0 +1.0**
comp=Z,0.5nm,0.3s,baz=263,slow=8.7,SNR=4.3
LJU Ljubljana 43.16 300 *i* P **P 23 38 16.9 +1.8**
LJU Ljubljana 43.16 300 ⇓*i* P **P 23 38 16.5 +1.5**
TIP Timpagrande 43.18 290 ⇓P **P 23 38 15.3 -0.1**
FBE Freiberg 43.21 307 *eP* **P 23 38 17.2 +1.9**
comp=Z,34nm,0.9s,baz=82,slow=7.9
KLR Kul'dur 43.22 55⇓ *eP* **P 23 38 16.1 +0.6**
KLR pmax pmax
comp=Z,2.0nm,0.6s
SGRT San Giovanni R 43.23 294 P **P 23 38 16.2 +0.4**
GEC2 GERESS Array S 43.25 304 P **P 23 38 15.9 0.0**
GERES GERESS Array B 43.25 304 P **P 23 38 17.1 +1.3**
comp=Z,1.5nm,0.3s,baz=76,slow=7.6,SNR=25
GERES PP **PcP 23 40 04.0 +1.3**
comp=Z,2.8nm,0.8s,baz=79,slow=8.3,SNR=5.0
CEY Cerknica 43.28 300⇓*i* P **P 23 38 17.5 +1.4**
KHC Kasperske Hory 43.29 305 *eP* **P 23 38 17.9 +1.8**
KHC *e* 23 40 02.0
KHC Kasperske Hory 43.29 305 *eP* **P 23 38 17.9 +1.8**
KHC *e*PP **PcP 23 40 02.0 -0.7**
CLL Collm 43.39 308⇓*i* P **P 23 38 17.7 +0.9**
comp=Z,19nm,0.7s
CLL *i* pP **pP 23 38 51.0 +3.8**
CLL *e*PP **PP 23 40 00.0 0.0**
CLL *e*pPP 23 40 27.0
CLL Collm 43.39 308⇓*i* P **P 23 38 17.7 +0.9**
CLL *i* *PP **pP 23 38 51.0 +3.8**
CLL pmax pmax
comp=Z,19nm,0.7s
CLL Collm 43.39 308 P **P 23 38 16.9 +0.2**
CLL IAmb IAmb 23 38 18.7
comp=Z,18nm,0.7s
CLL Collm 43.39 308 *eP* **P 23 38 17.8 +1.1**
comp=Z,19nm,0.7s,baz=82,slow=7.9
MYKA Terra Mystica 43.65 301 *i* P **P 23 38 20.4 +1.3**
comp=Z,8.4nm,0.9s
CADS Cadrg 43.66 301 *i* P **P 23 38 20.2 +1.0**
PRED Cave del Predi 43.74 301 P **P 23 38 19.1 -0.6**
WET Wettzell 43.74 305 *eP* **P 23 38 21.2 +1.5**
comp=Z,14nm,1.2s,baz=82,slow=7.9
TANN Tannenbergstha 43.83 307 *eP* **P 23 38 21.8 +1.4**
comp=Z,12nm,0.9s,baz=82,slow=7.9
NC405 NORSAR Array S 43.86 322 P **P 23 38 20.0 -0.4**
NC602 NORSAR Array S 43.92 322 P **P 23 38 20.1 -0.8**
NC602 IAmb IAmb 23 38 21.9
comp=Z,27nm,1.1s
NC602 **PcP 23 40 02.8 -1.7**
GUNZ Gunzen 43.92 307 *eP* **P 23 38 22.6 +1.5**
comp=Z,10nm,0.8s,baz=82,slow=7.9
TIXI Tiksi 43.96 22 P **P 23 38 21.8 +0.7**
comp=Z,3.0nm,0.3s,baz=264,slow=4.4,SNR=19
TIXI Tiksi 43.96 22 P **P 23 38 21.4 +0.3**
PLN Plauen 44.02 307 *eP* **P 23 38 23.4 +1.5**
comp=Z,9.7nm,0.9s,baz=82,slow=7.9
NC303 NORSAR Array S 44.03 322 P **P 23 38 20.8 -1.0**
NB201 NORSAR Array S 44.06 322 P **P 23 38 20.3 -1.7**
ROTZ Rotzenmuhle 44.09 306 *eP* **P 23 38 24.2 +1.8**
comp=Z,17nm,1.1s,baz=82,slow=7.9
NB2 NORSAR Subarra 44.10 322 P **P 23 38 22.2 -0.2**
baz=92,slow=7.9
NOA NORSAR Array B 44.10 322 P **P 23 38 22.7 +0.4**
comp=Z,19nm,0.7s,baz=92,slow=7.7,SNR=72
NOA PP **PP 23 40 09.4 +2.0**
comp=Z,8.0nm,0.9s,baz=92,slow=10,SNR=5.0
NOA LR LR 23 57 30.9
comp=Z,32nm,18.5s,baz=330,slow=37
CEL Celeste 44.10 289 P **P 23 38 23.1 +0.3**
CEL IAmb IAmb 23 38 25.7
comp=Z,24nm,1.0s
MANZ Manzenberg 44.12 306 *eP* **P 23 38 24.4 +1.7**
comp=Z,9.4nm,0.9s,baz=82,slow=7.9
ZOU Zoufplan 44.12 301 P **P 23 38 22.0 -0.9**
NEUB Neuenburg 44.16 308 *eP* **P 23 38 24.3 +1.3**
comp=Z,27nm,0.9s,baz=82,slow=7.9
NAO01 NORSAR Array S 44.25 322 P **P 23 38 22.7 -0.8**
PAOL Paolisi 44.28 293 P **P 23 38 24.5 +0.4**
PAOL IAmb IAmb 23 38 26.3
comp=Z,14nm,0.9s
NBO00 NORSAR Array S 44.31 322 P **P 23 38 23.6 -0.4**
NC204 NORSAR Array S 44.33 322 P **P 23 38 23.7 -0.5**
NC204 IAmb IAmb 23 38 31.1
comp=Z,9.0nm,0.7s
MOX Moxa 44.34 307 *eP* **P 23 38 25.8 +1.4**
comp=Z,17nm,0.9s,baz=82,slow=7.9
MOX *eL* L 23 55 50.1
comp=Z,77nm,19.4s
STAL STALIGIAL 44.35 301 P **P 23 38 24.2 -0.4**
STAL IAmb IAmb 23 38 26.1
comp=Z,21nm,1.1s
FLTG Flechtingen 44.37 310 *eP* **P 23 38 25.4 +0.9**
comp=Z,41nm,0.8s,baz=82,slow=7.9
ABTA Abfaltersbach 44.39 301 *i* P **P 23 38 25.3 +0.3**
comp=Z,9.6nm,1.0s,SNR=6.2
INTR Introdacqua 44.50 295 P **P 23 38 26.2 +0.4**
INTR IAmb IAmb 23 38 27.9
comp=Z,22nm,0.8s
CIMO Cimolais 44.53 301 P **P 23 38 25.7 -0.3**
CIMO IAmb IAmb 23 38 27.6
comp=Z,16nm,0.9s
GRA1 Grafenberg Arr 44.73 306 P **P 23 38 26.3 -1.2**
GRA1 IAmb IAmb 23 38 30.8
comp=Z,26nm,1.0s
GRF Grafenberg Arr 44.73 306 P **P 23 38 26.3 -1.2**
GRF pmax pmax
comp=Z,26nm,1.0s
GRF Grafenberg Arr 44.73 306 *eP* **P 23 38 29.8 +2.2**
comp=Z,30nm,1.0s,baz=82,slow=7.9
GRF *eL* L 23 58 19.3
comp=Z,74nm,20.8s
GRFO Grafenberg 44.73 306 P **P 23 38 26.4 -1.1**
GRFO pmax pmax
comp=Z,24nm,1.0s
GRFO Grafenberg 44.73 306 P **P 23 38 26.4 -1.1**
GRFO IAmb IAmb 23 38 30.7
comp=Z,24nm,1.0s
BSEG Bad Segeberg 44.75 312 *eP* **P 23 38 29.4 +1.8**
comp=Z,31nm,0.8s,baz=82,slow=7.9
AQU L'Aquila 44.77 295 P **P 23 38 27.8 -0.2**
AQU pmax pmax
comp=Z,13nm,0.9s
AQU L'Aquila 44.77 295⇓*i* P **P 23 38 29.3 +1.3**
AQU L'Aquila 44.77 295 P **P 23 38 27.8 -0.2**
AQU IAmb IAmb 23 38 34.9
comp=Z,12nm,0.9s
NRCA Norcia 44.85 296 P **P 23 38 28.3 -0.3**
NRCA IAmb IAmb 23 38 31.3
comp=Z,21nm,0.9s
KONO Kongsberg 44.87 320↑ *eP* **P 23 38 28.9 +0.5**
KONO pmax pmax
comp=Z,60nm,2.5s
KONO Kongsberg 44.87 320 P **P 23 38 28.2 -0.2**
KONO IAmb IAmb 23 38 29.8
comp=Z,27nm,0.8s
WTTA Wattenberg 44.88 302 *i* P **P 23 38 29.6 +0.6**
comp=Z,18nm,0.9s,SNR=7.7
WATA Walderalm 44.91 302 *i* P **P 23 38 29.6 +0.5**
comp=Z,12nm,0.9s,SNR=7.5
FUR Furstenfeldbru 44.95 304 *eP* **P 23 38 31.2 +1.8**
comp=Z,38nm,1.0s,baz=82,slow=7.9
CLZ Clausthal 44.95 309 *eP* **P 23 38 30.7 +1.4**
comp=Z,11nm,0.8s,baz=82,slow=7.9
NRDL Niedersach Rie 45.03 310 *eP* **P 23 38 31.6 +1.9**
comp=Z,30nm,0.9s,baz=82,slow=7.9
CTI Castel Tesino 45.12 301 P **P**
CTI pmax pmax **23 38 30.4 -0.4**
comp=Z,15nm,0.7s
CTI Castel Tesino 45.12 301 P **P 23 38 30.4 -0.4**
CTI IAmb IAmb 23 38 32.4
comp=Z,15nm,0.7s
MURB Monte Urbino 45.16 297 P **P 23 38 32.0 +0.9**
MOTA Moosalm 45.22 303 *i* P **P 23 38 31.9 +0.3**
comp=Z,17nm,0.8s,SNR=9.1
GTTG Gottingen 45.25 309 *eP* **P 23 38 33.1 +1.6**
comp=Z,47nm,0.9s,baz=82,slow=7.9
TEOL Teolo 45.26 300 IAmb IAmb 23 38 33.9
comp=Z,34nm,0.9s
RETA Reutte 45.42 303 *i* P **P 23 38 33.7 +0.6**
comp=Z,5.6nm,0.6s
FETA Feichten 45.54 302 *i* P **P 23 38 34.6 +0.5**
comp=Z,8.4nm,0.7s
RAFF Raffo Rosso 45.58 288 P **P 23 38 34.2 -0.2**
RAFF IAmb IAmb 23 38 37.5
comp=Z,35nm,1.0s
UBR Ueberruh 45.82 303 *eP* **P 23 38 37.4 +1.2**
comp=Z,24nm,0.9s,baz=82,slow=7.9
MILB Miltenberg 45.94 306 *eP* **P 23 38 38.4 +1.4**
comp=Z,16nm,0.9s,baz=82,slow=7.9
ZCCA Zocca 45.98 299 P **P 23 38 37.7 +0.2**
ZCCA IAmb IAmb 23 38 47.7
comp=Z,16nm,0.8s
SALO Salr 45.98 300 P **P 23 38 37.6 +0.1**
OSSC Osservatorio P 46.00 297 P **P 23 38 38.3 +0.7**
OSSC IAmb IAmb 23 38 40.4
comp=Z,17nm,0.9s
DAVA Damuels 46.05 303 *i* P **P 23 38 38.9 +0.8**
comp=Z,36nm,0.7s,SNR=13
DAVOX Davos/Dischmat 46.16 302 P **P 23 38 39.7 +0.7**
comp=Z,27nm,0.7s,baz=99,slow=7.0,SNR=76
CLTB Caltabellotta 46.32 289 P **P 23 38 39.6 -0.7**
PRMA PARMA 46.33 299 P **P 23 38 40.6 +0.5**
PRMA IAmb IAmb 23 38 43.3
comp=Z,23nm,1.0s
VLC Villacollemand 46.43 298 P **P 23 38 40.3 -0.7**
IBBN Ibbenburen 46.49 310 *eP* **P 23 38 42.6 +1.4**
comp=Z,29nm,0.8s,baz=82,slow=7.9
BFO Black Forest 46.85 304 P **P**
BFO pmax pmax **23 38 45.0 +0.8**
comp=Z,6.0nm,0.8s
BFO Black Forest 46.85 304 P **P 23 38 45.0 +0.8**
MSSA Maissana 47.00 299 P **P 23 38 44.8 -0.6**
MSSA IAmb IAmb 23 38 47.4
comp=Z,17nm,0.8s
AHRW Bad Neuenahr-A 47.21 308 *eP* **P 23 38 48.4 +1.5**
comp=Z,18nm,0.8s,baz=82,slow=7.9
KBS Kingsbay 47.55 347⇓*i* P **P 23 38 50.6 +1.4**
KBS pmax pmax
comp=Z,28nm,1.3s
KBS Kingsbay 47.55 347 P **P 23 38 48.9 -0.3**
KBS IAmb IAmb 23 38 51.3
comp=Z,26nm,0.8s
BTNL Ternell 47.79 308 *dP* **P 23 38 52.6 +1.1**
BTNL *dp*P **pP 23 39 21.7 -0.7**
BTNL *dP*cP **PcP 23 40 17.4 -0.9**
MEM Membach 47.87 308 *dP* **P 23 38 53.4 +1.5**
comp=Z,12nm,1.0s
WLF Walferdange 47.97 307 *dP* **P 23 38 54.8 +2.0**
WLF *dP*cP **PcP 23 40 17.5 -1.4**
WLF Walferdange 47.97 307 P **P 23 38 52.3 -0.5**
WLF pmax pmax
comp=Z,23nm,0.8s
WLF Walferdange 47.97 307 P **P 23 38 52.3 -0.5**
WLF IAmb IAmb 23 38 55.5
comp=Z,23nm,0.8s
WLF Walferdange 47.97 307 *eP* **P 23 38 54.6 +1.8**
comp=Z,28nm,1.0s,baz=82,slow=7.9
SENIN Lac Senin/Sane 47.99 302 P **P 23 38 52.6 -0.7**
SENIN IAmb IAmb 23 38 54.8
comp=Z,15nm,0.7s
VSL Villasalto 48.52 293 P **P 23 38 57.0 -0.3**
BMRD Maredsous 48.70 308 *dP* **P 23 38 57.4 -1.0**
BNI Bardonecchia 48.75 301 P **P 23 38 58.2 -0.8**
BNI pmax pmax
comp=Z,17nm,1.1s
BNI Bardonecchia 48.75 301 P **P 23 38 58.2 -0.8**
BNI IAmb IAmb 23 39 01.6
comp=Z,17nm,1.1s
DOU Dourbes 48.86 307 *dP* **P 23 38 58.5 -1.1**
KEST Kesra 49.89 288 P **P 23 39 09.4 +1.7**
comp=Z,6.1nm,0.6s,baz=16,slow=1.7,SNR=13
KEST Kesra 49.89 288 P **P 23 39 07.7 -0.1**
KEST IAmb IAmb 23 39 09.9
comp=Z,7.5nm,0.8s
CLF Chambon-Foret 50.86 305 P **P 23 39 14.2 -0.5**
CLF IAmb IAmb 23 39 31.7
comp=Z,12nm,1.1s
MJAR Matsushiro Arr 51.18 70 P **P 23 39 18.7 +1.3**
comp=Z,1.9nm,0.8s,baz=294,slow=9.9,SNR=6.3
DAG Danmarks Havn 53.77 343⇓*i* P **P 23 39 36.5 +0.7**
DAG IAmb IAmb 23 39 37.3
comp=Z,27nm,0.9s
DAG Danmarks Havn 53.77 343⇓*i* P **P 23 39 36.5 +0.7**
DAG pmax pmax
comp=Z,27nm,0.9s
CART Cartagena 56.78 294 P **P 23 39 58.5 +0.5**
ESBB Sonseca Array 58.01 298 P **P 23 40 05.8 -0.8**
ESBB IAmb IAmb 23 40 08.5
comp=Z,9.2nm,0.8s
ESDC Sonseca Array 58.01 298 P **P 23 40 07.5 +0.8**
comp=Z,8.9nm,0.8s,baz=57,slow=7.2,SNR=69
ESDC Sonseca Array 58.01 298 P **P 23 40 06.5 -0.1**
PAB San Pablo 58.33 298 P **P 23 40 08.5 -0.4**
PAB pmax pmax
comp=Z,8.0nm,1.2s
PAB San Pablo 58.33 298 P **P 23 40 08.5 -0.4**
PAB IAmb IAmb 23 40 10.9
comp=Z,8.0nm,1.1s
MVO Moncorvo 59.50 300 *eP* **P 23 40 17.5 +0.6**
comp=Z,20nm,1.7s
PCAB Cabril 59.94 301 *eP* **P 23 40 20.8 +0.9**
comp=Z,29nm,1.6s
NEEM North Greenlan 59.95 348⇓*i* P **P 23 40 20.3 +0.6**
NEEM IAmb IAmb 23 40 21.4
comp=Z,20nm,0.8s
PGAV Gavieira, Arco 59.99 302 *eP* **P 23 40 21.1 +0.8**
SUMG Summit 60.18 341⇓*i* P **P 23 40 23.0 +1.6**
SUMG IAmb IAmb 23 40 23.7
comp=Z,27nm,0.9s
SUMG Summit 60.18 341 P **P**
SUMG pmax pmax **23 40 21.5 +0.1**
comp=Z,25nm,0.8s
SUMG Summit 60.18 341 P **P 23 40 21.5 +0.1**
MTE Manteigas 60.18 300 *eP* **P 23 40 20.1 -1.5**
comp=Z,34nm,2.5s
MTE Manteigas 60.18 300 P **P 23 40 20.6 -1.0**
MTE IAmb IAmb 23 40 24.5
comp=Z,16nm,1.0s
PVIS Viseu 60.28 300 *eP* **P 23 40 23.8 +1.5**
comp=Z,22nm,1.6s
PMRV Marv??o 60.51 299 *eP* **P 23 40 23.7 -0.1**
comp=Z,20nm,1.8s
PBAR Barrancos 60.82 297 *eP* **P 23 40 27.1 +1.2**
comp=Z,25nm,1.3s
PVAQ Vaqueiros 61.65 297 *eP* **P 23 40 30.0 -1.5**
comp=Z,26nm,0.9s
PVAQ Vaqueiros 61.65 297 P **P 23 40 31.3 -0.2**
EUNU Eureka 61.71 356 P **P 23 40 31.8 +0.5**
EUNU **PcP 23 41 13.2 +1.9**
PCVE Castro Verde 61.77 297 *eP* **P 23 40 33.9 +1.6**
comp=Z,24nm,2.1s
PMAFR Mafra 62.03 299 *eP* **P 23 40 36.1 +2.1**
ICESG Greenland Ices 62.42 338 *i* P **P 23 40 37.9 +1.4**
ICESG IAmb IAmb 23 40 38.7
comp=Z,33nm,1.0s
TULEG Thule 63.28 351 P **P 23 40 40.4 -1.3**
ANGG Ammassalik, Gr 63.74 334 P **P 23 40 44.5 -0.3**
DY2G Dye2 66.01 337⇓*i* P **P 23 41 01.1 +1.3**
DY2G IAmb IAmb 23 41 01.9
comp=Z,20nm,0.6s
TORD Torodi Ar. Bea 67.11 269 P **P 23 41 07.3 0.0**
comp=Z,7.0nm,0.6s,baz=47,slow=5.6,SNR=70
TOLK Toolik Lake Re 69.22 15 IAmb IAmb 23 41 21.4
comp=Z,11nm,0.7s
KOWA Kowa 70.84 274 P **P 23 41 30.7 +0.3**
KOWA IAmb IAmb 23 41 31.9
comp=Z,14nm,0.9s
INK Inuvik 72.30 10 P **P 23 41 38.4 +0.2**
comp=Z,6.9nm,0.8s,baz=9.2,slow=3.9,SNR=7.4
INK Inuvik 72.30 10 pP 23 42 14.6 +3.0
C36M Paulatuk 72.34 6 P **P 23 41 38.3 -0.2**
C36M IAmb IAmb 23 41 39.5
comp=Z,7.4nm,0.7s
MDM Murphy Dome 72.59 17 P **P 23 41 39.9 -0.1**
NEA2 Nenana 72.70 18 P **P 23 41 41.1 +0.4**
COLA College 72.75 17*c* *i*P **P 23 41 41.9 +1.0**
COLA pmax pmax
comp=Z,9.0nm,0.8s
ILAR Eielson Array 73.05 17 P **P 23 41 42.9 +0.1**
comp=Z,3.3nm,1.0s,baz=318,slow=5.1,SNR=21
DBIC Dimbokro 76.12 268 P **P 23 42 02.0 +0.7**
comp=Z,2.9nm,0.6s,baz=356,slow=7.7,SNR=4.1
DBIC Dimbokro 76.12 268 P **P 23 42 02.0 +0.7**
BCPM Bancas Point 78.91 16 **PcP 23 42 21.9 -2.4**
YKA Yellowknife Ar 79.77 3 P **P 23 42 21.4 +0.8**
comp=Z,3.5nm,0.6s,baz=354,slow=5.3,SNR=15
SCHQ Schefferville 81.33 338 P **P 23 42 29.2 0.0**
comp=Z,6.5nm,0.8s,baz=54,slow=5.0,SNR=14
WRA Warramunga Arr 81.60 123 P **P 23 42 31.4 +0.4**
comp=Z,2.8nm,0.8s,baz=318,slow=4.1,SNR=16
WRA Warramunga Arr 81.60 123 *i* P **P 23 42 31.3 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 81.60 123⇓*eP* **P 23 42 31.4 +0.4**
WRAB pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 83.96 126 P **P 23 42 43.5 +0.3**
comp=Z,1.4nm,0.9s,baz=321,slow=5.7,SNR=10.0
PLCA Paso Flores 151.56 253 PKPbc **PKiKP 23 50 08.1 +1.6**
comp=Z,4.6nm,0.9s,baz=135,slow=2.2,SNR=5.0

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*IDC **01** 23:40:12.2≤0.9, 23°.83S×179°.93W, h507km≤8km, mb4.3/18, mb1 4.3/23, mb1mx4.2/32, mbtmp5.1/23, Error ellipse: s-maj=11.6km s-min=10.7km az=151.0*
*NOU **01** 23:40:13.1, 23°.89S×179°.76W, h535km, mb5.0, South of Fiji Islands*
*NEIC **01** 23:40:14.4≤1.6, 23°.82S≤0°.08×180°.0W×0°.1, h537km≤9km, mb4.7/146, Error ellipse: s-maj=14.9km s-min=11.6km az=100.0*

ISC 01 23:40:12.6≈0.3, **23°.92S**≤0°.04×**179°.87W**≈0°.05, **h518**km, **n352**,σ1^{s}**56**/374, **mb4.7**/109, **47C-57D, Fault plane solution: NP1**:φ≤252.93446°, δ≥28.99421°, λ≥28.58143°. **NP2:**φ≤137.45586°, δ≥76.59139°, λ≤115.94959°. **Principal axes:** T Plg51.4862°, Azm77.2504°; N Plg25.1919°, Azm311.0173°; P Plg27.0334°, Azm207.1294°; **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.58**	**162**	P		P	**P**	**23 41 46.9**	**+1.3**
RIZ				S		S	**S**	**23 42 55.5**	**-6.3**
RAO	**Raoul Island**	**5.59**	**162**	P		P	**P**	**23 41 45.7**	**0.0**
	270nm,0.3s,baz=265,slow=19,SNR=11								
RAO				S		S	**S**	**23 43 01.0**	**-0.9**
	217nm,0.3s,baz=78,slow=20,SNR=6.9								
RAO	**Raoul Island**	**5.59**	**162**	P		P	**P**	**23 41 46.5**	**+0.8**
RAO	**Raoul Island**	**5.59**	**162**	P		P	**P**	**23 41 46.6**	**+0.9**
GLKZ	**Green Lake**	**5.59**	**162**	P		P	**P**	**23 41 45.8**	**0.0**
GLKZ				S		S	**S**	**23 42 53.1**	**-9.0**
LKBA	**Tubou, Lakemba**	**5.75**	**10**	P		P	**P**	**23 41 47.9**	**+0.5**
MSVF	**Nonsavu**	**6.46**	**342**	P		P	**P**	**23 41 54.1**	**-0.2**
	18nm,0.3s,baz=211,slow=4.8,SNR=65								
MSVF	**Nonsavu**	**6.46**	**342**	P		P	**P**	**23 41 54.0**	**-0.3**
TAVE	**Taveuni**	**7.18**	**360**	P		P	**P**	**23 42 02.7**	**+1.4**
DGTI	**Dogotuki**	**7.59**	**357**	P		P	**P**	**23 42 06.6**	**+1.1**
NIUE	**Niue**	**10.43**	**64**	P		P	**P**	**23 42 34.1**	**-0.6**
	baz=10,SNR=8.0								
NIUE	**Niue**	**10.43**	**64**	P		P	**P**	**23 42 34.0**	**-0.6**
NIUE	**Niue**	**10.43**	**64**	P		P	**P**	**23 42 35.4**	**+0.7**
MARNC	**Mare, Loyalty**	**11.43**	**280**	P		P	**P**	**23 42 45.6**	**+0.4**
MARNC	**Mare, Loyalty**	**11.43**	**280**	P		P	**P**	**23 42 45.9**	**+0.7**
PINNC	**Pines Island,**	**11.74**	**274**	P		P	**P**	**23 42 50.0**	**+1.6**
PINNC	**Pines Island,**	**11.74**	**274**	P		P	**P**	**23 42 50.5**	**+2.1**
OUENC	**Ouen Island, N**	**12.32**	**274**	P		P	**P**	**23 42 56.2**	**+1.7**
OUENC	**Ouen Island, N**	**12.32**	**274**	P		P	**P**	**23 42 56.6**	**+2.1**
LIFNC	**LIFOU**	**12.34**	**282**	P		P	**P**	**23 42 54.0**	**-0.7**
LIFNC	**LIFOU**	**12.34**	**282**	P		P	**P**	**23 42 55.8**	**+1.1**
AFI	**Afiamalu**	**12.55**	**39**	P		P	**P**	**23 42 53.0**	**-4.1**
	14nm,0.3s,baz=66,slow=2.5,SNR=19								
AFI				S		S	**S**	**23 45 06.5**	**-6.2**
	9.4nm,0.3s,baz=43,slow=23,SNR=5.2								
OUZ	**Omahuta**	**12.61**	**205**	P		P	**P**	**23 42 59.5**	**+2.1**
DZM	**Mont Dzumac**	**12.74**	**276**	*e*P		P	**P**	**23 43 00.9**	**+1.8**
	58nm,1.1s								
DZM	**Mont Dzumac**	**12.74**	**276**	P		P	**P**	**23 42 59.4**	**+0.3**
	0.7nm,0.3s,baz=128,slow=20,SNR=9.5								
DZM				ScP		ScP	**ScP**	**23 50 37.9**	**+2.7**
	0.5nm,0.3s,baz=186,slow=5.2,SNR=8.4								
DZM	**Mont Dzumac**	**12.74**	**276**	P		P	**P**	**23 43 01.4**	**+2.3**
DZM	**Mont Dzumac**	**12.74**	**276**	P		P	**P**	**23 43 01.2**	**+2.1**
DVP	**Devils Point**	**12.76**	**297**	P		P	**P**	**23 43 01.0**	**+1.9**
	235um,0.8s								
HAZ	**Te Kaha**	**13.94**	**188**	P		P	**P**	**23 43 12.6**	**+1.4**
HAZ				S		S	**S**	**23 45 34.9**	**-3.6**
PKGZ	**Pakihiroa**	**14.03**	**187**	P		P	**P**	**23 43 13.5**	**+1.2**
PKGZ				S		S	**S**	**23 45 43.6**	**+3.1**
RUGZ	**Raukumara Rang**	**14.15**	**188**	P		P	**P**	**23 43 15.5**	**+1.8**
RUGZ				S		S	**S**	**23 45 45.9**	**+3.0**
PUZ	**Puketiti**	**14.20**	**186**	P		P	**P**	**23 43 17.5**	**+3.5**
PUZ				S		S	**S**	**23 45 42.8**	**-0.8**
TOZ	**Tahuroa Road**	**14.32**	**195**	P		P	**P**	**23 43 17.4**	**+2.1**
TWGZ	**Tauwhareparae**	**14.33**	**187**	P		P	**P**	**23 43 16.2**	**+0.8**
TWGZ				S		S	**S**	**23 45 44.9**	**-1.2**
URZ	**Urewera**	**14.52**	**190**	P		P	**P**	**23 43 16.8**	**-0.5**
	10nm,0.3s,baz=302,slow=24,SNR=30								
URZ				S		S	**S**	**23 45 50.0**	**+0.3**
	9.9nm,0.3s,baz=342,slow=9.8,SNR=11								
URZ	**Urewera**	**14.52**	**190**	P		P	**P**	**23 43 17.1**	**-0.3**
URZ	**Urewera**	**14.52**	**190**	P		P	**P**	**23 43 16.8**	**-0.5**
URZ				S		S	**S**	**23 45 46.9**	**-2.9**
MWZ	**Matawai**	**14.54**	**188**	P		P	**P**	**23 43 17.3**	**-0.3**
MWZ				S		S	**S**	**23 45 48.6**	**-1.5**
CNGZ	**Carnagh Statio**	**14.61**	**186**	P		P	**P**	**23 43 20.9**	**+2.7**
HRRZ	**Handcock Road**	**14.79**	**192**	P		P	**P**	**23 43 22.2**	**+2.0**
SANVU	**Saraoutou**	**14.80**	**302**	P		P	**P**	**23 43 21.2**	**+0.6**
SANVU	**Saraoutou**	**14.80**	**302**	P		P	**P**	**23 43 22.0**	**+1.4**
	88nm,0.7s								
TLZ	**Tolley Road**	**14.89**	**194**	P		P	**P**	**23 43 24.5**	**+3.2**
KOUNC	**Koumac, New Ca**	**15.05**	**280**	P		P	**P**	**23 43 23.8**	**+0.6**
MTHZ	**Maungataniwha**	**15.14**	**190**	P		P	**P**	**23 43 24.1**	**+0.2**
MTHZ				S		S	**S**	**23 45 57.5**	**-4.1**
RAHZ	**Arahi**	**15.17**	**189**	P		P	**P**	**23 43 23.6**	**-0.5**
RAHZ				S		S	**S**	**23 46 01.4**	**-0.7**
KNZ	**Kokohu**	**15.20**	**187**	P		P	**P**	**23 43 24.4**	**0.0**
KNZ				S		S	**S**	**23 45 59.1**	**-3.4**
WATZ	**Wairara**	**15.21**	**193**	P		P	**P**	**23 43 26.6**	**+2.1**
HIZ	**Hauiti**	**15.22**	**196**	P		P	**P**	**23 43 28.2**	**+3.5**
HIZ	**Hauiti**	**15.22**	**196**	P		P	**P**	**23 43 27.9**	**+3.2**
RATZ	**Rangitukua**	**15.35**	**193**	P		P	**P**	**23 43 27.2**	**+1.2**
NMHZ	**Naumai**	**15.39**	**190**	P		P	**P**	**23 43 26.5**	**0.0**
NMHZ				S		S	**S**	**23 46 05.1**	**-1.2**
BKZ	**Black Stump Fm**	**15.51**	**191**	P		P	**P**	**23 43 27.0**	**-0.7**
BKZ						IAmb	IAmb	23 43 31.3	
	comp=Z,29nm,0.7s								
BKZ	**Black Stump Fm**	**15.51**	**191**	P		P	**P**	**23 43 26.4**	**-1.3**
BKZ				S		S	**S**	**23 46 02.4**	**-6.0**
NTVZ	**North Tongariro**	**15.60**	**193**	P		P	**P**	**23 43 29.2**	**+0.5**
KRVZ	**Karewarewa**	**15.60**	**193**	P		P	**P**	**23 43 30.3**	**+1.6**
TMVZ	**Te Maari**	**15.61**	**193**	P		P	**P**	**23 43 29.1**	**+0.3**
ETVZ	**East Tongariro**	**15.62**	**193**	P		P	**P**	**23 43 29.0**	**0.0**
WTVZ	**West Tongariro**	**15.63**	**193**	P		P	**P**	**23 43 30.5**	**+1.5**
WTVZ				S		S	**S**	**23 46 07.8**	**-2.9**
OTVZ	**Oturere**	**15.66**	**193**	P		P	**P**	**23 43 29.6**	**+0.2**
NGZ	**Ngauruhoe**	**15.69**	**193**	P		P	**P**	**23 43 31.3**	**+1.6**
SNVZ	**South Ngauruho**	**15.69**	**193**	P		P	**P**	**23 43 30.3**	**+0.6**
MCHZ	**McNeill Hill**	**15.75**	**190**	P		P	**P**	**23 43 29.8**	**-0.3**
MCHZ				S		S	**S**	**23 46 09.3**	**-3.4**
TUVZ	**Tukino**	**15.76**	**193**	P		P	**P**	**23 43 30.6**	**+0.2**
KWHZ	**Kaweka Forest**	**15.77**	**191**	P		P	**P**	**23 43 29.7**	**-0.8**
KWHZ				S		S	**S**	**23 46 10.0**	**-3.2**
VRZ	**Vera Road**	**15.83**	**195**	P		P	**P**	**23 43 34.5**	**+3.6**
WNVZ	**Wahianoa**	**15.83**	**193**	P		P	**P**	**23 43 31.2**	**0.0**
MOVZ	**Moawhango**	**15.88**	**192**	P		P	**P**	**23 43 31.4**	**-0.1**
BHHZ	**Black Hill Sta**	**15.90**	**192**	P		P	**P**	**23 43 29.7**	**-2.1**
BHHZ				S		S	**S**	**23 46 09.1**	**-6.4**

KRHZ **Kereru** 15.99 191 P **P** **23 43 31.4 -1.3**
KRHZ S **S** **23 46 12.6 -4.6**
KAHZ **Kahuranaki** 16.06 189 P **P** **23 43 33.3 -0.1**
KAHZ S **S** **23 46 14.1 -4.3**
PNHZ **Pukenui** 16.29 191 P **P** **23 43 34.3 -1.3**
PNHZ S **S** **23 46 15.1 -7.2**
PXZ **Pawanui** 16.30 189 P **P** **23 43 35.3 -0.4**
PXZ S **S** **23 46 16.9 -5.4**
TSZ **Takapari Road** 16.47 191 P **P** **23 43 36.1 -1.4**
TSZ S **S** **23 46 21.5 -3.9**
MSWZ **Moikau Station** 17.92 192 P **P** **23 43 50.1 -1.0**
SNZO **South Karori** 17.92 193 P **P** **23 43 50.9 -0.2**
BHW **Baring Head** 17.98 193 P **P** **23 43 51.3 -0.4**
QRZ **Quartz Range** 18.02 199 P **P** **23 43 52.5 +0.4**
PLWZ **Palliser** 18.06 192 P **P** **23 43 52.3 -0.2**
NNZ **Nelson** 18.15 197 P **P** **23 43 53.9 +0.7**
TUWZ **Tuamarina** 18.21 195 P **P** **23 43 54.6 +0.9**
CMWZ **Cape Campbell** 18.45 194 P **P** **23 43 57.5 +1.6**
BSWZ **Blackbirch Sta** 18.50 195 P **P** **23 43 57.8 +1.4**
RAR **Rarotonga** 18.75 86 P **P** **23 43 58.1 -0.8**
comp=Z,2.5nm,0.3s,baz=170,slow=8.5,SNR=2.9
KHZ **Kahutara** 19.24 195 P **P** **23 44 04.7 +1.6**
LTZ **Lake Taylor** 19.91 197 P **P** **23 44 10.6 +1.4**
OXZ **Oxford** 20.47 197 P **P** **23 44 16.7 +2.3**
MQZ **McQueen's Vall** 20.67 196 P **P** **23 44 19.1 +3.0**
MQZ IAmb IAmb 23 44 21.4
comp=Z,32nm,1.1s
RPZ **Rata Peaks** 21.11 199 P **P** **23 44 22.2 +2.1**
FOZ **Fox Glacier** 21.33 201 P **P** **23 44 24.2 +2.2**
LBZ **Lake Benmore** 21.98 199 P **P** **23 44 29.1 +1.2**
LBZ IAmb IAmb 23 44 35.3
comp=Z,17nm,1.0s
ODZ **Otahua Downs** 22.44 198 P **P** **23 44 33.7 +1.6**
ODZ IAmb IAmb 23 44 40.3
comp=Z,11nm,0.7s
WKZ **Wanaka** 22.74 201 P **P** **23 44 36.9 +2.1**
MLZ **Mavora Lakes** 23.51 202 P **P** **23 44 43.2 +1.5**
WHZ **Wether Hill Ro** 24.03 201 P **P** **23 44 47.5 +1.2**
HNR **Honiara** 24.07 303 P **P** **23 44 45.6 -1.4**
comp=Z,123nm,0.6s,baz=202,slow=4.9,SNR=4.9
TARA **Tarawa** 26.09 343 P **P** **23 45 04.1 -0.7**
comp=Z,145nm,0.9s
ARMA **Armidale** 26.13 249 P **P** **23 45 06.5 +1.3**
baz=26,SNR=6.4
ARMA **Armidale** 26.13 249 P **P** **23 45 06.4 +1.2**
ARMA IAmb IAmb 23 45 07.4
comp=Z,27nm,0.8s
EIDS **Eidsvold** 26.43 261 P **P** **23 45 08.2 +0.4**
baz=26,SNR=14
EIDS **Eidsvold** 26.43 261 P **P** **23 45 08.2 +0.4**
MGCD **Mangrove Creek** 27.05 243 P **P** **23 45 14.7 +1.6**
baz=27,SNR=5.3
RMQ **Roma** 28.47 258 P **P** **23 45 27.1 +1.4**
baz=28,SNR=20
CAN **Canberra** 29.24 240 P **P** **23 45 33.3 +1.0**
CAN IAmb IAmb 23 45 34.1
comp=Z,34nm,0.9s
CMSA **Cobar Meteorol** 31.32 248 P **P** **23 45 50.7 +0.4**
baz=31,SNR=15
CTA **Charters Tower** 31.60 270 P **P** **23 45 53.2 +0.4**
comp=Z,115nm,0.5s,baz=95,slow=11,SNR=200
QLP **Quilpie** 32.51 258 P **P** **23 46 00.7 +0.2**
baz=32,SNR=8.8
TOO **Toolangi** 32.54 237 P **P** **23 46 01.5 +0.9**
baz=33,SNR=16
TOO **Toolangi** 32.54 237 P **P** **23 46 01.3 +0.7**
TOO IAmb IAmb 23 46 02.2
comp=Z,14nm,0.7s
TAU **Tasmania Unive** 33.01 227 P **P** **23 46 05.2 +0.8**
TAU IAmb IAmb 23 46 05.7
comp=Z,36nm,1.1s
MTSU **Mount Surprise** 33.86 273 P **P** **23 46 12.3 +0.2**
baz=34,SNR=94
PMG **Port Moresby** 34.62 289 P **P** **23 46 17.4 -1.0**
comp=Z,127nm,0.7s,baz=101,slow=5.3,SNR=29
PMG **Port Moresby** 34.62 289 P **P** **23 46 18.7 +0.3**
STKA **Stephens Creek** 34.83 248 P **P** **23 46 20.3 +0.3**
comp=Z,13nm,0.8s,baz=82,slow=9.5,SNR=14
STKA PcP **PcP** **23 48 39.1 +0.5**
comp=Z,2.2nm,0.7s,baz=346,slow=6.6,SNR=2.9
STKA **Stephens Creek** 34.83 248 P **P** **23 46 20.3 +0.3**
ARPS **Mount Arapiles** 35.21 240 P **P** **23 46 23.5 +0.5**
baz=35,SNR=4.8
HTT **Hallett** 37.18 246 P **P** **23 46 39.4 -0.1**
baz=37,SNR=19
PATS **Pohnpei** 37.26 322 P **P** **23 46 40.0 -0.3**
QIS **Mount Isa** 37.58 267 P **P** **23 46 42.2 -0.6**
baz=38,SNR=8.0
MANU **Manus Island** 38.44 300 P **P** **23 46 49.0 -0.9**
MANU IAmb IAmb 23 46 49.4
comp=Z,15nm,0.6s
BBOO **Buckleboo** 39.55 247 P **P** **23 46 58.0 -0.7**
baz=40,SNR=14
BBOO **Buckleboo** 39.55 247 P **P** **23 46 57.9 -0.7**
BBOO IAmb IAmb 23 46 58.5
comp=Z,21nm,0.6s
TAOE **Nuku Hiva Isla** 40.77 75 P **P** **23 47 09.7 +0.8**
AS31 **Alice Springs** 42.15 261 P **P** **23 47 19.2 -0.4**
AS31 IAmb IAmb 23 47 20.5
comp=Z,14nm,0.6s
ASAR **Alice Springs** 42.15 261 P **P** **23 47 19.3 -0.3**
comp=Z,44nm,0.8s,baz=96,slow=7.9,SNR=254
ASAR PcP **PcP** **23 49 02.9 +0.7**
comp=Z,2.4nm,0.6s,baz=89,slow=7.9,SNR=4.1
ASAR ScP **ScP** **23 52 05.8 +2.4**
comp=Z,13nm,0.7s,baz=109,slow=4.0,SNR=34
ASAR S **S** **23 52 59.9 -2.1**
comp=Z,3.5nm,0.8s,baz=100,slow=17,SNR=9.3
ASAR **Alice Springs** 42.15 261 P **P** **23 47 18.2 -1.4**
WR0 **Warramunga Arr** 42.34 266 P **P** **23 47 20.2 -0.9**
WB2 **Warramunga Arr** 42.52 266 P **P** **23 47 21.5 -1.0**
WRAB **Tennant Creek** 42.52 266 P **P** **23 47 21.7 -0.8**
WB0 **Warramunga Arr** 42.52 266 P **P** **23 47 21.4 -1.1**
WRA **Warramunga Arr** 42.53 266 P **P** **23 47 21.7 -0.9**
comp=Z,70nm,0.5s,baz=103,slow=8.5,SNR=476
WRA ScP **ScP** **23 52 07.3 +2.4**
comp=Z,8.7nm,0.9s,baz=100,slow=4.3,SNR=13
WRA S **S** **23 53 03.1 -4.3**
comp=Z,3.2nm,0.8s,baz=98,slow=13,SNR=7.0
KDU **Kakadu** 46.41 275 P **P** **23 47 51.6 -1.0**
baz=46,SNR=17
FORT **Forrest** 46.42 250 P **P** **23 47 51.6 -0.8**
baz=46,SNR=95
FORT **Forrest** 46.42 250 P **P** **23 47 51.6 -0.8**
WRKA **Warakurna** 46.95 257 P **P** **23 47 56.1 -0.5**
baz=47,SNR=146
MTN **Manton Dam** 47.58 274 P **P** **23 48 00.7 -0.7**
baz=48,SNR=6.4
MTN **Manton Dam** 47.58 274 P **P** **23 47 59.8 -1.6**
KNRA **Kununurra** 48.81 270 P **P** **23 48 09.7 -0.9**
FAKI **Fak Fak** 50.71 287 P **P** **23 48 23.3 -1.3**
FAKI IAmb IAmb 23 48 24.9
comp=Z,17nm,0.6s
GUMO **Guam** 50.77 314 P **P** **23 48 24.0 -0.9**
FITZ **Fitzroy Crossi** 50.95 266 P **P** **23 48 26.1 -0.2**
baz=51,SNR=38
FITZ **Fitzroy Crossi** 50.95 266 IAmb IAmb 23 48 27.6
comp=Z,37nm,0.7s
VNDA **Vanda** 54.37 185 P **P** **23 48 50.5 +0.7**
comp=Z,0.8nm,0.5s,baz=334,slow=5.5,SNR=6.4
VNDA ScP **ScP** **23 52 55.2 +1.1**
comp=Z,1.0nm,0.8s,baz=348,slow=6.5,SNR=4.8
VNDA **Vanda** 54.37 185 P **P** **23 48 51.6 +1.8**
SOEI **Soe** 54.97 275 P **P** **23 48 56.1 +0.9**
comp=Z,129nm,0.8s
KLBR **Kellerberrin** 55.09 247 P **P** **23 48 55.1 -0.6**
baz=55,SNR=22
MEEK **Meekatharra** 55.22 253 P **P** **23 48 55.6 -1.1**
baz=55,SNR=5.9
PSA00 **Pilbara Seismi** 55.28 260 P **P** **23 48 56.0 -1.1**
PSA00 IAmb IAmb 23 48 56.6
comp=Z,14nm,0.5s
PSA00 **Pilbara Seismi** 55.28 260 IAmb IAmb 23 48 56.6
comp=Z,9.6nm,1.1s
NWAO **Narrogin (SRO)** 55.34 246 P **P** **23 48 57.0 -0.4**
baz=55,SNR=7.9
NWAO **Narrogin (SRO)** 55.34 246 P **P** **23 48 56.7 -0.7**
BATI **Baumata** 55.35 274 P **P** **23 48 58.1 +0.4**
comp=Z,64nm,0.6s
BLDU **Ballidu** 56.13 248 P **P** **23 49 02.2 -0.8**
baz=56,SNR=30
MUN **Mundaring** 56.34 247 P **P** **23 49 04.1 -0.2**
baz=56,SNR=5.5
MORW **Morawa** 56.98 250 P **P** **23 49 08.3 -0.5**
baz=57,SNR=30
MORW **Morawa** 56.98 250 IAmb IAmb 23 49 09.0
comp=Z,31nm,0.6s
WBSI **Waikabubak, Su** 59.46 273 P **P** **23 49 26.5 +0.6**
comp=Z,67nm,0.8s
LUWI **Luwuk** 59.95 283 P **P** **23 49 28.9 -0.1**
GIRL **Giralia** 60.03 257 P **P** **23 49 30.1 +0.7**
baz=60,SNR=3.6
GIRL **Giralia** 60.03 257 P **P** **23 49 29.9 +0.4**
GIRL IAmb IAmb 23 49 47.2
comp=Z,23nm,0.8s
CASY **Casey** 60.15 206 P **P** **23 49 29.4 0.0**
GTOI **Gorontalo** 60.51 285 P **P** **23 49 32.9 +0.1**
comp=Z,330nmcomp=Z,46nm,0.8s
KAPI **Kappang** 60.95 278 P **P** **23 49 34.9 -0.8**
KAPI IAmb IAmb 23 49 40.2
comp=Z,17nm,0.8s
APSI **Ampana** 61.01 283 P **P** **23 49 35.1 -1.0**
PLAI **Plampang** 61.24 273 P **P** **23 49 37.0 -0.6**
comp=Z,2µmcomp=Z,162nm,0.9s
SPSI **Sidrap Palu** 61.37 279 P **P** **23 49 36.9 -1.5**
TWSI **Taliwang, Sumb** 62.10 273 P **P** **23 49 42.9 -0.3**
comp=Z,28nm,1.2s
TOLI2 **Tolitoli** 62.70 285 P **P** **23 49 46.0 -1.1**
JAGI **Jajag, Banyuwa** 64.69 272 P **P** **23 49 58.0 -1.9**
KMMI **Kalianget** 65.41 273 P **P** **23 50 05.7 +1.4**
comp=Z,75nm,1.0s
BBKI **Banjar Baru** 66.05 277 P **P** **23 50 09.0 +0.7**
comp=Z,2µmcomp=Z,35nm,0.8s
QSPA **South Pole Qui** 66.16 180 P **P** **23 50 11.0 +2.7**
comp=Z,1.5nm,0.8s,baz=265,slow=2.3,SNR=7.5
PWJI **Parerwojo** 67.01 271 P **P** **23 50 13.7 -0.6**
comp=Z,62nm,0.7s
SMRI **Semarang** 68.63 272 P **P** **23 50 24.0 -0.3**
CISI **Cisompet, Garu** 70.84 270 P **P** **23 50 36.0 -1.5**
CISI IAmb IAmb 23 50 36.8
comp=Z,16nm,0.7s
JOW **Kunigami** 71.10 312 P **P** **23 50 38.9 +0.3**
MJAR **Matsushiro Arr** 71.98 326 P **P** **23 50 43.2 -0.4**
comp=Z,11nm,0.9s,baz=160,slow=6.0,SNR=21
MJAR **Matsushiro Arr** 71.98 326 P **P** **23 50 43.4 -0.2**
MAT **Matsushiro** 71.99 326 P **P** **23 50 43.3 -0.3**
JWT **Wachi** 72.54 323 P **P** **23 50 46.9 +0.1**
JWT IAmb IAmb 23 50 47.8
comp=Z,18nm,0.7s
JHS **Saijyo** 73.62 321 IAmb IAmb 23 50 54.3
comp=Z,29nm,1.0s
NACB **Ninganchiao** 74.22 306 IAmb IAmb 23 50 56.4
comp=Z,40nm,0.9s
TPUB **Ta-pu** 74.43 305 IAmb IAmb 23 50 56.9
comp=Z,26nm,0.8s
SSLB **Suanglung** 74.47 305 IAmb IAmb 23 50 57.7
comp=Z,23nm,0.9s
YHNB **Yeheng** 74.67 306 IAmb IAmb 23 50 59.9
comp=Z,24nm,0.7s
MAW **Mawson** 77.77 200 P **P** **23 51 16.3 +0.8**
comp=Z,3.8nm,0.6s,baz=165,slow=6.1,SNR=8.3
KSRS **Korea Array** 78.34 320 P **P** **23 51 19.6 +0.6**
comp=Z,6.1nm,0.7s,baz=133,slow=5.5,SNR=22
KSAR **Wonju Array Be** 78.36 320 P **P** **23 51 19.0 -0.2**
KS19 **Wonju Array Si** 78.41 320 P **P** **23 51 18.8 -0.6**
DLV **T Lat** 78.52 289 P **P** **23 51 19.6 -1.2**
DLV IAmb IAmb 23 51 22.1
comp=Z,19nm,0.7s
PETK **Petropavlovsk-** 79.15 346 P **P** **23 51 23.1 +0.1**
comp=Z,7.4nm,0.6s,baz=108,slow=7.1,SNR=9.3
NJ2 **Nanjing** 80.77 311 ⇓P **P** **23 51 32.8 +0.8**
NJ2 pmax pmax
comp=Z,17nm,0.6s
USA0B **Ussuriysk Arra** 80.85 327 P **P** **23 51 31.9 -0.3**
USRK **Ussuriysk Ar.** 80.85 327 P **P** **23 51 33.0 +0.9**
comp=Z,6.6nm,0.6s,baz=128,slow=4.0,SNR=15
USRK **Ussuriysk Ar.** 80.85 327 P **P** **23 51 31.9 -0.3**
PKM **Mcpherson Peak** 81.61 46 P 23 51 37.7
baz=233
SAO **San Andreas Ge** 81.69 44 P **P** **23 51 36.8 +0.1**
SAO IAmb IAmb 23 51 38.7
comp=Z,14nm,0.9s
PMPB **Monarch Peak** 81.77 44 P **P** **23 51 37.2 0.0**
PMPB IAmb IAmb 23 51 39.3
comp=Z,17nm,1.0s
PAGB **Antelope Grade** 81.83 45 P **P** **23 51 37.5 +0.1**
HOPS **Hopland Field** 82.08 41 P **P** **23 51 38.5 -0.1**
HOPS IAmb IAmb 23 51 40.7
comp=Z,18nm,0.9s
GDXM **Geysers** 82.13 41 P **P** **23 51 40.1 +1.2**
OSI **Osito Audit: C** 82.17 47 P 23 51 40.4
baz=234
KCPM **Cahto Peak** 82.21 40 P **P** **23 51 38.7 -0.7**
KCPM IAmb IAmb 23 51 41.8
comp=Z,18nm,0.9s
MDJ **Mudanjiang** 82.35 326 P **P** **23 51 40.6 +0.8**
MDJ **Mudanjiang** 82.35 326 pP pP 23 53 33.8 +2.8
MDJ **Mudanjiang** 82.35 326 sP sP 23 54 31.6 +8.1
MDJ pmax pmax
comp=Z,16nm,1.4s
MDJ pmax pmax
comp=Z,140nm,3.8s
ARVC **Arvin** 82.40 46 P 23 51 41.4
baz=234
KMRM **Mail Ridge** 82.48 40 P **P** **23 51 41.8 +1.1**
KMRM IAmb IAmb 23 51 43.3
comp=Z,30nm,1.1s
MURC **Murrieta** 82.61 48 P 23 51 42.4
baz=235
VES **Vestal, Richgr** 82.65 46 P 23 51 42.1
baz=234
BFSC **Mount Baldy Ra** 82.67 48 P 23 51 42.4
baz=235,SNR=6.5
SLBS **Sierra La Lagu** 82.71 60 P **P** **23 51 42.3 +0.1**
SLBS IAmb IAmb 23 51 44.5
comp=Z,18nm,0.8s
MONP2 **Monument Peak** 82.74 49 P 23 51 43.6
baz=236,SNR=11
EDW2 **Edwards Air Fo** 82.81 47 P 23 51 43.5
baz=234
IKP **In-Ko-Pah, Jac** 82.83 50 P 23 51 43.8
baz=236
KHMM **Horse Mountain** 82.89 39 P **P** **23 51 43.4 +0.5**
KHMM IAmb IAmb 23 51 44.9
comp=Z,14nm,0.8s
ISA **Isabella, Lake** 82.95 46 P **P** **23 51 43.2 0.0**
ISA IAmb IAmb 23 51 45.1
comp=Z,17nm,0.8s
ISA **Isabella, Lake** 82.95 46 P 23 51 44.2
baz=234,SNR=9.7
O02D **Mt. Diablo Mer** 82.99 40 P 23 51 44.8
baz=231,SNR=18
SII **Sitkinak Islan** 83.06 14 P 23 51 45.3
baz=204
PFO **Pinyon Flats O** 83.12 49 P 23 51 45.1
baz=236
TPFO **Pinon Flats** 83.12 49 P 23 51 45.0
baz=236
PFO **Pinyon Flats O** 83.13 49 P **P** **23 51 45.6 +1.5**
comp=Z,1.9nm,0.5s,baz=288,slow=5.4,SNR=5.0
PFO **Pinyon Flats O** 83.13 49 P **P** **23 51 43.8 -0.4**
CMB **Columbia Colle** 83.13 43 P **P** **23 51 44.5 +0.5**
CMB IAmb IAmb 23 51 45.6
comp=Z,16nm,0.9s
SWSC **Sam W. Stewart** 83.21 50 P 23 51 45.6
baz=236
AFDM **Forest Hills D** 83.33 42 P **P** **23 51 45.0 +0.1**
AFDM IAmb IAmb 23 51 46.6
comp=Z,14nm,0.9s
ORV **Oroville** 83.38 42 P **P** **23 51 45.6 +0.4**
ORV IAmb IAmb 23 51 46.9
comp=Z,14nm,0.9s
WDC **Whiskeytown Da** 83.40 40 P **P** **23 51 45.8 +0.6**
N02D **Trinity Center** 83.55 40 P 23 51 47.4
baz=231,SNR=8.6
O03E **Paynes Creek** 83.66 41 P 23 51 47.0
baz=231,SNR=10
BELC **Belle Mtn. Jos** 83.66 49 P 23 51 47.8
baz=236,SNR=7.1
CWC **Cottonwood Cre** 83.66 46 P 23 51 47.6
baz=234
MDPB **Devils Postpil** 83.72 44 P **P** **23 51 47.1 -0.1**
GSI **Gunungsitoli** 83.72 274 P **P** **23 51 47.3 -0.1**
GSI IAmb IAmb 23 51 50.8
comp=Z,23nm,0.7s
M02C **Callahan** 83.73 39 P 23 51 48.4
baz=231,SNR=11
L02E **Cave Junction** 83.78 38 P 23 51 48.6
baz=230
BC3 **Big Chuckawall** 83.84 49 P 23 51 48.8
baz=236
HEC **Hector,Ludlow** 83.90 48 P 23 51 48.7
baz=236,SNR=11
TIN **Tinemaha, Big** 83.92 45 P 23 51 49.7
baz=234
GLA **Glamis** 83.95 50 P 23 51 49.6
baz=237,SNR=5.3
GLA **Glamis** 83.95 50 P **P** **23 51 49.3 +1.1**
GLA IAmb IAmb 23 51 50.8
comp=Z,25nm,0.8s
WAKR **Walker** 84.01 43 P **P** **23 51 49.3 +0.7**
WAKR IAmb IAmb 23 51 50.7
comp=Z,14nm,0.9s
YBH **Yreka Blue Hor** 84.03 39 P **P** **23 51 49.2 +0.8**
comp=Z,6.8nm,0.8s,baz=155,slow=0.8,SNR=22
YBH **Yreka Blue Hor** 84.03 39 P **P** **23 51 49.0 +0.6**
K02D **Willamette Mer** 84.09 38 P 23 51 50.0
baz=230
J01E **Myrtle Point** 84.25 38 P 23 51 50.5
baz=230,SNR=6.3
BEKR **Beckworth** 84.26 42 P **P** **23 51 49.7 -0.1**
GMRC **Granite Mounta** 84.33 48 P 23 51 51.0
baz=236,SNR=8.3
IRM **Iron Mountain** 84.33 49 P 23 51 51.2
baz=236,SNR=6.5
HUMO **Hull Mountain** 84.44 38 P **P** **23 51 50.9 +0.6**
LHV **Little Huntoon** 84.45 44 P **P** **23 51 50.9 +0.5**
M04C **Macdoel** 84.56 40 P 23 51 52.0
baz=231
L04D **Klamath Falls** 84.57 39 P 23 51 52.1
baz=231
HSIG **84.62 55** IAmb IAmb 23 51 53.5
comp=Z,22nm,0.7s
SNAA **Sanae** 84.64 179 P **P** **23 51 50.6 -0.4**
NVAR **Mina Array Bea** 84.68 44 P **P** **23 51 52.6 +0.7**
comp=Z,4.8nm,0.7s,baz=221,slow=7.8,SNR=23
214A **Organ Pipe Nat** 84.78 52 P 23 51 53.7
baz=238
214A **Organ Pipe Nat** 84.79 52 P **P** **23 51 53.1 +0.8**
214A IAmb IAmb 23 51 54.8
comp=Z,13nm,1.1s
I02D **Swisshome** 84.91 37 P 23 51 53.9
baz=230
I03D **Drain, OR** 84.92 37 P 23 51 53.7
baz=230,SNR=5.3
PDMCI **Parker Dam,Lak** 85.11 49 P 23 51 55.2
baz=237,SNR=8.6
TPNV **Topopah Spring** 85.16 46 IAmb IAmb 23 51 55.8
comp=Z,9.0nm,0.7s
TPNV **Topopah Spring** 85.16 46 P 23 51 54.9
baz=235,SNR=5.8
TPH **Tonopah** 85.17 45 P **P** **23 51 54.2 0.0**
KVN **Kaiserville** 85.18 44 P **P** **23 51 53.7 -0.5**
J04D **Umpqua Nationa** 85.32 38 P 23 51 56.0
baz=231
I04A **Tendick Farm,** 85.50 38 P 23 51 56.1
baz=231,SNR=5.8
MOD **Modoc Plateau** 85.54 40 P **P** **23 51 55.6 -0.3**
MOD IAmb IAmb 23 51 58.3
comp=Z,8.7nm,0.8s
SHPR **Sheep Range** 85.63 47 P **P** **23 51 56.4 -0.1**
K05A **Summer Lake** 85.70 39 P **P** **23 51 57.0 +0.4**
K05A IAmb IAmb 23 51 58.9
comp=Z,14nm,0.8s
H04D **Lebanon** 85.78 37 P 23 51 57.9
baz=230
H04A **Detroit Lake** 86.19 37 P **P** **23 51 58.5 -0.2**
H04A IAmb IAmb 23 51 59.8
comp=Z,6.5nm,0.6s
PRN **Pahroc Range** 86.20 46 P **P** **23 51 59.1 -0.1**
PRN IAmb IAmb 23 52 01.3
comp=Z,11nm,0.8s
PINE **Pine Mountain** 86.33 38 P **P** **23 52 00.2 +0.5**
PINE IAmb IAmb 23 52 01.9
comp=Z,17nm,0.8s
TUC **Tucson** 86.43 52 P 23 52 02.0
baz=239
TUC **Tucson** 86.44 52 P **P** **23 52 01.3 +1.0**
TUC IAmb IAmb 23 52 03.1
comp=Z,19nm,0.8s
I05D **Terrebonne, OR** 86.44 38 P 23 52 01.0
baz=232,SNR=5.1
WVOR **Wild Horse Val** 86.85 41 P **P** **23 52 01.8 -0.2**
WVOR IAmb IAmb 23 52 03.9
comp=Z,13nm,1.1s
GYA **Guiyang** 86.86 301 P **P** **23 52 02.9 +0.4**
GYA pmax pmax
comp=Z,2.0nm,1.4s
E04D **Cinebar** 87.17 36 P 23 52 04.6
baz=230
I07A **Izee** 87.33 39 P **P** **23 52 05.4 +1.2**
I07A IAmb IAmb 23 52 06.3
comp=Z,21nm,1.0s
F05D **White Salmon** 87.34 37 P 23 52 05.5
baz=231
CCUT **Cedar City** 87.41 47 P **P** **23 52 05.0 +0.1**
J08A **Circle Bar Ran** 87.49 40 P **P** **23 52 05.5 +0.5**
J08A IAmb IAmb 23 52 07.5
comp=Z,13nm,0.9s
D03D **Eldon** 87.52 35 P 23 52 06.0
baz=230
U15A **North Rim** 87.53 48 IAmb IAmb 23 52 07.9
comp=Z,14nm,0.8s
SPR3 **Spring Creek 3** 87.56 45 P **P** **23 52 04.5 -1.2**
PSUT **Pine Spring** 87.61 46 P **P** **23 52 06.0 +0.1**
HPIG 87.66 59 P **P** **23 52 05.9 -0.4**
HPIG IAmb IAmb 23 52 08.1
comp=Z,9.5nm,0.8s
LON **Longmire** 87.70 36 IAmb IAmb 23 52 07.2
comp=Z,7.0nm,0.8s
D05A **Enumclaw** 87.88 35 P **P** **23 52 07.0 +0.4**
ELK **Elko** 87.95 43 P **P** **23 52 07.1 -0.3**
X18A **Snowflake** 88.17 51 IAmb IAmb 23 52 10.2
comp=Z,6.2nm,0.6s
BBB **Bella Bella** 88.22 29 P **P** **23 52 08.7 +0.7**
comp=Z,12nm,0.7s,baz=274,slow=7.6,SNR=4.0
G08A **Pilot Rock** 88.37 38 P **P** **23 52 09.9 +0.9**
G08A IAmb IAmb 23 52 10.9
comp=Z,15nm,0.9s
B05A **Bryant** 88.50 34 P 23 52 10.3
baz=231
GLI **Glacier Island** 88.58 15 P 23 52 09.6
baz=210
LTY **Liberty** 88.62 36 IAmb IAmb 23 52 11.5
comp=Z,9.1nm,0.8s
E07A **Sunnyside** 88.64 37 P **P** **23 52 10.8 +0.6**
E07A IAmb IAmb 23 52 12.2
comp=Z,14nm,0.7s
HAWA **Hanford** 88.71 37 P **P** **23 52 10.5 0.0**
HAWA IAmb IAmb 23 52 12.4
comp=Z,15nm,0.9s
KNK **Knik Glacier** 88.73 15 P 23 52 10.0
baz=209
121A **Cookes Peak, D** 88.74 54 P 23 52 12.7
baz=241
121A **Cookes Peak, D** 88.74 54 P **P** **23 52 11.5 +0.4**
121A IAmb IAmb 23 52 13.7
comp=Z,6.6nm,0.8s
XAN **Xi'an** 88.85 308 P **P** **23 52 12.4 +0.9**
XAN pmax pmax
comp=Z,21nm,0.8s
MFID **Camas Ranch** 89.10 41 P **P** **23 52 12.7 +0.2**
MFID IAmb IAmb 23 52 14.3
comp=Z,15nm,0.9s
SEY **Seymchan** 89.32 348 P **P** **23 52 12.8 -0.1**
baz=159,slow=11
MESA **MESA** 89.33 18 P 23 52 13.9
baz=214
KMI **Kunming** 89.38 298 ⇓P **P** **23 52 15.4 +1.0**
KMI pmax pmax
comp=Z,13nm,1.2s
D08A **Wollman Farm,** 89.45 37 P **P** **23 52 14.2 +0.3**
D08A IAmb IAmb 23 52 15.8
comp=Z,9.0nm,0.9s
WRAK **Wrangell Islan** 89.53 24 P 23 52 15.3
baz=222
CMAR **Chiang Mai Arr** 89.65 290 P **P** **23 52 17.1 +1.6**
comp=Z,9.0nm,0.9s,baz=137,slow=3.3,SNR=37
CMAR PP **PP** **23 55 57.4 +0.4**
comp=Z,1.2nm,0.3s,baz=117,slow=2.2,SNR=5.0
CMAR **Chiang Mai Arr** 89.65 290 P **P** **23 52 16.5 +1.0**
TMUT **Trail Mountain** 89.77 46 P **P** **23 52 17.0 +1.0**
CHTO **Chiang Mai** 89.80 291 P **P** **23 52 17.1 +0.9**
CHTO IAmb IAmb 23 52 18.2
comp=Z,15nm,1.0s
N25K **Chitina, Valde** 89.83 16 P 23 52 16.4
baz=212

WAT6	**Susitna Watana**	**89.92**	**14**	P			23 52 15.2
	baz=209						
HLID	**Hailey**	**90.03**	**41**	P		**P**	**23 52 17.3 +0.4**
HLID				IAmb		IAmb	23 52 18.9
	comp=Z,6.9nm,0.9s						
HLID	**Hailey**	**90.03**	**41**	P			23 52 17.8
	baz=236						
MCARA	**McCarthy VSAT**	**90.05**	**17**	P			23 52 17.2
	baz=213						
HVU	**Hansel Valley**	**90.07**	**44**	P		**P**	**23 52 17.2 +0.1**
HVU				IAmb		IAmb	23 52 18.8
	comp=Z,9.9nm,0.7s						
WAT2	**Susitna Watana**	**90.07**	**14**	P			23 52 17.0
	baz=208						
MNTX	**Cornudas Mount**	**90.12**	**55**	P			23 52 18.5
	baz=242						
SRU	**San Rafael Swe**	**90.12**	**47**	P		**P**	**23 52 18.1 +0.6**
LENM	**Lemitar**	**90.12**	**52**	P		**P**	**23 52 18.1 +0.5**
MNTX	**Cornudas Mount**	**90.12**	**55**	P		**P**	**23 52 17.1 -0.3**
MNTX				IAmb		IAmb	23 52 19.5
	comp=Z,7.6nm,0.9s						
CTU	**Camp Tracy**	**90.14**	**45**	P		**P**	**23 52 17.7 +0.2**
CTU				IAmb		IAmb	23 52 19.1
	comp=Z,12nm,0.8s						
TRF	**Thorofare Moun**	**90.15**	**13**	P			23 52 16.6
	baz=207						
P17A	**Butcher Ranch,**	**90.17**	**46**	P		**P**	**23 52 18.3 +0.6**
P17A				IAmb		IAmb	23 52 19.6
	comp=Z,7.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.34**	**58**	P		**P**	**23 52 19.3 +0.7**
TX32	**Lajitas Array**	**90.34**	**58**	IAmb		IAmb	23 52 20.8
	comp=Z,9.2nm,0.8s						
TXAR	**Lajitas Array**	**90.34**	**58**	P		**P**	**23 52 20.0 +1.4**
	comp=Z,7.4nm,0.7s,baz=214,slow=6.4,SNR=112						
TXAR				PP		**PP**	**23 56 07.5 +5.2**
	comp=Z,0.7nm,0.9s,baz=202,slow=5.4,SNR=4.2						
HHC	**Hu-ho-hao-te**	**90.52**	**315**	*eP*		**P**	**23 52 16.8 -2.4**
HHC				pmax		pmax	
	comp=Z,13nm,0.6s						
HHC				pmax		pmax	
	comp=Z,86nm,6.6s						
HWUT	**Hardware Ranch**	**90.75**	**44**	P		**P**	**23 52 19.9 -0.4**
HWUT				IAmb		IAmb	23 52 21.4
	comp=Z,9.3nm,0.7s						
ANMO	**Albuquerque**	**90.87**	**52**	P			23 52 21.6
	baz=241						
ANMO	**Albuquerque**	**90.88**	**52**	P		**P**	**23 52 21.4 +0.3**
ANMO				IAmb		IAmb	23 52 22.7
	comp=Z,7.2nm,1.1s						
MCMT	**McKenzie Canyo**	**91.66**	**41**	P		**P**	**23 52 24.6 +0.1**
L27K	**Beaver Creek,**	**91.76**	**16**	P			23 52 24.5
	baz=214						
S22A	**4UR Ranch, Cre**	**91.96**	**49**	P			23 52 26.8
	baz=241						
SCRK	**Sand Creek**	**91.99**	**15**	P			23 52 25.1
	baz=212						
MSO	**Missoula**	**92.11**	**39**	P			23 52 26.9
	baz=237						
O20A	**White River Ci**	**92.16**	**47**	P			23 52 27.0
	baz=240						
H23K	**Yukon River**	**92.42**	**12**	P			23 52 28.8
	baz=208						
K27K	**Chicken**	**92.50**	**16**	P			23 52 28.4
	baz=214						
SMCO	**Snowmass**	**92.55**	**48**	P		**P**	**23 52 28.5 -0.4**
SMCO				IAmb		IAmb	23 52 32.1
	comp=Z,4.7nm,0.8s						
BW06	**Boulder Array**	**92.62**	**44**	P			23 52 30.0
	baz=240						
BW06	**Boulder Array**	**92.62**	**44**	P		**P**	**23 52 28.6 -0.4**
BW06				IAmb		IAmb	23 52 30.5
	comp=Z,4.3nm,0.8s						
PDAR	**Pinedale Array**	**92.62**	**44**	P		**P**	**23 52 29.1 +0.2**
	comp=Z,3.2nm,0.7s,baz=212,slow=4.0,SNR=17						
PDAR	**Pinedale Array**	**92.62**	**44**	P		**P**	**23 52 28.4 -0.6**
SDCO	**Great Sand Dun**	**92.88**	**50**	P		**P**	**23 52 30.4 0.0**
SDCO				IAmb		IAmb	23 52 31.6
	comp=Z,3.4nm,0.8s						
SDCO	**Great Sand Dun**	**92.88**	**50**	P			23 52 30.8
	baz=242						
T25A	**Trinidad**	**93.37**	**51**	P			23 52 32.2
	baz=243						
LZH	**Lanzhou**	**93.49**	**308**	⇓P		**P**	**23 52 34.0 +1.0**
LZH				pP		pP	23 54 20.3 -6.5
LZH				sP		sP	23 55 04.1 -14
LZH				pmax		pmax	
	comp=Z,28nm,1.2s						
LZH				pmax		pmax	
	comp=Z,100nm,6.2s						
ISCO	**Idaho Springs**	**93.77**	**48**	P			23 52 34.5
	baz=242						
JCT	**Junction City**	**93.85**	**58**	P			23 52 34.8
	baz=245						
ABTX	**Abilene, Hawle**	**94.89**	**57**	P			23 52 39.7
	baz=245						
MKAR	**Makanchi Array**	**112.26**	**313**	PKiKP		**PKiKP**	**23 57 47.9 -1.3**
	comp=Z,0.4nm,0.6s,baz=230,slow=1.2,SNR=5.8						
M62A	**Hamden**	**117.82**	**54**	P			23 58 00.1
	baz=262						
D60A	**Saint Jean D'O**	**119.81**	**48**	P			23 58 04.0
	baz=266						
FRB	**Frobisher Bay**	**120.61**	**29**	PKP		**PKPdf**	**23 58 02.6 -2.0**
	comp=Z,2.5nm,0.6s,baz=277,slow=3.9,SNR=13						
G65A	**Princeton**	**122.05**	**51**	P			23 58 07.6
	baz=268						
H66A	**Whiting**	**122.21**	**51**	P			23 58 08.3
	baz=267						
GEYT	**Alibeck**	**129.09**	**300**	SKPbc		SKPbc	00 00 55.8 +1.3
	comp=Z,3.9nm,0.7s,baz=215,slow=4.9,SNR=8.5						
ARCES	**ARCESS Array B**	**131.93**	**348**	PKP		**PKPdf**	**23 58 26.0 -0.1**
	comp=Z,2.5nm,0.9s,baz=55,slow=2.1,SNR=8.1						
ARCES				SKPbc		**SKPab**	**00 01 04.5 -0.7**
	comp=Z,3.7nm,0.8s,baz=13,slow=1.6,SNR=5.6						
FINES	**FINESS Array B**	**138.51**	**342**	PKhKP		PKPpre	23 58 30.1
	comp=Z,1.4nm,0.7s,baz=40,slow=4.0,SNR=7.6						
FINES				PKP		**PKPdf**	**23 58 39.3 +0.7**
	comp=Z,1.1nm,0.3s,baz=91,slow=3.5,SNR=12						
FINES				SKPbc		**SKPbc**	**00 01 24.3 +0.1**
	comp=Z,6.2nm,0.7s,baz=54,slow=3.3,SNR=15						
RAF	**Rauma**	**140.03**	**344**	*eP*		**PKiKP**	**23 58 49.6 +5.7**
NOA	**NORSAR Array B**	**142.12**	**351**	PKhKP		PKPpre	23 58 39.3
	comp=Z,0.9nm,0.8s,baz=7.1,slow=2.3,SNR=3.6						
NOA				PKP		**PKPdf**	**23 58 45.9 +0.8**
	comp=Z,0.2nm,0.5s,baz=79,slow=0.9,SNR=1.3						
NOA				SKPbc		**SKPbc**	**00 01 34.3 +0.5**
	comp=Z,1.5nm,0.6s,baz=18,slow=4.3,SNR=6.3						
IDID	**Didziasalis**	**143.00**	**335**	*eP*		**PKPdf**	**23 58 44.3 -2.5**
IIGN	**Ignalina**	**143.17**	**335**	*eP*		PKPbc	23 58 45.3 0.0
PABE	**Paberza**	**143.88**	**337**	*eP*		PKPbc	23 58 47.3 -0.1
PBUR	**Paburge**	**144.17**	**339**	*eP*		**PKPab**	**23 58 48.5 -0.1**
AKASG	**Malin Array Be**	**145.06**	**327**	PKP		**PKPdf**	**23 58 50.3 -0.2**
	comp=Z,5.8nm,0.3s,baz=40,slow=4.4,SNR=31						
AKASG				SKPbc		**SKiKP**	**00 01 41.5 0.0**
	comp=Z,7.1nm,0.5s,baz=44,slow=2.7,SNR=16						
SUW	**Suwalki**	**145.34**	**336**	*eP*		**PKPab**	**23 58 53.1 0.0**
BSD	**Bornholm Skovb**	**146.97**	**344**	*eP*		PKPdf	23 58 42.8 -11
SORM	**Soroca**	**147.09**	**324**	⇓P		**PKPbc**	**23 58 56.3 -0.7**
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc		**PKPbc**	**23 58 58.4 -0.7**
	comp=Z,9.8nm,0.6s,baz=147,slow=2.9,SNR=26						
VASR	**Vaslui**	**148.29**	**323**	⇓P		**PKPbc**	**23 59 00.1 0.0**
TLCR		**148.52**	**319**	⇓P		**PKPbc**	**23 59 00.9 +0.2**
JURR	**Jurilovca**	**148.71**	**319**	⇓P		**PKPbc**	**23 59 01.0 -0.2**
CFR	**Carcaliu**	**148.93**	**320**	⇑P		**PKPbc**	**23 59 01.3 -0.5**
TPGR	**Topolog**	**148.94**	**319**	⇓P		**PKPbc**	**23 59 01.7 -0.1**
TESR	**Tescani**	**149.00**	**323**	⇓P		**PKPbc**	**23 59 01.6 -0.4**
BIZ	**Bicaz**	**149.03**	**324**	⇓P		**PKiKP**	**23 59 02.4 -0.5**
BURAR	**Bucovina Array**	**149.06**	**326**	⇓P		**PKiKP**	**23 59 03.3 +0.2**
TIRR	**Tirgusor**	**149.16**	**319**	⇑P		**PKPbc**	**23 59 01.4 -0.9**
HARR	**Harsova**	**149.32**	**319**	⇓P		**PKPbc**	**23 59 02.2 -0.5**
VRI	**Vrincioaia**	**149.34**	**322**	⇑P		**PKPbc**	**23 59 02.6 -0.2**
PLOR	**Plostina**	**149.40**	**322**	⇓P		**PKPab**	**23 59 10.3 +0.4**
KOLS	**Kolonicke sedl**	**149.55**	**331**	*e*PKP		**PKiKP**	**23 59 04.0 0.0**
OJC	**Ojcow**	**149.61**	**335**	*eP*		**PKPbc**	**23 59 03.4 +0.1**
NEHR	**Nehoiu**	**149.85**	**322**	⇓P		**PKPbc**	**23 59 03.8 -0.2**
CRVS	**Cervenica-Dubn**	**149.94**	**331**	*e*PKP		**PKiKP**	**23 59 05.3 +0.5**
MLR	**Muntele Rosu**	**150.01**	**322**	⇑P		**PKPbc**	**23 59 04.3 -0.3**
TRPA	**Tarpa**	**150.01**	**329**	⇑P		**PKPbc**	**23 59 04.0 -0.3**
DOPR	**Dopca**	**150.02**	**323**	⇑P		**PKPbc**	**23 59 04.3 -0.1**
NIE	**Niedzica**	**150.04**	**333**	*eP*		**PKiKP**	**23 59 05.2 +0.2**
KSP	**Ksiaz**	**150.35**	**339**	*eP*		**PKiKP**	**23 59 05.5 0.0**
CJR	**Cluj-Napoca**	**150.48**	**326**	⇑P		**PKPbc**	**23 59 05.0 -0.5**
VOIR		**150.54**	**323**	⇓P		**PKiKP**	**23 59 05.9 -0.3**
LANS	**Liptovska Anna**	**150.59**	**334**	*e*PKP		**PKiKP**	**23 59 06.9 +0.8**
LANS				*e*			23 59 15.8
CHVC	**Chvalec**	**150.65**	**339**	⇑*e*PKP		**PKiKP**	**23 59 06.1 -0.1**
CHVC				*e*PKPAB		**PKPab**	**23 59 15.5 +0.6**
UPC	**Upice**	**150.73**	**339**	⇑*e*PKP		**PKiKP**	**23 59 06.3 0.0**
DPC	**Dobruska-Polom**	**150.76**	**339**	⇑*e*PKP		**PKiKP**	**23 59 06.7 +0.2**
DPC				*e*PKPAB		**PKPab**	**23 59 16.3 +0.8**
ARR	**Arges**	**150.81**	**323**	⇑P		**PKiKP**	**23 59 07.3 +0.5**
MORC	**Moravsky Berou**	**150.82**	**337**	⇓P		**PKPab**	**23 59 15.7 0.0**
KRLC	**Kraliky**	**150.84**	**338**	⇑*e*PKP		**PKiKP**	**23 59 06.5 -0.1**
KRLC				*e*PKPAB		**PKPab**	**23 59 16.4 +0.6**
CLL	**Collm**	**150.91**	**343**	*e*PKPbc		**PKPbc**	**23 59 06.0 -0.3**
	comp=Z,4.0nm,0.7s						
CLL				*i* PKPab		**PKPab**	**23 59 15.4 -0.5**
	comp=Z,3.0nm,0.6s						
HUMR	**Humele**	**151.13**	**321**	⇓P		**PKPbc**	**23 59 05.4 -1.6**
VRAC	**Vranov**	**151.55**	**337**	⇑P		**PKPab**	**23 59 19.3 +0.6**
PRU	**Pruhonice**	**151.65**	**340**	*e*PKPAB		**PKPab**	**23 59 19.7 +0.6**
BZS	**Buzias**	**152.24**	**327**	⇓P		**PKPbc**	**23 59 09.0 -0.5**
HERR	**Herculane**	**152.32**	**325**	⇓P		**PKPbc**	**23 59 09.4 -0.2**
KHC	**Kasperske Hory**	**152.71**	**341**	*e*PKPAB		**PKPab**	**23 59 24.0 +0.3**
CKRC	**Cesky Krumlov**	**152.75**	**339**	*e*PKPAB		**PKPab**	**23 59 23.8 0.0**
GERES	**GERESS Array B**	**152.92**	**340**	PKPab		**PKPab**	**23 59 23.5 -1.1**
	comp=Z,0.7nm,0.7s,baz=44,slow=4.2,SNR=6.3						
CONA	**Conrad Observa**	**152.98**	**336**	*i* P		**PKPab**	**23 59 25.7 +0.8**
	comp=Z,6.8nm,0.7s						
VTS	**Vitosha**	**153.30**	**320**	⇓P		**PKPab**	**23 59 27.7 +1.1**
FRGS	**Fruska Gora**	**153.46**	**328**	⇓P		**PKPab**	**23 59 20.1 -6.9**
ARSA	**Arzberg**	**153.67**	**336**	*i* P		**PKPab**	**23 59 28.1 +0.3**
	comp=Z,2.0nm,0.6s						
SOKA	**Soboth**	**154.33**	**336**	*eP*		**PKPab**	**23 59 30.7 -0.1**
	comp=Z,1.9nm,0.4s,SNR=6.1						
OBKA	**Obir**	**154.65**	**336**	P		**PKPab**	**23 59 31.7 -0.5**
	comp=Z,2.6nm,0.6s,SNR=4.6						
MYKA	**Terra Mystica**	**154.88**	**338**	*i* P		**PKPab**	**23 59 32.5 -0.6**
	comp=Z,4.1nm,0.6s						
WATA	**Walderalm**	**154.91**	**341**	*i* P		**PKPab**	**23 59 33.4 +0.2**
	comp=Z,2.6nm,0.5s						
WTTA	**Wattenberg**	**154.96**	**341**	*i* P		**PKPab**	**23 59 33.9 +0.4**
	comp=Z,3.7nm,0.4s,SNR=5.1						
RETA	**Reutte**	**155.00**	**343**	*eP*		**PKPab**	**23 59 33.8 +0.2**
	comp=Z,4.0nm,0.7s						
DAVA	**Damuels**	**155.42**	**344**	*eP*		**PKPab**	**23 59 35.6 +0.2**
	comp=Z,6.3nm,0.9s,SNR=4.1						
PDG	**Podgorica**	**155.67**	**324**	⇑P		**PKPab**	**23 59 35.0 -1.5**

*KRSC **01** 23:55:36.5±2.5, 51°.42N×153°.19E, h463km±39km, ML4.8*
*SKHL **01** 23:55:37.8±0.7, 51°.80N×152°.70E, h428km±11km, mb4.9/9, msha5.0/4*
*MOS **01** 23:55:38.2±0.9, 51°.87N×152°.64E, h439km, mb4.2/29, Error ellipse: s-maj=7.7km s-min=4.8km az=64.1*
*NEIC **01** 23:55:38.3±0.9, 52°.0N±0°.1×152°.5E±0°.2, h421km±10km, mb4.2/102, Error ellipse: s-maj=20.7km s-min=13.4km az=147.0*
*IDC **01** 23:55:39.5±1.0, 51°.95N×152°.56E, h434km±10km, mb3.5/23, mb1 3.7/29, mb1mx3.5/53, mbtmp4.3/29, Error ellipse: s-maj=11.3km s-min=8.4km az=143.0*

ISC 01 23:55:38.6±0.4, **51°.77N**±0°.05×**152°.70E**±0°.05, **h434**km, **n328**, σ1**s32**/361, **mb4.2**/108, **12C-10D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALID	**Alaid**	**2.00**	**116**	PN		**P**	**23 56 38.0**	**+0.1**
ALID	**Alaid**	**2.00**	**116**	*eP*		**P**	**23 56 38.0**	**+0.1**
SKR	**Severo-Kuril's**	**2.41**	**116**	*d* iPN		**P**	**23 56 39.7**	**-0.4**
SKR	**Severo-Kuril's**	**2.41**	**116**	*eP*		**P**	**23 56 39.8**	**-0.4**
SKR	**Severo-Kuril's**	**2.41**	**116**	*eP*		**P**	**23 56 39.6**	**-0.5**
SKR				AMB		AMB	23 56 40.6	
	130nm,0.6s							
PAU	**Pauzhetka**	**2.58**	**95**	PN		**P**	**23 56 41.3**	**0.0**
PAU	**Pauzhetka**	**2.58**	**95**	*eP*		**P**	**23 56 41.3**	**0.0**
PAU	**Pauzhetka**	**2.58**	**95**	*eP*		**P**	**23 56 41.2**	**0.0**
PAU				AMB		AMB	23 56 42.5	
	360nm,0.8s							
PAU				*e*S		**S**	**23 57 31.8**	**-0.4**
PAU				A		A	23 57 33.6	
	290nm,0.7s							
PAU				A		A	23 57 33.6	
	150nm,0.7s							
APC	**Apacha**	**2.97**	**65**	PN		**P**	**23 56 43.2**	**-0.8**
APC				S		**S**	**23 57 34.9**	**-2.4**
APC	**Apacha**	**2.97**	**65**	*eP*		**P**	**23 56 43.2**	**-0.8**
APC				*e*S		**S**	**23 57 34.9**	**-2.4**
KDTR	**Khodutka, Kamc**	**3.34**	**87**	PN		**P**	**23 56 46.3**	**-0.7**
KDTR				S		**S**	**23 57 37.9**	**-4.7**
KDTR	**Khodutka, Kamc**	**3.34**	**87**	*eP*		**P**	**23 56 46.3**	**-0.7**
KDTR				*e*S		**S**	**23 57 37.9**	**-4.7**
PEA0B	**Petropavlovsk-**	**3.34**	**64**	⇑ePN		**P**	**23 56 46.6**	**-0.4**
PEA0B	**Petropavlovsk-**	**3.34**	**64**	P		**P**	**23 56 45.8**	**-1.1**
PETK	**Petropavlovsk-**	**3.34**	**64**	P		**P**	**23 56 46.5**	**-0.5**
	5.4nm,0.3s,baz=227,slow=5.1,SNR=80							
PETK	**Petropavlovsk-**	**3.34**	**64**	P		**P**	**23 56 45.7**	**-1.3**
GRL	**Gorelyy**	**3.40**	**75**	PN		**P**	**23 56 47.8**	**+0.2**
GRL	**Gorelyy**	**3.40**	**75**	*eP*		**P**	**23 56 47.8**	**+0.2**
MTVR	**Mutnovka**	**3.45**	**76**	PN		**P**	**23 56 48.3**	**+0.2**
MTVR				S		**S**	**23 57 44.2**	**-0.4**
MTVR	**Mutnovka**	**3.45**	**76**	*eP*		**P**	**23 56 48.3**	**+0.2**
MTVR				*e*S		**S**	**23 57 44.2**	**-0.4**
KRMR	**Karymshinskiy**	**3.50**	**70**	PN		**P**	**23 56 49.5**	**+1.3**
KRMR				S		**S**	**23 57 46.5**	**+1.5**
KRMR	**Karymshinskiy**	**3.50**	**70**	*eP*		**P**	**23 56 49.5**	**+1.3**
KRMR				*e*S		**S**	**23 57 46.5**	**+1.5**
RUS	**Russkaya**	**3.65**	**77**	PN		**P**	**23 56 49.4**	**-0.1**
RUS				S		**S**	**23 57 43.6**	**-3.7**
RUS	**Russkaya**	**3.65**	**77**	*eP*		**P**	**23 56 49.4**	**-0.1**
RUS				*e*S		**S**	**23 57 43.6**	**-3.7**
RUS	**Russkaya**	**3.65**	**77**	*eP*		**P**	**23 56 49.4**	**-0.1**
GNL	**Ganaly**	**3.72**	**57**	PN		**P**	**23 56 49.9**	**-0.4**
GNL	**Ganaly**	**3.72**	**57**	*eP*		**P**	**23 56 49.9**	**-0.4**
PET	**Petropavlovsk**	**3.86**	**69**	*e*PN		**P**	**23 56 51.4**	**+0.1**
PET				*e*S		**S**	**23 57 47.4**	**-3.2**
PET				pmax		pmax		
	comp=Z,103nm,1.5s							
PET				smax		smax		
	comp=E,110nm,0.7s							
PET				smax		smax		
	comp=N,151nm,0.7s							
PET	**Petropavlovsk**	**3.86**	**69**	*eP*		**P**	**23 56 51.4**	**+0.1**
PET	**Petropavlovsk**	**3.86**	**69**	P		**P**	**23 56 50.0**	**-1.3**
PET	**Petropavlovsk**	**3.86**	**69**	*eP*		**P**	**23 56 51.2**	**-0.1**
PET				AMB		AMB	23 56 52.4	
	comp=N,100nm,1.0s							
PET				*e*S		**S**	**23 57 47.9**	**-2.7**
PET				A		A	23 57 51.6	
	comp=N,150nm,0.7s							
PET				A		A	23 57 51.6	
	comp=N,110nm,0.7s							
DALK	**Dalny**	**3.92**	**69**	PN		**P**	**23 56 52.2**	**+0.4**
DALK				S		**S**	**23 57 49.3**	**-2.3**
DALK	**Dalny**	**3.92**	**69**	*eP*		**P**	**23 56 52.2**	**+0.4**
DALK				*e*S		**S**	**23 57 49.3**	**-2.3**
KOK	**Koryaka**	**3.93**	**65**	PN		**P**	**23 56 52.2**	**+0.1**
KOK	**Koryaka**	**3.93**	**65**	*eP*		**P**	**23 56 52.2**	**+0.1**
KOK	**Koryaka**	**3.93**	**65**	*eP*		**P**	**23 56 52.2**	**+0.1**
KRX	**Arik**	**3.96**	**64**	PN		**P**	**23 56 53.0**	**+0.6**
KRX	**Arik**	**3.96**	**64**	*eP*		**P**	**23 56 53.0**	**+0.6**
AVH	**Avacha**	**3.98**	**66**	PN		**P**	**23 56 54.2**	**+1.7**
AVH				S		**S**	**23 57 53.9**	**+1.1**
AVH	**Avacha**	**3.98**	**66**	*eP*		**P**	**23 56 54.2**	**+1.7**
AVH				*e*S		**S**	**23 57 53.9**	**+1.1**
KRER	**Koryakskii**	**4.00**	**65**	PN		**P**	**23 56 54.3**	**+1.5**
KRER				S		**S**	**23 57 51.7**	**-1.6**
KRER	**Koryakskii**	**4.00**	**65**	*eP*		**P**	**23 56 54.3**	**+1.5**
KRER				*e*S		**S**	**23 57 51.7**	**-1.6**
UGLR	**Uglovaya**	**4.01**	**67**	PN		**P**	**23 56 54.1**	**+1.3**
UGLR				S		**S**	**23 57 54.5**	**+1.2**
UGLR	**Uglovaya**	**4.01**	**67**	*eP*		**P**	**23 56 54.1**	**+1.3**
UGLR				*e*S		**S**	**23 57 54.5**	**+1.2**
SMAR	**Somma**	**4.01**	**66**	PN		**P**	**23 56 53.5**	**+0.5**
SMAR				S		**S**	**23 57 53.4**	**-0.2**
SMAR	**Somma**	**4.01**	**66**	*eP*		**P**	**23 56 53.5**	**+0.5**
SMAR				*e*S		**S**	**23 57 53.4**	**-0.2**
KII	**Karymskiy**	**4.67**	**58**	PN		**P**	**23 57 00.9**	**+2.0**
KII	**Karymskiy**	**4.67**	**58**	*eP*		**P**	**23 57 00.9**	**+2.0**
SPN	**Mys Shipunski**	**4.67**	**71**	PN		**P**	**23 56 58.0**	**-0.8**
SPN	**Mys Shipunski**	**4.67**	**71**	*eP*		**P**	**23 56 58.0**	**-0.8**
SPN				*e*S		**S**	**23 57 57.0**	**-7.4**
KZV	**Kizimen**	**5.64**	**51**	PN		**P**	**23 57 09.1**	**+0.5**
KZV				S		**S**	**23 58 19.1**	**-3.1**
KZV	**Kizimen**	**5.64**	**51**	*eP*		**P**	**23 57 09.1**	**+0.5**
KZV				*e*S		**S**	**23 58 19.1**	**-3.1**
TUMR	**Tumrok**	**5.67**	**49**	PN		**P**	**23 57 11.0**	**+2.2**
TUMR				S		**S**	**23 58 22.6**	**0.0**
TUMR	**Tumrok**	**5.67**	**49**	*eP*		**P**	**23 57 11.0**	**+2.2**
TUMR				*e*S		**S**	**23 58 22.6**	**0.0**
TUMD	**Tumrok D**	**5.74**	**50**	*eP*		**P**	**23 57 10.7**	**+1.3**
KMNR	**Kamenistaya**	**5.99**	**45**	PN		**P**	**23 57 13.2**	**+1.1**
KMNR	**Kamenistaya**	**5.99**	**45**	*eP*		**P**	**23 57 13.2**	**+1.1**
KPT	**Kopyto**	**6.12**	**44**	PN		**P**	**23 57 13.9**	**+0.5**
KPT	**Kopyto**	**6.12**	**44**	*eP*		**P**	**23 57 13.9**	**+0.5**
SRDR	**Sredinnyy**	**6.15**	**39**	PN		**P**	**23 57 15.3**	**+1.6**
SRDR	**Sredinnyy**	**6.15**	**39**	*eP*		**P**	**23 57 15.3**	**+1.6**
KIRR	**Kirishev**	**6.16**	**44**	PN		**P**	**23 57 14.8**	**+0.8**
KIRR	**Kirishev**	**6.16**	**44**	*eP*		**P**	**23 57 14.8**	**+0.8**
BZMR	**Bezymyannaya**	**6.22**	**45**	PN		**P**	**23 57 15.8**	**+1.3**
BZMR	**Bezymyannaya**	**6.22**	**45**	*eP*		**P**	**23 57 15.8**	**+1.3**
BZWR	**Bezymyannyi-We**	**6.24**	**45**	PN		**P**	**23 57 15.6**	**+0.8**
BZWR	**Bezymyannyi-We**	**6.24**	**45**	*eP*		**P**	**23 57 15.6**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**6.31**	**45**	PN		**P**	**23 57 16.2**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**6.31**	**45**	*eP*		**P**	**23 57 16.2**	**+0.7**
TYV	**Tymovskoe**	**6.36**	**266**	*e*PN		**P**	**23 57 18.2**	**+2.2**
TYV				pmax		pmax		
	comp=Z,54nm,0.5s							
TYV				pmax		pmax		
	comp=Z,200nm,3.5s							
TYV	**Tymovskoe**	**6.36**	**266**	*eP*		**P**	**23 57 16.2**	**+0.2**
TYV				AMB		AMB	23 57 18.4	
	comp=Z,50nm,0.5s							
TYV				AMB		AMB	23 57 21.4	
	comp=Z,200nm,4.0s							
LGNR	**Loginova**	**6.40**	**44**	PN		**P**	**23 57 18.3**	**+1.7**
LGNR	**Loginova**	**6.40**	**44**	*eP*		**P**	**23 57 18.3**	**+1.7**
ZLN	**Zelenaya**	**6.41**	**45**	PN		**P**	**23 57 18.1**	**+1.6**
ZLN	**Zelenaya**	**6.41**	**45**	*eP*		**P**	**23 57 18.1**	**+1.6**
CIRR	**Tsirk**	**6.44**	**44**	PN		**P**	**23 57 18.7**	**+1.8**
CIRR	**Tsirk**	**6.44**	**44**	*eP*		**P**	**23 57 18.7**	**+1.8**
BDR	**Baidarnaya**	**6.93**	**43**	PN		**P**	**23 57 23.2**	**+1.0**
BDR	**Baidarnaya**	**6.93**	**43**	*eP*		**P**	**23 57 23.2**	**+1.0**
SRKR	**Sorokina**	**6.97**	**42**	PN		**P**	**23 57 24.4**	**+1.8**
SRKR	**Sorokina**	**6.97**	**42**	*eP*		**P**	**23 57 24.4**	**+1.8**
SRKR				*e*S		**S**	**23 58 51.2**	**+3.6**
SMKR	**Semkarok**	**7.05**	**43**	PN		**P**	**23 57 24.9**	**+1.4**
SMKR				S		**S**	**23 58 51.0**	**+1.8**
SMKR	**Semkarok**	**7.05**	**43**	*eP*		**P**	**23 57 24.9**	**+1.4**
SMKR				*e*S		**S**	**23 58 51.0**	**+1.8**
KUR	**Kuril'sk**	**7.29**	**208**	PN		**P**	**23 57 26.3**	**+0.1**
KUR				S		**S**	**23 58 48.8**	**-5.2**
KUR				pmax		pmax		
	comp=Z,53nm,0.4s							
KUR	**Kuril'sk**	**7.29**	**208**	*eP*		**P**	**23 57 26.4**	**+0.2**
KUR				AMB		AMB	23 57 28.5	
	comp=Z,50nm,0.4s							
KUR				*e*S		**S**	**23 58 53.7**	**-0.3**
KUR				A		A	23 59 04.7	
	comp=Z,80nm,0.4s							
KUR				A		A	23 59 04.7	
	comp=Z,50nm,0.4s							
UGL	**Uglegorsk**	**7.31**	**253**	*e*PN		**P**	**23 57 28.6**	**+2.3**
UGL				pmax		pmax		
	comp=Z,150nm,0.9s							
UGL	**Uglegorsk**	**7.31**	**253**	*eP*		**P**	**23 57 28.6**	**+2.3**

RDOG IAmb IAmb 00 00 44.9
comp=Z,7.4nm,0.8s
TTA Tatalina 29.02 47 P **P** **00 01 01.4 +0.3**
TTA pmax pmax
comp=Z,7.0nm,1.0s
TTA Tatalina 29.02 47 P **P** **00 01 01.4 +0.3**
TTA IAmb IAmb 00 01 02.4
comp=Z,7.5nm,1.0s
TTA Tatalina 29.02 47 P 00 01 01.2
baz=272,SNR=6.3
ULN Ulaanbaatar 29.34 281⇓ *e*P **P** **00 01 04.1 -0.1**
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 29.34 281 P **P** **00 01 03.0 -1.2**
ULN Ulaanbaatar 29.34 281 *e*P **P** **00 01 04.1 -0.1**
A21K Barrow 29.71 30 P **P** **00 01 06.1 -0.8**
A21K Barrow 29.71 30 P 00 01 06.2
baz=256
SONM Songino Array 29.75 281 P **P** **00 01 07.5 -0.3**
comp=Z,1.0nm,0.5s,baz=64,slow=9.2,SNR=6.0
SONM PcP **PcP** **00 03 58.0 -0.5**
comp=Z,1.2nm,0.6s,baz=106,slow=1.2,SNR=6.3
SONM ScP **ScP** **00 06 59.1 +0.7**
comp=Z,1.0nm,0.7s,baz=99,slow=1.3,SNR=6.0
SONM Songino Array 29.75 281 P **P** **00 01 07.8 0.0**
TLY Talaya 29.93 290 P **P** **00 01 08.5 -0.7**
comp=Z,2.1nm,0.6s,baz=72,slow=14,SNR=3.0
IMAR Indian Mountai 30.01 41 P **P** **00 01 09.7 0.0**
HHC Hu-ho-hao-te 30.06 265 *e*P **P** **00 01 11.8 +1.3**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,59nm,5.2s
BPAW Bear Paw Mtn. 31.21 45 P **P** **00 01 20.4 +0.3**
BPAW Bear Paw Mtn. 31.21 45 P 00 01 20.2
baz=274
MLY Manley 31.27 43 P **P** **00 01 20.4 -0.3**
MLY Manley 31.27 43 P 00 01 21.0
baz=273,SNR=6.0
KTH Kantishna Hill 31.28 46 P **P** **00 01 21.1 +0.4**
KTH IAmb IAmb 00 01 24.0
comp=Z,6.3nm,0.9s
KDAK Kodiak Island 31.36 57 P 00 01 21.4
baz=283
COLD Coldfoot 31.45 39 P **P** **00 01 22.2 +0.1**
COLD IAmb IAmb 00 01 23.7
comp=Z,13nm,0.9s
COLD Coldfoot 31.45 39 P 00 01 22.1
baz=270,SNR=19
TRF Thorofare Moun 31.57 46 P **P** **00 01 23.7 +0.3**
TRF IAmb IAmb 00 01 24.9
comp=Z,6.4nm,0.8s
TRF Thorofare Moun 31.57 46 P 00 01 23.7
baz=276,SNR=5.4
SUA Susitna One 31.60 50 P 00 01 23.8
baz=279
CUT Chulitna 31.70 48 P **P** **00 01 24.7 +0.5**
CUT Chulitna 31.70 48 P 00 01 24.4
baz=278
TOLK Toolik Lake Re 31.73 36 P **P** **00 01 24.5 0.0**
TOLK IAmb IAmb 00 01 25.4
comp=Z,9.4nm,1.1s
TOLK Toolik Lake Re 31.73 36 P 00 01 24.3
baz=268,SNR=9.1
H23K Yukon River 31.73 41 P 00 01 25.0
baz=273,SNR=19
I23K Minto, Yukon-K 31.84 43 P **P** **00 01 25.6 +0.1**
I23K IAmb IAmb 00 01 26.9
comp=Z,8.5nm,0.7s
I23K Minto, Yukon-K 31.84 43 P 00 01 25.6
baz=274,SNR=6.7
M22K Willow 31.86 49 P 00 01 26.0
baz=279
BRSE Bradley Lake S 31.89 53 P 00 01 25.6
baz=282
NEA2 Nenana 32.01 44 P **P** **00 01 26.9 0.0**
NEA2 IAmb IAmb 00 01 28.7
comp=Z,9.2nm,1.0s
NEA2 Nenana 32.01 44 P 00 01 27.0
baz=275,SNR=9.4
MCK McKinley 32.15 45 IAmb IAmb 00 01 29.4
comp=Z,10.0nm,0.9s
MCK McKinley 32.15 45 P 00 01 28.3
baz=276
RND Reindeer 32.22 46 P **P** **00 01 28.0 -0.9**
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 32.22 46 P **P** **00 01 28.0 -0.9**
RND IAmb IAmb 00 01 29.5
comp=Z,13nm,0.8s
O22K Cooper Landing 32.26 52 P 00 01 28.8
baz=281
MDM Murphy Dome 32.34 43 IAmb IAmb 00 01 31.8
comp=Z,6.7nm,0.8s
WAT2 Susitna Watana 32.40 47 P 00 01 29.9
baz=278
GHO Glory Hole Cre 32.41 49 P **P** **00 01 30.8 +0.2**
GHO IAmb IAmb 00 01 32.2
comp=Z,9.5nm,0.9s
H24K Noodor Dome 32.42 41 P 00 01 31.2
baz=274,SNR=9.1
SEW Seward 32.46 52 P **P** **00 01 31.1 +0.3**
SEW IAmb IAmb 00 01 34.2
comp=Z,16nm,0.9s
SEW Seward 32.46 52 P 00 01 30.3
baz=282
TCOL CIGO, UAF Yank 32.50 43 P **P** **00 01 31.4 +0.3**
COLA College 32.50 43 *c i*P **P** **00 01 31.6 +0.5**
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 32.50 43 P **P** **00 01 31.6 +0.5**
POKR Poker Plat Res 32.66 43 P **P** **00 01 33.0 +0.5**
POKR Poker Plat Res 32.66 43 P 00 01 32.7
baz=276
SML Sawmill 32.69 49 P **P** **00 01 33.4 +0.5**
SML Sawmill 32.69 49 P 00 01 33.0
baz=280,SNR=14
KNK Knik Glacier 32.69 50 P **P** **00 01 33.6 +0.7**
KNK Knik Glacier 32.70 50 P 00 01 32.9
baz=280,SNR=11
WAT6 Susitna Watana 32.84 47 P 00 01 33.5
baz=279
IL31 32.92 43 IAmb IAmb 00 01 35.7
comp=Z,8.4nm,0.9s
ILAR Eielson Array 32.92 43 P **P** **00 01 34.6 -0.1**
comp=Z,5.5nm,0.8s,baz=276,slow=10,SNR=61
HDA Harding Lake 32.94 44 IAmb IAmb 00 01 37.4
comp=Z,7.2nm,1.0s
HDA Harding Lake 32.94 44 P 00 01 34.2
baz=277,SNR=7.5
HDA P 00 01 34.2
baz=277,SNR=7.5
GLI Glacier Island 33.45 50 P 00 01 39.2
baz=282
BMAR Burnt Mountain 33.62 38 **P** **00 01 41.5 +0.8**
M24K Tolsona, Glenn 33.64 48 P 00 01 40.9
baz=281
KLU Klutina 33.88 49 P **P** **00 01 43.5 +0.5**
KLU IAmb IAmb 00 01 45.0
comp=Z,8.5nm,0.8s
KLU Klutina 33.88 49 P 00 01 43.5
baz=282
HARP HAARP 34.05 47 P 00 01 44.9
baz=282
SCRK Sand Creek 34.28 44 P 00 01 45.6
baz=280,SNR=28
DOT Dot Lake 34.31 45 IAmb IAmb 00 01 47.6
comp=Z,9.0nm,0.8s
NRIK Noril'sk 34.39 325⇑ *e*P **P** **00 01 46.7 -0.4**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
N25K Chitina, Valde 34.47 49 P **P** **00 01 48.4 +0.4**
N25K IAmb IAmb 00 01 49.4
comp=Z,6.5nm,0.7s
N25K Chitina, Valde 34.47 49 P 00 01 48.4
baz=283
MENT Mentasta 34.59 46 P **P** **00 01 49.4 +0.4**
BMRM Bremner River 34.61 50 P **P** **00 01 49.1 -0.1**
BMRM IAmb IAmb 00 01 51.3
comp=Z,14nm,0.9s
BMRM Bremner River 34.61 50 P 00 01 49.5
baz=284
K27K Chicken 35.10 44 P 00 01 53.1
baz=282
EGAK Eagle 35.35 43 P **P** **00 01 54.6 -0.6**
EGAK IAmb IAmb 00 01 55.9
comp=Z,17nm,0.9s
EGAK Eagle 35.35 43 P 00 01 54.9
baz=281
CRQM Cirque 35.36 50 P **P** **00 01 56.3 +0.6**
CRQE Cirque 35.38 50 P 00 01 56.2
baz=285,SNR=6.3
L27K Beaver Creek, 35.41 46 P 00 01 56.4
baz=283,SNR=44
BARN Barnard Glacie 35.98 49 P **P** **00 02 01.6 +0.8**
GRNC Granite Creek 36.02 50 P **P** **00 02 01.9 +0.7**
YAH Yahtse 36.13 50 P **P** **00 02 02.3 +0.1**
YAH IAmb IAmb 00 02 03.8
comp=Z,15nm,0.9s
CTG Chitna Glacier 36.15 49 P 00 02 03.3
baz=286,SNR=7.6
CTGM Chitina Glacie 36.16 49 P **P** **00 02 02.9 +0.6**
TABL Table Mountain 36.39 50 IAmb IAmb 00 02 06.1
comp=Z,12nm,0.9s
PINM Pinnacle 36.92 50 P 00 02 09.1
baz=288
INK Inuvik 37.64 36 P **P** **00 02 13.6 -0.6**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 37.64 36 P **P** **00 02 13.6 -0.6**
INK IAmb IAmb 00 02 14.8
comp=Z,4.6nm,0.6s
INK Inuvik 37.64 36 P 00 02 14.1
baz=283
HYT Haines Junctio 37.99 48 P **P** **00 02 18.8 +1.5**
HYT IAmb IAmb 00 02 20.0
comp=Z,13nm,0.8s
WHY Whitehorse 39.26 48 P **P** **00 02 28.8 +1.1**
WHY IAmb IAmb 00 02 30.2
comp=Z,8.2nm,0.7s
WHY Whitehorse 39.26 48 P 00 02 29.1
baz=291,SNR=8.0
ZAA0 Zalesovo Array 39.62 301 P **P** **00 02 30.1 -0.5**
ZALV Zalesovo Beam 39.62 301 P **P** **00 02 29.8 -0.8**
comp=Z,2.1nm,0.4s,baz=59,slow=7.0,SNR=9.3
ZALV PcP **PcP** **00 04 26.8 -0.4**
comp=Z,1.2nm,0.4s,baz=86,slow=3.6,SNR=5.3
ZALV ScP **ScP** **00 07 33.3 -0.5**
comp=Z,0.5nm,0.5s,baz=72,slow=4.8,SNR=3.6
ZALV Zalesovo Beam 39.62 301 *i* P **P** **00 02 29.7 -0.9**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 39.62 301 P **P** **00 02 29.7 -0.9**
DGZ Jazzator, Alta 40.12 294⇓ *e*P **P** **00 02 35.7 +0.8**
DGZ pmax pmax
comp=Z,6.0nm,0.7s
C36M Paulatuk 40.67 33 P 00 02 38.7
baz=289
CRAG Craig 42.22 55 P 00 02 52.1
baz=298
WMQ Urumqi 43.06 286 *e*P **P** **00 02 58.8 +0.5**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,130nm,4.3s
EUNU Eureka 44.27 12 P **P** **00 03 06.6 -0.7**
MK31 Makanchi Array 44.57 293 *d i*P **P** **00 03 09.7 -0.3**
MK31 Makanchi Array 44.57 293 IAmb IAmb 00 03 10.2
comp=Z,5.2nm,0.5s
MKAR Makanchi Array 44.57 293 P **P** **00 03 09.8 -0.3**
comp=Z,3.9nm,0.4s,baz=57,slow=6.5,SNR=90
MKAR ScP **ScP** **00 07 52.2 -1.7**
comp=Z,0.8nm,0.8s,baz=70,slow=4.0,SNR=4.8
MAKZ Makanchi 44.74 293 P **P** **00 03 10.9 -0.4**
MAKZ pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 44.74 293 P **P** **00 03 10.9 -0.4**
MAKZ IAmb IAmb 00 03 11.7
comp=Z,5.1nm,0.7s
YKA Yellowknife Ar 47.13 39 P **P** **00 03 29.4 +0.1**
comp=Z,4.0nm,0.6s,baz=303,slow=7.1,SNR=10
BRVK Borovoye 47.61 306 *d i*P **P** **00 03 32.7 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 47.61 306 P **P** **00 03 32.6 -0.6**
BRVK IAmb IAmb 00 03 33.6
comp=Z,7.5nm,0.8s
BRVK Borovoye 47.61 306 *e*P **P** **00 03 32.7 -0.5**
SLVN Son La 48.32 250 P **P** **00 03 39.4 +0.4**
ARU Arti 51.20 315 *d i*P **P** **00 03 58.9 -0.9**
ARU 00 05 05.4
ARU S **S** **00 10 46.4 +2.2**
ARU SS **SS** **00 14 21.1 -4.6**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 51.20 315 P **P** **00 03 58.6 -1.2**
ARU IAmb IAmb 00 03 59.5
comp=Z,11nm,0.6s
ARU Arti 51.20 315 *e*P **P** **00 03 59.8 0.0**
FRU1 Bishkek 51.32 293 P **P** **00 04 01.1 +0.1**
FRU1 pmax pmax
comp=Z,15nm,0.5s
FRU1 Bishkek 51.32 293 P **P** **00 04 01.1 +0.1**
SHL Shillong 52.41 264 P **P** **00 04 09.1 -0.2**
SHL pmax pmax
comp=Z,24nm,0.7s
SHL Shillong 52.41 264 P **P** **00 04 09.1 -0.2**
CHTO Chiang Mai 53.19 253 P **P** **00 04 15.0 +0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 53.19 253 P **P** **00 04 15.0 +0.3**
CHTO IAmb IAmb 00 04 16.5
comp=Z,8.9nm,0.8s
B08A Colville Reser 53.24 56 P **P** **00 04 16.0 +1.3**
KK31 Karatay Array 53.47 295 P **P** **00 04 15.8 -0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 53.47 295 P **P** **00 04 15.8 -0.6**
KKAR Karatay Array 53.47 295 P **P** **00 04 16.0 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 53.47 295 P **P** **00 04 16.0 -0.4**
CM31 Chiang Mai Arr 53.47 252 P **P** **00 04 17.4 +0.7**
CM31 IAmb IAmb 00 04 18.8
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 53.47 252 P **P** **00 04 18.1 +1.4**
comp=Z,2.8nm,0.5s,baz=25,slow=6.8,SNR=18
CMAR PcP **PcP** **00 05 17.4 +0.3**
comp=Z,1.2nm,0.3s,baz=31,slow=3.3,SNR=4.7
CMAR Chiang Mai Arr 53.47 252 P **P** **00 04 17.8 +1.1**
KIRV Kirov 53.66 321⇑ *i*P **P** **00 04 17.0 -0.4**
TAPN Taplejung 53.72 269 *e*P **P** **00 04 19.5 +0.7**
comp=Z,19nm,0.4s
C09A Chrisman Ranch 54.14 56 P **P** **00 04 21.2 +0.1**
ODAN Odare 54.27 269 *e*P **P** **00 04 23.4 +0.8**
comp=Z,18nm,0.5s
NEW Newport 54.44 55 P 00 04 23.9
baz=310
JIRN Jiri 54.45 271 *e*P **P** **00 04 24.9 +0.9**
comp=Z,33nm,0.7s
GUN Gumba 54.46 271 *e*P **P** **00 04 24.6 +0.5**
comp=Z,36nm,0.5s
RAMN Ramite 54.70 270 *e*P **P** **00 04 25.9 +0.2**
comp=Z,95nm,0.5s
KKN Kakani 54.92 272 *e*P **P** **00 04 28.0 +0.8**
comp=Z,46nm,0.5s
PKI Pulchoki 54.99 271 *e*P **P** **00 04 28.7 +0.9**
comp=Z,26nm,0.5s
PKIN Phulchoki 55.00 271 *e*P **P** **00 04 28.6 +0.8**
comp=Z,35nm,0.6s
J04D Umpqua Nationa 55.05 63 P 00 04 29.6
baz=311
DMN Daman 55.16 271 *e*P **P** **00 04 29.9 +1.0**
comp=Z,49nm,0.6s
GKN Gorkha 55.17 272 *e*P **P** **00 04 29.6 +0.8**
BTK Batken 55.28 292 IAmb IAmb 00 04 31.2
comp=Z,9.6nm,1.1s
DANN Dangsing 55.47 273 *e*P **P** **00 04 32.4 +1.3**
comp=Z,83nm,0.7s
L04D Klamath Falls 55.61 64 P 00 04 33.6
baz=312
KLMR Klimovskoe 55.70 327 *e*P **P** **00 04 29.7 -2.2**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
KLMR Klimovskoe 55.70 327 *e*P **P** **00 04 29.7 -2.2**
KLMR AMP 00 04 31.0
comp=Z,10.0nm,1.4s
M02C Callahan 55.85 65 P 00 04 35.2
baz=312
KOLN Koldanda 55.98 273 *e*P **P** **00 04 35.1 +0.5**
PYUN Piuthan 56.12 274 *e*P **P** **00 04 36.4 +0.8**
N02D Trinity Center 56.21 65 P 00 04 37.8
baz=312
MSO Missoula 57.00 55 P 00 04 42.0
baz=313
O03E Paynes Creek 57.18 65 P 00 04 43.7
baz=313
HRY Holter Researc 58.15 54 P **P** **00 04 50.2 +1.0**
NIL Nilore 58.19 285 P **P** **00 04 50.4 +0.8**
NIL Nilore 58.19 285 P **P** **00 04 50.4 +0.8**
DLMT Dillon 58.69 55 P **P** **00 04 54.0 +1.1**
MCMT McKenzie Canyo 58.92 56 P **P** **00 04 55.5 +0.9**
FINES FINESS Array B 59.40 333 P **P** **00 04 56.8 -0.5**
comp=Z,2.2nm,0.5s,baz=39,slow=8.3,SNR=31
YHH Holmes Hill 59.97 55 P **P** **00 05 02.1 +0.4**
KBL Kabul 60.07 289 P **P** **00 05 01.5 -1.0**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 60.07 289 P **P** **00 05 01.4 -1.0**
KBL IAmb IAmb 00 05 02.7
comp=Z,7.1nm,0.8s
KVN Kaiserville 60.11 64 P **P** **00 05 03.4 +0.8**
KVN pmax pmax
comp=Z,2.0nm,0.8s
KVN Kaiserville 60.11 64 P **P** **00 05 03.4 +0.8**
H17A Grant Village 60.39 55 P **P** **00 05 05.9 +1.4**
NVAR Mina Array Bea 60.43 65 P **P** **00 05 06.4 +1.6**
comp=Z,1.1nm,0.7s,baz=293,slow=6.3,SNR=7.4
NVAR Mina Array Bea 60.43 65 P **P** **00 05 05.8 +1.0**
LHV Little Huntoon 60.44 65 P **P** **00 05 05.6 +1.1**
RLMT Red Lodge 60.54 54 P **P** **00 05 05.9 +0.5**
RLMT Red Lodge 60.54 54 P 00 05 06.6
baz=315
OBN Obninsk 61.05 324⇓ *e*P **P** **00 05 07.5 -0.8**
OBN pmax pmax
comp=Z,41nm,2.1s
OBN Obninsk 61.05 324 *e*P **P** **00 05 07.5 -0.8**
AHID Auburn Hatcher 61.27 57 P **P** **00 05 09.3 -1.0**
TPH Tonopah 61.28 64 P **P** **00 05 10.4 0.0**
TPH pmax pmax
comp=Z,8.0nm,0.6s
TPH Tonopah 61.28 64 P **P** **00 05 10.4 0.0**
TPH IAmb IAmb 00 05 12.7
comp=Z,7.6nm,0.6s
PDAR Pinedale Array 62.07 56 P **P** **00 05 16.6 +1.0**
comp=Z,2.4nm,0.7s,baz=310,slow=2.3,SNR=16
PDAR Pinedale Array 62.07 56 P **P** **00 05 16.4 +0.9**
BW06 Boulder Array 62.07 56 P 00 05 16.4
baz=316
NOA NORSAR Array B 63.40 340 P **P** **00 05 23.0 -0.6**
comp=Z,0.9nm,0.7s,baz=25,slow=6.7,SNR=4.2
NOA NORSAR Array B 63.40 340 P **P** **00 05 23.0 -0.6**
RSSD Black Hills 63.84 51 P **P** **00 05 26.3 -0.7**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 63.84 51 P **P** **00 05 26.3 -0.7**
RSSD Black Hills 63.84 51 P 00 05 27.1
baz=318
GEYT Alibeck 63.88 299 P **P** **00 05 27.1 0.0**
comp=Z,6.3nm,0.5s,baz=11,slow=1.5,SNR=7.2
GYA0B ALIBECK ARRAY 63.88 299 P **P** **00 05 27.0 -0.1**
GYA0B IAmb IAmb 00 05 28.5
comp=Z,6.3nm,0.6s
HRA Herat 64.13 293 P **P** **00 05 28.6 -0.4**
HRA IAmb IAmb 00 05 30.2
comp=Z,5.6nm,0.8s
SRU San Rafael Swe 64.20 59 P **P** **00 05 29.9 +0.6**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 64.20 59 P **P** **00 05 29.9 +0.6**
SRU IAmb IAmb 00 05 31.4
comp=Z,3.8nm,0.7s
PSI Prapat 66.12 242 P **P** **00 05 43.2 +1.5**
comp=Z,3.4nm,0.5s,baz=1.3,slow=5.4,SNR=3.7
GOF Gofitskoye 66.14 313⇑ *e*P **P** **00 05 41.5 +0.2**
ISCO Idaho Springs 66.26 56 P 00 05 43.7
baz=319
KIV Kislovodsk 67.15 313 *e*P **P** **00 05 48.0 +0.3**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 67.15 313 *e*P **P** **00 05 48.0 +0.3**
AKASG Malin Array Be 67.25 325 P **P** **00 05 46.2 -1.8**
comp=Z,0.9nm,0.4s,baz=34,slow=6.0,SNR=5.7
AKBB Malin Array Si 67.25 325⇓ *i*P **P** **00 05 47.3 -0.8**
ECSD EROS Data Cent 67.63 47 P **P** **00 05 50.5 -0.1**
ECSD IAmb IAmb 00 05 51.2
comp=Z,3.4nm,0.8s
ECSD EROS Data Cent 67.63 47 P 00 05 50.6
baz=321
SDCO Great Sand Dun 67.86 57 P 00 05 53.1
baz=319
GNI Garni 69.12 309 *ce*P **P** **00 06 00.6 +0.6**
GNI pmax pmax
comp=Z,13nm,1.7s
KOPT Kop Dagi 71.25 311 P **P** **00 06 12.3 -0.5**
KOPT IAmb IAmb 00 06 16.4
comp=Z,5.9nm,0.9s
BUR08 Bucovina Ar. S 71.25 325 P **P** **00 06 11.9 -0.6**
DPC Dobruska-Polom 71.73 332 *e*P **P** **00 06 14.6 -0.6**
KRLC Kraliky 71.85 332 *e*P **P** **00 06 15.7 -0.1**
LANS Liptovska Anna 71.85 330 *e*P **P** **00 06 16.5 +0.6**
LANS pmax pmax
comp=Z,3.0nm,0.7s
MORC Moravsky Berou 71.89 331 P **P** **00 06 15.8 -0.3**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 71.89 331 P **P** **00 06 15.8 -0.3**
MORC IAmb IAmb 00 06 17.2
comp=Z,4.9nm,0.9s
MNTX Cornudas Mount 72.52 61 P 00 06 21.0
baz=321
PRU Pruhonice 72.57 333 *e*P **P** **00 06 19.7 -0.3**
SMOL Smolenice 73.04 331 *e*P **P** **00 06 23.1 +0.3**
WRA Warramunga Arr 73.19 198 P **P** **00 06 25.3 +1.4**
comp=Z,2.3nm,0.5s,baz=15,slow=6.2,SNR=9.7
WRA Warramunga Arr 73.19 198 *i* P **P** **00 06 25.2 +1.3**
WRA pmax pmax
comp=Z,2.0nm,0.5s
KHC Kasperske Hory 73.61 333 *e*P **P** **00 06 26.1 0.0**
KHC *e* 00 06 32.5
GERES GERESS Array B 73.83 333 P **P** **00 06 27.0 -0.4**
comp=Z,1.3nm,0.6s,baz=32,slow=5.1,SNR=12
CONA Conrad Observa 74.04 331 *i* P **P** **00 06 29.1 +0.5**
comp=Z,3.5nm,0.7s,SNR=5.9
BR131 Keskin Array S 74.58 316 *c i*P **P** **00 06 31.7 -0.1**
BR131 Keskin Array S 74.58 316 IAmb IAmb 00 06 32.4
comp=Z,5.2nm,0.8s
BRTR Keskin Array B 74.58 316 P **P** **00 06 31.8 -0.1**
comp=Z,3.6nm,0.9s,baz=54,slow=3.3,SNR=20
BRTR Keskin Array B 74.58 316 P **P** **00 06 31.4 -0.5**
UOSS Minazif 74.64 291 P **P** **00 06 31.8 -0.5**
TXAR Lajitas Array 75.29 61 P **P** **00 06 37.5 +1.5**
comp=Z,0.5nm,0.6s,baz=302,slow=4.8,SNR=9.1
SOKA Soboth 75.41 331 *i* P **P** **00 06 36.3 0.0**
comp=Z,2.6nm,0.7s,SNR=4.9
KBA Koelnbreinsper 75.54 333 *i* P **P** **00 06 37.8 +0.6**
comp=Z,11nm,0.8s
OBKA Obir 75.71 332 *i* P **P** **00 06 38.0 0.0**
comp=Z,2.1nm,0.6s,SNR=4.3
WATA Walderalm 75.80 334 *i* P **P** **00 06 38.9 +0.3**
comp=Z,1.7nm,0.5s
WTTA Wattenberg 75.85 334 *i* P **P** **00 06 39.4 +0.4**
comp=Z,3.9nm,0.6s
UMR Umm Al-Rimmam 75.85 300 *eP* **P** **00 06 38.4 -0.6**
MIB Mutribah 75.86 300 *eP* **P** **00 06 38.2 -0.8**
MYKA Terra Mystica 75.86 332 *i* P **P** **00 06 38.5 -0.3**
comp=Z,1.7nm,0.5s
RETA Reutte 75.88 334 *i* P **P** **00 06 39.0 +0.1**
comp=Z,2.7nm,0.9s
MOTA Moosalm 75.92 334 *i* P **P** **00 06 39.4 +0.1**
comp=Z,7.4nm,1.2s
PRED Cave del Predi 76.05 332 IAmb IAmb 00 06 39.9
comp=Z,6.5nm,1.0s
ABTA Abfaltersbach 76.08 333 *i* P **P** **00 06 40.0 -0.1**
comp=Z,2.7nm,0.6s,SNR=4.7
DIVS Divibare 76.13 327 IAmb IAmb 00 06 40.2
comp=Z,3.5nm,0.7s
RST Umm Al-Ruwaisa 76.28 300 *eP* **P** **00 06 40.3 -1.1**
VTS Vitosha 76.29 324 P **P** **00 06 40.7 -0.7**
VTS pmax pmax
comp=Z,5.0nm,0.8s
VTS Vitosha 76.29 324 P **P** **00 06 40.7 -0.7**
VTS IAmb IAmb 00 06 41.7
comp=Z,5.4nm,0.8s
FETA Feichten 76.32 334 *i* P **P** **00 06 41.5 0.0**
comp=Z,2.8nm,0.7s
ASAR Alice Springs 76.90 198 P **P** **00 06 46.8 +2.0**

	comp=Z,4.9nm,0.7s,baz=11,slow=5.1,SNR=24						
TUE	**Stuetta**	**77.19**	**335**	P	**P**	**00 06 46.2**	**-0.2**
TUE				IAmb	IAmb	00 06 47.1	
	comp=Z,4.8nm,0.9s						
PDG	**Podgorica**	**77.86**	**327**	IAmb	IAmb	00 06 49.4	
	comp=Z,5.2nm,0.8s						
ITM	**Ithomi**	**81.53**	**322**	IAmb	IAmb	00 07 10.2	
	comp=Z,5.9nm,0.9s						
RAYN	**Ar Rayn**	**81.82**	**298**	P	**P**	**00 07 10.7**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
RAYN	**Ar Rayn**	**81.82**	**298**	P	**P**	**00 07 10.7**	**-0.5**
ESDC	**Sonseca Array**	**86.68**	**342**	P	**P**	**00 07 33.4**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=29,slow=3.7,SNR=4.5						
KEST	**Kesra**	**87.14**	**331**	P	**P**	**00 07 36.8**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=202,slow=1.1,SNR=17						
NWAO	**Narrogin (SRO)**	**89.90**	**209**	P	**P**	**00 07 50.8**	**+1.1**
	comp=Z,27nm,1.1s,baz=325,slow=12,SNR=3.2						
CPUP	**Villa Florida**	**145.94**	**53**	PKPbc	**PKPdf**	**00 14 27.8**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=264,slow=6.8,SNR=3.8						
PLCA	**Paso Flores**	**148.56**	**87**	PKPbc	**PKPdf**	**00 14 33.8**	**+3.1**
	comp=Z,1.5nm,0.6s,baz=293,slow=6.3,SNR=3.3						

IDC 02 00:00:06.0±3.5, 30.18S×138.59E, h0km, mb1 3.0/3, mb1mx2.9/34, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=105.0km s-min=16.1km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.08**	**124**	Pn	Pn	00 00 56.4	+0.4
	0.1nm,0.3s,baz=306,slow=17,SNR=5.3						
STKA				Pg	Pb	00 01 03.0	+1.2
	0.6nm,0.3s,baz=304,slow=15,SNR=7.3						
STKA				Sn	Sn	00 01 33.9	+0.3
	0.9nm,0.3s,baz=199,slow=9.9,SNR=5.7						
STKA				Lg	Lg	00 01 43.0	
	1.3nm,0.3s,baz=330,slow=20,SNR=5.7						
ASAR	**Alice Springs**	**7.72**	**326**	Pn	Pn	00 01 59.5	-0.2
	0.1nm,0.3s,baz=143,slow=12,SNR=2.2						
ASAR				Sn	Sn	00 03 27.2	-0.7
	0.1nm,0.3s,baz=152,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**10.89**	**338**	Pn	Pn	00 02 43.8	+0.5
	0.1nm,0.3s,baz=159,slow=14,SNR=1.5						

*IDC **02** 00:00:03.3±1.6, 2.°84N×128.°60E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.6/38, mbtmp4.1/5, Error ellipse: s-maj=89.0km s-min=21.5km az=69.0*

*NEIC **02** 00:00:23.0±1.9, 2.°6N±0.°1×128.°4E±0.°1, h167km±11km, mb4.1/14, Error ellipse: s-maj=19.1km s-min=16.0km az=77.0*

ISC 02 00:00:20.2±1.2, 2.7N±0.°1×128.5E±0.°1, h150km, n25, σ1ᵍ55/26, mb4.2/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.24**	**210**		**Pn**	**00 00 58.8**	**+0.7**
TNTI				Sn	**Sn**	**00 01 29.7**	**+2.4**
FAKI	**Fak Fak**	**6.75**	**146**	Pn	**Pn**	**00 01 59.3**	**+2.4**
LUWI	**Luwuk**	**6.83**	**237**	Pn	**Pn**	**00 01 59.5**	**+1.5**
TOLI2	**Tolitoli**	**7.87**	**258**		**Pn**	**00 02 13.6**	**+1.8**
MTN	**Manton Dam**	**15.69**	**170**		**Pn**	**00 03 53.1**	**-0.1**
MTN				IAmb	IAmb	00 03 60.0	
	comp=Z,13nm,1.0s						
JAGI	**Jajag, Banyuwa**	**18.11**	**232**	P	**P**	**00 04 15.8**	**-5.0**
KNRA	**Kununurra**	**18.28**	**179**	P	**Pn**	**00 04 24.0**	**-0.4**
KNRA				IAmb	IAmb	00 04 28.7	
	comp=Z,10nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.88**	**188**	P	**P**	**00 04 49.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=24,slow=11,SNR=8.5						
FITZ	**Fitzroy Crossi**	**20.88**	**188**	P	**P**	**00 04 49.6**	**-1.0**
FITZ				IAmb	IAmb	00 05 01.9	
	comp=Z,3.8nm,0.9s						
WB0	**Warramunga Arr**	**23.09**	**166**	P	**P**	**00 05 12.3**	**-0.6**
WRAB	**Tennant Creek**	**23.24**	**166**	P	**P**	**00 05 13.7**	**-0.6**
WRA	**Warramunga Arr**	**23.24**	**166**	P	**P**	**00 05 13.8**	**-0.5**
	comp=Z,7.9nm,0.5s,baz=344,slow=10,SNR=41						
WRA	**Warramunga Arr**	**23.24**	**166**	P	**P**	**00 05 13.2**	**-1.1**
WB2	**Warramunga Arr**	**23.25**	**166**	P	**P**	**00 05 13.5**	**-0.9**
WB2				IAmb	IAmb	00 05 15.3	
	comp=Z,9.6nm,0.8s						
WR0	**Warramunga Arr**	**23.31**	**165**	P	**P**	**00 05 14.4**	**-0.5**
WR0				IAmb	IAmb	00 05 15.6	
	comp=Z,5.5nm,0.6s						
AS31	**Alice Springs**	**26.75**	**169**	P	**P**	**00 05 45.9**	**-0.2**
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**00 05 45.7**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=355,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**00 05 47.0**	**+1.0**
BBOO	**Buckleboo**	**36.06**	**169**	P	**P**	**00 07 07.3**	**0.0**
BBOO				IAmb	IAmb	00 07 13.3	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**36.59**	**161**	P	**P**	**00 07 10.7**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=332,slow=9.1,SNR=8.8						
STKA	**Stephens Creek**	**36.59**	**161**	P	**P**	**00 07 11.6**	**-0.3**
MK31	**Makanchi Array**	**59.38**	**325**	P	**P**	**00 10 07.9**	**+1.1**
MK31				IAmb	IAmb	00 10 21.0	
	comp=Z,1.1nm,1.1s						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**00 10 07.8**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=117,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**00 10 08.0**	**+1.3**
MAKZ	**Makanchi**	**59.57**	**325**	P	**P**	**00 10 08.2**	**+0.2**
MAKZ				IAmb	IAmb	00 10 10.6	
	comp=Z,1.4nm,0.7s						

*NOU **02** 00:01:14.4, 40.°14S×173.°27E, h223km, MLv3.5, Cook Strait, New Zealand*

WEL 02 00:01:20.9±0.7, 40.°3S±3.°7×17.°4E±.°, h155km±5km, M3.3/61, MLv3.3/61, Error ellipse: s-maj=0.0km s-min=0.0km az=101.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.60**	**151**	P	Pn	00 01 44.3	+0.9
DUWZ				S	Sn	00 02 02.0	+1.4
NMEZ	**Namu Road**	**0.90**	**17**	P	Pn	00 01 45.8	+0.4
NMEZ				S	Sn	00 02 05.7	+1.7
QRZ	**Quartz Range**	**0.94**	**234**	P	Pn	00 01 45.6	0.0
QRZ				S	Sn	00 02 04.4	-0.3
NNZ	**Nelson**	**0.95**	**187**	P	Pn	00 01 46.0	+0.4
NNZ				S	Sn	00 02 05.4	+0.6
KHEZ	**Kahui Hut**	**1.05**	**21**	P	Pn	00 01 46.8	+0.2
LREZ	**Lake Rotokare**	**1.05**	**39**	P	Pn	00 01 47.1	+0.5
LREZ				S	Sn	00 02 08.0	+1.8
TCW	**Tory Channel**	**1.09**	**149**	P	Pn	00 01 48.0	+1.1
TCW				S	Sn	00 02 07.5	+0.7
NEZ	**North Egmont**	**1.09**	**23**	P	Pn	00 01 46.6	-0.4
TUWZ	**Tuamarina**	**1.19**	**165**	P	Pn	00 01 48.5	+0.8
TUWZ				S	Sn	00 02 08.7	+0.2
KIW	**Kapiti Island**	**1.20**	**120**	P	Pn	00 01 48.6	+0.8
KIW				S	Sn	00 02 08.4	-0.2
DREZ	**Durham Road**	**1.20**	**25**	P	Pn	00 01 48.1	+0.1
WAZ	**Wanganui**	**1.23**	**65**	P	Pn	00 01 49.1	+0.9
WAZ				S	Sn	00 02 11.4	+2.3
MHEZ	**Mangahewa**	**1.34**	**27**	P	Pn	00 01 49.6	+0.3
OGWZ	**Otaki Gorge**	**1.35**	**114**	P	Pn	00 01 50.1	+0.8
OGWZ				S	Sn	00 02 11.1	-0.1
OHWZ	**Ohakea**	**1.36**	**88**	P	Pn	00 01 50.5	+1.1
OHWZ				S	Sn	00 02 12.7	+1.4
CAW	**Cannon Point**	**1.43**	**126**	P	Pn	00 01 50.9	+0.8
CAW				S	Sn	00 02 12.8	+0.3
BSWZ	**Blackbirch Sta**	**1.46**	**170**	P	Pn	00 01 51.2	+0.8
VRZ	**Vera Road**	**1.49**	**40**	P	Pn	00 01 50.3	-0.4
VRZ				S	Sn	00 02 13.7	+0.2
BHW	**Baring Head**	**1.52**	**139**	P	Pn	00 01 51.5	+0.6
BHW				S	Sn	00 02 13.5	-0.6
THZ	**Tophouse**	**1.56**	**198**	P	Pn	00 01 51.4	0.0
THZ				S	Sn	00 02 14.5	-0.6
MRZ	**Mangatainoka R**	**1.60**	**104**	P	Pn	00 01 52.5	+0.6
MRZ				S	Sn	00 02 15.2	-0.5
HOWZ	**Holdsworth Sta**	**1.63**	**113**	P	Pn	00 01 52.6	+0.5
HOWZ				S	Sn	00 02 15.7	-0.5
POWZ	**Post Office Ro**	**1.71**	**95**	P	Pn	00 01 53.3	+0.3
MSWZ	**Moikau Station**	**1.73**	**132**	P	Pn	00 01 53.8	+0.6
MTW	**Mount Morrison**	**1.73**	**121**	P	Pn	00 01 53.8	+0.5
MTVZ	**Mangateitei**	**1.73**	**60**	P	Pn	00 01 53.1	-0.3
PLWZ	**Palliser**	**1.83**	**135**	P	Pn	00 01 54.7	+0.3
WNVZ	**Wahianoa**	**1.85**	**60**	P	Pn	00 01 54.4	-0.3
TIWZ	**Tintock**	**1.86**	**106**	P	Pn	00 01 55.1	+0.4
FWVZ	**Far West T-bar**	**1.86**	**57**	P	Pn	00 01 54.5	-0.4
TSZ	**Takapari Road**	**1.87**	**84**	P	Pn	00 01 54.9	+0.1
PRWZ	**Pori Road**	**1.88**	**99**	P	Pn	00 01 55.5	+0.6
TWVZ	**Taurewa**	**1.90**	**51**	P	Pn	00 01 54.4	-0.8
MOVZ	**Moawhango**	**1.91**	**64**	P	Pn	00 01 53.8	-1.6
TUVZ	**Tukino**	**1.92**	**59**	P	Pn	00 01 55.2	-0.3
NGZ	**Ngauruhoe**	**1.93**	**56**	P	Pn	00 01 55.0	-0.7
WTVZ	**West Tongariro**	**1.96**	**54**	P	Pn	00 01 55.4	-0.6
DSZ	**Denniston Nort**	**1.97**	**221**	P	Pn	00 01 55.4	-0.5
NNVZ	**North Ngauruho**	**1.97**	**55**	P	Pn	00 01 55.5	-0.6
TMWZ	**Te Maipa**	**1.97**	**116**	P	Pn	00 01 56.4	+0.5
OTVZ	**Oturere**	**1.98**	**57**	P	Pn	00 01 56.0	-0.3
KRVZ	**Karewarewa**	**2.01**	**55**	P	Pn	00 01 55.8	-0.7
NTVZ	**North Tongariro**	**2.03**	**55**	P	Pn	00 01 56.1	-0.7
ETVZ	**East Tongariro**	**2.03**	**56**	P	Pn	00 01 56.4	-0.3
TMVZ	**Te Maari**	**2.03**	**56**	P	Pn	00 01 56.5	-0.3
HIZ	**Hauiti**	**2.04**	**30**	P	Pn	00 01 55.8	-1.0
PNHZ	**Pukenui**	**2.07**	**81**	P	Pn	00 01 57.0	-0.2
BHHZ	**Black Hill Sta**	**2.10**	**69**	P	Pn	00 01 56.4	-1.0
BFZ	**Birch Farm**	**2.10**	**102**	P	Pn	00 01 57.6	+0.1
CPWZ	**Castlepoint**	**2.12**	**108**	P	Pn	00 01 58.1	+0.4
KHZ	**Kahutara**	**2.14**	**180**	P	Pn	00 01 57.8	-0.1
RITZ	**Rihia Road**	**2.21**	**55**	P	Pn	00 01 58.5	-0.3
WPHZ	**Waipukurau**	**2.23**	**85**	P	Pn	00 01 58.9	-0.1
ANWZ	**Angora Road**	**2.25**	**96**	P	Pn	00 01 59.4	+0.2
KRHZ	**Kereru**	**2.27**	**75**	P	Pn	00 01 58.8	-0.7
WATZ	**Wairara**	**2.31**	**48**	P	Pn	00 01 59.4	-0.6
PRHZ	**Porangahau**	**2.37**	**91**	P	Pn	00 02 00.6	-0.1
KWHZ	**Kaweka Forest**	**2.38**	**70**	P	Pn	00 02 00.5	-0.4
TLZ	**Tolley Road**	**2.49**	**39**	P	Pn	00 02 00.7	-1.4
BKZ	**Black Stump Fm**	**2.53**	**65**	P	Pn	00 02 01.4	-1.3
MCHZ	**McNeill Hill**	**2.57**	**72**	P	Pn	00 02 02.7	-0.3
KAHZ	**Kahuranaki**	**2.61**	**80**	P	Pn	00 02 03.2	-0.4
LTZ	**Lake Taylor**	**2.68**	**200**	P	Pn	00 02 03.2	-1.2
GVZ	**Greta Valley S**	**2.71**	**188**	P	Pn	00 02 02.1	-2.7
NMHZ	**Naumai**	**2.78**	**66**	P	Pn	00 02 05.9	+0.1
ARHZ	**Aropaoanui**	**2.85**	**70**	P	Pn	00 02 05.5	-1.0
RAHZ	**Arahi**	**3.06**	**65**	P	Pn	00 02 07.9	-1.3
URZ	**Urewera**	**3.43**	**55**	P	Pn	00 02 11.1	-2.7
KNZ	**Kokohu**	**3.43**	**70**	P	Pn	00 02 11.9	-1.9
MQZ	**McQueen's Vall**	**3.49**	**191**	P	Pn	00 02 12.1	-2.4
MHCZ	**Mount Hutt**	**3.57**	**204**	P	Pn	00 02 13.9	-1.8
RACZ	**Rakaia**	**3.60**	**196**	P	Pn	00 02 13.8	-2.2
PRGZ	**Paritu Road**	**3.62**	**69**	P	Pn	00 02 14.6	-1.7
MWZ	**Matawai**	**3.65**	**59**	P	Pn	00 02 14.1	-2.7
TKGZ	**Te Karaka**	**3.81**	**63**	P	Pn	00 02 16.6	-2.2
TWGZ	**Tauwhareparae**	**4.04**	**60**	P	Pn	00 02 19.3	-2.4
HAZ	**Te Kaha**	**4.16**	**54**	P	Pn	00 02 19.6	-3.6
PKGZ	**Pakihiroa**	**4.26**	**57**	P	Pn	00 02 21.9	-2.8
JCZ	**Jackson Bay**	**5.18**	**221**	P	Pn	00 02 33.9	-2.8
MLZ	**Mavora Lakes**	**6.46**	**216**	P	Pn	00 02 51.3	-2.4

IDC 02 00:03:36.9±4.4, 5.°39S×149.°27E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, ML1.6/1, Error ellipse: s-maj=158.6km s-min=44.9km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**208**	Pn	Pn	00 04 48.3	+1.7
	2.3nm,0.3s,baz=36,slow=14,SNR=1.4						
PMG				Sn	Sn	00 05 36.3	-3.4
	4.5nm,0.3s,baz=75,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**20.50**	**224**	P	P	00 08 15.4	-1.4
	1.7nm,0.8s,baz=50,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**23.44**	**218**	P	P	00 08 48.2	+0.1
	0.4nm,0.4s,baz=54,slow=9.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**147.11**	**286**	PKPbc	PKPbc	00 23 22.5	-0.6
	1.1nm,1.0s,baz=61,slow=3.9,SNR=4.1						

*BGR **02** 00:11:08.0±0.0, 16.°92S×14.°17W, h10km, mb5.2, Ms4.3*

*MOS **02** 00:11:08.6±0.9, 16.°81S×14.°19W, h10km, mb5.2/46, Error ellipse: s-maj=10.7km s-min=6.1km az=56.4*

*IDC **02** 00:11:08.7±0.5, 16.°84S×14.°16W, h0km, mb4.6/20, mb1 4.6/20, mb1mx4.6/23, mbtmp4.5/20, MS4.1/21, Ms1 4.1/21, ms1mx4.0/24, Error ellipse: s-maj=19.6km s-min=13.4km az=135.0*

*NEIC **02** 00:11:09.8±1.3, 16.°8S±0.°1×14.°21W±0.°09, h10km±1km, mb5.1/152, Error ellipse: s-maj=18.7km s-min=14.3km az=163.0*

*GCMT **02** 00:11:13.8±0.4, 16.°74S±0.°03×14.°10W±0.°05, h13km±1km, MW4.8/85, Moment Tensor Solution. s23,c27; s85,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.23±.21; $M_{\theta\theta}$-1.68±.14; $M_{\phi\phi}$-0.55±.12; $M_{r\theta}$-0.54±.33; $M_{r\phi}$0.65±.08; $M_{\theta\phi}$-0.33±.48; Best double couple: M_o2.18300×10^{16} NP1:ϕs125.00000°, δ41.00000°, λ107.00000°. NP2: ϕs283.00000°, δ51.00000°, λ76.00000°. Principal axes: T 2.3620, Plg78.0000°, Azm137.0000°; N -0.3590, Plg11.0000°, Azm292.0000°; P -2.0050, Plg5.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 00:11:10.4±0.3, 16.78S±0.°07×14.18W±0.°05, h10km, n425, σ1ᵍ04/412, mb5.1/155, MS4.2/26, 21C-18D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.79**	**357**	T	T	00 20 57.4	
	baz=176,slow=74,SNR=647						
H10S3	**ASCENSION HYDR**	**7.80**	**356**	T	T	00 20 57.5	
	baz=44,slow=74,SNR=574						
SHEL	**Horse Pasture**	**8.13**	**85**	P	**Pn**	**00 13 08.2**	**-0.5**
SHEL	**Horse Pasture**	**8.13**	**85**	Pn	**Pn**	**00 13 08.2**	**-0.5**
H10N1	**ASCENSION HYDR**	**8.89**	**358**	T	T	00 22 17.3	
	baz=189,slow=77						
H10N3	**ASCENSION HYDR**	**8.89**	**358**	T	T	00 22 17.2	
	baz=189,slow=77						
H10N2	**ASCENSION HYDR**	**8.91**	**358**	T	T	00 22 18.4	
	baz=189,slow=77						
NBRF	**Rio Formoso -**	**21.95**	**289**	*eP*	**P**	**00 16 03.1**	**-1.3**
NBAN	**Anadia - AL**	**22.63**	**285**	*eP*	**P**	**00 16 10.7**	**-1.1**
NBPV	**Pedro Velho**	**23.08**	**284**	*eP*	**P**	**00 16 12.4**	**+0.8**
NBLA	**Lagarto - SE**	**23.62**	**281**	*eP*	**P**	**00 16 21.1**	**-0.8**
NBIT	**Itapeh - BA**	**24.36**	**271**	*eP*	**P**	**00 16 30.0**	**+1.1**
CMC01	**Camacan, BA**	**24.39**	**270**	*eP*	**P**	**00 16 31.1**	**+2.0**
GUA01	**Guaratinga, BA**	**24.55**	**267**	*eP*	**P**	**00 16 31.3**	**+0.7**
GDU01	**Guandu, BA**	**24.68**	**274**	*eP*	**P**	**00 16 32.9**	**+1.0**
NAN01	**Guarapari, ES**	**24.79**	**264**	*eP*	**P**	**00 16 33.4**	**+0.6**
NBPA	**Parau_RN**	**24.99**	**293**	*eP*	**P**	**00 16 34.8**	**+0.3**
RIB01	**Linhares ES**	**25.05**	**260**	*eP*	**P**	**00 16 36.6**	**+1.6**
DBIC	**Dimbokro**	**25.06**	**22**	P	**P**	**00 16 35.3**	**+0.2**
	24nm,1.1s,baz=182,slow=8.3,SNR=5.2						
DBIC				LR	LR	00 23 59.4	
	comp=Z,539nm,19.8s,baz=194,slow=31						
DBIC	**Dimbokro**	**25.06**	**22**	P	**P**	**00 16 35.4**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,41nm,1.3s						
DBIC	**Dimbokro**	**25.06**	**22**	P	**P**	**00 16 35.4**	**+0.2**
DBIC				IAmb	IAmb	00 16 43.6	
	comp=Z,41nm,1.2s						
ALF01	**Guarapari-ES**	**25.42**	**257**	*eP*	**P**	**00 16 40.6**	**+2.2**
SJMB	**Sao Joao De Ma**	**25.79**	**262**	*eP*	**P**	**00 16 41.6**	**-0.2**
NBPN	**Ponto Novo - B**	**25.93**	**280**	*eP*	**P**	**00 16 43.2**	**+0.1**
CAM01	**Campos-RJ**	**26.40**	**255**	*eP*	**P**	**00 16 48.0**	**+0.8**
NBCL	**Cascavel-CE**	**26.75**	**295**	*eP*	**P**	**00 16 51.2**	**+0.8**
DUB01	**Friburgo-RJ**	**27.09**	**254**	*eP*	**P**	**00 16 55.1**	**+1.6**
NBPB	**Pedra_Branca-C**	**27.27**	**291**	*eP*	**P**	**00 16 55.6**	**+0.4**
JANB	**Januaria**	**29.02**	**269**	*eP*	**P**	**00 17 10.4**	**-0.4**
SDBA	**SAO DESIDERIO**	**30.03**	**274**	*eP*	**P**	**00 17 19.9**	**0.0**
VAO	**Valinhos**	**31.40**	**253**	*eP*	**P**	**00 17 32.2**	**+0.2**
SPB	**Sao Paulo**	**31.89**	**252**	*eP*	**P**	**00 17 36.9**	**+0.8**
IPMB	**Ipameri, GO**	**32.48**	**263**	*eP*	**P**	**00 17 41.3**	**-0.2**
BDFB	**Brasilia**	**32.49**	**267**	P	**P**	**00 17 41.8**	**+0.2**
	comp=Z,4.8nm,1.0s,baz=64,slow=11,SNR=2.6						
BDFB				LR	LR	00 29 05.2	
	comp=Z,169nm,20.4s,baz=66,slow=33						
ROSB	**Rosrio**	**32.50**	**292**	*eP*	**P**	**00 17 41.6**	**+0.1**
KOWA	**Kowa**	**32.66**	**18**	P	**P**	**00 17 43.2**	**+0.3**
PEXB	**Peixe**	**33.34**	**273**	*eP*	**P**	**00 17 49.8**	**+0.8**
SMTB	**Santa Maria do**	**33.47**	**279**	*eP*	**P**	**00 17 50.8**	**+0.6**
TOA0	**Torodi Ar. Sit**	**33.62**	**29**	P	**P**	**00 17 50.4**	**-0.8**
TOA0				IAmb	IAmb	00 17 52.5	
	comp=Z,42nm,1.4s						
TORD	**Torodi Ar. Bea**	**33.62**	**29**	P	**P**	**00 17 50.9**	**-0.4**
	comp=Z,12nm,1.0s,baz=214,slow=9.0,SNR=22						
TORD				LR	LR	00 28 58.6	
	comp=Z,994nm,20.7s,baz=205,slow=32						
TORD	**Torodi Ar. Bea**	**33.62**	**29**	P	**P**	**00 17 51.4**	**+0.1**
TORD				IAmb	IAmb	00 17 52.5	
	comp=Z,25nm,1.4s						
PCMB	**Pacaembu**	**35.29**	**256**	*eP*	**P**	**00 18 04.4**	**-1.4**
ARAG	**Araguaiana, MT**	**36.11**	**266**	*eP*	**P**	**00 18 11.9**	**-1.0**
PTGB	**Pitanga**	**36.21**	**251**	*eP*	**P**	**00 18 14.7**	**+0.9**
TMAB	**Tom-Âu,PA,Br**	**36.29**	**290**	*eP*	**P**	**00 18 15.9**	**+1.5**
PRPB	**Parauapebas**	**36.41**	**283**	*eP*	**P**	**00 18 15.9**	**+0.3**
ITAB	**Concordia**	**36.56**	**247**	P	**P**	**00 18 16.7**	**+0.1**
ITAB				IAmb	IAmb	00 18 19.3	
	comp=Z,61nm,1.4s						
ITAB	**Concordia**	**36.56**	**247**	*eP*	**P**	**00 18 17.8**	**+1.2**
BOSA	**Boshof**	**38.07**	**115**	P	**P**	**00 18 28.9**	**-0.6**
	comp=Z,11nm,1.2s,baz=310,slow=7.9,SNR=3.9						
BOSA	**Boshof**	**38.07**	**115**	P	**P**	**00 18 28.8**	**-0.8**
BOSA				pmax	pmax		
	comp=Z,28nm,1.4s						
BOSA	**Boshof**	**38.07**	**115**	P	**P**	**00 18 28.8**	**-0.8**
CPSB	**Cacapava Do Su**	**38.25**	**242**	*eP*	**P**	**00 18 32.3**	**+1.3**
PLTB	**Pedras Altas**	**38.68**	**240**	P	**P**	**00 18 34.0**	**-0.5**
PLTB				IAmb	IAmb	00 18 37.3	
	comp=Z,54nm,1.3s						
PLTB	**Pedras Altas**	**38.68**	**240**	*eP*	**P**	**00 18 36.4**	**+1.9**
PP1B	**Ponte de Pedra**	**38.84**	**263**	*eP*	**P**	**00 18 36.2**	**+0.2**
LSZ	**Lusaka**	**40.69**	**94**	P	**P**	**00 18 51.8**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,11nm,1.2s						
LSZ	**Lusaka**	**40.69**	**94**	P	**P**	**00 18 51.8**	**+0.2**
MCPB	**Macapa, AP**	**40.72**	**290**	*eP*	**P**	**00 18 51.2**	**-0.5**
CLDB	**Colider**	**40.78**	**273**	*eP*	**P**	**00 18 53.2**	**+1.0**
ITQB	**Itaqui**	**40.84**	**244**	P	**P**	**00 18 52.3**	**-0.2**
ITQB	**Itaqui**	**40.84**	**244**	*eP*	**P**	**00 18 54.0**	**+1.5**
CPUP	**Villa Florida**	**41.08**	**249**	P	**P**	**00 18 55.3**	**+0.8**
	comp=Z,13nm,1.0s,baz=91,slow=8.6,SNR=25						
CPUP				PcP	**PcP**	**00 20 53.4**	**-0.9**
	comp=Z,3.6nm,1.1s,baz=113,slow=6.0,SNR=3.0						
CPUP				LR	LR	00 34 47.7	
	comp=Z,192nm,18.1s,baz=92,slow=34						
CPUP	**Villa Florida**	**41.08**	**249**	P	**P**	**00 18 54.4**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,26nm,1.1s						
CPUP	**Villa Florida**	**41.08**	**249**	P	**P**	**00 18 54.4**	**-0.2**
CPUP	**Villa Florida**	**41.08**	**249**	*eP*	**P**	**00 18 55.7**	**+1.2**
NPGB	**Novo Progresso**	**41.36**	**278**	*eP*	**P**	**00 18 56.9**	**-0.1**
MALB	**Monte Alegre**	**42.12**	**286**	*eP*	**P**	**00 19 04.3**	**+1.1**
ITTB	**Itaituba**	**42.57**	**282**	*eP*	**P**	**00 19 07.8**	**+0.9**
PTLB	**Pontes e Lacer**	**43.14**	**265**	*eP*	**P**	**00 19 12.8**	**+1.3**
VILB	**Vilhena**	**44.57**	**268**	*eP*	**P**	**00 19 24.6**	**+1.5**
MBAR	**Mbarara**	**47.05**	**75**	*deP*	**P**	**00 19 44.7**	**+1.9**
MBAR				pmax	pmax		
	comp=Z,15nm,2.3s						
MBAR	**Mbarara**	**47.05**	**75**	P	**P**	**00 19 44.3**	**+1.4**
PTGA	**Pitinga**	**47.81**	**285**	P	**P**	**00 19 47.3**	**-1.3**
PTGA				IAmb	IAmb	00 19 50.7	
	comp=Z,20nm,1.5s						
PTGA	**Pitinga**	**47.81**	**285**	*eP*	**P**	**00 19 49.9**	**+1.4**
BOAV	**Boa Vista**	**49.55**	**288**	*eP*	**P**	**00 20 02.7**	**+0.8**
ETMB	**Extrema**	**50.99**	**271**	*eP*	**P**	**00 20 13.6**	**+0.7**
ZON	**Zonda**	**51.37**	**243**	P	**P**	**00 20 15.1**	**-0.5**
ZON				pmax	pmax		
	comp=Z,29nm,1.2s						
ZON	**Zonda**	**51.37**	**243**	P	**P**	**00 20 15.1**	**-0.5**
ZON				IAmb	IAmb	00 20 20.2	
	comp=Z,29nm,1.2s						
LPAZ	**La Paz**	**51.59**	**262**	P	**P**	**00 20 17.2**	**-0.8**
	com

comp=Z,22nm,1.2s
SDV Santo Domingo 61.38 290 eP P 00 21 28.7 +1.4
CEL Celeste 61.60 27 P P 00 21 29.6 +1.4
CEL IAmb IAmb 00 21 31.0
comp=Z,18nm,1.0s
SYO Syowa Base 61.85 161⇓epP P 00 21 30.2 +0.8
BELA Belgrano 2 61.95 185 IAmb IAmb 00 21 32.4
comp=Z,28nm,1.5s
TIP Timpagrande 62.74 27 IAmb IAmb 00 21 38.0
comp=Z,25nm,1.5s
ATD Arta Tunnel 63.00 67 P P 00 21 38.3 +0.2
ATD IAmb IAmb 00 21 41.9
comp=Z,17nm,1.2s
ROSC El Rosal 63.18 284 P P 00 21 40.8 +1.1
comp=Z,3.2nm,0.3s,baz=109,slow=17,SNR=8.9
ROSC LR LR 00 48 02.2
comp=Z,139nm,19.3s,baz=134,slow=35
ROSC El Rosal 63.18 284 P P 00 21 40.1 +0.4
ROSC pmax pmax
comp=Z,24nm,1.1s
ROSC El Rosal 63.18 284 P P 00 21 40.1 +0.4
PAOL Paolisi 63.40 24 P P 00 21 40.7 +0.6
ITM Ithomi 63.55 32 P P 00 21 40.7 -0.4
ITM IAmb IAmb 00 21 44.5
comp=Z,23nm,1.3s
CASP Castiglione de 63.60 20 P P 00 21 41.1 -0.3
CASP IAmb IAmb 00 21 42.6
comp=Z,19nm,1.3s
INTR Introdacqua 63.99 23 P P 00 21 44.8 +0.7
INTR IAmb IAmb 00 22 01.6
comp=Z,14nm,1.2s
AQU L'Aquila 64.10 22 P P 00 21 45.2 +0.4
AQU pmax pmax
comp=Z,35nm,1.1s
AQU L'Aquila 64.10 22 P P 00 21 45.2 +0.4
SCTE Santa Cesarea 64.22 27 P P 00 21 47.0 +1.5
BNI Bardonecchia 64.40 16 P P 00 21 47.1 +0.3
BNI pmax pmax
comp=Z,15nm,1.2s
BNI Bardonecchia 64.40 16 P P 00 21 47.1 +0.3
BNI IAmb IAmb 00 21 48.9
comp=Z,14nm,1.2s
SGRT San Giovanni R 64.48 24 P P 00 21 46.3 -1.0
MSSA Maissana 64.54 19 P P 00 21 47.1 -0.5
VLC Villacollemand 64.67 19 P P 00 21 48.5 +0.1
VLC IAmb IAmb 00 22 04.1
comp=Z,13nm,1.1s
ZCCA Zocca 65.03 20 P P 00 21 50.3 -0.5
OTAV Otavalo 65.50 278 *ce*P **P 00 21 56.1 +1.1**
OTAV pmax pmax
comp=Z,11nm,1.3s
OTAV Otavalo 65.50 278 *eP* **P 00 21 55.5 +0.5**
TUE Stuetta 66.44 18 P P 00 21 58.7 -1.4
TUE IAmb IAmb 00 22 09.0
comp=Z,19nm,1.1s
PDG Podgorica 66.49 26 P P 00 22 00.2 +0.1
PDG IAmb IAmb 00 22 18.2
comp=Z,14nm,1.3s
CTI Castel Tesino 66.76 19 P P 00 22 01.9 -0.1
CTI pmax pmax
comp=Z,5.0nm,0.8s
CTI Castel Tesino 66.76 19 P P 00 22 01.9 -0.1
SKDS Skadanscina 67.10 21 *eP* **P 00 22 04.5 +0.4**
CIMO Cimolais 67.24 20 IAmb IAmb 00 22 06.4
comp=Z,19nm,1.3s
STAL STALIGIAL 67.29 20 P P 00 22 04.9 -0.3
DAVA Damuels 67.34 18 *eP* **P 00 22 05.4 -0.3**
comp=Z,15nm,1.0s,SNR=6.2
FETA Feichten 67.35 18 *eP* **P 00 22 05.2 -0.5**
comp=Z,13nm,1.1s,SNR=7.4
JAVS Javornik 67.42 21 *i* P **P 00 22 06.6 +0.5**
ECH Echery 67.45 15 P P 00 22 06.5 +0.3
ECH pmax pmax
comp=Z,25nm,1.5s
ECH Echery 67.45 15 P P 00 22 06.5 +0.3
ECH IAmb IAmb 00 22 22.8
comp=Z,25nm,1.5s
ZOU Zoufplan 67.64 20 P P 00 22 07.7 0.0
ZOU IAmb IAmb 00 22 18.9
comp=Z,13nm,1.2s
ABTA Abfaltersbach 67.65 20 *eP* **P 00 22 08.1 +0.5**
comp=Z,10.0nm,1.0s,SNR=8.0
LJU Ljubljana 67.71 21 *eP* **P 00 22 08.7 +0.8**
PRED Cave del Predi 67.73 20 P P 00 22 08.3 +0.2
MOTA Moosalm 67.75 18 *i* P **P 00 22 08.5 +0.2**
comp=Z,11nm,1.7s
RETA Reutte 67.78 18 *i* P **P 00 22 07.7 -0.7**
comp=Z,7.4nm,1.0s
WTTA Wattenberg 67.84 19 *eP* **P 00 22 08.3 -0.6**
comp=Z,19nm,1.3s,SNR=6.8
BFO Black Forest 67.86 16 *eL* L 00 49 54.0
comp=Z,172nm,20.5s
WATA Walderalm 67.89 19 *eP* **P 00 22 08.7 -0.4**
comp=Z,14nm,1.5s,SNR=5.4
MYKA Terra Mystica 67.92 20 *eP* **P 00 22 10.7 +1.4**
comp=Z,11nm,1.1s
OBKA Obir 68.12 21 *eP* **P 00 22 11.5 +1.0**
comp=Z,11nm,1.8s,SNR=7.7
DIVS Divibare 68.16 26 IAmb IAmb 00 22 13.4
comp=Z,15nm,1.4s
KBA Koelnbreinsper 68.22 20 *eP* **P 00 22 11.5 +0.2**
comp=Z,3.5nm,0.8s
VTS Vitosha 68.41 29 P P 00 22 12.1 -0.4
VTS pmax pmax
comp=Z,5.0nm,1.0s
VTS Vitosha 68.41 29 P P 00 22 12.1 -0.4
GROS Grobnik 68.41 22 *i* P **P 00 22 12.9 +0.5**
SOKA Soboth 68.43 21 *eP* **P 00 22 13.2 +0.7**
comp=Z,14nm,1.1s,SNR=18
FUR Furstenfeldbru 68.54 18 *eL* L 00 51 44.7
comp=Z,237nm,18.6s
ARSA Arzberg 69.10 21 *eP* **P 00 22 17.1 +0.5**
comp=Z,14nm,1.0s,SNR=9.4
MOA Molln 69.19 20 *i* P **P 00 22 16.7 -0.4**
comp=Z,13nm,1.2s,SNR=5.8
MORH Mrgy, Hungar 69.36 24 ⇑P P 00 22 32.4 +14
MILB Miltenberg 69.49 16 *eL* L 00 50 05.8
comp=Z,101nm,19.4s
TNS Taunus Mts 69.63 15 *eP* **P 00 22 20.3 +0.4**
comp=Z,22nm,1.4s,baz=206,slow=6.6
TNS *eL* L 00 52 01.2
comp=Z,135nm,18.5s
MAW Mawson 69.68 157 P P 00 22 19.4 -0.5
comp=Z,13nm,1.0s,baz=277,slow=8.6,SNR=12
MAW LR LR 00 45 47.4
comp=Z,199nm,21.9s,baz=260,slow=30
MAW Mawson 69.68 157 P P 00 22 19.0 -0.9
MAW pmax pmax
comp=Z,5.0nm,1.2s
MAW Mawson 69.68 157 P P 00 22 19.0 -0.9
CONA Conrad Observa 69.80 21 *eP* **P 00 22 21.6 +0.6**
comp=Z,26nm,1.8s,SNR=8.6
GEC2 GERESS Array S 69.88 19 P P 00 22 21.2 -0.3
GEC2 GERESS Array S 69.88 19 *eP* **P 00 22 21.3 -0.2**
comp=Z,24nm,1.7s,baz=206,slow=6.6
GEC2 *eL* L 00 52 36.8
comp=Z,291nm,18.6s
GERES GERESS Array B 69.88 19 P P 00 22 21.1 -0.3
comp=Z,1.8nm,0.8s,baz=194,slow=5.1,SNR=16
GERES LR LR 00 52 46.8
comp=Z,261nm,18.7s,baz=240,slow=36
GERES GERESS Array B 69.88 19 P P 00 22 20.6 -0.8
WET Wettzell 69.89 19 *eP* **P 00 22 21.5 +0.1**
comp=Z,21nm,1.3s,baz=206,slow=6.6
WET *eL* L 00 53 21.4
comp=Z,152nm,19.8s
GRF Grafenberg Arr 69.89 17 *eP* **P 00 22 21.8 +0.4**
comp=Z,20nm,1.3s,baz=206,slow=6.6
GRF *eL* L 00 52 24.9
comp=Z,154nm,21.2s
CKRC Cesky Krumlov 70.06 20 *eP* **P 00 22 22.3 -0.1**
KHC Kasperske Hory 70.10 19 *eP* **P 00 22 22.7 0.0**
KHC Kasperske Hory 70.10 19 *eP* **P 00 22 22.7 0.0**
ROTZ Rotzenmuhle 70.25 18 *eP* **P 00 22 23.7 +0.1**
comp=Z,38nm,1.7s,baz=206,slow=6.6
MANZ Manzenberg 70.41 18 *eP* **P 00 22 24.6 -0.1**
comp=Z,20nm,1.3s,baz=206,slow=6.6
ZST Bratislava 70.46 22 *eP* **P 00 22 26.1 +1.2**
ZST pmax pmax
comp=Z,173nm,1.9s
ZST Bratislava 70.46 22 *eP* **P 00 22 26.1 +1.2**
SRO Srobarova 70.57 23 *eP* **P 00 22 26.6 +1.0**
SRO Srobarova 70.57 23 *eP* **P 00 22 26.6 +1.0**
PBCC Pribram 70.72 19 *eP* **P 00 22 26.4 0.0**
NKC Novy Kostel 70.73 18 *eP* **P 00 22 26.1 -0.5**
NKC Novy Kostel 70.73 18 *eP* **P 00 22 26.1 -0.5**
RAYN Ar Rayn 70.73 57 P P 00 22 28.0 +0.8
RAYN pmax pmax
comp=Z,15nm,1.4s
RAYN Ar Rayn 70.73 57 P P 00 22 28.0 +0.8
WERN Wernitzgruen 70.76 18 *eP* **P 00 22 26.8 +0.1**
comp=Z,17nm,1.3s,baz=206,slow=6.6
GUNZ Gunzen 70.81 18 *eP* **P 00 22 27.3 +0.2**
comp=Z,20nm,1.2s,baz=206,slow=6.6
SMOL Smolenice 70.84 22 *eP* **P 00 22 28.5 +1.3**
SMOL Smolenice 70.84 22 *eP* **P 00 22 28.5 +1.3**
MOX Moxa 70.86 17 *eP* **P 00 22 27.4 +0.1**
comp=Z,18nm,1.4s,baz=206,slow=6.6
MOX *eL* L 00 53 02.0
comp=Z,207nm,19.0s
PLN Plauen 70.87 17 *eP* **P 00 22 27.3 -0.1**
comp=Z,41nm,1.9s,baz=206,slow=6.6
TANN Tannenbergstha 70.90 18 *eP* **P 00 22 27.6 0.0**
comp=Z,52nm,2.0s,baz=206,slow=6.6
KRUC Moravsky 70.95 21 *eP* **P 00 22 27.9 0.0**
PRU Pruhonice 71.15 19 *eP* **P 00 22 29.2 +0.1**
PRU Pruhonice 71.15 19 *eP* **P 00 22 29.2 +0.1**
PRA Prague 71.19 19 *eP* **P 00 22 29.9 +0.6**
PRA Prague 71.19 19 *eP* **P 00 22 29.9 +0.6**
JAVC Velka Javorina 71.22 22 *eP* **P 00 22 31.3 +1.7**
VRAC Vranov 71.23 21 *eP* **P 00 22 29.8 +0.2**
PSZ Piszkesteto 71.25 23 IAmb IAmb 00 22 31.9
comp=Z,24nm,1.3s
VYHS Vyhne 71.33 22 *eP* **P 00 22 31.0 +0.8**
VYHS Vyhne 71.33 22 *eP* **P 00 22 31.0 +0.8**
NEUB Neuenburg 71.41 17 *eP* **P 00 22 31.0 +0.4**
comp=Z,33nm,1.2s,baz=206,slow=6.6
DRGR 71.46 26 P **P 00 22 32.1 +1.0**
CLZ Clausthal 71.61 16 *eP* **P 00 22 32.3 +0.5**
comp=Z,30nm,1.6s,baz=206,slow=6.6
PVCC Panska Ves 71.63 19 *eP* **P 00 22 32.2 +0.2**
PVCC Panska Ves 71.63 19 *eP* **P 00 22 32.2 +0.2**
BR131 Keskin Array S 71.73 37 P **P 00 22 33.2 +0.2**
BR131 pmax pmax
comp=Z,21nm,1.3s
BR131 Keskin Array S 71.73 37 P **P 00 22 33.2 +0.2**
BR131 IAmb IAmb 00 22 35.8
comp=Z,21nm,1.2s
BRTR Keskin Array B 71.73 37 P **P 00 22 33.7 +0.7**
comp=Z,5.4nm,1.0s,baz=201,slow=6.6,SNR=30
BRTR LR LR 00 54 08.2
comp=Z,76nm,19.4s,baz=237,slow=36
BRTR Keskin Array B 71.73 37 *i* P **P 00 22 34.0 +1.0**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 71.73 37 P **P 00 22 33.9 +0.9**
BRG Berggiesshubel 71.74 18 *eP* **P 00 22 33.0 +0.3**
BRG Amp 00 22 36.3
comp=Z,11nm,1.3s
BRG Berggiesshubel 71.74 18 *eP* **P 00 22 32.9 +0.3**
comp=Z,11nm,1.3s,baz=206,slow=6.6
CLL Collm 71.85 18 *eP* **P 00 22 35.0 +1.8**
CLL LmV 00 53 00.0
comp=Z,200nm,19.1s
CLL Collm 71.85 18 *eP* **P 00 22 35.0 +1.8**
CLL Collm 71.85 18 *eL* L 00 53 35.1
comp=Z,243nm,19.1s
MLR Muntele Rosu 71.86 28 ⇓P **P 00 22 33.7 0.0**
MLR Muntele Rosu 71.86 28 ⇓P **P 00 22 34.3 +0.7**
KRLC Kraliky 71.95 20 *eP* **P 00 22 35.0 +1.0**
KRLC Kraliky 71.95 20 *eP* **P 00 22 35.0 +1.0**
MORC Moravsky Berou 71.95 21 ⇓P **P 00 22 34.3 +0.3**
MORC Moravsky Berou 71.95 21 *eP* **P 00 22 34.1 +0.1**
MORC Moravsky Berou 71.95 21 P **P 00 22 33.8 -0.2**
MORC pmax pmax
comp=Z,28nm,1.5s
MORC Moravsky Berou 71.95 21 P **P 00 22 33.8 -0.2**
MORC IAmb IAmb 00 22 36.2
comp=Z,28nm,1.5s
DPC Dobruska-Polom 72.04 20 *eP* **P 00 22 34.7 +0.2**
DPC Dobruska-Polom 72.04 20 *eP* **P 00 22 34.7 +0.2**
UPC Upice 72.07 20 *eP* **P 00 22 35.5 +0.9**
UPC Upice 72.07 20 *eP* **P 00 22 35.5 +0.9**
LANS Liptovska Anna 72.11 22 *eP* **P 00 22 36.3 +1.4**
LANS Liptovska Anna 72.11 22 *eP* **P 00 22 36.3 +1.4**
NRDL Niedersach Rie 72.13 15 *eP* **P 00 22 36.2 +1.4**
comp=Z,54nm,1.5s,baz=206,slow=6.6
CHVC Chvalec 72.15 20 *eP* **P 00 22 35.4 +0.3**
OZUR 72.25 28 ⇑P **P 00 22 35.8 0.0**
ARCR ARCALIA 72.39 27 ⇑P **P 00 22 37.2 +0.6**
KSP Ksiaz 72.45 20 *eP* **P 00 22 37.5 +0.6**
PLOR Plostina 72.46 29 ⇑P **P 00 22 35.9 -1.2**
PLOR Plostina 72.46 29 P **P 00 22 35.9 -1.2**
TRPA Tarpa 72.46 25 ⇑P **P 00 22 37.4 +0.5**
VRI Vrincioaia 72.51 29 ⇑P **P 00 22 36.9 -0.5**
VRI Vrincioaia 72.51 29 ⇑P **P 00 22 36.9 -0.5**
TPGR Topolog 72.55 30 ⇓P **P 00 22 37.3 -0.3**
CFR Carcaliu 72.65 30 ⇑P **P 00 22 40.0 +1.9**
CFR Carcaliu 72.65 30 P **P 00 22 40.0 +1.9**
CRVS Cervenica-Dubn 72.66 24 *eP* **P 00 22 39.5 +1.3**
CRVS pmax pmax
comp=Z,43nm,1.4s
CRVS Cervenica-Dubn 72.66 24 *eP* **P 00 22 39.5 +1.3**
UZH Uzhgorod 72.76 24⇑ *i* P **P 00 22 39.1 +0.3**
UZH *e* 00 22 41.8
UZH *e* 00 22 47.8
BIZ Bicaz 73.04 28 ⇑P **P 00 22 41.5 +1.0**
OJC Ojcow 73.12 22 P **P 00 22 40.6 -0.3**
OJC pmax pmax
comp=Z,19nm,1.2s
OJC Ojcow 73.12 22 P **P 00 22 40.6 -0.3**
OJC IAmb IAmb 00 22 42.2
comp=Z,19nm,1.2s
BURAR Bucovina Array 73.17 27 ⇓P **P 00 22 42.3 +1.0**
BURAR Bucovina Array 73.17 27 ⇓P **P 00 22 42.3 +1.0**
BURAR Bucovina Array 73.17 27 P **P 00 22 41.8 +0.4**
BUR08 Bucovina Ar. S 73.18 27 P **P 00 22 41.4 0.0**
QSPA South Pole Qui 73.39 180 LR LR 00 50 44.5
comp=Z,151nm,18.2s,baz=208,slow=32
QSPA South Pole Qui 73.39 180 P P 00 22 43.0 +0.5
BSEG Bad Segeberg 73.50 15 *eP* **P 00 22 43.7 +0.7**
comp=Z,40nm,1.3s,baz=206,slow=6.6
BSEG *eL* L 00 56 36.0
comp=Z,140nm,18.3s
MALT Malatya 73.71 41 P P 00 22 47.4 +2.6
LVV L'vov 74.40 25 *eP* **P 00 22 47.9 -0.5**
GKP Gorka Klasztor 74.84 19 *eP* **P 00 22 52.1 +1.3**
SORM Soroca 74.94 28 ⇑P **P 00 22 50.8 -0.8**
SORM Soroca 74.94 28 ⇑P **P 00 22 50.7 -0.8**
JTS Las Juntas de 74.96 286 *d* iP **P 00 22 52.1 -0.3**
JTS pmax pmax
comp=Z,13nm,1.1s
KOPT Kop Dagi 76.02 40 P P 00 22 58.2 -0.2
KOPT IAmb IAmb 00 23 10.7
comp=Z,14nm,1.1s
AKASG Malin Array Be 77.22 27 P P 00 23 03.2 -1.2
comp=Z,10nm,1.0s,baz=221,slow=5.4,SNR=37
AKASG LR LR 00 56 24.1
comp=Z,44nm,21.9s,baz=265,slow=35
AKASG Malin Array Be 77.22 27 P P 00 23 03.0 -1.5
AKASG pmax pmax
comp=Z,20nm,1.4s
AKASG Malin Array Be 77.22 27 P P 00 23 03.0 -1.5
AKASG IAmb IAmb 00 23 05.4
comp=Z,20nm,1.4s
AKBB Malin Array Si 77.22 27⇑ *eP* **P 00 23 03.7 -0.8**
AKBB pmax pmax
comp=Z,39nm,2.0s
AKBB Malin Array Si 77.22 27 P P 00 23 03.0 -1.5
AKBB IAmb IAmb 00 23 05.6
comp=Z,19nm,1.1s
SUW Suwalki 77.42 22 *eP* **P 00 23 05.7 +0.2**
SUW Suwalki 77.42 22 *eP* **P 00 23 05.7 +0.2**
SUW Suwalki 77.42 22 P **P 00 23 04.8 -0.7**
SUW pmax pmax
comp=Z,59nm,1.2s
SUW Suwalki 77.42 22 P **P 00 23 04.8 -0.7**
SOC Sochi 77.70 37 *eP* **P 00 23 06.3 -1.0**
SOC *e*PPP PPP 00 27 58.5
SOC *e*S **S 00 33 00.5 +1.0**
SOC *e*SS **SS 00 38 04.9 +5.0**
SOC *e*SSS SSS 00 41 25.6
SOC pmax pmax
comp=Z,19nm,1.0s
SOC MLR MLR
comp=Z,46nm,16.0s
PBUR Paburge 78.64 20 *eP* **P 00 23 13.4 +1.2**
GNI Garni 78.77 42 *d* iP **P 00 23 15.1 +1.5**
GNI pmax pmax
comp=Z,35nm,2.0s
GNI Garni 78.77 42 P **P 00 23 13.4 -0.2**
GNI IAmb IAmb 00 23 24.6
comp=Z,30nm,1.5s
PABE Paberze 78.90 21 *eP* **P 00 23 14.7 +1.1**
NEY Neytrino 79.26 39⇑ *eP* **P 00 23 17.1 +0.9**
NEY pmax pmax
comp=Z,3.0nm,1.0s
NACGM Naroch 79.42 23 *i* P **P 00 23 16.7 +0.1**
MNK Minsk 79.53 23 *i* P **P 00 23 16.0 -1.2**
MNK *i* 00 26 16.5
MNK *i* PPP PPP 00 28 05.4
MNK *i* S **S 00 33 18.5 -0.1**
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK pmax pmax
comp=Z,16nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK MLR MLR
comp=N,98nm,17.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK MLR MLR
comp=Z,90nm,17.0s
MNK Minsk 79.53 23 *i* P **P 00 23 16.0 -1.1**
comp=E,1.0nm,1.0s
MNK *i* P **P 00 23 16.0 -1.1**
comp=N,10.0nm,1.0s
MNK *i* P **P 00 23 16.0 -1.1**
comp=Z,16nm,1.0s,baz=221
MNK *i* PP **PP 00 26 16.6 -1.4**
MNK *i* PPP PPP 00 28 05.4
MNK *i* S **S 00 33 18.5 -0.1**
MNK *i* SSS SSS 00 42 36.9
MNK *i* LQ LQ 00 51 45.5
MNK *i* LR LR 00 54 36.0
MNK *i* LRM MLR 01 00 22.0
comp=E,11nm,17.4s
MNK *i* LRM MLR 01 00 23.1
comp=N,98nm,17.4s
MNK *i* LRM MLR 01 00 24.1
comp=Z,90nm,17.4s
IIGN Ignalina 79.57 22 *eP* **P 00 23 18.5 +1.2**
F63A Nahmakanta, Br 79.57 324 P 00 23 19.0
baz=127
KIV Kislovodsk 79.65 38 *eP* **P 00 23 18.0 -0.3**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV Kislovodsk 79.65 38 P **P 00 23 17.9 -0.3**
KIV IAmb IAmb 00 23 20.5
comp=Z,28nm,1.3s
ISAL Salakas 79.70 22 *eP* **P 00 23 19.5 +1.4**
IDID Didziasalis 79.73 22 *eP* **P 00 23 19.4 +1.2**
L61B Northampton 79.78 320 P 00 23 20.3
baz=124
D63A Stockholm 79.84 326 P 00 23 19.4
baz=128
NCK Nalchik 79.92 39⇓ *i* P **P 00 23 20.8 +1.2**
NCK pmax pmax
comp=Z,20nm,1.5s
H62A Milan 80.07 323 P 00 23 21.5
baz=126
T59A Double "B" Far 80.10 313 P **P 00 23 20.8 +0.2**
T59A IAmb IAmb 00 23 22.7
comp=Z,31nm,1.4s
UOSS Minazif 80.12 60 P **P 00 23 21.1 +0.1**
UOSS IAmb IAmb 00 23 23.3
comp=Z,32nm,1.4s
NOA NORSAR Array B 80.18 12 P **P 00 23 20.8 +0.1**
comp=Z,3.4nm,1.0s,baz=192,slow=8.1,SNR=5.2
NOA LR LR 00 59 28.6
comp=Z,67nm,18.1s,baz=205,slow=36
K61A Williamstown 80.26 320 P 00 23 23.1
baz=124
D62A Allapoint, All 80.37 325 P 00 23 22.3
baz=128
D62A Allapoint, All 80.38 325 P **P 00 23 21.5 -0.4**
D62A IAmb IAmb 00 23 23.2
comp=Z,20nm,1.1s
NC303 NORSAR Array S 80.38 12 P **P 00 23 22.1 +0.5**
GOF Gofitskoye 80.49 37⇑ *eP* **P 00 23 23.8 +1.2**
GOF pmax pmax
comp=Z,17nm,0.7s
H61A Lyndonville 80.50 322 P 00 23 23.5
baz=125
V58A Windy Hill, Pi 80.63 312 P **P 00 23 23.0 -0.6**
J60A Lant Hill Farm 80.67 320 P 00 23 24.4
baz=124
G61A St-Isidore-de- 80.70 323 P 00 23 24.8
baz=125
F61A St Evariste 80.79 324 P 00 23 25.4
baz=126
N59A State Game Lan 80.90 318 P 00 23 26.9
baz=122
I60A Shoreham 80.92 321 P 00 23 26.4
baz=124
W57A Gilead 80.96 311 P **P 00 23 24.4 -1.0**
W57A IAmb IAmb 00 23 28.6
comp=Z,21nm,1.5s
H60A Morristown 80.97 322 P 00 23 26.3
baz=124
G60A Masonville 81.06 322 P 00 23 26.5
baz=125
BIRD Birdtown, Kers 81.07 310 P **P 00 23 25.3 -0.6**
GROC Groznyy 81.10 40 *eP* **P 00 23 24.0 -1.9**
GROC pmax pmax
comp=Z,11nm,1.0s
L59A Walton 81.11 319 P 00 23 26.1
baz=122
I59A Olmsteadville 81.25 321 P 00 23 27.8
baz=123
E60A Ste Agathe de 81.28 324 P 00 23 27.7
baz=126
K59A Cooperstown 81.30 320 P 00 23 28.0
baz=122
D60A Saint Jean D'O 81.30 325 P 00 23 27.6
baz=126
J59A Piesco 81.45 320 P 00 23 28.6
baz=123
J59A Piesco 81.45 320 P **P 00 23 27.3 -0.5**
JSC Jenkinsville 81.49 310 P **P 00 23 27.3 -0.9**
JSC pmax pmax
comp=Z,10.0nm,1.3s
JSC Jenkinsville 81.49 310 P **P 00 23 27.3 -0.9**
H59A Cadyville 81.61 322 P 00 23 29.2
baz=124
P57A Homestead Farm 81.65 315 P **P 00 23 28.2 -0.7**
F59A Saint Guilaume 81.75 323 P 00 23 30.8
baz=124
K58A Earlville 81.79 319 P 00 23 30.5
baz=122
U56A King 81.80 312 P **P 00 23 30.1 +0.4**
J58A Remsen 81.88 320 P 00 23 29.9
baz=122
KMSC Kings Mountain 81.93 310 P 00 23 31.1
baz=117
KMSC Kings Mountain 81.93 310 P **P 00 23 30.0 -0.5**
KMSC IAmb IAmb 00 23 32.6
comp=Z,26nm,1.4s
G58A Ormstown 82.10 322 P 00 23 31.3
baz=123
VSR Storozhevoye 82.15 31 *eP* **P 00 23 30.3 -0.9**
VSR pmax pmax
comp=Z,20nm,1.3s
V55A Taylorsville 82.17 311 P **P 00 23 31.0 -0.7**
V55A IAmb IAmb 00 23 34.1
comp=Z,22nm,1.4s
HODGE Hodges 82.21 309 P **P 00 23 31.3 -0.6**
Q56A Snyder Ridge, 82.23 315 P **P 00 23 31.0 -1.1**
E58A La Victoria 82.32 323 P 00 23 31.4
baz=124
I57A Carthage 82.42 320 P 00 23 32.9
baz=122
D58A Chemin du LacG 82.50 324 P 00 23 34.6
baz=124
LATQ La Tuque 82.61 324 P **P 00 23 33.2 -0.5**
G57A Newington 82.63 321 P 00 23 34.1
baz=123
L56A Greenwood 82.68 318 P 00 23 33.4
baz=120
MEF Metsahovi 82.81 18 *eP* **P 00 23 34.7 +0.2**
K56A Middlesex 82.81 318 P 00 23 35.6
baz=121
J56A Wolcott 82.81 319 P 00 23 35.2
baz=121
U54A Nelsons Funny 82.91 311 P **P 00 23 35.1 -0.5**

LPSR	**Galich'ya Gora**	**82.91**	**29**	*e*P		**P**	**00 23 35.0**	**-0.2**
LPSR				pmax		pmax			
	comp=Z,20nm,1.2s								
TRQ	**Mont Tremblant**	**82.98**	**323**	P		**P**	**00 23 34.8**	**-1.0**
BG3	**Lake Jocassee**	**83.04**	**310**	P		**P**	**00 23 36.0**	**-0.4**
BG3				IAmb		IAmb	00 23 38.4		
	comp=Z,14nm,1.3s								
V53A	**Saluda**	**83.25**	**310**	P		**P**	**00 23 36.8**	**-0.7**
Y52A	**Lilburn**	**83.40**	**308**	P		**P**	**00 23 37.7**	**-0.5**
Y52A				IAmb		IAmb	00 23 39.9		
	comp=Z,14nm,1.2s								
VRH	**Novokhopyorsk**	**83.41**	**32**	*e*P		**P**	**00 23 37.0**	**-0.8**
VRH				pmax		pmax			
	comp=Z,20nm,1.3s								
E56A	**St. Veronique**	**83.43**	**323**	P			00 23 38.4		
	baz=123								
WVNY	**West Valley, N**	**83.49**	**318**	P		**P**	**00 23 38.2**	**-0.3**
OBN	**Obninsk**	**83.49**	**27**⇓	*e*P		**P**	**00 23 39.2**	**+1.1**
OBN				*e*			00 26 48.7		
OBN				pmax		pmax			
	comp=Z,36nm,1.7s								
OBN				MLR		MLR			
	comp=Z,117nm,15.0s								
D56A	**ZEC Mazanza, M**	**83.55**	**323**	P			00 23 38.2		
	baz=123								
O54A	**Avella**	**83.58**	**315**	P		**P**	**00 23 38.7**	**-0.3**
N54A	**Moraine State**	**83.69**	**316**	P			00 23 40.1		
	baz=119								
M54A	**Oil Creek Stat**	**83.74**	**317**	P		**P**	**00 23 39.7**	**0.0**
M54A	**Oil Creek Stat**	**83.74**	**317**	P			00 23 40.3		
	baz=119								
W52A	**Murphy**	**83.82**	**309**	P		**P**	**00 23 40.4**	**0.0**
W52A				IAmb		IAmb	00 23 41.8		
	comp=Z,17nm,1.4s								
D55A	**Sainte-Anne-du**	**83.94**	**323**	P			00 23 41.5		
	baz=122								
SCHQ	**Schefferville**	**84.14**	**332**	LR		LR	00 55 43.0		
	comp=Z,58nm,18.4s,baz=138,slow=32								
O53A	**New Philadelph**	**84.18**	**315**	P			00 23 43.8		
	baz=118								
N53A	**Lisbon**	**84.19**	**316**	P		**P**	**00 23 41.5**	**-0.6**
FINES	**FINESS Array B**	**84.28**	**18**	P		**P**	**00 23 42.4**	**+0.4**
	comp=Z,5.6nm,0.9s,baz=236,slow=3.4,SNR=8.7								
FINES				LR		LR	01 02 56.5		
	comp=Z,86nm,18.0s,baz=222,slow=37								
FINES	**FINESS Array B**	**84.28**	**18**	P		**P**	**00 23 42.6**	**+0.6**
FINES	**FINESS Array B**	**84.28**	**18**	P		**P**	**00 23 42.6**	**+0.6**
Q52A	**Bidwell**	**84.32**	**313**	P		**P**	**00 23 42.1**	**-0.6**
Q52A				IAmb		IAmb	00 23 44.3		
	comp=Z,20nm,1.1s								
MOS	**Moscow**	**84.36**	**27**	*e*P		**P**	**00 23 42.6**	**+0.1**
MOS				pmax		pmax			
	comp=Z,46nm,1.4s								
M53A	**WI Miller and**	**84.37**	**316**	P			00 23 43.5		
	baz=118								
P52A	**Corning**	**84.53**	**314**	P			00 23 43.4		
	baz=117								
O52A	**Adamsville**	**84.54**	**315**	P		**P**	**00 23 43.5**	**-0.3**
G54A	**Lake Saint Pet**	**84.65**	**321**	P			00 23 44.4		
	baz=120								
SADO	**Sadowa**	**84.99**	**320**	P		**P**	**00 23 44.7**	**-1.3**
Y49A	**Blount Mountai**	**85.18**	**307**	P		**P**	**00 23 46.8**	**-0.4**
T50A	**Nancy**	**85.31**	**311**	P		**P**	**00 23 47.1**	**-0.7**
T50A				IAmb		IAmb	00 23 49.7		
	comp=Z,14nm,1.5s								
SBA	**Scott Base**	**85.55**	**180**	P		**P**	**00 23 48.5**	**+0.1**
SBA				pmax		pmax			
	comp=Z,36nm,1.4s								
SBA	**Scott Base**	**85.55**	**180**	P		**P**	**00 23 48.5**	**+0.1**
VNDA	**Vanda**	**85.86**	**179**	P		**P**	**00 23 50.5**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=227,slow=5.9,SNR=6.6								
VNDA				LR		LR	00 57 10.1		
	comp=Z,172nm,19.9s,baz=176,slow=32								
VNDA	**Vanda**	**85.86**	**179**	P		**P**	**00 23 49.8**	**-0.1**
VNDA				pmax		pmax			
	comp=Z,8.0nm,1.3s								
VNDA	**Vanda**	**85.86**	**179**	P		**P**	**00 23 49.8**	**-0.1**
X48A	**Hartselle**	**85.89**	**308**	P		**P**	**00 23 49.9**	**-0.9**
X48A				IAmb		IAmb	00 23 51.8		
	comp=Z,18nm,1.4s								
CLTN	**Cedars of Leba**	**86.02**	**309**	P		**P**	**00 23 50.5**	**-0.9**
V48A	**Smith Brothers**	**86.24**	**309**	P		**P**	**00 23 51.4**	**-1.0**
V48A				IAmb		IAmb	00 23 53.4		
	comp=Z,16nm,1.1s								
P49A	**Miami Univ. Ec**	**86.28**	**313**	P			00 23 52.7		
	baz=115								
GEYT	**Alibeck**	**86.86**	**49**	P		**P**	**00 23 56.6**	**+1.1**
	comp=Z,14nm,0.8s,baz=283,slow=7.2,SNR=4.8								
GEYT				LR		LR	01 01 10.3		
	comp=Z,96nm,20.2s,baz=225,slow=34								
PLAL	**Pickwick Lake**	**86.88**	**308**	P		**P**	**00 23 54.3**	**-1.3**
PLAL				IAmb		IAmb	00 23 56.0		
	comp=Z,13nm,1.2s								
T47A	**Sharon Grove**	**86.95**	**310**	P		**P**	**00 23 54.9**	**-1.0**
T47A				IAmb		IAmb	00 23 56.6		
	comp=Z,9.6nm,0.9s								
BELG	**Belogornoye**	**87.10**	**33**⇓	*e*P		**P**	**00 23 56.4**	**+0.2**
BELG				pmax		pmax			
	comp=Z,4.0nm,1.1s								
WVT	**Waverly**	**87.14**	**309**	P		**P**	**00 23 55.7**	**-1.1**
WVT				pmax		pmax			
	comp=Z,20nm,1.4s								
WVT	**Waverly**	**87.14**	**309**	P		**P**	**00 23 55.7**	**-1.1**
WVT				IAmb		IAmb	00 23 57.5		
	comp=Z,20nm,1.4s								
344A	**Westbrook Farm**	**87.63**	**304**	P		**P**	**00 23 58.0**	**-1.3**
W45A	**Hickory Valley**	**87.79**	**308**	P		**P**	**00 23 59.0**	**-1.1**
KLMR	**Klimovskoe**	**88.43**	**23**	*e*P		**P**	**00 24 01.5**	**-0.9**
KLMR				pmax		pmax			
	comp=Z,27nm,1.7s								
KLMR	**Klimovskoe**	**88.43**	**23**	*e*P		**P**	**00 24 01.5**	**-0.9**
KLMR				AMP			00 24 09.1		
	comp=Z,27nm,1.7s								
HRA	**Herat**	**88.59**	**54**	P		**P**	**00 24 03.5**	**-0.6**
HRA				IAmb		IAmb	00 24 05.9		
	comp=Z,13nm,1.4s								
SIUC	**Southern Illin**	**88.78**	**310**	P		**P**	**00 24 03.0**	**-1.6**
SIUC				IAmb		IAmb	00 24 05.2		
	comp=Z,13nm,0.9s								
S44A	**Carbondale**	**88.80**	**310**	P		**P**	**00 24 02.9**	**-1.8**
S44A				IAmb		IAmb	00 24 05.3		
	comp=Z,12nm,0.9s								
LCAR	**Lake Charles**	**89.62**	**308**	P		**P**	**00 24 07.3**	**-1.3**
LCAR				IAmb		IAmb	00 24 09.2		
	comp=Z,16nm,1.5s								
T42A	**Van Buren**	**89.92**	**309**	P		**P**	**00 24 08.7**	**-1.3**
T42A				IAmb		IAmb	00 24 10.6		
	comp=Z,14nm,1.4s								
W41B	**Gary Mavity, V**	**90.13**	**307**	P			00 24 10.6		
	baz=110								
FCAR	**Ozark Folk Cen**	**90.29**	**307**	P		**P**	**00 24 10.3**	**-1.5**
ARCES	**ARCESS Array B**	**90.54**	**13**	LR		LR	01 05 11.5		
	comp=Z,96nm,19.7s,baz=215,slow=36								
E43A	**Lone Tree Farm**	**90.64**	**319**	P		**P**	**00 24 12.1**	**-1.0**
E43A				IAmb		IAmb	00 24 14.4		
	comp=Z,11nm,1.1s								
MGMO	**Mountain Grove**	**90.84**	**309**	P		**P**	**00 24 13.4**	**-0.9**
MGMO				IAmb		IAmb	00 24 15.3		
	comp=Z,6.4nm,0.8s								
APA	**Apatity**	**90.98**	**16**⇓	*i*P		**P**	**00 24 11.3**	**-2.9**
APA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
U40A	**Yellville**	**91.00**	**308**	P		**P**	**00 24 14.4**	**-0.7**
U40A				IAmb		IAmb	00 24 15.7		
	comp=Z,9.4nm,1.3s								
U40A	**Yellville**	**91.00**	**308**	P			00 24 14.7		
	baz=110								
KIRV	**Kirov**	**91.22**	**28**	*ce*P		**P**	**00 24 16.6**	**+1.1**
R40A	**Maddies Statio**	**91.23**	**310**	P		**P**	**00 24 15.7**	**-0.4**
HKT	**Hockley**	**91.25**	**301**	*c i*P		**P**	**00 24 17.1**	**+0.8**
HKT				pmax		pmax			
	comp=Z,17nm,1.8s								
HKT	**Hockley**	**91.25**	**301**	P		**P**	**00 24 15.9**	**-0.4**
HKT				IAmb		IAmb	00 24 18.4		
	comp=Z,12nm,1.3s								
PRGR	**Permogore**	**91.26**	**24**	*e*P		**P**	**00 24 16.0**	**+0.4**
W39A	**Magazine**	**91.32**	**306**	P		**P**	**00 24 15.4**	**-1.2**
W39A	**Magazine**	**91.32**	**306**	P			00 24 16.4		
	baz=110								
P40A	**Paris**	**91.50**	**311**	P		**P**	**00 24 17.1**	**-0.3**
P40A				IAmb		IAmb	00 24 19.2		
	comp=Z,12nm,1.2s								
LVZ	**Lovozero**	**91.55**	**17**	*ce*P		**P**	**00 24 20.0**	**+3.1**
HHAR	**Hobbs**	**91.81**	**307**	P		**P**	**00 24 18.0**	**-0.8**
S39A	**Bolivar**	**91.81**	**309**	IAmb		IAmb	00 24 19.4		
	comp=Z,8.4nm,1.1s								
U38A	**Gravette**	**92.20**	**307**	P		**P**	**00 24 19.8**	**-0.8**
U38A				IAmb		IAmb	00 24 22.2		
	comp=Z,13nm,1.2s								
ABKAR	**Akbulak array**	**92.58**	**39**	P		**P**	**00 24 22.1**	**0.0**
I37A	**Lemond, Waseca**	**93.98**	**315**	P		**P**	**00 24 27.6**	**-1.1**
SPMN	**Marine on St.**	**93.99**	**316**	P			00 24 28.7		
	baz=110								
ARU	**Arti**	**94.63**	**32**	*c i*P		**P**	**00 24 32.5**	**+1.2**
ARU							00 28 19.6		
ARU				S		**SKSac**	**00 35 07.4**	**+0.8**
ARU				SS		**SS**	**00 42 01.8**	**-6.0**
ARU				pmax		pmax			
	comp=Z,7.0nm,1.2s								
F36A	**Milaca**	**94.68**	**316**	P		**P**	**00 24 30.3**	**-1.5**
F36A				IAmb		IAmb	00 24 32.4		
	comp=Z,10nm,1.2s								
JCT	**Junction City**	**94.69**	**300**	P		**P**	**00 24 31.5**	**-0.8**
JCT				pmax		pmax			
	comp=Z,10.0nm,1.1s								
JCT	**Junction City**	**94.69**	**300**	P		**P**	**00 24 31.5**	**-0.8**
JCT				IAmb		IAmb	00 24 33.4		
	comp=Z,10nm,1.1s								
ULM	**Lac du Bonnet**	**97.54**	**320**	LR		LR	01 00 55.7		
	comp=Z,51nm,20.6s,baz=84,slow=31								
TXAR	**Lajitas Array**	**97.61**	**298**	P		**P**	**00 24 45.4**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=123,slow=6.1,SNR=8.9								
TXAR	**Lajitas Array**	**97.61**	**298**	P		**P**	**00 24 44.5**	**-1.1**
ANMO	**Albuquerque**	**101.24**	**303**⇓	*e*P		**Pdif**	**00 25 02.7**	**+0.8**
ANMO				pmax		pmax			
	comp=Z,5.0nm,2.3s								
WMQ	**Urumqi**	**109.92**	**49**	*e*PKP		**PKiKP**	**00 29 41.6**	**-0.6**
WMQ				PPMZ					
	comp=Z,120nm,5.3s								
TLY	**Talaya**	**120.19**	**40**	*i* PKIKP		**PKiKP**	**00 30 05.1**	**+3.4**
TLY				pmax		pmax			
	comp=Z,14nm,0.7s								
CD2	**Chengdu**	**122.17**	**64**	PKP		**PKPdf**	**00 30 05.0**	**-1.1**
LZH	**Lanzhou**	**122.20**	**58**	*e*PKP		**PKPdf**	**00 30 04.8**	**-1.3**
ILAR	**Eielson Array**	**122.53**	**338**	PKP		**PKPdf**	**00 30 03.8**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=74,slow=3.2,SNR=5.4								
SONM	**Songino Array**	**122.71**	**44**	PKP		**PKPdf**	**00 30 06.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=263,slow=2.3,SNR=4.7								
ULN	**Ulaanbaatar**	**123.13**	**43**⇓	*i*PKIKP		**PKPdf**	**00 30 06.7**	**-0.8**
STKA	**Stephens Creek**	**126.33**	**154**	PKP		**PKPdf**	**00 30 12.2**	**-1.8**
	comp=Z,2.2nm,1.0s,baz=176,slow=5.2,SNR=2.9								
STKA	**Stephens Creek**	**126.33**	**154**⇑	*i*PKIKP		**PKPdf**	**00 30 12.1**	**-2.0**
XAN	**Xi'an**	**126.46**	**60**	PKP		PKPdf	00 30 03.8	-10
XAN				pPKP		PKiKP	00 30 10.8	-3.9
XAN				L		L			
	comp=Z,130nm,16.3s								
XAN				L		L			
	comp=Z,84nm,18.4s								
HHC	**Hu-ho-hao-te**	**127.69**	**51**	*e*PKP		**PKiKP**	**00 30 17.8**	**+0.8**
ASAR	**Alice Springs**	**129.12**	**141**	PKP		**PKPdf**	**00 30 18.9**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=249,slow=1.1,SNR=6.3								
WRAB	**Tennant Creek**	**132.18**	**138**⇓	*e*PKIKP		**PKPdf**	**00 30 21.9**	**-3.6**
NJ2	**Nanjing**	**134.96**	**61**	*e*PKP		**PKPdf**	**00 30 28.8**	**-1.5**
MDJ	**Mudanjiang**	**138.83**	**40**	PKP		**PKPdf**	**00 30 36.6**	**-0.5**
MDJ				PPMZ					
	comp=Z,200nm,4.2s								
JNU	**Nakatsue**	**144.59**	**56**			**PKPab**	**00 30 46.0**	**-0.3**
JWT	**Wachi**	**147.23**	**50**			**PKPbc**	**00 30 54.0**	**-0.4**
MAJO	**Matsushiro**	**148.62**	**46**	*i* PKP2		**PKPbc**	**00 30 57.6**	**-0.5**
MJAR	**Matsushiro Arr**	**148.62**	**46**	PKPbc		**PKPbc**	**00 30 56.9**	**-1.2**
	comp=Z,6.5nm,1.1s,baz=295,slow=3.9,SNR=9.0								

JMA ***02*** *00:22:43.6±0.2, 35°.47N×139°.54E, h104km±2km, M2.9*
IDC ***02*** *00:22:44.1±2.7, 35°.07N×138°.86E, h98km±29km, mb3.2/2, mb1 3.4/2, mb1mx3.0/26, mbtmp3.6/2, Error ellipse: s-maj=41.7km s-min=31.2km az=52.0*

ISC 02 00:22:42.5±1.4, 35°.45N±0°.06×139°.6E±0°.1, h110km±9km, n12, σ0s57/17, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSGW	**Sagamiharawaka**	**0.37**	**295**	P	**Pn**	**00 22 58.9**	**+0.3**
JOD2	**Odawara 2**	**0.47**	**247**	P	**Pn**	**00 22 59.3**	**+0.1**
JOD2				*e*S	**Sn**	**00 23 11.3**	**-0.4**
JIM2	**Oshima 3**	**0.74**	**192**	P	**Pn**	**00 23 01.6**	**+0.3**
JYN	**Shimob**	**0.88**	**274**	P	**Pn**	**00 23 02.8**	**+0.2**
JIZS	**Izushimoda**	**0.95**	**220**	P	**Pn**	**00 23 03.5**	**+0.3**
JIZS				S	**Sn**	**00 23 19.0**	**+0.3**
JAG	**Ashikaga**	**0.99**	**352**	P	**Pn**	**00 23 04.2**	**+0.6**
SHZ3	**Shizuoka 3**	**1.21**	**252**	P	**Pn**	**00 23 06.7**	**+0.6**
MJAR	**Matsushiro Arr**	**1.58**	**314**	P	**Pn**	**00 23 10.6**	**+0.2**
	1.5nm,0.3s,baz=148,slow=11,SNR=32						
MJAR				S	**Sn**	**00 23 31.0**	**-0.5**
	2.5nm,0.3s,baz=164,slow=22,SNR=7.5						
MAT	**Matsushiro**	**1.58**	**314**	P	**Pn**	**00 23 10.9**	**+0.6**
MAT				S	**Sn**	**00 23 30.7**	**-0.8**
MAT	**Matsushiro**	**1.58**	**314**	P	**Pn**	**00 23 10.9**	**+0.6**
MAT				*e*S	**Sn**	**00 23 30.9**	**-0.6**
MKAR	**Makanchi Array**	**43.75**	**303**	P	**P**	**00 30 37.5**	**+0.5**
	0.5nm,0.6s,baz=97,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	**55.31**	**186**	P	**P**	**00 32 04.0**	**-0.7**
	0.3nm,0.4s,baz=1.1,slow=7.6,SNR=2.2						

KRNET ***02*** *00:32:21.7±0.1, 39°.33N×77°.65E, mb3.0*
SOME ***02*** *00:32:22.1, 39°.55N×77°.47E, h10km*
NNC ***02*** *00:32:23.0±3.2, 39°.53N×77°.35E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=22.9km s-min=18.1km az=153.0*

ISC 02 00:32:27.7±2.0, 39°.49N±0°.09×77°.51E±0°.06, h17km, n51, σ2s44/81, 23C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**2.65**	**355**⇑	*i*P	**Pn**	**00 33 10.3**	**+0.4**
	baz=53						
KDJ				⇑*i*S	**Sb**	**00 33 45.8**	**-1.4**
	baz=53						
ULHL	**Ulahol**	**2.92**	**341**⇓	*i*P	**Pn**	**00 33 14.2**	**+0.6**
	baz=40						
ULHL				⇓*i*S	**Sb**	**00 33 52.9**	**-2.0**
	baz=40						
SFK	**Sufi-Kurgan**	**3.13**	**281**⇑	*i*P	**Pn**	**00 33 17.1**	**+0.5**
	baz=83						
SFK				⇑*i*S	**Sn**	**00 33 56.7**	**+3.0**
	baz=83						
BOOM	**Boomskoye usch**	**3.23**	**339**⇑	*i*P	**Pn**	**00 33 18.5**	**+0.7**
	baz=38						
BOOM				⇑*i*S	**Sb**	**00 34 00.0**	**-3.8**
	baz=38						
ARLS	**Aral**	**3.39**	**315**⇑	*i*P	**Pn**	**00 33 20.6**	**+0.6**
	baz=16						
ARLS				⇑*i*S	**Sn**	**00 34 03.5**	**+3.5**
	baz=16						
IZV	**Izvestkoviy**	**3.61**	**349**	*e*P	**Pb**	**00 33 28.0**	**-3.2**
	3.2nm,0.3s						
IZV				*e*S	**Sb**	**00 34 14.9**	**+0.2**
	18nm,0.5s						
IZV	**Izvestkoviy**	**3.61**	**349**	Pg	**Pb**	**00 33 27.7**	**-3.4**
	4.9nm,0.4s						
IZV				Lg	Lg	00 34 14.9	
	18nm,0.5s						
SATY	**Saty**	**3.63**	**10**	*e*P	**Pb**	**00 33 28.3**	**-3.2**
	4.3nm,0.5s						
SATY				*e*S	**Sb**	**00 34 15.9**	**+0.6**
	16nm,0.5s						
SATY	**Saty**	**3.63**	**10**	Pg	**Pb**	**00 33 28.2**	**-3.3**
	4.3nm,0.5s						
SATY				Lg	Lg	00 34 15.5	
	16nm,0.5s						
MDOK	**Medeo**	**3.69**	**355**	*e*P	**Pb**	**00 33 29.5**	**-3.0**
	11nm,0.4s						
MDOK				*e*S	**Sb**	**00 34 17.4**	**+0.3**
	11nm,0.5s						
MDOK	**Medeo**	**3.69**	**355**	⇓Pg	**Pb**	**00 33 32.3**	**-0.2**
	5.2nm,0.4s						
MDOK				Lg	Lg	00 34 19.8	
	19nm,0.7s						
MDOK	**Medeo**	**3.69**	**355**	Pg	**Pb**	**00 33 29.5**	**-3.0**
	11nm,0.4s						
MDOK				Lg	Lg	00 34 17.4	
	11nm,0.5s						
KBK	**Karagaybulak**	**3.71**	**329**⇑	*i*P	**Pn**	**00 33 25.2**	**+0.8**
	baz=29						
KBK				⇑*i*S	**Sn**	**00 34 11.6**	**+3.7**
	baz=29						
TKM2	**Tokmak 2**	**3.72**	**338**⇑	*i*P	**Pn**	**00 33 25.5**	**+0.9**
	baz=37						
TKM2				⇑*i*S	**Sn**	**00 34 12.2**	**+4.0**
	baz=37						
TKM2	**Tokmak 2**	**3.72**	**338**⇑	Pn	**Pn**	**00 33 22.6**	**-2.0**
	0.6nm,0.3s						
TKM2				⇓Pg	**Pb**	**00 33 29.0**	**-4.2**
	2.8nm,0.4s						
TKM2				⇓Lg	Lg	00 34 21.7	
	7.6nm,0.7s						
MTBS	**Maitube**	**3.73**	**348**	*e*P	**Pb**	**00 33 30.4**	**-2.8**
	2.0nm,0.2s						
MTBS				*e*S	**Sb**	**00 34 18.8**	**+0.7**
	8.7nm,0.4s						
MTBS	**Maitube**	**3.73**	**348**	Pg	**Pb**	**00 33 30.4**	**-2.8**
	2.0nm,0.2s						
MTBS				Lg	Lg	00 34 18.8	
	8.7nm,0.4s						
KST	**Kastek**	**3.74**	**342**	*e*P	**Pb**	**00 33 30.7**	**-2.7**
	1.8nm,0.0s						
KST				*e*S	**Sb**	**00 34 19.8**	**+1.4**
	5.1nm,0.7s						
KST	**Kastek**	**3.74**	**342**	Pg	**Pb**	**00 33 30.5**	**-2.8**
	4.1nm,0.6s						
KST				Lg	Lg	00 34 19.8	
	5.1nm,0.7s						
KOTS	**Kotyrbulak**	**3.76**	**356**	*e*P	**Pb**	**00 33 30.7**	**-3.0**
	28nm,0.5s						
KOTS				*e*S	**Sb**	**00 34 19.6**	**+0.6**
	22nm,0.3s						
KOTS	**Kotyrbulak**	**3.76**	**356**	Pg	**Pb**	**00 33 30.7**	**-3.0**
	28nm,0.5s						
KOTS				Lg	Lg	00 34 20.0	
	22nm,0.3s						
UZB	**Uzynbulak**	**3.83**	**17**	*e*P	**Pb**	**00 33 32.1**	**-2.8**
	3.4nm,0.5s						
UZB				*e*S	**Sb**	**00 34 21.8**	**+0.8**
	6.3nm,0.7s						
UZB	**Uzynbulak**	**3.83**	**17**	Pg	**Pb**	**00 33 32.1**	**-2.8**
	3.4nm,0.5s						
UZB				Lg	Lg	00 34 21.8	
	6.3nm,0.7s						
AAK	**Ala-Archa**	**3.89**	**325**⇑	*i*P	**Pn**	**00 33 27.5**	**+0.7**
	baz=25						
AAK				⇑*i*S	**Sn**	**00 34 15.5**	**+3.3**
	baz=25						
AAK	**Ala-Archa**	**3.89**	**325**	⇑Pg	**Pn**	**00 33 30.7**	**+3.8**
	3.9nm,0.8s						
AAK				⇑Lg	Lg	00 34 23.3	
	9.0nm,0.7s						
ARSB	**Arslanbob**	**3.92**	**299**⇓	*i*P	**Pn**	**00 33 27.5**	**+0.3**
	baz=1.0						
ARSB				⇓*i*S	**Sn**	**00 34 15.8**	**+3.0**
	baz=1.0						
AML	**Almayashu**	**3.92**	**314**⇓	*i*P	**Pn**	**00 33 27.7**	**+0.2**
	baz=14						
AML				⇓*i*S	**Sn**	**00 34 16.2**	**+2.9**
	baz=14						
SHLS	**Shalkode**	**3.95**	**21**	*e*P	**Pb**	**00 33 36.8**	**-0.2**
	8.7nm,0.8s						
SHLS				*e*S	**Sg**	**00 34 29.8**	**-4.7**
	18nm,0.5s						
SHLS	**Shalkode**	**3.95**	**21**	Pg	**Pb**	**00 33 36.8**	**-0.2**
	8.7nm,0.8s						
SHLS				Lg	Lg	00 34 29.8	
	18nm,0.5s						
DGS	**Degeres**	**3.97**	**341**	*e*P	**Pb**	**00 33 34.5**	**-2.8**
	7.7nm,0.4s						
DGS				*e*S	**Sb**	**00 34 26.4**	**+1.2**
	4.4nm,0.0s						
DGS	**Degeres**	**3.97**	**341**	Pg	**Pb**	**00 33 34.8**	**-2.6**
DGS				Lg	Lg	00 34 27.1	
KURS	**Kuram**	**4.03**	**7**	*e*P	**Pb**	**00 33 36.0**	**-2.2**
	5.9nm,1.5s						
KURS				*e*S	**Sb**	**00 34 28.6**	**+1.9**
	6.4nm,0.7s						
KURS	**Kuram**	**4.03**	**7**	Pg	**Pb**	**00 33 36.0**	**-2.2**
	5.9nm,1.5s						
KURS				Lg	Lg	00 34 28.6	
	6.4nm,0.7s						
KPKS	**Kokpek**	**4.07**	**12**	*e*P	**Pb**	**00 33 35.8**	**-3.2**
	7.1nm,0.5s						
KPKS				*e*S	**Sb**	**00 34 28.5**	**+0.6**
	13nm,0.4s						
PDGK	**Podgornoye**	**4.12**	**21**	Pg	**Pb**	**00 33 36.9**	**-2.9**
	1.6nm,0.3s						
PDGK				Lg	Lg	00 34 30.6	
	5.9nm,0.4s						
PDGK	**Podgornoye**	**4.12**	**21**	⇑Pg	**Pb**	**00 33 41.6**	**+1.8**
	3.1nm,0.7s						
PDGK				⇑Lg	Lg	00 34 32.9	
	14nm,0.8s						
KTBS	**Karatobe**	**4.27**	**352**	*e*P	**Pb**	**00 33 40.2**	**-2.1**
	3.1nm,0.8s						
KTBS				*e*S	**Sb**	**00 34 35.7**	**+2.2**
	20nm,0.4s						
KTBS	**Karatobe**	**4.27**	**352**	Pg	**Pb**	**00 33 40.2**	**-2.1**
	3.1nm,0.8s						
KTBS				Lg	Lg	00 34 35.7	
	20nm,0.4s						
CHKK	**Chushkaly**	**4.38**	**355**	*e*P	**Pb**	**00 33 41.7**	**-2.5**
	5.0nm,0.4s						
CHKK				*e*S	**Sb**	**00 34 38.8**	**+2.0**
	14nm,0.3s						
CHKK	**Chushkaly**	**4.38**	**355**	Pg	**Pb**	**00 33 41.7**	**-2.5**
	5.0nm,0.4s						
CHKK				Lg	Lg	00 34 38.8	
	14nm,0.3s						
KRBS	**Karabastau**	**4.42**	**342**	*e*P	**Pb**	**00 33 43.4**	**-1.6**
	0.3nm,0.1s						
KRBS				*e*S	**Sb**	**00 34 41.8**	**+3.7**
	4.0nm,0.4s		

baz=41
OHH ⇓*iS* **Sn 00 54 49.4 +1.8**
baz=41
OHH Osh 1.00 337 *eP* **Pn 00 54 34.0 +0.2**
OHH *eS* **Sn 00 54 51.0 +3.4**
DRK Karamyk 1.16 264⇓*eP* **Pb 00 54 34.1 -2.2**
baz=71
DRK ⇓*iS* **Sb 00 54 49.9 -1.2**
baz=71
FRG Fergana 1.61 315 *eP* **Pn 00 54 42.0 -0.3**
FRG *eS* **Sn 00 55 00.0 -2.7**
ARSB Arslanbob 1.73 352⇓*iP* **Pg 00 54 47.7 -0.2**
baz=54
ARSB ⇓*iS* **Sg 00 55 12.8 +2.4**
baz=54
ARSB Arslanbob 1.73 352 *eP* **Pg 00 54 48.0 +0.1**
ARSB *eS* **Sn 00 55 06.0 +0.1**
BTK Batken 1.96 284⇑*eP* **Pb 00 54 49.4 -0.3**
baz=88
BTK ⇑*iS* **Sb 00 55 15.6 +1.7**
baz=88
BTK Batken 1.96 284 *eP* **Pb 00 54 50.0 +0.3**
BTK *eS* **Sg 00 55 18.0 +0.5**
GAR Garm 2.38 256⇑*iP* **Pn 00 54 54.3 +1.4**
baz=59
GAR ⇑*iS* **Sb 00 55 24.4 -1.8**
baz=59
ARLS Aral 2.39 19⇑*iP* **Pb 00 54 56.9 -0.3**
baz=19
ARLS ⇑*iS* **Sg 00 55 29.4 -1.9**
baz=19
TRKS Terek-Say 2.52 320⇑*iP* **Pb 00 54 57.6 -1.9**
baz=22
TRKS ⇑*eS* **Sb 00 55 30.4 0.0**
baz=22
AML Almayashu 2.54 7⇑*iP* **Pb 00 54 59.6 -0.4**
baz=7.0
AML ⇑*iS* **Sb 00 55 33.7 +2.6**
baz=7.0
MNAS Manas 2.94 349⇑*iP* **Pb 00 55 04.5 -2.1**
baz=50
MNAS ⇑*iS* **Sb 00 55 42.7 +0.4**
baz=50
EKS2 Erkin-Say 3.08 7⇓*iP* **Pb 00 55 06.6 -2.3**
baz=7.0
EKS2 ⇓*iS* **Sb 00 55 46.0 -0.2**
baz=7.0
MRKS Merke 3.14 359 *eP* **Pg 00 55 16.5 +1.9**
8.8nm,0.3s
MRKS *eS* **Sg 00 55 58.3 +2.9**
45nm,0.4s
MRKS Merke 3.14 359 Pg **Pg 00 55 16.2 +1.5**
MRKS Lg Lg 00 55 58.6
45nm,0.4s
AAK Ala-Archa 3.17 16 Lg Lg 00 55 52.3
45nm,1.0s
KBK Karagaybulak 3.30 22⇑*eP* **Pb 00 55 09.9 -2.8**
baz=21
KBK ⇑*iS* **Sb 00 55 51.2 -1.4**
baz=21
CHGR Chuyangaron 3.35 255⇑*iP* **Pn 00 55 07.8 +1.6**
baz=57
CHGR ⇑*iS* **Sn 00 55 47.7 +2.1**
baz=57
FRU1 Bishkek 3.36 17⇑*eP* **Pb 00 55 10.7 -3.0**
baz=17
FRU1 ⇑*iS* **Sb 00 55 53.1 -1.2**
baz=17
ULHL Ulahol 3.46 39⇑*iP* **Pb 00 55 11.9 -3.6**
baz=38
ULHL ⇑*iS* **Sb 00 55 55.0 -2.3**
baz=38
BOOM Boomskoye usch 3.51 34⇑*iP* **Pn 00 55 12.4 +3.9**
baz=33
BOOM ⇑*iS* **Sb 00 55 56.6 -2.2**
baz=33
CHMS Chumysh 3.57 18⇓*eP* **Pb 00 55 13.5 -3.7**
baz=17
CHMS ⇓*iS* **Sb 00 55 57.7 -2.5**
baz=17
DZA Taraz 3.60 336 *eP* **Pg 00 55 22.7 -0.8**
43nm,0.1s
DZA *eS* **Sg 00 56 08.6 -1.5**
131nm,0.2s
DZA Taraz 3.60 336 Pg **Pg 00 55 22.7 -0.8**
37nm,0.1s
DZA Lg Lg 00 56 08.7
110nm,0.3s
TKM2 Tokmak 2 3.74 27⇑*eP* **Pn 00 55 16.0 +4.3**
baz=26
TKM2 ⇑*iS* **Sb 00 56 01.9 -3.6**
baz=26
TKM2 Tokmak 2 3.74 27 ⇑Pn **Pb 00 55 17.6 -2.7**
4.6nm,0.6s
TKM2 ⇑Lg Lg 00 56 13.2
85nm,1.4s
USP Ospenovka 3.77 14⇑*iP* **Pn 00 55 16.2 +4.2**
baz=13
USP ⇑*iS* **Sb 00 56 02.7 -3.4**
baz=13
KDJ Kajisay 3.88 48⇑*iP* **Pn 00 55 17.7 +4.1**
baz=47
KDJ ⇑*iS* **Sb 00 56 05.0 -4.5**
baz=47
SGDS Sogindy 3.98 14 Pg **Pg 00 55 30.6 0.0**
SGDS Lg Lg 00 56 22.7
KST Kastek 3.98 30 *eP* **Pg 00 55 31.9 +1.1**
6.5nm,0.4s
KST *eS* **Sg 00 56 24.6 +2.2**
38nm,0.5s
KST Kastek 3.98 30 Pg **Pg 00 55 31.8 +1.0**
11nm,0.8s
KST Lg Lg 00 56 24.6
38nm,1.1s
KK31 Karatay Array 4.07 330 ⇑Pn **Pb 00 55 22.5 -3.3**
1.4nm,0.5s,baz=144,slow=12,SNR=13
KK31 ⇑Pg **Pg 00 55 32.0 -0.5**
4.2nm,0.6s,baz=144,slow=12,SNR=8.6
KK31 ⇑Sn **Sb 00 56 10.6 -4.2**
8.2nm,0.5s,baz=148,slow=23,SNR=3.8
MTBS Maitube 4.24 33 *eP* **Pg 00 55 36.0 +0.2**
4.4nm,0.3s
MTBS *eS* **Sg 00 56 32.2 +1.5**
14nm,0.6s
MTBS Maitube 4.24 33 Pg **Pg 00 55 36.0 +0.2**
4.8nm,0.7s
MTBS Lg Lg 00 56 32.3
14nm,0.6s
IZV Izvestkoviy 4.25 35 *eP* **Pg 00 55 36.7 +0.9**
7.3nm,0.6s
IZV *eS* **Sg 00 56 32.7 +1.9**
42nm,0.7s
IZV Izvestkoviy 4.25 35 Pg **Pg 00 55 36.7 +0.9**
7.3nm,0.6s
IZV Lg Lg 00 56 32.7
42nm,0.7s
KRBS Karabastau 4.46 23 *eP* **Pg 00 55 40.2 +0.2**
0.2nm,0.1s
KRBS *eS* **Sg 00 56 39.0 +1.2**
21nm,0.7s
KRBS Karabastau 4.46 23 Pg **Pg 00 55 40.2 +0.2**
0.2nm,0.1s
KRBS Lg Lg 00 56 39.0
21nm,0.7s
MDOK Medeo 4.54 37 *eP* **Pg 00 55 41.9 +0.3**
5.8nm,0.8s
MDOK *eS* **Sg 00 56 41.8 +1.4**
22nm,0.8s
MDOK Medeo 4.54 37 Pg **Pg 00 55 41.9 +0.3**
5.8nm,0.8s
MDOK Lg Lg 00 56 41.7
22nm,0.8s
KOTS Kotyrbulak 4.63 37 *eP* **Pg 00 55 44.1 +1.0**
22nm,0.6s
KOTS *eS* **Sg 00 56 45.4 +2.3**
31nm,0.8s
KOTS Kotyrbulak 4.63 37 Pg **Pg 00 55 44.1 +1.0**
22nm,0.6s
KOTS Lg Lg 00 56 45.4
31nm,0.8s
KTBS Karatobe 4.83 31 *eP* **Pg 00 55 46.3 -0.7**
2.1nm,0.5s
KTBS *eS* **Sg 00 56 49.5 0.0**
20nm,0.8s
KTBS Karatobe 4.83 31 Pg **Pg 00 55 46.3 -0.7**
4.6nm,0.5s
KTBS Lg Lg 00 56 49.4
KUU Kurty 4.86 27 *eP* **Pg 00 55 47.3 -0.2**
3.5nm,0.5s
KUU *eS* **Sg 00 56 51.0 +0.7**
50nm,0.8s
KUU Kurty 4.86 27 Pg **Pg 00 55 47.3 -0.2**
3.5nm,0.5s
KUU Lg Lg 00 56 51.0
50nm,0.8s
SATY Saty 5.17 46 *eP* **Pg 00 55 51.3 -2.3**
8.0nm,0.9s
SATY *eS* **Sg 00 56 58.5 -2.0**
22nm,1.0s
SATY Saty 5.17 46 Pg **Pg 00 55 51.3 -2.3**
8.0nm,0.9s
SATY Lg Lg 00 56 58.5
22nm,1.0s
KURS Kuram 5.34 42 *eP* **Pg 00 55 55.5 -1.1**
4.9nm,0.9s
KURS *eS* **Sg 00 57 05.4 -0.4**
12nm,1.2s
KURS Kuram 5.34 42 Pg **Pg 00 55 55.5 -1.1**
4.9nm,0.9s
KURS Lg Lg 00 57 05.4
12nm,1.2s
UZB Uzynbulak 5.58 49 *eP* **Pg 00 55 58.6 -2.7**
6.3nm,1.3s
UZB *eS* **Sg 00 57 10.4 -3.2**
6.8nm,0.8s
UZB Uzynbulak 5.58 49 Pg **Pg 00 55 58.6 -2.7**
6.3nm,1.3s
UZB Lg Lg 00 57 10.4
6.8nm,0.8s
KPKS Kokpek 5.59 45 *eP* **Pg 00 55 59.1 -2.5**
6.8nm,0.8s
KPKS *eS* **Sg 00 57 11.1 -2.9**
23nm,0.6s
SHLS Shalkode 5.84 51 *eP* **Pg 00 56 09.8 +3.4**
8.0nm,0.5s
SHLS *eS* **Sg 00 57 30.5 +8.5**
13nm,0.7s
SHLS Shalkode 5.84 51 Pg **Pg 00 56 09.8 +3.4**
8.0nm,0.5s
SHLS Lg Lg 00 57 30.5
13nm,0.7s
PDGK Podgornoye 5.96 49 Pg **Pg 00 56 06.4 -2.2**
2.1nm,0.8s
PDGK Lg Lg 00 57 24.4
4.4nm,0.7s
PDGK Podgornoye 5.96 49 ⇑Lg Lg 00 57 22.9
12nm,0.8s
TDK Taldyqorghan 6.59 33 *eP* **Pg 00 56 20.7 0.0**
36nm,0.4s
TDK *eS* **Sg 00 57 48.1 +2.1**
29nm,0.5s
TDK Taldyqorghan 6.59 33 Pg **Pg 00 56 20.7 0.0**
36nm,0.4s
TDK Lg Lg 00 57 48.1
29nm,0.5s
DJR Jarkent 6.77 44 Pg **Pg 00 56 22.5 -1.5**
0.2nm,0.7s
DJR Lg Lg 00 57 51.3
0.9nm,1.1s
KAPS Kapalarasan 7.24 36 Pg **Pg 00 56 33.2 +0.3**
0.2nm,1.3s
KAPS Lg Lg 00 58 09.7
1.8nm,1.4s

NEIC ***02*** *00:58:09.3±1.3,37.°03N±0.°01×97.°90W±0.°02,h5km±7km, mb_Lg3.0/95,Error ellipse: s-maj=3.1km s-min=1.2km az=125.0*
ANF ***02*** *00:58:09.0±0.2,37.°04N×97.°93W,h5km,ML3.9/19,Error ellipse: s-maj=2.9km s-min=2.2km az=63.0*
ISC 02 00:58:09.2±1.0,37.°05N±0.°02×97.°91W±0.°02,h6km±8km, n107,s0§53/101,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KAN01	**Argonia South**	**0.16**	**49**			**Pg**	**00 58 12.4**	**-0.1**
KAN01						**Sg**	**00 58 14.6**	**-0.1**
KAN10	**Anthony SW Sta**	**0.17**	**298**			**Pg**	**00 58 12.4**	**-0.2**
KAN10						**Sg**	**00 58 14.7**	**-0.1**
KAN08	**Anthony NE Sta**	**0.19**	**346**			**Pg**	**00 58 12.8**	**-0.2**
KAN08						**Sg**	**00 58 15.5**	**0.0**
GC02	**Grant County #**	**0.20**	**167**			**Pg**	**00 58 13.2**	**+0.1**
GC02						**Sg**	**00 58 16.4**	**+0.7**
KAN16	**Harper SW Stat**	**0.22**	**326**			**Pg**	**00 58 13.3**	**-0.2**
KAN16						**Sg**	**00 58 16.5**	**+0.1**
KAN09	**Caldwell North**	**0.25**	**69**	Pg		**Pg**	**00 58 14.2**	**0.0**
KAN09				Sg		**Sg**	**00 58 18.0**	**+0.5**
KAN12	**Harper NE Stat**	**0.26**	**345**			**Pg**	**00 58 14.1**	**-0.2**
KAN12				Sg		**Sg**	**00 58 17.8**	**0.0**
OK032	**Salt Plains WL**	**0.34**	**225**			**Pg**	**00 58 15.8**	**0.0**
OK032				Sg		**Sg**	**00 58 20.8**	**+0.6**
KAN13	**South Haven SW**	**0.35**	**95**			**Pg**	**00 58 16.0**	**0.0**
KAN13				Sg		**Sg**	**00 58 20.9**	**+0.2**
CROK	**Carrier**	**0.54**	**186**			**Pg**	**00 58 19.5**	**-0.1**
CROK				Sg		**Sg**	**00 58 26.3**	**-0.4**
U32A	**Winter Ranch,**	**1.10**	**233**			**Pg**	**00 58 29.6**	**-0.7**
U32A				Sg		**Sg**	**00 58 44.4**	**-0.1**
U32A	**Winter Ranch,** baz=53,SNR=20	**1.10**	**233**	P		**Pg**	**00 58 29.5**	**-0.8**
U32A	**Winter Ranch,** baz=53,SNR=20	**1.10**	**233**	P			00 58 29.5	
T35A	**Sooner Cattle**	**1.13**	**96**			**Pg**	**00 58 30.2**	**-0.7**
T35A				Sg		**Sg**	**00 58 45.0**	**-0.5**
T35B	**Sooner Cattle** baz=276	**1.13**	**96**	P		**Pg**	**00 58 30.1**	**-0.7**
T35B				S		**Sg**	**00 58 44.8**	**-0.7**
T35B	**Sooner Cattle** baz=276	**1.13**	**96**	P			00 58 30.1	
T35B				S			00 58 44.8	
OK029	**Liberty Lake**	**1.30**	**163**			**Pn**	**00 58 33.3**	**-0.7**
QUOK	**Quay**	**1.30**	**132**	Pn		**Pn**	**00 58 33.5**	**-0.5**
OK031	**S. Brethren Rd**	**1.39**	**141**			**Pn**	**00 58 34.7**	**-0.5**
BCOK	**Bluff Creek, N**	**1.41**	**170**			**Pn**	**00 58 34.8**	**-0.6**
OK030	**Cody Creek RV**	**1.44**	**140**			**Pn**	**00 58 35.4**	**-0.4**
R32A	**Long Quarter,**	**1.51**	**336**	Pn		**Pn**	**00 58 36.6**	**-0.3**
R32A	**Long Quarter,** baz=155,SNR=115	**1.51**	**336**	P		**Pn**	**00 58 36.6**	**-0.3**
R32A				S		**Sn**	**00 58 56.4**	**-0.6**
R32A	**Long Quarter,** baz=155,SNR=115	**1.51**	**336**	P			00 58 36.6	
R32A				S			00 58 56.4	
OK025	**Westminster Rd**	**1.53**	**162**			**Pn**	**00 58 37.3**	**+0.1**
OK025				IAmb_Lg			00 58 59.8	
OKCFA	**Oklahoma City** comp=Z,64nm,0.8s	**1.67**	**167**			**Pn**	**00 58 39.2**	**+0.1**
OKCFA				IAmb_Lg			00 59 04.4	
OKCFA	**Oklahoma City** comp=Z,134nm,0.7s baz=347,SNR=7.9	**1.67**	**167**	P		**Pn**	**00 58 39.1**	**+0.1**
OKCFA				Sb		**Sg**	**00 59 02.5**	**-0.3**
OKCFA	**Oklahoma City** baz=347,SNR=7.9	**1.67**	**167**	P			00 58 39.1	
OKCFA				Sb			00 59 02.5	
OKCSW	**OKLAHOMA CITY** baz=347	**1.68**	**167**			**Pn**	**00 58 39.5**	**+0.3**
FNO	**Franklin**	**1.83**	**167**			**Pn**	**00 58 41.6**	**+0.4**
TUL1	**Leonard** baz=304,SNR=36	**2.05**	**123**	P		**Pn**	**00 58 44.1**	**-0.2**
TUL1				S		**Sb**	**00 59 13.1**	**+0.5**
TUL1	**Leonard** baz=304,SNR=36	**2.05**	**123**	P			00 58 44.1	
TUL1				S			00 59 13.1	
W35A	**Tecumseh**	**2.07**	**156**			**Pn**	**00 58 44.6**	**0.0**
CBKS	**Cedar Bluff**	**2.28**	**321**			**Pn**	**00 58 47.8**	**+0.3**
CBKS	**Cedar Bluff** baz=140	**2.28**	**321**	P		**Pn**	**00 58 47.7**	**+0.2**
CBKS				S		**Sn**	**00 59 17.2**	**+1.2**
CBKS	**Cedar Bluff** baz=140	**2.28**	**321**	P			00 58 47.7	
CBKS				S			00 59 17.2	
KSU1	**Kansas State U**	**2.30**	**26**			**Pn**	**00 58 48.1**	**+0.4**
KSU1	**Kansas State U** baz=207,SNR=19	**2.30**	**26**	P		**Pn**	**00 58 48.1**	**+0.4**
KSU1	baz=207			S		**Sb**	**00 59 18.6**	**-1.1**
WMOK	**Wichita Mounta**	**2.41**	**197**			**Pn**	**00 58 49.4**	**+0.2**
WMOK	**Wichita Mounta** baz=17,SNR=32	**2.41**	**197**	P		**Pn**	**00 58 49.4**	**+0.2**
WMOK	**Wichita Mounta** baz=17,SNR=32	**2.41**	**197**	P			00 58 49.4	
X34A	**Smith Ranch, M** comp=Z,58nm,0.9s	**2.44**	**178**	Pn		**Pn**	**00 58 50.3**	**+0.7**
X34A				IAmb_Lg			00 59 32.7	
U38A	**Gravette**	**2.90**	**101**			**Pn**	**00 58 56.9**	**+0.9**
LOOK	**Love County**	**3.10**	**169**			**Pn**	**00 58 59.5**	**+0.7**
X37A	**Clayton** comp=Z,86nm,0.8s	**3.21**	**139**			**Pn**	**00 59 00.3**	**+0.2**
X37A				IAmb_Lg			00 59 56.7	
X37A	**Clayton** baz=321	**3.21**	**139**	P		**Pn**	**00 59 00.9**	**+0.7**
X37A	**Clayton** baz=321	**3.21**	**139**	P			00 59 00.9	
HHAR	**Hobbs**	**3.28**	**102**			**Pn**	**00 59 02.6**	**+1.4**
N33B	**J Bar K, Exete** baz=186	**3.70**	**5**	S		**Sn**	**00 59 51.9**	**+0.9**
N33B	**J Bar K, Exete** baz=186	**3.70**	**5**	S			00 59 51.9	
N33A	**J Bar K, Exete** comp=Z,51nm,0.7s	**3.71**	**5**	IAmb_Lg			01 00 16.9	
S39A	**Bolivar**	**3.71**	**79**			**Pn**	**00 59 07.6**	**+0.4**
S39A	**Bolivar** baz=261,SNR=18	**3.71**	**79**	P		**Pn**	**00 59 07.7**	**+0.6**
S39A	**Bolivar** baz=261,SNR=18	**3.71**	**79**	P			00 59 07.7	
Z35A	**Perchaven, San** comp=Z,25nm,0.8s	**3.75**	**172**			**Pn**	**00 59 07.8**	**+0.2**
Z35A				IAmb_Lg			01 00 18.0	
Z35A	**Perchaven, San** baz=352	**3.75**	**172**	S		**Sn**	**00 59 52.7**	**+0.7**
Z35A	**Perchaven, San** baz=352	**3.75**	**172**	S			00 59 52.7	
W39A	**Magazine**	**3.82**	**118**			**Pn**	**00 59 09.4**	**+0.8**
U40A	**Yellville** comp=Z,62nm,0.7s	**4.12**	**98**			**Pn**	**00 59 13.7**	**+0.9**
U40A				IAmb_Lg			01 00 22.6	
KSCO	**Kaye Shedlock'** comp=Z,31nm,0.8s	**4.21**	**299**	Pn		**Pn**	**00 59 14.0**	**0.0**
KSCO				IAmb_Lg			01 00 29.1	
KSCO	**Kaye Shedlock'** baz=116	**4.21**	**299**	P		**Pn**	**00 59 14.2**	**+0.1**
KSCO				S		**Sn**	**01 00 03.9**	**+0.2**
KSCO	**Kaye Shedlock'** baz=116	**4.21**	**299**	P			00 59 14.2	
KSCO				S			01 00 03.9	
P38A	**Dawn** comp=Z,25nm,0.8s	**4.30**	**52**	Pn		**Pn**	**00 59 15.7**	**+0.5**
P38A				IAmb_Lg			01 00 32.9	
P38A	**Dawn** baz=234,SNR=7.4	**4.30**	**52**	P		**Pn**	**00 59 16.2**	**+1.0**
P38A	**Dawn** baz=234,SNR=7.4	**4.30**	**52**	P			00 59 16.2	
MIAR	**Mount Ida** comp=Z,51nm,1.1s	**4.32**	**124**			**Pn**	**00 59 16.1**	**+0.7**
MIAR				IAmb_Lg			01 00 31.0	
BGNE	**Belgrade** comp=Z,52nm,0.8s	**4.36**	**358**	Pn		**Pn**	**00 59 16.1**	**0.0**
BGNE				IAmb_Lg			01 00 37.9	
BGNE	**Belgrade** baz=177	**4.36**	**358**	P		**Pn**	**00 59 15.8**	**-0.3**
BGNE	**Belgrade** baz=177	**4.36**	**358**	P			00 59 15.8	
Z38A	**Mt. Pleasant** comp=Z,39nm,0.7s	**4.47**	**147**	Pn		**Pn**	**00 59 18.4**	**+0.8**
Z38A				IAmb_Lg			01 00 42.3	
Z38A	**Mt. Pleasant** baz=328	**4.47**	**147**	P		**Pn**	**00 59 17.7**	**+0.1**
Z38A	**Mt. Pleasant** baz=328	**4.47**	**147**	P			00 59 17.7	
MGMO	**Mountain Grove**	**4.51**	**87**			**Pn**	**00 59 18.6**	**+0.5**
ABTX	**Abilene, Hawle**	**4.63**	**198**	Pn		**Pn**	**00 59 19.6**	**-0.2**
ABTX	**Abilene, Hawle** baz=18	**4.63**	**198**	P		**Pn**	**00 59 19.5**	**-0.3**
ABTX	**Abilene, Hawle** baz=18	**4.63**	**198**	P			00 59 19.5	
R40A	**Maddies Statio** comp=Z,25nm,0.8s	**4.65**	**73**			**Pn**	**00 59 20.3**	**+0.3**
R40A				IAmb_Lg			01 00 36.9	
R40A	**Maddies Statio** baz=256,SNR=19	**4.65**	**73**	P		**Pn**	**00 59 20.1**	**+0.2**
R40A	**Maddies Statio** baz=256,SNR=19	**4.65**	**73**	P			00 59 20.1	
FCAR	**Ozark Folk Cen** comp=Z,22nm,0.8s	**4.81**	**102**			**Pn**	**00 59 22.1**	**-0.1**
FCAR				IAmb_Lg			01 00 43.1	
X40A	**Basin Creek Fa** comp=Z,30nm,0.8s	**4.85**	**120**	Pn		**Pn**	**00 59 22.9**	**+0.1**
X40A				IAmb_Lg			01 00 48.2	
WHAR	**Wooly Hollow**	**4.88**	**109**			**Pn**	**00 59 22.5**	**-0.6**
W41B	**Gary Mavity, V** baz=294	**4.95**	**110**	P		**Pn**	**00 59 23.8**	**-0.3**
W41B	**Gary Mavity, V** baz=294	**4.95**	**110**	P			00 59 23.8	
MSTX	**Muleshoe**	**5.01**	**234**	Pn		**Pn**	**00 59 25.0**	**-0.1**
OGNE	**Ogallala**	**5.05**	**322**			**Pn**	**00 59 26.6**	**+1.1**
WHTX	**Lake Whitney,**	**5.06**	**176**	Pn		**Pn**	**00 59 25.2**	**-0.4**
WHTX	**Lake Whitney,** baz=356	**5.06**	**176**	P		**Pn**	**00 59 25.4**	**-0.2**
WHTX	**Lake Whitney,** baz=356	**5.06**	**176**	P			00 59 25.4	
L34A	**Svendsen Farm,**	**5.06**	**13**			**Pn**	**00 59 26.4**	**+0.8**
WLAR	**White Oak Lake**	**5.16**	**129**	Pn		**Pn**	**00 59 27.0**	**0.0**
WLAR	comp=Z,38nm,0.8s			IAmb_Lg			01 00 59.0	
T25A	**Trinidad** comp=Z,17nm,0.8s	**5.20**	**273**			**Pn**	**00 59 27.6**	**-0.1**
T25A				IAmb_Lg			01 01 00.2	
N38A	**Joes South For** comp=Z,31nm,0.7s	**5.23**	**43**	Pn		**Pn**	**00 59 28.1**	**+0.1**
N38A				IAmb_Lg			01 01 06.1	
P40A	**Paris** comp=Z,34nm,0.8s	**5.24**	**60**			**Pn**	**00 59 28.7**	**+0.6**
P40A				IAmb_Lg			01 01 00.7	
237A	**Washetta, Mont** comp=Z,36nm,1.0s	**5.32**	**160**	Pn		**Pn**	**00 59 28.3**	**-1.0**
237A				IAmb_Lg			01 01 02.9	
T42A	**Van Buren**	**5.46**	**88**			**Pn**	**00 59 30.9**	**-0.2**
LCAR	**Lake Charles**	**5.53**	**98**	Pn		**Pn**	**00 59 32.6**	**+0.5**
CCAR	**Cane Creek** comp=Z,42nm,0.9s	**5.90**	**120**	IAmb_Lg			01 01 25.9	
NATX	**Nacogdoches** comp=Z,19nm,0.7s	**5.92**	**152**	IAmb_Lg			01 01 30.3	
PBMO	**Poplar Bluff** comp=Z,17nm,0.8s	**6.00**	**90**	IAmb_Lg			01 01 30.7	
HBAR	**Harrisburg** comp=Z,34nm,0.8s	**6.05**	**102**	IAmb_Lg			01 01 30.6	
435B	**Jarrell** comp=Z,25nm,0.8s	**6.25**	**177**	IAmb_Lg			01 01 30.6	
ISCO	**Idaho Springs**	**6.64**	**297**	Pn		**Pn**	**00 59 47.9**	**+0.3**
JCT	**Junction City** comp=Z,22nm,1.1s	**6.74**	**194**	IAmb_Lg			01 02 00.3	
ECSD	**EROS Data Cent** comp=Z,13nm,0.9s	**6.75**	**8**			**Pn**	**00 59 48.5**	**-0.4**
ECSD				IAmb_Lg			01 01 44.8	
S44A	**Carbondale** comp=Z,16nm,0.7s	**6.93**	**82**			**Pn**	**00 59 51.9**	**+0.6**
S44A				IAmb_Lg			01 02 00.0	
SIUC	**Southern Illin** comp=Z,20nm,0.7s	**6.96**	**82**	Pn		**Pn**	**00 59 52.5**	**+0.8**
SIUC				IAmb_Lg			01 01 51.1	
L40A	**Anamosa** comp=Z,25nm,0.8s	**7.20**	**44**	IAmb_Lg			01 02 04.8	
PHWY	**Pilot Hill** comp=Z,16nm,0.7s	**7.24**	**308**			**Pn**	**00 59 55.3**	**-0.6**
PHWY				IAmb_Lg			01 01 58.6	
W45A	**Hickory Valley** comp=Z,26nm,0.8s	**7.31**	**102**	IAmb_Lg			01 02 00.7	
OXF	**Oxford** comp=Z,22nm,0.8s	**7.36**	**108**	IAmb_Lg			01 02 05.6	
T45A	**Paducah** comp=Z,30nm,0.8s	**7.41**	**87**	IAmb_Lg			01 02 05.4	
I37A	**Lemond, Waseca** comp=Z,21nm,0.8s	**7.76**	**25**	IAmb_Lg			01 02 27.6	
O44A	**Mansfield** comp=Z,26nm,0.8s	**8.02**	**64**	IAmb_Lg			01 02 26.5	
L42A	**Oliver, Polo**	**8.07**	**50**	IAmb_Lg			01 02 36.1	

	comp=Z,17nm,0.8s				
MNTX	**Cornudas Mount**	**8.16**	**231**	IAmb_Lg	01 02 36.4
	comp=Z,10nm,0.9s				
JFWS	**Jewell Farm**	**8.30**	**43**	IAmb_Lg	01 02 44.4
	comp=Z,17nm,0.8s				
RSSD	**Black Hills**	**8.46**	**329**	IAmb_Lg	01 02 51.0
	comp=Z,12nm,0.9s				
RWWY	**Rawlins**	**8.56**	**306**	IAmb_Lg	01 02 54.5
	comp=Z,13nm,0.9s				
T47A	**Sharon Grove**	**8.65**	**87**	IAmb_Lg	01 03 02.6
	comp=Z,12nm,1.0s				
K22A	**Casper**	**8.67**	**313**	IAmb_Lg	01 02 58.7
	comp=Z,16nm,0.7s				
I40A	**Norwalk**	**8.81**	**37**	IAmb_Lg	01 02 55.6
	comp=Z,12nm,0.9s				
F33A	**5 Mile Ranch,**	**8.87**	**7**	IAmb_Lg	01 02 50.1
	comp=Z,9.2nm,0.9s				
SPMN	**Marine on St.**	**9.03**	**24**	IAmb_Lg	01 03 02.0
	comp=Z,9.3nm,0.7s				
SFIN	**Lafayette**	**9.09**	**65**	IAmb_Lg	01 03 07.7
	comp=Z,15nm,0.9s				
WCI	**Wyandotte Cave**	**9.29**	**79**	IAmb_Lg	01 03 11.7
	comp=Z,10nm,0.8s				

*JMA **02** 01:04:15.7±0.1,23°.31N×121°.61E,h45^{km}±2^{km},M3.1*
*TAP **02** 01:04:16.8,23°.36N×121°.59E,h42^{km},ML3.6,C*
ISC 02 01:04:15.3±1.1,23°.34N±0°.02×121°.70E±0°.02,h24^{km}±13^{km}, n114,σ0^{s}82/205,3C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.30**	**301**	*e*P		**Pn**	**01 04 24.5**	**+0.2**
	baz=311							
HGSD				*e*S		**Sn**	**01 04 30.3**	**+0.4**
	baz=311							
EYUL	**Yuli**	**0.35**	**272**	P		**Pn**	**01 04 25.4**	**+0.4**
	baz=267							
TWF1	**Yuli**	**0.38**	**272**	⇑*i*P		**Pn**	**01 04 25.1**	**-0.2**
	baz=281							
TWF1				*i* S		**Sn**	**01 04 31.0**	**-0.8**
	baz=281							
YULB	**Yu-li**	**0.38**	**278**	⇑P		**Pn**	**01 04 25.1**	**-0.2**
	baz=290							
YULB				S		**Sn**	**01 04 30.9**	**-1.0**
	baz=290							
EHY	**Hungye**	**0.39**	**296**	⇑*i*P		**Pn**	**01 04 25.1**	**-0.4**
	baz=301							
EHY				*i* S		**Sn**	**01 04 30.9**	**-1.3**
	baz=301							
CHKT	**Chengkung**	**0.39**	**233**	*i* P		**Pn**	**01 04 25.4**	**0.0**
	baz=213							
CHKT				*i* S		**Sn**	**01 04 31.9**	**-0.3**
	baz=213							
TEGC	**Jichi Village**	**0.40**	**338**	P		**Pn**	**01 04 26.1**	**+0.5**
	baz=358							
TEGC				S		**Sn**	**01 04 33.4**	**+1.0**
	baz=358							
FULB	**Fuli**	**0.40**	**250**	*i* P		**Pn**	**01 04 25.6**	**-0.1**
	baz=236							
FULB				*i* S		**Sn**	**01 04 33.8**	**+1.3**
	baz=236							
EGFH	**Guangfu**	**0.42**	**322**	P		**Pn**	**01 04 26.0**	**+0.1**
	baz=323							
EGFH				S		**Sn**	**01 04 33.6**	**+0.8**
	baz=323							
ECS	**Chishang**	**0.51**	**242**	P		**Pn**	**01 04 27.1**	**0.0**
	baz=244							
ECS				S		**Sn**	**01 04 35.4**	**+0.4**
	baz=244							
EDH	**Donghe**	**0.52**	**225**	P		**Pn**	**01 04 27.8**	**+0.6**
	baz=208							
EDH				*i* S		**Sn**	**01 04 35.2**	**-0.1**
	baz=208							
ESL	**Shilin**	**0.54**	**332**	*i* P		**Pn**	**01 04 26.9**	**-0.6**
	baz=335							
ESL				S		**Sn**	**01 04 34.7**	**-1.1**
	baz=335							
TEYL	**Yanliau Villag**	**0.54**	**350**	P		**Pn**	**01 04 28.3**	**+0.8**
	baz=11							
TEYL				S		**Sn**	**01 04 37.0**	**+1.2**
	baz=11							
HWA	**Hwalien**	**0.64**	**352**	P		**Pn**	**01 04 30.5**	**+1.6**
	baz=9.0							
HWA				S		**Sn**	**01 04 39.8**	**+1.4**
	baz=9.0							
ELDTW	**Lidau**	**0.65**	**257**	*i* P		**Pb**	**01 04 28.1**	**0.0**
	baz=247							
ELDTW				S		**Sb**	**01 04 35.8**	**-0.9**
	baz=247							
ETM	**Tongmen**	**0.65**	**343**	P		**Pn**	**01 04 28.7**	**-0.5**
	baz=343							
LONT	**Longtian**	**0.68**	**231**	*e*P		**Pb**	**01 04 28.7**	**+0.2**
	baz=232							
LONT				*e*S		**Sb**	**01 04 37.5**	**0.0**
	baz=232							
LDUT	**Ludao**	**0.70**	**198**	*e*P		**Pb**	**01 04 29.1**	**+0.4**
	baz=183							
LDUT				*e*S		**Sb**	**01 04 39.1**	**+1.2**
	baz=183							
TWD	**Chiawan**	**0.75**	**352**	P		**Pn**	**01 04 30.4**	**0.0**
	baz=349							
TWD				S		**Sn**	**01 04 40.7**	**-0.2**
	baz=349							
TWGBT	**Beinan**	**0.77**	**228**	P		**Pb**	**01 04 29.8**	**-0.3**
	baz=230							
TWGBT				S		**Sb**	**01 04 40.1**	**-0.1**
	baz=230							
TTN	**Taitung**	**0.78**	**222**	P		**Pb**	**01 04 29.1**	**-1.0**
	baz=224							
TTN				S		**Sn**	**01 04 42.7**	**+1.1**
	baz=224							
TWG	**Pinlang**	**0.78**	**229**	*i* P		**Pb**	**01 04 29.7**	**-0.5**
	baz=230							
TWG				*i* S		**Sb**	**01 04 40.0**	**-0.3**
	baz=230							
OWD	**Renai**	**0.78**	**322**	*e*P		**Pn**	**01 04 30.7**	**-0.3**
	baz=334							
OWD				*e*S		**Sb**	**01 04 40.4**	**-0.2**
	baz=334							
SSLB	**Suanglung**	**0.82**	**303**	*e*P		**Pb**	**01 04 30.8**	**-0.1**
	baz=306							
SSLB				*e*S		**Sb**	**01 04 40.7**	**-0.9**
	baz=306							
NACB	**Ninganchiao**	**0.84**	**353**	*e*P		**Pn**	**01 04 31.6**	**0.0**
	baz=351							
NACB				*e*S		**Sn**	**01 04 43.1**	**-0.1**
	baz=351							
ALS	**Alishan**	**0.84**	**282**	P		**Pn**	**01 04 31.8**	**-0.1**
	baz=278							
ALS				S		**Sb**	**01 04 42.6**	**+0.1**
	baz=278							
WHYT	**Xinyi Township**	**0.86**	**295**	P		**Pb**	**01 04 32.1**	**+0.5**
	baz=299							
WHYT				S		**Sb**	**01 04 42.6**	**-0.1**
	baz=299							
CHGB	**Renai**	**0.87**	**326**	*e*P		**Pb**	**01 04 32.2**	**+0.3**
	baz=340							
CHGB				S		**Sb**	**01 04 42.3**	**-0.9**
	baz=340							
STYH	**Taoyuan**	**0.87**	**259**	P		**Pn**	**01 04 31.8**	**-0.2**
	baz=254							
STYH				S		**Sb**	**01 04 42.9**	**0.0**
	baz=254							
STYT	**Tauyuan**	**0.89**	**259**	*i* P		**Pn**	**01 04 32.2**	**-0.2**
	baz=252							
STYT				*i* S		**Sb**	**01 04 43.3**	**-0.3**
	baz=252							
ETLH	**Xiulin Townshi**	**0.89**	**347**	*e*P		**Pb**	**01 04 32.3**	**+0.1**
	baz=354							
ETLH				*e*S		**Sb**	**01 04 42.4**	**-1.2**
	baz=354							
WHF	**Hehuan Shan**	**0.90**	**333**	P		**Pn**	**01 04 32.3**	**-0.6**
	baz=340							
WHF				S		**Sb**	**01 04 43.4**	**-0.9**
	baz=340							
SMLT	**Sun Moon Lake**	**0.92**	**307**	*i* P		**Pn**	**01 04 32.5**	**-0.3**
	baz=314							
SMLT				*i* S		**Sb**	**01 04 43.5**	**-0.9**
	baz=314							
WPL	**Puli Township**	**0.96**	**315**	P		**Pn**	**01 04 33.1**	**-0.2**
	baz=324							
EHP	**Heping Village**	**0.97**	**2**	*e*S		**Sn**	**01 04 49.2**	**+2.8**
	baz=19							
CHN5	**Tsauling**	**0.98**	**286**	*i* P		**Pb**	**01 04 34.2**	**+0.6**
	baz=286							
CHN5				S		**Sb**	**01 04 46.6**	**+0.5**
	baz=286							
TPUB	**Ta-pu**	**0.99**	**268**	P		**Pb**	**01 04 34.2**	**+0.4**
	baz=266							
TPUB				S		**Sn**	**01 04 46.8**	**-0.2**
	baz=266							
DPDB	**Guoxing**	**0.99**	**314**	*e*P		**Pb**	**01 04 33.8**	**-0.1**
	baz=318							
DPDB				*e*S		**Sb**	**01 04 46.7**	**+0.1**
	baz=318							
FUSS	**Fushou**	**1.00**	**335**	*i* P		**Pb**	**01 04 34.5**	**+0.4**
	baz=348							
FUSS				S		**Sb**	**01 04 46.2**	**-0.7**
	baz=348							
WTP	**Ta-pu**	**1.01**	**265**	*i* P		**Pb**	**01 04 34.7**	**+0.6**
	baz=263							
WTP				*i* S		**Sb**	**01 04 47.8**	**+0.9**
	baz=263							
ECL	**Taimali**	**1.01**	**223**	*e*P		**Pn**	**01 04 34.1**	**+0.1**
	baz=218							
ECL				*e*S		**Sn**	**01 04 45.2**	**-2.3**
	baz=218							
WJS	**Zhushan**	**1.02**	**298**	*e*P		**Pb**	**01 04 34.9**	**+0.7**
	baz=300							
WJS				S		**Sb**	**01 04 47.6**	**+0.5**
	baz=300							
WCS	**Beigang Elemen**	**1.02**	**315**	*e*P		**Pb**	**01 04 34.7**	**+0.4**
	baz=324							
CHN4	**Tsaushan**	**1.02**	**271**	*i* P		**Pb**	**01 04 34.9**	**+0.6**
	baz=270							
CHN4				*i* S		**Sb**	**01 04 48.2**	**+0.9**
	baz=270							
SLGT	**Liugui**	**1.03**	**251**	*e*P		**Pb**	**01 04 35.1**	**+0.6**
	baz=244							
SLGT				*e*S		**Sn**	**01 04 47.1**	**-0.9**
	baz=244							
TWT	**Tachien**	**1.03**	**332**	P		**Pn**	**01 04 33.2**	**-1.3**
	baz=342							
TWT				S		**Sn**	**01 04 47.3**	**-1.0**
	baz=342							
TDCB	**Techi**	**1.04**	**331**	P		**Pb**	**01 04 34.8**	**+0.1**
	baz=342							
TDCB				S		**Sn**	**01 04 46.5**	**-1.9**
	baz=342							
SGST	**Jiashian**	**1.06**	**256**	P		**Pn**	**01 04 34.6**	**-0.2**
	baz=249							
SGST				S		**Sn**	**01 04 48.9**	**+0.1**
	baz=249							
WNT	**Mingjian**	**1.08**	**300**	P		**Pb**	**01 04 35.5**	**+0.3**
	baz=290							
WNT				S		**Sb**	**01 04 49.4**	**+0.4**
	baz=290							
WNT1	**Nantou City**	**1.10**	**301**	P		**Pb**	**01 04 35.8**	**+0.2**
	baz=291							
WNT1				S		**Sb**	**01 04 50.1**	**+0.6**
	baz=291							
WGK	**Gukeng**	**1.10**	**289**	P		**Pn**	**01 04 34.7**	**-0.6**
	baz=289							
WGK				S		**Sb**	**01 04 50.6**	**+0.9**
	baz=289							
EWUT	**Wuta**	**1.10**	**4**	*e*P		**Pb**	**01 04 36.0**	**+0.3**
	baz=18							
EWUT				*e*S		**Sb**	**01 04 50.3**	**+0.6**
	baz=18							
SNST	**Tainan City**	**1.12**	**264**	P		**Pb**	**01 04 36.4**	**+0.5**
	baz=262							
SNST				S		**Sb**	**01 04 50.7**	**+0.7**
	baz=262							
TWK	**Hsinying**	**1.12**	**267**	*i* P		**Pb**	**01 04 36.5**	**+0.5**
	baz=265							
TWK				S		**Sn**	**01 04 50.0**	**-0.2**
	baz=265							
NNSB	**Datong**	**1.12**	**345**	*e*P		**Pb**	**01 04 35.8**	**-0.4**
	baz=351							
NNSH	**Datong**	**1.12**	**345**	*e*P		**Pb**	**01 04 35.8**	**-0.4**
	baz=357							
NNSH				S		**Sb**	**01 04 50.3**	**-0.1**
	baz=357							
WDLH	**Douliu**	**1.13**	**288**	*e*P		**Pb**	**01 04 36.2**	**+0.1**
	baz=289							
WDLH				*e*S		**Sb**	**01 04 51.6**	**+1.3**
	baz=289							
NNS	**Nan Shan**	**1.14**	**345**	P		**Pb**	**01 04 36.2**	**-0.2**
	baz=350							
NNS				S		**Sb**	**01 04 50.8**	**-0.1**
	baz=350							
CHN2	**Minshiung**	**1.15**	**280**	P		**Pb**	**01 04 36.9**	**+0.5**
	baz=280							
CHN2				S		**Sb**	**01 04 51.8**	**+1.0**
	baz=280							
SSD	**Sandimen**	**1.15**	**239**	P		**Pb**	**01 04 36.5**	**+0.1**
	baz=231							
SSD				S		**Sb**	**01 04 51.8**	**+0.8**
	baz=231							
WWF	**Wufeng**	**1.16**	**307**	P		**Pb**	**01 04 37.2**	**+0.6**
	baz=310							
WWF				S		**Sb**	**01 04 52.5**	**+1.2**
	baz=310							
TSMG	**Majia**	**1.16**	**237**	*e*P		**Pn**	**01 04 36.4**	**+0.3**
	baz=229							
TSMG				*e*S		**Sb**	**01 04 51.9**	**+0.6**
	baz=229							
WHP	**Taichung City**	**1.17**	**324**	P		**Pb**	**01 04 37.6**	**+0.8**
	baz=330							
WHP				*e*S		**Sn**	**01 04 50.8**	**-0.6**
	baz=330							
CHY	**Chiayi**	**1.19**	**278**	*e*P		**Pb**	**01 04 36.9**	**-0.2**
	baz=277							
CHY				S		**Sb**	**01 04 52.3**	**+0.2**
	baz=277							
SCST	**Cishan**	**1.20**	**248**	*e*P		**Pb**	**01 04 38.3**	**+0.9**
	baz=246							
SCST				*e*S		**Sb**	**01 04 54.1**	**+1.6**
	baz=246							
MASBT	**Mashibuluo**	**1.22**	**234**	*e*P		**Pn**	**01 04 36.7**	**-0.3**
	baz=226							
MASBT				*e*S		**Sn**	**01 04 52.4**	**-0.3**
	baz=226							
EAST	**Anshuo**	**1.24**	**220**	*e*P		**Pn**	**01 04 36.1**	**-1.0**
	baz=207							
TCU	**Taichung**	**1.24**	**311**	P		**Pb**	**01 04 38.5**	**+0.5**
	baz=302							
TCU				*e*S		**Sb**	**01 04 53.9**	**+0.3**
	baz=302							
WTK	**Tuku**	**1.26**	**286**	*e*S		**Sn**	**01 04 52.9**	**-0.6**
	baz=287							
CHN3	**Shinhua**	**1.26**	**258**	*e*P		**Pb**	**01 04 38.9**	**+0.6**
	baz=270							
NDT	**Datong Townshi**	**1.27**	**352**	*e*P		**Pb**	**01 04 39.0**	**+0.5**
	baz=358							
TWC	**Suao**	**1.27**	**6**	P		**Pb**	**01 04 39.5**	**+0.9**
	baz=22							
TWC				*e*S		**Sb**	**01 04 54.6**	**+0.1**
	baz=22							
WCHH	**Zhanghua**	**1.28**	**305**	P		**Pb**	**01 04 39.1**	**+0.3**
	baz=307							
WCHH				S		**Sb**	**01 04 56.0**	**+1.2**
	baz=307							
TWM1	**Shoushan**	**1.29**	**247**	*e*P		**Pb**	**01 04 39.5**	**+0.7**
	baz=244							
TWM1				*e*S		**Sb**	**01 04 56.0**	**+1.1**
	baz=244							
NDS	**Dongshan**	**1.29**	**0**	*e*P		**Pb**	**01 04 38.6**	**-0.3**
	baz=355							
NDS				*e*S		**Sb**	**01 04 54.4**	**-0.7**
	baz=355							
LAY	**Lan-yu**	**1.30**	**186**	P		**Pn**	**01 04 38.2**	**+0.2**
	baz=176							
LAY				*e*S		**Sn**	**01 04 53.4**	**-1.3**
	baz=176							
ENTT	**Nioudou**	**1.30**	**354**	*e*P		**Pb**	**01 04 38.6**	**-0.5**
	baz=353							
ENTT				*e*S		**Sn**	**01 04 54.4**	**-0.3**
	baz=353							
ICHU	**Yijhu**	**1.31**	**271**	*e*P		**Pn**	**01 04 38.2**	**+0.1**
	baz=270							
ICHU				*e*S		**Sb**	**01 04 55.7**	**+0.2**
	baz=270							
SSPT	**Xinbi**	**1.35**	**231**	*e*P		**Pb**	**01 04 39.7**	**-0.2**
	baz=216							
SSPT				*e*S		**Sn**	**01 04 55.6**	**-0.2**
	baz=216							
YHNB	**Yeheng**	**1.36**	**347**	*e*P		**Pb**	**01 04 39.9**	**-0.2**
	baz=352							
YHNB				*e*S		**Sn**	**01 04 55.7**	**-0.5**
	baz=352							
NSK	**Sanguang**	**1.37**	**347**	P		**Pb**	**01 04 40.1**	**-0.2**
	baz=352							
NSK				S		**Sn**	**01 04 56.0**	**-0.5**
	baz=352							
CHN8	**Yiju**	**1.37**	**271**	*e*P		**Pn**	**01 04 39.0**	**0.0**
	baz=270							
CHN8				*e*S		**Sn**	**01 04 56.8**	**+0.4**
	baz=270							
NSY	**Sanyi**	**1.38**	**321**	P		**Pb**	**01 04 40.4**	**0.0**
	baz=324							
NSY				S		**Sb**	**01 04 58.3**	**+0.7**
	baz=324							
TWE	**Neicheng**	**1.38**	**359**	*e*P		**Pb**	**01 04 41.6**	**+1.3**
	baz=356							
SCZT	**Fangliau**	**1.39**	**226**	*e*P		**Pn**	**01 04 39.7**	**+0.5**
	baz=214							
SCZT				S		**Sb**	**01 04 59.0**	**+1.2**
	baz=214							
SCLT	**Jiali**	**1.40**	**264**	*e*P		**Pn**	**01 04 38.2**	**-1.1**
	baz=262							
SCLT				*e*S		**Sb**	**01 04 59.2**	**+1.1**
	baz=262							
WDJ	**Dajia District**	**1.40**	**316**	*e*P		**Pb**	**01 04 40.8**	**0.0**
	baz=331							
WDJ				*e*S		**Sb**	**01 04 59.4**	**+1.2**
	baz=331							
NSTT	**Nanjuang**	**1.44**	**334**	*e*P		**Pb**	**01 04 41.2**	**-0.2**
	baz=337							
NSTT				*e*S		**Sb**	**01 04 59.4**	**+0.1**
	baz=337							
NWLT	**Wulai**	**1.45**	**353**	*e*P		**Pb**	**01 04 41.2**	**-0.3**
	baz=357							
NWLT				*e*S		**Sb**	**01 04 58.6**	**-1.0**
	baz=357							
LIOB	**Emei**	**1.45**	**334**	P		**Pb**	**01 04 41.2**	**-0.4**
	baz=338							
LIOB				*e*S		**Sb**	**01 04 59.9**	**+0.3**
	baz=338							
NMLH	**Miaoli**	**1.46**	**325**	*e*P		**Pb**	**01 04 40.8**	**-1.0**
	baz=328							
NMLH				*e*S		**Sb**	**01 04 59.4**	**-0.4**
	baz=328							
NJD	**Zhudong**	**1.50**	**338**	*e*S		**Sb**	**01 05 02.9**	**+1.8**
	baz=329							
EGS		**1.52**	**8**	*e*P		**Pb**	**01 04 42.5**	**-0.2**
	baz=22							
EGS				*e*S		**Sb**	**01 05 02.7**	**+1.2**
	baz=22							
JYNG	**Yonaguni jima**	**1.59**	**45**	P		**Pb**	**01 04 43.4**	**-0.5**
JYNG				*e*S		**Sb**	**01 05 03.9**	**+0.3**
TSEB	**Hengchuen, Pin**	**1.61**	**208**	*e*S		**Sn**	**01 05 02.5**	**+0.1**
	baz=196							
TWK1	**Hengchun**	**1.62**	**211**	*e*P		**Pn**	**01 04 42.1**	**-0.3**
	baz=197							
TWK1				*e*S		**Sn**	**01 05 02.0**	**-0.4**
	baz=197							
TIPB	**Shuangxi**	**1.63**	**4**	*e*P		**Pb**	**01 04 44.2**	**-0.5**
	baz=357							
YOJ	**Yonaguni jima**	**1.64**	**47**	P		**Pb**	**01 04 44.8**	**0.0**
YOJ				S		**Sb**	**01 05 05.4**	**+0.4**
YOJ	**Yonaguni jima**	**1.64**	**47**	*e*P		**Pb**	**01 04 44.7**	**-0.1**
	baz=50							
NWF	**Wu-fen Shan**	**1.73**	**2**	*e*P		**Pb**	**01 04 46.9**	**+0.5**
	baz=357							
WFSB	**Wu-fen Shan**	**1.73**	**2**	*e*P		**Pb**	**01 04 46.6**	**+0.3**
	baz=357							
YM01	**YM01**	**1.81**	**356**	*e*P		**Pb**	**01 04 47.3**	**-0.4**
	baz=2.0							
WDGT	**Dungji**	**1.88**	**268**	*e*P		**Pn**	**01 04 45.5**	**-0.4**
	baz=267							
PNG	**Penghu**	**1.99**	**277**	P		**Pn**	**01 04 47.1**	**-0.4**
	baz=264							
PNG				S		**Sn**	**01 05 09.4**	**-2.2**
	baz=264							
HATJ	**Hateruma jima**	**2.05**	**69**	P		**Pb**	**01 04 50.1**	**-1.8**
HATJ				S		**Sb**	**01 05 15.5**	**-1.5**
VCHM	**Qimei**	**2.10**	**267**	*e*P		**Pn**	**01 04 48.1**	**-0.8**
	baz=266							
IRIF	**Iriomote-Funau**	**2.10**	**61**	P		**Pb**	**01 04 51.1**	**-1.6**
IRIF				*e*S		**Sb**	**01 05 17.3**	**-1.1**
JKRS	**Kuro-shima**	**2.29**	**67**	P		**Pb**	**01 04 53.8**	**-2.2**
JKRS				S		**Sb**	**01 05 21.6**	**-2.3**
JIJ	**Ishigaki jima**	**2.46**	**65**	P		**Pn**	**01 04 55.5**	**+1.6**
JIJ				S		**Sn**	**01 05 24.9**	**+1.8**
JISG	**Ishigakijimahi**	**2.69**	**62**	P		**Pn**	**01 04 58.6**	**+1.5**
JISG				S		**Sn**	**01 05 30.0**	**+1.1**
PTMZ	**Houxiangcun**	**2.91**	**306**	*e*P		**Pn**	**01 04 59.2**	**-0.8**
	baz=307							
JTJ	**Tarama**	**3.03**	**64**	P		**Pn**	**01 05 03.9**	**+2.1**
JTJ				*e*S		**Sn**	**01 05 39.2**	**+1.8**
MATB	**Ma-tsu**	**3.23**	**331**	*e*P		**Pn**	**01 05 04.0**	**-0.5**
	baz=331							
ZPLA	**Ao Xicun**	**3.67**	**280**	*e*P		**Pn**	**01 05 09.8**	**-0.8**
	baz=281							

*IDC **02** 01:30:37.5±2.5,28°.63N×56°.70E,h0^{km},mb3.7/7,*
mb1 3.8/7,mb1mx3.6/39,mbtmp3.7/7,Error ellipse:
s-maj=58.6km s-min=25.0km az=155.0
*TEH **02** 01:30:41.8,28°.77N×56°.67E,h8^{km},ML3.8*
*THR **02** 01:30:42.7±0.9,28°.80N×56°.41E,h15^{km}±9^{km},ML3.7*
*DSN **02** 01:30:42.4±1.6,28°.71N×56°.49E,h10^{km},ML3.3/9,Error*
ellipse: s-maj=22.9km s-min=12.7km az=70.0
*OMAN **02** 01:30:44.3±0.4,28°.74N×56°.80E,h37^{km},mb4.5/5,*
ml3.5/13,Error ellipse: s-maj=8.1km s-min=2.7km az=44.0
ISC 02 01:30:41.8±1.5,28°.75N±0°.03×56°.72E±0°.05,h18^{km}±10^{km}, n99,σ1^{s}79/116,mb3.6/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.89**	**1**	*e*Pg		**Pg**	**01 30 59.0**	**-0.2**
NGRK				*e*			01 31 15.1	
	comp=Z,25μm,0.2s							
KRBR	**Kerman**	**1.23**	**2**	*e*Pg		**Pg**	**01 31 05.0**	**-0.6**
KRBR				*e*Sg		**Sn**	**01 31 21.9**	**+1.2**
KRBR				IAML			01 31 23.7	
	comp=E,2μm,0.2s							
KRBR				IAML			01 31 24.2	
	comp=N,1μm,0.3s							
KRBR	**Kerman**	**1.23**	**2**	*e*Pg		**Pg**	**01 31 05.0**	**-0.6**
TVBK	**TV Kerman**	**1.23**	**2**	*e*			01 31 24.4	
	comp=Z,27μm,0.2s							
TVBK				*e*Pg		**Pg**	**01 31 05.0**	**-0.7**
IBND	**Bandar-abas**	**1.31**	**187**	*e*			01 31 32.3	
	comp=Z,15μm,0.3s							
IBND				*e*Pg		**Pb**	**01 31 06.7**	**+0.8**
CHMN	**Cheshme madani**	**1.32**	**33**	*e*			01 31 12.0	
	comp=Z,10μm,0.2s							
CHMN				*e*Pg		**Pn**	**01 31 06.3**	**+0.6**
CHMN				*e*Sg		**Sb**	**01 31 23.9**	**+0.9**
GENO	**Geno**	**1.43**	**200**	*e*			01 31 14.0	
	comp=Z,12μm,0.2s							
GENO				*e*Pg		**Pb**	**01 31 08.6**	**+0.5**
BNDS	**Bandar-Abbas**	**1.43**	**200**	*e*Pg		**Pb**	**01 31 08.7**	**+0.6**
BNDS				IAML			01 31 36.9	
	comp=N,805nm,0.4s							
BNDS	**Bandar-Abbas**	**1.43**	**200**	*e*Pg		**Pb**	**01 31 08.7**	**+0.6**
KHGB	**Koh Gabri**	**1.63**	**353**	*e*Pn		**Pb**	**01 31 11.5**	**-0.1**
SHME	**Shamm**	**2.74**	**191**	*e*P		**Pn**	**01 31 25.8**	**+0.8**
	SNR=5.8							
SHME				S		**Sn**	**01 31 58.9**	**+1.2**
SHME	**Shamm**	**2.74**	**191**	*e*Pn		**Pn**	**01 31 25.9**	**+1.0**
SHME	**Shamm**	**2.74**	**191**	P		**Pn**	**01 31 26.4**	**+1.5**
	SNR=23							
SHME				S		**Sn**	**01 31 59.0**	**+1.4**
JHRM	**Jahrom**	**2.77**	**266**	*e*Pn		**Pb**	**01 31 28.7**	**-2.2**
JHRM				*e*			01 32 18.4	
	comp=Z,6μm,0.4s							
BANOM	**Banah**	**2.84**	**188**	*e*P		**Pn**	**01 31 27.5**	**+1.1**
	SNR=16							
BANOM	**Banah**	**2.84**	**188**	*e*Pn		**Pn**	**01 31 27.3**	**+0.9**
BANOM	**Banah**	**2.84**	**188**	P		**Pn**	**01 31 27.4**	**+1.1**
	SNR=120							
BANOM				S		**Sn**	**01 32 01.5**	**+1.3**
IBAF	**Bafgh**	**3.00

ZHSF	**Zahedan**	**3.65**	**75**	*e*P	**Pb**	**01 31 44.8**	**-1.1**
UOSS	**Minazif**	**3.82**	**187**	P	**Pn**	**01 31 40.1**	**+0.3**
UOSS	**Minazif**	**3.82**	**187**	*e*Pn	**Pn**	**01 31 39.9**	**+0.1**
UOSS	**Minazif**	**3.82**	**187**	P	**Pn**	**01 31 40.4**	**+0.6**
UOSS				S	**Sn**	**01 32 24.5**	**+0.2**
NAZ	**Nazwa, Dubai** SNR=6.5	**3.87**	**194**	*i* P	**Pn**	**01 31 41.8**	**+1.5**
NAZ	**Nazwa, Dubai**	**3.87**	**194**	*e*Pn	**Pn**	**01 31 41.9**	**+1.5**
NAZ	**Nazwa, Dubai** SNR=6.5	**3.87**	**194**	P	**Pn**	**01 31 42.3**	**+1.9**
NAZ				S	**Sn**	**01 32 27.5**	**+2.1**
NHDN	**Nehbandan**	**3.91**	**47**	*e*Pn	**Pn**	**01 31 44.5**	**+3.4**
NHDN	comp=Z,2µm,0.8s			*e*		01 32 59.4	
HATD	**Hatta, Dubai**	**3.94**	**188**	P	**Pn**	**01 31 42.6**	**+1.1**
HATD	**Hatta, Dubai**	**3.94**	**188**	*e*Pn	**Pn**	**01 31 42.8**	**+1.3**
HATD	**Hatta, Dubai**	**3.94**	**188**	P	**Pn**	**01 31 42.9**	**+1.3**
HATD				S	**Sn**	**01 32 28.4**	**+1.0**
ICHK	**Chekchek**	**4.01**	**331**	*e*Pn	**Pn**	**01 31 45.9**	**+3.3**
YZKH	**Yazd**	**4.06**	**334**	*e*Pn	**Pn**	**01 31 45.0**	**+1.8**
YZKH	**Yazd**	**4.06**	**334**	*e*Pn	**Pn**	**01 31 45.0**	**+1.8**
ASHO	**Ashiyiah** SNR=13	**4.09**	**188**	*i* P	**Pn**	**01 31 45.0**	**+1.3**
ASHO	**Ashiyiah**	**4.09**	**188**	*e*Pn	**Pn**	**01 31 44.7**	**+1.1**
ASHO	**Ashiyiah** SNR=38	**4.09**	**188**	P	**Pn**	**01 31 44.9**	**+1.3**
ASHO				S	**Sn**	**01 32 32.9**	**+1.8**
ISAD	**Sadrabad**	**4.10**	**321**	*e*Pn	**Pn**	**01 31 47.4**	**+3.5**
FAQ	**Al Faqa, Dubai** SNR=16	**4.12**	**194**	*i* P	**Pn**	**01 31 45.5**	**+1.6**
FAQ	**Al Faqa, Dubai**	**4.12**	**194**	*e*Pn	**Pn**	**01 31 45.4**	**+1.6**
FAQ	**Al Faqa, Dubai** SNR=28	**4.12**	**194**	P	**Pn**	**01 31 45.4**	**+1.6**
FAQ				S	**Sn**	**01 32 32.8**	**+1.2**
IKOO	**Kooshah**	**4.16**	**28**	*e*Pn	**Pn**	**01 31 48.2**	**+3.5**
TPRV	**Parvadeh(Tabas**	**4.26**	**360**	*e*Pn	**Pn**	**01 31 49.4**	**+3.4**
ASUD	**Al Ashush, Dub** SNR=62	**4.29**	**197**	*i* P	**Pn**	**01 31 48.4**	**+2.2**
ASUD	**Al Ashush, Dub**	**4.29**	**197**	*e*Pn	**Pn**	**01 31 48.5**	**+2.2**
ASUD	**Al Ashush, Dub** SNR=62	**4.29**	**197**	P	**Pn**	**01 31 48.5**	**+2.2**
ASUD				S	**Sn**	**01 32 37.5**	**+1.6**
AJN	**Ajban**	**4.45**	**201**	*e*Pn	**Pn**	**01 31 50.0**	**+1.5**
AJN	**Ajban** SNR=9.4	**4.45**	**201**	P	**Pn**	**01 31 50.2**	**+1.7**
AJN				S	**Sn**	**01 32 40.6**	**+0.8**
ITEG	**Tejag**	**4.49**	**22**	*e*Pn	**Pn**	**01 31 52.3**	**+3.2**
SOHO	**SOHO**	**4.60**	**182**	*e*Pn	**Pn**	**01 31 49.7**	**-0.8**
SOHO	**SOHO**	**4.60**	**182**	P	**Pn**	**01 31 50.0**	**-0.5**
ALNE	**Al Ain**	**4.76**	**191**	*e*Pn	**Pn**	**01 31 54.6**	**+1.9**
ALNE	**Al Ain**	**4.76**	**191**	P	**Pn**	**01 31 53.8**	**+1.1**
ALNE				S	**Sn**	**01 32 47.8**	**+0.4**
IRAM	**Ramesheh**	**4.83**	**310**	*e*Pn	**Pn**	**01 31 56.4**	**+2.5**
TKDS	**Koohdasht(Taba**	**4.86**	**4**	*e*Pn	**Pn**	**01 31 57.6**	**+3.4**
KLNJ	**Kolanjah**	**4.99**	**298**	*e*Pn	**Pn**	**01 31 58.5**	**+2.3**
AFRZ	**Afriz**	**5.06**	**22**	*e*Pn	**Pn**	**01 32 00.8**	**+3.9**
IMON	**Monand**	**5.10**	**29**	*e*Pn	**Pn**	**01 32 00.5**	**+2.9**
ANAR	**Anarak**	**5.12**	**331**	*e*Pn	**Pn**	**01 32 00.4**	**+2.7**
HOQ	**Hoqain** SNR=11	**5.17**	**174**	P	**Pn**	**01 31 57.9**	**-0.6**
SRVN	**Saravan**	**5.19**	**104**	*e*Pn	Pn	01 32 03.7	+4.9
ARQ	**Araqi** SNR=12	**5.40**	**182**	P	**Pn**	**01 32 02.7**	**+1.2**
ARQ				S	**Sn**	**01 33 03.3**	**+0.1**
IGAR	**Gharneh**	**5.43**	**313**	*e*Pn	**Pn**	**01 32 04.4**	**+2.2**
IZEF	**Zefreh**	**5.60**	**319**	*e*Pn	**Pn**	**01 32 06.4**	**+2.0**
SMDO	**Samad**	**5.79**	**168**	P	**Pn**	**01 32 07.1**	**+0.1**
SMDO				S	**Sn**	**01 33 11.2**	**-1.9**
SHMA	**Al-Shehemyia**	**5.88**	**242**	P	**Pn**	**01 32 09.6**	**+1.5**
GHWR	**Ruwais**	**5.88**	**217**	*e*Pn	**Pn**	**01 32 08.7**	**+0.5**
GHWR	**Ruwais**	**5.88**	**217**	P	**Pn**	**01 32 08.1**	**0.0**
BSY	**Bisya**	**6.00**	**176**	P	**Pn**	**01 32 11.2**	**+1.5**
BSY				S	**Sn**	**01 33 19.4**	**+1.3**
TRNA	**Turayna**	**6.34**	**232**	P	**Pn**	**01 32 15.2**	**+0.7**
IPIR	**Pirpir**	**6.37**	**309**	*e*Pn	**Pn**	**01 32 17.4**	**+2.3**
WBK	**Wadi Bani Khal** SNR=17	**6.44**	**161**	P	**Pn**	**01 32 16.2**	**+0.3**
WBK				S	**Sn**	**01 33 26.5**	**-2.5**
SLWR	**Sila**	**6.49**	**225**	*e*Pn	**Pn**	**01 32 16.8**	**+0.4**
KRSH	**Karshahi**	**6.51**	**324**	*e*Pn	**Pn**	**01 32 20.0**	**+3.1**
QAM	**Ghamsar**	**6.73**	**319**	*e*Pn	**Pn**	**01 32 22.3**	**+2.3**
ISFB	**Sefidab**	**6.76**	**327**	*e*Pn	**Pn**	**01 32 22.9**	**+2.6**
SBZV	**Sabzevar**	**7.65**	**5**	*e*Pn	**Pn**	**01 32 36.8**	**+4.2**
MHTO	**MHTO**	**7.81**	**171**	P	**Pn**	**01 32 35.1**	**+0.5**
UMR	**Umm Al-Rimmam**	**7.91**	**278**	*e*P	**Pn**	**01 32 34.9**	**-1.1**
IAKL	**Akhelmad**	**8.01**	**12**	*e*Pn	Pn	01 32 42.5	+4.8
MIB	**Mutribah**	**8.26**	**280**	*e*P	**Pn**	**01 32 40.3**	**-0.5**
RST	**Umm Al-Ruwaisa**	**8.54**	**277**	*e*P	**Pn**	**01 32 43.8**	**-0.8**
RST	comp=Z,53nm,0.4s			IAML		01 34 19.1	
WHFO	**Wadi Hawf** SNR=21	**11.12**	**195**	P	**Pn**	**01 33 19.4**	**-0.6**
RAYN	**Ar Rayn** SNR=6.4	**11.34**	**245**	*i* P	**Pn**	**01 33 21.1**	**-2.0**
ABTO	**Aybut**	**11.77**	**196**	P	**Pn**	**01 33 28.3**	**-0.7**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.7s,baz=121,slow=12,SNR=10	**21.94**	**306**	P	**P**	**01 35 34.8**	**+0.3**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=215,slow=9.8,SNR=2.1	**26.89**	**41**	P	**P**	**01 36 22.2**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.5s,baz=242,slow=9.7,SNR=7.8	**32.45**	**31**	P	**P**	**01 37 10.1**	**-0.7**
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,baz=134,slow=8.0,SNR=1.1	**38.49**	**337**	P	**P**	**01 38 01.3**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,3.6nm,1.1s,baz=136,slow=9.6,SNR=1.8	**44.60**	**345**	P	**P**	**01 38 50.5**	**-2.1**
ESDC	**Sonseca Array** comp=Z,0.1nm,0.5s,baz=71,slow=8.3,SNR=2.0	**50.50**	**299**	P	**P**	**01 39 38.5**	**-0.5**
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.6s,baz=62,slow=7.3,SNR=18	**53.24**	**265**	P	**P**	**01 39 57.6**	**-2.1**

*SCEDC **02** 01:31:11.6, 35˚.86N×117˚.69W, h4km, Hypocentre not reviewed by the ISC*
*ANF **02** 01:31:11.2±0.1, 35˚.84N×117˚.70W, h13km±1km, ML3.5/24, Error ellipse: s-maj=1.0km s-min=1.0km az=178.0, Hypocentre not reviewed by the ISC*
*NEIC **02** 01:31:11.8±1.6, 35˚.87N±0˚.01×117˚.691W±0˚.007, h8km±3km, Error ellipse: s-maj=1.5km s-min=0.8km az=179.0*
*PAS **02** 01:31:11.6±1.6, 35˚.86N±0˚.01×117˚.69W±0˚.01, h4km±3km, ML3.5/75, ML3.1/78(NEIC), ML3.2/7(REN), Error ellipse: s-maj=1.6km s-min=1.5km az=81.0*
*REN **02** 01:31:12.1±2.6, 35˚.92N±0˚.01×117˚.67W±0˚.01, h7km±4km, Error ellipse: s-maj=1.6km s-min=1.6km az=107.0*

ISC 02 01:31:11.8±0.8, 35˚.87N±0˚.02×117˚.69W±0˚.02, h11km±5km, n105, σ0.6˚.76/128, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**226**		**Pg**	**01 31 13.8**	**-0.6**
TOW					**Sg**	**01 31 16.1**	**-0.1**
WCSM	**Coso Springs S**	**0.17**	**339**		**Pg**	**01 31 15.2**	**-0.5**
WNMM	**Nine Mile Cany**	**0.18**	**262**		**Pg**	**01 31 15.2**	**-0.4**
WNMM					**Sg**	**01 31 18.5**	**+0.2**
SRTC	**Snort**	**0.18**	**195**		**Pg**	**01 31 15.4**	**-0.3**
SRTC					**Sg**	**01 31 19.1**	**+0.6**
WRVM	**Rose V. Centra**	**0.21**	**311**		**Pg**	**01 31 16.0**	**-0.4**
WSHM	**Spangler Hills**	**0.31**	**149**		**Pg**	**01 31 17.5**	**-0.6**
WCHM	**Chimney Peak**	**0.31**	**273**		**Pg**	**01 31 17.6**	**-0.7**
LRMC	**Laurel Mtn Rad**	**0.39**	**179**		**Pg**	**01 31 18.9**	**-0.6**
LRMC					**Sg**	**01 31 24.5**	**-0.2**
LRMC	**Laurel Mtn Rad** baz=359,SNR=88	**0.39**	**179**	P		01 31 18.8	
LRMC	baz=359			S		01 31 24.3	
WORM	**Onyx Ranch**	**0.48**	**249**		**Pg**	**01 31 20.6**	**-0.6**
WORM					**Sg**	**01 31 27.2**	**-0.4**
WBSM	**Bird Springs**	**0.49**	**228**		**Pg**	**01 31 20.9**	**-0.5**
WBSM					**Sg**	**01 31 27.9**	**-0.1**
WHFM	**Hanning Flat**	**0.56**	**253**		**Pg**	**01 31 22.2**	**-0.5**
WHFM					**Sg**	**01 31 29.9**	**-0.3**
WLHM	**Little Horse**	**0.58**	**300**		**Pg**	**01 31 22.5**	**-0.7**
DTP	**Desert Tortois**	**0.61**	**192**		**Pg**	**01 31 22.9**	**-0.8**
DTP					**Sg**	**01 31 31.5**	**-0.2**
CWC	**Cottonwood Cre**	**0.65**	**331**		**Pg**	**01 31 24.3**	**-0.2**
CWC					**Sg**	**01 31 33.8**	**+0.7**
CWC	**Cottonwood Cre** baz=151	**0.65**	**331**	P		01 31 24.3	
CWC	baz=151			S		01 31 33.8	
ISA	**Isabella, Lake**	**0.67**	**253**		**Pg**	**01 31 24.1**	**-0.7**
ISA					Sg	**01 31 33.0**	**-0.6**
ISA	comp=N,1µm,0.5s				IAML	01 31 33.5	
ISA	comp=E,639nm,0.3s				IAML	01 31 37.5	
ISA	**Isabella, Lake** baz=73,SNR=500	**0.67**	**253**	P		01 31 24.2	
ISA	baz=73			S		01 31 32.9	
QSM	**Queen of Sheba**	**0.67**	**81**		**Pg**	**01 31 24.4**	**-0.5**
QSM					**Sg**	**01 31 33.5**	**-0.2**
WASM	**Alta Sierra Ca**	**0.72**	**260**		**Pg**	**01 31 25.1**	**-0.6**
WASM					**Sg**	**01 31 34.9**	**-0.2**
CCAC	**Calif City Air**	**0.76**	**201**		**Pg**	**01 31 25.8**	**-0.7**
WOFM	**Oak Flat**	**0.90**	**249**		**Pg**	**01 31 28.3**	**-0.8**
FURC	**Furnace Creek,** baz=228,SNR=106	**0.90**	**48**	P		01 31 29.0	
FURC	baz=228			S		01 31 41.8	
SPG2	**Springville 2**	**0.93**	**291**		**Pg**	**01 31 28.9**	**-1.0**
SPG2					**Sg**	**01 31 41.8**	**-0.2**
HYS	**Haystack Butte**	**1.01**	**174**		**Pg**	**01 31 30.4**	**-0.8**
EDW2	**Edwards Air Fo**	**1.01**	**194**		**Pb**	**01 31 31.7**	**+0.3**
EDW2	**Edwards Air Fo** baz=14,SNR=139	**1.01**	**194**	P		01 31 30.0	
EDW2	baz=14			S		01 31 43.5	
TEJ	**El Tejon**	**1.03**	**232**		**Pg**	**01 31 30.6**	**-1.1**
VES	**Vestal, Richgr**	**1.13**	**269**		**Pg**	**01 31 32.8**	**-0.8**
VES					**Sg**	**01 31 48.4**	**+0.1**
VES	**Vestal, Richgr** baz=89,SNR=92	**1.13**	**269**	P		01 31 32.7	
VES	baz=89			S		01 31 47.8	
RRX	**Edison Barstow** baz=330	**1.14**	**150**	P		01 31 32.4	
RRX	baz=330			S		01 31 48.9	
SHOC	**Shoshone, Teco**	**1.15**	**88**		**Sb**	**01 31 49.0**	**+0.3**
SHOC	**Shoshone, Teco** baz=268,SNR=71	**1.15**	**88**	P		01 31 32.9	
SHOC	baz=268			S		01 31 48.8	
GRAC	**Grapevine Rang** baz=193,SNR=28	**1.16**	**13**	P		01 31 33.4	
GRAC	baz=193			S		01 31 49.6	
GVN	**Grapevine**	**1.17**	**14**		**Pg**	**01 31 33.5**	**-0.7**
ARVC	**Arvin**	**1.19**	**232**		**Pn**	**01 31 35.1**	**+0.7**
ARVC	**Arvin** baz=51,SNR=51	**1.19**	**232**	P		01 31 33.4	
TJR	**Tejon Ranch**	**1.20**	**226**		**Pg**	**01 31 33.4**	**-1.4**
SGV	**South Grapevin**	**1.23**	**25**		**Pg**	**01 31 34.7**	**-0.8**
THC	**Tehachapi Micr**	**1.24**	**220**		**Pg**	**01 31 34.3**	**-1.4**
TIN	**Tinemaha, Big** baz=160	**1.26**	**340**	S		01 31 52.5	
AMDNV	**Amargosa**	**1.28**	**62**		**Pn**	**01 31 34.9**	**-0.7**
AMDNV					**Sb**	**01 31 52.7**	**+0.2**
LEOC	**Leona Valley**	**1.33**	**202**		**Pn**	**01 31 36.7**	**+0.2**
HELL	**Mitchell Peak,**	**1.35**	**307**		**Pn**	**01 31 36.3**	**-0.5**
HELL					**Sb**	**01 31 54.8**	**+0.3**
LCH	**Last Change Ra**	**1.36**	**2**		**Pn**	**01 31 36.8**	**-0.2**
LCH					**Sb**	**01 31 55.4**	**+0.4**
LRRC	**Littlerock Res**	**1.37**	**192**		**Pn**	**01 31 37.2**	**+0.4**
LRRC					**Sg**	**01 31 55.7**	**0.0**
BTPC	**Burnt Peak**	**1.39**	**212**		**Pb**	**01 31 38.2**	**+0.4**
JNH	**Juniper Hills**	**1.43**	**189**		**Pb**	**01 31 39.0**	**+0.4**
VOG	**Valley Oaks Go**	**1.44**	**289**		**Pn**	**01 31 38.2**	**+0.3**
VOG					**Sg**	**01 31 57.9**	**-0.4**
VOG	**Valley Oaks Go** baz=108,SNR=15	**1.44**	**289**	Pb		01 31 38.0	
VOG	baz=108			Sb		01 31 57.7	
DSCC	**Desert Studies**	**1.48**	**119**		**Pn**	**01 31 37.3**	**-1.1**
TUQ	**Turquoise Moun**	**1.50**	**106**		**Pn**	**01 31 39.2**	**+0.4**
TUQ	**Turquoise Moun** baz=287,SNR=26	**1.50**	**106**	P		01 31 38.0	
TUQ	baz=287			Sb		01 31 59.5	
OSI	**Osito Audit: C**	**1.51**	**214**		**Pn**	**01 31 38.9**	**0.0**
OSI				Sn	**Sn**	**01 31 58.7**	**+0.1**
OSI	comp=E,275nm,1.0s			IAML		01 32 06.6	
OSI	comp=N,278nm,0.6s			IAML		01 32 09.5	
OSI	**Osito Audit: C** baz=34	**1.51**	**214**	Sb		01 31 58.9	
HEC	**Hector,Ludlow**	**1.52**	**133**		**Sg**	**01 32 00.3**	**-0.3**
HEC	**Hector,Ludlow** baz=313,SNR=99	**1.52**	**133**	P		01 31 38.0	
HEC	baz=313			Sb		01 31 59.6	
CHFC	**Chilao Flat St**	**1.56**	**190**		**Pb**	**01 31 41.0**	**+0.2**
CHFC					**Sb**	**01 32 01.3**	**+0.9**
POCCA	**Poleta Canyon**	**1.57**	**343**		**Pn**	**01 31 40.1**	**+0.3**
BHPR	**Bishop**	**1.57**	**336**		**Pn**	**01 31 40.0**	**+0.1**
XTL	**Crystal Lake,**	**1.57**	**185**		**Pb**	**01 31 41.4**	**+0.3**
TPNV	**Topopah Spring**	**1.59**	**47**		**Pn**	**01 31 40.0**	**-0.1**
TPNV				Sn	**Sn**	**01 32 00.2**	**-0.5**
TPNV	comp=N,266nm,0.8s			IAML		01 32 05.2	
TPNV	comp=N,232nm,0.8s			IAML		01 32 07.8	
TPNV	**Topopah Spring** baz=227,SNR=137	**1.59**	**47**	P		01 31 40.0	
MPI	**Mount Pinos, F**	**1.59**	**229**		**Pn**	**01 31 41.0**	**+0.8**
BFSC	**Mount Baldy Ra**	**1.62**	**179**		**Pb**	**01 31 42.2**	**+0.3**
BFSC	**Mount Baldy Ra** baz=359	**1.62**	**179**	Sb		01 32 02.8	
MTUM	**Tungsten Hills**	**1.64**	**335**		**Pb**	**01 31 42.5**	**+0.3**
SSK	**Sunset Peak**	**1.65**	**180**		**Pb**	**01 31 42.9**	**+0.5**
MWC	**Mount Wilson**	**1.67**	**191**		**Pn**	**01 31 41.3**	**+0.2**
MWC	comp=E,327nm,0.6s			IAML		01 32 05.9	
MWC	comp=N,280nm,0.5s			IAML		01 32 10.8	
SIL	**Silver Peak**	**1.67**	**155**		**Pb**	**01 31 43.2**	**+0.5**
SCHCA	**Scheelite**	**1.69**	**332**		**Pb**	**01 31 43.2**	**+0.1**
BTL	**Butler Peak**	**1.70**	**160**		**Pg**	**01 31 44.2**	**-0.3**
BBRC	**Big Bear Solar** baz=339	**1.72**	**158**	Pg		01 31 44.1	
PASC	**Pasadena Art C**	**1.74**	**194**		**Pn**	**01 31 42.8**	**+0.8**
PASC				Sg	**Sg**	**01 32 07.1**	**-0.6**
CRGC	**Crocker Grade**	**1.77**	**250**		**Pb**	**01 31 43.9**	**-0.5**
DJJ	**Donna J Jenkin**	**1.87**	**200**		**Pn**	**01 31 42.6**	**-1.2**
GTM	**Goat Mountain**	**1.91**	**145**		**Pb**	**01 31 47.0**	**+0.2**
SMMC	**Simmler** baz=73	**1.96**	**254**	Pb		01 31 46.5	
SMMC	baz=73			Sb		01 32 12.0	
PKEM	**Kettleman Hill**	**1.97**	**276**		**Pb**	**01 31 47.9**	**+0.2**
BENR	**Benton**	**1.98**	**339**		**Pb**	**01 31 48.5**	**+0.5**
GMRC	**Granite Mounta**	**1.98**	**122**		**Pn**	**01 31 43.9**	**-1.5**
GMRC	**Granite Mounta** baz=304,SNR=22	**1.98**	**122**	P		01 31 43.8	
MLAC	**Mammoth, Mammo**	**1.99**	**333**		**Pb**	**01 31 48.7**	**+0.5**
MLAC	**Mammoth, Mammo** baz=152	**1.99**	**333**	Pb		01 31 48.4	
PKM	**Mcpherson Peak** baz=60	**1.99**	**241**	Pb		01 31 47.2	
PKM	baz=60			Sb		01 32 13.3	
BCH	**Branch Mountai**	**2.07**	**251**		**Pb**	**01 31 48.7**	**-0.8**
PAGB	**Antelope Grade**	**2.08**	**267**		**Pn**	**01 31 48.1**	**+1.3**
PAGB				Sg	**Sb**	**01 32 17.1**	**+1.4**
MDPB	**Devils Postpil**	**2.09**	**328**		**Pb**	**01 31 49.9**	**0.0**
MDPB	comp=N,92nm,0.7s			IAML		01 32 21.9	
MDPB	comp=E,90nm,0.7s			IAML		01 32 28.7	
TRAM	**Private Proper**	**2.11**	**266**		**Pb**	**01 31 49.1**	**-1.0**
SHPR	**Sheep Range**	**2.14**	**72**	Pn	**Pn**	**01 31 47.7**	**0.0**
SHPR	comp=N,127nm,0.7s			IAML		01 32 22.4	
SHPR	comp=E,180nm,0.7s			IAML		01 32 27.0	
MHDM	**Hidden Dam**	**2.17**	**306**		**Pb**	**01 31 50.1**	**-1.0**
PARM	**Anticline Ridg**	**2.18**	**281**		**Pb**	**01 31 50.5**	**-0.8**
TPH	**Tonopah**	**2.23**	**10**		**Pn**	**01 31 49.5**	**+0.5**
TPH	**Tonopah** comp=E,119nm,0.9s	**2.23**	**10**	IAML		01 32 32.7	
TPH	comp=N,100nm,0.8s			IAML		01 32 32.9	
MMIM	**Miami Mountain**	**2.27**	**314**		**Pb**	**01 31 52.7**	**-0.1**
LHV	**Little Huntoon**	**2.47**	**345**		**Pn**	**01 31 52.6**	**+0.6**
LHV	comp=E,79nm,1.0s			IAML		01 32 36.3	
LHV	comp=N,70nm,1.2s			IAML		01 32 48.0	
PFO	**Pinyon Flats O**	**2.47**	**155**		**Pn**	**01 31 52.1**	**-0.1**
PFO	comp=N,90nm,0.7s			IAML		01 32 35.5	
PFO	comp=N,73nm,1.0s			IAML		01 32 44.1	
CIS	**Catalina Islan** baz=14	**2.53**	**194**	Pg		01 31 59.6	
PMPB	**Monarch Peak**	**2.54**	**279**	Pn	**Pn**	**01 31 53.8**	**+0.7**
MBUM	**Mount Bullion**	**2.56**	**312**		**Pb**	**01 31 57.0**	**-0.8**
NV11	**Mina Array Sit**	**2.59**	**352**		**Pn**	**01 31 54.1**	**+0.3**
RAMR	**Ramage Ranch**	**2.60**	**266**		**Pn**	**01 31 56.2**	**+2.4**
NVAR	**Mina Array Bea**	**2.60**	**349**	Pn	**Pn**	**01 31 54.6**	**+0.5**
PRN	**Pahroc Range**	**2.62**	**53**	Pn	**Pn**	**01 31 54.6**	**+0.4**
PRN	comp=N,112nm,0.8s			IAML		01 32 46.1	
IRM	**Iron Mountain** baz=310	**2.70**	**128**	P		01 31 53.8	
IRM	baz=310			Sb		01 32 36.1	
BRMM	**Rolling Bench**	**2.71**	**292**		**Pb**	**01 31 58.5**	**-1.8**
RYN	**Ryan**	**2.83**	**347**		**Pn**	**01 31 58.1**	**+0.8**
WAKR	**Walker**	**2.98**	**333**		**Pn**	**01 31 59.9**	**+0.7**
R11A	**Troy Canyon, C**	**2.99**	**34**		**Pn**	**01 32 00.2**	**+0.8**
R11A	comp=E,37nm,1.2s			IAML		01 32 49.0	
109C	**Camp Elliot, M**	**3.01**	**171**		**Pn**	**01 31 59.6**	**+0.2**
109C	comp=N,76nm,0.5s			IAML		01 32 47.9	
CMB	**Columbia Colle**	**3.06**	**316**	Pn	**Pn**	**01 32 01.1**	**+0.9**
CMB	comp=E,42nm,0.8s			IAML		01 32 55.2	
CMB	comp=N,60nm,0.6s			IAML		01 32 55.9	
SAO	**San Andreas Ge**	**3.16**	**288**		**Pn**	**01 32 01.6**	**0.0**
KVN	**Kaiserville**	**3.19**	**354**		**Pn**	**01 32 03.0**	**+0.8**
W13A	**Hualapai Mount**	**3.20**	**103**		**Pn**	**01 32 02.1**	**-0.2**
W13A	comp=E,49nm,0.6s			IAML		01 32 58.9	
W13A	comp=N,51nm,0.6s			IAML		01 32 59.1	
BAR	**Barrett**	**3.29**	**165**	Pn	**Pn**	**01 32 04.2**	**+0.9**
PNTR	**Pine Nut**	**3.56**	**335**	Pn	**Pn**	**01 32 07.7**	**+0.5**
PNTR	comp=E,38nm,1.4s			IAML		01 33 33.4	
PNTR	comp=N,42nm,1.0s			IAML		01 33 39.5	
GLA	**Glamis**	**3.67**	**139**	Pn	**Pn**	**01 32 09.7**	**+1.1**
VCNR	**Virginia City**	**3.76**	**336**	Pn	**Pn**	**01 32 10.5**	**+0.5**
VCNR	comp=E,26nm,1.0s			IAML		01 33 15.8	
LCMT	**Little Creek M**	**3.76**	**71**	Pn	**Pn**	**01 32 10.9**	**+0.9**
CCUT	**Cedar City**	**3.86**	**63**		**Pn**	**01 32 12.0**	**+0.6**
CCUT	comp=N,20nm,1.4s			IAML		01 33 19.3	
AFDM	**Forest Hills D**	**4.04**	**321**	Pn	**Pn**	**01 32 15.1**	**+1.6**
AFDM	comp=E,28nm,0.8s			IAML		01 33 27.1	
AFDM	comp=N,26nm,1.0s			IAML		01 33 29.1	
SZCU	**Shurtz Canyon**	**4.08**	**64**	Pn	**Pn**	**01 32 14.7**	**+0.3**
KNB	**Kanab**	**4.09**	**72**		**Pn**	**01 32 15.1**	**+0.6**
KNB	comp=N,27nm,1.5s			IAML		01 33 29.7	
KNB	comp=E,22nm,1.2s			IAML		01 33 39.6	
SPR3	**Spring Creek 3**	**4.11**	**40**	Pn	**Pn**	**01 32 15.6**	**+0.7**
SPR3	comp=E,23nm,1.3s			IAML		01 33 24.4	
SPR3	comp=N,18nm,0.7s			IAML		01 33 25.2	
Y14A	**Wickenburg**	**4.30**	**115**		**Pn**	**01 32 15.2**	**-2.1**
U15A	**North Rim**	**4.41**	**81**		**Pn**	**01 32 18.9**	**0.0**
U15A	comp=N,28nm,0.9s			IAML		01 33 35.2	
113A	**Mohawk Valley,**	**4.48**	**132**		**Pn**	**01 32 22.5**	**+2.8**
113A	comp=N,11nm,0.7s			IAML		01 33 44.3	
113A	comp=E,17nm,0.8s			IAML		01 33 44.7	
ELK	**Elko**	**5.24**	**21**		**Pn**	**01 32 30.3**	**0.0**
X16A	**Lo Mia Camp, P**	**5.32**	**104**	Pn	**Pn**	**01 32 32.5**	**+1.1**
X16A	comp=N,14nm,1.0s			IAML		01 34 12.5	

*IDC **02** 01:38:35.5±0.7, 8˚.23S×149˚.12E, h0km, mb4.1/14, mb1 4.4/17, mb1mx4.3/33, mbtmp4.2/17, ML4.5/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/38, Error ellipse: s-maj=20.6km s-min=14.8km az=113.0*
*NEIC **02** 01:38:42.2±1.0, 8˚.20S±0˚.07×149˚.03E±0˚.10, h37km±9km, mb4.1/12, Error ellipse: s-maj=15.7km s-min=7.4km az=55.0*

ISC 02 01:38:41.0±0.6, 8˚.19S±0˚.08×149˚.11E±0˚.09, h35km, n44, σ1.900/41, mb4.1/14, MS3.3/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 19nm,0.3s,baz=64,slow=4.4,SNR=22	**2.28**	**238**	Pn	**Pn**	**01 39 16.1**	**0.0**
PMG	47nm,0.3s,baz=72,slow=20,SNR=13			Sn	**Sn**	**01 39 46.0**	**+3.0**
PMG	comp=Z,795nm,19.7s,baz=43,slow=42			LR	LR	01 40 10.6	
EIDS	**Eidsvold**	**17.19**	**174**		**P**	**01 42 39.8**	**+0.1**
EIDS	comp=Z,10nm,1.1s			IAmb	IAmb	01 42 51.9	
WB0	**Warramunga Arr**	**18.33**	**230**		**Pn**	**01 42 52.8**	**+0.3**
WB0	comp=Z,9.1nm,0.7s			IAmb	IAmb	01 42 54.1	
WR0	**Warramunga Arr**	**18.33**	**229**	P	**Pn**	**01 42 52.6**	**0.0**
WR0	comp=Z,8.9nm,0.8s			IAmb	IAmb	01 42 54.6	
WB2	**Warramunga Arr**	**18.46**	**229**		**Pn**	**01 42 53.9**	**-0.3**
WB2	comp=Z,13nm,0.6s			IAmb	IAmb	01

comp=Z,1.4nm,0.6s,baz=166,slow=18,SNR=3.3
USRK Ussuriysk Ar. 54.40 345 P **P** **01 48 04.7 +0.2**
CMAR Chiang Mai Arr 56.13 299 P **P** **01 48 16.8 -0.7**
comp=Z,0.7nm,0.3s,baz=117,slow=5.1,SNR=5.6
CMAR LR LR 02 12 04.2
comp=Z,16nm,21.6s,baz=110,slow=36
CMAR Chiang Mai Arr 56.13 299 P **P** **01 48 16.9 -0.6**
PPT Papeete 60.28 106 LR LR 02 09 28.9
comp=Z,64nm,21.4s,baz=285,slow=31
PEA0B Petropavlovsk- 61.49 6 P **P** **01 48 55.3 +1.3**
PETK Petropavlovsk- 61.49 6 P **P** **01 48 55.1 +1.0**
comp=Z,3.6nm,0.8s,baz=156,slow=6.4,SNR=5.5
PETK Petropavlovsk- 61.49 6 P **P** **01 48 54.9 +0.8**
SONM Songino Array 67.33 330 P **P** **01 49 33.0 +0.5**
comp=Z,1.4nm,0.7s,baz=138,slow=6.1,SNR=9.1
SONM Songino Array 67.33 330 P **P** **01 49 32.6 +0.1**
MKAR Makanchi Array 80.51 320 P **P** **01 50 49.4 -0.2**
comp=Z,0.4nm,0.7s,baz=79,slow=6.3,SNR=4.1
MKAR Makanchi Array 80.51 320 P **P** **01 50 49.7 +0.1**
ZALV Zalesovo Beam 81.97 327 P **P** **01 50 58.0 +0.8**
comp=Z,0.5nm,0.5s,baz=101,slow=1.5,SNR=1.9
ZALV Zalesovo Beam 81.97 327 P **P** **01 50 57.5 +0.3**
ILAR Eielson Array 86.67 23 P **P** **01 51 22.7 +2.0**
comp=Z,0.5nm,0.7s,baz=253,slow=5.2,SNR=5.9
ILAR Eielson Array 86.67 23 P **P** **01 51 21.9 +1.2**
NVAR Mina Array Bea 97.04 52 P **P** **01 52 09.2 -0.7**
comp=Z,0.5nm,0.7s,baz=256,slow=3.8,SNR=3.8
NVAR LR LR 02 29 48.8
comp=Z,38nm,20.4s,baz=235,slow=32
LPAZ La Paz 135.84 123 PKP **PKPdf** **01 57 59.6 -0.3**
comp=Z,1.0nm,0.8s,baz=219,slow=6.5,SNR=4.6
TORD Torodi Ar. Bea 147.62 282 PKPbc **PKPbc** **01 58 22.4 -0.4**
comp=Z,0.7nm,0.7s,baz=75,slow=2.4,SNR=4.7
BDFB Brasilia 150.87 144 PKPbc **PKPbc** **01 58 29.7 -1.3**
comp=Z,3.4nm,0.7s,baz=214,slow=4.4,SNR=5.8

*EAF **02** 01:40:01.9±39.0, 5.˚58S×28.˚79E, h83km±999km, MD3.8*
ISC 02 01:40:03.3±1.5, 4.˚97S±0.˚07×30.˚0E±0.˚1, h10km, n39, σ1§08/40, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**4.39**	**9**	*eP*		**Pn**	**01 41 08.7**	**-1.6**
MBAR				*eS*		**Sn**	**01 42 02.6**	**+1.0**
MBAR	**Mbarara**	**4.39**	**9**	*iP*		**Pn**	**01 41 08.4**	**-1.8**
MBAR				IAML			01 42 17.9	
comp=Z,791nm,0.2s								
LOSI	**Makongolosi**	**4.60**	**138**	*i* P		**Pn**	**01 41 12.6**	**-0.5**
LOSI				IAML			01 42 26.7	
comp=Z,360nm,0.4s								
JILO	**Lwanjilo**	**5.12**	**137**	*i* P		**Pn**	**01 41 19.8**	**-0.5**
JILO				IAML			01 42 41.4	
comp=Z,206nm,0.4s								
ILIND	**Ilindi**	**5.23**	**142**	*i* P		**Pn**	**01 41 22.2**	**+0.4**
ILIND				IAML			01 42 53.8	
comp=Z,2μm,0.4s								
IGOM	**Igoma**	**5.38**	**138**	*i* P		**Pn**	**01 41 24.2**	**+0.2**
IGOM				IAML			01 43 05.6	
comp=Z,3μm,0.4s								
ILOM	**Ilombo**	**5.40**	**143**	*i* P		**Pn**	**01 41 25.6**	**+1.5**
ILOM				IAML			01 42 57.0	
comp=Z,237nm,0.4s								
ITUM	**Tunduma**	**5.40**	**145**	*i* P		**Pn**	**01 41 25.1**	**+1.1**
ITUM				IAML			01 42 52.1	
comp=Z,189nm,0.5s								
CHML	**Chimala**	**5.51**	**134**	*i* P		**Pn**	**01 41 25.4**	**-0.2**
CHML				IAML			01 42 56.1	
comp=Z,518nm,0.4s								
TEBE	**Entebbe**	**5.55**	**26**	*eP*		Pg	01 42 25.2	+36
TEBE				*eS*		**Sb**	**01 42 48.7**	**+1.6**
TEBE	**Entebbe**	**5.55**	**26**	*i* P		**Pn**	**01 41 24.8**	**-1.3**
MATAM	**Matamba**	**5.56**	**136**	*i* P		**Pn**	**01 41 26.3**	**-0.1**
MATAM				IAML			01 43 07.8	
comp=Z,317nm,0.6s								
ISOK	**Kyela**	**5.67**	**143**	*i* P		**Pn**	**01 41 26.9**	**-0.9**
ISOK				IAML			01 43 06.3	
comp=Z,429nm,0.4s								
CPMW	**Chitipa**	**5.69**	**146**	*i* P		**Pn**	**01 41 27.9**	**-0.3**
CPMW				IAML			01 43 04.7	
comp=Z,142nm,0.7s								
GAWA	**Igawa**	**5.73**	**131**	*i* P		**Pn**	**01 41 27.2**	**-1.4**
GAWA				IAML			01 43 02.8	
comp=Z,203nm,1.6s								
KAPK	**Kapoka**	**5.86**	**145**	*i* P		**Pn**	**01 41 31.1**	**+0.7**
KAPK				IAML			01 43 11.1	
comp=Z,216nm,0.5s								
MAKE	**Makete**	**5.87**	**137**	*i* P		**Pn**	**01 41 32.8**	**+2.2**
MAKE				IAML			01 43 12.2	
comp=Z,444nm,0.4s								
KALO	**Kalowe**	**6.07**	**144**	*i* P		**Pn**	**01 41 33.7**	**+0.4**
KALO				IAML			01 43 22.2	
comp=Z,85nm,0.5s								
UKWA	**Ukwama**	**6.08**	**137**	*i* P		**Pn**	**01 41 35.7**	**+2.1**
BAKO	**Makambako**	**6.10**	**129**	*i* P		**Pn**	**01 41 32.9**	**-0.8**
BAKO				IAML			01 43 21.3	
comp=Z,288nm,0.5s								
LM103	**Lake Malawi, 1**	**6.21**	**140**	*i* P		**Pn**	**01 41 32.5**	**-2.5**
LM103				IAML			01 43 48.8	
comp=Z,542nm,2.4s								
WENY	**Wenya**	**6.22**	**146**	*i* P		**Pn**	**01 41 35.2**	**-0.3**
KARM1	**KARONGA**	**6.26**	**143**	*i* P		**Pn**	**01 41 35.3**	**-0.5**
KARM1				IAML			01 43 21.0	
comp=Z,83nm,0.6s								
NTHA	**Nthalire**	**6.43**	**147**	*i* P		**Pn**	**01 41 38.6**	**+0.3**
NTHA				IAML			01 43 29.8	
comp=Z,159nm,0.7s								
SCHM	**Mlare**	**6.51**	**143**	*i* P		**Pn**	**01 41 38.9**	**-0.5**
SCHM				IAML			01 43 41.6	
comp=Z,68nm,0.6s								
CHEL	**Chelinda**	**6.72**	**146**	*i* P		**Pn**	**01 41 42.9**	**+0.6**
CHEL				IAML			01 43 38.4	
comp=Z,142nm,0.4s								
MFRI	**Mfriga**	**6.77**	**130**	*i* P		**Pn**	**01 41 42.0**	**-1.0**
MFRI				IAML			01 43 32.6	
comp=Z,303nm,0.3s								
THAZ	**Thazima**	**6.80**	**149**	*i* P		**Pn**	**01 41 43.6**	**+0.2**
THAZ				IAML			01 43 38.6	
comp=Z,81nm,0.6s								
MUDIN	**Mudindi**	**6.87**	**135**	*i* P		**Pn**	**01 41 43.2**	**-1.1**
MUDIN				IAML			01 43 46.2	
comp=Z,268nm,0.5s								
LIVA	**Livingstonia**	**6.91**	**145**	*i* P		**Pn**	**01 41 44.6**	**-0.2**
BOLE	**Bolero**	**7.01**	**149**	*i* P		**Pn**	**01 41 47.0**	**+0.8**
BOLE				IAML			01 43 40.6	
comp=Z,101nm,0.6s								
BUMI	**Ibumi**	**7.06**	**137**	*i* P		**Pn**	**01 41 48.0**	**+1.1**
BUMI				IAML			01 43 52.0	
comp=Z,103nm,0.3s								
NGON	**Ngonga**	**7.08**	**147**	*i* P		**Pn**	**01 41 46.9**	**-0.2**
NGON				IAML			01 43 49.9	
comp=Z,121nm,0.5s								
LBB	**Lubumbashi**	**7.09**	**201**	*i* P		**Pn**	**01 41 47.5**	**+0.3**
ENUK	**Enukweni**	**7.25**	**149**	*i* P		**Pn**	**01 41 49.7**	**-0.1**
ENUK				IAML			01 43 57.8	
comp=Z,95nm,1.1s								
BANG	**Mbangamawe**	**7.55**	**133**	*i* P		**Pn**	**01 41 52.8**	**-0.8**
BANG				IAML			01 44 10.2	
comp=Z,266nm,0.6s								
ZINI	**Mgazini**	**7.58**	**136**	*i* P		**Pn**	**01 41 53.8**	**-0.2**
KURU	**Muhukuru**	**8.19**	**139**	*i* P		**Pn**	**01 42 03.4**	**+1.1**
KIMO	**Ikongo**	**8.23**	**134**	*i* P		**Pn**	**01 42 03.8**	**+0.9**

IDC 02 02:12:34.3±7.8, 18.˚14S×168.˚98E, h181km±94km, mb3.2/3, mb1 3.5/4, mb1mx3.1/52, mbtmp3.7/4, Error ellipse: s-maj=167.0km s-min=33.9km az=159.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.58**	**211**	P		Pn	02 13 42.8	-0.1
3.7nm,0.3s,baz=58,slow=18,SNR=40								
DZM				S		Sn	02 14 29.0	-7.7
0.9nm,0.3s,baz=108,slow=9.1,SNR=3.5								
WRA	**Warramunga Arr**	**32.76**	**261**	P		P	02 18 50.5	+0.1
0.2nm,0.3s,baz=82,slow=6.1,SNR=5.3								
ASAR	**Alice Springs**	**33.17**	**254**	P		P	02 18 53.8	-0.2
1.1nm,0.5s,baz=81,slow=8.9,SNR=14								
ILAR	**Eielson Array**	**89.26**	**17**	P		P	02 25 09.4	0.0
0.2nm,0.4s,baz=233,slow=5.0,SNR=4.2								
ARCES	**ARCESS Array B**	**123.95**	**345**	PKP		PKPdf	02 31 09.9	-0.4
1.4nm,0.7s,baz=35,slow=3.3,SNR=3.9								

*MAN **02** 02:16:54.8, 12.˚39N×124.˚79E, h68km, MS3.0*
*NEIC **02** 02:16:54.7±1.3, 12.˚2N±0.˚1×124.˚9E±0.˚1, h73km±9km, mb4.1/13, Error ellipse: s-maj=19.3km s-min=14.7km az=215.0*
*IDC **02** 02:16:55.6±3.4, 12.˚24N×124.˚90E, h93km±30km, mb3.7/17, mb1 3.8/17, mb1mx3.5/70, mbtmp4.0/17, MS3.4/1, Ms1 3.6/1, ms1mx2.7/35, Error ellipse: s-maj=27.9km s-min=14.9km az=73.0*
ISC 02 02:16:56.5±0.5, 12.˚32N±0.˚05×124.˚83E±0.˚06, h100km, n50, σ1§55/51, mb4.0/24, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.93**	**140**	*eP*		**Pn**	**02 17 13.2**	**-3.0**
BESP				*eS*		**Sn**	**02 17 29.0**	**-1.9**
LLP	**Lapu-Lapu**	**2.17**	**203**	*i/P*		**Pn**	**02 17 30.1**	**-1.2**
LLP				*i S*		**Sn**	**02 17 56.3**	**-1.5**
MSLP	**Maasin**	**2.17**	**179**	*eP*		**Pn**	**02 17 30.8**	**-0.5**
MSLP				*eS*		**Sn**	**02 17 59.1**	**+1.1**
RCP	**Roxas**	**2.18**	**250**	*eP*		**Pn**	**02 17 30.5**	**-0.9**
RCP				*eS*		**Sn**	**02 18 00.5**	**+2.4**
JCNP	**Jose Panganiba**	**2.85**	**314**	*eP*		**Pn**	**02 17 37.6**	**-2.7**
JCNP				*eS*		Sn	02 18 04.2	-10
CNOP	**Candoni, Negro**	**3.28**	**221**	*eP*		**Pn**	**02 17 44.3**	**-1.7**
CNOP				*eS*		**Sn**	**02 18 18.4**	**-5.9**
LQP	**Lukban**	**3.67**	**299**	*eP*		**Pn**	**02 17 50.8**	**-0.7**
POLP	**Polilio Island**	**3.69**	**311**	*eP*		**Pn**	**02 17 50.4**	**-1.1**
POLP				*eS*		**Sn**	**02 18 31.3**	**-2.9**
BUKP	**Musuan**	**4.42**	**177**	*eP*		**Pn**	**02 18 02.2**	**+0.8**
PAGZ	**Pagadian**	**4.67**	**198**	*eP*		**Pn**	**02 18 05.2**	**+0.5**
JWT	**Wachi**	**24.79**	**21**	P		**P**	**02 22 09.0**	**-0.1**
JWT				IAmb		IAmb	02 22 12.6	
comp=Z,6.6nm,1.0s								
KSRS	**Korea Array**	**25.18**	**6**	P		**P**	**02 22 13.4**	**+0.8**
comp=Z,2.0nm,0.6s,baz=187,slow=10,SNR=7.7								
CMAR	**Chiang Mai Arr**	**25.68**	**287**	P		**P**	**02 22 18.7**	**+1.3**
comp=Z,9.0nm,0.3s,baz=110,slow=9.7,SNR=1.9								
CMAR				LR		LR	02 34 05.4	
comp=Z,78nm,19.2s,baz=100,slow=40								
FITZ	**Fitzroy Crossi**	**30.24**	**178**	P		**P**	**02 22 57.3**	**-0.7**
FITZ				IAmb		IAmb	02 23 06.5	
comp=Z,4.0nm,1.1s								
USRK	**Ussuriysk Ar.**	**32.36**	**10**	P		**P**	**02 23 16.7**	**+0.4**
comp=Z,1.4nm,0.6s,baz=172,slow=6.8,SNR=5.1								
USRK	**Ussuriysk Ar.**	**32.36**	**10**	P		**P**	**02 23 17.1**	**+0.7**
WB0	**Warramunga Arr**	**33.25**	**163**	P		**P**	**02 23 23.2**	**-1.1**
WB0				IAmb		IAmb	02 23 28.6	
comp=Z,4.1nm,1.1s								
WRAB	**Tennant Creek**	**33.39**	**164**	P		**P**	**02 23 25.3**	**-0.3**
WRA	**Warramunga Arr**	**33.40**	**164**	P		**P**	**02 23 24.0**	**-1.7**
comp=Z,0.6nm,0.6s,baz=340,slow=9.2,SNR=2.8								
WRA				ScP		**ScP**	**02 29 41.3**	**+0.6**
comp=Z,0.9nm,1.1s,baz=344,slow=2.9,SNR=2.2								
WRA	**Warramunga Arr**	**33.40**	**164**	P		**P**	**02 23 23.5**	**-2.2**
WB2	**Warramunga Arr**	**33.40**	**164**	P		**P**	**02 23 23.9**	**-1.8**
WB2				IAmb		IAmb	02 23 35.9	
comp=Z,3.7nm,1.1s								
WR0	**Warramunga Arr**	**33.47**	**163**	P		**P**	**02 23 26.0**	**-0.3**
WR0				IAmb		IAmb	02 23 38.7	
comp=Z,2.2nm,1.1s								
AS31	**Alice Springs**	**36.85**	**166**	P		**P**	**02 23 55.6**	**+0.3**
ASAR	**Alice Springs**	**36.85**	**166**	P		**P**	**02 23 54.5**	**-0.8**
comp=Z,0.7nm,0.3s,baz=343,slow=7.5,SNR=14								
ASAR	**Alice Springs**	**36.85**	**166**	P		**P**	**02 23 52.7**	**-2.7**
KLR	**Kul'dur**	**37.24**	**7**	P		**P**	**02 23 59.1**	**+0.8**
comp=Z,1.2nm,0.7s,baz=163,slow=14,SNR=2.2								
SONM	**Songino Array**	**38.62**	**340**	P		**P**	**02 24 10.5**	**+0.4**
comp=Z,1.0nm,0.5s,baz=160,slow=11,SNR=6.4								
SONM	**Songino Array**	**38.62**	**340**	P		**P**	**02 24 10.9**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**40.74**	**76**	T		T	03 07 45.7	
baz=268,slow=75								
H11S1	**WAKE ISLAND Hy**	**40.76**	**76**	T		T	03 07 43.7	
baz=268,slow=75								
H11S2	**WAKE ISLAND Hy**	**40.76**	**76**	T		T	03 07 41.7	
baz=268,slow=75								
H11N1	**WAKE ISLAND Hy**	**41.00**	**74**	T		T	03 08 01.0	
baz=266,slow=75,SNR=22								
H11N2	**WAKE ISLAND Hy**	**41.01**	**74**	T		T	03 08 02.5	
baz=266,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**41.02**	**74**	T		T	03 08 03.0	
baz=266,slow=75,SNR=23								
BBOO	**Buckleboo**	**46.14**	**167**	P		**P**	**02 25 10.9**	**-0.2**
MK31	**Makanchi Array**	**49.55**	**322**	P		**P**	**02 25 38.7**	**+1.4**
MK31				IAmb		IAmb	02 25 39.2	
comp=Z,1.5nm,0.7s								
MKAR	**Makanchi Array**	**49.55**	**322**	P		**P**	**02 25 38.4**	**+1.1**
comp=Z,1.7nm,0.7s,baz=116,slow=8.5,SNR=13								
MKAR	**Makanchi Array**	**49.55**	**322**	P		**P**	**02 25 38.5**	**+1.2**
ZALV	**Zalesovo Beam**	**52.16**	**331**	P		**P**	**02 25 57.1**	**+0.4**
comp=Z,0.6nm,0.3s,baz=142,slow=8.6,SNR=3.5								
KURBB	**Kurchatov Arra**	**53.59**	**325**	P		**P**	**02 26 08.1**	**+0.8**
comp=Z,3.6nm,0.7s,baz=125,slow=7.3,SNR=12								
AKTO	**Aktyubinsk**	**65.86**	**320**	P		**P**	**02 27 31.8**	**+0.4**
comp=Z,0.6nm,0.5s,baz=85,slow=8.1,SNR=3.8								
ARU	**Arti**	**66.75**	**326**	P		**P**	**02 27 37.1**	**+0.2**
comp=Z,1.4nm,0.5s,baz=96,slow=9.2								
MLY	**Manley**	**76.57**	**26**	P		**P**	**02 28 36.8**	**+1.1**
MLY				IAmb		IAmb	02 28 38.1	
comp=Z,2.8nm,0.7s								
ILAR	**Eielson Array**	**78.22**	**26**	P		**P**	**02 28 45.2**	**+0.3**
comp=Z,0.5nm,0.8s,baz=234,slow=6.0,SNR=5.5								
ARCES	**ARCESS Array B**	**81.79**	**339**	P		**P**	**02 29 04.5**	**+0.5**
comp=Z,3.4nm,0.8s,baz=78,slow=7.6,SNR=8.5								
BRTR	**Keskin Array B**	**83.15**	**309**	P		**P**	**02 29 12.2**	**+0.3**
comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=1.6								
FIA1	**FINESS Array S**	**83.43**	**331**	P		**P**	**02 29 13.7**	**+1.0**
AKASG	**Malin Array Be**	**84.09**	**320**	P		**P**	**02 29 16.3**	**0.0**
comp=Z,0.3nm,0.5s,baz=61,slow=5.0,SNR=2.4								
HFS	**Hagfors**	**89.59**	**332**	P		**P**	**02 29 41.8**	**-1.0**
comp=Z,0.7nm,0.6s,baz=79,slow=9.0,SNR=0.9								
TXAR	**Lajitas Array**	**117.52**	**48**	PKP		**PKiKP**	**02 35 31.8**	**+0.3**
comp=Z,0.1nm,0.5s,baz=295,slow=4.9,SNR=1.9								

*ANF **02** 02:20:34.9±3.9, 44.˚23N×131.˚19W, h10km, Error ellipse: s-maj=42.4km s-min=7.2km az=73.0, Hypocentre not reviewed by the ISC*
*IDC **02** 02:20:45.1±2.8, 44.˚74N×129.˚91W, h0km, mb3.0/2, mb1 3.6/7, mb1mx3.3/54, mbtmp3.2/7, ML3.0/5, MS3.1/5, Ms1 3.1/5, ms1mx2.7/17, Error ellipse: s-maj=52.5km s-min=21.1km az=52.0*
*NEIC **02** 02:20:46.0±0.9, 44.˚6N±0.˚1×130.˚1W±0.˚2, h10km±2km, mb3.6/2, ML3.4/10, Error ellipse: s-maj=19.4km s-min=17.6km az=279.0*
ISC 02 02:20:45.6±1.7, 44.˚61N±0.˚08×130.˚2W±0.˚1, h10km, n36, σ0§84/31, mb3.0/3, MS3.1/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**4.56**	**94**	P			02 21 53.2	
baz=278								
KEBM	**Edson Butte**	**4.57**	**110**	Pn		**Pn**	**02 21 52.9**	**-1.9**
KEBM				IAML			02 24 16.9	
comp=E,46nm,2.7s								
KEBM				IAML			02 24 51.4	
comp=N,32nm,2.8s								
J01E	**Myrtle Point**	**4.73**	**106**	P			02 21 54.9	
baz=290								
COR	**Corvallis**	**4.90**	**88**			**Pn**	**02 21 59.0**	**-0.3**
COR				IAML			02 22 49.9	
comp=N,22nm,2.0s								
COR				IAML			02 23 52.8	
comp=N,18nm,2.1s								
G03D	**McMinnville, O**	**4.94**	**81**	P			02 21 59.4	
baz=265,SNR=6.4								
KBO	**Bosley Butte**	**4.95**	**117**	Pn		**Pn**	**02 22 01.2**	**+1.2**
I03D	**Drain, OR**	**4.99**	**98**	P			02 21 59.2	
baz=282,SNR=5.3								
E03A	**Lebam**	**5.03**	**65**	Pn		**Pn**	**02 22 00.8**	**-0.2**
E03A				IAML			02 23 40.3	
comp=N,31nm,2.3s								
E03A				IAML			02 24 55.5	
comp=E,32nm,2.2s								
K02D	**Willamette Mer**	**5.09**	**110**	P			02 21 59.4	
baz=294								
NLWA	**Neilton Lookou**	**5.20**	**55**	Pn		**Pn**	**02 22 03.8**	**+0.4**
NLWA				Sn		**Sn**	**02 23 03.6**	**+0.2**
H04D	**Lebanon**	**5.31**	**88**	P			02 22 04.7	
baz=273,SNR=6.3								
HUMO	**Hull Mountain**	**5.60**	**108**	Pn		**Pn**	**02 22 09.2**	**+0.2**
I04A	**Tendick Farm,**	**5.63**	**96**	P			02 22 08.3	
baz=280								
E04D	**Cinebar**	**5.68**	**67**	P			02 22 09.8	
baz=252,SNR=8.0								
H04A	**Detroit Lake**	**5.70**	**86**	Pn		**Pn**	**02 22 10.3**	**0.0**
D03D	**Eldon**	**5.73**	**57**	P			02 22 10.8	
baz=241								
D04E	**Lakebay**	**5.77**	**61**	P			02 22 11.7	
baz=246,SNR=7.7								
PGC	**Sidney**	**6.14**	**46**	Pn		**Pn**	**02 22 16.5**	**+0.2**
YBH	**Yreka Blue Hor**	**6.16**	**115**	Pn		**Pn**	**02 22 18.2**	**+1.5**
comp=E,0.1nm,0.3s,baz=292,slow=16,SNR=2.7								
YBH				LR		LR	02 24 00.3	
comp=E,67nm,18.5s,baz=298,slow=32								
YBH	**Yreka Blue Hor**	**6.16**	**115**			**Pn**	**02 22 16.0**	**-0.7**
LON	**Longmire**	**6.23**	**67**			**Pn**	**02 22 18.0**	**+0.3**
D05A	**Enumclaw**	**6.26**	**63**			**Pn**	**02 22 19.2**	**+1.2**
F05D	**White Salmon**	**6.28**	**75**	P			02 22 18.6	
baz=261,SNR=13								
G05D	**Wamic, OR**	**6.32**	**81**	P			02 22 19.2	
baz=267,SNR=9.3								
B05A	**Bryant**	**6.67**	**54**	P			02 22 24.0	
baz=239,SNR=15								
PINE	**Pine Mountain**	**6.68**	**94**	Pn		**Pn**	**02 22 24.0**	**0.0**
LTY	**Liberty**	**7.13**	**65**			**Pn**	**02 22 30.2**	**+0.2**
B06A	**Marblemount**	**7.15**	**54**			**Pn**	**02 22 30.0**	**-0.1**
HOPS	**Hopland Field**	**7.71**	**134**	Pn		**Pn**	**02 22 36.5**	**-1.5**
G08A	**Pilot Rock**	**7.98**	**81**	Pn		**Pn**	**02 22 41.6**	**-0.1**
E08A	**Dider Farm, El**	**8.02**	**73**			**Pn**	**02 22 42.2**	**+0.1**
D08A	**Wollman Farm,**	**8.23**	**69**	Pn		**Pn**	**02 22 45.0**	**+0.1**
BMO	**Blue Mountains**	**9.16**	**84**			**Pn**	**02 22 57.9**	**0.0**
NEW	**Newport**	**9.72**	**63**	Pn		**Pn**	**02 23 03.5**	**-2.0**
comp=E,0.2nm,0.3s,baz=266,slow=15,SNR=1.6								
NEW				LR		LR	02 26 42.3	
comp=E,103nm,20.8s,baz=258,slow=38								
NEW	**Newport**	**9.72**	**63**	Pn		**Pn**	**02 23 04.7**	**-0.7**
NVAR	**Mina Array Bea**	**10.82**	**121**	Pn		**Pn**	**02 23 20.6**	**-0.2**
comp=E,0.1nm,0.3s,baz=307,slow=12,SNR=2.3								
ELK	**Elko**	**11.65**	**104**	Pn		**Pn**	**02 23 33.6**	**+1.6**
comp=E,0.1nm,0.3s,baz=300,slow=13,SNR=8.7								
RDMU	**Red Mountain**	**15.69**	**98**	Pn		**Pn**	**02 24 27.3**	**+0.4**
RDMU				IAmb		IAmb	02 24 38.5	
comp=Z,4.2nm,1.1s								
YKA	**Yellowknife Ar**	**20.06**	**21**	P		**P**	**02 25 18.4**	**-0.3**
comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=1.7								
ILAR	**Eielson Array**	**22.25**	**341**	P		**P**	**02 25 42.2**	**-0.2**
comp=Z,0.5nm,0.9s,baz=145,slow=11,SNR=5.2								
ULM	**Lac du Bonnet**	**23.73**	**64**	LR		LR	02 35 28.8	
comp=Z,66nm,19.0s,baz=284,slow=38								
INK	**Inuvik**	**23.82**	**357**	LR		LR	02 34 59.1	
comp=Z,54nm,19.6s,baz=200,slow=36								
TX32	**Lajitas Array**	**25.94**	**117**	P		**P**	**02 26 18.1**	**0.0**
TX32				IAmb		IAmb	02 26 27.1	
comp=Z,2.0nm,1.3s								
TXAR	**Lajitas Array**	**25.94**	**117**	P		**P**	**02 26 18.4**	**+0.2**
comp=Z,0.3nm,0.9s,baz=330,slow=7.2,SNR=2.6								
TXAR	**Lajitas Array**	**25.94**	**117**	P		**P**	**02 26 17.9**	**-0.3**
FRB	**Frobisher Bay**	**38.94**	**39**	LR		LR	02 44 05.8	
comp=Z,43nm,19.1s,baz=230,slow=36								
H11N3	**WAKE ISLAND Hy**	**57.25**	**266**	T		T	03 32 12.6	
baz=47								
H11N2	**WAKE ISLAND Hy**	**57.25**	**266**	T		T	03 32 09.8	
baz=47,slow=74								
H11N1	**WAKE ISLAND Hy**	**57.26**	**266**	T		T	03 32 11.9	
baz=47,slow=74								

*IDC **02** 02:23:17.7±1.1, 38.˚29N×20.˚44E, h0km, mb3.8/9, mb1 3.6/18, mb1mx3.5/63, mbtmp3.6/18, ML3.5/7, Error ellipse: s-maj=17.4km s-min=15.7km az=36.0*
*BEO **02** 02:23:17.5±0.8, 37.˚89N×20.˚17E, h13km±4km, ML3.4/12*
*TIR **02** 02:23:20.1, 38.˚30N×20.˚05E, h6km±1km, Md3.9, MI3.8*
*THE **02** 02:23:21.7, 38.˚15N×20.˚46E, h10km, ML4.0/11, Error ellipse: s-maj=1.2km s-min=0.6km az=242.0*
*ATH **02** 02:23:21.2, 38.˚16N×20.˚46E, h13km±1km, ML3.5/9, Error ellipse: s-maj=1.7km s-min=0.6km az=249.0*
ISC 02 02:23:20.2±0.7, 38.˚15N±0.˚02×20.˚41E±0.˚03, h17km±3km, n174, σ1§52/233, mb3.7/9, 11C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LXRA	**Lixouri, Kepha**	**0.06**	**22**	P		**Pg**	**02 23 23.9**	**+0.4**
LXRA				S		**Sg**	**02 23 25.4**	**-0.1**
ARG2	**Argostoli**	**0.07**	**62**	P		**Pg**	**02 23 23.5**	**0.0**
ARG2				S		**Sg**	**02 23 25.3**	**-0.4**
332μm,0.2s								
KEF3	**Kipouria, Keph**	**0.07**	**320**	P		**Pg**	**02 23 24.2**	**+0.6**
KEF3				S		**Sg**	**02 23 25.7**	**-0.1**
KEF3	**Kipouria, Keph**	**0.07**	**320**	P		**Pg**	**02 23 24.1**	**+

RLS					AML	AML	02 23 54.4		
	comp=N,2551µm,0.6s								
RLS					AML	AML	02 23 59.4		
	comp=E,1931µm,0.4s								
RLS	**Riolos of Patr**	**0.84**	**96**	P	**Pb**		**02 23 36.1**	**-0.2**	
PVO	**Paravola**	**1.00**	**61**	P	**Pb**		**02 23 39.6**	**+0.6**	
PVO				S	**Sb**		**02 23 52.1**	**+0.3**	
PVO				AML	AML		02 23 55.9		
	comp=E,7610µm,0.3s								
PVO				AML	AML		02 24 00.5		
	comp=N,4498µm,0.3s								
PVO	**Paravola**	**1.00**	**61**	P	**Pb**		**02 23 39.4**	**+0.4**	
DRO	**Drossia**	**1.04**	**100**	P	**Pb**		**02 23 40.0**	**+0.2**	
DRO				S	**Sg**		**02 23 54.8**	**+0.6**	
DRO				AML	AML		02 24 04.0		
	comp=E,5410µm,0.3s								
DRO				AML	AML		02 24 06.5		
	comp=N,4822µm,0.5s								
DRO	**Drossia**	**1.04**	**100**	P	**Pb**		**02 23 39.6**	**-0.2**	
AMT	**Artemida-Makis**	**1.20**	**120**	P	**Pn**		**02 23 43.0**	**+0.9**	
AMT				S	**Sb**		**02 23 57.4**	**-0.2**	
AMT	**Artemida-Makis**	**1.20**	**120**	P	**Pn**		**02 23 43.1**	**+0.9**	
EFP	**Efpalio**	**1.21**	**76**	P	**Pn**		**02 23 42.4**	**0.0**	
EFP				S	**Sb**		**02 23 57.8**	**-0.2**	
EFP				AML	AML		02 24 07.5		
	comp=N,1837µm,0.3s								
EFP				AML	AML		02 24 08.7		
	comp=E,2554µm,0.6s								
EFP	**Efpalio**	**1.21**	**76**	P	**Pn**		**02 23 42.3**	**0.0**	
LAKA	**Lakka**	**1.24**	**85**	P	**Pn**		**02 23 43.0**	**+0.3**	
LAKA				S	**Sb**		**02 23 59.7**	**+0.8**	
LAKA				AML	AML		02 24 07.8		
	comp=E,6666µm,0.6s								
LAKA				AML	AML		02 24 09.7		
	comp=N,4648µm,0.6s								
LAKA	**Lakka**	**1.24**	**85**	P	**Pn**		**02 23 43.2**	**+0.5**	
ANX	**Ano Chora**	**1.27**	**69**	P	**Pn**		**02 23 44.1**	**+0.9**	
ANX				S	**Sb**		**02 24 00.2**	**+0.4**	
ANX	**Ano Chora**	**1.27**	**69**	P	**Pn**		**02 23 43.5**	**+0.3**	
SERG	**Sergoula**	**1.32**	**78**	P	**Pn**		**02 23 44.3**	**+0.3**	
SERG				S	**Sn**		**02 24 02.2**	**+1.0**	
SERG				AML	AML		02 24 10.9		
	comp=N,2551µm,0.5s								
SERG				AML	AML		02 24 11.2		
	comp=E,1553µm,0.6s								
SERG	**Sergoula**	**1.32**	**78**	P	**Pn**		**02 23 44.2**	**+0.3**	
TRIZ	**Trizonia**	**1.33**	**80**	P	**Pn**		**02 23 44.2**	**+0.3**	
TRIZ				S	**Sn**		**02 24 02.1**	**+0.9**	
TRIZ	**Trizonia**	**1.33**	**80**	P	**Pn**		**02 23 44.2**	**+0.3**	
EVR	**Evrytania**	**1.34**	**55**	P	**Pb**		**02 23 46.0**	**+1.0**	
KLV	**Kalavryta, Ach**	**1.38**	**94**	P	**Pn**		**02 23 45.6**	**+0.9**	
KLV	**Kalavryta, Ach**	**1.38**	**94**	P	**Pn**		**02 23 45.4**	**+0.7**	
IGT	**Igoumenitsa**	**1.39**	**358**	P	**Pb**		**02 23 46.4**	**+0.7**	
IGT				S	**Sg**		**02 24 05.2**	**+0.2**	
IGT	**Igoumenitsa**	**1.39**	**358**	P	**Pb**		**02 23 46.1**	**+0.5**	
IGT	**Igoumenitsa**	**1.39**	**358**	*e*Pg	**Pb**		**02 23 46.6**	**+1.0**	
IGT				*e*Sg	**Sg**		**02 24 10.2**	**+5.2**	
ITM	**Ithomi**	**1.54**	**128**	P	**Pb**		**02 23 48.8**	**+0.5**	
ITM	**Ithomi**	**1.54**	**128**	P	**Pb**		**02 23 48.8**	**+0.5**	
JAN	**Janina**	**1.55**	**13**	P	**Pb**		**02 23 49.0**	**+0.6**	
JAN	**Janina**	**1.55**	**13**	P	**Pb**		**02 23 49.3**	**+0.9**	
MAKR	**Makrakomi, Fth**	**1.60**	**57**	P	**Pb**		**02 23 50.4**	**+1.0**	
KEK	**Kerkira**	**1.64**	**343**	P	**Pb**		**02 23 49.8**	**-0.1**	
SRN	**Sarande**	**1.76**	**350**	P	**Pn**		**02 23 51.5**	**+1.6**	
SRN	**Sarande**	**1.76**	**350**	P	**Pn**		**02 23 50.8**	**+0.9**	
	baz=359								
SRN				S	**Sn**		**02 24 13.2**	**+1.4**	
	baz=359								
SRN				AMP					
	comp=N,0.8nm,0.8s,baz=359								
THL	**Klokotos Trika**	**1.89**	**41**	P	**Pb**		**02 23 55.0**	**+0.8**	
THL	**Klokotos Trika**	**1.89**	**41**	P	**Pb**		**02 23 55.0**	**+0.8**	
KPRO	**Kipourio**	**1.95**	**22**	P	**Pb**		**02 23 56.1**	**+0.7**	
KPRO	**Kipourio**	**1.95**	**22**	P	**Pb**		**02 23 56.0**	**+0.7**	
LSK	**Leskovik**	**2.01**	**4**	P	**Pb**		**02 23 55.8**	**-0.5**	
LSK	**Leskovik**	**2.01**	**4**	P	**Pb**		**02 23 56.1**	**-0.2**	
	baz=12								
LSK				S	**Sg**		**02 24 23.5**	**-1.3**	
	baz=12								
LSK				AMP					
	comp=N,2.1nm,0.8s,baz=12								
LTK	**Loutraki**	**2.02**	**93**	P	**Pb**		**02 23 56.0**	**-0.5**	
LKR	**Lokris**	**2.10**	**75**	P	**Pb**		**02 23 57.0**	**-0.7**	
ATAL	**Atalanti**	**2.12**	**74**	P	**Pn**		**02 23 57.2**	**+2.3**	
ATAL	**Atalanti**	**2.12**	**74**	P	**Pb**		**02 23 57.9**	**-0.3**	
VIL2	**Platees**	**2.25**	**87**	P	**Pb**		**02 23 59.8**	**-0.6**	
VILL	**Villia**	**2.29**	**89**	P	**Pn**		**02 23 59.7**	**+2.5**	
KRND	**KRANIDI**	**2.30**	**108**	P	**Pn**		**02 24 00.0**	**+2.7**	
SMIA	**Simia**	**2.31**	**71**	P	**Pb**		**02 24 00.4**	**-1.1**	
NEST	**Nestorio**	**2.32**	**12**	P	**Pb**		**02 24 01.5**	**-0.2**	
NEST	**Nestorio**	**2.32**	**12**	P	**Pb**		**02 24 01.4**	**-0.2**	
NEO	**Neokhori**	**2.49**	**61**	P	**Pn**		**02 24 02.6**	**+2.7**	
KBN	**Korca**	**2.49**	**7**	P	**Pb**		**02 24 03.8**	**-0.7**	
	baz=13								
KBN				S	**Sb**		**02 24 36.4**	**+1.5**	
	baz=13								
KBN				AMP					
	comp=N,0.7nm,0.9s,baz=13								
XOR	**Xorichti**	**2.49**	**60**	P	**Pn**		**02 24 02.6**	**+2.6**	
LIT	**Litokhoron**	**2.54**	**39**	P	**Pn**		**02 24 03.6**	**+3.0**	
VLY	**Voula,Athens**	**2.69**	**95**	P	**Pn**		**02 24 04.8**	**+2.1**	
FNA	**Florina**	**2.74**	**16**	P	**Pn**		**02 24 06.1**	**+2.7**	
FNA	**Florina**	**2.74**	**16**	*e*Pn	**Pn**		**02 24 05.9**	**+2.5**	
KTHR	**Kythira**	**2.80**	**131**	P	**Pn**		**02 24 07.8**	**+3.6**	
OHR	**Ohrid**	**2.98**	**6**	*i* Pn	**Pn**		**02 24 09.8**	**+3.2**	
TIP	**Timpagrande**	**3.04**	**291**	⇑P	**Pn**		**02 24 09.3**	**+1.8**	
GRG	**Griva**	**3.20**	**28**	P	**Pn**		**02 24 11.8**	**+2.1**	
TIR	**Tirane**	**3.23**	**353**	P	**Pn**		**02 24 12.5**	**+2.5**	
TIR	**Tirane**	**3.23**	**353**	⇑P	**Pn**		**02 24 12.5**	**+2.5**	
TIR				⇓S	**Sn**		**02 24 48.1**	**+0.1**	
TIR	**Tirane**	**3.23**	**353**	P	**Pn**		**02 24 13.0**	**+3.0**	
	baz=358								
TIR				S	**Sb**		**02 24 53.0**	**-2.9**	
	baz=358								
PLG	**Polygyros**	**3.24**	**46**	P	**Pn**		**02 24 12.3**	**+2.0**	
SOH	**Sokhos**	**3.51**	**40**	P	**Pn**		**02 24 16.8**	**+2.8**	
KNT	**Kendrikon**	**3.57**	**32**	P	**Pn**		**02 24 17.0**	**+2.2**	
STIP	**Stip**	**3.80**	**21**	*i* Pn	**Pn**		**02 24 21.7**	**+3.8**	
MATE	**Matera**	**3.81**	**312**	⇑P	**Pn**		**02 24 20.0**	**+2.0**	
SRS	**Serrai**	**3.85**	**39**	*e*Pn	**Pn**		**02 24 20.8**	**+2.1**	
PUK	**Puka**	**3.91**	**354**	P	**Pn**		**02 24 23.1**	**+3.6**	
	baz=359								
DRME	**Dracevica, Mon**	**4.14**	**347**	*e*Pn	**Pn**		**02 24 23.4**	**+0.8**	
PDG	**Podgorica**	**4.37**	**349**	⇓P	**Pn**		**02 24 26.8**	**+1.1**	
PDG				⇑S	**Sn**		**02 25 16.5**	**+0.3**	
PDG	**Podgorica**	**4.37**	**349**	*e*Pn	**Pn**		**02 24 26.5**	**+0.8**	
HCY	**Herceg Novi**	**4.54**	**342**	*e*Pn	**Pn**		**02 24 27.4**	**-0.7**	
PRVS	**Prvonek**	**4.54**	**16**	*e*Pn	**Pn**		**02 24 29.6**	**+1.5**	
IDI	**Anoyia**	**4.59**	**127**	Pn	**Pn**		**02 24 29.5**	**+0.6**	
	comp=N,0.5nm,0.3s,baz=262,slow=7.7,SNR=8.9								
IDI				Sn	**Sn**		**02 25 22.4**	**+0.6**	
	comp=N,1.5nm,0.3s,baz=246,slow=22,SNR=2.1								
IDI	**Anoyia**	**4.59**	**127**	⇑P	**Pn**		**02 24 33.4**	**+4.5**	
BOSS	**Bosilegrad**	**4.62**	**19**	*e*Pn	**Pn**		**02 24 31.5**	**+2.2**	
BARS	**Barje**	**4.79**	**12**	*e*Pn	**Pn**		**02 24 30.1**	**-1.4**	
VAE	**Valguarnera**	**4.80**	**264**	Pn	**Pn**		**02 24 31.9**	**+0.2**	
	comp=N,0.2nm,0.3s,baz=34,slow=17,SNR=2.2								
VAE				Sn	**Sn**		**02 25 28.1**	**+1.3**	
	comp=N,1.0nm,0.3s,baz=15,slow=17,SNR=4.3								
TREB	**Trebinje**	**4.83**	**342**	*e*Pn	**Pn**		**02 24 32.5**	**+0.5**	
TREB				*e*Sn	**Sn**		**02 25 28.4**	**+0.9**	
TREB	**Trebinje**	**4.83**	**342**	*e*Pn	**Pn**		**02 24 32.2**	**+0.2**	
BRY	**Bratogost**	**4.96**	**344**	*e*Pn	**Pn**		**02 24 33.6**	**-0.4**	
VTS	**Vitosha**	**4.96**	**25**	*e*Pn	**Pn**		**02 24 35.7**	**+1.7**	
VTS	**Vitosha**	**4.96**	**25**	⇑P	**Pn**		**02 24 35.8**	**+1.8**	
SJES	**Sjenica**	**5.12**	**356**	*e*Pn	**Pn**		**02 24 37.9**	**+1.7**	
SJES				*e*Sn	**Sn**		**02 25 36.3**	**+1.4**	
STON	**Ston**	**5.15**	**337**	*e*Pn	**Pn**		**02 24 35.3**	**-1.2**	
UPM	**Unac-Piva**	**5.18**	**348**	*e*Pn	**Pn**		**02 24 38.0**	**+1.0**	
IVAS	**Ivanjica**	**5.43**	**358**	*e*Pn	**Pn**		**02 24 41.1**	**+0.8**	
IVAS				*e*Sn	**Sn**		**02 25 44.4**	**+2.0**	
RUDO	**Rudo**	**5.52**	**352**	*e*Pn	**Pn**		**02 24 41.0**	**-0.6**	
BOVS	**Bovan**	**5.57**	**10**	⇑P	**Pn**		**02 24 43.0**	**+0.8**	
BLKB	**Belogradchik**	**5.73**	**17**	⇑S	**Sn**		**02 25 49.8**	**-0.2**	
GRUS	**Gruza**	**5.74**	**2**	*e*Pn	**Pn**		**02 24 46.3**	**+1.7**	
GRUS				*e*Sn	**Sn**		**02 25 52.1**	**+2.1**	
BBLS	**Lazići**	**5.76**	**353**	*e*Pn	**Pn**		**02 24 46.0**	**+1.0**	
BBLS				*e*Sn	**Sn**		**02 25 51.6**	**+0.9**	
BBLS	**Lazići**	**5.76**	**353**	*e*Pn	**Pn**		**02 24 45.0**	**0.0**	
ZAGS	**Zajecar**	**5.83**	**13**	*e*Pn	**Pn**		**02 24 46.1**	**+0.4**	
DIVS	**Divibare**	**5.96**	**357**	*e*Pn	**Pn**		**02 24 48.0**	**+0.4**	
DIVS				*e*Sn	**Sn**		**02 25 55.3**	**-0.1**	
DIVS	**Divibare**	**5.96**	**357**	*e*Pn	**Pn**		**02 24 47.5**	**-0.1**	
TRUS	**Trudelj**	**6.07**	**360**	*e*Pn	**Pn**		**02 24 49.9**	**+0.8**	
TRUS				*e*Sn	**Sn**		**02 26 00.5**	**+2.3**	
MGRS	**Mrkonjic Grad**	**6.75**	**339**	*e*Pn	**Pn**		**02 24 58.4**	**0.0**	
HERR	**Herculane**	**6.90**	**12**	⇑P	**Pn**		**02 25 01.5**	**+1.1**	
FRGS	**Fruska Gora**	**7.02**	**357**	*e*Pn	**Pn**		**02 25 02.1**	**-0.1**	
FRGS	**Fruska Gora**	**7.02**	**357**	⇓P	**Pn**		**02 25 02.3**	**+0.1**	
FRGS	**Fruska Gora**	**7.02**	**357**	*e*Pn	**Pn**		**02 25 02.1**	**-0.1**	
BLY	**Banja Luka**	**7.03**	**341**	*e*Pn	**Pn**		**02 25 03.0**	**+0.8**	
MRAK	**Mrakovica**	**7.35**	**340**	*e*Pn	**Pn**		**02 25 07.7**	**+1.0**	
PRIJ	**Prijedor**	**7.36**	**339**	*e*Pn	**Pn**		**02 25 08.0**	**+1.2**	
BZS	**Buzias**	**7.52**	**6**	⇓P	**Pn**		**02 25 09.6**	**+0.7**	
ARR	**Arges**	**7.88**	**22**	⇓P	**Pn**		**02 25 16.0**	**+2.1**	
MORH	**Mrgy, Hungar**	**8.17**	**351**	*e*Pn	**Pn**		**02 25 17.1**	**-0.8**	
BOJS	**Bojanci**	**8.30**	**334**	*i* Pn	**Pn**		**02 25 20.8**	**+1.1**	
MLR	**Muntele Rosu**	**8.42**	**28**	Pn	**Pn**		**02 25 22.0**	**+0.6**	
	comp=N,0.1nm,0.3s,baz=176,slow=13,SNR=9.9								
MLR	**Muntele Rosu**	**8.42**	**28**	⇑P	**Pn**		**02 25 22.2**	**+0.8**	
GBRS	**Gornja Briga**	**8.48**	**332**	*e*Pn	**Pn**		**02 25 23.3**	**+1.1**	
GBRS				*e*Sn	**Sn**		**02 26 53.0**	**-4.4**	
CRES	**Cresnjev**	**8.51**	**336**	*i* Pn	**Pn**		**02 25 23.0**	**+0.4**	
CRES	**Cresnjev**	**8.51**	**336**	*e*Pn	**Pn**		**02 25 22.8**	**+0.2**	
CEY	**Cerknica**	**8.80**	**331**	*e*Pn	**Pn**		**02 25 27.1**	**+0.6**	
PLOR	**Plostina**	**8.99**	**29**	⇑P	**Pn**		**02 25 29.9**	**+0.8**	
LJU	**Ljubljana**	**9.02**	**333**	*e*Pn	**Pn**		**02 25 28.6**	**-0.9**	
SOKA	**Soboth**	**9.40**	**337**	*i* Pn	**Pn**		**02 25 34.9**	**0.0**	
	comp=N,3.4nm,0.3s,SNR=16								
SOKA				*e*Sn	**Sn**		**02 27 13.9**	**-6.3**	
	comp=N,1.7nm,0.5s								
OBKA	**Obir**	**9.41**	**334**	*e*Pn	**Pn**		**02 25 36.1**	**+1.0**	
	comp=N,4.4nm,0.4s,SNR=8.7								
OBKA				*e*Sn	**Sn**		**02 27 18.1**	**-2.4**	
	comp=N,4.6nm,0.6s								
MYKA	**Terra Mystica**	**9.84**	**332**	*i* Pn	**Pn**		**02 25 41.2**	**+0.3**	
	comp=N,1.8nm,0.3s								
ABTA	**Abfaltersbach**	**10.38**	**328**	*i* Pn	**Pn**		**02 25 49.6**	**+1.3**	
	comp=N,1.6nm,0.5s								
ABTA				*i* Sn	**Sn**		**02 27 38.4**	**-5.8**	
	comp=N,6.9nm,0.7s								
BRTR	**Keskin Array B**	**10.43**	**77**	Pn	**Pn**		**02 25 50.8**	**+1.8**	
	baz=316,slow=5.7,SNR=2.0								
MOA	**Molln**	**10.69**	**337**	*i* Pn	**Pn**		**02 25 54.2**	**+1.8**	
	comp=N,3.6nm,0.3s,SNR=11								
WTTA	**Wattenberg**	**11.16**	**328**	*e*Pn	**Pn**		**02 26 01.3**	**+2.3**	
	comp=N,2.1nm,0.4s								
WATA	**Walderalm**	**11.24**	**328**	*i* Pn	**Pn**		**02 26 02.4**	**+2.3**	
	comp=N,2.3nm,0.4s								
MOTA	**Moosalm**	**11.45**	**326**	*i* Pn	**Pn**		**02 26 05.4**	**+2.4**	
	comp=N,0.8nm,0.2s								
DAVOX	**Davos/Dischmat**	**11.61**	**321**	Pn	**Pn**		**02 26 02.0**	**-3.1**	
	comp=N,0.1nm,0.3s,baz=156,slow=18,SNR=1.8								
DAVOX				Sn	**Sn**		**02 28 11.1**	**-3.2**	
	comp=N,0.1nm,0.3s,baz=139,slow=20,SNR=1.4								
GERES	**GERESS Array B**	**11.74**	**338**	Pn	**Pn**		**02 26 04.5**	**-2.5**	
	comp=N,0.2nm,0.3s,baz=160,slow=14,SNR=7.6								
GERES				Sn	**Sn**		**02 28 12.9**	**-4.7**	
	comp=N,0.2nm,0.3s,baz=145,slow=21,SNR=2.6								
KHC	**Kasperske Hory**	**12.04**	**338**	*e*PN	**Pn**		**02 26 10.7**	**-0.2**	
MMAI	**Mount Meron Ar**	**13.23**	**108**	Pn	**Pn**		**02 26 27.8**	**+0.5**	
	comp=N,0.2nm,0.3s,baz=275,slow=18,SNR=2.4								
AKASG	**Malin Array Be**	**14.03**	**24**	Pn	**Pn**		**02 26 35.9**	**-2.1**	
	comp=N,0.3nm,0.3s,baz=211,slow=10,SNR=1.6								
ESDC	**Sonseca Array**	**19.02**	**282**	P	**Pn**		**02 27 43.0**	**+1.0**	
	comp=N,0.1nm,0.3s,baz=75,slow=11,SNR=2.7								
HFS	**Hagfors**	**22.42**	**351**	P	**P**		**02 28 17.5**	**-0.2**	
	comp=N,4.6nm,0.8s,baz=162,slow=12,SNR=20								
FINES	**FINESS Array B**	**23.59**	**7**	P	**P**		**02 28 28.8**	**-0.9**	
	comp=N,1.3nm,0.6s,baz=170,slow=11,SNR=9.7								
NOA	**NORSAR Array B**	**23.63**	**349**	P	**P**		**02 28 29.0**	**-1.2**	
	comp=N,0.5nm,0.6s,baz=166,slow=10,SNR=3.9								
BELG	**Belogornoye**	**23.69**	**44**	P	**P**		**02 28 30.6**	**-0.1**	
	comp=N,6.2nm,0.7s,baz=263,slow=5.8,SNR=3.1								
TORD	**Torodi Ar. Bea**	**29.95**	**219**	P	**P**		**02 29 29.3**	**+1.7**	
	comp=N,1.0nm,0.9s,baz=45,slow=8.3,SNR=3.3								
ARCES	**ARCESS Array B**	**31.57**	**3**	P	**P**		**02 29 41.5**	**+0.2**	
	comp=N,2.5nm,0.8s,baz=199,slow=10,SNR=2.1								
KURBB	**Kurchatov Arra**	**42.32**	**53**	P	**P**		**02 31 12.1**	**-0.7**	
	comp=N,0.5nm,0.8s,baz=286,slow=8.5,SNR=3.6								
MKAR	**Makanchi Array**	**45.39**	**58**	P	**P**		**02 31 35.1**	**-2.5**	
	comp=N,0.7nm,0.7s,baz=254,slow=8.2,SNR=2.0								
ZALV	**Zalesovo Beam**	**45.78**	**48**	P	**P**		**02 31 37.8**	**-2.8**	
	comp=N,1.3nm,0.4s,baz=270,slow=8.4,SNR=4.9								

ROM 02 02:23:25.3±0.1, 43°.443N±0°.004×12°.342E±0°.006, h9km, ML0.9/10, 3C-2D, Error ellipse: s-maj=0.5km s-min=0.1km az=278.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.04**	**80**	P	Pg	02 23 27.2	0.0
ATPI				S	Sg	02 23 28.3	-0.2
ATPI				AML	AML		
	comp=E,348µm,0.3s						
ATPI				AML	AML		
	comp=E,347µm,0.3s						
ATPI				AML	AML		
	comp=N,280µm,0.4s						
ATVO	**AVT- Monte Val**	**0.08**	**142**	⇓P	Pg	02 23 27.9	+0.4
ATVO				S	Sg	02 23 29.5	+0.4
ATVO				AML	AML		
	comp=E,112µm,0.4s						
ATVO				AML	AML		
	comp=N,142µm,0.6s						
ATVO				AML	AML		
	comp=E,112µm,0.4s						
BADI	**Badiali**	**0.10**	**313**	P	Pg	02 23 28.2	+0.4
BADI				S	Sg	02 23 30.2	+0.7
BADI				AML	AML		
	comp=E,212µm,0.2s						
BADI				AML	AML		
	comp=N,180µm,0.4s						
BADI				AML	AML		
	comp=N,181µm,0.4s						
BADI				AML	AML		
	comp=E,212µm,0.2s						
ATMI	**Monte Miggiano**	**0.12**	**206**	P	Pg	02 23 28.7	+0.6
ATMI				S	Sg	02 23 31.2	+1.1
ATMI				AML	AML		
	comp=E,68µm,0.4s						
ATMI				AML	AML		
	comp=E,68µm,0.4s						
ATMI				AML	AML		
	comp=N,68µm,0.7s						
APEC	**Apecchio**	**0.13**	**26**	P	Pg	02 23 29.6	+1.3
APEC				S	Sg	02 23 31.2	+0.8
PIEI	**Pieia**	**0.17**	**56**	P	Pg	02 23 29.4	+0.4
PIEI				S	Sg	02 23 32.3	+0.9
PIEI				AML	AML		
	comp=E,90µm,0.2s						
PIEI				AML	AML		
	comp=N,74µm,0.3s						
PIEI				AML	AML		
	comp=E,90µm,0.2s						
PIEI				AML	AML		
	comp=N,74µm,0.3s						
ATFO	**Monte Foce - G**	**0.18**	**114**	P	Pg	02 23 29.8	+0.6
ATFO				S	Sg	02 23 32.9	+1.1
ATFO				AML	AML		
	comp=N,61µm,0.4s						
ATFO				AML	AML		
	comp=E,63µm,0.2s						
ATFO				AML	AML		
	comp=N,61µm,0.4s						
PARC	**Parchiule**	**0.22**	**340**	P	Pg	02 23 30.3	+0.4
PARC				S	Sg	02 23 34.1	+1.3
PARC				AML	AML		
	comp=E,75µm,0.4s						
PARC				AML	AML		
	comp=N,50µm,0.3s						
PARC				AML	AML		
	comp=E,75µm,0.4s						
MURB	**Monte Urbino**	**0.22**	**143**	P	Pg	02 23 30.6	+0.8
MURB				S	Sg	02 23 34.5	+1.5
ATTE	**AVT- Monte Tez**	**0.24**	**178**	⇑P	Pg	02 23 30.9	+0.6
ATTE				S	Sg	02 23 34.8	+1.2
ATTE				AML	AML		
	comp=N,16µm,0.9s						
ATTE				AML	AML		
	comp=E,19µm,0.3s						
ATTE				AML	AML		
	comp=N,16µm,0.9s						
PE3	**Peglio**	**0.28**	**24**	⇓P	Pb	02 23 31.8	-0.7
PE3				S	Sb	02 23 36.8	-0.5
PE3				AML	AML		
	comp=N,46µm,0.2s						
PE3				AML	AML		
	comp=E,63µm,0.4s						
FRON	**Frontone**	**0.29**	**75**	⇑P	Pg	02 23 31.4	+0.3
FRON				S	Sg	02 23 36.1	+1.1
CAFI	**Castiglion Fio**	**0.30**	**248**	P	Pg	02 23 31.9	+0.6
CAFI				S	Sb	02 23 36.7	-1.2
CAFI				AML	AML		
	comp=E,14µm,1.6s						
CAFI				AML	AML		
	comp=N,12µm,0.5s						
ATCC	**AVT- Casa Cast**	**0.34**	**140**	P	Pb	02 23 33.4	-0.1
ATCC				S	Sb	02 23 38.6	-0.4
FSSB	**Fossombrone**	**0.40**	**52**	⇑P	Pb	02 23 34.0	-0.7
FSSB				S	Sb	02 23 40.5	-0.5
MGAB	**Montegabbione**	**0.56**	**198**	P	Pg	02 23 36.5	+0.4

*IDC **02** 02:28:08.0±2.4, 37°.44N×70°.59E, h0km, mb3.5/5, mb1 3.6/9, mb1mx3.4/54, mbtmp3.6/9, ML3.2/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/44, Error ellipse: s-maj=44.7km s-min=23.7km az=132.0*
*NNC **02** 02:28:16.6±1.0, 38°.21N×70°.02E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=9.4km s-min=6.3km az=157.0*
ISC 02 02:28:11.3±1.6, 37.8N±0.1×70.6E±0.1, h10km, n25, σ1s83/22, mb3.6/4, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.27**	**360**	⇑Pn	**Pn**	**02 29 31.7**	**+1.6**
	2.1nm,0.5s,baz=197,slow=16,SNR=11						
KK31				Pg	**Pb**	**02 29 45.8**	**+2.2**
	3.8nm,0.5s,baz=187,slow=14,SNR=4.0						
KK31				⇑Lg	Lg	02 30 52.8	
	25nm,0.6s,baz=189,slow=30,SNR=6.6						
MRKS	**Merke**	**5.32**	**22**	Pg	**Pg**	**02 29 49.3**	**-3.9**
	12nm,0.6s						
MRKS				Lg	Lg	02 31 00.4	
	27nm,0.5s						
TKM2	**Tokmak 2**	**6.37**	**35**	⇑Pn	Pn	02 29 52.0	+6.6
	7.5nm,0.9s						
TKM2				⇑Lg	Lg	02 31 38.8	
	9.3nm,0.8s						
KST	**Kastek**	**6.64**	**37**	Pg	**Pg**	**02 30 18.1**	**-0.3**
	4.5nm,0.5s						
KST				Lg	Lg	02 31 49.3	
	11nm,0.7s						
DGS	**Degeres**	**6.71**	**35**	Pg	**Pg**	**02 30 18.9**	**-0.8**
	5.1nm,0.7s						
DGS				Lg	Lg	02 31 50.6	
	9.0nm,0.7s						
MTBS	**Maitube**	**6.93**	**38**	Pg	**Pg**	**02 30 21.8**	**-2.1**
	2.6nm,0.2s						
MTBS				Lg	Lg	02 31 55.0	
	6.1nm,0.5s						
IZV	**Izvestkoviy**	**6.95**	**40**	Pg	**Pg**	**02 30 23.1**	**-1.2**
	3.6nm,1.2s						
IZV				Lg	Lg	02 31 57.9	
	12nm,1.1s						
KRBS	**Karabastau**	**7.03**	**32**	Pg	**Pg**	**02 30 22.9**	**-2.9**
	0.4nm,0.3s						
KRBS				Lg	Lg	02 31 56.6	
	5.8nm,0.7s						
MDOK	**Medeo**	**7.26**	**41**	Pg	**Pg**	**02 30 28.7**	**-1.6**
	2.3nm,0.3s						
MDOK				Lg	Lg	02 32 06.5	
	8.8nm,0.7s						
KOTS	**Kotyrbulak**	**7.35**	**41**	Pg	**Pg**	**02 30 31.6**	**-0.3**
	8.2nm,0.5s						
KOTS				Lg	Lg	02 32 11.8	
	11nm,0.7s						
KUU	**Kurty**	**7.47**	**34**	Pg	**Pg**	**02 30 32.0**	**-2.3**
	1.6nm,0.6s						
KUU				Lg	Lg

NIS1	**Nisyros Isl.**	**1.06**	**343**		PG	**Pn**	**02 40 04.0**	**0.0**
NIS1					SG	**Sb**	**02 40 17.4**	**-1.0**
DAT	**Datca**	**1.14**	**0**		PG	**Pn**	**02 40 05.5**	**+0.3**
DAT					SG	**Sb**	**02 40 19.9**	**-0.8**
DATC	**Datca-Mugla**	**1.18**	**3**		PN	**Pb**	**02 40 06.0**	**-0.6**
DATC					SN	**Sb**	**02 40 20.9**	**-0.6**
ZKR	**Zakros**	**1.20**	**247**		P	**Pn**	**02 40 06.2**	**+0.3**
ZKR					S	**Sb**	**02 40 20.9**	**-1.3**
ZKR					AML	AML	02 40 28.4	
	comp=N,1464μm,0.5s							
ZKR					AML	AML	02 40 30.3	
	comp=E,2385μm,0.4s							
ZKR	**Zakros**	**1.20**	**247**		PN	**Pn**	**02 40 06.4**	**+0.5**
ZKR					SN	**Sn**	**02 40 23.1**	**+1.8**
MRSB	**Marmaris-Mugla**	**1.24**	**24**		PN	**Pb**	**02 40 07.6**	**-0.1**
MRSB					SN	**Sn**	**02 40 23.5**	**+1.4**
KOSK	**Kos Island**	**1.26**	**338**		P	**Pn**	**02 40 06.9**	**+0.3**
KOSK					S	**Sb**	**02 40 27.2**	**+3.3**
	comp=E,635nm,0.5s							
KOSK	**Kos Island**	**1.26**	**338**		PN	**Pn**	**02 40 07.1**	**+0.5**
KOSK					SN	**Sn**	**02 40 22.5**	**-0.1**
STIA	**Sitia Lasithi**	**1.27**	**253**		P	**Pn**	**02 40 07.5**	**+0.7**
STIA					S	**Sb**	**02 40 25.6**	**+1.5**
TURN	**Turunc**	**1.31**	**24**	*i*	P	**Pb**	**02 40 09.6**	**+0.8**
TURN					*i* S	**Sb**	**02 40 27.4**	**+2.2**
TURN					IAML		02 40 30.0	
	comp=N,477nm,0.6s							
TURN					IAML		02 40 31.0	
	comp=E,429nm,0.6s							
TURN	**Turunc**	**1.31**	**24**		PN	**Pb**	**02 40 08.8**	**-0.1**
TURN					SN	**Sb**	**02 40 25.3**	**+0.1**
BDRM	**Kayabasi**	**1.48**	**356**	*i*	P	**Pn**	**02 40 08.8**	**-0.9**
BDRM					*i* P	**Pb**	**02 40 10.0**	**-1.8**
BDRM					*i* S	**Sn**	**02 40 27.8**	**-0.4**
BDRM					IAML		02 40 38.0	
	comp=N,316nm,0.4s							
BDRM					IAML		02 40 40.0	
	comp=E,198nm,0.5s							
BODT	**Bodrum**	**1.49**	**352**		PN	**Pn**	**02 40 09.1**	**-0.7**
DALY	**Dalyan (Mula)**	**1.51**	**35**		PN	**Pb**	**02 40 11.6**	**-0.7**
FRMA	**Ierapetra Chan**	**1.61**	**250**		P	**Pn**	**02 40 11.4**	**0.0**
FRMA					S	**Sb**	**02 40 33.1**	**-0.8**
	comp=E,322nm,0.5s							
FETY	**Fethiye**	**1.61**	**49**		PN	**Pn**	**02 40 11.8**	**+0.3**
NPS	**Neapolis**	**1.63**	**259**		P	**Pb**	**02 40 13.3**	**-1.1**
NPS					S	**Sn**	**02 40 31.7**	**-0.2**
NPS					AML	AML	02 40 39.1	
	comp=N,1930μm,0.5s							
NPS					AML	AML	02 40 41.5	
	comp=E,2724μm,0.6s							
YER	**Yerkesik**	**1.65**	**20**		PN	**Pb**	**02 40 13.5**	**-1.2**
MLSB	**Milas**	**1.72**	**5**		PN	**Pn**	**02 40 13.8**	**+0.8**
LAST	**Lasithi**	**1.76**	**257**		P	**Pb**	**02 40 15.6**	**-1.1**
LAST					S	**Sn**	**02 40 36.5**	**+1.4**
LAST	**Lasithi**	**1.76**	**257**		P	**Pn**	**02 40 15.2**	**+1.6**
AKAS	**Kas**	**1.77**	**68**	*i*	P	**Pn**	**02 40 14.1**	**+0.3**
AKAS	**Kas**	**1.77**	**68**		PN	**Pn**	**02 40 14.1**	**+0.3**
MULA	**Mugla, Merkez-**	**1.77**	**20**	*i*	P	**Pb**	**02 40 17.1**	**+0.2**
MULA					*i* S	**Sb**	**02 40 37.5**	**-1.2**
SANT	**Santorini**	**1.89**	**295**		PN	**Pn**	**02 40 15.8**	**+0.5**
DDIM	**Aydin, Didim**	**1.89**	**352**	*i*	P	**Pn**	**02 40 15.2**	**-0.1**
DDIM					*i* S	**Sn**	**02 40 40.1**	**+2.0**
DDIM					IAML		02 40 46.0	
	comp=E,206nm,0.7s							
THR6	**Thira Island,**	**1.93**	**294**		P	**Pn**	**02 40 16.2**	**+0.4**
THR7	**Fira-Santorini**	**1.93**	**296**		P	**Pn**	**02 40 16.4**	**+0.5**
THT2	**Imerovigli**	**1.94**	**297**		P	**Pn**	**02 40 15.8**	**-0.2**
THT2	**Imerovigli**	**1.94**	**297**		PN	**Pn**	**02 40 16.5**	**+0.5**
THR3	**Thira Island,**	**1.94**	**296**		P	**Pn**	**02 40 16.3**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.95**	**295**		P	**Pn**	**02 40 16.4**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.95**	**295**		P	**Pn**	**02 40 16.4**	**+0.3**
CAME	**Cameli-Denizli**	**1.95**	**45**		PN	**Pb**	**02 40 18.3**	**-1.5**
THR9	**Santorini-Faro**	**1.96**	**294**		P	**Pn**	**02 40 15.1**	**-1.1**
THR9	**Santorini-Faro**	**1.96**	**294**		P	**Pn**	**02 40 16.7**	**+0.5**
CMBO	**Columbo, Santo**	**1.97**	**297**		P	**Pn**	**02 40 16.7**	**+0.3**
THR5	**Thira Island,**	**1.99**	**295**		P	**Pn**	**02 40 16.9**	**+0.3**
CAEL	**Denizli, Camel**	**2.08**	**42**	*i*	P	**Pb**	**02 40 20.5**	**-1.7**
CAEL					*i* S	**Sb**	**02 40 52.3**	**+4.6**
CAEL					IAML		02 40 58.0	
	comp=E,397nm,1.0s							
AYDN	**Tasoluk**	**2.09**	**7**	*i*	P	**Pn**	**02 40 19.2**	**+1.1**
AYDN					*i* S	**Sn**	**02 40 43.0**	**-0.2**
AYDN					IAML		02 40 57.0	
	comp=E,72nm,0.7s							
GCAM	**G?zelcaml?**	**2.13**	**353**	*i*	P	**Pn**	**02 40 19.9**	**+1.3**
GCAM					*i* S	**Sn**	**02 40 42.2**	**-1.8**
GCAM	**G?zelcaml?**	**2.13**	**353**		PN	**Pn**	**02 40 19.4**	**+0.8**
TAVA	**DENIZLI_Tavas**	**2.17**	**29**	*i*	P	**Pb**	**02 40 21.4**	**-2.2**
TAVA					*i* S	**Sb**	**02 40 49.0**	**-1.0**
TAVA					IAML		02 40 57.0	
	comp=E,172nm,0.5s							
TAVA					IAML		02 40 57.0	
	comp=N,114nm,0.8s							
IDI	**Anoyia**	**2.21**	**263**		P	**Pn**	**02 40 21.0**	**+1.2**
IDI					S	**Sn**	**02 40 47.6**	**+1.4**
IDI					AML	AML	02 40 56.0	
	comp=N,409μm,0.4s							
IDI					AML	AML	02 40 58.1	
	comp=E,415μm,0.5s							
IDI	**Anoyia**	**2.21**	**263**		P	**Pn**	**02 40 20.6**	**+0.8**
IDI	**Anoyia**	**2.21**	**263**		PN	**Pn**	**02 40 21.1**	**+1.3**
APE	**Apeiranthos**	**2.22**	**313**		P	**Pn**	**02 40 20.0**	**+0.2**
APE	**Apeiranthos**	**2.22**	**313**		P	**Pn**	**02 40 19.9**	**0.0**
APE	**Apeiranthos**	**2.22**	**313**	*i*	P	**Pn**	**02 40 19.7**	**-0.1**
APE	**Apeiranthos**	**2.22**	**313**		PN	**Pn**	**02 40 20.2**	**+0.3**
APE	**Apeiranthos**	**2.22**	**313**		P	**Pn**	**02 40 20.0**	**+0.2**
ELL	**Elmali**	**2.22**	**58**		P	**Pn**	**02 40 21.7**	**+1.7**
GOLH	**Golhisar**	**2.30**	**44**	*i*	P	**Pb**	**02 40 23.7**	**-2.1**
GOLH					*i* S	**Sb**	**02 40 53.9**	**+0.1**
GOLH					IAML		02 41 10.0	
	comp=N,130nm,0.8s							
GOLH					IAML		02 41 23.0	
	comp=E,22nm,1.8s							
SIVA	**Sivas**	**2.33**	**257**		P	**Pn**	**02 40 23.7**	**+2.4**
SIVA	**Sivas**	**2.33**	**257**		P	**Pn**	**02 40 23.8**	**+2.4**
DGB	**zmir**	**2.52**	**348**	*i*	P	**Pn**	**02 40 23.1**	**-1.0**
VAM	**Vamos**	**2.76**	**267**		P	**Pn**	**02 40 28.9**	**+1.7**
VAM	**Vamos**	**2.76**	**267**		P	**Pn**	**02 40 28.0**	**+0.7**
GVDS	**Gavdos**	**2.95**	**256**		P	**Pn**	**02 40 32.2**	**+2.4**
MANT	**Manisa**	**3.01**	**15**	*i*	P	**Pn**	**02 40 31.6**	**+0.7**
OSC1	**CSNet OBS 1**	**3.70**	**123**	*i*	S	**Sn**	**02 41 23.5**	**-1.3**
SEDI	**Konya, Seydise**	**3.85**	**60**	*i*	P	**Pn**	**02 40 45.8**	**+3.4**
GAZI	**Gazipasa**	**3.90**	**79**	*i*	P	**Pn**	**02 40 42.8**	**-0.2**
VLI	**Veliai**	**3.92**	**288**		P	**Pn**	**02 40 44.2**	**+1.0**
AKMS	**Akamas**	**3.94**	**97**	⇓	P	**Pn**	**02 40 42.8**	**-0.6**
AKMS					AML	AML	02 41 28.3	
	comp=E,0.5nm,0.3s							
AKMS					AML	AML	02 41 28.3	
	comp=E,0.5nm,0.3s							
AKMS					S	**Sn**	**02 41 28.9**	**+0.2**
AKMS					AML	AML	02 41 29.0	
	comp=E,0.3nm,0.3s							
AKMS					AML	AML	02 41 29.0	
	comp=E,0.3nm,0.3s							
ALFC	**Alefka**	**4.13**	**94**		P	**Pn**	**02 40 45.5**	**-0.6**
ALFC					S	**Sn**	**02 41 32.8**	**-0.7**
ALFC					AML	AML	02 41 33.7	
	comp=E,0.3nm,0.2s							
ALFC					AML	AML	02 41 33.7	
	comp=E,0.3nm,0.2s							
ALFC					AML	AML	02 41 33.7	
	comp=E,0.4nm,0.2s							
ALFC					AML	AML	02 41 33.7	
	comp=E,0.4nm,0.2s							
DOGA	**KONYA_Doganhis**	**4.14**	**51**	*i*	P	**Pn**	**02 40 49.7**	**+3.3**
BALY	**Balya**	**4.15**	**0**	*i*	P	**Pn**	**02 40 47.2**	**+0.8**
NATA	**Nata**	**4.17**	**100**	⇑	P	**Pn**	**02 40 46.3**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**4.23**	**349**	*i*	P	**Pn**	**02 40 47.0**	**-0.5**
SZAC	**Souni**	**4.43**	**99**	⇓	P	**Pn**	**02 40 49.8**	**-0.4**
SZAC					AML	AML	02 41 40.5	
	comp=E,0.4nm,0.6s							
SZAC					AML	AML	02 41 41.1	
	comp=E,0.4nm,0.5s							
ERMK	**Ermenek**	**4.45**	**75**	*i*	P	**Pn**	**02 40 53.0**	**+2.3**
ASGA	**Asgata**	**4.71**	**98**	⇓	P	**Pn**	**02 40 53.6**	**-0.6**
CSS	**Mathiatis**	**4.75**	**96**		P	**Pn**	**02 40 54.0**	**-0.7**
BRTR	**Keskin Array B**	**6.34**	**48**		Pn	**Pn**	**02 41 18.6**	**+1.9**
	comp=E,0.2nm,0.3s,baz=220,slow=14,SNR=7.4							
BRTR					Sn	**Sn**	**02 42 30.0**	**+1.8**
	comp=E,0.1nm,0.3s,baz=217,slow=23,SNR=2.0							
AKASG	**Malin Array Be**	**15.16**	**4**		Pn	**P**	**02 43 21.2**	**-0.5**
	comp=E,0.6nm,0.3s,baz=192,slow=13,SNR=2.3							
TORD	**Torodi Ar. Bea**	**32.29**	**233**		P	**P**	**02 46 10.9**	**-0.6**

comp=E,0.7nm,0.9s,baz=42,slow=7.4,SNR=6.4

ATH 02 02:48:52.6, 38.16N×20.44E, h16km±1km, ML1.5/4, Error ellipse: s-maj=1.8km s-min=0.9km az=248.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LXRA	**Lixouri, Kepha**	**0.04**	**358**	P	Pg	02 48 55.4	-0.2
LXRA				S	Sg	02 48 57.4	-0.2
KEF3	**Kipouria, Keph**	**0.08**	**302**	P	Pg	02 48 55.9	-0.1
KEF3				S	Sg	02 48 57.6	-0.5
DMLN	**Damoulianata-K**	**0.10**	**327**	P	Pg	02 48 56.1	0.0
DMLN				S	Sg	02 48 58.5	+0.2
VLS	**Valsamata**	**0.12**	**81**	P	Pg	02 48 56.2	-0.2
VLS				S	Sg	02 48 58.5	-0.3
VLS				AML	AML	02 48 58.8	
	comp=N,1425μm,0.1s						
VLS				AML	AML	02 48 58.8	
	comp=E,1680μm,0.1s						
KEF5	**Kardakata, Kep**	**0.12**	**11**	P	Pg	02 48 56.4	0.0
KEF5				S	Sg	02 48 59.0	+0.1
PSDA	**Pessada-Kefalo**	**0.12**	**111**	P	Pg	02 48 56.3	-0.1
PSDA				S	Sg	02 48 58.7	-0.1
FSK	**Fiskardo**	**0.32**	**18**	P	Pg	02 48 59.3	0.0
FSK				S	Sg	02 49 04.3	+0.4
FSK				AML	AML	02 49 04.9	
	comp=N,97μm,0.2s						
FSK				AML	AML	02 49 05.0	
	comp=E,195μm,0.1s						
VLMS	**Volimes, Zakyn**	**0.33**	**148**	P	Pg	02 48 59.4	-0.2
VLMS				S	Sb	02 49 05.2	-0.1
VLMS				AML	AML	02 49 05.7	
	comp=N,202μm,0.2s						
VLMS				AML	AML	02 49 06.0	
	comp=E,242μm,0.1s						
EVGI	**Lefkada island**	**0.49**	**20**	P	Pg	02 49 02.4	-0.1
EVGI				S	Sg	02 49 09.3	+0.2
DRAG	**Dragano-Lefkad**	**0.54**	**11**	P	Pg	02 49 02.9	-0.4
LTHK	**Lithakia**	**0.55**	**145**	P	Pg	02 49 02.6	-0.9
LTHK				S	Sb	02 49 11.8	+0.4
LTHK				AML	AML	02 49 12.3	
	comp=E,54μm,0.1s						
LTHK				AML	AML	02 49 13.4	
	comp=N,61μm,0.1s						
LKD2	**Lefkada island**	**0.65**	**15**	P	Pg	02 49 04.7	-0.8
TSLK	**Tsoukalades, L**	**0.69**	**14**	P	Pg	02 49 05.7	-0.5
AXS	**Araxos**	**0.74**	**87**	P	Pg	02 49 06.6	-0.5

ATH 02 02:49:05.9, 38.57N×21.92E, h21km±2km, ML1.1/3, Error ellipse: s-maj=3.6km s-min=1.5km az=68.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANX	**Ano Chora**	**0.03**	**358**	P	Pb	02 49 09.4	-0.2
ANX				S	Sb	02 49 11.9	-0.3
ANX				AML	AML	02 49 12.1	
	comp=E,183μm,0.1s						
ANX				AML	AML	02 49 12.1	
	comp=N,242μm,0.2s						
EFP	**Efpalio**	**0.14**	**185**	P	Pb	02 49 10.1	-1.7
EFP				AML	AML	02 49 13.3	
	comp=E,208μm,0.2s						
EFP				S	Sb	02 49 13.4	-2.6
EFP				AML	AML	02 49 13.6	
	comp=N,89μm,0.3s						
SERG	**Sergoula**	**0.19**	**146**	P	Pb	02 49 10.7	-0.9
SERG				S	Sb	02 49 14.5	-1.3
SERG				AML	AML	02 49 14.7	
	comp=E,101μm,0.2s						
SERG				AML	AML	02 49 14.8	
	comp=N,176μm,0.2s						
TRIZ	**Trizonia**	**0.23**	**150**	P	Pb	02 49 11.3	-0.5
TRIZ				S	Sb	02 49 15.1	-0.8
LAKA	**Lakka**	**0.33**	**172**	P	Pb	02 49 13.1	+0.1
LAKA				S	Sb	02 49 17.8	-0.1
KLV	**Kalavryta, Ach**	**0.55**	**161**	P	Pb	02 49 16.5	-0.5
KLV	**Kalavryta, Ach**	**0.55**	**161**	P	Pb	02 49 16.4	-0.5
KLV				S	Sb	02 49 24.8	+0.3
DRO	**Drossia**	**0.64**	**195**	P	Pb	02 49 18.0	-0.3

*NEIC **02** 02:50:21.8±1.5, 22.27S±0.06×67.7W±0.1, h206km±8km, Error ellipse: s-maj=17.6km s-min=9.1km az=86.0*
*GUC **02** 02:50:21.8±0.5, 22.24S×67.70W, h210km±6km, ML4.1*
*IDC **02** 02:50:24.6±9.4, 22.02S×67.88W, h222km±67km, mb3.1/2, mb1 3.4/3, mb1mx3.1/19, mbtmp3.8/3, Error ellipse: s-maj=96.9km s-min=37.8km az=21.0*
ISC 02 02:50:21.3±0.8, 22.25S±0.04×67.71W±0.09, h208km±9km, n48, σ0.81/70, mb4.0/4, 9C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.17**	**252**	Pn	**Pn**	**02 50 53.1**	**-0.4**
LVC				Sn	**S**	**02 51 16.8**	**-1.5**
PB06	**IPOC Station P**	**1.78**	**255**	⇓ *i*P	**Pn**	**02 50 58.8**	**+0.3**
PB06	**IPOC Station P**	**1.78**	**255**	Pn	**Pn**	**02 50 58.8**	**+0.3**
PB06				Sn	**S**	**02 51 28.1**	**+1.2**
PB15	**IPOC Station P**	**1.89**	**239**	⇓ *i*P	**Pn**	**02 50 59.9**	**+0.4**
PB15				*i* S	**S**	**02 51 29.2**	**+0.4**
PB15	**IPOC Station P**	**1.89**	**239**	Pn	**Pn**	**02 50 59.8**	**+0.3**
PB15				Sn	**S**	**02 51 29.3**	**+0.4**
PB03	**IPOC Station P**	**1.91**	**276**	⇑ *i*P	**Pn**	**02 51 00.1**	**+0.4**
PB03				*i* S	**S**	**02 51 29.2**	**0.0**
PB03				IAML		02 51 30.6	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**2.05**	**306**	⇑ *i*P	**Pn**	**02 51 01.3**	**+0.2**
PB01				*i* S	**S**	**02 51 31.4**	**-0.1**
PB01				IAML		02 51 32.5	
	comp=N,494nm,0.2s						
PB01	**IPOC Station P**	**2.05**	**306**	Pn	**Pn**	**02 51 01.4**	**+0.4**
PB01				Sn	**S**	**02 51 31.6**	**+0.1**
PB07	**IPOC Station P**	**2.09**	**284**	⇑ *i*P	**Pn**	**02 51 02.2**	**+0.6**
PB07				*i* S	**S**	**02 51 32.6**	**+0.2**
PB07				IAML		02 51 34.6	
	comp=N,929nm,0.1s						
PB07	**IPOC Station P**	**2.09**	**284**	Pn	**Pn**	**02 51 02.4**	**+0.8**
PB07				Sn	**S**	**02 51 32.4**	**0.0**
PB04	**IPOC Station P**	**2.26**	**267**	⇑ *i*P	**Pn**	**02 51 04.1**	**+0.8**
PB04				*i* S	**S**	**02 51 35.8**	**+0.2**
PB04				IAML		02 51 37.8	
	comp=N,669nm,0.1s						
PB04	**IPOC Station P**	**2.26**	**267**	Pn	**Pn**	**02 51 04.2**	**+0.8**
PB04				Sn	**S**	**02 51 35.8**	**+0.2**
PB05	**IPOC Station P**	**2.38**	**255**	⇑ *i*P	**Pn**	**02 51 05.4**	**+0.8**
PB05				*i* S	**S**	**02 51 37.6**	**-0.1**
PB05				IAML		02 51 38.9	
	comp=N,262nm,0.3s						
PB08	**IPOC Station P**	**2.50**	**327**	⇑ *i*P	**Pn**	**02 51 07.1**	**+1.0**
PB08				*i* S	**S**	**02 51 41.4**	**+0.8**
PB08	**IPOC Station P**	**2.50**	**327**	Pn	**Pn**	**02 51 07.4**	**+1.3**
PB08				Sn	**S**	**02 51 40.5**	**-0.1**
PATCX	**Punta Patache**	**2.69**	**302**	⇑ *i*P	**Pn**	**02 51 08.3**	**+0.5**
PATCX				*i* S	**S**	**02 51 43.7**	**0.0**
PATCX				IAML		02 51 45.1	
	comp=N,372nm,0.2s						
PATCX	**Punta Patache**	**2.69**	**302**	Pn	**Pn**	**02 51 08.4**	**+0.5**
PATCX				Sn	**S**	**02 51 43.9**	**+0.1**
TA01	**Diego Aracena**	**2.85**	**306**	⇑ *i*P	**Pn**	**02 51 09.8**	**+0.1**
TA01				*i* S	**S**	**02 51 46.6**	**-0.4**
TA01	**Diego Aracena**	**2.85**	**306**	Pn	**Pn**	**02 51 09.8**	**+0.1**
PB10	**IPOC Station P**	**2.91**	**244**	⇓ *i*P	**Pn**	**02 51 11.1**	**+0.7**
PB10	**IPOC Station P**	**2.91**	**244**	Pn	**Pn**	**02 51 11.1**	**+0.7**
TA02	**Huaiquique**	**3.00**	**311**	*e*P	**Pn**	**02 51 11.8**	**+0.4**
TA02				*i* S	**S**	**02 51 49.7**	**-0.4**
TA02	**Huaiquique**	**3.00**	**311**	Pn	**Pn**	**02 51 11.3**	**-0.1**
PB11	**IPOC Station P**	**3.08**	**323**	Pn	**Pn**	**02 51 12.4**	**-0.1**
GO02	**Mina Guanaco**	**3.37**	**210**	⇓ *i*P	**Pn**	**02 51 16.4**	**+0.3**
GO02				*i* S	**S**	**02 51 57.9**	**-0.7**
GO02	**Mina Guanaco**	**3.37**	**210**	Pn	**Pn**	**02 51 16.3**	**+0.3**
GO02				Sn	**S**	**02 51 57.9**	**-0.7**
PB14	**IPOC Station P**	**3.42**	**226**	Pn	**Pn**	**02 51 17.2**	**+0.6**
PSGCX	**Pisagua**	**3.48**	**319**	Pn	**Pn**	**02 51 16.8**	**-0.4**
MNMC	**Minye Minye**	**3.57**	**330**	⇑ *i*P	**Pn**	**02 51 18.9**	**+0.4**
MNMC				*i* S	**S**	**02 52 03.0**	**+0.1**
MNMC	**Minye Minye**	**3.57**	**330**	Pn	**Pn**	**02 51 19.2**	**+0.7**
PB16	**IPOC Station P**	**4.25**	**336**	Pn	**Pn**	**02 51 28.2**	**+1.1**
AC01	**Pan de Azucar**	**4.69**	**214**	*e*P	**Pn**	**02 51 31.7**	**-0.3**
AC01	**Pan de Azucar**	**4.69**	**214**	Pn	**Pn**	**02 51 31.2**	**-0.7**
AC02	**Maricunga**	**4.74**	**196**	Pn	**Pn**	**02 51 33.1**	**0.0**

LPAZ	**La Paz**	**5.95**	**356**		P	**Pn**	**02 51 49.2**	**+0.5**
	comp=N,2.6nm,0.3s,baz=179,slow=9.0,SNR=90								
LPAZ					S	**S**	**02 52 56.8**	**-0.7**
	comp=N,0.4nm,0.3s,baz=52,slow=17,SNR=5.1								
LPAZ	**La Paz**	**5.95**	**356**		Pn	**Pn**	**02 51 49.4**	**+0.7**
CO03	**El Pedregal**	**8.96**	**197**		Pn	**Pn**	**02 52 26.6**	**-0.4**
MT02	**Curacav**	**11.38**	**195**		Pn	**Pn**	**02 52 59.1**	**+1.1**
MT01	**Popeta**	**11.98**	**194**		Pn	**Pn**	**02 53 06.7**	**+1.0**
ITAB	**Concordia**	**14.99**	**112**		P	**Pn**	**02 53 43.2**	**+0.1**
PLTB	**Pedras Altas**	**15.72**	**130**		P	**P**	**02 53 51.6**	**-0.1**
PLTB					IAmb	IAmb	02 54 03.2		
	comp=Z,3.6nm,1.1s								
BDFB	**Brasilia**	**19.75**	**74**		P	**P**	**02 54 33.7**	**-2.0**
BOAB	**BOACO BROADBAND**	**38.72**	**331**		P	**P**	**02 57 23.2**	**-2.3**
WHTX	**Lake Whitney,**	**60.99**	**331**		P	**P**	**03 00 12.8**	**0.0**
WHTX					IAmb	IAmb	03 00 13.3		
	comp=Z,4.2nm,0.7s								
TXAR	**Lajitas Array**	**61.88**	**324**		P	**P**	**03 00 18.9**	**0.0**
	comp=Z,0.1nm,0.5s,baz=155,slow=6.7,SNR=2.2								
TOA0	**Torodi Ar. Sit**	**76.56**	**70**		P	**P**	**03 01 51.5**	**+2.3**
TOA0					IAmb	IAmb	03 01 51.9		
	comp=Z,4.6nm,1.0s								
TORD	**Torodi Ar. Bea**	**76.56**	**70**		P	**P**	**03 01 51.4**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=254,slow=5.7,SNR=20								
TORD	**Torodi Ar. Bea**	**76.56**	**70**		P	**P**	**03 01 50.9**	**+1.7**
TORD					IAmb	IAmb	03 01 51.9		
	comp=Z,1.6nm,0.8s								

*IDC **02** 02:50:43.5±1.9, 44.61N×129.95W, h0km, mb3.3/6, mb1 3.5/11, mb1mx3.4/42, mbtmp3.3/11, ML2.9/5, MS3.1/6, Ms1 3.1/6, ms1mx2.8/20, Error ellipse: s-maj=37.7km s-min=17.2km az=47.0*
*NEIC **02** 02:50:45.2±0.9, 44.5N±0.1×130.2W±0.1, h10km±2km, mb3.9/15, ML3.3/8, Error ellipse: s-maj=20.1km s-min=14.7km az=223.0*
ISC 02 02:50:45.3±1.2, 44.5N±0.1×130.2W±0.1, h15km, n54, σ0.92/50, mb3.7/8, MS3.0/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**4.52**	**109**	Pn	**Pn**	**02 51 52.4**	**-0.9**
KEBM				Sn	**Sn**	**02 52 45.8**	**+0.3**
KEBM				IAML		02 53 00.5	
	comp=E,40nm,2.2s						
KEBM				IAML		02 54 53.4	
	comp=N,30nm,2.5s						
I02D	**Swisshome**	**4.55**	**92**	P		02 51 53.0	
	baz=276						
COR	**Corvallis**	**4.91**	**86**		**Pn**	**02 51 58.4**	**-0.1**
COR				IAML		02 54 02.4	
	comp=N,22nm,2.4s						
COR				IAML		02 54 41.4	
	comp=N,19nm,1.9s						
G03D	**McMinnville, O**	**4.97**	**79**	P		02 51 58.8	
	baz=263,SNR=11						
I03D	**Drain, OR**	**4.97**	**97**	P		02 51 58.6	
	baz=281,SNR=6.4						
E03A	**Lebam**	**5.09**	**64**	Pn	**Pn**	**02 52 00.3**	**-0.6**
NLWA	**Neilton Lookou**	**5.28**	**54**	Pn	**Pn**	**02 52 03.4**	**-0.2**
F04D	**Rainier, OR**	**5.30**	**70**	P		02 52 03.9	
	baz=254						
H04D	**Lebanon**	**5.32**	**87**	P		02 52 03.9	
	baz=272,SNR=7.3						
HUMO	**Hull Mountain**	**5.56**	**107**	Pn	**Pn**	**02 52 07.7**	**+0.2**
H04A	**Detroit Lake**	**5.71**	**85**	Pn	**Pn**	**02 52 09.4**	**-0.1**
E04D	**Cinebar**	**5.74**	**66**	P		02 52 09.7	
	baz=251,SNR=12						
D03D	**Eldon**	**5.81**	**56**	P		02 52 10.5	
	baz=240,SNR=7.1						
D04E	**Lakebay**	**5.84**	**60**	P		02 52 11.6	
	baz=245,SNR=9.4						
YBH	**Yreka Blue Hor**	**6.10**	**114**	Pn	**Pn**	**02 52 13.7**	**-1.3**
	comp=N,0.1nm,0.3s,baz=231,slow=5.9,SNR=1.3						
PGC	**Sidney**	**6.24**	**46**	Pn	**Pn**	**02 52 16.6**	**-0.1**
LON	**Longmire**	**6.29**	**66**		**Pn**	**02 52 18.2**	**+0.7**
D05A	**Enumclaw**	**6.33**	**62**		**Pn**	**02 52 18.3**	**+0.3**
G05D	**Wamic, OR**	**6.34**	**80**	P		02 52 18.6	
	baz=266						
PINE	**Pine Mountain**	**6.67**	**93**	Pn	**Pn**	**02 52 22.8**	**-0.1**
B05A	**Bryant**	**6.75**	**

SONM IAmb IAmb 03 02 34.8
comp=Z,0.7nm,0.8s

NEIC ***02*** *02:53:04.3±1.1,2.0N±0.1×124.0E±0.1,1,h345km±9km, mb4.1/17, Error ellipse: s-maj=18.8km s-min=13.7km az=204.0*
DJA ***02*** *02:53:05.9±0.6,2.7N±7.7×124.4E±°,h320km±5km,M4.4/12, mb4.6/9,mB4.8/5,MLv4.5/12,Mw(mB)4.0/5*
IDC ***02*** *02:53:05.7±1.6,1.91N×123.92E,h370km±17km,mb3.4/4, mb1 3.8/8,mb1mx3.2/39,mbtmp4.4/8,Error ellipse: s-maj=32.1km s-min=14.1km az=64.0*
ISC 02 02:53:04.8±0.7,1.97N±0.07×123.99E±0.09,h350km,n53, σ1§37/56,mb3.9/11,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.64**	**216**	P	**Pn**	**02 53 53.2**	**-0.6**
SGSI	**Sangihe**	**2.30**	**42**	P	**Pn**	**02 53 57.3**	**-1.1**
MRSI	**Marisa**	**2.52**	**234**	P	**Pn**	**02 53 59.5**	**-0.6**
MRSI				S	**S**	**02 54 43.2**	**-1.3**
LUWI	**Luwuk**	**3.22**	**202**	P	**Pn**	**02 54 04.8**	**-1.4**
TOLI2	**Tolitoli**	**3.31**	**255**		**Pn**	**02 54 05.8**	**-1.3**
TNTI	**Ternate**	**3.58**	**109**		**Pn**	**02 54 08.9**	**-0.7**
APSI	**Ampana**	**3.69**	**219**	P	**Pn**	**02 54 10.4**	**-0.3**
LBMI	**Labuha**	**4.36**	**126**	P	**Pn**	**02 54 16.8**	**-0.8**
DDMP	**Don Marcelino,**	**4.46**	**23**	*eP*	**Pn**	**02 54 17.1**	**-1.5**
SANI	**Sanana**	**4.46**	**153**	P	**Pn**	**02 54 16.2**	**-2.5**
SKMP	**Bagumbayan, Su**	**4.56**	**7**	*eP*	**Pn**	**02 54 18.4**	**-1.2**
KCP	**Kidapawan**	**5.13**	**12**	*iP*	**Pn**	**02 54 25.5**	**-0.5**
MATI	**Mati**	**5.44**	**25**	*eP*	**Pn**	**02 54 27.8**	**-1.6**
PAGZ	**Pagadian**	**5.88**	**354**	*eP*	**Pn**	**02 54 35.1**	**+0.9**
BUKP	**Musuan**	**5.97**	**10**	*eP*	**Pn**	**02 54 36.3**	**+0.9**
NLAI	**Namlea**	**6.03**	**149**	P	**Pn**	**02 54 38.1**	**+2.0**
SPSI	**Sidrap Palu** 0.2nm40nm,0.8s	**7.24**	**216**	P	**Pn**	**02 54 50.2**	**+0.1**
BNSI	**Bone** 0.4nm1µm128nm,0.8s	**7.42**	**212**	P	**Pn**	**02 54 53.9**	**+1.8**
SIJI	**Sorong** 2.9nm,0.3s,baz=315,slow=12,SNR=6.9	**7.80**	**111**	P	**Pn**	**02 54 56.9**	**+0.2**
KAPI	**Kappang** 1.9nm,0.3s,baz=30,slow=16,SNR=5.2	**8.12**	**211**	P	**Pn**	**02 55 00.3**	**-0.1**
BSSI	**Bau Bau, Buton** 38nm,0.6s	**8.78**	**203**	P	**Pn**	**02 55 08.7**	**+0.4**
FAKI	**Fak Fak**	**9.58**	**120**		**Pn**	**02 55 17.5**	**-0.4**
FAKI	**Fak Fak** 823nm86nm,1.0s	**9.58**	**120**	P	**Pn**	**02 55 17.6**	**-0.2**
BBKI	**Banjar Baru** 64nm,0.8s	**10.61**	**239**	P	**Pn**	**02 55 32.0**	**+1.9**
SOEI	**Soe** 34nm,0.6s	**11.65**	**179**	P	**P**	**02 55 44.5**	**+1.8**
BATI	**Baumata** 19nm,0.3s,baz=333,slow=2.3,SNR=9.9	**12.10**	**182**	P	**P**	**02 55 48.6**	**+1.0**
BATI	**Baumata** 51nm,0.5s	**12.10**	**182**	P	**Pn**	**02 55 50.8**	**+3.0**
PLAI	**Plampang** 998nm107nm,1.0s	**12.38**	**210**	P	**Pn**	**02 55 52.6**	**+1.5**
TWSI	**Taliwang, Sumb**	**12.77**	**214**	P	**Pn**	**02 55 57.8**	**+2.0**
MTN	**Manton Dam**	**16.33**	**154**	P	**P**	**02 56 35.3**	**+1.3**
MTN	comp=Z,16nm,1.0s			IAmb	IAmb	02 56 50.6	
KNRA	**Kununurra**	**18.15**	**165**	P	**P**	**02 56 53.5**	**+0.1**
FITZ	**Fitzroy Crossi** comp=Z,3.8nm,0.3s,baz=354,slow=7.8,SNR=107	**20.00**	**175**	P	**P**	**02 57 10.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**20.00**	**175**	P	**P**	**02 57 11.8**	**-1.1**
PSA00	**Pilbara Seismi**	**23.74**	**190**	P	**P**	**02 57 46.7**	**-0.2**
PSA00	comp=Z,9.3nm,0.6s			IAmb	IAmb	02 57 49.0	
PSA00	**Pilbara Seismi**	**23.74**	**190**	P	**P**	**02 57 46.6**	**-0.3**
PSA00	comp=Z,2.5nm,0.7s			IAmb	IAmb	02 57 49.0	
WB0	**Warramunga Arr**	**23.89**	**155**	P	**P**	**02 57 47.3**	**-1.0**
WB0	comp=Z,8.0nm,0.6s			IAmb	IAmb	02 57 52.6	
WRA	**Warramunga Arr** comp=Z,4.5nm,0.6s,baz=332,slow=10.0,SNR=48	**24.03**	**155**	P	**P**	**02 57 48.9**	**-0.6**
WRA				S	**S**	**03 01 38.8**	**-1.9**
WRA	**Warramunga Arr** comp=Z,2.6nm,1.0s,baz=337,slow=16,SNR=6.2	**24.03**	**155**	P	**P**	**02 57 47.9**	**-1.6**
WB2	**Warramunga Arr**	**24.03**	**155**	P	**P**	**02 57 49.2**	**-0.3**
WB2	comp=Z,6.8nm,0.7s			IAmb	IAmb	02 57 54.0	
WR0	**Warramunga Arr**	**24.12**	**155**	P	**P**	**02 57 49.7**	**-0.7**
WR0	comp=Z,6.1nm,1.1s			IAmb	IAmb	02 58 08.3	
AS31	**Alice Springs**	**27.24**	**160**	P	**P**	**02 58 18.4**	**+0.2**
AS31	comp=Z,1.5nm,0.3s			IAmb	IAmb	02 58 20.1	
ASAR	**Alice Springs** comp=Z,1.1nm,0.5s,baz=337,slow=7.0,SNR=26	**27.24**	**160**	P	**P**	**02 58 18.1**	**-0.1**
ASAR	comp=Z,1.4nm,0.9s,baz=350,slow=21,SNR=6.5			S	**S**	**03 02 28.3**	**-3.0**
MORW	**Morawa**	**31.78**	**193**	P	**P**	**02 58 57.5**	**-0.4**
FORT	**Forrest**	**32.79**	**174**	P	**P**	**02 59 06.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.28**	**190**	P	**P**	**02 59 25.8**	**-2.0**
NWAO	comp=Z,13nm,1.0s			IAmb	IAmb	02 59 42.9	
NWAO	**Narrogin (SRO)**	**35.28**	**190**	P	**P**	**02 59 27.7**	**-0.1**
NWAO	comp=Z,12nm,1.1s			IAmb	IAmb	02 59 42.9	
BBOO	**Buckleboo**	**36.42**	**163**	P	**P**	**02 59 36.8**	**-0.6**
BBOO	comp=Z,7.3nm,1.1s			IAmb	IAmb	02 59 43.6	
STKA	**Stephens Creek** comp=Z,2.2nm,0.4s,baz=332,slow=9.9,SNR=7.5	**37.58**	**155**	P	**P**	**02 59 47.4**	**+0.4**
STKA	**Stephens Creek**	**37.58**	**155**	P	**P**	**02 59 46.3**	**-0.7**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=128,slow=8.2,SNR=6.5	**57.49**	**327**	P	**P**	**03 02 17.1**	**-1.3**
MKAR	**Makanchi Array**	**57.49**	**327**	P	**P**	**03 02 16.8**	**-1.6**
CASY	**Casey**	**68.77**	**186**	P	**P**	**03 03 31.7**	**+0.2**
COVE	**Coope Vega, Sa**	**149.07**	**65**		**PKPdf**	**03 12 11.8**	**+3.2**

IDC ***02*** *03:11:22.6±1.1,44.84N×129.59W,h0km,mb3.8/9, mb1 3.9/15,mb1mx3.7/43,mbtmp3.7/15,ML3.0/5,MS3.6/27, Ms1 3.6/27,ms1mx3.5/47,Error ellipse: s-maj=29.7km s-min=13.8km az=43.0*
NEIC ***02*** *03:11:24.1±1.6,44.78N±0.09×129.9W±0.1,h10km±1km, mb4.2/65,ML3.3/8, Error ellipse: s-maj=19.6km s-min=12.1km az=234.0*
ISC 02 03:11:24.3±0.8,44.81N±0.09×129.76W±0.10,h10km, n170,σ1§06/148,mb4.2/21,MS3.7/20,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome** baz=281,SNR=6.8	**4.29**	**97**	P		03 12 26.8	
KEBM	**Edson Butte**	**4.38**	**114**	Pn	**Pn**	**03 12 26.9**	**-4.0**
COR	**Corvallis**	**4.61**	**91**	Pn	**Pn**	**03 12 32.7**	**-1.3**
COR	26nm,2.3s			IAML		03 14 06.8	
COR	23nm,1.8s			IAML		03 15 33.2	
G03D	**McMinnville, O** baz=267,SNR=17	**4.62**	**83**	P		03 12 33.0	
E03A	**Lebam**	**4.68**	**66**	Pn	**Pn**	**03 12 35.1**	**+0.2**
E03A	comp=N,29nm,2.1s			IAML		03 15 21.2	
E03A	comp=E,28nm,2.4s			IAML		03 15 38.7	
I03D	**Drain, OR** baz=285	**4.74**	**101**	P		03 12 33.1	
NLWA	**Neilton Lookou**	**4.84**	**56**	Pn	**Pn**	**03 12 38.4**	**+1.1**
H04D	**Lebanon** baz=275,SNR=9.6	**5.02**	**91**	P		03 12 38.5	
E04D	**Cinebar** baz=253,SNR=20	**5.33**	**68**	P		03 12 44.0	
D03D	**Eldon** baz=242	**5.37**	**57**	P		03 12 45.6	
H04A	**Detroit Lake**	**5.40**	**89**	Pn	**Pn**	**03 12 44.5**	**-0.4**
KRMB	**Red Mountain**	**5.40**	**125**	Pn	**Pn**	**03 12 47.5**	**+2.5**
HUMO	**Hull Mountain**	**5.40**	**112**	Pn	**Pn**	**03 12 43.4**	**-1.6**
D04E	**Lakebay** baz=247,SNR=10.0	**5.42**	**62**	P		03 12 46.0	
PGC	**Sidney**	**5.79**	**46**	Pn	**Pn**	**03 12 51.2**	**+1.0**
LON	**Longmire**	**5.89**	**68**		**Pn**	**03 12 52.4**	**+0.8**
D05A	**Enumclaw**	**5.91**	**64**	Pn	**Pn**	**03 12 53.2**	**+1.3**
F05D	**White Salmon** baz=262,SNR=17	**5.95**	**77**	P		03 12 53.1	
YBH	**Yreka Blue Hor** comp=E,0.1nm,0.3s,baz=112,slow=16,SNR=2.2	**6.00**	**118**	Pn	**Pn**	**03 12 51.9**	**-1.3**
YBH				LR	LR	03 14 44.8	
	comp=E,202nm,21.5s,baz=300,slow=34						
YBH	**Yreka Blue Hor**	**6.00**	**118**	Pn	**Pn**	**03 12 53.6**	**+0.5**
G05D	**Wamic, OR** baz=269	**6.00**	**83**	P		03 12 53.4	
B05A	**Bryant** baz=240,SNR=7.7	**6.31**	**54**	P		03 12 58.7	
PINE	**Pine Mountain**	**6.41**	**96**	Pn	**Pn**	**03 12 58.8**	**-0.2**
A05A	**Maple Falls**	**6.72**	**49**	Pn	**Pn**	**03 13 04.5**	**+1.6**
K05A	**Summer Lake**	**6.75**	**105**	Pn	**Pn**	**03 13 04.5**	**+0.9**
LTY	**Liberty**	**6.78**	**66**		**Pn**	**03 13 04.8**	**+0.9**
B06A	**Marblemount**	**6.79**	**54**	Pn	**Pn**	**03 13 05.8**	**+1.9**
HAWA	**Hanford**	**7.35**	**74**	Pn	**Pn**	**03 13 13.2**	**+1.6**
I07A	**Izee**	**7.38**	**92**	Pn	**Pn**	**03 13 13.3**	**+1.2**
O03E	**Paynes Creek** baz=310	**7.41**	**125**	P		03 13 12.1	
BBB	**Bella Bella** comp=E,0.4nm,0.3s,baz=202,slow=13,SNR=9.3	**7.46**	**8**	Pn	**Pn**	**03 13 13.4**	**+0.3**
BBB	**Bella Bella**	**7.46**	**8**	Pn	**Pn**	**03 13 14.0**	**+0.9**
G08A	**Pilot Rock**	**7.67**	**83**	Pn	**Pn**	**03 13 15.7**	**-0.4**
E08A	**Dider Farm, El**	**7.69**	**74**	Pn	**Pn**	**03 13 16.6**	**+0.4**
D08A	**Wollman Farm,**	**7.88**	**70**	Pn	**Pn**	**03 13 19.1**	**+0.1**
ORV	**Oroville**	**8.07**	**128**	Pn	**Pn**	**03 13 22.2**	**+0.6**
WVOR	**Wild Horse Val**	**8.41**	**103**	Pn	**Pn**	**03 13 25.7**	**-0.6**
BEKR	**Beckworth**	**8.54**	**122**	Pn	**Pn**	**03 13 28.5**	**+0.4**
AFDM	**Forest Hills D**	**8.79**	**129**	Pn	**Pn**	**03 13 31.8**	**+0.3**
BMO	**Blue Mountains**	**8.85**	**85**	Pn	**Pn**	**03 13 32.8**	**+0.4**
PAHR	**Pah Rah Range**	**9.23**	**120**	Pn	**Pn**	**03 13 38.1**	**+0.5**
NEW	**Newport** comp=E,0.1nm,0.3s,baz=252,slow=16,SNR=2.4	**9.37**	**64**	Pn	**Pn**	**03 13 37.8**	**-1.6**
NEW				LR	LR	03 17 15.2	
	comp=E,536nm,20.1s,baz=260,slow=38						
NEW	**Newport**	**9.37**	**64**	Pn	**Pn**	**03 13 40.4**	**+1.0**
NEW	**Newport** baz=253	**9.37**	**64**	P		03 13 40.1	
CMB	**Columbia Colle**	**9.76**	**131**	Pn	**Pn**	**03 13 44.0**	**-0.8**
YERR	**Yerington**	**9.76**	**123**	Pn	**Pn**	**03 13 45.4**	**+0.5**
WAKR	**Walker**	**9.96**	**126**	Pn	**Pn**	**03 13 48.3**	**+0.6**
KVN	**Kaiserville**	**10.42**	**119**	Pn	**Pn**	**03 13 54.4**	**+0.5**
NVAR	**Mina Array Bea** baz=130,slow=50,SNR=1.3	**10.68**	**123**	Pn	**Pn**	**03 13 59.4**	**+1.8**
NVAR				LR	LR	03 17 40.3	
	comp=E,226nm,18.9s,baz=294,slow=35						
MDPB	**Devils Postpil**	**10.77**	**128**	Pn	**Pn**	**03 13 59.0**	**+0.2**
HLID	**Hailey**	**11.10**	**91**	Pn	**Pn**	**03 14 04.5**	**+1.4**
MSO	**Missoula**	**11.23**	**74**	Pn	**Pn**	**03 14 04.0**	**-0.9**
ELK	**Elko** comp=E,0.1nm,0.3s,baz=298,slow=9.6,SNR=5.5	**11.42**	**106**	Pn	**Pn**	**03 14 08.1**	**+0.5**
ELK				LR	LR	03 18 21.3	
	comp=E,243nm,20.0s,baz=292,slow=37						
ELK	**Elko**	**11.42**	**106**	Pn	**Pn**	**03 14 08.6**	**+0.9**
BCYI	**Bear Canyon**	**11.68**	**87**	Pn	**Pn**	**03 14 11.6**	**+0.3**
MCMT	**McKenzie Canyo**	**12.02**	**84**	Pn	**Pn**	**03 14 17.0**	**+1.2**
DLMT	**Dillon**	**12.15**	**81**	Pn	**Pn**	**03 14 17.8**	**+0.2**
ISA	**Isabella, Lake**	**12.55**	**133**	Pn	**Pn**	**03 14 22.6**	**-0.4**
SPR3	**Spring Creek 3**	**12.87**	**111**	Pn	**Pn**	**03 14 29.2**	**+1.6**
TPNV	**Topopah Spring**	**12.88**	**123**	Pn	**Pn**	**03 14 28.4**	**+0.9**
QLMT	**Earthquake Lak**	**13.02**	**83**	Pn	**Pn**	**03 14 30.2**	**+0.7**
YHL	**Hebgen Lake**	**13.19**	**83**	Pn	**Pn**	**03 14 32.4**	**+0.5**
YHB	**Horse Butte**	**13.19**	**84**	Pn	**Pn**	**03 14 31.5**	**-0.4**
PRN	**Pahroc Range**	**13.32**	**119**	Pn	**Pn**	**03 14 34.4**	**+0.8**
YHH	**Holmes Hill**	**13.43**	**83**	Pn	**Pn**	**03 14 35.4**	**+0.2**
PSUT	**Pine Spring**	**13.44**	**112**	Pn	**Pn**	**03 14 34.6**	**-0.6**
TPAW	**Teton Pass**	**13.57**	**89**	Pn	**Pn**	**03 14 36.2**	**-0.3**
FLWY	**Flagg Ranch**	**13.64**	**86**	Pn	**Pn**	**03 14 40.2**	**+2.2**
HWUT	**Hardware Ranch**	**13.65**	**97**	Pn	**Pn**	**03 14 38.6**	**+0.5**
JIS	**Juneau Island**	**13.78**	**350**	Pn	**Pn**	**03 14 39.5**	**-0.1**
EGMT	**Eagleton**	**14.16**	**70**	Pn	**Pn**	**03 14 46.3**	**+1.3**
GCMT	**Greycliff**	**14.18**	**79**		**Pn**	**03 14 46.3**	**+1.1**
CCUT	**Cedar City**	**14.31**	**115**	Pn	**Pn**	**03 14 46.6**	**-0.6**
TCRU	**Three Creeks R**	**14.33**	**110**	Pn	**Pn**	**03 14 47.2**	**-0.3**
SZCU	**Shurtz Canyon**	**14.46**	**114**	Pn	**Pn**	**03 14 47.7**	**-1.5**
LCMT	**Little Creek M**	**14.70**	**116**	Pn	**Pn**	**03 14 52.0**	**-0.4**
MTPU	**Mount Pierson**	**14.81**	**111**	Pn	**Pn**	**03 14 52.8**	**-1.2**
KNB	**Kanab**	**14.97**	**115**	Pn	**Pn**	**03 14 56.2**	**+0.1**
P17A	**Butcher Ranch,**	**15.07**	**104**	Pn	**Pn**	**03 14 57.5**	**0.0**
P17A	comp=Z,16nm,1.5s			IAmb	IAmb	03 15 15.4	
PFO	**Pinyon Flats O** comp=Z,295nm,18.1s,baz=312,slow=35	**15.19**	**133**	LR	LR	03 20 11.6	
SRU	**San Rafael Swe**	**15.39**	**105**	Pn	**Pn**	**03 15 00.3**	**-1.4**
SRU	comp=Z,15nm,0.9s			IAmb	IAmb	03 15 13.9	
RDMU	**Red Mountain**	**15.43**	**99**	Pn	**Pn**	**03 15 01.7**	**-0.5**
RDMU	comp=Z,11nm,1.3s			IAmb	IAmb	03 15 10.8	
W13A	**Hualapai Mount**	**15.54**	**123**	Pn	**Pn**	**03 15 03.4**	**-0.3**
W13A	comp=Z,17nm,1.3s			IAmb	IAmb	03 15 13.4	
U15A	**North Rim**	**15.66**	**116**	Pn	**Pn**	**03 15 03.9**	**-1.4**
U15A	comp=Z,21nm,1.4s			IAmb	IAmb	03 15 16.1	
WHY	**Whitehorse**	**16.16**	**351**	Pn	**Pn**	**03 15 09.8**	**-1.7**
LAO	**LASA Array**	**16.53**	**75**	Pn	**Pn**	**03 15 16.1**	**-0.1**
LAO	comp=Z,15nm,1.2s			IAmb	IAmb	03 15 24.9	
O20A	**White River Ci**	**16.54**	**99**	Pn	**Pn**	**03 15 15.9**	**-0.6**
O20A	comp=Z,16nm,1.4s			IAmb	IAmb	03 15 34.5	
PCA	**Pinnacle**	**16.56**	**341**	Pn	**Pn**	**03 15 15.7**	**-0.8**
PCA	comp=Z,34nm,1.3s			IAmb	IAmb	03 15 18.9	
HYT	**Haines Junctio**	**16.69**	**347**	Pn	**Pn**	**03 15 17.0**	**-1.1**
WUAZ	**Wupatki**	**16.81**	**117**	Pn	**Pn**	**03 15 19.1**	**-0.9**
Y14A	**Wickenburg**	**16.87**	**124**	Pn	**Pn**	**03 15 20.1**	**-0.5**
Y14A	comp=Z,16nm,1.5s			IAmb	IAmb	03 15 28.8	
YAH	**Yahtse**	**17.15**	**340**		**Pn**	**03 15 24.2**	**+0.2**
YAH	comp=Z,43nm,1.5s			IAmb	IAmb	03 15 26.8	
X16A	**Lo Mia Camp, P**	**17.48**	**120**		**Pn**	**03 15 28.5**	**+0.1**
BARN	**Barnard Glacie**	**17.73**	**341**		**Pn**	**03 15 31.4**	**+0.1**
SMCO	**Snowmass**	**17.83**	**100**		**Pn**	**03 15 32.8**	**0.0**
W18A	**Petrified Fore**	**18.11**	**115**		**Pn**	**03 15 36.1**	**0.0**
X18A	**Snowflake**	**18.34**	**117**		**Pn**	**03 15 38.8**	**-0.2**
214A	**Organ Pipe Nat**	**18.43**	**128**	P	**Pn**	**03 15 40.1**	**+0.3**
ISCO	**Idaho Springs**	**18.52**	**97**	P	**P**	**03 15 41.4**	**+0.3**
KDAK	**Kodiak Island** comp=Z,413nm,20.3s,baz=256,slow=30	**19.17**	**321**	LR	LR	03 21 09.4	
TUC	**Tucson**	**19.34**	**124**	P	**P**	**03 15 50.0**	**+0.2**
SDCO	**Great Sand Dun**	**19.51**	**103**	P	**P**	**03 15 52.0**	**0.0**
BCAR	**Beaver Creek A**	**19.55**	**344**	P	**P**	**03 15 51.9**	**0.0**
L27K	**Beaver Creek,**	**19.55**	**343**	P	**P**	**03 15 52.1**	**+0.2**
L27K	**Beaver Creek,** baz=154,SNR=5.6	**19.55**	**343**	P		03 15 52.7	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=7.7	**19.77**	**21**	P	**P**	**03 15 52.5**	**-1.7**
YKA				LR	LR	03 22 17.2	
	comp=Z,84nm,21.9s,baz=0.0,slow=33						
M24K	**Tolsona, Glenn**	**19.78**	**337**	P	**P**	**03 15 54.6**	**+0.1**
SCM	**Sheep Creek Mo**	**19.90**	**335**	P	**P**	**03 15 55.8**	**0.0**
KNK	**Knik Glacier**	**19.93**	**333**	P	**P**	**03 15 56.0**	**-0.1**
DAWY	**Dawson**	**20.05**	**348**	P	**P**	**03 15 57.3**	**0.0**
SML	**Sawmill**	**20.19**	**334**	P	**P**	**03 15 58.6**	**-0.3**
E28A	**Huff**	**20.33**	**75**	P	**P**	**03 16 00.8**	**+0.3**
GHO	**Glory Hole Cre**	**20.35**	**333**	P	**P**	**03 16 00.2**	**-0.5**
GHO	comp=Z,20nm,1.0s			IAmb	IAmb	03 16 10.6	
ANMO	**Albuquerque** comp=Z,1.5nm,0.9s,baz=300,slow=10,SNR=3.7	**20.36**	**111**	P	**P**	**03 15 59.7**	**-1.4**
ANMO				LR	LR	03 24 06.5	
	comp=Z,76nm,19.8s,baz=302,slow=38						
ANMO	**Albuquerque**	**20.36**	**111**	P	**P**	**03 16 01.0**	**-0.1**
FFC	**Flin Flon**	**20.37**	**51**	P	**P**	**03 16 01.7**	**+0.8**
FFC	comp=Z,15nm,1.2s			IAmb	IAmb	03 16 06.8	
K27K	**Chicken**	**20.47**	**344**	P	**P**	**03 16 01.9**	**0.0**
K27K	comp=Z,11nm,1.4s			IAmb	IAmb	03 16 06.2	
LENM	**Lemitar**	**20.48**	**113**	P	**P**	**03 16 02.1**	**-0.3**
DOT	**Dot Lake**	**20.55**	**342**	P	**P**	**03 16 01.9**	**-0.8**
DOT	comp=Z,10nm,1.2s			IAmb	IAmb	03 16 13.0	
T25A	**Trinidad**	**20.56**	**103**	P	**P**	**03 16 02.9**	**-0.4**
T25A	**Trinidad** baz=300,SNR=13	**20.56**	**103**	P		03 16 02.5	
BNM	**Barren Site**	**20.72**	**113**	P	**P**	**03 16 05.0**	**-0.1**
SCRK	**Sand Creek**	**20.82**	**342**	P	**P**	**03 16 04.5**	**-1.3**
SCRK	comp=Z,9.1nm,1.1s			IAmb	IAmb	03 16 11.3	
SCRK	**Sand Creek** baz=151,SNR=8.6	**20.82**	**342**	P		03 16 04.0	
319A	**Douglas**	**20.89**	**123**	P	**P**	**03 16 06.6**	**-0.3**
319A				IAmb	IAmb	03 16 21.2	
	comp=Z,17nm,1.3s						
MDND	**Maddock**	**20.98**	**71**	P	**P**	**03 16 08.2**	**+0.7**
SPU	**Mount Spurr**	**21.01**	**329**	P	**P**	**03 16 07.4**	**-0.3**
HDA	**Harding Lake**	**21.87**	**340**	P	**P**	**03 16 15.4**	**-1.5**
HDA	comp=Z,14nm,1.4s			IAmb	IAmb	03 16 23.4	
TRF	**Thorofare Moun**	**22.02**	**335**	P	**P**	**03 16 17.6**	**-1.2**
TRF	comp=Z,19nm,1.2s			IAmb	IAmb	03 16 20.1	
IL31		**22.16**	**340**	P	**P**	**03 16 18.4**	**-1.6**
IL31	comp=Z,10nm,1.4s			IAmb	IAmb	03 16 25.9	
ILAR	**Eielson Array** comp=Z,4.6nm,1.1s,baz=153,slow=8.4,SNR=24	**22.16**	**340**	P	**P**	**03 16 17.9**	**-2.1**
ILAR	comp=Z,199nm,21.4s,baz=158,slow=33			LR	LR	03 23 30.7	
ILAR	**Eielson Array**	**22.16**	**340**	P	**P**	**03 16 18.5**	**-1.5**
WRH	**Wood River Hil**	**22.21**	**339**	P	**P**	**03 16 19.1**	**-1.5**
PPLA	**Purkeypile**	**22.22**	**332**	P	**P**	**03 16 20.1**	**-0.7**
CCB	**Clear Creek Bu**	**22.28**	**339**	P	**P**	**03 16 19.5**	**-1.8**
CCB	comp=Z,19nm,1.3s			IAmb	IAmb	03 16 30.6	
NEA2	**Nenana**	**22.56**	**338**	P	**P**	**03 16 21.8**	**-2.5**
POKR	**Poker Plat Res**	**22.57**	**340**	P	**P**	**03 16 24.6**	**+0.1**
POKR	comp=Z,8.8nm,1.2s			IAmb	IAmb	03 16 32.1	
MDM	**Murphy Dome**	**22.64**	**339**	P	**P**	**03 16 22.4**	**-2.8**
MDM	comp=Z,10nm,1.4s			IAmb	IAmb	03 16 33.2	
BPAW	**Bear Paw Mtn.**	**22.72**	**336**	P	**P**	**03 16 26.1**	**+0.1**
I23K	**Minto, Yukon-K**	**23.08**	**339**	P	**P**	**03 16 28.0**	**-1.7**
I23K	comp=Z,14nm,1.1s			IAmb	IAmb	03 16 35.7	
CBKS	**Cedar Bluff**	**23.09**	**95**	P	**P**	**03 16 29.9**	**-0.2**
MNTX	**Cornudas Mount**	**23.09**	**116**	P	**P**	**03 16 30.5**	**+0.3**
MNTX	comp=Z,10nm,1.5s			IAmb	IAmb	03 16 36.1	
MLY	**Manley**	**23.35**	**337**	P	**P**	**03 16 31.1**	**-1.5**
MLY	comp=Z,10nm,1.4s			IAmb	IAmb	03 16 36.9	
ULM	**Lac du Bonnet** comp=Z,3.6nm,0.9s,baz=292,slow=11,SNR=5.4	**23.38**	**64**	P	**P**	**03 16 31.1**	**-1.8**
ULM	comp=Z,264nm,18.7s,baz=269,slow=37			LR	LR	03 25 52.3	
ULM	**Lac du Bonnet**	**23.38**	**64**	P	**P**	**03 16 33.3**	**+0.3**
ULM	comp=Z,10nm,1.1s			IAmb	IAmb	03 16 34.5	
AGMN	**Agassiz Nation**	**23.46**	**69**	P	**P**	**03 16 33.9**	**+0.1**
AGMN	comp=Z,12nm,1.2s			IAmb	IAmb	03 16 37.6	
F33A	**5 Mile Ranch,**	**23.46**	**76**	P	**P**	**03 16 34.3**	**+0.5**
ECSD	**EROS Data Cent**	**23.67**	**81**	P	**P**	**03 16 36.3**	**+0.4**
ECSD	comp=Z,8.3nm,1.1s			IAmb	IAmb	03 16 37.4	
B35A	**Bob, Littlefor**	**24.87**	**69**	P	**P**	**03 16 47.1**	**+0.2**
TX31	**Lajitas Ar. Si**	**25.77**	**118**	P	**P**	**03 16 55.2**	**-0.2**
TX32	**Lajitas Array**	**25.77**	**118**	P	**P**	**03 16 55.0**	**-0.4**
TX32	comp=Z,6.3nm,1.4s			IAmb	IAmb	03 17 07.5	
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=309,slow=5.7,SNR=11	**25.77**	**118**	P	**P**	**03 16 53.1**	**-2.3**
TXAR				LR	LR	03 26 24.2	
	comp=Z,63nm,20.9s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**25.77**	**118**	P	**P**	**03 16 55.1**	**-0.2**
LPIG	**La Paz** comp=Z,149nm,19.1s,baz=342,slow=33	**26.03**	**136**	LR	LR	03 25 41.6	
OXF	**Oxford**	**32.43**	**94**	P	**P**	**03 17 54.6**	**+0.2**
RES	**Resolute Bay** comp=Z,62nm,19.0s,baz=182,slow=34	**33.66**	**16**	LR	LR	03 30 09.2	
SADO	**Sadowa** comp=Z,236nm,19.6s,baz=317,slow=37	**35.45**	**72**	LR	LR	03 33 05.6	
TKL	**Tuckaleechee C** comp=Z,326nm,18.3s,baz=296,slow=37	**35.87**	**88**	LR	LR	03 33 36.0	
SCHQ	**Schefferville** comp=Z,152nm,18.4s,baz=92,slow=37	**40.51**	**52**	LR	LR	03 36 01.7	
PETK	**Petropavlovsk-** comp=Z,55nm,19.7s,baz=118,slow=34	**46.44**	**307**	LR	LR	03 37 22.4	
H11N2	**WAKE ISLAND Hy** baz=48,slow=75,SNR=157	**57.55**	**266**	T	T	04 22 46.7	
H11N3	**WAKE ISLAND Hy** baz=48,slow=75,SNR=244	**57.55**	**266**	T	T	04 22 49.6	
H11N1	**WAKE ISLAND Hy** baz=48,slow=75,SNR=164	**57.57**	**266**	T	T	04 22 49.7	
H11S1	**WAKE ISLAND Hy** baz=48,slow=75,SNR=43	**58.49**	**265**	T	T	04 23 59.2	
H11S2	**WAKE ISLAND Hy** baz=48,slow=75,SNR=34	**58.50**	**265**	T	T	04 23 58.6	
H11S3	**WAKE ISLAND Hy** baz=48,slow=75,SNR=26	**58.51**	**265**	T	T	04 24 04.8	
ROSC	**El Rosal** comp=Z,42nm,18.3s,baz=248,slow=40	**62.53**	**112**	LR	LR

baz=260,SNR=12

D05A	**Enumclaw**	**7.07**	**62**		Pn		03 15 46.6	+0.1
G05D	**Wamic, OR**	**7.07**	**78**	P			03 15 46.9	
	baz=265							
PINE	**Pine Mountain**	**7.36**	**90**	Pn	Pn		03 15 51.1	+0.4
A04D	**Lummi Island**	**7.37**	**49**	P			03 15 51.1	
	baz=235							
B05A	**Bryant**	**7.47**	**54**	P			03 15 52.6	
	baz=240,SNR=8.1							
A05A	**Maple Falls**	**7.87**	**49**		Pn		03 15 58.3	+0.8
B06A	**Marblemount**	**7.95**	**54**	Pn	Pn		03 15 58.9	+0.3
HOPS	**Hopland Field**	**7.95**	**128**	Pn	Pn		03 15 58.6	-0.1
I07A	**Izee**	**8.36**	**87**	Pn	Pn		03 16 05.5	+1.1
G08A	**Pilot Rock**	**8.73**	**78**	Pn	Pn		03 16 09.1	-0.4
D08A	**Wollman Farm,**	**9.02**	**67**	Pn	Pn		03 16 13.0	-0.3
YHL	**Hebgen Lake**	**14.24**	**80**		Pn		03 17 26.6	+1.6
GCMT	**Greycliff**	**15.26**	**76**	Pn	Pn		03 17 38.8	+0.1
PFO	**Pinyon Flats O**	**15.53**	**128**	Pn	Pn		03 17 42.3	+0.1
PFO				IAmb	IAmb		03 17 55.2	
	comp=Z,8.6nm,1.5s							
KNB	**Kanab**	**15.62**	**111**	Pn	Pn		03 17 42.8	-0.7
KNB				IAmb	IAmb		03 17 55.3	
	comp=Z,2.9nm,1.1s							
TGL	**Tana Glacier**	**18.01**	**341**		Pn		03 18 13.7	+0.2
TGL				IAmb	IAmb		03 18 23.1	
	comp=Z,7.0nm,0.8s							

IDC 02 03:37:30.7±1.5,2°20'S×139°63'E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.6/23,mbtmp3.6/4,ML3.6/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/38,Error ellipse: s-maj=66.5km s-min=27.3km az=96.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.38**	**196**	P	P	03 41 47.3	0.0
	0.2nm,0.3s,baz=19,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**22.05**	**194**	P	P	03 42 26.3	-1.0
	0.5nm,0.6s,baz=24,slow=10.0,SNR=3.2						
ASAJ	**Asahikawa**	**46.18**	**3**	LR	LR	04 03 55.9	
	comp=Z,20nm,19.4s,baz=85,slow=34						
MKAR	**Makanchi Array**	**69.95**	**322**	P	P	03 48 44.1	+0.1
	0.8nm,0.6s,baz=111,slow=7.7,SNR=8.4						
ILAR	**Eielson Array**	**84.99**	**24**	P	P	03 50 08.1	+0.3
	0.7nm,0.8s,baz=262,slow=4.7,SNR=6.6						

*IDC **02** 03:49:12.8±6.0,6°35'S×147°37'E,h96km±41km,mb3.7/4, mb1 3.7/6,mb1mx3.3/48,mbtmp3.9/6,Error ellipse: s-maj=50.4km s-min=36.6km az=37.0*

ISC 02 03:49:09.9±2.0,6°2'S×147°4'E±0°3,h77km,n7,σ0§61/8, mb3.9/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**183**	P	**Pn**	**03 49 59.3**	**+0.8**
	20nm,0.3s,baz=357,slow=10,SNR=11						
PMG				S	**Sn**	**03 50 35.1**	**-0.9**
	14nm,0.3s,baz=286,slow=19,SNR=8.1						
WRA	**Warramunga Arr**	**18.65**	**221**	P	**P**	**03 53 21.6**	**-0.1**
	0.4nm,0.3s,baz=49,slow=11,SNR=15						
ASAR	**Alice Springs**	**21.69**	**215**	P	**P**	**03 53 55.0**	**+0.3**
	0.9nm,0.3s,baz=51,slow=8.3,SNR=19						
FITZ	**Fitzroy Crossi**	**24.28**	**239**	P	**P**	**03 54 20.3**	**+0.1**
	3.9nm,0.4s,baz=53,slow=9.7,SNR=27						
STKA	**Stephens Creek**	**26.16**	**191**	P	**P**	**03 54 37.1**	**0.0**
	0.5nm,0.4s,baz=355,slow=11,SNR=4.3						
QSPA	**South Pole Qui**	**83.82**	**180**	P	**P**	**04 01 30.7**	**-0.1**
	1.3nm,0.5s,baz=70,slow=15,SNR=13						
TORD	**Torodi Ar. Bea**	**145.46**	**284**	PKPbc	**PKPdf**	**04 08 39.6**	**-0.5**
	0.7nm,0.4s,baz=68,slow=4.2,SNR=16						

*IDC **02** 03:58:06.2±0.6,59°53'S×26°05'W,h0km,mb4.3/11, mb1 4.4/12,mb1mx4.2/25,mbtmp4.3/12,ML4.8/1,MS3.4/8, Ms1 3.4/8,ms1mx3.3/21,Error ellipse: s-maj=28.2km s-min=16.3km az=63.0*

*NEIC **02** 03:58:17.9±1.1,59°6'S±0°1'×26°1'W±0°3,h97km±7km, mb4.5/37,Error ellipse: s-maj=25.7km s-min=13.8km az=55.0*

ISC 02 03:58:17.9±0.6,59°7'S±0°1'×26°1'W±0°1,h100km,n66, σ1§46/59,mb4.4/24,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.86**	**309**	Pn	**Pn**	**04 00 11.4**	**+2.0**
VNA1	**Neumayer--Stat**	**13.20**	**153**	P	Pn	04 01 16.9	-4.1
VNA1				S	Sn	04 03 28.9	-17
VNA3	**Neumayer Olymp**	**13.35**	**157**	P	Pn	04 01 18.9	-4.1
VNA3				x	**Pn**	**04 01 19.5**	**-3.5**
VNA3				S	Sn	04 03 33.9	-16
VNA2	**Neumayer--Watz**	**13.60**	**153**	P	**Pn**	**04 01 22.5**	**-3.8**
	baz=312,slow=14						
VNA2				S	Sn	04 03 40.7	-15
SNAA	**Sanae**	**15.18**	**152**	P	**Pn**	**04 01 43.3**	**-3.2**
SNAA				S	Sn	04 04 20.9	-13
SNAA	**Sanae**	**15.18**	**152**	Pn	**Pn**	**04 01 43.6**	**-2.9**
	4.1nm,0.3s,baz=310,slow=14,SNR=119						
SNAA				Sn	Sn	04 04 18.7	-15
	0.2nm,0.3s,baz=336,slow=20,SNR=1.7						
SNAA				LR	LR	04 06 18.2	
	comp=Z,118nm,20.7s,baz=260,slow=32						
SNAA	**Sanae**	**15.18**	**152**		**Pn**	**04 01 43.4**	**-3.2**
SNAA				IAmb	IAmb	04 01 49.5	
	comp=Z,15nm,0.6s						
PMSA	**Palmer Station**	**18.17**	**238**	LR	LR	04 08 04.7	
	comp=Z,90nm,21.5s,baz=96,slow=33						
EFI	**East Falkland**	**19.57**	**280**		**P**	**04 02 37.6**	**0.0**
EFI				IAmb	IAmb	04 02 39.2	
	comp=Z,21nm,1.1s						
MG02	**Cerro Sombrero**	**24.57**	**267**	P	**P**	**04 03 26.4**	**-1.8**
QSPA	**South Pole Qui**	**30.52**	**180**	P	**P**	**04 04 23.1**	**+1.8**
	comp=Z,2.4nm,0.6s,baz=205,slow=1.7,SNR=20						
QSPA	**South Pole Qui**	**30.52**	**180**	P	**P**	**04 04 23.0**	**+1.7**
PLCA	**Paso Flores**	**33.36**	**285**	P	**P**	**04 04 45.5**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=142,slow=8.1,SNR=6.6						
PLCA				LR	LR	04 17 19.7	
	comp=Z,50nm,18.2s,baz=162,slow=35						
PLCA	**Paso Flores**	**33.36**	**285**	P	**P**	**04 04 45.7**	**-0.7**
PLTB	**Pedras Altas**	**33.44**	**314**	P	**P**	**04 04 45.8**	**-1.2**
ITQB	**Itaqui**	**36.44**	**312**	P	**P**	**04 05 11.7**	**-1.1**
BO02	**Sierra Bellavi**	**38.17**	**290**	P	**P**	**04 05 27.6**	**+0.1**
BO02				IAmb	IAmb	04 05 34.6	
	comp=Z,6.0nm,0.9s						
GO05	**Huala**	**38.54**	**289**	P	**P**	**04 05 29.7**	**-0.8**
GO05				IAmb	IAmb	04 05 30.2	
	comp=Z,8.2nm,0.8s						
BO01	**Tunca**	**38.64**	**291**	P	**P**	**04 05 29.6**	**-1.8**
BO01				IAmb	IAmb	04 05 42.1	
	comp=Z,4.3nm,0.8s						
MT09	**Talagante**	**39.10**	**291**	P	**P**	**04 05 34.6**	**-0.7**
MT01	**Popeta**	**39.15**	**291**	P	**P**	**04 05 35.0**	**-0.6**
MT01				IAmb	IAmb	04 05 46.4	
	comp=Z,7.2nm,0.8s						
MT02	**Curacav**	**39.60**	**291**	P	**P**	**04 05 38.7**	**-0.5**
MT02				IAmb	IAmb	04 05 39.0	
	comp=Z,11nm,1.1s						
CPUP	**Villa Florida**	**39.72**	**313**	P	**P**	**04 05 39.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=236,slow=10,SNR=2.2						
CPUP				LR	LR	04 22 00.7	
	comp=Z,26nm,19.2s,baz=161,slow=36						
CPUP	**Villa Florida**	**39.72**	**313**	P	**P**	**04 05 39.0**	**-1.3**
VA03	**San Esteban**	**39.73**	**293**	P	**P**	**04 05 40.0**	**-0.5**
CO02	**Combarbal**	**41.24**	**293**	P	**P**	**04 05 51.8**	**-1.1**
CO02				IAmb	IAmb	04 06 06.2	
	comp=Z,8.2nm,1.1s						
CO03	**El Pedregal**	**41.40**	**294**	P	**P**	**04 05 54.3**	**0.0**
CO03				IAmb	IAmb	04 06 11.9	
	comp=Z,4.7nm,0.9s						
VNDA	**Vanda**	**42.93**	**183**	P	**P**	**04 06 08.7**	**+2.7**
	comp=Z,2.6nm,0.7s,baz=179,slow=7.1,SNR=13						
VNDA				LR	LR	04 22 24.5	
	comp=Z,48nm,20.1s,baz=216,slow=34						
VNDA	**Vanda**	**42.93**	**183**	P	**P**	**04 06 08.4**	**+2.5**
LCO	**Las Campanas**	**42.95**	**295**	P	**P**	**04 06 06.4**	**-0.6**
LCO				IAmb	IAmb	04 06 21.8	
	comp=Z,6.4nm,0.9s						
AC04	**Llanos de Chal**	**43.81**	**296**	P	**P**	**04 06 13.6**	**0.0**
AC01	**Pan de Azucar**	**45.36**	**298**	P	**P**	**04 06 24.8**	**-1.2**
GO02	**Mina Guanaco**	**45.76**	**299**	P	**P**	**04 06 28.7**	**-0.8**
GO02				IAmb	IAmb	04 06 38.8	
	comp=Z,12nm,1.1s						
BDFB	**Brasilia**	**46.85**	**330**	P	**P**	**04 06 37.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=133,slow=9.4,SNR=3.1						
BDFB	**Brasilia**	**46.85**	**330**	P	**P**	**04 06 36.6**	**-1.2**
PB15	**IPOC Station P**	**47.42**	**301**	P	**P**	**04 06 42.2**	**-0.1**
PB15				IAmb	IAmb	04 06 51.3	
	comp=Z,11nm,1.1s						
LVC	**Limon Verde**	**47.70**	**302**	P	**P**	**04 06 43.4**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=170,slow=5.5,SNR=6.0						
LVC	**Limon Verde**	**47.70**	**302**	P	**P**	**04 06 43.7**	**-1.0**
LVC				IAmb	IAmb	04 06 46.0	
	comp=Z,4.1nm,0.8s						
PB04	**IPOC Station P**	**48.48**	**301**	P	**P**	**04 06 50.0**	**-0.5**
PB07	**IPOC Station P**	**48.90**	**301**	P	**P**	**04 06 53.2**	**-0.5**
PB07				IAmb	IAmb	04 06 54.3	
	comp=Z,7.6nm,0.8s						
PB01	**IPOC Station P**	**49.33**	**302**	P	**P**	**04 06 56.4**	**-0.5**
PB01				IAmb	IAmb	04 07 13.0	
	comp=Z,8.8nm,1.0s						
PSGCX	**Pisagua**	**50.88**	**302**	P	**P**	**04 07 07.7**	**-0.9**
MNMC	**Minye Minye**	**51.07**	**303**	P	**P**	**04 07 09.7**	**-0.5**
H10S2	**ASCENSION HYDR**	**51.38**	**15**	T	T	05 02 56.1	
	baz=33,slow=74,SNR=4.9						
H10S3	**ASCENSION HYDR**	**51.38**	**14**	T	T	05 02 53.5	
	baz=187,slow=74,SNR=9.6						
H10N1	**ASCENSION HYDR**	**52.50**	**15**	T	T	05 04 18.2	
	baz=181,slow=72,SNR=4.5						
H10N3	**ASCENSION HYDR**	**52.50**	**15**	T	T	05 04 15.4	
	baz=181,slow=72,SNR=8.9						
H10N2	**ASCENSION HYDR**	**52.52**	**15**	T	T	05 04 23.6	
	baz=181,slow=72,SNR=6.2						
LPAZ	**La Paz**	**53.01**	**306**	P	**P**	**04 07 24.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=77,slow=4.1,SNR=13						
LPAZ				LR	LR	04 31 11.7	
	comp=Z,14nm,20.0s,baz=159,slow=38						
LPAZ	**La Paz**	**53.01**	**306**	P	**P**	**04 07 24.5**	**-0.5**
LPAZ				IAmb	IAmb	04 07 41.0	
	comp=Z,2.9nm,0.9s						
SAML	**Samuel**	**57.82**	**315**	P	**P**	**04 07 57.5**	**-1.3**
SAML				IAmb	IAmb	04 07 58.0	
	comp=Z,2.6nm,0.6s						
TOA0	**Torodi Ar. Sit**	**76.00**	**28**	P	**P**	**04 09 54.7**	**+0.9**
TOA0				IAmb	IAmb	04 09 59.8	
	comp=Z,4.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.00**	**28**	P	**P**	**04 09 55.1**	**+1.3**
	comp=Z,2.3nm,0.5s,baz=198,slow=6.0,SNR=21						
TORD	**Torodi Ar. Bea**	**76.00**	**28**	P	**P**	**04 09 53.6**	**-0.2**
STKA	**Stephens Creek**	**88.18**	**170**	P	**P**	**04 10 58.9**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=193,slow=9.8,SNR=3.3						
STKA	**Stephens Creek**	**88.18**	**170**	P	**P**	**04 10 57.5**	**+0.2**
ASAR	**Alice Springs**	**95.31**	**162**	P	**P**	**04 11 31.8**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=185,slow=4.1,SNR=7.9						
ASAR				LR	LR	04 51 03.0	
	comp=Z,53nm,20.6s,baz=129,slow=33						
ASAR	**Alice Springs**	**95.31**	**162**	P	**P**	**04 11 30.4**	**-0.2**
WRA	**Warramunga Arr**	**99.03**	**161**	P	**Pdif**	**04 11 49.6**	**+2.3**
	comp=Z,0.7nm,1.1s,baz=186,slow=16,SNR=1.7						
WRA				LR	LR	04 55 27.3	
	comp=Z,58nm,19.3s,baz=210,slow=35						
FRB	**Frobisher Bay**	**127.29**	**338**	PKP	**PKPdf**	**04 17 09.0**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=164,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**127.34**	**29**	PKP	**PKiKP**	**04 17 09.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=222,slow=1.9,SNR=3.5						
ARCES	**ARCESS Array B**	**134.12**	**23**	PKP	**PKPdf**	**04 17 22.6**	**+0.8**
	comp=Z,4.2nm,1.0s,baz=208,slow=3.6,SNR=5.0						
MKAR	**Makanchi Array**	**137.40**	**74**	PKP	**PKPdf**	**04 17 28.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=242,slow=3.1,SNR=3.1						
SONM	**Songino Array**	**150.18**	**92**	PKPbc	**PKiKP**	**04 17 57.6**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=221,slow=3.1,SNR=17						
KSRS	**Korea Array**	**152.19**	**132**	PKPbc	**PKiKP**	**04 18 02.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=203,slow=1.1,SNR=4.1						
ILAR	**Eielson Array**	**152.89**	**306**	PKPbc	**PKiKP**	**04 18 02.0**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=161,slow=4.9,SNR=9.6						

*ATH **02** 04:08:16.9,40°06'N×20°95'E,h15km±2km,ML2.4/6,Error ellipse: s-maj=3.1km s-min=1.2km az=109.0*

THE 02 04:08:17.3,40°09'N×20°95'E,h0km±3km,ML2.4/13,Error ellipse: s-maj=3.2km s-min=0.7km az=188.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENT	**Pentalofos**	**0.18**	**54**	P	Pg	04 08 21.3	+0.6
PENT				S	Sg	04 08 23.7	+0.6
PENT				AML	AML	04 08 26.8	
	comp=E,4097μm,0.2s						
PENT				AML	AML	04 08 28.6	
	comp=N,3756μm,0.3s						
PENT	**Pentalofos**	**0.18**	**54**	P	Pg	04 08 21.3	+0.5
PENT				S	Sg	04 08 23.8	+0.7
	comp=N,3μm,0.5s						
LSK	**Leskovik**	**0.27**	**282**	P	Pg	04 08 22.4	-0.1
LSK				S	Sg	04 08 25.4	-0.7
	comp=N,2μm,0.6s						
NEST	**Nestorio**	**0.33**	**13**	P	Pg	04 08 24.2	+0.6
NEST				S	Sg	04 08 29.1	+1.1
NEST				AML	AML	04 08 31.3	
	comp=E,1666μm,0.2s						
NEST				AML	AML	04 08 32.4	
	comp=N,1284μm,0.2s						
NEST	**Nestorio**	**0.33**	**13**	P	Pg	04 08 23.9	+0.2
NEST				S	Sg	04 08 29.5	+1.5
	comp=N,682nm,0.3s						
KPRO	**Kipourio**	**0.35**	**113**	P	Pg	04 08 23.9	0.0
KPRO				S	Sg	04 08 28.3	-0.1
KPRO				AML	AML	04 08 33.7	
	comp=E,2676μm,0.4s						
KPRO				AML	AML	04 08 34.0	
	comp=N,2012μm,0.3s						
KPRO	**Kipourio**	**0.35**	**113**	P	Pg	04 08 23.9	0.0
KPRO				S	Sg	04 08 29.2	+0.8
	comp=N,1μm,0.5s						
JAN	**Janina**	**0.44**	**190**	P	Pg	04 08 24.3	-1.4
JAN				S	Sg	04 08 31.9	+0.5
JAN				AML	AML	04 08 35.0	
	comp=E,963μm,0.4s						
JAN				AML	AML	04 08 36.1	
	comp=N,1176μm,0.3s						
JAN	**Janina**	**0.44**	**190**	P	Pg	04 08 25.2	-0.5
JAN				S	Sg	04 08 31.9	+0.5
	comp=N,568nm,0.3s						
KBN	**Korca**	**0.55**	**347**	P	Pg	04 08 27.3	-0.5
KBN				S	Sg	04 08 35.8	+1.0
	comp=N,360nm,0.7s						
KZN	**Kozani**	**0.67**	**71**	P	Pg	04 08 28.7	-1.3
KZN	**Kozani**	**0.67**	**71**	P	Pg	04 08 28.7	-1.4
KZN				S	Sb	04 08 41.4	-0.3
	comp=N,500nm,0.6s						
IGT	**Igoumenitsa**	**0.73**	**221**	P	Pg	04 08 30.5	-0.8
IGT				S	Sg	04 08 41.6	+0.8
IGT				AML	AML	04 08 47.5	
	comp=N,399μm,0.3s						
IGT				AML	AML	04 08 48.0	
	comp=E,512μm,0.4s						
IGT	**Igoumenitsa**	**0.73**	**221**	P	Pg	04 08 30.8	-0.5
IGT				S	Sb	04 08 42.4	-1.1
	comp=E,228nm,0.4s						
SRN	**Sarande**	**0.76**	**254**	P	Pg	04 08 32.0	+0.2
SRN				S	Sb	04 08 43.5	-0.7
	comp=E,422nm,0.6s						
FNA	**Florina**	**0.77**	**25**	P	Pg	04 08 31.6	-0.3
FNA				S	Sg	04 08 42.4	+0.5
FNA				AML	AML	04 08 47.9	
	comp=E,618μm,0.3s						
FNA				AML	AML	04 08 48.8	
	comp=N,500μm,0.4s						
FNA	**Florina**	**0.77**	**25**	P	Pg	04 08 31.4	-0.6
FNA				S	Sg	04 08 42.8	+0.9
	comp=N,278nm,0.3s						
KTI	**Kastanea**	**0.94**	**71**	P	Pg	04 08 34.8	-0.6
KEK	**Kerkira**	**0.96**	**247**	P	Pg	04 08 35.4	-0.4
KEK	**Kerkira**	**0.96**	**247**	P	Pg	04 08 35.7	0.0
KEK				S	Sb	04 08 50.5	+0.4
	comp=N,195nm,0.7s						
THL	**Klokotos Trika**	**0.98**	**122**	P	Pg	04 08 33.7	-2.3
THL	**Klokotos Trika**	**0.98**	**122**	P	Pg	04 08 34.1	-1.9
THL				S	Sb	04 08 50.5	0.0
	comp=N,132nm,0.4s						
LIT	**Litokhoron**	**1.18**	**89**	P	Pg	04 08 38.6	-1.4
LIT				S	Sn	04 08 57.5	-0.4
	comp=N,162nm,0.6s						
TSLK	**Tsoukalades, L**	**1.28**	**190**	P	Pg	04 08 42.1	+0.2
EVR	**Evrytania**	**1.35**	**150**	P	Pg	04 08 42.2	-1.0
GRG	**Griva**	**1.41**	**52**	P	Pn	04 08 43.0	-1.2
ANX	**Ano Chora**	**1.68**	**153**	P	Pn	04 08 48.2	+0.2
STIP	**Stip**	**1.86**	**30**	*i* Pn	Pg	04 08 52.9	0.0

*TAP **02** 04:16:22.6,24°23'N×122°27'E,h21km,ML2.7,D*
*JMA **02** 04:16:22.9±0.1,24°17'N×122°31'E,h29km±3km,M2.3*

ISC 02 04:16:22.5±0.9,24°19'N±0°02'×122°28'E±0°02,h23km±9km, n65,σ0§52/116,2C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.51**	**284**	*e*P	**Pb**	**04 16 32.6**	**-0.1**
	baz=286						
EHP				*e*S	**Sb**	**04 16 40.5**	**+0.7**
	baz=286						
EWUT	**Wuta**	**0.53**	**299**	P	**Pb**	**04 16 32.7**	**-0.4**
	baz=302						
EWUT				S	**Sb**	**04 16 40.6**	**+0.3**
	baz=302						
TWC	**Suao**	**0.58**	**317**	⇑ *i* P	**Pb**	**04 16 33.2**	**-0.8**
	baz=314						
TWC				*i* S	**Sb**	**04 16 40.3**	**-1.4**
	baz=314						
NACB	**Ninganchiao**	**0.63**	**269**	P	**Pb**	**04 16 35.4**	**+0.6**
	baz=247						
NACB				*e*S	**Sn**	**04 16 45.5**	**+0.1**
	baz=247						
TWD	**Chiawan**	**0.64**	**260**	*e*P	**Pn**	**04 16 35.6**	**-0.5**
	baz=239						
TWD				S	**Sn**	**04 16 45.0**	**-0.5**
	baz=239						
JYNG	**Yonagunijimaku**	**0.66**	**66**	P	**Pb**	**04 16 35.3**	**0.0**
JYNG				*e*S	**Sb**	**04 16 44.1**	**0.0**
NDS	**Dongshan**	**0.68**	**311**	P	**Pb**	**04 16 35.4**	**-0.3**
	baz=307						
NDS				S	**Sb**	**04 16 43.9**	**-0.8**
	baz=307						
TEYL	**Yanliau Villag**	**0.70**	**243**	*e*S	**Sn**	**04 16 47.4**	**+0.3**
	baz=227						
YOJ	**Yonaguni jima**	**0.72**	**68**	P	**Pb**	**04 16 36.2**	**-0.1**
YOJ				*e*S	**Sb**	**04 16 45.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.72**	**68**	P	**Pb**	**04 16 36.4**	**+0.1**
	baz=70						
YOJ				S	**Sb**	**04 16 46.4**	**+0.6**
	baz=70						
EGS		**0.73**	**334**	*i* P	**Pb**	**04 16 36.3**	**-0.2**
	baz=333						
EGS				S	**Sb**	**04 16 46.1**	**+0.1**
	baz=333						
ETLH	**Xiulin Townshi**	**0.73**	**272**	P	**Pb**	**04 16 37.1**	**+0.5**
	baz=268						
ETM	**Tongmen**	**0.75**	**253**	P	**Pb**	**04 16 36.5**	**-0.4**
	baz=237						
ETM				S	**Sb**	**04 16 47.7**	**+0.9**
	baz=237						
TWE	**Neicheng**	**0.77**	**314**	P	**Pb**	**04 16 37.0**	**-0.3**
	baz=311						
TWE				S	**Sb**	**04 16 47.1**	**-0.2**
	baz=311						
NTC	**Toucheng**	**0.78**	**328**	*e*P	**Pb**	**04 16 37.4**	**0.0**
	baz=326						
NTC				*e*S	**Sb**	**04 16 47.9**	**+0.3**
	baz=326						
ENTT	**Nioudou**	**0.79**	**305**	*i* P	**Pb**	**04 16 37.2**	**-0.4**
	baz=301						
ENTT				S	**Sb**	**04 16 47.5**	**-0.5**
	baz=301						
NDT	**Datong Townshi**	**0.81**	**301**	⇓ *i* P	**Pb**	**04 16 38.1**	**+0.2**
	baz=297						
NDT				S	**Sb**	**04 16 48.4**	**-0.1**
	baz=297						
TEGC	**Jichi Village**	**0.83**	**235**	*e*P	**Pn**	**04 16 38.8**	**0.0**
	baz=219						
NNSB	**Datong**	**0.85**	**286**	P	**Pn**	**04 16 39.1**	**-0.2**
	baz=282						
NNSB				S	**Sn**	**04 16 51.0**	**-0.1**
	baz=282						
NNSH	**Datong**	**0.85**	**287**	*e*P	**Pb**	**04 16 39.0**	**+0.3**
	baz=282						
NNSH				*e*S	**Sn**	**04 16 50.9**	**-0.3**
	baz=282						
TWB1	**Santiao Chiao**	**0.86**	**342**	P	**Pn**	**04 16 39.1**	**-0.1**
	baz=347						
TWB1				S	**Sb**	**04 16 49.5**	**-0.4**
	baz=347						
ESL	**Shilin**	**0.86**	**245**	P	**Pb**	**04 16 38.3**	**-0.4**
	baz=230						
ESL				*e*S	**Sb**	**04 16 50.5**	**+0.7**
	baz=230						
NNS	**Nan Shan**	**0.87**	**287**	*i* P	**Pn**	**04 16 39.2**	**-0.2**
	baz=283						
NNS				S	**Sb**	**04 16 50.4**	**+0.3**
	baz=283						
TIPB	**Shuangxi**	**0.89**	**332**	*i* P	**Pb**	**04 16 39.3**	**+0.1**
	baz=321						
TIPB				S	**Sb**	**04 16 50.3**	**-0.3**
	baz=321						
NWLT	**Wulai**	**0.92**	**310**	*e*P	**Pb**	**04 16 39.8**	**0.0**
	baz=307						
NWLT				*e*S	**Sb**	**04 16 52.0**	**+0.3**
	baz=307						
WHF	**Hehuan Shan**	**0.93**	**268**	*i* P	**Pb**	**04 16 40.1**	**0.0**
	baz=264						
WHF				S	**Sn**	**04 16 53.7**	**+0.3**
	baz=264						
FUSS	**Fushou**	**0.95**	**274**	P	**Pn**	**04 16 40.9**	**+0.2**
	baz=270						
FUSS				*e*S	**Sn**	**04 16 54.7**	**+1.1**
	baz=270						
YHNB	**Yeheng**	**0.96**	**300**	⇑ P	**Pb**	**04 16 40.5**	**+0.1**
	baz=306						
YHNB				S	**Sb**	**04 16 53.0**	**+0.3**
	baz=306						
NWF	**Wu-fen Shan**	**0.99**	**333**	*i* P	**Pn**	**04 16 41.8**	**+0.7**
	baz=330						
NWF				*i* S	**Sn**	**04 16 54.3**	**-0.2**
	baz=330						
WFSB	**Wu-fen Shan**	**0.99**	**333**	*e*P	**Pb**	**04 16 40.2**	**-0.7**
	baz=330						
WFSB				S	**Sn**	**04 16 54.1**	**-0.2**
	baz=330						
TWA	**Mucha**	**1.01**	**321**	P	**Pn**	**04 16 40.9**	**-0.5**
	baz=327						
TWA				S	**Sn**	**04 16 54.9**	**-0.1**

WHP				*e*S		**Sb**	04 17 02.3	+1.9
	baz=258							
LIOB	**Emei**	**1.24 292**		P		**Pb**	04 16 46.4	+1.1
	baz=289							
NSTT	**Nanjuang**	**1.25 291**		*e*P		**Pb**	04 16 46.2	+0.9
	baz=287							
NSTT				*e*S		**Sb**	04 17 01.3	+0.2
	baz=287							
TWY	**Chenhua**	**1.25 330**		P		**Pn**	04 16 44.6	0.0
	baz=340							
TWY				S		**Sb**	04 17 01.3	+0.2
	baz=340							
WCS	**Beigang Elemen**	**1.26 264**		*e*P		**Pb**	04 16 45.3	-0.2
	baz=250							
SSLB	**Suanglung**	**1.28 252**		*e*P		**Pn**	04 16 44.9	-0.1
	baz=249							
SSLB				*e*S		**Sn**	04 17 01.1	-0.3
	baz=249							
SMLT	**Sun Moon Lake**	**1.30 257**		P		**Pn**	04 16 45.9	+0.6
	baz=253							
SMLT				*e*S		**Sb**	04 17 03.4	+0.8
	baz=253							
IRIF	**Iriomote-Funau**	**1.33 83**		P		**Pb**	04 16 47.0	+0.3
IRIF				*e*S		**Sb**	04 17 03.0	-0.3
TYC	**Yuchr**	**1.33 258**		P		**Pn**	04 16 46.2	+0.5
	baz=242							
FULB	**Fuli**	**1.34 223**		*e*P		**Pn**	04 16 44.9	-0.9
	baz=209							
HATJ	**Hateruma jima**	**1.40 95**		S		**Sb**	04 17 06.1	+0.8
PCYT	**Pengchaiyu**	**1.45 352**		*e*P		**Pn**	04 16 47.3	-0.1
	baz=351							
EDH	**Donghe**	**1.51 217**		*e*P		**Pn**	04 16 47.9	-0.2
	baz=217							
ALS	**Alishan**	**1.51 244**		*e*P		**Pn**	04 16 48.9	+0.5
	baz=241							
ALS				*e*S		**Sb**	04 17 08.4	-0.4
	baz=241							
ELDTW	**Lidau**	**1.53 230**		*e*P		**Pn**	04 16 48.0	-0.5
	baz=228							
ELDTW				S		**Sn**	04 17 07.8	+0.1
	baz=228							
JKRS	**Kuro-shima**	**1.58 88**		P		**Pn**	04 16 49.8	+0.7
JKRS				S		**Sn**	04 17 09.4	+0.6
CHN5	**Tsauling**	**1.58 249**		*e*P		**Pb**	04 16 50.4	-0.7
	baz=232							
CHN5				*e*S		**Sb**	04 17 10.9	+0.3
	baz=232							
JIJ	**Ishigaki jima**	**1.71 84**		*e*S		**Sn**	04 17 11.6	-0.4
TPUB	**Ta-pu**	**1.75 240**		*e*P		**Pn**	04 16 51.4	-0.1
	baz=238							
TPUB				*e*S		**Sb**	04 17 15.6	0.0
	baz=238							
CHN4	**Tsaushan**	**1.76 242**		*e*P		**Pb**	04 16 53.2	-0.8
	baz=229							
CHN4				*e*S		**Sb**	04 17 16.2	+0.5
	baz=229							
WTP	**Ta-pu**	**1.79 239**		*e*P		**Pb**	04 16 54.3	-0.4
	baz=237							
JISG	**Ishigakijimahi**	**1.89 77**		P		**Pn**	04 16 53.3	-0.1
JISG				S		**Sn**	04 17 16.2	-0.4

*IDC **02** 04:25:36.9±1.3,9.62S×125.24E,h0km,mb3.8/3, mb1 3.9/6,mb1mx3.6/35,mbtmp3.8/6,ML3.4/3,MS2.8/3, Ms1 2.8/3,ms1mx2.5/29,Error ellipse: s-maj=35.5km s-min=23.7km az=77.0*

*NEIC **02** 04:25:42.1±1.4,10.2S±0.1×124.7E±0.2,h51km±10km, mb4.0/4,Error ellipse: s-maj=28.8km s-min=5.3km az=47.0*

ISC 02 04:25:41.4±0.8,**9.88S**±0.08×**125.08E**±0.07,**h50**km,**n22,** σ**2.13/26,mb3.9/4,Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.81**	**279**	Pn	**Pn**	**04 25 55.5**	**-1.1**
SOEI				Sn	**Sn**	**04 26 03.0**	**-4.8**
BATI	**Baumata**	**1.43**	**257**	Pn	**Pn**	**04 26 07.6**	**+2.6**
	12nm,0.3s,baz=117,slow=9.0,SNR=5.8						
BATI				Sn	**Sn**	**04 26 25.1**	**+2.5**
	26nm,0.3s,baz=290,slow=23,SNR=7.9						
MTN	**Manton Dam**	**6.63**	**117**		**Pn**	**04 27 20.0**	**+3.7**
KNRA	**Kununurra**	**6.79**	**148**	Pn	**Pn**	**04 27 19.6**	**+1.2**
KAPI	**Kappang**	**7.16**	**312**	LR	LR	04 30 33.4	
	comp=Z,84nm,18.3s,baz=156,slow=42						
FITZ	**Fitzroy Crossi**	**8.19**	**176**	Pn	**Pn**	**04 27 40.8**	**+3.1**
	0.3nm,0.3s,baz=355,slow=9.2,SNR=26						
FITZ				Sn	**Sn**	**04 29 09.0**	**+0.2**
	0.5nm,0.3s,baz=117,slow=20,SNR=2.9						
FITZ				LR	LR	04 31 38.0	
	comp=Z,40nm,20.9s,baz=358,slow=43						
WB0	**Warramunga Arr**	**13.32**	**139**	Pn	**Pn**	**04 28 48.0**	**0.0**
WRA	**Warramunga Arr**	**13.42**	**139**	Pn	**Pn**	**04 28 49.4**	**+0.1**
	0.3nm,0.3s,baz=312,slow=14,SNR=14						
WRA				Sn	**Sn**	**04 31 13.3**	**-3.6**
	0.7nm,0.3s,baz=316,slow=24,SNR=9.2						
WRA	**Warramunga Arr**	**13.42**	**139**		**Pn**	**04 28 49.6**	**+0.3**
WB2	**Warramunga Arr**	**13.42**	**139**	Pn	**Pn**	**04 28 49.7**	**+0.3**
WR0	**Warramunga Arr**	**13.56**	**139**	Pn	**Pn**	**04 28 51.5**	**+0.3**
ASAR	**Alice Springs**	**16.09**	**149**	Pn	**P**	**04 29 26.6**	**-0.4**
	0.1nm,0.3s,baz=318,slow=11,SNR=15						
ASAR				Sn	**Sn**	**04 32 19.2**	**-2.9**
	0.1nm,0.3s,baz=314,slow=20,SNR=4.4						
ASAR				LR	LR	04 35 56.3	
	comp=Z,38nm,21.0s,baz=44,slow=38						
ASAR	**Alice Springs**	**16.09**	**149**		**Pn**	**04 29 23.5**	**-1.0**
PALK	**Pallekele**	**47.37**	**289**	P	**P**	**04 34 08.9**	**-2.1**
SONM	**Songino Array**	**59.81**	**346**	P	**P**	**04 35 42.1**	**+0.5**
	1.0nm,0.7s,baz=171,slow=6.7,SNR=5.2						
SONM	**Songino Array**	**59.81**	**346**	P	**P**	**04 35 43.7**	**+2.1**
SONM				IAmb	IAmb	04 35 44.1	
	comp=Z,1.5nm,0.9s						
MK31	**Makanchi Array**	**68.10**	**330**	P	**P**	**04 36 36.9**	**+0.8**
MKAR	**Makanchi Array**	**68.10**	**330**	P	**P**	**04 36 37.8**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=146,slow=6.7,SNR=4.3						
MKAR	**Makanchi Array**	**68.10**	**330**	P	**P**	**04 36 36.5**	**+0.5**
MAKZ	**Makanchi**	**68.27**	**330**	P	**P**	**04 36 37.5**	**+0.5**
MAKZ				IAmb	IAmb	04 36 40.6	
	comp=Z,1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**72.12**	**336**	P	**P**	**04 37 02.4**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=152,slow=6.5,SNR=1.9						
ZALV	**Zalesovo Beam**	**72.12**	**336**	P	**P**	**04 37 02.0**	**+1.5**

*NEIC **02** 04:47:00.6±1.1,18.67N±0.09×146.0E±0.2,h185km±11km, mb4.1/8,Error ellipse: s-maj=26.1km s-min=11.2km az=70.0*

*IDC **02** 04:47:10.0±5.0,18.76N×145.57E,h286km±49km, mb3.4/11,mb1 3.6/12,mb1mx3.3/40,mbtmp4.0/12,Error ellipse: s-maj=27.9km s-min=12.6km az=92.0*

ISC 02 04:46:54.9±0.7,**18.7N**±0.1×**145.9E**±0.2,**h145**km,**n27,** σ**1.31/25,mb3.9/11,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**18.18**	**300**	P	**Pn**	**04 50 59.5**	**+1.3**
JMN	**Monobe**	**18.47**	**327**	P	**Pn**	**04 51 02.8**	**+1.3**
JMN				IAmb	IAmb	04 51 12.4	
	comp=Z,7.7nm,1.0s						
JGF	**Kuroka**	**18.50**	**338**	P	**Pn**	**04 51 02.7**	**+0.9**
JGF				IAmb	IAmb	04 51 03.2	
	comp=Z,4.6nm,0.6s						
MJAR	**Matsushiro Arr**	**19.07**	**341**	P	**Pn**	**04 51 10.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=170,slow=9.8,SNR=13						
MJAR	**Matsushiro Arr**	**19.07**	**341**	P	**Pn**	**04 51 09.2**	**+0.8**
MAJO	**Matsushiro**	**19.07**	**341**	P	**Pn**	**04 51 08.7**	**+0.2**
MAJO				IAmb	IAmb	04 51 11.8	
	comp=Z,9.9nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**19.68**	**87**	T	T	05 12 19.9	
	baz=274,slow=74,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**19.70**	**87**	T	T	05 12 20.6	
	baz=274,slow=74,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**19.70**	**87**	T	T	05 12 21.2	
	baz=274,slow=74,SNR=5.1						
JSD	**Sado**	**20.43**	**342**	P	**P**	**04 51 21.8**	**+1.0**
PETK	**Petropavlovsk-**	**35.58**	**12**	P	**P**	**04 53 38.8**	**+0.6**
WRA	**Warramunga Arr**	**40.01**	**197**	P	**P**	**04 54 17.3**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=12,slow=8.5,SNR=16						
WRA				PcP	**PcP**	**04 56 17.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=22,slow=3.8,SNR=1.5						
WRA	**Warramunga Arr**	**40.01**	**197**	P	**P**	**04 54 17.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**41.62**	**210**	P	**P**	**04 54 30.1**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=24,slow=6.7,SNR=16						
FITZ	**Fitzroy Crossi**	**41.62**	**210**	P	**P**	**04 54 30.2**	**+1.3**
FITZ				IAmb	IAmb	04 54 48.2	
	comp=Z,5.8nm,1.1s						
SONM	**Songino Array**	**43.31**	**321**	P	**P**	**04 54 42.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=136,slow=8.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**58.18**	**322**	P	**P**	**04 56 31.4**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=115,slow=5.8,SNR=3.8						
MKAR	**Makanchi Array**	**58.64**	**314**	P	**P**	**04 56 35.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=90,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**58.64**	**314**	P	**P**	**04 56 36.0**	**-0.9**
ILAR	**Eielson Array**	**63.58**	**26**	P	**P**	**04 57 09.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=248,slow=5.5,SNR=6.2						
YKA	**Yellowknife Ar**	**77.92**	**28**	P	**P**	**04 58 36.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=291,slow=3.9,SNR=2.5						
ARCES	**ARCESS Array B**	**82.59**	**342**	P	**P**	**04 59 00.5**	**-1.0**
	comp=Z,3.6nm,1.0s,baz=58,slow=6.7,SNR=5.2						
NVAR	**Mina Array Bea**	**82.99**	**52**	P	**P**	**04 59 05.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=304,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**87.01**	**335**	P	**P**	**04 59 20.7**	**-2.9**
	comp=Z,0.8nm,0.4s,baz=63,slow=5.0,SNR=12						
VNDA	**Vanda**	**96.44**	**177**	P	**P**	**05 00 05.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=308,slow=4.5,SNR=1.9						
LPAZ	**La Paz**	**147.46**	**91**	PKPbc	**PKPbc**	**05 06 23.8**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=349,slow=5.2,SNR=4.9						
LPAZ	**La Paz**	**147.46**	**91**	PKPab	**PKPbc**	**05 06 24.2**	**+0.8**

NOU 02 05:01:22.5,14.46S×167.04E,h114km,MLv5.0,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.99**	**171**	P	Pn	05 01 44.0	0.0
DVP	**Devils Point**	**3.43**	**161**	P	Pn	05 02 14.3	0.0
YATNC	**Mamie plateau,**	**7.56**	**181**	P	Pn	05 03 09.8	-0.2
DZM	**Mont Dzumac**	**7.59**	**184**	P	Pn	05 03 10.5	0.0

IDC 02 05:16:21.1±4.4,24.16N×94.61E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/37,mbtmp3.6/3,Error ellipse: s-maj=385.2km s-min=30.7km az=60.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**24.66**	**339**	P	P	05 21 43.4	-0.1
	0.2nm,0.5s,baz=139,slow=7.5,SNR=2.3						
WRA	**Warramunga Arr**	**58.47**	**135**	P	P	05 26 19.1	-0.2
	0.8nm,0.6s,baz=322,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**60.94**	**138**	P	P	05 26 36.3	+0.1
	0.6nm,0.5s,baz=318,slow=7.4,SNR=6.7						

*CNRM **02** 05:27:40.0,35.55N×3.81W,h10km,ml2.0,Hypocentre not reviewed by the ISC*

*MDD **02** 05:27:42.1±0.4,35.45N×3.62W,h29km±11km,mb4.5/1, mbLg2.0/6,Error ellipse: s-maj=9.5km s-min=3.1km az=162.0,PRXIMO*

*SFS **02** 05:27:42.0,35.40N×3.60W,h30km,ML2.1,ALBORAN SUR*

ISC 02 05:27:41.5±1.1,**35.44N**±0.06×**3.65W**±0.04,**h30**km±13km, **n12,**σ**1.37/23,2C,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOG	**Mont Gurugu**	**0.58**	**112**	P		05 27 55.4	
GOG				S		05 28 02.7	
EMEL	**Melilla**	**0.58**	**103**	P	**Pb**	**05 27 52.5**	**-0.8**
	160nm,0.3s,SNR=5.8						
EMEL				S	**Sb**	**05 28 01.1**	**-0.3**
	297nm,0.1s,SNR=15						
PVLZ	**Peæn de**	**0.59**	**244**	P	**Pn**	**05 27 55.0**	**+1.1**
PVLZ				S	**Sb**	**05 28 02.6**	**+0.9**
PVLZ	**Peæn de**	**0.59**	**244**	⇑*i*P	**Pn**	**05 27 55.0**	**+1.1**
PVLZ				*e*S	**Sb**	**05 28 02.6**	**+0.9**
MELI	**Melilla**	**0.60**	**104**	P	**Pb**	**05 27 53.7**	**0.0**
	14nm,0.1s,SNR=7.9						
MELI				S	**Sb**	**05 28 01.5**	**-0.4**
	138nm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.60**	**104**	*e*P	**Pn**	**05 27 55.6**	**+1.6**
MELI				*es*	**Sb**	**05 28 01.3**	**-0.7**
EALB	**Alboran**	**0.71**	**45**	⇑P	**Pn**	**05 27 55.9**	**+0.4**
	16nm,0.3s,SNR=18						
EALB				S	**Sb**	**05 28 04.3**	**-0.6**
	18nm,0.1s						
AKLM	**AKL**	**0.94**	**191**	P		05 28 00.8	
AKLM				S		05 28 11.9	
CHEFC	**Chefchaouen**	**1.42**	**257**	P		05 28 06.6	
CHEFC				S		05 28 22.7	
ELGU	**Los Guajares,**	**1.43**	**1**	P	**Pn**	**05 28 06.5**	**+1.0**
	0.2nm,0.5s,SNR=7.9						
ELGU				S	**Sn**	**05 28 22.9**	**-0.3**
	9.6nm,0.1s,SNR=7.9						
SMIR	**Smir Dam**	**1.43**	**280**	P		05 28 04.8	
SMIR				S		05 28 20.9	
EMIJ	**Mijas**	**1.45**	**321**	P	**Pn**	**05 28 07.1**	**+1.4**
	3.7nm,0.3s,SNR=6.7						
EMIJ				S	**Sn**	**05 28 24.3**	**+0.6**
	3.3nm,0.1s,SNR=10.0						
CEU	**Ceuta**	**1.48**	**289**	P	**Pn**	**05 28 06.7**	**+0.7**
CEU				S	**Sn**	**05 28 21.0**	**-3.2**
CEU	**Ceuta**	**1.48**	**289**	*e*P	**Pn**	**05 28 06.7**	**+0.7**
CEU				*e*S	**Sn**	**05 28 21.0**	**-3.2**
EBER	**Berja**	**1.58**	**23**	P	**Pn**	**05 28 09.0**	**+1.3**
	9.9nm,0.3s						
EBER				S	**Sn**	**05 28 27.2**	**0.0**
	1.8nm,0.2s,SNR=4.5						
EGOR	**Sierra Gorda,**	**1.71**	**348**	S	**Sn**	**05 28 30.5**	**+0.2**
	2.3nm,0.3s,SNR=7.9						
MD31	**MD31**	**2.72**	**200**	P		05 28 26.4	
MD31				S		05 28 57.8	

TAP 02 05:50:43.1,23.97N×122.41E,h12km±1km,ML2.7,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.70**	**299**	*e*P	Pg	05 50 56.9	+0.2
	baz=299						
YOJ	**Yonaguni jima**	**0.73**	**48**	P	Pg	05 50 57.4	0.0
	baz=47						
YOJ				S	Sb	05 51 08.9	+0.9
	baz=47						
HWA	**Hwalien**	**0.74**	**271**	*e*P	Pb	05 50 57.8	-0.1
	baz=270						
HWA				*e*S	Sb	05 51 08.7	+0.7
	baz=270						
EWUT	**Wuta**	**0.75**	**310**	*e*P	Pb	05 50 58.3	+0.2
	baz=309						
EWUT				*e*S	Sb	05 51 08.6	+0.3
	baz=309						
TEYL	**Yanliau Villag**	**0.75**	**262**	*e*P	Pb	05 50 58.3	+0.1
	baz=264						
TWD	**Chiawan**	**0.75**	**279**	P	Pb	05 50 58.0	-0.2
	baz=278						
TWD				S	Sb	05 51 09.3	+0.9
	baz=278						
NACB	**Ninganchiao**	**0.77**	**285**	P	Pb	05 50 58.7	+0.2
	baz=285						
NACB				S	Sb	05 51 09.6	+0.6
	baz=285						
TWC	**Suao**	**0.82**	**321**	*i* P	Pg	05 50 58.9	-0.1
	baz=321						
TWC				*i* S	Sb	05 51 10.8	+0.5
	baz=321						
ETM	**Tongmen**	**0.84**	**270**	P	Pg	05 50 59.3	-0.1
	baz=269						
ETM				S	Sb	05 51 12.0	+1.0
	baz=269						
ETLH	**Xiulin Townshi**	**0.88**	**286**	P	Pb	05 51 00.4	-0.1
	baz=285						
ETLH				S	Sb	05 51 13.2	+0.9
	baz=285						
ESL	**Shilin**	**0.91**	**260**	P	Pg	05 51 00.7	0.0
	baz=260						
ESL				S	Sb	05 51 12.9	0.0
	baz=260						
ESL	**Shilin**	**0.91**	**260**	P	Pg	05 51 00.7	0.0
	baz=33						
NDS	**Dongshan**	**0.92**	**316**	*e*P	Pb	05 51 01.0	0.0
	baz=316						
NDS				*e*S	Sn	05 51 14.5	-0.5
	baz=316						
EGFH	**Guangfu**	**0.95**	**252**	*e*P	Pg	05 51 01.3	-0.2
	baz=251						
EGFH				*e*S	Sn	05 51 15.0	-0.8
	baz=251						
EGS		**0.97**	**334**	P	Pb	05 51 02.2	+0.2
	baz=333						
EGS				S	Sn	05 51 16.0	-0.4
	baz=333						
ILA	**Ilan**	**1.00**	**323**	*e*P	Pg	05 51 02.6	+0.2
	baz=322						
ILA				*e*S	Sb	05 51 16.2	+0.7
	baz=322						
TWE	**Neicheng**	**1.01**	**318**	P	Pg	05 51 02.8	+0.1
	baz=318						
TWE				S	Sn	05 51 16.9	-0.4
	baz=318						
ENTT	**Nioudou**	**1.02**	**311**	P	Pg	05 51 03.1	+0.2
	baz=311						
ENTT				S	Sn	05 51 17.5	-0.1
	baz=311						
HGSD	**Ruisui**	**1.02**	**243**	*e*P	Pg	05 51 03.1	+0.2
	baz=242						
HGSD				S	Sn	05 51 17.7	+0.1
	baz=242						
NTC	**Toucheng**	**1.03**	**329**	*e*P	Pn	05 51 03.2	-0.2
	baz=328						
NTC				*e*S	Sn	05 51 17.7	-0.1
	baz=328						
NDT	**Datong Townshi**	**1.03**	**308**	P	Pn	05 51 04.1	+0.6
	baz=307						
NDT				S	Sg	05 51 17.2	+0.6
	baz=307						
NNSB	**Datong**	**1.04**	**296**	P	Pb	05 51 03.2	0.0
	baz=295						
NNSB				*e*S	Sn	05 51 18.1	-0.2
	baz=295						
NNS	**Nan Shan**	**1.06**	**297**	P	Pg	05 51 03.6	+0.1
	baz=296						
NNS				S	Sn	05 51 18.4	-0.3
	baz=296						
WHF	**Hehuan Shan**	**1.06**	**280**	P	Pb	05 51 03.8	+0.1
	baz=279						
WHF				S	Sn	05 51 18.9	-0.4
	baz=279						
WHF	**Hehuan Shan**	**1.06**	**280**	*e*P	Pb	05 51 04.0	+0.2
	baz=16						
WHF				*e*S	Sn	05 51 19.2	-0.1
	baz=16						
EHY	**Hungye**	**1.10**	**245**	*e*P	Pb	05 51 04.0	-0.2
	baz=244						
FUSS	**Fushou**	**1.10**	**285**	*e*P	Pb	05 51 04.1	-0.2
	baz=284						
FUSS				S	Sg	05 51 19.2	+0.4
	baz=284						
TWB1	**Santiao Chiao**	**1.10**	**340**	*e*S	Sn	05 51 19.3	-0.3
	baz=339						
TIPB	**Shuangxi**	**1.13**	**332**	*i* P	Pn	05 51 04.8	0.0
	baz=331						
TIPB				*e*S	Sb	05 51 19.5	0.0
	baz=331						
CHGB	**Renai**	**1.14**	**275**	*e*P	Pb	05 51 04.5	-0.3
	baz=274						
CHGB				*e*S	Sn	05 51 21.1	+0.4
	baz=274						
NWLT	**Wulai**	**1.16**	**314**	*e*P	Pb	05 51 05.0	-0.1
	baz=314						
NWLT				*e*S	Sg	05 51 20.5	+0.1
	baz=314						
YHNB	**Yeheng**	**1.17**	**307**	P	Pb	05 51 05.4	0.0
	baz=306						
YHNB				*e*S	Sn	05 51 22.0	+0.5
	baz=306						
EYUL	**Yuli**	**1.18**	**238**	*e*S	Sn	05 51 21.5	+0.1
	baz=238						
TDCB	**Techi**	**1.18**	**284**	*e*S	Sn	05 51 22.4	+0.7
	baz=283						
TDCB	**Techi**	**1.18**	**284**	*e*S	Sn	05 51 22.1	+0.4
	baz=9.0						
NSK	**Sanguang**	**1.19**	**306**	*e*P	Pn	05 51 04.8	-0.9
	baz=306						
NSK				*e*S	Sn	05 51 22.4	+0.5
	baz=306						
TWF1	**Yuli**	**1.19**	**239**	*e*P	Pb	05 51 05.7	0.0
	baz=238						
TWF1				*e*S	Sn	05 51 22.3	+0.5
	baz=238						
NWF	**Wu-fen Shan**	**1.24**	**333**	P	Pg	05 51 06.8	-0.2
	baz=332						
NWF				S	Sg	05 51 23.3	+0.2
	baz=332						
WFSB	**Wu-fen Shan**	**1.24**	**333**	P	Pg	05 51 06.8	-0.2
	baz=332						
WFSB				S	Sg	05 51 23.0	-0.1
	baz=332						
TNOU	**National Taiwa**	**1.31**	**334**	*e*P	Pb	05 51 08.0	+0.2
	baz=333						

TAP 02 05:50:44.6,23.15N×120.96E,h8km,ML2.5,3C-4D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.07**	**52**	⇑*i*P	Pg	05 50 47.5	+0.8
	baz=57						
ELDTW				*i* S	Sg	05 50 48.8	+0.6
	baz=57						
STYH	**Taoyuan**	**0.17**	**279**	*i* P	Pg	05 50 49.2	+1.1
	baz=278						
STYH				*i* S	Sg	05 50 51.5	+1.1
	baz=278						
STYT	**Tauyuan**	**0.18**	**276**	*i* P	Pg	05 50 49.4	+1.0
	baz=275						
STYT				*i* S	Sg	05 50 52.1	+1.1
	baz=275						
ECS	**Chishang**	**0.25**	**101**	P	Pg	05 50 51.2	+1.7
	baz=101						
ECS				S	Sg	05 50 55.4	+2.5
	baz=101						
LONT	**Longtian**	**0.29**	**146**	*i* P	Pb	05 50 51.9	-0.1
	baz=145						
LONT				*e*S	Sb	05 50 56.0	-1.0
	baz=145						
FULB	**Fuli**	**0.32**	**80**	P	Pb	05 50 52.7	+0.1
	baz=80						
FULB				*i* S	Sb	05 50 57.5	-0.3
	baz=80						
SLGT	**Liugui**	**0.32**	**242**	*e*P	Pb	05 50 52.5	-0.2
	baz=242						
SLGT				*e*S	Sb	05 50 57.3	-0.7
	baz=242						
WTP	**Ta-pu**	**0.33**	**288**	*i* P	Pb	05 50 52.6	-0.2
	baz=287						
WTP				*i* S	Sb	05 50 57.7	-0.6
	baz=287						
TPUB	**Ta-pu**	**0.34**	**297**	⇓P	Pb	05 50 52.7	-0.2
	baz=297						
TPUB				S	Sb	05 50 57.8	-0.7
	baz=297						
TWG	**Pinlang**	**0.34**	**162**	P	Pb	05 50 52.5	-0.5
	baz=160						
TWG				S	Sb	05 50 57.8	-0.7
	baz=160						
YUS	**Yu-Shan**	**0.34**	**360**	⇑*i*P	Pg	05 50 51.9	+0.3
	baz=359						
YUS				*e*S	Sg	05 50 57.5	+1.3
	baz=359						
TWGBT	**Beinan**	**0.35**	**161**	*e*P	Pb	05 50 52.4	-0.6
	baz=160						
TWGBT				S	Sb	05 50 57.8	-0.8
	baz=160						
SGST	**Jiashian**	**0.35**	**260**	*i* P	Pb	05 50 52.3	-0.7
	baz=259						
SGST				S	Sb	05 50 57.7	-1.1
	baz=259						
EDH	**Donghe**	**0.36**	**118**	*e*P	Pb

	baz=58							
SNST	**Tainan City**	**0.43**	**280**	*e*P		Pb	05 50 53.9	-0.5
	baz=280							
SNST				*e*S		Sb	05 51 00.9	-0.1
	baz=280							
TTN	**Taitung**	**0.43**	**156**	*e*S		Sb	05 51 01.1	+0.1
	baz=154							
TWK	**Hsinying**	**0.45**	**286**	*i* P		Pb	05 50 55.2	+0.4
	baz=285							
TWK				S		Sb	05 51 02.2	+0.6
	baz=285							
EHY	**Hungye**	**0.49**	**43**	*e*S		Sb	05 51 02.8	-0.2
	baz=43							
SSD	**Sandimen**	**0.50**	**217**	*i* P		Pb	05 50 55.3	-0.3
	baz=216							
SSD				S		Sb	05 51 02.9	-0.1
	baz=216							
SCST	**Cishan**	**0.50**	**239**	*e*P		Pb	05 50 55.3	-0.3
	baz=238							
SCST				*e*S		Sb	05 51 03.2	+0.2
	baz=238							
CHN5	**Tsauling**	**0.52**	**331**	⇓ *i* P		Pb	05 50 55.9	-0.2
	baz=330							
CHN5				S		Sb	05 51 03.3	-0.4
	baz=330							
TSMG	**Majia**	**0.52**	**213**	*e*P		Pb	05 50 55.5	-0.6
	baz=213							
TSMG				S		Sb	05 51 03.8	0.0
	baz=213							
CHN3	**Shinhua**	**0.55**	**263**	*e*S		Sb	05 51 04.5	+0.1
	baz=262							
HGSD	**Ruisui**	**0.55**	**51**	P		Pb	05 50 56.8	+0.3
	baz=51							
HGSD				S		Sb	05 51 04.8	+0.2
	baz=51							
WHYT	**Xinyi Township**	**0.56**	**350**	*e*P		Pb	05 50 56.4	-0.3
	baz=350							
TWM1	**Shoushan**	**0.59**	**237**	*e*P		Pg	05 50 56.5	+0.6
	baz=236							
SGLT	**Jiouru**	**0.60**	**226**	*e*P		Pb	05 50 57.2	-0.1
	baz=225							
CHY	**Chiayi**	**0.60**	**306**	*e*S		Sb	05 51 06.5	+0.5
	baz=306							
MASBT	**Mashibuluo**	**0.61**	**209**	P		Pb	05 50 57.2	-0.3
	baz=209							
MASBT				*e*S		Sb	05 51 06.6	+0.4
	baz=209							
SSLB	**Suanglung**	**0.64**	**360**	P		Pg	05 50 57.2	+0.2
	baz=359							
SSLB				*e*S		Sb	05 51 07.8	+0.6
	baz=359							
WGK	**Gukeng**	**0.65**	**326**	*e*P		Pb	05 50 58.1	-0.1
	baz=326							
WGK				*e*S		Sb	05 51 07.5	+0.1
	baz=326							
CHN8	**Yiju**	**0.71**	**286**	*e*P		Pg	05 50 58.6	+0.2
	baz=286							
CHN8				*e*S		Sb	05 51 09.5	+0.2
	baz=286							
SMLT	**Sun Moon Lake**	**0.74**	**356**	*e*P		Pb	05 51 00.2	+0.4
	baz=356							
SMLT				*e*S		Sb	05 51 10.4	+0.3
	baz=356							
WTK	**Tuku**	**0.75**	**316**	*e*S		Sb	05 51 11.2	+0.9
	baz=316							
TYC	**Yuchr**	**0.76**	**353**	P		Pb	05 51 00.2	+0.1
	baz=354							
TYC				*e*S		Sb	05 51 11.1	+0.5
	baz=354							
TAW	**Tawu**	**0.79**	**184**	*e*P		Pb	05 51 00.2	-0.3
	baz=183							
ESL	**Shilin**	**0.80**	**33**	*e*S		Sb	05 51 11.8	+0.1
	baz=33							
SCZT	**Fangliau**	**0.83**	**202**	*e*P		Pb	05 51 01.0	-0.3
	baz=201							
SCZT				*e*S		Sb	05 51 13.3	+0.8
	baz=201							
OWD	**Renai**	**0.83**	**14**	*e*P		Pg	05 51 00.4	-0.3
	baz=14							
WCS	**Beigang Elemen**	**0.91**	**357**	*e*P		Pn	05 51 03.4	-0.3
	baz=357							
WCS				*e*S		Sn	05 51 16.3	-0.7
	baz=357							
CHGB	**Renai**	**0.93**	**12**	*e*P		Pg	05 51 02.6	0.0
	baz=12							
SLIU	**Shizi**	**0.94**	**189**	*e*P		Pb	05 51 03.4	+0.3
	baz=188							
SLIU				*e*S		Sb	05 51 16.0	+0.4
	baz=188							
ETM	**Tongmen**	**0.95**	**31**	*e*P		Pb	05 51 03.2	-0.2
	baz=31							
HWA	**Hwalien**	**1.02**	**36**	*e*S		Sn	05 51 19.9	+0.2
	baz=36							
TWD	**Chiawan**	**1.10**	**32**	*e*P		Pn	05 51 06.9	+0.6
	baz=32							
TWD				*e*S		Sn	05 51 22.0	+0.3
	baz=32							
WHP	**Taichung City**	**1.13**	**360**	*e*P		Pn	05 51 06.6	-0.2
	baz=359							
FUSS	**Fushou**	**1.13**	**14**	*e*P		Pb	05 51 06.5	-0.1
	baz=13							
FUSS				*e*S		Sb	05 51 22.0	+0.5
	baz=13							

MAN ***02*** *05:53:48.4, 10˚.69N×125˚.32E, h113km, MS3.7*
DJA ***02*** *05:53:49.6±2.4, 11˚N±12˚×12˚.5E±2˚.5, h126km±11km, M5.1/13, mB5.7/7, mb4.8/13, Mw(mB)5.2/7*
IDC ***02*** *05:53:49.0±0.6, 10˚.71N×125˚.32E, h128km±5km, mb3.9/29, mb1 4.0/31, mb1mx3.9/62, mbtmp4.4/31, MS3.3/4, Ms1 3.4/4, ms1mx2.8/39, Error ellipse: s-maj=16.0km s-min=7.9km az=77.0*
NEIC ***02*** *05:53:50.2±2.2, 10˚.76N±0˚.09×125˚.3E±0˚.1, h129km±2km, mb4.4/30, Error ellipse: s-maj=16.9km s-min=11.4km az=66.0*

ISC 02 05:53:48.9±0.5, **10˚.70N**±0˚.04×**125˚.39E**±0˚.06, **h127**km±4km, **h127km:pP-P,n136,σ1°54**/160, **mb4.5**/65, **14C-20D, Fault plane solution: NP1:**ϕ±339.01370°, δ85.03455°, λ-75.92988°. **NP2:**ϕ±88.06619°, δ14.90390°, λ-160.33438°. **Principal axes:** T Plg38.4707°, Azm56.3301°; N Plg14.0162°, Azm157.7710°; P Plg48.1181°, Azm263.9353°; **Leyte**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.77**	**223**	*e*P		**Pn**		**05 54 08.1**	**-1.3**
MSLP				*e*S		**Sn**		**05 54 24.0**	**-1.0**
SCPH	**Surigao**	**0.91**	**174**	⇑ *i* P		**Pn**		**05 54 10.2**	**-0.6**
SCPH				*i* S		**Sn**		**05 54 25.7**	**-1.5**
LLP	**Lapu-Lapu**	**1.45**	**255**	⇑ *i* P		**Pn**		**05 54 15.1**	**-1.1**
LLP				*i* S		**Sn**		**05 54 34.5**	**-2.5**
BUTP	**Butuan**	**1.73**	**172**	*e*P		**Pn**		**05 54 20.1**	**+0.6**
BUTP				*e*S		**Sn**		**05 54 44.7**	**+1.9**
CGP	**Cagayan de Oro**	**2.33**	**197**	⇑ *e*P		**Pn**		**05 54 26.5**	**-0.3**
CGP				*i* S		**Sn**		**05 54 55.1**	**-0.9**
SNPH	**Sibulan**	**2.51**	**238**	⇑ *i* P		**Pn**		**05 54 28.8**	**-0.4**
SNPH				*i* S		**Sn**		**05 55 05.2**	**+5.1**
RCP	**Roxas**	**2.74**	**289**	⇑ *e*P		**Pn**		**05 54 31.5**	**-0.5**
BUKP	**Musuan**	**2.82**	**187**	*e*P		**Pn**		**05 54 33.6**	**+0.5**
BUKP				*e*S		**Sn**		**05 55 05.6**	**-1.6**
DCPH	**Dipolog City**	**2.91**	**224**	⇑ *e*P		**Pn**		**05 54 33.0**	**-1.2**
PAGZ	**Pagadian**	**3.46**	**215**	*e*P		**Pn**		**05 54 40.1**	**-1.3**
PAGZ				*e*S		**Sn**		**05 55 23.3**	**+1.3**
DAV	**Davao City (W)**	**3.61**	**177**	S		**Sn**		**05 55 25.2**	**-0.4**
	33nm,0.3s,baz=78,slow=14,SNR=3.6								
KCP	**Kidapawan**	**3.68**	**185**	⇑ *i* P		**Pn**		**05 54 46.9**	**+2.5**
KCP				*i* S		**Sn**		**05 55 30.1**	**+2.8**
MATI	**Mati**	**3.82**	**167**	*e*P		**Pn**		**05 54 45.8**	**-0.5**
MATI				*e*S		**Sn**		**05 55 30.9**	**+0.2**
DDMP	**Don Marcelino,**	**4.57**	**176**	*e*P		**Pn**		**05 54 55.2**	**-1.1**
DDMP				*e*S		**Sn**		**05 55 46.4**	**-2.3**
LQP	**Lukban**	**5.07**	**312**	⇓ *e*P		**Pn**		**05 55 04.1**	**+1.0**
TGY	**Tagaytay City**	**5.51**	**308**	P		**Pn**		**05 55 08.1**	**-0.8**
	baz=253,slow=2.2,SNR=8.7								
GTOI	**Gorontalo**	**10.27**	**193**	P		**Pn**		**05 56 13.2**	**+0.2**
	19nm,0.9s								
TOLI2	**Tolitoli**	**10.57**	**206**	Pn		**Pn**		**05 56 16.0**	**-1.0**
TTSI	**Tana Toraja**	**14.73**	**202**	P		**Pn**		**05 57 12.6**	**+1.4**
	1um101nm,0.8s								
FAKI	**Fak Fak**	**15.15**	**153**	Pn		**P**		**05 57 18.3**	**-0.2**
SPSI	**Sidrap Palu**	**15.60**	**201**	P		**P**		**05 57 24.3**	**+0.8**
	25nm,0.7s								
BNSI	**Bone**	**15.89**	**200**	P		**P**		**05 57 29.9**	**+3.1**
	35nm,0.9s								

KAPI	**Kappang**	**16.59**	**200**	P		**P**		**05 57 34.4**	**0.0**
	0.8nm,0.3s,baz=29,slow=7.0,SNR=6.8								
DLV	**T Lat**	**16.62**	**276**	P		**P**		**05 57 35.5**	**+0.4**
DLV					IAmb	IAmb		05 57 37.9	
	comp=Z,29nm,1.1s								
GUMO	**Guam**	**19.26**	**79**	LR		LR		06 04 15.5	
	comp=Z,51nm,21.5s,baz=110,slow=32								
GENI	**Genyem**	**19.76**	**131**	P		**Pn**		**05 58 14.5**	**+2.6**
UBPT	**Khong Chiam**	**19.94**	**285**	P		**P**		**05 58 11.0**	**-0.1**
	comp=Z,403nmcomp=Z,11nm,1.1s								
UBPT	**Khong Chiam**	**19.94**	**285**	P		**P**		**05 58 10.7**	**-0.3**
UBPT					IAmb	IAmb		05 58 12.4	
	comp=Z,19nm,1.0s								
PLAI	**Plampang**	**20.82**	**202**	P		Pn		05 58 23.7	-0.6
	comp=Z,45nm,0.8s								
BATI	**Baumata**	**20.84**	**185**	P		**P**		**05 58 22.1**	**+1.4**
	comp=Z,37nm,0.4s,baz=326,slow=3.6,SNR=3.8								
KMMI	**Kalianget**	**20.98**	**213**	P		Pn		05 58 24.3	-1.9
	comp=Z,124nm,1.1s								
JAGI	**Jajag, Banyuwa**	**22.08**	**211**	P		**P**		**05 58 34.3**	**+0.4**
KHON	**Khomkaen**	**22.64**	**287**	P		**P**		**05 58 40.0**	**+0.5**
	comp=Z,2µmcomp=Z,115nm,0.9s								
NONG	**Nongkai**	**22.74**	**291**	P		**P**		**05 58 39.7**	**-0.9**
	comp=Z,35nm,1.1s								
PWJI	**Pagerwojo**	**22.99**	**217**	P		**P**		**05 58 49.7**	**+6.8**
PPBI	**Pangkal Pinang**	**23.03**	**237**	P		**P**		**05 58 43.5**	**+0.2**
CHAI	**Chaiyaphum**	**23.35**	**285**	P		**P**		**05 58 45.6**	**-0.6**
	comp=Z,58nm,1.1s								
DSRI	**Dabo**	**23.49**	**243**	P		**P**		**05 58 48.1**	**+0.6**
UGM	**Wanagama**	**23.68**	**219**	P		**P**		**05 58 49.8**	**+0.6**
UGM	**Wanagama**	**23.68**	**219**	P		**P**		**05 58 52.3**	**+3.1**
	comp=Z,185nm,1.2s								
MTN	**Manton Dam**	**24.07**	**166**	P		**P**		**05 58 54.1**	**+1.5**
JCJI	**Jatiwangi**	**24.13**	**226**	P		**P**		**05 58 56.7**	**+3.5**
	comp=Z,8µmcomp=Z,144nm,0.5s								
JMN	**Monobe**	**24.21**	**17**	P		**P**		**05 58 54.9**	**+1.0**
JMN					IAmb	IAmb		05 58 55.9	
	comp=Z,9.9nm,0.8s								
KPJI	**Karang Pucung**	**24.28**	**223**	P		**P**		**05 58 55.9**	**+1.3**
	comp=Z,51nm,1.3s								
SKLT	**Sokhla**	**24.72**	**264**	P		**P**		**05 59 01.7**	**+3.0**
	comp=Z,308nmcomp=Z,13nm,1.2s								
LEM	**Lembang**	**24.82**	**226**	P		**P**		**05 59 00.6**	**+0.9**
	comp=Z,82nm,0.8s,baz=87,slow=9.3,SNR=11								
LEM	**Lembang**	**24.82**	**226**	P		**P**		**05 59 01.5**	**+1.8**
	comp=Z,62nm,0.9s								
UTTA	**Uttaradit**	**25.06**	**289**	P		**P**		**05 59 03.1**	**+1.5**
	comp=Z,8.2nm,0.7s								
PHIT	**Phitsanulok**	**25.07**	**288**	P		**P**		**05 59 02.0**	**+0.2**
	comp=Z,117nm,0.9s								
CBJI	**Citeko**	**25.10**	**228**	P		**P**		**05 59 04.6**	**+2.5**
	comp=Z,10µmcomp=Z,155nm,0.8s								
CISI	**Cisompet, Garu**	**25.20**	**225**	P		P		05 59 11.7	+8.7
UTHA	**Uthaitani**	**25.72**	**284**	P		**P**		**05 59 09.6**	**+2.0**
	comp=Z,291nmcomp=Z,29nm,0.9s								
CRAI	**Chiangrai**	**25.88**	**294**	P		**P**		**05 59 10.4**	**+1.3**
	comp=Z,17nm,1.4s								
SRDT	**SRDT**	**25.89**	**281**	P		**P**		**05 59 11.4**	**+2.1**
	comp=Z,379nmcomp=Z,7.1nm,1.1s								
MDSI	**Maura Dua**	**25.95**	**236**	P		**P**		**05 59 12.9**	**+3.1**
UMPA	**Umpang Tak**	**26.36**	**285**	P		**P**		**05 59 17.0**	**+3.5**
	comp=Z,2µmcomp=Z,38nm,1.0s								
KNRA	**Kununurra**	**26.41**	**173**	P		**P**		**05 59 14.1**	**+0.3**
CM35	**Chiang Mai Arr**	**26.57**	**290**	P		**P**		**05 59 16.0**	**+0.7**
CM36	**Chiang Mai Arr**	**26.58**	**290**	P		**P**		**05 59 15.0**	**-0.5**
CM34	**Chiang Mai Arr**	**26.61**	**291**	P		**P**		**05 59 16.0**	**+0.3**
CM09	**Chiang Mai Arr**	**26.66**	**290**	P		**P**		**05 59 17.0**	**+0.8**
	comp=Z,148nmcomp=Z,18nm,0.9s								
CM04	**Chiang Mai Arr**	**26.66**	**290**	P		**P**		**05 59 17.2**	**+1.0**
	comp=Z,110nmcomp=Z,13nm,1.0s								
CM01	**Chiang Mai Arr**	**26.69**	**290**	P		**P**		**05 59 17.4**	**+1.0**
	comp=Z,182nmcomp=Z,15nm,1.1s								
CM05	**Chiang Mai Arr**	**26.70**	**290**	P		**P**		**05 59 17.4**	**+0.9**
	comp=Z,80nmcomp=Z,11nm,1.1s								
CM02	**Chiang Mai Arr**	**26.70**	**290**	P		**P**		**05 59 17.6**	**+1.0**
	comp=Z,131nmcomp=Z,16nm,1.0s								
CMAR	**Chiang Mai Arr**	**26.71**	**290**	P		**P**		**05 59 16.9**	**+0.2**
	comp=Z,8.4nm,0.8s,baz=104,slow=7.2,SNR=33								
CMAR					LR	LR		06 10 24.7	
	comp=Z,31nm,18.2s,baz=165,slow=37								
CMAR	**Chiang Mai Arr**	**26.71**	**290**	P		**P**		**05 59 16.6**	**0.0**
CM15	**Chiang Mai Arr**	**26.73**	**290**	P		**P**		**05 59 17.0**	**+0.2**
	comp=Z,18nm,0.9s								
CM13	**Chiang Mai Arr**	**26.73**	**290**	P		**P**		**05 59 17.8**	**+1.0**
	comp=Z,115nmcomp=Z,13nm,1.0s								
KSRS	**Korea Array**	**26.74**	**4**	P		**P**		**05 59 17.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=180,slow=10.0,SNR=2.1								
CMMT	**Chiang Mai**	**26.79**	**291**	P		**P**		**05 59 16.6**	**-0.7**
	comp=Z,5.6nm,1.3s								
CM33	**Chiang Mai Arr**	**26.79**	**291**	P		**P**		**05 59 17.0**	**-0.3**
CHTO	**Chiang Mai**	**26.79**	**291**	P		**P**		**05 59 16.6**	**-0.8**
CHTO					IAmb	IAmb		05 59 18.2	
	comp=Z,9.5nm,1.0s								
KSI	**Kapahiang**	**26.80**	**239**	P		P		05 59 09.8	-7.7
CM32	**Chiang Mai Arr**	**26.84**	**290**	P		**P**		**05 59 18.0**	**+0.2**
MNSI	**Mandailing Nat**	**27.47**	**251**	P		**P**		**05 59 24.7**	**+1.3**
MHMT	**Maesarieng**	**27.59**	**289**	P		**P**		**05 59 25.5**	**+1.1**
XAN	**Xi'an**	**27.70**	**330**	P		**P**		**05 59 24.8**	**-0.5**
XAN					pP	pP		05 59 50.2	-2.4
XAN					pmax	pmax			
	comp=Z,10.0nm,0.6s								
MJAR	**Matsushiro Arr**	**28.22**	**22**	P		**P**		**05 59 29.7**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=192,slow=9.2,SNR=5.1								
MJAR	**Matsushiro Arr**	**28.22**	**22**		IAmb	IAmb		05 59 32.0	
	comp=Z,1.9nm,1.0s								
FITZ	**Fitzroy Crossi**	**28.61**	**180**	P		**P**		**05 59 32.9**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=13,slow=9.3,SNR=13								
FITZ					PcP	**PcP**		**06 02 41.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=333,slow=6.8,SNR=2.0								
WRA	**Warramunga Arr**	**31.70**	**164**	P		**P**		**06 00 00.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=333,slow=11,SNR=19								
WRA					pP	**pP**		**06 00 27.7**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=343,slow=9.6,SNR=4.8								
WRA					PcP	**PcP**		**06 02 50.4**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=338,slow=2.8,SNR=3.7								
WRA					S	**S**		**06 04 54.7**	**-6.4**
	comp=Z,0.5nm,0.6s,baz=349,slow=13,SNR=2.4								
WRA					ScP	**ScP**		**06 06 19.2**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=349,slow=3.7,SNR=4.6								
LZH	**Lanzhou**	**31.94**	**326**	*e*P		**P**		**06 00 01.1**	**-1.8**
LZH					pP	pP		06 00 25.5	-4.9
LZH					sP	sP		06 00 43.8	-1.2
LZH					pmax	pmax			
	comp=Z,17nm,1.1s								
HHC	**Hu-ho-hao-te**	**32.42**	**340**	*e*P		**P**		**06 00 08.1**	**+1.1**
HHC					pmax	pmax			
	comp=Z,14nm,1.2s								
HHC					pmax	pmax			
	comp=Z,64nm,5.6s								
USRK	**Ussuriysk Ar.**	**33.87**	**9**			**P**		**06 00 20.6**	**+1.3**
AS31	**Alice Springs**	**35.15**	**166**	P		**P**		**06 00 32.3**	**+1.7**
AS31					IAmb	IAmb		06 00 33.2	
	comp=Z,3.1nm,0.4s								
ASAR	**Alice Springs**	**35.15**	**166**	P		**P**		**06 00 31.1**	**+0.4**
	comp=Z,3.0nm,0.4s,baz=342,slow=7.7,SNR=49								
ASAR					PcP	**PcP**		**06 03 00.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=343,slow=3.5,SNR=2.2								
ASAR					S	**S**		**06 05 50.2**	**-4.3**
	comp=Z,0.7nm,0.7s,baz=348,slow=12,SNR=5.8								
ASAR					ScP	**ScP**		**06 06 31.1**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=344,slow=3.3,SNR=4.6								
ASAR	**Alice Springs**	**35.15**	**166**	P		**P**		**06 00 33.0**	**+2.3**
ASAJ	**Asahikawa**	**36.47**	**21**	P		**P**		**06 00 42.7**	**+1.0**
	comp=Z,3.6nm,0.3s,baz=180,slow=13,SNR=3.5								
GTA	**Gaotai**	**36.54**	**326**	⇑ P		**P**		**06 00 42.5**	**0.0**
GTA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
ULN	**Ulaanbaatar**	**40.13**	**341**	P		**P**		**06 01 12.4**	**-0.1**
SONM	**Songino Array**	**40.33**	**340**	P		**P**		**06 01 14.5**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=158,slow=9.3,SNR=8.5								
SONM					PcP	**PcP**		**06 03 14.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=160,slow=4.6,SNR=2.6								
SONM					ScP	**ScP**		**06 06 51.6**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=180,slow=5.0,SNR=2.5								
SONM	**Songino Array**	**40.33**	**340**			**P**		**06 01 15.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**44.07**	**190**	P		**P**		**06 01 44.0**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=30,slow=8.1,SNR=1.1								
STKA	**Stephens Creek**	**45.09**	**160**	P		**P**		**06 01 53.1**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=332,slow=8.4,SNR=12								
WMQ	**Urumqi**	**46.36**	**322**	*e*P		**P**		**06 02 03.8**	**+1.3**
PETK	**Petropavlovsk-**	**49.61**	**25**	P		**P**		**06 02 28.8**	**+1.5**
	comp=Z,2.6nm,0.5s,baz=216,slow=8.4,SNR=2.5								
MK31	**Makanchi Array**	**51.17**	**323**	P		**P**		**06 02 38.8**	**-0.3**
MK31					IAmb	IAmb		06 02 39.9	
	comp=Z,4.8nm,0.7s								
MKAR	**Makanchi Array**	**51.17**	**323**	P		**P**		**06 02 39.3**	**+0.2**

	comp=Z,5.7nm,0.6s,baz=122,slow=8.1,SNR=52							
MKAR				pP		**pP**	**06 03 09.0**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=125,slow=8.7,SNR=6.5							
MKAR				PcP		**PcP**	**06 03 52.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=116,slow=4.2,SNR=1.5							
MKAR				ScP		**ScP**	**06 07 35.5**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=108,slow=3.3,SNR=8.4							
MKAR	**Makanchi Array**	**51.17**	**323**	P		**P**	**06 02 38.9**	**-0.2**
MKAR				pP		**pP**	**06 03 08.5**	**-0.2**
MAKZ	**Makanchi**	**51.36**	**323**	P		**P**	**06 02 40.4**	**-0.2**
MAKZ				IAmb		IAmb	06 02 41.3	
	comp=Z,4.6nm,0.5s							
DZM	**Mont Dzumac**	**51.78**	**129**	P		**P**	**06 02 45.6**	**+1.5**
	comp=Z,3.5nm,0.5s,baz=320,slow=16,SNR=2.8							
DZM				LR		LR	06 26 48.3	
	comp=Z,91nm,19.4s,baz=144,slow=38							
ZALV	**Zalesovo Beam**	**53.84**	**332**	P		**P**	**06 02 57.6**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=113,slow=8.1,SNR=4.8							
KURBB	**Kurchatov Arra**	**55.23**	**326**	P		**P**	**06 03 08.4**	**-0.4**
	comp=Z,3.9nm,0.5s,baz=125,slow=7.0,SNR=35							
KURBB				pP		**pP**	**06 03 38.5**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=123,slow=6.5,SNR=5.3							
KKAR	**Karatay Array**	**57.34**	**315**	P		**P**	**06 03 23.2**	**-0.7**
KKAR				pP		**pP**	**06 03 53.7**	**-0.3**
KKAR	**Karatay Array**	**57.34**	**315**	P		**P**	**06 03 22.1**	**-1.8**
KKAR				IAmb		IAmb	06 03 24.1	
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**60.83**	**325**	P		**P**	**06 03 47.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=185,slow=14,SNR=5.7							
BVAR				pP		**pP**	**06 04 17.5**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=108,slow=14,SNR=3.5							
BRVK	**Borovoye**	**60.90**	**325**	P		**P**	**06 03 46.7**	**-1.4**
BRVK				IAmb		IAmb	06 03 48.5	
	comp=Z,4.2nm,0.8s							
BRVK				pP		**pP**	**06 04 18.9**	**+0.3**
NRIK	**Noril'sk**	**63.39**	**346**	P		**P**	**06 04 04.4**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=139,slow=4.1,SNR=3.9							
NRIK				pP		**pP**	**06 04 34.0**	**-1.2**
	comp=Z,5.7nm,0.9s,baz=118,slow=4.8,SNR=3.4							
NRIK	**Noril'sk**	**63.39**	**346**	P		**P**	**06 04 04.4**	**-0.1**
NRIK				IAmb		IAmb	06 04 05.2	
	comp=Z,4.2nm,0.8s							
ABKAR	**Akbulak array**	**65.99**	**319**	P		**P**	**06 04 20.8**	**-1.0**
AKTO	**Aktyubinsk**	**67.45**	**320**	P		**P**	**06 04 30.5**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=93,slow=6.9,SNR=3.7							
ARU	**Arti**	**68.40**	**327**	P		**P**	**06 04 35.5**	**-1.3**
	comp=Z,1.5nm,0.2s,baz=135,slow=4.3,SNR=5.5							
IMAR	**Indian Mountai**	**76.58**	**25**	P		**P**	**06 05 26.4**	**+1.3**
IMAR				pP		**pP**	**06 05 55.3**	**-1.5**
RAYN	**Ar Rayn**	**76.61**	**292**	P		**P**	**06 05 25.7**	**-0.5**
RAYN				IAmb		IAmb	06 05 26.4	
	comp=Z,4.8nm,0.7s							
BPAW	**Bear Paw Mtn.**	**77.67**	**27**	P		**P**	**06 05 31.0**	**-0.3**
BPAW				IAmb		IAmb	06 05 33.4	
	comp=Z,6.9nm,0.7s							
MLY	**Manley**	**77.79**	**26**	P		**P**	**06 05 33.1**	**+1.1**
MLY				IAmb		IAmb	06 05 34.2	
	comp=Z,4.5nm,0.8s							
TOLK	**Toolik Lake Re**	**78.30**	**22**	P		**P**	**06 05 36.4**	**+1.7**
TOLK				IAmb		IAmb	06 05 37.5	
	comp=Z,4.8nm,0.7s							
MCK	**McKinley**	**78.57**	**27**	P		**P**	**06 05 35.9**	**-0.4**
IL31		**79.44**	**26**	P		**P**	**06 05 40.7**	**-0.1**
ILAR	**Eielson Array**	**79.44**	**26**	P		**P**	**06 05 40.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=241,slow=5.5,SNR=15							
ILAR	**Eielson Array**	**79.44**	**26**	P		**P**	**06 05 41.2**	**+0.3**
BMAR	**Burnt Mountain**	**80.22**

IDC 02 06:19:04.4±3.6, 30°37'S×138°41'E, h0km, mb1 3.1/3, mb1mx3.1/22, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=92.7km s-min=17.6km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**120**	Pn	Pn	06 19 54.6	-0.2
	0.2nm,0.3s,baz=297,slow=13,SNR=14						
STKA				Pg	Pb	06 20 02.4	+1.6
	0.7nm,0.3s,baz=297,slow=18,SNR=17						
STKA				Sn	Sn	06 20 31.9	-0.9
	0.5nm,0.3s,baz=327,slow=6.5,SNR=3.6						
STKA				Lg	Lg	06 20 43.3	
	0.9nm,0.3s,baz=191,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**7.79**	**328**	Pn	Pn	06 20 60.0	+0.9
	0.1nm,0.3s,baz=150,slow=13,SNR=1.0						
WRA	**Warramunga Arr**	**11.01**	**340**	Pn	Pn	06 21 42.2	-1.1
	0.1nm,0.3s,baz=164,slow=12,SNR=6.3						

IDC 02 06:34:01.3±4.3, 53°.69N×90°.40E, h0km, mb1 2.9/2, mb1mx2.9/37, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=41.5km s-min=25.6km az=29.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.32**	**277**	*i*		06 55 47.3	
	baz=92,slow=313,SNR=2.6						
ZALV	**Zalesovo Beam**	**3.32**	**277**	Pg	Pb	06 35 00.5	-0.5
	0.5nm,0.3s,baz=96,slow=15,SNR=3.9						
ZALV				Lg	Lg	06 35 48.0	
	0.4nm,0.3s,baz=92,slow=25,SNR=2.0						
KURBB	**Kurchatov Arra**	**7.92**	**252**	Pn	Pn	06 35 57.8	+0.2
	0.0nm,0.3s,baz=64,slow=15,SNR=1.5						
KURBB				Sn	Sn	06 37 25.6	-2.2
	baz=66,slow=9.3,SNR=1.1						
KURBB				Lg	Lg	06 38 13.0	
	0.0nm,0.3s,baz=65,slow=30,SNR=1.3						
MKAR	**Makanchi Array**	**8.64**	**220**	Pn	Pn	06 36 08.3	+0.9
	0.1nm,0.3s,baz=39,slow=12,SNR=3.6						

*IDC **02** 06:36:10.8±3.0, 12°.62N×88°.52W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/37, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=173.6km s-min=21.8km az=37.0*
*INET **02** 06:36:10.0, 12°.14N×88°.75W, h25km, MW3.7*
*SNET **02** 06:36:12.5±1.2, 11°.97N×89°.11W, h27km±58km, ML3.6*
*UCR **02** 06:36:12.5±1.3, 12°.01N×89°.11W, h19km±58km, ML3.5*

ISC 02 06:36:10.6±3.0, 12°.01N±0°.08×88°.99W±0°.07, h8km±16km, n43, σ0°82/57, mb3.6/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**1.53**	**8**	*eP*	**Pn**	**06 36 38.7**	**+0.5**
TECO				*eS*	**Sg**	**06 36 59.3**	**-0.6**
COEB	**Comit de Eme**	**1.55**	**17**	*eP*	**Pn**	**06 36 39.1**	**+0.6**
COEB				*eS*	**Sg**	**06 37 00.4**	**0.0**
COEB				IAML		06 37 07.8	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**1.55**	**17**	*eP*	**Pn**	**06 36 39.1**	**+0.6**
COEB				*eS*	**Sg**	**06 37 00.4**	**0.0**
COEB				IAML		06 37 07.8	
	comp=Z,1μm,0.4s						
TECA	**Tecapa**	**1.55**	**18**	*eP*	**Pn**	**06 36 39.2**	**+0.6**
TECA	**Tecapa**	**1.55**	**18**	*eP*	**Pn**	**06 36 39.2**	**+0.6**
PACA	**Pacayal**	**1.59**	**24**	*eP*	**Pb**	**06 36 40.2**	**-0.1**
PACA				*eS*	**Sg**	**06 37 02.5**	**+0.8**
PACA	**Pacayal**	**1.59**	**24**	*eP*	**Pb**	**06 36 40.2**	**-0.1**
PACA				*eS*	**Sg**	**06 37 02.5**	**+0.8**
SJTE	**Alcalda de S**	**1.59**	**359**	*eP*	**Pn**	**06 36 39.9**	**+0.7**
SJTE	**Alcalda de S**	**1.59**	**359**	*eP*	**Pn**	**06 36 39.9**	**+0.7**
COEG	**Centro de Oper**	**1.60**	**4**	*eP*	**Pn**	**06 36 39.6**	**+0.3**
COEG				IAML		06 37 08.5	
	comp=Z,637nm,0.3s						
COEG	**Centro de Oper**	**1.60**	**4**	*eP*	**Pn**	**06 36 39.6**	**+0.3**
COEG				IAML		06 37 08.5	
	comp=Z,637nm,0.3s						
LFRS	**El Faro**	**1.61**	**357**	*eP*	**Pn**	**06 36 39.9**	**+0.6**
LFRS	**El Faro**	**1.61**	**357**	*eP*	**Pn**	**06 36 39.9**	**+0.6**
PQSS	**Presa 15 de Se**	**1.66**	**15**	*eP*	**Pb**	**06 36 40.9**	**-0.5**
PQSS				*eS*	**Sg**	**06 37 03.7**	**-0.3**
LCND	**La Caada**	**1.68**	**40**	IAML		06 37 09.4	
	comp=Z,679nm,0.3s						
LCND	**La Caada**	**1.68**	**40**	IAML		06 37 09.4	
	comp=Z,679nm,0.3s						
SNET	**Serv Nac Est T**	**1.68**	**352**	*eS*	**Sn**	**06 37 02.3**	**+0.1**
SNET				IAML		06 37 04.8	
	comp=Z,574nm,0.4s						
SNET	**Serv Nac Est T**	**1.68**	**352**	*eS*	**Sn**	**06 37 02.3**	**+0.1**
SNET				IAML		06 37 04.8	
	comp=Z,574nm,0.4s						
CNCH	**Conchagua**	**1.69**	**42**	*eS*	**Sg**	**06 37 05.2**	**+0.2**
CNCH	**Conchagua**	**1.69**	**42**	*eS*	**Sg**	**06 37 05.2**	**+0.2**
JAYA	**Jayaque - finc**	**1.70**	**345**	*eP*	**Pn**	**06 36 41.0**	**+0.4**
JAYA				*eS*	**Sn**	**06 37 01.6**	**-1.0**
JAYA	**Jayaque - finc**	**1.70**	**345**	*eP*	**Pn**	**06 36 41.0**	**+0.4**
JAYA				*eS*	**Sn**	**06 37 01.6**	**-1.0**
UEES	**Universidad Ev**	**1.71**	**352**	*eS*	**Sb**	**06 37 03.7**	**-0.4**
UEES				IAML		06 37 06.6	
	comp=Z,485nm,0.1s						
UEES	**Universidad Ev**	**1.71**	**352**	*eS*	**Sb**	**06 37 03.7**	**-0.4**
UEES				IAML		06 37 06.6	
	comp=Z,485nm,0.1s						
LBRS	**Las Brisas**	**1.72**	**358**	*eP*	**Pn**	**06 36 42.1**	**+1.3**
LBRS	**Las Brisas**	**1.72**	**358**	*eP*	**Pn**	**06 36 42.1**	**+1.3**
BOQS	**Boqueron**	**1.74**	**351**	*eP*	**Pn**	**06 36 42.1**	**+0.9**
BOQS				*eS*	**Sb**	**06 37 05.2**	**+0.3**
BOQS	**Boqueron**	**1.74**	**351**	*eP*	**Pn**	**06 36 42.1**	**+0.9**
BOQS				*eS*	**Sb**	**06 37 05.2**	**+0.3**
CEDA	**San Andres**	**1.83**	**348**	*eP*	**Pn**	**06 36 42.6**	**+0.4**
CEDA				IAML		06 37 14.8	
	comp=Z,909nm,0.5s						
CEDA	**San Andres**	**1.83**	**348**	*eP*	**Pn**	**06 36 42.6**	**+0.4**
CEDA				IAML		06 37 14.8	
	comp=Z,909nm,0.5s						
FAGO	**Alcalda de S**	**1.88**	**27**	*eP*	**Pn**	**06 36 44.0**	**+1.0**
FAGO				*eS*	**Sg**	**06 37 09.7**	**-1.5**
FAGO				IAML		06 37 11.0	
	comp=Z,371nm,0.5s						
FAGO	**Alcalda de S**	**1.88**	**27**	*eP*	**Pn**	**06 36 44.0**	**+1.0**
FAGO				*eS*	**Sg**	**06 37 09.7**	**-1.5**
FAGO				IAML		06 37 11.0	
	comp=Z,371nm,0.5s						
TACO	**Tacachico**	**1.98**	**350**	*eS*	**Sn**	**06 37 10.1**	**+0.7**
TACO	**Tacachico**	**1.98**	**350**	*eS*	**Sn**	**06 37 10.1**	**+0.7**
MTO3	**Montecristo**	**2.40**	**351**	*eP*	**Pn**	**06 36 51.8**	**+1.4**
MTO3				*eS*	**Sn**	**06 37 20.8**	**+0.7**
MTO3	**Montecristo**	**2.40**	**351**	*eP*	**Pn**	**06 36 51.8**	**+1.4**
MTO3				*eS*	**Sn**	**06 37 20.8**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.63**	**39**	*eP*	**Pn**	**06 36 54.7**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.63**	**39**	*eP*	**Pn**	**06 36 54.7**	**+1.2**
JTS	**Las Juntas de**	**4.31**	**113**	Pn	**Pn**	**06 37 16.8**	**+0.3**
	comp=Z,5.6nm,0.3s,baz=174,slow=23,SNR=79						
JTS				Sn	**Sn**	**06 38 06.8**	**-0.2**
	comp=Z,8.8nm,0.3s,baz=358,slow=20,SNR=8.0						
CMIG	**Matias Romero**	**7.62**	**312**	Pn	**Pn**	**06 38 02.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=156,slow=9.7,SNR=7.4						
CMIG				Sn	**Sn**	**06 39 29.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=94,slow=21,SNR=1.3						
TXAR	**Lajitas Array**	**22.00**	**324**	P	**P**	**06 41 06.5**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=150,slow=12,SNR=11						
NVAR	**Mina Array Bea**	**37.06**	**320**	P	**P**	**06 43 21.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=133,slow=8.9,SNR=6.1						
ILAR	**Eielson Array**	**65.82**	**337**	P	**P**	**06 46 54.4**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=134,slow=4.4,SNR=5.4						

*NNC **02** 07:23:51.5±0.4, 50°.01N×78°.74E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=3.6km s-min=1.8km az=67.0, Suspected Mining explosion.*
*ASRS **02** 07:23:54.4±0.8, 50°.N±3°×7°.9E±°, h10km, MLh3.7/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 02 07:23:52.1±0.7, 49°.99N±0°.03×78°.63E±0°.04, h0km, n26, σ1§34/51, 11C-16D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**353**	⇑P	**Pg**	**07 24 03.0**	**-0.5**
KUR07				⇓S	**Sg**	**07 24 11.4**	**0.0**
KUR06	**Kurchatov Arra**	**0.62**	**354**	⇑P	**Pg**	**07 24 03.4**	**-0.6**
KUR06				⇓S	**Sg**	**07 24 12.2**	**+0.2**
KUR14	**Kurchatov Arra**	**0.63**	**358**	⇓P	**Pg**	**07 24 03.3**	**-0.8**
KUR14				⇑S	**Sg**	**07 24 12.1**	**-0.2**
KUR15	**Kurchatov Arra**	**0.64**	**356**	⇓P	**Pg**	**07 24 03.4**	**-0.8**
KUR15				⇓S	**Sg**	**07 24 12.9**	**+0.5**
KURBB	**Kurchatov Arra**	**0.64**	**354**	⇓P	**Pg**	**07 24 03.5**	**-0.8**
	56nm,0.3s						
KURBB				⇓S	**Sg**	**07 24 12.7**	**0.0**
	227nm,0.7s						
KUR16	**Kurchatov Arra**	**0.65**	**353**	⇑P	**Pg**	**07 24 03.7**	**-0.8**
KUR16				⇑S	**Sb**	**07 24 13.3**	**-2.5**
KUR17	**Kurchatov Arra**	**0.65**	**351**	⇓P	**Pg**	**07 24 03.9**	**-0.7**
KUR17				⇓S	**Sb**	**07 24 13.7**	**-2.4**
KUR05	**Kurchatov Arra**	**0.66**	**355**	⇑P	**Pg**	**07 24 04.0**	**-0.7**
KUR05				⇓S	**Sg**	**07 24 12.9**	**-0.3**
SEM	**Semipalatinsk**	**1.12**	**67**	P	**Pg**	**07 24 11.6**	**-2.0**
	20nm,0.2s						
SEM				S	**Sg**	**07 24 26.6**	**-1.6**
	47nm,0.2s						
MAKZ	**Makanchi**	**3.88**	**144**	P	**Pn**	**07 24 54.2**	**+1.2**
MAKZ				Pg	**Pb**	**07 25 01.1**	**-0.3**
MAKZ				S	**Sn**	**07 25 39.1**	**-0.3**
MAKZ				Sg	**Sb**	**07 25 52.3**	**+3.3**
MAKZ	**Makanchi**	**3.88**	**144**	⇓Pg	**Pb**	**07 24 59.8**	**-1.7**
	2.1nm,0.5s						
MAKZ				⇓Lg	Lg	07 25 53.1	
	25nm,0.6s						
MK31	**Makanchi Array**	**4.02**	**141**	⇑Pn	**Pn**	**07 24 55.7**	**+0.9**
	0.2nm,0.2s,baz=324,slow=10,SNR=118						
MK31				⇑Pg	**Pb**	**07 25 03.3**	**-0.4**
	2.7nm,0.4s,baz=325,slow=15,SNR=24						
MK31				⇑Lg	Lg	07 25 57.8	
	17nm,0.5s,baz=324,slow=29,SNR=20						
MKAR	**Makanchi Array**	**4.02**	**141**	P	**Pn**	**07 24 56.0**	**+1.2**
MKAR				Pg	**Pb**	**07 25 05.1**	**+1.3**
MKAR				S	**Sn**	**07 25 43.8**	**+1.1**
MKAR				Sg	**Sg**	**07 25 58.9**	**-2.2**
UKR	**Ust'-Kan**	**4.04**	**74**	P	**Pn**	**07 24 55.6**	**+0.4**
UKR				Pg	**Pb**	**07 25 05.4**	**+1.3**
UKR				S	**Sn**	**07 25 44.3**	**+1.1**
UKR				Sg	**Sg**	**07 25 59.3**	**-2.5**
OTUK	**Ortayu**	**4.48**	**250**	⇓Pn	**Pn**	**07 25 02.9**	**+1.7**
	3.6nm,0.4s						
OTUK				⇓Pg	**Pg**	**07 25 15.3**	**-2.7**
	2.6nm,0.5s						
OTUK				⇑Lg	Lg	07 26 18.6	
	6.5nm,0.6s						
DGZ	**Jazzator, Alta**	**5.70**	**90**	P	**Pn**	**07 25 19.4**	**+1.3**
DGZ				S	**Sn**	**07 26 26.1**	**+1.8**
CHBI	**Chibit, Altay**	**5.72**	**83**	P	**Pn**	**07 25 19.3**	**+1.0**
CHBI				S	**Sn**	**07 26 25.0**	**+0.4**
ELT	**Eltsovka**	**5.76**	**52**	P	**Pn**	**07 25 19.6**	**+0.8**
ELT				S	**Sn**	**07 26 25.2**	**-0.3**
ARTR	**Artybash**	**5.77**	**68**	P	**Pn**	**07 25 19.3**	**+0.4**
ARTR				S	**Sn**	**07 26 26.4**	**+0.6**
AKAR	**Aktash**	**5.79**	**83**	P	**Pn**	**07 25 19.9**	**+0.6**
AKAR				S	**Sn**	**07 26 27.0**	**+0.6**
ULGR	**Ulagan, Altay**	**6.01**	**80**	P	**Pn**	**07 25 21.6**	**-0.8**
ULGR				S	**Sn**	**07 26 30.2**	**-1.8**
BRVK	**Borovoye**	**6.05**	**304**	⇑Pn	**Pn**	**07 25 23.9**	**+1.2**
	0.4nm,0.3s						
BRVK				⇓Sn	**Sn**	**07 26 32.8**	**+0.3**
	2.1nm,0.4s						
BRVK				⇓Lg	Lg	07 27 04.4	
	3.1nm,0.5s						
CUR	**Chagan-Uzun**	**6.27**	**85**	P	**Pn**	**07 25 27.3**	**+1.5**
CUR				S	**Sn**	**07 26 39.4**	**+1.3**
MDOK	**Medeo**	**6.91**	**190**	Pg	Pg	07 25 60.0	-4.5
	1.4nm,0.3s						
MDOK				Lg	Lg	07 27 32.7	
	11nm,0.6s						
SATY	**Saty**	**6.93**	**181**	Pg	Pg	07 26 00.5	-4.3
	2.9nm,0.4s						
SATY				Lg	Lg	07 27 33.7	
	14nm,0.7s						
KST	**Kastek**	**7.18**	**196**	Pg	Pg	07 26 05.2	-4.4
	3.8nm,0.2s						
KST				Lg	Lg	07 27 42.0	
	9.0nm,0.7s						

*NAO **02** 07:31:28.7±1.3, 72°.41N×1°.88E, ML4.6*
*BJI **02** 07:31:30.4±0.0, 72°.90N×1°.38E, h16km, mB5.0/29, mb4.8/45, Ms4.8/23, Ms7 4.5/24*
*IDC **02** 07:31:30.7±0.4, 72°.41N×2°.10E, h0km, mb4.4/33, mb1 4.5/38, mb1mx4.5/45, mbtmp4.4/38, ML3.8/5, MS4.5/44, Ms1 4.5/44, ms1mx4.4/59, Error ellipse: s-maj=11.9km s-min=8.2km az=33.0*
*MOS **02** 07:31:30.7±1.0, 72°.42N×2°.17E, h10km, mb5.0/79, MS4.7/21, Error ellipse: s-maj=13.9km s-min=3.7km az=99.2*
*GCMT **02** 07:31:31.7±0.1, 72°.41N±0°.01×2°.09E±0°.03, h12km, MW5.1/138, Moment Tensor Solution. s61,c74; s138,c254; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.66±.09; Mθθ3.02±.09; Mφφ2.63±.09; Mrθ-0.29±.31; Mθφ2.99±.07; Mφr-2.10±.28; Best double couple: M≥6.12100×10^16 NP1:φs239.00000°, δ38.00000°, λ-70.00000°. NP2:φs35.00000°, δ54.00000°, λ-105.00000°. Principal axes: T 6.0600, Plg8.0000°, Azm135.0000°; N 0.1120, Plg12.0000°, Azm43.0000°; P -6.1820, Plg75.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BER **02** 07:31:32.4±2.5, 72°.50N×1°.80E, h10km, ML2.8, mb4.8(DNK), Confirmed Earthquake*
*DNK **02** 07:31:32.8±5.9, 72°.53N×1°.36E, h15km±55km, mb4.8, ML3.1*
*NEIC **02** 07:31:32.6±1.2, 72°.36N±0°.07×2°.0E±0°.2, h10km±1km, mb4.8/248, Error ellipse: s-maj=12.1km s-min=10.7km az=195.0*
*HEL **02** 07:31:36.6±1.2, 72°.30N×3°.23E, h10km, ML4.1, Confirmed Earthquake*
*BGR **02** 07:31:42.9±0.0, 71°.65N×4°.87E, h10km, mb4.8, Ms4.3*
*REY **02** 07:32:03.1, 70°.61N×3°.25W, h10km*

ISC 02 07:31:32.2±0.7, 72°.31N±0°.04×2°.13E±0°.03, h11km±4km, h11km:pP-P, n767, σ1§59/779, mb4.8/249, MS4.6/73, 30C-28D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**3.62**	**254**	Pn	**Pn**	**07 32 26.0**	**-2.1**
	baz=356,slow=4.5,SNR=5.3						
JMIC				Sn	**Sb**	**07 33 22.3**	**+2.4**
	baz=145,slow=16,SNR=1.3						
JMIC				LR	LR	07 33 30.5	
	comp=Z,3μm,21.6s,baz=62,slow=33						
JMIC	**Jan Mayen**	**3.62**	**254**	Pn	**Pn**	**07 32 26.4**	**-1.8**
JMIC	**Jan Mayen**	**3.62**	**254**	*eP*	**Pn**	**07 32 26.8**	**-1.3**
BJO1	**Bjornoya**	**5.30**	**58**	Pn	**Pn**	**07 32 48.2**	**-3.0**
BJO1	**Bjornoya**	**5.30**	**58**	*eP*	**Pn**	**07 32 48.2**	**-3.0**
LOF	**Lofoten**	**5.70**	**132**	*eP*	**Pn**	**07 32 57.2**	**+0.5**
LOF				IAML		07 34 08.2	
	comp=Z,31nm,0.9s						
HSPB	**Hornsund (broa**	**5.88**	**31**	*eP*	**Pn**	**07 32 56.6**	**-2.7**
HSPB	**Hornsund (broa**	**5.88**	**31**	Pn	**Pn**	**07 32 56.4**	**-2.9**
HSPB	**Hornsund (broa**	**5.88**	**31**	*eP*	**Pn**	**07 32 56.5**	**-2.7**
TRO	**Tromso**	**6.10**	**108**	*eP*	**Pn**	**07 33 02.1**	**-0.1**
TRO	**Tromso**	**6.10**	**108**	*eP*	**Pn**	**07 33 00.8**	**-1.4**
TRO				*eS*	**Sn**	**07 34 05.9**	**-6.0**
STEI	**Steigen**	**6.26**	**128**	*eP*	**Pn**	**07 33 04.6**	**+0.3**
STEI	**Steigen**	**6.26**	**128**	*eP*	**Pn**	**07 33 04.4**	**+0.1**
N2IH	**Innhavet**	**6.40**	**126**	*eP*	**Pn**	**07 33 07.5**	**+1.2**
BRBA	**Barentsburg A**	**6.53**	**23**	Pn	**Pn**	**07 33 05.0**	**-3.1**
JETT	**Jettan, Norway**	**6.58**	**106**	Pn	**Pn**	**07 33 08.8**	**0.0**
FAUS	**Fauske**	**6.71**	**131**	*eP*	**Pn**	**07 33 11.5**	**+1.0**
FAUS				*eS*	**Sn**	**07 34 22.2**	**-4.5**
FAUS				IAML		07 34 25.6	
	comp=Z,16nm,0.3s						
DBG	**Daneborg**	**6.72**	**298**	*i* P	Pn	07 33 05.1	-5.6
DBG				*i* S	Sn	07 34 13.2	-14
DBG	**Daneborg**	**6.72**	**298**	Pn	**Pn**	**07 33 05.8**	**-4.8**
DBG	**Daneborg**	**6.72**	**298**	*i* P	Pn	07 33 05.0	-5.6
DBG				*i* S	Sn	07 34 13.2	-14
SPA0	**Spitsbergen Ar**	**6.90**	**25**	Pn	**Pn**	**07 33 09.5**	**-3.6**
	baz=207,slow=12						
SPA0	**Spitsbergen Ar**	**6.90**	**25**	Pn	**Pn**	**07 33 09.5**	**-3.6**
	baz=207,slow=12						
KONS	**Konsvik**	**6.99**	**141**	*eP*	**Pn**	**07 33 14.6**	**+0.1**
KIF	**Kilpisjarvi**	**7.01**	**109**	Pn	**Pn**	**07 33 13.7**	**-1.0**
KIF				Sn	**Sn**	**07 34 28.9**	**-5.4**
KIF	**Kilpisjarvi**	**7.01**	**109**	*eP*	**Pn**	**07 33 13.8**	**-0.8**
KIF				*eS*	**Sn**	**07 34 26.5**	**-7.7**
KIF	**Kilpisjarvi**	**7.01**	**109**	*eP*	**Pn**	**07 33 14.1**	**-0.5**
KIF				MPN		07 33 15.5	
	comp=Z,16nm,0.3s						
KIF				*eS*	**Sn**	**07 34 26.0**	**-8.3**
HAMF	**Hammerfest**	**7.05**	**93**	Pn	**Pn**	**07 33 13.3**	**-1.8**
HAMF	**Hammerfest**	**7.05**	**93**	*eP*	**Pn**	**07 33 13.1**	**-2.1**
HAMF	**Hammerfest**	**7.05**	**93**	*eP*	**Pn**	**07 33 13.2**	**-2.0**
KBS	**Kingsbay**	**7.07**	**16**	*i* P	**Pn**	**07 33 13.0**	**-2.4**
KBS	**Kingsbay**	**7.07**	**16**	P	**Pn**	**07 33 13.8**	**-1.6**
KBS	**Kingsbay**	**7.07**	**16**	Pn	**Pn**	**07 33 12.4**	**-3.0**
KBS	**Kingsbay**	**7.07**	**16**	*eP*	**Pn**	**07 33 13.2**	**-2.2**
KBS	**Kingsbay**	**7.07**	**16**	Pn	**Pn**	**07 33 13.8**	**-1.6**
DAG	**Danmarks Havn**	**7.09**	**319**	*i* P	Pn	07 33 07.6	-8.1
DAG				*i* S	Sn	07 34 20.8	-15
DAG				IAML		07 34 27.6	
	comp=Z,22nm,0.4s						
DAG	**Danmarks Havn**	**7.09**	**319**	*i* P	Pn	07 33 10.0	-5.7
DAG	**Danmarks Havn**	**7.09**	**319**	*i* P	Pn	07 33 10.0	-5.7
DAG				*i* S	Sn	07 34 20.8	-15
DAG				IAML		07 34 27.6	
	comp=Z,22nm,0.4s						
STOK	**Stokkvaagen**	**7.12**	**142**	*eP*	**Pn**	**07 33 16.6**	**+0.4**
HOPEN	**Hopen**	**7.41**	**45**	*eP*	**Pn**	**07 33 21.4**	**+1.2**
KTK1	**Kautokeino**	**7.72**	**105**	*eP*	**Pn**	**07 33 24.7**	**+0.3**
SCO	**Scoresbysund**	**7.89**	**268**	*i* P	Pn	07 33 21.6	-5.1
SCO	**Scoresbysund**	**7.89**	**268**	P	**Pn**	**07 33 25.1**	**-1.5**
SCO	**Scoresbysund**	**7.89**	**268**	*i* P	Pn	07 33 21.6	-5.1
SCO	**Scoresbysund**	**7.89**	**268**	Pn	**Pn**	**07 33 25.1**	**-1.5**
ARA0	**ARCESS Array S**	**8.11**	**99**	Pn	**Pn**	**07 33 28.7**	**-1.1**
	baz=317,slow=12						
ARA0	**ARCESS Array S**	**8.11**	**99**	Pn	**Pn**	**07 33 28.7**	**-1.1**
	baz=317,slow=12						
ARA0	**ARCESS Array S**	**8.11**	**99**	*eP*	**Pn**	**07 33 29.2**	**-0.6**
ARCES	**ARCESS Array B**	**8.11**	**99**	Pn	**Pn**	**07 33 28.5**	**-1.3**
	baz=309,slow=11,SNR=37						
ARCES				Sn	**Sn**	**07 34 56.1**	**-5.2**
	baz=302,slow=23,SNR=1.3						
ARCES				LR	LR	07 36 30.2	
	comp=Z,3μm,21.3s,baz=300,slow=37						
ARCES	**ARCESS Array B**	**8.11**	**99**	P	**Pn**	**07 33 29.9**	**+0.1**
ARCES	**ARCESS Array B**	**8.11**	**99**	Pn	**Pn**	**07 33 29.9**	**+0.1**
HEF	**Hetta**	**8.21**	**108**	*eP*	**Pn**	**07 33 30.6**	**-0.4**
HEF	**Hetta**	**8.21**	**108**	*eP*	**Pn**	**07 33 30.5**	**-0.6**
HEF				MPN		07 33 32.4	
	comp=Z,4.4nm,0.2s						
HEF				*eS*	**Sn**	**07 34 57.4**	**-6.2**
KEV	**Kevo**	**8.46**	**96**	P	**Pn**	**07 33 34.6**	**+0.1**
KEV	**Kevo**	**8.46**	**96**	*eP*	**Pn**	**07 33 33.2**	**-1.3**
KEV	**Kevo**	**8.46**	**96**		**Pn**	**07 33 34.6**	**+0.1**
KEV	**Kevo**	**8.46**	**96**	*eP*	**Pn**	**07 33 32.9**	**-1.6**
NSS	**Namsos**	**8.60**	**150**	*eP*	**Pn**	**07 33 36.7**	**+0.3**
ILEI	**Leirhofn**	**8.81**	**237**	P	**Pn**	**07 33 38.7**	**-0.6**
	baz=235						
IGIL	**Gilhagi**	**9.03**	**235**	P	**Pn**	**07 33 41.3**	**-1.1**
	baz=233						
KLF	**Kolari**	**9.07**	**113**	*eP*	**Pn**	**07 33 42.5**	**-0.4**
IDIM	**Dimmadalss**	**9.27**	**236**	P	**Pn**	**07 33 45.3**	**-0.4**
	baz=234						
IHED	**Heoinshofoi**	**9.28**	**237**	P	**Pn**	**07 33 46.3**	**+0.6**
	baz=236						
IGHA	**Grjothals**	**9.30**	**235**	P	**Pn**	**07 33 45.6**	**-0.5**
	baz=233						
IBRE	**Brettingsstaoi**	**9.40**	**239**	P	**Pn**	**07 33 48.4**	**+1.1**
	baz=237						
IGRA	**Granastaoir**	**9.47**	**237**	P	**Pn**	**07 33 49.0**	**+0.7**
	baz=235						
IMEL	**Melhnausar**	**9.52**	**234**	P	**Pn**	**07 33 49.1**	**+0.1**
	baz=231						
IREN	**Reynihlio**	**9.52**	**235**	P	**Pn**	**07 33 47.5**	**-1.5**
	baz=232						
TBLU	**Trondheim**	**9.59**	**157**	*eP*	**Pn**	**07 33 48.3**	**-1.8**
SGF	**Sodankyl**	**9.66**	**108**	*eP*	**Pn**	**07 33 50.0**	**-0.9**
SGF				MPN		07 33 54.8	
	comp=Z,16nm,0.5s						
IADA	**Aoalbol**	**9.71**	**230**	P	**Pn**	**07 33 51.0**	**-0.6**
	baz=226						
ISVA	**Svartarkot**	**9.85**	**234**	P	**Pn**	**07 33 53.7**	**+0.1**
	baz=232						
ISVA				S	Sn	07 35 24.9	-19
	baz=232						
IVSH	**V-Sauoahnukur**	**9.92**	**230**	P	**Pn**	**07 33 54.1**	**-0.5**
	baz=225						
IMKO	**Mokollar**	**9.92**	**231**	P	**Pn**	**07 33 53.9**	**-0.7**
	baz=228						
IMKO				S	Sn	07 35 24.2	-22
	baz=228						
IASK	**Askja**	**9.94**	**232**	P	**Pn**	**07 33 54.1**	**-0.7**
	baz=229						
MOL	**Molde**	**10.00**	**165**	*e*		**07 33 56.1**	**+0.5**

SUMG Summit 12.09 291 Pn **Pn** 07 34 23.2 -1.3
NC602 NORSAR Array S 12.19 158 **Pn** 07 34 26.8 +1.3
NORES NORESS Array B 12.19 158 P **Pn** 07 34 28.0 +2.4
NRA0 NORESS Array S 12.19 158 Pn **Pn** 07 34 24.2 -1.4
baz=340,slow=11
NRA0 NORESS Array S 12.19 158 Pn **Pn** 07 34 24.2 -1.4
baz=340,slow=11
HFS Hagfors 13.05 154 Pn **Pn** 07 34 36.7 -0.5
comp=Z,1.1nm,0.3s,baz=354,slow=13,SNR=19
HFS Sn **Sn** 07 36 55.1 -7.1
comp=Z,0.7nm,0.3s,baz=354,slow=23,SNR=3.1
HFS LR LR 07 39 30.5
comp=Z,3μm,18.6s,baz=344,slow=36
HFS Hagfors 13.05 154 Pn **Pn** 07 34 36.8 -0.5
baz=342,slow=14
HFS Hagfors 13.05 154 Pn **Pn** 07 34 36.8 -0.5
baz=342,slow=14
KONO Kongsberg 13.06 163⇑ *iP* **Pn** 07 34 37.6 +0.2
BLS5 Blasjo 13.06 170 *ePn* **Pn** 07 34 38.2 +0.8
SUF Sumiainen 13.17 125 P **Pn** 07 34 38.8 -0.1
RAF Rauma 13.63 136 *ePn* **Pn** 07 34 45.0 -0.2
FIA1 FINESS Array S 14.24 128 Pn **Pn** 07 34 52.9 -0.7
FIA0 FINESS Array S 14.24 128 Pn **Pn** 07 34 52.4 -1.2
baz=332,slow=9.3
FIA0 FINESS Array S 14.24 128 Pn **Pn** 07 34 52.4 -1.2
baz=332,slow=9.3
FINES FINESS Array B 14.24 128 Pn **Pn** 07 34 52.5 -1.0
comp=Z,0.4nm,0.3s,baz=342,slow=12,SNR=29
FINES Sn Sn 07 37 21.8 -9.5
comp=Z,0.3nm,0.3s,baz=336,slow=23,SNR=2.3
FINES LR LR 07 39 58.1
comp=Z,5μm,18.8s,baz=328,slow=36
FINES FINESS Array B 14.24 128 P **Pn** 07 34 52.7 -0.9
FINES FINESS Array B 14.24 128 Pn **Pn** 07 34 52.6 -0.9
NEEM North Greenlan 14.27 315 *iP* Pn 07 34 48.3 -5.9
NEEM IAmb IAmb 07 34 50.6
comp=Z,12nm,0.5s
MEF Metsahovi 14.93 133 *ePn* **Pn** 07 35 01.1 -1.8
MTSE Matsula 16.17 136 *ePn* **Pn** 07 35 16.6 -2.4
MUD Monsted U'grnd 16.19 166 *iP* **P** 07 35 24.6 +2.1
MUD IAmb IAmb 07 35 26.3
comp=Z,80nm,1.1s
MUD Monsted U'grnd 16.19 166 *iP* **P** 07 35 24.6 +2.1
MUD pmax pmax
comp=Z,80nm,1.1s
MUD Monsted U'grnd 16.19 166 *iP* **P** 07 35 24.6 +2.1
MUD IAmb IAmb 07 35 26.3
comp=Z,80nm,1.1s
SLIT Slitere, Latvi 16.86 140 *eP* **P** 07 35 31.0 +1.1
VSU Vasula 17.04 132 *eP* **Pn** 07 35 26.9 -3.2
LSH Leshukonskoye 17.15 93 *eP* **Pn** 07 35 30.0 -1.5
comp=Z,100nm,1.2s
EKA Eskdalemuir Ar 17.19 190 P **Pn** 07 35 31.7 -0.3
baz=4.9,slow=12,SNR=15
EKA S **Sn** 07 38 35.5 -7.4
baz=360,slow=25,SNR=3.6
ESK Eskdalemuir 17.21 190 P **Pn** 07 35 32.3 0.0
ESK pmax pmax
comp=Z,47nm,1.1s
ESK Eskdalemuir 17.21 190 Pn **Pn** 07 35 32.3 0.0
DY2G Dye2 17.54 275 *iP* **Pn** 07 35 36.7 +0.2
BSD Bornholm Skovb 18.09 156 *eP* **Pn** 07 35 42.4 -0.7
BSD Bornholm Skovb 18.09 156 *iP* **Pn** 07 35 42.6 -0.5
BSD IAmb IAmb 07 35 45.2
comp=Z,39nm,0.9s
BSD Bornholm Skovb 18.09 156 *iP* **P** 07 35 43.8 +0.3
BSD pmax pmax
comp=Z,39nm,0.9s
BSD Bornholm Skovb 18.09 156 *iP* **P** 07 35 43.8 +0.3
BSD IAmb IAmb 07 35 45.2
comp=Z,39nm,0.9s
PBUR Paburge 18.31 143 *eP* **Pn** 07 35 45.2 -0.5
PBUR IVmB_BB 07 35 48.2
comp=Z,2μm,1.5s
KLMR Klimovskoe 18.35 109 *eP* **Pn** 07 35 44.8 -1.5
KLMR pmax pmax
comp=Z,72nm,1.3s
KLMR Klimovskoe 18.35 109 *eP* **Pn** 07 35 44.8 -1.5
comp=Z,70nm,1.4s
KLMR Klimovskoe 18.35 109 *ePn* **Pn** 07 35 44.8 -1.5
KLMR AMP 07 35 57.4
comp=Z,72nm,1.3s
TULEG Thule 18.38 315 *iP* **Pn** 07 35 39.6 -6.9
TULEG Thule 18.38 315 *iP* **Pn** 07 35 40.1 -6.5
TULEG Thule 18.38 315 P **Pn** 07 35 45.5 -1.1
TULEG IAmb IAmb 07 35 51.5
comp=Z,75nm,1.4s
SFJD Kangerlussuaq 18.52 280 P **P** 07 35 47.5 -0.7
comp=Z,0.2nm,0.3s,baz=39,slow=13,SNR=8.6
SFJD LR LR 07 41 56.8
comp=Z,3μm,20.0s,baz=46,slow=34
SFJD Kangerlussuaq 18.52 280 *iP* **P** 07 35 45.8 -2.3
SFJD Kangerlussuaq 18.52 280 P **P** 07 35 47.7 -0.5
SFJD pmax pmax
comp=Z,35nm,1.4s
SFJD Kangerlussuaq 18.52 280 *iP* **Pn** 07 35 49.7 +1.4
SFJD Kangerlussuaq 18.52 280 **P** 07 35 47.6 -0.5
BSEG Bad Segeberg 18.78 165 *eP* **Pn** 07 35 53.5 +2.0
baz=355,slow=11
BSEG eL L 07 42 58.4
comp=Z,2μm,19.9s
PABE Paberze 19.18 140 *eP* **Pn** 07 35 56.4 0.0
PABE IVmB_BB 07 35 59.5
comp=Z,1μm,0.9s
PABE Paberze 19.18 140 **Pn** 07 35 56.5 0.0
PRGR Permogore 19.53 101 *eP* **P** 07 35 59.2 -0.1
PRGR pmax pmax
comp=Z,103nm,1.4s
PRGR Permogore 19.53 101 *eP* **P** 07 35 59.3 -0.1
comp=Z,89nm,1.3s
ISAL Salakas 19.56 136 *eP* **Pn** 07 36 00.8 -0.2
ISAL IAmb IAmb 07 36 24.0
comp=Z,11nm,0.7s
IIGN Ignalina 19.79 136 *eP* **P** 07 36 03.0 +0.8
IIGN IAmb IAmb 07 36 13.1
comp=Z,13nm,0.8s
IDID Didziasalis 19.93 136 *eP* **Pn** 07 36 05.0 -0.4
IDID IAmb IAmb 07 36 12.7
comp=Z,20nm,1.0s
NRDL Niedersach Rie 20.19 166 *eP* Pn 07 36 08.9 +0.5
comp=Z,187nm,1.9s,baz=355,slow=11
NACGM Naroch 20.32 136 *iP* Pn 07 36 10.5 +0.6
baz=125
SUW Suwalki 20.45 143 *eP* **P** 07 36 10.0 +0.7
SUW Suwalki 20.45 143 *eP* **P** 07 36 10.2 +0.9
SUW Suwalki 20.45 143 P **P** 07 36 09.5 +0.2
SUW pmax pmax
comp=Z,223nm,1.0s
SUW Suwalki 20.45 143 P **P** 07 36 09.4 +0.2
FLTG Flechtingen 20.45 164 *eP* Pn 07 36 10.6 -0.8
comp=Z,76nm,1.0s,baz=355,slow=11
ASSE Asse, Remlinge 20.60 165 *eP* Pn 07 36 12.9 -0.3
comp=Z,71nm,1.1s,baz=355,slow=11
CLZ Clausthal 20.86 166 *eP* Pn 07 36 15.9 -0.5
comp=Z,127nm,1.0s,baz=355,slow=11
MNK Minsk 20.93 135 *iP* **P** 07 36 15.5 +0.9
MNK *i* 07 36 34.2
MNK *iS* Sn 07 40 12.0 -1.2
MNK *iSS* S 07 40 32.8 +25
MNK pmax pmax
comp=N,48nm,0.9s
MNK pmax pmax
comp=Z,61nm,0.9s
MNK MLR MLR
comp=Z,3μm,17.0s
MNK MLR MLR
comp=N,2μm,17.0s
MNK MLR MLR
comp=E,152nm,17.0s
MNK Minsk 20.93 135 *iP* **P** 07 36 15.5 +1.0
comp=E,4.0nm,0.9s
MNK *iP* **P** 07 36 15.5 +1.0
comp=N,48nm,0.9s
MNK *iP* **P** 07 36 15.5 +1.0
comp=Z,61nm,0.9s,baz=158
MNK *iPP* pwP 07 36 34.3 +14
MNK *iS* Sn 07 40 12.0 -1.1
MNK *iSS* S 07 40 32.8 +25
MNK *iLR* LR 07 42 13.8
MNK *iLRM* MLR 07 43 29.9
comp=Z,3μm,16.9s
MNK *iLRM* MLR 07 43 34.1
comp=N,2μm,16.9s
MNK *iLRM* MLR 07 43 35.7
comp=E,152nm,16.9s

BUG Bochum-Univer 21.07 171 *eP* **P** 07 36 18.0 +2.0
comp=E,91nm,1.1s,baz=355,slow=11
GTTG Gottingen 21.13 166 *eP* **P** 07 36 19.0 +2.3
comp=E,103nm,1.1s,baz=355,slow=11
KASTN Kahler Asten 21.37 169 *eP* **P** 07 36 21.5 +2.2
comp=E,52nm,1.2s,baz=355,slow=11
NEUB Neuenburg 21.61 163 *eP* **P** 07 36 23.7 +1.9
comp=E,339nm,1.0s,baz=355,slow=11
CLL Collm 21.62 161 *eP* **P** 07 36 23.0 +1.0
comp=Z,27nm,1.1s
CLL *e* 07 36 32.0
comp=Z,89nm,1.4s
CLL *eS* **S** 07 40 25.0 +3.9
CLL Lmax 07 45 00.0
CLL Collm 21.62 161 *eP* **P** 07 36 23.0 +1.0
CLL *eS* **S** 07 40 25.0 +3.9
CLL pmax pmax
comp=Z,27nm,1.1s
CLL Collm 21.62 161 P **P** 07 36 22.1 +0.2
CLL IAmb IAmb 07 36 39.7
comp=Z,62nm,1.2s
CLL Collm 21.62 161 *eP* **P** 07 36 23.2 +1.3
comp=Z,86nm,1.7s,baz=355,slow=11
CLL *eL* L 07 44 36.2
comp=Z,1μm,20.3s
MEM Membach 21.85 173 *dP* **P** 07 36 25.6 +1.2
UBBA Unterbreizbach 21.85 167 *eP* **P** 07 36 26.4 +2.0
comp=Z,70nm,1.6s,baz=355,slow=11
BSTI Sart Tilman 21.86 174 *dP* **P** 07 36 26.4 +1.8
BTNL Ternell 21.88 173 *dP* **P** 07 36 25.9 +1.2
SNF Seneffe 21.90 176 *dP* **P** 07 36 26.6 +1.7
AHRW Bad Neuenahr-A 21.96 172 *eP* **P** 07 36 27.3 +1.7
comp=Z,38nm,1.0s,baz=355,slow=11
BCLA Clavier 22.02 175 *dP* **P** 07 36 27.2 +1.0
FBE Freiberg 22.04 161 *eP* **P** 07 36 27.8 +1.4
comp=Z,52nm,1.1s,baz=355,slow=11
BGES Gesves 22.04 175 *dP* **P** 07 36 27.4 +0.9
BGES *dPnPn* **PnPn** 07 36 48.2 +0.1
BMRD Maredsous 22.12 176 *dP* **P** 07 36 28.5 +1.2
BMRD *dPnPn* **PnPn** 07 36 47.7 -1.4
BRG Berggiesshubel 22.15 160 *iP* **P** 07 36 28.4 +0.8
BRG Amp 07 36 30.1
comp=Z,24nm,1.2s
BRG *ex* x 07 36 33.6
BRG Amp 07 36 35.2
comp=Z,61nm,1.3s
BRG Berggiesshubel 22.15 160 S **S** 07 40 35.0 +3.8
BRG Amp 07 45 50.0
comp=E,0.3nm,16.5s
BRG Amp 07 45 55.0
comp=N,0.7nm,13.9s
BRG Amp 07 45 58.0
comp=Z,1.2nm,15.9s
BRG Berggiesshubel 22.15 160 *eP* **P** 07 36 28.7 +1.1
comp=Z,61nm,1.3s,baz=355,slow=11
MOX Moxa 22.15 164 P **P** 07 36 29.5 +1.8
MOX pmax pmax
comp=Z,68nm,1.6s
MOX Moxa 22.15 164 *eP* **P** 07 36 29.1 +1.4
comp=Z,124nm,1.7s,baz=355,slow=11
MOX *eL* L 07 44 40.3
comp=Z,2μm,21.5s
MOS Moscow 22.18 120 *eP* **P** 07 36 28.1 +0.2
MOS *e* 07 36 33.4
MOS *e* 07 36 52.2
MOS pmax pmax
comp=Z,173nm,1.1s
MOS MLR MLR
comp=Z,3μm,15.0s
DOU Dourbes 22.32 176 *dP* **P** 07 36 32.1 +2.6
DOU *dx* x 07 36 40.3
TNS Taunus Mts 22.35 169 *eP* **P** 07 36 31.7 +1.8
comp=Z,42nm,1.0s,baz=355,slow=11
TNS *eL* L 07 44 58.2
comp=Z,1μm,21.6s
PLN Plauen 22.36 163 *eP* **P** 07 36 31.1 +1.2
comp=Z,39nm,0.9s,baz=355,slow=11
WERD Werda 22.41 163 *eP* **P** 07 36 31.8 +1.4
comp=Z,34nm,1.0s,baz=355,slow=11
TANN Tannenbergstha 22.45 163 *eP* **P** 07 36 32.3 +1.3
comp=Z,27nm,1.0s,baz=355,slow=11
OBN Obninsk 22.46 122 P **P** 07 36 31.8 +1.0
comp=Z,5.0nm,0.3s,baz=138,slow=2.8,SNR=16
OBN LR LR 07 44 54.9
comp=Z,1μm,18.9s,baz=338,slow=36
OBN Obninsk 22.46 122⇑ *iP* **P** 07 36 31.6 +0.7
OBN *e* 07 36 55.8
OBN *iS* **S** 07 40 42.8 +5.8
OBN pmax pmax
comp=Z,119nm,1.2s
OBN MLR MLR
comp=Z,4μm,17.0s
OBN Obninsk 22.46 122 P **P** 07 36 31.5 +0.7
GUNZ Gunzen 22.49 163 *eP* **P** 07 36 32.8 +1.4
comp=Z,33nm,1.2s,baz=355,slow=11
PVCC Panska Ves 22.55 159 AMS AMS 07 45 50.0
comp=Z,2μm,13.5s
WERN Wernitzgruen 22.57 163 *eP* **P** 07 36 33.8 +1.6
comp=Z,43nm,1.1s,baz=355,slow=11
NKC Novy Kostel 22.63 163 *eP* **P** 07 36 33.8 +0.9
NKC *e* 07 36 40.5
NKC MLR MLR
comp=Z,2μm,21.8s
NKC Novy Kostel 22.63 163 *eP* **P** 07 36 33.8 +0.9
NKC *epP* **pwP** 07 36 40.5 +2.1
NKC AMS AMS 07 44 20.0
comp=Z,2μm,21.8s
CHVC Chvalec 22.67 157 *ex* x 07 36 40.3
CHVC AMS AMS 07 45 40.0
comp=Z,2μm,15.4s
UPC Upice 22.74 157 *eP* **P** 07 36 35.2 +1.2
UPC *eS* **S** 07 40 40.3 -2.0
UPC MLR MLR
comp=Z,2μm,16.4s
UPC Upice 22.74 157 *eP* **P** 07 36 35.2 +1.2
UPC *eS* **S** 07 40 40.3 -2.0
UPC AMS AMS 07 45 50.0
comp=Z,2μm,16.4s
WLF Walferdange 22.80 173 P **P** 07 36 36.6 +2.0
WLF pmax pmax
comp=Z,86nm,1.5s
WLF Walferdange 22.80 173 P **P** 07 36 36.6 +2.0
MANZ Manzenberg 22.85 163 *eP* **P** 07 36 36.3 +1.2
comp=Z,24nm,1.2s,baz=355,slow=11
DPC Dobruska-Polom 22.93 156 *eP* **P** 07 36 37.1 +1.1
DPC *eS* **S** 07 40 42.9 -2.9
DPC MLR MLR
comp=Z,2μm,13.8s
DPC Dobruska-Polom 22.93 156 *eP* **P** 07 36 37.1 +1.1
DPC *eS* **S** 07 40 42.9 -2.9
DPC AMS AMS 07 45 50.0
comp=Z,2μm,13.8s
PRA Prague 22.99 159 AMS AMS 07 46 10.0
comp=Z,1μm,14.6s
GRA1 Grafenberg Arr 23.07 165 P **P** 07 36 38.1 +0.7
GRF Grafenberg Arr 23.07 165 P **P** 07 36 38.1 +0.7
GRF pmax pmax
comp=Z,78nm,1.2s
GRF Grafenberg Arr 23.07 165 *eP* **P** 07 36 39.1 +1.7
comp=Z,33nm,1.2s,baz=355,slow=11
GRF *eL* L 07 45 07.8
comp=Z,2μm,21.9s
GRFO Grafenberg 23.07 165 P **P** 07 36 38.3 +0.9
GRFO pmax pmax
comp=Z,83nm,1.2s
GRFO Grafenberg 23.07 165 P **P** 07 36 38.3 +0.9
ROTZ Rotzenmuhle 23.07 163 *eP* **P** 07 36 38.9 +1.5
comp=Z,39nm,1.0s,baz=355,slow=11
PRU Pruhonice 23.08 159 *eP* **P** 07 36 38.5 +1.0
PRU *e* 07 36 44.7
PRU *eS* **S** 07 40 51.5 +3.3
PRU MLR MLR
comp=Z,2μm,14.7s
PRU Pruhonice 23.08 159 *eP* **P** 07 36 38.5 +1.0
PRU *epP* **pwP** 07 36 44.7 +1.5
PRU *eS* **S** 07 40 51.5 +3.3
PRU AMS AMS 07 46 10.0
comp=Z,2μm,14.7s
KIRV Kirov 23.12 101 P **P** 07 36 38.0 +0.2
comp=Z,17nm,0.7s,baz=181,slow=3.1,SNR=10
KIRV LR LR 07 45 22.6
comp=Z,1μm,21.2s,baz=328,slow=36
KIRV Kirov 23.12 101⇑ *iP* **P** 07 36 37.4 -0.4
KRLC Kraliky 23.26 156 *eP* **P** 07 36 41.3 +1.9
KRLC *e* 07 36 46.7

KRLC *eS* **S** 07 40 49.8 -1.5
KRLC MLR MLR
comp=Z,2μm,14.0s
KRLC Kraliky 23.26 156 *eP* **P** 07 36 41.3 +1.9
KRLC *epP* **pwP** 07 36 46.7 +1.6
KRLC *eS* **S** 07 40 49.8 -1.5
KRLC AMS AMS 07 46 00.0
comp=Z,2μm,14.0s
PBCC Pribram 23.33 160 *eP* **P** 07 36 41.4 +1.4
PBCC *ex* x 07 36 46.2
OJC Ojcow 23.54 151 P **P** 07 36 42.9 +0.8
OJC pmax pmax
comp=Z,39nm,1.0s
OJC Ojcow 23.54 151 P **P** 07 36 42.9 +0.8
OJC IAmb IAmb 07 36 50.0
comp=Z,39nm,1.0s
MORC Moravsky Berou 23.65 155⇓ P **P** 07 36 44.6 +1.3
MORC Moravsky Berou 23.65 155 *eP* **P** 07 36 44.1 +0.8
MORC Moravsky Berou 23.65 155 P **P** 07 36 43.6 +0.3
MORC pmax pmax
comp=Z,66nm,1.5s
MORC Moravsky Berou 23.65 155 P **P** 07 36 43.6 +0.3
OKC Ostrava-Krasne 23.67 154 *eP* P 07 36 50.8 +7.4
OKC MLR MLR
comp=Z,2μm,14.4s
OKC Ostrava-Krasne 23.67 154 *eP* P 07 36 50.8 +7.4
OKC AMS AMS 07 46 10.0
comp=Z,2μm,14.4s
WET Wettzell 23.75 162 *eP* **P** 07 36 46.2 +2.0
comp=Z,29nm,0.9s,baz=355,slow=11
WET *eL* L 07 45 28.5
comp=Z,1μm,21.9s
KHC Kasperske Hory 23.83 161 *eP* **P** 07 36 46.6 +1.6
KHC *e* 07 36 51.5
KHC *eS* **S** 07 41 03.9 +3.4
KHC MLR MLR
comp=Z,1μm,24.0s
KHC Kasperske Hory 23.83 161 *eP* **P** 07 36 46.6 +1.6
KHC *epP* **pwP** 07 36 51.5 +0.8
KHC *eS* **S** 07 41 03.9 +3.4
KHC AMS AMS 07 44 40.0
comp=Z,1μm,24.0s
TREC Trest 23.87 158 AMS AMS 07 46 40.0
comp=Z,2μm,14.2s
VRAC Vranov 23.99 156 P **P** 07 36 47.5 +1.0
comp=Z,26nm,0.8s,baz=348,slow=10,SNR=19
VRAC LR LR 07 46 37.9
comp=Z,1μm,18.4s,baz=351,slow=38
VRAC Vranov 23.99 156⇑ P **P** 07 36 48.2 +1.7
VRAC Vranov 23.99 156 *eP* **P** 07 36 48.0 +1.5
GEC2 GERESS Array S 24.13 161 P **P** 07 36 48.6 +0.8
GEC2 IAmb IAmb 07 36 56.2
comp=Z,27nm,0.9s
GEC2 GERESS Array S 24.13 161 *eP* **P** 07 36 49.7 +1.9
comp=Z,28nm,1.0s,baz=355,slow=11
GEC2 *eL* L 07 45 39.4
comp=Z,1μm,22.0s
GERES GERESS Array B 24.13 161 P **P** 07 36 49.2 +1.4
comp=Z,13nm,0.8s,baz=10,slow=8.4,SNR=51
GERES LR LR 07 45 50.5
comp=Z,1μm,20.4s,baz=304,slow=36
GERES GERESS Array B 24.13 161 P **P** 07 36 49.6 +1.7
GERES GERESS Array B 24.13 161 P **P** 07 36 49.6 +1.7
KRUC Moravsky 24.21 157 *eP* **P** 07 36 49.9 +1.4
CKRC Cesky Krumlov 24.21 160 *eP* **P** 07 36 50.3 +1.7
CKRC *eS* **S** 07 41 06.8 +0.3
BFO Black Forest 24.23 170 P **P** 07 36 49.8 +1.1
BFO pmax pmax
comp=Z,23nm,0.9s
BFO Black Forest 24.23 170 P **P** 07 36 49.8 +1.1
BFO IAmb IAmb 07 36 52.4
comp=Z,23nm,0.9s
BFO Black Forest 24.23 170 *eP* **P** 07 36 51.2 +2.5
comp=Z,30nm,1.0s,baz=355,slow=11
BFO *eL* L 07 47 27.7
comp=Z,1μm,18.2s
ECH Echery 24.29 172 P **P** 07 36 49.8 +0.5
ECH pmax pmax
comp=Z,58nm,1.4s
ECH Echery 24.29 172 P **P** 07 36 49.8 +0.5
LANS Liptovska Anna 24.53 152 *eP* **P** 07 36 54.0 +2.5
LANS pmax pmax
comp=Z,14nm,0.8s
LANS Liptovska Anna 24.53 152 *eP* **P** 07 36 54.0 +2.5
KWP Kalwaria Pacla 24.57 147 P **P** 07 36 52.9 +1.1
KWP pmax pmax
comp=Z,79nm,1.1s
KWP Kalwaria Pacla 24.57 147 P **P** 07 36 52.9 +1.1
JAVC Velka Javorina 24.57 155 *eP* **P** 07 36 54.1 +2.2
FUR Furstenfeldbru 24.59 165 *eP* **P** 07 36 55.0 +3.0
comp=Z,99nm,0.9s,baz=355,slow=11
FUR *eL* L 07 46 03.7
comp=Z,2μm,21.5s
LVV L'vov 24.62 145 *eP* **P** 07 36 53.5 +1.3
LVV *e* 07 37 01.5
LVV *eS* **S** 07 41 10.1 -2.8
LVV pmax pmax
comp=Z,70nm,1.4s
LVV smax smax
comp=E,200nm,7.0s
LVV smax smax
comp=N,700nm,9.0s
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=E,700nm,15.0s
LVV MLR MLR
comp=Z,2μm,14.0s
RES Resolute Bay 24.78 321 LR LR 07 46 28.4
comp=Z,3μm,19.4s,baz=27,slow=36
AKASG Malin Array Be 24.79 136 P **P** 07 36 53.7 0.0
comp=Z,17nm,0.7s,baz=342,slow=9.6,SNR=35
AKASG PcP **PcP** 07 40 29.0 -0.6
comp=Z,0.7nm,0.3s,baz=314,slow=2.2,SNR=2.7
AKASG LR LR 07 46 18.8
comp=Z,4μm,19.4s,baz=330,slow=36
AKASG Malin Array Be 24.79 136 P **P** 07 36 55.1 +1.4
AKASG pmax pmax
comp=Z,33nm,1.0s
AKASG Malin Array Be 24.79 136 P **P** 07 36 55.1 +1.4
AKBB Malin Array Si 24.79 136 P **P** 07 36 54.1 +0.4
AKBB pmax pmax
comp=Z,43nm,1.1s
AKBB Malin Array Si 24.79 136 P **P** 07 36 54.1 +0.4
SMOL Smolenice 24.88 155 *eP* **P** 07 36 56.8 +2.2
SMOL pmax pmax
comp=Z,15nm,1.2s
SMOL Smolenice 24.88 155 *eP* **P** 07 36 56.8 +2.2
VYHS Vyhne 25.08 153 *eP* **P** 07 36 57.8 +1.4
VYHS Vyhne 25.08 153 *eP* **P** 07 36 57.8 +1.4
ZST Bratislava 25.15 156 *eP* **P** 07 36 59.1 +2.1
ZST pmax pmax
comp=Z,70nm,1.0s
ZST Bratislava 25.15 156 *eP* **P** 07 36 59.1 +2.1
MOA Molln 25.17 161 *eP* **P** 07 36 58.8 +1.6
comp=Z,46nm,1.4s,SNR=11
KOLS Kolonicke sedl 25.17 148 *eP* **P** 07 36 59.2 +2.0
KOLS Kolonicke sedl 25.17 148 *eP* **P** 07 36 59.2 +2.0
RETA Reutte 25.22 166 *eP* **P** 07 36 60.0 +2.2
comp=Z,20nm,1.1s,SNR=5.4
CONA Conrad Observa 25.26 158 *eP* **P** 07 37 00.1 +1.9
comp=Z,51nm,1.0s,SNR=24
KECS Kecovo 25.33 151 *eP* **P** 07 37 00.6 +2.0
KECS Kecovo 25.33 151 *eP* **P** 07 37 00.6 +2.0
LPSR Galich'ya Gora 25.33 121 *eP* **P** 07 36 59.8 +1.2
LPSR pmax pmax
comp=Z,140nm,1.0s
LPSR MLR MLR
comp=Z,4μm,17.0s
DAVA Damuels 25.36 168 *eP* **P** 07 37 01.3 +2.1
comp=Z,58nm,1.0s,SNR=14
MOTA Moosalm 25.39 166 *iP* **P** 07 37 01.2 +1.9
comp=Z,38nm,1.4s
WATA Walderalm 25.43 165 *eP* **P** 07 37 01.9 +2.2
comp=Z,65nm,1.1s,SNR=13
UZH Uzhgorod 25.47 148*c iP* **P** 07 37 01.8 +1.9
UZH *iS* **S** 07 41 25.9 -0.6
UZH MLR MLR
comp=Z,380nm,16.0s
WTTA Wattenberg 25.51 165 *eP* **P** 07 37 02.9 +2.4
comp=Z,73nm,1.0s,SNR=21
FETA Feichten 25.68 166 *iP* **P** 07 37 05.2 +3.2
comp=Z,20nm,1.0s,SNR=9.5
SRO2 Moca 25.74 154 *eP* **P** 07 37 05.3 +3.0
SRO2 Moca 25.74 154 *eP* **P** 07 37 05.3 +3.0

PSZ Piszkesteto 25.80 152 P P 07 37 05.0 +2.0
PSZ pmax pmax
comp=Z,15nm,1.0s
PSZ Piszkesteto 25.80 152 P P 07 37 05.0 +2.0
PSZ IAmb IAmb 07 37 31.9
comp=Z,16nm,1.0s
KBA Koelnbreinsper 25.84 162 *eP* **P 07 37 05.9 +2.4**
comp=Z,20nm,1.1s
DAVOX Davos/Dischmat 25.86 168 P P 07 37 04.7 +0.9
comp=Z,2.8nm,0.7s,baz=350,slow=7.9,SNR=6.3
DAVOX LR LR 07 48 10.0
comp=Z,2µm,19.2s,baz=344,slow=38
ARSA Arzberg 25.89 159 *eP* **P 07 37 06.6 +2.8**
comp=Z,19nm,1.1s
NRIK Noril'sk 26.00 54 P P 07 37 04.9 +0.4
comp=Z,1.1nm,0.4s,baz=314,slow=8.6,SNR=7.9
NRIK LR LR 07 50 08.1
comp=Z,509nm,18.1s,baz=311,slow=43
NRIK Noril'sk 26.00 54⇑ *iP* **P 07 37 05.4 +0.9**
NRIK pmax pmax
comp=Z,29nm,2.4s
NRIK Noril'sk 26.00 54 P P 07 37 04.3 -0.2
ABTA Abfaltersbach 26.10 164 *i* P **P 07 37 08.0 +2.3**
comp=Z,17nm,1.3s
FRB Frobisher Bay 26.13 288 P P 07 37 05.3 -0.5
comp=Z,5.3nm,1.0s,baz=40,slow=9.2,SNR=7.8
TUE Stuetta 26.14 169 P P 07 37 07.8 +1.6
TUE IAmb IAmb 07 37 18.3
comp=Z,18nm,1.0s
SENIN Lac Senin/Sane 26.14 172 P P 07 37 07.4 +1.1
MYKA Terra Mystica 26.32 162 *i* P **P 07 37 10.0 +2.3**
comp=Z,13nm,1.0s
ZOU Zoufplan 26.33 163 P P 07 37 09.7 +1.8
SOKA Soboth 26.41 160 *i* P **P 07 37 10.5 +1.9**
comp=Z,9.3nm,1.0s
PRED Cave del Predi 26.49 162 P P 07 37 10.8 +1.5
CIMO Cimolais 26.52 164 P P 07 37 10.4 +0.9
OBKA Obir 26.52 161 *eP* **P 07 37 11.7 +2.1**
comp=Z,13nm,1.1s
STAL STALIGIAL 26.60 163 P P 07 37 11.3 +1.2
STAL IAmb IAmb 07 37 39.8
comp=Z,19nm,1.2s
VSR Storozhevoye 26.66 122 *eP* **P 07 37 10.5 -0.1**
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=Z,4µm,16.0s
CTI Castel Tesino 26.72 165 P P 07 37 13.1 +1.7
CTI pmax pmax
comp=Z,32nm,1.0s
CTI Castel Tesino 26.72 165 P P 07 37 13.1 +1.7
CTI IAmb IAmb 07 37 18.2
comp=Z,32nm,1.0s
VORD Divnogorie 26.92 122 *eP* **P 07 37 12.6 -0.3**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD MLR MLR
comp=Z,4µm,17.0s
BUR08 Bucovina Ar. S 26.92 144 P P 07 37 14.0 +0.8
BUR08 IAmb IAmb 07 37 27.1
comp=Z,28nm,1.2s
BURAR Bucovina Array 26.95 144 ⇓P **P 07 37 13.6 +0.2**
BURAR Bucovina Array 26.95 144 P P 07 37 14.8 +1.3
SORM Soroca 27.05 139⇑P **P 07 37 14.8 +0.7**
JAVS Javornik 27.09 162 *i* P **P 07 37 16.1 +1.4**
CRES Cresnjev 27.29 159 *eP* **P 07 37 17.9 +1.4**
DRGR 27.32 148 ⇓P **P 07 37 18.2 +1.4**
DRGR 27.32 148 P P 07 37 18.5 +1.7
DRGR pmax pmax
comp=Z,17nm,0.8s
VRH Novokhopyorsk 27.34 119 *eP* **P 07 37 16.3 -0.4**
VRH pmax pmax
comp=Z,20nm,1.2s
VRH MLR MLR
comp=Z,3µm,15.0s
TEOL Teolo 27.41 165 P P 07 37 18.2 +0.7
TEOL IAmb IAmb 07 37 31.1
comp=Z,19nm,0.8s
BNI Bardonecchia 27.43 173 P P 07 37 18.5 +0.8
BNI pmax pmax
comp=Z,26nm,1.4s
BNI Bardonecchia 27.43 173 P P 07 37 18.5 +0.8
BNI IAmb IAmb 07 37 29.9
comp=Z,26nm,1.4s
SIRR Siria 27.67 150 ⇓P **P 07 37 20.4 +0.7**
ARU Arti 27.68 95 P P 07 37 20.3 +0.6
comp=Z,2.6nm,0.2s,baz=335,slow=8.5,SNR=8.1
ARU LR LR 07 48 37.8
comp=Z,933nm,18.3s,baz=323,slow=37
ARU Arti 27.68 95*c iP* **P 07 37 20.8 +1.1**
ARU 07 38 03.1
ARU S **S 07 42 03.6 +2.4**
ARU SS **SnSn 07 43 13.6 +1.2**
ARU pmax pmax
comp=Z,18nm,1.1s
ARU MLR MLR
comp=Z,989nm,20.0s
ARU Arti 27.68 95 P P 07 37 20.5 +0.8
ARU IAmb IAmb 07 37 44.4
comp=Z,24nm,0.9s
BIZ Bicaz 27.76 143⇑P **P 07 37 21.2 +0.6**
BELG Belogornoye 27.90 111 P P 07 37 22.3 +0.5
comp=Z,40nm,0.9s,baz=288,slow=1.0
KIS Kishinev 28.23 139 *eP* P 07 37 33.0 +8.3
KIS M M 07 48 14.0
comp=Z,600nm,16.0s
KIS Kishinev 28.23 139 *eP* P 07 37 33.0 +8.3
KIS MLR MLR
comp=Z,600nm,16.0s
KIS MLR MLR
comp=N,500nm,15.0s
MSSA Maissana 28.30 169 P P 07 37 27.8 +2.4
MSSA IAmb IAmb 07 37 39.6
comp=Z,23nm,0.9s
BZS Buzias 28.30 150⇑P **P 07 37 26.5 +1.2**
FRGS Fruska Gora 28.49 153 ⇓P **P 07 37 28.2 +1.1**
VLC Villacollemand 28.51 168 P P 07 37 28.9 +1.6
VLC IAmb IAmb 07 37 42.9
comp=Z,26nm,1.2s
GZR Gura Zlata 28.70 149⇑P **P 07 37 30.3 +1.3**
LOT Lotru 28.80 147⇑P **P 07 37 30.9 +0.9**
PLOR Plostina 28.91 143⇑P **P 07 37 31.8 +0.9**
VRI Vrincioaia 28.91 143⇑P **P 07 37 31.5 +0.6**
VRI Vrincioaia 28.91 143 P P 07 37 33.2 +2.3
MDVR Moldovita 29.13 151 ⇓P **P 07 37 33.7 +0.9**
MLR Muntele Rosu 29.13 144 P P 07 37 33.8 +0.8
comp=Z,16nm,1.1s,baz=344,slow=7.7,SNR=9.6
MLR LR LR 07 49 34.3
comp=Z,3µm,18.5s,baz=340,slow=37
MLR Muntele Rosu 29.13 144 ⇓P **P 07 37 34.0 +1.0**
MLR Muntele Rosu 29.13 144 P P 07 37 35.3 +2.3
MLR pmax pmax
comp=Z,26nm,1.2s
MLR Muntele Rosu 29.13 144 P P 07 37 35.3 +2.3
MLR IAmb IAmb 07 37 50.2
comp=Z,26nm,1.2s
HERR Herculane 29.14 150 ⇓P **P 07 37 33.7 +0.9**
OSSC Osservatorio P 29.20 166 P P 07 37 34.1 +0.7
NEHR Nehoiu 29.26 144⇑P **P 07 37 35.3 +1.3**
DIVS Divibare 29.55 153 P P 07 37 37.5 +0.9
MURB Monte Urbino 29.56 165 P P 07 37 38.4 +1.7
MURB IAmb IAmb 07 37 46.3
comp=Z,21nm,1.1s
CFR Carcaliu 29.84 141 ⇓P **P 07 37 39.1 0.0**
NRCA Norcia 30.03 164 P P 07 37 42.0 +1.1
NRCA IAmb IAmb 07 38 01.4
comp=Z,23nm,1.3s
TPGR Topolog 30.20 141 ⇓P **P 07 37 43.2 +0.9**
BOVS Bovan 30.25 151 ⇓P **P 07 37 43.1 +0.4**
HARR Harsova 30.27 142 ⇓P **P 07 37 43.2 +0.4**
AQU L'Aquila 30.53 163 P P 07 37 47.3 +2.0
AQU pmax pmax
comp=Z,19nm,1.0s
AQU L'Aquila 30.53 163 P P 07 37 47.2 +2.0
AQU IAmb IAmb 07 38 01.6
comp=Z,20nm,1.0s
TIRR Tirgusor 30.59 141 ⇓P **P 07 37 46.3 +0.6**
TIRR Tirgusor 30.59 141 P P 07 37 45.8 +0.2
TIRR pmax pmax
comp=Z,60nm,1.0s
TIRR Tirgusor 30.59 141 P P 07 37 45.8 +0.2
PGAV Gavieira, Arco 30.85 195 *e*LR LR 07 46 47.4
comp=Z,484nm,20.0s
PBRG Braganca 30.89 193 *eP* **P 07 37 50.3 +1.9**
comp=Z,19nm,1.1s
INTR Introdacqua 30.92 163 P P 07 37 48.9 +0.2
INTR IAmb IAmb 07 38 06.6
comp=Z,11nm,0.9s
PDG Podgorica 31.09 155 ⇓P **P 07 37 50.6 +0.5**
PDG Podgorica 31.09 155 P P 07 37 50.9 +0.8
PDG IAmb IAmb 07 37 58.8
comp=Z,11nm,0.9s
SGRT San Giovanni R 31.35 160 P P 07 37 52.9 +0.4
SGRT IAmb IAmb 07 37 59.2
comp=Z,16nm,1.1s
POLO Lamas de Olo 31.40 194 *eP* **P 07 37 54.1 +1.1**
comp=Z,16nm,1.9s
VTS Vitosha 31.48 149 P P 07 37 54.5 +0.8
VTS pmax pmax
comp=Z,7.0nm,1.0s
VTS Vitosha 31.48 149 P P 07 37 54.5 +0.8
PVRL Vila Real 31.49 194 *eP* **P 07 37 55.2 +1.5**
comp=Z,28nm,1.4s
MVO Moncorvo 31.55 193 *eP* **P 07 37 56.1 +1.8**
comp=Z,32nm,1.1s
PAOL Paolisi 31.95 162 P P 07 37 58.5 +0.7
PAOL IAmb IAmb 07 38 06.0
comp=Z,13nm,1.0s
PVIS Viseu 32.06 194 *eP* **P 07 38 00.3 +1.6**
comp=Z,38nm,1.3s
ANN Anapa 32.19 129 *eP* **P 07 38 00.0 +0.2**
ANN *e**PP **sP 07 38 03.1 -0.2**
ANN *e* 07 39 04.2
ANN *eS* **S 07 43 14.7 +2.5**
ANN pmax pmax
comp=Z,56nm,1.1s
ANN MLR MLR
comp=E,442nm,14.0s
ANN MLR MLR
comp=Z,3µm,13.0s
ANN MLR MLR
comp=N,493nm,16.0s
TIXI Tiksi 32.31 28*c iP* **P 07 38 02.3 +1.8**
TIXI Tiksi 32.31 28 P P 07 38 00.9 +0.4
TIXI IAmb IAmb 07 38 18.1
comp=Z,12nm,1.2s
MTE Manteigas 32.35 194 *eP* **P 07 38 02.7 +1.4**
comp=Z,39nm,1.2s
MTE *e*LR LR 07 46 52.7
comp=Z,241nm,18.0s
MTE Manteigas 32.35 194 P P 07 38 01.3 0.0
MATE Matera 32.55 159 ⇓P **P 07 38 03.0 +0.1**
PCAS Casmilo, Conde 32.77 195 *eP* **P 07 38 06.9 +2.0**
comp=Z,46nm,1.9s
SCHQ Schefferville 32.85 275 P P 07 38 05.5 -0.1
comp=Z,3.2nm,0.9s,baz=30,slow=9.3,SNR=3.4
SCHQ PcP **PcP 07 40 50.7 +0.9**
comp=Z,2.8nm,0.8s,baz=57,slow=8.3,SNR=4.8
SCHQ LR LR 07 50 08.5
comp=Z,959nm,20.3s,baz=45,slow=34
SCHQ Schefferville 32.85 275 P P 07 38 04.8 -0.7
SCHQ IAmb IAmb 07 38 07.5
comp=Z,13nm,1.4s
ESBB Sonseca Array 32.85 189 P P 07 38 06.7 +1.0
ESBB IAmb IAmb 07 38 18.1
comp=Z,17nm,1.4s
ESDC Sonseca Array 32.86 189 P P 07 38 06.3 +0.6
comp=Z,4.6nm,0.8s,baz=0.9,slow=8.9,SNR=24
ESDC PcP **PcP 07 40 51.0 +0.9**
comp=Z,1.1nm,0.8s,baz=342,slow=4.7,SNR=4.0
ESDC LR LR 07 50 53.9
comp=Z,259nm,19.1s,baz=350,slow=35
ESDC Sonseca Array 32.86 189 P P 07 38 06.8 +1.1
ESDC IAmb IAmb 07 38 18.1
comp=Z,14nm,1.5s
PCBR Castelo Branco 32.90 194 *eP* **P 07 38 07.2 +1.2**
comp=Z,28nm,1.6s
FNA Florina 33.00 153 P P 07 38 07.4 +0.5
FNA pmax pmax
comp=Z,35nm,0.9s
FNA Florina 33.00 153 P P 07 38 07.4 +0.5
PAB San Pablo 33.00 189 P P 07 38 07.7 +0.7
PAB pmax pmax
comp=Z,16nm,1.0s
PAB San Pablo 33.00 189 P P 07 38 07.7 +0.7
PAB IAmb IAmb 07 38 15.2
comp=Z,16nm,1.0s
VSL Villasalto 33.09 170 P P 07 38 08.0 +0.3
VSL IAmb IAmb 07 38 15.3
comp=Z,8.9nm,0.9s
PMRV Marv??o 33.30 194 *eP* **P 07 38 10.8 +1.2**
comp=Z,43nm,1.2s
GOF Gofitskoye 33.34 122⇑ *eP* **P 07 38 11.7 +1.9**
GOF pmax pmax
comp=Z,107nm,1.0s
PMTG Montargil 33.72 195 *eP* **P 07 38 14.2 +1.0**
comp=Z,36nm,2.1s
PESTR Estremoz 33.88 194 *eP* **P 07 38 15.9 +1.4**
comp=Z,36nm,1.2s
SOC Sochi 33.89 127 *eP* **P 07 38 10.5 -4.1**
SOC *e*PPP PPP 07 39 43.6
SOC *eS* **S 07 43 34.3 -4.3**
SOC *eSSS* SSS 07 46 09.3
SOC pmax pmax
comp=Z,6.0nm,0.5s
SOC MLR MLR
comp=Z,1µm,18.0s
TIP Timpagrande 34.01 159 P P 07 38 16.8 +1.1
BRVK Borovoye 34.13 87⇑ *iP* **P 07 38 16.8 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,2.0s
BRVK Borovoye 34.13 87 P P 07 38 18.1 +1.5
KIV Kislovodsk 34.28 124 *eP* **P 07 38 19.8 +1.7**
KIV *eS* **S 07 43 48.1 +3.3**
KIV pmax pmax
comp=Z,33nm,1.0s
KIV MLR MLR
comp=Z,4µm,16.0s
C36M Paulatuk 34.30 329 P 07 38 17.7
baz=26
ABKAR Akbulak array 34.31 100 P P 07 38 18.6 +0.4
ABKAR PcP **PcP 07 40 54.7 +0.8**
ABKAR Akbulak array 34.31 100 P P 07 38 18.6 +0.4
ABKAR IAmb IAmb 07 38 21.5
comp=Z,11nm,1.1s
SHA1 Shidzhatmaz 34.47 124*c iP* **P 07 38 22.2 +2.2**
PBAR Barrancos 34.52 193 *eP* **P 07 38 21.7 +1.5**
comp=Z,26nm,1.9s
ILGA Ilgaz 34.93 136 P P 07 38 25.6 +1.7
NEY Neytrino 34.95 124⇑ *eP* **P 07 38 26.9 +2.9**
NEY pmax pmax
comp=Z,3.0nm,0.8s
MDUB Mudurnu 34.97 140 P P 07 38 25.8 +1.6
PVAQ Vaqueiros 35.34 194 *e*LR LR 07 48 52.8
comp=Z,456nm,20.0s
ZEI Tsey 35.68 123 *eP* **P 07 38 31.3 +1.0**
ZEI pmax pmax
comp=Z,11nm,1.1s
GROC Groznyy 35.79 120 *eP* **P 07 38 30.4 -0.6**
GROC *e* 07 40 59.0
GROC pmax pmax
comp=Z,109nm,1.0s
GROC MLR MLR
comp=Z,623nm,14.0s
A21K Barrow 35.95 349 P 07 38 32.6
baz=11
BR131 Keskin Array S 36.19 137 P P 07 38 36.2 +1.6
BR131 pmax pmax
comp=Z,23nm,1.0s
BR131 Keskin Array S 36.19 137 P P 07 38 36.2 +1.6
BRTR Keskin Array B 36.19 137 P P 07 38 36.7 +2.1
comp=Z,15nm,0.9s,baz=337,slow=5.9,SNR=43
BRTR LR LR 07 54 08.1
comp=Z,1µm,21.6s,baz=2.0,slow=37
BRTR Keskin Array B 36.19 137 *i* P **P 07 38 37.0 +2.4**
BRTR pmax pmax
comp=Z,15nm,0.9s
MANT Manisa 36.39 144 P P 07 38 38.6 +2.1
MAK Makhachkala 36.47 118 *eP* **P 07 38 34.4 -2.4**
MAK *e* 07 39 57.2
MAK *eS* **S 07 44 16.2 -2.0**
MAK *eSS* **SnSn 07 46 44.9 -1.3**
MAK pmax pmax
comp=Z,23nm,0.3s
MAK MLR MLR
comp=Z,1µm,18.0s
ITM Ithomi 36.61 153 P P 07 38 39.5 +1.4
ITM IAmb IAmb 07 38 46.1
comp=Z,21nm,1.0s
INK Inuvik 36.62 334 P P 07 38 38.4 +0.6
comp=Z,5.5nm,1.1s,baz=13,slow=12,SNR=7.1
INK Inuvik 36.62 334 P P 07 38 36.9 -0.9
INK pmax pmax
comp=Z,14nm,1.3s
INK Inuvik 36.62 334 P P 07 38 36.9 -0.9
INK Inuvik 36.62 334 P 07 38 37.3
baz=21
KEST Kesra 36.84 170 P P 07 38 42.1 +2.0
comp=Z,2.9nm,0.8s,baz=244,slow=9.0,SNR=4.9
KEST Kesra 36.84 170 P P 07 38 41.6 +1.4
BRZS Berezniki 37.54 87 *eP* **P 07 38 45.8 -0.2**
baz=87
BRZS Berezniki 37.54 87 *eP* **P 07 38 45.7 -0.2**
ZALV Zalesovo Beam 37.72 73 P P 07 38 47.5 +0.2
comp=Z,4.7nm,0.8s,baz=327,slow=11,SNR=9.2
ZALV LR LR 07 59 36.5
comp=Z,208nm,18.6s,baz=326,slow=45
ZALV Zalesovo Beam 37.72 73 *i* P **P 07 38 49.7 +2.4**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
TOLK Toolik Lake Re 38.06 344 P P 07 38 50.0 -0.2
TOLK Toolik Lake Re 38.06 344 P 07 38 48.3
baz=14
ELL Elmali 38.33 143 P P 07 38 55.1 +2.3
ELL pmax pmax
comp=Z,88nm,1.0s
ELL Elmali 38.33 143 P P 07 38 55.0 +2.3
GNI Garni 38.38 123*c iP* **P 07 38 55.7 +2.5**
GNI pmax pmax
comp=Z,11nm,0.6s
BMAR Burnt Mountain 38.77 340 P P 07 38 55.9 -0.2
AKAS Kas 38.78 143 P P 07 38 56.6 +0.1
AKAS IAmb IAmb 07 38 59.0
comp=Z,25nm,1.1s
YKA Yellowknife Ar 38.79 319 P P 07 38 55.2 -1.0
comp=Z,5.0nm,1.1s,baz=26,slow=9.0,SNR=16
YKA PcP **PcP 07 41 06.9 -0.3**
comp=Z,2.2nm,0.8s,baz=26,slow=2.6,SNR=12
YKA LR LR 07 54 17.5
comp=Z,2µm,21.5s,baz=0.0,slow=35
YKA Yellowknife Ar 38.79 319 *i* P **P 07 38 55.5 -0.7**
YKA pmax pmax
comp=Z,5.0nm,1.1s
GAZ Gaziantep 39.41 134 P P 07 39 04.2 +2.5
GAZ IAmb IAmb 07 39 23.9
comp=Z,37nm,1.1s
CHGQ Chibougamau 39.42 278 P 07 39 01.5
baz=28
SEM Semipalatinsk 39.47 80 *eP* **P 07 39 01.9 -0.4**
baz=80
SEM Semipalatinsk 39.47 80 *eP* **P 07 39 01.9 -0.4**
COLD Coldfoot 39.50 343 P P 07 39 02.5 +0.4
COLD Coldfoot 39.50 343 P 07 39 02.4
baz=13
BILL Bilibino 39.50 9*c iP* **P 07 39 02.8 +0.7**
BILL pmax pmax
comp=Z,26nm,1.5s
BILL Bilibino 39.50 9 P P 07 39 02.5 +0.4
BILL IAmb IAmb 07 39 04.8
comp=Z,33nm,1.5s
RDOG Red Dog Mine 39.53 351 P 07 39 02.3
baz=7.2
FYU Fort Yukon 39.67 340 P P 07 39 03.7 +0.2
FYU IAmb IAmb 07 39 09.3
comp=Z,43nm,1.5s
GEVA Gevas 39.69 126 P P 07 39 06.3 +2.1
D63A Stockholm 40.07 270 P 07 39 07.3
baz=26
MATQ Matagami 40.54 281 P 07 39 11.6
baz=27
H24K Noodor Dome 40.65 342 P 07 39 11.8
baz=14
CSS Mathiatis 40.72 139 P P 07 39 14.1 +1.5
H23K Yukon River 40.82 343 P 07 39 12.4
baz=13,SNR=9.7
EGAK Eagle 40.95 337 P P 07 39 14.1 -0.1
EGAK Eagle 40.95 337 P 07 39 13.7
baz=16
LSQQ Lebel-sur-Quev 40.97 280 P 07 39 14.8
baz=27
IMAR Indian Mountai 41.02 345 P P 07 39 15.1 +0.4
D60A Saint Jean D'O 41.04 273 P 07 39 15.0
baz=26
F64A Sherman 41.20 270 P 07 39 16.7
baz=26
DAWY Dawson 41.42 336 P P 07 39 17.4 -0.6
I23K Minto, Yukon-K 41.46 342 P P 07 39 18.9 +0.6
I23K Minto, Yukon-K 41.46 342 P 07 39 18.4
baz=13
MDM Murphy Dome 41.54 341 P P 07 39 20.0 +1.0
COLA College 41.59 341*c iP* **P 07 39 19.7 +0.4**
COLA pmax pmax
comp=Z,14nm,1.6s
IL31 41.59 341 P P 07 39 20.4 +1.1
ILAR Eielson Array 41.59 341 P P 07 39 19.3 -0.1
comp=Z,4.3nm,1.1s,baz=8.5,slow=6.1,SNR=24
ILAR PcP **PcP 07 41 15.4 -0.7**
comp=Z,0.9nm,0.9s,baz=334,slow=4.1,SNR=4.6
ILAR LR LR 07 59 05.3
comp=Z,337nm,20.0s,baz=37,slow=40
ILAR Eielson Array 41.59 341 P P 07 39 19.6 +0.1
MLY Manley 41.70 343 P 07 39 20.3
baz=12
K27K Chicken 41.78 337 P P 07 39 21.1 +0.1
K27K IAmb IAmb 07 39 34.4
comp=Z,25nm,1.2s
K27K Chicken 41.78 337 P 07 39 20.1
baz=16
CCB Clear Creek Bu 41.80 341 P P 07 39 21.1 0.0
HDA Harding Lake 41.95 340 P P 07 39 23.1 +0.8
HDA Harding Lake 41.95 340 P 07 39 23.0
baz=14,SNR=5.4
HDA P 07 39 23.0
baz=14,SNR=5.4
VLDQ Val d'Or 41.95 280 P P 07 39 23.1 +0.6
NEA2 Nenana 41.98 342 P P 07 39 23.4 +0.8
NEA2 Nenana 41.98 342 P 07 39 22.5
baz=13
WRH Wood River Hil 42.00 341 P P 07 39 22.9 +0.2
PKME Peaks-Kenny Pk 42.02 270 P 07 39 21.9
baz=26
SCRK Sand Creek 42.05 338 P P 07 39 23.6 +0.2
SCRK Sand Creek 42.05 338 P 07 39 23.8
baz=15,SNR=5.7
D56A ZEC Mazanza, M 42.09 276 P 07 39 22.9
baz=26
E58A La Victoria 42.24 275 P 07 39 25.1
baz=26
D55A Sainte-Anne-du 42.33 277 P 07 39 25.7
baz=26
DOT Dot Lake 42.38 338 P P 07 39 26.7 +0.8
DOT IAmb IAmb 07 39 40.0
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 42.64 343 P P 07 39 27.5 -0.5
BPAW Bear Paw Mtn. 42.64 343 P 07 39 28.7
baz=12,SNR=6.1
BCAR Beaver Creek A 42.68 337 P P 07 39 28.2 -0.1
L27K Beaver Creek, 42.69 337 P P 07 39 29.2 +0.7
L27K IAmb IAmb 07 39 42.1
comp=Z,17nm,1.1s
L27K Beaver Creek, 42.69 337 P 07 39 28.8
baz=15
TRQ Mont Tremblant 42.77 276 P P 07 39 30.1 +0.8
MCK McKinley 42.81 342 P P 07 39 29.5 +0.1
MCK pmax pmax
comp=Z,15nm,1.3s
MCK McKinley 42.81 342 P P 07 39 29.5 +0.1
FFC Flin Flon 42.92 304 P P 07 39 29.5 -0.8
FFC pmax pmax
comp=Z,26nm,1.2s
FFC Flin Flon 42.92 304 P P 07 39 29.5 -0.8
FFC IAmb IAmb 07 39 32.1
comp=Z,26nm,1.2s
MMAI Mount Meron Ar 43.02 138 P P 07 39 32.0 +0.5
comp=Z,1.2nm,0.3s,baz=322,slow=9.1,SNR=7.3
KK31 Karatay Array 43.05 94 P P 07 39 32.9 +1.3
KK31 pmax pmax
comp=Z,21nm,1.5s
KK31 Karatay Array 43.05 94 P P 07 39 32.9 +1.3
KK31 IAmb IAmb 07 39 45.7
comp=Z,21nm,1.4s
KKAR Karatay Array 43.05 94 P P 07 39 32.9 +1.3
KKAR pmax pmax
comp=Z,21nm,1.5s
KKAR Karatay Array 43.05 94 P P 07 39 32.2 +0.6
KKAR IAmb IAmb 07 39 45.8

KKAR **Karatay Array** 43.05 94 P P 07 39 32.9 +1.3
MAKZ **Makanchi** 43.20 81 P P 07 39 33.4 +0.7
MAKZ pmax pmax
comp=Z,12nm,1.3s
MAKZ **Makanchi** 43.20 81 P P 07 39 33.4 +0.7
MK31 **Makanchi Array** 43.30 81 P P 07 39 33.6 0.0
MK31 pmax pmax
comp=Z,10.0nm,1.3s
MK31 **Makanchi Array** 43.30 81 P P 07 39 33.6 0.0
MKAR **Makanchi Array** 43.30 81 P P 07 39 33.8 +0.1
comp=Z,2.8nm,0.7s,baz=341,slow=6.4,SNR=20
MKAR PcP PcP 07 41 21.6 -0.6
comp=Z,1.7nm,0.8s,baz=340,slow=4.9,SNR=5.0
MKAR LR LR 08 01 41.3
comp=Z,334nm,18.3s,baz=328,slow=42
MKAR **Makanchi Array** 43.30 81 *i* P P 07 39 34.0 +0.4
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR **Makanchi Array** 43.30 81 P P 07 39 34.5 +0.9
ZSN **Zaisan** 43.49 78 *e*P P 07 39 34.5 -0.6
baz=78
ZSN **Zaisan** 43.49 78 *e*P P 07 39 34.5 -0.6
WAT2 **Susitna Watana** 43.53 341 P 07 39 34.1
baz=13
HARP **HAARP** 43.72 339 P 07 39 36.8
baz=14
IUG **luzhnay** 43.77 95 *e*P P 07 39 37.5 -0.1
baz=95
IUG **luzhnay** 43.77 95 *e*P P 07 39 37.4 -0.1
WAT6 **Susitna Watana** 43.82 340 P 07 39 37.8
baz=13,SNR=6.7
G57A **Newington** 43.91 275 P 07 39 38.5
baz=25
H59A **Cadyville** 43.93 274 P 07 39 39.0
baz=25
SGDS **Sogindy** 43.99 90 *e*P P 07 39 36.1 -3.2
baz=90
SGDS **Sogindy** 43.99 90 *e*P P 07 39 36.0 -3.2
ALGO **Algonquin Park** 44.07 279 P 07 39 39.8
baz=26
GEYT **Alibeck** 44.11 110 P P 07 39 41.5 +1.4
comp=Z,16nm,0.7s,baz=259,slow=12,SNR=9.3
GEYT LR LR 08 00 06.5
comp=Z,971nm,18.1s,baz=25,slow=39
GYA0B **ALIBECK ARRAY** 44.11 110 P P 07 39 41.6 +1.4
GYA0B IAmb IAmb 07 39 54.3
comp=Z,9.9nm,0.8s
KUU **Kurty** 44.11 88 *e*P P 07 39 40.0 -0.2
comp=Z,46nm,2.9s,baz=86
KUU **Kurty** 44.11 88 *e*P P 07 39 39.9 -0.2
KUU pmax pmax
comp=Z,46nm,2.9s
I61A **Oroboro, Fairl** 44.12 272 P 07 39 39.2
baz=25
TTA **Tatalina** 44.21 346 P P 07 39 40.0 -0.7
TTA pmax pmax
comp=Z,10.0nm,1.4s
TTA **Tatalina** 44.21 346 P P 07 39 40.0 -0.7
TTA **Tatalina** 44.21 346 P 07 39 40.7
baz=9.4
CHKK **Chushkaly** 44.35 87 *e*P P 07 39 40.4 -1.7
baz=88
CHKK **Chushkaly** 44.35 87 *e*P P 07 39 40.3 -1.7
N25K **Chitina, Valde** 44.43 338 P P 07 39 43.4 +0.9
N25K IAmb IAmb 07 39 55.7
comp=Z,16nm,1.3s
GLB **Gilahina Butte** 44.50 337 P P 07 39 42.2 -0.8
SCM **Sheep Creek Mo** 44.51 340 P P 07 39 42.1 -1.0
SCM pmax pmax
comp=Z,22nm,1.0s
SCM **Sheep Creek Mo** 44.51 340 P P 07 39 42.1 -1.0
SCM IAmb IAmb 07 40 02.4
comp=Z,22nm,1.0s
G54A **Lake Saint Pet** 44.58 278 P 07 39 44.5
baz=25
SML **Sawmill** 44.63 341 P P 07 39 44.0 -0.1
SML IAmb IAmb 07 39 56.1
comp=Z,18nm,1.0s
SML **Sawmill** 44.64 341 P 07 39 44.1
baz=12
GHO **Glory Hole Cre** 44.73 341 P P 07 39 44.8 -0.1
GHO IAmb IAmb 07 39 46.5
comp=Z,22nm,1.2s
SKT **Skwentna** 44.77 343 P P 07 39 44.7 -0.5
SKT IAmb IAmb 07 39 46.1
comp=Z,25nm,1.4s
SKT **Skwentna** 44.77 343 P 07 39 45.0
baz=11
MTBS **Maitube** 44.83 88 *e*P P 07 39 46.1 +0.1
baz=88
MTBS **Maitube** 44.83 88 *e*P P 07 39 46.0 +0.1
MDOK **Medeo** 44.99 88 *e*P P 07 39 46.2 -1.1
baz=88
MDOK **Medeo** 44.99 88 *e*P P 07 39 46.2 -1.1
TLY **Talaya** 45.00 60 *e*P P 07 39 47.6 +0.5
TLY *e*S S 07 46 27.4 +2.3
TLY *e*SSS SSS 07 50 40.0
TLY pmax pmax
comp=Z,17nm,1.4s
KNK **Knik Glacier** 45.04 341 P 07 39 45.9
baz=12
BMRM **Bremner River** 45.05 338 P P 07 39 47.9 +0.5
BMRM IAmb IAmb 07 39 56.1
comp=Z,24nm,1.4s
BMRM **Bremner River** 45.05 338 P 07 39 46.3
baz=14
CRQM **Cirque** 45.08 337 P P 07 39 47.8 -0.1
CRQM IAmb IAmb 07 40 00.7
comp=Z,18nm,1.1s
I57A **Carthage** 45.17 275 P 07 39 48.3
baz=25
KPKS **Kokpek** 45.22 86 *e*P P 07 39 48.7 -0.4
baz=86
KPKS **Kokpek** 45.22 86 *e*P P 07 39 48.6 -0.4
J59A **Piesco** 45.24 274 P 07 39 49.0
baz=25
ULM **Lac du Bonnet** 45.36 297 P P 07 39 50.5 +0.5
comp=Z,2.0nm,0.5s,baz=31,slow=6.2,SNR=5.6
ULM LR LR 07 58 32.6
comp=Z,1μm,18.7s,baz=32,slow=36
ULM **Lac du Bonnet** 45.36 297 P P 07 39 49.9 0.0
ULM pmax pmax
comp=Z,7.0nm,1.1s
ULM **Lac du Bonnet** 45.36 297 P P 07 39 49.9 0.0
GLI **Glacier Island** 45.42 339 P 07 39 51.2
baz=13
SADO **Sadowa** 45.47 279 LR LR 07 57 17.5
comp=Z,510nm,21.9s,baz=38,slow=34
H53A **Bobcaygeon** 45.48 278 P 07 39 51.6
baz=25
SATY **Saty** 45.50 87 *e*P P 07 39 50.5 -0.9
baz=87
SATY **Saty** 45.50 87 *e*P P 07 39 50.4 -0.9
E46A **Sault Ste Mari** 45.57 285 P P 07 39 52.0 +0.3
E46A IAmb IAmb 07 40 18.3
comp=Z,14nm,1.2s
UZB **Uzynbulak** 45.61 86 *e*P P 07 39 52.4 +0.1
comp=Z,22nm,2.2s,baz=86
UZB **Uzynbulak** 45.61 86 *e*P P 07 39 52.3 +0.1
UZB pmax pmax
comp=Z,22nm,2.2s
SHLS **Shalkode** 45.73 86 *e*P P 07 39 54.2 +1.1
comp=Z,44nm,2.2s,baz=85
SHLS **Shalkode** 45.73 86 *e*P P 07 39 54.2 +1.1
SHLS pmax pmax
comp=Z,44nm,2.2s
BTK **Batken** 45.92 96 P P 07 39 55.8 +1.1
BTK pmax pmax
comp=Z,30nm,1.5s
BTK **Batken** 45.92 96 P P 07 39 55.8 +1.1
K59A **Cooperstown** 45.98 274 P 07 39 55.9
baz=24
E43A **Lone Tree Farm** 46.35 287 P P 07 39 57.5 -0.3
CHGR **Chuyangaron** 46.71 98 P P 07 40 02.4 +1.5
GAR **Garm** 46.74 97 P P 07 40 02.3 +1.1
BINY **Binghamton** 46.85 275 P P 07 40 02.0 +0.2
AGMN **Agassiz Nation** 47.13 296 P P 07 40 04.0 +0.1
SIT **Sitka** 47.59 330 P 07 40 04.9
baz=16
WMQ **Urumqi** 47.62 78 *e*P P 07 40 11.8 +4.0
WMQ pP pwP 07 40 16.3 +3.0
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ L L
comp=Z,710nm,19.3s
WMQ L L
comp=Z,630nm,14.9s
WMQ L L
comp=Z,900nm,19.9s
N59A **State Game Lan** 47.95 274 P 07 40 11.1
baz=24
G40A **Rib Lake** 48.29 289 P P 07 40 12.7 -0.3
G40A IAmb IAmb 07 40 14.8
comp=Z,18nm,1.4s
MDND **Maddock** 48.56 298 P P 07 40 15.0 0.0
F36A **Milaca** 48.70 292 P P 07 40 15.7 -0.4
F36A IAmb IAmb 07 40 17.3
comp=Z,18nm,1.5s
KDAK **Kodiak Island** 49.01 342 P 07 40 18.1
baz=10.0
SPMN **Marine on St.** 49.08 291 P 07 40 18.9
baz=24
I42A **Draeger Farm,** 49.17 287 P P 07 40 20.1 +0.3
N54A **Moraine State** 49.19 278 P 07 40 19.8
baz=23
SONM **Songino Array** 49.24 60 P P 07 40 20.6 +0.2
comp=Z,0.6nm,0.6s,baz=318,slow=8.7,SNR=6.2
SONM PcP PcP 07 41 43.4 +0.3
comp=Z,0.7nm,0.5s,baz=309,slow=4.5,SNR=4.1
SONM LR LR 08 06 43.5
comp=Z,175nm,18.0s,baz=354,slow=43
SONM **Songino Array** 49.24 60 P P 07 40 20.8 +0.4
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM **Songino Array** 49.24 60 P P 07 40 20.8 +0.4
ULN **Ulaanbaatar** 49.39 59⇑ *i*P P 07 40 22.9 +1.4
ULN pmax pmax
comp=Z,17nm,1.9s
F33A **5 Mile Ranch,** 49.50 295 P P 07 40 21.9 -0.3
OHAK **Old Harbor** 49.63 343 P 07 40 22.3
baz=9.6
I40A **Norwalk** 49.67 289 P P 07 40 23.7 +0.1
I40A IAmb IAmb 07 40 26.0
comp=Z,20nm,1.4s
O53A **New Philadelph** 50.22 278 P P 07 40 28.6 +0.9
O53A **New Philadelph** 50.22 278 P 07 40 28.4
baz=23
I37A **Lemond, Waseca** 50.36 291 P P 07 40 28.9 +0.1
I37A IAmb IAmb 07 40 45.1
comp=Z,21nm,1.2s
JFWS **Jewell Farm** 50.46 288 P 07 40 28.9
baz=23
EGMT **Eagleton** 51.01 307 P P 07 40 33.8 +0.1
EGMT **Eagleton** 51.01 307 P 07 40 33.5
baz=21,SNR=5.0
BBB **Bella Bella** 51.05 323 LR LR 08 02 43.2
comp=Z,1μm,19.0s,baz=19,slow=37
P52A **Corning** 51.06 279 P P 07 40 34.1 0.0
P52A IAmb IAmb 07 40 36.2
comp=Z,25nm,1.4s
P52A **Corning** 51.06 279 P 07 40 33.4
baz=23
Q54A **Coxs Mills** 51.27 277 P P 07 40 36.3 +0.7
Q54A IAmb IAmb 07 40 44.9
comp=Z,14nm,1.1s
ECSD **EROS Data Cent** 51.52 294 P P 07 40 37.4 -0.2
ECSD **EROS Data Cent** 51.52 294 P 07 40 37.2
baz=23,SNR=6.4
L40A **Anamosa** 51.52 288 P P 07 40 36.6 -0.9
P49A **Miami Univ. Ec** 51.93 281 P 07 40 39.9
baz=23
HDIL **Hopedale** 52.35 286 P 07 40 43.4
baz=23
JTMT **Jette** 52.35 310 P P 07 40 43.2 -0.6
JTMT IAmb IAmb 07 40 44.9
comp=Z,14nm,1.3s
NEW **Newport** 52.52 313 LR LR 08 03 00.9
comp=Z,835nm,18.6s,baz=5.5,slow=36
NEW **Newport** 52.52 313 P P 07 40 44.9 0.0
NEW pmax pmax
comp=Z,9.0nm,1.3s
NEW **Newport** 52.52 313 P P 07 40 44.9 0.0
NEW **Newport** 52.52 313 P 07 40 44.8
baz=20
BLA **Blacksburg** 52.77 276 P 07 40 47.1
baz=22
B08A **Colville Reser** 52.91 315 P P 07 40 47.9 +0.1
R50A **Paris** 52.97 280 P P 07 40 48.3 0.0
R50A IAmb IAmb 07 40 50.4
comp=Z,14nm,1.3s
GCMT **Greycliff** 53.07 306 P P 07 40 49.7 +0.6
MSO **Missoula** 53.13 310 P P 07 40 49.6 0.0
MSO IAmb IAmb 07 40 50.8
comp=Z,18nm,1.4s
MSO **Missoula** 53.13 310 P 07 40 49.6
baz=20,SNR=8.8
RSSD **Black Hills** 53.18 300 P P 07 40 50.2 +0.1
RSSD pmax pmax
comp=Z,14nm,1.5s
RSSD **Black Hills** 53.18 300 P P 07 40 50.2 +0.1
RSSD IAmb IAmb 07 40 51.4
comp=Z,14nm,1.5s
RSSD **Black Hills** 53.19 300 P 07 40 49.4
baz=21
P43A **Skaggs, Pawnee** 53.26 286 P P 07 40 49.9 -0.5
P43A IAmb IAmb 07 40 51.4
comp=Z,14nm,1.0s
RLMT **Red Lodge** 53.60 305 P 07 40 52.6
baz=21
V58A **Windy Hill, Pi** 53.69 274 P P 07 40 53.8 +0.2
V58A IAmb IAmb 07 40 55.1
comp=Z,20nm,1.3s
PETK **Petropavlovsk-** 53.71 18 LR LR 08 03 30.9
comp=Z,147nm,18.0s,baz=353,slow=36
KLR **Kul'dur** 53.76 39 LR LR 08 05 45.5
comp=Z,328nm,18.1s,baz=336,slow=38
YNE **Yellowstone No** 53.89 306 P P 07 40 55.6 +0.3
YNE IAmb IAmb 07 40 56.8
comp=Z,18nm,1.4s
YMP **Mirror Lake Pl** 54.18 306 P P 07 40 57.7 +0.2
DLMT **Dillon** 54.19 308 P P 07 40 57.9 +0.6
T50A **Nancy** 54.29 280 P P 07 40 58.0 0.0
T50A IAmb IAmb 07 40 58.4
comp=Z,9.2nm,1.3s
YHH **Holmes Hill** 54.30 306 P P 07 40 58.8 +0.4
YHH IAmb IAmb 07 40 60.0
comp=Z,9.0nm,1.3s
YHL **Hebgen Lake** 54.33 306 P P 07 40 58.9 +0.4
TZTN **Tazewell** 54.34 279 P 07 40 58.3
baz=22
RAYN **Ar Rayn** 54.42 129 P P 07 41 00.3 +1.2
RAYN pmax pmax
comp=Z,9.0nm,0.9s
RAYN **Ar Rayn** 54.42 129 P P 07 41 00.3 +1.2
RAYN IAmb IAmb 07 41 07.8
comp=Z,9.4nm,0.9s
D03D **Eldon** 54.50 317 P 07 40 58.5
baz=18
H17A **Grant Village** 54.60 306 P P 07 41 00.9 +0.4
H17A IAmb IAmb 07 41 03.4
comp=Z,14nm,1.2s
H17A **Grant Village** 54.61 306 P 07 41 01.2
baz=20,SNR=8.2
MCMT **McKenzie Canyo** 54.75 308 P P 07 41 01.1 -0.5
D04E **Lakebay** 54.77 317 P 07 41 01.6
baz=18
YPP **Pitchstone Pla** 54.78 306 P P 07 41 02.6 +0.8
YPP IAmb IAmb 07 41 04.8
comp=Z,17nm,1.4s
HAWA **Hanford** 54.82 314 P P 07 41 02.5 +0.7
V53A **Saluda** 54.92 278 P P 07 41 03.0 +0.3
FLWY **Flagg Ranch** 54.93 306 P P 07 41 02.7 -0.1
FLWY IAmb IAmb 07 41 06.3
comp=Z,17nm,1.4s
KMSC **Kings Mountain** 54.97 276 P 07 41 02.9
baz=22
LON **Longmire** 54.98 316 P P 07 41 02.7 -0.2
LON pmax pmax
comp=Z,13nm,1.4s
LON **Longmire** 54.98 316 P P 07 41 02.7 -0.2
LON IAmb IAmb 07 41 04.3
comp=Z,13nm,1.4s
K22A **Casper** 55.21 302 P P 07 41 04.0 -0.8
K22A IAmb IAmb 07 41 21.2
comp=Z,8.0nm,1.1s
K22A **Casper** 55.21 302 P 07 41 03.9
baz=21
GTA **Gaotai** 55.22 69 ⇑P P 07 41 06.3 +1.4
GTA pP pwP 07 41 11.6 +1.1
GTA sP sP 07 41 15.0 +6.4
GTA sS sS 07 48 56.9 +4.9
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,6.5s
GTA L L
comp=Z,150nm,19.6s
GTA L L
comp=Z,210nm,19.6s
GTA L L
comp=Z,230nm,19.3s
MOOW **Moose Ponds** 55.25 306 P P 07 41 05.2 0.0
MOOW IAmb IAmb 07 41 07.1
comp=Z,9.3nm,1.3s
R40A **Maddies Statio** 55.31 287 P P 07 41 05.0 -0.4
E04D **Cinebar** 55.32 316 P 07 41 05.9
baz=18
LOHW **Long Hollow** 55.35 305 P P 07 41 06.3 +0.5
BCYI **Bear Canyon** 55.38 308 P P 07 41 06.1 0.0
SNOW **Snow King Moun** 55.52 306 P P 07 41 08.0 +0.8
SNOW IAmb IAmb 07 41 09.3
comp=Z,16nm,1.4s
TPAW **Teton Pass** 55.55 306 P P 07 41 07.8 +0.4
TPAW IAmb IAmb 07 41 09.5
comp=Z,12nm,1.3s
REDW **Red Top Meadow** 55.64 306 P P 07 41 07.5 -0.5
REDW IAmb IAmb 07 41 10.1
comp=Z,20nm,1.4s
G08A **Pilot Rock** 55.74 313 P P 07 41 08.3 -0.3
G08A IAmb IAmb 07 41 24.4
comp=Z,22nm,1.5s
BMO **Blue Mountains** 55.78 311 P P 07 41 08.2 -0.6
BMO pmax pmax
comp=Z,8.0nm,1.4s
BMO **Blue Mountains** 55.78 311 P P 07 41 08.2 -0.6
UOSS **Minazif** 55.79 117 P P 07 41 09.2 +0.3
BW06 **Boulder Array** 55.88 304 P P 07 41 09.1 -0.7
BW06 IAmb IAmb 07 41 10.6
comp=Z,9.7nm,1.2s
PDAR **Pinedale Array** 55.88 304 P P 07 41 08.8 -0.9
comp=Z,1.3nm,0.8s,baz=42,slow=6.8,SNR=13
PDAR **Pinedale Array** 55.88 304 P P 07 41 09.3 -0.4
BW06 **Boulder Array** 55.88 304 P 07 41 09.2
baz=20,SNR=6.9
WVT **Waverly** 56.01 282 P 07 41 08.9
baz=22
W50A **Signal Mountai** 56.12 280 P P 07 41 10.6 -0.6
W50A IAmb IAmb 07 41 22.5
comp=Z,12nm,1.4s
T42A **Van Buren** 56.14 286 P P 07 41 10.4 -0.9
T42A IAmb IAmb 07 41 12.5
comp=Z,15nm,1.4s
S39A **Bolivar** 56.18 288 P P 07 41 10.9 -0.7
S39A IAmb IAmb 07 41 11.9
comp=Z,18nm,1.5s
PHWY **Pilot Hill** 56.19 300 P P 07 41 11.6 -0.5
HLID **Hailey** 56.32 309 P P 07 41 12.4 -0.4
HLID IAmb IAmb 07 41 14.1
comp=Z,10nm,1.2s
HLID **Hailey** 56.32 309 P 07 41 12.6
baz=19,SNR=10
NHSC **New Hope** 56.50 274 P 07 41 14.1
baz=21
N23A **Red Feather La** 56.70 300 P 07 41 15.8
baz=20,SNR=5.7
CBKS **Cedar Bluff** 56.96 294 P P 07 41 16.8 -0.4
CBKS pmax pmax
comp=Z,26nm,1.2s
CBKS **Cedar Bluff** 56.96 294 P P 07 41 16.8 -0.4
I07A **Izee** 57.01 313 P P 07 41 18.2 +0.6
R32A **Long Quarter,** 57.04 293 P P 07 41 17.9 +0.1
R32A IAmb IAmb 07 41 20.1
comp=Z,19nm,1.4s
HHC **Hu-ho-hao-te** 57.10 58 *e*P P 07 41 20.2 +2.0
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,97nm,5.9s
HHC L L
comp=Z,300nm,14.7s
HHC L L
comp=Z,190nm,15.7s
HHC L L
comp=Z,300nm,16.3s
I05D **Terrebonne, OR** 57.17 315 P 07 41 17.4
baz=18
GOGA **Godfrey** 57.22 277 P 07 41 18.2
baz=21
U40A **Yellville** 57.28 287 P P 07 41 18.5 -1.0
U40A IAmb IAmb 07 41 19.7
comp=Z,17nm,1.4s
U40A **Yellville** 57.28 287 P 07 41 18.3
baz=21,SNR=5.5
HWUT **Hardware Ranch** 57.47 305 P P 07 41 21.2 +0.2
PINE **Pine Mountain** 57.60 314 P P 07 41 22.1 +0.2
ISCO **Idaho Springs** 57.64 300 P P 07 41 22.0 -0.3
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO **Idaho Springs** 57.64 300 P P 07 41 22.0 -0.3
ISCO **Idaho Springs** 57.64 300 P 07 41 22.6
baz=20,SNR=5.6
CN2 **Changchun** 57.65 46 *e*P P 07 41 20.7 -1.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
I04A **Tendick Farm,** 57.92 315 P 07 41 22.5
baz=17
RDMU **Red Mountain** 57.95 303 P P 07 41 24.8 +0.4
OXF **Oxford** 57.98 283 P 07 41 23.2
baz=21
O20A **White River Ci** 58.01 302 P P 07 41 24.8 -0.1
O20A **White River Ci** 58.01 302 P 07 41 25.2
baz=20,SNR=12
J04D **Umpqua Nationa** 58.38 315 P 07 41 27.4
baz=17
SMCO **Snowmass** 58.58 301 P P 07 41 28.7 -0.4
K05A **Summer Lake** 58.61 314 P P 07 41 28.5 -0.4
USRK **Ussuriysk Ar.** 58.63 40 P P 07 41 26.5 -2.2
comp=Z,1.5nm,0.6s,baz=29,slow=6.6,SNR=2.4
USRK LR LR 08 08 58.7
comp=Z,191nm,19.4s,baz=339,slow=38
USRK **Ussuriysk Ar.** 58.63 40 P P 07 41 29.2 +0.4
USRK **Ussuriysk Ar.** 58.63 40 P P 07 41 29.2 +0.4
OK031 **S. Brethren Rd** 58.81 290 P P 07 41 30.1 -0.1
MPU **Maple Canyon** 58.99 305 P P 07 41 32.4 +0.7
DUG **Dugway, Tooele** 59.12 306 P P 07 41 33.0 +0.5
DUG pmax pmax
comp=Z,11nm,1.1s
DUG **Dugway, Tooele** 59.12 306 P P 07 41 33.0 +0.5
DUG IAmb IAmb 07 41 41.4
comp=Z,11nm,1.1s
DUG **Dugway, Tooele** 59.12 306 P 07 41 32.9
baz=19,SNR=5.5
OK029 **Liberty Lake** 59.13 291 P P 07 41 32.2 -0.2
OK029 IAmb IAmb 07 41 34.0
comp=Z,8.5nm,0.9s
TOA0 **Torodi Ar. Sit** 59.14 180 P P 07 41 33.1 +0.5
TORD **Torodi Ar. Bea** 59.14 180 P P 07 41 32.9 +0.3
comp=Z,11nm,0.9s,baz=354,slow=7.2,SNR=34
TORD LR LR 08 07 55.2
comp=Z,280nm,18.0s,baz=355,slow=37
TORD **Torodi Ar. Bea** 59.14 180 P P 07 41 32.9 +0.3
TORD IAmb IAmb 07 41 34.0
comp=Z,11nm,0.9s
NLU **North Lily Min** 59.16 305 P P 07 41 33.9 +1.1
NLU IAmb IAmb 07 41 41.9
comp=Z,8.5nm,1.3s
MIAR **Mount Ida** 59.18 287 P P 07 41 32.4 -0.3
MIAR pmax pmax
comp=Z,13nm,1.4s
MIAR **Mount Ida** 59.18 287 P P 07 41 32.4 -0.3
MIAR IAmb IAmb 07 41 50.7
comp=Z,13nm,1.4s
MIAR **Mount Ida** 59.18 287 P 07 41 31.9
baz=21,SNR=6.2
ELK **Elko** 59.19 308 LR LR 08 07 05.2
comp=Z,595nm,19.6s,baz=8.0,slow=36
ELK **Elko** 59.19 308 P P 07 41 33.4 +0.4
ELK pmax pmax
comp=Z,4.0nm,1.2s
ELK **Elko** 59.19 308 P P 07 41 33.4 +0.4
K02D **Willamette Mer** 59.24 316 P 07 41 32.8
baz=17
MOD **Modoc Plateau** 59.26 313 P P 07 41 33.9 +0.5
MOD IAmb IAmb 07 41 35.7
comp=Z,13nm,1.3s

250A	Grady	59.40	279	P	P	07 41 33.6	-0.7	
L04D	Klamath Falls	59.40	315	P		07 41 34.3		
	baz=17,SNR=5.3							
LZH	Lanzhou	59.46	67	eP	P	07 41 33.9	-1.0	
LZH				pP	sP	07 41 39.4	+0.8	
LZH				sP	pwP	07 41 41.4	+0.9	
LZH				sS	sS	07 49 55.7	+7.8	
LZH				pmax	pmax			
	comp=Z,15nm,1.1s							
LZH				pmax	pmax			
	comp=Z,64nm,5.4s							
LZH				L	L			
	comp=Z,460nm,16.8s							
LZH				L	L			
	comp=Z,270nm,16.3s							
LZH				L	L			
	comp=Z,300nm,15.7s							
SDCO	Great Sand Dun	59.54	299	P	P	07 41 35.2	-0.4	
SDCO				IAmb	IAmb	07 41 36.7		
	comp=Z,9.7nm,1.5s							
SDCO	Great Sand Dun	59.54	299	P		07 41 34.8		
	baz=20,SNR=5.4							
TMUT	Trail Mountain	59.56	304	P	P	07 41 36.1	+0.3	
TMUT				IAmb	IAmb	07 41 56.5		
	comp=Z,7.4nm,1.1s							
SRU	San Rafael Swe	59.56	304	P	P	07 41 35.0	-0.6	
SRU				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SRU	San Rafael Swe	59.56	304	P	P	07 41 35.0	-0.6	
W35A	Tecumseh	59.57	290	P	P	07 41 35.3	-0.1	
L02E	Cave Junction	59.74	316	P		07 41 36.9		
	baz=17							
S22A	4UR Ranch, Cre	59.89	300	P		07 41 38.2		
	baz=19,SNR=6.8							
YBH	Yreka Blue Hor	59.95	315	LR	LR	08 07 32.8		
	comp=Z,632nm,19.8s,baz=14,slow=36							
M02C	Callahan	60.31	315	P		07 41 40.5		
	baz=17							
X34A	Smith Ranch, M	60.36	291	P	P	07 41 41.5	+0.6	
WMOK	Wichita Mounta	60.50	292	P		07 41 42.1		
	baz=20,SNR=6.7							
SPR3	Spring Creek 3	60.62	307	P	P	07 41 43.5	+0.5	
SPR3				IAmb	IAmb	07 41 45.3		
	comp=Z,10.0nm,1.4s							
N02D	Trinity Center	60.68	315	P		07 41 42.8		
	baz=17							
MVCO	Mesa Verde	60.83	301	P	P	07 41 44.8	+0.4	
MVCO	Mesa Verde	60.84	301	P		07 41 45.1		
	baz=19,SNR=12							
PSUT	Pine Spring	60.95	306	P	P	07 41 46.2	+1.1	
PSUT				IAmb	IAmb	07 41 47.5		
	comp=Z,11nm,1.1s							
MTPU	Mount Pierson	60.99	305	P	P	07 41 46.5	+0.9	
O03E	Paynes Creek	61.13	314	P		07 41 46.0		
	baz=17,SNR=7.7							
PAHR	Pah Rah Range	61.15	311	P	P	07 41 46.4	+0.1	
PAHR				IAmb	IAmb	07 41 50.5		
	comp=Z,15nm,1.5s							
BEKR	Beckworth	61.22	312	P	P	07 41 46.9	0.0	
BEKR				IAmb	IAmb	07 42 02.5		
	comp=Z,7.9nm,1.4s							
O02D	Mt. Diablo Mer	61.46	314	P		07 41 48.4		
	baz=16							
KVN	Kaiserville	61.47	310	P	P	07 41 49.0	+0.4	
KVN				pmax	pmax			
	comp=Z,8.0nm,1.4s							
KVN	Kaiserville	61.47	310	P	P	07 41 49.0	+0.4	
KVN				IAmb	IAmb	07 42 14.2		
	comp=Z,7.7nm,1.4s							
R11A	Troy Canyon, C	61.54	308	P	P	07 41 49.4	+0.3	
R11A				IAmb	IAmb	07 41 50.1		
	comp=Z,7.8nm,1.4s							
R11A	Troy Canyon, C	61.54	308	P		07 41 49.0		
	baz=18,SNR=6.3							
PKCU	Pink Cliffs	61.59	305	P	P	07 41 50.4	+0.7	
PKCU				IAmb	IAmb	07 42 03.1		
	comp=Z,10nm,1.1s							
VCNR	Virginia City	61.60	311	P	P	07 41 48.8	-0.7	
VCNR				IAmb	IAmb	07 41 51.7		
	comp=Z,11nm,1.3s							
SZCU	Shurtz Canyon	61.64	305	P	P	07 41 50.3	+0.4	
SZCU				IAmb	IAmb	07 41 55.3		
	comp=Z,9.4nm,1.4s							
CCUT	Cedar City	61.76	305	P	P	07 41 51.7	+1.1	
CCUT				IAmb	IAmb	07 42 09.2		
	comp=Z,12nm,1.5s							
PNTR	Pine Nut	61.78	311	P	P	07 41 51.8	+1.0	
PNTR				IAmb	IAmb	07 42 12.0		
	comp=Z,11nm,1.2s							
NVAR	Mina Array Bea	62.11	310	P	P	07 41 52.9	-0.1	
	comp=Z,0.6nm,0.7s,baz=40,slow=3.6,SNR=7.3							
NVAR				LR	LR	08 09 16.6		
	comp=Z,546nm,18.8s,baz=26,slow=36							
NVAR	Mina Array Bea	62.11	310	P	P	07 41 53.5	+0.5	
KNB	Kanab	62.13	305	P	P	07 41 53.6	+0.6	
KNB				pmax	pmax			
	comp=Z,11nm,1.4s							
KNB	Kanab	62.13	305	P	P	07 41 53.6	+0.6	
KNB				IAmb	IAmb	07 42 10.9		
	comp=Z,11nm,1.4s							
TPH	Tonopah	62.20	309	P	P	07 41 53.8	+0.3	
TPH				pmax	pmax			
	comp=Z,37nm,1.4s							
TPH	Tonopah	62.20	309	P	P	07 41 53.8	+0.3	
AFDM	Forest Hills D	62.23	312	P	P	07 41 53.7	+0.2	
LCMT	Little Creek M	62.24	305	P	P	07 41 54.0	+0.3	
LCMT				IAmb	IAmb	07 41 55.9		
	comp=Z,6.7nm,1.1s							
PRN	Pahroc Range	62.31	307	P	P	07 41 54.5	+0.3	
PRN				IAmb	IAmb	07 42 22.4		
	comp=Z,8.2nm,1.3s							
MSTX	Muleshoe	62.34	295	P	P	07 41 54.7	+0.3	
MSTX	Muleshoe	62.34	295	P		07 41 54.4		
	baz=19							
ANMO	Albuquerque	62.43	299	⇑iP	P	07 41 54.6	-0.5	
ANMO				pmax	pmax			
	comp=Z,8.0nm,1.4s							
ANMO	Albuquerque	62.43	299	P	P	07 41 55.4	+0.2	
ANMO	Albuquerque	62.43	299	P		07 41 54.9		
	baz=19							
U15A	North Rim	62.55	304	P	P	07 41 55.7	-0.3	
U15A				IAmb	IAmb	07 41 57.1		
	comp=Z,7.4nm,1.2s							
ABTX	Abilene, Hawle	62.73	292	P	P	07 41 57.2	+0.3	
ABTX	Abilene, Hawle	62.73	292	P		07 41 56.3		
	baz=20							
XAN	Xi'an	62.79	63	P	P	07 41 57.6	+0.2	
XAN				pP	sP	07 42 01.5	+0.4	
XAN				PcP	PcP	07 42 30.5	-5.2	
XAN				S	S	07 50 29.6	+3.5	
XAN				ScS	ScS	07 51 46.6	-3.0	
XAN				pmax	pmax			
	comp=Z,11nm,1.1s							
XAN				pmax	pmax			
	comp=Z,81nm,3.7s							
XAN				L	L			
	comp=Z,380nm,19.5s							
XAN				L	L			
	comp=Z,210nm,18.4s							
XAN				L	L			
	comp=Z,490nm,20.6s							
TPNV	Topopah Spring	63.03	308	P	P	07 41 58.8	-0.3	
TPNV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
TPNV	Topopah Spring	63.03	308	P	P	07 41 58.8	-0.3	
TPNV				IAmb	IAmb	07 42 12.6		
	comp=Z,6.9nm,1.1s							
TPNV	Topopah Spring	63.04	308	P		07 41 57.7		
	baz=18							
MDPB	Devils Postpil	63.05	310	P	P	07 41 59.9	+0.6	
MDPB				IAmb	IAmb	07 42 22.3		
	comp=Z,6.1nm,1.2s							
W18A	Petrified Fore	63.13	301	P	P	07 41 59.6	-0.2	
W18A	Petrified Fore	63.13	301	P		07 41 59.5		
	baz=18,SNR=8.0							
WUAZ	Wupatki	63.18	303	P	P	07 42 00.2	+0.1	
WUAZ	Wupatki	63.18	303	P		07 41 58.8		
	baz=18							
SHPR	Sheep Range	63.19	307	P	P	07 42 00.3	+0.2	
SHPR				IAmb	IAmb	07 42 19.8		
	comp=Z,6.1nm,1.2s							
BNM	Barren Site	63.23	298	P	P	07 42 00.7	+0.2	
CWC	Cottonwood Cre	63.96	309	P		07 42 05.5		
	baz=17							
HKT	Hockley	64.14	287	P	P	07 42 06.5	+0.3	
HKT				pmax	pmax			
	comp=Z,7.0nm,1.5s							
HKT	Hockley	64.14	287	P	P	07 42 06.5	+0.3	
HKT				IAmb	IAmb	07 42 24.8		
	comp=Z,7.2nm,1.4s							
W13A	Hualapai Mount	64.21	305	P	P	07 42 07.2	+0.2	
X16A	Lo Mia Camp, P	64.24	303	P	P	07 42 07.5	+0.5	
X16A				IAmb	IAmb	07 42 08.9		
	comp=Z,11nm,1.4s							
KSRS	Korea Array	64.26	46	LR	LR	08 13 56.5		
	comp=Z,195nm,18.3s,baz=344,slow=40							
KSAR	Wonju Array Be	64.26	46	P	P	07 42 07.0	0.0	
KSAR	Wonju Array Be	64.26	46	P	P	07 42 07.0	0.0	
JCT	Junction City	64.79	291	P	P	07 42 10.4	-0.2	
JCT				pmax	pmax			
	comp=Z,26nm,1.5s							
JCT	Junction City	64.79	291	P	P	07 42 10.4	-0.2	
JCT	Junction City	64.79	291	P		07 42 10.5		
	baz=19							
ISA	Isabella, Lake	64.79	309	P	P	07 42 11.0	+0.4	
ISA				pmax	pmax			
	comp=Z,11nm,1.3s							
ISA	Isabella, Lake	64.79	309	P	P	07 42 11.0	+0.4	
ISA				IAmb	IAmb	07 42 12.8		
	comp=Z,11nm,1.3s							
ISA	Isabella, Lake	64.79	309	P		07 42 11.3		
	baz=17							
PMPB	Monarch Peak	64.81	311	P	P	07 42 10.9	+0.3	
PDMCI	Parker Dam,Lak	65.03	305	P		07 42 12.7		
	baz=18							
121A	Cookes Peak, D	65.06	299	P	P	07 42 13.0	+0.5	
121A				IAmb	IAmb	07 42 40.2		
	comp=Z,7.9nm,1.1s							
121A	Cookes Peak, D	65.06	299	P		07 42 12.7		
	baz=18							
Y14A	Wickenburg	65.09	304	P	P	07 42 12.9	+0.4	
TJN	Taejon	65.17	47	cP	P	07 42 13.1	+0.2	
MNTX	Cornudas Mount	65.20	296	P		07 42 12.0		
	baz=19							
DBIC	Dimbokro	65.72	188	LR	LR	08 11 05.6		
	comp=Z,222nm,20.2s,baz=350,slow=36							
BELC	Belle Mtn. Jos	65.78	307	P		07 42 17.5		
	baz=17							
TUC	Tucson	66.07	301	P	P	07 42 19.5	+0.7	
TUC				pmax	pmax			
	comp=Z,8.0nm,1.5s							
TUC	Tucson	66.07	301	P	P	07 42 19.5	+0.7	
TUC				IAmb	IAmb	07 42 20.3		
	comp=Z,8.2nm,1.4s							
TUC	Tucson	66.07	301	P		07 42 19.8		
	baz=18							
MONP2	Monument Peak	66.94	307	P		07 42 22.7		
	baz=17							
TX31	Lajitas Ar. Si	66.96	294	P	P	07 42 24.4	-0.2	
TX31				IAmb	IAmb	07 42 24.9		
	comp=Z,6.3nm,0.9s							
TX32	Lajitas Array	66.96	294	P	P	07 42 24.1	-0.5	
TXAR	Lajitas Array	66.96	294	P	P	07 42 23.9	-0.7	
	comp=Z,0.8nm,0.7s,baz=46,slow=4.9,SNR=15							
TXAR				LR	LR	08 11 31.7		
	comp=Z,495nm,19.7s,baz=0.0,slow=36							
TXAR	Lajitas Array	66.96	294	P	P	07 42 24.4	-0.2	
TXAR	Lajitas Array	66.96	294	P	P	07 42 24.4	-0.2	
MJAR	Matsushiro Arr	67.22	37	P	P	07 42 25.6	-0.5	
	comp=Z,3.3nm,0.8s,baz=346,slow=5.7,SNR=6.8							
MJAR				LR	LR	08 12 49.0		
	comp=Z,133nm,21.1s,baz=340,slow=37							
MJAR	Matsushiro Arr	67.22	37	P	P	07 42 26.2	+0.1	
MJAR				pmax	pmax			
	comp=Z,12nm,1.5s							
MJAR	Matsushiro Arr	67.22	37	P	P	07 42 26.2	+0.1	
MJAR				IAmb	IAmb	07 42 27.5		
	comp=Z,12nm,1.4s							
NJ2	Nanjing	67.29	55	eP	P	07 42 26.4	-0.1	
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KMI	Kunming	69.45	72	⇓P	P	07 42 42.0	+1.6	
KMI				pP	sP	07 42 44.6	+0.5	
KMI				sP	pwP	07 42 46.2	+0.1	
KMI				pmax	pmax			
	comp=Z,11nm,0.9s							
KMI				L	L			
	comp=Z,200nm,25.5s							
KMI				L	L			
	comp=Z,280nm,14.1s							
KMI				L	L			
	comp=Z,230nm,25.8s							
HPIG		69.78	295	P	P	07 42 42.6	+0.1	
CHTO	Chiang Mai	74.28	78	P	P	07 43 09.4	+0.1	
CHTO				pmax	pmax			
	comp=Z,15nm,1.5s							
CHTO	Chiang Mai	74.28	78	P	P	07 43 09.3	+0.1	
CHTO				IAmb	IAmb	07 43 11.9		
	comp=Z,15nm,1.4s							
CMAR	Chiang Mai Arr	74.62	78	P	P	07 43 10.3	-0.9	
	comp=Z,1.0nm,0.3s,baz=322,slow=6.9,SNR=5.2							
CMAR				LR	LR	08 23 40.5		
	comp=Z,97nm,18.3s,baz=335,slow=42							
CMAR	Chiang Mai Arr	74.62	78	iP	P	07 43 14.0	+2.8	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	Chiang Mai Arr	74.62	78	P	P	07 43 11.9	+0.7	
MBAR	Mbarara	75.02	150	cP	P	07 43 16.4	+2.7	
MBAR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KMBO	Kilima Mbogo	76.62	144	LR	LR	08 21 28.7		
	comp=Z,170nm,18.3s,baz=286,slow=39							
TLIG	Tlapa	76.62	286	P	P	07 43 22.6	-0.2	
TLIG				IAmb	IAmb	07 43 26.6		
	comp=Z,14nm,1.2s							
SJCC	San Jacinto, C	76.78	261	P	P	07 43 24.2	+0.6	
MTO3	Montecristo	76.85	276	P	P	07 43 24.4	+0.2	
MTO3				IAmb	IAmb	07 43 37.7		
	comp=Z,10nm,1.2s							
QIZ	Qiongzhong	77.25	68	P	P	07 43 26.2	0.0	
QIZ				S	S	07 53 17.9	+2.3	
QIZ				pmax	pmax			
	comp=Z,20nm,2.3s							
QIZ				L	L			
	comp=Z,250nm,29.4s							
QIZ				L	L			
	comp=Z,240nm,21.6s							
QIZ				L	L			
	comp=Z,250nm,21.1s							
SMLC	San Martn de	77.48	259	eP	P	07 43 25.8	-1.7	
BRRC	Barranca, Sant	78.98	259	eP	P	07 43 35.7	-0.1	
PALK	Pallekele	79.64	99	LR	LR	08 20 58.9		
	comp=Z,255nm,20.2s,baz=87,slow=37							
RUSC	La Rusia	79.94	258	P	P	07 43 41.1	-0.5	
RUSC				IAmb	IAmb	07 43 41.8		
	comp=Z,14nm,1.2s							
HELC	Santa Helena	80.39	260	eP	P	07 43 44.6	+0.7	
SPBC	San Pablo de B	80.46	259	eP	P	07 43 45.1	+1.1	
NORC	Norcasia	80.79	259	eP	P	07 43 47.2	+1.5	
CBOC	Ciudad Bolivar	80.84	260	eP	P	07 43 46.4	+0.2	
GUY2C	Guyana, Caldas	81.26	260	eP	P	07 43 51.4	+2.7	
ROSC	El Rosal	81.31	259	P	P	07 43 50.0	+1.2	
	comp=Z,12nm,0.8s,baz=56,slow=17,SNR=5.7							
ROSC	El Rosal	81.31	259	P	P	07 43 48.8	-0.1	
ROSC				pmax	pmax			
	comp=Z,17nm,1.0s							
ROSC	El Rosal	81.31	259	P	P	07 43 48.8	-0.1	
CHIC	Chingaza	81.33	258	eP	P	07 43 48.8	-0.2	
VILC	Villavicencio,	81.81	258	eP	P	07 43 49.5	-1.7	
TOLC	Tolima	81.85	259	eP	P	07 43 52.9	+1.3	
ORTC	Ortega, Tolima	82.47	259	eP	P	07 43 55.0	+0.5	
FLOC	Florencia	84.79	259	P	P	07 44 06.1	-0.3	
FLOC				IAmb	IAmb	07 44 07.1		
	comp=Z,10nm,1.2s							
BBAC	Balboa, Cauca	84.86	260	eP	P	07 44 07.1	+0.1	
PTLC	Puerto Leguiza	85.87	258	eP	P	07 44 12.2	+0.4	
OTAV	Otavalo	86.91	261	P	P	07 44 17.9	+0.5	
OTAV				pmax	pmax			
	comp=Z,32nm,1.4s							
OTAV	Otavalo	86.91	261	P	P	07 44 17.9	+0.5	
BDFB	Brasilia	93.81	228	P	P	07 44 49.9	+0.7	
	comp=Z,2.1nm,0.7s,baz=40,slow=26,SNR=3.3							
BDFB	Brasilia	93.81	228	P	P	07 44 49.4	+0.3	
BDFB				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BDFB	Brasilia	93.81	228	P	P	07 44 49.4	+0.3	
BDFB				IAmb	IAmb	07 45 09.8		
	comp=Z,8.4nm,1.3s							
PMBI	Palembang	96.61	79	P	P	07 45 01.6	-0.3	
NNA	Nana	98.01	256	cP	Pdif	07 45 09.5	+1.2	
WRA	Warramunga Arr	121.07	54	PKP	PKPdf	07 50 23.4	-1.0	
	comp=Z,0.9nm,0.9s,baz=310,slow=2.7,SNR=4.6							
PPT2	Papeete2	122.87	327	eLR	LR	08 28 31.7		
	comp=Z,367nm,28.8s							
ASAR	Alice Springs	124.52	56	PKP	PKPdf	07 50 29.6	-1.3	
	comp=Z,1.5nm,0.7s,baz=350,slow=2.2,SNR=14							
ASAR	Alice Springs	124.52	56	PKIKP	PKPdf	07 50 30.5	-0.5	
ASAR	Alice Springs	124.52	56		PKPdf	07 50 30.4	-0.5	
TBI	Tubuai	128.49	326	eLR	LR	08 31 05.7		
	comp=Z,266nm,29.0s							
DZM	Mont Dzumac	128.95	19	eLR	LR	08 31 09.2		
	comp=Z,162nm,22.3s							
VNA1	Neumayer--Stat	142.89	186	PKPdf	PKiKP	07 51 06.5	-0.3	
	baz=72,slow=2.0							
VNA2	Neumayer--Watz	143.14	185	PKPdf	PKPbc	07 51 00.9	-0.3	
	baz=72,slow=2.0							
VNA3	Neumayer Olymp	143.53	186	PKPdf	PKPdf	07 51 05.0	+0.2	
	baz=72,slow=2.0							
SNAA	Sanae	143.79	183	PKPdf	PKPbc	07 51 03.5	+0.4	
	baz=72,slow=2.0							

IDC 02 07:32:01.8±3.8, 53°.61N×87°.89E, h0km, mb1 2.8/1, mb1mx2.7/47, mbtmp2.8/1, ML2.8/1, Error ellipse: s-maj=32.1km s-min=17.8km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.85	282	i		07 43 40.0	
	baz=98,slow=322,SNR=2.8						
ZALV	Zalesovo Beam	1.85	282	Pg	Pn	07 32 35.3	+0.5
	1.1nm,0.3s,baz=99,slow=15,SNR=2.1						
ZALV				Lg	Lg	07 33 00.8	
	2.6nm,0.3s,baz=100,slow=24,SNR=6.8						
MKAR	Makanchi Array	7.71	210	Pn	Pn	07 33 56.6	+1.3
	0.1nm,0.3s,baz=23,slow=12,SNR=4.0						
MKAR				Lg	Lg	07 36 05.8	
	0.1nm,0.3s,baz=27,slow=29,SNR=2.6						

IDC 02 07:53:52.1±0.9, 30°.39N×143°.34E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/50, mbtmp3.6/11, ML3.6/3, Error ellipse: s-maj=28.6km s-min=18.2km az=86.0
JMA 02 07:53:56.8±0.7, 30°.92N×143°.21E, h28km, M4.1
ISC 02 07:53:56.9±0.8, 30°.44N±0°.07×143°.1E±0°.1, h35km, n27, σ1§98/23, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	3.43	194	Pn	Pn	07 54 46.4	-1.5
	7.2nm,0.3s,baz=70,slow=19,SNR=6.3						
JCJ				Sn	Sn	07 55 24.0	-3.3
	17nm,0.3s,baz=279,slow=24,SNR=6.0						
JMKN	Mikurajimanish	4.57	320	P	Pn	07 55 02.6	-0.9
BSO1	Boso 1	4.58	337	P	Pn	07 55 01.1	-2.0
BSO3	Boso 3	4.88	334	P	Pn	07 55 05.3	-2.2
JOD2	Odawara 2	5.89	326	P	Pn	07 55 20.1	-1.6
JHU	Hanno	6.29	330	P	Pn	07 55 26.3	-0.8
JRY	Ryogami san	6.59	329	P	Pn	07 55 29.3	-2.0
JAG	Ashikaga	6.71	334	P	Pn	07 55 30.9	-2.1
MJAR	Matsushiro Arr	7.34	327	Pn	Pn	07 55 40.2	-1.4
	0.4nm,0.3s,baz=142,slow=14,SNR=11						
MAT	Matsushiro	7.35	327	P	Pn	07 55 40.5	-1.1
MAT				eS	Sn	07 57 00.3	-3.5
JMK	Ichinoseki	8.64	350	P	Pn	07 55 56.5	-2.8
KSRS	Korea Array	14.42	303	Pn	Pn	07 57 20.9	+2.5
	0.4nm,0.3s,baz=123,slow=13,SNR=1.9						
KLR	Kul'dur	20.66	339	P	P	07 58 35.0	+1.5
	1.2nm,0.8s,baz=175,slow=11,SNR=2.5						
H11N2	WAKE ISLAND Hy	23.97	111	T	T	08 23 24.1	
	baz=310,slow=75,SNR=3.9						
H11N1	WAKE ISLAND Hy	23.98	111	T	T	08 23 24.2	
	baz=310						
H11N3	WAKE ISLAND Hy	23.99	111	T	T	08 23 25.9	
	baz=310,slow=75,SNR=5.9						
H11S3	WAKE ISLAND Hy	24.46	114	T	T	08 24 12.3	
	baz=312,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	24.47	114	T	T	08 24 12.3	
	baz=312,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	24.48	114	T	T	08 24 13.6	
	baz=312,slow=76,SNR=15						
SONM	Songino Array	32.98	312	P	P	08 00 30.5	+2.1
	0.7nm,0.7s,baz=120,slow=8.5,SNR=2.6						
MKAR	Makanchi Array	49.05	307	P	P	08 02 42.0	+1.5
	0.3nm,0.7s,baz=79,slow=7.5,SNR=3.4						
WRA	Warramunga Arr	50.80	191	P	P	08 02 54.4	+0.6
	0.8nm,0.3s,baz=7.2,slow=7.8,SNR=29						
ILAR	Eielson Array	54.40	30	P	P	08 03 22.0	+1.9
	0.2nm,0.6s,baz=255,slow=10,SNR=1.7						
ASAR	Alice Springs	54.52	190	P	P	08 03 21.9	+0.6
	0.3nm,0.5s,baz=0.7,slow=5.0,SNR=7.3						
NVAR	Mina Array Be	77.82	53	P	P	08 05 50.1	-1.0
	0.3nm,0.5s,baz=296,slow=2.9,SNR=2.9						
ANMO	Albuquerque	87.71	50	P	P	08 06 42.5	0.0
	0.6nm,0.5s,baz=163,slow=9.3,SNR=2.0						
LPAZ	La Paz	148.16	71	PKPbc	PKPbc	08 13 39.6	-0.8
	0.7nm,0.6s,baz=350,slow=6.8,SNR=3.1						

ANF 02 07:55:50.8±0.3, 36°.93N×97°.64W, h1km±2km, ML4.5/24, Error ellipse: s-maj=1.5km s-min=1.4km az=60.0
IDC 02 07:55:50.6±0.8, 37°.02N×97°.69W, h0km, mb3.6/2, mb1 3.9/9, mb1mx3.6/46, mbtmp3.6/9, ML3.3/7, Error ellipse: s-maj=12.4km s-min=10.8km az=132.0
NEIC 02 07:55:51.3±1.0, 36°.93N±0°.02×97°.62W±0°.02, h5km±2km, Error ellipse: s-maj=3.7km s-min=3.0km az=52.0
TUL 02 07:55:51.2±1.3, 36°.95N±0°.03×97°.62W±0°.03, h8km±6km, ML3.8, mb_Lg3.7/119(NEIC), Mwr3.6/30(NEIC), Error ellipse: s-maj=4.6km s-min=2.9km az=223.0
NEIC 02 07:55:51.5, 36°.92N×97°.62W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=1.23; Mθθ=2.13; Mϕϕ=0.89; Mrθ=0.74; Mrϕ=0.84; Mθϕ=1.67; Fault plane solution: M0=2.73000×10^14 NP1:ϕ=250.01000°, δ=41.77000°, λ=-152.96000°. NP2:ϕ=139.17000°, δ=72.37000°, λ=-51.50000°. Principal axes: T 2.7197, Plg=18.0000°, Azm=202.0000°; N 0.0184, Plg=36.0000°, Azm=306.0000°; P -2.7382, Plg=48.0000°, Azm=90.0000°;
ISC 02 07:55:51.4±0.8, 36°.94N±0°.02×97°.62W±0°.02, h9km±6km, n195, σ0§88/204, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN13	South Haven SW	0.14	56		Pg	07 55 54.3	-0.2
KAN13				Sg	Sg	07 55 56.3	-0.3
KAN09	Caldwell North	0.20	1	Pg	Pg	07 55 55.4	-0.2
KAN09				Sg	Sg	07 55 58.3	-0.1
GC02	Grant County #	0.21	247	Pg	Pg	07 55 55.6	-0.1
GC02				Sg	Sg	07 55 58.5	-0.3
KAN01	Argonia South	0.24	333		Pg	07 55 56.2	-0.1
K

baz=62,SNR=34
U32A S **Sg** **07 56 31.0 -0.3**
baz=62
U32A Winter Ranch, 1.24 244 P 07 56 14.3
baz=62,SNR=34
U32A S 07 56 31.0
baz=62
BCOK Bluff Creek, N 1.27 180 **Pn** **07 56 15.2 -0.2**
BCOK Sg **Sg** **07 56 32.5 +0.1**
OK005 Luther M Schoo 1.32 165 **Pn** **07 56 16.2 +0.2**
OK005 Sg **Sg** **07 56 33.4 -0.6**
OK009 Oakdale Elemen 1.36 173 Pn **Pn** **07 56 16.7 +0.2**
OK025 Westminster Rd 1.37 170 **Pn** **07 56 16.8 +0.2**
OK001 Jones High Sch 1.40 169 Pn **Pn** **07 56 17.2 +0.2**
OKCFA Oklahoma City 1.52 175 **Pn** **07 56 19.2 +0.5**
OKCFA Oklahoma City 1.52 175 P **Pn** **07 56 19.3 +0.5**
baz=355,SNR=54
OKCFA S **Sb** **07 56 40.2 +1.1**
baz=355
OKCFA Oklahoma City 1.52 175 P 07 56 19.3
baz=355,SNR=54
OKCFA S 07 56 40.2
baz=355
OKCSW OKLAHOMA CITY 1.53 174 **Pn** **07 56 19.4 +0.5**
OK011 Prague 1.63 152 Pn **Pn** **07 56 20.7 +0.5**
FNO Franklin 1.68 174 **Pn** **07 56 21.5 +0.5**
R32A Long Quarter, 1.72 330 **Pn** **07 56 22.2 +0.7**
R32A Long Quarter, 1.72 330 P **Pn** **07 56 22.1 +0.7**
baz=149,SNR=222
R32A S **Sb** **07 56 45.2 +0.4**
baz=149
R32A Long Quarter, 1.72 330 P 07 56 22.1
baz=149,SNR=222
R32A S 07 56 45.2
baz=149
TUL1 Leonard 1.79 124 P **Pn** **07 56 23.3 +0.8**
baz=306,SNR=309
TUL1 S **Sb** **07 56 47.7 +0.7**
baz=306
TUL1 Leonard 1.79 124 P 07 56 23.1
baz=306,SNR=140
TUL1 S 07 56 47.3
baz=306
TUL1 Leonard 1.79 124 P 07 56 23.3
baz=306,SNR=309
TUL1 S 07 56 47.7
baz=306
W35A Tecumseh 1.88 161 **Pn** **07 56 24.3 +0.6**
KSU1 Kansas State U 2.31 20 **Pn** **07 56 30.6 +1.0**
KSU1 IAmb_Lg 07 57 05.7
comp=Z,393nm,1.1s
KSU1 Kansas State U 2.31 20 P **Pn** **07 56 30.2 +0.7**
baz=201,SNR=46
KSU1 S **Sb** **07 57 00.0 -1.7**
baz=201
KSU1 Kansas State U 2.31 20 P 07 56 30.2
baz=201
KSU1 Kansas State U 2.31 20 P 07 56 30.2
baz=201,SNR=46
KSU1 S 07 57 00.0
baz=201
X34A Smith Ranch, M 2.33 184 **Pn** **07 56 31.1 +1.2**
X34A IAmb_Lg 07 57 05.7
comp=Z,269nm,0.8s
WMOK Wichita Mounta 2.39 204 Pn **Pn** **07 56 30.2 -0.4**
WMOK IAmb_Lg 07 57 07.8
comp=Z,186nm,0.7s
WMOK Wichita Mounta 2.39 204 P **Pn** **07 56 31.3 +0.6**
baz=23,SNR=56
WMOK S **Sn** **07 57 01.7 +1.7**
baz=23
WMOK Wichita Mounta 2.39 204 P 07 56 30.2
baz=23,SNR=48
WMOK S 07 57 01.3
baz=23
WMOK Wichita Mounta 2.39 204 P 07 56 31.3
baz=23,SNR=56
WMOK S 07 57 01.7
baz=23
CBKS Cedar Bluff 2.52 319 **Pn** **07 56 32.8 +0.3**
CBKS Cedar Bluff 2.52 319 P **Pn** **07 56 33.1 +0.6**
baz=137,SNR=47
CBKS S **Sn** **07 57 05.0 +1.8**
baz=137
CBKS Cedar Bluff 2.52 319 P 07 56 32.9
baz=137
CBKS Cedar Bluff 2.52 319 P 07 56 33.1
baz=137,SNR=47
CBKS S 07 57 05.0
baz=137
U38A Gravette 2.65 100 **Pn** **07 56 33.8 -0.4**
U38A Gravette 2.65 100 P **Pn** **07 56 35.3 +1.1**
baz=282,SNR=76
U38A Gravette 2.65 100 P 07 56 35.3
baz=282,SNR=76
LOOK Love County 2.96 173 **Pn** **07 56 38.9 +0.5**
LOOK IAmb_Lg 07 57 28.6
comp=Z,146nm,0.8s
X37A Clayton 2.97 141 **Pn** **07 56 39.9 +1.3**
X37A IAmb_Lg 07 57 33.7
comp=Z,326nm,0.7s
X37A Clayton 2.97 141 P **Pn** **07 56 39.8 +1.3**
baz=323,SNR=25
X37A Clayton 2.97 141 P 07 56 39.8
baz=323,SNR=25
HHAR Hobbs 3.03 101 **Pn** **07 56 39.6 +0.1**
HHAR IAmb_Lg 07 57 34.3
comp=Z,158nm,0.8s
S39A Bolivar 3.51 76 **Pn** **07 56 47.0 +0.9**
S39A IAmb_Lg 07 57 45.0
comp=Z,177nm,0.8s
S39A Bolivar 3.51 76 P **Pn** **07 56 46.8 +0.8**
baz=259,SNR=23
S39A Bolivar 3.51 76 P 07 56 46.8
baz=259,SNR=23
W39A Magazine 3.56 118 Pn **Pn** **07 56 48.2 +1.4**
W39A Magazine 3.56 118 P **Pn** **07 56 47.5 +0.7**
baz=301
W39A Magazine 3.56 118 P 07 56 47.5
baz=301,SNR=11
W39A Sb 07 57 41.4
baz=301
W39A Magazine 3.56 118 P 07 56 47.5
baz=301
Z35A Perchaven, San 3.61 175 **Pn** **07 56 48.5 +1.1**
Z35A IAmb_Lg 07 57 54.8
comp=Z,149nm,0.9s
Z35A Perchaven, San 3.61 175 P **Pn** **07 56 48.3 +0.9**
baz=355,SNR=6.7
Z35A S **Sn** **07 57 32.1 +2.0**
baz=355
Z35A Perchaven, San 3.61 175 P 07 56 48.3
baz=355,SNR=6.7
Z35A S 07 57 32.1
baz=355
N33B J Bar K, Exete 3.80 2 P **Pn** **07 56 50.3 +0.2**
baz=182,SNR=11
N33B S **Sn** **07 57 35.6 +0.7**
baz=182
N33B J Bar K, Exete 3.80 2 P 07 56 50.3
baz=182,SNR=11
N33B S 07 57 35.6
baz=182
N33A J Bar K, Exete 3.80 2 Pn **Pn** **07 56 50.6 +0.5**
U40A Yellville 3.88 97 Pn **Pn** **07 56 52.2 +1.1**
U40A IAmb_Lg 07 57 55.1
comp=Z,105nm,0.7s
U40A Yellville 3.88 97 P **Pn** **07 56 52.1 +1.1**
baz=280,SNR=47
U40A Yellville 3.88 97 P 07 56 52.0
baz=280,SNR=24
U40A Yellville 3.88 97 P 07 56 52.1
baz=280,SNR=47
U40A P 07 56 52.1
baz=280,SNR=47
MIAR Mount Ida 4.06 125 **Pn** **07 56 54.9 +1.2**
MIAR IAmb_Lg 07 58 03.9
comp=Z,191nm,1.0s
MIAR Mount Ida 4.06 125 P **Pn** **07 56 54.5 +0.8**
baz=307,SNR=20
MIAR Mount Ida 4.06 125 P 07 56 54.4
baz=307,SNR=9.5
MIAR S 07 57 42.2
baz=307
MIAR Mount Ida 4.06 125 P 07 56 54.5
baz=307,SNR=20
P38A Dawn 4.19 49 Pn **Pn** **07 56 54.6 -0.8**
P38A IAmb_Lg 07 58 04.4
comp=Z,217nm,0.7s
N35A Tabor 4.21 21 Pn **Pn** **07 56 56.2 +0.4**
N35A Tabor 4.21 21 P **Pn** **07 56 56.3 +0.6**
baz=202
N35A Tabor 4.21 21 P 07 56 56.3
baz=202
Z38A Mt. Pleasant 4.25 149 Pn **Pn** **07 56 57.5 +1.2**
Z38A Mt. Pleasant 4.25 149 P **Pn** **07 56 57.2 +0.9**
baz=330,SNR=7.3
Z38A Mt. Pleasant 4.25 149 P 07 56 57.2
baz=330,SNR=7.3
R40A Maddies Statio 4.46 71 Pn **Pn** **07 57 00.1 +1.0**
R40A IAmb_Lg 07 58 15.7
comp=Z,187nm,1.1s
R40A Maddies Statio 4.46 71 P **Pn** **07 57 00.1 +1.0**
baz=254,SNR=38
R40A Maddies Statio 4.46 71 P 07 57 00.1
baz=254,SNR=38
KSCO Kaye Shedlock' 4.47 299 Pn **Pn** **07 56 60.0 +0.6**
KSCO Kaye Shedlock' 4.47 299 P **Pn** **07 56 59.9 +0.6**
baz=116,SNR=16
KSCO Kaye Shedlock' 4.47 299 P 07 56 59.8
baz=116
KSCO Kaye Shedlock' 4.47 299 P 07 56 59.9
baz=116,SNR=16
BGNE Belgrade 4.49 355 **Pn** **07 57 00.3 +0.8**
BGNE Belgrade 4.49 355 P 07 57 00.1
baz=174,SNR=6.1
BGNE S 07 57 51.0
baz=174
FCAR Ozark Folk Cen 4.55 102 **Pn** **07 57 01.6 +1.2**
FCAR IAmb_Lg 07 58 14.6
comp=Z,180nm,0.9s
X40A Basin Creek Fa 4.60 121 **Pn** **07 57 01.9 +0.9**
X40A IAmb_Lg 07 58 19.8
comp=Z,112nm,0.8s
X40A Basin Creek Fa 4.60 121 P **Pn** **07 57 01.6 +0.6**
baz=304,SNR=14
X40A Basin Creek Fa 4.60 121 P 07 57 01.6
baz=304
X40A Sb 07 58 12.4
baz=304
X40A Basin Creek Fa 4.60 121 P 07 57 01.6
baz=304,SNR=14
X40A P 07 57 01.6
baz=304,SNR=14
ABTX Abilene, Hawle 4.61 202 Pn **Pn** **07 57 01.6 +0.4**
ABTX Abilene, Hawle 4.61 202 P **Pn** **07 57 01.7 +0.5**
baz=20,SNR=11
ABTX Abilene, Hawle 4.61 202 P 07 57 01.4
baz=20
ABTX S 07 57 54.0
baz=20
ABTX Abilene, Hawle 4.61 202 P 07 57 01.7
baz=20,SNR=11
WHAR Wooly Hollow 4.62 109 Pn **Pn** **07 57 02.3 +1.0**
W41B Gary Mavity, V 4.69 110 P **Pn** **07 57 02.9 +0.6**
baz=294,SNR=17
W41B Gary Mavity, V 4.69 110 P 07 57 03.2
baz=294,SNR=15
W41B Sb 07 58 15.7
baz=294
W41B Gary Mavity, V 4.69 110 P 07 57 02.9
baz=294,SNR=17
WLAR White Oak Lake 4.91 130 Pn **Pn** **07 57 06.6 +1.3**
WLAR IAmb_Lg 07 58 39.7
comp=Z,142nm,1.0s
WHTX Lake Whitney, 4.93 178 Pn **Pn** **07 57 06.2 +0.6**
WHTX Lake Whitney, 4.93 178 P **Pn** **07 57 06.1 +0.5**
baz=358,SNR=33
WHTX Lake Whitney, 4.93 178 P 07 57 05.9
baz=358,SNR=11
WHTX S 07 58 02.2
baz=358
WHTX Lake Whitney, 4.93 178 P 07 57 06.1
baz=358,SNR=33
P40A Paris 5.09 58 Pn **Pn** **07 57 07.9 +0.1**
P40A IAmb_Lg 07 58 37.2
comp=Z,144nm,0.8s
L34A Svendsen Farm, 5.12 10 Pn **Pn** **07 57 07.9 -0.2**
L34A IAmb_Lg 07 58 37.2
comp=Z,165nm,0.7s
MSTX Muleshoe 5.14 236 Pn **Pn** **07 57 09.5 +0.9**
MSTX IAmb_Lg 07 58 48.2
comp=Z,127nm,1.0s
237A Washetta, Mont 5.14 163 Pn **Pn** **07 57 08.8 +0.3**
237A IAmb_Lg 07 58 48.6
comp=Z,98nm,0.8s
237A Washetta, Mont 5.14 163 P **Pn** **07 57 08.9 +0.4**
baz=344,SNR=11
237A Washetta, Mont 5.14 163 P 07 57 08.9
baz=344,SNR=11
N38A Joes South For 5.15 40 Pn **Pn** **07 57 07.5 -1.2**
N38A IAmb_Lg 07 58 43.5
comp=Z,188nm,0.7s
T42A Van Buren 5.23 87 IAmb_Lg 07 58 47.2
comp=Z,79nm,0.8s
OGNE Ogallala 5.28 321 Pn **Pn** **07 57 10.5 0.0**
OGNE IAmb_Lg 07 58 43.2
comp=Z,157nm,0.7s
LCAR Lake Charles 5.28 97 Pn **Pn** **07 57 11.3 +0.9**
Z41A Richland Creek 5.39 131 P 07 57 12.7
baz=314
T25A Trinidad 5.44 274 Pn **Pn** **07 57 12.6 -0.2**
T25A IAmb_Lg 07 58 48.2
comp=Z,111nm,0.8s
T25A Trinidad 5.44 274 P 07 57 12.7
baz=90
CCAR Cane Creek 5.64 121 Pn **Pn** **07 57 16.1 +0.7**
CCAR IAmb_Lg 07 58 58.5
comp=Z,112nm,1.0s
NATX Nacogdoches 5.71 154 Pn **Pn** **07 57 17.1 +0.7**
NATX IAmb_Lg 07 59 00.5
comp=Z,78nm,0.8s
K31A O'Neill 5.75 352 Pn **Pn** **07 57 17.4 +0.6**
HBAR Harrisburg 5.79 102 Pn **Pn** **07 57 18.1 +0.7**
HBAR IAmb_Lg 07 59 01.9
comp=Z,154nm,0.8s
LPAR Lepanto 6.06 100 Pn **Pn** **07 57 22.4 +1.3**
LPAR IAmb_Lg 07 59 08.9
comp=Z,102nm,0.7s
435B Jarrell 6.14 180 **Pn** **07 57 22.2 +0.1**
435B IAmb_Lg 07 59 20.8
comp=Z,131nm,0.8s
435B Jarrell 6.14 180 P **Pn** **07 57 22.1 -0.1**
baz=360,SNR=14
435B Jarrell 6.14 180 P 07 57 22.1
baz=360,SNR=9.0
435B S 07 58 30.5
baz=360
435B Jarrell 6.14 180 P 07 57 22.1
baz=360,SNR=14
Q24A Divide 6.29 291 P 07 57 24.3
baz=106
PEBM Pemiscott Bayo 6.30 95 Pn **Pn** **07 57 25.3 +0.9**
PARMO Parma 6.32 90 Pn **Pn** **07 57 24.7 +0.1**
SDCO Great Sand Dun 6.33 280 **Pn** **07 57 26.2 +1.1**
SDCO Great Sand Dun 6.33 280 P **Pn** **07 57 26.4 +1.3**
baz=95,SNR=12
SDCO Great Sand Dun 6.33 280 P 07 57 25.6
baz=95
SDCO Great Sand Dun 6.33 280 P 07 57 26.4
baz=95,SNR=12
N41A Harden Midland 6.49 52 IAmb_Lg 07 59 15.9
comp=Z,116nm,0.7s
HENM Henderson Moun 6.54 89 Pn **Pn** **07 57 28.8 +1.1**
LNXT Lenox 6.60 95 Pn **Pn** **07 57 29.0 +0.5**
143A Socs Landing, 6.63 128 IAmb_Lg 07 59 32.2
comp=Z,76nm,0.7s
JCT Junction City 6.69 196 Pn **Pn** **07 57 29.4 -0.4**
JCT IAmb_Lg 07 59 38.2
comp=Z,124nm,0.8s
JCT Junction City 6.69 196 P 07 57 29.5
baz=15,SNR=6.1
JCT S 07 58 43.0
baz=15
S44A Carbondale 6.71 81 Pn **Pn** **07 57 31.2 +1.2**
SIUC Southern Illin 6.74 81 Pn **Pn** **07 57 30.4 0.0**
HICK Hickman 6.75 91 Pn **Pn** **07 57 30.6 0.0**
HALT Halls 6.75 96 IAmb_Lg 07 59 26.4
comp=Z,87nm,0.8s
ECSD EROS Data Cent 6.83 6 Pn **Pn** **07 57 31.9 +0.2**
ECSD EROS Data Cent 6.83 6 P 07 57 31.1
baz=187
ISCO Idaho Springs 6.90 297 Pn **Pn** **07 57 32.5 -0.4**
ISCO IAmb_Lg 07 59 36.5
comp=Z,58nm,0.8s
ISCO Idaho Springs 6.90 297 P 07 57 33.1
baz=112
P43A Skaggs, Pawnee 6.92 65 Pn **Pn** **07 57 32.7 -0.2**
W45A Hickory Valley 7.06 102 Pn **Pn** **07 57 34.8 0.0**
W45A IAmb_Lg 07 59 37.1
comp=Z,101nm,0.7s
342A Flagon Creek P 7.07 140 IAmb_Lg 07 59 48.4
comp=Z,57nm,1.2s
Q44A Meyer Farm, Va 7.08 71 Pn **Pn** **07 57 36.0 +0.9**
OXF Oxford 7.10 107 Pn **Pn** **07 57 36.0 +0.6**
OXF IAmb_Lg 07 59 38.4
comp=Z,89nm,0.8s
OXF Oxford 7.10 107 P 07 57 35.6
baz=292
L40A Anamosa 7.12 42 **Pn** **07 57 35.6 0.0**
T45A Paducah 7.19 87 Pn **Pn** **07 57 37.4 +0.8**
ANMO Albuquerque 7.44 257 Pn **Pn** **07 57 38.6 -1.6**
comp=Z,0.1nm,0.3s,baz=72,slow=3.2,SNR=1.7
ANMO Pg Pb 07 58 06.5 +5.8
comp=Z,1.1nm,0.3s,baz=76,slow=19,SNR=12
ANMO Lg Lg 07 59 40.7
comp=Z,6.4nm,0.3s,baz=154,slow=20,SNR=14
HDIL Hopedale 7.44 58 Pn **Pn** **07 57 41.3 +1.2**
PHWY Pilot Hill 7.49 308 Pn **Pn** **07 57 41.0 0.0**
PHWY IAmb_Lg 08 00 02.2
comp=Z,59nm,0.7s
VBMS Vicksburg 7.51 127 IAmb_Lg 08 00 06.9
comp=Z,61nm,1.2s
SUSD Miller 7.57 353 IAmb_Lg 08 00 01.9
comp=Z,101nm,0.8s
SMCO Snowmass 7.71 290 Pn **Pn** **07 57 45.1 +1.0**
I37A Lemond, Waseca 7.77 23 IAmb_Lg 08 00 18.1
comp=Z,60nm,0.9s
O44A Mansfield 7.86 63 IAmb_Lg 08 00 01.7
comp=Z,100nm,0.8s
WVT Waverly 7.92 93 Pn **Pn** **07 57 47.1 +0.5**
WVT Waverly 7.92 93 P 07 57 46.6
baz=279
L42A Oliver, Polo 7.96 48 Pn **Pn** **07 57 47.4 +0.2**
L42A IAmb_Lg 08 00 05.5
comp=Z,96nm,0.9s
PLAL Pickwick Lake 7.98 101 Pn **Pn** **07 57 47.5 0.0**
735A Kenedy 8.06 181 Pn **Pn** **07 57 49.7 +1.1**
735A IAmb_Lg 08 00 25.9
comp=Z,68nm,1.0s
JFWS Jewell Farm 8.23 41 Pn **Pn** **07 57 51.4 +0.6**
JFWS IAmb_Lg 08 00 20.7
comp=Z,67nm,0.8s
JFWS Jewell Farm 8.23 41 P 07 57 50.4
baz=226
MNTX Cornudas Mount 8.27 233 Pn **Pn** **07 57 51.6 +0.1**
MNTX Cornudas Mount 8.27 233 P 07 57 51.5
baz=48
T47A Sharon Grove 8.42 86 Pn **Pn** **07 57 53.7 +0.2**
T47A IAmb_Lg 08 00 26.6
comp=Z,82nm,1.0s
Z47A Carrollton 8.67 113 IAmb_Lg 08 00 46.2
comp=Z,50nm,1.2s
RSSD Black Hills 8.68 328 Pn **Pn** **07 57 57.5 +0.2**
RSSD IAmb_Lg 08 00 41.1
comp=Z,49nm,0.9s
RSSD Black Hills 8.68 328 P 07 57 57.6
baz=144
833A Chaparral WMA, 8.72 190 P 07 57 56.6
baz=9.4
I40A Norwalk 8.76 35 Pn **Pn** **07 57 58.5 +0.4**
I40A IAmb_Lg 08 00 40.6
comp=Z,49nm,0.8s
V48A Smith Brothers 8.80 95 IAmb_Lg 08 00 33.2
comp=Z,47nm,0.9s
RWWY Rawlins 8.82 306 Pn **Pn** **07 57 58.6 -0.6**
RWWY IAmb_Lg 08 00 40.9
comp=Z,45nm,0.9s
K22A Casper 8.92 313 Pn **Pn** **07 58 01.3 +0.9**
K22A IAmb_Lg 08 00 41.9
comp=Z,88nm,1.1s
SFIN Lafayette 8.92 64 IAmb_Lg 08 00 42.0
comp=Z,85nm,0.9s
SPMN Marine on St. 9.04 22 Pn **Pn** **07 58 02.0 0.0**
WCI Wyandotte Cave 9.09 78 IAmb_Lg 08 00 45.1
comp=Z,44nm,0.8s
TX31 Lajitas Ar. Si 9.12 215 **Pn** **07 58 02.7 -0.5**
TXAR Lajitas Array 9.12 215 Pn **Pn** **07 58 01.9 -1.3**
comp=Z,0.3nm,0.3s,baz=35,slow=10,SNR=17
TXAR Pg 07 58 35.6
comp=Z,1.1nm,0.3s,baz=33,slow=14,SNR=7.9
TXAR Sn **Sn** **07 59 38.9 -7.1**
comp=Z,0.3nm,0.3s,baz=49,slow=11,SNR=1.5
TXAR Lg Lg 08 00 35.1
comp=Z,2.3nm,0.3s,baz=22,slow=31,SNR=6.9
TXAR Lajitas Array 9.12 215 **Pn** **07 58 02.8 -0.3**
CLTN Cedars of Leba 9.13 92 IAmb_Lg 08 00 40.9
comp=Z,36nm,0.9s
L44A Lake County Fo 9.14 52 Pn **Pn** **07 58 03.9 +0.6**
K43A Burlington 9.18 48 Pn **Pn** **07 58 04.2 +0.3**
K43A IAmb_Lg 08 00 53.1
comp=Z,89nm,1.0s
F36A Milaca 9.43 18 Pn **Pn** **07 58 08.3 +1.0**
121A Cookes Peak, D 9.45 245 IAmb_Lg 08 01 15.0
comp=Z,54nm,1.1s
U49A Red Boiling Sp 9.52 89 Pn **Pn** **07 58 08.7 +0.2**
U49A IAmb_Lg 08 00 53.1
comp=Z,49nm,1.1s
I42A Draeger Farm, 9.61 41 Pn **Pn** **07 58 09.4 -0.3**
I42A IAmb_Lg 08 00 58.7
comp=Z,47nm,0.8s
P48A Milroy 9.93 72 IAmb_Lg 08 01 01.9
comp=Z,71nm,0.9s
R49A Shelbyville 9.97 78 IAmb_Lg 08 01 09.3
comp=Z,43nm,0.8s
RDMU Red Mountain 10.01 295 Pn **Pn** **07 58 16.3 +0.7**
G40A Rib Lake 10.03 32 Pn **Pn** **07 58 15.8 +0.3**
W50A Signal Mountai 10.11 96 Pn **Pn** **07 58 18.0 +1.2**
T50A Nancy 10.23 86 Pn **Pn** **07 58 18.7 +0.4**
250A Grady 10.59 115 Pn **Pn** **07 58 23.4 +0.1**
H43A Windswept, Lux 10.60 42 Pn **Pn** **07 58 23.9 +0.6**
R50A Paris 10.63 79 Pn **Pn** **07 58 23.6 -0.2**
E38A The Farm, Brul 10.67 23 Pn **Pn** **07 58 24.2 0.0**
CPCT Cooper Cave 10.69 94 **Pn** **07 58 26.0 +1.4**
V51A Loudon 10.76 92 Pn **Pn** **07 58 26.6 +1.0**
BW06 Boulder Array 10.86 306 Pn **Pn** **07 58 28.1 +0.9**
PDAR Pinedale Array 10.86 306 Pn **Pn** **07 58 26.1 -1.1**
comp=Z,0.2nm,0.3s,baz=114,slow=15,SNR=7.1
PDAR Pg 07 59 10.8
comp=Z,0.8nm,0.3s,baz=121,slow=13,SNR=6.6
PDAR Lg Lg 08 01 29.9
comp=Z,1.2nm,0.3s,baz=112,slow=36,SNR=3.6
PDAR Pinedale Array 10.86 306 **Pn** **07 58 26.2 -1.0**
O49A Covington 10.90 69 Pn **Pn** **07 58 27.7 +0.3**
COWI Conover 11.14 32 Pn **Pn** **07 58 30.6 -0.1**
S51A Beattyville 11.20 82 **Pn** **07 58 32.0 +0.5**
WUAZ Wupatki 11.20 267 Pn **Pn** **07 58 32.5 +0.7**
TKL Tuckaleechee C 11.25 92 Pn **Pn** **07 58 32.8 +0.5**
comp=Z,0.3nm,0.3s,baz=275,slow=11,SNR=7.4
TKL Lg Lg 08 01 38.7
comp=Z,0.8nm,0.3s,baz=184,slow=24,SNR=11
TZTN Tazewell 11.30 88 Pn **Pn** **07 58 33.8 +0.9**
L48A N Adams 11.36 60 Pn **Pn** **07 58 34.6 +0.9**
V52A Sevierville 11.36 91 Pn **Pn** **07 58 33.5 -0.2**
152A Waverly Hall 11.43 108 Pn **Pn** **07 58 34.6 -0.1**
X16A Lo Mia Camp, P 11.52 262 Pn **Pn** **07 58 36.5 +0.4**
J47A Sunmer 11.64 53 Pn **Pn** **07 58 38.2 +0.6**
B35A Bob, Littlefor 11.77 13 Pn **Pn** **07 58 38.6 -0.7**
U15A North Rim 11.79 272 Pn **Pn** **07 58 40.1 +0.1**
TPAW Teton Pass 12.11 307 Pn **Pn** **07 58 43.9 -0.3**
G45A Suttons Bay 12.12 44 Pn **Pn** **07 58 43.0 -1.2**
D41A Chassel 12.14 31 Pn **Pn** **07 58 44.8 +0.3**
E43A Lone Tree Farm 12.32 37 Pn **Pn** **07 58 47.0 +0.1**
U54A Nelsons Funny 12.69 87 Pn **Pn** **07 58 51.0 -1.0**
S54A Dingess, Beckl 13.01 81 Pn **Pn** **07 58 57.4 +1.1**
V55A Taylorsville 13.27 90 Pn **Pn** **07 58 59.5 -0.3**
ULM Lac du Bonnet 13.37 5 Pn Pn 07 58 54.9 -6.2
comp=Z,0.2nm,0.3s,baz=181,slow=14,SNR=2.0
ULM Sn Sn 08 01 17.4 -12
comp=Z,0.5nm,0.3s,baz=72,slow=22,SNR=4.3
ULM Lg Lg 08 02 41.0
comp=Z,0.2nm,0.3s,baz=270,slow=18,SNR=3.5
ULM Lac du Bonnet 13.37 5 **Pn** **07 59 00.5 -0.7**
E46A Sault Ste Mari 13.69 42 Pn **Pn** **07 59 05.5 -0.1**
R55A Marlinton 13.94 79 Pn **Pn** **07 59 09.5 +0.4**
T57A Hurt 14.69 84 Pn **Pn** **07 59 19.0 -0.3**
SADO Sadowa 16.00 55 Lg Lg 08 04 05.1
baz=166,slow=22,SNR=1.4

NVAR Mina Array Bea 16.44 281 Pn **Pn 07 59 43.1 +0.6**
comp=Z,0.1nm,0.3s,baz=95,slow=10.0,SNR=4.6
NEW Newport 18.23 315 P **P 08 00 04.9 +0.2**
baz=131,slow=11,SNR=3.2
YBH Yreka Blue Hor 19.96 292 P **P 08 00 24.6 +0.8**
comp=Z,0.1nm,0.3s,baz=98,slow=6.3,SNR=14
YKA Yellowknife Ar 27.66 343 P **P 08 01 39.7 +0.5**
comp=Z,0.2nm,0.7s,baz=148,slow=8.5,SNR=2.3
ILAR Eielson Array 40.12 330 P **P 08 03 27.9 +0.9**
comp=Z,1.3nm,0.6s,baz=109,slow=7.2,SNR=16

GCMT ***02*** *08:22:37.4±0.3,4.°11S±0.°02×76.°31W±0.°02,h114km±3km, MW4.9/99,Moment Tensor Solution. s39,c43; s99,c130; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.51±.09; Mθθ-0.46±.11; Mϕϕ2.97±.14; Mrθ-0.14±.07; Mrϕ-1.01±.10; Mθϕ1.45±.10; Best double couple: M◎3.23000×10¹⁶ NP1:ϕs337.00000°,δ32.00000°,λ-101.00000°. NP2: ϕs171.00000°,δ59.00000°,λ-83.00000°. Principal axes: T 3.5850, Plg13.0000°, Azm256.0000°; N -0.7090, Plg6.0000°, Azm347.0000°; P -2.8750, Plg75.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***02*** *08:22:37.4±0.4,3.°95S×76.°17W,h109km±3km,mb4.5/24, mb1 4.6/34,mb1mx4.6/40,mbtmp4.9/34,MS3.6/3, Ms1 3.5/3,ms1mx3.0/21 Error ellipse: s-maj=12.8km s-min=7.5km az=69.0*

NEIC ***02*** *08:22:38.4±1.5,3.°99S±0.°07×76.°08W±0.°08,h118km±5km, mb4.9/438,Error ellipse: s-maj=12.5km s-min=8.4km az=62.0*

VAO ***02*** *08:22:39.9±0.2,4.°06S×75.°94W,h115km,mb5.1*

BJI ***02*** *08:22:40.0±0.0,4.°00S×76.°10W,h117km,mB5.4/11*

ISC 02 08:22:37.5±0.3,4.°06S±0.°04×76.°17W±0.°05,h112km±3km, **h112**km**:pP-P,n665,-σ0s93**/696**,mb4.9**/248**,69C-165D, Fault plane solution: NP1:**ϕs135.68965°,δ53.21101°, λ-92.94167°. **NP2:**ϕs320.59399°,δ36.88984°, λ-86.07410°. **Principal axes:** T Plg8.1678°, Azm227.7906°; N Plg2.3555°, Azm137.4523°; P Plg81.4949°, Azm31.4866°; **Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.77**	**216**	P		**Pn**	**08 23 35.2**	**+1.0**
	263nm,0.3s,baz=29,slow=9.1,SNR=1773							
ATAH				S		**Sn**	**08 24 11.9**	**-6.2**
	92nm,0.3s,baz=33,slow=6.7,SNR=6.5							
PTLC	**Puerto Leguiza**	**4.42**	**18**	*eP*		Pn	08 23 37.4	-5.2
OTAV	**Otavalo**	**4.84**	**332**	Pn		**Pn**	**08 23 49.4**	**+0.7**
OTAV	**Otavalo**	**4.84**	**332**	*eP*		**Pn**	**08 23 50.1**	**+1.5**
CZSB	**Cruzeiro do Su**	**5.02**	**137**	*eP*		**Pn**	**08 23 52.1**	**+1.5**
PAC1	**Pacto, Paraso**	**5.03**	**329**	*eP*		**Pn**	**08 23 52.0**	**+1.0**
CPAS2	**Pasto**	**5.36**	**348**	*eP*		**Pn**	**08 23 55.2**	**-0.3**
GCUF	**Volcan Galeras**	**5.38**	**347**	*eP*		**Pn**	**08 23 56.6**	**+0.6**
GCUF				*eS*		Sn	08 24 32.0	-25
GCUF				*i*			08 24 45.0	
	comp=Z,296nm,0.5s							
CCUFI	**Cufio, Nario**	**5.38**	**347**	*eP*		**Pn**	**08 23 57.7**	**+1.7**
CCUFI				*eS*		Sn	08 24 34.1	-23
FLOC	**Florencia**	**5.63**	**5**			**Pn**	**08 23 58.5**	**-0.4**
FLOC	**Florencia**	**5.63**	**5**	*eP*		**Pn**	**08 23 57.9**	**-1.0**
CFLOR	**Florencia**	**5.63**	**5**	*eP*		**Pn**	**08 23 57.1**	**-1.8**
CRUC	**La Cruz**	**5.64**	**352**	*eP*		**Pn**	**08 23 58.8**	**-0.7**
BBAC	**Balboa, Cauca**	**6.14**	**350**	*eP*		**Pn**	**08 24 06.5**	**+0.5**
BBAC				*eS*		Sn	08 24 49.7	-25
BBAC				*i*			08 25 00.6	
	comp=Z,226nm,0.5s							
SOTA	**Rioblanco**	**6.17**	**356**	*eP*		**Pn**	**08 24 06.7**	**+0.1**
GARC	**Garzon, Huila**	**6.24**	**6**	*eP*		**Pn**	**08 24 05.3**	**-2.1**
TBTG	**Tabatinga, AM**	**6.25**	**91**	*eP*		**Pn**	**08 24 07.0**	**-0.3**
PCON	**Cinco Dias**	**6.35**	**358**	*eP*		**Pn**	**08 24 07.6**	**-1.5**
MACC	**Macarena, Meta**	**6.59**	**21**	*eP*		**Pn**	**08 24 11.9**	**+0.1**
MACC	**Macarena, Meta**	**6.59**	**21**	*eP*		**Pn**	**08 24 11.8**	**-0.1**
BETC	**Betania**	**6.74**	**6**	*eP*		**Pn**	**08 24 14.8**	**+0.9**
MARP	**Paez Belalcaza**	**6.86**	**2**	*eP*		**Pn**	**08 24 14.2**	**-1.6**
GUVC	**San Jose del G**	**7.46**	**28**	*eP*		**Pn**	**08 24 22.6**	**-1.0**
NNA	**Nana**	**7.91**	**185**	P		**Pn**	**08 24 30.8**	**+1.0**
	comp=Z,42nm,0.3s,baz=7.1,slow=5.9,SNR=63							
NNA				S		**Sn**	**08 25 51.5**	**-6.1**
	comp=Z,124nm,0.3s,baz=239,slow=12,SNR=12							
NNA	**Nana**	**7.91**	**185**	Pn		**Pn**	**08 24 30.4**	**+0.7**
ORTC	**Ortega, Tolima**	**7.97**	**7**	*eP*		**Pn**	**08 24 30.0**	**-0.6**
YOTC	**Yotoco, Valle**	**7.99**	**359**	*eP*		**Pn**	**08 24 29.2**	**-1.8**
VILC	**Villavicencio,**	**8.49**	**17**	*eP*		**Pn**	**08 24 39.1**	**+1.3**
ANIL	**Santa Ana**	**8.53**	**5**	*eP*		**Pn**	**08 24 40.8**	**+2.3**
TOLC	**Tolima**	**8.63**	**7**	*eP*		**Pn**	**08 24 41.0**	**+1.2**
CHIC	**Chingaza**	**8.97**	**16**	*eP*		**Pn**	**08 24 43.2**	**-1.3**
ROSC	**El Rosal**	**9.03**	**12**	P		**Pn**	**08 24 44.7**	**-0.7**
	comp=Z,6.0nm,0.3s,baz=23,slow=2.3,SNR=11							
ROSC	**El Rosal**	**9.03**	**12**	Pn		**Pn**	**08 24 46.7**	**+1.4**
ROSC	**El Rosal**	**9.03**	**12**	*eP*		**Pn**	**08 24 46.8**	**+1.4**
PTGC	**Puerto Gaitan,**	**9.14**	**26**	*eP*		**Pn**	**08 24 45.7**	**-0.8**
GUY2C	**Guyana, Caldas**	**9.26**	**5**	*eP*		**Pn**	**08 24 49.0**	**+0.5**
NORC	**Norcasia**	**9.65**	**8**	*eP*		**Pn**	**08 24 50.6**	**-2.8**
MAPC	**Malpelo**	**9.68**	**326**	*eP*		**Pn**	**08 24 50.6**	**-3.2**
CBOC	**Ciudad Bolivar**	**9.86**	**1**	*eP*		**Pn**	**08 24 56.4**	**0.0**
SPBC	**San Pablo de B**	**9.87**	**12**	*eP*		Pn	08 24 51.4	-5.1
HELC	**Santa Helena**	**10.20**	**4**	*eP*		**Pn**	**08 24 58.0**	**-3.2**
RUSC	**La Rusia**	**10.36**	**17**	Pn		**Pn**	**08 25 03.1**	**-0.3**
RUSC	**La Rusia**	**10.36**	**17**	*eP*		**Pn**	**08 25 05.4**	**+2.0**
BARC	**Barichara**	**10.99**	**16**	*eP*		**Pn**	**08 25 12.0**	**+0.2**
BRRC	**Barranca, Sant**	**11.36**	**12**	*eP*		**Pn**	**08 25 16.6**	**+0.1**
PAMC	**Pamplona, Colo**	**11.84**	**17**	*eP*		**Pn**	**08 25 22.7**	**-0.6**
OCAC	**Ocana**	**12.54**	**13**	*eP*		**Pn**	**08 25 31.7**	**-0.5**
SMLC	**San Martn de**	**12.95**	**9**	*eP*		**P**	**08 25 43.3**	**-0.4**
SJCC	**San Jacinto, C**	**13.90**	**4**	Pn		**Pn**	**08 25 50.2**	**+0.4**
SDV	**Santo Domingo**	**13.99**	**23**	P		**Pn**	**08 25 50.1**	**-1.1**
	comp=Z,14nm,0.3s,baz=186,slow=9.4,SNR=11							
SDV	**Santo Domingo**	**13.99**	**23**	Pn		**Pn**	**08 25 50.9**	**-0.3**
SDV	**Santo Domingo**	**13.99**	**23**	*eP*		**Pn**	**08 25 52.3**	**+1.1**
LPAZ	**La Paz**	**14.49**	**148**	P		**Pn**	**08 25 58.0**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=348,slow=7.6,SNR=19							
LPAZ	**La Paz**	**14.49**	**148**	Pn		**Pn**	**08 25 58.9**	**+0.9**
PAYG	**Puerto Ayora**	**14.50**	**283**	Pn		**Pn**	**08 25 59.2**	**+1.8**
DRKD	**Durika**	**15.00**	**332**			**Pn**	**08 26 04.5**	**+0.6**
PEZE	**Perez Zeledon,**	**15.31**	**331**			**P**	**08 26 09.0**	**-1.0**
PB16	**IPOC Station P**	**15.61**	**156**			**Pn**	**08 26 11.5**	**-0.5**
PB16					IAmb	IAmb	08 26 19.8	
	comp=Z,68nm,0.8s							
CVTR	**Volcan Turrial**	**15.90**	**332**			**Pn**	**08 26 14.7**	**-0.7**
HDC	**Heredia**	**16.05**	**331**	Pn		**Pn**	**08 26 16.4**	**-0.7**
HDC					IAmb	IAmb	08 26 23.6	
	comp=Z,85nm,1.5s							
URIC	**Uribia, Colomb**	**16.20**	**15**	P		**Pn**	**08 26 18.6**	**-0.1**
URIC					IAmb	IAmb	08 26 20.9	
	comp=Z,47nm,0.8s							
MNMC	**Minye Minye**	**16.30**	**157**	P		**P**	**08 26 21.5**	**+0.4**
CAO2	**Cobano, Puntar**	**16.30**	**327**	P		**P**	**08 26 21.9**	**+1.0**
CAO2					IAmb	IAmb	08 26 22.6	
	comp=Z,56nm,1.2s							
PTGA	**Pitinga**	**16.52**	**79**	P		**Pn**	**08 26 21.4**	**-1.3**
	comp=Z,12nm,0.3s,baz=259,slow=14,SNR=38							
PTGA				S		Sn	08 29 11.5	-15
	comp=Z,2.2nm,0.3s,baz=287,slow=19,SNR=1.7							
PTGA	**Pitinga**	**16.52**	**79**			**Pn**	**08 26 22.6**	**-0.1**
PTGA					IAmb	IAmb	08 26 51.1	
	comp=Z,82nm,0.8s							
PTGA	**Pitinga**	**16.52**	**79**	*eP*		**Pn**	**08 26 21.7**	**-1.0**
PSGCX	**Pisagua**	**16.53**	**160**			**Pn**	**08 26 23.1**	**+0.2**
JTS	**Las Juntas de**	**16.73**	**329**	P		**Pn**	**08 26 23.4**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=192,slow=9.3,SNR=4.8							
JTS	**Las Juntas de**	**16.73**	**329**			**Pn**	**08 26 25.1**	**-0.1**
PB11	**IPOC Station P**	**16.85**	**158**			**P**	**08 26 27.3**	**+0.2**
PB11					IAmb	IAmb	08 26 35.7	
	comp=Z,65nm,0.8s							
BOAV	**Boa Vista**	**16.90**	**68**	*eP*		**Pn**	**08 26 26.4**	**-1.0**
ORTG	**Ortega, Santa**	**17.05**	**327**	P		**P**	**08 26 30.9**	**+1.6**
TA02	**Huaiquique**	**17.15**	**160**	P		**Pn**	**08 26 31.6**	**+1.3**
PB08	**IPOC Station P**	**17.39**	**157**	P		**Pn**	**08 26 34.2**	**+0.6**
PB08					IAmb	IAmb	08 26 40.2	
	comp=Z,45nm,0.6s							
TA01	**Diego Aracena**	**17.41**	**161**			**Pn**	**08 26 34.9**	**+1.4**
TA01					IAmb	IAmb	08 26 41.6	
	comp=Z,57nm,0.9s							
PATCX	**Punta Patache**	**17.66**	**161**	P		**Pn**	**08 26 37.4**	**+0.8**
VILB	**Vilhena**	**18.08**	**120**	*eP*		**P**	**08 26 41.0**	**+0.5**
PB01	**IPOC Station P**	**18.09**	**160**	P		**Pn**	**08 26 41.8**	**+0.1**
PB01					IAmb	IAmb	08 26 50.5	
	comp=Z,88nm,1.0s							
PCRV	**Puerto La Cruz**	**18.22**	**39**	P		**P**	**08 26 42.4**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=329,slow=3.8,SNR=4.6							
ACON	**Acoyapa**	**18.27**	**331**	P		**P**	**08 26 42.8**	**+0.3**
PB07	**IPOC Station P**	**18.59**	**161**	P		**Pn**	**08 26 47.6**	**-0.2**
PB07					IAmb	IAmb	08 26 50.1	
	comp=Z,115nm,1.1s							
SIV	**San Ignacio**	**19.00**	**130**	P		**Pn**	**08 26 51.9**	**-0.6**
	comp=Z,4.2nm,0.3s,baz=313,slow=9.0,SNR=72							
LVC	**Limon Verde**	**19.74**	**160**	P		**Pn**	**08 27 01.1**	**-0.3**
	comp=Z,3.2nm,0.3s,baz=316,slow=8.5,SNR=23							
LVC				S		**S**	**08 30 33.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=352,slow=7.4,SNR=1.4							
LVC	**Limon Verde**	**19.74**	**160**			**P**	**08 27 00.2**	**+1.4**
LVC					IAmb	IAmb	08 27 08.7	
	comp=Z,45nm,0.7s							
LVC	**Limon Verde**	**19.74**	**160**	*eP*		**P**	**08 27 00.3**	**+1.4**
PTLB	**Pontes e Lacer**	**20.22**	**125**	*eP*		**P**	**08 27 04.4**	**+0.6**
ITTB	**Itaituba**	**20.38**	**92**	*eP*		**P**	**08 27 04.6**	**-0.9**
TRN	**Trinidad (W)**	**20.73**	**45**	*eP*		Pn	08 27 11.6	-1.1
NPGB	**Novo Progresso**	**20.92**	**99**	*eP*		**P**	**08 27 09.5**	**-1.9**
TGUH	**Tegucigalpa,Un**	**21.10**	**329**	P		**P**	**08 27 12.7**	**-0.7**
TGUH					IAmb	IAmb	08 27 41.5	
	comp=Z,63nm,1.4s							
CLDB	**Colider**	**21.29**	**110**	*eP*		**P**	**08 27 14.7**	**-0.7**
TPR	**Prospect**	**21.54**	**45**	*eP*		**P**	**08 27 19.4**	**+1.4**
GRGR	**Grenville**	**21.61**	**42**	P		**P**	**08 27 18.0**	**-0.7**
TOSP	**Speyside**	**21.79**	**45**	*eP*		**P**	**08 27 22.1**	**+1.5**
TOSP	**Speyside**	**21.79**	**45**	P		**P**	**08 27 18.8**	**-1.8**
TOSP					IAmb	IAmb	08 27 35.9	
	comp=Z,40nm,0.9s							
GO02	**Mina Guanaco**	**21.91**	**164**	P		**P**	**08 27 23.8**	**+1.6**
GO02					IAmb	IAmb	08 27 26.8	
	comp=Z,42nm,0.9s							
MALB	**Monte Alegre**	**21.98**	**85**	*eP*		**P**	**08 27 22.6**	**0.0**
MTO3	**Monchisto**	**22.53**	**325**	P		**P**	**08 27 27.8**	**-0.6**
AC01	**Pan de Azucar**	**22.60**	**167**	P		**P**	**08 27 29.9**	**+1.0**
SDDR	**Presa de Saban**	**23.40**	**12**	P		**P**	**08 27 36.8**	**+0.3**
AC02	**Maricunga**	**23.63**	**164**	P		**P**	**08 27 41.0**	**+1.9**
MLPR	**Magueyes Islan**	**23.67**	**22**	P		**P**	**08 27 39.0**	**+0.1**
MLPR					IAmb	IAmb	08 27 40.4	
	comp=Z,92nm,1.4s							
ICMP	**Isla Caja de M**	**23.79**	**23**	P		**P**	**08 27 40.6**	**+0.5**
MPR	**Mayaguez**	**23.85**	**22**	P		**P**	**08 27 41.1**	**+0.5**
GTBY	**Guantanamo Bay**	**23.86**	**2**	P		**P**	**08 27 40.0**	**-0.7**
GTBY					IAmb	IAmb	08 27 43.8	
	comp=Z,62nm,1.0s							
OBIP	**Obispado Ponce**	**23.90**	**23**	P		**P**	**08 27 40.7**	**-0.3**
CBCY	**The Bluff, Cay**	**23.91**	**352**	P		**P**	**08 27 40.7**	**-0.4**
PDPR	**Patillas Dam,**	**24.11**	**24**	P		**P**	**08 27 42.4**	**-0.5**
AOPR	**Arecibo Observ**	**24.12**	**22**	P		**P**	**08 27 42.5**	**-0.5**
SJG	**San Juan**	**24.14**	**24**	P		**P**	**08 27 43.3**	**0.0**
	comp=Z,137nm,0.7s,baz=193,slow=6.3,SNR=64							
SJG	**San Juan**	**24.14**	**24**	P		**P**	**08 27 43.2**	**0.0**
HUMP	**Col San Antoni**	**24.30**	**24**	P		**P**	**08 27 43.9**	**-0.7**
HUMP					IAmb	IAmb	08 28 11.2	
	comp=Z,26nm,0.8s							
GCPR	**Guaynabo City**	**24.35**	**24**	P		**P**	**08 27 44.8**	**-0.3**
GCPR					IAmb	IAmb	08 27 46.0	
	comp=Z,45nm,0.7s							
MCPB	**Macapa, AP**	**24.37**	**82**	*eP*		**P**	**08 27 45.6**	**+0.2**
MTP	**Monte Pirata**	**24.38**	**25**	P		**P**	**08 27 44.7**	**-0.7**
MTP					IAmb	IAmb	08 27 46.2	
	comp=Z,32nm,0.6s							
CBYP	**Canovanas**	**24.41**	**24**	P		**P**	**08 27 45.4**	**-0.4**
CDVI	**St. Croix**	**24.42**	**27**	P		**P**	**08 27 46.1**	**+0.4**
CUPR	**Culebra, Puert**	**24.68**	**25**	P		**P**	**08 27 47.3**	**-0.8**
PP1B	**Ponte de Pedra**	**24.82**	**124**	*eP*		**P**	**08 27 50.7**	**+1.2**
STVI	**Saint Thomas**	**24.86**	**26**	P		**P**	**08 27 48.5**	**-1.2**
SKI	**Saint Kitts**	**25.05**	**32**	P		**P**	**08 27 50.5**	**-1.0**
MDP	**Montagnes des**	**25.20**	**69**	P		**P**	**08 27 53.4**	**+0.4**
	comp=Z,34nm,0.6s,baz=243,slow=8.7,SNR=32							
ABVI	**Anegada Island**	**25.47**	**27**	P		**P**	**08 27 54.5**	**-0.7**
AQDB	**Aquidauana**	**25.75**	**131**	P		**P**	**08 27 58.8**	**+0.9**
AQDB	**Aquidauana**	**25.75**	**131**	*eP*		**P**	**08 27 58.6**	**+0.7**
SNDB	**Serra Nova Dou**	**25.84**	**109**	*eP*		**P**	**08 27 59.5**	**+0.7**
GRTK	**Grand Turk**	**25.89**	**11**	P		**P**	**08 27 59.5**	**+0.5**
PRPB	**Parauapebas**	**26.33**	**96**	*eP*		**P**	**08 28 03.0**	**-0.2**
ARAG	**Araguaiana, MT**	**26.60**	**117**	*eP*		**P**	**08 28 06.0**	**+0.4**
CMIG	**Matias Romero**	**27.99**	**319**	P		**P**	**08 28 16.6**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=146,slow=5.7,SNR=1.7							
CMIG					pP	**pP**	**08 28 41.6**	**-0.9**
	comp=Z,26nm,1.1s,baz=126,slow=5.0,SNR=13							
TMAB	**Tom-Au,PA,Br**	**28.08**	**87**	*eP*		**P**	**08 28 19.9**	**+1.1**
CPUP	**Villa Florida**	**28.57**	**143**	P		**P**	**08 28 22.9**	**-0.1**
	comp=Z,10nm,0.8s,baz=324,slow=9.5,SNR=27							
CPUP					pP	**pP**	**08 28 47.7**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=317,slow=12,SNR=2.7							
CPUP					PcP	**PcP**	**08 31 32.4**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=297,slow=2.3,SNR=4.8							
CPUP	**Villa Florida**	**28.57**	**143**	P		**P**	**08 28 22.4**	**-0.6**
CPUP	**Villa Florida**	**28.57**	**143**	*eP*		**P**	**08 28 22.9**	**-0.1**
PEXB	**Peixe**	**28.70**	**108**	*eP*		**P**	**08 28 24.9**	**+0.6**
SMTB	**Santa Maria do**	**28.79**	**101**	*eP*		**P**	**08 28 25.3**	**+0.2**
TRCB	**Terra Rica**	**29.42**	**131**	P		**P**	**08 28 30.2**	**-0.5**
TRCB					IAmb	IAmb	08 28 31.3	
	comp=Z,44nm,1.0s							
TRCB	**Terra Rica**	**29.42**	**131**	*eP*		**P**	**08 28 30.6**	**0.0**
ITRB	**Iturama**	**29.58**	**124**	*eP*		**P**	**08 28 32.6**	**+0.5**
PCMB	**Pocambu**	**29.81**	**128**	*eP*		**P**	**08 28 34.0**	**-0.1**
MT09	**Talagante**	**29.96**	**171**	P		**P**	**08 28 36.4**	**+1.0**
MT09					IAmb	IAmb	08 28 37.6	
	comp=Z,16nm,0.9s							
BDFB	**Brasilia**	**29.98**	**115**	P		**P**	**08 28 35.9**	**0.0**
	comp=Z,14nm,0.9s,baz=281,slow=11,SNR=13							
BDFB					LR	LR	08 40 02.9	
	comp=Z,125nm,21.4s,baz=285,slow=35							
BDFB	**Brasilia**	**29.98**	**115**	P		**P**	**08 28 36.2**	**+0.4**
BDFB					IAmb	IAmb	08 28 38.2	
	comp=Z,29nm,1.2s							
IPMB	**Ipameri, GO**	**30.66**	**119**	*eP*		**P**	**08 28 42.1**	**+0.3**
PTGB	**Pitanga**	**30.98**	**134**	*eP*		**P**	**08 28 44.3**	**-0.2**
ITQB	**Itaqui**	**31.49**	**146**	P		**P**	**08 28 49.0**	**+0.3**
ITQB	**Itaqui**	**31.49**	**146**	*eP*		**P**	**08 28 49.3**	**+0.5**
BB19B	**Bebedouro**	**31.74**	**125**	*eP*		**P**	**08 28 51.0**	**-0.1**
ROSB	**Rosario**	**32.01**	**89**	*eP*		**P**	**08 28 53.4**	**-0.1**
SDBA	**SAO DESIDERIO**	**32.01**	**107**	*eP*		**P**	**08 28 53.7**	**+0.2**
FRTB	**Fartura**	**32.06**	**129**	*eP*		**P**	**08 28 54.3**	**+0.3**
DWPF	**Disney Wildern**	**32.38**	**351**	P			08 28 57.3	
	baz=170							
DWPF	**Disney Wildern**	**32.38**	**351**	P		**P**	**08 28 57.1**	**+0.6**
ITAB	**Concordia**	**32.52**	**138**	*eP*		**P**	**08 28 58.3**	**+0.4**
RCLB	**Rio Claro- Sao**	**33.20**	**126**	*eP*		**P**	**08 29 04.3**	**+0.4**
JANB	**Januaria**	**33.21**	**111**	*eP*		**P**	**08 29 04.2**	**+0.1**
SPB	**Sao Paulo**	**33.86**	**128**	*eP*		**P**	**08 29 09.4**	**-0.2**
CPSB	**Capanema Do Su**	**33.87**	**143**	*eP*		**P**	**08 29 09.4**	**-0.2**
VAO	**Valinhos**	**33.94**	**126**	*eP*		**P**	**08 29 09.9**	**-0.5**
MC01	**Montes Claros**	**34.03**	**114**	*eP*		**P**	**08 29 11.4**	**+0.3**
PET01	**Itanhaem-SP**	**34.34**	**129**	*eP*		**P**	**08 29 12.8**	**-0.9**
NBPS	**Pedro II - PI**	**34.63**	**92**	*eP*		**P**	**08 29 16.6**	**+0.2**
PLTB	**Pedras Altas**	**34.77**	**145**	P		**P**	**08 29 16.9**	**-0.4**
PLTB	**Pedras Altas**	**34.77**	**145**	*eP*		**P**	**08 29 17.5**	**+0.2**
PARB	**Paraibuna**	**35.18**	**126**	*eP*		**P**	**08 29 20.9**	**-0.1**
ESAR	**Angra dos Reis**	**36.00**	**124**	*eP*		**P**	**08 29 28.4**	**+0.4**
TIGA	**Tifton**	**36.00**	**349**	P			08 29 28.1	
	baz=167							
NBMO	**Morrinhos-CE**	**36.06**	**90**	*eP*		**P**	**08 29 28.6**	**0.0**
NBPN	**Ponto Novo - B**	**36.27**	**103**	*eP*		**P**	**08 29 30.3**	**-0.1**
255A	**Hazlehurst**	**36.29**	**351**	P		**P**	**08 29 31.0**	**+0.8**
255A					IAmb	IAmb	08 29 32.1	
	comp=Z,21nm,0.9s							
NBPB	**Pedra_Branca-C**	**36.48**	**94**	*eP*		**P**	**08 29 32.4**	**+0.1**
BRAL	**Brewton**	**36.54**	**344**	P			08 29 32.1	
	baz=162							
PLCA	**Paso Flores**	**36.86**	**173**	P		**P**	**08 29 36.0**	**+0.9**
	comp=Z,10nm,1.0s,baz=346,slow=8.6,SNR=8.1							
PLCA					pP	**pP**	**08 30 02.3**	**+2.0**
	comp=Z,5.2nm,0.8s,baz=57,slow=7.6,SNR=3.7							
PLCA					PcP	**PcP**	**08 31 55.0**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=294,slow=6.4,SNR=3.1							
PLCA	**Paso Flores**	**36.86**	**173**	P		**P**	**08 29 35.3**	**+0.2**
PLCA					IAmb	IAmb	08 29 38.2	
	comp=Z,16nm,1.1s							
PLCA	**Paso Flores**	**36.86**	**173**	*eP*		**P**	**08 29 36.7**	**+1.6**
154A	**Montrose**	**37.06**	**350**	P		**P**	**08 29 36.5**	**-0.2**
250A	**Grady**	**37.10**	**346**	P		**P**	**08 29 36.7**	**-0.4**
250A					IAmb	IAmb	08 29 38.2	
	comp=Z,16nm,0.8s							
SJMB	**Sao Joao De Ma**	**37.15**	**116**	*eP*		**P**	**08 29 37.8**	**0.0**
NHSC	**New Hope**	**37.16**	**354**	P			08 29 37.2	
	baz=173,SNR=5.0							
NHSC	**New Hope**	**37.16**	**354**	P		**P**	**08 29 38.6**	**+1.0**
DUB01	**Friburgo-RJ**	**37.33**	**122**	*eP*		**P**	**08 29 39.6**	**+0.3**
GDU01	**Guandu, BA**	**37.35**	**107**	*eP*		**P**	**08 29 39.7**	**+0.2**
NBMA	**Muriti-CE**	**37.35**	**97**	*eP*		**P**	**08 29 40.1**	**+0.5**
152A	**Waverly Hall**	**37.42**	**348**	P		**P**	**08 29 39.1**	**-0.7**
152A					IAmb	IAmb	08 29 40.8	
	comp=Z,13nm,0.8s							
152A						**PcP**	**08 31 55.9**	**-0.5**
BSFB	**Barra de Sao F**	**37.49**	**116**	*eP*		**P**	**08 29 40.8**	**+0.1**
NBIT	**Itapeh - BA**	**37.74**	**109**	*eP*		**P**	**08 29 43.1**	**+0.3**
CMC01	**Camacan, BA**	**37.76**	**110**	*eP*		**P**	**08 29 43.1**	**+0.2**
NBCL	**Cascavel-CE**	**37.78**	**92**	*eP*		**P**	**08 29 43.3**	**+0.1**
GUA01	**Guaratinga, BA**	**37.79**	**112**	*eP*		**P**	**08 29 43.1**	**-0.2**
CAM01	**Campos-RJ**	**37.84**	**121**	*eP*		**P**	**08 29 43.9**	**+0.4**
NAN01	**Guarapari, ES**	**37.85**	**114**	*eP*		**P**	**08 29 44.0**	**+0.4**
GOGA	**Godfrey**	**37.90**	**350**	P			08 29 43.5	
	baz=166,SNR=6.8							
GOGA	**Godfrey**	**37.90**	**350**	P		**P**	**08 29 43.8**	**0.0**
GOGA					IAmb	IAmb	08 29 45.0	
	comp=Z,9.9nm,0.8s							
344A	**Westbrook Farm**	**37.94**	**340**	P		**P**	**08 29 44.5**	**+0.3**
344A					IAmb	IAmb	08 29 45.8	
	comp=Z,22nm,0.9s							
RIB01	**Linhares ES**	**38.05**	**116**	*eP*		**P**	**08 29 45.5**	**+0.2**
Y57A	**Sumter**	**38.08**	**354**	P		**P**	**08 29 45.7**	**+0.4**
Z51A	**Franklin**	**38.14**	**348**	P		**P**	**08 29 45.6**	**-0.2**
Z51A					IAmb	IAmb	08 29 46.5	
	comp=Z,14nm,1.0s							
ALF01	**Guarapari-ES**	**38.20**	**119**	*eP*		**P**	**08 29 46.9**	**+0.4**
JSC	**Jenkinsville**	**38.44**	**353**	P		**P**	**08 29 48.5**	**+0.2**
JSC						**PcP**	**08 31 59.7**	**+0.2**
Y52A	**Lilburn**	**38.45**	**349**	P		**P**	**08 29 48.0**	**-0.5**
HODGE	**Hodges**	**38.52**	**352**	P		**P**	**08 29 48.5**	**-0.5**
HODGE					IAmb	IAmb	08 29 50.6	
	comp=Z,43nm,1.5s							
VBMS	**Vicksburg**	**38.57**	**340**	P			08 29 49.0	
	baz=157							
NBLA	**Lagarto - SE**	**38.64**

Z35A Perchaven, San 42.20 333 P P 08 30 19.3 -0.1
R55A Marlinton 42.29 355 P P 08 30 20.2 +0.1
R55A IAmb IAmb 08 30 22.0
comp=Z,14nm,0.7s
LCAR Lake Charles 42.31 342 P P 08 30 18.9 -1.4
TXAR Lajitas Array 42.41 323 P P 08 30 21.9 +0.6
comp=Z,0.5nm,0.4s,baz=147,slow=8.0,SNR=15
TXAR pP pP 08 30 46.6 -0.4
comp=Z,3.5nm,0.7s,baz=142,slow=8.9,SNR=14
TXAR PcP PcP 08 32 13.3 +0.7
comp=Z,4.4nm,0.7s,baz=144,slow=5.9,SNR=12
TXAR Lajitas Array 42.41 323 P P 08 30 22.0 +0.7
TXAR pP pP 08 30 49.5 +2.4
TXAR PcP PcP 08 32 13.2 +0.6
TX31 Lajitas Ar. Si 42.41 323 P P 08 30 22.2 +0.9
TX31 IAmb IAmb 08 30 50.2
comp=Z,14nm,0.8s
TX32 Lajitas Array 42.41 323 P P 08 30 21.8 +0.5
W39A Magazine 42.41 338 P 08 30 20.7
baz=153
W39A Magazine 42.41 338 P P 08 30 21.0 -0.1
PARMO Parma 42.45 344 P P 08 30 19.9 -1.4
FCAR Ozark Folk Cen 42.46 341 P P 08 30 20.0 -1.5
X37A Clayton 42.48 336 P P 08 30 22.0 +0.3
T45A Paducah 42.49 345 P P 08 30 20.2 -1.4
R53A Hurricane 42.52 353 P P 08 30 21.2 -0.6
LOOK Love County 42.73 334 P P 08 30 24.2 +0.6
LOOK IAmb IAmb 08 30 25.5
comp=Z,20nm,0.9s
ABTX Abilene, Hawle 42.74 330 P 08 30 24.6
baz=144,SNR=11
ABTX Abilene, Hawle 42.74 330 P P 08 30 24.4 +0.5
ABTX IAmb IAmb 08 30 52.5
comp=Z,35nm,1.1s
R50A Paris 42.80 351 P P 08 30 23.1 -1.0
R50A IAmb IAmb 08 30 24.7
comp=Z,23nm,0.7s
R49A Shelbyville 42.96 350 P P 08 30 24.8 -0.6
R49A IAmb IAmb 08 30 25.6
comp=Z,18nm,0.8s
Q56A Snyder Ridge, 42.98 357 P P 08 30 26.2 +0.6
Q56A IAmb IAmb 08 30 27.4
comp=Z,15nm,0.9s
Q54A Coxs Mills 43.05 355 P P 08 30 25.7 -0.4
Q54A IAmb IAmb 08 30 26.9
comp=Z,13nm,0.8s
WCI Wyandotte Cave 43.11 348 P P 08 30 25.4 -1.2
WCI IAmb IAmb 08 30 26.6
comp=Z,27nm,1.1s
WCI Wyandotte Cave 43.11 348 P 08 30 25.4
baz=165
U40A Yellville 43.13 340 P 08 30 25.9
baz=155,SNR=10
U40A Yellville 43.13 340 P P 08 30 26.2 -0.6
Q52A Bidwell 43.18 353 P P 08 30 26.8 -0.4
Q52A IAmb IAmb 08 30 28.2
comp=Z,21nm,0.9s
T42A Van Buren 43.18 342 P P 08 30 26.4 -0.8
T42A IAmb IAmb 08 30 26.5
comp=Z,12nm,0.6s
S44A Carbondale 43.29 345 P P 08 30 26.9 -1.2
S44A IAmb IAmb 08 30 27.7
comp=Z,27nm,0.8s
SIUC Southern Illin 43.30 345 P P 08 30 26.7 -1.4
Q51A Peebles 43.38 352 P P 08 30 28.4 -0.4
HHAR Hobbs 43.44 339 P P 08 30 28.2 -1.2
X34A Smith Ranch, M 43.53 334 P P 08 30 31.1 +1.0
X34A IAmb IAmb 08 30 32.0
comp=Z,26nm,0.9s
W35A Tecumseh 43.59 335 P P 08 30 29.4 -1.2
P53A Whipple 43.60 354 P P 08 30 30.3 -0.2
P53A IAmb IAmb 08 30 31.3
comp=Z,17nm,0.7s
MCWV Mont Chateau 43.63 356 P 08 30 29.5
baz=175
MCWV Mont Chateau 43.63 356 P P 08 30 31.7 +0.8
P60A Greenville 43.66 1 P 08 30 30.7
baz=181
U38A Gravette 43.74 339 P P 08 30 30.7 -1.0
TUL1 Leonard 43.80 337 P 08 30 31.7
baz=151
P52A Corning 43.82 353 P P 08 30 31.3 -1.1
P52A IAmb IAmb 08 30 33.0
comp=Z,17nm,0.8s
P52A Corning 43.82 353 P 08 30 31.8
baz=171,SNR=7.5
MVL Millersville 43.84 360 P P 08 30 32.9 +0.4
FNO Franklin 43.90 335 P P 08 30 33.0 -0.1
WMOK Wichita Mounta 44.07 333 P 08 30 34.5
baz=146,SNR=15
WMOK Wichita Mounta 44.07 333 P P 08 30 33.9 -0.5
PAGS Pennsylvania G 44.07 359 P P 08 30 34.7 +0.4
PAGS IAmb IAmb 08 30 36.4
comp=Z,17nm,0.8s
P49A Miami Univ. Ec 44.09 350 P 08 30 33.2
baz=168,SNR=7.3
P49A Miami Univ. Ec 44.09 350 P P 08 30 33.0 -1.5
P49A IAmb IAmb 08 30 33.7
comp=Z,15nm,0.6s
P48A Milroy 44.14 350 P P 08 30 33.1 -1.8
P48A IAmb IAmb 08 30 33.9
comp=Z,14nm,0.6s
OK025 Westminster Rd 44.15 335 P P 08 30 34.5 -0.5
OK025 IAmb IAmb 08 30 35.6
comp=Z,20nm,1.0s
O56A Blue Knob Stat 44.16 357 P 08 30 36.0
baz=176,SNR=6.3
O56A Blue Knob Stat 44.17 357 P P 08 30 35.5 +0.3
O56A IAmb IAmb 08 30 36.8
comp=Z,18nm,0.8s
OK030 Cody Creek RV 44.22 336 P P 08 30 35.1 -0.5
OK030 IAmb IAmb 08 30 36.3
comp=Z,17nm,0.8s
OK031 S. Brethren Rd 44.26 336 P P 08 30 35.8 -0.2
OK031 IAmb IAmb 08 30 36.7
comp=Z,22nm,1.0s
O52A Adamsville 44.27 354 P P 08 30 35.0 -0.8
O52A IAmb IAmb 08 30 36.6
comp=Z,17nm,0.8s
BCOK Bluff Creek, N 44.33 335 P P 08 30 36.1 -0.4
O53A New Philadelph 44.33 354 P 08 30 36.1
baz=173
O53A New Philadelph 44.34 354 P P 08 30 36.2 -0.3
O53A IAmb IAmb 08 30 37.6
comp=Z,44nm,1.4s
Q44A Meyer Farm, Va 44.37 346 P P 08 30 35.4 -1.3
Q44A IAmb IAmb 08 30 36.1
comp=Z,22nm,0.8s
OK029 Liberty Lake 44.38 335 P P 08 30 36.8 -0.2
OK029 IAmb IAmb 08 30 37.6
comp=Z,28nm,0.8s
LUPA Lehigh Univers 44.45 1 P P 08 30 37.4 +0.1
LUPA IAmb IAmb 08 30 39.1
comp=Z,24nm,0.8s
S39A Bolivar 44.49 340 P P 08 30 36.5 -1.2
SSPA Standing Stone 44.51 358 P 08 30 38.6
baz=177
SSPA Standing Stone 44.51 358 P P 08 30 37.3 -0.5
SSPA IAmb IAmb 08 30 39.7
comp=Z,19nm,0.8s
ACSO Alum Creek Sta 44.52 353 P 08 30 36.8
baz=170,SNR=5.7
ACSO Alum Creek Sta 44.52 353 P P 08 30 37.2 -0.7
ACSO IAmb IAmb 08 30 38.3
comp=Z,17nm,0.8s
P46A Rosedale 44.64 348 P P 08 30 37.4 -1.5
P46A IAmb IAmb 08 30 38.3
comp=Z,12nm,0.7s
O49A Covington 44.67 351 P P 08 30 38.0 -1.1
R40A Maddies Statio 44.70 342 P P 08 30 38.1 -1.3
N59A State Game Lan 44.76 0 P 08 30 40.9
baz=180,SNR=8.8
N59A State Game Lan 44.76 0 P P 08 30 40.4 +0.5
N59A IAmb IAmb 08 30 42.1
comp=Z,29nm,0.8s
N53A Lisbon 44.85 355 P P 08 30 39.9 -0.7
N53A IAmb IAmb 08 30 41.5
comp=Z,17nm,0.9s
PAL Palisades 44.90 2 P 08 30 41.2
baz=183
N54A Moraine State 44.94 356 P 08 30 41.8
baz=174,SNR=13
N54A Moraine State 44.94 356 P P 08 30 41.4 +0.2
WSPT Westport, CT 45.09 3 P P 08 30 42.9 +0.6
MNTX Cornudas Mount 45.14 324 P P 08 30 43.5 +0.5
MNTX Cornudas Mount 45.14 324 P 08 30 43.4
baz=137,SNR=6.1
P43A Skaggs, Pawnee 45.19 345 P P 08 30 42.0 -1.2
P43A IAmb IAmb 08 30 42.8
comp=Z,18nm,0.9s
CROK Carrier 45.21 335 P P 08 30 43.1 -0.4
SFIN Lafayette 45.34 348 P 08 30 43.0
baz=164
SFIN Lafayette 45.35 348 P P 08 30 42.7 -1.8
SFIN IAmb IAmb 08 30 43.5
comp=Z,19nm,0.5s
N49A Columbus Grove 45.36 351 P P 08 30 43.5 -1.1
N49A IAmb IAmb 08 30 44.2
comp=Z,13nm,0.7s
M55A Ridgway 45.37 357 P P 08 30 45.0 +0.3
M55A IAmb IAmb 08 30 45.7
comp=Z,18nm,0.7s
M62A Hamden 45.38 3 P 08 30 45.6
baz=184,SNR=5.2
M63A Gales Ferry 45.40 4 P 08 30 45.0
baz=186
MSTX Muleshoe 45.40 328 P 08 30 45.5
baz=141,SNR=8.5
MSTX Muleshoe 45.40 328 P P 08 30 45.3 +0.2
O44A Mansfield 45.42 347 P P 08 30 43.6 -1.5
O44A IAmb IAmb 08 30 45.1
comp=Z,18nm,0.6s
KAN13 South Haven SW 45.44 336 P P 08 30 45.7 +0.5
KAN13 IAmb IAmb 08 30 46.4
comp=Z,18nm,0.7s
GC02 Grant County # 45.45 335 P P 08 30 45.0 -0.4
M54A Oil Creek Stat 45.46 356 P 08 30 45.6
baz=175,SNR=11
M54A Oil Creek Stat 45.46 356 P P 08 30 45.7 +0.4
M54A IAmb IAmb 08 30 46.8
comp=Z,31nm,0.8s
M53A WI Miller and 45.47 355 P 08 30 45.1
baz=174
M53A WI Miller and 45.47 355 P P 08 30 45.1 -0.3
M53A IAmb IAmb 08 30 46.4
comp=Z,26nm,1.2s
OK032 Salt Plains WL 45.56 335 P P 08 30 45.6 -0.6
OK032 IAmb IAmb 08 30 46.8
comp=Z,19nm,0.7s
N47A Urbana 45.56 350 P P 08 30 44.7 -1.5
KAN09 Caldwell North 45.60 336 P P 08 30 45.9 -0.6
KAN09 IAmb IAmb 08 30 47.6
comp=Z,28nm,0.9s
M64A Tiverton 45.62 5 P 08 30 48.9
baz=187
ALLY Alegheny Colle 45.63 356 P P 08 30 46.5 -0.3
ALLY IAmb IAmb 08 30 47.4
comp=Z,24nm,0.6s
KAN01 Argonia South 45.67 336 P P 08 30 46.5 -0.6
KAN01 IAmb IAmb 08 30 48.3
comp=Z,29nm,0.8s
M50A Fremont 45.68 353 P P 08 30 45.5 -1.5
KAN08 Anthony NE Sta 45.82 336 P P 08 30 48.8 +0.5
L58A Harry Jones Me 45.89 0 P 08 30 49.7
baz=180,SNR=8.2
L63A North Scituate 45.89 5 P 08 30 49.1
baz=186
L62A Suffield 45.98 4 P 08 30 49.7
baz=185
L56A Greenwood 45.99 359 P 08 30 50.2
baz=178,SNR=6.7
L56A Greenwood 45.99 359 P P 08 30 49.7 +0.1
L56A IAmb IAmb 08 30 50.8
comp=Z,19nm,0.7s
HDIL Hopedale 46.00 346 P 08 30 47.8
baz=162,SNR=20
HDIL Hopedale 46.00 346 P P 08 30 48.1 -1.5
BINY Binghamton 46.04 0 P 08 30 51.0
baz=180,SNR=9.2
BINY Binghamton 46.04 0 P P 08 30 49.8 -0.1
L59A Walton 46.04 1 P 08 30 50.3
baz=181
ERPA Erie 46.09 356 P 08 30 50.2
baz=175
ERPA Erie 46.09 356 P P 08 30 50.5 +0.2
ERPA IAmb IAmb 08 30 51.3
comp=Z,28nm,0.9s
L61A Hillsdale 1, H 46.09 3 P 08 30 51.2
baz=184
WVNY West Valley, N 46.30 358 P P 08 30 51.7 -0.3
WVNY IAmb IAmb 08 30 53.1
comp=Z,25nm,0.8s
P38A Dawn 46.32 341 P P 08 30 51.0 -1.1
L61B Northampton 46.40 4 P 08 30 53.0
baz=185
L48A N Adams 46.40 351 P P 08 30 51.4 -1.3
L48A IAmb IAmb 08 30 52.1
comp=Z,14nm,0.6s
HRV Adam Dziewonsk 46.53 5 P 08 30 54.9
baz=186
N41A Harden Midland 46.54 345 P P 08 30 52.3 -1.5
N41A IAmb IAmb 08 30 54.0
comp=Z,26nm,1.3s
K56A Middlesex 46.55 359 P 08 30 54.4
baz=178
K61A Williamstown 46.58 3 P 08 30 54.7
baz=184
K58A Earlville 46.61 1 P 08 30 55.0
baz=181,SNR=7.4
K58A Earlville 46.61 1 P P 08 30 54.0 -0.3
K58A IAmb IAmb 08 30 56.2
comp=Z,38nm,1.1s
K59A Cooperstown 46.63 1 P 08 30 55.5
baz=182
K63A Dunstable 46.72 5 P 08 30 55.7
baz=186
L46A Eue Claire 46.77 350 P P 08 30 53.8 -1.8
KSU1 Kansas State U 46.91 338 P 08 30 55.8
baz=151
K50A Casco 46.98 354 P P 08 30 55.7 -1.5
J56A Wolcott 47.12 359 P 08 30 58.5
baz=179,SNR=7.1
J56A Wolcott 47.12 359 P P 08 30 58.2 0.0
J55A Hilton 47.13 358 P P 08 30 58.1 -0.2
J55A IAmb IAmb 08 30 59.5
comp=Z,28nm,0.8s
R32A Long Quarter, 47.15 336 P P 08 30 58.7 0.0
R32A IAmb IAmb 08 30 60.0
comp=Z,38nm,1.1s
J60A Lant Hill Farm 47.15 3 P 08 30 59.2
baz=184
121A Cookes Peak, D 47.16 323 P 08 31 00.7
baz=134
121A Cookes Peak, D 47.16 323 P P 08 31 00.0 +1.0
J58A Remsen 47.21 1 P 08 30 59.2
baz=181,SNR=5.4
J58A Remsen 47.21 1 P P 08 30 59.1 +0.1
J58A IAmb IAmb 08 31 00.6
comp=Z,14nm,0.7s
J62A Henniker 47.23 4 P 08 30 59.8
baz=186
J57A Williamstown 47.25 0 P 08 30 59.8
baz=180,SNR=6.5
J57A Williamstown 47.25 0 P P 08 30 59.5 +0.2
J57A IAmb IAmb 08 31 01.3
comp=Z,16nm,0.7s
N38A Joes South For 47.29 342 P P 08 30 58.2 -1.4
N38A IAmb IAmb 08 30 58.8
comp=Z,12nm,0.6s
319A Douglas 47.30 321 P P 08 31 01.1 +1.0
319A IAmb IAmb 08 29.9
comp=Z,18nm,0.8s
J61A Chester 47.30 4 P 08 31 00.4
baz=185
J59A Piesco 47.33 2 P 08 31 00.7
baz=182,SNR=9.0
J59A Piesco 47.33 2 P P 08 31 00.3 +0.3
J59A IAmb IAmb 08 31 01.7
comp=Z,25nm,0.8s
L42A Oliver, Polo 47.46 346 P P 08 30 59.7 -1.2
L42A IAmb IAmb 08 31 01.0
comp=Z,21nm,0.7s
I58A Old Forge 47.54 1 P 08 31 01.7
baz=182,SNR=11
BNM Barren Site 47.64 325 P P 08 31 03.7 +0.9
BNM PcP PcP 08 32 31.8 +1.1
I59A Olmsteadville 47.68 2 P 08 31 03.2
baz=183,SNR=6.6
J47A Sunmer 47.73 351 P P 08 31 01.7 -1.2
I60A Shoreham 47.75 3 P 08 31 04.3
baz=184
I57A Carthage 47.78 0 P 08 31 04.0
baz=181
PECO Prince Edward 47.78 359 P P 08 31 03.6 +0.2
PECO IAmb IAmb 08 31 04.5
comp=Z,24nm,0.7s
K43A Burlington 47.83 348 P P 08 31 02.4 -1.4
NCB Newcomb 47.84 2 P P 08 31 04.1 +0.2
NCB IAmb IAmb 08 31 05.6
comp=Z,15nm,0.8s
LENM Lemitar 47.85 325 P P 08 31 05.3 +1.0
CBKS Cedar Bluff 47.90 335 P 08 31 04.8
baz=147,SNR=8.8
CBKS Cedar Bluff 47.90 335 P P 08 31 03.9 -0.6
L40A Anamosa 47.90 345 P P 08 31 03.1 -1.3
L40A IAmb IAmb 08 31 03.9
comp=Z,18nm,0.8s
I61A Oroboro, Fairl 47.91 4 P 08 31 05.1
baz=185
ANMO Albuquerque 48.12 326 P 08 31 07.6
baz=138
ANMO Albuquerque 48.12 326 P P 08 31 07.0 +0.5
ANMO IAmb IAmb 08 31 36.2
comp=Z,22nm,0.8s
I49A Point Hope 48.16 354 P P 08 31 04.9 -1.3
I49A IAmb IAmb 08 31 05.9
comp=Z,19nm,0.7s
LBNH Lisbon 48.23 4 P 08 31 06.9
baz=186
H58A Gabriels 48.29 2 P 08 31 07.3
baz=182,SNR=6.8
H57A Richville 48.31 1 P 08 31 07.8
baz=181,SNR=7.4
DELO Deloro Mine 48.38 359 P P 08 31 07.7 -0.2
H53A Bobcaygeon 48.46 358 P 08 31 08.3
baz=177,SNR=9.3
JFWS Jewell Farm 48.46 346 P 08 31 07.2
baz=161,SNR=6.5
JFWS Jewell Farm 48.46 346 P P 08 31 07.4 -1.3
JFWS IAmb IAmb 08 31 07.6
comp=Z,13nm,0.7s
LONY Lake Ozonia 48.48 2 P 08 31 09.2
baz=182
LONY Lake Ozonia 48.48 2 P P 08 31 08.9 +0.2
LONY IAmb IAmb 08 31 09.8
comp=Z,10nm,0.8s
H60A Morristown 48.50 3 P 08 31 09.7
baz=184
H61A Lyndonville 48.52 4 P 08 31 09.7
baz=186
H59A Cadyville 48.54 2 P 08 31 09.7
baz=183,SNR=6.8
SADO Sadowa 48.68 357 P P 08 31 08.9 -1.4
comp=Z,7.4nm,0.7s,baz=197,slow=9.1,SNR=8.0
SADO Sadowa 48.68 357 P P 08 31 09.2 -1.1
SADO IAmb IAmb 08 31 11.0
comp=Z,31nm,1.3s
T25A Trinidad 48.70 330 P 08 31 12.2
baz=141,SNR=18
T25A Trinidad 48.70 330 P P 08 31 11.8 +0.9
T25A IAmb IAmb 08 31 13.3
comp=Z,25nm,0.8s
FRNY Flat Rock 48.73 2 P P 08 31 11.1 +0.4
FRNY IAmb IAmb 08 31 12.4
comp=Z,28nm,0.8s
H63A New Sharon 48.81 6 P 08 31 12.4
baz=188
K38A Parkersburg 48.87 344 P P 08 31 09.9 -1.9
K38A IAmb IAmb 08 31 10.9
comp=Z,27nm,1.4s
TUC Tucson 48.87 320 P 08 31 12.9
baz=131
TUC Tucson 48.87 320 P P 08 31 12.3 +0.2
PLVO Plevna 48.89 359 P P 08 31 11.4 -0.4
G57A Newington 48.95 1 P 08 31 11.9
baz=181,SNR=5.2
G58A Ormstown 49.02 2 P 08 31 13.5
baz=183,SNR=6.8
I42A Draeger Farm, 49.09 348 P P 08 31 12.4 -1.0
G54A Lake Saint Pet 49.27 358 P 08 31 14.6
baz=177,SNR=11
G61A St-Isidore-de- 49.30 4 P 08 31 16.4
baz=186
G63A Kingsbury 49.30 6 P 08 31 15.9
baz=188
G62A West of Eustis 49.32 5 P 08 31 16.2
baz=187
G62A West of Eustis 49.32 5 P P 08 31 15.5 +0.4
KSCO Kaye Shedlock' 49.33 333 P 08 31 16.4
baz=144
KSCO Kaye Shedlock' 49.33 333 P P 08 31 16.6 +1.0
H43A Windswept, Lux 49.42 349 P P 08 31 15.1 -0.8
I40A Norwalk 49.47 346 P P 08 31 15.2 -1.2
I40A IAmb IAmb 08 31 15.8
comp=Z,23nm,1.2s
PKME Peaks-Kenny Pk 49.49 6 P 08 31 16.7
baz=189
BGNE Belgrade 49.50 338 P 08 31 15.7
baz=150
BGNE Belgrade 49.50 338 P P 08 31 15.4 -1.2
G45A Suttons Bay 49.61 351 P P 08 31 16.6 -0.8
G65A Princeton 49.64 8 P 08 31 17.7
baz=191
SDCO Great Sand Dun 49.72 329 P 08 31 19.8
baz=140,SNR=39
SDCO Great Sand Dun 49.72 329 P P 08 31 19.1 +0.4
SDCO IAmb IAmb 08 31 48.5
comp=Z,25nm,0.9s
F59A Saint Guilaume 49.78 3 P 08 31 19.2
baz=184
ALGO Algonquin Park 49.82 358 P 08 31 18.7
baz=177,SNR=13
F60A Warwick 49.95 4 P 08 31 19.9
baz=185
214A Organ Pipe Nat 49.96 318 P P 08 31 20.8 +0.5
214A IAmb IAmb 08 31 49.9
comp=Z,11nm,0.8s
214A Organ Pipe Nat 49.96 318 P 08 31 21.2
baz=129,SNR=5.4
F61A St Evariste 50.03 5 P 08 31 21.0
baz=187
F64A Sherman 50.19 7 P 08 31 22.1
baz=190
E58A La Victoria 50.28 3 P 08 31 22.8
baz=184,SNR=6.0
E55A Montcerf-Lytto 50.29 0 P 08 31 22.6
baz=180
E60A Ste Agathe de 50.38 4 P 08 31 22.9
baz=186
E56A St. Veronique 50.39 1 P 08 31 23.3
baz=181,SNR=6.8
S22A 4UR Ranch, Cre 50.41 328 P 08 31 24.8
baz=139,SNR=18
Q24A Divide 50.49 331 P 08 31 25.0
baz=141
E61A Lac Etchemin 50.52 5 P 08 31 24.8
baz=187
OGNE Ogallala 50.65 335 P 08 31 26.4
baz=146
X16A Lo Mia Camp, P 50.68 322 P P 08 31 26.8 +1.0
G40A Rib Lake 50.68 347 P P 08 31 24.3 -1.2
G40A IAmb IAmb 08 31 24.7
comp=Z,6.9nm,0.7s
LMN Caledonia Moun 50.71 10 P P 08 31 25.2 -0.5
E46A Sault Ste Mari 50.72 353 P P 08 31 24.4 -1.3
E46A IAmb IAmb 08 31 24.5
comp=Z,15nm,1.1s
E63A Oxbow 50.73 7 P 08 31 26.1
baz=190
K31A O'Neill 50.78 339 P P 08 31 25.7 -0.6
E64A Bridgewater 50.80 7 P 08 31 26.6
baz=191
D55A Sainte-Anne-du 50.86 1 P 08 31 26.8
baz=181,SNR=6.7
D56A ZEC Mazanza, M 50.90 1 P 08 31 27.2
baz=182,SNR=5.6
MVCO Mesa Verde 50.91 327 P 08 31 28.2
baz=137,SNR=7.1
MVCO Mesa Verde 50.91 327 P P 08 31 27.0 -0.6
ECSD EROS Data Cent 51.02 341 P 08 31 26.4
baz=153,SNR=9.6
ECSD EROS Data Cent 51.02 341 P P 08 31 27.0 -1.1
D58A Chemin du LacG 51.02 3 P 08 31 28.5
baz=184,SNR=18
E43A Lone Tree Farm 51.13 350 P P 08 31 27.3 -1.5
E43A IAmb IAmb 08 31 28.1
comp=Z,13nm,0.8s

COWI Conover 51.25 348 P P 08 31 28.5 -1.2
SPMN Marine on St. 51.27 345 P 08 31 28.1
baz=158,SNR=5.9
SPMN Marine on St. 51.27 345 P P 08 31 28.2 -1.6
SPMN IAmb IAmb 08 31 29.3
comp=Z,16nm,1.0s
D62A Allapoint, All 51.31 6 P 08 31 30.5
baz=189,SNR=6.4
D62A Allapoint, All 51.31 6 P P 08 31 30.5 +0.4
D62A IAmb IAmb 08 31 32.8
comp=Z,35nm,1.4s
LATQ La Tuque 51.31 3 P 08 31 30.8
baz=184
LATQ La Tuque 51.31 3 P P 08 31 30.3 +0.2
D61A St Aubert, Com 51.31 5 P 08 31 31.2
baz=188
Y14A Wickenburg 51.34 320 P P 08 31 31.0 +0.3
ISCO Idaho Springs 51.36 331 P P 08 31 31.4 +0.4
ISCO Idaho Springs 51.36 331 P 08 31 31.6
baz=141,SNR=10
WUAZ Wupatki 51.37 323 P P 08 31 32.5 +1.4
WUAZ IAmb IAmb 08 32 01.4
comp=Z,19nm,0.8s
WUAZ Wupatki 51.37 323 P 08 31 32.0
baz=133,SNR=7.4
D63A Stockholm 51.37 7 P 08 31 31.5
baz=190
SMCO Snowmass 51.56 329 P P 08 31 33.1 +0.5
BATG Bathurst New B 51.89 9 P P 08 31 34.2 -0.3
VLDQ Val d'Or 51.97 359 P P 08 31 34.6 -0.4
GLA Glamis 51.97 318 P 08 31 35.8
baz=128
F36A Milaca 52.05 345 P P 08 31 34.4 -1.2
E38A The Farm, Brul 52.25 347 P P 08 31 35.8 -1.4
E38A IAmb IAmb 08 31 36.7
comp=Z,18nm,0.8s
N23A Red Feather La 52.37 332 P 08 31 38.9
baz=141
PHWY Pilot Hill 52.46 332 P P 08 31 39.6 +0.4
LSQQ Lebel-sur-Quev 52.90 359 P 08 31 41.5
baz=179
O20A White River Ci 52.92 329 P 08 31 43.4
baz=138,SNR=6.0
O20A White River Ci 52.92 329 P P 08 31 43.0 +0.5
O20A IAmb IAmb 08 31 45.1
comp=Z,12nm,1.1s
MONP2 Monument Peak 52.95 317 P 08 31 42.3
baz=126
KNB Kanab 53.24 323 P P 08 31 45.9 +1.0
SRU San Rafael Swe 53.38 327 P P 08 31 46.4 +0.5
SRU IAmb IAmb 08 31 47.6
comp=Z,18nm,1.0s
LCMT Little Creek M 53.49 323 P P 08 31 47.9 +1.2
MTPU Mount Pierson 53.56 325 P P 08 31 48.2 +0.8
RWWY Rawlins 53.59 331 P P 08 31 47.4 0.0
RWWY IAmb IAmb 08 31 49.2
comp=Z,15nm,1.1s
MATQ Matagami 53.62 359 P 08 31 46.2
baz=178,SNR=13
P17A Butcher Ranch, 53.76 327 P P 08 31 48.7 +0.1
P17A IAmb IAmb 08 31 50.3
comp=Z,23nm,1.1s
CHGQ Chibougamau 53.77 1 P 08 31 48.0
baz=182,SNR=9.8
SZCU Shurtz Canyon 53.79 324 P P 08 31 49.8 +0.9
TMUT Trail Mountain 53.89 327 P P 08 31 49.6 0.0
CCUT Cedar City 53.92 324 P P 08 31 51.0 +1.1
RDMU Red Mountain 53.93 329 P P 08 31 49.9 +0.1
RDMU IAmb IAmb 08 31 51.4
comp=Z,17nm,0.9s
K22A Casper 54.01 333 P 08 31 50.7
baz=141,SNR=5.5
K22A Casper 54.02 333 P P 08 31 50.7 +0.4
K22A IAmb IAmb 08 31 52.0
comp=Z,15nm,1.4s
RSSD Black Hills 54.10 335 P P 08 31 51.1 +0.1
RSSD IAmb IAmb 08 31 53.0
comp=Z,12nm,1.0s
RSSD Black Hills 54.10 335 P 08 31 51.3
baz=145
SHPR Sheep Range 54.34 321 P P 08 31 54.2 +1.4
SHPR IAmb IAmb 08 32 23.5
comp=Z,26nm,1.4s
B35A Bob, Littlefor 54.42 346 P P 08 31 51.8 -1.1
B35A IAmb IAmb 08 31 52.0
comp=Z,8.4nm,0.7s
MPU Maple Canyon 54.62 327 P P 08 31 55.6 +0.8
MPU IAmb IAmb 08 32 24.9
comp=Z,12nm,1.0s
NLU North Lily Min 54.82 327 P P 08 31 56.4 +0.1
PSUT Pine Spring 54.87 324 P P 08 31 57.8 +1.2
E28A Huff 54.89 340 P P 08 31 56.8 +0.3
AGMN Agassiz Nation 54.91 344 P 08 31 55.6
baz=156,SNR=15
AGMN Agassiz Nation 54.91 344 P P 08 31 55.4 -1.1
AGMN IAmb IAmb 08 31 56.5
comp=Z,17nm,0.8s
JLU Jordanelle 54.94 328 P P 08 31 57.7 +0.5
JLU IAmb IAmb 08 31 59.1
comp=Z,13nm,0.8s
EDW2 Edwards Air Fo 55.17 318 P 08 31 59.3
baz=126
SNCC San Nicolas Is 55.29 316 P 08 32 01.3
baz=124
TPNV Topopah Spring 55.29 321 P P 08 32 00.9 +1.2
TPNV IAmb IAmb 08 32 30.6
comp=Z,16nm,1.1s
TPNV Topopah Spring 55.29 321 P 08 32 00.9
baz=129,SNR=6.5
FURC Furnace Creek, 55.38 320 P 08 32 01.7
baz=128
DUG Dugway, Tooele 55.40 326 P P 08 31 01.4 +1.0
DUG IAmb IAmb 08 32 02.1
comp=Z,10nm,0.7s
DUG Dugway, Tooele 55.40 326 P 08 32 01.3
baz=134,SNR=15
SPR3 Spring Creek 3 55.45 324 P P 08 32 01.6 +0.6
DRLN Deer Lake 55.52 15 P P 08 31 59.8 -1.1
BW06 Boulder Array 55.54 331 P 08 32 01.3
baz=138,SNR=8.3
BW06 Boulder Array 55.55 331 P P 08 32 01.1 -0.3
BW06 IAmb IAmb 08 32 02.6
comp=Z,13nm,1.2s
PDAR Pinedale Array 55.55 331 P P 08 32 00.2 -1.3
comp=Z,3.4nm,0.7s,baz=139,slow=7.9,SNR=15
PDAR pP pP 08 32 27.1 -1.4
comp=Z,3.0nm,0.7s,baz=129,slow=7.4,SNR=5.1
PDAR Pinedale Array 55.55 331 P P 08 32 01.6 +0.1
PDAR pP pP 08 32 29.5 +1.1
MDND Maddock 55.63 341 P 08 32 01.7
baz=151
MDND Maddock 55.63 341 P P 08 32 01.5 -0.2
HWUT Hardware Ranch 55.72 328 P P 08 32 02.6 0.0
HWUT IAmb IAmb 08 32 03.5
comp=Z,8.1nm,0.8s
R11A Troy Canyon, C 55.77 323 P P 08 32 04.4 +1.2
R11A IAmb IAmb 08 32 34.0
comp=Z,14nm,1.3s
R11A Troy Canyon, C 55.77 323 P 08 32 04.3
baz=130
SPUT South Promonto 55.97 327 P P 08 32 04.5 0.0
SPUT IAmb IAmb 08 32 06.1
comp=Z,29nm,1.3s
BGU Big Grassy Mou 56.02 327 P P 08 32 04.6 -0.2
GRAC Grapevine Rang 56.03 321 P 08 32 06.4
baz=128
CWC Cottonwood Cre 56.15 320 P 08 32 07.1
baz=127
PKM Mcpherson Peak 56.40 317 P 08 32 08.6
baz=124
VES Vestal, Richgr 56.45 318 P 08 32 09.7
baz=125
HVU Hansel Valley 56.48 328 P P 08 32 07.6 -0.4
REDW Red Top Meadow 56.62 330 P P 08 32 09.1 -0.1
REDW IAmb IAmb 08 32 10.6
comp=Z,12nm,1.2s
SNOW Snow King Moun 56.65 330 P P 08 32 09.2 -0.1
LOHW Long Hollow 56.69 331 P P 08 32 09.7 +0.1
ULM Lac du Bonnet 56.70 345 P P 08 32 07.8 -1.4
comp=Z,16nm,0.6s,baz=160,slow=7.9,SNR=33
ULM pP pP 08 32 34.0 -2.3
comp=Z,7.1nm,0.7s,baz=162,slow=5.0,SNR=4.8
ULM LR LR 08 59 00.7
comp=Z,26nm,19.8s,baz=100,slow=39
ULM Lac du Bonnet 56.70 345 P P 08 32 08.0 -1.2

TPAW Teton Pass 56.77 330 P P 08 32 10.1 -0.1
FLWY Flagg Ranch 57.08 331 P P 08 32 12.7 +0.4
FLWY IAmb IAmb 08 32 42.6
comp=Z,27nm,1.2s
ELK Elko 57.13 325 P P 08 32 12.1 -0.7
RLMT Red Lodge 57.18 333 P P 08 32 12.3 -0.7
RLMT Red Lodge 57.18 333 P 08 32 13.2
baz=140
H17A Grant Village 57.25 331 P 08 32 14.1
baz=138
YPP Pitchstone Pla 57.27 331 P P 08 32 14.0 +0.3
MLAC Mammoth, Mammo 57.34 320 P 08 32 14.3
baz=127
YNE Yellowstone No 57.44 332 P P 08 32 15.0 +0.1
NVAR Mina Array Bea 57.49 321 P P 08 32 14.5 -0.8
comp=Z,5.2nm,0.8s,baz=132,slow=8.7,SNR=23
NVAR pP pP 08 32 41.1 -1.4
comp=Z,4.7nm,0.7s,baz=123,slow=7.1,SNR=7.5
NVAR Mina Array Bea 57.49 321 P P 08 32 16.6 +1.2
NVAR pP pP 08 32 44.7 +2.3
MDPB Devils Postpil 57.50 320 P P 08 32 17.0 +1.6
MDPB IAmb IAmb 08 32 46.1
comp=Z,23nm,1.3s
LHV Little Huntoon 57.51 321 P P 08 32 16.9 +1.7
LHV IAmb IAmb 08 32 46.4
comp=Z,18nm,1.2s
YMR Madison River 57.64 331 P P 08 32 17.5 +1.2
YMR IAmb IAmb 08 32 18.6
comp=Z,24nm,1.5s
YHH Holmes Hill 57.67 331 P P 08 32 17.5 +0.9
KVN Kaiserville 57.74 322 P P 08 32 17.4 +0.4
DGMT Dagmar 57.76 338 P 08 32 17.3
baz=146
DGMT Dagmar 57.76 338 P P 08 32 17.0 +0.2
YHB Horse Butte 57.81 331 P P 08 32 18.9 +1.4
YHB IAmb IAmb 08 32 19.7
comp=Z,14nm,0.8s
GCMT Greycliff 57.87 333 P P 08 32 17.8 +0.1
YHL Hebgen Lake 57.88 331 P P 08 32 18.7 +0.7
QLMT Earthquake Lak 57.98 331 P P 08 32 20.1 +1.5
WAKR Walker 58.24 321 P P 08 32 21.8 +1.2
WAKR IAmb IAmb 08 32 51.6
comp=Z,29nm,1.5s
YERR Yerington 58.41 321 P P 08 32 22.5 +0.8
CMB Columbia Colle 58.57 320 P P 08 32 22.8 +0.1
HLID Hailey 58.59 328 P P 08 32 23.3 +0.4
HLID Hailey 58.59 328 P 08 32 23.5
baz=134,SNR=16
BCYI Bear Canyon 58.59 329 P P 08 32 23.3 +0.4
MCMT McKenzie Canyo 58.68 330 P P 08 32 23.9 +0.3
PNTR Pine Nut 58.69 321 P P 08 32 24.9 +1.2
VCNR Virginia City 58.85 321 P P 08 32 25.6 +0.8
VCNR IAmb IAmb 08 32 27.0
comp=Z,7.8nm,0.9s
PAHR Pah Rah Range 58.93 322 P P 08 32 25.7 +0.5
PAHR IAmb IAmb 08 32 27.6
comp=Z,9.1nm,1.1s
DLMT Dillon 58.94 331 P P 08 32 25.2 0.0
DLMT IAmb IAmb 08 32 26.8
comp=Z,9.8nm,1.2s
SCHQ Schefferville 59.20 6 P P 08 32 26.0 -0.6
comp=Z,22nm,1.0s,baz=201,slow=5.0,SNR=27
SCHQ Schefferville 59.20 6 P P 08 32 25.9 -0.6
MFID Camas Ranch 59.24 327 P P 08 32 28.0 +0.7
AFDM Forest Hills D 59.48 320 P P 08 32 29.4 +0.5
HRY Holter Researc 59.56 332 P P 08 32 29.7 +0.3
EGMT Eagleton 59.62 335 P P 08 32 29.7 -0.1
EGMT IAmb IAmb 08 32 30.9
comp=Z,25nm,1.4s
EGMT Eagleton 59.62 335 P 08 32 29.9
baz=140,SNR=5.9
BEKR Beckworth 59.63 322 P P 08 32 30.9 +0.8
BEKR IAmb IAmb 08 32 32.1
comp=Z,7.0nm,0.8s
ORV Oroville 60.16 321 P P 08 32 34.6 +1.0
ORV IAmb IAmb 08 32 35.9
comp=Z,16nm,0.8s
WVOR Wild Horse Val 60.17 325 P P 08 32 33.9 +0.3
WVOR IAmb IAmb 08 32 35.2
comp=Z,9.5nm,0.9s
MSO Missoula 60.64 331 P P 08 32 37.1 +0.3
MSO IAmb IAmb 08 32 38.5
comp=Z,23nm,1.1s
MSO Missoula 60.64 331 P 08 32 37.0
baz=135,SNR=14
J08A Circle Bar Ran 60.66 326 P P 08 32 37.3 +0.3
J08A IAmb IAmb 08 33 06.7
comp=Z,6.8nm,0.8s
O03E Paynes Creek 60.78 321 P 08 32 37.3
baz=125,SNR=7.9
MOD Modoc Plateau 60.81 323 P P 08 32 38.1 0.0
BMO Blue Mountains 60.99 328 P P 08 32 38.6 -0.5
O02D Mt. Diablo Mer 61.33 321 P 08 32 41.1
baz=124
JTMT Jette 61.46 332 P P 08 32 42.4 +0.1
JTMT IAmb IAmb 08 32 44.1
comp=Z,13nm,0.9s
K05A Summer Lake 61.66 324 P P 08 32 44.7 +0.8
M04C Macdoel 61.66 323 P 08 32 44.3
baz=126,SNR=11
F10A Beach Ranch, E 61.70 329 P P 08 32 44.0 +0.1
F10A IAmb IAmb 08 32 45.7
comp=Z,17nm,1.1s
I07A Izee 61.70 326 P P 08 32 44.5 +0.5
I07A IAmb IAmb 08 32 46.0
comp=Z,20nm,1.0s
N02D Trinity Center 61.73 321 P 08 32 43.6
baz=125
M02C Callahan 62.06 322 P 08 32 45.9
baz=124
G08A Pilot Rock 62.16 327 P P 08 32 47.4 +0.3
G08A IAmb IAmb 08 32 48.9
comp=Z,9.5nm,0.9s
YBH Yreka Blue Hor 62.16 322 P P 08 32 46.8 -0.3
L04D Klamath Falls 62.20 323 P 08 32 47.5
baz=126,SNR=11
KHMM Horse Mountain 62.32 321 P P 08 32 49.1 +0.9
KHMM IAmb IAmb 08 32 49.8
comp=Z,9.5nm,0.8s
PINE Pine Mountain 62.33 325 P P 08 32 49.2 +0.8
PINE IAmb IAmb 08 32 51.4
comp=Z,9.2nm,0.7s
FFC Flin Flon 62.38 343 P P 08 32 47.8 -0.3
FFC IAmb IAmb 08 32 48.7
comp=Z,20nm,0.9s
J04D Umpqua Nationa 62.68 324 P 08 32 51.1
baz=126,SNR=7.1
KRMB Red Mountain 62.79 321 P P 08 32 51.6 +0.3
KRMB IAmb IAmb 08 32 53.4
comp=Z,32nm,1.5s
HUMO Hull Mountain 62.82 323 P P 08 32 50.7 -0.7
I05D Terrebonne, OR 62.89 325 P 08 32 52.9
baz=127,SNR=12
L02E Cave Junction 62.95 322 P 08 32 52.4
baz=124,SNR=5.6
HAWA Hanford 63.18 328 P P 08 32 54.1 +0.5
I04A Tendick Farm, 63.19 324 P 08 32 53.6
baz=126
NEW Newport 63.19 331 P P 08 32 53.7 0.0
NEW IAmb IAmb 08 32 54.9
comp=Z,11nm,0.8s
NEW Newport 63.19 331 P 08 32 53.7
baz=133,SNR=14
D08A Wollman Farm, 63.29 329 P P 08 32 54.6 +0.3
K02D Willamette Mer 63.30 323 P 08 32 55.2
baz=125,SNR=8.7
G05D Wamic, OR 63.43 326 P 08 32 55.8
baz=128
C09A Chrisman Ranch 63.45 330 P P 08 32 56.1 +0.7
H04A Detroit Lake 63.58 325 P P 08 32 56.6 +0.2
H04A IAmb IAmb 08 32 57.6
comp=Z,16nm,1.1s
I03D Drain, OR 63.68 324 P 08 32 57.6
baz=125
J01E Myrtle Point 63.72 323 P 08 32 58.6
baz=124,SNR=6.0
H04D Lebanon 63.80 325 P 08 32 58.3
baz=126
I02D Swisshome 64.21 324 P 08 33 00.9
baz=125
LTY Liberty 64.33 328 P P 08 33 01.6 +0.4
B08A Colville Reser 64.35 330 P P 08 33 00.7 -0.6
G03D McMinnville, O 64.51 325 P 08 33 02.1
baz=126
LON Longmire 64.63 327 P P 08 33 03.4 +0.2

E04D Cinebar 64.92 327 P 08 33 06.0
baz=127
D05A Enumclaw 64.99 327 P P 08 33 06.0 +0.5
D04E Lakebay 65.41 327 P 08 33 08.9
baz=127
MACI Morro de la Ar 65.71 57 P P 08 33 10.9 +0.2
B05A Bryant 65.71 328 P 08 33 10.2
baz=128
D03D Eldon 65.80 327 P 08 33 11.2
baz=127,SNR=5.2
A05A Maple Falls 66.16 329 P P 08 33 13.5 +0.5
A05A IAmb IAmb 08 33 14.3
comp=Z,16nm,0.9s
PMOZ Porto Moniz, M 66.73 52 eP P 08 33 17.9 +0.8
comp=Z,193nm,2.0s
NRS Narsarsuaq 69.26 15 P P 08 33 32.0 -0.1
LIC Lamto 71.76 82 eP P 08 33 48.6 +0.3
comp=Z,69nm,0.9s
TIC Toumodi 71.82 82 eP P 08 33 48.9 +0.2
DBIC Dimbokro 71.98 82 P P 08 33 49.7 +0.1
comp=Z,60nm,0.8s,baz=246,slow=5.4,SNR=42
DBIC Dimbokro 71.98 82 P P 08 33 48.3 -1.3
KIC Kosan Boka 72.06 82 eP P 08 33 50.5 +0.4
comp=Z,131nm,0.8s
YKA Yellowknife Ar 72.51 342 P P 08 33 51.2 -0.6
comp=Z,5.8nm,0.6s,baz=138,slow=6.6,SNR=108
YKA pP pP 08 34 18.1 -1.9
comp=Z,9.9nm,0.8s,baz=138,slow=6.1,SNR=15
SFJD Kangerlussuaq 73.20 10 P P 08 33 54.7 -1.0
DY2G Dye2 73.58 12 i P P 08 33 58.2 -0.2
DY2G IAmb IAmb 08 33 58.9
comp=Z,50nm,0.8s
KOWA Kowa 73.82 74 P P 08 34 00.7 +0.2
ISOG Isortoq, Green 74.53 15 i P P 08 34 03.3 -0.2
ISOG IAmb IAmb 08 34 04.0
comp=Z,57nm,0.7s
PFVI Vila Bisbo 74.64 50 eP P 08 34 06.8 +2.0
comp=Z,51nm,1.0s
ANGG Ammassalik, Gr 74.93 16 i P P 08 34 05.5 -0.3
ANGG IAmb IAmb 08 34 06.4
comp=Z,34nm,0.9s
ANGG Ammassalik, Gr 74.93 16 P P 08 34 05.2 -0.6
PNCL Nicolau / Gran 75.16 49 eP P 08 34 09.0 +1.2
comp=Z,28nm,1.6s
MESJ Messejana 75.31 49 eP P 08 34 09.0 +0.3
MESJ IAmb IAmb 08 34 10.4
comp=Z,15nm,0.3s
PCVE Castro Verde 75.39 50 eP P 08 34 09.9 +0.8
comp=Z,27nm,0.9s
CRAG Craig 75.41 330 P 08 34 09.5
baz=120
PMTG Montargil 75.67 48 eP P 08 34 10.6 -0.1
comp=Z,44nm,1.2s
PCAS Casmilo, Conde 75.77 47 eP P 08 34 12.0 +0.7
comp=Z,37nm,1.4s
PESTR Estremoz 76.09 48 eP P 08 34 14.3 +1.2
comp=Z,23nm,1.6s
PBAR Barrancos 76.30 49 eP P 08 34 15.6 +1.3
comp=Z,20nm,1.8s
PMRV Marv??o 76.40 48 eP P 08 34 12.3 -2.5
comp=Z,27nm,1.7s
PVIS Viseu 76.41 47 eP P 08 34 15.3 +0.4
comp=Z,36nm,1.9s
PCBR Castelo Branco 76.45 48 eP P 08 34 15.3 +0.2
comp=Z,20nm,1.3s
MTE Manteigas 76.57 47 eP P 08 34 16.2 +0.3
comp=Z,22nm,2.0s
MTE Manteigas 76.57 47 P P 08 34 15.5 -0.3
MTE IAmb IAmb 08 34 17.0
comp=Z,18nm,1.0s
PCAB Cabril 76.62 46 eP P 08 34 16.4 +0.3
comp=Z,41nm,1.9s
POLO Lamas de Olo 76.68 46 eP P 08 34 16.0 -0.5
comp=Z,17nm,1.2s
PVRL Vila Real 76.71 46 eP P 08 34 17.1 +0.5
comp=Z,24nm,1.6s
BELA Belgrano 2 76.91 172 P P 08 34 17.5 +0.6
ICESG Greenland Ices 77.16 13 i P P 08 34 18.7 -0.2
ICESG IAmb IAmb 08 34 19.4
comp=Z,53nm,0.9s
MVO Moncorvo 77.17 46 eP P 08 34 19.6 +0.4
comp=Z,32nm,1.3s
PBRG Braganca 77.56 46 eP P 08 34 21.7 +0.3
comp=Z,17nm,2.0s
PAB San Pablo 78.69 49 P P 08 34 28.0 +0.3
VNA3 Neumayer Olymp 78.74 162 P P 08 34 28.4 +1.1
WHY Whitehorse 78.82 335 P 08 34 28.2
baz=120
WHY Whitehorse 78.82 335 P P 08 34 28.2 +0.3
VNA1 Neumayer--Stat 78.97 162 P P 08 34 30.0 +1.6
ESDC Sonseca Array 79.02 48 P P 08 34 29.4 0.0
comp=Z,4.9nm,0.9s,baz=262,slow=5.8,SNR=19
ESDC Sonseca Array 79.02 48 P P 08 34 30.1 +0.7
ESBB Sonseca Array 79.02 48 P P 08 34 29.2 -0.2
TOA0 Torodi Ar. Sit 79.14 76 P P 08 34 30.0 -0.6
TOA0 IAmb IAmb 08 34 31.0
comp=Z,18nm,0.6s
TORD Torodi Ar. Bea 79.14 76 P P 08 34 30.6 0.0
comp=Z,11nm,0.4s,baz=282,slow=5.9,SNR=156
TORD LR LR 09 07 52.7
comp=Z,59nm,20.0s,baz=305,slow=34
TORD Torodi Ar. Bea 79.14 76 P P 08 34 30.5 0.0
TORD pP pP 08 34 54.8 -4.3
VNA2 Neumayer--Watz 79.33 162 P P 08 34 31.3 +0.8
baz=291,slow=3.4
SUMG Summit 80.17 11 i P P 08 34 35.4 0.0
SUMG IAmb IAmb 08 34 36.6
comp=Z,33nm,0.9s
SUMG Summit 80.17 11 P P 08 34 34.9 -0.6
TULEG Thule 80.59 2 i P P 08 34 37.3 +0.3
TULEG IAmb IAmb 08 34 37.8
comp=Z,18nm,0.9s
TULEG Thule 80.59 2 P P 08 34 37.1 +0.1
TULEG IAmb IAmb 08 34 38.5
comp=Z,22nm,1.0s
SNAA Sanae 80.95 162 P P 08 34 40.2 +1.0
SNAA Sanae 80.95 162 P P 08 34 39.8 +0.6
comp=Z,19nm,0.9s,baz=276,slow=5.2,SNR=51
SNAA Sanae 80.95 162 P P 08 34 39.7 +0.5
SNAA IAmb IAmb 08 34 41.3
comp=Z,33nm,1.1s
TABL Table Mountain 81.48 333 P P 08 34 42.8 +0.5
YAH Yahtse 81.72 333 P P 08 34 44.5 +0.9
CTGM Chitina Glacie 81.78 333 P P 08 34 44.4 +0.6
CTG Chitna Glacier 81.78 333 P 08 34 45.0
baz=114
GRNC Granite Creek 81.87 333 P P 08 34 44.7 +0.2
BARN Barnard Glacie 81.96 333 P P 08 34 45.4 +0.5
INK Inuvik 82.25 342 P 08 34 46.4
baz=122,SNR=42
INK Inuvik 82.25 342 P P 08 34 45.8 -0.2
DAWY Dawson 82.27 337 P P 08 34 46.1 -0.1
DAWY IAmb IAmb 08 34 47.5
comp=Z,12nm,0.8s
TGL Tana Glacier 82.37 333 P P 08 34 47.9 +1.0
TGL IAmb IAmb 08 34 48.7
comp=Z,20nm,0.9s
CRQE Cirque 82.49 333 P 08 34 48.5
baz=112
CRQM Cirque 82.51 333 P P 08 34 48.1 +0.4
CRQM IAmb IAmb 08 34 49.4
comp=Z,17nm,0.9s
SCO Scoresbysund 82.54 16 i P P 08 34 47.5 0.0
NEEM North Greenlan 82.59 5 i P P 08 34 48.4 +0.5
NEEM IAmb IAmb 08 34 49.3
comp=Z,22nm,0.9s
MCARA McCarthy VSAT 82.70 333 P P 08 34 49.2 +0.7
MCARA McCarthy VSAT 82.70 333 P 08 34 49.7
baz=112,SNR=10
BCAR Beaver Creek A 82.82 335 P P 08 34 50.1 +0.9
BCAR pP pP 08 35 20.9 +2.9
L27K Beaver Creek, 82.84 335 P P 08 34 49.9 +0.7
L27K IAmb IAmb 08 34 51.2
comp=Z,19nm,0.8s
L27K Beaver Creek, 82.84 335 P 08 34 50.2
baz=114
HMT Hamilton 82.87 332 P P 08 34 49.9 +0.5
GLB Gilahina Butte 83.07 333 P P 08 34 50.7 +0.3
GLB IAmb IAmb 08 34 52.1
comp=Z,24nm,0.9s
BMRM Bremner River 83.25 333 P 08 34 51.9
baz=111,SNR=7.8
BMRM Bremner River 83.25 333 P P 08 34 51.9 +0.5
BMRM IAmb IAmb 08 34 53.0
comp=Z,22nm,0.9s
EGAK Eagle 83.27 337 P P 08 34 51.1 -0.3

EGAK	**Eagle**	**83.27**	**337**	P			08 34 51.5	
	baz=114,SNR=27							
K27K	**Chicken**	**83.33**	**336**	P			08 34 51.7	
	baz=114							
K27K	**Chicken**	**83.33**	**336**	P		**P**	**08 34 52.0**	**+0.4**
N25K	**Chitina, Valde**	**83.48**	**333**	P			08 34 53.2	
	baz=111,SNR=7.7							
N25K	**Chitina, Valde**	**83.48**	**333**	P		**P**	**08 34 52.8**	**+0.2**
MENT	**Mentasta**	**83.59**	**335**	P		**P**	**08 34 52.7**	**-0.3**
MENT				IAmb		IAmb	08 34 54.3	
	comp=Z,11nm,0.6s							
EYAK	**Cordova Ski Ar**	**83.64**	**332**	P			08 34 53.5	
	baz=110							
DOT	**Dot Lake**	**84.00**	**335**	P		**P**	**08 34 55.2**	**+0.1**
DOT				IAmb		IAmb	08 34 56.5	
	comp=Z,20nm,0.8s							
HARP	**HAARP**	**84.01**	**334**	P			08 34 55.3	
	baz=110							
KLU	**Klutina**	**84.03**	**333**	P		**P**	**08 34 55.2**	**-0.2**
KLU	**Klutina**	**84.03**	**333**	P			08 34 55.5	
	baz=110,SNR=17							
SCRK	**Sand Creek**	**84.09**	**336**	P		**P**	**08 34 55.9**	**+0.2**
SCRK				IAmb		IAmb	08 34 57.0	
	comp=Z,11nm,0.7s							
SCRK	**Sand Creek**	**84.09**	**336**	P			08 34 56.0	
	baz=112,SNR=33							
EUNU	**Eureka**	**84.18**	**358**	P		**P**	**08 34 56.2**	**+0.5**
EUNU				IAmb		IAmb	08 34 58.1	
	comp=Z,15nm,1.0s							
PAX	**Paxson**	**84.34**	**335**	P		**P**	**08 34 56.5**	**-0.4**
PAX				IAmb		IAmb	08 34 58.0	
	comp=Z,22nm,0.8s							
PAX	**Paxson**	**84.34**	**335**	P			08 34 56.7	
	baz=110,SNR=13							
M24K	**Tolsona, Glenn**	**84.36**	**334**	P		**P**	**08 34 57.2**	**+0.2**
M24K	**Tolsona, Glenn**	**84.36**	**334**	P			08 34 57.4	
	baz=110,SNR=13							
GLI	**Glacier Island**	**84.37**	**332**	P		**P**	**08 34 56.5**	**-0.5**
GLI				IAmb		IAmb	08 34 58.1	
	comp=Z,14nm,0.8s							
GLI	**Glacier Island**	**84.37**	**332**	P			08 34 56.7	
	baz=109							
SCM	**Sheep Creek Mo**	**84.78**	**333**	P		**P**	**08 34 59.4**	**+0.2**
SCM				IAmb		IAmb	08 35 00.6	
	comp=Z,32nm,1.2s							
DBG	**Daneborg**	**85.16**	**13**	*i* P		**P**	**08 35 01.4**	**+0.7**
DBG				IAmb		IAmb	08 35 02.1	
	comp=Z,13nm,0.9s							
KNK	**Knik Glacier**	**85.16**	**333**	P			08 35 01.3	
	baz=107							
WAT6	**Susitna Watana**	**85.20**	**334**	P			08 35 01.4	
	baz=108,SNR=19							
SML	**Sawmill**	**85.22**	**333**	P			08 35 01.3	
	baz=108,SNR=12							
SEW	**Seward**	**85.25**	**331**	P			08 35 00.9	
	baz=106							
HDA	**Harding Lake**	**85.45**	**336**	P			08 35 01.9	
	baz=109,SNR=14							
HDA				P			08 35 01.9	
	baz=109,SNR=14							
HDA	**Harding Lake**	**85.45**	**336**	P		**P**	**08 35 02.1**	**-0.3**
HDA				IAmb		IAmb	08 35 03.2	
	comp=Z,13nm,0.8s							
GHO	**Glory Hole Cre**	**85.48**	**333**	P		**P**	**08 35 02.9**	**+0.2**
FYU	**Fort Yukon**	**85.52**	**338**	P		**P**	**08 35 02.6**	**0.0**
FYU				IAmb		IAmb	08 35 03.9	
	comp=Z,13nm,0.8s							
PMR	**Palmer**	**85.53**	**333**	P			08 35 02.2	
	baz=107							
IL31		**85.55**	**336**	P		**P**	**08 35 02.3**	**-0.4**
IL31				IAmb		IAmb	08 35 03.8	
	comp=Z,8.8nm,0.8s							
ILAR	**Eielson Array**	**85.55**	**336**	P		**P**	**08 35 02.6**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=125,slow=3.8,SNR=54							
ILAR				pP		**pP**	**08 35 30.6**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=126,slow=3.6,SNR=10.0							
ILAR	**Eielson Array**	**85.55**	**336**	P		**P**	**08 35 02.5**	**-0.4**
ILAR				pP		**pP**	**08 35 33.7**	**+1.9**
BMAR	**Burnt Mountain**	**85.59**	**339**	P		**P**	**08 35 03.9**	**+0.8**
BMAR				pP		**pP**	**08 35 34.8**	**+2.7**
RC01	**Rabbit Creek A**	**85.66**	**332**	P			08 35 03.6	
	baz=106							
WAT2	**Susitna Watana**	**85.69**	**334**	P			08 35 03.7	
	baz=107,SNR=11							
BRLK	**Bradley Lake**	**85.85**	**331**	P		**P**	**08 35 04.1**	**-0.3**
BRLK				IAmb		IAmb	08 35 05.1	
	comp=Z,19nm,1.0s							
CCB	**Clear Creek Bu**	**85.88**	**336**	P		**P**	**08 35 03.5**	**-0.9**
POKR	**Poker Plat Res**	**85.88**	**336**	P			08 35 04.7	
	baz=109							
RND	**Reindeer**	**85.94**	**334**	P		**P**	**08 35 04.3**	**-0.6**
RND				IAmb		IAmb	08 35 06.0	
	comp=Z,14nm,0.7s							
WRH	**Wood River Hil**	**85.94**	**336**	P		**P**	**08 35 04.3**	**-0.5**
COLA	**College**	**85.97**	**336**	P			08 35 04.8	
	baz=108							
COLA	**College**	**85.97**	**336**	P		**P**	**08 35 04.9**	**0.0**
COLA				IAmb		IAmb	08 35 06.1	
	comp=Z,9.9nm,0.9s							
TCOL	**CIGO, UAF Yank**	**85.97**	**336**	P		**P**	**08 35 04.7**	**-0.2**
TCOL				IAmb		IAmb	08 35 06.1	
	comp=Z,9.4nm,0.9s							
TCOL	**CIGO, UAF Yank**	**85.97**	**336**	P			08 35 04.7	
	baz=108							
QSPA	**South Pole Qui**	**86.02**	**180**	P		**P**	**08 35 06.3**	**+1.0**
	comp=Z,20nm,0.9s,baz=153,slow=2.6,SNR=36							
QSPA				pP		**pP**	**08 35 35.1**	**+0.7**
	comp=Z,12nm,1.0s,baz=159,slow=3.3,SNR=5.0							
QSPA	**South Pole Qui**	**86.02**	**180**	P		**P**	**08 35 06.1**	**+0.8**
M22K	**Willow**	**86.02**	**333**	P			08 35 05.0	
	baz=106							
MCK	**McKinley**	**86.07**	**335**	P		**P**	**08 35 05.8**	**+0.3**
MCK				IAmb		IAmb	08 35 06.7	
	comp=Z,14nm,1.0s							
MCK	**McKinley**	**86.07**	**335**	P			08 35 05.4	
	baz=107,SNR=9.3							
MDM	**Murphy Dome**	**86.15**	**336**	P		**P**	**08 35 05.5**	**-0.3**
SUA	**Susitna One**	**86.23**	**332**	P			08 35 06.8	
	baz=105							
CUT	**Chulitna**	**86.27**	**333**	P			08 35 06.2	
	baz=106							
H24K	**Noodor Dome**	**86.29**	**337**	P			08 35 06.9	
	baz=108,SNR=18							
NEA2	**Nenana**	**86.38**	**336**	P			08 35 06.9	
	baz=107,SNR=16							
NEA2	**Nenana**	**86.38**	**336**	P		**P**	**08 35 06.7**	**-0.3**
BWN	**Browne**	**86.42**	**335**	P		**P**	**08 35 07.0**	**-0.2**
OHAK	**Old Harbor**	**86.45**	**328**	P			08 35 07.2	
	baz=103							
TRF	**Thorofare Moun**	**86.57**	**334**	P			08 35 08.1	
	baz=106,SNR=11							
TRF	**Thorofare Moun**	**86.57**	**334**	P		**P**	**08 35 07.6**	**-0.5**
TRF				IAmb		IAmb	08 35 09.1	
	comp=Z,13nm,0.6s							
I23K	**Minto, Yukon-K**	**86.67**	**336**	P		**P**	**08 35 08.0**	**-0.2**
I23K	**Minto, Yukon-K**	**86.67**	**336**	P			08 35 08.5	
	baz=107,SNR=32							
SKT	**Skwentna**	**86.73**	**333**	P		**P**	**08 35 08.4**	**-0.3**
SKT	**Skwentna**	**86.73**	**333**	P			08 35 09.0	
	baz=105,SNR=26							
SII	**Sitkinak Islan**	**86.78**	**327**	P			08 35 08.2	
	baz=102							
SPCR	**Spurr Chakacha**	**86.85**	**332**	P			08 35 08.9	
	baz=104,SNR=5.5							
DAG	**Danmarks Havn**	**86.85**	**11**	*i* P		**P**	**08 35 09.0**	**0.0**
DAG				IAmb		IAmb	08 35 09.9	
	comp=Z,29nm,1.2s							
KTH	**Kantishna Hill**	**86.87**	**334**	P		**P**	**08 35 09.3**	**-0.2**
RSO	**Redoubt South**	**86.93**	**331**	P		**P**	**08 35 10.0**	**+0.1**
H23K	**Yukon River**	**86.94**	**337**	P			08 35 09.6	
	baz=107,SNR=12							
BPAW	**Bear Paw Mtn.**	**87.05**	**335**	P		**P**	**08 35 09.2**	**-1.0**
BPAW	**Bear Paw Mtn.**	**87.05**	**335**	P			08 35 10.1	
	baz=105,SNR=34							
MLY	**Manley**	**87.19**	**336**	P		**P**	**08 35 10.4**	**-0.5**
MLY	**Manley**	**87.19**	**336**	P			08 35 10.7	
	baz=106,SNR=39							
PPLA	**Purkeypile**	**87.26**	**334**	P		**P**	**08 35 11.1**	**-0.3**
PPLA	**Purkeypile**	**87.26**	**334**	P			08 35 11.7	
	baz=104							
CAST	**Castle Rocks**	**87.34**	**334**	P			08 35 11.7	
	baz=104							
COLD	**Coldfoot**	**87.59**	**338**	P		**P**	**08 35 13.3**	**+0.6**
COLD	**Coldfoot**	**87.59**	**338**	P			08 35 13.7	
	baz=106,SNR=32							
TOLK	**Toolik Lake Re**	**87.77**	**339**	P		**P**	**08 35 13.8**	**+0.1**
TOLK				IAmb		IAmb	08 35 15.0	
	comp=Z,15nm,1.1s							
TOLK	**Toolik Lake Re**	**87.77**	**339**	P			08 35 13.4	
	baz=107,SNR=12							
SVW2	**Sparrevohn**	**88.42**	**331**	P		**P**	**08 35 16.3**	**-0.5**
SVW2				IAmb		IAmb	08 35 17.4	
	comp=Z,15nm,1.0s							
ECH	**Echery**	**88.56**	**42**	P		**P**	**08 35 16.9**	**-0.9**
ECH				IAmb		IAmb	08 35 18.4	
	comp=Z,8.0nm,0.9s							
IMAR	**Indian Mountai**	**88.64**	**336**	P		**P**	**08 35 17.7**	**0.0**
IMAR				pP		**pP**	**08 35 49.0**	**+2.1**
KEST	**Kesra**	**88.71**	**54**	P		**P**	**08 35 18.3**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=299,slow=18,SNR=5.3							
TTA	**Tatalina**	**88.97**	**333**	P		**P**	**08 35 19.2**	**-0.2**
TTA	**Tatalina**	**88.97**	**333**	P			08 35 19.2	
	baz=101							
VSL	**Villasalto**	**89.12**	**50**	P		**P**	**08 35 20.4**	**-0.2**
VSL				IAmb		IAmb	08 35 21.3	
	comp=Z,6.3nm,0.7s							
NOR	**Nord**	**89.72**	**7**	*i* P		**P**	**08 35 22.7**	**+0.2**
NOR				IAmb		IAmb	08 35 24.0	
	comp=Z,13nm,1.0s							
TUE	**Stuetta**	**89.83**	**44**	P		**P**	**08 35 23.5**	**-0.5**
TUE				IAmb		IAmb	08 35 25.0	
	comp=Z,11nm,0.8s							
SDPT	**Sand Point**	**90.07**	**325**	P			08 35 24.9	
	baz=97							
ZCCA	**Zocca**	**90.77**	**46**	P		**P**	**08 35 27.9**	**-0.3**
CTI	**Castel Tesino**	**91.38**	**44**	P		**P**	**08 35 30.9**	**-0.2**
CTI				IAmb		IAmb	08 35 31.8	
	comp=Z,13nm,1.3s							
CIMO	**Cimolais**	**91.94**	**44**	P		**P**	**08 35 33.8**	**+0.2**
CIMO				IAmb		IAmb	08 35 35.9	
	comp=Z,5.4nm,1.0s							
NOA	**NORSAR Array B**	**92.25**	**29**	P		**P**	**08 35 33.9**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=268,slow=4.6,SNR=3.3							
NOA				PKiKP		**PKiKP**	**08 40 23.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=274,slow=12,SNR=3.3							
RDOG	**Red Dog Mine**	**92.51**	**338**	P			08 35 36.6	
	baz=94							
VNDA	**Vanda**	**92.65**	**191**	P		**P**	**08 35 36.6**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=144,slow=4.6,SNR=13							
VNDA				pP		**pP**	**08 36 06.0**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=133,slow=2.1,SNR=4.8							
GERES	**GERESS Array B**	**92.94**	**41**	P		**P**	**08 35 38.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=207,slow=2.0,SNR=3.7							
GERES	**GERESS Array B**	**92.94**	**41**	P		**P**	**08 35 37.1**	**-1.2**
ARCES	**ARCESS Array B**	**97.86**	**20**	P		**P**	**08 35 59.3**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=255,slow=2.7,SNR=6.2							
ABKAR	**Akbulak array**	**121.61**	**32**	PKPdf		**PKPdf**	**08 41 18.2**	**+0.1**
ABKAR				pPKPdf		**pPKPdf**	**08 41 50.9**	**+2.3**
ABKAR	**Akbulak array**	**121.61**	**32**	PKPdf		**PKiKP**	**08 41 18.7**	**+0.4**
GEYT	**Alibeck**	**126.43**	**45**	PKP		**PKPdf**	**08 41 27.9**	**+0.2**
	comp=Z,2.9nm,0.5s,baz=232,slow=7.1,SNR=5.2							
BRZS	**Berezniki**	**127.22**	**25**	*e*PKP		**PKPdf**	**08 41 27.1**	**-1.7**
	baz=25							
ZALV	**Zalesovo Beam**	**127.89**	**14**	PKPdf		**PKiKP**	**08 41 30.5**	**-0.1**
STKA	**Stephens Creek**	**129.34**	**222**	PKP		**PKPdf**	**08 41 33.8**	**+0.3**
	comp=Z,8.5nm,0.7s,baz=81,slow=1.8,SNR=17							
SEM	**Semipalatinsk**	**129.72**	**19**	*e*PKP		**PKPdf**	**08 41 32.6**	**-1.3**
	baz=19							
SGDS	**Sogindy**	**133.03**	**29**	*e*PKP		**PKPdf**	**08 41 39.1**	**-1.0**
	baz=29							
KUU	**Kurty**	**133.50**	**27**	*e*PKP		**PKPdf**	**08 41 39.8**	**-1.3**
	baz=27							
MKAR	**Makanchi Array**	**133.52**	**20**	PKP		**PKPdf**	**08 41 41.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=6.5,slow=2.2,SNR=24							
MKAR	**Makanchi Array**	**133.52**	**20**	PKPdf		**PKPdf**	**08 41 41.2**	**+0.2**
MKAR				pPKPdf		**pPKPdf**	**08 42 13.3**	**+1.8**
MDJ	**Mudanjiang**	**133.70**	**335**	PKP		**PKiKP**	**08 41 42.8**	**+0.2**
CHKK	**Chushkaly**	**133.82**	**27**	*e*PKP		**PKPdf**	**08 41 42.0**	**+0.3**
	baz=27							
MTBS	**Maitube**	**134.13**	**28**	*e*PKP		**PKPdf**	**08 41 41.5**	**-0.7**
	baz=28							
MDOK	**Medeo**	**134.39**	**27**	*e*PKP		**PKPdf**	**08 41 41.8**	**-1.1**
	baz=27							
MJAR	**Matsushiro Arr**	**134.81**	**320**	PKP		**PKPdf**	**08 41 43.2**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=121,slow=1.4,SNR=6.0							
MJAR				pPKP		**pPKPdf**	**08 42 13.9**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=111,slow=1.1,SNR=3.3							
KPKS	**Kokpek**	**134.88**	**26**	*e*PKP		**PKPdf**	**08 41 43.4**	**-0.4**
	baz=26							
SATY	**Saty**	**135.09**	**26**	*e*PKP		**PKPdf**	**08 41 41.3**	**-2.9**
	baz=26							
UZB	**Uzynbulak**	**135.29**	**26**	*e*PKP		**PKPdf**	**08 41 44.0**	**-0.6**
	baz=26							
SHLS	**Shalkode**	**135.47**	**26**	*e*PKP		**PKPdf**	**08 41 45.0**	**+0.1**
	baz=25							
SONM	**Songino Array**	**136.33**	**357**	PKP		**PKPdf**	**08 41 46.6**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=339,slow=0.9,SNR=9.0							
WMQ	**Urumqi**	**137.91**	**17**	*e*PKP		**PKPdf**	**08 41 49.3**	**0.0**
WMQ				PPMZ				
	comp=Z,120nm,4.3s							
ASAR	**Alice Springs**	**139.77**	**225**	PKhKP		PKPpre	08 41 45.0	
	comp=Z,1.5nm,0.7s,baz=129,slow=3.6,SNR=16							
ASAR				PKP		**PKPdf**	**08 41 52.8**	**-0.4**
	comp=Z,7.9nm,0.8s,baz=112,slow=1.7,SNR=38							
ASAR	**Alice Springs**	**139.77**	**225**	PKPdf		**PKPdf**	**08 41 53.0**	**-0.3**
ASAR				pPKPdf		**pPKPdf**	**08 42 25.3**	**+1.5**
KSRS	**Korea Array**	**140.11**	**330**	PKiKP		PKPpre	08 41 44.1	
	comp=Z,1.5nm,0.6s,baz=53,slow=4.3,SNR=7.9							
KSRS				PKP		**PKPdf**	**08 41 53.0**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=21,slow=1.3,SNR=17							
KSAR	**Wonju Array Be**	**140.14**	**330**	PKPdf		**PKPdf**	**08 41 53.5**	**+0.1**
WRA	**Warramunga Arr**	**141.69**	**230**	PKhKP		PKPpre	08 41 50.8	
	comp=Z,5.4nm,0.7s,baz=122,slow=2.7,SNR=35							
WRA				PKP		**PKiKP**	**08 41 58.8**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=117,slow=2.1,SNR=4.6							
WRA				pPKP		pPKPdf	08 42 25.6	-1.7
	comp=Z,3.7nm,0.7s,baz=118,slow=2.5,SNR=4.0							
HHC	**Hu-ho-hao-te**	**142.72**	**350**	*e*PKP		**PKiKP**	**08 42 00.8**	**-0.5**
GTA	**Gaotai**	**144.62**	**5**	⇑PKP		PKPbc	08 42 00.7	+0.2
GTA				pPKP		pPKPdf	08 42 29.5	-2.6
GTA				sPKP			08 42 43.0	
LZH	**Lanzhou**	**148.13**	**360**	⇓PKPbc		**PKiKP**	**08 42 12.1**	**-0.5**
LZH				pPKP		pPKPdf	08 42 37.8	-0.4
LZH				sPKP			08 42 47.7	
LZH				L		L		
	comp=Z,150nm,19.8s							
LZH				L		L		
	comp=Z,190nm,18.3s							
LZH				L		L		
	comp=Z,190nm,19.5s							
NJ2	**Nanjing**	**148.79**	**335**	*e*PKPbc		**PKPdf**	**08 42 09.1**	**+0.6**
XAN	**Xi'an**	**149.80**	**352**	PKPbc		**PKPbc**	**08 42 14.8**	**-0.2**
XAN				L		L		
	comp=Z,110nm,15.2s							
XAN				L		L		
	comp=Z,100nm,14.1s							
XAN				L		L		
	comp=Z,130nm,16.9s							
HYB	**Hyderabad**	**151.90**	**60**	*i* PKP		**PKiKP**	**08 42 21.0**	**+0.3**
CD2	**Chengdu**	**153.29**	**0**	PKPbc		**PKPdf**	**08 42 14.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**164.91**	**18**	PKP		**PKPdf**	**08 42 29.2**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=286,slow=2.1,SNR=11							
CMAR				PKPab		**PKPab**	**08 43 25.4**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=329,slow=5.5,SNR=8.0							
CMAR	**Chiang Mai Arr**	**164.91**	**18**	PKPdf		**PKPdf**	**08 42 29.9**	**+0.5**

*IDC **02** 08:50:47.0±0.9,27.30N×141.57E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/34,mbtmp3.6/6,ML2.7/1 Error ellipse: s-maj=21.5km s-min=15.2km az=30.0*
*JMA **02** 08:50:51.2,27.47N×142.20E,h71km,M3.9*
JMA Felt I J1.
ISC 02 08:50:51.7±0.8,27.37N±0.09×141.6E±0.1,h35km,n20, σ0s82/19,mb3.6/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.59**	**117**	P	**Pn**	**08 51 03.0**	**-0.6**
CBIJ				S	**Sn**	**08 51 11.9**	**-0.1**
JCJ	**Chichijima**	**0.59**	**117**	Pn	**Pn**	**08 51 03.1**	**-0.5**
	384nm,0.3s,baz=58,slow=23,SNR=496						
JCJ				LR	LR	08 51 10.1	
	comp=Z,59nm,18.1s,baz=149,slow=40						
JCJ				Sn	**Sn**	**08 51 11.8**	**-0.2**
	2μm,0.3s,baz=270,slow=20,SNR=65						
JHH2	**Haha-jima-NKT2**	**0.90**	**145**	P	**Pn**	**08 51 07.9**	**0.0**
JHH2				S	**Sn**	**08 51 20.1**	**+0.5**
JOD2	**Odawara 2**	**8.16**	**345**	P	**Pn**	**08 52 48.4**	**+0.8**
JHU	**Hanno**	**8.68**	**347**	P	**Pn**	**08 52 53.5**	**-1.4**
JRY	**Ryogami san**	**8.92**	**346**	P	**Pn**	**08 52 57.8**	**-0.3**
JHO	**Hitachi**	**9.26**	**355**	P	**Pn**	**08 53 01.1**	**-1.6**
MJAR	**Matsushiro Arr**	**9.59**	**343**	Pn	**Pn**	**08 53 07.3**	**+0.1**
	0.1nm,0.3s,baz=144,slow=14,SNR=3.6						
KLR	**Kul'dur**	**23.11**	**343**	P	**P**	**08 55 54.0**	**-0.6**
	1.3nm,0.6s,baz=123,slow=6.8,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**24.38**	**103**	T	T	09 20 59.2	
	baz=293,slow=75						
H11N1	**WAKE ISLAND Hy**	**24.38**	**103**	T	T	09 20 59.3	
	baz=293,slow=75						
H11N3	**WAKE ISLAND Hy**	**24.39**	**103**	T	T	09 20 59.9	
	baz=293,slow=75						
H11S3	**WAKE ISLAND Hy**	**24.70**	**106**	T	T	09 21 26.3	
	baz=302,slow=76						
H11S1	**WAKE ISLAND Hy**	**24.71**	**106**	T	T	09 21 25.1	
	baz=302,slow=76						
H11S2	**WAKE ISLAND Hy**	**24.72**	**106**	T	T	09 21 24.9	
	baz=302,slow=76						
WRA	**Warramunga Arr**	**47.55**	**189**	P	**P**	**08 59 23.9**	**-0.1**
	1.0nm,0.4s,baz=9.1,slow=8.4,SNR=26						
WRA				PcP	**PcP**	**09 00 53.5**	**-0.1**
	0.7nm,1.0s,baz=8.4,slow=5.0,SNR=1.5						
ASAR	**Alice Springs**	**51.28**	**189**	P	**P**	**08 59 52.2**	**-0.2**
	0.2nm,0.4s,baz=9.8,slow=5.6,SNR=1.7						
ASAR				PcP	**PcP**	**09 01 06.8**	**-0.3**
	0.4nm,0.7s,baz=353,slow=3.0,SNR=5.0						
STKA	**Stephens Creek**	**58.92**	**180**	P	**P**	**09 00 47.2**	**-0.1**
	1.6nm,0.9s,baz=357,slow=8.4,SNR=3.4						
YKA	**Yellowknife Ar**	**72.15**	**28**	P	**P**	**09 02 14.5**	**+2.0**
	0.2nm,0.7s,baz=300,slow=7.9,SNR=1.4						
LPAZ	**La Paz**	**150.36**	**74**	PKPbc	**PKiKP**	**09 10 41.8**	**+0.1**
	1.2nm,0.7s,baz=295,slow=3.9,SNR=4.7						

*NOU **02** 09:06:57.8,37.87S×176.04E,h289km,MLv3.7,North Island, New Zealand*
WEL 02 09:07:11.1,38.8S±11.1×17.6E±1.4,h178km±17km,M3.1/50, MLv3.1/50,Error ellipse: s-maj=0.0km s-min=0.0km az=110.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.26**	**253**	P	Pn	09 07 36.0	+1.0
TOZ	**Tahuroa Road**	**0.59**	**332**	P	Pn	09 07 36.7	+0.5
MRHZ	**Matea Rd**	**0.73**	**143**	P	Pn	09 07 37.0	0.0
MRHZ				S	Sn	09 07 59.1	+2.1
HIZ	**Hauiti**	**0.83**	**251**	P	Pn	09 07 37.9	+0.4
NTVZ	**North Tongarir**	**0.86**	**189**	P	Pn	09 07 38.2	+0.4
KRVZ	**Karewarewa**	**0.86**	**191**	P	Pn	09 07 38.1	+0.3
TWVZ	**Taurewa**	**0.88**	**202**	P	Pn	09 07 38.2	+0.3
WTVZ	**West Tongariro**	**0.89**	**193**	P	Pn	09 07 38.2	+0.2
OTVZ	**Oturere**	**0.92**	**189**	P	Pn	09 07 38.8	+0.5
MTHZ	**Maungataniwha**	**0.98**	**128**	P	Pn	09 07 38.6	+0.1
MTHZ				S	Sn	09 08 01.8	+2.0
URZ	**Urewera**	**0.99**	**91**	P	Pn	09 07 37.9	-0.7
URZ				S	Sn	09 08 01.9	+1.3
TUVZ	**Tukino**	**1.03**	**189**	P	Pn	09 07 39.2	+0.1
BKZ	**Black Stump Fm**	**1.04**	**151**	P	Pn	09 07 38.9	-0.1
BKZ				S	Sn	09 08 02.3	+1.5
WNVZ	**Wahianoa**	**1.09**	**190**	P	Pn	09 07 39.5	-0.1
PKVZ	**Pokaka**	**1.11**	**201**	P	Pn	09 07 39.7	+0.1
NMHZ	**Naumai**	**1.13**	**139**	P	Pn	09 07 40.5	+0.8
NMHZ				S	Sn	09 08 05.4	+3.5
MOVZ	**Moawhango**	**1.16**	**184**	P	Pn	09 07 39.5	-0.5
MOVZ				S	Sn	09 08 03.9	+1.5
RAHZ	**Arahi**	**1.17**	**125**	P	Pn	09 07 40.3	+0.3
RAHZ				S	Sn	09 08 05.2	+2.8
VRZ	**Vera Road**	**1.22**	**224**	P	Pn	09 07 40.3	-0.1
KWHZ	**Kaweka Forest**	**1.25**	**159**	P	Pn	09 07 40.8	0.0
KWHZ				S	Sn	09 08 05.8	+2.0
MWZ	**Matawai**	**1.32**	**94**	P	Pn	09 07 40.8	-0.5
MWZ				S	Sn	09 08 05.6	+1.0
ARHZ	**Aropaoanui**	**1.35**	**139**	P	Pn	09 07 41.4	+0.2
ARHZ				S	Sn	09 08 07.2	+2.1
WHHZ	**Waihua**	**1.36**	**128**	P	Pn	09 07 41.7	0.0
WHHZ				S	Sn	09 08 07.4	+2.1
MCHZ	**McNeill Hill**	**1.36**	**151**	P	Pn	09 07 42.0	+0.4
MCHZ				S	Sn	09 08 07.7	+2.4
KRHZ	**Kereru**	**1.45**	**164**	P	Pn	09 07 42.0	-0.4
KRHZ				S	Sn	09 08 08.0	+1.1
HAZ	**Te Kaha**	**1.60**	**73**	P	Pn	09 07 41.9	-2.0
HAZ				S	Sn	09 08 08.0	-1.2
KNZ	**Kokohu**	**1.62**	**119**	P	Pn	09 07 43.5	-0.6
KNZ				S	Sn	09 08 10.4	+0.8
WAZ	**Wanganui**	**1.65**	**204**	P	Pn	09 07 43.6	-0.8
WAZ				S	Sn	09 08 11.9	+1.6
TWGZ	**Tauwhareparae**	**1.68**	**88**	P	Pn	09 07 43.4	-1.3
TWGZ				S	Sn	09 08 11.9	+1.2
PNHZ	**Pukenui**	**1.68**	**171**	P	Pn	09 07 43.8	-1.0
PNHZ				S	Sn	09 08 11.1	+0.1
KANZ	**Kahuranaki**	**1.73**	**153**	P	Pn	09 07 44.8	-0.5
TSZ	**Takapari Road**	**1.81**	**177**	P	Pn	09 07

	baz=77								
KRLC	**Kraliky**	**1.48**	**270**	*e*SG		**Sn**	**09 13 53.7**	**0.0**	
	comp=Z,39nm,0.4s								
JAVC	**Velka Javorina**	**1.54**	**217**	*e*PN		**Pg**	**09 13 36.1**	**+0.9**	
JAVC				*e*SG		**Sn**	**09 13 55.9**	**+0.7**	
JAVC	**Velka Javorina**	**1.54**	**217**	*e*Pn		**Pg**	**09 13 36.1**	**+0.9**	
	baz=36								
JAVC				*e*Sg		**Sn**	**09 13 55.8**	**+0.6**	
	baz=36								
STHS	**Stebnicka Huta**	**1.56**	**115**	*e*PN		**Pn**	**09 13 34.9**	**+0.1**	
STHS				*e*SN		**Sg**	**09 13 57.1**	**+1.2**	
VYHS	**Vyhne**	**1.60**	**186**	*e*PN		**Pn**	**09 13 35.2**	**-0.2**	
VYHS				*e*SN		**Sg**	**09 13 56.9**	**-0.4**	
DPC	**Dobruska-Polom**	**1.79**	**279**	*e*PG		**Pn**	**09 13 38.1**	**+0.2**	
DPC				*e*SG		**Sb**	**09 14 02.3**	**-0.1**	
	comp=Z,39nm,0.6s								
VRAC	**Vranov**	**1.79**	**245**	*e*PN		**Pb**	**09 13 39.3**	**-0.2**	
VRAC				*e*SG		**Sg**	**09 14 02.7**	**-0.6**	
VRAC	**Vranov**	**1.79**	**245**	*e*Pn		**Pb**	**09 13 39.2**	**-0.2**	
	baz=62								
VRAC				*e*Sg		**Sg**	**09 14 02.6**	**-0.7**	
	27nm,0.4s,baz=62								
KECS	**Kecovo**	**1.85**	**150**	*e*PN		**Pn**	**09 13 38.2**	**-0.6**	
KECS				*e*SN		**Sb**	**09 14 04.1**	**-0.2**	
KSP	**Ksiaz**	**1.93**	**294**	*e*Pg		**Pg**	**09 13 43.5**	**+0.7**	
KSP				*e*Sg		**Sg**	**09 14 09.1**	**+1.3**	
CRVS	**Cervenica-Dubn**	**1.96**	**126**	*e*PN		**Pb**	**09 13 42.5**	**+0.2**	
CRVS				*e*SN		**Sg**	**09 14 08.4**	**-0.3**	
CHVC	**Chvalec**	**2.00**	**286**	*e*PG		**Pn**	**09 13 41.2**	**+0.4**	
CHVC				*e*SG		**Sg**	**09 14 09.6**	**-0.3**	
	comp=Z,17nm,0.4s								
UPC	**Upice**	**2.01**	**283**	*e*PG		**Pb**	**09 13 42.5**	**-0.6**	
UPC				*e*SG		**Sg**	**09 14 10.5**	**+0.3**	
	comp=Z,17nm,0.4s								
KRUC	**Moravsky**	**2.02**	**240**	*e*PN		**Pb**	**09 13 42.7**	**-0.7**	
KRUC				*e*SG		**Sg**	**09 14 10.5**	**-0.3**	
KRUC	**Moravsky**	**2.02**	**240**	*e*Pn		**Pb**	**09 13 42.6**	**-0.8**	
	baz=58								
KRUC				*e*Sg		**Sg**	**09 14 10.4**	**-0.3**	
	27nm,0.5s,baz=58								
KOLS	**Kolonicke sedl**	**2.38**	**118**	*e*PG		**Pg**	**09 13 51.9**	**+0.4**	
PRU	**Pruhonice**	**2.92**	**270**	*e*SG		**Sg**	**09 14 38.7**	**-1.0**	
BRG	**Berggiesshubel**	**3.37**	**285**	Pg		**Pg**	**09 14 10.7**	**+0.4**	
BRG				Sg		**Sg**	**09 14 53.0**	**-0.9**	
BRG				Amp			09 14 56.3		
	comp=Z,7.9nm,0.6s								

IDC 02 09:19:58.1±1.9,**2°78′N**×**126°04′E**,**h0**km,**mb3.5**/4,
mb1 3.7/4,**mb1mx3.4**/40,**mbtmp3.5**/4,**Error ellipse:**
s-maj=121.2km s-min=24.9km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.75**	**181**	P	Pn	09 24 41.9	-1.1
	1.7nm,0.8s,baz=8.6,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**24.01**	**161**	P	P	09 25 14.0	-0.8
	0.8nm,0.5s,baz=338,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.38**	**164**	P	P	09 25 45.9	+0.5
	0.2nm,0.6s,baz=344,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**57.94**	**326**	P	P	09 29 52.1	-0.3
	0.3nm,0.4s,baz=116,slow=8.2,SNR=4.9						

*NERS **02** 09:28:58.3±0.0,63°70′N×155°47′E,h29km*
*YARS **02** 09:29:00.5±0.0,64°10′N×154°74′E,h10km*
ISC 02 09:28:53.8±1.5,**63°83′N**±0°05×**155°56′E**±0°07,**h10**km,**n14**,
σ2**9**01/28,**Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMS	**Omsukchan**	**1.32**	**176**	*e*Pg	**Pg**	**09 29 19.8**	**+0.7**
OMS				Pgmax		09 29 20.5	
	6μm,0.3s						
OMS				*e*Sg	**Sg**	**09 29 37.0**	**+0.7**
OMS				Sgmax		09 29 38.7	
	29μm,0.6s						
SEY	**Seymchan**	**1.69**	**239**	*e*P	**Pb**	**09 29 24.4**	**-0.5**
SEY				*e*		09 29 25.4	
SEY				*e*Pg	**Pg**	**09 29 26.8**	**+0.6**
SEY				Pgmax		09 29 27.4	
	250nm,0.3s						
SEY				*e*Sg	**Sg**	**09 29 49.4**	**+1.4**
SEY				Sgmax		09 29 52.3	
	480nm,0.2s						
SEY				Sgmax		09 29 52.3	
	430nm,0.2s						
TLAR	**Talaya**	**3.08**	**210**	*e*P	**Pb**	**09 29 44.9**	**-3.7**
TLAR				*e*Pg	**Pg**	**09 29 53.7**	**+1.0**
TLAR				*e*Sg	**Sg**	**09 30 32.8**	**+0.2**
TLAR				Sgmax		09 30 37.5	
	650nm,0.3s						
TLAR				Sgmax		09 30 37.5	
	600nm,0.2s						
SUUS	**Susuman**	**3.50**	**256**	*e*P	**Pn**	**09 29 51.0**	**+2.8**
SUUS				*e*Pg	**Pg**	**09 30 02.1**	**+1.4**
SUUS				Pgmax		09 30 04.7	
	80nm,0.6s						
SUUS				*e*S	**Sn**	**09 30 30.5**	**+0.9**
SUUS				*e*Sg	**Sg**	**09 30 47.6**	**+1.6**
SUUS				Sgmax		09 30 51.1	
	450nm,0.6s						
SUUS				Sgmax		09 30 51.1	
	190nm,0.4s						
OCHR	**Omchak**	**4.15**	**242**	*e*Pg	**Pg**	**09 30 12.8**	**-0.4**
OCHR				*e*Sg	**Sg**	**09 31 06.3**	**-0.6**
OCHR				Sgmax		09 31 13.3	
	80nm,0.6s						
OCHR				Sgmax		09 31 13.3	
	360nm,0.6s						
MGD	**Magadan 1**	**4.43**	**213**	*e*	**Pn**	**09 30 01.8**	**+0.9**
MGD				*e*		09 30 19.5	
MGD				*e*Sg	**Sg**	**09 31 13.5**	**-2.3**
MGD				Sgmax		09 31 17.3	
	190nm,0.6s						
MGD				Sgmax		09 31 17.3	
	200nm,0.4s						
MA2	**Magadan**	**4.84**	**210**	*e*P	**Pn**	**09 30 08.8**	**+2.2**
MA2				*e*Pg	**Pg**	**09 30 25.7**	**-0.7**
MA2				Pgmax		09 30 26.0	
	10.0nm,0.4s						
MA2				*e*Sg	**Sg**	**09 31 28.4**	**-0.5**
MA2				Sgmax		09 31 42.0	
	140nm,0.7s						
MA2	**Magadan**	**4.84**	**210**	*e*Pn	**Pb**	**09 30 14.1**	**-4.4**
MA2				*i* Sb	**Sg**	**09 31 30.0**	**+1.1**
MA2				*i* Lg	Lg	09 31 36.1	
UNR	**Ust'-Nera**	**5.44**	**283**	*e*Pn	**Pn**	**09 30 16.6**	**+1.8**
	7.2nm,0.5s						
UNR				*e*Sg	**Sg**	**09 31 45.8**	**-2.4**
	46nm,0.8s						
UNR				*e*Sg	**Sg**	**09 31 45.8**	**-2.4**
	94nm,1.3s						
MOMR	**Moma**	**5.84**	**302**	*e*Pn	**Pn**	**09 30 22.8**	**+2.5**
	23nm,0.7s						
MOMR				*e*Sg	**Sg**	**09 31 58.7**	**-2.2**
	62nm,0.8s						
MOMR				*e*Sg	**Sg**	**09 31 58.7**	**-2.2**
	76nm,1.0s						
BILL	**Bilibino**	**6.08**	**41**	*e*Pn	Pn	09 30 29.1	+5.5
BILL				*i* Lg	Lg	09 32 14.2	
BTGS	**Batagay**	**9.40**	**303**	*i* Lg	Lg	09 33 45.2	
TIXI	**Tiksi**	**12.67**	**320**	*e*Pn	**Pn**	**09 31 56.1**	**+2.3**
CGD	**Chagda**	**12.97**	**258**	*i* Lg	Lg	09 35 43.9	

*NEIC **02** 09:32:58.6±1.9,17°1S±0°2×177°0W±0°1,h412km±11km,*
mb4.1/14,Error ellipse: s-maj=23.5km s-min=14.3km
az=159.0
*IDC **02** 09:32:58.4±1.9,17°11S×177°04W,h410km±14km,mb3.5/6,*
mb1 3.6/9,mb1mx3.2/46,mbtmp4.3/9,Error ellipse:
s-maj=65.9km s-min=17.4km az=153.0
ISC 02 09:32:57.7±0.7,**17°1S**±0°1×**176°99W**±0°08,**h400**km,**n28**,
σ1**42**/28,**mb4.0**/12,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**261**	P	**Pn**	**09 34 19.3**	**+1.7**
	2.3nm,0.3s,baz=76,slow=10,SNR=8.9						
MSVF				S	**S**	**09 35 23.9**	**+1.4**
	0.5nm,0.3s,baz=104,slow=23,SNR=1.4						
AFI	**Afiamalu**	**5.91**	**59**	P	**Pn**	**09 34 30.4**	**+0.8**
	6.3nm,0.3s,baz=169,slow=0.5,SNR=9.9						
AFI				S	**S**	**09 35 40.6**	**-3.7**
	baz=244,slow=22,SNR=1.2						
AFI	**Afiamalu**	**5.91**	**59**	P	**Pn**	**09 34 30.7**	**+1.2**
NIUE	**Niue**	**7.01**	**108**		**P**	**09 34 43.7**	**+1.6**
FUNA	**Funafuti**	**9.25**	**336**	P	**Pn**	**09 35 07.8**	**+0.7**
MARNC	**Mare, Loyalty**	**14.81**	**250**	P	**P**	**09 36 07.5**	**-0.7**
LIFNC	**LIFOU**	**15.38**	**254**	P	**P**	**09 36 12.0**	**-2.3**
DZM	**Mont Dzumac**	**16.39**	**250**	P	**P**	**09 36 24.1**	**-1.2**
	0.2nm,0.3s,baz=80,slow=19,SNR=1.6						
DZM	**Mont Dzumac**	**16.39**	**250**	P	**P**	**09 36 24.8**	**-0.5**
DZM				IAmb	IAmb	09 36 33.8	
	comp=Z,14nm,1.2s						
CTA	**Charters Tower**	**34.93**	**259**	P	**P**	**09 39 12.9**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=109,slow=8.0,SNR=1.5						
CTAO	**Charters Tower**	**34.93**	**259**	P	**P**	**09 39 13.8**	**-0.2**
TOO	**Toolangi**	**38.76**	**231**	P	**P**	**09 39 46.4**	**+0.8**
TOO				IAmb	IAmb	09 39 47.4	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**40.23**	**241**	P	**P**	**09 39 57.7**	**0.0**
	comp=Z,5.6nm,0.5s,baz=88,slow=10,SNR=37						
STKA	**Stephens Creek**	**40.23**	**241**	P	**P**	**09 39 57.7**	**0.0**
BBOO	**Buckleboo**	**45.01**	**240**	P	**P**	**09 40 35.4**	**-0.1**
BBOO				IAmb	IAmb	09 40 35.9	
	comp=Z,8.1nm,0.8s						
WR0	**Warramunga Arr**	**45.94**	**259**	P	**P**	**09 40 41.2**	**-1.7**
WR0				IAmb	IAmb	09 40 45.4	
	comp=Z,9.2nm,1.4s						
WB0	**Warramunga Arr**	**46.09**	**259**	P	**P**	**09 40 42.7**	**-1.4**
WB0				IAmb	IAmb	09 40 47.8	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**46.12**	**259**	P	**P**	**09 40 42.9**	**-1.4**
WB2				IAmb	IAmb	09 40 48.0	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**46.13**	**259**	P	**P**	**09 40 42.5**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=94,slow=7.7,SNR=52						
WRA	**Warramunga Arr**	**46.13**	**259**	IAmb	IAmb	09 40 43.9	
	comp=Z,0.1nm,0.7s						
AS31	**Alice Springs**	**46.33**	**253**	P	**P**	**09 40 45.1**	**-0.9**
AS31				IAmb	IAmb	09 40 45.7	
	comp=Z,6.0nm,0.5s						
ASAR	**Alice Springs**	**46.33**	**253**	P	**P**	**09 40 44.8**	**-1.1**
	comp=Z,17nm,0.5s,baz=89,slow=8.0,SNR=350						
ASAR	**Alice Springs**	**46.33**	**253**	P	**P**	**09 40 45.1**	**-0.9**
KNRA	**Kununurra**	**51.93**	**263**	P	**P**	**09 41 26.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**54.51**	**260**	P	**P**	**09 41 46.4**	**+0.1**
	comp=Z,3.9nm,1.1s,baz=78,slow=5.3,SNR=10						
FITZ	**Fitzroy Crossi**	**54.51**	**260**	IAmb	IAmb	09 41 46.5	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**73.00**	**180**	P	**P**	**09 43 44.1**	**-0.7**
ILAR	**Eielson Array**	**84.76**	**12**	P	**P**	**09 44 48.8**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=227,slow=4.9,SNR=4.3						

*IDC **02** 09:35:44.2±1.9,2°15N×96°26E,h0km,mb3.9/5,mb1 4.1/7,*
mb1mx3.7/53,mbtmp3.9/7,ML3.9/2,MS3.2/5,Ms1 3.2/5,
ms1mx2.9/43,Error ellipse: s-maj=54.2km s-min=21.4km
az=55.0
*DJA **02** 09:35:44.2±1.2,2°N±5°×9°6E±1°1,h10km,M4.1/8,*
MLv4.1/8
*NEIC **02** 09:35:49.8±0.6,2°15N±0°07×96°3E±0°1,h34km±9km,*
mb4.3/11,Error ellipse: s-maj=15.7km s-min=8.4km
az=71.0
ISC 02 09:35:47.2±0.9,**2°11N**±0°07×**96°2E**±0°1,**h27**km,**n40**,
σ0**89**/30,**mb4.4**/11,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.48**	**39**	P	**Pn**	**09 36 11.1**	**-1.0**
GSI	**Gunungsitoli**	**1.55**	**121**		**Pb**	**09 36 14.0**	**-1.3**
GSI	**Gunungsitoli**	**1.55**	**121**	P	**Pb**	**09 36 14.1**	**-1.3**
MLSI	**Meulaboh, Aceh**	**2.15**	**4**	P	**Pn**	**09 36 20.9**	**-0.5**
TSI	**Tuntungan**	**2.70**	**59**	P	**Pn**	**09 36 29.6**	**+0.7**
RPSI	**Rantau Prapat**	**2.75**	**78**		**Pn**	**09 36 30.0**	**+0.5**
RPSI	**Rantau Prapat**	**2.75**	**78**		**Pn**	**09 36 29.9**	**+0.4**
PSI	**Prapat**	**2.77**	**75**	Pn	**Pn**	**09 36 29.9**	**-0.1**
	2.9nm,0.3s,baz=198,slow=0.2,SNR=16						
PSI				LR	LR	09 37 56.3	
	comp=Z,328nm,19.5s,baz=272,slow=49						
PBSI	**Pulau Batu**	**2.96**	**136**	P	**Pn**	**09 36 32.7**	**+0.2**
LHMI	**Lhok Sumawe**	**3.18**	**13**	Pn	**Pn**	**09 36 35.9**	**+0.4**
MNSI	**Mandailing Nat**	**3.58**	**111**	P	**Pn**	**09 36 42.6**	**+1.6**
SISI	**Saibi**	**4.44**	**140**	P	**Pn**	**09 36 52.2**	**-0.7**
LEM	**Lembang**	**14.41**	**128**	LR	LR	09 45 32.5	
	comp=Z,105nm,18.6s,baz=242,slow=41						
PALK	**Pallekele**	**16.31**	**289**	LR	LR	09 44 32.3	
	comp=Z,48nm,21.4s,baz=244,slow=32						
CM31	**Chiang Mai Arr**	**16.47**	**9**	Pn	**Pn**	**09 39 36.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.47**	**9**	Pn	**Pn**	**09 39 37.0**	**+0.5**
	0.7nm,0.3s,baz=197,slow=12,SNR=5						
CMAR				LR	LR	09 46 40.1	
	comp=Z,103nm,18.8s,baz=195,slow=40						
SLVN	**Son La**	**20.52**	**21**	P	**P**	**09 40 23.7**	**+0.1**
SHL	**Shillong**	**23.70**	**350**	P	**P**	**09 40 56.2**	**-1.0**
SHL				IAmb	IAmb	09 40 58.6	
	comp=Z,11nm,1.0s						
H08S2	**Diego Garcia H**	**25.59**	**248**	T	T	10 07 47.5	
	baz=68,slow=76,SNR=334						
H08S3	**Diego Garcia H**	**25.60**	**248**	T	T	10 07 45.2	
	baz=68,slow=76,SNR=380						
H08S1	**Diego Garcia H**	**25.61**	**248**	T	T	10 07 46.1	
	baz=68,slow=76,SNR=311						
H01W3	**Cape Leeuwin H**	**40.44**	**157**	T	T	10 26 21.3	
	baz=333,slow=76,SNR=58						
H01W2	**Cape Leeuwin H**	**40.46**	**157**	T	T	10 26 22.2	
	baz=333,slow=76,SNR=48						
H01W1	**Cape Leeuwin H**	**40.46**	**157**	T	T	10 26 22.4	
	baz=333,slow=76,SNR=37						
WB0	**Warramunga Arr**	**43.30**	**122**	P	**P**	**09 43 46.8**	**-0.3**
WB0				IAmb	IAmb	09 43 55.2	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**43.33**	**122**	P	**P**	**09 43 48.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=301,slow=9.2,SNR=2.3						
WRA	**Warramunga Arr**	**43.33**	**122**	P	**P**	**09 43 46.1**	**-1.2**
WB2	**Warramunga Arr**	**43.34**	**122**	P	**P**	**09 43 47.3**	**-0.1**
WB2				IAmb	IAmb	09 44 16.2	
	comp=Z,6.6nm,1.1s						
CHGR	**Chuyangaron**	**44.00**	**329**	P	**P**	**09 43 51.9**	**-0.7**
CHGR				IAmb	IAmb	09 44 02.2	
	comp=Z,5.0nm,0.7s						
ASAR	**Alice Springs**	**44.70**	**127**	P	**P**	**09 43 59.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=302,slow=8.0,SNR=6.7						
MK31	**Makanchi Array**	**46.14**	**347**	P	**P**	**09 44 10.4**	**+1.0**
MK31				IAmb	IAmb	09 44 12.7	
	comp=Z,4.4nm,0.9s						
MKAR	**Makanchi Array**	**46.14**	**347**	P	**P**	**09 44 10.5**	**+1.1**
	comp=Z,5.1nm,0.8s,baz=160,slow=7.4,SNR=23						
MKAR	**Makanchi Array**	**46.14**	**347**	P	**P**	**09 44 10.3**	**+0.9**
MAKZ	**Makanchi**	**46.23**	**346**	P	**P**	**09 44 10.9**	**+0.9**
SONM	**Songino Array**	**46.39**	**9**	P	**P**	**09 44 10.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=188,slow=9.9,SNR=5.7						
SONM	**Songino Array**	**46.39**	**9**	IAmb	IAmb	09 44 13.9	
	comp=Z,3.4nm,1.5s						
USRK	**Ussuriysk Ar.**	**52.51**	**32**	LR	LR	10 08 08.0	
	comp=Z,30nm,18.2s,baz=254,slow=37						
ZAA0	**Zalesovo Array**	**52.52**	**352**	P	**P**	**09 44 59.2**	**+1.3**
ZALV	**Zalesovo Beam**	**52.52**	**352**	P	**P**	**09 44 58.9**	**+1.0**
	comp=Z,3.1nm,0.5s,baz=176,slow=4.9,SNR=8.9						
ABKAR	**Akbulak array**	**56.27**	**332**	P	**P**	**09 45 26.1**	**+0.8**
ABKAR				IAmb	IAmb	09 45 45.1	
	comp=Z,2.3nm,1.1s						

*NNC **02** 09:53:47.9±1.8,43°48N×69°44E,h0km,mb3.6,mpv3.0,*
Error ellipse: s-maj=13.5km s-min=9.5km az=33.0,
Suspected Mining explosion.
*SOME **02** 09:53:48.0,43°73N×69°65E*
*KRNET **02** 09:53:48.6±0.1,43°73N×69°57E,mb3.0*
ISC 02 09:53:52.5±2.9,**43°6N**±0°1×**69°7E**±0°1,**h0**km,**n12**,
σ1**9**50/20,**17C-3D**,**Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.78**	**133**	⇑P	**Pg**	**09 54 04.8**	**-2.7**
	1.2nm,0.3s,baz=292,slow=16,SNR=149						
KK31				⇑S	**Sg**	**09 54 16.7**	**-1.0**
	21nm,0.6s,baz=296,slow=30,SNR=81						
MNAS	**Manas**	**2.34**	**119**	⇑*i*P	**Pn**	**09 54 32.5**	**+0.2**
	baz=19						
MNAS				⇑*i*S	**Sb**	**09 55 04.7**	**-0.3**
	baz=19						
TRKS	**Terek-Say**	**2.35**	**153**	⇑*i*P	**Pn**	**09 54 33.7**	**+1.1**
	baz=52						
TRKS				⇑*i*S	**Sb**	**09 55 06.4**	**+0.9**
	baz=52						
EKS2	**Erkin-Say**	**3.12**	**107**	⇑*i*P	**Pn**	**09 54 43.5**	**+0.5**
	baz=8.0						
EKS2				⇑*i*S	**Sn**	**09 55 23.3**	**+2.2**
	baz=8.0						
AML	**Almayashu**	**3.28**	**116**	⇑*i*P	**Pn**	**09 54 45.7**	**+0.2**
	baz=16						
AML				⇑*i*S	**Sn**	**09 55 27.3**	**+1.9**
	baz=16						
ARSB	**Arslanbob**	**3.34**	**133**	⇓*i*P	**Pn**	**09 54 46.8**	**+0.7**
	baz=32						
ARSB				⇓*i*S	**Sn**	**09 55 28.8**	**+2.3**
	baz=32						
AAK	**Ala-Archa**	**3.63**	**104**	⇑*e*P	**Pn**	**09 54 50.7**	**+0.6**
	baz=5.0						
AAK				⇑*i*S	**Sn**	**09 55 35.5**	**+1.8**
	baz=5.0						
AAK	**Ala-Archa**	**3.63**	**104**	⇑Pg	**Pb**	**09 54 56.0**	**-1.6**
	3.5nm,0.5s						
AAK				⇑Lg	Lg	09 55 48.3	
	2.6nm,0.4s						
ARLS	**Aral**	**3.82**	**116**	⇑*i*P	**Pn**	**09 54 53.1**	**+0.4**
	baz=17						
ARLS				⇑*i*S	**Sn**	**09 55 40.9**	**+2.5**
	baz=17						
KRBS	**Karabastau**	**4.31**	**87**	Pg	**Pb**	**09 55 08.7**	**-0.5**
	1.6nm,0.3s						
KRBS				Lg	Lg	09 56 06.1	
	4.8nm,0.6s						
TKM2	**Tokmak 2**	**4.34**	**98**	⇑Pg	**Pb**	**09 55 10.6**	**+0.8**
	2.1nm,0.6s						
TKM2				⇓Lg	Lg	09 56 11.5	
	3.8nm,0.5s						
DGS	**Degeres**	**4.42**	**93**	Pg	**Pb**	**09 55 11.0**	**0.0**
	3.3nm,0.6s						
DGS				Lg	Lg	09 56 09.9	
	8.6nm,0.5s						

*IDC **02** 10:32:44.2±0.4,33°87S×72°23W,h0km,mb4.9/16,*
mb1 5.1/18,mb1mx5.1/21,mbtmp5.0/18,ML4.8/2,MS4.5/18,
Ms1 4.5/18,ms1mx4.3/25,Error ellipse: s-maj=19.5km
s-min=13.0km az=84.0
*MOS **02** 10:32:44.5±1.1,33°87S×72°23W,h10km,mb5.5/30,*
MS4.5/7,Error ellipse: s-maj=13.7km s-min=6.8km
az=92.1
*GUC **02** 10:32:45.7±0.8,33°91S×72°51W,h36km±4km,ML5.0*
*NEIC **02** 10:32:45.9,33°95S×72°41W,h16km,Moment Tensor*
Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.59;
Mθθ0.18; Mϕϕ-1.77; Mrθ0.24; Mϕθ-0.52; Mϕr-2.55; Fault
plane solution: M₀3.11000×10¹⁶ NP1:ϕs33.15000°,
δ19.90000°,λ123.80000°. NP2:ϕs177.69000°,δ73.57000°,
λ78.62000°. Principal axes: T 3.0371, Plg60.0000°,
Azm72.0000°; N 0.1427, Plg11.0000°, Azm181.0000°; P
-3.1797, Plg28.0000°, Azm277.0000°;
*NEIC **02** 10:32:45.7±1.7,33°94S±0°03×72°43W±0°04,h11km±2km,*
mb5.3/400,Ms_20 4.7/101,Mw4.9/39,ML5.0(GUC) Error
ellipse: s-maj=4.8km s-min=4.3km az=146.0
*VAO **02** 10:32:48.0±1.3,33°87S×72°10W,h19km±8km,mb5.3*
*GCMT **02** 10:32:49.7±0.2,33°84S±0°02×72°60W±0°02,h22km,*
MW5.1/88,Moment Tensor Solution. s52,c64; s88,c123;
Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.38±.21;
Mθθ0.03±.12; Mϕϕ-4.41±.15; Mrθ-0.29±.19; Mθϕ-1.47±.08;
Mϕr-3.99±.26; Best double couple: M₀6.11400×10¹⁶
NP1:ϕs27.00000°,δ26.00000°,λ107.00000°. NP2:
ϕs188.00000°,δ66.00000°,λ82.00000°. Principal axes: T
5.9320, Plg68.0000°, Azm83.0000°; N 0.3630, Plg7.0000°,
Azm191.0000°; P -6.2960, Plg20.0000°, Azm284.0000°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to
surface waves, cutoff=50s. Triangular moment-rate
function
ISC 02 10:32:46.9±0.3,**33°91S**±0°03×**72°42W**±0°04,**h20**km±3km,
n655,σ1**5**20/528,**mb5.3**/208,**MS4.7**/72,**141C-90D**,**Fault**
plane solution: NP1:ϕs152.66748°,δ67.93928°,
λ89.34228°. **NP2**:ϕs334.41818°,δ22.07003°,λ91.62249°.
Principal axes: T Plg67.0544°, Azm61.4745°; N
Plg0.6096°, Azm152.9145°; P Plg22.9366°,
Azm243.1725°; **Fault plane solution: NP1**:
ϕs190.27274°,δ55.05852°,λ56.52585°. **NP2:**ϕs59.37482°,
δ46.86093°,λ128.28845°. **Principal axes**: T
Plg62.6838°, Azm42.0738°; N Plg26.8807°,
Azm211.0152°; P Plg4.5030°, Azm303.3032°; **Off coast**
of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.70**	**147**	*i* P	**Pb**	**10 32 59.7**	**-0.7**
BO03				*i* S	**Sb**	**10 33 10.2**	**+0.6**
BO03				IAML		10 33 12.4	
	comp=N,76μm,0.2s						
VA05	**Santo Domingo**	**0.72**	**70**	⇓*i*P	**Pb**	**10 33 00.7**	**0.0**
VA05				*i* S	**Sn**	**10 33 11.3**	**-1.0**
VA05				IAML		10 33 13.1	
	comp=E,124μm,0.5s						
VA05	**Santo Domingo**	**0.72**	**70**	Pg	**Pb**	**10 33 00.7**	**0.0**
VA05				Sg	**Sn**	**10 33 12.4**	**+0.2**
MT01	**Popeta**	**0.98**	**88**	⇑*i*P	**Pb**	**10 33 04.4**	**-0.6**
MT01				*i* S	**Sn**	**10 33 18.1**	**-0.5**
MT01				IAML		10 33 22.3	
	comp=E,56μm,0.4s						
MT01	**Popeta**	**0.98**	**88**		**Pb**	**10 33 04.6**	**-0.5**
MT01				Sg	**Sn**	**10 33 18.0**	**-0.6**
VA01	**Torpederas**	**1.10**	**36**	*e*P	**Pn**	**10 33 06.1**	**-0.9**
VA01				*e*S	**Sb**	**10 33 20.4**	**-0.6**
VA01	**Torpederas**	**1.10**	**36**		**Pn**	**10 33 06.2**	**-0.9**
VA01				Sg	**Sb**	**10 33 20.1**	**-0.9**
GO05	**Huala**	**1.17**	**160**	⇑*i*P	**Pn**	**10 33 06.8**	**-1.3**
GO05				*i* S	**Sn**	**10 33 22.4**	**-1.0**
GO05				IAML		10 33 28.7	
	comp=E,98μm

GO04 Tololo Observa 3.97 21⇑ *eP* **Pn 10 33 46.0 -0.9**
GO04 Tololo Observa 3.97 21 Pn **Pn 10 33 46.1 -0.8**
CO05 La Serena 4.11 15⇑ *eP* **Pn 10 33 47.3 -1.1**
LCO Las Campanas 5.10 17 P **Pn 10 34 01.2 -1.2**
LCO Las Campanas 5.10 17 Pn **Pn 10 34 01.2 -1.2**
H03S1 Juan Fernandez 5.39 269 Pn **Pn 10 34 04.1 -1.8**
baz=130,slow=74,SNR=86
H03S1 T T 10 40 15.9
baz=96,slow=75,SNR=1356
H03S3 Juan Fernandez 5.40 269 Pn **Pn 10 34 05.1 -0.9**
SNR=84
H03S3 T T 10 40 13.2
baz=96,slow=75,SNR=1883
H03S2 Juan Fernandez 5.41 269 Pn **Pn 10 34 04.6 -1.5**
baz=290,slow=74,SNR=76
H03S2 T T 10 40 15.5
baz=96,slow=75,SNR=1729
H03N1 Juan Fernandez 5.43 273 Pn **Pn 10 34 06.5 +0.1**
baz=127,slow=23,SNR=80
H03N1 T T 10 40 20.7
baz=98,slow=75,SNR=13
H03N3 Juan Fernandez 5.44 273 Pn **Pn 10 34 06.5 0.0**
baz=127,slow=23,SNR=64
H03N3 T T 10 40 16.0
baz=98,slow=75,SNR=78
H03N2 Juan Fernandez 5.45 273 Pn **Pn 10 34 06.5 -0.1**
baz=127,slow=23,SNR=71
H03N2 T T 10 40 14.0
baz=98,slow=75,SNR=70
AC04 Llanos de Chal 5.80 12 Pn **Pn 10 34 10.1 -1.7**
GO03 Copiap 6.57 17 Pn 10 34 20.9 -1.5
PLCA Paso Flores 6.97 168 Pn **Pn 10 34 28.4 +0.5**
comp=N,3.8nm,0.3s,baz=339,slow=12,SNR=41
PLCA Lg Lg 10 36 23.6
comp=N,1.6nm,0.3s,baz=262,slow=22,SNR=3.6
PLCA LR LR 10 37 14.5
comp=N,4µm,18.5s,baz=349,slow=39
PLCA Paso Flores 6.97 168 Pn **Pn 10 34 27.6 -0.2**
PLCA Paso Flores 6.97 168 *eP* **Pn 10 34 28.5 +0.7**
LL03 Petrohue 7.21 180 Pn **Pn 10 34 31.1 -0.1**
LL05 Los Muermos 7.53 186 Pn 10 34 34.2 -1.2
AC02 Maricunga 7.60 23 Pn **Pn 10 34 35.9 -1.1**
AC01 Pan de Azucar 7.90 12 Pn **Pn 10 34 37.2 -3.4**
LL01 San Ignacio de 8.46 180 Pn **Pn 10 34 47.5 -0.6**
GO02 Mina Guanaco 9.06 17 Pn 10 34 53.3 -3.5
GO07 Milladeo Hill, 9.24 186 Pn **Pn 10 34 56.2 -2.6**
LL02 Futaleuf 9.28 177 Pn **Pn 10 34 57.4 -2.0**
PB14 IPOC Station P 9.42 11 Pn 10 34 57.4 -4.3
PB10 IPOC Station P 10.49 9 Pn **Pn 10 35 14.1 -2.0**
PB15 IPOC Station P 10.97 14 Pn **Pn 10 35 21.2 -1.7**
PB06 IPOC Station P 11.44 13 Pn 10 35 27.9 -1.4
LVC Limon Verde 11.68 16 Pn Pn 10 35 27.3 -5.4
comp=N,1.4nm,0.3s,baz=176,slow=7.2,SNR=7.8
LVC Sn **Sn 10 37 48.4 +5.8**
comp=N,1.0nm,0.3s,baz=167,slow=15,SNR=1.8
LVC LR LR 10 40 06.1
comp=N,2µm,18.0s,baz=210,slow=38
LVC Limon Verde 11.68 16 *eP* Pn 10 35 27.6 -5.0
LVC Limon Verde 11.68 16 Pn Pn 10 35 27.6 -5.0
PB07 IPOC Station P 12.34 11 Pn **Pn 10 35 40.1 -1.5**
PB09 IPOC Station P 12.39 14 Pn 10 35 40.9 -1.4
PB01 IPOC Station P 13.08 12 Pn **Pn 10 35 50.9 -0.7**
PATCX Punta Patache 13.19 9 Pn **Pn 10 35 52.1 -1.1**
TA02 Huaiquique 13.74 9 Pn **Pn 10 36 00.4 -0.1**
PB08 IPOC Station P 14.02 13 Pn **Pn 10 36 06.1 +1.4**
ITQB Itaqui 14.08 77 Pn **Pn 10 36 05.1 0.0**
ITQB Itaqui 14.08 77 *eP* **Pn 10 36 02.2 -2.9**
PB11 IPOC Station P 14.31 11 Pn **Pn 10 36 08.8 +0.3**
PSGCX Pisagua 14.40 9 Pn **Pn 10 36 09.7 0.0**
MNMC Minye Minye 14.94 10 Pn **Pn 10 36 16.7 -0.4**
CPUP Villa Florida 15.08 64 Pn **Pn 10 36 13.7 -5.0**
comp=N,0.1nm,0.3s,baz=235,slow=12,SNR=7.7
CPUP Sn **Sn 10 39 06.4 +1.3**
comp=N,0.5nm,0.3s,baz=147,slow=4.9,SNR=2.2
CPUP Lg Lg 10 40 21.9
comp=N,0.7nm,0.3s,baz=162,slow=18,SNR=4.0
CPUP LR LR 10 43 03.2
comp=N,1µm,18.1s,baz=242,slow=42
CPUP Villa Florida 15.08 64 P **Pn 10 36 16.9 -1.8**
CPUP pmax pmax
comp=Z,39nm,1.1s
CPUP Villa Florida 15.08 64 Pn **Pn 10 36 16.9 -1.8**
PLTB Pedras Altas 15.96 87 Pn **Pn 10 36 28.3 -2.0**
PLTB Pedras Altas 15.96 87 *eP* **Pn 10 36 28.2 -2.1**
CPSB Cacapava Do Su 16.45 83 *eP* **Pn 10 36 33.7 -2.7**
GO09 Cerro Castillo 17.35 180 Pn **Pn 10 36 46.4 -1.2**
LPAZ La Paz 17.97 13 P **P 10 36 56.6 0.0**
comp=Z,1.6nm,0.3s,baz=182,slow=7.0,SNR=97
LPAZ La Paz 17.97 13 P **Pn 10 36 56.1 0.0**
LPAZ pmax pmax
comp=Z,144nm,1.1s
LPAZ La Paz 17.97 13 Pn 10 36 56.1 0.0
LPAZ La Paz 17.97 13 *eP* **P 10 36 56.7 +0.2**
ITAB Concordia 18.68 75 P **P 10 37 03.5 -0.3**
ITAB Concordia 18.68 75 *eP* **P 10 37 03.3 -0.4**
MG02 Cerro Sombrero 19.00 174 P **P 10 37 06.1 -1.0**
MG02 IAmb IAmb 10 37 22.8
comp=Z,137nm,1.0s
GO10 Punta Arenas 19.26 177 P **P 10 37 09.5 -0.5**
PTGB Pitanga 19.95 68 *eP* **P 10 37 17.2 -0.5**
AQDB Aquidauana 19.97 52 P **P 10 37 16.9 -1.0**
AQDB IAmb IAmb 10 37 23.5
comp=Z,165nm,0.9s
AQDB Aquidauana 19.97 52 *eP* **P 10 37 17.4 -0.4**
SIV San Ignacio 20.57 33 P **P 10 37 23.5 -0.9**
comp=Z,85nm,0.8s,baz=225,slow=8.4,SNR=176
SIV LR LR 10 46 45.1
comp=Z,3µm,18.4s,baz=228,slow=41
EFI East Falkland 20.58 154 *d i* P **P 10 37 23.7 -0.5**
EFI pmax pmax
comp=Z,178nm,1.7s
EFI East Falkland 20.58 154 P **P 10 37 23.5 -0.8**
EFI IAmb IAmb 10 37 24.2
comp=Z,77nm,0.7s
TRCB Terra Rica 20.60 63 P **P 10 37 24.2 -0.6**
TRCB Terra Rica 20.60 63 *eP* **P 10 37 23.8 -1.0**
USHA Ushuaia 21.10 174 P **P 10 37 31.4 +1.5**
comp=Z,20nm,0.5s,baz=17,slow=1.8,SNR=1.8
PTLB Pontes e Lacer 21.95 36 *eP* **P 10 37 39.0 -0.3**
TIJ01 Guaruva-PR 22.05 73 *eP* **P 10 37 36.1 -4.4**
NNA Nana 22.19 348 P **P 10 37 42.8 +0.9**
comp=Z,39nm,0.8s,baz=187,slow=12,SNR=10
NNA LR LR 10 44 27.7
comp=Z,766nm,20.6s,baz=183,slow=32
NNA Nana 22.19 348 ǁ *eP* **P 10 37 44.7 +2.8**
NNA pmax pmax
comp=Z,128nm,1.7s
NNA Nana 22.19 348 IAMs_20 IAMs_20 10 45 10.8
comp=Z,2µm,18.0s
PCMB Pacaembu 22.33 62 *eP* **P 10 37 41.7 -1.6**
PP1B Ponte de Pedra 22.60 48 *eP* **P 10 37 44.7 -1.6**
FRTB Fartura 22.61 68 *eP* **P 10 37 44.8 -1.6**
VILB Vilhena 23.64 31 *eP* **P 10 37 56.3 -0.6**
PET01 Itanhaem-SP 23.92 73 *eP* **P 10 37 58.7 -0.8**
SPB Sao Paulo 24.14 71 P **P 10 38 00.6 -1.0**
SPB IAMs_20 IAMs_20 10 47 44.4
comp=Z,2µm,18.0s
SPB Sao Paulo 24.14 71 *eP* **P 10 38 00.8 -0.7**
ITRB Iturama 24.18 60 *eP* **P 10 38 00.6 -1.4**
ETMB Extrema 24.65 15 *eP* **P 10 38 06.8 +0.6**
RCLB Rio Claro- Sao 24.68 69 *eP* **P 10 38 05.5 -1.1**
BB19B Bebedouro 24.69 65 *eP* **P 10 38 05.1 -1.5**
VAO Valinhos 24.82 71 *eP* **P 10 38 07.0 -0.8**
PARB Paraibuna 25.71 73 *eP* **P 10 38 14.6 -1.2**
ARAG Araguaiana, MT 25.96 51 *eP* **P 10 38 16.6 -1.5**
CZSB Cruzeiro do Su 26.05 359 *eP* **P 10 38 19.6 +0.6**
SAML Samuel 26.26 21 P **P 10 38 20.6 -0.2**
SAML pmax pmax
comp=Z,45nm,0.9s
SAML MLR MLR
comp=Z,2µm,18.0s
SAML Samuel 26.26 21 P **P 10 38 20.6 -0.2**
SAML IAmb IAmb 10 38 24.4
comp=Z,45nm,0.9s
SAML Samuel 26.26 21 IAMs_20 IAMs_20 10 50 40.7
comp=Z,2µm,18.0s
ESAR Angra dos Reis 26.80 73 *eP* **P 10 38 25.4 -0.2**
IPMB Ipameri, GO 26.84 60 *eP* **P 10 38 25.0 -1.0**
ATAH Átahualpa 27.21 347 P **P 10 38 32.0 +2.1**
comp=Z,3.9nm,0.6s,baz=150,slow=14,SNR=2.4
ATAH PcP **PcP 10 41 51.5 +1.6**
comp=Z,6.7nm,0.9s,baz=127,slow=5.1,SNR=3.0
ATAH LR LR 10 48 10.7
comp=Z,859nm,18.6s,baz=188,slow=34

MAN01 Angra dos Reis 27.26 74 *eP* **P 10 38 29.5 -0.4**
CLDB Colider 27.52 37 *eP* **P 10 38 31.2 -1.0**
VAS01 Vassouras-RJ 27.97 73 *eP* **P 10 38 35.0 -1.2**
BDFB Brasilia 28.55 56 P **P 10 38 39.7 -1.8**
comp=Z,31nm,0.7s,baz=233,slow=7.7,SNR=44
BDFB PcP **PcP 10 41 53.3 +0.5**
comp=Z,14nm,0.8s,baz=186,slow=6.3,SNR=3.5
BDFB LR LR 10 51 08.0
comp=Z,2µm,21.5s,baz=233,slow=39
BDFB Brasilia 28.55 56 P **P 10 38 40.0 -1.5**
BDFB pmax pmax
comp=Z,40nm,0.8s
BDFB MLR MLR
comp=Z,3µm,19.0s
BDFB Brasilia 28.55 56 P **P 10 38 40.0 -1.5**
BDFB IAmb IAmb 10 38 41.3
comp=Z,40nm,0.8s
BDFB IAMs_20 IAMs_20 10 50 57.3
comp=Z,3µm,19.0s
DUB01 Friburgo-RJ 28.93 74 *eP* **P 10 38 44.7 -0.1**
SNDB Serra Nova Dou 29.13 46 *eP* **P 10 38 45.1 -1.3**
CAM01 Campos-RJ 29.63 74 *eP* **P 10 38 49.8 -1.1**
MC01 Montes Claros 30.77 63 *eP* **P 10 39 00.3 -0.9**
PEXB Peixe 30.90 51 *eP* **P 10 39 01.4 -0.8**
NPGB Novo Progresso 31.05 34 *eP* **P 10 39 02.3 -1.1**
PMSA Palmer Station 31.31 173 IAMs_20 IAMs_20 10 50 01.4
comp=Z,1µm,22.0s
PMSA Palmer Station 31.31 173 *eP* **P 10 39 06.8 +1.5**
JANB Januaria 31.57 60 *eP* **P 10 39 07.0 -1.2**
SJMB Sao Joao De Ma 31.68 69 *eP* **P 10 39 08.4 -0.6**
BSFB Barra de Sao F 31.87 70 *eP* **P 10 39 09.9 -0.8**
RIB01 Linhares ES 31.96 71 *eP* **P 10 39 10.7 -0.8**
HOPE Hope Point 32.36 140 P **P 10 39 14.9 +0.3**
HOPE pmax pmax
comp=Z,578nm,1.9s
HOPE Hope Point 32.36 140 P **P 10 39 14.9 +0.3**
RPN Rapa Nui 32.38 272 P **P 10 39 14.4 -0.8**
RPN Rapa Nui 32.38 272 P **P 10 39 14.4 -0.8**
SDBA SAO DESIDERIO 32.95 56 *eP* **P 10 39 19.3 -1.0**
NAN01 Guarapari, ES 33.00 69 *eP* **P 10 39 19.5 -1.1**
ITTB Itaituba 33.24 31 *eP* **P 10 39 21.9 -0.9**
SMTB Santa Maria do 33.82 48 *eP* **P 10 39 26.9 -0.9**
PTLC Puerto Leguiza 33.98 356 *eP* **P 10 39 25.6 -3.5**
GUA01 Guaratinga, BA 33.98 68 *eP* **P 10 39 28.4 -0.8**
OTAV Otavalo 34.44 349 P **P 10 39 34.2 +0.6**
OTAV pmax pmax
comp=Z,20nm,1.2s
OTAV MLR MLR
comp=Z,400nm,18.0s
OTAV Otavalo 34.44 349 P **P 10 39 34.2 +0.6**
OTAV Otavalo 34.44 349 *eP* **P 10 39 37.1 +3.5**
OTAV Otavalo 34.44 349 *eP* **P 10 39 36.3 +2.7**
PAC1 Pacto, Paraso 34.52 349 *eP* **P 10 39 35.2 +1.2**
PRPB Parauapebas 34.65 42 *eP* **P 10 39 33.5 -1.4**
CMC01 Camacan, BA 34.94 66 *eP* **P 10 39 36.8 -0.7**
PTGA Pitinga 35.01 22 P **P 10 39 37.7 -0.3**
PTGA IAmb IAmb 10 39 39.0
comp=Z,69nm,1.1s
PTGA Pitinga 35.01 22 *eP* **P 10 39 38.0 -0.1**
PTGA Pitinga 35.01 22 *eP* **P 10 39 38.1 -0.1**
PTGL Punta Galera 35.24 347 *eP* P 10 39 34.3 -5.8
NBIT Itapeh - BA 35.26 66 *eP* **P 10 39 39.6 -0.6**
FLOC Florencia 35.44 354 P **P 10 39 40.9 -0.8**
GDU01 Guandu, BA 35.92 64 *eP* **P 10 39 44.8 -1.1**
BBAC Balboa, Cauca 36.03 352 *eP* **P 10 39 47.8 +0.8**
SOTA Rioblanco 36.07 353 *eP* P 10 39 54.3 +6.6
MALB Monte Alegre 36.13 32 *eP* **P 10 39 47.2 -0.5**
NBPN Ponto Novo - B 37.35 60 *eP* **P 10 39 57.4 -0.8**
BOAV Boa Vista 37.81 20 *eP* **P 10 40 01.9 0.0**
YOTC Yotoco, Valle 37.87 354 *eP* **P 10 40 03.0 +0.4**
TOLC Tolima 38.38 355 *eP* **P 10 40 08.6 +1.4**
MCPB Macapa, AP 38.45 34 *eP* **P 10 40 07.1 -0.3**
ROSC El Rosal 38.58 357 IAMs_20 IAMs_20 10 57 49.3
comp=Z,1µm,18.0s
TMAB Tom-Au,PA,Br 38.74 41 *eP* **P 10 40 09.9 +0.1**
NBLA Lagarto - SE 39.01 62 *eP* **P 10 40 10.8 -1.3**
GUY2C Guyana, Caldas 39.02 355 *eP* **P 10 40 14.4 +1.7**
GUY2C *eP* **pP 10 40 18.1 -0.4**
NORC Norcasia 39.33 356 *eP* **P 10 40 15.8 +1.0**
RUSC La Rusia 39.59 359 P **P 10 40 17.6 +0.2**
RUSC IAmb IAmb 10 40 35.6
comp=Z,79nm,1.2s
RUSC La Rusia 39.59 359 *eP* **P 10 40 17.3 -0.2**
CBOC Ciudad Bolivar 39.70 354 *eP* **P 10 40 18.0 -0.1**
ROSB Rosrio 40.61 47 *eP* **P 10 40 25.1 -0.2**
NBAN Anadia - AL 40.99 62 *eP* **P 10 40 27.4 -1.2**
NBPS Pedro II - PI 41.13 51 *eP* **P 10 40 28.6 -1.2**
ZARC Zaragoza, Cauc 41.24 356 *eP* **P 10 40 30.6 +0.1**
NBPB Pedra_Branca-C 41.51 55 *eP* **P 10 40 32.0 -0.9**
NBRF Rio Formoso - 42.49 62 *eP* **P 10 40 39.7 -1.2**
SMLC San Martn de 42.50 358 *eP* **P 10 40 39.0 -1.9**
SDV Santo Domingo 42.59 3 P **P 10 40 40.3 -1.5**
SDV Santo Domingo 42.59 3 *eP* **P 10 40 42.5 +0.6**
NBMO Morrinhos-CE 42.86 52 *eP* **P 10 40 42.4 -1.5**
NBPA Parau_RN 43.07 57 *eP* **P 10 40 45.2 -0.3**
NBCL Cascavel-CE 43.35 55 *eP* **P 10 40 47.6 -0.2**
SJCC San Jacinto, C 43.64 356 P **P 10 40 49.9 -0.2**
SJCC San Jacinto, C 43.64 356 *eP* **P 10 40 49.2 -0.9**
NBPV Pedro Velho 43.90 60 *eP* **P 10 40 52.3 +0.1**
JTS Las Juntas de 45.54 343⇑ *eP* **P 10 41 06.5 +1.2**
JTS pmax pmax
comp=Z,5.0nm,1.1s
ORTG Ortega, Santa 45.74 342 P **P 10 41 07.7 +0.8**
TOSP Speyside 46.36 16 P **P 10 41 11.9 +0.3**
TOSP IAMs_20 IAMs_20 10 57 13.1
comp=Z,1µm,19.0s
BELA Belgrano 2 47.02 170 P **P 10 41 16.7 +0.5**
BELA IAmb IAmb 10 41 18.8
comp=Z,45nm,1.0s
SVB Belmont 48.11 15 P **P 10 41 25.3 0.0**
FDF Fort de France 49.55 14 IAMs_20 IAMs_20 11 04 00.8
comp=Z,1µm,20.0s
VNA3 Neumayer Olymp 49.56 158 P **P 10 41 36.8 +0.8**
VNA1 Neumayer--Stat 49.88 157 P **P 10 41 39.6 +1.3**
VNA2 Neumayer--Watz 50.22 157 P **P 10 41 41.5 +0.6**
SKI Saint Kitts 51.79 12 IAMs_20 IAMs_20 11 06 09.0
comp=Z,696nm,19.0s
SNAA Sanae 51.79 158 P **P 10 41 53.5 +0.8**
SNAA Sanae 51.79 158 P **P 10 41 53.4 +0.6**
SNAA pmax pmax
comp=Z,76nm,0.9s
SNAA Sanae 51.79 158 P **P 10 41 53.4 +0.6**
MLPR Magueyes Islan 51.84 7 P **P 10 41 52.8 -0.8**
SEUS St. Eustatius 51.90 11 P **P 10 41 53.8 -0.3**
SEUS IAMs_20 IAMs_20 11 06 01.0
comp=Z,779nm,19.0s
PDPR Patillas Dam, 52.00 8 IAmb IAmb 10 42 06.3
comp=Z,36nm,0.9s
SJG San Juan 52.08 8 P **P 10 41 54.8 -0.5**
SJG pmax pmax
comp=Z,48nm,0.8s
SJG MLR MLR
comp=Z,500nm,18.0s
SJG San Juan 52.08 8 P **P 10 41 54.8 -0.5**
SJG IAmb IAmb 10 41 55.9
comp=Z,48nm,0.8s
SJG San Juan 52.08 8 IAMs_20 IAMs_20 11 08 15.6
comp=Z,538nm,18.0s
CBYP Canovanas 52.27 8 IAmb IAmb 10 41 56.8
comp=Z,45nm,0.8s
GCPR Guaynabo City 52.28 8 P **P 10 41 55.7 -1.1**
GCPR IAmb IAmb 10 41 56.5
comp=Z,33nm,0.8s
ANWB Willy Bob 52.28 13 IAMs_20 IAMs_20 11 07 39.1
comp=Z,609nm,19.0s
QSPA South Pole Qui 56.33 180 P **P 10 42 27.1 +1.0**
QSPA IAmb IAmb 10 42 39.0
comp=Z,38nm,0.9s
NVL N'lazarevskaya 56.53 157 *eP* **P 10 42 26.4 -0.8**
NVL pmax pmax
comp=Z,40nm,0.9s
TLIG Tlapa 56.93 330 IAMs_20 IAMs_20 11 01 13.0
comp=Z,788nm,19.0s
SOR Soroa 57.28 348 P **P 10 42 33.4 +0.3**
SOR pmax pmax
comp=Z,26nm,0.9s
SOR Soroa 57.28 348 P **P 10 42 33.4 +0.3**
SOR IAmb IAmb 10 42 34.1
comp=Z,26nm,0.9s
DWPF Disney Wildern 62.27 351 P 10 43 06.9
baz=172
VNDA Vanda 64.13 191 P **P 10 43 21.0 +1.9**
comp=Z,3.8nm,0.8s,baz=126,slow=5.0,SNR=17

VNDA LR LR 11 09 38.7
comp=Z,269nm,18.0s,baz=126,slow=34
VNDA Vanda 64.13 191 P **P 10 43 20.9 +1.8**
VNDA pmax pmax
comp=Z,9.0nm,1.2s
VNDA Vanda 64.13 191 P **P 10 43 20.9 +1.8**
TIGA Tifton 65.85 350 P 10 43 30.3
baz=170,SNR=6.1
SYO Syowa Base 66.07 159⇑ *ep* P **P 10 43 32.0 +0.2**
SYO Syowa Base 66.07 159ǁ *es* P **P 10 43 35.4 +3.6**
255A Hazlehurst 66.17 351 IAmb IAmb 10 43 33.6
comp=Z,38nm,1.1s
BRAL Brewton 66.19 346 P **P 10 43 33.2 +0.3**
TAOE Nuku Hiva Isla 66.64 275 *e* LR LR 11 03 34.3
comp=Z,309nm,22.7s
250A Grady 66.82 347 P **P 10 43 36.8 -0.2**
250A IAmb IAmb 10 43 37.9
comp=Z,25nm,0.8s
833A Chaparral WMA, 66.96 334 P 10 43 39.2
baz=156,SNR=13
TBI Tubuai 67.03 257 *e* S **S 10 52 30.0 -1.4**
comp=Z,194nm,24.2s
TBI Tubuai 67.03 257 *e* LR LR 11 03 41.7
comp=Z,673nm,27.2s
TBI Tubuai 67.03 257 *e* T T 11 56 26.2
comp=Z,5.9nm,0.3s
NHSC New Hope 67.06 353 P 10 43 38.6
baz=173
152A Waverly Hall 67.23 349 IAmb IAmb 10 43 40.3
comp=Z,21nm,0.8s
HKT Hockley 67.26 338 *de* P **P 10 43 41.3 +1.6**
HKT pmax pmax
comp=Z,20nm,1.3s
HKT Hockley 67.26 338 P **P 10 43 40.0 +0.3**
HKT IAmb IAmb 10 43 57.0
comp=Z,22nm,1.3s
344A Westbrook Farm 67.27 343 IAmb IAmb 10 43 42.3
comp=Z,23nm,0.8s
SLBS Sierra La Lagu 67.49 323 P **P 10 43 43.8 +2.3**
SLBS IAmb IAmb 10 43 51.9
comp=Z,11nm,0.8s
342A Flagon Creek P 67.60 342 P **P 10 43 43.4 +1.5**
GOGA Godfrey 67.77 350 P 10 43 42.6
baz=170,SNR=13
GOGA Godfrey 67.77 350 P **P 10 43 43.0 +0.1**
GOGA pmax pmax
comp=Z,37nm,0.9s
GOGA Godfrey 67.77 350 IAmb IAmb 10 43 43.8
comp=Z,22nm,0.8s
Z51A Franklin 67.94 348 IAmb IAmb 10 43 45.1
comp=Z,22nm,0.9s
VBMS Vicksburg 67.95 343 P 10 43 44.7
baz=164,SNR=5.7
LPIG La Paz 68.02 323 LR LR 11 06 54.1
comp=Z,78nm,18.5s,baz=191,slow=30
146A Union 68.02 345 P **P 10 43 45.4 +0.9**
HPIG 68.24 328 IAmb IAmb 10 43 48.7
comp=Z,17nm,0.9s
Y52A Lilburn 68.30 350 P **P 10 43 46.2 0.0**
Y52A IAmb IAmb 10 43 47.4
comp=Z,32nm,0.8s
HODGE Hodges 68.41 351 IAmb IAmb 10 43 48.1
comp=Z,19nm,1.0s
435B Jarrell 68.59 337 P 10 43 48.4
baz=158
NATX Nacogdoches 68.60 340 P 10 43 49.5
baz=160,SNR=5.7
NATX Nacogdoches 68.60 340 P **P 10 43 48.8 +0.6**
Y49A Blount Mountai 68.68 348 P **P 10 43 47.6 -1.0**
Y49A IAmb IAmb 10 43 50.3
comp=Z,17nm,0.8s
PAULI Pauline 68.94 352 IAmb IAmb 10 43 51.5
comp=Z,27nm,0.9s
CNNC Cliffs of the 68.98 355 P 10 43 50.6
baz=175
CNNC Cliffs of the 68.98 355 IAMs_20 IAMs_20 11 12 11.5
comp=Z,308nm,21.0s
JCT Junction City 69.07 335 P 10 43 51.7
baz=156,SNR=26
W57A Gilead 69.07 353 IAmb IAmb 10 43 52.0
comp=Z,23nm,0.8s
X51A Calhoun 69.11 349 P **P 10 43 51.7 +0.4**
KMSC Kings Mountain 69.20 352 P 10 43 51.5
baz=172,SNR=7.9
KMSC Kings Mountain 69.20 352 IAmb IAmb 10 43 52.9
comp=Z,21nm,0.8s
FPAL Fort Paine 69.21 348 IAmb IAmb 10 43 53.0
comp=Z,17nm,0.8s
BG3 Lake Jocassee 69.25 351 P **P 10 43 52.4 +0.2**
BG3 IAmb IAmb 10 43 53.5
comp=Z,20nm,0.8s
W52A Murphy 69.49 350 IAmb IAmb 10 43 55.1
comp=Z,30nm,1.0s
TXAR Lajitas Array 69.50 331 P **P 10 43 55.1 +1.1**
comp=Z,9.2nm,0.6s,baz=152,slow=8.5,SNR=178
TXAR LR LR 11 10 12.6
comp=Z,466nm,18.0s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 69.50 331 P **P 10 43 55.0 +1.0**
TX32 Lajitas Array 69.50 331 IAmb IAmb 10 43 56.2
comp=Z,13nm,0.8s
Z41A Richland Creek 69.50 342 P 10 43 54.5
baz=162
V58A Windy Hill, Pi 69.63 354 IAmb IAmb 10 43 55.4
comp=Z,25nm,0.8s
WHTX Lake Whitney, 69.66 337 P 10 43 55.6
baz=158,SNR=12
W50A Signal Mountai 69.80 349 P **P 10 43 56.1 +0.5**
V55A Taylorsville 69.89 352 IAmb IAmb 10 43 57.3
comp=Z,35nm,0.8s
V53A Saluda 69.90 351 IAmb IAmb 10 43 57.3
comp=Z,27nm,0.8s
OXF Oxford 69.90 345 P 10 43 56.0
baz=165,SNR=19
OXF Oxford 69.90 345 P **P 10 43 56.3 +0.1**
OXF pmax pmax
comp=Z,90nm,0.9s
OXF Oxford 69.90 345 P **P 10 43 56.3 +0.1**
PPT2 Papeete2 69.93 262 *e* S **S 10 53 05.5 -0.8**
comp=Z,271nm,22.2s
PPT2 Papeete2 69.93 262 *e* LR LR 11 05 02.0
comp=Z,523nm,28.5s
PPT Papeete 69.94 262 LR LR 11 05 59.2
comp=Z,197nm,20.9s,baz=84,slow=28
WLAR White Oak Lake 70.00 342 P **P 10 43 58.1 +1.4**
TKL Tuckaleechee C 70.02 350 P **P 10 43 56.7 -0.2**
TKL pmax pmax
comp=Z,23nm,0.8s
TKL Tuckaleechee C 70.02 350 P **P 10 43 56.7 -0.2**
TKL IAmb IAmb 10 43 57.7
comp=Z,23nm,0.8s
U59A Littleton 70.08 355 IAmb IAmb 10 43 59.0
comp=Z,17nm,0.8s
PLAL Pickwick Lake 70.09 346 P **P 10 43 57.4 +0.1**
Z38A Mt. Pleasant 70.10 340 IAmb IAmb 10 43 59.6
comp=Z,34nm,0.8s
V52A Sevierville 70.17 350 IAmb IAmb 10 43 58.7
comp=Z,32nm,0.9s
V51A Loudon 70.25 350 P **P 10 43 58.2 0.0**
V51A IAmb IAmb 10 43 59.2
comp=Z,33nm,1.0s
U56A King 70.29 353 P **P 10 43 58.8 +0.3**
U56A IAmb IAmb 10 43 59.9
comp=Z,29nm,0.8s
X40A Basin Creek Fa 70.68 342 P 10 44 01.0
baz=162,SNR=5.2
T57A Hurt 70.83 354 P **P 10 44 00.6 -1.3**
T57A IAmb IAmb 10 44 03.0
comp=Z,16nm,0.8s
CLTN Cedars of Leba 70.84 348 P **P 10 44 02.1 +0.1**
TZTN Tazewell 70.86 351 P 10 44 01.6
baz=170,SNR=8.3
TZTN Tazewell 70.86 351 IAmb IAmb 10 44 03.7
comp=Z,19nm,1.0s
MIAR Mount Ida 70.93 342 P 10 44 02.7
baz=162,SNR=20
MIAR Mount Ida 70.93 342 IAmb IAmb 10 44 05.3
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 70.97 336 P 10 44 03.4
baz=156,SNR=18
BLA Blacksburg 71.15 353 P 10 44 03.9
baz=173
WVT Waverly 71.15 347 P 10 44 04.2
baz=167
WVT Waverly 71.15 347 P **P 10 44 03.9 +0.1**
WVT pmax pmax
comp=Z,122nm,0.8s
WVT Waverly 71.15 347 P **P 10 44 03.9 +0.1**

U49A Red Boiling Sp 71.16 349 P P 10 44 03.7 -0.2
W41B Gary Mavity, V 71.19 343 P 10 44 04.2
baz=163,SNR=17
WHAR Wooly Hollow 71.31 343 P P 10 44 05.0 +0.3
WHAR IAmb IAmb 10 44 18.4
comp=Z,42nm,1.0s
GNAR Gosnell 71.43 345 P P 10 44 06.0 +0.5
LNXT Lenox 71.45 345 P P 10 44 06.4 +0.8
S57A Dark Hollow, R 71.57 355 IAmb IAmb 10 44 07.7
comp=Z,29nm,0.8s
W39A Magazine 71.60 342 P 10 44 07.0
baz=162,SNR=36
R58B Mineral 71.69 355 IAmb IAmb 10 44 10.3
comp=Z,59nm,1.5s
LCAR Lake Charles 71.79 344 P P 10 44 07.6 0.0
LCAR IAMs_20 IAMs_20 11 14 47.6
comp=Z,269nm,20.0s
S54A Dingess, Becki 71.82 353 IAmb IAmb 10 44 08.7
comp=Z,31nm,1.0s
FCAR Ozark Folk Cen 71.84 343 P P 10 44 07.8 -0.1
FCAR IAmb IAmb 10 44 09.1
comp=Z,26nm,0.8s
CBN Corbin Frederi 71.90 356 P 10 44 08.9
baz=176
S51A Beattyville 71.94 351 IAmb IAmb 10 44 09.5
comp=Z,32nm,0.8s
R55A Marlinton 72.18 354 P P 10 44 10.6 +0.5
R55A IAmb IAmb 10 44 11.8
comp=Z,34nm,0.8s
X34A Smith Ranch, M 72.20 338 IAmb IAmb 10 44 12.0
comp=Z,34nm,0.8s
MNTX Cornudas Mount 72.28 331 P 10 44 10.3 -0.5
baz=152,SNR=47
MNTX Cornudas Mount 72.28 331 P P 10 44 10.3 -0.5
MNTX IAmb IAmb 10 44 12.1
comp=Z,18nm,0.8s
R53A Hurricane 72.42 352 IAmb IAmb 10 44 12.3
comp=Z,21nm,0.8s
U40A Yellville 72.46 343 P 10 44 11.7
baz=162,SNR=31
U40A Yellville 72.46 343 IAmb IAmb 10 44 13.0
comp=Z,36nm,0.9s
WMOK Wichita Mounta 72.62 337 P 10 44 12.6
baz=157,SNR=9.3
WMOK Wichita Mounta 72.62 337 IAmb IAmb 10 45 32.6
comp=Z,17nm,0.7s
HHAR Hobbs 72.67 342 P P 10 44 12.8 -0.1
HHAR IAmb IAmb 10 44 14.2
comp=Z,23nm,0.8s
R50A Paris 72.67 350 P P 10 44 12.7 -0.2
R50A IAmb IAmb 10 44 13.7
comp=Z,21nm,0.8s
T42A Van Buren 72.69 344 P P 10 44 12.9 -0.1
EPT El Paso 72.80 330 IAMs_20 IAMs_20 11 11 32.0
comp=Z,466nm,20.0s
R49A Shelbyville 72.81 350 IAmb IAmb 10 44 14.4
comp=Z,22nm,0.8s
TUL1 Leonard 72.81 340 P 10 44 13.8
baz=160,SNR=12
WCI Wyandotte Cave 72.92 349 P 10 44 13.7
baz=168
WCI Wyandotte Cave 72.92 349 P P 10 44 14.0 -0.3
WCI pmax pmax
comp=Z,18nm,0.8s
WCI Wyandotte Cave 72.92 349 P P 10 44 14.0 -0.3
WCI IAmb IAmb 10 44 14.8
comp=Z,18nm,0.8s
S44A Carbondale 72.94 346 IAmb IAmb 10 44 15.5
comp=Z,36nm,0.8s
Q54A Coxs Mills 72.95 353 IAmb IAmb 10 44 15.0
comp=Z,15nm,0.8s
OK025 Westminster Rd 72.95 339 P P 10 44 14.2 -0.5
Q52A Bidwell 73.08 352 IAmb IAmb 10 44 16.3
comp=Z,37nm,0.9s
BCOK Bluff Creek, N 73.11 339 P P 10 44 15.9 +0.4
OK030 Cody Creek RV 73.11 340 IAmb IAmb 10 44 16.9
comp=Z,42nm,0.9s
P57A Homestead Farm 73.21 355 IAmb IAmb 10 44 18.2
comp=Z,37nm,1.1s
Q51A Peebles 73.27 351 IAmb IAmb 10 44 17.5
comp=Z,36nm,0.8s
MSTX Muleshoe 73.29 334 P 10 44 17.1
baz=154,SNR=20
MSTX Muleshoe 73.29 334 P P 10 44 16.9 +0.2
MSTX IAmb IAmb 10 44 27.9
comp=Z,36nm,0.8s
QUOK Quay 73.32 340 P P 10 44 17.1 +0.4
MAW Mawson 73.36 164 P P 10 44 17.5 +0.8
comp=Z,32nm,0.8s,baz=208,slow=7.0,SNR=43
MAW LR LR 11 18 45.9
comp=Z,493nm,18.5s,baz=232,slow=38
MAW Mawson 73.36 164 P P 10 44 17.3 +0.6
MAW pmax pmax
comp=Z,9.0nm,1.0s
MAW Mawson 73.36 164 P P 10 44 17.3 +0.6
P60A Greenville 73.41 357 P 10 44 18.0
baz=177
P60A Greenville 73.42 357 IAmb IAmb 10 44 19.1
comp=Z,31nm,1.1s
MCWV Mont Chateau 73.52 354 P 10 44 17.8
baz=174
WUPA West Chester U 73.53 357 IAmb IAmb 10 44 20.0
comp=Z,19nm,0.9s
MVL Millersville 73.63 357 IAmb IAmb 10 44 20.6
comp=Z,25nm,1.3s
319A Douglas 73.66 328 IAmb IAmb 10 44 21.9
comp=Z,19nm,0.9s
P51A Williamsport 73.69 351 P P 10 44 18.5 -0.4
P51A IAmb IAmb 10 44 19.7
comp=Z,40nm,0.8s
P52A Corning 73.73 352 P 10 44 18.8
baz=172,SNR=7.5
P52A Corning 73.73 352 P P 10 44 19.2 +0.1
P52A IAmb IAmb 10 44 19.9
comp=Z,36nm,0.8s
S39A Bolivar 73.84 343 IAmb IAmb 10 44 33.3
comp=Z,18nm,0.9s
PAGS Pennsylvania G 73.88 357 IAmb IAmb 10 44 21.6
comp=Z,22nm,0.9s
P49A Miami Univ. Ec 73.96 350 P 10 44 19.9
baz=169,SNR=6.0
T35A Sooner Cattle 73.96 340 IAmb IAmb 10 44 22.2
comp=Z,34nm,0.9s
P49A Miami Univ. Ec 73.96 350 IAmb IAmb 10 44 21.0
comp=Z,23nm,0.6s
P48A Milroy 73.99 350 P P 10 44 19.9 -0.8
121A Cookes Peak, D 74.00 329 P 10 44 22.7
baz=150,SNR=26
121A Cookes Peak, D 74.00 329 IAmb IAmb 10 44 33.5
comp=Z,35nm,0.9s
O56A Blue Knob Stat 74.03 355 P 10 44 21.2
baz=175,SNR=5.4
O56A Blue Knob Stat 74.03 355 P P 10 44 21.4 +0.5
O56A IAmb IAmb 10 44 22.6
comp=Z,42nm,1.6s
Q44A Meyer Farm, Va 74.06 347 P P 10 44 20.7 -0.3
Q44A IAmb IAmb 10 44 21.6
comp=Z,20nm,0.9s
R40A Maddies Statio 74.17 344 IAmb IAmb 10 44 22.9
comp=Z,36nm,0.8s
O52A Adamsville 74.17 353 IAmb IAmb 10 44 22.5
comp=Z,24nm,0.8s
U32A Winter Ranch, 74.20 338 IAmb IAmb 10 44 25.1
comp=Z,18nm,0.8s
O53A New Philadelph 74.24 353 P 10 44 21.9
baz=172
O53A New Philadelph 74.24 353 IAmb IAmb 10 44 23.8
comp=Z,53nm,1.6s
KAN13 South Haven SW 74.33 339 IAmb IAmb 10 44 24.4
comp=Z,42nm,1.0s
SSPA Standing Stone 74.35 356 P 10 44 23.0
baz=175
OK032 Salt Plains WL 74.35 339 IAmb IAmb 10 44 24.5
comp=Z,28nm,0.8s
SSPA Standing Stone 74.35 356 P P 10 44 21.9 -0.8
SSPA IAmb IAmb 10 44 24.3
comp=Z,27nm,1.2s
ACSO Alum Creek Sta 74.42 352 P 10 44 22.8
baz=171,SNR=18
P46A Rosedale 74.43 348 IAmb IAmb 10 44 23.6
comp=Z,36nm,0.9s
N59A State Game Lan 74.52 357 P 10 44 23.6
baz=177
N59A State Game Lan 74.52 357 IAmb IAmb 10 44 26.5
comp=Z,53nm,1.4s
KAN01 Argonia South 74.54 339 IAmb IAmb 10 44 25.7
comp=Z,38nm,0.9s

O49A Covington 74.55 351 P P 10 44 23.8 -0.1
O49A IAmb IAmb 10 44 24.6
comp=Z,42nm,0.8s
PAL Palisades 74.56 359 P 10 44 23.8
baz=179
KAN10 Anthony SW Sta 74.61 339 P P 10 44 24.3 0.0
KAN10 IAmb IAmb 10 44 43.4
comp=Z,22nm,0.7s
KAN16 Harper SW Stat 74.70 339 IAmb IAmb 10 44 34.4
comp=Z,40nm,0.9s
N53A Lisbon 74.75 353 IAmb IAmb 10 44 26.3
comp=Z,25nm,1.2s
N54A Moraine State 74.83 354 P 10 44 25.5
baz=174,SNR=6.0
N54A Moraine State 74.83 354 P P 10 44 25.8 +0.3
N54A IAmb IAmb 10 44 26.8
comp=Z,22nm,0.9s
P43A Skaggs, Pawnee 74.88 346 P P 10 44 25.9 +0.1
M63A Gales Ferry 74.94 0 P 10 44 27.2
baz=180
Y22D IRIS PASSCAL I 74.98 331 IAMs_20 IAMs_20 11 13 29.9
comp=Z,442nm,20.0s
M62A Hamden 74.98 360 P 10 44 27.3
baz=180
N51A Ashland 75.02 352 IAmb IAmb 10 44 27.5
comp=Z,36nm,0.8s
LIC Lamto 75.05 72 eP P 10 44 27.2 -0.2
comp=Z,146nm,1.3s
TUC Tucson 75.12 327 P 10 44 28.4
baz=148
TUC Tucson 75.12 327 P P 10 44 28.2 +0.7
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 75.12 327 P P 10 44 28.2 +0.7
SFIN Lafayette 75.15 348 P 10 44 26.4
baz=167,SNR=6.1
SFIN Lafayette 75.15 348 IAmb IAmb 10 44 27.5
comp=Z,16nm,0.8s
O44A Mansfield 75.17 347 IAmb IAmb 10 44 27.9
comp=Z,27nm,0.8s
M55A Ridgway 75.24 355 P P 10 44 27.4 -0.5
M55A IAmb IAmb 10 44 29.2
comp=Z,26nm,0.9s
P40A Paris 75.30 344 P P 10 44 28.1 -0.1
TIC Toumodi 75.31 71 eP P 10 44 28.8 -0.1
M54A Oil Creek Stat 75.34 354 P 10 44 28.2
baz=174
KIC Kosan Boka 75.36 72 eP P 10 44 29.2 0.0
comp=Z,107nm,0.8s
M53A WI Miller and 75.36 354 P 10 44 28.7
baz=173
M53A WI Miller and 75.36 354 IAmb IAmb 10 44 29.6
comp=Z,21nm,0.8s
L63A North Scituate 75.41 1 P 10 44 29.7
baz=181
DBIC Dimbokro 75.45 72 P P 10 44 29.9 +0.2
comp=Z,37nm,0.7s,baz=210,slow=6.2,SNR=27
DBIC LR LR 11 16 28.4
comp=Z,254nm,18.3s,baz=208,slow=35
DBIC Dimbokro 75.45 72 P P 10 44 29.5 -0.2
DBIC pmax pmax
comp=Z,47nm,0.8s
DBIC Dimbokro 75.45 72 P P 10 44 29.5 -0.2
L64A Middleborough 75.49 1 P 10 44 30.2
baz=181
M52A Chesterland 75.53 353 IAmb IAmb 10 44 30.6
comp=Z,37nm,0.9s
ANMO Albuquerque 75.55 332 P 10 44 31.1
baz=151
ANMO Albuquerque 75.55 332 c iP P 10 44 31.2 +1.2
ANMO pmax pmax
comp=Z,16nm,1.0s
ANMO Albuquerque 75.55 332 P P 10 44 31.3 +1.2
M50A Fremont 75.58 352 IAmb IAmb 10 44 30.7
comp=Z,40nm,0.8s
L58A Harry Jones Me 75.65 357 P 10 44 30.6
baz=177
HDIL Hopedale 75.72 347 P 10 44 30.2
baz=166,SNR=7.1
HDIL Hopedale 75.72 347 IAmb IAmb 10 44 31.5
comp=Z,36nm,0.9s
P38A Dawn 75.73 343 P P 10 44 30.2 -0.4
P38A IAmb IAmb 10 44 31.7
comp=Z,29nm,0.9s
L61A Hillsdale 1, H 75.74 359 P 10 44 30.6
baz=179
214A Organ Pipe Nat 75.76 325 P 10 44 32.5
baz=146,SNR=13
L59A Walton 75.77 358 P 10 44 31.4
baz=178
L59A Walton 75.77 358 IAmb IAmb 10 44 32.9
comp=Z,23nm,0.9s
BINY Binghamton 75.81 357 P 10 44 31.2
baz=177
L56A Greenwood 75.82 356 P 10 44 31.5
baz=176,SNR=11
L56A Greenwood 75.83 356 P P 10 44 31.5 +0.2
L56A IAmb IAmb 10 44 33.4
comp=Z,45nm,1.0s
ERPA Erie 75.98 354 P 10 44 31.9
baz=174
L61B Northampton 75.99 360 P 10 44 32.9
baz=180,SNR=5.2
R32A Long Quarter, 76.00 339 IAmb IAmb 10 44 34.2
comp=Z,31nm,0.9s
SFX San Felipe 76.00 323 IAmb IAmb 10 44 42.7
comp=Z,15nm,0.8s
SFX IAMs_20 IAMs_20 11 15 12.9
comp=Z,395nm,19.0s
KSU1 Kansas State U 76.03 341 P 10 44 32.3
baz=160
HRV Adam Dziewonsk 76.05 1 P 10 44 32.9
baz=181
WVNY West Valley, N 76.16 355 IAmb IAmb 10 44 34.8
comp=Z,45nm,1.0s
N41A Harden Midland 76.17 346 IAmb IAmb 10 44 34.1
comp=Z,37nm,0.9s
K62A Royalston 76.20 0 P 10 44 34.1
baz=180
TRY Troy 76.28 359 IAmb IAmb 10 44 36.0
comp=Z,44nm,1.0s
L48A N Adams 76.29 351 P P 10 44 33.7 -0.1
L48A IAmb IAmb 10 44 34.4
comp=Z,37nm,0.9s
K59A Cooperstown 76.35 358 P 10 44 34.4
baz=178
K58A Earlville 76.36 358 P 10 44 34.8
baz=177,SNR=5.6
K58A Earlville 76.36 358 P P 10 44 34.4 +0.1
K58A IAmb IAmb 10 44 35.8
comp=Z,28nm,0.9s
K56A Middlesex 76.37 356 P 10 44 34.3
baz=176
RAR Rarotonga 76.37 254 LR LR 11 11 20.1
comp=Z,219nm,18.8s,baz=142,slow=30
CBKS Cedar Bluff 76.67 338 P 10 44 36.9
baz=157,SNR=9.6
HQIL Hanson Quary C 76.67 348 P P 10 44 35.8 -0.1
CBKS Cedar Bluff 76.67 338 IAmb IAmb 10 44 38.1
comp=Z,26nm,0.8s
T25A Trinidad 76.71 334 P 10 44 37.8
baz=153,SNR=37
T25A Trinidad 76.71 334 IAmb IAmb 10 44 39.4
comp=Z,34nm,0.9s
J62A Henniker 76.77 0 P 10 44 37.4
baz=180
J61A Chester 76.89 360 P 10 44 39.1
baz=180
K50A Casco 76.89 352 P P 10 44 36.2 -0.9
J56A Wolcott 76.92 357 P 10 44 37.3
baz=176,SNR=5.4
J56A Wolcott 76.92 357 P P 10 44 36.7 -0.6
J56A IAmb IAmb 10 44 38.5
comp=Z,22nm,0.9s
ACCN Adirondack Com 76.93 359 P P 10 44 38.0 +0.6
ACCN IAmb IAmb 10 44 39.4
comp=Z,36nm,1.3s
J58A Remsen 76.94 358 P 10 44 38.2
baz=178
J57A Williamstown 77.02 357 P 10 44 38.0
baz=177,SNR=6.9
J57A Williamstown 77.02 357 P P 10 44 38.4 +0.5
J57A IAmb IAmb 10 44 39.4
comp=Z,25nm,1.0s
J59A Piesco 77.03 358 P 10 44 38.2
baz=178
L44A Lake County Fo 77.04 348 P 10 44 37.6
baz=167
W18A Petrified Fore 77.04 329 P 10 44 39.8
baz=149,SNR=17
W18A Petrified Fore 77.04 329 IAmb IAmb 10 44 41.9
comp=Z,29nm,1.1s
L42A Oliver, Polo 77.19 347 IAmb IAmb 10 44 39.8
comp=Z,34nm,0.9s
X16A Lo Mia Camp, P 77.19 328 IAmb IAmb 10 44 42.8
comp=Z,20nm,1.1s
I58A Old Forge 77.26 358 P 10 44 39.5
baz=178
I59A Olmsteadville 77.35 359 P 10 44 40.1
baz=179
I60A Shoreham 77.39 359 P 10 44 41.7
baz=179,SNR=6.3
I61A Oroboro, Fairl 77.47 0 P 10 44 41.6
baz=180
Y14A Wickenburg 77.50 326 P P 10 44 42.3 +1.4
I64A Boothbay 77.50 2 P 10 44 40.8
baz=182
I57A Carthage 77.53 358 P 10 44 41.2
baz=177
L40A Anamosa 77.55 346 P P 10 44 40.5 -0.4
L40A IAmb IAmb 10 44 55.9
comp=Z,42nm,0.9s
UABX UABC, Campus M 77.58 324 IAMs_20 IAMs_20 11 19 05.9
comp=Z,540nm,19.0s
PECO Prince Edward 77.59 357 IAmb IAmb 10 44 42.4
comp=Z,24nm,1.1s
I63A Otisfield 77.61 1 P 10 44 42.5
baz=182
I63A Otisfield 77.61 1 P P 10 44 40.1 -1.1
J47A Sunmer 77.61 351 IAmb IAmb 10 44 41.7
comp=Z,29nm,0.8s
GLA Glamis 77.62 325 P 10 44 42.4
baz=145
K43A Burlington 77.63 348 IAmb IAmb 10 44 55.8
comp=Z,25nm,1.1s
SDCO Great Sand Dun 77.65 334 P 10 44 42.9
baz=152,SNR=17
SDCO Great Sand Dun 77.65 334 P P 10 44 43.3 +1.3
KSCO Kaye Shedlock' 77.77 336 P 10 44 43.5
baz=155,SNR=7.9
KSCO Kaye Shedlock' 77.77 336 IAmb IAmb 10 44 44.9
comp=Z,21nm,0.8s
LBNH Lisbon 77.78 0 P 10 44 42.3
baz=180
H58A Gabriels 77.97 359 P 10 44 43.5
baz=178,SNR=5.0
H57A Richville 78.05 358 P 10 44 44.0
baz=178,SNR=5.0
I49A Point Hope 78.06 352 IAmb IAmb 10 44 44.9
comp=Z,33nm,1.1s
H61A Lyndonville 78.07 0 P 10 44 44.8
baz=180,SNR=6.9
WUAZ Wupatki 78.08 328 P 10 44 45.8
baz=148,SNR=13
WUAZ Wupatki 78.09 328 IAmb IAmb 10 44 56.9
comp=Z,26nm,0.9s
H60A Morristown 78.10 360 P 10 44 45.0
baz=180
H62A Milan 78.12 1 P 10 44 45.3
baz=181
S22A 4UR Ranch, Cre 78.15 333 P 10 44 46.1
baz=151,SNR=8.9
JFWS Jewell Farm 78.18 347 P 10 44 44.5
baz=165,SNR=8.3
JFWS Jewell Farm 78.18 347 P P 10 44 44.4 0.0
JFWS pmax pmax
comp=Z,19nm,0.8s
JFWS Jewell Farm 78.18 347 P P 10 44 44.4 0.0
JFWS IAmb IAmb 10 44 45.6
comp=Z,20nm,0.8s
LONY Lake Ozonia 78.18 358 P 10 44 45.0
baz=178,SNR=5.8
H59A Cadyville 78.19 359 P 10 44 44.8
baz=179
DELO Deloro Mine 78.20 356 IAMs_20 IAMs_20 11 10 39.6
comp=Z,231nm,20.0s
H63A New Sharon 78.23 2 P 10 44 45.1
baz=182
BAR Barrett 78.23 323 P P 10 44 46.3 +1.3
H64A Troy 78.23 2 P 10 44 45.0
baz=183
H53A Bobcaygeon 78.31 356 P 10 44 45.1
baz=175,SNR=7.4
H65A Eastbrook 78.33 3 P 10 44 45.4
baz=184
MVCO Mesa Verde 78.33 331 P 10 44 46.5
baz=150,SNR=16
MVCO Mesa Verde 78.33 331 P P 10 44 47.1 +1.4
MVCO IAMs_20 IAMs_20 11 15 10.8
comp=Z,605nm,20.0s
FRNY Flat Rock 78.38 359 P P 10 44 45.8 +0.4
FRNY IAmb IAmb 10 44 47.2
comp=Z,25nm,1.1s
BC3 Big Chuckawall 78.42 324 P 10 44 47.7
baz=145,SNR=13
K38A Parkersburg 78.44 345 IAmb IAmb 10 44 46.5
comp=Z,17nm,0.8s
H66A Whiting 78.46 4 P 10 44 47.1
baz=184
HAL Halifax 78.59 6 IAMs_20 IAMs_20 11 20 45.0
comp=Z,388nm,19.0s
Q24A Divide 78.60 335 P 10 44 48.5
baz=153,SNR=12
G57A Newington 78.68 358 P 10 44 47.4
baz=178,SNR=5.7
IRM Iron Mountain 78.68 325 P 10 44 49.1
baz=145,SNR=6.8
PLVO Plevna 78.69 357 IAmb IAmb 10 44 50.8
comp=Z,67nm,1.9s
PLVO IAMs_20 IAMs_20 11 24 29.6
comp=Z,265nm,18.0s
G63A Kingsbury 78.69 2 P 10 44 48.0
baz=182
G58A Ormstown 78.70 359 P 10 44 47.7
baz=179
G62A West of Eustis 78.78 1 P 10 44 48.8
baz=182,SNR=6.4
G62A West of Eustis 78.78 1 IAmb IAmb 10 44 50.0
comp=Z,34nm,0.9s
G61A St-Isidore-de- 78.83 1 P 10 44 49.2
baz=181
PKME Peaks-Kenny Pk 78.85 2 P 10 44 49.1
baz=183
G64A Maxfield 78.86 3 P 10 44 49.1
baz=183
G65A Princeton 78.86 4 P 10 44 49.4
baz=184
PFO Pinyon Flats O 78.88 324 de P P 10 44 51.1 +2.5
PFO pmax pmax
comp=Z,22nm,1.0s
PFO Pinyon Flats O 78.88 324 P P 10 44 50.7 +2.1
PFO IAmb IAmb 10 45 01.3
comp=Z,17nm,0.9s
I42A Draeger Farm, 78.88 348 IAmb IAmb 10 44 49.3
comp=Z,27nm,0.9s
BELC Belle Mtn. Jos 78.96 324 P 10 44 50.8
baz=144,SNR=5.4
G54A Lake Saint Pet 79.10 356 P 10 44 50.0
baz=175
H43A Windswept, Lux 79.25 349 P P 10 44 50.3 +0.1
H43A IAmb IAmb 10 45 05.4
comp=Z,26nm,1.0s
U15A North Rim 79.25 328 IAmb IAmb 10 45 03.4
comp=Z,18nm,0.9s
F63A Nahmakanta, Br 79.30 2 P 10 44 51.4
baz=183
F63A Nahmakanta, Br 79.30 2 IAmb IAmb 10 44 52.9
comp=Z,40nm,1.1s
GMRC Granite Mounta 79.44 325 P 10 44 53.5
baz=145,SNR=12
SMCO Snowmass 79.46 333 IAmb IAmb 10 45 09.4
comp=Z,26nm,1.1s
F64A Sherman 79.49 3 P 10 44 52.8
baz=183
F64A Sherman 79.49 3 P P 10 44 52.2 +0.7
F64A IAmb IAmb 10 44 54.0
comp=Z,26nm,1.0s
G45A Suttons Bay 79.50 350 P P 10 44 51.4 -0.2
G45A IAmb IAmb 10 44 53.2
comp=Z,54nm,1.7s
ISCO Idaho Springs 79.51 335 P 10 44 53.3
baz=152,SNR=14
ISCO Idaho Springs 79.51 335 P P 10 44 52.5 +0.3
ISCO pmax pmax
comp=Z,8.0nm,0.8s

ISCO	Idaho Springs	79.51	335	P		P		10 44 52.5	+0.3
F60A	Warwick	79.51	0	P				10 44 53.0	
	baz=180								
ALGO	Algonquin Park	79.66	356	P				10 44 52.4	
	baz=175								
CIS	Catalina Islan	79.68	322	P				10 44 52.7	
	baz=143								
LMN	Caledonia Moun	79.69	5	P		P		10 44 53.2	+0.5
LMN				IAmb		IAmb		10 44 54.6	
	comp=Z,31nm,0.9s								
HEC	Hector,Ludlow	79.80	325	P				10 44 55.3	
	baz=144								
I37A	Lemond, Waseca	79.88	345	IAmb		IAmb		10 44 54.8	
	comp=Z,30nm,0.7s								
K31A	O'Neill	79.89	341	P		P		10 44 54.6	+0.8
E60A	Ste Agathe de	79.91	1	P				10 44 54.9	
	baz=181,SNR=6.7								
E58A	La Victoria	79.92	359	P				10 44 54.2	
	baz=179,SNR=6.7								
KNB	Kanab	79.98	328	IAmb		IAmb		10 45 06.0	
	comp=Z,31nm,1.1s								
E63A	Oxbow	80.04	3	P				10 44 55.9	
	baz=183								
E55A	Montcerf-Lytto	80.06	357	P				10 44 55.8	
	baz=177								
E64A	Bridgewater	80.06	3	P				10 44 55.9	
	baz=184								
TUQ	Turquoise Moun	80.09	325	P				10 44 57.2	
	baz=145								
E56A	St. Veronique	80.12	358	P				10 44 55.1	
	baz=178,SNR=9.8								
ECSD	EROS Data Cent	80.36	342	P				10 44 56.7	
	baz=160,SNR=41								
ECSD	EROS Data Cent	80.37	342	P		P		10 44 56.6	+0.2
ECSD				IAmb		IAmb		10 44 57.7	
	comp=Z,27nm,0.8s								
BOSA	Boshof	80.39	118	P		P		10 44 57.8	+0.5
	comp=Z,21nm,0.9s,baz=243,slow=4.7,SNR=20								
BOSA				LR		LR		11 17 13.8	
	comp=Z,148nm,18.3s,baz=214,slow=33								
BOSA	Boshof	80.39	118	P		P		10 44 56.6	-0.6
BOSA				pmax		pmax			
	comp=Z,40nm,1.1s								
BOSA	Boshof	80.39	118	P		P		10 44 56.6	-0.6
BOSA				IAmb		IAmb		10 45 07.6	
	comp=Z,40nm,1.1s								
G40A	Rib Lake	80.44	347	P		P		10 44 56.5	-0.2
D60A	Saint Jean D'O	80.46	1	P				10 44 58.0	
	baz=181								
D59A	Saint-Raymond	80.55	0	P				10 44 58.1	
	baz=180								
N23A	Red Feather La	80.59	335	P				10 44 59.1	
	baz=152,SNR=8.8								
D55A	Sainte-Anne-du	80.61	358	P				10 44 57.6	
	baz=177,SNR=10								
SHPR	Sheep Range	80.61	326	P		P		10 44 59.4	+1.3
D56A	ZEC Mazanza, M	80.61	358	P				10 44 58.1	
	baz=178,SNR=7.0								
E46A	Sault Ste Mari	80.62	352	P		P		10 44 57.6	-0.1
E46A				IAmb		IAmb		10 44 58.7	
	comp=Z,48nm,1.1s								
SHOC	Shoshone, Teco	80.63	325	P				10 44 59.0	
	baz=144								
D58A	Chemin du LacG	80.64	360	P				10 44 58.2	
	baz=180,SNR=9.6								
EDW2	Edwards Air Fo	80.65	323	P				10 44 59.5	
	baz=143								
CCUT	Cedar City	80.66	328	IAmb		IAmb		10 45 11.2	
	comp=Z,19nm,0.9s								
D63A	Stockholm	80.67	3	P				10 44 58.6	
	baz=184								
D62A	Allapoint, All	80.68	2	P				10 44 58.9	
	baz=183,SNR=5.9								
D62A	Allapoint, All	80.68	2	P		P		10 44 59.0	+1.1
D62A				IAmb		IAmb		10 44 59.9	
	comp=Z,26nm,1.0s								
O20A	White River Ci	80.77	333	P				10 44 59.5	
	baz=151,SNR=5.6								
SCZ2	Santa Cruz Isl	80.78	322	P				10 44 60.0	
	baz=142								
OSI	Osito Audit: C	80.80	323	IAmb		IAmb		10 45 11.2	
	comp=Z,24nm,0.8s								
KOWA	Kowa	80.89	66	P		P		10 44 60.0	+0.2
KOWA				IAmb		IAmb		10 45 00.7	
	comp=Z,33nm,0.8s								
SPMN	Marine on St.	80.91	346	P				10 44 59.3	
	baz=163								
LATQ	La Tuque	80.92	360	P				10 44 59.6	
	baz=180								
E43A	Lone Tree Farm	80.99	350	IAmb		IAmb		10 45 00.9	
	comp=Z,21nm,0.9s								
TMUT	Trail Mountain	81.22	331	IAmb		IAmb		10 45 13.4	
	comp=Z,23nm,1.2s								
PRN	Pahroc Range	81.30	327	P		P		10 45 03.1	+1.5
PRN				IAmb		IAmb		10 45 05.4	
	comp=Z,26nm,0.9s								
FURC	Furnace Creek,	81.37	325	P				10 45 02.8	
	baz=144								
TPNV	Topopah Spring	81.47	326	P				10 45 04.3	
	baz=144,SNR=13								
ISA	Isabella, Lake	81.51	324	P				10 45 04.8	
	baz=143,SNR=7.5								
PKM	Mcpherson Peak	81.57	322	P				10 45 04.9	
	baz=142,SNR=7.0								
RDMU	Red Mountain	81.65	332	P		P		10 45 03.6	0.0
RDMU				IAmb		IAmb		10 45 15.1	
	comp=Z,14nm,0.8s								
F36A	Milaca	81.67	345	P		P		10 45 03.1	-0.1
F36A				IAmb		IAmb		10 45 04.0	
	comp=Z,20nm,0.8s								
RWWY	Rawlins	81.74	334	IAmb		IAmb		10 45 18.4	
	comp=Z,22nm,1.1s								
VLDQ	Val d'Or	81.78	357	IAmb		IAmb		10 45 05.2	
	comp=Z,26nm,1.0s								
CWC	Cottonwood Cre	81.93	324	P				10 45 06.1	
	baz=143								
VES	Vestal, Richgr	81.95	323	P				10 45 06.7	
	baz=142								
E38A	The Farm, Brul	81.98	347	P		P		10 45 04.2	-0.6
GRAC	Grapevine Rang	82.04	325	P				10 45 07.3	
	baz=144								
SPR3	Spring Creek 3	82.29	328	IAmb		IAmb		10 45 21.5	
	comp=Z,24nm,1.1s								
R11A	Troy Canyon, C	82.31	327	P				10 45 08.6	
	baz=145,SNR=35								
K22A	Casper	82.35	335	P				10 45 07.8	
	baz=152,SNR=7.9								
K22A	Casper	82.35	335	P		P		10 45 08.0	+0.9
K22A				IAmb		IAmb		10 45 20.9	
	comp=Z,17nm,0.9s								
LBTB	Lobatse	82.63	115	P		P		10 45 09.4	+0.3
LBTB				pmax		pmax			
	comp=Z,45nm,1.0s								
LBTB	Lobatse	82.63	115	P		P		10 45 09.4	+0.3
DUG	Dugway, Tooele	82.63	330	P				10 45 10.0	
	baz=147,SNR=14								
DUG	Dugway, Tooele	82.64	330	P		P		10 45 09.6	+1.0
DUG				pmax		pmax			
	comp=Z,18nm,1.1s								
DUG	Dugway, Tooele	82.64	330	P		P		10 45 09.6	+1.0
DUG				IAmb		IAmb		10 45 22.7	
	comp=Z,18nm,1.1s								
DUG				IAMs_20		IAMs_20		11 17 51.7	
	comp=Z,266nm,20.0s								
LSQQ	Lebel-sur-Quev	82.70	357	P				10 45 08.6	
	baz=176								
RSSD	Black Hills	82.83	338	P				10 45 10.4	
	baz=154								
RSSD	Black Hills	82.83	338	P		P		10 45 10.5	+0.9
RSSD				pmax		pmax			
	comp=Z,10.0nm,0.9s								
RSSD	Black Hills	82.83	338	P		P		10 45 10.5	+0.9
MLAC	Mammoth, Mammo	83.25	325	P				10 45 13.6	
	baz=143,SNR=8.8								
HWUT	Hardware Ranch	83.32	332	P		P		10 45 12.3	+0.1
HWUT				IAmb		IAmb		10 45 23.6	
	comp=Z,18nm,0.8s								
HWUT				IAMs_20		IAMs_20		11 18 24.8	
	comp=Z,440nm,19.0s								
BGU	Big Grassy Mou	83.34	330	P		P		10 45 12.2	0.0
BGU				IAmb		IAmb		10 45 24.2	
	comp=Z,21nm,1.6s								
MDPB	Devils Postpil	83.37	324	P		P		10 45 13.9	+1.3
MDPB				IAMs_20		IAMs_20		11 15 28.0	
	comp=Z,293nm,18.0s								
MATQ	Matagami	83.43	357	P				10 45 12.1	
	baz=176,SNR=6.7								
CHGQ	Chibougamau	83.47	359	P				10 45 12.7	
	baz=178,SNR=5.6								
BW06	Boulder Array	83.54	333	P				10 45 12.8	
	baz=150								
PDAR	Pinedale Array	83.54	333	P		P		10 45 13.9	+0.5
	comp=Z,2.4nm,0.8s,baz=158,slow=4.8,SNR=18								
PDAR				PKKP		PKKPbc		11 03 30.8	-2.3
	comp=Z,0.4nm,0.5s,baz=157,slow=4.8,SNR=3.4								
PDAR	Pinedale Array	83.54	333	P		P		10 45 13.0	-0.3
LHV	Little Huntoon	83.58	325	P		P		10 45 14.9	+1.5
LHV				IAmb		IAmb		10 45 29.3	
	comp=Z,21nm,1.0s								
NVAR	Mina Array Bea	83.63	325	P		P		10 45 15.8	+1.8
	comp=Z,4.7nm,0.8s,baz=157,slow=6.4,SNR=46								
NVAR				LR		LR		11 15 28.9	
	comp=Z,113nm,20.6s,baz=123,slow=31								
NVAR	Mina Array Bea	83.63	325	P		P		10 45 14.6	+0.7
HVU	Hansel Valley	83.95	331	IAmb		IAmb		10 45 26.7	
	comp=Z,16nm,0.8s								
KVN	Kaiserville	84.03	326	IAmb		IAmb		10 45 27.8	
	comp=Z,14nm,0.9s								
B35A	Bob, Littlefor	84.09	346	P		P		10 45 15.4	-0.3
B35A				IAmb		IAmb		10 45 24.2	
	comp=Z,16nm,0.6s								
ELK	Elko	84.12	329	IAmb		IAmb		10 45 28.1	
	comp=Z,14nm,0.9s								
WAKR	Walker	84.23	325	IAmb		IAmb		10 45 30.3	
	comp=Z,16nm,1.1s								
TORD	Torodi Ar. Bea	84.48	70	P		P		10 45 18.5	0.0
	comp=Z,35nm,0.8s,baz=258,slow=4.0,SNR=105								
TORD				LR		LR		11 22 29.0	
	comp=Z,277nm,18.0s,baz=250,slow=35								
AGMN	Agassiz Nation	84.48	345	P				10 45 17.7	
	baz=161								
AGMN	Agassiz Nation	84.48	345	IAmb		IAmb		10 45 18.8	
	comp=Z,12nm,0.7s								
TOB1	Torodi Ar. Sit	84.49	70	IAMs_20		IAMs_20		11 21 08.6	
	comp=Z,411nm,18.0s								
YERR	Yerington	84.51	325	IAmb		IAmb		10 45 24.9	
	comp=Z,16nm,1.2s								
YERR				IAMs_20		IAMs_20		11 18 13.4	
	comp=Z,366nm,19.0s								
REDW	Red Top Meadow	84.54	333	P		P		10 45 18.5	+0.1
SNOW	Snow King Moun	84.58	333	P		P		10 45 18.9	+0.2
LOHW	Long Hollow	84.66	333	IAMs_20		IAMs_20		11 19 08.2	
	comp=Z,376nm,21.0s								
PNTR	Pine Nut	84.77	325	IAmb		IAmb		10 45 32.6	
	comp=Z,16nm,0.8s								
MDND	Maddock	84.96	342	P				10 45 20.7	
	baz=158,SNR=9.8								
MDND	Maddock	84.96	342	P		P		10 45 20.5	+0.4
FLWY	Flagg Ranch	85.09	333	P		P		10 45 22.0	+0.8
FLWY				IAmb		IAmb		10 45 35.6	
	comp=Z,20nm,1.0s								
PAHR	Pah Rah Range	85.15	326	P		P		10 45 22.7	+1.2
YPP	Pitchstone Pla	85.30	333	P		P		10 45 23.4	+1.1
H17A	Grant Village	85.32	334	P				10 45 23.1	
	baz=149								
H17A	Grant Village	85.32	334	P		P		10 45 23.5	+1.2
H17A				IAMs_20		IAMs_20		11 19 52.7	
	comp=Z,550nm,19.0s								
YMP	Mirror Lake Pl	85.46	334	IAmb		IAmb		10 45 47.6	
	comp=Z,18nm,0.9s								
RLMT	Red Lodge	85.47	335	P				10 45 23.6	
	baz=150,SNR=7.4								
RLMT	Red Lodge	85.47	335	P		P		10 45 23.2	+0.1
YNE	Yellowstone No	85.64	334	P		P		10 45 23.9	0.0
YMR	Madison River	85.69	334	IAmb		IAmb		10 45 40.7	
	comp=Z,22nm,0.9s								
BEKR	Beckworth	85.74	325	P		P		10 45 25.8	+1.3
BEKR				IAmb		IAmb		10 45 30.7	
	comp=Z,19nm,1.3s								
BEKR				IAMs_20		IAMs_20		11 17 34.9	
	comp=Z,261nm,21.0s								
YHH	Holmes Hill	85.75	334	P		P		10 45 25.4	+0.9
YHH				IAmb		IAmb		10 45 39.6	
	comp=Z,15nm,0.9s								
LAO	LASA Array	85.81	337	P				10 45 25.0	
	baz=152								
ORV	Oroville	86.05	324	P		P		10 45 27.8	+2.0
ORV				pmax		pmax			
	comp=Z,19nm,1.0s								
ORV	Oroville	86.05	324	P		P		10 45 27.8	+2.0
ORV				IAmb		IAmb		10 45 38.7	
	comp=Z,19nm,1.0s								
HLID	Hailey	86.10	331	P				10 45 27.4	
	baz=146,SNR=13								
HLID	Hailey	86.10	331	P		P		10 45 27.1	+1.0
BCYI	Bear Canyon	86.32	332	P		P		10 45 28.2	+0.9
ULM	Lac du Bonnet	86.33	345	P		P		10 45 26.3	-0.5
	comp=Z,19nm,0.9s,baz=149,slow=4.5,SNR=16								
ULM	Lac du Bonnet	86.33	345	P		P		10 45 26.7	-0.2
ULM				pmax		pmax			
	comp=Z,15nm,1.0s								
ULM	Lac du Bonnet	86.33	345	P		P		10 45 26.7	-0.2
ULM				IAmb		IAmb		10 45 27.7	
	comp=Z,15nm,0.9s								
O03E	Paynes Creek	86.77	324	P				10 45 29.8	
	baz=141,SNR=16								
DGMT	Dagmar	86.79	339	P				10 45 30.0	
	baz=154,SNR=6.4								
DGMT	Dagmar	86.79	339	P		P		10 45 30.1	+0.9
DLMT	Dillon	86.89	333	P		P		10 45 30.6	+0.6
DLMT				IAMs_20		IAMs_20		11 20 39.4	
	comp=Z,346nm,19.0s								
O02D	Mt. Diablo Mer	87.16	324	P				10 45 32.0	
	baz=140								
KCPM	Cahto Peak	87.18	323	IAmb		IAmb		10 45 44.4	
	comp=Z,26nm,0.9s								
MOD	Modoc Plateau	87.31	326	P		P		10 45 33.3	+1.2
MOD				IAmb		IAmb		10 45 44.1	
	comp=Z,13nm,0.8s								
WDC	Whiskeytown Da	87.35	324	IAmb		IAmb		10 45 43.4	
	comp=Z,19nm,0.8s								
N02D	Trinity Center	87.73	324	P				10 45 34.9	
	baz=140,SNR=6.8								
M04C	Macdoel	87.94	325	P				10 45 36.1	
	baz=141,SNR=16								
M02C	Callahan	88.12	325	P				10 45 36.6	
	baz=140,SNR=12								
KHMM	Hoose Mountain	88.15	324	IAmb		IAmb		10 45 49.2	
	comp=Z,24nm,0.9s								
YBH	Yreka Blue Hor	88.31	325	P		P		10 45 37.2	+0.4
YBH				pmax		pmax			
	comp=Z,12nm,0.9s								
YBH	Yreka Blue Hor	88.31	325	P		P		10 45 37.1	+0.4
YBH				IAmb		AMP		10 45 48.3	
	comp=Z,12nm,0.8s								
L04D	Klamath Falls	88.49	325	P				10 45 37.9	
	baz=141,SNR=6.5								
SCHQ	Schefferville	88.51	3	P		P		10 45 36.9	-0.4
	comp=Z,6.9nm,0.9s,baz=147,slow=3.5,SNR=10								
SCHQ	Schefferville	88.51	3	IAmb		IAmb		10 45 48.8	
	comp=Z,20nm,1.1s								
MSO	Missoula	88.63	333	P				10 45 39.2	
	baz=147								
I07A	Izee	88.67	328	P		P		10 45 39.8	+1.3
KRMB	Red Mountain	88.73	324	IAmb		IAmb		10 45 41.7	
	comp=Z,19nm,1.2s								
L02E	Cave Junction	89.06	325	P				10 45 41.4	
	baz=140								
PINE	Pine Mountain	89.08	327	P		P		10 45 41.1	+0.5
PINE				IAmb		IAmb		10 45 53.4	
	comp=Z,21nm,0.9s								
J04D	Umpqua Nationa	89.19	326	P				10 45 42.2	
	baz=141								
F10A	Beach Ranch, E	89.22	331	P		P		10 45 40.8	-0.2
G08A	Pilot Rock	89.40	329	P		P		10 45 42.7	+0.8
K02D	Willamette Mer	89.50	325	P				10 45 42.9	
	baz=140,SNR=6.0								
I05D	Terrebonne, OR	89.69	327	P				10 45 43.9	
	baz=141								
I04A	Tendick Farm,	89.76	326	P				10 45 44.3	
	baz=140								
LSZ	Lusaka	90.14	108	P		P		10 45 46.6	+0.4
LSZ				pmax		pmax			
	comp=Z,28nm,1.2s								
LSZ	Lusaka	90.14	108	P		P		10 45 46.6	+0.4
LSZ				IAmb		IAmb		10 45 49.0	
	comp=Z,28nm,1.2s								
H04A	Detroit Lake	90.34	327	P		P		10 45 46.1	-0.1
ESDC	Sonseca Array	96.75	46	P		P		10 46 14.8	-1.0
	comp=Z,1.9nm,0.9s,baz=242,slow=5.0,SNR=7.6								
ESDC				LR		LR		11 29 42.5	
	comp=Z,429nm,18.7s,baz=255,slow=35								
ESDC	Sonseca Array	96.75	46	P		P		10 46 16.2	+0.4
ESDC				IAmb		IAmb		10 47 24.1	
	comp=Z,8.9nm,1.3s								
DZM	Mont Dzumac	101.03	234	*e*LR		LR		11 19 26.8	
	comp=Z,261nm,21.1s								
YKA	Yellowknife Ar	101.87	341	P		Pdif		10 46 37.6	-0.5
	comp=Z,0.7nm,0.8s,baz=142,slow=4.5,SNR=8.5								
YKA				PP		PP		10 50 46.5	-3.3
	comp=Z,0.8nm,1.0s,baz=137,slow=7.1,SNR=4.0								
AQU	L'Aquila	109.14	51	IAMs_20		IAMs_20		11 40 31.5	
	comp=Z,362nm,19.0s								
RES	Resolute Bay	109.34	354	IAMs_20		IAMs_20		11 43 42.8	
	comp=Z,186nm,20.0s								
TEOL	Teolo	109.48	48	IAMs_20		IAMs_20		11 39 17.4	
	comp=Z,372nm,20.0s								
BMRM	Bremner River	111.14	330	IAMs_20		IAMs_20		11 47 56.7	
	comp=Z,164nm,21.0s								
INK	Inuvik	111.47	340	IAMs_20		IAMs_20		11 44 28.3	
	comp=Z,273nm,19.0s								
GLI	Glacier Island	112.14	329	IAMs_20		IAMs_20		11 37 46.0	
	comp=Z,143nm,20.0s								
GERES	GERESS Array B	112.32	45	PKiKP		PKiKP		10 51 20.3	-0.5
	comp=Z,0.6nm,0.4s,baz=266,slow=4.0,SNR=6.4								
SCRK	Sand Creek	112.48	333	IAMs_20		IAMs_20		11 36 37.0	
	comp=Z,168nm,20.0s								
CLL	Collm	113.00	43	*e*PS		PS		11 01 49.0	+2.6
CLL				LmV				11 38 00.0	
	comp=Z,200nm,20.2s								
PDG	Podgorica	113.04	54	IAMs_20		IAMs_20		11 39 13.8	
	comp=Z,231nm,19.0s								
PRP	Porcupine Dome	113.83	334	IAMs_20		IAMs_20		11 49 05.8	
	comp=Z,148nm,19.0s								
IDI	Anoyia	113.95	63	IAMs_20		IAMs_20		11 47 45.1	
	comp=Z,244nm,18.0s								
ILAR	Eielson Array	113.97	333	PKP		PKiKP		10 51 23.4	-0.1
	comp=Z,0.6nm,0.8s,baz=176,slow=2.2,SNR=5.1								
DIVS	Divibare	114.23	52	IAMs_20		IAMs_20		11 45 38.1	
	comp=Z,278nm,19.0s								
HNR	Honiara	114.24	239	PKP		PKiKP		10 51 28.3	+2.8
	comp=Z,103nm,0.6s,baz=67,slow=10,SNR=4.2								
I23K	Minto, Yukon-K	115.08	333	P				10 51 25.9	
	baz=117								
PPLA	Purkeypile	115.21	330	IAMs_20		IAMs_20		11 47 45.3	
	comp=Z,172nm,22.0s								
VYHS	Vyhne	115.26	47	*e*PKiKP		PKiKP		10 51 27.2	+0.8
VYHS	Vyhne	115.26	47	*e*PKP		PKiKP		10 51 27.2	+0.8
NOA	NORSAR Array B	116.12	33	PKP		PKiKP		10 51 27.9	+0.3
	comp=Z,1.1nm,0.8s,baz=252,slow=2.0,SNR=3.3								
NOA	NORSAR Array B	116.12	33	PKiKP		PKiKP		10 51 28.0	+0.3
COLD	Coldfoot	116.29	335	P				10 51 28.7	
	baz=115								
TOLK	Toolik Lake Re	116.68	336	P				10 51 29.0	
	baz=115								
TTA	Tatalina	116.83	329	P				10 51 29.5	
	baz=112								
ASAR	Alice Springs	117.50	207	PKP		PKPdf		10 51 31.1	-0.6
	comp=Z,1.2nm,0.8s,baz=132,slow=1.6,SNR=10								
ASAR				PKKPbc		PKKPbc		11 01 53.5	0.0
	comp=Z,0.8nm,0.9s,baz=334,slow=2.9,SNR=4.3								
AKAS	Kas	117.83	63	IAMs_20		IAMs_20		11 49 44.9	
	comp=Z,139nm,18.0s								
MLR	Muntele Rosu	118.67	52	PKP		PKPdf		10 51 32.3	-0.9
	comp=Z,4.1nm,0.8s,baz=354,slow=7.7,SNR=4.6								
MLR	Muntele Rosu	118.67	52	PKiKP		PKPdf		10 51 32.6	-0.6
MLR	Muntele Rosu	118.67	52	PKPdf		PKPdf		10 51 32.6	-0.6
ISP	Isparta	119.12	62	IAMs_20		IAMs_20		11 43 43.9	
	comp=Z,182nm,20.0s								
NIKH	Nikolski High	119.91	316	IAMs_20		IAMs_20		11 27 38.9	
	comp=Z,249nm,18.0s								
CSS	Mathiatis	120.15	66	IAMs_20		IAMs_20		11 41 57.2	
	comp=Z,178nm,19.0s								
GHAJ	Ghor Haditha	120.46	71	IAMs_20		IAMs_20		11 46 46.6	
	comp=Z,260nm,18.0s								
WRA	Warramunga Arr	120.68	210	PKP		PKPdf		10 51 37.5	-0.4
	comp=Z,2.4nm,0.6s,baz=162,slow=1.7,SNR=15								
WRA	Warramunga Arr	120.68	210			PKPdf		10 51 36.7	-1.1
WRAB	Tennant Creek	120.69	210	*i* PKiKP		PKiKP		10 51 37.9	0.0
BR131	Keskin Array S	122.07	61	*d* iPKiKP		PKiKP		10 51 40.0	-0.1
BRTR	Keskin Array B	122.07	61	PKP		PKiKP		10 51 40.2	+0.1
	comp=Z,6.2nm,0.7s,baz=186,slow=3.0,SNR=35								
AKASG	Malin Array Be	122.37	48	PKP		PKPdf		10 51 38.5	-1.5
	comp=Z,7.7nm,0.7s,baz=263,slow=2.8,SNR=17								
AKASG	Malin Array Be	122.37	48	PKiKP		PKPdf		10 51 39.1	-0.8
AKASG	Malin Array Be	122.37	48	PKPdf		PKPdf		10 51 39.1	-0.8
AKBB	Malin Array Si	122.37	48	*i* iPKiKP		PKPdf		10 51 39.1	-0.8
ILGA	Ilgaz	122.56	60	IAMs_20		IAMs_20		11 52 56.9	
	comp=Z,282nm,19.0s								
VSU	Vasula	122.82	38	*i* iPKiKP		PKiKP		10 51 40.6	-0.1
FINES	FINES Array B	123.10	35	PKP		PKPdf		10 51 40.6	-0.4
	comp=Z,3.3nm,0.8s,baz=251,slow=5.8,SNR=6.5								
ARCES	ARCESS Array B	124.07	25	PKP		PKiKP		10 51 42.9	-0.1
	comp=Z,1.3nm,0.6s,baz=255,slow=2.4,SNR=7.0								
H11S2	WAKE ISLAND Hyl	125.45	269	T		T		13 10 57.5	
	baz=118,slow=74,SNR=9.8								
H11S1	WAKE ISLAND Hyl	125.47	269	T		T		13 10 51.6	
	baz=118,slow=74,SNR=7.6								
H11S3	WAKE ISLAND Hyl	125.47	269	T		T		13 10 58.2	
	baz=118,slow=74,SNR=7.8								
FITZ	Fitzroy Crossi	125.49	201	PKP		PKPdf		10 51 47.0	0.0
	comp=Z,4.7nm,0.7s,baz=208,slow=6.3,SNR=7.1								
H11N3	WAKE ISLAND Hyl	125.86	271	T		T		13 10 59.4	
	baz=131,slow=73,SNR=3.5								
H11N1	WAKE ISLAND Hyl	125.88	271	T		T		13 10 59.7	
	baz=131,slow=73,SNR=

ARU					SS	SS	10 55 05.7		
ARU					SS	SS	11 13 24.8	-5.0	
GEYT	**Alibeck**	**140.12**	**70**	PKP	**PKPdf**		**10 52 13.4**	**-0.5**	
	comp=Z,7.4nm,0.8s,baz=223,slow=6.1,SNR=6.1								
AKTO	**Aktyubinsk**	**140.52**	**50**	PKhKP	PKPpre		10 52 06.1		
	comp=Z,2.6nm,0.9s,baz=314,slow=12,SNR=6.4								
TIXI	**Tiksi**	**140.55**	**350**	PKhKP	PKPpre		10 52 04.7		
	comp=Z,1.6nm,0.4s,baz=337,slow=5.1,SNR=7.3								
MA2	**Magadan**	**141.87**	**326**	*e*PKIKP	**PKiKP**		**10 52 19.0**	**-0.2**	
NRIK	**Noril'sk**	**142.80**	**12**	PKhKP	PKPpre		10 52 14.6		
	comp=Z,1.6nm,0.4s,baz=76,slow=3.9,SNR=3.7								
NRIK	**Noril'sk**	**142.80**	**12**	PKIKP	**PKiKP**		**10 52 19.6**	**-1.2**	
NRIK	**Noril'sk**	**142.80**	**12**	PKPdf	**PKiKP**		**10 52 19.6**	**-1.2**	
PALK	**Pallekele**	**143.68**	**131**	*e*PKIKP	PKPbc		10 52 18.9	+0.4	
POO	**Poona**	**146.27**	**108**	*e*P	**PKPdf**		**10 52 22.0**	**-3.3**	
BRVK	**Borovoye**	**147.36**	**43**	*de*PKP2	**PKPbc**		**10 52 27.2**	**-1.3**	
BVAR	**Borovoye Array**	**147.43**	**43**	PKP	**PKPdf**		**10 52 25.3**	**-0.9**	
	comp=Z,11nm,0.9s,baz=172,slow=30,SNR=18								
BVAR				PKPbc	**PKPbc**		**10 52 29.4**	**+0.7**	
	comp=Z,21nm,0.7s,baz=229,slow=13,SNR=42								
RPSI	**Rantau Prapat**	**147.91**	**164**		**PKPbc**		**10 52 30.8**	**-0.3**	
PSI	**Prapat**	**148.01**	**164**	PKPbc	**PKPbc**		**10 52 30.8**	**-0.8**	
	baz=180,slow=6.5								
YAK	**Yakutsk**	**148.54**	**340**	PKPbc	**PKPbc**		**10 52 31.3**	**+0.1**	
	comp=Z,22nm,0.5s,baz=250,slow=1.1,SNR=11								
YAK	**Yakutsk**	**148.54**	**340**	*e*PKP2	**PKPbc**		**10 52 31.4**	**+0.1**	
YAK				*e*			10 56 05.2		
YAK				*e*SS	SS		11 15 09.9	+1.9	
YAK				pmax	pmax				
	comp=Z,87nm,1.1s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,185nm,5.2s								
YAK				pmax	pmax				
	comp=E,108nm,4.7s								
YAK				pmax	pmax				
	comp=N,105nm,5.8s								
HYB	**Hyderabad**	**149.26**	**115**	*i* PKP	**PKPdf**		**10 52 30.5**	**+0.2**	
YSS	**Yuzh-Sakhalins**	**150.48**	**307**	*e*PKIKP	**PKPbc**		**10 52 36.5**	**-0.1**	
YSS				pmax	pmax				
	comp=Z,30nm,1.3s								
AML	**Almayashu**	**152.22**	**63**	P	**PKPdf**		**10 52 35.7**	**+1.1**	
	SNR=6.0								
EKS2	**Erkin-Say**	**152.22**	**62**	P	**PKiKP**		**10 52 42.0**	**+0.7**	
	SNR=16								
USP	**Ospenovka**	**152.66**	**60**	P	**PKiKP**		**10 52 43.0**	**+0.9**	
	SNR=10.0								
AAK	**Ala-Archa**	**152.74**	**62**	P	**PKiKP**		**10 52 43.7**	**+1.3**	
	SNR=18								
KURBB	**Kurchatov Arra**	**153.02**	**43**	PKP	**PKPdf**		**10 52 35.6**	**+0.7**	
	comp=Z,2.7nm,0.8s,baz=304,slow=2.0,SNR=17								
KURBB				PKPbc	**PKiKP**		**10 52 42.8**	**+0.3**	
	comp=Z,18nm,0.8s,baz=304,slow=2.9,SNR=47								
KURK	**Kurchatov**	**153.03**	**43**	PKIKP	**PKPdf**		**10 52 35.7**	**+0.7**	
KURK							10 52 42.8		
KURK	**Kurchatov**	**153.03**	**43**		**PKPdf**		**10 52 35.6**	**+0.7**	
KURK					**PKiKP**		**10 52 42.8**	**+0.3**	
KBK	**Karagaybulak**	**153.07**	**61**	P	**PKiKP**		**10 52 44.2**	**+1.1**	
	SNR=7.7								
TKM2	**Tokmak 2**	**153.51**	**61**	P	**PKPdf**		**10 52 36.8**	**+0.6**	
	SNR=6.4								
ULHL	**Ulahol**	**154.08**	**62**	P	**PKiKP**		**10 52 46.2**	**+0.9**	
	SNR=6.3								
KSH	**Kashi**	**154.13**	**68**	PKPbc	**PKPdf**		**10 52 33.5**	**-3.6**	
KSH				pPKP	pPKPdf		10 52 42.8	-0.9	
KSH				PP	**PP**		**10 56 37.7**	**+3.3**	
KSH				SS	SS		11 16 03.1	-10	
KSH				PPMZ					
	comp=Z,150nm,4.3s								
KSH				L	L				
	comp=Z,1μm,17.5s								
KSH				L	L				
	comp=Z,630nm,12.8s								
KSH				L	L				
	comp=Z,120nm,9.7s								
ZALV	**Zalesovo Beam**	**154.32**	**32**	PKP	**PKPdf**		**10 52 36.8**	**+0.1**	
	comp=Z,4.4nm,0.8s,baz=280,slow=2.3,SNR=16								
ZALV				PKPbc	**PKiKP**		**10 52 45.6**	**+0.6**	
	comp=Z,23nm,0.6s,baz=303,slow=3.0,SNR=41								
MJAR	**Matsushiro Arr**	**154.89**	**285**	PKP	**PKPdf**		**10 52 37.5**	**-0.7**	
	comp=Z,0.7nm,0.6s,baz=196,slow=1.6,SNR=1.9								
MJAR				PKPbc	**sPKPdf**		**10 52 49.5**	**+2.8**	
	comp=Z,1.7nm,0.9s,baz=183,slow=1.8,SNR=5.1								
MKAR	**Makanchi Array**	**156.94**	**49**	PKP	**PKPdf**		**10 52 40.7**	**+0.2**	
	comp=Z,2.4nm,0.8s,baz=346,slow=1.0,SNR=21								
MKAR				PKPab	**PKPab**		**10 53 11.0**	**+0.3**	
	comp=Z,10.0nm,0.7s,baz=299,slow=4.1,SNR=20								
MKAR	**Makanchi Array**	**156.94**	**49**	PKIKP	**PKPdf**		**10 52 40.6**	**+0.1**	
USRK	**Ussuriysk Arr.**	**158.51**	**306**	PKPab	**PKPab**		**10 53 18.6**	**+1.1**	
	comp=Z,0.7nm,0.7s,baz=131,slow=46,SNR=3.0								
USRK	**Ussuriysk Arr.**	**158.51**	**306**	PKPdf	**PKPdf**		**10 52 40.4**	**-2.1**	
MDJ	**Mudanjiang**	**159.94**	**309**	PKP	**PKPdf**		**10 52 44.8**	**+0.6**	
MDJ				PPMZ					
	comp=Z,110nm,4.7s								
UBPT	**Khong Chiam**	**161.35**	**174**	P	**PKPab**		**10 53 31.0**	**+0.7**	
WMQ	**Urumqi**	**161.67**	**51**	*e*PKP	**PKPdf**		**10 52 45.6**	**-0.6**	
WMQ				PPMZ					
	comp=Z,170nm,5.3s								
TLY	**Talaya**	**162.01**	**8**	PKPab	**PKPab**		**10 53 34.4**	**+1.9**	
	comp=Z,4.2nm,0.6s,baz=180,slow=12,SNR=5.0								
TLY	**Talaya**	**162.01**	**8**	*e*PKP2	**PKPab**		**10 53 34.2**	**+1.8**	
TLY				pmax	pmax				
	comp=Z,17nm,0.8s								
MHMT	**Maesarieng**	**162.11**	**149**	P	**PKPdf**		**10 52 47.6**	**+0.4**	
PHIT	**Phitsanulok**	**162.15**	**157**	P	**PKPdf**		**10 52 54.8**	**+7.4**	
UTTA	**Uttaradit**	**162.71**	**157**	P	**PKPdf**		**10 52 49.0**	**+1.1**	
CM05	**Chiang Mai Arr**	**162.73**	**151**	P	**PKPdf**		**10 52 48.9**	**+1.0**	
CM13	**Chiang Mai Arr**	**162.74**	**151**	P	**PKPdf**		**10 52 48.9**	**+0.9**	
CM04	**Chiang Mai Arr**	**162.75**	**151**	P	**PKPdf**		**10 52 49.1**	**+1.2**	
CM01	**Chiang Mai Arr**	**162.76**	**151**	P	**PKPdf**		**10 52 49.0**	**+1.1**	
CM02	**Chiang Mai Arr**	**162.76**	**151**	P	**PKPdf**		**10 52 49.0**	**+1.0**	
CMAR	**Chiang Mai Arr**	**162.78**	**151**	PKP	**PKPdf**		**10 52 48.6**	**+0.7**	
	comp=Z,4.6nm,0.8s,baz=244,slow=2.9,SNR=22								
CMAR				PKPab	**PKPab**		**10 53 35.9**	**-0.7**	
	comp=Z,1.2nm,0.3s,baz=224,slow=3.8,SNR=1.1								
CM36	**Chiang Mai Arr**	**162.90**	**152**	P	**PKPdf**		**10 52 48.0**	**-0.1**	
CM32	**Chiang Mai Arr**	**162.92**	**151**	P	**PKPdf**		**10 52 49.0**	**+0.9**	
CM35	**Chiang Mai Arr**	**163.07**	**152**	P	**PKPdf**		**10 52 49.0**	**+0.8**	
KSRS	**Korea Array**	**163.10**	**288**	PKP	**PKPdf**		**10 52 47.4**	**-0.3**	
	comp=Z,1.3nm,0.8s,baz=126,slow=0.9,SNR=10								
KSRS				PKPab	**PKPab**		**10 53 39.3**	**+1.5**	
	comp=Z,1.8nm,0.8s,baz=101,slow=4.3,SNR=5.3								
CHTO	**Chiang Mai**	**163.10**	**151**	PKIKP	**PKPdf**		**10 52 48.0**	**-0.3**	
CMMT	**Chiang Mai**	**163.10**	**151**	P	**PKPdf**		**10 52 47.0**	**-1.3**	
CM33	**Chiang Mai Arr**	**163.11**	**151**	P	**PKPdf**		**10 52 48.0**	**-0.3**	
ZAK	**Zakamensk**	**163.24**	**10**	*e*PKIKP	**PKPdf**		**10 52 46.4**	**-1.2**	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
QIZ	**Qiongzhong**	**165.04**	**188**	PKP	**PKPdf**		**10 52 47.1**	**-2.9**	
QIZ				PP	**PP**		**10 57 32.3**	**+0.5**	
QIZ				SS	SS		11 18 04.2	-0.5	
QIZ				L	L				
	comp=Z,170nm,19.9s								
QIZ				L	L				
	comp=Z,140nm,18.1s								
QIZ				L	L				
	comp=Z,110nm,17.6s								
SONM	**Songino Array**	**166.06**	**3**	PKP	**PKPdf**		**10 52 48.5**	**-1.7**	
	comp=Z,1.1nm,0.8s,baz=328,slow=0.8,SNR=5.2								
SONM				PKPab	**PKPab**		**10 53 52.0**	**+1.6**	
	comp=Z,5.1nm,0.8s,baz=334,slow=4.2,SNR=14								
SONM	**Songino Array**	**166.06**	**3**		**PKPdf**		**10 52 48.2**	**-1.9**	
SONM				PKPab	**PKPab**		**10 53 51.2**	**+0.8**	
NJ2	**Nanjing**	**170.35**	**262**	*e*PKP	**PKPdf**		**10 52 53.6**	**+0.3**	
BJI	**Beijing**	**170.80**	**314**	Pg	PKPdf		10 52 42.4	-11	
BJI				SMN					
	comp=Z,120nm,0.6s								
BJI				SME					
	comp=Z,120nm,0.6s								
GTA	**Gaotai**	**171.69**	**46**	⇑PKP	**PKPdf**		**10 52 55.4**	**+1.4**	
GTA				PKPab	**PKPab**		**10 54 16.8**	**+1.0**	
GTA				PP	**PP**		**10 58 03.6**	**-3.2**	
GTA				SS	SS		11 19 13.0	-0.4	
GTA				PPMZ					
	comp=Z,64nm,8.4s								
GTA				L	L				
	comp=Z,120nm,18.9s								
GTA				L	L				
	comp=Z,290nm,19.3s								
GTA				L	L				
	comp=Z,110nm,20.4s								
HHC	**Hu-ho-hao-te**	**172.38**	**337**	*e*PKP	**PKPdf**		**10 52 55.6**	**+1.3**	

CD2	**Chengdu**	**175.60**	**132**	PKP	**PKPdf**		**10 52 53.5**	**-2.1**	
LZH	**Lanzhou**	**176.24**	**54**	*e*PKP	**PKPdf**		**10 52 56.7**	**+0.9**	
LZH				pPKP	sPKPdf		10 53 06.7	+2.4	
LZH				SS	SS		11 19 55.5	-2.3	
LZH				L	L				
	comp=Z,170nm,20.1s								
LZH				L	L				
	comp=Z,180nm,20.1s								
LZH				L	L				
	comp=Z,160nm,19.5s								
XAN	**Xi'an**	**178.88**	**277**	Pn	**PKPdf**		**10 52 52.3**	**-3.7**	
XAN				SMN					
	comp=Z,77nm,0.8s								
XAN				SME					
	comp=Z,51nm,1.0s								
XAN				L	L				
	comp=Z,88nm,1.8s								
XAN				L	L				
	comp=Z,180nm,2.4s								
XAN				L	L				
	comp=Z,180nm,7.7s								
XAN	**Xi'an**	**178.88**	**277**	PKP	**PKPdf**		**10 52 56.4**	**+0.4**	
XAN				PP	**PP**		**10 58 41.6**	**-0.5**	
XAN				SKKS			11 05 26.9		
XAN				SS	**SS**		**11 20 24.4**	**+0.8**	
XAN				L	L				
	comp=Z,160nm,20.4s								
XAN				L	L				
	comp=Z,85nm,21.2s								
XAN				L	L				
	comp=Z,240nm,19.5s								

SOME ***02*** *10:36:57.7,39°.95N×74°.35E,h0km*
KRNET ***02*** *10:36:59.9±0.1,39°.89N×74°.31E,h9km,mb3.6*
NNC ***02*** *10:37:01.6±1.5,39°.97N×74°.42E,h0km,mb4.1,mpv3.8,*
Error ellipse: s-maj=11.9km s-min=6.8km az=174.0
ISC 02 10:36:55.7±1.2,39.75N±0°.05×74.53E±0°.03,h10km,n55,
σ1§68/86,34C-18D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.83**	**289**	⇑*i*P			**Pb**	**10 37 11.2**	**-1.2**
	baz=81								
SFK				⇑*i*S			**Sg**	**10 37 20.9**	**-1.8**
OHH	**Osh**	**1.54**	**301**	⇑*i*P			**Pg**	**10 37 25.3**	**-0.1**
	baz=99								
OHH				⇑*i*S			**Sn**	**10 37 43.1**	**-0.4**
	baz=99								
ARSB	**Arslanbob**	**1.96**	**324**	⇑*i*P			**Pg**	**10 37 32.5**	**-0.9**
	baz=25								
ARSB				⇑*i*S			**Sb**	**10 37 56.5**	**+0.2**
	baz=25								
ARLS	**Aral**	**2.11**	**356**	⇓*i*P			**Pg**	**10 37 36.3**	**0.0**
	baz=0.0								
ARLS				⇓*i*S			**Sg**	**10 38 02.4**	**-1.3**
	baz=0.0								
DRK	**Karamyk**	**2.12**	**264**	⇑*i*P			**Pg**	**10 37 36.0**	**-0.5**
	baz=59								
DRK				⇑*i*S			**Sg**	**10 38 03.2**	**-0.8**
	baz=59								
AML	**Almayashu**	**2.46**	**345**	⇑*i*P			**Pb**	**10 37 40.7**	**+0.4**
	baz=48								
AML				⇑*i*S			**Sb**	**10 38 11.2**	**+0.4**
	baz=48								
AML	**Almayashu**	**2.46**	**345**	P			**Pb**	**10 37 40.6**	**+0.4**
	SNR=79								
ULHL	**Ulahol**	**2.81**	**27**	⇓*e*P			**Pg**	**10 37 47.7**	**-1.9**
	baz=31								
ULHL				⇓*i*S			**Sb**	**10 38 22.2**	**+1.5**
	baz=31								
ULHL	**Ulahol**	**2.81**	**27**	P			**Pg**	**10 37 47.3**	**-2.3**
	SNR=16								
BTK	**Batken**	**2.87**	**277**	⇑*e*P			**Pb**	**10 37 46.8**	**-0.3**
	baz=75								
BTK				⇑*i*S			**Sb**	**10 38 20.3**	**-2.0**
	baz=75								
AAK	**Ala-Archa**	**2.88**	**360**	⇓*e*P			**Pb**	**10 37 47.5**	**+0.1**
	baz=3.0								
AAK				⇓*i*S			**Sb**	**10 38 21.7**	**-1.1**
	baz=3.0								
AAK	**Ala-Archa**	**2.88**	**360**	P			**Pg**	**10 37 48.7**	**-2.3**
	SNR=11								
AAK	**Ala-Archa**	**2.88**	**360**	⇑Pn			**Pb**	**10 37 47.4**	**+0.1**
	46nm,0.5s								
AAK				⇑Lg			Lg	10 38 28.4	
	54nm,0.9s								
KBK	**Karagaybulak**	**2.92**	**6**	⇑*i*P			**Pb**	**10 37 48.1**	**+0.1**
	baz=10.0								
KBK				⇑*i*S			**Sb**	**10 38 23.0**	**-0.8**
	baz=10.0								
KBK	**Karagaybulak**	**2.92**	**6**	P			**Pg**	**10 37 48.9**	**-2.8**
	SNR=45								
BOOM	**Boomskoye usch**	**2.94**	**21**	⇑*e*P			**Pb**	**10 37 49.1**	**-2.9**
	baz=25								
BOOM				⇑*i*S			**Sb**	**10 38 24.4**	**+0.1**
	baz=25								
EKS2	**Erkin-Say**	**2.96**	**349**	⇑*e*P			**Pb**	**10 37 48.1**	**-0.6**
	baz=52								
EKS2				⇑*e*S			**Sb**	**10 38 23.0**	**-2.0**
	baz=52								
EKS2	**Erkin-Say**	**2.96**	**349**	P			**Pg**	**10 37 51.4**	**-1.1**
	SNR=12								
FRU1	**Bishkek**	**3.06**	**1**	⇓*i*P			**Pb**	**10 37 50.0**	**-0.3**
	baz=4.0								
FRU1				⇓*i*S			**Sb**	**10 38 26.4**	**-1.3**
	baz=4.0								
KDJ	**Kajisay**	**3.11**	**39**	⇑*i*P			**Pg**	**10 37 52.4**	**-3.0**
	baz=43								
KDJ				⇑*i*S			**Sb**	**10 38 30.3**	**+0.9**
	baz=43								
TRKS	**Terek-Say**	**3.13**	**306**	⇑*e*P			**Pb**	**10 37 49.3**	**-2.3**
	baz=4.0								
TRKS				⇑*i*S			**Sn**	**10 38 25.1**	**+2.3**
	baz=4.0								
MNAS	**Manas**	**3.13**	**331**	⇑*e*P			**Pb**	**10 37 49.5**	**-2.1**
	baz=33								
MNAS				⇑*i*S			**Sn**	**10 38 25.8**	**+3.0**
	baz=33								
MRKS	**Merke**	**3.15**	**342**	*e*P			**Pb**	**10 37 51.6**	**-0.3**
	7.7nm,0.3s								
MRKS				*e*S			**Sb**	**10 38 31.6**	**+1.2**
	40nm,0.5s								
MRKS	**Merke**	**3.15**	**342**	Pg			**Pb**	**10 37 51.6**	**-0.3**
	7.7nm,0.3s								
MRKS				Lg			Lg	10 38 31.6	
	40nm,0.5s								
CHMS	**Chumysh**	**3.25**	**3**	⇓*i*P			**Pb**	**10 37 52.5**	**-1.0**
	baz=6.0								
CHMS				⇓*i*S			**Sb**	**10 38 30.3**	**-2.9**
	baz=6.0								
TKM2	**Tokmak 2**	**3.27**	**14**	⇓*e*P			**Pb**	**10 37 53.3**	**-0.6**
	baz=17								
TKM2				⇓*i*S			**Sb**	**10 38 31.9**	**-2.0**
	baz=17								
TKM2	**Tokmak 2**	**3.27**	**14**	P			**Pb**	**10 37 53.8**	**-0.1**
	SNR=13								
TKM2	**Tokmak 2**	**3.27**	**14**	⇓Pn			**Pb**	**10 37 53.2**	**-0.8**
	12nm,0.3s								
TKM2				⇓Lg			Lg	10 38 37.8	
	20nm,0.6s								
KST	**Kastek**	**3.46**	**18**	*e*P			**Pg**	**10 38 01.1**	**-1.0**
	14nm,0.4s								
KST				*e*S			**Sg**	**10 38 47.3**	**+0.3**
	34nm,0.8s								
KST	**Kastek**	**3.46**	**18**	Pg			**Pg**	**10 38 01.1**	**-1.0**
	14nm,0.4s								
KST				Lg			Lg	10 38 47.3	
	34nm,0.8s								
USP	**Ospenovka**	**3.51**	**360**	⇑*e*P			**Pb**	**10 37 55.7**	**-2.3**
	baz=2.0								
USP				⇑*i*S			**Sb**	**10 38 36.4**	**-4.4**
	baz=2.0								
USP	**Ospenovka**	**3.51**	**360**	P			**Pg**	**10 38 02.1**	**-1.0**
	SNR=10.0								
MTBS	**Maitube**	**3.67**	**22**	*e*P			**Pg**	**10 38 05.3**	**-0.7**
	22nm,0.5s								
MTBS				*e*S			**Sg**	**10 38 54.8**	**+1.3**
	22nm,0.5s								
MTBS	**Maitube**	**3.67**	**22**	Pg			**Pg**	**10 38 05.3**	**-0.7**
	22nm,0.5s								
MTBS				Lg			Lg	10 38 54.8	
	22nm,0.5s								
SGDS	**Sogindy**	**3.70**	**1**	Pg			**Pg**	**10 38 04.6**	**-2.0**
	6.4nm,0.5s								
SGDS				Lg			Lg	10 38 53.5	

	18nm,0.5s								
ANVS	**Anan'yevo**	**3.84**	**37**	⇑*i*P			**Pb**	**10 38 02.4**	**-1.3**
	baz=40								
ANVS				⇑*i*S			**Sb**	**10 38 47.7**	**-2.7**
	baz=40								
MDOK	**Medeo**	**3.90**	**28**	*e*P			**Pg**	**10 38 09.2**	**-1.2**
	16nm,0.5s								
MDOK				*e*S			**Sg**	**10 39 01.8**	**+0.9**
	28nm,0.7s								
MDOK	**Medeo**	**3.90**	**28**	Pg			**Pg**	**10 38 09.2**	**-1.2**
	13nm,0.5s								
MDOK				⇓Lg			Lg	10 39 01.4	
	37nm,0.8s								
MDOK	**Medeo**	**3.90**	**28**	Pg			**Pg**	**10 38 09.2**	**-1.2**
	16nm,0.5s								
MDOK				Lg			Lg	10 39 01.8	
	28nm,0.7s								
PRZ	**Przheval'sk**	**4.00**	**46**	⇑*i*P			**Pb**	**10 38 05.0**	**-1.4**
	baz=48								
PRZ				⇑*i*S			**Sb**	**10 38 52.5**	**-2.4**
	baz=48								
KRBS	**Karabastau**	**4.04**	**12**	*e*P			**Pg**	**10 38 11.1**	**-1.9**
	16nm,0.5s								
KRBS				*e*S			**Sg**	**10 39 04.6**	**-0.7**
	23nm,0.7s								
KRBS	**Karabastau**	**4.04**	**12**	Pg			**Pg**	**10 38 11.1**	**-1.9**
	16nm,0.5s								
KRBS				Lg			Lg	10 39 04.9	
	23nm,0.8s								
KUU	**Kurty**	**4.36**	**18**	*e*P			**Pg**	**10 38 16.9**	**-2.2**
	5.9nm,0.2s								
KUU				*e*S			**Sg**	**10 39 14.8**	**-0.7**
	33nm,0.7s								
KUU	**Kurty**	**4.36**	**18**	Pg			**Pg**	**10 38 16.9**	**-2.2**
	5.9nm,0.2s								
KUU				Lg			Lg	10 39 14.8	
	33nm,0.7s								
SATY	**Saty**	**4.41**	**40**	*e*P			**Pg**	**10 38 18.7**	**-1.5**
	6.9nm,0.4s								
SATY				*e*S			**Sg**	**10 39 18.0**	**+0.8**
	23nm,0.5s								
SATY	**Saty**	**4.41**	**40**	Pg			**Pg**	**10 38 18.7**	**-1.5**
	6.9nm,0.4s								
SATY				Lg			Lg	10 39 18.0	
	23nm,0.5s								
CHKK	**Chushkaly**	**4.49**	**23**	*e*P			**Pg**	**10 38 20.0**	**-1.8**
	5.7nm,0.5s								
CHKK				*e*S			**Sg**	**10 39 20.4**	**+0.4**
	16nm,0.5s								
CHKK	**Chushkaly**	**4.49**	**23**	Pg			**Pg**	**10 38 20.0**	**-1.8**
	5.7nm,0.5s								
CHKK				Lg			Lg	10 39 20.4	
	16nm,0.5s								
KK31	**Karatay Array**	**4.51**	**319**	Pn			**Pn**	**10 38 07.3**	**+3.2**
	1.3nm,0.6s,baz=126,slow=12,SNR=17								
KK31				⇑Pg			**Pg**	**10 38 19.9**	**-2.2**
	1.3nm,0.3s,baz=137,slow=16,SNR=6.5								
KK31				⇓Sn			**Sn**	**10 39 01.1**	**+4.5**
	4.8nm,0.6s,baz=145,slow=15,SNR=4.9								
KK31				⇓Lg			Lg	10 39 16.9	
	3.4nm,0.3s,baz=128,slow=29,SNR=2.9								
UZB	**Uzynbulak**	**4.79**	**43**	*e*P			**Pg**	**10 38 26.1**	**-1.3**
	5.8nm,0.5s								
UZB				*e*S			**Sg**	**10 39 30.8**	**+1.4**
	8.5nm,0.7s								
UZB	**Uzynbulak**	**4.79**	**43**	Pg			**Pg**	**10 38 26.2**	**-1.3**
	5.8nm,0.5s								
UZB				Lg			Lg	10 39 30.8	
	8.5nm,0.7s								
KPKS	**Kokpek**	**4.85**	**39**	*e*P			**Pg**	**10 38 27.2**	**-1.3**
	7.9nm,0.3s								
KPKS				*e*S			**Sg**	**10 39 32.7**	**+1.4**
	20nm,0.7s								
SHLS	**Shalkode**	**5.03**	**46**	*e*P			Pg	10 38 35.8	+3.7
	7.2nm,0.4s								
SHLS				*e*S			Sg	10 39 47.7	+10
	14nm,0.4s								
SHLS	**Shalkode**	**5.03**	**46**	Pg			Pg	10 38 35.8	+3.7
	7.2nm,0.4s								
SHLS				Lg			Lg	10 39 47.7	
	14nm,0.4s								
PDGK	**Podgornoye**	**5.16**	**45**	⇑Pg			**Pg**	**10 38 35.3**	**+0.7**
	14nm,0.7s								
PDGK				⇓Lg			Lg	10 39 40.9	
	25nm,0.9s								

FUNV ***02*** *11:11:04.3,7°.64N×72°.39W,h16km,MW3.3*
RSNC ***02*** *11:11:04.1±1.5,7°.46N×72°.35W,h0km±6km,ML2.9*
ISC 02 11:11:00.9±1.2,7°.65N±0°.03×72°.35W±0°.02,h5km±10km,
n31,σ1§58/54,2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.46**	**229**	⇓*i*P			**Pg**	**11 11 10.6**	**+0.7**
PAMC				*e*S			**Sg**	**11 11 16.4**	**+0.4**
PAMC				*i*				11 11 17.3	
	comp=Z,665nm,0.2s								
OCAC	**Ocana**	**1.13**	**302**	⇓*e*P			**Pn**	**11 11 25.6**	**+2.0**
OCAC				*e*S			**Sn**	**11 11 41.

TEPV	**Terepaima**	**3.88**	**53**	*eP*	**Pn**	**11 12 03.3**	**+2.1**
SIQV	**Siquisique**	**3.90**	**40**	*eP*	**Pn**	**11 12 03.4**	**+1.9**
TOLC	**Tolima**	**4.24**	**224**	*eP*	**Pn**	**11 12 09.0**	**+2.5**
TOLC				*eS*	**Sn**	**11 12 57.0**	**+0.3**
TOLC				*i*		11 13 19.8	
	comp=Z,14nm,0.5s						
MAPV	**Macapo**	**4.41**	**60**	*eP*	**Pn**	**11 12 10.1**	**+1.5**
MAPV				*eS*	**Sn**	**11 12 58.3**	**-2.2**
BAUV	**El Baul**	**4.45**	**73**	*eP*	**Pn**	**11 12 09.7**	**+0.6**
BAUV				*eS*	**Sn**	**11 12 59.6**	**-1.7**
MONV	**Montecano**	**4.88**	**28**	*eP*	**Pn**	**11 12 15.9**	**+0.9**
MONV				*eS*	**Sn**	**11 13 08.2**	**-3.7**
CACV	**CAICARA DEL OR**	**5.76**	**90**	*eP*	Pn	11 12 34.6	+7.6
CACV				*eS*	Sn	11 13 43.4	+10
TACV	**Tcata**	**5.81**	**64**	*eP*	**Pn**	**11 12 28.6**	**+0.7**
BIRV	**Birongo**	**6.63**	**64**	*eP*	**Pn**	**11 12 40.2**	**+1.1**

ISC 02 11:32:13.2±1.2, 49°69'N±0'05×17°39'E±0'05, h4km±14km, n6, σ0§57/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.13**	**47**	*e*PG	**Pg**	**11 32 15.9**	**0.0**
MORC				*e*SG	**Sg**	**11 32 17.9**	**+0.2**
MORC				*e*RG	Rg	11 32 19.3	
VRAC	**Vranov**	**0.64**	**234**	*e*PG	**Pb**	**11 32 26.2**	**-0.8**
JAVC	**Velka Javorina**	**0.85**	**167**	*e*PG	**Pn**	**11 32 32.0**	**+0.1**
KRUC	**Moravsky**	**0.90**	**227**	*e*PG	**Pg**	**11 32 30.8**	**+0.3**
KSP	**Ksiaz**	**1.36**	**329**	*e*Pg	**Pn**	**11 32 38.8**	**-0.1**
KSP				*e*Sg	**Sg**	**11 32 57.5**	**+0.7**
VYHS	**Vyhne**	**1.52**	**141**	*e*PN	**Pn**	**11 32 41.1**	**-0.1**
VYHS				*e*SN	**Sn**	**11 33 02.1**	**+0.6**

*SOME **02** 11:44:27.6, 40°.87N×69°.77E, h10km*
*NNC **02** 11:44:28.7±3.6, 40°.86N×69°.74E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=25.6km s-min=14.5km az=26.0*
*KRNET **02** 11:44:28.3±0.1, 41°.13N×69°.63E, mb2.9*
ISC 02 11:44:31.0±2.3, 41°07'N±0'05×69°80E±0'08, h3km±15km, n13, σ1§78/21, 12C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.09**	**9**	*eP*	**Pb**	**11 44 53.0**	**+0.5**
	1μm,0.2s						
IUG				*eS*	**Sn**	**11 45 09.7**	**+0.9**
	191nm,0.4s						
TRKS	**Terek-Say**	**1.11**	**65**	⇑*i*P	**Pb**	**11 44 50.8**	**-2.1**
	baz=74						
TRKS				⇑*i*S	**Sb**	**11 45 07.1**	**-0.7**
	baz=74						
BTK	**Batken**	**1.27**	**142**	⇑*i*P	**Pn**	**11 44 54.0**	**-1.8**
	baz=39						
BTK				⇑*i*S	**Sg**	**11 45 13.1**	**+1.1**
	baz=39						
KK31	**Karatay Array**	**2.10**	**14**	⇑Pn	**Pb**	**11 45 09.0**	**-0.7**
	4.7nm,0.5s,baz=197,slow=15,SNR=54						
KK31				⇑Sn	**Sg**	**11 45 38.5**	**+0.1**
	7.1nm,0.4s,baz=199,slow=26,SNR=19						
MNAS	**Manas**	**2.47**	**54**	⇑*i*P	**Pn**	**11 45 11.9**	**-0.3**
	baz=57						
MNAS				⇑*i*S	**Sn**	**11 45 43.1**	**+0.2**
	baz=57						
MRKS	**Merke**	**3.05**	**56**	*e*P	**Pb**	**11 45 26.5**	**+0.5**
	3.9nm,0.3s						
MRKS				*e*S	**Sg**	**11 46 07.6**	**-1.5**
	7.2nm,0.5s						
MRKS	**Merke**	**3.05**	**56**	Pg	**Pb**	**11 45 26.5**	**+0.5**
	3.9nm,0.3s						
MRKS				Lg	Lg	11 46 07.6	
	7.2nm,0.5s						
AML	**Almayashu**	**3.10**	**69**	⇑*i*P	**Pn**	**11 45 20.6**	**-0.6**
	baz=70						
AML				⇑*i*S	**Sn**	**11 45 59.4**	**+0.4**
	baz=70						
AAK	**Ala-Archa**	**3.84**	**64**	⇑Pg	**Pb**	**11 45 40.4**	**+1.0**
	2.5nm,0.6s						
AAK				⇑Lg	Lg	11 46 36.8	
	3.8nm,0.6s						
SGDS	**Sogindy**	**4.30**	**55**	Pg	**Pb**	**11 45 48.3**	**+1.0**
	3.7nm,0.6s						
SGDS				Lg	Lg	11 46 45.3	
	4.4nm,0.6s						
TKM2	**Tokmak 2**	**4.70**	**65**	⇓Pg	**Pb**	**11 45 56.1**	**+2.0**
	4.2nm,1.2s						
TKM2				⇓Lg	Lg	11 47 01.5	
	4.7nm,0.7s						
KRBS	**Karabastau**	**5.08**	**57**	*e*P	**Pb**	**11 46 04.5**	**+4.0**
	0.8nm,0.2s						
KRBS				*e*S	**Sg**	**11 47 12.8**	**-1.3**
	3.5nm,0.4s						
KRBS	**Karabastau**	**5.08**	**57**	Pg	**Pb**	**11 46 04.5**	**+4.0**
KRBS				Lg	Lg	11 47 12.9	

IDC 02 11:56:18.9±4.4, 1°45N×97°64E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/41, mbtmp3.7/4, Error ellipse: s-maj=173.2km s-min=31.8km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.66**	**250**	T	T	12 28 49.7	
	baz=71,slow=76,SNR=565						
H08S3	**Diego Garcia H**	**26.66**	**250**	T	T	12 28 48.0	
	baz=71,slow=76,SNR=676						
H08S1	**Diego Garcia H**	**26.68**	**250**	T	T	12 28 51.4	
	baz=71,slow=76,SNR=602						
H01W3	**Cape Leeuwin H**	**39.31**	**158**	T	T	12 45 21.3	
	baz=333,slow=76,SNR=4.7						
H01W2	**Cape Leeuwin H**	**39.32**	**158**	T	T	12 45 22.5	
	baz=333,slow=76,SNR=4.9						
H01W1	**Cape Leeuwin H**	**39.33**	**158**	T	T	12 45 25.2	
	baz=333,slow=76,SNR=3.8						
WRA	**Warramunga Arr**	**41.80**	**122**	P	P	12 04 10.3	-0.3
	0.6nm,0.9s,baz=304,slow=6.9,SNR=2.1						
SONM	**Songino Array**	**46.82**	**8**	P	P	12 04 51.6	+1.0
	0.4nm,0.4s,baz=206,slow=8.6,SNR=2.3						
MKAR	**Makanchi Array**	**47.11**	**346**	P	P	12 04 52.6	-0.1
	0.4nm,0.5s,baz=155,slow=9.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**53.38**	**351**	P	P	12 05 39.2	-0.9
	0.8nm,0.4s,baz=145,slow=3.6,SNR=4.7						

*IDC **02** 12:07:32.5±3.3, 7°.95S×73°.70W, h148km±37km, mb3.2/6, mb1 3.5/11, mb1mx3.4/34, mbtmp3.7/11, Error ellipse: s-maj=54.2km s-min=13.5km az=42.0*
ISC 02 12:07:32.5±0.7, 8°00S±0'08×73°70W±0'09, h150km, n13, σ1§29/15, mb3.4/6, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.73**	**280**	P	**Pn**	**12 08 43.8**	**+0.9**
	7.2nm,0.3s,baz=100,slow=2.3,SNR=184						
ATAH				S	**Sn**	**12 09 36.4**	**-1.1**
	6.1nm,0.3s,baz=302,slow=15,SNR=8.8						
NNA	**Nana**	**5.03**	**218**	P	**Pn**	**12 08 48.1**	**+1.7**
	2.2nm,0.3s,baz=20,slow=4.3,SNR=1.9						
NNA				S	**Sn**	**12 09 41.2**	**-2.8**
	18nm,0.3s,baz=252,slow=17,SNR=17						
LPAZ	**La Paz**	**9.87**	**147**	P	**Pn**	**12 09 52.5**	**+1.0**
	0.4nm,0.3s,baz=330,slow=4.6,SNR=8.6						
SIV	**San Ignacio**	**14.68**	**124**	P	**Pn**	**12 10 51.9**	**-1.2**
	0.3nm,0.3s,baz=263,slow=18,SNR=3.1						
LVC	**Limon Verde**	**15.24**	**163**	P	**P**	**12 11 02.7**	**+0.9**
	0.4nm,0.3s,baz=8.4,slow=11,SNR=1.6						
CPUP	**Villa Florida**	**23.97**	**141**	P	**P**	**12 12 32.8**	**-0.4**
	0.6nm,0.3s,baz=322,slow=10,SNR=3.7						
TXAR	**Lajitas Array**	**47.02**	**323**	P	**P**	**12 15 49.9**	**+0.9**
	0.3nm,0.4s,baz=150,slow=8.8,SNR=9.5						
ULM	**Lac du Bonnet**	**61.13**	**344**	P	**P**	**12 17 30.1**	**-0.7**
	1.0nm,0.5s,baz=144,slow=8.7,SNR=2.1						
NVAR	**Mina Array Bea**	**62.08**	**321**	P	**P**	**12 17 38.5**	**+0.8**
	0.3nm,0.7s,baz=144,slow=7.8,SNR=2.7						
YKA	**Yellowknife Ar**	**76.99**	**342**	P	**P**	**12 19 08.2**	**-0.1**
	0.4nm,0.5s,baz=141,slow=6.4,SNR=9.0						
ILAR	**Eielson Array**	**90.12**	**336**	P	**P**	**12 20 15.0**	**-0.2**
	0.2nm,0.7s,baz=138,slow=4.2,SNR=2.2						
WRA	**Warramunga Arr**	**140.85**	**224**	PKP	**PKPdf**	**12 26 44.5**	**-1.1**
	0.3nm,0.4s,baz=140,slow=1.8,SNR=1.6						
KSRS	**Korea Array**	**144.73**	**329**	PKP	**PKPab**	**12 26 50.6**	**-0.5**
	0.6nm,0.5s,baz=32,slow=4.2,SNR=3.5						

*TAP **02** 12:08:08.1, 24°.96N×122°.40E, h17km, ML2.9, C*

*JMA **02** 12:08:08.3±0.1, 24°.89N×122°.43E, h15km±3km, M2.2*
ISC 02 12:08:08.0±1.0, 24°91N±0'02×122°43E±0'03, h16km±8km, n69, σ0§66/128, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**284**	*i*P	**Pg**	**12 08 16.5**	**+0.1**
	baz=275						
TWB1				*i*S	**Sg**	**12 08 22.0**	**-0.1**
	baz=275						
NTC	**Toucheng**	**0.55**	**264**	P	**Pb**	**12 08 19.2**	**0.0**
	baz=266						
NTC				*e*S	**Sb**	**12 08 26.9**	**+0.1**
	baz=266						
TIPB	**Shuangxi**	**0.55**	**276**	*i*P	**Pb**	**12 08 19.5**	**+0.2**
	baz=269						
TIPB				*i*S	**Sb**	**12 08 27.0**	**-0.1**
	baz=269						
TWC	**Suao**	**0.60**	**240**	*i*P	**Pg**	**12 08 19.9**	**-0.1**
	baz=217						
TWC				S	**Sg**	**12 08 28.0**	**0.0**
	baz=217						
NWF	**Wu-fen Shan**	**0.61**	**285**	*i*P	**Pb**	**12 08 20.5**	**+0.2**
	baz=280						
NWF				*i*S	**Sb**	**12 08 28.8**	**+0.1**
	baz=280						
WFSB	**Wu-fen Shan**	**0.61**	**285**	P	**Pb**	**12 08 20.5**	**+0.2**
	baz=280						
WFSB				S	**Sb**	**12 08 28.4**	**-0.2**
	baz=280						
TNOU	**National Taiwa**	**0.64**	**292**	P	**Pb**	**12 08 20.7**	**-0.1**
	baz=287						
TNOU				S	**Sb**	**12 08 29.6**	**+0.1**
	baz=287						
JYNG	**Yonagunijimaku**	**0.66**	**134**	P	**Pg**	**12 08 20.6**	**-0.4**
YOJ	**Yonaguni jima**	**0.69**	**130**	P	**Pg**	**12 08 21.9**	**+0.3**
	baz=132						
NDS	**Dongshan**	**0.70**	**247**	P	**Pb**	**12 08 22.2**	**+0.3**
	baz=233						
NDS				*i*S	**Sb**	**12 08 31.7**	**+0.4**
	baz=233						
TWE	**Neicheng**	**0.72**	**255**	*i*P	**Pg**	**12 08 22.0**	**0.0**
	baz=248						
TWE				S	**Sb**	**12 08 31.8**	**+0.1**
	baz=248						
EWUT	**Wuta**	**0.75**	**232**	P	**Pb**	**12 08 22.9**	**+0.2**
	baz=227						
EWUT				S	**Sb**	**12 08 33.2**	**+0.5**
	baz=227						
TWA	**Mucha**	**0.77**	**275**	*i*P	**Pb**	**12 08 23.4**	**+0.3**
	baz=270						
TWA				S	**Sb**	**12 08 33.4**	**+0.2**
	baz=270						
PCYT	**Pengchaiyu**	**0.78**	**336**	*i*P	**Pg**	**12 08 22.9**	**-0.5**
	baz=336						
PCYT				S	**Sb**	**12 08 34.4**	**+0.7**
	baz=336						
YM08	**YM08**	**0.81**	**290**	P	**Pb**	**12 08 23.3**	**-0.4**
	baz=286						
YM08				S	**Sg**	**12 08 35.0**	**+0.5**
	baz=286						
YM01	**YM01**	**0.81**	**287**	P	**Pg**	**12 08 23.8**	**-0.1**
	baz=282						
YM01				S	**Sg**	**12 08 34.6**	**0.0**
	baz=282						
NHDH	**Xindian Distri**	**0.82**	**274**	*i*P	**Pg**	**12 08 24.3**	**+0.3**
	baz=269						
NHDH				S	**Sg**	**12 08 35.3**	**+0.4**
	baz=269						
ENTT	**Nioudou**	**0.83**	**251**	*i*P	**Pb**	**12 08 24.0**	**0.0**
	baz=226						
ENTT				*i*S	**Sn**	**12 08 36.2**	**-0.7**
	baz=226						
NWLT	**Wulai**	**0.85**	**261**	*i*P	**Pb**	**12 08 24.5**	**0.0**
	baz=256						
NWLT				S	**Sn**	**12 08 36.8**	**-0.8**
	baz=256						
TATO	**Taipei**	**0.85**	**274**	P	**Pg**	**12 08 24.7**	**0.0**
	baz=256						
TATO				S	**Sn**	**12 08 36.9**	**-0.7**
	baz=256						
ANP	**Anpu**	**0.87**	**289**	*i*P	**Pb**	**12 08 24.4**	**-0.4**
	baz=272						
ANP				S	**Sg**	**12 08 36.5**	**+0.1**
	baz=272						
NDT	**Datong Townshi**	**0.89**	**250**	*i*P	**Pn**	**12 08 25.7**	**-0.1**
	baz=228						
NDT				S	**Sg**	**12 08 36.9**	**0.0**
	baz=228						
TWS1	**Kuangyinshan**	**0.94**	**282**	*i*P	**Pb**	**12 08 26.0**	**+0.1**
	baz=277						
TWS1				*e*S	**Sg**	**12 08 38.8**	**+0.4**
	baz=277						
YHNB	**Yeheng**	**0.98**	**256**	P	**Pb**	**12 08 26.5**	**-0.3**
	baz=264						
YHNB				S	**Sg**	**12 08 40.0**	**-0.1**
	baz=264						
NSK	**Sanguang**	**1.00**	**257**	*i*P	**Pb**	**12 08 26.8**	**-0.3**
	baz=265						
NSK				S	**Sb**	**12 08 39.8**	**-0.1**
	baz=265						
NACB	**Ninganchiao**	**1.05**	**226**	P	**Pb**	**12 08 28.1**	**+0.2**
	baz=222						
NACB				S	**Sg**	**12 08 42.3**	**0.0**
	baz=222						
NNSB	**Datong**	**1.06**	**243**	P	**Pb**	**12 08 28.0**	**-0.1**
	baz=225						
NNSB				S	**Sg**	**12 08 42.7**	**+0.1**
	baz=225						
NNSH	**Datong**	**1.06**	**243**	*i*P	**Pb**	**12 08 28.2**	**+0.1**
	baz=225						
NNSH				*i*S	**Sn**	**12 08 43.0**	**0.0**
	baz=225						
NNS	**Nan Shan**	**1.07**	**244**	*i*P	**Pb**	**12 08 28.3**	**+0.1**
	baz=226						
NNS				*i*S	**Sb**	**12 08 42.2**	**+0.3**
	baz=226						
ETLH	**Xiulin Townshi**	**1.11**	**231**	P	**Pb**	**12 08 29.1**	**+0.2**
	baz=227						
ETLH				S	**Sb**	**12 08 43.8**	**+0.6**
	baz=227						
TWD	**Chiawan**	**1.12**	**223**	*i*P	**Pn**	**12 08 29.6**	**+0.6**
	baz=228						
TWD				*i*S	**Sn**	**12 08 44.4**	**+0.3**
	baz=228						
FUSS	**Fushou**	**1.26**	**239**	*i*P	**Pn**	**12 08 31.3**	**+0.1**
	baz=234						
FUSS				*i*S	**Sn**	**12 08 48.2**	**+0.2**
	baz=234						
ETM	**Tongmen**	**1.27**	**222**	P	**Pb**	**12 08 32.3**	**+0.7**
	baz=201						
ETM				S	**Sg**	**12 08 50.0**	**+0.9**
	baz=201						
WHF	**Hehuan Shan**	**1.30**	**234**	*i*P	**Pg**	**12 08 33.2**	**-0.1**
	baz=230						
WHF				*i*S	**Sg**	**12 08 50.3**	**0.0**
	baz=230						
LIOB	**Emei**	**1.31**	**259**	*i*P	**Pn**	**12 08 31.9**	**+0.2**
	baz=254						
LIOB				*e*S	**Sg**	**12 08 51.4**	**+1.0**
	baz=254						
IRIF	**Iriomote-Funau**	**1.32**	**116**	P	**Pn**	**12 08 32.1**	**+0.3**
NSTT	**Nanjuang**	**1.33**	**258**	*i*P	**Pn**	**12 08 31.8**	**-0.1**
	baz=253						
NSTT				*e*S	**Sb**	**12 08 49.8**	**+0.5**
	baz=253						
TDCB	**Techi**	**1.33**	**241**	P	**Pn**	**12 08 32.3**	**+0.2**
	baz=236						
TDCB				S	**Sb**	**12 08 50.0**	**+0.5**
	baz=236						
ESL	**Shilin**	**1.42**	**220**	*i*P	**Pb**	**12 08 34.4**	**+0.3**
	baz=198						
ESL				*e*S	**Sg**	**12 08 53.5**	**-0.3**
	baz=198						
CHGB	**Renai**	**1.42**	**234**	P	**Pb**	**12 08 34.8**	**+0.5**
	baz=229						
CHGB				S	**Sg**	**12 08 53.8**	**-0.2**
	baz=229						
OWD	**Renai**	**1.49**	**230**	*i*P	**Pb**	**12 08 35.6**	**+0.3**
	baz=238						
OWD				*i*S	**Sg**	**12 08 56.2**	**+0.1**
	baz=238						
WHP	**Taichung City**	**1.49**	**245**	*i*P	**Pg**	**12 08 36.2**	**-0.5**
	baz=229						
WHP				*i*S	**Sg**	**12 08 55.5**	**-0.6**
	baz=229						
JKRS	**Kuro-shima**	**1.59**	**115**	P	**Pn**	**12 08 35.6**	**+0.1**
TWQ1	**Liyutan**	**1.61**	**250**	P	**Pb**	**12 08 37.4**	**+0.1**
	baz=261						
TWQ1				*e*S	**Sg**	**12 08 58.8**	**-1.0**
	baz=261						
WPL	**Puli Township**	**1.61**	**237**	P	**Pb**	**12 08 38.2**	**+0.8**
	baz=232						
WPL				S	**Sb**	**12 08 58.8**	**+1.3**
	baz=232						
WCS	**Beigang Elemen**	**1.62**	**239**	P	**Pg**	**12 08 38.6**	**-0.7**
	baz=234						
WCS				S	**Sb**	**12 08 58.6**	**+0.8**
	baz=234						
JIJ	**Ishigaki jima**	**1.65**	**109**	P	**Pn**	**12 08 36.6**	**+0.2**
HGSD	**Ruisui**	**1.68**	**213**	P	**Pb**	**12 08 38.7**	**+0.1**
	baz=196						
HGSD				*e*S	**Sb**	**12 09 00.8**	**+1.2**
	baz=196						
EHY	**Hungye**	**1.73**	**216**	P	**Pb**	**12 08 38.7**	**-0.6**
	baz=212						
EHY				*e*S	**Sb**	**12 09 01.6**	**+0.8**
	baz=212						
SMLT	**Sun Moon Lake**	**1.73**	**234**	P	**Pb**	**12 08 40.3**	**+0.8**
	baz=230						
SMLT				*e*S	**Sb**	**12 09 01.7**	**+0.7**
	baz=230						
JISG	**Ishigakijimahi**	**1.74**	**100**	P	**Pb**	**12 08 39.7**	**+0.1**
TYC	**Yuchr**	**1.75**	**235**	*i*P	**Pb**	**12 08 40.4**	**+0.7**
	baz=231						
TYC				*e*S	**Sb**	**12 09 03.1**	**+1.7**
	baz=231						
SSLB	**Suanglung**	**1.75**	**231**	P	**Pb**	**12 08 40.4**	**+0.6**
	baz=237						
SSLB				S	**Sb**	**12 09 02.1**	**+0.6**
	baz=237						
YULB	**Yu-li**	**1.83**	**215**	P	**Pn**	**12 08 39.6**	**+0.8**
	baz=211						
YULB				*e*S	**Sn**	**12 09 02.3**	**+0.6**
	baz=211						
TWF1	**Yuli**	**1.86**	**214**	*e*P	**Pb**	**12 08 41.2**	**-0.6**
	baz=210						
TWF1				*e*S	**Sn**	**12 09 03.7**	**+1.2**
	baz=210						
FULB	**Fuli**	**2.00**	**212**	P	**Pb**	**12 08 43.0**	**-1.0**
	baz=193						
ALS	**Alishan**	**2.03**	**227**	P	**Pb**	**12 08 44.0**	**-0.8**
	baz=207						
ALS				*e*S	**Sb**	**12 09 09.9**	**0.0**
	baz=207						
CHN5	**Tsauling**	**2.06**	**231**	P	**Pb**	**12 08 45.9**	**+0.7**
	baz=211						
CHN5				*e*S	**Sb**	**12 09 11.3**	**+0.7**
	baz=211						
ELDTW	**Lidau**	**2.15**	**217**	P	**Pn**	**12 08 45.0**	**+1.8**
	baz=201						
EDH	**Donghe**	**2.19**	**208**	*e*S	**Sn**	**12 09 10.1**	**-0.4**
	baz=193						
CHN4	**Tsaushan**	**2.28**	**228**	*i*P	**Pb**	**12 08 47.9**	**-1.0**
	baz=209						
CHN4				*e*S	**Sb**	**12 09 17.0**	**+0.1**
	baz=209						
TPUB	**Ta-pu**	**2.29**	**226**	*e*P	**Pb**	**12 08 48.0**	**-1.1**
	baz=208						
TPUB				*e*S	**Sb**	**12 09 16.2**	**-1.0**
	baz=208						
WTP	**Ta-pu**	**2.34**	**225**	*i*P	**Pb**	**12 08 48.9**	**-1.0**
	baz=208						
WTP				*e*S	**Sb**	**12 09 17.9**	**-0.7**
	baz=208						
TWK	**Hsinying**	**2.41**	**228**	P	**Pb**	**12 08 49.7**	**-1.4**
	baz=209						
TWK				S	**Sb**	**12 09 20.2**	**-0.4**
	baz=209						
CHN1	**Nanshi**	**2.44**	**226**	*e*P	**Pb**	**12 08 51.2**	**-0.4**
	baz=208						
CHN1				*e*S	**Sb**	**12 09 20.4**	**-1.1**
	baz=208						
SLGT	**Liugui**	**2.51**	**221**	*e*P	**Pb**	**12 08 51.7**	**-1.0**
	baz=218						
SLGT				*e*S	**Sb**	**12 09 21.6**	**-1.8**
	baz=218						
MATB	**Ma-tsu**	**2.56**	**299**	*e*P	**Pn**	**12 08 48.0**	**-0.9**
	baz=294						
MATB				*e*S	**Sn**	**12 09 19.6**	**0.0**
	baz=294						
MASBT	**Mashibuluo**	**2.82**	**216**	*e*P	**Pb**	**12 08 56.1**	**-1.9**
	baz=201						
MASBT				*e*S	**Sb**	**12 09 29.9**	**-2.3**
	baz=201						
XPSS	**Dashiqiu**	**2.85**	**315**	*e*P	**Pn**	**12 08 53.4**	**+0.6**
	baz=313						

*JMA **02** 12:27:50.1±0.1, 23°.72N×121°.69E, h37km±2km, M2.8*
*TAP **02** 12:27:50.7, 23°.72N×121°.66E, h37km, ML2.9, C*
ISC 02 12:27:50.8±0.9, 23°71N±0'02×121°70E±0'02, h33km±2km, n103, σ0§90/200, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.15**	**271**	P	**Pb**	**12 27 57.2**	**+0.4**
	baz=264						
TEGC				*i*S	**Sb**	**12 28 02.3**	**+1.3**
	baz=264						
TEYL	**Yanliau Villag**	**0.18**	**330**	P	**Pb**	**12 27 57.8**	**+0.6**
	baz=351						
TEYL				S	**Sb**	**12 28 03.5**	**+1.9**
	baz=351						
EGFH	**Guangfu**	**0.25**	**261**	*i*P	**Pn**	**12 27 58.1**	**+0.1**
	baz=267						
EGFH				*i*S	**Sn**	**12 28 02.5**	**+0.4**
	baz=267						
ESL	**Shilin**	**0.27**	**294**	*i*P	**Pn**	**12 27 57.9**	**-0.3**
	baz=285						
ESL				*i*S	**Sn**	**12 28 02.9**	**+0.2**
	baz=285						
HWA	**Hwalien**	**0.28**	**342**	P	**Pn**	**12 27 58.5**	**0.0**
	baz=357						
HWA				S	**Sb**	**12 28 04.5**	**+1.0**
	baz=357						
ETM	**Tongmen**	**0.32**	**324**	P	**Pb**	**12 27 58.6**	**-0.2**
	baz=318						
ETM				*i*S	**Sn**	**12 28 04.1**	**-0.2**
	baz=318						
HGSD	**Ruisui**	**0.33**	**230**	P	**Pb**	**12 27 59.2**	**+0.2**
	baz=219						
HGSD				S	**Sb**	**12 28 05.9**	**+1.5**
	baz=219						
TWD	**Chiawan**	**0.38**	**346**	*i*P	**Pb**	**12 27 59.2**	**-0.5**
	baz=1.0						
TWD				*i*S	**Sb**	**12 28 05.9**	**+0.2**
	baz=1.0						
EHY	**Hungye**	**0.40**	**240**	*i*P	**Pb**	**12 27 59.4**	**-0.5**
	baz=244						
EHY				*i*S	**Sb**	**12 28 05.6**	**-0.5**
	baz=244						
NACB	**Ninganchiao**	**0.47**	**348**	P	**Pb**	**12 28 00.3**	**-0.7**
	baz=358						
NACB				S	**Sb**	**12 28 07.7**	**-0.4**
	baz=358						
YULB	**Yu-li**	**0.48**	**230**	P	**Pb**	**12 28 00.6**	**-0.5**
	baz=235						
YULB				S	**Sb**	**12 28 07.6**	**-0.7**
	baz=235						
EYUL	**Yuli**	**0.50**	**224**	*i*P	**Pb**	**12 28 01.0**	**-0.4**
	baz=232						
EYUL				*e*S	**Sb**	**12 28 08.7**	**0.0**
	baz=232						
TWF1	**Yuli**	**0.51**	**226**	*i*P	**Pb**	**12 28 00.8**	**-0.7**
	baz=231						
TWF1				S	**Sb**	**12 28 08.6**	**-0.3**
	baz=231						
ETLH	**Xiulin Townshi**	**0.54**	**338**	P	**Pb**	**12 28 01.2**	**-0.8**
	baz=332						
ETLH				S	**Sb**	**12 28 08.5**	**-1.2**
	baz=332						
OWD	**Renai**	**0.54**	**297**	*i*P	**Pb**	**12 28 01.5**	**-0.6**
	baz=298						
OWD				*i*S	**Sb**	**12 28 08.9**	**-1.0**
	baz=298						
WHF	**Hehuan Shan**	**0.59**	**318**	*i*P	**Pn**	**12 28 02.0**	**-1.3**
	baz=313						
WHF				S	**Sb**	**12 28 10.1**	**-1.5**
	baz=313

	baz=224								
CHKT	**Chengkung**	**0.68**	**207**		P		**Pn**	12 28 03.4	-0.6
	baz=193								
CHKT				*i*	S		**Sn**	12 28 12.2	-1.3
	baz=193								
FUSS	**Fushou**	**0.68**	**322**	*i*	P		**Pn**	12 28 03.6	-0.7
	baz=318								
FUSS				*i*	S		**Sb**	12 28 12.8	-1.0
	baz=318								
SSLB	**Suanglung**	**0.69**	**277**		P		**Pn**	12 28 03.5	-0.8
	baz=276								
SSLB					S		**Sn**	12 28 13.5	-0.3
	baz=276								
YUS	**Yu-Shan**	**0.72**	**253**	*i*	P		**Pn**	12 28 04.7	-0.4
	baz=250								
YUS				*i*	S		**Sn**	12 28 14.3	-0.9
	baz=250								
TDCB	**Techi**	**0.73**	**318**		P		**Pn**	12 28 04.4	-0.6
	baz=316								
TDCB					S		**Sn**	12 28 14.0	-1.1
	baz=316								
EWUT	**Wuta**	**0.74**	**6**		P		**Pn**	12 28 04.6	-0.3
	baz=10.0								
EWUT					S		**Sn**	12 28 14.3	-0.7
	baz=10.0								
WPL	**Puli Township**	**0.74**	**294**		P		**Pn**	12 28 04.5	-0.5
	baz=299								
WPL					S		**Sn**	12 28 13.2	-2.0
	baz=299								
ECS	**Chishang**	**0.75**	**216**		P		**Pn**	12 28 04.6	-0.5
	baz=213								
ECS					S		**Sb**	12 28 16.9	+1.4
	baz=213								
SMLT	**Sun Moon Lake**	**0.75**	**284**	*i*	P		**Pn**	12 28 04.7	-0.5
	baz=288								
SMLT					S		**Sn**	12 28 15.0	-0.5
	baz=288								
NNSB	**Datong**	**0.77**	**338**		P		**Pn**	12 28 04.7	-0.8
	baz=341								
NNSB					S		**Sn**	12 28 14.4	-1.7
	baz=341								
NNSH	**Datong**	**0.77**	**338**	*i*	P		**Pn**	12 28 04.9	-0.6
	baz=341								
NNSH				*i*	S		**Sn**	12 28 14.2	-1.8
	baz=341								
WHYT	**Xinyi Township**	**0.78**	**269**		P		**Pn**	12 28 04.8	-0.6
	baz=262								
WHYT					S		**Sn**	12 28 15.8	-0.1
	baz=262								
DPDB	**Guoxing**	**0.78**	**295**		P		**Pn**	12 28 05.1	-0.4
	baz=300								
DPDB					eS		**Sn**	12 28 14.6	-1.5
	baz=300								
NNS	**Nan Shan**	**0.79**	**338**	*i*	P		**Pn**	12 28 04.9	-0.8
	baz=342								
NNS				*i*	S		**Sn**	12 28 15.1	-1.3
	baz=342								
TYC	**Yuchr**	**0.80**	**284**	*i*	P		**Pn**	12 28 05.4	-0.3
	baz=291								
TYC					S		**Sn**	12 28 16.3	-0.1
	baz=291								
WCS	**Beigang Elemen**	**0.80**	**296**		P		**Pn**	12 28 05.5	-0.3
	baz=299								
WCS					eS		**Sn**	12 28 15.2	-1.4
	baz=299								
ELDTW	**Lidau**	**0.81**	**231**	*i*	P		**Pn**	12 28 05.0	-1.1
	baz=227								
ELDTW					S		**Sn**	12 28 15.6	-1.3
	baz=227								
EDH	**Donghe**	**0.82**	**206**	*i*	P		**Pn**	12 28 05.0	-1.0
	baz=194								
EDH				*i*	S		**Sn**	12 28 15.8	-1.1
	baz=194								
ALS	**Alishan**	**0.84**	**257**	*i*	P		**Pn**	12 28 06.5	-0.1
	baz=262								
ALS				*i*	S		**Sn**	12 28 17.7	-0.3
	baz=262								
WHP	**Taichung City**	**0.89**	**310**	*i*	P		**Pn**	12 28 06.9	-0.2
	baz=309								
WHP				*i*	S		**Sn**	12 28 19.1	+0.1
	baz=309								
WJS	**Zhushan**	**0.90**	**277**	*i*	P		**Pn**	12 28 07.6	+0.5
	baz=277								
WJS					S		**Sn**	12 28 19.9	+0.9
	baz=277								
NDT	**Datong Townshi**	**0.91**	**349**	*i*	P		**Pn**	12 28 07.1	-0.2
	baz=344								
NDT					S		**Sn**	12 28 18.6	-0.6
	baz=344								
TWC	**Suao**	**0.91**	**9**		P		**Pn**	12 28 07.7	+0.5
	baz=13								
TWC				*i*	S		**Sn**	12 28 19.3	+0.2
	baz=13								
NDS	**Dongshan**	**0.92**	**1**		P		**Pn**	12 28 07.2	-0.3
	baz=354								
NDS					S		**Sn**	12 28 19.7	+0.2
	baz=354								
ENTT	**Nioudou**	**0.94**	**353**	*i*	P		**Pn**	12 28 07.1	-0.6
	baz=348								
ENTT					eS		**Sn**	12 28 19.9	0.0
	baz=348								
CHN5	**Tsauling**	**0.94**	**263**	*i*	P		**Pn**	12 28 08.8	+1.0
	baz=262								
CHN5				*i*	S		**Sn**	12 28 21.2	+1.0
	baz=262								
WNT	**Mingjian**	**0.94**	**281**	*i*	P		**Pn**	12 28 08.5	+0.8
	baz=280								
WNT				*i*	S		**Sn**	12 28 21.3	+1.2
	baz=280								
LONT	**Longtian**	**0.95**	**213**		P		**Pn**	12 28 07.0	-0.9
	baz=211								
LONT					S		**Sn**	12 28 19.5	-0.8
	baz=211								
WNT1	**Nantou City**	**0.95**	**282**		P		**Pb**	12 28 09.5	+0.7
	baz=282								
WNT1					eS		**Sb**	12 28 21.6	+0.4
	baz=282								
YHNB	**Yeheng**	**1.00**	**343**		P		**Pn**	12 28 08.4	-0.2
	baz=347								
YHNB					S		**Sn**	12 28 20.9	-0.7
	baz=347								
STYH	**Taoyuan**	**1.00**	**238**		P		**Pn**	12 28 08.8	+0.2
	baz=231								
STYH					S		**Sn**	12 28 21.3	-0.2
	baz=231								
TWE	**Neicheng**	**1.01**	**358**	*i*	P		**Pn**	12 28 08.3	-0.3
	baz=353								
TWE				*i*	S		**Sn**	12 28 21.9	+0.2
	baz=353								
NSK	**Sanguang**	**1.01**	**342**	*i*	P		**Pn**	12 28 08.6	-0.2
	baz=346								
NSK				*i*	S		**Sn**	12 28 21.3	-0.6
	baz=346								
STYT	**Tauyuan**	**1.02**	**238**	*i*	P		**Pn**	12 28 09.1	+0.2
	baz=236								
STYT				*i*	S		**Sn**	12 28 22.4	+0.3
	baz=236								
TCU	**Taichung**	**1.03**	**295**	*i*	P		**Pn**	12 28 10.0	+1.0
	baz=296								
TCU					S		**Sb**	12 28 23.8	+0.3
	baz=296								
WGK	**Gukeng**	**1.04**	**269**	*eP*			**Pn**	12 28 09.9	+0.8
	baz=268								
WGK					eS		**Sn**	12 28 23.8	+1.3
	baz=268								
LDUT	**Ludao**	**1.05**	**192**	*i*	P		**Pn**	12 28 07.6	-1.6
	baz=183								
LDUT					S		**Sn**	12 28 20.9	-1.8
	baz=183								
TWGBT	**Beinan**	**1.05**	**213**		P		**Pn**	12 28 08.1	-1.1
	baz=210								
TWGBT					S		**Sn**	12 28 21.4	-1.4
	baz=210								
TWG	**Pinlang**	**1.05**	**213**	*i*	P		**Pn**	12 28 08.0	-1.3
	baz=210								
TWG					S		**Sn**	12 28 20.7	-2.1
	baz=210								
TPUB	**Ta-pu**	**1.06**	**248**		P		**Pn**	12 28 09.9	+0.5
	baz=246								
TPUB					S		**Sn**	12 28 23.7	+0.6
	baz=246								
WDLH	**Douliu**	**1.06**	**269**	*i*	P		**Pn**	12 28 10.5	+1.2
	baz=268								
WDLH				*i*	S		**Sn**	12 28 24.3	+1.3
	baz=268								
CHN4	**Tsaushan**	**1.07**	**251**	*i*	P		**Pn**	12 28 11.0	+1.4
	baz=249								
CHN4				*i*	S		**Sb**	12 28 25.5	+0.9
	baz=249								
NWLT	**Wulai**	**1.08**	**350**	*i*	P		**Pn**	12 28 09.7	0.0
	baz=347								
NWLT				*i*	S		**Sn**	12 28 22.5	-1.0
	baz=347								
WTP	**Ta-pu**	**1.10**	**245**	*i*	P		**Pn**	12 28 10.8	+0.9
	baz=243								
WTP				*i*	S		**Sb**	12 28 25.9	+0.6
	baz=243								
WCHH	**Zhanghua**	**1.11**	**290**	*i*	S		**Sb**	12 28 27.6	+2.0
	baz=289								
NSY	**Sanyi**	**1.11**	**310**	*i*	P		**Pn**	12 28 10.9	+0.9
	baz=311								
NSY					S		**Sb**	12 28 26.9	+1.2
	baz=311								
NSTT	**Nanjuang**	**1.12**	**325**	*i*	P		**Pn**	12 28 10.9	+0.7
	baz=328								
NSTT				*i*	S		**Sn**	12 28 25.2	+0.8
	baz=328								
LIOB	**Emei**	**1.12**	**326**		P		**Pn**	12 28 11.1	+0.8
	baz=329								
LIOB				*i*	S		**Sn**	12 28 25.6	+1.0
	baz=329								
NTC	**Toucheng**	**1.15**	**6**		P		**Pn**	12 28 11.5	+0.9
	baz=19								
NTC					S		**Sn**	12 28 25.7	+0.6
	baz=19								
EGS		**1.15**	**11**	*eP*			**Pn**	12 28 11.4	+0.9
	baz=14								
WDJ	**Dajia District**	**1.16**	**304**		P		**Pn**	12 28 11.1	+0.4
	baz=305								
WDJ					eS		**Sb**	12 28 27.5	+0.5
	baz=305								
NMLH	**Miaoli**	**1.17**	**315**		P		**Pn**	12 28 10.5	-0.4
	baz=317								
NMLH					eS		**Sb**	12 28 27.3	-0.1
	baz=317								
CHY	**Chiayi**	**1.19**	**260**	*eP*			**Pb**	12 28 13.5	+0.7
	baz=259								
CHY					S		**Sn**	12 28 27.5	+1.4
	baz=259								
CHN1	**Nanshi**	**1.20**	**244**	*i*	P		**Pn**	12 28 12.0	+0.8
	baz=243								
CHN1				*i*	S		**Sn**	12 28 27.6	+1.3
	baz=243								
TWK	**Hsinying**	**1.20**	**249**	*i*	P		**Pn**	12 28 11.9	+0.7
	baz=247								
TWK				*i*	S		**Sb**	12 28 28.4	+0.2
	baz=247								
SGST	**Jiashian**	**1.20**	**239**	*i*	P		**Pn**	12 28 11.8	+0.6
	baz=237								
SGST				*i*	S		**Sb**	12 28 28.3	+0.1
	baz=237								
SLGT	**Liugui**	**1.20**	**234**	*i*	P		**Pn**	12 28 11.7	+0.4
	baz=232								
SLGT				*i*	S		**Sb**	12 28 28.4	+0.1
	baz=232								
WTK	**Tuku**	**1.20**	**269**		P		**Pn**	12 28 12.8	+1.5
	baz=268								
WTK					S		**Sn**	12 28 28.2	+1.8
	baz=268								
SNST	**Tainan City**	**1.21**	**246**	*i*	P		**Pn**	12 28 12.9	+1.6
	baz=245								
SNST				*i*	S		**Sn**	12 28 28.2	+1.7
	baz=245								
TIPB	**Shuangxi**	**1.26**	**5**	*i*	P		**Pn**	12 28 12.6	+0.5
	baz=359								
TIPB				*i*	S		**Sn**	12 28 28.8	+0.7
	baz=359								
ECL	**Taimali**	**1.30**	**212**	*eP*			**Pn**	12 28 12.2	-0.5
	baz=210								
ECL					eS		**Sn**	12 28 27.4	-1.5
	baz=210								
JYNG	**Yonagunijimaku**	**1.36**	**57**		P		**Pn**	12 28 13.7	+0.3
JYNG					eS		**Sn**	12 28 30.9	+0.6
WFSB	**Wu-fen Shan**	**1.36**	**3**		P		**Pn**	12 28 14.8	+1.4
	baz=356								
WFSB					eS		**Sn**	12 28 29.4	-0.9
	baz=356								
SSD	**Sandimen**	**1.37**	**226**	*i*	P		**Pn**	12 28 14.9	+1.3
	baz=224								
SSD				*i*	S		**Sb**	12 28 33.0	-0.1
	baz=224								
SCST	**Cishan**	**1.38**	**234**		P		**Pn**	12 28 15.4	+1.7
	baz=245								
SCST					S		**Sb**	12 28 35.5	+2.2
	baz=245								
TSMG	**Majia**	**1.39**	**224**		P		**Pn**	12 28 15.3	+1.4
	baz=223								
TSMG					S		**Sb**	12 28 34.0	+0.3
	baz=223								
CHN8	**Yiju**	**1.41**	**256**	*eS*			**Sn**	12 28 32.7	+1.1
	baz=254								
YOJ	**Yonaguni jima**	**1.41**	**58**		P		**Pn**	12 28 14.6	+0.4
	baz=57								
YOJ					S		**Sn**	12 28 33.0	+1.3
	baz=57								
YM01	**YM01**	**1.44**	**355**	*eP*			**Pn**	12 28 14.8	+0.3
	baz=1.0								
YM01					eS		**Sn**	12 28 32.9	+0.6
	baz=1.0								
MASBT	**Mashibuluo**	**1.47**	**222**		P		**Pn**	12 28 15.1	+0.1
	baz=221								
MASBT					S		**Sb**	12 28 35.7	-0.1
	baz=221								
EAST	**Anshuo**	**1.53**	**211**	*i*	P		**Pn**	12 28 17.0	+1.1
	baz=202								
SSPT	**Xinbi**	**1.60**	**221**	*eP*			**Pb**	12 28 19.2	-0.5
	baz=209								
SSPT					eS		**Sb**	12 28 39.6	-0.1
	baz=209								
SCZT	**Fangliau**	**1.66**	**217**	*i*	P		**Pn**	12 28 17.8	+0.3
	baz=215								
SCZT					S		**Sb**	12 28 41.1	-0.2
	baz=215								
SLIU	**Shizi**	**1.70**	**209**		P		**Pn**	12 28 18.9	+0.8
	baz=200								
SLIU					eS		**Sn**	12 28 39.6	+0.8
	baz=200								
WDGT	**Dungji**	**1.92**	**257**	*i*	P		**Pn**	12 28 21.2	0.0
	baz=256								
WDGT					S		**Sn**	12 28 42.9	-1.4
	baz=256								
TWKBT	**Hengchun**	**1.94**	**205**	*eS*			**Sn**	12 28 44.7	+0.1
	baz=204								
HATJ	**Hateruma jima**	**1.96**	**79**	*eS*			**Sn**	12 28 45.5	+0.4
IRIF	**Iriomote-Funau**	**1.96**	**71**	P			**Pn**	12 28 22.1	+0.4
IRIF				*eS*			**Sn**	12 28 45.3	+0.2
PNG	**Penghu**	**1.97**	**266**	P			**Pn**	12 28 22.0	+0.2
	baz=253								
PNG					S		**Sn**	12 28 45.1	-0.3
	baz=253								
VCHM	**Qimei**	**2.14**	**257**	*eP*			**Pn**	12 28 24.4	+0.2
	baz=256								
VCHM					eS		**Sn**	12 28 48.5	-1.2
	baz=256								
JKRS	**Kuro-shima**	**2.18**	**76**		P		**Pn**	12 28 25.5	+0.8
JKRS					eS		**Sn**	12 28 51.2	+0.7
JIJ	**Ishigaki jima**	**2.33**	**73**		P		**Pn**	12 28 27.0	+0.2
JIJ					S		**Sn**	12 28 53.6	-0.6
VWUC	**VWUC**	**2.42**	**302**	*eP*			**Pn**	12 28 27.6	-0.4
	baz=302								
VWUC					eS		**Sn**	12 28 54.4	-2.0
	baz=302								
JISG	**Ishigakijimahi**	**2.54**	**69**		P		**Pn**	12 28 29.9	+0.2
JISG					S		**Sn**	12 28 58.6	-0.9
PTMZ	**Houxiangcun**	**2.70**	**300**	*eP*			**Pn**	12 28 31.6	-0.3
	baz=299								
PTMZ					eS		**Sn**	12 29 01.3	-2.1
	baz=299								

NIED ***02*** *12:47:39.4, 32˚.47N×138˚.08E, h360km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.22; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-0.00; $M_{r\theta}$-0.76; $M_{\theta\phi}$-0.16; $M_{\phi r}$-1.42; Fault plane solution: $M_0$1.61000×10^{15} NP1: ϕ_s28.00000°, δ89.00000°, λ-90.00000°. NP2:ϕ_d219.00000°, δ1.00000°, λ-79.00000°.*

JMA ***02*** *12:47:39.3±0.3, 32˚.47N×138˚.08E, h360km±3km, M4.0*

MOS ***02*** *12:47:39.6±0.8, 32˚.46N×138˚.03E, h349km, mb4.1/23, Error ellipse: s-maj=11.0km s-min=5.5km az=115.2*

IDC ***02*** *12:47:39.8±0.6, 32˚.43N×137˚.95E, h336km±6km, mb3.6/27, mb1 3.6/32, mb1mx3.5/66, mbtmp4.3/32, Error ellipse: s-maj=12.1km s-min=8.6km az=67.0*

NEIC ***02*** *12:47:40.8±1.2, 32˚.47N±0˚.08×138˚.07E±0˚.10, h347km±7km, mb4.0/36, Error ellipse: s-maj=12.5km s-min=11.0km az=62.0*

ISC 02 12:47:40.1±0.6, 32˚.39N±0˚.05×138˚.08E±0˚.05, h344km±5km, n165,σ1°1°14/181, mb4.0/55, 22C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JAOM	**Aogashimamukai**	**1.43**	**87**	||P	**Pn**	**12 48 28.4**	**+1.1**
JAOM					S	**S**	**12 49 06.5**	**+1.4**
TK02	**Tokai 2**	**1.58**	**350**		P	**Pn**	**12 48 28.9**	**+1.2**
TK02				*e*	S	**S**	**12 49 07.5**	**+1.5**
TTO3	**TONANKAI O.B.S**	**1.58**	**339**	↑↑	P	**Pn**	**12 48 29.0**	**+1.2**
TTO3				*e*	S	**S**	**12 49 07.3**	**+1.1**
JHCJ	**Hachijojimakas**	**1.60**	**64**		P	**Pn**	**12 48 28.9**	**+0.7**
TTO2	**TONANKAI O.B.S**	**1.61**	**327**	↑↑	P	**Pn**	**12 48 29.3**	**+1.5**
JHJ	**Hachijo jima 2**	**1.61**	**63**		P	**Pn**	**12 48 29.4**	**+1.2**
	43nm,0.3s,baz=338,slow=21,SNR=38							
JHJ					S	**S**	**12 49 05.6**	**-1.3**
	56nm,0.3s,baz=230,slow=20,SNR=5.6							
JHJ2	**Mitsune**	**1.63**	**63**		P	**Pn**	**12 48 29.4**	**+1.0**
JHJ2	**Mitsune**	**1.63**	**63**			**Pn**	**12 48 29.3**	**+0.9**
TTO1	**TONANKAI O.B.S**	**1.64**	**319**	↑↑	P	**Pn**	**12 48 29.3**	**+1.3**
JSG	**Sagara**	**2.28**	**2**			**Pn**	**12 48 34.1**	**+1.3**
JIE	**Ise**	**2.30**	**331**	↑↑	P	**Pn**	**12 48 33.7**	**+0.7**
JIE					S	**S**	**12 49 15.2**	**-0.4**
JTNC	**Tanabenakahech**	**2.51**	**305**	↑↑	P	**Pn**	**12 48 35.0**	**+0.3**
JWY	**Kouya**	**2.77**	**312**	↑↑	P	**Pn**	**12 48 37.7**	**+0.8**
JFNN	**Fujinakano**	**2.84**	**10**		P	**Pn**	**12 48 38.2**	**+0.7**
JOD2	**Odawara 2**	**2.99**	**16**		P	**Pn**	**12 48 38.8**	**0.0**
INU	**Inuyama**	**3.08**	**344**			**Pn**	**12 48 40.1**	**+0.5**
JYN	**Shimob**	**3.13**	**7**		P	**Pn**	**12 48 40.5**	**+0.4**
JGF	**Kuroka**	**3.26**	**350**			**Pn**	**12 48 41.5**	**+0.1**
BSO1	**Boso 1**	**3.31**	**46**		P	**Pn**	**12 48 39.7**	**-1.5**
BSO1					S	**S**	**12 49 27.2**	**-3.3**
JAI	**Aioi**	**3.35**	**296**		P	**Pn**	**12 48 42.5**	**+0.3**
JYTA	**Yamagatataniai**	**3.39**	**341**	↑↑	P	**Pn**	**12 48 42.8**	**+0.3**
JWT	**Wachi**	**3.65**	**323**	↑↑	P	**Pn**	**12 48 45.4**	**+0.3**
JWT					S	**S**	**12 49 36.7**	**-0.7**
JWT	**Wachi**	**3.65**	**323**			**Pn**	**12 48 45.4**	**+0.3**
JRY	**Ryogami san**	**3.68**	**10**	↑↑	P	**Pn**	**12 48 45.4**	**-0.1**
JRY					S	**S**	**12 49 36.5**	**-1.7**
JMN	**Monobe**	**3.77**	**292**		P	**Pn**	**12 48 46.9**	**+0.5**
JMN	**Monobe**	**3.77**	**292**			**Pn**	**12 48 46.7**	**+0.3**
MJAR	**Matsushiro Arr**	**4.14**	**1**		P	**Pn**	**12 48 49.5**	**-0.6**
	1.8nm,0.3s,baz=175,slow=11,SNR=94							
MJAR					S	**S**	**12 49 46.5**	**-0.2**
	0.5nm,0.3s,baz=133,slow=17,SNR=5.0							
MAJO	**Matsushiro**	**4.15**	**1**		P	**Pn**	**12 48 49.8**	**-0.4**
MAJO	**Matsushiro**	**4.15**	**1**			**Pn**	**12 48 49.8**	**-0.4**
MAT	**Matsushiro**	**4.15**	**1**		P	**Pn**	**12 48 49.6**	**-0.6**
MAT					S	**S**	**12 49 43.4**	**-3.3**
MJB9	**Matsu-Tunnel**	**4.15**	**1**			**Pn**	**12 48 49.7**	**-0.5**
JYT	**Yasato**	**4.21**	**24**			**Pn**	**12 48 49.1**	**-1.7**
JTO	**Tosashimizu**	**4.48**	**277**		P	**Pn**	**12 48 54.0**	**+0.3**
JHS	**Saijyo**	**4.89**	**304**		P	**Pn**	**12 48 58.1**	**-0.1**
JHS	**Saijyo**	**4.89**	**304**			**Pn**	**12 48 58.0**	**-0.1**
JOI	**OKI**	**5.58**	**316**		P	**Pn**	**12 49 05.5**	**-0.3**
JSD	**Sado**	**5.64**	**1**		Pn	**Pn**	**12 49 05.3**	**-1.2**
JMM	**Marumori**	**5.90**	**21**		Pn	**Pn**	**12 49 08.2**	**-1.2**
JNU	**Nakatsue**	**6.11**	**279**		Pn	**Pn**	**12 49 12.0**	**0.0**
JCJ	**Chichijima**	**6.37**	**145**		P	**Pn**	**12 49 11.7**	**-3.4**
	15nm,0.3s,baz=12,slow=19,SNR=27							
JCJ					S	**S**	**12 50 26.2**	**-5.9**
	80nm,0.3s,baz=289,slow=22,SNR=22							
JCJ	**Chichijima**	**6.37**	**145**		Pn	**Pn**	**12 49 13.7**	**-1.4**
JTU	**Tsushima**	**7.56**	**289**		Pn	**Pn**	**12 49 29.5**	**+0.7**
JTM	**Tenmabayashi**	**8.72**	**15**		Pn	**Pn**	**12 49 41.6**	**-0.9**
TJN	**Taejon**	**9.71**	**297**	*ce*	P	**P**	**12 49 55.4**	**-1.0**
KSRS	**Korea Array**	**9.75**	**304**		P	**Pn**	**12 49 55.3**	**+0.4**
	0.5nm,0.3s,baz=119,slow=12,SNR=39							
KSRS					S	**S**	**12 51 42.7**	**-2.6**
	0.2nm,0.3s,baz=116,slow=33,SNR=2.0							
KSAR	**Wonju Array Be**	**9.77**	**304**		P	**P**	**12 49 55.2**	**0.0**
KSAR	**Wonju Array Be**	**9.77**	**304**			**Pn**	**12 49 55.1**	**0.0**
KS19	**Wonju Array Si**	**9.81**	**304**		P	**Pn**	**12 49 56.0**	**+0.3**
ERM	**Erimo**	**10.43**	**21**	↑	*eP*	**Pn**	**12 50 01.7**	**-1.2**
INCN	**Inchon**	**10.68**	**302**		P	**P**	**12 50 06.7**	**-0.5**
INCN	**Inchon**	**10.68**	**302**			**P**	**12 50 06.7**	**-0.5**
ASAJ	**Asahikawa**	**12.23**	**16**		P	**P**	**12 50 23.6**	**-0.7**
	1.0nm,0.3s,baz=210,slow=14,SNR=12							
ASAJ					S	**S**	**12 52 37.8**	**-2.3**
	0.4nm,0.3s,baz=314,slow=31,SNR=2.2							
JKA	**Kamikawa-asahi**	**12.23**	**16**		P	**P**	**12 50 23.6**	**-0.7**
USA0B	**Ussuriysk Arra**	**12.72**	**340**	*c*	*iP*	**P**	**12 50 29.8**	**+0.1**
USA0B	**Ussuriysk Arra**	**12.72**	**340**		P	**P**	**12 50 29.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**12.72**	**340**		P	**P**	**12 50 29.7**	**0.0**
	baz=163,slow=11,SNR=34							
USRK	**Ussuriysk Ar.**	**12.72**	**340**		P	**P**	**12 50 28.8**	**-0.9**
MDJ	**Mudanjiang**	**13.89**	**334**		P	**P**	**12 50 42.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**14.98**	**12**	‖	*eP**	**P**	**12 50 55.4**	**+0.9**
YSS					pmax	pmax		
	comp=Z,18nm,0.5s							
YSS	**Yuzh-Sakhalins**	**14.98**	**12**		P	**Pn**	**12 50 57.8**	**+1.1**
KLR	**Kul'dur**	**17.48**	**346**		P	**P**	**12 51 20.1**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=150,slow=8.7,SNR=13							
KLR	**Kul'dur**	**17.48**	**346**	‖	*eP*	**P**	**12 51 20.4**	**-1.1**
ZEA	**Zeya**	**22.71**	**343**		*eP*	**P**	**12 52 12.7**	**-0.1**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.6s							
ULN	**Ulaanbaatar**	**28.08**	**312**	*c*	*iP*	**P**	**12 53 01.0**	**-0.1**
ULN					pmax	pmax		
	comp=Z,13nm,1.7s							
ULN	**Ulaanbaatar**	**28.08**	**312**		P	**P**	**12 52 59.0**	**-2.1**
ULN					IAmb	IAmb	12 53 02.5	
	comp=Z,6.4nm,0.8s							
SONM	**Songino Array**	**28.48**	**312**		P	**P**	**12 53 05.0**	**+0.4**
	comp=Z,5.9nm,0.9s,baz=115,slow=8.6,SNR=13							
SONM	**Songino Array**	**28.48**	**312**		P	**P**	**12 53 05.0**	**+0.4**
SONM	**Songino Array**	**28.48**	**312**		IAmb	IAmb	12 53 10.2	
	comp=Z,5.8nm,1.0s							
ZAK	**Zakamensk**	**31.32**	**315**	*eP*		**P**	**12 53 29.5**	**+0.1**

PRZ	**Przheval'sk**	**47.57**	**300**	P	**P**	**12 55 43.2 +0.8**
KDJ	**Kajisay**	**48.52**	**300**	P	**P**	**12 55 48.9 -0.6**
KDJ				pmax	pmax	
	comp=Z,4.0nm,0.8s					
KDJ	**Kajisay**	**48.52**	**300**	P	**P**	**12 55 48.9 -0.6**
BOOM	**Boomskoye usch**	**49.37**	**300**	P	**P**	**12 55 55.4 -0.5**
BOOM				pmax	pmax	
	comp=Z,4.0nm,1.0s					
BOOM	**Boomskoye usch**	**49.37**	**300**	P	**P**	**12 55 55.4 -0.5**
ARSB	**Arslanbob**	**51.76**	**300**	P	**P**	**12 56 13.6 0.0**
ARSB				pmax	pmax	
	comp=Z,13nm,1.4s					
ARSB	**Arslanbob**	**51.76**	**300**	P	**P**	**12 56 13.6 0.0**
ARSB				IAmb	IAmb	12 56 14.8
	comp=Z,13nm,1.4s					
BVAR	**Borovoye Array**	**51.77**	**315**	P	**P**	**12 56 12.0 -1.3**
	comp=Z,3.4nm,0.6s,baz=135,slow=17,SNR=18					
BVAR				PcP	**PcP**	**12 57 20.6 -0.5**
	comp=Z,1.1nm,0.7s,baz=163,slow=11,SNR=3.8					
BRVK	**Borovoye**	**51.83**	**315** *de*	P	**P**	**12 56 13.3 -0.4**
BRVK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
BRVK	**Borovoye**	**51.83**	**315**	P	**P**	**12 56 13.3 -0.4**
BRVK				IAmb	IAmb	12 56 14.3
	comp=Z,6.1nm,0.8s					
WB0	**Warramunga Arr**	**51.98**	**184**	P	**P**	**12 56 15.2 +0.1**
WB0				IAmb	IAmb	12 56 43.7
	comp=Z,13nm,1.5s					
IMAR	**Indian Mountai**	**52.04**	**29**	P	**P**	**12 56 16.7 +1.7**
WB2	**Warramunga Arr**	**52.16**	**184**	P	**P**	**12 56 17.3 +0.8**
WB2				IAmb	IAmb	12 56 41.4
	comp=Z,10nm,1.2s					
WRA	**Warramunga Arr**	**52.16**	**184**	P	**P**	**12 56 16.8 +0.3**
	comp=Z,0.8nm,0.5s,baz=1,1,slow=7.8,SNR=23					
WR0	**Warramunga Arr**	**52.16**	**184**	P	**P**	**12 56 17.2 +0.7**
KDAK	**Kodiak Island**	**52.41**	**39**	P	**P**	**12 56 18.7 +0.9**
	comp=Z,10nm,1.1s,baz=322,slow=2.8,SNR=14					
KDAK	**Kodiak Island**	**52.41**	**39**	P	**P**	**12 56 18.9 +1.1**
KDAK				pmax	pmax	
	comp=Z,12nm,1.2s					
KDAK	**Kodiak Island**	**52.41**	**39**	P	**P**	**12 56 18.9 +1.1**
KDAK				IAmb	IAmb	12 56 20.5
	comp=Z,12nm,1.2s					
PPLA	**Purkeypile**	**52.55**	**33**	P	**P**	**12 56 20.6 +1.6**
PPLA				IAmb	IAmb	12 56 42.8
	comp=Z,9.6nm,1.4s					
CNPM	**China Poot**	**53.04**	**37**	P	**P**	**12 56 20.5 -2.0**
KK31	**Karatay Array**	**53.17**	**302**	P	**P**	**12 56 23.5 -0.2**
KK31				pmax	pmax	
	comp=Z,9.0nm,0.8s					
KK31	**Karatay Array**	**53.17**	**302**	P	**P**	**12 56 23.5 -0.2**
KK31				IAmb	IAmb	12 56 24.4
	comp=Z,8.8nm,0.8s					
KKAR	**Karatay Array**	**53.17**	**302**	P	**P**	**12 56 23.4 -0.3**
KKAR				pmax	pmax	
	comp=Z,9.0nm,0.8s					
KKAR	**Karatay Array**	**53.17**	**302**	P	**P**	**12 56 23.4 -0.3**
KKAR				IAmb	IAmb	12 56 24.4
	comp=Z,8.8nm,0.8s					
NIL	**Nilore**	**53.54**	**290**	P	**P**	**12 56 26.4 -0.1**
NIL				pmax	pmax	
	comp=Z,16nm,0.7s					
NIL	**Nilore**	**53.54**	**290**	P	**P**	**12 56 26.4 -0.1**
GAR	**Garm**	**54.29**	**297**	P	**P**	**12 56 32.2 +0.2**
GAR				IAmb	IAmb	12 56 32.6
	comp=Z,14nm,0.8s					
MDM	**Murphy Dome**	**54.30**	**30**	P	**P**	**12 56 33.5 +2.1**
ILAR	**Eielson Array**	**54.88**	**30**	P	**P**	**12 56 35.5 0.0**
	comp=Z,0.2nm,0.4s,baz=252,slow=6.3,SNR=5.3					
ILAR	**Eielson Array**	**54.88**	**30**	P	**P**	**12 56 35.2 -0.3**
CHGR	**Chuyangaron**	**55.26**	**297**	P	**P**	**12 56 38.8 +0.1**
ASAR	**Alice Springs**	**55.88**	**185**	P	**P**	**12 56 44.0 +0.9**
	comp=Z,0.8nm,0.7s,baz=12,slow=13,SNR=15					
ASAR	**Alice Springs**	**55.88**	**185**	P	**P**	**12 56 44.0 +0.9**
KBL	**Kabul**	**56.58**	**293**	P	**P**	**12 56 48.3 0.0**
KBL				pmax	pmax	
	comp=Z,5.0nm,0.7s					
KBL	**Kabul**	**56.58**	**293**	P	**P**	**12 56 48.3 0.0**
KBL				IAmb	IAmb	12 56 48.7
	comp=Z,5.3nm,0.7s					
ARU	**Arti**	**58.08**	**320**	P	**P**	**12 56 57.8 -0.2**
	comp=Z,2.7nm,0.6s,baz=67,slow=4.8,SNR=10					
ARU	**Arti**	**58.08**	**320** *c*	*i* P	**P**	**12 56 57.6 -0.4**
ARU				S	**S**	**13 04 33.7 +2.7**
ARU				SS	**SS**	**13 08 23.5 -4.7**
ARU				pmax	pmax	
	comp=Z,7.0nm,0.6s					
ARU	**Arti**	**58.08**	**320**	P	**P**	**12 56 56.7 -1.3**
ABKAR	**Akbulak array**	**58.89**	**312**	P	**P**	**12 57 03.4 -0.2**
COCO	**West Island**	**59.33**	**229** *ce*	P	**P**	**12 57 03.4 -3.6**
INK	**Inuvik**	**59.76**	**25**	P	**P**	**12 57 10.2 +1.1**
	comp=Z,0.4nm,0.4s,baz=238,slow=5.3,SNR=4.5					
AKTO	**Aktyubinsk**	**59.79**	**313**	P	**P**	**12 57 09.2 -0.6**
	comp=Z,8.7nm,0.8s,baz=78,slow=6.5,SNR=22					
KIRV	**Kirov**	**62.32**	**324**	*eP*	**P**	**12 57 26.2 -0.2**
C36M	**Paulatuk**	**62.78**	**23**	P	**P**	**12 57 28.2 -1.0**
C36M				IAmb	IAmb	12 57 31.3
	comp=Z,3.1nm,0.8s					
STKA	**Stephens Creek**	**64.00**	**177**	P	**P**	**12 57 38.7 +1.0**
	comp=Z,1.9nm,0.7s,baz=322,slow=7.3,SNR=5.4					
STKA	**Stephens Creek**	**64.00**	**177**	P	**P**	**12 57 39.0 +1.3**
STKA				pmax	pmax	
	comp=Z,1.0nm,1.1s					
STKA	**Stephens Creek**	**64.00**	**177**	P	**P**	**12 57 39.0 +1.3**
BELG	**Belogornoye**	**65.34**	**318**	P	**P**	**12 57 45.7 -0.3**
	comp=Z,12nm,0.8s,baz=121,slow=14,SNR=3.8					
ARCES	**ARCESS Array B**	**67.37**	**339**	P	**P**	**12 57 58.4 -0.1**
	comp=Z,2.0nm,0.5s,baz=72,slow=9.1,SNR=4.4					
YKA	**Yellowknife Ar**	**69.19**	**28**	P	**P**	**12 58 10.5 +0.6**
	comp=Z,0.2nm,0.5s,baz=304,slow=5.9,SNR=5.4					
DAG	**Danmarks Havn**	**70.14**	**354**	*i* P	**P**	**12 58 15.9 +0.5**
DAG				IAmb	IAmb	12 58 16.7
	comp=Z,2.2nm,0.8s					
DAG	**Danmarks Havn**	**70.14**	**354**	*i* P	**P**	**12 58 15.8 +0.5**
DAG				pmax	pmax	
	comp=Z,2.0nm,0.8s					
NEEM	**North Greenlan**	**70.28**	**2**	*i* P	**P**	**12 58 17.1 +0.5**
NEEM				IAmb	IAmb	12 58 18.0
	comp=Z,4.1nm,0.6s					
FINES	**FINESS Array B**	**71.63**	**332**	P	**P**	**12 58 24.2 -0.2**
	comp=Z,3.1nm,0.6s,baz=57,slow=5.3,SNR=8.6					
KIV	**Kislovodsk**	**71.86**	**311**	*eP*	**P**	**12 58 26.9 +0.6**
KIV				pmax	pmax	
	comp=Z,35nm,1.0s					
VSU	**Vasula**	**73.04**	**329**	*ieP*	**P**	**12 58 32.1 -0.7**
VSU				pmax	pmax	
	comp=Z,20nm,1.0s					
SUMG	**Summit**	**75.29**	**359**	IAmb	IAmb	12 58 48.3
	comp=Z,3.5nm,0.8s					
SUMG	**Summit**	**75.29**	**359**	*i* P	**P**	**12 58 47.0 +1.1**
SUMG				pmax	pmax	
	comp=Z,4.0nm,0.8s					
SUMG	**Summit**	**75.29**	**359**	*i* P	**P**	**12 58 47.0 +1.1**
AKASG	**Malin Array Be**	**76.26**	**322**	P	**P**	**12 58 50.9 -0.4**
	comp=Z,2.9nm,0.5s,baz=50,slow=5.9,SNR=15					
AKASG	**Malin Array Be**	**76.26**	**322**	IAmb	IAmb	12 58 51.6
	comp=Z,1.5nm,0.7s					
AKBB	**Malin Array Si**	**76.26**	**322** *ce*	P	**P**	**12 58 51.1 -0.2**
HFS	**Hagfors**	**77.15**	**335**	P	**P**	**12 58 56.1 +0.1**
	comp=Z,5.5nm,0.7s,baz=69,slow=8.1,SNR=6.1					
NOA	**NORSAR Array B**	**77.37**	**336**	P	**P**	**12 58 56.9 -0.4**
	comp=Z,1.8nm,0.6s,baz=44,slow=5.3,SNR=4.7					
RAYN	**Ar Rayn**	**79.82**	**291**	P	**P**	**12 59 11.5 +0.2**
RAYN				pmax	pmax	
	comp=Z,5.0nm,0.8s					
RAYN	**Ar Rayn**	**79.82**	**291**	P	**P**	**12 59 11.5 +0.2**
BR131	**Keskin Array S**	**79.83**	**311**	P	**P**	**12 59 11.8 +0.6**
BR131				pmax	pmax	
	comp=Z,5.0nm,0.8s					
BR131	**Keskin Array S**	**79.83**	**311**	P	**P**	**12 59 11.8 +0.6**
BRTR	**Keskin Array B**	**79.83**	**311**	P	**P**	**12 59 11.7 +0.6**
	comp=Z,3.1nm,0.8s,baz=126,slow=4.9,SNR=14					
BRTR	**Keskin Array B**	**79.83**	**311**	*i* P	**P**	**12 59 11.6 +0.5**
BRTR				pmax	pmax	
	comp=Z,4.0nm,0.8s					
BRTR	**Keskin Array B**	**79.83**	**311**	P	**P**	**12 59 11.3 +0.2**
NVAR	**Mina Array Bea**	**80.01**	**51**	P	**P**	**12 59 14.5 +2.2**
	comp=Z,0.1nm,0.4s,baz=308,slow=4.4,SNR=2.2					
ULM	**Lac du Bonnet**	**84.89**	**31**	P	**P**	**12 59 37.4 +0.7**
	comp=Z,0.7nm,0.4s,baz=297,slow=14,SNR=1.6					
DAVOX	**Davos/Dischmat**	**88.41**	**327**	P	**P**	**12 59 54.3 +0.4**
	comp=Z,1.8nm,0.4s,baz=51,slow=6.4,SNR=4.8					
TXAR	**Lajitas Array**	**95.16**	**51**	P	**P**	**13 00 27.4 +2.2**
	comp=Z,0.1nm,0.6s,baz=330,slow=3.1,SNR=2.5					
PB15	**IPOC Station P**	**154.03**	**76**		**PKPdf**	**13 06 51.5 0.0**

NAO ***02*** *12:54:03.6±0.9, 67.08N×21.07E, ML2.6*
HEL ***02*** *12:54:04.2, 67.19N×20.57E, h1km, ML2.2, Confirmed Induced event*
DNK ***02*** *12:54:04.1±0.8, 67.18N×20.63E, h0km, ML2.8(UPP), Suspected explosion*
HEL ***02*** *12:54:04.7±0.1, 67.20N×20.67E, h1km, ML2.2, ML2.8(UPP), Confirmed Induced event*
IDC ***02*** *12:54:04.4±1.1, 67.17N×20.88E, h0km, mb1 3.0/4, mb1mx2.9/50, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=20.0km s-min=8.8km az=113.0*
BER ***02*** *12:54:06.1±3.3, 67.04N×21.16E, h1km, ML2.1, Confirmed Induced event*

ISC 02 12:54:02.3±0.7, 67.11N±0.02×20.59E±0.02, h0km, n52, σ1ş22/73, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.65**	**57**	P	**Pg**	**12 54 15.2**	**+0.4**
MASU				S	**Sg**	**12 54 23.8**	**+0.6**
MASU	**Masugnsbyn**	**0.65**	**57**	*i* P	**Pg**	**12 54 15.2**	**+0.4**
MASU				*i* S	**Sg**	**12 54 23.8**	**+0.6**
RATU	**Laukkuluspa**	**0.82**	**332**	P	**Pg**	**12 54 18.0**	**0.0**
RATU	**Laukkuluspa**	**0.82**	**332**	*i* P	**Pg**	**12 54 18.0**	**0.0**
SALU	**Saltoluokta**	**0.86**	**290**	P	**Pb**	**12 54 20.3**	**+0.2**
SALU	**Saltoluokta**	**0.86**	**290**	*i* P	**Pb**	**12 54 20.3**	**+0.2**
KUA	**Kurravaara**	**0.86**	**354**	*i* P	**Pg**	**12 54 18.3**	**-0.5**
NIKU	**Nikkaluokta**	**0.97**	**323**	P	**Pg**	**12 54 21.1**	**+0.2**
NIKU	**Nikkaluokta**	**0.97**	**323**	*eP*	**Pg**	**12 54 21.1**	**+0.2**
PAJU	**Pajala**	**0.99**	**94**	P	**Pb**	**12 54 21.8**	**-0.6**
PAJU	**Pajala**	**0.99**	**94**	*eP*	**Pb**	**12 54 21.8**	**-0.6**
LANU	**Lannavaara**	**1.09**	**29**	P	**Pg**	**12 54 22.4**	**-0.8**
LANU	**Lannavaara**	**1.09**	**29**	*eP*	**Pg**	**12 54 22.4**	**-0.8**
KOVU	**Salmi**	**1.13**	**352**	P	**Pg**	**12 54 23.3**	**-0.8**
KOVU	**Salmi**	**1.13**	**352**	*eP*	**Pg**	**12 54 23.3**	**-0.8**
KLF	**Kolari**	**1.32**	**83**	*eP*	**Pg**	**12 54 27.5**	**-0.1**
KLF				*eS*	**Sg**	**12 54 44.8**	**0.0**
KALU	**Kalix**	**1.67**	**137**	P	**Pg**	**12 54 34.8**	**+0.5**
KALU	**Kalix**	**1.67**	**137**	*eP*	**Pg**	**12 54 34.8**	**+0.5**
HEF	**Hetta**	**1.75**	**40**	Pn	**Pn**	**12 54 34.1**	**+0.1**
HEF				Sn	**Sn**	**12 54 56.0**	**-1.0**
HEF	**Hetta**	**1.75**	**40**	Pn	**Pn**	**12 54 34.1**	**+0.1**
HEF				Sn	**Sn**	**12 54 56.0**	**-1.0**
HEF	**Hetta**	**1.75**	**40**	*eP*	**Pn**	**12 54 34.0**	**+0.1**
HEF				*eSN*	**Sn**	**12 54 56.2**	**-0.8**
HEF				MSG		12 55 00.9	
	comp=Z,15nm,0.2s						
TOF	**Tornio**	**1.81**	**123**	*eP*	**Pg**	**12 54 37.0**	**0.0**
TOF				*eSG*	**Sg**	**12 55 01.6**	**+1.1**
KIF	**Kilpisjarvi**	**1.91**	**2**	Pn	**Pb**	**12 54 37.3**	**-0.7**
KIF				Sn	**Sg**	**12 55 03.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.91**	**2**	Pn	**Pb**	**12 54 37.3**	**-0.7**
KIF				Sn	**Sg**	**12 55 03.4**	**-0.1**
KIF	**Kilpisjarvi**	**1.91**	**2**	*eP*	**Pb**	**12 54 37.3**	**-0.7**
KTK1	**Kautokeino**	**2.16**	**26**	Pn	**Pb**	**12 54 41.2**	**-1.0**
KTK1				Sn	**Sb**	**12 55 08.6**	**-0.8**
KTK1	**Kautokeino**	**2.16**	**26**	*eP*	**Pb**	**12 54 41.2**	**-1.0**
KTK1				*eS*	**Sb**	**12 55 08.8**	**-0.6**
KTK1				IAML		12 55 09.6	
	comp=Z,34nm,0.3s						
RNF	**Rovaniemi**	**2.20**	**101**	*ePB*	**Pb**	**12 54 42.9**	**-0.1**
RNF				*eSG*	**Sg**	**12 55 11.9**	**-1.0**
STEI	**Steigen**	**2.22**	**294**	*eP*	**Pb**	**12 54 43.1**	**-0.1**
STEI				*eS*	**Sg**	**12 55 13.4**	**0.0**
STEI				IAML		12 55 14.5	
	comp=Z,17nm,0.4s						
SGF	**Sodankyl**	**2.33**	**79**	*ePB*	**Pb**	**12 54 44.4**	**-0.7**
SGF				*eSG*	**Sb**	**12 55 14.4**	**0.0**
JETT	**Jettan, Norway**	**2.46**	**359**	*eP*	**Pb**	**12 54 47.0**	**-0.4**
JETT				*eS*	**Sb**	**12 55 17.5**	**-0.8**
MOR8	**Moi Rana**	**2.62**	**252**	*eP*	**Pb**	**12 54 48.8**	**-1.3**
MOR8				*eS*	**Sb**	**12 55 21.4**	**-1.4**
MOR8				IAML		12 55 24.4	
	comp=Z,20nm,0.4s						
OBF4	**Vikkela, Lumij**	**2.95**	**139**	MSG		12 55 46.7	
	comp=Z,5.0nm,0.3s						
OBF0	**Syolatti, Pyha**	**3.02**	**148**	MSG		12 55 50.2	
	comp=Z,7.6nm,0.3s						
ARA0	**ARCESS Array S**	**3.05**	**35**	Pn	**Pn**	**12 54 52.3**	**+0.6**
	baz=216,slow=14						
ARA0				Sn	**Sn**	**12 55 28.6**	**-0.2**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.05**	**35**	Pn	**Pn**	**12 54 52.3**	**+0.6**
	baz=216,slow=14						
ARA0				Sn	**Sn**	**12 55 28.6**	**-0.2**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.05**	**35**	*eP*	**Pn**	**12 54 52.9**	**+1.2**
ARA0				*eS*	**Sn**	**12 55 28.8**	**-0.1**
ARCES	**ARCESS Array B**	**3.05**	**35**	Pn	**Pn**	**12 54 52.6**	**+0.9**
	baz=213,slow=13,SNR=36						
ARCES				Sn	**Sn**	**12 55 28.3**	**-0.5**
	baz=218,slow=23,SNR=3.7						
OUF	**Merijarvi**	**3.24**	**146**	MSG		12 55 57.6	
	comp=Z,3.6nm,0.3s						
VRF	**Varrio**	**3.54**	**75**	MSG		12 55 59.2	
	comp=Z,7.0nm,0.3s						
KEV	**Kevo**	**3.56**	**39**	MSG		12 55 57.7	
	comp=Z,7.9nm,0.3s						
APA0	**Apatity Array**	**4.82**	**78**	Sn	**Sn**	**12 56 11.1**	**-1.4**
	baz=244,slow=28						
APA0				Lg	Lg	12 56 28.1	
	baz=282,slow=22						
APA0	**Apatity Array**	**4.82**	**78**	Sg	**Sb**	**12 56 28.1**	**+2.2**
	baz=282,slow=22						
FIA0	**FINESS Array S**	**6.16**	**155**	Pn	**Pn**	**12 55 34.3**	**-0.1**
FIA0				Sn	**Sn**	**12 56 44.9**	**-0.7**
	baz=350,slow=28						
FIA0				Lg	Lg	12 57 14.8	
	baz=356,slow=22						
FIA0	**FINESS Array S**	**6.16**	**155**	Pn	**Pn**	**12 55 34.3**	**-0.1**
FIA0				Sg	**Sg**	**12 57 14.8**	**-5.3**
	baz=356,slow=22						
FINES	**FINESS Array B**	**6.16**	**155**	Pn	**Pn**	**12 55 37.1**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=353,slow=14,SNR=5.7						
FINES				Sn	**Sn**	**12 56 47.7**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=346,slow=23,SNR=6.2						
FINES				Lg	Lg	12 57 14.8	
	comp=Z,0.3nm,0.3s,baz=354,slow=24,SNR=3.4						
NB2	**NORSAR Subarra**	**7.34**	**218**	Pn	**Pn**	**12 55 53.8**	**+3.2**
NB2				Sn	**Sn**	**12 57 13.9**	**-0.6**
NB2				Lg	Lg	12 57 53.2	
	baz=51,slow=37						
NB2	**NORSAR Subarra**	**7.34**	**218**	Pn	**Pn**	**12 55 53.8**	**+3.2**
NB2				Sn	**Sn**	**12 57 13.9**	**-0.6**
NOA	**NORSAR Array B**	**7.34**	**218**	Pn	**Pn**	**12 55 53.8**	**+3.2**
	comp=Z,0.0nm,0.3s,baz=14,slow=13,SNR=1.9						
NOA				Lg	Lg	12 57 54.0	
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=4.4						
HFS	**Hagfors**	**7.64**	**207**	Pn	**Pn**	**12 55 55.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=15,slow=12,SNR=1.6						
HFS				Sn	**Sn**	**12 57 21.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=9.5,slow=19,SNR=4.6						
HFS	**Hagfors**	**7.64**	**207**	Pn	**Pn**	**12 55 55.6**	**+0.9**
	baz=27,slow=14						
HFS	**Hagfors**	**7.64**	**207**	Pn	**Pn**	**12 55 55.6**	**+0.9**
	baz=27,slow=14						

NEIC ***02*** *12:54:46.7±1.2, 16.75E±0.1×175.46W±0.08, h347km±7km, mb4.2/17, Error ellipse: s-maj=15.9km s-min=9.4km az=153.0*
IDC ***02*** *12:54:46.1±1.8, 16.69S×175.50W, h340km±16km, mb3.5/7, mb1 3.7/9, mb1mx3.3/38, mbtmp4.2/9, Error ellipse: s-maj=58.4km s-min=14.1km az=143.0*

ISC 02 12:54:46.5±0.6, 16.6S±0.1×175.43W±0.08, h350km, n35, σ1ş18/35, mb4.0/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.42**	**53**	P	**Pn**	**12 55 59.1**	**-0.9**
	28nm,0.3s,baz=193,slow=1.8,SNR=42						
AFI				S	**S**	**12 56 55.9**	**-3.4**
	6.7nm,0.3s,baz=90,slow=23,SNR=3.8						
AFI	**Afiamalu**	**4.42**	**53**	P	**Pn**	**12 55 58.8**	**-1.2**
NIUE	**Niue**	**5.79**	**116**	Pn	**Pn**	**12 56 15.9**	**+0.9**
MSVF	**Nonsavu**	**6.34**	**259**	P	**Pn**	**12 56 21.6**	**+0.3**
	3.6nm,0.3s,baz=201,slow=22,SNR=18						
MSVF	**Nonsavu**	**6.34**	**259**		**Pn**	**12 56 21.9**	**+0.6**
FUNA	**Funafuti**	**9.58**	**326**	Pn	**Pn**	**12 56 59.7**	**+0.1**
MARNC	**Mare, Loyalty**	**16.38**	**250**	P	**P**	**12 58 15.8**	**-0.3**
LIFNC	**LIFOU**	**16.94**	**253**	P	**P**	**12 58 20.2**	**-2.0**
LIFNC				IAmb	IAmb	12 58 42.5	
	comp=Z,23nm,1.0s						
PINNC	**Pines Island,**	**17.20**	**247**	P	**P**	**12 58 25.5**	**+0.4**
DZM	**Mont Dzumac**	**17.95**	**249**	P	**P**	**12 58 32.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=131,slow=21,SNR=1.8						
DZM	**Mont Dzumac**	**17.95**	**249**	P	**P**	**12 58 32.4**	**-0.8**
DZM				IAmb	IAmb	12 58 38.7	
	comp=Z,15nm,1.2s						
ARMA	**Armidale**	**33.06**	**239**	P	**P**	**13 00 49.7**	**-1.0**
ARMA				IAmb	IAmb	13 01 03.2	
	comp=Z,24nm,1.2s						
STKA	**Stephens Creek**	**41.76**	**241**	P	**P**	**13 02 02.4**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=56,slow=4.3,SNR=5.7						
STKA	**Stephens Creek**	**41.76**	**241**	P	**P**	**13 02 02.1**	**-0.8**
BBOO	**Buckleboo**	**46.53**	**240**	P	**P**	**13 02 40.5**	**+0.2**
BBOO				IAmb	IAmb	13 02 44.9	
	comp=Z,26nm,1.4s						
WR0	**Warramunga Arr**	**47.49**	**258**	P	**P**	**13 02 47.8**	**-0.2**
WR0				IAmb	IAmb	13 03 06.5	
	comp=Z,7.3nm,1.3s						
WB0	**Warramunga Arr**	**47.65**	**258**	P	**P**	**13 02 48.8**	**-0.3**
WB0				IAmb	IAmb	13 02 54.7	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**47.67**	**258**	P	**P**	**13 02 48.5**	**-0.8**
WRAB				IAmb	IAmb	13 02 51.9	
	comp=Z,5.2nm,0.6s						
WRA	**Warramunga Arr**	**47.68**	**258**	P	**P**	**13 02 48.0**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=91,slow=7.6,SNR=27						
WRA	**Warramunga Arr**	**47.68**	**258**	IAmb	IAmb	13 02 49.1	
	comp=Z,0.1nm,0.7s						
AS31	**Alice Springs**	**47.89**	**253**	P	**P**	**13 02 50.3**	**-0.7**
ASAR	**Alice Springs**	**47.89**	**253**	P	**P**	**13 02 50.3**	**-0.7**
	comp=Z,6.9nm,0.5s,baz=89,slow=7.8,SNR=229						
ASAR	**Alice Springs**	**47.89**	**253**	P	**P**	**13 02 50.1**	**-0.9**
TNTI	**Ternate**	**58.97**	**281**	P	**P**	**13 04 10.8**	**0.0**
SDPT	**Sand Point**	**72.77**	**9**	P	**P**	**13 05 37.9**	**+0.8**
PETK	**Petropavlovsk-**	**73.19**	**343**	P	**P**	**13 05 40.4**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=106,slow=8.6,SNR=5.0						
QSPA	**South Pole Qui**	**73.45**	**180**	P	**P**	**13 05 39.7**	**-1.6**
NVAR	**Mina Array Bea**	**76.52**	**43**	P	**P**	**13 06 01.2**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=229,slow=8.8,SNR=2.4						
NVAR	**Mina Array Bea**	**76.52**	**43**	P	**P**	**13 06 00.9**	**+1.8**
SEY	**Seymchan**	**83.18**	**346**	P	**P**	**13 06 34.1**	**+0.4**
	comp=Z,8.1nm,1.2s,baz=142,slow=12,SNR=7.2						
CCB	**Clear Creek Bu**	**83.71**	**12**	P	**P**	**13 06 37.4**	**+1.1**
CCB				IAmb	IAmb	13 06 37.8	
	comp=Z,2.7nm,0.6s						
TCOL	**CIGO, UAF Yank**	**83.90**	**11**	P	**P**	**13 06 38.9**	**+1.6**
COLA	**College**	**83.90**	**11**	P	**P**	**13 06 38.2**	**+1.0**
COLA				IAmb	IAmb	13 06 39.3	
	comp=Z,4.6nm,0.7s						
ILAR	**Eielson Array**	**84.00**	**12**	P	**P**	**13 06 38.6**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=214,slow=5.9,SNR=14						
BRTR	**Keskin Array B**	**145.80**	**318**	PKPbc	**PKPab**	**13 13 46.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=64,slow=2.9,SNR=5.4						

IDC ***02*** *12:55:33.0±1.7, 52.10N×172.03W, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.4/57, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=60.0km s-min=28.0km az=136.0*
AEIC ***02*** *12:55:42.3±1.6, 52.26N±0.06×172.19W±0.07, h68km±7km, Error ellipse: s-maj=10.6km s-min=1.5km az=143.0*
NEIC ***02*** *12:55:42.9±1.6, 52.2N±0.1×172.20W±0.04, h73km±8km, mb3.5/8, ML3.3/30(AEIC), Error ellipse: s-maj=17.5km s-min=3.2km az=172.0*

ISC 02 12:55:42.7±1.1, 52.2N±0.2×172.21W±0.06, h79km±12km, n53, σ1ş05/52, mb3.5/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.14**	**277**		**Pn**	**12 56 03.3**	**-0.2**
KOSE					**Sn**	**12 56 19.3**	**+0.3**
KOFP	**Korovin Flat P**	**1.16**	**273**		**Pn**	**12 56 03.3**	**-0.5**
KOFP					**Sn**	**12 56 20.0**	**+0.5**
ATKA	**Atka Island**	**1.22**	**270**		**Pn**	**12 56 03.9**	**-0.5**
ATKA					**Sn**	**12 56 20.5**	**-0.2**
KOKL	**Mount Kliuchef**	**1.23**	**275**		**Pn**	**12 56 04.4**	**-0.1**
KOKL					**Sn**	**12 56 20.8**	**-0.2**
KOWE	**Korovin West**	**1.26**	**277**		**Pn**	**12 56 04.7**	**-0.3**
NIKH	**Nikolski High**	**2.18**	**69**		**Pn**	**12 56 16.1**	**-0.8**
GSTR	**Great Sitkin T**	**2.38**	**268**	Pn	**Pn**	**12 56 19.5**	**-0.1**
**

BURU	**Burvik**	**1.09**	**308**	*eP*	Pg	13 01 31.3	-1.6
BURU				*eS*	Sg	13 01 45.6	-1.4
UMAU	**Umeaa**	**1.19**	**269**	P	Pg	13 01 33.0	-1.7
UMAU				S	Sg	13 01 48.9	-1.1
UMAU	**Umeaa**	**1.19**	**269**	*eP*	Pg	13 01 33.0	-1.7
UMAU				*eS*	Sg	13 01 48.9	-1.1
ODEU	**Stanfors**	**1.26**	**294**	P	Pg	13 01 34.2	-1.8
ODEU	**Stanfors**	**1.26**	**294**	*eP*	Pg	13 01 34.2	-1.8
OUL	**Oulu**	**1.60**	**42**	*eSN*	Sn	13 02 02.7	-0.2
SVAU	**Svanoeiden**	**1.75**	**291**	P	Pn	13 01 43.1	-0.5
SVAU	**Svanoeiden**	**1.75**	**291**	*eP*	Pn	13 01 43.1	-0.5
SJUU	**Sjulsmark**	**1.76**	**336**	P	Pn	13 01 43.4	-0.3
SJUU	**Sjulsmark**	**1.76**	**336**	*eP*	Pn	13 01 43.4	-0.3
TOF	**Tornio**	**2.21**	**10**	*eSG*	Sb	13 02 19.6	-0.9
FIA0	**FINESS Array S**	**2.79**	**152**	*eSB*	Sn	13 02 33.6	+1.6
OLKF	**Oulanka, Finla**	**3.51**	**44**	*eP*	Pn	13 02 09.6	+1.9
ARBE	**Arbavere**	**4.67**	**163**	*eSB*	Sb	13 03 30.3	-1.1

BER 02 13:01:37.7±2.3, 60.69N×5.49E, h0km, ML1.6,1C, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASK	**Askoy**	**0.26**	**215**	↑*iP*	Pg	13 01 42.1	-0.4
ASK				*eS*	Sg	13 01 46.6	+0.8
ASK				IAML		13 01 47.8	
	comp=Z,80nm,0.3s						
BER	**Bergen**	**0.32**	**194**	*eP*	Pg	13 01 43.3	-0.5
BER				*eS*	Sg	13 01 47.6	-0.3
BER				IAML		13 01 49.5	
	comp=Z,31nm,0.4s						
SUE	**Sulen**	**0.51**	**316**	*eP*	Pg	13 01 46.4	-1.1
SUE				*eS*	Sg	13 01 53.6	-0.5
SUE				IAML		13 01 54.5	
	comp=Z,27nm,0.6s						
HYA	**Hoyanger**	**0.58**	**35**	*eP*	Pg	13 01 47.1	-1.8
HYA				*eS*	Sg	13 01 54.7	-1.8
HYA				IAML		13 02 04.2	
	comp=Z,21nm,0.7s						
FOO	**Floro**	**0.93**	**347**	*eP*	Pg	13 01 53.8	-1.8
FOO				*eS*	Sg	13 02 06.4	-1.3
ODD1	**Odda**	**0.97**	**144**	*eP*	Pg	13 01 55.0	-1.1
ODD1				*eS*	Sg	13 02 07.2	-1.5
ODD1				IAML		13 02 11.8	
	comp=Z,37nm,0.3s						
BLS5	**Blasjo**	**1.36**	**159**	*eP*	Pg	13 02 01.6	-2.1
BLS5				*eS*	Sg	13 02 20.3	-1.1
BLS5				IAML		13 02 22.3	
	comp=Z,19nm,0.4s						
SKAR	**Skarslia**	**1.39**	**89**	*eP*	Pg	13 02 01.5	-2.7
SKAR				*eS*	Sg	13 02 19.6	-2.6
SKAR				IAML		13 02 22.8	
	comp=Z,31nm,0.3s						
AKN	**Aaknes**	**1.66**	**25**	*eP*	Pn	13 02 06.3	-1.8
AKN				*eS*	Sn	13 02 28.0	-2.0
AKN				IAML		13 02 30.6	
	comp=Z,30nm,0.6s						
DOMB	**Dombas**	**2.19**	**50**	*eP*	Pn	13 02 15.3	0.0
DOMB				*eS*	Sn	13 02 43.9	+0.7

ROM 02 13:09:48.6±0.4, 43.43N±0.02×12.43E±0.04, h11km±1km, Md0.7/3, ML0.5/1, Error ellipse: s-maj=3.9km s-min=1.1km az=297.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.03**	**312**	P	Pg	13 09 51.0	+0.3
ATPI				S	Sg	13 09 52.1	-0.1
ATPI				END			
ATVO	**AVT- Monte Val**	**0.05**	**199**	P	Pg	13 09 51.4	+0.6
ATVO				S	Sg	13 09 52.8	+0.4
ATVO				END			
PIEI	**Pieia**	**0.13**	**36**	P	Pg	13 09 52.5	+0.7
PIEI				S	Sg	13 09 54.9	+0.8
PIEI				AML	AML		
	comp=N,22μm,0.4s						
PIEI				AML	AML		
	comp=E,38μm,0.5s						
PIEI				AML	AML		
	comp=N,21μm,0.4s						
ARVD	**Arcevia**	**0.38**	**80**	P	Pg	13 09 56.2	0.0

*ANF **02** 13:20:29.0±0.2, 35.86N×117.69W, h3km±3km, ML3.4/21, Error ellipse: s-maj=2.1km s-min=2.0km az=37.0, Hypocentre not reviewed by the ISC*
*SCEDC **02** 13:20:29.2, 35.86N×117.69W, h4km, Hypocentre not reviewed by the ISC*
*PAS **02** 13:20:29.2±1.5, 35.86N±0.01×117.69W±0.01, h4km±3km, ML3.5/88, ML3.0/68(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=202.0*
NEIC 02 13:20:29.3±1.4, 35.87N±0.01×117.69W±0.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.6km az=212.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**224**		Pg	13 20 31.4	+0.1
TOW					Sg	13 20 33.8	+1.1
WCSM	**Coso Springs S**	**0.17**	**338**		Pg	13 20 32.8	+0.1
WNMM	**Nine Mile Cany**	**0.18**	**261**		Pg	13 20 32.9	+0.1
WNMM					Sg	13 20 35.9	+0.7
SRTC	**Snort**	**0.18**	**195**		Pg	13 20 33.1	+0.1
SRTC					Sg	13 20 36.9	+1.4
WRVM	**Rose V. Centra**	**0.21**	**310**		Pg	13 20 33.6	+0.1
WCHM	**Chimney Peak**	**0.31**	**272**		Pg	13 20 35.2	-0.3
WSHM	**Spangler Hills**	**0.31**	**149**		Pg	13 20 35.1	-0.3
LRMC	**Laurel Mtn Rad**	**0.39**	**179**		Pg	13 20 36.6	-0.3
LRMC	**Laurel Mtn Rad**	**0.39**	**179**	P		13 20 36.4	
	baz=360						
LRMC				S		13 20 41.9	
	baz=360						
CCCA	**Chr Cany lake**	**0.43**	**142**		Pg	13 20 38.0	+0.3
CCCA					Sg	13 20 44.7	+1.3
WORM	**Onyx Ranch**	**0.48**	**249**		Pg	13 20 38.3	-0.3
WBSM	**Bird Springs**	**0.49**	**228**		Pg	13 20 38.6	-0.2
WBSM					Sg	13 20 45.7	+0.4
WHFM	**Hanning Flat**	**0.56**	**252**		Pg	13 20 39.9	-0.2
WLHM	**Little Horse**	**0.58**	**299**		Pg	13 20 40.1	-0.3
WLHM					Sg	13 20 48.3	+0.2
DTP	**Desert Tortois**	**0.61**	**192**		Pg	13 20 40.6	-0.5
DTP					Sg	13 20 49.2	+0.1
CWC	**Cottonwood Cre**	**0.65**	**331**		Pg	13 20 42.0	+0.2
CWC	**Cottonwood Cre**	**0.65**	**331**	P		13 20 41.7	
	baz=151						
CWC				S		13 20 50.9	
	baz=151						
ISA	**Isabella, Lake**	**0.67**	**252**		Pg	13 20 41.8	-0.4
ISA				IAML		13 20 51.8	
	comp=N,1μm,0.3s						
ISA				IAML		13 20 53.1	
	comp=E,795nm,0.3s						
ISA	**Isabella, Lake**	**0.67**	**252**	P		13 20 41.9	
	baz=72						
ISA				S		13 20 51.1	
	baz=72						
QSM	**Queen of Sheba**	**0.67**	**82**		Pg	13 20 41.8	-0.4
CGO	**Cerro Gordo**	**0.69**	**352**		Pg	13 20 42.2	-0.3
WASM	**Alta Sierra Ca**	**0.72**	**260**		Pg	13 20 42.8	-0.3
WASM					Sg	13 20 53.3	+0.9
CCAC	**Calif City Air**	**0.76**	**200**		Pg	13 20 43.6	-0.4
CCAC					Sg	13 20 54.3	+0.5
MCA	**Marble Canyon**	**0.84**	**23**		Pg	13 20 44.9	-0.6
FURC	**Furnace Creek,**	**0.90**	**48**	P		13 20 46.8	
	baz=228						
FURC				S		13 20 59.0	
	baz=228						
WOFM	**Oak Flat**	**0.90**	**248**		Pg	13 20 46.0	-0.5
SPG2	**Springville 2**	**0.93**	**291**		Pg	13 20 46.4	-0.7
EDW2	**Edwards Air Fo**	**1.02**	**194**		Pg	13 20 47.9	-0.9
EDW2					Sg	13 21 01.1	-0.9
EDW2	**Edwards Air Fo**	**1.02**	**194**	P		13 20 48.0	
	baz=14						
TEJ	**El Tejon**	**1.03**	**232**		Pg	13 20 48.3	-0.8
TPO	**Tropico Hills**	**1.08**	**204**		Pg	13 20 49.1	-0.9
TPO					Sg	13 21 04.2	+0.1
VES	**Vestal, Richgr**	**1.13**	**269**		Pg	13 20 50.5	-0.5
VES					Sb	13 21 06.3	0.0
VES	**Vestal, Richgr**	**1.13**	**269**	P		13 20 50.5	
	baz=88						
VES				S		13 21 06.1	
	baz=88						
RRX	**Edison Barstow**	**1.14**	**150**		Pg	13 20 51.1	-0.1
RRX	**Edison Barstow**	**1.14**	**150**	P		13 20 51.0	
	baz=331						
RRX				S		13 21 07.1	
	baz=331						
SHOC	**Shoshone, Teco**	**1.15**	**88**		Pg	13 20 51.4	0.0
SHOC					Sb	13 21 06.6	-0.1
SHOC	**Shoshone, Teco**	**1.15**	**88**	P		13 20 51.2	
	baz=268						
SHOC				S		13 21 06.8	
	baz=268						
GRAC	**Grapevine Rang**	**1.15**	**13**	P		13 20 51.1	
	baz=193						
GRAC				S		13 21 07.4	
	baz=193						
SBB	**Saddle Back Bu**	**1.18**	**185**		Pg	13 20 51.0	-1.0
SBB					Sb	13 21 08.2	+0.4
ARVC	**Arvin**	**1.19**	**232**	P		13 20 51.8	
	baz=51						
ARVC				S		13 21 08.5	
	baz=51						
TJR	**Tejon Ranch**	**1.20**	**226**		Pg	13 20 51.1	-1.2
TJR					Sg	13 21 07.2	-0.8
SGV	**South Grapevin**	**1.23**	**25**		Pg	13 20 52.4	-0.5
TIN	**Tinemaha, Big**	**1.26**	**340**		Pn	13 20 53.6	+0.1
TIN	**Tinemaha, Big**	**1.26**	**340**	P		13 20 53.5	
	baz=160						
TIN				S		13 21 11.0	
	baz=160						
BAKC	**Calstate**	**1.27**	**246**		Sn	13 21 10.8	0.0
AMDNV	**Amargosa**	**1.28**	**63**		Pn	13 20 52.6	-1.1
AMDNV					Sg	13 21 10.2	-0.2
HELL	**Mitchell Peak,**	**1.35**	**307**		Pn	13 20 54.0	-0.8
HELL					Sb	13 21 12.3	-0.2
LCH	**Last Change Ra**	**1.36**	**2**		Pn	13 20 54.7	-0.2
LRRC	**Littlerock Res**	**1.37**	**192**		Pg	13 20 55.8	+0.3
LRRC					Sn	13 21 13.8	+0.5
JNH	**Juniper Hills**	**1.44**	**189**		Pg	13 20 56.9	+0.1
VOG	**Valley Oaks Go**	**1.44**	**289**	P		13 20 56.0	
	baz=108						
VOG				S		13 21 16.1	
	baz=108						
DSCC	**Desert Studies**	**1.48**	**119**		Pn	13 20 55.1	-1.4
TUQ	**Turquoise Moun**	**1.50**	**106**		Pn	13 20 56.9	0.0
TUQ	**Turquoise Moun**	**1.50**	**106**	P		13 20 55.8	
	baz=287						
OSI	**Osito Audit: C**	**1.51**	**214**		Pn	13 20 56.7	-0.2
OSI				IAML		13 21 27.2	
	comp=N,207nm,0.6s						
OSI				IAML		13 21 28.0	
	comp=E,216nm,0.7s						
OSI	**Osito Audit: C**	**1.51**	**214**	P		13 20 57.5	
	baz=34						
HEC	**Hector,Ludlow**	**1.52**	**133**		Sg	13 21 17.9	-0.2
HEC	**Hector,Ludlow**	**1.52**	**133**	P		13 20 56.1	
	baz=314						
CHFC	**Chilao Flat St**	**1.56**	**190**		Pb	13 20 58.7	+0.1
CHFC					Sg	13 21 19.0	-0.3
XTL	**Crystal Lake,**	**1.58**	**185**		Pb	13 20 59.1	+0.1
TPNV	**Topopah Spring**	**1.58**	**47**		Pn	13 20 57.4	-0.7
TPNV				IAML		13 21 22.8	
	comp=E,262nm,0.9s						
TPNV				IAML		13 21 26.9	
	comp=E,241nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.63**	**179**		Pb	13 20 59.9	+0.1
BFSC					Sb	13 21 20.6	0.0
BFSC	**Mount Baldy Ra**	**1.63**	**179**	P		13 20 59.3	
	baz=359						
MTUM	**Tungsten Hills**	**1.64**	**335**		Pb	13 21 00.2	+0.2
MWC	**Mount Wilson**	**1.67**	**191**		Pn	13 20 58.7	-0.5
MWC				IAML		13 21 23.9	
	comp=E,310nm,0.4s						
MWC				IAML		13 21 24.5	
	comp=N,264nm,0.3s						
DECC	**Green Verdugo**	**1.70**	**198**	P		13 21 00.4	
	baz=73						
BTL	**Butler Peak**	**1.71**	**160**		Pb	13 21 01.2	0.0
BBRC	**Big Bear Solar**	**1.72**	**158**		Pb	13 21 01.8	+0.3
BBRC	**Big Bear Solar**	**1.72**	**158**	P		13 21 01.1	
	baz=339						
PASC	**Pasadena Art C**	**1.74**	**194**		Pn	13 20 59.5	-0.5
PASC	**Pasadena Art C**	**1.74**	**194**	IAML		13 21 28.9	
	comp=E,104nm,0.7s						
CRGC	**Crocker Grade**	**1.77**	**250**		Pb	13 21 02.2	0.0
CARC	**Carrizo Plain**	**1.84**	**253**		Pb	13 21 02.9	-0.5
GTM	**Goat Mountain**	**1.92**	**145**		Pb	13 21 04.7	0.0
SMMC	**Simmler**	**1.96**	**254**		Pn	13 21 02.7	-0.4
SMMC	**Simmler**	**1.96**	**254**	P		13 21 03.8	
	baz=73						
PKEM	**Kettleman Hill**	**1.97**	**276**		Pb	13 21 05.6	+0.1
GMRC	**Granite Mounta**	**1.98**	**123**		Pn	13 21 01.6	-1.8
GMRC	**Granite Mounta**	**1.98**	**123**	P		13 21 01.6	
	baz=304						
PKM	**Mcpherson Peak**	**1.99**	**241**	P		13 21 04.0	
	baz=60						
MCSM	**Casa Diablo Ho**	**2.03**	**332**		Pb	13 21 07.4	+0.6
BCH	**Branch Mountai**	**2.07**	**251**		Pn	13 21 05.9	+1.2
PAGB	**Antelope Grade**	**2.08**	**267**		Pn	13 21 04.7	-0.1
PAGB				IAML		13 21 45.7	
	comp=N,207nm,0.9s						
BLAC	**Blackrock camp**	**2.09**	**149**		Pn	13 21 04.6	-0.4
TRAM	**Private Proper**	**2.11**	**266**		Pb	13 21 06.7	-1.3
SHPR	**Sheep Range**	**2.14**	**72**		Pn	13 21 05.3	-0.4
SHPR				IAML		13 21 42.2	
	comp=N,94nm,1.0s						
SHPR				IAML		13 21 44.6	
	comp=E,151nm,0.7s						
TPH	**Tonopah**	**2.23**	**10**		Pn	13 21 06.5	-0.5
TPH	**Tonopah**	**2.23**	**10**	IAML		13 21 20.7	
	comp=N,82nm,0.6s						
TPH				IAML		13 21 50.4	
	comp=E,88nm,0.9s						
POB	**Polly Butte**	**2.27**	**164**		Pn	13 21 07.2	-0.2
LHV	**Little Huntoon**	**2.46**	**345**		Pn	13 21 10.4	+0.4
LHV				IAML		13 21 53.1	
	comp=E,76nm,0.6s						
LHV				IAML		13 22 11.5	
	comp=N,53nm,1.2s						
PMPB	**Monarch Peak**	**2.54**	**279**		Pn	13 21 11.5	+0.4
MBUM	**Mount Bullion**	**2.55**	**312**		Pb	13 21 14.9	-0.7
NV11	**Mina Array Sit**	**2.58**	**352**		Pn	13 21 11.5	-0.3
RAMR	**Ramage Ranch**	**2.60**	**266**		Pn	13 21 13.7	+1.8
NVAR	**Mina Array Bea**	**2.60**	**349**		Pn	13 21 12.2	+0.1
PRN	**Pahroc Range**	**2.62**	**53**		Pn	13 21 11.8	-0.5
PRN				IAML		13 21 59.0	
	comp=N,103nm,0.9s						
BLDC	**Black Mountain**	**2.64**	**264**		Pn	13 21 13.8	+1.4
RYN	**Ryan**	**2.83**	**347**	Pn	Pn	13 21 15.2	0.0
R11A	**Troy Canyon, C**	**2.99**	**34**	Pn	Pn	13 21 16.9	-0.6
R11A				IAML		13 22 06.5	
	comp=E,30nm,1.2s						
SAO	**San Andreas Ge**	**3.16**	**287**		Pn	13 21 19.2	-0.4
KVN	**Kaiserville**	**3.19**	**354**		Pn	13 21 20.1	-0.1
W13A	**Hualapai Mount**	**3.20**	**103**		Pn	13 21 19.2	-1.1
W13A				IAML		13 22 13.7	
	comp=N,41nm,0.6s						
W13A				IAML		13 22 16.5	
	comp=E,41nm,1.0s						
BAR	**Barrett**	**3.29**	**165**		Pn	13 21 20.7	-0.7
YERR	**Yerington**	**3.34**	**339**	Pn	Pn	13 21 22.2	-0.1
YERR				IAML		13 22 38.2	
	comp=E,26nm,0.6s						
PNTR	**Pine Nut**	**3.55**	**335**	Pn	Pn	13 21 25.6	+0.4
PNTR				IAML		13 22 40.7	
	comp=E,33nm,1.3s						
PNTR				IAML		13 22 57.2	
	comp=N,33nm,1.0s						
CBX	**Cerro Bola**	**3.65**	**166**		Pn	13 21 26.0	-0.4
CBX				IAML		13 22 25.0	
	comp=N,38nm,0.6s						
GLA	**Glamis**	**3.67**	**139**		Pn	13 21 24.8	-1.9
UABX	**UABC, Campus M**	**3.73**	**149**	Pn	Pn	13 21 27.8	+0.5
VCNR	**Virginia City**	**3.76**	**336**	Pn	Pn	13 21 27.6	-0.4
VCNR				IAML		13 22 34.9	
	comp=N,19nm,0.9s						
VCNR				IAML		13 22 47.1	
	comp=E,22nm,0.8s						
LCMT	**Little Creek M**	**3.76**	**71**		Pn	13 21 28.3	+0.3
CCUT	**Cedar City**	**3.86**	**63**		Pn	13 21 29.6	+0.2
PSUT	**Pine Spring**	**4.05**	**48**	Pn	Pn	13 21 32.7	+0.6
PSUT				IAML		13 22 42.2	
	comp=N,23nm,0.8s						
PAHR	**Pah Rah Range**	**4.06**	**341**	Pn	Pn	13 21 32.8	+0.8
KNB	**Kanab**	**4.09**	**72**		Pn	13 21 33.1	+0.6
KNB				IAML		13 22 46.9	
	comp=N,20nm,1.6s						
KNB				IAML		13 22 46.0	
	comp=E,19nm,0.9s						
SPR3	**Spring Creek 3**	**4.11**	**40**	Pn	Pn	13 21 32.6	-0.3
SPR3				IAML		13 22 38.6	
	comp=E,18nm,0.9s						
SPR3				IAML		13 22 42.9	
	comp=N,16nm,0.7s						
U15A	**North Rim**	**4.40**	**81**		Pn	13 21 37.3	+0.4
U15A				IAML		13 22 52.9	
	comp=N,20nm,0.9s						
U15A				IAML		13 22 59.4	
	comp=E,30nm,1.0s						
ELK	**Elko**	**5.24**	**21**	Pn	Pn	13 21 48.8	+0.5

*BGR **02** 14:03:55.1±7.5, 37.18N×22.71E, h10km, mb4.8, Ms3.4, Error ellipse: s-maj=343.6km s-min=64.5km az=143.0*
*IDC **02** 14:04:19.4±0.6, 38.28N×20.34E, h0km, mb4.4/25, mb1 4.5/38, mb1mx4.4/48, mbtmp4.4/38, ML4.1/12, MS3.5/31, Ms1 3.6/31, ms1mx3.4/51, Error ellipse: s-maj=11.7km s-min=10.8km az=165.0*
*MOS **02** 14:04:19.6±1.2, 38.24N×20.24E, h14km, mb4.7/32, Error ellipse: s-maj=5.3km s-min=3.1km az=77.1*
*PDG **02** 14:04:20.4±0.3, 38.16N×20.40E, h21km, MD4.6/2, ML4.5/14, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*ATH **02** 14:04:21.3, 38.15N×20.47E, h15km±1km, ML4.3/20, Error ellipse: s-maj=2.7km s-min=1.0km az=245.0*
*MED_RC **02** 14:04:21.0±0.6, 38.11N×20.45E, h23km±1km, MW4.5/24, Moment Tensor Solution. Mantle waves: s24,c36; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}2.40±.66; $M_{\theta\theta}$2.15±.42; $M_{\phi\phi}$-4.55±.42; $M_{r\theta}$0.57±.37; $M_{\theta\phi}$7.40±.35; $M_{\phi r}$-0.12±.41; Best double couple: M_o8.15000×10^{15} NP1:ϕ_s12.00000°, δ85.00000°, λ178.00000°. NP2:ϕ_s102.00000°, δ88.00000°, λ5.00000°. Principal axes: T 6.9600, Plg5.0000°, Azm327.0000°; N 2.3800, Plg84.0000°, Azm126.0000°; P -9.3400, Plg2.0000°, Azm237.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **02** 14:04:21.6, 38.16N×20.45E, h12km, ML4.4/16 Error ellipse: s-maj=0.9km s-min=0.4km az=251.0*
*NEIC **02** 14:04:22.6±1.9, 38.21N±0.06×20.33E±0.07, h21km±4km, Error ellipse: s-maj=8.7km s-min=7.4km az=174.0*
*BEO **02** 14:04:22.1±0.6, 38.19N×20.40E, h16km±7km, ML4.4/21*
*TIR **02** 14:04:23.3, 38.35N×20.19E, h34km±2km, Ml5.0*
*HLW **02** 14:04:30.2, 37.53N×21.35E, h10km±13km, Md4.5, Ml4.8*
ISC 02 14:04:21.4±0.5, 38.16N±0.02×20.41E±0.02, h15km±3km, n589, σ1°64/671, mb4.5/90, MS3.5/26, 127C-103D, Fault plane solution: NP1:ϕ_b285.44235°, δ85.55576°, λ-27.13955°. NP2:ϕ_b17.71698°, δ62.94873°, λ-175.00853°. Principal axes: T Plg15.4734°, Azm334.6804°; N Plg62.5263°, Azm96.8461°; P Plg22.1094°, Azm238.2232°; **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.06**	**313**	P	Pg	**14 04 24.4**	**0.0**
KEF3				S	Sg	**14 04 27.0**	**+0.8**
KEF3	**Kipouria, Keph**	**0.06**	**313**	P	Pg	**14 04 24.3**	**0.0**
KEF3				S	Sg	**14 04 26.6**	**+0.4**
ARG2	**Argostoli**	**0.07**	**74**	P	Pg	**14 04 23.8**	**-0.5**
ARG2				S	Sg	**14 04 25.8**	**-0.4**
DMLN	**Damoulianata-K**	**0.08**	**341**	P	Pg	**14 04 24.5**	**0.0**
DMLN				S	Sg	**14 04 26.9**	**+0.3**
	455μm,0.4s						
KEF4	**Livadi, Kephal**	**0.10**	**8**	P	Pg	**14 04 24.5**	**-0.1**
KEF4				S	Sg	**14 04 27.3**	**+0.6**
KEF4	**Livadi, Kephal**	**0.10**	**8**	P	Pg	**14 04 24.6**	**-0.1**
KEF4				S	Sg	**14 04 27.1**	**+0.3**
KEF5	**Kardakata, Kep**	**0.13**	**22**	P	Pg	**14 04 24.7**	**-0.3**
KEF5				S	Sg	**14 04 27.5**	**+0.1**
KEF5	**Kardakata, Kep**	**0.13**	**22**	P	Pg	**14 04 24.8**	**-0.3**
KEF5				S	Sg	**14 04 27.3**	**-0.1**
VLS	**Valsamata**	**0.14**	**83**	P	Pg	**14 04 24.5**	**-0.7**
VLS	**Valsamata**	**0.14**	**83**	P	Pg	**14 04 24.5**	**-0.7**
VLS				S	Sg	**14 04 27.0**	**-0.8**
	485μm,0.8s						
VLS	**Valsamata**	**0.14**	**83**	P	Pg	**14 04 24.5**	**-0.7**
PSDA	**Pessada-Kefalo**	**0.15**	**108**	P	Pg	**14 04 24.6**	**-0.6**
PSDA				S	Sg	**14 04 26.9**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.15**	**108**	P	Pg	**14 04 24.6**	**-0.6**
PSDA				S	Sg	**14 04 27.2**	**-0.6**
	108μm,0.3s						
FSK	**Fiskardo**	**0.32**	**22**	P	Pg	**14 04 27.6**	**-0.5**
FSK				S	Sg	**14 04 32.4**	**-0.3**
FSK				AML	AML	14 04 33.6	
FSK				AML	AML	14 04 33.9	
FSK	**Fiskardo**	**0.32**	**22**	P	Pg	**14 04 27.5**	**-0.5**
FSK				S	Sg	**14 04 33.0**	**+0.3**
	167μm,0.6s						
VLMS	**Volimes, Zakyn**	**0.35**	**144**	P	Pg	**14 04 27.8**	**-0.7**
VLMS				S	Sg	**14 04 33.0**	**-0.4**
VLMS				AML	AML	14 04 34.1	
VLMS				AML	AML	14 04 34.4	
VLMS	**Volimes, Zakyn**	**0.35**	**144**	P	Pg	**14 04 27.8**	**-0.7**
VLMS				S	Sg	**14 04 33.6**	**+0.2**
	137μm,0.5s						
EVGI	**Lefkada island**	**0.50**	**23**	P	Pg	**14 04 30.7**	**-0.6**
EVGI				S	Sb	**14 04 38.7**	**-0.3**
EVGI	**Lefkada island**	**0.50**	**23**	P	Pg	**14 04 30.7**	**-0.6**
EVGI				S	Sg	**14 04 38.3**	**+0.3**
	47μm,0.2s						
ZAK2	**Zakynthos**	**0.54**	**133**	P	Pg	**14 04 29.8**	**-2.2**
ZAK2				S	Sg	**14 04 39.0**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.54**	**14**	P	Pg	**14 04 31.2**	**-0.9**
DRAG				S	Sg	**14 04 39.4**	**+0.1**
	117μm,0.6s						
LTHK	**Lithakia**	**0.56**	**143**	P	Pg	**14 04 31.2**	**-1.3**
LTHK				AML	AML	14 04 41.2	
	comp=E,52518μm,0.3s						
LTHK				AML	AML	14 04 46.2	
	comp=N,65631μm,0.2s						
LTHK	**Lithakia**	**0.56**	**143**	P	Pg	**14 04 31.1**	**-1.4**
LTHK				S	Sg	**14 04 40.3**	**+0.3**
	comp=N,36μm,0.5s						
NYDR	**Nydri-Lefkada**	**0.60**	**22**	P	Pg	**14 04 32.1**	**-1.0**
NYDR				S	Sb	**14 04 41.4**	**-0.4**
	comp=N,38μm,0.6s						
LKD2	**Lefkada island**	**0.66**	**17**	P	Pg	**14 04 34.1**	**-0.2**
LKD2				AML	AML	14 04 51.8	
	comp=E,60036μm,0.7s						
LKD2				AML	AML	14 04 53.8	
	comp=N,47857μm,0.5s						
LKD2	**Lefkada island**	**0.66**	**17**	P	Pg	**14 04 33.1**	**-1.2**
LKD2				S	Sb	**14 04 43.7**	**+0.1**
	comp=N,31μm,0.7s						
LKD2	**Lefkada island**	**0.66**	**17**	P	Pg	**14 04 34.1**	**-0.2**
	baz=39						
LKD2				S	Sb	**14 04 44.0**	**+0.5**
	baz=39		

DRO AML AML 14 05 15.1
comp=N,48380µm,0.8s
DRO Drossia 1.05 101 P **Pb** **14 04 40.0 -1.2**
AMT Artemida-Makis 1.21 121 P **Pn** **14 04 42.7 -1.0**
AMT AML AML 14 05 11.8
comp=E,19797µm,0.5s
AMT AML AML 14 05 21.7
comp=N,25370µm,0.8s
AMT Artemida-Makis 1.21 121 P **Pn** **14 04 43.5 -0.2**
EFP Efpalio 1.21 77 P **Pn** **14 04 42.4 -1.3**
EFP AML AML 14 05 06.2
comp=E,29764µm,0.5s
EFP AML AML 14 05 13.4
comp=N,22311µm,0.6s
EFP Efpalio 1.21 77 P **Pn** **14 04 42.8 -0.9**
LAKA Lakka 1.24 86 P **Pn** **14 04 43.6 -0.6**
LAKA AML AML 14 05 08.1
comp=E,87572µm,0.9s
LAKA AML AML 14 05 09.7
comp=N,56149µm,0.7s
LAKA Lakka 1.24 86 P **Pn** **14 04 43.5 -0.7**
ANX Ano Chora 1.27 70 P **Pn** **14 04 43.3 -1.3**
ANX AML AML 14 05 08.7
comp=N,62633µm,0.6s
ANX AML AML 14 05 08.9
comp=E,27250µm,0.6s
ANX Ano Chora 1.27 70 P **Pn** **14 04 44.1 -0.5**
SERG Sergoula 1.32 78 P **Pn** **14 04 44.1 -1.3**
SERG AML AML 14 05 11.1
comp=E,15717µm,0.8s
SERG AML AML 14 05 14.7
comp=N,19269µm,0.9s
SERG Sergoula 1.32 78 P **Pn** **14 04 44.5 -0.8**
TRIZ Trizonia 1.33 81 P **Pn** **14 04 44.6 -0.7**
TRIZ Trizonia 1.33 81 P **Pn** **14 04 44.4 -0.9**
EVR Evrytania 1.33 55 P **Pn** **14 04 45.0 -0.5**
EVR AML AML 14 05 11.1
comp=N,20361µm,0.8s
EVR AML AML 14 05 15.1
comp=E,18801µm,0.9s
EVR Evrytania 1.33 55 P **Pn** **14 04 45.1 -0.5**
EVR S **Sn** **14 05 03.5 +0.4**
comp=E,10µm,0.9s
ALIK Aliki, Aigiali 1.35 85 P **Pn** **14 04 45.3 -0.3**
IGT Igoumenitsa 1.37 358 P **Pn** **14 04 46.4 +0.4**
IGT Igoumenitsa 1.37 358 P **Pn** **14 04 46.3 +0.4**
IGT S **Sb** **14 05 04.1 0.0**
comp=E,10µm,0.7s
IGT Igoumenitsa 1.37 358 *e*Pg **Pb** **14 04 46.6 -0.2**
IGT *e*Sn **Sn** **14 05 02.5 -1.4**
IGT Igoumenitsa 1.37 358 P **Pn** **14 04 46.4 +0.4**
baz=5.0
IGT S **Sn** **14 05 03.1 -0.8**
baz=5.0
KLV Kalavryta, Ach 1.38 94 P **Pn** **14 04 45.5 -0.7**
KLV AML AML 14 05 16.8
comp=E,12897µm,0.8s
KLV AML AML 14 05 16.8
comp=N,13256µm,0.9s
KLV Kalavryta, Ach 1.38 94 P **Pn** **14 04 45.4 -0.7**
JAN Janina 1.53 13 P **Pb** **14 04 49.7 +0.2**
JAN AML AML 14 05 16.2
comp=E,28731µm,0.7s
JAN AML AML 14 05 18.9
comp=N,18326µm,0.7s
JAN Janina 1.53 13 P **Pb** **14 04 49.7 +0.2**
ITM Ithomi 1.55 129 P **Pn** **14 04 49.0 +0.5**
ITM AML AML 14 05 21.2
comp=E,8533µm,0.7s
ITM AML AML 14 05 21.4
comp=N,11261µm,0.5s
ITM Ithomi 1.55 129 P **Pn** **14 04 48.6 +0.1**
ITM Ithomi 1.55 129 *e*P **Pn** **14 04 49.1 +0.6**
ITM Ithomi 1.55 129 Pn **Pn** **14 04 49.1 +0.6**
MAKR Makrakomi, Fth 1.60 57 P **Pb** **14 04 50.2 -0.4**
MAKR AML AML 14 05 23.3
comp=N,13314µm,1.4s
MAKR AML AML 14 05 23.6
comp=E,15431µm,1.1s
KEK Kerkira 1.62 343 P **Pn** **14 04 49.9 +0.5**
KEK Kerkira 1.62 343 P **Pn** **14 04 50.0 +0.5**
PYL PYLOS 1.65 140 P **Pn** **14 04 49.5 -0.3**
PYL AML AML 14 05 19.5
comp=N,4352µm,0.5s
PYL AML AML 14 05 27.2
comp=E,5656µm,0.6s
PYL PYLOS 1.65 140 P **Pn** **14 04 49.8 0.0**
PYL S **Sn** **14 05 10.1 -0.6**
comp=E,3µm,0.9s
SRN Sarande 1.75 350 P **Pn** **14 04 51.9 +0.8**
SRN Sarande 1.75 350 P **Pn** **14 04 51.8 +0.6**
baz=355
SRN S **Sn** **14 05 12.5 -0.6**
baz=355
SRN AMP
comp=E,15nm,0.8s,baz=355
VLX Vlachokerasia 1.75 116 P **Pb** **14 04 52.3 -1.0**
THAL Thalero 1.78 93 P **Pb** **14 04 53.0 -0.7**
THL Klokotos Trika 1.88 41 P **Pb** **14 04 55.2 -0.3**
KPRO Kipourio 1.94 22 P **Pb** **14 04 56.7 +0.2**
LSK Leskovik 1.99 4 P **Pn** **14 04 55.9 +1.3**
baz=9.0
LSK S **Sn** **14 05 19.7 +0.3**
baz=9.0
LSK AMP
comp=N,50nm,0.9s,baz=9.0
LTK Loutraki 2.02 93 P **Pn** **14 04 56.2 +1.2**
LOUT Loutraki 2.03 94 P **Pn** **14 04 56.4 +1.3**
LKR Lokris 2.10 76 P **Pn** **14 04 57.4 +1.4**
LKR AML AML 14 05 36.5
comp=E,4021µm,0.5s
LKR AML AML 14 05 43.5
comp=N,3896µm,0.8s
PENT Pentalofos 2.11 15 P **Pb** **14 04 58.9 -0.5**
ATAL Atalanti 2.12 75 P **Pn** **14 04 57.8 +1.6**
VIL2 Platees 2.25 88 P **Pn** **14 04 59.7 +1.6**
NEST Nestorio 2.31 12 P **Pb** **14 05 02.0 -0.8**
KRND KRANIDI 2.31 109 P **Pn** **14 04 59.8 +1.0**
SMIA Simia 2.31 71 P **Pb** **14 05 00.9 -1.8**
KZN Kozani 2.39 26 P **Pn** **14 05 01.9 +1.9**
VLO Vlora 2.41 343 P **Pn** **14 05 00.3 0.0**
baz=346
VLO S **Sn** **14 05 28.8 -0.8**
baz=346
VLO AMP
comp=N,31nm,0.7s,baz=346
SCTE Santa Cesarea 2.43 322 Pn **Pn** **14 05 00.8 +0.2**
SCTE Santa Cesarea 2.43 322 P **Pn** **14 05 01.0 +0.4**
baz=323
SCTE S **Sn** **14 05 29.1 -1.0**
baz=323
KBN Korca 2.48 7 P **Pn** **14 05 03.4 +2.2**
KBN S **Sn** **14 05 33.1 +1.8**
KBN Korca 2.48 7 P **Pn** **14 05 03.5 +2.2**
baz=11
KBN S **Sn** **14 05 33.1 +1.8**
baz=11
KBN AMP
comp=N,17nm,0.9s,baz=11
NEO Neokhori 2.48 62 P **Pn** **14 05 02.8 +1.5**
XOR Xorichti 2.49 60 P **Pn** **14 05 02.9 +1.6**
LIT Litokhoron 2.53 39 P **Pn** **14 05 03.6 +1.7**
LIT Litokhoron 2.53 39 P **Pn** **14 05 03.0 +1.1**
LIT Litokhoron 2.53 39 Pn **Pn** **14 05 03.0 +1.1**
ATH Athens Observa 2.62 93 P **Pn** **14 05 04.4 +1.3**
ATH Athens Observa 2.62 93 P **Pb** **14 05 06.0 -2.0**
ATHU Athens Univers 2.67 93 P **Pn** **14 05 04.9 +1.0**
VLY Voula,Athens 2.69 96 P **Pn** **14 05 05.1 +1.0**
FNA Florina 2.73 16 *e*Pn **Pn** **14 05 06.4 +1.8**
FNA Florina 2.73 16 *e*P **Pn** **14 05 06.5 +1.8**
FNA Florina 2.73 16 P **Pn** **14 05 06.1 +1.4**
FNA Florina 2.73 16 Pn **Pn** **14 05 06.1 +1.4**
FNA Florina 2.73 16 P **Pn** **14 05 06.4 +1.8**
baz=20
PTL Penteli 2.73 91 P **Pn** **14 05 05.8 +1.1**
DION Dionisos Attik 2.78 91 P **Pn** **14 05 06.7 +1.3**
EREA Eretria 2.79 84 P **Pn** **14 05 07.1 +1.6**
KTHA Kythira Island 2.85 131 *e*P **Pn** **14 05 07.7 +1.4**
KYMI Kymi, Euboea I 2.94 80 P **Pn** **14 05 09.5 +1.9**
OHR Ohrid 2.96 6 *i* Pn **Pn** **14 05 09.7 +1.7**
OHR *e*Sg **Sn** **14 05 45.7 +2.4**
KARY Karystos 3.18 91 P **Pn** **14 05 11.9 +1.0**
GRG Griva 3.19 28 *e*P **Pn** **14 05 12.5 +1.5**
HORT Hortiatis 3.21 40 *e*P **Pn** **14 05 12.4 +1.1**

TIR Tirane 3.21 353 ⇑P **Pn** **14 05 12.4 +1.1**
TIR ⇑S **Sn** **14 05 51.2 +1.9**
TIR Tirane 3.21 353 P **Pn** **14 05 12.4 +1.1**
TIR S **Sn** **14 05 49.9 +0.6**
TIR Tirane 3.21 353 **Pn** **14 05 11.2 -0.1**
TIR Tirane 3.21 353 P **Pn** **14 05 12.6 +1.3**
baz=356
TIR S **Sn** **14 05 49.9 +0.6**
baz=356
TIR AMP
comp=E,3.7nm,1.1s,baz=356
PHP Peshkopia 3.52 0 P **Pn** **14 05 16.6 +1.0**
baz=3.0
OUR Ouranopolis 3.52 51 *e*P **Pn** **14 05 16.5 +1.0**
CEL Celeste 3.56 273 Pn **Pn** **14 05 15.5 -0.6**
KNT Kendrikon 3.56 32 *e*P **Pn** **14 05 17.4 +1.3**
KNT Kendrikon 3.56 32 P **Pn** **14 05 17.4 +1.3**
VAY Valandovo 3.57 27 *e*Pn **Pn** **14 05 18.0 +1.8**
VAY Valandovo 3.57 27 P **Pn** **14 05 18.8 +2.6**
VAY Valandovo 3.57 27 *i* Pn **Pn** **14 05 17.1 +0.9**
STIP Stip 3.79 21 *i* Pn **Pn** **14 05 21.6 +2.4**
MATE Matera 3.79 312 ⇑P **Pn** **14 05 19.4 +0.2**
SKO Skopje 3.89 11 *i* Pn **Pn** **14 05 21.6 +1.0**
SKO *e*Sg **Sn** **14 06 05.9 -0.1**
PUK Puka 3.90 354 P **Pn** **14 05 21.3 +0.5**
baz=357
ULC Ulcinj 3.90 347 ⇓*i* Pn **Pn** **14 05 20.3 -0.5**
ULC *i* Sn **Sn** **14 06 04.7 -1.7**
IMMV Iera Moni Meta 3.93 132 *e*P **Pn** **14 05 22.7 +1.5**
DRME Dracevica, Mon 4.13 347 ⇑*i*Pn **Pn** **14 05 23.6 -0.3**
DRME Dracevica, Mon 4.13 347 ⇑*i*Pn **Pn** **14 05 23.7 -0.2**
DRME *i* Sn **Sn** **14 06 11.5 -0.4**
BCI Bajram Curri 4.21 357 P **Pn** **14 05 26.0 +1.0**
baz=359
BCI AMP
comp=N,6.2nm,0.8s,baz=359
APE Apeiranthos 4.21 103 ⇑P **Pn** **14 05 27.5 +2.4**
APE Apeiranthos 4.21 103 *e*P **Pn** **14 05 26.4 +1.3**
APE Apeiranthos 4.21 103 P **Pn** **14 05 27.4 +2.4**
BUM Brajici-Budva 4.29 345 ⇑*i*Pn **Pn** **14 05 25.6 -0.6**
BUM *i* Sn **Sn** **14 06 15.1 -1.0**
PDG Podgorica 4.36 349 ⇑P **Pn** **14 05 27.0 +0.1**
PDG ⇓S **Sn** **14 06 17.1 -0.4**
PDG Podgorica 4.36 349 ⇑*i*Pn **Pn** **14 05 26.4 -0.6**
PDG Podgorica 4.36 349 Pn **Pn** **14 05 26.4 -0.6**
TTG Podgorica 4.36 349 ⇑*i*Pn **Pn** **14 05 26.7 -0.3**
TTG *i* Sn **Sn** **14 06 16.8 -0.6**
SIGR SIGRI 4.39 74 *e*P **Pn** **14 05 28.8 +1.3**
SANT Santorini 4.41 112 ⇑P **Pn** **14 05 30.6 +2.9**
SANT Santorini 4.41 112 Pn **Pn** **14 05 28.5 +0.7**
PVY Plav 4.44 356 ⇑*i*Pn **Pn** **14 05 28.2 -0.1**
PVY *i* Sn **Sn** **14 06 19.1 -0.7**
GVD Gavdhos 4.45 137 *e*P **Pn** **14 05 30.6 +2.3**
CHOS Chios island 4.45 85 *e*P **Pn** **14 05 29.3 +0.9**
HCY Herceg Novi 4.53 342 ⇑*i*Pn **Pn** **14 05 28.2 -1.1**
HCY Herceg Novi 4.53 342 ⇑*i*Pn **Pn** **14 05 28.1 -1.2**
HCY *i* Sn **Sn** **14 06 21.1 -0.6**
CEME Cevo 4.53 346 ⇑*i*Pn **Pn** **14 05 28.7 -0.7**
CEME *i* Sn **Sn** **14 06 21.1 -0.7**
IDI Anoyia 4.60 127 Pn **Pn** **14 05 32.4 +2.0**
comp=N,1.9nm,0.3s,baz=268,slow=9.5,SNR=14
IDI Sn **Sn** **14 06 25.3 +1.6**
comp=N,17nm,0.3s,baz=148,slow=24,SNR=15
IDI Anoyia 4.60 127 ⇑P **Pn** **14 05 33.0 +2.6**
IDI ⇓S **Sn** **14 06 26.6 +2.9**
IDI Anoyia 4.60 127 *e*P **Pn** **14 05 32.5 +2.0**
IDI Anoyia 4.60 127 Pn **Pn** **14 05 30.7 +0.3**
BOSS Bosilegrad 4.61 19 Pn **Pn** **14 05 30.0 -0.5**
BOSS *e*Sn **Sn** **14 06 22.1 -1.7**
BOZC Bozcaada 4.71 67 *e*P **Pn** **14 05 33.1 +1.3**
IVA Berane 4.72 355 ⇑*i*Pn **Pn** **14 05 31.9 -0.2**
IVA *i* Sn **Sn** **14 06 25.9 -0.8**
NKME Niksic 4.73 347 ⇓*i*Pn **Pn** **14 05 31.9 -0.3**
NKME *i* Sn **Sn** **14 06 26.2 -0.7**
KOME Kolasin 4.74 352 ⇑*i*Pn **Pn** **14 05 32.5 +0.2**
KOME *i* Sn **Sn** **14 06 26.5 -0.5**
NKY Niksic 4.77 347 ⇑*i*Pn **Pn** **14 05 32.4 -0.4**
NKY *i* Sn **Sn** **14 06 27.1 -0.8**
BARS Barje 4.77 13 *e*Pn **Pn** **14 05 30.3 -2.5**
BARS Barje 4.77 13 *e*Pn **Pg** **14 05 49.4 -3.4**
BARS *e*Sn **Sn** **14 06 23.4 -4.4**
BARS *e*Sn **Sg** **14 06 56.4 +1.8**
VAE Valguarnera 4.80 264 Pn **Pn** **14 05 33.6 +0.5**
comp=N,3.7nm,0.3s,baz=81,slow=16,SNR=6.7
VAE Sn **Sn** **14 06 26.1 -2.3**
comp=N,7.8nm,0.3s,baz=70,slow=12,SNR=5.3
VAE Valguarnera 4.80 264 **Pn** **14 05 33.6 +0.5**
TREB Trebinje 4.81 342 *e*Pn **Pn** **14 05 32.5 -0.8**
TREB *e*Sn **Sn** **14 06 27.9 -0.9**
TREB Trebinje 4.81 342 *e*Pn **Pn** **14 05 32.3 -1.0**
URLA Izmir 4.88 86 *e*P **Pn** **14 05 35.4 +1.2**
RAFF Raffo Rosso 4.88 261 Pn **Pn** **14 05 32.7 -1.6**
EZN Ezine 4.90 68 *e*P **Pn** **14 05 35.8 +1.3**
BRY Bratogost 4.95 344 ⇑*i*Pn **Pn** **14 05 34.1 -1.2**
BRY Bratogost 4.95 344 ⇑*i*Pn **Pn** **14 05 34.0 -1.2**
BRY *i* Sn **Sn** **14 06 30.9 -1.3**
VTS Vitosha 4.95 25 *e*Pn **Pn** **14 05 36.6 +1.3**
VTS Vitosha 4.95 25 ⇓P **Pn** **14 05 37.0 +1.7**
VTS Vitosha 4.95 25 P **Pn** **14 05 36.0 +0.7**
VTS Vitosha 4.95 25 Pn **Pn** **14 05 36.0 +0.7**
RDO Rodhopi 4.96 51 *e*P **Pn** **14 05 36.9 +1.5**
SGRT San Giovanni R 5.07 317 Pn **Pn** **14 05 36.5 -0.4**
SELS Selova 5.08 6 *e*Pn **Pn** **14 05 36.7 -0.3**
SELS *e*Sn **Sn** **14 06 34.1 -1.4**
SJES Sjenica 5.11 356 *e*Pn **Pn** **14 05 37.2 -0.2**
SJES *e*Sn **Sn** **14 06 34.7 -1.5**
ENEZ Enez 5.14 58 *e*P **Pn** **14 05 39.3 +1.6**
STON Ston 5.14 337 ⇑*i*Pn **Pn** **14 05 35.7 -2.0**
ALN Alexandroupoli 5.14 56 *e*P **Pn** **14 05 39.0 +1.2**
ALN Alexandroupoli 5.14 56 P **Pn** **14 05 38.6 +0.8**
ALN Alexandroupoli 5.14 56 Pn **Pn** **14 05 38.6 +0.8**
UPM Unac-Piva 5.17 348 ⇑*i*Pn **Pn** **14 05 37.9 -0.4**
UPM Unac-Piva 5.17 348 ⇓*i*Pn **Pn** **14 05 38.1 -0.2**
UPM *i* Sn **Sn** **14 06 36.6 -1.1**
DKL Dikili 5.17 78 *e*P **Pn** **14 05 39.7 +1.5**
GELI Tayfur-Gelibol 5.21 63 *e*P **Pn** **14 05 40.3 +1.6**
PLE Pljevlja 5.22 352 ⇓*i*Pn **Pn** **14 05 39.2 +0.2**
PLE *i* Sn **Sn** **14 06 37.7 -1.3**
BLCB Balcova 5.23 85 *e*P **Pn** **14 05 40.5 +1.5**
WDD Wied Dalam 5.25 246 Pn **Pn** **14 05 38.2 -1.1**
PAOL Paolisi 5.34 304 **Pn** **14 05 41.3 +0.7**
IVAS Ivanjica 5.42 358 *e*Pn **Pn** **14 05 41.2 -0.4**
IVAS *e*Sn **Sn** **14 06 41.2 -2.5**
RUDO Rudo 5.51 352 ⇑*i*Pn **Pn** **14 05 42.3 -0.6**
BOVS Bovan 5.56 10 *e*Pn **Pn** **14 05 43.0 -0.5**
BOVS *e*Sn **Sn** **14 06 44.2 -2.9**
BOVS Bovan 5.56 10 ⇑P **Pn** **14 05 43.4 -0.1**
ZKR Zakros 5.57 121 *e*P **Pn** **14 05 46.1 +2.4**
BODT Bodrum 5.59 99 *e*P **Pn** **14 05 45.8 +1.8**
CLTB Caltabellotta 5.72 266 **Pn** **14 05 46.3 +0.5**
GRUS Gruza 5.73 2 *e*Pn **Pn** **14 05 45.9 +0.1**
GRUS *e*Sn **Sn** **14 06 49.0 -2.3**
BBLS Lazići 5.75 353 *e*Pn **Pn** **14 05 46.1 -0.1**
BBLS *e*Sn **Sn** **14 06 48.4 -3.6**
BBLS Lazići 5.75 353 ⇑*i*Pn **Pn** **14 05 45.4 -0.8**
ZAGS Zajecar 5.81 13 *e*Pn **Pn** **14 05 46.7 -0.3**
ZAGS *e*Sn **Sn** **14 06 51.2 -2.2**
DIVS Divibare 5.94 357 *e*Pn **Pn** **14 05 48.0 -0.9**
DIVS *e*Sn **Sn** **14 06 54.5 -2.2**
DIVS Divibare 5.94 357 ⇑*i*Pn **Pn** **14 05 47.9 -0.9**
DIVS Divibare 5.94 357 Pn **Pn** **14 05 47.7 -1.2**
KARP Karpathos 6.01 114 *e*P **Pn** **14 05 51.9 +2.1**
KARP Karpathos 6.01 114 **Pn** **14 05 50.6 +0.8**
HAPS Han Pijesak,BI 6.02 350 *e*Pn **Pn** **14 05 48.5 -1.5**
TRUS Trudelj 6.06 360 *e*Pn **Pn** **14 05 49.9 -0.5**
TRUS *e*Sn **Sn** **14 06 56.3 -3.1**
EDRB Edirne 6.10 51 *e*P **Pn** **14 05 51.4 +0.4**
INTR Introdacqua 6.30 310 Pn **Pn** **14 05 54.7 +0.9**
KUBS Kucevo 6.32 8 *e*Pn **Pn** **14 05 53.8 -0.2**
KUBS *e*Sn **Sn** **14 07 01.5 -4.4**
TEKS Tekeris 6.42 354 *e*Pn **Pn** **14 05 54.5 -0.8**
TEKS *e*Sn **Sn** **14 07 06.4 -1.9**
TEKS Tekeris 6.42 354 ⇑*i*Pn **Pn** **14 05 54.2 -1.1**
MDVR Moldovita 6.69 8 ⇑P **Pn** **14 05 58.8 -0.3**
MGRS Mrkonjic Grad 6.73 339 *e*Pn **Pn** **14 05 59.8 +0.1**
AQU L'Aquila 6.80 310 P **Pn** **14 06 01.2 +0.6**
AQU L'Aquila 6.80 310 ⇑*i*Pn **Pn** **14 06 04.2 +3.6**
AQU L'Aquila 6.80 310 Pn **Pn** **14 06 01.2 +0.6**
HERR Herculane 6.88 12 ⇑P **Pn** **14 06 01.8 +0.1**
FRGS Fruska Gora 7.01 357 *e*Pn **Pn** **14 06 02.2 -1.2**

FRGS *e*Sn **Sn** **14 07 17.8 -5.0**
FRGS Fruska Gora 7.01 357 ⇑*i*Pn **Pn** **14 06 01.8 -1.6**
BLY Banja Luka 7.01 341 ⇑*i*Pn **Pn** **14 06 02.7 -0.8**
NRCA Norcia 7.26 312 **Pn** **14 06 07.5 +0.6**
MRAK Mrakovica 7.33 340 ⇑*i*Pn **Pn** **14 06 07.9 -0.1**
GZR Gura Zlata 7.44 13 ⇑P **Pn** **14 06 09.8 +0.4**
BZS Buzias 7.51 7 ⇑P **Pn** **14 06 11.2 +0.9**
AKAS Kas 7.59 102 **Pn** **14 06 12.3 +0.8**
LOT Lotru 7.70 18 ⇑P **Pn** **14 06 13.7 +0.7**
SLUM Salum 7.74 148 P **Pn** **14 06 11.2 -2.2**
baz=150
SLUM AMP 14 07 00.0
baz=150
MURB Monte Urbino 7.86 313 **Pn** **14 06 14.4 -0.8**
ARR Arges 7.86 22 ⇑P **Pn** **14 06 17.0 +1.8**
MORH Mrgy, Hungar 8.15 351 ⇑*i*Pn **Pn** **14 06 17.1 -2.0**
SIRR Siria 8.15 6 ⇑P **Pn** **14 06 20.5 +1.3**
BOJS Bojanci 8.28 334 *i* Pn **Pn** **14 06 20.7 -0.2**
BOJS *e*Sn **Sn** **14 07 49.9 -4.3**
BOJS IAML 14 08 05.5
comp=Z,141nm,1.1s
ISR Istrita 8.33 31 ⇑P **Pn** **14 06 23.2 +1.5**
MLR Muntele Rosu 8.41 28 Pn **Pn** **14 06 23.9 +1.1**
comp=Z,0.5nm,0.3s,baz=151,slow=4.9,SNR=26
MLR LR 14 09 37.0
comp=Z,202nm,18.2s,baz=206,slow=38
MLR Muntele Rosu 8.41 28 Pn **Pn** **14 06 23.5 +0.7**
CRES Cresnjev 8.50 336 *i* Pn **Pn** **14 06 23.1 -0.8**
CRES *e*Sn **Sn** **14 07 54.3 -5.2**
CRES IAML 14 07 57.8
comp=Z,63nm,0.4s
CRES Cresnjev 8.50 336 ⇑*i*Pn **Pn** **14 06 23.0 -0.8**
CASP Castiglione de 8.62 305 Pn **Pn** **14 06 25.6 +0.1**
HARR Harsova 8.63 39 ⇓P **Pn** **14 06 27.2 +1.6**
DOPR Dopca 8.63 24 ⇑P **Pn** **14 06 27.8 +2.0**
MDUB Mudurnu 8.68 71 Pn **Pn** **14 06 27.8 +1.4**
VISS Visnje 8.69 333 *i* Pn **Pn** **14 06 26.0 -0.4**
TIRR Tirgusor 8.71 41 ⇑P **Pn** **14 06 28.1 +1.4**
TIRR Tirgusor 8.71 41 ⇑P **Pn** **14 06 28.1 +1.4**
TIRR Tirgusor 8.71 41 P **Pn** **14 06 27.1 +0.4**
TIRR Tirgusor 8.71 41 Pn **Pn** **14 06 27.1 +0.4**
VSL Villasalto 8.71 282 Pn **Pn** **14 06 25.9 -0.9**
BEHE Becsehely 8.73 343 ⇑*i*Pn **Pn** **14 06 25.8 -1.2**
BISRR Bisoca 8.75 30 ⇑P **Pn** **14 06 29.2 +1.8**
CEY Cerknica 8.78 331 ⇑*i*Pn **Pn** **14 06 27.1 -0.7**
OZUR 8.88 25 ⇑P **Pn** **14 06 30.9 +1.8**
PLOR Plostina 8.98 29 ⇓P **Pn** **14 06 32.5 +2.0**
PLOR Plostina 8.98 29 P **Pn** **14 06 32.5 +2.0**
TPGR Topolog 8.99 39 ⇑P **Pn** **14 06 31.5 +0.9**
LJU Ljubljana 9.01 333 ⇑*i*Pn **Pn** **14 06 30.0 -0.8**
VRI Vrincioaia 9.02 29 P **Pn** **14 06 33.5 +2.5**
GROS Grobnik 9.05 338 *i* Pn **Pn** **14 06 30.0 -1.6**
CFR Carcaliu 9.09 37 ⇑P **Pn** **14 06 32.4 +0.5**
KEST Kesra 9.18 258 Pn **Pn** **14 06 33.8 +0.4**
comp=Z,0.5nm,0.3s,baz=257,slow=6.1,SNR=4.9
KEST Kesra 9.18 258 Pn **Pn** **14 06 33.5 +0.2**
OBKA Obir 9.40 334 *i* Pn **Pn** **14 06 35.7 -0.6**
comp=Z,42nm,0.5s,SNR=29
OBKA *e*Sn **Sn** **14 08 14.5 -7.3**
comp=Z,70nm,0.8s
ZCCA Zocca 9.41 314 Pn **Pn** **14 06 38.0 +1.6**
TESR Tescani 9.54 27 ⇓P **Pn** **14 06 38.8 +0.8**
VLC Villacollemand 9.64 312 **Pn** **14 06 41.4 +1.8**
PRED Cave del Predi 9.70 331 **Pn** **14 06 38.8 -1.7**
TEOL Teolo 9.71 321 **Pn** **14 06 39.0 -1.4**
BIZ Bicaz 9.72 24 ⇑P **Pn** **14 06 42.4 +1.8**
PSZ Piszkesteto 9.76 358 P **Pn** **14 06 39.4 -1.8**
PSZ Piszkesteto 9.76 358 Pn **Pn** **14 06 39.4 -1.8**
ARSA Arzberg 9.77 340 *i* Pn **Pn** **14 06 40.0 -1.3**
comp=Z,16nm,0.3s,SNR=14
ARSA *e*Sn **Sn** **14 08 23.6 -7.0**
comp=Z,7.0nm,0.7s
MYKA Terra Mystica 9.83 332 *e*Pn **Pn** **14 06 41.5 -0.7**
comp=Z,11nm,0.4s,SNR=23
SWA2 9.84 153 P **Pn** **14 06 39.8 -2.4**
baz=156
SWA2 S Sn 14 08 15.2 -17
baz=156
STAL STALIGIAL 9.90 327 **Pn** **14 06 41.7 -1.4**
ZOU Zoufplan 10.03 329 Pn **Pn** **14 06 43.5 -1.5**
PRMA PARMA 10.04 314 Pn **Pn** **14 06 44.7 -0.3**
CIMO Cimolais 10.06 327 **Pn** **14 06 43.7 -1.5**
BURAR Bucovina Array 10.09 19 Pn **Pn** **14 06 46.1 +0.4**
BUR08 Bucovina Ar. S 10.11 19 Pn **Pn** **14 06 46.4 +0.3**
CTI Castel Tesino 10.21 323 P **Pn** **14 06 45.8 -1.7**
CTI Castel Tesino 10.21 323 Pn **Pn** **14 06 45.8 -1.7**
MSSA Maissana 10.25 310 **Pn** **14 06 49.0 +1.1**
CONA Conrad Observa 10.31 343 *e*Pn **Pn** **14 06 47.4 -1.4**
comp=Z,1.8nm,0.4s
KBA Koelnbreinsper 10.32 332 *i* Pn **Pn** **14 06 47.9 -1.0**
comp=Z,16nm,0.4s,SNR=33
KBA *e*Sn **Sn** **14 08 38.5 -5.9**
comp=Z,23nm,0.6s
ZST Bratislava 10.32 348 *e*SN **Sn** **14 08 37.7 -6.4**
ABTA Abfaltersbach 10.37 328 *e*Pn **Pn** **14 06 49.1 -0.5**
comp=Z,11nm,0.3s,SNR=16
ABTA *e*Sn **Sn** **14 08 40.4 -5.1**
comp=Z,34nm,0.8s
VYHS Vyhne 10.39 354 *e*P **Pn** **14 06 49.1 -0.8**
VYHS *e* 14 08 39.6
VYHS Vyhne 10.39 354 *e*PN **Pn** **14 06 49.0 -0.8**
VYHS *e*SN **Sn** **14 08 39.6 -6.4**
BR131 Keskin Array S 10.43 77 ⇑*e*P **Pn** **14 06 56.2 +5.8**
BRTR Keskin Array B 10.43 77 Pn **Pn** **14 06 53.4 +3.0**
comp=Z,0.5nm,0.3s,baz=258,slow=12,SNR=8.5
BRTR LR LR 14 10 55.6
comp=Z,587nm,19.2s,baz=268,slow=38
BRTR Keskin Array B 10.43 77 **Pn** **14 06 53.4 +3.0**
SALO Salr 10.47 318 Pn **Pn** **14 06 50.5 -0.5**
KOLL Kolacno 10.52 353 *e*SN **Sn** **14 08 42.7 -6.2**
ILGA Ilgaz 10.67 70 **Pn** **14 06 55.7 +1.9**
MOA Molln 10.67 337 *i* Pn **Pn** **14 06 47.1 -6.6**
comp=Z,4.0nm,0.3s,SNR=22
MOA *e*Sn **Sn** **14 08 47.4 -5.4**
comp=Z,17nm,0.8s
CRVS Cervenica-Dubn 10.77 4 *e*P **Pn** **14 06 56.6 +1.7**
CRVS Cervenica-Dubn 10.77 4 *e*PN **Pn** **14 06 56.6 +1.7**
KOLS Kolonicke sedl 10.85 7 *e*P **Pn** **14 07 02.3 +6.2**
KOLS Kolonicke sedl 10.85 7 *e*PN **Pn** **14 07 02.3 +6.2**
CSS Mathiatis 10.87 103 Pn **Pn** **14 06 55.6 -0.8**
JAVC Velka Javorina 10.88 350 *e*PN **Pn** **14 06 56.2 -0.3**
RJOB Jochberg 11.07 332 *e*P **Pn** **14 06 59.5 +0.3**
baz=142,slow=15
WTTA Wattenberg 11.15 328 *i* Pn **Pn** **14 07 00.5 +0.2**
comp=Z,20nm,0.4s,SNR=18
WTTA Sn **Sn** **14 09 00.9 -3.8**
comp=Z,55nm,0.7s
WATA Walderalm 11.23 328 *i* Pn **Pn** **14 07 01.3 0.0**
comp=Z,45nm,0.6s,SNR=27
WATA *e*Sn **Sn** **14 09 03.5 -3.2**
comp=Z,36nm,0.7s
KRUC Moravsky 11.28 346 *e*PN **Pn** **14 07 01.2 -0.7**
FETA Feichten 11.36 324 *e*Pn **Pn** **14 07 02.8 -0.4**
comp=Z,6.4nm,0.5s
MOTA Moosalm 11.44 326 *i* Pn **Pn** **14 07 04.7 +0.5**
comp=Z,30nm,0.7s,SNR=17
MOTA *e*Sn **Sn** **14 09 10.3 -1.5**
comp=Z,24nm,0.8s
VRAC Vranov 11.48 347 Pn **Pn** **14 07 03.9 -0.8**
comp=Z,0.6nm,0.3s,baz=178,slow=14,SNR=4.9
VRAC Vranov 11.48 347 *e*PN **Pn** **14 07 03.6 -1.1**
VRAC Vranov 11.48 347 **Pn** **14 07 03.9 -0.8**
CKRC Cesky Krumlov 11.53 339 *e*PN **Pn** **14 07 03.9 -1.5**
KWP Kalwaria Pacla 11.59 7 P **Pn** **14 07 04.6 -1.5**
KWP Kalwaria Pacla 11.59 7 **Pn** **14 07 04.6 -1.5**
DAVOX Davos/Dischmat 11.59 321 Pn **Pn** **14 07 05.7 -0.8**
comp=Z,1.3nm,0.3s,baz=128,slow=16,SNR=29
DAVOX LR LR 14 13 35.4
comp=Z,190nm,20.2s,baz=267,slow=48
TUE Stuetta 11.65 319 Pn **Pn** **14 07 06.3 -1.0**
GEC2 GERESS Array S 11.73 338 Pn **Pn** **14 07 06.1 -2.2**
GEC2 GERESS Array S 11.73 338 *e*P **Pn** **14 07 06.9 -1.3**
baz=142,slow=15
GERES GERESS Array B 11.73 338 Pn **Pn** **14 07 06.5 -1.7**
comp=Z,3.0nm,0.3s,baz=157,slow=14,SNR=68
GERES Sn **Sn** **14 09 13.1 -5.8**
comp=Z,1.7nm,0.3s,baz=152,slow=24,SNR=5.3
GERES GERESS Array B 11.73 338 Pn **Pn** **14 07 05.6 -2.6**
MORC Moravsky Berou 11.79 351 ⇓P **Pn** **14 07 09.4 +0.4**
MORC Moravsky Berou 11.79 351 *e*PN **Pn** **14 07 08.4 -0.6**
MORC Moravsky Berou 11.79 351 P **Pn** **14 07 07.7 -1.3**
MORC Moravsky Berou 11.79 351 Pn **Pn** **14 07 07.7 -1.3**
DAVA Damuels 11.95 323 *e*Pn **Pn** **14 07 11.1 -0.2**

DAVA *e*Sn **Sn** **14 09 19.6 -4.8**
comp=Z,6.7nm,0.3s

KHC **Kasperske Hory** **12.02 338** *e*P **Pn** **14 07 10.2 -1.9**
KHC *e* 14 09 19.4
KHC **Kasperske Hory** **12.02 338** *e*PN **Pn** **14 07 10.2 -1.9**
KHC *ex* x 14 08 00.0
KHC *e*SN **Sn** **14 09 19.4 -6.5**
comp=Z,9.8nm,0.3s

KRLC **Kraliky** **12.19 349** *e*P **Pn** **14 07 14.6 +0.2**
KRLC **Kraliky** **12.19 349** *e*PN **Pn** **14 07 14.6 +0.2**
RYAN **Fayoum** **12.22 135** P **Pn** **14 07 12.4 -2.5**
baz=136
WET **Wettzell** **12.25 336** *e*P **Pn** **14 07 14.5 -0.7**
baz=142,slow=15
DPC **Dobruska-Polom** **12.53 348** *e*P **Pn** **14 07 18.9 -0.2**
DPC **Dobruska-Polom** **12.53 348** *e*PN **Pn** **14 07 18.9 -0.2**
PRU **Pruhonice** **12.55 342** *e*P **Pn** **14 07 17.8 -1.5**
PRU **Pruhonice** **12.55 342** *e*PN **Pn** **14 07 17.8 -1.5**
SENIN **Lac Senin/Sane** **12.69 314** Pn **Pn** **14 07 21.4 0.0**
UPC **Upice** **12.74 347** *e*P **Pn** **14 07 21.7 -0.1**
UPC **Upice** **12.74 347** *e*PN **Pn** **14 07 21.7 -0.1**
HFRF **Wahat Farafira** **12.83 147** P **Pn** **14 07 21.5 -1.8**
baz=148
HFRF S Sn 14 09 26.2 -20
baz=148
ROTZ **Rotzenmuhle** **13.01 336** *e*P **Pn** **14 07 24.4 -1.2**
baz=142,slow=15
MANZ **Manzenberg** **13.23 336** *e*P **Pn** **14 07 27.9 -0.7**
baz=142,slow=15
MMAI **Mount Meron Ar** **13.24 108** Pn **Pn** **14 07 30.8 +2.0**
comp=Z,2.0nm,0.3s,baz=270,slow=5.8,SNR=2.2
MMAI **Mount Meron Ar** **13.24 108** **Pn** **14 07 30.8 +2.0**
GRA1 **Grafenberg Arr** **13.28 333** Pn **Pn** **14 07 26.9 -2.4**
GRF **Grafenberg Arr** **13.28 333** P **Pn** **14 07 26.9 -2.4**
GRF **Grafenberg Arr** **13.28 333** *e*L L 14 14 23.5
comp=Z,294nm,19.3s
GRFO **Grafenberg** **13.28 333** P **Pn** **14 07 27.1 -2.2**
GRFO **Grafenberg** **13.28 333** Pn **Pn** **14 07 27.1 -2.2**
WERN **Wernitzgruen** **13.41 337** *e*P **Pn** **14 07 31.6 +0.5**
baz=142,slow=15
BFO **Black Forest** **13.43 323** P **Pn** **14 07 30.5 -0.8**
BFO **Black Forest** **13.43 323** Pn **Pn** **14 07 30.5 -0.8**
GUNZ **Gunzen** **13.49 337** *e*P **Pn** **14 07 32.2 +0.1**
baz=142,slow=15
BRG **Berggiesshubel** **13.51 342** *e*P **Pn** **14 07 30.8 -1.7**
BRG Amp 14 07 33.0
comp=Z,8.3nm,1.1s
BRG *ex* **P** **14 07 42.9 +1.3**
BRG Amp 14 07 45.1
comp=Z,18nm,1.0s
BRG *ex* x 14 09 28.4
BRG Amp 14 09 31.9
comp=Z,5.8nm,1.2s
BRG Amp 14 13 56.0
comp=Z,0.8nm,11.0s
ECH **Echery** **13.92 320** P **Pn** **14 07 38.0 -0.1**
ECH **Echery** **13.92 320** Pn **Pn** **14 07 38.0 -0.1**
MOX **Moxa** **13.96 336** P **Pn** **14 07 37.6 -0.9**
MOX **Moxa** **13.96 336** *e*P **Pn** **14 07 37.7 -0.9**
baz=142,slow=15
AKASG **Malin Array Be** **14.02 24** Pn **Pn** **14 07 38.5 -0.8**
comp=Z,0.7nm,0.3s,baz=213,slow=12,SNR=14
AKASG **Malin Array Be** **14.02 24** Pn **Pn** **14 07 37.5 -1.8**
AKBB **Malin Array Si** **14.02 24**⇑ *e*P **Pn** **14 07 38.9 -0.4**
AKBB **Malin Array Si** **14.02 24** Pn **Pn** **14 07 38.4 -0.9**
CLL **Collm** **14.15 341** *e*P **Pn** **14 07 40.0 -1.1**
CLL *i* PP **PnPn** **14 07 50.2 +1.2**
comp=Z,31nm,1.0s
CLL LmH 14 12 00.0
comp=N,400nm,18.6s
CLL LmH 14 12 00.0
comp=E,1μm,20.8s
CLL Lmax 14 14 00.0
CLL **Collm** **14.15 341** *e*P **Pn** **14 07 40.0 -1.1**
CLL **Collm** **14.15 341** Pn **Pn** **14 07 41.0 -0.1**
EIL **Elat** **14.73 121** Pn **Pn** **14 07 51.3 +2.0**
comp=E,0.7nm,0.3s,baz=47,slow=2.0,SNR=6.1
EIL LR LR 14 16 02.2
comp=E,132nm,19.6s,baz=284,slow=47
EIL **Elat** **14.73 121** P **Pn** **14 07 51.3 +2.0**
TNS **Taunus Mts** **14.78 329** *e*P **Pn** **14 07 49.0 -0.7**
baz=142,slow=15
WLF **Walferdange** **15.39 323** *d*x x 14 08 04.7
WLF **Walferdange** **15.39 323** P **P** **14 08 02.3 -0.1**
WLF pmax pmax
comp=Z,79nm,1.0s
WLF **Walferdange** **15.39 323** P **P** **14 08 02.3 -0.1**
WLF lAmb lAmb 14 08 06.2
comp=Z,79nm,1.0s
WLF **Walferdange** **15.39 323** *e*P **P** **14 08 05.6 +3.2**
comp=Z,94nm,1.1s,baz=142,slow=15
CLZ **Clausthal** **15.39 336** *e*P **P** **14 08 04.5 +2.1**
baz=142,slow=15
SOC **Sochi** **15.57 64** *e*P **Pn** **14 08 01.2 +1.0**
SOC *i* 14 10 57.5
SOC MLR MLR
comp=Z,62nm,16.0s
GUZR **Guzeripl'** **15.95 62***c e*P **P** **14 08 08.6 -0.2**
GUZR pmax pmax
comp=Z,13nm,0.8s
SUW **Suwalki** **15.97 6** *e*P **Pn** **14 08 05.6 +0.2**
SUW **Suwalki** **15.97 6** P **Pn** **14 08 05.5 +0.2**
SUW pmax pmax
comp=Z,144nm,1.0s
SUW **Suwalki** **15.97 6** **Pn** **14 08 05.5 +0.2**
NRDL **Niedersach Rie** **16.03 337** *e*P **P** **14 08 13.1 +3.6**
baz=142,slow=15
BTNL **Ternell** **16.04 325** *d*x x 14 08 11.5
BGES **Gesves** **16.38 323** *d*x x 14 08 18.2
DOU **Dourbes** **16.43 322** *d*x **P** **14 08 16.0 +2.1**
DOU *d*PnPn **PnPn** **14 08 20.7 +0.4**
ARXR **Arkhyz** **16.67 65**⇑ *e*P **P** **14 08 17.0 +0.2**
ARXR pmax pmax
comp=Z,51nm,1.6s
MNK **Minsk** **17.12 15** *i* P **Pn** **14 08 15.4 -4.6**
MNK *i* S **Sn** **14 11 23.7 -6.3**
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK MLR MLR
comp=E,19nm,16.0s
MNK MLR MLR
comp=Z,156nm,16.0s
MNK MLR MLR
comp=N,202nm,16.0s
MNK **Minsk** **17.12 15** *i* P **Pn** **14 08 15.5 -4.5**
comp=E,3.0nm,0.8s
MNK *i* P **Pn** **14 08 15.5 -4.5**
comp=N,18nm,0.9s
MNK *i* P **Pn** **14 08 15.5 -4.5**
comp=Z,26nm,0.9s,baz=21
MNK *i* PP **pP** **14 08 25.1 -0.7**
MNK *i* S **Sn** **14 11 23.7 -6.3**
MNK *i* SS **S** **14 11 40.1 +0.7**
MNK *i* LR LR 14 13 09.0
MNK *i* LRM MLR 14 15 00.4
comp=E,19nm,16.0s
MNK *i* LRM MLR 14 15 04.7
comp=Z,156nm,16.0s
MNK *i* LRM MLR 14 15 05.8
comp=N,202nm,16.0s
NACGM **Naroch** **17.30 12** *i* P **P** **14 08 23.4 -0.2**
PABE **Paberze** **17.52 7** *e*P **Pn** **14 08 23.7 -1.1**
PABE lAmb lAmb 14 08 38.5
comp=Z,44nm,1.0s
PABE **Paberze** **17.52 7** **Pn** **14 08 23.3 -1.6**
IIGN **Ignalina** **17.64 11** *e*P **P** **14 08 27.6 +0.3**
NEY **Neytrino** **17.65 66**⇑ *e*P **P** **14 08 29.7 +2.0**
NEY pmax pmax
comp=Z,5.0nm,1.0s
SHA1 **Shidzhatmaz** **17.69 65**⇓ *e*P **P** **14 08 28.7 +0.5**
IDID **Didziasalis** **17.69 12** *e*P **P** **14 08 27.9 +0.1**
ASHG **Umm Shaghir** **17.70 144** P **Pn** **14 08 27.0 -0.3**
baz=145
KIV **Kislovodsk** **17.75 64** *e*P **P** **14 08 29.9 +1.2**
KIV pmax pmax
comp=Z,69nm,1.1s
KIV MLR MLR
comp=Z,140nm,14.0s
KIV **Kislovodsk** **17.75 64** **P** **14 08 28.5 -0.2**
KVAR **Kislovodsk Arr** **17.76 64** LR LR 14 17 52.4
comp=Z,215nm,18.8s,baz=38,slow=46

GEVA **Gevas** **17.79 82** **P** **14 08 29.0 -0.3**
ISAL **Salakas** **17.84 11** *e*P **Pn** **14 08 27.9 -0.9**
ISAL lAmb lAmb 14 08 39.0
comp=Z,7.9nm,0.7s
ZEI **Tsey** **18.44 68** *e*P **Pn** **14 08 37.8 +1.2**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
VORD **Divnogorie** **18.50 40** *e*P **P** **14 08 35.7 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.2s
VSR **Storozhevoye** **18.59 39** *e*P **P** **14 08 36.1 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.1s
GNI **Garni** **18.96 76** P **Pn** **14 08 44.0 +1.1**
comp=Z,0.8nm,0.3s,baz=175,slow=3.3,SNR=11
GNI LR LR 14 16 09.7
comp=Z,300nm,18.0s,baz=280,slow=37
GNI **Garni** **18.96 76***c e*P **Pn** **14 08 43.4 +0.5**
GNI pmax pmax
comp=Z,51nm,1.7s
GNI **Garni** **18.96 76** P **Pn** **14 08 43.4 +0.5**
GNI lAmb lAmb 14 08 50.4
comp=Z,48nm,1.1s
ESDC **Sonseca Array** **19.01 282** P **P** **14 08 41.6 -1.0**
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=16
ESDC LR LR 14 16 09.5
comp=Z,146nm,19.6s,baz=55,slow=38
ESDC **Sonseca Array** **19.01 282** P **P** **14 08 41.6 -1.0**
LPSR **Galich'ya Gora** **19.35 36** *e*P **P** **14 08 45.2 -0.9**
LPSR pmax pmax
comp=Z,30nm,0.8s
VRH **Novokhopyorsk** **19.90 42** *e*P **P** **14 08 52.4 +0.3**
VRH pmax pmax
comp=Z,30nm,1.3s
DDFL **Dedoflistskaro** **20.00 72** P **Pn** **14 08 56.3 +1.1**
LGD **Lagodekhi** **20.10 71** P Pn 14 08 56.1 -0.2
BTLR **Botlikh** **20.13 69** *i* P Pn 14 09 01.0 +4.3
OBN **Obninsk** **20.18 28** LR LR 14 18 08.7
comp=Z,36nm,19.8s,baz=221,slow=41
OBN **Obninsk** **20.18 28**⇑ *e*P **P** **14 08 55.9 +0.8**
OBN *i* 14 09 02.2
OBN *i* 14 09 10.6
OBN *e*S **S** **14 12 42.3 +1.3**
OBN pmax pmax
comp=Z,52nm,1.0s
OBN MLR MLR
comp=Z,229nm,14.0s
DBC **Dubki** **20.61 68***c i*P Pn 14 09 01.9 -0.4
DBC pmax pmax
comp=Z,12nm,0.8s
MTSE **Matsula** **20.69 5** *e*P **P** **14 09 00.8 +0.2**
VSU **Vasula** **20.73 9** *e*P **P** **14 09 01.4 +0.3**
VSU **Vasula** **20.73 9***d i*P **P** **14 09 01.0 -0.1**
MDT **Midelt** **21.03 263** P **P** **14 09 05.3 +0.6**
comp=Z,3.9nm,0.8s,baz=61,slow=10,SNR=6.3
MDT LR LR 14 18 04.6
comp=Z,76nm,19.0s,baz=96,slow=39
MOS **Moscow** **21.05 28** *e*P **P** **14 09 07.7 +3.2**
MOS *e* 14 09 24.9
MOS *e*S **S** **14 12 53.4 -4.8**
MOS pmax pmax
comp=Z,47nm,0.7s
PBRG **Braganca** **21.09 289** *e*P **P** **14 09 05.7 +0.6**
comp=Z,21nm,1.7s
MAK **Makhachkala** **21.10 68** *e*P **P** **14 09 04.2 -1.0**
MAK *e*S **S** **14 13 01.1 +1.7**
MAK pmax pmax
comp=Z,220nm,1.4s
MAK MLR MLR
comp=Z,164nm,15.0s
AKT **Akhty** **21.21 72**⇓ *e*P **P** **14 09 07.2 +0.6**
AKT pmax pmax
comp=Z,22nm,1.1s
MVO **Moncorvo** **21.30 287** *e*P **P** **14 09 07.7 +0.2**
comp=Z,24nm,2.6s
PBAR **Barrancos** **21.55 279** *e*P **P** **14 09 13.6 +3.5**
comp=Z,32nm,1.9s
PMRV **Marv??o** **21.68 282** *e*P **P** **14 09 10.9 -0.6**
comp=Z,39nm,1.7s
PCBR **Castelo Branco** **21.70 283** *e*P **P** **14 09 10.9 -0.8**
comp=Z,26nm,1.4s
MTE **Manteigas** **21.72 285** *e*P **P** **14 09 11.2 -0.8**
PESTR **Estremoz** **21.89 281** *e*P **P** **14 09 13.6 -0.2**
comp=Z,26nm,1.2s
PVIS **Viseu** **21.97 286** *e*P **P** **14 09 13.9 -0.8**
comp=Z,37nm,1.8s
PVAQ **Vaqueiros** **22.21 277** *e*P **P** **14 09 20.1 +2.9**
comp=Z,28nm,2.1s
PBEJ **Beja** **22.22 278** *e*P **P** **14 09 18.9 +1.6**
comp=Z,21nm,1.6s
MEF **Metsahovi** **22.22 5** *e*P **P** **14 09 16.1 -1.0**
PGAV **Gavieira, Arco** **22.23 289** *e*P P 14 09 25.6 +8.1
comp=Z,39nm,1.9s
PMTG **Montargil** **22.36 281** *e*P **P** **14 09 17.7 -1.1**
comp=Z,20nm,0.9s
HFS **Hagfors** **22.40 351** P **P** **14 09 18.1 -0.9**
comp=Z,29nm,0.8s,baz=154,slow=8.2,SNR=24
HFS LR LR 14 18 24.8
comp=Z,152nm,18.8s,baz=168,slow=38
HFS **Hagfors** **22.40 351** P **P** **14 09 18.1 -0.9**
PBDV **Barranco-do-Ve** **22.41 276** *e*P **P** **14 09 13.5 -5.9**
comp=Z,36nm,1.9s
PUL **Pulkovo** **22.54 13**⇑ *e*P **P** **14 09 19.6 -0.9**
PUL pmax pmax
comp=Z,58nm,0.6s
KONO **Kongsberg** **22.59 346**⇓ *e*P **P** **14 09 20.5 -0.6**
KONO pmax pmax
comp=Z,158nm,2.5s
RAF **Rauma** **22.90 2** *e*P **P** **14 09 23.1 -1.2**
NC602 **NORSAR Array S** **23.28 349** P **P** **14 09 27.3 -0.9**
EKA **Eskdalemuir Ar** **23.39 325** P **P** **14 09 29.2 -0.1**
comp=Z,25nm,0.9s,baz=128,slow=11,SNR=23
ESK **Eskdalemuir** **23.40 325** P **P** **14 09 28.0 -1.5**
ESK pmax pmax
comp=Z,87nm,1.4s
ESK **Eskdalemuir** **23.40 325** P **P** **14 09 28.0 -1.5**
NAO01 **NORSAR Array S** **23.48 348** P **P** **14 09 28.8 -1.5**
FINES **FINESS Array B** **23.58 7** P **P** **14 09 29.6 -1.4**
comp=Z,21nm,0.9s,baz=165,slow=9.8,SNR=26
FINES LR LR 14 19 52.6
comp=Z,292nm,20.5s,baz=203,slow=40
FINES **FINESS Array B** **23.58 7** P **P** **14 09 29.2 -1.9**
FIA1 **FINESS Array S** **23.58 7** P **P** **14 09 29.3 -1.8**
FIA1 lAmb lAmb 14 09 36.0
comp=Z,27nm,0.8s
NC405 **NORSAR Array S** **23.61 349** P **P** **14 09 30.7 -0.8**
NB201 **NORSAR Array S** **23.62 349** P **P** **14 09 30.4 -1.2**
NOA **NORSAR Array B** **23.62 349** P **P** **14 09 31.0 -0.6**
comp=Z,8.9nm,0.7s,baz=150,slow=9.7,SNR=26
NOA LR LR 14 19 34.8
comp=Z,92nm,18.9s,baz=165,slow=39
RST **Umm Al-Ruwaisa** **23.66 103** *e*P **P** **14 09 30.4 -1.8**
NBO00 **NORSAR Array S** **23.68 348** P **P** **14 09 31.7 -0.5**
BELG **Belogornoye** **23.68 44** P **P** **14 09 32.5 +0.3**
comp=Z,45nm,0.8s,baz=242,slow=0.7,SNR=12
BELG **Belogornoye** **23.68 44***c i*P **P** **14 09 33.0 +0.8**
BELG pmax pmax
comp=Z,12nm,1.0s
NC303 **NORSAR Array S** **23.77 349** P **P** **14 09 31.9 -1.2**
NC303 lAmb lAmb 14 09 33.4
comp=Z,33nm,0.8s
MIB **Mutribah** **23.78 102** *e*P **P** **14 09 31.2 -2.1**
NC204 **NORSAR Array S** **23.91 348** P **P** **14 09 33.1 -1.3**
UMR **Umm Al-Rimmam** **24.18 103** *e*P **P** **14 09 34.8 -2.4**
RDF **Al-Radifah** **24.36 104** *e*P **P** **14 09 37.3 -1.4**
KLMR **Klimovskoe** **25.69 22** *e*P **P** **14 09 48.5 -2.0**
KLMR pmax pmax
comp=Z,39nm,1.1s
KLMR **Klimovskoe** **25.69 22** *e*P **P** **14 09 48.5 -2.0**
KLMR AMP 14 10 03.2
comp=Z,39nm,1.1s
KLMR LQ LQ 14 17 53.4
KLMR LQ LQ 14 17 53.4
KLMR LR LR 14 19 54.2
RAYN **Ar Rayn** **25.91 117** P **P** **14 09 53.2 +0.2**
RAYN pmax pmax
comp=Z,8.0nm,1.2s
RAYN **Ar Rayn** **25.91 117** P **P** **14 09 53.2 +0.2**
KIRV **Kirov** **27.72 33** P **P** **14 10 08.6 -0.3**
comp=Z,10nm,0.8s,baz=245,slow=14,SNR=4.3
KIRV LR LR 14 21 36.1
comp=Z,107nm,18.8s,baz=233,slow=38
KIRV **Kirov** **27.72 33**⇓ *e*P **P** **14 10 08.4 -0.4**
KIRV **Kirov** **27.72 33** P **P** **14 10 08.6 -0.3**
PRGR **Permogore** **28.22 25** *e*P **P** **14 10 12.3 -0.9**

PRGR pmax pmax
comp=Z,18nm,0.7s
AKTO **Aktyubinsk** **29.26 53** P **P** **14 10 23.6 +0.8**
comp=Z,2.3nm,0.5s,baz=246,slow=7.4,SNR=8.6
AKTO LR LR 14 23 12.1
comp=Z,37nm,18.0s,baz=359,slow=39
GEYT **Alibeck** **29.57 79** P **P** **14 10 25.5 -0.1**
comp=Z,1.6nm,0.4s,baz=256,slow=13,SNR=2.8
GEYT LR LR 14 26 22.2
comp=Z,64nm,18.4s,baz=260,slow=45
GYA0B **ALIBECK ARRAY** **29.57 79** P **P** **14 10 25.7 +0.1**
TOA0 **Torodi Ar. Sit** **29.96 219** P **P** **14 10 29.6 +0.4**
TOA0 lAmb lAmb 14 10 30.5
comp=Z,9.0nm,1.2s
TORD **Torodi Ar. Bea** **29.96 219** P **P** **14 10 29.9 +0.8**
comp=Z,3.4nm,0.8s,baz=29,slow=8.5,SNR=7.2
TORD LR LR 14 23 10.6
comp=Z,80nm,18.8s,baz=165,slow=38
TORD **Torodi Ar. Bea** **29.96 219** P **P** **14 10 29.6 +0.4**
ABKAR **Akbulak array** **30.33 56** P **P** **14 10 31.6 -0.5**
ARU **Arti** **31.13 42***c i*P **P** **14 10 41.9 +2.8**
ARU 14 11 41.6
ARU S **S** **14 15 50.9 +6.8**
ARU SS **SnSn** **14 17 31.9 +6.2**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARCES **ARCESS Array B** **31.56 3** P **P** **14 10 40.3 -2.5**
comp=Z,6.8nm,0.9s,baz=186,slow=9.8,SNR=8.0
ARCES LR LR 14 24 41.9
comp=Z,156nm,19.5s,baz=255,slow=39
ARCES **ARCESS Array B** **31.56 3** P **P** **14 10 40.3 -2.5**
ARCES **ARCESS Array B** **31.56 3** lAmb lAmb 14 10 44.1
comp=Z,28nm,1.3s
BRVK **Borovoye** **37.14 50**⇓ *e*P **P** **14 11 33.8 +2.6**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK **Borovoye** **37.14 50** P **P** **14 11 31.3 0.0**
LODK **Lodwar** **37.18 155** P **P** **14 11 31.8 -0.2**
KK31 **Karatay Array** **37.88 66** P **P** **14 11 38.8 +1.0**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KK31 **Karatay Array** **37.88 66** P **P** **14 11 38.8 +1.0**
KK31 lAmb lAmb 14 11 45.1
comp=Z,9.9nm,0.7s
KKAR **Karatay Array** **37.88 66** P **P** **14 11 38.7 +1.0**
KKAR pmax pmax
comp=Z,10.0nm,0.7s
KKAR **Karatay Array** **37.88 66** P **P** **14 11 38.8 +1.0**
KKAR **Karatay Array** **37.88 66** P **P** **14 11 38.7 +1.0**
KKAR lAmb lAmb 14 11 45.1
comp=Z,9.9nm,0.7s
GAR **Garm** **38.63 73** P **P** **14 11 44.6 +0.5**
GAR lAmb lAmb 14 11 52.4
comp=Z,12nm,0.8s
DBIC **Dimbokro** **38.82 223** P **P** **14 11 45.9 +0.1**
comp=Z,10nm,0.8s,baz=2.2,slow=9.1,SNR=3.9
DBIC **Dimbokro** **38.82 223** P **P** **14 11 45.9 +0.1**
BOOM **Boomskoye usch** **41.92 66** P **P** **14 12 08.9 -2.6**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
BOOM **Boomskoye usch** **41.92 66** P **P** **14 12 08.9 -2.6**
KMBO **Kilima Mbogo** **42.07 154** LR LR 14 31 58.8
comp=Z,24nm,18.6s,baz=90,slow=39
KDJ **Kajisay** **42.90 66** P **P** **14 12 17.2 -2.3**
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ **Kajisay** **42.90 66** P **P** **14 12 17.2 -2.3**
MAKZ **Makanchi** **45.17 58** P **P** **14 12 37.4 -0.1**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ **Makanchi** **45.17 58** P **P** **14 12 37.4 -0.1**
MK31 **Makanchi Array** **45.39 58** P **P** **14 12 37.7 -1.5**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 **Makanchi Array** **45.39 58** P **P** **14 12 37.7 -1.5**
MK31 lAmb lAmb 14 12 47.6
comp=Z,4.1nm,0.8s
MKAR **Makanchi Array** **45.39 58** P **P** **14 12 38.0 -1.2**
comp=Z,2.9nm,0.5s,baz=276,slow=7.3,SNR=27
MKAR LR LR 14 35 56.6
comp=Z,60nm,18.2s,baz=271,slow=42
MKAR **Makanchi Array** **45.39 58** P **P** **14 12 38.0 -1.2**
MKAR **Makanchi Array** **45.39 58** P **P** **14 12 37.8 -1.3**
ZAA0 **Zalesovo Array** **45.77 48** P **P** **14 12 41.4 -0.6**
ZAA0 lAmb lAmb 14 12 49.1
comp=Z,11nm,0.8s
ZALV **Zalesovo Beam** **45.77 48** P **P** **14 12 41.1 -0.9**
comp=Z,7.4nm,0.4s,baz=275,slow=8.6,SNR=11
ZALV LR LR 14 35 20.7
comp=Z,35nm,18.0s,baz=273,slow=41
ZALV **Zalesovo Beam** **45.77 48** *i* P **P** **14 12 42.4 +0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.4s
ZALV **Zalesovo Beam** **45.77 48** P **P** **14 12 40.6 -1.4**
NRIK **Noril'sk** **46.85 27** LR LR 14 33 19.7
comp=Z,82nm,19.6s,baz=260,slow=37
NRIK **Noril'sk** **46.85 27**⇑ *e*P **P** **14 12 50.8 +0.5**
NRIK pmax pmax
comp=Z,6.0nm,1.3s
DGZ **Jazzator, Alta** **48.11 53**⇓ *e*P **P** **14 13 00.6 0.0**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
WMQ **Urumqi** **49.85 61** *e*P **P** **14 13 15.2 +1.3**
EUNU **Eureka** **55.51 348** P **P** **14 13 55.6 +0.4**
EUNU lAmb lAmb 14 14 14.2
comp=Z,8.9nm,1.4s
TLY **Talaya** **57.37 47** LR LR 14 39 50.8
comp=Z,26nm,18.9s,baz=290,slow=37
TLY **Talaya** **57.37 47**⇓ *e*P **P** **14 14 09.9 +1.1**
TLY pmax pmax
comp=Z,3.0nm,0.8s
ZAK **Zakamensk** **57.64 49** *e*P **P** **14 14 11.8 +0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
SCHQ **Schefferville** **58.41 317** P **P** **14 14 15.7 -0.4**
comp=Z,2.1nm,0.7s,baz=50,slow=3.8,SNR=3.6
SCHQ **Schefferville** **58.41 317** P **P** **14 14 16.2 +0.1**
SCHQ lAmb lAmb 14 14 28.8
comp=Z,5.7nm,0.8s
TIXI **Tiksi** **59.70 20**⇓ *e*P **P** **14 14 24.8 +0.1**
TIXI **Tiksi** **59.70 20** P **P** **14 14 25.1 +0.5**
TIXI lAmb lAmb 14 14 39.5
comp=Z,3.2nm,0.8s
GTA **Gaotai** **59.91 62** ⇑P **P** **14 14 27.2 +0.3**
GTA pP pP 14 14 31.6 -0.2
GTA sP sP 14 14 34.3 +0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,65nm,6.0s
GTA L L
comp=Z,62nm,14.9s
GTA L L
comp=Z,77nm,16.0s
GTA L L
comp=Z,96nm,17.1s
SONM **Songino Array** **60.54 51** P **P** **14 14 31.2 +0.2**
comp=Z,1.4nm,0.6s,baz=288,slow=9.6,SNR=8.5
SONM LR LR 14 41 31.4
comp=Z,52nm,18.6s,baz=293,slow=37
SONM **Songino Array** **60.54 51** P **P** **14 14 31.3 +0.2**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM **Songino Array** **60.54 51** P **P** **14 14 31.3 +0.2**
SONM lAmb lAmb 14 14 39.0
comp=Z,3.3nm,1.0s
ULN **Ulaanbaatar** **60.92 50***c e*P **P** **14 14 34.3 +0.6**
ULN pmax pmax
comp=Z,2.0nm,0.7s
PALK **Pallekele** **62.30 103** LR LR 14 43 16.4
comp=Z,43nm,18.5s,baz=44,slow=38
YAK **Yakutsk** **65.17 29** *e*P **P** **14 15 00.6 -0.8**
YAK *e* 14 15 10.6
YAK pmax pmax
comp=Z,11nm,1.0s
BOSA **Boshof** **66.58 175** P **P** **14 15 13.6 +2.6**
comp=Z,2.3nm,0.6s,baz=18,slow=2.1,SNR=3.7
BOSA LR LR 14 49 56.6
comp=Z,75nm,18.3s,baz=6.5,slow=41
HHC **Hu-ho-hao-te** **67.12 55** *e*P **P** **14 15 16.1 +1.6**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,61nm,5.8s
C36M **Paulatuk** **69.66 347** P **P** **14 15 30.1 +0.5**

C36M					IAmb	IAmb	14 15 31.0		
	comp=Z,5.1nm,1.0s								
CMAR	**Chiang Mai Arr**	**69.98**	**82**	P		**P**	**14 15 33.1**	**+0.6**	
	comp=Z,1.1nm,0.7s,baz=303,slow=8.1,SNR=7.1								
CMAR				LR		LR	14 50 18.8		
	comp=Z,17nm,19.3s,baz=200,slow=39								
BILL	**Bilibino**	**71.05**	**13**	*i* P		**P**	**14 15 38.3**	**0.0**	
BILL				*i*			14 15 57.7		
BILL				*i*			14 18 17.6		
BILL				pmax		pmax			
	comp=Z,3.0nm,1.1s								
BILL	**Bilibino**	**71.05**	**13**	P		**P**	**14 15 37.8**	**-0.5**	
SEY	**Seymchan**	**72.19**	**21**	*ce*P		**P**	**14 15 46.0**	**+0.8**	
TOLK	**Toolik Lake Re**	**73.25**	**356**	P		**P**	**14 15 52.1**	**+0.6**	
TOLK				IAmb		IAmb	14 16 10.7		
	comp=Z,7.0nm,1.4s								
YKA	**Yellowknife Ar**	**73.38**	**340**	P		**P**	**14 15 52.4**	**+0.2**	
	comp=Z,0.9nm,0.7s,baz=39,slow=5.7,SNR=11								
YKA	**Yellowknife Ar**	**73.38**	**340**	P		**P**	**14 15 52.4**	**+0.2**	
KLR	**Kul'dur**	**73.94**	**39**	*eP*		**P**	**14 15 55.6**	**-0.2**	
KLR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BMAR	**Burnt Mountain**	**74.12**	**354**	P		**P**	**14 15 57.5**	**+0.9**	
MA2	**Magadan**	**74.35**	**24**	P		**P**	**14 15 59.4**	**+1.4**	
MA2				pmax		pmax			
	comp=Z,20nm,1.1s								
MA2	**Magadan**	**74.35**	**24**	P		**P**	**14 15 59.4**	**+1.4**	
Q54A	**Coxs Mills**	**74.59**	**308**	P		**P**	**14 15 58.9**	**-0.9**	
Q54A				IAmb		IAmb	14 16 15.4		
	comp=Z,8.6nm,0.8s								
ULM	**Lac du Bonnet**	**75.66**	**324**	P		**P**	**14 16 04.9**	**-0.8**	
	comp=Z,4.1nm,0.8s,baz=55,slow=6.8,SNR=7.3								
ULM				LR		LR	14 47 39.9		
	comp=Z,32nm,21.8s,baz=70,slow=34								
ULM	**Lac du Bonnet**	**75.66**	**324**	P		**P**	**14 16 05.5**	**-0.3**	
ULM				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**75.66**	**324**	P		**P**	**14 16 05.5**	**-0.3**	
ULM				IAmb		IAmb	14 16 07.0		
	comp=Z,4.4nm,0.8s								
IMAR	**Indian Mountai**	**76.09**	**358**	P		**P**	**14 16 08.2**	**+0.3**	
I23K	**Minto, Yukon-K**	**76.72**	**356**	P		**P**	**14 16 12.2**	**+0.7**	
I23K				IAmb		IAmb	14 16 25.0		
	comp=Z,6.2nm,1.2s								
MDM	**Murphy Dome**	**76.83**	**355**	P		**P**	**14 16 12.8**	**+0.6**	
MDM				IAmb		IAmb	14 16 14.4		
	comp=Z,5.2nm,1.0s								
DAWY	**Dawson**	**76.86**	**351**	P		**P**	**14 16 12.6**	**+0.2**	
DAWY				IAmb		IAmb	14 16 14.3		
	comp=Z,4.5nm,1.0s								
COLA	**College**	**76.89**	**355**	*eP*		**P**	**14 16 13.5**	**+1.1**	
COLA				pmax		pmax			
	comp=Z,2.0nm,1.1s								
NJ2	**Nanjing**	**76.90**	**60**	*eP*		**P**	**14 16 12.0**	**-1.1**	
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
MLY	**Manley**	**76.91**	**356**	P		**P**	**14 16 12.7**	**0.0**	
IL31		**76.92**	**354**	P		**P**	**14 16 12.4**	**-0.2**	
ILAR	**Eielson Array**	**76.92**	**354**	P		**P**	**14 16 12.0**	**-0.6**	
	comp=Z,1.5nm,0.9s,baz=4.1,slow=4.3,SNR=12								
ILAR	**Eielson Array**	**76.92**	**354**	P		**P**	**14 16 13.0**	**+0.4**	
ILAR	**Eielson Array**	**76.92**	**354**	P		**P**	**14 16 13.0**	**+0.4**	
HDA	**Harding Lake**	**77.28**	**354**	P		**P**	**14 16 14.6**	**-0.1**	
HDA				IAmb		IAmb	14 16 15.9		
	comp=Z,5.3nm,0.9s								
USRK	**Ussuriysk Ar.**	**77.35**	**43**	P		**P**	**14 16 16.1**	**+0.7**	
	comp=Z,3.1nm,0.8s,baz=304,slow=3.9,SNR=4.1								
USRK	**Ussuriysk Ar.**	**77.35**	**43**	P		**P**	**14 16 15.9**	**+0.4**	
F36A	**Milaca**	**77.49**	**319**	P		**P**	**14 16 16.1**	**-0.1**	
F36A				IAmb		IAmb	14 16 17.4		
	comp=Z,4.4nm,0.8s								
MCK	**McKinley**	**78.09**	**355**	P		**P**	**14 16 19.7**	**+0.5**	
MCK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MCK	**McKinley**	**78.09**	**355**	P		**P**	**14 16 19.7**	**+0.5**	
MCK				IAmb		IAmb	14 16 20.4		
	comp=Z,5.0nm,0.9s								
BCAR	**Beaver Creek A**	**78.11**	**352**	P		**P**	**14 16 19.8**	**+0.4**	
L27K	**Beaver Creek,**	**78.12**	**352**	P		**P**	**14 16 19.7**	**+0.3**	
L27K				IAmb		IAmb	14 16 33.8		
	comp=Z,4.7nm,1.2s								
PPLA	**Purkeypile**	**79.11**	**357**	P		**P**	**14 16 25.7**	**+0.7**	
PPLA				IAmb		IAmb	14 16 32.6		
	comp=Z,10nm,1.3s								
KSAR	**Wonju Array Be**	**79.39**	**51**	P		**P**	**14 16 26.5**	**-0.3**	
KSAR	**Wonju Array Be**	**79.39**	**51**	P		**P**	**14 16 26.5**	**-0.3**	
KSRS	**Korea Array**	**79.41**	**51**	P		**P**	**14 16 26.5**	**-0.4**	
	comp=Z,1.3nm,0.8s,baz=301,slow=4.7,SNR=5.2								
KSRS				LR		LR	14 56 02.5		
	comp=Z,34nm,18.0s,baz=185,slow=39								
HYT	**Haines Junctio**	**79.72**	**349**	P		**P**	**14 16 29.2**	**+0.9**	
SKT	**Skwentna**	**79.99**	**356**	P		**P**	**14 16 28.9**	**-0.8**	
SKT				IAmb		IAmb	14 16 34.9		
	comp=Z,8.2nm,1.3s								
YSS	**Yuzh-Sakhalins**	**80.83**	**36**	*eP*		**P**	**14 16 34.9**	**+0.5**	
YSS				pmax		pmax			
	comp=Z,71nm,2.5s								
YSS	**Yuzh-Sakhalins**	**80.83**	**36**	P		**P**	**14 16 35.0**	**+0.6**	
PETK	**Petropavlovsk-**	**81.86**	**24**	LR		LR	14 57 45.2		
	comp=Z,68nm,20.1s,baz=324,slow=39								
T35A	**Sooner Cattle**	**85.30**	**314**	P		**P**	**14 16 57.7**	**-0.1**	
JTMT	**Jette**	**85.42**	**331**	P		**P**	**14 16 58.3**	**-0.1**	
YNE	**Yellowstone No**	**85.92**	**327**	P		**P**	**14 17 01.3**	**+0.3**	
YNE				IAmb		IAmb	14 17 15.4		
	comp=Z,6.8nm,1.0s								
MJAR	**Matsushiro Arr**	**86.06**	**46**	P		**P**	**14 17 03.1**	**+1.6**	
	comp=Z,3.8nm,1.1s,baz=312,slow=5.2,SNR=5.4								
COCO	**West Island**	**87.03**	**108**	*i* P		**P**	**14 17 08.1**	**+1.6**	
BMO	**Blue Mountains**	**88.99**	**331**	P		**P**	**14 17 15.1**	**-0.5**	
BMO				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BMO	**Blue Mountains**	**88.99**	**331**	P		**P**	**14 17 15.1**	**-0.5**	
BMO				IAmb		IAmb	14 17 16.3		
	comp=Z,2.5nm,0.8s								
SRU	**San Rafael Swe**	**90.87**	**324**	P		**P**	**14 17 23.8**	**-0.8**	
SRU				pmax		pmax			
	comp=Z,4.0nm,0.7s								
SRU	**San Rafael Swe**	**90.87**	**324**	P		**P**	**14 17 23.8**	**-0.8**	
SRU				IAmb		IAmb	14 17 32.5		
	comp=Z,3.7nm,0.7s								
NVAR	**Mina Array Bea**	**94.84**	**329**	P		**P**	**14 17 43.2**	**+0.2**	
	comp=Z,0.2nm,0.6s,baz=27,slow=4.2,SNR=2.2								
TXAR	**Lajitas Array**	**94.92**	**313**	LR		LR	14 59 40.2		
	comp=Z,29nm,18.9s,baz=0.0,slow=35								
CPUP	**Villa Florida**	**96.96**	**242**	LR		LR	15 03 39.1		
	comp=Z,61nm,18.2s,baz=38,slow=37								
WRA	**Warramunga Arr**	**120.63**	**92**	PKP		**PKPdf**	**14 23 11.8**	**-1.1**	
	comp=Z,0.2nm,0.6s,baz=308,slow=1.7,SNR=4.6								
WRA	**Warramunga Arr**	**120.63**	**92**			**PKPdf**	**14 23 11.8**	**-1.1**	
ASAR	**Alice Springs**	**122.26**	**96**	PKP		**PKPdf**	**14 23 15.6**	**-0.4**	
	comp=Z,0.4nm,0.8s,baz=312,slow=1.7,SNR=6.2								
ASAR	**Alice Springs**	**122.26**	**96**			**PKPdf**	**14 23 15.6**	**-0.4**	

IDC 02 14:25:01.9±1.5, 30°64'N×97°18'E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.4/4, ML3.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36 Error ellipse: s-maj=53.4km s-min=25.2km az=52.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.23**	**172**	LR	LR	14 33 32.7	
	comp=Z,8.7nm,19.7s,baz=195,slow=42						
MKAR	**Makanchi Array**	**19.82**	**329**	P	Pn	14 29 35.5	0.0
	0.1nm,0.3s,baz=134,slow=10,SNR=4.1						
KURBB	**Kurchatov Arra**	**24.34**	**330**	P	P	14 30 20.4	-0.8
	0.7nm,0.8s,baz=143,slow=9.4,SNR=7.2						
KSRS	**Korea Array**	**26.29**	**67**	P	P	14 30 38.8	-0.3
	0.5nm,0.5s,baz=256,slow=9.3,SNR=4.2						
PSI	**Prapat**	**27.73**	**176**	LR	LR	14 43 36.8	
	comp=Z,150nm,18.0s,baz=258,slow=40						
ASAR	**Alice Springs**	**64.47**	**143**	P	P	14 35 40.5	+0.1
	0.2nm,0.3s,baz=325,slow=6.2,SNR=11						

*NEIC **02** 14:34:50.5±1.4, 52°.49N×0°.09×114°.9W±0°.1, h15km±7km, Error ellipse: s-maj=16.7km s-min=6.5km az=136.0*
*PGC **02** 14:34:50.5±0.0, 52°.43N×115°.02W, h1km, ML3.5/6, 10km Wnw of Rocky Mt. House, Alberta Alberta, Canada*
ISC 02 14:34:48.7±0.7, 52°.46N±0°.04×115°.07W±0°.03, h10km, n55, σ2s 3°03/65, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDM	**Edmonton**	**1.29**	**53**	P	**Pg**	**14 35 13.3**	**-0.3**
EDM				S	**Sn**	**14 35 30.0**	**-0.3**
EDM	**Edmonton**	**1.29**	**53**	Pg	**Pg**	**14 35 13.2**	**-0.3**
EDM				Sg	**Sn**	**14 35 29.6**	**-0.7**
EDM				IAML		14 35 30.4	
	comp=E,2μm,0.5s						
EDM				IAML		14 35 30.7	
	comp=N,2μm,0.6s						
PRDA	**Priddis**	**1.66**	**163**	Pn	**Pb**	**14 35 19.6**	**+0.2**
PRDA				Sg	**Sg**	**14 35 41.4**	**-0.8**
MNB	**Mounoet Dainar**	**2.05**	**264**	Pn	**Pb**	**14 35 27.2**	**+1.0**
MNB				Sg	**Sg**	**14 35 54.8**	**+0.1**
SLEB	**Sale Mountain**	**2.30**	**237**	Pn	**Pb**	**14 35 29.7**	**-0.7**
SLEB				Sg	**Sg**	**14 36 02.4**	**-0.2**
BLBC	**Blue River**	**2.60**	**263**	Pn	**Pb**	**14 35 34.4**	**-1.1**
BLBC				Sg	**Sb**	**14 36 10.6**	**+3.0**
WALA	**Waterton Lakes**	**3.48**	**167**	Pn	**Pn**	**14 35 45.4**	**+2.4**
WALA				Sn	**Sn**	**14 36 25.6**	**+1.3**
WALA	**Waterton Lakes**	**3.48**	**167**	Pn	**Pn**	**14 35 45.2**	**+2.2**
PNT	**Penticton**	**4.26**	**224**	Pn	**Pn**	**14 35 55.7**	**+2.0**
PNT				Sg	**Sg**	**14 37 02.8**	**-2.7**
NEW	**Newport**	**4.40**	**198**	Pn	**Pn**	**14 35 56.9**	**+1.4**
NEW				IAML		14 37 22.3	
	comp=N,42nm,0.7s						
BSMT	**Bassoo Peak**	**4.61**	**178**	Pn	**Pn**	**14 36 00.2**	**+1.6**
NBC4	**NorthernBC 4**	**4.62**	**317**	Pn	**Pn**	**14 36 01.2**	**+2.7**
NBC4				Sn	**Sn**	**14 36 53.6**	**+1.4**
YBMT	**Yellow Bay**	**4.65**	**171**	Pn	**Pn**	**14 36 00.9**	**+1.8**
JTMT	**Jette**	**4.74**	**174**	Pn	**Pn**	**14 36 01.9**	**+1.5**
JTMT	**Jette**	**4.74**	**174**	Pn	**Pn**	**14 36 01.4**	**+1.1**
JTMT				IAML		14 37 22.8	
	comp=E,48nm,0.8s						
JTMT				IAML		14 37 27.6	
	comp=N,36nm,0.5s						
B08A	**Colville Reser**	**4.93**	**215**	Pn	**Pn**	**14 36 04.7**	**+1.9**
B08A	**Colville Reser**	**4.93**	**215**	Pn	**Pn**	**14 36 04.3**	**+1.6**
B08A				IAML		14 37 35.9	
	comp=N,23nm,0.5s						
SWMT	**Swartz Lake**	**5.00**	**172**	Pn	**Pn**	**14 36 05.4**	**+1.5**
HOPB	**Hope**	**5.06**	**235**	Sg	**Sg**	**14 37 27.2**	**-3.8**
FBMT	**Ferry Basin**	**5.07**	**175**	Pn	**Pn**	**14 36 06.3**	**+1.4**
C09A	**Chrisman Ranch**	**5.10**	**205**	Pn	**Pn**	**14 36 06.2**	**+1.1**
SLMT	**Seeley Lake**	**5.32**	**168**	Pn	**Pn**	**14 36 10.2**	**+1.9**
WSLR	**Whistler**	**5.45**	**248**	Sg	**Sg**	**14 37 39.1**	**-4.5**
UBRB	**Upper Baezaeko**	**5.50**	**278**	Pn	**Pn**	**14 36 12.1**	**+1.3**
UBRB				Sg	**Sg**	**14 37 42.6**	**-2.7**
OVMT	**Ovando**	**5.56**	**165**	Pn	**Pn**	**14 36 13.7**	**+2.1**
EGMT	**Eagleton**	**5.59**	**140**	Pn	**Pn**	**14 36 12.6**	**+0.6**
MSO	**Missoula**	**5.68**	**172**	Pn	**Pn**	**14 36 14.6**	**+1.4**
B06A	**Marblemount**	**5.68**	**229**	Pn	**Pn**	**14 36 15.4**	**+2.3**
HNBB	**Haney**	**5.71**	**239**	Sg	**Sg**	**14 37 49.0**	**-3.0**
LYMT	**Lyon Mountain**	**5.78**	**161**	Pn	**Pn**	**14 36 16.5**	**+1.8**
BPMT	**Black Pine Rid**	**6.12**	**169**	Pn	**Pn**	**14 36 21.1**	**+1.7**
HRY	**Holter Researc**	**6.12**	**159**	Pn	**Pn**	**14 36 20.8**	**+1.5**
HRY	**Holter Researc**	**6.12**	**159**	Pn	**Pn**	**14 36 20.5**	**+1.2**
ELMT	**Elliston**	**6.17**	**163**	Pn	**Pn**	**14 36 21.7**	**+1.7**
SHB	**Sechelt**	**6.25**	**246**	Sg	**Sg**	**14 38 03.3**	**-6.0**
LTY	**Liberty**	**6.34**	**217**	Pn	**Pn**	**14 36 24.7**	**+2.4**
F10A	**Beach Ranch, E**	**6.64**	**193**	Pn	**Pn**	**14 36 27.4**	**+1.0**
NBC5	**NorthernBC 5**	**6.70**	**322**	Pn	**Pn**	**14 36 29.2**	**+2.0**
DLMT	**Dillon**	**7.28**	**166**	Pn	**Pn**	**14 36 36.6**	**+1.4**
GCMT	**Greycliff**	**7.55**	**150**	Pn	**Pn**	**14 36 40.7**	**+1.8**
G08A	**Pilot Rock**	**7.62**	**201**	Pn	**Pn**	**14 36 41.3**	**+1.5**
BMO	**Blue Mountains**	**7.75**	**192**	Pn	**Pn**	**14 36 42.5**	**+0.9**
MCMT	**McKenzie Canyo**	**7.77**	**168**	Pn	**Pn**	**14 36 43.4**	**+1.3**
YHL	**Hebgen Lake**	**8.03**	**160**	Pn	**Pn**	**14 36 47.1**	**+1.4**
FFC	**Flin Flon**	**8.11**	**69**	Pn	**Pn**	**14 36 44.2**	**-2.2**
YHB	**Horse Butte**	**8.12**	**160**	Pn	**Pn**	**14 36 48.3**	**+1.4**
YHH	**Holmes Hill**	**8.16**	**158**	Pn	**Pn**	**14 36 48.6**	**+1.1**
YNE	**Yellowstone No**	**8.17**	**154**	Pn	**Pn**	**14 36 44.1**	**-3.4**
BCYI	**Bear Canyon**	**8.22**	**172**	Pn	**Pn**	**14 36 49.4**	**+1.1**
YMP	**Mirror Lake Pl**	**8.38**	**155**	Pn	**Pn**	**14 36 47.5**	**-2.9**
FLWY	**Flagg Ranch**	**8.87**	**159**	Pn	**Pn**	**14 36 59.5**	**+2.5**
HLID	**Hailey**	**8.91**	**177**	Pn	**Pn**	**14 37 00.7**	**+3.1**
MFID	**Camas Ranch**	**9.06**	**184**	Pn	**Pn**	**14 37 00.4**	**+0.8**
R11A	**Troy Canyon, C**	**14.11**	**182**	Pn	**Pn**	**14 38 08.6**	**-0.2**
AFDM	**Forest Hills D**	**14.12**	**199**	Pn	**Pn**	**14 38 08.9**	**+0.2**

*IDC **02** 14:53:37.5±4.6, 23°.78S×179°.67W, h521km±46km, mb3.4/10, mb1 3.5/12, mb1mx3.3/30, mbtmp4.3/12, Error ellipse: s-maj=39.2km s-min=31.3km az=129.0*
*NEIC **02** 14:53:39.1±1.6, 23°.73S±0°.08×179°.8W±0°.1, h528km±7km, mb4.4/30, Error ellipse: s-maj=18.4km s-min=8.1km az=119.0*
ISC 02 14:53:39.4±0.6, 23°.70S±0°.09×179°.84W±0°.09, h532km, n55, σ0s 88/54, mb4.2/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.26**	**341**	P	**P**	**14 55 20.1**	**+0.3**
NIUE	**Niue**	**10.32**	**65**	P	**P**	**14 55 59.3**	**-1.2**
MARNC	**Mare, Loyalty**	**11.42**	**279**	P	**P**	**14 56 12.2**	**+0.4**
PINC	**Pines Island,**	**11.74**	**273**	P	**P**	**14 56 16.3**	**+1.1**
LIFNC	**LIFOU**	**12.31**	**281**	P	**P**	**14 56 20.4**	**-0.2**
DZM	**Mont Dzumac**	**12.74**	**275**	P	**P**	**14 56 26.2**	**+0.3**
	0.5nm,0.3s,baz=157,slow=20,SNR=6.6						
URZ	**Urewera**	**14.74**	**189**	P	**P**	**14 56 45.6**	**-0.7**
	1.2nm,0.3s,baz=120,slow=20,SNR=2.2						
BKZ	**Black Stump Fm**	**15.73**	**191**	P	**P**	**14 56 55.1**	**-1.5**
BKZ				IAmb	IAmb	14 57 00.8	
	comp=Z,26nm,1.2s						
BFZ	**Birch Farm**	**17.25**	**190**	P	**P**	**14 57 09.7**	**-1.4**
MSWZ	**Moikau Station**	**18.14**	**192**	P	**P**	**14 57 17.3**	**-1.9**
QRZ	**Quartz Range**	**18.24**	**199**	P	**P**	**14 57 19.7**	**-0.5**
NNZ	**Nelson**	**18.37**	**196**	P	**P**	**14 57 20.4**	**-0.9**
KHZ	**Kahutara**	**19.46**	**195**	P	**P**	**14 57 30.4**	**-0.7**
OXZ	**Oxford**	**20.69**	**197**	P	**P**	**14 57 41.3**	**-1.1**
WHZ	**Wether Hill Ro**	**24.25**	**201**	P	**P**	**14 58 14.2**	**0.0**
WHZ				IAmb	IAmb	14 58 26.8	
	comp=Z,12nm,1.2s						
CTA	**Charters Tower**	**31.62**	**270**	P	**P**	**14 59 19.4**	**+0.4**
	comp=Z,7.2nm,0.4s,baz=93,slow=11,SNR=28						
CTAO	**Charters Tower**	**31.62**	**270**	P	**P**	**14 59 19.1**	**+0.1**
CTAO				IAmb	IAmb	14 59 19.6	
	comp=Z,8.4nm,0.5s						
TOO	**Toolangi**	**32.68**	**237**	P	**P**	**14 59 27.8**	**0.0**
TOO				IAmb	IAmb	14 59 38.5	
	comp=Z,7.3nm,1.1s						
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**14 59 47.2**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=87,slow=12,SNR=3.3						
BBOO	**Buckleboo**	**39.65**	**247**	P	**P**	**15 00 26.8**	**+1.3**
BBOO				IAmb	IAmb	15 00 46.5	
	comp=Z,24nm,1.2s						
AS31	**Alice Springs**	**42.21**	**260**	P	**P**	**15 00 45.0**	**-1.0**
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**15 00 45.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=95,slow=7.3,SNR=37						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**15 00 44.7**	**-1.2**
WR0	**Warramunga Arr**	**42.38**	**266**	P	**P**	**15 00 46.1**	**-1.1**
WR0				IAmb	IAmb	15 00 56.2	
	comp=Z,9.1nm,1.3s						
WB2	**Warramunga Arr**	**42.55**	**266**	P	**P**	**15 00 47.6**	**-1.0**
WB2				IAmb	IAmb	15 00 48.4	
	comp=Z,4.9nm,0.8s						
WB0	**Warramunga Arr**	**42.56**	**266**	P	**P**	**15 00 47.5**	**-1.2**
WB0				IAmb	IAmb	15 00 50.5	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**15 00 47.8**	**-0.9**
	comp=Z,3.0nm,0.4s,baz=92,slow=8.4,SNR=99						
WRA	**Warramunga Arr**	**42.56**	**266**	IAmb	IAmb	15 00 48.4	
	comp=Z,0.3nm,0.7s						
FORT	**Forrest**	**46.52**	**249**	P	**P**	**15 01 17.5**	**-1.5**
FORT				IAmb	IAmb	15 01 17.7	
	comp=Z,24nm,0.9s						
MTN	**Manton Dam**	**47.58**	**274**	P	**P**	**15 01 26.2**	**-1.0**
MTN				IAmb	IAmb	15 01 47.9	
	comp=Z,29nm,1.4s						
KNRA	**Kununurra**	**48.83**	**270**	P	**P**	**15 01 36.1**	**-0.4**
KNRA				IAmb	IAmb	15 01 47.6	
	comp=Z,21nm,1.3s						
JCUZ	**Jacuzzi**	**49.15**	**31**	P	**P**	**15 01 39.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.99**	**265**	P	**P**	**15 01 52.1**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=123,slow=6.0,SNR=8.0						
FITZ	**Fitzroy Crossi**	**50.99**	**265**	P	**P**	**15 01 52.3**	**0.0**
FITZ				IAmb	IAmb	15 01 53.0	
	comp=Z,9.8nm,1.2s						
SIJI	**Sorong**	**52.51**	**288**	P	**P**	**15 02 02.9**	**-0.5**
	comp=Z,15nm,0.7s,baz=100,slow=9.8,SNR=6.8						
PSA00	**Pilbara Seismi**	**55.34**	**259**	P	**P**	**15 02 22.2**	**-1.1**
MORW	**Morawa**	**57.08**	**250**	P	**P**	**15 02 34.5**	**-0.6**
MORW				IAmb	IAmb	15 02 40.2	
	comp=Z,7.3nm,1.1s						
QSPA	**South Pole Qui**	**66.38**	**180**	P	**P**	**15 03 36.9**	**+1.5**
QSPA				IAmb	IAmb	15 03 37.8	
	comp=Z,2.7nm,0.9s						
MJAR	**Matsushiro Arr**	**71.81**	**325**	P	**P**	**15 04 08.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=157,slow=6.8,SNR=4.2						
JWT	**Wachi**	**72.38**	**323**	P	**P**	**15 04 11.8**	**+0.4**
JWT				IAmb	IAmb	15 04 29.2	
	comp=Z,14nm,1.3s						
ADK	**Adak**	**75.31**	**2**	P	**P**	**15 04 27.6**	**-0.1**
ADK				IAmb	IAmb	15 04 27.8	
	comp=Z,34nm,1.1s						
BELA	**Belgrano 2**	**76.61**	**173**	P	**P**	**15 04 35.0**	**+0.3**
NIKH	**Nikolski High**	**76.94**	**7**	P	**P**	**15 04 36.7**	**0.0**
MAW	**Mawson**	**77.99**	**200**	P	**P**	**15 04 42.9**	**+0.7**
KSRS	**Korea Array**	**78.19**	**320**	P	**P**	**15 04 44.8**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=145,slow=4.7,SNR=4.4						
PETK	**Petropavlovsk-**	**78.94**	**346**	P	**P**	**15 04 46.8**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=104,slow=6.3,SNR=5.9						
PETK	**Petropavlovsk-**	**78.94**	**346**	P	**P**	**15 04 48.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**15 05 41.4**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=139,slow=3.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**15 05 40.6**	**-0.1**
MKAR	**Makanchi Array**	**112.12**	**313**	PKiKP	**PKiKP**	**15 11 13.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=97,slow=2.1,SNR=4.1						
MKAR	**Makanchi Array**	**112.12**	**313**		**PKiKP**	**15 11 13.3**	**-1.0**
FINES	**FINESS Array B**	**138.30**	**342**	PKP	**PKPdf**	**15 12 04.1**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=105,slow=4.5,SNR=4.3						
AKASG	**Malin Array Be**	**144.88**	**328**	PKPbc	**PKPdf**	**15 12 15.7**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=43,slow=4.3,SNR=7.8						
BRTR	**Keskin Array B**	**147.57**	**307**	PKPbc	**PKPdf**	**15 12 22.4**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=162,slow=4.9,SNR=3.8						
CLL	**Collm**	**150.71**	**343**	*i* PKPbc	**PKPbc**	**15 12 31.5**	**+0.3**
	comp=Z,8.0nm,0.9s						

*IDC **02** 15:17:08.3±1.6, 37°.82N×142°.87E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.6/47, mbtmp3.6/9, ML3.3/3, MS2.9/3, Ms1 2.9/3, ms1mx2.4/41, Error ellipse: s-maj=39.6km s-min=20.8km az=75.0*
*JMA **02** 15:17:10.3±0.1, 37°.83N×142°.56E, h37km±3km, M4.0*
*NIED **02** 15:17:10.3, 37°.83N×142°.56E, h37km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-4.35; Mθθ 0.97; Mφφ 3.38; Mrθ 0.05; Mθφ -0.66; Mφr 1.65; Fault plane solution: Mo 4.27000×10^14 NP1: φs171.00000°, δ56.00000°, λ-85.00000°. NP2: φs342.00000°, δ34.00000°, λ-98.00000°.*
ISC 02 15:17:11.1±2.2, 37°.88N±0°.04×142°.45E±0°.08, h14km±11km, n24, σ1s 33/33, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.89**	**300**	P	**Pg**	**15 17 27.7**	**-0.6**
JIKH				*eS*	**Sg**	**15 17 41.1**	**+1.2**
JIO	**Ouri**	**1.04**	**304**	P	**Pg**	**15 17 30.2**	**-1.0**
JIO				*eS*	**Sg**	**15 17 45.3**	**+0.6**
JKMT	**Kesennumamotoy**	**1.21**	**321**	P	**Pn**	**15 17 32.6**	**-0.9**
JKMT				*eS*	**Sb**	**15 17 48.4**	**-0.8**
JMST	**Minamisoumatoc**	**1.24**	**264**	P	**Pn**	**15 17 32.7**	**-1.3**
JMST				*eS*	**Sb**	**15 17 49.3**	**-0.9**
JMM	**

WRH	**Wood River Hil**	**17.11**	**36**	Pn	Pn	15 24 52.8	+0.5
WRH				IAmb	IAmb	15 24 55.7	
	comp=Z,2.2nm,0.6s						
HDA	**Harding Lake**	**17.50**	**37**	P	P	15 24 55.2	+0.1
IL31		**17.71**	**37**	P	P	15 24 57.2	-0.2
IL31				IAmb	IAmb	15 24 58.5	
	comp=Z,2.4nm,0.4s						
ILAR	**Eielson Array**	**17.71**	**37**	P	P	15 24 57.0	-0.4
DOT	**Dot Lake**	**18.27**	**42**	P	P	15 25 03.1	-0.4
GRNC	**Granite Creek**	**18.34**	**52**	P	P	15 25 03.1	-1.5
GRNC				IAmb	IAmb	15 25 03.9	
	comp=Z,2.5nm,0.8s						
SCRK	**Sand Creek**	**18.43**	**41**	P	P	15 25 03.7	-1.8
K27K	**Chicken**	**19.23**	**42**	P	P	15 25 14.2	+0.4
EGAK	**Eagle**	**19.89**	**40**	P	P	15 25 20.6	-0.3
EGAK				IAmb	IAmb	15 25 22.0	
	comp=Z,4.1nm,0.6s						
BMAR	**Burnt Mountain**	**19.97**	**31**	P	P	15 25 21.9	+0.1
DAWY	**Dawson**	**20.34**	**43**	P	P	15 25 27.7	+1.9
DAWY				IAmb	IAmb	15 25 28.5	
	comp=Z,1.6nm,0.5s						
HYT	**Haines Junctio**	**20.41**	**52**	P	P	15 25 28.1	+1.4
HYT				IAmb	IAmb	15 25 56.1	
	comp=Z,3.5nm,1.5s						

DJA 02 15:29:51.9±0.6, 9°S±6′×11°6E±′, h24km±4km, M4.0/9, mb5.2/2, mB6.5/1, MLv3.3/9, Mw(mB)6.3/1, MwMwp5.3/1, Mwp5.5/1, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.60**	**275**	P	Pn	15 30 06.0	+1.0
SRBI	**Singaraja**	**0.88**	**317**	P	Pb	15 30 08.5	0.0
SRBI				S	Sn	15 30 21.0	+0.2
TWSI	**Taliwang, Sumb**	**1.05**	**91**	P	Pn	15 30 10.7	-0.4
TWSI				S	Sn	15 30 25.0	0.0
ABJI	**Asem Bagus**	**1.82**	**300**	P	Pn	15 30 22.3	+0.5
ABJI				S	Sn	15 30 44.8	+0.7
PLAI	**Plampang**	**1.94**	**93**	P	Pn	15 30 24.3	+1.0
PLAI				S	Sn	15 30 47.7	+0.8
WBSI	**Waikabubak, Su**	**3.64**	**105**	P	Pn	15 30 47.0	+0.2
PWJI	**Pagerwojo**	**4.04**	**280**	P	Pn	15 30 51.2	-1.0
UGM	**Wanagama**	**5.30**	**278**	P	Pn	15 31 09.7	0.0

*IDC **02** 15:31:47.0±0.5, 0.°02S×122.°97E, h164km±4km, mb3.6/12, mb1 3.9/18, mb1mx3.6/50, mbtmp4.3/18, MS3.5/3, Ms1 3.6/3, ms1mx3.0/27, Error ellipse: s-maj=18.0km s-min=8.4km az=74.0*

*NEIC **02** 15:31:46.4±1.6, 0.°04S±0.°06×122.°92E±0.°03, h154km±6km, mb4.6/35, Error ellipse: s-maj=9.4km s-min=3.1km az=154.0*

*DJA **02** 15:31:47.6±0.2, 0.°5S±2.°×12.°3E±′, h143km±2km, M4.6/25, mB5.0/14, mb4.6/25, MLv5.0/19, Mw(mB)4.4/14*

*GCMT **02** 15:31:48.4±0.3, 0.°10S±0.°02×122.°90E±0.°03, h159km±3km, MW4.9/103, Moment Tensor Solution. s25,c27; s103,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.14±.11; $M_{\theta\theta}$-1.63±.13; $M_{\phi\phi}$-0.50±.14; $M_{r\theta}$-1.84±.09; $M_{\theta\phi}$-0.44±.14; $M_{r\phi}$0.67±.10; Best double couple: M_o2.72900×10^{16} NP1:ϕ_s61.00000°,δ27.00000°, λ58.00000°. NP2:ϕ_s276.00000°,δ68.00000°,λ105.00000°. Principal axes: T 3.0650, Plg64.0000°, Azm210.0000°; N -0.6690, Plg14.0000°, Azm90.0000°; P -2.3930, Plg21.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 15:31:46.7±0.4, 0.°07S±0.°04×122.°89E±0.°05, h160km±3km, h161km:pP-P, n128, σ1°49/145, mb4.4/32, 4C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.71**	**10**	P	**Pn**	**15 32 10.3**	**0.0**
GTOI				S	**Sn**	**15 32 29.6**	**+1.1**
LUWI	**Luwuk**	**0.97**	**187**	Pn	**Pn**	**15 32 11.5**	**-0.6**
LUWI				Sn	**Sn**	**15 32 28.8**	**-2.9**
LUWI	**Luwuk**	**0.97**	**187**	P	**Pn**	**15 32 11.1**	**-1.0**
LUWI				S	**Sn**	**15 32 29.7**	**-2.0**
MRSI	**Marisa**	**1.10**	**300**	P	**Pn**	**15 32 12.1**	**-1.1**
MRSI				S	**Sn**	**15 32 31.8**	**-1.7**
KMSI	**Cibinong**	**1.27**	**59**	P	**Pn**	**15 32 14.9**	**+0.2**
KMSI				S	**Sn**	**15 32 39.3**	**+3.1**
APSI	**Ampana**	**1.49**	**236**	P	**Pn**	**15 32 16.6**	**-0.3**
APSI				S	**Sn**	**15 32 39.7**	**-0.5**
APSI	**Ampana**	**1.49**	**236**	P	**Pn**	**15 32 16.9**	**0.0**
TOLI2	**Tolitoli**	**2.41**	**299**	Pn	**Pn**	**15 32 26.9**	**-0.3**
SANI	**Sanana**	**3.67**	**122**	P	**Pn**	**15 32 40.7**	**-2.2**
TTSI	**Tana Toraja**	**4.26**	**226**	P	**Pn**	**15 32 51.7**	**+1.1**
TTSI	**Tana Toraja**	**4.26**	**226**	P	**Pn**	**15 32 52.2**	**+1.6**
TNTI	**Ternate**	**4.55**	**79**	Pn	**Pn**	**15 32 52.7**	**-1.7**
TNTI	**Ternate**	**4.55**	**79**	P	**Pn**	**15 32 53.8**	**-0.6**
SGSI	**Sangihe**	**4.57**	**35**	P	**Pn**	**15 32 56.8**	**+2.1**
SPSI	**Sidrap Palu**	**4.97**	**219**	P	**Pn**	**15 33 01.1**	**+1.3**
BNSI	**Bone**	**5.12**	**213**	P	**Pn**	**15 33 03.1**	**+1.2**
	1.0nm3μm251nm,0.6s						
NLAI	**Namlea**	**5.25**	**127**	P	**Pn**	**15 33 03.7**	**+0.1**
SGKI	**Sangatta, Kali**	**5.30**	**265**	P	**Pn**	**15 33 05.1**	**+0.8**
	0.9nm99nm,1.1s						
KAPI	**Kappang**	**5.82**	**213**	P	**Pn**	**15 33 12.4**	**+1.3**
	7.5nm,0.3s,baz=53,slow=5.7,SNR=14						
KAPI	**Kappang**	**5.82**	**213**		**Pn**	**15 33 11.8**	**+0.6**
BKB	**Balikpapan**	**6.11**	**259**	Pn	**Pn**	**15 33 13.0**	**-1.9**
BKB	**Balikpapan**	**6.11**	**259**	P	**Pn**	**15 33 13.4**	**-1.5**
	0.6nm2μm88nm,0.9s						
DDMP	**Don Marcelino,**	**6.75**	**25**	*e*P	**Pn**	**15 33 25.5**	**+2.0**
SKMP	**Bagumbayan, Su**	**6.75**	**14**	*e*P	**Pn**	**15 33 23.5**	**0.0**
MSAI	**Masohi**	**6.86**	**118**	P	**Pn**	**15 33 25.7**	**+0.8**
	0.3nm492nm31nm,1.0s						
KCP	**Kidapawan**	**7.37**	**17**	⇑*e*P	**Pn**	**15 33 35.1**	**+3.3**
DAV	**Davao City (W)**	**7.59**	**21**	P	**Pn**	**15 33 35.8**	**+1.2**
	23nm,0.3s,baz=198,slow=2.2,SNR=1.5						
MATI	**Mati**	**7.74**	**26**	*e*P	**Pn**	**15 33 37.2**	**+0.6**
PAGZ	**Pagadian**	**7.88**	**4**	*e*P	**Pn**	**15 33 40.0**	**+1.5**
BUKP	**Musuan**	**8.19**	**15**	*e*P	**Pn**	**15 33 45.7**	**+3.0**
BNDI	**Bandanaira**	**8.28**	**122**	P	**Pn**	**15 33 45.1**	**+1.2**
	2μm202nm,0.9s						
SWI	**Sorong**	**8.41**	**95**	P	**Pn**	**15 33 48.1**	**+2.6**
	562nm31nm,0.8s						
SIJI	**Sorong**	**8.41**	**95**	P	**Pn**	**15 33 45.6**	**0.0**
	1.0nm,0.3s,baz=38,slow=5.4,SNR=5.2						
MMRI	**Maumere**	**8.53**	**184**	Pn	**Pn**	**15 33 46.2**	**-0.9**
MMRI	**Maumere**	**8.53**	**184**	P	**Pn**	**15 33 47.4**	**+0.2**
	1μm156nm,0.8s						
CGP	**Cagayan de Oro**	**8.66**	**12**	⇓*e*P	Pn	15 33 56.4	+7.5
BBKI	**Banjar Baru**	**8.72**	**247**	P	**Pn**	**15 33 51.5**	**+1.8**
	23nm,1.3s						
FAKI	**Fak Fak**	**9.77**	**107**	Pn	**Pn**	**15 34 01.8**	**-1.9**
CNOP	**Candoni, Negro**	**9.84**	**359**	*e*P	**Pn**	**15 34 07.5**	**+3.0**
PLAI	**Plampang**	**10.08**	**210**	P	**Pn**	**15 34 09.9**	**+2.3**
	650nm42nm,1.0s						
BATI	**Baumata**	**10.10**	**176**	P	**Pn**	**15 34 08.9**	**+1.0**
	2.5nm,0.3s,baz=187,slow=2.0,SNR=4.6						
BATI				LR	LR	15 38 20.0	
	comp=Z,381nm,19.8s,baz=284,slow=39						
BATP	**Bataraza**	**10.17**	**330**	*e*P	**P**	**15 34 16.1**	**-2.3**
GLSP	**General Luna,**	**10.31**	**18**	*e*P	**Pn**	**15 34 14.4**	**+3.7**
MSLP	**Maasin**	**10.33**	**11**	*e*P	**P**	**15 34 17.1**	**-3.0**
STKI	**Sintang**	**11.41**	**271**	P	P	15 34 27.3	-5.2
	5μm9.7nm,0.4s						
STKI				S	**Pn**	**15 34 27.2**	**+2.0**
	5μm9.7nm,0.4s						
ENPP	**El Nido**	**11.72**	**343**	*e*P	**Pn**	**15 34 31.4**	**+2.2**
SJMP	**San Jose**	**12.58**	**352**	*e*P	**P**	**15 34 47.2**	**+1.9**
LQP	**Lukban**	**14.16**	**355**	⇑*e*P	**P**	**15 35 03.7**	**+0.6**
TGY	**Tagaytay City**	**14.22**	**352**	*e*P	**P**	**15 35 04.7**	**+1.0**
JCNP	**Jose Panganiba**	**14.27**	**359**	*e*P	**P**	**15 35 05.4**	**+1.2**
MACP	**Maragondon, Ca**	**14.41**	**352**	*e*P	**P**	**15 35 06.4**	**+0.7**
UGM	**Wanagama**	**14.58**	**237**	P	**P**	**15 35 08.6**	**+0.9**
MTN	**Manton Dam**	**15.09**	**148**	P	**P**	**15 35 13.1**	**-0.2**
MTN				IAmb	IAmb	15 35 30.0	
	comp=Z,11nm,0.8s						
KPJI	**Karang Pucung**	**15.68**	**242**	P	**P**	**15 35 21.8**	**+2.0**
	comp=Z,53nm,0.8s						
SMPP	**San Manuel, Pa**	**16.27**	**352**	*e*P	**P**	**15 35 27.4**	**+1.0**
KNRA	**Kununurra**	**16.55**	**160**		**Pn**	**15 35 30.2**	**+0.5**
KNRA				IAmb	IAmb	15 35 36.1	
	comp=Z,23nm,1.1s						
LEM	**Lembang**	**16.65**	**246**	P	**Pn**	**15 35 31.1**	**0.0**
	comp=Z,1.2nm,0.3s,baz=323,slow=14,SNR=3.6						
CISI	**Cisompet, Garu**	**16.77**	**243**	P	**P**	**15 35 31.3**	**-0.7**
CISI	**Cisompet, Garu**	**16.77**	**243**	P	**Pn**	**15 35 33.2**	**+0.8**
	comp=Z,1μmcomp=Z,31nm,0.7s						
CAUP	**Cauayan**	**16.94**	**356**	*e*P	**Pn**	**15 35 36.3**	**+1.9**
SAMP	**Sagada Mountai**	**17.16**	**354**	*e*P	**Pn**	**15 35 38.4**	**+1.4**
CBJI	**Citeko**	**17.20**	**248**	P	**Pn**	**15 35 38.0**	**+0.4**
	comp=Z,4μmcomp=Z,101nm,0.9s						
CVP	**Callao Caves**	**17.70**	**357**	⇑*e*P	**Pn**	**15 35 44.1**	**+0.7**
APYP	**Conner**	**17.90**	**355**	*e*P	**Pn**	**15 35 45.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.11**	**172**	P	**P**	**15 35 46.2**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=5.7,slow=8.1,SNR=29						
FITZ	**Fitzroy Crossi**	**18.11**	**172**	P	**P**	**15 35 46.7**	**+0.1**
FITZ				IAmb	IAmb	15 35 50.4	
	comp=Z,17nm,1.0s						
DLV	**T Lat**	**18.63**	**310**	P	**P**	**15 35 52.3**	**-0.1**
DLV				IAmb	IAmb	15 35 56.2	
	comp=Z,15nm,0.9s						
MDSI	**Maura Dua**	**19.20**	**257**	P	**Pn**	**15 36 01.0**	**-0.1**
	comp=Z,5.4nm,0.6s						
LWLI	**Liwa**	**19.44**	**255**	P	**P**	**15 35 59.8**	**-1.4**
PSA00	**Pilbara Seismi**	**21.57**	**188**	P	**P**	**15 36 22.4**	**-1.4**
PSA00				IAmb	IAmb	15 36 25.3	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**22.59**	**151**	P	**P**	**15 36 33.1**	**-0.8**
WB0				IAmb	IAmb	15 36 36.7	
	comp=Z,40nm,1.2s						
WRAB	**Tennant Creek**	**22.71**	**151**	P	**P**	**15 36 35.0**	**0.0**
WRAB				IAmb	IAmb	15 36 38.0	
	comp=Z,48nm,1.4s						
WRA	**Warramunga Arr**	**22.71**	**151**	P	**P**	**15 36 34.9**	**-0.1**
	comp=Z,13nm,1.0s,baz=330,slow=11,SNR=30						
WRA				pP	**pP**	**15 37 04.2**	**-0.2**
	comp=Z,16nm,0.9s,baz=332,slow=9.8,SNR=3.6						
WRA				sP	**sP**	**15 37 24.8**	**+0.5**
	comp=Z,16nm,0.7s,baz=332,slow=9.9,SNR=6.1						
WRA				ScP	**ScP**	**15 43 44.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=320,slow=2.7,SNR=6.1						
WRA	**Warramunga Arr**	**22.71**	**151**	P	**P**	**15 36 34.1**	**-1.0**
WB2	**Warramunga Arr**	**22.71**	**151**	P	**P**	**15 36 34.2**	**-0.9**
WB2				IAmb	IAmb	15 36 38.1	
	comp=Z,34nm,1.2s						
WR0	**Warramunga Arr**	**22.82**	**151**	P	**P**	**15 36 35.3**	**-0.7**
WR0				IAmb	IAmb	15 36 39.1	
	comp=Z,25nm,0.9s						
QIZ	**Qiongzhong**	**22.90**	**327**	P	**P**	**15 36 36.9**	**+0.1**
QIZ				S	**S**	**15 40 34.2**	**-0.3**
QIZ				sS	**sS**	**15 41 23.6**	**-3.6**
MNSI	**Mandailing Nat**	**23.33**	**272**	P	**P**	**15 36 43.5**	**+2.8**
TPUB	**Ta-pu**	**23.34**	**355**	P	**P**	**15 36 38.6**	**-2.1**
TPUB				IAmb	IAmb	15 36 46.8	
	comp=Z,37nm,1.2s						
SSLB	**Suanglung**	**23.79**	**356**	P	**P**	**15 36 44.0**	**-0.9**
SSLB				IAmb	IAmb	15 36 51.8	
	comp=Z,22nm,1.2s						
GIRL	**Giralia**	**23.96**	**200**	P	**P**	**15 36 46.4**	**-0.1**
AS31	**Alice Springs**	**25.77**	**156**	P	**P**	**15 37 02.9**	**0.0**
ASAR	**Alice Springs**	**25.78**	**156**	P	**P**	**15 37 03.5**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=342,slow=14,SNR=29						
ASAR				pP	**pP**	**15 37 37.1**	**+1.1**
	comp=Z,7.5nm,0.8s,baz=328,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**15 40 28.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=346,slow=1.9,SNR=4.2						
ASAR				ScP	**ScP**	**15 43 52.6**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=340,slow=3.0,SNR=4.7						
ASAR	**Alice Springs**	**25.78**	**156**	P	**P**	**15 37 02.6**	**-0.3**
MORW	**Morawa**	**29.57**	**192**	P	**P**	**15 37 36.0**	**-0.5**
MORW				IAmb	IAmb	15 37 37.9	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.88**	**309**	P	**P**	**15 37 40.5**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=134,slow=6.9,SNR=15						
CMAR				LR	LR	15 49 52.0	
	comp=Z,52nm,20.6s,baz=105,slow=36						
CMAR	**Chiang Mai Arr**	**29.88**	**309**	P	**P**	**15 37 39.2**	**-0.3**
CHTO	**Chiang Mai**	**30.08**	**310**	P	**P**	**15 37 40.0**	**-1.3**
FORT	**Forrest**	**30.93**	**171**	P	**P**	**15 37 48.1**	**-0.4**
FORT				IAmb	IAmb	15 37 49.6	
	comp=Z,19nm,0.8s						
NJ2	**Nanjing**	**32.18**	**354**	*e*P	**P**	**15 38 00.2**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ENH	**Enshi**	**32.76**	**338**	P	**P**	**15 38 04.8**	**+0.2**
ENH				IAmb	IAmb	15 38 07.5	
	comp=Z,7.4nm,0.9s						
JCJ	**Chichijima**	**32.77**	**33**	P	**P**	**15 38 04.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**33.11**	**189**	P	**P**	**15 38 07.4**	**-0.2**
BBOO	**Buckleboo**	**34.85**	**160**	P	**P**	**15 38 22.2**	**-0.4**
BBOO				IAmb	IAmb	15 38 29.6	
	comp=Z,23nm,1.2s						
STKA	**Stephens Creek**	**36.24**	**153**	P	**P**	**15 38 34.8**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=329,slow=9.6,SNR=14						
STKA	**Stephens Creek**	**36.24**	**153**	P	**P**	**15 38 34.7**	**+0.2**
XAN	**Xi'an**	**36.38**	**340**	P	**P**	**15 38 38.5**	**+2.8**
XAN				pP	pP	15 39 06.4	-3.7
XAN				pmax	pmax		
	comp=Z,7.0nm,1.6s						
MAT	**Matsushiro**	**39.11**	**20**	P	**P**	**15 38 57.2**	**-1.3**
MAT				S	**S**	**15 44 40.8**	**-5.4**
MJAR	**Matsushiro Arr**	**39.11**	**20**	P	**P**	**15 38 57.6**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=192,slow=9.4,SNR=5.6						
MJAR				pP	**pP**	**15 39 31.8**	**-1.4**
	comp=Z,3.1nm,1.0s,baz=192,slow=9.7,SNR=3.3						
MJAR				sP	**sP**	**15 39 50.7**	**-0.6**
	comp=Z,4.9nm,0.9s,baz=192,slow=9.0,SNR=4.9						
MJAR	**Matsushiro Arr**	**39.11**	**20**	IAmb	IAmb	15 38 59.9	
	comp=Z,2.3nm,1.3s						
LZH	**Lanzhou**	**40.10**	**336**	*e*P	**P**	**15 39 10.5**	**+3.6**
LZH				pP	pP	15 39 46.2	+4.3
LZH				sP	sP	15 40 03.0	+2.9
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
ARMA	**Armidale**	**40.71**	**140**	P	**P**	**15 39 10.2**	**-1.7**
ARMA				IAmb	IAmb	15 39 16.0	
	comp=Z,19nm,1.2s						
HHC	**Hu-ho-hao-te**	**42.01**	**347**	*e*P	**P**	**15 39 21.9**	**-0.5**
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,47nm,5.6s						
CAN	**Canberra**	**42.69**	**148**	P	**P**	**15 39 29.4**	**+1.5**
CAN				IAmb	IAmb	15 39 48.5	
	comp=Z,43nm,1.5s						
TOO	**Toolangi**	**42.75**	**153**	P	**P**	**15 39 29.6**	**+1.3**
TOO				IAmb	IAmb	15 39 33.2	
	comp=Z,18nm,1.3s						
GTA	**Gaotai**	**44.61**	**334**	⇑P	**P**	**15 39 45.6**	**+2.3**
GTA				pP	pP	15 40 20.3	+1.6
GTA				sP	sP	15 40 39.0	+2.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,57nm,5.6s						
GTA				L	L		
	comp=Z,93nm,14.9s						
GTA				L	L		
	comp=Z,82nm,15.3s						
GTA				L	L		
	comp=Z,73nm,16.4s						
USA0B	**Ussuriysk Arra**	**44.82**	**9**	P	**P**	**15 39 44.2**	**-0.4**
USA0B				IAmb	IAmb	15 39 45.9	
	comp=Z,12nm,1.4s						
USRK	**Ussuriysk Ar.**	**44.82**	**9**	P	**P**	**15 39 44.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=206,slow=5.7,SNR=5.4						
USRK				pP	**pP**	**15 40 19.3**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=182,slow=6.9,SNR=3.8						
USRK	**Ussuriysk Ar.**	**44.82**	**9**	P	**P**	**15 39 44.5**	**-0.1**
SONM	**Songino Array**	**49.83**	**346**	P	**P**	**15 40 24.3**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=162,slow=7.6,SNR=4.5						
SONM				pP	**pP**	**15 41 00.5**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=166,slow=7.0,SNR=3.6						
WMQ	**Urumqi**	**53.80**	**329**	*e*P	**P**	**15 40 54.7**	**+1.8**
MK31	**Makanchi Array**	**58.62**	**328**	P	**P**	**15 41 26.3**	**-0.7**
MKAR	**Makanchi Array**	**58.62**	**328**	P	**P**	**15 41 26.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=124,slow=8.7,SNR=8.7						
MKAR				pP	**pP**	**15 42 06.1**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=128,slow=9.0,SNR=5.1						
MKAR	**Makanchi Array**	**58.62**	**328**	P	**P**	**15 41 26.3**	**-0.7**
LBZ	**Lake Benmore**	**60.84**	**143**	P	**P**	**15 41 42.9**	**+0.7**
RPZ	**Rata Peaks**	**61.02**	**142**	P	**P**	**15 41 44.1**	**+0.7**
KHZ	**Kahutara**	**61.94**	**140**	P	**P**	**15 41 49.9**	**+0.3**
ZALV	**Zalesovo Beam**	**62.33**	**336**	P	**P**	**15 41 49.8**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=123,slow=11,SNR=2.1						
ZALV				pP	**PcP**	**15 42 31.7**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=142,slow=7.5,SNR=3.0						
BHW	**Baring Head**	**62.34**	**138**	P	**P**	**15 41 50.7**	**-1.5**
BKZ	**Black Stump Fm**	**62.48**	**135**	P	**P**	**15 41 53.5**	**+0.2**
KURBB	**Kurchatov Arra**	**62.97**	**330**	P	**P**	**15 41 55.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=132,slow=5.1,SNR=6.0						
KURK	**Kurchatov**	**62.98**	**330**	P	**P**	**15 41 55.2**	**-1.1**
TIXI	**Tiksi**	**71.71**	**2**	P	**P**	**15 42 49.2**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=152,slow=2.8,SNR=6.7						
TIXI	**Tiksi**	**71.71**	**2**	P	**P**	**15 42 49.3**	**-1.5**
VNDA	**Vanda**	**80.19**	**172**	P	**P**	**15 43 38.9**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=305,slow=4.5,SNR=10						
VNDA	**Vanda**	**80.19**	**172**	IAmb	IAmb	15 43 39.5	
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**92.66**	**340**	LR	LR	16 29 29.5	
	comp=Z,29nm,19.4s,baz=200,slow=37						
TORD	**Torodi Ar. Bea**	**120.32**	**285**	PKP	**PKPdf**	**15 50 18.4**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=46,slow=1.6,SNR=5.0						

LDG 02 15:38:22.1±0.3, 43.°00N×1.°24W, h2km, Md0.4/2, Ml0.9/1, Error ellipse: s-maj=8.4km s-min=2.4km az=48.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.11**	**5**	*e*Pg	Pg	15 38 24.4	+0.1
SJPF				*e*Sg	Sg	15 38 26.2	+0.3
	2.2nm,0.2s						
ETSF	**Etsaut**	**0.51**	**101**	*e*Pg	Pg	15 38 32.0	+0.1
ETSF				*e*Sg	Sg	15 38 38.3	-0.2
	0.4nm,0.2s						
EPF	**Esparros**	**1.16**	**88**	*e*Sg	Sg	15 38 59.0	-0.3
	0.2nm,0.1s						

*LDG **02** 15:38:30.0±0.3, 43.°02N×1.°22W, h2km, Md1.1/2, Ml1.6/1, Error ellipse: s-maj=5.9km s-min=1.9km az=44.0*

MDD 02 15:38:30.4±0.2, 43.°05N×1.°21W, h0km, mbLg1.8/4, 1C, Error ellipse: s-maj=2.7km s-min=2.1km az=110.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.07**	**349**	Pg	Pg	15 38 32.1	+0.4
SJPF				Lg	Lg	15 38 33.9	
	12nm,0.2s						
SJPF	**Ste Jean**	**0.07**	**349**	*e*Pg	Pg	15 38 32.1	+0.4
SJPF				*e*Sg	Sg	15 38 33.9	+1.3
	24nm,0.2s						
EORO	**Oroz-Betelu**	**0.17**	**206**	⇑Pg	Pg	15 38 33.5	-0.2
	12nm,0.1s,SNR=18						
EORO				Lg	Lg	15 38 37.4	
	33nm,0.1s,SNR=6.3						
EALK	**Alkurruntz**	**0.28**	**308**	Pg	Pg	15 38 34.5	-1.3
	0.1nm,0.1s,SNR=7.9						
EALK				Lg	Lg	15 38 38.1	
	5.3nm,0.0s,SNR=7.9						
ATE	**Arette**	**0.37**	**84**	Pg	Pg	15 38 36.8	-0.7
	6.8nm,0.0s,SNR=7.9						
ATE				Lg	Lg	15 38 42.2	
	30nm,0.0s,SNR=7.9						
EARA	**Aranguren**	**0.39**	**225**	Lg	Lg	15 38 44.2	
	2.1nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.50**	**107**	Pg	Pg	15 38 39.7	-0.2
ETSF				Lg	Lg	15 38 46.0	
	2.2nm,0.2s						
ETSF	**Etsaut**	**0.50**	**107**	*e*Pg	Pg	15 38 39.7	-0.2
ETSF				*e*Sg	Sg	15 38 46.0	-0.4
	4.5nm,0.2s						
ECHI	**Chisagues Biel**	**1.10**	**110**	Pg	Pg	15 38 50.5	-0.9
	0.2nm,0.1s,SNR=7.9						
ECHI				Lg	Lg	15 39 05.1	
	0.5nm,0.0s,SNR=7.9						
EPF	**Esparros**	**1.13**	**90**	Pg	Pg	15 38 51.5	-0.6
EPF				Lg	Lg	15 39 06.7	
	0.8nm,0.3s						
EPF	**Esparros**	**1.13**	**90**	*e*Pg	Pg	15 38 51.5	-0.6
EPF				*e*Sg	Sg	15 39 06.7	-0.1
	1.6nm,0.3s						

NOU 02 15:50:26.3, 11.°81S×162.°97E, h0km, mb4.4, Solomon Islands, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**5.48**	**132**	P	Pn	15 51 49.1	-0.1
DVP	**Devils Point**	**7.75**	**140**	P	Pn	15 52 20.5	+0.1
	50μm,0.5s						
KOUNC	**Koumac, New Ca**	**8.78**	**172**	P	Pn	15 52 34.3	-0.3
LIFNC	**LIFOU**	**9.81**	**156**	P	Pn

baz=310,slow=77,SNR=20

SNET ***02*** *16:40:20.6±1.1, 14.49N×89.21W, h6km±7km, ML2.7*
GCG ***02*** *16:40:24.8±0.7, 15.47N×89.90W, h50km±6km, MD3.3*
ISC 02 16:40:19.7±1.2, 14°52N±0.04°×89°16W±0.06°, h10km, n13, σ1§10/23, 2C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ESQI	**Esquipulas**	**0.18**	**282**	*eP*		**Pg**	**16 40 24.2**	**+0.5**
ESQI				IAML			16 40 24.4	
	comp=Z,3μm,0.2s							
ESQI				*eS*		**Sg**	**16 40 26.8**	**+0.4**
MTO3	**Montecristo**	**0.23**	**238**	*eP*		**Pg**	**16 40 25.2**	**+0.6**
MTO3				*eS*		**Sg**	**16 40 28.7**	**+0.9**
MTO3				IAML			16 40 29.7	
	comp=Z,921nm,0.2s							
TACO	**Tacachico**	**0.58**	**199**	*eP*		**Pb**	**16 40 31.6**	**-0.4**
TACO				*eS*		**Sg**	**16 40 39.3**	**+0.7**
MRL	**Marmol**	**0.76**	**318**	*eP*		**Pb**	**16 40 34.8**	**-0.3**
MRL				*eS*		**Sg**	**16 40 44.8**	**+0.6**
PMON	**Piamonte**	**0.82**	**191**	*eP*		**Pb**	**16 40 36.2**	**+0.1**
PMON				*eS*		**Sg**	**16 40 46.8**	**+0.6**
PAVA	**Las Pavas**	**0.83**	**165**	*eP*		**Pb**	**16 40 36.2**	**-0.2**
PAVA				*eS*		**Sn**	**16 40 48.8**	**-1.2**
PAVA				IAML			16 40 49.5	
	comp=Z,453nm,0.4s							
LFRS	**El Faro**	**0.90**	**174**	*eP*		**Pb**	**16 40 37.6**	**+0.1**
JAYA	**Jayaque - finc**	**0.91**	**198**	*eP*		**Pg**	**16 40 36.9**	**-0.3**
JAYA				*eS*		**Sg**	**16 40 49.4**	**+0.3**
NBG	**Las Nubes**	**1.15**	**273**	*eP*		**Pn**	**16 40 43.0**	**+0.8**
NBG				*eS*		**Sg**	**16 40 57.6**	**+0.6**
TECA	**Tecapa**	**1.20**	**148**	*eP*		**Pb**	**16 40 42.2**	**-0.5**
TECA				*eS*		**Sn**	**16 40 59.3**	**0.0**
PCG	**Pacaya**	**1.41**	**265**	*eP*		**Pg**	**16 40 48.2**	**+1.4**
FUG	**Fuego 3**	**1.63**	**268**	*eP*		**Pg**	**16 40 51.0**	**-0.1**
FUG				*eS*		**Sn**	**16 41 05.9**	**-4.0**
CNCH	**Conchagua**	**1.78**	**134**	*eP*		**Pb**	**16 40 52.1**	**-0.5**

IDC ***02*** *16:41:30.9±1.3, 35.75N×139.76E, h99km±9km, mb3.4/6, mb1 3.5/9, mb1mx3.2/48, mbtmp3.7/9, MS2.3/1, Ms1 2.3/1, ms1mx2.0/31, Error ellipse: s-maj=23.2km s-min=7.2km az=69.0*
JMA ***02*** *16:41:32.5±0.2, 35.68N×139.60E, h95km±2km, M3.4*
JMA Felt I J1.
NIED ***02*** *16:41:32.5, 35.68N×139.60E, h95km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.04; $M_{\theta\theta}$5.56; $M_{\phi\phi}$-5.52; $M_{r\theta}$-1.72; $M_{\theta\phi}$-0.65; $M_{\phi r}$-0.96; Fault plane solution: $M_0$5.91000×10^{14} NP1: ϕ_s228.00000°, δ87.00000°, λ161.00000°. NP2: ϕ_s319.00000°, δ71.00000°, λ3.00000°.*
ISC 02 16:41:31.1±0.9, 35°71N±0.06°×139°69E±0.08, h103km±8km, n28, σ1§35/29, mb3.7/6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TOK	**Tokyo**	**0.06**	**109**	P		**Pn**	**16 41 46.8**	**+1.5**
JOD2	**Odawara 2**	**0.66**	**228**	P		**Pn**	**16 41 48.1**	**-0.4**
JRY	**Ryogami san**	**0.71**	**296**	P		**Pn**	**16 41 49.7**	**+0.8**
JRY				S		**Sn**	**16 42 02.7**	**+0.5**
JAG	**Ashikaga**	**0.74**	**345**	P		**Pn**	**16 41 50.1**	**+0.9**
JYN	**Shimob**	**0.95**	**258**	P		**Pn**	**16 41 51.3**	**0.0**
JYN				S		**Sn**	**16 42 05.7**	**-0.8**
JFNN	**Fujinakano**	**0.96**	**238**	P		**Pn**	**16 41 51.7**	**+0.3**
JFNN				S		**Sn**	**16 42 06.1**	**-0.5**
JIM2	**Oshima 3**	**1.01**	**192**	P		**Pn**	**16 41 51.6**	**-0.3**
JKT	**Katashina**	**1.12**	**342**	P		**Pn**	**16 41 54.2**	**+1.1**
BSO3	**Boso 3**	**1.13**	**143**	P		**Pn**	**16 41 54.3**	**+1.5**
MJAR	**Matsushiro Arr**	**1.46**	**305**	P		**Pn**	**16 41 56.9**	**-0.1**
	5.1nm,0.3s,baz=217,slow=28,SNR=292							
MJAR				S		**Sn**	**16 42 15.8**	**-0.9**
	12nm,0.3s,baz=12,slow=34,SNR=7.7							
MAT	**Matsushiro**	**1.46**	**305**	P		**Pn**	**16 41 57.8**	**+0.8**
MAT				S		**Sn**	**16 42 16.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.58**	**178**	P		**Pn**	**16 42 11.7**	**+0.3**
	702nm,0.3s,baz=74,slow=23,SNR=151							
JHJ				S		**Sn**	**16 42 43.5**	**+1.2**
	100nm,0.3s,baz=96,slow=21,SNR=7.9							
ASAJ	**Asahikawa**	**8.69**	**14**	P		**Pn**	**16 43 33.6**	**-0.3**
	1.1nm,0.3s,baz=235,slow=12,SNR=17							
ASAJ				S		**Sn**	**16 45 06.8**	**-3.2**
	0.4nm,0.3s,baz=89,slow=30,SNR=1.3							
JCJ	**Chichijima**	**8.85**	**165**	P		**Pn**	**16 43 31.8**	**-4.3**
	5.4nm,0.3s,baz=2.8,slow=19,SNR=11							
KSRS	**Korea Array**	**9.62**	**284**	P		**Pn**	**16 43 46.8**	**+0.2**
	0.3nm,0.3s,baz=100,slow=14,SNR=14							
KSRS				LR		LR	16 47 40.9	
	comp=Z,17nm,19.2s,baz=190,slow=38							
USRK	**Ussuriysk Ar.**	**10.33**	**328**	P		**Pn**	**16 43 57.8**	**+1.6**
	baz=150,slow=15,SNR=1.3							
SONM	**Songino Array**	**27.41**	**307**	P		**P**	**16 47 06.6**	**-0.5**
	0.3nm,0.6s,baz=108,slow=7.7,SNR=1.7							
H11N2	**WAKE ISLAND Hy**	**28.74**	**116**	T		T	17 17 20.9	
	baz=308,slow=75,SNR=32							
H11N1	**WAKE ISLAND Hy**	**28.75**	**116**	T		T	17 17 16.1	
	baz=308,slow=75,SNR=27							
H11N3	**WAKE ISLAND Hy**	**28.76**	**116**	T		T	17 17 20.4	
	baz=308,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy**	**29.38**	**119**	T		T	17 18 04.9	
	baz=310,slow=76,SNR=8.1							
H11S3	**WAKE ISLAND Hy**	**29.38**	**119**	T		T	17 18 03.6	
	baz=310,slow=76,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**29.40**	**119**	T		T	17 18 06.1	
	baz=310,slow=76,SNR=8.2							
ZALV	**Zalesovo Beam**	**41.80**	**314**	P		**P**	**16 49 10.3**	**0.0**
	0.6nm,0.5s,baz=115,slow=8.6,SNR=2.1							
MKAR	**Makanchi Array**	**43.66**	**303**	P		**P**	**16 49 26.0**	**+0.5**
	0.5nm,0.5s,baz=84,slow=11,SNR=9.1							
WRA	**Warramunga Arr**	**55.58**	**186**	P		**P**	**16 50 56.0**	**-0.1**
	1.3nm,0.5s,baz=0.1,slow=7.6,SNR=50							
ASAR	**Alice Springs**	**59.30**	**186**	P		**P**	**16 51 23.1**	**+0.9**
	0.5nm,0.5s,baz=20,slow=11,SNR=23							
FINES	**FINESS Array B**	**69.33**	**332**	P		**P**	**16 52 27.9**	**+0.8**
	0.7nm,0.8s,baz=64,slow=8.7,SNR=3.8							

NEIC ***02*** *16:45:02.6±1.5, 13.2S±0.1×168.5E±0.2, h47km±9km, mb4.7/14, Error ellipse: s-maj=29.6km s-min=9.0km az=130.0*
NOU ***02*** *16:45:25.3, 14.95S×167.39E, h107km, MLv5.6, Vanuatu Islands*
IDC ***02*** *16:45:26.4±2.9, 15.02S×167.43E, h129km±23km, mb3.9/12, mb1 4.1/14, mb1mx3.8/35, mbtmp4.4/14, MS3.3/4, Ms1 3.3/4, ms1mx2.8/29, Error ellipse: s-maj=25.0km s-min=15.2km az=80.0*
ISC 02 16:45:25.8±0.7, 14°98S±0.07°×167°4E±0.1°, h129km, n55, σ1§39/54, mb4.4/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SANVU	**Saraoutou**	**0.52**	**206**	Pn		**Pn**	**16 45 42.7**	**-2.2**
SANVU	**Saraoutou**	**0.52**	**206**	P		**Pn**	**16 45 43.0**	**-1.9**
DVP	**Devils Point**	**2.82**	**165**	P		**Pn**	**16 46 10.3**	**+0.2**
LIFNC	**LIFOU**	**5.77**	**182**			**Pn**	**16 46 45.4**	**-3.8**
KOUNC	**Koumac, New Ca**	**6.30**	**208**	P		**Pn**	**16 46 56.3**	**-0.1**
MARNC	**Mare, Loyalty**	**6.49**	**175**			**Pn**	**16 46 56.2**	**-2.7**
MARNC	**Mare, Loyalty**	**6.49**	**175**	P		**Pn**	**16 46 57.6**	**-1.3**
YATNC	**Mamie plateau,**	**7.06**	**184**	P		**Pn**	**16 47 05.6**	**-1.0**
YATNC	**Mamie plateau,**	**7.06**	**184**			**Pn**	**16 47 05.4**	**-1.2**
DZM	**Mont Dzumac**	**7.12**	**187**	P		**Pn**	**16 47 08.3**	**+0.8**
	16nm,0.3s,baz=129,slow=18,SNR=124							
DZM				S		**Sn**	**16 48 26.7**	**-0.3**
	5.5nm,0.3s,baz=358,slow=18,SNR=3.1							
DZM	**Mont Dzumac**	**7.12**	**187**			**Pn**	**16 47 07.6**	**+0.1**
DZM	**Mont Dzumac**	**7.12**	**187**	P		**Pn**	**16 47 08.2**	**+0.7**
NOUC	**Port Laguerre**	**7.16**	**189**	P		**Pn**	**16 47 09.2**	**+1.2**
ONTNC	**Ouen Toro**	**7.35**	**187**			**Pn**	**16 47 11.2**	**+0.8**
ONTNC	**Ouen Toro**	**7.35**	**187**	P		**Pn**	**16 47 11.6**	**+1.1**
OUENC	**Ouen Island, N**	**7.42**	**184**			**Pn**	**16 47 12.3**	**+0.8**
OUENC	**Ouen Island, N**	**7.42**	**184**	P		**Pn**	**16 47 12.5**	**+1.0**
PINNC	**Pines Island,**	**7.59**	**180**			**Pn**	**16 47 13.6**	**-0.1**
PINNC	**Pines Island,**	**7.59**	**180**	P		**Pn**	**16 47 14.2**	**+0.5**
PINNC	**Pines Island,**	**7.59**	**180**	P		**Pn**	**16 47 14.3**	**+0.5**
HNR	**Honiara**	**9.17**	**306**	P		**Pn**	**16 47 35.2**	**+0.1**
	6.7nm,0.3s,baz=193,slow=8.9,SNR=6.6							
MSVF	**Nonsavu**	**10.54**	**106**	LR		LR	16 51 30.4	
	comp=Z,92nm,19.1s,baz=358,slow=34							
EIDS	**Eidsvold**	**18.49**	**233**	P		**Pn**	**16 49 34.1**	**+0.3**
CTA	**Charters Tower**	**20.83**	**253**	P		**P**	**16 49 58.0**	**+0.6**
	2.6nm,0.7s,baz=95,slow=14,SNR=5.2							
ARMA	**Armidale**	**21.15**	**221**	P		**P**	**16 50 03.6**	**+2.8**
ARMA				IAmb		IAmb	16 50 04.6	
	comp=Z,22nm,1.0s							
TUWZ	**Tuamarina**	**26.95**	**169**	P		**P**	**16 50 53.4**	**-1.8**
LTZ	**Lake Taylor**	**28.02**	**172**	P		**P**	**16 51 04.5**	**-0.2**
LTZ				IAmb		IAmb	16 51 07.7	
	comp=Z,31nm,1.2s							
STKA	**Stephens Creek**	**28.96**	**230**	P		**P**	**16 51 14.5**	**+1.3**
	comp=Z,17nm,0.6s,baz=43,slow=8.4,SNR=17							
STKA				PcP		**PcP**	**16 54 19.8**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=323,slow=6.8,SNR=5.7							
STKA				LR		LR	17 03 05.7	
	comp=Z,66nm,18.4s,baz=205,slow=37							
STKA	**Stephens Creek**	**28.96**	**230**	P		**P**	**16 51 13.9**	**+0.7**
TOO	**Toolangi**	**29.75**	**217**	P		**P**	**16 51 20.8**	**+0.6**
TOO				IAmb		IAmb	16 51 24.1	
	comp=Z,12nn,1.2s							
WB0	**Warramunga Arr**	**31.87**	**257**	P		**P**	**16 51 36.5**	**-2.5**
WRA	**Warramunga Arr**	**31.93**	**256**	P		**P**	**16 51 38.3**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=85,slow=8.6,SNR=6.1							
WRA				PcP		**PcP**	**16 54 26.7**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=83,slow=2.5,SNR=7.0							
AS31	**Alice Springs**	**32.74**	**249**	P		**P**	**16 51 44.6**	**-2.0**
AS31				IAmb		IAmb	16 51 47.2	
	comp=Z,3.4nm,0.8s							
ASAR	**Alice Springs**	**32.74**	**249**	P		**P**	**16 51 46.0**	**-0.7**
	comp=Z,8.6nm,0.8s,baz=76,slow=9.0,SNR=75							
ASAR				PcP		**PcP**	**16 54 29.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=89,slow=2.9,SNR=6.3							
ASAR	**Alice Springs**	**32.74**	**249**	P		**P**	**16 51 44.7**	**-1.9**
BBOO	**Buckleboo**	**33.56**	**232**	P		**P**	**16 51 54.1**	**+0.6**
KNRA	**Kununurra**	**37.28**	**264**	P		**P**	**16 52 21.6**	**-3.9**
KNRA				IAmb		IAmb	16 52 49.1	
	comp=Z,26nm,1.4s							
FORT	**Forrest**	**39.31**	**240**	P		**P**	**16 52 42.2**	**-0.3**
FORT				IAmb		IAmb	16 52 43.4	
	comp=Z,29nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.13**	**260**	LR		LR	17 09 36.2	
	comp=Z,41nm,18.4s,baz=70,slow=36							
FITZ	**Fitzroy Crossi**	**40.13**	**260**	P		**P**	**16 52 48.8**	**-0.6**
FITZ				IAmb		IAmb	16 52 50.2	
	comp=Z,6.6nm,0.9s							
NWAO	**Narrogin (SRO)**	**48.76**	**239**	P		**P**	**16 53 56.4**	**-1.5**
VNDA	**Vanda**	**62.62**	**181**	P		**P**	**16 55 36.2**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=341,slow=6.9,SNR=18							
SBA	**Scott Base**	**62.89**	**180**	P		**P**	**16 55 38.5**	**+0.8**
SBA				IAmb		IAmb	16 55 39.8	
	comp=Z,12nm,0.9s							
USRK	**Ussuriysk Ar.**	**67.19**	**333**	P		**P**	**16 56 07.0**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=134,slow=5.5,SNR=4.3							
KLR	**Kul'dur**	**71.30**	**336**	P		**P**	**16 56 32.3**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=262,slow=1.8,SNR=4.4							
CMAR	**Chiang Mai Arr**	**75.20**	**294**	P		**P**	**16 56 56.5**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=130,slow=4.9,SNR=18							
MAW	**Mawson**	**81.72**	**202**	P		**P**	**16 57 30.4**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=61,slow=13,SNR=1.9							
SONM	**Songino Array**	**82.80**	**324**	P		**P**	**16 57 36.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=155,slow=7.9,SNR=6.4							
TLY	**Talaya**	**86.29**	**326**	LR		LR	17 34 58.6	
	comp=Z,14nm,18.7s,baz=116,slow=34							
ILAR	**Eielson Array**	**86.71**	**18**	P		**P**	**16 57 55.1**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=239,slow=5.4,SNR=6.1							
MKAR	**Makanchi Array**	**97.50**	**316**	P		Pdif	16 58 46.5	+1.2
	comp=Z,1.2nm,0.7s,baz=99,slow=6.4,SNR=15							
ARCES	**ARCESS Array B**	**120.54**	**345**	PKP		**PKPdf**	**17 04 00.9**	**-0.8**
	comp=Z,6.8nm,1.1s,baz=66,slow=1.3,SNR=5.7							
DAVOX	**Davos/Dischmat**	**143.18**	**334**	PKP		PKPbc	17 04 42.8	+0.5
	comp=Z,3.8nm,0.7s,baz=244,slow=10.0,SNR=6.4							
KEST	**Kesra**	**151.51**	**320**	PKPbc		**PKPbc**	**17 05 04.8**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=88,slow=6.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**166.05**	**264**	PKP		**PKPdf**	**17 05 16.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=149,slow=0.8,SNR=4.0							

JMA ***02*** *17:00:46.2, 24.20N×121.65E, h35km±1km, M2.3*
TAP ***02*** *17:00:47.5, 24.27N×121.68E, h26km, ML3.0, C*
ISC 02 17:00:47.4±0.9, 24°23N±0.01°×121°77E±0.02, h26km±5km, n122, σ0§96/232, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NACB	**Ninganchiao**	**0.17**	**252**	P		**Pb**	**17 00 52.4**	**-0.3**
	baz=218							
NACB				*eS*		**Sb**	**17 00 56.3**	**0.0**
	baz=218							
TWD	**Chiawan**	**0.21**	**228**	P		**Pb**	**17 00 53.3**	**+0.1**
	baz=206							
TWD				S		**Sb**	**17 00 57.9**	**+0.7**
	baz=206							
EWUT	**Wuta**	**0.22**	**2**	P		**Pb**	**17 00 53.3**	**-0.1**
	baz=28							
EWUT				S		**Sb**	**17 00 57.5**	**+0.1**
	baz=28							
ETLH	**Xiulin Townshi**	**0.26**	**266**	P		**Pb**	**17 00 53.4**	**-0.6**
	baz=251							
ETLH				S		**Sb**	**17 00 57.7**	**-0.9**
	baz=251							
HWA	**Hwalien**	**0.29**	**211**	*eP*		**Pn**	**17 00 54.9**	**-1.1**
	baz=196							
HWA				S		**Sn**	**17 01 00.7**	**-0.8**
	baz=196							
ETM	**Tongmen**	**0.36**	**224**	P		**Pb**	**17 00 54.9**	**-0.5**
	baz=210							
ETM				S		**Sb**	**17 01 00.3**	**-0.6**
	baz=210							
TEYL	**Yanliau Villag**	**0.39**	**204**	P		**Pn**	**17 00 56.3**	**-1.1**
	baz=195							
TEYL				S		**Sn**	**17 01 04.4**	**+0.5**
	baz=195							
TWC	**Suao**	**0.39**	**11**	P		**Pb**	**17 00 55.8**	**0.0**
	baz=26							
TWC				S		**Sb**	**17 01 01.9**	**+0.3**
	baz=26							
NNSB	**Datong**	**0.41**	**300**	P		**Pb**	**17 00 55.1**	**-1.1**
	baz=305							
NNSB				S		**Sb**	**17 00 59.8**	**-2.4**
	baz=305							
NNSH	**Datong**	**0.41**	**300**	P		**Pb**	**17 00 55.1**	**-1.1**
	baz=305							
NNSH				S		**Sb**	**17 01 00.1**	**-2.1**
	baz=305							
NDS	**Dongshan**	**0.41**	**353**	P		**Pb**	**17 00 55.6**	**-0.6**
	baz=1.0							
NDS				S		**Sb**	**17 01 01.8**	**-0.3**
	baz=1.0							
NNS	**Nan Shan**	**0.42**	**301**	P		**Pb**	**17 00 55.1**	**-1.3**
	baz=306							
NNS				S		**Sb**	**17 01 00.8**	**-1.7**
	baz=306							
NDT	**Datong Townshi**	**0.44**	**328**	P		**Pb**	**17 00 55.8**	**-0.9**
	baz=339							
NDT				*eS*		**Sb**	**17 01 02.0**	**-1.1**
	baz=339							
ENTT	**Nioudou**	**0.45**	**336**	P		**Pb**	**17 00 56.0**	**-0.9**
	baz=345							
ENTT				S		**Sb**	**17 01 02.2**	**-1.2**
	baz=345							
WHF	**Hehuan Shan**	**0.47**	**260**	P		**Pb**	**17 00 56.4**	**-0.9**
	baz=251							
WHF				S		**Sb**	**17 01 02.8**	**-1.3**
	baz=251							
FUSS	**Fushou**	**0.48**	**273**	P		**Pb**	**17 00 56.6**	**-0.9**
	baz=267							
FUSS				S		**Sb**	**17 01 03.0**	**-1.3**
	baz=267							
TWE	**Neicheng**	**0.50**	**349**	P		**Pb**	**17 00 56.9**	**-0.8**
	baz=357							
TWE				S		**Sb**	**17 01 04.7**	**0.0**
	baz=357							
ESL	**Shilin**	**0.51**	**217**	P		**Pb**	**17 00 56.9**	**-1.0**
	baz=206							
ESL				*eS*		**Sb**	**17 01 04.0**	**-0.8**
	baz=206							
ILA	**Ilan**	**0.54**	**358**	P		**Pn**	**17 00 58.6**	**-0.8**
	baz=2.0							
ILA				S		**Sb**	**17 01 06.2**	**+0.5**
	baz=2.0							
TEGC	**Jichi Village**	**0.56**	**202**	*eP*		**Pn**	**17 00 59.0**	**-0.6**
	baz=179							
TEGC				*eS*		**Sn**	**17 01 09.9**	**+1.9**
	baz=179							
TDCB	**Techi**	**0.56**	**273**	P		**Pb**	**17 00 57.8**	**-0.9**
	baz=265							
TDCB				S		**Sb**	**17 01 04.8**	**-1.6**
	baz=265							
CHGB	**Renai**	**0.57**	**253**	P		**Pb**	**17 00 58.0**	**-0.9**
	baz=245							
CHGB				S		**Sb**	**17 01 05.8**	**-0.9**
	baz=245							
YHNB	**Yeheng**	**0.57**	**321**	P		**Pb**	**17 00 57.6**	**-1.2**
	baz=325							
YHNB				S		**Sb**	**17 01 04.6**	**-2.0**
	baz=325							
NWLT	**Wulai**	**0.60**	**336**	P		**Pb**	**17 00 58.0**	**-1.3**
	baz=336							
NWLT				S		**Sb**	**17 01 05.8**	**-1.7**
	baz=336							
OWD	**Renai**	**0.60**	**244**	*eP*		**Pn**	**17 00 58.6**	**-0.9**
	baz=230							
OWD				*eS*		**Sb**	**17 01 06.8**	**-1.0**
	baz=230							
NTC	**Toucheng**	**0.63**	**5**	*eS*		**Sb**	**17 01 08.3**	**0.0**
	baz=13							
EGS		**0.64**	**13**	P		**Pn**	**17 01 00.5**	**-0.2**
	baz=23							
EGS				*eS*		**Sn**	**17 01 09.7**	**-0.4**
	baz=23							
EGFH	**Guangfu**	**0.64**	**210**	*eP*		**Pb**	**17 00 59.0**	**-0.9**
	baz=210							
TIPB	**Shuangxi**	**0.75**	**4**	P		**Pn**	**17 01 01.8**	**-0.6**
	baz=2.0							
TIPB				S		**Sb**	**17 01 11.6**	**0.0**
	baz=2.0							
WHP	**Taichung City**	**0.75**	**274**	*eP*		**Pb**	**17 01 01.2**	**-0.7**
	baz=271							
WHP				*eS*		**Sb**	**17 01 10.1**	**-1.8**
	baz=271							
NHDH	**Xindian Distri**	**0.77**	**343**	*eP*		**Pb**	**17 01 02.0**	**-0.1**
	baz=338							
NHDH				*eS*		**Sb**	**17 01 12.0**	**-0.2**
	baz=338							
TWA	**Mucha**	**0.77**	**347**	*eP*		**Pb**	**17 01 02.0**	**-0.1**
	baz=353							
TWA				*eS*		**Sb**	**17 01 11.8**	**-0.5**
	baz=353							
WPL	**Puli Township**	**0.77**	**254**	*eP*		**Pb**	**17 01 01.4**	**-0.7**
	baz=249							
WPL				*eS*		**Sb**	**17 01 10.8**	**-1.5**
	baz=249							
TATO	**Taipei**	**0.79**	**341**	*eP*		**Pb**	**17 01 01.8**	**-0.7**
	baz=345							
TATO				S		**Sb**	**17 01 11.6**	**-1.2**
	baz=345							
DPDB	**Guoxing**	**0.79**	**256**	P		**Pb**	**17 01 01.9**	**-0.7**
	baz=251							
DPDB				*eS*		**Sb**	**17 01 12.1**	**-0.8**
	baz=251							
HGSD	**Ruisui**	**0.80**	**204**	*eP*		**Pb**	**17 01 02.4**	**-0.1**
	baz=208							
HGSD				*eS*		**Sn**	**17 01 14.4**	**+0.5**
	baz=208							
WCS	**Beigang Elemen**	**0.80**	**258**	*eP*		**Pb**	**17 01 01.9**	**-0.8**
	baz=253							
WCS				*eS*		**Sb**	**17 01 12.6**	**-0.6**
	baz=253							
NJD	**Zhudong**	**0.80**	**309**	*eP*		**Pb**	**17 01 00.2**	**-2.5**
	baz=312							
NJD				*eS*		**Sb**	**17 01 13.4**	**+0.2**
	baz=312							
LIOB	**Emei**	**0.81**	**302**	*eP*		**Pb**	**17 01 02.2**	**-0.6**
	baz=301							
LIOB				*eS*		**Sb**	**17 01 12.3**	**-1.0**
	baz=301							
TWB1	**Santiao Chiao**	**0.81**	**14**	P		**Pn**	**17 01 03.1**	**0.0**
	baz=21							
TWB1				S		**Sn**	**17 01 13.6**	**-0.7**
	baz=21							
NSTT	**Nanjuang**	**0.81**	**300**	P		**Pb**	**17 01 01.8**	**-1.0**
	baz=300							
NSTT				S		**Sb**	**17 01 11.9**	**-1.4**
	baz=300							
EHY	**Hungye**	**0.82**	**210**	*eP*		**Pb**	**17 01 01.7**	**-1.4**
	baz=204							
NWF	**Wu-fen Shan**	**0.84**	**1**	*eP*		**Pn**	**17 01 03.8**	**+0.1**
	baz=352							
NWF				*eS*		**Sb**	**17 01 14.4**	**0.0**
	baz=352							
WFSB	**Wu-fen Shan**	**0.84**	**1**	*eP*		**Pn**	**17 01 03.9**	**+0.3**
	baz=352							
WFSB				*eS*		**Sb**	**17 01 14.4**	**0.0**
	baz=352							
SSLB	**Suanglung**	**0.86**	**240**	P		**Pb**	**17 01 02.8**	**-1.0**
	baz=228							
SSLB				*eS*		**Sb**	**17 01 14.3**	**-0.7**
	baz=228							
SMLT	**Sun Moon Lake**	**0.86**	**247**	*eP*		**Pb**	**17 01 03.6**	**-0.3**
	baz=236							
SMLT				*eS*		**Sb**	**17 01 15.3**	**+0.3**
	baz=236							
NTY	**Taoyuan**	**0.88**	**331**	*eS*		**Sb**	**17 01 15.8**	**+0.3**
	baz=334							
TYC	**Yuchr**	**0.89**	**249**	*eP*		**Pb**	**17 01 03.5**	**-0.7**
	baz=244							
TYC				*eS*		**Sb**	**17 01 15.0**	**-0.7**
	baz=244							
NCUH	**Zhongli**	**0.91**	**324**	*eP*		**Pb**	**17 01 04.2**	**-0.4**
	baz=326							
NCUH				*eS*		**Sb**	**17 01 16.2**	**-0.1**
	baz=326							
NCU	**National Centr**	**0.91**	**325**	*eS*		**Sb**	**17 01 16.6**	**+0.3**
	baz

WNT1				eS		Sn	17 01 22.5	+2.3
	baz=247							
YUS	**Yu-Shan**	**1.05**	**226**	*eP*		**Pb**	**17 01 06.3**	**-0.8**
	baz=210							
YUS				eS		Sb	17 01 19.6	-1.0
	baz=210							
WNT	**Mingjian**	**1.05**	**251**	*eP*		**Pb**	**17 01 07.1**	**+0.2**
	baz=246							
WNT				eS		Sn	17 01 21.6	+1.3
	baz=246							
TWY	**Chenhua**	**1.06**	**352**	*eP*		**Pn**	**17 01 06.7**	**+0.2**
	baz=355							
JYNG	**Yonagunijimaku**	**1.10**	**78**	P		**Pb**	**17 01 07.4**	**-0.3**
JYNG				eS		Sn	17 01 23.4	+2.0
FULB	**Fuli**	**1.11**	**203**	*eP*		**Pn**	**17 01 06.5**	**-0.9**
	baz=211							
FULB				eS		Sn	17 01 22.6	+0.8
	baz=211							
ALS	**Alishan**	**1.13**	**231**	*eP*		**Pn**	**17 01 07.8**	**-0.1**
	baz=215							
ALS				eS		Sn	17 01 24.0	+1.2
	baz=215							
YOJ	**Yonaguni jima**	**1.16**	**78**	P		**Pb**	**17 01 08.6**	**-0.1**
YOJ				eS		Sn	17 01 24.6	+1.7
YOJ	**Yonaguni jima**	**1.16**	**78**	*eP*		**Pb**	**17 01 08.5**	**-0.1**
	baz=81							
YOJ				eS		Sn	17 01 26.8	+3.9
	baz=81							
CHN5	**Tsauling**	**1.18**	**238**	*eP*		**Pn**	**17 01 08.5**	**+0.2**
	baz=233							
CHN5				eS		Sn	17 01 24.9	+1.3
	baz=233							
CHKT	**Chengkung**	**1.18**	**198**	*eP*		**Pb**	**17 01 08.5**	**-0.6**
	baz=208							
CHKT				eS		Sn	17 01 23.7	+0.3
	baz=208							
WGK	**Gukeng**	**1.23**	**244**	*eP*		**Pb**	**17 01 09.8**	**-0.2**
	baz=239							
WGK				eS		Sb	17 01 26.5	+1.1
	baz=239							
ECS	**Chishang**	**1.23**	**204**	*eP*		**Pn**	**17 01 09.3**	**+0.3**
	baz=202							
ELDTW	**Lidau**	**1.24**	**214**	*eP*		**Pn**	**17 01 07.5**	**-1.7**
	baz=199							
ELDTW				eS		Sb	17 01 24.7	-1.1
	baz=199							
WDLH	**Douliu**	**1.25**	**245**	*eP*		**Pb**	**17 01 10.0**	**-0.3**
	baz=240							
WDLH				eS		Sb	17 01 26.6	+0.8
	baz=240							
EDH	**Donghe**	**1.32**	**199**	*eP*		**Pn**	**17 01 10.2**	**0.0**
	baz=197							
EDH				eS		Sb	17 01 27.4	-0.6
	baz=197							
WTK	**Tuku**	**1.37**	**247**	*eP*		**Pb**	**17 01 12.1**	**-0.3**
	baz=242							
WTK				eS		Sb	17 01 30.5	+1.0
	baz=242							
CHN4	**Tsaushan**	**1.39**	**231**	*eP*		**Pb**	**17 01 12.1**	**-0.5**
	baz=217							
CHN4				eS		Sb	17 01 31.4	+1.5
	baz=217							
STYH	**Taoyuan**	**1.39**	**221**	*eP*		**Pb**	**17 01 11.8**	**-0.8**
	baz=211							
STYH				eS		Sb	17 01 30.5	+0.5
	baz=211							
TPUB	**Ta-pu**	**1.39**	**229**	*eP*		**Pb**	**17 01 12.3**	**-0.4**
	baz=215							
TPUB				eS		Sb	17 01 30.7	+0.6
	baz=215							
STYT	**Tauyuan**	**1.41**	**221**	*eP*		**Pb**	**17 01 12.4**	**-0.6**
	baz=211							
STYT				eS		Sb	17 01 30.4	-0.1
	baz=211							
CHY	**Chiayi**	**1.43**	**240**	*eP*		**Pb**	**17 01 13.2**	**-0.1**
	baz=235							
CHY				eS		Sb	17 01 31.5	+0.4
	baz=235							
LONT	**Longtian**	**1.44**	**204**	*eP*		**Pn**	**17 01 10.7**	**-1.2**
	baz=191							
WTP	**Ta-pu**	**1.44**	**228**	*eP*		**Pb**	**17 01 12.7**	**-0.8**
	baz=211							
WTP				eS		Sb	17 01 32.0	+0.6
	baz=211							
TWK	**Hsinying**	**1.51**	**231**	*eP*		**Pn**	**17 01 13.8**	**+0.9**
	baz=215							
TWK				eS		Sb	17 01 34.2	+0.6
	baz=215							
WSF	**Szhu**	**1.53**	**248**	*eP*		**Pb**	**17 01 14.5**	**-0.6**
	baz=243							
WSF				eS		Sb	17 01 34.3	+0.2
	baz=243							
SNST	**Tainan City**	**1.54**	**230**	*eP*		**Pb**	**17 01 14.4**	**-0.8**
	baz=215							
SNST				eS		Sb	17 01 34.6	+0.4
	baz=215							
TWG	**Pinlang**	**1.54**	**205**	*eP*		**Pn**	**17 01 13.4**	**+0.2**
	baz=192							
TWG				eS		Sn	17 01 32.1	-0.2
	baz=192							
TWGBT	**Beinan**	**1.54**	**204**	*eP*		**Pn**	**17 01 12.8**	**-0.4**
	baz=192							
TWGBT				eS		Sn	17 01 32.4	+0.1
	baz=192							
CHN1	**Nanshi**	**1.54**	**228**	*eP*		**Pn**	**17 01 14.1**	**+0.9**
	baz=214							
CHN1				eS		Sb	17 01 34.8	+0.5
	baz=214							
LDUT	**Ludao**	**1.57**	**190**	*eP*		**Pn**	**17 01 13.6**	**0.0**
	baz=189							
SGST	**Jiashian**	**1.57**	**224**	*eP*		**Pb**	**17 01 15.3**	**-0.5**
	baz=210							
SGST				eS		Sb	17 01 36.2	+0.8
	baz=210							
SLGT	**Liugui**	**1.60**	**220**	*eP*		**Pn**	**17 01 15.1**	**+1.0**
	baz=217							
SLGT				eS		Sb	17 01 36.7	+0.6
	baz=217							
CHN8	**Yiju**	**1.67**	**239**	*eS*		**Sb**	**17 01 38.6**	**+0.4**
	baz=220							
SCST	**Cishan**	**1.77**	**222**	*eP*		**Pb**	**17 01 17.9**	**-1.4**
	baz=217							
SCST				eS		Sb	17 01 41.9	+0.9
	baz=217							
ECL	**Taimali**	**1.79**	**205**	*eP*		**Pn**	**17 01 16.2**	**-0.4**
	baz=194							
ECL				eS		Sn	17 01 38.9	+0.5
	baz=194							
IRIF	**Iriomote-Funau**	**1.79**	**86**	P		**Pn**	**17 01 17.1**	**+0.4**
IRIF				eS		Sb	17 01 39.6	-2.0
SSD	**Sandimen**	**1.81**	**216**	*eP*		**Pb**	**17 01 18.9**	**-0.9**
	baz=202							
SSD				eS		Sb	17 01 41.7	-0.3
	baz=202							
TSMG	**Majia**	**1.83**	**215**	*eP*		**Pb**	**17 01 18.7**	**-1.5**
	baz=201							
TSMG				eS		Sb	17 01 42.0	-0.8
	baz=201							
MASBT	**Mashibuluo**	**1.92**	**213**	*eP*		**Pb**	**17 01 19.9**	**-1.8**
	baz=212							
MASBT				eS		Sb	17 01 44.0	-1.2
	baz=212							
EAST	**Anshuo**	**2.02**	**205**	*eP*		**Pn**	**17 01 20.1**	**+0.2**
	baz=196							
EAST				eS		Sn	17 01 44.1	-0.2
	baz=196							
TAW	**Tawu**	**2.02**	**204**	*eP*		**Pn**	**17 01 19.9**	**0.0**
	baz=195							
TAW				eS		Sn	17 01 44.0	-0.3
	baz=195							
JKRS	**Kuro-shima**	**2.04**	**89**	P		**Pb**	**17 01 21.7**	**-2.1**
JKRS				S		Sb	17 01 46.9	-1.9
WDGT	**Dungji**	**2.16**	**244**	*eP*		**Pn**	**17 01 21.7**	**0.0**
	baz=238							
WDGT				eS		Sn	17 01 48.2	+0.6
	baz=238							
JIJ	**Ishigaki jima**	**2.17**	**86**	P		**Pn**	**17 01 22.5**	**+0.6**
JIJ				eS		Sn	17 01 48.2	+0.2
SLIU	**Shizi**	**2.19**	**204**	*eP*		**Pn**	**17 01 23.6**	**+1.4**
	baz=196							
SLIU				eS		Sn	17 01 50.5	+2.1
	baz=196							
VWUC	**VWUC**	**2.25**	**290**	*eP*		**Pn**	**17 01 23.3**	**+0.4**
	baz=290							
VWUC				eS		Sn	17 01 49.8	**0.0**
	baz=290							
WLCH	**Liuqiu**	**2.26**	**215**	*eP*		**Pb**	**17 01 26.4**	**-1.1**
	baz=213							
JISG	**Ishigakijimahi**	**2.34**	**81**	P		**Pn**	**17 01 24.6**	**+0.3**
JISG				eS		Sn	17 01 52.8	+0.5
VCHM	**Qimei**	**2.37**	**245**	*eP*		**Pn**	**17 01 26.0**	**+1.3**
	baz=240							
VCHM				eS		Sn	17 01 54.4	+1.5
	baz=240							
HEN	**Hengchun**	**2.40**	**203**	*eP*		**Pn**	**17 01 26.8**	**+1.7**
	baz=194							
HEN				eS		Sn	17 01 55.8	+2.1
	baz=194							
PTMZ	**Houxiangcun**	**2.54**	**289**	*eP*		**Pn**	**17 01 27.5**	**+0.5**
	baz=289							
PTMZ				eS		Sn	17 01 57.5	+0.3
	baz=289							
LYJJ	**Jianjiangzhen**	**2.94**	**322**	*eP*		**Pn**	**17 01 34.0**	**+1.5**
	baz=323							
LYJJ				eS		Sn	17 02 07.4	+0.4
	baz=323							
XPSS	**Dashiqiu**	**3.05**	**332**	*eP*		**Pn**	**17 01 35.2**	**+1.2**
	baz=332							
XPSS				eS		Sn	17 02 10.2	+0.6
	baz=332							
KNMB	**Chin-men Tao**	**3.09**	**275**	*eP*		**Pn**	**17 01 35.0**	**+0.5**
	baz=271							
KNMB				eS		Sn	17 02 11.3	+0.6
	baz=271							
MHZQ	**Yeshan**	**3.11**	**308**	*eS*		**Sn**	**17 02 11.9**	**+0.9**
	baz=309							
AXDP	**Jialang**	**3.52**	**282**	*eP*		**Pn**	**17 01 41.6**	**+1.2**
	baz=280							
AXDP				eS		Sn	17 02 21.6	+0.2
	baz=280							

*UPP **02** 17:00:55.8±0.2, 67.07N×20.91E, h0km, ML1.9, Explosion*
*KOLA **02** 17:00:56.1, 66.98N×20.07E, h0km, ML2.6, Sweden, Lapland*
*IDC **02** 17:01:03.6±0.9, 67.12N×20.72E, h0km, mb1 3.0/4, mb1mx2.9/45, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=10.4km s-min=4.0km az=153.0*
*NAO **02** 17:01:04.6±0.8, 67.08N×21.29E, ML2.9*
*BER **02** 17:01:07.3±4.4, 67.08N×21.23E, h0km, ML2.1, ML2.9(NAO), Suspected explosion*

ISC 02 17:00:58.5±0.9, 67.10N±0.04×20.98E±0.03, h0km, n27, σ3.73/29, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.54**	**47**	P	**Pg**	**17 01 06.8**	**-2.0**
MASU				S	**Sg**	**17 01 14.4**	**-1.4**
PAJU	**Pajala**	**0.84**	**94**	P	**Pg**	**17 01 12.0**	**-2.6**
PAJU				S	**Sg**	**17 01 19.6**	**-5.9**
KUA	**Kurravaara**	**0.90**	**344**	P	**Pg**	**17 01 12.9**	**-2.8**
RATU	**Laukkuluspa**	**0.90**	**324**	P	**Pg**	**17 01 13.0**	**-2.8**
RATU				S	**Sg**	**17 01 21.1**	**-6.5**
LANU	**Lannavaara**	**1.03**	**22**	P	**Pg**	**17 01 15.7**	**-2.6**
NIKU	**Nikkaluokta**	**1.08**	**317**	P	**Pg**	**17 01 16.1**	**-3.0**
KOVU	**Salmi**	**1.17**	**345**	P	**Pg**	**17 01 18.1**	**-2.9**
HEF	**Hetta**	**1.67**	**37**	Pn	Pg	17 01 34.1	+3.7
HEF				Sn	**Sg**	**17 01 56.3**	**+4.3**
HEF	**Hetta**	**1.67**	**37**	Pn	Pg	17 01 34.1	+3.7
HEF				Sn	**Sg**	**17 01 56.3**	**+4.3**
KIF	**Kilpisjarvi**	**1.92**	**358**	Pn	Pg	17 01 39.1	+3.9
KIF				Sn	**Sg**	**17 02 04.6**	**+4.6**
KIF	**Kilpisjarvi**	**1.92**	**358**	*e*	**Pg**	**17 01 31.6**	**-2.7**
KIF				*eP*	Pg	17 01 39.1	+3.9
KIF				*eS*	**Sg**	**17 02 04.6**	**+4.6**
I37NO	**I37NO**	**2.18**	**337**	*i*		17 14 38.3	
	baz=157,slow=321,SNR=2.2						
FAUS	**Fauske**	**2.23**	**280**	*eP*	Pg	17 01 45.2	+4.0
FAUS				*eS*	**Sg**	**17 02 13.8**	**+3.7**
FAUS				IAML		17 02 15.9	
	comp=Z,25nm,0.2s						
JETT	**Jettan, Norway**	**2.48**	**355**	Pn	**Pg**	**17 01 47.8**	**+1.8**
JETT				Sn	**Sg**	**17 02 20.2**	**+2.2**
ARA0	**ARCESS Array S**	**2.97**	**32**	Pn	**Pg**	**17 01 52.5**	**-2.9**
	baz=214,slow=14						
ARA0	**ARCESS Array S**	**2.97**	**32**	Pn	**Pg**	**17 01 52.5**	**-2.9**
	baz=214,slow=14						
ARCES	**ARCESS Array B**	**2.97**	**32**	Pn	**Pg**	**17 01 52.3**	**-3.1**
	baz=210,slow=14,SNR=47						
ARCES				Sn	**Sb**	**17 02 27.8**	**-1.3**
	baz=217,slow=18,SNR=1.1						
ARCES				Lg	Lg	17 02 33.4	
	baz=204,slow=29,SNR=7.0						
APA0	**Apatity Array**	**4.67**	**78**	P	**Pn**	**17 02 11.7**	**+1.5**
APA0				S	**Sn**	**17 03 08.5**	**+3.4**
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	Pb	17 02 35.0	-10
	baz=346,slow=14						
FIA0				Sn	**Sn**	**17 03 45.4**	**+5.4**
	baz=348,slow=28						
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	Pb	17 02 35.0	-10
	baz=346,slow=14						
FIA0				Sn	**Sn**	**17 03 45.4**	**+5.4**
	baz=348,slow=28						
FINES	**FINESS Array B**	**6.09**	**156**	Pn	Pb	17 02 35.3	-10
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=11						
FINES				Sn	**Sn**	**17 03 44.2**	**+4.2**
	comp=Z,0.4nm,0.3s,baz=352,slow=21,SNR=7.1						
FINES				Lg	Lg	17 04 14.7	
	comp=Z,0.3nm,0.3s,baz=345,slow=26,SNR=4.0						
NOA	**NORSAR Array B**	**7.43**	**220**	Pn	Pn	17 02 52.7	+4.7
	comp=Z,0.0nm,0.3s,baz=166,slow=19,SNR=0.9						
NOA				Sn	**Sn**	**17 04 11.7**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=61,slow=15,SNR=1.5						
HFS	**Hagfors**	**7.70**	**208**	Pn	Pn	17 02 56.3	+4.5
	comp=Z,0.2nm,0.3s,baz=25,slow=13,SNR=6.8						
HFS				Sn	**Sn**	**17 04 21.9**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=23,slow=27,SNR=1.4						
HFS	**Hagfors**	**7.70**	**208**	Pn	Pn	17 02 56.1	+4.4
	baz=23,slow=14						
HFS	**Hagfors**	**7.70**	**208**	Pn	Pn	17 02 56.1	+4.4
	baz=23,slow=14						
SPA0	**Spitsbergen Ar**	**11.22**	**355**	Pn	Pn	17 03 44.3	+4.5
	baz=149,slow=11						
SPA0	**Spitsbergen Ar**	**11.22**	**355**	Pn	Pn	17 03 44.3	+4.5
	baz=149,slow=11						

*NEIC **02** 17:04:32.9±0.8, 5.6S±0.2×147.7E±0.2, h153km±13km, mb4.1/8, Error ellipse: s-maj=39.3km s-min=13.1km az=130.0*
*IDC **02** 17:04:35.8±5.2, 5.94S×147.76E, h178km±47km, mb3.4/2, mb1 3.6/4, mb1mx3.1/31, mbtmp3.9/4, Error ellipse: s-maj=83.6km s-min=46.5km az=124.0*

ISC 02 17:04:33.2±1.3, 5.7S±0.1×147.7E±0.2, h170km, n15, σ1.05/16, mb4.1/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.72**	**189**	P	**Pn**	**17 05 31.2**	**+0.8**
	6.9nm,0.3s,baz=356,slow=9.8,SNR=59						
PMG				S	**Sn**	**17 06 13.3**	**-1.9**
	8.7nm,0.3s,baz=219,slow=22,SNR=13						
PMG	**Port Moresby**	**3.72**	**189**		**Pn**	**17 05 31.3**	**+0.9**
PATS	**Pohnpei**	**16.34**	**40**	P	**P**	**17 08 12.4**	**-0.5**
MTN	**Manton Dam**	**17.83**	**245**	P	**Pn**	**17 08 30.4**	**-0.6**
WB0	**Warramunga Arr**	**19.07**	**222**	P	**P**	**17 08 43.5**	**+0.7**
WB0				IAmb	IAmb	17 09 14.7	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**19.11**	**221**	P	**P**	**17 08 44.1**	**+0.9**
WR0				IAmb	IAmb	17 08 54.1	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**19.22**	**221**	P	**P**	**17 08 45.4**	**+1.0**
WB2				IAmb	IAmb	17 08 47.4	
	comp=Z,6.5nm,0.9s						
WRA	**Warramunga Arr**	**19.23**	**221**	P	**P**	**17 08 45.2**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=48,slow=12,SNR=44						
WRA	**Warramunga Arr**	**19.23**	**221**	P	**P**	**17 08 43.6**	**-0.9**
KNRA	**Kununurra**	**21.08**	**240**	P	**P**	**17 09 03.6**	**-0.8**
KNRA				IAmb	IAmb	17 09 33.7	
	comp=Z,10nm,1.1s						
AS31	**Alice Springs**	**22.27**	**215**	P	**P**	**17 09 17.8**	**+1.2**
AS31				IAmb	IAmb	17 09 18.6	
	comp=Z,2.6nm,0.3s						
ASAR	**Alice Springs**	**22.27**	**215**	P	**P**	**17 09 17.9**	**+1.3**
	comp=Z,2.2nm,0.4s,baz=49,slow=8.6,SNR=128						
ASAR	**Alice Springs**	**22.27**	**215**	P	**P**	**17 09 17.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.83**	**238**	P	**P**	**17 09 40.5**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=56,slow=9.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**145.71**	**285**	PKPbc	**PKPab**	**17 23 53.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=81,slow=3.0,SNR=2.0						

*NEIC **02** 17:31:03.8±2.6, 20.6S±0.1×177.1W±0.1, h295km±8km, mb4.3/23, Error ellipse: s-maj=17.9km s-min=14.4km az=185.0*
*IDC **02** 17:31:09.3±3.0, 20.46S×177.45W, h347km±27km, mb3.3/6, mb1 3.7/7, mb1mx3.3/28, mbtmp4.0/7, Error ellipse: s-maj=37.3km s-min=21.7km az=150.0*

ISC 02 17:31:09.5±0.7, 20.6S±0.1×177.4W±0.1, h350km, n40, σ1.04/37, mb4.0/17, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.18**	**302**	P	**Pn**	**17 32 29.4**	**-1.9**
	1.2nm,0.3s,baz=149,slow=15,SNR=15						
MSVF	**Nonsavu**	**5.18**	**302**		**Pn**	**17 32 29.8**	**-1.5**
NIUE	**Niue**	**7.16**	**79**	Pn	Pn	17 32 42.1	-12
AFI	**Afiamalu**	**8.51**	**40**	Pn	Pn	17 32 58.5	-11
MARNC	**Mare, Loyalty**	**13.67**	**264**	P	**P**	**17 34 10.1**	**+0.5**
PINNC	**Pines Island,**	**14.28**	**259**	P	**Pn**	**17 34 19.9**	**+1.9**
LIFNC	**LIFOU**	**14.41**	**266**	P	**P**	**17 34 17.1**	**-0.7**
DZM	**Mont Dzumac**	**15.17**	**261**	P	**Pn**	**17 34 27.5**	**-0.9**
	0.9nm,0.3s,baz=62,slow=23,SNR=10						
DZM	**Mont Dzumac**	**15.17**	**261**	P	**Pn**	**17 34 27.8**	**-0.7**
DZM				IAmb	IAmb	17 34 36.3	
	comp=Z,9.2nm,0.9s						
SANVU	**Saraoutou**	**15.54**	**287**	P	**P**	**17 34 29.3**	**-0.8**
SANVU				IAmb	IAmb	17 34 38.8	
	comp=Z,20nm,0.8s						
MXZ	**Matakaoa Point**	**17.34**	**192**	P	**P**	**17 34 47.7**	**-1.7**
URZ	**Urewera**	**18.26**	**194**	P	**P**	**17 34 56.3**	**-2.9**
EIDS	**Eidsvold**	**29.41**	**255**	P	**P**	**17 36 42.1**	**+0.1**
EIDS				IAmb	IAmb	17 36 45.0	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**29.57**	**244**	P	**P**	**17 36 44.8**	**+1.3**
CTAO	**Charters Tower**	**34.08**	**264**	P	**P**	**17 37 23.3**	**+0.8**
CTAO				IAmb	IAmb	17 37 33.6	
	comp=Z,10nm,1.2s						
BBOO	**Buckleboo**	**43.05**	**244**	P	**P**	**17 38 36.3**	**+0.1**
BBOO				IAmb	IAmb	17 39 01.3	
	comp=Z,37nm,1.4s						
WR0	**Warramunga Arr**	**44.99**	**262**	P	**P**	**17 38 51.0**	**-0.7**
AS31	**Alice Springs**	**45.08**	**257**	P	**P**	**17 38 52.2**	**-0.2**
ASAR	**Alice Springs**	**45.08**	**257**	P	**P**	**17 38 51.6**	**-0.7**
	comp=Z,6.6nm,0.7s,baz=97,slow=8.2,SNR=116						
ASAR	**Alice Springs**	**45.08**	**257**	P	**P**	**17 38 51.5**	**-0.9**
WB0	**Warramunga Arr**	**45.16**	**262**	P	**P**	**17 38 52.4**	**-0.6**
WB0				IAmb	IAmb	17 38 53.3	
	comp=Z,7.2nm,0.8s						
WB2	**Warramunga Arr**	**45.17**	**262**	P	**P**	**17 38 53.0**	**-0.1**
WB2				IAmb	IAmb	17 38 54.1	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**45.18**	**262**	P	**P**	**17 38 52.2**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=99,slow=7.6,SNR=32						
WRA	**Warramunga Arr**	**45.18**	**262**	P	**P**	**17 38 52.3**	**-0.9**
MTN	**Manton Dam**	**49.76**	**270**	P	**P**	**17 39 27.9**	**-0.2**
MTN				IAmb	IAmb	17 39 34.1	
	comp=Z,32nm,1.4s						
FORT	**Forrest**	**49.81**	**247**	P	**P**	**17 39 27.7**	**-0.6**
FORT				IAmb	IAmb	17 39 48.0	
	comp=Z,35nm,1.1s						
KNRA	**Kununurra**	**51.25**	**266**	P	**P**	**17 39 39.0**	**-0.1**
KNRA				IAmb	IAmb	17 39 40.4	
	comp=Z,13nm,0.6s						
FAKI	**Fak Fak**	**52.10**	**283**	P	**P**	**17 39 45.7**	**+0.3**
FAKI				IAmb	IAmb	17 39 54.8	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.61**	**262**	P	**P**	**17 39 56.9**	**+0.7**
SOEI	**Soe**	**57.10**	**272**	P	**P**	**17 40 22.3**	**+1.2**
VNDA	**Vanda**	**57.89**	**185**	P	**P**	**17 40 26.2**	**+0.8**
	comp=Z,0.8nm,1.1s,baz=0.3,slow=5.0,SNR=2.4						
TOLI2	**Tolitoli**	**64.21**	**282**	P	**P**	**17 41 09.2**	**+0.7**
TOLI2				IAmb	IAmb	17 41 12.1	
	comp=Z,9.2nm,1.0s						
QSPA	**South Pole Qui**	**69.50**	**180**	P	**P**	**17 41 41.2**	**+0.3**
QSPA				IAmb	IAmb	17 41 56.9	
	comp=Z,6.2nm,1.6s						
ATKA	**Atka Island**	**72.52**	**2**	P	**P**	**17 41 59.4**	**+0.7**
NVAR	**Mina Array Bea**	**80.67**	**43**	P	**P**	**17 42 44.3**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=223,slow=3.7,SNR=2.3						
TXAR	**Lajitas Array**	**86.59**	**57**	P	**P**	**17 43 14.7**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=254,slow=6.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**90.70**	**289**	P	**P**	**17 43 34.7**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=108,slow=3.0,SNR=5.0						
AKASG	**Malin Array Be**	**143.37**	**332**	PKhKP	PKPpre	17 49 58.0	
	comp=Z,0.7nm,0.5s,baz=44,slow=4.6,SNR=7.3						
CLL	**Collm**	**148.27**	**348**	*i*PKPbc	**PKPbc**	**17 50 13.6**	**-1.0**
	comp=Z,7.0nm,1.0s						
GERES	**GERESS Array B**	**150.43**	**345**	PKPbc	**PKPbc**	**17 50 18.7**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=63,slow=3.3,SNR=5.1						

*IDC **02** 17:36:29.8±1.8, 45.11N×107.11W, h0km, mb1 3.7/2, mb1mx3.3/33, mbtmp3.5/2, ML3.3/2, Error ellipse: s-maj=91.4km s-min=8.2km az=133.0*
*NEIC **02** 17:36:29.5±2.0, 45.07N±0.05×106.98W±0.06, h0km±2km, ML3.1/56, Error ellipse: s-maj=8.0km s-min=6.9km az=149.0*

ISC 02 17:36:28.7±1.1, 45.04N±0.04×106.99W±0.05, h0km, n39, σ1.38/38, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLMT	**Red Lodge**	**1.61**	**274**		**Pb**	**17 37 00.0**	**+0.6**
RLMT				IAML		17 37 25.0	
	143nm,1.0s						
LAO	**LASA Array**	**1.73**	**18**		**Pn**	**17 36 59.6**	**-0.5**
LAO				Sn	**Sn**	**17 37 22.4**	**-0.6**
LAO				IAML		17 37 28.2	
	262nm,0.5s						
LAO				IAML		17 37 44.6	
	188nm,0.8s						
GCMT	**Greycliff**	**2.03**	**293**		**Pn**	**17 37 05.8**	**+1.5**
YNE	**Yellowstone No**	**2.14**	**270**		**Pn**	**17 37 07.8**	**+1.9**
YNE				IAML		17 37 39.2	
	comp=N,98nm,2.2s						
YNE				IAML		17 37 55.5	
	comp=E,84nm,1.0s						
YMP	**Mirror Lake Pl**	**2.27**	**263**		**Pn**	**17 37 07.9**	**+0.2**
RSSD	**Black Hills**	**2.30**	**113**		**Pn**	**17 37 08.5**	**+0.4**
RSSD				IAML		17 37 42.7	
	comp=E,144nm,0.5s						
K22A	**Casper**	**2.41**	**172**		**Pn**	**17 37 10.3**	**+0.7**
K22A				IAML		17 37 53.9	
	comp=E,71nm,1.0s						
K22A				IAML		17 38 02.1	
	comp=N,70nm,0.8s						
LKWY	**Lake**	**2.47**	**260**	Pn	**Pn**

REDW				IAML		17 38 22.0	
	comp=N,40nm,2.2s						
REDW				IAML		17 38 26.9	
	comp=N,44nm,1.6s						
RWWY	**Rawlins**	**3.35**	**183**		**Pn**	**17 37 26.2**	**+3.6**
RWWY				IAML		17 38 22.6	
	comp=N,37nm,2.5s						
RWWY				IAML		17 38 31.0	
	comp=N,38nm,1.7s						
EGMT	**Eagleton**	**3.54**	**328**		**Pn**	**17 37 26.7**	**+1.8**
AHID	**Auburn Hatcher**	**3.74**	**234**	Pn	**Pn**	**17 37 29.7**	**+1.9**
AHID				IAML		17 38 37.0	
	comp=E,28nm,1.6s						
AHID				IAML		17 39 13.9	
	comp=N,29nm,2.2s						
HRY	**Holter Researc**	**3.77**	**298**		**Pn**	**17 37 29.3**	**+1.1**
PHWY	**Pilot Hill**	**3.90**	**163**		**Pn**	**17 37 30.0**	**-0.1**
LRM	**Limekiln Ridge**	**3.92**	**283**		**Pn**	**17 37 31.7**	**+1.4**
DGMT	**Dagmar**	**3.93**	**28**		**Pn**	**17 37 30.2**	**-0.1**
DLMT	**Dillon**	**3.98**	**277**		**Pn**	**17 37 32.8**	**+1.8**
DLMT				IAML		17 38 45.4	
	comp=N,38nm,2.2s						
DLMT				IAML		17 39 02.9	
	comp=N,38nm,2.2s						
MCMT	**McKenzie Canyo**	**4.17**	**269**		**Pn**	**17 37 32.7**	**-1.0**
E28A	**Huff**	**4.66**	**69**	Pn	**Pn**	**17 37 41.9**	**+1.6**
RDMU	**Red Mountain**	**4.85**	**204**	Pn	**Pn**	**17 37 43.4**	**+0.3**
RDMU				IAML		17 39 09.8	
	comp=E,18nm,2.9s						
O20A	**White River Ci**	**4.99**	**191**	Pn	**Pn**	**17 37 45.8**	**+0.8**
MSO	**Missoula**	**5.17**	**293**	Pn	**Pn**	**17 37 48.1**	**+0.7**
MSO				IAML		17 39 45.0	
	comp=E,16nm,2.0s						
NEW	**Newport**	**7.68**	**298**	Lg	Lg	17 40 35.9	
	comp=E,0.2nm,0.3s,baz=200,slow=23,SNR=2.7						
I56US	**NEWPORT INFRAS**	**7.68**	**298**	*i*		18 20 30.0	
	baz=110,slow=313,SNR=5.1						
ULM	**Lac du Bonnet**	**9.13**	**51**	Pn	**Pn**	**17 38 40.7**	**-0.9**
	comp=E,0.6nm,0.3s,baz=237,slow=12,SNR=6.0						
ULM				Lg	Lg	17 41 13.8	
	comp=E,0.3nm,0.3s,baz=157,slow=19,SNR=4.0						

DJA ***02*** *17:53:07.7±0.5,6°S±4°×13°1E±°, h162km±9km, M4.0/7, mB4.9/2, mb3.7/2, MLv4.1/7, Mw(mB)4.1/2*

IDC ***02*** *17:53:07.1±2.5,6.27S×130.70E, h113km±28km, mb3.5/1, mb1 3.3/5, mb1mx3.0/34, mbtmp3.7/5, Error ellipse: s-maj=46.3km s-min=23.2km az=90.0*

ISC 02 17:53:04.8±0.9,**6°38S**±0.05×**130.65E**±0.09,**h150**km,**n10,** σ3**¶74/16, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.99**	**338**	P		**Pn**		**17 53 41.2**	**+1.4**
BNDI				S		**Sn**		**17 54 07.0**	**+0.3**
FAKI	**Fak Fak**	**3.79**	**25**	P		**Pn**		**17 54 03.1**	**+0.7**
FAKI				S		**Sn**		**17 54 44.5**	**-2.6**
KMPI	**Kaimana, Papua**	**4.07**	**49**	P		**Pn**		**17 54 07.8**	**+1.8**
SIJI	**Sorong**	**5.51**	**6**	P		**Pn**		**17 54 25.7**	**+0.6**
	3.9nm,0.3s,baz=111,slow=4.7,SNR=29								
SIJI				S		**Sn**		**17 55 21.9**	**-5.8**
	4.4nm,0.3s,baz=258,slow=23,SNR=17								
SWI	**Sorong**	**5.52**	**6**	P		**Pn**		**17 54 25.9**	**+0.8**
BATI	**Baumata**	**7.89**	**241**	P		**Pn**		**17 55 00.3**	**+3.5**
	3.0nm,0.3s,baz=45,slow=8.6,SNR=1.7								
BATI				S		**Sn**		**17 56 22.2**	**-2.5**
	0.4nm,0.3s,baz=264,slow=22,SNR=1.0								
FITZ	**Fitzroy Crossi**	**12.63**	**202**	P		**Pn**		**17 56 01.0**	**+1.7**
	0.6nm,0.3s,baz=38,slow=12,SNR=2.5								
FITZ				S		**Sn**		**17 58 11.8**	**-7.1**
	0.2nm,0.3s,baz=205,slow=21,SNR=1.8								
WRA	**Warramunga Arr**	**13.95**	**165**	P		**P**		**17 56 19.7**	**+0.3**
	0.1nm,0.3s,baz=352,slow=13,SNR=6.9								
WRA				S		**Sn**		**17 58 47.5**	**-3.3**
	0.6nm,0.3s,baz=337,slow=23,SNR=12								
ASAR	**Alice Springs**	**17.47**	**170**	P		**Pn**		**17 57 05.7**	**+6.2**
	0.1nm,0.3s,baz=342,slow=9.5,SNR=6.7								
ASAR				S		**S**		**18 00 09.3**	**-3.3**
	0.1nm,0.3s,baz=352,slow=26,SNR=2.7								
MKAR	**Makanchi Array**	**68.07**	**326**	P		P		18 03 54.1	+5.9
	0.7nm,0.6s,baz=119,slow=8.1,SNR=6.7								

IDC ***02*** *17:56:51.1±2.0,1°35N×127°06E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/40, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=120.6km s-min=25.2km az=69.0*

DJA ***02*** *17:57:05.3±0.8,1°N±5°×12°7E±°, h141km±8km, M3.7/7, mb3.9/1, MLv3.6/7*

NEIC ***02*** *17:57:06.9±0.8,1°1N±0°1×127°2E±0°1, h141km±8km, mb4.0/9, Error ellipse: s-maj=22.5km s-min=16.3km az=211.0*

ISC 02 17:57:06.4±0.9,**1°18N**±0°08×**127°27E**±0°10,**h150**km,**n25,** σ1**¶77/26, mb3.8/7, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.42**	**167**			**Pn**		**17 57 26.6**	**-0.8**
TNTI	**Ternate**	**0.42**	**167**	P		**Pn**		**17 57 26.2**	**-1.2**
TNTI				S		**Sn**		**17 57 42.4**	**-1.0**
SGSI	**Sangihe**	**3.04**	**325**	P		**Pn**		**17 57 52.0**	**-2.3**
KMSI	**Cibinong**	**3.34**	**260**	P		**Pn**		**17 57 56.8**	**-1.4**
SANI	**Sanana**	**3.45**	**202**	P		**Pn**		**17 57 57.7**	**-1.9**
GTOI	**Gorontalo**	**4.29**	**263**	P		**Pn**		**17 58 10.4**	**-0.1**
NLAI	**Namlea**	**4.39**	**182**	P		**Pn**		**17 58 10.2**	**-1.6**
LUWI	**Luwuk**	**5.01**	**244**	Pn		**Pn**		**17 58 19.1**	**-0.9**
APSI	**Ampana**	**5.99**	**250**	P		**Pn**		**17 58 31.4**	**-1.6**
KNRA	**Kununurra**	**16.81**	**175**			**P**		**18 00 47.5**	**-5.2**
FITZ	**Fitzroy Crossi**	**19.22**	**185**	P		**P**		**18 01 19.0**	**-0.1**
	0.2nm,0.3s,baz=16,slow=10.0,SNR=1.6								
FITZ	**Fitzroy Crossi**	**19.22**	**185**	P		**P**		**18 01 19.4**	**+0.3**
WB0	**Warramunga Arr**	**21.96**	**162**	P		**P**		**18 01 48.1**	**-0.2**
WB0				IAmb		IAmb		18 01 55.4	
	comp=Z,7.1nm,1.0s								
WRA	**Warramunga Arr**	**22.11**	**162**	P		**P**		**18 01 49.8**	**0.0**
	comp=Z,1.3nm,0.4s,baz=340,slow=11,SNR=8.3								
WRA	**Warramunga Arr**	**22.11**	**162**	P		**P**		**18 01 47.4**	**-2.5**
WB2	**Warramunga Arr**	**22.11**	**162**	P		**P**		**18 01 50.1**	**+0.2**
WB2				IAmb		IAmb		18 02 12.1	
	comp=Z,14nm,1.4s								
WR0	**Warramunga Arr**	**22.18**	**162**	P		**P**		**18 01 50.8**	**+0.2**
WR0				IAmb		IAmb		18 01 59.3	
	comp=Z,12nm,1.4s								
ASAR	**Alice Springs**	**25.52**	**166**	P		**P**		**18 02 24.1**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=345,slow=11,SNR=2.5								
ASAR	**Alice Springs**	**25.52**	**166**	P		**P**		**18 02 23.7**	**+2.5**
STKA	**Stephens Creek**	**35.57**	**159**	P		**P**		**18 03 50.6**	**+1.2**
STKA				IAmb		IAmb		18 04 27.3	
	comp=Z,2.5nm,1.4s								
TOO	**Toolangi**	**42.09**	**158**	P		**P**		**18 04 43.4**	**-0.3**
MK31	**Makanchi Array**	**59.95**	**326**	P		**P**		**18 06 57.5**	**+0.6**
MKAR	**Makanchi Array**	**59.95**	**326**	P		**P**		**18 06 57.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=124,slow=8.5,SNR=5.7								
MKAR	**Makanchi Array**	**59.95**	**326**	P		**P**		**18 06 57.9**	**+1.0**
CASY	**Casey**	**68.37**	**187**	P		**P**		**18 07 52.5**	**+1.2**

NNC ***02*** *17:59:04.7±8.3,36°90N×70°76E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=64.9km s-min=56.3km az=164.0*

ISC 02 17:59:00.5±2.1,**36°27N**±0°09×**71°1E**±0°2,**h100**km,**n6,** σ1**¶89/11, 2C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**5.91**	**131**	*e*P		**Pn**		**18 00 27.2**	**+1.5**
DHRM				*e*S		**Sn**		**18 01 30.3**	**-1.9**
DHRM				IAML				18 01 34.4	
	comp=N,130nm,0.2s								
DHRM				IAML				18 01 34.6	
	comp=E,153nm,0.3s								
KK31	**Karatay Array**	**6.84**	**357**	⇓Pn		**Pn**		**18 00 39.1**	**+0.9**
	comp=E,1.8nm,0.3s,baz=178,slow=12,SNR=47								
KK31				⇓Sn		**Sn**		**18 01 51.2**	**-3.2**
	comp=E,16nm,0.6s,baz=184,slow=23,SNR=15								
AAK	**Ala-Archa**	**6.89**	**22**	⇓Pn		**Pn**		**18 00 40.5**	**+1.5**
	comp=E,2.6nm,0.4s								
AAK				⇓Sn		**Sn**		**18 01 54.9**	**-1.0**
	comp=E,7.7nm,0.7s								
SMLA	**Simla**	**7.22**	**133**	*e*P		**Pn**		**18 00 45.1**	**+1.7**
SMLA				*e*S		**Sn**		**18 02 02.0**	**-1.9**
SMLA				IAML				18 02 10.0	
	comp=E,46nm,0.5s								
SMLA				IAML				18 02 10.7	
	comp=N,30nm,0.4s								
TKM2	**Tokmak 2**	**7.51**	**26**	⇑Pn		**Pn**		**18 00 48.6**	**+1.2**
	comp=N,1.2nm,0.4s								
TKM2				⇑Sn		**Sn**		**18 02 11.1**	**0.0**
	comp=N,3.5nm,0.9s								
DDI	**Dehra Dun**	**8.33**	**133**	*e*P		**Pn**		**18 00 58.1**	**-0.5**

IDC ***02*** *17:58:59.8±5.3,25°96S×67°73W, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.6/21, mbtmp3.8/2, ML4.1/1, Error ellipse: s-maj=163.9km s-min=56.5km az=66.0*

GUC ***02*** *17:59:35.6±0.7,23°54S×67°19W, h242km±9km, ML3.9*

ISC 02 17:59:35.1±1.5,**23°52S**±0°06×**67°2W**±0°2,**h239**km±17km, **n19,** σ0°**99/33, 10C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.83**	**299**	*e*P		**Pn**		**18 00 15.4**	**-0.1**
LVC				*i* S		**S**		**18 00 46.6**	**-0.6**
PB15	**IPOC Station P**	**2.12**	**278**	⇑*i*P		**Pn**		**18 00 18.7**	**+0.6**
PB15				*i* S		**S**		**18 00 51.9**	**+0.2**
PB06	**IPOC Station P**	**2.34**	**290**	⇑*i*P		**Pn**		**18 00 21.0**	**+0.8**
PB06				*i* S		**S**		**18 00 55.3**	**-0.3**
PB06				IAML				18 00 57.2	
	comp=N,204nm,0.1s								
PB09	**IPOC Station P**	**2.56**	**312**	⇓*e*P		**Pn**		**18 00 23.8**	**+1.4**
PB09				*i* S		**S**		**18 01 00.1**	**+0.6**
PB09				IAML				18 01 02.3	
	comp=E,98nm,0.2s								
GO02	**Mina Guanaco**	**2.74**	**233**	⇑*i*P		**Pn**		**18 00 24.3**	**-0.1**
GO02				*e*S		**S**		**18 01 02.2**	**-1.0**
PB03	**IPOC Station P**	**2.78**	**301**	⇑*i*P		**Pn**		**18 00 25.7**	**+0.9**
PB03				*e*S		**S**		**18 01 03.3**	**-0.6**
PB03				IAML				18 01 04.5	
	comp=N,350nm,0.4s								
PB05	**IPOC Station P**	**2.85**	**283**	⇑*e*P		**Pn**		**18 00 26.3**	**+0.8**
PB05				*e*S		**S**		**18 01 04.5**	**-0.6**
PB04	**IPOC Station P**	**2.98**	**293**	⇑*i*P		**Pn**		**18 00 27.9**	**+1.1**
PB04				*e*S		**S**		**18 01 07.0**	**-0.6**
PB07	**IPOC Station P**	**3.07**	**305**	⇑*i*P		**Pn**		**18 00 28.8**	**+0.9**
PB07				*e*S		**S**		**18 01 08.8**	**-0.6**
PB10	**IPOC Station P**	**3.09**	**269**	⇑*i*P		**Pn**		**18 00 29.3**	**+1.3**
PB14	**IPOC Station P**	**3.14**	**249**	⇑*i*P		**Pn**		**18 00 29.2**	**+0.4**
PB14				*i* S		**S**		**18 01 10.1**	**-1.1**
PB01	**IPOC Station P**	**3.26**	**319**	⇓*i*P		**Pn**		**18 00 30.8**	**+0.8**
PB01				*i* S		**S**		**18 01 12.5**	**-0.6**
AC02	**Maricunga**	**3.75**	**208**	⇑*i*P		**Pn**		**18 00 35.1**	**-0.8**
TA01	**Diego Aracena**	**4.04**	**316**	*e*P		**Pn**		**18 00 39.9**	**+1.0**
TA01				*i* S		**S**		**18 01 28.4**	**-1.2**
PB11	**IPOC Station P**	**4.39**	**328**	*e*P		**Pn**		**18 00 43.1**	**-0.2**
PB11				*i* S		**S**		**18 01 35.6**	**-1.8**
PSGC	**Pisagua**	**4.76**	**324**	*e*P		**Pn**		**18 00 47.2**	**-0.6**
PSGC				*i* S		**S**		**18 01 42.8**	**-2.8**
LPAZ	**La Paz**	**7.25**	**353**	Pn		**Pn**		**18 01 20.3**	**+0.8**
	comp=N,0.7nm,0.3s,baz=198,slow=6.4,SNR=12								
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P		**P**		**18 11 00.0**	**+0.4**
	comp=N,4.4nm,0.5s,baz=253,slow=5.0,SNR=5.5								
MKAR	**Makanchi Array**	**146.26**	**39**	PKPbc		**PKPbc**		**18 18 47.7**	**+0.2**
	comp=N,0.2nm,0.5s,baz=308,slow=3.5,SNR=2.5								

IDC 02 18:32:21.2±1.8,**3°38S×143°98E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/36, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=68.1km s-min=25.3km az=112.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.96**	**209**	P		P		18 36 43.5	-0.7
	0.1nm,0.3s,baz=33,slow=11,SNR=2.7								
ASAR	**Alice Springs**	**22.40**	**205**	P		P		18 37 22.4	+0.9
	0.2nm,0.4s,baz=28,slow=12,SNR=6.1								
FITZ	**Fitzroy Crossi**	**23.16**	**230**	P		P		18 37 28.8	-0.8
	2.6nm,0.9s,baz=34,slow=8.8,SNR=5.5								
MKAR	**Makanchi Array**	**73.57**	**321**	P		P		18 43 55.7	-0.7
	0.3nm,0.6s,baz=101,slow=6.4,SNR=3.5								
ILAR	**Eielson Array**	**84.29**	**24**	P		P		18 44 55.8	+1.0
	0.6nm,0.7s,baz=257,slow=5.7,SNR=4.3								

JMA ***02*** *18:39:46.8,40°09N×141°99E, h67km±1km, M3.7*

JMA Felt I J1.

IDC ***02*** *18:39:46.6±2.2,40°11N×142°09E, h82km±21km, mb3.3/6, mb1 3.4/9, mb1mx3.2/48, mbtmp3.6/9, MS2.3/1, Ms1 2.3/1, ms1mx2.0/22, Error ellipse: s-maj=26.1km s-min=15.3km az=106.0*

NIED ***02*** *18:39:46.8,40°09N×141°99E, h67km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.20; Mθθ0.55; Mϕϕ -1.76; Mrθ0.05; Mϕθ -1.46; Mϕr-3.90; Fault plane solution: M₀4.42000×10¹⁴ NP1: ϕs179.00000°, δ80.00000°, λ71.00000°. NP2:ϕs63.00000°, δ22.00000°, λ152.00000°.*

ISC 02 18:39:46.0±0.9,**40°09N**±0°04×**142°01E**±0°08,**h72**km±6km, **n22,** σ0°**66/32, mb3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.19**	**218**	P		**Pn**		**18 39 57.2**	**+0.5**
JTH				S		**Sn**		**18 40 04.6**	**+0.1**
JKEN	**Kujiedanarisaw**	**0.26**	**297**	P		**Pn**		**18 39 57.3**	**+0.3**
JKEN				S		**Sn**		**18 40 05.0**	**-0.2**
JANG	**Nango**	**0.48**	**307**	P		**Pn**		**18 39 58.9**	**+0.2**
JANG				S		**Sn**		**18 40 07.8**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.53**	**196**	P		**Pn**		**18 39 59.6**	**+0.4**
MIYJ				*e*S		**Sn**		**18 40 08.9**	**0.0**
JKZ	**Kuzumaki**	**0.54**	**259**	P		**Pn**		**18 39 59.7**	**+0.4**
JKZ				*e*S		**Sn**		**18 40 09.0**	**-0.1**
JOM	**Ohasama**	**0.83**	**222**	P		**Pn**		**18 40 02.8**	**+0.4**
JOM				S		**Sn**		**18 40 14.8**	**+0.2**
JTM	**Tenmabayashi**	**1.00**	**314**	P		**Pn**		**18 40 04.8**	**+0.2**
JTM				S		**Sn**		**18 40 18.3**	**-0.1**
JAH	**Hinai**	**1.06**	**276**	P		**Pn**		**18 40 05.7**	**+0.4**
JAH				S		**Sn**		**18 40 20.0**	**+0.3**
JRG	**Rokugo**	**1.27**	**237**	P		**Pn**		**18 40 08.4**	**+0.5**
JMK	**Ichinoseki**	**1.29**	**209**	P		**Pn**		**18 40 08.7**	**+0.5**
JMK				S		**Sn**		**18 40 25.1**	**+0.2**
JOT	**Ohata**	**1.49**	**331**	P		**Pn**		**18 40 11.0**	**+0.2**
JOT				S		**Sn**		**18 40 29.3**	**-0.2**
JIW	**Iwasaki**	**1.61**	**289**	P		**Pn**		**18 40 13.4**	**+0.9**
ASAJ	**Asahikawa**	**4.05**	**6**	P		**Pn**		**18 40 46.8**	**+1.4**
	1.1nm,0.3s,baz=203,slow=13,SNR=14								
ASAJ				S		**Sn**		**18 41 31.6**	**0.0**
	2.1nm,0.3s,baz=224,slow=31,SNR=6.3								
MJAR	**Matsushiro Arr**	**4.63**	**221**	P		**Pn**		**18 40 55.7**	**+2.2**
	0.1nm,0.3s,baz=30,slow=13,SNR=10								
USRK	**Ussuriysk Ar.**	**8.51**	**302**	P		**Pn**		**18 41 47.1**	**+0.8**
	baz=106,slow=14,SNR=7.0								
KSRS	**Korea Array**	**11.31**	**261**	LR		LR		18 46 17.6	
	comp=Z,17nm,21.6s,baz=75,slow=34								
SONM	**Songino Array**	**26.60**	**299**	P		**P**		**18 45 17.9**	**+0.4**
	0.6nm,0.5s,baz=86,slow=8.3,SNR=4.9								
ZALV	**Zalesovo Beam**	**40.27**	**310**	P		**P**		**18 47 15.4**	**-0.2**
	1.7nm,0.7s,baz=90,slow=8.7,SNR=5.7								
MKAR	**Makanchi Array**	**42.96**	**299**	P		**P**		**18 47 37.6**	**-0.2**
	0.9nm,0.6s,baz=84,slow=11,SNR=14								
ILAR	**Eielson Array**	**46.68**	**34**	P		**P**		**18 48 06.9**	**-0.2**
	0.5nm,0.7s,baz=265,slow=6.4,SNR=5.3								
WRA	**Warramunga Arr**	**60.15**	**188**	P		**P**		**18 49 45.2**	**-0.9**
	0.4nm,0.8s,baz=4.4,slow=6.9,SNR=1.4								
ASAR	**Alice Springs**	**63.87**	**188**	P		**P**		**18 50 10.2**	**-0.9**
	0.2nm,0.5s,baz=347,slow=3.8,SNR=1.3								

IDC ***02*** *18:56:09.6±6.0,16°06S×177°27W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/24, mbtmp4.2/3, MS4.1/2, Ms1 4.1/2, ms1mx2.9/29, Error ellipse: s-maj=861.5km s-min=154.4km az=77.0*

NEIC ***02*** *18:57:04.9±0.5,17°0S±0°3×177°4W±0°2, h566km±13km, mb4.4/13, Error ellipse: s-maj=40.3km s-min=23.8km az=149.0*

ISC 02 18:57:05.0±1.3,**16°5S**±0°3×**177°7W**±0°2,**h550**km,**n19,** σ1**¶89/17, mb4.3/10, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.26**	**252**			**P**		**18 58 32.8**	**+3.9**
ARMA	**Armidale**	**31.27**	**238**	P		**P**		**19 02 37.8**	**-2.6**
TOO	**Toolangi**	**38.62**	**230**	P		**P**		**19 03 39.1**	**-2.4**
TOO				IAmb		IAmb		19 05 11.1	
	comp=Z,27nm,1.4s								
STKA	**Stephens Creek**	**39.93**	**240**	P		**P**		**19 03 50.3**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=90,slow=11,SNR=7.3								

BBOO	**Buckleboo**	**44.71**	**240**	P		**P**	**19 04 27.7**	**-1.9**
WR0	**Warramunga Arr**	**45.38**	**258**	P		**P**	**19 04 34.5**	**-0.4**
WR0				IAmb		IAmb	19 04 57.6	
	comp=Z,41nm,1.9s							
WB0	**Warramunga Arr**	**45.53**	**258**	P		**P**	**19 04 35.6**	**-0.5**
WB0				IAmb		IAmb	19 06 08.9	
	comp=Z,27nm,1.6s							
WB2	**Warramunga Arr**	**45.56**	**258**	P		**P**	**19 04 35.7**	**-0.6**
WB2				IAmb		IAmb	19 06 25.5	
	comp=Z,13nm,1.2s							
WRA	**Warramunga Arr**	**45.57**	**258**	P		**P**	**19 04 35.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.7,SNR=19							
WRA	**Warramunga Arr**	**45.57**	**258**	P		**P**	**19 04 34.7**	**-1.7**
AS31	**Alice Springs**	**45.85**	**253**	P		**P**	**19 04 37.8**	**-0.6**
ASAR	**Alice Springs**	**45.85**	**253**	P		**P**	**19 04 37.8**	**-0.6**
	comp=Z,8.2nm,0.6s,baz=89,slow=8.2,SNR=175							
ASAR	**Alice Springs**	**45.85**	**253**	P		**P**	**19 04 37.4**	**-1.0**
KNRA	**Kununurra**	**51.32**	**263**	P		**P**	**19 05 21.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**53.94**	**259**	P		**P**	**19 05 39.4**	**+1.6**
FITZ				IAmb		IAmb	19 06 15.8	
	comp=Z,21nm,1.6s							
BATI	**Baumata**	**57.23**	**268**	LR		LR	19 27 24.9	
	comp=Z,454nm,21.8s,baz=45,slow=32							
LEM	**Lembang**	**73.44**	**268**	LR		LR	19 39 58.5	
	comp=Z,52nm,18.3s,baz=187,slow=36							
QSPA	**South Pole Qui**	**73.60**	**180**	P		**P**	**19 07 43.8**	**+1.5**
QSPA				IAmb		IAmb	19 09 25.4	
	comp=Z,24nm,2.0s							
HLID	**Hailey**	**83.09**	**41**	P		**P**	**19 08 32.6**	**-0.8**
HLID				IAmb		IAmb	19 08 33.9	
	comp=Z,5.9nm,1.2s							

CRAAG ***02*** *19:15:42.0,36°47N×1°67W, Ml3.0*

IDC ***02*** *19:15:48.5±1.4,36°23N×1°74W, h0km, mb3.5/3, mb1 3.6/7, mb1mx3.4/45, mbtmp3.5/7, ML3.6/4, MS3.0/5, Ms1 3.1/5, ms1mx2.7/33, Error ellipse: s-maj=38.2km s-min=22.1km az=105.0*

IGIL ***02*** *19:15:48.8, 36°11N×1°51W, h11km, ML3.1*

SFS ***02*** *19:15:48.0,36°10N×1°50W, h13km, ML3.4, MEDITERRANEO ARGELIA*

MDD ***02*** *19:15:48.2±0.3,36°13N×1°54W, h11km, mb4.1/1, mbLg3.9/24, Error ellipse: s-maj=3.4km s-min=2.6km az=177.0, PRXIMO*

MDD EMS: II INTENSIDAD MAXIMA.

INMG ***02*** *19:15:49.8±1.6,36°08N×1°63W, h24km±4km, ML3.5, Error ellipse: s-maj=5.0km s-min=3.6km az=120.0*

LDG ***02*** *19:15:50.5±0.2,36°18N×1°56W, h13km, Ml3.4/20, Error ellipse: s-maj=4.6km s-min=1.6km az=156.0*

CNRM ***02*** *19:15:53.3,36°09N×1°79W, h68km, ml3.5, Hypocentre not reviewed by the ISC*

ISC 02 19:15:48.0±1.2,**36°22N**±0°03×**1°55W**±0°03,**h15**km±9km, **n193,** σ2°**63/330, mb3.5/3, 3C-9D, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.92**	**325**	⇓Pg		**Pb**		**19 16 05.5**	**-0.1**
	165nm,0.2s,SNR=18								
ENIJ				Lg		Lg		19 16 16.7	
	9μm,0.3s,SNR=7.9								
USTO	**Oran**	**0.95**	**120**	P		**Pb**		**19 16 06.1**	**0.0**
USTO	**Oran**	**0.95**	**120**	Pg		**Pb**		**19 16 06.1**	**0.0**
OLHC	**Oulhaca**	**0.97**	**174**	P		**Pb**		**19 16 07.2**	**+0.6**
OLHC	**Oulhaca**	**0.97**	**174**	Pg		**Pb**		**19 16 07.2**	**+0.6**
OTSS	**Djebel Tessala**	**1.12**	**146**	P		**Pn**		**19 16 10.5**	**+1.2**
EALB	**Alboran**	**1.23**	**257**	⇑Pg		**Pn**		**19 16 10.1**	**-0.6**
	112nm,0.2s,SNR=18								
EALB				Lg		Lg		19 16 26.0	
	937nm,0.3s,SNR=7.9								
EBER	**Berja**	**1.27**	**303**	Pn		**Pn**		**19 16 11.1**	**-0.4**
	29nm,0.1s,SNR=7.9								
EBER				Pg		**Pb**		**19 16 13.8**	**+2.0**
	285nm,0.2s,SNR=107								
EBER				Lg		Lg		19 16 28.9	
	5μm,0.4s,SNR=14								
CART	**Cartagena**	**1.44**	**18**	Pg		**Pn**		**19 16 12.0**	**-1.5**
CART				Lg		Lg		19 16 27.6	
CART	**Cartagena**	**1.44**	**18**	⇓*i*P		**Pn**		**19 16 12.0**	**-1.5**
CART				*e*S		**Sn**		**19 16 27.6**	**-4.5**
ODJA	**Bouhanifia**	**1.45**	**127**	P		**Pg**		**19 16 17.0**	**+1.1**
ODJA	**Bouhanifia**	**1.45**	**127**	Pg		**Pg

EBNR Beni Rached 2.49 87 P **Pb** **19 16 33.5 +1.0**
AFON Font Roja 2.57 18 Pn **Pn** **19 16 29.7 +0.5**
33nm,0.2s,SNR=33
AFON Sn **Sn** **19 17 01.5 +1.2**
129nm,0.3s,SNR=5.2
EMIJ Mijas 2.62 279 Pn **Pn** **19 16 28.5 -1.3**
20nm,0.3s,SNR=41
EMIJ Sn **Sn** **19 16 57.9 -3.5**
76nm,0.3s,SNR=4.6
EBEN2 Beniarda presa 2.68 23 Pn **Pn** **19 16 30.8 +0.1**
14nm,0.2s,SNR=7.9
EBEN2 Sn **Sn** **19 17 02.1 -0.8**
40nm,0.2s,SNR=7.9
EBEN2 Lg Lg 19 17 14.6
382nm,0.7s,SNR=7.9
EADA Adamuz 3.10 310 Pn **Pn** **19 16 36.8 +0.3**
0.3nm,0.2s,SNR=26
EADA Pg **Pb** **19 16 44.8 +1.9**
32nm,0.3s,SNR=7.9
EADA Sn **Sn** **19 17 13.1 -0.1**
30nm,0.3s,SNR=7.9
EADA Lg Lg 19 17 27.0
318nm,0.5s,SNR=7.9
CEU Ceuta 3.11 265 Pn **Pn** **19 16 35.5 -1.0**
CEU Sn **Sn** **19 17 07.6 -5.8**
CEU Ceuta 3.11 265 *e*P **Pn** **19 16 35.5 -1.0**
CEU *e*S **Sn** **19 17 07.6 -5.8**
ECEU Ceuta 3.11 265 Pn **Pn** **19 16 36.9 +0.3**
2.8nm,0.1s,SNR=5.0
ECEU Sn **Sn** **19 17 11.7 -1.8**
8.7nm,0.1s,SNR=4.8
ECEU Lg Lg 19 17 25.0
75nm,0.7s,SNR=5.0
SMIR Smir Dam 3.15 261 P 19 16 35.7
SMIR S 19 17 12.2
EJIF Jimena Fronter 3.17 275 Pn **Pn** **19 16 38.0 +0.6**
SNR=7.9
EJIF Sn **Sn** **19 17 14.9 0.0**
SNR=7.9
LIJA Lijar 3.17 284 Pn **Pn** **19 16 38.8 +1.2**
LIJA Sn **Sn** **19 17 11.0 -4.1**
LIJA Lijar 3.17 284 *i*P **Pn** **19 16 38.8 +1.2**
LIJA *e*S **Sn** **19 17 11.0 -4.1**
TDRA Tendrara 3.19 187 P 19 16 40.0
TDRA S 19 17 18.7
CHEFC Chefchaouen 3.28 251 P 19 16 40.9
CHEFC S 19 17 16.3
ECHE Chera 3.40 8 Pn **Pn** **19 16 40.5 0.0**
6.0nm,0.4s,SNR=7.9
ECHE Sn **Sn** **19 17 21.7 +1.1**
18nm,0.3s,SNR=7.9
ESPR Espera 3.52 282 Pn **Pn** **19 16 43.9 +1.7**
7.4nm,0.3s,SNR=14
ESPR Sn **Sn** **19 17 21.8 -1.8**
30nm,0.3s,SNR=7.9
ECAB El Cabril 3.60 302 Pn **Pn** **19 16 43.6 +0.3**
0.4nm,0.2s,SNR=7.9
ECAB Sn **Sn** **19 17 24.1 -1.4**
36nm,0.4s,SNR=7.9
ECAB Lg Lg 19 17 43.8
243nm,0.7s,SNR=7.9
EIBI Ibiza 3.63 38 ⇓Pn **Pn** **19 16 43.4 -0.2**
17nm,0.2s,SNR=18
EIBI Sn **Sn** **19 17 21.4 -4.7**
96nm,0.3s,SNR=7.9
RSA Sarsar 3.73 250 P 19 16 47.2
RSA S 19 17 26.2
ESDC Sonseca Array 3.94 332 Pn **Pn** **19 16 48.2 +0.2**
1.4nm,0.3s,baz=148,slow=13,SNR=26
ESDC Pg **Pg** **19 17 02.7 -0.8**
4.6nm,0.3s,baz=147,slow=16,SNR=25
ESDC Sn **Sn** **19 17 39.7 +5.8**
3.4nm,0.3s,baz=149,slow=25,SNR=3.8
ESDC Lg Lg 19 17 54.5
9.8nm,0.3s,baz=150,slow=29,SNR=8.2
ESDC LR LR 19 18 34.0
comp=Z,195nm,19.1s,baz=175,slow=43
ESDC Sonseca Array 3.94 332 Pn **Pn** **19 16 49.4 +1.4**
3.7nm,0.2s,baz=146,slow=13,SNR=19
ESDC Pg **Pb** **19 17 00.7 +3.5**
baz=148,slow=14,SNR=7.9
ESDC Sn **Sn** **19 17 32.1 -1.8**
17nm,0.4s,baz=147,slow=22,SNR=13
ESDC Lg Lg 19 17 53.3
baz=149,slow=28,SNR=7.9
IFR Ifrane 3.99 228 *e*P **Pn** **19 16 49.8 +1.0**
IFR *e*S **Sn** **19 17 35.9 +0.5**
PAB San Pablo 3.99 327 Pn **Pn** **19 16 50.2 +1.5**
5.4nm,0.3s,SNR=7.9
PAB Sn **Sn** **19 17 31.5 -3.8**
12nm,0.3s,SNR=7.9
PAB Lg Lg 19 17 54.8
168nm,0.9s,SNR=7.9
EMOS Mosqueruela 4.22 11 ⇓Pn **Pn** **19 16 53.7 +1.6**
34nm,0.4s,SNR=18
EMOS Sn **Sn** **19 17 40.3 -0.9**
9.2nm,0.3s
MDT Midelt 4.23 217 Pn **Pn** **19 16 53.4 +1.3**
1.9nm,0.3s,baz=125,slow=22,SNR=53
MDT Sn **Sn** **19 17 40.8 -0.4**
3.6nm,0.3s,baz=270,slow=22,SNR=6.1
MDT Midelt 4.23 217 P 19 16 53.6
ARNO Arenosillo 4.25 283 *e*P **Pn** **19 16 56.6 +4.4**
ARNO *e*S **Sb** **19 17 53.5 -0.2**
MD31 MD31 4.26 219 P 19 16 54.3
MD31 S 19 17 39.1
CZD Col de Zad 4.29 223 P 19 16 54.8
CZD S 19 17 42.6
UCM Universidad Co 4.29 342 Pn **Pn** **19 16 54.7 +1.8**
UCM Sn **Sn** **19 17 40.0 -2.6**
UCM Universidad Co 4.29 342 *e*P **Pn** **19 16 54.7 +1.8**
UCM *e*S **Sn** **19 17 40.0 -2.6**
EMIN Mina Concepcio 4.38 292 Pn **Pn** **19 16 53.7 -0.3**
1.2nm,0.2s,SNR=22
EMIN Sn **Sn** **19 17 43.1 -1.6**
13nm,0.3s
EMIN Lg Lg 19 18 08.1
109nm,0.8s,SNR=7.9
ETOR Torete 4.61 355 Pn **Pn** **19 16 58.4 +1.1**
14nm,0.3s,SNR=26
ETOR Sn **Sn** **19 17 49.0 -1.6**
27nm,0.3s
ETOR Lg Lg 19 18 15.8
92nm,0.8s,SNR=7.9
PBAR Barrancos 4.79 296 Pn **Pn** **19 17 00.3 +0.6**
PBAR Sn **Sn** **19 17 52.8 -2.2**
44nm,0.6s
PBAR Barrancos 4.79 296 ⇓*e*Pn **Pn** **19 17 00.3 +0.6**
PBAR *e*Sn **Sn** **19 17 52.8 -2.2**
PBAR A A 19 18 32.3
44nm,0.6s
GUD Guadarrama 4.87 336 Pn **Pn** **19 17 01.9 +1.1**
2.4nm,0.2s,SNR=7.9
GUD Sn **Sn** **19 17 55.4 -1.5**
6.5nm,0.3s,SNR=7.9
GUD Lg Lg 19 18 21.7
58nm,0.8s,SNR=7.9
EGRO El Granado 4.93 287 Pn **Pn** **19 17 01.2 -0.3**
6.0nm,0.2s,SNR=26
EGRO Sn **Sn** **19 17 55.0 -3.3**
10nm,0.3s,SNR=5.0
EGRO Lg Lg 19 18 25.5
38nm,0.7s,SNR=7.9
ETOS Mallorca 4.95 43 ⇓Pn **Pn** **19 17 02.0 +0.2**
16nm,0.3s,SNR=18
ETOS Sn **Sn** **19 17 55.2 -3.5**
12nm,0.3s,SNR=4.6
ERTA Horta de San J 4.96 17 Pn **Pn** **19 17 02.7 +0.8**
11nm,0.5s,SNR=26
ERTA Sn **Sn** **19 17 57.2 -1.8**
7.0nm,0.3s,SNR=7.9
ZHG ZHG 5.02 238 P 19 17 03.3
ZHG S 19 17 59.5
EBAD Badajoz 5.03 302 Pn **Pn** **19 17 03.0 +0.1**
2.0nm,0.1s,SNR=19
EBAD Sn **Sn** **19 17 57.7 -3.0**
28nm,0.2s,SNR=5.6
EBAD Lg Lg 19 18 26.0
110nm,0.6s,SNR=4.6
PVAQ Vaqueiros 5.08 285 Pn **Pn** **19 17 03.3 -0.4**
PVAQ Sn **Sn** **19 17 58.5 -3.6**
29nm,0.3s
PVAQ Vaqueiros 5.08 285 *e*Pn **Pn** **19 17 03.3 -0.4**
PVAQ *e*Sn **Sn** **19 17 58.5 -3.6**
PVAQ A A 19 18 01.6
29nm,0.3s

PBDV Barranco-do-Ve 5.22 283 Pn **Pn** **19 17 05.9 +0.3**
PBDV Sn **Sn** **19 18 01.4 -4.2**
19nm,0.7s
PBDV Barranco-do-Ve 5.22 283 *e*Pn **Pn** **19 17 05.9 +0.3**
PBDV *e*Sn **Sn** **19 18 01.4 -4.2**
PBDV A A 19 18 09.9
19nm,0.7s
EPLA Plasencia 5.24 318 Pn **Pn** **19 17 07.3 +1.5**
2.7nm,0.2s,SNR=12
EPLA Sn **Sn** **19 18 03.2 -2.8**
7.4nm,0.2s
EPLA Lg Lg 19 18 36.3
170nm,1.0s,SNR=6.4
PBEJ Beja 5.36 292 Pn **Pn** **19 17 07.7 +0.3**
PBEJ Sn **Sn** **19 18 05.5 -3.3**
10.0nm,0.6s
PBEJ Beja 5.36 292 *e*Pn **Pn** **19 17 07.7 +0.3**
PBEJ *e*Sn **Sn** **19 18 05.5 -3.3**
PBEJ A A 19 18 53.0
20nm,0.6s
PCVE Castro Verde 5.38 287 Pn **Pn** **19 17 08.0 +0.2**
PCVE Sn **Sn** **19 18 07.0 -2.5**
25nm,0.6s
PCVE Castro Verde 5.38 287 *e*Pn **Pn** **19 17 08.0 +0.2**
PCVE *e*Sn **Sn** **19 18 07.0 -2.5**
PCVE A A 19 18 58.8
25nm,0.6s
PESTR Estremoz 5.48 301 *e*Pn **Pn** **19 17 09.8 +0.7**
PESTR *e*Sn **Sn** **19 18 09.7 -2.1**
PESTR *e*Sg Sb 19 18 38.3 +9.4
PESTR A A 19 18 56.2
52nm,0.6s
EPOB Poblet 5.52 21 Pn **Pn** **19 17 10.3 +0.6**
5.0nm,0.3s,SNR=13
EPOB Sn **Sn** **19 18 09.4 -3.6**
5.4nm,0.3s,SNR=7.9
MESJ Messejana 5.57 289 *e*P **Pn** **19 17 10.4 0.0**
MESJ *e*S **Sn** **19 18 10.1 -4.0**
MESJ IAML 19 18 12.8
comp=N,22nm,0.5s
MESJ Messejana 5.57 289 Pn **Pn** **19 17 10.4 0.0**
MESJ Sn **Sn** **19 18 10.1 -4.0**
PMRV Marv??o 5.62 306 Pn **Pn** **19 17 12.3 +1.2**
PMRV Sn **Sn** **19 18 11.4 -4.0**
comp=N,50nm,0.6s
PMRV Marv??o 5.62 306 *e*Pn **Pn** **19 17 12.3 +1.2**
PMRV *e*Sn **Sn** **19 18 11.4 -4.0**
PMRV A A 19 18 58.1
comp=N,50nm,0.6s
EVO Evora 5.64 296 Pn **Pn** **19 17 11.7 +0.4**
EVO Sn **Sn** **19 18 11.8 -4.0**
comp=N,49nm,0.7s
EVO Evora 5.64 296 *e*P **Pn** **19 17 11.5 +0.2**
EVO *e*S **Sn** **19 18 10.6 -5.1**
EVO Evora 5.64 296 *e*Pn **Pn** **19 17 11.7 +0.4**
EVO *e*Sn **Sn** **19 18 11.8 -4.0**
EVO A A 19 19 01.8
comp=N,49nm,0.7s
MAHO Mahon 5.88 50 Pn **Pn** **19 17 14.6 0.0**
MAHO Mahon 5.88 50 *e*P **Pn** **19 17 14.6 0.0**
MAHO *e*S **Sn** **19 18 17.4 -4.2**
PNCL Nicolau / Gran 5.88 291 Pn **Pn** **19 17 14.8 +0.2**
PNCL Sn **Sn** **19 18 20.6 -1.1**
comp=N,19nm,0.7s
PNCL Nicolau / Gran 5.88 291 *e*Pn **Pn** **19 17 14.8 +0.2**
PNCL *e*Sn **Sn** **19 18 20.6 -1.1**
PNCL A A 19 19 14.4
comp=N,19nm,0.7s
PTEO Sao Teotonio 5.90 285 Pn **Pn** **19 17 15.2 +0.4**
PTEO Sn **Sn** **19 18 19.4 -2.7**
comp=N,15nm,0.6s
PTEO Sao Teotonio 5.90 285 *e*Pn **Pn** **19 17 15.2 +0.4**
PTEO *e*Sn **Sn** **19 18 19.4 -2.7**
PTEO A A 19 18 36.5
comp=N,29nm,0.6s
PCBR Castelo Branco 5.91 309 Pn **Pn** **19 17 16.3 +1.3**
PCBR Sn **Sn** **19 18 19.1 -3.3**
comp=N,27nm,0.5s
PCBR Castelo Branco 5.91 309 *e*Pn **Pn** **19 17 16.3 +1.3**
PCBR *e*Sn **Sn** **19 18 19.1 -3.3**
PCBR A A 19 19 03.6
comp=N,54nm,0.5s
PFVI Vila Bisbo 5.92 281 Pn **Pn** **19 17 15.4 +0.3**
comp=N,11nm,0.2s,SNR=8.8
PFVI Sn **Sn** **19 18 19.7 -2.9**
comp=N,20nm,0.3s,SNR=7.9
PFVI Vila Bisbo 5.92 281 *e*Pn **Pn** **19 17 15.7 +0.6**
PFVI *e*Sn **Sn** **19 18 20.4 -2.2**
PFVI A A 19 18 27.6
comp=N,24nm,0.5s
DFRA Djebel Bou Aff 6.00 85 P **Pn** **19 17 17.0 +0.6**
DFRA Djebel Bou Aff 6.00 85 Pn **Pn** **19 17 17.0 +0.6**
PMTG Montargil 6.01 300 Pn **Pn** **19 17 17.0 +0.6**
PMTG Sn **Sn** **19 18 22.0 -2.9**
comp=N,46nm,0.7s
PMTG Montargil 6.01 300 *e*Pn **Pn** **19 17 17.0 +0.6**
PMTG *e*Sn **Sn** **19 18 22.0 -2.9**
PMTG A A 19 19 08.2
comp=N,46nm,0.7s
EMIR Miracle 6.17 22 Sn **Sn** **19 18 28.0 -0.9**
SNR=7.9
MTE Manteigas 6.29 313 Pn **Pn** **19 17 23.0 +2.7**
MTE Sn **Sn** **19 18 29.3 -2.7**
comp=N,38nm,0.5s
MTE Manteigas 6.29 313 *e*Pn **Pn** **19 17 23.0 +2.7**
MTE *e*Sn **Sn** **19 18 29.3 -2.7**
MTE A A 19 19 18.1
comp=N,75nm,0.5s
CFON Fontmartina 6.35 28 Pn **Pn** **19 17 21.2 +0.1**
comp=N,2.1nm,0.3s,SNR=10
CFON Sn **Sn** **19 18 27.2 -6.1**
comp=N,8.7nm,0.3s,SNR=7.9
CSOR Sort 6.49 18 Pn **Pn** **19 17 23.8 +0.7**
comp=N,2.6nm,0.4s,SNR=7.9
CSOR Sn **Sn** **19 18 32.5 -4.4**
comp=N,2.9nm,0.4s,SNR=7.9
MVO Moncorvo 6.54 321 Pn **Pn** **19 17 24.8 +1.1**
comp=N,0.6nm,0.1s,SNR=14
MVO Sn **Sn** **19 18 33.3 -4.6**
comp=N,3.6nm,0.2s,SNR=7.9
MVO Lg Lg 19 19 08.7
comp=N,95nm,0.6s,SNR=5.8
MVO Moncorvo 6.54 321 *e*Pn **Pn** **19 17 25.1 +1.4**
MVO *e*Sn **Sn** **19 18 36.9 -1.0**
MVO A A 19 19 22.9
comp=N,51nm,0.6s
ECHI Chisagues Biel 6.58 11 Pn **Pn** **19 17 24.8 +0.5**
comp=N,0.1nm,0.1s,SNR=4.0
PSBE So Bento 6.61 302 *e*Pn **Pn** **19 17 25.4 +0.8**
PSBE *e*Sn **Sn** **19 18 37.9 -1.7**
PSBE A A 19 19 31.7
comp=N,54nm,0.6s
EORO Oroz-Betelu 6.67 2 Pn **Pn** **19 17 26.5 +1.0**
comp=N,7.7nm,0.4s,SNR=25
PCAS Casmilo, Conde 6.68 307 Pn **Pn** **19 17 26.6 +1.0**
PCAS Sn **Sn** **19 18 36.4 -5.0**
comp=N,64nm,0.6s
PCAS Casmilo, Conde 6.68 307 *e*Pn **Pn** **19 17 26.6 +1.0**
PCAS *e*Sn **Sn** **19 18 36.4 -5.0**
PCAS A A 19 19 27.1
comp=N,64nm,0.6s
PVIS Viseu 6.70 314 Pn **Pn** **19 17 27.1 +1.2**
PVIS Sn **Sn** **19 18 37.6 -4.4**
PVIS Lg Lg 19 19 19.0
comp=N,22nm,0.7s
PVIS Viseu 6.70 314 *e*Pn **Pn** **19 17 27.1 +1.2**
PVIS *e*Sn **Sn** **19 18 37.6 -4.4**
PVIS *e*Sg **Sg** **19 19 19.0 -4.0**
PVIS A A 19 19 34.0
comp=N,45nm,0.7s
ETSF Etsaut 6.71 6 Pn **Pn** **19 17 27.6 +1.5**
ETSF Sn **Sn** **19 18 39.2 -3.2**
comp=N,2.0nm,0.4s
ETSF Etsaut 6.71 6 *e*Pn **Pn** **19 17 27.6 +1.5**
ETSF *e*Sn **Sn** **19 18 39.2 -3.2**
comp=N,4.1nm,0.4s
PMAFR Mafra 6.72 296 Pn **Pn** **19 17 25.7 -0.4**
comp=N,3.9nm,0.2s,SNR=7.9
PMAFR Sn **Sn** **19 18 38.6 -3.8**
comp=N,20nm,0.3s,SNR=7.9
PMAFR Mafra 6.72 296 *e*Pn **Pn** **19 17 26.7 +0.6**
PMAFR *e*Sn **Sn** **19 18 38.9 -3.4**
PMAFR A A 19 19 45.2
comp=N,44nm,0.8s
CLLI Llivia 6.82 23 Pn **Pn** **19 17 29.3 +1.6**
comp=N,0.8nm,0.3s,SNR=8.1
CLLI Sn **Sn** **19 18 41.6 -3.5**
comp=N,0.7nm,0.3s,SNR=7.9
PBRG Braganca 6.88 326 Pn **Pn** **19 17 29.6 +1.2**
PBRG Sn **Sn** **19 18 44.6 -1.9**
comp=N,13nm,0.6s
PBRG Braganca 6.88 326 *e*Pn **Pn** **19 17 29.6 +1.2**
PBRG *e*Sn **Sn** **19 18 44.6 -1.9**
PBRG A A 19 19 47.6
comp=N,26nm,0.6s
ATE Arette 6.89 5 Pn **Pn** **19 17 29.8 +1.3**
comp=N,1.9nm,0.4s,SNR=7.9
ATE Sn **Sn** **19 18 43.0 -3.6**
comp=N,2.1nm,0.4s,SNR=7.9
SJPF Ste Jean 6.89 2 Pn **Pn** **19 17 30.2 +1.7**
SJPF Sn **Sn** **19 18 43.8 -2.8**
comp=N,2.5nm,0.5s
SJPF Ste Jean 6.89 2 *e*Pn **Pn** **19 17 30.2 +1.7**
SJPF *e*Sn **Sn** **19 18 43.8 -2.8**
comp=N,4.9nm,0.5s
EPF Esparros 6.96 12 Pn **Pn** **19 17 31.3 +1.9**
EPF Sn **Sn** **19 18 45.6 -2.7**
comp=N,6.6nm,0.5s
EPF Esparros 6.96 12 *e*Pn **Pn** **19 17 31.3 +1.9**
EPF *e*Sn **Sn** **19 18 45.6 -2.7**
comp=N,13nm,0.5s
PVRL Vila Real 6.98 318 Pn **Pn** **19 17 31.1 +1.4**
PVRL Sn **Sn** **19 18 45.3 -3.5**
comp=N,13nm,0.8s
PVRL Vila Real 6.98 318 *e*Pn **Pn** **19 17 31.1 +1.4**
PVRL *e*Sn **Sn** **19 18 45.3 -3.5**
PVRL A A 19 19 32.2
comp=N,27nm,0.8s
EALK Alkurruntz 6.99 0 Pn **Pn** **19 17 31.5 +1.5**
comp=N,0.2nm,0.1s,SNR=7.9
ECAL Calabor 6.99 326 Pn **Pn** **19 17 30.2 +0.3**
comp=N,5.1nm,0.4s,SNR=7.3
ECAL Sn **Sn** **19 18 45.6 -3.6**
comp=N,6.8nm,0.3s,SNR=7.9
ECAL Lg Lg 19 19 32.3
comp=N,118nm,0.8s,SNR=4.7
POLO Lamas de Olo 7.09 318 Pn **Pn** **19 17 32.0 +0.7**
POLO Sn **Sn** **19 18 47.4 -4.2**
POLO Lg Lg 19 19 31.8
comp=N,23nm,0.5s
POLO Lamas de Olo 7.09 318 *e*Pn **Pn** **19 17 32.0 +0.7**
POLO *e*Sn **Sn** **19 18 47.4 -4.2**
POLO *e*Sg **Sg** **19 19 31.8 -3.6**
POLO A A 19 19 42.0
comp=N,23nm,0.5s
EJON La Jonquera 7.11 28 Pn **Pn** **19 17 33.6 +2.1**
comp=N,2.2nm,0.4s,SNR=7.9
EJON Sn **Sn** **19 18 47.9 -4.1**
comp=N,1.0nm,0.2s,SNR=7.9
SJAF Saint Jean de 7.14 27 Sn **Sn** **19 18 48.4 -4.2**
comp=N,1.4nm,0.4s,SNR=7.9
ELAN Lanestosa 7.15 349 Pn **Pn** **19 17 33.5 +1.4**
comp=N,3.9nm,0.4s,SNR=8.9
ELAN Sn **Sn** **19 18 50.1 -2.9**
comp=N,4.6nm,0.5s,SNR=7.9
CMAH Djebel Manchou 7.25 84 P **Pn** **19 17 31.6 -1.8**
CMAH Djebel Manchou 7.25 84 Pn **Pn** **19 17 31.6 -1.8**
PCAB Cabril 7.45 319 Sn **Sn** **19 18 56.9 -3.4**
PCAB Lg Lg 19 19 41.7
comp=N,21nm,0.6s
PCAB Cabril 7.45 319 *e*Sn **Sn** **19 18 56.9 -3.4**
PCAB *e*Sg **Sg** **19 19 41.7 -5.3**
PCAB A A 19 19 57.7
comp=N,42nm,0.6s
ELOB Lobios 7.58 320 Pn **Pn** **19 17 38.9 +1.0**
comp=N,1.3nm,0.2s,SNR=9.0
ELOB Sn **Sn** **19 18 58.1 -5.5**
comp=N,7.6nm,0.3s,SNR=7.9
ELOB Lg Lg 19 19 49.4
comp=N,98nm,0.7s,SNR=7.0
EARI Arriondas 7.61 339 Pn **Pn** **19 17 39.6 +1.2**
comp=N,3.3nm,0.3s,SNR=15
EARI Sn **Sn** **19 18 56.0 -8.4**
comp=N,9.5nm,0.7s,SNR=7.9
EARI Lg Lg 19 19 53.8
comp=N,68nm,0.9s,SNR=7.9
MTLF Montolieu 7.68 21 Pn **Pn** **19 17 40.4 +1.1**
MTLF Sn **Sn** **19 19 02.4 -3.7**
comp=N,12nm,0.7s
MTLF Montolieu 7.68 21 *e*Pn **Pn** **19 17 40.4 +1.1**
MTLF *e*Sn **Sn** **19 19 02.4 -3.7**
comp=N,23nm,0.7s
PGAV Gavieira, Arco 7.76 320 Pn **Pn** **19 17 42.0 +1.6**
PGAV Sn **Sn** **19 19 05.2 -2.8**
comp=N,30nm,0.7s
PGAV Gavieira, Arco 7.76 320 *e*Pn **Pn** **19 17 42.0 +1.6**
PGAV *e*Sn **Sn** **19 19 05.2 -2.8**
PGAV A A 19 20 07.1
comp=N,30nm,0.7s
EPON Pontenova 8.30 330 Pn **Pn** **19 17 49.4 +1.6**
comp=N,3.5nm,0.5s,SNR=7.9
EPON Lg Lg 19 20 09.5
comp=N,8.4nm,0.5s,SNR=7.9
EMAZ Mazaricos 8.83 322 Pn **Pn** **19 17 57.0 +1.9**
comp=N,1.0nm,0.3s,SNR=7.9
EMAZ Sn **Sn** **19 19 27.9 -6.4**
comp=N,0.7nm,0.1s,SNR=7.9
KEST Kesra 8.85 90 Pn **Pn** **19 17 57.1 +1.7**
comp=N,1.2nm,0.3s,baz=210,slow=6.6,SNR=16
KEST Sn **Sn** **19 19 35.5 +0.6**
comp=N,0.2nm,0.3s,baz=331,slow=22,SNR=1.7
KEST LR LR 19 21 07.7
comp=N,81nm,20.0s,baz=62,slow=36
LASF Ste Croix 8.87 26 Pn **Pn** **19 17 56.9 +1.2**
LASF Sn **Sn** **19 19 31.0 -4.3**
comp=N,0.6nm,0.4s
LASF Ste Croix 8.87 26 *e*Pn **Pn** **19 17 56.9 +1.2**
LASF *e*Sn **Sn** **19 19 31.0 -4.3**
comp=N,1.3nm,0.4s
LFF La Frestale 8.88 11 Pn **Pn** **19 17 56.9 +1.1**
LFF Sn **Sn** **19 19 31.2 -4.4**
comp=N,1.2nm,0.3s
LFF La Frestale 8.88 11 *e*Pn **Pn** **19 17 56.9 +1.1**
LFF *e*Sn **Sn** **19 19 31.2 -4.4**
comp=N,2.3nm,0.3s
CAF Calviac 9.12 16 Pn **Pn** **19 18 00.4 +1.3**
CAF Sn **Sn** **19 19 36.7 -4.8**
comp=N,0.9nm,0.4s
CAF Calviac 9.12 16 *e*Pn **Pn** **19 18 00.4 +1.3**
CAF Calviac 9.12 16 *e*Pg Pn 19 18 37.3 +38
CAF *e*Sn **Sn** **19 19 36.7 -4.8**
comp=N,1.8nm,0.4s
RJF Les Rejaudoux 9.37 13 Pn **Pn** **19 18 04.0 +1.5**
RJF Sn **Sn** **19 19 42.6 -4.9**
comp=N,1.3nm,0.4s
RJF Les Rejaudoux 9.37 13 *e*Pn **Pn** **19 18 04.0 +1.5**
RJF *e*Sn **Sn** **19 19 42.6 -4.9**
comp=N,2.6nm,0.4s
LMR La Mourre 9.43 39 Pn **Pn** **19 18 04.4 +1.1**
LMR Sn **Sn** **19 19 43.3 -5.7**
comp=N,1.6nm,0.5s
LMR La Mourre 9.43 39 *e*Pn **Pn** **19 18 04.4 +1.1**
LMR La Mourre 9.43 39 *e*P Pn 19 18 09.4 +6.1
LMR *e*Sn **Sn** **19 19 43.3 -5.7**
comp=N,3.2nm,0.5s
SMRF Simiane la Rot 9.47 33 Pn **Pn** **19 18 04.6 +0.7**
SMRF Sn **Sn** **19 19 45.0 -5.2**
comp=N,0.7nm,0.4s
SMRF Simiane la Rot 9.47 33 *e*Pn **Pn** **19 18 04.6 +0.7**
SMRF *e*Sn **Sn** **19 19 45.0 -5.2**
comp=N,0.7nm,0.4s
FRF La Foret Royal 9.66 38 Pn **Pn** **19 18 07.7 +1.2**
FRF Sn **Sn** **19 19 49.2 -5.5**
comp=N,0.4nm,0.3s
FRF La Foret Royal 9.66 38 *e*Pn **Pn** **19 18 07.7 +1.2**
FRF *e*Sn **Sn** **19 19 49.2 -5.5**
comp=N,0.9nm,0.3s
SBF Sospel 10.28 39 *e*Pn **Pn** **19 18 15.7 +0.7**
SBF *e*Sn **Sn** **19 20 03.9 -6.0**
comp=N,4.6nm,0.6s
PGF Pioggiola 10.32 49 *e*Pn **Pn** **19 18 16.0 +0.4**
PGF *e*Sn **Sn** **19 20 05.3 -5.8**
comp=N,1.8nm,0.5s
ORIF Oris-en-Rattie 10.36 31 Pn **Pn** **19 18 16.9 +0.8**
ORIF Sn **Sn** **19 20 06.3 -5.7**
comp=N,0.4nm,0.3s
ORIF Oris-en-Rattie 10.36 31 *e*Pn **Pn** **19 18 16.9 +0.8**
ORIF *e*Sn **Sn** **19 20 06.3 -5.7**
comp=N,0.8nm,0.3s
MFF Saint Martin d 10.43 5 Pn **Pn** **19 18 14.6 -2.3**
MFF Sn **Sn** **19 20 07.9 -5.6**

	comp=N,0.4nm,0.3s								
MFF	**Saint Martin d**	**10.43**	**5**	*e*Pn		**Pn**	**19 18 14.6**	**-2.3**
MFF				*e*Sn		**Sn**	**19 20 07.9**	**-5.6**
	comp=N,0.9nm,0.3s								
QUIF	**Quistinic**	**11.75**	**355**	Pn		**Pn**	**19 18 35.5**	**+0.5**
QUIF	**Quistinic**	**11.75**	**355**	*e*Pn		**Pn**	**19 18 35.5**	**+0.5**
SGMF	**Saint Gilles**	**12.05**	**357**	Pn		**Pn**	**19 18 40.1**	**+1.0**
SGMF	**Saint Gilles**	**12.05**	**357**	*e*Pn		**Pn**	**19 18 40.1**	**+1.0**
GRR	**Gorron**	**12.17**	**2**	Pn		**Pn**	**19 18 41.0**	**+0.2**
GRR	**Gorron**	**12.17**	**2**	*e*Pn		**Pn**	**19 18 41.0**	**+0.2**
ROSF	**Rostrenen**	**12.18**	**355**	Pn		**Pn**	**19 18 41.5**	**+0.7**
ROSF	**Rostrenen**	**12.18**	**355**	*e*Pn		**Pn**	**19 18 41.5**	**+0.7**
LDF	**La Druitiere**	**12.41**	**4**	*e*Pn		**Pn**	**19 18 44.3**	**+0.2**
FLN	**La Foliniere**	**12.56**	**3**	Pn		**Pn**	**19 18 46.5**	**+0.4**
FLN	**La Foliniere**	**12.56**	**3**	*e*Pn		**Pn**	**19 18 46.5**	**+0.4**
	baz=178								
HAU	**Haudompre**	**13.15**	**24**	Pn		**Pn**	**19 18 54.5**	**+0.4**
HAU	**Haudompre**	**13.15**	**24**	*e*Pn		**Pn**	**19 18 54.5**	**+0.4**
DAVOX	**Davos/Dischmat**	**13.58**	**35**	LR		LR	19 23 38.9	
	comp=N,57nm,18.4s,baz=264,slow=34								
GERES	**GERESS Array B**	**16.86**	**37**	Pn		**P**	**19 19 46.7**	**+1.2**
	comp=N,0.1nm,0.3s,baz=240,slow=14,SNR=2.8								
EKA	**Eskdalemuir Ar**	**19.15**	**357**	P		**Pn**	**19 20 14.0**	**+2.5**
	baz=175,slow=13,SNR=1.4								
TORD	**Torodi Ar. Bea**	**23.16**	**172**	P		**P**	**19 20 57.0**	**+3.1**
	comp=N,1.3nm,0.9s,baz=344,slow=9.8,SNR=3.2								
TORD				LR		LR	19 30 23.4		
	comp=N,80nm,18.4s,baz=145,slow=38								
HFS	**Hagfors**	**25.87**	**18**	LR		LR	19 31 43.5		
	comp=N,22nm,18.2s,baz=190,slow=37								
AKASG	**Malin Array Be**	**26.39**	**47**	P		**P**	**19 21 29.2**	**+5.6**
	comp=N,0.3nm,0.3s,baz=243,slow=11,SNR=2.1								
MKAR	**Makanchi Array**	**60.85**	**51**	P		**P**	**19 26 02.0**	**+2.2**
	comp=N,0.4nm,0.7s,baz=273,slow=4.3,SNR=5.5								

*IDC **02** 19:24:32.9±0.7,8˚.93S×125˚.77E,h0km,mb4.0/10, mb1 4.1/11,mb1mx3.9/25,mbtmp4.0/11,ML4.1/1,MS3.4/8, Ms1 3.4/8,ms1mx3.0/34,Error ellipse: s-maj=26.8km s-min=16.6km az=75.0*

*DJA **02** 19:24:39.0±1.8,9˚S±3˚×12˚6E±˚,h27km±19km,M4.5/12, mB4.9/6,mb4.7/12,MLv4.6/9,Mw(mB)4.2/6*

*NEIC **02** 19:24:39.2±2.3,9.28S±0.07˚×125.80E±0.05,h62km±8km, mb4.3/17,Error ellipse: s-maj=11.0km s-min=6.7km az=206.0*

ISC 02 19:24:36.7±0.4,9˚35S±0˚05×125˚87E±0˚04,h35km,n83, σ2s32/89,mb4.2/17,MS3.4/4,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**1.63**	**256**	Pn		**Pn**	**19 25 05.2**	**+2.2**
SOEI						**Sn**	**19 25 26.7**	**+3.9**
SOEI	**Soe**	**1.63**	**256**	P		**Pn**	**19 25 06.2**	**+3.3**
SOEI				S		**Sn**	**19 25 26.2**	**+3.5**
BATI	**Baumata**	**2.33**	**248**	Pn		**Pn**	**19 25 15.1**	**+2.5**
	47nm,0.3s,baz=147,slow=4.7,SNR=57							
BATI				Sn		**Sn**	**19 25 41.5**	**+1.5**
	121nm,0.3s,baz=6.8,slow=2.1,SNR=11							
BATI	**Baumata**	**2.33**	**248**	P		**Pn**	**19 25 15.4**	**+2.8**
BATI				S		**Sn**	**19 25 41.7**	**+1.7**
MMRI	**Maumere**	**3.65**	**281**	Pn		**Pn**	**19 25 31.4**	**+0.6**
MMRI				Sn		**Sn**	**19 26 12.5**	**-0.1**
MMRI	**Maumere**	**3.65**	**281**	P		**Pn**	**19 25 32.1**	**+1.4**
BASI	**Baing, Sumba**	**5.28**	**260**	P		**Pn**	**19 25 55.7**	**+2.6**
	0.7nm187nm,1.8s							
NLAI	**Namlea**	**6.20**	**11**	P		Pn	19 25 59.8	-5.9
MTN	**Manton Dam**	**6.23**	**124**	P		**Pn**	**19 26 08.7**	**+2.6**
	baz=6.2,SNR=32							
MTN				S		**Sn**	**19 27 16.9**	**+0.8**
	baz=6.2							
MTN	**Manton Dam**	**6.23**	**124**	Pn		**Pn**	**19 26 09.6**	**+3.5**
MTN				Sn		**Sn**	**19 27 18.1**	**+1.9**
WBSI	**Waikabubak, Su**	**6.39**	**267**	P		**Pn**	**19 26 10.4**	**+1.9**
	0.3nm923nm58nm,0.8s							
KNRA	**Kununurra**	**6.89**	**156**	Pn		**Pn**	**19 26 18.1**	**+2.8**
SANI	**Sanana**	**7.26**	**1**	P		**Pn**	**19 26 22.8**	**+2.5**
	0.1nm31nm,0.7s							
KDU	**Kakadu**	**7.28**	**118**	P		**Pn**	**19 26 22.9**	**+2.3**
	baz=7.3,SNR=36							
KDU				S		**Sn**	**19 27 42.5**	**+0.3**
	baz=7.3							
KAPI	**Kappang**	**7.44**	**305**	LR		LR	19 29 21.6	
	comp=Z,489nm,19.0s,baz=118,slow=40							
BNSI	**Bone**	**7.54**	**310**	P		**Pn**	**19 26 26.6**	**+2.4**
	0.2nm778nm64nm,0.8s							
PLAI	**Plampang**	**8.01**	**273**	P		**Pn**	**19 26 30.5**	**-0.1**
	0.2nm48nm,0.8s							
SPSI	**Sidrap Palu**	**8.08**	**311**	P		**Pn**	**19 26 35.6**	**+4.0**
	30nm,0.7s							
TTSI	**Tana Toraja**	**8.68**	**316**	P		**Pn**	**19 26 43.4**	**+3.6**
	33nm,1.1s							
FITZ	**Fitzroy Crossi**	**8.70**	**181**	Pn		**Pn**	**19 26 41.5**	**+1.5**
	4.7nm,0.3s,baz=7.6,slow=10,SNR=95							
FITZ				Sn		**Sn**	**19 28 14.6**	**-2.3**
	4.7nm,0.3s,baz=202,slow=14,SNR=7.1							
FITZ				LR		LR	19 30 50.5	
	comp=Z,112nm,20.6s,baz=352,slow=41							
FITZ	**Fitzroy Crossi**	**8.70**	**181**	P		**Pn**	**19 26 41.1**	**+1.1**
	baz=8.7,SNR=92							
FITZ				S		**Sn**	**19 28 14.0**	**-3.0**
	baz=8.7							
FITZ	**Fitzroy Crossi**	**8.70**	**181**	Pn		**Pn**	**19 26 41.3**	**+1.3**
LUWI	**Luwuk**	**8.81**	**339**	Pn		**Pn**	**19 26 43.6**	**+2.0**
LUWI	**Luwuk**	**8.81**	**339**	P		**Pn**	**19 26 46.0**	**+4.4**
	71nm,1.1s							
TWSI	**Taliwang, Sumb**	**8.89**	**273**	P		**Pn**	**19 26 44.4**	**+1.6**
	13nm,0.7s							
FAKI	**Fak Fak**	**9.01**	**45**	Pn		**Pn**	**19 26 46.0**	**+1.7**
APSI	**Ampana**	**9.38**	**333**	P		**Pn**	**19 26 53.4**	**+4.0**
	473nm52nm,0.7s							
KMSI	**Cibinong**	**10.04**	**349**	P		**Pn**	**19 27 01.4**	**+2.9**
TOLI2	**Tolitoli**	**11.56**	**334**	Pn		**Pn**	**19 27 19.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**11.61**	**273**	Pn		**Pn**	**19 27 15.4**	**-4.6**
WB0	**Warramunga Arr**	**13.23**	**142**	Pn		**Pn**	**19 27 40.7**	**-1.5**
WRAB	**Tennant Creek**	**13.34**	**143**			**Pn**	**19 27 43.7**	**+0.1**
WRA	**Warramunga Arr**	**13.34**	**143**	Pn		**Pn**	**19 27 42.8**	**-0.8**
	1.0nm,0.3s,baz=314,slow=13,SNR=43							
WRA				Sn		**Sn**	**19 30 07.0**	**-3.8**
	1.5nm,0.3s,baz=314,slow=24,SNR=7.0							
WRA	**Warramunga Arr**	**13.34**	**143**			**Pn**	**19 27 42.0**	**-1.6**
WB2	**Warramunga Arr**	**13.35**	**143**	Pn		**Pn**	**19 27 42.3**	**-1.4**
PSA00	**Pilbara Seismi**	**13.46**	**205**	Pn		**Pn**	**19 27 44.8**	**-0.4**
PSA00						**Sn**	**19 30 08.2**	**-5.5**
PSA00	**Pilbara Seismi**	**13.46**	**205**			**Pn**	**19 27 43.9**	**-1.3**
WR0	**Warramunga Arr**	**13.47**	**142**			**Pn**	**19 27 43.6**	**-1.8**
UGM	**Wanagama**	**15.24**	**274**	P		**Pn**	**19 28 10.7**	**+1.3**
AS31	**Alice Springs**	**16.18**	**153**			**Pn**	**19 28 21.8**	**+0.3**
ASAR	**Alice Springs**	**16.18**	**153**	Pn		**Pn**	**19 28 20.8**	**-0.7**
	0.8nm,0.3s,baz=319,slow=11,SNR=77							
ASAR				Sn		**Sn**	**19 31 16.6**	**-3.4**
	0.3nm,0.3s,baz=326,slow=22,SNR=7.1							
ASAR				LR		LR	19 34 28.9	
	comp=Z,58nm,21.7s,baz=324,slow=36							
ASAR	**Alice Springs**	**16.18**	**153**			**Pn**	**19 28 22.4**	**+0.9**
DAV	**Davao City (W)**	**16.32**	**359**	LR		LR	19 34 42.3	
	comp=Z,91nm,20.7s,baz=134,slow=38							
QIS	**Mount Isa**	**17.31**	**132**	P		**Pn**	**19 28 35.9**	**+0.1**
	baz=17,SNR=5.1							
CISI	**Cisompet, Garu**	**17.94**	**274**	P		**P**	**19 28 43.5**	**-0.4**
CISI				IAmb		IAmb	19 29 06.6	
	comp=Z,27nm,1.3s							
MEEK	**Meekatharra**	**18.51**	**201**	P		**Pn**	**19 28 51.9**	**+1.4**
	baz=18,SNR=13							
PMG	**Port Moresby**	**21.01**	**92**	LR		LR	19 40 25.0	
	comp=Z,89nm,18.6s,baz=242,slow=45							
PMG	**Port Moresby**	**21.01**	**92**	P		**P**	**19 29 18.7**	**+1.3**
PMG				IAmb		IAmb	19 29 53.8	
	comp=Z,57nm,1.6s							
FORT	**Forrest**	**21.42**	**175**	P		**P**	**19 29 24.1**	**+2.5**
MORW	**Morawa**	**21.67**	**204**	P		**P**	**19 29 25.8**	**+1.4**
MORW				IAmb		IAmb	19 29 54.3	
	comp=Z,35nm,1.5s							
CTA	**Charters Tower**	**22.39**	**121**	P		**P**	**19 29 36.8**	**+4.5**
	comp=Z,9.0nm,1.0s,baz=299,slow=8.3,SNR=4.2							
KLBR	**Kellerberrin**	**23.38**	**198**	P		**P**	**19 29 44.9**	**+2.6**
	baz=23,SNR=5.1							
QLP	**Quilpie**	**24.42**	**137**	P		**P**	**19 29 56.3**	**+4.2**
	baz=24,SNR=7.0							
NWAO	**Narrogin (SRO)**	**24.78**	**198**	P		**P**	**19 29 55.0**	**-0.3**
BBOO	**Buckleboo**	**25.17**	**159**	P		**P**	**19 29 57.8**	**-1.1**
BBOO				IAmb		IAmb	19 30 18.4	
	comp=Z,39nm,1.4s							
STKA	**Stephens Creek**	**26.75**	**149**	P		**P**	**19 30 16.9**	**+3.8**
	comp=Z,2.5nm,0.7s,baz=312,slow=11,SNR=8.5							
STKA				LR		LR	19 42 53.9	
	comp=Z,121nm,19.7s,baz=273,slow=40							
STKA	**Stephens Creek**	**26.75**	**149**	P		**P**	**19 30 16.5**	**+3.4**
PSI	**Prapat**	**29.44**	**293**	LR		LR	19 43 32.4	
	comp=Z,212nm,18.9s,baz=92,slow=39							
CMAR	**Chiang Mai Arr**	**38.33**	**316**	P		**P**	**19 31 52.6**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=153,slow=6.9,SNR=2.1							
CMAR				LR		LR	19 48 43.2	
	comp=Z,60nm,20.2s,baz=192,slow=38							
KSRS	**Korea Array**	**46.60**	**2**	P		**P**	**19 33 00.6**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=179,slow=9.1,SNR=10.0							
MJAR	**Matsushiro Arr**	**47.10**	**14**	P		**P**	**19 33 03.6**	**-1.7**
	comp=Z,2.0nm,0.6s,baz=193,slow=10,SNR=4.8							
MJAR	**Matsushiro Arr**	**47.10**	**14**	IAmb		IAmb	19 33 32.7	
	comp=Z,1.0nm,0.7s							
JSD	**Sado**	**48.55**	**13**	P		**P**	**19 33 14.8**	**-1.6**
JSD				IAmb		IAmb	19 33 21.6	
	comp=Z,13nm,1.5s							
JMM	**Marumori**	**49.00**	**16**	P		**P**	**19 33 18.2**	**-1.8**
HHC	**Hu-ho-hao-te**	**51.66**	**346**	*e*P		**P**	**19 33 40.3**	**+0.1**
HHC				pmax		pmax		
	comp=Z,16nm,1.0s							
HHC				pmax		pmax		
	comp=Z,67nm,6.0s							
USRK	**Ussuriysk Ar.**	**53.59**	**5**	P		**P**	**19 33 52.5**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=150,slow=41,SNR=3.8							
USRK	**Ussuriysk Ar.**	**53.59**	**5**	P		**P**	**19 33 53.3**	**-0.9**
SONM	**Songino Array**	**59.50**	**345**	P		**P**	**19 34 34.5**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=168,slow=7.2,SNR=5.1							
SONM	**Songino Array**	**59.50**	**345**	P		**P**	**19 34 34.1**	**-2.3**
SONM				IAmb		IAmb	19 34 39.5	
	comp=Z,2.3nm,1.3s							
WMQ	**Urumqi**	**63.24**	**330**	*e*P		**P**	**19 35 02.4**	**+0.7**
PEA0B	**Petropavlovsk-**	**67.87**	**20**	P		**P**	**19 35 31.2**	**-0.1**
PETK	**Petropavlovsk-**	**67.87**	**20**	P		**P**	**19 35 31.0**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=198,slow=9.2,SNR=3.6							
PETK	**Petropavlovsk-**	**67.87**	**20**	P		**P**	**19 35 31.4**	**0.0**
MK31	**Makanchi Array**	**68.04**	**329**	P		**P**	**19 35 30.6**	**-2.0**
MK31				IAmb		IAmb	19 35 59.8	
	comp=Z,3.2nm,1.6s							
MKAR	**Makanchi Array**	**68.04**	**329**	P		**P**	**19 35 30.8**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=130,slow=7.1,SNR=15							
MKAR	**Makanchi Array**	**68.04**	**329**	P		**P**	**19 35 30.6**	**-2.0**
VNDA	**Vanda**	**70.65**	**172**	P		P	19 35 53.2	+4.9
	comp=Z,0.6nm,0.6s,baz=325,slow=7.9,SNR=6.2							
VNDA	**Vanda**	**70.65**	**172**	P		**P**	**19 35 49.5**	**+1.2**
DHH	**Diamond Head**	**80.84**	**67**	P		**P**	**19 36 45.1**	**-2.4**
TIXI	**Tiksi**	**80.85**	**1**	P		**P**	**19 36 44.2**	**-2.2**
TIXI				IAmb		IAmb	19 36 47.9	
	comp=Z,1.6nm,0.8s							
ABKAR	**Akbulak array**	**81.85**	**323**	P		**P**	**19 36 50.4**	**-1.8**
TORD	**Torodi Ar. Bea**	**125.20**	**279**	PKP		**PKiKP**	**19 43 36.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=32,slow=2.7,SNR=4.0							
LPAZ	**La Paz**	**151.00**	**151**	PKPbc		**PKiKP**	**19 44 30.6**	**+2.3**
	comp=Z,1.0nm,0.9s,baz=105,slow=2.7,SNR=2.4							

*NOU **02** 20:20:16.5,30˚.33S×174˚.38W,h0km,mb5.2,Kermadec Islands Region*

*BJI **02** 20:20:42.7±0.0,30˚.54S×177˚.95W,h23km,mB5.4/10, mb5.2/14,Ms5.0/3,Ms7 4.7/3*

*NEIC **02** 20:20:43.6±2.4,30˚.67S±0˚.05×178˚.2W±0˚.1,h16km±3km, mb5.0/62,Error ellipse: s-maj=14.6km s-min=6.2km az=106.0*

*IDC **02** 20:20:49.3±1.4,30˚.46S×178˚.16W,h64km±12km,mb4.1/15, mb1 4.3/17,mb1mx4.3/21,mbtmp4.4/17,MS3.7/15, Ms1 3.7/15,ms1mx3.5/31,Error ellipse: s-maj=17.2km s-min=13.1km az=111.0*

ISC 02 20:20:47.1±0.3,30˚69S±0˚04×178˚20W±0˚07,h46km, n230,σ2s11/217,mb4.9/46,MS3.7/13,2C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**1.45**	**10**	P		**Pn**	**20 21 09.9**	**-0.9**
GLKZ				S		**Sn**	**20 21 24.3**	**-4.2**
RAO	**Raoul Island**	**1.46**	**10**	P		**Pn**	**20 21 10.1**	**-0.9**
	1μm,0.3s,baz=123,slow=11,SNR=41							
RAO				S		**Sn**	**20 21 26.1**	**-2.8**
	3μm,0.3s,baz=77,slow=22,SNR=8.5							
RAO				LR		LR	20 21 44.1	
	comp=Z,1μm,18.9s,baz=176,slow=45							
RAO	**Raoul Island**	**1.46**	**10**	P		**Pn**	**20 21 10.8**	**-0.2**
RIZ	**Raoul Island**	**1.46**	**9**	P		**Pn**	**20 21 10.8**	**-0.3**
RIZ				S		**Sn**	**20 21 27.0**	**-2.0**
MXZ	**Matakaoa Point**	**7.44**	**202**	Pn		**Pn**	**20 22 31.6**	**-1.4**
MXZ				Sn		**Sn**	**20 23 54.2**	**-1.9**
MXZ	**Matakaoa Point**	**7.44**	**202**	S		**Sn**	**20 23 56.9**	**+0.9**
WMGZ	**Waiomatatini S**	**7.64**	**201**	P		**Pn**	20 22 30.7	-5.1
WMGZ				S		**Sn**	**20 23 57.4**	**-3.6**
HAZ	**Te Kaha**	**7.79**	**204**	P		**Pn**	**20 22 36.6**	**-1.2**
HAZ				S		**Sn**	**20 24 06.4**	**+1.7**
PKGZ	**Pakihiroa**	**7.81**	**202**	P		**Pn**	**20 22 35.8**	**-2.4**
PKGZ				S		**Sn**	**20 24 03.1**	**-2.2**
PUZ	**Puketiti**	**7.92**	**201**	P		**Pn**	**20 22 35.8**	**-3.9**
PUZ				S		**Sn**	**20 24 07.5**	**-0.4**
RUGZ	**Raukumara Rang**	**8.02**	**204**	P		**Pn**	**20 22 39.1**	**-1.9**
RUGZ				S		**Sn**	**20 24 09.1**	**-1.2**
TWGZ	**Tauwhareparae**	**8.10**	**202**	P		**Pn**	**20 22 41.5**	**-0.7**
TWGZ				S		**Sn**	**20 24 11.4**	**-1.0**
WCZ	**Waipu Caves**	**8.14**	**228**	P		Pn	20 22 50.5	+7.8
OUZ	**Omahuta**	**8.24**	**235**	P		Pn	20 22 51.6	+7.6
CNGZ	**Carnagh Statio**	**8.32**	**200**	P		**Pn**	**20 22 42.7**	**-2.4**
CNGZ				S		**Sn**	**20 24 16.3**	**-1.3**
TKGZ	**Te Karaka**	**8.39**	**202**	P		**Pn**	**20 22 44.9**	**-1.1**
TKGZ				S		**Sn**	**20 24 18.3**	**-1.0**
MWZ	**Matawai**	**8.40**	**204**	P		**Pn**	**20 22 43.8**	**-2.4**
MWZ				S		**Sn**	**20 24 17.9**	**-1.7**
URZ	**Urewera**	**8.48**	**206**	P		**Pn**	**20 22 44.7**	**-2.6**
	2.2nm,0.3s,baz=121,slow=24,SNR=19							
URZ				S		**Sn**	**20 24 21.5**	**-0.1**
	27nm,0.3s,baz=20,slow=23,SNR=9.2							
URZ				LR		LR	20 26 03.4	
	comp=Z,257nm,20.1s,baz=31,slow=36							
URZ	**Urewera**	**8.48**	**206**	Pn		**Pn**	**20 22 44.7**	**-2.6**
URZ				Sn		**Sn**	**20 24 20.5**	**-1.2**
URZ	**Urewera**	**8.48**	**206**	P		**Pn**	**20 22 46.6**	**-0.7**
URZ				S		**Sn**	**20 24 21.6**	**-0.1**
SNGZ	**Shannon Statio**	**8.86**	**203**	P		**Pn**	**20 22 51.5**	**-1.1**
SNGZ				S		**Sn**	**20 24 29.8**	**-1.3**
KNZ	**Kokohu**	**8.97**	**201**	P		**Pn**	**20 22 49.3**	**-4.8**
KNZ				S		**Sn**	**20 24 26.9**	**-6.8**
BKZ	**Black Stump Fm**	**9.51**	**206**	Pn		**Pn**	**20 22 57.0**	**-4.4**
BKZ						**Sn**	**20 24 46.0**	**-0.9**
HIZ	**Hauiti**	**9.67**	**214**	Pn		**Pn**	**20 23 01.8**	**-1.8**
POWZ	**Post Office Ro**	**10.85**	**205**	P		Pn	20 23 14.2	-5.6
POWZ				S		**Sn**	**20 25 11.6**	**-8.1**
PRWZ	**Pori Road**	**10.92**	**204**	P		**Pn**	**20 23 18.0**	**-2.7**
PRWZ				S		**Sn**	**20 25 14.1**	**-7.4**
BFZ	**Birch Farm**	**10.94**	**203**	Pn		Pn	20 23 14.9	-6.1
BFZ	**Birch Farm**	**10.94**	**203**	P		Pn	20 23 15.1	-5.8
BFZ				S		Sn	20 25 12.4	-9.5
TIWZ	**Tintock**	**11.15**	**204**	P		**Pn**	**20 23 21.7**	**-2.1**
TIWZ				S		Sn	20 25 17.3	-10
MRZ	**Mangatainoka R**	**11.15**	**205**	P		Pn	20 23 19.1	-4.8
MRZ				S		**Sn**	**20 25 19.9**	**-7.3**
HOWZ	**Holdsworth Sta**	**11.38**	**205**	P		**Pn**	**20 23 22.4**	**-4.7**
HOWZ				S		Sn	20 25 23.1	-10
TMWZ	**Te Maipa**	**11.44**	**203**	P		Pn	20 23 19.9	-7.9
OGWZ	**Otaki Gorge**	**11.44**	**206**	P		**Pn**	**20 23 24.0**	**-3.8**
TRWZ	**Traveller**	**11.77**	**203**	P		Pn	20 23 24.0	-8.3
MSWZ	**Moikau Station**	**11.94**	**205**	Pn		Pn	20 23 29.6	-4.9
SNZO	**South Karori**	**12.05**	**206**	Pn		**Pn**	**20 23 34.1**	**-2.0**
BHW	**Baring Head**	**12.07**	**206**	Pn		Pn	20 23 30.6	-5.8
PLWZ	**Palliser**	**12.07**	**204**	Pn		Pn	20 23 31.0	-5.5
TUWZ	**Tuamarina**	**12.45**	**208**	Pn		**Pn**	**20 23 37.1**	**-4.4**
NNZ	**Nelson**	**12.52**	**211**	Pn		**Pn**	**20 23 39.6**	**-2.8**
QRZ	**Quartz Range**	**12.60**	**214**	Pn		**Pn**	**20 23 41.1**	**-2.5**
CMWZ	**Cape Campbell**	**12.61**	**207**	Pn		**Pn**	**20 23 39.3**	**-4.4**
BSWZ	**Blackbirch Sta**	**12.72**	**208**	Pn		**Pn**	**20 23 40.5**	**-4.7**
THZ	**Tophouse**	**13.16**	**211**	Pn		Pn	20 23 42.5	-8.9
MSVF	**Nonsavu**	**13.35**	**344**	P		**Pn**	**20 23 54.6**	**+0.6**
	5.6nm,0.3s,baz=107,slow=22,SNR=9.0							
MSVF				LR		LR	20 28 07.0	
	comp=Z,432nm,20.8s,baz=153,slow=33							
MSVF	**Nonsavu**	**13.35**	**344**			**Pn**	**20 23 49.9**	**-4.1**
KHZ	**Kahutara**	**13.44**	**207**	Pn		Pn	20 23 48.2	-6.9
NIUE	**Niue**	**13.78**	**35**			Pn	20 23 47.4	-12
LTZ	**Lake Taylor**	**14.27**	**210**	Pn		**Pn**	**20 24 02.9**	**-3.4**
OXZ	**Oxford**	**14.81**	**209**			**Pn**	**20 24 09.6**	**-4.0**
MQZ	**McQueen's Vall**	**14.88**	**207**	Pn		Pn	20 24 06.3	-8.1

PINNC	**Pines Island,**	**15.14**	**299**	Pn		**Pn**	**20 24 15.2**	**-2.7**
RPZ	**Rata Peaks**	**15.54**	**210**	Pn		**Pn**	**20 24 18.1**	**-5.0**
RPZ				IAmb		IAmb	20 25 13.7	
	comp=Z,216nm,1.9s							
OUENC	**Ouen Island, N**	**15.71**	**298**			**Pn**	**20 24 23.7**	**-1.5**
FOZ	**Fox Glacier**	**15.96**	**213**	Pn		**Pn**	**20 24 26.7**	**-1.7**
FOZ				IAmb		IAmb	20 24 39.5	
	comp=Z,236nm,1.7s							
DZM	**Mont Dzumac**	**16.21**	**298**	*e*Pn		P	20 24 43.4	+9.1
	comp=Z,2.8nm,0.3s							
DZM				*e*LR		LR	20 28 34.7	
	comp=Z,880nm,25.4s							
DZM	**Mont Dzumac**	**16.21**	**298**	LR		LR	20 29 38.0	
	comp=Z,498nm,19.0s,baz=166,slow=33							
DZM	**Mont Dzumac**	**16.21**	**298**	P		**Pn**	**20 24 32.9**	**+1.2**
LIFNC	**LIFOU**	**16.40**	**304**	Pn		**Pn**	**20 24 33.5**	**-0.6**
ODZ	**Otahua Downs**	**16.79**	**208**	Pn		**Pn**	**20 24 34.5**	**-4.4**
ODZ				IAmb		IAmb	20 25 26.1	
	comp=Z,121nm,1.6s							
WKZ	**Wanaka**	**17.32**	**212**	Pn		**Pn**	**20 24 41.9**	**-3.6**
WKZ				IAmb		IAmb	20 25 17.2	
	comp=Z,394nm,2.0s							
MLZ	**Mavora Lakes**	**18.15**	**212**	Pn		**P**	**20 24 52.0**	**-3.6**
DCZ	**Deep Cove**	**18.68**	**214**	P		**P**	**20 24 60.0**	**-1.2**
DCZ				IAmb		IAmb	20 25 55.4	
	comp=Z,97nm,1.5s							
RAR	**Rarotonga**	**19.05**	**65**	P		**P**	**20 25 04.7**	**-0.8**
	comp=Z,2.4nm,0.3s,baz=260,slow=5.5,SNR=6.6							
RAR				LR		LR	20 30 03.8	
	comp=Z,249nm,20.1s,baz=258,slow=29							
RAR	**Rarotonga**	**19.05**	**65**	IAmb		IAmb	20 25 08.0	
	comp=Z,57nm,1.2s							
ARMA	**Armidale**	**25.95**	**263**	P		**P**	**20 26 17.9**	**+2.5**
	baz=26,SNR=9.7							
ARMA	**Armidale**	**25.95**	**263**	P		**P**	**20 26 19.6**	**+4.2**
ARMA				IAmb		IAmb	20 26 45.4	
	comp=Z,50nm,1.4s							
MGCD	**Mangrove Creek**	**26.12**	**256**	P		**P**	**20 26 19.9**	**+3.2**
	baz=26,SNR=6.2							
TBI	**Tubuai**	**26.58**	**81**	*e*LR		LR	20 32 36.6	
	comp=Z,306nm,26.5s,baz=239							
TBI	**Tubuai**	**26.58**	**81**	*e*T		T	20 54 01.7	
	comp=Z,156nm,0.3s							
EIDS	**Eidsvold**	**27.58**	**273**	P		**P**	**20 26 33.3**	**+3.3**
	baz=28,SNR=3.9							
EIDS	**Eidsvold**	**27.58**	**273**			**P**	**20 26 32.0**	**+2.1**
EIDS				IAmb		IAmb	20 26 36.8	
	comp=Z,34nm,1.6s							
MILA	**Mila**	**27.75**	**248**	P		**P**	**20 26 34.9**	**+3.5**
	baz=28,SNR=3.6							
PAE	**Paea**	**29.06**	**70**	*e*T		T	20 57 04.7	

MAW	**Mawson**	**71.97**	**201**	P		**P**	**20 32 06.2**	**+0.8**
	baz=72,SNR=5.6							
MAW	**Mawson**	**71.97**	**201**	P		**P**	**20 32 06.0**	**+0.6**
LEM	**Lembang**	**72.95**	**272**	P		**P**	**20 32 11.4**	**-1.0**
	comp=Z,15nm,0.9s							
STKI	**Sintang**	**73.17**	**280**	P		**P**	**20 32 13.3**	**-0.2**
DBJI	**Dramaga**	**73.84**	**272**	P		**P**	**20 32 17.1**	**-0.3**
GO09	**Cerro Castillo**	**75.69**	**141**	P		**P**	**20 32 29.3**	**+1.8**
SYO	**Syowa Base**	**76.79**	**193**	*eP*		**P**	**20 32 33.4**	**0.0**
SYO	**Syowa Base**	**76.79**	**193**	*epP*		**P**	**20 32 37.5**	**+4.1**
SNAA	**Sanae**	**77.87**	**179**	P		**P**	**20 32 40.4**	**+0.9**
SNAA	**Sanae**	**77.87**	**179**	P		**P**	**20 32 40.0**	**+0.5**
VNA3	**Neumayer Olymp**	**78.03**	**176**	P		**P**	**20 32 41.0**	**+0.7**
MJAR	**Matsushiro Arr**	**78.38**	**325**	P		**P**	**20 32 40.9**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=156,slow=5.6,SNR=5.5							
VNA2	**Neumayer--Watz**	**78.46**	**177**	P		**P**	**20 32 43.1**	**+0.4**
VNA1	**Neumayer--Stat**	**78.69**	**177**	P		**P**	**20 32 44.0**	**+0.1**
JWT	**Wachi**	**78.81**	**323**	P		**P**	**20 32 44.7**	**-0.4**
JWT					IAmb	IAmb	20 33 18.5	
	comp=Z,16nm,1.3s							
JSD	**Sado**	**79.55**	**326**	P		**P**	**20 32 48.7**	**-0.3**
H03S2	**Juan Fernandez**	**80.45**	**124**	T		T	22 01 58.0	
	baz=238,slow=74,SNR=337							
H03S1	**Juan Fernandez**	**80.46**	**124**	T		T	22 01 58.6	
	baz=238,slow=74,SNR=238							
H03S3	**Juan Fernandez**	**80.47**	**124**	T		T	22 01 55.7	
	baz=238,slow=74,SNR=374							
ERM	**Erimo**	**80.64**	**332**	P		**P**	**20 32 56.3**	**+1.6**
H03N3	**Juan Fernandez**	**80.64**	**123**	T		T	22 02 09.3	
	baz=249,slow=70,SNR=98							
H03N2	**Juan Fernandez**	**80.64**	**123**	T		T	22 02 20.6	
	baz=249,slow=70,SNR=76							
H03N1	**Juan Fernandez**	**80.66**	**123**	T		T	22 02 19.3	
	baz=249,slow=70,SNR=150							
ADK	**Adak**	**82.23**	**1**	P		**P**	**20 33 02.9**	**0.0**
PLCA	**Paso Flores**	**82.43**	**133**	P		**P**	**20 33 05.4**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=208,slow=5.3,SNR=3.9							
PLCA					LR	LR	21 01 18.3	
	comp=Z,38nm,21.1s,baz=169,slow=29							
PLCA	**Paso Flores**	**82.43**	**133**	P		**P**	**20 33 05.5**	**+0.8**
PLCA					IAmb	IAmb	20 33 25.0	
	comp=Z,27nm,1.2s							
EFI	**East Falkland**	**82.64**	**147**	P		**P**	**20 33 06.3**	**+0.9**
NIKH	**Nikolski High**	**83.71**	**6**	P		**P**	**20 33 10.7**	**+0.2**
KSRS	**Korea Array**	**84.46**	**320**	P		**P**	**20 33 13.4**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=354,slow=24,SNR=3.2							
MT01	**Popeta**	**85.83**	**127**	P		**P**	**20 33 22.8**	**+0.8**
PETK	**Petropavlovsk-**	**86.05**	**346**	P		**P**	**20 33 19.9**	**-2.5**
	comp=Z,2.1nm,0.6s,baz=106,slow=9.4,SNR=3.7							
PETK					LR	LR	21 07 12.7	
	comp=Z,21nm,19.7s,baz=173,slow=32							
BFSC	**Mount Baldy Ra**	**86.19**	**46**	P			20 33 24.3	
	baz=229							
NJ2	**Nanjing**	**86.30**	**311**	*eP*		**P**	**20 33 25.4**	**+1.3**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.6s							
EDW2	**Edwards Air Fo**	**86.40**	**46**	P			20 33 25.8	
	baz=228							
ISA	**Isabella, Lake**	**86.63**	**45**	P			20 33 27.3	
	baz=228							
LRMC	**Laurel Mtn Rad**	**86.99**	**45**	P			20 33 28.2	
	baz=228							
SDPT	**Sand Point**	**87.03**	**10**	P			20 33 27.1	
	baz=195							
BELC	**Belle Mtn. Jos**	**87.07**	**47**	P			20 33 28.1	
	baz=230							
CMB	**Columbia Colle**	**87.09**	**42**	P		**P**	**20 33 28.9**	**+1.0**
CMB					IAmb	IAmb	20 33 46.3	
	comp=Z,6.1nm,1.0s							
BC3	**Big Chuckawall**	**87.20**	**48**	P			20 33 30.4	
	baz=230							
O02D	**Mt. Diablo Mer**	**87.23**	**39**	P			20 33 30.8	
	baz=225							
USRK	**Ussuriysk Ar.**	**87.31**	**327**	P		**P**	**20 33 26.6**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=147,slow=43,SNR=3.2							
IRM	**Iron Mountain**	**87.72**	**48**	P			20 33 32.0	
	baz=230							
N02D	**Trinity Center**	**87.84**	**39**	P			20 33 32.8	
	baz=225							
TUQ	**Turquoise Moun**	**88.05**	**46**	P			20 33 33.4	
	baz=230							
M02C	**Callahan**	**88.05**	**38**	P			20 33 33.8	
	baz=225							
FURC	**Furnace Creek,**	**88.14**	**45**	P			20 33 34.1	
	baz=229							
GRAC	**Grapevine Rang**	**88.18**	**44**	P			20 33 34.1	
	baz=229							
PNTR	**Pine Nut**	**88.26**	**42**	P		**P**	**20 33 34.5**	**+0.8**
PNTR					IAmb	IAmb	20 33 35.8	
	comp=Z,6.0nm,0.7s							
LHV	**Little Huntoon**	**88.33**	**43**	P		**P**	**20 33 34.4**	**+0.7**
LHV					IAmb	IAmb	20 33 52.7	
	comp=Z,5.3nm,0.9s							
YBH	**Yreka Blue Hor**	**88.37**	**38**	P		**P**	**20 33 34.9**	**+1.0**
K02D	**Willamette Mer**	**88.55**	**37**	P			20 33 35.1	
	baz=224							
NVAR	**Mina Array Bea**	**88.57**	**43**	P		**P**	**20 33 35.8**	**+0.6**
NVAR					LR	LR	21 06 57.6	
	comp=Z,38nm,20.4s,baz=244,slow=31							
Y14A	**Wickenburg**	**88.96**	**49**	P		**P**	**20 33 37.9**	**+1.0**
Y14A					IAmb	IAmb	20 33 56.1	
	comp=Z,4.9nm,0.8s							
TPH	**Tonopah**	**88.97**	**44**	P		**P**	**20 33 35.3**	**-1.7**
KVN	**Kaiserville**	**89.10**	**42**	P		**P**	**20 33 37.7**	**+0.1**
KVN					IAmb	IAmb	20 36 14.9	
	comp=Z,9.5nm,1.2s							
TUC	**Tucson**	**89.43**	**51**	P		**P**	**20 33 39.2**	**+0.1**
TUC					IAmb	IAmb	20 33 42.2	
	comp=Z,8.5nm,1.1s							
PRN	**Pahroc Range**	**89.85**	**45**	P		**P**	**20 33 41.4**	**+0.3**
CN2	**Changchun**	**90.27**	**323**	*eP*		**P**	**20 33 43.2**	**+0.5**
CN2					pmax	pmax		
	comp=Z,20nm,0.7s							
X16A	**Lo Mia Camp, P**	**90.27**	**49**	P		**P**	**20 33 43.9**	**+0.7**
X16A					IAmb	IAmb	20 34 03.0	
	comp=Z,7.1nm,0.9s							
PINE	**Pine Mountain**	**90.74**	**38**	P		**P**	**20 33 45.8**	**+0.6**
PINE					IAmb	IAmb	20 33 47.9	
	comp=Z,18nm,1.4s							
J08A	**Circle Bar Ran**	**91.76**	**39**	P		**P**	**20 33 50.1**	**+0.3**
J08A					IAmb	IAmb	20 34 08.3	
	comp=Z,6.1nm,1.2s							
TXAR	**Lajitas Array**	**92.69**	**57**	P		**P**	**20 33 54.7**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=198,slow=5.2,SNR=5.4							
G08A	**Pilot Rock**	**92.79**	**37**	P		**P**	**20 33 54.9**	**+0.3**
G08A					IAmb	IAmb	20 34 13.0	
	comp=Z,6.4nm,1.1s							
CMAR	**Chiang Mai Arr**	**93.33**	**289**	P		**P**	**20 33 58.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=123,slow=3.9,SNR=2.2							
HVU	**Hansel Valley**	**93.97**	**43**	P		**P**	**20 34 00.6**	**+0.5**
HVU					IAmb	IAmb	20 34 18.5	
	comp=Z,4.1nm,0.8s							
F10A	**Beach Ranch, E**	**94.16**	**38**	P		**P**	**20 34 00.3**	**-0.4**
F10A					IAmb	IAmb	20 34 18.3	
	comp=Z,4.3nm,1.1s							
CD2	**Chengdu**	**96.10**	**302**	*eP*		**P**	**20 34 11.0**	**+1.0**
HHC	**Hu-ho-hao-te**	**96.31**	**314**	*eP*		**P**	**20 34 12.3**	**+1.5**
HHC					pmax	pmax		
	comp=Z,10.0nm,1.1s							
HHC					pmax	pmax		
	comp=Z,43nm,5.5s							
PDAR	**Pinedale Array**	**96.47**	**44**	P		**P**	**20 34 11.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=270,slow=3.6,SNR=1.5							
LPAZ	**La Paz**	**98.18**	**114**	LR		LR	21 10 05.4	
	comp=Z,13nm,20.2s,baz=142,slow=30							
ILAR	**Eielson Array**	**98.25**	**13**	P		**P**	**20 34 18.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=231,slow=4.9,SNR=5.0							
LZH	**Lanzhou**	**98.76**	**307**	*eP*		**P**	**20 34 21.2**	**-0.8**
LZH					pP	pP	20 34 31.3	-3.8
LZH					sP	pwP	20 34 37.7	+0.1
LZH					pmax	pmax		
	comp=Z,19nm,1.1s							
WMQ	**Urumqi**	**113.27**	**308**	*ePKP*		**PKiKP**	**20 39 20.0**	**+0.4**
MKAR	**Makanchi Array**	**117.83**	**310**	PKP		**PKPdf**	**20 39 26.8**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=235,slow=1.7,SNR=11							
BOOM	**Boomskoye usch**	**121.06**	**304**			**PKPdf**	**20 39 34.1**	**-0.7**
KURBB	**Kurchatov Arra**	**121.16**	**314**	PKP		**PKPdf**	**20 39 33.2**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=108,slow=2.0,SNR=15							
KK31	**Karatay Array**	**125.09**	**303**			**PKPdf**	**20 39 40.3**	**-1.9**
KKAR	**Karatay Array**	**125.09**	**303**			**PKPdf**	**20 39 40.9**	**-1.4**
KKAR	**Karatay Array**	**125.09**	**303**			**PKPdf**	**20 39 40.0**	**-2.2**
BVAR	**Borovoye Array**	**126.49**	**316**	PKP		**PKPdf**	**20 39 43.0**	**-1.5**
	comp=Z,2.4nm,0.7s,baz=251,slow=9.2,SNR=10							
BRVK	**Borovoye**	**126.56**	**316**			**PKPdf**	**20 39 44.1**	**-0.6**
NOR	**Nord**	**128.50**	**3**	*i P*		**SKPdf**	**20 43 19.6**	**+0.4**

ARU	**Arti**	**133.21**	**320**	PKPdf		**PKPdf**	**20 39 56.7**	**-0.5**
ARCES	**ARCESS Array B**	**138.84**	**348**	PKhKP		PKPpre	20 39 59.5	
	comp=Z,6.2nm,1.1s,baz=28,slow=2.9,SNR=8.6							
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc		**PKPbc**	**20 40 18.1**	**-0.9**
	comp=Z,35nm,0.5s,baz=59,slow=3.8,SNR=449							
MEF	**Metsahovi**	**146.84**	**339**	*eP*		**PKPbc**	**20 40 23.3**	**-0.3**
VSU	**Vasula**	**147.42**	**336**	*eP*		**PKPbc**	**20 40 24.9**	**-0.3**
AAL	**Aland**	**148.09**	**343**	*eP*		**PKPbc**	**20 40 26.3**	**-0.7**
NC405	**NORSAR Array S**	**148.87**	**351**			**PKPbc**	**20 40 28.7**	**-0.3**
UPP	**Uppsala**	**148.95**	**345**	*eP*		**PKPbc**	**20 40 27.8**	**-1.4**
NOA	**NORSAR Array B**	**149.01**	**351**	PKPbc		**PKPbc**	**20 40 28.8**	**-0.6**
	comp=Z,6.6nm,0.7s,baz=15,slow=4.2,SNR=20							
ISAL	**Salakas**	**149.75**	**332**	*eP*		**PKiKP**	**20 40 33.1**	**+0.8**
NACGM	**Naroch**	**149.95**	**331**	*i* PKP		**PKiKP**	**20 40 32.4**	**-0.3**
	baz=146							
PABE	**Paberze**	**150.64**	**334**	*eP*		**PKPbc**	**20 40 33.4**	**0.0**
STRU	**Stroemstad**	**150.95**	**350**	*i* P		**PKPbc**	**20 40 33.8**	**-0.2**
PBUR	**Paburge**	**150.97**	**337**	*eP*		**PKPbc**	**20 40 34.5**	**+0.2**
EIL	**Elat**	**151.38**	**276**	PKPbc		**PKPbc**	**20 40 36.2**	**+0.1**
	comp=Z,7.7nm,0.6s,baz=117,slow=5.2,SNR=14							
AKASG	**Malin Array Be**	**151.43**	**322**	PKPbc		**PKPbc**	**20 40 34.5**	**-0.9**
	comp=Z,6.2nm,0.5s,baz=50,slow=2.7,SNR=46							
MMAI	**Mount Meron Ar**	**151.43**	**284**	PKPbc		**PKiKP**	**20 40 36.5**	**-0.1**
	comp=Z,10nm,0.6s,baz=79,slow=4.4,SNR=15							
BORU	**Boraas**	**152.01**	**347**	*i* P		**PKPbc**	**20 40 36.6**	**+0.1**
HOMB	**Homborsund**	**152.04**	**352**	*i* P		**PKPbc**	**20 40 36.7**	**+0.1**
SUW	**Suwalki**	**152.06**	**333**	*eP*		**PKPbc**	**20 40 36.9**	**+0.1**
ONAU	**Onsala**	**152.39**	**348**	*i* P		**PKPbc**	**20 40 37.2**	**-0.2**
BLEU	**Blekinge**	**152.56**	**343**	*i* P		**PKPbc**	**20 40 37.5**	**-0.4**
BRTR	**Keskin Array B**	**152.59**	**298**	PKPbc		**PKPbc**	**20 40 37.6**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=144,slow=4.4,SNR=13							
DEL	**Delary**	**152.87**	**345**	*i* P		**PKPbc**	**20 40 38.4**	**-0.1**
BSD	**Bornholm Skovb**	**153.86**	**343**	*i* P		**PKiKP**	**20 40 41.0**	**+0.2**
DBIC	**Dimbokro**	**155.30**	**164**	PKP		**PKPdf**	**20 40 36.6**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=172,slow=5.3,SNR=5.5							
CRVS	**Cerveница-Dubn**	**156.48**	**326**	*ePKP*		**PKPab**	**20 41 05.3**	**-0.1**
LANS	**Liptovska Anna**	**157.22**	**329**	*ePKP*		**PKPab**	**20 41 08.3**	**-0.3**
DPC	**Dobruska-Polom**	**157.55**	**335**	*ePKPAB*		**PKPab**	**20 41 09.7**	**-0.3**
KRLC	**Kraliky**	**157.60**	**334**	*ePKPAB*		**PKPab**	**20 41 10.2**	**0.0**
CLL	**Collm**	**157.79**	**341**	*i* PKPab		**PKPab**	**20 41 10.2**	**-0.7**
KHC	**Kasperske Hory**	**159.53**	**337**	*ePKPAB*		**PKPab**	**20 41 17.7**	**-0.9**
CKRC	**Cesky Krumlov**	**159.55**	**336**	*ePKPAB*		**PKPab**	**20 41 17.6**	**-1.1**
GERES	**GERESS Array B**	**159.74**	**337**	PKPab		**PKPab**	**20 41 18.8**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=46,slow=5.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**162.54**	**180**	PKP		**PKPdf**	**20 40 43.5**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=216,slow=0.7,SNR=4.3							
TORD				PKPab		**PKPab**	**20 41 32.1**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=178,slow=3.9,SNR=18							
ESDC	**Sonseca Array**	**169.88**	**26**	PKP		**PKPdf**	**20 40 49.6**	**0.0**
	comp=Z,0.9nm,1.1s,baz=0.3,slow=1.2,SNR=4.9							
ESDC				PKPab		**PKPab**	**20 42 03.4**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=321,slow=3.8,SNR=4.8							

*IDC **02** 20:33:04.3±1.0,29.65N×81.47E,h0km,mb3.7/11, mb1 3.9/13,mb1mx3.7/45,mbtmp3.8/13,ML4.0/2,MS3.2/4, Ms1 3.2/4,ms1mx2.8/45,Error ellipse: s-maj=27.5km s-min=18.6km az=50.0*

*DMN **02** 20:33:07.8±0.2,30.14N×81.51E,h50km,Ml4.6/11,Error ellipse: s-maj=6.3km s-min=4.2km az=27.0*

*NDI **02** 20:33:08.3±3.6,30.00N×81.83E,h10km,ML4.3*

ISC 02 20:33:07.2±0.6,**29.91N**±0.06×**81.72E**±0.05,**h10**km,**n45, s18/80/55,mb3.7**/10,**MS3.3**/3,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**2.12**	**148**	*ePg*	**Pn**	**20 33 45.1**	**+2.2**
PYUN	**Piuthan**	**2.12**	**148**	*ePn*	**Pn**	**20 33 45.1**	**+2.2**
PYUN				*eSn*	**Sn**	**20 34 11.7**	**+2.3**
	4μm,0.5s						
DANN	**Dangsing**	**2.37**	**131**	*ePn*	**Pn**	**20 33 48.0**	**+1.6**
DANN				*eSn*	**Sn**	**20 34 18.6**	**+2.9**
	1μm,0.5s						
KOLN	**Koldanda**	**2.70**	**142**	*ePn*	**Pn**	**20 33 52.9**	**+2.1**
KOLN				*eSn*	**Sn**	**20 34 25.5**	**+1.8**
	387nm,0.3s						
GKN	**Gorkha**	**3.19**	**126**	*ePn*	**Pn**	**20 33 59.3**	**+1.8**
GKN				*eSn*	**Sn**	**20 34 37.3**	**+1.6**
	777nm,0.4s						
DDI	**Dehra Dun**	**3.20**	**278**	*eP*	**Pn**	**20 34 01.0**	**+3.4**
DMN	**Daman**	**3.76**	**127**	*ePn*	**Pn**	**20 34 06.9**	**+1.5**
KKN	**Kakani**	**3.77**	**123**	*ePn*	**Pn**	**20 34 06.8**	**+1.2**
KKN				*eSn*	**Sn**	**20 34 50.4**	**+0.2**
	232nm,0.4s						
PKIN	**Phulchoki**	**3.98**	**125**	*ePn*	**Pn**	**20 34 09.6**	**+1.1**
PKIN				*eSn*	**Sn**	**20 34 56.0**	**+0.6**
	99nm,0.3s						
PKI	**Pulchoki**	**3.99**	**125**	*ePn*	**Pn**	**20 34 09.7**	**+1.0**
SMLA	**Simla**	**4.11**	**288**	*eP*	**Pn**	**20 34 12.5**	**+2.5**
GUN	**Gumba**	**4.16**	**118**	*ePn*	**Pn**	**20 34 11.8**	**+0.8**
GUN				*eSn*	**Sn**	**20 34 59.4**	**-0.5**
	614nm,0.7s						
JIRN	**Jiri**	**4.52**	**119**	*ePn*	**Pn**	**20 34 17.1**	**+1.1**
JIRN				*eSn*	**Sn**	**20 35 09.3**	**+0.4**
	318nm,0.3s						
DHRM	**DHARAMSHALA**	**5.20**	**298**	*eP*	**Pn**	**20 34 26.3**	**+1.1**
RAMN	**Ramite**	**5.21**	**123**	*ePn*	**Pn**	**20 34 26.3**	**+0.8**
RAMN				*eSn*	**Sn**	**20 35 25.4**	**-0.4**
	434nm,0.4s						
JHNI	**Jhansi**	**5.25**	**213**	*eP*	**Pn**	**20 34 30.0**	**+4.3**
JHNI				*eS*	**Sn**	**20 35 29.0**	**+2.7**
ODAN	**Odare**	**5.85**	**120**	*ePn*	**Pn**	**20 34 35.1**	**+0.9**
ODAN				*eSn*	**Sn**	**20 35 39.9**	**-1.5**
	92nm,0.5s						
TAPN	**Taplejung**	**5.85**	**114**	*ePn*	**Pn**	**20 34 35.2**	**+0.9**
TAPN				*eSn*	**Sn**	**20 35 40.2**	**-1.4**
	46nm,0.3s						
GTK	**Tadong**	**6.58**	**111**	*eP*	**Pn**	**20 34 45.5**	**+1.4**
GTK				IAML		20 36 03.0	
	comp=N,94nm,0.4s						
GTK				IAML		20 36 03.6	
	comp=E,56nm,0.3s						
AJM	**Ajmer**	**7.12**	**243**	*eP*	**Pn**	**20 34 53.0**	**+1.6**
AJM				*i* S	**Sn**	**20 36 12.0**	**-0.4**
BOK	**Bokaro**	**7.14**	**148**	*eP*	**Pn**	**20 34 51.5**	**-0.2**
BHPL	**Bhopal**	**7.67**	**211**	*eP*	**Pn**	**20 34 59.1**	**0.0**
BHPL				*eS*	**Sn**	**20 36 21.6**	**-4.6**
BHPL				IAML		20 36 26.0	
	comp=N,3μm,0.3s						
BHPL				IAML		20 36 26.8	
	comp=E,2μm,0.3s						
CHCP	**Chirah Chowk**	**8.11**	**300**	P	**Pn**	**20 35 05.9**	**+0.9**
THW	**Thamme Wali**	**9.00**	**291**	P	**Pn**	**20 35 17.7**	**+0.4**
CEP	**Cherat**	**9.21**	**298**	P	**Pn**	**20 35 20.9**	**+0.7**
SHL	**Shillong**	**9.99**	**113**	*eP*	**Pn**	**20 35 28.9**	**-2.1**
SHL				*eP*		20 35 31.0	
SHL				*ex*	x	20 37 18.0	
KOHI	**KOHIMA**	**11.73**	**108**	*eP*	**Pn**	**20 35 52.4**	**-2.4**
KOHI				*eS*	Sn	20 37 56.4	-10
KOHI				IAML		20 38 01.5	
	comp=E,38nm,0.8s						
KOHI				IAML		20 38 02.3	
	comp=N,27nm,1.1s						
MOKO	**MOKOCHONG**	**11.85**	**104**	*eP*	**Pn**	**20 35 53.5**	**-2.9**
MOKO				*eS*	Sn	20 37 59.5	-9.3
MOKO				IAML		20 38 02.7	
	comp=E,36nm,0.9s						
MOKO				IAML		20 38 05.1	
	comp=N,37nm,0.6s						
HYB	**Hyderabad**	**12.77**	**194**	*i* P	Pn	20 36 06.0	-2.9
HYB				*eS*	Sn	20 38 21.0	-10
MKAR	**Makanchi Array**	**16.86**	**1**	P	**P**	**20 37 05.7**	**+0.3**
	comp=N,0.2nm,0.3s,baz=184,slow=12,SNR=13						
CMAR	**Chiang Mai Arr**	**19.39**	**122**	P	**P**	**20 37 33.0**	**-0.3**
	comp=N,0.3nm,0.3s,baz=310,slow=10,SNR=42						
CMAR				LR	LR	20 47 44.3	
	comp=N,22nm,19.1s,baz=185,slow=45						
KURBB	**Kurchatov Arra**	**20.83**	**354**	P	**P**	**20 37 48.7**	**-0.1**
	comp=N,1.9nm,0.7s,baz=178,slow=10,SNR=32						
GEYT	**Alibeck**	**21.12**	**299**	LR	LR	20 47 31.1	
	comp=N,105nm,18.3s,baz=185,slow=41						
ZALV	**Zalesovo Beam**	**24.12**	**4**	P	**P**	**20 38 23.4**	**+0.4**
	comp=N,1.1nm,0.4s,baz=198,slow=8.4,SNR=8.3						
SONM	**Songino Array**	**26.08**	**40**	P	**P**	**20 38 43.7**	**+2.7**
	comp=N,1.7nm,0.7s,baz=227,slow=10,SNR=11						
AKTO	**Aktyubinsk**	**27.15**	**326**	LR	LR	20 51 19.2	
	comp=N,40nm,21.1s,baz=135,slow=40						
KSRS	**Korea Array**	**38.86**	**66**	P	**P**	**20 40 33.9**	**+1.2**
	comp=N,0.7nm,0.5s,baz=278,slow=9.6,SNR=2.1						
FINES	**FINESS Array B**	**47.89**	**328**	P	**P**	**20 41 43.3**	**-1.8**
	comp=N,1.3nm,0.6s,baz=122,slow=5.1,SNR=0.6						
ARCES	**ARCESS Array B**	**50.63**	**338**	P	**P**	**20 42 05.9**	**-0.2**
	comp=N,2.2nm,0.8s,baz=93,slow=9.1,SNR=1.9						
NOA	**NORSAR Array B**	**54.94**	**326**	LR	LR	21 07 34.6	
	comp=N,33nm,18.9s,baz=200,slow=38						
ESDC	**Sonseca Array**	**68.53**	**304**	P	**P**	**20 44 09.4**	**-0.7**
	comp=N,0.6nm,0.8s,baz=44,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	**70.87**	**128**	P	**P**	**20 44 22.8**	**-1.9**
	comp=N,0.3nm,0.6s,baz=322,slow=6.2,SNR=5.5						
ASAR	**Alice Springs**	**73.14**	**131**	P	**P**	**20 44 36.4**	**-1.8**
	comp=N,0.2nm,0.5s,baz=313,slow=6.0,SNR=1.2						
TORD	**Torodi Ar. Bea**	**75.01**	**277**	P	**P**	**20 44 47.9**	**-1.4**
	comp=N,0.5nm,0.7s,baz=45,slow=5.7,SNR=2.0						
ILAR	**Eielson Array**	**78.33**	**19**	P	**P**	**20 45 08.9**	**+1.6**
	comp=N,0.4nm,0.6s,baz=278,slow=4.4,SNR=4.3						

IDC 02 20:52:18.1±2.1,**1.05N**×**125.67E**,**h0**km,**mb3.0**/3, **mb1 3.3**/3,**mb1mx3.1**/29,**mbtmp3.1**/3,**Error ellipse: s-maj=184.7km s-min=28.6km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.53**	**158**	P	P	20 57 18.7	-1.2
	0.3nm,0.5s,baz=336,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**25.84**	**162**	P	P	20 57 52.5	+0.9
	0.1nm,0.3s,baz=347,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**59.16**	**327**	P	P	21 02 20.8	-0.1
	0.1nm,0.4s,baz=132,slow=8.0,SNR=1.8						

IDC 02 20:59:56.1±999.0,**34.27N**×**41.88E**,**h0**km,**Error ellipse: s-maj=592.5km s-min=201.3km az=141.0,Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.68**	**353**	*i*		23 17 30.0	
	baz=172,slow=321,SNR=2.4						
I26DE	**FREYUNG INFRAS**	**25.44**	**313**	*i*		23 41 00.0	
	baz=111,slow=326,SNR=2.0						
I48TN	**KESRA INFRASON**	**26.64**	**283**	*i*		23 38 32.5	
	baz=81,slow=315,SNR=1.7						

*ISN **02** 21:03:12.5±0.5,35.32N×43.76E,h14km±49km,ML2.7*
*DDA **02** 21:03:18.8,35.85N×43.69E,h6km±4km,ML2.4*
ISC 02 21:03:13.9±1.8,**35.63N**±0.07×**43.91E**±0.08,**h1**km±16km, **n8,σ19≈67/16,Iraq**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.42**	**124**	*ePg*	**Pg**	**21 03 22.3**	**+0.4**
	baz=260						
IKRK				*eSg*	**Sb**	**21 03 29.7**	**-1.3**
IKRK				AML	AML	21 03 59.5	
	comp=N,349nm,0.6s						
IKRK				AML	AML	21 04 02.0	
	comp=E,526nm,0.6s						
MSL	**Mosul**	**1.00**	**320**	*ePg*	**Pn**	**21 03 36.0**	**+0.8**
MSL				*eSg*	**Sn**	**21 03 52.4**	**+2.3**
CUKT	**Cukurca**	**1.63**	**351**	*i* P	**Pg**	**21 03 46.1**	**+0.9**
CUKT				*i* S	**Sb**	**21 04 05.2**	**-0.8**
CUKT				IAML		21 04 22.0	
	comp=E,49nm,0.5s						
HAKT	**HAKKARI**	**1.93**	**355**	*i* P	**Pg**	**21 03 50.9**	**0.0**
HAKT				*i* S	**Sb**	**21 04 13.6**	**-1.1**
YOVA	**Hakkari_Yksek**	**1.97**	**9**	*i* P	**Pg**	**21 03 52.8**	**+1.1**
YOVA				*i* S	**Sb**	**

JHU S **S** **21 08 08.9 -2.6**
INU Inuyama 8.06 339 P **P** **21 06 31.8 +0.3**
JGF Kuroka 8.20 341 P **P** **21 06 32.4 -0.2**
JMN Monobe 8.22 317 P **P** **21 06 34.0 +1.1**
JNT Takato 8.26 346 P **P** **21 06 33.6 +0.3**
JRY Ryogami san 8.26 350 P **P** **21 06 33.0 -0.2**
JYT Yasato 8.35 358 P **P** **21 06 33.2 -0.7**
JYT Yasato 8.35 358 P **P** **21 06 33.3 -0.6**
JTO Tosashimizu 8.37 308 ⇑P **P** **21 06 35.0 +0.8**
JKDJ Kitadaitoujima 8.52 259 ⇓P **P** **21 06 35.2 -0.4**
JFM Mihama 8.60 334 ⇑P **P** **21 06 36.6 +0.5**
JAG Ashikaga 8.60 354 ⇓P **P** **21 06 35.3 -0.8**
JWT Wachi 8.62 330 P **P** **21 06 36.8 +0.5**
JHO Hitachi 8.73 360 ⇓P **P** **21 06 37.1 -0.1**
JNG Nsakai 8.78 347 ⇑P **P** **21 06 37.8 0.0**
JNG S **S** **21 08 22.2 -1.2**
JGN Niukaw 8.79 342 ⇑P **P** **21 06 37.7 -0.2**
JNKG Nichinankitago 8.86 298 ⇑P **P** **21 06 39.9 +1.4**
MJAR Matsushiro Arr 8.89 347 P **P** **21 06 38.1 -0.6**
3.1nm,0.3s,baz=174,slow=10.0,SNR=120
MJAR S **S** **21 08 26.1 +1.1**
0.6nm,0.3s,baz=121,slow=26,SNR=12
MJAR ScP **ScP** **21 14 15.1 -0.3**
0.1nm,0.3s,baz=164,slow=3.4,SNR=4.7
MJAR Matsushiro Arr 8.89 347 P **P** **21 06 38.4 -0.3**
MJAR ScP **ScP** **21 14 15.1 -0.3**
MAJO Matsushiro 8.89 347 *c i*P **P** **21 06 38.3 -0.4**
MAJO Matsushiro 8.89 347 P **P** **21 06 38.5 -0.2**
MAT Matsushiro 8.89 347 P **P** **21 06 38.2 -0.5**
MAT S **S** **21 08 24.3 -0.7**
MAT Matsushiro 8.89 347 P **P** **21 06 38.3 -0.5**
JKT Katashina 8.96 353 ⇓P **P** **21 06 38.9 -0.5**
JSKE Saikikamae 8.98 305 ⇑P **P** **21 06 40.6 +1.0**
JTSN Tsuno 9.01 301 ⇑P **P** **21 06 40.6 +0.8**
JKG Kaga 9.14 338 ⇑P **P** **21 06 40.9 0.0**
JTZ Takazaki 9.18 298 ⇑P **P** **21 06 42.4 +1.0**
JKIT Kitakata 9.22 303 ⇑P **P** **21 06 42.9 +1.1**
JJN Nakama 9.44 348 P **P** **21 06 43.6 0.0**
JFK Kawauchi 9.48 1 P **P** **21 06 44.1 0.0**
JSU Suzuyama 9.54 295 P **P** **21 06 45.0 +0.4**
JHS Saijyo 9.56 320 ⇑P **P** **21 06 45.2 +0.4**
JHS *e*S **S** **21 08 34.5 -1.6**
JHS Saijyo 9.56 320 P **P** **21 06 45.2 +0.4**
JJH Hakui 9.60 341 P **P** **21 06 45.5 +0.5**
JKI Kunimi 9.66 309 ⇑P **P** **21 06 46.4 +0.7**
JIU3 Izumi3 9.67 301 ⇑P **P** **21 06 46.7 +0.9**
JKD Kudamatsu 9.70 312 ⇑P **P** **21 06 46.7 +0.6**
JMST Minamisoumatoc 9.84 1 P **P** **21 06 47.3 +0.1**
JNU Nakatsue 9.88 304 ⇑P **P** **21 06 48.2 +0.4**
JNU Nakatsue 9.88 304 P **P** **21 06 48.4 +0.5**
JSZ Suzu 9.94 345 P **P** **21 06 47.6 -0.6**
JMM Marumori 9.98 1 P **P** **21 06 48.8 +0.3**
JNS Sasagawa 9.99 354 P **P** **21 06 48.8 +0.2**
JTA Tamana 10.06 303 P **P** **21 06 49.9 +0.5**
JAMN Amaminishikomi 10.10 275 P **P** **21 06 50.5 +0.7**
JAMN *e*S **S** **21 08 44.4 -0.6**
JHD Hondo 10.15 299 ⇑P **P** **21 06 50.5 +0.3**
JSJ Shimokoshiki 10.19 295 ⇑P **P** **21 06 50.4 -0.2**
JFA Akaike 10.25 307 ⇑P **P** **21 06 51.2 +0.1**
JSD Sado 10.34 350 ⇑P **P** **21 06 51.7 -0.1**
JSD S **S** **21 08 47.4 -1.3**
JSD Sado 10.34 350 P **P** **21 06 51.7 -0.1**
JTY Toyota 10.37 310 P **P** **21 06 52.4 +0.3**
JFI Itaya 10.39 305 P **P** **21 06 52.7 +0.2**
JOI OKI 10.46 325 ⇑P **P** **21 06 53.1 +0.1**
NGSJ Nagasakinomoza 10.48 300 P **P** **21 06 53.3 +0.1**
JUR Ureshino 10.56 302 ⇑P **P** **21 06 54.3 +0.4**
JAW Awa shima 10.63 354 P **P** **21 06 55.0 +0.6**
JYRO Yoronjima 10.82 268 P **P** **21 06 57.2 +0.8**
JOW Kunigami 11.00 268 P **P** **21 06 58.7 +0.6**
JII Iki 11.05 305 P **P** **21 06 59.0 +0.6**
JMK Ichinoseki 11.08 3 P **P** **21 06 58.4 -0.1**
JFU Fukue jima 2 11.30 298 P **P** **21 07 00.9 +0.2**
JRG Rokugo 11.51 0 P **P** **21 07 03.1 +0.6**
JTSM Tsushimamitsus 11.57 307 P **P** **21 07 03.6 +0.4**
JTU Tsushima 11.66 308 P **P** **21 07 04.2 +0.3**
JTU Tsushima 11.66 308 P **P** **21 07 04.3 +0.4**
JSZI Iwateshizukuis 11.86 1 P **P** **21 07 06.2 +0.5**
JKE Kume jima 2 12.40 266 P **P** **21 07 10.1 -0.7**
KSPHA Pohang 12.63 314 P **P** **21 07 13.0 +0.3**
SNR=18
KSPHA Pohang 12.63 314 P **P** **21 07 13.0 +0.3**
SNR=18
KSDAG Daegu 12.69 311 P **P** **21 07 14.0 +0.7**
SNR=9.0
KSDAG Daegu 12.69 311 P **P** **21 07 14.0 +0.7**
SNR=9.0
JTM Tenmabayashi 12.90 2 P **P** **21 07 15.5 +0.4**
KSULJ Ulsin 12.93 316 P **P** **21 07 15.5 0.0**
SNR=29
KSULJ Ulsin 12.93 316 P **P** **21 07 15.5 0.0**
SNR=29
KOHB KOHEUNG 13.23 304 P **P** **21 07 18.4 +0.2**
SNR=30
KSJJU Jeju 13.30 298 P **P** **21 07 19.7 +0.7**
SNR=16
HAMB Hamyang 13.33 308 P **P** **21 07 19.0 -0.1**
SNR=19
BOSB Boseong-gun 13.34 304 P **P** **21 07 19.2 0.0**
SNR=36
KSSCH SUNCHEON 13.46 306 P **P** **21 07 21.7 +1.3**
SNR=7.9
HALB Hallimjungang- 13.51 298 P **P** **21 07 21.4 +0.7**
SNR=17
GOS1 Gosan-ri 13.52 297 P **P** **21 07 21.8 +0.9**
SNR=9.4
NAWB Namwon 13.53 307 P **P** **21 07 21.1 +0.2**
SNR=9.9
KSSAJ Sangju 13.54 312 P **P** **21 07 21.2 +0.1**
SNR=11
KSCPR CHUPUNGNYEONG 13.56 311 P **P** **21 07 21.6 +0.4**
SNR=31
KSGWL Sabuk 13.61 316 P **P** **21 07 22.5 +0.8**
SNR=6.3
SUCA Sunchang 13.69 307 P **P** **21 07 23.0 +0.6**
SNR=8.7
KSKWJ Gwangju 13.69 305 P **P** **21 07 22.6 +0.2**
SNR=8.1
OKCB Cheongsan-myeo 13.75 311 P **P** **21 07 23.5 +0.6**
SNR=28
KSMGY Mungyeong 13.75 313 P **P** **21 07 23.2 +0.2**
SNR=62
OKEB Okgye-meyeon 13.78 318 P **P** **21 07 24.0 +0.7**
SNR=10
KSYOW Yeongwol 13.81 315 P **P** **21 07 24.1 +0.6**
SNR=59
KSBON Boeun 13.83 312 P **P** **21 07 25.5 +1.8**
SNR=59
KSBON Boeun 13.83 312 P **P** **21 07 25.5 +1.8**
SNR=59
KSJEO Jeonju 13.87 309 P **P** **21 07 24.0 0.0**
SNR=18
KSJDO Jindo 13.88 302 P **P** **21 07 25.4 +1.2**
SNR=6.8
KSJEU Jeongeup 13.89 307 P **P** **21 07 24.3 0.0**
SNR=13
KSJEU Jeongeup 13.89 307 P **P** **21 07 24.3 0.0**
SNR=13
KSCHJ Chungju 13.94 313 P **P** **21 07 26.3 +1.7**
SNR=15
KSCHJ Chungju 13.94 313 P **P** **21 07 26.2 +1.5**
SNR=36
KSCHJ Chungju 13.94 313 P **P** **21 07 26.3 +1.7**
SNR=15
KSCHJ Chungju 13.94 313 P **P** **21 07 27.0 +2.3**
SNR=16
JKB Kayabe 14.00 1 P **P** **21 07 25.4 +0.3**
TJN Taejon 14.05 310 *c i*P **P** **21 07 25.3 -0.4**
GOCB Gochang-gun 14.06 306 P **P** **21 07 25.7 0.0**
SNR=29
GOCB Gochang-gun 14.06 306 P **P** **21 07 25.7 0.0**
SNR=29
JOSM Okushiri--Mats 14.22 357 P **P** **21 07 27.9 +0.8**
EMSB Eumseong 14.22 313 P **P** **21 07 28.3 +1.1**
SNR=20
EMSB Eumseong 14.22 313 P **P** **21 07 28.3 +1.1**
SNR=20
KOJ2 Gongju-si 14.25 310 P **P** **21 07 28.1 +0.6**
SNR=8.7
KOJ2 Gongju-si 14.25 310 P **P** **21 07 28.1 +0.6**
SNR=8.7
SMKB Mukjeong-gil 14.26 307 P **P** **21 07 28.0 +0.4**
SNR=15
SMKB Mukjeong-gil 14.26 307 P **P** **21 07 28.0 +0.4**
SNR=15
ERM Erimo 14.28 8 *c i*P **P** **21 07 29.0 +1.4**
ERM pmax pmax
comp=Z,78nm,0.8s
ERM Erimo 14.28 8 P **P** **21 07 28.8 +1.2**
KSRS Korea Array 14.32 315 P **P** **21 07 28.9 +0.9**
comp=Z,16nm,0.3s,baz=138,slow=9.1,SNR=232
KSRS S **S** **21 09 56.2 +2.4**
baz=134,slow=12,SNR=1.7
KSRS ScP **ScP** **21 14 23.8 +0.5**
comp=Z,0.4nm,0.3s,baz=146,slow=1.5,SNR=16
KSAR Wonju Array Be 14.34 315 P **P** **21 07 29.0 +0.7**
KSAR Wonju Array Be 14.34 315 P **P** **21 07 29.0 +0.7**
KSCEA Cheonan 14.37 312 P **P** **21 07 29.1 +0.4**
SNR=111
KSCEA Cheonan 14.37 312 P **P** **21 07 29.1 +0.4**
SNR=111
KS19 Wonju Array Si 14.38 315 P **P** **21 07 28.9 +0.1**
KSICN Icheon 14.54 314 P **P** **21 07 31.4 +1.2**
SNR=9.6
KSICN Icheon 14.54 314 P **P** **21 07 31.4 +1.2**
SNR=9.6
KSCHC Chuncheon 14.59 316 P **P** **21 07 32.0 +1.4**
SNR=14
KSCHC Chuncheon 14.59 316 P **P** **21 07 32.0 +1.4**
SNR=14
HUK2 Heuksan-myeon 14.62 301 P **P** **21 07 31.0 +0.1**
SNR=24
HUK2 Heuksan-myeon 14.62 301 P **P** **21 07 31.0 +0.1**
SNR=24
SEHB SEOHWA 14.64 318 P **P** **21 07 32.5 +1.5**
SNR=21
GUMO Guam 14.75 163 P **P** **21 07 33.3 +0.9**
comp=Z,29nm,0.3s,baz=289,slow=1.5,SNR=9.3
GUMO S **S** **21 10 00.2 -1.2**
comp=Z,5.3nm,0.3s,baz=351,slow=18,SNR=2.0
GUMO Guam 14.75 163 P **P** **21 07 33.0 +0.6**
HAWB Hwaseong-si 14.84 312 P **P** **21 07 33.1 +0.3**
SNR=15
HAWB Hwaseong-si 14.84 312 P **P** **21 07 33.1 +0.3**
SNR=15
HAWB Hwaseong-si 14.84 312 P **P** **21 07 33.1 +0.3**
SNR=15
JCH Churui 14.89 8 P **P** **21 07 33.1 -0.1**
JEW Eniwo 14.96 2 P **P** **21 07 34.6 +0.7**
INCN Inchon 15.16 313 P **P** **21 07 36.6 +0.8**
INCN pmax pmax
comp=Z,250nm,0.7s
INCN Inchon 15.16 313 P **P** **21 07 36.5 +0.8**
INCN Inchon 15.16 313 P **P** **21 07 36.6 +0.8**
YNCB YEONCHEON 15.30 315 P **P** **21 07 38.2 +1.1**
SNR=16
YNCB YEONCHEON 15.30 315 P **P** **21 07 38.2 +1.1**
SNR=16
KSDEI Deokjeokdo 15.38 311 P **P** **21 07 39.1 +1.3**
SNR=8.2
KSGAH Ganghwa 15.41 313 P **P** **21 07 38.7 +0.7**
SNR=15
KSGAH Ganghwa 15.41 313 P **P** **21 07 38.7 +0.7**
SNR=15
JAR Ashorobuto 15.62 9 P **P** **21 07 40.9 +1.1**
NEM2 Nemuro 2 16.02 14 P **P** **21 07 43.6 +0.2**
JKK2 Kamakawa 2 16.07 6 P **P** **21 07 45.2 +1.2**
YOJ Yonaguni jima 16.14 262 P **P** **21 07 44.5 -0.4**
YOJ Yonaguni jima 16.14 262 P **P** **21 07 44.6 -0.4**
YOJ pmax pmax
comp=Z,258nm,0.5s
YOJ Yonaguni jima 16.14 262 P **P** **21 07 44.5 -0.4**
JMP Maruseppu 16.27 7 P **P** **21 07 47.1 +1.4**
JTKR Abashiri--Toko 16.30 9 P **P** **21 07 45.8 -0.1**
ASAJ Asahikawa 16.30 5 P **P** **21 07 47.2 +1.2**
comp=Z,5.2nm,0.3s,baz=226,slow=8.2,SNR=26
ASAJ S **S** **21 10 26.2 +0.5**
comp=Z,0.7nm,0.3s,baz=172,slow=32,SNR=3.0
ASAJ ScP **ScP** **21 14 26.8 -0.1**
comp=Z,0.4nm,0.3s,baz=194,slow=4.2,SNR=9.1
JKA Kamikawa-asahi 16.30 5 P **P** **21 07 46.8 +0.8**
MSHR Mys Shultsa 16.57 335 *c i*P **P** **21 07 49.7 +1.3**
MSHR pmax pmax
comp=Z,54nm,0.7s
DACB Daecheong-do R 16.63 311 P **P** **21 07 48.3 -0.7**
SNR=21
DACB Daecheong-do R 16.63 311 P **P** **21 07 48.3 -0.7**
SNR=21
YUK Yuzh-Kuril'sk 16.69 13 ⇓ *e*P **P** **21 07 49.2 -0.3**
KSBAR Backryungdo 16.70 311 P **P** **21 07 49.3 -0.4**
SNR=31
KSBAR Backryungdo 16.70 311 P **P** **21 07 49.3 -0.4**
SNR=31
TATO Taipei 17.35 265 P **P** **21 07 54.4 -1.4**
TATO IAmb IAmb **21 08 03.1**
comp=Z,46nm,0.8s
NACB Ninganchiao 17.47 262 P **P** **21 07 56.0 -0.8**
NACB IAmb IAmb **21 07 57.0**
comp=Z,60nm,0.6s
YHNB Yeheng 17.53 264 P **P** **21 07 57.1 -0.4**
YHNB IAmb IAmb **21 07 57.7**
comp=Z,112nm,0.8s
USA0B Ussuriysk Arra 17.71 339 *c i*P **P** **21 07 59.6 +0.9**
USA0B Ussuriysk Arra 17.71 339 P **P** **21 07 58.8 +0.1**
USRK Ussuriysk Ar. 17.71 339 P **P** **21 07 59.9 +1.2**
baz=134,slow=8.4,SNR=66
USRK ScP **ScP** **21 14 29.4 -0.5**
baz=88,slow=2.6,SNR=9.7
USRK Ussuriysk Ar. 17.71 339 P **P** **21 07 59.6 +0.9**
USRK **ScP** **21 14 29.6 -0.2**
YULB Yu-li 17.96 260 P **P** **21 08 01.2 -0.1**
YULB IAmb IAmb **21 08 05.8**
comp=Z,72nm,0.7s
SSLB Suanglung 18.14 262 P **P** **21 08 03.4 +0.4**
KUR Kuril'sk 18.28 17 *d i*P **P** **21 08 04.1 +0.3**
KUR pmax pmax
comp=Z,159nm,0.9s
TWG Pinlang 18.34 258 P **P** **21 08 04.1 -0.6**
TWG IAmb IAmb **21 08 05.0**
comp=Z,60nm,0.5s
TPUB Ta-pu 18.57 260 P **P** **21 08 06.8 0.0**
TPUB IAmb IAmb **21 08 08.8**
comp=Z,49nm,0.5s
MDJ Mudanjiang 18.90 335 P **P** **21 08 10.2 +0.8**
MDJ ScP **ScP** **21 14 32.2 -0.3**
YSS Yuzh-Sakhalins 19.14 5 *e*P **P** **21 08 11.6 +0.2**
YSS *e*S **S** **21 11 09.7 -0.9**
YSS pmax pmax
comp=Z,50nm,0.5s
YSS smax smax
comp=E,20nm,1.4s
YSS Yuzh-Sakhalins 19.14 5 P **P** **21 08 12.0 +0.6**
YSS IAmb IAmb **21 08 12.7**
comp=Z,73nm,0.6s
DL2 Dalian 19.25 310 *i*P **P** **21 08 12.3 -0.3**
DL2 ScP **ScP** **21 14 33.4 0.0**
DL2 pmax pmax
comp=Z,82nm,0.6s
QZH Quanzhou 19.92 267 ⇑ *i*P **P** **21 08 19.0 +0.2**
QZH pmax pmax
comp=Z,55nm,0.9s
CN2 Changchun 20.04 326 ⇑ *i*P **P** **21 08 20.1 +0.5**
CN2 ScP **ScP** **21 14 34.8 -0.4**
CN2 pmax pmax
comp=Z,40nm,0.8s
SZP Santa 21.19 245 P **P** **21 08 30.3 +0.1**
UGL Uglegorsk 21.22 3 *e*P **P** **21 08 30.8 +0.9**
UGL pmax pmax
comp=E,140nm,0.7s
UGL pmax pmax
comp=Z,120nm,1.0s
TIA Tai'an 21.53 299 P **P** **21 08 33.0 0.0**
TIA pmax pmax
comp=Z,62nm,0.7s
KLR Kul'dur 22.40 345 P **P** **21 08 41.3 +0.9**
comp=Z,9.9nm,0.3s,baz=153,slow=10,SNR=78
KLR S **S** **21 12 02.9 +0.9**
comp=Z,4.7nm,1.0s,baz=31,slow=20,SNR=8.6
TGY Tagaytay City 22.85 237 P **P** **21 08 46.7 +1.8**
comp=Z,141nm,0.4s,baz=274,slow=4.1,SNR=7.4
TYV Tymovskoe 23.03 3 *e*P **P** **21 08 46.8 +0.9**
TYV *e*S **S** **21 12 17.8 +6.1**
TYV pmax pmax
comp=Z,50nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.8s
TYV smax smax
comp=E,300nm,3.9s
WHN Wuhan 23.05 283 ⇑P **P** **21 08 47.4 +1.0**
WHN pmax pmax
comp=E,140nm,0.7s
BJT Baijiatuau 23.54 307 P **P** **21 08 50.4 -0.1**
BJT pmax pmax
comp=Z,24nm,0.6s
BJT Baijiatuau 23.54 307 P **P** **21 08 50.4 -0.1**
BJT IAmb IAmb **21 08 51.7**
comp=Z,24nm,0.6s
BJT ScP **ScP** **21 14 44.4 0.0**
BJI Beijing 23.54 307 P **P** **21 08 50.1 -0.5**
BJI S **S** **21 12 17.9 -2.1**
BJI ScP **ScP** **21 14 44.5 +0.2**
BJI pmax pmax
comp=Z,32nm,0.7s
TIY Taiyuan 25.55 300 *e*P **P** **21 09 06.5 -1.8**
TIY pmax pmax
comp=Z,22nm,0.4s
SKR Severo-Kuril's 25.66 23 *c i*P **P** **21 09 09.6 +0.6**
HIA Hailar 26.72 329 *c i*P **P** **21 09 18.7 +0.4**
HIA pmax pmax
comp=Z,49nm,1.0s
HIA Hailar 26.72 329 P **P** **21 09 18.6 +0.4**
HIA ScP **ScP** **21 14 53.0 -0.5**
HHC Hu-ho-hao-te 27.11 306 ⇑ *i*P **P** **21 09 22.5 +0.6**
HHC S **S** **21 13 17.5 +1.7**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,63nm,5.5s
ENH Enshi 27.25 283 P **P** **21 09 23.1 -0.1**
ENH ScP **ScP** **21 14 55.0 -0.6**
ZEA Zeya 27.66 343 *e*P **P** **21 09 26.8 +0.5**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,30nm,1.1s
XAN Xi'an 27.78 291 P **P** **21 09 28.2 +0.5**
XAN sP PcP **21 12 19.4 0.0**
XAN pmax pmax
comp=Z,400nm,4.2s
SGSI Sangihe 28.01 214 P P 21 09 40.1 +10
BTO Baotou 28.14 305 *e*P **P** **21 09 32.4 +1.6**
PEA0B Petropavlovsk- 28.23 22 P **P** **21 09 31.8 +0.6**
PEA0B pmax pmax
comp=Z,57nm,1.1s
PEA0B Petropavlovsk- 28.23 22 P **P** **21 09 31.8 +0.6**
PEA0B IAmb IAmb **21 09 33.5**
comp=Z,57nm,1.1s
PETK Petropavlovsk- 28.23 22 P **P** **21 09 31.7 +0.5**
comp=Z,24nm,0.5s,baz=214,slow=5.2,SNR=44
PETK ScP **ScP** **21 14 57.2 -0.9**
comp=Z,3.7nm,0.7s,baz=151,slow=3.4,SNR=6.3
PETK Petropavlovsk- 28.23 22 P **P** **21 09 31.8 +0.6**
PET Petropavlovsk 28.49 23 *e*P **P** **21 09 33.9 +0.6**
PET pmax pmax
comp=Z,122nm,1.5s
PET Petropavlovsk 28.49 23 P **P** **21 09 33.5 +0.2**
QIZ Qiongzhong 29.48 259 P **P** **21 09 44.3 +1.9**
TNTI Ternate 29.77 207 P **P** **21 09 44.6 -0.2**
SIJI Sorong 29.94 199 P **P** **21 09 46.9 +0.6**
comp=Z,12nm,0.5s,baz=346,slow=19,SNR=6.7
GYA Guiyang 30.17 275 ⇑P **P** **21 09 49.0 +0.7**
GYA pmax pmax
comp=Z,32nm,1.2s
GYA pmax pmax
comp=Z,60nm,3.5s
KMSI Cibinong 31.46 213 P **P** **21 09 59.8 +0.7**
comp=Z,2μmcomp=Z,92nm,0.6s
FAKI Fak Fak 31.64 196 P **P** **21 10 00.6 -0.1**
FAKI IAmb IAmb **21 10 05.4**
comp=Z,23nm,0.9s
FAKI Fak Fak 31.64 196 P **P** **21 10 01.2 +0.6**
comp=Z,29nm,1.5s
GTOI Gorontalo 31.89 215 P **P** **21 10 02.5 -0.2**
comp=Z,252nmcomp=Z,18nm,0.7s
LZH Lanzhou 32.09 294 ⇑P **P** **21 10 05.5 +1.1**
LZH pmax pmax
comp=Z,140nm,4.9s
CD2 Chengdu 32.15 284 *e*P **P** **21 10 04.0 -0.8**
MA2 Magadan 32.47 10 *d i*P **P** **21 10 07.1 +0.2**
MA2 pmax pmax
comp=Z,107nm,1.3s
MA2 Magadan 32.47 10 P **P** **21 10 07.3 +0.4**
MRSI Marisa 32.57 216 P **P** **21 10 08.4 -0.1**
comp=Z,739nmcomp=Z,70nm,0.6s
TOLI2 Tolitoli 32.67 219 P **P** **21 10 09.2 -0.1**
ULN Ulaanbaatar 32.80 317 *c i*P **P** **21 10 11.1 +1.0**
ULN pmax pmax
comp=Z,75nm,0.7s
ULN Ulaanbaatar 32.80 317 P **P** **21 10 10.9 +0.8**
ULN ScP **ScP** **21 15 13.9 +0.2**
ULN Ulaanbaatar 32.80 317 P **P** **21 10 10.8 +0.7**
SANI Sanana 32.89 208 P **P** **21 10 10.5 -0.6**
comp=Z,2μmcomp=Z,120nm,0.5s
SONM Songino Array 33.19 316 P **P** **21 10 14.3 +1.1**
comp=Z,56nm,0.4s,baz=130,slow=8.2,SNR=527
SONM ScP **ScP** **21 15 15.1 0.0**
comp=Z,5.3nm,0.8s,baz=134,slow=3.8,SNR=9.9
SONM P3KPbc **21 41 13.7**
comp=Z,0.3nm,0.5s,baz=294,slow=1.5,SNR=4.9
SONM Songino Array 33.19 316 P **P** **21 10 14.4 +1.1**
SONM pmax pmax
comp=Z,104nm,1.0s
SONM Songino Array 33.19 316 P **P** **21 10 14.4 +1.1**
SONM ScP **ScP** **21 15 15.1 0.0**
LUWI Luwuk 33.45 214 P **P** **21 10 14.3 -1.4**
LUWI Luwuk 33.45 214 P **P** **21 10 14.4 -1.4**
SLVN Son La 33.90 267 P **P** **21 10 20.6 +1.1**
APSI Ampana 33.90 216 P **P** **21 10 19.4 -0.1**
comp=Z,894nmcomp=Z,73nm,0.5s
KMI Kunming 33.90 274 ⇑P **P** **21 10 20.7 +1.0**
KMI S **S** **21 14 59.8 +0.1**
KMI ScP **ScP** **21 15 19.1 +0.9**
KMI pmax pmax
comp=Z,60nm,1.0s
KMI pmax pmax
comp=Z,160nm,3.5s
DLV T Lat 33.95 249 P **P** **21 10 21.1 +1.0**
DLV IAmb IAmb **21 10 22.4**
comp=Z,50nm,0.9s
UBPT Khong Chiam 34.85 256 P **P** **21 10 28.5 +1.2**
comp=Z,532nmcomp=Z,36nm,1.1s
UBPT Khong Chiam 34.85 256 P **P** **21 10 28.7 +1.4**
YAK Yakutsk 34.93 351 *e*P **P** **21 10 26.8 -0.4**
YAK *e* **21 12 44.6**
YAK *e*S **S** **21 15 10.6 -2.8**
YAK *e* **21 19 21.8**
YAK pmax pmax
comp=Z,31nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=N,71nm,1.5s
YAK smax smax
comp=E,95nm,1.5s
YAK Yakutsk 34.93 351 P **P** **21 10 26.1 -1.1**
YAK IAmb IAmb **21 10 28.2**
comp=Z,38nm,0.7s
GTA Gaotai 35.58 300 ⇑P **P** **21 10 33.9 +0.8**
GTA S **S** **21 15 23.0 -1.0**
GTA ScS **ScS** **21 19 30.0 -1.4**
GTA pmax pmax
comp=Z,84nm,0.7s
GTA pmax pmax
comp=Z,180nm,6.7s
NONG Nongkai 35.71 262 P **P** **21 10 35.5 +1.2**
comp=Z,330nm,0.8s
SEY Seymchan 35.92 9 *d i*P **P** **21 10 35.9 +0.6**
ZAK Zakamensk 36.11 319 *e*P **P** **21 10 37.7 +0.5**
ZAK pmax pmax
comp=Z,72nm,1.1s
IRK Irkutsk 36.37 322 *e*P **P** **21 10 38.5 -0.6**
IRK pmax pmax
comp=Z,53nm,2.1s
TLY Talaya 36.46 321 *c i*P **P** **21 10 41.3 +1.4**
TLY *e*S **S** **21 15 42.5 +6.2**
TLY pmax pmax
comp=Z,151nm,1.5s
TLY Talaya 36.46 321 P **P** **21 10 40.4 +0.5**
TLY IAmb IAmb **21 10 41.6**
comp=Z,26nm,0.5s
TLY Talaya 36.46 321 P **P** **21 10 40.9 +1.0**
KHON Khomkaen 36.69 260 P **P** **21 10 43.0 +0.8**
comp=Z,8μmcomp=Z,488nm,0.7s

BKB Balikpapan 36.83 222 P **P** **21 10 44.0 +0.5**
MIDW Midway 36.97 79 P **P** **21 10 44.5 +0.2**
AMKA Amchitka 37.32 40 P **P** **21 10 47.5 +0.7**
SPSI Sidrap Palu 37.47 216 P **P** **21 10 48.3 -0.2**
comp=Z,765nmcomp=Z,53nm,0.6s
CHAI Chaiyaphum 37.60 260 P **P** **21 10 50.0 +0.4**
comp=Z,3µmcomp=Z,314nm,0.9s
BNSI Bone 37.67 215 P **P** **21 10 50.6 +0.5**
MTKI Muara Teweh, K 37.80 225 P **P** **21 10 51.9 +0.7**
comp=Z,2µmcomp=Z,171nm,0.7s
MOY Mondy 37.95 320 *e*P **P** **21 10 52.1 +0.1**
MOY pmax pmax
comp=Z,47nm,1.7s
UTTA Uttaradit 38.11 263 P **P** **21 10 54.0 +0.3**
comp=Z,3µmcomp=Z,235nm,0.8s
PBKT Sadao Pong 38.21 261 P **P** **21 10 54.0 -0.4**
comp=Z,58nm,0.7s
PBKT Sadao Pong 38.21 261 P **P** **21 10 54.5 0.0**
KAPI Kappang 38.37 215 P **P** **21 10 56.4 +0.7**
comp=Z,8.5nm,0.3s,baz=17,slow=3.3,SNR=16
KAPI ScP **ScP** **21 15 34.2 -0.5**
comp=Z,6.1nm,0.6s,baz=127,slow=1.4,SNR=5.0
KAPI Kappang 38.37 215 P **P** **21 10 56.1 +0.3**
KAPI pmax pmax
comp=Z,21nm,1.1s
KAPI Kappang 38.37 215 P **P** **21 10 56.1 +0.3**
KAPI Kappang 38.37 215 P **P** **21 10 56.5 +0.8**
SRAK Srakaew 38.38 257 P **P** **21 10 53.0 -2.8**
comp=Z,25µmcomp=Z,4µm,0.8s
PHIT Phitsanulok 38.45 263 P **P** **21 10 57.2 +0.8**
comp=Z,3µmcomp=Z,389nm,0.9s
CM34 Chiang Mai Arr 38.94 266 P **P** **21 11 00.0 -0.3**
CM35 Chiang Mai Arr 39.00 266 P **P** **21 11 01.0 +0.3**
CM36 Chiang Mai Arr 39.11 265 P **P** **21 11 02.0 +0.4**
CM33 Chiang Mai Arr 39.13 266 P **P** **21 11 02.0 +0.2**
CMMT Chiang Mai 39.13 266 P **P** **21 11 01.0 -0.8**
comp=Z,453nmcomp=Z,46nm,0.9s
CHTO Chiang Mai 39.13 266 P **P** **21 11 02.5 +0.7**
CHTO pmax pmax
comp=Z,77nm,1.0s
CHTO Chiang Mai 39.13 266 P **P** **21 11 02.5 +0.7**
CHTO Chiang Mai 39.13 266 P **P** **21 11 02.6 +0.8**
CM09 Chiang Mai Arr 39.23 265 P **P** **21 11 03.5 +0.9**
comp=Z,501nmcomp=Z,66nm,0.7s
CM04 Chiang Mai Arr 39.25 265 P **P** **21 11 03.0 +0.2**
comp=Z,581nmcomp=Z,75nm,0.8s
CM01 Chiang Mai Arr 39.26 265 P **P** **21 11 03.8 +0.9**
comp=Z,467nmcomp=Z,57nm,0.8s
CM31 Chiang Mai Arr 39.26 265 P **P** **21 11 03.6 +0.8**
comp=Z,19µmcomp=Z,2µm,0.7s
CM31 Chiang Mai Arr 39.26 265 P **P** **21 11 03.8 +0.9**
CM31 IAmb IAmb 21 11 04.8
comp=Z,48nm,0.8s
CM31 Chiang Mai Arr 39.26 265 P **P** **21 11 04.0 +1.2**
SNR=20
CMAR Chiang Mai Arr 39.26 265 P **P** **21 11 03.8 +0.9**
comp=Z,31nm,0.6s,baz=54,slow=8.2,SNR=214
CMAR ScP **ScP** **21 15 39.2 +1.0**
comp=Z,1.4nm,0.6s,baz=49,slow=4.1,SNR=2.7
CM02 Chiang Mai Arr 39.27 265 P **P** **21 11 03.0 +0.1**
comp=Z,449nmcomp=Z,68nm,0.8s
CM32 Chiang Mai Arr 39.28 266 P **P** **21 11 03.0 0.0**
CM15 Chiang Mai Arr 39.28 265 P **P** **21 11 03.8 +0.7**
comp=Z,529nmcomp=Z,48nm,1.0s
CM05 Chiang Mai Arr 39.28 265 P **P** **21 11 03.9 +0.8**
comp=Z,431nmcomp=Z,59nm,0.8s
STKI Sintang 39.28 230 P **P** **21 11 04.0 +1.0**
CM13 Chiang Mai Arr 39.31 265 P **P** **21 11 04.0 +0.8**
comp=Z,496nmcomp=Z,70nm,0.8s
BBKI Banjar Baru 39.81 223 P **P** **21 11 07.9 +0.7**
ADK Adak 39.83 41 P **P** **21 11 06.8 0.0**
ADK pmax pmax
comp=Z,124nm,0.8s
ADK Adak 39.83 41 P **P** **21 11 06.8 0.0**
PATY Pattaya 39.90 256 P **P** **21 11 09.7 +1.8**
comp=Z,3µmcomp=Z,79nm,0.8s
UTHA Uthaitani 39.96 261 P **P** **21 11 09.5 +1.1**
comp=Z,2µmcomp=Z,242nm,0.6s
UMPA Umpang Tak 40.21 262 P **P** **21 11 12.2 +1.8**
comp=Z,2µmcomp=Z,172nm,1.0s
MHMT Maesarieng 40.26 266 P **P** **21 11 10.8 +0.1**
comp=Z,2µmcomp=Z,305nm,0.9s
MMRI Maumere 40.40 209 P **P** **21 11 12.1 +0.4**
MMRI Maumere 40.40 209 P **P** **21 11 12.0 +0.2**
comp=Z,87nm,0.8s
SOEI Soe 40.60 205 P **P** **21 11 13.2 -0.2**
SOEI IAmb IAmb 21 11 18.6
comp=Z,36nm,0.5s
SOEI Soe 40.60 205 P **P** **21 11 13.3 -0.2**
comp=Z,59nm,0.6s
MOKO MOKOCHONG 40.87 279 *e*P **P** **21 11 16.0 +0.4**
MOKO IAmb IAmb 21 11 17.0
comp=Z,206nm,0.4s
KHLT Khaolaem Dam 41.03 260 P **P** **21 11 17.0 +0.2**
comp=Z,559nmcomp=Z,46nm,0.8s
ZIRO ZIRO 41.19 281 *e*P **P** **21 11 19.4 +1.3**
ZIRO IAmb IAmb 21 11 20.2
comp=Z,343nm,0.5s
PBKI Pangkalan Bun 41.21 227 P **P** **21 11 18.2 0.0**
comp=Z,1µmcomp=Z,77nm,0.6s
BATI Baumata 41.24 206 P **P** **21 11 18.3 -0.1**
comp=Z,80nm,0.4s,baz=56,slow=0.7,SNR=24
BATI Baumata 41.24 206 P **P** **21 11 18.2 -0.1**
comp=Z,94nm,0.5s
KOHI KOHIMA 41.36 278 *e*P **P** **21 11 18.9 -0.6**
KOHI IAmb IAmb 21 11 19.3
comp=Z,74nm,0.3s
ATKA Atka Island 41.39 41 P **P** **21 11 18.7 -0.2**
MTN Manton Dam 41.49 194 P **P** **21 11 20.3 0.0**
WBSI Waikabubak, Su 42.56 212 P **P** **21 11 26.0 -2.6**
comp=Z,37nm,0.7s
PLAI Plampang 42.63 214 P **P** **21 11 28.4 -0.8**
comp=Z,41nm,0.6s
TWSI Taliwang, Sumb 43.01 216 P **P** **21 11 31.7 -0.4**
comp=Z,15nm,0.8s
SKLT Songkhla 43.04 249 P **P** **21 11 33.8 +1.5**
comp=Z,738nmcomp=Z,58nm,0.8s
BILL Bilibino 43.04 14*c* *i*P **P** **21 11 31.8 +0.3**
BILL *i* 21 13 04.4
BILL *i* *P **PP** **21 13 25.8 -1.0**
BILL pmax pmax
comp=Z,122nm,0.7s
BILL Bilibino 43.04 14 P **P** **21 11 32.0 +0.5**
LSA Lhasa 43.11 285 P **P** **21 11 35.5 +2.2**
LSA Lhasa 43.11 285 P **P** **21 11 35.2 +2.0**
LSA Lhasa 43.11 285 P **P** **21 11 35.4 +2.2**
LSA pmax pmax
comp=Z,88nm,0.7s
LSA Lhasa 43.11 285 P **P** **21 11 35.4 +2.2**
KMMI Kalianget 43.20 221 P **P** **21 11 33.5 -0.1**
comp=Z,88nm,1.2s
SHL Shillong 43.35 279 P **P** **21 11 35.4 +0.6**
SHL pmax pmax
comp=Z,156nm,0.7s
SHL Shillong 43.35 279⇑ *e*P **P** **21 11 35.5 +0.6**
SHL IAmb IAmb 21 11 36.2
comp=Z,127nm,0.7s
SHL Shillong 43.35 279 P **P** **21 11 35.4 +0.6**
SHL Shillong 43.35 279 P **P** **21 11 35.6 +0.8**
SNR=47
SRBI Singaraja 43.35 218 P **P** **21 11 35.8 +1.1**
comp=Z,43nm,0.8s
GUWA GUWAHATI 43.37 280 *e*P **P** **21 11 35.0 +0.3**
GUWA IAmb IAmb 21 11 35.7
comp=Z,104nm,0.7s
SURT Suratani 43.61 253 P **P** **21 11 39.7 +2.9**
comp=Z,22nmcomp=Z,2.0nm,1.1s
TPI Tanjungpandan 43.95 232 P **P** **21 11 38.2 -1.1**
comp=Z,707nmcomp=Z,65nm,0.8s
JAGI Jajag, Banyuwa 44.26 219 P **P** **21 11 40.1 -1.5**
JAGI IAmb IAmb 21 11 42.0
comp=Z,28nm,0.7s
TIXI Tiksi 44.32 355*d* *i*P **P** **21 11 40.9 -0.2**
TIXI Tiksi 44.32 355 P **P** **21 11 41.0 -0.2**
BELO BELONIA 44.35 276 *e*P **P** **21 11 43.1 +0.9**
PKDT Phuket 44.56 252 P **P** **21 11 44.1 +0.2**
PPBI Pangkal Pinang 44.59 234 P **P** **21 11 44.4 +0.2**
NIKH Nikolski High 44.73 42 P **P** **21 11 44.4 -0.3**
NIKH Nikolski High 44.73 42 P **P** **21 11 44.1**
baz=256
KNRA Kununurra 44.77 196 P **P** **21 11 45.8 +0.4**
WMQ Urumqi 44.98 305 P **P** **21 11 48.1 +1.3**
WMQ pmax pmax
comp=Z,190nm,0.7s
WMQ pmax pmax
comp=Z,190nm,4.7s

SPIA Saint Paul Isl 45.15 36 P **P** **21 11 48.5 +0.7**
SPIA Saint Paul Isl 45.15 36 P **P** **21 11 48.4**
baz=251
PWJI Pagerwojo 45.25 222 P **P** **21 11 48.1 -1.0**
comp=Z,46nm,0.8s
DGZ Jazzator, Alta 45.72 313*c* *i*P **P** **21 11 53.5 +1.2**
DGZ pmax pmax
comp=Z,124nm,1.0s
GTK Tadong 45.79 282 *e*P **P** **21 11 54.4 +1.1**
GTK IAmb IAmb 21 11 55.0
comp=Z,88nm,0.5s
UGM Wanagama 45.94 224 P **P** **21 11 54.0 -0.3**
UGM IAmb IAmb 21 12 03.1
comp=Z,94nm,1.3s
UGM Wanagama 45.94 224 P **P** **21 11 54.0 -0.3**
comp=Z,118nm,1.9s
JCJI Jatiwangi 46.27 227 P **P** **21 11 58.4 +1.6**
comp=Z,273nm,0.8s
KPJI Karang Pucung 46.48 226 P **P** **21 11 58.5 +0.2**
comp=Z,1µmcomp=Z,141nm,0.7s
TAPN Taplejung 46.56 282 *e*P **P** **21 12 00.4 +1.2**
comp=Z,84nm,0.3s
DGPR DIGLIPUR 46.68 262 *e*P **P** **21 12 00.2 +0.4**
DGPR IAmb IAmb 21 12 01.2
comp=Z,156nm,0.5s
AKUT Akutan 46.78 41 P **P** **21 11 59.7 -0.3**
PSI Prapat 46.91 245 P **P** **21 12 02.4 +0.7**
comp=Z,49nm,0.4s,baz=0.3,slow=3.1,SNR=83
PSI ScP **ScP** **21 16 09.7 0.0**
comp=Z,5.4nm,0.5s,baz=358,slow=1.7,SNR=4.6
PSI Prapat 46.91 245 P **P** **21 12 02.6 +0.9**
PSI pmax pmax
comp=Z,82nm,0.8s
LEM Lembang 46.95 228 P **P** **21 12 02.4 +0.3**
comp=Z,193nm,0.8s,baz=29,slow=5.3,SNR=40
LEM Lembang 46.95 228 P **P** **21 12 02.5 +0.5**
comp=Z,1µmcomp=Z,124nm,1.1s
ODAN Odare 46.95 282 *e*P **P** **21 12 03.2 +1.2**
comp=Z,179nm,0.3s
RPSI Rantau Prapat 46.97 245 P **P** **21 12 02.5 +0.5**
GAMB Gambell 47.06 27 P **P** **21 12 02.8**
baz=243
LHMI Lhok Sumawe 47.15 250 P **P** **21 12 04.4 +1.1**
LHMI Lhok Sumawe 47.15 250 P **P** **21 12 05.2 +1.9**
comp=Z,111nm,0.8s
CBJI Citeko 47.15 229 P **P** **21 12 04.4 +1.1**
comp=Z,2µmcomp=Z,124nm,0.6s
ZSN Zaisan 47.17 310⇑ *i*P **P** **21 12 04.0 +0.9**
comp=Z,22nm,0.7s,baz=309
ZSN Zaisan 47.17 310*c* *i*P **P** **21 12 03.9 +0.9**
ZSN pmax pmax
comp=Z,22nm,0.7s
JOHN Johnston Islan 47.18 93 P **P** **21 12 04.1 +0.6**
CISI Cisompet, Garu 47.37 227 P **P** **21 12 03.1 -1.9**
CISI IAmb IAmb 21 12 10.3
comp=Z,26nm,0.5s
CISI Cisompet, Garu 47.37 227 P **P** **21 12 03.9 -1.1**
comp=Z,881nmcomp=Z,41nm,0.9s
BLSI Bandar Lampung 47.48 231 P **P** **21 12 05.4 -0.4**
comp=Z,186nm,0.6s
PBA Port Blair 47.52 260⇑ *e*P P **21 12 05.0 -1.1**
PBA IAmb IAmb 21 12 06.5
comp=Z,49nm,0.7s
PBA Port Blair 47.52 260 P P **21 12 05.4 -0.7**
PBA IAmb IAmb 21 12 06.7
comp=Z,61nm,0.7s
MNSI Mandailing Nat 47.59 243 P **P** **21 12 06.2 -0.4**
comp=Z,145nm,0.6s
MDSI Maura Dua 47.61 233 P **P** **21 12 06.6 -0.1**
comp=Z,1µmcomp=Z,124nm,1.0s
RAMN Ramite 47.61 282 *e*P **P** **21 12 08.0 +1.1**
comp=Z,277nm,0.4s
LHSI Lahat 47.62 235 P **P** **21 12 06.9 +0.1**
comp=Z,1µmcomp=Z,150nm,0.8s
WB0 Warramunga Arr 47.72 188 P **P** **21 12 07.2 -0.2**
WB0 IAmb IAmb 21 12 07.8
comp=Z,19nm,0.4s
JIRN Jiri 47.80 283 *e*P **P** **21 12 09.9 +1.5**
comp=Z,234nm,0.4s
WRAB Tennant Creek 47.89 188*c* *i*P **P** **21 12 08.4 -0.2**
WRAB *i* *P **pP** **21 14 03.7 -1.5**
WRAB pmax pmax
comp=Z,43nm,2.9s
WRAB Tennant Creek 47.89 188 P **P** **21 12 08.5 -0.2**
WR0 Warramunga Arr 47.90 188 P **P** **21 12 08.6 -0.1**
WR0 IAmb IAmb 21 12 08.8
comp=Z,16nm,0.3s
WB2 Warramunga Arr 47.90 188 P **P** **21 12 08.6 -0.1**
WB2 IAmb IAmb 21 12 10.4
comp=Z,17nm,0.3s
WRA Warramunga Ar 47.90 188 P **P** **21 12 08.6 -0.2**
comp=Z,12nm,0.3s,baz=6.2,slow=7.6,SNR=622
WRA ScP **ScP** **21 16 13.3 -0.2**
comp=Z,9.2nm,0.8s,baz=5.0,slow=4.6,SNR=9.8
WRA S **S** **21 18 15.1 -3.9**
comp=Z,3.1nm,0.8s,baz=7.3,slow=14,SNR=5.3
WRA Warramunga Arr 47.90 188 P **P** **21 12 07.3 -1.5**
FITZ Fitzroy Crossi 47.93 199 P **P** **21 12 09.6 +0.7**
comp=Z,9.5nm,0.3s,baz=23,slow=11,SNR=93
FITZ ScP **ScP** **21 16 13.4 -0.2**
comp=Z,2.2nm,0.5s,baz=30,slow=4.4,SNR=5.1
FITZ Fitzroy Crossi 47.93 199 P **P** **21 12 09.6 +0.7**
CTA Charters Tower 47.98 173 P **P** **21 12 09.9 +0.7**
comp=Z,2.4nm,0.5s,baz=352,slow=8.0,SNR=2.2
CTA Charters Tower 47.98 173 P **P** **21 12 10.0 +0.7**
CTAO Charters Tower 47.98 173 P **P** **21 12 09.3 0.0**
CTAO pmax pmax
comp=Z,22nm,1.4s
CTAO Charters Tower 47.98 173 P **P** **21 12 09.3 0.0**
ZAA0 Zalesovo Array 47.99 319 P **P** **21 12 08.8 -0.1**
ZALV Zalesovo Beam 47.99 319 P **P** **21 12 08.8 -0.1**
comp=Z,62nm,0.3s,baz=108,slow=8.1,SNR=311
ZALV ScP **ScP** **21 16 12.8 -0.6**
comp=Z,5.6nm,0.6s,baz=107,slow=4.5,SNR=7.7
ZALV S **S** **21 18 18.0 -1.2**
comp=Z,0.6nm,0.4s,baz=125,slow=13,SNR=2.4
ZALV Zalesovo Beam 47.99 319 P **P** **21 12 08.7 -0.2**
GUN Gumba 48.01 284 *e*P **P** **21 12 11.3 +1.4**
comp=Z,313nm,0.3s
TPTI 48.06 247 P **P** **21 12 08.9 -1.1**
comp=Z,25nm,0.9s
LWLI Liwa 48.06 233 P **P** **21 12 09.4 -0.8**
comp=Z,103µmcomp=Z,3µmcomp=Z,145nm,0.8s
KASI Kota Agung 48.11 232 P **P** **21 12 08.9 -1.5**
comp=Z,95nm,0.9s
KSI Kapahiang 48.17 236 P **P** **21 12 10.3 -0.7**
FALS False Pass 48.27 40 P **P** **21 12 10.7 -0.2**
FALS False Pass 48.27 40 P **21 12 10.5**
baz=260
PKI Pulchoki 48.49 283 *e*P **P** **21 12 14.2 +0.7**
comp=Z,150nm,0.4s
PKIN Phulchoki 48.50 283 *e*P **P** **21 12 14.2 +0.7**
comp=Z,168nm,0.4s
KKN Kakani 48.55 284 *e*P **P** **21 12 14.7 +0.9**
comp=Z,192nm,0.5s
DMN Daman 48.74 283 *e*P **P** **21 12 16.3 +1.1**
comp=Z,193nm,0.4s
GSI Gunungsitoli 48.88 245 P **P** **21 12 16.1 0.0**
GSI Gunungsitoli 48.88 245 P **P** **21 12 16.1 0.0**
comp=Z,3µmcomp=Z,220nm,1.0s
MK31 Makanchi Array 48.90 309 P **P** **21 12 16.5 +0.7**
MK31 pmax pmax
comp=Z,79nm,1.3s
MK31 Makanchi Array 48.90 309 P **P** **21 12 16.4 +0.7**
MK31 IAmb IAmb 21 12 17.4
comp=Z,79nm,1.2s
MKAR Makanchi Array 48.90 309 P **P** **21 12 16.4 +0.6**
comp=Z,42nm,0.4s,baz=87,slow=9.3,SNR=1144
MKAR PcP **PcP** **21 13 26.3 +0.1**
comp=Z,5.0nm,0.4s,baz=84,slow=5.7,SNR=2.2
MKAR ScP **ScP** **21 16 17.1 -0.4**
comp=Z,4.2nm,0.4s,baz=80,slow=5.1,SNR=11
MKAR S **S** **21 18 31.6 -0.3**
comp=Z,0.5nm,0.6s,baz=82,slow=22,SNR=3.0
GKN Gorkha 49.05 284 *e*P **P** **21 12 18.3 +0.9**
comp=Z,184nm,0.4s
BOK Bokaro 49.08 278 *e*P **P** **21 12 18.0 +0.5**
BOK IAmb IAmb 21 12 19.3
comp=Z,110nm,0.5s
MAKZ Makanchi 49.12 309 P **P** **21 12 18.0 +0.7**
MAKZ pmax pmax
comp=Z,65nm,1.0s
MAKZ Makanchi 49.12 309 P **P** **21 12 18.0 +0.7**
MAKZ IAmb IAmb 21 12 19.0
comp=Z,65nm,1.0s
TNA Tin City 49.30 25 P **21 12 19.0**

baz=246
DANN Dangsing 49.72 285 *e*P **P** **21 12 23.7 +1.3**
comp=Z,347nm,0.2s
ANM Nome 49.92 27 P **P** **21 12 23.7 +0.9**
ANM pmax pmax
comp=Z,57nm,0.8s
ANM Nome 49.92 27 P **P** **21 12 23.7 +0.9**
ANM IAmb IAmb 21 12 25.0
comp=Z,57nm,0.8s
ANM Nome 49.92 27 P **21 12 23.8**
baz=250
KOLN Koldanda 50.00 284 *e*P **P** **21 12 25.3 +1.0**
comp=Z,86nm,0.3s
SDPT Sand Point 50.02 40 P **P** **21 12 23.1 -0.5**
SDPT Sand Point 50.02 40 P **21 12 22.9**
baz=262
SANVU Saraoutou 50.18 146 P **P** **21 12 25.7 +0.3**
SEM Semipalatinsk 50.39 314⇑ *i*P **P** **21 12 26.6 -0.2**
comp=Z,78nm,0.5s,baz=313
SEM *e*S **S** **21 18 49.4 -2.9**
baz=313
SEM Semipalatinsk 50.39 314*c* *i*P **P** **21 12 26.5 -0.2**
SEM *e*S **S** **21 18 49.3 -2.9**
SEM pmax pmax
comp=Z,78nm,0.5s
PYUN Piuthan 50.44 285 *e*P **P** **21 12 28.5 +1.0**
comp=Z,654nm,0.3s
PDGK Podgornoye 50.95 305 P **P** **21 12 30.8 0.0**
XMIS Christmas Isla 50.96 226 P **P** **21 12 29.7 -1.4**
XMIS IAmb IAmb 21 12 48.3
comp=Z,54nm,0.9s
SHLS Shalkode 50.98 304 *i* P **P** **21 12 29.4 -1.6**
comp=Z,22nm,0.4s,baz=304
SHLS *e*S **S** **21 18 56.5 -3.7**
baz=304
SHLS Shalkode 50.98 304 *i* P **P** **21 12 29.4 -1.6**
SHLS *e*S **S** **21 18 56.4 -3.7**
SHLS pmax pmax
comp=Z,22nm,0.4s
UZB Uzynbulak 51.30 304⇑ *i*P **P** **21 12 33.7 +0.4**
comp=Z,12nm,0.4s,baz=304
UZB *e*S **S** **21 19 04.8 +0.4**
baz=304
UZB Uzynbulak 51.30 304*c* *i*P **P** **21 12 33.7 +0.4**
UZB *e*S **S** **21 19 04.8 +0.4**
UZB pmax pmax
comp=Z,12nm,0.4s
NRIK Noril'sk 51.43 339 P **P** **21 12 33.8 +0.2**
comp=Z,12nm,0.6s,baz=110,slow=8.8,SNR=18
NRIK ScP **ScP** **21 16 27.2 -0.7**
comp=Z,7.6nm,0.6s,baz=98,slow=5.8,SNR=8.3
NRIK S **S** **21 19 03.1 -1.8**
comp=Z,2.2nm,0.5s,baz=39,slow=24,SNR=11
NRIK Noril'sk 51.43 339*c* *i*P **P** **21 12 33.7 +0.2**
NRIK pmax pmax
comp=Z,16nm,0.9s
NRIK Noril'sk 51.43 339 P **P** **21 12 33.7 +0.2**
KPKS Kokpek 51.52 305⇑ *i*P **P** **21 12 35.2 +0.4**
comp=Z,21nm,0.5s,baz=304
KPKS Kokpek 51.52 305*c* *i*P **P** **21 12 35.2 +0.4**
KPKS pmax pmax
comp=Z,21nm,0.5s
AS31 Alice Springs 51.63 188 P **P** **21 12 35.5 -0.2**
ASAR Alice Springs 51.63 188 P **P** **21 12 35.6 -0.1**
comp=Z,1.5nm,0.3s,baz=3.6,slow=6.4,SNR=37
ASAR ScP **ScP** **21 16 29.2 -0.3**
comp=Z,3.4nm,0.8s,baz=10.0,slow=4.4,SNR=8.0
ASAR S **S** **21 19 05.9 -3.0**
comp=Z,2.2nm,0.8s,baz=13,slow=12,SNR=9.1
TDK Taldyqorghan 51.63 307 *e*P **P** **21 12 36.6 +1.0**
comp=Z,74nm,0.6s,baz=306
TDK Taldyqorghan 51.63 307 *e*P **P** **21 12 36.5 +1.0**
TDK pmax pmax
comp=Z,74nm,0.6s
SATY Saty 51.76 304⇑ *i*P **P** **21 12 37.2 +0.6**
comp=Z,34nm,1.5s,baz=304
SATY Saty 51.76 304*c* *i*P **P** **21 12 37.1 +0.6**
SATY pmax pmax
comp=Z,35nm,1.5s
PRZ Przheval'sk 51.81 304 P **P** **21 12 38.7 +1.7**
PRZ pmax pmax
comp=Z,188nm,0.5s
PRZ Przheval'sk 51.81 304 P **P** **21 12 38.7 +1.7**
RDOG Red Dog Mine 52.09 23 P **P** **21 12 39.7 +1.4**
RDOG Red Dog Mine 52.09 23 P **21 12 39.8**
baz=249,SNR=29
CHKK Chushkaly 52.72 305⇑ *i*P **P** **21 12 43.8 +0.5**
baz=305
CHKK Chushkaly 52.72 305⇑ *i*P **P** **21 12 43.7 +0.5**
MDOK Medeo 52.74 305 *i* P **P** **21 12 44.7 +1.2**
baz=304
MDOK Medeo 52.74 305 *i* P **P** **21 12 44.7 +1.2**
KDJ Kajisay 52.74 303 P **P** **21 12 44.6 +1.0**
KDJ pmax pmax
comp=Z,34nm,0.6s
KDJ Kajisay 52.74 303 P **P** **21 12 44.6 +1.0**
KDJ IAmb IAmb 21 12 45.1
comp=Z,34nm,0.6s
AAA Alma-Ata 52.83 305⇑ *i*P **P** **21 12 45.5 +1.4**
comp=Z,154nm,0.8s,baz=304
AAA Alma-Ata 52.83 305*c* *i*P **P** **21 12 45.4 +1.4**
AAA pmax pmax
comp=Z,154nm,0.8s
PSA00 Pilbara Seismi 53.08 204 P **P** **21 12 46.1 +0.3**
PSA00 Pilbara Seismi 53.08 204 P **P** **21 12 45.5 -0.4**
PSA00 IAmb IAmb 21 12 46.8
comp=Z,12nm,0.7s
PSA00 pP **pP** **21 14 45.2 -1.7**
KUU Kurty 53.19 306⇑ *i*P **P** **21 12 47.1 +0.6**
comp=Z,94nm,0.5s,baz=305
KUU Kurty 53.19 306*c* *i*P **P** **21 12 47.0 +0.6**
KUU pmax pmax
comp=Z,94nm,0.5s
MTBS Maitube 53.19 305⇑ *i*P **P** **21 12 47.8 +1.1**
baz=304
MTBS Maitube 53.19 305*c* *i*P **P** **21 12 47.7 +1.1**
VIS Vishakhapatnam 53.35 272 *e*P **P** **21 12 47.7 -0.3**
VIS IAmb IAmb 21 12 49.9
comp=Z,83nm,0.6s
SVW2 Sparrevohn 53.41 33 P **P** **21 12 48.8 +1.0**
SVW2 IAmb IAmb 21 12 49.6
comp=Z,55nm,0.7s
ULHL Ulahol 53.42 304 P **P** **21 12 49.5 +1.1**
SNR=61
TTA Tatalina 53.51 31 P **P** **21 12 49.0 +0.6**
TTA pmax pmax
comp=Z,32nm,1.2s
TTA Tatalina 53.51 31 P **P** **21 12 49.0 +0.6**
TTA Tatalina 53.51 31 P **21 12 49.0**
baz=260,SNR=22
BOOM Boomskoye usch 53.62 304 P **P** **21 12 50.8 +1.1**
BOOM pmax pmax
comp=Z,70nm,0.7s
BOOM Boomskoye usch 53.62 304 P **P** **21 12 50.8 +1.1**
BOOM IAmb IAmb 21 12 51.7
comp=Z,70nm,0.7s
SII Sitkinak Islan 53.66 39 P **P** **21 12 49.8 +0.3**
SII Sitkinak Islan 53.66 39 P **21 12 49.9**
baz=266
TKM2 Tokmak 2 53.82 304 P **P** **21 12 52.5 +1.3**
SNR=7.0
TKM2 Tokmak 2 53.82 304 *i* P **P** **21 12 52.1 +0.9**
TKM2 pmax pmax
comp=Z,44nm,0.6s
EIDS Eidsvold 53.88 168 P **P** **21 12 51.7 +0.3**
KSH Kashi 53.98 300 P **P** **21 12 56.2 +4.0**
KSH PcP **PcP** **21 13 45.4 -0.4**
KSH S **S** **21 19 47.1 +7.6**
KSH ScS **ScS** **21 21 33.4 +2.1**
KSH pmax pmax
comp=Z,100nm,0.4s
KSH pmax pmax
comp=Z,79nm,4.3s
DDI Dehra Dun 54.09 289 *e*P **P** **21 12 53.7 +0.7**
DDI IAmb IAmb 21 12 54.2
comp=Z,335nm,0.3s
OHAK Old Harbor 54.20 38 P 21 12 53.0
baz=267,SNR=26
KBK Karagaybulak 54.33 304 P **P** **21 12 55.7 +1.1**
SNR=16
CHMS Chumysh 54.43 305 P **P** **21 12 55.8 +0.6**
SNR=15
SGDS Sogindy 54.47 305⇑ *i*P **P** **21 12 55.7 +0.3**
comp=Z,9.3nm,0.5s,baz=304
SGDS Sogindy 54.47 305*c* *i*P **P** **21 12 55.7 +0.3**
SGDS pmax pmax

comp=Z,9.0nm,0.5s
FRU1 **Bishkek** **54.54** **304** P **P** **21 12 56.9 +0.9**
FRU1 pmax pmax
comp=Z,64nm,0.9s
FRU1 **Bishkek** **54.54** **304** P **P** **21 12 56.9 +0.9**
FRU1 lAmb lAmb 21 12 57.9
comp=Z,64nm,0.8s
USP **Ospenovka** **54.58** **305** P **P** **21 12 56.9 +0.7**
SNR=45
KDAK **Kodiak Island** **54.61** **37***d* *i*P **P** **21 12 55.7 -0.3**
KDAK pmax pmax
comp=Z,66nm,0.9s
KDAK **Kodiak Island** **54.61** **37** P **P** **21 12 56.1 +0.1**
KDAK lAmb lAmb 21 12 58.7
comp=Z,48nm,0.6s
KDAK **Kodiak Island** **54.61** **37** P 21 12 55.9
baz=267
SMLA **Simla** **54.64** **290**⇑ *e*P **P** **21 12 57.2 +0.5**
SMLA lAmb lAmb 21 12 58.6
comp=Z,214nm,0.4s
AAK **Ala-Archa** **54.66** **304** P **P** **21 12 57.8 +0.8**
SNR=12
AAK **Ala-Archa** **54.66** **304** *i* P **P** **21 12 56.8 -0.1**
AAK pmax pmax
comp=Z,28nm,0.6s
BTLS **Baital** **54.72** **307**⇑ *i*P **P** **21 12 57.6 +0.5**
comp=Z,28nm,0.4s,baz=306
BTLS **Baital** **54.72** **307***c* *i*P **P** **21 12 57.5 +0.5**
BTLS pmax pmax
comp=Z,28nm,0.4s
RSO **Redoubt South** **54.72** **34** P **P** **21 12 57.1 +0.1**
IMAR **Indian Mountai** **55.01** **27** P **P** **21 12 59.4 +0.7**
SPCR **Spurr Chakacha** **55.05** **33** P 21 12 59.4
baz=265,SNR=7.1
DHRM **DHARAMSHALA** **55.09** **291** *e*P **P** **21 12 58.9 -1.2**
DHRM lAmb lAmb 21 12 59.8
comp=Z,64nm,0.6s
EKS2 **Erkin-Say** **55.18** **304** P **P** **21 13 01.4 +0.9**
SNR=11
BHK **Bhakra** **55.19** **290** *ex* **P** **21 12 57.8 -2.8**
NDI **New Delhi** **55.21** **287** *e*P **P** **21 13 01.0 +0.3**
A21K **Barrow** **55.22** **20** P 21 13 00.9
baz=254
PPLA **Purkeypile** **55.23** **31** P **P** **21 13 01.5 +1.0**
PPLA lAmb lAmb 21 13 02.4
comp=Z,36nm,0.7s
PPLA **Purkeypile** **55.23** **31** P 21 13 01.3
baz=264,SNR=32
BRZS **Berezniki** **55.26** **313**⇑ *i*P **P** **21 13 00.8 0.0**
comp=Z,6.1nm,0.2s,baz=313
BRZS **Berezniki** **55.26** **313***c* *i*P **P** **21 13 00.7 0.0**
BRZS pmax pmax
comp=Z,6.0nm,0.2s
AML **Almayashu** **55.31** **304** P **P** **21 13 03.2 +1.5**
SNR=68
AML **Almayashu** **55.31** **304** *i* P **P** **21 13 03.2 +1.5**
SNR=74
CNPM **China Poot** **55.41** **35** P **P** **21 13 01.0 -0.6**
CNPM lAmb lAmb 21 13 01.8
comp=Z,71nm,0.8s
SKT **Skwentna** **55.44** **32** P 21 13 01.5
baz=265
DZM **Mont Dzumac** **55.57** **151** P **P** **21 13 04.7 +1.4**
comp=Z,7.8nm,0.4s,baz=276,slow=6.4,SNR=24
DZM **Mont Dzumac** **55.57** **151** P **P** **21 13 04.6 +1.4**
BRLK **Bradley Lake** **55.60** **35** P **P** **21 13 02.2 -0.7**
BRLK lAmb lAmb 21 13 04.3
comp=Z,57nm,0.8s
OTUK **Ortayu** **55.60** **311** P **P** **21 13 03.4 +0.3**
BRSE **Bradley Lake S** **55.67** **35** P 21 13 02.7
baz=267
SUA **Susitna One** **55.77** **33** P **P** **21 13 03.9 -0.2**
SUA lAmb lAmb 21 13 05.6
comp=Z,64nm,0.5s
SUA **Susitna One** **55.77** **33** P 21 13 03.6
baz=266,SNR=29
BPAW **Bear Paw Mtn.** **55.90** **30** P **P** **21 13 05.5 +0.7**
BPAW lAmb lAmb 21 13 06.6
comp=Z,66nm,1.0s
BPAW **Bear Paw Mtn.** **55.90** **30** P 21 13 05.6
baz=264,SNR=81
ARSB **Arslanbob** **55.96** **303** P **P** **21 13 06.8 +1.0**
ARSB pmax pmax
comp=Z,142nm,1.3s
ARSB **Arslanbob** **55.96** **303** P **P** **21 13 06.8 +1.0**
ARSB lAmb lAmb 21 13 07.8
comp=Z,142nm,1.2s
OUENC **Ouen Island, N** **56.05** **150** P **P** **21 13 07.9 +1.5**
CUT **Chulitna** **56.07** **32** P 21 13 05.6
baz=266,SNR=10
M22K **Willow** **56.09** **32** P 21 13 05.5
baz=266,SNR=9.5
MLY **Manley** **56.11** **28** P **P** **21 13 07.2 +0.9**
MLY lAmb lAmb 21 13 08.1
comp=Z,52nm,0.8s
MLY **Manley** **56.11** **28** P 21 13 07.2
baz=264,SNR=94
TRF **Thorofare Moun** **56.15** **30** P 21 13 06.8
baz=265,SNR=66
O22K **Cooper Landing** **56.22** **34** P 21 13 06.7
baz=268
RC01 **Rabbit Creek A** **56.24** **33** P **P** **21 13 06.9 -0.3**
RC01 **Rabbit Creek A** **56.24** **33** P 21 13 06.7
baz=267,SNR=22
GIRL **Giralia** **56.29** **210** P **P** **21 13 08.9 +0.9**
SEW **Seward** **56.33** **34** P **P** **21 13 07.7 -0.1**
SEW lAmb lAmb 21 13 08.4
comp=Z,133nm,1.2s
SEW **Seward** **56.34** **34** P 21 13 07.5
baz=268,SNR=21
PMR **Palmer** **56.55** **33** P **P** **21 13 09.1 -0.2**
PMR pmax pmax
comp=Z,78nm,0.9s
PMR **Palmer** **56.55** **33** P **P** **21 13 09.1 -0.2**
PMR lAmb lAmb 21 13 09.8
comp=Z,78nm,0.9s
BRVK **Borovoye** **56.59** **317***c* *i*P **P** **21 13 10.0 +0.3**
BRVK pmax pmax
comp=Z,100nm,0.7s
BRVK **Borovoye** **56.59** **317** P **P** **21 13 10.2 +0.6**
BRVK lAmb lAmb 21 13 11.1
comp=Z,106nm,0.8s
BRVK **Borovoye** **56.59** **317** P **P** **21 13 10.3 +0.6**
COLD **Coldfoot** **56.60** **26** P 21 13 10.6
baz=262,SNR=132
BHPL **Bhopal** **56.63** **281** *e*P **P** **21 13 09.3 -1.3**
BHPL lAmb lAmb 21 13 10.0
comp=Z,53nm,0.7s
GHO **Glory Hole Cre** **56.66** **32** P **P** **21 13 10.0 -0.1**
GHO lAmb lAmb 21 13 10.9
comp=Z,62nm,0.6s
H23K **Yukon River** **56.69** **28** P 21 13 11.5
baz=264,SNR=62
I23K **Minto, Yukon-K** **56.70** **28** P **P** **21 13 10.9 +0.7**
I23K lAmb lAmb 21 13 12.7
comp=Z,74nm,1.2s
I23K **Minto, Yukon-K** **56.70** **28** P 21 13 11.1
baz=265,SNR=44
MCK **McKinley** **56.77** **30** P 21 13 10.9
baz=266,SNR=46
NEA2 **Nenana** **56.78** **29** P 21 13 11.0
baz=265,SNR=111
KNK **Knik Glacier** **56.87** **33** P **P** **21 13 11.5 0.0**
KNK **Knik Glacier** **56.87** **33** P 21 13 11.5
baz=268,SNR=51
WAT2 **Susitna Watana** **56.88** **31** P 21 13 11.1
baz=267
PWL **Port Wells** **56.91** **34** P **P** **21 13 11.7 -0.1**
DZA **Taraz** **56.93** **305** *e*P **P** **21 13 12.1 -0.2**
baz=304
DZA **Taraz** **56.93** **305** *e*P **P** **21 13 12.0 -0.2**
SML **Sawmill** **56.94** **32** P 21 13 12.0
baz=268,SNR=54
TOLK **Toolik Lake Re** **57.02** **24** P **P** **21 13 13.1 +0.7**
TOLK lAmb lAmb 21 13 14.4
comp=Z,71nm,1.1s
TOLK **Toolik Lake Re** **57.02** **24** P 21 13 13.3
baz=262,SNR=48
DRK **Karamyk** **57.16** **301** P **P** **21 13 15.1 +0.9**
DRK lAmb lAmb 21 13 16.1
comp=Z,42nm,0.8s
WAT6 **Susitna Watana** **57.25** **32** P 21 13 14.1
baz=268,SNR=83
NIL **Nilore** **57.26** **294** P **P** **21 13 15.8 +1.2**
NIL pmax pmax
comp=Z,168nm,0.7s
NIL **Nilore** **57.26** **294** P **P** **21 13 15.9 +1.3**
TCOL **CIGO, UAF Yank** **57.31** **29** P **P** **21 13 14.8 +0.5**
TCOL lAmb lAmb 21 13 16.3
comp=Z,51nm,0.6s
TCOL **CIGO, UAF Yank** **57.32** **29** P 21 13 14.4
baz=266,SNR=12
COLA **College** **57.32** **29***de*P **P** **21 13 14.0 -0.4**
COLA *i* *PP **pP** **21 15 19.4 +1.2**
COLA pmax pmax
comp=Z,32nm,0.6s
COLA **College** **57.32** **29** P 21 13 14.2
baz=266
H24K **Noodor Dome** **57.38** **28** P 21 13 15.8
baz=266,SNR=92
HLK **Haleakala** **57.46** **82** P **P** **21 13 17.8 +1.4**
HLK lAmb lAmb 21 13 44.8
comp=Z,181nm,1.3s
KK31 **Karatay Array** **57.49** **305** P **P** **21 13 16.8 +0.8**
KK31 pmax pmax
comp=Z,115nm,0.7s
KK31 **Karatay Array** **57.49** **305** P **P** **21 13 16.8 +0.8**
KKAR **Karatay Array** **57.49** **305** P **P** **21 13 16.8 +0.8**
KKAR pmax pmax
comp=Z,115nm,0.7s
KKAR **Karatay Array** **57.49** **305** P **P** **21 13 16.8 +0.8**
KKAR **Karatay Array** **57.49** **305** P **P** **21 13 16.6 +0.6**
KKAR lAmb lAmb 21 13 17.5
comp=Z,115nm,0.7s
POKR **Poker Plat Res** **57.51** **28** P 21 13 15.7
baz=266,SNR=21
GLI **Glacier Island** **57.52** **34** P **P** **21 13 15.9 +0.1**
GLI **Glacier Island** **57.52** **34** P 21 13 15.8
baz=270,SNR=23
HDA **Harding Lake** **57.68** **29** P 21 13 16.3
baz=267
HDA P 21 13 16.3
baz=267
HYB **Hyderabad** **57.68** **274** *i* P **P** **21 13 17.0 -0.7**
HYB **Hyderabad** **57.68** **274**⇑ *e*P **P** **21 13 17.2 -0.5**
IL31 **57.73** **29** P **P** **21 13 16.4 -0.7**
IL31 lAmb lAmb 21 13 17.4
comp=Z,61nm,1.1s
ILAR **Eielson Array** **57.73** **29** P **P** **21 13 16.2 -0.9**
comp=Z,36nm,0.7s,baz=241,slow=5.7,SNR=188
ILAR **Eielson Array** **57.73** **29** P **P** **21 13 16.4 -0.8**
BTK **Batken** **57.80** **302** P **P** **21 13 18.6 +0.4**
BTK **Batken** **57.80** **302** P **P** **21 13 18.6 +0.4**
FID **Port Fidalgo** **57.82** **34** P **P** **21 13 17.7 -0.2**
FID lAmb lAmb 21 13 18.7
comp=Z,92nm,1.1s
Q23K **Middleton Isla** **57.90** **35** P 21 13 18.7
baz=271
M24K **Tolsona, Glenn** **57.97** **32** P **P** **21 13 19.4 +0.5**
M24K lAmb lAmb 21 13 22.0
comp=Z,43nm,0.6s
M24K **Tolsona, Glenn** **57.97** **32** P 21 13 19.5
baz=270,SNR=20
IUG **Iuzhnay** **58.00** **304**⇑ *i*P **P** **21 13 20.4 +0.8**
baz=304
IUG **Iuzhnay** **58.00** **304***c* *i*P **P** **21 13 20.4 +0.8**
KLU **Klutina** **58.09** **33** P **P** **21 13 20.2 +0.5**
KLU lAmb lAmb 21 13 21.0
comp=Z,82nm,0.8s
KLU **Klutina** **58.09** **33** P 21 13 20.2
baz=270,SNR=54
EYAK **Cordova Ski Ar** **58.18** **34** P 21 13 20.7
baz=271,SNR=13
PAX **Paxson** **58.30** **31** P 21 13 21.5
baz=270,SNR=6.2
PRP **Porcupine Dome** **58.33** **28** P 21 13 20.5
baz=268,SNR=12
GAR **Garm** **58.39** **301** P **P** **21 13 22.8 +0.5**
GAR lAmb lAmb 21 13 23.7
comp=Z,99nm,0.8s
HARP **HAARP** **58.45** **32** P 21 13 22.8
baz=270,SNR=61
MLOA **Mauna Loa Obse** **58.48** **83** P **P** **21 13 23.9 +0.4**
MLOA lAmb lAmb 21 13 25.0
comp=Z,55nm,0.6s
FYU **Fort Yukon** **58.49** **27** P **P** **21 13 23.5 +1.3**
FYU lAmb lAmb 21 13 24.5
comp=Z,81nm,1.0s
HMH **Humu'ula Sheep** **58.54** **83** P **P** **21 13 24.7 +1.0**
HMH lAmb lAmb 21 13 28.0
comp=Z,179nm,1.4s
N25K **Chitina, Valde** **58.72** **33** P **P** **21 13 24.5 +0.5**
N25K **Chitina, Valde** **58.72** **33** P 21 13 24.5
baz=271,SNR=36
BMRM **Bremner River** **58.73** **33** P **P** **21 13 24.7 +0.7**
BMRM **Bremner River** **58.73** **33** P 21 13 24.6
baz=272,SNR=74
BMAR **Burnt Mountain** **58.78** **26** P **P** **21 13 25.7 +1.5**
ARMA **Armidale** **58.90** **169** P **P** **21 13 25.6 +0.1**
HMT **Hamilton** **58.92** **34** P **P** **21 13 25.8 +0.6**
HMT lAmb lAmb 21 13 26.2
comp=Z,43nm,0.5s
SCRK **Sand Creek** **58.97** **30** P **P** **21 13 25.7 +0.1**
SCRK **Sand Creek** **58.97** **30** P 21 13 25.6
baz=270,SNR=261
GLB **Gilahina Butte** **59.10** **33** P **P** **21 13 27.0 +0.5**
GLB lAmb lAmb 21 13 27.9
comp=Z,79nm,1.1s
SUCK **Suckling Hills** **59.18** **34** P **P** **21 13 27.8 +0.9**
SUCK lAmb lAmb 21 13 28.6
comp=Z,131nm,1.5s
CHGR **Chuyangaron** **59.34** **300** P **P** **21 13 29.1 +0.6**
STKA **Stephens Creek** **59.41** **179** P **P** **21 13 28.9 +0.1**
comp=Z,2.5nm,0.5s,baz=1.4,slow=7.7,SNR=11
STKA **Stephens Creek** **59.41** **179** P **P** **21 13 28.9 +0.1**
BGLC **Bering Glacier** **59.42** **34** P 21 13 29.5
baz=273
CRQE **Cirque** **59.48** **34** P 21 13 29.4
baz=273,SNR=18
MCARA **McCarthy VSAT** **59.48** **33** P **P** **21 13 29.4 +0.5**
MCARA lAmb lAmb 21 13 30.4
comp=Z,64nm,0.8s
MCARA **McCarthy VSAT** **59.48** **33** P 21 13 29.4
baz=273,SNR=19
FORT **Forrest** **59.52** **193** P **P** **21 13 29.8 +0.3**
TGL **Tana Glacier** **59.61** **34** P **P** **21 13 30.1 +0.3**
TGL lAmb lAmb 21 13 31.1
comp=Z,52nm,0.6s
L27K **Beaver Creek,** **59.96** **31** P 21 13 32.7
baz=273,SNR=87
BCAR **Beaver Creek A** **59.98** **31** P **P** **21 13 32.9 +0.8**
PALK **Pallekele** **60.06** **262***c* *i*P **P** **21 13 33.7 +0.2**
PALK pmax pmax
comp=Z,33nm,0.9s
PALK **Pallekele** **60.06** **262** P **P** **21 13 34.0 +0.5**
PALK **Pallekele** **60.06** **262** P **P** **21 13 34.2 +0.6**
MESA **MESA** **60.08** **34** P **P** **21 13 33.5 +0.5**
MESA **MESA** **60.08** **34** P 21 13 33.6
baz=274,SNR=9.6
EGAK **Eagle** **60.18** **29** P **P** **21 13 33.3 0.0**
EGAK lAmb lAmb 21 13 34.0
comp=Z,31nm,0.6s
EGAK **Eagle** **60.18** **29** P 21 13 33.2
baz=272,SNR=80
CTG **Chitna Glacier** **60.33** **33** P 21 13 35.0
baz=274,SNR=15
CTGM **Chitina Glacie** **60.33** **33** P **P** **21 13 34.9 +0.3**
KBL **Kabul** **60.42** **296** P **P** **21 13 36.0 +0.2**
KBL pmax pmax
comp=Z,47nm,0.8s
KBL **Kabul** **60.42** **296** P **P** **21 13 36.0 +0.2**
KBL lAmb lAmb 21 13 38.1
comp=Z,47nm,0.8s
KBL **Kabul** **60.42** **296** P **P** **21 13 36.3 +0.5**
SNR=26
TABL **Table Mountain** **60.46** **34** P **P** **21 13 35.8 +0.3**
TABL lAmb lAmb 21 13 36.8
comp=Z,45nm,0.8s
BBOO **Buckleboo** **60.49** **184** P **P** **21 13 36.0 +0.2**
PCA **Pinnacle** **60.94** **34** P **P** **21 13 39.2 +0.7**
PCA lAmb lAmb 21 13 40.0
comp=Z,58nm,0.9s
PINM **Pinnacle** **60.94** **34** P 21 13 39.1
baz=276,SNR=24
DAWY **Dawson** **60.99** **30** P **P** **21 13 39.4 +0.6**
MORW **Morawa** **61.29** **205** P **P** **21 13 41.1 0.0**
HYT **Haines Junctio** **62.20** **33** P **P** **21 13 48.0 +1.3**
HYT lAmb lAmb 21 13 48.8
comp=Z,73nm,1.0s
INK **Inuvik** **62.92** **25** P **P** **21 13 51.0 0.0**
INK pmax pmax
comp=Z,30nm,0.7s
INK **Inuvik** **62.92** **25** P **P** **21 13 51.0 0.0**
INK lAmb lAmb 21 13 51.8
comp=Z,30nm,0.7s
INK **Inuvik** **62.92** **25** P 21 13 50.8
baz=277
ARU **Arti** **62.95** **322***c* *i*P **P** **21 13 51.4 0.0**
ARU 21 14 21.6
ARU 21 16 20.8
ARU S **S** **21 21 29.4 -1.5**
ARU 21 22 33.3
ARU pmax pmax
comp=Z,53nm,0.5s
ARU **Arti** **62.95** **322** P **P** **21 13 51.4 0.0**
ARU lAmb lAmb 21 13 52.3
comp=Z,83nm,0.8s
WHY **Whitehorse** **63.50** **33** P 21 13 55.9
baz=280,SNR=61
ABKAR **Akbulak array** **63.55** **314** P **P** **21 13 55.4 +0.1**
ABKAR **Akbulak array** **63.55** **314** P **P** **21 13 55.5 +0.2**
ABKAR lAmb lAmb 21 13 56.1
comp=Z,62nm,0.6s
BESE **Bessie Mountai** **63.90** **36** P **P** **21 13 58.2 +0.8**
SIT **Sitka** **63.95** **37** P 21 13 58.5
baz=281,SNR=5.4
NWAO **Narrogin (SRO)** **64.40** **202** P **P** **21 14 00.8 +0.1**
NWAO pmax pmax
comp=Z,43nm,1.2s
NWAO **Narrogin (SRO)** **64.40** **202** P **P** **21 14 00.8 +0.1**
TOO **Toolangi** **65.25** **176** P **P** **21 14 07.1 +1.1**
TOO pmax pmax
comp=Z,9.0nm,1.1s
TOO **Toolangi** **65.25** **176** P **P** **21 14 07.1 +1.1**
CRAG **Craig** **65.49** **39** P 21 14 08.3
baz=284,SNR=6.8
WRAK **Wrangell Islan** **65.69** **38** P 21 14 09.4
baz=284
HRA **Herat** **65.85** **297** P **P** **21 14 11.0 +0.8**
HRA lAmb lAmb 21 14 12.0
comp=Z,43nm,0.8s
C36M **Paulatuk** **66.08** **23** P **P** **21 14 10.6 0.0**
C36M **Paulatuk** **66.08** **23** P 21 14 10.5
baz=285
DIB **Dawson Inlet,** **66.43** **41** P **P** **21 14 13.3 +0.2**
DIB lAmb lAmb 21 14 14.1
comp=Z,62nm,0.7s
KIRV **Kirov** **67.27** **325***c* *i*P **P** **21 14 18.1 +0.1**
KIRV *i* *PP **pP** **21 16 30.7 +1.5**
GEYT **Alibeck** **67.90** **302** P **P** **21 14 23.4 +1.0**
comp=Z,7.4nm,0.4s,baz=82,slow=4.1,SNR=12
GEYT **Alibeck** **67.90** **302** P **P** **21 14 23.3 +1.0**
GYA0B **ALIBECK ARRAY** **67.90** **302** P **P** **21 14 22.5 +0.2**
PRGR **Permogore** **68.17** **329**⇑ *i*P **P** **21 14 23.6 +0.2**
PRGR *e*S **S** **21 22 29.0 -2.9**
PRGR pmax pmax
comp=Z,40nm,0.8s
EUNU **Eureka** **69.34** **8** P **P** **21 14 30.7 +0.5**
EUNU lAmb lAmb 21 14 31.4
comp=Z,30nm,0.8s
SPA0 **Spitsbergen Ar** **69.38** **350** *e*P **P** **21 14 31.1 +0.7**
KBS **Kingsbay** **69.56** **351** P **P** **21 14 32.2 +0.7**
KBS pmax pmax
comp=Z,28nm,1.0s
KBS **Kingsbay** **69.56** **351** *e*P **P** **21 14 32.2 +0.7**
KBS **Kingsbay** **69.56** **351** P **P** **21 14 32.2 +0.7**
NOR **Nord** **70.14** **357** *i* P **P** **21 14 35.0 +0.1**
NOR lAmb lAmb 21 14 36.0
comp=Z,3.3nm,0.6s
NOR **Nord** **70.14** **357** *i* P **P** **21 14 34.9 +0.1**
NOR pmax pmax
comp=Z,3.0nm,0.6s
BELG **Belogornoye** **70.17** **319***c* *i*P **P** **21 14 35.6 +0.2**
BELG pmax pmax
comp=Z,12nm,1.0s
HSPB **Hornsund (broa** **70.27** **349** *e*P **P** **21 14 36.4 +0.8**
KLMR **Klimovskoe** **71.21** **330** *e*P **P** **21 14 39.7 -1.6**
KLMR pmax pmax
comp=Z,12nm,0.7s
KLMR **Klimovskoe** **71.21** **330** *e*P **P** **21 14 39.8 -1.6**
KLMR AMP 21 14 41.6
comp=Z,12nm,0.7s
RES **Resolute Bay** **71.65** **13** P **P** **21 14 44.1 +0.5**
RES pmax pmax
comp=Z,24nm,0.8s
RES **Resolute Bay** **71.65** **13** P **P** **21 14 44.1 +0.5**
RES lAmb lAmb 21 14 44.8
comp=Z,24nm,0.8s
KEV **Kevo** **71.79** **340** P **P** **21 14 44.9 +0.4**
KEV pmax pmax
comp=Z,29nm,1.2s
KEV **Kevo** **71.79** **340** P **P** **21 14 44.9 +0.4**
YKA **Yellowknife Ar** **72.14** **28** P **P** **21 14 46.6 -0.1**
comp=Z,38nm,0.6s,baz=296,slow=5.7,SNR=142
HAMF **Hammerfest** **72.27** **342** *e*P **P** **21 14 47.6 +0.3**
ARA0 **ARCESS Array S** **72.36** **340** *e*P **P** **21 14 48.6 +0.7**
ARCES **ARCESS Array B** **72.36** **340** P **P** **21 14 48.3 +0.5**
comp=Z,3.3nm,0.4s,baz=77,slow=8.2,SNR=45
ARCES **ARCESS Array B** **72.36** **340** P **P** **21 14 48.3 +0.5**
JLN **Jalan Bani Buh** **72.54** **286** P **P** **21 14 50.0 +0.3**
WBK **Wadi Bani Khal** **72.73** **287** P **P** **21 14 51.7 +0.9**
WSAR **Wadi Sarin** **72.77** **288** P **P** **21 14 51.8 +0.7**
BIDO **Bidbid** **73.08** **288** P **P** **21 14 53.9 +1.1**
SNR=5.5
PGC **Sidney** **73.32** **44** P **P** **21 14 54.6 +1.0**
PGC lAmb lAmb 21 14 55.5
comp=Z,38nm,0.7s
SMDO **Samad** **73.33** **288** P **P** **21 14 54.9 +0.6**
NLWA **Neilton Lookou** **73.56** **45** P **P** **21 14 56.7 +1.6**
JMDO **Jabal Madar** **73.56** **287** P **P** **21 14 55.4 -0.1**
BANOM **Banah** **73.66** **291** *i* P **P** **21 14 56.7 +0.7**
SNR=11
BANOM **Banah** **73.66** **291** P **P** **21 14 56.8 +0.7**
SNR=5.3
SHME **Shamm** **73.74** **291** *i* P **P** **21 14 57.2 +0.7**
SNR=61
SHME **Shamm** **73.74** **291** P **P** **21 14 57.7 +1.3**
SNR=17
HOQ **Hoqain** **73.74** **288** P **P** **21 14 57.1 +0.5**
SNR=11
A04D **Lummi Island** **73.75** **43** P 21 14 57.2
baz=294
MDH **Madha** **73.91** **290** P **P** **21 14 57.7 +0.3**
D03D **Eldon** **73.99** **44** P 21 14 59.1
baz=294,SNR=14
MASF **Masafi** **73.99** **290** P **P** **21 14 59.2 +1.3**
SNR=7.1
MSFE **Esma-Masafi** **74.00** **290** *i* P **P** **21 14 58.5 +0.5**
SNR=11
VRH **Novokhopyorsk** **74.01** **320** *e*P **P** **21 14 56.8 -0.7**
VRH *e*S **S** **21 23 34.3 -2.9**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH smax smax
comp=N,110nm,0.9s
E03A **Lebam** **74.09** **46** P **P** **21 14 59.1 +1.2**
UOSS **Minazif** **74.12** **290** *i* P **P** **21 14 58.6 -0.1**
SNR=21
UOSS **Minazif** **74.12** **290** P **P** **21 14 58.7 +0.1**
UOSS lAmb lAmb 21 14 59.7
comp=Z,30nm,1.0s
UOSS **Minazif** **74.12** **290** P **P** **21 14 58.9 +0.2**
BSY **Bisya** **74.17** **288** P **P** **21 14 60.0 +1.0**
SNR=5.3
SOHO **SOHO** **74.17** **289** *i* P **P** **21 14 59.1 +0.2**
SNR=38
SOHO **SOHO** **74.17** **289** P **P** **21 14 59.3 +0.4**
TRO **Tromso** **74.17** **342** *e*P **P** **21 14 57.9 -0.1**
HATD **Hatta, Dubai** **74.23** **290** *i* P **P** **21 14 59.6 +0.3**
SNR=20
HATD **Hatta, Dubai** **74.23** **290** P **P** **21 14 60.0 +0.7**
SNR=11
MHTO **MHTO** **74.23** **286** P **P** **21 14 59.6 +0.3**
TULEG **Thule** **74.26** **7** *i* P **P** **21 14 58.0 -0.4**
TULEG ⇓ *i*P PcP 21 14 58.4 -11
TULEG lAmb lAmb 21 14 59.1
comp=Z,36nm,0.8s
TULEG **Thule** **74.26** **7** P **P** **21 14 58.6 +0.2**
TULEG lAmb lAmb 21 14 59.3
comp=Z,36nm,0.8s
MOS **Moscow** **74.28** **325** *e*P **P** **21 14 58.2 -0.6**
MOS pmax pmax
comp=Z,36nm,0.7s
B05A **Bryant** **74.30** **44** P 21 15 00.3
baz=294,SNR=22

ASHO Ashiyiah 74.35 290 *i* P **P** 21 15 00.2 +0.2
SNR=14
ASHO Ashiyiah 74.35 290 P **P** 21 15 00.4 +0.5
SNR=7.9
QRZ Quartz Range 74.49 155 P **P** 21 15 00.3 +0.1
QRZ lAmb lAmb 21 15 08.2
comp=Z,50nm,1.1s
ARQ Araqi 74.51 288 P **P** 21 15 01.5 +0.6
SNR=6.6
B06A Marblemount 74.57 43 P **P** 21 15 01.2 +0.6
B06A lAmb lAmb 21 15 02.3
comp=Z,42nm,0.6s
NEEM North Greenlan 74.70 3⇓ *i*P **P** 21 15 01.5 +0.3
NEEM lAmb lAmb 21 15 02.3
comp=Z,38nm,0.7s
E04D Cinebar 74.71 45 P 21 15 02.8
baz=294,SNR=14
FAQ Al Faqa, Dubai 74.71 290 *i* P **P** 21 15 01.9 -0.1
SNR=12
FAQ Al Faqa, Dubai 74.71 290 P **P** 21 15 02.0 +0.1
VALR Valaam 74.72 332 *i* P **P** 21 15 01.4 +0.2
VALR pmax pmax
comp=Z,29nm,1.0s
GROC Groznyy 74.76 311 *e*P **P** 21 15 00.6 -1.2
GROC *e**PP **pP** 21 17 19.6 +2.5
GROC *e* 21 17 59.1
GROC pmax pmax
comp=Z,22nm,0.7s
G03D McMinnville, O 74.82 47 P 21 15 03.3
baz=294,SNR=5.9
DAG Danmarks Havn 74.83 355 *i* P **P** 21 15 01.0 -0.6
DAG lAmb lAmb 21 15 02.8
comp=Z,5.7nm,0.7s
DAG Danmarks Havn 74.83 355 *i* P **P** 21 15 00.9 -0.6
DAG pmax pmax
comp=Z,6.0nm,0.7s
ALNE Al Ain 74.86 289 *i* P **P** 21 15 03.1 +0.3
SNR=7.0
ALNE Al Ain 74.86 289 P **P** 21 15 03.4 +0.6
SNR=5.5
I02D Swisshome 74.89 48 P 21 15 03.9
baz=294
LPSR Galich'ya Gora 74.98 322 *e*P **P** 21 15 02.5 -0.3
LPSR *e*S **S** 21 23 44.7 -2.9
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR smax smax
comp=N,70nm,1.3s
ASUD Al Ashush, Dub 74.98 290 *i* P **P** 21 15 03.7 +0.4
SNR=15
ASUD Al Ashush, Dub 74.98 290 P **P** 21 15 04.0 +0.6
DQM DQM 75.03 285 P **P** 21 15 04.0 +0.2
KEBM Edson Butte 75.07 49 P **P** 21 15 04.8 +1.1
OBN Obninsk 75.10 325 *c* *i*P **P** 21 15 02.9 -0.5
OBN *e**PP **pP** 21 17 19.5 +0.5
OBN *e*S **S** 21 23 48.0 -0.7
OBN pmax pmax
comp=Z,46nm,2.5s
C06D Leavenworth 75.18 43 P 21 15 04.9
baz=295
J01E Myrtle Point 75.22 49 P 21 15 05.5
baz=294,SNR=7.6
AJN Ajban 75.29 290 P **P** 21 15 05.1 0.0
I03D Drain, OR 75.39 48 P 21 15 06.7
baz=295,SNR=14
KBO Bosley Butte 75.42 50 P **P** 21 15 06.8 +1.2
KBO lAmb lAmb 21 15 07.4
comp=Z,29nm,0.7s
H04D Lebanon 75.45 47 P 21 15 06.8
baz=295,SNR=7.4
VSR Storozhevoye 75.46 320 *e*P **P** 21 15 04.8 -0.7
VSR *e*S **S** 21 23 49.8 -3.0
VSR pmax pmax
comp=Z,100nm,1.2s
VSR smax smax
comp=N,50nm,1.3s
VORD Divnogorie 75.50 320 *e*P **P** 21 15 05.4 -0.3
VORD *e*S **S** 21 23 50.6 -2.6
VORD pmax pmax
comp=Z,50nm,0.9s
VORD smax smax
comp=N,70nm,1.0s
K02D Willamette Mer 75.60 49 P 21 15 07.4
baz=295,SNR=17
F05D White Salmon 75.69 46 P 21 15 08.0
baz=295
GOF Gofitskoye 75.79 314⇑ *e*P **P** 21 15 07.7 +0.2
L02E Cave Junction 75.86 50 P 21 15 09.1
baz=295,SNR=17
UMZA Um Al Zommool 75.90 288 P **P** 21 15 08.4 -0.1
KRMB Red Mountain 75.92 50 P **P** 21 15 09.4 +1.1
KRMB lAmb lAmb 21 15 10.1
comp=Z,21nm,0.7s
I04A Tendick Farm, 75.97 48 P 21 15 09.2
baz=295,SNR=26
G05D Wamic, OR 76.06 46 P 21 15 10.1
baz=296,SNR=8.2
NCK Nalchik 76.09 312⇓ *e*P **P** 21 15 09.8 +0.6
NCK pmax pmax
comp=Z,13nm,0.4s
HUMO Hull Mountain 76.11 49 P **P** 21 15 10.3 +1.0
JCC Jacoby Creek, 76.13 51 P **P** 21 15 10.6 +1.2
JCC lAmb lAmb 21 15 11.7
comp=Z,52nm,1.1s
ZEI Tsey 76.19 311 *e*P **P** 21 15 07.5 -2.5
ZEI pmax pmax
comp=Z,31nm,0.9s
KHZ Kahutara 76.24 156 P **P** 21 15 08.9 -0.8
KHZ lAmb lAmb 21 15 15.7
comp=Z,96nm,1.4s
STEI Steigen 76.30 342 *e*P **P** 21 15 10.3 +0.5
KHMM Horse Mountain 76.31 51 P **P** 21 15 11.9 +1.3
KHMM lAmb lAmb 21 15 12.9
comp=Z,62nm,1.2s
J04D Umpqua Nationa 76.40 48 P 21 15 12.1
baz=296,SNR=25
I05D Terrebonne, OR 76.43 47 P 21 15 11.8
baz=296,SNR=6.2
KIV Kislovodsk 76.49 313 ⇓ P **P** 21 15 12.4 +1.0
KIV Kislovodsk 76.49 313 *i* P **P** 21 15 12.1 +0.7
SNR=6.4
KIV Kislovodsk 76.49 313 *e*P **P** 21 15 11.8 +0.4
KIV pmax pmax
comp=Z,105nm,1.0s
KIV Kislovodsk 76.49 313 P **P** 21 15 11.5 +0.1
KIV lAmb lAmb 21 15 14.2
comp=Z,29nm,0.8s
KMRM Mail Ridge 76.60 52 P **P** 21 15 13.4 +1.3
KMRM lAmb lAmb 21 15 13.9
comp=Z,31nm,0.8s
FIA1 FINESS Array S 76.64 333 P **P** 21 15 11.5 -0.2
FIA1 lAmb lAmb 21 15 11.8
comp=Z,19nm,0.3s
FINES FINESS Array B 76.64 333 P **P** 21 15 11.4 -0.2
comp=Z,12nm,0.3s,baz=65,slow=4.9,SNR=233
FINES S **S** 21 24 00.7 -4.2
comp=Z,1.6nm,0.7s,baz=17,slow=5.8,SNR=4.3
FAUS Fauske 76.66 341 *e*P **P** 21 15 12.5 +0.8
M02C Callahan 76.69 50 P 21 15 13.8
baz=295,SNR=46
L04D Klamath Falls 76.71 49 P 21 15 13.5
baz=296,SNR=43
GNI Garni 76.74 308 P **P** 21 15 14.0 +1.0
GNI Garni 76.74 308 *c* *i*P **P** 21 15 13.9 +1.0
GNI pmax pmax
comp=Z,39nm,1.7s
GNI Garni 76.74 308 P **P** 21 15 13.7 +0.8
D08A Wollman Farm, 76.76 44 P **P** 21 15 13.4 +0.8
D08A lAmb lAmb 21 15 14.3
comp=Z,58nm,1.0s
NEY Neytrino 76.78 312⇑ *i*P **P** 21 15 13.3 +0.2
NEY pmax pmax
comp=Z,3.0nm,0.7s
K04D Chiloquin, OR 76.90 49 P 21 15 14.7
baz=296,SNR=7.7
N02D Trinity Center 76.97 51 P 21 15 15.2
baz=296,SNR=27
AKH Akhalkalaki 77.06 310 ⇑P **P** 21 15 15.9 +1.3
KULLO Kullorsuaq 77.15 5⇓ *i*P **P** 21 15 14.2 -0.1
KULLO lAmb lAmb 21 15 14.9
comp=Z,33nm,0.8s
KULLO Kullorsuaq 77.15 5⇓ *i*P **P** 21 15 14.1 -0.1
KULLO pmax pmax
comp=Z,33nm,0.8s
M04C Macdoel 77.21 49 P 21 15 16.3
baz=296,SNR=44

O02D Mt. Diablo Mer 77.26 51 P 21 15 16.8
baz=296,SNR=39
GHWR Ruwais 77.29 290 P **P** 21 15 16.0 0.0
NEW Newport 77.29 42 P **P** 21 15 16.1 +0.5
NEW pmax pmax
comp=Z,49nm,0.9s
NEW Newport 77.29 42 P **P** 21 15 16.1 +0.5
NEW lAmb lAmb 21 15 17.2
comp=Z,49nm,0.8s
NEW Newport 77.29 42 P 21 15 16.2
baz=298,SNR=45
DBG Daneborg 77.31 355 *i* P **P** 21 15 14.9 -0.2
DBG lAmb lAmb 21 15 15.6
comp=Z,4.8nm,0.6s
CHVG Ch'k'valeri 77.43 312 ⇑P **P** 21 15 16.6 +0.2
G08A Pilot Rock 77.53 45 P **P** 21 15 17.8 +0.8
KHOR Al-Khor Airpor 77.72 293 P **P** 21 15 18.0 -0.2
MOR8 Moi Rana 77.73 340 *e*P **P** 21 15 16.4 -1.1
O03E Paynes Creek 77.89 51 P 21 15 19.0
baz=296,SNR=30
KONS Konsvik 77.89 341 *e*P **P** 21 15 18.7 +0.4
VSU Vasula 78.04 331⇑ *e*P **P** 21 15 19.7 +0.4
VSU pmax pmax
comp=Z,19nm,0.9s
SHMA Al-Shehemyia 78.07 293 P **P** 21 15 19.9 -0.2
MOD Modoc Plateau 78.19 49 P **P** 21 15 20.9 +0.3
MOD lAmb lAmb 21 15 22.2
comp=Z,28nm,0.9s
DMTO DMTO 78.19 284 P **P** 21 15 20.8 0.0
SLWR Sila 78.23 291 P **P** 21 15 21.0 0.0
BCA Borcka 78.30 311 ⇑P **P** 21 15 21.5 +0.4
ORV Oroville 78.42 51 P **P** 21 15 21.8 +0.1
ORV pmax pmax
comp=Z,27nm,0.7s
ORV Oroville 78.42 51 P **P** 21 15 21.8 +0.1
ORV lAmb lAmb 21 15 22.7
comp=Z,27nm,0.7s
GEVA Gevas 78.72 307 P **P** 21 15 24.3 +0.8
BMO Blue Mountains 78.77 45 P **P** 21 15 24.4 +0.8
BMO pmax pmax
comp=Z,37nm,0.8s
BMO Blue Mountains 78.77 45 P **P** 21 15 24.4 +0.8
BMO lAmb lAmb 21 15 25.3
comp=Z,37nm,0.8s
UPNV Upernavik 78.97 5 *i* P **P** 21 15 23.9 -0.1
UPNV lAmb lAmb 21 15 24.6
comp=Z,22nm,0.7s
WVOR Wild Horse Val 79.05 48 P **P** 21 15 25.9 +0.8
WVOR pmax pmax
comp=Z,22nm,1.0s
WVOR Wild Horse Val 79.05 48 P **P** 21 15 25.9 +0.8
UMR Umm Al-Rimmam 79.08 298 *e*P **P** 21 15 24.9 -0.5
JTMT Jette 79.22 42 P **P** 21 15 26.7 +0.8
JTMT lAmb lAmb 21 15 27.6
comp=Z,50nm,0.8s
MIB Mutribah 79.27 298 *e*P **P** 21 15 26.2 -0.1
QRN Al-Qurain 79.28 297 *e*P **P** 21 15 26.0 -0.4
ANN Anapa 79.46 315 *c* *i*P **P** 21 15 26.7 -0.3
ANN *e**PP **pP** 21 17 45.9 +1.0
ANN *e*S **S** 21 24 32.6 -2.0
ANN pmax pmax
comp=Z,69nm,1.0s
RDF Al-Radifah 79.49 297 *e*P **P** 21 15 27.3 -0.2
RST Umm Al-Ruwaisa 79.67 298 *e*P **P** 21 15 27.6 -0.9
KOPT Kop Dagi 79.72 310 P **P** 21 15 30.0 +1.2
KOPT lAmb lAmb 21 15 31.8
comp=Z,60nm,1.3s
MNK Minsk 79.73 327 *i* P **P** 21 15 27.3 -0.9
MNK *i* 21 15 32.1
MNK *i* *PP **pP** 21 17 45.5 -1.0
MNK *i* 21 18 41.7
MNK *i* *SP **sP** 21 18 53.8 -1.5
MNK *i* PPP PPP 21 20 36.4
MNK *i* S **S** 21 24 34.8 -2.2
MNK *i* 21 24 50.9
MNK *i* SS **SS** 21 30 08.2 +1.4
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=E,11nm,20.0s
MNK MLR MLR
comp=Z,67nm,20.0s
MNK MLR MLR
comp=N,108nm,20.0s
MNK Minsk 79.73 327 *i* P **P** 21 15 27.3 -0.9
comp=E,2.0nm,0.9s
MNK *i* P **P** 21 15 27.3 -0.9
comp=N,8.0nm,0.9s
MNK *i* P **P** 21 15 27.3 -0.9
comp=Z,13nm,0.9s,baz=56
MNK *i* PcP **PcP** 21 15 32.1 -1.1
MNK *i* pP **pP** 21 17 45.6 -1.0
MNK *i* PP **PP** 21 18 41.8 -0.8
MNK *i* sP **sP** 21 18 53.8 -1.5
MNK *i* PPP PPP 21 20 36.5
MNK *i* S **S** 21 24 34.9 -2.2
MNK *i* ScS **ScS** 21 24 51.0 -0.8
MNK *i* sS **sS** 21 28 43.8 +0.6
MNK *i* SS **SS** 21 30 08.3 +1.5
MNK *i* SSS SSS 21 32 58.3
MNK *i* SKKS **SKKSdf** 21 40 00.5 +0.1
MNK *i* LRM MLR 21 50 47.8
comp=E,11nm,20.3s
MNK *i* LRM MLR 21 52 35.1
comp=Z,67nm,20.3s
MNK *i* LRM MLR 21 53 58.5
comp=N,108nm,20.4s
KTUT Trabzon 79.76 311 ⇑P **P** 21 15 28.7 +0.1
IDID Didziasalis 79.82 328 *e*P **P** 21 15 28.7 +0.1
SUMG Summit 79.83 360 *i* P **P** 21 15 29.4 +0.4
SUMG lAmb lAmb 21 15 30.2
comp=Z,9.3nm,0.8s
SUMG Summit 79.83 360 P **P** 21 15 29.6 +0.7
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG Summit 79.83 360 P **P** 21 15 29.6 +0.7
MSO Missoula 79.87 42 P **P** 21 15 29.2 -0.1
MSO Missoula 79.87 42 P 21 15 29.1
baz=300,SNR=14
ISAL Salakas 79.96 328 *e*P **P** 21 15 29.6 +0.2
NACGM Naroch 80.04 328 *i* P **P** 21 15 29.6 -0.2
baz=297
IIGN Ignalina 80.04 328 *e*P **P** 21 15 30.1 +0.3
MFID Camas Ranch 80.39 46 P **P** 21 15 32.9 +0.8
MFID lAmb lAmb 21 15 33.9
comp=Z,41nm,0.7s
PMPB Monarch Peak 80.43 54 P **P** 21 15 32.9 +0.6
PMPB lAmb lAmb 21 15 34.4
comp=Z,34nm,1.2s
MARD Mardin 80.78 307 P **P** 21 15 34.8 +0.6
PABE Paberze 80.99 329 *e*P **P** 21 15 34.2 -0.5
PABE Paberze 80.99 329 P **P** 21 15 34.4 -0.3
PABE lAmb lAmb 21 15 35.1
comp=Z,28nm,0.7s
PAGB Antelope Grade 81.05 54 P **P** 21 15 36.5 +1.0
PAGB lAmb lAmb 21 15 37.2
comp=Z,34nm,0.8s
NVAR Mina Array Bea 81.15 51 P **P** 21 15 36.8 +0.6
comp=Z,19nm,0.6s,baz=298,slow=6.0,SNR=123
NVAR Mina Array Bea 81.15 51 P **P** 21 15 37.0 +0.8
MLAC Mammoth, Mammo 81.16 52 P 21 15 36.9
baz=298
AKASG Malin Array Be 81.17 323 P **P** 21 15 35.0 -0.7
comp=Z,5.0nm,0.3s,baz=49,slow=5.3,SNR=42
AKASG Malin Array Be 81.17 323 P **P** 21 15 35.2 -0.5
AKASG pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 81.17 323 P **P** 21 15 35.2 -0.5
AKBB Malin Array Si 81.17 323 P **P** 21 15 35.2 -0.5
AKBB pmax pmax
comp=Z,23nm,1.0s
AKBB Malin Array Si 81.17 323 P **P** 21 15 35.2 -0.5
HRY Holter Researc 81.18 42 P **P** 21 15 36.9 +0.9
HLID Hailey 81.22 45 P **P** 21 15 37.3 +1.0
HLID lAmb lAmb 21 15 38.4
comp=Z,36nm,1.0s
HLID Hailey 81.22 45 P 21 15 37.2
baz=300,SNR=44
NV11 Mina Array Sit 81.25 51 P **P** 21 15 37.2 +0.6
SOCY Socotra 81.45 279 P **P** 21 15 36.8 -1.1
SOCY lAmb lAmb 21 15 38.7
comp=Z,68nm,1.0s

MCMT McKenzie Canyo 81.54 44 P **P** 21 15 38.1 +0.1
EGMT Eagleton 81.68 40 P **P** 21 15 38.8 +0.3
EGMT lAmb lAmb 21 15 39.9
comp=Z,57nm,0.8s
EGMT Eagleton 81.68 40 P 21 15 38.8
baz=303,SNR=18
PKM Mcpherson Peak 81.76 55 P 21 15 40.1
baz=298,SNR=11
VES Vestal, Richgr 81.83 54 P 21 15 39.0
baz=298
FFC Flin Flon 81.83 31 P **P** 21 15 39.0 0.0
FFC pmax pmax
comp=Z,31nm,1.0s
FFC Flin Flon 81.83 31 P **P** 21 15 39.0 0.0
FFC lAmb lAmb 21 15 40.0
comp=Z,31nm,0.9s
TIN Tinemaha, Big 81.86 52 P 21 15 40.4
baz=299,SNR=15
SBC Santa Barbara 82.04 55 P 21 15 41.2
baz=298
TPH Tonopah 82.07 51 P **P** 21 15 41.3 +0.5
TPH Tonopah 82.07 51 P **P** 21 15 41.3 +0.5
ELK Elko 82.09 48 P **P** 21 15 41.5 +0.6
ELK pmax pmax
comp=Z,24nm,0.7s
ELK Elko 82.09 48 P **P** 21 15 41.5 +0.6
ELK lAmb lAmb 21 15 42.7
comp=Z,24nm,0.7s
NC405 NORSAR Array S 82.15 338 P **P** 21 15 40.0 -0.5
NC405 lAmb lAmb 21 15 43.5
comp=Z,13nm,0.5s
NC303 NORSAR Array S 82.19 338 *e*P **P** 21 15 39.8 -0.9
CWC Cottonwood Cre 82.26 53 P 21 15 42.0
baz=299
SUW Suwalki 82.26 328 *e*P **P** 21 15 40.0 -1.1
SUW Suwalki 82.26 328 P **P** 21 15 40.5 -0.6
SUW pmax pmax
comp=Z,37nm,1.0s
SUW Suwalki 82.26 328 P **P** 21 15 40.5 -0.6
SUW lAmb lAmb 21 15 41.6
comp=Z,37nm,1.0s
DOMB Dombas 82.34 339 *e*P **P** 21 15 39.5 -1.9
ISA Isabella, Lake 82.35 54 P **P** 21 15 42.0 -0.1
ISA pmax pmax
comp=Z,17nm,0.7s
ISA Isabella, Lake 82.35 54 P **P** 21 15 42.0 -0.1
ISA Isabella, Lake 82.35 54 P 21 15 41.7
baz=299,SNR=10
ARVC Arvin 82.35 54 P 21 15 42.2
baz=299
NB2 NORSAR Subarra 82.38 338 P **P** 21 15 40.6 -1.0
baz=48,slow=4.4
NOA NORSAR Array B 82.38 338 P **P** 21 15 40.6 -1.0
comp=Z,0.7nm,0.3s,baz=23,slow=19,SNR=22
QLMT Earthquake Lak 82.40 43 P **P** 21 15 43.6 +1.3
NC602 NORSAR Array S 82.49 337 *e*P **P** 21 15 41.5 -0.6
GRAC Grapevine Rang 82.49 52 P 21 15 43.3
baz=299
YHL Hebgen Lake 82.54 43 P **P** 21 15 44.2 +1.1
YHL lAmb lAmb 21 15 45.3
comp=Z,55nm,0.8s
OSI Osito Audit: C 82.67 55 P **P** 21 15 43.9 +0.2
OSI lAmb lAmb 21 15 45.2
comp=Z,37nm,0.8s
OSI Osito Audit: C 82.68 55 P 21 15 44.3
baz=299
SNCC San Nicolas Is 82.74 56 P 21 15 44.6
baz=299
YMR Madison River 82.77 43 P **P** 21 15 45.5 +1.3
AKN Aaknes 82.87 340 *e*P **P** 21 15 43.3 -0.8
LRMC Laurel Mtn Rad 83.01 54 P 21 15 45.8
baz=299,SNR=15
R11A Troy Canyon, C 83.06 50 P **P** 21 15 46.2 +0.5
R11A lAmb lAmb 21 15 47.2
comp=Z,32nm,0.9s
R11A Troy Canyon, C 83.06 50 P 21 15 46.2
baz=300,SNR=33
SORM Soroca 83.07 321 ⇑P **P** 21 15 43.6 -1.7
EDW2 Edwards Air Fo 83.07 54 P 21 15 46.3
baz=299,SNR=22
FURC Furnace Creek, 83.10 52 P 21 15 46.3
baz=300,SNR=28
DECC Green Verdugo 83.13 55 P 21 15 46.1
baz=299
H17A Grant Village 83.15 43 P 21 15 48.7
baz=303,SNR=26
HVU Hansel Valley 83.16 46 P **P** 21 15 46.8 +0.7
HVU pmax pmax
comp=Z,34nm,0.7s
HVU Hansel Valley 83.16 46 P **P** 21 15 46.8 +0.7
HVU lAmb lAmb 21 15 48.0
comp=Z,34nm,0.7s
YMP Mirror Lake Pl 83.22 43 P **P** 21 15 47.2 +0.7
YMP lAmb lAmb 21 15 49.0
comp=Z,54nm,1.1s
PASC Pasadena Art C 83.28 55 P **P** 21 15 46.5 -0.2
PASC lAmb lAmb 21 15 47.7
comp=Z,28nm,0.8s
TPNV Topopah Spring 83.29 52 P **P** 21 15 47.4 +0.6
TPNV pmax pmax
comp=Z,44nm,0.8s
TPNV Topopah Spring 83.29 52 P **P** 21 15 47.4 +0.6
TPNV lAmb lAmb 21 15 48.2
comp=Z,44nm,0.8s
TPNV Topopah Spring 83.30 52 P 21 15 47.2
baz=300,SNR=51
ICESG Greenland Ices 83.34 0 *i* P **P** 21 15 46.3 -0.3
ICESG lAmb lAmb 21 15 47.3
comp=Z,23nm,0.9s
MWC Mount Wilson 83.34 55 P **P** 21 15 47.3 +0.1
MWC pmax pmax
comp=Z,31nm,0.8s
MWC Mount Wilson 83.34 55 P **P** 21 15 47.3 +0.1
MWC lAmb lAmb 21 15 48.3
comp=Z,31nm,0.8s
ECR Eagle Creek 83.38 45 P **P** 21 15 48.0 +0.8
FMP Fort Macarthur 83.42 55 P 21 15 47.6
baz=299
BGU Big Grassy Mou 83.44 47 P **P** 21 15 47.9 +0.4
CIS Catalina Islan 83.48 56 P 21 15 47.7
baz=299,SNR=5.2
RLMT Red Lodge 83.54 42 P **P** 21 15 49.0 +1.0
RLMT Red Lodge 83.54 42 P 21 15 49.1
baz=303,SNR=37
RAYN Ar Rayn 83.55 293 *i* P **P** 21 15 48.5 +0.3
SNR=12
RAYN Ar Rayn 83.55 293 P **P** 21 15 48.5 +0.3
RAYN pmax pmax
comp=Z,29nm,0.6s
RAYN Ar Rayn 83.55 293 P **P** 21 15 48.5 +0.3
RAYN lAmb lAmb 21 15 49.9
comp=Z,29nm,0.6s
BFSC Mount Baldy Ra 83.63 55 P 21 15 48.4
baz=299,SNR=9.4
AHID Auburn Hatcher 83.70 45 P **P** 21 15 49.5 +0.7
AHID lAmb lAmb 21 15 50.4
comp=Z,26nm,0.8s
RRX Edison Barstow 83.79 54 P 21 15 49.8
baz=300
SHOC Shoshone, Teco 83.80 53 P 21 15 49.5
baz=300,SNR=9.5
DUG Dugway, Tooele 83.96 48 P **P** 21 15 50.5 +0.4
DUG pmax pmax
comp=Z,29nm,0.9s
DUG Dugway, Tooele 83.96 48 P **P** 21 15 50.5 +0.4
DUG lAmb lAmb 21 15 51.6
comp=Z,29nm,0.9s
DUG Dugway, Tooele 83.96 48 P 21 15 50.7
baz=302,SNR=23
MURC Murrieta 84.28 55 P 21 15 51.7
baz=300,SNR=6.8
TUQ Turquoise Moun 84.28 53 P 21 15 52.0
baz=300,SNR=7.3
HEC Hector,Ludlow 84.29 54 P 21 15 52.2
baz=300,SNR=22
LAO LASA Array 84.42 39 P **P** 21 15 52.5 +0.5
LAO lAmb lAmb 21 15 53.6
comp=Z,29nm,0.8s
LAO LASA Array 84.42 39 P 21 15 52.6
baz=305
BR131 Keskin Array S 84.45 312 P **P** 21 15 51.6 -0.8
BR131 pmax pmax
comp=Z,8.0nm,0.7s
BR131 Keskin Array S 84.45 312 P **P** 21 15 51.6 -0.8
BRTR Keskin Array B 84.45 312 P **P** 21 15 51.5 -0.8
comp=Z,5.4nm,0.7s,baz=88,slow=3.2,SNR=30

BRTR PP **sP** **21 19 17.8 -2.6**
comp=Z,1.6nm,0.9s,baz=82,slow=5.3,SNR=3.8
BRTR PKKPbc **PKKPbc** **21 33 58.0 -0.5**
comp=Z,0.4nm,0.4s,baz=248,slow=3.5,SNR=4.8
TLCR **84.47 319** ⇑P **P** **21 15 51.6 -0.6**
DGMT **Dagmar** **84.49 37** P 21 15 52.4
baz=306
BW06 **Boulder Array** **84.66 44** P **P** **21 15 53.4 -0.1**
PDAR **Pinedale Array** **84.66 44** P **P** **21 15 53.8 +0.3**
comp=Z,8.4nm,0.8s,baz=279,slow=2.9,SNR=37
PDAR **Pinedale Array** **84.66 44** P **P** **21 15 53.2 -0.2**
BW06 **Boulder Array** **84.66 44** P 21 15 53.6
baz=303,SNR=16
JURR **Jurilovca** **84.67 318** ⇓P **P** **21 15 52.9 -0.2**
109C **Camp Elliot, M** **84.69 56** P 21 15 53.8
baz=300
GMRC **Granite Mounta** **84.79 53** P 21 15 54.7
baz=300,SNR=32
PFO **Pinyon Flats O** **84.80 55** *d i*P **P** **21 15 54.4 +0.2**
PFO pmax pmax
comp=Z,62nm,0.9s
PFO **Pinyon Flats O** **84.80 55** P **P** **21 15 54.5 +0.3**
PFO IAmb IAmb 21 15 55.5
comp=Z,41nm,0.8s
PFO **Pinyon Flats O** **84.80 55** P 21 15 54.6
baz=300,SNR=11
TPFO **Pinon Flats** **84.81 55** P 21 15 54.5
baz=300,SNR=20
CFR **Carcaliu** **84.87 319** ⇑P **P** **21 15 53.9 -0.2**
TPGR **Topolog** **84.89 319** ⇑P **P** **21 15 53.9 -0.3**
BELC **Belle Mtn. Jos** **84.94 54** P 21 15 54.9
baz=300,SNR=21
TESR **Tescani** **84.95 321** ⇑P **P** **21 15 53.6 -0.9**
BIZ **Bicaz** **85.00 321** ⇑P **P** **21 15 54.1 -0.6**
SFJD **Kangerlussuaq** **85.06 4** ⇓*i*P **P** **21 15 54.3 -0.2**
SFJD IAmb IAmb 21 15 54.7
comp=Z,17nm,0.6s
SFJD **Kangerlussuaq** **85.06 4** P **P** **21 15 54.4 -0.2**
SFJD pmax pmax
comp=Z,26nm,0.7s
SFJD **Kangerlussuaq** **85.06 4** P **P** **21 15 54.4 -0.2**
SFJD IAmb IAmb 21 15 55.1
comp=Z,26nm,0.7s
BUR08 **Bucovina Ar. S** **85.08 322** P **P** **21 15 54.8 -0.4**
BURAR **Bucovina Array** **85.09 322** ⇓P **P** **21 15 55.1 -0.1**
BURAR **Bucovina Array** **85.09 322** P **P** **21 15 54.9 -0.4**
BAR **Barrett** **85.11 56** P **P** **21 15 55.9 +0.4**
BAR IAmb IAmb 21 15 56.8
comp=Z,29nm,1.2s
TIRR **Tirgusor** **85.12 318** ⇓P **P** **21 15 54.2 -1.1**
TIRR **Tirgusor** **85.12 318** P **P** **21 15 54.2 -1.1**
TIRR pmax pmax
comp=Z,24nm,1.0s
TIRR **Tirgusor** **85.12 318** P **P** **21 15 54.2 -1.1**
TIRR IAmb IAmb 21 15 55.5
comp=Z,24nm,1.0s
BLS5 **Blasjo** **85.17 338** *e*P **P** **21 15 55.1 -0.1**
KWP **Kalwaria Pacla** **85.19 325** P **P** **21 15 55.3 -0.2**
KWP pmax pmax
comp=Z,17nm,1.1s
KWP **Kalwaria Pacla** **85.19 325** P **P** **21 15 55.3 -0.2**
MONP2 **Monument Peak** **85.19 55** P 21 15 56.5
baz=300,SNR=7.7
HARR **Harsova** **85.27 319** ⇑P **P** **21 15 55.8 -0.2**
MFTR **Murfatlar** **85.27 318** ⇑P **P** **21 15 55.8 -0.2**
VRI **Vrincioaia** **85.28 320** ⇑P **P** **21 15 55.6 -0.5**
TLBR **Topalu** **85.28 318** ⇑P **P** **21 15 55.8 -0.2**
CBX **Cerro Bola** **85.30 56** P **P** **21 15 56.9 +0.3**
PLOR **Plostina** **85.34 320** ⇑P **P** **21 15 55.8 -0.6**
IRM **Iron Mountain** **85.47 54** P 21 15 57.8
baz=301,SNR=18
BC3 **Big Chuckawall** **85.51 54** P 21 15 58.0
baz=301,SNR=18
NEE2 **Needles Airpor** **85.54 53** P 21 15 58.0
baz=301
IKP **In-Ko-Pah, Jac** **85.54 55** P 21 15 58.1
baz=300,SNR=7.3
SWSC **Sam W. Stewart** **85.61 55** P 21 15 58.1
baz=300
KNB **Kanab** **85.62 50** P **P** **21 15 58.9 +0.8**
KNB pmax pmax
comp=Z,20nm,1.0s
KNB **Kanab** **85.62 50** P **P** **21 15 58.9 +0.8**
KNB IAmb IAmb 21 16 00.8
comp=Z,20nm,1.0s
OZUR **85.68 321** ⇑P **P** **21 15 57.8 -0.2**
DY2G **Dye2** **85.82 3** *i*P **P** **21 15 58.2 -0.3**
DY2G IAmb IAmb 21 15 58.5
comp=Z,18nm,0.5s
W13A **Hualapai Mount** **85.88 52** P **P** **21 15 59.8 +0.4**
MLR **Muntele Rosu** **85.95 320** ⇓P **P** **21 15 58.6 -0.8**
MLR **Muntele Rosu** **85.95 320** P **P** **21 15 58.7 -0.7**
MLR pmax pmax
comp=Z,6.0nm,1.3s
MLR **Muntele Rosu** **85.95 320** P **P** **21 15 58.7 -0.7**
DOPR **Dopca** **85.98 321** ⇑P **P** **21 15 59.5 +0.1**
PDMCI **Parker Dam,Lak** **86.11 53** P 21 16 00.8
baz=301
TRPA **Tarpa** **86.21 324** ⇑P **P** **21 16 00.0 -0.3**
GLA **Glamis** **86.26 55** P **P** **21 16 01.6 +0.6**
GLA pmax pmax
comp=Z,31nm,0.6s
GLA **Glamis** **86.26 55** P **P** **21 16 01.6 +0.6**
GLA **Glamis** **86.27 55** P 21 16 01.8
baz=301,SNR=11
CRVS **Cervenica-Dubn** **86.28 325** *e*P **P** **21 16 01.2 +0.5**
CRVS **Cervenica-Dubn** **86.28 325** *e*P **P** **21 16 01.2 +0.5**
U15A **North Rim** **86.29 51** P **P** **21 16 02.1 +0.7**
K22A **Casper** **86.57 43** P **P** **21 16 02.6 +0.2**
K22A IAmb IAmb 21 16 03.1
comp=Z,12nm,0.6s
K22A **Casper** **86.57 43** P 21 16 02.5
baz=305,SNR=7.3
ARR **Arges** **86.76 321** ⇓P **P** **21 16 03.0 -0.1**
O20A **White River Ci** **86.94 46** P 21 16 04.4
baz=304,SNR=9.8
DRGR **86.95 323** ⇓P **P** **21 16 03.7 -0.3**
Y14A **Wickenburg** **87.11 53** P **P** **21 16 05.8 +0.8**
Y14A IAmb IAmb 21 16 06.5
comp=Z,22nm,0.7s
LANS **Liptovska Anna** **87.13 326** *e*P **P** **21 16 05.2 +0.5**
LANS **Liptovska Anna** **87.13 326** *e*P **P** **21 16 05.2 +0.5**
CSS **Mathiatis** **87.17 308** P **P** **21 16 04.5 -0.7**
113A **Mohawk Valley,** **87.17 54** P **P** **21 16 05.9 +0.7**
113A IAmb IAmb 21 16 06.2
comp=Z,18nm,0.6s
RSSD **Black Hills** **87.18 41** P 21 16 05.3
baz=307
LOT **Lotru** **87.20 321** ⇑P **P** **21 16 03.3 -1.9**
MDND **Maddock** **87.30 36** P 21 16 05.9
baz=310
WUAZ **Wupatki** **87.41 51** P 21 16 07.0
baz=303
GHAJ **Ghor Hafditha** **87.49 304** P **P** **21 16 06.5 -0.2**
ULM **Lac du Bonnet** **87.57 32** P **P** **21 16 06.3 -0.3**
comp=Z,3.9nm,0.4s,baz=316,slow=3.6,SNR=11
ULM **Lac du Bonnet** **87.57 32** P **P** **21 16 06.4 -0.3**
ULM pmax pmax
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** **87.57 32** P **P** **21 16 06.4 -0.3**
CHVC **Chvalec** **87.81 328** *e*P **P** **21 16 07.4 -0.5**
KRLC **Kraliky** **87.82 328** *e*P **P** **21 16 07.1 -0.8**
KRLC **Kraliky** **87.82 328** *e*P **P** **21 16 07.1 -0.8**
SIRR **Siria** **87.84 323** ⇑P **P** **21 16 07.4 -0.7**
DPC **Dobruska-Polom** **87.85 328** *e*P **P** **21 16 07.2 -0.9**
DPC **Dobruska-Polom** **87.85 328** *e*P **P** **21 16 07.2 -0.9**
VYHS **Vyhne** **87.87 326** *e*P **P** **21 16 08.0 -0.2**
VYHS **Vyhne** **87.87 326** *e*P **P** **21 16 08.0 -0.2**
N23A **Red Feather La** **87.94 44** P 21 16 10.1
baz=306,SNR=14
X16A **Lo Mia Camp, P** **87.95 52** P **P** **21 16 09.8 +0.7**
KOLL **Kolacno** **88.03 326** *e*P **P** **21 16 09.2 +0.3**
JAVC **Velka Javorina** **88.21 326** *e*P **P** **21 16 10.2 +0.4**
BZS **Buzias** **88.28 322** ⇑P **P** **21 16 08.8 -1.3**
214A **Organ Pipe Nat** **88.29 55** P **P** **21 16 11.1 +0.6**
214A IAmb IAmb 21 16 12.3
comp=Z,21nm,1.0s
214A **Organ Pipe Nat** **88.29 55** P 21 16 11.3
baz=302,SNR=14
MVCO **Mesa Verde** **88.42 48** P 21 16 11.6
baz=304
VRAC **Vranov** **88.43 327** *e*P **P** **21 16 10.2 -0.5**
ELL **Elmali** **88.53 311** P **P** **21 16 11.1 -0.5**
ELL pmax pmax
comp=Z,35nm,1.1s
ELL **Elmali** **88.53 311** P **P** **21 16 11.1 -0.5**
ELL IAmb IAmb 21 16 14.1
comp=Z,35nm,1.1s
CLL **Collm** **88.69 330** *e*P **P** **21 16 14.0 +2.1**
CLL *e*PP **PP** **21 19 51.0 -2.6**
CLL **Collm** **88.69 330** *e*P **P** **21 16 14.0 +2.1**
W18A **Petrified Fore** **88.75 51** P 21 16 13.3
baz=304
MDVR **Moldovita** **88.75 321** ⇑P **P** **21 16 11.5 -0.9**
ISCO **Idaho Springs** **88.79 45** P **P** **21 16 13.6 +0.6**
ISCO pmax pmax
comp=Z,20nm,0.7s
ISCO **Idaho Springs** **88.79 45** P **P** **21 16 13.6 +0.6**
ISCO IAmb IAmb 21 16 14.7
comp=Z,20nm,0.7s
ISCO **Idaho Springs** **88.79 45** P 21 16 13.8
baz=312
AGMN **Agassiz Nation** **88.89 34** P 21 16 12.5
baz=312
X18A **Snowflake** **88.92 51** P **P** **21 16 14.1 +0.5**
X18A IAmb IAmb 21 16 15.3
comp=Z,20nm,1.2s
S22A **4UR Ranch, Cre** **89.20 47** P 21 16 15.9
baz=305,SNR=16
VTS **Vitosha** **89.24 319** ⇑P **P** **21 16 14.5 -0.3**
MORH **Mrgy, Hungar** **89.47 324** ⇑P **P** **21 16 14.2 -1.4**
FRGS **Fruska Gora** **89.55 323** ⇓P **P** **21 16 15.3 -0.7**
TUC **Tucson** **89.55 53** P **P** **21 16 16.6 +0.2**
TUC pmax pmax
comp=Z,13nm,0.9s
TUC **Tucson** **89.55 53** P **P** **21 16 16.6 +0.2**
TUC IAmb IAmb 21 16 18.2
comp=Z,13nm,0.9s
TUC **Tucson** **89.55 53** P 21 16 17.2
baz=303
SUSD **Miller** **89.83 38** P 21 16 17.0
baz=310
CKRC **Cesky Krumlov** **89.86 328** *e*P **P** **21 16 16.7 -0.7**
B35A **Bob, Littlefor** **89.89 33** P **P** **21 16 17.4 -0.1**
B35A IAmb IAmb 21 16 18.5
comp=Z,12nm,0.8s
KHC **Kasperske Hory** **89.98 328** *e*P **P** **21 16 16.6 -1.3**
KHC **Kasperske Hory** **89.98 328** *e*P **P** **21 16 16.6 -1.3**
SDCO **Great Sand Dun** **90.06 46** P **P** **21 16 19.4 +0.5**
SDCO IAmb IAmb 21 16 20.6
comp=Z,22nm,0.8s
SDCO **Great Sand Dun** **90.06 46** P 21 16 19.7
baz=306,SNR=30
GERES **GERESS Array B** **90.12 328** P **P** **21 16 17.6 -1.1**
comp=Z,1.2nm,0.5s,baz=45,slow=5.1,SNR=11
GERES PP **PP** **21 20 04.1 -0.8**
comp=Z,0.6nm,0.6s,baz=46,slow=7.6,SNR=4.2
GERES **GERESS Array B** **90.12 328** P **P** **21 16 17.8 -0.9**
GERES **GERESS Array B** **90.12 328** P **P** **21 16 17.8 -0.9**
OGNE **Ogallala** **90.28 42** P 21 16 19.5
baz=308
ANMO **Albuquerque** **91.06 49** *de*P **P** **21 16 24.3 +0.8**
ANMO pmax pmax
comp=Z,30nm,0.8s
ANMO **Albuquerque** **91.06 49** P **P** **21 16 23.8 +0.4**
ANMO IAmb IAmb 21 16 25.7
comp=Z,28nm,0.8s
ANMO **Albuquerque** **91.06 49** P 21 16 24.1
baz=306
K31A **O'Neill** **91.12 39** P **P** **21 16 23.3 0.0**
T25A **Trinidad** **91.12 46** P 21 16 24.3
baz=307,SNR=13
BNM **Barren Site** **91.41 50** P **P** **21 16 25.7 +0.6**
121A **Cookes Peak, D** **91.54 52** P 21 16 26.6
baz=305,SNR=14
ECSD **EROS Data Cent** **91.57 38** P 21 16 24.9
baz=312
F36A **Milaca** **91.73 35** P **P** **21 16 25.4 -0.6**
E38A **The Farm, Brul** **92.17 33** P **P** **21 16 27.6 -0.5**
E38A IAmb IAmb 21 16 28.4
comp=Z,11nm,0.7s
CBKS **Cedar Bluff** **92.99 43** P 21 16 31.4
baz=310
MNTX **Cornudas Mount** **93.68 51** P **P** **21 16 35.4 +0.2**
MNTX **Cornudas Mount** **93.68 51** P 21 16 35.6
baz=306,SNR=8.6
SCHQ **Schefferville** **94.33 16** P **P** **21 16 37.3 -0.4**
comp=Z,1.2nm,0.5s,baz=295,slow=9.9,SNR=3.6
JFWS **Jewell Farm** **95.47 35** Pdiff 21 16 42.4
baz=316
MATQ **Matagami** **95.58 24** Pdiff 21 16 42.5
baz=327
TX31 **Lajitas Ar. Si** **96.27 52** P **P** **21 16 47.4 +0.3**
TXAR **Lajitas Array** **96.27 52** P **P** **21 16 47.8 +0.8**
comp=Z,7.5nm,0.7s,baz=312,slow=2.5,SNR=90
TXAR PP **PP** **21 20 50.5 -2.0**
comp=Z,1.9nm,0.9s,baz=297,slow=5.5,SNR=6.9
TXAR PKIKP **PKiKP** **21 21 20.4 +0.1**
comp=Z,0.2nm,0.5s,baz=294,slow=0.9,SNR=1.0
TXAR **Lajitas Array** **96.27 52** P **P** **21 16 47.1 +0.1**
LSQQ **Lebel-sur-Quev** **96.40 24** Pdiff 21 16 46.5
baz=327
CHGQ **Chibougamau** **96.57 22** Pdiff 21 16 47.0
baz=329
D55A **Sainte-Anne-du** **98.67 24** Pdiff 21 16 56.7
baz=328
U40A **Yellville** **98.70 41** Pdiff 21 16 57.0
baz=314
D56A **ZEC Mazanza, M** **98.90 24** Pdiff 21 16 57.8
baz=329
E56A **St. Veronique** **99.23 24** Pdiff 21 16 59.3
baz=329
D58A **Chemin du LacG** **99.51 22** Pdiff 21 17 00.3
baz=330
E58A **La Victoria** **100.00 23** Pdiff 21 17 02.3
baz=330
G58A **Ormstown** **100.78 24** Pdiff 21 17 05.9
baz=329
L63A **North Scituate** **104.51 24** Pdiff 21 17 22.2
baz=331
ESDC **Sonseca Array** **105.14 332** PP **PP** **21 21 54.9 -2.2**
comp=Z,1.0nm,0.8s,baz=25,slow=7.0,SNR=5.8
MAW **Mawson** **110.93 204** PKKPbc PKKPbc 21 32 45.4 -1.2
comp=Z,0.7nm,0.5s,baz=207,slow=2.3,SNR=1.5
MAW PKKPab **PKKPab** **21 32 58.0 +1.2**
comp=Z,1.2nm,0.8s,baz=238,slow=9.3,SNR=3.7
QSPA **South Pole Qui** **117.63 180** **PKPdf** **21 21 58.0 -0.7**
JTS **Las Juntas de** **121.85 56** PKP **PKPdf** **21 22 07.7 -0.7**
comp=Z,5.9nm,0.4s,baz=47,slow=19,SNR=5.0
TORD **Torodi Ar. Bea** **123.02 310** PKP **PKPdf** **21 22 10.2 -0.3**
comp=Z,0.6nm,0.5s,baz=37,slow=0.8,SNR=2.8
TORD PKKPbc **PKKPbc** **21 32 04.9 +0.1**
comp=Z,2.1nm,0.4s,baz=225,slow=3.2,SNR=15
BOSA **Boshof** **123.68 253** PKKPab PKKPab 21 32 04.0 +1.6
comp=Z,6.8nm,1.2s,baz=279,slow=4.2,SNR=6.0
KOWA **Kowa** **125.70 316** SKP 21 24 48.2
comp=Z,1.9nm,0.5s,baz=64,slow=4.7,SNR=4.1
SJCC **San Jacinto, C** **128.93 48** *e*P **PKPdf** **21 22 22.3 +0.4**
MOTC **Monteria, Cord** **129.44 49** *e*P **PKPdf** **21 22 23.0 +0.2**
ZARC **Zaragoza, Cauc** **130.92 50** *e*P **PKPdf** **21 22 25.6 0.0**
CBOC **Ciudad Bolivar** **131.29 52** *e*P **PKPdf** **21 22 26.5 -0.1**
DBIC **Dimbokro** **132.12 311** SKPab **SKPbc** **21 24 52.3 -0.1**
comp=Z,12nm,0.5s,baz=20,slow=4.2,SNR=15
GUY2C **Guyana, Caldas** **132.20 52** *e*P **PKPdf** **21 22 28.6 -0.1**
YOTC **Yotoco, Valle** **132.37 54** *e*P **PKPdf** **21 22 28.6 +0.1**
TOLC **Tolima** **132.68 53** *e*P **PKPdf** **21 22 29.5 +0.1**
SPBC **San Pablo de B** **132.78 50** *e*P **PKPdf** **21 22 28.8 -0.5**
BBAC **Balboa, Cauca** **133.04 57** *e*P **PKPdf** **21 22 29.7 -0.2**
ORTC **Ortega, Tolima** **133.21 53** *e*P **PKPdf** **21 22 29.5 -0.5**
SOTA **Rioblanco** **133.44 56** *e*P **PKiKP** **21 22 32.1 -0.3**
CHIC **Chiingaza** **133.75 51** *e*P **PKPdf** **21 22 31.0 -0.5**
GARC **Garzon, Huila** **134.22 55** *e*P **PKPdf** **21 22 32.4 +0.3**
PCRV **Puerto La Cruz** **134.98 36** PKP **PKPdf** **21 22 31.9 -1.4**
comp=Z,6.7nm,0.6s,baz=338,slow=5.4,SNR=1.9
ATAH **Atahualpa** **137.76 68** PKP **PKiKP** **21 22 40.5 -0.6**
comp=Z,7.7nm,0.7s,baz=261,slow=5.4,SNR=5.0
NNA **Nana** **141.61 73** PKhKP PKPpre 21 22 39.9
comp=Z,11nm,0.4s,baz=234,slow=7.3,SNR=5.2
MDP **Montagnes des** **144.83 23** PKP PKPbc 21 22 51.6 -0.3
comp=Z,45nm,0.7s,baz=324,slow=1.9,SNR=26
MDP SKPbc **SKPbc** **21 25 27.1 -0.5**
comp=Z,15nm,1.1s,baz=317,slow=2.3,SNR=4.8
PTGA **Pitinga** **146.60 40** PKPbc **PKPdf** **21 22 54.6 +0.6**
comp=Z,53nm,0.6s,baz=311,slow=4.2,SNR=55
PTGA SKPbc **SKPbc** **21 25 31.0 -0.6**
comp=Z,2.1nm,0.3s,baz=297,slow=18,SNR=2.8
PTGA **Pitinga** **146.60 40** **PKPbc** **21 22 56.6 -0.2**
PTGA PKPab **PKPab** **21 23 00.0 -0.1**
LL02 **Futaleuf** **149.71 129** **PKPbc** **21 23 03.8 +0.1**
SAML **Samuel** **150.73 55** PKiKP **PKPdf** **21 23 00.7 +0.2**
SAML **Samuel** **150.73 55** **PKPdf** **21 23 00.7 +0.2**
SAML PKPbc **PKPbc** **21 23 06.7 -0.2**
PSGCX **Pisagua** **150.76 80** **PKPbc** **21 23 06.9 +0.1**
PB16 **IPOC Station P** **150.80 78** **PKiKP** **21 23 08.4 +0.4**
TA02 **Huaiquique** **151.00 82** **PKiKP** **21 23 07.7 +0.2**
MNMC **Minye Minye** **151.04 79** **PKiKP** **21 23 08.1 0.0**
MNMC PKPab **PKPab** **21 23 19.3 +0.4**
TA01 **Diego Aracena** **151.06 82** **PKiKP** **21 23 07.8 +0.1**
TA01 PKPab **PKPab** **21 23 19.8 +1.2**
LPAZ **La Paz** **151.07 73** PKP **PKPdf** **21 23 02.8 +1.1**
comp=Z,1.8nm,0.6s,baz=208,slow=4.4,SNR=7.9
LPAZ PKPbc **PKiKP** **21 23 08.8 +0.2**
comp=Z,27nm,0.7s,baz=328,slow=2.3,SNR=98
LPAZ PKPab **PKPab** **21 23 19.3 -0.2**
comp=Z,14nm,0.6s,baz=27,slow=5.7,SNR=8.4
LPAZ **La Paz** **151.07 73** PKPdf **PKPdf** **21 23 02.3 +0.6**
LPAZ PKPbc **PKiKP** **21 23 09.0 +0.4**
LPAZ **La Paz** **151.07 73** *e*P **PKiKP** **21 23 08.8 +0.2**
PATCX **Punta Patache** **151.18 83** **PKiKP** **21 23 08.2 +0.1**
PATCX PKPab **PKPab** **21 23 19.7 +0.5**
PLCA **Paso Flores** **151.40 125** PKPbc **PKiKP** **21 23 08.5 +0.6**
comp=Z,18nm,0.6s,baz=252,slow=2.6,SNR=31
PLCA PKPab **PKPab** **21 23 20.7 +1.1**
comp=Z,10nm,0.7s,baz=209,slow=4.7,SNR=9.3
PLCA **Paso Flores** **151.40 125** **PKiKP** **21 23 08.2 +0.3**
PLCA PKPab **PKPab** **21 23 21.1 +1.5**
PB07 **IPOC Station P** **151.71 84** **PKiKP** **21 23 08.9 -0.1**
PB07 PKPab **PKPab** **21 23 22.4 +0.9**
PB08 **IPOC Station P** **151.81 81** **PKiKP** **21 23 10.3 +0.5**
PB01 **IPOC Station P** **151.84 83** **PKiKP** **21 23 09.4 0.0**
PB01 **PKPab** **21 23 22.3 +0.3**
PB09 **IPOC Station P** **152.30 84** **PKiKP** **21 23 11.0 +0.6**
MT09 **Talagante** **152.31 110** **PKPbc** **21 23 09.8 -0.2**
CO02 **Combarbal** **152.36 105** **PKPbc** **21 23 10.1 0.0**
BO02 **Sierra Bellavi** **152.40 112** **PKiKP** **21 23 10.6 +0.5**
LCO **Las Campanas** **152.49 100** PKIKP **PKiKP** **21 23 11.0 +0.2**
LCO **Las Campanas** **152.49 100** **PKiKP** **21 23 11.0 +0.2**
PB15 **IPOC Station P** **152.52 87** **PKPbc** **21 23 10.6 -0.2**
VA03 **San Esteban** **152.73 108** **PKiKP** **21 23 10.9 0.0**
LVC **Limon Verde** **152.84 86** PKIKP **PKPbc** **21 23 10.5 -1.3**
LVC **Limon Verde** **152.84 86** PKPbc **PKPbc** **21 23 10.5 -1.3**
LVC PKPab **PKPab** **21 23 28.3 +1.7**
GO02 **Mina Guanaco** **152.89 91** **PKPbc** **21 23 11.0 -0.7**
AC02 **Maricunga** **153.61 95** **PKiKP** **21 23 13.9 +0.5**
AC02 PKPab **PKPab** **21 23 31.5 +1.5**
ZON **Zonda** **154.34 105** PKP2 **PKPab** **21 23 33.3 +0.8**
ZON **Zonda** **154.34 105** **PKPab** **21 23 33.2 +0.8**
SIV **San Ignacio** **156.73 64** PKP **PKPdf** **21 23 08.5 -0.3**
comp=Z,1.2nm,0.6s,baz=148,slow=0.8,SNR=6.5
SIV PKPab **PKPab** **21 23 41.7 -1.3**
comp=Z,16nm,0.8s,baz=354,slow=11,SNR=3.3
CPUP **Villa Florida** **163.96 89** **PKPdf** **21 23 15.8 -0.5**
comp=Z,1.6nm,0.6s,baz=216,slow=3.7,SNR=4.9
CPUP PKPab **PKPab** **21 24 14.8 +0.2**
comp=Z,4.3nm,0.6s,baz=289,slow=4.6,SNR=10.0
CPUP **Villa Florida** **163.96 89** **PKPdf** **21 23 15.9 -0.3**
CPUP PKPab **PKPab** **21 24 14.7 +0.1**
BDFB **Brasilia** **165.46 35** PKP **PKPdf** **21 23 18.5 +0.6**
comp=Z,1.7nm,0.6s,baz=332,slow=2.0,SNR=1.9
BDFB PKPab **PKPab** **21 24 20.8 -0.5**
comp=Z,2.7nm,0.7s,baz=347,slow=3.9,SNR=7.2

SOME ***02*** *21:31:45.3, 41˚.03N×76˚.58E, h5km*
KRNET ***02*** *21:31:45.5±0.1, 41˚.00N×76˚.64E, h16km, mb3.4*
NNC ***02*** *21:31:47.6±0.8, 41˚.04N×76˚.70E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=5.5km s-min=3.9km az=171.0
ISC 02 21:31:49.8±1.1, 41˚.11N±0˚.05×76˚.59E±0˚.02, h10km, n76,
σ1§33/115, 30C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.11**	**23**	⇑*i*P	**Pg**	**21 32 08.4**	**-2.7**
KDJ	baz=20			⇑*i*S	**Sb**	**21 32 25.8**	**+0.1**
ULHL	**Ulahol**	**1.16**	**347**	⇑*i*P	**Pb**	**21 32 10.0**	**-2.1**
ULHL	baz=47			⇑*i*S	**Sn**	**21 32 28.2**	**-0.1**
ULHL	**Ulahol**	**1.16**	**347**	P	**Pb**	**21 32 10.0**	**-2.1**
BOOM	SNR=24 **Boomskoye usch**	**1.46**	**341**	⇑*i*P	**Pn**	**21 32 15.2**	**-1.2**
BOOM	baz=41			⇑*i*S	**Sg**	**21 32 37.6**	**+0.9**
ANVS	**Anan'yevo**	**1.85**	**25**	⇑*i*P	**Pn**	**21 32 22.0**	**+0.2**
ANVS	baz=23			⇑*i*S	**Sg**	**21 32 48.6**	**-0.7**
ARLS	**Aral**	**1.86**	**294**	⇑*i*P	**Pn**	**21 32 21.7**	**-0.1**
ARLS	baz=97			⇑*i*S	**Sb**	**21 32 48.4**	**+1.1**
IZV	**Izvestkoviy**	**1.92**	**1**	*e*P	**Pb**	**21 32 24.5**	**-0.5**
IZV	27nm,0.6s 85nm,0.5s			*e*S	**Sg**	**21 32 52.3**	**+0.7**
IZV	**Izvestkoviy**	**1.92**	**1**	Pg	**Pb**	**21 32 24.5**	**-0.5**
IZV	27nm,0.6s 85nm,0.5s			Lg	Lg	21 32 52.3	
PRZ	**Przheval'sk**	**1.93**	**44**	⇑*i*P	**Pn**	**21 32 22.7**	**-0.1**
PRZ	baz=41			⇑*i*S	**Sb**	**21 32 49.9**	**+0.7**
TKM2	**Tokmak 2**	**1.95**	**338**	⇑*i*P	**Pn**	**21 32 23.7**	**+0.5**
TKM2	baz=38			⇑*i*S	**Sg**	**21 32 51.9**	**-0.6**
TKM2	**Tokmak 2**	**1.95**	**338**	P	**Pb**	**21 32 24.8**	**-0.8**
TKM2	SNR=43 **Tokmak 2**	**1.95**	**338**	⇑Pn	**Pb**	**21 32 24.7**	**-0.9**
TKM2	11nm,0.3s 51nm,0.7s			⇓Lg	Lg	21 32 52.8	
KBK	**Karagaybulak**	**1.97**	**322**	⇓*i*P	**Pn**	**21 32 24.0**	**+0.6**
KBK	baz=23			⇓*i*S	**Sg**	**21 32 51.8**	**-1.3**
KBK	**Karagaybulak**	**1.97**	**322**	P	**Pn**	**21 32 24.6**	**+1.2**
KST	SNR=27 **Kastek**	**1.98**	**347**	*e*P	**Pb**	**21 32 25.8**	**-0.3**
KST	6.8nm,0.1s 41nm,0.3s			*e*S	**Sg**	**21 32 54.4**	**+0.9**
KST	**Kastek**	**1.98**	**347**	Pg	**Pb**	**21 32 25.8**	**-0.3**
KST	6.8nm,0.1s 41nm,0.3s			Lg	Lg	21 32 54.4	
MTBS	**Maitube**	**2.02**	**357**	*e*P	**Pb**	**21 32 26.0**	**-0.7**
MTBS	10nm,0.2s 94nm,0.3s			*e*S	**Sg**	**21 32 54.8**	**+0.2**
MTBS	**Maitube**	**2.02**	**357**	Pg	**Pb**	**21 32 26.0**	**-0.7**
MTBS	10nm,0.2s 94nm,0.3s			Lg	Lg	21 32 54.8	
MDOK	**Medeo**	**2.08**	**9**	*e*P	**Pb**	**21 32 27.2**	**-0.4**
MDOK	8.9nm,0.3s 41nm,0.6s			*e*S	**Sg**	**21 32 56.7**	**+0.2**
MDOK	**Medeo**	**2.08**	**9**	⇑Pg	**Pb**	**21 32 26.2**	**-1.4**
MDOK	15nm,0.5s 42nm,0.7s			⇓Lg	Lg	21 32 56.6	
MDOK	**Medeo**	**2.08**	**9**	Pg	**Pb**	**21 32 27.2**	**-0.4**
MDOK	8.9nm,0.3s 41nm,0.6s			Lg	Lg	21 32 56.7	
AAA	**Alma-Ata**	**2.11**	**6**	*e*P	**Pb**	**21 32 28.3**	**+0.2**
AAA	15nm,0.2s 121nm,0.4s			*e*S	**Sg**	**21 32 58.8**	**+1.3**
AAA	**Alma-Ata**	**2.11**	**6**	Pg	**Pb**	**21 32 28.3**	**+0.2**
AAA	15nm,0.2s 121nm,0.4s			Lg	Lg	21 32 58.8	
KNDC	**Almaty**	**2.12**	**7**	⇓Pg	**Pb**	**21 32 27.7**	**-0.7**
KNDC	14nm,0.3s 227nm,0.6s			⇓Lg	Lg	21 32 59.1	
KOTS	**Kotyrbulak**	**2.15**	**10**	*e*P	**Pb**	**21 32 28.9**	**-0.1**
KOTS	48nm,0.3s 3.5nm,0.9s			*e*S	**Sg**	**21 32 59.4**	**+0.4**

KOTS **Kotyrbulak** 2.15 10 Pg Pb 21 32 28.8 -0.1
48nm,0.3s
KOTS Lg Lg 21 32 59.4
3.5nm,0.9s
AAK **Ala-Archa** 2.18 315 ⇓*i*P Pn 21 32 27.0 +0.7
baz=16
AAK ⇓*i*S Sb 21 32 57.3 +0.7
baz=16
AAK **Ala-Archa** 2.18 315 P Pb 21 32 28.1 -1.3
SNR=44
AAK **Ala-Archa** 2.18 315 ⇑Pn Pb 21 32 28.2 -1.3
28nm,0.7s
AAK ⇓Lg Lg 21 33 00.3
67nm,0.6s
DGS **Degeres** 2.21 344 *e*P Pb 21 32 30.2 +0.3
14nm,0.3s
DGS *e*S Sg 21 33 01.6 +0.7
43nm,0.5s
DGS **Degeres** 2.21 344 Pg Pb 21 32 30.2 +0.3
14nm,0.3s
DGS Lg Lg 21 33 01.6
43nm,0.5s
FRU1 **Bishkek** 2.24 320 ⇑*i*P Pn 21 32 27.6 +0.6
baz=21
FRU1 ⇑*i*S Sb 21 32 59.0 +0.9
baz=21
CHMS **Chumysh** 2.33 325 ⇓*i*P Pn 21 32 29.0 +0.8
baz=25
CHMS ⇓*i*S Sb 21 33 00.6 -0.1
baz=25
CHMS **Chumysh** 2.33 325 P Pb 21 32 31.7 -0.2
SNR=15
SATY **Saty** 2.37 34 *e*P Pb 21 32 31.2 -1.4
17nm,0.4s
SATY *e*S Sg 21 33 04.0 -1.8
44nm,0.3s
SATY **Saty** 2.37 34 Pg Pb 21 32 31.2 -1.4
17nm,0.4s
SATY Lg Lg 21 33 04.0
44nm,0.3s
AML **Almayashu** 2.40 296 ⇓*i*P Pn 21 32 29.5 +0.1
baz=98
AML ⇓*i*S Sb 21 33 02.0 -1.0
baz=98
AML **Almayashu** 2.40 296 P Pn 21 32 31.2 +1.7
SNR=38
SFK **Sufi-Kurgan** 2.59 246 ⇑*i*P Pn 21 32 31.3 -0.7
baz=49
SFK ⇑*i*S Sn 21 33 04.7 +1.0
baz=49
KTBS **Karatobe** 2.60 1 *e*P Pb 21 32 35.9 -0.6
8.0nm,0.3s
KTBS *e*S Sg 21 33 11.9 -1.3
215nm,0.3s
KTBS **Karatobe** 2.60 1 Pg Pb 21 32 35.9 -0.6
8.0nm,0.3s
KTBS Lg Lg 21 33 11.9
215nm,0.3s
EKS2 **Erkin-Say** 2.61 307 P Pn 21 32 34.0 +1.9
SNR=10
KURS **Kuram** 2.65 26 *e*P Pb 21 32 35.9 -1.4
26nm,0.5s
KURS *e*S Sg 21 33 12.0 -2.8
22nm,0.7s
KURS **Kuram** 2.65 26 Pg Pb 21 32 35.9 -1.4
26nm,0.5s
KURS Lg Lg 21 33 12.0
22nm,0.7s
USP **Ospenovka** 2.65 325 ⇓*i*P Pn 21 32 33.2 +0.5
baz=26
USP ⇓*i*S Sb 21 33 08.4 -1.7
baz=26
USP **Ospenovka** 2.65 325 P Pb 21 32 36.6 -0.8
SNR=44
KRBS **Karabastau** 2.67 346 *e*P Pb 21 32 37.9 +0.1
12nm,0.3s
KRBS *e*S Sg 21 33 14.9 -0.6
60nm,0.5s
KRBS **Karabastau** 2.67 346 Pg Pb 21 32 37.8 +0.1
12nm,0.3s
KRBS Lg Lg 21 33 14.9
60nm,0.5s
UZB **Uzynbulak** 2.72 41 *e*P Pb 21 32 36.9 -1.7
33nm,0.3s
UZB *e*S Sb 21 33 13.6 +1.4
39nm,0.7s
UZB **Uzynbulak** 2.72 41 Pg Pb 21 32 36.9 -1.7
33nm,0.3s
UZB Lg Lg 21 33 13.6
39nm,0.7s
ARSB **Arslanbob** 2.73 276 ⇑*i*P Pn 21 32 33.1 -0.7
baz=78
ARSB ⇑*i*S Sn 21 33 08.4 +1.5
baz=78
SGDS **Sogindy** 2.75 329 Pg Pb 21 32 38.8 -0.3
13nm,0.3s
SGDS Lg Lg 21 33 16.9
23nm,0.4s
CHKK **Chushkaly** 2.75 6 *e*P Pb 21 32 37.8 -1.3
7.9nm,0.3s
CHKK *e*S Sg 21 33 15.4 -2.8
45nm,0.1s
CHKK **Chushkaly** 2.75 6 Pg Pb 21 32 37.8 -1.3
7.9nm,0.3s
CHKK Lg Lg 21 33 15.4
45nm,0.1s
KUU **Kurty** 2.78 356 *e*P Pb 21 32 39.5 -0.1
2.7nm,0.3s
KUU *e*S Sg 21 33 18.0 -1.2
37nm,0.6s
KUU **Kurty** 2.78 356 Pg Pb 21 32 39.5 -0.1
2.7nm,0.3s
KUU Lg Lg 21 33 18.0
37nm,0.6s
KPKS **Kokpek** 2.82 33 *e*P Pb 21 32 38.5 -1.8
41nm,0.2s
KPKS *e*S Sb 21 33 16.1 +1.2
76nm,0.6s
SHLS **Shalkode** 2.96 45 *e*P Pg 21 32 45.5 -0.8
13nm,0.4s
SHLS *e*S Sg 21 33 28.2 +3.5
34nm,0.4s
SHLS **Shalkode** 2.96 45 Pg Pg 21 32 45.6 -0.8
13nm,0.4s
SHLS Lg Lg 21 33 28.2
34nm,0.4s
MRKS **Merke** 2.99 304 *e*P Pb 21 32 42.0 -1.2
6.0nm,0.3s
MRKS *e*S Sb 21 33 22.5 +2.6
25nm,0.3s
MRKS **Merke** 2.99 304 Pg Pb 21 32 42.0 -1.2
6.0nm,0.3s
MRKS Lg Lg 21 33 22.5
25nm,0.3s
PDGK **Podgornoye** 3.09 43 ⇓Pg Pb 21 32 43.5 -1.3
9.0nm,0.6s
PDGK ⇓Lg Lg 21 33 25.4
25nm,0.6s
ARXS **Arharly** 3.23 16 *e*P Pb 21 32 47.9 +0.7
9.1nm,0.4s
ARXS *e*S Sg 21 33 32.1 -1.3
24nm,0.4s
ARXS **Arharly** 3.23 16 Pg Pb 21 32 47.9 +0.7
9.1nm,0.4s
ARXS Lg Lg 21 33 32.1
24nm,0.4s
MNAS **Manas** 3.35 296 ⇑*i*P Pn 21 32 42.5 +0.2
baz=97
MNAS ⇑*i*S Sn 21 33 24.1 +1.9
baz=97
KTMS **Ketmen** 3.64 49 *e*P Pb 21 32 53.1 -1.2
4.1nm,0.3s
KTMS *e*S Sb 21 33 41.3 +2.8
16nm,0.7s
KTMS **Ketmen** 3.64 49 Pg Pb 21 32 53.1 -1.2
4.1nm,0.3s
KTMS Lg Lg 21 33 41.3
16nm,0.7s
DJR **Jarkent** 3.99 35 *e*P Pb 21 32 59.7 -0.4
0.3nm,0.3s
DJR *e*S Sb 21 33 52.5 +4.0
1.0nm,0.3s
DJR **Jarkent** 3.99 35 Pg Pb 21 32 59.7 -0.4
0.3nm,0.3s
DJR Lg Lg 21 33 52.5
1.0nm,0.3s
TRKS **Terek-Say** 4.12 278 ⇑*i*P Pn 21 32 53.1 +0.1
baz=78
TRKS ⇑*i*S Sn 21 33 42.0 +0.6
baz=78
BTLS **Baital** 4.34 335 *e*P Pb 21 33 07.6 +1.4
2.7nm,0.4s
BTLS *e*S Sg 21 34 06.2 -3.0
11nm,0.5s
BTLS **Baital** 4.34 335 Pg Pb 21 33 07.6 +1.4
2.7nm,0.4s
BTLS Lg Lg 21 34 06.3
11nm,0.5s
KAPS **Kapalarasan** 4.63 25 *e*P Pb 21 33 14.1 +3.0
0.3nm,0.5s
KAPS *e*S Sg 21 34 17.7 -0.8
0.8nm,0.5s
KAPS **Kapalarasan** 4.63 25 Pg Pb 21 33 14.1 +3.0
0.3nm,0.5s
KAPS Lg Lg 21 34 17.7
0.8nm,0.5s
KK31 **Karatay Array** 4.94 296 ⇑Pg Pb 21 33 18.0 +1.7
0.7nm,0.5s,baz=119,slow=16,SNR=10
KK31 ⇑Lg Lg 21 34 29.2
1.5nm,0.4s,baz=115,slow=28,SNR=7.8
MK31 **Makanchi Array** 7.01 34 Pn Pn 21 33 33.3 +0.8
0.4nm,0.5s,baz=204,slow=11,SNR=8.6
MK31 ⇑Lg Lg 21 35 29.8
0.8nm,0.7s,baz=212,slow=29,SNR=3.6

TUL ***02*** *21:34:56.2±0.8,35°.79N±0°.03×96°.99W±0°.04,h6km±7km, ML3.7,mb_Lg3.4/120(NEIC), Error ellipse: s-maj=6.0km s-min=1.2km az=129.0*
ANF ***02*** *21:34:56.3±0.2,35°.82N×96°.99W,h6km,ML4.2/15, Error ellipse: s-maj=2.1km s-min=1.4km az=154.0*
NEIC ***02*** *21:34:56.6±0.8,35°.80N±0°.03×97°.01W±0°.04,h6km±7km, Error ellipse: s-maj=6.1km s-min=1.3km az=129.0*
ISC 02 21:34:56.7±1.0,35°.80N±0°.02×96°.99W±0°.02,h8km±8km, n115,₀0§51/86,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.20**	**40**			**Pg**	**21 35 00.7**	**0.0**
OK031				Sg		**Sg**	**21 35 03.9**	**+0.5**
OK030	**Cody Creek RV**	**0.21**	**54**			**Pg**	**21 35 00.9**	**0.0**
OK030				Sg		**Sg**	**21 35 04.3**	**+0.4**
OK005	**Luther M Schoo**	**0.22**	**227**			**Pg**	**21 35 00.8**	**-0.3**
OK001	**Jones High Sch**	**0.34**	**225**	Pg		**Pg**	**21 35 03.0**	**-0.3**
OK025	**Westminster Rd**	**0.36**	**232**			**Pg**	**21 35 03.3**	**-0.3**
OK029	**Liberty Lake**	**0.38**	**269**			**Pg**	**21 35 03.8**	**-0.2**
OK029				Sg		**Sg**	**21 35 09.3**	**+0.4**
OK009	**Oakdale Elemen**	**0.41**	**238**			**Pg**	**21 35 04.5**	**-0.2**
QUOK	**Quay**	**0.43**	**32**			**Pg**	**21 35 05.1**	**-0.1**
QUOK				Sg		**Sg**	**21 35 11.3**	**+0.5**
BCOK	**Bluff Creek, N**	**0.52**	**254**			**Pg**	**21 35 06.4**	**-0.3**
BCOK				Sg		**Sg**	**21 35 13.9**	**+0.4**
OKCFA	**Oklahoma City**	**0.54**	**224**			**Pg**	**21 35 06.4**	**-0.6**
OKCFA				Sg		**Sg**	**21 35 14.2**	**+0.1**
OKCFA	**Oklahoma City** baz=45,SNR=44	**0.54**	**224**	P		**Pg**	**21 35 06.4**	**-0.6**
OKCFA	baz=45			S		**Sg**	**21 35 14.2**	**+0.1**
OKCFA	**Oklahoma City** baz=45,SNR=44	**0.54**	**224**	P			21 35 06.4	
OKCFA	baz=45			S			21 35 14.2	
OKCSW	**OKLAHOMA CITY**	**0.54**	**222**			**Pg**	**21 35 06.6**	**-0.5**
OKCSW				Sg		**Sg**	**21 35 14.2**	**+0.1**
FNO	**Franklin**	**0.64**	**211**			**Pg**	**21 35 08.1**	**-0.8**
FNO				Sg		**Sg**	**21 35 17.2**	**-0.1**
W35A	**Tecumseh**	**0.66**	**171**			**Pg**	**21 35 08.5**	**-0.8**
TUL1	**Leonard** baz=263	**0.98**	**83**	P		**Pg**	**21 35 14.4**	**-1.2**
TUL1	baz=263			S		**Sg**	**21 35 27.5**	**-0.8**
TUL1	**Leonard** baz=263	**0.98**	**83**	P			21 35 14.4	
TUL1	baz=263			S			21 35 27.5	
CROK	**Carrier**	**1.06**	**311**			**Pg**	**21 35 16.4**	**-0.7**
T35A	**Sooner Cattle**	**1.18**	**19**			**Pg**	**21 35 18.2**	**-1.0**
T35B	**Sooner Cattle** baz=199	**1.18**	**19**	P		**Pg**	**21 35 18.3**	**-1.0**
T35B	baz=199			S		**Sg**	**21 35 34.1**	**-0.4**
T35B	**Sooner Cattle** baz=199	**1.18**	**19**	P			21 35 18.3	
T35B	baz=199			S			21 35 34.1	
GC02	**Grant County #**	**1.26**	**327**			**Pg**	**21 35 19.9**	**-1.0**
KAN13	**South Haven SW**	**1.27**	**342**			**Pn**	**21 35 20.0**	**-0.8**
X34A	**Smith Ranch, M**	**1.38**	**210**	Pn		**Pn**	**21 35 21.7**	**-0.5**
OK032	**Salt Plains WL**	**1.40**	**316**			**Pn**	**21 35 22.1**	**-0.4**
KAN09	**Caldwell North**	**1.42**	**339**	Pn		**Pn**	**21 35 22.6**	**-0.2**
KAN01	**Argonia South**	**1.48**	**336**			**Pn**	**21 35 23.6**	**0.0**
KAN01	comp=Z,297nm,0.8s			IAmb_Lg			21 35 44.3	
KAN10	**Anthony SW Sta**	**1.59**	**326**			**Pn**	**21 35 25.3**	**+0.2**
KAN08	**Anthony NE Sta**	**1.62**	**331**			**Pn**	**21 35 25.4**	**-0.2**
KAN16	**Harper SW Stat**	**1.66**	**329**			**Pn**	**21 35 26.5**	**+0.3**
KAN12	**Harper NE Stat**	**1.70**	**332**			**Pn**	**21 35 27.0**	**+0.4**
U32A	**Winter Ranch,**	**1.73**	**290**			**Pn**	**21 35 27.4**	**+0.4**
U32A	**Winter Ranch,** baz=109,SNR=21	**1.73**	**290**	P		**Pn**	**21 35 27.7**	**+0.7**
U32A	baz=109			Sb		**Sg**	**21 35 51.4**	**-0.7**
U32A	**Winter Ranch,** baz=109,SNR=21	**1.73**	**290**	P			21 35 27.7	
U32A	baz=109			Sb			21 35 51.4	
X37A	**Clayton**	**1.80**	**132**			**Pn**	**21 35 28.2**	**+0.3**
X37A	**Clayton** baz=313,SNR=88	**1.80**	**132**	P		**Pn**	**21 35 28.2**	**+0.3**
X37A	baz=313			S		**Sb**	**21 35 52.2**	**-0.3**
X37A	**Clayton** baz=313,SNR=88	**1.80**	**132**	P			21 35 28.2	
X37A	baz=313			S			21 35 52.2	
WMOK	**Wichita Mounta**	**1.81**	**235**			**Pn**	**21 35 28.0**	**-0.1**
WMOK	**Wichita Mounta** baz=54,SNR=160	**1.81**	**235**	P		**Pn**	**21 35 28.2**	**0.0**
WMOK	baz=54			S		**Sb**	**21 35 52.4**	**-0.4**
WMOK	**Wichita Mounta** baz=54,SNR=160	**1.81**	**235**	P			21 35 28.2	
WMOK	baz=54			S			21 35 52.4	
LOOK	**Love County**	**1.81**	**185**			**Pn**	**21 35 28.8**	**+0.6**
LOOK	comp=Z,213nm,0.7s			IAmb_Lg			21 35 56.7	
U38A	**Gravette**	**2.21**	**72**	Pn		**Pn**	**21 35 34.1**	**+0.5**
U38A	**Gravette** baz=254,SNR=40	**2.21**	**72**	P		**Pn**	**21 35 33.5**	**-0.1**
U38A	**Gravette** baz=254,SNR=40	**2.21**	**72**	P			21 35 33.5	
Z35A	**Perchaven, San**	**2.48**	**185**	Pn		**Pn**	**21 35 37.7**	**+0.4**
Z35A	comp=Z,140nm,1.2s			IAmb_Lg			21 36 20.0	
Z35A	**Perchaven, San** baz=5.0	**2.48**	**185**	P		**Pn**	**21 35 37.7**	**+0.4**
Z35A	**Perchaven, San** baz=5.0	**2.48**	**185**	P			21 35 37.7	
HHAR	**Hobbs**	**2.52**	**78**			**Pn**	**21 35 38.2**	**+0.3**
W39A	**Magazine**	**2.69**	**102**	Pn		**Pn**	**21 35 40.4**	**+0.2**
W39A	comp=Z,164nm,0.7s			IAmb_Lg			21 36 25.4	
W39A	**Magazine** baz=284,SNR=20	**2.69**	**102**	P		**Pn**	**21 35 40.4**	**+0.2**
W39A	baz=284			S		**Sn**	**21 36 14.0**	**+1.0**
W39A	**Magazine** baz=284,SNR=20	**2.69**	**102**	P			21 35 40.4	
W39A	baz=284			S			21 36 14.0	
R32A	**Long Quarter,**	**2.95**	**333**			**Pn**	**21 35 44.5**	**+0.5**
Z38A	**Mt. Pleasant**	**3.03**	**146**	Pn		**Pn**	**21 35 45.1**	**+0.2**
MIAR	**Mount Ida**	**3.07**	**113**	Pn		**Pn**	**21 35 45.7**	**+0.2**
MIAR	comp=Z,92nm,0.8s			IAmb_Lg			21 36 37.7	
MIAR	**Mount Ida** baz=295,SNR=71	**3.07**	**113**	P		**Pn**	**21 35 45.5**	**0.0**
MIAR	baz=295			S		**Sn**	**21 36 23.5**	**+1.2**
MIAR	**Mount Ida** baz=295,SNR=71	**3.07**	**113**	P			21 35 45.5	
MIAR				S			21 36 23.5	
KSU1	**Kansas State U**	**3.31**	**5**			**Pn**	**21 35 49.2**	**+0.4**
KSU1	comp=Z,128nm,0.7s			IAmb_Lg			21 36 42.9	
U40A	**Yellville**	**3.40**	**79**			**Pn**	**21 35 49.8**	**-0.2**
U40A	**Yellville** baz=262,SNR=26	**3.40**	**79**	P		**Pn**	**21 35 49.7**	**-0.3**
U40A	**Yellville** baz=262,SNR=26	**3.40**	**79**	P			21 35 49.7	
U40A	baz=262,SNR=26			P			21 35 49.7	
S39A	**Bolivar**	**3.50**	**56**			**Pn**	**21 35 51.6**	**+0.2**
S39A	**Bolivar** baz=238,SNR=27	**3.50**	**56**	P		**Pn**	**21 35 51.1**	**-0.3**
S39A	baz=238			S		**Sn**	**21 36 34.2**	**+1.2**
S39A	**Bolivar** baz=238,SNR=27	**3.50**	**56**	P			21 35 51.1	
S39A	baz=238			S			21 36 34.2	
X40A	**Basin Creek Fa**	**3.65**	**110**			**Pn**	**21 35 53.3**	**-0.1**
CBKS	**Cedar Bluff** comp=Z,71nm,0.8s	**3.72**	**325**	IAmb_Lg			21 37 05.0	
WHTX	**Lake Whitney,**	**3.82**	**186**			**Pn**	**21 35 55.9**	**+0.1**
WLAR	**White Oak Lake**	**3.83**	**122**	Pn		**Pn**	**21 35 55.3**	**-0.6**
WHAR	**Wooly Hollow**	**3.87**	**96**	Pn		**Pn**	**21 35 56.8**	**+0.3**
WHAR	comp=Z,130nm,0.8s			IAmb_Lg			21 37 05.1	
237A	**Washetta, Mont**	**3.92**	**165**	Pn		**Pn**	**21 35 57.0**	**-0.1**
W41B	**Gary Mavity, V** baz=280,SNR=56	**3.92**	**98**	P		**Pn**	**21 35 57.4**	**+0.2**
W41B	**Gary Mavity, V** baz=280,SNR=56	**3.92**	**98**	P			21 35 57.4	
FCAR	**Ozark Folk Cen**	**3.96**	**87**			**Pn**	**21 35 57.6**	**-0.1**
MGMO	**Mountain Grove**	**4.04**	**69**			**Pn**	**21 35 58.9**	**0.0**
MGMO	comp=Z,163nm,0.8s			IAmb_Lg			21 37 11.5	
R40A	**Maddies Statio** comp=Z,55nm,0.8s	**4.52**	**55**	IAmb_Lg			21 37 18.8	
R40A	**Maddies Statio** baz=238,SNR=9.9	**4.52**	**55**	P		**Pn**	**21 36 05.5**	**0.0**
R40A	**Maddies Statio** baz=238,SNR=9.9	**4.52**	**55**	P			21 36 05.5	
CCAR	**Cane Creek** comp=Z,85nm,0.8s	**4.69**	**112**	IAmb_Lg			21 37 36.2	
P38A	**Dawn**	**4.70**	**35**			**Pn**	**21 36 08.0**	**+0.1**
P38A	comp=Z,71nm,0.7s			IAmb_Lg			21 37 35.6	
P38A	**Dawn** baz=217,SNR=6.5	**4.70**	**35**	P		**Pn**	**21 36 08.4**	**+0.5**
P38A	**Dawn** baz=217,SNR=6.5	**4.70**	**35**	P			21 36 08.4	
LCAR	**Lake Charles**	**4.75**	**85**			**Pn**	**21 36 07.5**	**-1.0**
LCAR	comp=Z,82nm,0.8s			IAmb_Lg			21 37 31.0	
T42A	**Van Buren**	**4.91**	**74**			**Pn**	**21 36 10.6**	**-0.2**
T42A	comp=Z,100nm,1.0s			IAmb_Lg			21 37 40.9	
T42A	**Van Buren** baz=257,SNR=9.2	**4.91**	**74**	P		**Pn**	**21 36 10.7**	**-0.1**
T42A	**Van Buren** baz=257,SNR=9.2	**4.91**	**74**	P			21 36 10.7	
N33A	**J Bar K, Exete** comp=Z,114nm,0.8s	**4.94**	**356**	IAmb_Lg			21 37 37.9	
435B	**Jarrell** comp=Z,129nm,1.0s	**5.03**	**186**	IAmb_Lg			21 37 41.0	
MSTX	**Muleshoe** comp=Z,53nm,1.1s	**5.09**	**251**	IAmb_Lg			21 37 45.1	
CCM	**Cathedral Cave**	**5.12**	**62**	Pn		**Pn**	**21 36 13.7**	**-0.1**
CCM	comp=Z,54nm,0.8s			IAmb_Lg			21 37 47.2	
PBMO	**Poplar Bluff** comp=Z,87nm,0.7s	**5.39**	**78**	IAmb_Lg			21 37 49.6	
P40A	**Paris**	**5.41**	**45**	Pn		**Pn**	**21 36 17.6**	**0.0**
P40A	comp=Z,82nm,0.9s			IAmb_Lg			21 37 56.0	
LPAR	**Lepanto** comp=Z,118nm,0.7s	**5.45**	**90**	IAmb_Lg			21 38 00.6	
KSCO	**Kaye Shedlock'**	**5.51**	**307**			**Pn**	**21 36 19.9**	**+0.8**
KSCO	comp=Z,42nm,0.8s			IAmb_Lg			21 38 05.0	
143A	**Socs Landing,** comp=Z,43nm,0.7s	**5.57**	**122**	IAmb_Lg			21 38 07.5	
BGNE	**Belgrade** comp=Z,43nm,0.7s	**5.67**	**351**	IAmb_Lg			21 38 02.6	
N38A	**Joes South For** comp=Z,100nm,0.8s	**5.79**	**30**	IAmb_Lg			21 38 08.1	
N38A	**Joes South For** baz=212,SNR=5.6	**5.79**	**30**	P		**Pn**	**21 36 22.7**	**-0.2**
N38A	**Joes South For** baz=212,SNR=5.6	**5.79**	**30**	P			21 36 22.7	
JCT	**Junction City** comp=Z,58nm,0.7s	**5.81**	**205**	IAmb_Lg			21 38 07.5	
SLM	**Saint Louis** comp=Z,67nm,0.9s	**6.09**	**60**	IAmb_Lg			21 38 06.7	
OXF	**Oxford** comp=Z,66nm,0.8s	**6.34**	**100**	IAmb_Lg			21 38 17.7	
W45A	**Hickory Valley** comp=Z,82nm,0.8s	**6.40**	**94**	IAmb_Lg			21 38 22.7	
Y45A	**Yeager Farm, C** comp=Z,51nm,0.8s	**6.42**	**105**	IAmb_Lg			21 38 27.1	
OGNE	**Ogallala** comp=Z,48nm,0.7s	**6.48**	**324**	IAmb_Lg			21 38 33.8	
Q44A	**Meyer Farm, Va** comp=Z,58nm,0.9s	**7.07**	**62**	IAmb_Lg			21 38 53.4	
PLAL	**Pickwick Lake** comp=Z,45nm,0.9s	**7.33**	**94**	IAmb_Lg			21 38 59.2	
WVT	**Waverly** comp=Z,39nm,0.9s	**7.44**	**85**	IAmb_Lg			21 39 05.1	
OLIL	**Olney** comp=Z,58nm,0.9s	**7.67**	**65**	IAmb_Lg			21 39 14.0	
HDIL	**Hopedale** comp=Z,59nm,0.8s	**7.70**	**50**	IAmb_Lg			21 39 17.3	
L40A	**Anamosa** comp=Z,70nm,1.1s	**7.70**	**34**	IAmb_Lg			21 39 01.2	
O44A	**Mansfield** comp=Z,42nm,0.8s	**8.01**	**55**	IAmb_Lg			21 39 13.1	
V48A	**Smith Brothers** comp=Z,30nm,0.7s	**8.27**	**87**	IAmb_Lg			21 39 28.3	
L42A	**Oliver, Polo** comp=Z,36nm,0.7s	**8.42**	**40**	IAmb_Lg			21 39 28.5	
CLTN	**Cedars of Leba** comp=Z,32nm,1.0s	**8.65**	**85**	IAmb_Lg			21 39 31.3	
I37A	**Lemond, Waseca** comp=Z,36nm,0.7s	**8.65**	**17**	IAmb_Lg			21 39 34.8	
SUSD	**Miller** comp=Z,53nm,0.9s	**8.76**	**351**	IAmb_Lg			21 39 46.2	
JFWS	**Jewell Farm** comp=Z,42nm,0.7s	**8.81**	**34**	IAmb_Lg			21 39 37.1	
WCI	**Wyandotte Cave** comp=Z,39nm,0.9s	**8.89**	**71**	IAmb_Lg			21 39 44.1	
Y49A	**Blount Mountai** comp=Z,22nm,0.8s	**8.91**	**100**	IAmb_Lg			21 39 51.8	
M44A	**Midewin, Midew** comp=Z,28nm,0.8s	**8.95**	**49**	IAmb_Lg			21 39 47.4	
BLO	**Bloomington** comp=Z,56nm,0.7s	**8.98**	**65**	IAmb_Lg			21 39 48.8	
SFIN	**Lafayette** comp=Z,30nm,0.8s	**9.04**	**57**	IAmb_Lg			21 39 39.1	
SWET	**Sewanee** comp=Z,28nm,0.7s	**9.04**	**90**	IAmb_Lg			21 39 49.3	
U49A	**Red Boiling Sp** comp=Z,44nm,1.2s	**9.10**	**82**	IAmb_Lg			21 39 49.2	
FPAL	**Fort Paine** comp=Z,22nm,0.7s	**9.40**	**94**	IAmb_Lg			21 40 01.3	
I40A	**Norwalk** comp=Z,21nm,0.7s	**9.45**	**29**	IAmb_Lg			21 40 00.9	
W50A	**Signal Mountai** comp=Z,44nm,0.9s	**9.54**	**90**	IAmb_Lg			21 40 05.2	
K43A	**Burlington** comp=Z,44nm,1.0s	**9.62**	**42**	IAmb_Lg			21 40 03.4	
R49A	**Shelbyville** comp=Z,26nm,1.1s	**9.77**	**72**	IAmb_Lg			21 40 31.3	
P48A	**Milroy** comp=Z,41nm,0.8s	**9.87**	**65**	IAmb_Lg			21 40 15.0	
T50A	**Nancy** comp=Z,25nm,0.8s	**9.87**	**79**	IAmb_Lg			21 40 20.1	
RWWY	**Rawlins** comp=Z,20nm,0.8s	**9.91**	**309**	IAmb_Lg			21 40 28.9	
SPMN	**Marine on St.** comp=Z,22nm,0.9s	**9.94**	**17**	IAmb_Lg			21 40 23.1	

NEIC ***02*** *21:44:43.7±1.9,52°.09N±0°.08×171°.88W±0°.03,h34km±7km, Error ellipse: s-maj=11.7km s-min=2.0km az=170.0*
AEIC 02 21:44:41.4±1.8,51°.8N±0°.1×171°.80W±0°.08,h42km±8km, ML3.0/30,mb3.6/10(NEIC),Error ellipse: s-maj=18.2km

s-min=5.6km az=166.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.49**	**292**		Pn	21 45 07.2	+1.5
KOSE					Sn	21 45 26.0	+2.0
KOFP	**Korovin Flat P**	**1.50**	**290**		Pn	21 45 06.6	+0.8
KOFP					Sn	21 45 25.9	+1.8
ATKA	**Atka Island**	**1.53**	**286**		Pn	21 45 06.4	+0.2
ATKA				Sn	Sn	21 45 25.3	+0.4
KOKL	**Mount Kliuchef**	**1.57**	**291**		Pn	21 45 08.0	+1.1
KOKL					Sn	21 45 27.7	+1.7
KOWE	**Korovin West**	**1.61**	**292**		Pn	21 45 08.7	+1.3
NIKH	**Nikolski High**	**2.16**	**56**		Pn	21 45 14.9	+0.1
GSMY	**Great Sitkin M**	**2.65**	**277**		Pn	21 45 22.4	+0.9
GSMY					Sn	21 45 53.9	+1.5
GSTR	**Great Sitkin T**	**2.65**	**278**		Pn	21 45 22.9	+1.2
GSTR	**Great Sitkin T**	**2.65**	**278**		Sn	21 45 55.3	+2.7
GSTD	**Great Sitkin T**	**2.70**	**277**		Pn	21 45 23.7	+1.4
GSTD					Sn	21 45 54.3	+0.5
OKSO	**Okmok South**	**2.72**	**53**		Pn	21 45 24.0	+1.5
OKFG	**Magazine Ridge**	**2.87**	**54**		Pn	21 45 25.9	+1.3
ADAG	**Mount Adagdak**	**2.98**	**275**		Pn	21 45 27.7	+1.6
ADK	**Adak**	**3.03**	**274**		Pn	21 45 27.8	+1.0
ADK				Sn	Sn	21 46 02.3	+0.6
KIMD	**Kanaga Island**	**3.37**	**272**		Pn	21 45 32.9	+1.4
MAPS	**Pakushin South**	**3.57**	**54**		Pn	21 45 35.4	+1.1
MGOD	**Makushin Gods**	**3.60**	**54**		Pn	21 45 35.7	+1.1
MSW	**Makushin Switc**	**3.71**	**53**		Pn	21 45 37.5	+1.3
MNAT	**Makushin Natee**	**3.74**	**54**		Pn	21 45 37.9	+1.3
TASE	**Tanaga Southea**	**3.87**	**273**		Pn	21 45 40.0	+1.6
ZRO	**Akutan Zero**	**4.21**	**55**		Pn	21 45 44.5	+1.6
AKUT	**Akutan**	**4.33**	**55**	Pn	Pn	21 45 46.2	+1.6
SPIA	**Saint Paul Isl**	**5.47**	**9**	Pn	Pn	21 45 59.8	-0.4
SVW2	**Sparrevohn**	**12.90**	**37**	Pn	Pn	21 47 41.6	-0.3
SCM	**Sheep Creek Mo**	**16.64**	**43**	Pn	Pn	21 48 31.0	-0.3
SCM				IAmb	IAmb	21 48 42.7	
	comp=Z,12nm,1.4s						
I23K	**Minto, Yukon-K**	**17.65**	**32**		Pn	21 48 43.7	-0.1
DOT	**Dot Lake**	**18.79**	**40**	P	P	21 48 57.1	+0.1
DOT				IAmb	IAmb	21 49 12.2	
	comp=Z,4.0nm,1.3s						
SCRK	**Sand Creek**	**18.97**	**39**	P	Pn	21 48 59.7	-0.2
L27K	**Beaver Creek,**	**19.47**	**43**	P	Pn	21 49 06.7	+0.8
L27K				IAmb	IAmb	21 49 28.6	
	comp=Z,2.1nm,1.2s						
TOLK	**Toolik Lake Re**	**19.96**	**24**	P	Pn	21 49 11.5	-0.2
TOLK				IAmb	IAmb	21 49 12.3	
	comp=Z,2.3nm,0.9s						
BMAR	**Burnt Mountain**	**20.57**	**30**	P	P	21 49 17.4	+1.0
HYT	**Haines Junctio**	**20.83**	**51**	P	Pn	21 49 21.5	-0.4
HYT				IAmb	IAmb	21 49 42.2	
	comp=Z,3.4nm,1.2s						
MK31	**Makanchi Array**	**63.09**	**312**	P	P	21 55 03.8	-0.5
MK31				IAmb	IAmb	21 55 04.0	
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**63.09**	**312**	P	P	21 55 03.9	-0.4
ARU	**Arti**	**64.43**	**332**	P	P	21 55 12.9	0.0
BOOM	**Boomskoye usch**	**69.30**	**313**	P	P	21 55 44.4	0.0
ABKAR	**Akbulak array**	**70.11**	**327**	P	P	21 55 49.0	+0.1
ABKAR	**Akbulak array**	**70.11**	**327**	P	P	21 55 49.0	0.0
ABKAR				IAmb	IAmb	21 55 49.2	
	comp=Z,0.8nm,0.5s						

*BJI **02** 21:57:53.7±0.0, 24˚.56S×176˚.97W, h92km, mB5.2/11, mb4.8/17*

*NEIC **02** 21:57:55.3±1.9, 24˚.78S±0˚.07×177˚.2W±0˚.1, h88km±2km, mb4.9/56, Error ellipse: s-maj=14.2km s-min=10.4km az=107.0*

*NOU **02** 21:57:57.1, 24˚.90S×176˚.33W, h151km, mb5.3, South of Fiji Islands*

*IDC **02** 21:57:59.7±0.6, 24˚.89S×177˚.38W, h129km±4km, mb4.2/20, mb1 4.4/21, mb1mx4.3/30, mbtmp4.6/21, MS3.6/12, Ms1 3.6/12, ms1mx3.4/26, Error ellipse: s-maj=15.4km s-min=12.3km az=109.0*

*GCMT **02** 21:58:00.3±0.3, 24˚.95S±0˚.02×177˚.04W±0˚.02, h144km±2km, MW5.0/98, Moment Tensor Solution. s39, c39; s98, c131; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.49±.12; Mθθ -4.15±.15; Mϕϕ 1.66±.15; Mrθ -1.73±.11; Mθϕ 0.86±.16; Mϕr -1.66±.10; Best double couple: M=4.41200×10^16 NP1: ϕ=131.0000°, δ=45.00000°, λ=146.00000°. NP2: ϕ=247.00000°, δ=67.00000°, λ=51.00000°. Principal axes: T 4.2170, Plg51.0000°, Azm111.0000°; N 0.3190, Plg36.0000°, Azm265.0000°; P -4.6070, Plg13.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 1:57:54.5±0.4, 24˚.81S±0˚.05×177˚.16W±0˚.06, h90km±3km, h90km:pP-P, n237, σ1=58/247, mb4.8/54, 16C-15D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.48**	**188**	P	**Pn**	**21 59 01.5**	**+1.5**
	124nm,0.3s,baz=90,slow=20,SNR=2.7						
RAO				S	**Sn**	**21 59 54.1**	**+3.2**
	466nm,0.3s,baz=191,slow=23,SNR=6.5						
RAO	**Raoul Island**	**4.48**	**188**	Pn	**Pn**	**21 59 00.4**	**+0.4**
RAO	**Raoul Island**	**4.48**	**188**	P	**Pn**	**21 59 03.8**	**+3.8**
LKBA	**Tubou, Lakemba**	**6.72**	**346**	P	Pn	21 59 37.8	+7.2
MSVF	**Nonsavu**	**8.33**	**327**	P	Pn	22 00 00.6	+8.0
	5.2nm,0.3s,baz=151,slow=12,SNR=111						
MSVF				LR	LR	22 02 47.4	
	comp=Z,661nm,21.1s,baz=137,slow=35						
MSVF	**Nonsavu**	**8.33**	**327**	P	Pn	22 00 00.3	+7.6
NIUE	**Niue**	**8.81**	**51**	Pn	**Pn**	**21 59 58.8**	**-0.3**
DGTI	**Dogotuki**	**8.95**	**340**	P	Pn	22 00 09.5	+8.5
AFI	**Afiamalu**	**11.97**	**26**	P	**Pn**	**22 00 38.8**	**-3.3**
	78nm,0.3s,baz=236,slow=8.0,SNR=31						
AFI				S	Sn	22 02 42.3	-12
	19nm,0.3s,baz=19,slow=22,SNR=5.6						
AFI	**Afiamalu**	**11.97**	**26**	P	**Pn**	**22 00 39.3**	**-2.8**
URZ	**Urewera**	**14.27**	**199**	P	**P**	**22 01 15.3**	**-1.4**
	5.6nm,0.3s,baz=122,slow=23,SNR=15						
URZ				S	Sn	22 03 33.2	-16
	4.3nm,0.3s,baz=120,slow=22,SNR=1.8						
URZ				LR	LR	22 05 30.8	
	comp=Z,158nm,19.2s,baz=31,slow=32						
URZ	**Urewera**	**14.27**	**199**	Pn	**Pn**	**22 01 11.5**	**-0.7**
TARZ	**Mount Tarawera**	**14.43**	**200**	P	P	22 01 37.1	+18
YATNC	**Mamie plateau,**	**14.89**	**277**	P	P	22 01 31.2	+7.4
LIFNC	**LIFOU**	**14.93**	**282**	Pn	**Pn**	**22 01 21.9**	**+1.1**
BKZ	**Black Stump Fm**	**15.29**	**199**	P	**Pn**	**22 01 23.5**	**-1.8**
DZM	**Mont Dzumac**	**15.29**	**277**	*e*Pn	**P**	**22 01 28.7**	**+0.4**
	85nm,1.4s						
DZM				*e*LR	LR	22 05 05.3	
	comp=Z,278nm,29.1s						
DZM	**Mont Dzumac**	**15.29**	**277**	P	**P**	**22 01 32.2**	**+3.9**
	0.4nm,0.3s,baz=96,slow=20,SNR=5.6						
DZM				LR	LR	22 05 13.3	
	comp=Z,175nm,18.5s,baz=116,slow=29						
DZM	**Mont Dzumac**	**15.29**	**277**	P	**P**	**22 01 28.2**	**-0.2**
DZM	**Mont Dzumac**	**15.29**	**277**	P	**P**	**22 01 34.2**	**+5.9**
DVP	**Devils Point**	**15.36**	**294**	P	P	22 01 35.8	+6.8
OTVZ	**Oturere**	**15.54**	**201**	P	**Pn**	**22 01 29.3**	**+0.7**
SNVZ	**South Ngauruho**	**15.57**	**201**	P	**Pn**	**22 01 29.2**	**+0.2**
BHHZ	**Black Hill Sta**	**15.71**	**200**	P	**Pn**	**22 01 28.1**	**-2.6**
KAHZ	**Kahuranaki**	**15.76**	**197**	P	**Pn**	**22 01 28.5**	**-2.6**
PXZ	**Pawanui**	**15.99**	**197**	P	**Pn**	**22 01 32.5**	**-1.6**
PNHZ	**Pukenui**	**16.06**	**199**	P	**Pn**	**22 01 31.6**	**-3.4**
TSZ	**Takapari Road**	**16.27**	**199**	P	**Pn**	**22 01 34.3**	**-3.3**
RAR	**Rarotonga**	**16.41**	**81**	P	**Pn**	**22 01 38.6**	**-0.7**
	1.1nm,0.3s,baz=234,slow=9.7,SNR=5.9						
RAR				S	Sn	22 04 29.0	-12
	2.5nm,0.3s,baz=95,slow=16,SNR=2.3						
RAR	**Rarotonga**	**16.41**	**81**	P	Pn	22 01 29.7	-10
FUNA	**Funafuti**	**16.56**	**347**	P	**P**	**22 01 41.9**	**-0.5**
FUNA				IAmb	IAmb	22 01 45.2	
	comp=Z,114nm,1.2s						
BFZ	**Birch Farm**	**16.76**	**198**	P	**Pn**	**22 01 40.6**	**-3.0**
MRZ	**Mangatainoka R**	**16.93**	**199**	P	**Pn**	**22 01 42.4**	**-3.4**
HOWZ	**Holdsworth Sta**	**17.17**	**199**	P	**Pn**	**22 01 42.8**	**-5.9**
OGWZ	**Otaki Gorge**	**17.20**	**200**	P	**Pn**	**22 01 44.3**	**-4.8**
TMWZ	**Te Maipa**	**17.26**	**198**	P	**Pn**	**22 01 45.3**	**-4.4**
SANVU	**Saraoutou**	**17.37**	**299**	P	**P**	**22 01 50.8**	**-0.5**
SANVU				IAmb	IAmb	22 01 59.7	
	comp=Z,131nm,0.8s						
SANVU	**Saraoutou**	**17.37**	**299**	P	**P**	**22 01 57.0**	**+5.7**
KNTN	**Kanton**	**22.53**	**14**	P	**P**	**22 02 47.2**	**+0.1**
TBI	**Tubuai**	**25.32**	**92**	*e*LR	LR	22 09 33.4	
	comp=Z,158nm,33.8s						
TBI	**Tubuai**	**25.32**	**92**	*e*T	T	22 28 48.0	
	comp=Z,30nm,0.4s						
PAE	**Paea**	**26.64**	**80**	*e*T	T	22 29 52.3	
	comp=Z,8.7nm,0.3s						
PPT2	**Papeete2**	**26.67**	**80**	*e*LR	LR	22 10 13.5	
	comp=Z,272nm,29.5s						
PPT2	**Papeete2**	**26.67**	**80**	*e*T	T	22 29 57.5	
	comp=Z,9.5nm,0.3s						
PPT	**Papeete**	**26.68**	**80**	LR	LR	22 12 09.7	
	comp=Z,114nm,18.6s,baz=244,slow=32						
TARA	**Tarawa**	**27.73**	**338**	P	**P**	**22 03 33.9**	**-0.7**
TARA	**Tarawa**	**27.73**	**338**	P	**P**	**22 03 35.0**	**+0.4**
MEH	**Mehetia**	**27.93**	**81**	*e*T	T	22 31 40.2	
	comp=Z,30nm,0.3s						
EIDS	**Eidsvold**	**28.73**	**262**	P	**P**	**22 03 43.9**	**+0.4**
CTAO	**Charters Tower**	**34.07**	**270**	P	**P**	**22 04 31.7**	**+1.2**
TOO	**Toolangi**	**34.17**	**239**	P	**P**	**22 04 31.4**	**+0.2**
TOO				IAmb	IAmb	22 04 33.4	
	comp=Z,8.8nm,0.7s						
STKA	**Stephens Creek**	**36.81**	**249**	P	**P**	**22 04 52.8**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=88,slow=12,SNR=12						
STKA				PcP	**PcP**	**22 07 14.8**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=22,slow=4.3,SNR=6.6						
STKA				LR	LR	22 17 45.1	
	comp=Z,117nm,19.0s,baz=55,slow=32						
STKA	**Stephens Creek**	**36.81**	**249**	P	**P**	**22 04 53.2**	**-0.6**
RKT	**Rikitea**	**38.48**	**96**	*e*T	T	22 45 28.7	
	comp=Z,4.2nm,0.3s						
TAOE	**Nuku Hiva Isla**	**38.66**	**72**	*e*LR	LR	22 15 49.0	
	comp=Z,223nm,30.0s						
BBOO	**Buckleboo**	**41.48**	**248**	P	**P**	**22 05 31.8**	**-1.0**
BBOO				IAmb	IAmb	22 05 43.1	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**44.44**	**261**	P	**P**	**22 05 54.8**	**-2.0**
ASAR	**Alice Springs**	**44.44**	**261**	P	**P**	**22 05 55.5**	**-1.4**
	comp=Z,2.4nm,0.4s,baz=98,slow=8.0,SNR=21						
ASAR				pP	**sP**	**22 06 26.7**	**-1.2**
	comp=Z,10nm,0.8s,baz=99,slow=8.2,SNR=11						
ASAR				PcP	**PcP**	**22 07 38.8**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=110,slow=4.5,SNR=4.7						
ASAR				LR	LR	22 24 47.2	
	comp=Z,68nm,18.4s,baz=116,slow=36						
ASAR	**Alice Springs**	**44.44**	**261**	P	**P**	**22 05 56.4**	**-0.5**
WR0	**Warramunga Arr**	**44.74**	**266**	P	**P**	**22 05 57.6**	**-1.6**
WR0				IAmb	IAmb	22 06 00.7	
	comp=Z,15nm,1.0s						
WB2	**Warramunga Arr**	**44.91**	**266**	P	**P**	**22 05 59.1**	**-1.5**
WB2				IAmb	IAmb	22 06 01.7	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**44.93**	**266**	P	**P**	**22 05 59.3**	**-1.4**
	comp=Z,6.8nm,0.4s,baz=100,slow=6.2,SNR=89						
WRA				pP	**sP**	**22 06 29.2**	**-2.6**
	comp=Z,7.3nm,0.8s,baz=101,slow=6.8,SNR=4.7						
WRA				PcP	**PcP**	**22 07 40.5**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=102,slow=3.5,SNR=7.3						
WRA	**Warramunga Arr**	**44.93**	**266**	P	**P**	**22 05 59.0**	**-1.7**
FORT	**Forrest**	**48.43**	**250**	P	**P**	**22 06 26.1**	**-1.8**
FORT				IAmb	IAmb	22 06 26.4	
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	**51.27**	**269**	P	**P**	**22 06 48.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.34**	**265**	P	**P**	**22 07 04.3**	**-0.5**
FITZ				IAmb	IAmb	22 07 07.2	
	comp=Z,14nm,0.9s						
SBA	**Scott Base**	**53.65**	**184**	P	**P**	**22 07 08.1**	**+1.9**
VNDA	**Vanda**	**53.71**	**186**	P	**P**	**22 07 07.5**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=357,slow=7.8,SNR=12						
VNDA				PcP	**PcP**	**22 08 12.4**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=340,slow=3.5,SNR=1.9						
VNDA	**Vanda**	**53.71**	**186**	P	**P**	**22 07 08.0**	**+1.3**
VNDA				IAmb	IAmb	22 07 09.4	
	comp=Z,9.8nm,1.1s						
SOEI	**Soe**	**57.49**	**274**	P	**P**	**22 07 36.8**	**+1.9**
	comp=Z,36nm,0.8s						
PSA00	**Pilbara Seismi**	**57.54**	**259**	P	**P**	**22 07 34.0**	**-1.1**
MORW	**Morawa**	**58.99**	**250**	P	**P**	**22 07 43.5**	**-1.5**
MORW				IAmb	IAmb	22 08 07.5	
	comp=Z,16nm,1.1s						
PLAI	**Plampang**	**63.75**	**272**	P	**P**	**22 08 16.5**	**-0.8**
	comp=Z,40nm,0.8s						
TWSI	**Taliwang, Sumb**	**64.59**	**272**	P	**P**	**22 08 22.7**	**-0.1**
	comp=Z,952nmcomp=Z,10nm,0.9s						
QSPA	**South Pole Qui**	**65.28**	**180**	P	**P**	**22 08 27.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**67.18**	**271**	P	**P**	**22 08 38.4**	**-1.0**
JAGI				IAmb	IAmb	22 08 57.9	
	comp=Z,23nm,1.2s						
LEM	**Lembang**	**73.77**	**270**	LR	LR	22 42 21.6	
	comp=Z,58nm,18.6s,baz=168,slow=36						
LEM	**Lembang**	**73.77**	**270**	P	**P**	**22 09 19.7**	**0.0**
	comp=Z,19nm,0.8s						
MJAR	**Matsushiro Ant**	**74.13**	**324**	P	**P**	**22 09 19.7**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=160,slow=6.6,SNR=5.2						
MJAR				LR	LR	22 36 41.9	
	comp=Z,14nm,21.5s,baz=250,slow=31						
BELA	**Belgrano 2**	**75.21**	**172**	P	**P**	**22 09 26.0**	**-0.8**
JTM	**Tenmabayashi**	**75.93**	**329**	P	**P**	**22 09 31.4**	**+0.1**
JTM				IAmb	IAmb	22 09 33.4	
	comp=Z,29nm,1.5s						
ADK	**Adak**	**76.36**	**0**	P	**P**	**22 09 34.3**	**+0.8**
GSTR	**Great Sitkin T**	**76.58**	**1**	P	**P**	**22 09 35.5**	**+0.7**
ATKA	**Atka Island**	**76.72**	**2**	P	**P**	**22 09 35.9**	**+0.4**
KASI	**Kota Agung**	**77.13**	**270**	P	**P**	**22 09 37.2**	**-1.6**
	comp=Z,386nm,1.0s						
NIKH	**Nikolski High**	**77.79**	**5**	P	**P**	**22 09 41.9**	**+0.4**
MAW	**Mawson**	**77.79**	**200**	P	**P**	**22 09 41.9**	**+0.4**
	comp=Z,15nm,0.5s,baz=132,slow=6.6,SNR=81						
MAW				pP	**sP**	**22 10 13.6**	**-0.5**
	comp=Z,10nm,1.0s,baz=93,slow=5.9,SNR=3.3						
MAW	**Mawson**	**77.79**	**200**	P	**P**	**22 09 41.7**	**+0.2**
MDSI	**Maura Dua**	**77.84**	**271**	P	**P**	**22 09 42.0**	**-0.7**
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**77.86**	**332**	P	**P**	**22 09 43.7**	**+1.6**
	comp=Z,3.1nm,0.4s,baz=228,slow=2.4,SNR=4.8						
AKUT	**Akutan**	**79.23**	**7**	P	**P**	**22 09 49.6**	**+0.3**
AKUT				IAmb	IAmb	22 09 51.5	
	comp=Z,26nm,0.9s						
KSI	**Kapahiang**	**79.62**	**271**	P	**P**	**22 09 52.7**	**+0.1**
GO09	**Cerro Castillo**	**79.71**	**142**	P	**P**	**22 09 52.6**	**+0.2**
GO09				IAmb	IAmb	22 10 01.5	
	comp=Z,21nm,1.2s						
PEA0B	**Petropavlovsk-**	**80.61**	**345**	P	**P**	**22 09 57.0**	**+0.1**
PEA0B				IAmb	IAmb	22 09 57.5	
	comp=Z,54nm,1.5s						
PETK	**Petropavlovsk-**	**80.61**	**345**	P	**P**	**22 09 57.4**	**+0.5**
	comp=Z,6.7nm,0.9s,baz=126,slow=7.5,SNR=7.7						
PETK	**Petropavlovsk-**	**80.61**	**345**	P	**P**	**22 09 57.7**	**+0.8**
KSRS	**Korea Array**	**80.62**	**319**	P	**P**	**22 09 58.0**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=127,slow=6.3,SNR=5.1						
KSRS				LR	LR	22 40 58.6	
	comp=Z,18nm,20.0s,baz=154,slow=32						
SLBS	**Sierra La Lagu**	**81.03**	**59**	P	**P**	**22 10 01.2**	**+1.3**
SDPT	**Sand Point**	**81.10**	**10**	P	**P**	**22 10 00.5**	**+1.1**
SYO	**Syowa Base**	**82.71**	**193**	*e*P	**P**	**22 10 07.0**	**-0.9**
USRK	**Ussuriysk Ar.**	**82.94**	**326**	P	**P**	**22 10 11.2**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=136,slow=3.4,SNR=4.6						
USRK	**Ussuriysk Ar.**	**82.94**	**326**	P	**P**	**22 10 10.2**	**+0.8**
NJ2	**Nanjing**	**83.21**	**310**	*e*P	**P**	**22 10 12.9**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVAR	**Mina Array Bea**	**83.64**	**43**	P	**P**	**22 10 15.1**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=226,slow=8.5,SNR=13						
NVAR	**Mina Array Bea**	**83.64**	**43**	P	**P**	**22 10 14.1**	**+0.7**
SNAA	**Sanae**	**83.70**	**178**	P	**P**	**22 10 12.3**	**-0.7**
SNAA	**Sanae**	**83.70**	**178**	P	**P**	**22 10 12.4**	**-0.6**
LL02	**Futaleuf**	**83.74**	**135**	P	**P**	**22 10 14.8**	**+1.1**
LL02				IAmb	IAmb	22 10 15.7	
	comp=Z,27nm,0.9s						
VNA3	**Neumayer Olymp**	**83.81**	**176**	P	**P**	**22 10 12.9**	**-0.7**
VNA2	**Neumayer--Watz**	**84.26**	**177**	P	**P**	**22 10 15.5**	**-0.3**
VNA1	**Neumayer--Stat**	**84.48**	**176**	P	**P**	**22 10 16.5**	**-0.4**
KDAK	**Kodiak Island**	**84.81**	**13**	P	**P**	**22 10 21.2**	**+2.7**
	comp=Z,3.1nm,0.6s,baz=165,slow=20,SNR=2.2						
TUC	**Tucson**	**85.04**	**51**	P	**P**	**22 10 22.2**	**+1.8**
TUC				IAmb	IAmb	22 10 23.7	
	comp=Z,8.7nm,0.8s						
PRN	**Pahroc Range**	**85.06**	**45**	P	**P**	**22 10 21.3**	**+0.9**
319A	**Douglas**	**85.61**	**53**	P	**P**	**22 10 25.0**	**+1.6**
319A				IAmb	IAmb	22 10 26.5	
	comp=Z,13nm,0.8s						
PSI	**Prapat**	**85.64**	**275**	LR	LR	22 49 50.6	
	comp=Z,143nm,18.0s,baz=92,slow=36						
PLCA	**Paso Flores**	**85.77**	**133**	P	**P**	**22 10 24.9**	**+0.9**
	comp=Z,6.9nm,0.8s,baz=230,slow=5.3,SNR=7.1						
ZAIG	**Zacatecas**	**86.43**	**63**	P	**P**	**22 10 28.9**	**+1.1**
KLR	**Kul'dur**	**86.61**	**329**	P	**P**	**22 10 28.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=87,slow=2.5,SNR=4.1						
X18A	**Snowflake**	**86.84**	**50**	P	**P**	**22 10 31.0**	**+1.7**
X18A				IAmb	IAmb	22 10 32.3	
	comp=Z,5.5nm,0.8s						
EFI	**East Falkland**	**87.06**	**147**	P	**P**	**22 10 30.4**	**+0.4**
SVW2	**Sparrevohn**	**87.37**	**10**	P	**P**	**22 10 32.4**	**+1.4**
SVW2				IAmb	IAmb	22 10 40.6	
	comp=Z,8.3nm,1.2s						
MA2	**Magadan**	**88.12**	**344**	P	**P**	**22 10 35.5**	**+0.9**
	comp=Z,3.9nm,0.5s,baz=27,slow=23,SNR=3.5						
MA2	**Magadan**	**88.12**	**344**	P	**P**	**22 10 34.9**	**+0.3**
MA2				IAmb	IAmb	22 10 39.0	
	comp=Z,13nm,0.9s						
TMUT	**Trail Mountain**	**88.62**	**45**	P	**P**	**22 10 39.4**	**+1.5**
TMUT				IAmb	IAmb	22 10 40.6	
	comp=Z,6.0nm,0.7s						
MT01	**Popeta**	**88.62**	**127**	P	**P**	**22 10 37.8**	**-0.1**
MT01				IAmb	IAmb	22 10 38.9	
	comp=Z,12nm,0.9s						
MNTX	**Cornudas Mount**	**88.62**	**54**	P	**P**	**22 10 39.2**	**+1.5**
MNTX				IAmb	IAmb	22 10 40.2	
	comp=Z,5.9nm,0.8s						
LENM	**Lemitar**	**88.73**	**51**	P	**P**	**22 10 39.5**	**+1.1**
TX32	**Lajitas Array**	**88.74**	**57**	P	**P**	**22 10 39.2**	**+0.8**
TXAR	**Lajitas Array**	**88.74**	**57**	P	**P**	**22 10 40.1**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=213,slow=7.0,SNR=21						
TXAR	**Lajitas Array**	**88.74**	**57**	P	**P**	**22 10 39.4**	**+1.0**
SRU	**San Rafael Swe**	**88.96**	**46**	P	**P**	**22 10 40.5**	**+1.1**
BNM	**Barren Site**	**88.97**	**51**	P	**P**	**22 10 40.5**	**+0.9**
MT02	**Curacav**	**89.00**	**126**	P	**P**	**22 10 39.5**	**-0.2**
MT02				IAmb	IAmb	22 10 59.3	
	comp=Z,20nm,1.4s						
TTA	**Tatalina**	**89.04**	**10**	P	**P**	**22 10 40.2**	**+1.2**
TTA				IAmb	IAmb	22 10 45.2	
	comp=Z,5.7nm,1.1s						
GHO	**Glory Hole Cre**	**89.22**	**13**	P	**P**	**22 10 41.0**	**+1.2**
ANMO	**Albuquerque**	**89.50**	**51**	P	**P**	**22 10 42.9**	**+0.9**
TABL	**Table Mountain**	**89.88**	**17**		**P**	**22 10 45.2**	**+2.1**
TABL				IAmb	IAmb	22 11 02.1	
	comp=Z,6.2nm,0.9s						
N25K	**Chitina, Valde**	**90.02**	**15**	P	**P**	**22 10 45.1**	**+1.5**
N25K				IAmb	IAmb	22 10 52.8	
	comp=Z,13nm,1.4s						
GLB	**Gilahina Butte**	**90.07**	**15**	P	**P**	**22 10 45.6**	**+1.8**
SEY	**Seymchan**	**90.72**	**347**	P	**P**	**22 10 47.7**	**+0.9**
	comp=Z,4.9nm,0.7s,baz=151,slow=6.2,SNR=12						
PDAR	**Pinedale Array**	**91.57**	**43**	P	**P**	**22 10 51.8**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=199,slow=4.1,SNR=6.3						
PDAR	**Pinedale Array**	**91.57**	**43**	P	**P**	**22 10 52.0**	**+0.5**
KMI	**Kunming**	**91.98**	**297**	⇓P	**P**	**22 10 55.6**	**+1.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.27**	**289**	P	**P**	**22 10 56.7**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=119,slow=2.7,SNR=9.0						
CMAR	**Chiang Mai Arr**	**92.27**	**289**	P	**P**	**22 10 55.8**	**+0.9**
ILAR	**Eielson Array**	**92.33**	**12**	P	**P**	**22 10 54.5**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=217,slow=6.2,SNR=5.0						
ILAR				pP	**sP**	**22 11 27.4**	**+0.3**
	comp=Z,2.0nm,1.1s,baz=214,slow=6.2,SNR=2.6						
ILAR				PP	**PP**	**22 14 34.6**	**-1.8**
	comp=Z,1.3nm,1.0s,baz=221,slow=6.8,SNR=4.3						
ILAR	**Eielson Array**	**92.33**	**12**	P	**P**	**22 10 55.3**	**+1.1**
HHC	**Hu-ho-hao-te**	**92.89**	**314**	*e*P	**P**	**22 10 57.7**	**+0.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,63nm,5.7s	

KRLC				*e*PKPAB	**PKPab**	22 17 47.1	-3.9
MORC	**Moravsky Berou**	**152.57 339**		⇓P	**PKPbc**	22 17 39.8	-0.6
MORC	**Moravsky Berou**	**152.57 339**		*e*PKP	**PKPbc**	22 17 39.8	-0.6
BRG	**Berggiesshubel**	**152.60 345**		*e*PKP	**PKiKP**	22 17 40.4	-0.1
BRG				Amp		22 17 43.0	
	comp=Z,8.0nm,1.0s						
BRG				*ex*	x	22 17 47.3	
BRG				Amp		22 17 49.4	
	comp=Z,9.2nm,1.0s						
BRG				*ex*	x	22 18 16.1	
BRG				Amp		22 18 18.1	
	comp=Z,12nm,1.2s						
PVCC	**Panska Ves**	**152.76 344**		*e*PKPAB	**PKPab**	22 17 48.1	-3.7
DRGR		**152.92 329**		⇑P	**PKPbc**	22 17 40.7	-0.6
ARR	**Arges**	**152.97 325**		⇑P	**PKiKP**	22 17 42.5	+0.9
PRU	**Pruhonice**	**153.26 343**		*e*PKPAB	**PKPab**	22 17 49.0	-4.9
VRAC	**Vranov**	**153.28 340**		PKPab	**PKPab**	22 17 55.4	+1.3
	comp=Z,3.2nm,0.5s,baz=0.0,slow=3.3,SNR=7.5						
VRAC	**Vranov**	**153.28 340**		*e*PKP	**PKiKP**	22 17 42.3	+0.3
VRAC				*e*		22 17 54.7	
KRUC	**Moravsky**	**153.56 340**		*e*PKP	**PKPbc**	22 17 42.3	-0.2
KRUC				*e*		22 17 55.5	
BZS	**Buzias**	**154.30 329**		⇓P	**PKPab**	22 17 58.0	-0.5
KHC	**Kasperske Hory**	**154.30 344**		*e*PKP	**PKPbc**	22 17 43.9	-0.2
KHC				*e*PKPAB	**pPKPdf**	22 17 59.7	-0.8
KHC				*ex*	x	22 18 31.3	
CKRC	**Cesky Krumlov**	**154.39 342**		*e*PKP	**PKPdf**	22 17 34.8	-1.1
CKRC				⇑*e*PKP	**PKiKP**	22 17 44.6	+0.3
HERR	**Herculane**	**154.44 326**		⇑P	**PKPab**	22 17 58.9	-0.2
GERES	**GERESS Array B**	**154.53 343**		PKP	**PKPdf**	22 17 35.0	-1.2
	comp=Z,0.5nm,0.7s,baz=95,slow=2.8,SNR=5.9						
GERES				PKPab	**PKPab**	22 17 60.0	+0.5
	comp=Z,1.1nm,0.7s,baz=38,slow=2.4,SNR=4.9						
CONA	**Conrad Observa**	**154.72 339**		*e*P	**PKPab**	22 18 01.4	+1.1
	comp=Z,4.3nm,0.7s						
MORH	**Mrgy, Hungar**	**155.15 333**		⇓P	**PKPdf**	22 17 36.5	-0.5
MOA	**Molin**	**155.28 341**		*e*P	**PKPab**	22 18 04.4	+1.8
	comp=Z,3.1nm,0.9s						
ARSA	**Arzberg**	**155.43 339**		*e*P	**PKPab**	22 18 04.0	+0.8
	comp=Z,2.3nm,0.7s						
FRGS	**Fruska Gora**	**155.49 330**		⇓P	**PKPab**	22 18 03.5	-0.1
PERS	**Pernice**	**156.10 339**		*i* PKPab	**PKPab**	22 18 06.4	+0.2
KBA	**Koelnbreinsper**	**156.25 342**		*e*P	**PKPab**	22 18 08.4	+1.5
	comp=Z,2.5nm,0.5s						
WATA	**Walderalm**	**156.47 345**		*e*P	**PKPab**	22 18 09.4	+1.5
WATA				*e*S	**sPKPab**	22 18 41.5	+0.6
	comp=Z,3.6nm,0.8s						
GOLS	**Golise**	**156.47 337**		*e*PKPab	**PKPab**	22 18 07.7	-0.1
RETA	**Reutte**	**156.50 346**		*e*S	sPKPab	22 18 43.7	+2.8
	comp=Z,2.4nm,0.7s						
WTTA	**Wattenberg**	**156.52 345**		*e*P	**PKPab**	22 18 08.8	+0.7
WTTA				*e*S	**sPKPab**	22 18 43.0	+1.9
	comp=Z,3.6nm,0.7s						
MOTA	**Moosalm**	**156.56 346**		*e*P	**PKPab**	22 18 08.6	+0.4
MOTA				*e*S	**sPKPab**	22 18 41.8	+0.5
	comp=Z,7.7nm,1.2s						
MYKA	**Terra Mystica**	**156.57 341**		*e*P	**PKPab**	22 18 07.8	-0.4
	comp=Z,2.8nm,0.5s						
MYKA				*e*S	**sPKPab**	22 18 43.0	+2.0
	comp=Z,0.4nm,0.3s						
ABTA	**Abfaltersbach**	**156.78 343**		*e*P	**PKPab**	22 18 09.1	-0.1
	comp=Z,2.3nm,0.7s						
ABTA				*e*S	**sPKPab**	22 18 42.1	-0.1
	comp=Z,5.7nm,1.1s						
VISS	**Visnje**	**156.93 338**		*e*PKPdf	**PKPdf**	22 17 36.4	-3.0
VISS				*e*PKPab	**PKPab**	22 18 09.6	-0.1
FETA	**Feichten**	**156.95 346**		*e*P	**PKPab**	22 18 11.5	+1.5
	comp=Z,4.3nm,1.2s						
FETA				*e*S	**sPKPab**	22 18 44.8	+1.8
	comp=Z,4.9nm,1.3s						
BOJS	**Bojanci**	**157.04 337**		*e*PKPdf	**PKPdf**	22 17 39.0	-0.5
DBIC	**Dimbokro**	**160.52 157**		PKPab	**PKPab**	22 18 25.3	-0.7
	comp=Z,6.9nm,1.0s,baz=157,slow=5.3,SNR=4.2						
DBIC	**Dimbokro**	**160.52 157**			**PKPab**	22 18 26.1	0.0
ESDC	**Sonseca Array**	**164.11 19**		PKP	**PKPdf**	22 17 47.5	0.0
	comp=Z,0.7nm,0.9s,baz=343,slow=4.0,SNR=3.8						
ESDC				PKPab	**PKPab**	22 18 42.8	+1.6
	comp=Z,1.3nm,1.0s,baz=321,slow=4.1,SNR=4.7						
KEST	**Kesra**	**167.75 334**		PKPab	**PKPab**	22 18 57.7	+0.3
	comp=Z,2.4nm,0.7s,baz=37,slow=23,SNR=4.9						
KEST	**Kesra**	**167.75 334**			**PKPab**	22 18 57.4	0.0
TORD	**Torodi Ar. Bea**	**168.35 174**		PKP	**PKPdf**	22 17 50.0	-1.5
	comp=Z,2.9nm,0.9s,baz=325,slow=1.2,SNR=9.7						
TORD				PKPab	**PKPab**	22 18 60.0	-0.4
	comp=Z,7.3nm,0.7s,baz=185,slow=4.0,SNR=20						
TORD				PP	**PP**	22 22 48.2	+0.2
	comp=Z,0.7nm,0.7s,baz=175,slow=5.2,SNR=2.7						

TAP ***02*** *21:59:25.9,24.˚19N×122.˚31E,h36km,ML3.4,C*
JMA ***02*** *21:59:25.5,24.˚09N×122.˚30E,h29km±2km,M2.8*

ISC 02 21:59:25.5±1.0,24.˚13N±0.˚02×122.˚31E±0.˚02,h32km±10km, n108,σ0°70/206,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.57**	**303**	*i*	P		**Pb**	**21 59 37.1**	**-0.2**
	baz=305								
EWUT					S		**Sn**	**21 59 45.8**	**-0.1**
	baz=305								
TWC	**Suao**	**0.63**	**319**	*i*	P		**Pn**	**21 59 37.4**	**-0.9**
	baz=315								
TWC				*i*	S		**Sb**	**21 59 45.4**	**-1.5**
	baz=315								
NACB	**Ninganchiao**	**0.65**	**274**		P		**Pn**	**21 59 38.6**	**0.0**
	baz=257								
NACB					S		**Sb**	**21 59 47.3**	**-0.2**
	baz=257								
TWD	**Chiawan**	**0.65**	**266**	*i*	P		**Pn**	**21 59 38.6**	**0.0**
	baz=249								
TWD				*i*	S		**Sn**	**21 59 48.3**	**+0.5**
	baz=249								
HWA	**Hwalien**	**0.66**	**257**	*i*	P		**Pb**	**21 59 39.2**	**+0.5**
	baz=252								
HWA				*i*	S		**Sn**	**21 59 49.9**	**+1.9**
	baz=252								
JYNG	**Yonaguni jima**	**0.66**	**61**		P		**Pn**	**21 59 38.7**	**0.0**
JYNG					S		**Sb**	**21 59 47.8**	**0.0**
TEYL	**Yanliau Villag**	**0.70**	**248**		P		**Pb**	**21 59 39.7**	**+0.3**
	baz=237								
TEYL					S		**Sn**	**21 59 50.0**	**+1.1**
	baz=237								
YOJ	**Yonaguni jima**	**0.72**	**63**		P		**Pn**	**21 59 39.6**	**+0.1**
YOJ					S		**Sn**	**21 59 49.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.72**	**63**		P		**Pb**	**21 59 39.8**	**+0.1**
	baz=66								
YOJ					S		**Sn**	**21 59 49.7**	**+0.2**
	baz=66								
NDS	**Dongshan**	**0.73**	**313**	*i*	P		**Pn**	**21 59 39.5**	**-0.2**
	baz=308								
NDS				*i*	S		**Sb**	**21 59 49.9**	**+0.2**
	baz=308								
ETLH	**Xiulin Townshi**	**0.76**	**276**		P		**Pn**	**21 59 40.2**	**+0.2**
	baz=271								
ETLH					S		**Sb**	**21 59 51.0**	**+0.6**
	baz=271								
ETM	**Tongmen**	**0.76**	**258**		P		**Pn**	**21 59 40.1**	**0.0**
	baz=253								
ETM					S		**Sn**	**21 59 50.5**	**0.0**
	baz=253								
EGS		**0.79**	**334**	*i*	P		**Pn**	**21 59 40.5**	**0.0**
	baz=322								
EGS					S		**Sn**	**21 59 50.0**	**-1.2**
	baz=322								
ILA	**Ilan**	**0.81**	**321**		P		**Pn**	**21 59 40.6**	**-0.1**
	baz=317								
ILA				*i*	S		**Sb**	**21 59 52.1**	**+0.2**
	baz=317								
TEGC	**Jichi Village**	**0.82**	**239**		P		**Pb**	**21 59 41.4**	**0.0**
	baz=228								
TEGC					S		**Sb**	**21 59 52.6**	**+0.5**
	baz=228								
TWE	**Neicheng**	**0.83**	**315**	*i*	P		**Pn**	**21 59 41.1**	**+0.1**
	baz=312								
TWE				*i*	S		**Sn**	**21 59 51.6**	**-0.5**
	baz=312								
NTC	**Toucheng**	**0.84**	**329**		P		**Pn**	**21 59 41.1**	**0.0**
	baz=325								
NTC				*i*	S		**Sn**	**21 59 52.1**	**-0.4**
	baz=325								
ENTT	**Nioudou**	**0.84**	**307**	*i*	P		**Pb**	**21 59 41.6**	**-0.2**
	baz=303								
ENTT				*i*	S		**Sb**	**21 59 53.1**	**+0.2**
	baz=303								
ESL	**Shilin**	**0.86**	**249**	*i*	P		**Pn**	**21 59 41.3**	**-0.1**
	baz=234								
ESL				*i*	S		**Sn**	**21 59 53.0**	**+0.1**
	baz=234								
NDT	**Datong Townshi**	**0.86**	**303**	*i*	P		**Pb**	**21 59 41.9**	**-0.2**
	baz=299								
NDT				*i*	S		**Sb**	**21 59 53.9**	**+0.6**
	baz=299								
NNSB	**Datong**	**0.89**	**289**		P		**Pn**	**21 59 42.2**	**+0.2**
	baz=285								
NNSB					S		**Sb**	**21 59 54.4**	**0.0**
	baz=285								
NNSH	**Datong**	**0.89**	**289**	*i*	P		**Pn**	**21 59 42.0**	**0.0**
	baz=285								
NNSH				*i*	S		**Sb**	**21 59 54.8**	**+0.4**
	baz=285								
NNS	**Nan Shan**	**0.91**	**290**	*i*	P		**Pn**	**21 59 42.4**	**+0.2**
	baz=286								
NNS					S		**Sn**	**21 59 54.5**	**+0.3**
	baz=286								
TWB1	**Santiao Chiao**	**0.92**	**342**		P		**Pn**	**21 59 41.9**	**-0.4**
	baz=353								
TWB1					S		**Sn**	**21 59 54.3**	**-0.1**
	baz=353								
EGFH	**Guangfu**	**0.93**	**240**	*i*	P		**Pn**	**21 59 42.4**	**+0.1**
	baz=238								
EGFH				*i*	S		**Sn**	**21 59 54.8**	**+0.3**
	baz=238								
TIPB	**Shuangxi**	**0.94**	**332**	*i*	P		**Pn**	**21 59 42.7**	**+0.1**
	baz=329								
TIPB				*i*	S		**Sn**	**21 59 54.5**	**-0.5**
	baz=329								
WHF	**Hehuan Shan**	**0.95**	**271**	*i*	P		**Pn**	**21 59 43.2**	**+0.1**
	baz=267								
WHF				*i*	S		**Sn**	**21 59 56.1**	**+0.3**
	baz=267								
NWLT	**Wulai**	**0.97**	**311**	*i*	P		**Pb**	**21 59 43.6**	**-0.4**
	baz=307								
NWLT					S		**Sb**	**21 59 56.7**	**+0.1**
	baz=307								
FUSS	**Fushou**	**0.98**	**277**	*i*	P		**Pn**	**21 59 43.8**	**+0.5**
	baz=273								
FUSS					S		**Sb**	**21 59 56.9**	**0.0**
	baz=273								
YHNB	**Yeheng**	**1.00**	**302**		P		**Pn**	**21 59 43.9**	**+0.4**
	baz=286								
YHNB					S		**Sn**	**21 59 56.6**	**+0.1**
	baz=286								
NSK	**Sanguang**	**1.02**	**302**	*i*	P		**Pn**	**21 59 44.0**	**+0.3**
	baz=285								
NSK				*i*	S		**Sn**	**21 59 57.2**	**+0.2**
	baz=285								
HGSD	**Ruisui**	**1.03**	**232**		P		**Pn**	**21 59 44.5**	**+0.7**
	baz=222								
HGSD					S		**Sb**	**21 59 57.9**	**-0.1**
	baz=222								
CHGB	**Renai**	**1.04**	**266**		P		**Pn**	**21 59 44.5**	**+0.5**
	baz=251								
CHGB					S		**Sb**	**21 59 58.4**	**-0.1**
	baz=251								
OWD	**Renai**	**1.05**	**261**		P		**Pn**	**21 59 44.4**	**+0.2**
	baz=257								
OWD					S		**Sn**	**21 59 57.9**	**+0.1**
	baz=257								
NWF	**Wu-fen Shan**	**1.05**	**333**	*i*	P		**Pn**	**21 59 44.0**	**-0.2**
	baz=330								
NWF				*i*	S		**Sn**	**21 59 57.3**	**-0.5**
	baz=330								
WFSB	**Wu-fen Shan**	**1.05**	**333**		P		**Pn**	**21 59 44.2**	**+0.2**
	baz=330								
WFSB					S		**Sn**	**21 59 57.6**	**0.0**
	baz=330								
TDCB	**Techi**	**1.06**	**277**		P		**Pn**	**21 59 44.8**	**+0.5**
	baz=266								
TDCB					S		**Sb**	**21 59 59.2**	**+0.2**
	baz=266								
TWA	**Mucha**	**1.07**	**322**	*i*	P		**Pb**	**21 59 45.2**	**-0.4**
	baz=334								
TWA					S		**Sb**	**21 59 59.1**	**-0.2**
	baz=334								
NHDH	**Xindian Distri**	**1.09**	**319**	*i*	P		**Pb**	**21 59 45.8**	**-0.2**
	baz=329								
NHDH				*i*	S		**Sb**	**22 00 00.0**	**+0.1**
	baz=329								
EHY	**Hungye**	**1.10**	**236**	*i*	P		**Pn**	**21 59 45.0**	**+0.3**
	baz=233								
EHY					S		**Sn**	**21 59 59.3**	**+0.5**
	baz=233								
TNOU	**National Taiwa**	**1.12**	**334**		P		**Pn**	**21 59 44.5**	**-0.6**
	baz=331								
TNOU					S		**Sn**	**21 59 58.6**	**-0.9**
	baz=331								
TAP	**Taipei**	**1.16**	**321**		S		**Sb**	**22 00 02.1**	**+0.3**
	baz=333								
YULB	**Yu-li**	**1.18**	**232**		P		**Pn**	**21 59 46.2**	**+0.3**
	baz=243								
YULB					S		**Sn**	**22 00 00.7**	**-0.1**
	baz=243								
EYUL	**Yuli**	**1.20**	**229**	*i*	P		**Pb**	**21 59 47.8**	**+0.2**
	baz=242								
EYUL				*i*	S		**Sb**	**22 00 02.4**	**-0.4**
	baz=242								
TWF1	**Yuli**	**1.21**	**230**	*i*	P		**Pn**	**21 59 46.9**	**+0.6**
	baz=242								
TWF1				*i*	S		**Sn**	**22 00 01.4**	**-0.1**
	baz=242								
YM01	**YM01**	**1.21**	**327**		P		**Pb**	**21 59 47.2**	**-0.8**
	baz=338								
YM01					S		**Sn**	**22 00 02.1**	**+0.4**
	baz=338								
YM08	**YM08**	**1.24**	**328**		P		**Pn**	**21 59 47.2**	**+0.6**
	baz=325								
YM08					S		**Sn**	**22 00 02.5**	**+0.3**
	baz=325								
WPL	**Puli Township**	**1.24**	**265**		P		**Pb**	**21 59 47.8**	**-0.6**
	baz=254								
WPL					S		**Sb**	**22 00 04.3**	**+0.3**
	baz=254								
WHP	**Taichung City**	**1.25**	**277**	*i*	P		**Pb**	**21 59 48.4**	**-0.2**
	baz=264								
WHP					S		**Sb**	**22 00 04.1**	**-0.4**
	baz=264								
TWS1	**Kuangyinshan**	**1.26**	**320**	*i*	P		**Pb**	**21 59 48.2**	**-0.6**
	baz=332								
TWS1					S		**Sb**	**22 00 04.6**	**0.0**
	baz=332								
DPDB	**Guoxing**	**1.27**	**266**		P		**Pb**	**21 59 48.2**	**-0.7**
	baz=263								
ANP	**Anpu**	**1.27**	**326**		P		**Pb**	**21 59 48.3**	**-0.7**
	baz=323								
WCS	**Beigang Elemen**	**1.28**	**267**	*i*	P		**Pb**	**21 59 48.4**	**-0.7**
	baz=256								
WCS					*e*S		**Sb**	**22 00 04.3**	**-0.8**
	baz=256								
LIOB	**Emei**	**1.28**	**294**	*i*	P		**Pb**	**21 59 48.9**	**-0.3**
	baz=290								
LIOB					S		**Sb**	**22 00 05.6**	**+0.3**
	baz=290								
SSLB	**Suanglung**	**1.28**	**255**		P		**Pn**	**21 59 48.1**	**+0.8**
	baz=252								
SSLB					S		**Sn**	**22 00 04.2**	**+0.8**
	baz=252								
NSTT	**Nanjuang**	**1.29**	**293**	*i*	P		**Pb**	**21 59 49.1**	**-0.2**
	baz=289								
NSTT					S		**Sb**	**22 00 05.0**	**-0.5**
	baz=289								
SMLT	**Sun Moon Lake**	**1.31**	**259**	*i*	P		**Pb**	**21 59 48.9**	**-0.8**
	baz=249								
SMLT				*i*	S		**Sb**	**22 00 05.7**	**-0.5**
	baz=249								
FULB	**Fuli**	**1.31**	**225**	*i*	P		**Pn**	**21 59 48.2**	**+0.5**
	baz=213								
FULB				*i*	S		**Sn**	**22 00 04.3**	**+0.1**
	baz=213								
IRIF	**Iriomote-Funau**	**1.31**	**81**		P		**Pn**	**21 59 48.4**	**+0.7**
IRIF					*e*S		**Sb**	**22 00 05.6**	**-0.6**
NCUH	**Zhongli**	**1.32**	**309**		P		**Pb**	**21 59 50.6**	**+0.9**
	baz=306								
NCUH					S		**Sb**	**22 00 06.2**	**-0.1**
	baz=306								
CHKT	**Chengkung**	**1.34**	**220**	*e*P			**Pn**	**21 59 48.0**	**-0.1**
	baz=211								
CHKT				*i*	S		**Sn**	**22 00 03.7**	**-1.1**
	baz=211								
WHYT	**Xinyi Township**	**1.40**	**252**	*i*	P		**Pb**	**21 59 50.6**	**-0.6**
	baz=241								
WHYT					S		**Sb**	**22 00 09.0**	**+0.3**
	baz=241								
TWQ1	**Liyutan**	**1.42**	**279**	*i*	P		**Pb**	**21 59 50.9**	**-0.5**
	baz=276								
TWQ1				*i*	S		**Sb**	**22 00 09.3**	**+0.1**
	baz=276								
ECS	**Chishang**	**1.44**	**224**		P		**Pn**	**21 59 49.9**	**+0.5**
	baz=237								
ECS					S		**Sb**	**22 00 09.8**	**+0.2**
	baz=237								
NSY	**Sanyi**	**1.44**	**282**		P		**Pb**	**21 59 52.6**	**+0.8**
	baz=278								
NSY					S		**Sb**	**22 00 10.5**	**+0.8**
	baz=278								
NMLH	**Miaoli**	**1.44**	**287**		P		**Pb**	**21 59 50.9**	**-0.9**
	baz=284								
EDH	**Donghe**	**1.48**	**219**	*i*	P		**Pn**	**21 59 50.6**	**+0.7**
	baz=211								
EDH				*i*	S		**Sn**	**22 00 07.2**	**-0.9**
	baz=211								
WJS	**Zhushan**	**1.48**	**258**	*i*	P		**Pb**	**21 59 52.7**	**+0.3**
	baz=256								
WJS					S		**Sb**	**22 00 12.8**	**+2.0**
	baz=256								
TCU	**Taichung**	**1.49**	**271**	*i*	P		**Pb**	**21 59 52.4**	**-0.2**
	baz=268								
TCU				*i*	S		**Sb**	**22 00 11.3**	**+0.1**
	baz=268								
WNT1	**Nantou City**	**1.50**	**262**		P		**Pn**	**21 59 50.7**	**+0.4**
	baz=259								
WNT1					S		**Sb**	**22 00 12.9**	**+1.3**
	baz=259								
WNT	**Mingjian**	**1.51**	**261**	*i*	P		**Pb**	**21 59 52.7**	**-0.2**
	baz=258								
WNT				*i*	S		**Sb**	**22 00 12.4**	**+0.7**
	baz=258								
PCYT	**Pengchaiyu**	**1.51**	**352**	*i*	P		**Pn**	**21 59 50.3**	**-0.1**
	baz=336								
PCYT					*e*S		**Sn**	**22 00 09.7**	**+0.8**
	baz=336								
ALS	**Alishan**	**1.51**	**246**	*i*	P		**Pb**	**21 59 52.2**	**-0.9**
	baz=244								
ALS					S		**Sb**	**22 00 11.1**	**-0.9**
	baz=244								
ELDTW	**Lidau**	**1.51**	**232**	*i*	P		**Pn**	**21 59 51.1**	**+0.6**
	baz=220								
ELDTW					S		**Sn**	**22 00 09.0**	**-0.1**
	baz=220								
WDJ	**Dajia District**	**1.54**	**278**	*e*P			**Pn**	**21 59 51.9**	**+1.1**
	baz=275								
WDJ					*e*S		**Sb**	**22 00 12.9**	**+0.3**
	baz=275								
JKRS	**Kuro-shima**	**1.56**	**86**		P		**Pb**	**21 59 52.7**	**-1.1**
JKRS					S		**Sb**	**22 00 12.4**	**-0.7**
CHN5	**Tsauling**	**1.58**	**251**	*i*	P		**Pb**	**21 59 53.7**	**-0.6**
	baz=249								
CHN5					S		**Sb**	**22 00 14.2**	**+0.2**
	baz=249								
WCHH	**Zhanghua**	**1.60**	**268**	*e*S			**Sb**	**22 00 14.5**	**+0.2**
	baz=265								
LONT	**Longtian**	**1.63**	**222**	*i*	P		**Pn**	**21 59 52.3**	**+0.3**
	baz=221								
LONT				*i*	S		**Sn**	**22 00 11.9**	**0.0**
	baz=221								
LDUT	**Ludao**	**1.64**	**208**	*i*	P		**Pn**	**21 59 52.2**	**0.0**
	baz=208								
LDUT					S		**Sn**	**22 00 11.2**	**-1.0**
	baz=208								
WGK	**Gukeng**	**1.66**	**255**		P		**Pb**	**21 59 54.5**	**-0.9**
	baz=252								
WGK					*e*S		**Sb**	**22 00 16.2**	**+0.3**
	baz=252								
WDLH	**Douliu**	**1.68**	**255**	*i*	P		**Pb**	**21 59 55.3**	**-0.5**
	baz=253								
WDLH				*i*	S		**Sb**	**22 00 17.1**	**+0.5**
	baz=253								
JIJ	**Ishigaki jima**	**1.69**	**82**		P		**Pn**	**21 59 53.7**	**+0.8**
JIJ					S		**Sn**	**22 00 13.8**	**+0.4**
STYH	**Taoyuan**	**1.70**	**236**	*i*	P		**Pn**	**21 59 54.6**	**+1.6**
	baz=235								
STYH				*i*	S		**Sb**	**22 00 16.3**	**-0.9**
	baz=235								
STYT	**Tauyuan**	**1.72**	**236**	*i*	P		**Pb**	**21 59 55.3**	**-1.3**
	baz=235								
STYT				*i*	S		**Sb**	**22 00 16.7**	**-1.1**
	baz=235								
TWGBT	**Beinan**	**1.73**	**221**		P		**Pn**	**21 59 53.5**	**+0.2**
	baz=230								
TWGBT					S		**Sn**	**22 00 14.3**	**0.0**
	baz=230								
TWG	**Pinlang**	**1.73**	**221**	*i*	P		**Pn**	**21 59 54.0**	**+0.7**
	baz=230								
TWG				*i*	S		**Sn**	**22 00 14.8**	**+0.4**
	baz=230								
TPUB	**Ta-pu**	**1.75**	**242**		P		**Pb**	**21 59 56.1**	**-0.9**
	baz=241								
TPUB					S		**Sb**	**22 00 18.8**	**+0.2**
	baz=241								
CHN4	**Tsaushan**	**1.75**	**244**	*i*	P		**Pb**	**21 59 56.5**	**-0.6**
	baz=234								
CHN4				*i*	S		**Sb**	**22 00 18.2**	**-0.5**
	baz=234								
CHN2	**Minshiung**	**1.78**	**251**		P		**Pb**	**21 59 56.9**	**-0.6**
	baz=249								
CHN2				*i*	S		**Sb**	**22 00 21.0**	**+1.5**
	baz=249								
WTP	**Ta-pu**	**1.79**	**241**	*i*	P		**Pb**	**21 59 56.5**	**-1.2**
	baz=239								
WTP				*i*	S		**Sb**	**22 00 19.3**	**-0.4**
	baz=239								
WTK	**Tuku**	**1.81**	**256**	*i*	P		**Pb**	**21 59 57.0**	**-1.0**
	baz=243								
WTK				*i*	S		**Sb**	**22 00 20.3**	**0.0**
	baz=243								
CHY	**Chiayi**	**1.84**	**250**		P		**Pb**	**21 59 57.2**	**-1.3**
	baz=248								
CHY				*i*	S		**Sb**	**22 00 20.4**	**-0.7**
	baz=248								
TWK	**Hsinying**	**1.88**	**243**	*i*	P		**Pb**	**21 59 57.8**	**-1.5**
	baz=241								
TWK				*i*	S		**Sb**	**22 00 22.1**	**-0.2**
	baz=241								
JISG	**Ishigakijimahi**	**1.88**	**76**		P		**Pn**	**21 59 55.4**	**-0.1**
JISG					S		**Sn**	**22 00 18.0**	**-0.1**
CHN1	**Nanshi**	**1.88**	**240**	*i*	P		**Pb**	**21 59 58.2**	**-1.1**
	baz=239								
CHN1				*i*	S		**Sb**	**22 00 22.0**	**-0.5**
	baz=239								
SNST	**Tainan City**	**1.89**	**242**	*i*	P		**Pb**	**21 59 58.3**	**-1.1**
	baz=240								
SNST				*i*	S		**Sb**	**22 00 22.6**	**-0.1**
	baz=240								
SGST	**Jiashian**	**1.90**	**237**	*i*	P		**Pn**	**

M_T-0.61; M_{BB}-0.38; M_{pb}0.98; M_{PS}0.58; M_{Sb}0.21; M_{Sr}0.26;
Fault plane solution: $M_0$1.09000×10^{15} NP1:
ϕ_s221.00000°,δ67.00000°,λ-50.00000°. NP2:
ϕ_s336.00000°,δ45.00000°,λ-146.00000°.
*JMA **02** 22:01:49.5,36.70N×141.02E,h18$^{km}_{\pm}$1km,M4.2*
JMA Felt I J1.
ISC 02 22:01:49.4±1.6,36°69N±0°03×141°06E±0°06,h5$^{km}_{\pm}$9km, n38,σ1°22/36,mb3.8/11,MS3.0/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JHO	**Hitachi**	**0.40**	**259**	P			**Pg**	**22 01 56.9**	**-0.2**
JHO				S			**Sg**	**22 02 02.9**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.47**	**333**	P			**Pg**	**22 01 58.2**	**-0.1**
ONAJ				S			**Sg**	**22 02 04.7**	**+0.3**
JHYU	**Hitachinakayam**	**0.51**	**228**	P			**Pg**	**22 01 59.4**	**+0.2**
JHYU				eS			**Sg**	**22 02 06.6**	**+0.7**
JFFD	**Fukushimafurud**	**0.57**	**316**	P			**Pg**	**22 01 59.8**	**-0.5**
JFFD				S			**Sg**	**22 02 07.4**	**-0.3**
JFK	**Kawauchi**	**0.70**	**348**	P			**Pg**	**22 02 02.3**	**-0.4**
JFK				S			**Sg**	**22 02 12.1**	**+0.3**
JYT	**Yasato**	**0.83**	**237**	P			**Pg**	**22 02 04.7**	**-0.6**
JYT				S			**Sg**	**22 02 16.3**	**+0.2**
JSB	**Shiboa**	**0.96**	**288**	P			**Pg**	**22 02 07.5**	**-0.2**
JFT	**Otama**	**1.01**	**325**	P			**Pg**	**22 02 08.0**	**-0.8**
JFT				S			**Sg**	**22 02 21.4**	**-0.5**
JMM	**Marumori**	**1.20**	**350**	P			**Pg**	**22 02 10.2**	**-2.1**
MJAR	**Matsushiro Arr**	**2.30**	**267**	Pn			**Pn**	**22 02 27.5**	**-0.4**
	3.1nm,0.3s,baz=74,slow=16,SNR=57								
MJAR				Sn			**Sb**	**22 02 58.8**	**-1.3**
	12nm,0.3s,baz=72,slow=27,SNR=4.8								
MJAR				LR			LR	22 03 34.7	
	comp=Z,322nm,20.9s,baz=105,slow=48								
MAT	**Matsushiro**	**2.30**	**267**	P			**Pn**	**22 02 27.5**	**-0.5**
MAT				S			**Sn**	**22 02 55.8**	**-0.9**
JHJ	**Hachijo jima 2**	**3.71**	**197**	Pn			**Pn**	**22 02 48.7**	**+1.3**
	9.6nm,0.3s,baz=62,slow=11,SNR=2.1								
JHJ				Sn			**Sb**	**22 03 37.7**	**-3.0**
	12nm,0.3s,baz=121,slow=3.3,SNR=2.4								
ASAJ	**Asahikawa**	**7.51**	**8**	Pn			**Pn**	**22 03 41.4**	**+1.8**
	1.3nm,0.3s,baz=189,slow=8.3,SNR=5.7								
ASAJ				LR			LR	22 06 26.0	
	comp=Z,49nm,21.5s,baz=187,slow=36								
USRK	**Ussuriysk Ar.**	**10.20**	**320**	Pn			**Pn**	**22 04 19.1**	**+2.8**
	baz=127,slow=14,SNR=3.3								
USRK				LR			LR	22 07 49.6	
	comp=Z,60nm,21.3s,baz=155,slow=35								
KSRS	**Korea Array**	**10.53**	**278**	Pn			**Pn**	**22 04 21.5**	**+0.7**
	baz=84,slow=15,SNR=1.9								
KSRS				LR			LR	22 08 25.4	
	comp=Z,66nm,18.4s,baz=134,slow=38								
MA2	**Magadan**	**23.75**	**12**	LR			LR	22 16 00.8	
	comp=Z,36nm,18.6s,baz=139,slow=36								
YAK	**Yakutsk**	**26.35**	**348**	LR			LR	22 17 21.6	
	comp=Z,22nm,21.4s,baz=269,slow=35								
SONM	**Songino Array**	**27.75**	**305**	P			**P**	**22 07 38.4**	**-0.6**
	0.7nm,0.6s,baz=108,slow=15,SNR=3.6								
SONM				LR			LR	22 20 06.1	
	comp=Z,41nm,18.5s,baz=110,slow=40								
H11N2	**WAKE ISLAND Hy**	**28.22**	**120**	T			T	22 37 16.2	
	baz=313,slow=75,SNR=266								
H11N1	**WAKE ISLAND Hy**	**28.23**	**120**	T			T	22 37 15.7	
	baz=313,slow=75,SNR=192								
H11N3	**WAKE ISLAND Hy**	**28.24**	**120**	T			T	22 37 17.3	
	baz=313,slow=75,SNR=176								
H11S1	**WAKE ISLAND Hy**	**28.91**	**122**	T			T	22 38 08.5	
	baz=314,slow=76,SNR=90								
H11S3	**WAKE ISLAND Hy**	**28.91**	**122**	T			T	22 38 08.7	
	baz=314,slow=76,SNR=140								
H11S2	**WAKE ISLAND Hy**	**28.93**	**122**	T			T	22 38 09.8	
	baz=314,slow=76,SNR=106								
ZALV	**Zalesovo Beam**	**41.94**	**313**	P			**P**	**22 09 40.7**	**-0.2**
	1.5nm,0.8s,baz=101,slow=7.5,SNR=5.0								
MKAR	**Makanchi Array**	**44.06**	**302**	P			**P**	**22 09 57.0**	**-1.2**
	0.6nm,0.8s,baz=89,slow=9.7,SNR=5.6								
MKAR				LR			LR	22 28 35.0	
	comp=Z,44nm,19.3s,baz=106,slow=36								
KURBB	**Kurchatov Arra**	**45.99**	**308**	P			**P**	**22 10 11.9**	**-1.6**
	1.6nm,0.6s,baz=82,slow=7.7,SNR=6.9								
WRA	**Warramunga Arr**	**56.68**	**188**	P			**P**	**22 11 32.1**	**-1.7**
	2.2nm,0.6s,baz=5.4,slow=7.5,SNR=21								
ASAR	**Alice Springs**	**60.41**	**188**	P			**P**	**22 11 58.8**	**-1.1**
	1.0nm,0.8s,baz=16,slow=8.3,SNR=7.3								
DZM	**Mont Dzumac**	**63.16**	**154**	LR			LR	22 41 01.8	
	comp=Z,36nm,18.3s,baz=308,slow=37								
STKA	**Stephens Creek**	**68.21**	**180**	P			**P**	**22 12 49.8**	**-1.0**
	1.4nm,0.7s,baz=359,slow=9.0,SNR=3.5								
FINES	**FINESS Array B**	**68.99**	**332**	P			**P**	**22 12 56.9**	**+1.5**
	2.8nm,1.0s,baz=39,slow=7.1,SNR=3.8								
AKASG	**Malin Array Be**	**74.40**	**322**	P			**P**	**22 13 28.8**	**+0.7**
	0.3nm,0.3s,baz=47,slow=6.1,SNR=2.8								
BRTR	**Keskin Array B**	**78.87**	**311**	P			**P**	**22 13 55.5**	**+1.7**
	0.4nm,0.9s,baz=81,slow=9.2,SNR=2.7								
TXAR	**Lajitas Array**	**90.56**	**52**	P			**P**	**22 14 53.4**	**+0.4**
	0.3nm,0.8s,baz=282,slow=1.8,SNR=2.8								
H03N2	**Juan Fernandez**	**147.27**	**96**	T			T	01 06 12.0	
	baz=290,slow=76,SNR=40								
H03N3	**Juan Fernandez**	**147.28**	**96**	T			T	01 06 14.8	
	baz=290,slow=76,SNR=30								
H03N1	**Juan Fernandez**	**147.29**	**96**	T			T	01 06 13.1	
	baz=290,slow=76,SNR=37								

*IDC **02** 22:09:06.8±2.3,25°89N×89°94E,h0^{km},mb3.4/4,*
mb1 3.5/4,mb1mx3.2/49,mbtmp3.4/4, Error ellipse:
s-maj=90.1km s-min=27.1km az=67.0
*NDI **02** 22:09:10.0±2.8,25°77N×89°92E,h10^{km},ML3.6*
ISC 02 22:09:08.9±0.8,25°82N±0°10×89°91E±0°06,h10^{km},n9, σ1°63/11,mb3.3/4,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SHL	**Shillong**	**1.80**	**97**	*e*P			**Pn**	**22 09 39.7**	**-0.5**
SHL				*e*S			**Sn**	**22 10 03.6**	**+0.4**
SHL				IAML				22 10 09.1	
	comp=E,731nm,0.1s								
BOK	**Bokaro**	**4.17**	**242**	*e*P			**Pn**	**22 10 13.0**	**+0.3**
BOK				*e*S			**Sn**	**22 10 59.7**	**-1.8**
BOK				IAML				22 11 23.7	
	comp=N,172nm,0.4s								
BHPL	**Bhopal**	**11.65**	**260**	*e*P			**Pn**	**22 11 54.9**	**-0.4**
BHPL				*e*S			Sn	22 13 55.0	-11
SMLA	**Simla**	**12.39**	**298**	*e*P			**Pn**	**22 12 08.1**	**+2.8**
DGPR	**DIGLIPUR**	**12.89**	**167**	*e*P			**Pn**	**22 12 13.7**	**+1.4**
MKAR	**Makanchi Array**	**21.80**	**346**	P			**P**	**22 14 01.0**	**0.0**
	comp=N,0.8nm,0.5s,baz=158,slow=10,SNR=13								
SONM	**Songino Array**	**25.53**	**26**	P			**P**	**22 14 36.3**	**-1.4**
	comp=N,0.4nm,0.6s,baz=203,slow=11,SNR=2.9								
KURBB	**Kurchatov Arra**	**26.27**	**344**	P			**P**	**22 14 41.8**	**-2.4**
	comp=N,0.2nm,0.5s,baz=168,slow=8.7,SNR=2.1								
ASAR	**Alice Springs**	**65.06**	**135**	P			**P**	**22 19 49.7**	**-0.1**
	comp=N,0.4nm,0.6s,baz=320,slow=6.4,SNR=5.2								

*ANF **02** 22:17:43.7±0.3,58°90N×151°78W,h50^{km},ML3.9/30,*
Error ellipse: s-maj=5.0km s-min=3.0km az=124.0,
Hypocentre not reviewed by the ISC
*IDC **02** 22:17:43.8±0.8,58°98N×152°19W,h52$^{km}_{\pm}$8^{km},mb3.3/6,*
mb1 3.5/8,mb1mx3.2/58,mbtmp3.5/8,Error ellipse:
s-maj=24.3km s-min=7.4km az=94.0
*NEIC **02** 22:17:43.7±0.9,58°89N±0°05×151°95W±0°05,*
h50$^{km}_{\pm}$10^{km},Error ellipse: s-maj=6.7km s-min=3.6km
az=174.0
*AEIC **02** 22:17:44±1.0,58°90N±0°05×151°92W±0°07,h50$^{km}_{\pm}$7^{km},*
ML3.5,ML3.7/88(NEIC),Error ellipse: s-maj=6.8km
s-min=4.7km az=160.0
ISC 02 22:17:43.6±0.6,58°91N±0°04×151°93W±0°04,h57^{km}, n148,σ0°71/148,mb3.6/7,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CNPM	**China Poot**	**0.71**	**30**				**Pn**	**22 17 57.6**	**-0.2**
CNPM				IAML				22 18 10.2	
	comp=N,3μm,0.4s								
CNPM	**China Poot**	**0.71**	**30**				**Sn**	**22 18 08.6**	**+0.3**
HOM	**Homer**	**0.76**	**11**				**Sn**	**22 18 10.0**	**+0.7**
HOM	**Homer**	**0.76**	**11**				**Pn**	**22 17 58.4**	**-0.1**
HOM	**Homer**	**0.76**	**11**	IAML				22 18 10.8	
	comp=N,23μm,0.5s								
HOM				IAML				22 18 16.1	
	comp=E,13μm,0.5s								
HOM	**Homer**	**0.76**	**11**	P				22 17 58.4	
	baz=191,SNR=15								
HOM				S				22 18 09.7	
	baz=191								
AU22	**Augustine Moun**	**0.86**	**303**				**Pn**	**22 17 59.4**	**-0.3**
AU22							**Sn**	**22 18 11.4**	**-0.2**
AU2	**Augustine Isla**	**0.87**	**302**				**Pn**	**22 17 59.7**	**-0.1**
AUP	**Augustine Pinn**	**0.89**	**301**				**Pn**	**22 18 00.2**	**0.0**
AUCH	**Augustine Cone**	**0.90**	**301**				**Pn**	**22 18 00.1**	**-0.2**
AUCH							**Sn**	**22 18 12.5**	**-0.1**
AUL	**Augustine Lava**	**0.91**	**302**				**Pn**	**22 18 00.2**	**-0.1**
AUW	**Augustine West**	**0.92**	**301**				**Pn**	**22 18 00.3**	**-0.1**
OPT	**Oil Point**	**1.00**	**319**				**Pn**	**22 18 01.2**	**-0.3**
BRLK	**Bradley Lake**	**1.01**	**32**	Pn			**Pn**	**22 18 01.4**	**-0.3**
BRLK				IAML				22 18 17.9	
	comp=E,2μm,0.3s								
BRLK				IAML				22 18 18.2	
	comp=N,2μm,0.4s								
BRLK	**Bradley Lake**	**1.01**	**32**				**Sn**	**22 18 14.8**	**-0.2**
BRSE	**Bradley Lake S**	**1.03**	**36**				**Pn**	**22 18 01.9**	**0.0**
BRSE	**Bradley Lake S**	**1.03**	**36**	P				22 18 01.9	
	baz=216,SNR=86								
BRSE				S				22 18 14.8	
	baz=216								
KDAK	**Kodiak Island**	**1.19**	**197**	P			**Pn**	**22 18 03.7**	**-0.3**
	comp=N,50nm,0.3s,baz=67,slow=17,SNR=359								
KDAK				LR			LR	22 18 13.6	
	comp=N,49nm,21.2s,baz=52,slow=25								
KDAK				S			**Sn**	**22 18 19.8**	**+0.7**
	comp=N,127nm,0.3s,baz=240,slow=20,SNR=9.7								
KDAK	**Kodiak Island**	**1.19**	**197**	Pn			**Pn**	**22 18 03.7**	**-0.3**
KDAK				IAML				22 18 26.0	
	comp=N,2μm,0.6s								
KDAK				IAML				22 18 26.2	
	comp=N,1μm,0.5s								
KDAK	**Kodiak Island**	**1.19**	**197**	P				22 18 03.6	
	baz=17								
KDAK				S				22 18 19.2	
	baz=17								
ILS	**Iliamna Low So**	**1.20**	**332**				**Pn**	**22 18 04.0**	**-0.3**
RED	**Redoubt Volcan**	**1.57**	**345**				**Pn**	**22 18 09.0**	**-0.2**
RSO	**Redoubt South**	**1.61**	**345**				**Pn**	**22 18 09.8**	**0.0**
KAHC	**Katmai Hardscr**	**1.62**	**262**				**Pn**	**22 18 09.8**	**-0.2**
RDN	**Redoubt North**	**1.66**	**346**				**Sn**	**22 18 31.6**	**+0.9**
RDT	**Redoubt**	**1.68**	**352**				**Pn**	**22 18 10.7**	**-0.1**
DFR	**Drift River**	**1.73**	**348**				**Pn**	**22 18 11.5**	**+0.1**
NCT	**North Crescent**	**1.73**	**343**				**Pn**	**22 18 11.4**	**0.0**
SEW	**Seward**	**1.74**	**46**				**Pn**	**22 18 10.8**	**-0.6**
SEW							**Sn**	**22 18 33.7**	**+1.2**
SEW	**Seward**	**1.74**	**46**	P				22 18 10.8	
	baz=227,SNR=16								
SEW				S				22 18 30.6	
	baz=227								
KABR	**Katmai Barrier**	**1.77**	**245**				**Pn**	**22 18 11.7**	**-0.3**
SLKM	**Skilak Lake**	**1.82**	**28**				**Pn**	**22 18 12.3**	**-0.2**
KVTA	**Katmai Vly 10**	**1.84**	**255**				**Pn**	**22 18 12.7**	**0.0**
OHAK	**Old Harbor**	**1.84**	**204**				**Pn**	**22 18 12.3**	**-0.5**
OHAK				IAML				22 18 51.4	
	comp=N,704nm,0.7s								
OHAK	**Old Harbor**	**1.84**	**204**	P				22 18 12.4	
	baz=23,SNR=43								
OHAK				S				22 18 34.2	
	baz=23								
KABU	**Katmai Buttres**	**1.87**	**251**				**Pn**	**22 18 13.4**	**+0.2**
CAPN	**Captain Cook N**	**1.90**	**12**				**Pn**	**22 18 15.2**	**+1.6**
CAPN	**Captain Cook N**	**1.90**	**12**	P				22 18 15.2	
	baz=192								
O22K	**Cooper Landing**	**1.93**	**35**				**Pn**	**22 18 13.9**	**-0.1**
CAHL	**Cahill**	**1.97**	**245**				**Pn**	**22 18 14.6**	**0.0**
KELA	**Mount Kelaz**	**2.04**	**258**				**Pn**	**22 18 15.4**	**-0.3**
KJL	**Kejulik**	**2.10**	**247**				**Pn**	**22 18 16.5**	**+0.2**
SPCR	**Spurr Chakacha**	**2.30**	**357**				**Pn**	**22 18 19.5**	**+0.4**
SPCR	**Spurr Chakacha**	**2.30**	**357**	P				22 18 19.4	
	baz=176,SNR=27								
SPCN	**Chakachatna No**	**2.32**	**357**				**Pn**	**22 18 20.1**	**+0.6**
SPCP	**Crater Peak Br**	**2.36**	**357**				**Pn**	**22 18 20.7**	**+0.6**
SPBG	**Spurr Blockage**	**2.36**	**355**				**Pn**	**22 18 20.8**	**+0.8**
SPCG	**Spurr Capps Gl**	**2.39**	**359**				**Pn**	**22 18 20.7**	**+0.4**
FIS	**Fire Island**	**2.40**	**20**	Pn			**Pn**	**22 18 21.2**	**+0.8**
FIS				IAML				22 18 59.7	
	comp=N,528nm,0.6s								
RC01	**Rabbit Creek A**	**2.45**	**26**				**Pn**	**22 18 21.0**	**0.0**
RC01				IAML				22 19 01.9	
	comp=N,280nm,0.4s								
RC01				IAML				22 19 03.7	
	comp=E,301nm,0.5s								
RC01	**Rabbit Creek A**	**2.45**	**26**	P				22 18 20.1	
	baz=208,SNR=26								
RC01				S				22 18 48.4	
	baz=208								
STLK	**Strandline Lak**	**2.59**	**1**				**Pn**	**22 18 23.8**	**+0.7**
PLK3	**Peulik 3**	**2.60**	**244**				**Pn**	**22 18 23.9**	**+0.8**
SUA	**Susitna One**	**2.63**	**13**	Pn			**Pn**	**22 18 23.9**	**+0.2**
SUA				IAML				22 19 12.4	
	comp=N,255nm,0.8s								
SII	**Sitkinak Islan**	**2.65**	**208**	Pn			**Pn**	**22 18 23.5**	**-0.4**
SII	**Sitkinak Islan**	**2.65**	**208**	P				22 18 23.5	
	baz=26,SNR=15								
PWL	**Port Wells**	**2.66**	**41**				**Pn**	**22 18 23.8**	**-0.3**
PLK1	**Peulik 1**	**2.70**	**248**				**Pn**	**22 18 25.2**	**+0.6**
SVW2	**Sparrevohn**	**2.85**	**322**				**Pn**	**22 18 26.0**	**-0.7**
SVW2				IAML				22 19 17.9	
	comp=E,257nm,0.5s								
SVW2				IAML				22 19 23.1	
	comp=N,224nm,0.5s								
Q23K	**Middleton Isla**	**2.92**	**77**	Pn			**Pn**	**22 18 27.7**	**+0.2**
MID	**Middleton Isla**	**2.93**	**77**				**Pn**	**22 18 27.6**	**0.0**
PMR	**Palmer**	**3.03**	**26**				**Pn**	**22 18 28.5**	**-0.5**
KNK	**Knik Glacier**	**3.05**	**33**				**Pn**	**22 18 29.0**	**-0.3**
KNK				IAML				22 19 19.2	
	comp=E,275nm,0.8s								
KNK				IAML				22 19 21.1	
	comp=N,242nm,0.9s								
KNK	**Knik Glacier**	**3.05**	**33**	P				22 18 29.0	
	baz=216								
KNK				S				22 19 02.7	
	baz=216								
SKT	**Skwentna**	**3.08**	**4**				**Pn**	**22 18 30.1**	**+0.3**
SKT				IAML				22 19 24.4	
	comp=E,202nm,0.5s								
SKT	**Skwentna**	**3.08**	**4**	P				22 18 29.9	
	baz=184,SNR=25								
HIN	**Hinchinbrook I**	**3.13**	**59**	Pn			**Pn**	**22 18 30.3**	**-0.2**
HIN				IAML				22 19 30.4	
	comp=E,271nm,1.0s								
HIN				IAML				22 19 35.1	
	comp=N,273nm,1.0s								
GLI	**Glacier Island**	**3.13**	**49**				**Pn**	**22 18 29.1**	**-1.4**
GLI				IAML				22 19 22.7	
	comp=N,248nm,0.8s								
GLI	**Glacier Island**	**3.13**	**49**	P				22 18 29.4	
	baz=233,SNR=10								
GLI				S				22 19 03.4	
	baz=233								
GHO	**Glory Hole Cre**	**3.23**	**26**	Pn			**Pn**	**22 18 31.8**	**-0.1**
FID	**Port Fidalgo**	**3.31**	**54**				**Pn**	**22 18 31.6**	**-1.4**
FID				IAML				22 19 28.3	
	comp=E,160nm,0.5s								
FID				IAML				22 19 35.8	
	comp=N,184nm,0.9s								
SML	**Sawmill**	**3.41**	**30**				**Pn**	**22 18 34.3**	**0.0**
SML				IAML				22 19 37.7	
	comp=N,208nm,0.8s								
SML				IAML				22 19 42.0	
	comp=E,155nm,1.2s								
SML	**Sawmill**	**3.41**	**30**	P				22 18 33.7	
	baz=213								
EYAK	**Cordova Ski Ar**	**3.53**	**60**				**Pn**	**22 18 35.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.53**	**60**	P				22 18 35.3	
	baz=245								
EYAK				S				22 19 13.1	
	baz=245								
SCM	**Sheep Creek Mo**	**3.71**	**36**				**Pn**	**22 18 38.8**	**+0.3**
SCM				IAML				22 19 22.8	
	comp=N,157nm,0.6s								
SCM				IAML				22 19 23.6	
	comp=E,172nm,0.7s								
DIV	**Divide**	**3.81**	**52**				**Pn**	**22 18 39.5**	**-0.2**
KLU	**Klutina**	**3.96**	**47**				**Pn**	**22 18 41.6**	**-0.3**
KLU				IAML				22 19 27.1	
	comp=E,93nm,0.4s								
KLU				IAML				22 19 28.6	
	comp=N,106nm,0.3s								
KLU	**Klutina**	**3.96**	**47**	P				22 18 41.6	
	baz=232,SNR=19								
KLU				S				22 19 24.2	
	baz=232								
PPLA	**Purkeypile**	**4.00**	**358**				**Pn**	**22 18 43.3**	**+0.9**
PPLA	**Purkeypile**	**4.00**	**358**	P				22 18 42.8	
	baz=178								
HMT	**Hamilton**	**4.15**	**67**				**Pn**	**22 18 44.2**	**-0.2**
WAT7	**Susitna Watana**	**4.21**	**20**				**Pn**	**22 18 45.7**	**+0.4**
WAT6	**Susitna Watana**	**4.21**	**27**				**Pn**	**22 18 45.4**	**0.0**
WAT6	**Susitna Watana**	**4.21**	**27**	P				22 18 45.3	
	baz=211,SNR=14								
WAT6				S				22 19 30.5	
	baz=211								
BMRM	**Bremner River**	**4.22**	**58**	Pn			**Pn**	**22 18 44.9**	**-0.5**
BMRM				IAML				22 19 37.4	
	comp=E,78nm,0.4s								
BMRM				IAML				22 19 59.5	
	comp=N,70nm,0.7s								
BMRM	**Bremner River**	**4.22**	**58**	P				22 18 44.7	
	baz=244,SNR=8.9								
WAT1	**Susitna Watana**	**4.26**	**21**				**Pn**	**22 18 46.4**	**+0.5**
NICHA	**Nichawak Mount**	**4.26**	**68**				**Pn**	**22 18 45.9**	**0.0**
M24K	**Tolsona, Glenn**	**4.28**	**39**	Pn			**Pn**	**22 18 46.9**	**+0.6**
M24K	**Tolsona, Glenn**	**4.29**	**39**	P				22 18 46.5	
	baz=224,SNR=14								
M24K				S				22 19 33.4	
	baz=224								
SUCK	**Suckling Hills**	**4.32**	**71**	Pn			**Pn**	**22 18 47.1**	**+0.4**
WAT2	**Susitna Watana**	**4.38**	**20**				**Pn**	**22 18 48.1**	**+0.5**
WAT2	**Susitna Watana**	**4.38**	**20**	P				22 18 47.6	
	baz=203,SNR=27								
WAT2				S				22 19 35.1	
	baz=203								
TT01	**Tatalina**	**4.47**	**335**				**Pn**	**22 18 49.0**	**+0.2**
TTA	**Tatalina**	**4.49**	**335**	Pn			**Pn**	**22 18 49.0**	**-0.1**
TTA	**Tatalina**	**4.49**	**335**	P				22 18 48.9	
	baz=152,SNR=12								
N25K	**Chitina, Valde**	**4.54**	**50**				**Pn**	**22 18 49.9**	**+0.1**
N25K				IAML				22 20 12.9	
	comp=N,50nm,0.8s								
N25K	**Chitina, Valde**	**4.54**	**50**	P				22 18 49.5	
	baz=237								
GRIN	**Grindle Hills**	**4.59**	**69**				**Pn**	**22 18 50.7**	**+0.3**
TRF	**Thorofare Moun**	**4.62**	**9**				**Pn**	**22 18 51.5**	**+0.5**
TRF	**Thorofare Moun**	**4.62**	**9**	IAML				22 19 57.3	
	comp=N,74nm,0.6s								
TRF				IAML				22 20 26.7	
	comp=E,56nm,1.3s								
TRF	**Thorofare Moun**	**4.62**	**9**	P				22 18 51.0	
	baz=191,SNR=28								
KHIT	**Khitrov Hills**	**4.66**	**67**				**Pn**	**22 18 51.0**	**-0.5**
KTH	**Kantishna Hill**	**4.68**	**6**				**Pn**	**22 18 52.5**	**+0.8**
KTH	**Kantishna Hill**	**4.68**	**6**	IAML				22 20 17.3	
	comp=E,62nm,1.8s								
KTH				IAML				22 20 24.2	
	comp=N,63nm,1.1s								
VNHG	**Veniaminof 1**	**4.74**	**238**				**Pn**	**22 18 53.2**	**+0.7**
RND	**Reindeer**	**4.75**	**17**	Pn			**Pn**	**22 18 53.4**	**+0.8**
GLB	**Gilahina Butte**	**4.78**	**55**				**Pn**	**22 18 52.6**	**-0.4**
GLB	**Gilahina Butte**	**4.78**	**55**	IAML				22 19 48.1	
	comp=N,51nm,0.4s								
CRQM	**Cirque**	**4.81**	**64**				**Pn**	**22 18 53.3**	**-0.2**
CRQM	**Cirque**	**4.81**	**64**	IAML				22 19 48.6	
	comp=E,79nm,0.7s								
CRQM				IAML				22 19 51.1	
	comp=N,67nm,0.6s								
CRQE	**Cirque**	**4.83**	**64**	P				22 18 53.1	
	baz=251								
CRQE				S				22 19 43.3	
	baz=251								
HARP	**HAARP**	**4.83**	**41**				**Pn**	**22 18 54.8**	**+1.1**
HARP	**HAARP**	**4.83**	**41**	P				22 18 53.9	
	baz=226								
VRDI	**Verde Repeater**	**4.84**	**58**	Pn			**Pn**	**22 18 54.5**	**+0.5**
KULT	**Kultieth River**	**4.87**	**70**				**Pn**	**22 18 54.5**	**+0.2**
TGL	**Tana Glacier**	**4.95**	**64**	Pn			**Pn**	**22 18 55.7**	**+0.3**
TGL				IAML				22 19 51.8	
	comp=N,40nm,0.5s								
TGL				IAML				22 19 54.3	
	comp=E,53nm,0.8s								
MCK	**McKinley**	**5.05**	**15**				**Pn**	**22 18 57.6**	**+1.0**
MCK				IAML				22 20 48.8	
	comp=N,44nm,1.3s								
MCK	**McKinley**	**5.05**	**15**	P				22 18 56.7	
	baz=198								
MCARA	**McCarthy VSAT**	**5.09**	**57**				**Pn**	**22 18 58.1**	**+0.8**
MCARA	**McCarthy VSAT**	**5.09**	**57**	IAML				22 19 56.7	
	comp=E,59nm,0.6s								
MCARA	**McCarthy VSAT**	**5.09**	**57**	P				22 18 56.9	
	baz=245								
PAX	**Paxson**	**5.14**	**35**	P		

AKUT	**Akutan**	**9.02**	**244**	Pn		**Pn**	**22 19 51.0**	**+0.1**
BMAR	**Burnt Mountain**	**9.16**	**18**	Pn		**Pn**	**22 19 53.5**	**+0.5**
TOLK	**Toolik Lake Re**	**9.82**	**5**	Pn		**Pn**	**22 20 03.1**	**+1.2**
TOLK	**Toolik Lake Re**	**9.82**	**5**	P			22 20 02.8	
	baz=187							
ADK	**Adak**	**15.65**	**254**	Pn		**Pn**	**22 21 21.2**	**+0.9**
YKA	**Yellowknife Ar**	**18.43**	**63**	P		**Pn**	**22 21 56.2**	**+1.6**
	comp=E,0.1nm,0.3s,baz=277,slow=9.9,SNR=2.0							
PETK	**Petropavlovsk-**	**28.17**	**280**	P		**P**	**22 23 28.7**	**-1.5**
TXAR	**Lajitas Array**	**44.09**	**111**	P		**P**	**22 25 47.7**	**+1.7**
	comp=E,0.8nm,0.9s,baz=330,slow=7.2,SNR=6.1							
TXAR	**Lajitas Array**	**44.09**	**111**	P		**P**	**22 25 47.5**	**+1.5**
SONM	**Songino Array**	**55.88**	**307**	P		**P**	**22 27 14.9**	**-0.3**
	comp=E,0.4nm,0.6s,baz=39,slow=7.4,SNR=4.0							
SONM				pP		**pP**	**22 27 29.3**	**-1.0**
	comp=E,0.4nm,0.6s,baz=47,slow=6.3,SNR=3.1							
ZALV	**Zalesovo Beam**	**58.58**	**325**	P		**P**	**22 27 35.0**	**+1.2**
	comp=E,0.4nm,0.4s,baz=15,slow=12,SNR=1.9							
ZALV				pP		**pP**	**22 27 47.4**	**-1.8**
	comp=E,0.6nm,0.5s,baz=18,slow=6.4,SNR=2.4							
FINES	**FINESS Array B**	**59.97**	**1**	P		**P**	**22 27 44.0**	**+0.7**
	comp=E,1.4nm,0.9s,baz=0.8,slow=10,SNR=1.2							
FINES				pP		**pP**	**22 27 57.7**	**-1.0**
	comp=E,2.3nm,1.0s,baz=0.0,slow=11,SNR=1.8							
HFS	**Hagfors**	**60.76**	**8**	pP		pP	22 28 03.4	-0.7
	comp=E,4.4nm,1.0s,baz=51,slow=7.6,SNR=2.2							
MKAR	**Makanchi Array**	**65.62**	**322**	P		**P**	**22 28 19.8**	**-1.4**
	comp=E,0.1nm,0.4s,baz=22,slow=5.1,SNR=1.9							
AKASG	**Malin Array Be**	**70.74**	**359**	P		**P**	**22 28 53.0**	**-0.1**
	comp=E,0.2nm,0.3s,baz=4.0,slow=5.5,SNR=1.6							

IDC ***02*** *22:23:20.6±1.0, 15°.48S×173°.56W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/39, mbtmp4.1/11, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/33, Error ellipse: s-maj=54.3km s-min=16.6km az=149.0*

NEIC ***02*** *22:23:22.2±1.0, 15°.43S±0°.09×173°.45W±0°.06, h10km±1km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=6.7km az=154.0*

ISC 02 22:23:25.9±0.6,**15°.41S**±0°.08×**173°.38W**±0°.09,**h42**km,**n27,** σ1§**66**/**27**,**mb4.1**/12,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**46**	Pn		**Pn**	**22 23 59.0**	**-0.5**
	75nm,0.3s,baz=201,slow=2.6,SNR=30							
AFI				Sn		**Sn**	**22 24 21.0**	**-4.0**
	339nm,0.3s,baz=260,slow=18,SNR=9.3							
NIUE	**Niue**	**4.92**	**138**			**Pn**	**22 24 36.1**	**-1.2**
KNTN	**Kanton**	**12.66**	**8**	Pn		**Pn**	**22 26 22.4**	**-1.1**
RAR	**Rarotonga**	**14.15**	**116**	Pn		**Pn**	**22 26 43.2**	**-0.5**
	1.5nm,0.3s,baz=272,slow=2.3,SNR=3.7							
RAR				LR		LR	22 31 09.5	
	comp=Z,54nm,19.4s,baz=252,slow=33							
LIFNC	**LIFOU**	**19.17**	**251**	P		**P**	**22 27 44.9**	**-1.2**
LIFNC				IAmb		IAmb	22 27 50.9	
	comp=Z,19nm,0.9s							
HNR	**Honiara**	**26.70**	**280**	LR		LR	22 37 56.7	
	comp=Z,56nm,20.7s,baz=130,slow=33							
ARMA	**Armidale**	**35.35**	**239**	P		**P**	**22 30 17.4**	**-0.3**
STKA	**Stephens Creek**	**44.05**	**240**	P		**P**	**22 31 28.7**	**-1.2**
	comp=Z,2.7nm,0.8s,baz=76,slow=9.2,SNR=4.8							
STKA	**Stephens Creek**	**44.05**	**240**	P		**P**	**22 31 28.9**	**-1.0**
STKA				IAmb		IAmb	22 31 41.8	
	comp=Z,3.8nm,1.5s							
WB0	**Warramunga Arr**	**49.82**	**257**	P		**P**	**22 32 14.1**	**-1.1**
WB0				IAmb		IAmb	22 32 26.4	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Ar**	**49.86**	**257**	P		**P**	**22 32 14.3**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=92,slow=6.6,SNR=37							
WRA	**Warramunga Ar**	**49.86**	**257**	P		**P**	**22 32 14.0**	**-1.4**
AS31	**Alice Springs**	**50.12**	**252**	P		**P**	**22 32 16.4**	**-1.0**
AS31				IAmb		IAmb	22 32 17.4	
	comp=Z,1.6nm,0.6s							
ASAR	**Alice Springs**	**50.12**	**252**	P		**P**	**22 32 16.6**	**-0.8**
	comp=Z,7.3nm,0.5s,baz=88,slow=8.1,SNR=91							
ASAR	**Alice Springs**	**50.12**	**252**	P		**P**	**22 32 16.1**	**-1.3**
YBH	**Yreka Blue Hor**	**73.60**	**37**	P		**P**	**22 34 57.5**	**+2.5**
	comp=Z,2.7nm,0.8s,baz=193,slow=4.8,SNR=8.6							
NVAR	**Mina Array Bea**	**74.33**	**42**	P		**P**	**22 35 01.9**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=224,slow=9.7,SNR=7.4							
NVAR	**Mina Array Bea**	**74.33**	**42**	P		**P**	**22 35 01.6**	**+2.1**
QSPA	**South Pole Qui**	**74.63**	**180**	P		**P**	**22 35 02.1**	**+1.3**
QSPA				IAmb		IAmb	22 35 26.9	
	comp=Z,4.8nm,1.4s							
ELK	**Elko**	**77.58**	**41**	P		**P**	**22 35 19.7**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=285,slow=3.8,SNR=4.1							
TXAR	**Lajitas Array**	**80.60**	**56**	P		**P**	**22 35 36.9**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=238,slow=6.3,SNR=2.7							
PDAR	**Pinedale Array**	**82.26**	**42**	P		**P**	**22 35 45.8**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=226,slow=3.6,SNR=2.2							
ILAR	**Eielson Array**	**82.45**	**11**	P		**P**	**22 35 44.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=220,slow=7.3,SNR=5.3							
IMAR	**Indian Mountai**	**82.48**	**8**	P		**P**	**22 35 45.3**	**+1.8**
GERES	**GERESS Array B**	**146.16**	**352**	PKPbc		**PKPab**	**22 43 02.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=353,slow=7.0,SNR=2.0							
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc		**PKPab**	**22 43 02.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=106,slow=4.0,SNR=4.5							
BRTR	**Keskin Array B**	**146.18**	**321**			**PKPbc**	**22 43 01.9**	**-0.3**

IDC 02 22:34:25.8±1.7,**4°.44N×123°.84E, h0**km,**mb3.9**/5, **mb1 4.1**/5,**mb1mx3.6**/53,**mbtmp3.9**/5,**MS3.5**/2,**Ms1 3.5**/2, **ms1mx2.6**/35,**Error ellipse: s-maj=137.6km s-min=23.8km az=65.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.47**	**176**	P		P	22 39 26.9	+0.1
	2.8nm,0.9s,baz=355,slow=8.8,SNR=2.3							
WRA	**Warramunga Arr**	**26.34**	**157**	P		P	22 40 04.4	+0.7
	1.9nm,0.3s,baz=336,slow=9.6,SNR=36							
ASAR	**Alice Springs**	**29.61**	**161**	P		P	22 40 33.0	-0.1
	1.0nm,0.5s,baz=341,slow=7.0,SNR=17							
ASAR				LR		LR	22 51 46.8	
	comp=Z,45nm,21.4s,baz=91,slow=35							
JHJ	**Hachijo jima 2**	**32.18**	**26**	LR		LR	22 53 55.7	
	comp=Z,137nm,18.9s,baz=93,slow=36							
STKA	**Stephens Creek**	**39.88**	**156**	P		P	22 42 00.7	-0.8
	1.1nm,0.4s,baz=326,slow=11,SNR=6.7							
MKAR	**Makanchi Array**	**55.35**	**326**	P		P	22 44 01.6	0.0
	0.2nm,0.4s,baz=132,slow=7.2,SNR=5.9							

ATH ***02*** *22:44:34.8, 39°.20N×22°.23E, h99km±2km, ML3.3/37, Error ellipse: s-maj=2.4km s-min=1.1km az=111.0*

PDG ***02*** *22:44:36.3±1.4, 39°.33N×22°.15E, h10km±2km, ML3.5/13, Error ellipse: s-maj=1.1km s-min=1.6km az=0.0*

IDC ***02*** *22:44:37.2±3.5, 39°.19N×22°.06E, h90km±36km, mb3.5/3, mb1 3.3/5, mb1mx3.0/47, mbtmp3.5/5, Error ellipse: s-maj=41.4km s-min=24.8km az=149.0*

ISK ***02*** *22:44:37.8, 39°.22N×22°.35E, h22km, ML3.1/6*

THE ***02*** *22:44:38.8, 39°.19N×22°.22E, h85km±1km, ML3.3/41, Error ellipse: s-maj=1.9km s-min=0.6km az=38.0*

TIR ***02*** *22:44:38.0, 39°.29N×21°.90E, h111km±3km, Ml3.5*

SOF ***02*** *22:44:39.7, 39°.32N×22°.24E, h43km, MD3.5*

ISC 02 22:44:37.7±0.9,**39°.21N**±0°.02×**22°.21E**±0°.02,**h97**km±5km, **n217,** σ1§**00**/**310**,**20C-15D**,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**0.21**	**196**	P		**Pn**	**22 44 51.8**	**+0.2**
MAKR				S		**Sn**	**22 45 02.0**	**+0.1**
MAKR				AML		AML	22 45 02.2	
	comp=E,23160μm,0.3s							
MAKR				AML		AML	22 45 02.3	
	comp=N,12874μm,0.3s							
THL	**Klokotos Trika**	**0.38**	**337**	P		**Pn**	**22 44 52.4**	**0.0**
THL				S		**Sn**	**22 45 03.3**	**0.0**
THL				AML		AML	22 45 03.7	
	comp=E,5933μm,0.3s							
THL				AML		AML	22 45 03.8	
	comp=N,6856μm,0.5s							
THL	**Klokotos Trika**	**0.38**	**337**	P		**Pn**	**22 44 52.4**	**0.0**
THL				S		**Sn**	**22 45 03.1**	**-0.2**
	comp=N,4μm,0.5s							
EVR	**Evrytania**	**0.43**	**226**	P		**Pn**	**22 44 53.2**	**+0.4**
EVR				S		**Sn**	**22 45 03.9**	**-0.2**
EVR	**Evrytania**	**0.43**	**226**	P		**Pn**	**22 44 53.2**	**+0.4**
EVR				S		**Sn**	**22 45 03.5**	**-0.6**
	comp=N,2μm,0.4s							
LRSO	**Larissa Observ**	**0.48**	**17**	P		**Pn**	**22 44 53.1**	**+0.1**
LRSO				S		**Sn**	**22 45 05.0**	**+0.6**
LRSO	**Larissa Observ**	**0.48**	**17**	P		**Pn**	**22 44 53.5**	**+0.5**
LRSO				S		**Sn**	**22 45 04.6**	**+0.2**
	comp=N,4μm,0.3s							
ANX	**Ano Chora**	**0.66**	**200**	P		**Pn**	**22 44 55.2**	**+0.6**
ANX				S		**Sn**	**22 45 07.1**	**-0.1**
ANX				AML		AML	22 45 09.3	
	comp=E,4961μm,0.3s							
ANX				AML		AML	22 45 10.8	
	comp=N,6703μm,0.4s							
ANX	**Ano Chora**	**0.66**	**200**	P		**Pn**	**22 44 55.2**	**+0.6**
ANX				S		**Sn**	**22 45 06.6**	**-0.6**
	comp=N,3μm,0.3s							
DLFA	**Delphi**	**0.77**	**163**	P		**Pn**	**22 44 55.6**	**+0.1**
DLFA				S		**Sn**	**22 45 08.8**	**-0.1**
XOR	**Xorichti**	**0.78**	**78**	P		**Pn**	**22 44 55.5**	**-0.1**
XOR				S		**Sn**	**22 45 08.4**	**-0.7**
XOR				AML		AML	22 45 08.5	
	comp=N,4067μm,0.2s							
XOR				AML		AML	22 45 09.1	
	comp=E,1994μm,0.4s							
XOR	**Xorichti**	**0.78**	**78**	P		**Pn**	**22 44 55.7**	**+0.1**
XOR				S		**Sn**	**22 45 08.3**	**-0.7**
	comp=E,2μm,0.3s							
NEO	**Neokhori**	**0.80**	**83**	P		**Pn**	**22 44 55.7**	**-0.1**
NEO				AML		AML	22 45 09.0	
	comp=N,6990μm,0.4s							
NEO				AML		AML	22 45 09.2	
	comp=E,5167μm,0.2s							
NEO	**Neokhori**	**0.80**	**83**	P		**Pn**	**22 44 55.9**	**+0.1**
NEO				S		**Sn**	**22 45 08.4**	**-0.9**
	comp=E,3μm,0.3s							
PVO	**Paravola**	**0.80**	**222**	P		**Pn**	**22 44 56.7**	**+0.9**
SERG	**Sergoula**	**0.81**	**188**	P		**Pn**	**22 44 56.6**	**+0.6**
SERG				S		**Sn**	**22 45 09.3**	**-0.3**
SERG				AML		AML	22 45 12.6	
	comp=N,3857μm,0.3s							
SERG				AML		AML	22 45 14.4	
	comp=E,3093μm,0.4s							
ATAL	**Atalanti**	**0.82**	**129**	P		**Pn**	**22 44 56.1**	**+0.1**
ATAL				S		**Sn**	**22 45 09.4**	**-0.4**
ATAL				AML		AML	22 45 09.6	
	comp=N,1657μm,0.4s							
ATAL				AML		AML	22 45 09.8	
	comp=E,2466μm,0.3s							
ATAL	**Atalanti**	**0.82**	**129**	P		**Pn**	**22 44 56.4**	**+0.4**
EFP	**Efpalio**	**0.82**	**197**	P		**Pn**	**22 44 56.7**	**+0.7**
EFP				S		**Sn**	**22 45 09.9**	**+0.2**
EFP				AML		AML	22 45 13.5	
	comp=E,2544μm,0.7s							
EFP				AML		AML	22 45 13.6	
	comp=N,2179μm,0.4s							
EFP	**Efpalio**	**0.82**	**197**	P		**Pn**	**22 44 56.8**	**+0.7**
EFP				S		**Sn**	**22 45 09.0**	**-0.7**
	comp=N,1μm,0.5s							
LKR	**Lokris**	**0.84**	**132**	P		**Pn**	**22 44 56.1**	**0.0**
LKR				S		**Sn**	**22 45 09.8**	**-0.1**
LKR				AML		AML	22 45 11.2	
	comp=N,1735μm,0.2s							
LKR				AML		AML	22 45 11.9	
	comp=E,1477μm,0.2s							
LKR	**Lokris**	**0.84**	**132**	P		**Pn**	**22 44 56.3**	**+0.1**
LKR				S		**Sn**	**22 45 09.4**	**-0.6**
	comp=E,785nm,0.2s							
SMIA	**Simia**	**0.85**	**113**	P		**Pn**	**22 44 56.6**	**+0.2**
SMIA				S		**Sn**	**22 45 09.6**	**-0.7**
SMIA				AML		AML	22 45 10.6	
	comp=E,5565μm,0.5s							
SMIA				AML		AML	22 45 12.8	
	comp=N,5951μm,0.5s							
SMIA	**Simia**	**0.85**	**113**	P		**Pn**	**22 44 56.9**	**+0.6**
TRIZ	**Trizonia**	**0.85**	**187**	P		**Pn**	**22 44 56.8**	**+0.4**
TRIZ				S		**Sn**	**22 45 10.3**	**0.0**
TRIZ	**Trizonia**	**0.85**	**187**	P		**Pn**	**22 44 56.8**	**+0.4**
TRIZ				S		**Sn**	**22 45 09.9**	**-0.4**
	comp=N,1μm,0.3s							
LIT	**Litokhoron**	**0.91**	**14**	P		**Pn**	**22 44 57.3**	**+0.2**
LIT				S		**Sn**	**22 45 11.8**	**+0.3**
LIT				AML		AML	22 45 12.9	
	comp=N,2512μm,0.2s							
LIT				AML		AML	22 45 13.0	
	comp=E,3392μm,0.2s							
LIT	**Litokhoron**	**0.91**	**14**	P		**Pn**	**22 44 57.2**	**+0.2**
LIT				S		**Sn**	**22 45 11.2**	**-0.3**
	comp=E,1μm,0.2s							
ALIK	**Aliki, Aigiali**	**0.95**	**185**	P		**Pn**	**22 44 58.0**	**+0.6**
ALIK				S		**Sn**	**22 45 12.4**	**+0.2**
KPRO	**Kipourio**	**0.99**	**319**	P		**Pn**	**22 44 58.7**	**+0.9**
KPRO				S		**Sn**	**22 45 14.5**	**+1.5**
KPRO				AML		AML	22 45 20.0	
	comp=N,2634μm,0.3s							
KPRO				AML		AML	22 45 20.0	
	comp=E,2925μm,0.4s							
KPRO	**Kipourio**	**0.99**	**319**	P		**Pn**	**22 44 58.6**	**+0.8**
KPRO				S		**Sn**	**22 45 12.7**	**-0.2**
	comp=E,1μm,0.4s							
JAN	**Janina**	**1.14**	**293**	P		**Pn**	**22 45 01.2**	**+1.7**
JAN				S		**Sn**	**22 45 18.4**	**+2.5**
JAN				AML		AML	22 45 18.9	
	comp=E,4795μm,0.4s							
JAN				AML		AML	22 45 18.9	
	comp=N,3911μm,0.4s							
JAN	**Janina**	**1.14**	**293**	P		**Pn**	**22 45 01.7**	**+2.2**
JAN				S		**Sn**	**22 45 17.1**	**+1.2**
	comp=N,2μm,0.4s							
KZN	**Kozani**	**1.14**	**343**	P		**Pn**	**22 45 00.5**	**+0.9**
KZN				S		**Sn**	**22 45 17.1**	**+1.1**
KZN				AML		AML	22 45 17.4	
	comp=N,1201μm,0.4s							
KZN				AML		AML	22 45 20.9	
	comp=E,1536μm,0.5s							
KZN	**Kozani**	**1.14**	**343**	P		**Pn**	**22 45 00.7**	**+1.1**
KZN				S		**Sn**	**22 45 17.0**	**+0.9**
	comp=E,458nm,0.4s							
KLV	**Kalavryta, Ach**	**1.17**	**182**	P		**Pn**	**22 45 00.1**	**+0.1**
KLV				AML		AML	22 45 17.3	
	comp=E,956μm,0.6s							
KLV				AML		AML	22 45 18.0	
	comp=N,788μm,0.4s							
KLV	**Kalavryta, Ach**	**1.17**	**182**	P		**Pn**	**22 45 00.2**	**+0.3**
KLV				S		**Sn**	**22 45 15.9**	**-0.7**
	comp=N,435nm,0.5s							
AXS	**Araxos**	**1.21**	**213**	P		**Pn**	**22 45 01.5**	**+1.2**
AXS				S		**Sn**	**22 45 18.5**	**+1.3**
AXS				AML		AML	22 45 18.8	
	comp=N,972μm,0.4s							
AXS				AML		AML	22 45 19.5	
	comp=E,1500μm,0.5s							
THAL	**Thalero**	**1.23**	**163**	P		**Pn**	**22 45 00.7**	**+0.2**
THAL				AML		AML	22 45 20.4	
	comp=E,1886μm,0.3s							
THAL				AML		AML	22 45 23.7	
	comp=N,1732μm,0.3s							
THAL	**Thalero**	**1.23**	**163**	P		**Pn**	**22 45 01.3**	**+0.8**
TSLK	**Tsoukalades, L**	**1.27**	**253**	P		**Pn**	**22 45 02.0**	**+1.0**
TSLK	**Tsoukalades, L**	**1.27**	**253**	P		**Pn**	**22 45 01.9**	**+1.0**
TSLK				S		**Sn**	**22 45 18.9**	**+0.3**
	comp=N,712nm,0.5s							
NYDR	**Nydri-Lefkada**	**1.28**	**247**	P		**Pn**	**22 45 01.8**	**+0.7**
NYDR				S		**Sn**	**22 45 18.8**	**+0.1**
	comp=N,440nm,0.5s							
LKD2	**Lefkada island**	**1.28**	**251**	P		**Pn**	**22 45 02.0**	**+0.9**
LKD2				AML		AML	22 45 21.0	
	comp=N,1622μm,0.6s							
LKD2				AML		AML	22 45 21.2	
	comp=E,1455μm,0.3s							
LKD2	**Lefkada island**	**1.28**	**251**	P		**Pn**	**22 45 02.0**	**+0.9**
LKD2				S		**Sn**	**22 45 19.4**	**+0.6**
	comp=E,785nm,0.5s							
LKD2	**Lefkada island**	**1.28**	**251**	P		**Pn**	**22 45 02.1**	**+0.9**
	baz=244							
LKD2				S		**Sn**	**22 45 19.2**	**+0.3**
	baz=244							
PENT	**Pentalofos**	**1.28**	**320**	P		**Pn**	**22 45 02.7**	**+1.5**
PENT				AML		AML	22 45 23.4	
	comp=N,956μm,0.3s							
PENT				AML		AML	22 45 25.7	
	comp=E,810μm,0.4s							
PENT	**Pentalofos**	**1.28**	**320**	P		**Pn**	**22 45 02.7**	**+1.5**
ALNA	**Alonissos**	**1.29**	**92**	P		**Pn**	**22 45 01.7**	**+0.5**
RLS	**Riolos of Patr**	**1.29**	**207**	P		**Pn**	**22 45 02.4**	**+1.2**
RLS				S		**Sn**	**22 45 20.5**	**+1.5**
RLS				AML		AML	22 45 21.3	
	comp=N,822μm,0.5s							
RLS				AML		AML	22 45 26.9	
	comp=E,910μm,0.4s							
RLS	**Riolos of Patr**	**1.29**	**207**	P		**Pn**	**22 45 02.5**	**+1.2**
RLS				S		**Sn**	**22 45 18.0**	**-1.0**
	comp=E,872nm,0.5s							
VIL2	**Platees**	**1.30**	**140**	P		**Pn**	**22 45 02.3**	**+0.9**
VIL2				AML		AML	22 45 20.7	
	comp=N,1388μm,0.3s							
VIL2				AML		AML	22 45 23.6	
	comp=E,1405μm,0.5s							
DRO	**Drossia**	**1.32**	**197**	P		**Pn**	**22 45 02.9**	**+1.3**
DRO				S		**Sn**	**22 45 22.1**	**+2.4**
DRO				AML		AML	22 45 22.9	
	comp=E,2502μm,0.5s							
DRO				AML		AML	22 45 26.7	
	comp=N,2119μm,0.4s							
DRO	**Drossia**	**1.32**	**197**	P		**Pn**	**22 45 02.8**	**+1.2**
DRO				S		**Sn**	**22 45 20.0**	**+0.3**
	comp=N,1μm,0.4s							
LTK	**Loutraki**	**1.33**	**153**	P		**Pn**	**22 45 02.1**	**+0.3**
LTK				AML		AML	22 45 20.7	
	comp=N,3890μm,0.4s							
LTK				AML		AML	22 45 21.5	
	comp=E,1550μm,0.4s							
LTK	**Loutraki**	**1.33**	**153**	P		**Pn**	**22 45 02.0**	**+0.2**
LTK				S		**Sn**	**22 45 19.5**	**-0.4**
	comp=E,1μm,0.4s							
PAIG	**Paliouri**	**1.34**	**58**	P		**Pn**	**22 45 02.1**	**+0.2**
PAIG	**Paliouri**	**1.34**	**58**	P		**Pn**	**22 45 02.1**	**+0.2**
PAIG				S		**Sn**	**22 45 19.1**	**-1.0**
	comp=E,148nm,0.2s							
EVGI	**Lefkada island**	**1.35**	**244**	P		**Pn**	**22 45 02.8**	**+0.9**
EVGI	**Lefkada island**	**1.35**	**244**	P		**Pn**	**22 45 02.9**	**+0.9**
EVGI				S		**Sn**	**22 45 21.1**	**+0.9**
VILL	**Villia**	**1.36**	**140**	P		**Pn**	**22 45 02.8**	**+0.7**
LOUT	**Loutraki**	**1.36**	**154**	P		**Pn**	**22 45 02.6**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.38**	**248**	P		**Pn**	**22 45 02.8**	**+0.5**
DRAG				S		**Sn**	**22 45 21.0**	**+0.1**
	comp=E,2μm,0.4s							
IGT	**Igoumenitsa**	**1.49**	**283**	P		**Pn**	**22 45 04.5**	**+0.8**
IGT				AML		AML	22 45 24.7	
	comp=N,1389μm,0.3s							
IGT				AML		AML	22 45 24.8	
	comp=E,2293μm,0.4s							
IGT	**Igoumenitsa**	**1.49**	**283**	P		**Pn**	**22 45 04.4**	**+0.8**
IGT				S		**Sn**	**22 45 22.9**	**-0.4**
	comp=E,925nm,0.4s							
IGT	**Igoumenitsa**	**1.49**	**283**	P		**Pn**	**22 45 04.5**	**+0.8**
	baz=282							
IGT				S		**Sn**	**22 45 22.8**	**-0.5**
	baz=282							
NEST	**Nestorio**	**1.49**	**324**	P		**Pn**	**22 45 05.6**	**+1.7**
NEST				AML		AML	22 45 35.0	
	comp=N,785μm,0.4s							
NEST				AML		AML	22 45 37.4	
	comp=E,703μm,0.7s							
NEST	**Nestorio**	**1.49**	**324**	P		**Pn**	**22 45 05.6**	**+1.7**
PLG	**Polygyros**	**1.50**	**39**	P		**Pn**	**22 45 03.9**	**0.0**
PLG				AML		AML	22 45 24.2	
	comp=N,413μm,0.4s							
PLG				AML		AML	22 45 24.5	
	comp=E,344μm,0.3s							
PLG	**Polygyros**	**1.50**	**39**	P		**Pn**	**22 45 03.9**	**0.0**
VTN	**Vitineika**	**1.52**	**212**	P		**Pn**	**22 45 05.8**	**+1.7**
VTN				S		**Sn**	**22 45 26.3**	**+2.2**
THE	**Thessaloniki**	**1.53**	**22**	P		**Pn**	**22 45 04.2**	**0.0**
THE	**Thessaloniki**	**1.53**	**22**	P		**Pn**	**22 45 04.1**	**0.0**
	baz=30							
HORT	**Hortiatis**	**1.54**	**26**	P		**Pn**	**22 45 04.4**	**0.0**
HORT				AML		AML	22 45 23.6	
	comp=N,601μm,0.3s							
HORT				AML		AML	22 45 25.0	
	comp=E,466μm,0.2s							
HORT	**Hortiatis**	**1.54**	**26**	P		**Pn**	**22 45 04.4**	**0.0**
HORT	**Hortiatis**	**1.54**	**26**	PN		**Pn**	**22 45 04.1**	**-0.3**
HORT				SN		**Sn**	**22 45 23.2**	**-1.5**
LSK	**Leskovik**	**1.55**	**308**	P		**Pn**	**22 45 06.5**	**+2.0**
LSK	**Leskovik**	**1.55**	**308**	P		**Pn**	**22 45 06.0**	**+1.5**
	baz=312							
LSK				S		**Sn**	**22 45 25.1**	**+0.2**
	baz=312							
LSK				AMP				
	comp=N,4.1nm,0.6s,baz=312							
EREA	**Eretria**	**1.56**	**120**	P		**Pn**	**22 45 05.4**	**+0.8**
EREA				S		**Sn**	**22 45 24.4**	**-0.6**
	comp=N,608nm,0.7s							
KYMI	**Kymi, Euboea I**	**1.59**	**111**	P		**Pn**	**22 45 05.6**	**+0.7**
KYMI	**Kymi, Euboea I**	**1.59**	**111**	P		**Pn**	**22 45 05.5**	**+0.7**
KYMI				S		**Sn**	**22 45 24.9**	**-0.6**
	comp=N,202nm,0.5s							
VLS	**Valsamata**	**1.64**	**231**	P		**Pn**	**22 45 05.7**	**+0.2**
VLS				AML		AML	22 45 26.8	
	comp=N,878μm,0.4s							
VLS				AML		AML	22 45 26.8	
	comp=E,1027μm,0.3s							
VLS	**Valsamata**	**1.64**	**231**	P		**Pn**	**22 45 05.7**	**+0.2**
VLS				S		**Sn**	**22 45 26.0**	**-0.6**
	comp=E,485nm,0.4s							
KEF5	**Kardakata, Kep**	**1.65**	**236**	P		**Pn**	**22 45 05.9**	**+0.2**
KEF5	**Kardakata, Kep**	**1.65**	**236**	P		**Pn**	**22 45 05.9**	**+0.2**
KEF5				S		**Sn**	**22 45 25.9**	**

comp=E,0.6nm,0.9s,baz=328
VLMS Volimes, Zakyn 1.80 223 P **Pn** **22 45 08.2 +0.6**
VLMS AML AML 22 45 30.9
comp=E,1046μm,0.3s
VLMS AML AML 22 45 33.0
comp=N,1658μm,0.4s
VLMS Volimes, Zakyn 1.80 223 P **Pn** **22 45 08.2 +0.6**
VLMS S **Sn** **22 45 30.3 -0.1**
comp=N,668nm,0.4s
SOH Sokhos 1.83 28 P **Pn** **22 45 08.9 +0.9**
SOH Sokhos 1.83 28 P **Pn** **22 45 08.9 +0.9**
SOH S **Sn** **22 45 31.6 +0.5**
comp=N,250nm,0.7s
SRN Sarande 1.83 292 P **Pn** **22 45 08.9 +1.0**
SRN Sarande 1.83 292 P **Pn** **22 45 08.9 +1.0**
baz=293
SRN S **Sn** **22 45 30.2 -0.8**
baz=293
SRN AMP
comp=N,1,3nm,0.4s,baz=293
KASA Kassiopi 1.84 288 P **Pn** **22 45 09.1 +1.1**
VLY Voula,Athens 1.84 137 P **Pn** **22 45 09.0 +0.8**
VLY AML AML 22 45 32.8
comp=N,519μm,0.8s
VLY AML AML 22 45 33.9
comp=E,416μm,0.4s
VLY Voula,Athens 1.84 137 P **Pn** **22 45 08.9 +0.7**
VLX Vlachokerasia 1.85 176 P **Pn** **22 45 09.3 +1.0**
VLX AML AML 22 45 37.9
comp=E,725μm,0.7s
VLX AML AML 22 45 40.7
comp=N,530μm,0.7s
VLX Vlachokerasia 1.85 176 P **Pn** **22 45 09.0 +0.7**
LTHK Lithakia 1.85 216 P **Pn** **22 45 09.0 +0.8**
LTHK AML AML 22 45 31.7
comp=E,1183μm,0.3s
LTHK AML AML 22 45 33.5
comp=N,910μm,0.4s
LTHK Lithakia 1.85 216 P **Pn** **22 45 08.7 +0.5**
LTHK S **Sn** **22 45 30.9 -0.5**
comp=N,578nm,0.4s
KEK Kerkira 1.93 286 P **Pn** **22 45 10.1 +0.8**
KEK AML 22 45 35.6
comp=N,652μm,0.5s
KEK AML AML 22 45 35.6
comp=E,1483μm,0.7s
KEK Kerkira 1.93 286 P **Pn** **22 45 10.1 +0.8**
KEK S **Sn** **22 45 33.1 -0.2**
comp=E,608nm,0.6s
KRND KRANIDI 1.97 158 P **Pn** **22 45 10.3 +0.5**
KRND S **Sn** **22 45 35.1 +0.8**
comp=E,312nm,0.3s
KNT Kendrikon 2.02 15 P **Pn** **22 45 11.2 +0.8**
KNT S **Sn** **22 45 36.1 +0.8**
comp=E,165nm,0.8s
KNT Kendrikon 2.02 15 PN **Pn** **22 45 11.2 +0.8**
ITM Ithomi 2.04 186 P **Pn** **22 45 11.8 +1.0**
ITM S **Sn** **22 45 37.5 +1.5**
comp=E,148nm,0.6s
ITM Ithomi 2.04 186 PN **Pn** **22 45 12.2 +1.4**
VAY Valandovo 2.12 7 *i* Pn **Pn** **22 45 12.5 +0.7**
VAY *i* Sg **Sn** **22 45 38.1 +0.3**
OHR Ohrid 2.18 331 *i* Pn **Pn** **22 45 13.5 +0.9**
OHR *i* Sg **Sn** **22 45 38.5 -0.7**
PYL PYLOS 2.34 189 P **Pn** **22 45 14.8 +0.1**
VLO Vlora 2.44 302 P **Pn** **22 45 16.4 +0.6**
baz=304
VLO S **Sn** **22 45 45.4 +0.4**
baz=304
VLO AMP
comp=E,2.0nm,0.3s,baz=304
STIP Stip 2.48 360 *i* Pn **Pn** **22 45 17.9 +1.5**
NVR Nevrokopi 2.48 30 P **Pn** **22 45 17.1 +0.6**
VLI Veliai 2.56 167 P **Pn** **22 45 17.2 -0.3**
MMB Musomiste 2.64 26 *i* P **Pn** **22 45 18.8 +0.2**
KKB Krupnik 2.73 14 *i* P **Pn** **22 45 20.2 +0.4**
TIR Tirane 2.78 321 P **Pn** **22 45 21.8 +1.3**
baz=324
SKO Skopje 2.82 348 *i* Pn **Pn** **22 45 22.0 +1.0**
SCTE Santa Cesarea 3.01 288 P **Pn** **22 45 23.7 +0.2**
baz=288
KTHA Kythira Island 3.03 167 PN **Pn** **22 45 25.6 +1.8**
CHOS Chios island 3.12 104 PN **Pn** **22 45 25.8 +0.8**
RZN Rozhen 3.13 37 *i* P **Pn** **22 45 26.4 +1.2**
RDO Rodhopi 3.20 52 PN **Pn** **22 45 26.6 +0.6**
PUK Puka 3.33 329 P **Pn** **22 45 29.5 +1.7**
baz=332
PUK S **Sn** **22 46 08.8 +2.2**
baz=332
PUK AMP
comp=N,0.2nm,0.5s,baz=332
APE Apeiranthos 3.38 128 ⇑P **Pn** **22 45 29.9 +1.4**
APE Apeiranthos 3.38 128 PN **Pn** **22 45 29.8 +1.2**
ALN Alexandroupoli 3.39 59 PN **Pn** **22 45 29.2 +0.6**
KDZ Kurdzhali 3.45 44 *i* P **Pn** **22 45 29.5 0.0**
VTS Vitosha 3.49 13 ⇓P **Pn** **22 45 31.3 +1.3**
VTS ⇑S **Sn** **22 46 13.2 +2.7**
VTS Vitosha 3.49 13 *i* P **Pn** **22 45 30.9 +0.8**
URLA Izmir 3.53 103 PN **Pn** **22 45 31.3 +0.7**
BCI Bajram Curri 3.54 333 P **Pn** **22 45 32.5 +1.8**
baz=337
ULC Ulcinj 3.55 322 ⇑*i* Pn **Pn** **22 45 30.9 +0.1**
ULC *i* Sn **Sn** **22 46 11.3 -0.6**
DRME Dracevica, Mon 3.75 323 ⇓*i* Pn **Pn** **22 45 33.5 0.0**
DRME Dracevica, Mon 3.75 323 ⇓*i* Pn **Pn** **22 45 33.6 0.0**
DRME *i* Sn **Sn** **22 46 16.1 -0.6**
PVY Plav 3.78 334 ⇑*i* Pn **Pn** **22 45 34.0 0.0**
PVY *i* Sn **Sn** **22 46 16.4 -1.2**
DIM Dimitrovgrad 3.80 41 *i* P **Pn** **22 45 35.2 +1.1**
PDG Podgorica 3.92 326 ⇓P **Pn** **22 45 35.6 -0.1**
PDG ⇑S **Sn** **22 46 19.8 -0.7**
PDG Podgorica 3.92 326 ⇓*i* Pn **Pn** **22 45 35.8 -0.1**
TTG Podgorica 3.92 326 ⇓*i* Pn **Pn** **22 45 35.8 +0.1**
TTG *i* Sn **Sn** **22 46 20.1 -0.5**
BUM Brajici-Budva 3.98 322 ⇓*i* Pn **Pn** **22 45 36.3 -0.3**
BUM *i* Sn **Sn** **22 46 21.3 -0.9**
IVA Berane 4.05 335 ⇓*i* Pn **Pn** **22 45 38.0 +0.4**
IVA *i* Sn **Sn** **22 46 23.0 -1.0**
CEME Cevo 4.16 324 ⇓*i* Pn **Pn** **22 45 38.7 -0.3**
CEME *i* Sn **Sn** **22 46 25.4 -1.2**
KOME Kolasin 4.16 332 ⇑*i* Pn **Pn** **22 45 39.5 +0.4**
KOME *i* Sn **Sn** **22 46 25.8 -0.9**
TIP Timpagrande 4.23 271 ⇑P **Pn** **22 45 39.0 -1.0**
TIP ⇑S **Sn** **22 46 26.5 -1.9**
HCY Herceg Novi 4.29 320 *e*Pn **Pn** **22 45 39.7 -1.0**
HCY Herceg Novi 4.29 320 ⇓*i* Pn **Pn** **22 45 39.6 -1.1**
HCY *i* Sn **Sn** **22 46 27.6 -1.9**
NKME Niksic 4.32 326 ⇑*i* Pn **Pn** **22 45 41.0 -0.2**
NKME *i* Sn **Sn** **22 46 29.8 -0.6**
NKY Niksic 4.34 327 ⇑*i* Pn **Pn** **22 45 41.6 +0.1**
NKY *i* Sn **Sn** **22 46 29.9 -1.1**
BLKB Belogradchik 4.42 4 ⇑S **Sn** **22 46 35.1 +2.3**
BOVS Bovan 4.43 355 ⇑P **Pn** **22 45 43.2 +0.5**
MATE Matera 4.47 290 ⇓P **Pn** **22 45 42.6 -0.5**
TREB Trebinje 4.56 321 *e*Pn **Pn** **22 45 43.1 -1.3**
BRY Bratogost 4.61 324 *e*Pn **Pn** **22 45 45.0 -0.2**
BRY Bratogost 4.61 324 ⇑*i* Pn **Pn** **22 45 45.0 -0.2**
BRY *i* Sn **Sn** **22 46 36.5 -1.1**
UPM Unac-Piva 4.70 329 *e*Pn **Pn** **22 45 47.0 +0.5**
UPM Unac-Piva 4.70 329 ⇓*i* Pn **Pn** **22 45 46.9 +0.5**
UPM *i* Sn **Sn** **22 46 39.0 -0.8**
RUDO Rudo 4.89 335 *e*Pn **Pn** **22 45 47.6 -1.3**
STON Ston 5.00 318 *e*Pn **Pn** **22 45 47.5 -2.8**
BBLS Lazići 5.10 337 *e*Pn **Pn** **22 45 51.4 -0.4**
DIVS Divibare 5.15 342 *e*Pn **Pn** **22 45 50.8 -1.7**
HAPS Han Pijesak,BI 5.44 334 *e*Pn **Pn** **22 45 55.0 -1.5**
MDVR Moldovita 5.58 356 ⇑P **Pn** **22 45 57.8 -0.4**
HERR Herculane 5.67 2 ⇑P **Pn** **22 46 00.0 +0.7**
GZR Gura Zlata 6.19 4 ⇓P **Pn** **22 46 06.9 +0.3**
FRGS Fruska Gora 6.20 344 *e*Pn Pn 22 45 57.8 -8.9
ARR Arges 6.41 16 ⇑P **Pn** **22 46 10.3 +0.8**
BZS Buzias 6.41 356 ⇑P **Pn** **22 46 09.7 +0.1**
MGRS Mrkonjic Grad 6.45 325 *e*Pn **Pn** **22 46 09.6 -0.5**
BLY Banja Luka 6.68 328 ⇓*i* Pn **Pn** **22 46 11.5 -1.6**
MLR Muntele Rosu 6.86 23 ⇓P **Pn** **22 46 17.7 +2.0**
MRAK Mrakovica 7.01 327 *e*Pn **Pn** **22 46 17.3 -0.4**
AQU L'Aquila 7.38 298 *e*Pn **Pn** **22 46 23.9 +1.1**
PLOR Plostina 7.40 25 ⇑P **Pn** **22 46 24.9 +1.9**
VRI Vrincioaia 7.44 25 ⇑P **Pn** **22 46 25.7 +2.2**
MORH Mrgy, Hungar 7.47 341 ⇑P **Pn** **22 46 22.8 -1.1**
MORH Mrgy, Hungar 7.47 341 *e*Pn **Pn** **22 46 22.5 -1.4**
CRES Cresnjev 8.27 325 *e*Pn **Pn** **22 46 32.8 -2.1**

BEHE Becsehely 8.28 333 *e*Pn **Pn** **22 46 31.6 -3.2**
CEY Cerknica 8.69 321 *e*Pn **Pn** **22 46 38.1 -2.4**
BRTR Keskin Array B 8.86 83 P **Pn** **22 46 43.9 +1.0**
comp=N,0.0nm,0.3s,baz=270,slow=12,SNR=1.8
OBKA Obir 9.20 325 *e*Pn **Pn** **22 46 45.4 -2.2**
comp=N,1.1nm,0.2s
ARSA Arzberg 9.39 331 *e*Pn **Pn** **22 46 48.2 -1.9**
comp=N,5.3nm,0.7s,SNR=6.4
CONA Conrad Observa 9.85 334 *e*Pn **Pn** **22 46 55.2 -1.1**
comp=N,1.2nm,0.5s
KBA Koelnbreinsper 10.18 323 *e*Pn **Pn** **22 46 59.2 -1.7**
comp=N,1.3nm,0.3s
ABTA Abfaltersbach 10.34 320 *i* Pn **Pn** **22 47 01.2 -1.9**
comp=N,1.8nm,0.2s,SNR=8.6
MOA Molln 10.37 329 *e*Pn **Pn** **22 47 00.8 -2.6**
comp=N,3.0nm,0.7s,SNR=5.4
GERES GERESS Array B 11.40 330 P **Pn** **22 47 16.6 -0.8**
comp=N,0.1nm,0.3s,baz=154,slow=16,SNR=5.5
FETA Feichten 11.45 317 *e*Pn **Pn** **22 47 18.8 +0.7**
comp=N,0.9nm,0.4s
KHC Kasperske Hory 11.68 331 *e*P **Pn** **22 47 18.7 -2.4**
TORD Torodi Ar. Bea 31.67 221 P **P** **22 50 51.2 -0.8**
comp=N,0.2nm,0.3s,baz=32,slow=8.2,SNR=1.7
MKAR Makanchi Array 43.64 60 P **P** **22 52 33.7 +1.2**
comp=N,0.6nm,0.4s,baz=281,slow=7.6,SNR=14
ZALV Zalesovo Beam 44.02 49 P **P** **22 52 35.9 +0.5**
comp=N,1.6nm,0.5s,baz=283,slow=9.0,SNR=6.2

*JMA **02** 23:21:41.2±0.1, 38.73N×142.16E, h41km±1km, M3.6*
JMA Felt I J1.
*NIED **02** 23:21:41.2, 38.73N×142.16E, h41km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr2.07; Mθθ0.16; Mϕϕ -2.23; Mrθ1.31; Mθϕ -0.34; Mrϕ2.49; Fault plane solution: M0 3.56000×1014 NP1:φ=24.00000°, δ72.00000°, λ101.00000°. NP2:φ=172.00000°, δ21.00000°, λ60.00000°.*
*IDC **02** 23:21:43.4±3.5, 38.71N×142.28E, h67km±31km, mb3.3/5, mb1 3.5/8, mb1mx3.3/32, mbtmp3.7/8, ML3.0/3, MS2.4/2, Ms1 2.4/2, ms1mx2.1/24 Error ellipse: s-maj=37.1km s-min=24.6km az=79.0*
ISC 02 23:21:39.2±1.8, 38.71N±0.04×142.23E±0.07, h25km±12km, n27, σ1°78/29, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**311**	P	**Pn**	**23 21 52.3**	**+0.6**
OFUJ				*e*S	**Sn**	**23 22 00.0**	**-0.3**
JKMT	**Kesennumamotoy**	**0.60**	**280**	P	**Pn**	**23 21 52.5**	**+0.4**
JKMT				S	**Sn**	**23 22 00.2**	**-0.8**
JIKH	**Ishinomakikobu**	**0.72**	**236**	P	**Pn**	**23 21 54.3**	**+0.6**
JIKH				*e*S	**Sn**	**23 22 03.4**	**-0.5**
JIO	**Ouri**	**0.73**	**250**	P	**Pn**	**23 21 54.4**	**+0.4**
JIO				*e*S	**Sn**	**23 22 03.5**	**-0.8**
JMK	**Ichinoseki**	**0.82**	**287**	P	**Pn**	**23 21 55.7**	**+0.5**
JMK				*e*S	**Sn**	**23 22 06.0**	**-0.5**
JOM	**Ohasama**	**1.05**	**317**	P	**Pb**	**23 21 59.2**	**+0.4**
JOM				*e*S	**Sb**	**23 22 10.7**	**-1.4**
JTH	**Tanohata**	**1.26**	**347**	P	**Pb**	**23 22 01.9**	**-0.4**
JOU	**Okura**	**1.27**	**255**	P	**Pb**	**23 22 02.2**	**-0.3**
JOU				*e*S	**Sb**	**23 22 18.1**	**-0.3**
JMM	**Marumori**	**1.41**	**234**	P	**Pb**	**23 22 03.8**	**-1.0**
JRG	**Rokugo**	**1.42**	**299**	P	**Pb**	**23 22 04.3**	**-0.7**
JYK	**Kaneyama**	**1.47**	**279**	P	**Pb**	**23 22 05.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.85**	**237**	P	**Pn**	**23 22 40.0**	**+3.1**
	0.6nm,0.3s,baz=44,slow=11,SNR=23						
MJAR				LR	LR	23 24 26.4	
	comp=Z,54nm,18.4s,baz=205,slow=42						
MAT	**Matsushiro**	**3.85**	**237**	P	**Pn**	**23 22 40.2**	**+3.3**
MAT				*e*S	**Sn**	**23 23 24.3**	**+2.9**
ASAJ	**Asahikawa**	**5.41**	**3**	LR	LR	23 25 32.4	
	comp=Z,30nm,21.3s,baz=130,slow=42						
JHJ	**Hachijo jima 2**	**5.92**	**200**	P	**Pn**	**23 23 09.0**	**+3.7**
	6.8nm,0.3s,baz=24,slow=12,SNR=1.5						
JHJ				S	**Sn**	**23 24 09.0**	**-3.3**
	4.0nm,0.3s,baz=54,slow=22,SNR=1.4						
USRK	**Ussuriysk Ar.**	**9.44**	**309**	P	**Pn**	**23 23 57.5**	**+4.0**
	baz=127,slow=13,SNR=9.1						
H11N2	**WAKE ISLAND Hy 28.51**	**125**		T	T	23 57 54.7	
	baz=317,slow=75,SNR=132						
H11N1	**WAKE ISLAND Hy 28.52**	**125**		T	T	23 57 53.9	
	baz=317,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy 28.53**	**125**		T	T	23 58 01.8	
	baz=317,slow=75,SNR=112						
H11S1	**WAKE ISLAND Hy 29.28**	**127**		T	T	23 58 48.9	
	baz=319,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy 29.29**	**127**		T	T	23 58 49.3	
	baz=319,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy 29.30**	**127**		T	T	23 58 47.7	
	baz=319,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**41.28**	**311**	P	**P**	**23 29 22.0**	**-0.2**
	0.5nm,0.3s,baz=88,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**43.79**	**301**	P	**P**	**23 29 42.3**	**-0.5**
	0.4nm,0.5s,baz=84,slow=11,SNR=5.4						
ILAR	**Eielson Array**	**47.74**	**33**	P	**P**	**23 30 12.7**	**-0.9**
	0.3nm,0.5s,baz=267,slow=6.9,SNR=4.1						
WRA	**Warramunga Arr**	**58.81**	**189**	P	**P**	**23 31 34.9**	**-0.6**
	0.5nm,0.9s,baz=8.6,slow=4.1,SNR=1.2						
BRTR	**Keskin Array B**	**78.22**	**312**	P	**P**	**23 33 36.5**	**-0.3**
	0.3nm,0.4s,baz=122,slow=4.6,SNR=5.1						

*IDC **02** 23:47:13.9±1.9, 29.47N×140.57E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/41, mbtmp3.5/5, ML3.0/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/32, Error ellipse: s-maj=76.1km s-min=21.4km az=66.0*
ISC 02 23:47:14.8±1.1, 29.5N±0.2×140.7E±0.3, h10km, n6, σ0°43/6, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.71**	**152**	Pn	**Pn**	**23 47 58.8**	**+0.4**
	1.9nm,0.3s,baz=311,slow=19,SNR=1.1						
JCJ				Sn	**Sb**	**23 48 36.1**	**-0.5**
	6.2nm,0.3s,baz=288,slow=21,SNR=2.0						
MJAR	**Matsushiro Arr**	**7.34**	**344**	Pn	**Pn**	**23 49 02.1**	**0.0**
	0.4nm,0.3s,baz=163,slow=14,SNR=8.8						
GUMO	**Guam**	**16.29**	**166**	LR	LR	23 55 28.8	
	comp=Z,18nm,20.6s,baz=124,slow=30						
SONM	**Songino Array**	**32.12**	**314**	P	**P**	**23 53 42.1**	**-0.3**
	0.3nm,0.5s,baz=120,slow=8.5,SNR=2.0						
WRA	**Warramunga Arr**	**49.54**	**188**	P	**P**	**23 56 06.1**	**+0.1**
	0.8nm,0.9s,baz=6.3,slow=7.5,SNR=5.3						
ASAR	**Alice Springs**	**53.27**	**188**	P	**P**	**23 56 34.0**	**+0.1**
	0.4nm,0.8s,baz=7.5,slow=7.9,SNR=2.6						

JMA 02 23:48:36.6, 35.24N×139.02E, h2km±1km, M1.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.06**	**67**	P	Pg	23 48 37.8	0.0
JOD2				S	Sg	23 48 39.0	+0.3
AJI	**Ajiro2**	**0.20**	**163**	P	Pg	23 48 40.9	+0.4
KTJ3	**Kamata3**	**0.31**	**172**	P	Pg	23 48 42.9	+0.4
JYN	**Shimob**	**0.47**	**304**	P	Pg	23 48 45.4	-0.2
JYN				S	Sg	23 48 52.1	+0.5
SHZ3	**Shizuoka 3**	**0.69**	**256**	P	Pg	23 48 49.9	+0.1
JRY	**Ryogami san**	**0.78**	**353**	P	Pg	23 48 51.1	-0.5
JRY				S	Sg	23 49 01.3	-0.4
MAT	**Matsushiro**	**1.46**	**333**	*e*S	Sg	23 49 21.7	-1.8
MAT	**Matsushiro**	**1.46**	**333**	P	Pn	23 49 02.7	-1.3

*IDC **02** 23:57:39.8±2.8, 6.81S×112.22E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/34, Error ellipse: s-maj=175.3km s-min=26.4km az=50.0*
*DJA **02** 23:57:54.5±0.4, 8°S±7°×111°E±°, h131km±5km, M3.7/9, mB4.4/1, mb4.1/3, MLv3.4/9, Mw(mB)3.6/1*
ISC 02 23:57:53.3±2.0, 8.1S±0.3×111.4E±0.2, h150km, n14, σ0°39/6, mb3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.37**	**84**	P	Pn	23 58 14.5	+0.4
PWJI				S	**Sn**	**23 58 29.6**	**-0.2**
UGM	**Wanagama**	**0.91**	**279**	P	**Pn**	**23 58 17.6**	**+0.2**
UGM				S	**Sn**	**23 58 35.2**	**-0.5**
SMRI	**Semarang**	**1.41**	**316**	P	Pn	23 58 22.0	+0.1
SMRI				S	**Sn**	**23 58 43.7**	**-0.1**

KPJI Karang Pucung 2.58 286 P **Pn** **23 58 35.6 +0.2**
KMMI Kalianget 2.71 68 P **Pn** 23 58 38.1 +1.1
CISI Cisompet, Garu 3.62 278 P **Pn** **23 58 48.9 +0.2**
TWSI Taliwang, Sumb 5.43 97 P **Pn** 23 59 14.0 +1.5
0.0nm503nm7.6nm,1.2s
PLAI Plampang 6.32 97 P Pn 23 59 26.3 +1.9
DAV Davao City (W) 20.62 44 LR LR 00 10 34.3
comp=Z,17nm,18.7s,baz=328,slow=40
SIJI Sorong 21.02 71 LR LR 00 12 00.1
comp=Z,38nm,18.2s,baz=158,slow=43
WRA Warramunga Arr 25.13 120 P P 00 03 07.3 +2.7
0.8nm,0.6s,baz=299,slow=11,SNR=16
ASAR Alice Springs 26.54 128 P P 00 03 20.6 +3.3
0.8nm,0.6s,baz=303,slow=7.9,SNR=9.8
MKAR Makanchi Array 60.46 337 P P 00 07 45.7 -1.5
0.3nm,0.5s,baz=163,slow=6.5,SNR=5.7
RAO Raoul Island 69.24 118 LR LR 00 38 16.1
comp=Z,246nm,18.7s,baz=336,slow=35

*SJA **03** 00:06:20.3±0.6, 23.15S×69.65W, h65km±2km, ML4.0, MW3.9*
*GUC **03** 00:06:21.7±0.7, 23.14S×69.63W, h65km±2km, ML3.8*
*IDC **03** 00:06:22.4±1.8, 23.11S×69.47W, h76km±11km, mb4.1/2, mb1 3.9/6, mb1mx3.5/27, mbtmp4.0/6, MS2.7/3, Ms1 2.7/3, ms1mx2.6/21, Error ellipse: s-maj=38.0km s-min=25.7km az=115.0*
ISC 03 00:06:21.5±0.7, 23.17S±0.03×69.66W±0.04, h60km±5km, n55, σ1°69/81, 9C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.18**	**104**	⇑*i*P	**Pn**	**00 06 31.2**	**+0.1**
PB15				*i* S	**Sn**	**00 06 38.3**	**+0.2**
PB15	**IPOC Station P**	**0.18**	**104**	*e*P	**Pn**	**00 06 31.2**	**+0.1**
PB15				*e*S	**Sn**	**00 06 39.4**	**+1.3**
PB15				IAML		00 06 40.9	
	comp=Z,36μm,0.2s						
PB06	**IPOC Station P**	**0.46**	**10**	⇑*i*P	**Pn**	**00 06 33.2**	**-0.1**
PB06				*i* S	**Sn**	**00 06 41.9**	**+0.1**
PB06				IAML		00 06 44.8	
	comp=E,6μm,0.2s						
PB06	**IPOC Station P**	**0.46**	**10**	*e*P	**Pn**	**00 06 33.2**	**-0.1**
PB06				*e*S	**Sn**	**00 06 42.4**	**+0.6**
PB05	**IPOC Station P**	**0.59**	**302**	⇑*i*P	**Pn**	**00 06 34.9**	**+0.3**
PB05				*i* S	**Sn**	**00 06 44.9**	**+0.7**
PB05				IAML		00 06 45.6	
	comp=N,4μm,0.3s						
PB05	**IPOC Station P**	**0.59**	**302**	*e*P	**Pn**	**00 06 34.8**	**+0.2**
PB05				*e*S	**Sn**	**00 06 45.2**	**+1.0**
LVC	**Limon Verde**	**0.88**	**51**	P	**Pn**	**00 06 38.7**	**+0.3**
	comp=N,241nm,0.3s,baz=210,slow=9.7,SNR=3899						
LVC				S	**Sn**	**00 06 51.2**	**+0.4**
	comp=N,929nm,0.3s,baz=360,slow=18,SNR=46						
LVC	**Limon Verde**	**0.88**	**51**	*i* P	**Pn**	**00 06 38.5**	**+0.1**
LVC				*i* S	**Sn**	**00 06 50.7**	**-0.1**
LVC	**Limon Verde**	**0.88**	**51**	*e*P	**Pn**	**00 06 38.5**	**+0.1**
LVC				*e*S	**Sn**	**00 06 51.5**	**+0.7**
LVC				IAML		00 06 52.0	
	comp=Z,2μm,0.2s						
PB10	**IPOC Station P**	**0.89**	**247**	⇓*i*P	**Pn**	**00 06 38.8**	**+0.6**
PB10				*i* S	**Sn**	**00 06 52.4**	**+1.9**
PB10				IAML		00 06 54.6	
	comp=E,2μm,0.4s						
PB10	**IPOC Station P**	**0.89**	**247**	*e*P	**Pn**	**00 06 38.8**	**+0.6**
PB10				*e*S	**Sn**	**00 06 51.5**	**+1.0**
PB04	**IPOC Station P**	**0.94**	**331**	⇑*i*P	**Pn**	**00 06 38.9**	**-0.1**
PB04				*i* S	**Sn**	**00 06 52.1**	**+0.2**
PB04				IAML		00 06 53.0	
	comp=N,6μm,0.5s						
PB04	**IPOC Station P**	**0.94**	**331**	*e*P	**Pn**	**00 06 38.8**	**-0.2**
PB04				*e*S	**Sn**	**00 06 52.6**	**+0.7**
PB04				IAML		00 06 57.5	
	comp=Z,4μm,0.4s						
PB03	**IPOC Station P**	**1.11**	**355**	⇑*i*P	**Pn**	**00 06 41.1**	**-0.1**
PB03				*i* S	**Sn**	**00 06 56.2**	**+0.3**
PB03				IAML		00 06 58.2	
	comp=N,6μm,0.2s						
PB03	**IPOC Station P**	**1.11**	**355**	*e*P	**Pn**	**00 06 41.2**	**-0.1**
PB03				*e*S	**Sn**	**00 06 56.6**	**+0.8**
PB03				IAML		00 06 57.3	
	comp=Z,4μm,0.2s						
PB09	**IPOC Station P**	**1.42**	**16**	⇑*i*P	**Pn**	**00 06 46.0**	**+0.8**
PB09				*i* S	**Sn**	**00 07 03.7**	**+0.7**
PB09				IAML		00 07 09.5	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**1.42**	**16**	*e*P	**Pn**	**00 06 46.1**	**+0.9**
PB09				*e*S	**Sn**	**00 07 05.0**	**+2.0**
PB09				IAML		00 07 06.8	
	comp=Z,2μm,0.4s						
PB07	**IPOC Station P**	**1.45**	**352**	⇑*i*P	**Pn**	**00 06 45.6**	**-0.1**
PB07				*i* S	**Sn**	**00 07 04.2**	**+0.5**
PB07				IAML		00 07 08.6	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**1.45**	**352**	*e*P	**Pn**	**00 06 45.5**	**-0.1**
PB07				*e*S	**Sn**	**00 07 05.3**	**+1.6**
PB07				IAML		00 07 12.3	
	comp=Z,2μm,0.3s						
PB14	**IPOC Station P**	**1.61**	**205**	⇑*i*P	**Pn**	**00 06 49.1**	**+1.2**
PB14				*i* S	**Sn**	**00 07 10.3**	**+2.5**
PB14	**IPOC Station P**	**1.61**	**205**	*e*P	**Pn**	**00 06 48.8**	**+0.9**
PB14				*e*S	**Sn**	**00 07 09.5**	**+1.7**
PB14				IAML		00 07 12.3	
	comp=Z,814nm,0.6s						
GO02	**Mina Guanaco**	**1.99**	**178**	⇑*i*P	**Pn**	**00 06 54.4**	**+1.3**
GO02				*i* S	**Sn**	**00 07 19.9**	**+2.8**
GO02				IAML		00 07 28.5	
	comp=E,1000nm,0.5s						
PB01	**IPOC Station P**	**2.12**	**4**	⇓*i*P	**Pn**	**00 06 55.4**	**+0.7**
PB01				*i* S	**Sn**	**00 07 20.5**	**+0.6**
PB01	**IPOC Station P**	**2.12**	**4**	*e*P	**Pn**	**00 06 55.2**	**+0.5**
PB01				*e*S	**Sn**	**00 07 22.1**	**+2.2**
PB01				IAML		00 07 24.9	
	comp=Z,1μm,0.3s						
PATCX	**Punta Patache**	**2.38**	**349**	⇓*i*P	**Pn**	**00 06 57.7**	**-0.5**
PATCX				*i* S	**Sn**	**00 07 26.3**	**0.0**
PATCX	**Punta Patache**	**2.38**	**349**	*e*P	**Pn**	**00 06 58.0**	**-0.2**
PATCX				IAML		00 07 35.8	
	comp=Z,884nm,0.8s						
TA01	**Diego Aracena**	**2.63**	**349**	*e*P	**Pn**	**00 07 00.6**	**-1.0**
PB08	**IPOC Station P**	**3.04**	**9**	*e*P	**Pn**	**00 07 08.5**	**+0.9**
PB08				*e*S	Sn	00 07 31.7	-11
PB08				IAML		00 08 12.1	
	comp=Z,190nm,0.4s						
AC01	**Pan de Azucar**	**3.09**	**196**	⇓*i*P	**Pn**	**00 07 07.1**	**-0.8**
AC01				*i* S	**Sn**	**00 07 43.2**	**-0.5**
AC01				IAML		00 08 00.8	
	comp=N,437nm,0.3s						
PB11	**IPOC Station P**	**3.39**	**0**	*e*P	**Pn**	**00 07 11.8**	**-0.3**
PB11				*e*S	**Sn**	**00 07 59.6**	**+8.5**
PB11				IAML		00 08 08.2	
	comp=Z,321nm,0.3s						
GO03	**Copiap**	**4.44**	**187**	*e*P	**Pn**	**00 07 25.6**	**-0.7**
GO03				*e*S	Sn	00 08

comp=Z,0.2nm,0.3s,baz=284,slow=19,SNR=2.4
RFA San Rafael 11.61 175 *e*P **Pn 00 09 05.4 +0.9**
RFA *e*S Sn 00 11 00.3 -12
BO02 Sierra Bellavi 11.63 185 *e*P Pn 00 08 56.8 -7.9
BO02 *e*S Sn 00 10 59.9 -13
CPUP Villa Florida 11.64 108 P **Pn 00 09 05.1 +0.3**
comp=Z,0.1nm,0.3s,baz=277,slow=8.6,SNR=3.9
CPUP LR LR 00 14 04.1
comp=Z,56nm,19.7s,baz=245,slow=40
H03N1 Juan Fernandez 13.08 216 T T 00 21 39.3
baz=42,slow=72,SNR=9.7
H03N2 Juan Fernandez 13.09 217 T T 00 21 58.5
baz=42,slow=72,SNR=12
H03N3 Juan Fernandez 13.10 216 T T 00 21 57.8
baz=42,slow=72,SNR=9.6
PLCA Paso Flores 17.53 182 P **Pn 00 10 21.6 -0.1**
comp=Z,0.2nm,0.3s,baz=11,slow=14,SNR=3.2
PTGA Pitinga 24.21 24 LR LR 00 22 08.1
comp=Z,42nm,19.3s,baz=182,slow=39
TORD Torodi Ar. Bea 78.56 70 P **P 00 18 15.1 -1.9**
comp=Z,1.5nm,0.6s,baz=259,slow=5.4,SNR=9.0
TORD pP **pP 00 18 33.4 -0.9**
comp=Z,1.3nm,0.6s,baz=258,slow=5.2,SNR=4.2
BOSA Boshof 83.28 118 P **P 00 18 41.0 -1.2**
comp=Z,5.2nm,1.1s,baz=259,slow=5.2,SNR=2.7
ASAR Alice Springs 128.12 208 PKP **PKPdf 00 25 20.6 -1.0**
comp=Z,0.5nm,0.8s,baz=134,slow=2.7,SNR=2.6
WRA Warramunga Arr 131.18 211 PKP **PKPdf 00 25 26.7 -0.7**
comp=Z,0.3nm,0.6s,baz=157,slow=1.9,SNR=2.0
MKAR Makanchi Array 147.38 37 PKPbc **PKPdf 00 25 55.7 -0.2**
comp=Z,0.5nm,0.6s,baz=346,slow=2.8,SNR=4.6
MKAR pPKPbc **pPKPdf 00 26 15.9 +1.8**
comp=Z,0.3nm,0.6s,baz=336,slow=3.6,SNR=2.8

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*JMA **03** 00:14:42.6±0.4, 30.85N×138.49E, h473km, M3.3*
*IDC **03** 00:14:43.0±1.1, 30.81N×139.06E, h497km±23km, mb3.1/5, mb1 3.1/10, mb1mx2.7/41, mbtmp4.0/10, Error ellipse: s-maj=78.4km s-min=11.9km az=79.0*
ISC 03 00:14:42.6±0.9, 30.7N±0.1×138.7E±0.2, h500km, n15, σ1§41/16, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JHJ	**Hachijo jima 2**	**2.56**	**21**	P	**P**		**00 15 50.4**	**-0.2**
	16nm,0.3s,baz=176,slow=9.4,SNR=1.7							
JKN2	**Miekihoku**	**4.04**	**331**	P	**P**		**00 15 58.6**	**-2.5**
BSO3	**Boso 3**	**4.34**	**20**	P	**P**		**00 16 02.7**	**-0.6**
BSO1	**Boso 1**	**4.37**	**26**	P	**P**		**00 16 03.2**	**0.0**
JCJ	**Chichijima**	**4.76**	**139**	P	**P**		**00 16 06.1**	**-1.4**
	3.9nm,0.3s,baz=302,slow=22,SNR=1.1							
JCJ				S	**S**		**00 17 14.5**	**-2.2**
	16nm,0.3s,baz=274,slow=23,SNR=7.7							
JRY	**Ryogami san**	**5.27**	**2**	P	**P**		**00 16 11.1**	**-0.8**
JAG	**Ashikaga**	**5.71**	**6**	P	**P**		**00 16 14.3**	**-1.7**
MJAR	**Matsushiro Arr**	**5.80**	**356**	P	**P**		**00 16 16.5**	**-0.4**
	0.1nm,0.3s,baz=182,slow=10,SNR=3.1							
USRK	**Ussuriysk Ar.**	**14.44**	**340**	P	**P**		**00 17 46.1**	**-0.5**
	baz=157,slow=12,SNR=17							
KLR	**Kul'dur**	**19.20**	**346**	P	**P**		**00 18 35.1**	**+1.4**
	1.1nm,0.3s,baz=180,slow=8.2,SNR=7.3							
TIXI	**Tiksi**	**41.31**	**355**	P	**P**		**00 21 42.9**	**-0.4**
	1.0nm,0.4s,baz=121,slow=5.9,SNR=3.9							
WRA	**Warramunga Arr**	**50.56**	**185**	P	**P**		**00 22 55.9**	**+1.3**
	0.4nm,0.3s,baz=3.3,slow=8.3,SNR=8.5							
ASAR	**Alice Springs**	**54.28**	**185**	P	**P**		**00 23 22.7**	**+1.3**
	0.3nm,0.7s,baz=9.1,slow=14,SNR=4.9							
ARCES	**ARCESS Array B**	**69.09**	**340**	P	**P**		**00 24 58.8**	**+1.4**
	2.2nm,0.8s,baz=57,slow=8.8,SNR=9.1							
FINES	**FINESS Array B**	**73.32**	**332**	P	**P**		**00 25 23.2**	**+0.8**
	2.8nm,1.0s,baz=66,slow=6.7,SNR=6.1							

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*IDC **03** 00:26:54.6±1.6, 49.14S×164.71E, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.1/21, mbtmp4.3/5, MS3.5/5, Ms1 3.5/5, ms1mx3.2/26, Error ellipse: s-maj=76.9km s-min=26.5km az=59.0*
*NEIC **03** 00:27:00.9±2.5, 49.37S±0.08×163.9E±0.2, h27km±4km, mb4.4/12, Error ellipse: s-maj=16.1km s-min=12.2km az=85.0*
ISC 03 00:26:58.4±0.7, 49.40S±0.08×164.01E±0.07, h15km, n69, σ1§45/65, mb4.5/9, MS3.4/4, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
APZ	**The Paps**	**3.70**	**48**	P	**Pn**		**00 27 55.3**	**+0.3**
APZ				S	**Sn**		**00 28 38.0**	**-0.3**
PYZ	**Puysegur Point**	**3.70**	**30**	P	**Pn**		**00 27 55.6**	**+0.6**
PYZ	**Puysegur Point**	**3.70**	**30**	P	**Pn**		**00 27 55.7**	**+0.6**
PYZ				S	**Sn**		**00 28 39.3**	**+1.0**
WHZ	**Wether Hill Ro**	**4.40**	**39**	Pn	**Pn**		**00 28 05.4**	**+0.7**
WHZ	**Wether Hill Ro**	**4.40**	**39**	P	**Pn**		**00 28 05.7**	**+1.0**
WHZ				S	**Sn**		**00 28 55.1**	**-0.5**
DCZ	**Deep Cove**	**4.47**	**30**	Pn	**Pn**		**00 28 06.1**	**+0.5**
DCZ	**Deep Cove**	**4.47**	**30**	P	**Pn**		**00 28 06.0**	**+0.3**
SYZ	**Scrubby Hill**	**4.48**	**52**	P	**Pn**		**00 28 06.4**	**+0.7**
SYZ				S	**Sn**		**00 28 55.1**	**-2.3**
MLZ	**Mavora Lakes**	**4.90**	**36**	Pn	**Pn**		**00 28 13.7**	**+2.1**
MLZ	**Mavora Lakes**	**4.90**	**36**	P	**Pn**		**00 28 13.7**	**+2.1**
MLZ				S	**Sn**		**00 29 09.8**	**+1.7**
TUZ	**Tuapeka**	**5.12**	**50**	P	**Pn**		**00 28 15.3**	**+0.7**
TUZ				S	**Sn**		**00 29 11.5**	**-1.9**
EAZ	**Earnscleugh**	**5.51**	**43**	P	**Pn**		**00 28 17.7**	**-2.1**
WKZ	**Wanaka**	**5.71**	**39**	Pn	**Pn**		**00 28 24.7**	**+2.1**
WKZ	**Wanaka**	**5.71**	**39**	P	**Pn**		**00 28 25.4**	**+2.8**
ODZ	**Otahua Downs**	**6.27**	**49**	Pn	**Pn**		**00 28 30.5**	**+0.1**
ODZ	**Otahua Downs**	**6.27**	**49**	P	**Pn**		**00 28 30.3**	**-0.1**
LBZ	**Lake Benmore**	**6.56**	**42**	Pn	**Pn**		**00 28 33.7**	**-0.6**
LBZ	**Lake Benmore**	**6.56**	**42**	P	**Pn**		**00 28 33.5**	**-0.8**
FOZ	**Fox Glacier**	**7.10**	**36**	Pn	**Pn**		**00 28 43.5**	**+1.8**
FOZ	**Fox Glacier**	**7.10**	**36**	P	**Pn**		**00 28 43.6**	**+1.9**
ARCZ	**Arundel**	**7.35**	**45**	P	**Pn**		**00 28 46.4**	**+1.3**
RPZ	**Rata Peaks**	**7.47**	**43**	P	Pn		00 28 39.6	-7.2
RPZ				S	**Sn**		**00 30 09.4**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**7.49**	**38**	P	**Pn**		**00 28 49.2**	**+2.2**
WACZ	**Wakanui South**	**7.66**	**48**	P	**Pn**		**00 28 50.2**	**+0.8**
MHCZ	**Mount Hutt**	**7.85**	**44**	P	**Pn**		**00 28 54.9**	**+2.9**
RACZ	**Rakaia**	**7.97**	**48**	P	**Pn**		**00 28 53.9**	**+0.3**
OXZ	**Oxford**	**8.22**	**45**	P	**Pn**		**00 28 57.9**	**+0.8**
MQZ	**McQueen's Vall**	**8.23**	**50**	P	**Pn**		**00 28 58.4**	**+1.1**
AKCZ	**Akaroa Harbour**	**8.24**	**51**	P	**Pn**		**00 28 59.0**	**+1.6**
LTZ	**Lake Taylor**	**8.75**	**44**	Pn	**Pn**		**00 29 06.1**	**+1.6**
THZ	**Tophouse**	**9.85**	**43**	Pn	**Pn**		**00 29 22.9**	**+3.4**
QRZ	**Quartz Range**	**10.46**	**38**	Pn	**Pn**		**00 29 29.0**	**+1.1**
TAU	**Tasmania Unive**	**13.25**	**293**	Pn	**Pn**		**00 30 04.3**	**-1.6**
URZ	**Urewera**	**14.58**	**45**	LR	LR		00 36 48.3	
	comp=Z,427nm,19.5s,baz=211,slow=42							
TOO	**Toolangi**	**17.84**	**305**		P		**00 31 08.6**	**+1.9**
TOO				IAmb	IAmb		00 31 14.5	
	comp=Z,26nm,1.4s							
STKA	**Stephens Creek**	**24.26**	**308**	P	**P**		**00 32 15.5**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=132,slow=12,SNR=4.6							
STKA				LR	LR		00 40 14.0	
	comp=Z,122nm,19.9s,baz=196,slow=33							
STKA	**Stephens Creek**	**24.26**	**308**	P	**P**		**00 32 13.4**	**-1.4**
EIDS	**Eidsvold**	**26.02**	**333**	P	**P**		**00 32 32.7**	**+2.0**
EIDS				IAmb	IAmb		00 32 37.6	
	comp=Z,20nm,1.5s							
VNDA	**Vanda**	**28.24**	**181**	LR	LR		00 41 38.4	
	comp=Z,47nm,19.7s,baz=1.0,slow=31							
SBA	**Scott Base**	**28.58**	**179**	P	**P**		**00 32 55.6**	**+2.3**
ASAR	**Alice Springs**	**34.88**	**306**	P	**P**		**00 33 49.4**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=142,slow=8.3,SNR=37							
ASAR	**Alice Springs**	**34.88**	**306**	P	**P**		**00 33 48.7**	**-0.4**
AS31	**Alice Springs**	**34.88**	**306**	P	**P**		**00 33 49.3**	**+0.1**
AS31				IAmb	IAmb		00 33 50.3	
	comp=Z,2.4nm,0.7s							
WR0	**Warramunga Arr**	**37.63**	**311**	P	**P**		**00 34 12.1**	**-0.6**
WB2	**Warramunga Arr**	**37.74**	**310**	P	**P**		**00 34 13.4**	**-0.2**
WRA	**Warramunga Arr**	**37.75**	**310**	P	**P**		**00 34 13.4**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=138,slow=7.9,SNR=26							
WRA	**Warramunga Arr**	**37.75**	**310**	P	**P**		**00 34 13.2**	**-0.5**
WB0	**Warramunga Arr**	**37.87**	**311**	P	**P**		**00 34 14.7**	**0.0**
H01W1	**Cape Leeuwin H**	**38.98**	**273**	T	T		01 15 45.2	
	baz=128,slow=76,SNR=148							
H01W2	**Cape Leeuwin H**	**38.99**	**273**	T	T		01 15 43.7	
	baz=128,slow=76,SNR=160							
H01W3	**Cape Leeuwin H**	**39.00**	**273**	T	T		01 15 44.3	
	baz=128,slow=76,SNR=196							
HNR	**Honiara**	**39.98**	**354**	LR	LR		00 48 28.7	
	comp=Z,56nm,18.4s,baz=176,slow=32							
QSPA	**South Pole Qui**	**40.73**	**180**	P	**P**		**00 34 38.5**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=335,slow=3.1,SNR=3.7							
QSPA	**South Pole Qui**	**40.73**	**180**	P	**P**		**00 34 39.0**	**+0.8**
QSPA				IAmb	IAmb		00 34 47.6	
	comp=Z,6.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**43.87**	**302**	P	**P**		**00 35 05.0**	**+0.8**
FITZ				IAmb	IAmb		00 35 08.6	
	comp=Z,7.6nm,0.9s							
PSA00	**Pilbara Seismi**	**44.52**	**292**	P	**P**		**00 35 08.1**	**-1.3**
PSA00				IAmb	IAmb		00 35 13.2	
	comp=Z,10nm,1.3s							
PPT	**Papeete**	**48.94**	**66**	LR	LR		00 54 25.1	
	comp=Z,41nm,18.1s,baz=9.0,slow=34							
H08S2	**Diego Garcia H**	**85.25**	**264**	T	T		02 13 15.1	
	baz=140,slow=76,SNR=711							
H08S1	**Diego Garcia H**	**85.26**	**264**	T	T		02 13 14.8	
	baz=140,slow=76,SNR=582							
H08S3	**Diego Garcia H**	**85.27**	**264**	T	T		02 13 16.5	
	baz=140,slow=76,SNR=770							
CMAR	**Chiang Mai Arr**	**88.67**	**301**	P	**P**		**00 39 50.1**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=134,slow=5.2,SNR=1.3							
CMAR	**Chiang Mai Arr**	**88.67**	**301**	P	**P**		**00 39 51.3**	**+0.3**
ZALV	**Zalesovo Beam**	**122.56**	**316**	PKP	**PKPdf**		**00 45 50.1**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=70,slow=1.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**122.56**	**316**		**PKPdf**		**00 45 49.6**	**-2.6**
AKASG	**Malin Array Be**	**151.28**	**290**	PKPbc	**PKPbc**		**00 46 49.9**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=84,slow=2.6,SNR=9.4							
AKASG	**Malin Array Be**	**151.28**	**290**	PKPbc	**PKPbc**		**00 46 48.3**	**-2.0**
ARCES	**ARCESS Array B**	**151.74**	**331**	PKPbc	**PKPbc**		**00 46 50.4**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=29,slow=2.1,SNR=4.1							
FINES	**FINESS Array B**	**153.77**	**313**	PKPbc	**PKPbc**		**00 46 54.4**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=113,slow=3.6,SNR=1.4							
KEST	**Kesra**	**157.01**	**243**	PKPab	**PKPab**		**00 47 24.8**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=197,slow=5.1,SNR=4.4							

IDC 03 00:29:43.7±2.5, 14.12N×146.86E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, Error ellipse: s-maj=58.0km s-min=33.5km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUMO	**Guam**	**2.01**	**255**	Pn	Pn		00 30 18.8	0.0
	baz=106,slow=7.4							
WRA	**Warramunga Arr**	**36.02**	**200**	P	P		00 36 46.8	-0.1
	0.6nm,0.9s,baz=24,slow=9.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**62.33**	**324**	P	P		00 40 07.6	-0.2
	0.4nm,0.4s,baz=83,slow=5.9,SNR=2.1							
MKAR	**Makanchi Array**	**62.46**	**316**	P	P		00 40 09.1	+0.2
	0.2nm,0.5s,baz=100,slow=5.8,SNR=2.3							

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*IDC **03** 00:41:36.5±1.7, 52.75N×159.50E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.2/49, mbtmp3.5/2, Error ellipse: s-maj=34.5km s-min=19.3km az=178.0*
*KRSC **03** 00:41:40.3±0.8, 52.42N×159.09E, h55km±9km, ML4.0*
ISC 03 00:41:40.8±1.2, 52.39N±0.04×159.12E±0.04, h32km±10km, n50, σ1§65/64, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RUS	**Russkaya**	**0.37**	**277**	*e*P	**Pn**		**00 41 51.3**	**+1.4**
RUS				*e*S	**Sn**		**00 41 58.8**	**+2.7**
MTVR	**Mutnovka**	**0.58**	**280**	*e*P	**Pn**		**00 41 53.8**	**+0.9**
MTVR				*e*S	**Sn**		**00 42 03.2**	**+1.8**
GRL	**Gorelyy**	**0.66**	**285**	*e*P	**Pn**		**00 41 55.2**	**+1.2**
GRL				*e*S	**Sn**		**00 42 06.0**	**+2.6**
DALK	**Dalny**	**0.68**	**341**	*e*P	**Pb**		**00 41 54.4**	**+0.2**
DALK				*e*S	**Sn**		**00 42 03.9**	**+0.3**
PET	**Petropavlovsk**	**0.70**	**336**	*e*P	**Pb**		**00 41 54.4**	**-0.1**
PET				*e*S	**Sb**		**00 42 03.8**	**0.0**
KRMR	**Karymshinskiy**	**0.75**	**307**	*e*P	**Pb**		**00 41 55.6**	**+0.2**
KRMR				*e*S	**Sn**		**00 42 06.3**	**+1.0**
ASAK	**Asacha**	**0.75**	**270**	*e*P	**Pn**		**00 41 56.1**	**+0.9**
ASAK				*e*S	**Sn**		**00 42 07.5**	**+2.0**
NLC	**Nalytchevo**	**0.79**	**10**	*e*P	**Pb**		**00 41 55.3**	**-0.8**
NLC				*e*S	**Sb**		**00 42 05.7**	**-0.9**
UGLR	**Uglovaya**	**0.84**	**348**	*e*P	**Pb**		**00 41 56.7**	**-0.3**
UGLR				*e*S	**Sb**		**00 42 08.2**	**+0.2**
KDTR	**Khodutka, Kamc**	**0.87**	**228**	*e*P	**Pb**		**00 41 57.2**	**-0.2**
KDTR				*e*S	**Sb**		**00 42 09.0**	**+0.4**
SMAR	**Somma**	**0.90**	**348**	*e*P	**Pb**		**00 41 57.1**	**-0.9**
SMAR				*e*S	**Sb**		**00 42 08.7**	**-1.0**
SPN	**Mys Shipunski**	**0.90**	**37**	*e*P	**Pb**		**00 41 58.2**	**+0.3**
SPN				*e*S	**Sn**		**00 42 11.0**	**+2.0**
SDLR	**Sedlovina**	**0.90**	**351**	*e*P	**Pb**		**00 41 57.0**	**-1.0**
SDLR				*e*S	**Sb**		**00 42 08.7**	**-1.1**
AVH	**Avacha**	**0.91**	**345**	*e*P	**Pb**		**00 41 57.6**	**-0.5**
AVH				*e*S	**Sb**		**00 42 10.0**	**+0.1**
KRER	**Koryakskii**	**0.94**	**346**	*e*P	**Pb**		**00 41 58.1**	**-0.7**
KRER				*e*S	**Sb**		**00 42 10.7**	**-0.3**
KOK	**Koryaka**	**0.95**	**342**	*e*P	**Pb**		**00 41 58.4**	**-0.4**
KOK				*e*S	**Sb**		**00 42 10.9**	**-0.2**
KRX	**Arik**	**1.01**	**344**	*e*P	**Pb**		**00 41 59.0**	**-0.9**
KRX				*e*S	**Sb**		**00 42 11.8**	**-1.1**
PETK	**Petropavlovsk-**	**1.12**	**310**	Pn	**Pn**		**00 42 00.4**	**+0.1**
	44nm,0.3s,baz=111,slow=18,SNR=811							
PETK				Sn	**Sn**		**00 42 15.7**	**+1.0**
	37nm,0.3s,baz=104,slow=23,SNR=10							
PETK				LR	LR		00 42 40.1	
	comp=Z,39nm,20.9s,baz=91,slow=56							
APC	**Apacha**	**1.31**	**295**	*e*P	**Pn**		**00 42 03.4**	**+0.6**
APC				*e*S	**Sn**		**00 42 19.5**	**+0.3**
MIPR	**Malaya Ipel'ka**	**1.45**	**266**	*e*P	**Pn**		**00 42 05.6**	**+0.8**
GNL	**Ganaly**	**1.49**	**332**	*e*P	**Pn**		**00 42 05.6**	**+0.2**
GNL				*e*S	**Sn**		**00 42 24.7**	**+0.9**
KII	**Karymskiy**	**1.66**	**7**	*e*P	**Pn**		**00 42 09.5**	**+1.8**
KII				*e*S	**Sn**		**00 42 30.3**	**+2.3**
PAU	**Pauzhetka**	**1.70**	**238**	*e*P	**Pn**		**00 42 09.4**	**+1.2**
SKR	**Severo-Kuril's**	**2.54**	**229**	S	**Sn**		**00 42 50.9**	**+1.5**
MKZ	**Mys Kozlova**	**2.67**	**35**	*e*P	**Sn**		**00 42 22.2**	**+0.7**
MKZ				S	**Sn**		**00 42 53.3**	**+0.6**
KZV	**Kizimen**	**2.82**	**14**	*e*P	**Pn**		**00 42 25.4**	**+1.7**
KZV				*e*S	**Sn**		**00 42 59.0**	**+2.4**
TUMD	**Tumrok D**	**2.92**	**15**	*e*P	**Pn**		**00 42 26.8**	**+1.8**
TUMD				*e*S	**Sn**		**00 43 00.1**	**+1.2**
TUMR	**Tumrok**	**2.96**	**11**	*e*P	**Pn**		**00 42 27.8**	**+2.2**
KMNR	**Kamenistaya**	**3.44**	**11**	*e*P	**Pn**		**00 42 34.6**	**+2.5**
ESO	**Esso**	**3.55**	**356**	*e*P	**Pn**		**00 42 35.9**	**+2.3**
BZMR	**Bezymyannaya**	**3.64**	**12**	*e*P	**Pn**		**00 42 38.1**	**+3.1**
KIRR	**Kirishev**	**3.64**	**11**	P	**Pn**		**00 42 37.3**	**+2.3**
BZWR	**Bezymyannyi-We**	**3.67**	**12**	*e*P	**Pn**		**00 42 37.9**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**3.68**	**14**	P	**Pn**		**00 42 38.6**	**+3.2**
SRDR	**Sredinnyy**	**3.95**	**5**	*e*P	**Pn**		**00 42 41.3**	**+2.1**
BDR	**Baidarnaya**	**4.36**	**15**	P	**Pn**		**00 42 48.4**	**+3.6**
KBTR	**Krutoberegovo**	**4.40**	**28**	*e*P	**Pn**		**00 42 46.2**	**+1.0**
SMKR	**Semkarok**	**4.42**	**17**	P	Pn		00 42 49.9	+4.3
SRKR	**Sorokina**	**4.44**	**15**	P	**Pn**		**00 42 49.9**	**+4.1**
ILAR	**Eielson Array**	**29.73**	**44**	P	**P**		**00 47 41.1**	**-2.6**
	0.2nm,0.5s,baz=263,slow=6.3,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**33.16**	**167**	T	T		01 24 08.7	
	baz=350,slow=74							
H11N3	**WAKE ISLAND Hy**	**33.17**	**167**	T	T		01 23 50.3	
	baz=350,slow=74							
H11N1	**WAKE ISLAND Hy**	**33.17**	**167**	T	T		01 23 21.1	
	baz=350							
H11S1	**WAKE ISLAND Hy**	**34.33**	**167**	T	T		01 24 45.8	
	baz=350							
H11S3	**WAKE ISLAND Hy**	**34.34**	**167**	T	T		01 24 50.2	
	baz=350,slow=74							
H11S2	**WAKE ISLAND Hy**	**34.35**	**167**	T	T		01 25 00.2	
	baz=350,slow=74							
TXAR	**Lajitas Array**	**71.46**	**66**	P	**P**		**00 52 56.2**	**-1.9**
	0.5nm,0.6s,baz=298,slow=4.2,SNR=6.3							
H03N2	**Juan Fernandez**	**134.79**	**89**	T	T		03 31 32.9	
	baz=317							
H03N1	**Juan Fernandez**	**134.81**	**89**	T	T		03 31 32.4	
	baz=317,SNR=4.1							
H03N3	**Juan Fernandez**	**134.81**	**89**	T	T		03 31 27.5	
	baz=317							

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*IDC **03** 00:42:27.9±1.6, 35.22N×26.64E, h0km, mb3.4/4, mb1 3.3/5, mb1mx3.2/34, mbtmp3.3/5, ML2.5/1, MS2.0/1, Ms1 2.0/1, ms1mx1.8/21, Error ellipse: s-maj=65.4km s-min=20.9km az=150.0*
*NIC **03** 00:42:28.9±0.0, 35.02N×26.88E, h10km±2km, MI3.9/3*
*ISK **03** 00:42:30.4, 35.11N×26.81E, h16km, ML3.1/12*
*THE **03** 00:42:30.6, 35.10N×26.82E, h0km±1km, ML3.1/5, Error ellipse: s-maj=4.6km s-min=0.8km az=152.0*
*ATH **03** 00:42:31.9, 35.24N×26.73E, h12km±2km, ML3.1/7, Error ellipse: s-maj=4.2km s-min=1.1km az=152.0*
*DDA **03** 00:42:35.3, 35.50N×27.08E, h17km±2km, ML3.1*
ISC 03 00:42:28.9±1.2, 35.04N±0.04×26.89E±0.02, h11km±8km, n97, σ1§60/131, mb3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KARP	**Karpathos**	**0.55**	**24**	P	**Pb**		**00 42 40.7**	**+0.1**
KARP				S	**Sb**		**00 42 48.2**	**-0.4**
KARP				AML	AML		00 42 50.0	
	comp=N,12892μm,0.2s							
KARP				AML	AML		00 42 50.4	
	comp=E,14881μm,0.4s							
KARP	**Karpathos**	**0.55**	**24**	P	**Pb**		**00 42 40.7**	**+0.1**
KARP				S	**Sb**		**00 42 49.7**	**+1.1**
	comp=E,6μm,0.2s							
KARP	**Karpathos**	**0.55**	**24**	PG	**Pb**		**00 42 40.8**	**+0.2**
KARP				SG	**Sb**		**00 42 48.9**	**+0.3**
KARP	**Karpathos**	**0.55**	**24**	P	**Pb**		**00 42 40.4**	**-0.2**
KARP				S	**Sb**		**00 42 48.8**	**+0.3**
KARP				AML	AML		00 42 49.7	
	comp=E,13nm,0.2s							
KARP				AML	AML		00 42 49.7	
	comp=E,13nm,0.2s							
KARP				AML	AML		00 42 50.1	
	comp=E,15nm,0.4s							
KARP				AML	AML		00 42 50.1	
	comp=E,15nm,0.4s							
ZKR	**Zakros**	**0.55**	**278**	P	**Pg**		**00 42 39.9**	**+0.3**
ZKR				S	**Sg**		**00 42 46.2**	**-0.8**
ZKR				AML	AML		00 42 50.2	
	comp=N,5530μm,0.3s							
ZKR				AML	AML		00 42 50.6	
	comp=E,10015μm,0.3s							
ZKR	**Zakros**	**0.55**	**278**	P	**Pg**		**00 42 39.9**	**+0.3**
ZKR				S	**Sb**		**00 42 49.3**	**+0.8**
	comp=E,4μm,0.3s							
ZKR	**Zakros**	**0.55**	**278**	PG	**Pg**		**00 42 40.1**	**+0.5**
ZKR				SG	**Sb**		**00 42 47.9**	**-0.6**
ZKR	**Zakros**	**0.55**	**278**	P	**Pg**		**00 42 39.5**	**-0.1**
ZKR				S	**Sb**		**00 42 48.2**	**-0.3**
STIA	**Sitia Lasithi**	**0.67**	**284**	P	**Pg**		**00 42 41.8**	**-0.1**
STIA				S	**Sb**		**00 42 52.9**	**+1.0**
FRMA	**Ierapetra Chan**	**0.95**	**269**	P	**Pg**		**00 42 45.4**	**-1.7**
FRMA				S	**Sg**		**00 42 58.9**	**-0.5**
	comp=E,962nm,0.4s							
NPS	**Neapolis**	**1.06**	**282**	P	**Pg**		**00 42 49.4**	**+0.1**
NPS				S	**Sg**		**00 43 02.7**	**-0.5**
NPS				AML	AML		00 43 09.8	
	comp=N,1526μm,0.4s							
NPS				AML	AML		00 43 12.5	
	comp=E,2563μm,0.6s							
NPS	**Neapolis**	**1.06**	**282**	P	**Pb**		**00 42 49.7**	**+0.3**
LAST	**Lasithi**	**1.16**	**276**	P	**Pg**		**00 42 51.0**	**-0.2**
LAST				S	**Sg**		**00 43 04.8**	**-1.4**
LAST				AML	AML		00 43 11.4	
	comp=N,1350μm,0.5s							
LAST				AML	AML		00 43 13.1	
	comp=E,1200μm,0.6s							
LAST	**Lasithi**	**1.16**	**276**	P	**Pg**		**00 42 51.3**	**+0.1**
LAST				S	**Sn**		**00 43 08.0**	**+0.9**
	comp=E,635nm,0.5s							
HRKL	**Herakleio**	**1.48**	**281**	P	**Pg**		**00 42 57.2**	**-0.2**
HRKL	**Herakleio**	**1.48**	**281**	PN	**Pn**		**00 42 56.3**	**+0.8**
HRKL				SN	**Sn**		**00 43 15.3**	**+0.3**
KSTL	**Kastelli Herak**	**1.51**	**280**	P	**Pn**		**00 42 54.2**	**-1.7**
ARG	**Arkhangelos**	**1.55**	**40**	P	**Pg**		**00 42 58.5**	**-0.1**
ARG				S	**Sg**		**00 43 19.1**	**+0.5**
ARG				AML	AML		00 43 24.8	
	comp=N,874μm,1.0s							
ARG				AML	AML		00 43 26.1	
	comp=E,1054μm,0.5s							
ARG	**Ark

USAK	**Uak-Merkez**	**4.04**	**24**	*i* P		**Pn**	**00 43 32.2**	**+1.5**
USAK				*i* S		**Sn**	**00 44 16.8**	**-1.4**
USAK				IAML			00 44 59.0	
	comp=N,78nm,2.3s							
USAK				IAML			00 44 59.0	
	comp=E,82nm,2.2s							
DEMI	**Demirci**	**4.25**	**20**	*i* P		**Pn**	**00 43 35.7**	**+2.0**
DEMI				*i* S		Sn	00 44 14.5	-8.9
KEPZ	**Antalya-Kepez**	**4.25**	**63**	*i* P		**Pn**	**00 43 35.0**	**+1.3**
KEPZ				*i* S		**Sn**	**00 44 17.0**	**-6.4**
AKMS	**Akamas**	**4.47**	**89**	P		**Pn**	**00 43 37.7**	**+1.1**
AKMS				AML	AML		00 44 30.7	
	comp=E,0.4nm,0.3s							
AKMS				AML	AML		00 44 37.1	
	comp=E,0.3nm,0.7s							
NATA	**Nata**	**4.68**	**92**	P		**Pn**	**00 43 40.5**	**+1.0**
ALFC	**Alefka**	**4.69**	**87**	P		**Pn**	**00 43 40.1**	**+0.5**
ALFC				AML	AML		00 44 34.9	
	comp=E,0.3nm,0.4s							
ALFC				AML	AML		00 44 34.9	
	comp=E,0.3nm,0.6s							
SZAC	**Souni**	**4.94**	**92**	P		**Pn**	**00 43 43.4**	**+0.4**
ASGA	**Asgata**	**5.24**	**91**	P		**Pn**	**00 43 47.9**	**+0.8**
CSS	**Mathiatis**	**5.29**	**89**	P		**Pn**	**00 43 48.8**	**+0.9**
MVOU	**Mavrovouni**	**5.54**	**88**	P		**Pn**	**00 43 52.1**	**+0.9**
BRTR	**Keskin Array B**	**7.12**	**47**	Pn		**Pn**	**00 44 15.4**	**+2.2**
	comp=E,0.1nm,0.3s,baz=228,slow=16,SNR=2.0							
BRTR				Sn		**Sn**	**00 45 35.1**	**+1.0**
	baz=214,slow=27,SNR=2.0							
BRTR				LR	LR		00 47 00.6	
	comp=E,12nm,20.4s,baz=285,slow=38							
ESDC	**Sonseca Array**	**24.88**	**290**	P		**P**	**00 47 50.1**	**-1.7**
	comp=E,0.2nm,0.3s,baz=80,slow=10,SNR=1.6							
TORD	**Torodi Ar. Bea**	**31.52**	**232**	P		**P**	**00 48 51.0**	**-0.1**
	comp=E,0.3nm,0.4s,baz=33,slow=8.6,SNR=4.6							
MKAR	**Makanchi Array**	**42.66**	**57**	P		**P**	**00 50 27.0**	**+1.5**
	comp=E,0.3nm,0.5s,baz=264,slow=8.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**44.06**	**46**	P		**P**	**00 50 37.8**	**+1.1**
	comp=E,0.4nm,0.5s,baz=283,slow=7.2,SNR=2.1							

IDC 03 00:44:08.9±2.2, 2°09'N×127°63'E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/39, mbtmp3.4/3, Error ellipse: s-maj=149.1km s-min=28.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.87**	**164**	P		P	00 49 14.3	+0.1
	0.7nm,0.4s,baz=343,slow=11,SNR=14							
ASAR	**Alice Springs**	**26.32**	**167**	P		P	00 49 46.2	-0.4
	0.2nm,0.5s,baz=351,slow=9.6,SNR=1.5							
MKAR	**Makanchi Array**	**59.40**	**325**	P		P	00 54 13.4	+0.2
	0.1nm,0.4s,baz=114,slow=7.1,SNR=2.1							

*NEIC **03** 00:45:47.6±2.8, 6°.5S±0°.1×150°.52E±0°.10, h10km±2km, mb4.1/7, Error ellipse: s-maj=25.3km s-min=6.2km az=320.0*

*IDC **03** 00:45:53.2±5.9, 6°.35S×150°.23E, h70km±49km, mb3.7/4, mb1 3.9/5, mb1mx3.4/37, mbtmp4.0/5, ML2.0/1, Error ellipse: s-maj=65.5km s-min=37.3km az=130.0*

ISC 03 00:45:49.7±1.0, 6°.6S±0°.1×150°.6E±0°.1, h33km, n16, σ1§36/17, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.82**	**33**	P		**Pn**	**00 46 34.2**	**+1.6**
PMG	**Port Moresby**	**4.43**	**230**	P		**Pn**	**00 46 56.0**	**+1.4**
	6.3nm,0.3s,baz=12,slow=9.3,SNR=5.6							
PMG				S		**Sn**	**00 47 45.8**	**+0.6**
	8.3nm,0.3s,baz=98,slow=21,SNR=6.1							
PMG	**Port Moresby**	**4.43**	**230**	Pn		**Pn**	**00 46 56.3**	**+1.7**
MANU	**Manus Island**	**5.55**	**324**	Pn		**Pn**	**00 47 11.2**	**+1.2**
MTN	**Manton Dam**	**20.18**	**251**	P		**P**	**00 50 19.9**	**-1.8**
WB0	**Warramunga Arr**	**20.50**	**229**	P		**P**	**00 50 24.3**	**-0.9**
WB0				IAmb	IAmb		00 50 25.3	
	comp=Z,7.3nm,0.7s							
WR0	**Warramunga Arr**	**20.51**	**228**	P		**P**	**00 50 25.0**	**-0.3**
WR0				IAmb	IAmb		00 50 29.3	
	comp=Z,5.7nm,0.8s							
WB2	**Warramunga Arr**	**20.64**	**228**	P		**P**	**00 50 26.2**	**-0.4**
WB2				IAmb	IAmb		00 50 37.7	
	comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**20.65**	**228**	P		**P**	**00 50 25.9**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=51,slow=11,SNR=26							
WRA	**Warramunga Arr**	**20.65**	**228**	P		**P**	**00 50 24.4**	**-2.4**
ASAR	**Alice Springs**	**23.39**	**222**	P		**P**	**00 50 55.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=56,slow=8.4,SNR=8.9							
STKA	**Stephens Creek**	**26.55**	**197**	P		**P**	**00 51 25.0**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=354,slow=16,SNR=2.1							
STKA	**Stephens Creek**	**26.55**	**197**	P		**P**	**00 51 25.2**	**+0.6**
STKA				IAmb	IAmb		00 51 40.2	
	comp=Z,2.1nm,1.4s							
FITZ	**Fitzroy Crossi**	**26.91**	**243**	P		**P**	**00 51 28.5**	**+0.5**
FITZ				IAmb	IAmb		00 51 46.4	
	comp=Z,8.0nm,1.1s							
NVAR	**Mina Array Bea**	**94.88**	**52**	P		**P**	**00 59 08.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=244,slow=7.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.72**	**284**	PKPbc		**PKPbc**	**01 05 32.6**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=76,slow=2.6,SNR=8.0							

*NEIC **03** 00:48:34.6±1.6, 6°.4S±0°.2×150°.3E±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=36.9km s-min=11.0km az=135.0*

*IDC **03** 00:48:40.8±5.7, 6°.41S×150°.30E, h70km±46km, mb3.8/5, mb1 4.0/6, mb1mx3.5/31, mbtmp4.1/6, ML2.1/1, Error ellipse: s-maj=57.2km s-min=35.2km az=137.0*

ISC 03 00:48:36.7±1.0, 6°.3S±0°.2×150°.4E±0°.2, h33km, n18, σ1§06/19, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**2.77**	**40**			**Pn**	**00 49 20.3**	**+1.4**
PMG	**Port Moresby**	**4.42**	**226**	P		**Pn**	**00 49 44.1**	**+2.6**
	7.8nm,0.3s,baz=90,slow=4.0,SNR=3.8							
PMG				S		**Sn**	**00 50 33.5**	**+1.7**
	10.0nm,0.3s,baz=85,slow=21,SNR=4.1							
PMG	**Port Moresby**	**4.42**	**226**	Pn		**Pn**	**00 49 40.7**	**-0.8**
MTN	**Manton Dam**	**20.05**	**250**	Pn		**Pn**	**00 53 09.3**	**+0.2**
MTN				IAmb	IAmb		00 53 22.7	
	comp=Z,43nm,1.4s							
WB0	**Warramunga Arr**	**20.49**	**228**	P		**P**	**00 53 12.0**	**-0.1**
WB0				IAmb	IAmb		00 53 13.5	
	comp=Z,13nm,1.2s							
WR0	**Warramunga Arr**	**20.50**	**227**	P		**P**	**00 53 12.0**	**-0.2**
WR0				IAmb	IAmb		00 53 13.5	
	comp=Z,8.3nm,1.1s							
WB2	**Warramunga Arr**	**20.63**	**228**	P		**P**	**00 53 13.2**	**-0.3**
WB2				IAmb	IAmb		00 53 28.7	
	comp=Z,10.0nm,1.1s							
WRA	**Warramunga Arr**	**20.64**	**228**	P		**P**	**00 53 13.7**	**0.0**
	comp=Z,4.5nm,0.7s,baz=52,slow=11,SNR=17							
WRA	**Warramunga Arr**	**20.64**	**228**	P		**P**	**00 53 12.9**	**-0.8**
ASAR	**Alice Springs**	**23.41**	**221**	P		**P**	**00 53 43.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=56,slow=9.1,SNR=7.1							
ASAR	**Alice Springs**	**23.41**	**221**	P		**P**	**00 53 41.9**	**-1.2**
STKA	**Stephens Creek**	**26.71**	**197**	P		**P**	**00 54 12.2**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=356,slow=16,SNR=3.5							
FITZ	**Fitzroy Crossi**	**26.82**	**242**	P		**P**	**00 54 13.8**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=42,slow=10,SNR=7.5							
FITZ	**Fitzroy Crossi**	**26.82**	**242**	P		**P**	**00 54 13.5**	**-0.7**
FITZ				IAmb	IAmb		00 54 16.1	
	comp=Z,7.3nm,1.2s							
JWT	**Wachi**	**43.74**	**342**	P		**P**	**00 56 38.6**	**-0.4**
NVAR	**Mina Array Bea**	**94.92**	**52**	P		**P**	**01 01 56.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=249,slow=6.2,SNR=4.7							
TORD	**Torodi Ar. Bea**	**148.44**	**285**	PKPbc		**PKPbc**	**01 08 19.9**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=92,slow=2.5,SNR=4.8							
TORD	**Torodi Ar. Bea**	**148.44**	**285**	PKPbc		**PKPbc**	**01 08 20.1**	**-0.9**

*NAO **03** 01:06:20.3±0.9, 67°.82N×20°.46E, ML2.4*
*HEL **03** 01:06:20.2±0.1, 67°.85N×20°.21E, h0km, ML2.1, ML2.3(UPP), Explosion*

BER 03 01:06:21.1±4.0, 67°.82N×20°.19E, h0km, ML1.7, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**22**	*i* P		Pg	01 06 22.0	-1.9
KUA				*i* S		Sg	01 06 23.7	-2.1
RATU	**Laukkuluspa**	**0.23**	**272**	*i* P		Pg	01 06 24.4	-1.0
KOVU	**Salmi**	**0.41**	**359**	*i* P		Pg	01 06 26.8	-2.1
NIKU	**Nikkaluokta**	**0.44**	**277**	*i* P		Pg	01 06 28.2	-1.3
DUNU	**Dundret**	**0.71**	**168**	*i* P		Pg	01 06 33.5	-1.3
LANU	**Lannavaara**	**0.72**	**70**	*e*P		Pg	01 06 32.9	-2.0
LANU				*e*S		Sg	01 06 42.6	-1.5
MASU	**Masugnsbyn**	**0.78**	**117**	*i* P		Pg	01 06 34.6	-1.4
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg		Pg	01 06 41.9	-2.4
KIF				Lg		Lg	01 06 58.1	
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg		Pg	01 06 41.9	-2.4
KIF				Sg		Sg	01 06 58.1	-1.9
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P		Pg	01 06 41.9	-2.5
KIF				MSG			01 06 57.8	
	comp=Z,24nm,0.2s							
KIF				*e*S		Sg	01 06 58.1	-1.9
PAJU	**Pajala**	**1.38**	**124**	*e*P		Pg	01 06 44.9	-2.6
	baz=306							
PAJU				*e*SB		Sg	01 07 03.9	-1.5
HEF	**Hetta**	**1.43**	**64**	Pg		Pn	01 06 45.9	-2.4
HEF				Lg		Lg	01 07 03.9	
HEF	**Hetta**	**1.43**	**64**	Pg		Pn	01 06 45.9	-2.4
HEF				Sg		Sg	01 07 03.9	-3.1
HEF	**Hetta**	**1.43**	**64**	*e*PG		Pn	01 06 45.6	-2.6
	baz=243							
HEF				MSG			01 07 03.8	
	comp=Z,15nm,0.2s							
HEF				*e*SN		Sn	01 07 07.7	-0.1
KLF	**Kolari**	**1.56**	**110**	*e*P		Pn	01 06 48.2	-1.9
KLF				*e*SN		Sn	01 07 09.7	-1.3
KTK1	**Kautokeino**	**1.65**	**42**	Pn		Pn	01 06 49.3	-1.9
KTK1				Lg		Lg	01 07 10.7	
KTK1	**Kautokeino**	**1.65**	**42**	*e*P		Pn	01 06 49.4	-1.9
KTK1				*e*S		Sn	01 07 10.5	-2.6
KTK1				IAML			01 07 15.4	
	comp=Z,14nm,0.9s							
JETT	**Jettan, Norway**	**1.75**	**3**	Pn		Pn	01 06 51.0	-1.6
JETT				Sg		Sn	01 07 15.6	-0.1
KALU	**Kalix**	**2.33**	**146**	*e*PB		Pn	01 07 00.5	-0.1
KALU				*e*SB		Sn	01 07 31.1	+1.2
TOF	**Tornio**	**2.39**	**135**	*e*P		Pn	01 07 01.5	+0.1
TOF				MSG			01 07 29.7	
	comp=Z,9.9nm,0.2s							
TOF				*e*SB		Sb	01 07 33.2	-1.6
SGF	**Sodankyl**	**2.45**	**96**	*e*P		Pn	01 07 01.5	-0.8
	baz=278							
SGF				*e*SG		Sb	01 07 36.7	0.0
RNF	**Rovaniemi**	**2.57**	**115**	*e*PB		Pn	01 07 04.2	+0.3
RNF				*e*SB		Sb	01 07 38.0	-2.1
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn		Pn	01 07 03.1	-1.2
	baz=231,slow=14							
ARA0				Sn		Sn	01 07 36.2	-0.3
	baz=230,slow=22							
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn		Pn	01 07 03.1	-1.2
	baz=231,slow=14							
ARA0				Sn		Sn	01 07 36.2	-0.3
	baz=230,slow=22							
KEV	**Kevo**	**3.15**	**49**	*e*P		Pn	01 07 11.0	-0.8
KEV				*e*S		Sn	01 07 49.2	-0.9
KEV				MSG			01 07 53.2	
	comp=Z,3.7nm,0.2s							
BURU	**Burvik**	**3.28**	**171**	*e*P		Pn	01 07 14.2	+0.5
VRF	**Varrio**	**3.58**	**87**	*e*PG		Pb	01 07 23.8	-1.4
OLKF	**Oulanka, Finla**	**3.91**	**108**	*e*P		Pn	01 07 21.9	-0.4
OUF	**Merijarvi**	**3.93**	**150**	*e*P		Pn	01 07 24.3	+1.8
UMAU	**Umeaa**	**3.96**	**177**	*e*P		Pn	01 07 23.9	+0.9
	baz=352							
MSF	**Maaselka**	**3.98**	**115**	*e*P		Pn	01 07 23.2	-0.1
	baz=301							
KU6	**Riekki**	**4.22**	**111**	*e*P		Pn	01 07 25.9	-0.7
	baz=296							
APA0	**Apatity Array**	**4.88**	**87**	Pn		Pn	01 07 33.5	-2.1
	baz=272,slow=12							
APA0				Sn		Sn	01 08 29.2	-3.5
	baz=290,slow=37							
APA0	**Apatity Array**	**4.88**	**87**	Pn		Pn	01 07 33.5	-2.1
	baz=272,slow=12							
APA0				Sn		Sn	01 08 29.2	-3.5
	baz=290,slow=37							
FIA0	**FINESS Array S**	**6.88**	**156**	Pn		Pn	01 08 02.3	-0.7
	baz=342,slow=12							
FIA0				Sn		Sn	01 09 18.4	-3.5
FIA0				Lg		Lg	01 09 51.5	
	baz=348,slow=28							
FIA0	**FINESS Array S**	**6.88**	**156**	Pn		Pn	01 08 02.3	-0.7
	baz=342,slow=12							
FIA0				Sn		Sn	01 09 18.4	-3.5
FIA0				Sg		Sb	01 09 51.5	+7.6
	baz=348,slow=28							
HFS	**Hagfors**	**8.22**	**203**	Pn		Pn	01 08 19.9	-1.6
	baz=34,slow=16							
HFS	**Hagfors**	**8.22**	**203**	Pn		Pn	01 08 19.9	-1.6
	baz=34,slow=16							
SPA0	**Spitsbergen Ar**	**10.47**	**356**	Pn		Pn	01 08 51.2	-1.0
	baz=162,slow=12							
SPA0	**Spitsbergen Ar**	**10.47**	**356**	Pn		Pn	01 08 51.2	-1.0
	baz=162,slow=12							

IDC 03 01:08:32.1±7.1, 6°.92S×154°.56E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/25, mbtmp3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/15, Error ellipse: s-maj=215.0km s-min=43.1km az=113.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.89**	**115**	LR		LR	01 12 22.6	
	comp=Z,136nm,19.3s,baz=46,slow=39							
WRA	**Warramunga Arr**	**23.51**	**235**	P		P	01 13 44.2	+0.3
	1.7nm,1.1s,baz=59,slow=9.7,SNR=5.6							
ASAR	**Alice Springs**	**25.90**	**228**	P		P	01 14 05.7	-0.4
	0.3nm,0.6s,baz=60,slow=8.7,SNR=4.7							
MKAR	**Makanchi Array**	**83.06**	**319**	P		P	01 20 59.9	+0.2
	0.4nm,0.7s,baz=104,slow=5.1,SNR=3.5							

*IDC **03** 01:12:43.6±0.8, 22°.62S×172°.81E, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/23, mbtmp4.3/14, ML4.6/3, MS3.6/13, Ms1 3.6/13, ms1mx3.5/24, Error ellipse: s-maj=23.4km s-min=18.1km az=139.0*

*BJI **03** 01:12:46.9±0.0, 23°.11S×172°.88E, h49km, mB5.0/7, mb4.9/11*

*NEIC **03** 01:12:48.8±2.1, 22°.7S±0°.1×172°.97E±0°.09, h37km±6km, mb4.8/31, Error ellipse: s-maj=15.8km s-min=11.7km az=157.0*

*NOU **03** 01:12:51.0, 23°.18S×172°.48E, h0km, MLv4.8, Southeast of Loyalty Islands*

ISC 03 01:12:47.8±0.4, 22°.65S±0°.07×172°.94E±0°.07, h32km, n103, σ1§21/88, mb4.7/25, MS3.7/10, 10C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PINNC	**Pines Island,**	**5.07**	**269**			**Pn**	**01 14 02.2**	**+0.6**
PINNC	**Pines Island,**	**5.07**	**269**	P		**Pn**	**01 14 02.7**	**+1.1**
LIFNC	**LIFOU**	**5.62**	**288**	Pn		**Pn**	**01 14 09.5**	**+0.4**
YATNC	**Mamie plateau,**	**5.63**	**275**	P		**Pn**	**01 14 10.6**	**+1.3**
OUENC	**Ouen Island, N**	**5.64**	**271**	Pn		**Pn**	**01 14 10.4**	**+0.9**
OUENC	**Ouen Island, N**	**5.64**	**271**	P		**Pn**	**01 14 10.4**	**+0.9**
ONTNC	**Ouen Toro**	**6.01**	**272**	Pn		**Pn**	**01 14 16.5**	**+2.0**
ONTNC	**Ouen Toro**	**6.01**	**272**	P		**Pn**	**01 14 16.7**	**+2.2**
DZM	**Mont Dzumac**	**6.04**	**274**	*e*Pn		**Pn**	**01 14 15.8**	**+0.8**
	19nm,0.2s							
DZM				*e*Sn		**Sn**	**01 15 20.7**	**-2.4**
	16nm,0.2s							
DZM				*e*LR		LR	01 15 37.4	
	comp=Z,437nm,25.0s							
DZM	**Mont Dzumac**	**6.04**	**274**	Pn		**Pn**	**01 14 12.9**	**-2.1**
	3.0nm,0.3s,baz=107,slow=12,SNR=27							
DZM				Sn		**Sn**	**01 15 22.3**	**-0.9**
	5.3nm,0.3s,baz=83,slow=10,SNR=3.1							
DZM	**Mont Dzumac**	**6.04**	**274**	Pn		**Pn**	**01 14 15.5**	**+0.5**
DZM	**Mont Dzumac**	**6.04**	**274**	P		**Pn**	**01 14 16.1**	**+1.1**
NOUC	**Port Laguerre**	**6.17**	**274**	P		**Pn**	**01 14 19.1**	**+2.4**
DVP	**Devils Point**	**6.63**	**317**	P		Pn	01 14 31.6	+8.6
	461µm,0.8s							
MSVF	**Nonsavu**	**6.85**	**45**	Pn		**Pn**	**01 14 25.3**	**-0.9**
	1.8nm,0.3s,baz=234,slow=18,SNR=4.5							
MSVF				LR		LR	01 16 30.0	
	comp=Z,247nm,20.0s,baz=174,slow=33							
MSVF	**Nonsavu**	**6.85**	**45**	Pn		**Pn**	**01 14 26.6**	**+0.3**
URZ	**Urewera**	**15.96**	**168**	Pn		**Pn**	**01 16 31.1**	**+1.1**
	0.7nm,0.3s,baz=314,slow=16,SNR=5.1							
URZ				LR		LR	01 21 12.4	
	comp=Z,516nm,19.9s,baz=31,slow=32							
URZ	**Urewera**	**15.96**	**168**	P		**P**	**01 16 32.2**	**-1.1**
URZ				IAmb	IAmb		01 16 39.4	
	comp=Z,76nm,1.1s							
BKZ	**Black Stump Fm**	**16.74**	**170**	P		**P**	**01 16 41.0**	**-1.0**
BKZ				IAmb	IAmb		01 16 43.6	
	comp=Z,48nm,1.2s							
HNR	**Honiara**	**18.11**	**314**	LR		LR	01 23 12.0	
	comp=Z,205nm,19.5s,baz=153,slow=35							
BFZ	**Birch Farm**	**18.19**	**172**	P		**Pn**	**01 16 57.2**	**-0.6**
BFZ				IAmb	IAmb		01 17 12.4	
	comp=Z,159nm,1.5s							
TUWZ	**Tuamarina**	**18.74**	**178**	P		**Pn**	**01 17 04.5**	**0.0**
MSWZ	**Moikau Station**	**18.81**	**175**	P		**P**	**01 17 03.9**	**-0.8**
THZ	**Tophouse**	**19.06**	**180**	P		**Pn**	**01 17 08.3**	**-0.1**
THZ				IAmb	IAmb		01 17 10.0	
	comp=Z,69nm,1.3s							
LTZ	**Lake Taylor**	**20.08**	**181**	P		**P**	**01 17 18.6**	**0.0**
EIDS	**Eidsvold**	**20.15**	**258**	P		Pn	01 17 22.1	+0.6
OXZ	**Oxford**	**20.63**	**182**	P		**P**	**01 17 25.3**	**+0.8**
OXZ				IAmb	IAmb		01 17 28.0	
	comp=Z,73nm,1.0s							
RPZ	**Rata Peaks**	**21.07**	**184**	P		**P**	**01 17 32.0**	**+2.8**
RPZ				IAmb	IAmb		01 17 34.5	
	comp=Z,77nm,1.2s							
MLZ	**Mavora Lakes**	**23.00**	**189**	P		**P**	**01 17 51.3**	**+1.5**
MLZ				IAmb	IAmb		01 17 53.0	
	comp=Z,60nm,1.2s							
CTA	**Charters Tower**	**24.97**	**271**	P		**P**	**01 18 08.2**	**-0.4**
	comp=Z,3.7nm,0.6s,baz=92,slow=6.9,SNR=2.0							
RAR	**Rarotonga**	**25.34**	**92**	LR		LR	01 27 29.9	
	comp=Z,71nm,18.1s,baz=250,slow=35							
PMG	**Port Moresby**	**28.00**	**294**	LR		LR	01 28 29.0	
	comp=Z,143nm,19.2s,baz=89,slow=34							
STKA	**Stephens Creek**	**29.25**	**245**	P		**P**	**01 18 48.0**	**+0.9**
	comp=Z,5.3nm,0.7s,baz=88,slow=10,SNR=9.1							
STKA				LR		LR	01 29 36.9	
	comp=Z,50nm,18.2s,baz=42,slow=35							
STKA	**Stephens Creek**	**29.25**	**245**	P		**P**	**01 18 50.3**	**+3.3**
BBOO	**Buckleboo**	**34.03**	**245**	P		**P**	**01 19 32.6**	**+3.6**
BBOO				IAmb	IAmb		01 19 32.9	
	comp=Z,15nm,0.9s							
WR0	**Warramunga Arr**	**35.81**	**267**	P		**P**	**01 19 43.0**	**-1.5**
WR0				IAmb	IAmb		01 19 49.7	
	comp=Z,15nm,1.4s							
AS31	**Alice Springs**	**35.83**	**261**	P		**P**	**01 19 45.0**	**+0.4**
ASAR	**Alice Springs**	**35.83**	**261**	P		**P**	**01 19 44.2**	**-0.5**
	comp=Z,6.2nm,0.8s,baz=86,slow=9.0,SNR=22							
ASAR	**Alice Springs**	**35.83**	**261**	P		**P**	**01 19 44.4**	**-0.3**
WB0	**Warramunga Arr**	**35.98**	**267**	P		**P**	**01 19 45.0**	**-1.0**
WB2	**Warramunga Arr**	**35.99**	**267**	P		**P**	**01 19 44.5**	**-1.5**
WB2				IAmb	IAmb		01 20 01.7	
	comp=Z,11nm,1.3s							
WRA	**Warramunga Arr**	**36.00**	**267**	P		**P**	**01 19 44.6**	**-1.5**
	comp=Z,2.4nm,0.6s,baz=96,slow=8.5,SNR=17							
WRA	**Warramunga Arr**	**36.00**	**267**	P		**P**	**01 19 44.7**	**-1.5**
FORT	**Forrest**	**40.68**	**249**	P		**P**	**01 20 24.7**	**-0.7**
MTN	**Manton Dam**	**40.87**	**277**	P		**P**	**01 20 25.7**	**-1.4**
MTN				IAmb	IAmb		01 20 42.6	
	comp=Z,32nm,1.3s							
H11S2	**WAKE ISLAND Hy**	**41.34**	**351**	T		T	02 04 41.7	
	baz=171,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**41.35**	**351**	T		T	02 04 42.2	
	baz=171,slow=76,SNR=18							
H11S1	**WAKE ISLAND Hy**	**41.36**	**351**	T		T	02 04 41.1	
	baz=171,slow=76,SNR=25							
H11N1	**WAKE ISLAND Hy**	**42.52**	**352**	T		T	02 06 07.2	
	baz=173,SNR=3.0							
H11N3	**WAKE ISLAND Hy**	**42.52**	**352**	T		T	02 06 19.3	
	baz=173							
H11N2	**WAKE ISLAND Hy**	**42.53**	**352**	T		T	02 06 12.8	
	baz=173							
FAKI	**Fak Fak**	**44.03**	**290**	P		**P**	**01 20 52.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**44.43**	**267**	P		**P**	**01 20 56.2**	**+0.2**
FITZ				IAmb	IAmb		01 20 59.7	
	comp=Z,9.3nm,0.8s							
MORW	**Morawa**	**51.19**	**250**	P		**P**	**01 21 48.3**	**0.0**
MORW				IAmb	IAmb		01 21 58.5	
	comp=Z,25nm,1.5s							
VNDA	**Vanda**	**55.18**	**183**	P		**P**	**01 22 16.6**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=34,slow=6.4,SNR=3.1							
VNDA				LR		LR	01 42 27.6	
	comp=Z,108nm,19.8s,baz=10,slow=32							
VNDA	**Vanda**	**55.18**	**183**	P		**P**	**01 22 16.2**	**-0.7**
SBA	**Scott Base**	**55.34**	**182**	P		**P**	**01 22 18.8**	**+0.8**
SBA				IAmb	IAmb		01 22 19.3	
	comp=Z,7.7nm,0.8s							
TOLI2	**Tolitoli**	**56.00**	**288**	P		**P**	**01 22

*ANF **03** 01:14:46.9±0.2,63°.36N×152°.72W,h18km±1km,ML3.8/29, Error ellipse: s-maj=1.8km s-min=1.3km az=88.0, Hypocentre not reviewed by the ISC*

*NEIC **03** 01:14:46,63°.41N×152°.78W,h19km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.15; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-0.05; $M_{r\theta}$0.46; $M_{r\phi}$-1.64; $M_{\theta\phi}$-0.23; Fault plane solution: $M_0$1.72000×10^{14} NP1:ϕ_s181.62000°, δ74.13000°, λ8.62000°. NP2:ϕ_s89.25000°, δ81.72000°, λ163.96000°. Principal axes: T 1.7124, Plg17.0000°, Azm45.0000°; N 0.0121, Plg72.0000°, Azm243.0000°; P -1.7245, Plg5.0000°, Azm136.0000°;*

*NEIC **03** 01:14:47.4±2.0,63°.39N±0°.03×152°.71W±0°.06,h18km±5km Error ellipse: s-maj=5.4km s-min=2.1km az=137.0*

AEIC 03 01:14:47.1±2.2,63°.37N±0°.03×152°.73W±0°.08,h18km±3km, ML3.5/67,ML3.6/89(NEIC),Mwr3.4/10(NEIC),Error ellipse: s-maj=5.5km s-min=4.6km az=119.0,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.30**	**79**	Pg	Pg	01 14 53.6	0.0
CAST	**Castle Rocks** baz=260	**0.30**	**79**	P		01 14 53.6	
CAST	baz=260			S		01 14 58.0	
PPLA	**Purkeypile**	**0.53**	**152**		Pg	01 14 57.5	-0.3
PPLA					Sg	01 15 04.0	-1.1
PPLA	**Purkeypile** baz=333	**0.53**	**152**	P		01 14 57.5	
PPLA	baz=333			S		01 15 04.0	
CHUM	**Lake Minchumin**	**0.55**	**20**		Pb	01 14 58.9	+0.6
CHUM					Sb	01 15 06.4	+0.7
CHUM	**Lake Minchumin** baz=200	**0.55**	**20**	P		01 14 57.7	
CHUM	baz=200			S		01 15 06.3	
KTH	**Kantishna Hill**	**0.83**	**76**		Pb	01 15 02.6	-0.5
KTH				Sg	Sb	01 15 13.0	-1.0
KTH	comp=E,2μm,0.6s			IAML		01 15 16.6	
KTH	comp=N,3μm,0.7s			IAML		01 15 16.6	
BPAW	**Bear Paw Mtn.**	**1.07**	**46**		Pb	01 15 06.5	-0.5
BPAW					Sg	01 15 21.8	-0.1
BPAW	comp=N,2μm,0.6s			IAML		01 15 22.9	
BPAW	**Bear Paw Mtn.** baz=227,SNR=1000	**1.07**	**46**	P		01 15 06.8	
BPAW	baz=227			Sb		01 15 21.9	
TRF	**Thorofare Moun**	**1.10**	**85**		Pb	01 15 06.9	-0.9
TRF	comp=N,2μm,0.5s			IAML		01 15 22.9	
TRF	comp=E,2μm,0.9s			IAML		01 15 24.4	
TRF	**Thorofare Moun**	**1.10**	**85**		Sb	01 15 21.9	+0.1
TRF	**Thorofare Moun** baz=267,SNR=151	**1.10**	**85**	P		01 15 07.4	
TRF	baz=267			S		01 15 22.0	
HUR	**Hurricane**	**1.46**	**104**		Pn	01 15 11.7	-0.9
CUT	**Chulitna**	**1.48**	**129**		Pn	01 15 13.1	+0.3
CUT	**Chulitna** baz=312	**1.48**	**129**	Sb		01 15 33.5	
SKT	**Skwentna**	**1.50**	**158**		Pn	01 15 13.3	+0.2
SKT					Sb	01 15 33.2	+0.2
SKT	comp=N,705nm,0.7s			IAML		01 15 35.9	
SKT	**Skwentna** baz=339,SNR=196	**1.50**	**158**	P		01 15 13.5	
SKT	baz=339			Sb		01 15 33.4	
TTA	**Tatalina**	**1.55**	**255**		Pn	01 15 13.2	-0.7
TTA	**Tatalina** baz=72,SNR=265	**1.55**	**255**	P		01 15 13.2	
TTA	baz=72			Sb		01 15 35.8	
TT01	**Tatalina**	**1.56**	**254**		Pn	01 15 13.3	-0.7
BWN	**Browne**	**1.66**	**59**		Pn	01 15 15.2	-0.2
MCK	**McKinley**	**1.74**	**76**		Pn	01 15 15.6	-0.8
MCK	comp=E,548nm,0.5s			IAML		01 15 48.7	
MCK	comp=N,632nm,0.9s			IAML		01 15 49.0	
MCK	**McKinley** baz=260	**1.74**	**76**	P		01 15 15.7	
MCK	baz=260			Sb		01 15 41.3	
RND	**Reindeer**	**1.75**	**87**		Pn	01 15 16.6	0.0
WAT7	**Susitna Watana**	**1.85**	**105**		Pn	01 15 18.3	+0.3
MLY	**Manley**	**1.89**	**27**		Pn	01 15 17.9	-0.6
MLY	comp=E,625nm,0.6s			IAML		01 15 47.4	
MLY	**Manley** baz=208,SNR=339	**1.89**	**27**	P		01 15 18.0	
MLY	baz=208			Sb		01 15 45.9	
STLK	**Strandline Lak**	**1.92**	**167**		Pn	01 15 19.4	+0.5
WAT2	**Susitna Watana** baz=284	**1.93**	**100**	Pb		01 15 21.5	
WAT2	baz=284			Sb		01 15 46.1	
WAT1	**Susitna Watana**	**1.98**	**104**		Pn	01 15 20.2	+0.5
M22K	**Willow**	**2.02**	**142**		Pb	01 15 22.0	-1.3
M22K	**Willow** baz=324	**2.02**	**142**	Pb		01 15 22.8	
M22K	baz=324			Sb		01 15 49.9	
NEA2	**Nenana**	**2.03**	**51**		Pn	01 15 18.8	-1.6
NEA2	comp=N,465nm,0.3s			IAML		01 15 55.5	
NEA2	**Nenana** baz=234,SNR=327	**2.03**	**51**	P		01 15 18.9	
SPCG	**Spurr Capps Gl**	**2.11**	**171**		Pn	01 15 22.6	+1.0
SPCR	**Spurr Chakacha**	**2.19**	**173**		Pb	01 15 24.7	-1.5
SPCR	**Spurr Chakacha** baz=354	**2.19**	**173**	Sb		01 15 54.2	
H21K	**Melozitna Rive**	**2.30**	**359**		Pn	01 15 24.2	+0.1
I23K	**Minto, Yukon-K**	**2.32**	**38**		Pn	01 15 23.9	-0.4
I23K	**Minto, Yukon-K** comp=E,449nm,0.5s	**2.32**	**38**	IAML		01 16 03.6	
I23K	comp=N,436nm,0.5s			IAML		01 16 05.3	
I23K	**Minto, Yukon-K** baz=221,SNR=379	**2.32**	**38**	P		01 15 23.7	
WRH	**Wood River Hil**	**2.33**	**60**		Pn	01 15 23.2	-1.3
WRH	**Wood River Hil** comp=N,274nm,0.3s	**2.33**	**60**	IAML		01 16 02.6	
WRH	comp=E,293nm,0.5s			IAML		01 16 08.9	
GHO	**Glory Hole Cre**	**2.38**	**131**		Pn	01 15 25.0	-0.3
GHO	comp=N,250nm,0.6s			IAML		01 16 04.9	
WAT6	**Susitna Watana**	**2.41**	**107**		Pn	01 15 25.4	-0.4
WAT6	**Susitna Watana** baz=291	**2.41**	**107**	P		01 15 25.4	
WAT6	baz=291			Sb		01 16 00.1	
PMR	**Palmer**	**2.44**	**135**	Pn	Pn	01 15 26.0	0.0
FIS	**Fire Island**	**2.52**	**151**	Pn	Pn	01 15 28.2	+1.1
FIS	comp=N,371nm,0.5s			IAML		01 16 11.7	
FIS	comp=E,356nm,0.7s			IAML		01 16 17.1	
CCB	**Clear Creek Bu**	**2.52**	**57**		Pn	01 15 25.6	-1.5
CCB	**Clear Creek Bu** comp=N,362nm,0.5s	**2.52**	**57**	IAML		01 16 09.3	
MDM	**Murphy Dome**	**2.54**	**49**		Pn	01 15 26.2	-1.2
MDM	comp=N,279nm,0.5s			IAML		01 16 07.8	
MDM	comp=E,318nm,0.5s			IAML		01 16 10.3	
SML	**Sawmill**	**2.57**	**126**	Pn	Pn	01 15 27.1	-0.7
SML	comp=E,231nm,0.8s			IAML		01 16 08.9	
SML	comp=N,276nm,0.9s			IAML		01 16 10.2	
SML	**Sawmill** baz=310	**2.57**	**126**	Sb		01 16 04.4	
TCOL	**CIGO, UAF Yank**	**2.62**	**53**	Pn	Pn	01 15 28.5	+0.1
COLA	**College**	**2.62**	**53**		Pn	01 15 28.7	+0.2
SVW2	**Sparrevohn**	**2.64**	**212**		Pn	01 15 28.3	-0.5
IM03		**2.67**	**351**		Pn	01 15 29.6	+0.6
IMAR	**Indian Mountai**	**2.67**	**351**	Pn	Pn	01 15 29.3	+0.2
RC01	**Rabbit Creek A**	**2.68**	**147**	Pn	Pn	01 15 30.4	+1.0
PS07	**TAPS Pump Stn7**	**2.75**	**43**		Pn	01 15 30.5	+0.3
HDA	**Harding Lake**	**2.76**	**65**		Pn	01 15 31.0	+0.5
HDA	comp=E,320nm,0.6s			IAML		01 16 16.2	
DFR	**Drift River**	**2.78**	**180**		Pn	01 15 31.5	+0.7
KNK	**Knik Glacier**	**2.79**	**133**		Pn	01 15 32.0	+1.2
KNK	comp=E,195nm,0.6s			IAML		01 16 18.4	
PS06	**TAPS Pump Stn6**	**2.81**	**26**		Pn	01 15 31.3	+0.2
NCT	**North Crescent**	**2.82**	**182**		Pn	01 15 31.7	+0.4
H23K	**Yukon River**	**2.83**	**28**		Pn	01 15 31.1	-0.2
H23K	**Yukon River** baz=210,SNR=52	**2.83**	**28**	P		01 15 31.2	
PS08	**TAPS Pump Stn8**	**2.86**	**63**		Pn	01 15 32.2	+0.4
POKR	**Poker Plat Res**	**2.91**	**50**		Pn	01 15 32.1	-0.3
POKR	comp=E,212nm,0.5s			IAML		01 16 25.0	
POKR	comp=N,247nm,0.5s			IAML		01 16 25.1	
POKR	**Poker Plat Res** baz=235	**2.91**	**50**	P		01 15 31.7	
RSO	**Redoubt South**	**2.92**	**180**		Pn	01 15 33.0	+0.3
IL31		**2.93**	**59**		Pn	01 15 31.6	-1.1
ILAR	**Eielson Array**	**2.93**	**59**	Pn	Pn	01 15 33.3	+0.6
SCM	**Sheep Creek Mo**	**2.93**	**119**		Pn	01 15 34.1	+1.2
SCM	comp=N,213nm,0.8s			IAML		01 16 20.3	
H24K	**Noodor Dome** baz=222,SNR=17	**3.25**	**38**	P		01 15 36.4	
PWL	**Port Wells**	**3.25**	**139**	Pn	Pn	01 15 37.3	+0.1
M24K	**Tolsona, Glenn**	**3.27**	**110**	Pn	Pn	01 15 38.4	+0.9
GLI	**Glacier Island**	**3.64**	**131**	Pn	Pn	01 15 43.1	+0.6
GLI	comp=N,86nm,0.9s			IAML		01 16 44.1	
GLI	comp=E,145nm,0.6s			IAML		01 16 45.0	
GLI	**Glacier Island** baz=316	**3.64**	**131**	P		01 15 43.7	
KLU	**Klutina**	**3.68**	**118**		Pn	01 15 44.3	+1.1
KLU	comp=N,79nm,0.7s			IAML		01 16 44.8	
KLU	**Klutina** baz=304,SNR=12	**3.68**	**118**	P		01 15 44.3	
BRLK	**Bradley Lake**	**3.72**	**165**	Pn	Pn	01 15 45.1	+1.5
PRP	**Porcupine Dome**	**3.80**	**52**		Pn	01 15 43.9	-0.9
PRP	comp=N,139nm,0.4s			IAML		01 16 50.3	
PRP	comp=E,132nm,0.4s			IAML		01 16 50.5	
PRP	**Porcupine Dome** baz=239,SNR=34	**3.80**	**52**	P		01 15 44.3	
CNPM	**China Poot**	**3.92**	**169**	Pn	Pn	01 15 47.8	+1.5
FID	**Port Fidalgo**	**3.94**	**129**	Pn	Pn	01 15 47.2	+0.6
SCRK	**Sand Creek**	**3.94**	**77**		Pn	01 15 47.0	+0.2
SCRK	**Sand Creek** comp=E,85nm,0.7s	**3.94**	**77**	IAML		01 16 51.4	
SCRK	comp=N,88nm,0.9s			IAML		01 16 53.4	
SCRK	**Sand Creek** baz=265	**3.94**	**77**	P		01 15 46.5	
COLD	**Coldfoot**	**4.02**	**14**		Pn	01 15 48.2	+0.5
COLD	**Coldfoot** baz=196,SNR=15	**4.02**	**14**	P		01 15 48.1	
N25K	**Chitina, Valde**	**4.17**	**111**	Pn	Pn	01 15 50.6	+0.8
N25K	**Chitina, Valde** baz=299	**4.17**	**111**	P		01 15 50.0	
HIN	**Hinchinbrook I**	**4.19**	**133**	Pn	Pn	01 15 51.5	+1.5
HIN	comp=E,57nm,1.0s			IAML		01 17 07.9	
HIN	comp=N,78nm,1.1s			IAML		01 17 10.6	
BMRM	**Bremner River**	**4.51**	**119**	Pn	Pn	01 15 56.0	+1.6
BMRM	comp=N,54nm,0.7s			IAML		01 17 09.5	
BMRM	comp=E,47nm,0.7s			IAML		01 17 15.4	
BMRM	**Bremner River** baz=306	**4.51**	**119**	Pb		01 16 05.2	
FYU	**Fort Yukon**	**4.52**	**41**	Pn	Pn	01 15 54.3	-0.3
FYU	comp=E,66nm,0.4s			IAML		01 17 13.0	
GLB	**Gilahina Butte**	**4.58**	**111**		Pn	01 15 56.0	+0.6
GLB	comp=N,66nm,0.8s			IAML		01 17 11.8	
K27K	**Chicken**	**4.79**	**77**		Pn	01 15 58.9	+0.7
K27K	comp=N,45nm,0.5s			IAML		01 17 22.9	
K27K	**Chicken** baz=267	**4.79**	**77**	P		01 15 57.6	
MCARA	**McCarthy VSAT**	**4.94**	**109**	Pn	Pn	01 16 01.9	+1.6
L27K	**Beaver Creek,**	**4.94**	**89**	Pn	Pn	01 16 01.6	+1.2
L27K	**Beaver Creek,** baz=278	**4.94**	**89**	P		01 16 00.2	
BC03		**4.96**	**89**		Pn	01 16 01.0	+0.4
BCAR	**Beaver Creek A**	**4.96**	**89**	Pn	Pn	01 16 02.6	+1.9
PTPK	**Patty Peak**	**5.27**	**110**		Pn	01 16 06.6	+1.5
BM05	**Burnt Mountain**	**5.31**	**36**		Pn	01 16 04.8	-0.7
BMAR	**Burnt Mountain**	**5.31**	**36**	Pn	Pn	01 16 04.4	-1.0
TOLK	**Toolik Lake Re**	**5.45**	**12**	Pn	Pn	01 16 08.3	+0.9
TOLK	**Toolik Lake Re** baz=195	**5.45**	**12**	P		01 16 08.6	
BARN	**Barnard Glacie**	**5.67**	**109**	Pn	Pn	01 16 10.9	+0.4
GRNC	**Granite Creek**	**5.80**	**112**	Pn	Pn	01 16 12.8	+0.5
CTGM	**Chitina Glacie**	**5.86**	**109**	Pn	Pn	01 16 14.3	+1.2
DAWY	**Dawson**	**5.97**	**77**	Pn	Pn	01 16 14.9	+0.4
MESA	**MESA**	**6.03**	**117**	Pn	Pn	01 16 15.7	+0.2
MESA	**MESA** baz=307	**6.03**	**117**	P		01 16 15.9	
INK	**Inuvik**	**9.28**	**49**	Pn	Pn	01 17 02.5	+2.8
C36M	**Paulatuk**	**12.86**	**50**	Pn	Pn	01 17 47.5	-1.2

*IDC **03** 01:53:12.7±16.0, 12°.98S×167°.16E,h160km±141km, mb3.6/5,mb1 3.8/5,mb1mx3.4/34,mbtmp4.0/5,Error ellipse: s-maj=93.2km s-min=49.1km az=131.0*

*NEIC **03** 01:53:18.7±1.2, 13°.08S±0°.09×167°.2E±0°.1,h213km±8km, mb4.1/15,Error ellipse: s-maj=22.3km s-min=9.0km az=64.0*

ISC 03 01:53:17.2±0.8,13°.03S±0°.09×167°.2E±0°.1,h200km,n27, σ0°92/28,mb3.9/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.41**	**180**		**Pn**	**01 54 01.8**	**+1.8**
SANVU					Sn	01 54 34.0	+0.3
HNR	**Honiara**	**7.96**	**296**	Pn	**Pn**	**01 55 11.5**	**+1.5**
EIDS	**Eidsvold**	**19.53**	**229**	P	**P**	**01 57 30.3**	**+0.7**
EIDS	comp=Z,8.3nm,1.2s			IAmb	IAmb	01 57 39.2	
BKZ	**Black Stump Fm**	**27.31**	**164**	P	**P**	**01 58 42.2**	**-1.1**
BKZ	comp=Z,9.4nm,1.1s			IAmb	IAmb	01 59 00.2	
BFZ	**Birch Farm**	**28.67**	**166**	P	**P**	**01 58 55.1**	**-0.3**
THZ	**Tophouse**	**29.06**	**171**	P	**P**	**01 58 59.4**	**+0.6**
STKA	**Stephens Creek** comp=Z,1.1nm,0.5s,baz=64,slow=8.8,SNR=3.8	**30.07**	**227**	P	**P**	**01 59 07.4**	**-0.5**
STKA	**Stephens Creek**	**30.07**	**227**	P	**P**	**01 59 07.1**	**-0.8**
WR0	**Warramunga Arr**	**32.02**	**253**	P	**P**	**01 59 23.9**	**-1.3**
WR0	comp=Z,17nm,1.5s			IAmb	IAmb	01 59 40.9	
WB0	**Warramunga Arr**	**32.14**	**254**	P	**P**	**01 59 24.9**	**-1.3**
WB0	comp=Z,5.2nm,0.9s			IAmb	IAmb	01 59 38.6	
WRA	**Warramunga Arr** comp=Z,0.9nm,0.7s,baz=85,slow=9.1,SNR=3.8	**32.21**	**253**	P	**P**	**01 59 25.5**	**-1.3**
WRA	**Warramunga Arr**	**32.21**	**253**	P	**P**	**01 59 25.8**	**-1.0**
AS31	**Alice Springs**	**33.25**	**247**	P	**P**	**01 59 34.6**	**-1.2**
ASAR	**Alice Springs** comp=Z,1.6nm,0.6s,baz=74,slow=9.3,SNR=21	**33.25**	**247**	P	**P**	**01 59 34.4**	**-1.4**
ASAR	**Alice Springs**	**33.25**	**247**	P	**P**	**01 59 34.7**	**-1.1**
BBOO	**Buckleboo**	**34.59**	**230**	P	**P**	**01 59 46.2**	**-1.0**
KNRA	**Kununurra**	**37.30**	**261**	P	**P**	**02 00 09.9**	**-0.5**
KNRA	comp=Z,12nm,1.1s			IAmb	IAmb	02 00 13.1	
QSPA	**South Pole Qui**	**76.99**	**180**	P	**P**	**02 04 47.0**	**-0.7**
QSPA	comp=Z,4.5nm,1.3s			IAmb	IAmb	02 04 51.8	
WRH	**Wood River Hil**	**84.36**	**18**	P	**P**	**02 05 26.4**	**0.0**
WRH	comp=Z,1.3nm,0.6s			IAmb	IAmb	02 05 26.8	
IL31		**84.94**	**18**	P	**P**	**02 05 29.2**	**0.0**
IL31					IAmb	IAmb	02 05 31.4	
	comp=Z,1.9nm,1.1s						
ILAR	**Eielson Array**	**84.94**	**18**	P	**P**	**02 05 29.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=235,slow=5.1,SNR=10.0						
ILAR	**Eielson Array**	**84.94**	**18**	P	**P**	**02 05 29.8**	**+0.4**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=124,slow=3.7,SNR=4.0	**95.93**	**317**	P	**P**	**02 06 21.6**	**+0.2**
ARCES	**ARCESS Array B**	**118.59**	**346**	PKP	**PKPdf**	**02 11 40.3**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=53,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**124.12**	**339**	PKP	**PKPdf**	**02 11 51.2**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=90,slow=0.2,SNR=4.9						
ESDC	**Sonseca Array**	**152.33**	**345**	PKPbc	**PKiKP**	**02 12 50.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=4.3,slow=5.9,SNR=1.9						
ESDC	**Sonseca Array**	**152.33**	**345**		**PKPbc**	**02 12 49.8**	**+0.1**

*IDC **03** 01:59:50.9±1.2,53°.12N×160°.36E,h0km,mb3.6/7, mb1 3.9/7,mb1mx3.6/35,mbtmp3.7/7,MS3.2/1,Ms1 3.2/1, ms1mx2.4/48,Error ellipse: s-maj=32.0km s-min=21.0km az=155.0*

*KRSC **03** 01:59:54.7±1.0,52°.99N×160°.31E,h46km±10km,ML4.2*

ISC 03 01:59:54.6±1.3,52°.86N±0°.04×160°.30E±0°.04,h29km±10km, n58,σ1°33/77,mb3.7/6,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.29**	**326**	*i* P	**Pn**	**02 00 04.0**	**+1.1**
SPN				eS	**Sn**	**02 00 09.1**	**+0.8**
NLC	**Nalytchevo**	**0.65**	**299**	*i* P	**Pn**	**02 00 08.2**	**+0.3**
NLC				eS	**Sn**	**02 00 16.7**	**-0.5**
DALK	**Dalny**	**0.95**	**281**	eP	**Pb**	**02 00 12.5**	**0.0**
DALK				eS	**Sn**	**02 00 23.9**	**-0.6**
SDLR	**Sedlovina**	**0.95**	**297**	*i* P	**Pb**	**02 00 12.7**	**+0.1**
SDLR				eS	**Sb**	**02 00 23.8**	**-1.1**
UGLR	**Uglovaya**	**0.95**	**292**	eP	**Pb**	**02 00 12.9**	**+0.2**
SMAR	**Somma**	**0.99**	**295**	eP	**Pb**	**02 00 13.0**	**-0.3**
SMAR				eS	**Sn**	**02 00 25.1**	**-0.7**
PET	**Petropavlovsk**	**1.01**	**280**	eP	**Pb**	**02 00 13.4**	**-0.1**
PET				eS	**Sn**	**02 00 25.8**	**-0.1**
AVH	**Avacha**	**1.02**	**294**	eP	**Pb**	**02 00 13.9**	**+0.1**
AVH				eS	**Sn**	**02 00 26.5**	**0.0**
KRER	**Koryakskii**	**1.03**	**296**	*i* P	**Pb**	**02 00 14.2**	**+0.1**
KRER				eS	**Sn**	**02 00 26.9**	**0.0**
KOK	**Koryaka**	**1.09**	**294**	*i* P	**Pb**	**02 00 14.8**	**-0.2**
KOK				eS	**Sb**	**02 00 28.4**	**-0.5**
KRX	**Arik**	**1.11**	**297**	*i* P	**Pn**	**02 00 14.7**	**+0.3**
KRX				eS	**Sn**	**02 00 27.7**	**-1.1**
RUS	**Russkaya**	**1.17**	**249**	eP	**Pb**	**02 00 16.7**	**+0.6**
RUS				eS	**Sb**	**02 00 31.0**	**+0.1**
KII	**Karymskiy**	**1.28**	**337**	*i* P	**Pn**	**02 00 16.5**	**-0.2**
KII				eS	**Sn**	**02 00 31.2**	**-1.7**
KRMR	**Karymshinskiy**	**1.31**	**270**	eP	**Pn**	**02 00 17.5**	**+0.5**
KRMR				eS	**Sn**	**02 00 33.6**	**+0.1**
MTVR	**Mutnovka**	**1.34**	**255**	eP	**Pb**	**02 00 19.6**	**+0.4**
MTVR				eS	**Sb**	**02 00 36.7**	**+0.7**
GRL	**Gorelyy**	**1.39**	**258**	eP	**Pb**	**02 00 20.4**	**+0.4**
GRL				eS	**Sb**	**02 00 37.4**	**+0.1**
ASAK	**Asacha**	**1.54**	**253**	eP	**Pb**	**02 00 22.8**	**+0.3**
ASAK				eS	**Sb**	**02 00 42.2**	**+0.7**
PETK	**Petropavlovsk-** 34nm,0.3s,baz=94,slow=19,SNR=491	**1.59**	**280**	Pn	**Pb**	**02 00 22.2**	**-1.2**
PETK	42nm,0.3s,baz=106,slow=20,SNR=5.0			Sn	**Sb**	**02 00 42.2**	**-0.8**
GNL	**Ganaly**	**1.64**	**302**	eP	**Pn**	**02 00 22.6**	**+1.0**
GNL				eS	**Sn**	**02 00 41.9**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.72**	**233**	eP	**Pb**	**02 00 25.6**	**+0.1**
KDTR				eS	**Sb**	**02 00 47.3**	**+0.6**
APC	**Apacha**	**1.90**	**273**	eP	**Pb**	**02 00 28.1**	**-0.5**
APC				eS	**Sb**	**02 00 51.1**	**-0.8**
MKZ	**Mys Kozlova**	**1.90**	**26**	eP	**Pn**	**02 00 24.6**	**-0.5**
MKZ				eS	**Sn**	**02 00 45.6**	**-2.4**
MIPR	**Malaya Ipel'ka**	**2.24**	**256**	eP	**Pb**	**02 00 32.8**	**+1.5**
KZV	**Kizimen**	**2.26**	**360**	eP	**Pn**	**02 00 30.7**	**+0.6**
KZV				eS	**Sn**	**02 00 55.9**	**-1.2**
TUMD	**Tumrok D**	**2.35**	**1**	*i* P	**Pn**	**02 00 31.6**	**+0.3**
TUMD				eS	**Sn**	**02 00 56.9**	**-2.2**
TUMR	**Tumrok**	**2.43**	**358**	eP	**Pn**	**02 00 33.7**	**+1.2**
PAU	**Pauzhetka**	**2.56**	**238**	eP	**Pb**	**02 00 38.6**	**-1.2**
PAU				eS	**Sb**	**02 01 08.6**	**-2.2**
KMNR	**Kamenistaya**	**2.90**	**359**	eP	**Pn**	**02 00 40.4**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**3.10**	**4**	eP	**Pn**	**02 00 42.9**	**+1.3**
KIRR	**Kirishev**	**3.10**	**0**	eP	**Pn**	**02 00 43.2**	**+1.5**
BZWR	**Bezymyannyi-We**	**3.11**	**2**	eP	**Pn**	**02 00 43.3**	**+1.4**
ZLN	**Zelenaya**	**3.18**	**5**	eP	**Pn**	**02 00 44.9**	**+2.2**
ESO	**Esso**	**3.21**	**344**	eP	**Pn**	**02 00 44.5**	**+1.4**
LGNR	**Loginova**	**3.24**	**4**	eP	**Pn**	**02 00 46.1**	**+2.4**
CIRR	**Tsirk**	**3.27**	**4**	eP	**Pn**	**02 00 46.3**	**+2.2**
SKR	**Severo-Kuril's**	**3.39**	**232**	S	**Sb**	**02 01 30.0**	**-4.6**
KLY	**Klyuchi**	**3.47**	**3**	eS	**Sn**	**02 01 26.8**	**+0.2**
SRDR	**Sredinnyy**	**3.48**	**355**	eP	**Pn**	**02 00 47.5**	**+0.6**
KBTR	**Krutoberegovo**	**3.66**	**23**	eP	**Pn**	**02 00 51.6**	**+2.3**
KBG	**Krutoberegovo**	**3.68**	**21**	eP	**Pn**	**02 00 52.3**	**+2.8**
KBG				eS	**Sn**	**02 01 32.8**	**+0.9**
BDR	**Baidarnaya**	**3.75**	**8**	eP	**Pn**	**02 00 51.9**	**+1.3**
SMKR	**Semkarok**	**3.79**	**10**	eP	**Pn**	**02 00 52.6**	**+1.5**
SRKR	**Sorokina**	**3.84**	**7**	eP	**Pn**	**02 00 53.7**	**+2.0**
BKI	**Bering**	**4.09**	**53**	eP	**Pn**	**02 00 56.6**	**+1.5**
BKI				eS	**Sn**	**02 01 39.0**	**-2.9**
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=17,slow=11,SNR=7.7	**22.50**	**232**	P	**P**	**02 04 53.6**	**+2.0**
H11N2	**WAKE ISLAND Hy** baz=352,slow=76,SNR=52	**33.46**	**169**	T	T	02 42 18.3	
H11N3	**WAKE ISLAND Hy** baz=352,slow=76,SNR=66	**33.47**	**169**	T	T	02 42 15.0	
H11N1	**WAKE ISLAND Hy** baz=352,slow=76,SNR=95	**33.48**	**169**	T	T	02 42 07.7	
H11S1	**WAKE ISLAND Hy** baz=352,slow=76,SNR=21	**34.64**	**169**	T	T	02 43 40.7	
H11S3	**WAKE ISLAND Hy** baz=352,slow=76,SNR=33	**34.66**	**169**	T	T	02 43 41.6	
H11S2	**WAKE ISLAND Hy** baz=352,slow=76,SNR=13	**34.66**	**169**	T	T	02 43 47.1	
MKAR	**Makanchi Array** comp=Z,24nm,18.6s,baz=50,slow=39	**48.37**	**296**	LR	LR	02 31 28.0	
FINES	**FINESS Array B** 2.5nm,0.9s,baz=44,slow=8.3,SNR=3.9	**60.38**	**337**	P	**P**	**02 09 59.8**	**-0.7**
NOA	**NORSAR Array B** 0.1nm,0.3s,baz=23,slow=6.8,SNR=0.9	**63.80**	**344**	P	**P**	**02 10 21.7**	**-1.8**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=297,slow=4.0,SNR=4.2	**70.62**	**67**	P	**P**	**02 11 08.5**	**+1.2**
GERES	**GERESS Array B** 0.2nm,0.4s,baz=32,slow=5.8,SNR=1.6	**74.78**	**338**	P	**P**	**02 11 30.7**	**-1.0**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=17,slow=6.8,SNR=1.9	**79.59**	**204**	P	**P**	**02 12 00.2**	**+1.4**
ESDC	**Sonseca Array** 0.8nm,1.0s,baz=359,slow=5.8,SNR=3.4	**86.83**	**348**	P	**P**	**02 12 35.6**	**-0.5**

*TRN **03** 02:10:50.6, 10°.84N×62°.24W,h87km,MD4.1*
TRN Felt in Trinidad.

*FUNV **03** 02:10:50.9, 10°.84N×62°.26W,h84km,MW3.7*

ISC 03 02:10:48.8±1.2,10°.80N±0°.04×62°.30W±0°.04,h97km±12km, n54,σ1°52/78,1C-1D,Near coast of Venezuela

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

TPP	**Pointe-a-Pierr**	**0.96**	**120**	*eP*	**Pn**	**02 11 10.2**	**+1.7**
TPP				*eS*	**Sn**	**02 11 23.7**	**+0.3**
TBH	**Brigand Hill**	**1.25**	**104**	*eP*	**Pn**	**02 11 13.3**	**+1.5**
TBH				*eS*	**Sn**	**02 11 29.0**	**-0.3**
GRGR	**Grenville**	**1.47**	**25**	*eP*	**Pn**	**02 11 14.5**	**+0.1**
GRGR				*eS*	**Sn**	**02 11 33.5**	**-0.4**
GRGR	**Grenville**	**1.47**	**25**	*eP*	**Pn**	**02 11 14.6**	**+0.1**
GRGR				*eS*	**Sn**	**02 11 33.0**	**-1.0**
TPR	**Prospect**	**1.54**	**75**	*eP*	**Pn**	**02 11 15.6**	**+0.2**
TPR				*eS*	**Sn**	**02 11 34.0**	**-1.7**
BOT	**Bacolet**	**1.59**	**77**	*eP*	**Pn**	**02 11 16.4**	**+0.4**
BOT				*eS*	**Sn**	**02 11 35.0**	**-1.8**
TOSP	**Speyside**	**1.80**	**74**	*eP*	**Pn**	**02 11 18.7**	**0.0**
TOSP				*eS*	**Sn**	**02 11 40.0**	**-1.4**
TOSP	**Speyside**	**1.80**	**74**	*eP*	**Pn**	**02 11 18.4**	**-0.2**
TOSP				*eS*	**Sn**	**02 11 39.9**	**-1.4**
GCMP	**Grenada, Carri**	**1.88**	**27**	*eP*	**Pn**	**02 11 20.1**	**+0.3**
GCMP				*eS*	**Sn**	**02 11 42.1**	**-1.1**
PCRV	**Puerto La Cruz**	**2.38**	**255**	*eP*	**Pn**	**02 11 28.5**	**+2.2**
PCRV				*eS*	**Sn**	**02 11 53.5**	**-1.6**
SVB	**Belmont**	**2.66**	**22**	*eP*	**Pn**	**02 11 30.8**	**+0.8**
SVB				*eS*	**Sn**	**02 12 00.3**	**-1.3**
SVV	**Soufriere Volc**	**2.72**	**23**	*eP*	**Pn**	**02 11 32.6**	**+1.9**
SVV				*eS*	**Sn**	**02 12 02.6**	**-0.4**
SSV	**Crater Summit**	**2.73**	**23**	*eP*	**Pn**	**02 11 32.6**	**+1.6**
SSV				*eS*	**Sn**	**02 12 02.6**	**-0.8**
RIOV	**Rio Grande**	**2.75**	**170**	*eP*	**Pn**	**02 11 32.9**	**+1.7**
RIOV				*eS*	**Sn**	**02 12 03.3**	**-0.6**
PRGV	**PARIAGUAN**	**3.08**	**229**	*eP*	**Pn**	**02 11 36.5**	**+1.0**
PRGV				*eS*	**Sn**	**02 12 12.2**	**+0.6**
MCLT	**Moule a Chique**	**3.18**	**24**	*eP*	**Pn**	**02 11 37.5**	**+0.6**
MCLT				*eS*	**Sn**	**02 12 11.0**	**-1.0**
SLB	**Belfond**	**3.25**	**22**	*eP*	**Pn**	**02 11 38.7**	**+0.8**
SLBI	**Saint Lucia, B**	**3.45**	**22**	*eP*	**Pn**	**02 11 40.8**	**+0.3**
SLBI				*eS*	**Sn**	**02 12 18.2**	**-2.3**
BBGH	**Gun Hill**	**3.55**	**49**	*eP*	**Pn**	**02 11 44.0**	**+2.1**
BBSP	**Saint Philip**	**3.60**	**50**	*eP*	**Pn**	**02 11 43.5**	**+1.0**
MPOM	**Morne Pois Mar**	**3.88**	**21**	*eP*	**Pn**	**02 11 47.1**	**+0.8**
TRMF	**Trois Ilets**	**3.91**	**18**	*eP*	**Pn**	**02 11 47.8**	**+1.1**
BIRV	**Birongo**	**3.92**	**266**	*eP*	**Pn**	**02 11 48.5**	**+1.6**
BIRV				*eS*	**Sn**	**02 12 31.0**	**-0.8**
ZAM	**Aeronautique**	**3.95**	**18**	*eP*	**Pn**	**02 11 48.8**	**+1.5**
LPMF	**Morne Lapointe**	**3.97**	**19**	*eP*	**Pn**	**02 11 49.3**	**+1.7**
MVM	**Montagne Vaucl**	**3.97**	**20**	*eP*	**Pn**	**02 11 49.7**	**+2.1**
PML	**Morne Lenard**	**4.10**	**15**	*eP*	**Pn**	**02 11 50.2**	**+0.8**
GBMF	**Grand Be**	**4.12**	**15**	*eP*	**Pn**	**02 11 52.4**	**+2.7**
PCM	**Pelee Case Pet**	**4.13**	**15**	*eP*	**Pn**	**02 11 50.5**	**+0.7**
BAMF	**Morne Balai**	**4.14**	**16**	*eP*	**Pn**	**02 11 51.6**	**+1.6**
DSLB	**Salisbury**	**4.69**	**10**	*eP*	**Pn**	**02 11 58.7**	**+1.4**
TACV	**Tcata**	**4.70**	**262**	*eP*	**Pn**	**02 11 58.5**	**+1.1**
LUEV	**Luepa**	**4.99**	**170**	*eP*	**Pn**	**02 12 01.9**	**+0.3**
LUEV				*eS*	**Sn**	**02 12 56.5**	**-1.7**
TDBA	**Terre de Bas,**	**5.06**	**7**	*eP*	**Pn**	**02 12 04.4**	**+2.1**
MAGL	**Barre de l'ile**	**5.21**	**11**	*eP*	**Pn**	**02 12 05.9**	**+1.6**
CACV	**CAICARA DEL OR**	**5.28**	**233**	*eP*	**Pn**	**02 12 01.4**	**-4.0**
CACV				*eS*	Sn	02 12 53.5	-11
CBE	**Ff, Capester**	**5.28**	**7**	*eP*	**Pn**	**02 12 07.0**	**+1.6**
TURV	**Turiamo**	**5.46**	**267**	*eP*	**Pn**	**02 12 09.0**	**+1.3**
ABD	**La Joyeuse, An**	**5.70**	**8**	*eP*	**Pn**	**02 12 13.1**	**+2.2**
MLYT	**Lee's Yard**	**5.89**	**1**	*eP*	**Pn**	**02 12 15.2**	**+1.7**
MBFL	**Flemmings, Mon**	**5.91**	**1**	*eP*	**Pn**	**02 12 14.7**	**+0.8**
BAUV	**El Baul**	**5.95**	**252**	*eP*	**Pn**	**02 12 15.8**	**+1.3**
BAUV	**El Baul**	**5.95**	**252**	*eP*	**Pn**	**02 12 14.6**	**+0.2**
BAUV				*eS*	**Sn**	**02 13 18.0**	**-3.4**
MAPV	**Macapo**	**6.14**	**262**	*eP*	**Pn**	**02 12 17.5**	**+0.5**
BPA	**Boggy Peak**	**6.22**	**4**	*eP*	**Pn**	**02 12 19.7**	**+1.6**
ANBD	**Bethesda, Anti**	**6.23**	**5**	*eP*	**Pn**	**02 12 20.0**	**+1.7**
ANOC	**Antigua Open C**	**6.30**	**4**	*eP*	**Pn**	**02 12 20.4**	**+1.3**
SKI	**Saint Kitts**	**6.51**	**356**	*eP*	**Pn**	**02 12 23.9**	**+1.9**
TEPV	**Terepaima**	**6.83**	**264**	*eP*	**Pn**	**02 12 26.8**	**+0.3**
PAYV	**Puerto Ayacuch**	**7.53**	**225**	*eP*	**Pn**	**02 12 36.2**	**+0.3**
PAYV				*eS*	**Sn**	**02 13 55.0**	**-4.8**
MONV	**Montecano**	**7.61**	**279**	*eP*	**Pn**	**02 12 37.2**	**+0.2**

IDC 03 02:22:37.7±2.1, 6°78S×129°32E, h0km, mb3.8/1, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=109.2km s-min=31.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.96**	**160**	Pn	Pn	02 25 56.6	-0.4
	0.8nm,0.3s,baz=339,slow=13,SNR=23						
WRA				Sn	Sn	02 28 20.7	-12
	0.7nm,0.3s,baz=333,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**17.36**	**166**	P	Pn	02 26 41.9	+0.3
	0.4nm,0.3s,baz=343,slow=10,SNR=13						
ASAR				S	Sn	02 29 43.1	-12
	0.1nm,0.3s,baz=359,slow=26,SNR=1.9						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	02 33 36.8	0.0
	0.4nm,0.4s,baz=133,slow=8.1,SNR=4.9						

IDC 03 03:04:36.0±3.7, 5°16S×151°48E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=115.2km s-min=52.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.23**	**227**	P	P	03 09 34.5	0.0
	3.6nm,0.8s,baz=52,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**25.01**	**221**	P	P	03 10 01.8	0.0
	2.9nm,0.7s,baz=55,slow=9.4,SNR=24						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	P	03 10 31.7	-0.2
	2.7nm,0.9s,baz=63,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**149.16**	**287**	PKPbc	PKPbc	03 24 27.2	-0.4
	0.7nm,1.0s,baz=64,slow=4.3,SNR=1.7						

*REN **03** 03:23:02.4±2.1, 36°53N±0°.03×113°.52W±0°.03, h0km±7km, Error ellipse: s-maj=4.8km s-min=2.5km az=221.0*

NEIC 03 03:23:01.4±0.9, 36°.47N±0°.02×113°.51W±0°.03, h6km±8km, ML2.7/72, ML2.6/8(REN), Error ellipse: s-maj=4.1km s-min=2.6km az=61.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCMT	**Little Creek M**	**0.58**	**22**		Pg	03 23 12.6	0.0
LCMT				Sg	Sg	03 23 20.2	0.0
LCMT				IAML		03 23 20.9	
	comp=E,578nm,0.2s						
LCMT				IAML		03 23 23.4	
	comp=N,510nm,0.1s						
ICU	**Indian Springs**	**0.75**	**334**		Pg	03 23 15.8	0.0
ICU					Sg	03 23 25.4	-0.2
KNB	**Kanab**	**0.78**	**45**		Pg	03 23 16.4	+0.1
KNB				Sg	Sg	03 23 26.5	+0.1
KNB				IAML		03 23 28.8	
	comp=E,360nm,0.7s						
KNB				IAML		03 23 32.0	
	comp=N,300nm,0.7s						
U15A	**North Rim**	**0.99**	**92**		Pg	03 23 20.4	+0.1
U15A				Sg	Sg	03 23 33.1	-0.1
U15A				IAML		03 23 35.0	
	comp=E,175nm,0.6s						
U15A				IAML		03 23 43.1	
	comp=N,133nm,0.5s						
CCUT	**Cedar City**	**1.08**	**6**	Pg	Pg	03 23 22.0	-0.2
CCUT				Sg	Sg	03 23 36.1	-0.2
SZCU	**Shurtz Canyon**	**1.17**	**17**		Pg	03 23 23.8	-0.1
SZCU				Sg	Sg	03 23 38.6	-0.5
SHPR	**Sheep Range**	**1.33**	**272**		Pn	03 23 25.5	-1.2
SHPR				IAML		03 23 45.0	
	comp=N,144nm,0.5s						
SHPR				IAML		03 23 45.5	
	comp=E,144nm,0.5s						
PKCU	**Pink Cliffs**	**1.36**	**44**		Pn	03 23 27.2	-0.1
W13A	**Hualapai Mount**	**1.41**	**193**	Pn	Pn	03 23 27.2	-0.6
PRN	**Pahroc Range**	**1.54**	**308**	Pn	Pn	03 23 29.0	-0.6
PRN				IAML		03 23 55.4	
	comp=E,182nm,0.6s						
MTPU	**Mount Pierson**	**1.89**	**34**		Pn	03 23 34.8	+0.2
MTPU				IAML		03 24 04.4	
	comp=E,94nm,0.3s						
MTPU				IAML		03 24 05.9	
	comp=N,94nm,0.4s						
WUAZ	**Wupatki**	**1.98**	**118**	Pn	Pb	03 23 36.8	-1.2
PSUT	**Pine Spring**	**2.07**	**353**	Pn	Pn	03 23 37.6	+0.6
TPNV	**Topopah Spring**	**2.25**	**283**		Pn	03 23 39.6	+0.3
TPNV				IAML		03 24 15.7	
	comp=N,36nm,0.4s						
TPNV				IAML		03 24 18.4	
	comp=N,41nm,0.4s						
TCRU	**Three Creeks R**	**2.29**	**21**	Pn	Pn	03 23 39.7	-0.3
TCRU				IAML		03 24 17.9	
	comp=E,57nm,0.6s						
TCRU				IAML		03 24 23.4	
	comp=N,37nm,0.8s						
R11A	**Troy Canyon, C**	**2.50**	**319**		Pb	03 23 46.1	-0.7
Y14A	**Wickenburg**	**2.56**	**171**		Pn	03 23 43.2	-0.3
SPR3	**Spring Creek 3**	**2.60**	**346**	Pn	Pn	03 23 44.1	-0.3
X16A	**Lo Mia Camp, P**	**2.66**	**140**	Pn	Pn	03 23 45.9	+0.9
X16A				IAML		03 24 27.3	
	comp=E,20nm,0.8s						
Q16A	**Castle Valley**	**3.07**	**37**	Pn	Pn	03 23 50.4	-0.2
Q16A				IAML		03 24 37.8	
	comp=N,18nm,0.5s						
Q16A				IAML		03 24 38.2	
	comp=E,24nm,1.1s						
W18A	**Petrified Fore**	**3.35**	**113**	Pn	Pn	03 23 54.9	+0.3
TMUT	**Trail Mountain**	**3.36**	**32**	Pn	Pn	03 23 54.8	+0.1
TMUT				IAML		03 24 50.4	
	comp=E,25nm,0.5s						
TMUT				IAML		03 24 53.4	
	comp=N,21nm,0.7s						
TPH	**Tonopah**	**3.36**	**299**	Pn	Pn	03 23 54.0	-0.7
TPH	**Tonopah**	**3.36**	**299**	IAML		03 24 49.2	
	comp=N,19nm,0.7s						
TPH				IAML		03 24 49.7	
	comp=E,20nm,0.7s						
X18A	**Snowflake**	**3.49**	**123**	Pn	Pn	03 23 56.4	-0.1
X18A				IAML		03 25 01.5	
	comp=E,28nm,0.7s						
SRU	**San Rafael Swe**	**3.54**	**41**	Pn	Pn	03 23 57.4	+0.3
SRU				IAML		03 24 54.9	
	comp=N,27nm,0.8s						
NLU	**North Lily Min**	**3.66**	**18**	Pn	Pn	03 23 58.9	+0.2
P17A	**Butcher Ranch,**	**3.71**	**35**	Pn	Pn	03 23 58.6	-0.9
P17A				IAML		03 25 00.4	
	comp=E,16nm,0.6s						
P17A				IAML		03 25 01.2	
	comp=N,14nm,0.9s						
MVCO	**Mesa Verde**	**4.09**	**78**	Pn	Pn	03 24 06.0	+1.3
NV11	**Mina Array Sit**	**4.18**	**299**	Pn	Pn	03 24 06.9	+1.0
NV11				IAML		03 25 29.2	
	comp=E,6.0nm,4.1s						
NVAR	**Mina Array Bea**	**4.28**	**299**	Pn	Pn	03 24 08.1	+0.8
LHV	**Little Huntoon**	**4.35**	**296**	Pn	Pn	03 24 06.5	-1.6
LHV				IAML		03 25 29.9	
	comp=N,11nm,3.2s						
LHV				IAML		03 25 32.7	
	comp=E,12nm,1.5s						
JLU	**Jordanelle**	**4.43**	**21**	Pn	Pn	03 24 09.3	-0.1
JLU				IAML		03 25 31.8	
	comp=E,5.0nm,4.2s						
JLU				IAML		03 26 22.7	
	comp=N,5.3nm,3.2s						
KVN	**Kaiserville**	**4.45**	**307**	Pn	Pn	03 24 09.6	-0.1
KVN				IAML		03 25 56.3	
	comp=N,4.9nm,4.2s						
RYN	**Ryan**	**4.53**	**300**	Pn	Pn	03 24 11.3	+0.7
RYN				IAML		03 25 23.7	
	comp=N,6.3nm,5.0s						
RYN				IAML		03 25 27.4	
	comp=E,7.8nm,0.5s						
RDMU	**Red Mountain**	**5.13**	**36**	Pn	Pn	03 24 17.7	-1.3
RDMU				IAML		03 26 00.6	
	comp=E,8.1nm,1.5s						

*NNC **03** 03:52:32.7±0.9, 42°.68N×78°.72E, h0km, mb2.6, mpv2.9, Error ellipse: s-maj=5.4km s-min=3.4km az=159.0*
*SOME **03** 03:52:32.0, 42°.65N×78°.63E, h5km*
*KRNET **03** 03:52:32.3±0.1, 42°.10N×78°.81E, h30km, mb2.0*

ISC 03 03:52:28.5±1.7, 42°55N±0°.06×78°86E±0°.07, h10km, n16, σ1§45/30, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.61**	**327**	*eP*	**Pb**	**03 52 41.2**	**-0.1**
SATY	2.0nm,0.1s						
				eS	**Sg**	**03 52 47.7**	**-0.6**
	21nm,0.1s						
SATY	**Saty**	**0.61**	**327**	P	**Pb**	**03 52 41.2**	**-0.1**
SATY	2.0nm,0.1s						
				S	**Sg**	**03 52 47.7**	**-0.6**
	21nm,0.1s						
UZB	**Uzynbulak**	**0.61**	**12**	*eP*	**Pn**	**03 52 42.7**	**-0.7**
UZB	1.5nm,0.1s						
				eS	**Sb**	**03 52 50.4**	**+0.3**
	3.7nm,0.1s						
UZB	**Uzynbulak**	**0.61**	**12**	P	**Pn**	**03 52 42.7**	**-0.7**
UZB	1.5nm,0.1s						
	3.7nm,0.1s			S	**Sb**	**03 52 50.4**	**+0.3**
ANVS	**Anan'yevo**	**0.91**	**285**	⇑*iP*	Pn	03 52 52.6	+5.1
ANVS	baz=10.0						
	baz=10.0			⇑*iS*	**Sn**	**03 53 07.1**	**+6.3**
KPKS	**Kokpek**	**0.92**	**352**	*eP*	**Pn**	**03 52 47.5**	**-0.2**
KPKS	24nm,0.0s						
	7.1nm,0.3s			*eS*	**Sb**	**03 52 58.8**	**-0.3**
KDJ	**Kajisay**	**1.31**	**252**	⇑*iP*	**Pg**	**03 52 54.5**	**+0.8**
KDJ	baz=72						
	baz=72			⇑*iS*	**Sn**	**03 53 10.7**	**0.0**
ARXS	**Arharly**	**1.82**	**336**	*eP*	**Pg**	**03 53 03.7**	**+0.2**
ARXS	1.2nm,0.3s						
	3.1nm,0.2s			*eS*	**Sg**	**03 53 26.3**	**-0.8**
ARXS	**Arharly**	**1.82**	**336**	P	**Pg**	**03 53 03.7**	**+0.2**
ARXS	1.2nm,0.3s						
	3.1nm,0.2s			S	**Sg**	**03 53 26.3**	**-0.8**
ULHL	**Ulahol**	**1.96**	**262**	⇑*iP*	**Pg**	**03 53 05.8**	**-0.3**
ULHL	baz=75						
	baz=75			⇑*iS*	**Sg**	**03 53 30.3**	**-1.2**
KTBS	**Karatobe**	**1.97**	**307**	*eP*	**Pg**	**03 53 06.0**	**-0.3**
KTBS	0.9nm,0.3s						
	4.3nm,0.3s			*eS*	**Sg**	**03 53 30.2**	**-1.6**
KTBS	**Karatobe**	**1.97**	**307**	P	**Pg**	**03 53 06.0**	**-0.3**
KTBS	0.9nm,0.3s						
	4.3nm,0.3s			S	**Sg**	**03 53 30.3**	**-1.6**
BOOM	**Boomskoye usch**	**2.16**	**269**	⇓*iP*	**Pg**	**03 53 09.2**	**-0.6**
BOOM	baz=81						
	baz=81			⇓*iS*	**Sg**	**03 53 36.8**	**-1.0**
KUU	**Kurty**	**2.28**	**307**	*eP*	**Pg**	**03 53 10.9**	**-1.2**
KUU	1.1nm,0.1s						
	3.6nm,0.5s			*eS*	**Sb**	**03 53 38.9**	**+0.9**
KUU	**Kurty**	**2.28**	**307**	Pg	**Pg**	**03 53 10.9**	**-1.2**
KUU	1.1nm,0.1s						
	3.6nm,0.5s			Lg	Lg	03 53 38.9	
KBK	**Karagaybulak**	**2.89**	**273**	⇑*iP*	**Pb**	**03 53 20.1**	**-0.1**
KBK	baz=82						
	baz=82			⇑*iS*	**Sb**	**03 53 54.7**	**-0.9**

*IDC **03** 03:55:27.2±1.6, 7°.16S×154°.64E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/29, mbtmp3.9/7, MS3.4/3, Ms1 3.4/3, ms1mx2.8/31, Error ellipse: s-maj=64.3km s-min=23.7km az=130.0*
*NEIC **03** 03:55:32.9±1.0, 7°.1S±0°.1×154°.5E±0°.1, h35km±2km, mb4.0/8, Error ellipse: s-maj=26.0km s-min=12.8km az=132.0*

ISC 03 03:55:33.0±0.8, 7°1S±0°.2×154°5E±0°.1, h39km, n24, σ1§02/22, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.58**	**252**	LR	LR	04 00 01.3	
	comp=Z,107nm,18.0s,baz=121,slow=35						
PMG	**Port Moresby**	**7.58**	**252**	Pn	**Pn**	**03 57 20.1**	**-0.8**
WR0	**Warramunga Arr**	**23.15**	**235**	P	**P**	**04 00 36.5**	**+0.4**
WR0				IAmb	IAmb	04 00 38.5	
	comp=Z,4.7nm,0.8s						
WB0	**Warramunga Arr**	**23.18**	**235**	P	**P**	**04 00 36.5**	**+0.1**
WB0				IAmb	IAmb	04 00 53.2	
	comp=Z,8.1nm,1.1s						
WB2	**Warramunga Arr**	**23.30**	**235**	P	**P**	**04 00 37.9**	**+0.3**
WRA	**Warramunga Arr**	**23.31**	**235**	P	**P**	**04 00 38.3**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=60,slow=9.5,SNR=20						
WRA	**Warramunga Arr**	**23.31**	**235**	P	**P**	**04 00 38.1**	**+0.4**
ASAR	**Alice Springs**	**25.69**	**228**	P	**P**	**04 01 00.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=61,slow=9.3,SNR=7.8						
ASAR	**Alice Springs**	**25.69**	**228**	P	**P**	**04 00 58.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.12**	**246**	P	**P**	**04 01 40.6**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=79,slow=10,SNR=2.0						
FITZ				LR	LR	04 13 26.0	
	comp=Z,36nm,18.2s,baz=45,slow=36						
FITZ	**Fitzroy Crossi**	**30.12**	**246**	P	**P**	**04 01 40.0**	**+0.8**
FITZ				IAmb	IAmb	04 01 46.7	
	comp=Z,3.4nm,1.1s						
BSWZ	**Blackbirch Sta**	**38.49**	**156**	P	**P**	**04 02 51.4**	**0.0**
LEM	**Lembang**	**46.49**	**267**	LR	LR	04 28 02.2	
	comp=Z,115nm,18.1s,baz=252,slow=42						
ULN	**Ulaanbaatar**	**68.85**	**328**	P	**P**	**04 06 34.6**	**+0.9**
SONM	**Songino Array**	**69.18**	**328**	P	**P**	**04 06 37.7**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=142,slow=7.2,SNR=2.7						
SONM	**Songino Array**	**69.18**	**328**	P	**P**	**04 06 35.1**	**-0.6**
SONM				IAmb	IAmb	04 06 48.7	
	comp=Z,1.5nm,1.0s						
MK31	**Makanchi Array**	**83.17**	**319**	P	**P**	**04 07 53.4**	**-1.8**
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	**04 07 55.5**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=108,slow=6.9,SNR=6.0						
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	**04 07 55.7**	**+0.6**
ILAR	**Eielson Array**	**83.70**	**22**	P	**P**	**04 07 55.7**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=231,slow=5.7,SNR=3.5						
ILAR	**Eielson Array**	**83.70**	**22**	P	**P**	**04 07 57.0**	**-0.4**
NVAR	**Mina Array Bea**	**92.22**	**52**	P	**P**	**04 08 40.9**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=258,slow=4.4,SNR=3.2						
NVAR	**Mina Array Bea**	**92.22**	**52**	P	**P**	**04 08 38.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**152.56**	**285**	PKPbc	**PKPbc**	**04 15 26.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=76,slow=2.0,SNR=2.8						

IDC 03 04:17:16.2±2.3, 5°11S×129°85E, h0km, mb3.5/1, mb1 4.0/4, mb1mx3.7/37, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=98.6km s-min=28.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.55**	**197**	Pn	Pn	04 20 31.8	+1.9
	0.2nm,0.3s,baz=17,slow=11,SNR=1.2						
FITZ				Sn	Sn	04 22 46.6	-15
	0.1nm,0.3s,baz=125,slow=20,SNR=0.9						
WRA	**Warramunga Arr**	**15.38**	**164**	Pn	Pn	04 20 55.8	+1.0
	0.4nm,0.3s,baz=345,slow=14,SNR=7.9						
WRA				Sn	Sn	04 23 36.3	-10
	0.3nm,0.3s,baz=339,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**18.86**	**168**	P	P	04 21 37.1	-1.1
	1.1nm,0.3s,baz=354,slow=13,SNR=36						
ASAR				S	Sn	04 24 51.7	-19
	0.1nm,0.3s,baz=348,slow=17,SNR=4.5						
MKAR	**Makanchi Array**	**66.57**	**326**	P	P	04 28 08.3	0.0
	0.3nm,0.5s,baz=120,slow=7.5,SNR=4.1						

NOU 03 04:24:59.8, 22°16S×172°38E, h0km, MLv4.5, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**4.59**	**263**	P	Pn	04 26 10.4	-0.1
LIFNC	**LIFOU**	**4.98**	**285**	P	Pn	04 26 15.6	-0.3
YATNC	**Mamie plateau,**	**5.09**	**270**	P	Pn	04 26 16.7	-0.7
OUENC	**Ouen Island, N**	**5.14**	**266**	P	Pn	04 26 18.2	+0.2
DZM	**Mont Dzumac**	**5.50**	**270**	P	Pn	04 26 23.0	-0.2
NOUC	**Port Laguere**	**5.63**	**269**	P	Pn	04 26 25.2	+0.3
KOUNC	**Koumac, New Ca**	**7.71**	**280**	P	Pn	04 26 53.7	+0.3

DDA 03 04:25:12.9, 38°58N×27°13E, h7km±3km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEDA	**zmir-Bergama**	**0.39**	**354**	*i* P	Pg	04 25 20.8	+0.2
ZEDA				*i* S	Sg	04 25 24.5	-1.3
ZEDA				IAML		04 25 27.0	
	comp=E,23nm,0.7s						
ZEDA				IAML		04 25 32.0	
	comp=N,22nm,1.8s						
URLA	**Izmir**	**0.47**	**243**	*i* P	Pg	04 25 22.2	+0.2
URLA				*i* S	Sg	04 25 26.6	-1.6
URLA				IAML		04 25 33.0	
	comp=E,17nm,1.5s						
DGB	**zmir**	**0.56**	**201**	*i* P	Pb	04 25 25.1	+0.1
DGB				*i* S	Sb	04 25 32.3	-0.9
DGB				IAML		04 25 36.0	
	comp=E,34nm,0.2s						
AYDN	**Tasoluk**	**1.09**	**147**	*i* P	Pn	04 25 44.2	+10
AYDN				*i* S	Sn	04 25 54.0	+4.0
MULA	**Mugla, Merkez-**	**1.62**	**144**	*i* P	Pn	04 25 35.0	-7.0
MULA				*i* S	Sn	04 25 39.9	-23
MULA				IAML		04 25 50.0	
	comp=N,4.5nm,0.3s						
MULA				IAML		04 25 59.0	
	comp=E,12nm,1.1s						
TAVA	**DENIZLI_Tavas**	**1.79**	**128**	*i* P	Pn	04 25 34.0	-10
TAVA				*i* S	Sn	04 25 37.8	-30
TAVA				IAML		04 25 48.0	
	comp=E,4.5nm,0.4s						
TAVA				IAML		04 25 49.0	
	comp=N,8.7nm,0.4s						

*IDC **03** 05:08:47.9±2.9, 25°.51S×179°.98W, h468km±26km, mb3.6/3, mb1 3.7/5, mb1mx3.2/25, mbtmp4.4/5, Error ellipse: s-maj=41.7km s-min=23.8km az=130.0*

**ISC 03 05:08:47.5±1.4, 25°5S±0°.1×180°0W±0°.3, h464km, n10, σ0§61/9, mb4.0/3, South of

OK009	**Oakdale Elemen**	**0.41**	**237**			**Pg**	**05 28 36.4**	**-0.1**
QUOK	**Quay**	**0.43**	**33**	Pg		**Pg**	**05 28 37.0**	**+0.2**
QUOK				Sg		**Sg**	**05 28 43.2**	**+0.5**
BCOK	**Bluff Creek, N**	**0.52**	**253**			**Pg**	**05 28 38.3**	**-0.1**
BCOK				Sg		**Sg**	**05 28 45.9**	**+0.5**
OKCFA	**Oklahoma City**	**0.54**	**224**			**Pg**	**05 28 38.3**	**-0.5**
OKCFA				Sg		**Sg**	**05 28 46.1**	**+0.1**
OKCFA	**Oklahoma City**	**0.54**	**224**	P		**Pg**	**05 28 38.3**	**-0.5**
	baz=43,SNR=67							
OKCFA				S		**Sg**	**05 28 46.1**	**+0.1**
	baz=43							
OKCFA	**Oklahoma City**	**0.54**	**224**	P			05 28 38.3	
	baz=43,SNR=67							
OKCFA				S			05 28 46.1	
	baz=43							
OKCSW	**OKLAHOMA CITY**	**0.54**	**222**			**Pg**	**05 28 38.3**	**-0.5**
OKCSW				Sg		**Sg**	**05 28 46.0**	**0.0**
FNO	**Franklin**	**0.64**	**211**			**Pg**	**05 28 40.0**	**-0.6**
FNO				Sg		**Sg**	**05 28 49.2**	**0.0**
W35A	**Tecumseh**	**0.66**	**171**			**Pg**	**05 28 40.3**	**-0.8**
TUL1	**Leonard**	**0.98**	**84**	P		**Pg**	**05 28 46.3**	**-0.8**
	baz=264							
TUL1				S		**Sg**	**05 28 59.6**	**-0.5**
	baz=264							
TUL1	**Leonard**	**0.98**	**84**	P			05 28 46.3	
	baz=264							
TUL1				S			05 28 59.6	
	baz=264							
CROK	**Carrier**	**1.06**	**311**			**Pg**	**05 28 48.4**	**-0.2**
T35A	**Sooner Cattle**	**1.17**	**19**	Pg		**Pb**	**05 28 50.1**	**0.0**
T35B	**Sooner Cattle**	**1.17**	**19**	P		**Pb**	**05 28 50.1**	**0.0**
	baz=200,SNR=200							
T35B				S		**Sb**	**05 29 06.0**	**+0.8**
	baz=200							
T35B	**Sooner Cattle**	**1.17**	**19**	P			05 28 50.1	
	baz=200,SNR=200							
T35B				S			05 29 06.0	
	baz=200							
GC02	**Grant County #**	**1.25**	**326**			**Pn**	**05 28 51.7**	**+0.6**
KAN13	**South Haven SW**	**1.26**	**342**			**Pn**	**05 28 52.0**	**+0.7**
X34A	**Smith Ranch, M**	**1.39**	**210**	Pn		**Pn**	**05 28 53.6**	**+0.7**
OK032	**Salt Plains WL**	**1.40**	**316**			**Pn**	**05 28 54.0**	**+0.9**
KAN09	**Caldwell North**	**1.42**	**339**	Pn		**Pb**	**05 28 54.8**	**+0.5**
KAN01	**Argonia South**	**1.48**	**336**			**Pn**	**05 28 55.6**	**+1.4**
KAN01				IAmb_Lg			05 29 16.3	
	comp=Z,229nm,0.8s							
KAN10	**Anthony SW Sta**	**1.58**	**326**			**Pn**	**05 28 57.2**	**+1.5**
KAN08	**Anthony NE Sta**	**1.62**	**331**			**Pb**	**05 28 58.0**	**+0.2**
KAN08				IAmb_Lg			05 29 22.1	
	comp=Z,420nm,1.1s							
KAN16	**Harper SW Stat**	**1.66**	**329**			**Pb**	**05 28 58.6**	**+0.2**
KAN12	**Harper NE Stat**	**1.69**	**332**			**Pb**	**05 28 59.1**	**+0.1**
KAN12				IAmb_Lg			05 29 24.7	
	comp=Z,312nm,0.8s							
U32A	**Winter Ranch,**	**1.72**	**290**			**Pn**	**05 28 59.1**	**+1.6**
U32A				IAmb_Lg			05 29 25.9	
	comp=Z,335nm,0.9s							
U32A	**Winter Ranch,**	**1.72**	**290**	P		**Pb**	**05 28 59.5**	**+0.1**
	baz=109,SNR=15							
U32A				S		**Sg**	**05 29 23.4**	**-0.1**
	baz=109							
U32A	**Winter Ranch,**	**1.72**	**290**	P			05 28 59.5	
	baz=109,SNR=15							
U32A				S			05 29 23.4	
	baz=109							
X37A	**Clayton**	**1.80**	**132**			**Pn**	**05 29 00.1**	**+1.5**
X37A	**Clayton**	**1.80**	**132**	P		**Pn**	**05 29 00.3**	**+1.7**
	baz=313,SNR=90							
X37A	**Clayton**	**1.80**	**132**	P			05 29 00.3	
	baz=313,SNR=90							
WMOK	**Wichita Mounta**	**1.81**	**234**			**Pn**	**05 28 60.0**	**+1.2**
WMOK	**Wichita Mounta**	**1.81**	**234**	P		**Pn**	**05 29 00.0**	**+1.2**
	baz=53,SNR=77							
WMOK				S		**Sb**	**05 29 24.1**	**+0.6**
	baz=53							
WMOK	**Wichita Mounta**	**1.81**	**234**	P			05 29 00.0	
	baz=53,SNR=77							
WMOK				S			05 29 24.1	
	baz=53							
LOOK	**Love County**	**1.82**	**185**			**Pb**	**05 29 00.7**	**-0.4**
LOOK				IAmb_Lg			05 29 29.1	
	comp=Z,143nm,1.1s							
U38A	**Gravette**	**2.21**	**73**	Pn		**Pn**	**05 29 06.2**	**+2.0**
U38A	**Gravette**	**2.21**	**73**	P		**Pn**	**05 29 05.9**	**+1.6**
	baz=254,SNR=119							
U38A	**Gravette**	**2.21**	**73**	P			05 29 05.9	
	baz=254,SNR=119							
Z35A	**Perchaven, San**	**2.48**	**185**	Pn		**Pn**	**05 29 10.6**	**+2.6**
Z35A				IAmb_Lg			05 29 51.3	
	comp=Z,109nm,1.1s							
HHAR	**Hobbs**	**2.52**	**78**			**Pn**	**05 29 10.1**	**+1.5**
HHAR	**Hobbs**	**2.52**	**78**	P		**Pn**	**05 29 10.4**	**+1.8**
	baz=260							
HHAR	**Hobbs**	**2.52**	**78**	P			05 29 10.4	
	baz=260							
W39A	**Magazine**	**2.69**	**102**	Pn		**Pn**	**05 29 12.4**	**+1.5**
W39A	**Magazine**	**2.69**	**102**	P		**Pn**	**05 29 12.4**	**+1.5**
	baz=284,SNR=18							
W39A				S		**Sn**	**05 29 45.7**	**+2.5**
	baz=284							
W39A	**Magazine**	**2.69**	**102**	P			05 29 12.4	
	baz=284,SNR=18							
W39A				S			05 29 45.7	
	baz=284							
Z38A	**Mt. Pleasant**	**3.04**	**146**	P		**Pn**	**05 29 16.7**	**+1.1**
	baz=327							
Z38A	**Mt. Pleasant**	**3.04**	**146**	P			05 29 16.7	
	baz=327							
MIAR	**Mount Ida**	**3.07**	**113**			**Pn**	**05 29 17.9**	**+1.8**
MIAR				IAmb_Lg			05 30 10.9	
	comp=Z,135nm,1.1s							
MIAR	**Mount Ida**	**3.07**	**113**	P		**Pn**	**05 29 17.7**	**+1.6**
	baz=295,SNR=90							
MIAR				S		**Sn**	**05 29 55.7**	**+3.1**
	baz=295							
MIAR	**Mount Ida**	**3.07**	**113**	P			05 29 17.7	
	baz=295,SNR=90							
MIAR				S			05 29 55.7	
	baz=295							
U40A	**Yellville**	**3.40**	**80**			**Pn**	**05 29 21.8**	**+1.1**
U40A				IAmb_Lg			05 30 24.4	
	comp=Z,130nm,0.8s							
S39A	**Bolivar**	**3.50**	**56**			**Pn**	**05 29 23.6**	**+1.6**
S39A	**Bolivar**	**3.50**	**56**	P		**Pn**	**05 29 23.6**	**+1.6**
	baz=238,SNR=71							
S39A	**Bolivar**	**3.50**	**56**	P			05 29 23.6	
	baz=238,SNR=71							
X40A	**Basin Creek Fa**	**3.66**	**110**			**Pn**	**05 29 25.9**	**+1.7**
X40A				IAmb_Lg			05 30 30.3	
	comp=Z,148nm,0.7s							
X40A	**Basin Creek Fa**	**3.66**	**110**	P		**Pn**	**05 29 25.8**	**+1.7**
	baz=292,SNR=7.4							
X40A	**Basin Creek Fa**	**3.66**	**110**	P			05 29 25.8	
	baz=292,SNR=7.4							
X40A				P			05 29 25.8	
	baz=292,SNR=7.4							
CBKS	**Cedar Bluff**	**3.71**	**325**	Pn		**Pn**	**05 29 26.5**	**+1.5**
WHTX	**Lake Whitney,**	**3.83**	**186**	Pn		**Pn**	**05 29 28.2**	**+1.7**
WLAR	**White Oak Lake**	**3.83**	**122**	Pn		**Pn**	**05 29 28.0**	**+1.4**
ABTX	**Abilene, Hawle**	**3.86**	**215**	Pn		**Pn**	**05 29 27.5**	**+0.5**
WHAR	**Wooly Hollow**	**3.87**	**96**	Pn		**Pn**	**05 29 28.7**	**+1.5**
WHAR				IAmb_Lg			05 30 41.3	
	comp=Z,129nm,0.8s							
237A	**Washetta, Mont**	**3.92**	**165**	Pn		**Pn**	**05 29 28.7**	**+0.9**
237A	**Washetta, Mont**	**3.92**	**165**	S		**Sn**	**05 30 15.0**	**+1.4**
	baz=346							
237A	**Washetta, Mont**	**3.92**	**165**	S			05 30 15.0	
	baz=346							
W41B	**Gary Mavity, V**	**3.93**	**98**	S		**Sn**	**05 30 15.2**	**+1.6**
	baz=281							
W41B	**Gary Mavity, V**	**3.93**	**98**	S			05 30 15.2	
	baz=281							
FCAR	**Ozark Folk Cen**	**3.96**	**87**			**Pn**	**05 29 29.4**	**+1.1**
MGMO	**Mountain Grove**	**4.04**	**69**			**Pn**	**05 29 30.9**	**+1.4**
R40A	**Maddies Statio**	**4.52**	**55**			**Pn**	**05 29 37.3**	**+1.3**
R40A				IAmb_Lg			05 30 51.2	
	comp=Z,74nm,0.9s							
R40A	**Maddies Statio**	**4.52**	**55**	P		**Pn**	**05 29 37.3**	**+1.3**
	baz=238,SNR=20							
R40A	**Maddies Statio**	**4.52**	**55**	P			05 29 37.3	
	baz=238,SNR=20							
CCAR	**Cane Creek**	**4.69**	**112**	Pn		**Pn**	**05 29 39.5**	**+1.1**
CCAR				IAmb_Lg			05 31 06.6	
	comp=Z,85nm,0.8s							
P38A	**Dawn**	**4.70**	**35**			**Pn**	**05 29 40.0**	**+1.6**
P38A				IAmb_Lg			05 31 07.5	
	comp=Z,71nm,0.7s							
LCAR	**Lake Charles**	**4.75**	**85**	Pn		**Pn**	**05 29 39.9**	**+0.7**
LCAR				IAmb_Lg			05 31 02.9	
	comp=Z,94nm,0.8s							
T42A	**Van Buren**	**4.92**	**74**	IAmb_Lg			05 31 06.4	
	comp=Z,81nm,0.7s							
T42A	**Van Buren**	**4.92**	**74**	P		**Pn**	**05 29 42.7**	**+1.2**
	baz=257							
T42A	**Van Buren**	**4.92**	**74**	P			05 29 42.7	
	baz=257							
N33A	**J Bar K, Exete**	**4.94**	**356**	IAmb_Lg			05 31 15.1	
	comp=Z,96nm,0.8s							
435B	**Jarrell**	**5.04**	**186**	IAmb_Lg			05 31 12.8	
	comp=Z,124nm,1.0s							
CCM	**Cathedral Cave**	**5.12**	**62**	IAmb_Lg			05 31 20.3	
	comp=Z,89nm,0.8s							
P40A	**Paris**	**5.40**	**45**	IAmb_Lg			05 31 30.3	
	comp=Z,60nm,0.7s							
LPAR	**Lepanto**	**5.45**	**90**	IAmb_Lg			05 31 24.5	
	comp=Z,92nm,0.8s							
143A	**Socs Landing,**	**5.57**	**122**	IAmb_Lg			05 31 33.3	
	comp=Z,48nm,0.8s							
FVM	**French Village**	**5.70**	**66**	IAmb_Lg			05 31 40.8	
	comp=Z,45nm,0.8s							
N38A	**Joes South For**	**5.79**	**30**	Pn		**Pn**	**05 29 54.5**	**+1.1**
N38A				IAmb_Lg			05 31 45.0	
	comp=Z,101nm,0.7s							
JCT	**Junction City**	**5.81**	**205**	IAmb_Lg			05 31 39.4	
	comp=Z,56nm,0.7s							
SLM	**Saint Louis**	**6.09**	**60**	IAmb_Lg			05 31 38.6	
	comp=Z,88nm,0.9s							
T25A	**Trinidad**	**6.12**	**285**	IAmb_Lg			05 31 49.8	
	comp=Z,101nm,1.1s							
OXF	**Oxford**	**6.35**	**100**	IAmb_Lg			05 31 49.6	
	comp=Z,92nm,0.8s							
W45A	**Hickory Valley**	**6.41**	**94**	IAmb_Lg			05 32 03.1	
	comp=Z,85nm,0.8s							
Y45A	**Yeager Farm, C**	**6.43**	**105**	IAmb_Lg			05 32 07.8	
	comp=Z,57nm,0.8s							
OGNE	**Ogallala**	**6.48**	**324**	IAmb_Lg			05 32 08.2	
	comp=Z,55nm,0.8s							
SCIA	**State Center**	**6.77**	**25**	IAmb_Lg			05 32 14.7	
	comp=Z,78nm,0.8s							
735A	**Kenedy**	**6.97**	**186**	IAmb_Lg			05 32 21.0	
	comp=Z,44nm,1.0s							
Q44A	**Meyer Farm, Va**	**7.07**	**62**	IAmb_Lg			05 32 18.8	
	comp=Z,82nm,1.0s							
PLAL	**Pickwick Lake**	**7.33**	**94**	IAmb_Lg			05 32 21.8	
	comp=Z,35nm,0.8s							
WVT	**Waverly**	**7.44**	**85**	IAmb_Lg			05 32 23.8	
	comp=Z,31nm,0.8s							
K38A	**Parkersburg**	**7.58**	**24**	IAmb_Lg			05 32 39.0	
	comp=Z,64nm,0.7s							
HDIL	**Hopedale**	**7.70**	**50**	IAmb_Lg			05 32 50.0	
	comp=Z,56nm,0.8s							
L40A	**Anamosa**	**7.70**	**34**	IAmb_Lg			05 32 34.3	
	comp=Z,39nm,0.7s							
ANMO	**Albuquerque**	**7.78**	**266**	Pg		Pg	05 30 50.5	-6.5
	comp=Z,0.2nm,0.3s,baz=80,slow=12,SNR=10							
ANMO				Lg		Lg	05 32 27.2	
	comp=Z,1.2nm,0.3s,baz=30,slow=12,SNR=7.1							
ECSD	**EROS Data Cent**	**7.92**	**2**	IAmb_Lg			05 32 49.4	
	comp=Z,31nm,1.0s							
O44A	**Mansfield**	**8.01**	**55**	IAmb_Lg			05 32 44.5	
	comp=Z,52nm,0.8s							
X48A	**Hartselle**	**8.26**	**97**	IAmb_Lg			05 32 59.8	
	comp=Z,25nm,0.8s							
V48A	**Smith Brothers**	**8.27**	**88**	IAmb_Lg			05 32 52.6	
	comp=Z,34nm,0.8s							
L42A	**Oliver, Polo**	**8.42**	**40**	IAmb_Lg			05 33 10.4	
	comp=Z,43nm,0.8s							
TXAR	**Lajitas Array**	**8.56**	**223**	Pn		**Pn**	**05 30 31.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=42,slow=9.6,SNR=4.3							
TXAR				Lg		Lg	05 32 52.9	
	comp=Z,0.5nm,0.3s,baz=39,slow=33,SNR=6.7							
I37A	**Lemond, Waseca**	**8.65**	**18**	IAmb_Lg			05 33 23.0	
	comp=Z,38nm,0.8s							
CLTN	**Cedars of Leba**	**8.65**	**85**	IAmb_Lg			05 33 03.1	
	comp=Z,32nm,1.0s							
SUSD	**Miller**	**8.75**	**351**	IAmb_Lg			05 33 18.1	
	comp=Z,51nm,0.9s							
JFWS	**Jewell Farm**	**8.81**	**34**	IAmb_Lg			05 33 27.7	
	comp=Z,44nm,0.8s							
WCI	**Wyandotte Cave**	**8.89**	**71**	IAmb_Lg			05 33 12.5	
	comp=Z,48nm,1.0s							
Y49A	**Blount Mountai**	**8.92**	**100**	IAmb_Lg			05 33 24.6	
	comp=Z,26nm,0.8s							
M44A	**Midewin, Midew**	**8.95**	**49**	IAmb_Lg			05 33 10.0	
	comp=Z,48nm,1.0s							
BLO	**Bloomington**	**8.98**	**65**	IAmb_Lg			05 33 24.1	
	comp=Z,63nm,0.8s							
SFIN	**Lafayette**	**9.04**	**57**	IAmb_Lg			05 33 12.8	
	comp=Z,48nm,0.9s							
SWET	**Sewanee**	**9.04**	**91**	IAmb_Lg			05 33 25.8	
	comp=Z,29nm,0.8s							
U49A	**Red Boiling Sp**	**9.10**	**82**	IAmb_Lg			05 33 20.1	
	comp=Z,22nm,0.7s							
FPAL	**Fort Paine**	**9.41**	**94**	IAmb_Lg			05 33 43.2	
	comp=Z,24nm,0.9s							
I40A	**Norwalk**	**9.44**	**29**	IAmb_Lg			05 33 34.6	
	comp=Z,23nm,0.7s							
121A	**Cookes Peak, D**	**9.52**	**253**	IAmb_Lg			05 33 41.8	
	comp=Z,24nm,1.3s							
K43A	**Burlington**	**9.62**	**42**	IAmb_Lg			05 33 38.5	
	comp=Z,29nm,0.7s							
R49A	**Shelbyville**	**9.77**	**72**	IAmb_Lg			05 33 39.9	
	comp=Z,27nm,1.1s							
P48A	**Milroy**	**9.87**	**65**	IAmb_Lg			05 33 46.8	
	comp=Z,48nm,0.9s							
T50A	**Nancy**	**9.88**	**79**	IAmb_Lg			05 33 47.1	
	comp=Z,32nm,0.8s							
RSSD	**Black Hills**	**9.90**	**329**	IAmb_Lg			05 33 57.0	
	comp=Z,20nm,1.0s							
RWWY	**Rawlins**	**9.90**	**309**	IAmb_Lg			05 34 02.2	
	comp=Z,22nm,1.0s							
TKL	**Tuckaleechee C**	**10.75**	**87**	Sn		**Sn**	**05 32 57.4**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=1.8							
TKL				Lg		Lg	05 34 01.4	
	comp=Z,2.4nm,0.3s,baz=32,slow=14,SNR=11							
PDAR	**Pinedale Array**	**11.95**	**309**	Pg		Pn	05 32 04.3	+46
	comp=Z,0.1nm,0.3s,baz=125,slow=20,SNR=2.5							
PDAR				Lg		Lg	05 34 39.4	
	comp=Z,0.1nm,0.3s,baz=107,slow=35,SNR=2.4							
ULM	**Lac du Bonnet**	**14.46**	**3**	Pn		**Pn**	**05 31 49.0**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=190,slow=11,SNR=1.8							
ULM				Sn		Sn	05 34 19.4	-13
	comp=Z,0.1nm,0.3s,baz=275,slow=12,SNR=1.8							
ULM				Lg		Lg	05 35 51.8	
	comp=Z,0.3nm,0.3s,baz=262,slow=14,SNR=3.3							

IDC 03 05:35:00.4±2.9, 54°.09N×87°.08E, h0km, mb1 3.0/2, mb1mx2.9/50, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.6km s-min=16.1km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**265**	*i*		05 44 00.0	
	baz=79,slow=301,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.34**	**265**	Pg	Pg	05 35 24.8	-1.3
	3.4nm,0.3s,baz=88,slow=16,SNR=33						
ZALV				Lg	Lg	05 35 43.3	
	1.3nm,0.3s,baz=83,slow=25,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.28**	**240**	Pn	Pn	05 36 35.5	+1.2
	0.1nm,0.3s,baz=53,slow=13,SNR=6.1						
KURBB				Lg	Lg	05 38 20.2	
	0.0nm,0.3s,baz=52,slow=33,SNR=3.1						
MKAR	**Makanchi Array**	**7.92**	**205**	Pn	Pn	05 36 58.3	+1.5
	0.2nm,0.3s,baz=27,slow=14,SNR=5.3						
MKAR				Sn	Sn	05 38 25.2	-1.8
	0.1nm,0.3s,baz=24,slow=25,SNR=1.6						
MKAR				Lg	Lg	05 39 11.9	
	0.1nm,0.3s,baz=24,slow=31,SNR=1.9						

TAP ***03*** *05:52:13.8, 24°.04N×122°.56E, h40km±1km, ML3.1, D*
JMA ***03*** *05:52:13.6±0.1, 24°.01N×122°.55E, h37km±4km, M2.1*
ISC 03 05:52:11.8±1.1, 24°.00N±0°.02×122°.53E±0°.02, h14km±9km, n71, σ0°71/127, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.59**	**40**	P	**Pn**	**05 52 25.1**	**-0.7**
JYNG				*e*S	**Sb**	**05 52 33.3**	**+1.2**
YOJ	**Yonaguni jima**	**0.63**	**43**	P	**Pb**	**05 52 25.7**	**+1.0**
YOJ				S	**Sb**	**05 52 34.5**	**+1.0**
YOJ	**Yonaguni jima**	**0.63**	**43**	P	**Pb**	**05 52 25.7**	**+1.0**
	baz=43						
YOJ				S	**Sb**	**05 52 34.7**	**+1.3**
	baz=43						
EWUT	**Wuta**	**0.82**	**303**	*e*P	**Pn**	**05 52 29.4**	**+0.4**
	baz=299						
EWUT				S	**Sn**	**05 52 40.9**	**-0.1**
	baz=299						
TWD	**Chiawan**	**0.86**	**276**	P	**Pn**	**05 52 30.7**	**+1.1**
	baz=273						
TWD				S	**Sn**	**05 52 41.7**	**-0.2**
	baz=273						
TEYL	**Yanliau Villag**	**0.87**	**262**	*e*S	**Sn**	**05 52 43.4**	**+1.3**
	baz=252						
TWC	**Suao**	**0.87**	**314**	*i*P	**Pn**	**05 52 30.0**	**+0.3**
	baz=301						
TWC				*i*S	**Sn**	**05 52 41.1**	**-1.1**
	baz=301						
NACB	**Ninganchiao**	**0.88**	**282**	P	**Pn**	**05 52 29.9**	**+0.2**
	baz=267						
NACB				S	**Sn**	**05 52 41.9**	**-0.4**
	baz=267						
ETM	**Tongmen**	**0.95**	**268**	P	**Pn**	**05 52 30.7**	**-0.1**
	baz=266						
ETM				*e*S	**Sb**	**05 52 42.3**	**-0.3**
	baz=266						
TEGC	**Jichi Village**	**0.95**	**253**	*e*S	**Sn**	**05 52 44.3**	**+0.1**
	baz=250						
NDS	**Dongshan**	**0.98**	**310**	*e*P	**Pn**	**05 52 31.4**	**+0.3**
	baz=307						
NDS				S	**Sn**	**05 52 44.3**	**-0.5**
	baz=307						
ETLH	**Xiulin Townshi**	**0.98**	**282**	P	**Pn**	**05 52 31.4**	**+0.1**
	baz=270						
ETLH				S	**Sn**	**05 52 44.7**	**-0.4**
	baz=270						
EGS		**1.01**	**327**	P	**Pn**	**05 52 32.2**	**+0.7**
	baz=314						
EGS				S	**Sn**	**05 52 45.7**	**+0.2**
	baz=314						
ESL	**Shilin**	**1.02**	**260**	P	**Pn**	**05 52 31.9**	**+0.1**
	baz=250						
ESL				S	**Sg**	**05 52 45.4**	**+0.4**
	baz=250						
ILA	**Ilan**	**1.05**	**317**	*e*S	**Sn**	**05 52 46.8**	**+0.3**
	baz=314						
NTC	**Toucheng**	**1.07**	**323**	*e*P	**Pg**	**05 52 33.5**	**+1.1**
	baz=321						
NTC				*e*S	**Sn**	**05 52 47.2**	**+0.2**
	baz=321						
TWE	**Neicheng**	**1.07**	**312**	P	**Pg**	**05 52 33.4**	**+0.9**
	baz=310						
TWE				S	**Sn**	**05 52 47.5**	**+0.5**
	baz=310						
ENTT	**Nioudou**	**1.09**	**306**	P	**Pg**	**05 52 34.1**	**+1.2**
	baz=292						
ENTT				*i*S	**Sn**	**05 52 47.9**	**+0.3**
	baz=292						
NDT	**Datong Townshi**	**1.11**	**303**	P	**Pg**	**05 52 33.7**	**+0.5**
	baz=289						
NDT				S	**Sn**	**05 52 48.6**	**+0.5**
	baz=289						
TWB1	**Santiao Chiao**	**1.12**	**334**	*i*P	**Pg**	**05 52 33.3**	**-0.1**
	baz=345						
TWB1				*i*S	**Sn**	**05 52 47.2**	**-1.2**
	baz=345						
HGSD	**Ruisui**	**1.14**	**244**	P	**Pn**	**05 52 32.6**	**-0.7**
	baz=242						
HGSD				S	**Sb**	**05 52 48.5**	**+0.6**
	baz=242						
NNSB	**Datong**	**1.14**	**292**	P	**Pg**	**05 52 34.1**	**+0.4**
	baz=290						
NNSB				S	**Sn**	**05 52 48.5**	**-0.4**
	baz=290						
NNSH	**Datong**	**1.14**	**292**	*e*P	**Pg**	**05 52 33.7**	**0.0**
	baz=290						
NNSH				S	**Sn**	**05 52 49.3**	**+0.4**
	baz=290						
IRIF	**Iriomote-Funau**	**1.14**	**73**	P	**Pn**	**05 52 33.4**	**0.0**
IRIF				*e*S	**Sb**	**05 52 48.3**	**+0.2**
NNS	**Nan Shan**	**1.15**	**293**	P	**Pg**	**05 52 34.6**	**+0.7**
	baz=290						
NNS				S	**Sn**	**05 52 49.3**	**+0.1**
	baz=290						
HATJ	**Hateruma jima**	**1.16**	**87**	P	**Pn**	**05 52 34.1**	**+0.4**
TIPB	**Shuangxi**	**1.16**	**326**	*i*P	**Pg**	**05 52 34.5**	**+0.2**
	baz=324						
TIPB				S	**Sg**	**05 52 49.2**	**-0.3**
	baz=324						
WHF	**Hehuan Shan**	**1.17**	**277**	*i*P	**Pg**	**05 52 34.5**	**0.0**
	baz=275						
WHF				*i*S	**Sn**	**05 52 49.6**	**-0.5**
	baz=275						
EHY	**Hungye**	**1.21**	**246**	*i*P	**Pn**	**05 52 34.9**	**+0.4**
	baz=258						
EHY				*i*S	**Sb**	**05 52 50.4**	**+0.3**
	baz=258						
NWLT	**Wulai**	**1.22**	**310**	*e*P	**Pg**	**05 52 35.6**	**+0.3**
	baz=296						
NWLT				S	**Sg**	**05 52 51.3**	**+0.1**
	baz=296						
OWD	**Renai**	**1.24**	**268**	*e*P	**Pb**	**05 52 35.4**	**+0.2**
	baz=266						
OWD				*e*S	**Sn**	**05 52 51.0**	**-0.6**
	baz=266						
CHGB	**Renai**	**1.25**	**273**	P	**Pg**	**05 52 35.6**	**-0.2**
	baz=271						
CHGB				S	**Sb**	**05 52 50.8**	**-0.5**
	baz=271						
YHNB	**Yeheng**	**1.25**	**303**	*e*P	**Pg**	**05 52 35.6**	**-0.3**
	baz=300						
YHNB				*e*S	**Sg**	**05 52 51.6**	**-0.7**
	baz=300						
WFSB	**Wu-fen Shan**	**1.27**	**327**	P	**Pn**	**05 52 34.8**	**-0.4**
	baz=325						
WFSB				*e*S	**Sg**	**05 52 51.2**	**-1.6**
	baz=325						
TDCB	**Techi**	**1.28**	**282**	*e*S	**Sg**	**05 52 52.7**	**-0.6**
	baz=269						
YULB	**Yu-li**	**1.28**	**242**	P	**Pn**	**05 52 36.0**	**+0.7**
	baz=232			

baz=220
LIOB Emei 1.53 295 *e*P **Pb** 05 52 40.1 **+0.2**
LIOB baz=293 S **Sg** 05 52 59.3 **-1.7**
baz=293
NSTT Nanjuang 1.53 295 *e*P **Pg** 05 52 42.0 **+0.7**
NSTT baz=292 *e*S **Sg** 05 53 00.1 **-1.2**
baz=292
YUS Yu-Shan 1.54 251 P **Pb** 05 52 40.7 **+0.4**
YUS baz=249 S **Sn** 05 52 58.9 **-0.3**
baz=249
TYC Yuchr 1.54 267 P **Pb** 05 52 40.0 **-0.1**
TYC baz=265 S **Sn** 05 52 58.6 **0.0**
baz=265
ELDTW Lidau 1.61 240 P **Pn** 05 52 40.5 **+0.6**
ELDTW baz=239 S **Sn** 05 52 59.9 **-0.7**
baz=239
LDUT Ludao 1.64 217 *e*P **Pn** 05 52 40.3 **+0.1**
LDUT baz=216 S **Sn** 05 52 59.9 **-1.3**
baz=216
ALS Alishan 1.66 253 P **Pb** 05 52 42.6 **+0.3**
ALS baz=252 *e*S **Sn** 05 53 02.2 **+0.2**
baz=252
WJS Zhushan 1.66 264 *e*S **Sg** 05 53 06.5 **+1.2**
baz=262
LONT Longtian 1.69 230 *e*S **Sn** 05 53 03.1 **+0.8**
baz=224
JISG Ishigakijimahi 1.72 70 P **Pn** 05 52 41.3 **-0.1**
JISG *e*S **Sn** 05 53 00.8 **-2.4**
CHN5 Tsauling 1.75 257 *e*P **Pb** 05 52 44.0 **+0.2**
CHN5 baz=247 *e*S **Sb** 05 53 05.2 **-0.4**
baz=247
TWGBT Beinan 1.78 229 *e*S **Sn** 05 53 03.9 **-0.7**
baz=240
TWG Pinlang 1.78 229 *e*P **Pb** 05 52 44.9 **+0.6**
TWG baz=240 *e*S **Sn** 05 53 03.7 **-1.0**
baz=240
STYH Taoyuan 1.81 243 *e*P **Pb** 05 52 45.7 **+0.9**
STYH baz=236 *e*S **Sb** 05 53 06.9 **-0.4**
baz=236
WGK Gukeng 1.83 261 *e*P **Pg** 05 52 46.6 **-0.4**
baz=259
WDLH Douliu 1.85 261 *e*P **Pg** 05 52 47.2 **-0.2**
baz=259
TPUB Ta-pu 1.88 249 *e*P **Pb** 05 52 45.9 **-0.1**
TPUB baz=247 *e*S **Sb** 05 53 10.3 **+1.0**
baz=247
CHN4 Tsaushan 1.89 250 *e*P **Pb** 05 52 47.0 **+0.8**
CHN4 baz=249 *e*S **Sb** 05 53 10.9 **+1.2**
baz=249
WTP Ta-pu 1.91 247 *e*P **Pb** 05 52 46.6 **0.0**
WTP baz=246 *e*S **Sb** 05 53 11.1 **+0.7**
baz=246
ECL Taimali 2.01 226 *e*P **Pn** 05 52 45.7 **+0.3**
ECL baz=236 *e*S **Sn** 05 53 09.3 **-1.1**
baz=236

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*IDC **03** 06:06:57.3±0.7, 15°.15S×173°.39W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.1/35, mbtmp4.2/9, MS3.7/15, Ms1 3.7/15, ms1mx3.5/38, Error ellipse: s-maj=34.5km s-min=17.2km az=136.0*
*NEIC **03** 06:06:58.8±1.9, 15°.22S±0°.07×173°.22W±0°.05, h10km±1km, mb4.6/17, Error ellipse: s-maj=12.5km s-min=5.8km az=205.0*

ISC 03 06:06:58.3±0.5, 15°.21S±0°.06×173°.13W±0°.08, h10km, n63, σ1s41/39, mb4.6/15, MS3.7/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.84**	**46**	Pn	**Pn**	**06 07 30.2**	**+0.1**
	178nm,0.3s,baz=241,slow=10,SNR=152						
AFI				Sn	**Sn**	**06 07 48.6**	**-4.9**
	527nm,0.3s,baz=117,slow=22,SNR=18						
AFI				LR	LR	06 08 12.3	
	comp=Z,1μm,21.4s,baz=174,slow=38						
AFI	**Afiamalu**	**1.84**	**46**		**Pn**	**06 07 30.5**	**+0.4**
NIUE	**Niue**	**4.91**	**142**		**Pn**	**06 08 12.2**	**-0.1**
MSVF	**Nonsavu**	**8.82**	**252**	LR	LR	06 12 11.1	
	comp=Z,550nm,21.0s,baz=78,slow=36						
FUNA	**Funafuti**	**10.02**	**311**	Pn	**Pn**	**06 09 21.5**	**-0.9**
KNTN	**Kanton**	**12.44**	**7**	Pn	**Pn**	**06 09 56.3**	**+0.7**
RAR	**Rarotonga**	**14.02**	**117**	Pn	**Pn**	**06 10 16.6**	**-0.5**
	1.0nm,0.3s,baz=308,slow=17,SNR=2.6						
RAR				Sn	Sn	06 12 43.4	-9.5
	0.5nm,0.3s,baz=11,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**20.51**	**248**	*e*P	Pn	06 11 42.4	+3.3
	61nm,1.2s						
DZM				*e*LR	LR	06 16 28.9	
	comp=Z,454nm,27.0s						
DZM	**Mont Dzumac**	**20.51**	**248**	LR	LR	06 18 00.2	
	comp=Z,269nm,20.8s,baz=51,slow=33						
PAE	**Paea**	**22.72**	**99**	*e*T	T	06 35 23.6	
	1.3nm,0.3s						
PPT2	**Papeete2**	**22.72**	**99**	*e*LR	LR	06 17 26.8	
	comp=Z,107nm,25.0s						
PPT2	**Papeete2**	**22.72**	**99**	*e*T	T	06 35 24.8	
	1.7nm,0.3s						
TBI	**Tubuai**	**23.74**	**114**	*e*LQ	LQ	06 17 03.4	
	221nm,27.2s						
TBI				*e*LR	LR	06 17 45.4	
	comp=Z,194nm,26.8s						
TBI	**Tubuai**	**23.74**	**114**	*e*T	T	06 36 43.0	
	4.6nm,0.3s						
URZ	**Urewera**	**24.52**	**199**	P	**P**	**06 12 17.6**	**-0.4**
	20nm,0.8s,baz=308,slow=20,SNR=2.3						
URZ	**Urewera**	**24.52**	**199**	P	**P**	**06 12 16.6**	**-1.4**
HNR	**Honiara**	**26.91**	**279**	LR	LR	06 21 27.9	
	comp=Z,114nm,20.7s,baz=102,slow=33						
HNR	**Honiara**	**26.91**	**279**	P	**P**	**06 12 41.8**	**+1.9**
BFZ	**Birch Farm**	**27.01**	**198**	P	**P**	**06 12 40.5**	**0.0**
THZ	**Tophouse**	**29.08**	**202**	P	**P**	**06 12 59.4**	**+0.3**
LTZ	**Lake Taylor**	**30.20**	**202**	P	**P**	**06 13 07.7**	**-1.3**
TAOE	**Nuku Hiva Isla**	**32.84**	**83**	*e*LR	LR	06 21 56.1	
	comp=Z,120nm,26.9s						
MLZ	**Mavora Lakes**	**33.96**	**204**	P	**P**	**06 13 40.5**	**-1.4**
WHZ	**Wether Hill Ro**	**34.47**	**204**	P	**P**	**06 13 45.0**	**-1.4**
RKT	**Rikitea**	**36.81**	**108**	*e*T	T	06 53 00.7	
	2.0nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	06 55 13.2	
	baz=146,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	06 55 10.2	
	baz=146,slow=75,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	06 55 09.9	
	baz=146,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	06 56 19.9	
	baz=150,slow=74						
H11N1	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	06 56 20.4	
	baz=150,slow=74						
H11N2	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	06 56 20.9	
	baz=150,slow=74						
STKA	**Stephens Creek**	**44.35**	**240**	P	**P**	**06 15 07.4**	**-1.7**
	3.3nm,0.9s,baz=61,slow=5.5,SNR=4.9						
STKA				LR	LR	06 30 50.6	
	comp=Z,82nm,18.4s,baz=28,slow=32						
STKA	**Stephens Creek**	**44.35**	**240**	lAmb	lAmb	06 15 08.0	
	comp=Z,0.8nm,0.9s						
WR0	**Warramunga Arr**	**49.95**	**257**	P	**P**	**06 15 51.1**	**-1.7**
WR0				lAmb	lAmb	06 16 00.9	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**50.10**	**257**	P	**P**	**06 15 53.2**	**-0.8**
WB0				lAmb	lAmb	06 15 58.7	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**50.13**	**257**	P	**P**	**06 15 52.1**	**-2.1**
WB2				lAmb	lAmb	06 15 52.8	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**50.14**	**257**	P	**P**	**06 15 52.7**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=92,slow=6.7,SNR=32						
WRA				PcP	**PcP**	**06 17 13.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=88,slow=3.5,SNR=1.9						
WRA	**Warramunga Arr**	**50.14**	**257**	lAmb	lAmb	06 15 56.4	
	comp=Z,0.5nm,1.5s						
AS31	**Alice Springs**	**50.41**	**252**	P	**P**	**06 15 54.9**	**-1.5**
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**06 15 54.9**	**-1.6**
	comp=Z,4.7nm,0.7s,baz=86,slow=8.6,SNR=41						
SBA	**Scott Base**	**63.46**	**185**	P	**P**	**06 17 28.9**	**+0.9**
VNDA	**Vanda**	**63.59**	**186**	P	**P**	**06 17 30.3**	**+1.5**
	comp=Z,3.8nm,0.9s,baz=12,slow=6.7,SNR=9.4						
DAV	**Davao City (W)**	**64.63**	**286**	LR	LR	06 43 58.2	
	comp=Z,21nm,18.2s,baz=156,slow=34						
MJAR	**Matsushiro Arr**	**68.96**	**320**	LR	LR	06 42 21.1	
	comp=Z,52nm,21.8s,baz=150,slow=31						
ASAJ	**Asahikawa**	**71.52**	**328**	LR	LR	06 43 54.9	
	comp=Z,27nm,21.6s,baz=196,slow=31						
PETK	**Petropavlovsk-**	**72.53**	**342**	LR	LR	06 43 12.1	
	comp=Z,19nm,21.8s,baz=111,slow=30						
NVAR	**Mina Array Bea**	**74.02**	**42**	P	**P**	**06 18 35.8**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=220,slow=8.2,SNR=3.5						
NVAR				LR	LR	06 43 08.4	
	comp=Z,95nm,21.6s,baz=249,slow=29						
QSPA	**South Pole Qui**	**74.83**	**180**	P	**P**	**06 18 39.5**	**+0.6**
PINE	**Pine Mountain**	**75.60**	**36**	P	**P**	**06 18 44.6**	**+0.9**
PINE				lAmb	lAmb	06 18 46.8	
	comp=Z,6.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**77.39**	**323**	LR	LR	06 45 58.9	
	comp=Z,54nm,22.0s,baz=136,slow=30						
TXAR	**Lajitas Array**	**80.29**	**56**	P	**P**	**06 19 12.3**	**+2.3**
	comp=Z,0.6nm,1.0s,baz=241,slow=5.6,SNR=3.6						
TXAR				LR	LR	06 46 33.1	
	comp=Z,47nm,21.3s,baz=0.0,slow=30						
MCK	**McKinley**	**80.89**	**11**	P	**P**	**06 19 13.0**	**+0.7**
MCK				lAmb	lAmb	06 19 26.6	
	comp=Z,9.8nm,1.3s						
WRH	**Wood River Hil**	**81.72**	**11**	P	**P**	**06 19 17.2**	**+0.6**
WRH				lAmb	lAmb	06 19 18.7	
	comp=Z,7.8nm,1.2s						
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**06 19 20.3**	**+1.0**
	comp=Z,1.0nm,1.1s,baz=224,slow=5.0,SNR=5.8						
ILAR				LR	LR	06 48 23.0	
	comp=Z,49nm,21.9s,baz=214,slow=30						
HRY	**Holter Researc**	**82.54**	**37**	P	**P**	**06 19 22.6**	**+1.1**
MAW	**Mawson**	**88.05**	**199**	P	**P**	**06 19 48.9**	**+0.3**
	comp=Z,4.1nm,1.0s,baz=98,slow=4.0,SNR=5.7						
MAW				LR	LR	06 56 45.3	
	comp=Z,54nm,20.6s,baz=62,slow=34						
MAW	**Mawson**	**88.05**	**199**	P	**P**	**06 19 48.9**	**+0.3**
MAW				lAmb	lAmb	06 19 50.3	
	comp=Z,2.9nm,1.4s						
YKA	**Yellowknife Ar**	**89.82**	**23**	LR	LR	06 52 51.7	
	comp=Z,57nm,21.6s,baz=0.0,slow=31						
ULM	**Lac du Bonnet**	**93.62**	**39**	LR	LR	06 57 01.7	
	comp=Z,22nm,19.5s,baz=258,slow=32						
AKTO	**Aktyubinsk**	**126.00**	**322**	PKP	**PKPdf**	**06 25 59.8**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=60,slow=8.1,SNR=3.6						
KHC	**Kasperske Hory**	**145.73**	**352**	*e*PKP	**PKPab**	**06 26 38.5**	**+0.6**
KHC				*ex*	x	06 26 52.5	
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	**PKPab**	**06 26 40.0**	**-0.1**
	comp=Z,5.8nm,1.0s,baz=106,slow=2.7,SNR=20						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPdf	**PKPbc**	**06 26 39.8**	**+0.4**

IDC 03 06:18:19.8±2.1, 10°.70N×126°.17E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/49, mbtmp3.6/5, Error ellipse: s-maj=157.1km s-min=22.1km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**28.62**	**181**	P	P	06 24 18.1	0.0
	2.2nm,0.9s,baz=348,slow=8.9,SNR=2.0						
WRA	**Warramunga Arr**	**31.50**	**165**	P	P	06 24 43.5	-0.1
	0.3nm,0.7s,baz=344,slow=9.3,SNR=1.5						
ASAR	**Alice Springs**	**34.98**	**168**	P	P	06 25 14.3	+0.3
	0.2nm,0.3s,baz=346,slow=7.0,SNR=1.7						
ASAR				PcP	PcP	06 27 45.7	-1.0
	0.2nm,0.5s,baz=352,slow=3.7,SNR=2.0						
MKAR	**Makanchi Array**	**51.63**	**323**	P	P	06 27 28.3	+0.1
	0.4nm,0.5s,baz=118,slow=8.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**55.67**	**325**	P	P	06 27 57.6	-0.2
	0.4nm,0.5s,baz=127,slow=7.1,SNR=3.5						

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*IDC **03** 06:20:39.1±2.0, 5°.99S×152°.46E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/39, mbtmp3.7/5, MS3.1/1, Ms1 3.3/1, ms1mx2.5/35, Error ellipse: s-maj=85.6km s-min=25.6km az=127.0*

ISC 03 06:20:44.5±2.2, 6°.2S±0°.4×152°.6E±0°.5, h38km, n7, σ0s38/6, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.39**	**231**	P	**P**	**06 25 39.3**	**-0.5**
	0.7nm,0.8s,baz=54,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**25.00**	**224**	P	**P**	**06 26 05.4**	**+0.4**
	0.6nm,0.5s,baz=59,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**28.82**	**243**	P	**P**	**06 26 39.2**	**-0.1**
	3.1nm,0.6s,baz=69,slow=9.4,SNR=12						
CMAR	**Chiang Mai Arr**	**58.24**	**296**	LR	LR	06 56 10.3	
	comp=Z,17nm,19.2s,baz=190,slow=37						
MKAR	**Makanchi Array**	**81.19**	**319**	P	**P**	**06 32 56.5**	**+0.1**
	0.5nm,0.9s,baz=102,slow=6.1,SNR=3.1						
ILAR	**Eielson Array**	**83.50**	**22**	P	**P**	**06 33 07.8**	**-0.1**
	0.7nm,0.8s,baz=239,slow=6.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**150.47**	**286**	PKPbc	**PKPbc**	**06 40 33.1**	**-0.1**
	0.6nm,0.6s,baz=74,slow=2.5,SNR=2.9						

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*EAF **03** 06:30:57.8±2.9, 25°.28S×22°.61E, h10km, MD3.5*
*PRE **03** 06:31:11.6±0.8, 26°.42S×27°.53E, h2km, ML2.3*

ISC 03 06:31:11.4±0.9, 26°.41S±0°.03×27°.52E±0°.04, h8km±6km, n14, σ1s11/24, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.09**	**259**	*e*P	**Pg**	**06 31 14.0**	**+0.3**
WDLM				*e*S	**Sg**	**06 31 15.1**	**-0.3**
WDLM				AML	AML	06 31 15.8	
	comp=Z,2μm,0.1s						
KLOF	**Kloof**	**0.10**	**56**	*e*P	**Pg**	**06 31 13.8**	**-0.1**
KLOF				*e*S	**Sg**	**06 31 15.1**	**-0.5**
KLOF				AML	AML	06 31 17.2	
	comp=Z,2μm,0.1s						
PRYS	**Parys**	**0.54**	**195**	*e*P	**Pg**	**06 31 21.4**	**-0.5**
PRYS				*e*S	**Sg**	**06 31 29.5**	**+0.7**
PRYS				AML	AML	06 31 35.1	
	comp=Z,238nm,0.5s						
KSR	**Koster**	**0.79**	**315**	*e*P	**Pg**	**06 31 27.1**	**+0.5**
KSR				*e*S	**Sb**	**06 31 38.2**	**-0.1**
KSR				AML	AML	06 31 48.8	
	comp=Z,153nm,0.2s						
SLR	**Silverton**	**0.96**	**46**	*e*P	**Pb**	**06 31 30.6**	**+0.2**
SLR				*e*S	**Sb**	**06 31 43.2**	**-0.1**
SLR				AML	AML	06 31 49.4	
	comp=Z,54nm,0.1s						
SWZ	**Schweizer**	**2.10**	**248**	*e*P	**Pb**	**06 31 49.4**	**-0.5**
SWZ				*e*S	**Sb**	**06 32 15.2**	**-1.0**
SWZ				AML	AML	06 32 36.2	
	comp=Z,15nm,1.0s						
LBTB	**Lobatse**	**2.22**	**308**	*e*P	**Pn**	**06 31 50.4**	**+1.8**
LBTB				*e*S	**Sb**	**06 32 18.5**	**-1.1**
LBTB				AML	AML	06 32 21.0	
	comp=Z,93nm,0.3s						
LBTB	**Lobatse**	**2.22**	**308**	*i* P	**Pb**	**06 31 51.4**	**-0.5**
LBTB	**Lobatse**	**2.22**	**308**	*i* P	**Pb**	**06 31 51.4**	**-0.5**
BOSA	**Boshof**	**2.98**	**222**	*e*P	**Pn**	**06 32 00.6**	**+1.4**
BOSA				*e*S	**Sn**	**06 32 36.0**	**+0.8**
BOSA				AML	AML	06 32 54.1	
	comp=Z,5.0nm,0.8s						
BOSA	**Boshof**	**2.98**	**222**	*i* P	**Pn**	**06 31 59.4**	**+0.3**
BOSA	**Boshof**	**2.98**	**222**	*i* P	**Pn**	**06 31 59.4**	**+0.3**
BLWY	**Bulawayo**	**6.32**	**9**	*i* P	**Pn**	**06 32 46.8**	**+1.7**
BLWY				*i* S	**Sn**	**06 33 55.5**	**-2.1**
BLWY	**Bulawayo**	**6.32**	**9**	*i* P	**Pn**	**06 32 46.8**	**+1.7**
BLWY				*i* S	**Sn**	**06 33 55.5**	**-2.1**

IDC 03 06:40:54.4±3.4, 54°.57N×86°.88E, h0km, mb1 2.6/2, mb1mx2.5/51, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=29.7km s-min=21.6km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**244**	*i*		06 49 00.0	
	baz=65,slow=301,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.36**	**244**	Pg	Pg	06 41 18.8	-1.6
	0.6nm,0.3s,baz=59,slow=16,SNR=6.4						
ZALV				Lg	Lg	06 41 37.2	
	0.6nm,0.3s,baz=59,slow=27,SNR=3.8						
KURBB	**Kurchatov Arra**	**6.44**	**236**	Pn	Pn	06 42 31.1	+0.8
	0.1nm,0.3s,baz=53,slow=14,SNR=3.8						
KURBB				Lg	Lg	06 44 21.6	
	0.0nm,0.3s,baz=52,slow=33,SNR=2.1						
MKAR	**Makanchi Array**	**8.31**	**202**	Pn	Pn	06 42 57.3	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=1.9						

IDC 03 06:43:22.9±3.2, 54°.32N×86°.89E, h0km, mb1 2.8/2, mb1mx2.7/48, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.6km s-min=18.0km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**254**	*i*		06 51 20.0	
	baz=74,slow=308,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.27**	**254**	Pg	Pg	06 43 45.6	-1.7
	1.2nm,0.3s,baz=73,slow=16,SNR=8.4						
ZALV				Lg	Lg	06 44 04.0	
	1.3nm,0.3s,baz=73,slow=29,SNR=6.4						
ZALV				Rg	Rg	06 44 09.4	
	4.3nm,0.5s,baz=74,slow=32,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.31**	**237**	Pn	Pn	06 44 58.0	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=5.7						
KURBB				Lg	Lg	06 46 44.9	
	0.0nm,0.3s,baz=48,slow=29,SNR=2.1						
MKAR	**Makanchi Array**	**8.09**	**203**	Pn	Pn	06 45 22.9	+1.4
	0.1nm,0.3s,baz=23,slow=14,SNR=3.6						

IDC 03 06:44:36.5±3.9, 53°.75N×88°.12E, h0km, mb1 2.6/2, mb1mx2.6/46, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=39.2km s-min=25.5km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**277**	*i*		06 56 50.0	
	baz=93,slow=312,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.97**	**277**	Pn	Pn	06 45 11.2	+0.1
	0.8nm,0.3s,baz=91,slow=13,SNR=8.5						
ZALV				Sn	Sb	06 45 37.9	-0.3
	2.4nm,0.3s,baz=96,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**6.68**	**246**	Pn	Pn	06 46 16.1	+0.3
	0.1nm,0.3s,baz=61,slow=15,SNR=6.2						
KURBB				Lg	Lg	06 48 08.0	
	0.0nm,0.3s,baz=64,slow=33,SNR=5.8						
MKAR	**Makanchi Array**	**7.90**	**211**	Pn	Pn	06 46 33.8	+1.2
	0.1nm,0.3s,baz=21,slow=8.5,SNR=1.8						

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*VAO **03** 06:52:15.0±0.5, 19°.53S×70°.88W, h10km, mb4.1*
*IDC **03** 06:52:19.5±4.5, 19°.38S×70°.52W, h33km±36km, mb3.7/8, mb1 4.0/12, mb1mx3.9/27, mbtmp4.0/12, ML3.8/4, MS3.3/6, Ms1 3.3/6, ms1mx3.1/22, Error ellipse: s-maj=25.4km s-min=20.6km az=54.0*
*GUC **03** 06:52:19.8±0.8, 19°.60S×70°.62W, h32km±3km, ML3.8*

ISC 03 06:52:15.5±1.5, 19°.58S±0°.04×70°.79W±0°.05, h12km±9km, n80, σ1s53/80, mb3.8/8, 4C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.63**	**92**	⇓*i* P	**Pb**	**06 52 28.6**	**+0.1**
PSGC				*i* S	**Sg**	**06 52 35.6**	**-0.6**
PSGC				IAML		06 52 38.7	
	comp=E,7μm,0.5s						
TA02	**Huaiquique**	**0.93**	**138**	*e*P	**Pb**	**06 52 33.5**	**-0.1**
TA02				*e*S	**Sg**	**06 52 44.9**	**-0.7**
TA02				IAML		06 52 46.0	
	comp=N,7μm,0.2s						
PB11	**IPOC Station P**	**1.09**	**100**	⇓*i* P	**Pg**	**06 52 35.9**	**-0.6**
PB11				*e*S	**Sg**	**06 52 47.6**	**-3.0**
PB11				IAML		06 52 53.0	
	comp=E,4μm,0.6s						
TA01	**Diego Aracena**	**1.14**	**150**	⇓*i* P	**Pn**	**06 52 37.0**	**-0.3**
TA01				*i* S	**Sb**	**06 52 51.0**	**-0.9**
TA01				IAML		06 52 53.2	
	comp=E,3μm,0.7s						
MNMC	**Minye Minye**	**1.22**	**69**	⇓*i* P	**Pn**	**06 52 38.7**	**+0.2**
MNMC				*i* S	**Sb**	**06 52 54.2**	**-0.1**
MNMC				IAML		06 52 57.4	
	comp=E,8μm,0.5s						
AP01	**Chacalluta**	**1.27**	**20**	*e*P	**Pg**	**06 52 40.5**	**+0.5**
AP01				*i* S	**Sg**	**06 52 57.2**	**+0.6**
PATCX	**Punta Patache**	**1.37**	**154**	⇑*i* P	**Pn**	**06 52 40.4**	**-0.2**
PATCX				*i* S	**Sb**	**06 52 57.8**	**-0.9**
PATCX				IAML		06 53 02.9	
	comp=E,2μm,0.6s						
PB08	**IPOC Station P**	**1.64**	**110**	⇓*i* P	**Pn**	**06 52 44.9**	**+0.3**
PB08				*i* S	**Sn**	**06 53 04.9**	**-0.9**
PB08				IAML		06 53 12.3	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.90**	**140**	⇑*i* P	**Pn**	**06 52 48.1**	**+0.2**
PB01				*i* S	**Sn**	**06 53 11.0**	**-0.9**
PB01				IAML		06 53 19.0	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**2.30**	**158**	⇑*i* P	**Pn**	**06 52 53.4**	**0.0**
PB07				IAML		06 53 31.6	
	comp=E,1μm,0.7s						
PB03	**IPOC Station P**	**2.64**	**159**	⇑*i* P	**Pn**	**06 52 58.1**	**0.0**
PB03				IAML		06 53 40.1	
	comp=E,476nm,0.7s						
PB04	**IPOC Station P**	**2.81**	**168**	*e*P	**Pn**	**06 52 60.0**	**-0.4**
PB04				IAML		06 53 52.7	
	comp=N,597nm,0.4s						
PB05	**IPOC Station P**	**3.30**	**171**	*e*P	**Pn**	**06 53 06.1**	**-1.1**
PB05				IAML		06 54 12.7	
	comp=E,330nm,0.6s						
PB06	**IPOC Station P**	**3.31**	**160**	*e*P	**Pn**	**06 53 06.6**	**-0.7**
LVC	**Limon Verde**	**3.49**	**150**	Pn	**Pn**	**06 53 11.2**	**+1.2**
	comp=E,6.3nm,0.3s,baz=334,slow=9.7,SNR=41						
LVC				Sn	**Sn**	**06 53 51.3**	**-0.1**
	comp=E,21nm,0.3s,baz=330,slow=19,SNR=4.6						
LVC				LR	LR	06 54 48.1	
	comp=E,356nm,19.6s,baz=352,slow=42						
LVC	**Limon Verde**	**3.49**	**150**	*e*P	**Pn**	**06 53 11.3**	**+1.4**
LPAZ	**La Paz**	**4.14**	**38**	Pn	Pb	06 53 24.1	-4.6
	comp=E,1.2nm,0.3s,baz=266,slow=5.6,SNR=75						
NNA	**Nana**	**9.53**	**321**	Pn	**Pn**	**06 54 32.6**	**-0.1**
	comp=E,0.5nm,0.3s,baz=108,slow=20,SNR=1.6						
NNA				Sn	**Sn**	**06 56 12.8**	**-7.1**
	comp=E,0.7nm,0.3s,baz=204,slow=10,SNR=1.5						
NNA				LR	LR	06 58 29.2	
	comp=E,105nm,18.0s,baz=175,slow=39						
SIV	**San Ignacio**	**9.92**	**70**	Pn	**Pn**	**06 54 37.6**	**-0.5**
	comp=E,1.8nm,0.3s,baz=272,slow=9.3,SNR=28						
SIV				LR	LR	06 58 52.1	
	comp=E,212nm,18.4s,baz=239,slow=41						
ETMB	**Extrema**	**10.67**	**25**	*e*P	**Pn**	**06 54 48.2**	**0.0**
PTLB	**Pontes e Lacer**	**11.85**	**72**	*e*P	**Pn**	**06 55

comp=E,9.0nm,0.3s,baz=214,slow=17,SNR=25
FLOC Florencia 21.56 347 *e*P **P 06 57 07.2 +2.1**
RCLB Rio Claro- Sao 21.90 102 *e*P **P 06 57 09.5 +0.8**
BDFB Brasilia 22.06 83 P **P 06 57 08.6 -1.9**
comp=E,1.6nm,0.5s,baz=273,slow=7.7,SNR=4.7
PET01 Itanhaem-SP 22.30 106 *e*P **P 06 57 14.8 +1.8**
BBAC Balboa, Cauca 22.38 343 *e*P **P 06 57 16.9 +2.8**
POPC Popayan, Colom 22.73 345 *e*P **P 06 57 17.1 -0.7**
ORTC Ortega, Tolima 23.75 349 *e*P **P 06 57 28.5 +0.6**
MALB Monte Alegre 23.91 45 *e*P **P 06 57 29.4 0.0**
YOTC Yotoco, Valle 24.04 346 *e*P **P 06 57 33.4 +2.6**
BOAV Boa Vista 24.05 26 *e*P **P 06 57 31.0 +0.2**
PRPB Parauapebas 24.36 60 *e*P **P 06 57 35.7 +2.0**
TOLC Tolima 24.42 349 *e*P **P 06 57 37.3 +2.8**
ROSC El Rosal 24.51 352 LR LR 07 07 53.8
comp=E,106nm,20.7s,baz=120,slow=38
SMTB Santa Maria do 24.85 68 *e*P **P 06 57 36.8 -1.3**
GUY2C Guyana, Caldas 25.05 349 *e*P **P 06 57 43.0 +2.7**
NORC Norcasia 25.30 350 *e*P **P 06 57 42.3 +0.1**
RUSC La Rusia 25.41 355 *e*P **P 06 57 43.0 -0.6**
CBOC Ciudad Bolivar 25.80 348 *e*P **P 06 57 47.8 +1.0**
HELC Santa Helena 26.03 349 *e*P **P 06 57 50.8 +1.7**
BARC Barichara 26.11 355 *e*P **P 06 57 49.5 -0.2**
MCPB Macapa, AP 26.49 46 *e*P **P 06 57 52.3 -0.7**
ZARC Zaragoza, Cauc 27.20 351 *e*P **P 06 57 58.2 -1.1**
SJMB Sao Joao De Ma 27.97 93 *e*P **P 06 58 06.9 +0.7**
TXAR Lajitas Array 59.05 326 P **P 07 02 09.2 +0.4**
comp=E,0.4nm,0.8s,baz=144,slow=7.7,SNR=4.7
PDAR Pinedale Array 71.58 331 P **P 07 03 37.5 +0.6**
comp=E,0.2nm,0.5s,baz=123,slow=6.6,SNR=1.8
NVAR Mina Array Bea 72.90 323 P **P 07 03 46.8 +2.0**
comp=E,0.4nm,0.8s,baz=155,slow=6.6,SNR=2.9
TORD Torodi Ar. Bea 78.40 72 P **P 07 04 14.7 -1.8**
comp=E,3.3nm,0.7s,baz=254,slow=3.0,SNR=12
YKA Yellowknife Ar 88.80 341 P **P 07 05 09.2 +0.4**
comp=E,1.8nm,0.8s,baz=132,slow=5.8,SNR=4.3
H11S2 WAKE ISLAND Hyt 25.86 279 T T 09 30 23.0
baz=101,slow=75,SNR=45
H11S1 WAKE ISLAND Hyt 25.87 279 T T 09 30 27.8
baz=101,slow=75,SNR=25
H11S3 WAKE ISLAND Hyt 25.88 279 T T 09 30 28.1
baz=101,slow=75,SNR=25
H11N3 WAKE ISLAND Hyt 25.90 281 T T 09 30 29.3
baz=100,slow=74,SNR=13
H11N2 WAKE ISLAND Hyt 25.91 281 T T 09 30 29.6
baz=100,slow=74,SNR=14
H11N1 WAKE ISLAND Hyt 25.91 281 T T 09 30 29.7
baz=100,slow=74,SNR=7.3
MKAR Makanchi Array 145.05 33 PKP **PKPdf 07 11 52.4 -0.5**
comp=E,4.0nm,0.7s,baz=320,slow=3.7,SNR=41
SONM Songino Array 151.72 4 PKPbc **PKiKP 07 12 10.6 0.0**
comp=E,0.7nm,0.7s,baz=48,slow=2.1,SNR=2.5

BJI ***03*** *06:59:50.2±0.0, 19°.25S×178°.98W, h644km, mB4.8/16, mb4.5/26*
MOS ***03*** *06:59:51.8±1.5, 19°.69S×179°.07W, h669km, mb5.2/21, Error ellipse: s-maj=11.7km s-min=9.3km az=138.6*
NEIC ***03*** *06:59:51.9±2.2, 19°.64S±0°.09×179°.07W±0°.08, h656km±6km, mb5.0/281, Error ellipse: s-maj=13.6km s-min=10.8km az=154.0*
NOU ***03*** *06:59:51.5, 19°.71S×178°.94W, h687km, mb5.0, Fiji Islands Region*
IDC ***03*** *06:59:52.6±0.5, 19°.64S×179°.10W, h671km±5km, mb4.3/30, mb1 4.4/34, mb1mx4.3/40, mbtmp5.3/34, Error ellipse: s-maj=9.4km s-min=7.6km az=164.0*
ISC 03 06:59:51.6±0.3, 19°.70S±0°.04×179°.03W±0°.04,
h663km±3km, h664km; pP-P, n664, σ1≅42/631, mb5.0/198,
142C-98D, Fault plane solution: NP1:ϕ=305.31967°, δ26.50916°, λ35.44430°. **NP2:** ϕ=182.82301°, δ74.99887°, λ112.11421°. **Principal axes:** T Plg54.6655°, Azm120.2272°; N Plg21.3230°, Azm356.8188°; P Plg26.7268°, Azm255.4834°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.39**	**305**	P	**P**	**07 01 20.1**	**+1.8**
	166nm,0.3s,baz=162,slow=7.3,SNR=445						
MSVF	**Nonsavu**	**3.39**	**305**	*c* *i*P	**P**	**07 01 20.2**	**+2.0**
MSVF	**Nonsavu**	**3.39**	**305**	P	**P**	**07 01 20.2**	**+2.0**
MSVF	**Nonsavu**	**3.39**	**305**	P	**P**	**07 01 20.3**	**+2.0**
NIUE	**Niue**	**8.62**	**87**	P	**P**	**07 01 57.7**	**-1.0**
	baz=8.6,SNR=24						
NIUE	**Niue**	**8.62**	**87**	P	**P**	**07 01 59.7**	**+1.0**
NIUE	**Niue**	**8.62**	**87**	P	**P**	**07 01 59.8**	**+1.1**
AFI	**Afiamalu**	**9.02**	**51**	P	**P**	**07 02 02.0**	**-0.6**
	18nm,0.3s,baz=297,slow=2.3,SNR=22						
AFI				S	**S**	**07 03 44.7**	**-5.1**
	baz=216,slow=19,SNR=0.8						
AFI	**Afiamalu**	**9.02**	**51**	P	**P**	**07 02 02.5**	**-0.1**
AFI	**Afiamalu**	**9.02**	**51**	P	**P**	**07 02 02.5**	**-0.1**
AFI	**Afiamalu**	**9.02**	**51**	P	**P**	**07 02 02.3**	**-0.3**
RAO	**Raoul Island**	**9.56**	**174**	P	**P**	**07 02 06.2**	**-1.0**
	189nm,0.3s,baz=84,slow=19,SNR=2.8						
RAO				S	**S**	**07 03 55.8**	**-2.7**
	13nm,0.3s,baz=68,slow=22,SNR=1.3						
RAO	**Raoul Island**	**9.56**	**174**	P	**P**	**07 02 04.9**	**-2.3**
RAO	**Raoul Island**	**9.56**	**174**	P	**P**	**07 02 04.9**	**-2.3**
FUNA	**Funafuti**	**11.24**	**351**		**P**	**07 02 22.9**	**-0.5**
DVP	**Devils Point**	**12.27**	**277**	P	**P**	**07 02 33.9**	**+1.2**
	815um,0.7s						
LIFNC	**LIFOU**	**12.93**	**263**	P	**P**	**07 02 37.5**	**-1.2**
PINNC	**Pines Island,**	**12.94**	**255**	P	**P**	**07 02 39.9**	**+1.1**
YATNC	**Mamie plateau,**	**13.37**	**257**	P	**P**	**07 02 44.0**	**+1.4**
OUENC	**Ouen Island, N**	**13.46**	**256**	P	**P**	**07 02 42.5**	**-1.0**
OUENC	**Ouen Island, N**	**13.46**	**256**	P	**P**	**07 02 44.2**	**+0.7**
DZM	**Mont Dzumac**	**13.78**	**258**	*e*P	**P**	**07 02 47.9**	**+1.4**
	134nm,1.0s						
DZM	**Mont Dzumac**	**13.78**	**258**	P	**P**	**07 02 47.4**	**+0.9**
	3.7nm,0.3s,baz=131,slow=16,SNR=23						
DZM	**Mont Dzumac**	**13.78**	**258**	P	**P**	**07 02 48.7**	**+2.2**
DZM	**Mont Dzumac**	**13.78**	**258**	P	**P**	**07 02 48.5**	**+2.0**
SANVU	**Saraoutou**	**13.79**	**286**	P	**P**	**07 02 46.3**	**-0.3**
ONTNC	**Ouen Toro**	**13.80**	**257**	P	**P**	**07 02 47.3**	**+0.7**
KOUNC	**Koumac, New Ca**	**15.69**	**264**	P	**P**	**07 03 06.2**	**+2.3**
OUZ	**Omahuta**	**16.77**	**201**	P	**P**	**07 03 17.4**	**+3.8**
OUZ				IAmb	IAmb	07 03 42.1	
	comp=Z,180nm,1.6s						
OUZ	**Omahuta**	**16.77**	**201**	P	**P**	**07 03 17.2**	**+3.7**
GRZ	**Great Barrier**	**17.18**	**195**	P	**P**	**07 03 20.0**	**+2.8**
WCZ	**Waipu Caves**	**17.19**	**198**	P	**P**	**07 03 21.2**	**+3.9**
KUZ	**Kuaotunu**	**17.59**	**194**	P	**P**	**07 03 23.8**	**+2.9**
ETAZ	**East Tamaki Re**	**17.98**	**196**	P	**P**	**07 03 27.6**	**+3.2**
WTAZ	**Waiatarua**	**18.05**	**197**	P	**P**	**07 03 28.3**	**+3.2**
RAR	**Rarotonga**	**18.11**	**98**	P	**P**	**07 03 27.9**	**+2.0**
	comp=Z,1.2nm,0.3s,baz=250,slow=3.0,SNR=5.6						
RAR	**Rarotonga**	**18.11**	**98**	P	**P**	**07 03 26.4**	**+0.5**
RAR				pmax	pmax		
	comp=Z,98nm,1.4s						
RAR	**Rarotonga**	**18.11**	**98**	P	**P**	**07 03 26.4**	**+0.5**
RAR				IAmb	IAmb	07 03 29.8	
	comp=Z,98nm,1.4s						
AWAZ	**Awhitu Peninsu**	**18.16**	**196**	P	**P**	**07 03 29.5**	**+3.5**
WMGZ	**Waiomatatini S**	**18.19**	**186**	P	**P**	**07 03 27.3**	**+1.0**
HAZ	**Te Kaha**	**18.20**	**188**	P	**P**	**07 03 26.9**	**+0.6**
KNTN	**Kanton**	**18.28**	**24**	P	**P**	**07 03 25.3**	**-2.2**
KNTN	**Kanton**	**18.28**	**24**	P	**P**	**07 03 27.4**	**-0.1**
RUGZ	**Raukumara Rang**	**18.42**	**188**	P	**P**	**07 03 29.0**	**+0.5**
TGRZ	**Tauranga**	**18.42**	**192**	P	**P**	**07 03 31.1**	**+2.7**
PUZ	**Puketiti**	**18.45**	**187**	P	**P**	**07 03 29.6**	**+0.9**
TOZ	**Tahuroa Road**	**18.58**	**194**	P	**P**	**07 03 33.0**	**+3.2**
TWGZ	**Tauwhareparae**	**18.59**	**187**	P	**P**	**07 03 30.6**	**+0.7**
URZ	**Urewera**	**18.79**	**189**	P	**P**	**07 03 29.8**	**-1.9**
	comp=Z,5.0nm,0.3s,baz=299,slow=23,SNR=11						
URZ				S	**S**	**07 06 24.3**	**-5.0**
	comp=Z,2.4nm,0.3s,baz=122,slow=23,SNR=2.0						
URZ	**Urewera**	**18.79**	**189**	P	**P**	**07 03 30.4**	**-1.3**
URZ	**Urewera**	**18.79**	**189**	P	**P**	**07 03 30.3**	**-1.4**
MWZ	**Matawai**	**18.80**	**188**	P	**P**	**07 03 32.2**	**+0.3**
CNGZ	**Carnagh Statio**	**18.87**	**187**	P	**P**	**07 03 33.1**	**+0.7**
NMHZ	**Naumai**	**19.66**	**190**	P	**P**	**07 03 39.8**	**+0.1**
BKZ	**Black Stump Fm**	**19.78**	**190**	P	**P**	**07 03 39.9**	**-0.7**
BKZ				IAmb	IAmb	07 03 43.1	
	comp=Z,174nm,1.9s						
BFZ	**Birch Farm**	**21.30**	**190**	P	**P**	**07 03 53.2**	**-0.9**
MSWZ	**Moikau Station**	**22.18**	**191**	P	**P**	**07 04 01.2**	**-0.8**
SNZO	**South Karori**	**22.19**	**193**	P	**P**	**07 04 00.7**	**-1.3**
BHW	**Baring Head**	**22.25**	**192**	P	**P**	**07 04 01.9**	**-0.7**
TARA	**Tarawa**	**22.37**	**338**	P	**P**	**07 04 03.1**	**-0.9**
TUWZ	**Tuamarina**	**22.47**	**194**	P	**P**	**07 04 05.1**	**+0.6**
HNR	**Honiara**	**22.74**	**294**	P	**P**	**07 04 03.8**	**-3.5**
HNR				pmax	pmax		
	comp=Z,97nm,0.8s						
HNR	**Honiara**	**22.74**	**294**	P	**P**	**07 04 03.8**	**-3.5**
BSWZ	**Blackbirch Sta**	**22.75**	**194**	P	**P**	**07 04 07.7**	**+0.6**
THZ	**Tophouse**	**23.03**	**196**	P	**P**	**07 04 08.9**	**-0.6**
LTZ	**Lake Taylor**	**24.15**	**196**	P	**P**	**07 04 18.9**	**-0.5**
LTZ				IAmb	IAmb	07 04 21.1	
	comp=Z,32nm,0.7s						
OXZ	**Oxford**	**24.72**	**196**	P	**P**	**07 04 24.4**	**+0.1**
LBZ	**Lake Benmore**	**26.20**	**198**	P	**P**	**07 04 36.5**	**-0.8**
WKZ	**Wanaka**	**26.95**	**199**	P	**P**	**07 04 43.8**	**0.0**
WKZ				IAmb	IAmb	07 04 45.2	
	comp=Z,83nm,1.4s						
MLZ	**Mavora Lakes**	**27.72**	**200**	P	**P**	**07 04 51.3**	**+0.8**
PAE	**Paea**	**27.96**	**91**	*e*P	**P**	**07 04 54.0**	**+1.1**
	comp=Z,3.8nm,0.5s						
PPT2	**Papeete2**	**27.97**	**91**	*e*P	**P**	**07 04 54.4**	**+1.3**
	comp=Z,17nm,0.6s						
PPT	**Papeete**	**27.98**	**91**	P	**P**	**07 04 54.8**	**+1.7**
	comp=Z,34nm,0.6s,baz=240,slow=20,SNR=8.3						
PPTF	**Pamatai, Papee**	**27.98**	**91**	P	**P**	**07 04 55.1**	**+1.9**
DCZ	**Deep Cove**	**28.12**	**201**	P	**P**	**07 04 54.4**	**+0.6**
EIDS	**Eidsvold**	**28.14**	**253**	P	**P**	**07 04 54.5**	**+0.2**
	baz=28,SNR=15						
EIDS	**Eidsvold**	**28.14**	**253**	P	**P**	**07 04 54.8**	**+0.5**
EIDS				IAmb	IAmb	07 04 55.6	
	comp=Z,41nm,0.9s						
TIAR	**Tiarei**	**28.20**	**91**	*e*P	**P**	**07 04 56.9**	**+1.9**
	comp=Z,5.9nm,0.7s						
ARMA	**Armidale**	**28.56**	**242**	P	**P**	**07 04 59.5**	**+1.5**
	baz=29,SNR=35						
ARMA	**Armidale**	**28.56**	**242**	P	**P**	**07 04 59.8**	**+1.7**
ARMA				IAmb	IAmb	07 05 00.3	
	comp=Z,30nm,0.7s						
PMOR	**Pomariorio Ree**	**30.06**	**86**	*e*P	**P**	**07 05 12.5**	**+1.6**
	comp=Z,71nm,0.7s						
VAH	**Vaihoa**	**30.26**	**87**	*e*P	**P**	**07 05 13.9**	**+1.3**
	comp=Z,150nm,1.1s						
XMAS	**Kiritimati**	**30.27**	**47**	P	**P**	**07 05 12.7**	**-0.1**
RMQ	**Roma**	**30.33**	**251**	P	**P**	**07 05 14.1**	**+1.0**
	baz=30,SNR=11						
RABL	**Rabaul**	**32.03**	**295**	P	**P**	**07 05 26.9**	**-0.8**
CTA	**Charters Tower**	**32.61**	**263**	P	**P**	**07 05 32.9**	**+0.4**
	comp=Z,100nm,0.4s,baz=91,slow=10,SNR=219						
CTA				ScP	**ScP**		
	comp=Z,9.3nm,0.9s,baz=97,slow=2.8,SNR=3.6						
CTAO	**Charters Tower**	**32.61**	**263**	P	**P**	**07 05 33.1**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,234nm,1.1s						
CTAO	**Charters Tower**	**32.61**	**263**	P	**P**	**07 05 33.1**	**+0.7**
CMSA	**Cobar Meteorol**	**33.78**	**242**	P	**P**	**07 05 42.4**	**+0.4**
	baz=34,SNR=121						
PMG	**Port Moresby**	**34.22**	**283**	P	**P**	**07 05 46.1**	**+0.2**
	comp=Z,282nm,0.9s,baz=71,slow=5.0,SNR=50						
PMG	**Port Moresby**	**34.22**	**283**	*ce*P	**P**	**07 05 46.1**	**+0.2**
PMG				pmax	pmax		
	comp=Z,402nm,1.0s						
PMG	**Port Moresby**	**34.22**	**283**	P	**P**	**07 05 46.4**	**+0.5**
QLP	**Quilpie**	**34.38**	**252**	P	**P**	**07 05 47.6**	**+0.5**
	baz=34,SNR=33						
PATS	**Pohnpei**	**34.54**	**318**	P	**P**	**07 05 49.5**	**+1.0**
MTSU	**Mount Surprise**	**34.67**	**266**	P	**P**	**07 05 49.9**	**+0.4**
	baz=35,SNR=142						
TOO	**Toolangi**	**35.60**	**232**	P	**P**	**07 05 58.0**	**+1.2**
	baz=36,SNR=36						
TOO	**Toolangi**	**35.60**	**232**	P	**P**	**07 05 58.1**	**+1.2**
TOO				pmax	pmax		
	comp=Z,37nm,0.8s						
TOO	**Toolangi**	**35.60**	**232**	P	**P**	**07 05 58.1**	**+1.2**
TOO				IAmb	IAmb	07 05 58.9	
	comp=Z,37nm,0.8s						
TAU	**Tasmania Unive**	**36.52**	**223**	P	**P**	**07 06 05.4**	**+1.1**
TAU				pmax	pmax		
	comp=Z,186nm,2.0s						
TAU	**Tasmania Unive**	**36.52**	**223**	P	**P**	**07 06 05.3**	**+1.1**
MANU	**Manus Island**	**37.24**	**294**	P	**P**	**07 06 11.4**	**+0.8**
STKA	**Stephens Creek**	**37.27**	**243**	P	**P**	**07 06 11.7**	**+1.1**
	comp=Z,32nm,0.5s,baz=90,slow=9.9,SNR=76						
STKA	**Stephens Creek**	**37.27**	**243**	P	**P**	**07 06 11.9**	**+1.3**
STKA				pmax	pmax		
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**37.27**	**243**	P	**P**	**07 06 11.9**	**+1.3**
ARPS	**Mount Arapiles**	**38.13**	**235**	P	**P**	**07 06 18.2**	**+0.8**
	baz=38,SNR=8.5						
QIS	**Mount Isa**	**38.77**	**261**	P	**P**	**07 06 22.6**	**-0.3**
	baz=39,SNR=16						
TAOE	**Nuku Hiva Isla**	**39.10**	**80**	*e*P	**P**	**07 06 26.6**	**+1.0**
	comp=Z,255nm,0.8s						
TAOE	**Nuku Hiva Isla**	**39.10**	**80**	P	**P**	**07 06 26.6**	**+1.0**
HTT	**Hallett**	**39.75**	**241**	P	**P**	**07 06 31.3**	**+0.8**
	baz=40,SNR=19						
BBOO	**Buckleboo**	**42.04**	**243**	P	**P**	**07 06 48.9**	**+0.5**
	baz=42,SNR=90						
BBOO	**Buckleboo**	**42.04**	**243**	P	**P**	**07 06 48.9**	**+0.5**
BBOO				IAmb	IAmb	07 06 49.6	
	comp=Z,63nm,0.7s						
GENI	**Genyem**	**43.32**	**288**	P	**P**	**07 06 59.4**	**+0.9**
	comp=Z,348nm,1.0s						
WR0	**Warramunga Arr**	**43.56**	**261**	P	**P**	**07 06 59.9**	**-0.4**
WR0				IAmb	IAmb	07 07 01.5	
	comp=Z,56nm,1.0s						
WB0	**Warramunga Arr**	**43.73**	**262**	P	**P**	**07 07 01.2**	**-0.4**
WB2	**Warramunga Arr**	**43.74**	**261**	P	**P**	**07 07 01.6**	**-0.1**
WRAB	**Tennant Creek**	**43.74**	**261**	*d* *i*P	**P**	**07 07 01.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,148nm,1.3s						
WRAB	**Tennant Creek**	**43.74**	**261**	P	**P**	**07 07 01.5**	**-0.2**
WRA	**Warramunga Arr**	**43.75**	**261**	P	**P**	**07 07 01.2**	**-0.6**
	comp=Z,48nm,0.5s,baz=97,slow=7.7,SNR=704						
WRA				S	**S**	**07 12 43.1**	**-3.9**
	comp=Z,4.7nm,1.0s,baz=88,slow=15,SNR=5.1						
WRA	**Warramunga Arr**	**43.75**	**261**	P	**P**	**07 07 00.2**	**-1.6**
WRA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WRA	**Warramunga Arr**	**43.75**	**261**	P	**P**	**07 07 00.2**	**-1.6**
AS31	**Alice Springs**	**43.76**	**256**	P	**P**	**07 07 02.3**	**+0.4**
AS31				IAmb	IAmb	07 07 03.2	
	comp=Z,50nm,0.9s						
ASAR	**Alice Springs**	**43.76**	**256**	P	**P**	**07 07 01.9**	**0.0**
	comp=Z,130nm,0.7s,baz=87,slow=8.2,SNR=840						
ASAR				ScP	**ScP**	**07 11 24.0**	**+1.0**
	comp=Z,4.0nm,0.7s,baz=98,slow=5.7,SNR=4.5						
ASAR				S	**S**	**07 12 44.0**	**-3.0**
	comp=Z,21nm,1.0s,baz=91,slow=16,SNR=28						
ASAR	**Alice Springs**	**43.76**	**256**	P	**P**	**07 07 02.3**	**+0.5**
ASAR	**Alice Springs**	**43.76**	**256**	P	**P**	**07 07 02.3**	**+0.5**
HMH	**Humu'ula Sheep**	**45.37**	**32**	P	**P**	**07 07 15.5**	**+1.1**
HPAH	**Hawaii Prepara**	**45.63**	**31**	P	**P**	**07 07 17.1**	**+1.1**
DHH	**Diamond Head**	**45.71**	**28**	P	**P**	**07 07 18.0**	**+1.5**
DHH	**Diamond Head**	**45.71**	**28**	P	**P**	**07 07 18.0**	**+1.5**
KDU	**Kakadu**	**46.97**	**271**	P	**P**	**07 07 25.9**	**-0.2**
	baz=47,SNR=8.3						
BAKI	**Biak**	**47.58**	**287**	P	**P**	**07 07 31.0**	**+0.4**
	comp=Z,2μmcomp=Z,204nm,1.3s						
MTN	**Manton Dam**	**48.19**	**270**	P	**P**	**07 07 34.7**	**-0.4**
	baz=48,SNR=20						
GUMO	**Guam**	**48.55**	**310**	P	**P**	**07 07 37.9**	**+0.2**
	comp=Z,204nm,1.0s,baz=158,slow=13,SNR=4.9						
GUMO	**Guam**	**48.55**	**310**	P	**P**	**07 07 37.9**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,376nm,1.2s						
GUMO	**Guam**	**48.55**	**310**	IAmb	IAmb	07 07 38.9	
	comp=Z,376nm,1.2s						
FORT	**Forrest**	**48.72**	**246**	P	**P**	**07 07 38.4**	**-0.4**
	baz=49,SNR=26						
WRKA	**Warakurna**	**48.75**	**254**	P	**P**	**07 07 39.2**	**0.0**
	baz=49,SNR=270						
FAKI	**Fak Fak**	**50.38**	**283**	P	**P**	**07 07 50.9**	**-0.2**
FAKI				IAmb	IAmb	07 07 51.9	
	comp=Z,73nm,1.0s						
FAKI	**Fak Fak**	**50.38**	**283**	P	**P**	**07 07 50.5**	**-0.6**
	comp=Z,979nmcomp=Z,79nm,1.3s						
SIJI	**Sorong**	**52.10**	**285**	P	**P**	**07 08 03.2**	**-0.2**
	comp=Z,190nm,0.7s,baz=73,slow=7.4						
SWI	**Sorong**	**52.10**	**285**	P	**P**	**07 08 03.4**	**-0.1**
	comp=Z,3μmcomp=Z,326nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.17**	**262**	P	**P**	**07 08 03.9**	**0.0**
	comp=Z,199nm,0.5s,baz=120,slow=6.3						
FITZ	**Fitzroy Crossi**	**52.17**	**262**	P	**P**	**07 08 04.0**	**+0.1**
	baz=52,SNR=54						
FITZ	**Fitzroy Crossi**	**52.17**	**262**	IAmb	IAmb	07 08 04.5	
	comp=Z,23nm,0.6s						
MSAI	**Masohi**	**53.27**	**281**	P	**P**	**07 08 11.0**	**-0.7**
	comp=Z,1μmcomp=Z,17nm,0.6s						
KMBL	**Kambalda**	**54.01**	**245**	P	**P**	**07 08 16.1**	**-0.5**
	baz=54,SNR=6.9						
NLAI	**Namlea**	**55.01**	**280**	P	**P**	**07 08 23.3**	**-0.5**
	comp=Z,57nm,0.7s						
SOEI	**Soe**	**55.51**	**272**	P	**P**	**07 08 28.7**	**+1.3**
SOEI	**Soe**	**55.51**	**272**	P	**P**	**07 08 28.8**	**+1.4**
	comp=Z,2μmcomp=Z,311nm,1.0s						
BATI	**Baumata**	**55.95**	**271**	P	**P**	**07 08 31.6**	**+1.3**
	comp=Z,59nm,0.6s,baz=178,slow=3.2						
TNTI	**Ternate**	**56.32**	**285**	P	**P**	**07 08 32.9**	**+0.1**
TNTI				IAmb	IAmb	07 08 33.9	
	comp=Z,125nm,1.0s						
TNTI	**Ternate**	**56.32**	**285**	P	**P**	**07 08 33.1**	**+0.3**
	comp=Z,130nm,1.1s						
SANI	**Sanana**	**56.48**	**281**	P	**P**	**07 08 33.2**	**-0.7**
	comp=Z,1μmcomp=Z,103nm,1.1s						
PSA00	**Pilbara Seismi**	**56.91**	**257**	IAmb	IAmb	07 08 37.1	
	comp=Z,70nm,0.8s						
PSA00	**Pilbara Seismi**	**56.91**	**257**	IAmb	IAmb	07 08 37.2	
	comp=Z,31nm,0.8s						
MEEK	**Meekatharra**	**57.27**	**250**	P	**P**	**07 08 38.4**	**-0.7**
	baz=57,SNR=12						
KLBR	**Kellerberrin**	**57.52**	**245**	P	**P**	**07 08 40.5**	**-0.2**
	baz=58,SNR=7.7						
BLDU	**Ballidu**	**58.49**	**246**	P	**P**	**07 08 47.0**	**-0.2**
	baz=58,SNR=19						
SBA	**Scott Base**	**58.60**	**183**	P	**P**	**07 08 49.8**	**+2.7**
SBA				pmax	pmax		
	comp=Z,23nm,1.1s						
SBA	**Scott Base**	**58.60**	**183**	P	**P**	**07 08 49.8**	**+2.7**
VNDA	**Vanda**	**58.62**	**185**	P	**P**	**07 08 49.0**	**+1.8**
	comp=Z,3.2nm,0.5s,baz=340,slow=7.3,SNR=11						
MUN	**Mundaring**	**58.80**	**244**	P	**P**	**07 08 49.6**	**+0.4**
	baz=59,SNR=3.2						
MORW	**Morawa**	**59.23**	**247**	P	**P**	**07 08 51.8**	**-0.4**
	baz=59,SNR=7.0						
JCJ	**Chichijima**	**59.81**	**320**	P	**P**	**07 08 55.5**	**-0.3**
	comp=Z,25nm,0.5s,baz=72,slow=20,SNR=1.7						
LUWI	**Luwuk**	**59.84**	**281**	P	**P**	**07 08 57.3**	**+1.0**
LUWI				IAmb	IAmb	07 08 57.8	
	comp=Z,120nm,1.0s						
LUWI	**Luwuk**	**59.84**	**281**	P	**P**	**07 08 56.5**	**+0.2**
	comp=Z,3μmcomp=Z,146nm,1.0s						
APSI	**Ampana**	**60.92**	**280**	P	**P**	**07 09 04.4**	**+1.0**
	comp=Z,761nmcomp=Z,64nm,1.1s						
BNSI	**Bone**	**61.12**	**276**	P	**P**	**07 09 05.2**	**+0.5**
	comp=Z,49nm,1.2s						
MRSI	**Marisa**	**61.18**	**282**	P	**P**	**07 09 04.0**	**-1.1**
KAPI	**Kappang**	**61.25**	**275**	P	**P**	**07 09 05.4**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,60nm,1.5s						
KAPI	**Kappang**	**61.25**	**275**	P	**P**	**07 09 05.4**	**-0.1**
SPSI	**Sidrap Palu**	**61.59**	**276**	P	**P**	**07 09 06.8**	**-0.9**
	comp=Z,31nm,0.8s						
GIRL	**Giralia**	**61.83**	**254**	P	**P**	**07 09 10.2**	**+1.0**
	baz=62,SNR=10						
PLAI	**Plampang**	**61.90**	**270**	P	**P**	**07 09 09.5**	**-0.2**
	comp=Z,1μmcomp=Z,145nm,1.0s						
TWSI	**Taliwang, Sumb**	**62.77**	**270**	P	**P**	**07 09 15.0**	**-0.3**
	comp=Z,625nmcomp=Z,69nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.42**	**270**	P	**P**	**07 09 30.9**	**-1.1**
JAGI				IAmb	IAmb	07 09 31.5	
	comp=Z,52nm,0.8s						
BBKI	**Banjar Baru**	**66.38**	**275**	P	**P**	**07 09 38.5**	**+0.6**
PWJI	**Pagerwojo**	**67.77**	**269**	P	**P**	**07 09 45.7**	**-0.7**
	comp=Z,1μmcomp=Z,46nm,1.1s						
MJAR	**Matsushiro Arr**	**69.00**	**324**	P	**P**	**07 09 52.7**	**-0.6**
	comp=Z,7.1nm,0.6s,baz=161,slow=5.9,SNR=13						
MJAR	**Matsushiro Arr**	**69.00**	**324**	P	**P**	**07 09 53.4**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,36nm,1.7s						
MJAR	**Matsushiro Arr**	**69.00**	**324**	P	**P**	**07 09 53.4**	**+0.1**
MAT	**Matsushiro**	**69.00**	**324**	P	**P**	**07 09 52.9**	**-0.4**
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**07 10 02.1**	**+1.1**
	comp=Z,51nm,0.8s,baz=46,slow=1.3,SNR=215						
QSPA	**South Pole Qui**	**70.36**	**180**	P	**P**	**07 10 02.2**	**+1.2**
QSPA				IAmb	IAmb	07 10 03.2	
	comp=Z,52nm,0.9s						
KPJI	**Karang P

KRMB	**Red Mountain**	**79.44**	**39**	P	**P**	**07 10 51.0**	**-0.6**
KRMB				IAmb	IAmb	07 10 55.0	
	comp=Z,59nm,1.3s						
ISA	**Isabella, Lake**	**79.48**	**46**	P		07 10 53.3	
	baz=236,SNR=32						
ISA	**Isabella, Lake**	**79.48**	**46**	IAmb	IAmb	07 10 54.8	
	comp=Z,62nm,1.0s						
CMB	**Columbia Colle**	**79.55**	**43**	IAmb	IAmb	07 10 54.7	
	comp=Z,40nm,0.9s						
OHAK	**Old Harbor**	**79.61**	**14**	P		07 10 52.2	
	baz=205						
OHAK	**Old Harbor**	**79.61**	**14**	IAmb	IAmb	07 10 53.5	
	comp=Z,62nm,1.4s						
KBO	**Bosley Butte**	**79.69**	**38**	P	**P**	**07 10 52.6**	**-0.3**
WDC	**Whiskeytown Da**	**79.69**	**40**	P	**P**	**07 10 53.3**	**+0.5**
WDC				pmax	pmax		
	comp=Z,51nm,1.1s						
WDC	**Whiskeytown Da**	**79.69**	**40**	P	**P**	**07 10 53.3**	**+0.5**
WDC				IAmb	IAmb	07 10 55.7	
	comp=Z,51nm,1.1s						
AFDM	**Forest Hills D**	**79.70**	**42**	IAmb	IAmb	07 10 55.5	
	comp=Z,46nm,1.1s						
PFO	**Pinyon Flats O**	**79.78**	**49**	P		07 10 55.1	
	baz=238,SNR=7.6						
PFO	**Pinyon Flats O**	**79.78**	**49**	P	**P**	**07 10 53.7**	**+0.1**
	comp=Z,13nm,1.0s,baz=235,slow=4.8,SNR=9.6						
PFO	**Pinyon Flats O**	**79.78**	**49**	*i* P	**P**	**07 10 53.1**	**-0.5**
PFO				pmax	pmax		
	comp=Z,40nm,1.2s						
PFO	**Pinyon Flats O**	**79.78**	**49**	P	**P**	**07 10 54.1**	**+0.5**
TPFO	**Pinon Flats**	**79.78**	**49**	P		07 10 55.1	
	baz=238,SNR=7.1						
SRIG	**Santa Rosalia**	**79.78**	**56**	IAmb	IAmb	07 10 56.6	
	comp=Z,73nm,1.1s						
BBRC	**Big Bear Solar**	**79.79**	**48**	P		07 10 55.1	
	baz=238						
N02D	**Trinity Center**	**79.83**	**40**	P		07 10 55.6	
	baz=233,SNR=32						
LPIG	**La Paz**	**79.84**	**60**	P	**P**	**07 10 54.7**	**+0.8**
	comp=Z,28nm,0.8s,baz=202,slow=3.3,SNR=4.2						
SWSC	**Sam W. Stewart**	**79.90**	**50**	P		07 10 55.4	
	baz=239,SNR=8.0						
LRMC	**Laurel Mtn Rad**	**79.92**	**47**	P		07 10 55.6	
	baz=237,SNR=7.2						
SLBS	**Sierra La Lagu**	**79.95**	**60**	P	**P**	**07 10 54.8**	**+0.2**
SLBS				IAmb	IAmb	07 10 58.0	
	comp=Z,70nm,1.1s						
O03E	**Paynes Creek**	**79.97**	**41**	P		07 10 55.7	
	baz=234						
M02C	**Callahan**	**79.99**	**39**	P		07 10 56.7	
	baz=233,SNR=46						
L02E	**Cave Junction**	**80.02**	**38**	P		07 10 56.3	
	baz=232,SNR=14						
KEBM	**Edson Butte**	**80.03**	**38**	IAmb	IAmb	07 10 57.5	
	comp=Z,48nm,1.1s						
MDPB	**Devils Postpil**	**80.17**	**44**	P	**P**	**07 10 56.6**	**+0.9**
MDPB				IAmb	IAmb	07 10 58.4	
	comp=Z,61nm,1.0s						
CWC	**Cottonwood Cre**	**80.17**	**46**	P		07 10 57.1	
	baz=237						
KDAK	**Kodiak Island**	**80.28**	**14**	P		07 10 55.7	
	baz=205						
RUBR	**Rubicon Trail**	**80.28**	**43**	P	**P**	**07 10 56.5**	**+0.3**
RUBR				IAmb	IAmb	07 10 58.9	
	comp=Z,91nm,1.3s						
KDAK	**Kodiak Island**	**80.28**	**14**	P	**P**	**07 10 55.8**	**+0.4**
	comp=Z,12nm,0.7s,baz=224,slow=2.2,SNR=30						
KDAK	**Kodiak Island**	**80.28**	**14**	*i* P	**P**	**07 10 55.4**	**0.0**
KDAK				pmax	pmax		
	comp=Z,25nm,1.1s						
KDAK	**Kodiak Island**	**80.28**	**14**	P	**P**	**07 10 54.9**	**-0.5**
YBH	**Yreka Blue Hor**	**80.28**	**39**	P	**P**	**07 10 57.6**	**+1.6**
	comp=Z,35nm,0.9s,baz=186,slow=2.4,SNR=98						
YBH	**Yreka Blue Hor**	**80.28**	**39**	P	**P**	**07 10 57.2**	**+1.2**
YBH				pmax	pmax		
	comp=Z,52nm,1.1s						
YBH	**Yreka Blue Hor**	**80.28**	**39**	P	**P**	**07 10 57.2**	**+1.2**
YBH				IAmb	IAmb	07 10 59.0	
	comp=Z,52nm,1.1s						
BELC	**Belle Mtn. Jos**	**80.31**	**49**	P		07 10 57.7	
	baz=238,SNR=24						
K02D	**Willamette Mer**	**80.31**	**38**	P		07 10 57.7	
	baz=232,SNR=23						
MLAC	**Mammoth, Mammo**	**80.33**	**44**	P		07 10 58.0	
	baz=236						
TIN	**Tinemaha, Big**	**80.41**	**45**	P		07 10 58.1	
	baz=236,SNR=22						
J01E	**Myrtle Point**	**80.44**	**37**	P		07 10 58.2	
	baz=232,SNR=13						
BELA	**Belgrano 2**	**80.47**	**173**	P	**P**	**07 10 56.4**	**+0.1**
BELA				IAmb	IAmb	07 10 57.4	
	comp=Z,65nm,0.9s						
HEC	**Hector,Ludlow**	**80.50**	**48**	P		07 10 58.5	
	baz=238,SNR=8.1						
BC3	**Big Chuckawall**	**80.51**	**49**	P		07 10 59.2	
	baz=239,SNR=10						
GLA	**Glamis**	**80.65**	**50**	P		07 11 00.1	
	baz=239,SNR=10						
GLA	**Glamis**	**80.65**	**50**	IAmb	IAmb	07 11 01.3	
	comp=Z,66nm,0.9s						
HUMO	**Hull Mountain**	**80.67**	**38**	IAmb	IAmb	07 11 01.1	
	comp=Z,51nm,1.1s						
VCNR	**Virginia City**	**80.74**	**43**	IAmb	IAmb	07 11 01.3	
	comp=Z,45nm,1.0s						
L04D	**Klamath Falls**	**80.82**	**39**	P		07 11 00.2	
	baz=233,SNR=33						
YERR	**Yerington**	**80.82**	**43**	P	**P**	**07 11 00.1**	**+1.2**
M04C	**Macdoel**	**80.83**	**40**	P		07 11 00.3	
	baz=233,SNR=22						
LHV	**Little Huntoon**	**80.89**	**44**	IAmb	IAmb	07 11 02.2	
	comp=Z,78nm,1.1s						
GMRC	**Granite Mounta**	**80.95**	**48**	P		07 11 01.0	
	baz=238,SNR=8.3						
GRAC	**Grapevine Rang**	**80.96**	**46**	P		07 11 01.3	
	baz=237,SNR=24						
IRM	**Iron Mountain**	**80.99**	**49**	P		07 11 01.8	
	baz=239,SNR=27						
FURC	**Furnace Creek,**	**81.01**	**46**	P		07 11 01.1	
	baz=238,SNR=14						
I02D	**Swisshome**	**81.08**	**37**	P		07 11 01.6	
	baz=232						
CN2	**Changchun**	**81.08**	**323**	*e*P	**P**	**07 11 00.4**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
RYN	**Ryan**	**81.09**	**44**	IAmb	IAmb	07 11 02.9	
	comp=Z,109nm,1.6s						
TUQ	**Turquoise Moun**	**81.11**	**47**	P		07 11 01.7	
	baz=238,SNR=9.0						
I03D	**Drain, OR**	**81.11**	**37**	P		07 11 01.5	
	baz=232,SNR=15						
SHOC	**Shoshone, Teco**	**81.11**	**47**	P		07 11 01.4	
	baz=238,SNR=7.6						
NVAR	**Mina Array Bea**	**81.12**	**44**	P	**P**	**07 11 01.9**	**+1.4**
	comp=Z,32nm,0.8s,baz=225,slow=8.8,SNR=207						
PAHR	**Pah Rah Range**	**81.14**	**42**	IAmb	IAmb	07 11 03.1	
	comp=Z,64nm,1.0s						
NV11	**Mina Array Sit**	**81.22**	**44**	IAmb	IAmb	07 11 03.6	
	comp=Z,83nm,1.1s						
113A	**Mohawk Valley,**	**81.28**	**51**	IAmb	IAmb	07 11 04.2	
	comp=Z,47nm,1.0s						
KLR	**Kul'dur**	**81.36**	**330**	*i* P	**P**	**07 11 00.8**	**-0.3**
K04D	**Chiloquin, OR**	**81.39**	**39**	P		07 11 03.1	
	baz=233,SNR=6.2						
J04D	**Umpqua Nationa**	**81.55**	**38**	P		07 11 04.2	
	baz=233,SNR=25						
214A	**Organ Pipe Nat**	**81.58**	**52**	P		07 11 04.6	
	baz=241						
214A	**Organ Pipe Nat**	**81.58**	**52**	P	**P**	**07 11 04.5**	**+1.7**
214A				IAmb	IAmb	07 11 06.0	
	comp=Z,60nm,1.2s						
HSIG		**81.59**	**55**	IAmb	IAmb	07 11 05.7	
	comp=Z,92nm,1.5s						
KVN	**Kaiserville**	**81.60**	**43**	P	**P**	**07 11 03.4**	**+0.5**
KVN				pmax	pmax		
	comp=Z,69nm,1.0s						
KVN	**Kaiserville**	**81.60**	**43**	P	**P**	**07 11 03.4**	**+0.5**
KVN				IAmb	IAmb	07 11 05.3	
	comp=Z,69nm,1.0s						
NEE2	**Needles Airpor**	**81.68**	**49**	P		07 11 04.9	
	baz=239,SNR=5.5						
COR	**Corvallis**	**81.68**	**37**	P	**P**	**07 11 03.8**	**+0.9**
COR				pmax	pmax		
	comp=Z,52nm,1.0s						
COR	**Corvallis**	**81.68**	**37**	P	**P**	**07 11 03.8**	**+0.9**
COR				IAmb	IAmb	07 11 05.8	
	comp=Z,52nm,1.0s						
TPNV	**Topopah Spring**	**81.68**	**46**	P		07 11 04.8	
	baz=238,SNR=43						
TPNV	**Topopah Spring**	**81.69**	**46**	IAmb	IAmb	07 11 06.0	
	comp=Z,48nm,0.9s						
I04A	**Tendick Farm,**	**81.71**	**38**	P		07 11 04.1	
	baz=233,SNR=20						
PDMCI	**Parker Dam,Lak**	**81.78**	**49**	P		07 11 04.9	
	baz=240,SNR=22						
MOD	**Modoc Plateau**	**81.83**	**40**	P	**P**	**07 11 04.5**	**+0.6**
MOD				IAmb	IAmb	07 11 06.5	
	comp=Z,69nm,1.1s						
K05A	**Summer Lake**	**81.96**	**39**	IAmb	IAmb	07 11 07.6	
	comp=Z,73nm,0.9s						
H04D	**Lebanon**	**81.96**	**37**	P		07 11 06.0	
	baz=232,SNR=12						
MAW	**Mawson**	**81.98**	**200**	P	**P**	**07 11 04.5**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=128,slow=3.8,SNR=31						
MAW				pP	**pwP**	**07 13 23.8**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=118,slow=11,SNR=2.6						
MAW	**Mawson**	**81.98**	**200**	P	**P**	**07 11 04.7**	**+0.6**
	baz=82,SNR=25						
MAW	**Mawson**	**81.98**	**200**	P	**P**	**07 11 04.7**	**+0.6**
MAW	**Mawson**	**81.98**	**200**	P	**P**	**07 11 04.7**	**+0.6**
G03D	**McMinnville, O**	**82.09**	**36**	P		07 11 06.5	
	baz=232,SNR=5.3						
CNPM	**China Poot**	**82.16**	**14**	IAmb	IAmb	07 11 06.2	
	comp=Z,41nm,0.8s						
HOM	**Homer**	**82.19**	**14**	P		07 11 05.6	
	baz=206						
H04A	**Detroit Lake**	**82.38**	**37**	IAmb	IAmb	07 11 08.0	
	comp=Z,35nm,0.8s						
PMSA	**Palmer Station**	**82.40**	**157**	P	**P**	**07 11 06.0**	**-0.1**
	comp=Z,21nm,0.9s,baz=287,slow=6.2,SNR=1.8						
PMSA	**Palmer Station**	**82.40**	**157**	P	**P**	**07 11 05.6**	**-0.6**
PMSA				IAmb	IAmb	07 11 24.0	
	comp=Z,44nm,1.2s						
Y14A	**Wickenburg**	**82.42**	**50**	P	**P**	**07 11 08.1**	**+1.2**
BRLK	**Bradley Lake**	**82.45**	**14**	IAmb	IAmb	07 11 07.5	
	comp=Z,52nm,0.9s						
BRSE	**Bradley Lake S**	**82.46**	**14**	P		07 11 06.9	
	baz=207,SNR=9.5						
PINE	**Pine Mountain**	**82.56**	**38**	IAmb	IAmb	07 11 10.6	
	comp=Z,68nm,0.9s						
I05D	**Terrebonne, OR**	**82.65**	**38**	P		07 11 09.1	
	baz=233,SNR=20						
PRN	**Pahroc Range**	**82.74**	**46**	P	**P**	**07 11 09.4**	**+0.8**
PRN				IAmb	IAmb	07 11 11.6	
	comp=Z,68nm,1.1s						
F04D	**Rainier, OR**	**82.77**	**36**	P		07 11 10.0	
	baz=232						
R11A	**Troy Canyon, C**	**82.87**	**45**	P		07 11 10.2	
	baz=238,SNR=11						
SEW	**Seward**	**83.08**	**14**	P		07 11 09.3	
	baz=208,SNR=7.6						
NLWA	**Neilton Lookou**	**83.12**	**34**	P	**P**	**07 11 11.1**	**+1.0**
NLWA				IAmb	IAmb	07 11 12.8	
	comp=Z,44nm,1.0s						
WVOR	**Wild Horse Val**	**83.15**	**40**	P	**P**	**07 11 11.3**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,52nm,1.0s						
WVOR	**Wild Horse Val**	**83.15**	**40**	P	**P**	**07 11 11.2**	**+0.8**
WVOR				IAmb	IAmb	07 11 13.2	
	comp=Z,52nm,1.0s						
G05D	**Wamic, OR**	**83.20**	**37**	P		07 11 11.6	
	baz=233,SNR=6.6						
TUC	**Tucson**	**83.26**	**52**	P		07 11 13.4	
	baz=242						
TUC	**Tucson**	**83.26**	**52**	P	**P**	**07 11 13.0**	**+1.8**
TUC				pmax	pmax		
	comp=Z,45nm,1.1s						
TUC	**Tucson**	**83.26**	**52**	P	**P**	**07 11 13.0**	**+1.8**
TUC				IAmb	IAmb	07 11 14.6	
	comp=Z,45nm,1.1s						
E04D	**Cinebar**	**83.30**	**35**	P		07 11 12.4	
	baz=232,SNR=22						
SPCR	**Spurr Chakacha**	**83.46**	**13**	P		07 11 10.6	
	baz=205						
I07A	**Izee**	**83.57**	**39**	P	**P**	**07 11 13.2**	**+0.7**
D04E	**Lakebay**	**83.57**	**35**	P		07 11 13.7	
	baz=232						
D03D	**Eldon**	**83.62**	**34**	P		07 11 13.9	
	baz=232,SNR=25						
J08A	**Circle Bar Ran**	**83.77**	**40**	IAmb	IAmb	07 11 16.1	
	comp=Z,49nm,1.1s						
X16A	**Lo Mia Camp, P**	**83.78**	**50**	IAmb	IAmb	07 11 17.0	
	comp=Z,43nm,1.1s						
RC01	**Rabbit Creek A**	**83.89**	**14**	P		07 11 13.3	
	baz=208,SNR=5.4						
RC01	**Rabbit Creek A**	**83.89**	**14**	IAmb	IAmb	07 11 14.6	
	comp=Z,57nm,1.2s						
SUA	**Susitna One**	**84.01**	**13**	IAmb	IAmb	07 11 14.8	
	comp=Z,27nm,0.6s						
PWL	**Port Wells**	**84.02**	**15**	IAmb	IAmb	07 11 15.0	
	comp=Z,54nm,1.0s						
SPR3	**Spring Creek 3**	**84.05**	**45**	P	**P**	**07 11 15.6**	**+0.3**
PGC	**Sidney**	**84.13**	**33**	IAmb	IAmb	07 11 17.2	
	comp=Z,56nm,1.2s						
U15A	**North Rim**	**84.15**	**48**	IAmb	IAmb	07 11 18.6	
	comp=Z,47nm,0.9s						
SKT	**Skwentna**	**84.31**	**13**	P		07 11 15.7	
	baz=206						
GLI	**Glacier Island**	**84.33**	**15**	P		07 11 15.3	
	baz=210,SNR=9.0						
GLI	**Glacier Island**	**84.33**	**15**	P	**P**	**07 11 15.5**	**-0.2**
TTA	**Tatalina**	**84.33**	**10**	P		07 11 16.0	
	baz=202,SNR=12						
WUAZ	**Wupatki**	**84.36**	**49**	P		07 11 18.1	
	baz=241,SNR=15						
WUAZ	**Wupatki**	**84.36**	**49**	IAmb	IAmb	07 11 19.5	
	comp=Z,36nm,1.1s						
ELK	**Elko**	**84.36**	**43**	P	**P**	**07 11 16.9**	**+0.3**
ELK				pmax	pmax		
	comp=Z,22nm,1.1s						
ELK	**Elko**	**84.36**	**43**	P	**P**	**07 11 16.9**	**+0.3**
FID	**Port Fidalgo**	**84.37**	**15**	IAmb	IAmb	07 11 16.7	
	comp=Z,46nm,1.1s						
F07A	**Phinny Hill Vi**	**84.38**	**37**	P	**P**	**07 11 16.3**	**+0.1**
F07A				IAmb	IAmb	07 11 18.7	
	comp=Z,73nm,1.6s						
EYAK	**Cordova Ski Ar**	**84.38**	**16**	P		07 11 15.8	
	baz=211,SNR=5.0						
CRAG	**Craig**	**84.39**	**24**	P		07 11 17.1	
	baz=223						
M22K	**Willow**	**84.40**	**13**	P		07 11 15.5	
	baz=207						
KNK	**Knik Glacier**	**84.47**	**14**	P		07 11 16.3	
	baz=209,SNR=8.1						
PMR	**Palmer**	**84.48**	**14**	P	**P**	**07 11 15.8**	**-0.5**
PMR				pmax	pmax		
	comp=Z,47nm,1.2s						
PMR	**Palmer**	**84.48**	**14**	P	**P**	**07 11 15.8**	**-0.5**
PMR				IAmb	IAmb	07 11 17.4	
	comp=Z,47nm,1.2s						
A04D	**Lummi Island**	**84.56**	**34**	P		07 11 18.3	
	baz=232,SNR=7.6						
G08A	**Pilot Rock**	**84.58**	**38**	IAmb	IAmb	07 11 20.0	
	comp=Z,71nm,1.4s						
B05A	**Bryant**	**84.60**	**34**	P		07 11 18.5	
	baz=232,SNR=21						
GHO	**Glory Hole Cre**	**84.68**	**14**	P	**P**	**07 11 16.4**	**-1.1**
GHO				IAmb	IAmb	07 11 18.5	
	comp=Z,56nm,1.0s						
ENH	**Enshi**	**84.79**	**305**	P	**P**	**07 11 17.4**	**-1.2**
E07A	**Sunnyside**	**84.81**	**37**	P	**P**	**07 11 19.0**	**+0.7**
E07A				IAmb	IAmb	07 11 20.9	
	comp=Z,44nm,1.0s						
SML	**Sawmill**	**84.85**	**14**	P		07 11 17.9	
	baz=209						
HPIG		**84.85**	**59**	P	**P**	**07 11 20.1**	**+0.9**
HPIG				IAmb	IAmb	07 11 21.9	
	comp=Z,33nm,1.0s						
HAWA	**Hanford**	**84.89**	**37**	IAmb	IAmb	07 11 21.3	
	comp=Z,45nm,1.0s						
X18A	**Snowflake**	**84.92**	**51**	IAmb	IAmb	07 11 22.1	
	comp=Z,117nm,2.0s						
CUT	**Chulitna**	**84.95**	**13**	P		07 11 18.0	
	baz=207						
BMRM	**Bremner River**	**85.04**	**16**	P		07 11 19.2	
	baz=212,SNR=12						
BMRM	**Bremner River**	**85.04**	**16**	IAmb	IAmb	07 11 20.4	
	comp=Z,33nm,0.8s						
MESA	**MESA**	**85.10**	**18**	P		07 11 20.0	
	baz=215,SNR=6.4						
SCM	**Sheep Creek Mo**	**85.11**	**14**	IAmb	IAmb	07 11 20.6	
	comp=Z,50nm,0.8s						
KLU	**Klutina**	**85.15**	**15**	P		07 11 19.5	
	baz=211,SNR=8.9						
KLU	**Klutina**	**85.15**	**15**	P	**P**	**07 11 19.4**	**-0.2**
E08A	**Dider Farm, El**	**85.21**	**37**	P	**P**	**07 11 20.8**	**+0.6**
CRQE	**Cirque**	**85.26**	**17**	P		07 11 20.6	
	baz=214						
BMO	**Blue Mountains**	**85.31**	**39**	IAmb	IAmb	07 11 23.1	
	comp=Z,92nm,1.8s						
YAH	**Yahtse**	**85.31**	**18**	P	**P**	**07 11 20.5**	**-0.2**
YAH				IAmb	IAmb	07 11 22.5	
	comp=Z,45nm,1.0s						
TGL	**Tana Glacier**	**85.33**	**17**	P	**P**	**07 11 20.7**	**+0.1**
TGL				IAmb	IAmb	07 11 22.1	
	comp=Z,30nm,1.0s						
W18A	**Petrified Fore**	**85.35**	**50**	P		07 11 22.8	
	baz=242,SNR=11						
W18A	**Petrified Fore**	**85.35**	**50**	IAmb	IAmb	07 11 24.0	
	comp=Z,32nm,1.1s						
WRAK	**Wrangell Islan**	**85.38**	**24**	P		07 11 21.7	
	baz=224						
SEY	**Seymchan**	**85.39**	**347**	*i* P	**P**	**07 11 20.3**	**-0.3**
MFID	**Camas Ranch**	**85.41**	**41**	IAmb	IAmb	07 11 23.9	
	comp=Z,50nm,1.0s						
PINM	**Pinnacle**	**85.53**	**18**	P		07 11 21.6	
	baz=216,SNR=5.2						
TABL	**Table Mountain**	**85.55**	**18**	IAmb	IAmb	07 11 23.2	
	comp=Z,31nm,0.9s						
N25K	**Chitina, Valde**	**85.58**	**16**	P		07 11 22.0	
	baz=212,SNR=15						
121A	**Cookes Peak, D**	**85.61**	**53**	P		07 11 24.4	
	baz=244						
GRNC	**Granite Creek**	**85.61**	**17**	IAmb	IAmb	07 11 23.6	
	comp=Z,32nm,1.1s						
M24K	**Tolsona, Glenn**	**85.62**	**15**	P		07 11 22.3	
	baz=211,SNR=5.8						
D08A	**Wollman Farm,**	**85.62**	**36**	IAmb	IAmb	07 11 24.6	
	comp=Z,32nm,0.9s						
M24K	**Tolsona, Glenn**	**85.62**	**15**	IAmb	IAmb	07 11 23.6	
	comp=Z,44nm,1.1s						
WAT6	**Susitna Watana**	**85.66**	**14**	P		07 11 21.9	
	baz=209,SNR=22						
DUG	**Dugway, Tooele**	**85.67**	**45**	P		07 11 23.6	
	baz=240,SNR=8.3						
ZAIG	**Zacatecas**	**85.72**	**64**	IAmb	IAmb	07 11 26.9	
	comp=Z,29nm,0.9s						
E09A	**Wood Farm, Sta**	**85.75**	**37**	P	**P**	**07 11 23.6**	**+0.9**
E09A				IAmb	IAmb	07 11 25.0	
	comp=Z,81nm,1.5s						
MCARA	**McCarthy VSAT**	**85.80**	**16**	P		07 11 22.8	
	baz=214						
MCARA	**McCarthy VSAT**	**85.81**	**16**	IAmb	IAmb	07 11 24.3	
	comp=Z,47nm,1.4s						
WAT2	**Susitna Watana**	**85.81**	**13**	P		07 11 22.5	
	baz=209,SNR=16						
MG02	**Cerro Sombrero**	**85.85**	**145**	P	**P**	**07 11 24.9**	**+1.7**
TRF	**Thorofare Moun**	**85.88**	**13**	P		07 11 22.0	
	baz=207,SNR=14						
TRF	**Thorofare Moun**	**85.88**	**13**	IAmb	IAmb	07 11 24.8	
	comp=Z,25nm,0.8s						
BARN	**Barnard Glacie**	**85.91**	**17**	IAmb	IAmb	07 11 25.0	
	comp=Z,28nm,0.9s						
CTG	**Chitna Glacier**	**85.92**	**17**	P		07 11 23.9	
	baz=215,SNR=8.3						
F10A	**Beach Ranch, E**	**85.97**	**38**	P	**P**	**07 11 25.0**	**+1.0**
BESE	**Bessie Mountai**	**86.07**	**21**	IAmb	IAmb	07 11 26.3	
	comp=Z,29nm,1.0s						
HARP	**HAARP**	**86.11**	**15**	P		07 11 24.3	
	baz=212,SNR=5.7						
B08A	**Colville Reser**	**86.14**	**35**	IAmb	IAmb	07 11 26.3	
	comp=Z,40nm,0.9s						
BPAW	**Bear Paw Mtn.**	**86.32**	**12**	P		07 11 25.4	
	baz=206						
HLID	**Hailey**	**86.36**	**41**	P		07 11 27.5	
	baz=238,SNR=111						
C09A	**Chrisman Ranch**	**86.40**	**36**	IAmb	IAmb	07 11 27.9	
	comp=Z,37nm,0.9s						
MCK	**McKinley**	**86.41**	**13**	P		07 11 24.9	
	baz=208,SNR=12						
MCK	**McKinley**	**86.41**	**13**	IAmb	IAmb	07 11 26.2	
	comp=Z,32nm,1.1s						
XAN	**Xi'an**	**86.88**	**308**	P	**P**	**07 11 29.5**	**+1.0**
XAN				S	**S**	**07 21 16.2**	**+2.9**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				pmax	pmax		
	comp=Z,110nm,4.2s						
MENT	**Mentasta**	**86.93**	**15**	P	**P**	**07 11 27.5**	**-0.4**
HYT	**Haines Junctio**	**86.94**	**19**	P	**P**	**07 11 28.8**	**+0.6**
HYT				IAmb	IAmb	07 11 30.1	
	comp=Z,23nm,0.9s						
Y22D	**IRIS PASSCAL I**	**86.94**	**52**	P		07 11 30.2	
	baz=244						
MNTX	**Cornudas Mount**	**87.09**	**55**	P		07 11 31.0	
	baz=245						
MNTX	**Cornudas Mount**	**87.09**	**55**	IAmb	IAmb	07 11 32.3	
	comp=Z,44nm,1.0s						
NEA2	**Nenana**	**87.15**	**12**	P		07 11 27.7	
	baz=208,SNR=10						
HWUT	**Hardware Ranch**	**87.19**	**44**	P	**P**	**07 11 28.9**	**-1.0**
MVCO	**Mesa Verde**	**87.20**	**49**	P		07 11 31.1	
	baz=243,SNR=5.4						
MLY	**Manley**	**87.21**	**12**	P		07 11 28.2	
	baz=207,SNR=23						
TLIG	**Tlapa**	**87.23**	**70**	IAmb	IAmb	07 11 33.7	
	comp=Z,37nm,1.3s						
WRH	**Wood River Hil**	**87.24**	**13**	P	**P**	**07 11 28.9**	**-0.5**
WRH				IAmb	IAmb	07 11 30.0	
	comp=Z,49nm,1.0s						
SYO	**Syowa Base**	**87.28**	**193**	*e*P	**P**	**07 11 27.7**	**-1.9**
SYO	**Syowa Base**	**87.28**	**193**	*e*pP	pP	07 13 48.2	-0.1
NEW	**Newport**	**87.30**	**36**	P		07 11 30.3	
	baz=236,SNR=16						
BCYI	**Bear Canyon**	**87.38**	**41**	P	**P**	**07 11 31.8**	**+1.1**
HDA	**Harding Lake**	**87.43**	**13**	P		07 11 29.7	
	baz=210,SNR=24						
HDA				P		07 11 29.7	
	baz=210,SNR=24						
HDA	**Harding Lake**	**87.43**	**13**	P	**P**	**07 11 29.8**	**-0.5**
HDA				IAmb	IAmb	07 11 30.9	
	comp=Z,27nm,0.7s						
TXAR	**Lajitas Array**	**87.45**	**58**	P	**P**	**07 11 33.3**	**+2.0**
	comp=Z,33nm,0.8s,baz=221,slow=5.8,SNR=321						
TXAR				PKKPbc	**PKKPbc**	**07 29 16.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=100,slow=1.0,SNR=4.6						
TXAR	**Lajitas Array**	**87.45**	**58**	P	**P**	**07 11 33.0**	**+1.7**
TXAR	**Lajitas Array**	**87.45**	**58**	P	**P**	**07 11 33.0**	**+1.7**
CCB	**Clear Creek Bu**	**87.46**	**13**	IAmb	IAmb	07 11 30.

comp=Z,0.4nm,0.6s,baz=342,slow=2.4,SNR=4.6
ILAR Eielson Array 87.76 13 P **P** 07 11 31.3 -0.5
ILAR Eielson Array 87.76 13 P **P** 07 11 31.3 -0.5
POKR Poker Plat Res 87.94 13 P 07 11 31.8
baz=210
AHID Auburn Hatcher 88.06 43 lAmb lAmb 07 11 37.1
comp=Z,42nm,1.1s
HHC Hu-ho-hao-te 88.11 315 *e*P **P** 07 11 34.7 +0.6
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,69nm,5.5s
KMI Kunming 88.12 297 ⇑P **P** 07 11 36.4 +1.7
KMI pmax pmax
comp=Z,8.0nm,1.0s
H23K Yukon River 88.15 12 P 07 11 32.9
baz=208,SNR=6.7
BILL Bilibino 88.15 355 ⇑P **P** 07 11 33.9 +0.4
BILL *i* *PP **pP** 07 13 56.4 +3.2
BILL *i* *SP **sP** 07 14 56.7 -1.7
BILL 07 15 18.0
BILL *e*SS SS 07 27 42.4 +7.8
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 88.15 355 P **P** 07 11 34.0 +0.4
K27K Chicken 88.25 15 P 07 11 34.4
baz=215
K27K Chicken 88.25 15 lAmb lAmb 07 11 36.0
comp=Z,24nm,1.0s
MSO Missoula 88.35 39 P 07 11 35.4
baz=239,SNR=6.0
MSO Missoula 88.35 39 P **P** 07 11 34.9 -0.2
DLMT Dillon 88.40 40 P **P** 07 11 36.0 +0.5
DLMT lAmb lAmb 07 11 38.0
comp=Z,43nm,1.2s
TPAW Teton Pass 88.50 42 lAmb lAmb 07 11 38.8
comp=Z,33nm,1.1s
LL02 Futaleuf 88.57 136 P **P** 07 11 38.5 +2.2
LL02 lAmb lAmb 07 11 39.1
comp=Z,21nm,0.8s
S22A 4UR Ranch, Cre 88.63 49 P 07 11 38.1
baz=244,SNR=29
PRP Porcupine Dome 88.70 13 P 07 11 35.1
baz=211
PRP Porcupine Dome 88.70 13 lAmb lAmb 07 11 37.7
comp=Z,31nm,1.4s
O20A White River Ci 88.71 46 P 07 11 38.3
baz=243
LRM Limekiln Ridge 88.72 40 P **P** 07 11 37.7 +0.7
MOOW Moose Ponds 88.76 42 lAmb lAmb 07 11 39.7
comp=Z,53nm,1.8s
SNAA Sanae 88.82 179 P **P** 07 11 36.4 -0.4
SNAA Sanae 88.82 179 P **P** 07 11 36.5 -0.4
SNAA pmax pmax
comp=Z,53nm,1.8s
SNAA Sanae 88.82 179 P **P** 07 11 36.5 -0.4
SNAA lAmb lAmb 07 11 37.6
comp=Z,53nm,1.8s
CMAR Chiang Mai Arr 88.93 290 P **P** 07 11 39.8 +1.5
comp=Z,7.2nm,1.0s,baz=119,slow=2.7,SNR=23
CMAR PKKPbc **PKKPbc** 07 29 13.4 +0.8
comp=Z,1.5nm,0.4s,baz=286,slow=4.6,SNR=7.0
CMAR Chiang Mai Arr 88.93 290 *ce*P **P** 07 11 40.0 +1.7
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 88.93 290 P **P** 07 11 39.7 +1.4
FLWY Flagg Ranch 88.95 42 lAmb lAmb 07 11 41.0
comp=Z,44nm,1.1s
DAWY Dawson 88.97 16 lAmb lAmb 07 11 39.0
comp=Z,25nm,0.9s
VNA3 Neumayer Olymp 88.99 177 P **P** 07 11 37.5 -0.1
BW06 Boulder Array 89.05 44 P **P** 07 11 39.1 +0.5
BW06 lAmb lAmb 07 11 40.5
comp=Z,27nm,0.9s
BW06 Boulder Array 89.05 44 P 07 11 39.2
baz=242,SNR=34
PDAR Pinedale Array 89.05 44 P **P** 07 11 39.3 +0.7
comp=Z,17nm,0.7s,baz=211,slow=2.9,SNR=120
PDAR PP **PP** 07 15 21.1 -0.8
comp=Z,3.3nm,1.0s,baz=240,slow=7.9,SNR=7.6
PDAR PKKPbc **PKKPbc** 07 29 12.8 -0.7
comp=Z,0.3nm,0.4s,baz=104,slow=6.3,SNR=3.8
PDAR Pinedale Array 89.05 44 P **P** 07 11 39.0 +0.4
EGAK Eagle 89.09 15 P 07 11 38.1
baz=215,SNR=32
EGAK Eagle 89.09 15 lAmb lAmb 07 11 39.2
comp=Z,30nm,1.0s
SMCO Snowmass 89.16 48 lAmb lAmb 07 11 41.7
comp=Z,24nm,0.9s
H17A Grant Village 89.18 42 P 07 11 41.5
baz=241,SNR=24
H17A Grant Village 89.18 42 lAmb lAmb 07 11 42.8
comp=Z,27nm,1.1s
COLD Coldfoot 89.28 11 P 07 11 39.1
baz=207
COLD Coldfoot 89.28 11 lAmb lAmb 07 11 40.4
comp=Z,21nm,1.0s
VNA2 Neumayer--Watz 89.42 177 P **P** 07 11 39.7 +0.1
baz=181,slow=4.0
WALA Waterton Lakes 89.52 37 lAmb lAmb 07 11 42.4
comp=Z,21nm,1.1s
SDCO Great Sand Dun 89.57 49 P 07 11 41.9
baz=245,SNR=25
VNA1 Neumayer--Stat 89.66 177 P **P** 07 11 40.7 +0.1
MSTX Muleshoe 90.02 54 lAmb lAmb 07 11 45.0
comp=Z,30nm,0.9s
MSTX Muleshoe 90.02 54 P 07 11 43.7
baz=246
T25A Trinidad 90.10 50 P 07 11 44.3
baz=245,SNR=20
T25A Trinidad 90.10 50 lAmb lAmb 07 11 45.6
comp=Z,19nm,0.9s
RWWY Rawlins 90.11 45 P **P** 07 11 43.9 +0.3
Q24A Divide 90.34 49 P 07 11 45.9
baz=245
RLMT Red Lodge 90.34 42 P 07 11 45.7
baz=242,SNR=8.4
ISCO Idaho Springs 90.37 48 P 07 11 45.8
baz=245
833A Chaparral WMA, 90.50 60 P 07 11 46.3
baz=248
PLCA Paso Flores 90.52 134 P **P** 07 11 46.8 +1.4
comp=Z,7.4nm,0.8s,baz=209,slow=7.2,SNR=9.5
BMAR Burnt Mountain 90.53 13 P **P** 07 11 44.8 +0.2
N23A Red Feather La 90.62 46 P 07 11 47.1
baz=244
TOLK Toolik Lake Re 90.65 10 P 07 11 45.2
baz=208
JCT Junction City 90.98 58 lAmb lAmb 07 11 49.1
comp=Z,13nm,0.8s
JCT Junction City 90.98 58 P 07 11 47.8
baz=248
K22A Casper 90.99 45 P 07 11 48.3
baz=244,SNR=9.6
K22A Casper 90.99 45 lAmb lAmb 07 11 49.6
comp=Z,44nm,1.4s
PHWY Pilot Hill 91.12 46 P **P** 07 11 48.0 -0.3
EGMT Eagleton 91.41 39 P 07 11 50.0
baz=242,SNR=8.9
LZH Lanzhou 91.52 308 *e*P **P** 07 11 50.5 +0.4
LZH S **S** 07 21 59.0 +3.8
LZH pmax pmax
comp=Z,19nm,1.2s
LZH pmax pmax
comp=Z,70nm,4.9s
ABTX Abilene, Hawle 91.92 56 P 07 11 52.2
baz=248
KSCO Kaye Shedlock' 92.15 49 P 07 11 53.8
baz=246,SNR=9.8
LAO LASA Array 92.95 41 P 07 11 57.6
baz=244,SNR=12
MT01 Popeta 93.07 127 P **P** 07 11 58.3 +1.1
RSSD Black Hills 93.26 44 P **P** 07 11 58.6 +0.7
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 93.26 44 P **P** 07 11 58.6 +0.7
RSSD lAmb lAmb 07 12 00.3
comp=Z,8.3nm,0.8s
RSSD Black Hills 93.26 44 P 07 11 58.0
baz=246
OGNE Ogallala 93.34 48 P 07 11 58.2
baz=247
OGNE Ogallala 93.34 48 lAmb lAmb 07 11 60.0
comp=Z,21nm,1.2s
WMOK Wichita Mounta 93.37 54 P 07 11 57.1
baz=248
WMOK Wichita Mounta 93.37 54 P **P** 07 11 57.0 -1.4
WMOK pmax pmax
comp=Z,25nm,0.8s
WMOK Wichita Mounta 93.37 54 P **P** 07 11 57.0 -1.4
INK Inuvik 93.76 15 P 07 11 58.7
baz=222,SNR=8.6
HKT Hockley 93.99 60 P **P** 07 12 02.9 +1.7
HKT pmax pmax
comp=Z,25nm,1.8s
HKT Hockley 93.99 60 P **P** 07 12 02.9 +1.7
HKT lAmb lAmb 07 12 03.9
comp=Z,25nm,1.8s
CBKS Cedar Bluff 94.16 50 P 07 12 02.2
baz=248
SONM Songino Array 94.52 319 PKKPbc PKKPbc 07 28 58.4 -1.3
comp=Z,2.1nm,1.2s,baz=249,slow=4.0,SNR=4.5
DGMT Dagmar 94.94 40 P 07 12 06.2
baz=246,SNR=9.0
T35A Sooner Cattle 95.86 53 lAmb lAmb 07 12 12.1
comp=Z,6.9nm,0.8s
KSU1 Kansas State U 96.54 51 Pdiff 07 12 13.6
baz=250
C36M Paulatuk 96.97 17 Pdiff 07 12 14.2
baz=231
JTS Las Juntas de 97.21 82 *i* P **P** 07 12 17.2 +1.1
JTS pmax pmax
comp=Z,11nm,1.1s
MIAR Mount Ida 97.33 56 Pdiff 07 12 15.8
baz=251
TIXI Tiksi 97.73 345 *ce*P Pdif 07 12 16.7 -0.4
ECSD EROS Data Cent 98.09 47 Pdiff 07 12 19.0
baz=251
U40A Yellville 98.46 55 Pdiff 07 12 21.1
baz=252
W41B Gary Mavity, V 98.56 56 Pdiff 07 12 21.2
baz=252
LPAZ La Paz 103.26 113 Pdiff **Pdif** 07 12 48.1 +4.3
comp=Z,1.7nm,0.8s,baz=195,slow=3.9,SNR=7.5
LPAZ La Paz 103.26 113 P **Pdif** 07 12 43.0 -0.7
LPAZ La Paz 103.26 113 **Pdif** 07 12 43.0 -0.7
WCI Wyandotte Cave 104.00 54 Pdiff 07 12 46.0
baz=256
ZALV Zalesovo Beam 109.27 321 PKiKP **PKiKP** 07 17 06.8 -1.2
comp=Z,1.4nm,0.3s,baz=156,slow=4.0,SNR=4.9
MKAR Makanchi Array 109.95 314 PKiKP **PKiKP** 07 17 08.3 -1.3
comp=Z,0.9nm,0.3s,baz=90,slow=0.8,SNR=24
MKAR PP **PP** 07 17 58.8 +2.0
comp=Z,0.6nm,0.6s,baz=87,slow=6.7,SNR=3.6
MKAR PKKPbc **PKKPbc** 07 28 14.4 -0.5
comp=Z,0.6nm,0.3s,baz=290,slow=3.6,SNR=13
MKAR PKKP **PKKPab** 07 28 28.1 +0.8
comp=Z,0.8nm,0.8s,baz=266,slow=4.9,SNR=5.1
ALGO Algonquin Park 111.43 47 PKiKP 07 17 11.7
baz=264
K58A Earlville 112.79 51 PKiKP 07 17 14.6
baz=264
KURBB Kurchatov Arra 112.81 318 PKiKP **PKiKP** 07 17 13.6 -1.3
comp=Z,1.2nm,0.4s,baz=100,slow=2.0,SNR=28
KURBB PP **PP** 07 18 20.1 +3.4
comp=Z,0.6nm,0.7s,baz=95,slow=6.2,SNR=4.3
KURBB PKKPbc **PKKPbc** 07 28 05.5 -0.3
comp=Z,1.7nm,0.8s,baz=272,slow=4.0,SNR=15
KURBB PKKPab **PKKPab** 07 28 15.5 +1.1
comp=Z,1.3nm,0.9s,baz=276,slow=5.1,SNR=7.8
J58A Remsen 113.11 50 PKiKP 07 17 14.6
baz=264
D55A Sainte-Anne-du 113.30 46 PKiKP 07 17 14.6
baz=266
J59A Piesco 113.69 50 PKiKP 07 17 15.8
baz=265
D56A ZEC Mazanza, M 113.79 46 PKiKP 07 17 15.7
baz=266
H58A Gabriels 114.00 49 PKiKP 07 17 16.3
baz=266
I59A Olmsteadville 114.17 50 PKiKP 07 17 16.8
baz=266
I60A Shoreham 114.60 50 PKiKP 07 17 17.6
baz=266
D58A Chemin du LacG 115.07 46 PKiKP 07 17 17.9
baz=268
H60A Morristown 115.07 49 PKiKP 07 17 18.5
baz=267
M63A Gales Ferry 115.33 53 PKiKP 07 17 19.2
baz=266
F60A Warwick 115.67 48 PKiKP 07 17 19.9
baz=268
I63A Otisfield 116.57 50 PKiKP 07 17 22.2
baz=268
G62A West of Eustis 116.64 49 PKiKP 07 17 22.0
baz=268
E61A Lac Etchemin 116.70 47 PKiKP 07 17 22.4
baz=269
D61A St Aubert, Com 116.92 46 PKiKP 07 17 22.8
baz=270
NEEM North Greenlan 116.99 11 *i* P **PKPdf** 07 17 21.7 -0.9
NEEM lAmb lAmb 07 17 22.6
comp=Z,4.4nm,0.6s
NEEM *i* 07 18 22.3
HUMP Col San Antoni 117.16 79 **PKPdf** 07 17 23.0 -1.1
E62A Clayton Lake 117.37 47 PKiKP 07 17 23.1
baz=270
PKME Peaks-Kenny Pk 117.52 49 PKiKP 07 17 23.9
baz=269
H64A Troy 117.56 49 PKiKP 07 17 23.7
baz=269
F63A Nahmakanta, Br 117.65 48 PKiKP 07 17 23.7
baz=270
D62A Allapoint, All 117.69 46 PKiKP 07 17 23.7
baz=270
BVAR Borovoye Array 117.85 320 PKP **PKPdf** 07 17 22.6 -1.9
comp=Z,3.5nm,0.3s,baz=142,slow=7.3,SNR=31
G64A Maxfield 117.90 49 PKiKP 07 17 24.6
baz=270
BRVK Borovoye 117.91 320 *c* *i* PKIKP **PKPdf** 07 17 23.9 -0.7
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 117.91 320 **PKPdf** 07 17 23.4 -1.2
KKAR Karatay Array 117.99 309 PKIKP **PKPdf** 07 17 24.3 -0.8
KKAR Karatay Array 117.99 309 **PKPdf** 07 17 24.3 -0.8
KKAR Karatay Array 117.99 309 **PKPdf** 07 17 24.4 -0.7
D63A Stockholm 118.34 47 PKiKP 07 17 24.3
baz=271
E64A Bridgewater 118.54 47 PKiKP 07 17 24.9
baz=271
SCHQ Schefferville 118.64 38 PKP **PKPdf** 07 17 24.7 -1.3
comp=Z,3.3nm,0.6s,baz=307,slow=1.8,SNR=6.8
G65A Princeton 118.74 49 PKiKP 07 17 25.7
baz=271
BDFB Brasilia 120.39 123 PKP **PKPdf** 07 17 29.8 -0.8
comp=Z,6.6nm,0.8s,baz=146,slow=2.1,SNR=8.3
KBS Kingsbay 120.51 358 *e*PKPdf **PKiKP** 07 17 29.0 0.0
SPA0 Spitsbergen Ar 121.02 356 *e*PKPdf **PKPdf** 07 17 29.3 -0.6
DAG Danmarks Havn 122.04 5 *i* P **PKPdf** 07 17 30.4 -1.5
DAG lAmb lAmb 07 17 31.7
comp=Z,3.3nm,0.7s
DAG *i* 07 18 30.5
DAG Danmarks Havn 122.04 5 *i* PKIKP **PKPdf** 07 17 30.3 -1.5
DAG pmax pmax
comp=Z,3.0nm,0.7s
HSPB Hornsund (broa 122.20 356 *e*PKPdf **PKPdf** 07 17 31.3 -0.9
SUMG Summit 122.61 13 *i* P **PKiKP** 07 17 33.8 -0.1
SUMG lAmb lAmb 07 17 34.7
comp=Z,7.0nm,0.8s
SUMG *i* 07 18 33.8
SUMG Summit 122.61 13 *i* PKIKP **PKiKP** 07 17 33.7 -0.1
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 122.61 13 PKPdf **PKiKP** 07 17 33.8 -0.1
ARU Arti 124.00 326 PKP **PKPdf** 07 17 35.6 -0.5
comp=Z,4.5nm,0.3s,baz=52,slow=3.0,SNR=11
ARU Arti 124.00 326 *i* PKIKP **PKPdf** 07 17 35.8 -0.4
ARU 07 19 31.7
ARU 07 23 45.1
ARU Arti 124.00 326 PKPdf **PKPdf** 07 17 35.8 -0.4
DBG Daneborg 124.17 7 *i* P **PKPdf** 07 17 35.2 -0.8
DBG lAmb lAmb 07 17 36.1
comp=Z,5.4nm,1.0s
DBG *i* 07 18 36.0
BJO1 Bjornoya 124.31 354 *e*PKPdf **PKiKP** 07 17 37.0 +0.4
ICESG Greenland Ices 124.72 17 *i* P **PKPdf** 07 17 36.4 -1.2
ICESG lAmb lAmb 07 17 37.8
comp=Z,17nm,1.0s
ICESG ⇑*e* 07 17 37.8
ICESG *i* 07 18 36.1
SUR Sutherland 124.84 200 PKP **PKiKP** 07 17 39.4 +0.1
comp=Z,3.6nm,0.4s,baz=205,slow=4.2
AKTO Aktyubinsk 125.83 319 PKP **PKPdf** 07 17 39.7 -0.2
comp=Z,3.8nm,0.6s,baz=92,slow=1.4,SNR=18
BOSA Boshof 126.54 207 PKP **PKiKP** 07 17 42.8 0.0
comp=Z,3.3nm,0.9s,baz=185,slow=1.7,SNR=5.1
HAMF Hammerfest 127.28 351 *e*PKPdf **PKiKP** 07 17 43.5 +0.8
GEYT Alibeck 127.54 303 PKP **PKPdf** 07 17 43.9 +0.3
comp=Z,5.0nm,0.6s,baz=32,slow=3.7,SNR=5.0
GEYT PP **PP** 07 19 55.6 -0.3
comp=Z,1.0nm,0.3s,baz=22,slow=8.1,SNR=3.7
KIRV Kirov 127.80 330 *c* *i* PKIKP **PKiKP** 07 17 44.3 +0.3
ARCES ARCESS Array B 127.97 349 PKhKP PKPpre 07 17 30.1
comp=Z,1.2nm,0.8s,baz=329,slow=1.4,SNR=4.8
ARCES PKP **PKPdf** 07 17 42.8 -0.7
comp=Z,5.1nm,0.4s,baz=81,slow=1.3,SNR=85
JETT Jettan, Norway 128.75 351 *e*PKPdf **PKPdf** 07 17 44.9 -0.1
KTK1 Kautokeino 128.81 350 *e*PKPdf **PKPdf** 07 17 44.8 -0.2
TRO Tromso 128.88 352 *e*PKPdf **PKiKP** 07 17 45.8 -0.1
UOSS Minazif 128.92 287 PKPdf **PKPdf** 07 17 45.5 -1.0
KLMR Klimovskoe 130.76 336 *e*PKIKP **PKPdf** 07 17 47.7 -1.2
KLMR *e* 07 20 11.7
KLMR pmax pmax
comp=Z,21nm,1.3s
KLMR Klimovskoe 130.76 336 *e*PKPdf **PKPdf** 07 17 47.8 -1.2
KLMR AMP 07 17 50.0
comp=Z,21nm,1.3s
KLMR *e*PP **PP** 07 20 11.7 -3.6
KLMR *es*PKPdf **sPKPdf** 07 21 11.5 -10
LOF Lofoten 130.94 354 *e*PKPdf **PKPdf** 07 17 49.2 +0.2
STEI Steigen 130.95 353 *e*PKPdf **PKPdf** 07 17 48.8 -0.2
BELG Belogornoye 131.39 324 PKP **PKPdf** 07 17 50.2 -0.1
comp=Z,9.3nm,0.4s,baz=143,slow=2.9,SNR=7.5
BELG SKPbc **SKPbc** 07 20 15.0 -0.4
comp=Z,62nm,1.0s,baz=21,slow=0.6,SNR=24
FAUS Fauske 131.47 353 *e*PKPdf **PKPdf** 07 17 50.2 +0.2
MATP Matopo 131.86 216 PKP **PKPdf** 07 17 51.9 -0.6
comp=Z,6.2nm,0.9s,baz=170,slow=2.0,SNR=7.9
MATP SKPbc **SKPbc** 07 20 17.2 -1.1
comp=Z,5.9nm,0.8s,baz=150,slow=5.7,SNR=5.8
KONS Konsvik 132.56 353 *e*PKPdf **PKPdf** 07 17 52.6 +0.5
MOR8 Moi Rana 132.73 353 *e*PKPdf **PKPdf** 07 17 52.5 0.0
NSS Namsos 134.60 353 *e*PKPdf **PKPdf** 07 17 56.6 +0.6
FINES FINESS Array B 134.74 343 PKhKP PKPpre 07 17 42.3
comp=Z,3.8nm,0.9s,baz=28,slow=4.5,SNR=6.3
FINES PKP **PKPdf** 07 17 57.1 +0.8
comp=Z,3.0nm,0.3s,baz=81,slow=2.2,SNR=6.1
FINES SKPbc **SKPbc** 07 20 25.2 -0.9
comp=Z,1.7nm,0.6s,baz=49,slow=1.6,SNR=3.7
OBN Obninsk 135.60 331 SKPbc **SKPbc** 07 20 28.7 -0.2
comp=Z,5.8nm,0.4s,baz=80,slow=6.1,SNR=5.0
OBN Obninsk 135.60 331 ⇑*e*PKIKP **PKPdf** 07 17 58.4 +0.3
OBN *i* 07 20 29.1
OBN *i* 07 21 30.4
OBN *es*SS SS 07 37 53.2 +0.6
OBN pmax pmax
comp=Z,10.0nm,0.6s
LSZ Lusaka 136.12 220 PKP **PKPdf** 07 18 01.0 +0.5
comp=Z,2.3nm,0.4s,baz=179,slow=1.8,SNR=5.8
ZEI Tsey 137.28 312 *e*PKIKP **PKiKP** 07 18 03.1 -0.9
ZEI pmax pmax
comp=Z,5.0nm,1.0s
DOMB Dombas 137.32 354 *e*PKPdf **PKPdf** 07 18 01.5 +0.3
KBZ Khabaz 137.65 314 PKP **PKiKP** 07 18 04.3 -0.1
comp=Z,1.8nm,0.8s,baz=141,slow=6.5,SNR=2.5
KBZ SKPbc **SKPbc** 07 20 33.5 -1.8
comp=Z,3.0nm,0.9s,baz=162,slow=2.8,SNR=4.4
KIV Kislovodsk 137.71 314 *e*PKIKP **PKPdf** 07 18 02.8 +0.2
KIV pmax pmax
comp=Z,17nm,1.0s
NB2 NORSAR Subarra 138.07 353 PKPab PKPpre 07 17 55.4
baz=16,slow=3.2
NOA NORSAR Array B 138.07 353 PKhKP PKPpre 07 17 52.6
comp=Z,1.6nm,0.6s,baz=15,slow=4.7,SNR=7.8
NOA PKP **PKiKP** 07 18 04.3 -0.6
comp=Z,1.1nm,0.3s,baz=14,slow=3.7,SNR=9.9
NC602 NORSAR Array S 138.33 352 *e*PKPdf **PKPdf** 07 18 02.2 -0.9
SKAR Skarslia 138.74 355 *e*PKPdf **PKPdf** 07 18 03.3 -0.6
KMBO Kilima Mbogo 138.83 244 SKPbc **SKPbc** 07 20 40.0 0.0
comp=Z,1.5nm,0.3s,baz=153,slow=2.3,SNR=6.0
BER Bergen 139.25 357 *e*PKPdf **PKPdf** 07 18 04.6 -0.1
ODD1 Odda 139.63 356 *e*PKPdf **PKPdf** 07 18 05.6 +0.1
MNK Minsk 139.66 336 *i* PKIKP **PKPdf** 07 18 06.0 +0.4
MNK *i* 07 21 10.3
MNK *i* 07 21 41.8
MNK *i* 07 24 09.7
MNK *i* SS SS 07 38 43.9 +4.3
MNK pmax pmax
comp=E,3.0nm,0.6s
MNK pmax pmax
comp=N,29nm,0.9s
MNK pmax pmax
comp=Z,21nm,1.1s
MNK MLR MLR
comp=E,32nm,19.0s
MNK MLR MLR
comp=Z,136nm,22.0s
MNK MLR MLR
comp=N,789nm,26.0s
MNK Minsk 139.66 336 *i* PKP **PKPdf** 07 18 06.1 +0.4
comp=E,3.0nm,0.7s
MNK *i* PKP **PKPdf** 07 18 06.1 +0.4
comp=N,29nm,0.9s
MNK *i* PKP **PKPdf** 07 18 06.1 +0.4
comp=Z,21nm,1.1s,baz=221
MNK *i* SKP 07 20 40.8
MNK *i* pPKP **pPKPdf** 07 20 41.1 +5.2
MNK *i* PP **PP** 07 21 10.3 0.0
MNK *i* sPKP 07 21 41.9
MNK *i* PKS **PKSdf** 07 21 42.8 +1.5
MNK *i* SKS **SKSdf** 07 24 09.7 -4.7
MNK *i* PKIKP **PKKPdf** 07 27 31.6 -1.6
MNK *i* SKKS SKKSdf 07 33 21.7 -23
MNK *i* SS **SS** 07 38 43.9 +4.3
MNK *i* LQ LQ 08 08 15.5
MNK *i* LR LR 08 17 24.3
MNK *i* LRM MLR 08 22 14.5
comp=E,32nm,19.2s
MNK *i* LRM MLR 08 22 14.5
comp=Z,136nm,21.7s
MNK *i* LRM MLR 08 22 31.9
comp=N,789nm,26.1s
NACGM Naroch 139.77 337 *i* PKP **PKiKP** 07 18 07.2 -1.2
baz=292
BLS5 Blasjo 140.13 356 *e*PKPdf **PKPdf** 07 18 05.9 -0.5
BORU Boraas 141.13 350 *i* P **PKPdf** 07 18 02.5 -5.7
ONAU Onsala 141.50 350 *i* P **PKPdf** 07 18 04.6 -4.2
FABU Falkenberg 141.75 350 *i* P **PKPdf** 07 18 05.3 -4.0
BLEU Blekinge 141.80 347 *i* P **PKPdf** 07 18 04.7 -4.7
AKASG Malin Array Be 141.85 331 PKhKP PKPpre 07 18 04.8
comp=N,13nm,0.3s,baz=44,slow=4.2,SNR=60
AKASG SKPbc **SKPbc** 07 20 45.3 -0.8
comp=N,9.2nm,1.0s,baz=41,slow=3.0,SNR=11
DEL Delary 142.04 348 *i* P **PKPdf** 07 18 06.0 -3.8
DEL *i* P **PKiKP** 07 18 06.4 -6.6
LODK Lodwar 142.75 249 **PKPdf** 07 18 10.8 -1.7
MUD Monsted U'grnd 142.79 352 *i* P **PKPdf** 07 18 08.8 -2.4
MUD lAmb lAmb 07 18 10.0
comp=Z,30nm,0.8s
MUD Monsted U'grnd 142.79 352 *i* PKHKP PKPpre 07 18 08.7
MUD pmax pmax
comp=Z,30nm,0.8s
LUNU Lund 142.91 348 *i* P **PKPdf** 07 18 08.0 -3.4
LUNU *i* P **PKiKP** 07 18 09.3 -5.6
BSD Bornholm Skovb 143.10 347 ⇑*i* P PKPab 07 18 09.7 -0.4
BSD lAmb lAmb 07 18 11.5
comp=Z,40nm,1.0s
BSD Bornholm Skovb 143.10 347 ⇑*i* PKHKP PKPpre 07 18 09.6
BSD pmax pmax
comp=Z,40nm,1.0s
SNOP Sinop 143.50 315 PKPab 07 18 12.1 0.0
SORM Soroca 144.02 328 ||P PKPbc 07 18 13.0 -0.4
SORM Soroca 144.02 328 ||PKIKP PKPbc 07 18 13.0 -0.4
MBAR Mbarara 144.52 239 PKP **PKPdf** 07 18 15.5 -0.2
comp=Z,21nm,0.9s,baz=113,slow=5.1,SNR=25
MBAR Mbarara 144.52 239 PKIKP **PKPab** 07 18 16.8 -0.2
MBAR Mbarara 144.52 239 **PKPab** 07 18 16.8 -0.2
LVV L'vov 144.77 334 *e*PKIKP PKPbc 07 18 15.2 -0.4
BSEG Bad Segeberg 145.08 350 *e*PKPbc **PKPbc** 07 18 16.4 +0.1
baz=19,slow=2.5
BRTR Keskin Array B 145.59 313 PKP **PKPdf** 07 18 16.2 -0.6
comp=Z,2.7nm,0.4s,baz=130,slow=3.9,SNR=30
BRTR PKPbc **PKPbc** 07 18 18.0 -0.5
comp=Z,3.3nm,0.5s,baz=123,slow=2.9,SNR=25
BRTR SKPbc **SKPbc** 07 20 54.4 -1.2
comp=Z,3.7nm,0.9s,baz=93,slow=2.5,SNR=5.9
TLCR 145.70 324 ⇑P **PKPdf** 07 18 17.2 +0.7
TLCR 145.70 324 ⇑PKIKP **PKPdf** 07 18 17.2 +0.7

RUE	Ruedersdorf	145.80 346	*e*PKPbc	PKPbc	07 18 18.7	+0.3
	baz=19,slow=2.5						
BURAR	Bucovina Array	145.90 330	⇑P	PKPbc	07 18 19.3	+0.3
BURAR	Bucovina Array	145.90 330	⇑PKIKP	PKPbc	07 18 19.3	+0.3
BIZ	Bicaz	145.95 329	⇓P	PKPbc	07 18 18.5	-0.6
OJC	Ojcow	146.07 338	*e*PKP	PKPbc	07 18 19.3	0.0
CFR	Carcaliu	146.08 325	⇑P	PKPbc	07 18 18.6	-0.8
CFR	Carcaliu	146.08 325	⇑PKIKP	PKPbc	07 18 18.6	-0.8
KOLS	Kolonicke sedl	146.18 335	*e*PKP2	PKPbc	07 18 20.6	+0.9
KOLS	Kolonicke sedl	146.18 335	*e*PKP	PKPbc	07 18 20.6	+0.9
VRI	Vrincioaia	146.37 327	⇓P	PKPbc	07 18 19.1	-1.2
VRI	Vrincioaia	146.37 327	⇓PKIKP	PKPbc	07 18 19.1	-1.2
TIRR	Tirgusor	146.38 323	⇓P	PKPbc	07 18 19.5	-0.8
TIRR	Tirgusor	146.38 323	⇓PKIKP	PKPbc	07 18 19.5	-0.8
UZH	Uzhgorod	146.41 334	*e*PKIKP	PKPbc	07 18 19.0	-1.2
UZH			*i*		07 18 25.0	
PLOR	Plostina	146.43 327	⇓P	PKPbc	07 18 19.5	-1.0
FLTG	Flechtingen	146.47 349	*e*PKPbc	PKPbc	07 18 20.2	-0.1
	baz=19,slow=2.5						
HARR	Harsova	146.50 324	⇓P	PKPbc	07 18 19.7	-0.9
HARR	Harsova	146.50 324	⇓PKIKP	PKPbc	07 18 19.7	-0.9
NRDL	Niedersach Rie	146.51 350	*e*PKPbc	PKPbc	07 18 20.6	+0.3
	baz=19,slow=2.5						
CRVS	Cervenica-Dubn	146.53 335	*e*PKP2	PKPbc	07 18 20.9	+0.3
CRVS	Cervenica-Dubn	146.53 335	*e*PKP	PKPbc	07 18 20.9	+0.3
MMAI	Mount Meron Ar	146.58 300	PKPbc	PKPbc	07 18 21.2	-0.1
	comp=Z,6.0nm,0.3s,baz=80,slow=6.0,SNR=7.6						
MMAI			SKP		07 20 50.4		
	comp=Z,0.6nm,0.2s,baz=86,slow=2.8,SNR=1.2						
MMAI			PP	PP	07 21 52.6	+0.2
	comp=Z,1.0nm,0.3s,baz=75,slow=6.1,SNR=3.9						
KSP	Ksiaz	146.65 342	*e*PKP	PKPbc	07 18 21.3	+0.5
OZUR		146.70 328	⇓P	PKPbc	07 18 20.1	-1.1
ASSE	Asse, Remlinge	146.76 349	*e*PKPbc	PKPbc	07 18 21.2	+0.3
	baz=19,slow=2.5						
CHVC	Chvalec	146.94 342	⇑*e*PKP	PKPbc	07 18 21.9	+0.2
DOPR	Dopca	146.99 328	⇓P	PKPbc	07 18 21.3	-0.6
UPC	Upice	147.03 342	*e*PKP2	PKPbc	07 18 22.1	+0.3
UPC	Upice	147.03 342	⇑*e*PKP	PKPbc	07 18 22.1	+0.3
IBBN	Ibbenburen	147.03 352	*e*PKPbc	PKPbc	07 18 21.9	+0.1
	baz=19,slow=2.5						
MLR	Muntele Rosu	147.03 327	⇓P	PKPbc	07 18 21.3	-0.9
MLR	Muntele Rosu	147.03 327	⇓PKIKP	PKPbc	07 18 21.3	-0.9
CLL	Collm	147.07 346	*e*PKPdf	PKPdf	07 18 19.0	+0.4
CLL			⇑*i*PKPbc	PKPbc	07 18 21.9	0.0
	comp=Z,51nm,0.8s						
CLL			*i* PKPab	PKPab	07 18 25.4	-0.4
	comp=Z,27nm,0.9s						
CLL			*ep*PKiKP	pPKiKP	07 20 53.0	-0.6
CLL	Collm	147.07 346	⇑*e*PKIKP	PKPdf	07 18 19.0	+0.4
CLL			*i*		07 18 25.4	
CLL			pmax	pmax		
	comp=Z,51nm,0.8s						
CLL			pmax	pmax		
	comp=Z,27nm,0.9s						
CLL	Collm	147.07 346		PKPbc	07 18 21.2	-0.7
CLL	Collm	147.07 346	*e*PKPbc	PKPbc	07 18 22.1	+0.2
	baz=19,slow=2.5						
DPC	Dobruska-Polom	147.08 342	*e*PKP2	PKPbc	07 18 22.5	+0.5
DPC	Dobruska-Polom	147.08 342	⇑*e*PKP	PKPbc	07 18 22.5	+0.5
LANS	Liptovska Anna	147.08 337	*e*PKP2	PKiKP	07 18 23.1	-0.6
LANS	Liptovska Anna	147.08 337	*e*PKP	PKiKP	07 18 23.1	-0.6
CLZ	Clausthal	147.09 349	*e*PKPbc	PKPbc	07 18 22.4	+0.4
	baz=19,slow=2.5						
KRLC	Kraliky	147.18 341	*e*PKIKP	PKPbc	07 18 22.4	+0.1
KRLC	Kraliky	147.18 341	⇑*e*PKP	PKPbc	07 18 22.4	+0.1
MORC	Moravsky Berou	147.20 340	⇓P	PKPbc	07 18 21.2	-1.2
MORC	Moravsky Berou	147.20 340	*e*PKP	PKPbc	07 18 22.2	-0.2
MORC	Moravsky Berou	147.20 340	⇓PKIKP	PKPbc	07 18 21.2	-1.2
BRG	Berggiesshubel	147.25 345	⇓*e*PKPf		07 18 19.1	
BRG			Amp		07 18 20.1	
	comp=Z,14nm,1.7s						
BRG			⇑*i*PKP	PKPbc	07 18 22.7	+0.3
BRG			Amp		07 18 23.8	
	comp=Z,30nm,1.0s						
BRG			*e*PKPab	PKPab	07 18 26.9	+0.4
BRG			Amp		07 18 28.0	
	comp=Z,17nm,1.0s						
BRG	Berggiesshubel	147.25 345	*e*PKPbc	PKPbc	07 18 22.7	+0.3
	baz=19,slow=2.5						
BRG	Berggiesshubel	147.25 345	pPKP	pPKPdf	07 20 56.1	+6.5
BRG	Berggiesshubel	147.25 345	Amp		07 20 57.3	
	comp=Z,10nm,1.0s						
CJR	Cluj-Napoca	147.31 331	⇓P	PKPbc	07 18 22.0	-0.8
CJR	Cluj-Napoca	147.31 331	⇓PKIKP	PKPbc	07 18 22.0	-0.8
FBE	Freiberg	147.34 345	*e*PKPbc	PKPbc	07 18 23.3	+0.7
	baz=19,slow=2.5						
PVCC	Panska Ves	147.40 344	*e*PKP2	PKPbc	07 18 23.3	+0.5
PVCC	Panska Ves	147.40 344	⇑*e*PKP	PKPbc	07 18 23.3	+0.5
NEUB	Neuenburg	147.43 347	*e*PKPbc	PKPbc	07 18 23.2	+0.4
	baz=19,slow=2.5						
GTTG	Gottingen	147.45 350	*e*PKPbc	PKPbc	07 18 23.3	+0.4
	baz=19,slow=2.5						
VOIR		147.53 328	⇓P	PKPbc	07 18 21.7	-1.7
VOIR		147.53 328	⇓PKIKP	PKPbc	07 18 21.7	-1.7
DRGR		147.65 332	⇑P	PKPdf	07 18 21.6	+1.8
DRGR		147.65 332	⇑PKIKP	PKPdf	07 18 21.6	+1.8
ARR	Arges	147.78 328	⇓P	PKPdf	07 18 21.5	+1.4
VYHS	Vyhne	147.86 337	*e*PKP	PKPbc	07 18 24.3	+0.3
PRU	Pruhonice	147.90 343	⇑*e*PKP	PKPbc	07 18 24.3	+0.2
VRAC	Vranov	147.91 341	⇓P	PKPbc	07 18 24.2	+0.1
VRAC	Vranov	147.91 341	*e*PKP	PKPbc	07 18 24.2	+0.1
LEF	Lefka	147.94 305	⇑P	PKPbc	07 18 23.4	-1.2
PSZ	Piszkesteto	147.94 336	⇑P	PKPbc	07 18 22.9	-1.5
JAVC	Velka Javorina	147.96 339	*e*PKP	PKiKP	07 18 25.1	-0.5
MOX	Moxa	147.99 347	*e*PKPbc	PKPbc	07 18 24.4	+0.1
	baz=19,slow=2.5						
KASTN	Kahler Asten	148.02 351	*e*PKPbc	PKPbc	07 18 24.6	+0.2
	baz=19,slow=2.5						
TANN	Tannenbergstha	148.02 346	*e*PKPbc	PKPbc	07 18 24.7	+0.2
	baz=19,slow=2.5						
PLN	Plauen	148.03 346	*e*PKPbc	PKPbc	07 18 24.7	+0.3
	baz=19,slow=2.5						
WERD	Werda	148.03 346	*e*PKPbc	PKPbc	07 18 24.8	+0.3
	baz=19,slow=2.5						
GUNZ	Gunzen	148.10 346	*e*PKPbc	PKPbc	07 18 25.0	+0.4
	baz=19,slow=2.5						
LOT	Lotru	148.15 329	⇑P	PKPbc	07 18 23.6	-1.4
WERN	Wernitzgruen	148.16 346	*e*PKPbc	PKPbc	07 18 25.2	+0.4
	baz=19,slow=2.5						
KRUC	Moravsky	148.19 341	*e*PKP	PKPbc	07 18 24.8	0.0
NKC	Novy Kostel	148.20 346	⇑*e*PKP	PKPbc	07 18 25.2	+0.4
PBCC	Pribram	148.32 344	⇑*e*PKP	PKPbc	07 18 25.3	+0.1
SMOL	Smolenice	148.34 339	*e*PKP2	PKiKP	07 18 26.4	+0.1
SMOL	Smolenice	148.34 339	*e*PKP	PKiKP	07 18 26.4	+0.1
ROSA	Rosais	148.44 47		PKPbc	07 18 25.9	+0.1
MANZ	Manzenberg	148.51 346	*e*PKPbc	PKPbc	07 18 26.0	+0.4
	baz=19,slow=2.5						
SIRR	Siria	148.52 332	⇑P	PKPbc	07 18 24.2	-1.6
GZR	Gura Zlata	148.67 330	⇓P	PKPbc	07 18 24.8	-1.5
ROTZ	Rotzenmuhle	148.69 346	*e*PKPbc	PKPbc	07 18 26.3	+0.3
	baz=19,slow=2.5						
AHRW	Bad Neuenahr-A	148.85 352	*e*PKPbc	PKPbc	07 18 26.6	+0.2
	baz=19,slow=2.5						
MEM	Membach	148.90 354	*d*PKiKP	PKPbc	07 18 26.6	+0.1
KHC	Kasperske Hory	148.94 344	⇑*e*PKP	PKPbc	07 18 26.8	+0.1
BSTI	Sart Tilman	148.97 354	*d*PKiKP	PKPbc	07 18 26.8	+0.2
TNS	Taunus Mts	148.97 351	*e*PKPbc	PKPbc	07 18 27.0	+0.3
	baz=19,slow=2.5						
CKRC	Cesky Krumlov	149.03 343	⇑*e*PKP	PKPbc	07 18 27.3	+0.4
BZS	Buzias	149.04 331	⇓P	PKPbc	07 18 25.0	-2.0
WET	Wettzell	149.11 345	*e*PKPbc	PKPbc	07 18 27.2	+0.1
	baz=19,slow=2.5						
SNF	Seneffe	149.15 356	*d*PKiKP	PKPbc	07 18 27.3	+0.2
SNF			*d*PKPab	PKPab	07 18 34.3	-0.1
BHOU	Houvegnez	149.16 354	*d*PKiKP	PKiKP	07 18 27.7	-0.3
BCLA	Clavier	149.16 355	*d*PKiKP	PKPbc	07 18 27.2	+0.1
GEC2	GERESS Array S	149.17 343	*e*PKPbc	PKPbc	07 18 27.4	+0.1
	baz=19,slow=2.5						
GERES	GERESS Array B	149.17 343	PKP	PKPdf	07 18 22.2	-0.1
	comp=Z,3.1nm,0.9s,baz=99,slow=1.8,SNR=7.0						
GERES			PKPbc	PKPbc	07 18 27.2	-0.1
	comp=Z,18nm,0.8s,baz=47,slow=2.4,SNR=66						
GERES			pPKPbc	pPKPab	07 20 58.6	+0.8
	comp=Z,2.5nm,0.8s,baz=43,slow=2.4,SNR=3.9						
BGES	Gesves	149.21 355	*d*PKiKP	PKPbc	07 18 26.8	-0.4
MILB	Miltenberg	149.22 349	*e*PKPbc	PKPbc	07 18 27.6	+0.4
	baz=19,slow=2.5						
HERR	Herculane	149.22 329	⇑P	PKPbc	07 18 25.6	-1.9
BMRD	Maredsous	149.32 355	*d*PKiKP	PKPbc	07 18 27.6	+0.1
CONA	Conrad Observa	149.36 340	*e*P	PKPbc	07 18 27.9	+0.1
	comp=Z,32nm,1.0s,SNR=13						
ELL	Elmali	149.53 310		PKPbc	07 18 27.6	-1.0
DOU	Dourbes	149.54 355	*d*PKiKP	PKPbc	07 18 28.2	+0.2
MDVR	Moldovita	149.63 330	⇑P	PKPbc	07 18 26.5	-2.0
WLF	Walferdange	149.82 353	*d*PKiKP	PKiKP	07 18 29.3	0.0
WLF	Walferdange	149.82 353	*e*PKPbc	PKiKP	07 18 29.5	+0.2
	baz=19,slow=2.5						
MORH	Mrgy, Hungar	149.83 335	⇓P	PKPbc	07 18 27.4	-1.4
MOA	Molln	149.92 342	*e*P	PKPbc	07 18 28.7	-0.3
	comp=Z,5.0nm,0.6s						
ALN	Alexandroupoli	149.94 320		PKPbc	07 18 28.2	-1.0
ARSA	Arzberg	150.07 340	*e*P	PKPbc	07 18 28.7	-0.7
	comp=Z,12nm,1.3s						
FRGS	Fruska Gora	150.20 333	⇓P	PKPbc	07 18 27.5	-2.2
VTS	Vitosha	150.43 325	⇑P	PKPbc	07 18 28.0	-2.6
VTS	Vitosha	150.43 325	⇑PKIKP	PKPbc	07 18 28.0	-2.6
RJOB	Jochberg	150.43 344	*e*PKPbc	PKPbc	07 18 29.8	-0.5
	baz=19,slow=2.5						
BOVS	Bovan	150.48 329	⇑P	PKPdf	07 18 27.0	+2.7
PERS	Pernice	150.74 340	*i* PKPdf	PKPdf	07 18 24.7	0.0
PERS			*i* PKPbc	PKPbc	07 18 30.3	-0.7
BFO	Black Forest	150.83 350	PKIKP	PKPbc	07 18 29.4	-1.7
BFO	Black Forest	150.83 350		PKPbc	07 18 29.4	-1.7
BFO	Black Forest	150.83 350	*e*PKPbc	PKPbc	07 18 31.1	0.0
	baz=19,slow=2.5						
KBA	Koelnbreinsper	150.88 342	*e*P	PKPbc	07 18 30.4	-1.1
	comp=Z,13nm,0.9s,SNR=6.3						
OBKA	Obir	151.03 340	*e*P	PKPbc	07 18 30.7	-1.0
	comp=Z,6.7nm,0.8s						
WATA	Walderalm	151.11 345	*e*P	PKPdf	07 18 25.1	-0.2
	comp=Z,3.9nm,0.7s						
WATA			*e*P	PKPbc	07 18 31.4	-0.5
	comp=Z,11nm,0.5s,SNR=6.0						
ECH	Echery	151.12 351	PKIKP	PKPbc	07 18 31.0	-0.8
ECH	Echery	151.12 351		PKPbc	07 18 31.0	-0.8
UBR	Ueberruh	151.12 347	*e*PKPbc	PKPbc	07 18 31.7	-0.2
	baz=19,slow=2.5						
RETA	Reutte	151.16 346	*i* P	PKPbc	07 18 31.7	-0.3
	comp=Z,4.0nm,0.5s						
WTTA	Wattenberg	151.16 345	*e*P	PKPdf	07 18 25.3	-0.1
	comp=Z,9.1nm,1.2s						
WTTA			*e*P	PKPbc	07 18 31.8	-0.3
	comp=Z,16nm,0.4s,SNR=8.5						
WTTA			*e*P	pPKPbc	07 21 02.9	+1.3
	comp=Z,11nm,1.1s						
WTTA			*e*S	sPKPbc	07 22 03.6	-0.6
	comp=Z,12nm,0.7s						
WTTA	Wattenberg	151.16 345	*e*S	sPKPbc	07 22 03.6	-0.6
	comp=Z,12nm,0.7s						
MYKA	Terra Mystica	151.20 342	*e*P	PKPbc	07 18 31.0	-1.1
	comp=Z,5.0nm,0.5s,SNR=5.4						
MYKA			S	sPKPbc	07 22 04.0	+0.1
	comp=Z,5.5nm,0.8s						
MYKA	Terra Mystica	151.20 342	S	sPKPbc	07 22 04.0	+0.1
	comp=Z,5.5nm,0.8s						
MOTA	Moosalm	151.22 346	*e*P	PKPdf	07 18 25.1	-0.4
	comp=Z,6.0nm,0.9s						
MOTA			*e*P	PKPbc	07 18 31.7	-0.5
	comp=Z,5.3nm,0.4s						
MOTA			*e*S	sPKPbc	07 22 04.0	-0.2
	comp=Z,12nm,1.3s						
MOTA	Moosalm	151.22 346	*e*S	sPKPbc	07 22 04.0	-0.2
	comp=Z,12nm,1.3s						
ABTA	Abfaltersbach	151.42 343	*e*P	PKPdf	07 18 24.8	-0.9
	comp=Z,7.6nm,0.9s						
ABTA			*i* P	PKPbc	07 18 31.6	-1.0
	comp=Z,11nm,0.6s						
ABTA			*e*P	pPKPbc	07 21 03.4	+1.6
	comp=Z,6.2nm,1.0s						
ABTA			S	sPKPbc	07 22 03.8	-0.6
	comp=Z,10nm,1.3s						
ABTA	Abfaltersbach	151.42 343	S	sPKPbc	07 22 03.8	-0.6
	comp=Z,10nm,1.3s						
LJU	Ljubljana	151.45 340	*i* PKPbc	PKPbc	07 18 32.2	-0.3
DAVA	Damuels	151.54 347	*e*P	PKPbc	07 18 32.6	-0.4
	comp=Z,2.4nm,0.3s,SNR=5.3						
DAVA			*e*S	sPKPbc	07 22 04.4	-0.7
	comp=Z,7.8nm,1.0s						
DAVA	Damuels	151.54 347	*e*S	sPKPbc	07 22 04.4	-0.7
	comp=Z,7.8nm,1.0s						
FETA	Feichten	151.61 346	*i* P	PKPdf	07 18 25.7	-0.4
	comp=Z,7.9nm,0.9s						
FETA			*e*P	PKPbc	07 18 32.8	-0.3
	comp=Z,6.1nm,0.5s						
FETA			*e*P	pPKPbc	07 21 03.7	+1.2
	comp=Z,4.8nm,0.8s						
FETA			*e*S	sPKPbc	07 22 04.7	-0.5
	comp=Z,5.4nm,1.0s						
FETA	Feichten	151.61 346	*e*S	sPKPbc	07 22 04.7	-0.5
	comp=Z,5.4nm,1.0s						
CEY	Cerknica	151.76 340	*i* PKPdf	PKPdf	07 18 25.5	-0.7
CEY			*i* PKPbc	PKPbc	07 18 32.9	-0.4
CEY			*ep*PKPbc	pPKPbc	07 21 03.9	+1.5
CIMO	Cimolais	151.84 343	PKPdf	PKPdf	07 18 26.1	-0.2
DAVOX	Davos/Dischmat	152.02 347	pPKPbc	pPKPbc	07 21 06.0	+2.5
	comp=Z,6.9nm,0.8s,baz=14,slow=13,SNR=3.4						
CTI	Castel Tesino	152.29 344	PKIKP	PKPdf	07 18 25.0	-2.1
CTI					07 18 32.5	
CTI					07 18 46.5	
CTI	Castel Tesino	152.29 344	PKPdf	PKPdf	07 18 24.9	-2.1
CTI				PKPbc	07 18 32.5	-2.1
CTI			PKPab	PKPab	07 18 46.5	-1.4
PDG	Podgorica	152.57 330	PKPdf	PKPdf	07 18 21.3	-6.1
FNA	Florina	152.70 325	PKIKP	PKPdf	07 18 26.6	-1.1
FNA					07 18 34.2	
FNA	Florina	152.70 325		PKPdf	07 18 26.6	-1.1
FNA			PKPbc	PKPbc	07 18 34.1	-1.4
MSSA	Maissana	154.44 346	PKPdf	PKPdf	07 18 28.3	-1.8
TIP	Timpagrande	156.28 328	PKPdf	PKPdf	07 18 31.5	-1.2
PGAV	Gavieira, Arco	156.46 17	*e*PKPdf	PKPdf	07 18 44.9	+12
MVO	Moncorvo	157.55 16	*e*PKPdf	PKPdf	07 18 34.3	+0.1
ESDC	Sonseca Array	159.65 11	PKP	PKPdf	07 18 36.6	-0.1
	comp=Z,1.7nm,1.0s,baz=346,slow=3.0,SNR=7.1						
ESDC			PKPab	PKPab	07 19 19.7	-0.2
	comp=Z,6.7nm,1.0s,baz=340,slow=4.1,SNR=17						
ESDC	Sonseca Array	159.65 11		PKPab	07 19 19.9	+0.1
PBAR	Barrancos	160.32 19	*e*PKPdf	PKPdf	07 18 37.7	+0.3
PFVI	Vila Bisbo	160.64 24	*e*PKPdf	PKPdf	07 18 43.9	+6.1
PBDV	Barranco-do-Ve	160.87 22	*e*PKPdf	PKPdf	07 18 42.3	+4.3
KEST	Kesra	162.41 337	PKP	PKPdf	07 18 38.8	-0.9
	comp=Z,3.3nm,1.0s,baz=51,slow=9.3,SNR=4.2						
LIC	Lamto	165.39 156	*e*PKIKP	PKPdf	07 18 41.6	-1.3
	comp=Z,147nm,1.4s						
KIC	Kosan Boka	165.62 157	*e*PKIKP	PKPdf	07 18 42.2	-0.9
	comp=Z,24nm,0.9s						
TIC	Toumodi	165.77 155	*e*PKIKP	PKPdf	07 18 42.2	-1.0
DBIC	Dimbokro	165.86 156	PKPab	PKPab	07 19 48.4	+0.7
	comp=Z,6.9nm,1.1s,baz=186,slow=3.5,SNR=3.9						
KOWA	Kowa	172.96 137	PKP	PKPdf	07 18 46.3	-1.1
	comp=Z,9.8nm,1.0s,baz=165,slow=1.1,SNR=9.8						
KOWA			PKPab	PKPab	07 20 19.7	+0.4
	comp=Z,4.4nm,0.7s,baz=187,slow=6.0,SNR=6.4						
TOA0	Torodi Ar. Sit	173.44 186		PKPdf	07 18 46.9	-0.7
TORD	Torodi Ar. Bea	173.44 186	PKP	PKPdf	07 18 46.0	-1.5
	comp=Z,9.9nm,1.2s,baz=253,slow=1.2,SNR=14						
TORD			PKPab	PKPab	07 20 21.4	+0.3
	comp=Z,2.3nm,0.7s,baz=177,slow=4.1,SNR=4.5						
TORD			pPKPab	pPKPab	07 22 44.1	+1.7
	comp=Z,1.3nm,0.9s,baz=157,slow=2.9,SNR=2.5						

*BJI **03** 07:00:53.5±0.0, 19°.23S×178°.90W, h679km, mB4.8/17, mb4.6/23*

*NEIC **03** 07:00:53.5±2.0, 19°.75S±0°.09×179°.07W±0°.09, h671km±4km, mb4.9/198, Error ellipse: s-maj=12.7km s-min=12.5km az=177.0*

*IDC **03** 07:00:53.3±0.4, 19°.65S×179°.10W, h674km±4km, mb4.3/30, mb1 4.4/33, mb1mx4.3/40, mbtmp5.4/33, Error ellipse: s-maj=8.7km s-min=7.6km az=172.0*

*GCMT **03** 07:00:55.5±0.2, 19°.70S±0°.02×179°.01W±0°.02, h681km±2km, MW5.5/108, Moment Tensor Solution. s108,c166; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr1.21±.05; Mθθ-1.45±.06; Mφφ0.23±.06; Mrθ-0.20±.06; Mrφ-1.17±.06; Mθφ-0.98±.06; Best double couple: M=2.02900×10^17 NP1:φ=95.00000°, δ46.00000°, λ143.00000°. NP2:φ=213.00000°, δ65.00000°, λ51.00000°. Principal axes: T 1.8880, Plg53.0000°, Azm75.0000°; N 0.2790, Plg35.0000°, Azm232.0000°; P -2.1700, Plg11.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 03 07:00:52.6±0.3, 19.72S±0.04×179.04W±0.04, h669km±4km, h670km; pP-P, n443, σ1§13/453, mb4.9/139, 27C-26D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time ISC	h	m	s	Res ISC
MSVF	Nonsavu	3.39	305	P		P				07 02 20.4	+0.6
	235nm,0.3s,baz=147,slow=12,SNR=17									
MSVF				S		S				07 03 31.9	+1.4
	baz=148,slow=22,SNR=0.5									
NIUE	Niue	8.63	87	P		P				07 02 58.5	-1.5
	baz=8.6,SNR=4.7									
NIUE	Niue	8.63	87	P		P				07 03 00.1	+0.1
AFI	Afiamalu	9.04	51	P		P				07 03 02.0	-1.9
	62nm,0.3s,baz=271,slow=17,SNR=19									
AFI				S		S				07 04 46.1	-5.1
	6.3nm,0.3s,baz=77,slow=19,SNR=1.4									
AFI	Afiamalu	9.04	51	P		P				07 03 02.0	-1.9
RAO	Raoul Island	9.55	174	P		P				07 03 06.8	-1.4
	340nm,0.3s,baz=92,slow=3.6,SNR=5.4									
RAO				S		S				07 04 56.5	-2.9
	106nm,0.3s,baz=270,slow=24,SNR=1.5									
RAO	Raoul Island	9.55	174	P		P				07 03 07.0	-1.3
FUNA	Funafuti	11.26	351	P		P				07 03 22.8	-1.7
LIFNC	LIFOU	12.92	263	P		P				07 03 37.7	-1.8
PINNC	Pines Island,	12.93	255	P		P				07 03 39.7	+0.1
OUENC	Ouen Island, N	13.45	256	P		P				07 03 45.3	+0.9
DZM	Mont Dzumac	13.77	258	*e*P		P				07 03 48.0	+0.7
	250nm,1.3s									
DZM	Mont Dzumac	13.77	258	P		P				07 03 48.6	+1.2
	12nm,0.3s,baz=87,slow=19,SNR=17									
DZM	Mont Dzumac	13.77	258	P		P				07 03 48.0	+0.7
SANVU	Saraoutou	13.78	286	P		P				07 03 48.4	+0.9
ONTNC	Ouen Toro	13.79	257	P		P				07 03 48.1	+0.7
OUZ	Omahuta	16.76	201	P		P				07 04 17.0	+2.7
OUZ	Omahuta	16.76	201	S		P				07 04 17.4	+3.1
WCZ	Waipu Caves	17.18	198	S		P				07 04 21.4	+3.3
KUZ	Kuaotunu	17.58	194	S		P				07 04 23.6	+1.9
MXZ	Matakaoa Point	17.97	187	P		P				07 04 22.9	-1.9
ETAZ	East Tanaki Re	17.97	196	S		P				07 04 27.7	+2.5
RAR	Rarotonga	18.12	98	P		P				07 04 28.3	+1.4
	2.5nm,0.3s,baz=237,slow=11,SNR=5.9									
RAR	Rarotonga	18.12	98	P		P				07 04 27.0	+0.2
RAR				IAmb		IAmb				07 04 33.0	
	comp=Z,95nm,1.3s									
AWAZ	Awhitu Peninsu	18.14	196	S		P				07 04 29.0	+2.2
WMGZ	Waiomatatini S	18.17	186	S		P				07 04 27.6	+0.5
HAZ	Te Kaha	18.19	188	S		P				07 04 27.3	+0.2
PKGZ	Pakihiroa	18.28	187	S		P				07 04 29.1	+1.0
KNTN	Kanton	18.30	24	P		P				07 04 28.3	-0.3
TGRZ	Tauranga	18.41	192	S		P				07 04 31.6	+2.4
TOZ	Tahuroa Road	18.57	194	S		P				07 04 32.9	+2.3
TWGZ	Tauwhareparae	18.58	187	S		P				07 04 31.6	+0.8
URZ	Urewera	18.78	189	P		P				07 04 30.4	-2.1
	comp=Z,8.8nm,0.3s,baz=300,slow=20,SNR=11									
URZ				S		S				07 07 22.8	-7.1
	comp=Z,3.1nm,0.3s,baz=188,slow=23,SNR=3.6									
URZ	Urewera	18.78	189	S		P				07 04 31.7	-0.8
MWZ	Matawai	18.79	188	S		P				07 04 32.8	+0.1
CNGZ	Carnagh Statio	18.85	187	S		P				07 04 33.7	+0.5
NMHZ	Naumai	19.64	190	S		P				07 04 40.6	+0.2
BKZ	Black Stump Fm	19.76	190	P		P				07 04 40.3	-1.1
BKZ				IAmb		IAmb				07 04 45.9	
	comp=Z,69nm,1.2s									
BFZ	Birch Farm	21.28	190	P		P				07 04 53.8	-1.1
BFZ				IAmb		IAmb				07 04 56.8	
	comp=Z,58nm,0.8s									
MSWZ	Moikau Station	22.17	191	P		P				07 05 01.6	-1.1

GENI Genyem 43.31 288 P **P** **07 07 59.4 +0.2**
comp=Z,210nm,0.7s
WR0 Warramunga Arr 43.55 261 P **P** **07 08 00.7 -0.3**
WR0 IAmb IAmb 07 08 02.3
comp=Z,53nm,1.2s
WB0 Warramunga Arr 43.72 262 P **P** **07 08 02.2 0.0**
WB2 Warramunga Arr 43.73 261 P **P** **07 08 02.4 0.0**
WB2 IAmb IAmb 07 08 02.9
comp=Z,118nm,1.2s
WRAB Tennant Creek 43.73 261 P **P** **07 08 02.3 -0.1**
WRAB IAmb IAmb 07 08 02.9
comp=Z,86nm,1.1s
WRA Warramunga Arr 43.74 261 P **P** **07 08 01.9 -0.6**
comp=Z,50nm,0.5s,baz=97,slow=8.1,SNR=35
WRA PcP **PcP** **07 09 33.7 +0.2**
comp=Z,6.5nm,0.8s,baz=96,slow=3.6,SNR=2.7
WRA pP **pP** **07 09 52.6 -1.6**
comp=Z,7.5nm,0.8s,baz=96,slow=8.5,SNR=3.1
WRA S **S** **07 13 43.4 -3.9**
comp=Z,6.9nm,0.9s,baz=89,slow=15,SNR=6.4
WRA Warramunga Arr 43.74 261 P **P** **07 08 01.9 -0.6**
AS31 Alice Springs 43.75 256 P **P** **07 08 02.7 +0.2**
ASAR Alice Springs 43.75 256 P **P** **07 08 02.5 0.0**
comp=Z,83nm,0.4s,baz=87,slow=8.0,SNR=45
ASAR PcP **PcP** **07 09 33.4 -0.1**
comp=Z,9.9nm,0.7s,baz=104,slow=3.5,SNR=7.0
ASAR ScP **ScP** **07 12 23.2 +0.1**
comp=Z,4.0nm,1.0s,baz=108,slow=5.2,SNR=4.5
ASAR S **S** **07 13 45.0 -2.4**
comp=Z,34nm,0.9s,baz=91,slow=16,SNR=27
ASAR ScS **ScS** **07 16 49.7 +1.7**
comp=Z,0.6nm,0.8s,baz=105,slow=6.2,SNR=5.0
ASAR Alice Springs 43.75 256 P **P** **07 08 02.9 +0.4**
MLH Mauna Loa 45.35 32 P **P** **07 08 14.5 -0.3**
MLH IAmb IAmb 07 08 15.2
comp=Z,93nm,1.1s
HMH Humu'ula Sheep 45.39 32 P **P** **07 08 16.2 +1.0**
HPAH Hawaii Prepara 45.65 31 P **P** **07 08 17.4 +0.5**
HLK Haleakala 46.00 30 P **P** **07 08 20.0 +0.3**
KDU Kakadu 46.95 271 P **P** **07 08 26.7 0.0**
baz=47,SNR=4.7
MTN Manton Dam 48.18 270 P **P** **07 08 35.6 -0.1**
baz=48,SNR=6.2
MTN Manton Dam 48.18 270 P **P** **07 08 36.0 +0.2**
MTN IAmb IAmb 07 08 36.5
comp=Z,74nm,0.8s
GUMO Guam 48.55 310 P **P** **07 08 38.1 -0.4**
comp=Z,152nm,0.7s,baz=147,slow=4.4,SNR=7.1
GUMO Guam 48.55 310 P **P** **07 08 38.0 -0.4**
FORT Forrest 48.71 246 P **P** **07 08 39.1 -0.3**
baz=49,SNR=16
FORT Forrest 48.71 246 P **P** **07 08 39.2 -0.3**
KNRA Kununurra 49.73 266 P **P** **07 08 47.1 0.0**
KNRA IAmb IAmb 07 08 48.0
comp=Z,70nm,0.6s
FAKI Fak Fak 50.37 283 P **P** **07 08 51.5 -0.2**
FAKI IAmb IAmb 07 08 52.3
comp=Z,50nm,1.1s
FAKI Fak Fak 50.37 283 P **P** **07 08 50.9 -0.9**
comp=Z,51nm,1.1s
SIJI Sorong 52.09 285 P **P** **07 09 04.0 -0.1**
comp=Z,132nm,0.8s,baz=87,slow=5.9,SNR=17
SWI Sorong 52.10 285 P **P** **07 09 03.8 -0.3**
comp=Z,2µmcomp=Z,241nm,0.9s
FITZ Fitzroy Crossi 52.16 262 P **P** **07 09 04.6 +0.1**
comp=Z,18nm,0.4s,baz=78,slow=3.5,SNR=14
FITZ pP **pP** **07 11 03.9 +0.7**
comp=Z,17nm,0.9s,baz=92,slow=12,SNR=4.7
FITZ Fitzroy Crossi 52.16 262 P **P** **07 09 04.7 +0.3**
baz=52,SNR=8.0
FITZ Fitzroy Crossi 52.16 262 **P** **07 09 04.8 +0.3**
KMBL Kambalda 53.99 245 P **P** **07 09 16.6 -0.6**
baz=54,SNR=12
BATI Baumata 55.94 271 P **P** **07 09 31.4 +0.5**
comp=Z,45nm,0.5s,baz=179,slow=1.1,SNR=3.6
TNTI Ternate 56.31 285 P **P** **07 09 32.8 -0.7**
TNTI IAmb IAmb 07 09 34.3
comp=Z,73nm,0.9s
TNTI Ternate 56.31 285 P **P** **07 09 32.5 -0.9**
comp=Z,89nm,0.9s
SANI Sanana 56.47 281 P **P** **07 09 33.3 -1.2**
comp=Z,560nmcomp=Z,53nm,0.9s
PSA00 Pilbara Seismi 56.89 257 P **P** **07 09 36.9 -0.4**
PSA00 Pilbara Seismi 56.89 257 P **P** **07 09 36.3 -0.9**
PSA00 IAmb IAmb 07 09 38.4
comp=Z,12nm,0.8s
MEEK Meekatharra 57.25 250 P **P** **07 09 38.9 -0.8**
baz=57,SNR=10
KLBR Kellerberrin 57.50 245 P **P** **07 09 40.9 -0.4**
baz=58,SNR=15
BLDU Balldu 58.48 246 P **P** **07 09 47.3 -0.4**
baz=58,SNR=11
SBA Scott Base 58.59 183 P **P** **07 09 50.6 +3.0**
VNDA Vanda 58.60 185 P **P** **07 09 49.3 +1.5**
comp=Z,14nm,0.7s,baz=0.0,slow=8.7,SNR=23
VNDA Vanda 58.60 185 P **P** **07 09 49.2 +1.5**
MUN Mundaring 58.78 244 P **P** **07 09 49.8 0.0**
baz=59,SNR=5.5
MORW Morawa 59.22 247 P **P** **07 09 52.0 -0.7**
baz=59,SNR=4.7
MORW Morawa 59.22 247 P **P** **07 09 52.7 0.0**
GIRL Giralia 61.82 254 P **P** **07 10 10.8 +1.0**
baz=62,SNR=9.6
GIRL Giralia 61.82 254 P **P** **07 10 10.7 +0.9**
GIRL IAmb IAmb 07 10 11.1
comp=Z,66nm,0.7s
CASY Casey 64.25 205 P **P** **07 10 25.0 +0.6**
CASY IAmb IAmb 07 10 26.2
comp=Z,48nm,0.8s
JMM Marumori 68.60 327 P **P** **07 10 51.6 +0.2**
JMM IAmb IAmb 07 10 52.3
comp=Z,36nm,0.9s
UGM Wanagama 69.00 269 P **P** **07 10 54.3 -0.2**
MJAR Matsushiro Arr 69.00 324 P **P** **07 10 53.3 -0.6**
comp=Z,16nm,0.7s,baz=156,slow=5.9,SNR=19
MJAR pP **pP** **07 13 05.0 +0.2**
comp=Z,9.3nm,1.1s,baz=165,slow=7.3,SNR=3.4
MJAR Matsushiro Arr 69.00 324 P **P** **07 10 53.5 -0.4**
MAJO Matsushiro 69.00 324 P **P** **07 10 53.9 -0.1**
MAT Matsushiro 69.00 324 P **P** **07 10 53.3 -0.6**
JWT Wachi 69.70 321 **P** **07 10 58.2 +0.2**
JWT IAmb IAmb 07 10 59.1
comp=Z,24nm,0.7s
JSD Sado 70.06 325 P **P** **07 11 00.3 +0.2**
JSD IAmb IAmb 07 11 01.4
comp=Z,67nm,1.2s
QSPA South Pole Qui 70.35 180 P **P** **07 11 02.5 +1.0**
comp=Z,95nm,0.7s,baz=350,slow=0.7,SNR=55
QSPA pP **pP** **07 13 14.6 +1.4**
comp=Z,14nm,1.0s,baz=42,slow=1.9,SNR=3.3
QSPA South Pole Qui 70.35 180 P **P** **07 11 02.7 +1.2**
JTM Tenmabayashi 70.69 329 P **P** **07 11 03.5 -0.2**
JHS Saijyo 70.87 320 P **P** **07 11 05.4 +0.4**
JHS IAmb IAmb 07 11 06.3
comp=Z,38nm,1.0s
ADK Adak 71.32 2 P **P** **07 11 07.1 0.0**
ADK IAmb IAmb 07 11 07.3
comp=Z,30nm,0.8s
NACB Ninganchiao 72.43 304 P **P** **07 11 13.2 -0.9**
NACB IAmb IAmb 07 11 14.1
comp=Z,70nm,1.3s
SSLB Suanglung 72.72 304 P **P** **07 11 14.4 -1.5**
NIKH Nikolski High 72.92 6 P **07 11 18.5**
baz=190
PEA0B Petropavlovsk- 75.27 346 P **P** **07 11 29.3 -0.1**
PEA0B IAmb IAmb 07 11 32.5
comp=Z,41nm,1.4s
PETK Petropavlovsk- 75.27 346 P **P** **07 11 29.0 -0.4**
comp=Z,15nm,0.7s,baz=134,slow=8.5,SNR=20
PETK Petropavlovsk- 75.27 346 P **P** **07 11 29.2 -0.2**
KSRS Korea Array 75.66 319 P **P** **07 11 32.5 +0.7**
comp=Z,15nm,0.5s,baz=132,slow=5.8,SNR=12
MDSI Maura Dua 76.06 270 P **P** **07 11 33.4 -1.3**
comp=Z,5.8nm,1.0s
SDPT Sand Point 76.42 11 P 07 11 37.8
baz=198
SPIA Saint Paul Isl 76.95 5 P 07 11 40.4
baz=189
USA0B Ussuriysk Arra 77.77 326 P **P** **07 11 43.4 +0.2**
USA0B IAmb IAmb 07 11 45.1
comp=Z,27nm,0.9s
USRK Ussuriysk Ar. 77.77 326 P **P** **07 11 44.4 +1.2**
comp=Z,11nm,0.7s,baz=113,slow=3.1,SNR=19
USRK pP **pP** **07 13 59.8 +0.6**
comp=Z,3.7nm,1.0s,baz=135,slow=8.0,SNR=2.5
USRK Ussuriysk Ar. 77.77 326 **P** **07 11 44.5 +1.4**

SCZ2 Santa Cruz Isl 77.78 47 P 07 11 44.8
baz=236
SBC Santa Barbara 77.97 47 P 07 11 45.7
baz=236
SAO San Andreas Ge 78.14 44 P **P** **07 11 46.8 +1.5**
SAO IAmb IAmb 07 11 47.9
comp=Z,38nm,0.8s
PKM Mcpherson Peak 78.15 46 P 07 11 47.1
baz=236
PMPB Monarch Peak 78.25 45 P **P** **07 11 47.4 +1.4**
PMPB IAmb IAmb 07 11 53.5
comp=Z,72nm,1.2s
SMMC Simmler 78.27 46 P 07 11 47.6
baz=236
CIS Catalina Islan 78.30 48 P 07 11 47.4
baz=237
PAGB Antelope Grade 78.34 45 P **P** **07 11 47.7 +1.3**
HOPS Hopland Field 78.42 41 P **P** **07 11 48.5 +1.7**
HOPS IAmb IAmb 07 11 49.3
comp=Z,29nm,0.8s
KCPM Cahto Peak 78.53 40 P **P** **07 11 47.6 +0.1**
KCPM IAmb IAmb 07 11 49.6
comp=Z,42nm,1.0s
OSI Osito Audit: C 78.75 47 P 07 11 49.9
baz=237
KMRM Mail Ridge 78.78 40 P **P** **07 11 50.1 +1.3**
109C Camp Elliot, M 78.95 49 P 07 11 50.8
baz=238
ARVC Arvin 78.96 46 P 07 11 50.8
baz=236
CBX Cerro Bola 78.96 50 P **P** **07 11 50.7 +0.7**
MWC Mount Wilson 79.00 48 P **P** **07 11 50.5 +0.4**
KHMM Horse Mountain 79.17 39 P **P** **07 11 52.3 +1.5**
KHMM IAmb IAmb 07 11 53.2
comp=Z,25nm,0.9s
VES Vestal, Richgr 79.18 46 P 07 11 51.7
baz=236,SNR=9.1
VOG Valley Oaks Go 79.25 45 P 07 11 52.0
baz=236
MURC Murrieta 79.26 49 P 07 11 52.4
baz=237
BFSC Mount Baldy Ra 79.28 48 P 07 11 52.4
baz=237
O02D Mt. Diablo Mer 79.31 40 P 07 11 53.3
baz=233,SNR=12
EDW2 Edwards Air Fo 79.40 47 P 07 11 53.3
baz=237,SNR=12
MONP2 Monument Peak 79.44 49 P 07 11 53.9
baz=238,SNR=8.5
KRMB Red Mountain 79.46 39 P **P** **07 11 52.1 -0.3**
ISA Isabella, Lake 79.50 46 P 07 11 54.0
baz=237,SNR=18
ISA Isabella, Lake 79.50 46 P **P** **07 11 54.0 +1.4**
ISA IAmb IAmb 07 11 55.1
comp=Z,45nm,1.0s
CMB Columbia Colle 79.56 43 P **P** **07 11 53.7 +0.9**
CMB IAmb IAmb 07 11 54.5
comp=Z,24nm,0.8s
OHAK Old Harbor 79.62 14 P 07 11 54.4
baz=205
KBO Bosley Butte 79.70 38 P **P** **07 11 55.5 +2.0**
KBO IAmb IAmb 07 11 56.5
comp=Z,47nm,1.5s
WDC Whiskeytown Da 79.70 40 P **P** **07 11 55.0 +1.6**
AFDM Forest Hills D 79.71 42 P **P** **07 11 54.5 +0.9**
AFDM IAmb IAmb 07 11 55.8
comp=Z,32nm,1.1s
ORV Oroville 79.74 42 P **P** **07 11 54.8 +1.1**
PFO Pinyon Flats O 79.79 49 P 07 11 55.2
baz=238
PFO Pinyon Flats O 79.79 49 P **P** **07 11 55.1 +0.9**
comp=Z,7.0nm,0.8s,baz=239,slow=4.8,SNR=5.5
PFO Pinyon Flats O 79.79 49 P **P** **07 11 55.8 +1.5**
TPFO Pinon Flats 79.79 49 P 07 11 55.1
baz=238
SRIG Santa Rosalia 79.80 56 IAmb IAmb 07 11 56.9
comp=Z,59nm,1.1s
BBRC Big Bear Solar 79.81 48 P 07 11 55.4
baz=238
N02D Trinity Center 79.84 40 P 07 11 56.0
baz=233,SNR=12
LPIG La Paz 79.86 60 P **P** **07 11 56.0 +1.4**
comp=Z,12nm,0.3s,baz=298,slow=1.4,SNR=3.8
SWSC Sam W. Stewart 79.91 50 P 07 11 56.1
baz=239,SNR=6.1
LRMC Laurel Mtn Rad 79.94 47 P 07 11 56.2
baz=237,SNR=5.4
SLBS Sierra La Lagu 79.97 60 P **P** **07 11 56.7 +1.4**
SLBS IAmb IAmb 07 11 57.7
comp=Z,36nm,0.8s
O03E Paynes Creek 79.99 41 P 07 11 56.0
baz=234,SNR=10.0
M02C Callahan 80.01 39 P 07 11 57.0
baz=233,SNR=13
L02E Cave Junction 80.03 38 P 07 11 56.7
baz=232,SNR=5.3
MDPB Devils Postpil 80.18 44 IAmb IAmb 07 11 58.7
comp=Z,45nm,1.0s
CWC Cottonwood Cre 80.19 46 P 07 11 57.4
baz=237
KDAK Kodiak Island 80.29 14 P **P** **07 11 56.1 0.0**
comp=Z,7.1nm,0.7s,baz=203,slow=5.3,SNR=6.0
YBH Yreka Blue Hor 80.30 39 P **P** **07 11 58.1 +1.4**
comp=Z,18nm,0.8s,baz=194,slow=2.2,SNR=15
YBH Yreka Blue Hor 80.30 39 P **P** **07 11 57.6 +1.0**
YBH IAmb IAmb 07 11 58.8
comp=Z,23nm,0.8s
BELC Belle Mtn. Jos 80.32 49 P 07 11 58.3
baz=238,SNR=11
K02D Willamette Mer 80.33 38 P 07 11 58.2
baz=232,SNR=5.4
MLAC Mammoth, Mammo 80.34 44 P 07 11 58.6
baz=236
TIN Tinemaha, Big 80.42 45 P 07 11 58.8
baz=236,SNR=10.0
WAKR Walker 80.44 43 IAmb IAmb 07 12 00.3
comp=Z,67nm,1.1s
J01E Myrtle Point 80.46 37 P 07 11 58.6
baz=232
HEC Hector,Ludlow 80.52 48 P 07 11 59.0
baz=238,SNR=5.0
BC3 Big Chuckawall 80.53 49 P 07 11 59.6
baz=239
GLA Glamis 80.67 50 P 07 12 00.4
baz=239
GLA Glamis 80.67 50 IAmb IAmb 07 12 01.6
comp=Z,41nm,0.9s
HUMO Hull Mountain 80.69 38 P **P** **07 12 00.0 +1.5**
HUMO IAmb IAmb 07 12 01.5
comp=Z,37nm,1.2s
VCNR Virginia City 80.75 43 IAmb IAmb 07 12 01.6
comp=Z,34nm,1.0s
L04D Klamath Falls 80.83 39 P 07 12 00.6
baz=233,SNR=5.7
M04C Macdoel 80.85 40 P 07 12 00.8
baz=233,SNR=8.1
GMRC Granite Mounta 80.97 48 P 07 12 01.4
baz=238,SNR=5.4
GRAC Grapevine Rang 80.97 46 P 07 12 01.6
baz=237,SNR=9.2
IRM Iron Mountain 81.01 49 P 07 12 01.9
baz=239,SNR=9.1
FURC Furnace Creek, 81.03 46 P 07 12 01.3
baz=238
CN2 Changchun 81.08 323 *e*P **P** **07 12 00.8 +0.3**
CN2 pmax pmax
comp=Z,20nm,1.1s
I02D Swisshome 81.10 37 P 07 12 01.9
baz=232
TUQ Turquoise Moun 81.12 47 P 07 12 02.3
baz=238
I03D Drain, OR 81.13 37 P 07 12 01.8
baz=232,SNR=5.7
SHOC Shoshone, Teco 81.13 47 P 07 12 01.8
baz=238
NVAR Mina Array Bea 81.14 44 P **P** **07 12 02.1 +0.9**
comp=Z,22nm,0.8s,baz=224,slow=8.8,SNR=25
NVAR PKKPbc **PKKPbc** **07 30 32.8 +0.3**
comp=Z,0.2nm,0.5s,baz=70,slow=3.0,SNR=5.0
PAHR Pah Rah Range 81.16 42 IAmb IAmb 07 12 03.5
comp=Z,49nm,1.1s
113A Mohawk Valley, 81.30 51 IAmb IAmb 07 12 04.5
comp=Z,39nm,1.1s
KLR Kul'dur 81.36 330 P **P** **07 12 01.7 0.0**
comp=Z,3.2nm,0.9s,baz=60,slow=4.1,SNR=6.5
KLR PKKPbc **PKKPbc** **07 30 29.7 -2.5**
comp=Z,1.4nm,0.7s,baz=348,slow=3.4,SNR=5.0

K04D Chiloquin, OR 81.40 39 P 07 12 03.5
baz=233
J04D Umpqua Nationa 81.56 38 P 07 12 04.6
baz=233,SNR=11
214A Organ Pipe Nat 81.60 52 IAmb IAmb 07 12 06.4
comp=Z,62nm,1.4s
214A Organ Pipe Nat 81.60 52 P 07 12 05.1
baz=241,SNR=9.7
HSIG 81.61 55 IAmb IAmb 07 12 06.1
comp=Z,87nm,1.5s
KVN Kaiserville 81.61 43 IAmb IAmb 07 12 05.6
comp=Z,42nm,0.9s
NEE2 Needles Airpor 81.69 49 P 07 12 05.3
baz=239
TPNV Topopah Spring 81.70 46 P 07 12 05.2
baz=238,SNR=8.9
I04A Tendick Farm, 81.72 38 P 07 12 04.6
baz=233,SNR=5.9
PDMCI Parker Dam,Lak 81.80 49 P 07 12 05.8
baz=240,SNR=10
UBPT Khong Chiam 81.95 289 pP 07 14 23.7 +0.2
MAW Mawson 81.96 200 P **P** **07 12 04.9 +0.4**
comp=Z,21nm,0.7s,baz=124,slow=6.3,SNR=27
MAW pP **pwP** **07 14 24.0 -1.4**
comp=Z,3.9nm,0.8s,baz=61,slow=9.2,SNR=2.3
MAW Mawson 81.96 200 P **P** **07 12 05.1 +0.6**
baz=82,SNR=21
MAW Mawson 81.96 200 **P** **07 12 04.3 -0.3**
H04D Lebanon 81.98 37 P 07 12 06.2
baz=232
G03D McMinnville, O 82.11 36 P 07 12 06.9
baz=232
HOM Homer 82.20 14 P 07 12 07.5
baz=206
W13A Hualapai Mount 82.38 49 **P** **07 12 08.4 +0.9**
PMSA Palmer Station 82.39 157 P **P** **07 12 07.8 +1.0**
comp=Z,22nm,0.6s,baz=229,slow=6.6,SNR=6.4
PMSA Palmer Station 82.39 157 P **P** **07 12 07.1 +0.3**
PMSA IAmb IAmb 07 12 08.0
comp=Z,66nm,1.3s
H04A Detroit Lake 82.39 37 P **P** **07 12 07.5 +0.4**
H04A IAmb IAmb 07 12 08.3
comp=Z,23nm,0.8s
PINE Pine Mountain 82.58 38 P **P** **07 12 09.7 +1.4**
PINE IAmb IAmb 07 12 10.9
comp=Z,38nm,0.8s
I05D Terrebonne, OR 82.67 38 P 07 12 09.7
baz=233,SNR=6.1
E03A Lebam 82.77 35 IAmb IAmb 07 12 11.2
comp=Z,58nm,0.9s
F04D Rainier, OR 82.78 36 P 07 12 10.6
baz=232
R11A Troy Canyon, C 82.89 45 P 07 12 10.7
baz=238
NLWA Neilton Lookou 83.14 34 IAmb IAmb 07 12 13.1
comp=Z,30nm,1.1s
WVOR Wild Horse Val 83.17 40 IAmb IAmb 07 12 13.5
comp=Z,39nm,1.1s
G05D Wamic, OR 83.22 37 P 07 12 12.2
baz=233
TUC Tucson 83.27 52 P **P** **07 12 13.7 +1.8**
TUC IAmb IAmb 07 12 14.9
comp=Z,33nm,1.1s
TUC Tucson 83.27 52 P 07 12 13.6
baz=242
CAPN Captain Cook N 83.31 13 P 07 12 13.2
baz=206
E04D Cinebar 83.32 35 P 07 12 13.0
baz=232
I07A Izee 83.59 39 P **P** **07 12 14.6 +1.4**
D04E Lakebay 83.59 35 P 07 12 14.7
baz=232
D03D Eldon 83.64 34 P 07 12 14.4
baz=232,SNR=6.0
X16A Lo Mia Camp, P 83.80 50 IAmb IAmb 07 12 17.3
comp=Z,42nm,1.2s
BBB Bella Bella 84.19 29 P **P** **07 12 16.4 +0.8**
GLI Glacier Island 84.34 15 P 07 12 15.8
baz=210
TTA Tatalina 84.35 10 P 07 12 16.6
baz=202
WUAZ Wupatki 84.37 49 P 07 12 18.5
baz=241,SNR=6.2
WUAZ Wupatki 84.37 49 P **P** **07 12 17.8 +0.6**
WUAZ IAmb IAmb 07 12 19.8
comp=Z,28nm,1.1s
EYAK Cordova Ski Ar 84.40 16 P 07 12 16.3
baz=211
CRAG Craig 84.40 24 P 07 12 17.9
baz=223
KNK Knik Glacier 84.49 14 P 07 12 16.5
baz=209
A04D Lummi Island 84.57 34 P 07 12 18.9
baz=232,SNR=5.2
B05A Bryant 84.61 34 P 07 12 18.8
baz=232,SNR=8.7
ENH Enshi 84.79 305 P **P** **07 12 19.1 -0.2**
E07A Sunnyside 84.82 37 IAmb IAmb 07 12 21.2
comp=Z,24nm,0.9s
HPIG 84.87 59 IAmb IAmb 07 12 22.2
comp=Z,22nm,0.8s
HAWA Hanford 84.91 37 IAmb IAmb 07 12 21.6
comp=Z,29nm,1.1s
BMRM Bremner River 85.05 16 P 07 12 19.5
baz=212,SNR=5.3
MESA MESA 85.11 18 P 07 12 20.3
baz=215
KLU Klutina 85.16 15 P 07 12 20.2
baz=211
E08A Dider Farm, El 85.23 37 P **P** **07 12 21.9 +1.1**
CRQE Cirque 85.27 17 P 07 12 20.7
baz=214
BMO Blue Mountains 85.32 39 P **P** **07 12 21.3 -0.2**
W18A Petrified Fore 85.36 50 P 07 12 23.0
baz=242,SNR=6.8
W18A Petrified Fore 85.36 50 IAmb IAmb 07 12 24.4
comp=Z,29nm,1.2s
WRAK Wrangell Islan 85.40 24 P 07 12 22.4
baz=224
MFID Camas Ranch 85.43 41 IAmb IAmb 07 12 24.2
comp=Z,34nm,0.9s
PINM Pinnacle 85.54 18 P 07 12 21.9
baz=216
N25K Chitina, Valde 85.59 16 P 07 12 22.3
baz=212,SNR=5.6
121A Cookes Peak, D 85.63 53 IAmb IAmb 07 12 26.2
comp=Z,20nm,1.0s
121A Cookes Peak, D 85.63 53 P 07 12 24.8
baz=244
M24K Tolsona, Glenn 85.63 15 P 07 12 22.7
baz=211
D08A Wollman Farm, 85.63 36 IAmb IAmb 07 12 24.4
comp=Z,22nm,0.9s
WAT6 Susitna Watana 85.68 14 P 07 12 22.4
baz=209
ZAIG Zacatecas 85.74 64 IAmb IAmb 07 12 27.2
comp=Z,25nm,0.9s
E09A Wood Farm, Sta 85.76 37 IAmb IAmb 07 12 26.2
comp=Z,57nm,1.5s
MCARA McCarthy VSAT 85.82 16 P 07 12 23.3
baz=214
WAT2 Susitna Watana 85.82 13 P 07 12 23.1
baz=209
MG02 Cerro Sombrero 85.85 145 P **P** **07 12 25.6 +1.8**
TRF Thorofare Moun 85.89 13 P 07 12 22.8
baz=207,SNR=5.6
CTG Chitna Glacier 85.94 17 P 07 12 24.3
baz=215
F10A Beach Ranch, E 85.99 38 IAmb IAmb 07 12 26.2
comp=Z,37nm,0.8s
HARP HAARP 86.13 15 P 07 12 24.7
baz=212
B08A Colville Reser 86.16 35 P **P** **07 12 25.8 +0.5**
B08A IAmb IAmb 07 12 26.6
comp=Z,25nm,0.8s
RND Reindeer 86.16 13 IAmb IAmb 07 12 25.6
comp=Z,27nm,0.9s
BPAW Bear Paw Mtn. 86.34 12 P 07 12 25.8
baz=206
HLID Hailey 86.38 41 P 07 12 27.9
baz=239,SNR=18
C09A Chrisman Ranch 86.42 36 IAmb IAmb 07 12 28.2
comp=Z,22nm,0.9s
MCK McKinley 86.43 13 P 07 12 25.4
baz=208
XAN Xi'an 86.88 308 P **P** **07 12 29.9 +0.9**
XAN S **S** **07 22 17.3 +3.7**

XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,150nm,4.5s
MNTX Cornudas Mount 87.10 55 P 07 12 31.3
baz=245,SNR=18
NEA2 Nenana 87.16 12 P 07 12 28.2
baz=208
MVCO Mesa Verde 87.22 49 P 07 12 30.1
baz=243
MLY Manley 87.22 12 P 07 12 28.8
baz=207,SNR=5.1
TLIG Tlapa 87.24 70 P 07 12 31.7 +0.6
TLIG IAmb IAmb 07 12 34.1
comp=Z,46nm,1.5s
WRH Wood River Hil 87.26 13 IAmb IAmb 07 12 30.3
comp=Z,17nm,0.8s
SYO Syowa Base 87.27 193⇑ *e*P P 07 12 29.4 -0.7
NEW Newport 87.32 36 P 07 12 30.7
baz=236
BCYI Bear Canyon 87.39 41 P P 07 12 31.9 +0.4
HDA Harding Lake 87.45 13 P 07 12 30.3
baz=210
HDA P 07 12 30.3
baz=210
HDA Harding Lake 87.45 13 IAmb IAmb 07 12 31.8
comp=Z,17nm,0.7s
TXAR Lajitas Array 87.47 58 P P 07 12 33.4 +1.4
comp=Z,26nm,0.8s,baz=220,slow=6.0,SNR=31
TXAR pP pwP 07 14 56.1 +1.1
comp=Z,3.2nm,1.1s,baz=218,slow=5.7,SNR=4.2
TXAR PKKPbc PKKPbc 07 30 16.8 -0.3
comp=Z,0.8nm,0.9s,baz=81,slow=3.2,SNR=7.1
TXAR PKPPKP P'P'df 07 38 25.9 +1.8
comp=Z,0.5nm,1.1s,baz=127,slow=2.4,SNR=3.5
CCB Clear Creek Bu 87.47 13 P P 07 12 30.4 -0.6
CCB IAmb IAmb 07 12 31.0
comp=Z,16nm,0.7s
L27K Beaver Creek, 87.53 16 P 07 12 31.2
baz=215
I23K Minto, Yukon-K 87.59 12 P 07 12 30.5
baz=208
WHY Whitehorse 87.65 20 P 07 12 32.7
baz=221
MDM Murphy Dome 87.66 13 P P 07 12 30.7 -1.2
MDM IAmb IAmb 07 12 31.9
comp=Z,16nm,0.8s
TCOL CIGO, UAF Yank 87.66 13 P 07 12 31.0
baz=209
TCOL CIGO, UAF Yank 87.66 13 IAmb IAmb 07 12 32.0
comp=Z,22nm,0.8s
COLA College 87.66 13 P 07 12 31.1
baz=209
COLA College 87.66 13 P P 07 12 31.4 -0.4
COLA IAmb IAmb 07 12 32.0
comp=Z,22nm,0.8s
ANMO Albuquerque 87.69 52 P P 07 12 33.4 +0.4
comp=Z,18nm,1.1s,baz=224,slow=4.8,SNR=16
ANMO Albuquerque 87.69 52 P 07 12 33.5 +0.5
ANMO IAmb IAmb 07 12 35.1
comp=Z,34nm,1.2s
ANMO Albuquerque 87.69 52 P 07 12 33.7
baz=244
SCRK Sand Creek 87.75 15 P 07 12 32.3
baz=213
IL31 87.78 13 P P 07 12 31.4 -1.0
ILAR Eielson Array 87.78 13 P P 07 12 31.5 -0.9
comp=Z,5.7nm,0.7s,baz=218,slow=5.3,SNR=12
ILAR pP pP 07 14 53.6 +0.7
comp=Z,4.8nm,1.0s,baz=229,slow=6.1,SNR=5.1
ILAR S SKSac 07 21 58.8 +0.9
comp=Z,0.9nm,1.1s,baz=212,slow=8.2,SNR=4.2
ILAR PKKP PKKPdf 07 30 11.6 -0.4
comp=Z,0.7nm,0.6s,baz=353,slow=2.5,SNR=8.9
ILAR PKPPKP P'P'df 07 38 21.9 +1.3
comp=Z,0.3nm,0.8s,baz=316,slow=3.8,SNR=4.2
ILAR Eielson Array 87.78 13 P 07 12 31.0 -1.4
POKR Poker Plat Res 87.96 13 P 07 12 32.0
baz=210
AHID Auburn Hatcher 88.07 43 P P 07 12 35.2 +0.6
AHID IAmb IAmb 07 12 37.5
comp=Z,26nm,0.9s
HHC Hu-ho-hao-te 88.11 315 *e*P P 07 12 36.7 +2.0
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,64nm,5.3s
K27K Chicken 88.26 15 P 07 12 35.2
baz=215
MSO Missoula 88.36 39 P 07 12 35.6
baz=239
TPAW Teton Pass 88.52 42 IAmb IAmb 07 12 39.1
comp=Z,24nm,1.1s
REDW Red Top Meadow 88.52 43 P P 07 12 37.3 +0.6
REDW IAmb IAmb 07 12 38.9
comp=Z,54nm,1.1s
LL02 Futaleuf 88.57 136 P 07 12 37.9 +1.1
S22A 4UR Ranch, Cre 88.64 49 P 07 12 38.6
baz=244,SNR=16
PRP Porcupine Dome 88.71 13 P 07 12 36.9
baz=211
O20A White River Ci 88.73 46 P 07 12 38.4
baz=243,SNR=5.1
LOHW Long Hollow 88.80 43 P P 07 12 38.3 +0.3
SNAA Sanae 88.81 179 P P 07 12 36.9 -0.6
SNAA Sanae 88.81 179 P 07 12 36.9 -0.6
SNAA IAmb IAmb 07 12 37.9
comp=Z,17nm,0.7s
QLMT Earthquake Lak 88.87 41 P P 07 12 39.2 +0.9
CMAR Chiang Mai Arr 88.93 290 P P 07 12 40.3 +1.4
comp=Z,2.0nm,0.3s,baz=139,slow=3.3,SNR=1.5
CMAR PKKPbc PKKPbc 07 30 13.5 +0.4
comp=Z,1.9nm,0.4s,baz=288,slow=4.2,SNR=7.5
FLWY Flagg Ranch 88.97 42 P P 07 12 39.3 +0.5
FLWY IAmb IAmb 07 12 41.3
comp=Z,32nm,1.1s
VNA3 Neumayer Olymp 88.98 177 P P 07 12 37.8 -0.3
BW06 Boulder Array 89.07 44 IAmb IAmb 07 12 40.8
comp=Z,19nm,0.8s
BW06 Boulder Array 89.07 44 P 07 12 39.7
baz=242
PDAR Pinedale Array 89.07 44 P P 07 12 39.6 +0.3
comp=Z,13nm,0.7s,baz=209,slow=3.1,SNR=27
PDAR PKKPbc PKKPbc 07 30 13.2 -0.8
comp=Z,0.6nm,0.6s,baz=90,slow=5.9,SNR=6.6
PDAR Pinedale Array 89.07 44 P 07 12 39.3 0.0
EGAK Eagle 89.11 15 P 07 12 38.5
baz=215,SNR=6.1
SMCO Snowmass 89.17 48 P 07 12 40.6 +0.6
SMCO IAmb IAmb 07 12 42.0
comp=Z,23nm,1.0s
H17A Grant Village 89.19 42 P 07 12 41.9
baz=241
H17A Grant Village 89.19 42 IAmb IAmb 07 12 43.1
comp=Z,16nm,0.9s
COLD Coldfoot 89.29 11 P 07 12 39.6
baz=207,SNR=6.5
VNA2 Neumayer--Watz 89.41 177 P P 07 12 40.1 0.0
baz=181,slow=3.7
SDCO Great Sand Dun 89.59 49 P 07 12 42.4
baz=245,SNR=12
VNA1 Neumayer--Stat 89.64 177 P P 07 12 41.1 0.0
MSTX Muleshoe 90.04 54 P 07 12 44.1
baz=246,SNR=8.3
MSTX Muleshoe 90.04 54 P 07 12 43.5 -0.3
MSTX IAmb IAmb 07 12 45.3
comp=Z,22nm,0.8s
T25A Trinidad 90.12 50 P 07 12 44.4
baz=245,SNR=6.2
T25A Trinidad 90.12 50 IAmb IAmb 07 12 45.9
comp=Z,15nm,0.9s
RWWY Rawlins 90.13 45 IAmb IAmb 07 12 45.9
comp=Z,50nm,1.3s
Q24A Divide 90.36 49 P 07 12 46.1
baz=245
RLMT Red Lodge 90.36 42 P 07 12 45.9
baz=242
ISCO Idaho Springs 90.39 48 P 07 12 46.0
baz=245
833A Chaparral WMA, 90.52 60 P 07 12 46.5
baz=248
PLCA Paso Flores 90.52 134 P P 07 12 47.4 +1.4
comp=Z,8.1nm,0.8s,baz=223,slow=3.2,SNR=12
N23A Red Feather La 90.63 47 P 07 12 47.2
baz=244,SNR=9.0
TOLK Toolik Lake Re 90.66 10 P 07 12 45.8
baz=208

JCT Junction City 91.00 58 P 07 12 48.3
baz=248,SNR=5.8
JCT Junction City 91.00 58 IAmb IAmb 07 12 49.4
comp=Z,12nm,0.8s
K22A Casper 91.01 45 P 07 12 48.6
baz=244
K22A Casper 91.01 45 IAmb IAmb 07 12 50.6
comp=Z,14nm,1.0s
PHWY Pilot Hill 91.14 46 IAmb IAmb 07 12 50.0
comp=Z,9.6nm,0.8s
EGMT Eagleton 91.43 39 P 07 12 50.3
baz=242
LZH Lanzhou 91.52 308 *e*P P 07 12 55.0 +4.4
LZH pP pP 07 15 16.2 +3.8
LZH pmax pmax
comp=Z,14nm,1.2s
LZH pmax pmax
comp=Z,74nm,4.9s
ABTX Abilene, Hawle 91.93 56 P 07 12 52.8
baz=248,SNR=7.0
735A Kenedy 92.01 60 P P 07 12 52.3 -0.5
KSCO Kaye Shedlock' 92.17 49 P 07 12 54.1
baz=246,SNR=6.3
LAO LASA Array 92.96 41 P 07 12 57.6
baz=244
LAO LASA Array 92.96 41 IAmb IAmb 07 12 59.3
comp=Z,19nm,1.1s
MT01 Popeta 93.07 127 P P 07 12 58.6 +0.9
RSSD Black Hills 93.28 44 P 07 12 59.0 +0.4
RSSD IAmb IAmb 07 13 00.6
comp=Z,7.3nm,0.9s
RSSD Black Hills 93.28 44 P 07 12 58.4
baz=246
OGNE Ogallala 93.35 48 P 07 12 58.9
baz=247
INK Inuvik 93.78 15 P 07 12 58.7
baz=222
HKT Hockley 94.01 60 P 07 13 04.8 +2.9
HKT IAmb IAmb 07 13 05.1
comp=Z,10nm,1.4s
CBKS Cedar Bluff 94.17 50 P 07 13 02.9
baz=248
SONM Songino Array 94.52 319 PP PP 07 17 03.6 -1.0
comp=Z,0.5nm,0.3s,baz=115,slow=6.4,SNR=4.2
DGMT Dagmar 94.96 40 P 07 13 06.3
baz=246,SNR=6.8
DGMT Dagmar 94.96 40 P 07 13 06.1 +0.2
LPAZ La Paz 103.27 113 Pdiff Pdif 07 13 48.2 +3.8
comp=Z,1.7nm,0.7s,baz=154,slow=1.1,SNR=7.5
LPAZ La Paz 103.27 113 *e*P Pdif 07 13 48.3 +4.0
ZALV Zalesovo Beam 109.27 321 PKiKP PKiKP 07 18 07.2 -1.3
comp=Z,1.9nm,0.5s,baz=123,slow=2.6,SNR=5.1
MKAR Makanchi Array 109.95 314 PKiKP PKiKP 07 18 08.9 -1.1
comp=Z,2.5nm,0.7s,baz=56,slow=0.8,SNR=12
MKAR PKKPbc PKKPbc 07 29 14.8 -0.7
comp=Z,2.4nm,0.8s,baz=269,slow=4.1,SNR=14
MKAR PKKP PKKPab 07 29 28.3 +0.5
comp=Z,2.1nm,0.9s,baz=276,slow=4.7,SNR=6.8
BINY Binghamton 112.49 52 PKiKP 07 18 14.9
baz=264
KURK Kurchatov 112.76 318 PP -0.8
KURBB Kurchatov Arra 112.81 318 PP PP 07 19 16.2 -1.2
comp=Z,2.3nm,0.8s,baz=95,slow=6.2,SNR=6.4
KURBB SKP 07 20 48.5
comp=Z,1.7nm,1.1s,baz=97,slow=1.9,SNR=5.0
KURBB PKKPbc PKKPbc 07 29 05.9 -0.4
comp=Z,2.4nm,0.7s,baz=275,slow=4.1,SNR=16
KURBB PKKPab PKKPab 07 29 15.8 +0.9
comp=Z,1.7nm,0.9s,baz=275,slow=4.9,SNR=7.1
I58A Old Forge 113.39 50 PKiKP 07 18 16.5
baz=265
I60A Shoreham 114.61 50 PKiKP 07 18 18.7
baz=266
L61B Northampton 114.96 52 PKiKP 07 18 19.1
baz=266
D58A Chemin du LacG 115.09 46 PKiKP 07 18 18.7
baz=268
F60A Warwick 115.69 48 PKiKP 07 18 20.1
baz=268
E60A Ste Agathe de 116.05 47 PKiKP 07 18 20.6
baz=268
I63A Otisfield 116.58 50 PKiKP 07 18 22.3
baz=268
G62A West of Eustis 116.66 49 PKiKP 07 18 22.1
baz=268
E61A Lac Etchemin 116.71 47 PKiKP 07 18 22.2
baz=269
D61A St Aubert, Com 116.93 46 PKiKP 07 18 22.6
baz=270
E62A Clayton Lake 117.38 47 PKiKP 07 18 23.8
baz=270
PKME Peaks-Kenny Pk 117.53 49 PKiKP 07 18 24.1
baz=269
H64A Troy 117.57 49 PKiKP 07 18 24.1
baz=269
D62A Allapoint, All 117.71 47 PKiKP 07 18 23.9
baz=270
BVAR Borovoye Array 117.85 320 PKP **PKPdf** 07 18 22.9 -2.1
comp=Z,4.9nm,0.7s,baz=112,slow=11,SNR=13
BVAR SKP 07 20 59.1
comp=Z,1.8nm,0.9s,baz=226,slow=7.9,SNR=4.1
BVAR PKKPab **PKKPab** 07 28 53.6 +1.0
comp=Z,0.3nm,0.5s,baz=338,slow=3.5,SNR=4.1
G64A Maxfield 117.91 49 PKiKP 07 18 24.7
baz=269
BRVK Borovoye 117.91 320 **PKPdf** 07 18 24.5 -0.6
D63A Stockholm 118.35 47 PKiKP 07 18 25.0
baz=271
E64A Bridgewater 118.55 47 PKiKP 07 18 25.5
baz=271
SCHQ Schefferville 118.66 38 PKP **PKPdf** 07 18 25.2 -1.3
comp=Z,1.5nm,0.6s,baz=280,slow=4.9,SNR=4.2
G65A Princeton 118.75 49 PKiKP 07 18 26.4
baz=271
BDFB Brasilia 120.39 123 PKP **PKPdf** 07 18 30.3 -0.9
comp=Z,6.1nm,0.7s,baz=209,slow=3.2,SNR=8.5
DUB01 Friburgo-RJ 120.68 132 *e*P **PKPdf** 07 18 26.2 -5.3
CAM01 Campos-RJ 121.35 133 *e*P **PKPdf** 07 18 31.4 -1.3
SUMG Summit 122.62 13 **PKPdf** 07 18 33.0 -1.1
BSFB Barra de Sao F 123.89 130 *e*P **PKPdf** 07 18 36.8 -0.8
RIB01 Linhares ES 123.89 131 *e*P **PKPdf** 07 18 36.8 -0.8
ARU Arti 124.00 326 PKP **PKPdf** 07 18 36.1 -0.6
comp=Z,4.4nm,0.2s,baz=139,slow=1.7,SNR=12
ARU PP PP 07 20 29.3 -3.4
comp=Z,2.9nm,0.2s,baz=49,slow=5.1,SNR=6.2
ARU PKKPbc PKKPbc 07 28 26.3 -0.5
comp=Z,3.3nm,0.2s,baz=273,slow=1.7,SNR=4.5
ARU Arti 124.00 326 **PKPdf** 07 18 35.3 -1.4
SUR Sutherland 124.82 200 PKP **PKiKP** 07 18 39.6 -0.2
comp=Z,7.8nm,0.9s,baz=105,slow=4.7,SNR=4.0
NAN01 Guarapari, ES 125.05 130 *e*P **PKPdf** 07 18 39.3 -0.6
AKTO Aktyubinsk 125.83 319 PKP **PKPdf** 07 18 40.0 -0.4
comp=Z,6.2nm,0.8s,baz=107,slow=1.9,SNR=16
AKTO PKKPbc PKKPbc 07 28 18.9 -0.7
comp=Z,1.8nm,0.7s,baz=300,slow=7.5,SNR=5.7
GUA01 Guaratinga, BA 126.09 129 *e*P **PKPdf** 07 18 41.1 -0.8
BOSA Boshof 126.52 207 PKP **PKPdf** 07 18 42.7 +0.1
comp=Z,9.6nm,0.9s,baz=63,slow=1.6,SNR=6.9
CMC01 Camacan, BA 127.09 128 *e*P **PKPdf** 07 18 43.2 -0.6
NBIT Itapeh - BA 127.43 128 *e*P **PKPdf** 07 18 44.0 -0.5
GEYT Alibeck 127.54 303 PKP **PKPdf** 07 18 43.7 -0.4
comp=Z,5.4nm,0.8s,baz=174,slow=1.3,SNR=7.2
ARCES ARCESS Array B 127.97 349 PKP **PKPdf** 07 18 42.8 -1.1
comp=Z,7.8nm,0.6s,baz=355,slow=1.5,SNR=11
UOSS Minazif 128.91 287 **PKPdf** 07 18 46.4 -0.6
LBTB Lobatse 129.49 209 PKP **PKPdf** 07 18 48.4 0.0
comp=Z,3.7nm,0.9s,baz=152,slow=3.9,SNR=4.4
BELG Belogornoye 131.39 324 PKP **PKPdf** 07 18 50.4 -0.4
comp=Z,26nm,0.8s,baz=66,slow=1.2,SNR=9.4
BELG SKPbc **SKPbc** 07 21 15.1 -0.4
comp=Z,111nm,1.0s,baz=7.6,slow=0.4,SNR=20
MATP Matopo 131.84 216 PKP **PKPdf** 07 18 52.4 -0.6
comp=Z,14nm,1.0s,baz=168,slow=2.6,SNR=14
NBPB Pedra_Branca-C 132.88 118 *e*P **PKPdf** 07 18 54.3 -0.6
FINES FINESS Array B 134.75 343 PKhKP PKPpre 07 18 53.0
comp=Z,6.6nm,0.8s,baz=116,slow=4.4,SNR=6.4
FINES SKPbc **SKPbc** 07 21 25.1 -1.1
comp=Z,4.5nm,0.8s,baz=85,slow=1.5,SNR=2.9
LSZ Lusaka 136.11 220 PKP **PKPdf** 07 19 00.7 -0.3
comp=Z,8.0nm,0.7s,baz=78,slow=2.4,SNR=9.4
KBZ Khabaz 137.65 314 PKP **PKPdf** 07 19 02.1 -0.7
comp=Z,1.8nm,0.6s,baz=125,slow=3.5,SNR=3.3
KBZ SKP 07 21 35.1
comp=Z,4.8nm,1.0s,baz=90,slow=2.0,SNR=3.4
NOA NORSAR Array B 138.09 353 PKhKP PKPpre 07 18 53.8
comp=Z,2.6nm,0.8s,baz=16,slow=4.8,SNR=6.5
NOA PKP **PKPdf** 07 19 03.8 +0.6
comp=Z,3.0nm,0.6s,baz=14,slow=4.0,SNR=6.8
RAYN Ar Rayn 138.54 283 **PKPdf** 07 19 05.5 +0.4
KMBO Kilima Mbogo 138.82 244 PKP **PKiKP** 07 19 08.4 -0.2
comp=Z,2.0nm,0.3s,baz=218,slow=14,SNR=3.9
AKASG Malin Array Be 141.86 331 PKhKP PKPpre 07 19 05.5
comp=Z,2.9nm,0.3s,baz=42,slow=4.6,SNR=7.7
AKASG SKPbc **SKPbc** 07 21 46.6 +0.3
comp=Z,9.0nm,0.9s,baz=37,slow=2.8,SNR=12
LODK Lodwar 142.73 249 **PKPdf** 07 19 11.2 -1.8
SORM Soroca 144.03 328 ⇓P PKPbc 07 19 13.2 -0.7
MBAR Mbarara 144.50 239 PKP PKPbc 07 19 16.7 0.0
comp=Z,37nm,0.7s,baz=111,slow=3.3,SNR=41
BRTR Keskin Array B 145.59 313 PKP **PKPdf** 07 19 16.9 -0.3
comp=Z,8.2nm,0.8s,baz=132,slow=4.5,SNR=15
BRTR PKPbc **PKPbc** 07 19 18.4 -0.7
comp=Z,9.1nm,0.8s,baz=122,slow=2.9,SNR=11
BRTR SKP 07 21 48.3
comp=Z,2.0nm,0.9s,baz=114,slow=3.5,SNR=2.2
TLCR 145.70 324 ⇓P **PKPbc** 07 19 18.4 -0.6
BUR08 Bucovina Ar. S 145.89 330 **PKPdf** 07 19 17.4 0.0
BURAR Bucovina Array 145.90 330 **PKPdf** 07 19 17.8 +0.4
BURAR Bucovina Array 145.90 330 ⇑P **PKPbc** 07 19 19.6 0.0
BIZ Bicaz 145.96 329 ⇑P **PKPbc** 07 19 20.3 +0.7
CFR Carcaliu 146.08 325 ⇓P **PKPbc** 07 19 20.0 0.0
ANTO Ankara 146.11 313 **PKPbc** 07 19 20.7 +0.3
KOLS Kolonicke sedl 146.19 334 *e*PKP **PKPbc** 07 19 19.9 -0.3
VRI Vrincioaia 146.38 327 ⇑P **PKPbc** 07 19 19.7 -1.2
TIRR Tirgusor 146.38 323 ⇑P **PKPbc** 07 19 20.0 -0.8
PLOR Plostina 146.43 327 ⇓P **PKPbc** 07 19 20.7 -0.3
HARR Harsova 146.50 324 ⇓P **PKPbc** 07 19 20.4 -0.7
MMAI Mount Meron Ar 146.57 300 PKPbc **PKPbc** 07 19 22.2 +0.4
comp=Z,22nm,0.6s,baz=54,slow=4.2,SNR=17
KSP Ksiaz 146.65 342 *e*PKP **PKPbc** 07 19 21.7 +0.4
OZUR 146.70 328 ⇓P **PKPbc** 07 19 21.3 -0.5
CHVC Chvalec 146.95 342⇑ *e*PKP **PKPbc** 07 19 22.1 -0.1
DOPR Dopca 146.99 328 ⇑P **PKPbc** 07 19 23.2 +0.8
MLR Muntele Rosu 147.04 327 ⇓P **PKPbc** 07 19 22.9 +0.1
CLL Collm 147.08 346 *e*PKPdf **PKPdf** 07 19 19.0 -0.1
CLL ⇑ *i*PKPbc **PKPbc** 07 19 22.3 -0.1
comp=Z,54nm,0.8s
CLL *e*pPKPbc **pPKPbc** 07 21 53.0 +1.5
CLL Collm 147.08 346 *e*PKiKP **PKPbc** 07 19 22.1 -0.4
DPC Dobruska-Polom 147.08 342⇑ *e*PKP **PKPbc** 07 19 22.9 +0.3
DPC *ex* x 07 20 54.9
LANS Liptovska Anna 147.09 337 *e*PKP **PKPbc** 07 19 23.3 +0.7
KRLC Kraliky 147.19 341⇑ *e*PKP **PKPbc** 07 19 23.1 +0.2
MORC Moravsky Berou 147.21 340 *e*PKP **PKPbc** 07 19 22.8 -0.1
MORC Moravsky Berou 147.21 340 ⇑P **PKPbc** 07 19 21.6 -1.3
BRG Berggiesshubel 147.25 345⇓ *e*PKPf 07 19 19.7
BRG Berggiesshubel 147.25 345 Amp 07 19 21.4
comp=Z,8.7nm,1.0s
BRG Berggiesshubel 147.25 345⇑ *i*PKP **PKPbc** 07 19 22.9 0.0
BRG Berggiesshubel 147.25 345 Amp 07 19 24.4
comp=Z,28nm,0.9s
BRG Berggiesshubel 147.25 345 pPKP pPKPdf 07 21 56.2 +4.9
BRG Berggiesshubel 147.25 345 Amp 07 22 02.1
comp=Z,15nm,1.1s
CJR Cluj-Napoca 147.31 331 ⇓P **PKPbc** 07 19 23.5 +0.2
PVCC Panska Ves 147.41 344⇑ *e*PKP **PKPbc** 07 19 23.8 +0.5
NEUB Neuenburg 147.44 347 *e*PKiKP **PKPbc** 07 19 23.8 +0.4
VOIR 147.53 328 ⇓P **PKPbc** 07 19 24.3 +0.4
DRGR 147.66 332 ⇓P **PKPbc** 07 19 24.3 +0.1
ARR Arges 147.79 328 ⇑P **PKiKP** 07 19 25.4 -0.4
VYHS Vyhne 147.87 337 *e*PKP **PKPbc** 07 19 24.5 -0.1
PRU Pruhonice 147.91 343⇑ *e*PKP **PKPbc** 07 19 24.7 +0.1
PRU *ex* x 07 20 55.7
VRAC Vranov 147.92 341 *e*PKP **PKPbc** 07 19 24.7 0.0
VRAC Vranov 147.92 341 ⇑P **PKPbc** 07 19 25.2 +0.5
LEF Lefka 147.94 305 ⇓P **PKPbc** 07 19 25.1 0.0
PSZ Piszkesteto 147.95 336 **PKPbc** 07 19 23.7 -1.2
PSZ Piszkesteto 147.95 336 ⇑P **PKPbc** 07 19 24.1 -0.8
KOLL Kolacno 147.95 338 *e*PKP **PKPbc** 07 19 25.3 +0.5
JAVC Velka Javorina 147.96 339 *e*PKP **PKiKP** 07 19 25.8 -0.3
KASTN Kahler Asten 148.03 351 *e*PKiKP **PKPbc** 07 19 25.1 +0.1
LOT Lotru 148.16 329 ⇑P **PKPbc** 07 19 24.5 -1.0
KRUC Moravsky 148.20 341 *e*PKP **PKPbc** 07 19 25.3 -0.1
NKC Novy Kostel 148.21 346⇑ *e*PKP **PKPbc** 07 19 25.5 +0.1
PBCC Pribram 148.33 344⇑ *e*PKP **PKPbc** 07 19 25.9 +0.2
SMOL Smolenice 148.34 339 *e*PKP **PKiKP** 07 19 26.9 +0.1
ROSA Rosais 148.46 47 **PKiKP** 07 19 27.0 -0.4
SIRR Siria 148.53 332 ⇓P **PKPbc** 07 19 25.6 -0.7
GZR Gura Zlata 148.67 330 ⇓P **PKPbc** 07 19 26.5 -0.2
MEM Membach 148.91 354 *d*PKPdf **PKPdf** 07 19 22.0 -0.1
MEM *d*PKPbc **PKPbc** 07 19 26.7 -0.4
MEM *d*PKiKP **PKiKP** 07 19 27.3 -0.6
BTNL Ternell 148.92 354 *d*PKPdf **PKPdf** 07 19 22.7 +0.5
BTNL *d*PKiKP **PKPbc** 07 19 27.4 +0.2
KHC Kasperske Hory 148.95 344⇑ *e*PKP **PKPbc** 07 19 27.3 0.0
KHC *ex* x 07 20 57.4
KHC *ep*PKP **pPKPab** 07 21 58.5 0.0
TNS Taunus Mts 148.98 351 *e*PKiKP **PKPbc** 07 19 27.3 0.0
CKRC Cesky Krumlov 149.04 343⇑ *e*PKP **PKPbc** 07 19 27.6 +0.1
CKRC *ex* x 07 20 58.5
BZS Buzias 149.04 331 ⇑P **PKPbc** 07 19 27.5 -0.1
SNF Seneffe 149.16 356 *d*PKiKP **PKPbc** 07 19 27.9 +0.2
GEC2 GERESS Array S 149.18 343 *e*PKiKP **PKPbc** 07 19 27.8 0.0
GERES GERESS Array B 149.18 343 PKPbc **PKPbc** 07 19 27.7 -0.2
comp=Z,18nm,0.9s,baz=45,slow=2.3,SNR=24
GERES pPKPbc **pPKPbc** 07 21 58.0 +0.3
comp=Z,2.3nm,0.8s,baz=49,slow=2.5,SNR=3.0
GERES GERESS Array B 149.18 343 pPKPab 07 21 59.3 -0.2
BGES Gesves 149.22 355 *d*PKiKP **PKPbc** 07 19 27.5 -0.3
HERR Herculane 149.22 329 ⇑P **PKPbc** 07 19 28.0 0.0
BMRD Maredsous 149.33 355 *d*PKiKP **PKPbc** 07 19 27.9 -0.1
CONA Conrad Observa 149.37 340 *e*P **PKPbc** 07 19 28.1 -0.2
comp=Z,23nm,0.8s,SNR=14
DOU Dourbes 149.55 355 *d*PKiKP **PKPbc** 07 19 28.6 +0.1
MDVR Moldovita 149.63 330 ⇑P **PKPbc** 07 19 28.5 -0.6
WLF Walferdange 149.83 353 *d*PKiKP **PKiKP** 07 19 30.0 +0.2
MORH Mrgy, Hungar 149.83 335 ⇓P **PKPbc** 07 19 28.9 -0.5
MOA Molln 149.93 342 *e*P **PKPbc** 07 19 29.1 -0.5
comp=Z,7.0nm,0.7s
ARSA Arzberg 150.07 340 *e*P **PKPbc** 07 19 29.0 -1.0
comp=Z,7.1nm,1.0s
FRGS Fruska Gora 150.20 333 ⇑P **PKPbc** 07 19 29.9 -0.4
VTS Vitosha 150.43 325 ⇓P **PKPbc** 07 19 30.3 -0.8
BOVS Bovan 150.49 329 ⇑P **PKPbc** 07 19 29.5 -1.5
BFO Black Forest 150.84 350 **PKPbc** 07 19 31.1 -0.6
KBA Koelnbreinsper 150.89 342 *e*P **PKPbc** 07 19 30.7 -1.3
comp=Z,13nm,0.9s,SNR=6.2
DIVS Divibare 150.95 331 PKPdf **PKPdf** 07 19 24.9 -0.8
WATA Walderalm 151.12 345 *e*P **PKPbc** 07 19 31.7 -0.8
comp=Z,12nm,0.7s
RETA Reutte 151.17 346 *e*P **PKPbc** 07 19 32.0 -0.5
comp=Z,8.4nm,0.7s
WTTA Wattenberg 151.17 345 *e*P **PKPbc** 07 19 32.2 -0.5
comp=Z,17nm,0.8s
MYKA Terra Mystica 151.21 342 *e*P **PKPbc** 07 19 31.4 -1.2
comp=Z,11nm,0.7s
MOTA Moosalm 151.22 346 *e*P **PKPbc** 07 19 32.0 -0.7
comp=Z,16nm,0.8s
ABTA Abfaltersbach 151.42 343 *e*P **PKPdf** 07 19 25.7 -0.6
comp=Z,7.5nm,0.9s
ABTA *e*P **PKPbc** 07 19 32.0 -1.2
comp=Z,24nm,0.7s,SNR=5.8
LJU Ljubljana 151.46 340 *i* PKPbc **PKPbc** 07 19 32.6 -0.5
DAVA Damuels 151.55 347 *e*P **PKiKP** 07 19 34.2 +0.5
comp=Z,11nm,0.7s
FETA Feichten 151.62 346 *e*P **PKPdf** 07 19 26.5 -0.1
comp=Z,9.0nm,0.8s
FETA *i* P **PKPbc** 07 19 33.2 -0.4
comp=Z,17nm,0.8s
BOJS Bojanci 151.69 339 *i* PKPbc **PKPbc** 07 19 33.5 -0.2
CEY Cerknica 151.76 340 *i* PKPdf **PKPdf** 07 19 25.7 -1.0
CEY *i* PKPbc **PKPbc** 07 19 33.1 -0.7
CEY *ep*PKPbc **pPKPbc** 07 22 04.3 +0.3
STAL STALIGIAL 151.82 343 PKPbc **PKPbc** 07 19 33.0 -1.0
CIMO Cimolais 151.85 343 PKPdf **PKPdf** 07 19 25.1 -1.7
CIMO **PKPbc** 07 19 31.6 -2.3
DAVOX Davos/Dischmat 152.03 347 PKP **PKPdf** 07 19 26.8 -0.5
comp=Z,6.1nm,0.7s,baz=320,slow=7.9,SNR=2.4
DAVOX PKPbc **PKPbc** 07 19 34.5 -0.1
comp=Z,16nm,0.6s,baz=308,slow=10,SNR=6.9
DAVOX pPKPbc **pPKPbc** 07 22 05.8 +0.7
comp=Z,7.8nm,0.9s,baz=343,slow=9.2,SNR=4.0
ESDC Sonseca Array 159.66 11 PKP **PKPdf** 07 19 37.3 +0.1
comp=Z,1.2nm,0.7s,baz=342,slow=4.1,SNR=2.4
ESDC PKPab **PKPab** 07 20 20.4 -0.1
comp=Z,2.2nm,1.0s,baz=346,slow=4.5,SNR=5.9
ESDC Sonseca Array 159.66 11 **PKPab** 07 20 20.2 -0.2
LIC Lamto 165.38 156 *e*PKiKP **PKPdf** 07 19 42.3 -1.1
comp=Z,76nm,1.1s
LIC Lamto 165.38 156 *e*PKP2 **PKPab** 07 20 46.8 +0.6

	comp=Z,67nm,0.8s							
KIC	**Kosan Boka**	**165.62**	**157**	*e*PKIKP	**PKPdf**	**07 19 42.2**	**-1.4**
	comp=Z,40nm,0.9s							
KIC	**Kosan Boka**	**165.62**	**157**	*e*PKP2	**PKPab**	**07 20 47.6**	**+0.4**
	comp=Z,69nm,0.9s							
TIC	**Toumodi**	**165.77**	**155**	*e*PKIKP	**PKPdf**	**07 19 42.8**	**-0.9**
TIC	**Toumodi**	**165.77**	**155**	*e*PKP2	**PKPab**	**07 20 48.5**	**+0.6**
DBIC	**Dimbokro**	**165.85**	**156**	PKP	**PKPdf**	**07 19 42.8**	**-1.0**
	comp=Z,15nm,1.0s,baz=214,slow=1.4,SNR=4.1							
DBIC				PKPab	**PKPab**	**07 20 48.8**	**+0.5**
	comp=Z,18nm,0.8s,baz=175,slow=5.8,SNR=7.6							
KOWA	**Kowa**	**172.96**	**137**	PKP	**PKPdf**	**07 19 46.6**	**-1.3**
	comp=Z,9.7nm,0.9s,baz=129,slow=1.3,SNR=10							
KOWA				PKPab	**PKPab**	**07 21 19.9**	**+0.1**
	comp=Z,10.0nm,0.8s,baz=225,slow=4.9,SNR=8.8							
KOWA	**Kowa**	**172.96**	**137**		**PKPab**	**07 21 20.4**	**+0.6**
TOA0	**Torodi Ar. Sit**	**173.43**	**186**		**PKPdf**	**07 19 47.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**173.43**	**186**	PKP	**PKPdf**	**07 19 46.6**	**-1.5**
	comp=Z,6.7nm,1.0s,baz=180,slow=2.9,SNR=11							
TORD				PKPab	**PKPab**	**07 21 21.0**	**-0.7**
	comp=Z,4.8nm,0.8s,baz=177,slow=3.5,SNR=9.5							
TORD				pPKPab	**pPKPab**	**07 23 44.4**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=142,slow=1.5,SNR=3.4							
TORD				PP	**PP**	**07 25 13.5**	**+0.6**
	comp=Z,3.7nm,1.0s,baz=170,slow=5.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**173.43**	**186**		**PKPdf**	**07 19 46.2**	**-1.9**

IDC 03 07:10:40.2±1.3, 11°.53S×165°.14E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.7/37, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=50.6km s-min=27.7km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.55**	**173**	Pn	Pn	07 13 12.9	0.0
	1.2nm,0.3s,baz=325,slow=16,SNR=7.3						
WRA	**Warramunga Arr**	**30.76**	**250**	P	P	07 16 57.9	+0.3
	2.1nm,0.9s,baz=82,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**32.05**	**244**	P	P	07 17 08.5	-0.4
	0.6nm,0.7s,baz=68,slow=10,SNR=2.2						
ILAR	**Eielson Array**	**84.16**	**19**	P	P	07 23 12.9	0.0
	0.5nm,0.6s,baz=239,slow=5.2,SNR=9.7						
NVAR	**Mina Array Bea**	**86.79**	**50**	P	P	07 23 26.9	-0.1
	0.5nm,0.8s,baz=236,slow=6.4,SNR=3.9						

*IDC **03** 07:34:28.9±2.2, 7°.39S×129°.10E, h155km±28km, mb3.0/1, mb1 2.2/6, mb1mx3.1/40, mbtmp3.7/6, Error ellipse: s-maj=26.6km s-min=21.1km az=114.0*

ISC 03 07:34:28.0±1.0, 7°.59S±0°.07×129°.26E±0°.10, h150km, n6, σ3°.34/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.11**	**244**	P	**Pn**	**07 35 58.2**	**+1.9**
	13nm,0.3s,baz=44,slow=1.3,SNR=4.5						
BATI				S	**Sn**	**07 37 03.8**	**-1.5**
	5.8nm,0.3s,baz=267,slow=4.6,SNR=1.6						
SIJI	**Sorong**	**6.97**	**17**	P	**Pn**	**07 36 07.0**	**-0.7**
	0.7nm,0.3s,baz=192,slow=20,SNR=1.8						
SIJI				S	Sn	07 37 14.6	-11
	1.5nm,0.3s,baz=250,slow=23,SNR=1.4						
FITZ	**Fitzroy Crossi**	**11.03**	**198**	P	**Pn**	**07 37 03.9**	**+2.2**
	0.1nm,0.3s,baz=26,slow=12,SNR=1.9						
FITZ				S	**Sn**	**07 38 58.8**	**-4.8**
	0.2nm,0.3s,baz=132,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**13.23**	**159**	P	**Pn**	**07 37 32.2**	**+1.9**
	0.2nm,0.3s,baz=344,slow=13,SNR=10						
WRA				S	**Sn**	**07 39 53.0**	**-3.8**
	0.6nm,0.3s,baz=335,slow=23,SNR=9.5						
ASAR	**Alice Springs**	**16.60**	**165**	P	**Pn**	**07 38 17.0**	**+4.8**
	0.1nm,0.3s,baz=344,slow=10,SNR=6.5						
ASAR				S	**S**	**07 41 17.4**	**+0.6**
	0.1nm,0.3s,baz=334,slow=20,SNR=1.4						
MKAR	**Makanchi Array**	**68.31**	**327**	P	**P**	**07 45 11.6**	**-1.4**
	0.2nm,0.5s,baz=116,slow=6.6,SNR=4.1						

*IDC **03** 07:37:08.7±0.6, 13°.86N×144°.81E, h102km±3km, mb3.9/10, mb1 4.1/10, mb1mx3.7/41, mbtmp4.2/10, MS3.4/3, Ms1 3.4/3, ms1mx2.8/43, Error ellipse: s-maj=26.0km s-min=14.1km az=99.0*

*NEIC **03** 07:37:10.2±1.7, 13°.80N±0°.06×144°.8E±0°.1, h109km±5km, mb4.4/35, Error ellipse: s-maj=15.8km s-min=8.0km az=111.0*

ISC 03 07:37:10.6±0.4, 13°.81N±0°.06×144°.8E±0°.1, h125km, n70, σ1°.65/68, mb4.3/29, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.23**	**165**	P	**Pn**	**07 37 25.1**	**-2.7**
	2µm,0.3s,baz=333,slow=13,SNR=739						
GUMO				S	**Sn**	**07 37 36.1**	**-4.8**
	3µm,0.3s,baz=77,slow=19,SNR=16						
GUMO	**Guam**	**0.23**	**165**		**Pn**	**07 37 25.4**	**-2.5**
ANA2	**Anatahan**	**2.67**	**19**	Pn	**Pn**	**07 37 53.0**	**+0.3**
PATS	**Pohnpei**	**14.98**	**116**	Pn	**Pn**	**07 40 34.0**	**-2.0**
FAKI	**Fak Fak**	**20.77**	**218**	P	**P**	**07 41 42.6**	**+0.8**
FAKI				IAmb	IAmb	07 41 51.5	
	comp=Z,31nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**21.52**	**75**	T	T	08 03 15.5	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**21.53**	**75**	T	T	08 03 46.2	
	baz=262,slow=74						
H11S2	**WAKE ISLAND Hy**	**21.54**	**75**	T	T	08 03 26.1	
	baz=262,slow=74						
H11N1	**WAKE ISLAND Hy**	**21.93**	**71**	T	T	08 04 55.1	
	baz=257,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**21.94**	**71**	T	T	08 05 00.5	
	baz=257,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**21.95**	**71**	T	T	08 05 01.2	
	baz=257,slow=75,SNR=19						
KSRS	**Korea Array**	**27.95**	**330**	LR	LR	07 53 28.1	
	comp=Z,26nm,19.6s,baz=200,slow=35						
CTA	**Charters Tower**	**33.71**	**178**	P	**P**	**07 43 40.8**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=13,slow=9.3,SNR=5.6						
CTAO	**Charters Tower**	**33.71**	**178**	P	**P**	**07 43 41.6**	**+1.5**
CTAO				IAmb	IAmb	07 43 59.6	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**34.90**	**197**	P	**P**	**07 43 50.7**	**+0.4**
WB0				IAmb	IAmb	07 43 51.4	
	comp=Z,9.4nm,1.2s						
WR0	**Warramunga Arr**	**35.04**	**197**	P	**P**	**07 43 51.6**	**0.0**
WR0				IAmb	IAmb	07 43 53.2	
	comp=Z,8.1nm,1.1s						
WRAB	**Tennant Creek**	**35.07**	**197**	P	**P**	**07 43 50.1**	**-1.7**
WRAB				IAmb	IAmb	07 43 53.9	
	comp=Z,7.8nm,0.8s						
WB2	**Warramunga Arr**	**35.08**	**197**	P	**P**	**07 43 51.5**	**-0.3**
WB2				IAmb	IAmb	07 43 54.0	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**35.09**	**197**	P	**P**	**07 43 52.0**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=18,slow=9.2,SNR=22						
WRA				ScP	**ScP**	**07 49 56.9**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=13,slow=3.9,SNR=2.7						
WRA	**Warramunga Arr**	**35.09**	**197**	P	**P**	**07 43 50.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**36.91**	**211**	P	**P**	**07 44 08.5**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=23,slow=9.4,SNR=21						
FITZ	**Fitzroy Crossi**	**36.91**	**211**	P	**P**	**07 44 08.6**	**+1.2**
FITZ				IAmb	IAmb	07 44 09.4	
	comp=Z,3.3nm,0.9s						
KLR	**Kul'dur**	**36.92**	**346**	LR	LR	07 57 33.3	
	comp=Z,26nm,20.9s,baz=168,slow=33						
AS31	**Alice Springs**	**38.74**	**196**	P	**P**	**07 44 24.2**	**+1.4**
AS31				IAmb	IAmb	07 44 26.2	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**38.74**	**196**	P	**P**	**07 44 23.2**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=23,slow=12,SNR=24						
ASAR				PcP	**PcP**	**07 46 33.9**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=23,slow=3.1,SNR=6.1						
ASAR				ScP	**S**	**07 50 11.1**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=22,slow=3.7,SNR=2.3						
ASAR	**Alice Springs**	**38.74**	**196**	P	**P**	**07 44 22.0**	**-0.9**
EIDS	**Eidsvold**	**39.42**	**171**	P	**P**	**07 44 28.7**	**+0.3**
EIDS				IAmb	IAmb	07 44 42.9	
	comp=Z,17nm,1.4s						
DZM	**Mont Dzumac**	**41.49**	**149**	P	**P**	**07 44 47.1**	**+1.4**
	comp=Z,39nm,0.6s,baz=303,slow=3.4,SNR=31						
DZM	**Mont Dzumac**	**41.49**	**149**	P	**P**	**07 44 47.4**	**+1.7**
OUENC	**Ouen Island, N**	**41.98**	**149**	P	**P**	**07 44 50.9**	**+1.4**
PBKT	**Sadao Pong**	**42.34**	**280**	P	**P**	**07 44 51.2**	**-1.3**
PINNC	**Pines Island,**	**42.45**	**148**	P	**P**	**07 44 54.7**	**+1.4**
STKA	**Stephens Creek**	**45.53**	**184**	P	**P**	**07 45 17.9**	**+0.1**
	comp=Z,5.0nm,0.4s,baz=5.4,slow=7.1,SNR=18						
STKA	**Stephens Creek**	**45.53**	**184**	P	**P**	**07 45 17.9**	**+0.1**

SONM	**Songino Array**	**46.52**	**325**	pP	pP	07 45 51.6	-1.5
	comp=Z,0.9nm,0.8s,baz=128,slow=6.1,SNR=2.2							
BBOO	**Buckleboo**	**47.10**	**190**	P	**P**	**07 45 30.4**	**+0.4**
FORT	**Forrest**	**47.17**	**200**	P	**P**	**07 45 31.6**	**+1.1**
CAN	**Canberra**	**49.02**	**175**	P	**P**	**07 45 46.5**	**+1.7**
TOO	**Toolangi**	**51.11**	**179**	P	**P**	**07 46 02.1**	**+1.6**
MK31	**Makanchi Array**	**61.29**	**316**	P	**P**	**07 47 14.1**	**+1.3**
MKAR	**Makanchi Array**	**61.29**	**316**	P	**P**	**07 47 14.0**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=92,slow=8.8,SNR=7.5							
MKAR				pP	**pP**	**07 47 35.4**	**-6.4**
	comp=Z,0.3nm,0.5s,baz=97,slow=6.0,SNR=3.0							
MSWZ	**Moikau Station**	**61.73**	**154**	P	**P**	**07 47 16.2**	**+0.6**
KDAK	**Kodiak Island**	**63.92**	**32**	P	**P**	**07 47 29.4**	**-0.6**
	comp=Z,3.8nm,1.0s,baz=247,slow=7.7,SNR=1.8							
TRF	**Thorofare Moun**	**66.61**	**26**	P	**P**	**07 47 47.9**	**+0.5**
TRF				IAmb	IAmb	07 47 48.0		
	comp=Z,5.7nm,1.4s							
PWL	**Port Wells**	**66.81**	**29**	P	**P**	**07 47 48.8**	**+0.1**
IL31		**68.40**	**25**	P	**P**	**07 47 56.4**	**-2.0**
IL31				IAmb	IAmb	07 47 58.2		
	comp=Z,4.7nm,1.4s							
ILAR	**Eielson Array**	**68.40**	**25**	P	**P**	**07 47 56.0**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=250,slow=5.9,SNR=12							
ILAR				pP	**PcP**	**07 48 25.1**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=255,slow=7.0,SNR=2.2							
TOLK	**Toolik Lake Re**	**68.43**	**21**	P	**P**	**07 47 58.5**	**-0.2**
ABKAR	**Akbulak array**	**76.34**	**318**	P	**P**	**07 48 46.8**	**+0.9**
NLWA	**Neilton Lookou**	**80.86**	**43**	P	**P**	**07 49 12.3**	**+1.5**
NLWA				IAmb	IAmb	07 49 26.2		
	comp=Z,4.6nm,1.1s							
KHMM	**Horse Mountain**	**82.19**	**50**	P	**P**	**07 49 20.0**	**+1.9**
KHMM				IAmb	IAmb	07 49 37.6		
	comp=Z,12nm,1.2s							
HUMO	**Hull Mountain**	**82.42**	**48**	P	**P**	**07 49 21.0**	**+2.0**
EUNU	**Eureka**	**82.66**	**8**	P	**P**	**07 49 21.5**	**+1.8**
EUNU				IAmb	IAmb	07 49 32.0		
	comp=Z,5.2nm,1.4s							
YKA	**Yellowknife Ar**	**82.69**	**27**	P	**P**	**07 49 20.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=286,slow=5.0,SNR=1.8							
YBH	**Yreka Blue Hor**	**82.77**	**49**	P	**P**	**07 49 22.2**	**+1.2**
PINE	**Pine Mountain**	**83.60**	**47**	P	**P**	**07 49 26.8**	**+1.4**
PINE				IAmb	IAmb	07 49 27.1		
	comp=Z,5.6nm,0.7s							
B08A	**Colville Reser**	**83.65**	**42**	P	**P**	**07 49 25.9**	**+0.6**
K05A	**Summer Lake**	**83.88**	**48**	P	**P**	**07 49 27.8**	**+1.0**
K05A				IAmb	IAmb	07 49 28.5		
	comp=Z,3.4nm,0.7s							
BEKR	**Beckworth**	**84.93**	**50**	P	**P**	**07 49 32.4**	**+0.2**
BEKR				IAmb	IAmb	07 49 33.2		
	comp=Z,3.0nm,0.6s							
BMO	**Blue Mountains**	**85.88**	**45**	P	**P**	**07 49 37.6**	**+0.9**
NVAR	**Mina Array Bea**	**86.83**	**51**	P	**P**	**07 49 42.4**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=273,slow=5.4,SNR=19							
NVAR				pP	**pP**	**07 50 09.3**	**-4.0**
	comp=Z,0.4nm,0.6s,baz=283,slow=4.1,SNR=2.5							
MFID	**Camas Ranch**	**87.29**	**46**	P	**P**	**07 49 44.7**	**+1.1**
MFID				IAmb	IAmb	07 49 45.0		
	comp=Z,2.9nm,0.7s							
ELK	**Elko**	**88.47**	**48**	P	**P**	**07 49 50.2**	**+0.8**
ELK				IAmb	IAmb	07 49 50.9		
	comp=Z,2.2nm,0.7s							
KVAR	**Kislovodsk Ar**	**89.04**	**315**	LR	LR	08 31 60.0		
	comp=Z,107nm,21.8s,baz=269,slow=37							
FINES	**FINESS Array B**	**90.94**	**335**	P	**P**	**07 49 58.7**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=46,slow=11,SNR=3.9							
FINES	**FINESS Array B**	**90.94**	**335**	P	**P**	**07 49 59.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**134.69**	**305**	PKP	**PKPdf**	**07 56 15.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=65,slow=1.4,SNR=5.2							
PLCA	**Paso Flores**	**139.13**	**138**	PKP	**PKiKP**	**07 56 24.8**	**-0.5**
	comp=Z,4.4nm,1.1s,baz=336,slow=3.0,SNR=3.3							
LPAZ	**La Paz**	**148.11**	**99**	PKPbc	**PKPbc**	**07 56 44.1**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=285,slow=2.1,SNR=21							
LPAZ	**La Paz**	**148.11**	**99**	PKPbc	**PKPbc**	**07 56 42.1**	**-1.3**
LPAZ				PKPab	**PKiKP**	**07 56 45.0**	**0.0**

*JMA **03** 07:49:00.8±0.2, 37°.18N×138°.87E, h185km±2km, M3.5*

*IDC **03** 07:49:01.2±0.5, 37°.24N×138°.70E, h181km±5km, mb3.3/14, mb1 3.5/17, mb1mx3.3/51, mbtmp3.8/17, Error ellipse: s-maj=17.1km s-min=13.6km az=71.0*

ISC 03 07:49:01.0±0.7, 37°.19N±0°.05×138°.80E±0°.07, h184km±5km, n30, σ0°.90/41, mb3.5/14, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	**Izumozaki**	**0.35**	**349**	P	**Pn**	**07 49 26.4**	**+0.8**
JIZZ				*e*S	**Sn**	**07 49 45.6**	**+0.8**
MAT	**Matsushiro**	**0.80**	**217**	P	**Pn**	**07 49 27.9**	**+0.2**
MAT				S	**Sn**	**07 49 48.3**	**0.0**
MAT	**Matsushiro**	**0.80**	**217**	P	**Pn**	**07 49 27.9**	**+0.2**
MAT				*e*S	**Sn**	**07 49 48.7**	**+0.4**
MJAR	**Matsushiro Arr**	**0.80**	**216**	P	**Pn**	**07 49 28.0**	**+0.3**
	13nm,0.3s,baz=33,slow=5.4,SNR=433						
MJAR				S	**Sn**	**07 49 48.8**	**+0.5**
	0.9nm,0.3s,baz=46,slow=7.7,SNR=9.8						
JAG	**Ashikaga**	**0.92**	**145**	P	**Pn**	**07 49 28.4**	**-0.1**
JSD	**Sado**	**0.95**	**334**	P	**Pn**	**07 49 28.4**	**-0.2**
JSD				*e*S	**Sn**	**07 49 49.0**	**-1.2**
JRY	**Ryogami san**	**1.17**	**176**	P	**Pn**	**07 49 30.5**	**+0.1**
JRY				S	**Sn**	**07 49 53.0**	**-0.1**
JSZ	**Suzu**	**1.17**	**283**	P	**Pn**	**07 49 30.5**	**+0.2**
JSZ				*e*S	**Sn**	**07 49 53.2**	**+0.2**
JFT	**Otama**	**1.27**	**74**	P	**Pn**	**07 49 31.4**	**+0.2**
JFT				*e*S	**Sn**	**07 49 54.2**	**-0.4**
JYN	**Shimodo**	**1.70**	**187**	P	**Pn**	**07 49 35.0**	**-0.2**
JYN				S	**Sn**	**07 50 01.4**	**-0.4**
JOD2	**Odawara 2**	**1.93**	**173**	P	**Pn**	**07 49 37.0**	**-0.6**
JYK	**Kaneyama**	**2.12**	**35**	P	**Pn**	**07 49 39.7**	**+0.1**
JMK	**Ichinoseki**	**2.60**	**47**	P	**Pn**	**07 49 44.8**	**-0.2**
JHJ	**Hachijo jima 2**	**4.14**	**168**	P	**Pn**	**07 50 03.6**	**-0.4**
	18nm,0.3s,baz=281,slow=22,SNR=1.3						
JHJ				S	**Sn**	**07 50 50.1**	**-3.1**
	26nm,0.3s,baz=67,slow=23,SNR=7.6						
ASAJ	**Asahikawa**	**7.50**	**21**	P	**Pn**	**07 50 45.7**	**-1.9**
	2.1nm,0.3s,baz=210,slow=15,SNR=12						
ASAJ				S	Sn	07 52 00.1	-12
	0.5nm,0.3s,baz=198,slow=20,SNR=1.9						
KLR	**Kul'dur**	**13.08**	**339**	P	**Pn**	**07 51 58.4**	**-1.4**
	0.1nm,0.3s,baz=156,slow=12,SNR=2.4						
SONM	**Songino Array**	**25.97**	**304**	P	**P**	**07 54 15.4**	**-1.2**
	0.9nm,0.5s,baz=109,slow=8.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**40.27**	**312**	P	**P**	**07 56 20.3**	**+0.6**
	0.9nm,0.4s,baz=101,slow=6.3,SNR=2.3						
ZALV				PcP	**PcP**	**07 58 19.9**	**+0.2**
	1.4nm,0.3s,baz=115,slow=3.8,SNR=5.2						
MKAR	**Makanchi Array**	**42.26**	**302**	P	**P**	**07 56 36.2**	**+0.1**
	0.7nm,0.6s,baz=92,slow=9.3,SNR=7.5						
KURBB	**Kurchatov Arra**	**44.26**	**308**	P	**P**	**07 56 52.0**	**+0.1**
	4.8nm,0.7s,baz=85,slow=8.0,SNR=25						
BVAR	**Borovoye Array**	**48.92**	**312**	P	**P**	**07 57 27.4**	**-0.7**
	0.7nm,0.4s,baz=89,slow=15,SNR=4.7						
ILAR	**Eielson Array**	**50.49**	**32**	P	**P**	**07 57 40.6**	**+0.8**
	0.3nm,0.8s,baz=277,slow=9.7,SNR=5.0						
WRA	**Warramunga Arr**	**56.98**	**185**	P	**P**	**07 58 27.4**	**+0.1**
	1.1nm,0.8s,baz=360,slow=7.5,SNR=9.0						
ASAR	**Alice Springs**	**60.70**	**185**	P	**P**	**07 58 54.4**	**+1.5**
	0.4nm,0.8s,baz=19,slow=9.0,SNR=2.7						
FINES	**FINESS Array B**	**67.69**	**331**	P	**P**	**07 59 37.2**	**-0.7**
	1.8nm,0.8s,baz=37,slow=7.3,SNR=1.8						
AKASG	**Malin Array Be**	**72.88**	**321**	P	**P**	**08 00 08.9**	**-0.8**
	0.5nm,0.4s,baz=50,slow=6.0,SNR=2.1						
NOA	**NORSAR Array B**	**73.22**	**336**	P	**P**	**08 00 11.3**	**-0.2**
	0.5nm,0.6s,baz=44,slow=4.7,SNR=3.2						
NVAR	**Mina Array Bea**	**76.56**	**52**	P	**P**	**08 00 32.8**	**+1.5**
	0.6nm,0.7s,baz=303,slow=4.3,SNR=6.1						
PDAR	**Pinedale Array**	**79.03**	**44**	P	**P**	**08 00 45.5**	**+0.7**
	0.5nm,0.5s,baz=338,slow=2.1,SNR=4.6						
TXAR	**Lajitas Array**	**91.67**	**51**	P	**P**	**08 01 48.6**	**+1.0**
	0.2nm,0.5s,baz=300,slow=3.5,SNR=4.9						

*IDC **03** 07:52:33.9±1.1, 27°.64N×85°.63E, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.8/54, mbtmp4.0/13, ML4.2/2, Error ellipse: s-maj=38.1km s-min=17.1km az=57.0*

*DMN **03** 07:52:36.0±0.1, 27°.80N×85°.88E, h20km, Ml4.5/4, Error ellipse: s-maj=2.8km s-min=1.1km az=13.0*

*NDI **03** 07:52:37.6±2.8, 27°.66N×85°.74E, h10km, MD2.7, ML3.8, mb4.0(NEIC)*

*NEIC **03** 07:52:37.6±3.0, 28°.01N±0°.04×86°.10E±0°.06, h10km±1km, mb4.0/14, Error ellipse: s-maj=9.3km s-min=7.1km az=253.0*

ISC 03 07:52:35.8±1.0, 27°.71N±0°.04×85°.84E±0°.02, h14km±6km,

n50, σ1°.59/65, mb4.0/12, 1D, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**0.20**	**11**	*e*Pg	**Pg**	**07 52 40.1**	**-0.6**
GUN				*e*Sg	**Sg**	**07 52 44.2**	**+0.2**
JIRN	**Jiri**	**0.32**	**99**	*e*Pg	**Pb**	**07 52 43.5**	**0.0**
JIRN				*e*Sg	**Sb**	**07 52 48.2**	**-0.5**
PKI	**Pulchoki**	**0.40**	**250**	*e*Pg	**Pn**	**07 52 46.1**	**-1.4**
PKI				*e*Sg	**Sb**	**07 52 52.7**	**+1.6**
PKIN	**Phulchoki**	**0.41**	**251**	*e*Pg	**Pn**	**07 52 46.2**	**-1.4**
KKN	**Kakani**	**0.50**	**279**	*e*Pg	**Pb**	**07 52 46.9**	**+0.4**
KKN				*e*Sg	**Sb**	**07 52 54.4**	**+0.6**
DMN	**Daman**	**0.66**	**261**	*e*Pg	**Pn**	**07 52 50.3**	**-0.7**
DMN				*e*Sg	**Sn**	**07 52 59.6**	**-1.6**
RAMN	**Ramite**	**1.02**	**138**	*e*Pg	**Pn**	**07 52 56.0**	**+0.1**
GKN	**Gorkha**	**1.10**	**286**	*e*Pg	**Pg**	**07 52 57.6**	**+0.5**
GKN				*e*Sg	**Sn**	**07 53 12.2**	**+0.1**
	844nm,0.3s						
ODAN	**Odare**	**1.62**	**121**	*e*Pg	**Pg**	**07 53 07.3**	**+0.3**
ODAN				*e*Sg	**Sg**	**07 53 28.7**	**+0.6**
	889nm,0.3s						
TAPN	**Taplejung**	**1.70**	**102**	*e*Pg	**Pg**	**07 53 08.2**	**-0.3**
TAPN				*e*Sg	**Sg**	**07 53 30.3**	**-0.4**
	1µm,0.3s						
DANN	**Dangsing**	**1.94**	**290**	*e*Pg	**Pg**	**07 53 12.3**	**-0.8**
DANN				*e*Sg	**Sg**	**07 53 37.9**	**-0.5**
	1µm,0.4s						
KOLN	**Koldanda**	**1.98**	**272**	*e*Pg	**Pg**	**07 53 13.2**	**-0.7**
GTK	**Tadong**	**2.49**	**98**	*ex*	x	07 52 48.0	
GTK				*e*P	**Pb**	**07 53 19.9**	**-0.5**
GTK				*e*S	**Sb**	**07 53 49.9**	**-1.1**
GTK				IAML		07 53 55.9	
	comp=N,475nm,0.2s						
PYUN	**Piuthan**	**2.55**	**279**	*e*Pg	**Pg**	**07 53 24.7**	**0.0**
BOK	**Bokaro**	**3.90**	**179**	*e*P	**Pn**	**07 53 37.2**	**+1.8**
BOK				*e*S	**Sn**	**07 54 21.6**	**+0.6**
LSA	**Lhasa**	**5.07**	**66**	Pn	**Pn**	**07 53 48.5**	**-3.3**
SHL	**Shillong**	**5.82**	**110**	*e*P	**Pn**	**07 54 03.0**	**+1.1**
SHL				*e*P	**Pn**	**07 54 03.6**	**+1.7**
SHL				*i* S	**Sn**	**07 55 07.0**	**-1.5**
SHL				*e*S	**Sn**	**07 55 07.3**	**-1.2**
SHL				IAML		07 55 10.3	
	comp=E,48nm,0.2s						
KOHI	**KOHIMA**	**7.66**	**103**	*e*S	**Sn**	**07 55 54.0**	**+0.2**
KOHI				IAML		07 55 57.9	
	comp=E,69nm,0.6s						
SMLA	**Simla**	**8.29**	**296**	*e*P	**Pn**	**07 54 36.8**	**+1.1**
SMLA				*e*S	**Sn**	**07 56 05.1**	**-4.0**
SMLA				IAML		07 56 08.7	
	comp=N,68nm,0.4s						
SMLA				IAML		07 56 10.6	
	comp=E,118nm,0.4s						
BHPL	**Bhopal**	**8.81**	**242**	*e*P	**Pn**	**07 54 40.7**	**-2.1**
BHPL				*e*S	**Sn**	**07 56 14.4**	**-7.5**
BHPL				IAML		07 56 19.4	
	comp=N,68nm,0.3s						
BHPL				IAML		07 56 21.9	
	comp=E,77nm,0.4s						
HYB	**Hyderabad**	**12.25**	**215**	*i* P	**Pn**	**07 55 28.0**	**-2.0**
HYB				*e*S	Sn	07 57 56.0	+10
NIL	**Nilore**	**12.34**	**302**		**Pn**	**07 55 30.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**15.16**	**125**	Pn	**Pn**	**07 56 11.3**	**+1.6**
	comp=E,0.3nm,0.3s,baz=305,slow=12,SNR=1.8						
KDJ	**Kajisay**	**16.03**	**336**	Pn	**Pn**	**07 56 20.9**	**-0.1**
KDJ

OCLP	**Ormoc**	**1.85**	**276**	*e*P		**Pn**	**07 58 41.8**	**-0.2**
BUTP	**Butuan**	**2.05**	**205**	*e*P		**Pn**	**07 58 46.2**	**+1.5**
BUTP				*e*S		**Sn**	**07 59 13.4**	**+4.3**
LLP	**Lapu-Lapu**	**2.53**	**258**	*e*P		**Pn**	**07 58 51.2**	**-0.2**
LLP				*e*S		**Sn**	**07 59 22.6**	**+1.6**
CGP	**Cagayan de Oro**	**2.96**	**217**⇓	*e*P		Pn	07 59 12.8	+16
CGP				*e*S		**Sn**	**07 59 33.9**	**+2.3**
BUKP	**Musuan**	**3.27**	**206**	*e*P		**Pn**	**07 59 03.8**	**+2.3**
BUKP				*e*S		**Sn**	**07 59 40.8**	**+1.6**
BUKP	**Musuan**	**3.27**	**206**⇑	*e*P		**Pn**	**07 59 04.0**	**+2.5**
BUKP				*e*S		Sn	07 59 48.6	+9.4
RCP	**Roxas**	**3.74**	**281**⇑	*e*P		**Pn**	**07 59 08.8**	**+0.8**
RCP				*e*S		Sn	07 59 22.4	-28
DAV	**Davao City (W)**	**3.86**	**193**	Lg		Lg	08 00 07.7	
	114nm,0.3s,baz=314,slow=23,SNR=3.6							
DAV	**Davao City (W)**	**3.86**	**193**	Pn		**Pn**	**07 59 06.4**	**-3.2**
CNOP	**Candoni, Negro**	**3.92**	**255**	*e*P		**Pn**	**07 59 09.8**	**-0.6**
CNOP				*e*S		**Sn**	**07 59 54.9**	**-0.3**
CNOP	**Candoni, Negro**	**3.92**	**255**⇓	*e*P		**Pn**	**07 59 10.2**	**-0.2**
CNOP				*e*S		**Sn**	**07 59 55.8**	**+0.6**
PAGZ	**Pagadian**	**4.27**	**226**	*e*P		**Pn**	**07 59 16.5**	**+1.2**
SJMP	**San Jose**	**5.50**	**288**	*e*P		**Pn**	**07 59 33.2**	**+1.1**
LQP	**Lukban**	**5.82**	**304**⇓	*e*P		**Pn**	**07 59 36.6**	**-0.1**
SMPP	**San Manuel, Pa**	**7.72**	**314**	*e*P		**Pn**	**08 00 02.0**	**-0.8**
LUWI	**Luwuk**	**12.37**	**198**	Pn		**Pn**	**08 01 03.4**	**-3.1**
TWG	**Pinlang**	**12.98**	**337**	Pn		**P**	**08 01 23.1**	**-1.7**
TPUB	**Ta-pu**	**13.59**	**336**	Pn		**P**	**08 01 30.2**	**-1.3**
FAKI	**Fak Fak**	**14.83**	**157**	Pn		**P**	**08 01 44.5**	**-0.9**
GUMO	**Guam**	**18.17**	**79**	LR		LR	08 09 35.1	
	comp=Z,111nm,18.2s,baz=292,slow=37							
MTN	**Manton Dam**	**23.98**	**169**	P		**P**	**08 03 24.2**	**0.0**
KNRA	**Kununurra**	**26.45**	**175**	P		**P**	**08 03 44.4**	**-2.2**
CMAR	**Chiang Mai Arr**	**27.67**	**289**	LR		LR	08 15 38.7	
	comp=Z,37nm,18.7s,baz=115,slow=38							
FITZ	**Fitzroy Crossi**	**28.77**	**182**	P		**P**	**08 04 07.7**	**+0.4**
	3.4nm,0.6s,baz=36,slow=6.0,SNR=5.4							
FITZ	**Fitzroy Crossi**	**28.77**	**182**	P		**P**	**08 04 03.3**	**-4.0**
WB0	**Warramunga Arr**	**31.40**	**166**	P		**P**	**08 04 31.0**	**+0.4**
WB0				IAmb		IAmb	08 04 43.5	
	comp=Z,7.6nm,1.4s							
WRA	**Warramunga Arr**	**31.56**	**166**	P		**P**	**08 04 31.2**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=345,slow=9.5,SNR=3.7							
WRA				PcP		**PcP**	**08 07 24.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=338,slow=2.9,SNR=2.1							
WB2	**Warramunga Arr**	**31.56**	**166**	P		**P**	**08 04 31.8**	**-0.3**
WR0	**Warramunga Arr**	**31.62**	**165**	P		**P**	**08 04 32.8**	**+0.2**
WR0				IAmb		IAmb	08 04 48.6	
	comp=Z,10nm,1.3s							
USRK	**Ussuriysk Ar.**	**33.57**	**7**	P		**P**	**08 04 51.2**	**+1.8**
	comp=Z,4.8nm,0.7s,baz=189,slow=7.5,SNR=10							
ASAR	**Alice Springs**	**35.06**	**168**	P		**P**	**08 05 01.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=347,slow=7.3,SNR=9.0							
ASAR				PcP		**PcP**	**08 07 34.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=343,slow=3.1,SNR=4.1							
SONM	**Songino Array**	**40.56**	**339**	P		**P**	**08 05 49.6**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=158,slow=9.2,SNR=6.1							
STKA	**Stephens Creek**	**44.88**	**162**	P		**P**	**08 06 24.6**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=330,slow=10,SNR=7.4							
STKA	**Stephens Creek**	**44.88**	**162**	IAmb		IAmb	08 06 28.3	
	comp=Z,1.3nm,0.8s							
PETK	**Petropavlovsk-**	**49.03**	**24**	P		**P**	**08 06 58.8**	**+2.8**
	comp=Z,1.7nm,0.7s,baz=187,slow=5.8,SNR=2.7							
MK31	**Makanchi Array**	**51.70**	**322**	P		**P**	**08 07 15.3**	**-1.1**
MK31				IAmb		IAmb	08 07 29.9	
	comp=Z,5.2nm,0.8s							
MKAR	**Makanchi Array**	**51.70**	**322**	P		**P**	**08 07 16.6**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=119,slow=8.3,SNR=50							
MAKZ	**Makanchi**	**51.90**	**322**	P		**P**	**08 07 17.8**	**-0.1**
MAKZ				IAmb		IAmb	08 07 30.9	
	comp=Z,5.1nm,0.8s							
ZAA0	**Zalesovo Array**	**54.23**	**331**			**P**	**08 07 34.5**	**-0.4**
ZALV	**Zalesovo Beam**	**54.23**	**331**	P		**P**	**08 07 34.7**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=114,slow=7.0,SNR=14							
ZALV	**Zalesovo Beam**	**54.23**	**331**	P		**P**	**08 07 34.5**	**-0.4**
KURK	**Kurchatov**	**55.72**	**325**	P		**P**	**08 07 45.8**	**+0.1**
KURBB	**Kurchatov Arra**	**55.72**	**325**	P		**P**	**08 07 45.8**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=126,slow=7.0,SNR=16							
KKAR	**Karatay Array**	**58.00**	**314**	P		**P**	**08 08 00.9**	**-1.2**
BVAR	**Borovoye Array**	**61.31**	**325**	P		**P**	**08 08 24.3**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=193,slow=5.9,SNR=8.7							
BRVK	**Borovoye**	**61.39**	**325**	P		**P**	**08 08 25.2**	**0.0**
NRIK	**Noril'sk**	**63.51**	**346**	P		**P**	**08 08 39.4**	**+0.3**
	comp=Z,4.9nm,1.1s,baz=162,slow=3.2,SNR=3.7							
GEYT	**Alibeck**	**66.37**	**307**	P		**P**	**08 08 57.0**	**-1.4**
	comp=Z,21nm,0.8s,baz=122,slow=5.2,SNR=2.5							
ABKAR	**Akbulak array**	**66.58**	**319**	P		**P**	**08 08 59.0**	**-0.4**
ABKAR				IAmb		IAmb	08 08 59.9	
	comp=Z,3.1nm,0.9s							
ARU	**Arti**	**68.86**	**326**	LR		LR	08 39 48.5	
	comp=Z,58nm,21.9s,baz=56,slow=36							
ILAR	**Eielson Array**	**76.83**	**26**	P		**P**	**08 10 12.7**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=249,slow=4.7,SNR=2.5							
KLMR	**Klimovskoe**	**79.14**	**330**	*e*P		**P**	**08 10 12.6**	**-1.0**
KLMR				AMP			08 10 16.8	
	comp=Z,12nm,0.9s							
ARCES	**ARCESS Array B**	**83.73**	**340**	P		**P**	**08 10 37.5**	**-0.3**
	comp=Z,5.7nm,0.9s,baz=46,slow=3.7,SNR=6.9							
FINES	**FINESS Array B**	**85.49**	**332**	P		**P**	**08 10 46.1**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=86,slow=5.7,SNR=6.7							
AKASG	**Malin Array Be**	**86.25**	**321**	P		**P**	**08 10 49.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=63,slow=5.2,SNR=0.9							
MAW	**Mawson**	**90.31**	**200**	P		**P**	**08 11 11.4**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=113,slow=7.7,SNR=2.4							
TXAR	**Lajitas Array**	**117.29**	**49**	PKP		**PKiKP**	**08 16 56.4**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=182,slow=2.3,SNR=2.3							
PLCA	**Paso Flores**	**146.65**	**156**	PKPbc		**PKPab**	**08 17 52.5**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=214,slow=2.3,SNR=6.8							

IDC ***03*** *08:02:37.3±0.8, 15˚.49N×95˚.98E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/44, mbtmp3.9/12, ML3.9/1, MS4.5/2, Ms1 4.5/2, ms1mx3.1/51, Error ellipse: s-maj=19.9km s-min=18.6km az=94.0*

ISC 03 08:02:41.6±0.7, 15˚.65N±0˚.09×96˚.25E±0˚.09, h28km, n28, σ2§11/28, mb4.0/11, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMPA	**Umpang Tak**	**2.57**	**77**	P	**Pn**	**08 03 23.0**	**+1.5**
	1.9nm4μm162nm,0.6s						
MHMT	**Maesarieng**	**2.98**	**32**	P	**Pb**	**08 03 33.6**	**-0.4**
	14μm113nm,0.7s						
UTHA	**Uthaitani**	**3.08**	**91**	P	**Pn**	**08 03 30.9**	**+2.4**
	1.1nm2μm78nm,0.8s						
CM13	**Chiang Mai Arr**	**3.75**	**42**	P	**Pn**	**08 03 41.3**	**+3.7**
	193nm20nm,0.7s						
CM05	**Chiang Mai Arr**	**3.76**	**43**	P	**Pn**	**08 03 41.1**	**+3.4**
	293nm22nm,0.8s						
CM04	**Chiang Mai Arr**	**3.78**	**43**	P	**Pn**	**08 03 41.5**	**+3.4**
	289nm28nm,0.8s						
CM01	**Chiang Mai Arr**	**3.78**	**43**	P	**Pn**	**08 03 41.0**	**+2.9**
	288nm33nm,0.6s						
CM15	**Chiang Mai Arr**	**3.78**	**42**	P	**Pb**	**08 03 45.0**	**-2.7**
	19nm,0.8s						
CM02	**Chiang Mai Arr**	**3.79**	**43**	P	**Pn**	**08 03 41.0**	**+2.9**
	179nm22nm,0.7s						
CMAR	**Chiang Mai Arr**	**3.80**	**42**	Pn	**Pn**	**08 03 41.4**	**+3.1**
	1.7nm,0.3s,baz=233,slow=15,SNR=36						
CMAR				Sn	**Sb**	**08 04 30.9**	**-2.7**
	1.0nm,0.3s,baz=230,slow=18,SNR=2.1						
CMAR				Lg	Lg	08 04 47.7	
	1.2nm,0.3s,baz=229,slow=30,SNR=8.2						
CM09	**Chiang Mai Arr**	**3.82**	**43**	P	**Pn**	**08 03 42.0**	**+3.4**
	232nm21nm,0.8s						
CM33	**Chiang Mai Arr**	**4.07**	**39**	P	**Pn**	**08 03 44.0**	**+2.0**
PSI	**Prapat**	**13.04**	**168**	LR	LR	08 10 15.2	
	comp=Z,148nm,19.0s,baz=269,slow=35						
MKAR	**Makanchi Array**	**33.16**	**342**	P	**P**	**08 09 16.4**	**+0.8**
	1.7nm,0.8s,baz=155,slow=10.0,SNR=4.3						
MKAR				PcP	**PcP**	**08 11 58.7**	**+0.6**
	0.3nm,0.6s,baz=134,slow=4.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**39.25**	**349**	P	**P**	**08 10 08.8**	**+1.4**
	7.1nm,0.7s,baz=171,slow=8.4,SNR=16						
KLR	**Kul'dur**	**44.23**	**33**	LR	LR	08 33 43.9	
	comp=Z,755nm,18.0s,baz=150,slow=42						
WRA	**Warramunga Arr**	**51.51**	**132**	P	**P**	**08 11 46.1**	**+1.0**
	1.3nm,0.8s,baz=320,slow=7.6,SNR=5.2						
WRA				PcP	**PcP**	**08 12 58.9**	**-0.2**
	1.0nm,1.1s,baz=314,slow=1.9,SNR=1.6						
KBZ	**Khabaz**	**53.02**	**313**	P	**P**	**08 11 56.2**	**+0.2**
	2.2nm,0.8s,baz=157,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**53.68**	**136**	P	**P**	**08 12 01.6**	**+0.4**
	0.3nm,0.5s,baz=319,slow=7.1,SNR=1.9						
BRTR	**Keskin Array B**	**59.17**	**307**	P	**P**	**08 12 39.4**	**-0.9**
	1.4nm,0.9s,baz=110,slow=8.3,SNR=5.5						
TIXI	**Tiksi**	**59.25**	**11**	LR	LR	08 41 31.9	
	comp=Z,197nm,18.0s,baz=183,slow=39						
AKASG	**Malin Array Be**	**63.51**	**319**	P	**P**	**08 13 08.2**	**-1.0**
	0.2nm,0.3s,baz=86,slow=5.9,SNR=1.6						
FINES	**FINESS Array B**	**66.91**	**331**	P	**P**	**08 13 31.3**	**+0.2**
	2.6nm,0.8s,baz=73,slow=9.3,SNR=5.3						
BOSA	**Boshof**	**81.48**	**237**	P	**P**	**08 14 55.4**	**-1.5**
	5.0nm,1.1s,baz=352,slow=3.4,SNR=3.8						
ILAR	**Eielson Array**	**86.81**	**23**	P	**P**	**08 15 22.7**	**-0.5**
	0.4nm,0.7s,baz=277,slow=3.4,SNR=4.8						
ESDC	**Sonseca Array**	**87.78**	**311**	P	**P**	**08 15 28.4**	**-0.1**
	0.2nm,0.4s,baz=349,slow=5.9,SNR=2.3						
TXAR	**Lajitas Array**	**131.32**	**23**	PKP	**PKiKP**	**08 21 53.6**	**+0.6**
	0.1nm,0.5s,baz=5.7,slow=0.9,SNR=1.5						
BDFB	**Brasilia**	**145.61**	**265**	PKPbc	**PKPdf**	**08 22 17.5**	**-0.9**
	2.1nm,0.7s,baz=14,slow=3.1,SNR=3.9						

MAN ***03*** *08:04:08.9, 10˚.92N×126˚.83E, h94km, MS3.5*

IDC ***03*** *08:04:11.1±2.0, 10˚.83N×126˚.64E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/35, mbtmp3.8/6, Error ellipse: s-maj=213.2km s-min=22.1km az=69.0*

ISC 03 08:04:16.3±1.1, 10˚.80N±0˚.08×126˚.6E±0˚.1, h37km, n13, σ1§78/13, mb4.0/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.12**	**205**	*e*P	**Pn**	**08 04 33.1**	**-2.3**
GLSP				*e*S	**Sn**	**08 04 51.5**	**+2.0**
MSLP	**Maasin**	**1.84**	**249**	*e*P	**Pn**	**08 04 43.3**	**-2.1**
MSLP				*e*S	**Sn**	**08 05 08.6**	**+1.1**
BUTP	**Butuan**	**2.07**	**208**	*e*P	**Pn**	**08 04 45.7**	**-2.7**
BUTP				*e*S	**Sn**	**08 05 15.5**	**+2.6**
CGP	**Cagayan de Oro**	**3.00**	**219**⇑	*e*P	Pn	08 04 53.5	-7.7
CGP				*e*S	**Sn**	**08 05 37.0**	**+1.0**
WRA	**Warramunga Arr**	**31.49**	**166**	P	**P**	**08 10 34.7**	**0.0**
	0.5nm,0.7s,baz=343,slow=9.5,SNR=6.0						
ASAR	**Alice Springs**	**34.99**	**168**	P	**P**	**08 11 05.8**	**+0.5**
	0.1nm,0.3s,baz=352,slow=7.1,SNR=1.7						
H11N1	**WAKE ISLAND Hy**	**39.77**	**72**	T	T	08 55 07.4	
	baz=263						
H11N2	**WAKE ISLAND Hy**	**39.78**	**72**	T	T	08 55 04.3	
	baz=263						
H11N3	**WAKE ISLAND Hy**	**39.79**	**72**	T	T	08 55 07.7	
	baz=263						
MKAR	**Makanchi Array**	**51.81**	**322**	P	**P**	**08 13 20.9**	**+0.4**
	0.9nm,0.6s,baz=120,slow=8.3,SNR=10						
ZALV	**Zalesovo Beam**	**54.32**	**331**	P	**P**	**08 13 39.0**	**+0.1**
	0.8nm,0.4s,baz=117,slow=5.4,SNR=1.9						
ARCES	**ARCESS Array B**	**83.81**	**340**	P	**P**	**08 16 42.5**	**+1.0**
	1.0nm,0.6s,baz=69,slow=4.9,SNR=1.6						
FINES	**FINESS Array B**	**85.58**	**332**	P	**P**	**08 16 50.8**	**+0.3**
	2.8nm,0.9s,baz=92,slow=8.9,SNR=1.8						

JMA ***03*** *08:16:02.9±0.2, 31˚.21N×142˚.11E, h1km±2km, M5.1*

NIED ***03*** *08:16:03.0, 31˚.21N×142˚.11E, h1km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.83; Mθθ1.11; Mφφ-1.94; Mrθ2.01; Mθφ-0.14; Mφr2.40; Fault plane solution: M₀3.56000×10¹⁶ NP1:φs38.00000°, δ82.00000°, λ114.00000°. NP2:φs145.00000°, δ25.00000°, λ18.00000°.*

BJI ***03*** *08:16:03.3±0.0, 31˚.09N×141˚.80E, h5km, mB4.9/47, mb4.8/64, Ms5.0/62, Ms7 4.8/59*

IDC ***03*** *08:16:05.2±0.5, 31˚.14N×141˚.75E, h0km, mb4.6/32, mb1 4.7/36, mb1mx4.6/46, mbtmp4.6/36, ML3.6/4, MS4.5/30, Ms1 4.5/30, ms1mx4.3/44, Error ellipse: s-maj=14.7km s-min=11.2km az=61.0*

MOS ***03*** *08:16:06.0±1.0, 31˚.09N×141˚.79E, h22km, mb5.1/61, MS4.7/11, Error ellipse: s-maj=8.1km s-min=4.3km az=113.3*

NEIC ***03*** *08:16:06.6±1.7, 31˚.16N±0˚.06×141˚.90E±0˚.10, h10km±1km, mb4.8/140, Error ellipse: s-maj=14.4km s-min=9.9km az=76.0*

GCMT ***03*** *08:16:10.6±0.2, 31˚.08N±0˚.02×141˚.91E±0˚.01, h17km, MW5.0/110, Moment Tensor Solution. s51,c70; s110,c156; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.58±.16; Mθθ-0.21±.09; Mφφ-3.37±.11; Mrθ0.46±.26; Mθφ1.06±.06; Mφr2.39±.26; Best double couple: M₀4.37500×10¹⁶ NP1:φs149.00000°, δ31.00000°, λ65.00000°. NP2:φs358.00000°, δ62.00000°, λ104.00000°. Principal axes: T 4.4470, Plg70.0000°, Azm298.0000°; N -0.1490, Plg13.0000°, Azm171.0000°; P -4.3030, Plg16.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 08:16:06.4±0.9, 31˚.08N±0˚.04×141˚.82E±0˚.04, h13km±5km, n424, σ1§53/460, mb4.8/149, MS4.6/57, 16C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.23**	**309**	P	**Pn**	**08 16 43.4**	**+0.3**
JAOM				*e*S	**Sb**	**08 17 13.1**	**-1.0**
JHJ2	**Mitsune**	**2.65**	**321**	P	**Pn**	**08 16 48.6**	**-0.1**
JHJ2	**Mitsune**	**2.65**	**321**	Pn	**Pn**	**08 16 48.1**	**-0.6**
JHJ	**Hachijo jima 2**	**2.67**	**320**	Pn	**Pn**	**08 16 48.6**	**-0.5**
	40nm,0.3s,baz=203,slow=15,SNR=10.0						
JHJ				Sn	**Sn**	**08 17 18.9**	**-2.4**
	127nm,0.3s,baz=55,slow=24,SNR=6.0						
BSO1	**Boso 1**	**3.63**	**349**	P	**Pn**	**08 17 00.9**	**-0.9**
BSO1				S	**Sn**	**08 17 44.3**	**0.0**
BSO3	**Boso 3**	**3.87**	**344**	P	**Pn**	**08 17 04.6**	**-0.8**
CBIJ	**Chichi jima**	**3.98**	**175**	P	**Pn**	**08 17 08.5**	**+1.3**
JCJ	**Chichijima**	**3.98**	**175**	Pn	**Pn**	**08 17 08.7**	**+1.5**
	88nm,0.3s,baz=343,slow=20,SNR=42						
JCJ				Sn	**Sn**	**08 17 51.6**	**-2.2**
	127nm,0.3s,baz=287,slow=19,SNR=6.2						
JCJ				LR	LR	08 18 39.2	
	comp=Z,5μm,18.2s,baz=12,slow=38						
BSO4	**Boso 4**	**4.09**	**343**	P	**Pn**	**08 17 08.3**	**-0.3**
JSG	**Sagara**	**4.71**	**321**	Pn	**Pn**	**08 17 17.4**	**+0.2**
JOD2	**Odawara 2**	**4.76**	**332**	P	**Pn**	**08 17 17.9**	**+0.1**
JOD2				*e*S	**Sn**	**08 18 14.4**	**+1.5**
JHU	**Hanno**	**5.21**	**337**	P	**Pn**	**08 17 24.1**	**+0.1**
JHU				*e*S	**Sn**	**08 18 23.8**	**-0.2**
JYT	**Yasato**	**5.31**	**346**	Pn	**Pn**	**08 17 25.4**	**0.0**
JRY	**Ryogami san**	**5.49**	**334**	*e*S	**Sn**	**08 18 31.0**	**0.0**
JHO	**Hitachi**	**5.61**	**350**	P	**Pn**	**08 17 28.0**	**-1.6**
JKN2	**Miekihoku**	**5.64**	**305**	P	**Pn**	**08 17 32.2**	**+2.3**
JAG	**Ashikaga**	**5.68**	**340**	P	**Pn**	**08 17 30.4**	**-0.1**
JGF	**Kuroka**	**5.85**	**322**		**Pn**	**08 17 33.8**	**+0.9**
INU	**Inuyama**	**5.86**	**318**	Pn	**Pn**	**08 17 33.2**	**+0.3**
JNG	**Nsakai**	**6.15**	**331**	P	**Pn**	**08 17 39.2**	**+2.2**
MJAR	**Matsushiro Arr**	**6.22**	**332**	Pn	**Pn**	**08 17 38.8**	**+0.9**
	2.4nm,0.3s,baz=160,slow=11,SNR=89						
MJAR	**Matsushiro Arr**	**6.22**	**332**		**Pn**	**08 17 39.3**	**+1.4**
MAJO	**Matsushiro**	**6.22**	**332**	*c* *i*P	**Pn**	**08 17 39.5**	**+1.6**
MAJO	**Matsushiro**	**6.22**	**332**		**Pn**	**08 17 39.5**	**+1.6**
MAT	**Matsushiro**	**6.22**	**332**	P	**Pn**	**08 17 39.0**	**+1.0**
MAT				S	**Sn**	**08 18 47.2**	**-1.8**
MAT	**Matsushiro**	**6.22**	**332**	P	**Pn**	**08 17 39.7**	**+1.7**
JWT	**Wachi**	**6.82**	**310**		**Pn**	**08 17 49.0**	**+2.9**
JMM	**Marumori**	**6.82**	**353**		**Pn**	**08 17 44.4**	**-1.8**
JMN	**Monobe**	**7.21**	**294**	Pn	**Pn**	**08 17 53.7**	**+2.1**
JSD	**Sado**	**7.54**	**338**	Pn	**Pn**	**08 17 55.1**	**-0.8**
JMK	**Ichinoseki**	**7.87**	**357**	P	**Pn**	**08 17 58.8**	**-1.7**
JHS	**Saijyo**	**8.29**	**300**	Pn	**Pn**	**08 18 09.1**	**+2.8**
JTM	**Tenmabayashi**	**9.71**	**357**	Pn	**Pn**	**08 18 25.0**	**-0.7**
ERM	**Erimo**	**10.97**	**5**	*i* P	**Pn**	**08 18 44.1**	**+1.2**
ERM	**Erimo**	**10.97**	**5**	Pn	**Pn**	**08 18 40.5**	**-2.4**
JOW	**Kunigami**	**12.59**	**254**	LR	LR	08 23 53.4	
	comp=Z,3μm,19.2s,baz=52,slow=37						
ASAJ	**Asahikawa**	**13.03**	**2**	Pn	**Pn**	**08 19 08.3**	**-2.8**
	2.7nm,0.3s,baz=221,slow=12,SNR=12						
ASAJ				Sn	**Sn**	**08 21 27.6**	**-8.3**
	0.6nm,0.3s,baz=162,slow=20,SNR=1.9						
JKA	**Kamikawa-asahi**	**13.03**	**2**		**Pn**	**08 19 08.3**	**-2.8**
KSRS	**Korea Array**	**13.13**	**303**	Pn	**Pn**	**08 19 16.5**	**+4.0**
	0.4nm,0.3s,baz=115,slow=12,SNR=13						
TJN	**Taejon**	**13.14**	**298**	*i* P	**Pn**	**08 19 14.2**	**+1.5**
KS19	**Wonju Array Si**	**13.19**	**303**	Pn	**Pn**	**08 19 13.6**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**13.32**	**13**	*i* P	**Pn**	**08 19 18.4**	**+3.3**
YUK				*i* S	**Sn**	**08 21 46.6**	**+3.6**
YUK				pmax	pmax		
	comp=Z,340nm,2.1s						
YUK				MLR	MLR		
	comp=N,1μm,14.0s						
YUK				MLR	MLR		
	comp=Z,684nm,14.0s						
YUK				MLR	MLR		
	comp=E,1μm,12.0s						
USA0B	**Ussuriysk Arra**	**15.22**	**332**	*i* P	**Pn**	**08 19 41.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**15.22**	**332**	Pn	**Pn**	**08 19 39.6**	**-1.3**
	baz=125,slow=12,SNR=5.1						
USRK				LR	LR	08 25 31.3	
	comp=E,2μm,18.3s,baz=138,slow=37						
USRK	**Ussuriysk Ar.**	**15.22**	**332**	P	**Pn**	**08 19 40.1**	**-0.9**
USRK	**Ussuriysk Ar.**	**15.22**	**332**	Pn	**Pn**	**08 19 40.1**	**-0.9**
YSS	**Yuzh-Sakhalins**	**15.87**	**2**	*e*P	**Pn**	**08 19 48.7**	**-0.7**
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
SSE	**Sheshan**	**17.68**	**275**	P	**Pn**	**08 20 10.5**	**-1.8**
SSE				S	**S**	**08 23 34.6**	**-1.9**
SSE				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,240nm,3.6s						
SSE				L	L		
	comp=Z,990nm,15.4s						
SSE				L	L		
	comp=Z,1μm,18.5s						
UGL	**Uglegorsk**	**17.98**	**1**	*e*P	**Pn**	**08 20 13.9**	**-2.0**
UGL				MLR	MLR		
	comp=E,1μm,13.0s						
UGL				MLR	MLR		
	comp=N,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
CN2	**Changchun**	**18.13**	**319**	*e*P	**Pn**	**08 20 17.4**	**-0.5**
CN2				PP	**PnPn**	**08 20 32.9**	**+3.9**
CN2				pmax	pmax		
	comp=Z,20nm,1.6s						
DL2	**Dalian**	**18.27**	**301**⇑	*i*P	**Pn**	**08 20 17.6**	**-2.0**
DL2				S	**Sn**	**08 23 40.2**	**-3.2**
DL2				pmax	pmax		
	comp=Z,18nm,1.0s						
DL2				pmax	pmax		
	comp=Z,350nm,7.5s						
DL2				L	L		
	comp=Z,2μm,13.7s						
DL2				L	L		
	comp=Z,3μm,16.2s						
DL2				L	L		
	comp=Z,3μm,16.7s						
YHNB	**Yeheng**	**19.16**	**256**	P	**P**	**08 20 29.8**	**+0.2**
YHNB				IAmb	IAmb	08 20 31.9	
	comp=Z,50nm,0.8s						
NACB	**Ninganchiao**	**19.18**	**254**	P	**P**	**08 20 29.9**	**+0.1**
NACB				IAmb	IAmb	08 20 32.6	
	comp=Z,110nm,1.4s						
NJ2	**Nanjing**	**19.59**	**279**	*e*P	**P**	**08 20 34.6**	**+0.3**
NJ2				S	**S**	**08 24 14.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,500nm,4.7s						
NJ2				L	L		
	comp=Z,770nm,12.8s						
NJ2				L	L		
	comp=Z,2μm,14.2s						
NJ2				L	L		
	comp=Z,2μm,16.1s						
KLR	**Kul'dur**	**19.66**	**340**	P	**P**	**08 20 34.1**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=141,slow=10,SNR=12						
KLR	**Kul'dur**	**19.66**	**340**	*c*eP	**P**	**08 20 34.2**	**-0.7**
KLR				pmax	pmax		
	comp=Z,18nm,1.7s						
YULB	**Yu-li**	**19.77**	**252**	P	**P**	**08 20 36.8**	**+0.5**
SSLB	**Suanglung**	**19.88**	**254**	P	**P

baz=303
H11S3 WAKE ISLAND Hy 25.75 113 T T 08 49 29.0
baz=304,slow=74,SNR=14
H11S1 WAKE ISLAND Hy 25.75 113 T T 08 49 00.6
baz=304,slow=74,SNR=12
H11S2 WAKE ISLAND Hy 25.77 113 T T 08 49 04.7
baz=304,slow=74,SNR=14
HHC Hu-ho-hao-te 26.25 300 *e*P **P 08 21 41.9 +0.6**
HHC pmax pmax
comp=Z,30nm,1.1s
HHC pmax pmax
comp=Z,270nm,5.5s
HHC L L
comp=Z,1μm,14.9s
HHC L L
comp=Z,3μm,18.4s
HHC L L
comp=Z,3μm,18.6s
BTO Baotou 27.35 299 *e*P **P 08 21 52.0 +0.7**
XAN Xi'an 27.82 285 P **P 08 21 54.4 -1.1**
XAN pP pP 08 21 57.4 -0.4
XAN pmax pmax
comp=Z,31nm,0.9s
XAN pmax pmax
comp=Z,190nm,4.2s
XAN L L
comp=Z,1μm,14.1s
XAN L L
comp=Z,2μm,15.0s
XAN L L
comp=Z,2μm,15.2s
DAV Davao City (W) 28.31 216 LR LR 08 31 34.3
comp=Z,630nm,20.4s,baz=50,slow=33
GYA Guiyang 31.08 270 *e*P **P 08 22 22.7 -1.8**
GYA S **S 08 27 29.6 -0.2**
GYA L L
comp=Z,220nm,17.6s
QIZ Qiongzhong 31.24 255 P **P 08 22 25.6 -0.3**
QIZ S **S 08 27 36.3 +4.1**
QIZ L L
comp=Z,530nm,14.7s
QIZ L L
comp=Z,530nm,16.7s
QIZ L L
comp=Z,810nm,18.1s
ULN Ulaanbaatar 31.31 312*ce*P **P 08 22 27.2 +0.8**
ULN pmax pmax
comp=Z,66nm,1.7s
ULN Ulaanbaatar 31.31 312 P **P 08 22 26.2 -0.2**
ULN Ulaanbaatar 31.31 312 P **P 08 22 25.6 -0.8**
ULN P **P 08 22 25.6 -0.8**
SONM Songino Array 31.72 312 P **P 08 22 31.0 +1.0**
comp=Z,17nm,0.9s,baz=114,slow=7.7,SNR=23
SONM LR LR 08 35 50.8
comp=Z,794nm,18.5s,baz=108,slow=38
SONM Songino Array 31.72 312 P **P 08 22 30.2 +0.2**
SONM pmax pmax
comp=Z,30nm,1.1s
SONM Songino Array 31.72 312 P **P 08 22 30.2 +0.2**
LZH Lanzhou 31.89 289 *e*P **P 08 22 30.2 -1.5**
LZH pP pP 08 22 35.1 +1.1
LZH sP pwP 08 22 39.7 -1.3
LZH S **S 08 27 43.6 +1.2**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,81nm,4.9s
LZH L L
comp=Z,880nm,16.8s
LZH L L
comp=Z,1μm,16.3s
LZH L L
comp=Z,970nm,16.8s
YAK Yakutsk 31.95 349*ce*P **P 08 22 32.5 +0.8**
YAK pmax pmax
comp=Z,8.0nm,0.5s
CD2 Chengdu 32.52 280 P **P 08 22 38.0 +0.9**
CD2 S **S 08 27 53.9 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 L L
comp=Z,3μm,15.1s
CD2 L L
comp=Z,3μm,15.1s
CD2 L L
comp=Z,3μm,15.1s
SEY Seymchan 32.58 9 P **P 08 22 37.6 +0.4**
comp=Z,1.5nm,0.7s,baz=214,slow=5.5,SNR=5.5
SEY Seymchan 32.58 9 *i*P **P 08 22 38.3 +1.1**
SlJl Sorong 33.32 199 LR LR 08 35 01.5
comp=Z,847nm,18.3s,baz=26,slow=34
ZAK Zakamensk 34.49 315 *e*P **P 08 22 54.3 +0.2**
ZAK pmax pmax
comp=Z,21nm,1.8s
TLY Talaya 34.72 318 P **P 08 22 57.7 +1.7**
comp=Z,6.9nm,0.8s,baz=130,slow=5.8,SNR=14
TLY Talaya 34.72 318*c i*P **P 08 22 57.5 +1.5**
TLY *e*S **S 08 28 29.9 +4.1**
TLY pmax pmax
comp=Z,65nm,1.3s
TLY MLR MLR
comp=Z,4μm,13.0s
TLY Talaya 34.72 318 P **P 08 22 55.5 -0.6**
TLY lAmb lAmb 08 22 59.4
comp=Z,18nm,1.0s
TLY Talaya 34.72 318 P **P 08 22 55.5 -0.6**
TLY P **P 08 22 55.5 -0.6**
KMI Kunming 34.85 270 ⇓P **P 08 22 59.6 +1.9**
KMI sP sP 08 23 04.6 +3.6
KMI PP **PP 08 24 19.5 +2.8**
KMI S **S 08 28 29.6 +0.9**
KMI SS **SnSn 08 30 41.4 -1.3**
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI pmax pmax
comp=Z,140nm,10.1s
KMI L L
comp=Z,610nm,13.9s
KMI L L
comp=Z,860nm,12.3s
KMI L L
comp=Z,1μm,13.9s
GTA Gaotai 35.04 295 ⇓P **P 08 22 58.8 -0.3**
GTA pP pP 08 23 03.2 +1.8
GTA sP sP 08 23 06.0 +3.6
GTA PP **PnPn 08 24 15.2 -1.0**
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,110nm,7.1s
GTA L L
comp=Z,1μm,16.4s
GTA L L
comp=Z,2μm,17.1s
GTA L L
comp=Z,2μm,17.4s
SLVN Son La 35.23 263 P **P 08 22 59.4 -1.4**
MRSI Marisa 35.80 216 P **P 08 23 06.1 +0.5**
comp=Z,83nm,1.4s
TOLI2 Tolitoli 35.85 218 P **P 08 23 05.0 -1.1**
TOLI2 lAmb lAmb 08 23 07.2
comp=Z,28nm,1.3s
SANI Sanana 36.23 207 P **P 08 23 08.0 -1.2**
comp=Z,677nmcomp=Z,38nm,1.0s
MSAI Masohi 36.37 202 P **P 08 23 12.7 +2.2**
comp=Z,2μmcomp=Z,15nm,1.2s
LUWI Luwuk 36.72 213 P **P 08 23 13.2 -0.2**
LUWI Luwuk 36.72 213 P **P 08 23 12.8 -0.6**
comp=Z,2μmcomp=Z,58nm,0.5s
APSI Ampana 37.14 215 P **P 08 23 16.9 -0.1**
comp=Z,855nmcomp=Z,65nm,1.2s
BILL Bilibino 39.67 14⇓*e*P **P 08 23 40.5 +2.8**
BILL *e* 08 23 46.8
BILL 08 25 51.0
BILL S **S 08 29 45.0 +4.5**
BILL pmax pmax
comp=Z,16nm,2.1s
BILL MLR MLR
comp=Z,559nm,17.0s
CHTO Chiang Mai 40.52 263 P **P 08 23 44.5 -0.9**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 40.52 263 P **P 08 23 44.5 -0.9**
CMAR Chiang Mai Arr 40.67 262 P **P 08 23 46.0 -0.7**
comp=Z,2.7nm,0.4s,baz=60,slow=6.7,SNR=8.4
CMAR LR LR 08 42 06.7
comp=Z,936nm,19.1s,baz=106,slow=38
CMAR Chiang Mai Arr 40.67 262 *i*P **P 08 23 46.9 +0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 40.67 262 P **P 08 23 46.0 -0.7**
SPSI Sidrap Palu 40.71 215 P **P 08 23 43.5 -3.4**
MTKI Muara Teweh, K 40.84 224 P **P 08 23 49.1 +1.0**
BNSI Bone 40.92 214 P **P 08 23 48.9 +0.3**
comp=Z,25nm,1.1s
TIXI Tiksi 41.23 354 P **P 08 23 50.6 +0.1**
comp=Z,0.9nm,0.3s,baz=137,slow=6.5,SNR=2.2
TIXI Tiksi 41.23 354*ce*P **P 08 23 49.5 -1.1**
TIXI Tiksi 41.23 354 P **P 08 23 48.5 -2.1**
KAPI Kappang 41.62 214 LR LR 08 40 25.1
comp=Z,175nm,20.6s,baz=32,slow=35
KAPI Kappang 41.62 214 P **P 08 23 54.2 -0.2**
KAPI pmax pmax
comp=Z,29nm,1.2s
KAPI Kappang 41.62 214 P **P 08 23 54.2 -0.2**
KAPI lAmb lAmb 08 23 58.5
comp=Z,29nm,1.2s
WMQ Urumqi 44.08 303 *e*P **P 08 24 16.2 +2.0**
WMQ pP sP 08 24 20.6 +3.0
WMQ pmax pmax
comp=Z,34nm,0.9s
WMQ pmax pmax
comp=Z,250nm,5.5s
WMQ L L
comp=Z,1μm,17.1s
WMQ L L
comp=Z,1μm,15.9s
WMQ L L
comp=Z,1μm,15.9s
DGZ Jazzator, Alta 44.35 311*c i*P **P 08 24 17.6 +1.2**
DGZ pmax pmax
comp=Z,67nm,1.9s
MTN Manton Dam 44.86 195 P **P 08 24 21.0 +0.4**
ZSN Zaisan 45.99 308 *e*P **P 08 24 29.7 +0.3**
comp=Z,16nm,0.9s,baz=308
ZSN Zaisan 45.99 308 *e*P **P 08 24 29.6 +0.3**
ZSN pmax pmax
comp=Z,16nm,0.9s
ZAA0 Zalesovo Array 46.33 317 P **P 08 24 31.0 -0.8**
ZALV Zalesovo Beam 46.33 317 P **P 08 24 32.1 +0.3**
comp=Z,12nm,0.8s,baz=97,slow=6.1,SNR=22
ZALV PcP **PcP 08 26 07.2 +0.4**
comp=Z,5.4nm,0.6s,baz=105,slow=3.3,SNR=6.5
ZALV LR LR 08 44 29.2
comp=Z,462nm,18.6s,baz=97,slow=37
ZALV Zalesovo Beam 46.33 317 *i*P **P 08 24 32.0 +0.2**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 46.33 317 P **P 08 24 31.3 -0.5**
ZALV **PcP 08 26 06.9 +0.1**
MK31 Makanchi Array 47.77 307 P **P 08 24 43.0 -0.2**
MK31 pmax pmax
comp=Z,18nm,1.1s
MK31 Makanchi Array 47.77 307 P **P 08 24 43.0 -0.2**
MKAR Makanchi Array 47.77 307 P **P 08 24 43.6 +0.4**
comp=Z,11nm,0.8s,baz=89,slow=10,SNR=46
MKAR S **S 08 31 38.5 -0.8**
comp=Z,0.1nm,0.4s,baz=113,slow=11,SNR=1.9
MKAR LR LR 08 44 02.7
comp=Z,430nm,19.2s,baz=90,slow=35
MKAR Makanchi Array 47.77 307 P **P 08 24 43.4 +0.2**
MAKZ Makanchi 47.98 307 P **P 08 24 43.0 -1.9**
MAKZ pmax pmax
comp=Z,20nm,1.1s
MAKZ Makanchi 47.98 307 P **P 08 24 43.0 -1.9**
KNRA Kununurra 48.15 197 P **P 08 24 47.4 +1.1**
NRIK Noril'sk 48.85 338 P **P 08 24 51.2 0.0**
comp=Z,14nm,1.0s,baz=119,slow=7.9,SNR=12
NRIK LR LR 08 45 21.4
comp=Z,460nm,19.8s,baz=120,slow=36
NRIK Noril'sk 48.85 338*ce*P **P 08 24 50.7 -0.5**
NRIK pmax pmax
comp=Z,17nm,1.1s
NRIK Noril'sk 48.85 338 P **P 08 24 50.7 -0.5**
NRIK lAmb lAmb 08 24 52.9
comp=Z,18nm,1.1s
SEM Semipalatinsk 48.99 312 *e*P **P 08 24 52.2 -0.8**
baz=312
SEM Semipalatinsk 48.99 312 *e*P **P 08 24 52.1 -0.8**
KPJI Karang Pucung 49.49 225 P **P 08 24 55.9 -0.9**
comp=Z,35nm,1.0s
LEM Lembang 49.91 227 LR LR 08 47 59.1
comp=Z,226nm,18.4s,baz=32,slow=38
LEM Lembang 49.91 227 P **P 08 24 59.9 -0.3**
comp=Z,52nm,1.0s
KURK Kurchatov 50.02 312 P **P 08 25 00.8 +0.4**
KURK Kurchatov 50.02 312 P **P 08 25 00.8 +0.4**
KURBB Kurchatov Arra 50.09 312 P **P 08 25 00.8 -0.1**
comp=Z,19nm,0.8s,baz=88,slow=7.5,SNR=74
SHLS Shalkode 50.10 302 *e*P **P 08 24 59.1 -2.3**
baz=302
SHLS Shalkode 50.10 302 *e*P **P 08 24 59.0 -2.3**
TTA Tatalina 50.21 32 P **P 08 24 58.8 -2.9**
TTA pmax pmax
comp=Z,12nm,1.4s
TTA Tatalina 50.21 32 P **P 08 24 58.8 -2.9**
TTA lAmb lAmb 08 25 25.1
comp=Z,12nm,1.4s
MDSI Maura Dua 50.40 232 P **P 08 25 02.8 -0.9**
UZB Uzynbulak 50.42 302 *e*P **P 08 25 03.1 -0.7**
baz=302
UZB Uzynbulak 50.42 302 *e*P **P 08 25 03.1 -0.7**
KPKS Kokpek 50.62 303 *e*P **P 08 25 04.5 -0.8**
baz=303
KPKS Kokpek 50.62 303 *e*P **P 08 25 04.4 -0.8**
SATY Saty 50.88 302 *e*P **P 08 25 07.1 -0.2**
baz=302
SATY Saty 50.88 302 *e*P **P 08 25 07.0 -0.2**
WB0 Warramunga Arr 51.06 189 P **P 08 25 09.0 +0.5**
WB0 lAmb lAmb 08 25 29.5
comp=Z,18nm,0.9s
WRAB Tennant Creek 51.23 189 P **P 08 25 10.4 +0.6**
WRAB pmax pmax
comp=Z,28nm,1.1s
WRAB Tennant Creek 51.23 189 P **P 08 25 10.4 +0.6**
WR0 Warramunga Arr 51.23 189 P **P 08 25 10.2 +0.4**
WR0 lAmb lAmb 08 25 30.9
comp=Z,18nm,1.1s
WB2 Warramunga Arr 51.23 189 P **P 08 25 10.4 +0.5**
WRA Warramunga Arr 51.24 189 P **P 08 25 10.0 +0.1**
comp=Z,7.0nm,0.5s,baz=5.9,slow=7.7,SNR=111
WRA ScP **ScP 08 30 23.8 +2.5**
comp=Z,0.7nm,1.0s,baz=0.5,slow=4.8,SNR=2.0
WRA S **S 08 32 25.2 -3.1**
comp=Z,1.5nm,0.9s,baz=3.2,slow=13,SNR=6.2
WRA LR LR 08 47 17.1
comp=Z,455nm,18.2s,baz=10.0,slow=36
WRA Warramunga Arr 51.24 189 P **P 08 25 10.1 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 51.24 189 P **P 08 25 10.1 +0.3**
FITZ Fitzroy Crossi 51.31 200 P **P 08 25 11.4 +1.0**
FITZ lAmb lAmb 08 25 24.6
comp=Z,13nm,1.4s
KDAK Kodiak Island 51.42 39 P **P 08 25 10.9 +0.1**
comp=Z,7.9nm,0.7s,baz=254,slow=9.9,SNR=12
KDAK LR LR 08 45 41.2
comp=Z,532nm,21.4s,baz=274,slow=34
KDAK Kodiak Island 51.42 39 P **P 08 25 11.0 +0.2**
KDAK pmax pmax
comp=Z,16nm,1.1s
KDAK Kodiak Island 51.42 39 P **P 08 25 11.0 +0.2**
KDAK lAmb lAmb 08 25 33.4
comp=Z,16nm,1.1s
RSO Redoubt South 51.47 35 P **P 08 25 11.8 +0.4**
IMAR Indian Mountai 51.67 28 P **P 08 25 13.4 +0.8**
CHKK Chushkaly 51.78 304 *e*P **P 08 25 14.0 +0.1**
baz=304
CHKK Chushkaly 51.78 304 *e*P **P 08 25 13.9 +0.1**
MDOK Medeo 51.85 303 *e*P **P 08 25 14.2 -0.4**
baz=303
MDOK Medeo 51.85 303 *e*P **P 08 25 14.1 -0.4**
KDJ Kajisay 51.93 301 P **P 08 25 15.1 -0.1**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
KDJ Kajisay 51.93 301 P **P 08 25 15.1 -0.1**
PPLA Purkeypile 51.94 32 P **P 08 25 14.9 +0.1**
PPLA lAmb lAmb 08 25 35.1
comp=Z,24nm,1.5s
KUU Kurty 52.24 304 *e*P **P 08 25 16.6 -0.7**
baz=304
KUU Kurty 52.24 304 *e*P **P 08 25 16.6 -0.7**
MTBS Maitube 52.30 303 *e*P **P 08 25 16.9 -0.9**
baz=303
MTBS Maitube 52.30 303 *e*P **P 08 25 16.9 -0.9**
BPAW Bear Paw Mtn. 52.59 31 P **P 08 25 19.5 0.0**
BOOM Boomskoye usch 52.77 302 P **P 08 25 20.7 -0.7**
BOOM pmax pmax
comp=Z,7.0nm,1.0s
BOOM Boomskoye usch 52.77 302 P **P 08 25 20.7 -0.7**
MLY Manley 52.78 29 P **P 08 25 20.8 -0.2**
TRF Thorofare Moun 52.84 31 P **P 08 25 20.8 -0.7**
PMR Palmer 53.28 34 P **P 08 25 23.8 -0.8**
PMR pmax pmax
comp=Z,17nm,1.4s
PMR Palmer 53.28 34 P **P 08 25 23.8 -0.8**
PMR lAmb lAmb 08 25 29.6
comp=Z,17nm,1.4s
KSH Kashi 53.34 298 P **P 08 25 28.6 +3.0**
KSH pP pwP 08 25 34.0 -0.9
KSH PcP **PcP 08 26 31.1 -1.9**
KSH pmax pmax
comp=Z,9.0nm,2.3s
KSH pmax pmax
comp=Z,140nm,3.9s
KSH L L
comp=Z,1μm,19.9s
KSH L L
comp=Z,2μm,18.7s
KSH L L
comp=Z,1μm,17.8s
I23K Minto, Yukon-K 53.38 29 P **P 08 25 25.3 +0.1**
GHO Glory Hole Cre 53.39 34 P **P 08 25 25.5 0.0**
GHO lAmb lAmb 08 25 45.2
comp=Z,9.4nm,1.0s
NEA2 Nenana 53.46 30 P **P 08 25 27.0 +1.1**
NEA2 lAmb lAmb 08 25 37.6
comp=Z,9.0nm,0.9s
MCK McKinley 53.47 31 P **P 08 25 27.1 +1.1**
MCK pmax pmax
comp=Z,13nm,1.2s
MCK McKinley 53.47 31 P **P 08 25 27.1 +1.1**
MCK lAmb lAmb 08 25 31.5
comp=Z,13nm,1.2s
SGDS Sogindy 53.54 303 *e*P **P 08 25 26.5 -0.4**
baz=303
SGDS Sogindy 53.54 303 *e*P **P 08 25 26.5 -0.4**
TOLK Toolik Lake Re 53.66 25 P **P 08 25 28.2 +0.9**
TOLK lAmb lAmb 08 25 47.8
comp=Z,9.0nm,1.1s
BTLS Baital 53.67 305 *e*P **P 08 25 27.9 0.0**
comp=Z,18nm,1.2s,baz=306
BTLS Baital 53.67 305 *e*P **P 08 25 27.8 0.0**
BTLS pmax pmax
comp=Z,18nm,1.2s
AAK Ala-Archa 53.79 302 P **P 08 25 29.3 +0.4**
comp=Z,1.0nm,0.3s,baz=119,slow=6.2,SNR=10
AAK Ala-Archa 53.79 302 P **P 08 25 29.4 +0.5**
AAK pmax pmax
comp=Z,12nm,1.5s
AAK Ala-Archa 53.79 302 P **P 08 25 29.4 +0.5**
AAK lAmb lAmb 08 25 31.8
comp=Z,12nm,1.4s
AAK Ala-Archa 53.79 302 P **P 08 25 27.8 -1.1**
MDM Murphy Dome 53.84 30 P **P 08 25 30.0 +1.2**
MDM lAmb lAmb 08 25 35.0
comp=Z,13nm,1.1s
BRZS Berezniki 53.88 312 *e*P **P 08 25 29.1 -0.2**
comp=Z,31nm,2.1s,baz=312
BRZS Berezniki 53.88 312 *e*P **P 08 25 29.0 -0.2**
BRZS pmax pmax
comp=Z,31nm,2.1s
COLA College 54.00 30 *i*P **P 08 25 30.2 +0.4**
COLA pmax pmax
comp=Z,17nm,2.1s
CCB Clear Creek Bu 54.01 30 P **P 08 25 31.2 +1.3**
HDA Harding Lake 54.37 30 P **P 08 25 32.4 -0.1**
IL31 54.41 30 P **P 08 25 31.6 -1.2**
ILAR Eielson Array 54.41 30 P **P 08 25 32.8 -0.1**
comp=Z,2.1nm,1.0s,baz=268,slow=5.9,SNR=16
ILAR Eielson Array 54.41 30 P **P 08 25 31.4 -1.5**
BVAR Borovoye Array 54.94 316 P **P 08 25 36.7 -0.2**
comp=Z,4.7nm,0.8s,baz=169,slow=8.7,SNR=19
BVAR PcP **PcP 08 26 39.4 +0.7**
comp=Z,2.6nm,0.7s,baz=163,slow=5.4,SNR=3.6
AS31 Alice Springs 54.96 189 P **P 08 25 37.8 +0.5**
AS31 lAmb lAmb 08 25 53.4
comp=Z,5.1nm,0.5s
ASAR Alice Springs 54.96 189 P **P 08 25 37.5 +0.2**
comp=Z,6.7nm,0.5s,baz=2.1,slow=5.0,SNR=74
ASAR S **S 08 33 14.9 -4.0**
comp=Z,0.7nm,0.9s,baz=21,slow=20,SNR=3.2
ASAR LR LR 08 47 52.9
comp=Z,466nm,21.7s,baz=11,slow=35
ASAR Alice Springs 54.96 189 P **P 08 25 36.4 -0.9**
ASAR S **S 08 33 14.9 -4.0**
ASAR Alice Springs 54.96 189 P **P 08 25 36.4 -0.9**
BRVK Borovoye 55.00 316*c i*P **P 08 25 37.9 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 55.00 316 P **P 08 25 37.1 -0.2**
BRVK lAmb lAmb 08 25 38.7
comp=Z,7.9nm,0.8s
BRVK Borovoye 55.00 316 P **P 08 25 36.7 -0.6**
BRVK P **P 08 25 36.7 -0.6**
FYU Fort Yukon 55.15 28 P **P 08 25 37.5 -0.6**
ARSB Arslanbob 55.17 301 P **P 08 25 39.4 +0.5**
ARSB pmax pmax
comp=Z,50nm,1.4s
ARSB Arslanbob 55.17 301 P **P 08 25 39.4 +0.5**
BMAR Burnt Mountain 55.43 27 P **P 08 25 39.5 -0.8**
BMRM Bremner River 55.48 35 P **P 08 25 40.0 -0.6**
BMRM lAmb lAmb 08 25 51.5
comp=Z,16nm,1.0s
DOT Dot Lake 55.63 31 P **P 08 25 42.1 +0.3**
DOT lAmb lAmb 08 26 08.4
comp=Z,8.4nm,1.0s
SCRK Sand Creek 55.66 31 lAmb lAmb 08 25 46.8
comp=Z,16nm,1.4s
MENT Mentasta 55.81 32 P **P 08 25 43.4 +0.4**
MENT lAmb lAmb 08 25 58.1
comp=Z,13nm,1.2s
GLB Gilahina Butte 55.84 34 P **P 08 25 44.4 +1.2**
GLB lAmb lAmb 08 25 49.4
comp=Z,16nm,1.3s
K27K Chicken 56.50 31 P **P 08 25 46.0 -1.9**
KKAR Karatay Array 56.55 304 P **P 08 25 48.8 +0.1**
KKAR pmax pmax
comp=Z,42nm,1.2s
KKAR Karatay Array 56.55 304 P **P 08 25 48.8 +0.1**
KKAR Karatay Array 56.55 304 P **P 08 25 48.9 +0.2**
KKAR lAmb lAmb 08 25 50.8
comp=Z,42nm,1.1s
L27K Beaver Creek, 56.67 32 P **P 08 25 50.8 +1.6**
BCAR Beaver Creek A 56.69 32 P **P 08 25 49.8 +0.5**
EIDS Eidsvold 56.83 170 lAmb lAmb 08 25 59.4
comp=Z,14nm,1.2s
NIL Nilore 56.99 292 P **P 08 25 52.9 +1.0**
NIL pmax pmax
comp=Z,31nm,0.7s
NIL Nilore 56.99 292 P **P 08 25 52.9 +1.0**
NIL Nilore 56.99 292 P **P 08 25 51.3 -0.5**
NIL P **P 08 25 51.3 -0.5**
BTK Batken 57.07 300 lAmb lAmb 08 26 03.0
comp=Z,8.8nm,1.1s
IUG Iuzhnay 57.12 303 *e*P **P 08 25 54.1 +1.2**
baz=303
IUG Iuzhnay 57.12 303 *e*P **P 08 25 54.0 +1.2**
DZM Mont Dzumac 57.89 153 *e*S **S 08 33 58.8 +0.9**
comp=Z,137nm,24.4s
DZM *e*LR LR 08 42 58.4
comp=Z,387nm,24.4s
CHGR Chuyangaron 58.69 299 P **P 08 26 03.9 0.0**
HYT Haines Junctio 58.94 34 lAmb lAmb 08 26 27.1
comp=Z,13nm,1.2s
SVE Sverdlovsk 59.91 321 *e*P **P 08 26 12.7 +0.9**
SVE pmax pmax
comp=Z,40nm,1.3s
KBL Kabul 60.02 294 P **P 08 26 13.6 +0.3**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 60.02 294 P **P 08 26 13.6 +0.3**
KBL lAmb lAmb 08 26 40.7
comp=Z,8.4nm,0.9s
WHY Whitehorse 60.24 34 P **P 08 26 15.3 +1.1**
WHY lAmb lAmb 08 26 35.5

	comp=Z,11nm,1.4s								
ARU	**Arti**	**61.11**	**321**	P	**P**	**08 26 20.2**	**+0.1**		
	comp=Z,5.5nm,0.6s,baz=86,slow=6.5,SNR=27								
ARU	**Arti**	**61.11**	**321**	*c* *i*P	**P**	**08 26 19.7**	**-0.4**		
ARU						08 27 00.6			
ARU				S	**S**	**08 34 40.7**	**+1.9**		
ARU				SS	**SS**	**08 38 33.2**	**-4.9**		
ARU				pmax	pmax				
	comp=Z,37nm,0.9s								
ARU				MLR	MLR				
	comp=Z,499nm,19.0s								
ARU	**Arti**	**61.11**	**321**	P	**P**	**08 26 19.6**	**-0.5**		
ABKAR	**Akbulak array**	**62.13**	**313**	P	**P**	**08 26 26.0**	**-1.0**		
ABKAR	**Akbulak array**	**62.13**	**313**	P	**P**	**08 26 27.1**	**0.0**		
STKA	**Stephens Creek**	**62.61**	**180**	P	**P**	**08 26 32.5**	**+2.1**		
	comp=Z,4.5nm,0.8s,baz=339,slow=7.1,SNR=12								
STKA				LR	LR	08 53 17.9			
	comp=Z,436nm,20.5s,baz=12,slow=36								
STKA	**Stephens Creek**	**62.61**	**180**	P	**P**	**08 26 31.2**	**+0.9**		
STKA				pmax	pmax				
	comp=Z,3.0nm,1.4s								
STKA	**Stephens Creek**	**62.61**	**180**	P	**P**	**08 26 31.2**	**+0.9**		
C36M	**Paulatuk**	**62.71**	**23**	P	**P**	**08 26 30.3**	**-0.3**		
C36M				IAmb	IAmb	08 26 49.6			
	comp=Z,6.8nm,0.9s								
FORT	**Forrest**	**62.89**	**193**	P	**P**	**08 26 33.1**	**+1.0**		
AKTO	**Aktyubinsk**	**62.99**	**314**	P	**P**	**08 26 32.7**	**-0.1**		
	comp=Z,7.8nm,0.8s,baz=91,slow=5.8,SNR=18								
AKTO				LR	LR	08 54 45.9			
	comp=Z,348nm,19.7s,baz=72,slow=37								
KIRV	**Kirov**	**65.25**	**325**	P	**P**	**08 26 48.7**	**+1.3**		
	comp=Z,12nm,0.4s,baz=45,slow=1.4,SNR=4.5								
KIRV	**Kirov**	**65.25**	**325**	*ce*P	**P**	**08 26 47.7**	**+0.3**		
HRA	**Herat**	**65.34**	**296**	P	**P**	**08 26 48.6**	**-0.2**		
HRA				IAmb	IAmb	08 26 50.8			
	comp=Z,9.3nm,0.9s								
PRGR	**Permogore**	**65.97**	**329**	*e*P	**P**	**08 26 52.5**	**+0.4**		
PRGR				pmax	pmax				
	comp=Z,14nm,0.4s								
EUNU	**Eureka**	**66.02**	**8**	IAmb	IAmb	08 27 16.6			
	comp=Z,5.7nm,1.1s								
GEYT	**Ailbeck**	**67.12**	**301**	P	**P**	**08 27 01.2**	**+1.3**		
	comp=Z,6.2nm,0.5s,baz=100,slow=3.4,SNR=7.9								
GEYT				LR	LR	08 58 00.2			
	comp=Z,267nm,18.7s,baz=50,slow=38								
BELG	**Belogornoye**	**68.44**	**319**	P	**P**	**08 27 08.2**	**+0.4**		
	comp=Z,8.1nm,0.5s,baz=135,slow=5.9,SNR=7.7								
BELG	**Belogornoye**	**68.44**	**319**	*i* P	**P**	**08 27 08.5**	**+0.6**		
BELG				pmax	pmax				
	comp=Z,8.0nm,2.0s								
YKA	**Yellowknife Ar**	**68.81**	**29**	P	**P**	**08 27 10.3**	**+0.2**		
	comp=Z,1.1nm,0.6s,baz=301,slow=6.2,SNR=2.2								
KLMR	**Klimovskoe**	**69.00**	**329**	*e*P	**P**	**08 27 10.8**	**-0.4**		
KLMR				pmax	pmax				
	comp=Z,12nm,1.1s								
KLMR	**Klimovskoe**	**69.00**	**329**	*e*P	**P**	**08 27 10.9**	**-0.3**		
KLMR				AMP		08 27 27.9			
	comp=Z,12nm,1.1s								
ARCES	**ARCESS Array B**	**69.69**	**340**	P	**P**	**08 27 15.6**	**+0.2**		
	comp=Z,8.4nm,1.0s,baz=39,slow=6.2,SNR=6.7								
DAG	**Danmarks Havn**	**71.72**	**355**	*i* P	**P**	**08 27 29.0**	**+1.4**		
DAG				IAmb	IAmb	08 27 29.6			
	comp=Z,11nm,1.1s								
DAG	**Danmarks Havn**	**71.72**	**355**	*i* P	**P**	**08 27 29.0**	**+1.4**		
DAG				pmax	pmax				
	comp=Z,11nm,1.1s								
MOS	**Moscow**	**72.26**	**325**	*e*P	**P**	**08 27 36.0**	**+4.8**		
MOS				*e*		08 27 50.9			
VRH	**Novokhopyorsk**	**72.26**	**319**	*e*P	P	08 27 23.7	-7.6		
VRH				pmax	pmax				
	comp=Z,10.0nm,0.4s								
MAK	**Makhachkala**	**72.46**	**310**	*e*P	**P**	**08 27 27.9**	**-4.7**		
MAK				*e*S	**S**	**08 36 51.6**	**-4.7**		
MAK				pmax	pmax				
	comp=Z,27nm,0.4s								
MAK				MLR	MLR				
	comp=Z,1μm,16.0s								
H04A	**Detroit Lake**	**72.78**	**48**	P	**P**	**08 27 34.1**	**-0.5**		
H04A				IAmb	IAmb	08 27 44.2			
	comp=Z,13nm,1.4s								
WSAR	**Wadi Sarin**	**72.83**	**287**	P	**P**	**08 27 35.1**	**-0.1**		
B08A	**Colville Reser**	**72.86**	**44**	P	**P**	**08 27 34.8**	**-0.2**		
OBN	**Obninsk**	**73.10**	**325**	*e*P	**P**	**08 27 37.0**	**+0.9**		
OBN				*e*		08 27 43.0			
OBN				*e*		08 27 46.3			
OBN						08 27 53.0			
OBN				*e*S	**SKiKP**	**08 37 09.5**	**+1.3**		
OBN				pmax	pmax				
	comp=Z,9.0nm,0.5s								
OBN				MLR	MLR				
	comp=Z,798nm,16.0s								
LPSR	**Galich'ya Gora**	**73.12**	**322**	*e*P	**P**	**08 27 32.7**	**-3.7**		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
BANOM	**Banah**	**73.52**	**291**	P	**P**	**08 27 39.0**	**-0.3**		
	SNR=8.8								
BANOM				P	**P**	**08 27 39.0**	**-0.3**		
	SNR=8.8								
SHME	**Shamm**	**73.59**	**291**	P	**P**	**08 27 41.1**	**+1.4**		
VSR	**Storozhevoye**	**73.67**	**320**	*e*P	**P**	**08 27 37.2**	**-2.4**		
VSR				pmax	pmax				
	comp=Z,20nm,1.7s								
HOQ	**Hoqain**	**73.76**	**288**	P	**P**	**08 27 41.4**	**+0.7**		
	SNR=6.8								
HOQ				P	**P**	**08 27 41.4**	**+0.7**		
	SNR=6.8								
YBH	**Yreka Blue Hor**	**73.77**	**51**	P	**P**	**08 27 40.8**	**+0.2**		
YBH				pmax	pmax				
	comp=Z,7.0nm,1.3s								
YBH	**Yreka Blue Hor**	**73.77**	**51**	P	**P**	**08 27 40.8**	**+0.2**		
MASF	**Masafi**	**73.88**	**290**	P	**P**	**08 27 42.8**	**+1.4**		
	SNR=5.3								
E08A	**Dider Farm, El**	**73.89**	**45**	P	**P**	**08 27 40.6**	**-0.5**		
PINE	**Pine Mountain**	**73.98**	**48**	P	**P**	**08 27 40.7**	**-1.2**		
PINE				IAmb	IAmb	08 27 57.4			
	comp=Z,26nm,1.5s								
UOSS	**Minazif**	**74.04**	**290**	P	**P**	**08 27 41.9**	**-0.4**		
UOSS	**Minazif**	**74.04**	**290**	P	**P**	**08 27 42.8**	**+0.5**		
UOSS				P	**P**	**08 27 42.8**	**+0.5**		
SOHO	**SOHO**	**74.14**	**289**	P	**P**	**08 27 43.7**	**+0.8**		
SOHO				P	**P**	**08 27 43.7**	**+0.8**		
HATD	**Hatta, Dubai**	**74.15**	**290**	P	**P**	**08 27 43.9**	**+0.9**		
	SNR=7.9								
HATD				P	**P**	**08 27 43.9**	**+0.9**		
	SNR=7.9								
NEW	**Newport**	**74.20**	**43**	P	**P**	**08 27 42.6**	**-0.3**		
NEW				pmax	pmax				
	comp=Z,10.0nm,1.3s								
NEW	**Newport**	**74.20**	**43**	P	**P**	**08 27 42.6**	**-0.3**		
NEW				IAmb	IAmb	08 27 57.7			
	comp=Z,9.9nm,1.2s								
BSY	**Bisya**	**74.23**	**287**	P	**P**	**08 27 44.6**	**+1.1**		
BSY				P	**P**	**08 27 44.6**	**+1.1**		
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**08 27 42.9**	**+0.1**		
	comp=Z,2.4nm,0.5s,baz=64,slow=4.4,SNR=14								
FINES	**FINESS Array B**	**74.25**	**333**	*i* P	**P**	**08 27 43.5**	**+0.7**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**08 27 42.7**	**-0.1**		
ASHO	**Ashiyiah**	**74.28**	**290**	P	**P**	**08 27 44.6**	**+0.9**		
	SNR=6.1								
MHTO	**MHTO**	**74.41**	**285**	P	**P**	**08 27 44.8**	**+0.3**		
MHTO				P	**P**	**08 27 44.8**	**+0.3**		
K05A	**Summer Lake**	**74.51**	**49**	P	**P**	**08 27 45.8**	**+0.8**		
K05A				IAmb	IAmb	08 28 00.4			
	comp=Z,20nm,1.3s								
ARQ	**Araqi**	**74.52**	**288**	P	**P**	**08 27 46.4**	**+1.3**		
	SNR=6.6								
ARQ				P	**P**	**08 27 46.4**	**+1.3**		
	SNR=6.6								
ALNE	**Al Ain**	**74.81**	**289**	P	**P**	**08 27 48.1**	**+1.3**		
	SNR=6.8								
ASUD	**Al Ashush, Dub**	**74.89**	**290**	P	**P**	**08 27 47.5**	**+0.3**		
ZEI	**Tsey**	**74.89**	**311**	*e*P	**P**	**08 27 43.9**	**-3.3**		
ZEI				pmax	pmax				
	comp=Z,13nm,1.5s								
KBZ	**Khabaz**	**75.09**	**312**	LR	LR	09 01 24.3			
	comp=Z,220nm,18.8s,baz=76,slow=36								
KVAR	**Kislovodsk Arr**	**75.11**	**312**	P	**P**	**08 27 50.8**	**+2.5**		
	comp=Z,4.7nm,0.7s,baz=9.5,slow=6.1,SNR=1.9								
KIV	**Kislovodsk**	**75.11**	**312**	*e*P	**P**	**08 27 50.0**	**+1.7**		
KIV				pmax	pmax				
	comp=Z,41nm,1.0s								
KIV				MLR	MLR				
	comp=Z,1μm,19.0s								
SHA1	**Shidzhatmaz**	**75.23**	**312**	*i* P	**P**	**08 27 50.4**	**+1.2**		
GNI	**Garni**	**75.59**	**308**	*ce*P	**P**	**08 27 53.7**	**+2.5**		
GNI				pmax	pmax				
	comp=Z,22nm,1.3s								
ORV	**Oroville**	**75.60**	**52**	P	**P**	**08 27 51.1**	**0.0**		
ORV				pmax	pmax				
	comp=Z,13nm,1.5s								
ORV	**Oroville**	**75.60**	**52**	P	**P**	**08 27 51.1**	**0.0**		
ORV				IAmb	IAmb	08 27 57.6			
	comp=Z,13nm,1.5s								
J08A	**Circle Bar Ran**	**75.76**	**48**	P	**P**	**08 27 51.6**	**-0.5**		
J08A				IAmb	IAmb	08 27 56.9			
	comp=Z,10nm,1.4s								
WVOR	**Wild Horse Val**	**76.11**	**49**	P	**P**	**08 27 52.7**	**-1.4**		
WVOR				pmax	pmax				
	comp=Z,10.0nm,1.4s								
WVOR	**Wild Horse Val**	**76.11**	**49**	P	**P**	**08 27 52.7**	**-1.4**		
WVOR				IAmb	IAmb	08 28 12.1			
	comp=Z,10nm,1.4s								
JTMT	**Jette**	**76.11**	**42**	P	**P**	**08 27 53.8**	**-0.3**		
JTMT				IAmb	IAmb	08 28 19.0			
	comp=Z,9.6nm,0.9s								
BEKR	**Beckworth**	**76.22**	**52**	P	**P**	**08 27 54.4**	**-0.5**		
SUMG	**Summit**	**76.62**	**0**	*i* P	**P**	**08 27 58.0**	**+1.2**		
SUMG	**Summit**	**76.62**	**0**	P	**P**	**08 27 57.3**	**+0.5**		
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**76.62**	**0**	P	**P**	**08 27 57.3**	**+0.5**		
SUMG				IAmb	IAmb	08 27 59.8			
	comp=Z,5.1nm,0.8s								
VCNR	**Virginia City**	**76.98**	**52**	P	**P**	**08 28 00.9**	**+1.7**		
CMB	**Columbia Colle**	**77.10**	**53**	P	**P**	**08 28 00.0**	**+0.3**		
CMB				pmax	pmax				
	comp=Z,6.0nm,1.0s								
CMB	**Columbia Colle**	**77.10**	**53**	P	**P**	**08 28 00.0**	**+0.3**		
SOC	**Sochi**	**77.16**	**313**	*e*P	**P**	**08 27 57.7**	**-2.2**		
SOC				*e*		08 30 51.5			
SOC				*e*PPP	PPP	08 32 41.5			
SOC				*e*S	**S**	**08 37 47.2**	**-1.7**		
SOC				*e*SS	**SS**	**08 42 48.5**	**+2.8**		
SOC				MLR	MLR				
	comp=Z,332nm,14.0s								
MFID	**Camas Ranch**	**77.41**	**47**	P	**P**	**08 28 01.8**	**+0.4**		
MFID				IAmb	IAmb	08 28 07.8			
	comp=Z,20nm,1.5s								
YERR	**Yerington**	**77.41**	**52**	P	**P**	**08 28 02.2**	**+0.6**		
YERR				IAmb	IAmb	08 28 06.8			
	comp=Z,12nm,1.3s								
MNK	**Minsk**	**77.63**	**327**	*i* P	**P**	**08 28 00.5**	**-1.8**		
MNK				*i*		08 28 11.6			
MNK				*i*		08 30 54.9			
MNK				*i* PPP	PPP	08 32 41.9			
MNK				*i* S	**S**	**08 37 51.5**	**-2.0**		
MNK				*i* PS	PnS	08 38 16.0	-17		
MNK				*i* SS	**SS**	**08 42 55.1**	**+3.0**		
MNK				*i* SSS	SSS	08 46 14.2			
MNK				pmax	pmax				
	comp=E,4.0nm,1.4s								
MNK				pmax	pmax				
	comp=Z,10.0nm,1.3s								
MNK				pmax	pmax				
	comp=N,28nm,1.1s								
MNK				MLR	MLR				
	comp=Z,471nm,16.0s								
MNK				MLR	MLR				
	comp=N,745nm,25.0s								
MNK	**Minsk**	**77.63**	**327**	*i* P	**P**	**08 28 00.6**	**-1.7**		
	comp=E,4.0nm,1.4s								
MNK				*i* P	**P**	**08 28 00.6**	**-1.7**		
	comp=N,28nm,1.1s								
MNK				*i* P	**P**	**08 28 00.6**	**-1.7**		
	comp=Z,10.0nm,1.2s,baz=234								
MNK				*i* PcP	**PcP**	**08 28 11.6**	**-0.8**		
MNK				*i* PP	**PP**	**08 30 55.0**	**-1.8**		
MNK				*i* PPP	PPP	08 32 42.0			
MNK				*i* S	**S**	**08 37 51.5**	**-2.0**		
MNK				*i* PS	PnS	08 38 16.1	-17		
MNK				*i* SS	**SS**	**08 42 55.2**	**+3.1**		
MNK				*i* SSS	SSS	08 46 14.3			
MNK				*i* LQ	LQ	08 56 59.4			
MNK				*i* LR	LR	09 02 44.5			
MNK				*i* LRM	MLR	09 05 20.8			
	comp=E,76nm,27.5s								
MNK				*i* LRM	MLR	09 05 36.7			
	comp=Z,471nm,16.3s								
MNK				*i* LRM	MLR	09 05 40.3			
	comp=N,745nm,25.3s								
ANN	**Anapa**	**77.94**	**315**	*e*P	**P**	**08 28 00.5**	**-3.6**		
ANN				*e**PP	**pP**	**08 28 04.3**	**-2.4**		
ANN				*e*S	**S**	**08 37 52.5**	**-4.7**		
ANN				*e*SSS	SSS	08 46 16.9			
ANN				pmax	pmax				
	comp=Z,45nm,1.1s								
KVN	**Kaiserville**	**78.15**	**52**	P	**P**	**08 28 05.8**	**+0.1**		
KVN				pmax	pmax				
	comp=Z,6.0nm,1.1s								
KVN	**Kaiserville**	**78.15**	**52**	P	**P**	**08 28 05.8**	**+0.1**		
LRM	**Limekiln Ridge**	**78.20**	**43**	P	**P**	**08 28 06.8**	**+0.9**		
LHV	**Little Huntoon**	**78.28**	**52**	P	**P**	**08 28 08.3**	**+2.1**		
LHV				IAmb	IAmb	08 28 21.7			
	comp=Z,21nm,1.4s								
NVAR	**Mina Array Bea**	**78.32**	**52**	P	**P**	**08 28 07.8**	**+1.1**		
	comp=Z,2.8nm,0.7s,baz=293,slow=5.6,SNR=28								
NVAR				LR	LR	09 00 03.3			
	comp=Z,501nm,19.1s,baz=276,slow=34								
NVAR	**Mina Array Bea**	**78.32**	**52**	P	**P**	**08 28 06.6**	**-0.1**		
DLMT	**Dillon**	**78.36**	**44**	P	**P**	**08 28 06.4**	**-0.3**		
DLMT				IAmb	IAmb	08 28 16.9			
	comp=Z,6.7nm,1.0s								
BCYI	**Bear Canyon**	**78.43**	**45**	P	**P**	**08 28 07.1**	**-0.2**		
FFC	**Flin Flon**	**78.54**	**32**	P	**P**	**08 28 05.8**	**-1.5**		
FFC				pmax	pmax				
	comp=Z,6.0nm,0.8s								
FFC	**Flin Flon**	**78.54**	**32**	P	**P**	**08 28 05.8**	**-1.5**		
FFC				IAmb	IAmb	08 28 21.3			
	comp=Z,5.6nm,0.8s								
DOK	**Doka**	**78.71**	**285**	P	**P**	**08 28 08.9**	**0.0**		
ELK	**Elko**	**79.16**	**49**	P	**P**	**08 28 11.8**	**+0.4**		
ELK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ELK	**Elko**	**79.16**	**49**	P	**P**	**08 28 11.8**	**+0.4**		
AKASG	**Malin Array Be**	**79.23**	**323**	P	**P**	**08 28 11.2**	**0.0**		
	comp=Z,2.1nm,0.4s,baz=47,slow=5.7,SNR=15								
AKASG				PP	**PP**	**08 31 10.2**	**0.0**		
	comp=Z,0.3nm,0.3s,baz=45,slow=8.4,SNR=4.0								
AKASG				LR	LR	09 05 45.5			
	comp=Z,842nm,18.3s,baz=50,slow=38								
AKASG	**Malin Array Be**	**79.23**	**323**	P	**P**	**08 28 10.7**	**-0.5**		
AKASG				pmax	pmax				
	comp=Z,7.0nm,1.3s								
AKASG	**Malin Array Be**	**79.23**	**323**	P	**P**	**08 28 10.7**	**-0.5**		
AKBB	**Malin Array Si**	**79.23**	**323**	*ce*P	**P**	**08 28 11.5**	**+0.3**		
AKBB	**Malin Array Si**	**79.23**	**323**	P	**P**	**08 28 10.7**	**-0.5**		
AKBB				IAmb	IAmb	08 28 13.0			
	comp=Z,21nm,1.3s								
WHFO	**Wadi Hawf**	**79.34**	**284**	P	**P**	**08 28 12.2**	**-0.2**		
NOA	**NORSAR Array B**	**79.81**	**338**	P	**P**	**08 28 14.2**	**0.0**		
	comp=Z,3.1nm,0.8s,baz=41,slow=5.3,SNR=6.8								
NOA				LR	LR	09 06 49.1			
	comp=Z,410nm,20.0s,baz=30,slow=38								
GCMT	**Greycliff**	**79.84**	**42**	P	**P**	**08 28 14.6**	**-0.2**		
ABTO	**Aybut**	**80.02**	**284**	P	**P**	**08 28 16.4**	**+0.3**		
ICESG	**Greenland Ices**	**80.12**	**1**	*i* P	**P**	**08 28 16.5**	**+0.4**		
MOOW	**Moose Ponds**	**80.35**	**45**	P	**P**	**08 28 17.0**	**-0.7**		
TPAW	**Teton Pass**	**80.37**	**45**	P	**P**	**08 28 19.0**	**+1.1**		
TPNV	**Topopah Spring**	**80.48**	**53**	P	**P**	**08 28 18.4**	**-0.1**		
TPNV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
TPNV	**Topopah Spring**	**80.48**	**53**	P	**P**	**08 28 18.4**	**-0.1**		
REDW	**Red Top Meadow**	**80.50**	**45**	P	**P**	**08 28 15.9**	**-2.6**		
SNOW	**Snow King Moun**	**80.50**	**45**	P	**P**	**08 28 17.5**	**-1.0**		
MALT	**Malatya**	**80.75**	**309**	P	**P**	**08 28 22.5**	**+2.7**		
DUG	**Dugway, Tooele**	**81.02**	**48**	P	**P**	**08 28 20.2**	**-1.1**		
DUG				pmax	pmax				
	comp=Z,11nm,1.3s								
DUG	**Dugway, Tooele**	**81.02**	**48**	P	**P**	**08 28 20.2**	**-1.1**		
DUG				IAmb	IAmb	08 28 27.5			
	comp=Z,11nm,1.2s								
HWUT	**Hardware Ranch**	**81.03**	**47**	P	**P**	**08 28 19.6**	**-1.8**		
HWUT				IAmb	IAmb	08 28 27.9			
	comp=Z,22nm,1.4s								
PRN	**Pahroc Range**	**81.05**	**52**	P	**P**	**08 28 19.7**	**-1.8**		
PRN				IAmb	IAmb	08 28 36.5			
	comp=Z,6.8nm,0.9s								
LAO	**LASA Array**	**81.27**	**40**	P	**P**	**08 28 21.3**	**-1.1**		
LAO				IAmb	IAmb	08 28 27.1			
	comp=Z,9.4nm,1.3s								
SHPR	**Sheep Range**	**81.46**	**53**	P	**P**	**08 28 23.5**	**-0.2**		
SHPR				IAmb	IAmb	08 28 50.6			
	comp=Z,9.4nm,1.3s								
PDAR	**Pinedale Array**	**81.62**	**45**	P	**P**	**08 28 25.4**	**+0.9**		
	comp=Z,1.2nm,0.7s,baz=256,slow=1.5,SNR=10								
PDAR	**Pinedale Array**	**81.62**	**45**	P	**P**	**08 28 24.5**	**0.0**		
PPT	**Papeete**	**81.69**	**116**	LR	LR	09 02 39.0			
	comp=Z,147nm,18.0s,baz=326,slow=34								
PPT2	**Papeete2**	**81.70**	**116**	*e*LR	LR	08 53 51.4			
	comp=Z,265nm,21.2s,baz=299								
DY2G	**Dye2**	**82.56**	**3**	*e*P	**P**	**08 28 28.4**	**-0.6**		
BR131	**Keskin Array S**	**83.08**	**312**	P	**P**	**08 28 31.9**	**-0.2**		
BR131				pmax	pmax				
	comp=Z,31nm,1.1s								
BR131	**Keskin Array S**	**83.08**	**312**	P	**P**	**08 28 31.9**	**-0.2**		
BRTR	**Keskin Array B**	**83.08**	**312**	P	**P**	**08 28 33.1**	**+1.0**		
	comp=Z,11nm,0.9s,baz=98,slow=3.7,SNR=42								
BRTR				LR	LR	09 09 36.9			
	comp=Z,159nm,18.5s,baz=52,slow=39								
BRTR	**Keskin Array B**	**83.08**	**312**	P	**P**	**08 28 32.7**	**+0.6**		
KWP	**Kalwaria Pacla**	**83.17**	**325**	*e*P	**P**	**08 28 34.4**	**+2.2**		
BUR08	**Bucovina Ar. S**	**83.19**	**322**	P	**P**	**08 28 32.6**	**+0.1**		
BUR08				IAmb	IAmb	08 28 39.7			
	comp=Z,6.2nm,0.9s								
BURAR	**Bucovina Array**	**83.20**	**322**	P	**P**	**08 28 32.8**	**+0.3**		
BURAR				IAmb	IAmb	08 28 35.3			
	comp=Z,7.8nm,1.1s								
RAYN	**Ar Rayn**	**83.27**	**293**	P	**P**	**08 28 34.2**	**+1.0**		
RAYN				pmax	pmax				
	comp=Z,18nm,0.9s								
RAYN	**Ar Rayn**	**83.27**	**293**	P	**P**	**08 28 34.2**	**+1.0**		
KOLS	**Kolonicke sedl**	**83.85**	**325**	*e*P	**P**	**08 28 36.6**	**+0.9**		
KOLS	**Kolonicke sedl**	**83.85**	**325**	*e*P	**P**	**08 28 36.6**	**+0.9**		
O20A	**White River Ci**	**83.94**	**46**	P	**P**	**08 28 37.4**	**+0.8**		
MLR	**Muntele Rosu**	**84.16**	**320**	P	**P**	**08 28 38.1**	**+0.6**		
MLR				pmax	pmax				
	comp=Z,8.0nm,1.2s								
MLR	**Muntele Rosu**	**84.16**	**320**	P	**P**	**08 28 38.1**	**+0.6**		
MLR				IAmb	IAmb	08 28 40.4			
	comp=Z,7.9nm,1.2s								
MDUB	**Mudurnu**	**84.17**	**314**	P	**P**	**08 28 36.7**	**-0.9**		
OJC	**Ojcow**	**84.18**	**327**	P	**P**	**08 28 37.1**	**-0.3**		
OJC				pmax	pmax				
	comp=Z,35nm,1.4s								
OJC	**Ojcow**	**84.18**	**327**	P	**P**	**08 28 37.1**	**-0.3**		
ULM	**Lac du Bonnet**	**84.29**	**33**	LR	LR	09 07 51.1			
	comp=Z,176nm,19.1s,baz=301,slow=37								
Y14A	**Wickenburg**	**84.33**	**54**	P	**P**	**08 28 38.5**	**0.0**		
Y14A				IAmb	IAmb	08 28 43.7			
	comp=Z,6.9nm,1.3s								
TAOE	**Nuku Hiva Isla**	**84.42**	**104**	*e*LR	LR	08 55 05.2			
	comp=Z,259nm,23.5s,baz=307								
WUAZ	**Wupatki**	**84.56**	**52**	P	**P**	**08 28 39.6**	**-0.2**		
WUAZ				IAmb	IAmb	08 28 55.3			
	comp=Z,5.4nm,0.9s								
DRGR		**85.04**	**323**	P	**P**	**08 28 43.9**	**+2.0**		
TBI	**Tubuai**	**85.19**	**121**	*e*LR	LR	08 55 30.7			
	comp=Z,335nm,21.5s,baz=304								
SMCO	**Snowmass**	**85.30**	**47**	P	**P**	**08 28 44.9**	**+1.2**		
SMCO				IAmb	IAmb	08 28 53.6			
	comp=Z,10.0nm,1.2s								
VYHS	**Vyhne**	**85.82**	**326**	*e*P	**P**	**08 28 46.2**	**+0.6**		
VYHS	**Vyhne**	**85.82**	**326**	*e*P	**P**	**08 28 46.2**	**+0.6**		
CLL	**Collm**	**86.43**	**331**	*e*P	**P**	**08 28 49.0**	**+0.5**		
	comp=Z,23nm,1.6s								
CLL				LmV		09 12 00.0			
	comp=Z,300nm,18.4s								
CLL	**Collm**	**86.43**	**331**	*e*P	**P**	**08 28 49.0**	**+0.5**		
CLL				pmax	pmax				
	comp=Z,23nm,1.6s								
CLL				MLR	MLR				
	comp=Z,300nm,18.4s								
GERES	**GERESS Array B**	**87.95**	**329**	P	**P**	**08 28 57.1**	**+1.0**		
	comp=Z,0.8nm,0.3s,baz=35,slow=3.6,SNR=1.6								
GERES				LR	LR	09 12 40.3			
	comp=Z,365nm,18.2s,baz=43,slow=39								
ANMO	**Albuquerque**	**88.16**	**50**	*ce*P	**P**	**08 28 56.3**	**-1.2**		
ANMO				pmax	pmax				
	comp=Z,5.0nm,2.5s								
DIVS	**Divibare**	**88.27**	**322**	IAmb	IAmb	08 28 59.1			
	comp=Z,7.3nm,1.2s								
ECSD	**EROS Data Cent**	**88.38**	**38**	IAmb	IAmb	08 29 29.9			
	comp=Z,5.0nm,1.2s								
STAL	**STALIGIAL**	**90.32**	**327

comp=Z,1.8nm,0.1s
NUR **Nurmijrvi** **2.01 310** *e*PG Pn 08 29 15.4 -1.5
NUR *e*S Sn 08 29 38.9 -3.8
NUR MSG 08 29 41.9
comp=Z,1.1nm,0.1s
MTSE **Matsula** **2.11 257** *e*P Pn 08 29 17.6 -0.6
MTSE *e*S Sn 08 29 43.8 -1.4
MTSE **Matsula** **2.11 257** *e*PG Pn 08 29 17.5 -0.8
MTSE *e*SB Sn 08 29 43.0 -2.2
EE01 **Perakula, Nova** **2.13 271** *e*PG Pn 08 29 17.5 -1.0
EE01 *e*SG Sn 08 29 44.5 -1.0
FIA0 **FINESS Array S** **2.35 340** *e*P Pn 08 29 19.5 -2.1
FIA0 *e*PB Pb 08 29 20.8 -4.1
FIA0 *e*S Sn 08 29 48.4 -2.7
FIA0 *e*SG Sb 08 29 50.7 -3.8
FIA0 MSG 08 29 52.7
comp=Z,1.0nm,0.1s
FIA1 **FINESS Array S** **2.35 340** *e*P Pn 08 29 19.5 -2.1
FIA1 *e*PB Pb 08 29 20.9 -4.1
FIA1 *e*SG Sn 08 29 50.9 -0.2
RAF **Rauma** **3.49 303** *e*P Pn 08 29 36.1 -0.9
RAF *e*S Sn 08 30 16.7 -2.3
RAF **Rauma** **3.49 303** *e*P Pn 08 29 35.9 -1.2

BER 03 08:29:05.3±0.5, 66°68N×13°50E, h5km±3km, ML0.4, 1C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBB15	**Halsa Church**	**0.07**	**24**	*e*P	Pg	08 29 06.7	-0.2
NBB15	**Halsa Church**	**0.07**	**24**	*e*S	Sg	08 29 07.9	-0.1
NBB15				IAML		08 29 08.2	
comp=Z,18nm,0.1s							
NBB13	**Alf Garage**	**0.09**	**234**	↑*i*P	Pg	08 29 06.9	-0.3
NBB13	**Alf Garage**	**0.09**	**234**	*e*S	Sg	08 29 08.3	-0.1
NBB13				IAML		08 29 08.5	
comp=Z,16nm,0.2s							
KONS	**Konsvik**	**0.24**	**221**	*e*P	Pg	08 29 09.4	-0.4
KONS				*e*S	Sg	08 29 12.7	-0.3
KONS				IAML		08 29 13.1	
comp=Z,5.0nm,0.2s							
NBB30	**Finnes**	**0.31**	**17**	*e*P	Pg	08 29 10.9	-0.4
NBB30				*e*S	Sg	08 29 15.1	-0.3
NBB30				IAML		08 29 16.5	
comp=Z,3.1nm,0.7s							
STOK	**Stokkvaagen**	**0.40**	**210**	*e*P	Pg	08 29 12.4	-0.5
STOK				*e*S	Sg	08 29 18.2	+0.1

*IDC **03** 08:36:27.3±0.6, 13°07N×146°16E, h0km, mb4.4/27, mb1 4.4/27, mb1mx4.3/59, mbtmp4.4/27, Error ellipse: s-maj=16.4km s-min=14.9km az=67.0*
*NEIC **03** 08:36:33.1±1.3, 12°96N±0°08×146°11E±0°08, h36km±5km, mb4.7/60, Error ellipse: s-maj=11.2km s-min=11.0km az=168.0*

ISC 03 08:36:33.9±0.5, 12°95N±0°07×146°08E±0°08, h50km, n107, σ0s98/109, mb4.6/56, 3C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.34**	**299**	Pn	**Pn**	**08 36 54.5**	**-1.8**
comp=Z,6nm,0.3s,baz=136,slow=15,SNR=87							
GUMO				Sn	**Sn**	**08 37 12.3**	**-0.6**
886nm,0.3s,baz=180,slow=20,SNR=12							
ANA2	**Anatahan**	**3.39**	**354**	Pn	**Pn**	**08 37 23.9**	**-0.5**
PATS	**Pohnpei**	**13.49**	**116**	Pn	Pn	08 39 34.9	-7.8
FAKI	**Fak Fak**	**20.91**	**222**	P	**P**	**08 41 11.4**	**-1.0**
FAKI				IAmb	IAmb	08 41 31.4	
comp=Z,35nm,1.3s							
JSU	**Suzuyama**	**23.41**	**325**	P	**P**	**08 41 36.5**	**-2.0**
JGF	**Kuroka**	**23.89**	**342**	P	**P**	**08 41 41.1**	**-1.9**
MJAR	**Matsushiro Arr**	**24.54**	**345**	P	**P**	**08 41 47.1**	**-1.7**
comp=Z,0.8nm,0.5s,baz=143,slow=12,SNR=2.1							
MAT	**Matsushiro**	**24.54**	**345**	P	**P**	**08 41 47.6**	**-1.3**
YULB	**Yu-li**	**25.69**	**297**	P	**P**	**08 41 58.9**	**-0.7**
YULB				IAmb	IAmb	08 42 08.5	
comp=Z,18nm,1.2s							
KSRS	**Korea Array**	**29.30**	**330**	P	**P**	**08 42 30.6**	**-1.1**
comp=Z,1.9nm,0.6s,baz=144,slow=9.1,SNR=7.1							
NJ2	**Nanjing**	**31.38**	**312**	*e*P	**P**	**08 42 51.4**	**+1.3**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
USRK	**Ussuriysk Ar.**	**33.41**	**341**	P	**P**	**08 43 06.0**	**-1.7**
comp=Z,1.2nm,0.6s,baz=160,slow=8.8,SNR=3.7							
USRK	**Ussuriysk Ar.**	**33.41**	**341**	P	**P**	**08 43 06.6**	**-1.1**
WR0	**Warramunga Arr**	**34.62**	**199**	P	**P**	**08 43 20.8**	**+2.4**
WR0				IAmb	IAmb	08 43 48.5	
comp=Z,16nm,1.4s							
WB2	**Warramunga Arr**	**34.66**	**200**	P	**P**	**08 43 19.2**	**+0.3**
WB2				IAmb	IAmb	08 43 31.3	
comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**34.67**	**200**	P	**P**	**08 43 18.1**	**-0.8**
comp=Z,1.1nm,0.9s,baz=20,slow=9.3,SNR=6.3							
WRA				PcP	**PcP**	**08 45 53.8**	**+1.5**
comp=Z,0.4nm,0.7s,baz=11,slow=3.2,SNR=1.8							
ENH	**Enshi**	**37.92**	**303**	P	**P**	**08 43 47.3**	**+0.6**
ENH				IAmb	IAmb	08 43 47.8	
comp=Z,8.8nm,0.8s							
KLR	**Kul'dur**	**38.06**	**345**	P	**P**	**08 43 45.9**	**-1.6**
comp=Z,1.4nm,0.5s,baz=152,slow=8.8,SNR=5.5							
ASAR	**Alice Springs**	**38.29**	**198**	P	**P**	**08 43 51.6**	**+1.9**
comp=Z,0.5nm,0.9s,baz=25,slow=7.9,SNR=3.2							
XAN	**Xi'an**	**39.71**	**308**	P	**P**	**08 44 01.4**	**-0.3**
XAN				pP	sP	08 44 15.7	-1.7
XAN				pmax	pmax		
comp=Z,13nm,0.8s							
XAN				L	L		
comp=Z,190nm,17.3s							
XAN				L	L		
comp=Z,350nm,16.3s							
XAN				L	L		
comp=Z,200nm,16.5s							
ONTNC	**Ouen Toro**	**40.33**	**150**	P	**P**	**08 44 03.5**	**-3.2**
HHC	**Hu-ho-hao-te**	**41.02**	**319**	*e*P	**P**	**08 44 13.3**	**+0.8**
HHC				pmax	pmax		
comp=Z,15nm,1.2s							
HHC				pmax	pmax		
comp=Z,160nm,5.5s							
PEA0B	**Petropavlovsk-**	**41.12**	**11**	P	**P**	**08 44 12.9**	**0.0**
PEA0B				IAmb	IAmb	08 44 25.2	
comp=Z,21nm,1.2s							
PETK	**Petropavlovsk-**	**41.12**	**11**	P	**P**	**08 44 12.6**	**-0.3**
comp=Z,0.9nm,0.6s,baz=164,slow=5.9,SNR=2.2							
PETK	**Petropavlovsk-**	**41.12**	**11**	P	**P**	**08 44 12.9**	**0.0**
KMI	**Kunming**	**42.55**	**293**	↑P	**P**	**08 44 29.7**	**+4.5**
KMI				pmax	pmax		
comp=Z,14nm,0.5s							
PSA00	**Pilbara Seismi**	**42.90**	**217**	P	**P**	**08 44 26.8**	**-1.0**
LZH	**Lanzhou**	**44.34**	**309**	↑P	**P**	**08 44 40.9**	**+1.4**
LZH				pP	pP	08 44 48.2	-2.3
LZH				sP	sP	08 44 55.4	-0.1
LZH				pmax	pmax		
comp=Z,52nm,1.2s							
STKA	**Stephens Creek**	**44.77**	**185**	P	**P**	**08 44 43.5**	**+0.8**
comp=Z,3.5nm,1.2s,baz=41,slow=14,SNR=2.0							
CMAR	**Chiang Mai Arr**	**45.61**	**283**	P	**P**	**08 44 50.7**	**+1.0**
comp=Z,2.2nm,0.3s,baz=88,slow=6.2,SNR=10							
MNAI	**Manna**	**46.15**	**251**	P	**P**	**08 44 53.4**	**-0.6**
SONM	**Songino Array**	**47.93**	**325**	P	**P**	**08 45 07.7**	**+0.2**
comp=Z,2.7nm,0.7s,baz=136,slow=7.4,SNR=11							
SONM	**Songino Array**	**47.93**	**325**	P	**P**	**08 45 07.9**	**+0.4**
GTA	**Gaotai**	**48.48**	**312**	↑P	**P**	**08 45 12.7**	**+0.8**
GTA				pP	pP	08 45 22.5	-0.6
GTA				sP	sP	08 45 27.5	-0.5
GTA				pmax	pmax		
comp=Z,10.0nm,0.8s							
SEY	**Seymchan**	**50.11**	**4**	P	**P**	**08 45 23.4**	**-0.4**
comp=Z,2.4nm,0.7s,baz=136,slow=12,SNR=7.5							
SPIA	**Saint Paul Isl**	**55.20**	**27**	P	**P**	**08 46 01.1**	**-0.3**
AKUT	**Akutan**	**55.75**	**32**	P	**P**	**08 46 05.4**	**-0.1**
WMQ	**Urumqi**	**58.43**	**314**	*e*P	**P**	**08 46 27.2**	**+2.5**
SDPT	**Sand Point**	**59.04**	**32**	P	**P**	**08 46 28.4**	**-0.2**
MK31	**Makanchi Array**	**62.77**	**316**	P	**P**	**08 46 54.6**	**+0.5**
MK31				IAmb	IAmb	08 47 11.1	
comp=Z,3.6nm,0.8s							
MKAR	**Makanchi Array**	**62.77**	**316**	P	**P**	**08 46 55.0**	**+0.9**
comp=Z,2.3nm,0.3s,baz=92,slow=8.8,SNR=48							
MKAR	**Makanchi Array**	**62.77**	**316**	P	**P**	**08 46 54.5**	**+0.3**
MKAR				pwP	**sP**	**08 47 09.2**	**-1.1**
SII	**Sitkinak Islan**	**62.78**	**33**	P	**P**	**08 46 54.2**	**+0.2**
ZAA0	**Zalesovo Array**	**62.83**	**324**	P	**P**	**08 46 54.5**	**+0.1**
ZAA0				IAmb	IAmb	08 46 56.1	
comp=Z,2.4nm,0.6s							
ZALV	**Zalesovo Beam**	**62.83**	**324**	P	**P**	**08 46 54.2**	**-0.2**
comp=Z,2.9nm,0.6s,baz=108,slow=6.3,SNR=9.2							
ZALV	**Zalesovo Beam**	**62.83**	**324**	P	**P**	**08 46 53.9**	**-0.4**
MAKZ	**Makanchi**	**62.98**	**316**	P	**P**	**08 46 56.0**	**+0.5**
MAKZ					**sP**	**08 47 11.3**	**-0.4**
KDAK	**Kodiak Island**	**63.99**	**32**	P	**P**	**08 47 02.3**	**+0.3**
comp=Z,6.0nm,0.8s,baz=245,slow=5.4,SNR=8.4							
KURK	**Kurchatov**	**65.83**	**320**	P	**P**	**08 47 14.6**	**+0.5**
KURBB	**Kurchatov Arra**	**65.87**	**320**	P	**P**	**08 47 14.6**	**+0.2**
comp=Z,10nm,0.7s,baz=101,slow=6.5,SNR=82							
IMAR	**Indian Mountai**	**66.32**	**23**	P	**P**	**08 47 17.3**	**+0.3**
KTH	**Kantishna Hill**	**66.59**	**26**	P	**P**	**08 47 18.8**	**0.0**
KTH				IAmb	IAmb	08 47 20.1	
comp=Z,7.9nm,1.2s							
BPAW	**Bear Paw Mtn.**	**66.74**	**25**	P	**P**	**08 47 19.9**	**+0.2**
NRIK	**Noril'sk**	**67.12**	**341**	P	**P**	**08 47 21.6**	**-0.4**
comp=Z,2.9nm,0.6s,baz=117,slow=7.4,SNR=7.9							
MLY	**Manley**	**67.15**	**24**	P	**P**	**08 47 22.9**	**+0.6**
I23K	**Minto, Yukon-K**	**67.74**	**24**	P	**P**	**08 47 26.6**	**+0.6**
I23K				IAmb	IAmb	08 47 27.9	
comp=Z,5.6nm,1.2s							
AAK	**Ala-Archa**	**67.82**	**311**	P	**P**	**08 47 27.6**	**+0.5**
comp=Z,1.3nm,0.3s,baz=144,slow=5.0,SNR=4.1							
AAK	**Ala-Archa**	**67.82**	**311**	IAmb	IAmb	08 47 28.4	
comp=Z,2.3nm,0.7s							
WRH	**Wood River Hil**	**68.06**	**25**	P	**P**	**08 47 27.5**	**-0.5**
WRH				IAmb	IAmb	08 47 28.4	
comp=Z,8.7nm,1.4s							
COLD	**Coldfoot**	**68.09**	**22**	P	**P**	**08 47 29.0**	**+0.9**
IL31		**68.64**	**25**	P	**P**	**08 47 30.6**	**-1.0**
IL31				IAmb	IAmb	08 47 31.8	
comp=Z,6.1nm,1.3s							
ILAR	**Eielson Array**	**68.64**	**25**	P	**P**	**08 47 30.2**	**-1.4**
comp=Z,1.5nm,0.5s,baz=250,slow=6.0,SNR=27							
ILAR	**Eielson Array**	**68.64**	**25**	P	**P**	**08 47 30.7**	**-1.0**
GLB	**Gilahina Butte**	**69.23**	**29**	P	**P**	**08 47 35.5**	**+0.1**
GLB				IAmb	IAmb	08 47 36.8	
comp=Z,5.3nm,1.0s							
SCRK	**Sand Creek**	**69.67**	**26**	P	**P**	**08 47 37.9**	**-0.3**
BMAR	**Burnt Mountain**	**70.24**	**23**	P	**P**	**08 47 42.5**	**+1.0**
CTGM	**Chitina Glacie**	**70.33**	**30**	P	**P**	**08 47 42.2**	**0.0**
CTGM				IAmb	IAmb	08 47 44.0	
comp=Z,7.7nm,0.8s							
L27K	**Beaver Creek,**	**70.44**	**27**	P	**P**	**08 47 43.3**	**+0.4**
BCAR	**Beaver Creek A**	**70.46**	**27**	P	**P**	**08 47 43.3**	**+0.3**
KK31	**Karatay Array**	**70.76**	**311**	P	**P**	**08 47 45.8**	**+0.6**
KK31				IAmb	IAmb	08 47 46.8	
comp=Z,7.8nm,0.7s							
KK31					**sP**	**08 48 00.6**	**-0.5**
KKAR	**Karatay Array**	**70.76**	**311**	P	**P**	**08 47 45.5**	**+0.4**
KKAR				pwP	**sP**	**08 48 00.5**	**-0.5**
KKAR	**Karatay Array**	**70.76**	**311**	P	**P**	**08 47 45.6**	**+0.5**
KKAR				IAmb	IAmb	08 47 46.8	
comp=Z,7.8nm,0.7s							
GAR	**Garm**	**70.95**	**307**	P	**P**	**08 47 46.8**	**+0.3**
EGAK	**Eagle**	**71.04**	**26**	P	**P**	**08 47 46.9**	**+0.6**
EGAK				IAmb	IAmb	08 47 48.3	
comp=Z,7.8nm,1.4s							
BVAR	**Borovoye Array**	**71.16**	**322**	P	**P**	**08 47 46.8**	**-0.6**
comp=Z,6.3nm,0.6s,baz=170,slow=8.8,SNR=35							
BRVK	**Borovoye**	**71.22**	**322**	P	**P**	**08 47 48.0**	**+0.3**
CHGR	**Chuyangaron**	**71.87**	**307**	P	**P**	**08 47 52.6**	**+0.6**
HYT	**Haines Junctio**	**72.17**	**30**	P	**P**	**08 47 54.4**	**+1.0**
HYT				IAmb	IAmb	08 47 55.5	
comp=Z,8.0nm,0.9s							
KBL	**Kabul**	**72.17**	**302**	P	**P**	**08 47 53.7**	**-0.3**
KBL				IAmb	IAmb	08 48 11.0	
comp=Z,12nm,0.9s							
HRA	**Herat**	**77.78**	**303**	P	**P**	**08 48 26.6**	**+0.2**
HRA					**sP**	**08 48 42.7**	**+0.2**
ABKAR	**Akbulak array**	**77.81**	**318**	P	**P**	**08 48 25.4**	**-0.6**
ABKAR				IAmb	IAmb	08 48 41.9	
comp=Z,4.9nm,0.8s							
ABKAR	**Akbulak array**	**77.81**	**318**	P	**P**	**08 48 26.3**	**+0.4**
C36M	**Paulatuk**	**77.93**	**21**	P	**P**	**08 48 26.0**	**-0.2**
C36M				IAmb	IAmb	08 48 26.8	
comp=Z,16nm,1.5s							
ARU	**Arti**	**77.96**	**325**	P	**P**	**08 48 27.1**	**+0.4**
comp=Z,2.2nm,0.2s,baz=118,slow=6.3,SNR=8.0							
ARU	**Arti**	**77.96**	**325**	P	**P**	**08 48 26.5**	**-0.2**
ARU				IAmb	IAmb	08 48 42.7	
comp=Z,7.8nm,0.9s							
AKTO	**Aktyubinsk**	**78.92**	**319**	P	**P**	**08 48 32.4**	**+0.3**
comp=Z,0.7nm,0.4s,baz=86,slow=5.8,SNR=4.3							
PINE	**Pine Mountain**	**83.29**	**47**	P	**P**	**08 48 55.8**	**0.0**
PINE				IAmb	IAmb	08 48 58.4	
comp=Z,7.9nm,1.5s							
EUNU	**Eureka**	**83.34**	**8**	P	**P**	**08 48 55.5**	**+0.4**
EUNU				IAmb	IAmb	08 48 57.0	
comp=Z,3.9nm,0.8s							
B08A	**Colville Reser**	**83.46**	**42**	P	**P**	**08 48 56.0**	**-0.4**
NEW	**Newport**	**84.92**	**42**	P	**P**	**08 49 03.2**	**-0.6**
comp=Z,1.7nm,0.6s,baz=208,slow=5.4,SNR=3.9							
NEW	**Newport**	**84.92**	**42**	P	**P**	**08 49 04.2**	**+0.4**
BELG	**Belogornoye**	**84.95**	**323**	P	**P**	**08 49 04.3**	**+0.7**
comp=Z,4.4nm,0.7s,baz=45,slow=1.4,SNR=2.2							
BMO	**Blue Mountains**	**85.61**	**45**	P	**P**	**08 49 07.5**	**+0.2**
NVAR	**Mina Array Bea**	**86.40**	**52**	P	**P**	**08 49 12.5**	**+0.9**
comp=Z,0.7nm,0.6s,baz=277,slow=4.6,SNR=9.6							
NV11	**Mina Array Sit**	**86.51**	**52**	P	**P**	**08 49 12.6**	**+0.6**
ARCES	**ARCESS Array B**	**88.05**	**342**	P	**P**	**08 49 18.7**	**+0.1**
comp=Z,3.9nm,0.9s,baz=60,slow=3.6,SNR=4.3							
ARCES	**ARCESS Array B**	**88.05**	**342**	P	**P**	**08 49 18.9**	**+0.3**
ARCES				IAmb	IAmb	08 49 19.0	
comp=Z,6.6nm,1.0s							
ELK	**Elko**	**88.11**	**49**	P	**P**	**08 49 20.1**	**+0.4**
comp=Z,0.9nm,0.6s,baz=243,slow=4.5,SNR=2.3							
ELK	**Elko**	**88.11**	**49**	IAmb	IAmb	08 49 36.7	
comp=Z,3.0nm,1.0s							
HRY	**Holter Researc**	**88.80**	**42**	P	**P**	**08 49 23.0**	**+0.3**
FINES	**FINESS Array B**	**92.23**	**335**	P	**P**	**08 49 37.1**	**-1.1**
comp=Z,4.5nm,0.6s,baz=58,slow=4.4,SNR=20							
FINES	**FINESS Array B**	**92.23**	**335**	P	**P**	**08 49 38.1**	**-0.1**
LAO	**LASA Array**	**92.44**	**41**	P	**P**	**08 49 39.7**	**+0.1**
LAO				IAmb	IAmb	08 49 41.1	
comp=Z,3.7nm,0.8s							
X18A	**Snowflake**	**93.94**	**53**		pwP	08 50 07.7	-3.4
GAZ	**Gaziantep**	**96.77**	**310**		pwP	08 50 17.6	-5.2
DBIC	**Dimbokro**	**145.16**	**302**	PKPbc	**PKPdf**	**08 56 07.2**	**+0.3**
comp=Z,9.6nm,0.7s,baz=52,slow=3.8,SNR=6.8							
LPAZ	**La Paz**	**146.75**	**100**	PKPbc	**PKPbc**	**08 56 12.6**	**+0.4**
comp=Z,0.5nm,0.5s,baz=241,slow=5.5,SNR=4.6							

IDC 03 08:40:06.6±3.1, 53°41N×87°39E, h0km, mb1 2.7/2, mb1mx2.6/54, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.6km s-min=15.6km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**291**	*i*		08 50 20.0	
baz=108,slow=305,SNR=3.4							
ZALV	**Zalesovo Beam**	**1.62**	**290**	Pg	Pn	08 40 35.4	-1.0
1.1nm,0.3s,baz=110,slow=15,SNR=10							
ZALV				Lg	Lg	08 40 57.8	
0.9nm,0.3s,baz=110,slow=22,SNR=5.4							
KURBB	**Kurchatov Arra**	**6.14**	**247**	Pn	Pn	08 41 39.2	+0.8
0.1nm,0.3s,baz=61,slow=13,SNR=2.6							
KURBB				Lg	Lg	08 43 22.2	
0.0nm,0.3s,baz=63,slow=32,SNR=5.3							
MKAR	**Makanchi Array**	**7.39**	**208**	Pn	Pn	08 41 57.0	+1.4
0.1nm,0.3s,baz=31,slow=15,SNR=4.4							
MKAR				Lg	Lg	08 44 00.5	
0.1nm,0.3s,baz=25,slow=34,SNR=5.1							

*IDC **03** 08:54:00.4±6.3, 14°42S×167°34E, h145km±63km, mb3.6/5, mb1 3.7/6, mb1mx3.3/40, mbtmp4.0/6, Error ellipse: s-maj=57.2km s-min=30.2km az=148.0*

ISC 03 08:54:02.9±1.4, 14°6S±0°1×167°4E±0°3, h170km, n6, σ1s25/8, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.52**	**187**	P	**Pn**	**08 55 50.7**	**+0.7**
2.1nm,0.3s,baz=57,slow=15,SNR=10							
DZM				S	**Sn**	**08 57 13.6**	**-0.9**
baz=324,slow=19,SNR=1.4							
STKA	**Stephens Creek**	**29.21**	**229**	P	**P**	**08 59 49.5**	**+0.8**
3.3nm,0.6s,baz=47,slow=8.5,SNR=15							
WRA	**Warramunga Arr**	**32.01**	**256**	P	**P**	**09 00 12.3**	**-1.2**
0.4nm,0.9s,baz=84,slow=8.3,SNR=6.0							
ASAR	**Alice Springs**	**32.87**	**249**	P	**P**	**09 00 20.1**	**-0.9**
1.1nm,0.6s,baz=79,slow=8.8,SNR=18							
ASAR				PcP	**PcP**	**09 03 01.6**	**-0.1**
0.2nm,0.7s,baz=90,slow=2.8,SNR=4.2							
ILAR	**Eielson Array**	**86.33**	**18**	P	**P**	**09 06 24.1**	**-1.1**
0.4nm,0.7s,baz=238,slow=4.6,SNR=4.7							
MKAR	**Makanchi Array**	**97.19**	**316**	P	**P**	**09 07 17.6**	**+1.5**
0.4nm,0.6s,baz=118,slow=4.1,SNR=4.9							

*IDC **03** 09:03:00.1±2.1, 23°13N×142°62E, h102km±19km, mb3.8/15, mb1 4.0/17, mb1mx3.7/45, mbtmp4.3/17, Error ellipse: s-maj=35.8km s-min=12.4km az=78.0*
*NEIC **03** 09:03:01.7±1.1, 23°10N±0°08×142°4E±0°2, h108km±7km, mb4.3/18, Error ellipse: s-maj=25.5km s-min=11.3km az=95.0*
*JMA **03** 09:03:04.3±0.2, 23°47N×142°32E, h166km±2km, M5.1*

ISC 03 09:02:59.9±0.6, 23°11N±0°07×142°6E±0°2, h100km, n61, σ1s39/65, mb4.2/25, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.53**	**354**	P	**Pn**	**09 03 54.6**	**+1.9**
JHH2				*e*S	**Sn**	**09 04 33.6**	**0.0**
CBIJ	**Chichi jima**	**3.99**	**355**	P	**Pn**	**09 04 00.6**	**+1.7**
CBIJ				*e*S	**Sn**	**09 04 43.7**	**-0.9**
JCJ	**Chichijima**	**3.99**	**355**	P	**Pn**	**09 04 00.8**	**+1.9**
198nm,0.3s,baz=292,slow=22,SNR=99							
JCJ				S	**Sn**	**09 04 43.8**	**-0.8**
140nm,0.3s,baz=280,slow=22,SNR=18							
JHJ2	**Mitsune**	**10.26**	**347**	Pn	**Pn**	**09 05 24.6**	**+0.6**
JHJ	**Hachijo jima 2**	**10.28**	**347**	P	**Pn**	**09 05 24.4**	**+0.1**
9.3nm,0.3s,baz=254,slow=15,SNR=1.5							
BSO3	**Boso 3**	**11.79**	**352**	P	**Pn**	**09 05 42.6**	**-1.9**
BSO4	**Boso 4**	**12.00**	**351**	P	**Pn**	**09 05 46.7**	**-0.7**
JOD2	**Odawara 2**	**12.49**	**347**	P	**Pn**	**09 05 52.2**	**-1.8**
JHU	**Hanno**	**13.02**	**348**	P	**Pn**	**09 05 57.4**	**-3.6**
INU	**Inuyama**	**13.13**	**340**	Pn	**Pn**	**09 06 02.1**	**-0.3**
JYT	**Yasato**	**13.24**	**352**	P	**Pn**	**09 06 01.5**	**-2.3**
JYT	**Yasato**	**13.24**	**352**	Pn	**Pn**	**09 06 01.7**	**-2.1**
JGF	**Kuroka**	**13.25**	**341**	Pn	**Pn**	**09 06 03.1**	**-1.0**
JRY	**Ryogami san**	**13.26**	**347**	P	**Pn**	**09 06 01.1**	**-3.0**
JAG	**Ashikaga**	**13.55**	**349**	P	**Pn**	**09 06 03.9**	**-4.0**
JHO	**Hitachi**	**13.57**	**353**	P	**Pn**	**09 06 05.4**	**-2.8**
MJAR	**Matsushiro Arr**	**13.91**	**345**	P	**Pn**	**09 06 09.8**	**-2.9**
0.4nm,0.3s,baz=152,slow=11,SNR=17							
JMM	**Marumori**	**14.79**	**354**		**Pn**	**09 06 22.0**	**-1.8**
JSD	**Sado**	**15.34**	**347**	Pn	**Pn**	**09 06 27.4**	**-3.3**
JTM	**Tenmabayashi**	**17.67**	**356**	P	**Pn**	**09 07 00.4**	**+0.9**
KSRS	**Korea Array**	**19.07**	**322**	P	**Pn**	**09 07 18.8**	**+2.6**
0.4nm,0.3s,baz=133,slow=12,SNR=18							
USRK	**Ussuriysk Ar.**	**22.77**	**340**	P	**P**	**09 07 53.6**	**-0.2**
2.0nm,0.6s,baz=144,slow=10,SNR=6.2							
USRK	**Ussuriysk Ar.**	**22.77**	**340**	P	**P**	**09 07 54.2**	**+0.4**
KLR	**Kul'dur**	**27.44**	**344**	P	**P**	**09 08 38.2**	**+2.0**
1.5nm,0.7s,baz=140,slow=6.6,SNR=5.8							
SONM	**Songino Array**	**37.91**	**320**	P	**P**	**09 10 07.9**	**+0.4**
0.6nm,0.6s,baz=114,slow=6.5,SNR=2.0							
WB0	**Warramunga Arr**	**43.36**	**191**	P	**P**	**09 10 52.3**	**-0.1**
WB0				IAmb	IAmb	09 11 14.8	
comp=Z,10nm,1.4s							
WR0	**Warramunga Arr**	**43.52**	**191**	P	**P**	**09 10 53.5**	**-0.2**
WR0				IAmb	IAmb	09 10 55.2	
comp=Z,7.3nm,1.2s							
WB2	**Warramunga Arr**	**43.54**	**191**	P	**P**	**09 10 53.6**	**-0.2**
WB2				IAmb	IAmb	09 10 55.3	
comp=Z,7.3nm,0.8s							
WRA	**Warramunga Arr**	**43.54**	**191**	P	**P**	**09 10 54.0**	**+0.1**
comp=Z,3.4nm,0.4s,baz=7.7,slow=8.0,SNR=107							
WRA	**Warramunga Arr**	**43.54**	**191**	P	**P**	**09 10 53.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**44.18**	**203**	P	**P**	**09 10 59.1**	**+0.2**
FITZ				IAmb	IAmb	09 11 13.2	
comp=Z,9.0nm,1.2s							
AS31	**Alice Springs**	**47.25**	**191**	P	**P**	**09 11 23.3**	**+0.2**
ASAR	**Alice Springs**	**47.26**	**191**	P	**P**	**09 11 22.8**	**-0.4**
comp=Z,1.0nm,0.5s,baz=16,slow=12,SNR=24							
ASAR	**Alice Springs**	**47.26**	**191**	P	**P**	**09 11 23.2**	**0.0**
ZALV	**Zalesovo Beam**	**52.77**	**321**	P	**P**	**09 12 04.5**	**0.0**
comp=Z,0.8nm,0.4s,baz=115,slow=9.7,SNR=2.6							
MK31	**Makanchi Array**	**53.35**	**312**	P	**P**	**09 12 09.3**	**+0.4**
MK31				IAmb	IAmb	09 12 10.3	
comp=Z,1.6nm,0.7s							
MKAR	**Makanchi Array**	**53.35**	**312**	P	**P**	**09 12 09.6**	**+0.6**
comp=Z,2.1nm,0.5s,baz=90,slow=9.2,SNR=27							
M

	comp=Z,1.2nm,0.1s								
OBF4	**Vikkela, Lumij**	**1.94**	**92**	*e*P		Pn	09 08 28.6	-0.4	
OBF4				*e*SG		Sb	09 08 55.0	-0.8	
TOF	**Tornio**	**1.94**	**52**	*e*PN		Pn	09 08 29.3	+0.1	
TOF				*e*SG		Sb	09 08 55.4	-0.4	
TOF				MSG			09 08 58.2		
	comp=Z,0.7nm,0.1s								
VAF	**Ylistaro**	**2.11**	**153**	*e*PB		Pn	09 08 31.9	+0.4	
VAF				*e*SG		Sn	09 08 59.4	+0.9	
SOLU	**Sollefteaa**	**2.23**	**222**	P		Pn	09 08 33.3	+0.1	
SOLU	**Sollefteaa**	**2.23**	**222**	*e*P		Pn	09 08 33.3	+0.1	
OUL	**Oulu**	**2.26**	**84**	MSG			09 09 07.1		
	comp=Z,1.0nm,0.1s								
RNF	**Rovaniemi**	**2.80**	**51**	*e*PB		Pn	09 08 42.4	+1.4	
RNF				*e*SB		Sn	09 09 17.1	+1.7	
RNF				MSG			09 09 24.2		
	comp=Z,0.5nm,0.1s								

IDC ***03*** *09:12:53.0±0.4, 10˚.75N×126˚.13E, h0km, mb4.5/25, mb1 4.6/25, mb1mx4.5/36, mbtmp4.5/25, MS3.9/12, Ms1 3.9/12, ms1mx3.5/64, Error ellipse: s-maj=22.8km s-min=10.4km az=83.0*

MAN ***03*** *09:12:53.0, 10˚.81N×126˚.49E, h1km, MS4.0*

DJA ***03*** *09:12:58.5±1.9, 11˚.N±6˚×12˚.6E±˚, h32km±14km, M5.2/19, mB5.7/4, mb5.0/19, MLv5.3/1, Mw(mB)5.2/4*

NEIC ***03*** *09:12:59.2±1.9, 10˚.82N±0˚.07×126˚.13E±0˚.03, h35km±1km, mb4.7/69, Error ellipse: s-maj=11.6km s-min=5.4km az=191.0*

GCMT ***03*** *09:12:59.2±0.4, 10˚.75N±0˚.03×126˚.50E±0˚.03, h27km±1km, MW4.9/66, Moment Tensor Solution. s27,c29; s66,c84; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.10±.19; Mθθ0.28±.11; Mϕϕ-2.38±.13; Mrθ0.26±.18; Mθϕ-0.16±.08; Mϕr1.50±.20; Best double couple: Mo2.71300×10^16^ NP1:ϕs179.00000°, δ28.00000°, λ82.00000°. NP2: ϕs7.00000°, δ62.00000°, λ94.00000°. Principal axes: T 2.5740, Plg73.0000°, Azm287.0000°; N 0.2760, Plg4.0000°, Azm186.0000°; P -2.8530, Plg17.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 09:12:56.0±1.3, 10˚.83N±0˚.03×126˚.37E±0˚.04, h17km±7km, n183, σ1§65/193, mb4.7/65, MS4.1/17, 5C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.06**	**193**	*e*P		**Pb**	**09 13 14.3**	**-1.6**
GLSP				*e*S		**Sn**	**09 13 34.1**	**+3.7**
BESP	**Borongan**	**1.19**	**310**	*e*P		**Pn**	**09 13 17.2**	**-0.7**
SCPH	**Surigao**	**1.35**	**220**	↓*i*P		**Pn**	**09 13 19.9**	**-0.1**
SCPH				*i* S		**Sn**	**09 13 35.5**	**-2.0**
MSLP	**Maasin**	**1.63**	**245**	*e*P		**Pn**	**09 13 24.3**	**+0.4**
MSLP				*e*S		**Sb**	**09 13 46.6**	**+0.6**
OCLP	**Ormoc**	**1.74**	**278**	*e*P		**Pb**	**09 13 27.9**	**+0.4**
BUTP	**Butuan**	**1.99**	**202**	*e*P		**Pn**	**09 13 27.6**	**-1.2**
BUTP				*e*S		**Sb**	**09 13 57.4**	**+1.3**
LLP	**Lapu-Lapu**	**2.41**	**258**	↓*e*P		**Pn**	**09 13 36.6**	**+1.9**
LLP				*i* S		**Sb**	**09 14 08.2**	**-0.3**
CGP	**Cagayan de Oro**	**2.88**	**215**	↑*e*P		**Pn**	**09 13 42.3**	**+1.3**
CGP				*i* S		**Sb**	**09 14 21.7**	**0.0**
BUKP	**Musuan**	**3.20**	**204**	*e*P		**Pn**	**09 13 46.3**	**+0.8**
BUKP				*e*S		**Sn**	**09 14 26.2**	**+2.9**
BUKP	**Musuan**	**3.20**	**204**	↑*e*P		**Pn**	**09 13 47.2**	**+1.7**
BUKP				*e*S		**Sb**	**09 14 34.4**	**+3.3**
SNPH	**Sibulan**	**3.42**	**245**	*e*P		**Pn**	**09 13 50.5**	**+2.0**
RCP	**Roxas**	**3.63**	**282**	↓*e*P		**Pn**	**09 13 53.7**	**+2.3**
RCP				*e*S		**Sb**	**09 14 39.3**	**-4.1**
DCPH	**Dipolog City**	**3.71**	**233**	↓*e*P		**Pn**	**09 13 54.0**	**+1.4**
CNOP	**Candoni, Negro**	**3.80**	**255**	↑*e*P		**Pn**	**09 13 54.9**	**+1.2**
CNOP				*e*S		**Sn**	**09 14 42.5**	**+4.5**
CNOP	**Candoni, Negro**	**3.80**	**255**	*e*P		**Pn**	**09 13 55.1**	**+1.4**
DAV	**Davao City (W)**	**3.81**	**192**	Pn		**Pn**	**09 13 58.3**	**+4.4**
	54nm,0.3s,baz=295,slow=2.2,SNR=1.8							
DAV				Sn		**Sb**	**09 14 43.4**	**-5.3**
	41nm,0.3s,baz=77,slow=14,SNR=4.3							
DAV	**Davao City (W)**	**3.81**	**192**	Pn		**Pn**	**09 13 53.9**	**0.0**
SCSP	**San Jose Seism**	**3.95**	**316**	*e*P		**Pn**	**09 13 58.1**	**+2.2**
PAGZ	**Pagadian**	**4.17**	**225**	*e*P		**Pn**	**09 14 00.4**	**+1.5**
JAP	**San Jose, Anti**	**4.34**	**269**	↑*e*P		Pn	09 14 06.2	+5.0
DDMP	**Don Marcelino,**	**4.74**	**188**	*e*P		Pn	09 14 10.9	+4.2
DDMP				*e*S		**Sb**	**09 15 14.7**	**-0.7**
LQP	**Lukban**	**5.73**	**305**	↓*e*P		**Pn**	**09 14 21.5**	**+0.9**
TGY	**Tagaytay City**	**6.22**	**302**	Pn		**Pn**	**09 14 30.1**	**+3.0**
	60nm,0.3s,baz=117,slow=6.7,SNR=3.5							
SMPP	**San Manuel, Pa**	**7.65**	**314**	*e*P		**Pn**	**09 14 46.2**	**-0.5**
TNTI	**Ternate**	**10.04**	**174**	Pn		**Pn**	**09 15 22.5**	**+3.0**
TOLI2	**Tolitoli**	**11.13**	**210**	Pn		**Pn**	**09 15 33.3**	**-1.2**
MRSI	**Marisa**	**11.18**	**203**	P		**Pn**	**09 15 36.1**	**+0.9**
	22nm,1.3s							
LUWI	**Luwuk**	**12.32**	**197**	Pn		**Pn**	**09 15 51.0**	**+0.3**
SIJI	**Sorong**	**12.60**	**157**	Pn		P	09 16 00.6	-5.4
	0.8nm,0.3s,baz=333,slow=14,SNR=2.2							
SIJI				LR		LR	09 22 11.5	
	comp=Z,317nm,18.6s,baz=320,slow=44							
SANI	**Sanana**	**12.80**	**182**	P		**Pn**	**09 15 54.7**	**-2.6**
	25nm,0.9s							
NACB	**Ninganchiao**	**14.03**	**342**	Pn		**Pn**	**09 16 12.5**	**-1.5**
MSAI	**Masohi**	**14.31**	**170**	P		P	09 16 36.6	+12
TATO	**Taipei**	**14.81**	**342**	Pn		**Pn**	**09 16 24.6**	**-0.2**
FAKI	**Fak Fak**	**14.86**	**156**	Pn		**Pn**	**09 16 27.7**	**+2.3**
TTSI	**Tana Toraja**	**15.24**	**206**	P		**Pn**	**09 16 30.3**	**-0.3**
	23nm,1.4s							
QZH	**Quanzhou**	**15.86**	**333**	*e*P		**Pn**	**09 16 34.3**	**-4.2**
QZH				*e*S		**Sn**	**09 19 31.7**	**-2.4**
QZH				L		L		
	comp=Z,460nm,17.1s							
JOW	**Kunigami**	**16.02**	**6**	LR		LR	09 22 20.7	
	comp=Z,462nm,19.2s,baz=3.5,slow=35							
JOW	**Kunigami**	**16.02**	**6**	Pn		**P**	**09 16 42.7**	**-1.3**
KAPI	**Kappang**	**17.06**	**203**	Pn		**Pn**	**09 16 53.7**	**-0.1**
	baz=15,slow=10,SNR=1.1							
KAPI	**Kappang**	**17.06**	**203**	P		**Pn**	**09 16 50.9**	**-3.0**
DLV	**T Lat**	**17.56**	**275**			**Pn**	**09 16 57.9**	**-2.4**
QIZ	**Qiongzhong**	**17.92**	**299**	P		**Pn**	**09 17 03.3**	**-1.2**
QIZ				S		**Sn**	**09 20 24.7**	**+0.7**
QIZ				pmax		pmax		
	comp=Z,20nm,1.8s							
QIZ				L		L		
	comp=N,320nm,18.1s							
QIZ				L		L		
	comp=E,560nm,17.2s							
QIZ				L		L		
	comp=Z,610nm,16.9s							
QIZ	**Qiongzhong**	**17.92**	**299**			**Pn**	**09 17 02.2**	**-2.3**
GUMO	**Guam**	**18.29**	**79**	LR		LR	09 23 45.1	
	comp=Z,402nm,18.1s,baz=229,slow=35							
GUMO	**Guam**	**18.29**	**79**	P		**P**	**09 17 11.2**	**+2.0**
MMRI	**Maumere**	**19.77**	**192**	P		**P**	**09 17 24.7**	**-0.7**
MMRI				IAmb		IAmb	09 17 38.3	
	comp=Z,71nm,1.0s							
MMRI	**Maumere**	**19.77**	**192**	P		**Pn**	**09 17 31.1**	**+4.2**
SOEI	**Soe**	**20.55**	**186**	P		**P**	**09 17 32.9**	**-1.2**
SOEI				IAmb		IAmb	09 17 56.4	
	comp=Z,42nm,0.8s							
SOEI	**Soe**	**20.55**	**186**	P		**P**	**09 17 32.5**	**-1.5**
	comp=Z,58nm,1.1s							
BATI	**Baumata**	**21.07**	**187**	P		**P**	**09 17 39.5**	**-0.1**
	comp=Z,75nm,0.7s,baz=314,slow=1.9,SNR=6.5							
BATI				LR		LR	09 28 32.2	
	comp=Z,293nm,18.1s,baz=63,slow=45							
JCJ	**Chichijima**	**22.00**	**40**	LR		LR	09 26 57.8	
	comp=Z,330nm,18.4s,baz=107,slow=38							
TPI	**Tanjungpandan**	**23.00**	**235**	P		**P**	**09 18 01.6**	**+1.5**
	comp=Z,633nmcomp=Z,54nm,1.4s							
JMN	**Monobe**	**23.81**	**16**	P		**P**	**09 18 09.6**	**+1.4**
JMN				IAmb		IAmb	09 18 32.3	
	comp=Z,40nm,1.1s							
PPBI	**Pangkal Pinang**	**23.91**	**238**	P		**P**	**09 18 09.1**	**-0.1**
SLVN	**Son La**	**23.94**	**299**	P		**P**	**09 18 08.4**	**-1.2**
KPJI	**Karang Pucung**	**25.03**	**225**	P		**P**	**09 18 19.7**	**+0.3**
	comp=Z,45nm,1.7s							
JWT	**Wachi**	**25.70**	**17**	P		**P**	**09 18 25.6**	**+0.3**
JWT				IAmb		IAmb	09 18 28.8	
	comp=Z,20nm,1.1s							
INU	**Inuyama**	**26.27**	**20**	P		**P**	**09 18 31.7**	**+1.3**
INU				IAmb		IAmb	09 18 32.3	
	comp=Z,12nm,0.7s							
KNRA	**Kununurra**	**26.44**	**175**	P		**P**	**09 18 33.2**	**+1.1**
KNRA				IAmb		IAmb	09 18 37.5	
	comp=Z,49nm,1.4s							

KMI	**Kunming**	**26.53**	**306**	↑P		**P**	**09 18 33.5**	**+0.3**	
KMI				pP		pwP	09 18 45.6	+0.1	
KMI				sP		sP	09 18 53.2	+15	
KMI				S		**S**	**09 23 04.1**	**-3.0**	
KMI				sS		sS	09 23 25.3	+13	
KMI				SS		**SnSn**	**09 24 15.3**	**+6.1**	
KMI				pmax		pmax			
	comp=Z,13nm,0.9s								
KMI				pmax		pmax			
	comp=Z,79nm,3.8s								
KMI				L		L			
	comp=Z,290nm,14.4s								
KMI				L		L			
	comp=Z,270nm,17.9s								
KMI				L		L			
	comp=Z,320nm,22.0s								
KSRS	**Korea Array**	**26.55**	**3**	P		**P**	**09 18 34.2**	**+1.3**	
	comp=Z,2.4nm,0.7s,baz=186,slow=11,SNR=6.9								
KSRS				LR		LR	09 29 40.7		
	comp=Z,257nm,19.1s,baz=171,slow=38								
TIA	**Tai'an**	**26.62**	**343**	P		**P**	**09 18 33.8**	**+0.1**	
TIA				pmax		pmax			
	comp=Z,2.0nm,0.2s								
MDSI	**Maura Dua**	**26.82**	**237**	P		**P**	**09 18 35.3**	**-0.3**	
	comp=Z,1µmcomp=Z,16nm,0.7s								
LWLI	**Liwa**	**27.22**	**236**	P		**P**	**09 18 40.1**	**+0.7**	
	comp=Z,155nm,0.7s								
CMAR	**Chiang Mai Arr**	**27.57**	**289**	P		**P**	**09 18 41.1**	**-1.3**	
	comp=Z,1.5nm,0.3s,baz=107,slow=6.7,SNR=7.5								
CMAR				LR		LR	09 30 33.3		
	comp=Z,134nm,18.2s,baz=105,slow=39								
CMAR	**Chiang Mai Arr**	**27.57**	**289**	P		**P**	**09 18 39.6**	**-2.8**	
CHTO	**Chiang Mai**	**27.64**	**290**	P		**P**	**09 18 41.7**	**-1.4**	
MAT	**Matsushiro**	**27.75**	**21**	P		**P**	**09 18 43.2**	**-0.6**	
MJAR	**Matsushiro Arr**	**27.75**	**21**	P		**P**	**09 18 44.0**	**+0.1**	
	comp=Z,3.4nm,0.8s,baz=190,slow=9.0,SNR=5.8								
MJAR				LR		LR	09 29 42.5		
	comp=Z,263nm,18.6s,baz=205,slow=36								
MJAR	**Matsushiro Arr**	**27.75**	**21**	P		**P**	**09 18 44.0**	**+0.1**	
MNAI	**Manna**	**27.76**	**238**	P		**P**	**09 18 43.3**	**-0.9**	
XAN	**Xi'an**	**28.08**	**328**	P		**P**	**09 18 46.4**	**-0.5**	
XAN				pP		pwP	09 18 59.4	+0.5	
XAN				S		**S**	**09 23 32.8**	**+1.7**	
XAN				pmax		pmax			
	comp=Z,18nm,0.7s								
XAN				pmax		pmax			
	comp=Z,170nm,6.3s								
XAN				L		L			
	comp=Z,340nm,15.2s								
XAN				L		L			
	comp=Z,240nm,16.6s								
XAN				L		L			
	comp=Z,340nm,15.1s								
MNSI	**Mandailing Nat**	**28.42**	**251**	P		P	09 18 57.9	+7.9	
FITZ	**Fitzroy Crossi**	**28.75**	**181**	P		**P**	**09 18 51.8**	**-1.1**	
	comp=Z,7.4nm,0.5s,baz=12,slow=9.3,SNR=12								
FITZ				PcP		**PcP**	**09 22 02.4**	**-0.6**	
	comp=Z,4.2nm,1.0s,baz=11,slow=5.2,SNR=2.3								
FITZ	**Fitzroy Crossi**	**28.75**	**181**	P		**P**	**09 18 51.7**	**-1.1**	
FITZ				IAmb		IAmb	09 18 54.2		
	comp=Z,18nm,1.1s								
CD2	**Chengdu**	**28.97**	**317**	P		**P**	**09 18 55.0**	**+0.2**	
CD2				S		**S**	**09 23 42.2**	**-2.9**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CD2				L		L			
	comp=Z,520nm,13.7s								
CD2				L		L			
	comp=Z,660nm,14.7s								
CD2				L		L			
	comp=Z,1µm,17.2s								
JMM	**Marumori**	**29.88**	**23**	P		**P**	**09 19 03.7**	**+1.0**	
JMM				IAmb		IAmb	09 19 22.5		
	comp=Z,17nm,1.1s								
BJT	**Baijiatuau**	**30.45**	**344**	P		**P**	**09 19 08.0**	**+0.3**	
BJT				IAmb		IAmb	09 19 23.4		
	comp=Z,7.8nm,0.5s								
WB0	**Warramunga Arr**	**31.41**	**165**	P		**P**	**09 19 14.9**	**-1.5**	
WB0				IAmb		IAmb	09 19 23.0		
	comp=Z,19nm,1.5s								
WRA	**Warramunga Arr**	**31.57**	**166**	P		**P**	**09 19 15.7**	**-2.1**	
	comp=Z,2.3nm,0.6s,baz=344,slow=9.4,SNR=19								
WRA				PcP		**PcP**	**09 22 09.7**	**-0.7**	
	comp=Z,1.5nm,0.8s,baz=338,slow=2.9,SNR=6.4								
WRA	**Warramunga Arr**	**31.57**	**166**	P		**P**	**09 19 16.6**	**-1.1**	
WB2	**Warramunga Arr**	**31.57**	**166**	P		**P**	**09 19 16.5**	**-1.3**	
WB2				IAmb		IAmb	09 19 44.9		
	comp=Z,16nm,1.4s								
WR0	**Warramunga Arr**	**31.63**	**165**	P		**P**	**09 19 17.1**	**-1.3**	
WR0				IAmb		IAmb	09 19 21.1		
	comp=Z,14nm,1.5s								
LZH	**Lanzhou**	**32.38**	**325**	*e*P		**P**	**09 19 28.4**	**+3.4**	
LZH				pP		pwP	09 19 42.0	+4.9	
LZH				sP		sP	09 19 49.2	+20	
LZH				pmax		pmax			
	comp=Z,21nm,1.1s								
LZH				pmax		pmax			
	comp=Z,31nm,4.9s								
LZH				L		L			
	comp=Z,480nm,16.8s								
LZH				L		L			
	comp=Z,310nm,16.8s								
LZH				L		L			
	comp=Z,360nm,15.2s								
HHC	**Hu-ho-hao-te**	**32.63**	**339**	*e*P		**P**	**09 19 27.9**	**+0.8**	
HHC				pmax		pmax			
	comp=Z,16nm,1.2s								
HHC				pmax		pmax			
	comp=Z,110nm,5.4s								
PSA00	**Pilbara Seismi**	**32.83**	**191**	P		**P**	**09 19 27.7**	**-1.1**	
PSA00	**Pilbara Seismi**	**32.83**	**191**	P		**P**	**09 19 26.6**	**-2.2**	
PSA00				IAmb		IAmb	09 19 28.8		
	comp=Z,8.6nm,0.8s								
USA0B	**Ussuriysk Arra**	**33.61**	**7**	P		**P**	**09 19 36.4**	**+1.1**	
USRK	**Ussuriysk Ar.**	**33.61**	**7**	P		**P**	**09 19 36.4**	**+1.1**	
	comp=Z,12nm,0.7s,baz=187,slow=8.2,SNR=31								
USRK	**Ussuriysk Ar.**	**33.61**	**7**	P		**P**	**09 19 36.3**	**+0.9**	
AS31	**Alice Springs**	**35.06**	**168**	P		**P**	**09 19 47.8**	**-0.5**	
ASAR	**Alice Springs**	**35.06**	**168**	P		**P**	**09 19 46.6**	**-1.7**	
	comp=Z,2.4nm,0.7s,baz=355,slow=6.8,SNR=28								
ASAR				PcP		**PcP**	**09 22 20.1**	**-0.1**	
	comp=Z,1.5nm,0.6s,baz=350,slow=3.1,SNR=7.8								
ASAR	**Alice Springs**	**35.06**	**168**	P		**P**	**09 19 47.4**	**-0.9**	
GIRL	**Giralia**	**35.32**	**200**	P		**P**	**09 19 49.9**	**-0.6**	
ASAJ	**Asahikawa**	**36.02**	**20**	P		**P**	**09 19 56.3**	**+0.1**	
	comp=Z,10nm,0.9s,baz=169,slow=10,SNR=2.0								
ASAJ				LR		LR	09 33 35.3		
	comp=Z,219nm,19.6s,baz=220,slow=34								
JKA	**Kamikawa-asahi**	**36.02**	**20**	P		**P**	**09 19 56.3**	**+0.1**	
JKA	**Kamikawa-asahi**	**36.02**	**20**	IAmb		IAmb	09 20 02.5		
	comp=Z,39nm,1.3s								
GTA	**Gaotai**	**36.98**	**325**	↓P		**P**	**09 20 05.6**	**+0.9**	
GTA				pP		pwP	09 20 16.8	0.0	
GTA				sP		sP	09 20 22.9	+14	
GTA				PcP		**PcP**	**09 22 25.8**	**+0.1**	
GTA				pmax		pmax			
	comp=Z,8.0nm,1.5s								
GTA				pmax		pmax			
	comp=Z,110nm,5.5s								
GTA				L		L			
	comp=Z,180nm,16.0s								
GTA				L		L			
	comp=Z,250nm,17.1s								
GTA				L		L			
	comp=Z,230nm,15.3s								
ULN	**Ulaanbaatar**	**40.34**	**340**	P		**P**	**09 20 32.9**	**+0.2**	
ULN				IAmb		IAmb	09 20 47.3		
	comp=Z,7.1nm,0.6s								
SONM	**Songino Array**	**40.53**	**339**	P		**P**	**09 20 34.1**	**-0.3**	
	comp=Z,4.0nm,0.9s,baz=158,slow=9.6,SNR=8.5								
SONM				PcP		**PcP**	**09 22 36.1**	**-0.5**	
	comp=Z,1.2nm,0.6s,baz=170,slow=2.6,SNR=2.9								
SONM	**Songino Array**	**40.53**	**339**	P		**P**	**09 20 34.7**	**+0.3**	
MORW	**Morawa**	**40.89**	**194**	P		**P**	**09 20 36.7**	**-0.7**	
FORT	**Forrest**	**41.40**	**178**	P		**P**	**09 20 40.9**	**-0.6**	
BBOO	**Buckleboo**	**44.37**	**168**	P		**P**	**09 21 05.2**	**-0.3**	
BBOO				IAmb		IAmb	09 21 33.5		
	comp=Z,14nm,0.9s								
NWAO	**Narrogin (SRO)**	**44.37**	**191**	P		**P**	**09 21 05.9**	**+0.3**	
TLY	**Talaya**	**44.75**	**340**	P		**P**	**09 21 07.2**	**-1.2**	
TLY				IAmb		IAmb	09 21 11.4		
	comp=Z,9.3nm,0.7s								
STKA	**Stephens Creek**	**44.90**	**162**	P		**P**	**09 21 09.8**	**0.0**	
	comp=Z,4.2nm,0.5s,baz=337,slow=7.4,SNR=12								
STKA	**Stephens Creek**	**44.90**	**162**	P		**P**	**09 21 09.8**	**0.0**	
WMQ	**Urumqi**	**46.85**	**322**	*e*P		**P**	**09 21 26.4**	**+1.2**	

WMQ				L		L			
	comp=Z,380nm,17.7s								
WMQ				L		L			
	comp=Z,270nm,17.7s								
PETK	**Petropavlovsk-**	**49.10**	**25**	P		**P**	**09 21 43.9**	**+1.5**	
	comp=Z,3.1nm,0.6s,baz=192,slow=6.8,SNR=7.9								
PETK				LR		LR	09 42 08.1		
	comp=Z,154nm,19.6s,baz=213,slow=36								
PETK	**Petropavlovsk-**	**49.10**	**25**	P		**P**	**09 21 43.5**	**+1.1**	
LIFNC	**LIFOU**	**51.00**	**128**	P		**P**	**09 21 57.7**	**+0.5**	
DZM	**Mont Dzumac**	**51.13**	**130**	P		**P**	**09 21 59.6**	**+1.3**	
DZM				IAmb		IAmb	09 22 00.8		
	comp=Z,8.6nm,0.7s								
TOO	**Toolangi**	**51.38**	**161**	P		**P**	**09 22 01.0**	**+1.2**	
TOO				IAmb		IAmb	09 22 05.4		
	comp=Z,9.0nm,0.8s								
MK31	**Makanchi Array**	**51.65**	**322**	P		**P**	**09 22 01.8**	**0.0**	
MK31				IAmb		IAmb	09 22 03.3		
	comp=Z,8.0nm,0.8s								
MKAR	**Makanchi Array**	**51.65**	**322**	P		**P**	**09 22 01.8**	**0.0**	
	comp=Z,8.8nm,0.7s,baz=120,slow=8.2,SNR=99								
MKAR	**Makanchi Array**	**51.65**	**322**	P		**P**	**09 22 01.6**	**-0.2**	
MAKZ	**Makanchi**	**51.84**	**322**	P		**P**	**09 22 03.5**	**+0.3**	
MAKZ				IAmb		IAmb	09 22 04.7		
	comp=Z,9.9nm,1.0s								
KSH	**Kashi**	**52.93**	**312**	*e*P		**P**	**09 22 10.7**	**-0.9**	
KSH				S		**S**	**09 29 40.2**	**-0.2**	
KSH				pmax		pmax			
	comp=Z,150nm,1.8s								
KSH				pmax		pmax			
	comp=Z,64nm,4.3s								
KSH				L		L			
	comp=Z,1µm,19.2s								
KSH				L		L			
	comp=Z,800nm,18.9s								
KSH				L		L			
	comp=Z,130nm,9.2s								
ZAA0	**Zalesovo Array**	**54.19**	**331**	P		**P**	**09 22 20.2**	**-0.2**	
ZAA0				IAmb		IAmb	09 22 21.5		
	comp=Z,11nm,0.8s								
ZALV	**Zalesovo Beam**	**54.19**	**331**	P		**P**	**09 22 20.1**	**-0.3**	
	comp=Z,9.8nm,0.7s,baz=116,slow=7.2,SNR=33								
SEY	**Seymchan**	**55.26**	**14**	P		**P**	**09 22 29.8**	**+1.7**	
	comp=Z,2.8nm,0.8s,baz=192,slow=6.4,SNR=7.4								
TIXI	**Tiksi**	**60.80**	**1**	P		**P**	**09 23 06.3**	**-0.4**	
TIXI				IAmb		IAmb	09 23 08.0		
	comp=Z,4.4nm,1.0s								
BRVK	**Borovoye**	**61.34**	**325**	P		**P**	**09 23 09.9**	**-0.8**	
NRIK	**Noril'sk**	**63.50**	**346**	P		**P**	**09 23 25.2**	**+0.3**	
	comp=Z,3.0nm,0.6s,baz=135,slow=6.0,SNR=7.1								
NRIK	**Noril'sk**	**63.50**	**346**	P		**P**	**09 23 25.0**	**+0.2**	
NRIK				IAmb		IAmb	09 23 44.0		
	comp=Z,10nm,1.1s								
AFI	**Afiamalu**	**66.08**	**110**	LR		LR	09 48 09.4		
	comp=Z,165nm,21.0s,baz=128,slow=32								
ABKAR	**Akbulak array**	**66.52**	**319**	P		**P**	**09 23 43.9**	**-0.9**	
ABKAR				IAmb		IAmb	09 23 46.1		
	comp=Z,4.9nm,0.8s								
ARU	**Arti**	**68.82**	**327**	P		**P**	**09 23 57.8**	**-1.4**	
BELG	**Belogornoye**	**74.63**	**321**	LR		LR	09 58 01.8		
	comp=Z,4µm,21.3s,baz=267,slow=36								
OHAK	**Old Harbor**	**75.75**	**34**	P		**P**	**09 24 42.1**	**+1.5**	
IMAR	**Indian Mountai**	**76.06**	**25**	P		**P**	**09 24 43.7**	**+1.4**	
BPAW	**Bear Paw Mtn.**	**77.12**	**27**	P		**P**	**09 24 49.8**	**+1.4**	
BPAW				IAmb		IAmb	09 25 04.4		
	comp=Z,11nm,1.3s								
MLY	**Manley**	**77.26**	**26**	P		**P**	**09 24 50.5**	**+1.3**	
COLD	**Coldfoot**	**77.55**	**23**	P		**P**	**09 24 52.5**	**+1.8**	
TOLK	**Toolik Lake Re**	**77.83**	**22**	P		**P**	**09 24 53.8**	**+1.5**	
TOLK				IAmb		IAmb	09 25 08.0		
	comp=Z,4.1nm,0.8s								
I23K	**Minto, Yukon-K**	**77.84**	**25**	P		**P**	**09 24 54.1**	**+1.8**	
I23K				IAmb		IAmb	09 25 07.8		
	comp=Z,3.8nm,0.7s								
MCK	**McKinley**	**78.02**	**27**	P		**P**	**09 24 54.5**	**+1.1**	
MCK				IAmb		IAmb	09 24 57.9		
	comp=Z,8.4nm,1.0s								
RND	**Reindeer**	**78.06**	**27**	P		**P**	**09 24 54.1**	**+0.5**	
RND				IAmb		IAmb	09 24 58.4		
	comp=Z,4.8nm,0.6s								
HDA	**Harding Lake**	**78.89**	**26**	P		**P**	**09 24 57.0**	**-1.1**	
HDA				IAmb		IAmb	09 25 11.9		
	comp=Z,3.9nm,0.6s								
ILAR	**Eielson Array**	**78.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.65**	**297**	⇑*iP*	**Pg**	**09 20 55.2**	**-0.3**
	baz=96						
ARSB				⇑*iS*	**Sg**	**09 21 03.8**	**-0.3**
	baz=96						
OHH	**Osh**	**0.90**	**236**	⇑*iP*	**Pg**	**09 21 00.1**	**0.0**
	baz=34						
OHH				⇑*iS*	**Sb**	**09 21 11.8**	**-0.3**
	baz=34						
OHH	**Osh**	**0.90**	**236**	*eP*	**Pg**	**09 21 00.0**	**0.0**
OHH				*eS*	**Sg**	**09 21 10.0**	**-1.8**
ARLS	**Aral**	**0.93**	**27**	⇓*iP*	**Pg**	**09 21 00.7**	**0.0**
	baz=30						
ARLS				⇓*iS*	**Sg**	**09 21 13.3**	**+0.4**
	baz=30						
SFK	**Sufi-Kurgan**	**1.04**	**191**	⇓*iP*	**Pb**	**09 21 02.6**	**-0.1**
	baz=89						
SFK				⇓*iS*	**Sg**	**09 21 17.3**	**+1.0**
	baz=89						
SFK	**Sufi-Kurgan**	**1.04**	**191**	*eP*	**Pb**	**09 21 02.0**	**-0.7**
SFK				*eS*	**Sn**	**09 21 18.0**	**+0.3**
AML	**Almayashu**	**1.10**	**358**	⇓*iP*	**Pb**	**09 21 03.8**	**0.0**
	baz=59						
AML				⇓*iS*	**Sn**	**09 21 18.8**	**-0.6**
	baz=59						
AML	**Almayashu**	**1.10**	**358**	⇓P	**Pb**	**09 21 03.8**	**0.0**
	23nm,0.1s,SNR=151						
AML				⇑S	**Sg**	**09 21 18.6**	**+0.3**
	20nm,0.1s						
FRG	**Fergana**	**1.52**	**259**	*eP*	**Pg**	**09 21 15.0**	**+3.0**
FRG				*eS*	**Sg**	**09 21 36.0**	**+4.2**
EKS2	**Erkin-Say**	**1.63**	**1**	⇓*iP*	**Pb**	**09 21 13.3**	**+0.6**
	baz=2.0						
EKS2				⇓*iS*	**Sg**	**09 21 35.0**	**-0.1**
	baz=2.0						
EKS2	**Erkin-Say**	**1.63**	**1**	⇓P	**Pb**	**09 21 13.2**	**+0.6**
	7.3nm,0.1s,SNR=15						
EKS2				⇑S	**Sg**	**09 21 35.1**	**0.0**
	16nm,0.3s						
AAK	**Ala-Archa**	**1.69**	**19**	⇓*iP*	**Pb**	**09 21 14.6**	**+0.8**
	baz=20						
AAK				⇓*iS*	**Sg**	**09 21 37.3**	**0.0**
	baz=20						
AAK	**Ala-Archa**	**1.69**	**19**	⇓P	**Pb**	**09 21 14.7**	**+0.8**
	13nm,0.3s,SNR=15						
AAK				⇓S	**Sg**	**09 21 37.2**	**-0.1**
	22nm,0.2s						
AAK	**Ala-Archa**	**1.69**	**19**	⇑Pn	**Pb**	**09 21 14.7**	**+0.8**
	6.7nm,0.3s						
AAK				⇓Sn	**Sg**	**09 21 37.3**	**0.0**
	9.5nm,0.3s						
MNAS	**Manas**	**1.73**	**328**	⇑*iP*	**Pg**	**09 21 15.2**	**-0.7**
	baz=28						
MNAS				⇑*iS*	**Sg**	**09 21 38.0**	**-0.4**
	baz=28						
MRKS	**Merke**	**1.75**	**347**	⇑*eP*	**Pg**	**09 21 15.6**	**-0.9**
	4.8nm,0.2s						
MRKS				*eS*	**Sg**	**09 21 39.0**	**-0.2**
	99nm,0.4s						
MRKS	**Merke**	**1.75**	**347**	P	**Pg**	**09 21 15.6**	**-0.9**
	4.8nm,0.2s						
MRKS				S	**Sg**	**09 21 39.0**	**-0.2**
	99nm,0.4s						
KBK	**Karagaybulak**	**1.85**	**28**	⇑*iP*	**Pb**	**09 21 17.5**	**+1.0**
	baz=29						
KBK				⇑*iS*	**Sg**	**09 21 42.6**	**+0.3**
	baz=29						
KBK	**Karagaybulak**	**1.85**	**28**	⇑P	**Pg**	**09 21 17.8**	**-0.4**
	18nm,0.1s,SNR=20						
KBK				⇓S	**Sg**	**09 21 43.0**	**+0.7**
	54nm,0.2s						
CHMS	**Chumysh**	**2.10**	**20**	⇑*iP*	**Pb**	**09 21 21.6**	**+0.9**
	baz=21						
CHMS				⇑*iS*	**Sg**	**09 21 49.1**	**-1.1**
	baz=21						
CHMS	**Chumysh**	**2.10**	**20**	⇓P	**Pb**	**09 21 21.9**	**+1.2**
	7.4nm,0.2s,SNR=6.3						
CHMS				⇓S	**Sg**	**09 21 49.2**	**-1.0**
	14nm,0.3s						
DRK	**Karamyk**	**2.16**	**225**	⇓*iP*	**Pb**	**09 21 22.1**	**+0.3**
	baz=24						
DRK				⇓*iS*	**Sg**	**09 21 50.7**	**-1.4**
	baz=24						
BOOM	**Boomskoye usch**	**2.19**	**48**	⇑*iP*	**Pb**	**09 21 22.9**	**+0.6**
	baz=48						
BOOM				⇑*iS*	**Sb**	**09 21 51.8**	**+2.5**
	baz=48						
ULHL	**Ulahol**	**2.22**	**56**	⇑*iP*	**Pb**	**09 21 23.5**	**+0.6**
	baz=57						
ULHL				⇑*iS*	**Sg**	**09 21 53.1**	**-1.1**
	baz=57						
ULHL	**Ulahol**	**2.22**	**56**	⇑P	**Pb**	**09 21 24.1**	**+1.2**
	3.9nm,0.1s,SNR=24						
ULHL				⇓S	**Sg**	**09 21 54.0**	**-0.1**
	10nm,0.2s						
USP	**Ospenovka**	**2.30**	**14**	⇑P	**Pb**	**09 21 25.1**	**+1.0**
	14nm,0.3s,SNR=11						
TKM2	**Tokmak 2**	**2.33**	**35**	⇑*eP*	**Pb**	**09 21 24.9**	**+0.1**
	baz=36						
TKM2				⇑*iS*	**Sb**	**09 21 55.0**	**+1.5**
	baz=36						
TKM2	**Tokmak 2**	**2.33**	**35**	⇑P	**Pb**	**09 21 26.2**	**+1.5**
	11nm,0.3s,SNR=10						
TKM2	**Tokmak 2**	**2.33**	**35**	⇑Pn	**Pb**	**09 21 26.3**	**+1.5**
	7.2nm,0.6s						
TKM2				⇓Sn	**Sg**	**09 21 56.8**	**-0.9**
	10nm,0.5s						
BTK	**Batken**	**2.44**	**247**	⇑*iP*	**Pb**	**09 21 25.9**	**-0.6**
	baz=47						
BTK				⇑*iS*	**Sb**	**09 21 57.3**	**+0.7**
	baz=47						
BTK	**Batken**	**2.44**	**247**	*eP*	**Pg**	**09 21 28.0**	**-1.5**
BTK				*eS*	**Sg**	**09 22 00.0**	**-1.2**
SGDS	**Sogindy**	**2.50**	**15**	Pg	**Pb**	**09 21 29.1**	**+1.5**
	7.5nm,0.5s						
SGDS				Lg	Lg	09 22 02.1	
	9.0nm,0.4s						
KST	**Kastek**	**2.59**	**39**	*eP*	**Pb**	**09 21 30.8**	**+1.6**
	8.8nm,0.4s						
KST				*eS*	**Sg**	**09 22 05.2**	**-0.9**
	8.0nm,0.5s						
KST	**Kastek**	**2.59**	**39**	Pg	**Pb**	**09 21 30.8**	**+1.6**
	8.8nm,0.4s						
KST				Lg	Lg	09 22 05.2	
	8.0nm,0.5s						
DGS	**Degeres**	**2.67**	**34**	*eP*	**Pb**	**09 21 32.4**	**+2.0**
	22nm,0.7s						
DGS				*eS*	**Sg**	**09 22 08.0**	**-0.5**
	8.7nm,0.6s						
DGS	**Degeres**	**2.67**	**34**	Pg	**Pb**	**09 21 32.4**	**+2.0**
	22nm,0.7s						
DGS				Lg	Lg	09 22 08.0	
	8.7nm,0.6s						
KDJ	**Kajisay**	**2.79**	**66**	⇑*eP*	**Pb**	**09 21 31.9**	**-0.7**
	baz=66						
KDJ				⇑*iS*	**Sb**	**09 22 07.1**	**+0.4**
	baz=66						
MTBS	**Maitube**	**2.89**	**43**	*eP*	**Pb**	**09 21 36.1**	**+1.9**
	6.9nm,0.5s						
MTBS				*eS*	**Sg**	**09 22 14.4**	**-1.1**
	20nm,0.5s						
MTBS	**Maitube**	**2.89**	**43**	Pg	**Pb**	**09 21 36.1**	**+1.9**
	6.9nm,0.5s						
MTBS				Lg	Lg	09 22 14.4	
	20nm,0.5s						
IZV	**Izvestkoviy**	**2.92**	**46**	*eP*	**Pg**	**09 21 37.2**	**-1.5**
	15nm,0.4s						
IZV				*eS*	**Sg**	**09 22 16.4**	**-0.2**
	31nm,0.8s						
IZV	**Izvestkoviy**	**2.92**	**46**	Pg	**Pg**	**09 21 37.2**	**-1.5**
	15nm,0.4s						
IZV				Lg	Lg	09 22 16.4	
	31nm,0.8s						
IUG	**Iuzhnay**	**3.01**	**293**	*eP*	**Pg**	**09 21 38.8**	**-1.5**
	5.2nm,0.3s						
IUG				*eS*	**Sg**	**09 22 18.7**	**-0.7**
	36nm,0.4s						
IUG	**Iuzhnay**	**3.01**	**293**	Pg	**Pg**	**09 21 38.8**	**-1.5**
	5.2nm,0.3s						
IUG				Lg	Lg	09 22 18.7	
	36nm,0.4s						
KRBS	**Karabastau**	**3.02**	**27**	*eP*	**Pb**	**09 21 38.3**	**+1.9**
	3.9nm,0.5s						
KRBS				*eS*	**Sg**	**09 22 17.9**	**-1.7**
	4.7nm,0.4s						
KRBS	**Karabastau**	**3.02**	**27**	Pg	**Pb**	**09 21 38.3**	**+1.9**
	3.9nm,0.5s						
KRBS				Lg	Lg	09 22 17.9	
	4.7nm,0.4s						
KK31	**Karatay Array**	**3.18**	**312**	⇓Pn	**Pg**	**09 21 41.3**	**-2.4**
	0.4nm,0.2s,baz=125,slow=16,SNR=12						
KK31				⇓Sn	**Sg**	**09 22 22.7**	**-2.1**
	10nm,0.6s,baz=132,slow=30,SNR=26						
MDOK	**Medeo**	**3.24**	**48**	*eP*	**Pb**	**09 21 42.8**	**+2.5**
	5.0nm,0.4s						
MDOK				*eS*	**Sg**	**09 22 25.9**	**-1.0**
	6.2nm,0.6s						
MDOK	**Medeo**	**3.24**	**48**	Pg	**Pb**	**09 21 42.8**	**+2.5**
	5.0nm,0.4s						
MDOK				Lg	Lg	09 22 25.9	
	6.2nm,0.6s						
KOTS	**Kotyrbulak**	**3.33**	**48**	*eP*	**Pg**	**09 21 44.9**	**-1.6**
	0.1nm,0.5s						
KOTS				*eS*	**Sg**	**09 22 29.0**	**-0.5**
	1.2nm,1.2s						
KOTS	**Kotyrbulak**	**3.33**	**48**	Pg	**Pg**	**09 21 44.9**	**-1.6**
	0.1nm,0.5s						
KOTS				Lg	Lg	09 22 29.0	
	1.2nm,1.2s						
KUU	**Kurty**	**3.44**	**33**	*eP*	**Pb**	**09 21 46.1**	**+2.6**
	5.0nm,0.4s						
KUU				*eS*	**Sg**	**09 22 30.9**	**-2.2**
	9.5nm,0.4s						
KUU	**Kurty**	**3.44**	**33**	Pg	**Pb**	**09 21 46.1**	**+2.6**
	5.0nm,0.4s						
KUU				Lg	Lg	09 22 30.9	
	9.5nm,0.4s						
KTBS	**Karatobe**	**3.44**	**38**	*eP*	**Pb**	**09 21 46.2**	**+2.6**
	3.0nm,0.3s						
KTBS				*eS*	**Sg**	**09 22 31.2**	**-2.1**
	11nm,0.3s						
KTBS	**Karatobe**	**3.44**	**38**	Pg	**Pb**	**09 21 46.2**	**+2.6**
	3.0nm,0.3s						
KTBS				Lg	Lg	09 22 31.2	
	11nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**39**	*eP*	**Pb**	**09 21 50.9**	**+3.1**
	1.1nm,0.4s						
CHKK				*eS*	**Sg**	**09 22 39.3**	**-2.1**
	6.7nm,0.4s						
CHKK	**Chushkaly**	**3.70**	**39**	Pg	**Pb**	**09 21 50.9**	**+3.1**
	1.1nm,0.4s						
CHKK				Lg	Lg	09 22 39.3	
	6.7nm,0.4s						
ARXS	**Arharly**	**4.37**	**42**	*eP*	**Pg**	**09 22 03.5**	**-3.0**
	3.7nm,0.4s						
ARXS				*eS*	**Sg**	**09 23 01.1**	**-2.0**
	7.2nm,0.4s						
ARXS	**Arharly**	**4.37**	**42**	Pg	**Pg**	**09 22 03.5**	**-3.0**
	3.7nm,0.4s						
ARXS				Lg	Lg	09 23 01.1	
	7.2nm,0.4s						
UZB	**Uzynbulak**	**4.45**	**60**	*eP*	**Pb**	**09 22 04.9**	**+4.0**
	14nm,0.8s						
UZB				*eS*	**Sg**	**09 23 03.5**	**-2.1**
	4.6nm,0.4s						
UZB	**Uzynbulak**	**4.45**	**60**	Pg	**Pb**	**09 22 04.9**	**+4.0**
	14nm,0.8s						
UZB				Lg	Lg	09 23 03.5	
	4.6nm,0.4s						

WEL 03 09:21:51.0,45°S±9°×16°8E±1°,h103km±16km,M3.8/20, MLv3.8/20,Error ellipse: s-maj=0.0km s-min=0.0km az=86.6,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**221**	P	Pn	09 22 06.6	-0.1
DCZ				S	Sn	09 22 19.5	+1.1
MLZ	**Mavora Lakes**	**0.46**	**121**	P	Pn	09 22 07.6	+0.8
MLZ				S	Sn	09 22 21.4	+2.6
MSZ	**Milford Sound**	**0.53**	**29**	P	Pn	09 22 07.7	+0.4
MSZ				S	Sn	09 22 20.8	+1.3
WHZ	**Wether Hill Ro**	**0.80**	**160**	P	Pn	09 22 10.3	+0.6
WHZ				S	Sn	09 22 25.8	+2.1
WKZ	**Wanaka**	**1.08**	**74**	P	Pn	09 22 13.2	+0.7
WKZ				S	Sn	09 22 29.6	+0.9
PYZ	**Puysegur Point**	**1.20**	**211**	P	Pn	09 22 13.5	-0.3
PYZ				S	Sn	09 22 31.7	+0.6
EAZ	**Earnscleugh**	**1.24**	**95**	P	Pn	09 22 14.6	+0.3
EAZ				S	Sn	09 22 32.1	+0.2
JCZ	**Jackson Bay**	**1.38**	**40**	P	Pn	09 22 15.0	-1.0
JCZ				S	Sn	09 22 33.7	-1.3
TUZ	**Tuapeka**	**1.67**	**120**	P	Pn	09 22 19.8	+0.4
TUZ				S	Sn	09 22 40.6	-0.5
APZ	**The Paps**	**1.72**	**170**	P	Pn	09 22 20.2	0.0
APZ				S	Sn	09 22 42.4	+0.1
SYZ	**Scrubby Hill**	**1.78**	**142**	P	Pn	09 22 21.4	+0.6
SYZ				S	Sn	09 22 43.7	+0.1
LBZ	**Lake Benmore**	**2.01**	**69**	P	Pn	09 22 22.1	-1.7
LBZ				S	Sn	09 22 46.0	-2.9
ODZ	**Otahua Downs**	**2.19**	**89**	P	Pn	09 22 25.0	-1.0
ODZ				S	Sn	09 22 50.1	-2.8
FOZ	**Fox Glacier**	**2.28**	**46**	P	Pn	09 22 24.8	-2.4
FOZ				S	Sn	09 22 51.6	-3.4
TMZ	**Timaru**	**2.57**	**74**	P	Pn	09 22 28.9	-2.2
GCSZ	**Gaunt Creek Bo**	**2.69**	**48**	P	Pn	09 22 29.8	-2.9
ARCZ	**Arundel**	**2.84**	**67**	P	Pn	09 22 32.1	-2.6
RPZ	**Rata Peaks**	**2.88**	**62**	P	Pn	09 22 32.3	-2.9
RPZ				S	Sn	09 23 05.0	-4.2
MHCZ	**Mount Hutt**	**3.29**	**62**	P	Pn	09 22 39.5	-1.2
OXZ	**Oxford**	**3.69**	**62**	P	Pn	09 22 43.9	-2.1
INZ	**Inchbonnie**	**3.70**	**51**	P	Pn	09 22 42.9	-3.2
INZ				S	Sn	09 23 23.9	-4.8
MQZ	**McQueen's Vall**	**3.92**	**70**	P	Pn	09 22 47.1	-1.9
LTZ	**Lake Taylor**	**4.13**	**57**	P	Pn	09 22 48.3	-3.7
GVZ	**Greta Valley S**	**4.50**	**63**	P	Pn	09 22 54.9	-2.0
DSZ	**Denniston Nort**	**4.59**	**44**	P	Pn	09 22 54.3	-3.9
THZ	**Tophouse**	**5.15**	**51**	P	Pn	09 23 01.7	-4.0
HOWZ	**Holdsworth Sta**	**7.20**	**57**	P	Pn	09 23 35.7	+2.1
KRHZ	**Kereru**	**8.52**	**53**	P	Pn	09 23 45.3	-6.2
LIRZ	**Lichensteins R**	**9.71**	**46**	P	Pn	09 24 06.2	-1.5

*NEIC **03** 09:29:58.4±2.1,17°.93S±0°.08×178°.4W±0°.1,h554km±6km, mb4.2/46,Error ellipse: s-maj=15.1km s-min=11.2km az=96.0*

*IDC **03** 09:30:00.2±1.0,18°.13S×178°.41W,h581km±9km,mb3.4/14, mb1 3.6/16,mb1mx3.4/42,mbtmp4.3/16,Error ellipse: s-maj=23.8km s-min=11.4km az=154.0*

ISC 03 09:29:59.3±0.5,18°.05S±0°.1×178°.32W±0°.07,h579km,n97, σ1s21/103,mb4.1/37,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.46**	**274**	P	**P**	**09 31 20.3**	**+0.6**
	24nm,0.3s,baz=128,slow=3.9,SNR=180						
MSVF				S	**S**	**09 32 26.4**	**+1.3**
	baz=120,slow=23,SNR=5.7						
MSVF	**Nonsavu**	**3.46**	**274**	P	**P**	**09 31 20.1**	**+0.4**
AFI	**Afiamalu**	**7.50**	**58**	P	**P**	**09 31 51.6**	**-1.7**
	3.1nm,0.3s,baz=75,slow=3.9,SNR=5.5						
AFI				S	**S**	**09 33 21.1**	**-5.5**
	1.5nm,0.3s,baz=250,slow=19,SNR=1.8						
AFI	**Afiamalu**	**7.50**	**58**	P	**P**	**09 31 51.2**	**-2.1**
NIUE	**Niue**	**8.04**	**99**	P	**P**	**09 31 57.3**	**-0.9**
LIFNC	**LIFOU**	**13.89**	**256**	P	**P**	**09 32 53.9**	**-3.5**
DZM	**Mont Dzumac**	**14.87**	**252**	P	**P**	**09 33 05.7**	**-1.3**
	1.3nm,0.3s,baz=284,slow=22,SNR=6.7						
DZM	**Mont Dzumac**	**14.87**	**252**	P	**P**	**09 33 05.6**	**-1.4**
FOZ	**Fox Glacier**	**27.34**	**199**	P	**P**	**09 34 58.8**	**-0.1**
PPT	**Papeete**	**27.37**	**94**	P	**P**	**09 34 59.8**	**+0.3**
	21nm,0.8s,baz=256,slow=17,SNR=2.3						
PPTF	**Pamatai, Papee**	**27.38**	**94**	P	**P**	**09 35 00.5**	**+0.9**
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**09 36 32.2**	**-2.0**
	2.8nm,0.9s,baz=78,slow=8.1,SNR=3.7						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**09 36 32.3**	**-2.0**
WR0	**Warramunga Arr**	**44.50**	**260**	P	**P**	**09 37 19.8**	**-0.7**
WR0				IAmb	IAmb	09 37 34.4	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**44.66**	**260**	P	**P**	**09 37 21.4**	**-0.3**
WB0				IAmb	IAmb	09 37 44.6	
	comp=Z,7.3nm,1.1s						
WB2	**Warramunga Arr**	**44.68**	**260**	P	**P**	**09 37 21.6**	**-0.3**
WB2				IAmb	IAmb	09 37 45.3	
	comp=Z,5.6nm,1.1s						
WRAB	**Tennant Creek**	**44.68**	**260**	P	**P**	**09 37 21.6**	**-0.3**
WRAB				IAmb	IAmb	09 37 21.9	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**44.69**	**260**	P	**P**	**09 37 21.9**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=96,slow=6.8,SNR=71						
WRA				PcP	**PcP**	**09 38 52.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=95,slow=3.6,SNR=4.1						
WRA	**Warramunga Arr**	**44.69**	**260**	P	**P**	**09 37 20.9**	**-1.0**
AS31	**Alice Springs**	**44.84**	**254**	P	**P**	**09 37 23.5**	**+0.5**
AS31				IAmb	IAmb	09 37 24.4	
	comp=Z,5.2nm,0.6s						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**09 37 23.3**	**+0.2**
	comp=Z,18nm,0.6s,baz=88,slow=8.4,SNR=359						
ASAR				PcP	**PcP**	**09 38 51.9**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=97,slow=4.6,SNR=8.9						
ASAR				S	**S**	**09 43 17.9**	**-1.5**
	comp=Z,2.4nm,1.1s,baz=94,slow=15,SNR=9.2						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**09 37 23.4**	**+0.3**
MTN	**Manton Dam**	**48.88**	**269**	P	**P**	**09 37 53.5**	**0.0**
FORT	**Forrest**	**50.03**	**245**	P	**P**	**09 38 01.6**	**-0.1**
KNRA	**Kununurra**	**50.56**	**264**	P	**P**	**09 38 05.7**	**-0.1**
FAKI	**Fak Fak**	**50.68**	**281**	P	**P**	**09 38 06.8**	**+0.2**
FAKI				IAmb	IAmb	09 38 08.1	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.09**	**261**	P	**P**	**09 38 24.1**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=90,slow=8.3,SNR=2.0						
FITZ	**Fitzroy Crossi**	**53.09**	**261**	P	**P**	**09 38 24.7**	**+0.8**
SOEI	**Soe**	**56.15**	**270**	P	**P**	**09 38 43.0**	**-2.5**
PSA00	**Pilbara Seismi**	**57.96**	**255**	P	**P**	**09 38 57.2**	**-0.4**
PSA00	**Pilbara Seismi**	**57.96**	**255**	P	**P**	**09 38 57.9**	**+0.3**
PSA00				IAmb	IAmb	09 39 24.8	
	comp=Z,29nm,1.5s						
MBWA	**Marble Bar**	**58.13**	**256**	P	**P**	**09 38 55.2**	**-3.5**
MORW	**Morawa**	**60.51**	**246**	P	**P**	**09 39 14.2**	**-0.4**
GIRL	**Giralia**	**62.94**	**253**	P	**P**	**09 39 31.3**	**+0.9**
MJAR	**Matsushiro Arr**	**68.04**	**323**	P	**P**	**09 40 01.8**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=155,slow=6.7,SNR=7.9						
MJAR	**Matsushiro Arr**	**68.04**	**323**	P	**P**	**09 40 02.2**	**+0.3**
MAT	**Matsushiro**	**68.04**	**323**	P	**P**	**09 40 01.7**	**-0.1**
UGM	**Wanagama**	**69.72**	**268**	P	**P**	**09 40 12.8**	**+0.4**
JHS	**Saijyo**	**70.03**	**319**	P	**P**	**09 40 15.2**	**+1.4**
QSPA	**South Pole Qui**	**72.04**	**180**	P	**P**	**09 40 27.1**	**+1.9**
QSPA				IAmb	IAmb	09 40 39.8	
	comp=Z,5.0nm,1.3s						
PEA0B	**Petropavlovsk-**	**73.80**	**345**	P	**P**	**09 40 36.0**	**+0.8**
PEA0B				IAmb	IAmb	09 40 41.6	
	comp=Z,22nm,1.4s						
PETK	**Petropavlovsk-**	**73.80**	**345**	P	**P**	**09 40 35.7**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=106,slow=7.2,SNR=9.7						
PETK	**Petropavlovsk-**	**73.80**	**345**	P	**P**	**09 40 35.8**	**+0.6**
KSRS	**Korea Array**	**74.83**	**318**	P	**P**	**09 40 42.7**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=130,slow=5.8,SNR=4.2						
USRK	**Ussuriysk Ar.**	**76.75**	**326**	P	**P**	**09 40 53.7**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=114,slow=6.2,SNR=6.6						
OHAK	**Old Harbor**	**77.81**	**14**	P	**P**	**09 40 58.1**	**+0.9**
OHAK				IAmb	IAmb	09 41 05.9	
	comp=Z,18nm,1.3s						
KDAK	**Kodiak Island**	**78.48**	**14**	P	**P**	**09 41 01.9**	**+1.1**
KDAK				IAmb	IAmb	09 41 03.6	
	comp=Z,18nm,1.4s						
WAKR	**Walker**	**78.74**	**43**	P	**P**	**09 41 02.5**	**-0.4**
BEKR	**Beckworth**	**78.92**	**42**	P	**P**	**09 41 05.1**	**+1.3**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**09 41 08.0**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=220,slow=8.6,SNR=5.2						
MOD	**Modoc Plateau**	**80.11**	**40**	P	**P**	**09 41 11.8**	**+1.8**
K05A	**Summer Lake**	**80.23**	**39**	P	**P**	**09 41 12.5**	**+1.9**
I07A	**Izee**	**81.84**	**39**	P	**P**	**09 41 20.9**	**+2.2**
PMR	**Palmer**	**82.69**	**14**	P	**P**	**09 41 22.9**	**+0.5**
GHO	**Glory Hole Cre**	**82.89**	**14**	P	**P**	**09 41 24.2**	**+0.6**
GHO				IAmb	IAmb	09 41 24.6	
	comp=Z,6.5nm,0.7s						
SCM	**Sheep Creek Mo**	**83.31**	**14**	P	**P**	**09 41 26.3**	**+0.6**
SCM				IAmb	IAmb	09 41 26.4	
	comp=Z,6.1nm,0.7s						
W18A	**Petrified Fore**	**83.76**	**50**	P	**P**	**09 41 27.4**	**-1.2**
N25K	**Chitina, Valde**	**83.78**	**15**	P	**P**	**09 41 29.1**	**+1.1**
N25K				IAmb	IAmb	09 41 29.3	
	comp=Z,4.3nm,0.8s						
GLB	**Gilahina Butte**	**83.84**	**16**	P	**P**	**09 41 28.9**	**+0.6**
GLB				IAmb	IAmb	09 41 29.4	
	comp=Z,2.7nm,0.7s						
TRF	**Thorofare Moun**	**84.10**	**12**	P	**P**	**09 41 29.6**	**0.0**
TRF				IAmb	IAmb	09 41 30.5	
	comp=Z,5.3nm,0.7s						
F10A	**Beach Ranch, E**	**84.23**	**38**	P	**P**	**09 41 31.6**	**+0.9**
F10A				IAmb	IAmb	09 41 33.4	
	comp=Z,3.9nm,1.1s						
RND	**Reindeer**	**84.35**	**13**	P	**P**	**09 41 31.0**	**+0.2**
RND				IAmb	IAmb	09 41 31.9	
	comp=Z,5.7nm,0.7s						
B08A	**Colville Reser**	**84.38**	**35**	P	**P**	**09 41 30.9**	**-0.3**
ENH	**Enshi**	**84.40**	**304**	P	**P**	**09 41 32.4**	**+0.6**
ENH				IAmb	IAmb	09 41 34.1	
	comp=Z,9.4nm,0.9s						
BPAW	**Bear Paw Mtn.**	**84.54**	**12**	P	**P**	**09 41 30.7**	**-0.9**
BPAW				IAmb	IAmb	09 41 33.2	
	comp=Z,6.4nm,1.4s						
MLY	**Manley**	**85.43**	**11**	P	**P**	**09 41 35.8**	**-0.1**
MLY				IAmb	IAmb	09 41 49.8	
	comp=Z,3.0nm,1.3s						
CCB	**Clear Creek Bu**	**85.67**	**13**	P	**P**	**09 41 37.0**	**0.0**
CCB				IAmb	IAmb	09 41 37.1	
	comp=Z,2.5nm,0.6s						
IMAR	**Indian Mountai**	**85.77**	**10**	P	**P**	**09 41 37.9**	**+0.4**
MDM	**Murphy Dome**	**85.86**	**12**	P	**P**	**09 41 37.0**	**-0.9**
MDM				IAmb	IAmb	09 41 38.4	
	comp=Z,2.8nm,1.0s						
ILAR	**Eielson Array

	baz=292								
TWD				S		Sb	09 30 39.2	-0.1	
	baz=292								
NACB	**Ninganchiao**	**0.51**	**304**	*i* P		Pb	09 30 32.7	-0.5	
	baz=303								
NACB				*e*S		Sb	09 30 40.1	-0.5	
	baz=303								
TEGC	**Jichi Village**	**0.51**	**249**	P		Pb	09 30 33.7	+0.4	
	baz=235								
ETM	**Tongmen**	**0.52**	**278**	P		Pb	09 30 33.3	-0.2	
	baz=268								
ETM				S		Sb	09 30 40.9	-0.1	
	baz=268								
ESL	**Shilin**	**0.57**	**262**	*i* P		Pb	09 30 33.9	-0.4	
	baz=251								
ESL				*i* S		Sb	09 30 42.2	-0.2	
	baz=251								
EWUT	**Wuta**	**0.60**	**335**	*e*P		Pb	09 30 34.7	-0.2	
	baz=330								
EWUT				*i* S		Sb	09 30 43.4	+0.1	
	baz=330								
ETLH	**Xiulin Townshi**	**0.61**	**301**	*i* P		Pb	09 30 34.4	-0.6	
	baz=300								
ETLH				S		Sb	09 30 43.0	-0.5	
	baz=300								
EGFH	**Guangfu**	**0.62**	**249**	P		Pb	09 30 34.9	-0.2	
	baz=243								
EGFH				*e*S		Sb	09 30 44.1	+0.5	
	baz=243								
HGSD	**Ruisui**	**0.70**	**235**	P		Pb	09 30 36.1	-0.4	
	baz=225								
HGSD				S		Sb	09 30 46.1	+0.1	
	baz=225								
TWC	**Suao**	**0.74**	**345**	P		Pb	09 30 37.0	-0.1	
	baz=350								
TWC				S		Sb	09 30 46.7	-0.2	
	baz=350								
WHF	**Hehuan Shan**	**0.76**	**289**	P		Pb	09 30 37.1	-0.7	
	baz=280								
WHF				*e*S		Sb	09 30 47.4	-0.7	
	baz=280								
EHY	**Hungye**	**0.78**	**240**	*e*P		Pb	09 30 37.0	-0.7	
	baz=246								
EHY				S		Sb	09 30 47.6	-0.3	
	baz=246								
NDS	**Dongshan**	**0.80**	**337**	P		Pb	09 30 37.9	-0.2	
	baz=340								
NDS				S		Sb	09 30 48.3	-0.4	
	baz=340								
OWD	**Renai**	**0.81**	**274**	*e*P		Pb	09 30 37.7	-0.7	
	baz=272								
OWD				*e*S		Sb	09 30 48.5	-0.5	
	baz=272								
NNSB	**Datong**	**0.81**	**311**	*e*P		Pb	09 30 37.7	-0.7	
	baz=311								
NNSB				*e*S		Sb	09 30 48.5	-0.6	
	baz=311								
NNSH	**Datong**	**0.81**	**311**	P		Pb	09 30 37.7	-0.8	
	baz=311								
NNSH				S		Sb	09 30 48.4	-0.8	
	baz=311								
CHGB	**Renai**	**0.82**	**282**	*e*P		Pb	09 30 38.1	-0.5	
	baz=272								
CHGB				*e*S		Sb	09 30 49.0	-0.6	
	baz=272								
NNS	**Nan Shan**	**0.83**	**311**	*e*P		Pb	09 30 38.2	-0.5	
	baz=312								
NNS				*e*S		Sb	09 30 48.8	-0.7	
	baz=312								
YULB	**Yu-li**	**0.86**	**234**	P		Pb	09 30 38.3	-0.7	
	baz=242								
YULB				*e*S		Sb	09 30 49.8	-0.5	
	baz=242								
NDT	**Datong Townshi**	**0.86**	**325**	P		Pb	09 30 38.6	-0.5	
	baz=327								
NDT				S		Sb	09 30 49.6	-0.8	
	baz=327								
ENTT	**Nioudou**	**0.87**	**329**	P		Pb	09 30 38.7	-0.6	
	baz=331								
ENTT				S		Sb	09 30 50.0	-0.6	
	baz=331								
EYUL	**Yuli**	**0.87**	**231**	P		Pb	09 30 38.8	-0.5	
	baz=221								
TWF1	**Yuli**	**0.88**	**232**	*e*P		Pb	09 30 38.8	-0.7	
	baz=240								
TWF1				S		Sb	09 30 50.5	-0.4	
	baz=240								
TWT	**Tachien**	**0.88**	**294**	P		Pb	09 30 39.3	-0.3	
	baz=292								
TDCB	**Techi**	**0.89**	**294**	*e*P		Pb	09 30 39.3	-0.5	
	baz=293								
TWE	**Neicheng**	**0.90**	**337**	*e*P		Pb	09 30 38.7	-1.1	
	baz=340								
EGS		**0.95**	**353**	P		Pb	09 30 40.4	-0.3	
	baz=6.0								
FULB	**Fuli**	**0.98**	**225**	*e*P		Pb	09 30 41.3	+0.1	
	baz=212								
JYNG	**Yonagunijimaku**	**0.98**	**56**	P		Pb	09 30 40.8	-0.4	
JYNG				*e*S		Sb	09 30 53.7	-0.2	
YHNB	**Yeheng**	**0.99**	**321**	*e*P		Pb	09 30 40.5	-0.9	
	baz=312								
YHNB				*e*S		Sb	09 30 52.8	-1.3	
	baz=312								
NSK	**Sanguang**	**1.00**	**321**	*e*P		Pb	09 30 40.9	-0.7	
	baz=312								
NSK				*e*S		Sb	09 30 53.0	-1.6	
	baz=312								
WPL	**Puli Township**	**1.01**	**277**	*e*P		Pn	09 30 41.1	+0.5	
	baz=275								
CHKT	**Chengkung**	**1.01**	**219**	*e*S		Sb	09 30 52.3	-2.4	
	baz=204								
NWLT	**Wulai**	**1.01**	**330**	*e*P		Pb	09 30 41.0	-0.8	
	baz=332								
NWLT				*e*S		Sb	09 30 53.8	-1.0	
	baz=332								
SSLB	**Suanglung**	**1.01**	**264**	*e*P		Pn	09 30 40.9	+0.3	
	baz=261								
YOJ	**Yonaguni jima**	**1.04**	**57**	P		Pn	09 30 41.5	+0.5	
YOJ				S		Sb	09 30 55.0	-0.5	
YOJ	**Yonaguni jima**	**1.04**	**57**	P		Pn	09 30 41.4	+0.5	
	baz=60								
YOJ				*e*S		Sb	09 30 54.7	-0.7	
	baz=60								
DPDB	**Guoxing**	**1.04**	**278**	*e*P		Pn	09 30 41.7	+0.7	
	baz=282								
SMLT	**Sun Moon Lake**	**1.06**	**270**	*e*P		Pn	09 30 41.8	+0.5	
	baz=267								
WHP	**Taichung City**	**1.08**	**291**	*e*P		Pn	09 30 42.7	+1.1	
	baz=284								
TIPB	**Shuangxi**	**1.09**	**349**	*e*P		Pn	09 30 42.8	+1.1	
	baz=2.0								
TIPB				*e*S		Sb	09 30 55.9	-1.1	
	baz=2.0								
TYC	**Yuchr**	**1.10**	**271**	*e*P		Pn	09 30 42.5	+0.7	
	baz=268								
EDH	**Donghe**	**1.15**	**217**	*e*P		Pn	09 30 42.3	-0.2	
	baz=205								
EDH				*e*S		Sb	09 30 56.2	-2.3	
	baz=205								
ELDTW	**Lidau**	**1.18**	**234**	*e*P		Pn	09 30 42.9	-0.1	
	baz=220								
ALS	**Alishan**	**1.21**	**252**	*e*P		Pn	09 30 44.6	+1.1	
	baz=248								
LIOB	**Emei**	**1.21**	**308**	*e*P		Pb	09 30 44.9	-0.1	
	baz=308								
NSTT	**Nanjuang**	**1.21**	**308**	*e*P		Pn	09 30 44.7	+1.4	
	baz=307								
TWQ1	**Liyutan**	**1.25**	**291**	*e*P		Pb	09 30 45.7	-0.1	
	baz=290								
WNT	**Mingjian**	**1.25**	**270**	*e*P		Pb	09 30 46.0	+0.2	
	baz=267								
CHN5	**Tsauling**	**1.30**	**257**	*e*P		Pb	09 30 46.3	-0.2	
	baz=254								
YM01	**YM01**	**1.32**	**341**	*e*P		Pn	09 30 45.0	+0.1	
	baz=327								
STYH	**Taoyuan**	**1.38**	**239**	*e*P		Pn	09 30 46.6	+1.0	
	baz=227								
STYT	**Tauyuan**	**1.40**	**239**	*e*P		Pn	09 30 47.0	+1.1	
	baz=227								
TPUB	**Ta-pu**	**1.44**	**246**	*e*P		Pn	09 30 48.1	+1.7	
	baz=243								
CHN4	**Tsaushan**	**1.45**	**248**	*e*P		Pb	09 30 48.5	-0.5	
	baz=245								
WTP	**Ta-pu**	**1.47**	**244**	*e*P		Pn	09 30 48.8	+1.8	
	baz=241								
TWK	**Hsinying**	**1.57**	**247**	*e*P		Pb	09 30 50.5	-0.6	
	baz=244								
CHN1	**Nanshi**	**1.57**	**244**	*e*P		Pb	09 30 50.6	-0.5	
	baz=241								
SLGT	**Liugui**	**1.57**	**236**	*e*P		Pn	09 30 50.0	+1.7	
	baz=223								
SGST	**Jiashian**	**1.57**	**239**	*e*P		Pn	09 30 49.9	+1.5	
	baz=236								
IRIF	**Iriomote-Funau**	**1.59**	**74**	P		Pn	09 30 49.6	+1.1	
HATJ	**Hateruma jima**	**1.61**	**84**	P		Pn	09 30 49.5	+0.7	
TSMG	**Majia**	**1.75**	**228**	*e*P		Pb	09 30 53.6	-0.6	
	baz=219								
JKRS	**Kuro-shima**	**1.82**	**79**	P		Pn	09 30 53.1	+1.4	
JKRS				*e*S		Sn	09 31 15.1	+1.5	
MASBT	**Mashibuluo**	**1.83**	**226**	*e*P		Pn	09 30 52.5	+0.7	
	baz=216								
JIJ	**Ishigaki jima**	**1.96**	**76**	P		Pn	09 30 54.1	+0.4	
JIJ				S		Sn	09 31 16.8	-0.4	
JISG	**Ishigakijimahi**	**2.17**	**71**	P		Pn	09 30 56.9	+0.4	
JISG				S		Sn	09 31 22.2	-0.1	
JTJ	**Tarama**	**2.53**	**72**	P		Pn	09 31 02.2	+0.8	
JTJ				S		Sn	09 31 31.3	+0.2	

AZER ***03*** *09:35:44.8±0.0, 40.92°N×48.57°E, h4km, ml4.6/34, Error ellipse: s-maj=0.5km s-min=0.2km az=258.0*
IDC ***03*** *09:35:45.3±0.5, 40.82°N×48.60°E, h0km, mb4.3/25, mb1 4.4/40, mb1mx4.3/71, mbtmp4.3/40, ML4.2/10, MS3.9/33, Ms1 3.9/33, ms1mx3.7/54, Error ellipse: s-maj=10.2km s-min=6.3km az=172.0*
MOS ***03*** *09:35:46.0±1.4, 40.95N×48.78E, h13km, mb4.8/20, MS3.8/9, Error ellipse: s-maj=4.5km s-min=3.7km az=35.4*
TEH ***03*** *09:35:47.8, 40.89N×48.57E, h8km, ML4.4*
NEIC ***03*** *09:35:47.3±1.9, 40.87N±0.05×48.74E±0.07, h10km±1km, mb4.6/76, Error ellipse: s-maj=9.7km s-min=8.1km az=64.0*
DRS ***03*** *09:35:48.4±0.0, 40.82N×48.47E, h14km, ML4.8/12*
NNC ***03*** *09:35:56.1±2.7, 41.28N×49.79E, h0km, mb4.8, Error ellipse: s-maj=26.1km s-min=14.6km az=86.0*
ISC 03 09:35:47.3±0.5, 40.89N±0.01×48.62E±0.02, h13km±3km, n502, σ2s13/558, mb4.5/65, MS4.0/32, 26C-22D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PQL	**Pirkuli**	**0.11**	**192**	P	**Pg**	**09 35 49.9**	**-0.6**
	SNR=2282						
PQL				S	**Sg**	**09 35 52.4**	**-0.4**
PQL	**Pirkuli**	**0.11**	**192**	*e*Pg	**Pg**	**09 35 49.9**	**-0.6**
ATGJ	**Altiaghaj**	**0.24**	**98**	P	**Pg**	**09 35 53.0**	**+0.5**
	SNR=7713						
ATGJ				S	**Sb**	**09 35 57.7**	**-0.3**
ATGJ	**Altiaghaj**	**0.24**	**98**	*e*Pg	**Pg**	**09 35 53.0**	**+0.5**
SIZA	**Siyzn**	**0.28**	**49**	P	**Pb**	**09 35 54.3**	**0.0**
	SNR=6048						
SIZA				S	**Sb**	**09 36 00.3**	**+1.4**
SIZA	**Siyzn**	**0.28**	**49**	*e*Pg	**Pb**	**09 35 54.3**	**0.0**
IML	**Ismayilli**	**0.35**	**253**	P	**Pg**	**09 35 54.4**	**0.0**
	SNR=338						
IML				S	**Sb**	**09 36 00.5**	**-0.4**
IML	**Ismayilli**	**0.35**	**253**	*e*Pg	**Pg**	**09 35 54.4**	**0.0**
GBS	**Qobustan**	**0.43**	**146**	P	**Pb**	**09 35 57.6**	**+0.6**
	SNR=1364						
GBS				S	**Sn**	**09 36 07.6**	**+0.4**
GBS	**Qobustan**	**0.43**	**146**	*e*Pg	**Pb**	**09 35 57.5**	**+0.6**
XNQ	**Khinaliq**	**0.46**	**307**	P	**Pg**	**09 35 56.4**	**-0.1**
XNQ				S	**Sb**	**09 36 03.8**	**-0.5**
XNQ	**Khinaliq**	**0.46**	**307**	*e*Pg	**Pg**	**09 35 56.3**	**-0.1**
QUBA	**Quba, Azerbaij**	**0.47**	**348**	P	**Pb**	**09 35 58.3**	**+0.8**
	SNR=3806						
QUBA				S	**Sn**	**09 36 06.5**	**-1.6**
QUB	**Quba**	**0.52**	**338**	*e*Pg	**Pg**	**09 35 58.1**	**+0.4**
QBL	**Gabala**	**0.60**	**275**	P	**Pg**	**09 35 58.8**	**-0.3**
	SNR=392						
QBL				S	**Sb**	**09 36 08.4**	**+0.3**
QBL	**Gabala**	**0.60**	**275**	*e*Pg	**Pg**	**09 35 58.7**	**-0.3**
KDMR	**Kurdemir**	**0.61**	**213**	P	**Pb**	**09 35 59.9**	**-0.1**
	SNR=12						
KDMR				S	**Sn**	**09 36 11.4**	**-0.1**
KDMR	**Kurdemir**	**0.61**	**213**	*e*Pg	**Pb**	**09 35 59.8**	**-0.1**
QSAR	**Qusar**	**0.68**	**337**	P	**Pb**	**09 36 01.7**	**+0.6**
	SNR=1463						
QSAR				S	**Sn**	**09 36 11.9**	**-1.3**
QSAR	**Qusar**	**0.68**	**337**	*e*Pg	**Pb**	**09 36 01.6**	**+0.6**
AKT	**Akhty**	**0.89**	**311**	*e*PG	**Pg**	**09 36 04.4**	**-0.2**
AKT				*e*S	**Sb**	**09 36 16.8**	**+0.2**
AKT				pmax	pmax		
	comp=Z,4μm,0.6s						
AKT	**Akhty**	**0.89**	**311**	*e*Pg	**Pg**	**09 36 04.4**	**-0.2**
	comp=Z,4μm,0.6s						
AKT				*e*Sg	**Sb**	**09 36 16.9**	**+0.2**
	comp=Z,615nm,0.4s						
ZRD	**Zardab**	**0.94**	**230**	P	**Pn**	**09 36 06.0**	**-0.3**
	SNR=89						
ZRD				S	**Sn**	**09 36 21.3**	**+1.8**
ZRD	**Zardab**	**0.94**	**230**	*e*Pg	**Pn**	**09 36 05.9**	**-0.3**
GOBA	**Gobu**	**0.98**	**120**	P	**Pn**	**09 36 09.4**	**+2.6**
	SNR=90						
GOBA				S	**Sn**	**09 36 25.6**	**+5.1**
GOBA	**Gobu**	**0.98**	**120**	*e*Pg	**Pn**	**09 36 09.3**	**+2.6**
ALIB	**Äli-Bayra**	**0.98**	**162**	P	**Pn**	**09 36 09.2**	**+2.3**
	SNR=555						
ALIB				S	**Sn**	**09 36 26.3**	**+5.7**
ALIB	**Äli-Bayra**	**0.98**	**162**	*e*Pg	**Pn**	**09 36 09.1**	**+2.3**
SAAT	**Saatly**	**1.04**	**188**	P	**Pn**	**09 36 07.5**	**-0.1**
	SNR=238						
SAAT				S	**Sn**	**09 36 25.3**	**+3.2**
SAAT	**Saatly**	**1.04**	**188**	*e*Pg	**Pb**	**09 36 07.3**	**+0.1**
NDR	**Nardaran**	**1.08**	**106**	P	**Pn**	**09 36 10.1**	**+1.9**
	SNR=116						
NDR				S	**Sn**	**09 36 29.2**	**+6.1**
NDR	**Nardaran**	**1.08**	**106**	*e*Pn	**Pn**	**09 36 10.3**	**+2.1**
SEKA	**Sheki**	**1.12**	**287**	PG	**Pb**	**09 36 07.8**	**-0.8**
SEKA	**Sheki**	**1.12**	**287**	P	**Pb**	**09 36 07.9**	**-0.8**
	SNR=1240						
SEKA				S	**Sn**	**09 36 24.0**	**-0.1**
SEKA	**Sheki**	**1.12**	**287**	*e*Pn	**Pb**	**09 36 07.8**	**-0.8**
MNGR	**Mingechevir, A**	**1.17**	**265**	PG	**Pg**	**09 36 09.9**	**0.0**
MNGR	**Mingechevir, A**	**1.17**	**265**	P	**Pg**	**09 36 09.9**	**0.0**
	SNR=89						
MNGR				S	**Sn**	**09 36 27.8**	**+2.5**
MNGR	**Mingechevir, A**	**1.17**	**265**	*e*Pn	**Pg**	**09 36 09.9**	**0.0**
GALA	**Gala**	**1.26**	**112**	*e*Pn	**Pg**	**09 36 14.0**	**+2.4**
BRDA	**Brd**	**1.27**	**241**	P	**Pg**	**09 36 11.8**	**+0.1**
	SNR=48						
BRDA				S	**Sg**	**09 36 31.1**	**+3.0**
BRDA	**Brd**	**1.27**	**241**	*e*Pn	**Pg**	**09 36 11.9**	**+0.2**
AGDM	**Agdam**	**1.40**	**236**	P	**Pb**	**09 36 13.2**	**-0.1**
	SNR=1308						
AGDM				S	**Sg**	**09 36 33.7**	**+1.4**
BLQ	**Beylaqan**	**1.43**	**215**	Pn	**Pn**	**09 36 13.0**	**0.0**
	SNR=201						
BLQ				Sn	**Sg**	**09 36 33.4**	**+0.2**
BLQ	**Beylaqan**	**1.43**	**215**	*e*Pn	**Pn**	**09 36 12.9**	**0.0**
URKR	**Urkarakh**	**1.47**	**330**	*e*PG	**Pg**	**09 36 16.4**	**+0.8**
URKR				*e*S	**Sg**	**09 36 35.6**	**+0.9**
URKR				pmax	pmax		
	comp=Z,2μm,0.8s						
URKR	**Urkarakh**	**1.47**	**330**	*e*Pg	**Pg**	**09 36 16.5**	**+0.8**
	comp=Z,2μm,0.8s						
URKR				*e*Sg	**Sg**	**09 36 35.6**	**+0.9**
	comp=Z,4μm,0.5s						
ZKT	**Zaqatala**	**1.66**	**298**	*e*Pn	**Pb**	**09 36 17.9**	**+0.1**
GLBA	**Clilabad**	**1.66**	**186**	Pn	**Pn**	**09 36 16.7**	**+0.5**
	SNR=241						
GLBA				Sn	**Sg**	**09 36 41.4**	**+0.7**
GLBA	**Clilabad**	**1.66**	**186**	*e*Pn	**Pn**	**09 36 16.6**	**+0.5**
ZKTA	**Zakatala**	**1.68**	**297**	PN	**Pb**	**09 36 17.9**	**-0.3**
ZKTA	**Zakatala**	**1.68**	**297**	Pn	**Pb**	**09 36 17.9**	**-0.3**
	SNR=1483						
ZKTA				Sn	**Sg**	**09 36 42.1**	**+0.7**
SGKR	**Sergokala**	**1.72**	**336**	*e*PN	**Pg**	**09 36 21.1**	**+0.7**
SGKR				*e*S	**Sg**	**09 36 44.2**	**+1.5**
SGKR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SGKR	**Sergokala**	**1.72**	**336**	*e*Pg	**Pg**	**09 36 21.1**	**+0.7**
	comp=Z,4.0nm,0.6s						
SGKR				*e*Sg	**Sg**	**09 36 44.3**	**+1.5**
	comp=Z,7μm,0.6s						
QRD	**Qoradiz**	**1.74**	**215**	Pn	**Pn**	**09 36 17.3**	**-0.1**
	SNR=70						
QRD				Sg	**Sb**	**09 36 41.6**	**+0.5**
QRD	**Qoradiz**	**1.74**	**215**	*e*Pn	**Pn**	**09 36 17.6**	**+0.3**
GANJ	**Ganja**	**1.76**	**263**	PN	**Pn**	**09 36 17.4**	**-0.3**
GANJ	**Ganja**	**1.76**	**263**	Pn	**Pn**	**09 36 17.3**	**-0.3**
	SNR=144						
GANJ				Sn	**Sn**	**09 36 40.7**	**+0.7**
GANJ	**Ganja**	**1.76**	**263**	*e*Pn	**Pn**	**09 36 17.4**	**-0.3**
GNBR	**Gunib**	**1.94**	**321**	*e*Pg	**Pg**	**09 36 24.2**	**-0.4**
	comp=Z,2μm,0.7s						
GNBR				*e*Sg	**Sg**	**09 36 51.7**	**+1.9**
	comp=Z,2μm,0.8s						
DDFL	**Dedoflistskaro**	**1.97**	**287**	PN	**Pb**	**09 36 23.8**	**+0.7**
YRD	**Yardimli**	**2.00**	**189**	Pn	**Pn**	**09 36 21.4**	**+0.4**
	SNR=203						
YRD				Sn	**Sb**	**09 36 49.5**	**+1.0**
YRD	**Yardimli**	**2.00**	**189**	*e*Pn	**Pn**	**09 36 21.3**	**+0.4**
LGD	**Lagodekhi**	**2.02**	**298**	PN	**Pb**	**09 36 23.4**	**-0.6**
ARKR	**Arakani**	**2.10**	**325**	*e*PN	**Pg**	**09 36 27.5**	**0.0**
ARKR				*e*S	**Sg**	**09 36 56.6**	**+1.9**
ARKR				pmax	pmax		
	comp=Z,14nm,0.3s						
ARKR	**Arakani**	**2.10**	**325**	*e*Pg	**Pg**	**09 36 27.6**	**0.0**
	comp=Z,14nm,0.3s						
ARKR				*e*Sg	**Sg**	**09 36 56.7**	**+1.9**
	comp=Z,5μm,0.6s						
GDB	**GEDABAY**	**2.18**	**266**	Pn	**Pn**	**09 36 23.1**	**-0.5**
	SNR=754						
GDB				Sn	**Sn**	**09 36 52.3**	**+1.7**
LKRN	**Lenkeran, Azer**	**2.19**	**177**	PN	**Pn**	**09 36 23.6**	**+0.3**
LKRN	**Lenkeran, Azer**	**2.19**	**177**	Pg	**Pn**	**09 36 23.7**	**+0.3**
	SNR=24						
LKRN				Sg	**Sg**	**09 36 57.9**	**+0.3**
MAK	**Makhachkala**	**2.23**	**338**	*e*PN	**Pb**	**09 36 28.6**	**+1.2**
MAK				*e*		09 36 32.5	
MAK				*e*S	**Sg**	**09 36 59.6**	**+0.7**
MAK				pmax	pmax		
	comp=Z,1μm,0.6s						
MAK				smax	smax		
	comp=N,15μm,0.6s						
MAK				smax	smax		
	comp=N,12μm,0.6s						
MAK				MLR	MLR		
	comp=Z,3μm,3.0s						
BUJR	**Buynaksk**	**2.24**	**330**	*i* Pg	**Pg**	**09 36 29.0**	**-1.2**
	comp=Z,2μm,0.7s						
BUJR				*i* Sg	**Sg**	**09 37 01.6**	**+2.4**
	comp=Z,9μm,0.7s						
LRK	**Lerik**	**2.26**	**186**	Pg	**Pn**	**09 36 25.1**	**+0.5**
	SNR=446						
LRK				Sg	**Sb**	**09 36 57.9**	**+1.8**
KRNR	**Karanay**	**2.32**	**327**	*i* Pg	**Pb**	**09 36 29.7**	**+0.6**
	comp=Z,718nm,0.5s						
KRNR				*i* Sg	**Sg**	**09 37 02.1**	**+0.3**
	comp=Z,2μm,0.7s						
ASTR	**Astara**	**2.33**	**177**	Pn	**Pn**	**09 36 25.8**	**+0.3**
	SNR=29						
ASTR				Sn	**Sg**	**09 37 01.5**	**-0.9**
QZX	**Qazax, Azerbai**	**2.47**	**275**	Pn	**Pn**	**09 36 28.2**	**+0.9**
	SNR=263						
QZX				Sn	**Sb**	**09 36 59.9**	**-1.9**
DBC	**Dubki**	**2.51**	**328**	*i* Pg	**Pb**	**09 36 32.4**	**+0.1**
	comp=Z,714nm,0.6s						
DBC				*i* Sg	**Sg**	**09 37 09.2**	**+1.2**
	comp=Z,3μm,0.7s						
BTLR	**Botlikh**	**2.52**	**315**	*i* Pg	**Pg**	**09 36 34.4**	**-1.3**
	comp=Z,905nm,0.7s						
BTLR				*i* Sg	**Sg**	**09 37 11.5**	**+3.2**
	comp=Z,3μm,0.6s						
DLMR	**Dylym**	**2.63**	**326**	*i* Pg	**Pg**	**09 36 37.1**	**-0.7**
	comp=Z,2μm,0.7s						
DLMR				*i* Sg	**Sg**	**09 37 13.2**	**+1.3**
	comp=Z,15μm,0.5s						
DVE	**Vedeno**	**2.78**	**319**	PN	**Pg**	**09 36 39.6**	**-1.0**
DVE				S	**Sb**	**09 37 10.9**	**+0.1**
SBZ	**Shahbuz**	**2.79**	**239**	Pn	**Pn**	**09 36 34.0**	**+2.2**
	SNR=148						
SBZ				Sn	**Sb**	**09 37 09.8**	**-1.4**
ORD	**Ordubad**	**2.82**	**227**	Pn	**Pn**	**09 36 33.6**	**+1.4**
	SNR=130						
ORD				Sn	**Sb**	**09 37 10.2**	**-1.8**
IHRS	**Heris**	**2.85**	**206**	*e*Pn	**Pn**	**09 36 33.8**	**+1.1**
IHRS				*e*		09 36 46.2	
	comp=Z,14μm,0.5s						
NAX	**Nakhchivan**	**2.95**	**235**	PN	**Pn**	**09 36 36.9**	**+2.9**
NAX	**Nakhchivan**	**2.95**	**235**	Pn	**Pn**	**09 36 36.0**	**+2.0**
	SNR=158						
NAX				Sn	**Sb**	**09 37 14.2**	**-1.6**
GNI	**Garni**	**3.05**	**257**	Pn	**Pn**	**09 36 37.1**	**+1.7**
	comp=Z,5.6nm,0.3s,baz=67,slow=3.4,SNR=22						
GNI				Pg	**Pb**	**09 36 43.7**	**+2.1**
	comp=Z,52nm,0.3s,baz=46,slow=3.1,SNR=41						
GNI				Lg	Lg	09 37 23.4	
	comp=Z,65nm,0.3s,baz=90,slow=23,SNR=1.9						
GNI	**Garni**	**3.05**	**257**	P	**Pn**	**09 36 38.0**	**+2.5**
GNI	**Garni**	**3.05**	**257**	*e*P	**Pb**	**09 36 41.7**	**+0.1**
GNI	**Garni**	**3.05**	**257**	Pn	**Pn**	**09 36 36.7**	**+1.2**
HYR	**Heyderabad**	**3.11**	**249**	Pn	**Pn**	**09 36 38.1**	**+1.9**
	SNR=14						
HYR				Sn	**Sb**	**09 37 18.1**	**-2.4**
GROC	**Groznyy**	**3.12**	**319**	*e*PN	**Pb**	**09 36 44.1**	**+1.4**
GROC				*e*		09 37 14.4	
GROC				*e*		09 37 28.8	
GROC				pmax	pmax		
	comp=Z,568nm,0.6s						
GROC				smax	smax		
	comp=N,1μm,0.6s						
GROC				smax	smax		
	comp=N,3μm,0.6s						
GROC				smax	smax		
	comp=E,1μm,0.6s						
GROC				smax	smax		
	comp=E,4μm,0.8s						
GROC				MLR	MLR		
	comp=Z,4μm,2.0s						
IMRD	**Marand**	**3.13**	**227**	*e*Pn	**Pn**	**09 36 38.0**	**+1.4**
ISRB	**Sarab**	**3.15**	**194**	*e*Pn	**Pn**	**09 36 38.5**	**+1.6**
ISRB				*e*		09 36 48.2	
	comp=Z,7μm,0.7s						
KZRT	**Kazreti**	**3.23**	**280**	PN	**Pn**	**09 36 39.7**	**+1.9**
ITBZ	**Tabriz**	**3.27**	**217**	*e*Pn	**Pn**	**09 36 39.2**	**+0.7**
ITBZ				*e*		09 37 25.7	
	comp=Z,9μm,0.6s						
TASB	**TASBURUN-IGDIR**	**3.47**	**256**	*e*P	**Pb**	**09 36 47.3**	**-1.3**
KMGR	**Komgaron**	**3.54**	**

KIV Kislovodsk 5.35 307 Pn **Pn 09 37 09.1 +2.0**
IPRN Peran 5.48 147 *e*Pn **Pn 09 37 08.4 -0.4**
IRAZ Razeghan 5.58 169 *e*Pn **Pn 09 37 10.4 +0.2**
TEH Tehran 5.59 156 *e*Pn **Pn 09 37 11.8 +1.5**
GOF Gofitskoye 5.83 317⇑*e*P Pn 09 37 20.1 +6.6
GOF *e*S **Sn 09 38 18.9 -1.4**
GOF pmax pmax
comp=Z,37nm,0.5s
GOF smax smax
comp=N,243nm,0.8s
GOF smax smax
comp=E,155nm,0.6s
IHSB Hasanabad 5.83 158 *e*Pn **Pn 09 37 14.7 +1.0**
SIRT Sirnak 5.88 237 **Pn 09 37 13.8 -0.5**
IGLO Ghaloghah 5.98 135 *e*Pn **Pn 09 37 15.2 -0.6**
ISHM Shahmirzad 6.27 143 *e*Pn **Pn 09 37 20.6 +0.8**
IQOM Qom 6.34 161 *e*Pn **Pn 09 37 22.1 +1.3**
IVRN Varamin 6.38 156 *e*Pn **Pn 09 37 22.4 +1.3**
IMND Minoodasht 6.41 122 *e*Pn **Pn 09 37 20.6 -0.8**
IDHR Dehrash 6.43 197 *e*Pn **Pn 09 37 24.8 +2.8**
IBZA Bozab 6.44 186 *e*Pn **Pn 09 37 24.5 +2.3**
IGHG Ghaleghazi 6.75 195 *e*Pn **Pn 09 37 29.3 +2.9**
IANJ Anjilo 6.83 141 *e*Pn **Pn 09 37 28.4 +0.9**
IDOB Doab 7.10 183 *e*Pn **Pn 09 37 34.7 +3.5**
ISFB Sefidab 7.13 155 *e*Pn **Pn 09 37 32.9 +1.4**
SOC Sochi 7.13 295 *e*P **Pn 09 37 30.3 -1.1**
SOC *e* 09 38 52.8
SOC MLR MLR
comp=Z,225nm,6.0s
BMDN Meydan 7.21 179 *e*Pn **Pn 09 37 35.5 +2.9**
GEYT Alibeck 7.92 109 Pn **Pn 09 37 40.9 -1.4**
comp=Z,9.5nm,0.3s,baz=295,slow=17,SNR=24
GEYT Sn **Sn 09 39 07.3 -4.6**
comp=Z,1.1nm,0.3s,baz=319,slow=17,SNR=2.0
GEYT Alibeck 7.92 109 **Pn 09 37 40.4 -1.9**
GYA0 ALIBECK ARRAY 7.92 109 P **Pn 09 37 39.8 -2.5**
GYA0 S **Sn 09 39 09.1 -2.7**
GYA0B ALIBECK ARRAY 7.92 109 ⇓P **Pn 09 37 39.9 -2.4**
GYA0B ⇓S **Sn 09 39 09.2 -2.6**
GYA0B ALIBECK ARRAY 7.92 109 **Pn 09 37 40.5 -1.8**
ASHT Ashkhabad 8.11 108 P **Pn 09 37 43.3 -1.5**
ASHT Ashkhabad 8.11 108 Pn **Pn 09 37 43.3 -1.5**
ISFR Sfrayin 8.25 115 *e*Pn **Pn 09 37 46.5 -0.5**
MALT Malatya 8.28 255 P Pn 09 37 52.5 +5.3
SBZV Sabzevar 8.35 120 *e*Pn **Pn 09 37 47.6 -0.7**
IPIR Pirpir 8.39 167 *e*Pn **Pn 09 37 52.6 +3.6**
IZEF Zefreh 8.52 158 *e*Pn **Pn 09 37 52.7 +2.1**
IEMG Emamgholi 8.53 111 *e*Pn **Pn 09 37 49.5 -1.3**
ANAR Anarak 8.70 150 *e*Pn **Pn 09 37 53.3 +0.2**
IAKL Akhelmad 9.00 115 *e*Pn **Pn 09 37 56.8 -0.5**
ANN Anapa 9.10 299 *e*P **Pn 09 37 57.2 -1.1**
ANN *e*S **Sn 09 39 40.9 +0.4**
ANN pmax pmax
comp=Z,16nm,0.8s
ANN MLR MLR
comp=Z,699nm,14.0s
IPAY Payeh 9.24 115 *e*Pn **Pn 09 37 59.6 -1.0**
GAZ Gaziantep 9.62 251 Pn **Pn 09 38 08.2 +2.6**
TKDS Koohdasht(Taba 9.93 134 *e*Pn **Pn 09 38 10.2 +0.3**
IMYA Miami 10.06 113 *e*Pn **Pn 09 38 10.3 -1.5**
SNOP Sinop 10.13 281 Pn **Pn 09 38 12.7 +0.1**
AFRZ Afriz 11.14 129 *e*Pn **Pn 09 38 26.7 +0.2**
VRH Novokhopyorsk 11.36 337 *e*P **Pn 09 38 28.8 -0.5**
VRH pmax pmax
comp=Z,20nm,0.4s
BR131 Keskin Array S 11.50 269*d i*P **Pn 09 38 34.9 +3.5**
BR131 Keskin Array S 11.50 269 **Pn 09 38 35.2 +3.8**
BRTR Keskin Array B 11.50 269 Pn **Pn 09 38 33.5 +2.1**
comp=Z,0.1nm,0.3s,baz=90,slow=12,SNR=23
BRTR LR LR 09 43 23.3
comp=Z,719nm,20.0s,baz=81,slow=40
BRTR Keskin Array B 11.50 269 P **Pn 09 38 34.9 +3.5**
BRTR Keskin Array B 11.50 269 Pn **Pn 09 38 34.9 +3.5**
BELG Belogornoye 11.52 357 Pn **Pn 09 38 31.8 +0.3**
comp=Z,11nm,0.3s,baz=126,slow=14,SNR=21
BELG Sn **Sn 09 40 36.4 -3.5**
comp=Z,9.0nm,0.3s,baz=124,slow=20,SNR=12
BELG LR LR 09 44 51.4
comp=Z,566nm,19.1s,baz=138,slow=47
AB31 Akbulak array 11.56 40 ⇑P **Pn 09 38 31.2 -0.9**
comp=Z,5.7nm,0.4s,baz=224,slow=12,SNR=33
AB31 ⇓S **Sn 09 40 35.6 -5.4**
comp=Z,29nm,0.6s,baz=226,slow=21,SNR=7.1
AB31 Akbulak array 11.56 40 P **Pn 09 38 31.1 -0.9**
AB31 *e*S **Sn 09 40 35.6 -5.4**
ABKAR Akbulak array 11.56 40 **Pn 09 38 31.0 -1.1**
ABKAR Akbulak array 11.56 40 Pn **Pn 09 38 31.2 -0.8**
AKTO Aktyubinsk 11.58 31 Pn **Pn 09 38 31.6 -0.6**
comp=Z,4.5nm,0.3s,baz=223,slow=11,SNR=19
AKTO Sn **Sn 09 40 34.4 -6.9**
comp=Z,3.9nm,0.3s,baz=28,slow=20,SNR=3.7
AKTO Aktyubinsk 11.58 31 ⇓P **Pn 09 38 31.4 -0.9**
comp=Z,30nm,0.7s
AKTO ⇓S **Sn 09 40 33.2 -8.1**
comp=Z,138nm,0.8s
AKTO Aktyubinsk 11.58 31 P **Pn 09 38 31.3 -0.9**
AKTO S **Sn 09 40 33.1 -8.1**
VORD Divnogorie 11.97 330 *e*P **Pn 09 38 38.4 +0.8**
VORD pmax pmax
comp=Z,5.0nm,0.4s
ANTO Ankara 12.12 270 P **Pn 09 38 42.4 +2.6**
ANTO Ankara 12.12 270 Pn **Pn 09 38 42.4 +2.6**
VSR Storozhevoye 12.22 331 *e*P **Pn 09 38 42.1 +1.1**
VSR pmax pmax
comp=Z,40nm,1.3s
VORR Voronezh 12.58 332 P **Pn 09 38 47.0 +1.1**
VORR pmax pmax
comp=Z,250nm,0.4s
HRA Herat 12.59 117 Pn **Pn 09 38 43.6 -2.8**
MMAI Mount Meron Ar 13.16 238 Pn **Pn 09 38 55.4 +1.3**
comp=Z,0.8nm,0.3s,baz=46,slow=11,SNR=1.3
MMAI LR LR 09 44 41.9
comp=Z,750nm,18.8s,baz=45,slow=4
MDUB Mudurnu 13.24 274 Pn **Pn 09 38 57.0 +1.9**
LPSR Galich'ya Gora 13.45 334 *e*P **Pn 09 38 57.7 0.0**
LPSR pmax pmax
comp=Z,60nm,0.8s
GHAJ Ghor Haditha 14.23 232 Pn **Pn 09 39 10.9 +2.4**
TLCR 15.10 293 ⇑P **Pn 09 39 22.4 +2.2**
TLCR 15.10 293 P **P 09 39 26.4 +0.9**
ELL Elmali 15.16 260 P **Pn 09 39 20.3 -1.0**
ELL pmax pmax
comp=Z,65nm,0.9s
ELL Elmali 15.16 260 **Pn 09 39 20.3 -1.0**
TIRR Tirgusor 15.28 290 ⇑P **Pn 09 39 23.9 +1.2**
TIRR Tirgusor 15.28 290 P **Pn 09 39 23.6 +0.9**
TIRR pmax pmax
comp=Z,58nm,0.8s
TIRR Tirgusor 15.28 290 Pn **Pn 09 39 23.6 +0.9**
TPGR Topolog 15.32 292 ⇑P **Pn 09 39 25.6 +2.4**
TLBR Topalu 15.55 290 ⇓P **Pn 09 39 27.6 +1.4**
CFR Carcaliu 15.57 293 ⇑P **P 09 39 29.3 -1.4**
HARR Harsova 15.65 291 ⇑P **P 09 39 29.9 -1.6**
EIL Elat 15.79 229 LR LR 09 46 23.3
comp=Z,295nm,18.8s,baz=290,slow=41
BALB Balikesir 15.88 272 Pn **P 09 39 32.8 -1.5**
BALB IAmb IAmb 09 39 53.1
comp=Z,40nm,1.1s
CHGR Chuyangaron 15.95 91 **Pn 09 39 30.3 -1.2**
IUG luzhnay 16.08 78 *e*P **P 09 39 36.9 +0.3**
SORM Soroca 16.14 303 ⇑P **P 09 39 36.3 -0.7**
BANOM Banah 16.24 155 *i*P **Pn 09 39 35.0 -0.2**
SNR=9.7
BANOM Banah 16.24 155 P **Pn 09 39 35.8 +0.6**
TRNA Turayna 16.26 172 P **Pn 09 39 35.0 -0.4**
OBN Obninsk 16.32 335 LR LR 09 46 49.0
comp=Z,149nm,19.0s,baz=162,slow=40
OBN Obninsk 16.32 335 ⇓*i*P **Pn 09 39 35.1 -0.9**
OBN S **S 09 42 45.0 -4.3**
OBN pmax pmax
comp=Z,35nm,1.2s
OBN MLR MLR
comp=Z,303nm,14.0s
KK31 Karatay Array 16.42 75 ⇑P **Pn 09 39 34.7 -2.7**
comp=Z,22nm,0.6s,baz=270,slow=15,SNR=184
KK31 ⇑S **Sn 09 42 32.4 -7.1**
comp=Z,9.3nm,0.7s,baz=274,slow=24,SNR=4.8
KK31 Karatay Array 16.42 75 *i*P **Pn 09 39 34.7 -2.7**
KK31 *e*S **Sn 09 42 30.0 -9.4**
KK31 Karatay Array 16.42 75 Pn **Pn 09 39 34.7 -2.7**
KK31 IAmb IAmb 09 39 46.3
comp=Z,31nm,0.7s
KKAR Karatay Array 16.42 75 P **Pn 09 39 34.9 -2.5**
KKAR Karatay Array 16.42 75 P **Pn 09 39 34.6 -2.9**
KKAR IAmb IAmb 09 39 46.3
comp=Z,31nm,0.7s
KKAR Karatay Array 16.42 75 **Pn 09 39 34.9 -2.5**
MOS Moscow 16.52 338 *e*P Pn 09 39 29.8 -8.8
MOS *e*S **Sn 09 42 32.5 -9.2**
MOS pmax pmax
comp=Z,43nm,0.7s
VRI Vrincioaia 16.66 295 ⇓P **P 09 39 42.7 -0.1**
VRI Vrincioaia 16.66 295 P **P 09 39 46.0 +3.2**
AKASG Malin Array Be 16.66 313 Pn **Pn 09 39 38.3 -2.1**
comp=Z,0.6nm,0.3s,baz=116,slow=13,SNR=4.7
AKASG LR LR 09 47 58.1
comp=Z,535nm,18.1s,baz=115,slow=44
AKASG Malin Array Be 16.66 313 *i*P **P 09 39 44.2 +1.4**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 16.66 313 **P 09 39 41.9 -0.9**
AKBB Malin Array Si 16.66 313 P **Pn 09 39 41.6 +1.2**
AKBB pmax pmax
comp=Z,20nm,1.0s
AKBB Malin Array Si 16.66 313 **Pn 09 39 41.6 +1.2**
ISR Istrita 16.68 292 P **P 09 39 47.0 +3.9**
PLOR Plostina 16.71 295 ⇑P **P 09 39 43.1 -0.3**
GAR Garm 16.74 89 P **Pn 09 39 40.4 -1.3**
MDH Madha 16.82 155 P **Pn 09 39 42.5 -0.1**
MDH Madha 16.82 155 P **Pn 09 39 42.7 +0.2**
SNR=5.6
ARU Arti 16.85 19 Pn **Pn 09 39 39.8 -3.0**
comp=Z,0.0nm,0.3s,baz=204,slow=7.7,SNR=16
ARU Sn Sn 09 42 36.9 -13
comp=Z,0.0nm,0.3s,baz=23,slow=22,SNR=6.8
ARU LR LR 09 48 04.6
comp=Z,204nm,18.7s,baz=206,slow=44
ARU Arti 16.85 19 P **Pn 09 39 40.2 -2.5**
ARU S **Sn 09 42 46.4 -3.2**
ARU MLR MLR
comp=Z,260nm,15.0s
ARU Arti 16.85 19 **Pn 09 39 40.5 -2.2**
ARU IAmb IAmb 09 39 49.3
comp=Z,41nm,0.6s
BTK Batken 16.91 86 P **Pn 09 39 42.0 -1.7**
BTK pmax pmax
comp=Z,28nm,0.8s
BTK Batken 16.91 86 Pn **Pn 09 39 42.0 -1.7**
BTK IAmb IAmb 09 39 51.1
comp=Z,28nm,0.8s
NAZ Nazwa, Dubai 16.92 158 P **Pn 09 39 43.2 -0.6**
NAZ Nazwa, Dubai 16.92 158 P **Pn 09 39 44.4 +0.6**
NAZ P **Pn 09 39 44.4 +0.6**
SLWR Sila 16.97 170 P **Pn 09 39 43.2 -1.3**
UOSS Minazif 17.12 156 P **Pn 09 39 45.5 -0.9**
UOSS Minazif 17.12 156 Pn **Pn 09 39 44.3 -2.0**
UOSS Minazif 17.12 156 P **Pn 09 39 46.4 0.0**
UOSS P **Pn 09 39 46.4 0.0**
FAQ Al Faqa, Dubai 17.12 158 P **Pn 09 39 47.1 +0.6**
FAQ Al Faqa, Dubai 17.12 158 P **P 09 39 48.9 +0.8**
FAQ P **P 09 39 48.9 +0.8**
MLR Muntele Rosu 17.14 293 P **P 09 39 48.3 0.0**
comp=Z,0.4nm,0.3s,baz=152,slow=5.4,SNR=14
MLR LR LR 09 48 32.3
comp=Z,339nm,21.5s,baz=80,slow=45
MLR Muntele Rosu 17.14 293 ⇑P **P 09 39 49.0 +0.7**
MLR Muntele Rosu 17.14 293 P **P 09 39 49.3 +0.9**
MLR pmax pmax
comp=Z,18nm,0.9s
MLR Muntele Rosu 17.14 293 P **P 09 39 49.3 +0.9**
ASUD Al Ashush, Dub 17.16 159 *i*P **P 09 39 48.8 +0.2**
SNR=6.0
ASUD Al Ashush, Dub 17.16 159 P **P 09 39 49.1 +0.5**
HATD Hatta, Dubai 17.21 156 *i*P **Pn 09 39 47.0 -0.4**
SNR=8.6
HATD Hatta, Dubai 17.21 156 P **P 09 39 50.6 +1.6**
SNR=8.6
HATD P **P 09 39 50.6 +1.6**
SNR=8.6
BIZ Bicaz 17.28 298 ⇓P **P 09 39 50.9 +1.2**
ASHO Ashiyiah 17.32 157 *i*P **Pn 09 39 48.4 -0.5**
SNR=12
ASHO Ashiyiah 17.32 157 P **P 09 39 51.7 +1.4**
ASHO P **P 09 39 51.7 +1.4**
SNR=7.0
KBL Kabul 17.34 105 P **Pn 09 39 48.8 -0.5**
KBL pmax pmax
comp=Z,35nm,1.1s
KBL Kabul 17.34 105 P **Pn 09 39 48.8 -0.5**
KBL IAmb IAmb 09 39 54.4
comp=Z,35nm,1.1s
KBL Kabul 17.34 105 P **P 09 39 50.2 -0.5**
SNR=13
RAYN Ar Rayn 17.52 190 IAmb IAmb 09 39 55.6
comp=Z,61nm,1.0s
DOPR Dopca 17.60 294 ⇓P **P 09 39 53.7 +0.4**
KARP Karpathos 17.67 259 P **Pn 09 39 53.0 -0.2**
KIRV Kirov 17.72 1 P **Pn 09 39 53.8 +0.2**
comp=Z,7.2nm,0.3s,baz=98,slow=1.2,SNR=14
KIRV S Sn 09 42 58.8 -12
comp=Z,2.6nm,0.3s,baz=307,slow=8.4,SNR=1.6
KIRV LR LR 09 48 35.5
comp=Z,406nm,19.7s,baz=193,slow=43
KIRV Kirov 17.72 1 *i*P **Pn 09 39 51.5 -2.0**
SVE Sverdlovsk 17.75 22*ce*P **P 09 39 54.5 -0.3**
SVE *e*S **Sn 09 43 04.1 -7.4**
SVE pmax pmax
comp=Z,91nm,1.0s
DRK Karamyk 17.76 87 IAmb IAmb 09 39 49.7
comp=Z,41nm,0.5s
VOIR 17.76 293 ⇓P **P 09 39 56.6 +1.5**
VOIR 17.76 293 P **P 09 39 58.0 +2.9**
SOHO SOHO 17.98 156 P **P 09 39 57.8 +0.3**
BURAR Bucovina Array 18.02 300 ⇑P **P 09 39 59.3 +1.3**
BURAR Bucovina Array 18.02 300 P **Pn 09 39 57.4 -0.1**
BURAR IAmb IAmb 09 40 05.8
comp=Z,19nm,0.6s
BUR08 Bucovina Ar. S 18.04 300 P **P 09 39 59.3 +1.1**
ARR Arges 18.05 292 ⇓P **P 09 39 59.6 +1.4**
ARSB Arslanbob 18.35 81 P **Pn 09 39 59.4 -2.3**
ARSB pmax pmax
comp=Z,35nm,1.1s
ARSB Arslanbob 18.35 81 P **Pn 09 39 59.4 -2.3**
ARSB IAmb IAmb 09 40 19.8
comp=Z,35nm,1.1s
OTUK Ortayu 18.38 59 ⇓P **Pn 09 40 00.7 -1.1**
comp=Z,28nm,0.8s
OTUK ⇑S Sn 09 43 14.2 -13
comp=Z,22nm,0.7s
OTUK Ortayu 18.38 59 P **Pn 09 40 00.7 -1.1**
OTUK S Sn 09 43 14.2 -13
LOT Lotru 18.66 292 ⇑P **Pn 09 40 07.1 +1.7**
ARQ Araqi 18.73 157 P **Pn 09 40 07.4 +1.3**
AML Almayashu 18.80 78 P **Pn 09 40 08.0 +0.6**
SNR=20
AML Almayashu 18.80 78 *i*P **Pn 09 40 07.3 -0.2**
SNR=20
EKS2 Erkin-Say 18.83 76 P **Pn 09 40 08.1 +0.7**
SNR=37
UMZA Um Al Zommool 18.95 161 P **P 09 40 08.5 +0.3**
UMZA P **P 09 40 08.5 +0.3**
VTS Vitosha 19.00 284 P **Pn 09 40 11.5 +1.9**
VTS pmax pmax
comp=Z,7.0nm,1.0s
VTS Vitosha 19.00 284 P **Pn 09 40 11.5 +1.9**
BTLS Baital 19.03 69 *e*P **P 09 40 09.1 +0.1**
BRVK Borovoye 19.05 43 *i*P **P 09 40 09.2 +0.1**
BRVK Borovoye 19.05 43 P **P 09 40 09.2 +0.1**
BRVK IAmb IAmb 09 40 14.9
comp=Z,30nm,0.8s
BRVK Borovoye 19.05 43 P **Pn 09 40 10.1 +0.1**
BRVK P **Pn 09 40 10.1 +0.1**
BVA3 Borovoye Array 19.09 43 ⇑P **Pn 09 40 10.6 +0.2**
comp=Z,39nm,0.8s
BVA3 ⇓S **Sn 09 43 34.1 -10**
comp=Z,22nm,0.7s
BVAR Borovoye Array 19.09 43 P **P 09 40 09.6 0.0**
comp=Z,1.8nm,0.3s,baz=187,slow=25,SNR=24
BVAR S Sn 09 43 32.6 -11
comp=Z,0.4nm,0.3s,baz=263,slow=25,SNR=4.5
BRZS Berezniki 19.10 54 *e*P **Pn 09 40 13.1 +2.5**
GZR Gura Zlata 19.35 292 ⇓P **Pn 09 40 13.5 -0.1**
AAK Ala-Archa 19.36 76 P **P 09 40 13.2 +0.4**
comp=Z,1.4nm,0.3s,baz=260,slow=11,SNR=25
AAK LR LR 09 47 46.3
comp=Z,433nm,21.4s,baz=259,slow=37
AAK Ala-Archa 19.36 76 P **P 09 40 13.3 +0.5**
SNR=12
AAK Ala-Archa 19.36 76 *i*P **Pn 09 40 13.4 -0.4**
SNR=9.3
AAK Ala-Archa 19.36 76 ⇑P **P 09 40 13.0 +0.2**
comp=Z,16nm,0.7s
AAK Ala-Archa 19.36 76 P **P 09 40 13.2 +0.4**
AAK IAmb IAmb 09 40 18.5
comp=Z,18nm,0.7s
AAK Ala-Archa 19.36 76 P **Pn 09 40 13.8 -0.1**
LVV L'vov 19.38 306 *e*P **Pn 09 40 19.7 +5.9**
MNK Minsk 19.40 322 *i*P **P 09 40 09.9 -3.0**
MNK *i*S **Sn 09 43 48.4 -2.9**
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,37nm,1.2s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=Z,417nm,16.0s
MNK MLR MLR
comp=E,64nm,22.0s
MNK MLR MLR
comp=N,716nm,20.0s
MNK Minsk 19.40 322 *i*P **P 09 40 10.0 -2.9**
comp=E,4.0nm,0.9s
MNK *i*P **P 09 40 10.0 -2.9**
comp=N,37nm,1.2s
MNK *i*P **P 09 40 10.0 -2.9**
comp=Z,10.0nm,0.8s,baz=306
MNK *i*PP **PnPn 09 40 24.0 -3.0**
MNK *i*S **Sn 09 43 48.5 -2.8**
MNK *i*SS **SnSn 09 44 10.3 +5.0**
MNK *i*LQ LQ 09 46 07.4
MNK *i*LR LR 09 47 39.8
MNK *i*LRM MLR 09 48 42.0
comp=Z,417nm,15.6s
MNK *i*LRM MLR 09 48 42.8
comp=E,64nm,21.7s
MNK *i*LRM MLR 09 48 47.8
comp=N,716nm,19.5s
SGDS Sogindy 19.42 74 *e*P **Pn 09 40 15.8 +1.3**
IDI Anoyia 19.47 261 P **Pn 09 40 15.0 -0.2**
comp=N,0.8nm,0.3s,baz=89,slow=13,SNR=1.8
WSAR Wadi Sarin 19.52 151 P **Pn 09 40 15.4 -0.2**
comp=N,0.3nm,0.3s,baz=0.8,slow=11,SNR=1.7
WSAR Wadi Sarin 19.52 151 P **Pn 09 40 16.7 +1.1**
DRGR 19.55 296 ⇓P **Pn 09 40 16.6 +0.6**
DRGR 19.55 296 P **Pn 09 40 18.0 +2.0**
HERR Herculane 19.58 290 ⇑P **Pn 09 40 15.8 -0.5**
KBK Karagaybulak 19.69 76 P **Pn 09 40 17.2 -0.6**
SNR=16
LIT Litokhoron 19.87 276 P **Pn 09 40 20.6 +0.8**
LIT Litokhoron 19.87 276 P **Pn 09 40 20.6 +0.8**
MDVR Moldovita 20.07 290 ⇓P Pn 09 40 21.9 -0.4
BOVS Bovan 20.08 287 ⇑P **P 09 40 21.1 +0.7**
JMDO Jabal Madar 20.13 154 P Pn 09 40 23.8 +0.8
JMDO P Pn 09 40 23.8 +0.8
KWP Kalwaria Pacla 20.14 304 P Pn 09 40 22.6 -0.4
KWP Kalwaria Pacla 20.14 304 P Pn 09 40 22.6 -0.4
NACGM Naroch 20.15 321 *i*P Pn 09 40 26.9 +3.9
baz=262
TKM2 Tokmak 2 20.15 75 P **P 09 40 21.6 +0.1**
SNR=24
TKM2 Tokmak 2 20.15 75 ⇑P **P 09 40 21.1 -0.4**
comp=N,13nm,0.7s
TKM2 Tokmak 2 20.15 75 P **P 09 40 21.1 -0.4**
UZH Uzhgorod 20.16 301 *e*P Pn 09 40 24.6 +1.4
UZH *i* 09 40 30.5
UZH *i* 09 40 38.3
UZH *e* 09 40 48.6
BZS Buzias 20.18 293 ⇑P Pn 09 40 22.7 -0.7
SIRR Siria 20.21 294 ⇓P Pn 09 40 23.3 -0.5
WBK Wadi Bani Khal 20.21 151 P Pn 09 40 25.3 +1.3
KOLS Kolonicke sedl 20.24 302 *e*P Pn 09 40 29.2 +5.1
KOLS Kolonicke sedl 20.24 302 *e*P Pn 09 40 29.2 +5.1
BOOM Boomskoye usch 20.43 76 P Pn 09 40 25.6 -1.0
BOOM pmax pmax
comp=Z,15nm,0.8s
BOOM Boomskoye usch 20.43 76 Pn Pn 09 40 25.6 -1.0
BOOM IAmb IAmb 09 40 46.6
comp=Z,16nm,0.8s
FNA Florina 20.59 279 P Pn 09 40 28.1 -0.2
FNA pmax pmax
comp=Z,12nm,0.9s
FNA Florina 20.59 279 P Pn 09 40 28.1 -0.2
IIGN Ignalina 20.67 322 *e*P **P 09 40 27.8 +1.0**
ULHL Ulahol 20.68 77 P Pn 09 40 29.6 +0.1
SNR=12
KLMR Klimovskoe 20.76 347 *e*P **P 09 40 26.4 -1.2**
KLMR pmax pmax
comp=Z,38nm,0.5s
KLMR Klimovskoe 20.76 347 *e*P **P 09 40 26.4 -1.2**
KLMR AMP 09 40 34.3
comp=Z,38nm,0.5s
KLMR LQ LQ 09 46 54.4
KLMR LQ LQ 09 46 54.4
KLMR LR LR 09 48 15.0
CRVS Cervenica-Dubn 20.76 302 *e*P Pn 09 40 33.8 +3.6
CRVS Cervenica-Dubn 20.76 302 *e*P Pn 09 40 33.8 +3.6
ISAL Salakas 20.84 322 *e*P **P 09 40 29.6 +1.1**
NIL Nilore 20.85 102 P **P 09 40 30.0 +1.1**
NIL pmax pmax
comp=Z,47nm,0.8s
NIL Nilore 20.85 102 P **P 09 40 30.0 +1.1**
PRGR Permogore 20.85 356 *e*P **P 09 40 28.1 -0.5**
PRGR *e* 09 40 47.0
PRGR *e*S **S 09 44 18.2 -2.5**
PRGR pmax pmax
comp=Z,62nm,0.6s
KSH Kashi 20.91 85 P **P 09 40 27.5 -2.1**
KSH pP sP 09 40 35.5 -0.1
KSH S S 09 44 02.9 -20
KSH SS **SnSn 09 44 44.7 +1.9**
KSH pmax pmax
comp=Z,23nm,0.3s
KSH pmax pmax
comp=Z,82nm,2.8s
KSH L L
comp=Z,1μm,20.4s
KSH L L
comp=Z,800nm,22.0s
KSH L L
comp=Z,130nm,10.9s
ITM Ithomi 21.03 269 P **P 09 40 31.0 +0.1**
ITM IAmb IAmb 09 40 41.6
comp=Z,22nm,0.7s
DIVS Divibare 21.30 288 P **P 09 40 34.9 +1.1**
KECS Kecovo 21.31 300 *e*P **P 09 40 37.8 +4.1**
KECS Kecovo 21.31 300 *e*P **P 09 40 37.8 +4.1**
MHTO MHTO 21.38 155 P **P 09 40 36.3 +1.7**
SNR=5.1
MHTO P **P 09 40 36.3 +1.7**
SNR=5.1
KDJ Kajisay 21.38 77 P **P 09 40 36.4 +1.6**
KDJ pmax pmax
comp=Z,21nm,0.9s
KDJ Kajisay 21.38 77 P **P 09 40 36.4 +1.6**
KDJ IAmb IAmb 09 40 40.0
comp=Z,21nm,0.8s
SUW Suwalki 21.49 316 P **P 09 40 35.1 -0.5**
SUW pmax pmax
comp=Z,142nm,1.1s
SUW Suwalki 21.49 316 **P 09 40 35.0 -0.5**
PSZ Piszkesteto 21.61 299 ⇑P **P 09 40 39.2 +2.2**
PSZ Piszkesteto 21.61 299 P **P 09 40 38.7 +1.7**
PSZ pmax pmax
comp=Z,30nm,1.2s
PSZ Piszkesteto 21.61 299 P **P 09 40 38.7 +1.7**
PSZ IAmb IAmb 09 40 52.3
comp=Z,30nm,1.2s
ARXS Arharly 21.72 71 *e*P **P 09 40 41.0 +2.8**
PABE Paberze 21.83 320 *e*P **P 09 40 40.0 +0.9**
PABE Paberze 21.83 320 P **P 09 40 40.4 +1.2**
PABE IAmb IAmb 09 41 01.0
comp=Z,37nm,0.8s
PDG Podgorica 21.95 284 P **P 09 40 42.5 +1.9**
OJC Ojcow 22.11 305 P **P 09 40 43.5 +1.2**
OJC pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 22.11 305 P **P 09 40 43.5 +1.2**
OJC IAmb IAmb 09 40 55.0
comp=Z,15nm,0.9s
DQM DQM 22.24 157 P **P 09 40 44.5 +0.6**

DQM P P 09 40 44.5 +0.6
MORH Mrgy, Hungar 22.29 294 ⇑P P 09 40 45.2 +0.9
VYHS Vyhne 22.39 300 *e*P P 09 40 50.0 +4.6
VYHS Vyhne 22.39 300 *e*P P 09 40 50.0 +4.6
VSU Vasula 22.40 329 *e*P P 09 40 46.3 +1.0
VSU Vasula 22.40 329 *i* P P 09 40 45.1 -0.2
VSU pmax pmax
comp=Z,135nm,0.8s
DOK Doka 22.70 166 P P 09 40 47.0 -1.8
DOK P P 09 40 47.0 -1.8
KURBB Kurchatov Arra 22.88 55 P P 09 40 51.1 +0.6
comp=Z,7.7nm,0.7s,baz=259,slow=10,SNR=27
KURBB Kurchatov Arra 22.88 55 ⇓P P 09 40 52.0 +1.5
comp=Z,23nm,0.9s
KURBB Kurchatov Arra 22.88 55 P P 09 40 51.9 +1.5
KURK Kurchatov 22.96 55 P P 09 40 51.1 -0.2
KURK Kurchatov 22.96 55 P P 09 40 51.1 -0.2
JAVC Velka Javorina 23.21 300 *e*P P 09 41 00.9 +6.9
WHFO Wadi Hawf 23.32 168 P P 09 40 53.9 -1.3
MORC Moravsky Berou 23.44 303 *e*P P 09 41 00.3 +4.0
MORC Moravsky Berou 23.44 303 P P 09 40 59.0 +2.7
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC Moravsky Berou 23.44 303 P P 09 40 59.0 +2.7
DMTO DMTO 23.73 165 P P 09 40 58.4 -0.9
MTSE Matsula 23.74 327 *e*P P 09 41 00.2 +1.3
RBK Rabkut 23.80 167 P P 09 41 00.2 +0.3
ABTO Aybut 23.80 169 P P 09 40 58.4 -1.6
VRAC Vranov 23.98 301 LR LR 09 51 23.5
comp=Z,366nm,21.9s,baz=88,slow=39
CONA Conrad Observa 24.30 298 *e*P P 09 41 10.8 +6.2
comp=Z,5.7nm,1.5s
DPC Dobruska-Polom 24.32 304 *e*P P 09 41 08.5 +3.9
DPC MLR MLR
comp=Z,400nm,17.3s
DPC Dobruska-Polom 24.32 304 *e*P P 09 41 08.5 +3.9
DPC AMS AMS 09 51 00.0
comp=Z,400nm,17.3s
MEF Metsahovi 24.47 330 *e*P P 09 41 06.3 +0.5
ARSA Arzberg 24.49 296 *e*P P 09 41 12.7 +6.6
comp=Z,1.4nm,0.4s
FIA1 FINESS Array S 24.72 334 P P 09 41 07.8 -0.2
FINES FINESS Array B 24.72 334 P P 09 41 07.7 -0.4
comp=Z,16nm,0.5s,baz=138,slow=10,SNR=36
MK31 Makanchi Array 24.86 65 P P 09 41 10.1 +0.6
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 24.86 65 P P 09 41 10.1 +0.6
MK31 IAmb IAmb 09 41 18.1
comp=Z,9.6nm,0.7s
MKAR Makanchi Array 24.86 65 P P 09 41 10.1 +0.5
comp=Z,7.7nm,0.7s,baz=264,slow=8.3,SNR=72
MKAR LR LR 09 51 43.8
comp=Z,56nm,18.9s,baz=294,slow=38
MKAR Makanchi Array 24.86 65 P P 09 41 09.9 +0.4
OBKA Obir 25.13 294 *e*P P 09 41 18.0 +5.9
comp=Z,2.2nm,0.6s
CEL Celeste 25.28 275 P P 09 41 13.6 +0.1
CEL IAmb IAmb 09 41 24.9
comp=Z,31nm,1.3s
PRU Pruhonice 25.39 302 AMS AMS 09 51 50.0
comp=Z,400nm,19.8s
CKRC Cesky Krumlov 25.41 300 *e*P P 09 41 20.8 +6.3
PVCC Panska Ves 25.45 304 AMS AMS 09 51 50.0
comp=Z,300nm,15.5s
GEC2 GERESS Array S 25.81 300 P P 09 41 18.8 +0.5
GERES GERESS Array B 25.81 300 P P 09 41 19.6 +1.4
comp=Z,0.6nm,0.4s,baz=105,slow=9.3,SNR=1.9
GERES LR LR 09 53 16.4
comp=Z,158nm,20.1s,baz=101,slow=41
BRG Berggiesshubel 25.90 304 *e*P P 09 41 26.1 +7.3
BRG Amp 09 41 27.1
comp=Z,2.8nm,0.8s
BRG *ex* x 09 41 41.6
BRG Amp 09 41 44.8
comp=Z,26nm,1.9s
KHC Kasperske Hory 25.92 300 *e*P P 09 41 21.6 +2.5
KHC Kasperske Hory 25.92 300 *e*P P 09 41 21.6 +2.5
INTR Introdacqua 25.94 284 P P 09 41 20.6 +1.1
INTR IAmb IAmb 09 41 41.2
comp=Z,7.9nm,0.6s
KBA Koelnbreinsper 25.97 296 *e*P P 09 41 20.6 +0.9
comp=Z,3.0nm,0.5s
AAL Aland 26.18 327 *e*P P 09 41 22.9 +1.7
AQU L'Aquila 26.26 285 P P 09 41 22.4 +0.2
AQU pmax pmax
comp=Z,21nm,0.9s
AQU L'Aquila 26.26 285 P P 09 41 22.4 +0.2
AQU IAmb IAmb 09 41 47.7
comp=Z,21nm,0.9s
NDI New Delhi 26.33 109 *e*P P 09 41 25.0 +2.0
ABTA Abfaltersbach 26.54 295 *e*P P 09 41 30.4 +5.7
comp=Z,2.8nm,0.6s
CLL Collm 26.56 305 *e*sP sP 09 41 30.0 -0.9
CLL *e* 09 41 46.0
CLL *e*PPP PPP 09 42 13.0
CLL *e*S S 09 46 06.0 +7.2
CLL Lm MLR 09 52 00.0
comp=N,600nm,18.1s
CLL Lm MLR 09 52 00.0
comp=E,300nm,21.0s
CLL Lm MLR 09 52 00.0
comp=Z,300nm,18.8s
CLL Collm 26.56 305 *e*P sP 09 41 30.0 -0.9
CLL MLR MLR
comp=Z,300nm,18.8s
MURB Monte Urbino 26.77 287 P P 09 41 28.0 +1.2
MURB IAmb IAmb 09 41 37.9
comp=Z,24nm,1.1s
CTI Castel Tesino 27.15 293 P P 09 41 30.4 +0.1
CTI pmax pmax
comp=Z,7.0nm,1.2s
CTI Castel Tesino 27.15 293 P P 09 41 30.4 +0.1
ZAA0 Zalesovo Array 27.42 49 P P 09 41 30.5 -2.1
ZALV Zalesovo Beam 27.42 49 P P 09 41 32.3 -0.2
comp=Z,1.0nm,0.4s,baz=267,slow=12,SNR=2.9
ZALV LR LR 09 54 03.8
comp=Z,352nm,18.9s,baz=242,slow=40
ZALV Zalesovo Beam 27.42 49 P P 09 41 31.0 -1.5
APA Apatity 28.00 348 ⇓*i*P P 09 41 37.1 -0.5
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,500nm,14.0s
LVZ Lovozero 28.11 349 *i* P P 09 41 38.1 -0.5
LVZ pmax pmax
comp=Z,17nm,0.9s
LVZ Lovozero 28.11 349 P P 09 41 39.2 +0.6
DAVOX Davos/Dischmat 28.35 295 P P 09 41 41.0 -0.1
comp=Z,1.3nm,0.4s,baz=34,slow=7.3,SNR=2.0
DGZ Jazzator, Alta 28.41 59 *i* P P 09 41 41.8 +0.1
DGZ pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 28.84 71 *e*P P 09 41 46.5 +1.1
WMQ L L
comp=Z,950nm,16.5s
WMQ L L
comp=Z,450nm,15.9s
WMQ L L
comp=Z,410nm,16.3s
HFS Hagfors 28.88 324 P P 09 41 45.5 0.0
comp=Z,6.9nm,0.4s,baz=115,slow=10.0,SNR=18
ATD Arta Tunnel 29.69 191 P P 09 41 53.6 +0.6
comp=Z,2.6nm,0.3s,baz=343,slow=6.1,SNR=4.5
ATD Arta Tunnel 29.69 191 IAmb IAmb 09 41 56.4
comp=Z,7.4nm,0.8s
NC602 NORSAR Array S 30.10 324 *e*P P 09 41 57.5 +1.2
NC602 NORSAR Array S 30.10 324 P P 09 41 56.0 -0.3
NC405 NORSAR Array S 30.18 325 P P 09 41 57.0 0.0
NB201 NORSAR Array S 30.34 324 P P 09 41 57.6 -0.9
NB2 NORSAR Subarra 30.37 324 P P 09 41 57.7 -1.0
baz=114,slow=9.3
NOA NORSAR Array B 30.37 324 P P 09 41 58.1 -0.6
comp=Z,6.4nm,0.8s,baz=118,slow=8.3,SNR=21
NOA LR LR 09 54 23.1
comp=Z,66nm,18.0s,baz=145,slow=37
NBO00 NORSAR Array S 30.56 324 P P 09 42 00.4 0.0
WLF Walferdange 30.79 301 P P 09 42 02.0 -0.5
WLF pmax pmax
comp=Z,28nm,1.5s
WLF Walferdange 30.79 301 P P 09 42 02.0 -0.5
ARCES ARCESS Array B 31.16 345 P P 09 42 05.7 +0.1
comp=Z,1.4nm,0.4s,baz=146,slow=10,SNR=18
ARCES LR LR 09 56 09.7
comp=Z,545nm,18.2s,baz=150,slow=39

ARCES ARCESS Array B 31.16 345 P P 09 42 05.5 -0.1
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 31.16 345 P P 09 42 05.5 -0.1
ARCES IAmb IAmb 09 42 16.1
comp=Z,5.4nm,0.8s
KTK1 Kautokeino 31.23 343 *e*P P 09 42 07.6 +1.5
NSS Namsos 31.68 331 *e*P P 09 42 12.1 +1.9
MOR8 Moi Rana 31.71 334 *e*P P 09 42 10.5 +0.1
FAUS Fauske 32.18 336 *e*P P 09 42 15.6 +1.1
JETT Jettan, Norway 32.30 342 *e*P P 09 42 18.8 +3.2
KONS Konsvik 32.34 334 *e*P P 09 42 17.2 +1.3
STEI Steigen 32.54 337 *e*P P 09 42 17.6 0.0
AKN Aaknes 32.67 325 *e*P P 09 42 20.0 +1.0
TRO Tromso 32.71 341 *e* P 09 42 16.5 -2.6
NRIK Noril'sk 35.02 23 P P 09 42 40.5 +1.3
comp=Z,1.6nm,0.5s,baz=225,slow=10.0,SNR=2.3
NRIK LR LR 09 58 55.8
comp=Z,231nm,18.6s,baz=217,slow=40
NRIK Noril'sk 35.02 23 *i* P P 09 42 40.3 +1.1
NRIK pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 36.56 311 P P 09 42 53.7 +1.1
comp=Z,0.4nm,0.3s,baz=97,slow=9.4,SNR=5.6
GTA Gaotai 38.70 75 *e*P P 09 43 12.3 +1.2
GTA pP sP 09 43 18.0 +0.7
GTA sP pP 09 43 20.8 +5.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,88nm,6.4s
GTA L L
comp=Z,300nm,19.6s
GTA L L
comp=Z,260nm,20.0s
GTA L L
comp=Z,180nm,15.6s
SHL Shillong 38.87 99 P P 09 43 11.6 -1.1
SHL pmax pmax
comp=Z,13nm,0.6s
SHL Shillong 38.87 99 P P 09 43 11.6 -1.1
SHL IAmb IAmb 09 43 21.0
comp=Z,13nm,0.6s
SPA0 Spitsbergen Ar 39.62 350 *e*P P 09 43 20.0 +1.9
ESDC Sonseca Array 39.63 286 P P 09 43 18.1 -0.7
comp=Z,0.9nm,0.8s,baz=79,slow=8.0,SNR=2.8
ESDC LR LR 10 02 53.1
comp=Z,61nm,18.7s,baz=130,slow=41
SONM Songino Array 41.04 60 P P 09 43 30.7 +0.3
comp=Z,1.4nm,0.6s,baz=263,slow=10.0,SNR=4.0
SONM LR LR 10 00 38.5
comp=Z,225nm,21.2s,baz=273,slow=36
SONM Songino Array 41.04 60 IAmb IAmb 09 43 33.2
comp=Z,3.4nm,1.3s
ULN Ulaanbaatar 41.46 60*c i*P P 09 43 34.7 +0.8
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 41.46 60 P P 09 43 32.8 -1.1
ULN IAmb IAmb 09 43 39.1
comp=Z,7.4nm,0.7s
ULN Ulaanbaatar 41.46 60 P P 09 43 34.9 +1.0
KMBO Kilima Mbogo 43.09 197 LR LR 10 03 35.4
comp=Z,316nm,18.4s,baz=32,slow=39
BORG Borgarnes 45.52 326 LR LR 10 04 51.7
comp=Z,220nm,19.2s,baz=93,slow=38
HHC Hu-ho-hao-te 46.65 68 *e*P P 09 44 15.3 -0.2
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,88nm,5.5s
HHC L L
comp=Z,560nm,18.6s
HHC L L
comp=Z,370nm,19.6s
HHC L L
comp=Z,160nm,17.1s
KMI Kunming 47.30 92 ⇑P P 09 44 21.0 0.0
KMI pP pP 09 44 23.8 -1.6
KMI sP sP 09 44 25.1 -2.2
KMI pmax pmax
comp=Z,17nm,0.5s
KMI L L
comp=Z,140nm,26.0s
KMI L L
comp=Z,130nm,25.0s
KMI L L
comp=Z,190nm,23.9s
XAN Xi'an 47.53 78 P P 09 44 23.0 +0.6
XAN pP pP 09 44 26.2 -0.7
XAN S S 09 51 17.6 +0.5
XAN pmax pmax
comp=Z,11nm,0.7s
XAN L L
comp=Z,360nm,20.6s
XAN L L
comp=Z,300nm,18.4s
XAN L L
comp=Z,320nm,17.4s
CMAR Chiang Mai Arr 48.34 102 P P 09 44 28.9 0.0
comp=Z,1.9nm,0.6s,baz=302,slow=7.7,SNR=10
CMAR Chiang Mai Arr 48.34 102 *i* P P 09 44 29.3 +0.5
CMAR pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 48.76 25 *i* P P 09 44 32.2 +0.9
TIXI Tiksi 48.76 25 P P 09 44 31.7 +0.4
TIXI IAmb IAmb 09 44 37.9
comp=Z,4.2nm,0.5s
TOA0 Torodi Ar. Sit 49.33 250 P P 09 44 36.6 +0.2
TOA0 IAmb IAmb 09 44 50.7
comp=Z,12nm,1.4s
TOA0 Torodi Ar. Sit 49.33 250 P P 09 44 36.7 +0.2
TORD Torodi Ar. Bea 49.33 250 P P 09 44 35.7 -0.7
comp=Z,2.7nm,1.0s,baz=29,slow=8.8,SNR=9.2
TORD Torodi Ar. Bea 49.33 250 P P 09 44 36.2 -0.2
TORD IAmb IAmb 09 44 37.6
comp=Z,7.4nm,1.4s
KOWA Kowa 52.57 256 P P 09 45 01.6 +0.8
KOWA IAmb IAmb 09 45 05.6
comp=Z,10nm,0.8s
NJ2 Nanjing 55.80 75 *e*P P 09 45 22.7 -1.5
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KLR Kul'dur 56.50 51 *i* P P 09 45 28.6 -0.4
KLR pmax pmax
comp=Z,9.0nm,1.5s
SFJD Kangerlussuaq 56.51 332 LR LR 10 08 00.7
comp=Z,121nm,18.5s,baz=47,slow=34
EUNU Eureka 56.70 352 P P 09 45 31.1 +1.0
EUNU IAmb IAmb 09 45 35.2
comp=Z,5.8nm,0.8s
DBIC Dimbokro 58.44 250 P P 09 45 43.3 +0.3
comp=Z,4.3nm,0.7s,baz=63,slow=4.5,SNR=1.7
DBIC LR LR 10 14 42.1
comp=Z,94nm,18.6s,baz=113,slow=40
DBIC Dimbokro 58.44 250 P P 09 45 42.7 -0.4
DBIC pmax pmax
comp=Z,47nm,1.5s
DBIC Dimbokro 58.44 250 P P 09 45 42.7 -0.4
USA0B Ussuriysk Arra 58.93 57 *i* P P 09 45 43.6 -2.5
USRK Ussuriysk Ar. 58.93 57 P P 09 45 46.0 -0.1
comp=Z,3.6nm,0.8s,baz=289,slow=5.0,SNR=7.4
USRK LR LR 10 13 41.3
comp=Z,179nm,19.5s,baz=297,slow=39
KSRS Korea Array 59.54 65 P P 09 45 50.6 +0.1
comp=Z,2.6nm,0.7s,baz=300,slow=7.0,SNR=8.3
KSRS LR LR 10 13 42.1
comp=Z,97nm,18.3s,baz=303,slow=38
SEY Seymchan 60.17 31 *i* P P 09 45 54.3 -0.1
BILL Bilibino 61.84 22⇓*e*P P 09 46 07.1 +1.4
BILL *PP pP 09 46 10.0 -0.3
BILL *SP sP 09 46 12.0 0.0
BILL 09 46 50.0
BILL 09 54 45.0 +17
BILL S S
BILL pmax pmax
comp=Z,3.0nm,0.7s
MAT Matsushiro 66.98 61 P P 09 46 37.8 -2.0
MJAR Matsushiro Arr 66.98 61 P P 09 46 39.9 +0.1
comp=Z,2.2nm,0.7s,baz=307,slow=8.6,SNR=4.6
MJAR LR LR 10 16 38.6
comp=Z,75nm,18.4s,baz=45,slow=37
PETK Petropavlovsk- 68.23 38 LR LR 10 21 38.8
comp=Z,71nm,18.7s,baz=290,slow=40
LBTB Lobatse 68.97 202 P P 09 46 51.6 -0.8
LBTB Lobatse 68.97 202 P P 09 46 51.6 -0.8
SCHQ Schefferville 69.92 326 P P 09 46 59.7 +1.8
comp=Z,2.0nm,1.0s,baz=72,slow=3.2,SNR=1.7
SCHQ LR LR 10 16 46.8
comp=Z,87nm,19.6s,baz=46,slow=35
TOLK Toolik Lake Re 69.94 7 P P 09 46 59.0 +1.1
TOLK IAmb IAmb 09 47 15.3
comp=Z,7.1nm,1.1s
C36M Paulatuk 69.94 357 P P 09 46 57.7 0.0
C36M IAmb IAmb 09 47 12.0
comp=Z,5.5nm,1.1s
BMAR Burnt Mountain 71.54 5 P P 09 47 08.7 +1.1
IMAR Indian Mountai 72.06 9 P P 09 47 11.3 +0.7
BOSA Boshof 72.47 201 P P 09 47 13.9 +0.3
comp=Z,5.1nm,0.6s,baz=29,slow=7.0,SNR=4.2
BOSA Boshof 72.47 201 P P 09 47 14.2 +0.5
BOSA Boshof 72.47 201 P P 09 47 14.2 +0.5
ILAR Eielson Array 73.97 7 P P 09 47 21.6 -0.4
comp=Z,0.6nm,0.9s,baz=332,slow=5.2,SNR=5.4
ILAR LR LR 10 22 04.5
comp=Z,56nm,21.8s,baz=334,slow=38
KTH Kantishna Hill 74.74 9 P P 09 47 26.8 +0.2
KTH IAmb IAmb 09 47 36.6
comp=Z,6.6nm,1.1s
SCRK Sand Creek 74.99 6 P P 09 47 28.6 +0.4
K27K Chicken 75.08 5 P P 09 47 28.9 +0.4
K27K IAmb IAmb 09 47 48.6
comp=Z,4.0nm,1.1s
DAWY Dawson 75.19 4 P P 09 47 30.1 +0.9
DAWY IAmb IAmb 09 47 48.9
comp=Z,3.6nm,0.9s
BCAR Beaver Creek A 76.05 5 P P 09 47 35.1 +1.0
YKA Yellowknife Ar 76.08 352 LR LR 10 23 13.8
comp=Z,44nm,18.6s,baz=0.0,slow=37
ULM Lac du Bonnet 84.04 338 LR LR 10 28 17.2
comp=Z,101nm,18.3s,baz=38,slow=38
NEW Newport 90.33 351 P P 09 48 47.9 -0.2
comp=Z,1.4nm,0.6s,baz=343,slow=11,SNR=1.9
WRA Warramunga Arr 99.66 108 P Pdif 09 49 29.9 -1.0
comp=Z,0.6nm,0.6s,baz=320,slow=3.9,SNR=9.4
ASAR Alice Springs 101.72 111 P Pdif 09 49 40.5 +0.4
comp=Z,0.2nm,0.6s,baz=299,slow=4.8,SNR=1.1

IDC ***03*** *10:01:06.9±0.5, 62°.88N×59°.89W, h0km, mb4.0/19, mb1 4.3/21, mb1mx4.0/59, mbtmp4.1/21, ML3.7/2, Error ellipse: s-maj=18.0km s-min=11.0km az=159.0*
NEIC ***03*** *10:01:07.0±3.7, 62°.84N±0°.06×60°.0W±0°.1, h10km±1km, Error ellipse: s-maj=10.7km s-min=10.6km az=217.0*
OTT ***03*** *10:01:08.1±0.2, 62°.85N×60°.06W, h18km, MN3.9/12, 306km northeast from Resolution Island, Nu*
DNK ***03*** *10:01:09.1±3.8, 62°.69N×60°.16W, h40km±86km, ML3.6*
ISC 03 10:01:06.8±0.4**, 62°.83N**±0°.04×**60°.05W**±0°.04**, h10km, n122,**
σ2°.39/135**, mb4.3**/34**, Davis Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**3.94**	**287**	PN	**Pn**	**10 02 07.5**	**+0.2**
FRB				SN	**Sn**	**10 02 51.4**	**-2.2**
FRB				LG	Lg	10 03 09.4	
FRB				Trac		10 03 15.8	
	comp=Z,560nm,0.5s						
KAJQ	**Kangiqsualujju**	**5.05**	**217**	PN	**Pn**	**10 02 23.0**	**+0.5**
KAJQ				SN	**Sn**	**10 03 18.0**	**-2.8**
KAJQ				Trac		10 03 19.5	
	comp=Z,95nm,0.2s						
KNGQ	**Kangiqsujuaq**	**5.71**	**263**	PN	**Pn**	**10 02 30.6**	**-0.9**
KNGQ				SN	**Sn**	**10 03 33.4**	**-3.5**
KNGQ				Trac		10 03 40.0	
	comp=Z,6.6nm,0.0s						
KNGQ				LG	Lg	10 04 07.1	
SFJD	**Kangerlussuaq**	**5.79**	**40**	Pn	**Pn**	**10 02 32.3**	**-0.3**
	5.0nm,0.3s,baz=221,slow=14,SNR=43						
SFJD				Sn	**Sn**	**10 03 34.8**	**-4.2**
	19nm,0.3s,baz=153,slow=10,SNR=13						
SFJD	**Kangerlussuaq**	**5.79**	**40**	PN	**Pn**	**10 02 32.2**	**-0.4**
SFJD				SN	**Sn**	**10 03 34.8**	**-4.2**
SFJD				Trac		10 03 37.8	
	9.8nm,0.6s						
SFJD	**Kangerlussuaq**	**5.79**	**40**	*i* P	**Pn**	**10 02 33.1**	**+0.5**
SFJD				*i* S	**Sn**	**10 03 36.4**	**-2.5**
SFJD				IAML		10 03 43.9	
	comp=Z,36nm,0.4s						
SFJD	**Kangerlussuaq**	**5.79**	**40**	Pn	**Pn**	**10 02 32.5**	**-0.1**
SFJD				Sn	**Sn**	**10 03 35.6**	**-3.3**
NANL	**Nain**	**6.37**	**188**	PN	**Pn**	**10 02 40.9**	**+0.4**
NANL				SN	**Sn**	**10 03 49.8**	**-3.5**
NANL				Trac		10 03 54.5	
	comp=Z,21nm,0.1s						
DY2G	**Dye2**	**6.95**	**52**	*i* P	**Pn**	**10 02 48.0**	**-0.7**
DY2G				*i* S	**Sn**	**10 03 59.8**	**-8.0**
DY2G				IAML		10 04 31.1	
	comp=Z,32nm,0.5s						
NRS	**Narsarsuaq**	**7.09**	**97**	*i* P	**Pn**	**10 02 49.8**	**-0.7**
NRS				*e*S	Sn	10 04 01.8	-9.2
NRS				IAML		10 04 24.9	
	comp=Z,51nm,0.4s						
NRS	**Narsarsuaq**	**7.09**	**97**		**Pn**	**10 02 50.7**	**+0.3**
NRS				Sn	**Sn**	**10 04 07.2**	**-3.8**
CLRN	**Clyde River**	**8.38**	**340**	SN	**Sn**	**10 04 35.9**	**-6.7**
CLRN				LG	Lg	10 05 27.7	
SCHQ	**Schefferville**	**8.75**	**207**	Pn	**Pn**	**10 03 14.2**	**+0.9**
	comp=Z,5.7nm,0.3s,baz=11,slow=9.9,SNR=97						
SCHQ				Sn	**Sn**	**10 04 47.5**	**-4.5**
	comp=Z,7.2nm,0.3s,baz=139,slow=7.5,SNR=4.9						
SCHQ				Lg	Lg	10 05 17.4	
	comp=Z,6.5nm,0.3s,baz=244,slow=18,SNR=3.9						
SCHQ	**Schefferville**	**8.75**	**207**	PN	**Pn**	**10 03 14.1**	**+0.8**
SCHQ				SN	**Sn**	**10 04 45.2**	**-6.7**
SCHQ				Trac		10 05 29.4	
	comp=Z,82nm,0.8s						
SCHQ	**Schefferville**	**8.75**	**207**	Pn	**Pn**	**10 03 13.8**	**+0.5**
ISOG	**Isortoq, Green**	**9.57**	**64**	*i* P	**Pn**	**10 03 24.1**	**-0.3**
ISOG				*e*S	**Sn**	**10 05 02.9**	**-8.9**
ISOG				IAML		10 05 37.5	
	comp=Z,19nm,0.4s						
ANGG	**Ammassalik, Gr**	**10.13**	**64**		**Pn**	**10 03 30.6**	**-1.5**
ICESG	**Greenland Ices**	**10.38**	**44**	*i* P	**Pn**	**10 03 35.1**	**-0.7**
ICESG				IAML		10 05 28.3	
	comp=Z,21nm,0.4s						
LG4Q	**La Grande 4**	**11.80**	**225**	PN	**Pn**	**10 03 53.4**	**-1.6**
LG4Q				SN	Sn	10 05 56.1	-10
LG4Q				Trac		10 06 01.1	
	comp=Z,4.6nm,0.0s						
SUMG	**Summit**	**12.65**	**30**	*i* P	**Pn**	**10 04 03.5**	**-3.4**
SUMG				IAML		10 06 40.5	
	comp=Z,4.3nm,0.4s						
SUMG	**Summit**	**12.65**	**30**	Pn	**Pn**	**10 04 03.3**	**-3.6**
NATG	**Natashquan Que**	**12.67**	**188**	PN	**Pn**	**10 04 05.5**	**-1.3**
NATG				SN	Sn	10 06 18.7	-9.0
NATG				Trac		10 06 32.5	
	comp=Z,12nm,0.4s						
SMQ	**Clarke City**	**13.15**	**199**	PN	**Pn**	**10 04 11.2**	**-2.2**
SMQ				SN	Sn	10 06 29.8	-10
SMQ				Trac		10 06 41.1	
	comp=Z,14nm,0.4s						
MNQ	**Manicouagan**	**13.21**	**205**	PN	**Pn**	**10 04 12.9**	**-1.3**
MNQ				SN	Sn	10 06 31.2	-10
MNQ				Trac		10 07 44.5	
	comp=Z,29nm,0.7s						
DRLN	**Deer Lake**	**13.68**	**173**	PN	**Pn**	**10 04 19.7**	**-1.0**
DRLN				SN	Sn	10 06 44.1	-8.4
DRLN				Trac		10 07 29.4	
	comp=Z,218nm,2.4s						
DRLN	**Deer Lake**	**13.68**	**173**		**Pn**	**10 04 20.7**	**+0.1**
ICQ	**Pointe Anglais**	**13.92**	**200**	PN	**Pn**	**10 04 21.1**	**-2.8**
ICQ				SN	Sn	10 06 47.6	-11
ICQ				Trac		10 06 56.0	
	comp=Z,14nm,0.8s						
TULEG	**Thule**	**14.07**	**352**	Pn	**Pn**	**10 04 26.2**	**+0.4**
CNQ	**Baie Comeau**	**14.26**	**202**	PN	**Pn**	**10 04 25.6**	**-3.0**
CNQ				SN	Sn	10 06 56.7	-10
CNQ				Trac		10 07 17.9	
	comp=Z,4.0nm,0.2s						
CHGQ	**Chibougamau**	**15.13**	**218**	PN	**Pn**	**10 04 39.5**	**-0.9**
CHGQ				SN	Sn	10 07 15.4	-12
DMCQ	**Dolbeau-Mistas**	**15.40**	**211**	PN	**Pn**	**10 04 41.2**	**-2.8**
DMCQ				Trac		10 07 44.7	
	comp=Z,0.5nm,0.0s						
BATG	**Bathurst New B**	**15.95**	**195**	PN	**Pn**	**10 04 48.7**	**-2.4**
BATG				SN	Sn	10 07 32.4	-15
BATG				Trac		10 08 01.2	
	comp=Z,2.7nm,0.2s						
BATG	**Bathurst New B**	**15.95**	**195**	Pn	**Pn**	**10 04 48.1**	**-3.0**
VIMO	**Victor Mine**	**16.02**	**242**	PN	**Pn**	**10 04 48.0**	**-3.8**
VIMO				SN	Sn	10 07 35.2	-14

VIMO Trac 10 08 02.4
comp=Z,23nm,0.5s
D62A Allapoint, All 16.58 202 Pn 10 04 56.4 -2.7
PQI Presque Isle 16.81 199 Pn 10 04 59.6 -2.5
PQI IAmb IAmb 10 05 13.5
comp=Z,24nm,0.7s
RES Resolute Bay 16.95 329 PN Pn **10 05 00.4 -3.2**
RES SN Sn 10 07 58.9 -13
RES Trac 10 08 14.5
comp=Z,30nm,0.8s
RES Resolute Bay 16.95 329 Pn Pn **10 04 59.8 -3.7**
RES IAmb IAmb 10 05 11.5
comp=Z,19nm,0.7s
FCC Fort Churchill 16.97 272 Pn Pn **10 05 00.3 -3.6**
FCC IAmb IAmb 10 05 17.4
comp=Z,33nm,0.9s
E62A Clayton Lake 17.11 203 P Pn **10 05 02.7 -3.1**
E63A Oxbow 17.12 200 P Pn **10 05 02.9 -3.0**
LMN Caledonia Moun 17.23 191 PN Pn **10 05 05.8 -1.5**
LMN SN Sn 10 08 07.5 -11
LMN Trac 10 08 28.9
comp=Z,318nm,3.3s
LMN Caledonia Moun 17.23 191 P Pn **10 05 05.4 -1.9**
LMN IAmb IAmb 10 05 12.1
comp=Z,21nm,1.0s
GBN Guysborough 17.48 183 P Pn **10 05 10.2 -0.2**
VLDQ Val d'Or 17.65 221 P Pn **10 05 09.7 -2.7**
F64A Sherman 17.65 199 P Pn **10 05 10.6 -1.9**
F64A IAmb IAmb 10 05 17.9
comp=Z,34nm,1.5s
F63A Nahmakanta, Br 17.93 201 P Pn **10 05 13.8 -2.2**
GGN Saint George 18.17 196 P Pn **10 05 18.0 -0.9**
G65A Princeton 18.19 197 P Pn **10 05 17.1 -2.0**
G65A IAmb IAmb 10 05 41.6
comp=Z,32nm,1.4s
HAL Halifax 18.34 188 P Pn **10 05 19.8 -1.2**
HAL IAmb IAmb 10 05 20.4
comp=Z,45nm,1.2s
PKME Peaks-Kenny Pk 18.38 201 P **10 05 20.2 -1.4**
PKME IAmb IAmb 10 05 43.6
comp=Z,53nm,1.5s
TRQ Mont Tremblant 18.57 213 P Pn **10 05 24.8 +0.9**
G62A West of Eustis 18.64 204 P P **10 05 24.9 +0.5**
MOQ Mont Orford 18.90 207 P P **10 05 27.5 +0.2**
WVL Waterville 19.12 201 P P **10 05 30.8 +1.1**
WVL IAmb IAmb 10 05 48.1
comp=Z,40nm,1.3s
H62A Milan 19.38 205 P P **10 05 33.6 +1.0**
FRNY Flat Rock 19.64 210 P P **10 05 36.4 +1.0**
I63A Otisfield 19.78 203 P P **10 05 37.3 +0.4**
LBNH Lisbon 19.86 206 P P **10 05 36.2 -1.5**
LONY Lake Ozonia 20.08 211 P P **10 05 40.0 -0.1**
LONY IAmb IAmb 10 05 48.2
comp=Z,19nm,1.4s
I62A Tamworth 20.09 204 P P **10 05 41.6 +1.3**
I62A IAmb IAmb 10 05 49.3
comp=Z,28nm,1.2s
PLVO Plevna 20.33 217 P P **10 05 43.8 +1.0**
PLVO IAmb IAmb 10 05 56.5
comp=Z,26nm,1.3s
NCB Newcomb 20.61 210 P P **10 05 47.5 +1.6**
DELO Deloro Mine 20.96 217 P P **10 05 50.8 +1.1**
DELO IAmb IAmb 10 06 01.7
comp=Z,11nm,0.6s
PECO Prince Edward 21.33 215 P P **10 05 53.3 -0.3**
PECO IAmb IAmb 10 05 57.9
comp=Z,19nm,1.0s
HRV Adam Dziewonsk 21.46 204 P P **10 05 55.5 +0.5**
TRY Troy 21.66 208 P P **10 05 57.1 -0.1**
TRY IAmb IAmb 10 06 22.5
comp=Z,12nm,0.9s
L64A Middleborough 21.88 202 P P **10 05 59.4 -0.2**
NOR Nord 21.90 16 *i* P P **10 06 00.1 +0.6**
J56A Wolcott 21.91 214 P P **10 05 57.9 -2.0**
J56A IAmb IAmb 10 06 08.7
comp=Z,15nm,0.9s
L63A North Scituate 22.09 203 P P **10 06 00.9 -0.9**
J55A Hilton 22.17 216 P P **10 06 01.4 -1.3**
M64A Tiverton 22.32 202 P P **10 06 04.3 +0.1**
E43A Lone Tree Farm 22.43 235 P P **10 06 05.3 -0.2**
E43A IAmb IAmb 10 06 22.3
comp=Z,15nm,0.8s
MEDO Medina 22.44 217 P P **10 06 04.8 -0.8**
ULM Lac du Bonnet 23.06 254 P P **10 06 12.9 +0.9**
comp=Z,18nm,0.8s,baz=46,slow=10,SNR=19
ULM S S **10 10 16.5 -6.2**
comp=Z,2.6nm,0.5s,baz=151,slow=22,SNR=2.0
ULM Lg Lg 10 13 02.3
comp=Z,61nm,1.1s,baz=301,slow=17,SNR=9.0
ULM Lac du Bonnet 23.06 254 P P **10 06 11.4 -0.6**
G45A Suttons Bay 23.07 231 P P **10 06 12.4 +0.2**
L56A Greenwood 23.16 215 P P **10 06 13.9 +0.7**
L56A IAmb IAmb 10 06 22.4
comp=Z,12nm,0.9s
ODNJ Ogdensburg 23.44 209 P P **10 06 16.7 +0.8**
ODNJ IAmb IAmb 10 06 36.8
comp=Z,19nm,1.4s
E38A The Farm, Brul 24.03 242 P P **10 06 21.4 -0.2**
YKA Yellowknife Ar 24.43 294 P P **10 06 26.6 +1.4**
comp=Z,5.9nm,0.7s,baz=62,slow=9.8,SNR=4.4
YKA S S **10 10 50.2 +5.6**
comp=Z,8.1nm,1.0s,baz=65,slow=22,SNR=4.7
YKA Lg Lg 10 13 31.6
comp=Z,7.7nm,0.9s,baz=58,slow=29,SNR=3.5
AGMN Agassiz Nation 24.51 250 P P **10 06 26.0 0.0**
AGMN IAmb IAmb 10 06 42.5
comp=Z,5.3nm,0.8s
G40A Rib Lake 24.59 238 P P **10 06 27.3 +0.6**
G40A IAmb IAmb 10 06 36.6
comp=Z,4.9nm,0.7s
M53A WI Miller and 24.66 219 P P **10 06 26.7 -0.8**
M53A IAmb IAmb 10 06 31.0
comp=Z,11nm,0.9s
C36M Paulatuk 25.58 312 P P **10 06 33.5 -2.0**
C36M IAmb IAmb 10 07 00.3
comp=Z,5.1nm,0.8s
SPMN Marine on St. 25.66 242 P P **10 06 36.8 +0.4**
SPMN IAmb IAmb 10 06 45.7
comp=Z,9.0nm,0.9s
MDND Maddock 26.48 254 P P **10 06 43.8 -0.1**
SFIN Lafayette 27.67 228 P P **10 06 53.3 -1.3**
SFIN IAmb IAmb 10 06 58.1
comp=Z,7.6nm,1.0s
EKA Eskdalemuir Ar 29.26 78 P P **10 07 08.7 +0.1**
comp=Z,2.0nm,0.7s,baz=304,slow=7.7,SNR=4.0
ARCES ARCESS Array B 32.42 41 P P **10 07 37.1 +0.8**
comp=Z,4.4nm,0.9s,baz=284,slow=4.9,SNR=6.0
Y45A Yeager Farm, C 34.39 226 P P **10 07 56.5 +2.7**
BCAR Beaver Creek A 34.81 308 P P **10 08 00.6 +3.3**
PDAR Pinedale Array 34.86 258 P P **10 08 00.9 +2.8**
comp=Z,4.3nm,0.7s,baz=54,slow=7.9,SNR=20
ILAR Eielson Array 35.56 313 P P **10 08 06.4 +2.8**
comp=Z,2.5nm,0.7s,baz=53,slow=7.7,SNR=27
ILAR PcP PcP **10 10 33.5 +1.3**
comp=Z,1.0nm,0.8s,baz=357,slow=2.4,SNR=5.2
IMAR Indian Mountai 37.02 317 P P **10 08 18.8 +2.8**
FINES FINESS Array B 37.44 52 P P **10 08 21.5 +1.9**
comp=Z,2.6nm,0.9s,baz=316,slow=10,SNR=3.6
WHTX Lake Whitney, 38.90 235 P P **10 08 34.2 +2.0**
ABTX Abilene, Hawle 39.18 238 P P **10 08 36.0 +1.4**
ABTX IAmb IAmb 10 08 40.8
comp=Z,3.5nm,0.7s
MSTX Muleshoe 39.25 243 P P **10 08 35.0 -0.3**
MSTX IAmb IAmb 10 08 44.2
comp=Z,3.8nm,0.8s
ESDC Sonseca Array 40.31 98 P P **10 08 46.2 +2.2**
comp=Z,0.8nm,0.7s,baz=316,slow=7.0,SNR=6.2
RSO Redoubt South 40.45 310 P P **10 08 43.5 -1.6**
GERES GERESS Array B 41.25 74 P P **10 08 52.5 +0.8**
comp=Z,0.4nm,0.3s,baz=308,slow=4.9,SNR=3.5
NVAR Mina Array Bea 42.30 263 P P **10 09 02.8 +2.2**
comp=Z,0.6nm,0.7s,baz=41,slow=5.1,SNR=4.9
NVAR Mina Array Bea 42.30 263 P P 10 09 05.7 +5.1
TXAR Lajitas Array 43.68 241 P P **10 09 14.0 +2.3**
comp=Z,1.0nm,0.7s,baz=56,slow=6.3,SNR=10
TXAR PcP PcP **10 11 00.8 +2.2**
comp=Z,0.6nm,0.4s,baz=47,slow=4.7,SNR=9.2
MDT Midelt 45.70 104 P P **10 09 29.2 +1.5**
comp=Z,1.1nm,0.7s,baz=333,slow=4.5,SNR=2.0
AKASG Malin Array Be 46.42 61 P P **10 09 33.6 +0.5**
comp=Z,0.4nm,0.4s,baz=321,slow=7.7,SNR=9.6
BURAR Bucovina Array 47.17 67 P P **10 09 41.1 +2.0**
BURAR IAmb IAmb 10 09 42.8
comp=Z,2.7nm,0.8s
KEST Kesra 49.61 89 P P **10 09 59.0 +0.9**
comp=Z,3.3nm,0.8s,baz=305,slow=6.7,SNR=3.9
BRTR Keskin Array B 57.13 66 P P **10 10 55.4 +2.0**
comp=Z,1.0nm,0.6s,baz=322,slow=3.8,SNR=4.6
ABKAR Akbulak array 58.61 42 P P **10 11 05.0 +1.6**
ZALV Zalesovo Beam 60.35 23 P P **10 11 16.0 +0.7**
comp=Z,0.6nm,0.5s,baz=343,slow=7.7,SNR=4.2
TORD Torodi Ar. Bea 65.64 110 P P **10 11 50.8 -0.2**
comp=Z,1.9nm,0.9s,baz=339,slow=6.4,SNR=5.5
TORD Torodi Ar. Bea 65.64 110 IAmb IAmb 10 11 56.2
comp=Z,4.6nm,1.4s
SONM Songino Array 69.16 10 P P **10 12 14.0 +1.0**
comp=Z,0.6nm,0.6s,baz=357,slow=4.9,SNR=1.9
SONM Songino Array 69.16 10 IAmb IAmb 10 12 21.3
comp=Z,1.0nm,0.7s
BDFB Brasilia 78.78 168 P P **10 13 11.8 +2.2**
comp=Z,1.9nm,0.3s,baz=33,slow=3.5,SNR=3.7
BDFB Brasilia 78.78 168 IAmb IAmb 10 13 12.8
comp=Z,8.9nm,1.1s
WRA Warramunga Arr 136.02 340 PKP **PKiKP 10 20 29.0 -0.3**
comp=Z,0.2nm,0.7s,baz=354,slow=2.5,SNR=1.0
ASAR Alice Springs 139.74 340 PKP **PKPdf 10 20 33.7 -0.8**
comp=Z,0.5nm,1.0s,baz=16,slow=2.0,SNR=1.9
STKA Stephens Creek 146.09 326 PKPbc **PKPbc 10 20 46.4 +0.1**
comp=Z,1.9nm,0.8s,baz=350,slow=6.5,SNR=3.6

*AZER **03** 10:06:18.6±0.1, 40˚.88N×48˚.53E, h6km, ml4.0/34, Error ellipse: s-maj=0.8km s-min=0.7km az=259.0*
*IDC **03** 10:06:18.7±0.8, 40˚.91N×48˚.60E, h0km, mb3.8/9, mb1 3.9/20, mb1mx3.8/55, mbtmpb3.8/20, ML3.5/9, MS2.5/1, Ms1 2.5/1, ms1mx2.2/44, Error ellipse: s-maj=16.1km s-min=7.6km az=161.0*
*MOS **03** 10:06:18.6±1.9, 40˚.87N×48˚.79E, h13km, mb4.2/5, Error ellipse: s-maj=6.3km s-min=5.1km az=42.7*
*TEH **03** 10:06:20.3, 40˚.89N×48˚.57E, h8km, ML4.0*
*NEIC **03** 10:06:20.4±1.8, 40˚.89N±0˚.09×48˚.77E±0˚.09, h10km±1km, mb4.0/21, Error ellipse: s-maj=14.7km s-min=11.0km az=182.0*
*DRS **03** 10:06:21.3±0.0, 40˚.89N×48˚.48E, h14km, ML4.1/10*
*NNC **03** 10:06:26.4±6.4, 41˚.08N×49˚.49E, h0km, mb4.0, Error ellipse: s-maj=93.9km s-min=54.7km az=102.0*

ISC 03 10:06:20.0±0.8, **40˚.90N**±0˚.02×**48˚.60E**±0˚.02, **h13**km±5km, **n174**,σ1⅗**69**/226, **mb3.9**/14, **4C-4D**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PQL	**Pirkuli**	**0.11**	**183**	P	**Pg**	**10 06 22.5**	**-0.8**
	SNR=903						
PQL				S	**Sg**	**10 06 25.0**	**-0.5**
PQL	**Pirkuli**	**0.11**	**183**	*e*Pg	**Pg**	**10 06 22.4**	**-0.8**
ATGJ	**Altiaghaj**	**0.26**	**98**	P	**Pg**	**10 06 25.7**	**+0.1**
	SNR=3063						
ATGJ				S	**Sb**	**10 06 30.8**	**-0.1**
ATGJ	**Altiaghaj**	**0.26**	**98**	*e*Pg	**Pg**	**10 06 25.6**	**+0.1**
SIZA	**Siyzn**	**0.29**	**52**	P	**Pb**	**10 06 27.1**	**0.0**
	SNR=1036						
SIZA				S	**Sb**	**10 06 32.9**	**+1.1**
SIZA	**Siyzn**	**0.29**	**52**	*e*Pg	**Pb**	**10 06 27.0**	**0.0**
IML	**Ismayilli**	**0.33**	**252**	P	**Pg**	**10 06 26.9**	**0.0**
	SNR=271						
IML				S	**Sb**	**10 06 33.0**	**0.0**
IML	**Ismayilli**	**0.33**	**252**	*e*Pg	**Pg**	**10 06 26.8**	**0.0**
XNQ	**Khinaliq**	**0.44**	**308**	P	**Pg**	**10 06 28.9**	**0.0**
	SNR=1111						
XNQ				S	**Sg**	**10 06 35.5**	**+0.6**
XNQ	**Khinaliq**	**0.44**	**308**	*e*Pg	**Pg**	**10 06 28.8**	**0.0**
GBS	**Qobustan**	**0.45**	**144**	P	**Pb**	**10 06 30.4**	**+0.6**
	SNR=110						
GBS				S	**Sn**	**10 06 39.4**	**-0.6**
GBS	**Qobustan**	**0.45**	**144**	*e*Pg	**Pb**	**10 06 30.3**	**+0.6**
QUBA	**Quba, Azerbaij**	**0.46**	**350**	P	**Pb**	**10 06 31.0**	**+1.0**
	SNR=373						
QUBA				S	**Sn**	**10 06 39.5**	**-1.0**
QUB	**Quba**	**0.51**	**339**	*e*Pg	**Pb**	**10 06 30.9**	**0.0**
QBL	**Gabala**	**0.58**	**275**	P	**Pg**	**10 06 31.3**	**0.0**
	SNR=246						
QBL				S	**Sb**	**10 06 41.6**	**+1.5**
QBL	**Gabala**	**0.58**	**275**	*e*Pg	**Pg**	**10 06 31.3**	**0.0**
KDMR	**Kurdemir**	**0.61**	**211**	P	**Pb**	**10 06 32.5**	**0.0**
	SNR=64						
KDMR				S	**Sn**	**10 06 43.0**	**-0.9**
KDMR	**Kurdemir**	**0.61**	**211**	*e*Pg	**Pb**	**10 06 32.4**	**0.0**
QSAR	**Qusar**	**0.67**	**338**	P	**Pb**	**10 06 34.4**	**+0.9**
	SNR=699						
QSAR				S	**Sn**	**10 06 44.9**	**-0.6**
QSAR	**Qusar**	**0.67**	**338**	*e*Pg	**Pb**	**10 06 34.3**	**+0.9**
AKT	**Akhty**	**0.88**	**312**	*e*PG	**Pg**	**10 06 36.8**	**-0.1**
AKT				*e*S	**Sb**	**10 06 49.2**	**+0.5**
AKT				pmax	pmax		
	comp=Z,1μm,0.6s						
AKT	**Akhty**	**0.88**	**312**	*e*Pg	**Pg**	**10 06 36.9**	**-0.1**
	comp=Z,1μm,0.6s						
AKT				*e*Sg	**Sb**	**10 06 49.3**	**+0.5**
	comp=Z,8μm,0.5s						
ZRD	**Zardab**	**0.93**	**229**	P	**Pn**	**10 06 38.8**	**+0.1**
	SNR=24						
ZRD				S	**Sn**	**10 06 54.4**	**+2.6**
ZRD	**Zardab**	**0.93**	**229**	*e*Pg	**Pn**	**10 06 38.7**	**+0.1**
ALIB	**Äli-Bayra**	**0.99**	**162**	P	**Pn**	**10 06 41.7**	**+2.2**
	SNR=80						
ALIB				S	**Sn**	**10 06 55.8**	**+2.5**
ALIB	**Äli-Bayra**	**0.99**	**162**	*e*Pg	**Pn**	**10 06 42.1**	**+2.6**
GOBA	**Gobu**	**0.99**	**120**	P	**Pn**	**10 06 41.8**	**+2.2**
	SNR=86						
GOBA				S	**Sn**	**10 06 58.2**	**+4.8**
GOBA	**Gobu**	**0.99**	**120**	*e*Pn	**Pn**	**10 06 42.0**	**+2.4**
SAAT	**Saatly**	**1.04**	**187**	P	**Pb**	**10 06 40.1**	**+0.3**
	SNR=24						
SAAT				S	**Sn**	**10 06 56.4**	**+1.8**
SAAT	**Saatly**	**1.04**	**187**	*e*Pg	**Pb**	**10 06 40.1**	**+0.3**
NDR	**Nardaran**	**1.10**	**106**	P	**Pg**	**10 06 42.5**	**+1.4**
	SNR=21						
NDR				S	**Sn**	**10 07 01.2**	**+5.2**
SEKA	**Sheki**	**1.10**	**287**	PG	**Pb**	**10 06 40.5**	**-0.4**
SEKA	**Sheki**	**1.10**	**287**	P	**Pb**	**10 06 40.3**	**-0.6**
	SNR=106						
SEKA				S	**Sn**	**10 06 57.0**	**+0.7**
SEKA	**Sheki**	**1.10**	**287**	*e*Pn	**Pb**	**10 06 40.5**	**-0.4**
MNGR	**Mingechevir, A**	**1.16**	**264**	PG	**Pb**	**10 06 42.3**	**+0.5**
MNGR	**Mingechevir, A**	**1.16**	**264**	P	**Pb**	**10 06 42.2**	**+0.5**
	SNR=102						
MNGR				S	**Sn**	**10 06 59.1**	**+1.7**
MNGR	**Mingechevir, A**	**1.16**	**264**	*e*Pg	**Pb**	**10 06 42.3**	**+0.5**
BRDA	**Brd**	**1.25**	**240**	P	**Pb**	**10 06 43.9**	**+0.5**
	SNR=20						
BRDA				S	**Sg**	**10 07 02.6**	**+2.2**
AGDM	**Agdam**	**1.38**	**236**	P	**Pn**	**10 06 45.6**	**+0.6**
	SNR=80						
AGDM				S	**Sg**	**10 07 05.6**	**+1.1**
BLQ	**Beylaqan**	**1.42**	**214**	P	**Pn**	**10 06 45.5**	**+0.1**
	SNR=25						
BLQ				S	**Sg**	**10 07 05.5**	**-0.2**
URKR	**Urkarakh**	**1.46**	**331**	*e*PG	**Pg**	**10 06 48.3**	**+0.3**
URKR				*e*S	**Sg**	**10 07 08.3**	**+1.3**
URKR				pmax	pmax		
	comp=Z,500nm,0.6s						
URKR	**Urkarakh**	**1.46**	**331**	*e*Pg	**Pg**	**10 06 48.3**	**+0.3**
	comp=Z,500nm,0.6s						
URKR				*e*Sg	**Sg**	**10 07 08.3**	**+1.3**
	comp=Z,2μm,0.5s						
GLBA	**Clilabad**	**1.66**	**186**	Pn	**Pn**	**10 06 49.2**	**+0.5**
	SNR=36						
GLBA				Sn	**Sb**	**10 07 12.0**	**+0.8**
ZKTA	**Zakatala**	**1.66**	**297**	PN	**Pb**	**10 06 50.8**	**+0.4**
ZKTA	**Zakatala**	**1.66**	**297**	Pn	**Pb**	**10 06 50.1**	**-0.3**
	SNR=340						
ZKTA				Sn	**Sg**	**10 07 14.9**	**+1.4**
SGKR	**Sergokala**	**1.71**	**336**	*e*PN	**Pg**	**10 06 53.5**	**+0.7**
SGKR				*e*S	**Sg**	**10 07 16.3**	**+1.2**
SGKR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SGKR	**Sergokala**	**1.71**	**336**	*e*Pg	**Pg**	**10 06 53.6**	**+0.7**
	comp=Z,2.0nm,0.5s						
SGKR				*e*Sg	**Sg**	**10 07 16.3**	**+1.2**
	comp=Z,2μm,0.7s						
QRD	**Qoradiz**	**1.74**	**215**	Pn	**Pn**	**10 06 50.1**	**+0.3**
	SNR=28						
QRD				Sn	**Sb**	**10 07 14.1**	**+0.7**
GANJ	**Ganja**	**1.75**	**262**	PN	**Pn**	**10 06 50.0**	**0.0**
GANJ	**Ganja**	**1.75**	**262**	Pn	**Pn**	**10 06 49.7**	**-0.2**
	SNR=189						
GANJ				Sn	**Sn**	**10 07 13.4**	**+1.3**
GNBR	**Gunib**	**1.93**	**321**	*e*Pg	**Pg**	**10 06 56.6**	**-0.3**
	comp=Z,365nm,0.6s						
GNBR				*e*Sg	**Sg**	**10 07 24.7**	**+2.7**
	comp=Z,1μm,0.7s						
DDFL	**Dedoflistskaro**	**1.95**	**287**	PN	**Pb**	**10 06 56.2**	**+0.8**
YRD	**Yardimli**	**2.00**	**188**	Pn	**Pn**	**10 06 53.9**	**+0.3**
YRD				Sn	**Sb**	**10 07 21.5**	**+0.4**
LGD	**Lagodekhi**	**2.01**	**299**	*i* PN	**Pb**	**10 06 56.2**	**-0.1**
ARKR	**Arakani**	**2.08**	**325**	*e*PN	**Pg**	**10 06 59.2**	**-0.7**
ARKR				*e*S	**Sg**	**10 07 28.5**	**+1.6**
ARKR				pmax	pmax		
	comp=Z,4.0nm,0.1s						
ARKR	**Arakani**	**2.08**	**325**	*e*Pg	**Pg**	**10 06 59.2**	**-0.7**
	comp=Z,4.0nm,0.1s						
ARKR				*e*Sg	**Sg**	**10 07 28.6**	**+1.6**
	comp=Z,837nm,0.5s						
GDB	**GEDABAY**	**2.17**	**266**	Pn	**Pn**	**10 06 55.9**	**+0.1**
	SNR=533						
GDB				Sn	**Sn**	**10 07 23.5**	**+0.9**
LKRN	**Lenkeran, Azer**	**2.19**	**176**	Pn	**Pn**	**10 06 56.3**	**+0.3**
LKRN				Sn	**Sb**	**10 07 26.4**	**+0.1**
MAK	**Makhachkala**	**2.22**	**339**	*e*PN	**Pg**	**10 07 02.4**	**-0.1**
MAK				*e*		10 07 05.5	
MAK				*e*S	**Sg**	**10 07 33.3**	**+2.1**
MAK				*e*		10 07 40.6	
MAK				pmax	pmax		
	comp=Z,317nm,0.4s						
MAK				smax	smax		
	comp=N,2μm,0.4s						
MAK				smax	smax		
	comp=N,2μm,0.5s						
MAK				MLR	MLR		
	comp=Z,186nm,2.0s						
LRK	**Lerik**	**2.26**	**185**	Pn	**Pn**	**10 06 57.6**	**+0.4**
	SNR=64						
LRK				Sn	**Sb**	**10 07 28.8**	**+0.1**
ASTR	**Astara**	**2.34**	**176**	Pn	**Pn**	**10 06 58.1**	**+0.1**
	SNR=12						
ASTR				Sn	**Sb**	**10 07 31.2**	**+0.5**
QZX	**Qazax, Azerbai**	**2.45**	**275**	Pn	**Pn**	**10 07 00.6**	**+1.0**
	SNR=148						
QZX				Sn	**Sb**	**10 07 34.4**	**+0.5**
SBZ	**Shahbuz**	**2.77**	**238**	Pn	**Pn**	**10 07 05.1**	**+0.9**
	SNR=20						
SBZ				Sn	**Sb**	**10 07 41.9**	**-1.4**
ORD	**Ordubad**	**2.81**	**226**	Pn	**Pn**	**10 07 06.0**	**+1.4**
	SNR=42						
ORD				Sn	**Sb**	**10 07 42.9**	**-1.4**
IHRS	**Heris**	**2.84**	**206**	*e*		10 07 21.0	
	comp=Z,3μm,0.3s						
IHRS				*e*Pn	**Pn**	**10 07 06.0**	**+0.8**
NAX	**Nakhchivan**	**2.94**	**235**	PN	**Pn**	**10 07 08.5**	**+2.1**
NAX	**Nakhchivan**	**2.94**	**235**	Pg	**Pb**	**10 07 10.3**	**-2.0**
	SNR=6.3						
NAX				Sg	**Sb**	**10 07 50.5**	**+2.4**
GNI	**Garni**	**3.04**	**257**	Pn	**Pb**	**10 07 11.9**	**-2.0**
	comp=Z,13nm,0.3s,baz=164,slow=12,SNR=22						
GNI				Pg	**Pg**	**10 07 18.4**	**+0.3**
	comp=Z,13nm,0.3s,baz=32,slow=3.5,SNR=16						
GNI				Lg	Lg	10 07 53.9	
	comp=Z,17nm,0.3s,baz=168,slow=19,SNR=5.3						
GNI				LR	LR	10 08 15.4	
	comp=Z,70nm,18.3s,baz=88,slow=38						
GNI	**Garni**	**3.04**	**257**	*e*P	**Pn**	**10 07 10.9**	**+3.1**
GNI	**Garni**	**3.04**	**257**	Pn	**Pn**	**10 07 10.3**	**+2.5**
HYR	**Heyderabad**	**3.10**	**249**	Pn	**Pn**	**10 07 10.3**	**+1.7**
	SNR=5.7						
HYR				Sg	**Sb**	**10 07 55.4**	**+2.8**
GROC	**Groznyy**	**3.11**	**319**	*e*PN	**Pb**	**10 07 15.1**	**+0.1**
GROC				*e*		10 07 48.3	
GROC				*e*		10 08 01.3	
GROC				pmax	pmax		
	comp=Z,154nm,0.6s						
GROC				smax	smax		
	comp=E,103nm,0.7s						
GROC				smax	smax		
	comp=N,321nm,0.7s						
GROC				smax	smax		
	comp=E,448nm,0.7s						
GROC				MLR	MLR		
	comp=Z,286nm,2.0s						
IMRD	**Marand**	**3.12**	**227**	*e*Pn	**Pn**	**10 07 11.2**	**+2.2**
IMRD				*e*		10 07 31.6	
	comp=Z,5μm,0.3s						
ISRB	**Sarab**	**3.15**	**194**	*e*Pn	**Pn**	**10 07 11.2**	**+1.7**
KZRT	**Kazreti**	**3.21**	**280**	*i* PN	**Pn**	**10 07 11.5**	**+1.4**
ITBZ	**Tabriz**	**3.27**	**216**	*e*Pn	**Pn**	**10 07 13.0**	**+2.0**
TASB	**TASBURUN-IGDIR**	**3.45**	**256**	*e*P	**Pn**	**10 07 15.5**	**+2.1**
IHSH	**Hashtrud**	**3.74**	**197**	*e*Pn	**Pn**	**10 07 18.9**	**+1.3**
AKH	**Akhalkalaki**	**3.89**	**279**	*e*P	**Pb**	**10 07 25.2**	**-3.3**
AKH	**Akhalkalaki**	**3.89**	**279**	*i* PN	**Pn**	**10 07 22.2**	**+2.7**
CLDR	**Caldiran**	**4.00**	**246**	*e*P	**Pb**	**10 07 32.1**	**+1.7**
ONI	**Oni**	**4.21**	**295**	PN	**Pn**	**10 07 26.2**	**+2.4**
ONI	**Oni**	**4.21**	**295**	Pn	**Pn**	**10 07 26.2**	**+2.4**
AGRB	**Hanur-Agry**	**4.49**	**255**	*e*P	**Pb**	**10 07 37.2**	**-1.5**
IGZV	**Ghazvin**	**4.68**	**164**	*e*Pn	**Pn**	**10 07 31.0**	**+0.5**
AKDM	**Akdamar-Van**	**5.04**	**241**	*e*P	**Pb**	**10 07 46.7**	**-1.4**
KBZ	**Khabaz**	**5.09**	**306**	Pn	**Pn**	**10 07 39.6**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=148,slow=8.3,SNR=2.5						
KBZ				Pg	**Pb**	**10 07 52.2**	**+3.5**
	comp=Z,1.6nm,0.3s,baz=119,slow=6.4,SNR=9.6						
KBZ				Lg	Lg	10 08 55.4	
	comp=Z,0.8nm,0.3s,baz=169,slow=20,SNR=2.4						
SHA1	**Shidzhatmaz**	**5.24**	**305**	*i* PN	**Pn**	**10 07 37.8**	**-0.3**
BCA	**Borcka**	**5.29**	**278**	*e*P	Pb	10 07 45.9	-6.4
KVAR	**Kislovodsk Arr**	**5.33**	**307**	Pn	**Pn**	**10 07 42.5**	**+3.2**
	baz=108,slow=20,SNR=1.5						
KVAR				Lg	Lg	10 08 55.8	
	baz=252,slow=19,SNR=2.2						
KIV	**Kislovodsk**	**5.34**	**307**	*e*P	**Pn**	**10 07 41.3**	**+2.0**
KIV	**Kislovodsk**	**5.34**	**307**	*e*P	**Pn**	**10 07 39.4**	**+0.1**
KIV				*e*S	**Sn**	**10 08 43.6**	**+2.9**
KIV				pmax	pmax		
	comp=Z,29nm,0.9s						
KIV	**Kislovodsk**	**5.34**	**307**	Pn	Pn	10 07 44.4	+5.0
IMHD	**Mahdasht**	**5.45**	**162**	*e*Pn	**Pn**	**10 07 42.2**	**+1.2**
IPRN	**Peran**	**5.49**	**147**	*e*Pn	**Pn**	**10 07 41.8**	**+0.2**
IRAZ	**Razeghan**	**5.58**	**169**	*e*Pn	**Pn**	**10 07 44.1**	**+1.2**
SIRT	**Sirnak**	**5.87**	**237**	Pn	**Pn**	**10 07 48.6**	**+2.0**
IGLO	**Ghaloghah**	**6.00**	**135**	*e*Pn	**Pn**	**10 07 48.0**	**-0.6**
ISHM	**Shahmirzad**	**6.28**	**143**	*e*Pn	**Pn**	**10 07 54.1**	**+1.6**
IANJ	**Anjilo**	**6.85**	**141**	*e*Pn	**Pn**	**10 08 01.1**	**+0.8**
ISFB	**Sefidab**	**7.14**	**155**	*e*Pn	**Pn**	**10 08 07.6**	**+3.4**
IKLH	**Kolahrood**	**7.93**	**162**	*e*Pn	**Pn**	**10 08 15.9**	**+0.8**
GEYT	**Alibeck**	**7.94**	**109**	Pn	**Pn**	**10 08 14.1**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=280,slow=18,SNR=4.5						
GEYT				Sn	**Sn**	**10 09 41.9**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=348,slow=39,SNR=1.6						
GEYT	**Alibeck**	**7.94**	**109**	Pn	**Pn**	**10 08 14.3**	**-0.8**
GYA0B	**ALIBECK ARRAY**	**7.94**	**109**	Pn	**Pn**	**10 08 13.7**	**-1.3**
ISFR	**Sfrayin**	**8.27**	**115**	*e*Pn	**Pn**	**10 08 20.7**	**+1.0**
SBZV	**Sabzevar**	**8.36**	**120**	*e*Pn	**Pn**	**10 08 21.2**	**+0.2**
IMYA	**Miami**

KKAR	**Karatay Array**	**16.43**	**75**			**Pn**		**10 10 07.8**	**-2.3**
KKAR					IAmb	IAmb		10 10 15.9	
	comp=Z,4.0nm,0.6s								
KKAR	**Karatay Array**	**16.43**	**75**	Pn		**Pn**		**10 10 07.3**	**-2.9**
AKASG	**Malin Array Be**	**16.65**	**313**	Pn		**Pn**		**10 10 12.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=123,slow=11,SNR=1.8								
GAR	**Garm**	**16.76**	**89**	Pn		**Pn**		**10 10 12.7**	**-1.7**
GAR					IAmb	IAmb		10 10 21.1	
	comp=Z,11nm,0.9s								
ARU	**Arti**	**16.85**	**19**	Pn		**Pn**		**10 10 13.7**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=184,slow=3.9,SNR=4.1								
ARU					Sn	Sn		10 13 07.7	-14
	comp=Z,0.0nm,0.3s,baz=254,slow=8.5,SNR=1.1								
ARU	**Arti**	**16.85**	**19**	P		**Pn**		**10 10 12.8**	**-2.5**
ARU					S	**Sn**		**10 13 20.3**	**-1.8**
ARU	**Arti**	**16.85**	**19**	Pn		**Pn**		**10 10 14.9**	**-0.4**
ARU					IAmb	IAmb		10 10 18.6	
	comp=Z,7.8nm,0.6s								
BTK	**Batken**	**16.92**	**86**	P		**Pn**		**10 10 14.8**	**-1.7**
BTK					pmax	pmax			
	comp=Z,9.0nm,0.9s								
BTK	**Batken**	**16.92**	**86**	Pn		**Pn**		**10 10 14.8**	**-1.7**
BTK					IAmb	IAmb		10 10 31.4	
	comp=Z,8.9nm,0.8s								
MLR	**Muntele Rosu**	**17.13**	**293**	P		**Pn**		**10 10 19.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=127,slow=10,SNR=1.6								
MLR	**Muntele Rosu**	**17.13**	**293**	P		**Pn**		**10 10 18.6**	**-0.5**
KBL	**Kabul**	**17.36**	**105**	P		**Pn**		**10 10 19.1**	**-2.9**
KBL					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KBL	**Kabul**	**17.36**	**105**	P		**Pn**		**10 10 19.1**	**-2.9**
RAYN	**Ar Rayn**	**17.52**	**189**	P		**P**		**10 10 25.4**	**+0.3**
RAYN					pmax	pmax			
	comp=Z,6.0nm,0.8s								
RAYN	**Ar Rayn**	**17.52**	**189**	P		**P**		**10 10 25.4**	**+0.3**
RAYN					IAmb	IAmb		10 10 27.9	
	comp=Z,5.5nm,0.8s								
KIRV	**Kirov**	**17.71**	**1**	*ceP*		**Pn**		**10 10 23.3**	**-2.7**
BRVK	**Borovoye**	**19.06**	**43**	P		**Pn**		**10 10 42.4**	**-0.2**
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.7s								
BRVK	**Borovoye**	**19.06**	**43**			**Pn**		**10 10 42.4**	**-0.2**
BRVK					IAmb	IAmb		10 10 59.0	
	comp=Z,4.2nm,0.7s								
BVAR	**Borovoye Array**	**19.10**	**43**	P		**Pn**		**10 10 43.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=233,slow=24,SNR=7.1								
AAK	**Ala-Archa**	**19.37**	**76**	P		**P**		**10 10 46.1**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=238,slow=9.5,SNR=2.6								
AAK	**Ala-Archa**	**19.37**	**76**	P		**P**		**10 10 44.7**	**-0.7**
AAK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**19.37**	**76**	P		**P**		**10 10 44.7**	**-0.7**
PRGR	**Permogore**	**20.85**	**356**	*eP*		**P**		**10 11 01.6**	**+0.5**
PRGR					pmax	pmax			
	comp=Z,15nm,0.6s								
NIL	**Nilore**	**20.87**	**102**	P		**P**		**10 11 01.8**	**+0.2**
NIL					pmax	pmax			
	comp=Z,18nm,1.5s								
NIL	**Nilore**	**20.87**	**102**	P		**P**		**10 11 01.8**	**+0.2**
NIL					IAmb	IAmb		10 11 06.1	
	comp=Z,18nm,1.4s								
KDJ	**Kajisay**	**21.40**	**77**	P		**P**		**10 11 06.6**	**-0.9**
KDJ					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KDJ	**Kajisay**	**21.40**	**77**	P		**P**		**10 11 06.6**	**-0.9**
KDJ					IAmb	IAmb		10 11 17.2	
	comp=Z,5.8nm,1.0s								
KURBB	**Kurchatov Arra**	**22.89**	**55**	P		**P**		**10 11 24.1**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=258,slow=9.1,SNR=5.3								
KURBB	**Kurchatov Arra**	**22.89**	**55**	⇑P		**P**		**10 11 27.7**	**+4.6**
	comp=Z,2.3nm,0.7s								
KURK	**Kurchatov**	**22.97**	**55**	P		**P**		**10 11 24.1**	**+0.2**
KURK	**Kurchatov**	**22.97**	**55**	P		**P**		**10 11 24.1**	**+0.2**
MAKZ	**Makanchi**	**24.66**	**65**	P		**P**		**10 11 40.3**	**+0.1**
MAKZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MAKZ	**Makanchi**	**24.66**	**65**	P		**P**		**10 11 40.3**	**+0.1**
MAKZ					IAmb	IAmb		10 11 58.7	
	comp=Z,3.1nm,0.8s								
FINES	**FINESS Array B**	**24.71**	**334**	P		**P**		**10 11 40.5**	**0.0**
	comp=Z,6.0nm,0.5s,baz=137,slow=9.1,SNR=19								
FINES	**FINESS Array B**	**24.71**	**334**	P		**P**		**10 11 38.5**	**-2.0**
MK31	**Makanchi Array**	**24.87**	**65**	⇑P		**P**		**10 11 42.5**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=263,slow=7.5,SNR=19								
MK31	**Makanchi Array**	**24.87**	**65**	P		**P**		**10 11 42.0**	**-0.2**
MK31					pmax	pmax			
	comp=Z,2.0nm,0.6s								
MK31	**Makanchi Array**	**24.87**	**65**	P		**P**		**10 11 42.0**	**-0.2**
MK31					IAmb	IAmb		10 11 51.3	
	comp=Z,1.6nm,0.6s								
MKAR	**Makanchi Array**	**24.87**	**65**	P		**P**		**10 11 42.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=260,slow=8.1,SNR=18								
MKAR	**Makanchi Array**	**24.87**	**65**	P		**P**		**10 11 42.5**	**+0.3**
MKAR	**Makanchi Array**	**24.87**	**65**	P		**P**		**10 11 42.5**	**+0.3**
GERES	**GERESS Array B**	**25.80**	**300**	P		**P**		**10 11 51.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=97,slow=7.0,SNR=2.4								
HFS	**Hagfors**	**28.86**	**324**	P		**P**		**10 12 17.7**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=125,slow=9.1,SNR=6.3								
NOA	**NORSAR Array B**	**30.36**	**324**	P		**P**		**10 12 30.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=113,slow=8.2,SNR=3.9								
NC204	**NORSAR Array S**	**30.65**	**324**	P		**P**		**10 12 35.0**	**+1.2**
ARCES	**ARCESS Array B**	**31.15**	**345**	P		**P**		**10 12 38.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=153,slow=7.0,SNR=12								
ULN	**Ulaanbaatar**	**41.48**	**60**	P		**P**		**10 14 05.5**	**-1.0**
ULN					pmax	pmax			
	comp=Z,4.0nm,0.4s								
ULN	**Ulaanbaatar**	**41.48**	**60**	P		**P**		**10 14 05.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**49.31**	**250**	P		**P**		**10 15 11.2**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=49,slow=6.5,SNR=4.1								
ROSA	**Rosais**	**57.23**	**295**	P		**P**		**10 16 08.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**58.94**	**57**	P		**P**		**10 16 20.2**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=274,slow=7.4,SNR=1.3								
TGY	**Tagaytay City**	**67.60**	**91**	P		**P**		**10 17 16.8**	**+0.2**
	comp=Z,118nm,0.3s,baz=152,slow=5.1,SNR=3.6								
IMAR	**Indian Mountai**	**72.05**	**9**	P		**P**		**10 17 43.5**	**+0.3**

IDC 03 10:10:56.5±1.9, 2°25S×136°94E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=45.4km s-min=29.2km az=94.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.83**	**284**	Pn		Pn	10 12 25.4	+1.2
	1.5nm,0.3s,baz=225,slow=22,SNR=11							
SIJI					Sn	Sn	10 13 20.4	-12
	1.6nm,0.3s,baz=206,slow=22,SNR=8.9							
WRA	**Warramunga Arr**	**17.77**	**188**	P		Pn	10 15 05.3	-0.1
	0.1nm,0.3s,baz=8.6,slow=12,SNR=6.5							
ASAR	**Alice Springs**	**21.49**	**188**	P		P	10 15 46.4	-0.6
	0.3nm,0.5s,baz=7.3,slow=10,SNR=2.8							
PETK	**Petropavlovsk-**	**57.84**	**15**	P		P	10 20 49.7	-0.1
	1.2nm,0.6s,baz=190,slow=5.6,SNR=2.5							

*JMA **03** 10:47:02.2±0.1, 28°52N×140°32E, h511km, M4.1*
*IDC **03** 10:47:08.2±0.6, 28°73N×139°75E, h403km±6km, mb3.5/23, mb1 3.6/29, mb1mx3.6/42, mbtmp4.3/29, Error ellipse: s-maj=12.7km s-min=7.5km az=77.0*
*NEIC **03** 10:47:10.2±1.5, 28°78N±0°09×139°8E±0°1, h416km±8km, mb4.1/88, Error ellipse: s-maj=15.9km s-min=13.4km az=112.0*
ISC 03 10:47:09.5±0.4, 28°72N±0°05×139°79E±0°06, h421km, n157,σ1§24/168, mb4.1/65, 1C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.67**	**127**	P		**P**	**10 48 09.7**	**-2.1**
JCJ	**Chichijima**	**2.67**	**127**	P		**P**	**10 48 10.3**	**-1.6**
	154nm,0.3s,baz=273,slow=22,SNR=92							
JCJ					S	**S**	**10 48 58.1**	**-4.2**
	503nm,0.3s,baz=282,slow=23,SNR=15							
JCJ	**Chichijima**	**2.67**	**127**	P		**P**	**10 48 10.8**	**-1.1**
JHH2	**Haha-jima-NKT2**	**2.96**	**134**	P		**P**	**10 48 11.8**	**-2.3**
JHJ2	**Mitsune**	**4.38**	**0**			**P**	**10 48 25.5**	**-0.7**
JHJ	**Hachijo jima 2**	**4.39**	**360**	P		**P**	**10 48 25.2**	**-1.1**
	6.1nm,0.3s,baz=53,slow=22,SNR=6.4							
JHJ					S	**S**	**10 49 24.3**	**-4.7**
	14nm,0.3s,baz=72,slow=20,SNR=4.1							
JIE	**Ise**	**6.24**	**336**	P		**P**	**10 48 45.9**	**+0.8**
BSO4	**Boso 4**	**6.27**	**4**	P		**P**	**10 48 44.8**	**-0.5**
JNY	**Yasuok**	**6.82**	**347**	P		**P**	**10 48 51.0**	**-0.9**
INU	**Inuyama**	**7.02**	**341**			**P**	**10 48 53.7**	**-0.3**
JMN	**Monobe**	**7.11**	**316**			**P**	**10 48 55.8**	**+0.8**

JHU	**Hanno**	**7.13**	**357**	P		**P**		**10 48 52.5**	**-2.7**
JRY	**Ryogami san**	**7.32**	**354**	P		**P**		**10 48 55.2**	**-2.1**
JYT	**Yasato**	**7.50**	**3**	P		**P**		**10 48 57.2**	**-2.0**
JYT	**Yasato**	**7.50**	**3**	P		**P**		**10 48 57.6**	**-1.6**
JWT	**Wachi**	**7.53**	**331**			**P**		**10 49 00.1**	**+0.5**
JAG	**Ashikaga**	**7.69**	**358**	P		**P**		**10 48 58.1**	**-3.2**
JHO	**Hitachi**	**7.90**	**5**	P		**P**		**10 49 01.6**	**-2.0**
MJAR	**Matsushiro Arr**	**7.92**	**351**	P		**P**		**10 49 00.6**	**-3.2**
	0.2nm,0.3s,baz=172,slow=10,SNR=7.8								
JHS	**Saijyo**	**8.45**	**320**	P		**P**		**10 49 10.8**	**+1.2**
JHS	**Saijyo**	**8.45**	**320**	P		**P**		**10 49 11.2**	**+1.6**
JSU	**Suzuyama**	**8.55**	**291**	P		**P**		**10 49 12.0**	**+1.2**
JMM	**Marumori**	**9.16**	**5**	P		**P**		**10 49 17.1**	**-0.3**
JOW	**Kunigami**	**10.37**	**262**	P		**P**		**10 49 34.3**	**+3.4**
JTU	**Tsushima**	**10.58**	**306**	P		**P**		**10 49 34.4**	**+1.3**
JTM	**Tenmabayashi**	**12.09**	**5**	P		**P**		**10 49 50.2**	**+0.7**
KSRS	**Korea Array**	**13.21**	**314**	P		**P**		**10 50 02.2**	**+0.3**
	1.2nm,0.3s,baz=130,slow=11,SNR=24								
KSRS					S	**S**		**10 52 22.1**	**-2.3**
	0.3nm,0.3s,baz=116,slow=22,SNR=2.7								
KS19	**Wonju Array Si**	**13.28**	**314**	P		**P**		**10 50 03.1**	**+0.5**
ERM	**Erimo**	**13.55**	**11**	P		**P**		**10 50 06.6**	**+1.2**
JEW	**Eniwo**	**14.16**	**5**	P		**P**		**10 50 13.3**	**+1.3**
ASAJ	**Asahikawa**	**15.53**	**8**	P		**P**		**10 50 27.1**	**+0.2**
	0.9nm,0.3s,baz=216,slow=12,SNR=8.4								
JKA	**Kamikawa-asashi**	**15.53**	**8**	P		**P**		**10 50 27.6**	**+0.8**
YOJ	**Yonaguni jima**	**15.59**	**258**	P		**P**		**10 50 28.5**	**+0.7**
USA0B	**Ussuriysk Arra**	**16.66**	**340**	P		**P**		**10 50 39.5**	**+0.6**
USA0B					IAmb	IAmb		10 50 43.5	
	comp=Z,6.2nm,0.9s								
USRK	**Ussuriysk Ar.**	**16.66**	**340**	P		**P**		**10 50 39.2**	**+0.3**
	baz=142,slow=11,SNR=23								
USRK	**Ussuriysk Ar.**	**16.66**	**340**	P		**P**		**10 50 39.5**	**+0.6**
YHNB	**Yeheng**	**16.94**	**261**	P		**P**		**10 50 41.5**	**-0.8**
YULB	**Yu-li**	**17.43**	**257**	P		**P**		**10 50 46.9**	**-0.6**
YULB					IAmb	IAmb		10 50 51.7	
	comp=Z,15nm,0.8s								
TIA	**Tai'an**	**20.50**	**297**	P		**P**		**10 51 16.7**	**-0.5**
TIA					pmax	pmax			
	comp=Z,7.0nm,0.5s								
KLR	**Kul'dur**	**21.39**	**345**	P		**P**		**10 51 25.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=166,slow=9.2,SNR=5.1								
WHN	**Wuhan**	**22.18**	**281**	⇓P		**P**		**10 51 32.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**26.03**	**305**	*eP*		**P**		**10 52 08.1**	**+1.1**
HHC					pmax	pmax			
	comp=Z,14nm,1.1s								
HHC					pmax	pmax			
	comp=Z,59nm,5.3s								
ENH	**Enshi**	**26.39**	**281**	P		**P**		**10 52 09.6**	**-0.5**
XAN	**Xi'an**	**26.82**	**289**	P		**P**		**10 52 13.5**	**-0.5**
XAN					pP	PP		10 53 25.2	-0.3
XAN					pmax	pmax			
	comp=Z,15nm,0.6s								
PETK	**Petropavlovsk-**	**27.72**	**23**	P		**P**		**10 52 22.6**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=203,slow=3.0,SNR=4.5								
PETK	**Petropavlovsk-**	**27.72**	**23**	P		**P**		**10 52 23.7**	**+2.2**
PET	**Petropavlovsk**	**27.99**	**25**	P		**P**		**10 52 25.2**	**+1.3**
PET					IAmb	IAmb		10 52 43.6	
	comp=Z,13nm,1.0s								
LZH	**Lanzhou**	**31.09**	**293**	*eP*		**P**		**10 52 51.6**	**+0.1**
LZH					sP	sP		10 54 38.1	-17
LZH					pmax	pmax			
	comp=Z,26nm,1.0s								
ULN	**Ulaanbaatar**	**31.69**	**316**	P		**P**		**10 52 56.1**	**-0.3**
ULN					IAmb	IAmb		10 52 57.6	
	comp=Z,6.0nm,0.7s								
SONM	**Songino Array**	**32.08**	**316**	P		**P**		**10 52 59.8**	**0.0**
	comp=Z,5.2nm,1.0s,baz=125,slow=8.2,SNR=9.8								
SONM	**Songino Array**	**32.08**	**316**	P		**P**		**10 52 59.4**	**-0.4**
SLVN	**Son La**	**33.24**	**265**	P		**P**		**10 53 09.9**	**-0.1**
SLVN					IAmb	IAmb		10 53 10.9	
	comp=Z,7.8nm,1.0s								
DLV	**T Lat**	**33.62**	**247**	P		**P**		**10 53 13.4**	**0.0**
DLV					IAmb	IAmb		10 53 15.7	
	comp=Z,8.5nm,1.0s								
UBPT	**Khong Chiam**	**34.38**	**254**	P		**P**		**10 53 19.9**	**+0.2**
GTA	**Gaotai**	**34.54**	**299**	⇑P		**P**		**10 53 20.3**	**-0.6**
GTA					pP	pP		10 54 35.9	-0.8
GTA					pmax	pmax			
	comp=Z,20nm,0.8s								
SEY	**Seymchan**	**35.19**	**10**	P		**P**		**10 53 26.3**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=169,slow=6.2,SNR=7.7								
TLY	**Talaya**	**35.35**	**321**	P		**P**		**10 53 27.4**	**+0.1**
TLY					IAmb	IAmb		10 53 28.7	
	comp=Z,4.9nm,0.8s								
CHTO	**Chiang Mai**	**38.50**	**264**	P		**P**		**10 53 53.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**38.64**	**264**	P		**P**		**10 53 55.4**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=44,slow=9.1,SNR=9.3								
CMAR	**Chiang Mai Arr**	**38.64**	**264**	P		**P**		**10 53 55.0**	**-0.1**
KIWB	**Kanaga Island**	**39.38**	**42**	P		**P**		**10 54 01.7**	**+1.1**
BILL	**Bilibino**	**42.39**	**14**	P		**P**		**10 54 25.5**	**+0.9**
BILL					IAmb	IAmb		10 54 26.5	
	comp=Z,9.5nm,1.1s								
TIXI	**Tiksi**	**43.40**	**355**	P		**P**		**10 54 31.6**	**-0.9**
WMQ	**Urumqi**	**43.91**	**305**	*eP*		**P**		**10 54 38.2**	**+1.1**
NIKH	**Nikolski High**	**44.57**	**42**	P		**P**		**10 54 42.2**	**+0.3**
KNRA	**Kununurra**	**45.40**	**195**	P		**P**		**10 54 49.4**	**+0.6**
KNRA					IAmb	IAmb		10 55 04.4	
	comp=Z,18nm,1.4s								
AKUT	**Akutan**	**46.60**	**41**	P		**P**		**10 54 58.1**	**+0.6**
ZAA0	**Zalesovo Array**	**46.88**	**318**	P		**P**		**10 54 59.0**	**-0.6**
ZALV	**Zalesovo Beam**	**46.88**	**318**	P		**P**		**10 54 59.1**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=92,slow=9.1,SNR=7.1								
ZALV					PcP	**PcP**		**10 56 23.6**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=93,slow=7.4,SNR=3.7								
ZALV	**Zalesovo Beam**	**46.88**	**318**	P		**P**		**10 54 59.3**	**-0.4**
MK31	**Makanchi Array**	**47.81**	**309**	P		**P**		**10 55 06.8**	**-0.1**
MK31					IAmb	IAmb		10 55 07.5	
	comp=Z,4.2nm,0.7s								
MKAR	**Makanchi Array**	**47.81**	**309**	P		**P**		**10 55 06.7**	**-0.3**
	comp=Z,3.8nm,0.5s,baz=94,slow=9.4,SNR=34								
MKAR					PcP	**PcP**		**10 56 27.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=80,slow=4.8,SNR=3.0								
MKAR					ScP	**ScP**		**10 59 40.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=79,slow=5.3,SNR=7.4								
MAKZ	**Makanchi**	**48.03**	**309**	P		**P**		**10 55 08.5**	**-0.1**
WB0	**Warramunga Arr**	**48.48**	**187**	P		**P**		**10 55 12.7**	**+0.4**
WB0					IAmb	IAmb		10 55 13.1	
	comp=Z,8.2nm,0.7s								
FITZ	**Fitzroy Crossi**	**48.51**	**198**	P		**P**		**10 55 13.4**	**+1.0**
FITZ					IAmb	IAmb		10 55 14.2	
	comp=Z,3.9nm,0.6s								
WRAB	**Tennant Creek**	**48.65**	**187**	P		**P**		**10 55 14.0**	**+0.5**
WRAB					IAmb	IAmb		10 55 14.9	
	comp=Z,11nm,1.0s								
WR0	**Warramunga Arr**	**48.66**	**187**	P		**P**		**10 55 13.8**	**+0.3**
WR0					IAmb	IAmb		10 55 14.5	
	comp=Z,8.5nm,0.8s								
WB2	**Warramunga Arr**	**48.66**	**187**	P		**P**		**10 55 13.8**	**+0.2**
WB2					IAmb	IAmb		10 55 14.8	
	comp=Z,10.0nm,1.1s								
WRA	**Warramunga Arr**	**48.66**	**187**	P		**P**		**10 55 13.7**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=1.2,slow=7.8,SNR=191								
WRA					PcP	**PcP**		**10 56 31.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=3.0,slow=4.2,SNR=3.0								
WRA					ScP	**ScP**		**10 59 45.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=360,slow=4.3,SNR=4.7								
WRA					S	**S**		**11 01 40.6**	**-2.9**
	comp=Z,0.2nm,0.5s,baz=357,slow=13,SNR=4.9								
WRA	**Warramunga Arr**	**48.66**	**187**	P		**P**		**10 55 13.7**	**+0.1**
CTA	**Charters Tower**	**48.92**	**172**	P		**P**		**10 55 16.6**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=334,slow=8.5,SNR=2.7								
CTAO	**Charters Tower**	**48.92**	**172**	P		**P**		**10 55 17.2**	**+1.7**
CTAO					IAmb	IAmb		10 55 20.0	
	comp=Z,12nm,1.2s								
SDPT	**Sand Point**	**49.82**	**40**	P		**P**		**10 55 21.4**	**-0.3**
NRIK	**Noril'sk**	**50.37**	**339**	P		**P**		**10 55 26.0**	**+0.3**
PRZ	**Przheval'sk**	**50.74**	**303**	P		**P**		**10 55 29.9**	**+0.8**
KDJ	**Kajisay**	**51.68**	**303**	P		**P**		**10 55 36.3**	**+0.4**
KDJ					IAmb	IAmb		10 55 37.9	
	comp=Z,4.9nm,0.6s								
AS31	**Alice Springs**	**52.39**	**187**	P		**P**		**10 55 41.6**	**+0.6**
ASAR	**Alice Springs**	**52.39**	**187**	P		**P**		**10 55 41.2**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=4.3,slow=5.9,SNR=103								
ASAR					PcP	**PcP**		**10 56 47.2**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=355,slow=4.0,SNR=2.1								
ASAR					ScP	**ScP**		**11 00 01.1**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=6.7,slow=6.1,SNR=1.9								
ASAR					S	**S**		**11 02 28.4**	**-5.8**
	comp=Z,0.4nm,0.8s,baz=344,slow=11,SNR=4.2								
BOOM	**Boomskoye usch**	**52.55**	**303**	P		**P**		**10 55 42.8**	**+0.6**
BOOM					IAmb	IAmb		10 55 43.3	
	comp=Z,8.6nm,0.6s								
SVW2	**Sparrevohn**	**53.08**	**33**	P		**P**		**10 55 47.7**	**+2.2**
SVW2					IAmb	IAmb		10 55 47.9	
	comp=Z,4.8nm,0.7s								
SII	**Sitkinak Islan**	**53.44**	**39**	P		**P**		**10 55 48.9**	**+0.7**
PSA00	**Pilbara Seismi**	**53.57**	**203**	P		**P**		**10 55 49.8**	**+0.3**
PSA00					IAmb	IAmb		10 55 50.7	
	comp=Z,5.8nm,0.7s								
PSA00	**Pilbara Seismi**	**53.57**	**203**	P		**P**		**10 55 50.3**	**+0.8**
PSA00					IAmb	IAmb		10 55 50.8	
	comp=Z,11nm,0.7s								
AAK	**Ala-Archa**	**53.59**	**304**	P		**P**		**10 55 50.2**	**+0.5**
AAK					IAmb	IAmb		10 55 50.5	
	comp=Z,4.8nm,0.6s								
KDAK	**Kodiak Island**	**54.36**	**38**	P		**P**		**10 55 55.2**	**+0.5**
IMAR	**Indian Mountai**	**54.57**	**27**	P		**P**		**10 55 56.8**	**+0.8**
ARSB	**Arslanbob**	**54.90**	**302**	P		**P**		**10 56 00.1**	**+1.1**
ARSB					IAmb	IAmb		10 56 00.3	
	comp=Z,8.6nm,0.6s								
CNPM	**China Poot**	**55.12**	**35**	P		**P**		**10 55 59.9**	**-0.1**
CNPM					IAmb	IAmb		10 56 07.0	
	comp=Z,16nm,1.2s								
BRVK	**Borovoye**	**55.48**	**317**	P		**P**		**10 56 02.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**55.51**	**30**	P		**P**		**10 56 03.9**	**+1.1**
MLY	**Manley**	**55.70**	**29**	P		**P**		**10 56 05.3**	**+1.2**
RC01	**Rabbit Creek A**	**55.91**	**34**	P		**P**		**10 56 06.4**	**+0.8**
RC01					IAmb	IAmb		10 56 11.1	
	comp=Z,18nm,1.5s								
NIL	**Nilore**	**56.26**	**293**	P		**P**		**10 56 09.2**	**+0.7**
NEA2	**Nenana**	**56.38**	**29**	P		**P**		**10 56 09.8**	**+1.1**
KK31	**Karatay Array**	**56.42**	**305**	P		**P**		**10 56 09.6**	**+0.1**
KKAR	**Karatay Array**	**56.42**	**305**	P		**P**		**10 56 09.6**	**+0.2**
HDA	**Harding Lake**	**57.29**	**30**	P		**P**		**10 56 15.0**	**-0.1**
HDA					IAmb	IAmb		10 56 15.4	
	comp=Z,4.0nm,0.6s								
ILAR	**Eielson Array**	**57.32**	**29**	P		**P**		**10 56 14.7**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=249,slow=5.6,SNR=14								
GAR	**Garm**	**57.34**	**300**	P		**P**		**10 56 16.5**	**+0.5**
CHGR	**Chuyangaron**	**58.30**	**300**	P		**P**		**10 56 22.8**	**+0.3**
BMAR	**Burnt Mountain**	**58.33**	**26**	P		**P**		**10 56 24.2**	**+2.0**
BMRM	**Bremner River**	**58.41**	**34**	P		**P**		**10 56 24.1**	**+1.2**
BMRM					IAmb	IAmb		10 56 30.5	
	comp=Z,6.7nm,0.9s								
DOT	**Dot Lake**	**58.56**	**31**	P		**P**		**10 56 24.1**	**+0.3**
DOT					IAmb	IAmb		10 56 24.8	
	comp=Z,5.1nm,0.8s								
SCRK	**Sand Creek**	**58.58**	**30**	P		**P**		**10 56 24.4**	**+0.3**
SCRK					IAmb	IAmb		10 56 25.0	
	comp=Z,5.3nm,0.7s								
KBL	**Kabul**	**59.41**	**295

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PQL	**Pirkuli**	**0.08**	**183**	P	**Pg**	**11 07 26.6**	**-0.5**
PQL				S	**Sg**	**11 07 29.3**	**+0.6**
ATGJ	**Altiaghaj** SNR=765	**0.26**	**91**	P	**Pg**	**11 07 29.5**	**-0.5**
ATGJ				S	**Sg**	**11 07 34.7**	**+1.1**
SIZA	**Siyzn** SNR=546	**0.31**	**47**	P	**Pg**	**11 07 30.7**	**-0.3**
SIZA				S	**Sb**	**11 07 36.4**	**-1.4**
IML	**Ismayilli** SNR=100	**0.32**	**257**	P	**Pg**	**11 07 30.9**	**-0.3**
IML				S	**Sg**	**11 07 36.9**	**+1.4**
GBS	**Qobustan** SNR=31	**0.42**	**141**	P	**Pb**	**11 07 34.2**	**-0.2**
GBS				S	**Sb**	**11 07 42.9**	**+2.0**
XNQ	**Khinaliq** SNR=122	**0.46**	**312**	P	**Pg**	**11 07 32.7**	**-1.1**
XNQ				S	**Sg**	**11 07 40.6**	**+0.6**
QUBA	**Quba, Azerbaij** SNR=130	**0.50**	**351**	P	**Pg**	**11 07 34.5**	**+0.1**
QUBA				S	**Sb**	**11 07 42.9**	**-0.1**
KDMR	**Kurdemir** SNR=16	**0.58**	**213**	P	**Pg**	**11 07 36.5**	**+0.5**
KDMR				S	**Sn**	**11 07 47.8**	**-1.0**
QBL	**Gabala** SNR=98	**0.58**	**278**	P	**Pg**	**11 07 35.2**	**-0.9**
QBL				S	**Sg**	**11 07 44.8**	**+1.1**
QSAR	**Qusar** SNR=147	**0.70**	**339**	P	**Pg**	**11 07 38.0**	**-0.3**
QSAR				S	**Sg**	**11 07 48.0**	**+0.7**
KSMR	**Kasumkent**	**0.82**	**334**	*i* Pg	**Pg**	**11 07 40.0**	**-0.5**
KSMR				*e*S	**Sg**	**11 07 52.0**	**+0.8**
KSMR	comp=Z,3μm,0.3s			pmax	pmax		
KSMR	**Kasumkent** comp=Z,3μm,0.3s	**0.82**	**334**	*i* Pg	**Pg**	**11 07 40.0**	**-0.5**
KSMR				*e*Sg	**Sg**	**11 07 52.0**	**+0.8**
AKT	**Akhty**	**0.90**	**313**	*e*PG	**Pg**	**11 07 40.7**	**-1.3**
AKT				*e*S	**Sg**	**11 07 53.2**	**-0.6**
AKT	comp=Z,425nm,0.2s			pmax	pmax		
AKT	**Akhty** comp=Z,425nm,0.2s	**0.90**	**313**	*e*Pg	**Pg**	**11 07 40.8**	**-1.3**
AKT	comp=Z,2μm,0.5s			*e*Sg	**Sg**	**11 07 53.2**	**-0.6**
ZRD	**Zardab**	**0.91**	**230**	P	**Pg**	**11 07 42.4**	**+0.2**
ZRD				S	**Sn**	**11 07 57.6**	**+0.7**
ALIB	**Äli-Bayra**	**0.96**	**161**	P	**Pn**	**11 07 45.9**	**+1.5**
ALIB				S	**Sn**	**11 08 00.9**	**+2.9**
GOBA	**Gobu** SNR=21	**0.98**	**118**	P	**Pn**	**11 07 45.8**	**+1.1**
GOBA				S	**Sn**	**11 07 59.0**	**+0.3**
SAAT	**Saatly**	**1.01**	**188**	P	**Pg**	**11 07 43.9**	**-0.3**
SAAT				S	**Sn**	**11 08 00.7**	**+1.3**
NDR	**Nardaran** SNR=3.8	**1.09**	**105**	P	**Pg**	**11 07 43.4**	**-2.3**
NDR				Sn	**Sn**	**11 08 01.4**	**0.0**
SEKA	**Sheki**	**1.11**	**288**	PG	**Pg**	**11 07 44.2**	**-1.9**
SEKA	**Sheki** SNR=60	**1.11**	**288**	P	**Pg**	**11 07 44.2**	**-1.9**
SEKA				S	**Sg**	**11 08 01.3**	**+0.6**
MNGR	**Mingechevir, A**	**1.15**	**266**	PG	**Pb**	**11 07 46.0**	**-0.8**
MNGR	**Mingechevir, A** SNR=23	**1.15**	**266**	Pn	**Pb**	**11 07 46.1**	**-0.8**
MNGR				S	**Sb**	**11 08 03.1**	**+1.3**
BRDA	**Brd** SNR=7.6	**1.24**	**241**	Pn	**Pn**	**11 07 48.0**	**-0.2**
BRDA				Sn	**Sn**	**11 08 07.9**	**+2.9**
AGDM	**Agdam** SNR=48	**1.36**	**237**	P	**Pn**	**11 07 49.5**	**-0.5**
AGDM				S	**Sg**	**11 08 10.0**	**+1.3**
BLQ	**Beylaqan**	**1.39**	**215**	Pn	**Pn**	**11 07 49.7**	**-0.6**
BLQ				Sn	**Sn**	**11 08 09.6**	**+0.8**
GLBA	**Clilabad**	**1.63**	**186**	Pn	**Pn**	**11 07 53.1**	**-0.4**
GLBA				Sn	**Sg**	**11 08 19.0**	**+1.9**
ZKTA	**Zakatala**	**1.68**	**298**	Pn	**Pn**	**11 07 54.6**	**+0.3**
ZKTA				Sn	**Sb**	**11 08 18.7**	**+1.7**
KMKR	**Kumukh**	**1.69**	**319**	*e*PN	**Pb**	**11 07 57.0**	**+0.8**
KMKR				*e*S	**Sg**	**11 08 19.2**	**0.0**
KMKR	comp=Z,2μm,0.3s			pmax	pmax		
QRD	**Qoradiz**	**1.71**	**215**	Pn	**Pn**	**11 07 54.3**	**-0.4**
QRD				Sn	**Sn**	**11 08 17.8**	**+1.2**
GANJ	**Ganja**	**1.74**	**264**	PN	**Pn**	**11 07 53.6**	**-1.6**
GANJ	**Ganja**	**1.74**	**264**	Pn	**Pn**	**11 07 53.6**	**-1.6**
GANJ				Sn	**Sn**	**11 08 17.7**	**+0.1**
GNBR	**Gunib** comp=Z,119nm,0.7s	**1.95**	**322**	*e*Pg	**Pg**	**11 08 02.6**	**+0.4**
GNBR	comp=Z,365nm,0.6s			*e*Sg	**Sb**	**11 08 26.5**	**+1.4**
YRD	**Yardimli**	**1.97**	**188**	Pn	**Pn**	**11 07 58.0**	**-0.4**
YRD				Sn	**Sn**	**11 08 24.4**	**+1.1**
LKRN	**Lenkeran, Azer**	**2.16**	**176**	PN	**Pn**	**11 08 00.2**	**-0.6**
LKRN	**Lenkeran, Azer**	**2.16**	**176**	Pn	**Pn**	**11 08 00.2**	**-0.6**
GDB	**GEDABAY**	**2.16**	**267**	Pn	**Pn**	**11 07 59.8**	**-1.3**
GDB				Sn	**Sn**	**11 08 28.3**	**+0.2**
LRK	**Lerik**	**2.23**	**185**	Pn	**Pn**	**11 08 01.6**	**-0.4**
LRK				Sn	**Sb**	**11 08 31.8**	**-1.2**
MAK	**Makhachkala**	**2.25**	**339**	*e*PN	**Pb**	**11 08 04.7**	**-0.8**
MAK				*e*		11 08 08.7	
MAK				*e*S	**Sg**	**11 08 36.3**	**-0.7**
MAK				*e*		11 08 42.5	
MAK	comp=Z,167nm,0.3s			pmax	pmax		
MAK	comp=E,465nm,0.4s			smax	smax		
MAK	comp=E,551nm,0.4s			smax	smax		
MAK	comp=Z,79nm,2.0s			MLR	MLR		
ASTR	**Astara**	**2.31**	**176**	Pn	**Pn**	**11 08 02.2**	**-0.7**
ASTR				Sn	**Sg**	**11 08 37.1**	**-1.8**
QZX	**Qazax, Azerbai**	**2.45**	**276**	Pn	**Pn**	**11 08 04.5**	**-0.5**
QZX				Sn	**Sn**	**11 08 37.9**	**+2.9**
SBZ	**Shahbuz**	**2.76**	**239**	Pn	**Pn**	**11 08 10.6**	**+1.4**
SBZ				Sn	**Sn**	**11 08 43.8**	**+1.1**
ORD	**Ordubad**	**2.79**	**227**	Pn	**Pn**	**11 08 10.1**	**+0.5**
ORD				Sn	**Sb**	**11 08 47.0**	**-1.9**
NAX	**Nakhchivan**	**2.92**	**236**	PN	**Pn**	**11 08 12.8**	**+1.4**
NAX	**Nakhchivan**	**2.92**	**236**	Pn	**Pn**	**11 08 12.9**	**+1.4**
NAX				Sn	**Sb**	**11 08 50.8**	**-2.1**
HYR	**Heyderabad**	**3.08**	**249**	Pn	**Pn**	**11 08 14.3**	**+0.6**
HYR				Sn	**Sn**	**11 08 54.2**	**+3.4**
GROC	**Groznyy**	**3.13**	**319**	*e*PN	**Pn**	**11 08 17.7**	**+3.4**
GROC				*e*		11 08 49.5	
GROC				*e*		11 09 03.4	
GROC	comp=Z,43nm,0.3s			pmax	pmax		
GROC	comp=N,54nm,0.4s			smax	smax		
GROC	comp=N,90nm,0.7s			smax	smax		
GROC	comp=N,103nm,0.6s			smax	smax		
GROC	comp=Z,51nm,2.0s			MLR	MLR		
KBZ	**Khabaz** comp=Z,0.3nm,0.3s,baz=132,slow=15,SNR=2.2	**5.11**	**306**	Pn	**Pn**	**11 08 40.5**	**-0.8**
KBZ	comp=Z,0.4nm,0.3s,baz=97,slow=17,SNR=2.6			Pg	**Pb**	**11 08 52.7**	**-1.5**
KBZ	comp=Z,0.4nm,0.3s,baz=11,slow=11,SNR=1.5			Lg	Lg	11 10 04.2	
FINES	**FINESS Array B** comp=Z,1.6nm,0.7s,baz=153,slow=9.4,SNR=8.6	**24.74**	**334**	P	**P**	**11 12 44.2**	**-1.9**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=273,slow=7.8,SNR=3.6	**24.89**	**65**	P	**P**	**11 12 47.4**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.4s,baz=251,slow=7.5,SNR=1.8	**27.45**	**49**	P	**P**	**11 13 12.1**	**+1.3**

IDC 03 11:10:26.9±13.0, 10.98N×92.83E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/39, mbtmp3.3/3, Error ellipse: s-maj=732.0km s-min=31.5km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H** baz=46,slow=75,SNR=8.6	**27.42**	**228**	T	T	11 44 08.5	
H08S2	**Diego Garcia H** baz=46,slow=75,SNR=12	**27.42**	**228**	T	T	11 44 08.6	
H08S1	**Diego Carcia H** baz=46,slow=75,SNR=8.7	**27.43**	**228**	T	T	11 44 12.2	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=165,slow=7.3,SNR=3.8	**36.79**	**348**	P	P	11 17 36.4	-0.1
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=308,slow=8.5,SNR=2.3	**51.13**	**127**	P	P	11 19 31.8	-0.2
ASAR	**Alice Springs** 0.1nm,0.3s,baz=304,slow=6.7,SNR=1.2	**52.91**	**131**	P	P	11 19 45.2	0.0

*JMA **03** 11:22:19.7±0.2, 24.00N×122.43E, h16km±3km, M2.3*
*TAP **03** 11:22:20.3, 24.08N×122.44E, h33km, ML2.9, D*
ISC 03 11:22:20.0±1.1, 24.03N±0.02×122.42E±0.02, h23km±13km, n90, σ0.972/169, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku** baz=53	**0.64**	**49**	P	**Pb**	**11 22 32.2**	**-0.3**
JYNG				S	**Sb**	**11 22 40.9**	**-0.2**
YOJ	**Yonaguni jima** baz=53	**0.69**	**52**	P	**Pb**	**11 22 33.2**	**-0.3**
YOJ				S	**Sb**	**11 22 42.1**	**-0.5**
YOJ	**Yonaguni jima** baz=53	**0.69**	**52**	P	**Pb**	**11 22 33.1**	**-0.3**
YOJ				S	**Sb**	**11 22 42.4**	**-0.2**
EWUT	**Wuta** baz=301	**0.71**	**305**	P	**Pb**	**11 22 33.8**	**0.0**
EWUT				S	**Sb**	**11 22 44.1**	**+0.9**
TWD	**Chiawan** baz=269	**0.75**	**274**	P	**Pb**	**11 22 34.4**	**0.0**
TWD				S	**Sb**	**11 22 45.0**	**+0.7**
NACB	**Ninganchiao** baz=263	**0.76**	**281**	P	**Pb**	**11 22 34.2**	**-0.4**
NACB				S	**Sb**	**11 22 45.5**	**+0.9**
TEYL	**Yanliau Villag** baz=246	**0.77**	**258**	S	**Sn**	**11 22 46.2**	**0.0**
TWC	**Suao** baz=305	**0.77**	**318**	*i* P	**Pb**	**11 22 34.2**	**-0.6**
TWC				*i* S	**Sb**	**11 22 43.8**	**-1.1**
ETM	**Tongmen** baz=262	**0.85**	**266**	P	**Pb**	**11 22 35.6**	**-0.4**
ETM				S	**Sn**	**11 22 48.0**	**-0.1**
TEGC	**Jichi Village** baz=245	**0.86**	**248**	*e*P	**Pb**	**11 22 36.6**	**+0.3**
TEGC				S	**Sn**	**11 22 49.2**	**+0.6**
ETLH	**Xiulin Townshi** baz=265	**0.87**	**282**	P	**Pb**	**11 22 36.3**	**-0.2**
ETLH				S	**Sn**	**11 22 48.7**	**-0.2**
NDS	**Dongshan** baz=309	**0.88**	**313**	P	**Pb**	**11 22 36.4**	**-0.2**
NDS				S	**Sn**	**11 22 48.9**	**-0.1**
ESL	**Shilin** baz=244	**0.93**	**257**	*i* P	**Pb**	**11 22 37.5**	**+0.1**
ESL				*i* S	**Sb**	**11 22 49.4**	**+0.1**
TWE	**Neicheng** baz=312	**0.97**	**315**	*i* P	**Pb**	**11 22 38.1**	**0.0**
TWE				*i* S	**Sb**	**11 22 50.4**	**-0.1**
EGFH	**Guangfu** baz=245	**0.97**	**248**	*e*P	**Pn**	**11 22 37.8**	**-0.4**
EGFH				S	**Sb**	**11 22 50.6**	**-0.1**
NTC	**Toucheng** baz=324	**0.98**	**327**	*i* P	**Pn**	**11 22 38.1**	**-0.2**
NTC				*i* S	**Sb**	**11 22 50.9**	**+0.2**
ENTT	**Nioudou** baz=292	**0.98**	**308**	*i* P	**Pb**	**11 22 38.6**	**+0.2**
ENTT				*i* S	**Sn**	**11 22 51.8**	**+0.2**
NDT	**Datong Townshi** baz=288	**1.00**	**305**	*i* P	**Pb**	**11 22 39.1**	**+0.4**
NDT				*i* S	**Sb**	**11 22 51.7**	**+0.3**
NNSB	**Datong** baz=278	**1.02**	**293**	P	**Pn**	**11 22 38.8**	**-0.3**
NNSB				S	**Sn**	**11 22 52.7**	**0.0**
NNSH	**Datong** baz=279	**1.02**	**293**	*i* P	**Pn**	**11 22 38.9**	**-0.2**
NNSH				*i* S	**Sb**	**11 22 52.4**	**+0.3**
NNS	**Nan Shan** baz=290	**1.03**	**293**	*i* P	**Pn**	**11 22 39.1**	**-0.1**
NNS				*i* S	**Sn**	**11 22 53.1**	**0.0**
TWB1	**Santiao Chiao** baz=351	**1.05**	**338**	*i* P	**Pn**	**11 22 38.7**	**-0.5**
TWB1				S	**Sb**	**11 22 52.6**	**-0.1**
HGSD	**Ruisui** baz=237	**1.05**	**240**	P	**Pn**	**11 22 39.1**	**-0.3**
HGSD				S	**Sb**	**11 22 52.7**	**-0.3**
WHF	**Hehuan Shan** baz=261	**1.06**	**276**	*i* P	**Pn**	**11 22 39.1**	**-0.7**
WHF				S	**Sb**	**11 22 53.0**	**-0.5**
TIPB	**Shuangxi** baz=328	**1.08**	**330**	*e*P	**Pn**	**11 22 39.3**	**-0.4**
TIPB				S	**Sb**	**11 22 53.2**	**-0.6**
NWLT	**Wulai** baz=308	**1.12**	**312**	*i* P	**Pn**	**11 22 40.4**	**+0.2**
NWLT				*i* S	**Sb**	**11 22 55.3**	**+0.5**
EHY	**Hungye** baz=253	**1.13**	**243**	*i* P	**Pn**	**11 22 40.3**	**-0.1**
EHY				*i* S	**Sn**	**11 22 54.5**	**-0.8**
CHGB	**Renai** baz=258	**1.14**	**272**	*i* P	**Pn**	**11 22 40.4**	**-0.3**
CHGB				S	**Sn**	**11 22 54.5**	**-1.2**
OWD	**Renai** baz=263	**1.14**	**266**	*i* P	**Pn**	**11 22 40.5**	**-0.1**
OWD				*e*S	**Sn**	**11 22 54.9**	**-0.6**
YHNB	**Yeheng** baz=288	**1.14**	**304**	P	**Pn**	**11 22 40.9**	**+0.2**
YHNB				*e*S	**Sn**	**11 22 55.6**	**+0.1**
TDCB	**Techi** baz=268	**1.17**	**281**	P	**Pn**	**11 22 41.2**	**+0.1**
TDCB				S	**Sn**	**11 22 56.5**	**+0.1**
NWF	**Wu-fen Shan** baz=328	**1.19**	**331**	*i* P	**Pn**	**11 22 40.0**	**-1.2**
NWF				S	**Sn**	**11 22 56.3**	**-0.4**
WFSB	**Wu-fen Shan** baz=328	**1.19**	**331**	P	**Pn**	**11 22 40.5**	**-0.6**
WFSB				S	**Sb**	**11 22 57.0**	**+0.2**
YULB	**Yu-li** baz=250	**1.21**	**238**	P	**Pn**	**11 22 41.2**	**-0.3**
YULB				S	**Sn**	**11 22 56.1**	**-0.9**
TWA	**Mucha** baz=336	**1.21**	**321**	*e*P	**Pn**	**11 22 41.9**	**+0.3**
TWA				S	**Sb**	**11 22 58.6**	**+1.1**
EYUL	**Yuli** baz=233	**1.21**	**236**	*i* P	**Pn**	**11 22 41.6**	**0.0**
EYUL				*i* S	**Sn**	**11 22 57.3**	**+0.1**
TWF1	**Yuli** baz=223	**1.23**	**237**	*i* P	**Pn**	**11 22 41.8**	**0.0**
TWF1				S	**Sn**	**11 22 57.2**	**-0.5**
NHDH	**Xindian Distri** baz=331	**1.23**	**319**	*i* P	**Pb**	**11 22 42.9**	**+0.3**
NHDH				S	**Sb**	**11 22 58.6**	**+0.5**
IRIF	**Iriomote-Funau**	**1.24**	**76**	P	**Pb**	**11 22 42.5**	**-0.2**
IRIF				*e*S	**Sb**	**11 22 59.0**	**+0.8**
TNOU	**National Taiwa** baz=330	**1.26**	**332**	S	**Sb**	**11 22 58.6**	**-0.2**
TATO	**Taipei** baz=315	**1.26**	**318**	P	**Pb**	**11 22 43.1**	**-0.1**
TATO				S	**Sb**	**11 22 59.5**	**+0.5**
HATJ	**Hateruma jima** baz=315	**1.27**	**89**	P	**Pb**	**11 22 43.5**	**+0.2**
FULB	**Fuli** baz=228	**1.32**	**231**	*i* P	**Pn**	**11 22 42.3**	**-0.8**
FULB				S	**Sn**	**11 22 59.4**	**-0.5**
CHKT	**Chengkung** baz=223	**1.34**	**226**	P	**Pn**	**11 22 41.9**	**-1.3**
CHKT				S	**Sn**	**11 22 59.1**	**-1.2**
YM01	**YM01** baz=322	**1.35**	**325**	P	**Pn**	**11 22 43.9**	**+0.4**
YM01				*e*S	**Sn**	**11 23 00.1**	**-0.6**
SSLB	**Suanglung** baz=257	**1.36**	**260**	P	**Pn**	**11 22 44.3**	**+0.7**
SSLB				S	**Sn**	**11 23 01.0**	**+0.1**
WHP	**Taichung City** baz=267	**1.36**	**281**	*i* P	**Pb**	**11 22 45.1**	**+0.2**
WHP				*e*S	**Sb**	**11 23 02.2**	**+0.2**
WCS	**Beigang Elemen** baz=260	**1.38**	**271**	P	**Pn**	**11 22 44.5**	**+0.8**
WCS				S	**Sn**	**11 23 01.6**	**+0.3**
YM08	**YM08** baz=324	**1.38**	**327**	*e*P	**Pb**	**11 22 44.4**	**-0.7**
YM08				*e*S	**Sn**	**11 23 00.6**	**-0.7**
SMLT	**Sun Moon Lake** baz=261	**1.40**	**264**	*i* P	**Pn**	**11 22 44.8**	**+0.7**
SMLT				*e*S	**Sn**	**11 23 02.5**	**+0.6**
TWS1	**Kuangyinshan** baz=333	**1.40**	**320**	P	**Pn**	**11 22 44.5**	**+0.4**
TWS1				S	**Sb**	**11 23 03.6**	**+0.7**
ANP	**Anpu** baz=322	**1.41**	**325**	P	**Pb**	**11 22 45.0**	**-0.7**
LIOB	**Emei** baz=292	**1.42**	**296**	*i* P	**Pb**	**11 22 45.7**	**-0.1**
LIOB				S	**Sb**	**11 23 04.3**	**+0.9**
NSTT	**Nanjuang** baz=292	**1.42**	**295**	*i* P	**Pb**	**11 22 45.4**	**-0.5**
NSTT				*e*S	**Sb**	**11 23 03.8**	**+0.2**
TYC	**Yuchr** baz=262	**1.43**	**265**	*i* P	**Pn**	**11 22 44.9**	**+0.4**
TYC				*e*S	**Sn**	**11 23 03.1**	**+0.5**
ECS	**Chishang** baz=218	**1.44**	**230**	S	**Sb**	**11 23 04.3**	**+0.2**
TWY	**Chenhua** baz=327	**1.45**	**329**	P	**Pb**	**11 22 45.9**	**-0.4**
TWY				*e*S	**Sn**	**11 23 03.1**	**+0.2**
EDH	**Donghe** baz=214	**1.47**	**224**	*i* P	**Pn**	**11 22 44.5**	**-0.6**
EDH				*i* S	**Sn**	**11 23 01.6**	**-1.9**
JKRS	**Kuro-shima**	**1.47**	**82**	P	**Pb**	**11 22 46.3**	**-0.4**
JKRS				S	**Sb**	**11 23 05.7**	**+0.8**
ELDTW	**Lidau** baz=234	**1.53**	**237**	*i* P	**Pn**	**11 22 45.8**	**-0.3**
ELDTW				*i* S	**Sn**	**11 23 04.2**	**-1.1**
WJS	**Zhushan** baz=259	**1.56**	**263**	P	**Pb**	**11 22 48.8**	**+0.6**
WJS				S	**Sb**	**11 23 10.3**	**+2.8**
ALS	**Alishan** baz=248	**1.56**	**251**	*i* P	**Pn**	**11 22 47.4**	**+0.7**
LDUT	**Ludao** baz=211	**1.61**	**213**	*i* P	**Pn**	**11 22 46.2**	**-0.7**
LDUT				S	**Sn**	**11 23 05.3**	**-1.6**
JIJ	**Ishigaki jima**	**1.61**	**78**	P	**Pn**	**11 22 47.4**	**+0.4**
JIJ				*e*S	**Sn**	**11 23 07.1**	**0.0**
PCYT	**Pengchaiyu** baz=348	**1.62**	**349**	*e*P	**Pn**	**11 22 47.1**	**-0.1**
LONT	**Longtian** baz=236	**1.63**	**227**	P	**Pn**	**11 22 47.0**	**-0.2**
LONT				S	**Sn**	**11 23 07.2**	**-0.2**
CHN5	**Tsauling** baz=242	**1.65**	**255**	S	**Sb**	**11 23 10.1**	**-0.1**
TWGBT	**Beinan** baz=235	**1.72**	**226**	P	**Pn**	**11 22 48.1**	**-0.5**
TWGBT				S	**Sn**	**11 23 08.7**	**-1.1**
TWG	**Pinlang** baz=235	**1.73**	**226**	*i* P	**Pn**	**11 22 48.3**	**-0.2**
TWG				S	**Sn**	**11 23 08.6**	**-1.2**
STYH	**Taoyuan** baz=229	**1.73**	**241**	P	**Pn**	**11 22 48.9**	**+0.3**
STYH				S	**Sn**	**11 23 11.1**	**+1.1**
TPUB	**Ta-pu** baz=243	**1.79**	**246**	P	**Pb**	**11 22 51.2**	**-1.0**
TPUB				*e*S	**Sn**	**11 23 12.9**	**+1.4**
CHN4	**Tsaushan** baz=245	**1.80**	**248**	*i* P	**Pb**	**11 22 52.3**	**0.0**
CHN4				*i* S	**Sb**	**11 23 15.6**	**+1.1**
JISG	**Ishigakijimahi**	**1.81**	**72**	P	**Pn**	**11 22 49.9**	**+0.1**
JISG				*e*S	**Sn**	**11 23 12.1**	**0.0**
WTP	**Ta-pu** baz=242	**1.83**	**245**	*i* P	**Pb**	**11 22 52.0**	**-0.8**
WTP				*i* S	**Sb**	**11 23 15.5**	**+0.2**
WRL	**Guolierlin Hig** baz=276	**1.87**	**266**	S	**Sb**	**11 23 16.5**	**0.0**
SLGT	**Liugui** baz=227	**1.93**	**238**	*i* P	**Pb**	**11 22 53.9**	**-0.6**
SLGT				*e*S	**Sb**	**11 23 17.2**	**-0.9**
TWK	**Hsinying** baz=244	**1.93**	**247**	P	**Pb**	**11 22 53.2**	**-1.3**
TWK				S	**Sb**	**11 23 18.1**	**0.0**
CHN1	**Nanshi** baz=241	**1.93**	**244**	*i* P	**Pb**	**11 22 54.0**	**-0.5**
CHN1				*i* S	**Sb**	**11 23 18.0**	**-0.1**
SGST	**Jiashian** baz=227	**1.93**	**241**	S	**Sb**	**11 23 18.1**	**-0.1**
SSD	**Sandimen** baz=224	**2.08**	**232**	P	**Pn**	**11 22 54.5**	**+1.0**
SSD				S	**Sn**	**11 23 19.4**	**+0.8**
TSMG	**Majia** baz=224	**2.10**	**231**	P	**Pn**	**11 22 55.7**	**+2.0**
TSMG				*e*S	**Sn**	**11 23 20.0**	**+1.0**
MASBT	**Mashibuluo** baz=223	**2.16**	**230**	P	**Pn**	**11 22 56.5**	**+1.9**
MASBT				S	**Sn**	**11 23 21.4**	**+0.7**
JTJ	**Tarama**	**2.17**	**73**	P	**Pn**	**11 22 55.3**	**+0.6**
JTJ				*e*S	**Sn**	**11 23 22.1**	**+1.2**
EAST	**Anshuo** baz=219	**2.18**	**222**	P	**Pn**	**11 22 54.2**	**-0.7**
EAST				*e*S	**Sn**	**11 23 20.7**	**-0.5**
SLIU	**Shizi** baz=226	**2.34**	**220**	*i* P	**Pn**	**11 22 57.1**	**0.0**
SLIU				*e*S	**Sn**	**11 23 25.4**	**+0.3**
WDGT	**Dungji** baz=250	**2.64**	**254**	P	**Pn**	**11 23 02.4**	**+1.2**
WDGT				*e*S	**Sn**	**11 23 33.4**	**+0.9**
PHUB	**P'eng-hu** baz=271	**2.66**	**259**	*e*P	**Pn**	**11 23 01.8**	**+0.4**
PHUB				S	**Sn**	**11 23 34.2**	**+1.4**
VCHM	**Qimei** baz=251	**2.86**	**254**	*e*S	**Sn**	**11 23 39.4**	**+1.6**
VWUC	**VWUC** baz=286	**2.87**	**290**	*e*P	**Pn**	**11 23 04.1**	**-0.1**
VWUC				*e*S	**Sn**	**11 23 36.0**	**-2.0**
PTMZ	**Houxiangcun** baz=285	**3.17**	**289**	*e*P	**Pn**	**11 23 08.3**	**0.0**

PTMZ eS Sn 11 23 43.4 -2.0
baz=285

*IDC **03** 11:28:22.6±0.8, 30°.31N×79°.04E, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.9/45, mbtmp3.8/17, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/50, Error ellipse: s-maj=28.3km s-min=14.8km az=47.0*
*NDI **03** 11:28:25.7±3.4, 30°.44N×79°.25E, h5km, ML4.3*
*DMN **03** 11:28:28.1±0.3, 31°.24N×79°.48E, h10km, Ml4.7/6, Error ellipse: s-maj=19.5km s-min=5.2km az=33.0*

ISC 03 11:28:25.2±0.5, 30°.44N±0°.05×79°.19E±0°.04, h10km, n41, σ1°93/54, mb3.8/14, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**0.99**	**264**	*eP*	**Pg**	**11 28 44.8**	**+0.6**
DDI				*eS*	**Sg**	**11 28 57.6**	**+0.6**
DDI				IAML		11 29 00.3	
	comp=N,8μm,0.3s						
PTH	**Pithoragarh**	**1.26**	**135**	*eP*	Pn	11 28 43.4	-5.6
PTH				*eS*	**Sb**	**11 29 06.0**	**+0.6**
SMLA	**Simla**	**1.87**	**292**	*eP*	**Pb**	**11 28 59.0**	**-0.5**
SMLA				*eS*	**Sb**	**11 29 23.5**	**+0.5**
SMLA				IAML		11 29 25.2	
	comp=N,4μm,0.5s						
SMLA				IAML		11 29 25.3	
	comp=E,4μm,0.4s						
NDI	**New Delhi**	**2.45**	**225**	*eP*	**Pn**	**11 29 07.5**	**+2.2**
NDI				*eS*	**Sn**	**11 29 38.5**	**+3.2**
BHK	**Bhakra**	**2.57**	**293**	*eS*	**Sb**	**11 29 43.2**	**0.0**
DHRM	**DHARAMSHALA**	**3.06**	**307**	*eP*	**Pn**	**11 29 14.7**	**+0.8**
DHRM				*eS*	**Sn**	**11 29 52.4**	**+1.8**
DHRM				IAML		11 30 05.9	
	comp=N,731nm,0.5s						
THN	**Thein Dam**	**3.57**	**305**	*eP*	**Pn**	**11 29 22.0**	**+1.3**
THN				*eS*	**Sn**	**11 30 05.5**	**+2.6**
DANN	**Dangsing**	**4.50**	**116**	*ePn*	**Pn**	**11 29 37.6**	**+3.9**
KOLN	**Koldanda**	**4.69**	**123**	*ePn*	**Pn**	**11 29 41.0**	**+4.8**
AJM	**Ajmer**	**5.62**	**227**	*eP*	**Pn**	**11 29 51.0**	**+2.1**
AJM				*i S*	**Sn**	**11 30 55.0**	**+1.5**
DMN	**Daman**	**5.90**	**117**	*ePn*	**Pn**	**11 29 56.2**	**+3.3**
DMN				*eSn*	**Sn**	**11 31 02.4**	**+1.7**
	comp=N,62nm,0.4s						
KKN	**Kakani**	**5.95**	**115**	*ePn*	**Pn**	**11 29 56.3**	**+2.8**
KKN	**Kakani**	**5.95**	**115**	*ePn*	**Pn**	**11 29 56.5**	**+3.0**
KKN				*eSn*	**Sn**	**11 31 01.7**	**-0.2**
KKN				*eSn*	Sb	11 31 02.1	-18
	comp=N,57nm,0.2s						
CHCP	**Chirah Chowk**	**5.97**	**304**	P	Pn	**11 29 54.9**	**+1.3**
PKIN	**Phulchoki**	**6.14**	**116**	*ePn*	**Pn**	**11 29 59.4**	**+3.2**
PKIN				*eSn*	**Sn**	**11 31 07.6**	**+0.9**
	comp=N,131nm,0.3s						
PKI	**Pulchoki**	**6.15**	**116**	*ePn*	**Pn**	**11 29 59.8**	**+3.3**
PKI				*eSn*	**Sn**	**11 31 07.7**	**+0.6**
	comp=N,39nm,0.2s						
GUN	**Gumba**	**6.37**	**112**	*ePn*	**Pn**	**11 30 01.9**	**+2.4**
JIRN	**Jiri**	**6.72**	**113**	*ePn*	**Pn**	**11 30 06.8**	**+2.4**
JIRN				*eSn*	**Sn**	**11 31 20.4**	**-0.8**
	comp=N,99nm,0.2s						
THW	**Thamme Wali**	**6.77**	**292**	P	**Pn**	**11 30 05.3**	**+0.6**
CEP	**Cherat**	**7.04**	**301**	P	**Pn**	**11 30 08.5**	**+0.1**
BHPL	**Bhopal**	**7.34**	**193**	*eP*	**Pn**	**11 30 11.5**	**-1.1**
BHPL				*eS*	**Sn**	**11 31 31.4**	**-4.6**
BHPL				IAML		11 31 35.8	
	comp=N,736nm,0.2s						
RAMN	**Ramite**	**7.38**	**116**	*ePn*	**Pn**	**11 30 15.7**	**+2.5**
RAMN				*eSn*	**Sn**	**11 31 35.8**	**-1.4**
	comp=N,180nm,0.3s						
ODAN	**Odare**	**8.04**	**114**	*ePn*	**Pn**	**11 30 24.3**	**+2.0**
TAPN	**Taplejung**	**8.08**	**110**	*ePn*	**Pn**	**11 30 24.4**	**+1.5**
AAK	**Ala-Archa**	**12.74**	**344**	Pn	**Pn**	**11 31 27.8**	**+1.3**
	comp=N,0.6nm,0.3s,baz=175,slow=12,SNR=2.3						
AAK				Sn	Sn	11 33 38.7	-10
	comp=N,0.4nm,0.3s,baz=181,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**16.51**	**8**	Pn	**Pn**	**11 32 16.8**	**0.0**
	comp=N,0.3nm,0.3s,baz=180,slow=12,SNR=7.9						
MKAR				Sn	Sn	11 35 07.7	-12
	comp=N,0.2nm,0.3s,baz=189,slow=25,SNR=5.3						
MKAR				LR	LR	11 39 27.1	
	comp=N,51nm,18.5s,baz=212,slow=40						
KURBB	**Kurchatov Arra**	**20.17**	**359**	P	**P**	**11 32 59.3**	**-0.3**
	comp=N,1.0nm,0.7s,baz=191,slow=8.9,SNR=9.2						
CMAR	**Chiang Mai Arr**	**21.54**	**119**	P	**P**	**11 33 15.2**	**+0.5**
	comp=N,1.1nm,0.6s,baz=321,slow=11,SNR=8.1						
BVAR	**Borovoye Array**	**23.47**	**347**	P	**P**	**11 33 35.3**	**+0.6**
	comp=N,0.5nm,0.4s,baz=161,slow=19,SNR=4.3						
ZALV	**Zalesovo Beam**	**23.84**	**8**	P	**P**	**11 33 38.0**	**-0.4**
	comp=N,0.9nm,0.4s,baz=187,slow=12,SNR=5.2						
AKTO	**Aktyubinsk**	**25.50**	**328**	P	**P**	**11 33 52.2**	**-1.4**
	comp=N,1.3nm,0.6s,baz=124,slow=9.2,SNR=6.7						
SONM	**Songino Array**	**27.12**	**43**	P	**P**	**11 34 08.8**	**+0.3**
	comp=N,0.6nm,0.4s,baz=234,slow=8.8,SNR=2.0						
BRTR	**Keskin Array B**	**38.06**	**297**	P	**P**	**11 35 42.6**	**-1.5**
	comp=N,1.2nm,0.7s,baz=119,slow=8.7,SNR=6.6						
AKASG	**Malin Array Be**	**42.07**	**313**	P	**P**	**11 36 15.4**	**-1.7**
	comp=N,0.7nm,0.5s,baz=81,slow=8.8,SNR=4.1						
FINES	**FINESS Array B**	**46.28**	**328**	P	**P**	**11 36 50.1**	**-0.4**
	comp=N,1.9nm,0.4s,baz=111,slow=7.7,SNR=16						
ARCES	**ARCESS Array B**	**49.32**	**338**	P	**P**	**11 37 14.1**	**-0.1**
	comp=N,3.8nm,0.5s,baz=112,slow=8.4,SNR=34						
NOA	**NORSAR Array B**	**53.27**	**326**	P	**P**	**11 37 42.9**	**-1.1**
	comp=N,1.2nm,0.7s,baz=93,slow=7.2,SNR=4.0						
ESDC	**Sonseca Array**	**66.42**	**303**	P	**P**	**11 39 13.6**	**-1.1**
	comp=N,1.0nm,0.7s,baz=68,slow=7.4,SNR=7.4						
WRA	**Warramunga Arr**	**72.94**	**126**	P	**P**	**11 39 54.3**	**-0.8**
	comp=N,1.1nm,0.9s,baz=322,slow=6.0,SNR=8.3						
ASAR	**Alice Springs**	**75.16**	**129**	P	**P**	**11 40 07.2**	**-0.8**
	comp=N,0.4nm,0.5s,baz=309,slow=6.1,SNR=9.4						
ILAR	**Eielson Array**	**78.54**	**18**	P	**P**	**11 40 25.4**	**-1.0**
	comp=N,0.2nm,0.5s,baz=307,slow=6.4,SNR=4.2						

*IDC **03** 11:39:19.9±0.9, 43°.45N×144°.33E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/56, mbtmp3.6/8, ML2.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/37, Error ellipse: s-maj=21.9km s-min=19.5km az=44.0*
*JMA **03** 11:39:21.7, 43°.52N×144°.35E, h3km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs190.00000°, δ36.00000°, λ154.00000°. NP2: ϕs301.00000°, δ75.00000°, λ57.00000°. Principal axes: T Plg49.0000°, Azm175.0000°; N Plg32.0000°, Azm311.0000°; P Plg23.0000°, Azm56.0000°;*
JMA Felt III J1.
*NIED **03** 11:39:21.7, 43°.52N×144°.35E, h3km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.42; Mθθ3.82; Mφφ-5.24; Mrθ-1.49; Mθφ0.16; Mφr-1.70; Fault plane solution: Mo5.13000×10^14 NP1: ϕs220.00000°, δ81.00000°, λ150.00000°. NP2: ϕs315.00000°, δ60.00000°, λ10.00000°.*
*SKHL **03** 11:39:22.3±0.0, 43°.40N×144°.40E, h17km±2km, mb4.0/3*

ISC 03 11:39:21.3±1.1, 43°.50N±0°.04×144°.37E±0°.03, h7km±8km, n29, σ0°91/32, mb3.6/6, 4C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.27**	**70**	⇓P	**Pg**	**11 39 26.7**	**+0.1**
JNK				*eS*	**Sg**	**11 39 30.5**	**+0.3**
JAR	**Ashorobuto**	**0.48**	**246**	⇓P	**Pg**	**11 39 30.9**	**+0.3**
JAR				*eS*	**Sb**	**11 39 38.4**	**-0.9**
JAK	**Akkeshi**	**0.55**	**154**	⇑P	**Pb**	**11 39 32.4**	**-0.8**
JAK				S	**Sb**	**11 39 40.9**	**-0.4**
JTKR	**Abashiri--Toko**	**0.58**	**325**	⇑P	**Pg**	**11 39 32.1**	**-0.4**
JTKR				S	**Sg**	**11 39 39.8**	**-0.3**
JRA	**Rausu**	**0.70**	**51**	⇓P	**Pg**	**11 39 34.6**	**-0.2**
JKHN	**Kushirohamanak**	**0.71**	**125**	⇑P	**Pg**	**11 39 35.1**	**+0.2**
JKHN				S	**Sb**	**11 39 45.7**	**-0.1**
JOB	**Onbets**	**0.71**	**214**	⇑P	**Pb**	**11 39 35.6**	**-0.3**
JOB				S	**Sb**	**11 39 46.4**	**+0.6**
JMP	**Maruseppu**	**0.89**	**305**	⇓P	**Pg**	**11 39 37.8**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.00**	**97**	*eP*	**Pg**	**11 39 39.5**	**-0.9**
NMR				*eS*	**Sg**	**11 39 52.4**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**1.21**	**63**	*eP*	**Pb**	**11 39 42.9**	**-1.5**
YUK				AMB	AMB	11 39 44.0	
	60nm,0.2s						
YUK				*eS*	**Sg**	**11 39 59.5**	**-0.6**
YUK				A	A	11 40 03.2	
	2μm,0.5s						
YUK				A	A	11 40 03.2	
	1μm,0.5s						
ASAJ	**Asahikawa**	**1.43**	**296**	Pn	**Pn**	**11 39 47.6**	**+0.1**
	330nm,0.3s,baz=125,slow=13,SNR=1464						
ASAJ				Sn	**Sn**	**11 40 06.8**	**+0.3**
	209nm,0.3s,baz=221,slow=33,SNR=22						
KUR	**Kuril'sk**	**3.05**	**54**	*eP*	**Pn**	**11 40 11.2**	**+1.4**
KUR				AMB	AMB	11 40 12.8	
	30nm,0.4s						
YSS	**Yuzh-Sakhalins**	**3.64**	**342**	*eP*	**Pn**	**11 40 19.8**	**+1.8**
YSS				AMB	AMB	11 40 26.6	
	20nm,0.9s						
MJAR	**Matsushiro Arr**	**8.40**	**216**	Pn	**Pn**	**11 41 23.3**	**0.0**
	0.1nm,0.3s,baz=33,slow=12,SNR=7.8						
PETK	**Petropavlovsk-**	**13.06**	**38**	Pn	**Pn**	**11 42 29.5**	**+2.4**
	0.0nm,0.3s,baz=214,slow=12,SNR=2.0						
PETK				LR	LR	11 47 47.6	
	comp=Z,76nm,18.1s,baz=161,slow=39						
KSRS	**Korea Array**	**13.89**	**250**	LR	LR	11 47 38.9	
	comp=Z,26nm,18.8s,baz=55,slow=36						
SONM	**Songino Array**	**26.71**	**293**	P	**P**	**11 45 01.1**	**0.0**
	0.6nm,0.5s,baz=69,slow=8.2,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**30.30**	**134**	T	T	12 16 42.0	
	baz=327,slow=75,SNR=621						
H11N1	**WAKE ISLAND Hy**	**30.31**	**134**	T	T	12 16 39.9	
	baz=327,slow=75,SNR=392						
H11N3	**WAKE ISLAND Hy**	**30.32**	**134**	T	T	12 16 44.4	
	baz=327,slow=75,SNR=353						
H11S1	**WAKE ISLAND Hy**	**31.22**	**136**	T	T	12 17 46.5	
	baz=328,slow=76,SNR=649						
H11S3	**WAKE ISLAND Hy**	**31.23**	**136**	T	T	12 17 47.2	
	baz=328,slow=76,SNR=448						
H11S2	**WAKE ISLAND Hy**	**31.24**	**136**	T	T	12 17 47.8	
	baz=328,slow=76,SNR=461						
ZALV	**Zalesovo Beam**	**39.54**	**307**	PcP	**PcP**	**11 48 59.3**	**-0.5**
	0.6nm,0.4s,baz=151,slow=3.3,SNR=2.4						
ILAR	**Eielson Array**	**42.88**	**36**	P	**P**	**11 47 19.7**	**-0.1**
	1.0nm,1.0s,baz=273,slow=6.0,SNR=5.3						
MKAR	**Makanchi Array**	**42.91**	**297**	P	**P**	**11 47 19.6**	**-0.7**
	0.3nm,0.5s,baz=75,slow=8.9,SNR=3.2						
MKAR				PcP	**PcP**	**11 49 09.4**	**-1.5**
	0.2nm,0.6s,baz=243,slow=0.3,SNR=1.8						
WRA	**Warramunga Arr**	**63.79**	**191**	P	**P**	**11 49 52.6**	**-1.3**
	0.4nm,0.6s,baz=8.9,slow=6.9,SNR=4.6						
ASAR	**Alice Springs**	**67.52**	**190**	P	**P**	**11 50 17.9**	**0.0**
	0.8nm,0.7s,baz=9.4,slow=5.3,SNR=12						
TXAR	**Lajitas Array**	**84.45**	**54**	P	**P**	**11 51 54.9**	**+0.1**
	0.2nm,0.5s,baz=286,slow=3.4,SNR=2.5						

DJA 03 11:46:01.5±0.5, 3°.5±4°.×10°.3E±°, h185km±5km, M3.9/8, mB4.7/1, mb4.4/2, MLv3.7/8, Mw(mB)3.9/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.49**	**229**	P	Pn	11 46 28.4	+1.5
KSI				S	Sn	11 46 48.6	+2.1
LHSI	**Lahat**	**0.75**	**131**	P	Pn	11 46 28.2	+0.1
LHSI				S	Sn	11 46 50.0	+1.4
MDSI	**Maura Dua**	**1.67**	**133**	P	Pn	11 46 36.0	+0.5
MDSI				S	Sn	11 47 02.2	+0.2
LWLI	**Liwa**	**2.00**	**147**	P	Pn	11 46 39.2	+0.1
KASI	**Kota Agung**	**2.66**	**145**	P	Pn	11 46 46.0	-0.4
MNSI	**Mandailing Nat**	**5.31**	**320**	P	Pn	11 47 19.1	-0.5
	0.2nm36nm,0.4s						

*IDC **03** 11:46:15.4±0.5, 10°.86N×126°.16E, h0km, mb4.2/21, mb1 4.3/21, mb1mx4.1/47, mbtmp4.2/21, MS3.4/7, Ms1 3.4/7, ms1mx3.0/41, Error ellipse: s-maj=28.1km s-min=11.2km az=78.0*
*MAN **03** 11:46:18.1, 10°.86N×126°.36E, h15km, MS4.1*
*NEIC **03** 11:46:20.2±1.6, 10°.86N±0°.05×125°.9E±0°.2, h26km±5km, mb4.5/23, Error ellipse: s-maj=26.8km s-min=6.4km az=95.0*

ISC 03 11:46:18.8±0.8, 10°.87N±0°.05×126°.33E±0°.07, h22km±7km, n79, σ1°57/84, mb4.3/29, MS3.4/6, 3C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.10**	**190**	*eP*	**Pn**	**11 46 36.7**	**-2.2**
GLSP				*eS*	**Sb**	**11 46 50.2**	**-2.7**
SCPH	**Surigao**	**1.36**	**217**	*eP*	**Pn**	**11 46 42.3**	**-0.1**
SCPH				*eS*	**Sb**	**11 47 00.9**	**+0.4**
MSLP	**Maasin**	**1.62**	**243**	*eP*	**Pn**	**11 46 45.7**	**-0.4**
MSLP				*eS*	Sb	11 47 16.4	+8.4
OCLP	**Ormoc**	**1.70**	**276**	*eP*	**Pn**	**11 46 46.5**	**-0.6**
OCLP				*eS*	Sb	11 47 20.3	+10
BUTP	**Butuan**	**2.01**	**200**	*eP*	**Pn**	**11 46 51.1**	**-0.3**
BUTP				*eS*	**Sb**	**11 47 21.4**	**+2.1**
LLP	**Lapu-Lapu**	**2.39**	**257**	⇓*eP*	**Pb**	**11 46 59.5**	**-1.5**
LLP				*eS*	**Sb**	**11 47 31.8**	**+1.7**
CGP	**Cagayan de Oro**	**2.89**	**214**	⇓*eP*	**Pn**	**11 47 05.2**	**+1.6**
CGP				*eS*	**Sn**	**11 47 39.5**	**+1.9**
BUKP	**Musuan**	**3.22**	**203**	*eP*	**Pn**	**11 47 09.2**	**+1.0**
BUKP				*eS*	**Sn**	**11 47 44.7**	**-1.2**
SNPH	**Sibulan**	**3.40**	**244**	*i P*	**Pn**	**11 47 12.0**	**+1.4**
SNPH				*i S*	**Sn**	**11 47 51.4**	**+1.0**
RCP	**Roxas**	**3.58**	**281**	⇑*eP*	**Pn**	**11 47 14.4**	**+1.3**
DCPH	**Dipolog City**	**3.71**	**233**	⇑*eP*	**Pn**	**11 47 16.4**	**+1.5**
CNOP	**Candoni, Negro**	**3.77**	**254**	*eP*	**Pn**	**11 47 16.6**	**+1.0**
CNOP				*eS*	**Sb**	**11 48 06.2**	**-3.9**
CNOP	**Candoni, Negro**	**3.77**	**254**	⇑*iP*	**Pn**	**11 47 16.7**	**+1.0**
CNOP				*i S*	**Sb**	**11 48 16.5**	**+6.4**
DAV	**Davao City (W)**	**3.85**	**191**	Pn	**Pn**	**11 47 20.4**	**+3.7**
	50nm,0.3s,baz=111,slow=4.3,SNR=1.9						
DAV	**Davao City (W)**	**3.85**	**191**		**Pn**	**11 47 16.6**	**-0.1**
DDMP	**Don Marcelino,**	**4.77**	**187**	*eP*	Pb	11 47 36.4	-5.4
LQP	**Lukban**	**5.68**	**305**	⇓*eP*	**Pn**	**11 47 41.5**	**-0.7**
GUMO	**Guam**	**18.32**	**80**	LR	LR	11 56 37.3	
	comp=Z,78nm,21.5s,baz=198,slow=34						
BATI	**Baumata**	**21.10**	**187**	P	**P**	**11 51 01.8**	**-0.3**
	19nm,0.5s,baz=140,slow=18,SNR=1.6						
LEM	**Lembang**	**25.61**	**227**	LR	LR	12 03 12.0	
	comp=Z,154nm,20.8s,baz=84,slow=40						
KNRA	**Kununurra**	**26.48**	**175**	P	**P**	**11 51 55.1**	**+0.5**
KSRS	**Korea Array**	**26.51**	**3**	P	**P**	**11 51 55.0**	**+0.3**
	1.1nm,0.8s,baz=173,slow=11,SNR=2.5						
CMAR	**Chiang Mai Arr**	**27.52**	**289**	P	**P**	**11 52 03.3**	**-0.8**
	0.5nm,0.4s,baz=106,slow=8.8,SNR=4.3						
CMAR				LR	LR	12 03 54.8	
	comp=Z,21nm,19.0s,baz=140,slow=39						
MJAR	**Matsushiro Arr**	**27.73**	**21**	LR	LR	12 02 52.8	
	comp=Z,82nm,19.0s,baz=195,slow=36						
FITZ	**Fitzroy Crossi**	**28.79**	**181**	P	**P**	**11 52 14.8**	**-0.5**
	3.4nm,0.8s,baz=22,slow=7.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**28.79**	**181**	P	**P**	**11 52 14.8**	**-0.5**
FITZ				IAmb	IAmb	11 52 16.1	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**31.62**	**166**	P	**P**	**11 52 40.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=345,slow=9.3,SNR=4.4						
WRA				PcP	**PcP**	**11 55 33.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=342,slow=2.7,SNR=4.9						
PSA00	**Pilbara Seismi**	**32.86**	**191**	P	**P**	**11 52 50.3**	**-1.0**
PSA00				IAmb	IAmb	11 52 50.5	
	comp=Z,4.5nm,0.9s						
PSA00	**Pilbara Seismi**	**32.86**	**191**	P	**P**	**11 52 50.1**	**-1.1**
PSA00				IAmb	IAmb	11 52 53.2	
	comp=Z,9.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**33.57**	**7**	P	**P**	**11 52 57.6**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=190,slow=7.2,SNR=4.5						
USRK				LR	LR	12 05 50.5	
	comp=Z,53nm,21.0s,baz=173,slow=35						
USRK	**Ussuriysk Ar.**	**33.57**	**7**	P	**P**	**11 52 58.2**	**+1.0**
AS31	**Alice Springs**	**35.11**	**168**	P	**P**	**11 53 11.8**	**+0.9**
ASAR	**Alice Springs**	**35.11**	**168**	P	**P**	**11 53 10.9**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=344,slow=6.9,SNR=12						
ASAR				PcP	**PcP**	**11 55 41.9**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=349,slow=2.8,SNR=5.7						
KLR	**Kul'dur**	**38.51**	**6**	P	**P**	**11 53 41.1**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=198,slow=9.6,SNR=2.7						
SONM	**Songino Array**	**40.48**	**339**	P	**P**	**11 53 55.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=29,slow=46,SNR=2.2						
MORW	**Morawa**	**40.93**	**194**	P	**P**	**11 53 58.7**	**-1.1**
MORW				IAmb	IAmb	11 54 02.7	
	comp=Z,15nm,1.1s						
FORT	**Forrest**	**41.44**	**178**	P	**P**	**11 54 04.9**	**+1.0**
NWAO	**Narrogin (SRO)**	**44.41**	**191**	P	**P**	**11 54 27.8**	**-0.1**
	comp=Z,11nm,0.7s,baz=17,slow=8.1,SNR=6.7						
NWAO	**Narrogin (SRO)**	**44.41**	**191**	P	**P**	**11 54 28.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**44.41**	**191**	P	**P**	**11 54 28.2**	**+0.2**
BBOO	**Buckleboo**	**44.42**	**168**	P	**P**	**11 54 27.5**	**-0.5**
STKA	**Stephens Creek**	**44.95**	**162**	P	**P**	**11 54 32.0**	**-0.3**
	comp=Z,8.7nm,0.8s,baz=346,slow=7.6,SNR=13						
STKA	**Stephens Creek**	**44.95**	**162**	P	**P**	**11 54 32.3**	**0.0**
PEA0B	**Petropavlovsk-**	**49.07**	**25**	P	**P**	**11 55 06.9**	**+2.6**
PETK	**Petropavlovsk-**	**49.07**	**25**	P	**P**	**11 55 05.1**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=245,slow=3.0,SNR=2.6						
TOO	**Toolangi**	**51.43**	**161**	P	**P**	**11 55 22.8**	**+0.5**
TOO				IAmb	IAmb	11 55 26.5	
	comp=Z,9.3nm,0.9s						
MK31	**Makanchi Array**	**51.59**	**322**	P	**P**	**11 55 23.5**	**0.0**
MKAR	**Makanchi Array**	**51.59**	**322**	P	**P**	**11 55 23.1**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=123,slow=7.9,SNR=35						
MKAR	**Makanchi Array**	**51.59**	**322**	P	**P**	**11 55 22.4**	**-1.1**
MAKZ	**Makanchi**	**51.78**	**322**	P	**P**	**11 55 23.1**	**-1.8**
MAKZ				IAmb	IAmb	11 55 25.8	
	comp=Z,5.1nm,1.1s						
ZAA0	**Zalesovo Array**	**54.13**	**331**	P	**P**	**11 55 40.6**	**-1.5**
ZAA0				IAmb	IAmb	11 55 42.5	
	comp=Z,5.2nm,1.0s						
ZALV	**Zalesovo Beam**	**54.13**	**331**	P	**P**	**11 55 41.5**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=111,slow=8.4,SNR=9.6						
ZALV	**Zalesovo Beam**	**54.13**	**331**	P	**P**	**11 55 39.6**	**-2.5**
KURK	**Kurchatov**	**55.61**	**325**	P	**P**	**11 55 52.5**	**-0.4**
KURBB	**Kurchatov Arra**	**55.62**	**325**	P	**P**	**11 55 52.5**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=127,slow=6.8,SNR=15						
AMKA	**Amchitka**	**58.89**	**36**	P	**P**	**11 56 18.5**	**+2.5**
BVAR	**Borovoye Array**	**61.21**	**325**	P	**P**	**11 56 31.7**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=185,slow=13,SNR=10						
BRVK	**Borovoye**	**61.28**	**325**	P	**P**	**11 56 31.7**	**-0.7**
BRVK				IAmb	IAmb	11 56 32.9	
	comp=Z,5.6nm,0.9s						
NRIK	**Noril'sk**	**63.45**	**346**	LR	LR	12 27 08.1	
	comp=Z,53nm,19.0s,baz=116,slow=39						
AFI	**Afiamalu**	**66.13**	**111**	LR	LR	12 21 40.1	
	comp=Z,31nm,18.4s,baz=215,slow=32						
ABKAR	**Akbulak array**	**66.46**	**319**	P	**P**	**11 57 04.7**	**-1.9**
ABKAR	**Akbulak array**	**66.46**	**319**	P	**P**	**11 57 05.2**	**-1.4**
ABKAR				IAmb	IAmb	11 57 06.6	
	comp=Z,2.5nm,0.9s						
ARU	**Arti**	**68.76**	**327**	P	**P**	**11 57 19.9**	**-1.1**
KIRV	**Kirov**	**73.97**	**328**	P	**P**	**11 57 51.5**	**-0.9**
	comp=Z,13nm,0.6s,baz=6.6,slow=5.7,SNR=4.2						
ILAR	**Eielson Array**	**78.88**	**26**	P	**P**	**11 58 19.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=236,slow=4.9,SNR=6.4						
BMAR	**Burnt Mountain**	**79.70**	**23**	P	**P**	**11 58 26.2**	**+1.6**
K27K	**Chicken**	**81.02**	**26**	P	**P**	**11 58 33.0**	**+1.2**
BCAR	**Beaver Creek A**	**81.25**	**27**	P	**P**	**11 58 36.2**	**+3.1**
ARCES	**ARCESS Array B**	**83.66**	**340**	P	**P**	**11 58 44.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=86,slow=6.2,SNR=9.7						
ARCES	**ARCESS Array B**	**83.66**	**340**	P	**P**	**11 58 45.2**	**-0.3**
BR131	**Keskin Array S**	**85.20**	**309**	P	**P**	**11 58 50.2**	**-3.8**
BR131				IAmb	IAmb	11 58 52.2	
	comp=Z,2.6nm,0.9s						
BRTR	**Keskin Array B**	**85.20**	**309**	P	**P**	**11 58 52.1**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=90,slow=2.9,SNR=2.9						
FINES	**FINESS Array B**	**85.39**	**332**	P	**P**	**11 58 53.4**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=73,slow=4.2,SNR=8.7						
FINES	**FINESS Array B**	**85.39**	**332**	P	**P**	**11 58 52.6**	**-1.7**
C36M	**Paulatuk**	**86.66**	**20**	P	**P**	**11 59 00.6**	**+0.1**
C36M				IAmb	IAmb	11 59 03.4	
	comp=Z,5.5nm,1.2s						
PLCA	**Paso Flores**	**146.73**	**156**	PKPbc	**PKPbc**	**12 05 60.0**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=277,slow=3.6,SNR=5.5						
PLCA	**Paso Flores**	**146.73**	**156**		**PKPab**	**12 06 00.4**	**-0.2**
CPUP	**Villa Florida**	**164.24**	**168**	PKPab	**PKPab**	**12 07 16.4**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=191,slow=5.8,SNR=3.2						
CPUP	**Villa Florida**	**164.24**	**168**		**PKPab**	**12 07 15.3**	**+0.4**

**JMA 03 11:46:25.6, 34°.80N×135°.33E, h7km±1

BOOM				⇑*i*S		**Sg**	**12 09 35.6**	**-1.7**
	baz=33								
ANVS	**Anan'yevo**	**2.66**	**5**	⇓*i*P		**Pb**	**12 09 03.2**	**+0.8**
	baz=3.0								
ANVS				⇓*i*S		**Sb**	**12 09 35.6**	**+0.3**
	baz=3.0								
ARLS	**Aral**	**2.87**	**308**	⇑*i*P		**Pg**	**12 09 08.1**	**-1.1**
	baz=5.0								
ARLS				⇑*i*S		**Sg**	**12 09 44.2**	**-2.2**
	baz=5.0								
IZV	**Izvestkoviy**	**2.96**	**350**	*e*P		**Pg**	**12 09 11.5**	**+0.6**
	15nm,0.4s								
IZV				*e*S		**Sg**	**12 09 50.5**	**+1.3**
	71nm,0.4s								
IZV	**Izvestkoviy**	**2.96**	**350**	Pg		**Pg**	**12 09 11.5**	**+0.6**
	15nm,0.4s								
IZV				Lg		Lg	12 09 50.5		
	71nm,0.4s								
SATY	**Saty**	**3.04**	**15**	*e*P		**Pg**	**12 09 12.6**	**+0.2**
	9.8nm,0.4s								
SATY				*e*S		**Sg**	**12 09 52.5**	**+0.7**
	34nm,0.5s								
SATY	**Saty**	**3.04**	**15**	Pg		**Pg**	**12 09 12.6**	**+0.2**
	9.8nm,0.4s								
SATY				Lg		Lg	12 09 52.5		
	34nm,0.5s								
MDOK	**Medeo**	**3.04**	**356**	⇑*e*P		**Pg**	**12 09 12.8**	**+0.3**
	13nm,0.7s								
MDOK				*e*S		**Sg**	**12 09 52.9**	**+0.9**
	44nm,0.8s								
MDOK	**Medeo**	**3.04**	**356**	Pg		**Pg**	**12 09 12.8**	**+0.3**
	13nm,0.7s								
MDOK				Lg		Lg	12 09 52.9		
	44nm,0.8s								
MTBS	**Maitube**	**3.08**	**347**	*e*P		**Pg**	**12 09 12.9**	**-0.3**
	8.6nm,0.3s								
MTBS				*e*S		**Sg**	**12 09 52.8**	**-0.3**
	30nm,0.3s								
MTBS	**Maitube**	**3.08**	**347**	Pg		**Pg**	**12 09 13.0**	**-0.3**
	8.6nm,0.3s								
MTBS				Lg		Lg	12 09 52.8		
	30nm,0.3s								
TKM2	**Tokmak 2**	**3.08**	**335**	⇑*i*P		**Pb**	**12 09 10.2**	**+0.7**
	baz=32								
TKM2				⇑*i*S		**Sb**	**12 09 47.8**	**+0.4**
	baz=32								
TKM2	**Tokmak 2**	**3.08**	**335**	⇑Pg		**Pg**	**12 09 12.5**	**-0.8**
	5.0nm,0.5s								
TKM2				⇓Lg		Lg	12 09 54.5		
	15nm,0.6s								
KST	**Kastek**	**3.09**	**341**	*e*P		**Pg**	**12 09 13.9**	**+0.4**
	9.2nm,0.5s								
KST				*e*S		**Sg**	**12 09 54.5**	**+1.0**
	46nm,0.5s								
KST	**Kastek**	**3.09**	**341**	Pg		**Pg**	**12 09 13.9**	**+0.4**
	9.2nm,0.5s								
KST				Lg		Lg	12 09 54.5		
	46nm,0.5s								
KBK	**Karagaybulak**	**3.10**	**325**	⇑*i*P		**Pb**	**12 09 10.7**	**+0.9**
	baz=22								
KBK				⇑*i*S		**Sb**	**12 09 49.0**	**+1.1**
	baz=22								
KOTS	**Kotyrbulak**	**3.11**	**357**	*e*P		**Pg**	**12 09 14.3**	**+0.5**
	48nm,0.3s								
KOTS				*e*S		**Sg**	**12 09 55.4**	**+1.3**
	2.4nm,0.5s								
KOTS	**Kotyrbulak**	**3.11**	**357**	Pg		**Pg**	**12 09 14.3**	**+0.5**
	48nm,0.3s								
KOTS				Lg		Lg	12 09 55.4		
	2.4nm,0.5s								
UZB	**Uzynbulak**	**3.27**	**22**	*e*P		**Pg**	**12 09 16.0**	**-0.9**
	5.4nm,0.4s								
UZB				*e*S		**Sg**	**12 09 57.9**	**-1.3**
	10nm,0.5s								
UZB	**Uzynbulak**	**3.27**	**22**	Pg		**Pg**	**12 09 16.0**	**-0.9**
	5.4nm,0.4s								
UZB				Lg		Lg	12 09 57.9		
	10nm,0.5s								
AAK	**Ala-Archa**	**3.30**	**320**	⇑*i*P		**Pb**	**12 09 13.6**	**+0.4**
	baz=17								
AAK				⇑*i*S		**Sb**	**12 09 53.9**	**+0.3**
	baz=17								
AAK	**Ala-Archa**	**3.30**	**320**	⇓Pg		**Pg**	**12 09 16.7**	**-0.7**
	4.0nm,0.5s								
AAK				⇑Lg		Lg	12 10 01.2		
	38nm,0.9s								
DGS	**Degeres**	**3.33**	**340**	*e*P		**Pg**	**12 09 17.9**	**-0.1**
	12nm,0.6s								
DGS				*e*S		**Sg**	**12 10 01.3**	**+0.2**
	22nm,0.3s								
DGS	**Degeres**	**3.33**	**340**	Pg		**Pg**	**12 09 17.9**	**-0.1**
	12nm,0.6s								
DGS				Lg		Lg	12 10 01.3		
	22nm,0.3s								
KURS	**Kuram**	**3.41**	**10**	*e*P		**Pg**	**12 09 18.7**	**-1.0**
	10nm,0.4s								
KURS				*e*S		**Sg**	**12 10 02.8**	**-1.1**
	12nm,0.6s								
KURS	**Kuram**	**3.41**	**10**	Pg		**Pg**	**12 09 18.7**	**-1.0**
	10nm,0.4s								
KURS				Lg		Lg	12 10 02.8		
	12nm,0.6s								
SHLS	**Shalkode**	**3.42**	**27**	*e*P		**Pg**	**12 09 21.3**	**+1.6**
	13nm,0.2s								
SHLS				*e*S		**Sg**	**12 10 07.2**	**+3.2**
	24nm,0.3s								
SHLS	**Shalkode**	**3.42**	**27**	Pg		**Pg**	**12 09 21.3**	**+1.6**
	13nm,0.2s								
SHLS				Lg		Lg	12 10 07.2		
	24nm,0.3s								
CHMS	**Chumysh**	**3.46**	**327**	⇑*i*P		**Pb**	**12 09 15.6**	**-0.3**
	baz=24								
CHMS				⇑*i*S		**Sb**	**12 09 57.1**	**-1.1**
	baz=24								
KPKS	**Kokpek**	**3.48**	**16**	*e*P		**Pg**	**12 09 19.2**	**-1.8**
	11nm,0.3s								
KPKS				*e*S		**Sg**	**12 10 03.6**	**-2.5**
	38nm,0.3s								
KTBS	**Karatobe**	**3.62**	**352**	*e*P		**Pg**	**12 09 22.5**	**-1.0**
	4.0nm,0.2s								
KTBS				*e*S		**Sg**	**12 10 09.3**	**-1.0**
	20nm,0.6s								
KTBS	**Karatobe**	**3.62**	**352**	Pg		**Pg**	**12 09 22.5**	**-1.0**
	4.0nm,0.2s								
KTBS				Lg		Lg	12 10 09.3		
	20nm,0.6s								
EKS2	**Erkin-Say**	**3.69**	**314**	⇑*i*P		**Pb**	**12 09 19.3**	**-0.5**
	baz=12								
EKS2				⇑*i*S		**Sb**	**12 10 03.7**	**-1.0**
	baz=12								
CHKK	**Chushkaly**	**3.73**	**356**	⇓*i*P		**Pg**	**12 09 24.9**	**-0.8**
	7.3nm,0.5s								
CHKK				*e*S		**Sg**	**12 10 13.6**	**-0.5**
	43nm,0.3s								
CHKK	**Chushkaly**	**3.73**	**356**	Pg		**Pg**	**12 09 24.9**	**-0.8**
	7.3nm,0.5s								
CHKK				Lg		Lg	12 10 13.6		
	43nm,0.3s								
KRBS	**Karabastau**	**3.78**	**341**	*e*P		**Pg**	**12 09 25.9**	**-0.7**
	6.8nm,0.4s								
KRBS				*e*S		**Sg**	**12 10 15.2**	**-0.3**
	25nm,0.4s								
KRBS	**Karabastau**	**3.78**	**341**	Pg		**Pg**	**12 09 25.9**	**-0.7**
	6.8nm,0.4s								
KRBS				Lg		Lg	12 10 15.2		
	25nm,0.4s								
KUU	**Kurty**	**3.84**	**349**	⇓*i*P		**Pg**	**12 09 26.8**	**-0.9**
	2.9nm,0.4s								
KUU				⇓*i*S		**Sg**	**12 10 16.6**	**-0.8**
	29nm,0.5s								
KUU	**Kurty**	**3.84**	**349**	Pg		**Pg**	**12 09 26.8**	**-0.9**
	2.9nm,0.4s								
KUU				Lg		Lg	12 10 16.6		
	29nm,0.5s								
SGDS	**Sogindy**	**3.89**	**329**	Pg		**Pg**	**12 09 28.5**	**-0.3**
	5.6nm,0.6s								
SGDS				Lg		Lg	12 10 19.2		
	10nm,0.3s								
MRKS	**Merke**	**4.05**	**312**	*e*P		**Pg**	**12 09 32.5**	**+0.6**
	2.9nm,0.3s								
MRKS				*e*S		**Sg**	**12 10 26.4**	**+2.1**
	9.6nm,0.6s								
MRKS	**Merke**	**4.05**	**312**	Pg		**Pg**	**12 09 32.5**	**+0.6**
	2.9nm,0.3s								
MRKS				Lg		Lg	12 10 26.4		
	9.6nm,0.6s								
ARXS	**Arharly**	**4.10**	**5**	*e*P		**Pg**	**12 09 31.5**	**-1.2**
	8.4nm,0.3s								
ARXS				*e*S		**Sg**	**12 10 25.1**	**-0.7**
	12nm,0.3s								
ARXS	**Arharly**	**4.10**	**5**	Pg		**Pg**	**12 09 31.5**	**-1.2**
	8.4nm,0.3s								
ARXS				Lg		Lg	12 10 25.1		
	12nm,0.3s								
DJR	**Jarkent**	**4.58**	**23**	*e*P		**Pg**	**12 09 40.3**	**-1.6**
	1.8nm,0.3s								
DJR				*e*S		**Sg**	**12 10 39.9**	**-1.3**
	8.2nm,0.5s								
DJR	**Jarkent**	**4.58**	**23**	Pg		**Pg**	**12 09 40.3**	**-1.6**
	1.8nm,0.3s								
DJR				Lg		Lg	12 10 39.9		
	8.2nm,0.5s								
BTLS	**Baital**	**5.48**	**335**	*e*P		**Pg**	**12 09 58.5**	**-0.7**
	4.3nm,0.4s								
BTLS				*e*S		**Sg**	**12 11 11.1**	**+1.0**
	4.8nm,0.2s								
BTLS	**Baital**	**5.48**	**335**	Pg		**Pg**	**12 09 58.5**	**-0.7**
	4.3nm,0.4s								
KK31	**Karatay Array**	**5.92**	**302**	⇓Pg		**Pg**	**12 10 07.9**	**+0.3**
	0.3nm,0.4s,baz=132,slow=16,SNR=4.3								
KK31				⇓Lg		Lg	12 11 21.9		
	1.3nm,0.6s,baz=124,slow=27,SNR=5.0								

NNC 03 12:26:46.3±16.0, 38°33'N×72°04'E, h0km, mb3.9, mpv3.5, 1C-2D, Error ellipse: s-maj=133.8km s-min=90.1km az=162.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.69**	**23**	P	Pn	12 27 57.7	-0.7
	2.6nm,0.4s						
AAK				⇓S	Sn	12 28 51.8	-1.9
	3.9nm,0.4s						
KK31	**Karatay Array**	**4.90**	**347**	⇑P	Pn	12 28 04.1	+2.8
	3.0nm,0.3s,baz=163,slow=13,SNR=57						
KK31				S	Sn	12 29 01.5	+2.8
	7.7nm,0.3s,baz=178,slow=24,SNR=23						
AB31	**Akbulak array**	**13.96**	**325**	P	Pn	12 30 04.1	-1.1
	0.5nm,0.3s,baz=128,slow=13,SNR=12						
AKTO	**Aktyubinsk**	**15.68**	**325**	⇓P	Pn	12 30 28.4	0.0

*IDC **03** 12:31:53.5±1.2, 5°46'S×151°72'E, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.0/34, mbtmp4.1/9, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=46.0km s-min=19.5km az=125.0*

*NEIC **03** 12:31:54.3±1.9, 5°80S±0°06×152°2E±0°1, h10km±2km, mb4.5/13, Error ellipse: s-maj=21.3km s-min=7.3km az=107.0*

ISC 03 12:31:58.6±0.7, 5°74S±0°08×152°1E±0°1, h45km, n33, σ1s33/34, mb4.4/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.54**	**4**		**Pn**	**12 32 23.7**	**0.0**
RABL				Sn	**Sn**	**12 32 42.3**	**-0.2**
RABL	**Rabaul**	**1.54**	**4**	P	**Pn**	**12 32 23.5**	**-0.2**
MANU	**Manus Island**	**5.95**	**308**		**Pn**	**12 33 24.8**	**+0.5**
PMG	**Port Moresby**	**6.07**	**233**	Pn	**Pn**	**12 33 27.1**	**+1.2**
	1.8nm,0.3s,baz=38,slow=12,SNR=6.8						
PMG				Sn	**Sn**	**12 34 34.8**	**+0.7**
	3.5nm,0.3s,baz=229,slow=23,SNR=3.8						
PMG	**Port Moresby**	**6.07**	**233**		**Pn**	**12 33 23.6**	**-2.3**
PMG	**Port Moresby**	**6.07**	**233**	P	Pn	12 33 31.1	+5.2
	49nm,0.9s						
HNR	**Honiara**	**8.64**	**116**	LR	LR	12 37 08.0	
	comp=Z,79nm,21.9s,baz=206,slow=35						
DZM	**Mont Dzumac**	**21.38**	**141**	LR	LR	12 44 08.3	
	comp=Z,220nm,20.9s,baz=280,slow=34						
MTN	**Manton Dam**	**21.81**	**250**	P	**P**	**12 36 47.1**	**-0.1**
MTN				IAmb	IAmb	12 36 60.0	
	comp=Z,32nm,1.4s						
TARA	**Tarawa**	**22.00**	**72**	P	**P**	**12 36 46.1**	**-3.1**
WB0	**Warramunga Arr**	**22.13**	**229**	P	**P**	**12 36 51.0**	**+0.5**
WB0				IAmb	IAmb	12 36 54.0	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**22.13**	**229**	P	**P**	**12 36 51.1**	**+0.5**
WR0				IAmb	IAmb	12 36 54.0	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**22.26**	**229**	P	**P**	**12 36 51.3**	**-0.7**
WRAB				IAmb	IAmb	12 36 55.2	
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**22.27**	**229**	P	**P**	**12 36 52.5**	**+0.4**
WB2				IAmb	IAmb	12 36 55.3	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**22.27**	**229**	P	**P**	**12 36 52.0**	**-0.1**
	comp=Z,19nm,0.8s,baz=52,slow=9.9,SNR=88						
WRA				PcP	**PcP**	**12 40 48.5**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=42,slow=1.7,SNR=2.5						
WRA				ScP	**ScP**	**12 44 24.9**	**+3.7**
	comp=Z,0.5nm,0.8s,baz=46,slow=2.7,SNR=5.2						
WRA	**Warramunga Arr**	**22.27**	**229**	P	**P**	**12 36 51.9**	**-0.3**
KNRA	**Kununurra**	**24.90**	**245**	P	**P**	**12 37 17.4**	**-0.2**
AS31	**Alice Springs**	**24.96**	**223**	P	**P**	**12 37 18.6**	**+0.5**
AS31				IAmb	IAmb	12 37 21.8	
	comp=Z,4.8nm,0.7s						
ASAR	**Alice Springs**	**24.96**	**223**	P	**P**	**12 37 19.4**	**+1.2**
	comp=Z,16nm,0.7s,baz=56,slow=8.4,SNR=127						
ASAR	**Alice Springs**	**24.96**	**223**	P	**P**	**12 37 17.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.57**	**242**	P	**P**	**12 37 49.9**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=49,slow=7.2,SNR=26						
FITZ	**Fitzroy Crossi**	**28.57**	**242**	P	**P**	**12 37 49.9**	**-0.7**
FITZ				IAmb	IAmb	12 37 50.5	
	comp=Z,7.4nm,0.8s						
FORT	**Forrest**	**33.60**	**219**	P	**P**	**12 38 34.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**57.61**	**296**	P	**P**	**12 41 43.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=129,slow=7.2,SNR=1.2						
PETK	**Petropavlovsk-**	**58.82**	**4**	P	**P**	**12 41 53.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=138,slow=9.1,SNR=4.0						
HIA	**Hailar**	**61.59**	**337**	P	**P**	**12 42 11.6**	**+0.2**
SONM	**Songino Array**	**66.73**	**328**	P	**P**	**12 42 43.7**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=132,slow=6.0,SNR=2.1						
SONM	**Songino Array**	**66.73**	**328**	P	**P**	**12 42 44.0**	**-1.3**
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**12 44 04.6**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=93,slow=7.0,SNR=2.2						
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**12 44 20.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=244,slow=5.1,SNR=8.8						
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**12 44 20.8**	**+0.5**
NVAR	**Mina Array Bea**	**93.24**	**52**	P	**P**	**12 45 11.8**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=244,slow=6.7,SNR=4.2						
GERES	**GERESS Array B**	**124.46**	**328**	PKP	**PKiKP**	**12 50 54.0**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=51,slow=10,SNR=4.8						

*DJA **03** 12:39:54.3±0.6, 2°N±5°×12°7E±°, h10km, M3.5/5, MLv3.5/5*
*IDC **03** 12:40:00.7±4.9, 2°12N×127°07E, h75km±48km, mb3.3/5, mb1 3.5/6, mb1mx3.3/33, mbtmp3.6/6, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/29, Error ellipse: s-maj=64.9km s-min=22.5km az=72.0*

ISC 03 12:39:57.6±1.0, 2°27N±0°09×126°9E±0°1, h53km, n10, σ1s50/11, mb3.7/4, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.55**	**164**	P	**Pn**	**12 40 22.1**	**-0.7**
TNTI				S	**Sn**	**12 40 39.7**	**-2.1**
SGSI	**Sangihe**	**1.99**	**315**	P	**Pn**	**12 40 27.5**	**-1.3**
SANI	**Sanana**	**4.39**	**192**	P	**Pn**	**12 41 03.2**	**+1.4**
SIJI	**Sorong**	**5.34**	**126**	P	**Pn**	**12 41 15.3**	**+0.6**
	0.8nm,0.3s,baz=139,slow=24,SNR=2.1						
FITZ	**Fitzroy Crossi**	**20.28**	**184**	P	**P**	**12 44 29.2**	**+0.2**
	0.9nm,0.6s,baz=18,slow=12,SNR=6.4						
WRA	**Warramunga Arr**	**23.24**	**162**	P	**P**	**12 44 59.0**	**-1.5**
	1.1nm,0.3s,baz=342,slow=10,SNR=37						
ASAR	**Alice Springs**	**26.66**	**166**	P	**P**	**12 45 30.4**	**-1.2**
	0.5nm,0.5s,baz=344,slow=6.7,SNR=12						
ASAR				PcP	**PcP**	**12 48 55.1**	**+0.5**
	0.3nm,0.4s,baz=350,slow=2.1,SNR=7.2						
STKA	**Stephens Creek**	**36.70**	**159**	P	**P**	**12 46 59.4**	**-0.3**
	1.7nm,0.7s,baz=316,slow=9.1,SNR=3.6						
MSVF	**Nonsavu**	**54.13**	**114**	LR	LR	13 11 56.7	
	comp=Z,63nm,18.0s,baz=160,slow=36						
MKAR	**Makanchi Array**	**58.87**	**326**	P	**P**	**12 49 53.2**	**+2.2**
	0.2nm,0.4s,baz=113,slow=7.7,SNR=5.3						

*ISK **03** 12:49:01.8, 40°01N×33°54E, h0km, ML2.3/7, Suspected Mining explosion.*
*DDA **03** 12:49:03.1, 39°97N×33°53E, h7km±2km, MW2.9*

ISC 03 12:49:02.6±0.8, 39°97N±0°03×33°55E±0°03, h0km, n17, σ0s90/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**0.26**	**164**	PG	**Pb**	**12 49 09.1**	**-1.0**
BRTR				SG	**Sb**	**12 49 13.9**	**-1.3**
DELI	**KIRIKKALE**	**0.29**	**84**	*i* P	**Pg**	**12 49 09.3**	**+1.2**
DELI				IAML		12 49 14.0	
	comp=E,77nm,0.3s						
DELI				*i* S	**Sb**	**12 49 14.2**	**-2.0**
DELI				IAML		12 49 15.0	
	comp=N,70nm,0.3s						
ANTO	**Ankara**	**0.59**	**260**	PG	**Pg**	**12 49 14.3**	**+0.5**
ANTO				SG	**Sb**	**12 49 23.6**	**-1.1**
KAMT	**Kaman**	**0.61**	**168**	PG	**Pb**	**12 49 15.6**	**-0.6**
AFSR	**Afar-Bala (An**	**0.64**	**215**	PG	**Pg**	**12 49 15.6**	**+0.8**
CDAG	**Cicekdag**	**0.72**	**118**	*i* P	**Pg**	**12 49 17.1**	**+0.7**
CDAG				*i* S	**Sb**	**12 49 28.2**	**-0.4**
CDAG				IAML		12 49 32.0	
	comp=E,12nm,0.3s						
CDAG				IAML		12 49 33.0	
	comp=N,9.9nm,0.5s						
CORM	**Corum**	**0.86**	**76**	PG	**Pg**	**12 49 19.4**	**+0.4**
KKUL	**Konya-Kulu**	**0.93**	**212**	*i* P	**Pb**	**12 49 21.4**	**-0.3**
KKUL				IAML		12 49 30.0	
	comp=E,42nm,0.9s						
KKUL				IAML		12 49 36.0	
	comp=N,48nm,1.1s						
KKUL				*i* S	**Sn**	**12 49 37.1**	**-0.1**
KULU	**Kulu**	**1.02**	**205**	PG	**Pb**	**12 49 23.2**	**+0.1**
SERE	**Sereflikochisa**	**1.02**	**179**	PG	**Pg**	**12 49 22.9**	**+0.7**
YAYX	**Yaylak**	**1.05**	**169**	PN	**Pg**	**12 49 23.4**	**+0.7**
ILGA	**Ilgaz**	**1.09**	**7**	*i* P	**Pb**	**12 49 23.6**	**-0.8**
ILGA				*i* S	**Sn**	**12 49 42.8**	**+1.6**
ILGA				IAML		12 49 43.0	
	comp=E,16nm,0.6s						
ILGA				IAML		12 49 44.0	
	comp=N,14nm,0.5s						
PELI	**Kastamonı-Ara**	**1.34**	**352**	*i* P	**Pn**	**12 49 28.5**	**-0.2**
PELI				*i* S	**Sn**	**12 49 48.1**	**+0.9**
PELI				IAML		12 49 53.0	
	comp=E,5.5nm,0.7s						
PELI				IAML		12 50 04.0	
	comp=N,24nm,1.6s						
SIRC	**Yozgat**	**1.39**	**117**	*i* P	**Pn**	**12 49 29.5**	**+0.2**
SIRC				*i* S	**Sn**	**12 49 49.6**	**+1.2**
SIRC				IAML		12 49 51.0	
	comp=E,6.3nm,1.0s						
SIRC				IAML		12 49 52.0	
	comp=N,25nm,1.1s						
YOZ	**Yozgat**	**1.41**	**103**	PN	**Pn**	**12 49 29.5**	**-0.1**
YUVA	**Yuva-Kibriscik**	**1.48**	**287**	PN	**Pn**	**12 49 30.4**	**-0.2**
KIZT	**Kizilcal**	**1.69**	**230**	PN	**Pn**	**12 49 33.8**	**+0.4**

KRSC 03 13:01:11.8±1.3, 49°68N×156°55E, h67km±20km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.04**	**345**	*e*P	Pn	13 01 31.3	+0.7
SKR				*e*S	Sn	13 01 46.1	+1.5
ALID	**Alaid**	**1.35**	**332**	*e*P	Pn	13 01 35.4	+0.6
ALID				*e*S	Sn	13 01 53.4	+1.3
PAU	**Pauzhetka**	**1.80**	**5**	*e*P	Pn	13 01 42.8	+2.2
PAU				*e*S	Sn	13 02 05.5	+3.1
KDTR	**Khodutka, Kamc**	**2.34**	**24**	*e*S	Sn	13 02 18.1	+2.5
ASAK	**Asacha**	**2.84**	**17**	*e*P	Pn	13 01 57.8	+3.0
MTVR	**Mutnovka**	**2.99**	**20**	*e*P	Pn	13 01 59.5	+2.6
MTVR				*e*S	Sn	13 02 35.0	+3.4
GRL	**Gorelyy**	**3.03**	**18**	*e*P	Pn	13 02 00.6	+3.1
GRL				*e*S	Sn	13 02 36.6	+4.0
DALK	**Dalny**	**3.63**	**22**	*e*P	Pn	13 02 07.6	+2.1
DALK				*e*S	Sn	13 02 49.9	+2.9
UGLR	**Uglovaya**	**3.81**	**21**	*e*P	Pn	13 02 11.4	+3.4
AVH	**Avacha**	**3.84**	**20**	*e*P	Pn	13 02 12.2	+3.7
KOK	**Koryaka**	**3.84**	**19**	*e*P	Pn	13 02 12.3	+3.8
SMAR	**Somma**	**3.85**	**21**	*e*P	Pn	13 02 11.9	+3.1
KRER	**Koryakskii**	**3.88**	**20**	*e*P	Pn	13 02 12.3	+3.2
SDLR	**Sedlovina**	**3.89**	**21**	*e*P	Pn	13 02 11.5	+2.4
KRX	**Arik**	**3.91**	**19**	*e*P	Pn	13 02 12.7	+3.2
SPN	**Mys Shipunski**	**4.05**	**31**	*e*S	Sn	13 02 59.3	+1.9
KZV	**Kizimen**	**5.90**	**21**	*e*P	Pn	13 02 40.4	+3.7

*ANF **03** 13:21:43.9±1.8, 44°22N×129°63W, h10km, ML3.4/2, Error ellipse: s-maj=23.2km s-min=5.2km az=39.0, Hypocentre not reviewed by the ISC*

NEIC 03 13:21:43.5±1.3, 44°48N±0°09×129°7W±0°1, h10km±2km, ML3.1/10, Error ellipse: s-maj=19.6km s-min=5.3km az=219.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**4.24**	**110**	Pn	Pn	13 22 45.4	-2.8
KEBM				IAML		13 24 04.7	
	comp=E,27nm,2.0s						
KEBM				IAML		13 24 18.1	
	comp=N,25nm,2.0s						
J01E	**Myrtle Point**	**4.41**	**105**	P		13 22 48.6	
	baz=290						
J01E				S		13 23 39.3	
	baz=290						
COR	**Corvallis**	**4.60**	**86**		Pn	13 22 52.8	-0.4
COR				IAML		13 24 01.4	
	comp=N,16nm,3.7s						
COR				IAML		13 24 04.2	
	comp=N,17nm,4.3s						
G03D	**McMinnville, O**	**4.66**	**79**	P		13 22 53.6	
	baz=263,SNR=18						
I03D	**Drain, OR**	**4.67**	**97**	P		13 22 52.4	
	baz=282,SNR=12						
I03D				S		13 23 47.6	
	baz=282						
K02D	**Willamette Mer**	**4.76**	**110**	S		13 23 48.2	
	baz=294						
E03A	**Lebam**	**4.81**	**62**	Pn	Pn	13 22 55.2	-0.7
H04D	**Lebanon**	**5.01**	**87**	P		13 22 58.7	
	baz=272,SNR=6.8						
NLWA	**Neilton Lookou**	**5.02**	**53**

KEBM					IAML			13 28 02.0	
	comp=E,27nm,1.6s								
KEBM					IAML			13 28 14.1	
	comp=N,19nm,1.5s								
I02D	**Swisshome**	**4.33**	**93**	P				13 26 34.9	
	baz=278								
COR	**Corvallis**	**4.69**	**86**			**Pn**		**13 26 40.5**	**-0.7**
COR					IAML			13 27 56.2	
	comp=N,13nm,2.1s								
COR					IAML			13 29 11.8	
	comp=N,12nm,2.1s								
G03D	**McMinnville, O**	**4.75**	**79**	P				13 26 41.3	
	baz=264,SNR=20								
I03D	**Drain, OR**	**4.75**	**97**	P				13 26 40.7	
	baz=282,SNR=11								
E03A	**Lebam**	**4.89**	**63**	Pn		**Pn**		**13 26 43.1**	**-0.9**
F04D	**Rainier, OR**	**5.09**	**69**	P				13 26 45.7	
	baz=254								
H04D	**Lebanon**	**5.09**	**87**	P				13 26 46.3	
	baz=272,SNR=18								
NLWA	**Neilton Lookou**	**5.10**	**53**	Pn		**Pn**		**13 26 45.6**	**-1.3**
NLWA					IAML			13 27 49.6	
	comp=N,9.0nm,0.7s								
NLWA					IAML			13 27 52.5	
	comp=N,7.7nm,2.2s								
HUMO	**Hull Mountain**	**5.35**	**108**	Pn		**Pn**		**13 26 50.1**	**-0.3**
H04A	**Detroit Lake**	**5.49**	**85**	Pn		**Pn**		**13 26 51.7**	**-0.6**
E04D	**Cinebar**	**5.53**	**65**	P				13 26 52.7	
	baz=251,SNR=84								
D03D	**Eldon**	**5.62**	**55**	P				13 26 53.7	
	baz=240,SNR=8.6								
D04E	**Lakebay**	**5.64**	**59**	P				13 26 54.9	
	baz=244,SNR=37								
PGC	**Sidney**	**6.08**	**44**	Pn		**Pn**		**13 26 59.9**	**-0.5**
F05D	**White Salmon**	**6.10**	**74**	P				13 27 01.1	
	baz=260,SNR=21								
I05D	**Terrebonne, OR**	**6.11**	**88**	P				13 27 00.5	
	baz=275								
G05D	**Wamic, OR**	**6.12**	**80**	P				13 27 01.1	
	baz=266,SNR=9.7								
D05A	**Enumclaw**	**6.13**	**61**			**Pn**		**13 27 01.8**	**+0.7**
PINE	**Pine Mountain**	**6.45**	**93**	Pn		**Pn**		**13 27 05.2**	**-0.5**
B05A	**Bryant**	**6.58**	**52**	P				13 27 07.5	
	baz=238,SNR=26								
WDC	**Whiskeytown Da**	**6.66**	**123**	Pn		**Pn**		**13 27 09.5**	**+1.2**
KCPM	**Cahto Peak**	**6.68**	**134**	Pn		**Pn**		**13 27 09.9**	**+1.2**
LTY	**Liberty**	**6.99**	**63**			**Pn**		**13 27 13.1**	**+0.1**
B06A	**Marblemount**	**7.06**	**52**			**Pn**		**13 27 13.9**	**+0.2**
I07A	**Izee**	**7.44**	**89**	Pn		**Pn**		**13 27 18.8**	**-0.4**
HAWA	**Hanford**	**7.51**	**72**	Pn		**Pn**		**13 27 20.4**	**+0.4**
G08A	**Pilot Rock**	**7.79**	**80**	Pn		**Pn**		**13 27 22.9**	**-1.0**
E08A	**Dider Farm, El**	**7.86**	**71**	Pn		**Pn**		**13 27 23.7**	**-1.0**
D08A	**Wollman Farm,**	**8.07**	**67**	Pn		**Pn**		**13 27 27.4**	**-0.3**
B08A	**Colville Reser**	**8.25**	**58**			**Pn**		**13 27 29.4**	**-0.7**
J08A	**Circle Bar Ran**	**8.29**	**94**			**Pn**		**13 27 31.3**	**+0.4**
C09A	**Chrisman Ranch**	**8.71**	**63**	Pn		**Pn**		**13 27 35.5**	**-0.9**
BMO	**Blue Mountains**	**8.96**	**83**			**Pn**		**13 27 39.3**	**-0.6**
RUBR	**Rubicon Trail**	**9.04**	**123**			**Pn**		**13 27 41.2**	**0.0**
NEW	**Newport**	**9.59**	**62**	Pn		**Pn**		**13 27 47.4**	**-1.1**
NEW	**Newport**	**9.59**	**62**	P				13 27 47.1	
	baz=252								
JTMT	**Jette**	**11.30**	**68**			**Pn**		**13 28 11.5**	**-0.5**
MSO	**Missoula**	**11.39**	**72**	Pn		**Pn**		**13 28 11.7**	**-1.5**
ELK	**Elko**	**11.40**	**104**	Pn		**Pn**		**13 28 13.2**	**-0.3**
GCMT	**Greycliff**	**14.32**	**78**	P		**P**		**13 29 01.6**	**+1.2**
EGMT	**Eagleton**	**14.35**	**69**	P		**P**		**13 29 01.7**	**+1.0**
W13A	**Hualapai Mount**	**15.41**	**122**	P		**P**		**13 29 13.7**	**+1.0**
U15A	**North Rim**	**15.58**	**115**	P		**P**		**13 29 15.2**	**+0.6**
U15A					IAmb	IAmb		13 29 21.3	
	comp=Z,6.6nm,1.3s								
T25A	**Trinidad**	**20.55**	**102**	P		**P**		**13 30 10.0**	**+0.7**
T25A					IAmb	IAmb		13 30 11.9	
	comp=Z,7.7nm,0.9s								
FFC	**Flin Flon**	**20.64**	**50**	P		**P**		**13 30 09.9**	**0.0**
FFC					IAmb	IAmb		13 30 12.7	
	comp=Z,9.6nm,1.4s								
CCB	**Clear Creek Bu**	**22.58**	**340**	P		**P**		**13 30 30.0**	**-0.5**
F33A	**5 Mile Ranch,**	**23.61**	**75**	P		**P**		**13 30 41.1**	**-0.2**
B35A	**Bob, Littlefor**	**25.06**	**68**	P		**P**		**13 30 54.6**	**-0.1**
B35A					IAmb	IAmb		13 30 56.2	
	comp=Z,5.6nm,0.9s								
IMAR	**Indian Mountai**	**25.19**	**337**	P		**P**		**13 30 55.4**	**-0.3**
F36A	**Milaca**	**25.52**	**74**	P		**P**		**13 30 58.9**	**+0.1**
F36A					IAmb	IAmb		13 31 18.3	
	comp=Z,3.0nm,0.9s								
TX31	**Lajitas Ar. Si**	**25.68**	**117**	P		**P**		**13 31 00.1**	**-0.3**
TX31					IAmb	IAmb		13 31 01.4	
	comp=Z,2.9nm,0.8s								
TX32	**Lajitas Array**	**25.68**	**117**	P		**P**		**13 31 00.1**	**-0.3**
TXAR	**Lajitas Array**	**25.68**	**117**	P		**P**		**13 31 00.0**	**-0.4**
OK030	**Cody Creek RV**	**26.52**	**97**	P		**P**		**13 31 06.9**	**-1.0**
WHTX	**Lake Whitney,**	**28.15**	**105**	P		**P**		**13 31 21.9**	**-0.7**

MAN 03 13:26:24.7,9°.34N×123°.16E,h8km,MS3.9,4C-4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.08**	**86**	⇓*i*P	Pg	13 26 26.9	+0.1
SNPH				*i* S	Sg	13 26 29.3	+1.0
CNOP	**Candoni, Negro**	**0.70**	**314**	*e*P	Pb	13 26 38.8	-0.4
CNOP				*e*S	Sb	13 26 50.1	+1.0
CNOP	**Candoni, Negro**	**0.70**	**314**	⇑*i*P	Pb	13 26 38.9	-0.4
CNOP				*i* S	Sb	13 26 49.9	+0.8
DCPH	**Dipolog City**	**0.77**	**165**	⇑*e*P	Pg	13 26 39.9	+0.3
LLP	**Lapu-Lapu**	**1.26**	**39**	⇓*e*P	Pn	13 26 48.2	-0.4
LLP				*i* S	Sn	13 27 06.2	+0.4
PAGZ	**Pagadian**	**1.50**	**171**	*e*P	Pn	13 26 50.7	-1.2
CGP	**Cagayan de Oro**	**1.75**	**120**	⇓*e*P	Pn	13 26 54.7	-0.7
CGP				*e*S	Sg	13 27 21.1	-0.1
JAP	**San Jose, Anti**	**1.84**	**320**	⇓*e*P	Pb	13 26 59.0	+0.4
MSLP	**Maasin**	**1.86**	**65**	*e*P	Pb	13 26 58.0	-0.9
MSLP				*e*S	Sg	13 27 25.7	+1.3
OCLP	**Ormoc**	**2.23**	**40**	*e*P	Pn	13 27 01.8	-0.1
RCP	**Roxas**	**2.25**	**350**	⇑*e*P	Pb	13 27 04.1	-1.4
RCP				*e*S	Sb	13 27 34.5	+1.0
BUKP	**Musuan**	**2.38**	**127**	*e*P	Pb	13 27 06.7	-1.1
BUKP				*e*S	Sg	13 27 48.2	+7.0
GLSP	**General Luna,**	**2.96**	**81**	*e*P	Pn	13 27 13.5	+1.4
SKMP	**Bagumbayan, Su**	**3.12**	**154**	*e*P	Pn	13 27 15.8	+1.6
BUSP	**Coron**	**3.93**	**313**	*e*P	Pn	13 27 25.8	+0.4
LQP	**Lukban**	**5.00**	**342**	⇑*e*P	Pb	13 27 52.3	-0.4

*TAP **03** 14:18:17.4,24°.82N×121°.99E,h6km,ML2.9,C*
*JMA **03** 14:18:18.4,24°.81N×121°.97E,h29km,M2.3*
ISC 03 14:18:17.9±0.8,24°.87N±0°.02×122°.03E±0°.02,h13km±6km, n63,σ0s85/122,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.15**	**346**	P	**Pg**	**14 18 21.9**	**+0.3**
	baz=2.0						
TWB1				S	**Sg**	**14 18 25.0**	**+0.9**
	baz=2.0						
NTC	**Toucheng**	**0.18**	**267**	P	**Pg**	**14 18 21.6**	**-0.5**
	baz=283						
NTC				S	**Sg**	**14 18 24.6**	**-0.3**
	baz=283						
TIPB	**Shuangxi**	**0.21**	**300**	*i* P	**Pg**	**14 18 22.6**	**0.0**
TIPB	baz=315			*i* S	**Sg**	**14 18 26.1**	**+0.3**
	baz=315						
TWC	**Suao**	**0.30**	**213**	*i* P	**Pg**	**14 18 22.9**	**-1.3**
	baz=209						
TWC				S	**Sg**	**14 18 27.6**	**-0.8**
	baz=209						
NWF	**Wu-fen Shan**	**0.30**	**312**	*i* P	**Pb**	**14 18 25.1**	**-0.2**
	baz=323						
NWF				S	**Sb**	**14 18 30.3**	**0.0**
	baz=323						
WFSB	**Wu-fen Shan**	**0.30**	**312**	P	**Pb**	**14 18 24.9**	**-0.4**
	baz=323						
WFSB				S	**Sb**	**14 18 30.0**	**-0.2**
	baz=323						
TWE	**Neicheng**	**0.36**	**247**	*i* P	**Pg**	**14 18 24.4**	**-0.8**
	baz=250						
TWE				S	**Sg**	**14 18 29.4**	**-0.6**
	baz=250						
NDS	**Dongshan**	**0.37**	**231**	P	**Pg**	**14 18 24.4**	**-0.9**
	baz=233						
NDS				S	**Sg**	**14 18 30.0**	**-0.2**
	baz=233						
TNOU	**National Taiwa**	**0.37**	**321**	P	**Pb**	**14 18 26.0**	**-0.3**
	baz=328						
TNOU				*e*S	**Sb**	**14 18 31.3**	**-0.7**
	baz=328						
TWA	**Mucha**	**0.42**	**286**	P	**Pb**	**14 18 26.3**	**-0.9**
	baz=293						
TWA				S	**Sb**	**14 18 32.4**	**-1.1**
	baz=293						
NHDH	**Xindian Distri**	**0.47**	**282**	P	**Pb**	**14 18 27.1**	**-0.9**
	baz=288						
NHDH				S	**Sb**	**14 18 34.0**	**-0.8**
	baz=288						
EWUT	**Wuta**	**0.48**	**209**	P	**Pg**	**14 18 26.2**	**-1.0**
	baz=207						
EWUT				S	**Sg**	**14 18 33.7**	**0.0**
	baz=207						
ENTT	**Nioudou**	**0.48**	**242**	P	**Pg**	**14 18 26.8**	**-0.6**
	baz=244						
ENTT				S	**Sg**	**14 18 33.8**	**+0.1**
	baz=244						
NWLT	**Wulai**	**0.49**	**260**	P	**Pg**	**14 18 27.0**	**-0.5**
	baz=264						
NWLT				*e*S	**Sg**	**14 18 32.7**	**-1.3**
	baz=264						
YM01	**YM01**	**0.50**	**304**	P	**Pb**	**14 18 28.7**	**+0.1**
	baz=310						
YM01				*e*S	**Sb**	**14 18 35.4**	**-0.5**
	baz=310						
TATO	**Taipei**	**0.50**	**283**	P	**Pb**	**14 18 28.1**	**-0.5**
	baz=289						
TATO				S	**Sb**	**14 18 34.9**	**-1.0**
	baz=289						
TAP	**Taipei**	**0.51**	**290**	P	**Pb**	**14 18 27.9**	**-0.7**
	baz=296						
TAP				S	**Sb**	**14 18 36.0**	**+0.1**
	baz=296						
YM08	**YM08**	**0.51**	**309**	P	**Pb**	**14 18 28.7**	**-0.1**
	baz=315						
YM08				*e*S	**Sb**	**14 18 36.0**	**-0.2**
	baz=315						
NDT	**Datong Townshi**	**0.54**	**241**	P	**Pg**	**14 18 27.8**	**-0.6**
	baz=243						
NDT				S	**Sg**	**14 18 35.6**	**0.0**
	baz=243						
ANP	**Anpu**	**0.56**	**305**	P	**Pb**	**14 18 29.9**	**+0.3**
	baz=310						
ANP				*e*S	**Sb**	**14 18 38.4**	**+0.7**
	baz=310						
TWY	**Chenhua**	**0.56**	**317**	P	**Pb**	**14 18 30.0**	**+0.4**
	baz=322						
TWY				*e*S	**Sb**	**14 18 38.1**	**+0.5**
	baz=322						
TWS1	**Kuangyinshan**	**0.60**	**293**	*e*P	**Pn**	**14 18 31.6**	**-0.6**
	baz=298						
TWS1				*e*S	**Sn**	**14 18 40.9**	**-0.9**
	baz=298						
YHNB	**Yeheng**	**0.62**	**252**	P	**Pg**	**14 18 29.2**	**-1.0**
	baz=255						
YHNB				*e*S	**Sg**	**14 18 37.1**	**-1.3**
	baz=255						
NNS	**Nan Shan**	**0.73**	**235**	*i* P	**Pg**	**14 18 31.8**	**-0.3**
	baz=235						
NNS				S	**Sg**	**14 18 41.1**	**-0.7**
	baz=235						
NNSB	**Datong**	**0.73**	**234**	P	**Pg**	**14 18 31.4**	**-0.7**
	baz=234						
NNSB				*e*S	**Sg**	**14 18 41.0**	**-0.7**
	baz=234						
NNSH	**Datong**	**0.73**	**234**	P	**Pg**	**14 18 31.3**	**-0.9**
	baz=234						
NNSH				S	**Sg**	**14 18 41.8**	**0.0**
	baz=234						
PCYT	**Pengchaiyu**	**0.76**	**3**	P	**Pn**	**14 18 34.3**	**-0.1**
	baz=5.0						
PCYT				S	**Sn**	**14 18 46.5**	**+0.8**
	baz=5.0						
NCU	**National Centr**	**0.77**	**278**	P	**Pb**	**14 18 32.7**	**-0.5**
	baz=281						
NCU				*e*S	**Sg**	**14 18 41.4**	**-1.6**
	baz=281						
NCUH	**Zhongli**	**0.77**	**278**	*e*P	**Pn**	**14 18 33.9**	**-0.6**
	baz=281						
NCUH				*e*S	**Sn**	**14 18 45.9**	**-0.1**
	baz=281						
NACB	**Ninganchiao**	**0.79**	**210**	P	**Pg**	**14 18 32.4**	**-0.9**
	baz=209						
NACB				*e*S	**Sg**	**14 18 42.3**	**-1.4**
	baz=209						
ETLH	**Xiulin Townshi**	**0.82**	**217**	P	**Pg**	**14 18 33.2**	**-0.6**
	baz=217						
ETLH				S	**Sg**	**14 18 44.2**	**-0.5**
	baz=217						
NHW	**Xinwu Township**	**0.90**	**279**	*e*P	**Pn**	**14 18 36.2**	**-0.1**
	baz=282						
NHW				*e*S	**Sn**	**14 18 49.2**	**+0.1**
	baz=282						
JYNG	**Yonagunijimaku**	**0.93**	**116**	P	**Pb**	**14 18 35.8**	**-0.1**
JYNG				S	**Sb**	**14 18 48.8**	**+0.7**
LIOB	**Emei**	**0.95**	**257**	*e*P	**Pn**	**14 18 36.9**	**0.0**
	baz=259						
LIOB				*e*S	**Sn**	**14 18 51.4**	**+1.1**
	baz=259						
SBCB	**Hsinchu**	**0.95**	**266**	*e*P	**Pn**	**14 18 37.4**	**+0.4**
	baz=268						
SBCB				*e*S	**Sn**	**14 18 51.1**	**+0.7**
	baz=268						
NSTT	**Nanjuang**	**0.96**	**256**	P	**Pb**	**14 18 36.7**	**+0.2**
	baz=258						
NSTT				*e*S	**Sn**	**14 18 51.8**	**+1.1**
	baz=258						
YOJ	**Yonaguni jima**	**0.98**	**114**	P	**Pb**	**14 18 36.4**	**-0.3**
YOJ				S	**Sb**	**14 18 49.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.98**	**114**	P	**Pb**	**14 18 36.5**	**-0.2**
	baz=110						
YOJ				*e*S	**Sb**	**14 18 50.1**	**+0.6**
	baz=110						
TWT	**Tachien**	**0.99**	**232**	*e*P	**Pn**	**14 18 38.3**	**+0.7**
	baz=232						
TWT				S	**Sg**	**14 18 50.0**	**+0.1**
	baz=232						
WHF	**Hehuan Shan**	**1.00**	**224**	*i* P	**Pg**	**14 18 36.8**	**-0.5**
	baz=224						
WHF				S	**Sg**	**14 18 50.5**	**+0.2**
	baz=224						
TDCB	**Techi**	**1.00**	**233**	P	**Pg**	**14 18 36.6**	**-0.6**
	baz=233						
TDCB				S	**Sb**	**14 18 50.7**	**+0.4**
	baz=233						
ETM	**Tongmen**	**1.02**	**209**	P	**Pg**	**14 18 36.3**	**-1.3**
	baz=207						
ETM				*e*S	**Sg**	**14 18 49.4**	**-1.5**
	baz=207						
CHGB	**Renai**	**1.12**	**224**	P	**Pb**	**14 18 39.2**	**0.0**
	baz=224						
CHGB				*e*S	**Sg**	**14 18 54.0**	**-0.1**
	baz=224						
WHP	**Taichung City**	**1.15**	**240**	P	**Pb**	**14 18 39.7**	**0.0**
	baz=240						
WHP				*e*S	**Sn**	**14 18 56.3**	**+1.0**
	baz=240						
NMLH	**Miaoli**	**1.17**	**254**	*e*P	**Pn**	**14 18 41.1**	**+1.1**
	baz=255						
NMLH				*e*S	**Sn**	**14 18 58.6**	**+2.7**
	baz=255						
ESL	**Shilin**	**1.18**	**208**	P	**Pg**	**14 18 38.8**	**-1.9**
	baz=206						
ESL				*e*S	**Sg**	**14 18 54.2**	**-1.8**
	baz=206						
OWD	**Renai**	**1.19**	**221**	P	**Pg**	**14 18 40.0**	**-1.0**
	baz=220						
OWD				S	**Sg**	**14 18 56.2**	**-0.2**
	baz=220						
NSY	**Sanyi**	**1.24**	**249**	*e*P	**Pn**	**14 18 42.3**	**+1.4**
	baz=250						
NSY				*e*S	**Sn**	**14 18 59.8**	**+2.3**
	baz=250						
TWQ1	**Liyutan**	**1.25**	**246**	*e*P	**Pn**	**14 18 42.6**	**+1.4**
	baz=246						
TWQ1				*e*S	**Sn**	**14 19 00.7**	**+2.9**
	baz=246						
WPL	**Puli Township**	**1.29**	**229**	*e*P	**Pg**	**14 18 43.1**	**+0.2**
	baz=229						
WPL				S	**Sg**	**14 18 59.2**	**-0.4**
	baz=229						
DPDB	**Guoxing**	**1.30**	**231**	*e*P	**Pb**	**14 18 44.2**	**+2.0**
	baz=231						
EGFH	**Guangfu**	**1.31**	**205**	*e*P	**Pg**	**14 18 43.7**	**+0.6**
	baz=204						
EGFH				*e*S	**Sg**	**14 18 59.7**	**-0.5**
	baz=204						
SMLT	**Sun Moon Lake**	**1.42**	**227**	*e*P	**Pb**	**14 18 44.3**	**0.0**
	baz=226						
TYC	**Yuchr**	**1.43**	**228**	*e*P	**Pg**	**14 18 45.6**	**+0.1**
	baz=228						
SSLB	**Suanglung**	**1.45**	**223**	*e*P	**Pb**	**14 18 44.9**	**0.0**
	baz=222						
SSLB				*e*S	**Sn**	**14 19 04.0**	**+1.1**
	baz=222						
HGSD	**Ruisui**	**1.47**	**202**	*e*P	**Pg**	**14 18 46.4**	**+0.2**
	baz=201						
HGSD				*e*S	**Sb**	**14 19 05.0**	**+1.2**
	baz=201						
EHY	**Hungye**	**1.50**	**206**	P	**Pn**	**14 18 44.8**	**+0.2**
	baz=204						
EHY				S	**Sn**	**14 19 04.2**	**+0.2**
	baz=204						
YULB	**Yu-li**	**1.61**	**205**	P	**Pn**	**14 18 46.6**	**+0.5**
	baz=203						
YULB				*e*S	**Sn**	**14 19 06.4**	**-0.3**
	baz=203						
IRIF	**Iriomote-Funau**	**1.64**	**108**	P	**Pn**	**14 18 45.8**	**-0.6**
IRIF				*e*S	**Sn**	**14 19 06.7**	**-0.6**
HATJ	**Hateruma jima**	**1.81**	**116**	P	**Pn**	**14 18 48.8**	**+0.1**
JKRS	**Kuro-shima**	**1.91**	**109**	P	**Pn**	**14 18 50.1**	**0.0**
JKRS				*e*S	**Sn**	**14 19 13.6**	**-0.4**
JIJ	**Ishigaki jima**	**1.99**	**104**	P	**Pn**	**14 18 51.1**	**-0.1**
JIJ				S	**Sn**	**14 19 15.4**	**-0.6**
JISG	**Ishigakijimahi**	**2.09**	**97**	P	**Pn**	**14 18 54.0**	**+1.3**
JISG				*e*S	**Sn**	**14 19 19.8**	**+1.2**

*SKO **03** 14:20:28.0,42°.02N×21°.64E,h15km*
*SOF **03** 14:20:32.6,41°.94N×21°.66E,h10km,MD2.8*
*BEO **03** 14:20:33.6±0.4,41°.97N×21°.62E,h6km±4km,ML2.2/12*
*THE **03** 14:20:34.7,41°.88N×21°.74E,h0km±2km,ML2.3/4,Error ellipse: s-maj=3.4km s-min=1.2km az=327.0*
ISC 03 14:20:32.9±0.8,42°.00N±0°.02×21°.63E±0°.03,h16km±6km, n30,σ0s84/50,1C-2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.15**	**259**	*e*Pg	**Pg**	**14 20 36.8**	**-0.1**
SKO				*e*Sg	**Sg**	**14 20 39.5**	**0.0**
SKO	**Skopje**	**0.15**	**259**	⇓*i*Pg	**Pg**	**14 20 36.9**	**+0.1**
SKO				*i* Sg	**Sg**	**14 20 39.4**	**-0.1**
SKO				*e*Lg	Lg	14 20 39.9	
	comp=E,188nm,0.3s						
STIP	**Stip**	**0.51**	**126**	⇓*i*Pg	**Pn**	**14 20 44.9**	**-0.7**
STIP				*i* Sg	**Sn**	**14 20 54.3**	**+0.3**
STIP				*e*Lg	Lg	14 20 55.6	
	comp=E,159nm,0.2s						
PRVS	**Prvonek**	**0.61**	**33**	*e*Pg	**Pb**	**14 20 45.8**	**+0.7**
PRVS				*e*Sg	**Sn**	**14 20 56.0**	**-0.4**
BOSS	**Bosilegrad**	**0.80**	**51**	*e*Pg	**Pg**	**14 20 49.3**	**+0.8**
BOSS				*e*Sg	**Sg**	**14 20 58.9**	**-0.2**
BARS	**Barje**	**0.83**	**9**	*e*Pg	**Pb**	**14 20 46.4**	**-2.5**
BARS				*e*Sg	**Sb**	**14 20 58.2**	**-1.6**
BARS	**Barje**	**0.83**	**9**	*e*Pg	Sn	14 21 13.0	+11
BARS	**Barje**	**0.83**	**9**	*i* Pg	**Pb**	**14 20 46.2**	**-2.7**
BARS				*i* Sg	**Sb**	**14 20 58.7**	**-1.1**
VAY	**Valandovo**	**0.98**	**134**	*e*Pg	**Pb**	**14 20 50.4**	**-1.0**
VAY				*e*Sg	**Sb**	**14 21 03.5**	**-0.5**
VAY	**Valandovo**	**0.98**	**134**	*i* Pg	**Pb**	**14 20 51.0**	**-0.4**
VAY				*i* Sg	**Sb**	**14 21 03.1**	**-0.9**
VAY				*e*Lg	Lg	14 21 06.1	
	comp=E,105nm,0.4s						
OHR	**Ohrid**	**1.08**	**215**	⇑*i*Pg	**Pb**	**14 20 52.9**	**-0.4**
OHR				*i* Sg	**Sb**	**14 21 07.2**	**-0.1**
OHR				*e*Lg	Lg	14 21 08.4	
	comp=E,347nm,0.3s						
KKB	**Krupnik**	**1.09**	**96**	*i* P	**Pn**	**14 20 53.9**	**+0.4**
FNA	**Florina**	**1.23**	**189**	P	**Pn**	**14 20 55.2**	**-0.2**
FNA				S	**Sg**	**14 21 12.3**	**-0.3**
	comp=E,382nm,0.3s						
FNA	**Florina**	**1.23**	**189**	*i* Pg	**Pn**	**14 20 55.3**	**-0.2**
FNA				*i* Sg	**Sn**	**14 21 11.7**	**-0.1**
KNT	**Kendrikon**	**1.27**	**131**	P	**Pn**	**14 20 56.1**	**+0.2**
KNT				S	**Sb**	**14 21 12.4**	**0.0**
	comp=E,122nm,0.5s						
KNT	**Kendrikon**	**1.27**	**131**	*i* Pg	**Pn**	**14 20 56.0**	**+0.1**
KNT				*i* Sg	**Sb**	**14 21 12.4**	**0.0**
SELS	**Selova**	**1.28**	**343**	*e*Pg	**Pg**	**14 20 57.5**	**0.0**
SELS				*e*Sg	**Sg**	**14 21 15.2**	**+1.0**
VTS	**Vitosha**	**1.34**	**62**	*i* P	**Pg**	**14 20 58.7**	**-0.1**
VTS	**Vitosha**	**1.34**	**62**	*i* Pg	**Pb**	**14 20 58.6**	**-0.1**
VTS				*i* Sg	**Sg**	**14 21 16.8**	**+0.6**
MMB	**Musomiste**	**1.62**	**104**	*i* P	**Pb**	**14 21 03.2**	**+0.8**
BOVS	**Bovan**	**1.64**	**2**	*e*Pg	**Pg**	**14 21 04.4**	**+0.1**
KTJ	**Kastanea**	**1.65**	**167**	P	**Pb**	**14 21 02.4**	**-0.5**
KZN	**Kozani**	**1.69**	**176**	P	**Pb**	**14 21 03.8**	**+0.1**
KZN				S	**Sb**	**14 21 25.1**	**+0.3**
	comp=E,58nm,0.4s						
SJES	**Sjenica**	**1.76**	**316**	*e*Pg	**Pb**	**14 21 05.6**	**+0.8**
SJES				*e*Sg	**Sg**	**14 21 30.7**	**+1.2**
ULC	**Ulcinj**	**1.78**	**270**	*i* Pg	**Pb**	**14 21 05.3**	**+0.2**
NVR	**Nevrokopi**	**1.79**	**110**	P	**Pn**	**14 21 04.2**	**+1.0**
NVR				S	**Sb**	**14 21 27.8**	**+0.2**
	comp=E,52nm,0.5s						
ZAGS	**Zajecar**	**1.87**	**13**	*e*Pg	**Pg**	**14 21 08.4**	**-0.3**
ZAGS				*e*Sg	**Sg**	**14 21 33.5**	**+0.6**
IVAS	**Ivanjica**	**1.92**	**326**	*e*Pg	**Pg**	**14 21 08.4**	**+0.9**
IVAS				*e*Sg	**Sg**	**14 21 34.4**	**-0.2**
GRUS	**Gruza**	**2.00**	**341**	*e*Pg	**Pb**	**14 21 08.9**	**-0.1**
KUBS	**Kucevo**	**2.41**	**1**	*e*Pg	**Pb**	**14 21 17.6**	**+1.7**

*NEIC **03** 14:24:05.9±1.7,3°.88S±0°.09×152°.17E±0°.07,h243km±8km, mb4.4/27,Error ellipse: s-maj=13.8km s-min=8.0km az=150.0*
*IDC **03** 14:24:09.3±2.7,3°.91S×151°.93E,h268km±20km,mb3.5/6, mb1 3.5/8,mb1mx3.2/35,mbtmp4.1/8,Error ellipse: s-maj=37.9km s-min=14.3km az=100.0*
ISC 03 14:24:05.8±0.8,3°.91S±0°.08×152°.2E±0°.1,h250km,n42, σ0s69/43,mb4.3/19,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.28**	**182**	Pn	**Pn**	**14 24 38.0**	**-0.3**
MANU	**Manus Island**	**5.14**	**291**	Pn	**Pn**	**14 25 23.6**	**+0.2**

	comp=Z,3.4nm,0.9s						
FORT	**Forrest**	**35.09**	**218**	P	**P**	**14 30 36.0**	**+0.3**
TPUB	**Ta-pu**	**40.96**	**313**	P	**P**	**14 31 23.6**	**-1.1**
TPUB				IAmb	IAmb	14 31 30.6	
	comp=Z,30nm,1.4s						
SSLB	**Suanglung**	**41.02**	**314**	P	**P**	**14 31 25.6**	**+0.4**
SSLB				IAmb	IAmb	14 31 26.9	
	comp=Z,10.0nm,1.0s						
JNU	**Nakatsue**	**41.99**	**333**	P	**P**	**14 31 32.5**	**-0.3**
JNU				IAmb	IAmb	14 31 34.2	
	comp=Z,9.2nm,0.8s						
JWT	**Wachi**	**42.04**	**339**	P	**P**	**14 31 32.7**	**-0.5**
JWT				IAmb	IAmb	14 31 38.9	
	comp=Z,42nm,1.5s						
MORW	**Morawa**	**42.43**	**230**	P	**P**	**14 31 35.7**	**-0.8**
MORW				IAmb	IAmb	14 31 38.5	
	comp=Z,18nm,1.3s						
JTM	**Tenmabayashi**	**45.62**	**348**	P	**P**	**14 32 01.1**	**-0.3**
KSRS	**Korea Array**	**46.92**	**333**	P	**P**	**14 32 11.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=144,slow=8.1,SNR=4.7						
USA0B	**Ussuriysk Arra**	**51.21**	**341**	P	**P**	**14 32 44.9**	**+1.0**
USA0B				IAmb	IAmb	14 32 49.3	
	comp=Z,18nm,1.3s						
RPSI	**Rantau Prapat**	**53.62**	**276**	P	**P**	**14 33 01.2**	**-1.0**
GSI	**Gunungsitoli**	**54.81**	**274**	P	**P**	**14 33 09.7**	**-1.0**
GSI				IAmb	IAmb	14 33 10.7	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**56.94**	**295**	P	**P**	**14 33 27.1**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=105,slow=5.6,SNR=4.5						
PEA0B	**Petropavlovsk-**	**56.99**	**4**	P	**P**		
PEA0B				IAmb	IAmb	14 33 40.7	
	comp=Z,26nm,1.4s						
PETK	**Petropavlovsk-**	**56.99**	**4**	P	**P**	**14 33 26.4**	**+1.0**
MK31	**Makanchi Array**	**79.25**	**319**	P	**P**	**14 35 43.6**	**0.0**
MKAR	**Makanchi Array**	**79.25**	**319**	P	**P**	**14 35 43.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=102,slow=6.8,SNR=6.2						
MKAR	**Makanchi Array**	**79.25**	**319**	P	**P**	**14 35 43.4**	**-0.1**
MAKZ	**Makanchi**	**79.45**	**319**	P	**P**	**14 35 44.7**	**+0.1**
KDJ	**Kajisay**	**81.55**	**313**	P	**P**	**14 35 56.8**	**+0.7**

IDC 03 14:28:54.0±3.4, 10°33S×120°59E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/25, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=304.8km s-min=31.7km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.35**	**127**	Pn	P	14 32 47.2	-0.9
	0.1nm,0.3s,baz=306,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**18.37**	**138**	P	Pn	14 33 08.8	-1.5
	0.0nm,0.3s,baz=325,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**66.35**	**332**	P	P	14 39 44.6	0.0
	0.3nm,0.4s,baz=124,slow=8.0,SNR=5.2						

*PDG **03** 14:36:08.7±0.2, 42.°18N×19.°44E, h22km, MD3.0/6, ML2.6/14, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*BEO **03** 14:36:08.5±0.3, 42.°17N×19.°63E, h0km, ML2.4/14*
*RHSSO **03** 14:36:08.0±0.7, 42.°18N×19.°56E, h11km±2km, ML2.7/9*
*THE **03** 14:36:09.3, 42.°21N×19.°49E, h0km±4km, ML2.3/2, Error ellipse: s-maj=6.1km s-min=2.8km az=319.0*

ISC 03 14:36:08.7±0.8, 42.°19N±0.°02×19.°53E±0.°02, h16km±6km, n51, σ0°99/97, 12C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRME	**Dracevica, Mon**	**0.26**	**270**	⇑*i* Pg	**Pg**	**14 36 13.9**	**-0.4**
DRME				*e* Sg	**Sg**	**14 36 18.4**	**+0.3**
DRME	**Dracevica, Mon**	**0.26**	**270**	⇑*i* Pg	**Pg**	**14 36 13.9**	**-0.4**
DRME				*i* Sg	**Sg**	**14 36 18.1**	**0.0**
ULC	**Ulcinj**	**0.31**	**224**	⇑*i* Pg	**Pg**	**14 36 14.6**	**-0.6**
ULC				*i* Sg	**Sg**	**14 36 19.8**	**+0.2**
PDG	**Podgorica**	**0.32**	**320**	*e* Pg	**Pg**	**14 36 15.1**	**-0.2**
PDG				*e* Sg	**Sg**	**14 36 19.6**	**-0.3**
PDG	**Podgorica**	**0.32**	**320**	⇑*i* Pg	**Pg**	**14 36 15.1**	**-0.2**
PDG				*e* Sg	**Sg**	**14 36 20.4**	**+0.5**
TTG	**Podgorica**	**0.32**	**320**	⇑*i* Pg	**Pg**	**14 36 15.1**	**-0.2**
TTG				*i* Sg	**Sg**	**14 36 20.6**	**+0.7**
BUM	**Brajici-Budva**	**0.48**	**284**	⇑*i* Pg	**Pg**	**14 36 17.2**	**-1.2**
BUM				*i* Sg	**Sg**	**14 36 25.3**	**+0.4**
PVY	**Plav**	**0.52**	**38**	⇓*i* Pg	**Pb**	**14 36 19.6**	**+0.1**
PVY				*i* Sg	**Sn**	**14 36 28.9**	**-1.3**
CEME	**Cevo**	**0.58**	**309**	⇓*i* Pg	**Pg**	**14 36 19.1**	**-1.0**
CEME				*i* Sg	**Sg**	**14 36 28.0**	**+0.1**
KOME	**Kolasin**	**0.66**	**359**	⇑*i* Pg	**Pg**	**14 36 21.5**	**-0.2**
KOME				*i* Sg	**Sb**	**14 36 32.3**	**+1.2**
NKME	**Niksic**	**0.72**	**324**	⇑*i* Pg	**Pg**	**14 36 21.4**	**-1.4**
NKME				*e* Sg	**Sg**	**14 36 32.8**	**+0.5**
IVA	**Berane**	**0.74**	**21**	⇑*i* Pg	**Pb**	**14 36 23.4**	**-0.2**
IVA				*i* Sg	**Sn**	**14 36 35.6**	**0.0**
NKY	**Niksic**	**0.74**	**328**	⇓*i* Pg	**Pg**	**14 36 22.5**	**-0.7**
NKY				*i* Sg	**Sb**	**14 36 34.0**	**+0.7**
HCY	**Herceg Novi**	**0.81**	**289**	*e* Pg	**Pg**	**14 36 23.1**	**-1.4**
HCY				*e* Sg	**Sg**	**14 36 35.4**	**+0.3**
HCY	**Herceg Novi**	**0.81**	**289**	⇑*i* Pg	**Pg**	**14 36 22.9**	**-1.6**
HCY				*i* Sg	**Sg**	**14 36 35.1**	**0.0**
PHP	**Peshkopia**	**0.85**	**126**	P	**Pb**	**14 36 25.0**	**-0.1**
PHP				S	**Sn**	**14 36 38.9**	**+0.7**
TIR	**Tirane**	**0.88**	**163**	P	**Pn**	**14 36 26.4**	**0.0**
TIR				S	**Sn**	**14 36 39.5**	**+0.7**
TIR	**Tirane**	**0.88**	**163**	*e* Pg	**Pg**	**14 36 23.8**	**-1.9**
TIR				*e* Sg	**Sg**	**14 36 35.9**	**-1.3**
TREB	**Trebinje**	**1.02**	**302**	*e* Pg	**Pb**	**14 36 26.8**	**-1.2**
TREB				*e* Sg	**Sg**	**14 36 41.9**	**+0.1**
BRY	**Bratogost**	**1.02**	**315**	*e* Pg	**Pg**	**14 36 26.6**	**-1.9**
BRY				*e* Sg	**Sg**	**14 36 42.0**	**+0.1**
BRY	**Bratogost**	**1.02**	**315**	⇓*i* Pg	**Pg**	**14 36 26.8**	**-1.7**
BRY				*i* Sg	**Sb**	**14 36 42.7**	**+1.3**
UPM	**Unac-Piva**	**1.11**	**336**	*e* Pg	**Pb**	**14 36 29.0**	**-0.7**
UPM				*e* Sg	**Sb**	**14 36 43.6**	**-0.5**
UPM	**Unac-Piva**	**1.11**	**336**	⇑*i* Pg	**Pb**	**14 36 29.1**	**-0.7**
UPM				*i* Sg	**Sn**	**14 36 46.5**	**+1.4**
SJES	**Sjenica**	**1.12**	**17**	*e* Pg	**Pb**	**14 36 28.1**	**-1.8**
SJES				*e* Sg	**Sb**	**14 36 44.1**	**-0.2**
PLE	**Pljevlja**	**1.15**	**355**	⇑*i* Pg	**Pb**	**14 36 30.3**	**0.0**
PLE				*e* Sg	**Sn**	**14 36 47.9**	**+2.1**
RUDO	**Rudo**	**1.44**	**355**	*e* Pg	**Pn**	**14 36 34.3**	**+0.2**
RUDO				*e* Sg	**Sb**	**14 36 53.8**	**+0.6**
IVAS	**Ivanjica**	**1.46**	**18**	*e* Pg	**Pn**	**14 36 34.4**	**-0.2**
IVAS				*e* Sg	**Sb**	**14 36 54.6**	**+0.6**
STON	**Ston**	**1.52**	**298**	*e* Pn	**Pn**	**14 36 34.4**	**-0.8**
STON				*e* Sn	**Sn**	**14 36 55.2**	**+0.6**
STON	**Ston**	**1.52**	**298**	*e* Pn	**Pn**	**14 36 34.0**	**-1.2**
STON				*e* Sg	**Sn**	**14 36 54.5**	**0.0**
SELS	**Selova**	**1.56**	**48**	*e* Pg	**Pb**	**14 36 36.9**	**-0.4**
SELS				*e* Sg	**Sb**	**14 36 57.4**	**+0.5**
BBLS	**Lazići**	**1.68**	**357**	*e* Pg	**Pb**	**14 36 40.0**	**+0.7**
BBLS				*e* Sg	**Sg**	**14 37 03.8**	**+0.9**
BBLS	**Lazići**	**1.68**	**357**	*e* Pn	**Pn**	**14 36 36.7**	**-0.9**
BBLS				*e* Sn	**Sn**	**14 36 59.0**	**+0.1**
BARS	**Barje**	**1.81**	**69**	*e* Pn	**Pn**	**14 36 38.9**	**-0.3**
GRUS	**Gruza**	**1.91**	**27**	*e* Pn	**Pn**	**14 36 42.0**	**+1.3**
DIVS	**Divibare**	**1.94**	**10**	*e* Pg	**Pn**	**14 36 42.0**	**+0.9**
DIVS				*e* Sg	**Sb**	**14 37 09.2**	**+1.4**
DIVS	**Divibare**	**1.94**	**10**	*e* Pn	**Pn**	**14 36 41.4**	**+0.3**
DIVS				*e* Sn	**Sn**	**14 37 04.8**	**-0.5**
HAPS	**Han Pijesak,Bl**	**1.95**	**348**	*e* Pn	**Pn**	**14 36 42.7**	**+1.5**
HAPS	**Han Pijesak,Bl**	**1.95**	**348**	*e* Pn	**Pn**	**14 36 41.6**	**+0.4**
HAPS				*e* Sn	**Sn**	**14 37 06.3**	**+0.9**
FNA	**Florina**	**1.97**	**135**	P	**Pb**	**14 36 44.8**	**+0.5**
FNA				S	**Sg**	**14 37 12.6**	**+0.4**
	90nm,0.5s						
LSTV	**Lastovo**	**2.04**	**288**	*e* Pn	**Pn**	**14 36 41.7**	**-0.6**
LSTV				Sn	**Sn**	**14 37 05.5**	**-1.9**
NEST	**Nestorio**	**2.11**	**147**	P	**Pb**	**14 36 46.4**	**-0.2**
NEST				S	**Sb**	**14 37 14.2**	**+1.6**
TRUS	**Trudelj**	**2.13**	**17**	*e* Pn	**Pb**	**14 36 46.0**	**-1.0**
TRUS				*e* Sg	**Sg**	**14 37 17.0**	**-0.4**
BOVS	**Bovan**	**2.16**	**47**	*e* Pn	**Pb**	**14 36 46.0**	**-1.4**
RICI	**Ricice**	**2.19**	**307**	*e* Pn	**Pn**	**14 36 45.6**	**+1.1**
RICI				Sn	**Sn**	**14 37 12.6**	**+1.2**
BOSS	**Bosilegrad**	**2.21**	**81**	*e* Pn	**Pn**	**14 36 44.1**	**-0.7**
BOSS				*e* Sg	**Sb**	**14 37 14.7**	**-0.8**
IGT	**Igoumenitsa**	**2.72**	**167**	P	**Pn**	**14 36 53.8**	**+2.0**
IGT				S	**Sb**	**14 37 31.3**	**+1.2**
	15nm,0.5s						
KIJV	**Kijevo**	**2.92**	**310**	*e* Pn	**Pn**	**14 36 56.0**	**+1.4**
KIJV				Sn	**Sn**	**14 37 31.5**	**+2.2**
FRGS	**Fruska Gora**	**2.98**	**4**	*e* Pn	**Pn**	**14 36 55.8**	**+0.5**
FRGS				*e* Sn	**Sn**	**14 37 30.8**	**+0.1**
ZIRJ	**Zirje**	**3.21**	**299**	*e* Pn	**Pn**	**14 36 59.1**	**+0.7**
ZIRJ				Sn	**Sn**	**14 37 36.4**	**+0.1**
MORI	**Morici**	**3.27**	**302**	Sn	**Sn**	**14 37 39.5**	**+1.7**
DUGI	**Dugi Otok**	**3.74**	**300**	*e* Pn	**Pn**	**14 37 06.2**	**+0.4**
DUGI				Sn	**Sn**	**14 37 47.1**	**-2.4**

*ISK **03** 14:39:42.0, 37.°08N×28.°42E, h8km, ML2.5/11*
*DDA **03** 14:39:42.3, 37.°07N×28.°41E, h7km±2km, ML1.9*

ISC 03 14:39:42.3±1.0, 37.°07N±0.°03×28.°41E±0.°03, h12km±7km, n18, σ0°35/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**301**	PG	**Pg**	**14 39 45.3**	**-0.2**
YER				SG	**Sg**	**14 39 47.6**	**-0.2**
MULA	**Mugla, Merkez-**	**0.20**	**339**	*i* P	**Pg**	**14 39 46.6**	**0.0**
MULA				*i* S	**Sg**	**14 39 50.1**	**+0.4**
MULA				IAML		14 39 52.0	
	comp=E,612nm,0.3s						
MULA				IAML		14 39 52.0	
	comp=N,272nm,0.6s						
DALY	**Dalyan (Mula)**	**0.32**	**143**	*i* P	**Pg**	**14 39 48.8**	**+0.1**
DALY				*i* S	**Sb**	**14 39 54.4**	**-0.6**
DALY				IAML		14 39 57.0	
	comp=N,177nm,0.7s						
DALY				IAML		14 39 58.0	
	comp=E,152nm,0.4s						
DALY	**Dalyan (Mula)**	**0.32**	**143**	PG	**Pg**	**14 39 48.9**	**+0.1**
TURN	**Turunc**	**0.33**	**204**	PG	**Pg**	**14 39 49.0**	**+0.1**
TURN				SG	**Sb**	**14 39 54.6**	**-0.6**
MRSB	**Marmaris-Mugla**	**0.40**	**206**	PG	**Pg**	**14 39 50.1**	**-0.1**
MLSB	**Milas**	**0.55**	**294**	PG	**Pb**	**14 39 53.9**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.56**	**45**	*i* P	**Pg**	**14 39 52.9**	**-0.4**
TAVA				*i* S	**Sb**	**14 40 01.6**	**-0.5**
TAVA				IAML		14 40 04.0	
	comp=N,40nm,0.5s						
TAVA				IAML		14 40 05.0	
	comp=E,87nm,0.5s						
FETY	**Fethiye**	**0.69**	**129**	PG	**Pg**	**14 39 55.3**	**-0.5**
AYDN	**Tasoluk**	**0.72**	**324**	*i* P	**Pg**	**14 39 56.5**	**+0.2**
AYDN				*i* S	**Sg**	**14 40 05.8**	**-0.1**
AYDN				IAML		14 40 11.0	
	comp=E,59nm,0.3s						
AYDN				IAML		14 40 11.0	
	comp=N,42nm,0.3s						
CAME	**Cameli-Denizli**	**0.72**	**100**	PG	**Pg**	**14 39 56.5**	**+0.1**
BDRM	**Kayabasi**	**0.77**	**270**	*i* P	**Pb**	**14 39 57.7**	**+0.1**
BDRM				*i* S	**Sn**	**14 40 10.4**	**-0.1**
BDRM				IAML		14 40 14.0	
	comp=N,231nm,0.5s						
BDRM				IAML		14 40 14.0	
	comp=E,73nm,0.6s						
BODT	**Bodrum**	**0.88**	**270**	PG	**Pg**	**14 39 58.9**	**-0.4**
ARG	**Arkhangelos**	**0.89**	**195**	PG	**Pg**	**14 39 59.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**335**	PG	**Pg**	**14 40 00.6**	**-0.3**
NIS1	**Nisyros Isl.**	**1.09**	**245**	PN	**Pg**	**14 40 03.1**	**-0.3**
GCAM	**G?zelcaml?**	**1.13**	**304**	PN	**Pn**	**14 40 04.6**	**+0.8**
AKAS	**Kas**	**1.27**	**131**	PN	**Pg**	**14 40 06.8**	**0.0**

*IDC **03** 15:09:31.2±1.0, 51.°07N×177.°69W, h0km, mb3.9/12, mb1 4.0/15, mb1mx3.8/43, mbtmp3.9/15, ML3.1/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/40, Error ellipse: s-maj=29.7km s-min=17.1km az=25.0*
*AEIC **03** 15:09:35±1.7, 50.°89N±0.°07×177.°57W±0.°09, h40km±6km, Error ellipse: s-maj=10.6km s-min=7.7km az=160.0*
*NEIC **03** 15:09:36.7±2.0, 50.°91N±0.°08×177.°59W±0.°08, h39km±7km, mb4.0/35, ML3.8/25(AEIC), Error ellipse: s-maj=11.1km s-min=6.8km az=168.0*

ISC 03 15:09:36.4±0.6, 50.°90N±0.°10×177.°59W±0.°04, h39km±4km, n94, σ1°05/86, mb4.0/17, MS3.7/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.89**	**14**		**Pn**	**15 09 52.2**	**-0.2**
KIMD					**Sn**	**15 10 05.1**	**+1.0**
TASE	**Tanaga Southea**	**0.98**	**343**		**Pn**	**15 09 53.8**	**+0.2**
KIWB	**Kanaga Island**	**0.99**	**16**		**Pn**	**15 09 52.2**	**-1.6**
KIKV	**Kanaga Island**	**1.01**	**15**		**Pn**	**15 09 54.2**	**+0.1**
TAFP	**Tanaga Falls P**	**1.03**	**346**		**Pn**	**15 09 54.4**	**+0.1**
TAFP					**Sn**	**15 10 08.2**	**+0.7**
KICM	**Kanaga Island**	**1.05**	**13**		**Pn**	**15 09 54.8**	**+0.3**
KICM					**Sn**	**15 10 09.2**	**+1.3**
ADK	**Adak**	**1.14**	**30**		**Pn**	**15 09 55.4**	**-0.3**
ADK					**Sn**	**15 10 10.9**	**+0.9**
GALAA	**Gareloi Lava P**	**1.14**	**320**		**Pn**	**15 09 56.2**	**+0.5**
GAEA	**Gareloi East**	**1.14**	**321**		**Pn**	**15 09 56.4**	**+0.6**
ADAG	**Mount Adagdak**	**1.25**	**29**		**Pn**	**15 09 57.8**	**+0.5**
GSTD	**Great Sitkin T**	**1.47**	**37**		**Pn**	**15 10 00.6**	**+0.2**
GSTD					**Sn**	**15 10 19.6**	**+1.2**
GSMY	**Great Sitkin M**	**1.49**	**39**		**Pn**	**15 10 00.8**	**+0.1**
GSTR	**Great Sitkin T**	**1.53**	**38**		**Pn**	**15 10 01.7**	**+0.5**
AMKA	**Amchitka**	**2.02**	**285**		**Pn**	**15 10 07.0**	**-0.8**
CESW	**Semis' Southwe**	**2.05**	**300**		**Pn**	**15 10 08.8**	**+0.6**
CEAP	**Semis' Anvil P**	**2.09**	**303**		**Pn**	**15 10 09.7**	**+0.9**
ATKA	**Atka Island**	**2.49**	**57**		**Sn**	**15 10 42.8**	**-0.6**
ATKA	**Atka Island**	**2.49**	**57**		**Pn**	**15 10 13.7**	**-0.6**
KOKL	**Mount Kliuchef**	**2.55**	**55**		**Pn**	**15 10 16.1**	**+0.9**
KOFP	**Korovin Flat P**	**2.58**	**56**		**Pn**	**15 10 16.5**	**+1.0**
LSSE	**Little Sitkin**	**2.62**	**295**		**Pn**	**15 10 16.6**	**+0.5**
NIKH	**Nikolski High**	**5.79**	**66**	Pn	**Pn**	**15 11 00.6**	**+1.1**
SII	**Sitkinak Islan**	**14.93**	**59**	Pn	**Pn**	**15 13 02.5**	**-1.9**
PETK	**Petropavlovsk-**	**15.36**	**288**	Pn	**Pn**	**15 13 09.6**	**-0.5**
	0.1nm,0.3s,baz=86,slow=19,SNR=1.9						
PETK				LR	LR	15 18 45.9	
	comp=Z,100nm,21.2s,baz=104,slow=36						
PETK	**Petropavlovsk-**	**15.36**	**288**	P	**P**	**15 13 15.8**	**+1.6**
OHAK	**Old Harbor**	**15.55**	**57**	Pn	**Pn**	**15 13 10.7**	**-1.8**
SVW2	**Sparrevohn**	**15.91**	**42**	P	**P**	**15 13 20.8**	**+0.5**
SVW2				IAmb	IAmb	15 13 29.4	
	comp=Z,13nm,1.1s						
KDAK	**Kodiak Island**	**16.06**	**55**	Pn	**Pn**	**15 13 16.1**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=292,slow=2.7,SNR=11						
KDAK				Sn	Sn	15 15 51.3	-24
	comp=Z,0.1nm,0.3s,baz=136,slow=16,SNR=1.1						
KDAK	**Kodiak Island**	**16.06**	**55**		**Pn**	**15 13 16.4**	**-2.7**
KDAK				IAmb	IAmb	15 13 28.5	
	comp=Z,16nm,0.8s						
TTA	**Tatalina**	**16.74**	**36**	Pn	**Pn**	**15 13 23.4**	**-4.3**
CNPM	**China Poot**	**17.23**	**50**	Pn	**Pn**	**15 13 33.1**	**-0.7**
CNPM				IAmb	IAmb	15 13 44.9	
	comp=Z,14nm,0.8s						
SKT	**Skwentna**	**18.04**	**42**		**P**	**15 13 44.7**	**+1.0**
PPLA	**Purkeypile**	**18.19**	**39**	P	**Pn**	**15 13 47.5**	**+1.8**
SEW	**Seward**	**18.27**	**49**	P	**Pn**	**15 13 46.8**	**+0.3**
SEW				IAmb	IAmb	15 13 57.3	
	comp=Z,14nm,0.8s						
BILL	**Bilibino**	**18.93**	**341**	P	**Pn**	**15 13 54.3**	**-0.1**
KTH	**Kantishna Hill**	**19.02**	**38**	P	**Pn**	**15 13 55.4**	**-0.2**
PWL	**Port Wells**	**19.03**	**47**	P	**Pn**	**15 13 56.2**	**+0.5**
TRF	**Thorofare Moun**	**19.22**	**39**	P	**P**	**15 13 56.8**	**-0.1**
TRF				IAmb	IAmb	15 14 11.1	
	comp=Z,15nm,1.1s						
BPAW	**Bear Paw Mtn.**	**19.27**	**37**	P	**Pn**	**15 13 58.8**	**+0.3**
BPAW				IAmb	IAmb	15 13 59.2	
	comp=Z,6.5nm,0.9s						
IMAR	**Indian Mountai**	**19.40**	**30**	P	**Pn**	**15 14 00.4**	**+0.4**
Q23K	**Middleton Isla**	**19.62**	**52**	P	**P**	**15 14 00.1**	**-0.9**
SCM	**Sheep Creek Mo**	**19.81**	**45**	P	**P**	**15 14 03.6**	**+0.3**
SCM				IAmb	IAmb	15 14 15.3	
	comp=Z,7.5nm,0.9s						
MLY	**Manley**	**19.85**	**34**	P	**Pn**	**15 14 04.7**	**-0.8**
MLY				IAmb	IAmb	15 14 13.5	
	comp=Z,5.3nm,0.9s						
FID	**Port Fidalgo**	**19.87**	**48**	P	**P**	**15 14 03.6**	**-0.3**
SEY	**Seymchan**	**20.11**	**318**	P	**P**	**15 14 06.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=124,slow=8.1,SNR=5.4						
NEA2	**Nenana**	**20.24**	**37**	P	**P**	**15 14 08.0**	**+0.2**
NEA2				IAmb	IAmb	15 14 23.4	
	comp=Z,11nm,1.4s						
WRH	**Wood River Hil**	**20.55**	**37**	P	**P**	**15 14 10.6**	**-0.6**
MDM	**Murphy Dome**	**20.73**	**36**	P	**P**	**15 14 12.9**	**-0.2**
MDM				IAmb	IAmb	15 14 25.6	
	comp=Z,6.5nm,0.8s						
CCB	**Clear Creek Bu**	**20.74**	**37**	P	**P**	**15 14 12.7**	**-0.6**
HDA	**Harding Lake**	**20.97**	**38**	P	**P**	**15 14 14.5**	**-1.2**
HDA				IAmb	IAmb	15 14 27.5	
	comp=Z,2.7nm,0.5s						
N25K	**Chitina, Valde**	**20.98**	**47**	P	Pn	15 14 19.1	+0.4
N25K				IAmb	IAmb	15 14 26.7	
	comp=Z,6.8nm,0.8s						
ILAR	**Eielson Array**	**21.15**	**37**	P	**P**	**15 14 15.1**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=233,slow=7.6,SNR=8.6						
COLD	**Coldfoot**	**21.28**	**30**	P	**P**	**15 14 19.2**	**+0.1**
COLD				IAmb	IAmb	15 14 32.4	
	comp=Z,5.2nm,1.0s						
DOT	**Dot Lake**	**21.84**	**41**	P	**P**	**15 14 24.3**	**-0.9**
SCRK	**Sand Creek**	**21.99**	**41**	P	**P**	**15 14 25.6**	**-1.2**
TOLK	**Toolik Lake Re**	**22.34**	**27**	P	**P**	**15 14 30.3**	**-0.1**
TOLK				IAmb	IAmb	15 14 38.3	
	comp=Z,7.2nm,1.1s						
L27K	**Beaver Creek,**	**22.62**	**44**	P	**P**	**15 14 34.0**	**+0.5**
BCAR	**Beaver Creek A**	**22.64**	**44**	P	**P**	**15 14 33.1**	**-0.6**
K27K	**Chicken**	**22.80**	**41**	P	**P**	**15 14 35.5**	**+0.2**
K27K				IAmb	IAmb	15 14 37.4	
	comp=Z,5.4nm,0.9s						
EGAK	**Eagle**	**23.42**	**40**	P	**P**	**15 14 40.8**	**-0.7**
EGAK				IAmb	IAmb	15 14 50.0	
	comp=Z,3.7nm,0.9s						
DAWY	**Dawson**	**23.94**	**42**	P	**P**	**15 14 46.2**	**-0.3**
KLR	**Kul'dur**	**32.05**	**287**	P	**P**	**15 15 58.7**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=73,slow=8.2,SNR=15						
H11N2	**WAKE ISLAND Hy**	**33.44**	**207**	T	T	15 53 00.1	
	baz=18,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**33.44**	**207**	T	T	15 53 00.7	
	baz=18,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**33.45**	**207**	T	T	15 53 01.6	
	baz=18,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**34.65**	**207**	T	T	15 54 24.6	
	baz=18,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**34.67**	**207**	T	T	15 54 25.2	
	baz=18,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**34.67**	**207**	T	T	15 54 09.2	
	baz=18,slow=76,SNR=20						
KSRS	**Korea Array**	**40.41**	**272**	LR	LR	15 34 20.8	
	comp=Z,11nm,19.6s,baz=160,slow=37						
PDAR	**Pinedale Array**	**45.73**	**73**	P	**P**	**15 17 55.2**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=306,slow=5.0,SNR=5.1						
PDAR	**Pinedale Array**	**45.73**	**73**	P	**P**	**15 17 54.5**	**+0.8**
SONM	**Songino Array**	**47.54**	**298**	P	**P**	**15 18 07.5**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=57,slow=8.6,SNR=5.9						
TXAR	**Lajitas Array**	**57.97**	**82**	P	**P**	**15 19 25.9**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=302,slow=6.9,SNR=1.7						
TXAR	**Lajitas Array**	**57.97**	**82**	P	**P**	**15 19 25.4**	**+0.5**
ARCES	**ARCESS Array B**	**58.69**	**351**	P	**P**	**15 19 28.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=26,slow=8.6,SNR=6.8						
ARCES	**ARCESS Array B**	**58.69**	**351**	P	**P**	**15 19 29.5**	**+0.3**
ARCES				IAmb	IAmb	15 19 39.1	
	comp=Z,1.9nm,0.9s						
KURK	**Kurchatov**	**59.90**	**314**	P	**P**	**15 19 37.8**	**0.0**
SCHQ	**Schefferville**	**59.90**	**39**	LR	LR	15 44 25.1	
	comp=Z,70nm,21.9s,baz=99,slow=35						
KURBB	**Kurchatov Arra**	**60.01**	**314**	P	**P**	**15 19 37.8**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=41,slow=6.7,SNR=8.8						
MKAR	**Makanchi Array**	**60.93**	**309**	P	**P**	**15 19 43.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=50,slow=6.7,SNR=6.4						
MKAR	**Makanchi Array**	**60.93**	**309**	P	**P**	**15 19 44.1**	**-0.9**
BVAR	**Borovoye Array**	**61.75**	**321**	P	**P**	**15 19 49.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=204,slow=3.3,SNR=7.4						
CMAR	**Chiang Mai Arr**	**71.82**	**277**	P	**P**	**15 20 54.4**	**-0

BUKP	**Musuan**	**3.30**	**207**	*e*P		**Pn**	**15 32 59.2**	**-0.8**
BUKP				*e*S		**Sn**	**15 33 44.6**	**+6.7**
RCP	**Roxas**	**3.81**	**281**⇑	*e*P		**Pn**	**15 33 08.9**	**+2.0**
LQP	**Lukban**	**5.88**	**304**⇓	*e*P		**Pn**	**15 33 35.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.74**	**289**	P		**P**	**15 37 54.6**	**-1.5**
	0.3nm,0.6s,baz=122,slow=6.5,SNR=2.0							
FITZ	**Fitzroy Crossi**	**28.77**	**182**	P		**P**	**15 38 05.1**	**-0.1**
	1.8nm,0.7s,baz=6.5,slow=8.3,SNR=2.3							
WRA	**Warramunga Arr**	**31.54**	**166**	P		**P**	**15 38 29.5**	**-0.2**
	0.2nm,0.6s,baz=342,slow=10.0,SNR=1.3							
ASAR	**Alice Springs**	**35.05**	**168**	P		**P**	**15 39 00.3**	**+0.1**
	0.4nm,0.7s,baz=354,slow=7.0,SNR=4.3							
MKAR	**Makanchi Array**	**51.74**	**322**	P		**P**	**15 41 15.0**	**+0.4**
	0.7nm,0.6s,baz=120,slow=8.6,SNR=8.6							
ZALV	**Zalesovo Beam**	**54.26**	**331**	P		**P**	**15 41 32.4**	**-0.6**
	1.4nm,0.7s,baz=108,slow=8.4,SNR=4.2							
FINES	**FINESS Array B**	**85.52**	**332**	P		**P**	**15 44 45.1**	**+0.3**
	3.4nm,0.9s,baz=116,slow=19,SNR=2.1							

IDC ***03*** *15:37:43.0±0.6, 10°.68N×126°.20E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.2/37, mbtmp4.3/17, MS2.9/2, Ms1 2.9/2, ms1mx2.6/42, Error ellipse: s-maj=28.3km s-min=11.8km az=78.0*

MAN ***03*** *15:37:43.6, 10°.88N×126°.70E, h38km, MS4.1*

NEIC ***03*** *15:37:46.9±1.4, 10°.75N±0°.08×126°.2E±0°.2, h17km±1km, mb4.6/32, Error ellipse: s-maj=21.4km s-min=11.5km az=85.0*

ISC 03 15:37:43.8±1.5, 10°.83N±0°.04×126°.35E±0°.05, h2km±9km, n93, σ1°53/99, mb4.5/32, 3C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLSP	**General Luna,**	**1.06**	**192**	*e*P		**Pg**	**15 38 04.1**	**0.0**
GLSP				*e*S		**Sn**	**15 38 26.4**	**+5.4**
BESP	**Borongan**	**1.18**	**311**	*e*P		**Pn**	**15 38 07.7**	**+0.5**
SCPH	**Surigao**	**1.34**	**219**	*i* P		**Pb**	**15 38 10.1**	**+0.5**
SCPH				*i* S		**Sn**	**15 38 28.3**	**+0.4**
MSLP	**Maasin**	**1.62**	**245**	*e*P		**Pg**	**15 38 14.9**	**+0.1**
MSLP				*e*S		**Sg**	**15 38 36.9**	**+1.1**
OCLP	**Ormoc**	**1.72**	**278**	*e*P		**Pg**	**15 38 17.1**	**+0.3**
BUTP	**Butuan**	**1.98**	**201**	*e*P		**Pn**	**15 38 17.8**	**-0.5**
BUTP				*e*S		**Sg**	**15 38 48.7**	**+1.1**
LLP	**Lapu-Lapu**	**2.40**	**258**⇓	*e*P		**Pb**	**15 38 27.7**	**+0.1**
LLP				*e*S		**Sb**	**15 38 56.8**	**-0.9**
CGP	**Cagayan de Oro**	**2.87**	**215**⇓	*i*P		**Pn**	**15 38 32.3**	**+1.8**
CGP				*e*S		**Sn**	**15 39 07.5**	**+1.9**
BUKP	**Musuan**	**3.19**	**203**	*e*P		**Pn**	**15 38 36.0**	**+1.0**
BUKP				*e*S		**Sb**	**15 39 21.3**	**+0.6**
SNPH	**Sibulan**	**3.40**	**245**	*e*P		**Pn**	**15 38 40.6**	**+2.7**
SNPH				*e*S		**Sg**	**15 39 33.1**	**0.0**
RCP	**Roxas**	**3.61**	**282**⇓	*e*P		**Pb**	**15 38 44.5**	**-3.8**
DCPH	**Dipolog City**	**3.70**	**233**⇑	*i*P		**Pn**	**15 38 44.2**	**+2.2**
DCPH				*e*S		**Sn**	**15 39 24.3**	**-1.9**
CNOP	**Candoni, Negro**	**3.78**	**255**⇑	*i*P		**Pn**	**15 38 45.6**	**+2.5**
CNOP				*i* S		**Sg**	**15 39 44.8**	**-0.6**
CNOP	**Candoni, Negro**	**3.78**	**255**	*e*P		**Pn**	**15 38 45.6**	**+2.5**
CNOP				*e*S		**Sn**	**15 39 29.8**	**+1.7**
DAV	**Davao City (W)**	**3.81**	**192**	Pn		**Pn**	**15 38 46.5**	**+3.0**
	29nm,0.3s,baz=237,slow=22,SNR=1.3							
DAV	**Davao City (W)**	**3.81**	**192**	Pn		**Pb**	**15 38 48.4**	**-3.4**
MATI	**Mati**	**3.86**	**181**	*e*P		**Pb**	**15 38 52.2**	**-0.4**
SCSP	**San Jose Seism**	**3.94**	**316**	*e*P		**Pn**	**15 38 47.4**	**+2.2**
PAGZ	**Pagadian**	**4.16**	**225**	*e*P		**Pn**	**15 38 51.6**	**+3.3**
DDMP	**Don Marcelino,**	**4.74**	**188**	*e*P		**Pb**	**15 39 05.2**	**-2.3**
JCNP	**Jose Panganiba**	**4.95**	**314**	*e*P		**Pn**	**15 39 00.9**	**+1.8**
BOAC	**Boac**	**5.12**	**301**	*e*P		**Pn**	**15 39 03.5**	**+2.0**
LQP	**Lukban**	**5.72**	**305**⇓	*e*P		**Pn**	**15 39 12.6**	**+2.7**
SMPP	**San Manuel, Pa**	**7.64**	**314**	*e*P		**Pn**	**15 39 37.7**	**+1.6**
CVP	**Callao Caves**	**8.12**	**328**⇑	*e*P		**Pn**	**15 39 43.2**	**+0.6**
CVP				*i* S		Sn	15 40 38.0	-37
SIJI	**Sorong**	**12.61**	**157**	LR		LR	15 45 47.9	
	comp=Z,68nm,20.0s,baz=146,slow=39							
FAKI	**Fak Fak**	**14.87**	**156**	Pn		**Pn**	**15 41 12.6**	**-2.6**
GUMO	**Guam**	**18.31**	**80**	LR		LR	15 47 16.5	
	comp=Z,40nm,21.4s,baz=118,slow=31							
BATI	**Baumata**	**21.07**	**187**	P		**P**	**15 42 27.0**	**-2.4**
	46nm,0.6s,baz=8.0,slow=4.9,SNR=6.3							
MTN	**Manton Dam**	**24.00**	**168**	P		**P**	**15 43 00.4**	**+0.5**
MTN				IAmb		IAmb	15 43 11.0	
	comp=Z,23nm,1.1s							
JHS	**Saijyo**	**24.84**	**13**	P		**P**	**15 43 08.6**	**+1.0**
KNRA	**Kununurra**	**26.44**	**175**	P		**P**	**15 43 22.7**	**+0.5**
KNRA				IAmb		IAmb	15 43 29.8	
	comp=Z,22nm,1.1s							
KSRS	**Korea Array**	**26.55**	**3**	P		**P**	**15 43 23.4**	**+0.5**
	comp=Z,2.7nm,1.0s,baz=179,slow=9.8,SNR=8.8							
CM31	**Chiang Mai Arr**	**27.55**	**289**	P		**P**	**15 43 32.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.55**	**289**	P		**P**	**15 43 31.4**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=109,slow=7.4,SNR=11							
CMAR				ScP		**ScP**	**15 50 29.6**	**-2.7**
	comp=Z,0.2nm,0.4s,baz=77,slow=3.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**27.55**	**289**	P		**P**	**15 43 30.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**28.75**	**181**	P		**P**	**15 43 41.5**	**-1.3**
	comp=Z,6.5nm,0.8s,baz=42,slow=6.2,SNR=8.2							
FITZ	**Fitzroy Crossi**	**28.75**	**181**	P		**P**	**15 43 42.6**	**-0.3**
FITZ				IAmb		IAmb	15 43 47.5	
	comp=Z,7.6nm,0.9s							
WB0	**Warramunga Arr**	**31.42**	**165**	P		**P**	**15 44 05.7**	**-0.8**
WB0				IAmb		IAmb	15 44 23.4	
	comp=Z,8.4nm,1.4s							
WRA	**Warramunga Arr**	**31.57**	**166**	P		**P**	**15 44 05.7**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=348,slow=9.2,SNR=5.3							
WRA				PcP		**PcP**	**15 46 59.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=336,slow=2.9,SNR=5.9							
WRA	**Warramunga Arr**	**31.57**	**166**	P		**P**	**15 44 07.2**	**-0.7**
WB2	**Warramunga Arr**	**31.58**	**166**	P		**P**	**15 44 07.3**	**-0.6**
WB2				IAmb		IAmb	15 44 12.1	
	comp=Z,12nm,1.2s							
WR0	**Warramunga Arr**	**31.64**	**165**	P		**P**	**15 44 08.4**	**-0.1**
WR0				IAmb		IAmb	15 44 23.9	
	comp=Z,11nm,1.2s							
PSA00	**Pilbara Seismi**	**32.83**	**191**	P		**P**	**15 44 17.6**	**-1.3**
USA0B	**Ussuriysk Arra**	**33.60**	**7**	P		**P**	**15 44 27.3**	**+1.8**
USA0B				IAmb		IAmb	15 44 27.4	
	comp=Z,7.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**33.60**	**7**	P		**P**	**15 44 26.1**	**+0.7**
	comp=Z,6.7nm,0.7s,baz=196,slow=7.7,SNR=12							
AS31	**Alice Springs**	**35.07**	**168**	P		**P**	**15 44 37.0**	**-1.4**
ASAR	**Alice Springs**	**35.07**	**168**	P		**P**	**15 44 37.0**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=348,slow=7.2,SNR=19							
ASAR				PcP		**PcP**	**15 47 09.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=348,slow=2.6,SNR=8.0							
H11S3	**WAKE ISLAND Hy**	**39.69**	**74**	T		T	16 28 09.9	
	SNR=4.0							
H11S1	**WAKE ISLAND Hy**	**39.71**	**74**	T		T	16 28 12.8	
H11S2	**WAKE ISLAND Hy**	**39.71**	**74**	T		T	16 28 12.8	
H11N1	**WAKE ISLAND Hy**	**40.01**	**72**	T		T	16 28 41.2	
	baz=264,slow=74,SNR=9.9							
H11N2	**WAKE ISLAND Hy**	**40.02**	**72**	T		T	16 28 37.6	
	baz=264,slow=74,SNR=6.5							
H11N3	**WAKE ISLAND Hy**	**40.03**	**72**	T		T	16 28 41.5	
	baz=264,slow=74,SNR=7.7							
ULN	**Ulaanbaatar**	**40.33**	**340**	P		**P**	**15 45 23.8**	**+1.0**
SONM	**Songino Array**	**40.52**	**339**	P		**P**	**15 45 25.4**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=168,slow=10,SNR=5.8							
MORW	**Morawa**	**40.89**	**194**	P		**P**	**15 45 25.7**	**-1.8**
MORW				IAmb		IAmb	15 45 29.1	
	comp=Z,12nm,0.8s							
FORT	**Forrest**	**41.40**	**178**	P		**P**	**15 45 31.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**44.37**	**191**	P		**P**	**15 45 55.1**	**-0.6**
BBOO	**Buckleboo**	**44.37**	**168**	P		**P**	**15 45 55.3**	**-0.4**
TLY	**Talaya**	**44.74**	**340**	P		**P**	**15 45 59.8**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=166,slow=5.3,SNR=10.0							
STKA	**Stephens Creek**	**44.91**	**162**	P		**P**	**15 45 58.8**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=333,slow=6.9,SNR=9.7							
STKA	**Stephens Creek**	**44.91**	**162**	P		**P**	**15 45 59.7**	**-0.3**
PETK	**Petropavlovsk-**	**49.10**	**25**	P		**P**	**15 46 34.2**	**+1.6**
	comp=Z,2.6nm,0.6s,baz=225,slow=2.3,SNR=9.9							
PETK	**Petropavlovsk-**	**49.10**	**25**	P		**P**	**15 46 34.0**	**+1.5**
CAN	**Canberra**	**50.66**	**156**	P		**P**	**15 46 46.6**	**+1.9**
CAN				IAmb		IAmb	15 46 48.9	
	comp=Z,13nm,1.0s							
TOO	**Toolangi**	**51.38**	**161**	P		**P**	**15 46 50.9**	**+0.8**
TOO				IAmb		IAmb	15 46 54.2	
	comp=Z,11nm,1.2s							
MK31	**Makanchi Array**	**51.63**	**322**	P		**P**	**15 46 52.3**	**+0.4**
MK31				IAmb		IAmb	15 46 53.5	
	comp=Z,3.8nm,0.8s							
MKAR	**Makanchi Array**	**51.63**	**322**	P		**P**	**15 46 52.0**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=119,slow=8.4,SNR=61							
MKAR	**Makanchi Array**	**51.63**	**322**	P		**P**	**15 46 52.3**	**+0.4**
MAKZ	**Makanchi**	**51.83**	**322**	P		**P**	**15 46 53.5**	**+0.2**
MAKZ				IAmb		IAmb	15 46 54.5	
	comp=Z,3.2nm,0.7s							
KDJ	**Kajisay**	**52.94**	**315**	P		**P**	**15 47 01.7**	**-0.2**
BOOM	**Boomskoye usch**	**53.93**	**315**	P		**P**	**15 47 08.3**	**-0.8**
ZAA0	**Zalesovo Array**	**54.17**	**331**	P		**P**	**15 47 10.1**	**-0.3**
ZAA0				IAmb		IAmb	15 47 11.7	
	comp=Z,4.9nm,0.8s							
ZALV	**Zalesovo Beam**	**54.17**	**331**	P		**P**	**15 47 10.3**	**-0.2**
	comp=Z,5.9nm,0.8s,baz=119,slow=7.0,SNR=19							
KKAR	**Karatay Array**	**57.91**	**314**	P		**P**	**15 47 37.2**	**-0.3**
TIXI	**Tiksi**	**60.80**	**1**	P		**P**	**15 47 57.5**	**+0.7**
TIXI				IAmb		IAmb	15 47 57.7	
	comp=Z,3.2nm,0.9s							
BRVK	**Borovoye**	**61.32**	**325**	P		**P**	**15 48 01.4**	**+0.6**
BRVK				IAmb		IAmb	15 48 06.1	
	comp=Z,4.5nm,0.8s							
ABKAR	**Akbulak array**	**66.50**	**319**	P		**P**	**15 48 35.0**	**0.0**
BKZ	**Black Stump Fm**	**68.16**	**140**	P		**P**	**15 48 45.7**	**0.0**
ARU	**Arti**	**68.80**	**327**	P		**P**	**15 48 49.1**	**-0.3**
IMAR	**Indian Mountai**	**76.07**	**25**	P		**P**	**15 49 33.7**	**+1.1**
TOLK	**Toolik Lake Re**	**77.83**	**22**	P		**P**	**15 49 43.9**	**+1.4**
TOLK				IAmb		IAmb	15 49 44.2	
	comp=Z,3.2nm,0.9s							
ILAR	**Eielson Array**	**78.91**	**26**	P		**P**	**15 49 48.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=260,slow=5.4,SNR=3.8							
KLMR	**Klimovskoe**	**79.08**	**330**	*e*P		**P**	**15 49 48.4**	**-1.1**
KLMR				AMP			15 49 49.7	
	comp=Z,14nm,0.8s							
BMAR	**Burnt Mountain**	**79.73**	**23**	P		**P**	**15 49 54.9**	**+1.9**
ARCES	**ARCESS Array B**	**83.70**	**340**	P		**P**	**15 50 13.8**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=78,slow=7.6,SNR=6.5							
ARCES	**ARCESS Array B**	**83.70**	**340**	P		**P**	**15 50 13.7**	**-0.1**
BRTR	**Keskin Array B**	**85.24**	**309**	P		**P**	**15 50 20.9**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=66,slow=2.1,SNR=3.7							
FINES	**FINESS Array B**	**85.44**	**332**	P		**P**	**15 50 22.1**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=80,slow=4.0,SNR=8.8							
FINES	**FINESS Array B**	**85.44**	**332**	P		**P**	**15 50 22.3**	**-0.5**
PLCA	**Paso Flores**	**146.69**	**156**	PKPbc		**PKPbc**	**15 57 27.6**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=274,slow=3.7,SNR=9.2							
PLCA	**Paso Flores**	**146.69**	**156**			**PKPdf**	**15 57 26.8**	**+0.8**

IDC 03 15:52:26.2±4.2, 8°.13S×149°.83E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/31, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=104.9km s-min=33.6km az=114.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**2.93**	**244**	Pn		Pn	15 53 15.3	+1.2
	1.0nm,0.3s,baz=267,slow=11,SNR=1.6							
WRA	**Warramunga Arr**	**19.05**	**230**	P		P	15 56 49.3	-0.9
	0.1nm,0.3s,baz=55,slow=11,SNR=9.3							
ASAR	**Alice Springs**	**21.72**	**223**	P		P	15 57 19.3	+0.1
	0.2nm,0.7s,baz=55,slow=9.6,SNR=4.3							
SONM	**Songino Array**	**67.63**	**330**	P		P	16 03 25.1	0.0
	1.0nm,0.5s,baz=114,slow=6.5,SNR=2.5							

SOME ***03*** *16:12:22.3, 40°.97N×74°.87E, h0km*

NNC ***03*** *16:12:23.9±1.0, 40°.92N×74°.90E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=6.9km s-min=5.1km az=168.0*

KRNET ***03*** *16:12:23.3±0.1, 40°.95N×74°.90E, h13km, mb2.5*

ISC 03 16:12:22.4±1.2, 40°.95N±0°.04×74°.91E±0°.03, h18km±4km, n41, σ1°20/69, 24C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARLS	**Aral**	**1.01**	**335**⇑	*i*P		**Pn**	**16 12 42.2**	**+0.4**
	baz=35							
ARLS				⇑*i*S		**Sn**	**16 12 56.0**	**+0.4**
	baz=35							
SFK	**Sufi-Kurgan**	**1.42**	**229**⇑	*i*P		**Pg**	**16 12 49.6**	**-0.2**
	baz=29							
SFK				⇑*i*S		**Sg**	**16 13 08.7**	**+0.3**
	baz=29							
AML	**Almayashu**	**1.49**	**323**⇑	*i*P		**Pg**	**16 12 51.3**	**+0.1**
	baz=23							
AML				⇑*i*S		**Sg**	**16 13 11.4**	**+0.7**
	baz=23							
ARSB	**Arslanbob**	**1.50**	**285**⇑	*i*P		**Pg**	**16 12 51.9**	**+0.6**
	baz=85							
ARSB				⇑*i*S		**Sg**	**16 13 12.0**	**+1.1**
	baz=85							
ULHL	**Ulahol**	**1.64**	**37**⇓	*i*P		**Pg**	**16 12 53.9**	**-0.1**
	baz=38							
ULHL				⇓*i*S		**Sg**	**16 13 16.0**	**+0.7**
	baz=38							
OHH	**Osh**	**1.67**	**256**⇓	*i*P		**Pg**	**16 12 54.8**	**+0.3**
	baz=56							
OHH				⇓*i*S		**Sg**	**16 13 16.8**	**+0.6**
	baz=56							
KBK	**Karagaybulak**	**1.71**	**1**⇑	*i*P		**Pg**	**16 12 55.2**	**-0.1**
	baz=1.0							
KBK				⇑*i*S		**Sg**	**16 13 17.9**	**+0.4**
	baz=1.0							
BOOM	**Boomskoye usch**	**1.72**	**26**⇑	*i*P		**Pg**	**16 12 55.4**	**-0.2**
	baz=27							
BOOM				⇑*i*S		**Sg**	**16 13 18.9**	**+0.9**
	baz=27							
TKM2	**Tokmak 2**	**2.04**	**14**⇑	*i*P		**Pg**	**16 13 00.7**	**-0.9**
	baz=15							
TKM2				⇑*i*S		**Sg**	**16 13 28.1**	**+0.1**
	baz=15							
TKM2	**Tokmak 2**	**2.04**	**14**	⇓Pg		**Pg**	**16 13 02.2**	**+0.7**
	3.0nm,0.4s							
TKM2				⇓Lg		Lg	16 13 31.1	
	14nm,0.6s							
CHMS	**Chumysh**	**2.05**	**357**⇑	*e*P		**Pg**	**16 13 00.7**	**-1.1**
	baz=57							
CHMS				⇑*i*S		**Sg**	**16 13 28.1**	**-0.4**
	baz=57							
KDJ	**Kajisay**	**2.08**	**55**⇑	*e*P		**Pg**	**16 13 01.7**	**-0.6**
	baz=55							
KDJ				⇑*i*S		**Sg**	**16 13 29.5**	**+0.2**
	baz=55							
MRKS	**Merke**	**2.19**	**326**	*e*P		**Pg**	**16 13 03.7**	**-0.8**
	8.3nm,0.3s							
MRKS				*e*S		**Sg**	**16 13 33.0**	**+0.1**
	19nm,0.3s							
MRKS	**Merke**	**2.19**	**326**	Pg		**Pg**	**16 13 04.2**	**-0.2**
	8.3nm,0.3s							
MRKS				Lg		Lg	16 13 34.1	
	19nm,0.3s							
KST	**Kastek**	**2.24**	**20**	*e*P		**Pg**	**16 13 05.2**	**-0.1**
	2.8nm,0.2s							
KST				*e*S		**Sg**	**16 13 35.7**	**+1.3**
	19nm,0.3s							
KST	**Kastek**	**2.24**	**20**	Pg		**Pg**	**16 13 05.2**	**-0.1**
	2.8nm,0.2s							
KST				Lg		Lg	16 13 35.7	
	19nm,0.3s							
USP	**Ospenovka**	**2.34**	**353**⇓	*e*P		**Pb**	**16 13 04.8**	**+0.8**
	baz=53							
USP				⇓*i*S		**Sg**	**16 13 35.1**	**-2.5**
	baz=53							
MNAS	**Manas**	**2.37**	**311**⇑	*i*P		**Pb**	**16 13 05.3**	**+0.8**
	baz=11							
MNAS				⇑*i*S		**Sg**	**16 13 35.9**	**-2.6**
	baz=11							
DGS	**Degeres**	**2.38**	**15**	*e*P		**Pg**	**16 13 08.1**	**0.0**
	5.8nm,0.2s							
DGS				*e*S		**Sg**	**16 13 41.0**	**+2.0**
	11nm,0.4s							
DGS	**Degeres**	**2.38**	**15**	Pg		**Pg**	**16 13 08.1**	**0.0**
	5.8nm,0.2s							
DGS				Lg		Lg	16 13 41.0	
	11nm,0.4s							
IZV	**Izvestkoviy**	**2.44**	**31**	*e*P		**Pg**	**16 13 10.2**	**+0.9**
	2.9nm,0.4s							
IZV				*e*S		**Sg**	**16 13 44.5**	**+3.5**
	19nm,0.3s							
IZV	**Izvestkoviy**	**2.44**	**31**	Pg		**Pg**	**16 13 10.1**	**+0.9**
	2.9nm,0.4s							
IZV				Lg		Lg	16 13 44.5	
	19nm,0.3s							
MTBS	**Maitube**	**2.46**	**27**	*e*P		**Pg**	**16 13 09.7**	**+0.1**
	1.6nm,0.1s							
MTBS				*e*S		**Sg**	**16 13 43.4**	**+2.0**
	16nm,0.4s							
MTBS	**Maitube**	**2.46**	**27**	Pg		**Pg**	**16 13 09.7**	**+0.1**
	1.6nm,0.1s							
MTBS				Lg		Lg	16 13 43.4	
	16nm,0.4s							
SGDS	**Sogindy**	**2.51**	**355**	Pg		**Pg**	**16 13 10.0**	**-0.5**
	6.1nm,0.4s							
SGDS				Lg		Lg	16 13 44.2	
	6.8nm,0.5s							
MDOK	**Medeo**	**2.73**	**35**	*e*P		**Pg**	**16 13 14.2**	**-0.5**
	2.1nm,0.2s							
MDOK				*e*S		**Sg**	**16 13 51.2**	**+1.1**
	14nm,0.7s							
MDOK	**Medeo**	**2.73**	**35**	Pg		**Pg**	**16 13 14.2**	**-0.5**
	2.1nm,0.2s							
MDOK				Lg		Lg	16 13 51.2	
	14nm,0.7s							
ANVS	**Anan'yevo**	**2.76**	**47**⇑	*i*P		**Pb**	**16 13 11.2**	**-0.1**
	baz=48							
ANVS				⇑*i*S		**Sb**	**16 13 45.5**	**+0.7**
	baz=48							
KRBS	**Karabastau**	**2.80**	**11**	*e*P		**Pg**	**16 13 15.4**	**-0.8**
	3.0nm,0.2s							
KRBS				*e*S		**Sg**	**16 13 53.7**	**+1.1**
	17nm,0.3s							
KRBS	**Karabastau**	**2.80**	**11**	Pg		**Pg**	**16 13 15.4**	**-0.8**
	3.0nm,0.2s							
KRBS				Lg		Lg	16 13 53.7	
	17nm,0.3s							
KOTS	**Kotyrbulak**	**2.81**	**35**	*e*P		**Pg**	**16 13 16.4**	**+0.1**
	6.4nm,0.4s							
KOTS				*e*S		**Sg**	**16 13 55.4**	**+2.6**
	0.8nm,0.6s							
KOTS	**Kotyrbulak**	**2.81**	**35**	Pg		**Pg**	**16 13 16.4**	**+0.1**
	6.4nm,0.4s							
KOTS				Lg		Lg	16 13 55.4	
	0.8nm,0.6s							
TRKS	**Terek-Say**	**2.90**	**283**⇑	*e*P		**Pb**	**16 13 12.4**	**-1.2**
	baz=81							
TRKS				⇑*i*S		**Sb**	**16 13 48.2**	**-0.6**
	baz=81							
KTBS	**Karatobe**	**3.06**	**25**	*e*P		**Pg**	**16 13 19.8**	**-1.2**
	1.9nm,0.2s							
KTBS				*e*S		**Sg**	**16 14 01.3**	**+0.6**
	31nm,0.5s							
KTBS	**Karatobe**	**3.06**	**25**	Pg		**Pg**	**16 13 19.8**	**-1.2**
	1.9nm,0.2s							
KTBS				Lg		Lg	16 14 01.3	
	31nm,0.5s							
KUU	**Kurty**	**3.13**	**19**	*e*P		**Pg**	**16 13 21.0**	**-1.3**
	3.2nm,0.1s							
KUU				*e*S		**Sg**	**16 14 03.1**	**+0.2**
	11nm,0.6s							
KUU	**Kurty**	**3.13**	**19**	Pg		**Pg**	**16 13 21.0**	**-1.3**
	3.2nm,0.1s							
KUU				Lg		Lg	16 14 03.1	
	11nm,0.6s							
CHKK	**Chushkaly**	**3.29**	**27**	*e*P		**Pg**	**16 13 24.0**	**-1.4**
	1.4nm,0.1s							
CHKK				*e*S		**Sg**	**16 14 08.3**	**+0.4**
	9.3nm,0.3s							
CHKK	**Chushkaly**	**3.29**	**27**	Pg		**Pg**	**16 13 24.0**	**-1.4**
	1.4nm,0.1s							
CHKK				Lg		Lg	16 14 08.3	
	9.3nm,0.3s							
KPKS	**Kokpek**	**3.77**	**47**	*e*P		**Pg**	**16 13 32.0**	**-2.5**
	2.8nm,0.5s							
KPKS				*e*S		**Sg**	**16 14 21.7**	**-1.7**
	6.7nm,0.4s							
ARXS	**Arharly**	**3.91**	**33**	*e*P		**Pg**	**16 13 34.3**	**-3.0**
	1.5nm,0.5s							
ARXS				*e*S		**Sg**	**16 14 25.5**	**-2.5**
	5.7nm,0.4s							

NEIC ***03*** *16:36:27.1±1.9, 24°.05S±0°.1×179°.7W±0°.1, h503km±7km, mb4.3/22, Error ellipse: s-maj=18.2km s-min=15.5km az=114.0*

IDC ***03*** *16:36:27.6±2.6, 24°.04S×179°.84W, h505km±23km, mb3.2/5, mb1 3.4/7, mb1mx3.1/26, mbtmp4.2/7, Error ellipse: s-maj=42.3km s-min=20.2km az=119.0*

ISC 03 16:36:27.1±0.6, 23°.97S±0°.07×179°.8W±0°.1, h500km, n43, σ1°22/42, mb4.1/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**5.52**	**163**	P		**P**	**16 38 00.6**	**+1.8**
MSVF	**Nonsavu**	**6.53**	**341**	P		**P**	**16 38 09.8**	**+0.9**
	4.4nm,0

*GUC **03** 16:40:58.0±0.6,22.°65S×68.°85W, h98km±3km, ML3.9*
ISC 03 16:40:58.3±1.0,22.°67S±0.°04×68.°80W±0.°07, h94km±6km, n20, σ0.°87/34, 8C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.12**	**299**	P	**Pn**	**16 41 11.9**	**-0.1**
	2μm,0.3s,baz=85,slow=8.5						
LVC				S	**Sn**	**16 41 21.6**	**-0.5**
	2μm,0.3s,baz=318,slow=21,SNR=25						
LVC	**Limon Verde**	**0.12**	**299**	*i* P	**Pn**	**16 41 12.1**	**+0.1**
LVC				*i* S	**Sn**	**16 41 21.9**	**-0.3**
PB06	**IPOC Station P**	**0.71**	**267**	*e* P	**Pn**	**16 41 15.5**	**+0.1**
PB06				*i* S	**Sn**	**16 41 28.8**	**+0.5**
PB06				IAML		16 41 32.5	
	comp=N,4μm,0.3s						
PB15	**IPOC Station P**	**0.82**	**229**	*i* P	**Pn**	**16 41 17.1**	**+0.5**
PB15				*e* S	**Sn**	**16 41 31.2**	**+1.0**
PB09	**IPOC Station P**	**0.96**	**335**	*e* P	**Pn**	**16 41 18.3**	**+0.3**
PB09				*e* S	**Sn**	**16 41 33.3**	**+0.6**
PB09				IAML		16 41 34.9	
	comp=N,4μm,0.5s						
PB04	**IPOC Station P**	**1.29**	**285**	*e* P	**Pn**	**16 41 21.7**	**-0.1**
PB04				*e* S	**Sn**	**16 41 39.6**	**+0.1**
PB04				IAML		16 41 45.9	
	comp=N,3μm,0.2s						
PB05	**IPOC Station P**	**1.31**	**262**	*e* P	**Pn**	**16 41 21.9**	**-0.1**
PB05				*i* S	**Sn**	**16 41 39.9**	**+0.1**
PB05				IAML		16 41 44.0	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.37**	**313**	*i* P	**Pn**	**16 41 22.9**	**+0.1**
PB07				*i* S	**Sn**	**16 41 41.7**	**+0.4**
PB07				IAML		16 41 44.8	
	comp=E,4μm,0.3s						
PB01	**IPOC Station P**	**1.74**	**338**	*e* P	**Pn**	**16 41 27.6**	**+0.3**
PB01				*e* S	**Sn**	**16 41 50.0**	**+0.6**
PB01				IAML		16 41 53.3	
	comp=E,3μm,0.3s						
PB10	**IPOC Station P**	**1.82**	**242**	*e* P	**Pn**	**16 41 28.6**	**+0.3**
PB10				*i* S	**Sn**	**16 41 49.2**	**-2.0**
PB10				IAML		16 41 58.9	
	comp=N,1μm,0.3s						
PATCX	**Punta Patache**	**2.23**	**325**	*e* P	**Pn**	**16 41 33.3**	**-0.4**
PATCX				*e* S	**Sn**	**16 42 01.1**	**+0.4**
PATCX				IAML		16 42 10.0	
	comp=E,1μm,0.2s						
PB14	**IPOC Station P**	**2.44**	**217**	*e* P	**Pn**	**16 41 36.5**	**-0.2**
PB14				*e* S	**Sn**	**16 42 06.3**	**+0.1**
PB14				IAML		16 42 15.5	
	comp=N,497nm,0.3s						
PB08	**IPOC Station P**	**2.53**	**353**	*e* P	**Pn**	**16 41 38.6**	**+0.6**
PB08				*e* S	**Sn**	**16 42 09.3**	**+0.9**
HMBC	**Humberstone**	**2.58**	**337**	*e* P	**Pn**	**16 41 37.5**	**-1.0**
GO02	**Mina Guanaco**	**2.59**	**196**	*i* P	**Pn**	**16 41 38.9**	**+0.2**
GO02				*e* S	**Sn**	**16 42 10.7**	**+1.1**
GO02				IAML		16 42 21.4	
	comp=N,1μm,0.2s						
LPAZ	**La Paz**	**6.38**	**6**	P	**Pn**	**16 42 31.9**	**+1.7**
	comp=N,1.0nm,0.3s,baz=200,slow=5.9,SNR=21						
SIV	**San Ignacio**	**9.86**	**49**	P		**16 43 14.2**	**-3.0**
	comp=N,2.5nm,0.3s,baz=252,slow=11,SNR=43						
SIV				S	Sn	16 44 57.1	-9.1
	comp=N,0.2nm,0.3s,baz=315,slow=22,SNR=1.6						
ASAR	**Alice Springs**	**128.93**	**207**	PKP	**PKPdf**	**16 59 55.6**	**-0.2**
	comp=N,0.3nm,0.9s,baz=135,slow=1.3,SNR=1.7						
WRA	**Warramunga Arr**	**132.00**	**210**	PKP	**PKPdf**	**17 00 01.8**	**+0.1**
	comp=N,0.6nm,0.7s,baz=152,slow=1.6,SNR=8.0						
MKAR	**Makanchi Array**	**146.51**	**37**	PKPbc	**PKPdf**	**17 00 27.6**	**+0.5**
	comp=N,0.4nm,0.5s,baz=303,slow=4.0,SNR=7.9						

ROM 03 16:46:09.8±0.1,37.°796N±0.°004×14.°841E±0.°008, h30km±1km, ML2.4/17, 6C-5D, Error ellipse: s-maj=0.6km s-min=0.3km az=91.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPZF	**Pizza Felice**	**0.03**	**25**	*i* P	**Pb**	16 46 14.5	-0.5
EPZF				S	Sb	16 46 18.7	+0.2
EPZF				AML	AML		
	comp=N,7640μm,0.6s						
EPZF				AML	AML		
	comp=E,8255μm,0.5s						
EMSG	**Monte Spagnolo**	**0.09**	**74**	P	Pb	16 46 14.8	-0.4
EMSG				AML	AML		
	comp=E,2880μm,0.4s						
EMSG				AML	AML		
	comp=N,2070μm,1.6s						
ESLN	**Serra La Nave**	**0.15**	**134**	P	Pb	16 46 15.6	-0.1
MNO	**Monte Soro**	**0.18**	**320**	P	Pb	16 46 15.6	-0.4
MNO				S	Sb	16 46 20.4	+0.2
MNO				AML	AML		
	comp=E,1100μm,0.4s						
MNO				AML	AML		
	comp=N,2090μm,0.8s						
MNO				AML	AML		
	comp=N,2095μm,0.8s						
MNO				AML	AML		
	comp=E,1102μm,0.4s						
ESML	**S. M. di Licod**	**0.18**	**171**	*i* P	Pb	16 46 16.0	+0.2
ESML				AML	AML		
	comp=N,1054μm,0.8s						
ESML				AML	AML		
	comp=N,1054μm,0.8s						
ESML				AML	AML		
	comp=E,830μm,0.7s						
ECNV	**Catenanuova**	**0.22**	**207**	P	Pn	16 46 17.5	+0.3
GALF	**Gagliano Caste**	**0.23**	**249**	*i* P	Pb	16 46 16.7	+0.3
GALF				AML	AML		
	comp=N,658μm,1.2s						
GALF				AML	AML		
	comp=N,658μm,1.2s						
GALF				AML	AML		
	comp=E,726μm,0.5s						
MUCR	**Ucria**	**0.25**	**6**	*i* P	Pb	16 46 16.2	-0.5
MUCR				S	Sb	16 46 21.4	0.0
MUCR				AML	AML		
	comp=E,394μm,1.4s						
MUCR				AML	AML		
	comp=N,649μm,0.4s						
MSFR	**San Fratello**	**0.31**	**320**	P	Pb	16 46 17.4	0.0
MSFR				S	Sn	16 46 23.4	-0.5
MSFR				AML	AML		
	comp=N,355μm,1.1s						
MSFR				AML	AML		
	comp=E,464μm,0.4s						
NOV	**Novara**	**0.33**	**45**	*i* P	Pb	16 46 17.7	0.0
NOV				S	Sb	16 46 23.5	+0.4
NOV				AML	AML		
	comp=E,551μm,0.9s						
NOV				AML	AML		
	comp=N,437μm,0.8s						
AIO	**Antillo**	**0.36**	**60**	*i* P	Pb	16 46 18.4	+0.3
AIO				S	Sn	16 46 24.5	-0.6
MCSR	**Castroreale**	**0.42**	**50**	*i* P	Pb	16 46 19.0	-0.1
MCSR				S	Sb	16 46 25.8	+0.4
MCSR				AML	AML		
	comp=N,1245μm,0.4s						
MCSR				AML	AML		
	comp=E,932μm,1.3s						
HLNI	**Lentini**	**0.45**	**177**	*i* P	Pb	16 46 19.3	-0.1
HLNI				S	Sn	16 46 26.6	-0.7
HLNI				AML	AML		
	comp=E,826μm,0.1s						
HLNI				AML	AML		
	comp=N,980μm,0.5s						
HAGA	**Augusta**	**0.57**	**154**	*i* P	Pb	16 46 21.0	-0.4
HAGA				S	Sb	16 46 29.5	+0.4
HAGA				AML	AML		
	comp=N,447μm,0.3s						
HAGA				AML	AML		
	comp=E,625μm,0.5s						
VPL	**Vulcano Piano**	**0.59**	**11**	P	Pb	16 46 21.7	-0.1
VPL				AML	AML		
	comp=E,1062μm,0.4s						
VPL				AML	AML		
	comp=N,1390μm,0.4s						
SSY	**Sortino**	**0.67**	**164**	*i* P	Pb	16 46 22.8	-0.2
SSY				S	Sn	16 46 33.1	+0.4
SSY				AML	AML		
	comp=E,470μm,0.8s						
SSY				AML	AML		
	comp=N,778μm,0.6s						
RAFF	**Raffo Rosso**	**0.69**	**214**	P	Pn	16 46 23.9	+0.4
RAFF				AML	AML		
	comp=N,169μm,0.4s						
RAFF				AML	AML		
	comp=E,162μm,0.7s						
MEU	**Monte Lauro**	**0.70**	**174**	*i* P	Pb	16 46 22.9	-0.7
MEU				S	Sn	16 46 33.3	-0.3
MEU				AML	AML		
	comp=E,718μm,0.2s						
MEU				AML	AML		
	comp=N,830μm,0.7s						
IACL	**Alicudi**	**0.83**	**333**	P	Pb	16 46 25.9	+0.2
IACL				AML	AML		
	comp=E,225μm,0.4s						
IACL				AML	AML		
	comp=N,228μm,0.5s						
MPAZ	**Palizzi**	**0.94**	**80**	P	Pb	16 46 28.1	+0.6
MPAZ				S	Sb	16 46 40.3	+0.7
MPAZ				AML	AML		
	comp=E,67μm,0.4s						
MPAZ				AML	AML		
	comp=N,117μm,1.2s						
SERS	**Sersale**	**1.91**	**49**	P	Pn	16 46 41.9	+1.4
CET2	**Cetraro**	**1.94**	**26**	P	Pn	16 46 42.0	+1.3
PZUN	**Potenza**	**2.94**	**14**	*i* P	Pn	16 46 53.4	-1.1
PZUN				S	Sn	16 47 22.0	-6.8
MCRV	**Calabrutti - M**	**2.99**	**5**	S	Sb	16 47 40.0	+1.3
LIK	**San Giovanni I**	**3.83**	**345**	P	Pb	16 47 14.5	-2.3

RSPR 03 16:48:14.2,19.°12N×66.°48W, h37km±3km, MD2.7/7, 3C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.64**	**184**	*e* P	Pn	16 48 25.6	-1.3
EMPR	**Esperanza - Ma**	**0.64**	**184**	*e* S	Sn	16 48 34.3	-1.4
EMPR	**Esperanza - Ma**	**0.64**	**184**		Pn	16 48 25.4	-1.5
EMPR				IAML		16 48 35.5	
	comp=N,261nm,0.2s						
AOPR	**Arecibo Observ**	**0.81**	**199**	*e* P	Pn	16 48 27.7	-1.4
AOPR	**Arecibo Observ**	**0.81**	**199**	*e* S	Sn	16 48 38.3	-1.6
AOPR	**Arecibo Observ**	**0.81**	**199**		Pn	16 48 27.5	-1.6
AOPR					Sn	16 48 38.1	-1.8
AGPR	**Aguadilla, PR**	**0.88**	**223**	*e* P	Pn	16 48 29.1	-1.0
AGPR	**Aguadilla, PR**	**0.88**	**223**	*e* S	Sn	16 48 40.4	-1.3
AGPR	**Aguadilla, PR**	**0.88**	**223**		Pn	16 48 29.3	-0.8
AGPR					Sn	16 48 41.8	0.0
AGPR				IAML		16 48 49.7	
	comp=N,65nm,0.8s						
AGPR				IAML		16 49 02.0	
	comp=E,77nm,2.3s						
GCPR	**Guaynabo City**	**0.89**	**155**	*e* P	Pn	16 48 28.9	-1.2
GCPR	**Guaynabo City**	**0.89**	**155**	*e* S	Sn	16 48 40.6	-1.2
GCPR	**Guaynabo City**	**0.89**	**155**		Pn	16 48 28.8	-1.4
GCPR					Sn	16 48 40.3	-1.5
CBYP	**Canovanas**	**1.03**	**145**	*e* P	Pn	16 48 30.7	-1.4
CBYP	**Canovanas**	**1.03**	**145**	*e* S	Sn	16 48 44.1	-1.1
CBYP	**Canovanas**	**1.03**	**145**		Pn	16 48 30.5	-1.6
CBYP					Sn	16 48 43.9	-1.4
CELP	**Cerrillos**	**1.04**	**185**	*e* P	Pn	16 48 31.1	-1.1
CELP	**Cerrillos**	**1.04**	**185**	*e* S	Sn	16 48 44.4	-1.2
CELP	**Cerrillos**	**1.04**	**185**		Pn	16 48 31.1	-1.1
CELP					Sn	16 48 44.4	-1.2
OBIP	**Obispado Ponce**	**1.07**	**187**	*e* P	Pn	16 48 31.8	-1.0
OBIP	**Obispado Ponce**	**1.07**	**187**	*e* S	Sn	16 48 45.0	-1.3
OBIP	**Obispado Ponce**	**1.07**	**187**		Sn	16 48 45.0	-1.3
OBIP	**Obispado Ponce**	**1.07**	**187**	Pn	Pn	16 48 31.1	-1.6
OBIP	**Obispado Ponce**	**1.07**	**187**	IAML		16 48 45.8	
	comp=E,63nm,0.2s						
OBIP				IAML		16 48 45.8	
	comp=N,62nm,0.5s						
LSP	**Las Mesas**	**1.10**	**212**	*e* P	Pn	16 48 32.1	-1.0
LSP	**Las Mesas**	**1.10**	**212**	*e* S	Sn	16 48 45.7	-1.3
LSP	**Las Mesas**	**1.10**	**212**		Pn	16 48 32.1	-1.0
LSP					Sn	16 48 45.7	-1.3
HUMP	**Col San Antoni**	**1.14**	**148**	*e* P	Pn	16 48 32.5	-1.1
HUMP	**Col San Antoni**	**1.14**	**148**	*e* S	Sn	16 48 46.8	-1.2
HUMP	**Col San Antoni**	**1.14**	**148**	Pn	Pn	16 48 31.9	-1.7
HUMP				Sn	Sn	16 48 46.6	-1.4
HUMP				IAML		16 48 47.7	
	comp=N,94nm,0.3s						
HUMP				IAML		16 48 48.4	
	comp=E,134nm,0.2s						
PDPR	**Patillas Dam,**	**1.17**	**158**	*e* P	Pn	16 48 33.1	-1.0
PDPR	**Patillas Dam,**	**1.17**	**158**	*e* S	Sn	16 48 47.7	-1.1
PDPR	**Patillas Dam,**	**1.17**	**158**	Pn	Pn	16 48 32.1	-2.0
PDPR					Sn	16 48 48.0	-0.8
PDPR				IAML		16 48 48.9	
	comp=E,66nm,0.3s						
IDE	**Isla Desecheo**	**1.19**	**233**	*e* P	Pn	16 48 33.1	-1.2
IDE	**Isla Desecheo**	**1.19**	**233**		Pn	16 48 33.1	-1.2
IGPR	**InterUniversit**	**1.20**	**163**	*e* P	Pn	16 48 33.5	-1.0
IGPR	**InterUniversit**	**1.20**	**163**	*e* S	Sn	16 48 48.1	-1.3
MLPR	**Magueyes Islan**	**1.26**	**205**	*e* P	Pn	16 48 34.3	-1.0
MLPR	**Magueyes Islan**	**1.26**	**205**	*e* S	Sn	16 48 49.8	-1.2
MLPR	**Magueyes Islan**	**1.26**	**205**	Pn	Pn	16 48 33.8	-1.4
MLPR				Sn	Sn	16 48 49.2	-1.7
MLPR				IAML		16 48 50.5	
	comp=N,61nm,0.6s						
MLPR				IAML		16 48 50.6	
	comp=E,57nm,0.3s						
MTP	**Monte Pirata**	**1.34**	**139**	Pn	Pn	16 48 34.5	-1.9
MTP				IAML		16 48 55.0	
	comp=E,47nm,0.2s						
CUPR	**Culebra, Puert**	**1.39**	**125**	Pn	Pn	16 48 35.3	-1.7
STVI	**Saint Thomas**	**1.63**	**118**	Pn	Pn	16 48 39.7	-0.7
STVI				IAML		16 49 04.2	
	comp=N,24nm,0.6s						

IDC 03 16:49:13.3±2.3,5.°38S×152.°17E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.4/4, ML1.5/1, Error ellipse: s-maj=153.7km s-min=27.5km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.38**	**231**	Pn	Pn	16 50 50.6	+1.9
	0.7nm,0.3s,baz=90,slow=20,SNR=1.8						
PMG				Sn	Sn	16 52 03.6	+1.3
	1.6nm,0.3s,baz=188,slow=21,SNR=6.4						
WRA	**Warramunga Arr**	**22.59**	**229**	P	P	16 54 15.5	-0.2
	0.5nm,0.8s,baz=53,slow=9.6,SNR=5.0						
ASAR	**Alice Springs**	**25.30**	**222**	P	P	16 54 41.1	-0.7
	0.3nm,0.7s,baz=51,slow=9.3,SNR=9.1						
ILAR	**Eielson Array**	**82.93**	**22**	P	P	17 01 40.2	+0.4
	0.3nm,0.6s,baz=250,slow=4.6,SNR=2.8						

DJA 03 17:06:01.7±0.7,1.°N±3.°×12.°2E±.°, h18km±5km, M4.0/11, mb4.0/5, mB5.0/1, MLv4.0/11, Mw(mB)4.3/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.75**	**191**	P	Pg	17 06 16.9	+0.4
MRSI				S	Sb	17 06 26.0	-0.2
KMSI	**Cibinong**	**2.01**	**109**	P	Pn	17 06 35.1	+0.4
APSI	**Ampana**	**2.16**	**192**	P	Pn	17 06 36.4	-0.4
APSI				S	Sb	17 07 05.8	-1.0
LUWI	**Luwuk**	**2.35**	**163**	P	Pn	17 06 40.5	+1.1
LUWI				S	Sn	17 07 08.1	+0.2
SGSI	**Sangihe**	**4.23**	**55**	P	Pn	17 07 06.5	+1.2
SGSI				S	Sn	17 07 53.2	-1.0
TTSI	**Tana Toraja**	**4.80**	**208**	P	Pn	17 07 15.1	+1.9
TTSI				S	Sn	17 08 08.1	-0.3
SANI	**Sanana**	**5.08**	**130**	P	Pn	17 07 16.5	-0.5
	0.1nm5.4nm,0.7s						
KDI	**Kendari**	**5.17**	**174**	P	Pn	17 07 17.8	-0.5
SPSI	**Sidrap Palu**	**5.64**	**204**	P	Pn	17 07 25.6	+0.8
	0.1nm1μm17nm,0.8s						
BNSI	**Bone**	**5.92**	**199**	P	Pn	17 07 29.5	+0.9
	0.1nm33nm,0.8s						

*IDC **03** 17:24:26.8±5.5,31.°11N×142.°06E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.4/38, mbtmp3.6/7, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/38, Error ellipse: s-maj=220.4km s-min=20.0km az=71.0*
*JMA **03** 17:24:26.9±0.2,31.°15N×142.°41E, h27km, M3.6*
ISC 03 17:24:30.8±1.5,31.°14N±0.°08×142.°3E±0.°3, h35km, n17, σ0.°69/16, mb3.7/5, Southeast of Honshu

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

JMKN	**Mikurajimanish**	**3.57**	**321**	P	**Pn**	**17 25 23.1**	**-0.6**
BSO1	**Boso 1**	**3.68**	**343**	P	**Pn**	**17 25 24.2**	**-0.4**
CBIJ	**Chichi jima**	**4.03**	**181**	*e*S	**Sn**	**17 26 15.8**	**-0.2**
JCJ	**Chichijima**	**4.03**	**181**	Pn	**Pn**	**17 25 30.7**	**+0.6**
	5.2nm,0.3s,baz=81,slow=23,SNR=7.0						
JCJ				Sn	**Sn**	**17 26 14.5**	**-1.6**
	5.3nm,0.3s,baz=294,slow=22,SNR=1.8						
JOD2	**Odawara 2**	**4.91**	**328**	P	**Pn**	**17 25 42.0**	**-0.2**
JHU	**Hanno**	**5.33**	**333**	P	**Pn**	**17 25 47.6**	**-0.3**
JRY	**Ryogami san**	**5.63**	**331**	P	**Pn**	**17 25 52.3**	**+0.3**
JHO	**Hitachi**	**5.64**	**346**	P	**Pn**	**17 25 51.3**	**-0.9**
JAG	**Ashikaga**	**5.78**	**337**	P	**Pn**	**17 25 54.1**	**+0.1**
MJAR	**Matsushiro Arr**	**6.37**	**329**	Pn	**Pn**	**17 26 01.6**	**-0.6**
	0.1nm,0.3s,baz=158,slow=11,SNR=9.1						
JOW	**Kunigami**	**13.00**	**254**	LR	LR	17 32 27.0	
	comp=Z,63nm,19.1s,baz=313,slow=38						
KSRS	**Korea Array**	**13.44**	**302**	LR	LR	17 33 08.2	
	comp=Z,34nm,19.6s,baz=147,slow=39						
SONM	**Songino Array**	**31.98**	**312**	P	**P**	**17 30 53.9**	**+0.3**
	0.2nm,0.3s,baz=101,slow=7.6,SNR=5.2						
MKAR	**Makanchi Array**	**48.05**	**307**	P	**P**	**17 33 06.2**	**-0.6**
	0.4nm,0.7s,baz=94,slow=9.9,SNR=4.2						
WRA	**Warramunga Arr**	**51.36**	**190**	P	**P**	**17 33 32.6**	**+0.6**
	0.3nm,0.3s,baz=5.3,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**55.08**	**189**	P	**P**	**17 33 59.8**	**+0.4**
	0.3nm,0.3s,baz=360,slow=5.0,SNR=7.5						
BRTR	**Keskin Array B**	**83.34**	**313**	P	**P**	**17 36 55.1**	**+0.7**
	0.5nm,0.8s,baz=90,slow=3.3,SNR=3.6						

*DJA **03** 17:24:32.9±0.5,3.°S±2.°×12.°6E±.°, h13km±4km, M4.5/18, mb4.8/8, mB5.1/5, MLv4.4/18, Mw(mB)4.5/5*
*NEIC **03** 17:24:34.5±2.1,2.°91S±0.°04×126.°21E±0.°07, h36km±10km, mb4.2/18, Error ellipse: s-maj=10.3km s-min=5.5km az=73.0*
*IDC **03** 17:24:36.1±2.3,2.°97S×126.°35E, h51km±23km, mb3.6/7, mb1 3.9/10, mb1mx3.6/35, mbtmp4.0/10, ML4.3/3, Error ellipse: s-maj=18.2km s-min=9.6km az=71.0*
ISC 03 17:24:32.7±0.5,2.°89S±0.°05×126.°21E±0.°05, h21km, n59, σ1.°50/65, mb4.2/15, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.86**	**345**	P	**Pb**	**17 24 47.9**	**-1.1**
SANI				S	**Sb**	**17 24 59.6**	**-0.5**
NLAI	**Namlea**	**0.95**	**112**	P	**Pn**	**17 24 51.0**	**+0.1**
NLAI				S	**Sn**	**17 25 04.5**	**+0.7**
MSAI	**Masohi**	**2.75**	**100**	P	**Pn**	**17 25 17.4**	**+1.8**
MSAI				S	**Sn**	**17 25 50.6**	**+2.3**
TNTI	**Ternate**	**3.81**	**18**	Pn	**Pn**	**17 25 30.4**	**+0.1**
TNTI	**Ternate**	**3.81**	**18**	P	**Pn**	**17 25 30.5**	**+0.2**
LUWI	**Luwuk**	**3.90**	**298**	Pn	**Pn**	**17 25 30.8**	**-0.6**
LUWI	**Luwuk**	**3.90**	**298**	P	**Pn**	**17 25 30.6**	**-0.8**
BNDI	**Bandanaira**	**4.03**	**114**	P	**Pn**	**17 25 34.8**	**+1.6**
KMSI	**Cibinong**	**4.10**	**327**	P	**Pn**	**17 25 34.3**	**+0.1**
APSI	**Ampana**	**4.97**	**293**	P	**Pn**	**17 25 46.5**	**+0.4**
MRSI	**Marisa**	**5.42**	**308**	P	**Pn**	**17 25 52.8**	**+0.4**
	1.1nm3μm298nm,0.7s						
SWI	**Sorong**	**5.43**	**68**	P	**Pn**	**17 25 53.9**	**+1.4**
	0.3nm1μm92nm,0.6s						
SIJI	**Sorong**	**5.43**	**68**	P	**Pn**	**17 25 53.7**	**+1.1**
	19nm,0.3s,baz=246,slow=9.9,SNR=88						
SIJI				S	**Sn**	**17 26 53.4**	**-1.1**
	0.6nm,0.3s,baz=249,slow=23,SNR=1.0						
FAKI	**Fak Fak**	**6.03**	**90**	Pn	**Pn**	**17 26 00.7**	**-0.1**
FAKI	**Fak Fak**	**6.03**	**90**	P	**Pn**	**17 26 00.6**	**-0.1**
	0.1nm24nm,0.7s						
BNSI	**Bone**	**6.28**	**256**	P	**Pn**	**17 26 05.4**	**+1.2**
	0.1nm22nm,1.1s						
TTSI	**Tana Toraja**	**6.39**	**268**	P	**Pn**	**17 26 06.0**	**+0.3**
	0.2nm9.5nm,1.1s						
SPSI	**Sidrap Palu**	**6.52**	**260**	P	**Pn**	**17 26 09.1**	**+1.6**
	0.2nm56nm,0.6s						
SGSI	**Sangihe**	**6.56**	**354**	P	**Pn**	**17 26 08.2**	**+0.1**
	0.2nm931nm40nm,0.5s						
TOLI2	**Tolitoli**	**6.73**	**306**	Pn	**Pn**	**17 26 11.3**	**+1.0**
KAPI	**Kappang**	**6.78**	**252**	P	**Pn**	**17 26 14.8**	**+3.6**
	9.9nm,0.3s,baz=69,slow=14,SNR=10						
KAPI				S	**Sn**	**17 27 27.0**	**-0.9**
	3.6nm,0.3s,baz=145,slow=19,SNR=1.6						
KAPI	**Kappang**	**6.78**	**252**	Pn	**Pn**	**17 26 11.6**	**+0.5**
SOEI	**Soe**	**7.09**	**196**	Pn	**Pn**	**17 26 15.8**	**+0.3**
SOEI	**Soe**	**7.09**	**196**	P	**Pn**	**17 26 19.4**	**+3.9**
DDMP	**Don Marcelino,**	**8.95**	**357**	*e*P	**Pn**	**17 26 39.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**15.13**	**182**	P	**P**	**17 28 10.5**	**+0.1**
	1.2nm,0.3s,baz=11,slow=8.5,SNR=32						
FITZ	**Fitzroy Crossi**	**15.13**	**182**	P	**P**	**17 28 10.6**	**+0.2**
WB0	**Warramunga Arr**	**18.58**	**155**	P	**P**	**17 28 48.1**	**-0.6**
WB0				IAmb	IAmb	17 29 05.5	
	comp=Z,10nm,1.0s						
WRAB	**Tennant Creek**	**18.71**	**155**	P	**P**	**17 28 47.0**	**-3.0**
WRAB				IAmb	IAmb	17 29 08.3	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**18.72**	**156**	P	**P**	**17 28 49.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=331,slow=12,SNR=22						
WRA				S	**Sn**	**17 32 17.7**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=337,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**18.72**	**156**	P	**P**	**17 28 48.5**	**-1.6**
WB2	**Warramunga Arr**	**18.72**	**155**	P	**P**	**17 28 48.3**	**-1.9**
WR0	**Warramunga Arr**	**18.82**	**155**	P	**P**	**17 28 50.0**	**-1.2**
WR0				IAmb	IAmb	17 29 08.7	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**21.96**	**161**	P	**P**	**17 29 24.4**	**-0.9**
ASAR	**Alice Springs**	**21.96**	**161**	P	**P**	**17 29 24.4**	**-0.9**
	comp=Z,5.5nm,0.6s,baz=345,slow=12,SNR=107						
ASAR				S	**S**	**17 33 23.8**	**-3.2**
	comp=Z,4.3nm,1.0s,baz=348,slow=21,SNR=18						
ASAR	**Alice Springs**	**21.96**	**161**	P	**P**	**17 29 24.4**	**-1.0**
STKA	**Stephens Creek**	**32.27**	**155**	P	**P**	**17 30 59.5**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=333,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**32.27**	**155**	IAmb	IAmb	17 31 08.9	
	comp=Z,1.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**34.22**	**309**	P	**P**	**17 31 18.7**	**+1.4**
	comp=Z,0.3nm

*MAN **03** 17:26:24.5, 9.˝12N× 126.˝38E, h12km, MS3.3*
ISC 03 17:26:21.9±1.9, 9°25N±0.˝04×126°45E±0.˝06, h16km±12km, n23, σ1°74/28, mb3.7/6, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.62**	**329**	*eP*	**Pn**	**17 26 38.0**	**+1.9**
GLSP				*eS*	**Sn**	**17 26 47.6**	**+1.9**
BUTP	**Butuan**	**0.87**	**251**	*eP*	**Pb**	**17 26 39.1**	**+0.5**
BUTP				*eS*	**Sb**	**17 26 50.5**	**+0.5**
SCPH	**Surigao**	**1.09**	**299**	‖ *iP*	**Pn**	**17 26 43.9**	**+1.4**
SCPH				*i* S	**Sb**	**17 26 57.3**	**+1.0**
MSLP	**Maasin**	**1.80**	**299**	*eP*	**Pg**	**17 26 55.8**	**-0.8**
MSLP				*eS*	**Sb**	**17 27 18.4**	**+1.6**
CGP	**Cagayan de Oro**	**1.91**	**246**	‖ *eP*	**Pn**	**17 26 54.3**	**+0.5**
CGP				*i* S	**Sn**	**17 27 15.9**	**-1.6**
BUKP	**Musuan**	**1.94**	**225**	*eP*	**Pn**	**17 26 54.9**	**+0.7**
BUKP				*eS*	**Sn**	**17 27 18.9**	**+0.6**
MATI	**Mati**	**2.30**	**185**	*eP*	**Pn**	**17 27 00.4**	**+1.2**
MATI				*eS*	**Sn**	**17 27 28.4**	**+1.2**
DAV	**Davao City (W)**	**2.33**	**202**	Lg	Lg	17 27 28.7	
	44nm,0.3s,baz=67,slow=22,SNR=3.6						
DAV				LR	LR	17 27 42.3	
	comp=Z,33nm,18.9s,baz=341,slow=38						
OCLP	**Ormoc**	**2.55**	**315**	*eP*	**Pb**	**17 27 06.9**	**-0.4**
LLP	**Lapu-Lapu**	**2.67**	**294**	‖ *iP*	**Pb**	**17 27 08.0**	**-1.4**
LLP				*i* S	**Sn**	**17 27 39.0**	**+2.7**
DCPH	**Dipolog City**	**3.13**	**258**	‖ *iP*	**Pn**	**17 27 13.7**	**+3.0**
DCPH				*i* S	**Sn**	**17 27 48.9**	**+1.1**
PAGZ	**Pagadian**	**3.34**	**246**	*eP*	**Pn**	**17 27 15.6**	**+2.1**
LQP	**Lukban**	**6.82**	**316**	‖ *eP*	Pn	17 28 08.8	+7.3
SIJI	**Sorong**	**11.14**	**154**	Pn	**Pn**	**17 29 03.1**	**+2.5**
	0.6nm,0.3s,baz=0.0,slow=5.1,SNR=1.8						
CMAR	**Chiang Mai Arr**	**28.20**	**292**	P	**P**	**17 32 11.6**	**-2.5**
	0.5nm,0.9s,baz=119,slow=9.4,SNR=2.3						
CMAR				LR	LR	17 43 17.7	
	comp=Z,77nm,18.4s,baz=206,slow=37						
ASAR	**Alice Springs**	**33.52**	**168**	P	**P**	**17 32 59.8**	**-1.2**
	0.2nm,0.5s,baz=343,slow=7.1,SNR=2.0						
ASAR				PcP	**PcP**	**17 35 42.7**	**+0.9**
	0.2nm,0.8s,baz=352,slow=3.0,SNR=1.8						
H11S3	**WAKE ISLAND Hy**	**40.05**	**72**	T	T	18 16 54.8	
	baz=262,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**40.06**	**72**	T	T	18 16 59.8	
	baz=262,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**40.06**	**72**	T	T	18 16 58.2	
	baz=262,slow=75,SNR=16						
KLR	**Kul'dur**	**40.10**	**5**	P	**P**	**17 33 57.0**	**+0.4**
	0.6nm,0.3s,baz=170,slow=6.1,SNR=4.7						
PETK	**Petropavlovsk-**	**50.49**	**24**	P	**P**	**17 35 20.3**	**+1.2**
	1.0nm,0.5s,baz=198,slow=2.6,SNR=7.7						
MKAR	**Makanchi Array**	**52.94**	**323**	P	**P**	**17 35 34.6**	**-3.0**
	0.5nm,0.6s,baz=125,slow=8.3,SNR=2.1						
ARCES	**ARCESS Array B**	**85.21**	**340**	P	**P**	**17 38 55.6**	**-1.7**
	1.5nm,0.7s,baz=80,slow=7.4,SNR=4.1						

*JMA **03** 17:32:25.6±0.2, 24.˝69N× 122.˝28E, h98km±2km, M2.6*
*TAP **03** 17:32:26.3, 24.˝71N× 122.˝30E, h92km, ML3.5, B*
ISC 03 17:32:26.8±1.3, 24°70N±0.˝04×122°31E±0.˝02, h91km±7km, n89, σ0°53/138, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**316**	P	**Pn**	**17 32 40.9**	**-0.2**
	baz=317						
TWB1				*eS*	**Sn**	**17 32 51.4**	**-0.3**
	baz=317						
TWC	**Suao**	**0.43**	**257**	P	**Pn**	**17 32 41.0**	**-0.1**
	baz=255						
TWC				*eS*	**Sn**	**17 32 51.6**	**-0.2**
	baz=255						
NTC	**Toucheng**	**0.46**	**289**	*eP*	**Pn**	**17 32 41.6**	**+0.2**
	baz=288						
ILA	**Ilan**	**0.52**	**277**	*eP*	**Pn**	**17 32 43.4**	**+1.7**
	baz=275						
TIPB	**Shuangxi**	**0.52**	**301**	P	**Pn**	**17 32 41.7**	**-0.1**
	baz=301						
TIPB				S	**Sn**	**17 32 52.9**	**-0.1**
	baz=301						
NDS	**Dongshan**	**0.55**	**263**	P	**Pn**	**17 32 42.1**	**+0.1**
	baz=261						
NDS				*eS*	**Sn**	**17 32 53.3**	**-0.1**
	baz=261						
EWUT	**Wuta**	**0.55**	**242**	*i* P	**Pn**	**17 32 42.1**	**+0.1**
	baz=240						
TWE	**Neicheng**	**0.59**	**272**	P	**Pn**	**17 32 42.4**	**0.0**
	baz=270						
TWE				*eS*	**Sn**	**17 32 53.6**	**-0.3**
	baz=270						
NWF	**Wu-fen Shan**	**0.61**	**307**	*eP*	**Pn**	**17 32 42.5**	**-0.1**
	baz=307						
NWF				*eS*	**Sn**	**17 32 54.9**	**+0.5**
	baz=307						
WFSB	**Wu-fen Shan**	**0.61**	**307**	*i* P	**Pn**	**17 32 42.6**	**+0.1**
	baz=307						
JYNG	**Yonagunijimaku**	**0.63**	**113**	P	**Pn**	**17 32 42.7**	**0.0**
JYNG				S	**Sn**	**17 32 55.0**	**+0.4**
TNOU	**National Taiwa**	**0.66**	**312**	P	**Pn**	**17 32 43.1**	**+0.1**
	baz=312						
TNOU				S	**Sn**	**17 32 55.2**	**+0.1**
	baz=312						
YOJ	**Yonaguni jima**	**0.68**	**111**	P	**Pn**	**17 32 43.2**	**0.0**
YOJ				*eS*	**Sn**	**17 32 55.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.68**	**111**	P	**Pn**	**17 32 43.3**	**+0.1**
	baz=110						
YOJ				*eS*	**Sn**	**17 32 55.7**	**+0.3**
	baz=110						
ENTT	**Nioudou**	**0.68**	**265**	*i* P	**Pn**	**17 32 43.6**	**+0.3**
	baz=263						
TWA	**Mucha**	**0.72**	**293**	P	**Pn**	**17 32 43.1**	**-0.4**
	baz=292						
TWA				*eS*	**Sn**	**17 32 55.8**	**-0.3**
	baz=292						
NWLT	**Wulai**	**0.74**	**276**	P	**Pn**	**17 32 43.6**	**-0.2**
	baz=275						
NHDH	**Xindian Distri**	**0.76**	**290**	*i* P	**Pn**	**17 32 43.5**	**-0.4**
	baz=289						
TATO	**Taipei**	**0.80**	**290**	*i* P	**Pn**	**17 32 43.8**	**-0.5**
	baz=289						
YM01	**YM01**	**0.81**	**303**	*eP*	**Pn**	**17 32 44.1**	**-0.4**
	baz=303						
YM01				*eS*	**Sn**	**17 32 57.2**	**-0.5**
	baz=303						
YM08	**YM08**	**0.81**	**306**	*i* P	**Pn**	**17 32 43.9**	**-0.7**
	baz=306						
NACB	**Ninganchiao**	**0.84**	**231**	*i* P	**Pn**	**17 32 44.3**	**-0.5**
	baz=230						
YHNB	**Yeheng**	**0.85**	**268**	*i* P	**Pn**	**17 32 45.1**	**0.0**
	baz=267						
NNSB	**Datong**	**0.89**	**252**	*i* P	**Pn**	**17 32 45.6**	**+0.1**
	baz=251						
NNSH	**Datong**	**0.89**	**252**	P	**Pn**	**17 32 45.5**	**0.0**
	baz=251						
NNSH				*eS*	**Sn**	**17 32 59.3**	**-0.2**
	baz=251						
NNS	**Nan Shan**	**0.90**	**253**	P	**Pn**	**17 32 45.7**	**+0.1**
	baz=251						
NNS				*eS*	**Sn**	**17 32 59.3**	**-0.3**
	baz=251						
TWD	**Chiawan**	**0.90**	**227**	P	**Pn**	**17 32 45.1**	**-0.4**
	baz=225						
TWD				*eS*	**Sn**	**17 32 59.5**	**+0.1**
	baz=225						
TWS1	**Kuangyinshan**	**0.90**	**296**	P	**Pn**	**17 32 45.2**	**-0.3**
	baz=295						
TWS1				*eS*	**Sn**	**17 32 59.3**	**-0.1**
	baz=295						
ETLH	**Xiulin Townshi**	**0.91**	**237**	*i* P	**Pn**	**17 32 45.1**	**-0.5**
	baz=235						
PCYT	**Pengchaiyu**	**0.95**	**347**	P	**Pn**	**17 32 45.9**	**0.0**
	baz=347						
HWA	**Hwalien**	**0.97**	**222**	*eP*	**Pn**	**17 32 46.3**	**+0.1**
	baz=220						
HWA				*eS*	**Sn**	**17 33 01.9**	**+1.1**
	baz=220						
ETM	**Tongmen**	**1.05**	**226**	*eP*	**Pn**	**17 32 47.2**	**+0.1**
	baz=224						
ETM				S	**Sn**	**17 33 01.9**	**-0.5**
	baz=224						
NCUH	**Zhongli**	**1.06**	**285**	*eP*	**Pn**	**17 32 47.1**	**-0.1**
	baz=284						
TEYL	**Yanliau Villag**	**1.06**	**218**	P	**Pn**	**17 32 46.8**	**-0.5**
	baz=218						
TEYL				*eS*	**Sn**	**17 33 02.2**	**-0.3**
	baz=218						
WHF	**Hehuan Shan**	**1.11**	**240**	P	**Pn**	**17 32 48.0**	**-0.2**
	baz=238						
WHF				*eS*	**Sn**	**17 33 03.6**	**-0.7**
	baz=238						
NJD	**Zhudong**	**1.11**	**272**	*eP*	**Pn**	**17 32 47.9**	**0.0**
	baz=271						
NJD				*eS*	**Sn**	**17 33 03.7**	**0.0**
	baz=271						
TWT	**Tachien**	**1.13**	**247**	P	**Pn**	**17 32 48.8**	**+0.5**
	baz=245						
TWT				*eS*	**Sn**	**17 33 04.4**	**+0.1**
	baz=245						
TDCB	**Techi**	**1.14**	**247**	*i* P	**Pn**	**17 32 48.8**	**+0.4**
	baz=246						
LIOB	**Emei**	**1.18**	**267**	P	**Pn**	**17 32 47.9**	**-0.8**
	baz=266						
NHW	**Xinwu Township**	**1.19**	**285**	P	**Pn**	**17 32 48.7**	**0.0**
	baz=284						
NHW				*eS*	**Sn**	**17 33 05.2**	**0.0**
	baz=284						
ESL	**Shilin**	**1.20**	**222**	*eP*	**Pn**	**17 32 49.0**	**+0.1**
	baz=221						
ESL				*eS*	**Sn**	**17 33 05.6**	**+0.2**
	baz=221						
NSTT	**Nanjuang**	**1.20**	**267**	P	**Pn**	**17 32 48.5**	**-0.3**
	baz=265						
NSTT				*eS*	**Sn**	**17 33 05.3**	**-0.1**
	baz=265						
SBCB	**Hsinchu**	**1.21**	**274**	P	**Pn**	**17 32 49.0**	**0.0**
	baz=273						
TEGC	**Jichi Village**	**1.22**	**216**	P	**Pn**	**17 32 48.9**	**-0.2**
	baz=214						
TEGC				*eS*	**Sn**	**17 33 06.1**	**+0.3**
	baz=214						
CHGB	**Renai**	**1.22**	**239**	P	**Pn**	**17 32 49.5**	**+0.1**
	baz=237						
EGFH	**Guangfu**	**1.31**	**218**	*eP*	**Pn**	**17 32 50.5**	**+0.2**
	baz=217						
EGFH				S	**Sn**	**17 33 07.7**	**-0.2**
	baz=217						
WHP	**Taichung City**	**1.32**	**251**	P	**Pn**	**17 32 50.8**	**+0.4**
	baz=250						
IRIF	**Iriomote-Funau**	**1.34**	**106**	P	**Pn**	**17 32 50.2**	**-0.4**
IRIF				*eS*	**Sn**	**17 33 08.8**	**+0.2**
NMLH	**Miaoli**	**1.40**	**263**	P	**Pn**	**17 32 51.1**	**-0.2**
	baz=262						
WPL	**Puli Township**	**1.42**	**241**	P	**Pn**	**17 32 52.2**	**+0.6**
	baz=240						
DPDB	**Guoxing**	**1.43**	**242**	P	**Pn**	**17 32 52.0**	**+0.2**
	baz=241						
WCS	**Beigang Elemen**	**1.43**	**244**	P	**Pn**	**17 32 52.2**	**+0.5**
	baz=242						
NSY	**Sanyi**	**1.44**	**259**	P	**Pn**	**17 32 52.0**	**+0.1**
	baz=257						
TWQ1	**Liyutan**	**1.45**	**256**	P	**Pn**	**17 32 51.9**	**0.0**
	baz=255						
HGSD	**Ruisui**	**1.46**	**214**	P	**Pn**	**17 32 51.4**	**-0.6**
	baz=213						
HATJ	**Hateruma jima**	**1.51**	**115**	P	**Pn**	**17 32 52.7**	**+0.1**
HATJ				S	**Sn**	**17 33 13.1**	**+0.9**
SMLT	**Sun Moon Lake**	**1.53**	**238**	*eP*	**Pn**	**17 32 53.7**	**+0.7**
	baz=236						
SSLB	**Suanglung**	**1.54**	**234**	P	**Pn**	**17 32 53.6**	**+0.5**
	baz=233						
TYC	**Yuchr**	**1.55**	**239**	*eP*	**Pn**	**17 32 53.9**	**+0.7**
	baz=238						
WDJ	**Dajia District**	**1.56**	**257**	P	**Pn**	**17 32 53.5**	**+0.1**
	baz=256						
WDJ				*eS*	**Sn**	**17 33 13.6**	**0.0**
	baz=256						
TCU	**Taichung**	**1.59**	**250**	P	**Pn**	**17 32 53.8**	**0.0**
	baz=248						
YULB	**Yu-li**	**1.60**	**216**	*eP*	**Pn**	**17 32 52.5**	**-1.5**
	baz=214						
JKRS	**Kuro-shima**	**1.61**	**106**	P	**Pn**	**17 32 54.0**	**0.0**
JKRS				S	**Sn**	**17 33 14.9**	**+0.2**
EYUL	**Yuli**	**1.63**	**214**	P	**Pn**	**17 32 55.0**	**+0.8**
	baz=213						
EYUL				*eS*	**Sn**	**17 33 15.3**	**+0.3**
	baz=213						
TWF1	**Yuli**	**1.64**	**215**	*eP*	**Pn**	**17 32 54.6**	**+0.3**
	baz=213						
WHYT	**Xinyi Township**	**1.67**	**233**	*eP*	**Pn**	**17 32 55.8**	**+1.0**
	baz=232						
WJS	**Zhushan**	**1.69**	**239**	P	**Pn**	**17 32 55.6**	**+0.6**
	baz=238						
JIJ	**Ishigaki jima**	**1.70**	**101**	P	**Pn**	**17 32 54.7**	**-0.4**
JIJ				S	**Sn**	**17 33 15.7**	**-1.0**
ALS	**Alishan**	**1.82**	**230**	*eP*	**Pn**	**17 32 57.7**	**+0.7**
	baz=228						
JISG	**Ishigakijimahi**	**1.82**	**93**	P	**Pn**	**17 32 56.4**	**-0.3**
JISG				S	**Sn**	**17 33 18.9**	**-0.5**
CHN5	**Tsauling**	**1.86**	**234**	P	**Pn**	**17 32 57.6**	**+0.4**
	baz=233						
CHN5				*eS*	**Sn**	**17 33 22.0**	**+1.6**
	baz=233						
ECS	**Chishang**	**1.89**	**212**	*eP*	**Pn**	**17 32 57.0**	**-0.6**
	baz=211						
ECS				*eS*	**Sn**	**17 33 20.8**	**-0.2**
	baz=211						
WGK	**Gukeng**	**1.89**	**238**	P	**Pn**	**17 32 58.1**	**+0.5**
	baz=236						
WGK				*eS*	**Sn**	**17 33 22.9**	**+1.8**
	baz=236						
WRL	**Guolierlin Hig**	**1.94**	**246**	P	**Pn**	**17 32 57.7**	**-0.6**
	baz=245						
WRL				*eS*	**Sn**	**17 33 22.2**	**0.0**
	baz=245						
EDH	**Donghe**	**1.96**	**208**	*eP*	**Pn**	**17 32 57.3**	**-1.2**
	baz=207						
WTK	**Tuku**	**2.03**	**240**	P	**Pn**	**17 32 59.2**	**-0.2**
	baz=239						
WTK				*eS*	**Sn**	**17 33 24.3**	**0.0**
	baz=239						
CHN4	**Tsaushan**	**2.07**	**230**	P	**Pn**	**17 33 00.4**	**+0.4**
	baz=228						
CHN4				*eS*	**Sn**	**17 33 25.3**	**0.0**
	baz=228						
STYH	**Taoyuan**	**2.08**	**223**	*eP*	**Pn**	**17 33 00.8**	**+0.7**
	baz=222						
STYH				*eS*	**Sn**	**17 33 26.6**	**+1.2**
	baz=222						
LONT	**Longtian**	**2.09**	**211**	*eP*	**Pn**	**17 32 59.2**	**-1.1**
	baz=210						
CHY	**Chiayi**	**2.10**	**236**	P	**Pn**	**17 33 00.5**	**+0.1**
	baz=234						
CHY				*eS*	**Sn**	**17 33 25.9**	**-0.1**
	baz=234						
LDUT	**Ludao**	**2.16**	**201**	*eP*	**Pn**	**17 32 60.0**	**-1.2**
	baz=200						
LDUT				*eS*	**Sn**	**17 33 25.7**	**-1.8**
	baz=200						
JTJ	**Tarama**	**2.17**	**91**	P	**Pn**	**17 33 01.2**	**-0.1**
JTJ				S	**Sn**	**17 33 28.4**	**+0.7**
CHN1	**Nanshi**	**2.23**	**228**	P	**Pn**	**17 33 02.4**	**+0.3**
	baz=226						
CHN1				*eS*	**Sn**	**17 33 28.9**	**-0.1**
	baz=226						
ICHU	**Yijhu**	**2.29**	**235**	P	**Pn**	**17 33 02.6**	**-0.3**
	baz=233						
ICHU				*eS*	**Sn**	**17 33 30.4**	**-0.1**
	baz=233						
MASBT	**Mashibuluo**	**2.59**	**217**	P	**Pn**	**17 33 07.8**	**+0.9**
	baz=216						
MASBT				*eS*	**Sn**	**17 33 37.4**	**-0.2**
	baz=216						
JIRB	**Irabujima**	**2.60**	**87**	P	**Pn**	**17 33 07.3**	**+0.3**
JIRB				*eS*	**Sn**	**17 33 37.7**	**-0.2**
JIKM	**Ikemajima**	**2.68**	**85**	P	**Pn**	**17 33 08.4**	**+0.4**
JMJ2	**Miyako jima3**	**2.74**	**89**	P	**Pn**	**17 33 09.1**	**+0.2**
JMJ2				*eS*	**Sn**	**17 33 41.3**	**+0.1**
JOGS	**Gusukube**	**2.81**	**88**	P	**Pn**	**17 33 10.0**	**+0.2**

*NEIC **03** 18:01:28.5±1.6, 43.˝81N±0.˝05×105.˝27W±0.˝04, h0km±2km, ML3.3/54, Error ellipse: s-maj=9.6km s-min=3.1km az=156.0*
*IDC **03** 18:01:29.2±1.5, 44.˝18N× 105.˝75W, h0km, mb3.6/1, mb1 3.7/5, mb1mx3.4/43, mbtmp3.5/5, ML2.8/3, Error ellipse: s-maj=59.2km s-min=9.0km az=145.0*
ISC 03 18:01:26.1±1.0, 43°80N±0.˝05×105°09W±0.˝06, h0km, n43, σ1°44/42, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.83**	**67**	Pg	**Pn**	**18 01 46.4**	**+1.2**
K22A	**Casper**	**1.56**	**223**		**Pn**	**18 01 54.8**	**-0.4**
K22A					IAML	18 02 18.3	
	comp=N,571nm,0.3s						
K22A					IAML	18 02 20.5	
	comp=E,538nm,0.3s						
PHWY	**Pilot Hill**	**2.51**	**186**		**Pb**	**18 02 10.5**	**-1.8**
RWWY	**Rawlins**	**2.63**	**217**		**Pn**	**18 02 11.9**	**+1.9**
RWWY					IAML	18 02 49.7	
	comp=E,136nm,0.6s						
RWWY					IAML	18 02 51.4	
	comp=E,167nm,0.9s						
LAO	**LASA Array**	**2.99**	**345**		**Pn**	**18 02 16.3**	**+1.4**
RLMT	**Red Lodge**	**3.27**	**295**	Pn	**Pn**	**18 02 19.9**	**+1.2**
RLMT					IAML	18 03 11.9	
	comp=E,67nm,0.3s						
RLMT					IAML	18 03 13.0	
	comp=E,64nm,0.4s						
BW06	**Boulder Array**	**3.42**	**254**		**Pn**	**18 02 21.3**	**+0.4**
BW06					IAML	18 03 13.9	
	comp=E,58nm,0.3s						
BW06					IAML	18 03 15.0	
	comp=E,44nm,0.4s						
PDAR	**Pinedale Array**	**3.42**	**254**	Pn	**Pn**	**18 02 22.7**	**+1.8**
	comp=E,20nm,0.3s,baz=69,slow=16,SNR=31						
PDAR				Lg	Lg	18 03 05.5	
	comp=E,16nm,0.3s,baz=66,slow=30,SNR=3.6						
OGNE	**Ogallala**	**3.65**	**141**	Pn	**Pb**	**18 02 27.8**	**-3.6**
YNE	**Yellowstone No**	**3.72**	**291**		**Pn**	**18 02 25.7**	**+0.6**
YNE					IAML	18 03 24.8	
	comp=N,75nm,0.7s						
YNE					IAML	18 03 30.0	
	comp=E,56nm,0.4s						
YMP	**Mirror Lake Pl**	**3.76**	**286**		**Pn**	**18 02 26.4**	**+0.9**
GCMT	**Greycliff**	**3.81**	**303**		**Pn**	**18 02 27.7**	**+1.5**
LOHW	**Long Hollow**	**4.00**	**269**		**Pn**	**18 02 30.1**	**+1.2**
ISCO	**Idaho Springs**	**4.02**	**186**		**Pn**	**18 02 31.5**	**+2.4**
FLWY	**Flagg Ranch**	**4.06**	**276**		**Pn**	**18 02 30.1**	**+0.4**
FLWY					IAML	18 03 41.0	
	comp=E,27nm,1.2s						
FLWY					IAML	18 03 42.3	
	comp=E,37nm,2.1s						
MOOW	**Moose Ponds**	**4.09**	**271**	Pn	**Pn**	**18 02 31.5**	**+1.4**
YPP	**Pitchstone Pla**	**4.14**	**278**		**Pn**	**18 02 32.0**	**+1.2**
E28A	**Huff**	**4.17**	**47**		**Pn**	**18 02 34.0**	**+3.0**
REDW	**Red Top Meadow**	**4.21**	**266**		**Pn**	**18 02 31.2**	**-0.5**
REDW					IAML	18 03 50.9	
	comp=E,27nm,1.3s						
REDW					IAML	18 03 55.6	
	comp=E,44nm,1.0s						
YHH	**Holmes Hill**	**4.25**	**285**	Pn	**Pn**	**18 02 31.2**	**-1.2**
TPAW	**Teton Pass**	**4.26**	**268**	Pn	**Pn**	**18 02 33.8**	**+1.3**
TPAW					IAML	18 03 55.3	
	comp=E,33nm,0.8s						
TPAW					IAML	18 03 57.4	
	comp=E,17nm,0.9s						
O20A	**White River Ci**	**4.35**	**214**	Pn	**Pn**	**18 02 34.2**	**+0.6**
O20A					IAML	18 03 46.5	
	comp=E,38nm,0.7s						
O20A					IAML	18 03 46.9	
	comp=N,37nm,0.9s						
YHB	**Horse Butte**	**4.48**	**284**		**Pn**	**18 02 35.5**	**0.0**
YHB					IAML	18 03 59.4	
	comp=E,13nm,0.8s						
YHL	**Hebgen Lake**	**4.49**	**286**		**Pn**	**18 02 36.4**	**+0.7**
YHL					IAML	18 03 52.6	
	comp=N,22nm,1.0s						
YHL					IAML	18 03 57.5	
	comp=E,20nm,0.9s						
AHID	**Auburn Hatcher**	**4.51**	**259**		**Pn**	**18 02 35.8**	**0.0**
AHID					IAML	18 03 49.1	
	comp=E,29nm,0.9s						
AHID					IAML	18 03 52.5	
	comp=N,42nm,0.8s						
ECR	**Eagle Creek**	**4.63**	**263**		**Pn**	**18 02 37.4**	**-0.1**
RDMU	**Red Mountain**	**4.64**	**227**		**Pn**	**18 02 39.2**	**+1.7**
RDMU					IAML	18 03 52.6	
	comp=E,21nm,1.0s						
RDMU					IAML	18 03 52.6	
	comp=N,21nm,1.0s						
DGMT	**Dagmar**	**4.71**	**7**	Pn	**Pn**	**18 02 39.6**	**+1.3**
SMCO	**Snowmass**	**4.83**	**198**		**Pn**	**18 02 41.7**	**+1.3**
SMCO					IAML	18 04 03.0	
	comp=N,30nm,0.4s						
SMCO					IAML	18 04 10.1	
	comp=N,13nm,0.4s						
HWUT	**Hardware Ranch**	**5.25**	**248**		**Pn**	**18 02 46.6**	**+0.6**
HWUT					IAML	18 04 19.4	
	comp=N,21nm,1.1s						
EGMT	**Eagleton**	**5.33**	**324**		**Pn**	**18 02 46.7**	**-0.2**
HRY	**Holter Researc**	**5.58**	**304**		**Pn**	**18 02 49.7**	**-0.7**
DLMT	**Dillon**	**5.58**	**289**		**Pn**	**18 02 48.4**	**-2.1**
HVU	**Hansel Valley**	**6.00**	**253**		**Pn**	**18 02 56.2**	**0.0**
P17A	**Butcher Ranch,**	**6.05**	**226**		**Pn**	**18 02 57.4**	**+0.4**
SRU	**San Rafael Swe**	**6.21**	**223**		**Pn**	**18 02 59.9**	**+0.7**
TMUT	**Trail Mountain**	**6.43**	**228**		**Pn**	**18 03 03.2**	**+0.9**
Q16A	**Castle Valley**	**6.69**	**225**	Pn	**Pn**	**18 03 06.6**	**+0.8**
ELK	**Elko**	**8.12**	**251**	Pn	**Pn**	**18 03 28.2**	**+2.8**
	comp=N,0.6nm,0.3s,baz=70,slow=9.8,SNR=7.4						
ULM	**Lac du Bonnet**	**9.01**	**41**	Pn	**Pn**	**18 03 38.7**	**+1.4**
	comp=N,0.8nm,0.3s,baz=232,slow=11.3,SNR=5.9						
ULM				Lg	Lg	18 06 09.4	
	comp=N,0.5nm,0.3s,baz=134,slow=21,SNR=2.1						
I56US	**NEWPORT INFRAS**	**9.48**	**302**	*i*		18 56 10.0	
	baz=114,slow=317,SNR=1.3						
NVAR	**Mina Array Bea**	**11.31**	**246**	Pn	**Pn**	**18 04 10.6**	**+1.4**
	comp=N,0.1nm,0.3s,baz=50,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**18 14 26.0**	**+0.8**
	comp=N,0.3nm,0.7s,baz=18,slow=5.7,SNR=3.5						

*IDC **03** 18:07:06.7±1.0, 10.˝76N× 126.˝50E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/41, mbtmp3.7/9, Error ellipse: s-maj=50.4km s-min=18.0km az=73.0*
*MAN **03** 18:07:07.4, 10.˝78N× 126.˝52E, h4km, MS3.2*
ISC 03 18:07:07.7±2.2, 10°71N±0.˝05×126°52E±0.˝08, h7km±13km, n19, σ1°05/24, mb3.7/9, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.00**	**203**	*eP*	**Pg**	**18 07 27.8**	**+0.9**
GLSP				*eS*	**Sn**	**18 07 43.4**	**+0.9**
SCPH	**Surigao**	**1.37**	**228**	*eP*	**Pb**	**18 07 33.7**	**0.0**
SCPH				*eS*	**Sn**	**18 07 51.5**	**-0.2**
MSLP	**Maasin**	**1.73**	**251**	*eP*	**Pn**	**18 07 38.2**	**+0.1**
MSLP				*eS*	**Sb**	**18 08 02.1**	**+0.4**
OCLP	**Ormoc**	**1.90**	**280**	*eP*	**Pb**	**18 07 41.3**	**-1.5**
BUTP	**Butuan**	**1.94**	**207**	*eP*	**Pn**	**18 07 41.9**	**+0.7**
BUTP				*eS*	**Sb**	**18 08 08.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.03**	**198**	*eP*	**Pg**	**18 10 58.2**	**-0.9**
SCPH	**Surigao**	**1.37**	**224**	*eP*	**Pn**	**18 11 04.3**	**0.0**
SCPH				*eS*	**Sb**	**18 11 22.5**	**+0.1**
MSLP	**Maasin**	**1.69**	**248**	*eP*	**Pn**	**18 11 08.9**	**+0.2**
MSLP				*eS*	**Sb**	**18 11 31.8**	**+0.1**
OCLP	**Ormoc**	**1.83**	**279**	*eP*	**Pb**	**18 11 11.9**	**-0.9**
BUTP	**Butuan**	**1.97**	**205**	*eP*	**Pn**	**18 11 12.8**	**+0.2**
BUTP				*eS*	**Sb**	**18 11 39.2**	**-0.5**
CGP	**Cagayan de Oro**	**2.88**	**217**	*eP*	**Pn**	**18 11 26.4**	**+1.2**
CGP				*eS*	**Sb**	**18 12 03.7**	**-2.4**
BUKP	**Musuan**	**3.19**	**206**	*eP*	**Pn**	**18 11 31.8**	**+2.4**
BUKP				*eS*	**Sn**	**18 12 09.5**	**+2.0**
RCP	**Roxas**	**3.72**	**283**	*eP*	**Pn**	**18 11 38.5**	**+1.8**
DAV	**Davao City (W)**	**3.78**	**193**	Lg	Lg	18 12 33.3	
	20nm,0.3s,baz=325,slow=16,SNR=1.4						
CNOP	**Candoni, Negro**	**3.87**	**256**	*eP*	**Pn**	**18 11 39.6**	**+0.9**
PAGZ	**Pagadian**	**4.20**	**226**	*eP*	**Pn**	**18 11 45.8**	**+2.5**
GUMO	**Guam**	**18.22**	**79**	LR	LR	18 20 36.5	
	comp=Z,32nm,21.2s,baz=148,slow=33						
FITZ	**Fitzroy Crossi**	**28.70**	**182**	P	**P**	**18 16 37.3**	**+0.7**
	0.7nm,0.5s,baz=6.3,slow=9.0,SNR=1.4						
WRA	**Warramunga Arr**	**31.49**	**166**	P	**P**	**18 17 00.7**	**-0.7**
	0.6nm,0.9s,baz=346,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**34.99**	**168**	P	**P**	**18 17 31.2**	**-0.7**
	0.2nm,0.3s,baz=345,slow=7.4,SNR=7.7						
MKAR	**Makanchi Array**	**51.74**	**322**	P	**P**	**18 19 46.8**	**-0.1**
	1.3nm,0.7s,baz=114,slow=7.4,SNR=5.6						
ARCES	**ARCESS Array B**	**83.79**	**340**	P	**P**	**18 23 08.5**	**+0.1**
	1.3nm,0.8s,baz=64,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**85.54**	**332**	P	**P**	**18 23 16.7**	**-0.7**
	2.5nm,0.9s,baz=65,slow=6.6,SNR=1.7						

*IDC **03** 18:11:01.0±0.7,36°.22N×141°.88E,h0km,mb4.0/19,*
mb1 4.1/23,mb1mx4.0/46,mbtmp4.0/23,ML3.7/3,MS3.3/13,
Ms1 3.3/13,ms1mx3.1/36,Error ellipse: s-maj=16.9km
s-min=14.5km az=105.0
*NEIC **03** 18:11:02.7±2.1,36°.15N±0°.04×141°.89E±0°.09,h10km±3km,*
mb4.3/12,Error ellipse: s-maj=10.7km s-min=4.8km
az=101.0
*JMA **03** 18:11:05.4±0.2,36°.28N×141°.75E,h55km±5km,M3.8*
*NIED **03** 18:11:05.5,36°.28N×141°.75E,h55km,MW4.1,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;
Mrr0.77; Mθθ0.11; Mφφ-0.88; Mrθ0.58; Mθφ-0.49; Mφr1.06;
Fault plane solution: M₀1.52000×10¹⁵ NP1:φ₁28.00000°,
δ71.00000°,λ95.00000°. NP2:φ₂193.00000°,δ19.00000°,
λ75.00000°.

ISC 03 18:11:03.2±3.4,36°.23N±0°.04×141°.95E±0°.06,h17km±21km,
n84,σ1f14/79,mb4.2/27,MS3.5/11,1C,Near east coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.03**	**240**	P	**Pb**	**18 11 22.4**	**-0.1**
CHOJ				*eS*	**Sb**	**18 11 35.2**	**-0.6**
JHYU	**Hitachinakayam**	**1.11**	**276**	P	**Pb**	**18 11 22.8**	**-1.0**
JHO	**Hitachi**	**1.18**	**289**	P	**Pn**	**18 11 23.3**	**-1.6**
JIHU	**Itakohorinouch**	**1.18**	**258**	P	**Pn**	**18 11 24.8**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.27**	**314**	P	**Pn**	**18 11 25.3**	**-0.9**
JYT	**Yasato**	**1.42**	**270**		**Pn**	**18 11 26.9**	**-1.3**
JFK	**Kawauchi**	**1.42**	**323**	P	**Pn**	**18 11 27.6**	**-0.7**
BSO1	**Boso 1**	**1.76**	**207**	P	**Pn**	**18 11 32.9**	**+0.5**
BSO1				*eS*	**Sn**	**18 11 54.3**	**+0.1**
JFT	**Otama**	**1.82**	**315**	P	**Pn**	**18 11 34.2**	**+0.4**
BSO3	**Boso 3**	**1.85**	**220**	P	**Pn**	**18 11 34.3**	**+0.5**
JMM	**Marumori**	**1.88**	**331**	P	**Pn**	**18 11 33.6**	**-0.9**
JMM				*eS*	**Sn**	**18 11 55.2**	**-2.6**
JMM	**Marumori**	**1.88**	**331**	Pn	**Pn**	**18 11 33.9**	**-0.6**
JAG	**Ashikaga**	**2.02**	**276**	Pn	**Pn**	**18 11 35.9**	**-0.6**
JFY	**Yanaizu**	**2.15**	**304**	P	**Pn**	**18 11 38.5**	**+0.2**
JKT	**Katashina**	**2.24**	**285**	P	**Pn**	**18 11 39.5**	**-0.1**
JRY	**Ryogami san**	**2.48**	**266**	P	**Pn**	**18 11 42.4**	**-0.4**
MJAR	**Matsushiro Arr**	**3.03**	**277**	Pn	**Pn**	**18 11 50.5**	**+0.1**
	4.5nm,0.3s,baz=113,slow=9.3,SNR=190						
MJAR				Sn	**Sn**	**18 12 26.3**	**-0.1**
	1.9nm,0.3s,baz=92,slow=14,SNR=6.6						
MJAR				LR	LR	18 13 06.6	
	comp=Z,327nm,20.3s,baz=130,slow=43						
MJAR	**Matsushiro Arr**	**3.03**	**277**	Pn	**Pn**	**18 11 50.7**	**+0.3**
MAJO	**Matsushiro**	**3.04**	**277**	Pn	**Pn**	**18 11 50.9**	**+0.4**
MAT	**Matsushiro**	**3.04**	**277**	P	**Pn**	**18 11 50.9**	**+0.4**
MAT				*eS*	**Sn**	**18 12 28.0**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.04**	**277**		**Pn**	**18 11 50.4**	**-0.2**
JSG	**Sagara**	**3.44**	**244**	Pn	**Pn**	**18 11 56.2**	**+0.2**
JSD	**Sado**	**3.46**	**303**	Pn	**Pn**	**18 11 56.2**	**0.0**
JHJ2	**Mitsune**	**3.57**	**210**	Pn	**Pn**	**18 11 57.8**	**0.0**
JHJ	**Hachijo jima 2**	**3.58**	**211**	Pn	**Pn**	**18 11 57.5**	**-0.4**
	23nm,0.3s,baz=74,slow=22,SNR=11						
JHJ				Sn	**Sn**	**18 12 36.3**	**-3.5**
	59nm,0.3s,baz=80,slow=22,SNR=3.5						
JGF	**Kuroka**	**3.78**	**262**		**Pn**	**18 12 02.4**	**+1.6**
INU	**Inuyama**	**4.11**	**259**	Pn	**Pn**	**18 12 07.1**	**+2.0**
JTM	**Tenmabayashi**	**4.60**	**352**	Pn	**Pn**	**18 12 12.7**	**+0.8**
JWT	**Wachi**	**5.41**	**262**	Pn	**Pn**	**18 12 24.4**	**+1.4**
ERM	**Erimo**	**5.85**	**9**	Pn	**Pn**	**18 12 28.5**	**-0.7**
JHS	**Saijyo**	**7.30**	**263**	Pn	**Pn**	**18 12 50.8**	**+1.7**
ASAJ	**Asahikawa**	**7.89**	**3**	Pn	**Pn**	**18 12 56.1**	**-1.1**
	1.4nm,0.3s,baz=210,slow=16,SNR=18						
ASAJ				Sn	**Sn**	**18 14 22.2**	**-3.8**
	0.8nm,0.3s,baz=356,slow=33,SNR=2.3						
ASAJ				LR	LR	18 16 34.1	
	comp=Z,148nm,19.6s,baz=167,slow=42						
JKA	**Kamikawa-asahi**	**7.89**	**3**		**Pn**	**18 12 56.1**	**-1.1**
JCJ	**Chichijima**	**9.11**	**179**	Pn	Pn	18 13 10.7	-3.2
	3.6nm,0.3s,baz=294,slow=21,SNR=1.6						
JCJ				Sn	Sn	18 14 47.2	-8.9
	2.9nm,0.3s,baz=136,slow=23,SNR=1.5						
JCJ				LR	LR	18 19 38.6	
	comp=Z,43nm,18.5s,baz=122,slow=57						
USRK	**Ussuriysk Ar.**	**11.01**	**319**	Pn	**Pn**	**18 13 39.4**	**-0.4**
	baz=127,slow=13,SNR=2.6						
USRK				LR	LR	18 17 44.6	
	comp=Z,194nm,18.7s,baz=115,slow=37						
KSRS	**Korea Array**	**11.31**	**280**	Pn	**Pn**	**18 13 46.2**	**+2.2**
	0.2nm,0.3s,baz=90,slow=13,SNR=11						
KSRS				LR	LR	18 18 09.6	
	comp=Z,169nm,18.3s,baz=80,slow=38						
KLR	**Kul'dur**	**14.98**	**333**	LR	LR	18 20 22.4	
	comp=Z,112nm,18.4s,baz=152,slow=38						
HHC	**Hu-ho-hao-te**	**24.14**	**290**	*eP*	**P**	**18 16 19.4**	**+1.0**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,64nm,5.5s						
HHC				L	L		
	comp=N,54nm,14.7s						
HHC				L	L		
	comp=E,150nm,14.2s						
HHC				L	L		
	comp=Z,77nm,12.9s						
YAK	**Yakutsk**	**26.95**	**347**	P	**P**	**18 16 43.8**	**+0.4**
	2.5nm,0.4s,baz=150,slow=3.2,SNR=4.9						
YAK				LR	LR	18 27 42.4	
	comp=Z,52nm,18.4s,baz=86,slow=37						
YAK	**Yakutsk**	**26.95**	**347**	P	**P**	**18 16 42.9**	**-0.5**
XAN	**Xi'an**	**27.03**	**275**	P	**P**	**18 16 43.9**	**-0.6**
XAN				pP	pwP	18 16 54.8	+3.0
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				L	L		
	comp=N,140nm,16.3s						
XAN				L	L		
	comp=E,100nm,15.2s						
XAN				L	L		
	comp=Z,170nm,16.0s						
H11N2	**WAKE ISLAND Hy**	**27.37**	**120**	T	T	18 45 19.7	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.38**	**120**	T	T	18 45 28.5	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.39**	**120**	T	T	18 45 29.4	
	baz=314,slow=75						
SEY	**Seymchan**	**27.50**	**10**	P	**P**	**18 16 50.4**	**+2.0**
	0.6nm,0.5s,baz=133,slow=18,SNR=2.3						
ENH	**Enshi**	**27.71**	**267**	P	**P**	**18 16 49.8**	**-0.8**
H11S1	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	18 46 15.0	
	baz=308,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	18 46 10.7	
	baz=308,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.08**	**122**	T	T	18 46 15.3	
	baz=308,slow=75						
ULN	**Ulaanbaatar**	**28.16**	**305**	P	**P**	**18 16 55.0**	**+0.3**
SONM	**Songino Array**	**28.59**	**305**	P	**P**	**18 16 58.7**	**+0.2**
	4.4nm,0.8s,baz=103,slow=7.5,SNR=25						
SONM				LR	LR	18 28 34.2	
	comp=Z,81nm,19.1s,baz=113,slow=37						
SONM	**Songino Array**	**28.59**	**305**	P	**P**	**18 16 58.5**	**0.0**
SONM				lAmb	lAmb	18 17 00.6	
	comp=Z,4.9nm,1.0s						
LZH	**Lanzhou**	**30.64**	**281**	*eP*	**P**	**18 17 13.2**	**-3.6**
LZH				pP	pP	18 17 17.2	-4.0
LZH				sP	sP	18 17 21.2	-1.9
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,28nm,4.3s						
LZH				L	L		
	comp=Z,160nm,15.2s						
LZH				L	L		
	comp=Z,190nm,16.8s						
LZH				L	L		
	comp=Z,160nm,15.2s						
TLY	**Talaya**	**31.18**	**312**	P	**P**	**18 17 22.0**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=127,slow=4.2,SNR=3.5						
TLY	**Talaya**	**31.18**	**312**	lAmb	lAmb	18 17 25.6	
	comp=Z,3.1nm,0.9s						
GTA	**Gaotai**	**33.22**	**288**	*i*P	**P**	**18 17 39.4**	**0.0**
GTA				pP	pP	18 17 44.3	+0.5
GTA				sP	pwP	18 17 46.6	-0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,45nm,6.4s						
GTA				L	L		
	comp=Z,49nm,14.9s						
GTA				L	L		
	comp=Z,82nm,15.6s						
GTA				L	L		
	comp=Z,130nm,16.7s						
SIJI	**Sorong**	**38.23**	**197**	P	**P**	**18 18 23.1**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=305,slow=23,SNR=2.2						
WMQ	**Urumqi**	**41.59**	**298**	*eP*	**P**	**18 18 51.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**41.72**	**257**	P	**P**	**18 18 51.0**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=51,slow=6.1,SNR=7.9						
ZAA0	**Zalesovo Array**	**42.77**	**313**	P	**P**	**18 18 59.7**	**+0.1**
ZAA0				lAmb	lAmb	18 19 11.2	
	comp=Z,5.7nm,1.2s						
ZALV	**Zalesovo Beam**	**42.77**	**313**	P	**P**	**18 18 59.9**	**+0.3**
	comp=Z,4.9nm,1.0s,baz=99,slow=7.7,SNR=7.5						
ZALV				PcP	**PcP**	**18 20 50.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=116,slow=3.4,SNR=1.8						
ZALV				LR	LR	18 37 25.1	
	comp=Z,55nm,19.0s,baz=55,slow=37						
ZALV	**Zalesovo Beam**	**42.77**	**313**	P	**P**	**18 18 59.4**	**-0.2**
NRIK	**Noril'sk**	**44.17**	**336**	LR	LR	18 39 06.1	
	comp=Z,38nm,19.7s,baz=249,slow=38						
MK31	**Makanchi Array**	**44.91**	**303**	P	**P**	**18 19 17.2**	**+0.3**
MK31				lAmb	lAmb	18 19 19.9	
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**18 19 16.9**	**0.0**
	comp=Z,3.8nm,0.8s,baz=90,slow=9.8,SNR=25						
MKAR				LR	LR	18 38 20.2	
	comp=Z,53nm,20.9s,baz=66,slow=36						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**18 19 16.5**	**-0.4**
MAKZ	**Makanchi**	**45.12**	**303**	P	**P**	**18 19 18.3**	**-0.3**
MAKZ				lAmb	lAmb	18 19 21.7	
	comp=Z,3.7nm,0.9s						
KDAK	**Kodiak Island**	**47.41**	**41**	P	**P**	**18 19 36.8**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=210,slow=14,SNR=2.1						
ILAR	**Eielson Array**	**49.94**	**32**	P	**P**	**18 19 56.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=257,slow=5.6,SNR=7.0						
WRA	**Warramunga Arr**	**56.33**	**189**	P	**P**	**18 20 42.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=6.2,slow=7.5,SNR=6.8						
ABKAR	**Akbulak array**	**58.79**	**311**	P	**P**	**18 21 00.2**	**-0.1**
ABKAR				lAmb	lAmb	18 21 00.9	
	comp=Z,2.3nm,0.8s						
ASAR	**Alice Springs**	**60.06**	**189**	P	**P**	**18 21 10.2**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=8.9,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**60.06**	**189**	P	**P**	**18 21 07.8**	**-1.4**
ARCES	**ARCESS Array B**	**64.90**	**340**	LR	LR	18 56 14.8	
	comp=Z,32nm,18.1s,baz=75,slow=42						
FINES	**FINESS Array B**	**69.72**	**333**	P	**P**	**18 22 12.1**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=76,slow=12,SNR=1.0						
NOA	**NORSAR Array B**	**75.09**	**338**	P	**P**	**18 22 44.5**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=38,slow=6.2,SNR=3.0						
NOA				LR	LR	18 57 58.3	
	comp=Z,34nm,21.8s,baz=260,slow=38						
NVAR	**Mina Array Bea**	**75.12**	**53**	P	**P**	**18 22 46.5**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=310,slow=3.3,SNR=5.0						
AKASG	**Malin Array Be**	**75.19**	**323**	P	**P**	**18 22 44.4**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=47,slow=6.2,SNR=9.7						
AKASG	**Malin Array Be**	**75.19**	**323**	lAmb	lAmb	18 22 45.1	
	comp=Z,1.2nm,1.0s						
BRTR	**Keskin Array B**	**79.71**	**312**	P	**P**	**18 23 10.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=40,slow=6.5,SNR=4.3						
CLL	**Collm**	**82.01**	**330**	*e*pP	pP	18 23 32.0	+5.3
GERES	**GERESS Array B**	**83.62**	**329**	P	**P**	**18 23 30.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=5.8,SNR=2.9						
TXAR	**Lajitas Array**	**90.27**	**53**	P	**P**	**18 24 04.6**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=328,slow=4.4,SNR=3.6						
LPAZ	**La Paz**	**146.71**	**61**	PKPbc	**PKPbc**	**18 30 45.6**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=338,slow=1.3,SNR=5.7						

KRSC 03 18:38:14.0±1.0,51°.02N×158°.18E,h51km±15km,ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.80**	**356**	*i* P	Pn	18 38 30.1	+1.1
KDTR				*eS*	Sn	18 38 41.2	+1.3
PAU	**Pauzhetka**	**0.97**	**298**	*eP*	Pn	18 38 32.8	+1.5
PAU				*eS*	Sn	18 38 45.7	+1.7
SKR	**Severo-Kuril's**	**1.35**	**256**	*eP*	Pn	18 38 37.5	+1.1
SKR				*eS*	Sn	18 38 54.2	+1.1
ASAK	**Asacha**	**1.38**	**353**	*eP*	Pn	18 38 38.6	+1.7
ASAK				*eS*	Sn	18 38 55.6	+1.6
RUS	**Russkaya**	**1.43**	**8**	*eP*	Pn	18 38 38.8	+1.3
RUS				*eS*	Sn	18 38 56.5	+1.3
MTVR	**Mutnovka**	**1.47**	**0**	*eP*	Pn	18 38 39.8	+1.6
MTVR				*eS*	Sn	18 38 58.0	+1.7
GRL	**Gorelyy**	**1.54**	**358**	*eP*	Pn	18 38 41.1	+2.0
GRL				*eS*	Sn	18 39 00.5	+2.5
MIPR	**Malaya Ipel'ka**	**1.54**	**326**	*eP*	Pn	18 38 41.3	+2.3
MIPR				*eS*	Sn	18 39 01.1	+3.2
ALID	**Alaid**	**1.67**	**266**	*eP*	Pn	18 38 42.5	+1.6
ALID				*eS*	Sn	18 39 02.7	+1.5
KRMR	**Karymshinskiy**	**1.82**	**359**	*eP*	Pn	18 38 45.9	+3.1
KRMR				*eS*	Sn	18 39 08.1	+3.5
APC	**Apacha**	**2.01**	**342**	*eP*	Pn	18 38 48.1	+2.7
APC				*eS*	Sn	18 39 12.0	+2.6
PET	**Petropavlovsk**	**2.03**	**8**	*eP*	Pn	18 38 47.6	+1.9
PET				*eS*	Sn	18 39 11.5	+1.7
DALK	**Dalny**	**2.05**	**10**	*eP*	Pn	18 38 47.8	+1.9
DALK				*eS*	Sn	18 39 12.2	+1.9
UGLR	**Uglovaya**	**2.23**	**10**	*eP*	Pn	18 38 51.1	+2.5
UGLR				*eS*	Sn	18 39 17.6	+2.7
NLC	**Nalytchevo**	**2.27**	**18**	P	Pn	18 38 52.0	+3.0
NLC				*eS*	Sn	18 39 19.0	+3.2
AVH	**Avacha**	**2.28**	**9**	*eP*	Pn	18 38 52.6	+3.4
SMAR	**Somma**	**2.28**	**9**	*eP*	Pn	18 38 52.4	+3.0
KOK	**Koryaka**	**2.30**	**7**	*eP*	Pn	18 38 52.6	+3.2
SDLR	**Sedlovina**	**2.31**	**11**	*eP*	Pn	18 38 51.7	+2.1
KRER	**Koryakskii**	**2.32**	**9**	*eP*	Pn	18 38 53.2	+3.4
KRX	**Arik**	**2.36**	**7**	*eP*	Pn	18 38 53.1	+2.7
SPN	**Mys Shipunski**	**2.38**	**28**	*eP*	Pn	18 38 54.0	+3.6
SPN				*eS*	Sn	18 39 21.2	+2.9
GNL	**Ganaly**	**2.69**	**357**	*eP*	Pn	18 38 57.8	+3.0
MKZ	**Mys Kozlova**	**4.15**	**30**	*eP*	Pn	18 39 17.0	+2.3
KZV	**Kizimen**	**4.30**	**16**	*eP*	Pn	18 39 21.2	+4.3
TUMD	**Tumrok D**	**4.40**	**17**	*eP*	Pn	18 39 22.6	+4.4
TUMR	**Tumrok**	**4.43**	**15**	*eP*	Pn	18 39 22.0	+3.3
KMNR	**Kamenistaya**	**4.91**	**14**	*eP*	Pn	18 39 30.5	+5.3
ESO	**Esso**	**4.93**	**3**	*eP*	Pn	18 39 29.5	+4.1
SRDR	**Sredinnyy**	**5.39**	**9**	*eP*	Pn	18 39 36.5	+4.7
KBTR	**Krutoberegovo**	**5.89**	**26**	*eP*	Pn	18 39 41.5	+3.0
SRKR	**Sorokina**	**5.92**	**16**	*eP*	Pn	18 39 42.2	+3.2

*IDC **03** 18:56:31.1±0.5,10°.74N×126°.22E,h0km,mb4.2/24,*
mb1 4.3/24,mb1mx4.1/45,mbtmp4.2/24,MS3.4/5,
Ms1 3.4/5,ms1mx3.0/46,Error ellipse: s-maj=22.8km
s-min=11.3km az=76.0
*MAN **03** 18:56:34.5,10°.81N×126°.30E,h8km,MS4.0*
*NEIC **03** 18:56:39.2±1.5,10°.72N±0°.08×126°.3E±0°.1,h61km±5km,*
mb4.5/31,Error ellipse: s-maj=20.3km s-min=11.3km
az=87.0

ISC 03 18:56:37.1±0.4,10°.74N±0°.04×126°.37E±0°.06,h44km,n89,
σ1f75/89,mb4.4/38,MS3.0/3,2C-5D,Philippine Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.98**	**194**	*eP*	**Pn**	**18 56 52.0**	**-2.5**
SCPH	**Surigao**	**1.29**	**222**	*i*P	**Pn**	**18 56 57.7**	**-1.0**
SCPH				*i* S	**Sn**	**18 57 15.7**	**+0.9**
MSLP	**Maasin**	**1.60**	**248**	*eP*	**Pn**	**18 57 02.3**	**-0.7**
OCLP	**Ormoc**	**1.75**	**280**	*eP*	**Pn**	**18 57 04.5**	**-0.6**
BUTP	**Butuan**	**1.91**	**203**	*eP*	**Pn**	**18 57 06.1**	**-1.2**
BUTP				*eS*	**Sn**	**18 57 34.3**	**+4.3**
LLP	**Lapu-Lapu**	**2.40**	**260**	*eP*	**Pn**	**18 57 14.2**	**+0.3**
LLP				*eS*	**Sn**	**18 57 44.5**	**+2.3**
CGP	**Cagayan de Oro**	**2.81**	**216**	*i*P	**Pn**	**18 57 19.8**	**+0.2**
CGP				*i* S	**Sn**	**18 57 56.8**	**+4.6**
BUKP	**Musuan**	**3.13**	**204**	*eP*	**Pn**	**18 57 24.2**	**+0.2**
BUKP				*eS*	**Sn**	**18 58 08.2**	**+8.1**
RCP	**Roxas**	**3.65**	**283**	*eP*	**Pn**	**18 57 31.6**	**+0.5**
RCP				*eS*	**Sn**	**18 58 14.6**	**+1.7**
DCPH	**Dipolog City**	**3.67**	**234**	*eP*	**Pn**	**18 57 31.4**	**+0.1**
DCPH				*eS*	**Sn**	**18 58 14.0**	**+0.6**
DAV	**Davao City (W)**	**3.73**	**192**	Lg	Lg	18 58 27.1	
	73nm,0.3s,baz=261,slow=20,SNR=2.0						
DAV				LR	LR	18 59 31.7	
	comp=Z,855nm,18.7s,baz=352,slow=49						
DAV	**Davao City (W)**	**3.73**	**192**	Pn	**Pn**	**18 57 35.5**	**+3.3**
MATI	**Mati**	**3.78**	**182**	*eP*	Pn	18 57 38.2	+5.3
MATI				*eS*	Sn	18 58 29.5	+13
CNOP	**Candoni, Negro**	**3.78**	**256**	*eP*	**Pn**	**18 57 32.8**	**-0.1**
CNOP				*eS*	**Sn**	**18 58 19.1**	**+2.9**
PAGZ	**Pagadian**	**4.12**	**226**	*eP*	**Pn**	**18 57 38.0**	**+0.4**
JAP	**San Jose, Anti**	**4.35**	**270**	*eP*	Pn	18 57 45.8	+5.1
DDMP	**Don Marcelino,**	**4.66**	**188**	*eP*	**Pn**	**18 57 49.3**	**+4.3**
BOAC	**Boac**	**5.18**	**302**	*eP*	**Pn**	**18 57 52.6**	**+0.4**
LQP	**Lukban**	**5.78**	**306**	*eP*	**Pn**	**18 58 00.6**	**0.0**
PCPH	**Palayan**	**7.02**	**314**	*eP*	**Pn**	**18 58 17.6**	**+0.2**
SMPP	**San Manuel, Pa**	**7.71**	**315**	*eP*	**Pn**	**18 58 25.5**	**-1.5**
SAMP	**Sagada Mountai**	**8.23**	**320**	*eP*	**Pn**	**18 58 32.7**	**-1.4**
TNTI	**Ternate**	**9.96**	**174**	Pn	**Pn**	**18 58 57.6**	**-0.1**
TPUB	**Ta-pu**	**13.63**	**337**	Pn	**Pn**	**18 59 48.9**	**+0.9**
FAKI	**Fak Fak**	**14.78**	**156**		**Pn**	**19 00 00.9**	**-2.5**
KAPI	**Kappang**	**16.98**	**203**	Pn	**Pn**	**19 00 25.5**	**-6.1**
GUMO	**Guam**	**18.30**	**79**	LR	LR	19 08 34.5	
	comp=Z,88nm,18.1s,baz=148,slow=39						
MMRI	**Maumere**	**19.69**	**192**	P	**P**	**19 01 03.5**	**+0.8**
MMRI				lAmb	lAmb	19 01 06.1	
	comp=Z,40nm,1.0s						
SOEI	**Soe**	**20.47**	**186**	P	Pn	19 01 14.0	+0.2
SOEI				lAmb	lAmb	19 01 34.5	
	comp=Z,32nm,0.9s						
BATI	**Baumata**	**20.99**	**187**	P	**P**	**19 01 19.1**	**+2.2**
	comp=Z,36nm,0.5s,baz=76,slow=2.5,SNR=10						
KNRA	**Kununurra**	**26.36**	**175**	P	**P**	**19 02 08.7**	**-0.6**
KNRA				lAmb	lAmb	19 02 23.7	
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**26.63**	**3**	P	**P**	**19 02 11.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=183,slow=10,SNR=6.6						
CMAR	**Chiang Mai Arr**	**27.60**	**289**	P	**P**	**19 02 19.1**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=104,slow=7.0,SNR=14						
CMAR				LR	LR	19 14 10.7	
	comp=Z,39nm,18.6s,baz=185,slow=39						
MJAR	**Matsushiro Arr**	**27.83**	**21**	P	**P**	**19 02 21.8**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=203,slow=10,SNR=2.6						
FITZ	**Fitzroy Crossi**	**28.67**	**181**	P	**P**	**19 02 29.8**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=7.6,slow=4.7,SNR=7.7						
FITZ	**Fitzroy Crossi**

AKTO	**Aktyubinsk**	**68.02**	**320**	P		**P**	**19 07 32.9**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=79,slow=3.4,SNR=4.8							
ARU	**Arti**	**68.89**	**327**	P		**P**	**19 07 36.8**	**-0.4**
ARU				IAmb		IAmb	19 07 41.1	
	comp=Z,13nm,1.5s							
ILAR	**Eielson Array**	**78.97**	**26**	P		**P**	**19 08 36.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=232,slow=5.3,SNR=2.9							
ARCES	**ARCESS Array B**	**83.79**	**340**	P		**P**	**19 09 01.5**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=66,slow=6.0,SNR=8.8							
ARCES	**ARCESS Array B**	**83.79**	**340**	IAmb		IAmb	19 09 04.3	
	comp=Z,22nm,1.5s							
BRTR	**Keskin Array B**	**85.31**	**309**	P		**P**	**19 09 08.3**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=71,slow=5.6,SNR=5.3							
FINES	**FINESS Array B**	**85.52**	**332**	P		**P**	**19 09 09.7**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=174,slow=3.6,SNR=5.7							
AKASG	**Malin Array Be**	**86.26**	**321**	P		**P**	**19 09 13.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=66,slow=4.3,SNR=4.0							
NOA	**NORSAR Array B**	**92.38**	**334**	P		**P**	**19 09 42.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=65,slow=4.6,SNR=2.4							
YKA	**Yellowknife Ar**	**93.29**	**24**	P		**P**	**19 09 48.2**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=299,slow=5.4,SNR=4.1							
TXAR	**Lajitas Array**	**117.44**	**49**	PKP		**PKiKP**	**19 15 20.2**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=309,slow=2.9,SNR=2.3							
PLCA	**Paso Flores**	**146.60**	**156**	PKPbc		**PKPab**	**19 16 15.8**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=213,slow=6.4,SNR=6.5							

IDC 03 19:01:22.9±5.8, 30.07N×85.59E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/45, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=326.8km s-min=119.6km az=39.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.77**	**131**	Pn		Pn	19 05 19.2	-0.2
	0.1nm,0.3s,baz=312,slow=9.8,SNR=6.4							
WRA	**Warramunga Arr**	**68.37**	**130**	P		P	19 12 26.6	0.0
	0.6nm,0.9s,baz=322,slow=6.5,SNR=5.8							
ASAR	**Alice Springs**	**70.76**	**134**	P		P	19 12 41.3	0.0
	0.2nm,0.6s,baz=319,slow=5.5,SNR=4.9							

*IDC **03** 19:18:23.4±1.4, 5.60S×153.22E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.9/33, mbtmp3.9/11, ML2.0/1, Error ellipse: s-maj=42.2km s-min=17.8km az=124.0*

*NEIC **03** 19:18:29.8±1.3, 5.47S±0.08×153.0E±0.2, h31km±7km, mb4.3/12, Error ellipse: s-maj=22.8km s-min=11.8km az=97.0*

ISC 03 19:18:30.0±0.9, 5.47S±0.10×153.0E±0.1, h37km, n24, σ1§02/26, mb4.0/15, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.54**	**326**	Pn		**Pn**	**19 18 54.6**	**-0.4**
PMG	**Port Moresby**	**7.02**	**236**	Pn		**Pn**	**19 20 10.7**	**+0.4**
	1.5nm,0.3s,baz=37,slow=10,SNR=1.8							
PMG				Sn		**Sn**	19 21 30.0	+1.1
	2.1nm,0.3s,baz=225,slow=18,SNR=8.6							
PMG	**Port Moresby**	**7.02**	**236**	Pn		**Pn**	**19 20 08.4**	**-1.8**
SIJI	**Sorong**	**22.21**	**281**	P		**P**	**19 23 24.7**	**+1.2**
	2.7nm,0.5s,baz=73,slow=14,SNR=2.7							
MTN	**Manton Dam**	**22.82**	**250**	P		**P**	**19 23 28.9**	**-1.1**
MTN				IAmb		IAmb	19 23 36.9	
	comp=Z,16nm,0.9s							
WB0	**Warramunga Arr**	**23.05**	**230**	P		**P**	**19 23 31.2**	**-1.1**
WB0				IAmb		IAmb	19 23 44.7	
	comp=Z,9.1nm,1.0s							
WR0	**Warramunga Arr**	**23.05**	**230**	P		**P**	**19 23 32.1**	**-0.1**
WR0				IAmb		IAmb	19 23 45.1	
	comp=Z,5.3nm,0.8s							
WRAB	**Tennant Creek**	**23.18**	**230**	P		**P**	**19 23 33.1**	**-0.5**
WRAB				IAmb		IAmb	19 23 35.2	
	comp=Z,6.0nm,0.8s							
WB2	**Warramunga Arr**	**23.18**	**230**	P		**P**	**19 23 32.4**	**-1.2**
WB2				IAmb		IAmb	19 23 46.0	
	comp=Z,7.7nm,1.0s							
WRA	**Warramunga Arr**	**23.19**	**230**	P		**P**	**19 23 32.9**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=54,slow=9.9,SNR=18							
AS31	**Alice Springs**	**25.82**	**224**	P		**P**	**19 23 57.9**	**-0.1**
ASAR	**Alice Springs**	**25.82**	**224**	P		**P**	**19 23 56.9**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=55,slow=9.0,SNR=23							
ASAR				PcP		**PcP**	19 27 26.9	-0.2
	comp=Z,0.4nm,0.6s,baz=60,slow=2.4,SNR=6.0							
KNRA	**Kununurra**	**25.90**	**245**	P		**P**	**19 23 58.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**29.55**	**243**	P		**P**	**19 24 29.8**	**-1.6**
	comp=Z,2.6nm,0.9s,baz=111,slow=5.8,SNR=6.1							
FITZ	**Fitzroy Crossi**	**29.55**	**243**	P		**P**	**19 24 30.2**	**-1.2**
FITZ				IAmb		IAmb	19 24 31.6	
	comp=Z,8.3nm,1.1s							
FORT	**Forrest**	**34.42**	**220**	P		**P**	**19 25 13.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**58.38**	**295**	P		**P**	**19 28 22.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=128,slow=6.0,SNR=6.0							
PETK	**Petropavlovsk-**	**58.49**	**3**	P		**P**	**19 28 22.5**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=168,slow=6.8,SNR=9.6							
SONM	**Songino Array**	**67.02**	**328**	P		**P**	**19 29 19.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=150,slow=6.0,SNR=6.8							
MKAR	**Makanchi Array**	**80.99**	**319**	P		**P**	**19 30 40.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=105,slow=6.9,SNR=5.7							
ZALV	**Zalesovo Beam**	**81.84**	**326**	P		**P**	**19 30 44.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=64,slow=3.4,SNR=5.4							
ILAR	**Eielson Array**	**82.69**	**22**	P		**P**	**19 30 48.2**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=271,slow=1.3,SNR=4.1							
QSPA	**South Pole Qui**	**84.49**	**180**	P		**P**	**19 31 01.1**	**+2.2**
GERES	**GERESS Array B**	**124.75**	**328**	PKP		**PKPdf**	**19 37 26.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=81,slow=6.1,SNR=2.5							

*NEIC **03** 19:18:30.6±2.4, 7.1S±0.1×12.82W±0.09, h10km±1km, mb4.7/22, Error ellipse: s-maj=20.8km s-min=14.8km az=163.0*

*IDC **03** 19:18:30.2±0.9, 6.93S×12.60W, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.1/56, mbtmp4.2/20, ML3.7/1, MS4.0/13, Ms1 4.0/13, ms1mx3.7/35, Error ellipse: s-maj=26.1km s-min=16.9km az=85.0*

*GCMT **03** 19:18:34.6±0.2, 6.95S±0.01×12.75W±0.01, h19km±1km, MW5.0/115, Moment Tensor Solution. s47,c58; s115,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.63±.12; Mθθ-1.04±.11; Mϕϕ1.67±.12; Mrθ0.37±.21; Mθϕ3.13±.09; Mϕr-0.23±.23; Best double couple: M₀3.44900×10¹⁶ NP1:ϕs349.00000°, δ83.00000°, λ-173.00000°. NP2:ϕs258.00000°, δ83.00000°, λ-7.00000°. Principal axes: T 3.7260, Plg0.0000°, Azm303.0000°; N -0.5540, Plg80.0000°, Azm34.0000°; P -3.1720, Plg10.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 19:18:30.6±0.5, 7.15S±0.08×12.83W±0.09, h13km, n81, σ1§43/67, mb4.5/36, MS4.1/13, 6C-4D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASCN	**Ascension**	**1.71**	**243**	Pn		**Pb**	**19 18 59.2**	**-2.7**
H10N1	**ASCENSION HYDR**	**1.78**	**247**	T		T	19 21 07.7	
	baz=69,slow=73							
H10N2	**ASCENSION HYDR**	**1.78**	**247**	T		T	19 21 07.3	
	baz=69,slow=73							
H10N3	**ASCENSION HYDR**	**1.79**	**247**	T		T	19 21 06.6	
	baz=69,slow=73							
SHEL	**Horse Pasture**	**11.17**	**142**	Pn		**Pn**	**19 21 08.7**	**-1.5**
LIC	**Lamto**	**15.40**	**31**	*e*P		**Pn**	**19 22 06.7**	**-1.1**
	209nm,1.2s							
KIC	**Kosan Boka**	**15.66**	**31**	*e*P		**Pn**	**19 22 08.4**	**-2.8**
	80nm,1.0s							
TIC	**Toumodi**	**15.76**	**30**	*e*P		**Pn**	**19 22 10.9**	**-1.6**
DBIC	**Dimbokro**	**15.86**	**30**	Pn		**Pn**	**19 22 10.2**	**-3.7**
	0.3nm,0.3s,baz=198,slow=11,SNR=12							
DBIC	**Dimbokro**	**15.86**	**30**	Pn		Pn	19 22 08.0	-5.9
KOWA	**Kowa**	**23.21**	**22**	P		**P**	**19 23 35.8**	**-1.8**
	16nm,0.9s,baz=206,slow=10,SNR=14							
KOWA	**Kowa**	**23.21**	**22**	P		**P**	**19 23 36.0**	**-1.6**
KOWA				IAmb		IAmb	19 23 39.9	
	comp=Z,22nm,0.9s							
BDFB	**Brasilia**	**35.46**	**253**	P		P	19 25 31.0	+3.7
	comp=Z,1.9nm,0.5s,baz=58,slow=12,SNR=2.6							
LSZ	**Lusaka**	**40.98**	**105**	P		**P**	**19 26 13.7**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=260,slow=6.1,SNR=4.9							
LSZ	**Lusaka**	**40.98**	**105**	IAmb		IAmb	19 26 17.3	
	comp=Z,8.6nm,1.1s							
BOSA	**Boshof**	**41.79**	**126**	P		**P**	**19 26 21.3**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=265,slow=12,SNR=4.6							
BOSA				LR		LR	19 41 26.3	
	comp=Z,311nm,18.6s,baz=300,slow=33							
MATP	**Matopo**	**42.12**	**113**	P		**P**	**19 26 23.3**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=283,slow=8.0,SNR=12							
MBAR	**Mbarara**	**43.93**	**83**	P		**P**	**19 26 39.6**	**+1.7**
MBAR				IAmb		IAmb	19 26 48.9	
	comp=Z,12nm,1.1s							
CPUP	**Villa Florida**	**46.39**	**240**	LR		LR	19 44 04.0	
	comp=Z,168nm,18.5s,baz=71,slow=33							
ESDC	**Sonseca Array**	**47.30**	**9**	P		**P**	**19 27 04.4**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=240,slow=12,SNR=2.8							
ESDC				LR		LR	19 46 14.3	
	comp=Z,144nm,21.6s,baz=290,slow=35							
KEST	**Kesra**	**47.48**	**25**	P		**P**	**19 27 06.0**	**+0.4**
	comp=Z,6.5nm,0.9s,baz=179,slow=5.0,SNR=8.4							
KEST				LR		LR	19 47 26.6	
	comp=Z,372nm,19.9s,baz=182,slow=37							
KEST	**Kesra**	**47.48**	**25**	P		**P**	**19 27 05.8**	**+0.2**
LODK	**Lodwar**	**49.23**	**79**	P		**P**	**19 27 20.6**	**+1.1**
SAML	**Samuel**	**49.86**	**264**	P		**P**	**19 27 27.0**	**+2.9**
SAML				IAmb		IAmb	19 27 36.3	
	comp=Z,10nm,1.4s							
FNA	**Florina**	**57.13**	**31**	P		**P**	**19 28 17.8**	**+0.7**
FNA				IAmb		IAmb	19 28 44.3	
	comp=Z,6.5nm,1.1s							
DAVOX	**Davos/Dischmat**	**57.36**	**18**	P		**P**	**19 28 17.8**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=294,slow=16,SNR=6.9							
DAVA	**Damuels**	**57.81**	**18**	*e*P		**P**	**19 28 22.0**	**0.0**
	comp=Z,5.9nm,0.8s							
FETA	**Feichten**	**57.85**	**19**	*e*P		**P**	**19 28 21.9**	**-0.3**
	comp=Z,4.1nm,0.9s							
ZOU	**Zoufplan**	**58.19**	**21**	P		**P**	**19 28 25.4**	**+0.7**
ABTA	**Abfaltersbach**	**58.20**	**20**	*e*P		**P**	**19 28 25.4**	**+0.8**
	comp=Z,2.2nm,0.7s							
MOTA	**Moosalm**	**58.25**	**19**	*e*P		**P**	**19 28 25.0**	**0.0**
	comp=Z,3.8nm,0.9s							
RETA	**Reutte**	**58.27**	**19**	*e*P		**P**	**19 28 25.1**	**+0.1**
	comp=Z,1.4nm,0.5s							
BFO	**Black Forest**	**58.30**	**16**	P		**P**	**19 28 23.4**	**-1.8**
BFO				IAmb		IAmb	19 28 40.7	
	comp=Z,11nm,1.4s							
PRED	**Cave del Predi**	**58.31**	**21**	P		**P**	**19 28 25.5**	**+0.2**
PRED				IAmb		IAmb	19 28 43.8	
	comp=Z,11nm,1.4s							
WTTA	**Wattenberg**	**58.35**	**19**	*e*P		**P**	**19 28 25.7**	**-0.1**
	comp=Z,7.3nm,0.7s							
WATA	**Walderalm**	**58.40**	**19**	*e*P		**P**	**19 28 26.4**	**+0.3**
	comp=Z,2.3nm,0.5s							
OBKA	**Obir**	**58.72**	**22**	*e*P		**P**	**19 28 29.6**	**+1.4**
	comp=Z,1.0nm,0.5s							
KBA	**Koelnbreinsper**	**58.77**	**21**	*e*P		**P**	**19 28 29.6**	**+0.9**
	comp=Z,4.8nm,1.1s							
DIVS	**Divibare**	**59.00**	**27**	P		**P**	**19 28 30.6**	**+0.4**
DIVS				IAmb		IAmb	19 28 46.1	
	comp=Z,5.7nm,1.0s							
VTS	**Vitosha**	**59.42**	**30**	↑P		**P**	**19 28 34.4**	**+1.1**
VTS	**Vitosha**	**59.42**	**30**	P		**P**	**19 28 33.9**	**+0.7**
CONA	**Conrad Observa**	**60.40**	**22**	*e*P		**P**	**19 28 39.5**	**-0.3**
	comp=Z,7.9nm,1.6s							
GEC2	**GERESS Array S**	**60.41**	**20**	P		**P**	**19 28 40.1**	**+0.3**
GERES	**GERESS Array B**	**60.41**	**20**	P		**P**	**19 28 40.2**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=187,slow=6.5,SNR=12							
GERES				LR		LR	19 55 38.2	
	comp=Z,144nm,18.9s,baz=230,slow=37							
GERES	**GERESS Array B**	**60.41**	**20**	P		**P**	**19 28 39.6**	**-0.3**
HERR	**Herculane**	**60.71**	**28**	↓P		P	19 28 51.5	+10
SIRR	**Siria**	**61.42**	**27**	↑P		**P**	**19 28 47.9**	**+1.2**
PSZ	**Piszkesteto**	**61.96**	**24**	↑P		**P**	**19 28 49.4**	**-1.0**
DRGR		**62.29**	**27**	↑P		**P**	**19 28 53.1**	**+0.5**
CLL	**Collm**	**62.33**	**18**	*e*P		**P**	**19 28 52.0**	**-0.6**
CLL				*e*S		**S**	**19 37 24.0**	**+5.4**
CLL				LmV			19 55 00.0	
	comp=Z,100nm,18.0s							
VOIR		**62.37**	**29**	↓P		**P**	**19 28 53.9**	**+0.7**
EKA	**Eskdalemuir Ar**	**62.77**	**6**	P		**P**	**19 28 55.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=198,slow=6.5,SNR=1.6							
MLR	**Muntele Rosu**	**62.85**	**30**	P		**P**	**19 28 55.6**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=193,slow=6.4,SNR=8.5							
MLR	**Muntele Rosu**	**62.85**	**30**	↑P		**P**	**19 28 56.7**	**+0.2**
MLR	**Muntele Rosu**	**62.85**	**30**	P		**P**	**19 28 56.2**	**-0.2**
NNA	**Nana**	**63.19**	**260**	LR		LR	19 56 50.3	
	comp=Z,104nm,18.3s,baz=100,slow=36							
TRPA	**Tarpa**	**63.23**	**26**	↑P		**P**	**19 28 59.3**	**+0.5**
BR131	**Keskin Array S**	**63.36**	**39**	P		**P**	**19 28 58.4**	**-1.6**
BR131				IAmb		IAmb	19 29 10.2	
	comp=Z,6.1nm,1.1s							
BRTR	**Keskin Array B**	**63.36**	**39**	P		**P**	**19 29 00.2**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=194,slow=5.7,SNR=7.2							
BRTR	**Keskin Array B**	**63.36**	**39**	P		**P**	**19 28 59.5**	**-0.5**
BIZ	**Bicaz**	**63.97**	**29**	↓P		**P**	**19 29 04.9**	**+1.3**
SJCC	**San Jacinto, C**	**64.36**	**285**	P		**P**	**19 29 07.7**	**+0.8**
SNAA	**Sanae**	**64.76**	**177**	P		**P**	**19 29 11.8**	**+3.3**
	comp=Z,2.4nm,1.0s,baz=322,slow=5.4,SNR=4.3							
SNAA	**Sanae**	**64.76**	**177**	P		**P**	**19 29 10.4**	**+1.9**
SNAA				IAmb		IAmb	19 29 30.9	
	comp=Z,8.1nm,1.3s							
AKASG	**Malin Array Be**	**68.09**	**27**	P		**P**	**19 29 29.4**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=226,slow=6.3,SNR=23							
AKASG	**Malin Array Be**	**68.09**	**27**	P		**P**	**19 29 28.8**	**-1.3**
AKASG				IAmb		IAmb	19 29 39.0	
	comp=Z,6.5nm,1.1s							
AKBB	**Malin Array Si**	**68.09**	**27**	P		**P**	**19 29 29.2**	**-0.8**
HFS	**Hagfors**	**70.28**	**14**	P		**P**	**19 29 43.6**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=170,slow=10,SNR=3.0							
SYO	**Syowa Base**	**70.53**	**162**	*e*P		**P**	**19 29 43.2**	**-1.7**
NOA	**NORSAR Array B**	**70.54**	**12**	P		**P**	**19 29 44.5**	**-0.6**
	comp=Z,1.6nm,1.1s,baz=204,slow=6.2,SNR=2.4							
NOA				LR		LR	20 01 35.0	
	comp=Z,41nm,19.5s,baz=35,slow=37							
KIV	**Kislovodsk**	**71.32**	**39**	P		**P**	**19 29 48.1**	**-2.1**
KIV				IAmb		IAmb	19 30 00.7	
	comp=Z,7.3nm,1.1s							
KBZ	**Khabaz**	**71.34**	**39**	P		**P**	**19 29 50.1**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=239,slow=6.1,SNR=4.3							
OBN	**Obninsk**	**74.34**	**27**	LR		LR	20 04 58.7	
	comp=Z,36nm,18.5s,baz=175,slow=38							
FINES	**FINESS Array B**	**74.77**	**18**	P		**P**	**19 30 10.9**	**+0.7**
	comp=Z,5.1nm,0.9s,baz=167,slow=26,SNR=2.5							
MAW	**Mawson**	**77.99**	**158**	LR		LR	19 57 18.9	
	comp=Z,93nm,19.7s,baz=254,slow=30							
ARCES	**ARCESS Array B**	**80.91**	**13**	P		**P**	**19 30 43.5**	**-0.7**
	comp=Z,4.1nm,1.1s,baz=181,slow=4.1,SNR=2.3							
ULM	**Lac du Bonnet**	**91.01**	**320**	LR		LR	20 09 15.1	
	comp=Z,123nm,18.3s,baz=78,slow=34							
TXAR	**Lajitas Array**	**94.18**	**299**	LR		LR	20 15 32.9	
	comp=Z,28nm,18.4s,baz=0.0,slow=36							
PALK	**Pallekele**	**94.37**	**83**	LR		LR	20 10 42.4	
	comp=Z,109nm,19.2s,baz=22,slow=33							
VNDA	**Vanda**	**95.41**	**179**	LR		LR	20 10 13.9	
	comp=Z,65nm,18.8s,baz=182,slow=32							
WRA	**Warramunga Arr**	**137.95**	**130**	PKP		**PKPdf**	**19 37 57.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=240,slow=2.8,SNR=5.4							

*TEH **03** 19:33:35.9, 31.62N×48.92E, h11km, ML3.6*

*THR **03** 19:33:35.3±0.4, 31.59N×48.87E, h10km±3km, ML3.5*

ISC 03 19:33:36.4±0.9, 31.62N±0.03×48.91E±0.04, h10km, n52, σ1§30/54, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.37**	**218**	*e*Pg		**Pg**	**19 33 43.5**	**-0.2**
SHGR	**Shooshtar-Gavs**	**0.50**	**349**	*e*Pg		**Pg**	**19 33 45.8**	**-0.4**
SHGR				*e*Sg		**Sg**	**19 33 53.0**	**+0.3**
SHGR	**Shooshtar-Gavs**	**0.50**	**349**	*e*Pg		**Pg**	**19 33 45.8**	**-0.4**
ABEH	**Behbahan**	**1.54**	**131**	*e*Sg		**Sg**	**19 34 27.3**	**+1.5**
ABEH				*e*Pg		**Pg**	**19 34 05.6**	**-0.3**
DHL1	**Dehloran**	**1.74**	**308**	*e*Pn		**Pb**	**19 34 07.9**	**-0.6**
SHK1	**Shahrekord**	**1.82**	**67**	*e*			19 34 39.0	
	comp=Z,5μm,0.6s							
SHK1				*e*Pg		**Pb**	**19 34 09.9**	**-0.1**
BMDN	**Meydan**	**2.05**	**358**	*e*Pn		**Pb**	**19 34 12.4**	**-1.5**
BMDN				*e*			19 35 03.5	
	comp=Z,3μm,1.3s							
IKFM	**Kafar-mosalman**	**2.10**	**335**	*e*Pn		**Pb**	**19 34 13.6**	**-1.0**
IKFM				*e*			19 34 49.8	
	comp=Z,4μm,0.4s							
IDOB	**Doab**	**2.25**	**344**	*e*Pn		**Pn**	**19 34 15.0**	**+1.1**
MIB	**Mutribah**	**2.26**	**217**	*e*P		**Pn**	**19 34 13.7**	**-0.1**
KHMZ	**Khomeyn**	**2.29**	**22**	*e*Pn		**Pb**	**19 34 15.9**	**-2.1**
KHMZ	**Khomeyn**	**2.29**	**22**	*e*Pn		**Pb**	**19 34 15.9**	**-2.1**
UMR	**Umm Al-Rimmam**	**2.30**	**207**	*e*P		**Pn**	**19 34 14.6**	**+0.2**
KLNJ	**Kolanjah**	**2.37**	**104**	*e*Pn		**Pn**	**19 34 16.9**	**+1.1**
KLNJ				*e*			19 34 56.1	
	comp=Z,4μm,0.5s							
HSAM	**Samen**	**2.60**	**354**	*e*Pn		**Pn**	**19 34 20.0**	**+1.2**
RST	**Umm Al-Ruwaisa**	**2.68**	**218**	*e*P		**Pn**	**19 34 20.6**	**+1.0**
IGAR	**Gharneh**	**2.77**	**73**	*e*Pn		**Pb**	**19 34 23.2**	**-3.0**
IGAR				*e*			19 34 24.9	
	comp=Z,2μm,0.2s							
IKLH	**Kolahrood**	**2.82**	**52**	*e*Pn		**Pn**	**19 34 23.6**	**+1.8**
IKLH				*e*			19 34 28.7	
	comp=Z,2μm,0.3s							
RDF	**Al-Radifah**	**2.93**	**204**	*e*P		**Pn**	**19 34 23.6**	**+0.5**
IRAM	**Rameseh**	**2.96**	**85**	*e*Pn		**Pn**	**19 34 25.3**	**+1.5**
IBZA	**Bozab**	**2.98**	**343**	*e*Pn		**Pn**	**19 34 25.5**	**+1.5**
QRN	**Al-Qurain**	**2.99**	**197**	*e*P		**Pn**	**19 34 23.9**	**0.0**
QAM	**Ghamsar**	**3.02**	**44**	*e*Pn		**Pn**	**19 34 26.7**	**+2.2**
ASAO	**Ashtian**	**3.07**	**17**	*e*Pn		**Pn**	**19 34 26.8**	**+1.6**
ASAO	**Ashtian**	**3.07**	**17**	*e*Pn		**Pn**	**19 34 26.8**	**+1.6**
IZEF	**Zefreh**	**3.16**	**65**	*e*Pn		**Pn**	**19 34 28.3**	**+1.7**
HAGD	**Aghdareh**	**3.20**	**3**	*e*Pn		**Pn**	**19 34 28.1**	**+1.1**
IALM	**Almabolaq**	**3.29**	**349**	*e*Pn		**Pn**	**19 34 29.8**	**+1.5**
IGHG	**Ghaleghazi**	**3.34**	**325**	*e*Pn		**Pn**	**19 34 30.2**	**+1.2**
AHBU	**AHRAM**	**3.43**	**142**	*e*Pn		**Pn**	**19 34 30.8**	**+0.8**
GHVR	**GHOM**	**3.49**	**34**	*e*Pn		**Pn**	**19 34 32.1**	**+1.3**
GHVR	**GHOM**	**3.49**	**34**	*e*Pn		**Pn**	**19 34 32.1**	**+1.3**
NASN	**Na'in**	**3.51**	**69**	*e*Pn		**Pn**	**19 34 32.7**	**+1.3**
NASN	**Na'in**	**3.51**	**69**	*e*Pn		**Pn**	**19 34 32.7**	**+1.3**
KRSH	**Karshahi**	**3.59**	**48**	*e*Pn		**Pn**	**19 34 33.9**	**+1.6**
ILIN	**Lien**	**3.67**	**334**	*e*Pn		**Pn**	**19 34 34.8**	**+1.3**
SNGE	**Sanandaj**	**3.70**	**340**	*e*Pn		**Pn**	**19 34 34.8**	**+0.9**
SNGE	**Sanandaj**	**3.70**	**340**	*e*Pn		**Pn**	**19 34 34.8**	**+0.9**
IDHR	**Dehrash**	**3.73**	**326**	*e*Pn		**Pn**	**19 34 34.9**	**+0.6**
IRAZ	**Razeghan**	**3.87**	**12**	*e*Pn		**Pn**	**19 34 37.4**	**+1.2**
ISFB	**Sefidab**	**3.91**	**45**	*e*Pn		**Pn**	**19 34 37.8**	**+1.2**
ISAD	**Sadrabad**	**4.08**	**85**	*e*Pn		**Pn**	**19 34 40.1**	**+1.0**
ANAR	**Anarak**	**4.37**	**68**	*e*Pn		**Pn**	**19 34 44.6**	**+1.6**
IMEH	**Mehriz**	**4.88**	**91**	*e*Pn		**Pn**	**19 34 51.1**	**+1.0**
YZKH	**Yazd**	**4.89**	**79**	*e*Pn		**Pn**	**19 34 51.6**	**+1.5**
YZKH	**Yazd**	**4.89**	**79**	*e*Pn		**Pn**	**19 34 51.6**	**+1.5**
ILAS	**Lasjerd**	**5.05**	**41**	*e*Pn		**Pn**	**19 34 52.9**	**+0.4**
ISHM	**Shahmirzad**	**5.55**	**40**	*e*Pn		**Pn**	**19 35 00.9**	**+1.6**
TPRV	**Parvadeh(Tabas**	**6.73**	**76**	*e*Pn		**Pn**	**19 35 16.1**	**+0.7**
TKDS	**Koohdasht(Taba**	**7.21**	**72**	*e*Pn		**Pn**	**19 35 23.0**	**+1.0**
SBZV	**Sabzevar**	**8.65**	**54**	*e*Pn		**Pn**	**19 35 42.5**	**+0.7**
AFRZ	**Afriz**	**8.72**	**75**	*e*Pn		**Pn**	**19 35 44.0**	**+1.2**

*IDC **03** 19:34:13.9±0.4, 43.51N×144.15E, h0km, mb4.8/30, mb1 4.9/36, mb1mx4.8/42, mbtmp4.8/36, ML3.0/4, MS4.0/28, Ms1 4.0/28, ms1mx3.8/56, Error ellipse: s-maj=11.7km s-min=9.7km az=13.0*

*BJI **03** 19:34:13.6±0.0, 43.47N×144.26E, h18km, mB4.9/49, mb4.9/70, Ms4.5/64, Ms7 4.3/60*

*NIED **03** 19:34:

comp=E,2µm,0.4s
YUK Yuzh-Kuril'sk 1.39 65 *e*P **Pn 19 34 40.5 -0.7**
YUK AMB AMB 19 34 41.7
comp=E,2µm,0.3s
YUK *e*S **Sb 19 34 59.7 +0.3**
YUK A A 19 35 00.7
comp=E,3µm,0.4s
YUK A A 19 35 00.7
comp=E,2µm,0.4s
JBT2 Biratori 2 1.45 243 ⇑P **Pn 19 34 41.3 -0.7**
JEM Erimo 1.61 206 Pn **Pn 19 34 43.2 -0.9**
ERM Erimo 1.61 206 *i* PN **Pn 19 34 43.2 -0.9**
ERM Erimo 1.61 206 **Pn 19 34 42.9 -1.3**
JEW Eniwo 2.05 253 **Pn 19 34 50.3 +0.2**
KUR Kuril'sk 3.22 55 *c i* PN **Pn 19 35 06.6 +0.3**
KUR *e*S **Sb 19 35 52.6 +0.4**
KUR pmax pmax
comp=N,197nm,0.8s
KUR pmax pmax
comp=Z,686nm,0.8s
KUR pmax pmax
comp=E,103nm,0.7s
KUR pmax pmax
comp=Z,3µm,2.6s
KUR smax smax
comp=E,375nm,0.6s
KUR smax smax
comp=N,223nm,1.1s
KUR smax smax
comp=E,6µm,3.2s
KUR smax smax
comp=N,3µm,1.8s
KUR MLR MLR
comp=Z,5µm,12.0s
KUR Kuril'sk 3.22 55 *e*P **Pn 19 35 06.8 +0.5**
KUR AMB AMB 19 35 15.4
comp=Z,690nm,0.8s
KUR AMB AMB 19 35 25.5
comp=Z,300nm,3.0s
KUR *e*S **Sb 19 35 48.7 -3.5**
KUR A A 19 35 57.6
comp=Z,220nm,0.6s
KUR A A 19 35 57.6
comp=Z,380nm,0.6s
KUR A A 19 36 01.3
comp=Z,3µm,3.0s
KUR A A 19 36 01.3
comp=Z,6µm,3.0s
JTM Tenmabayashi 3.50 221 Pn **Pn 19 35 10.8 +0.6**
YSS Yuzh-Sakhalins 3.62 345 *e*PN **Pn 19 35 12.8 +1.0**
YSS pmax pmax
comp=Z,150nm,0.7s
YSS MLR MLR
comp=Z,4µm,18.0s
YSS MLR MLR
comp=N,4µm,14.0s
YSS Yuzh-Sakhalins 3.62 345 Pn **Pn 19 35 11.6 -0.2**
YSS Yuzh-Sakhalins 3.62 345 *e*P **Pn 19 35 13.4 +1.6**
YSS AMB AMB 19 35 19.9
comp=N,150nm,0.7s
YSS *e*S **Sn 19 35 56.5 +2.3**
YSS A A 19 35 58.0
comp=N,510nm,0.9s
YSS AMS AMS 19 36 50.0
comp=N,4µm,15.0s
YSS AMS AMS 19 36 50.0
comp=N,4µm,15.0s
TEY Ternei 5.62 289⇑ *e*PN Pn 19 35 34.4 -4.8
TEY pmax pmax
comp=Z,30nm,1.2s
TEY MLR MLR
comp=Z,200nm,13.0s
UGL Uglegorsk 5.79 347 *e*PN Pn 19 35 32.5 -9.1
UGL MLR MLR
comp=E,2µm,10.0s
UGL MLR MLR
comp=N,1µm,12.0s
UGL MLR MLR
comp=Z,2µm,11.0s
UGL Uglegorsk 5.79 347 *e*P **Pn 19 35 43.6 +2.0**
UGL AMB AMB 19 35 47.4
comp=Z,60nm,0.7s
UGL AMS AMS 19 39 07.0
comp=Z,1µm,11.0s
UGL AMS AMS 19 39 07.0
comp=Z,2µm,11.0s
UGL AMS AMS 19 39 07.0
comp=Z,2µm,11.0s
JMM Marumori 6.13 205 **Pn 19 35 45.0 -1.3**
JSD Sado 7.01 221 Pn **Pn 19 35 59.6 +1.3**
TYV Tymovskoe 7.47 353 *e*PN Pn 19 36 09.6 +5.0
TYV *e*S Sn 19 37 40.1 +11
TYV pmax pmax
comp=Z,24nm,0.8s
TYV smax smax
comp=N,300nm,3.7s
TYV smax smax
comp=E,27nm,1.1s
TYV MLR MLR
comp=Z,1µm,17.0s
TYV Tymovskoe 7.47 353 *e*P **Pn 19 36 08.5 +3.9**
TYV AMB AMB 19 36 10.6
comp=Z,20nm,0.8s
TYV *e*S **Sn 19 37 31.4 +2.5**
TYV A A 19 37 41.0
comp=Z,300nm,4.0s
TYV A A 19 37 41.0
comp=Z,30nm,1.0s
TYV AMS AMS 19 39 29.8
comp=Z,300nm,17.0s
TYV AMS AMS 19 39 29.8
comp=Z,1µm,17.0s
JYT Yasato 7.83 204 Pn **Pn 19 36 07.8 -1.8**
JAG Ashikaga 7.88 209 P **Pn 19 36 09.5 -0.9**
MAJO Matsushiro 8.26 215 *i* PN **Pn 19 36 15.8 +0.2**
MAJO Matsushiro 8.26 215 Pn **Pn 19 36 15.6 +0.1**
MAT Matsushiro 8.26 215 P **Pn 19 36 16.1 +0.5**
MAT *e*S **Sn 19 37 49.9 +1.3**
MJAR Matsushiro Arr 8.26 215 Pn **Pn 19 36 16.6 +1.1**
comp=Z,0.6nm,0.3s,baz=28,slow=12,SNR=34
MJAR LR LR 19 40 11.9
comp=Z,298nm,20.5s,baz=35,slow=43
MJAR Matsushiro Arr 8.26 215 Pn **Pn 19 36 16.4 +0.8**
JNG Nsakai 8.42 215 P **Pn 19 36 19.9 +2.1**
USA0B Ussuriysk Arra 8.80 279 PN **Pn 19 36 23.2 +0.3**
USA0B Ussuriysk Arra 8.80 279 Pn **Pn 19 36 23.2 +0.3**
USRK Ussuriysk Ar. 8.80 279 Pn **Pn 19 36 24.4 +1.5**
baz=82,slow=15,SNR=15
USRK LR LR 19 39 50.6
comp=Z,1µm,18.3s,baz=89,slow=38
USRK Ussuriysk Ar. 8.80 279 Pn **Pn 19 36 22.6 -0.2**
GRNR Gornyy 8.99 327⇑ *i* PN **Pn 19 36 27.0 +1.5**
GRNR *e*S **Sn 19 38 11.9 +5.5**
GRNR pmax pmax
comp=Z,6.0nm,0.9s
GRNR smax smax
comp=N,5.0nm,0.7s
GRNR MLR MLR
comp=E,520nm,11.0s
GRNR MLR MLR
comp=N,1µm,13.0s
GRNR MLR MLR
comp=Z,1µm,13.0s
GRNR Gornyy 8.99 327 *e*P **Pn 19 36 27.0 +1.5**
GRNR AMB AMB 19 36 27.9
comp=Z,60nm,0.9s
JGF Kuroka 9.42 216 **Pn 19 36 32.5 +1.0**
MSHR Mys Shultsa 9.53 269 *c e* PN **Pn 19 36 34.3 +1.4**
MSHR pmax pmax
comp=Z,40nm,0.8s
INU Inuyama 9.78 216 Pn **Pn 19 36 37.6 +1.2**
KLR Kul'dur 10.31 308 Pn **Pn 19 36 43.8 +0.3**
comp=Z,0.1nm,0.3s,baz=23,slow=7.8,SNR=4.5
KLR LR LR 19 41 05.7
comp=Z,2µm,19.0s,baz=122,slow=40
KLR Kul'dur 10.31 308 *c e* PN **Pn 19 36 45.8 +2.3**
KLR Kul'dur 10.31 308 *e*P **Pn 19 36 45.8 +2.3**
MDJ Mudanjiang 10.52 281 P Pn 19 36 51.4 +4.9
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,460nm,3.5s
MDJ L L
comp=Z,1µm,13.7s
MDJ L L
comp=Z,1µm,19.5s
MDJ L L
comp=Z,2µm,15.7s
JWT Wachi 10.59 222 Pn **Pn 19 36 48.9 +1.5**
JHJ Hachijo jima 2 10.87 200 Pn **Pn 19 36 50.8 -0.5**
comp=Z,8.1nm,0.3s,baz=209,slow=19,SNR=1.8
JHJ Sn **Sn 19 38 48.2 -4.4**
comp=Z,7.5nm,0.3s,baz=225,slow=20,SNR=1.5
JHJ LR LR 19 41 41.4
comp=Z,313nm,20.2s,baz=323,slow=41
SKR Severo-Kuril's 10.91 44 *e*PN **Pn 19 36 53.3 +1.6**
SKR pmax pmax
comp=Z,25nm,0.8s
SKR pmax pmax
comp=Z,200nm,5.3s
SKR pmax pmax
comp=Z,600nm,2.5s
SKR MLR MLR
comp=Z,900nm,14.0s
SKR MLR MLR
comp=Z,600nm,13.0s
SKR Severo-Kuril's 10.91 44 *e*P **Pn 19 36 53.3 +1.6**
SKR AMB AMB 19 36 54.1
SKR AMB AMB 19 36 55.5
comp=Z,160nm,5.0s
SKR *e*S **Sn 19 38 52.0 -1.3**
SKR AMS AMS 19 41 19.8
comp=Z,900nm,15.0s
PAU Pauzhetka 11.73 43 *e*P **Pn 19 37 04.9 +1.9**
PAU AMB AMB 19 37 07.6
comp=Z,50nm,0.9s
JHS Saijyo 12.00 229 **Pn 19 37 08.2 +1.5**
EKMR Ekimchan 12.14 326 *e*P **Pn 19 37 10.0 +1.4**
EKMR AMB AMB 19 37 20.0
comp=Z,20nm,0.9s
PEA0B Petropavlovsk- 13.21 38 PN **Pn 19 37 24.3 +1.2**
PEA0B Petropavlovsk- 13.21 38 **Pn 19 37 24.3 +1.2**
PETK Petropavlovsk- 13.21 38 Pn **Pn 19 37 24.5 +1.4**
comp=Z,0.4nm,0.3s,baz=201,slow=7.9,SNR=14
PETK LR LR 19 42 59.0
comp=Z,854nm,18.9s,baz=218,slow=40
PETK Petropavlovsk- 13.21 38 PN **Pn 19 37 23.0 -0.1**
PETK Petropavlovsk- 13.21 38 Pn **Pn 19 37 22.9 -0.1**
CN2 Changchun 13.53 278 *e*P **Pn 19 37 28.8 +1.2**
CN2 pmax pmax
comp=Z,50nm,1.3s
PET Petropavlovsk 13.59 40 *e*P **Pn 19 37 29.0 +0.7**
PET *e*S **Sn 19 40 00.4 +1.5**
PET pmax pmax
comp=Z,36nm,1.5s
PET MLR MLR
comp=Z,700nm,14.0s
PET Petropavlovsk 13.59 40 *e*P **Pn 19 37 29.0 +0.7**
PET AMB AMB 19 37 52.5
comp=Z,40nm,2.0s
PET AMS AMS 19 43 12.4
comp=Z,700nm,14.0s
KSRS Korea Array 13.70 250 Pn **Pn 19 37 30.9 +1.0**
comp=Z,0.2nm,0.3s,baz=182,slow=12,SNR=39
KSRS LR LR 19 42 26.8
comp=Z,574nm,18.3s,baz=61,slow=36
KSRS Korea Array 13.70 250 P **Pn 19 37 31.0 +1.0**
KS19 Wonju Array Si 13.72 250 **Pn 19 37 26.2 -4.0**
KSAR Wonju Array Be 13.73 250 P Pn 19 37 24.4 -6.0
KSAR Wonju Array Be 13.73 250 Pn Pn 19 37 24.4 -6.0
JNU Nakatsue 14.63 230 Pn **Pn 19 37 40.8 -1.9**
TJN Taejon 14.66 247 *c e* P **Pn 19 37 43.8 +0.8**
BMKR Bomnak 15.02 324 *e*P **Pn 19 37 48.0 +0.2**
BMKR AMB AMB 19 37 56.9
comp=Z,10.0nm,0.9s
ZEA Zeya 15.13 319 *e*P **Pn 19 37 51.6 +2.3**
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=Z,90nm,0.9s
ZEA MLR MLR
comp=E,900nm,12.0s
ZEA MLR MLR
comp=N,800nm,13.0s
ZEA MLR MLR
comp=Z,1µm,13.0s
ZEA Zeya 15.13 319 *e*P **Pn 19 37 50.0 +0.7**
ZEA AMB AMB 19 37 57.9
comp=Z,10.0nm,0.9s
ZEA AMS AMS 19 44 06.0
comp=Z,800nm,12.0s
ZEA AMS AMS 19 44 06.0
comp=Z,1µm,12.0s
KROS Kirovskiy 15.68 320 *e*P **Pn 19 37 55.7 -0.8**
KROS AMB AMB 19 38 04.1
comp=Z,20nm,1.0s
JSU Suzuyama 16.10 227 Pn **Pn 19 38 00.6 -1.4**
JCJ Chichijima 16.41 186 Pn **Pn 19 38 05.9 0.0**
comp=Z,6.3nm,0.3s,baz=42,slow=15,SNR=1.5
DL2 Dalian 17.51 263 P **P 19 38 20.8 0.0**
DL2 S **Sn 19 41 36.3 +2.0**
DL2 pmax pmax
comp=Z,70nm,1.1s
DL2 pmax pmax
comp=Z,230nm,3.8s
DL2 L L
comp=Z,270nm,11.2s
DL2 L L
comp=Z,380nm,15.1s
DL2 L L
comp=Z,370nm,16.2s
HIA Hailar 17.75 298 P **Pn 19 38 22.0 -0.8**
HIA pmax pmax
comp=Z,36nm,0.9s
HIA Hailar 17.75 298 P **Pn 19 38 21.9 -0.8**
SEY Seymchan 20.09 11 P **P 19 38 49.1 +0.1**
comp=Z,26nm,1.1s,baz=182,slow=8.8,SNR=22
SEY Seymchan 20.09 11 *i* P **P 19 38 48.6 -0.4**
YAK Yakutsk 20.46 340 P **P 19 38 52.6 -0.4**
comp=Z,54nm,0.9s,baz=346,slow=3.1,SNR=33
YAK LR LR 19 47 08.9
comp=Z,282nm,21.8s,baz=99,slow=38
YAK Yakutsk 20.46 340 *e*P **P 19 38 52.5 -0.4**
YAK *e**PP **sP 19 39 00.9 +1.1**
YAK *e* 19 39 10.4
YAK *e*S Sn 19 42 44.3 -0.8
YAK *e**SS **pS 19 42 59.1 +6.7**
YAK *e*SS **SnSn 19 43 10.1 +10**
YAK *e*SSS SSS 19 43 25.9
YAK pmax pmax
comp=Z,143nm,1.0s
YAK pmax pmax
comp=N,60nm,1.1s
YAK pmax pmax
comp=E,24nm,1.0s
YAK pmax pmax
comp=Z,59nm,1.1s
YAK smax smax
comp=N,186nm,1.9s
YAK smax smax
comp=E,45nm,1.2s
YAK MLR MLR
comp=Z,804nm,14.0s
YAK MLR MLR
comp=N,293nm,11.0s
YAK MLR MLR
comp=E,176nm,12.0s
YAK Yakutsk 20.46 340 P **P 19 38 51.9 -1.1**
JOW Kunigami 20.99 223 LR LR 19 47 39.5
comp=E,162nm,18.6s,baz=346,slow=38
BJT Baijiatuau 21.09 270 P **P 19 38 59.0 -1.0**
BJT pmax pmax
comp=Z,27nm,0.9s
BJT Baijiatuau 21.09 270 P **P 19 38 59.0 -1.0**
TIA Tai'an 21.89 260 P **P 19 39 08.1 -0.5**
TIA PP **PnPn 19 39 31.8 +1.7**
TIA S **S 19 43 07.8 -2.1**
TIA pmax pmax
comp=Z,7.0nm,0.7s
TIA L L
comp=Z,240nm,7.8s
TIA L L
comp=Z,490nm,14.2s
TIA L L
comp=Z,330nm,13.5s
SSE Sheshan 21.95 243 P **P 19 39 09.2 0.0**
SSE S **S 19 43 12.0 +1.1**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,130nm,3.6s
SSE L L
comp=Z,170nm,16.0s
SSE L L
comp=Z,190nm,17.1s
CIT Chita 22.13 303 *e*P **P 19 39 10.7 -0.4**
CIT *e* 19 39 20.0
CIT *e* 19 39 37.5
CIT *e* 19 39 44.8
CIT pmax pmax
comp=Z,47nm,1.1s
NJ2 Nanjing 22.90 249 *e*P **P 19 39 18.6 -0.8**
NJ2 S **S 19 43 30.5 +2.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,4.5s
NJ2 L L
comp=Z,530nm,13.2s
NJ2 L L
comp=Z,790nm,11.4s
NJ2 L L
comp=Z,960nm,15.2s
HHC Hu-ho-hao-te 24.19 275 *e*P **P 19 39 33.2 +1.1**
HHC sP sP 19 39 41.3 +2.0
HHC S **S 19 43 46.9 -2.8**
HHC sS sS 19 43 56.2 -1.7
HHC pmax pmax
comp=Z,29nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.3s
HHC L L
comp=Z,210nm,13.9s
HHC L L
comp=Z,570nm,12.9s
HHC L L
comp=Z,670nm,13.0s
TIY Taiyuan 24.64 267 *e*P **P 19 39 39.0 +2.8**
TIY S **S 19 44 01.2 +4.3**
TIY SS **SnSn 19 44 53.4 +11**
TIY pmax pmax
comp=Z,22nm,0.8s
TIY pmax pmax
comp=Z,170nm,3.6s
TIY L L
comp=Z,190nm,10.4s
TIY L L
comp=Z,270nm,16.3s
TIY L L
comp=Z,200nm,15.7s
AMKA Amchitka 24.90 59 P **P 19 39 39.1 +0.9**
BTO Baotou 25.38 275 *e*P **P 19 39 43.7 +0.8**
ULN Ulaanbaatar 26.10 293 *c e* P **P 19 39 49.5 0.0**
ULN pmax pmax
comp=Z,64nm,1.7s
ULN Ulaanbaatar 26.10 293 P **P 19 39 48.9 -0.6**
ULN IAmb IAmb 19 39 53.0
comp=Z,52nm,1.3s
ULN Ulaanbaatar 26.10 293 *e*P **P 19 39 49.5 0.0**
SONM Songino Array 26.55 293 P **P 19 39 53.8 +0.4**
comp=Z,58nm,1.0s,baz=89,slow=7.4,SNR=117
SONM PcP **PcP 19 43 17.6 -0.1**
comp=Z,1.7nm,0.9s,baz=126,slow=2.5,SNR=3.7
SONM LR LR 19 50 57.9
comp=Z,542nm,20.0s,baz=93,slow=38
SONM Songino Array 26.55 293 P **P 19 39 53.3 -0.2**
SONM pmax pmax
comp=Z,104nm,1.2s
SONM Songino Array 26.55 293 P **P 19 39 53.3 -0.2**
WHN Wuhan 26.89 251 ⇓P **P 19 39 57.4 +0.9**
WHN pP **pP 19 40 01.6 +0.1**
BILL Bilibino 27.28 18⇑ *i* P **P 19 39 57.3 -2.4**
BILL *PP **sP 19 40 05.0 -1.8**
BILL *SP **pP 19 40 10.0 +5.2**
BILL *e* 19 40 44.7
BILL *e*PPP PPP 19 40 53.5
BILL *e* 19 43 20.1
BILL *e*S **S 19 44 45.0 +6.9**
BILL SSS SSS 19 46 14.0
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,284nm,16.0s
BILL Bilibino 27.28 18 P **P 19 39 57.4 -2.4**
IRK Irkutsk 27.83 302 *e*P **P 19 40 03.8 -1.0**
IRK pmax pmax
comp=Z,24nm,1.2s
TLY Talaya 28.21 301 P **P 19 40 07.7 -0.4**
comp=Z,8.1nm,0.8s,baz=203,slow=1.1,SNR=8.8
TLY LR LR 19 51 49.2
comp=Z,344nm,19.3s,baz=88,slow=37
TLY Talaya 28.21 301 *e*P **P 19 40 08.4 +0.2**
TLY *e*S **S 19 44 54.4 +1.4**
TLY pmax pmax
comp=Z,24nm,0.8s
TLY MLR MLR
comp=Z,2µm,13.0s
TLY Talaya 28.21 301 P **P 19 40 07.7 -0.4**
ZAK Zakamensk 28.45 299 *e*P **P 19 40 10.6 +0.2**
ZAK pmax pmax
comp=Z,54nm,1.1s
ZAK Zakamensk 28.45 299 *e*P **P 19 40 10.6 +0.2**
XAN Xi'an 28.83 263 P **P 19 40 13.6 -0.3**
XAN pP sP 19 40 20.8 -0.3
XAN S **S 19 45 04.6 +1.4**
XAN pmax pmax
comp=Z,19nm,1.0s
XAN pmax pmax
comp=Z,140nm,4.4s
XAN L L
comp=Z,260nm,16.7s
XAN L L
comp=Z,300nm,16.3s
XAN L L
comp=Z,390nm,15.1s
TIXI Tiksi 29.23 350 P **P 19 40 14.6 -2.4**
comp=Z,1.3nm,0.9s,baz=141,slow=7.7,SNR=4.9
TIXI LR LR 19 52 17.9
comp=Z,269nm,18.5s,baz=172,slow=37
TIXI Tiksi 29.23 350 *c e* P **P 19 40 14.3 -2.7**
TIXI Tiksi 29.23 350 P **P 19 40 14.0 -3.0**
GUMO Guam 29.77 179 LR LR 19 50 55.0
comp=Z,97nm,21.0s,baz=38,slow=34
MOY Mondy 29.86 301 *e*P **P 19 40 23.6 +0.7**
MOY pmax pmax
comp=Z,45nm,2.1s
MOY Mondy 29.86 301 *e*P **P 19 40 23.6 +0.7**
ENH Enshi 30.44 256 P **P 19 40 27.6 -0.6**
ENH IAmb IAmb 19 40 30.5
comp=Z,20nm,0.8s
SPIA Saint Paul Isl 31.56 48 P 19 40 37.4
baz=264
LZH Lanzhou 31.57 270 ⇓P P 19 40 43.2 +4.9
LZH pP sP 19 40 47.7 +2.2
LZH sP pP 19 40 50.5 +7.1
LZH S **S 19 45 38.5 -7.9**
LZH sS sS 19 45 55.6 +0.8
LZH pmax pmax
comp=Z,41nm,1.2s
LZH pmax pmax
comp=Z,98nm,4.9s
LZH L L
comp=Z,400nm,15.2s
LZH L L
comp=Z,230nm,16.8s
LZH L L
comp=Z,320nm,15.2s
NIKH Nikolski High 32.22 56 P 19 40 44.0
baz=272
GTA Gaotai 33.16 278⇑ P **P 19 40 52.4 +0.3**
GTA pP pP 19 40 57.3 0.0
GTA sP sP 19 40 59.3 -0.1
GTA PcP **PcP 19 43 36.0 +1.2**
GTA S **S 19 46 11.0 0.0**
GTA sS sS 19 46 18.6 -0.8
GTA PcS **PcS 19 47 21.6 +1.2**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,70nm,5.8s
GTA L L
comp=Z,270nm,14.5s
GTA L L
comp=Z,230nm,17.1s
GTA L L

comp=Z,310nm,17.4s
CD2 Chengdu 34.18 262 P **P** **19 41 02.0 +1.0**
CD2 S **S** **19 46 27.0 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 L L
comp=Z,480nm,11.6s
CD2 L L
comp=Z,280nm,15.3s
TNA Tin City 34.30 33 P 19 41 01.4
baz=254
GYA Guiyang 34.72 253 P **P** **19 41 07.1 +1.3**
GYA pP sP 19 41 13.5 +0.5
ANM Nome 35.10 35 P 19 41 07.8
baz=258
RDOG Red Dog Mine 36.87 30 P 19 41 23.2
baz=256
SDPT Sand Point 36.99 51 P 19 41 24.7
baz=275
QIZ Qiongzhong 37.68 241 P **P** **19 41 31.4 +0.4**
QIZ S **S** **19 47 25.1 +4.6**
QIZ L L
comp=Z,240nm,15.2s
QIZ L L
comp=Z,310nm,13.7s
QIZ L L
comp=Z,240nm,17.2s
KMI Kunming 38.30 255 ⇑P **P** **19 41 36.9 +0.4**
KMI pP sP 19 41 43.5 -0.3
KMI sP pP 19 41 46.1 +4.4
KMI PP **PnPn** **19 43 08.3 +2.5**
KMI S **S** **19 47 29.3 -1.0**
KMI pmax pmax
comp=Z,27nm,0.9s
KMI pmax pmax
comp=Z,120nm,3.6s
KMI L L
comp=Z,63nm,12.5s
KMI L L
comp=Z,250nm,18.1s
KMI L L
comp=Z,280nm,16.8s
NRIK Noril'sk 38.44 332 P **P** **19 41 35.2 -1.7**
comp=Z,11nm,0.9s,baz=101,slow=9.2,SNR=12
NRIK LR LR 19 58 45.2
comp=Z,289nm,18.2s,baz=113,slow=38
NRIK Noril'sk 38.44 332*ceP* **P** **19 41 34.3 -2.6**
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 38.44 332 P **P** **19 41 34.5 -2.3**
DGZ Jazzator, Alta 38.65 300*c iP* **P** **19 41 39.5 +0.4**
DGZ pmax pmax
comp=Z,42nm,1.1s
TTA Tatalina 39.04 39 P **P** **19 41 42.3 +0.2**
TTA pmax pmax
comp=Z,18nm,1.0s
TTA Tatalina 39.04 39 P **P** **19 41 42.3 +0.2**
TTA Tatalina 39.04 39 P 19 41 42.4
baz=269,SNR=17
SVW2 Sparrevohn 39.25 42 P **P** **19 41 44.4 +0.6**
ZAA0 Zalesovo Array 39.41 307 P **P** **19 41 44.2 -1.0**
ZAA0 IAmb IAmb 19 41 47.9
comp=Z,26nm,0.9s
ZAA0 PcP **PcP** **19 43 53.0 0.0**
ZALV Zalesovo Beam 39.41 307 P **P** **19 41 44.6 -0.5**
comp=Z,23nm,0.8s,baz=79,slow=8.0,SNR=45
ZALV PcP **PcP** **19 43 52.9 -0.1**
comp=Z,8.8nm,0.8s,baz=86,slow=2.6,SNR=10
ZALV LR LR 19 59 26.3
comp=Z,374nm,20.3s,baz=78,slow=38
ZALV Zalesovo Beam 39.41 307 P **P** **19 41 43.4 -1.8**
A21K Barrow 39.76 26 P **P** **19 41 45.4 -2.4**
A21K IAmb IAmb 19 41 53.6
comp=Z,25nm,1.1s
A21K Barrow 39.76 26 P 19 41 46.2
baz=258
SLVN Son La 39.97 250 P **P** **19 41 51.2 +0.9**
IMAR Indian Mountai 40.12 34 P **P** **19 41 49.2 -1.8**
IMAR PcP **PcP** **19 43 55.9 +0.8**
WMQ Urumqi 40.14 291 *eP* **P** **19 41 52.9 +1.4**
WMQ pP sP 19 41 59.2 +0.4
WMQ sP pP 19 42 06.3 +10
WMQ pmax pmax
comp=Z,75nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.7s
WMQ L L
comp=Z,1μm,14.9s
WMQ L L
comp=Z,1μm,14.9s
WMQ L L
comp=Z,2μm,17.9s
SII Sitkinak Islan 40.37 49 P 19 41 53.9
baz=278
RSO Redoubt South 40.67 43 P **P** **19 41 56.7 +0.8**
CHUM Lake Minchumin 40.71 37 P 19 41 57.3
baz=271,SNR=7.9
OHAK Old Harbor 40.76 48 P 19 41 55.7
baz=278
PPLA Purkeypile 40.79 39 P **P** **19 41 57.9 +1.2**
PPLA IAmb IAmb 19 42 02.5
comp=Z,44nm,1.1s
PPLA Purkeypile 40.79 39 P 19 41 57.8
baz=273,SNR=11
ZSN Zaisan 40.88 297 *eP* **P** **19 41 57.6 +0.1**
comp=Z,12nm,1.2s,baz=296
ZSN Zaisan 40.88 297 *eP* **P** **19 41 57.5 +0.1**
ZSN pmax pmax
comp=Z,12nm,1.2s
SPCR Spurr Chakacha 40.88 42 P 19 41 58.6
baz=274,SNR=5.7
KDAK Kodiak Island 41.06 47 P **P** **19 41 58.0 -0.8**
comp=Z,12nm,0.7s,baz=289,slow=5.4,SNR=9.6
KDAK Kodiak Island 41.06 47 P **P** **19 41 58.5 -0.3**
KDAK pmax pmax
comp=Z,9.0nm,0.7s
KDAK Kodiak Island 41.06 47 P **P** **19 41 58.5 -0.3**
KDAK Kodiak Island 41.06 47 P 19 41 59.2
baz=278
SKT Skwentna 41.15 40 P **P** **19 41 59.6 +0.1**
SKT Skwentna 41.15 40 P 19 41 59.7
baz=274
BPAW Bear Paw Mtn. 41.28 37 P **P** **19 42 00.9 +0.2**
BPAW Bear Paw Mtn. 41.28 37 P 19 42 00.6
baz=272,SNR=11
KTH Kantishna Hill 41.34 38 P **P** **19 42 01.6 +0.5**
MLY Manley 41.37 36 P **P** **19 42 01.5 +0.2**
MLY Manley 41.37 36 P 19 42 01.1
baz=271,SNR=7.9
COLD Coldfoot 41.58 32 P **P** **19 42 02.5 -0.4**
COLD Coldfoot 41.58 32 P 19 42 02.5
baz=269,SNR=5.9
TRF Thorofare Moun 41.62 38 P **P** **19 42 03.9 +0.3**
TRF IAmb IAmb 19 42 07.6
comp=Z,18nm,1.0s
TRF Thorofare Moun 41.62 38 P 19 42 04.0
baz=274
BRSE Bradley Lake S 41.75 44 P 19 42 04.1
baz=277
TOLK Toolik Lake Re 41.85 30 P **P** **19 42 04.2 -1.0**
H23K Yukon River 41.85 34 P 19 42 05.6
baz=272,SNR=11
TOLK Toolik Lake Re 41.85 30 P 19 42 04.3
baz=268
BWN Browne 41.95 37 P **P** **19 42 07.2 +1.2**
RC01 Rabbit Creek A 42.09 42 P 19 42 06.7
baz=277
NEA2 Nenana 42.10 36 P **P** **19 42 07.4 +0.1**
NEA2 IAmb IAmb 19 42 10.2
comp=Z,44nm,1.0s
NEA2 Nenana 42.10 36 P 19 42 07.7
baz=273,SNR=24
MCK McKinley 42.21 38 P **P** **19 42 07.9 -0.3**
MCK pmax pmax
comp=Z,36nm,1.0s
MCK McKinley 42.21 38 P **P** **19 42 07.9 -0.3**
MCK IAmb IAmb 19 42 11.1
comp=Z,36nm,1.0s
MCK McKinley 42.21 38 P 19 42 08.4
baz=274,SNR=18
RND Reindeer 42.27 38 P **P** **19 42 06.7 -2.0**
RND pmax pmax
comp=Z,23nm,1.0s
RND Reindeer 42.27 38 P **P** **19 42 06.7 -2.0**
RND IAmb IAmb 19 42 09.8
comp=Z,23nm,1.0s
PMR Palmer 42.32 41 P 19 42 08.7
baz=277
SEW Seward 42.35 43 P 19 42 09.0
baz=278
GHO Glory Hole Cre 42.40 40 P **P** **19 42 10.2 +0.4**
GHO IAmb IAmb 19 42 11.3
comp=Z,24nm,0.9s
MDM Murphy Dome 42.43 36 P **P** **19 42 10.0 0.0**
WAT2 Susitna Watana 42.43 39 P 19 42 10.0
baz=276,SNR=19
WRH Wood River Hil 42.53 36 P **P** **19 42 11.1 +0.4**
H24K Noodor Dome 42.53 34 P 19 42 11.6
baz=273,SNR=12
TCOL CIGO, UAF Yank 42.59 36 P **P** **19 42 12.1 +0.9**
TCOL IAmb IAmb 19 42 14.5
comp=Z,38nm,0.9s
TCOL CIGO, UAF Yank 42.60 36 P 19 42 11.7
baz=274
COLA College 42.60 36 P **P** **19 42 11.7 +0.4**
COLA pmax pmax
comp=Z,36nm,0.9s
COLA College 42.60 36 P **P** **19 42 11.7 +0.4**
COLA IAmb IAmb 19 42 14.5
comp=Z,36nm,0.8s
COLA College 42.60 36 P 19 42 11.6
baz=274
CCB Clear Creek Bu 42.64 36 P **P** **19 42 11.3 -0.2**
KNK Knik Glacier 42.66 41 P **P** **19 42 11.9 0.0**
KNK IAmb IAmb 19 42 15.7
comp=Z,42nm,1.2s
KNK Knik Glacier 42.66 41 P 19 42 12.3
baz=277
SML Sawmill 42.67 40 P 19 42 12.5
baz=277,SNR=9.7
NONG Nongkai 42.75 247 P **P** **19 42 14.6 +1.5**
comp=Z,29nm,0.9s
MK31 Makanchi Array 42.76 297 P **P** **19 42 12.6 -0.3**
MK31 pmax pmax
comp=Z,47nm,1.0s
MK31 Makanchi Array 42.76 297 P **P** **19 42 12.6 -0.3**
MK31 IAmb IAmb 19 42 18.0
comp=Z,47nm,0.9s
MKAR Makanchi Array 42.76 297 P **P** **19 42 13.0 +0.1**
comp=Z,52nm,0.9s,baz=77,slow=8.0,SNR=130
MKAR PcP **PcP** **19 44 04.2 +0.1**
comp=Z,1.7nm,0.7s,baz=64,slow=0.8,SNR=5.3
MKAR LR LR 20 00 28.3
comp=Z,213nm,19.1s,baz=76,slow=37
MKAR Makanchi Array 42.76 297 P **P** **19 42 12.3 -0.5**
POKR Poker Plat Res 42.76 35 P **P** **19 42 13.3 +0.7**
POKR IAmb IAmb 19 42 16.2
comp=Z,20nm,1.0s
POKR Poker Plat Res 42.76 35 P 19 42 13.4
baz=274,SNR=6.4
WAT6 Susitna Watana 42.86 39 P 19 42 13.4
baz=277,SNR=14
SGSI Sangihe 42.90 208 P **P** **19 42 15.0 +0.8**
comp=Z,41nm,0.6s
SEM Semipalatinsk 42.95 303⇑ *iP* **P** **19 42 13.6 -1.0**
comp=Z,38nm,1.0s,baz=302
SEM Semipalatinsk 42.95 303*c iP* **P** **19 42 13.5 -1.0**
SEM pmax pmax
comp=Z,38nm,1.0s
MAKZ Makanchi 42.95 297 P **P** **19 42 14.2 -0.2**
MAKZ pmax pmax
comp=Z,71nm,1.0s
MAKZ Makanchi 42.95 297 P **P** **19 42 14.2 -0.2**
IL31 43.02 36 P **P** **19 42 13.9 -0.7**
IL31 IAmb IAmb 19 42 17.3
comp=Z,34nm,1.0s
ILAR Eielson Array 43.02 36 P **P** **19 42 14.7 -0.1**
comp=Z,26nm,0.9s,baz=268,slow=6.5,SNR=127
ILAR PcP **PcP** **19 44 03.2 -1.4**
comp=Z,0.9nm,0.8s,baz=294,slow=4.2,SNR=2.5
ILAR LR LR 20 02 16.6
comp=Z,91nm,18.4s,baz=256,slow=39
ILAR Eielson Array 43.02 36 P **P** **19 42 13.8 -0.9**
HDA Harding Lake 43.02 36 P **P** **19 42 14.1 -0.7**
HDA IAmb IAmb 19 42 17.0
comp=Z,25nm,1.3s
HDA Harding Lake 43.02 36 P 19 42 14.2
baz=275,SNR=12
HDA P 19 42 14.2
baz=275,SNR=12
SCM Sheep Creek Mo 43.14 40 P **P** **19 42 15.8 -0.1**
SCM pmax pmax
comp=Z,31nm,1.1s
SCM Sheep Creek Mo 43.14 40 P **P** **19 42 15.8 -0.1**
SCM IAmb IAmb 19 42 19.1
comp=Z,31nm,1.1s
CRAI Chiangrai 43.15 252 P **P** **19 42 17.5 +1.2**
comp=Z,16nm,1.0s
UBPT Khong Chiam 43.25 242 P **P** **19 42 20.5 +3.5**
comp=Z,4.8nm,1.3s
UBPT Khong Chiam 43.25 242 P **P** **19 42 17.9 +0.8**
PRP Porcupine Dome 43.53 35 P **P** **19 42 19.1 +0.1**
PRP IAmb IAmb 19 42 21.1
comp=Z,19nm,0.9s
PRP Porcupine Dome 43.53 35 P 19 42 19.6
baz=275,SNR=13
ITAN ITANAGAR 43.55 265 *eP* **P** **19 42 22.5 +3.0**
ITAN IAmb IAmb 19 42 25.8
comp=Z,53nm,1.2s
M24K Tolsona, Glenn 43.64 40 P **P** **19 42 21.2 +1.3**
M24K Tolsona, Glenn 43.65 40 P 19 42 20.9
baz=278,SNR=6.3
BMAR Burnt Mountain 43.75 32 P **P** **19 42 20.6 0.0**
KURK Kurchatov 43.85 303 P **P** **19 42 22.3 +0.7**
KURK 19 44 07.8
KURK Kurchatov 43.85 303 P **P** **19 42 22.2 +0.7**
KURK Kurchatov 43.85 303 *eP* **P** **19 42 22.3 +0.7**
KLU Klutina 43.86 41 P **P** **19 42 21.8 +0.2**
KLU IAmb IAmb 19 42 25.1
comp=Z,33nm,1.1s
KLU Klutina 43.86 41 P 19 42 22.1
baz=279,SNR=7.6
KURBB Kurchatov Arra 43.94 303 P **P** **19 42 22.2 0.0**
comp=Z,71nm,0.9s,baz=74,slow=8.8,SNR=136
KURBB PcP **PcP** **19 44 07.8 -0.2**
comp=Z,2.4nm,0.6s,baz=81,slow=3.1,SNR=4.7
LSA Lhasa 43.99 270 P **P** **19 42 24.3 +0.8**
LSA Lhasa 43.99 270 P **P** **19 42 23.2 -0.3**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 43.99 270 P **P** **19 42 23.2 -0.3**
LSA IAmb IAmb 19 42 34.1
comp=Z,10nm,0.7s
Q23K Middleton Isla 44.01 44 P 19 42 22.6
baz=281
HARP HAARP 44.07 39 P 19 42 24.3
baz=279,SNR=16
EYAK Cordova Ski Ar 44.10 42 P 19 42 23.6
baz=280
KOHI KOHIMA 44.11 263 *eP* **P** **19 42 24.1 0.0**
KOHI IAmb IAmb 19 42 29.4
comp=Z,44nm,0.9s
KHON Khomkaen 44.20 245 P **P** **19 42 26.0 +1.3**
SCRK Sand Creek 44.36 37 P **P** **19 42 24.6 -1.1**
SCRK IAmb IAmb 19 42 27.9
comp=Z,27nm,0.9s
SCRK Sand Creek 44.36 37 P 19 42 25.4
baz=278,SNR=45
DOT Dot Lake 44.38 37 P **P** **19 42 24.6 -1.1**
BMRM Bremner River 44.58 41 P 19 42 27.8
baz=281
MENT Mentasta 44.64 38 P **P** **19 42 28.3 +0.5**
MENT IAmb IAmb 19 42 36.2
comp=Z,21nm,0.9s
UTTA Uttaradit 44.73 249 P **P** **19 42 32.4 +3.5**
comp=Z,10nm,0.8s
TNTI Ternate 45.06 204 P **P** **19 42 32.5 +0.9**
comp=Z,13nm,1.6s
CHAI Chaiyaphum 45.07 246 P **P** **19 42 33.0 +1.3**
comp=Z,10nm,0.9s
CMMT Chiang Mai 45.09 252 P **P** **19 42 31.0 -0.9**
comp=Z,6.2nm,1.0s
CHTO Chiang Mai 45.09 252 P **P** **19 42 31.9 0.0**
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 45.09 252 P **P** **19 42 31.9 0.0**
CHTO IAmb IAmb 19 42 36.2
comp=Z,11nm,0.9s
K27K Chicken 45.19 37 P **P** **19 42 32.8 +0.7**
PHIT Phitsanulok 45.21 249 P **P** **19 42 35.0 +2.3**
comp=Z,49nm,0.9s
MCARA McCarthy VSAT 45.25 40 P **P** **19 42 32.9 +0.3**
baz=282
MCARA McCarthy VSAT 45.25 40 P 19 42 32.9
baz=282
CM32 Chiang Mai Arr 45.27 251 P **P** **19 42 35.0 +1.7**
CRQM Cirque 45.32 41 P **P** **19 42 34.1 +0.7**
CMAR Chiang Mai Arr 45.34 251 P **P** **19 42 34.5 +0.6**
comp=Z,2.5nm,0.7s,baz=44,slow=6.9,SNR=22
CMAR PcP **PcP** **19 44 13.6 +0.3**
comp=Z,2.8nm,0.9s,baz=13,slow=2.4,SNR=5.4
CMAR LR LR 20 02 33.0
comp=Z,142nm,18.6s,baz=134,slow=37
CMAR Chiang Mai Arr 45.34 251 *i* P **P** **19 42 34.7 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 45.34 251 P **P** **19 42 33.8 0.0**
CMAR PcP **PcP** **19 44 13.5 +0.3**
CRQE Cirque 45.34 41 P 19 42 34.4
baz=282
CM15 Chiang Mai Arr 45.35 251 P **P** **19 42 35.8 +1.8**
comp=Z,60nmcomp=Z,6.0nm,1.0s
BGLC Bering Glacier 45.39 42 P 19 42 33.1
baz=283
EGAK Eagle 45.45 35 P **P** **19 42 33.5 -0.6**
EGAK IAmb IAmb 19 42 36.7
comp=Z,21nm,0.9s
EGAK Eagle 45.45 35 P 19 42 34.2
baz=280,SNR=25
L27K Beaver Creek, 45.47 38 P **P** **19 42 35.3 +0.9**
L27K Beaver Creek, 45.47 38 P 19 42 35.8
baz=281,SNR=61
BCAR Beaver Creek A 45.49 38 P **P** **19 42 35.2 +0.7**
SWI Sorong 45.61 198 P **P** **19 42 36.4 +0.5**
comp=Z,26nm,0.9s
SHL Shillong 45.81 265 P **P** **19 42 37.0 -0.8**
SHL pmax pmax
comp=Z,11nm,0.9s
SHL Shillong 45.81 265 *eP* **P** **19 42 37.1 -0.6**
SHL IAmb IAmb 19 42 49.7
comp=Z,8.7nm,0.9s
SHL Shillong 45.81 265 P **P** **19 42 37.0 -0.8**
SHL IAmb IAmb 19 42 49.9
comp=Z,11nm,0.9s
TDK Taldyqorghan 45.93 296 *eP* **P** **19 42 37.8 -0.5**
comp=Z,35nm,0.8s,baz=295
TDK Taldyqorghan 45.93 296 *eP* **P** **19 42 37.7 -0.5**
TDK pmax pmax
comp=Z,35nm,0.8s
SHLS Shalkode 45.95 293 *eP* **P** **19 42 35.5 -3.1**
comp=Z,13nm,1.2s,baz=292
SHLS Shalkode 45.95 293 *eP* **P** **19 42 35.5 -3.1**
SHLS pmax pmax
comp=Z,13nm,1.2s
BARN Barnard Glacie 45.96 41 P **P** **19 42 38.5 +0.1**
BARN IAmb IAmb 19 42 48.4
comp=Z,20nm,1.1s
GENI Genyem 45.98 185 P **P** **19 42 38.3 -0.5**
comp=Z,30nm,2.0s
CTG Chitna Glacier 46.13 41 P 19 42 39.8
baz=283
CTGM Chitina Glacie 46.14 41 P **P** **19 42 40.3 +0.5**
CTGM IAmb IAmb 19 42 51.2
comp=Z,24nm,1.2s
MHMT Maesarieng 46.23 252 P P 19 42 46.0 +5.2
UZB Uzynbulak 46.25 293 *eP* **P** **19 42 40.3 -0.7**
comp=Z,11nm,1.3s,baz=293
UZB Uzynbulak 46.25 293 *eP* **P** **19 42 40.3 -0.7**
UZB pmax pmax
comp=Z,11nm,1.3s
DAWY Dawson 46.34 36 P **P** **19 42 41.0 -0.3**
KPKS Kokpek 46.35 294⇑ *eP* **P** **19 42 41.5 -0.2**
comp=Z,22nm,1.1s,baz=293
KPKS Kokpek 46.35 294*ceP* **P** **19 42 41.4 -0.2**
KPKS pmax pmax
comp=Z,22nm,1.1s
SATY Saty 46.70 293 *eP* **P** **19 42 44.4 0.0**
comp=Z,12nm,1.4s,baz=293
SATY Saty 46.70 293 *eP* **P** **19 42 44.4 0.0**
SATY pmax pmax
comp=Z,12nm,1.4s
PINM Pinnacle 46.87 42 P 19 42 44.5
baz=285
PRZ Przheval'sk 46.94 293 P **P** **19 42 46.7 +0.3**
PRZ pmax pmax
comp=Z,19nm,1.0s
PRZ Przheval'sk 46.94 293 P **P** **19 42 46.7 +0.3**
PRZ IAmb IAmb 19 43 05.3
comp=Z,19nm,0.9s
MRSI Marisa 47.16 211 P **P** **19 42 48.2 +0.1**
comp=Z,30nm,1.3s
GTK Tadong 47.18 269 *eP* **P** **19 42 49.8 +1.4**
GTK IAmb IAmb 19 42 55.9
comp=Z,20nm,0.8s
CHKK Chushkaly 47.31 295 *eP* **P** **19 42 48.0 -1.1**
baz=294
CHKK Chushkaly 47.31 295 *eP* **P** **19 42 48.0 -1.1**
FAKI Fak Fak 47.39 196 P **P** **19 42 50.4 +0.5**
FAKI IAmb IAmb 19 42 55.3
comp=Z,18nm,0.9s
MDOK Medeo 47.56 294 *eP* **P** **19 42 51.0 -0.3**
baz=294
MDOK Medeo 47.56 294 *eP* **P** **19 42 50.9 -0.3**
AAA Alma-Ata 47.63 294 *eP* **P** **19 42 51.7 +0.1**
baz=294
AAA Alma-Ata 47.63 294 *eP* **P** **19 42 51.7 +0.1**
AAA Alma-Ata 47.63 294 *eP* **P** **19 42 51.8 +0.1**
BRZS Berezniki 47.69 304⇑ *iP* **P** **19 42 51.8 -0.2**
comp=Z,37nm,1.0s,baz=304
BRZS Berezniki 47.69 304*c iP* **P** **19 42 51.8 -0.2**
BRZS pmax pmax
comp=Z,37nm,1.0s
KUU Kurty 47.73 295⇑ *eP* **P** **19 42 51.6 -0.7**
comp=Z,21nm,1.1s,baz=295
KUU Kurty 47.73 295*ceP* **P** **19 42 51.6 -0.7**
KUU pmax pmax
comp=Z,21nm,1.1s
INK Inuvik 47.76 30 P **P** **19 42 52.0 -0.1**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 47.76 30 P **P** **19 42 52.0 -0.1**
INK Inuvik 47.76 30 P 19 42 51.7
baz=283
KDJ Kajisay 47.91 293 P **P** **19 42 53.7 -0.3**
KDJ pmax pmax
comp=Z,24nm,1.0s
KDJ Kajisay 47.91 293 P **P** **19 42 53.7 -0.3**
HYT Haines Junctio 47.98 40 P **P** **19 42 55.6 +1.4**
MTBS Maitube 47.98 294⇑ *iP* **P** **19 42 54.5 +0.1**
baz=294
MTBS Maitube 47.98 294*c iP* **P** **19 42 54.5 +0.1**
BRVK Borovoye 48.02 309 P **P** **19 42 53.8 -0.6**
BRVK pmax pmax
comp=Z,42nm,1.0s
BRVK Borovoye 48.02 309 P **P** **19 42 53.8 -0.6**
SANI Sanana 48.15 205 P **P** **19 42 51.4 -4.4**
ULHL Ulahol 48.49 293 P **P** **19 42 58.9 +0.5**
SNR=21
BOOM Boomskoye usch 48.58 294 P **P** **19 42 59.7 +0.5**
BOOM pmax pmax
comp=Z,61nm,1.0s
BOOM Boomskoye usch 48.58 294 P **P** **19 42 59.7 +0.5**
TKM2 Tokmak 2 48.63 294 P **P** **19 43 00.1 +0.6**
SNR=64
BTLS Baital 48.75 298⇑ *iP* **P** **19 42 59.6 -0.6**
comp=Z,12nm,1.1s,baz=297
BTLS Baital 48.75 298*c iP* **P** **19 42 59.5 -0.6**
BTLS pmax pmax
comp=Z,12nm,1.1s
SGDS Sogindy 49.04 295⇑ *iP* **P** **19 43 02.1 -0.4**
comp=Z,10nm,1.1s,baz=295
SGDS Sogindy 49.04 295*c iP* **P** **19 43 02.1 -0.4**
SGDS pmax pmax
comp=Z,10.0nm,1.1s
KBK Karagaybulak 49.17 294 P **P** **19 43 04.3 +0.6**
SNR=47
USP Ospenovka 49.20 295 P **P** **19 43 04.0 +0.3**
SNR=30
WHY Whitehorse 49.26 40 P **P** **19 43 04.5 +0.5**
WHY Whitehorse 49.26 40 P 19 43 05.2
baz=288
FRU1 Bishkek 49.31 295 P **P** **19 43 04.5 -0.2**
FRU1 pmax pmax
comp=Z,25nm,1.1s
FRU1 Bishkek 49.31 295 P **P** **19 43 04.5 -0.2**
FRU1 IAmb IAmb 19 43 08.1
comp=Z,25nm,1.1s
AAK Ala-Archa 49.48 295 P **P** **19 43 06.6 +0.6**
SNR=5.7

AAK Ala-Archa 49.48 295 *i* P P 19 43 06.6 +0.6
SNR=7.0
AAK Ala-Archa 49.48 295 *i* P P 19 43 06.3 +0.3
AAK pmax pmax
comp=Z,32nm,1.2s
AAK Ala-Archa 49.48 295 P P 19 43 05.7 -0.3
AAK IAmb IAmb 19 43 09.3
comp=Z,12nm,1.1s
AAK Ala-Archa 49.48 295 *e*P P 19 43 06.3 +0.3
KSH Kashi 49.90 290 P P 19 43 13.2 +4.0
KSH sP sP 19 43 23.0 +6.4
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH pmax pmax
comp=Z,47nm,4.0s
KSH L L
comp=Z,560nm,18.7s
KSH L L
comp=Z,370nm,13.3s
KSH L L
comp=Z,230nm,14.9s
EKS2 Erkin-Say 49.94 295 P P 19 43 09.2 -0.3
SNR=22
AML Almayashu 50.24 294 P P 19 43 12.8 +0.7
SNR=16
AML Almayashu 50.24 294 *i* P P 19 43 12.7 +0.6
SNR=16
ARSB Arslanbob 51.08 294 P P 19 43 18.0 -0.1
ARSB pmax pmax
comp=Z,70nm,0.9s
ARSB Arslanbob 51.08 294 P P 19 43 18.0 -0.1
MTKI Muara Teweh, K 51.38 219 P P 19 43 21.1 +0.7
comp=Z,16nm,1.1s
SVE Sverdlovsk 51.83 316⇑ *e*P P 19 43 23.4 +0.1
SVE pmax pmax
comp=Z,23nm,1.2s
SVE MLR MLR
comp=Z,238nm,12.0s
KK31 Karatay Array 51.88 297 P P 19 43 23.2 -0.8
KK31 pmax pmax
comp=Z,27nm,1.1s
KK31 Karatay Array 51.88 297 P P 19 43 23.2 -0.8
KK31 IAmb IAmb 19 43 26.9
comp=Z,27nm,1.1s
KKAR Karatay Array 51.88 297 P P 19 43 23.6 -0.4
KKAR pmax pmax
comp=Z,27nm,1.1s
KKAR Karatay Array 51.88 297 P P 19 43 23.1 -0.9
KKAR Karatay Array 51.88 297 P P 19 43 23.6 -0.4
KKAR IAmb IAmb 19 43 26.9
comp=Z,27nm,1.1s
IUG luzhnay 52.65 296⇑ *i*P P 19 43 29.2 -0.5
baz=296
IUG luzhnay 52.65 296*c i*P P 19 43 29.2 -0.5
DRK Karamyk 52.75 292 P P 19 43 29.6 -1.2
DRK IAmb IAmb 19 43 40.1
comp=Z,12nm,0.8s
ARU Arti 53.04 316*d i*P P 19 43 32.0 -0.3
ARU 19 44 39.3
ARU 19 45 30.5
ARU S S 19 51 04.3 +3.1
ARU SS SS 19 54 40.7 +0.9
ARU pmax pmax
comp=Z,40nm,1.2s
ARU MLR MLR
comp=Z,344nm,15.0s
ARU Arti 53.04 316 P P 19 43 31.4 -0.8
ARU Arti 53.04 316 *e*P P 19 43 32.0 -0.3
BTK Batken 53.13 293 P P 19 43 32.7 -0.6
BTK pmax pmax
comp=Z,20nm,1.2s
BTK Batken 53.13 293 P P 19 43 32.7 -0.6
BTK IAmb IAmb 19 43 36.2
comp=Z,20nm,1.1s
DGPR DIGLIPUR 53.14 252 *e*P P 19 43 38.4 +4.9
SMLA Simla 53.34 280 *e*P P 19 43 34.6 -0.2
SMLA IAmb IAmb 19 43 39.2
comp=Z,55nm,0.8s
DHRM DHARAMSHALA 53.34 282 *e*P P 19 43 33.8 -1.4
DHRM IAmb IAmb 19 43 38.4
comp=Z,27nm,0.8s
GAR Garm 53.99 292 P P 19 43 39.2 -0.5
NIL Nilore 54.75 285 P P 19 43 45.0 -0.2
NIL pmax pmax
comp=Z,18nm,1.0s
NIL Nilore 54.75 285 P P 19 43 45.0 -0.2
NIL IAmb IAmb 19 43 56.0
comp=Z,18nm,0.9s
CHGR Chuyangaron 54.94 293 P P 19 43 46.2 -0.4
ABKAR Akbulak array 55.51 308 P P 19 43 50.3 -0.1
ABKAR Akbulak array 55.51 308 P P 19 43 50.0 -0.4
RES Resolute Bay 55.86 16 P P 19 43 51.4 -1.1
RES pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 55.86 16 P P 19 43 51.4 -1.1
RES IAmb IAmb 19 43 52.8
comp=Z,12nm,0.9s
KIRV Kirov 56.45 321 *i* P P 19 43 56.7 -0.2
PRGR Permogore 56.57 326 *e*P P 19 43 57.3 -0.4
PRGR pmax pmax
comp=Z,20nm,0.9s
KBL Kabul 57.20 288 P P 19 44 01.9 -1.0
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 57.20 288 P P 19 44 01.9 -1.0
KBL IAmb IAmb 19 44 04.7
comp=Z,16nm,1.0s
YKA Yellowknife Ar 57.25 33 P P 19 44 02.8 +0.2
comp=Z,18nm,0.9s,baz=302,slow=6.8,SNR=43
MTN Manton Dam 57.27 195 P P 19 44 05.1 +1.9
APA Apatity 57.71 335⇓ *i*P P 19 44 20.5 +15
APA pmax pmax
comp=Z,7.0nm,0.9s
BHPL Bhopal 57.73 272 *e*P P 19 44 04.6 -1.9
BHPL IAmb IAmb 19 44 07.4
comp=Z,25nm,1.0s
ARCES ARCESS Array B 58.73 339 P P 19 44 12.0 -0.9
comp=Z,2.0nm,0.8s,baz=9.9,slow=7.8,SNR=5.0
ARCES ARCESS Array B 58.73 339 P P 19 44 13.1 +0.2
ARCES pmax pmax
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 58.73 339 P P 19 44 13.1 +0.2
ARCES IAmb IAmb 19 44 20.5
comp=Z,9.6nm,1.1s
KLMR Klimovskoe 59.48 327 *e*P P 19 44 15.8 -2.3
KLMR *e* 19 46 27.4
KLMR pmax pmax
comp=Z,34nm,1.2s
KLMR Klimovskoe 59.48 327 *e*P P 19 44 15.8 -2.3
KLMR AMP 19 44 21.2
comp=Z,34nm,1.2s
KLMR *e*PP PP 19 46 27.4 -1.6
HYB Hyderabad 60.56 266 *i* P P 19 44 25.0 -1.2
BELG Belogornoye 60.58 316 LR LR 20 14 07.7
comp=Z,150nm,18.1s,baz=330,slow=40
BELG Belogornoye 60.58 316 *i* P P 19 44 25.2 -0.6
BELG pmax pmax
comp=Z,21nm,1.0s
NLWA Neilton Lookou 60.95 51 P P 19 44 30.0 +1.4
NLWA IAmb IAmb 19 44 31.0
comp=Z,14nm,1.1s
D03D Eldon 61.31 50 P 19 44 32.3
baz=304,SNR=8.1
B05A Bryant 61.46 49 P 19 44 32.2
baz=304
E03A Lebam 61.60 52 P P 19 44 34.5 +1.6
D04E Lakebay 61.69 51 P 19 44 34.1
baz=304
HRA Herat 61.93 292 P P 19 44 35.8 +0.2
HRA IAmb IAmb 19 44 38.8
comp=Z,14nm,0.9s
E04D Cinebar 62.16 51 P 19 44 38.1
baz=305,SNR=8.1
LON Longmire 62.48 51 P P 19 44 39.7 +0.8
LON pmax pmax
comp=Z,6.0nm,1.0s
LON Longmire 62.48 51 P P 19 44 39.7 +0.8
G03D McMinnville, O 62.53 53 P 19 44 39.6
baz=305
GEYT Alibeck 62.63 297 P P 19 44 39.6 -0.3
comp=Z,9.0nm,0.9s,baz=18,slow=5.2,SNR=10
GEYT LR LR 20 14 19.7
comp=Z,412nm,18.6s,baz=55,slow=38
GEYT Alibeck 62.63 297 P P 19 44 39.1 -0.9
GEYT IAmb IAmb 19 44 43.5
comp=Z,16nm,1.1s
GYA0B ALIBECK ARRAY 62.63 297 P P 19 44 39.6 -0.3
GYA0B IAmb IAmb 19 44 43.5
comp=Z,19nm,1.2s
LTY Liberty 62.82 50 P P 19 44 41.2 0.0
LTY IAmb IAmb 19 44 42.4
comp=Z,6.5nm,0.8s
I02D Swisshome 62.83 54 P 19 44 41.5
baz=305
F05D White Salmon 63.18 51 P 19 44 44.2
baz=306
H04D Lebanon 63.23 53 P 19 44 44.8
baz=306
J01E Myrtle Point 63.32 55 P 19 44 45.6
baz=306
I03D Drain, OR 63.35 54 P 19 44 45.8
baz=306
MOS Moscow 63.36 323 *e*P P 19 44 45.6 +1.2
MOS *e* 19 45 20.3
MOS pmax pmax
comp=Z,33nm,0.8s
H04A Detroit Lake 63.46 53 P P 19 44 46.1 +0.7
H04A IAmb IAmb 19 44 48.4
comp=Z,14nm,1.0s
G05D Wamic, OR 63.63 52 P 19 44 47.4
baz=306
WRA Warramunga Arr 63.73 190 P P 19 44 46.9 -0.4
comp=Z,3.7nm,0.8s,baz=12,slow=6.7,SNR=7.8
WRA Warramunga Arr 63.73 190 P P 19 44 49.4 +2.2
WRA pmax pmax
comp=Z,1.0nm,1.5s
WRA Warramunga Arr 63.73 190 P P 19 44 49.4 +2.2
K02D Willamette Mer 63.75 55 P 19 44 48.4
baz=306
C09A Chrisman Ranch 63.82 48 P P 19 44 47.9 +0.2
I04A Tendick Farm, 63.85 54 P 19 44 48.9
baz=306
F07A Phinny Hill Vi 64.04 51 P P 19 44 50.2 +1.1
FIA1 FINESS Array S 64.11 332 P P 19 44 48.5 -0.8
FINES FINESS Array B 64.11 332 P P 19 44 48.5 -0.8
comp=Z,41nm,1.0s,baz=53,slow=7.4,SNR=39
FINES LR LR 20 15 07.6
comp=Z,177nm,18.2s,baz=58,slow=38
FINES FINESS Array B 64.11 332 *i* P P 19 44 48.7 -0.6
FINES pmax pmax
comp=Z,41nm,1.0s
NEW Newport 64.16 47 P P 19 44 50.1 +0.1
NEW Newport 64.16 47 P P 19 44 50.1 +0.1
NEW IAmb IAmb 19 44 51.8
comp=Z,13nm,0.9s
NEW Newport 64.16 47 P 19 44 50.5
baz=307,SNR=9.0
OBN Obninsk 64.22 323⇓ *e*P P 19 44 49.0 -1.1
OBN *PP pP 19 44 55.0 -0.4
OBN 19 45 28.0
OBN S S 19 53 24.0 -2.6
OBN SSS SSS 20 00 31.0
OBN pmax pmax
comp=Z,45nm,1.1s
OBN MLR MLR
comp=Z,313nm,14.0s
OBN Obninsk 64.22 323 *e*P P 19 44 49.0 -1.1
VRH Novokhopyorsk 64.25 317 *e*P P 19 44 49.9 -0.5
VRH pmax pmax
comp=Z,60nm,1.0s
J04D Umpqua Nationa 64.35 54 P 19 44 52.3
baz=306
E09A Wood Farm, Sta 64.66 49 P P 19 44 54.0 +0.8
PINE Pine Mountain 64.71 53 P P 19 44 55.0 +1.2
LPSR Galich'ya Gora 64.73 319 *e*P P 19 44 53.3 -0.2
LPSR pmax pmax
comp=Z,50nm,1.0s
L04D Klamath Falls 64.84 55 P 19 44 55.3
baz=307,SNR=6.6
YBH Yreka Blue Hor 64.89 56 P P 19 44 56.1 +1.2
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 64.89 56 P P 19 44 56.1 +1.2
M02C Callahan 65.01 56 P 19 44 56.6
baz=307
N02D Trinity Center 65.35 56 P 19 44 58.3
baz=307
I07A Izee 65.36 52 P P 19 44 58.4 +0.5
K05A Summer Lake 65.38 54 P P 19 44 59.4 +1.2
K05A IAmb IAmb 19 45 01.8
comp=Z,18nm,1.0s
M04C Macdoel 65.38 55 P 19 44 58.9
baz=307,SNR=8.5
F10A Beach Ranch, E 65.49 49 P P 19 44 59.8 +1.0
F10A IAmb IAmb 19 45 09.0
comp=Z,12nm,1.0s
VSR Storozhevoye 65.50 318 *e*P P 19 44 57.3 -1.2
VSR pmax pmax
comp=Z,30nm,1.0s
MEF Metsahovi 65.56 332 *e*P P 19 44 58.8 0.0
WDC Whiskeytown Da 65.68 57 P P 19 45 00.8 +0.9
WDC pmax pmax
comp=Z,7.0nm,1.0s
WDC Whiskeytown Da 65.68 57 P P 19 45 00.8 +0.9
WDC IAmb IAmb 19 45 02.0
comp=Z,7.3nm,1.0s
O02D Mt. Diablo Mer 65.78 57 P 19 45 01.8
baz=307
RAF Rauma 65.86 333 *e*P P 19 45 00.2 -0.5
VSU Vasula 65.98 329 *e*P P 19 45 02.4 +0.9
VSU Vasula 65.98 329 *i* P P 19 45 00.6 -0.9
VSU pmax pmax
comp=Z,170nm,1.1s
JTMT Jette 65.99 46 P P 19 45 02.8 +0.8
JTMT IAmb IAmb 19 45 06.6
comp=Z,11nm,1.0s
MOD Modoc Plateau 66.22 54 P P 19 45 04.1 +0.5
MOD IAmb IAmb 19 45 05.5
comp=Z,5.6nm,0.8s
O03E Paynes Creek 66.31 56 P 19 45 04.2
baz=308,SNR=6.6
J08A Circle Bar Ran 66.40 52 P P 19 45 05.6 +1.0
J08A IAmb IAmb 19 45 07.9
comp=Z,15nm,1.1s
MSO Missoula 66.74 47 P P 19 45 07.5 +0.7
MSO IAmb IAmb 19 45 08.6
comp=Z,12nm,1.1s
MSO Missoula 66.75 47 P 19 45 07.4
baz=309,SNR=5.7
MTSE Matsula 66.86 331 *e*P P 19 45 07.9 +0.8
ORV Oroville 66.94 57 P P 19 45 08.2 +0.2
ORV pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 66.94 57 P P 19 45 08.2 +0.2
AKT Akhty 66.95 306 *e*P P 19 45 08.6 +0.4
AKT *e*PCP PcP 19 45 36.4 -0.3
AKT pmax pmax
comp=Z,28nm,1.1s
GROC Groznyy 67.01 308 *e*P P 19 45 10.8 +2.4
GROC *e* 19 45 37.5
GROC *e* 19 47 39.2
GROC *e*S S 19 54 06.2 +5.1
GROC pmax pmax
comp=Z,26nm,1.0s
AAL Aland 67.08 333 *e*P P 19 45 07.8 -0.7
FFC Flin Flon 67.22 35 P P 19 45 09.6 +0.1
FFC pmax pmax
comp=Z,21nm,1.0s
FFC Flin Flon 67.22 35 P P 19 45 09.6 +0.1
GOF Gofitskoye 67.39 311⇑ *e*P P 19 45 11.7 +0.9
GOF pmax pmax
comp=Z,99nm,0.9s
BEKR Beckworth 67.44 56 P P 19 45 11.1 -0.3
BEKR IAmb IAmb 19 45 13.1
comp=Z,10nm,1.0s
AS31 Alice Springs 67.45 190 P P 19 45 12.6 +1.4
ASAR Alice Springs 67.45 190 P P 19 45 11.8 +0.5
comp=Z,4.4nm,0.9s,baz=7.3,slow=5.4,SNR=29
ASAR Alice Springs 67.45 190 P P 19 45 12.6 +1.4
ASAR Alice Springs 67.45 190 P P 19 45 12.6 +1.4
LGD Lagodekhi 67.61 307 P P 19 45 12.9 +0.7
MFID Camas Ranch 67.87 51 P P 19 45 14.7 +0.7
DDFL Dedoflistskaro 67.92 307 P P 19 45 17.1 +2.8
PAHR Pah Rah Range 68.13 56 P P 19 45 16.4 +0.7
PAHR IAmb IAmb 19 45 17.6
comp=Z,13nm,1.2s
EGMT Eagleton 68.15 44 P 19 45 15.6
baz=311
IDID Didziasalis 68.22 327 *e*P P 19 45 17.0 +1.2
GUDG Gudauri 68.23 308 P P 19 45 14.5 -1.9
ISAL Salakas 68.28 327 *e*P P 19 45 17.5 +1.3
KIV Kislovodsk 68.29 310 *i* P P 19 45 17.9 +1.4
SNR=27
KIV Kislovodsk 68.29 310 *e*P P 19 45 17.1 +0.5
KIV pmax pmax
comp=Z,211nm,1.1s
KIV MLR MLR
comp=Z,576nm,17.0s
KIV Kislovodsk 68.29 310 P P 19 45 16.6 0.0
KIV Kislovodsk 68.29 310 *e*P P 19 45 17.1 +0.5
KBZ Khabaz 68.32 310 P P 19 45 17.2 +0.6
comp=Z,20nm,1.0s,baz=29,slow=5.2,SNR=20
KBZ LR LR 20 20 24.8
comp=Z,272nm,18.1s,baz=28,slow=41
MNK Minsk 68.34 326 *i* P P 19 45 13.7 -2.9
MNK *i* 19 47 44.9
MNK *i* PPP PPP 19 49 24.0
MNK *i* S S 19 54 11.6 -5.1
MNK *i* SS SS 19 58 39.3 +0.2
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=Z,55nm,1.2s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK MLR MLR
comp=N,765nm,26.0s
MNK MLR MLR
comp=Z,226nm,19.0s
MNK MLR MLR
comp=E,19nm,19.0s
MNK Minsk 68.34 326 *i* LRM MLR 20 17 52.4
comp=N,765nm,25.6s
MNK Minsk 68.34 326 *i* P P 19 45 13.8 -2.8
comp=E,6.0nm,1.1s,baz=226
MNK Minsk 68.34 326 *i* P P 19 45 13.8 -2.8
comp=N,10.0nm,0.7s
MNK Minsk 68.34 326 *i* P P 19 45 13.8 -2.8
comp=Z,55nm,1.2s
MNK Minsk 68.34 326 *i* PP PP 19 47 45.0 -1.9
MNK Minsk 68.34 326 *i* PPP PPP 19 49 24.0
MNK Minsk 68.34 326 *i* S S 19 54 11.6 -5.1
MNK Minsk 68.34 326 *i* SS SS 19 58 39.3 +0.2
MNK Minsk 68.34 326 *i* SSS SSS 20 01 58.5
MNK Minsk 68.34 326 *i* LQ LQ 20 10 29.7
MNK Minsk 68.34 326 *i* LR LR 20 15 43.0
MNK Minsk 68.34 326 *i* LRM MLR 20 17 52.4
comp=E,19nm,18.8s
MNK Minsk 68.34 326 *i* LRM MLR 20 17 52.4
comp=Z,226nm,18.5s
PNTR Pine Nut 68.38 56 P P 19 45 18.1 +0.7
PNTR IAmb IAmb 19 45 19.5
comp=Z,7.9nm,0.9s
DLMT Dillon 68.40 48 P P 19 45 17.0 -0.3
IIGN Ignalina 68.40 327 *e*P P 19 45 17.4 +0.4
SHA1 Shidzhatmaz 68.44 310 *i* P P 19 45 17.4 -0.3
NACGM Naroch 68.50 327 *i* P P 19 45 17.9 +0.3
CMB Columbia Colle 68.56 58 P P 19 45 18.9 +0.5
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 68.56 58 P P 19 45 18.9 +0.5
HLID Hailey 68.57 50 P P 19 45 19.1 +0.6
HLID IAmb IAmb 19 45 22.2
comp=Z,8.9nm,1.1s
HLID Hailey 68.57 50 P 19 45 19.3
baz=310,SNR=8.4
YERR Yerington 68.67 56 P P 19 45 19.9 +0.8
YERR IAmb IAmb 19 45 21.2
comp=Z,17nm,1.1s
ONI Oni 68.73 309 P P 19 45 22.0 +2.7
NC405 NORSAR Array S 68.85 337 P P 19 45 18.8 -0.9
WAKR Walker 68.85 57 P P 19 45 21.2 +0.9
NC303 NORSAR Array S 68.86 338 P P 19 45 19.8 +0.1
KZRT Kazreti 68.96 307 P P 19 45 23.9 +3.1
NC204 NORSAR Array S 68.98 338 P P 19 45 19.9 -0.7
NB201 NORSAR Array S 69.02 338 P P 19 45 20.5 -0.2
NB2 NORSAR Subarra 69.05 338 P P 19 45 20.5 -0.4
baz=35,slow=6.2
NOA NORSAR Array B 69.05 338 P P 19 45 20.6 -0.4
comp=Z,36nm,1.0s,baz=34,slow=6.1,SNR=33
NOA LR LR 20 18 55.1
comp=Z,117nm,20.6s,baz=30,slow=39
PABE Paberze 69.17 328 *e*P P 19 45 21.7 0.0
PABE Paberze 69.17 328 P P 19 45 20.7 -1.0
NBO00 NORSAR Array S 69.18 338 P P 19 45 21.8 +0.1
NC602 NORSAR Array S 69.21 337 P P 19 45 22.0 +0.1
SFJD Kangerlussuaq 69.30 6 P P 19 45 21.8 -0.5
SFJD pmax pmax
comp=Z,9.0nm,1.0s
SFJD Kangerlussuaq 69.30 6 P P 19 45 21.8 -0.5
SFJD IAmb IAmb 19 45 22.2
comp=Z,9.2nm,1.0s
NAO01 NORSAR Array S 69.30 338 P P 19 45 21.9 -0.6
KVN Kaiserville 69.31 56 P P 19 45 23.1 -0.1
KVN pmax pmax
comp=Z,15nm,1.1s
KVN Kaiserville 69.31 56 P P 19 45 23.1 -0.1
KVN IAmb IAmb 19 45 25.2
comp=Z,15nm,1.1s
RYN Ryan 69.33 56 P P 19 45 23.4 +0.2
RYN IAmb IAmb 19 45 24.7
comp=Z,6.3nm,0.9s
AKH Akhalkalaki 69.47 308 ⇑P P 19 45 24.3 +0.2
AKH Akhalkalaki 69.47 308 P P 19 45 24.2 +0.2
YHB Horse Butte 69.55 47 P P 19 45 25.3 +0.7
YHB IAmb IAmb 19 45 26.6
comp=Z,15nm,0.8s
LHV Little Huntoon 69.58 56 P P 19 45 25.8 +1.3
NVAR Mina Array Bea 69.59 56 P P 19 45 25.7 +0.8
comp=Z,5.4nm,0.8s,baz=292,slow=6.7,SNR=32
NVAR Mina Array Bea 69.59 56 P P 19 45 25.5 +0.6
NV11 Mina Array Sit 69.67 56 P P 19 45 26.3 +0.9
NV11 IAmb IAmb 19 45 29.2
comp=Z,15nm,1.5s
ELK Elko 69.91 53 P P 19 45 27.0 +0.1
ELK pmax pmax
comp=Z,8.0nm,1.2s
ELK Elko 69.91 53 P P 19 45 27.0 +0.1
H17A Grant Village 70.12 47 P P 19 45 30.8 +2.7
H17A IAmb IAmb 19 45 32.8
comp=Z,18nm,0.9s
H17A Grant Village 70.12 47 P 19 45 29.5
baz=312,SNR=6.6
MOOW Moose Ponds 70.46 48 P P 19 45 31.1 +1.0
MOOW IAmb IAmb 19 45 32.8
comp=Z,18nm,1.1s
TPH Tonopah 70.47 56 P P 19 45 30.3 0.0
TPH pmax pmax
comp=Z,40nm,1.1s
TPH Tonopah 70.47 56 P P 19 45 30.3 0.0
AKASG Malin Array Be 70.48 322 P P 19 45 29.1 -0.7
comp=Z,18nm,0.9s,baz=42,slow=6.4,SNR=28
AKASG LR LR 20 17 54.8
comp=Z,88nm,20.3s,baz=100,slow=37
AKASG Malin Array Be 70.48 322 P P 19 45 29.1 -0.7
AKASG pmax pmax
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 70.48 322 P P 19 45 29.1 -0.7
AKBB Malin Array Si 70.48 322 P P 19 45 28.9 -0.9
AKBB pmax pmax
comp=Z,18nm,0.9s
AKBB Malin Array Si 70.48 322 P P 19 45 28.9 -0.9
AKBB IAmb IAmb 19 45 33.4
comp=Z,18nm,0.9s
BCA Borcka 70.51 309 ⇑P P 19 45 31.1 +0.8
TPAW Teton Pass 70.52 48 P P 19 45 31.9 +1.3
TPAW IAmb IAmb 19 45 33.3
comp=Z,22nm,1.1s
ANN Anapa 70.58 314 *e*P P 19 45 26.9 -3.6
ANN *e*PP pP 19 45 32.3 -3.7
ANN *e* 19 45 48.9
ANN *e*S S 19 54 39.2 -4.1
ANN *e*SSS SSS 20 02 20.7
ANN pmax pmax
comp=Z,36nm,1.0s
SUW Suwalki 70.58 328 *e*P P 19 45 32.3 +1.9
HVU Hansel Valley 70.64 51 P P 19 45 32.4 +1.2
HVU pmax pmax
comp=Z,11nm,1.1s
HVU Hansel Valley 70.64 51 P P 19 45 32.4 +1.2
HVU IAmb IAmb 19 45 34.9
comp=Z,11nm,1.1s
PKM Mcpherson Peak 70.92 60 P 19 45 33.9
baz=310

CWC Cottonwood Cre 71.00 58 P 19 45 33.9
baz=310
BGU Big Grassy Mou 71.06 51 P **P** **19 45 32.1 -1.7**
BGU IAmb IAmb 19 45 38.7
comp=Z,11nm,1.1s
BANOM Banah 71.15 288 P **P** **19 45 33.4 -1.0**
SHME Shamm 71.18 288 *i* P **P** **19 45 34.2 -0.4**
SNR=7.7
R11A Troy Canyon, C 71.27 55 P **P** **19 45 35.3 +0.2**
R11A Troy Canyon, C 71.27 55 P 19 45 35.8
baz=311,SNR=6.2
MDH Madha 71.55 288 P **P** **19 45 35.1 -1.7**
SPR3 Spring Creek 3 71.58 54 P **P** **19 45 38.0 +0.8**
SPR3 IAmb IAmb 19 45 41.4
comp=Z,14nm,1.2s
MSFE Esma-Masafi 71.61 288 P **P** **19 45 36.8 -0.4**
DUG Dugway, Tooele 71.67 52 P **P** **19 45 38.1 +0.6**
DUG pmax pmax
comp=Z,15nm,1.1s
DUG Dugway, Tooele 71.67 52 P **P** **19 45 38.1 +0.6**
DUG IAmb IAmb 19 45 39.6
comp=Z,15nm,1.1s
DUG Dugway, Tooele 71.67 52 P 19 45 38.4
baz=312,SNR=6.1
FURC Furnace Creek, 71.73 57 P 19 45 38.7
baz=311
PDAR Pinedale Array 71.76 48 P **P** **19 45 38.3 +0.2**
comp=Z,11nm,0.9s,baz=346,slow=1.8,SNR=11
PDAR Pinedale Array 71.76 48 P **P** **19 45 38.1 0.0**
BW06 Boulder Array 71.76 48 P 19 45 38.5
baz=313,SNR=5.5
TPNV Topopah Spring 71.78 56 P **P** **19 45 38.2 -0.1**
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 71.78 56 P **P** **19 45 38.2 -0.1**
TPNV IAmb IAmb 19 45 42.8
comp=Z,11nm,1.1s
TPNV Topopah Spring 71.78 56 P 19 45 39.0
baz=311,SNR=8.3
UOSS Minazif 71.84 287 *i* P **P** **19 45 37.9 -0.6**
SNR=6.8
UOSS Minazif 71.84 287 P **P** **19 45 37.7 -0.9**
UOSS IAmb IAmb 19 45 40.1
comp=Z,14nm,1.1s
EDW2 Edwards Air Fo 72.06 59 P 19 45 40.9
baz=311
ASHO Ashiyiah 72.11 287 P **P** **19 45 39.9 -0.3**
SOHO SOHO 72.13 286 P **P** **19 45 39.7 -0.6**
PSUT Pine Spring 72.17 54 P **P** **19 45 41.4 +0.8**
PRN Pahroc Range 72.20 55 P **P** **19 45 41.6 +0.9**
NLU North Lily Min 72.25 52 P **P** **19 45 41.8 +0.7**
NLU IAmb IAmb 19 45 44.0
comp=Z,12nm,1.1s
FAQ Al Faqa, Dubai 72.40 288 P **P** **19 45 41.2 -0.6**
MPU Maple Canyon 72.46 51 P **P** **19 45 42.6 +0.3**
MPU IAmb IAmb 19 45 44.2
comp=Z,10nm,0.8s
ASUD Al Ashush, Dub 72.66 288 P **P** **19 45 43.2 -0.2**
BFSC Mount Baldy Ra 72.69 59 P 19 45 44.5
baz=311
SORM Soroca 72.73 321 ⇑P **P** **19 45 42.8 -0.6**
SORM Soroca 72.73 321 ⇑P **P** **19 45 42.8 -0.6**
SHPR Sheep Range 72.73 56 P **P** **19 45 44.5 +0.6**
BSD Bornholm Skovb 72.75 332 *eP* **P** **19 45 43.1 -0.3**
ULM Lac du Bonnet 73.04 36 P **P** **19 45 44.5 -0.8**
comp=Z,9.1nm,1.1s,baz=293,slow=8.7,SNR=6.0
ULM Lac du Bonnet 73.04 36 P **P** **19 45 44.5 -0.8**
ULM IAmb IAmb 19 45 47.0
comp=Z,9.3nm,1.0s
CCUT Cedar City 73.11 54 P **P** **19 45 46.6 +0.4**
HEC Hector,Ludlow 73.12 58 P 19 45 46.9
baz=312
SZCU Shurtz Canyon 73.25 54 P **P** **19 45 47.7 +0.7**
LVV L'vov 73.39 324 *eP* **P** **19 45 48.2 +0.8**
LCMT Little Creek M 73.54 55 P **P** **19 45 49.9 +1.2**
GMRC Granite Mounta 73.57 58 P 19 45 49.4
baz=312
RSSD Black Hills 73.72 44 P 19 45 49.7
baz=316
RWWY Rawlins 73.77 48 P **P** **19 45 50.4 +0.3**
RWWY IAmb IAmb 19 45 55.1
comp=Z,22nm,1.1s
KNB Kanab 73.79 54 P **P** **19 45 50.2 0.0**
KNB pmax pmax
comp=Z,10.0nm,1.2s
KNB Kanab 73.79 54 P **P** **19 45 50.2 0.0**
PFO Pinyon Flats O 73.85 59 P 19 45 50.5
baz=312
TPFO Pinon Flats 73.86 59 P 19 45 51.2
baz=312
BELC Belle Mtn. Jos 73.88 58 P 19 45 51.0
baz=312
KWP Kalwaria Pacla 74.09 325 P **P** **19 45 51.8 +0.3**
KWP Kalwaria Pacla 74.09 325 P **P** **19 45 51.8 +0.3**
IRM Iron Mountain 74.30 58 P 19 45 53.7
baz=312
MONP2 Monument Peak 74.35 60 P 19 45 53.8
baz=312
MALT Malatya 74.44 308 P **P** **19 45 56.0 +2.2**
BC3 Big Chuckawall 74.45 58 P 19 45 54.2
baz=312
U15A North Rim 74.50 54 P **P** **19 45 53.8 -0.6**
AGMN Agassiz Nation 74.52 37 P **P** **19 45 53.2 -0.8**
AGMN IAmb IAmb 19 46 21.9
comp=Z,11nm,1.1s
AGMN Agassiz Nation 74.52 37 P 19 45 54.0
baz=319
BUR08 Bucovina Ar. S 74.52 322 P **P** **19 45 53.6 -0.6**
BUR08 IAmb IAmb 19 45 57.4
comp=Z,13nm,0.9s
BURAR Bucovina Array 74.53 322 ⇑P **P** **19 45 54.0 -0.2**
BURAR Bucovina Array 74.53 322 ⇑P **P** **19 45 54.0 -0.2**
BURAR Bucovina Array 74.53 322 P **P** **19 45 53.4 -0.8**
BURAR IAmb IAmb 19 45 58.3
comp=Z,21nm,1.0s
BIZ Bicaz 74.64 321 ⇑P **P** **19 45 55.1 +0.4**
TESR Tescani 74.70 321 ⇑P **P** **19 45 55.1 0.0**
SWSC Sam W. Stewart 74.71 59 P 19 45 56.0
baz=312
IKP In-Ko-Pah, Jac 74.71 60 P 19 45 56.2
baz=312
KOLS Kolonicke sedl 74.81 325 *eP* **P** **19 45 56.7 +1.0**
KOLS Kolonicke sedl 74.81 325 *eP* **P** **19 45 56.7 +1.0**
PDMCI Parker Dam,Lak 74.82 57 P 19 45 56.4
baz=313
OJC Ojcow 74.83 327 *eP* **P** **19 45 56.5 +0.7**
OJC Ojcow 74.83 327 P **P** **19 45 56.0 +0.2**
OJC pmax pmax
comp=Z,46nm,1.0s
OJC Ojcow 74.83 327 P **P** **19 45 56.0 +0.2**
JURR Jurilovca 74.94 318 ⇓P **P** **19 45 56.5 +0.1**
CFR Carcaliu 74.99 319 ⇑P **P** **19 45 56.2 -0.5**
CFR Carcaliu 74.99 319 ⇑P **P** **19 45 56.2 -0.5**
N23A Red Feather La 75.01 48 P 19 45 58.6
baz=315
STKA Stephens Creek 75.01 182 P **P** **19 45 56.7 -0.1**
comp=Z,3.3nm,0.9s,baz=333,slow=14,SNR=3.6
STKA LR LR 20 19 40.2
comp=Z,38nm,20.2s,baz=19,slow=36
UZH Uzhgorod 75.04 324 *eP* **P** **19 45 57.6 +0.7**
UZH *i* 19 46 03.5
TPGR Topolog 75.09 318 ⇓P **P** **19 45 57.8 +0.4**
VRI Vrincioaia 75.15 320 ⇑P **P** **19 45 58.5 +0.8**
VRI Vrincioaia 75.15 320 ⇑P **P** **19 45 58.5 +0.8**
CRVS Cervenica-Dubn 75.18 325 *eP* **P** **19 45 59.0 +1.2**
CRVS pmax pmax
comp=Z,22nm,1.2s
CRVS Cervenica-Dubn 75.18 325 *eP* **P** **19 45 59.0 +1.2**
PLOR Plostina 75.20 320 ⇑P **P** **19 45 57.8 -0.2**
PLOR Plostina 75.20 320 ⇑P **P** **19 45 57.8 -0.2**
BSEG Bad Segeberg 75.24 334 *eL* L 20 21 54.3
comp=Z,194nm,18.4s
NIE Niedzica 75.26 326 *eP* **P** **19 45 59.4 +1.1**
TRPA Tarpa 75.32 324 ⇑P **P** **19 45 59.2 +0.6**
TIRR Tirgusor 75.39 318 ⇑P **P** **19 45 58.1 -0.9**
TIRR Tirgusor 75.39 318 P **P** **19 45 58.6 -0.4**
TIRR pmax pmax
comp=Z,29nm,1.2s
TIRR Tirgusor 75.39 318 P **P** **19 45 58.6 -0.4**
TIRR IAmb IAmb 19 46 03.0
comp=Z,29nm,1.2s
BISRR Bisoca 75.39 320 ⇓P **P** **19 46 00.2 +1.1**
OZUR 75.41 321 ⇑P **P** **19 46 00.3 +1.1**
HARR Harsova 75.45 319 ⇑P **P** **19 45 59.5 +0.1**

HARR Harsova 75.45 319 ⇑P **P** **19 45 59.5 +0.1**
WUAZ Wupatki 75.67 55 P 19 46 01.8
baz=314
KSP Ksiaz 75.70 329 *eP* **P** **19 46 01.6 +0.8**
OKC Ostrava-Krasne 75.79 327 *eP* **P** **19 46 02.8 +1.5**
OKC Ostrava-Krasne 75.79 327 *eP* **P** **19 46 02.8 +1.5**
ISR Istrita 75.79 320 ⇓P **P** **19 46 02.6 +1.1**
ISR Istrita 75.79 320 ⇓P **P** **19 46 02.6 +1.1**
MLR Muntele Rosu 75.79 320 ⇑P **P** **19 46 02.2 +0.6**
MLR Muntele Rosu 75.79 320 P **P** **19 46 01.6 +0.1**
MLR pmax pmax
comp=Z,15nm,1.2s
MLR Muntele Rosu 75.79 320 P **P** **19 46 01.6 +0.1**
MLR IAmb IAmb 19 46 06.4
comp=Z,15nm,1.2s
LANS Liptovska Anna 75.81 326 *eP* **P** **19 46 03.1 +1.7**
LANS pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna 75.81 326 *eP* **P** **19 46 03.1 +1.7**
OSTC Ostas 75.96 329 AMS AMS 20 22 00.0
comp=Z,300nm,15.1s
CHVC Chvalec 76.00 329 *eP* **P** **19 46 04.0 +1.5**
MORC Moravsky Berou 76.08 328 ⇓P **P** **19 46 03.8 +0.8**
MORC Moravsky Berou 76.08 328 *eP* **P** **19 46 02.9 -0.1**
MORC Moravsky Berou 76.08 328 ⇓P **P** **19 46 03.8 +0.8**
MORC Moravsky Berou 76.08 328 P **P** **19 46 02.4 -0.5**
DPC Dobruska-Polom 76.09 329 *eP* **P** **19 46 03.9 +0.9**
DPC MLR MLR
comp=Z,300nm,15.4s
DPC Dobruska-Polom 76.09 329 *eP* **P** **19 46 03.9 +0.9**
DPC AMS AMS 20 22 00.0
comp=Z,300nm,15.4s
113A Mohawk Valley, 76.09 58 P **P** **19 46 03.1 -0.2**
BRTR Keskin Array B 76.12 312 P **P** **19 46 03.0 -0.6**
comp=Z,4.1nm,1.1s,baz=80,slow=4.6,SNR=12
BRTR LR LR 20 25 32.9
comp=Z,156nm,18.4s,baz=62,slow=40
BRTR Keskin Array B 76.12 312 *i* P **P** **19 46 03.7 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR Keskin Array B 76.12 312 P **P** **19 46 01.7 -1.8**
KRLC Kraliky 76.13 328 *eP* **P** **19 46 04.3 +1.0**
KRLC Kraliky 76.13 328 *eP* **P** **19 46 04.3 +1.0**
VOIR 76.25 321 ⇑P **P** **19 46 05.2 +1.1**
VOIR 76.25 321 ⇑P **P** **19 46 05.2 +1.1**
DRGR 76.27 323 ⇓P **P** **19 46 04.4 +0.2**
DRGR 76.27 323 ⇓P **P** **19 46 04.4 +0.2**
FLTG Flechtingen 76.28 332 *eP* **P** **19 46 04.7 +0.7**
comp=Z,40nm,1.0s,baz=33,slow=5.5
CLL Collm 76.52 331 *i* P **P** **19 46 05.1 -0.3**
comp=Z,37nm,1.0s
CLL *e* 19 46 36.0
CLL Collm 76.52 331 *i* P **P** **19 46 05.1 -0.3**
CLL pmax pmax
comp=Z,37nm,1.0s
CLL Collm 76.52 331 *eP* **P** **19 46 05.3 -0.1**
comp=Z,37nm,1.0s,baz=33,slow=5.5
CLL *eL* L 20 21 37.4
comp=Z,170nm,18.3s
BRG Berggiesshubel 76.54 330 *eP* **P** **19 46 06.6 +1.1**
BRG Amp 19 46 08.2
comp=Z,12nm,1.1s
VYHS Vyhne 76.58 326 *eP* **P** **19 46 06.9 +1.1**
VYHS Vyhne 76.58 326 *eP* **P** **19 46 06.9 +1.1**
PVCC Panska Ves 76.60 330 AMS AMS 20 23 10.0
comp=Z,300nm,17.9s
PSZ Piszkesteto 76.60 325 ⇑P **P** **19 46 07.2 +1.2**
PSZ Piszkesteto 76.60 325 P **P** **19 46 06.4 +0.4**
PSZ pmax pmax
comp=Z,22nm,1.1s
PSZ Piszkesteto 76.60 325 P **P** **19 46 06.4 +0.4**
PSZ IAmb IAmb 19 46 11.1
comp=Z,22nm,1.1s
ASSE Asse, Remlinge 76.64 333 *eP* **P** **19 46 07.1 +1.1**
comp=Z,14nm,1.2s,baz=33,slow=5.5
EYMN Ely 76.65 35 P 19 46 06.0
baz=322
FBE Freiberg 76.72 330 *eP* **P** **19 46 07.9 +1.4**
comp=Z,27nm,1.1s,baz=33,slow=5.5
JAVC Velka Javorina 76.76 327 *eP* **P** **19 46 08.1 +1.2**
VRAC Vranov 76.82 328 ⇓P **P** **19 46 07.6 +0.4**
VRAC Vranov 76.82 328 *eP* **P** **19 46 08.6 +1.4**
VRAC Vranov 76.82 328 ⇓P **P** **19 46 07.6 +0.4**
W18A Petrified Fore 76.91 54 P 19 46 08.9
baz=314
CLZ Clausthal 76.98 333 *eP* **P** **19 46 09.6 +1.5**
comp=Z,30nm,1.0s,baz=33,slow=5.5
PRA Prague 77.02 329 *eP* **P** **19 46 11.0 +2.8**
PRA Prague 77.02 329 *eP* **P** **19 46 11.0 +2.8**
OGNE Ogallala 77.03 45 P 19 46 09.2
baz=317
NEUB Neuenburg 77.03 332 *eP* **P** **19 46 09.4 +1.1**
comp=Z,40nm,1.0s,baz=33,slow=5.5
PRU Pruhonice 77.05 329 *eP* **P** **19 46 09.3 +0.9**
PRU MLR MLR
comp=Z,400nm,25.4s
PRU Pruhonice 77.05 329 *eP* **P** **19 46 09.3 +0.9**
PRU AMS AMS 20 22 30.0
comp=Z,400nm,25.4s
KRUC Moravsky 77.10 328 *eP* **P** **19 46 09.0 +0.3**
SMOL Smolenice 77.13 327 *eP* **P** **19 46 11.8 +2.9**
SMOL pmax pmax
comp=Z,12nm,1.0s
SMOL Smolenice 77.13 327 *eP* **P** **19 46 11.8 +2.9**
SIRR Siria 77.14 323 ⇑P **P** **19 46 09.4 +0.4**
COPA Copaceanca 77.16 320 ⇓P **P** **19 46 09.1 0.0**
214A Organ Pipe Nat 77.23 58 P 19 46 10.3
baz=314
GZR Gura Zlata 77.32 322 ⇓P **P** **19 46 10.2 +0.1**
GZR Gura Zlata 77.32 322 ⇓P **P** **19 46 10.2 +0.1**
GTTG Gottingen 77.37 333 *eP* **P** **19 46 11.5 +1.3**
comp=Z,29nm,1.2s,baz=33,slow=5.5
IBBN Ibbenburen 77.44 334 *eP* **P** **19 46 11.1 +0.5**
comp=Z,38nm,1.2s,baz=33,slow=5.5
SDCO Great Sand Dun 77.48 50 P 19 46 11.6
baz=316
PBCC Pribram 77.50 329 *eP* **P** **19 46 12.7 +1.7**
PLN Plauen 77.50 331 *eP* **P** **19 46 12.1 +1.1**
comp=Z,10nm,1.1s,baz=33,slow=5.5
ZST Bratislava 77.52 327 *eP* **P** **19 46 14.2 +3.1**
ZST pmax pmax
comp=Z,35nm,1.0s
ZST Bratislava 77.52 327 *eP* **P** **19 46 14.2 +3.1**
MOX Moxa 77.56 331 *eP* **P** **19 46 12.3 +1.0**
comp=Z,14nm,1.2s,baz=33,slow=5.5
MOX *eL* L 20 22 28.2
comp=Z,142nm,20.4s
NKC Novy Kostel 77.61 331 *eP* **P** **19 46 14.4 +2.8**
NKC Novy Kostel 77.61 331 *eP* **P** **19 46 14.4 +2.8**
ECSD EROS Data Cent 77.64 40 P 19 46 12.1
baz=320
BZS Buzias 77.66 323 ⇑P **P** **19 46 12.4 +0.5**
BZS Buzias 77.66 323 ⇑P **P** **19 46 12.4 +0.5**
ROTZ Rotzenmuhle 78.08 330 *eP* **P** **19 46 14.6 +0.4**
comp=Z,14nm,1.2s,baz=33,slow=5.5
CKRC Cesky Krumlov 78.09 329 *eP* **P** **19 46 14.7 +0.4**
KHC Kasperske Hory 78.11 329 *eP* **P** **19 46 14.9 +0.5**
KHC MLR MLR
comp=Z,400nm,17.0s
KHC Kasperske Hory 78.11 329 *eP* **P** **19 46 14.9 +0.5**
KHC AMS AMS 20 23 40.0
comp=Z,400nm,17.0s
KASTN Kahler Asten 78.17 333 *eP* **P** **19 46 14.9 +0.2**
comp=Z,30nm,1.6s,baz=33,slow=5.5
CONA Conrad Observa 78.22 327 *i* P **P** **19 46 15.6 +0.5**
comp=Z,15nm,1.1s,SNR=10
TUC Tucson 78.23 57 P 19 46 16.0
baz=314
MDVR Moldovita 78.27 322 ⇓P **P** **19 46 15.1 -0.3**
GEC2 GERESS Array S 78.30 329 *eP* **P** **19 46 15.5 -0.1**
comp=Z,11nm,1.3s,baz=33,slow=5.5
GEC2 *eL* L 20 23 37.9
comp=Z,246nm,20.2s
GERES GERESS Array B 78.30 329 P **P** **19 46 15.3 -0.2**
comp=Z,4.8nm,1.1s,baz=44,slow=4.1,SNR=15
BUG Bochum–Univer 78.34 334 *eP* **P** **19 46 15.2 -0.3**
comp=Z,27nm,1.3s,baz=33,slow=5.5
WET Wettzell 78.36 330 *eP* **P** **19 46 16.1 +0.4**
comp=Z,22nm,1.1s,baz=33,slow=5.5
WET *eL* L 20 24 09.9
comp=Z,256nm,19.6s
MORH Mrgy, Hungar 78.47 325 ⇓P **P** **19 46 16.3 -0.1**
GRF Grafenberg Arr 78.50 331 *eP* **P** **19 46 17.0 +0.5**
comp=Z,36nm,1.1s,baz=33,slow=5.5
GRF *eL* L 20 25 02.2

comp=Z,131nm,18.2s
T25A Trinidad 78.52 49 P 19 46 17.3
baz=316
SCHQ Schefferville 78.59 18 P **P** **19 46 16.8 -0.1**
comp=Z,2.0nm,0.4s,baz=335,slow=6.0,SNR=5.4
SCHQ Schefferville 78.59 18 P **P** **19 46 16.9 -0.1**
SCHQ IAmb IAmb 19 46 43.0
comp=Z,11nm,1.2s
MOA Molln 78.91 328 *eP* **P** **19 46 19.8 +1.0**
comp=Z,3.1nm,0.8s
ARSA Arzberg 78.91 327 *eP* **P** **19 46 18.6 -0.3**
comp=Z,9.0nm,1.3s
ANMO Albuquerque 78.94 52 P 19 46 20.1
baz=316
TNS Taunus Mts 79.00 333 *eP* **P** **19 46 20.1 +0.8**
comp=Z,16nm,1.2s,baz=33,slow=5.5
TNS *eL* L 20 24 46.5
comp=Z,105nm,18.6s
MILB Miltenberg 79.05 332 *eP* **P** **19 46 21.5 +2.0**
comp=Z,17nm,1.3s,baz=33,slow=5.5
BOVS Bovan 79.16 321 ⇑P **P** **19 46 19.8 -0.5**
VTS Vitosha 79.25 320 ⇑P **P** **19 46 20.6 -0.3**
VTS Vitosha 79.25 320 ⇑P **P** **19 46 20.6 -0.3**
BTNL Ternell 79.44 334 *dP* **P** **19 46 21.5 -0.2**
comp=Z,10nm,1.2s
MEM Membach 79.46 334 *bP* **P** **19 46 23.4 +1.7**
comp=Z,11nm,1.1s
PERS Pernice 79.57 327 *eP* **P** **19 46 22.6 +0.1**
FUR Furstenfeldbru 79.76 330 *eP* **P** **19 46 24.1 +0.6**
comp=Z,31nm,1.2s,baz=33,slow=5.5
FUR *eL* L 20 25 02.6
comp=Z,184nm,18.5s
BCLA Clavier 79.84 335 *bP* **P** **19 46 25.0 +1.2**
121A Cookes Peak, D 79.88 55 P 19 46 25.4
baz=316
KBA Koelnbreinsper 79.90 328 *i* P **P** **19 46 25.2 +0.8**
comp=Z,12nm,1.6s,SNR=15
OBKA Obir 79.90 327 *eP* **P** **19 46 24.6 +0.3**
comp=Z,6.5nm,0.9s
BGES Gesves 79.94 335 *dP* **P** **19 46 24.5 +0.1**
CRES Cresnjev 80.10 326 *i* P **P** **19 46 25.0 -0.4**
RAYN Ar Rayn 80.10 293 *i* P **P** **19 46 25.4 -0.4**
SNR=6.7
BMRD Maredsous 80.11 335 *bP* **P** **19 46 27.2 +1.9**
comp=Z,16nm,1.2s
MYKA Terra Mystica 80.16 328 *eP* **P** **19 46 25.5 -0.2**
comp=Z,11nm,1.4s
MATQ Matagami 80.25 26 P 19 46 25.7
baz=331
DOU Dourbes 80.35 335 *dP* **P** **19 46 29.1 +2.5**
WATA Walderalm 80.35 329 *i* P **P** **19 46 27.7 +0.9**
comp=Z,25nm,1.1s,SNR=6.2
WTTA Wattenberg 80.39 329 *i* P **P** **19 46 27.2 +0.1**
comp=Z,13nm,0.9s,SNR=6.0
ABTA Abfaltersbach 80.49 329 *eP* **P** **19 46 27.6 +0.1**
comp=Z,8.6nm,1.1s
MOTA Moosalm 80.52 330 *i* P **P** **19 46 28.1 +0.4**
comp=Z,35nm,1.1s,SNR=14
RETA Reutte 80.52 330 *eP* **P** **19 46 28.0 +0.4**
comp=Z,16nm,1.2s
BFO Black Forest 80.66 332 *eL* L 20 25 02.6
comp=Z,99nm,20.2s
FETA Feichten 80.93 330 *i* P **P** **19 46 30.2 +0.3**
comp=Z,15nm,1.0s,SNR=5.3
DAVA Damuels 81.01 330 *eP* **P** **19 46 30.1 -0.2**
comp=Z,17nm,1.0s
LSQQ Lebel-sur-Quev 81.07 26 P 19 46 30.0
baz=331
CHGQ Chibougamau 81.12 24 P 19 46 30.1
baz=333,SNR=6.3
PDG Podgorica 81.22 322 ⇓P **P** **19 46 31.2 -0.2**
MNTX Cornudas Mount 81.89 54 P 19 46 35.8
baz=317,SNR=7.0
APE Apeiranthos 82.37 315 ⇑P **P** **19 46 34.7 -2.9**
APE Apeiranthos 82.37 315 ⇑P **P** **19 46 34.7 -2.9**
D55A Sainte-Anne-du 83.34 26 P 19 46 41.9
baz=332
WMOK Wichita Mounta 83.36 48 P 19 46 42.9
baz=320
ALGO Algonquin Park 83.42 28 P 19 46 42.5
baz=331
HDIL Hopedale 83.50 38 P 19 46 42.6
baz=324
D56A ZEC Mazanza, M 83.54 26 P 19 46 43.2
baz=333,SNR=6.9
G54A Lake Saint Pet 83.89 28 P 19 46 44.6
baz=331
E56A St. Veronique 83.91 26 P 19 46 44.5
baz=333
TUL1 Leonard 84.04 45 P 19 46 46.1
baz=321
D58A Chemin du LacG 84.08 24 P 19 46 45.4
baz=334
H53A Bobcaygeon 84.44 29 P 19 46 47.3
baz=330
ABTX Abilene, Hawle 84.49 50 P 19 46 48.4
baz=319
E58A La Victoria 84.61 25 P 19 46 48.0
baz=334
SFIN Lafayette 84.62 37 P 19 46 48.9
baz=326
TXAR Lajitas Array 84.63 54 P **P** **19 46 50.0 +0.6**
comp=Z,6.1nm,1.0s,baz=296,slow=4.0,SNR=32
TXAR Lajitas Array 84.63 54 P **P** **19 46 50.0 +0.6**
D61A St Aubert, Com 84.77 23 P 19 46 48.9
baz=336
D60A Saint Jean D'O 84.82 23 P 19 46 48.7
baz=335
TIP Timpagrande 84.96 322 ⇑P **P** **19 46 48.3 -2.5**
PMOR Pomariorio Ree 84.99 116 *eT* T 21 19 20.9
comp=Z,16nm,0.3s
E60A Ste Agathe de 85.16 24 P 19 46 51.0
baz=335
U40A Yellville 85.17 43 P 19 46 51.7
baz=322,SNR=12
D62A Allapoint, All 85.19 22 P 19 46 51.4
baz=337
G57A Newington 85.20 27 P 19 46 51.2
baz=333
F59A Saint Guilaume 85.23 25 P 19 46 51.2
baz=334
E61A Lac Etchemin 85.38 23 P 19 46 52.2
baz=336
G58A Ormstown 85.46 26 P 19 46 52.5
baz=333
E62A Clayton Lake 85.48 23 P 19 46 52.8
baz=336
W39A Magazine 85.62 44 P 19 46 53.9
baz=322
H57A Richville 85.63 27 P 19 46 53.5
baz=332
F61A St Evariste 85.65 24 P 19 46 53.7
baz=335
PPT Papeete 85.79 119 LR LR 20 24 31.9
comp=Z,90nm,18.6s,baz=348,slow=35
PPT2 Papeete2 85.80 119 *e*LR LR 20 13 58.9
comp=Z,185nm,23.0s
TAOE Nuku Hiva Isla 85.85 106 *e*LR LR 20 14 02.7
comp=Z,194nm,24.0s
JCT Junction City 86.01 51 P 19 46 56.6
baz=319
H59A Cadyville 86.02 26 P 19 46 55.3
baz=334
ERPA Erie 86.05 31 P 19 46 56.1
baz=330
H58A Gabriels 86.07 26 P 19 46 55.7
baz=333
G61A St-Isidore-de- 86.12 24 P 19 46 56.1
baz=335
E64A Bridgewater 86.13 22 P 19 46 56.5
baz=338
WHTX Lake Whitney, 86.17 48 P 19 46 56.9
baz=320
J56A Wolcott 86.18 29 P 19 46 56.6
baz=332
MIAR Mount Ida 86.24 44 P 19 46 57.5
baz=322,SNR=8.5
P49A Miami Univ. Ec 86.34 36 P 19 46 57.7
baz=327
J57A Williamstown 86.36 28 P 19 46 57.2
baz=332
M53A WI Miller and 86.37 32 P 19 46 57.8
baz=329
W41B Gary Mavity, V 86.41 43 P 19 46 58.2
baz=323
H60A Morristown 86.41 25 P 19 46 57.9
baz=334
G62A West of Eustis 86.47 24 P 19 46 58.2

	baz=336						
F64A	**Sherman**	**86.50**	**22**	P			19 46 58.3
	baz=337						
K56A	**Middlesex**	**86.52**	**29**	P			19 46 57.8
	baz=331						
J58A	**Remsen**	**86.64**	**28**	P			19 46 58.7
	baz=333						
X40A	**Basin Creek Fa**	**86.66**	**44**	P			19 46 59.9
	baz=323						
H61A	**Lyndonville**	**86.68**	**25**	P			19 46 59.4
	baz=335						
M54A	**Oil Creek Stat**	**86.69**	**31**	P			19 46 59.4
	baz=330						
J59A	**Piesco**	**86.81**	**27**	P			19 46 59.4
	baz=333						
G63A	**Kingsbury**	**86.83**	**23**	P			19 46 59.7
	baz=336						
I60A	**Shoreham**	**86.87**	**26**	P			19 47 00.0
	baz=334						
H62A	**Milan**	**86.88**	**24**	P			19 46 59.8
	baz=335						
L56A	**Greenwood**	**86.93**	**30**	P			19 47 00.4
	baz=331						
N54A	**Moraine State**	**87.04**	**32**	P			19 47 01.3
	baz=330						
K58A	**Earlville**	**87.05**	**28**	P			19 47 01.4
	baz=332						
K59A	**Cooperstown**	**87.31**	**28**	P			19 47 02.2
	baz=333						
G65A	**Princeton**	**87.33**	**22**	P			19 47 02.5
	baz=338						
H64A	**Troy**	**87.38**	**23**	P			19 47 02.5
	baz=337						
I62A	**Tamworth**	**87.45**	**25**	P			19 47 03.6
	baz=335						
I63A	**Otisfield**	**87.52**	**24**	P			19 47 04.1
	baz=336						
J61A	**Chester**	**87.55**	**26**	P			19 47 03.9
	baz=334						
H65A	**Eastbrook**	**87.61**	**22**	P			19 47 04.0
	baz=337						
L59A	**Walton**	**87.76**	**28**	P			19 47 04.5
	baz=333						
WVT	**Waverly**	**87.77**	**40**	P			19 47 04.9
	baz=325						
I64A	**Boothbay**	**87.92**	**24**	P			19 47 05.7
	baz=336						
K61A	**Williamstown**	**87.93**	**27**	P			19 47 04.8
	baz=334						
J63A	**Strafford**	**88.07**	**25**	P			19 47 06.6
	baz=335						
SSPA	**Standing Stone**	**88.12**	**31**	P			19 47 06.4
	baz=331						
O56A	**Blue Knob Stat**	**88.18**	**31**	P			19 47 06.7
	baz=331						
L61A	**Hillsdale 1, H**	**88.26**	**27**	P			19 47 07.2
	baz=334						
K62A	**Royalston**	**88.27**	**26**	P			19 47 07.1
	baz=335						
OXF	**Oxford**	**88.33**	**42**	P			19 47 07.4
	baz=324						
N59A	**State Game Lan**	**88.64**	**29**	P			19 47 08.8
	baz=332						
TZTN	**Tazewell**	**89.35**	**37**	P			19 47 12.3
	baz=328						
P60A	**Greenville**	**89.66**	**30**	P			19 47 13.4
	baz=332						
TBI	**Tubuai**	**90.14**	**123**	*e*LR	LR		20 16 08.3
	comp=Z,150nm,30.2s						
LRAL	**Lakeview Retre**	**90.69**	**41**	P			19 47 18.6
	baz=326						
KEST	**Kesra**	**91.07**	**325**	LR	LR		20 33 49.2
	comp=Z,124nm,18.2s,baz=302,slow=39						
KMSC	**Kings Mountain**	**91.48**	**36**	P			19 47 22.3
	baz=329						
ESDC	**Sonseca Array**	**92.36**	**336**	P	**P**		**19 47 25.2 -0.9**
	comp=Z,3.0nm,1.1s,baz=17,slow=3.1,SNR=9.5						
ESDC				LR	LR		20 36 07.1
	comp=Z,84nm,18.9s,baz=90,slow=40						
DBIC	**Dimbokro**	**122.73**	**323**	PKP	**PKPdf**		**19 53 11.0 -0.8**
	comp=Z,5.8nm,1.0s,baz=135,slow=2.9,SNR=3.8						
DBIC	**Dimbokro**	**122.73**	**323**	PKIKP	**PKPdf**		**19 53 11.2 -0.7**
DBIC	**Dimbokro**	**122.73**	**323**		**PKPdf**		**19 53 11.2 -0.7**
SIV	**San Ignacio**	**145.22**	**46**	PKPbc	**PKPbc**		**19 53 53.3 +0.1**
	comp=Z,22nm,0.8s,baz=312,slow=2.6,SNR=61						
LVC	**Limon Verde**	**145.71**	**63**	PKPbc	**PKPab**		**19 53 55.6 +0.2**
	comp=Z,5.8nm,0.8s,baz=133,slow=2.1,SNR=4.8						
LVC	**Limon Verde**	**145.71**	**63**	PKP2	**PKPab**		**19 53 56.6 +1.2**
LVC	**Limon Verde**	**145.71**	**63**		**PKPab**		**19 53 56.6 +1.2**
SNAA	**Sanae**	**147.49**	**199**	PKPbc	**PKPab**		**19 53 59.5 -1.0**
VNA2	**Neumayer--Watz**	**149.06**	**198**	PKPbc	**PKiKP**		**19 54 03.3 -0.4**
	baz=97,slow=1.5						
VNA3	**Neumayer Olymp**	**149.31**	**196**	PKPbc	**PKPbc**		**19 54 03.3 +0.3**
VNA1	**Neumayer--Stat**	**149.46**	**198**	PKPbc	**PKiKP**		**19 54 05.3 +0.9**
BDFB	**Brasilia**	**150.40**	**24**	PKPbc	**PKPbc**		**19 54 07.5 0.0**
	comp=Z,18nm,1.0s,baz=318,slow=3.2,SNR=9.5						
BDFB	**Brasilia**	**150.40**	**24**	PKIKP	**PKPbc**		**19 54 07.7 +0.2**
BDFB	**Brasilia**	**150.40**	**24**		**PKPbc**		**19 54 07.7 +0.2**

JMA 03 19:34:31.8, 43.48N×144.07E, h0km, M4.3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.29**	**230**	P	Pg	19 34 37.7	+0.4
JAR				*e*S	Sg	19 34 42.5	+1.6
JNK	**Nakash**	**0.48**	**77**	*e*S	Sg	19 34 47.7	+0.4

RSNC 03 19:40:00.7±1.6, 5.96N×76.21W, h61km±10km, ML1.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.22**	**114**	*e*P	Pn	19 40 10.2	-0.5
CBOC				*e*S	Sn	19 40 18.4	+0.6
CBOC				*i*		19 40 20.9	
	comp=Z,47nm,0.1s						
CBOC	**Ciudad Bolivar**	**0.22**	**114**	*e*P	Pn	19 40 10.1	-0.5
CBOC				*e*S	Sn	19 40 18.3	+0.5
CBOC				*i*		19 40 20.8	
	comp=Z,47nm,0.1s						
HELC	**Santa Helena**	**0.72**	**71**	*e*P	Pn	19 40 14.1	-1.6
HELC				*e*S	Sn	19 40 25.7	-0.8
HELC				*i*		19 40 26.4	
	comp=Z,9.6nm,0.3s						
HELC	**Santa Helena**	**0.72**	**71**	*e*P	Pn	19 40 14.2	-1.4
HELC				*e*S	Sn	19 40 25.6	-1.0
HELC				*i*		19 40 26.4	
	comp=Z,9.6nm,0.3s						
GUY2C	**Guyana, Caldas**	**1.11**	**131**	*e*P	Pn	19 40 19.1	-1.6
GUY2C				*e*S	Sn	19 40 35.4	-0.1
GUY2C				*i*		19 40 37.8	
	comp=Z,11nm,0.2s						
GUY2C	**Guyana, Caldas**	**1.11**	**131**	*e*P	Pn	19 40 20.3	-0.4
GUY2C				*e*S	Sn	19 40 35.5	-0.1
GUY2C				*i*		19 40 37.8	
	comp=Z,11nm,0.2s						
NORC	**Norcasia**	**1.39**	**106**	*e*P	Pn	19 40 23.6	-0.4
NORC				*e*S	Sn	19 40 41.8	+0.2
NORC				*i*		19 40 43.2	
	comp=Z,8.0nm,0.3s						
NORC	**Norcasia**	**1.39**	**106**	*e*P	Pn	19 40 23.2	-0.8
NORC				*e*S	Sn	19 40 42.1	+0.6
NORC				*i*		19 40 43.2	
	comp=Z,8.0nm,0.3s						
UREC	**San Jos de Ur**	**1.91**	**21**	*e*S	Sn	19 40 54.2	+0.3
ZARC	**Zaragoza, Cauc**	**2.04**	**41**	*e*S	Sn	19 40 56.8	-0.3

*IDC **03** 19:44:51.1±0.8, 30.46N×142.06E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.6/57, mbtmp3.7/13, ML3.1/3, Error ellipse: s-maj=29.6km s-min=15.5km az=82.0*

ISC 03 19:44:54.6±0.7, 30.45N±0.07×142.0E±0.2, h23km, n13, σ0.79/15, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.24**	**326**	Pn	**Pn**	**19 45 43.7**	**-0.3**
	7.7nm,0.3s,baz=347,slow=18,SNR=6.4						
JHJ				Sn	**Sn**	**19 46 20.2**	**-1.7**
	7.8nm,0.3s,baz=72,slow=20,SNR=1.2						
JCJ	**Chichijima**	**3.35**	**176**	Pn	**Pn**	**19 45 45.5**	**-0.1**
	2.7nm,0.3s,baz=270,slow=20,SNR=1.0						
JCJ				Sn	**Sn**	**19 46 22.8**	**-1.8**
	5.3nm,0.3s,baz=229,slow=20,SNR=1.9						

MJAR	**Matsushiro Arr**	**6.83**	**334**	Pn	**Pn**	**19 46 33.5**	**+0.2**
	0.2nm,0.3s,baz=160,slow=11,SNR=13						
KLR	**Kul'dur**	**20.29**	**340**	P	**P**	**19 49 28.6**	**0.0**
	0.8nm,0.6s,baz=135,slow=14,SNR=2.3						
PETK	**Petropavlovsk-**	**25.39**	**22**	P	**P**	**19 50 19.9**	**-0.2**
	0.7nm,0.5s,baz=194,slow=11,SNR=1.5						
SONM	**Songino Array**	**32.22**	**313**	P	**P**	**19 51 21.9**	**+0.7**
	0.4nm,0.6s,baz=134,slow=12,SNR=2.0						
ZALV	**Zalesovo Beam**	**46.86**	**317**	P	**P**	**19 53 22.8**	**+0.1**
	0.4nm,0.5s,baz=81,slow=8.9,SNR=1.7						
MKAR	**Makanchi Array**	**48.23**	**307**	P	**P**	**19 53 33.9**	**+0.4**
	0.5nm,0.6s,baz=91,slow=9.0,SNR=8.0						
WRA	**Warramunga Arr**	**50.64**	**189**	P	**P**	**19 53 52.0**	**-0.1**
	0.6nm,0.3s,baz=7.2,slow=7.1,SNR=20						
FITZ	**Fitzroy Crossi**	**50.76**	**200**	P	**P**	**19 53 53.1**	**+0.2**
	2.8nm,1.1s,baz=7.1,slow=8.1						
ASAR	**Alice Springs**	**54.36**	**189**	P	**P**	**19 54 20.2**	**+0.7**
	0.3nm,0.6s,baz=3.7,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**78.62**	**52**	P	**P**	**19 56 54.5**	**-0.4**
	0.3nm,0.5s,baz=292,slow=7.3,SNR=3.7						
TXAR	**Lajitas Array**	**93.75**	**53**	P	**P**	**19 58 10.2**	**+0.1**
	0.1nm,0.5s,baz=305,slow=3.2,SNR=3.7						

*IDC **03** 19:49:31.1±1.0, 43.66N×144.31E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/69, mbtmp3.7/12, ML3.1/3, Error ellipse: s-maj=22.1km s-min=14.7km az=2.0*
*JMA **03** 19:49:33.2, 43.50N×144.06E, h0km, M3.4*
JMA Felt II J1.
*SKHL **03** 19:49:33.9±0.6, 43.30N×144.00E, h35km±3km, mb3.9/3*
*NIED **03** 19:49:33.2, 43.50N×144.06E, h0km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr2.82; Mθθ-0.29; Mφφ-2.52; Mrθ-0.85; Mθφ-1.04; Mφr-0.55; Fault plane solution: M0 3.05000×10^14^ NP1: φs213.00000°, δ54.00000°, λ104.00000°. NP2: φs10.00000°, δ38.00000°, λ72.00000°.*

ISC 03 19:49:32.5±1.4, 43.51N±0.04×144.10E±0.04, h7km±10km, n24, σ1.940/32, mb3.8/9, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.32**	**229**	⇑P	**Pb**	**19 49 39.4**	**-1.1**
JAR				*e*S	**Sb**	**19 49 44.5**	**-1.4**
JTKR	**Abashiri--Toko**	**0.48**	**344**	⇑P	**Pb**	**19 49 42.9**	**-0.4**
JTKR				S	**Sb**	**19 49 50.1**	**-0.5**
JOB	**Onbets**	**0.64**	**198**	⇑P	**Pb**	**19 49 45.8**	**-0.1**
JAK	**Akkeshi**	**0.67**	**139**	⇓P	**Pb**	**19 49 46.4**	**-0.2**
JMP	**Maruseppu**	**0.73**	**313**	⇓P	**Pb**	**19 49 47.1**	**-0.5**
AKK	**Akkeshi**	**0.73**	**132**	*i* P	**Pb**	**19 49 47.3**	**-0.3**
AKK				*e*S	**Sg**	**19 49 56.7**	**+0.6**
JKHN	**Kushirohamanak**	**0.89**	**118**	P	**Pb**	**19 49 50.0**	**-0.2**
JKHN				S	**Sb**	**19 50 02.6**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.20**	**96**	*i* P	**Pg**	**19 49 54.8**	**-0.6**
NMR				*e*S	**Sg**	**19 50 10.8**	**-0.1**
ASAJ	**Asahikawa**	**1.24**	**300**	Pg	**Pn**	**19 49 56.9**	**+0.6**
	459nm,0.3s,baz=98,slow=15,SNR=482						
ASAJ				Lg	Lg	19 50 13.8	
	161nm,0.3s,baz=52,slow=25,SNR=6.1						
YUK	**Yuzh-Kuril'sk**	**1.38**	**67**	*i* P	**Pg**	**19 49 58.9**	**-0.1**
YUK				AMB	AMB	19 50 01.1	
	70nm,0.4s						
YUK				*i* S	**Sn**	**19 50 17.7**	**+1.0**
YUK				A	A	19 50 22.8	
	880nm,0.5s						
YUK				A	A	19 50 22.8	
	370nm,0.5s						
KUR	**Kuril'sk**	**3.21**	**56**	*e*P	**Pn**	**19 50 24.9**	**+1.6**
KUR				AMB	AMB	19 50 30.7	
	30nm,0.8s						
KUR				*e*S	**Sn**	**19 51 03.4**	**+1.7**
KUR				A	A	19 51 15.6	
	60nm,0.5s						
KUR				A	A	19 51 15.6	
	90nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.57**	**345**	*e*P	**Pn**	**19 50 31.2**	**+2.9**
YSS				AMB	AMB	19 50 32.6	
	10.0nm,0.4s						
YSS				*e*S	**Sn**	**19 51 13.5**	**+2.7**
YSS				A	A	19 51 14.8	
	60nm,0.6s						
MJAR	**Matsushiro Arr**	**8.29**	**215**	Pn	**Pn**	**19 51 35.8**	**+2.6**
	0.1nm,0.3s,baz=50,slow=10,SNR=4.2						
KSRS	**Korea Array**	**13.71**	**249**	Pn	**Pn**	**19 52 48.0**	**+0.8**
	0.2nm,0.3s,baz=122,slow=38,SNR=4.2						
SEY	**Seymchan**	**20.05**	**11**	P	**P**	**19 54 03.2**	**-2.7**
	0.1nm,0.3s,baz=300,slow=20,SNR=1.5						
SONM	**Songino Array**	**26.52**	**293**	P	**P**	**19 55 11.7**	**+1.0**
	2.7nm,0.8s,baz=80,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**42.72**	**297**	P	**P**	**19 57 30.6**	**+0.5**
	1.7nm,0.8s,baz=83,slow=8.4,SNR=16						
ILAR	**Eielson Array**	**42.99**	**36**	P	**P**	**19 57 30.3**	**-1.7**
	1.1nm,0.8s,baz=270,slow=6.8,SNR=11						
CMAR	**Chiang Mai Arr**	**45.34**	**251**	P	**P**	**19 57 52.6**	**+1.2**
	0.1nm,0.3s,baz=32,slow=8.6,SNR=1.6						
FINES	**FINESS Array B**	**64.06**	**332**	P	**P**	**20 00 05.1**	**-1.5**
	1.7nm,0.8s,baz=42,slow=6.4,SNR=4.4						
ASAR	**Alice Springs**	**67.50**	**190**	P	**P**	**20 00 30.0**	**+0.8**
	0.4nm,0.8s,baz=11,slow=5.7,SNR=1.9						
HFS	**Hagfors**	**69.03**	**336**	P	**P**	**20 00 37.5**	**-0.8**
	3.2nm,0.9s,baz=75,slow=6.1,SNR=2.0						
NVAR	**Mina Array Bea**	**69.57**	**56**	P	**P**	**20 00 41.4**	**-1.0**
	0.3nm,0.5s,baz=328,slow=6.7,SNR=3.0						
AKASG	**Malin Array Be**	**70.44**	**322**	P	**P**	**20 00 45.4**	**-1.8**
	0.3nm,0.3s,baz=42,slow=6.1,SNR=1.9						

*MAN **03** 19:56:45.9, 10.95N×126.61E, h1km, MS4.1*
*DJA **03** 19:56:51.9±1.7, 11.1°N±5.1°×12.6°E±.1°, h30km±13km, M4.7/23, mB5.3/6, mb4.6/23, Mw(mB)4.8/6*
*NEIC **03** 19:56:58.8±2.3, 10.80N±0.08×126.2E±0.1, h75km±7km, mb4.5/49, Error ellipse: s-maj=19.4km s-min=11.2km az=89.0*
*IDC **03** 19:56:59.7±2.7, 10.74N×126.23E, h92km±26km, mb4.0/26, mb1 4.1/28, mb1mx3.9/58, mbtmp4.3/28, MS3.6/17, Ms1 3.6/17, ms1mx3.3/52, Error ellipse: s-maj=20.4km s-min=10.1km az=79.0*

ISC 03 19:56:51.4±1.7, 10.80N±0.04×126.19E±0.06, h18km±10km, n140, σ1.966/127, mb4.5/53, MS3.5/12, 4C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.01**	**184**	*e*P	**Pb**	**19 57 09.4**	**-1.0**
GLSP				*e*S	**Sn**	**19 57 29.0**	**+4.4**
SCPH	**Surigao**	**1.23**	**214**	⇓*i*P	**Pg**	**19 57 15.3**	**+0.2**
SCPH				*i* S	**Sg**	**19 57 33.8**	**+2.6**
MSLP	**Maasin**	**1.47**	**243**	*e*P	**Pg**	**19 57 19.8**	**0.0**
OCLP	**Ormoc**	**1.58**	**279**	*e*P	**Pg**	**19 57 20.8**	**-0.9**
BUTP	**Butuan**	**1.91**	**197**	*e*P	**Pb**	**19 57 24.5**	**-1.2**
BUTP				*e*S	**Sg**	**19 57 53.7**	**+0.8**
LLP	**Lapu-Lapu**	**2.24**	**258**	*e*P	**Pb**	**19 57 31.6**	**+0.1**
LLP				*e*S	**Sg**	**19 58 05.1**	**+1.5**
CGP	**Cagayan de Oro**	**2.76**	**213**	⇓*e*P	**Pb**	**19 57 39.3**	**-1.0**
CGP				*e*S	**Sg**	**19 58 17.9**	**-2.3**
BUKP	**Musuan**	**3.11**	**201**	*e*P	**Pb**	**19 57 43.9**	**-2.3**
BUKP				*e*S	**Sb**	**19 58 25.2**	**+1.3**
SNPH	**Sibulan**	**3.25**	**244**	*e*P	**Pb**	**19 57 45.6**	**-3.1**
SNPH				*e*S	Sn	19 58 09.9	-10
RCP	**Roxas**	**3.47**	**283**	⇑*e*P	**Pb**	**19 57 48.9**	**-3.4**
RCP				*e*S	**Sb**	**19 58 33.7**	**-0.4**
DCPH	**Dipolog City**	**3.56**	**232**	⇑*i*P	**Pb**	**19 57 49.2**	**-4.7**
DAV	**Davao City (W)**	**3.76**	**189**	P	**Pb**	**19 57 54.5**	**-2.8**
	45nm,0.3s,baz=38,slow=16,SNR=1.4						
DAV				S	**Sb**	**19 58 44.4**	**+1.9**
	101nm,0.3s,baz=114,slow=20,SNR=2.4						
DAV				LR	LR	19 59 32.9	
	comp=Z,811nm,18.4s,baz=357,slow=41						
DAV	**Davao City (W)**	**3.76**	**189**	Pn	**Pb**	**19 57 53.9**	**-3.4**
MATI	**Mati**	**3.83**	**179**	*e*P	**Pb**	**19 57 57.0**	**-1.5**
SCSP	**San Jose Seism**	**3.86**	**318**	*e*P	**Pn**	**19 57 52.8**	**+2.9**
PAGZ	**Pagadian**	**4.04**	**224**	*e*P	**Pn**	**19 57 55.8**	**+3.4**
JAP	**San Jose, Anti**	**4.17**	**270**	⇑*e*P	**Pb**	**19 58 05.2**	**+0.8**
SKMP	**Bagumbayan, Su**	**4.56**	**201**	*e*P	Pb	19 58 05.5	-5.4
DDMP	**Don Marcelino,**	**4.69**	**186**	*e*P	Pb	19 58 07.4	-5.8
DDMP				*e*S	**Sb**	**19 59 11.3**	**+1.9**
JCNP	**Jose Panganiba**	**4.87**	**316**	*e*P	**Pn**	**19 58 05.5**	**+1.8**
LQP	**Lukban**	**5.61**	**306**	⇓*e*P	Pn	19 58 18.3	+4.1
PGP	**Puerto Galera**	**5.78**	**298**	⇑*e*P	Pn	19 58 20.5	+4.1
CAUP	**Cauayan**	**7.43**	**326**	*e*P	**Pn**	**19 58 41.4**	**+2.4**
SMPP	**San Manuel, Pa**	**7.55**	**315**	*e*P	**Pn**	**19 58 43.0**	**+2.3**
CVP	**Callao Caves**	**8.06**	**329**	*e*P	**Pn**	**19 58 48.6**	**+0.9**
CVP				*i* S	Sn	19 59 57.7	-21

TNTI	**Ternate**	**10.03**	**173**	Pn	**Pn**	**19 59 19.3**	**+4.6**
TNTI	**Ternate**	**10.03**	**173**	P	**Pn**	**19 59 12.1**	**-2.6**
	19nm,1.4s						
MRSI	**Marisa**	**11.09**	**203**	P	**Pn**	**19 59 30.1**	**+0.8**
	14nm,1.2s						
SIJI	**Sorong**	**12.64**	**156**	P	Pn	19 59 56.3	+5.8
	0.3nm,0.3s,baz=337,slow=17,SNR=1.9						
SIJI				LR	LR	20 06 14.8	
	comp=Z,179nm,19.0s,baz=22,slow=44						
SANI	**Sanana**	**12.77**	**181**	P	**Pn**	**19 59 49.9**	**-2.3**
	11nm,1.0s						
TPUB	**Ta-pu**	**13.52**	**338**	P	**P**	**20 00 10.1**	**-1.4**
SSLB	**Suanglung**	**13.85**	**340**		**P**	**20 00 16.2**	**+1.1**
JOW	**Kunigami**	**16.07**	**7**	LR	LR	20 07 17.0	
	comp=Z,176nm,18.5s,baz=192,slow=38						
KAPI	**Kappang**	**16.97**	**203**	LR	LR	20 09 09.5	
	comp=Z,251nm,18.1s,baz=11,slow=43						
STKI	**Sintang**	**18.10**	**235**	P	**P**	**20 01 04.4**	**+1.9**
	1µm10nm,1.2s						
GUMO	**Guam**	**18.46**	**79**	LR	LR	20 07 11.5	
	comp=Z,180nm,19.2s,baz=239,slow=33						
MMRI	**Maumere**	**19.71**	**192**	P	**P**	**20 01 13.9**	**-6.1**
SOEI	**Soe**	**20.51**	**185**	P	**P**	**20 01 27.9**	**-1.0**
	44nm,1.3s						
UBPT	**Khong Chiam**	**20.67**	**285**	P	Pn	20 01 33.5	+0.7
BATI	**Baumata**	**21.02**	**187**	P	**P**	**20 01 37.5**	**+3.2**
	17nm,0.4s,baz=287,slow=21,SNR=3.7						
BATI	**Baumata**	**21.02**	**187**	P	**P**	**20 01 33.2**	**-1.1**
	64nm,0.8s						
JCJ	**Chichijima**	**22.13**	**41**	LR	LR	20 11 03.8	
	comp=Z,166nm,18.8s,baz=118,slow=38						
TPI	**Tanjungpandan**	**22.84**	**235**	P	**P**	**20 01 52.8**	**-1.1**
	483nm31nm,1.5s						
SLVN	**Son La**	**23.81**	**299**	P	**P**	**20 02 03.6**	**+0.1**
MTN	**Manton Dam**	**24.00**	**168**	P	**P**	**20 02 05.9**	**+0.7**
UGM	**Wanagama**	**24.27**	**221**	P	**P**	**20 02 08.0**	**+0.1**
ENH	**Enshi**	**24.84**	**324**	P	**P**	**20 02 14.3**	**+1.4**
LEM	**Lembang**	**25.47**	**227**	P	**P**	**20 02 20.9**	**+2.0**
	13nm,0.7s,baz=309,slow=17,SNR=3.8						
JHJ	**Hachijo jima 2**	**25.48**	**27**	LR	LR	20 11 24.4	
	comp=Z,128nm,20.2s,baz=245,slow=34						
JWT	**Wachi**	**25.77**	**18**	P	**P**	**20 02 21.5**	**+0.2**
JWT				IAmb	IAmb	20 02 24.4	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**26.43**	**174**	P	**P**	**20 02 28.1**	**+0.7**
KNRA				IAmb	IAmb	20 02 53.8	
	comp=Z,20nm,0.9s						
KSAR	**Wonju Array Be**	**26.57**	**3**	P	**P**	**20 02 31.0**	**+2.6**
KSRS	**Korea Array**	**26.58**	**3**	P	**P**	**20 02 29.7**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=181,slow=10,SNR=14						
KSRS				LR	LR	20 13 08.8	
	comp=Z,115nm,19.6s,baz=179,slow=36						
MDSI	**Maura Dua**	**26.66**	**236**	P	**P**	**20 02 29.1**	**-0.5**
	comp=Z,12nm,1.7s						
KASI	**Kota Agung**	**27.01**	**234**	P	**P**	**20 02 32.1**	**-0.6**
	comp=Z,52nm,1.3s						
LWLI	**Liwa**	**27.07**	**236**	P	**P**	**20 02 33.7**	**+0.4**
	comp=Z,1µmcomp=Z,168nm,0.8s						
BKNI	**Bangkinang**	**27.08**	**249**	P	**P**	**20 02 32.0**	**-1.4**
BKNI	**Bangkinang**	**27.08**	**249**	P	**P**	**20 02 32.4**	**-0.9**
	comp=Z,3.5nm,0.5s						
CM31	**Chiang Mai Arr**	**27.42**	**289**	P	**P**	**20 02 37.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**27.42**	**289**	P	**P**	**20 02 36.5**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=102,slow=8.0,SNR=22						
CMAR				LR	LR	20 14 11.7	
	comp=Z,42nm,18.9s,baz=265,slow=38						
CHTO	**Chiang Mai**	**27.49**	**290**	P	**P**	**20 02 36.6**	**-0.5**
KSI	**Kapahiang**	**27.53**	**240**	P	**P**	**20 02 36.1**	**-1.4**
MJAR	**Matsushiro Arr**	**27.84**	**21**	LR	LR	20 13 29.2	
	comp=Z,129nm,18.8s,baz=220,slow=36						
PSI	**Prapat**	**28.20**	**256**	LR	LR	20 15 11.4	
	comp=Z,141nm,20.6s,baz=274,slow=39						
FITZ	**Fitzroy Crossi**	**28.72**	**181**	P	**P**	**20 02 47.6**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=359,slow=4.3,SNR=13						
WRA	**Warramunga Arr**	**31.59**	**165**	P	**P**	**20 03 11.9**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=344,slow=8.2,SNR=3.5						
PSA00	**Pilbara Seismi**	**32.77**	**191**	P	**P**	**20 03 23.0**	**-0.6**
PSA00	**Pilbara Seismi**	**32.77**	**191**	P	**P**	**20 03 22.6**	**-1.1**
PSA00				IAmb	IAmb	20 03 35.3	
	comp=Z,8.3nm,0.8s						
USA0B	**Ussuriysk Arra**	**33.65**	**8**	P	**P**	**20 03 32.9**	**+1.8**
USRK	**Ussuriysk Ar.**	**33.65**	**8**	P	**P**	**20 03 30.8**	**-0.3**
	comp=Z,9.9nm,0.8s,baz=182,slow=9.4,SNR=12						
AS31	**Alice Springs**	**35.08**	**168**	P	**P**	**20 03 43.3**	**-0.4**
ASAR	**Alice Springs**	**35.08**	**168**	P	**P**	**20 03 42.5**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=348,slow=6.9,SNR=14						
ASAR				PcP	**PcP**	**20 06 13.6**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=350,slow=3.3,SNR=1.1						
ASAR	**Alice Springs**	**35.08**	**168**	P	**P**	**20 03 44.1**	**+0.4**
SHL	**Shillong**	**35.62**	**299**	P	**P**	**20 03 47.7**	**-0.9**
LSA	**Lhasa**	**37.66**	**305**		**P**	**20 04 07.3**	**+1.0**
LSA				IAmb	IAmb	20 04 11.2	
	comp=Z,4.0nm,0.6

TIXI	**Tiksi**	**60.83**	**1**	P	**P**	**20 07 02.3**	**+0.1**
TIXI				IAmb	IAmb	20 07 16.2	
	comp=Z,6.0nm,1.1s						
BVAR	**Borovoye Array**	**61.19**	**325**	P	**P**	**20 07 05.8**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=163,slow=11,SNR=7.1						
BRVK	**Borovoye**	**61.26**	**325**		**P**	**20 07 05.6**	**+0.1**
BRVK				IAmb	IAmb	20 07 12.5	
	comp=Z,4.9nm,0.8s						
NRIK	**Noril'sk**	**63.48**	**346**	P	**P**	**20 07 21.1**	**+1.0**
	comp=Z,3.4nm,0.6s,baz=89,slow=2.8,SNR=4.9						
NRIK	**Noril'sk**	**63.48**	**346**	P	**P**	**20 07 19.3**	**-0.8**
NRIK				IAmb	IAmb	20 07 25.9	
	comp=Z,4.4nm,0.7s						
ABKAR	**Abkulak array**	**66.43**	**319**	P	**P**	**20 07 39.4**	**-0.2**
ARU	**Arti**	**68.74**	**327**		**P**	**20 07 53.0**	**-1.1**
ARU				IAmb	IAmb	20 08 06.2	
	comp=Z,5.0nm,0.7s						
BELG	**Belogornoye**	**74.55**	**321**	P	**P**	**20 08 28.2**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=230,slow=4.7,SNR=3.7						
GNI	**Garni**	**76.61**	**309**	LR	LR	20 47 14.7	
	comp=Z,28nm,19.2s,baz=95,slow=39						
BPAW	**Bear Paw Mtn.**	**77.22**	**27**	P	**P**	**20 08 45.5**	**+1.2**
BPAW				IAmb	IAmb	20 08 59.0	
	comp=Z,5.5nm,1.0s						
MLY	**Manley**	**77.35**	**26**	P	**P**	**20 08 47.5**	**+2.5**
MLY				IAmb	IAmb	20 08 49.5	
	comp=Z,7.0nm,1.2s						
TOLK	**Toolik Lake Re**	**77.91**	**22**	P	**P**	**20 08 50.0**	**+2.0**
NEA2	**Nenana**	**78.06**	**26**	P	**P**	**20 08 48.6**	**-0.3**
NEA2				IAmb	IAmb	20 09 03.9	
	comp=Z,4.1nm,0.8s						
MCK	**McKinley**	**78.12**	**27**	P	**P**	**20 08 49.3**	**+0.1**
MCK				IAmb	IAmb	20 09 03.0	
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**79.00**	**26**	P	**P**	**20 08 54.4**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=258,slow=4.5,SNR=4.8						
BMAR	**Burnt Mountain**	**79.81**	**23**	P	**P**	**20 08 59.9**	**+1.4**
OBN	**Obninsk**	**81.02**	**324**	LR	LR	20 46 54.3	
	comp=Z,14nm,20.0s,baz=156,slow=37						
K27K	**Chicken**	**81.13**	**26**	P	**P**	**20 09 06.5**	**+0.9**
K27K				IAmb	IAmb	20 09 10.9	
	comp=Z,5.5nm,1.1s						
ARCES	**ARCESS Array B**	**83.67**	**340**	P	**P**	**20 09 18.2**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=80,slow=6.5,SNR=9.7						
ARCES	**ARCESS Array B**	**83.67**	**340**	IAmb	IAmb	20 09 23.1	
	comp=Z,11nm,1.2s						
WHY	**Whitehorse**	**85.01**	**29**	P	**P**	**20 09 27.7**	**+1.9**
WHY				IAmb	IAmb	20 09 31.6	
	comp=Z,7.2nm,0.9s						
BRTR	**Keskin Array B**	**85.14**	**309**	P	**P**	**20 09 25.4**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=124,slow=5.6,SNR=6.3						
FINES	**FINESS Array B**	**85.39**	**332**	P	**P**	**20 09 26.5**	**-1.1**
	comp=Z,10nm,1.1s,baz=90,slow=4.4,SNR=6.4						
AKASG	**Malin Array Be**	**86.11**	**321**	P	**P**	**20 09 29.2**	**-2.1**
	comp=Z,0.2nm,0.2s,baz=72,slow=4.5,SNR=5.6						
BUR08	**Bucovina Ar. S**	**89.40**	**318**	P	**P**	**20 09 46.9**	**-0.5**
BUR08				IAmb	IAmb	20 09 50.9	
	comp=Z,3.9nm,1.2s						
MAW	**Mawson**	**90.17**	**200**	P	**P**	**20 09 50.1**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=88,slow=17,SNR=2.2						
NOA	**NORSAR Array B**	**92.25**	**334**	P	**P**	**20 09 58.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=64,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**93.31**	**24**	P	**P**	**20 10 04.8**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=295,slow=4.0,SNR=5.3						
NEW	**Newport**	**98.99**	**37**	LR	LR	20 51 51.6	
	comp=Z,41nm,19.8s,baz=300,slow=33						
PLCA	**Paso Flores**	**146.72**	**156**	PKPbc	**PKPdf**	**20 16 31.0**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=184,slow=18,SNR=2.2						

*IDC **03** 20:26:57.8±2.4, 10.°69N×125.°61E, h0km, mb3.4/5, mb1 3.4/5, mb1mx3.2/50, mbtmp3.4/5, Error ellipse: s-maj=215.4km s-min=28.1km az=69.0*
*MAN **03** 20:26:57.2, 9.°78N×126.°14E, h166km, MS3.3*
IDC 03 20:27:01.2±1.2, 10.°81N±0.°09×126.°4E±0.°1, h35km, n8, σ1§43/11, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**1.05**	**195**	*e*P	**Pn**	**20 27 18.9**	**-0.6**
GLSP				*e*S	**Sn**	**20 27 31.0**	**-1.9**
SCPH	**Surigao**	**1.36**	**222**	*e*P	**Pn**	**20 27 22.8**	**-1.0**
SCPH				*e*S	**Sn**	**20 27 41.4**	**+0.9**
MSLP	**Maasin**	**1.66**	**246**	*e*P	**Pn**	**20 27 26.7**	**-1.2**
MSLP				*e*S	**Sn**	**20 27 49.5**	**+1.6**
ASAR	**Alice Springs**	**35.04**	**168**	P	**P**	**20 33 52.9**	**+2.1**
	0.3nm,0.8s,baz=339,slow=7.0,SNR=2.3						
SONM	**Songino Array**	**40.57**	**339**	P	**P**	**20 34 37.8**	**+0.4**
	0.2nm,0.5s,baz=160,slow=8.8,SNR=2.0						
MKAR	**Makanchi Array**	**51.68**	**322**	P	**P**	**20 36 03.8**	**-1.1**
	0.2nm,0.3s,baz=117,slow=9.0,SNR=7.0						
ZALV	**Zalesovo Beam**	**54.22**	**331**	P	**P**	**20 36 22.5**	**-0.9**
	0.5nm,0.6s,baz=134,slow=8.3,SNR=2.2						
KURBB	**Kurchatov Arra**	**55.71**	**325**	P	**P**	**20 36 33.7**	**-0.5**
	0.2nm,0.4s,baz=128,slow=6.5						

IDC 03 20:30:32.0±7.3, 16.°34S×174.°18W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/38, mbtmp3.8/3, MS3.4/7, Ms1 3.4/7, ms1mx3.3/19, Error ellipse: s-maj=381.2km s-min=31.7km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.34**	**44**	Pn	Pn	20 31 25.3	-0.4
	baz=219,slow=13,SNR=1.4						
AFI				LR	LR	20 32 21.1	
	comp=Z,83nm,20.3s,baz=200,slow=33						
DZM	**Mont Dzumac**	**19.16**	**250**	*e*LR	LR	20 39 30.3	
	comp=Z,223nm,24.8s						
PPT2	**Papeete2**	**23.56**	**97**	*e*LQ	LQ	20 40 46.9	
	186nm,24.8s						
PPT2				*e*LR	LR	20 41 55.4	
	comp=Z,188nm,26.5s						
PPT	**Papeete**	**23.56**	**97**	LR	LR	20 43 39.8	
	comp=Z,42nm,18.5s,baz=324,slow=33						
TBI	**Tubuai**	**24.25**	**111**	*e*LQ	LQ	20 41 08.7	
	418nm,28.2s						
TBI				*e*LR	LR	20 42 10.9	
	comp=Z,140nm,24.2s						
HNR	**Honiara**	**26.12**	**282**	LR	LR	20 44 23.1	
	comp=Z,158nm,19.2s,baz=82,slow=32						
TAOE	**Nuku Hiva Isla**	**33.99**	**82**	*e*LR	LR	20 46 33.6	
	comp=Z,202nm,27.5s						
WRA	**Warramunga Arr**	**48.91**	**258**	P	P	20 39 19.7	-0.5
	1.6nm,1.1s,baz=92,slow=8.0,SNR=4.1						
ASAR	**Alice Springs**	**49.12**	**253**	P	P	20 39 21.7	-0.1
	1.1nm,0.9s,baz=87,slow=8.0,SNR=11						
ASAR				LR	LR	20 58 20.4	
	comp=Z,82nm,19.3s,baz=50,slow=34						
VNDA	**Vanda**	**62.37**	**186**	LR	LR	21 02 24.4	
	comp=Z,17nm,20.3s,baz=1.0,slow=31						
PETK	**Petropavlovsk-**	**73.29**	**343**	LR	LR	21 06 34.3	
	comp=Z,48nm,20.9s,baz=131,slow=30						
USRK	**Ussuriysk Ar.**	**77.68**	**324**	LR	LR	21 09 40.7	
	comp=Z,67nm,21.3s,baz=132,slow=30						
BRTR	**Keskin Array B**	**146.40**	**319**	PKPbc	PKPbc	20 50 15.1	-0.4
	0.1nm,0.3s,baz=90,slow=2.9,SNR=3.3						

*IDC **03** 21:06:15.5±0.8, 3.°22N×31.°34W, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/40, mbtmp4.0/12, MS4.0/24, Ms1 4.0/24, ms1mx3.9/29, Error ellipse: s-maj=29.2km s-min=17.6km az=138.0*
*NEIC **03** 21:06:18.2±1.9, 3.°3N±0.°1×31.°2W±0.°1, h10km±1km, mb4.5/13, Error ellipse: s-maj=26.4km s-min=18.7km az=143.0*
*GCMT **03** 21:06:19.2±0.3, 3.°42N±0.°03×31.°33W±0.°02, h17km±1km, MW4.9/104, Moment Tensor Solution. s33,c35; s104,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.58±.17; $M_{\theta\theta}$0.36±.10; $M_{\phi\phi}$2.22±.11; $M_{r\theta}$0.50±.36; $M_{r\phi}$-0.55±.07; $M_{\theta\phi}$0.46±.25; Best double couple: M_o2.55600×10^{16} NP1:ϕ_s334.00000°, δ42.00000°, λ-107.00000°. NP2:ϕ_s176.00000°, δ50.00000°, λ-75.00000°. Principal axes: T 2.3890, Pl94.0000°, Azm256.0000°; N 0.3320, Plg11.0000°, Azm347.0000°; P -2.7220, Plg78.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC 03 21:06:17.3±0.7, 3.°3N±0.°1×31.°3W±0.°1, h10km, n47, σ1§02/27, mb4.2/16, MS4.0/24, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SACV	**Santiago Islan**	**13.80**	**33**	Pn	**Pn**	**21 09 30.8**	**-2.4**
H10N3	**ASCENSION HYDR**	**20.06**	**124**	T	T	21 31 47.0	
	baz=302,slow=75,SNR=356						
H10N2	**ASCENSION HYDR**	**20.06**	**124**	T	T	21 31 46.2	
	baz=302,slow=75,SNR=386						
H10N1	**ASCENSION HYDR**	**20.08**	**124**	T	T	21 31 48.5	
	baz=302,slow=75,SNR=354						
H10S3	**ASCENSION HYDR**	**20.55**	**127**	T	T	21 32 17.3	
	baz=303,slow=74,SNR=220						
H10S2	**ASCENSION HYDR**	**20.57**	**127**	T	T	21 32 18.6	
	baz=277,slow=74,SNR=52						
MDP	**Montagnes des**	**21.41**	**275**	LR	LR	21 17 43.2	
	comp=Z,310nm,20.9s,baz=90,slow=32						
BDFB	**Brasilia**	**25.11**	**221**	LR	LR	21 20 45.8	
	comp=Z,505nm,18.8s,baz=78,slow=35						
DBIC	**Dimbokro**	**26.50**	**82**	LR	LR	21 20 15.8	
	comp=Z,644nm,20.4s,baz=252,slow=32						
PTGA	**Pitinga**	**28.99**	**262**	LR	LR	21 22 36.8	
	comp=Z,399nm,18.8s,baz=68,slow=34						
KOWA	**Kowa**	**29.06**	**66**	LR	LR	21 22 35.5	
	comp=Z,837nm,20.1s,baz=268,slow=34						
GRGR	**Grenville**	**31.34**	**288**	P	**P**	**21 12 38.1**	**-0.2**
SIV	**San Ignacio**	**35.19**	**236**	P	**P**	**21 13 10.9**	**-1.0**
	1.8nm,0.9s,baz=72,slow=5.4,SNR=5.1						
CPUP	**Villa Florida**	**38.81**	**219**	P	**P**	**21 13 41.4**	**-1.2**
	4.8nm,0.8s,baz=62,slow=8.9,SNR=5.5						
CPUP				LR	LR	21 29 12.6	
	comp=Z,420nm,18.2s,baz=48,slow=36						
CPUP	**Villa Florida**	**38.81**	**219**	P	**P**	**21 13 43.5**	**+1.0**
CPUP				IAmb	IAmb	21 13 45.3	
	comp=Z,12nm,1.2s						
LPAZ	**La Paz**	**41.34**	**241**	P	**P**	**21 14 02.8**	**-1.6**
	comp=Z,3.9nm,1.3s,baz=47,slow=11,SNR=5.2						
LPAZ				LR	LR	21 30 30.7	
	comp=Z,593nm,21.6s,baz=44,slow=35						
LPAZ	**La Paz**	**41.34**	**241**	P	**P**	**21 14 05.2**	**+0.8**
LPAZ				IAmb	IAmb	21 14 08.1	
	comp=Z,9.6nm,1.5s						
RUSC	**La Rusia**	**41.77**	**275**	P	**P**	**21 14 07.7**	**-0.1**
RUSC				IAmb	IAmb	21 14 16.1	
	comp=Z,11nm,1.2s						
ROSC	**El Rosal**	**42.98**	**274**	LR	LR	21 31 43.0	
	comp=Z,443nm,19.7s,baz=82,slow=36						
ESDC	**Sonseca Array**	**43.82**	**31**	P	**P**	**21 14 25.1**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=240,slow=8.3,SNR=6.6						
ESDC				LR	LR	21 30 00.8	
	comp=Z,102nm,18.8s,baz=170,slow=32						
ESDC	**Sonseca Array**	**43.82**	**31**	P	**P**	**21 14 24.7**	**+1.0**
GO02	**Mina Guanaco**	**46.75**	**231**	P	**P**	**21 14 48.0**	**+0.6**
GO02				IAmb	IAmb	21 14 50.0	
	comp=Z,15nm,1.2s						
KEST	**Kesra**	**49.43**	**44**	LR	LR	21 35 31.1	
	comp=Z,257nm,21.4s,baz=200,slow=35						
PLCA	**Paso Flores**	**56.66**	**215**	LR	LR	21 39 48.6	
	comp=Z,192nm,21.8s,baz=47,slow=36						
SCHQ	**Schefferville**	**58.88**	**337**	P	**P**	**21 16 16.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=154,slow=12,SNR=2.4						
GERES	**GERESS Array B**	**59.33**	**33**	P	**P**	**21 16 20.6**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=250,slow=2.9,SNR=2.6						
DIVS	**Divibare**	**60.64**	**40**	P	**P**	**21 16 28.9**	**+0.3**
DIVS				IAmb	IAmb	21 16 39.2	
	comp=Z,4.1nm,1.3s						
BOSA	**Boshof**	**62.81**	**124**	P	**P**	**21 16 42.9**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=307,slow=5.1,SNR=3.3						
BOSA				LR	LR	21 39 28.0	
	comp=Z,116nm,20.2s,baz=3.5,slow=32						
BOSA	**Boshof**	**62.81**	**124**	P	**P**	**21 16 43.0**	**-0.6**
MLR	**Muntele Rosu**	**65.07**	**41**	P	**P**	**21 16 58.6**	**+0.4**
MLR				IAmb	IAmb	21 17 01.3	
	comp=Z,8.2nm,1.4s						
ELL	**Elmali**	**65.09**	**51**	P	**P**	**21 16 59.2**	**+0.6**
NOA	**NORSAR Array B**	**65.86**	**21**	LR	LR	21 42 45.4	
	comp=Z,48nm,19.4s,baz=235,slow=33						
KMBO	**Kilima Mbogo**	**68.61**	**93**	LR	LR	21 44 35.4	
	comp=Z,214nm,19.0s,baz=271,slow=34						
BRTR	**Keskin Array B**	**68.69**	**49**	P	**P**	**21 17 22.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=238,slow=5.7,SNR=4.8						
BRTR				LR	LR	21 47 32.1	
	comp=Z,100nm,21.9s,baz=268,slow=36						
BRTR	**Keskin Array B**	**68.69**	**49**	P	**P**	**21 17 22.6**	**+1.2**
AKASG	**Malin Array Be**	**69.06**	**36**	P	**P**	**21 17 23.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=251,slow=6.1,SNR=8.7						
AKASG				LR	LR	21 47 05.8	
	comp=Z,53nm,19.0s,baz=70,slow=35						
AKASG	**Malin Array Be**	**69.06**	**36**	P	**P**	**21 17 23.6**	**+0.3**
ULM	**Lac du Bonnet**	**71.40**	**322**	P	**P**	**21 17 36.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=168,slow=2.9,SNR=3.0						
ULM				LR	LR	21 43 31.2	
	comp=Z,71nm,21.6s,baz=149,slow=31						
FINES	**FINESS Array B**	**71.96**	**25**	LR	LR	21 47 31.4	
	comp=Z,88nm,18.8s,baz=268,slow=34						
TXAR	**Lajitas Array**	**73.05**	**300**	P	**P**	**21 17 47.5**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=133,slow=6.2,SNR=9.2						
TXAR				LR	LR	21 45 30.3	
	comp=Z,19nm,21.9s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**73.05**	**300**	P	**P**	**21 17 47.4**	**-0.7**
ARCES	**ARCESS Array B**	**75.73**	**18**	LR	LR	21 47 48.2	
	comp=Z,43nm,19.9s,baz=195,slow=33						
DGMT	**Dagmar**	**76.23**	**319**	P	**P**	**21 18 07.3**	**+1.2**
KBZ	**Khabaz**	**76.26**	**46**	LR	LR	21 53 44.0	
	comp=Z,47nm,20.6s,baz=334,slow=37						
NVAR	**Mina Array Bea**	**85.64**	**308**	P	**P**	**21 18 57.6**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=77,slow=5.6,SNR=2.1						
NVAR				LR	LR	21 56 57.9	
	comp=Z,24nm,18.1s,baz=102,slow=36						
GEYT	**Alibeck**	**87.47**	**52**	LR	LR	21 59 47.7	
	comp=Z,39nm,21.6s,baz=55,slow=37						
ILAR	**Eielson Array**	**97.64**	**337**	LR	LR	22 01 30.3	
	comp=Z,56nm,19.1s,baz=174,slow=34						

*MAN **03** 21:18:37.5, 10.°88N×126.°54E, h31km, MS4.0*
*IDC **03** 21:18:37.7±2.1, 10.°68N×126.°12E, h12km±13km, mb4.5/28, mb1 4.6/29, mb1mx4.5/41, mbtmp4.6/29, ML3.9/1, MS3.7/12, Ms1 3.7/12, ms1mx3.4/42, Error ellipse: s-maj=17.2km s-min=9.5km az=77.0*
*NEIC **03** 21:18:42.3±1.4, 10.°79N±0.°08×126.°29E±0.°10, h35km±1km, mb4.8/83, Error ellipse: s-maj=16.3km s-min=13.0km az=256.0*
*DJA **03** 21:18:47.1±0.6, 11.°N±3.°×12.°6E±.°, h108km±6km, M5.0/47, mB5.5/8, mb4.8/47, MLv5.1/1, Mw(mB)5.0/8*
IDC 03 21:18:42.3±0.7, 10.74N±0.°04×126.°37E±0.°05, h43km±6km, n221, σ1§47/232, mb4.7/90, MS3.8/17, 7C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.97**	**194**	*e*P	**Pn**	**21 18 57.1**	**-2.5**
GLSP				*e*S	**Sn**	**21 19 16.1**	**+3.8**
SCPH	**Surigao**	**1.28**	**222**	↑*i*P	**Pn**	**21 19 02.7**	**-1.1**
SCPH				*i* S	**Sn**	**21 19 20.7**	**+0.9**
MSLP	**Maasin**	**1.60**	**248**	*e*P	**Pn**	**21 19 07.2**	**-0.9**
OCLP	**Ormoc**	**1.75**	**280**	*e*P	**Pn**	**21 19 10.8**	**+0.5**
BUTP	**Butuan**	**1.90**	**203**	*e*P	**Pn**	**21 19 11.1**	**-1.2**
BUTP				*e*S	**Sn**	**21 19 40.2**	**+5.1**
LLP	**Lapu-Lapu**	**2.40**	**260**	*e*P	**Pn**	**21 19 19.4**	**+0.3**
LLP				*e*S	**Sn**	**21 19 49.2**	**+2.0**
CGP	**Cagayan de Oro**	**2.80**	**216**	↑*e*P	**Pn**	**21 19 25.6**	**+1.0**
CGP				*e*S	**Sn**	**21 20 00.8**	**+3.5**
BUKP	**Musuan**	**3.12**	**204**	*e*P	**Pn**	**21 19 29.4**	**+0.4**
BUKP				*e*S	**Sn**	**21 20 07.2**	**+2.1**
SNPH	**Sibulan**	**3.38**	**246**	*i* P	**Pn**	**21 19 32.9**	**+0.2**
SNPH				*i* S	**Sn**	**21 20 14.6**	**+3.0**
RCP	**Roxas**	**3.65**	**283**	‖*e*P	**Pn**	**21 19 36.8**	**+0.5**
DCPH	**Dipolog City**	**3.66**	**235**	‖*e*P	**Pn**	**21 19 36.3**	**-0.1**
DAV	**Davao City (W)**	**3.72**	**192**	Pg	Pn	21 19 42.4	+5.0
	28nm,0.3s,baz=84,slow=11,SNR=1.5						
DAV				Lg	Lg	21 20 27.3	
	24nm,0.3s,baz=177,slow=17,SNR=4.8						
DAV	**Davao City (W)**	**3.72**	**192**	Pn	**Pn**	**21 19 40.4**	**+3.0**
CNOP	**Candoni, Negro**	**3.78**	**257**	*e*P	**Pn**	**21 19 37.5**	**-0.6**
PAGZ	**Pagadian**	**4.11**	**226**	*e*P	**Pn**	**21 19 43.1**	**+0.5**
DDMP	**Don Marcelino,**	**4.65**	**188**	*e*P	**Pn**	**21 19 47.2**	**-2.8**
LQP	**Lukban**	**5.79**	**306**	‖*e*P	**Pn**	**21 20 05.9**	**0.0**
TGY	**Tagaytay City**	**6.27**	**303**	Pn	**Pn**	**21 20 11.2**	**-1.2**
	64nm,0.3s,baz=113,slow=3.9,SNR=5.9						
SGSI	**Sangihe**	**7.05**	**187**	P	Pn	21 20 31.1	+8.0
	68nm,0.6s						
SMPP	**San Manuel, Pa**	**7.72**	**315**	*e*P	**Pn**	**21 20 30.4**	**-1.8**
CVP	**Callao Caves**	**8.21**	**328**	*e*P	**Pn**	**21 20 37.0**	**-2.0**
TNTI	**Ternate**	**9.95**	**174**	Pn	**Pn**	**21 21 03.7**	**+0.9**
TNTI	**Ternate**	**9.95**	**174**	P	**Pn**	**21 21 03.3**	**+0.5**
	30nm,0.8s						
LUWI	**Luwuk**	**12.23**	**197**	Pn	**Pn**	**21 21 35.3**	**+1.3**
LUWI	**Luwuk**	**12.23**	**197**	P	**P**	**21 21 41.3**	**-4.3**
	5μm44nm,1.0s						
APSI	**Ampana**	**12.48**	**202**	P	**Pn**	**21 21 39.4**	**+1.9**
	15nm,0.9s						
SWI	**Sorong**	**12.51**	**157**	P	Pn	21 21 44.0	+6.2
	27nm,1.1s						
SIJI	**Sorong**	**12.52**	**157**	Pn	**Pn**	**21 21 37.9**	**-0.1**
	0.7nm,0.3s,baz=239,slow=22,SNR=2.8						
SANI	**Sanana**	**12.71**	**182**	P	Pn	21 21 32.3	-8.2
NLAI	**Namlea**	**13.90**	**177**	P	**Pn**	**21 21 56.4**	**-0.5**
	23nm,0.8s						
FAKI	**Fak Fak**	**14.77**	**156**		**Pn**	**21 22 08.4**	**-0.2**
FAKI	**Fak Fak**	**14.77**	**156**	P	Pn	21 22 13.6	+5.0
	512nm52nm,1.0s						
TTSI	**Tana Toraja**	**15.16**	**206**	P	**P**	**21 22 18.1**	**0.0**
	29nm,1.0s						
BAKI	**Biak**	**15.31**	**140**	P	**Pn**	**21 22 15.9**	**+0.3**
SPSI	**Sidrap Palu**	**16.01**	**205**	P	**P**	**21 22 31.7**	**+4.1**
	26nm,1.0s						
JOW	**Kunigami**	**16.11**	**6**	LR	LR	21 28 25.3	
	comp=Z,310nm,18.1s,baz=153,slow=36						
MTKI	**Muara Teweh, K**	**16.27**	**225**	P	**P**	**21 22 31.9**	**+1.4**
	2μm17nm,0.5s						
BNSI	**Bone**	**16.28**	**203**	P	**P**	**21 22 32.2**	**+1.7**
	27nm,1.1s						
DLV	**T Lat**	**17.57**	**276**	P	**P**	**21 22 44.0**	**-1.1**
QIZ	**Qiongzhong**	**17.96**	**299**	P	**P**	**21 22 47.4**	**-1.7**
QIZ				S	**S**	**21 26 12.0**	**-1.2**
QIZ				L	L		
	comp=N,240nm,15.7s						
QIZ				L	L		
	comp=E,360nm,16.2s						
QIZ				L	L		
	comp=Z,200nm,17.7s						
STKI	**Sintang**	**18.20**	**235**	P	**Pn**	**21 22 54.0**	**+2.0**
	4μm15nm,1.0s						
GUMO	**Guam**	**18.31**	**79**	LR	LR	21 28 59.4	
	comp=Z,225nm,19.3s,baz=234,slow=34						
GENI	**Genyem**	**19.08**	**133**	P	**P**	**21 23 01.6**	**+0.1**
	38nm,0.8s						
MMRI	**Maumere**	**19.68**	**192**	P	**Pn**	**21 23 10.7**	**+1.0**
MMRI				IAmb	IAmb	21 23 34.1	
	comp=Z,65nm,0.9s						
MMRI	**Maumere**	**19.68**	**192**	P	**P**	**21 23 05.8**	**-2.2**
	comp=Z,67nm,0.8s						
PBKI	**Pangkalan Bun**	**19.80**	**228**	P	**Pn**	**21 23 10.5**	**-0.7**
	comp=Z,51nm,0.7s						
SOEI	**Soe**	**20.46**	**186**	P	Pn	21 23 19.1	+0.1
SOEI	**Soe**	**20.46**	**186**	P	**P**	**21 23 18.6**	**+2.0**
	comp=Z,102nm,1.3s						
UBPT	**Khong Chiam**	**20.85**	**285**	P	Pn	21 23 22.3	-1.2
BATI	**Baumata**	**20.98**	**187**	P	**P**	**21 23 19.7**	**-2.4**
	comp=Z,41nm,0.8s,baz=348,slow=9.3,SNR=3.1						
BATI	**Baumata**	**20.98**	**187**	P	**P**	**21 23 22.3**	**+0.2**
	comp=Z,56nm,0.9s						
JSU	**Suzuyama**	**21.01**	**10**	P	**P**	**21 23 23.4**	**+1.0**
JSU				IAmb	IAmb	21 23 30.3	
	comp=Z,45nm,1.1s						
TWSI	**Taliwang, Sumb**	**21.52**	**206**	P	**P**	**21 23 29.3**	**+1.4**
	comp=Z,16nm,1.2s						
NJ2	**Nanjing**	**22.32**	**343**	*e*P	**P**	**21 23 38.2**	**+1.8**
NJ2				pP	**pP**	**21 23 44.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.9s						
WHN	**Wuhan**	**22.66**	**332**	⇑P	**P**	**21 23 40.9**	**+0.9**
WHN				pP	**pP**	**21 23 52.0**	**+3.3**
TPI	**Tanjungpandan**	**22.95**	**235**	P	**P**	**21 23 43.2**	**+0.1**
	comp=Z,41nm,1.1s						
PPBI	**Pangkal Pinang**	**23.86**	**239**	P	**P**	**21 23 51.4**	**-0.6**
	comp=Z,6μmcomp=Z,34nm,0.9s						
MTN	**Manton Dam**	**23.90**	**168**	P	**P**	**21 23 52.8**	**+0.5**
MTN				IAmb	IAmb	21 24 11.0	
	comp=Z,29nm,1.0s						
JMN	**Monobe**	**23.90**	**16**	P	**P**	**21 23 52.9**	**+0.7**
GYA	**Guiyang**	**24.30**	**313**	*e*P	**P**	**21 23 57.6**	**+1.5**
GYA				pP	pP	21 24 05.9	+0.2
GYA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GYA				L	L		
	comp=Z,54nm,17.1s						
UGM	**Wanagama**	**24.33**	**221**	P	**P**	**21 23 58.9**	**+2.6**
KPJI	**Karang Pucung**	**24.97**	**225**	P	**P**	**21 24 01.8**	**-0.3**
	comp=Z,29nm,0.9s						
ENH

MNSI Mandailing Nat 28.39 251 P **P** **21 24 32.4 -0.6**
comp=Z,26nm,0.8s
FITZ Fitzroy Crossi 28.66 181 P **P** **21 24 33.7 -1.5**
comp=Z,7.4nm,0.5s,baz=358,slow=8.3,SNR=21
FITZ Fitzroy Crossi 28.66 181 P **P** **21 24 34.5 -0.7**
CD2 Chengdu 29.03 317 P **P** **21 24 39.0 +0.4**
CD2 S **S** **21 29 28.7 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 L L
comp=Z,390nm,15.7s
CD2 L L
comp=Z,380nm,14.7s
CD2 L L
comp=Z,490nm,15.7s
GSI Gunungsitoli 30.09 254 P **P** **21 24 46.8 -1.3**
GSI IAmb IAmb 21 24 52.6
comp=Z,33nm,1.1s
GSI Gunungsitoli 30.09 254 P **P** **21 24 45.0 -3.1**
comp=Z,37nm,1.2s
BJT Baijiatuau 30.54 344 P **P** **21 24 51.8 +0.1**
BJT IAmb IAmb 21 24 54.9
comp=Z,14nm,1.3s
WB0 Warramunga Arr 31.32 165 P **P** **21 24 57.2 -1.7**
WRA Warramunga Arr 31.48 166 P **P** **21 24 58.2 -2.0**
comp=Z,1.7nm,0.5s,baz=345,slow=8.6,SNR=16
WRA PcP **PcP** **21 27 53.0 +0.3**
comp=Z,0.9nm,0.6s,baz=342,slow=2.8,SNR=4.6
WRA Warramunga Arr 31.48 166 P **P** **21 24 58.7 -1.5**
LZH Lanzhou 32.45 325 *eP* **P** **21 25 10.0 +1.2**
LZH pP pP 21 25 18.2 -0.4
LZH sP pwP 21 25 22.8 -3.5
LZH pmax pmax
comp=Z,18nm,1.2s
LZH pmax pmax
comp=Z,68nm,4.9s
LZH L L
comp=Z,280nm,15.2s
LZH L L
comp=Z,260nm,15.2s
LZH L L
comp=Z,250nm,14.1s
HHC Hu-ho-hao-te 32.72 339 *eP* **P** **21 25 12.5 +1.5**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,78nm,5.4s
PSA00 Pilbara Seismi 32.74 191 P **P** **21 25 10.4 -0.8**
PSA00 Pilbara Seismi 32.74 191 P **P** **21 25 10.0 -1.2**
PSA00 IAmb IAmb 21 25 11.3
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 33.70 7 P **P** **21 25 19.7 +0.3**
USA0B IAmb IAmb 21 25 23.2
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 33.70 7 P **P** **21 25 19.1 -0.2**
comp=Z,15nm,0.8s,baz=187,slow=8.0,SNR=23
USRK LR LR 21 38 35.2
comp=Z,102nm,19.7s,baz=164,slow=35
USRK Ussuriysk Ar. 33.70 7 P **P** **21 25 19.7 +0.4**
MDJ Mudanjiang 33.87 4 P **P** **21 25 22.5 +1.6**
MDJ IAmb IAmb 21 25 25.3
comp=Z,20nm,1.2s
AS31 Alice Springs 34.98 168 P **P** **21 25 29.8 -0.9**
ASAR Alice Springs 34.98 168 P **P** **21 25 29.4 -1.3**
comp=Z,2.7nm,0.5s,baz=357,slow=7.5,SNR=33
ASAR PcP **PcP** **21 28 02.6 +0.1**
comp=Z,2.0nm,0.9s,baz=347,slow=2.6,SNR=5.0
ASAR ScP **ScP** **21 31 45.8 +1.0**
comp=Z,1.2nm,1.0s,baz=23,slow=3.1,SNR=5.1
SHL Shillong 35.80 299 P **P** **21 25 35.6 -2.4**
SHL IAmb IAmb 21 25 39.3
comp=Z,22nm,1.1s
CTAO Charters Tower 36.35 147 P **P** **21 25 43.0 +0.5**
CTAO IAmb IAmb 21 26 03.3
comp=Z,20nm,1.4s
GTA Gaotai 37.06 325 ⇑P **P** **21 25 48.4 -0.1**
GTA pP pP 21 25 58.0 -0.4
GTA sP pwP 21 26 02.3 -3.7
GTA PcP **PcP** **21 28 10.0 +1.4**
GTA S **S** **21 31 36.2 +4.6**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,72nm,7.3s
GTA L L
comp=Z,85nm,14.9s
GTA L L
comp=Z,180nm,14.9s
GTA L L
comp=Z,180nm,14.5s
LSA Lhasa 37.84 305 P **P** **21 25 54.7 -0.9**
H11N1 WAKE ISLAND Hy 40.02 72 T T 22 09 30.9
baz=265,slow=74,SNR=6.1
H11N2 WAKE ISLAND Hy 40.03 72 T T 22 09 31.5
baz=265,slow=74,SNR=4.8
H11N3 WAKE ISLAND Hy 40.04 72 T T 22 09 33.2
baz=265,slow=74,SNR=4.3
ULN Ulaanbaatar 40.42 340 P **P** **21 26 16.7 +0.1**
ULN IAmb IAmb 21 26 20.6
comp=Z,9.7nm,1.1s
SONM Songino Array 40.62 339 P **P** **21 26 18.5 +0.2**
comp=Z,6.5nm,1.0s,baz=157,slow=9.0,SNR=16
SONM PcP **PcP** **21 28 20.2 +0.6**
comp=Z,0.4nm,0.4s,baz=173,slow=5.7,SNR=3.3
SONM ScP **ScP** **21 32 09.6 +3.7**
comp=Z,0.4nm,0.6s,baz=151,slow=3.3,SNR=1.8
SONM Songino Array 40.62 339 P **P** **21 26 18.4 +0.2**
MORW Morawa 40.81 194 P **P** **21 26 18.8 -1.0**
MORW IAmb IAmb 21 26 23.4
comp=Z,29nm,0.9s
EIDS Eidsvold 43.22 146 P **P** **21 26 39.6 +0.1**
EIDS IAmb IAmb 21 26 42.3
comp=Z,30nm,1.5s
BBOO Buckleboo 44.28 168 P **P** **21 26 47.9 0.0**
NWAO Narrogin (SRO) 44.28 191 P **P** **21 26 48.2 +0.3**
STKA Stephens Creek 44.81 162 P **P** **21 26 52.0 -0.2**
comp=Z,7.5nm,0.7s,baz=334,slow=8.5,SNR=21
STKA LR LR 21 49 30.5
comp=Z,22nm,20.6s,baz=24,slow=41
STKA Stephens Creek 44.81 162 P **P** **21 26 52.2 0.0**
TLY Talaya 44.83 340 P **P** **21 26 52.4 +0.2**
TLY IAmb IAmb 21 26 56.7
comp=Z,11nm,0.9s
WMQ Urumqi 46.92 322 *eP* **P** **21 27 07.7 -1.1**
WMQ pmax pmax
comp=Z,16nm,0.6s
WMQ L L
comp=Z,300nm,22.7s
ARMA Armidale 47.59 150 P **P** **21 27 15.1 +0.9**
ARMA IAmb IAmb 21 27 24.3
comp=Z,18nm,1.3s
PEA0B Petropavlovsk- 49.18 24 P **P** **21 27 26.9 +0.9**
PETK Petropavlovsk- 49.18 24 P **P** **21 27 27.1 +1.1**
comp=Z,6.5nm,0.7s,baz=194,slow=5.9,SNR=12
PETK LR LR 21 51 06.4
comp=Z,75nm,18.0s,baz=222,slow=40
ZSN Zaisan 50.55 324 *eP* **P** **21 27 34.7 -1.9**
baz=325
CAN Canberra 50.56 156 P **P** **21 27 37.8 +1.0**
LIFNC LIFOU 50.94 128 P **P** **21 27 39.7 -0.2**
DZM Mont Dzumac 51.07 130 P **P** **21 27 41.7 +0.8**
comp=Z,17nm,0.8s,baz=333,slow=11,SNR=4.2
DZM Mont Dzumac 51.07 130 P **P** **21 27 40.5 -0.5**
YAK Yakutsk 51.26 2 P **P** **21 27 41.4 -0.3**
TOO Toolangi 51.29 161 P **P** **21 27 43.0 +0.8**
MK31 Makanchi Array 51.72 322 P **P** **21 27 45.0 -0.4**
MK31 IAmb IAmb 21 27 48.6
comp=Z,9.4nm,1.0s
MKAR Makanchi Array 51.72 322 P **P** **21 27 45.1 -0.3**
comp=Z,12nm,0.8s,baz=117,slow=8.6,SNR=64
MKAR ScP **ScP** **21 32 54.0 +2.1**
comp=Z,0.7nm,0.8s,baz=131,slow=6.6,SNR=3.9
SHLS Shalkode 51.87 317 *eP* **P** **21 27 43.2 -3.5**
baz=318
MAKZ Makanchi 51.91 322 P **P** **21 27 46.0 -0.9**
MAKZ IAmb IAmb 21 27 50.1
comp=Z,7.2nm,0.8s
UZB Uzynbulak 52.16 317 *eP* **P** **21 27 47.4 -1.5**
baz=317
PRZ Przheval'sk 52.32 316 P **P** **21 27 49.6 -0.5**
PRZ IAmb IAmb 21 28 02.9
comp=Z,7.5nm,0.8s
KPKS Kokpek 52.51 317 *eP* **P** **21 27 47.9 -3.5**
baz=317
SATY Saty 52.54 317 *eP* **P** **21 27 50.1 -1.6**
baz=317

KDJ Kajisay 53.02 315 P **P** **21 27 54.3 -1.1**
MDOK Medeo 53.50 316 *eP* **P** **21 27 57.6 -1.2**
baz=316
NIL Nilore 53.55 304 P **P** **21 27 58.2 -1.0**
NIL IAmb IAmb 21 28 04.7
comp=Z,6.8nm,0.9s
CHKK Chushkaly 53.80 317 *eP* **P** **21 27 59.3 -1.5**
baz=317
MTBS Maitube 53.91 316 *eP* **P** **21 28 00.2 -1.5**
baz=316
BOOM Boomskoye usch 54.01 315 P **P** **21 28 01.9 -0.7**
KUU Kurty 54.25 317 *eP* **P** **21 28 03.0 -1.1**
comp=Z,20nm,1.5s,baz=317
ZAA0 Zalesovo Array 54.27 331 P **P** **21 28 03.5 -0.5**
ZAA0 IAmb IAmb 21 28 06.7
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 54.27 331 P **P** **21 28 03.5 -0.5**
comp=Z,10nm,0.8s,baz=117,slow=6.7,SNR=23
ZALV PcP **PcP** **21 29 07.0 -0.8**
comp=Z,5.6nm,1.0s,baz=123,slow=4.5,SNR=2.0
SEM Semipalatinsk 54.68 326 *eP* **P** **21 28 05.5 -1.9**
baz=326
AAK Ala-Archa 55.07 315 P **P** **21 28 09.8 -0.4**
DRK Karamyk 56.07 311 P **P** **21 28 16.9 -0.8**
DRK IAmb IAmb 21 28 35.1
comp=Z,9.5nm,1.1s
BTLS Baital 56.19 318 *eP* **P** **21 28 16.2 -1.8**
baz=318
BTK Batken 56.95 311 P **P** **21 28 22.9 -0.8**
BTK IAmb IAmb 21 28 41.5
comp=Z,6.9nm,1.1s
GAR Garm 57.07 310 P **P** **21 28 23.5 -1.1**
GAR IAmb IAmb 21 28 35.5
comp=Z,12nm,1.1s
KK31 Karatay Array 57.99 314 P **P** **21 28 30.0 -0.9**
KK31 IAmb IAmb 21 28 33.8
comp=Z,8.4nm,1.3s
KKAR Karatay Array 57.99 314 P **P** **21 28 30.0 -0.9**
IUG Iuzhnay 58.07 313 *eP* **P** **21 28 29.8 -1.8**
baz=313
MSVF Nonsavu 58.35 119 P **P** **21 28 35.7 +2.0**
comp=Z,5.4nm,0.8s,baz=288,slow=19,SNR=2.5
BRZS Berezniki 58.87 323 *eP* **P** **21 28 34.9 -1.9**
baz=323
TIXI Tiksi 60.89 1 P **P** **21 28 49.8 -0.4**
TIXI IAmb IAmb 21 28 53.7
comp=Z,10nm,1.1s
BRVK Borovoye 61.41 325 P **P** **21 28 53.9 -0.2**
BRVK IAmb IAmb 21 28 57.8
comp=Z,11nm,0.9s
NRIK Noril'sk 63.59 346 P **P** **21 29 08.9 +0.6**
comp=Z,7.5nm,0.8s,baz=124,slow=7.5,SNR=9.3
NRIK Noril'sk 63.59 346 P **P** **21 29 08.3 0.0**
NRIK IAmb IAmb 21 29 12.2
comp=Z,10nm,1.0s
ABKAR Akbulak array 66.59 319 P **P** **21 29 27.4 -0.7**
ABKAR IAmb IAmb 21 29 31.8
comp=Z,3.3nm,0.8s
ABKAR Akbulak array 66.59 319 P **P** **21 29 27.5 -0.7**
THZ Tophouse 67.49 144 P **P** **21 29 34.6 +0.5**
BKZ Black Stump Fm 68.08 140 P **P** **21 29 38.5 +0.6**
ARU Arti 68.89 327 P **P** **21 29 41.6 -1.0**
ARU IAmb IAmb 21 29 46.7
comp=Z,8.1nm,0.8s
TTA Tatalina 74.88 28 P **P** **21 30 18.9 +0.5**
SVW2 Sparrevohn 74.89 29 P **P** **21 30 19.6 +1.1**
IMAR Indian Mountai 76.14 25 P **P** **21 30 26.2 +0.6**
BPAW Bear Paw Mtn. 77.20 27 P **P** **21 30 32.1 +0.5**
BPAW IAmb IAmb 21 30 35.7
comp=Z,6.6nm,1.0s
MLY Manley 77.34 26 P **P** **21 30 33.0 +0.5**
RAYN Ar Rayn 77.48 292 P **P** **21 30 33.0 -1.1**
RAYN IAmb IAmb 21 30 34.1
comp=Z,9.1nm,1.6s
COLD Coldfoot 77.63 23 P **P** **21 30 34.7 +0.7**
KBZ Khabaz 77.97 313 P **P** **21 30 34.2 -2.0**
comp=Z,2.3nm,0.8s,baz=103,slow=4.1,SNR=4.0
KIV Kislovodsk 78.10 313 P **P** **21 30 37.5 +0.3**
KIV IAmb IAmb 21 30 48.7
comp=Z,5.4nm,0.9s
ILAR Eielson Array 78.98 26 P **P** **21 30 40.7 -0.8**
comp=Z,0.8nm,0.7s,baz=235,slow=5.9,SNR=6.5
ILAR Eielson Array 78.98 26 P **P** **21 30 41.5 0.0**
RAR Rarotonga 79.15 114 P **P** **21 30 43.5 +0.4**
comp=Z,4.9nm,0.4s,baz=18,slow=16,SNR=1.8
RAR LR LR 22 00 35.6
comp=Z,49nm,21.5s,baz=270,slow=32
KLMR Klimovskoe 79.17 330 *eP* **P** **21 30 40.8 -1.7**
KLMR AMP 21 30 45.8
comp=Z,29nm,1.2s
BMAR Burnt Mountain 79.81 23 P **P** **21 30 47.3 +1.3**
SCRK Sand Creek 80.28 27 P **P** **21 30 49.4 +0.7**
LVZ Lovozero 80.78 337 P **P** **21 30 51.8 +0.6**
K27K Chicken 81.12 26 P **P** **21 30 53.9 +0.9**
K27K IAmb IAmb 21 30 59.3
comp=Z,11nm,1.4s
BCAR Beaver Creek A 81.36 27 P **P** **21 30 55.1 +0.8**
ARCES ARCESS Array B 83.79 340 P **P** **21 31 06.1 -0.8**
comp=Z,9.7nm,0.8s,baz=77,slow=6.0,SNR=18
ARCES LR LR 22 11 26.1
comp=Z,39nm,19.3s,baz=185,slow=38
ARCES ARCESS Array B 83.79 340 P **P** **21 31 06.8 0.0**
VOI Vohitsoka 84.46 247 P **P** **21 31 10.7 -0.6**
WHY Whitehorse 84.99 29 P **P** **21 31 13.9 +0.7**
WHY IAmb IAmb 21 31 18.7
comp=Z,9.7nm,0.9s
BR131 Keskin Array S 85.31 309 P **P** **21 31 13.9 -1.4**
BR131 IAmb IAmb 21 31 16.8
comp=Z,3.1nm,0.9s
BRTR Keskin Array B 85.31 309 P **P** **21 31 14.3 -1.0**
comp=Z,1.2nm,0.9s,baz=120,slow=7.3,SNR=7.6
BRTR Keskin Array B 85.31 309 P **P** **21 31 13.0 -2.3**
FIA1 FINESS Array S 85.53 332 P **P** **21 31 15.3 -0.4**
FINES FINESS Array B 85.53 332 P **P** **21 31 14.8 -0.9**
comp=Z,9.3nm,0.9s,baz=69,slow=4.6,SNR=16
FINES FINESS Array B 85.53 332 P **P** **21 31 15.4 -0.3**
AKASG Malin Array Be 86.27 321 P **P** **21 31 17.6 -1.9**
comp=Z,1.0nm,0.6s,baz=66,slow=4.1,SNR=6.7
AKASG Malin Array Be 86.27 321 P **P** **21 31 18.4 -1.2**
CSS Mathiatis 86.40 305 P **P** **21 31 19.7 -0.9**
C36M Paulatuk 86.77 20 P **P** **21 31 22.0 +0.3**
C36M IAmb IAmb 21 31 23.6
comp=Z,7.0nm,0.8s
EUNU Eureka 87.79 5 P **P** **21 31 26.6 0.0**
EUNU IAmb IAmb 21 31 32.7
comp=Z,7.9nm,1.4s
KMBO Kilima Mbogo 89.34 269 LR LR 22 12 16.8
comp=Z,64nm,18.4s,baz=96,slow=36
BURAR Bucovina Array 89.56 318 P **P** **21 31 35.2 -0.3**
BUR08 Bucovina Ar. S 89.56 318 P **P** **21 31 35.4 -0.1**
BUR08 IAmb IAmb 21 31 39.4
comp=Z,2.9nm,1.0s
DAG Danmarks Havn 90.31 352 *iP* **P** **21 31 37.0 -1.3**
DAG IAmb IAmb 21 31 41.4
comp=Z,4.8nm,0.9s
VNDA Vanda 90.38 173 P **P** **21 31 37.2 -1.3**
comp=Z,3.2nm,0.9s,baz=290,slow=6.9,SNR=5.5
VNDA Vanda 90.38 173 P **P** **21 31 39.0 +0.5**
VNDA IAmb IAmb 21 31 42.8
comp=Z,5.0nm,1.1s
NEEM North Greenlan 91.96 359 *iP* **P** **21 31 46.6 +0.3**
NEEM IAmb IAmb 21 31 50.6
comp=Z,4.5nm,0.8s
NOA NORSAR Array B 92.39 334 P **P** **21 31 45.9 -2.4**
comp=Z,1.4nm,0.8s,baz=61,slow=4.7,SNR=3.4
NOA LR LR 22 18 37.1
comp=Z,33nm,18.8s,baz=60,slow=39
YKA Yellowknife Ar 93.30 24 P **P** **21 31 52.5 +0.1**
comp=Z,2.8nm,0.8s,baz=299,slow=4.1,SNR=10
VYHS Vyhne 93.37 321 *eP* P 21 31 47.8 -5.3
NVAR Mina Array Bea 102.45 47 P **Pdif** **21 32 35.5 +0.9**
comp=Z,0.1nm,0.4s,baz=247,slow=1.9,SNR=2.2
TXAR Lajitas Array 117.45 49 PKP **PKPdf** **21 37 24.6 +0.3**
comp=Z,0.6nm,0.9s,baz=302,slow=2.4,SNR=4.2
TXAR Lajitas Array 117.45 49 **PKiKP** **21 37 24.8 +0.5**
PLCA Paso Flores 146.59 156 PKPbc **PKPab** **21 38 21.2 +0.4**
comp=Z,8.6nm,0.8s,baz=192,slow=4.1,SNR=17
CPUP Villa Florida 164.10 168 PKP **PKPdf** **21 38 43.0 +1.2**
comp=Z,2.1nm,0.8s,baz=270,slow=4.0,SNR=3.1
LPAZ La Paz 164.87 113 PKP **PKPdf** **21 38 44.7 +1.2**
comp=Z,1.3nm,0.8s,baz=180,slow=3.0,SNR=4.8
LPAZ PKPab **PKPab** **21 39 42.0 +2.3**
comp=Z,1.6nm,0.4s,baz=292,slow=1.8,SNR=6.8

*GUC **03** 21:41:14.4±0.6,27.°95S×71.°06W,h38km±4km,ML3.9*
*IDC **03** 21:41:23.1±2.5,27.°77S×69.°99W,h0km,mb1 3.7/2, mb1mx3.5/21,mbtmp3.5/2,ML3.5/1,Error ellipse: s-maj=70.1km s-min=60.2km az=36.0*
ISC 03 21:41:15.9±0.9,**28.°17S**±0.°06×**70.°85W**±0.°10,**h24**km±9km, **n17,σ2s59/16,2C,Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.20**	**260**	⇑*iP*	Op	**Pb**	**21 41 21.5**	**0.0**
AC04				*eS*		**Sn**	**21 41 26.0**	**+0.7**
AC04					IAML		21 41 27.2	
	comp=N,9μm,0.1s							
GO03	**Copiap**	**0.79**	**44**	*eP*		**Pn**	**21 41 29.3**	**-2.2**
GO03				*eS*		**Sb**	**21 41 40.4**	**-1.0**
GO03					IAML		21 41 41.0	
	comp=E,11μm,0.2s							
CO05	**La Serena**	**1.78**	**191**	*i* S		**Sn**	**21 42 04.7**	**-2.2**
CO05					IAML		21 42 16.7	
	comp=N,883nm,0.6s							
GO04	**Tololo Observa**	**2.00**	**179**	*eP*		**Pn**	**21 41 46.4**	**-1.9**
GO04					IAML		21 42 28.2	
	comp=N,2μm,0.4s							
AC01	**Pan de Azucar**	**2.02**	**6**	*eP*		**Pn**	**21 41 45.2**	**-3.3**
AC01					IAML		21 42 21.9	
	comp=E,709nm,0.5s							
AC02	**Maricunga**	**2.02**	**49**	⇑*iP*		**Pn**	**21 41 48.4**	**-0.5**
AC02				*eS*		**Sn**	**21 42 14.4**	**+0.7**
AC02					IAML		21 42 16.4	
	comp=N,1μm,0.5s							
CO03	**El Pedregal**	**2.67**	**177**	*eP*		**Pn**	**21 41 56.1**	**-1.3**
CO03					IAML		21 42 44.1	
	comp=E,420nm,0.5s							
GO02	**Mina Guanaco**	**3.20**	**21**		IAML		21 43 01.5	
	comp=E,491nm,0.7s							
VA03	**San Esteban**	**4.59**	**177**	*eP*		**Pn**	**21 42 22.9**	**-0.9**
PB10	**IPOC Station P**	**4.64**	**3**	*eP*		**Pn**	**21 42 21.0**	**-3.5**
H03N1	**Juan Fernandez**	**8.70**	**231**	T	T		21 51 55.7	
	baz=56,slow=72,SNR=228							
H03N2	**Juan Fernandez**	**8.71**	**231**	T	T		21 51 58.7	
	baz=56,slow=72,SNR=136							
H03N3	**Juan Fernandez**	**8.71**	**231**	T	T		21 51 58.9	
	baz=56,slow=72,SNR=208							
LPAZ	**La Paz**	**12.09**	**13**	Pn		**Pn**	**21 44 09.8**	**+2.6**
	comp=E,0.1nm,0.3s,baz=193,slow=6.3,SNR=1.8							
CPUP	**Villa Florida**	**12.17**	**84**	Pn		**Pn**	**21 44 06.9**	**-0.8**
	baz=244,slow=17,SNR=1.2							
ZALV	**Zalesovo Beam**	**148.68**	**28**	PKPbc		**PKPab**	**22 01 09.8**	**+5.6**
	comp=E,1.3nm,0.5s,baz=306,slow=2.0,SNR=5.8							
MKAR	**Makanchi Array**	**151.93**	**41**	PKPbc		**PKPab**	**22 01 17.4**	**-0.5**
	comp=E,0.6nm,0.7s,baz=297,slow=2.5,SNR=6.6							

*IDC **03** 21:57:44.6±5.7,31.°53S×69.°07W,h111km±47km,mb3.4/2, mb1 3.6/4,mb1mx3.4/19,mbtmp3.8/4,Error ellipse: s-maj=80.7km s-min=37.7km az=76.0*
*GUC **03** 21:57:45.7±0.6,31.°58S×69.°71W,h152km±6km,ML4.0*
ISC 03 21:57:44.9±0.8,**31.°52S**±0.°04×**69.°32W**±0.°06,**h123**km±7km, **n26,σ1s75/43,8C-4D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.74**	**75**	⇑*iP*		**Pn**	**21 58 05.2**	**+0.2**
RTLL				*i* S		**Sn**	**21 58 19.9**	**-0.1**
CO03	**El Pedregal**	**1.36**	**300**	⇓*iP*		**Pn**	**21 58 12.4**	**+1.4**
CO03				*i* S		**Sn**	**21 58 32.5**	**+1.7**
CO03					IAML		21 58 35.9	
	comp=E,3μm,0.3s							
VA03	**San Esteban**	**1.62**	**220**	⇓*eP*		**Pn**	**21 58 14.6**	**+0.6**
VA03				*eS*		**Sn**	**21 58 36.8**	**+0.5**
VA03					IAML		21 58 38.3	
	comp=N,4μm,0.3s							
GO04	**Tololo Observa**	**1.85**	**316**	⇑*eP*		**Pn**	**21 58 17.9**	**+0.9**
GO04				*eS*		**Sn**	**21 58 41.3**	**0.0**
ROCH	**El Roble**	**2.04**	**224**	⇓*eP*		**Pn**	**21 58 19.0**	**-0.2**
ROCH				*eS*		**Sn**	**21 58 45.2**	**-0.1**
ROCH					IAML		21 58 46.6	
	comp=N,1μm,0.3s							
MT03	**Universidad Ad**	**2.21**	**207**	⇑*iP*		**Pn**	**21 58 21.9**	**+0.7**
MT03				*i* S		**Sn**	**21 58 50.0**	**+0.9**
MT03					IAML		21 58 51.4	
	comp=E,1μm,0.5s							
MT05	**Renca**	**2.22**	**212**	*eP*		**Pn**	**21 58 21.6**	**+0.3**
MT05				*i* S		**Sn**	**21 58 49.3**	**+0.1**
MT05					IAML		21 58 50.8	
	comp=E,2μm,0.3s							
CO05	**La Serena**	**2.30**	**313**	⇓*eP*		**Pn**	**21 58 22.9**	**+0.6**
CO05				*eS*		**Sn**	**21 58 50.5**	**-0.3**
CO05					IAML		21 58 52.1	
	comp=E,2μm,0.3s							
MT02	**Curacav**	**2.32**	**221**	*eP*		**Pn**	**21 58 21.9**	**-0.6**
MT02				*i* S		**Sn**	**21 58 50.2**	**-1.2**
MT02					IAML		21 58 54.6	
	comp=N,349nm,0.4s							
LMEL	**Las Melosas**	**2.44**	**198**	*eP*		**Pn**	**21 58 24.7**	**+0.6**
LMEL				*i* S		**Sn**	**21 58 56.0**	**+1.7**
LMEL					IAML		21 59 03.5	
	comp=N,311nm,0.4s							
VA01	**Torpederas**	**2.48**	**232**	*i* S		**Sn**	**21 58 52.2**	**-2.7**
VA01					IAML		21 58 59.5	
	comp=E,507nm,0.2s							
MT09	**Talagante**	**2.65**	**212**	⇑*eP*		**Pn**	**21 58 26.1**	**-0.8**
MT09				*eS*		**Sn**	**21 58 57.6**	**-1.6**
MT09					IAML		21 59 02.2	
	comp=E,474nm,0.2s							
MT01	**Popeta**	**2.85**	**214**	⇑*iP*		**Pn**	**21 58 28.0**	**-1.3**
MT01				*i* S		**Sn**	**21 59 00.9**	**-2.6**
MT01					IAML		21 59 03.1	
	comp=E,303nm,0.2s							
VA05	**Santo Domingo**	**2.88**	**222**	*eP*		**Pn**	**21 58 28.4**	**-1.3**
VA05				*i* S		**Sn**	**21 59 01.8**	**-2.5**
VA05					IAML		21 59 05.3	
	comp=E,594nm,0.2s							
BO01	**Tunca**	**3.23**	**207**	⇑*eP*		**Pn**	**21 58 32.9**	**-1.3**
BO01				*i* S		**Sn**	**21 59 05.8**	**-6.5**
BO01					IAML		21 59 11.3	
	comp=N,141nm,0.3s							
BO02	**Sierra Bellavi**	**3.49**	**200**	⇑*iP*		**Pn**	**21 58 37.2**	**-0.5**
BO02				*i* S		**Sn**	**21 59 17.3**	**-1.3**
BO03	**Pichilemu**	**3.71**	**216**	⇑*eP*		**Pn**	**21 58 37.9**	**-2.7**
GO03	**Copiap**	**3.99**	**348**	*eP*		**Pn**	**21 58 45.3**	**+0.8**
GO03				*i* S		**Sn**	**21 59 28.6**	**-2.1**
LVC	**Limon Verde**	**8.88**	**2**	P		**Pn**	**21 59 49.5**	**-1.2**
	comp=N,0.4nm,0.3s,baz=86,slow=7.1,SNR=1.9							
LVC					S	**Sn**	**22 01 25.7**	**-3.6**
	comp=N,0.5nm,0.3s,baz=260,slow=21,SNR=1.6							
LPAZ	**La Paz**	**15.20**	**4**	P		**P**	**22 01 15.2**	**-0.8**
	comp=N,0.2nm,0.3s,baz=167,slow=7.0,SNR=6.6							
TXAR	**Lajitas Array**	**68.77**	**328**	P		**P**	**22 08 37.9**	**+2.1**
	comp=N,0.2nm,0.6s,baz=148,slow=7.4,SNR=3.0							
MAW	**Mawson**	**74.88**	**163**	P		**P**	**22 09 12.9**	**+1.2**
	comp=N,1.1nm,0.5s,baz=215,slow=17,SNR=1.8							
WRA	**Warramunga Arr**	**124.02**	**207**	PKP		**PKiKP**	**22 16 29.6**	**0.0**
	comp=N,0.6nm,1.0s,baz=153,slow=1.9,SNR=2.1							
KURBB	**Kurchatov Arra**	**149.50**	**42**	PKPbc		**PKiKP**	**22 17 19.9**	**-0.4**
	comp=N,0.7nm,0.3s,baz=270,slow=1.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**150.91**	**32**	PKPbc		**PKiKP**	**22 17 23.2**	**0.0**
	comp=N,1.5nm,0.6s,baz=296,slow=2.7,SNR=6.6							
MKAR	**Makanchi Array**	**153.41**	**47**	PKPbc		**PKiKP**	**22 17 28.6**	**0.0**
	comp=N,0.1nm,0.4s,baz=294,slow=1.4,SNR=1.7							

*IDC **03** 22:15:00.7±2.0,5.°73S×152.°47E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/43,mbtmp3.7/6,ML1.9/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/26,Error ellipse: s-maj=84.6km s-min=24.4km az=127.0*
ISC 03 22:15:06.8±2.0,**5.°8S**±0.°4×**152.°4E**±0.°4,**h40**km,**n7,σ0s92/7, mb3.8/5,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.29**	**235**	Pn		**Pn**	**22 16 37.7**	**+0.6**
	1.6nm,0.3s,baz=73,slow=12,SNR=5.6							
PMG				Sn		**Sn**	**22 17 46.5**	**-1.3**
	5.2nm,0.3s,baz=342,slow=20,SNR=6.4							
WRA	**Warramunga Arr**	**22.48**	**230**	P		**P**	**22 20 03.4**	**+0.5**
	0.3nm,0.5s,baz=56,slow=12,SNR=1.6							
ASAR	**Alice Springs**	**25.13**	**223**	P		**P**	**22 20 28.4**	**+0.1**
	2.4nm,0.9s,baz=51,slow=9.4,SNR=17							
STKA	**Stephens Creek**	**27.82**	**200**	LR		LR	22 32 25.0	
	comp=Z,76nm,18.2s,baz=221,slow=37							
FITZ	**Fitzroy Crossi**	**28.82**	**243**	P		**P**	**22 21 01.5**	**0.0**
	1.3nm,0.4s,baz=58,slow=9.0,SNR=10							
MKAR	**Makanchi Array**	**80.82**	**319**	P		**P**	**22 27 17.0**	**+0.5**
	0.1nm,0.4s,baz=102,slow=6.1,SNR=1.7							

ILAR	**Eielson Array**	**83.25**	**22**	P		**P**	**22 27 27.9**	**-0.9**
	0.8nm,0.7s,baz=257,slow=5.7,SNR=6.4							

*LDG **03** 22:19:03.5±0.5,34.˚78N×2.˚58W,h20km,Ml2.6/4, Error ellipse: s-maj=10.7km s-min=6.0km az=175.0*
*CNRM **03** 22:19:05.0,34.˚89N×2.˚51W,h81km,ml3.1,Hypocentre not reviewed by the ISC*
*MDD **03** 22:19:05.4±1.2,34.˚71N×2.˚55W,h18km±6km,mb3.9/21, Error ellipse: s-maj=10.1km s-min=7.5km az=1.0,PRXIMO*
ISC 03 22:19:07.1±2.0,34°88N±0.08×2°54W±0.05,h29km±13km, n53,σ1°60/80,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.51**	**313**	P		22 19 18.6	
GOG				S		22 19 29.2	
MELI	**Melilla**	**0.53**	**322**	P	**Pb**	**22 19 17.0**	**-0.9**
	97nm,0.2s,SNR=7.9						
MELI				S	**Sn**	**22 19 27.2**	**+0.6**
	382nm,0.3s,SNR=7.9						
MELI	**Melilla**	**0.53**	**322**	*eP*	**Pb**	**22 19 17.2**	**-0.7**
MELI				*eS*	**Sn**	**22 19 27.4**	**+0.7**
EALB	**Alboran**	**1.13**	**339**	P	**Pn**	**22 19 26.6**	**-0.4**
	30nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**22 19 43.7**	**+1.3**
	23nm,0.1s,SNR=7.9						
PALE	**Palemas**	**1.20**	**287**	P		22 19 27.5	
PALE				S		22 19 44.6	
PVLZ	**Peæn de**	**1.48**	**282**	P	**Pn**	**22 19 31.2**	**-0.5**
PVLZ	**Peæn de**	**1.48**	**282**	*eP*	**Pn**	**22 19 31.2**	**-0.5**
TDRA	**Tendrara**	**1.88**	**167**	P		22 19 36.7	
TDRA				S		22 20 00.2	
EBER	**Berja**	**2.04**	**352**	P	**Pn**	**22 19 39.7**	**+0.1**
	3.0nm,0.1s,SNR=21						
EBER				S	**Sn**	**22 20 04.6**	**+0.5**
	18nm,0.4s,SNR=4.7						
ENIJ	**Nijar**	**2.11**	**7**	P	**Pn**	**22 19 39.4**	**-1.0**
	3.0nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**22 20 04.6**	**-1.1**
	14nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**2.17**	**336**	P	**Pn**	**22 19 40.2**	**-1.1**
	3.1nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**22 20 07.4**	**0.0**
	5.1nm,0.1s,SNR=7.9						
LCRM	**LCR**	**2.26**	**239**	P		22 19 40.9	
LCRM				S		22 20 10.9	
EMAL	**Malaga-Limoner**	**2.43**	**321**	P	**Pn**	**22 19 43.5**	**-1.3**
EMAL				S	**Sn**	**22 20 12.6**	**-0.9**
EMAL	**Malaga-Limoner**	**2.43**	**321**	*eP*	**Pn**	**22 19 43.5**	**-1.3**
EMAL				*eS*	**Sn**	**22 20 12.6**	**-0.9**
SMIR	**Smir Dam**	**2.46**	**290**	P		22 19 44.5	
SMIR				S		22 20 14.7	
EMIJ	**Mijas**	**2.48**	**313**	P	**Pn**	**22 19 44.2**	**-1.3**
	1.4nm,0.1s,SNR=12						
EMIJ				S	**Sn**	**22 20 14.8**	**0.0**
	2.7nm,0.3s						
IFR	**Ifrane**	**2.54**	**238**	*eP*	**Pn**	**22 19 45.9**	**-0.6**
IFR				*eS*	**Sn**	**22 20 16.6**	**0.0**
EGOR	**Sierra Gorda,**	**2.57**	**331**	P	**Pn**	**22 19 48.4**	**+1.5**
	0.9nm,0.1s,SNR=7.9						
GORA	**Gorafe**	**2.63**	**351**	P	**Pn**	**22 19 49.2**	**+1.6**
	4.1nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**22 20 20.7**	**+2.1**
	14nm,0.4s,SNR=7.9						
MDT	**Midelt**	**2.68**	**220**	P		22 19 46.5	
MDT				S		22 20 20.4	
MD31	**MD31**	**2.73**	**223**	P		22 19 47.3	
MD31				S		22 20 21.1	
CZD	**Col de Zad**	**2.78**	**229**	P		22 19 48.4	
CZD				S		22 20 23.1	
FIGM	**Figuig**	**2.94**	**158**	P		22 19 50.0	
FIGM				S		22 20 24.6	
EQES	**Quesada**	**2.95**	**352**	P	**Pn**	**22 19 54.0**	**+1.9**
	6.2nm,0.2s,SNR=40						
EQES				S	**Sn**	**22 20 29.3**	**+2.7**
	5.6nm,0.5s						
EMUR	**La Murta**	**3.14**	**19**	P	**Pn**	**22 19 54.3**	**-0.3**
	3.5nm,0.2s,SNR=14						
EMUR				S	**Sn**	**22 20 32.2**	**+1.0**
	3.7nm,0.3s						
SESP	**Santiago Espad**	**3.23**	**360**	P	**Pn**	**22 19 57.6**	**+1.5**
	21nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**22 20 36.1**	**+2.4**
	9.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.67**	**334**	P	**Pn**	**22 20 02.3**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**22 20 45.2**	**+1.0**
	1.9nm,0.4s,SNR=7.9						
ZHG	**ZHG**	**3.69**	**248**	P		22 20 00.5	
ZHG				S		22 20 43.0	
ETOB	**Tobarra**	**3.84**	**12**	P	**Pn**	**22 20 05.1**	**+0.8**
	3.3nm,0.2s,SNR=41						
ETOB				S	**Sn**	**22 20 49.5**	**+0.9**
	1.4nm,0.2s						
ECAB	**El Cabril**	**3.94**	**325**	P	**Pn**	**22 20 06.4**	**+0.7**
	0.0nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**22 20 51.0**	**-0.1**
	0.6nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**4.11**	**22**	P	**Pn**	**22 20 09.2**	**+1.3**
	2.5nm,0.2s,SNR=6.7						
EBEN2	**Beniarda presa**	**4.23**	**26**	P	**Pn**	**22 20 09.6**	**-0.1**
	1.5nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**22 20 57.3**	**-0.8**
	2.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.41**	**312**	P	**Pn**	**22 20 11.6**	**-0.5**
	1.2nm,0.3s,SNR=7.3						
EMIN				S	**Sn**	**22 21 00.2**	**-2.3**
	0.8nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.80**	**305**	P	**Pn**	**22 20 16.2**	**-1.1**
	1.0nm,0.2s,SNR=7.9						
ECHE	**Chera**	**4.87**	**14**	P	**Pn**	**22 20 19.6**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.88**	**343**	P	**Pn**	**22 20 19.7**	**+1.1**
	1.8nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.89**	**303**	P	**Pn**	**22 20 19.0**	**+0.4**
PVAQ				S	**Sn**	**22 21 15.0**	**+0.7**
	2.8nm,0.9s						
PVAQ	**Vaqueiros**	**4.89**	**303**	*e*Pn	**Pn**	**22 20 19.0**	**+0.4**
PVAQ				*e*Sn	**Sn**	**22 21 15.0**	**+0.7**
PVAQ				A	A	22 21 21.9	
	2.8nm,0.9s						
PBAR	**Barrancos**	**4.89**	**314**	P	**Pn**	**22 20 19.6**	**+0.9**
PBAR				S	**Sn**	**22 21 14.7**	**+0.3**
PBAR	**Barrancos**	**4.89**	**314**	*e*Pn	**Pn**	**22 20 19.6**	**+0.9**
PBAR				*e*Sn	**Sn**	**22 21 14.7**	**+0.3**
ESDC	**Sonseca Array**	**4.92**	**347**	P	**Pn**	**22 20 20.7**	**+1.5**
	2.1nm,0.2s,baz=168,slow=12,SNR=19						
EIBI	**Ibiza**	**5.18**	**36**	P	**Pn**	**22 20 22.1**	**-0.5**
	3.5nm,0.2s,SNR=13						
EIBI				S	**Sn**	**22 21 20.1**	**-1.3**
	2.1nm,0.3s						
EBAD	**Badajoz**	**5.28**	**318**	P	**Pn**	**22 20 23.8**	**-0.1**
	1.2nm,0.3s,SNR=5.4						
EBAD				S	**Sn**	**22 21 22.3**	**-1.6**
	1.2nm,0.4s						
EMOS	**Mosqueruela**	**5.72**	**16**	P	**Pn**	**22 20 30.8**	**+0.6**
	0.5nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.80**	**306**	P	**Pn**	**22 20 31.5**	**+0.3**
PNCL	**Nicolau / Gran**	**5.80**	**306**	*e*Pn	**Pn**	**22 20 31.5**	**+0.3**
EPLA	**Plasencia**	**5.89**	**333**	P	**Pn**	**22 20 32.0**	**-0.5**
	1.3nm,0.3s,SNR=6.5						
ETOR	**Torete**	**5.94**	**4**	P	**Pn**	**22 20 34.6**	**+1.4**
	4.0nm,0.3s,SNR=6.4						
PMRV	**Marv??o**	**5.97**	**321**	P	**Pn**	**22 20 34.1**	**+0.6**
PMRV	**Marv??o**	**5.97**	**321**	*e*Pn	**Pn**	**22 20 34.1**	**+0.6**
ERTA	**Horta de San J**	**6.48**	**20**	P	**Pn**	**22 20 41.7**	**+1.2**
	0.3nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**6.48**	**40**	P	**Pn**	**22 20 40.8**	**+0.2**
	0.8nm,0.2s,SNR=7.6						
EPOB	**Poblet**	**7.06**	**23**	P	**Pn**	**22 20 49.9**	**+1.3**
	1.5nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**7.21**	**332**	P	**Pn**	**22 20 50.8**	**+0.3**
	1.7nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**7.91**	**28**	P	**Pn**	**22 21 00.7**	**+0.6**
	1.0nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**8.16**	**10**	P	**Pn**	**22 21 05.5**	**+2.0**
ETSF	**Etsaut**	**8.16**	**10**	*e*P	**Pn**	**22 21 05.5**	**+2.0**
SJPF	**Ste Jean**	**8.29**	**7**	P	**Pn**	**22 21 06.8**	**+1.5**
SJPF				S	Sn	22 22 29.8	-8.1
	0.3nm,0.5s						
SJPF	**Ste Jean**	**8.29**	**7**	*e*P	**Pn**	**22 21 06.8**	**+1.5**
SJPF				*e*Sn	Sn	22 22 29.8	-8.1
	0.7nm,0.5s						
EPF	**Esparros**	**8.44**	**15**	P	**Pn**	**22 21 09.4**	**+1.9**
EPF				S	**Sn**	**22 22 35.2**	**-6.6**
	0.2nm,0.3s						
EPF	**Esparros**	**8.44**	**15**	*e*P	**Pn**	**22 21 09.4**	**+1.9**
EPF				*e*Sn	**Sn**	**22 22 35.2**	**-6.6**
	0.4nm,0.3s						
MTLF	**Montolieu**	**9.22**	**22**	P	**Pn**	**22 21 20.5**	**+2.4**
MTLF				S	Sn	22 22 51.7	-9.1
	0.1nm,0.2s						
MTLF	**Montolieu**	**9.22**	**22**	*e*P	**Pn**	**22 21 20.5**	**+2.4**
MTLF				*e*Sn	Sn	22 22 51.7	-9.1
	0.2nm,0.2s						

*IDC **03** 23:04:48.0±1.0,16.˚87S×69.˚50W,h180km±9km,mb3.8/3, mb1 3.7/6,mb1mx3.4/27,mbtmp4.3/6,Error ellipse: s-maj=20.8km s-min=12.9km az=100.0*
*NEIC **03** 23:04:48.0±2.0,16.˚67S±0.˚08×69.˚5W±0.˚1,h187km±6km, mb4.3/8,Error ellipse: s-maj=15.2km s-min=10.1km az=117.0*
*GUC **03** 23:04:50.2±0.5,16.˚89S×69.˚78W,h207km±4km,ML4.0*
*VAO **03** 23:04:59.1±1.6,16.˚26S×68.˚20W,h164km±8km,mb3.9*
ISC 03 23:04:47.8±0.5,16°74S±0.05×69°54W±0.06,h189km,n60, σ1°44/68,mb4.1/3,1C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.42**	**72**	P	**Pn**	**23 05 21.2**	**+0.7**
	60nm,0.3s,baz=318,slow=5.8,SNR=1324						
LPAZ				S	**Sn**	**23 05 44.6**	**-1.1**
	32nm,0.3s,baz=158,slow=24,SNR=58						
LPAZ				LR	LR	23 06 01.7	
	comp=Z,61nm,18.9s,baz=184,slow=51						
LPAZ	**La Paz**	**1.42**	**72**	*e*P	**Pn**	**23 05 21.2**	**+0.7**
PB16	**IPOC Station P**	**1.58**	**179**		**Pn**	**23 05 24.3**	**+2.3**
MNMC	**Minye Minye**	**2.38**	**181**	*e*P	**Pn**	**23 05 31.4**	**+1.4**
MNMC				IAML		23 06 09.3	
	comp=N,331nm,0.2s						
MNMC	**Minye Minye**	**2.38**	**181**		**Pn**	**23 05 31.3**	**+1.4**
PSGC	**Pisagua**	**2.89**	**191**	*e*P	**Pn**	**23 05 36.0**	**+0.3**
PSGC				*e*S	**Sn**	**23 06 10.7**	**-2.5**
PSGC				IAML		23 06 16.1	
	comp=N,126nm,0.3s						
PSGCX	**Pisagua**	**2.89**	**191**		**Pn**	**23 05 36.0**	**+0.2**
PB11	**IPOC Station P**	**3.00**	**182**	*i*P	**Pn**	**23 05 37.9**	**+0.8**
PB11				*e*S	**Sn**	**23 06 14.7**	**-1.0**
PB11				IAML		23 06 19.0	
	comp=E,223nm,0.3s						
PB11	**IPOC Station P**	**3.00**	**182**		**Pn**	**23 05 38.1**	**+1.0**
PB08	**IPOC Station P**	**3.40**	**174**	*e*P	**Pn**	**23 05 44.0**	**+1.9**
PB08				*i* S	**Sn**	**23 06 24.5**	**-0.2**
PB08	**IPOC Station P**	**3.40**	**174**		**Pn**	**23 05 44.3**	**+2.2**
TA02	**Huaiquique**	**3.55**	**189**	Pn	**Pn**	**23 05 44.6**	**+0.9**
TA01	**Diego Aracena**	**3.85**	**189**	*e*P	**Pn**	**23 05 47.4**	**+0.1**
TA01				*i* S	**Sn**	**23 06 30.4**	**-3.7**
TA01	**Diego Aracena**	**3.85**	**189**	Pn	**Pn**	**23 05 47.3**	**-0.1**
PATCX	**Punta Patache**	**4.10**	**188**	*e*P	**Pn**	**23 05 51.1**	**+0.6**
PATCX				*i* S	**Sn**	**23 06 36.4**	**-3.4**
PATCX	**Punta Patache**	**4.10**	**188**	Pn	**Pn**	**23 05 51.1**	**+0.6**
PB01	**IPOC Station P**	**4.28**	**179**	*e*P	**Pn**	**23 05 53.8**	**+1.0**
PB01				*i* S	**Sn**	**23 06 40.6**	**-3.3**
PB01	**IPOC Station P**	**4.28**	**179**		**Pn**	**23 05 53.8**	**+1.0**
PB07	**IPOC Station P**	**4.97**	**184**		**Pn**	**23 06 02.6**	**+0.9**
PB09	**IPOC Station P**	**5.04**	**177**	Pn	**Pn**	**23 06 04.1**	**+1.5**
PB04	**IPOC Station P**	**5.59**	**186**	Pn	**Pn**	**23 06 10.2**	**+0.5**
LVC	**Limon Verde**	**5.87**	**174**	P	**Pn**	**23 06 12.0**	**-1.5**
	comp=E,1.9nm,0.3s,baz=32,slow=11,SNR=33						
LVC				S	**Sn**	**23 07 18.2**	**-2.9**
	comp=E,2.7nm,0.3s,baz=270,slow=20,SNR=13						
LVC	**Limon Verde**	**5.87**	**174**		**Pn**	**23 06 14.4**	**+0.9**
PB06	**IPOC Station P**	**5.93**	**180**	Pn	**Pn**	**23 06 14.6**	**+0.4**
PB15	**IPOC Station P**	**6.43**	**179**		**Pn**	**23 06 21.2**	**+0.4**
ETMB	**Extrema**	**7.61**	**26**	*e*P	**Pn**	**23 06 34.9**	**-1.1**
SIV	**San Ignacio**	**8.16**	**86**	P	**Pn**	**23 06 41.2**	**-2.1**
	comp=E,3.3nm,0.3s,baz=273,slow=8.6,SNR=60						
GO02	**Mina Guanaco**	**8.38**	**180**	Pn	**Pn**	**23 06 46.2**	**-0.1**
NNA	**Nana**	**8.51**	**303**	P	**Pn**	**23 06 47.7**	**-0.2**
	comp=E,4.3nm,0.3s,baz=137,slow=12,SNR=6.3						
NNA				S	**Sn**	**23 08 21.8**	**-1.6**
	comp=E,3.0nm,0.3s,baz=216,slow=17,SNR=2.4						
NNA	**Nana**	**8.51**	**303**	Pn	**Pn**	**23 06 47.8**	**-0.1**
AC01	**Pan de Azucar**	**9.41**	**186**	Pn	**Pn**	**23 06 58.5**	**-1.1**
SAML	**Samuel**	**9.92**	**39**	Pn	**Pn**	**23 07 03.7**	**-2.5**
AC02	**Maricunga**	**10.05**	**178**	Pn	**Pn**	**23 07 08.2**	**-0.1**
CO03	**El Pedregal**	**14.07**	**184**		**P**	**23 08 01.9**	**+0.7**
ITQB	**Itaqui**	**17.49**	**140**		**P**	**23 08 40.1**	**+1.3**
ITQB				IAmb	IAmb	23 09 06.3	
	comp=Z,14nm,1.3s						
PCMB	**Pacaembu**	**17.93**	**109**	*e*P	**P**	**23 08 44.8**	**+1.1**
ITTB	**Itaituba**	**18.29**	**49**	*e*P	**P**	**23 08 47.5**	**-0.2**
SNDB	**Serra Nova Dou**	**18.29**	**77**	*e*P	**P**	**23 08 46.3**	**-1.4**
ITRB	**Iturama**	**18.45**	**102**	*e*P	**Pn**	**23 08 51.1**	**-0.7**
ITAB	**Concordia**	**19.20**	**126**	P	**Pn**	**23 08 59.6**	**-0.9**
ITAB				IAmb	IAmb	23 09 16.1	
	comp=Z,20nm,1.4s						
CPSB	**Cacapava Do Su**	**20.03**	**136**	*e*P	Pn	23 09 13.9	+3.4
IPMB	**Ipameri, GO**	**20.39**	**97**	*e*P	**P**	**23 09 09.5**	**-0.8**
BDFB	**Brasilia**	**20.70**	**90**	P	**P**	**23 09 13.4**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=257,slow=12,SNR=4.9						
BDFB	**Brasilia**	**20.70**	**90**	P	**P**	**23 09 13.5**	**-0.2**
PLTB	**Pedras Altas**	**20.81**	**139**	P	**P**	**23 09 14.2**	**-0.4**
PLTB				IAmb	IAmb	23 09 42.4	
	comp=Z,18nm,1.3s						
PEXB	**Peixe**	**21.07**	**80**	*e*P	**P**	**23 09 15.8**	**-1.7**
MALB	**Monte Alegre**	**21.09**	**47**	*e*P	**P**	**23 09 17.1**	**-0.6**
ROSC	**El Rosal**	**21.96**	**347**	P	**P**	**23 09 29.0**	**+1.9**
	comp=Z,13nm,0.5s,baz=102,slow=19,SNR=2.7						
SMTB	**Santa Maria do**	**22.77**	**73**	*e*P	**P**	**23 09 33.8**	**-0.5**
PLCA	**Paso Flores**	**23.92**	**182**	P	**P**	**23 09 44.2**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=351,slow=12,SNR=5.9						
PLCA	**Paso Flores**	**23.92**	**182**	P	**P**	**23 09 47.3**	**+2.8**
SNAA	**Sanae**	**66.95**	**162**	P	**P**	**23 15 21.4**	**+1.7**
SNAA				IAmb	IAmb	23 15 26.0	
	comp=Z,5.9nm,1.5s						
DBIC	**Dimbokro**	**68.04**	**76**	P	**P**	**23 15 27.1**	**-0.3**
QSPA	**South Pole Qui**	**73.42**	**180**	P	**P**	**23 16 01.5**	**+2.4**
ASAR	**Alice Springs**	**133.77**	**210**	PKP	**PKPdf**	**23 23 43.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=123,slow=2.0,SNR=4.5						
ASAR	**Alice Springs**	**133.77**	**210**	PKPdf	**PKiKP**	**23 23 44.6**	**+0.4**
WRA	**Warramunga Arr**	**136.65**	**214**	PKP	**PKPdf**	**23 23 49.3**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=145,slow=1.8,SNR=5.6						
SONM	**Songino Array**	**148.81**	**5**	PKPbc	**PKiKP**	**23 24 15.4**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=327,slow=2.9,SNR=6.6						
SONM	**Songino Array**	**148.81**	**5**		**PKiKP**	**23 24 14.7**	**+0.2**
LZH	**Lanzhou**	**159.85**	**16**	*e*PKP	**PKPdf**	**23 24 23.6**	**-1.1**

*NEIC **03** 23:55:35.2±1.5,21.˚00S×178.˚4W±0.˚1,h583km±8km, mb4.2/16,Error ellipse: s-maj=24.1km s-min=12.0km az=140.0*
*IDC **03** 23:55:35.8±2.1,21.˚00S×178.˚51W,h587km±21km,mb3.2/6, mb1 3.5/8,mb1mx3.2/20,mbtmp4.2/8,Error ellipse: s-maj=37.1km s-min=20.7km az=138.0*
ISC 03 23:55:35.2±0.7,21°0S±0.1×178°5W±0.1,h579km,n36, σ0°81/35,mb4.1/12,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.54**	**314**	P	**P**	**23 57 04.5**	**+1.1**
	4.1nm,0.3s,baz=188,slow=1.0,SNR=12						
URZ	**Urewera**	**17.66**	**191**	P	**P**	**23 59 08.0**	**-0.4**
	1.5nm,0.3s,baz=300,slow=23,SNR=1.8						
URZ	**Urewera**	**17.66**	**191**	P	**P**	**23 59 07.4**	**-1.0**
BKZ	**Black Stump Fm**	**18.65**	**192**	P	**P**	**23 59 16.2**	**-1.3**
BKZ				IAmb	IAmb	23 59 17.3	
	comp=Z,11nm,1.1s						
QRZ	**Quartz Range**	**21.22**	**199**	P	**P**	**23 59 41.2**	**+0.5**
THZ	**Tophouse**	**21.97**	**197**	P	**P**	**23 59 47.5**	**0.0**
CTAO	**Charters Tower**	**32.95**	**265**	P	**P**	**00 01 23.5**	**+0.1**
CTAO				IAmb	IAmb	00 01 34.0	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**37.14**	**245**	P	**P**	**00 01 58.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=97,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**37.14**	**245**	P	**P**	**00 01 57.8**	**-0.2**
BBOO	**Buckleboo**	**41.90**	**244**	P	**P**	**00 02 35.9**	**-0.1**
BBOO				IAmb	IAmb	00 02 51.2	
	comp=Z,27nm,1.3s						
AS31	**Alice Springs**	**43.93**	**257**	P	**P**	**00 02 51.8**	**-0.3**
ASAR	**Alice Springs**	**43.93**	**257**	P	**P**	**00 02 52.0**	**0.0**
	comp=Z,3.3nm,0.5s,baz=95,slow=7.8,SNR=45						
ASAR				PcP	**PcP**	**00 04 24.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=105,slow=3.9,SNR=5.0						
ASAR	**Alice Springs**	**43.93**	**257**	P	**P**	**00 02 51.6**	**-0.4**
FORT	**Forrest**	**48.66**	**247**	P	**P**	**00 03 27.1**	**-0.4**
KNRA	**Kununurra**	**50.13**	**267**	P	**P**	**00 03 38.3**	**-0.3**
KNRA				IAmb	IAmb	00 03 50.9	
	comp=Z,8.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.47**	**263**	P	**P**	**00 03 55.6**	**+0.1**
PSA00	**Pilbara Seismi**	**57.08**	**257**	P	**P**	**00 04 26.6**	**-1.0**
MORW	**Morawa**	**59.20**	**248**	P	**P**	**00 04 41.5**	**-0.3**
MORW				IAmb	IAmb	00 04 56.4	
	comp=Z,21nm,1.4s						
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**00 05 45.4**	**+1.4**
SDPT	**Sand Point**	**77.54**	**10**	P	**P**	**00 06 30.9**	**-0.8**
NVAR	**Mina Aray Bea**	**81.69**	**44**	P	**P**	**00 06 54.5**	**+0.3**
K05A	**Summer Lake**	**82.63**	**39**	P	**P**	**00 06 57.1**	**-1.7**
K05A				IAmb	IAmb	00 07 01.0	
	comp=Z,7.6nm,1.2s						
TRF	**Thorofare Moun**	**86.99**	**12**	P	**P**	**00 07 18.9**	**-0.5**
TRF				IAmb	IAmb	00 07 19.7	
	comp=Z,2.6nm,0.8s						
TXAR	**Lajitas Array**	**87.72**	**58**	P	**P**	**00 07 25.1**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=216,slow=6.2,SNR=4.4						
IMAR	**Indian Mountai**	**88.68**	**10**	P	**P**	**00 07 27.1**	**0.0**
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**	**00 07 27.2**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=214,slow=5.2,SNR=4.4						
PDAR	**Pinedale Array**	**89.63**	**43**	P	**P**	**00 07 32.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=275,slow=4.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**00 07 34.9**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=125,slow=3.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P	**P**	**00 07 34.4**	**+1.1**
AKASG	**Malin Array Be**	**143.16**	**330**	PKP	PKPab	00 14 01.2	-0.6
	comp=Z,1.9nm,0.4s,baz=43,slow=4.3,SNR=12						
AKASG	**Malin Array Be**	**143.16**	**330**		PKPab	00 14 00.9	-0.9
BR131	**Keskin Array S**	**146.77**	**311**		**PKPbc**	**00 14 12.9**	**-0.5**
BRTR	**Keskin Array B**	**146.77**	**311**	PKPbc	**PKPbc**	**00 14 13.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=142,slow=5.2,SNR=7.0						
BRTR	**Keskin Array B**	**146.77**	**311**		**PKPbc**	**00 14 12.8**	**-0.6**
KHC	**Kasperske Hory**	**150.26**	**344**	*e*PKP	**PKPbc**	**00 14 21.0**	**-0.6**
GERES	**GERESS Array B**	**150.49**	**343**	PKPbc	**PKPbc**	**00 14 21.3**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=57,slow=4.9,SNR=5.2						

IDC 04 00:18:51.0±1.9,8.˚46S×147.˚75E,h120km±18km,mb3.4/4, mb1 3.7/4,mb1mx3.3/27,mbtmp3.8/4,Error ellipse: s-maj=89.3km s-min=28.7km az=130.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.11**	**212**	P	Pn	00 19 14.6	+0.6
	180nm,0.3s,baz=55,slow=12,SNR=136						
PMG				S	Sn	00 19 31.7	+0.1
	86nm,0.3s,baz=118,slow=16,SNR=7.3						
ASAR	**Alice Springs**	**20.11**	**220**	P	P	00 23 16.2	+0.7
	1.3nm,0.6s,baz=46,slow=10,SNR=23						
FITZ	**Fitzroy Crossi**	**23.53**	**244**	P	P	00 23 50.0	-0.5
	4.2nm,0.4s,baz=57,slow=9.4,SNR=38						
MKAR	**Makanchi Array**	**79.86**	**321**	P	P	00 30 47.0	+0.6
	0.2nm,0.7s,baz=95,slow=4.8,SNR=1.6						
ILAR	**Eielson Array**	**87.44**	**23**	P	P	00 31 24.0	-0.6
	0.8nm,0.8s,baz=246,slow=4.6,SNR=4.7						

KRSC 04 01:44:45.0±2.3,49.˚59N×158.˚68E,h49km±42km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.22**	**328**	*e*S	Sn	01 45 48.6	+3.1
KDTR	**Khodutka, Kamc**	**2.25**	**350**	*e*P	Pn	01 45 21.9	+2.2
KDTR				*e*S	Sn	01 45 49.0	+2.8
ALID	**Alaid**	**2.38**	**304**	*e*P	Pn	01 45 22.2	+0.6
ASAK	**Asacha**	**2.84**	**350**	*e*P	Pn	01 45 31.1	+3.3
ASAK				*e*S	Sn	01 46 06.0	+5.2
RUS	**Russkaya**	**2.85**	**358**	*e*P	Pn	01 45 31.4	+3.6
RUS				*e*S	Sn	01 46 04.9	+4.1
MTVR	**Mutnovka**	**2.91**	**354

MRSI Marisa 8.02 310 P **Pn** **02 36 17.2 +1.8**
0.4nm2µm1µm90nm,1.0s
KAPI Kappang 8.32 268 Pn **Pn** **02 36 21.8 +2.2**
2.1nm,0.3s,baz=98,slow=11,SNR=5.6
KAPI LR LR 02 39 32.2
comp=Z,5µm,21.3s,baz=94,slow=38
KAPI Kappang 8.32 268 Pn **Pn** **02 36 20.5 +0.9**
SPSI Sidrap Palu 8.34 275 P **Pn** **02 36 23.3 +3.5**
960nm49nm,0.5s
TTSI Tana Toraja 8.42 281 P Pn 02 36 40.3 +19
MTN Manton Dam 8.63 160 Pn **Pn** **02 36 24.1 +0.3**
SGSI Sangihe 8.72 343 P **Pn** **02 36 24.1 -1.0**
108nm,0.5s
BAKI Biak 8.73 67 P **Pn** **02 36 22.2 -3.0**
1µm130nm,0.7s
TOLI2 Tolitoli 9.31 308 **Pn** **02 36 34.4 +1.2**
KNRA Kununurra 10.93 177 Pn **Pn** **02 36 53.8 -1.5**
GENI Genyem 12.23 81 P **P** **02 37 25.4 +0.3**
FITZ Fitzroy Crossi 13.53 190 Pn **Pn** **02 37 27.9 -3.0**
0.9nm,0.3s,baz=32,slow=10,SNR=17
FITZ Sn **Sn** **02 39 55.0 -5.0**
0.5nm,0.3s,baz=114,slow=20,SNR=1.5
FITZ LR LR 02 43 15.8
comp=Z,2µm,18.6s,baz=14,slow=39
FITZ Fitzroy Crossi 13.53 190 Pn **Pn** **02 37 28.6 -2.3**
WRAB Tennant Creek 16.32 159 Pn **Pn** **02 38 07.0 -1.0**
STKI Sintang 17.26 285 P **P** **02 38 21.4 +0.3**
PSA00 Pilbara Seismi 18.58 205 P **P** **02 38 33.6 -1.9**
KPJI Karang Pucung 19.24 261 P **Pn** **02 38 44.8 +0.8**
71nm,0.8s
MANU Manus Island 19.42 83 P **Pn** **02 38 47.1 +0.9**
MANU IAmb IAmb 02 39 05.8
comp=Z,39nm,1.0s
PMG Port Moresby 19.48 105 P **Pn** **02 38 49.0 +2.0**
comp=Z,1.4nm,0.3s,baz=319,slow=7.0,SNR=5.8
PMG LR LR 02 49 03.2
comp=Z,1µm,18.4s,baz=274,slow=45
AS31 Alice Springs 19.67 164 P **P** **02 38 48.7 +1.2**
AS31 IAmb IAmb 02 38 51.4
comp=Z,20nm,0.5s
ASAR Alice Springs 19.67 164 P **P** **02 38 48.6 +1.1**
comp=Z,7.1nm,0.3s,baz=344,slow=11,SNR=166
ASAR LR LR 02 46 49.4
comp=Z,460nm,21.5s,baz=348,slow=38
ASAR Alice Springs 19.67 164 Pn **P** **02 38 48.9 +1.4**
CISI Cisompet, Garu 20.36 261 P **P** **02 38 55.0 -0.2**
CISI Cisompet, Garu 20.36 261 P Pn 02 38 57.1 -0.3
comp=Z,2µmcomp=Z,91nm,1.2s
LEM Lembang 20.48 263 P **P** **02 38 57.6 +1.1**
comp=Z,79nm,1.1s,baz=86,slow=11,SNR=10
LEM LR LR 02 47 44.9
comp=Z,2µm,19.6s,baz=76,slow=40
TPI Tanjungpandan 20.49 275 P **P** **02 38 57.9 +1.4**
comp=Z,574nmcomp=Z,38nm,1.3s
CBJI Citeko 21.21 264 P **P** **02 39 04.5 +0.2**
comp=Z,213nm,1.0s
CTA Charters Tower 23.37 132 P **P** **02 39 29.4 +2.3**
comp=Z,5.7nm,0.8s,baz=319,slow=14,SNR=5.5
CTAO Charters Tower 23.37 132 P **P** **02 39 28.4 +1.4**
CTAO IAmb IAmb 02 39 43.1
comp=Z,26nm,1.1s
MDSI Maura Dua 23.84 270 P **P** **02 39 30.6 -1.0**
comp=Z,553nmcomp=Z,13nm,1.3s
DSRI Dabo 23.86 279 P **P** **02 39 34.3 +2.5**
comp=Z,22nm,1.0s
GUMO Guam 24.65 42 LR LR 02 48 56.1
comp=Z,377nm,19.6s,baz=211,slow=36
FORT Forrest 25.94 180 P **P** **02 39 51.9 +1.4**
FORT IAmb IAmb 02 40 07.8
comp=Z,24nm,0.7s
QIZ Qiongzhong 29.65 323 P **P** **02 40 24.6 +0.7**
QIZ S **S** **02 45 17.4 0.0**
QIZ L L
comp=Z,730nm,29.8s
QIZ L L
comp=Z,570nm,21.8s
QIZ L L
comp=Z,250nm,29.4s
STKA Stephens Creek 29.85 156 P P 02 40 32.5 +7.0
comp=Z,2.9nm,0.6s,baz=3.1,slow=8.8,SNR=4.3
STKA LR LR 02 53 23.8
comp=Z,1µm,19.0s,baz=324,slow=38
RPSI Rantau Prapat 30.06 284 P **P** **02 40 26.6 -1.0**
PSI Prapat 30.09 284 P **P** **02 40 26.6 -1.4**
comp=Z,4.5nm,0.4s,baz=0.1,slow=24,SNR=4.9
PSI LR LR 02 54 59.8
comp=Z,739nm,18.7s,baz=90,slow=42
CM36 Chiang Mai Arr 36.73 310 P **P** **02 41 27.0 +1.4**
CM04 Chiang Mai Arr 36.75 309 P **P** **02 41 27.1 +1.3**
comp=Z,96nmcomp=Z,13nm,0.9s
CM09 Chiang Mai Arr 36.77 310 P **P** **02 41 29.8 +3.8**
comp=Z,11nm,0.9s
CM01 Chiang Mai Arr 36.78 309 P **P** **02 41 27.9 +1.8**
comp=Z,108nmcomp=Z,13nm,0.8s
CM05 Chiang Mai Arr 36.78 309 P **P** **02 41 27.3 +1.3**
comp=Z,83nmcomp=Z,11nm,0.9s
CM02 Chiang Mai Arr 36.80 309 P **P** **02 41 29.0 +2.8**
comp=Z,96nmcomp=Z,11nm,0.8s
CMAR Chiang Mai Arr 36.81 310 P **P** **02 41 27.2 +0.9**
comp=Z,2.2nm,0.3s,baz=137,slow=7.3,SNR=21
CM13 Chiang Mai Arr 36.82 309 P **P** **02 41 28.1 +1.8**
comp=Z,85nmcomp=Z,12nm,0.9s
CM34 Chiang Mai Arr 36.89 310 P **P** **02 41 27.0 +0.1**
CM32 Chiang Mai Arr 37.00 310 P P 02 41 35.0 +7.1
CMMT Chiang Mai 37.02 310 P **P** **02 41 28.1 0.0**
comp=Z,305nmcomp=Z,12nm,1.0s
CHTO Chiang Mai 37.02 310 P **P** **02 41 27.3 -0.8**
CHTO IAmb IAmb 02 41 42.0
comp=Z,18nm,1.0s
CM33 Chiang Mai Arr 37.02 310 P **P** **02 41 28.0 -0.1**
GYA Guiyang 37.29 327 *e*P **P** **02 41 31.5 +1.1**
GYA pP pwP 02 41 49.8 +4.7
GYA S **S** **02 47 11.1 -4.7**
GYA pmax pmax
comp=Z,1.0nm,1.0s
GYA pmax pmax
comp=Z,15nm,3.5s
GYA L L
comp=Z,46nm,16.2s
WHN Wuhan 37.43 340 P P 02 41 45.0 +14
KMI Kunming 38.55 321 ⇑P **P** **02 41 43.4 +2.2**
KMI pP pwP 02 42 00.9 +5.7
KMI pmax pmax
comp=Z,12nm,1.3s
DZM Mont Dzumac 40.93 119 *e*LR LR 02 53 25.5
comp=Z,687nm,32.0s
KSAR Wonju Array Be 41.93 360 P **P** **02 42 08.7 0.0**
KSRS Korea Array 41.94 360 P **P** **02 42 09.1 +0.3**
comp=Z,2.3nm,0.8s,baz=169,slow=9.2,SNR=9.9
KSRS LR LR 02 58 53.3
comp=Z,154nm,21.5s,baz=90,slow=35
MJAR Matsushiro Arr 42.11 12 P **P** **02 42 09.2 -1.0**
comp=Z,6.0nm,1.0s,baz=183,slow=9.7,SNR=6.5
MJAR LR LR 02 58 05.2
comp=Z,285nm,21.8s,baz=205,slow=34
MJAR Matsushiro Arr 42.11 12 P **P** **02 42 09.8 -0.4**
MAT Matsushiro 42.11 12 P **P** **02 42 08.9 -1.3**
CD2 Chengdu 42.36 328 *e*P **P** **02 42 13.1 +0.7**
CD2 S **S** **02 48 32.0 +0.4**
CD2 pmax pmax
comp=Z,120nm,7.8s
CD2 L L
comp=Z,290nm,13.6s
CD2 L L
comp=Z,360nm,20.4s
CD2 L L
comp=Z,380nm,18.4s
XAN Xi'an 42.58 336 P **P** **02 42 13.3 -0.8**
XAN pP pwP 02 42 31.1 +2.3
XAN S **S** **02 48 29.1 -5.5**
XAN SS **SS** **02 51 37.7 -7.8**
XAN ScS **ScS** **02 52 09.2 -4.0**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN pmax pmax
comp=Z,170nm,8.2s
XAN L L
comp=Z,240nm,19.6s
XAN L L
comp=Z,290nm,18.4s
XAN L L
comp=Z,390nm,19.5s
BJI Beijing 45.85 347 P **P** **02 42 41.3 +1.1**
BJI S **S** **02 49 29.2 +7.2**
BJI pmax pmax
comp=Z,7.0nm,1.1s
BJI L L
comp=Z,140nm,15.5s
BJI L L
comp=Z,150nm,12.9s
BJI L L
comp=Z,110nm,27.4s
HHC Hu-ho-hao-te 47.80 343 *e*P **P** **02 42 58.6 +3.1**
USRK Ussuriysk Ar. 48.80 4 P **P** **02 43 03.4 +0.3**
comp=Z,3.8nm,0.6s,baz=182,slow=6.8,SNR=12
USRK LR LR 03 02 43.9
comp=Z,200nm,21.1s,baz=168,slow=35
MDJ Mudanjiang 49.11 1 P **P** **02 43 07.8 +2.4**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,140nm,3.6s
GTA Gaotai 51.06 332 ⇑P P 02 43 30.2 +10
GTA pP pwP 02 43 46.6 +11
GTA sP sP 02 43 54.7 +21
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,43nm,6.9s
GTA L L
comp=Z,190nm,22.5s
GTA L L
comp=Z,300nm,20.4s
GTA L L
comp=Z,300nm,22.9s
HYB Hyderabad 53.61 296 *i* P **P** **02 43 39.0 -0.7**
KLR Kul'dur 53.81 3 P **P** **02 43 40.6 +0.1**
comp=Z,1.3nm,0.7s,baz=201,slow=8.0,SNR=2.4
ULN Ulaanbaatar 55.52 343 P **P** **02 43 53.6 +0.5**
ULN IAmb IAmb 02 44 12.9
comp=Z,10nm,0.9s
SONM Songino Array 55.69 342 P **P** **02 43 54.8 +0.4**
comp=Z,0.6nm,0.4s,baz=160,slow=9.0,SNR=6.0
SONM Songino Array 55.69 342 P **P** **02 43 55.4 +1.1**
WMQ Urumqi 60.45 327 *e*P **P** **02 44 30.5 +2.8**
WMQ L L
comp=Z,630nm,19.7s
PETK Petropavlovsk- 62.78 20 P **P** **02 44 44.1 +1.0**
comp=Z,6.1nm,0.9s,baz=190,slow=5.3,SNR=6.4
PETK LR LR 03 08 06.1
comp=Z,95nm,21.1s,baz=194,slow=32
KSH Kashi 65.06 318 P P 02 45 03.6 +5.0
KSH S **S** **02 53 38.4 -0.3**
KSH pmax pmax
comp=Z,7.0nm,2.9s
KSH pmax pmax
comp=Z,130nm,4.5s
KSH L L
comp=Z,240nm,9.0s
KSH L L
comp=Z,190nm,7.6s
KSH L L
comp=Z,260nm,10.2s
MKAR Makanchi Array 65.28 327 P **P** **02 44 59.6 -0.1**
comp=Z,3.7nm,0.7s,baz=119,slow=8.6,SNR=15
KDJ Kajisay 65.61 321 P **P** **02 45 02.2 0.0**
YAK Yakutsk 66.55 1 P **P** **02 45 07.5 0.0**
comp=Z,16nm,0.4s,baz=169,slow=2.5,SNR=5.0
YAK Yakutsk 66.55 1 P **P** **02 45 07.8 +0.3**
BOOM Boomskoye usch 66.58 320 P **P** **02 45 08.7 +0.3**
BOOM IAmb IAmb 02 45 28.4
comp=Z,8.8nm,1.1s
AAK Ala-Archa 67.58 320 P **P** **02 45 15.2 +0.5**
AAK IAmb IAmb 02 45 35.0
comp=Z,5.6nm,0.9s
ZALV Zalesovo Beam 68.70 334 P **P** **02 45 22.0 +0.8**
comp=Z,3.5nm,0.7s,baz=112,slow=4.3,SNR=11
ZALV LR LR 03 17 16.7
comp=Z,70nm,21.9s,baz=134,slow=38
ZALV Zalesovo Beam 68.70 334 P **P** **02 45 20.8 -0.4**
KURBB Kurchatov Arra 69.58 329 P **P** **02 45 26.4 -0.4**
comp=Z,2.1nm,0.6s,baz=129,slow=5.4,SNR=22
KURK Kurchatov 69.58 329 P **P** **02 45 26.4 -0.4**
KK31 Karatay Array 70.38 319 P **P** **02 45 31.7 -0.2**
KKAR Karatay Array 70.38 319 P **P** **02 45 31.2 -0.7**
HRA Herat 73.06 308 P **P** **02 45 48.5 0.0**
VNDA Vanda 74.94 173 LR LR 03 19 25.1
comp=Z,208nm,18.0s,baz=352,slow=36
BVAR Borovoye Array 75.12 328 P **P** **02 45 59.2 -0.7**
comp=Z,0.7nm,0.7s,baz=220,slow=16,SNR=6.4
TIXI Tiksi 76.21 0 P **P** **02 46 06.1 +0.4**
comp=Z,1.6nm,0.3s,baz=103,slow=1.4,SNR=5.5
TIXI LR LR 03 20 46.8
comp=Z,188nm,19.6s,baz=178,slow=37
MAW Mawson 76.39 201 LR LR 03 15 37.5
comp=Z,240nm,21.8s,baz=60,slow=32
GEYT Alibeck 77.29 310 P **P** **02 46 11.9 -0.6**
comp=Z,1.4nm,0.5s,baz=64,slow=6.6,SNR=3.9
GEYT LR LR 03 26 20.6
comp=Z,109nm,20.9s,baz=210,slow=40
GEYT Alibeck 77.29 310 P **P** **02 46 12.7 +0.1**
NRIK Noril'sk 78.89 346 P **P** **02 46 22.4 +1.8**
comp=Z,4.1nm,0.6s,baz=144,slow=2.6,SNR=6.8
NRIK LR LR 03 25 48.8
comp=Z,124nm,18.6s,baz=149,slow=39
NRIK Noril'sk 78.89 346 P **P** **02 46 21.7 +1.0**
NRIK IAmb IAmb 02 46 37.2
comp=Z,16nm,1.1s
ABKAR Akbulak array 79.54 322 P **P** **02 46 24.1 -0.6**
AKTO Aktyubinsk 81.11 323 P **P** **02 46 32.8 -0.3**
comp=Z,4.9nm,0.7s,baz=109,slow=7.7,SNR=10
TBI Tubuai 81.22 113 *e*LR LR 03 12 09.4
comp=Z,212nm,29.2s
PPT2 Papeete2 81.29 107 *e*LR LR 03 12 00.0
comp=Z,556nm,37.5s
PPT Papeete 81.29 107 LR LR 03 20 22.4
comp=Z,73nm,20.0s,baz=285,slow=34
ARU Arti 82.77 328 P **P** **02 46 40.9 -0.7**
comp=Z,1.0nm,0.5s,baz=41,slow=2.9,SNR=5.6
ARU Arti 82.77 328 P **P** **02 46 41.3 -0.3**
ARU IAmb IAmb 02 46 53.6
comp=Z,13nm,1.0s
SDPT Sand Point 83.43 33 P **P** **02 46 45.9 +0.8**
RAYN Ar Rayn 85.09 294 P **P** **02 46 54.3 0.0**
RAYN IAmb IAmb 02 47 04.5
comp=Z,9.0nm,1.1s
SYO Syowa Base 85.10 201 ⇓*e*P **P** **02 46 52.8 -0.6**
TTA Tatalina 87.78 26 P **P** **02 47 07.3 +0.7**
TTA IAmb IAmb 02 47 16.7
comp=Z,4.3nm,0.8s
KDAK Kodiak Island 88.27 32 LR LR 03 28 24.8
comp=Z,54nm,18.4s,baz=272,slow=37
KBZ Khabaz 89.75 314 LR LR 03 33 37.2
comp=Z,45nm,20.6s,baz=84,slow=40
MLY Manley 90.50 25 P **P** **02 47 20.4 +1.0**
KMBO Kilima Mbogo 90.75 269 LR LR 03 24 43.4
comp=Z,247nm,19.8s,baz=80,slow=33
CCB Clear Creek Bu 91.69 25 P **P** **02 47 24.6 -0.2**
CCB IAmb IAmb 02 47 35.4
comp=Z,3.9nm,0.9s
ILAR Eielson Array 92.09 25 P **P** **02 47 26.2 -0.5**
comp=Z,0.6nm,0.8s,baz=282,slow=4.5,SNR=5.1
ILAR Eielson Array 92.09 25 P **P** **02 47 27.1 +0.4**
BMAR Burnt Mountain 93.28 23 P **P** **02 47 32.9 +0.7**
K27K Chicken 94.12 26 P **P** **02 47 36.9 +0.8**
L27K Beaver Creek, 94.19 27 P **P** **02 47 36.7 +0.2**
L27K IAmb IAmb 02 47 48.9
comp=Z,4.4nm,0.9s
BCAR Beaver Creek A 94.21 27 P **P** **02 47 37.4 +0.8**
DAWY Dawson 95.30 26 P **P** **02 47 41.9 +0.4**
BRTR Keskin Array B 96.41 309 LR LR 03 37 58.0
comp=Z,65nm,21.0s,baz=112,slow=40
ARCES ARCESS Array B 98.78 340 P **P** **02 47 56.3 -0.8**
comp=Z,2.7nm,0.9s,baz=78,slow=8.4,SNR=4.2
ARCES LR LR 03 37 17.4
comp=Z,103nm,21.8s,baz=40,slow=38
BOSA Boshof 98.97 240 LR LR 03 27 23.9
comp=Z,75nm,19.1s,baz=120,slow=32
AKASG Malin Array Be 99.24 320 LR LR 03 38 05.9
comp=Z,32nm,19.3s,baz=245,slow=39
FINES FINESS Array B 99.86 332 LR LR 03 37 18.3
comp=Z,49nm,20.3s,baz=88,slow=38
KOLS Kolonicke sedl 103.91 319 *e*PDIFF **Pdif** **02 48 19.0 -1.4**
CPUP Villa Florida 148.71 171 PKPbc **PKiKP** **02 54 07.7 +0.4**
comp=Z,1.4nm,0.6s,baz=196,slow=6.6,SNR=4.7
LPAZ La Paz 153.68 143 PKPbc **PKiKP** **02 54 21.5 +3.0**
comp=Z,0.3nm,0.4s,baz=42,slow=11,SNR=3.6
LPAZ PKPab **sPKPbc** **02 54 32.7 +1.0**
comp=Z,2.5nm,0.8s,baz=194,slow=4.8,SNR=8.6
LPAZ La Paz 153.68 143 **PKPbc** **02 54 17.1 -1.4**

*IDC **04** 03:04:21.6±2.7,9.°80S×118.°90E,h0km,mb3.9/3, mb1 3.9/4,mb1mx3.6/27,mbtmp3.9/4,ML3.6/1 Error ellipse: s-maj=196.8km s-min=30.3km az=55.0*
*DJA **04** 03:04:28.6±1.2,10.°S±12.°×11.°9E±.°,h10km±10km,M3.8/6, MLv3.8/6*
ISC 04 03:04:23.6±1.2,**9.°9S**±0.°1×**118.°85E**±0.°07,**h10**km,**n13**, σ1§**66**/**11**,**mb4.1**/**3**,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.61**	**61**	P	**Pn**	**03 04 39.0**	**+0.6**
WBSI				S	**Sn**	**03 04 46.6**	**-1.8**
PLAI	**Plampang**	**1.53**	**316**	P	**Pg**	**03 04 54.3**	**+1.3**
PLAI				S	**Sg**	**03 05 15.2**	**+2.3**
BASI	**Baing, Sumba**	**1.73**	**99**	P	**Pg**	**03 04 58.8**	**+2.0**
TWSI	**Taliwang, Sumb**	**2.28**	**302**	P	**Pb**	**03 05 04.3**	**-0.5**
TWSI				S	**Sb**	**03 05 33.2**	**+0.1**
BNSI	**Bone**	**5.64**	**13**	P	Pb	03 05 55.4	-6.9
SPSI	**Sidrap Palu**	**6.01**	**9**	P	Pb	03 05 59.7	-8.8
ASAR	**Alice Springs**	**19.82**	**135**	P	**P**	**03 08 54.8**	**+0.2**
	0.2nm,0.3s,baz=316,slow=11,SNR=16						
H08S2	**Diego Garcia H**	**45.84**	**269**	T	T	04 02 02.3	
	baz=96,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**45.85**	**269**	T	T	04 02 03.3	
	baz=96,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**45.86**	**269**	T	T	04 02 03.5	
	baz=96,slow=75,SNR=20						
SONM	**Songino Array**	**58.57**	**350**	P	**P**	**03 14 20.1**	**-0.5**
	0.6nm,0.5s,baz=152,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**65.22**	**333**	P	**P**	**03 15 04.5**	**-0.8**
	0.8nm,0.6s,baz=151,slow=7.5,SNR=9.3						
ZALV	**Zalesovo Beam**	**69.86**	**339**	P	**P**	**03 15 32.0**	**-2.4**
	1.2nm,0.5s,baz=133,slow=6.1,SNR=2.2						

*PGC **04** 03:11:19.1±1.8,49.°10N×129.°74W,h10km,MLSn2.9/27, Mw3.5/27,243km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **04** 03:11:21.1±2.6,49.°19N×129.°41W,h0km,mb3.5/2, mb1 3.7/8,mb1mx3.5/40,mbtmp3.4/8,ML3.1/6,Error ellipse: s-maj=40.8km s-min=20.1km az=69.0*
ISC 04 03:11:20.5±2.8,**49.°29N**±0.°05×**129.°41W**±0.°07,**h2**km±17km, **n61**,σ1§**26**/**69**,**Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**1.36**	**171**	P	Pn	03 11 37.2	-9.0
BPBC	**Brooks Peninsu**	**1.38**	**50**	Pn	**Pn**	**03 11 45.8**	**-1.0**
HOLB	**Holberg**	**1.59**	**31**	Pn	**Pn**	**03 11 48.4**	**-1.3**
HOLB				Sn	**Sg**	**03 12 11.1**	**-0.3**
PACB	**Port Alice, BC**	**1.69**	**47**	Pn	**Pn**	**03 11 50.2**	**-0.9**
PACB				Sn	**Sg**	**03 12 14.2**	**-0.6**
NC89	**ODP889**	**1.80**	**109**	Pn	**Pn**	**03 11 49.5**	**-2.8**
MAYB	**Maynard**	**1.83**	**52**	Pn	**Pn**	**03 11 52.4**	**-0.7**
ETB	**Estevan Point**	**1.88**	**86**	Pn	**Pn**	**03 11 52.7**	**-1.0**
PHC	**Port Hardy**	**1.91**	**41**	Pn	**Pn**	**03 11 53.7**	**-0.4**
PHC				Sn	**Sb**	**03 12 19.3**	**-1.0**
WOSB	**Woss**	**2.04**	**64**	Pn	**Pn**	**03 11 56.2**	**+0.2**
TLCB	**Telegraph Cove**	**2.09**	**52**	Pn	**Pn**	**03 11 56.5**	**0.0**
TLCB				Sn	**Sb**	**03 12 24.4**	**-1.0**
GDR	**Gold River**	**2.26**	**76**	Pn	**Pn**	**03 11 58.6**	**-0.2**
TOFB	**Tofino**	**2.30**	**92**	Sn	**Sn**	**03 12 27.5**	**-0.8**
NCRB	**Newcastle Ridg**	**2.44**	**62**	Pn	**Pn**	**03 12 01.8**	**+0.3**
NCRB				Sn	**Sb**	**03 12 34.5**	**-1.4**
BTB	**Buttle Lake**	**2.55**	**84**	Pn	**Pn**	**03 12 02.0**	**-1.0**
BTB				Sn	**Sn**	**03 12 34.8**	**0.0**
B012	**Ucluelet**	**2.57**	**97**	Sn	**Sn**	**03 12 32.8**	**-2.1**
OZB	**Mount Ozzard**	**2.59**	**96**	Pn	**Pn**	**03 12 01.7**	**-1.9**
OZB				Sn	**Sn**	**03 12 33.7**	**-2.0**
CBB	**Campbell River**	**2.73**	**73**	Pn	**Pn**	**03 12 05.4**	**-0.1**
BFSB	**Bamfield**	**2.85**	**98**	Sn	**Sn**	**03 12 39.9**	**-1.9**
B928	**Bamfield**	**2.85**	**98**	Pn	**Pn**	**03 12 06.0**	**-1.0**
B928				Sn	**Sn**	**03 12 39.6**	**-2.2**
BBB	**Bella Bella**	**3.02**	**15**	Pn	**Pn**	**03 12 09.0**	**-0.2**
BBB				Sn	**Sn**	**03 12 45.0**	**-0.9**
MGB	**Mount Grey**	**3.11**	**94**	Pn	**Pn**	**03 12 10.0**	**-0.8**
MGB				Sn	**Sn**	**03 12 47.4**	**-1.2**
TXB	**Texada**	**3.27**	**81**	Pn	**Pn**	**03 12 13.2**	**+0.4**
OCP	**Olym-Cheeka Pk**	**3.32**	**106**	Pn	**Pn**	**03 12 12.0**	**-1.4**
PFB	**Port Renfrew**	**3.36**	**100**	Pn	**Pn**	**03 12 13.0**	**-1.0**
PFB				Sn	**Sn**	**03 12 53.1**	**-1.4**
GHNB	**Nanoose**	**3.39**	**88**	Pn	**Pn**	**03 12 13.5**	**-0.9**
GHNB				Sn	**Sn**	**03 12 57.0**	**+1.9**
B926	**Mesachie Lake**	**3.50**	**96**	Sn	**Sn**	**03 12 58.7**	**+0.6**
NLLB	**Nanaimo Lost L**	**3.55**	**89**	Pn	**Pn**	**03 12 16.6**	**-0.1**
NLLB				Sn	**Sn**	**03 13 00.7**	**+1.4**
SHB	**Sechelt**	**3.63**	**83**	Pn	**Pn**	**03 12 18.5**	**+0.7**
SHB				Sn	**Sn**	**03 13 03.1**	**+1.9**
BUTB	**Butedale**	**3.83**	**9**	Pn	**Pn**	**03 12 19.9**	**-0.7**
BUTB				Sn	**Sn**	**03 13 05.7**	**-0.4**
GOBB	**Galiano Island**	**3.89**	**93**	Pn	**Pn**	**03 12 20.1**	**-1.3**
BIB	**Bowen Island**	**3.99**	**86**	Pn	**Pn**	**03 12 23.0**	**+0.3**
BNKB	**Banks Island**	**4.06**	**356**	Pn	**Pn**	**03 12 21.7**	**-2.0**
WPB	**Watts Point**	**4.06**	**82**	Pn	**Pn**	**03 12 24.6**	**+0.9**
SNB	**Saturna Island**	**4.14**	**95**	Pn	**Pn**	**03 12 24.8**	**0.0**
WSLR	**Whistler**	**4.29**	**76**	Pn	**Pn**	**03 12 28.8**	**+1.8**
H02S1	**DAWSON INLET T**	**4.37**	**335**	Pn	Pn	03 12 22.9	-5.0
HNBB	**Haney**	**4.48**	**87**	Pn	**Pn**	**03 12 29.7**	**+0.3**
HNBB				Sn	**Sn**	**03 13 22.6**	**+0.6**
GRNB	**Grenville Isla**	**4.58**	**356**	Pn	**Pn**	**03 12 29.2**	**-1.5**
UBRB	**Upper Baezaeko**	**4.93**	**41**	Pn	**Pn**	**03 12 38.1**	**+2.4**
MBW	**Mount Baker**	**4.97**	**93**	Pn	**Pn**	**03 12 37.3**	**+1.0**
HOPB	**Hope**	**5.23**	**86**	Pn	**Pn**	**03 12 40.2**	**+0.5**
RPW	**Rockport**	**5.28**	**96**	Pn	**Pn**	**03 12 41.7**	**+1.2**
FSB	**Fort Saint Jam**	**6.07**	**29**	Pn	**Pn**	**03 12 53.2**	**+1.8**
PNT	**Penticton**	**6.41**	**86**	Pn	**Pn**	**03 12 55.9**	**0.0**
NEW	**Newport**	**8.18**	**93**	Pn	**Pn**	**03 13 21.1**	**+0.8**
	0.3nm,0.3s,baz=288,slow=12,SNR=3.0						
YBH	**Yreka Blue Hor**	**8.90**	**146**	Pn	**Pn**	**03 13 32.6**	**+2.5**
	0.0nm,0.3s,baz=11,slow=15,SNR=7.9						
NBC5	**NorthernBC 5**	**9.17**	**23**	Pn	**Pn**	**03 13 35.3**	**+1.4**
NVAR	**Mina Array Bea**	**13.47**	**140**	Pn	**Pn**	**03 14 34.5**	**+1.6**
	0.0nm,0.3s,baz=316,slow=10,SNR=3.4						
PDAR	**Pinedale Array**	**15.23**	**108**	Pn	**Pn**	**03 14 58.5**	**+1.7**
	0.0nm,0.3s,baz=309,slow=10,SNR=1.4						
YKA	**Yellowknife Ar**	**15.56**	**26**	Pn	**Pn**	**03 15 00.8**	**+0.1**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.3						
ILAR	**Eielson Array**	**18.09**	**336**	P	**Pn**	**03 15 32.7**	**0.0**
	0.0nm,0.3s,baz=157,slow=12,SNR=6.5						
ULM	**Lac du Bonnet**	**21.58**	**75**	P	**P**	**03 16 10.8**	**-0.5**
	3.1nm,0.8s,baz=285,slow=13,SNR=4.7						
ULM	**Lac du Bonnet**	**21.58**	**75**	P	**P**	**03 16 11.0**	**-0.4**
ANMO	**Albuquerque**	**22.14**	**122**	P	**P**	**03 16 19.2**	**+1.6**
	0.9nm,0.7s,baz=317,slow=13,SNR=4.5						
PKLO	**Pickle Lake**	**24.80**	**70**	P	**P**	**03 16 42.8**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**58.20**	**264**	T	T	04 23 50.0	
	baz=43,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**58.20**	**264**	T	T	04 23 52.7	
	baz=43,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**58.21**	**264**	T	T	04 23 51.2	
	baz=43,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**59.21**	**263**	T	T	04 25 07.4	
	baz=47,slow=76						
H11S2	**WAKE ISLAND Hy**	**59.22**	**263**	T	T	04 25 07.9	
	baz=47,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**59.23**	**263**	T	T	04 25 10.3	
	baz=47,slow=76,SNR=5.3						

*GRAL **04** 03:17:47.0±0.3,33.°06N×35.°59E,h8km±4km,MD2.9*
*GII **04** 03:17:48.2±0.0,33.°18N×35.°58E,h1km,MD1.9/7,Mm2.2/4*
ISC 04 03:17:48.5±0.9,**33.°16N**±0.°03×**35.°63E**±0.°05,**h12**km±7km, **n17**,σ0§**58**/**30**,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEM	**Giv'at Ha'Em**	**0.06**	**25**	Pg	**Pg**	**03 17 50.6**	**-0.3**
NATI	**Neve Ativ**	**0.14**	**39**	Pg	**Pg**	**03 17 51.6**	**-0.3**
NATI				Sg	**Sg**	**03 17 54.1**	**-0.1**
MMA0B	**Mount Meron ar**	**0.24**	**234**	Pg	**Pg**	**03 17 53.6**	**0.0**
MMA0B				Sg	**Sg**	**03 17 57.3**	**+0.3**
RCY	**Rachaya**	**0.38**	**26**	*e*P	**Pg**	**03 17 55.8**	**-0.4**
RCY				*e*S	**Sg**	**03 18 02.3**	**+1.0**
HNTI	**Hanita**	**0.39**	**260**	Pg	**Pg**	**03 17 55.8**	**-0.5**
HNTI				Sg	**Sg**	**03 18 01.8**	**+0.2**
QRWL	**Qaraoun**	**0.39**	**6**	*e*P	**Pg**	**03 17 56.0**	**-0.4**
DQRL	**Deir Qamar**	**0.55**	**355**	*e*P	**Pg**	**03 17 58.7**	**-0.7**
DQRL				*e*S	**Sg**	**03 18 07.4**	**+0.7**
BLGI	**Bet Lehem HaGe**	**0.56**	**222**	Pg	**Pg**	**03 17 59.6**	**+0.1**
BLGI				Sg	**Sb**	**03 18 08.7**	**+0.4**
MMLI	**Mount Malkishu**	**0.74**	**194**	Pg	**Pg**	**03 18 02.6**	**-0.2**
MMLI				Sg	**Sb**	**03 18 14.2**	**+0.8**

BHL	**Bhannes**	**0.75**	**1**	*eP*	**Pg**	03	**18**	**02.2 -0.8**
OFRI	**`Ofer**	**0.76**	**226**	Pg	**Pg**	03	**18**	**03.0 -0.3**
OFRI				Sg	**Sb**	03	**18**	**14.3 +0.2**
HMDT	**Nahal Hemdat**	**0.90**	**186**	Pg	**Pb**	03	**18**	**06.3 +0.1**
HMDT				Sg	**Sn**	03	**18**	**19.9 -0.2**
SLTI	**Sal'it**	**1.04**	**209**	Pg	**Pn**	03	**18**	**08.9 -0.1**
SLTI				Sg	**Sn**	03	**18**	**23.3 -0.2**
DSI	**Dead Sea**	**1.59**	**188**	Pn	**Pb**	03	**18**	**17.4 -0.6**
DSI				Sn	**Sg**	03	**18**	**39.6 -0.2**
AMAZ	**Amatzia**	**1.73**	**201**	Pn	**Pb**	03	**18**	**19.8 -0.4**
AMAZ				Sn	**Sg**	03	**18**	**43.7 -0.4**
YTIR	**Yattir**	**1.84**	**194**	Pn	**Pb**	03	**18**	**21.4 -0.8**
YTIR				Sn	**Sg**	03	**18**	**46.6 -1.1**
PRNI	**Paran**	**2.84**	**191**	Pn	**Pn**	03	**18**	**35.1 +1.3**

IDC ***04*** *03:17:51.5±1.2,49°.11N×129°.80W, h0km, mb3.9/5, mb1 4.2/12,mb1mx3.9/40,mbtmp3.9/12,ML3.5/6,MS3.7/14, Ms1 3.7/14,ms1mx3.4/42,Error ellipse: s-maj=27.2km s-min=14.8km az=40.0*

PGC ***04*** *03:17:51.3±0.6,49°.03N×129°.81W,h10km,MLSn3.3/38, Mw3.9/38,253km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*

NEIC ***04*** *03:17:52.1±0.9,49°.04N±0°.07×129°.8W±0°.1,h18km±5km, Error ellipse: s-maj=15.5km s-min=3.8km az=48.0*

ISC 04 03:17:50.6±3.2,49°.05N±0°.05×129°.76W±0°.06,h7km±23km, n223,σ1$24/241,mb4.3/16,MS3.7/9,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.19**	**158**	P	**Pb**	03 **18** 10.8	**-2.4**
BPBC	**Brooks Peninsu**	**1.70**	**49**	Pn	**Pn**	03 **18** 19.7	**-1.1**
HOLB	**Holberg**	**1.91**	**33**	Pn	**Pn**	03 **18** 22.4	**-1.1**
HOLB				Sn	**Sn**	03 **18** 45.1	**-2.7**
NC89	**ODP889**	**1.96**	**100**	Pn	**Pn**	03 **18** 23.8	**-0.1**
PACB	**Port Alice, BC**	**2.02**	**46**	Pn	**Pn**	03 **18** 23.9	**-1.1**
PACB				Sn	**Sn**	03 **18** 47.7	**-2.8**
ETB	**Estevan Point**	**2.13**	**80**	Pn	**Pn**	03 **18** 26.2	**-0.4**
MAYB	**Maynard**	**2.15**	**50**	Pn	**Pn**	03 **18** 26.0	**-1.0**
PHC	**Port Hardy**	**2.24**	**41**	Pn	**Pn**	03 **18** 27.4	**-0.6**
PHC				Sn	**Sn**	03 **18** 53.6	**-2.2**
WOSB	**Woss**	**2.35**	**61**	Pn	**Pn**	03 **18** 29.7	**0.0**
TLCB	**Telegraph Cove**	**2.41**	**51**	Pn	**Pn**	03 **18** 30.2	**-0.2**
TLCB				Sn	**Sn**	03 **18** 58.3	**-1.9**
TOFB	**Tofino**	**2.53**	**86**	Pn	**Pn**	03 **18** 31.7	**-0.3**
TOFB				Sn	**Sn**	03 **19** 00.6	**-2.4**
GDR	**Gold River**	**2.54**	**72**	Pn	**Pn**	03 **18** 31.8	**-0.4**
NCRB	**Newcastle Ridg**	**2.76**	**59**	Pn	**Pn**	03 **18** 35.7	**+0.4**
NCRB				Sn	**Sn**	03 **19** 06.9	**-2.0**
B012	**Ucluelet**	**2.78**	**91**	Sn	**Sn**	03 **19** 06.6	**-2.6**
BTB	**Buttle Lake**	**2.81**	**80**	Pn	**Pn**	03 **18** 35.7	**-0.3**
BTB				Sn	**Sn**	03 **19** 07.8	**-2.3**
OZB	**Mount Ozzard**	**2.81**	**90**	Pn	**Pn**	03 **18** 35.2	**-0.7**
OZB				Sn	**Sn**	03 **19** 06.7	**-3.3**
MWAB	**Mount Washingt**	**2.99**	**75**	Sn	**Sn**	03 **19** 14.1	**-0.5**
CBB	**Campbell River**	**3.02**	**69**	Pn	**Pn**	03 **18** 39.2	**+0.4**
CBB				Sn	**Sn**	03 **19** 15.1	**-0.1**
BFSB	**Bamfield**	**3.05**	**92**	Sn	**Sn**	03 **19** 13.1	**-2.8**
B928	**Bamfield**	**3.05**	**92**	Pn	**Pn**	03 **18** 38.8	**-0.4**
B928				Sn	**Sn**	03 **19** 12.9	**-3.0**
BBB	**Bella Bella**	**3.31**	**18**	Pn	**Pn**	03 **18** 42.5	**-0.2**
BBB				Sn	**Sn**	03 **19** 18.6	**-3.6**
BBB	**Bella Bella**	**3.31**	**18**		**Pn**	03 **18** 43.0	**+0.2**
BBB				Sn	**Sn**	03 **19** 20.6	**-1.6**
MGB	**Mount Grey**	**3.33**	**89**	Pn	**Pn**	03 **18** 43.2	**0.0**
MGB				Sn	**Sn**	03 **19** 20.6	**-2.5**
OCP	**Olym-Cheeka Pk**	**3.48**	**101**	Pn	**Pn**	03 **18** 45.4	**+0.2**
TXB	**Texada**	**3.54**	**77**	Pn	**Pn**	03 **18** 46.4	**+0.5**
TXB				Sn	**Sn**	03 **19** 25.4	**-2.5**
PFB	**Port Renfrew**	**3.54**	**96**	Pn	**Pn**	03 **18** 46.1	**0.0**
PFB				Sn	**Sn**	03 **19** 26.2	**-2.0**
GHNB	**Nanoose**	**3.63**	**84**	Pn	**Pn**	03 **18** 47.7	**+0.6**
GHNB				Sn	**Sn**	03 **19** 28.9	**-1.3**
B926	**Mesachie Lake**	**3.71**	**91**	Pn	**Pn**	03 **18** 49.0	**+0.7**
B926				Sn	**Sn**	03 **19** 31.4	**-0.9**
NLLB	**Nanaimo Lost L**	**3.79**	**85**	Pn	**Pn**	03 **18** 50.7	**+1.4**
NLLB				Sn	**Sn**	03 **19** 33.9	**-0.3**
SHB	**Sechelt**	**3.89**	**80**	Pn	**Pn**	03 **18** 52.1	**+1.3**
SHB				Sn	**Sn**	03 **19** 36.4	**-0.3**
BUTB	**Butedale**	**4.10**	**11**	Pn	**Pn**	03 **18** 53.3	**-0.4**
BUTB				Sn	**Sn**	03 **19** 39.3	**-2.7**
GOBB	**Galiano Island**	**4.11**	**89**	Pn	**Pn**	03 **18** 55.3	**+1.6**
GOBB				Sn	**Sn**	03 **19** 40.1	**-1.9**
B009	**North Saanich**	**4.18**	**93**	Pn	**Pn**	03 **18** 56.2	**+1.5**
B009				Sn	**Sn**	03 **19** 42.1	**-1.7**
B010	**North Saanich**	**4.18**	**93**	Pn	**Pn**	03 **18** 55.8	**+1.1**
B010				Sn	**Sn**	03 **19** 41.8	**-2.0**
PGC	**Sidney**	**4.18**	**93**	Pn	**Pn**	03 **18** 55.5	**+0.8**
PGC				Sn	**Sn**	03 **19** 41.7	**-2.0**
PGC	**Sidney**	**4.18**	**93**	Pn	**Pn**	03 **18** 54.5	**-0.1**
PGC				Sn	**Sn**	03 **19** 43.7	**-0.1**
PA02	**PA02 Ocean**	**4.18**	**93**	Sn	**Sn**	03 **19** 42.1	**-1.7**
B011	**North Saanich**	**4.18**	**93**	Pn	**Pn**	03 **18** 55.9	**+1.1**
B011				Sn	**Sn**	03 **19** 42.3	**-1.5**
OSD	**Olympics--Snow**	**4.21**	**105**	Pn	**Pn**	03 **18** 57.5	**+2.1**
BIB	**Bowen Island**	**4.24**	**83**	Pn	**Pn**	03 **18** 56.8	**+1.2**
NLWA	**Neilton Lookou**	**4.27**	**111**	Pn	**Pn**	03 **18** 57.9	**+1.9**
BNKB	**Banks Island**	**4.29**	**359**	Pn	**Pn**	03 **18** 55.4	**-0.8**
WPB	**Watts Point**	**4.32**	**79**	Pn	**Pn**	03 **18** 58.2	**+1.6**
SNB	**Saturna Island**	**4.35**	**91**	Pn	**Pn**	03 **18** 58.5	**+1.5**
SNB				Sn	**Sn**	03 **19** 46.2	**-1.8**
BNAB	**Bonilla**	**4.49**	**353**	Pn	**Pn**	03 **18** 58.6	**-0.3**
DIB	**Dawson Inlet,**	**4.50**	**339**	Pn	**Pn**	03 **18** 58.5	**-0.5**
H02S1	**DAWSON INLET T**	**4.50**	**339**	Pn	**Pn**	03 **18** 58.5	**-0.5**
HWKB	**Hawksbury Isla**	**4.57**	**4**	Pn	**Pn**	03 **18** 59.7	**-0.4**
WSLR	**Whistler**	**4.58**	**74**	Pn	**Pn**	03 **19** 02.6	**+2.4**
MCW	**Mount Constitu**	**4.58**	**92**	Pn	**Pn**	03 **19** 01.8	**+1.5**
BLN	**Blyn Mountain**	**4.63**	**100**	Pn	**Pn**	03 **19** 02.0	**+1.2**
HDW	**Hoodsport**	**4.68**	**105**	Pn	**Pn**	03 **19** 03.4	**+1.6**
HNBB	**Haney**	**4.72**	**84**	Pn	**Pn**	03 **19** 03.7	**+1.6**
HNBB				Sn	**Sn**	03 **19** 56.3	**-0.8**
GRNB	**Grenville Isla**	**4.81**	**359**	Pn	**Pn**	03 **19** 03.1	**-0.2**
A05A	**Maple Falls**	**5.05**	**88**		**Pn**	03 **19** 07.4	**+0.8**
KITB	**Kitimat**	**5.08**	**7**	Pn	**Pn**	03 **19** 08.1	**+1.0**
CMW	**Cultus Mountai**	**5.09**	**94**	Pn	**Pn**	03 **19** 09.0	**+1.6**
MBW	**Mount Baker**	**5.19**	**90**	Pn	**Pn**	03 **19** 10.4	**+1.7**
UBRB	**Upper Baezaeko**	**5.26**	**41**	Pn	**Pn**	03 **19** 12.0	**+2.4**
JCW	**Jim Creek**	**5.26**	**96**	Pn	**Pn**	03 **19** 12.1	**+2.5**
HOPB	**Hope**	**5.47**	**83**	Pn	**Pn**	03 **19** 14.4	**+2.0**
HOPB				Sn	**Sn**	03 **20** 14.1	**-1.5**
RPW	**Rockport**	**5.49**	**93**	Pn	**Pn**	03 **19** 14.6	**+1.9**
B06A	**Marblemount**	**5.49**	**92**		**Pn**	03 **19** 12.8	**+0.1**
LON	**Longmire**	**5.82**	**110**		**Pn**	03 **19** 17.6	**+0.3**
COR	**Corvallis**	**6.29**	**133**	Pn	**Pn**	03 **19** 23.9	**+0.3**
LTY	**Liberty**	**6.34**	**103**		**Pn**	03 **19** 24.8	**+0.4**
FSB	**Fort Saint Jam**	**6.39**	**30**	Pn	**Pn**	03 **19** 26.5	**+1.4**
PNT	**Penticton**	**6.65**	**84**	Pn	**Pn**	03 **19** 30.1	**+1.5**
H04A	**Detroit Lake**	**6.78**	**127**	Pn	**Pn**	03 **19** 30.3	**-0.1**
B08A	**Colville Reser**	**6.93**	**92**	Pn	**Pn**	03 **19** 32.8	**+0.2**
C09A	**Chrisman Ranch**	**7.74**	**95**	Pn	**Pn**	03 **19** 43.8	**+0.2**
HUMO	**Hull Mountain**	**8.00**	**141**	Pn	**Pn**	03 **19** 47.7	**+0.6**
NEW	**Newport**	**8.40**	**91**	Pn	**Pn**	03 **19** 53.8	**+1.0**
	0.5nm,0.3s,baz=286,slow=13,SNR=7.1						
NEW				LR	LR	03 23 08.5	
	comp=Z,852nm,18.7s,baz=270,slow=38						
NEW	**Newport**	**8.40**	**91**		**Pn**	03 **19** 52.8	**0.0**
I07A	**Izee**	**8.63**	**121**	Pn	**Pn**	03 **19** 55.5	**-0.5**
YBH	**Yreka Blue Hor**	**8.83**	**143**	Pn	**Pn**	03 20 05.5	**+6.8**
	0.2nm,0.3s,baz=339,slow=14,SNR=30						
YBH				LR	LR	03 23 07.8	
	comp=Z,487nm,19.4s,baz=324,slow=36						
YBH	**Yreka Blue Hor**	**8.83**	**143**		**Pn**	03 **19** 58.9	**+0.2**
K05A	**Summer Lake**	**8.84**	**132**		**Pn**	03 **19** 58.7	**-0.1**
F10A	**Beach Ranch, E**	**9.02**	**105**		**Pn**	03 **20** 00.7	**-0.6**
NBC5	**NorthernBC 5**	**9.48**	**24**	Pn	**Pn**	03 **20** 10.3	**+2.8**
BMO	**Blue Mountains**	**9.49**	**112**		**Pn**	03 **20** 07.7	**+0.1**
J08A	**Circle Bar Ran**	**9.67**	**122**	Pn	**Pn**	03 **20** 10.1	**0.0**
MOD	**Modoc Plateau**	**9.75**	**134**	Pn	**Pn**	03 **20** 11.0	**-0.3**
WDC	**Whiskeytown Da**	**9.89**	**146**	Pn	**Pn**	03 **20** 13.2	**+0.1**
WVOR	**Wild Horse Val**	**10.20**	**126**		**Pn**	03 **20** 17.3	**-0.1**
MSO	**Missoula**	**10.84**	**96**	Pn	**Pn**	03 **20** 26.1	**-0.1**
ORV	**Oroville**	**11.18**	**145**	Pn	**Pn**	03 **20** 30.1	**-0.6**
BEKR	**Beckworth**	**11.36**	**140**	Pn	**Pn**	03 **20** 33.1	**-0.4**
AFDM	**Forest Hills D**	**11.90**	**145**	Pn	**Pn**	03 **20** 40.4	**-0.3**
PAHR	**Pah Rah Range**	**11.92**	**138**		**Pn**	03 **20** 40.0	**-0.9**
WHY	**Whitehorse**	**12.00**	**348**	Pn	**Pn**	03 **20** 42.2	**+0.3**
VCNR	**Virginia City**	**12.14**	**140**		**Pn**	03 **20** 43.6	**-0.4**
PNTR	**Pine Nut**	**12.34**	**140**		**Pn**	03 **20** 46.6	**-0.1**

CMB	**Columbia Colle**	**12.93**	**145**		**Pn**	03	**20**	**53.9 -0.7**
KVN	**Kaiserville**	**13.03**	**136**	Pn	**Pn**	03	**20**	**56.1 -0.1**
RYN	**Ryan**	**13.18**	**138**		**Pn**	03	**20**	**56.2 -2.1**
ELK	**Elko**	**13.21**	**124**	Pn	**P**	03	**21**	**11.2 +2.4**
	0.1nm,0.3s,baz=308,slow=9.5,SNR=2.6							
EGMT	**Eagleton**	**13.29**	**87**		**Pn**	03	**21**	**00.0 +0.4**
YHL	**Hebgen Lake**	**13.36**	**101**		**Pn**	03	**21**	**00.9 +0.1**
NVAR	**Mina Array Bea**	**13.44**	**138**	Pn	**Pn**	03	**21**	**07.4 +5.6**
	0.1nm,0.3s,baz=316,slow=10,SNR=12							
NVAR	**Mina Array Bea**	**13.44**	**139**	Pn	**Pn**	03	**21**	**01.6 -0.3**
LHV	**Little Huntoon**	**13.51**	**139**		**Pn**	03	**21**	**02.6 +0.2**
NV11	**Mina Array Sit**	**13.51**	**137**		**Pn**	03	**21**	**02.2 -0.4**
YHH	**Holmes Hill**	**13.60**	**101**		**Pn**	03	**21**	**04.1 0.0**
MDPB	**Devils Postpil**	**13.79**	**142**	Pn	**Pn**	03	**21**	**06.6 0.0**
TPAW	**Teton Pass**	**14.13**	**106**	Pn	**Pn**	03	**21**	**11.5 +0.2**
MOOW	**Moose Ponds**	**14.14**	**105**	Pn	**Pn**	03	**21**	**11.5 +0.2**
TPH	**Tonopah**	**14.22**	**136**	Pn	**Pn**	03	**21**	**12.7 +0.2**
REDW	**Red Top Meadow**	**14.26**	**106**	Pn	**Pn**	03	**21**	**13.6 +0.7**
SNOW	**Snow King Moun**	**14.27**	**106**	Pn	**Pn**	03	**21**	**13.6 +0.5**
LOHW	**Long Hollow**	**14.29**	**105**	Pn	**Pn**	03	**21**	**13.4 0.0**
RLMT	**Red Lodge**	**14.49**	**98**	Pn	**Pn**	03	**21**	**16.4 +0.3**
BW06	**Boulder Array**	**15.38**	**107**	Pn	**Pn**	03	**21**	**28.6 +0.5**
BW06				IAmb	IAmb	03	21	41.5
	comp=Z,15nm,1.5s							
PDAR	**Pinedale Array**	**15.38**	**107**	Pn	**P**	03	**21**	**32.6 -0.2**
	comp=Z,0.1nm,0.3s,baz=317,slow=6.5,SNR=5.1							
PDAR	**Pinedale Array**	**15.38**	**107**	Pn	**Pn**	03	**21**	**28.8 +0.7**
NLU	**North Lily Min**	**15.52**	**119**	Pn	**Pn**	03	**21**	**29.6 -0.3**
BCAR	**Beaver Creek A**	**15.53**	**339**	Pn	**Pn**	03	**21**	**29.4 -0.3**
PSUT	**Pine Spring**	**15.53**	**127**	Pn	**Pn**	03	**21**	**30.5 +0.4**
L27K	**Beaver Creek,**	**15.54**	**339**	Pn	**Pn**	03	**21**	**30.6 +0.8**
L27K				IAmb	IAmb	03	21	41.2
	comp=Z,12nm,1.2s							
TPNV	**Topopah Spring**	**15.59**	**136**	Pn	**Pn**	03	**21**	**30.4 -0.4**
TPNV				IAmb	IAmb	03	21	45.8
	comp=Z,8.9nm,1.1s							
ISA	**Isabella, Lake**	**15.74**	**144**	Pn	**Pn**	03	**21**	**32.4 -0.3**
ISA				IAmb	IAmb	03	21	42.9
	comp=Z,11nm,1.1s							
PRN	**Pahroc Range**	**15.79**	**132**	Pn	**Pn**	03	**21**	**33.8 +0.4**
PRN				IAmb	IAmb	03	21	43.6
	comp=Z,14nm,1.0s							
YKA	**Yellowknife Ar**	**15.88**	**26**	Pn	**Pn**	03	**21**	**33.7 -0.5**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=9.6							
YKA				LR	LR	03	27	28.5
	comp=Z,137nm,18.8s,baz=0.0,slow=36							
DAWY	**Dawson**	**15.93**	**344**	P	**P**	03	**21**	**39.1 +0.5**
DAWY	**Dawson**	**15.93**	**344**	Pn	**Pn**	03	**21**	**35.0 +0.1**
DAWY				IAmb	IAmb	03	21	45.4
	comp=Z,21nm,1.4s							
LAO	**LASA Array**	**15.95**	**90**	Pn	**Pn**	03	**21**	**36.3 +0.9**
LAO				IAmb	IAmb	03	21	46.4
	comp=Z,26nm,1.1s							
KDAK	**Kodiak Island**	**16.11**	**311**	Pn	**Pn**	03	**21**	**37.9 +0.8**
	baz=161,slow=8.7,SNR=3.2							
K27K	**Chicken**	**16.43**	**341**	Pn	**Pn**	03	**21**	**41.2 -0.1**
CCUT	**Cedar City**	**16.53**	**128**	Pn	**Pn**	03	**21**	**42.7 -0.2**
P17A	**Butcher Ranch,**	**16.61**	**118**	Pn	**Pn**	03	**21**	**44.1 +0.1**
SZCU	**Shurtz Canyon**	**16.64**	**127**	Pn	**Pn**	03	**21**	**44.3 0.0**
GSC	**Goldstone, Bar**	**16.72**	**140**	Pn	**Pn**	03	**21**	**44.8 -0.6**
GSC				IAmb	IAmb	03	21	54.3
	comp=Z,13nm,1.2s							
Q16A	**Castle Valley**	**16.73**	**120**	Pn	**Pn**	03	**21**	**45.2 -0.3**
SCRK	**Sand Creek**	**16.83**	**338**	Pn	**Pn**	03	**21**	**46.7 +0.2**
EGAK	**Eagle**	**16.90**	**343**	Pn	**Pn**	03	**21**	**47.4 0.0**
EGAK				IAmb	IAmb	03	21	58.8
	comp=Z,27nm,1.5s							
LCMT	**Little Creek M**	**17.00**	**129**	Pn	**Pn**	03	**21**	**49.0 +0.2**
KNB	**Kanab**	**17.21**	**128**	Pn	**Pn**	03	**21**	**51.1 -0.4**
K22A	**Casper**	**17.37**	**103**	Pn	**Pn**	03	**21**	**53.3 -0.1**
K22A				IAmb	IAmb	03	22	12.5
	comp=Z,19nm,1.3s							
RSO	**Redoubt South**	**17.40**	**320**	P	**Pn**	03	**21**	**53.4 -0.4**
O20A	**White River Ci**	**17.68**	**112**		**Pn**	03	**21**	**57.8 +0.4**
O20A				IAmb	IAmb	03	22	11.3
	comp=Z,16nm,1.1s							
U15A	**North Rim**	**17.93**	**128**		**Pn**	03	**22**	**00.4 -0.3**
FFC	**Flin Flon**	**17.99**	**61**		**Pn**	03	**22**	**01.1 +0.2**
IL31		**18.22**	**336**		**Pn**	03	**22**	**03.1 -0.4**
ILAR	**Eielson Array**	**18.22**	**336**	P	**P**	03	**22**	**06.5 +2.6**
	comp=Z,0.0nm,0.3s,baz=143,slow=12,SNR=12							
ILAR				LR	LR	03	28	06.3
	comp=Z,198nm,21.0s,baz=173,slow=34							
ILAR	**Eielson Array**	**18.22**	**336**		**Pn**	03	**22**	**03.6 0.0**
RSSD	**Black Hills**	**18.31**	**96**		**Pn**	03	**22**	**05.1 0.0**
PV10	**Paradox Valley**	**18.33**	**118**	P	**Pn**	03	**22**	**06.1 +0.7**
PV10				IAmb	IAmb	03	22	20.9
	comp=Z,40nm,1.3s							
PFO	**Pinyon Flats O**	**18.33**	**142**	P	**P**	03	**22**	**09.8 +4.4**
	comp=Z,0.1nm,0.3s,baz=313,slow=6.8,SNR=6.7							
PFO				LR	LR	03	29	21.5
	comp=Z,196nm,18.9s,baz=306,slow=38							
PV14	**Lion Creek, Pa**	**18.34**	**118**		**Pn**	03	**22**	**05.3 -0.3**
PV14				IAmb	IAmb	03	22	18.8
	comp=Z,28nm,1.1s							
PV22	**Blue Mesa, Par**	**18.37**	**117**	P	**Pn**	03	**22**	**05.9 0.0**
PV22				IAmb	IAmb	03	22	23.6
	comp=Z,14nm,1.2s							
CCB	**Clear Creek Bu**	**18.37**	**335**		**Pn**	03	**22**	**05.3 -0.2**
PV04	**Paradox Valley**	**18.39**	**118**	P	**Pn**	03	**22**	**05.5 -0.6**
PV04				IAmb	IAmb	03	22	21.1
	comp=Z,35nm,1.2s							
PV19	**Morning Glory**	**18.40**	**118**	P	**Pn**	03	**22**	**06.1 -0.3**
PV19				IAmb	IAmb	03	22	21.2
	comp=Z,17nm,0.9s							
PV17	**East Wray Mesa**	**18.44**	**118**	P	**P**	03	**22**	**06.3 -0.4**
PV16	**Nyswonger Mesa**	**18.44**	**118**	P	**P**	03	**22**	**06.3 -0.4**
PV16				IAmb	IAmb	03	22	23.3
	comp=Z,20nm,1.0s							
PV18	**Skein Mesa, Pa**	**18.49**	**118**		**P**	03	**22**	**07.2 -0.1**
PV18				IAmb	IAmb	03	22	23.7
	comp=Z,26nm,0.9s							
PV12	**Saucer Basin,**	**18.50**	**118**	P	**P**	03	**22**	**07.2 -0.3**
PV03	**Paradox Valley**	**18.52**	**118**	P	**P**	03	**22**	**07.5 -0.1**
PV03				IAmb	IAmb	03	22	21.8
	comp=Z,30nm,1.2s							
KTH	**Kantishna Hill**	**18.54**	**329**	P	**P**	03	**22**	**06.8 -0.7**
KTH				IAmb	IAmb	03	22	19.0
	comp=Z,28nm,1.4s							
PV13	**Radium Mtn., P**	**18.60**	**118**	P	**P**	03	**22**	**08.1 -0.4**
MDM	**Murphy Dome**	**18.73**	**335**	P	**P**	03	**22**	**09.2 -0.3**
MDM				IAmb	IAmb	03	22	20.0
	comp=Z,21nm,1.3s							
PV01	**Paradox Valley**	**18.76**	**118**	P	**P**	03	**22**	**09.7 -0.6**
PV01				IAmb	IAmb	03	22	25.2
	comp=Z,18nm,1.1s							
DHRN	**Dharma Camp**	**18.78**	**13**	P	**Pn**	03	**22**	**13.0 +2.5**
SVW2	**Sparrevohn**	**18.92**	**319**	P	**P**	03	**22**	**11.3 -0.3**
SVW2				IAmb	IAmb	03	22	23.2
	comp=Z,25nm,1.4s							
BPAW	**Bear Paw Mtn.**	**18.93**	**331**	P	**P**	03	**22**	**11.5 -0.2**
BPAW				IAmb	IAmb	03	22	25.4
	comp=Z,15nm,1.2s							
SMCO	**Snowmass**	**19.04**	**113**		**P**	03	**22**	**12.9 -0.6**
INK	**Inuvik**	**19.41**	**356**	P	**Pn**	03	**22**	**22.1 +4.2**
MVCO	**Mesa Verde**	**19.44**	**120**	P	**P**	03	**22**	**17.1 -0.6**
MVCO				IAmb	IAmb	03	22	31.7
	comp=Z,12nm,0.9s							
MLY	**Manley**	**19.50**	**333**	P	**P**	03	**22**	**17.9 -0.1**
MLY				IAmb	IAmb	03	22	35.6
	comp=Z,10nm,1.2s							
Y14A	**Wickenburg**	**19.56**	**134**	P	**P**	03	**22**	**18.6 -0.3**
BMAR	**Burnt Mountain**	**19.91**	**343**	P	**P**	03	**22**	**22.5 0.0**
X16A	**Lo Mia Camp, P**	**19.94**	**130**	P	**P**	03	**22**	**22.8 -0.3**
MDND	**Maddock**	**19.98**	**82**	P	**P**	03	**22**	**23.6 +0.3**
MDND				IAmb	IAmb	03	22	31.2
	comp=Z,23nm,1.1s							
TTA	**Tatalina**	**20.02**	**324**		**P**	03	**22**	**23.0 -0.7**
TTA				IAmb	IAmb	03	22	31.6
	comp=Z,26nm,1.4s							
X18A	**Snowflake**	**20.61**	**127**	P	**P**	03	**22**	**30.2 -0.3**
X18A				IAmb	IAmb	03	22	46.2
	comp=Z,10nm,1.1s							
IMAR	**Indian Mountai**	**21.07**	**332**	P	**P**	03	**22**	**35.3 +0.3**
214A	**Organ Pipe Nat**	**21.31**	**137**	P	**P**	03	**22**	**37.4 -0.4**
214A				IAmb	IAmb	03	22	46.5
	comp=Z,11nm,1.4s							
KSCO	**Kaye Shedlock'**	**21.83**	**107**	P	**P**	03	**22**	**42.9 -0.6**
ULM	**Lac du Bonnet**	**21.86**	**74**	P	**P**	03	**22**	**45.4 +1.8**
	comp=Z,16nm,0.9s,baz=282,slow=12,SNR=26							
ULM				LR	LR	03	31	23.4
	comp=Z,439nm,21.1s,baz=288,slow=37							
ULM	**Lac du Bonnet**	**21.86**	**74**	P	**P**	03	**22**	**46.4 +2.7**
ULM	**Lac du Bonnet**	**21.86**	**74**	P	**P**	03	**22**	**43.8 +0.1**

T25A	**Trinidad**	**21.89**	**113**	P	**P**	03	**22**	**43.8 -0.5**
TOLK	**Toolik Lake Re**	**21.95**	**341**	P	**P**	03	**22**	**44.6 +0.1**
TOLK				IAmb	IAmb	03	22	56.7
	comp=Z,17nm,1.3s							
TUC	**Tucson**	**21.96**	**133**	P	**P**	03	**22**	**44.9 0.0**
TUC				IAmb	IAmb	03	22	50.5
	comp=Z,7.3nm,1.1s							
ANMO	**Albuquerque**	**22.21**	**121**	P	**P**	03	**22**	**51.6 +4.0**
	comp=Z,4.0nm,0.9s,baz=318,slow=11,SNR=10							
ANMO	**Albuquerque**	**22.21**	**121**	P	**P**	03	**22**	**47.1 -0.5**
ANMO				IAmb	IAmb	03	23	01.3
	comp=Z,8.1nm,0.9s							
AGMN	**Agassiz Nation**	**22.29**	**79**	P	**P**	03	**22**	**48.7 +0.5**
F33A	**5 Mile Ranch,**	**22.75**	**85**	P	**P**	03	**22**	**53.3 +0.2**
F33A				IAmb	IAmb	03	22	59.6
	comp=Z,11nm,0.9s							
EPLO	**Experimental L**	**23.34**	**75**	P	**P**	03	**23**	**02.0 +2.9**
ECSD	**EROS Data Cent**	**23.35**	**91**	P	**P**	03	**22**	**58.9 -0.4**
ECSD				IAmb	IAmb	03	23	04.4
	comp=Z,12nm,1.4s							
319A	**Douglas**	**23.46**	**131**	P	**P**	03	**23**	**00.2 -0.4**
319A				IAmb	IAmb	03	23	13.2
	comp=Z,10nm,1.1s							
B35A	**Bob, Littlefor**	**23.65**	**78**	P	**P**	03	**23**	**02.6 +0.3**
B35A

NV11	**Mina Array Sit**	**3.19**	**56**	Pn	Pn	03 30 50.9	-0.1
NV11				IAML		03 31 51.3	
	comp=N,17nm,1.9s						
BEKR	**Beckworth**	**3.31**	**16**		Pn	03 30 53.6	+0.9
BEKR				IAML		03 31 49.6	
	comp=E,22nm,0.9s						
KVN	**Kaiserville**	**3.59**	**48**	Pn	Pn	03 30 57.0	+0.4
TPH	**Tonopah**	**3.69**	**67**	Pn	Pn	03 30 57.6	-0.3
TPH	**Tonopah**	**3.69**	**67**	IAML		03 32 00.8	
	comp=E,16nm,0.9s						
TPH				IAML		03 32 03.9	
	comp=N,13nm,0.8s						
TPNV	**Topopah Spring**	**4.24**	**85**		Pn	03 31 05.3	0.0
TPNV				IAML		03 32 22.1	
	comp=N,13nm,1.2s						
TPNV				IAML		03 32 38.1	
	comp=N,12nm,1.1s						

IDC ***04*** *03:46:47.8±2.1,2.86N×123.03E, h505km±27km, mb2.9/6, mb1 3.1/7, mb1mx2.7/44, mbtmp3.9/7, Error ellipse: s-maj=49.3km s-min=14.2km az=75.0*

ISC 04 03:46:46.6±0.9, 2.9N±0.1×123.2E±0.3, h489km, n7, σ1§10/8, mb3.5/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.61**	**204**	P	**P**	**03 48 50.0**	**+0.8**
	1.4nm,0.3s,baz=20,slow=6.9,SNR=9.7						
FITZ	**Fitzroy Crossi**	**21.03**	**174**	P	**P**	**03 50 55.3**	**0.0**
	0.8nm,0.3s,baz=339,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**28.42**	**159**	P	**P**	**03 52 00.6**	**-0.5**
	0.5nm,0.4s,baz=342,slow=7.0,SNR=9.2						
ASAR				ScP	**ScP**	**03 57 51.0**	**-1.8**
	0.2nm,0.4s,baz=341,slow=3.5,SNR=2.0						
STKA	**Stephens Creek**	**38.78**	**155**	P	**P**	**03 53 28.7**	**+0.2**
	1.7nm,0.3s,baz=334,slow=8.5,SNR=4.4						
USRK	**Ussuriysk Ar.**	**41.83**	**9**	P	**P**	**03 53 53.9**	**+1.2**
	1.7nm,0.7s,baz=193,slow=5.6,SNR=4.3						
SONM	**Songino Array**	**47.03**	**345**	P	**P**	**03 54 32.9**	**-0.2**
	0.5nm,0.5s,baz=148,slow=8.4,SNR=1.7						
MKAR	**Makanchi Array**	**56.26**	**327**	P	**P**	**03 55 39.1**	**-0.8**
	0.3nm,0.3s,baz=121,slow=8.9,SNR=5.0						

IDC ***04*** *03:47:40.7±0.7,34.54N×90.89E, h0km, mb4.0/10, mb1 4.0/15, mb1mx3.8/50, mbtmp3.9/15, ML3.0/4, MS3.4/13, Ms1 3.4/13, ms1mx3.1/44, Error ellipse: s-maj=23.0km s-min=14.9km az=53.0*

NEIC ***04*** *03:47:42.7±1.1, 34.71N±0.08×91.5E±0.2, h25km±5km, mb4.0/10, Error ellipse: s-maj=20.8km s-min=10.6km az=71.0*

BJI ***04*** *03:47:43.1±0.0, 34.61N×91.03E, h10km, mB4.2/2, mb4.3/7, Ms3.8/5, Ms7 3.8/4*

ISC 04 03:47:42.2±0.5, 34.62N±0.05×91.03E±0.07, h10km, n44, σ1§51/39, mb4.1/11, MS3.5/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.90**	**179**	Pn	Pn	03 49 01.2	+4.8
LSA				Sg	**Sg**	**03 50 19.1**	**-0.6**
LSA	**Lhasa**	**4.90**	**179**	Pn	**Pn**	**03 48 58.2**	**+1.8**
LSA				Sn	**Sn**	**03 49 53.0**	**-0.4**
WMQ	**Urumqi**	**9.55**	**345**	*e*P	**Pn**	**03 50 04.2**	**+4.4**
WMQ				SMN			
	24nm,0.7s						
WMQ				SME			
	32nm,0.7s						
LZH	**Lanzhou**	**10.57**	**78**	*e*P	**Pn**	**03 50 16.3**	**+2.5**
LZH				pP		03 50 19.7	
LZH				sP		03 50 23.0	
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
MKAR	**Makanchi Array**	**13.84**	**334**	Pn	**Pn**	**03 50 57.1**	**-1.3**
	0.1nm,0.3s,baz=149,slow=14,SNR=5.4						
MKAR				LR	LR	03 56 25.0	
	comp=Z,56nm,20.3s,baz=97,slow=38						
MKAR	**Makanchi Array**	**13.84**	**334**		**Pn**	**03 50 57.6**	**-0.8**
MAKZ	**Makanchi**	**13.97**	**333**	Pn	**Pn**	**03 51 00.0**	**-0.1**
XAN	**Xi'an**	**14.80**	**87**	P	**Pn**	**03 51 10.4**	**-1.1**
XAN				pP	P	03 51 20.8	+3.3
XAN				S	**Sn**	**03 53 55.7**	**+0.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				L	L		
	comp=N,190nm,7.7s						
XAN				L	L		
	comp=Z,470nm,14.1s						
AAK	**Ala-Archa**	**15.19**	**307**	Pn	**P**	**03 51 24.6**	**+2.6**
	0.5nm,0.3s,baz=122,slow=12,SNR=9.9						
AAK				LR	LR	03 58 12.6	
	comp=Z,212nm,20.9s,baz=108,slow=42						
AAK	**Ala-Archa**	**15.19**	**307**	Pn	**Pn**	**03 51 19.0**	**+2.1**
AAK				IAmb	IAmb	03 51 27.3	
	comp=Z,7.1nm,0.9s						
SONM	**Songino Array**	**17.50**	**36**	P	**P**	**03 51 49.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=221,slow=11,SNR=6.0						
SONM				LR	LR	03 59 24.6	
	comp=Z,52nm,20.6s,baz=52,slow=40						
SONM	**Songino Array**	**17.50**	**36**	P	**Pn**	**03 51 42.6**	**-3.8**
CMAR	**Chiang Mai Arr**	**17.57**	**154**	P	**Pn**	**03 51 46.0**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=332,slow=11,SNR=1.1						
CMAR				LR	LR	03 59 06.8	
	comp=Z,54nm,18.6s,baz=315,slow=39						
CMAR	**Chiang Mai Arr**	**17.57**	**154**		**Pn**	**03 51 45.3**	**-1.9**
KK31	**Karatay Array**	**18.06**	**304**	P	**P**	**03 51 54.0**	**+0.4**
KKAR	**Karatay Array**	**18.06**	**304**		**P**	**03 51 54.3**	**+0.7**
KKAR	**Karatay Array**	**18.06**	**304**		**P**	**03 51 54.0**	**+0.4**
KKAR				IAmb	IAmb	03 51 57.8	
	comp=Z,2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**18.41**	**334**	P	**P**	**03 51 56.7**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=145,slow=11,SNR=8.3						
ZAA0	**Zalesovo Array**	**19.82**	**349**	P	**P**	**03 52 11.4**	**-1.3**
ZAA0				IAmb	IAmb	03 52 18.0	
	comp=Z,5.0nm,0.7s						
ZALV	**Zalesovo Beam**	**19.82**	**349**	P	**Pn**	**03 52 14.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=168,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**19.82**	**349**	P	**P**	**03 52 11.5**	**-1.3**
BVAR	**Borovoye Array**	**23.53**	**328**	P	**P**	**03 52 51.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=230,slow=31,SNR=1.8						
YULB	**Yu-li**	**28.63**	**105**	P	P	03 53 33.7	-5.3
KSRS	**Korea Array**	**29.85**	**74**	P	**P**	**03 53 50.2**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=274,slow=9.3,SNR=8.8						
KSRS				LR	LR	04 07 54.0	
	comp=Z,42nm,18.5s,baz=228,slow=40						
ARU	**Arti**	**31.05**	**325**	LR	LR	04 07 51.7	
	comp=Z,131nm,19.0s,baz=104,slow=39						
KIRV	**Kirov**	**36.42**	**324**	LR	LR	04 11 32.8	
	comp=Z,68nm,18.9s,baz=93,slow=39						
KVAR	**Kislovodsk Arr**	**38.09**	**299**	LR	LR	04 12 49.7	
	comp=Z,72nm,19.6s,baz=287,slow=40						
BR131	**Keskin Array S**	**45.35**	**294**	P	**P**	**03 56 01.1**	**+0.3**
BR131				IAmb	IAmb	03 56 03.8	
	comp=Z,2.8nm,1.0s						
BRTR	**Keskin Array B**	**45.35**	**294**	P	**P**	**03 56 00.7**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=89,slow=7.8,SNR=7.8						
BRTR	**Keskin Array B**	**45.35**	**294**	P	**P**	**03 56 00.9**	**+0.2**
AKASG	**Malin Array Be**	**46.83**	**310**	LR	LR	04 19 39.1	
	comp=Z,49nm,19.5s,baz=40,slow=41						
FINES	**FINESS Array B**	**48.42**	**324**	P	**P**	**03 56 24.6**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=102,slow=12,SNR=5.2						
FINES				LR	LR	04 18 05.3	
	comp=Z,74nm,19.1s,baz=70,slow=38						
FINES	**FINESS Array B**	**48.42**	**324**	P	**P**	**03 56 24.1**	**-0.1**
ARCES	**ARCESS Array B**	**49.49**	**335**	LR	LR	04 19 22.1	
	comp=Z,36nm,18.8s,baz=110,slow=38						
MLR	**Muntele Rosu**	**49.74**	**303**	P	**P**	**03 56 32.8**	**-1.9**
MLR				IAmb	IAmb	03 56 39.2	
	comp=Z,3.2nm,0.8s						
NOA	**NORSAR Array B**	**55.60**	**325**	P	**P**	**03 57 17.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=83,slow=7.3,SNR=3.6						
NOA				LR	LR	04 23 04.7	
	comp=Z,61nm,19.6s,baz=80,slow=38						
KMBO	**Kilima Mbogo**	**61.56**	**247**	P	**P**	**03 57 59.7**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=44,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**68.11**	**136**	P	**P**	**03 58 43.6**	**+1.2**
	baz=320,slow=5.8						
ASAR	**Alice Springs**	**70.82**	**139**	P	**P**	**03 58 59.8**	**+0.6**
	comp=Z,2.3nm,0.9s,baz=326,slow=6.0,SNR=14						
ILAR	**Eielson Array**	**71.14**	**23**	P	**P**	**03 59 01.3**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=295,slow=4.8,SNR=14						
YKA	**Yellowknife Ar**	**81.05**	**12**	P	**P**	**03 59 57.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=301,slow=8.8,SNR=4.5						
STKA	**Stephens Creek**	**81.46**	**138**	P	**P**	**03 59 59.4**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=324,slow=12,SNR=4.7						
MSVF	**Nonsavu**	**97.49**	**106**	LR	LR	04 39 38.0	
	comp=Z,33nm,21.4s,baz=173,slow=32						
CPUP	**Villa Florida**	**151.60**	**278**	PKPbc	**PKPbc**	**04 07 35.6**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=46,slow=2.7,SNR=9.0						

TAP 04 03:53:26.0, 23.69N×120.99E, h13km, ML2.0, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.11**	**343**	⇑P	Pb	03 53 29.8	-0.2
	baz=343						
SSLB				S	Sb	03 53 32.0	-0.6
	baz=343						
SSLB	**Suanglung**	**0.11**	**343**	P	Pb	03 53 29.5	-0.4
WHYT	**Xinyi Township**	**0.12**	**275**	*e*P	Pb	03 53 29.9	-0.3
	baz=275						
WHYT				S	Sb	03 53 32.8	-0.3
	baz=275						
SMLT	**Sun Moon Lake**	**0.21**	**338**	P	Pb	03 53 31.6	-0.3
	baz=339						
SMLT				S	Sb	03 53 35.3	-0.4
	baz=339						
ALS	**Alishan**	**0.24**	**224**	P	Pg	03 53 31.8	+0.5
	baz=222						
ALS				*e*S	Sg	03 53 35.8	+0.9
	baz=222						
TYC	**Yuchr**	**0.25**	**331**	P	Pb	03 53 32.0	-0.3
	baz=333						
TYC				S	Sb	03 53 36.4	-0.2
	baz=333						
WJS	**Zhushan**	**0.27**	**300**	*e*P	Pb	03 53 32.9	+0.1
	baz=299						
WJS				*e*S	Sb	03 53 38.0	+0.7
	baz=299						
CHN5	**Tsauling**	**0.30**	**253**	P	Pb	03 53 32.8	-0.4
	baz=252						
CHN5				*e*S	Sb	03 53 37.6	-0.5
	baz=252						
OWD	**Renai**	**0.32**	**33**	*e*P	Pb	03 53 33.5	-0.2
	baz=32						
OWD				*e*S	Sb	03 53 37.9	-0.9
	baz=32						
WPL	**Puli Township**	**0.33**	**355**	*e*P	Pb	03 53 33.5	-0.2
	baz=353						
WNT	**Mingjian**	**0.34**	**305**	*e*S	Sb	03 53 40.2	+1.0
	baz=305						
DPDB	**Guoxing**	**0.35**	**351**	*e*P	Pb	03 53 33.8	-0.3
	baz=350						
DPDB				*e*S	Sb	03 53 39.4	-0.3
	baz=350						
EHY	**Hungye**	**0.35**	**120**	P	Pb	03 53 34.2	0.0
	baz=119						
EHY				S	Sb	03 53 40.2	+0.5
	baz=119						
WCS	**Beigang Elemen**	**0.38**	**349**	*e*P	Pb	03 53 34.3	-0.2
	baz=349						
WCS				*e*S	Sb	03 53 40.0	-0.4
	baz=349						
EGFH	**Guangfu**	**0.40**	**92**	*e*P	Pb	03 53 35.0	0.0
	baz=92						
EGFH				*e*S	Sb	03 53 40.9	-0.2
	baz=92						
YULB	**Yu-li**	**0.41**	**136**	P	Pb	03 53 34.8	-0.2
	baz=135						
YULB				*e*S	Sb	03 53 41.0	-0.2
	baz=135						
CHGB	**Renai**	**0.41**	**25**	*e*P	Pb	03 53 35.1	-0.2
	baz=24						
CHGB				S	Sb	03 53 41.7	+0.2
	baz=24						
WDLH	**Douliu**	**0.41**	**271**	*e*P	Pb	03 53 35.2	+0.1
	baz=270						
WDLH				*e*S	Sb	03 53 42.1	+0.8
	baz=270						
TWF1	**Yuli**	**0.44**	**139**	*e*P	Pb	03 53 35.5	-0.1
	baz=138						
TWF1				*e*S	Sb	03 53 42.1	0.0
	baz=138						
HGSD	**Ruisui**	**0.44**	**116**	*e*P	Pb	03 53 36.1	+0.5
	baz=115						
EYUL	**Yuli**	**0.45**	**138**	*e*P	Pb	03 53 35.8	0.0
	baz=137						
CHN4	**Tsaushan**	**0.49**	**227**	*e*P	Pb	03 53 36.6	+0.1
	baz=227						
TPUB	**Ta-pu**	**0.50**	**221**	*e*P	Pb	03 53 36.7	-0.1
	baz=220						
WHF	**Hehuan Shan**	**0.52**	**29**	*e*P	Pb	03 53 37.1	-0.3
	baz=29						
STYH	**Taoyuan**	**0.55**	**201**	*e*S	Sb	03 53 45.6	+0.3
	baz=200						
CHY	**Chiayi**	**0.55**	**250**	*e*P	Pb	03 53 37.6	+0.1
	baz=249						
WTP	**Ta-pu**	**0.56**	**218**	*e*P	Pb	03 53 37.6	0.0
	baz=217						
WTP				*e*S	Sb	03 53 45.8	+0.3
	baz=217						
FULB	**Fuli**	**0.56**	**150**	*e*P	Pb	03 53 38.3	+0.6
	baz=149						
FULB				*e*S	Sb	03 53 46.6	+1.0
	baz=149						
WHP	**Taichung City**	**0.59**	**356**	*e*P	Pb	03 53 38.9	+0.6
	baz=356						
WRL	**Guolierlin Hig**	**0.60**	**291**	*e*P	Pb	03 53 38.1	-0.2
	baz=291						
WRL				*e*S	Sb	03 53 46.8	+0.1
	baz=291						
TWK	**Hsinying**	**0.62**	**228**	*e*P	Pb	03 53 38.6	-0.1
	baz=226						
CHN1	**Nanshi**	**0.65**	**220**	*e*P	Pb	03 53 39.2	0.0
	baz=220						
CHN1				*e*S	Sb	03 53 48.8	+0.6
	baz=220						
ETLH	**Xiulin Townshi**	**0.69**	**41**	*e*P	Pg	03 53 39.5	+0.1
	baz=41						
ETLH				*e*S	Sb	03 53 49.9	+0.5
	baz=41						
NACB	**Ninganchiao**	**0.74**	**49**	*e*P	Pg	03 53 40.4	+0.1
	baz=48						
NACB				*e*S	Sb	03 53 51.7	+0.9
	baz=48						
SLGT	**Liugui**	**0.76**	**205**	*e*P	Pb	03 53 41.0	0.0
	baz=204						
SLGT				*e*S	Sb	03 53 52.2	+0.9
	baz=204						
NNSB	**Datong**	**0.82**	**26**	*e*P	Pg	03 53 42.1	+0.1
	baz=26						
NNSH	**Datong**	**0.82**	**26**	*e*P	Pg	03 53 42.0	+0.1
	baz=26						
YHNB	**Yeheng**	**1.04**	**20**	*e*P	Pg	03 53 46.2	+0.1
	baz=19						

NEIC ***04*** *04:14:16.1±1.4, 12.5S±0.1×167.1E±0.2, h202km±9km, mb4.4/12, Error ellipse: s-maj=25.9km s-min=15.4km az=95.0*

IDC ***04*** *04:14:18.9±4.6, 12.56S×166.94E, h228km±48km, mb3.7/10, mb1 3.9/11, mb1mx3.7/30, mbtmp4.2/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/31, Error ellipse: s-maj=34.8km s-min=22.2km az=146.0*

ISC 04 04:14:17.3±0.6, 12.62S±0.07×167.1E±0.1, h220km, n39, σ1§40/40, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.81**	**177**	Pn	**Pn**	**04 15 05.6**	**-0.3**
SANVU				Sn	**S**	**04 15 42.2**	**-1.6**
YATNC	**Mamie plateau,**	**9.38**	**181**	P	**Pn**	**04 16 31.5**	**+3.1**
DZM	**Mont Dzumac**	**9.41**	**184**	P	**Pn**	**04 16 31.1**	**+2.2**
	1.8nm,0.3s,baz=343,slow=7.4,SNR=11						
DZM	**Mont Dzumac**	**9.41**	**184**		**Pn**	**04 16 29.9**	**+1.0**
DZM	**Mont Dzumac**	**9.41**	**184**	P	**P**	**04 16 33.4**	**-3.5**
NOUC	**Port Laguerre**	**9.45**	**184**	P	**P**	**04 16 34.6**	**-2.6**
OUENC	**Ouen Island, N**	**9.74**	**181**	Pn	**Pn**	**04 16 35.2**	**+2.2**
OUENC	**Ouen Island, N**	**9.74**	**181**	P	**P**	**04 16 37.9**	**-2.5**
EIDS	**Eidsvold**	**19.70**	**228**	P	**P**	**04 18 31.8**	**+1.5**
EIDS				IAmb	IAmb	04 18 32.6	
	comp=Z,9.2nm,0.6s						
PMG	**Port Moresby**	**19.80**	**277**	LR	LR	04 24 33.1	
	comp=Z,46nm,20.9s,baz=88,slow=31						
CTA	**Charters Tower**	**21.29**	**247**	P	**P**	**04 18 47.2**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=90,slow=11,SNR=4.1						
ARMA	**Armidale**	**22.75**	**216**	P	**P**	**04 19 02.4**	**+1.5**
ARMA				IAmb	IAmb	04 19 04.2	
	comp=Z,6.4nm,0.8s						
BKZ	**Black Stump Fm**	**27.73**	**164**	P	**P**	**04 19 45.7**	**+0.3**
TUWZ	**Tuamarina**	**29.32**	**169**	P	**P**	**04 20 00.3**	**+0.9**
THZ	**Tophouse**	**29.47**	**171**	P	**P**	**04 20 01.8**	**+0.9**
STKA	**Stephens Creek**	**30.25**	**227**	P	**P**	**04 20 09.4**	**+1.6**
	comp=Z,1.8nm,0.5s,baz=69,slow=8.6,SNR=5.6						
STKA	**Stephens Creek**	**30.25**	**227**	P	**P**	**04 20 09.1**	**+1.3**
LTZ	**Lake Taylor**	**30.39**	**172**	P	**P**	**04 20 09.9**	**+1.0**
ASAR	**Alice Springs**	**33.29**	**246**	P	**P**	**04 20 33.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=69,slow=9.7,SNR=10.0						
ASAR	**Alice Springs**	**33.29**	**246**	P	**P**	**04 20 33.0**	**-1.6**
BBOO	**Buckleboo**	**34.75**	**230**	P	**P**	**04 20 47.2**	**+0.3**
FORT	**Forrest**	**40.24**	**237**	P	**P**	**04 21 33.2**	**+0.3**
FORT				IAmb	IAmb	04 21 45.7	
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**55.96**	**332**	P	**P**	**04 23 32.4**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=172,slow=8.5,SNR=5.0						
MJAR	**Matsushiro Arr**	**55.96**	**332**	P	**P**	**04 23 31.6**	**-1.3**
PETK	**Petropavlovsk-**	**65.96**	**354**	P	**P**	**04 24 40.9**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=154,slow=11,SNR=3.8						
PETK	**Petropavlovsk-**	**65.96**	**354**	P	**P**	**04 24 38.7**	**-1.1**
BILL	**Bilibino**	**80.45**	**360**	P	**P**	**04 26 04.2**	**+0.1**
BILL				IAmb	IAmb	04 26 06.1	
	comp=Z,6.6nm,0.9s						
WRH	**Wood River Hil**	**84.02**	**18**	P	**P**	**04 26 23.2**	**+0.5**
WRH				IAmb	IAmb	04 26 23.4	
	comp=Z,5.2nm,0.5s						
MDM	**Murphy Dome**	**84.33**	**18**	P	**P**	**04 26 24.4**	**+0.1**
IL31		**84.60**	**18**	P	**P**	**04 26 26.2**	**+0.7**
IL31				IAmb	IAmb	04 26 26.7	
	comp=Z,5.1nm,0.6s						
ILAR	**Eielson Array**	**84.60**	**18**	P	**P**	**04 26 25.8**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=247,slow=5.0,SNR=68						
ILAR	**Eielson Array**	**84.60**	**18**	P	**P**	**04 26 26.0**	**+0.4**
TXAR	**Lajitas Array**	**95.44**	**61**	P	**P**	**04 27 18.8**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=234,slow=4.0,SNR=4.0						
TXAR	**Lajitas Array**	**95.44**	**61**	P	**P**	**04 27 17.9**	**+0.3**
MKAR	**Makanchi Array**	**95.55**	**317**	P	**P**	**04 27 18.2**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=82,slow=6.5,SNR=9.1						
ZALV	**Zalesovo Beam**	**95.59**	**324**	P	**P**	**04 27 17.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=100,slow=7.5,SNR=1.5						
ZALV	**Zalesovo Beam**	**95.59**	**324**	P	**P**	**04 27 16.3**	**-1.1**
YKA	**Yellowknife Ar**	**95.78**	**27**	P	**P**	**04 27 17.5**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=252,slow=4.1,SNR=4.9						
ESDC	**Sonseca Array**	**151.91**	**345**	PKPbc	**PKPbc**	**04 33 46.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=17,slow=5.4,SNR=3.8						
ESDC				PKPab	**PKPab**	**04 33 57.1**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=13,slow=4.8,SNR=8.1						

IDC ***04*** *04:55:07.4±2.1, 17.45S×178.85W, h577km±19km, mb3.0/5, mb1 3.4/7, mb1mx3.1/26, mbtmp4.0/7, Error ellipse: s-maj=100.2km s-min=18.2km az=148.0*

NEIC ***04*** *04:55:07.2±0.7, 17.7S±0.3×178.7W±0.1, h574km±11km, mb4.2/13, Error ellipse: s-maj=39.1km s-min=9.9km az=158.0*

ISC 04 04:55:08.6±1.1, 17.6S±0.3×178.9W±0.2, h600km, n26, σ1§09/26, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.95**	**267**	P	**P**	**04 56 24.5**	**-3.1**
	8.8nm,0.3s,baz=122,slow=5.4,SNR=49						
MSVF	**Nonsavu**	**2.95**	**267**	P	**P**	**04 56 24.1**	**-3.5**
DZM	**Mont Dzumac**	**14.51**	**250**	P	**P**	**04 58 13.7**	**+1.3**
	0.9nm,0.3s,baz=137,slow=18,SNR=2.0						
DZM	**Mont Dzumac**	**14.51**	**250**	P	**P**	**04 58 12.6**	**+0.1**
ARMA	**Armidale**	**29.71**	**239**	P	**P**	**05 00 28.0**	**-0.1**
ARMA				IAmb	IAmb	05 00 44.4	
	comp=Z,8.2nm,1.1s						
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**05 01 40.9**	**+0.7**
	comp=Z,2.9nm,0.4s,baz=98,slow=9.6,SNR=9.0						
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**05 01 40.9**	**+0.7**
BBOO	**Buckleboo**	**43.16**	**241**	P	**P**	**05 02 18.0**	**0.0**
AS31	**Alice Springs**	**44.45**	**254**	P	**P**	**05 02 28.4**	**+0.3**
AS31				IAmb	IAmb	05 02 29.0	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**05 02 28.4**	**+0.3**
	comp=Z,15nm,0.4s,baz=89,slow=8.1,SNR=275						
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**05 02 28.6**	**+0.5**
MTN	**Manton Dam**	**48.38**	**268**	P	**P**	**05 02 58.0**	**+0.3**
MTN				IAmb	IAmb	05 03 03.3	
	comp=Z,8.4nm,0.9s						
FORT	**Forrest**	**49.74**	**244**	P	**P**	**05 03 07.1**	**-0.4**
FORT				IAmb	IAmb	05 03 18.6	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**50.09**	**264**	P	**P**	**05 03 10.7**	**+0.4**
KNRA				IAmb	IAmb	05 03 19.3	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	**P**	**05 03 29.3**	**+0.6**
FITZ				IAmb	IAmb	05 03 29.7	
	comp=Z,5.1nm,1.1s						
PSA00	**Pilbara Seismi**	**57.56**	**255**	P	**P**	**05 04 03.4**	**+0.7**
PSA00	**Pilbara Seismi**	**57.56**	**255**	P	**P**	**05 04 03.1**	**+0.3**
PSA00				IAmb	IAmb	05 04 16.6	
	comp=Z,12nm,1.1s						
JHS	**Saijyo**	**69.40**	**319**	P	**P**	**05 05 17.9**	**+0.1**
YOJ	**Yonaguni jima**	**70.43**	**305**	P	**P**	**05 05 24.5**	**+0.4**
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**05 06 14.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=231,slow=5.7,SNR=4.8						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**05 06 15.0**	**+0.4**
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**05 06 44.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=217,slow=6.1,SNR=1.2						
TXAR	**Lajitas Array**	**86.21**	**58**	P	**P**	**05 06 48.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=221,slow=6.3,SNR=8.5						
TXAR	**Lajitas Array**	**86.21**	**58**	P	**P**	**05 06 48.3**	**+0.3**
PDAR	**Pinedale Array**	**87.45**	**44**	P	**P**	**05 06 53.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=183,slow=3.0,SNR=3.8					

RCC				*e*S	Sn	05 06 50.5	-3.9
RCC				IAML		05 06 52.4	
	comp=E,42nm,0.3s						
RCC				IAML		05 06 52.7	
	comp=N,80nm,0.2s						
LMGC	**Las Mercedes**	**3.21**	**287**	*e*P	Pn	05 06 42.1	-3.1
LMGC				*e*Pg	Pb	05 06 46.5	-5.1
LMGC				*e*S	Sn	05 07 17.9	-5.7
LMGC				IAML		05 07 19.0	
	comp=E,15nm,0.1s						
LMGC				IAML		05 07 19.2	
	comp=N,17nm,0.1s						
MGV	**Manicaragua**	**6.54**	**298**	*e*P	Pn	05 07 28.7	-2.3
MGV				*e*S	Sn	05 08 40.0	-5.8
MGV				IAML		05 08 44.5	
	comp=N,1.3nm,0.4s						
MGV				IAML		05 08 45.5	
	comp=E,1.1nm,0.4s						

NEIC ***04*** *05:36:36.5±1.3, 41˚.45N±0˚.05×141˚.98E±0˚.03, h65km±8km, mb4.4/11, Error ellipse: s-maj=7.5km s-min=3.5km az=183.0*

JMA ***04*** *05:36:36.0±0.1, 41˚.49N×141˚.99E, h64km±1km, M3.6*

JMA Felt I J1.

IDC ***04*** *05:36:38.6±2.4, 41˚.59N×141˚.77E, h76km±16km, mb3.6/6, mb1 3.6/10, mb1mx3.4/38, mbtmp3.8/10, MS2.6/2, Ms1 2.6/2, ms1mx2.2/42, Error ellipse: s-maj=33.5km s-min=14.3km az=127.0*

ISC 04 05:36:36.1±0.8, 41˚.48N±0˚.03×141˚.98E±0˚.04, h63km±7km, n65, σ0s93/70, mb4.2/13, 1C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.53**	**246**	⇓P	**Pn**	**05 36 48.9**	**+0.3**
JAHD				S	**Sn**	**05 36 58.5**	**+0.8**
JARK	**Aomorirokkasho**	**0.66**	**225**	⇓P	**Pn**	**05 36 50.0**	**-0.1**
JARK				S	**Sn**	**05 37 00.0**	**-0.3**
JOT	**Ohata**	**0.71**	**262**	⇓P	**Pn**	**05 36 50.6**	**0.0**
JOT				S	**Sn**	**05 37 01.6**	**+0.3**
JKB	**Kayabe**	**0.82**	**300**	⇓P	**Pn**	**05 36 51.8**	**-0.2**
JKB				S	**Sn**	**05 37 03.7**	**+0.1**
JTM	**Tenmabayashi**	**0.98**	**225**	⇓P	**Pn**	**05 36 54.3**	**+0.3**
JTM				S	**Sn**	**05 37 07.3**	**+0.1**
JTM	**Tenmabayashi**	**0.98**	**225**		**Pn**	**05 36 54.5**	**+0.5**
JNBK	**Urakawa-nobuka**	**0.98**	**36**	P	**Pn**	**05 36 53.5**	**-0.6**
JNBK				*e*S	**Sn**	**05 37 06.5**	**-0.9**
ERM	**Erimo**	**1.03**	**58**		**Pn**	**05 36 54.8**	**+0.2**
ERM				Sn	**Sn**	**05 37 09.3**	**+0.9**
JEM	**Erimo**	**1.03**	**58**	⇑P	**Pn**	**05 36 54.6**	**0.0**
JEM				*e*S	**Sn**	**05 37 08.3**	**-0.1**
JANG	**Nango**	**1.16**	**198**	P	**Pn**	**05 36 56.1**	**-0.3**
JANG				S	**Sn**	**05 37 10.9**	**-0.6**
JSR	**Shiriuchi**	**1.18**	**273**	P	**Pn**	**05 36 56.8**	**+0.3**
JNB	**Noboribetsu**	**1.21**	**325**	⇓P	**Pn**	**05 36 56.7**	**-0.3**
JNB				S	**Sn**	**05 37 12.2**	**-0.5**
JBT2	**Biratori 2**	**1.33**	**12**	P	**Pn**	**05 36 58.9**	**+0.3**
JYM2	**Yakumo 2**	**1.36**	**298**	⇓P	**Pn**	**05 36 59.7**	**+0.7**
JEW	**Eniwo**	**1.42**	**344**	⇓P	**Pn**	**05 37 00.2**	**+0.5**
JEW				S	**Sn**	**05 37 17.6**	**+0.1**
JEW	**Eniwo**	**1.42**	**344**		**Pn**	**05 37 00.4**	**+0.7**
JEW				Sn	**Sn**	**05 37 19.2**	**+1.8**
JOMM	**Oshimamatsumae**	**1.48**	**272**	P	**Pn**	**05 37 00.8**	**+0.2**
JCH	**Churui**	**1.53**	**42**	P	**Pn**	**05 37 02.3**	**+1.0**
JCH				*e*S	**Sn**	**05 37 21.3**	**+1.1**
JAH	**Hinai**	**1.65**	**219**	P	**Pn**	**05 37 03.8**	**+1.0**
JAH				S	**Sn**	**05 37 25.1**	**+2.1**
JFR	**Furan**	**1.74**	**15**	P	**Pn**	**05 37 04.5**	**+0.3**
JOSM	**Okushiri--Mats**	**1.97**	**289**	P	**Pn**	**05 37 07.2**	**0.0**
ASAJ	**Asahikawa**	**2.67**	**10**	P	**Pn**	**05 37 17.6**	**+0.8**
	9.1nm,0.3s,baz=212,slow=13,SNR=17						
ASAJ				S	**Sn**	**05 37 49.8**	**+1.8**
	4.8nm,0.3s,baz=40,slow=27,SNR=6.2						
ASAJ				LR	LR	05 38 50.7	
	comp=Z,53nm,19.4s,baz=164,slow=51						
JKA	**Kamikawa-asahi**	**2.67**	**10**		**Pn**	**05 37 18.5**	**+1.8**
JMM	**Marumori**	**3.72**	**195**	Pn	**Pn**	**05 37 32.2**	**+1.0**
JSD	**Sado**	**4.48**	**221**	Pn	**Pn**	**05 37 42.1**	**+0.6**
MJAR	**Matsushiro Arr**	**5.74**	**212**	P	**Pn**	**05 38 01.6**	**+2.8**
	0.1nm,0.3s,baz=24,slow=14,SNR=2.2						
USA0B	**Ussuriysk Arra**	**7.83**	**294**	Pn	**Pn**	**05 38 26.5**	**-0.8**
USRK	**Ussuriysk Ar.**	**7.83**	**294**	P	**Pn**	**05 38 26.3**	**-1.0**
	baz=97,slow=15,SNR=4.5						
USRK	**Ussuriysk Ar.**	**7.83**	**294**	Pn	**Pn**	**05 38 27.4**	**+0.2**
KLR	**Kul'dur**	**10.57**	**321**	LR	LR	05 43 12.0	
	comp=Z,55nm,18.5s,baz=166,slow=38						
KSRS	**Korea Array**	**11.58**	**254**	P	**Pn**	**05 39 20.9**	**+2.3**
	0.4nm,0.3s,baz=65,slow=13,SNR=4.1						
JNU	**Nakatsue**	**12.15**	**230**	Pn	**Pn**	**05 39 26.0**	**-0.3**
SONM	**Songino Array**	**25.93**	**296**	P	**P**	**05 42 00.1**	**-2.3**
	0.7nm,0.4s,baz=99,slow=9.2,SNR=2.5						
TLY	**Talaya**	**27.96**	**305**	P	**P**	**05 42 20.9**	**+0.4**
TLY				IAmb	IAmb	05 42 43.0	
	comp=Z,6.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	06 15 12.3	
	baz=321,slow=76,SNR=44						
H11N1	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	06 15 12.5	
	baz=321,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	06 15 13.6	
	baz=321,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	06 16 12.9	
	baz=322,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	06 16 14.2	
	baz=322,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	06 16 15.2	
	baz=322,slow=76,SNR=18						
ZAA0	**Zalesovo Array**	**39.37**	**308**	P	**P**	**05 43 59.5**	**+0.4**
ZALV	**Zalesovo Beam**	**39.37**	**308**	P	**P**	**05 43 59.2**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=74,slow=7.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.37**	**308**	P	**P**	**05 43 58.7**	**-0.5**
MK31	**Makanchi Array**	**42.27**	**298**	P	**P**	**05 44 23.0**	**-0.2**
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**	**05 44 23.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=83,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**	**05 44 23.4**	**+0.2**
IMAR	**Indian Mountai**	**42.65**	**33**	P	**P**	**05 44 26.6**	**+0.6**
ILAR	**Eielson Array**	**45.55**	**35**	P	**P**	**05 44 50.1**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=279,slow=7.4,SNR=7.8						
ILAR	**Eielson Array**	**45.55**	**35**	P	**P**	**05 44 49.0**	**-0.1**
PRP	**Porcupine Dome**	**46.05**	**34**	P	**P**	**05 44 52.0**	**-1.3**
PRP				IAmb	IAmb	05 44 55.5	
	comp=Z,3.8nm,0.9s						
BMRM	**Bremner River**	**47.10**	**40**	P	**P**	**05 45 01.8**	**+0.3**
MENT	**Mentasta**	**47.17**	**37**	P	**P**	**05 44 59.8**	**-2.2**
MENT				IAmb	IAmb	05 45 00.7	
	comp=Z,7.1nm,0.8s						
INK	**Inuvik**	**50.26**	**29**	P	**P**	**05 45 26.2**	**+0.7**
INK				IAmb	IAmb	05 45 31.6	
	comp=Z,2.5nm,0.8s						
KK31	**Karatay Array**	**51.38**	**297**	P	**P**	**05 45 34.4**	**0.0**
KK31				IAmb	IAmb	05 45 34.8	
	comp=Z,1.3nm,0.6s						
KKAR	**Karatay Array**	**51.38**	**297**	P	**P**	**05 45 33.7**	**-0.7**
ABKAR	**Akbulak array**	**55.48**	**308**	P	**P**	**05 46 04.0**	**-0.3**
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**05 47 09.4**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=46,slow=8.2,SNR=6.2						
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**05 47 09.9**	**+0.2**
AKASG	**Malin Array Be**	**71.07**	**322**	P	**P**	**05 47 47.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=45,slow=6.5,SNR=4.9						
LAO	**LASA Array**	**73.35**	**42**	P	**P**	**05 48 00.8**	**-0.3**
LAO				IAmb	IAmb	05 48 16.8	
	comp=Z,7.3nm,0.6s						
K22A	**Casper**	**75.98**	**45**	P	**P**	**05 48 15.2**	**-1.2**
K22A				IAmb	IAmb	05 48 30.1	
	comp=Z,9.1nm,1.5s						
ITM	**Ithomi**	**84.46**	**316**	P	**P**	**05 49 02.3**	**+0.3**
H03N2	**Juan Fernandez**	**146.79**	**89**	T	T	08 41 03.8	
	baz=300,slow=77,SNR=13						
H03N3	**Juan Fernandez**	**146.81**	**90**	T	T	08 41 05.0	
	baz=300,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**146.81**	**89**	T	T	08 41 05.1	
	baz=300,slow=77,SNR=16						

TAP ***04*** *05:41:43.5, 24˚.82N×122˚.03E, h5km, ML3.4, C*

JMA ***04*** *05:41:43.7±0.1, 24˚.84N×121˚.94E, h36km±5km, M2.8*

ISC 04 05:41:43.4±0.8, 24˚.81N±0˚.02×122˚.02E±0˚.02, h12km±6km, n95, σ0s63/124, 7C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.18**	**284**	⇑*i*P	**Pg**	**05 41 47.2**	**-0.2**
	baz=281						
NTC				*i* S	**Sg**	**05 41 50.2**	**+0.1**
	baz=281						
TWB1	**Santiao Chiao**	**0.20**	**352**	⇓*i*P	**Pg**	**05 41 47.1**	**-0.6**
	baz=350						
TWB1				*i* S	**Sg**	**05 41 50.1**	**-0.6**
	baz=350						
TIPB	**Shuangxi**	**0.24**	**312**	⇑*i*P	**Pg**	**05 41 48.1**	**-0.3**
	baz=309						
TIPB				*i* S	**Sg**	**05 41 51.5**	**-0.3**
	baz=309						
ILA	**Ilan**	**0.25**	**259**	P	**Pg**	**05 41 48.7**	**0.0**
	baz=257						
ILA				S	**Sg**	**05 41 52.7**	**+0.6**
	baz=257						
TWC	**Suao**	**0.26**	**217**	⇑*i*P	**Pg**	**05 41 48.6**	**-0.1**
	baz=216						
TWC				*e*S	**Sg**	**05 41 53.2**	**+0.9**
	baz=216						
NDS	**Dongshan**	**0.33**	**237**	⇓P	**Pg**	**05 41 49.9**	**-0.1**
	baz=237						
NDS				*e*S	**Sb**	**05 41 56.3**	**-0.2**
	baz=237						
TWE	**Neicheng**	**0.33**	**254**	⇓*i*P	**Pg**	**05 41 49.9**	**-0.2**
	baz=252						
TWE				*i* S	**Sg**	**05 41 54.6**	**0.0**
	baz=252						
NWF	**Wu-fen Shan**	**0.34**	**320**	⇑P	**Pg**	**05 41 50.2**	**0.0**
	baz=318						
NWF				S	**Sg**	**05 41 55.3**	**+0.5**
	baz=318						
WFSB	**Wu-fen Shan**	**0.34**	**320**	⇑*i*P	**Pg**	**05 41 50.3**	**+0.1**
	baz=318						
WFSB				S	**Sg**	**05 41 55.3**	**+0.6**
	baz=318						
TNOU	**National Taiwa**	**0.40**	**326**	P	**Pg**	**05 41 51.4**	**0.0**
	baz=324						
TNOU				*e*S	**Sg**	**05 41 56.6**	**-0.2**
	baz=324						
EWUT	**Wuta**	**0.43**	**211**	*e*P	**Pg**	**05 41 52.3**	**-0.5**
	baz=211						
EWUT				*e*S	**Sb**	**05 41 59.1**	**-0.2**
	baz=211						
TWA	**Mucha**	**0.43**	**293**	P	**Pg**	**05 41 51.9**	**-0.1**
	baz=291						
TWA				*e*S	**Sg**	**05 41 57.8**	**+0.2**
	baz=291						
ENTT	**Nioudou**	**0.45**	**247**	P	**Pg**	**05 41 52.2**	**0.0**
	baz=246						
ENTT				*e*S	**Sb**	**05 42 00.0**	**+0.1**
	baz=246						
NWLT	**Wulai**	**0.47**	**266**	P	**Pg**	**05 41 52.6**	**-0.1**
	baz=265						
NWLT				*e*S	**Sg**	**05 41 58.9**	**-0.1**
	baz=265						
NHDH	**Xindian Distri**	**0.47**	**289**	*e*P	**Pg**	**05 41 52.9**	**+0.2**
	baz=287						
NHDH				S	**Sg**	**05 41 59.6**	**+0.6**
	baz=287						
NDT	**Datong Townshi**	**0.51**	**246**	P	**Pg**	**05 41 53.2**	**-0.1**
	baz=245						
TATO	**Taipei**	**0.51**	**289**	P	**Pg**	**05 41 53.5**	**+0.1**
	baz=287						
TATO				S	**Sg**	**05 42 00.1**	**0.0**
	baz=287						
TAP	**Taipei**	**0.52**	**296**	*e*P	**Pg**	**05 41 53.5**	**-0.1**
	baz=295						
TAP				*e*S	**Sg**	**05 42 00.8**	**+0.4**
	baz=295						
YM01	**YM01**	**0.53**	**309**	⇑P	**Pg**	**05 41 54.2**	**+0.5**
	baz=308						
YM08	**YM08**	**0.54**	**314**	⇑P	**Pg**	**05 41 54.1**	**+0.1**
	baz=312						
ANP	**Anpu**	**0.59**	**310**	*e*P	**Pg**	**05 41 54.8**	**-0.1**
	baz=308						
TWY	**Chenhua**	**0.60**	**321**	*e*P	**Pg**	**05 41 55.0**	**-0.1**
	baz=319						
YHNB	**Yeheng**	**0.60**	**256**	⇓P	**Pg**	**05 41 54.8**	**-0.4**
	baz=256						
YHNB				*e*S	**Sg**	**05 42 02.6**	**-0.5**
	baz=256						
NSK	**Sanguang**	**0.62**	**257**	P	**Pg**	**05 41 54.9**	**-0.5**
	baz=256						
TWS1	**Kuangyinshan**	**0.62**	**298**	*e*P	**Pg**	**05 41 55.8**	**+0.4**
	baz=297						
NTST	**Danshui**	**0.62**	**304**	*e*P	**Pb**	**05 41 56.2**	**-0.1**
	baz=303						
NNSB	**Datong**	**0.69**	**237**	*e*P	**Pg**	**05 41 56.7**	**-0.2**
	baz=236						
NNSB				*e*S	**Sb**	**05 42 07.1**	**0.0**
	baz=236						
NNSH	**Datong**	**0.69**	**237**	P	**Pg**	**05 41 56.8**	**-0.1**
	baz=236						
NNSH				*e*S	**Sb**	**05 42 07.0**	**-0.1**
	baz=236						
NNS	**Nan Shan**	**0.69**	**238**	P	**Pg**	**05 41 57.0**	**0.0**
	baz=237						
NNS				*e*S	**Sb**	**05 42 06.8**	**-0.3**
	baz=237						
NACB	**Ninganchiao**	**0.74**	**211**	P	**Pg**	**05 41 57.8**	**-0.1**
	baz=211						
NACB				*e*S	**Sb**	**05 42 08.5**	**+0.1**
	baz=211						
NCU	**National Centr**	**0.77**	**282**	*e*P	**Pb**	**05 41 59.2**	**+0.4**
	baz=281						
ETLH	**Xiulin Townshi**	**0.78**	**219**	*e*P	**Pg**	**05 41 58.3**	**-0.1**
	baz=219						
ETLH				*e*S	**Sb**	**05 42 09.7**	**+0.2**
	baz=219						
PCYT	**Pengchaiyu**	**0.81**	**3**	*e*P	**Pg**	**05 41 59.4**	**+0.2**
	baz=3.0						
TWD	**Chiawan**	**0.82**	**208**	*e*P	**Pg**	**05 41 59.2**	**-0.2**
	baz=207						
TWD				*e*S	**Sb**	**05 42 10.9**	**+0.1**
	baz=207						
NHW	**Xinwu Township**	**0.90**	**283**	*e*P	**Pb**	**05 42 01.5**	**+0.5**
	baz=281						
JYNG	**Yonagunijimaku**	**0.92**	**113**	P	**Pb**	**05 42 01.6**	**+0.4**
JYNG				*e*S	**Sb**	**05 42 14.9**	**+1.5**
LIOB	**Emei**	**0.93**	**260**	*e*P	**Pb**	**05 42 01.9**	**+0.4**
	baz=259						
SBCB	**Hsinchu**	**0.94**	**269**	*e*P	**Pb**	**05 42 01.6**	**0.0**
	baz=268						
NSTT	**Nanjuang**	**0.94**	**259**	*e*P	**Pg**	**05 42 01.5**	**-0.1**
	baz=258						
WHF	**Hehuan Shan**	**0.96**	**226**	*e*P	**Pg**	**05 42 01.2**	**-0.7**
	baz=225						
TDCB	**Techi**	**0.96**	**235**	*e*P	**Pb**	**05 42 02.0**	**-0.2**
	baz=234						
YOJ	**Yonaguni jima**	**0.97**	**111**	P	**Pg**	**05 42 02.2**	**+0.1**
YOJ				*e*S	**Sg**	**05 42 15.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.97**	**111**	*e*P	**Pg**	**05 42 02.1**	**0.0**
	baz=111						
YOJ				*e*S	**Sb**	**05 42 15.6**	**+0.8**
	baz=111						
ETM	**Tongmen**	**0.97**	**210**	*e*P	**Pg**	**05 42 01.8**	**-0.3**
	baz=210						
TEYL	**Yanliau Villag**	**1.02**	**202**	*e*P	**Pg**	**05 42 02.6**	**-0.4**
	baz=203						
CHGB	**Renai**	**1.07**	**226**	*e*P	**Pg**	**05 42 03.5**	**-0.6**
	baz=225						
WHP	**Taichung City**	**1.11**	**242**	*e*P	**Pb**	**05 42 04.8**	**+0.1**
	baz=241						
ESL	**Shilin**	**1.13**	**208**	*e*P	**Pg**	**05 42 04.7**	**-0.5**
	baz=208						
OWD	**Renai**	**1.15**	**222**	*e*P	**Pg**	**05 42 04.9**	**-0.7**
	baz=222						
NMLH	**Miaoli**	**1.15**	**256**	*e*P	**Pn**	**05 42 05.9**	**+0.5**
	baz=256						
NSY	**Sanyi**	**1.21**	**251**	*e*P	**Pg**	**05 42 06.1**	**-0.6**
	baz=250						
WPL	**Puli Township**	**1.25**	**231**	*e*P	**Pg**	**05 42 07.1**	**-0.4**
	baz=230						
WCS	**Beigang Elemen**	**1.26**	**234**	*e*P	**Pn**	**05 42 08.9**	**+2.0**
	baz=233						
EGFH	**Guangfu**	**1.26**	**206**	*e*P	**Pg**	**05 42 07.1**	**-0.5**
	baz=205						
DPDB	**Guoxing**	**1.26**	**232**	*e*P	**Pn**	**05 42 07.8**	**+0.8**
	baz=232						
SMLT	**Sun Moon Lake**	**1.38**	**228**	*e*P	**Pn**	**05 42 09.3**	**+0.7**
	baz=227						
TYC	**Yuchr**	**1.39**	**230**	*e*P	**Pn**	**05 42 09.5**	**+0.8**
	baz=229						
SSLB	**Suanglung**	**1.41**	**224**	*e*P	**Pn**	**05 42 09.5**	**+0.5**
	baz=223						
HGSD	**Ruisui**	**1.42**	**203**	*e*P	**Pb**	**05 42 10.3**	**+0.4**
	baz=202						
YULB	**Yu-li**	**1.56**	**205**	*e*P	**Pn**	**05 42 11.5**	**+0.5**
	baz=205						
TWF1	**Yuli**	**1.60**	**205**	*e*P	**Pn**	**05 42 12.0**	**+0.5**
	baz=204						
IRIF	**Iriomote-Funau**	**1.63**	**107**	P	**Pn**	**05 42 11.0**	**-0.9**
IRIF				*e*S	**Sn**	**05 42 31.6**	**-1.2**
YUS	**Yu-Shan**	**1.64**	**217**	*e*P	**Pn**	**05 42 13.3**	**+0.8**
	baz=216						
ALS	**Alishan**	**1.71**	**221**	*e*P	**Pb**	**05 42 15.3**	**+0.4**
	baz=220						
CHN5	**Tsauling**	**1.72**	**226**	*e*P	**Pg**	**05 42 15.8**	**-0.6**
	baz=225						
FULB	**Fuli**	**1.74**	**203**	*e*P	**Pn**	**05 42 14.0**	**+0.5**
	baz=202						
HATJ	**Hateruma jima**	**1.79**	**114**	P	**Pn**	**05 42 14.1**	**-0.1**
ELDTW	**Lidau**	**1.86**	**210**	*e*P	**Pn**	**05 42 16.7**	**+1.5**
	baz=209						
JKRS	**Kuro-shima**	**1.90**	**107**	P	**Pn**	**05 42 15.6**	**-0.1**
JKRS				*e*S	**Sn**	**05 42 39.0**	**-0.6**
EDH	**Donghe**	**1.94**	**200**	*e*P	**Pn**	**05 42 16.9**	**+0.6**
	baz=199						
CHN4	**Tsaushan**	**1.95**	**222**	*e*P	**Pb**	**05 42 19.4**	**+0.5**
	baz=221						
TPUB	**Ta-pu**	**1.97**	**220**	*e*P	**Pn**	**05 42 18.3**	**+1.6**
	baz=220						
JIJ	**Ishigaki jima**	**1.98**	**103**	P	**Pn**	**05 42 16.6**	**-0.2**
STYH	**Taoyuan**	**1.99**	**215**	*e*P	**Pn**	**05 42 17.6**	**+0.7**
	baz=214						
STYT	**Tauyuan**	**2.01**	**215**	*e*P	**Pb**	**05 42 19.4**	**-0.5**
	baz=215						
WTP	**Ta-pu**	**2.02**	**220**	*e*P	**Pb**	**05 42 20.4**	**+0.3**
	baz=219						
TWK	**Hsinying**	**2.08**	**223**	*e*P	**Pb**	**05 42 20.8**	**-0.3**
	baz=222						
JISG	**Ishigakijimahi**	**2.10**	**96**	P	**Pn**	**05 42 19.4**	**+1.0**
CHN1	**Nanshi**	**2.12**	**220**	*e*P	**Pb**	**05 42 21.6**	**-0.2**
	baz=220						
LDUT	**Ludao**	**2.19**	**193**	*e*P	**Pn**	**05 42 19.8**	**+0.2**
	baz=193						
MATB	**Ma-tsu**	**2.30**	**306**	*e*P	**Pn**	**05 42 20.9**	**-0.3**
	baz=304						
VWUC	**VWUC**	**2.34**	**275**	*e*P	**Pn**	**05 42 21.7**	**0.0**
	baz=274						
SSD	**Sandimen**	**2.42**	**212**	*e*P	**Pb**	**05 42 26.0**	**-0.9**
	baz=211						
TSMG	**Majia**	**2.45**	**211**	*e*P	**Pn**	**05 42 24.8**	**+1.6**
	baz=211						
MASBT	**Mashibuluo**	**2.53**	**210**	*e*P	**Pn**	**05 42 26.1**	**+1.8**
	baz=210						
PHUB	**P'eng-hu**	**2.58**	**240**	*e*P	**Pn**	**05 42 26.0**	**+0.9**
	baz=239						
PTMZ	**Houxiangcun**	**2.64**	**276**	*e*P	**Pn**	**05 42 26.8**	**+0.9**
	baz=274						
EAST	**Anshuo**	**2.65**	**204**	*e*P	**Pb**	**05 42 29.3**	**-1.5**
	baz=203						
WDGT	**Dungji**	**2.65**	**235**	*e*P	**Pn**	**05 42 27.7**	**+1.7**
	baz=234						
LYJJ	**Jianjiangzhen**	**2.67**	**311**	*e*P	**Pn**	**05 42 25.8**	**-0.5**
	baz=310						
XPSS	**Dashiqiu**	**2.68**	**322**	*e*P	**Pn**	**05 42 26.0**	**-0.3**
	baz=321						
SCZT	**Fangliau**	**2.75**	**208**	*e*P	**Pn**	**05 42 27.5**	**+0.2**
	baz=207						
SLIU	**Shizi**	**2.82**	**204**	*e*P	**Pn**	**05 42 29.8**	**+1.5**
	baz=203						
VCHM	**Qimei**	**2.86**	**237**	*e*P	**Pn**	**05 42 28.0**	**-0.8**
	baz=236						
AXDP	**Jialang**	**3.68**	**272**	*e*P	**Pn**	**05 42 40.4**	**+0.2**
	baz=271						

IDC 04 05:48:26.1±3.5, 6˚.66S×127˚.27E, h427km±44km, mb3.2/2, mb1 3.3/3, mb1mx2.9/22, mbtmp4.1/3, Error ellipse: s-maj=111.2km s-min=14.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.88**	**153**	P	P	05 51 35.7	-0.8
	baz=330,slow=11						
ASAR	**Alice Springs**	**18.07**	**160**	P	P	05 52 10.6	+0.1
	1.1nm,0.3s,baz=346,slow=13,SNR=39						
ASAR				S	S	05 55 15.9	+0.6
	0.2nm,0.3s,baz=341,slow=26,SNR=7.6						
STKA	**Stephens Creek**	**28.43**	**154**	P	P	05 53 44.2	-0.1
	2.2nm,0.5s,baz=336,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**66.48**	**328**	P	P	05 58 31.9	0.0
	0.4nm,0.4s,baz=117,slow=7.5,SNR=11						

IDC 04 05:50:28.3±4.1, 40˚.70S×75˚.23W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML3.5/1, MS3.7/2, Ms1 3.6/2, ms1mx2.8/21, Error ellipse: s-maj=91.2km s-min=29.9km az=12.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.56**	**92**	Pn	Pn	05 51 24.6	-0.3
	1.1nm,0.3s,baz=278,slow=11,SNR=28						
PLCA				Sn	Sn	05 52 09.2	+1.6
	1.6nm,0.3s,baz=357,slow=9.7,SNR=4.1						
PLCA				LR	LR	05 52 54.8	
	comp=Z,164nm,20.5s,baz=251,slow=41						
H03S1	**Juan Fernandez**	**7.45**	**336**	T	T	06 00 10.3	
	baz=264,slow=74,SNR=16						
H03S2	**Juan Fernandez**	**7.46**	**336**	T	T	06 00 25.5	
	baz=156,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**7.46**	**336**	T	T	05 59 51.6	
	SNR=16						
CPUP	**Villa Florida**	**20.64**	**52**	P	P	05 55 09.7	+0.3
	0.9nm,0.4s,baz=222,slow=9.3,SNR=5.3						
SIV	**San Ignacio**	**27.52**	**31**	P	P	05 56 16.3	-0.3
	0.5nm,0.5s,baz=191,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**74.51**	**334**	P	P	06 02 08.7	+0.1
	0.4nm,0.7s,baz=148,slow=7.1,SNR=5.9						
RAO	**Raoul Island**	**80.22**	**240**	LR	LR	06 29 01.2	
	comp=Z,255nm,21.1s,baz=180,slow=29						

*IDC

MSVF	**Nonsavu**	**15.46**	**119**	Pn	**P**	**06 10 32.5**	**-1.2**
PMG	**Port Moresby**	**16.51**	**273**	LR	LR	06 16 20.6	
	comp=Z,570nm,21.8s,baz=114,slow=35						
PATS	**Pohnpei**	**18.17**	**342**		**Pn**	**06 10 59.9**	**-3.6**
MANU	**Manus Island**	**18.46**	**296**	P	**Pn**	**06 11 05.4**	**-1.7**
EIDS	**Eidsvold**	**19.07**	**218**	P	**Pn**	**06 11 15.5**	**+1.2**
CTA	**Charters Tower**	**19.43**	**239**	P	**P**	**06 11 16.2**	**-1.2**
	0.6nm,0.3s,baz=67,slow=13,SNR=8.6						
CTAO	**Charters Tower**	**19.43**	**239**	P	**Pn**	**06 11 17.9**	**-0.9**
CTAO					**P**	**06 11 18.2**	**+0.7**
KWAJ	**Kwajalein Atol**	**19.61**	**11**	P	**Pn**	**06 11 21.5**	**+0.6**
LHI	**Lord Howe Isla**	**21.31**	**191**	P	**P**	**06 11 37.8**	**+0.1**
ARMA	**Armidale**	**22.79**	**208**	P	**P**	**06 11 54.4**	**+0.6**
STKA	**Stephens Creek**	**29.55**	**221**	P	**P**	**06 12 56.4**	**+0.8**
	6.1nm,0.8s,baz=43,slow=11,SNR=7.5						
STKA				LR	LR	06 23 56.3	
	comp=Z,698nm,18.5s,baz=33,slow=35						
STKA	**Stephens Creek**	**29.55**	**221**	P	**P**	**06 12 56.4**	**+0.8**
BKZ	**Black Stump Fm**	**30.61**	**161**	P	**P**	**06 13 08.4**	**+3.5**
ASAR	**Alice Springs**	**31.38**	**242**	P	**P**	**06 13 08.9**	**-2.9**
	1.0nm,0.6s,baz=61,slow=10,SNR=14						
ASAR				LR	LR	06 25 27.6	
	comp=Z,291nm,18.5s,baz=72,slow=36						
ASAR	**Alice Springs**	**31.38**	**242**	P	**P**	**06 13 11.2**	**-0.7**
BBOO	**Buckleboo**	**33.83**	**225**	P	**P**	**06 13 31.0**	**-2.2**
FITZ	**Fitzroy Crossi**	**37.74**	**254**	P	**P**	**06 14 05.7**	**-1.1**
FITZ				IAmb	IAmb	06 14 25.8	
	comp=Z,22nm,1.5s						
FORT	**Forrest**	**38.83**	**233**	P	**P**	**06 14 17.9**	**+2.0**
FORT				IAmb	IAmb	06 14 28.6	
	comp=Z,18nm,1.0s						
PPT	**Papeete**	**45.58**	**104**	LR	LR	06 30 41.7	
	comp=Z,135nm,18.1s,baz=280,slow=31						
PPT2	**Papeete2**	**45.58**	**104**	*e*S	**S**	**06 21 48.7**	**-3.9**
PPT2	comp=Z,69nm,27.0s						
				*e*LQ	LQ	06 25 58.8	
PPT2	comp=Z,317nm,24.8s						
				*e*LR	LR	06 27 53.8	
	comp=Z,227nm,22.8s,baz=260						
TBI	**Tubuai**	**46.20**	**112**	*e*LQ	LQ	06 26 16.0	
	comp=Z,404nm,28.2s						
TBI				*e*LR	LR	06 28 13.2	
	comp=Z,408nm,28.8s						
MWH	**Moku'aweowe**	**49.86**	**53**	P	**P**	**06 15 44.8**	**-0.2**
MJAR	**Matsushiro Arr**	**52.74**	**334**	LR	LR	06 37 09.2	
	comp=Z,53nm,21.2s,baz=150,slow=35						
KSRS	**Korea Array**	**58.48**	**327**	P	**P**	**06 16 44.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=138,slow=5.9,SNR=1.9						
KSRS				LR	LR	06 38 29.8	
	comp=Z,83nm,21.7s,baz=137,slow=33						
RKT	**Rikitea**	**59.46**	**111**	*e*LR	LR	06 34 22.3	
	comp=Z,328nm,27.8s						
NJ2	**Nanjing**	**60.41**	**316**	*e*P	**P**	**06 17 02.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,160nm,0.5s						
USA0B	**Ussuriysk Arra**	**61.73**	**334**	P	**P**	**06 17 09.0**	**+0.1**
USA0B				IAmb	IAmb	06 17 19.1	
	comp=Z,13nm,1.2s						
USRK	**Ussuriysk Ar.**	**61.73**	**334**	P	**P**	**06 17 07.6**	**-1.4**
USRK				LR	LR	06 42 23.5	
	comp=Z,68nm,20.3s,baz=146,slow=35						
USRK	**Ussuriysk Ar.**	**61.73**	**334**	P	**P**	**06 17 09.3**	**+0.3**
PETK	**Petropavlovsk-**	**63.66**	**356**	LR	LR	06 39 21.2	
	comp=Z,206nm,21.6s,baz=162,slow=31						
CN2	**Changchun**	**64.42**	**330**	*e*P	**P**	**06 17 28.8**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**65.92**	**338**	LR	LR	06 47 21.4	
	comp=Z,69nm,18.4s,baz=176,slow=37						
VNDA	**Vanda**	**66.93**	**180**	P	**P**	**06 17 42.7**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=333,slow=9.8,SNR=6.4						
VNDA				LR	LR	06 42 27.0	
	comp=Z,117nm,21.0s,baz=7.0,slow=32						
VNDA	**Vanda**	**66.93**	**180**	P	**P**	**06 17 44.1**	**+1.5**
VNDA				IAmb	IAmb	06 17 50.3	
	comp=Z,7.2nm,1.1s						
SBA	**Scott Base**	**67.27**	**179**	P	**P**	**06 17 48.2**	**+3.5**
SBA				IAmb	IAmb	06 17 58.2	
	comp=Z,8.9nm,1.1s						
XAN	**Xi'an**	**68.46**	**313**	P	**P**	**06 17 54.3**	**+1.3**
XAN				pP	pwP	06 18 00.5	-2.4
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN				L	L		
	comp=Z,140nm,17.4s						
XAN				L	L		
	comp=Z,100nm,15.2s						
XAN				L	L		
	comp=Z,130nm,17.4s						
KMI	**Kunming**	**69.32**	**302**	⇓P	**P**	**06 17 59.2**	**+0.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**70.25**	**294**	P	**P**	**06 18 03.2**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=103,slow=4.5,SNR=4.4						
CMAR				LR	LR	06 49 47.5	
	comp=Z,29nm,18.3s,baz=171,slow=37						
CMAR	**Chiang Mai Arr**	**70.25**	**294**	P	**P**	**06 18 04.2**	**-0.1**
HHC	**Hu-ho-hao-te**	**70.30**	**320**	*e*P	**P**	**06 18 05.5**	**+1.1**
HHC				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH	**Lanzhou**	**73.10**	**313**	*e*P	P	06 18 31.7	+10
LZH				pP	PcP	06 18 35.8	-2.2
LZH				sP	sP	06 18 39.4	+7.9
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
ULN	**Ulaanbaatar**	**76.86**	**325**	P	**P**	**06 18 42.9**	**+0.1**
ULN				IAmb	IAmb	06 18 50.7	
	comp=Z,8.7nm,1.2s						
SONM	**Songino Array**	**77.22**	**324**	P	**P**	**06 18 43.5**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=151,slow=6.6,SNR=3.4						
SONM				LR	LR	06 50 41.8	
	comp=Z,77nm,22.0s,baz=111,slow=34						
SONM	**Songino Array**	**77.22**	**324**	P	**P**	**06 18 44.8**	**0.0**
GTA	**Gaotai**	**77.42**	**314**	*e*P	P	06 18 50.2	+4.0
GTA				pP	pwP	06 18 54.4	+0.6
GTA				sP	PcP	06 18 57.4	+0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SVW2	**Sparrevohn**	**78.26**	**19**	P	**P**	**06 18 49.6**	**-0.5**
SVW2				IAmb	IAmb	06 19 02.5	
	comp=Z,16nm,1.4s						
BILL	**Bilibino**	**78.44**	**1**	P	**P**	**06 18 50.5**	**-0.5**
BILL				IAmb	IAmb	06 18 58.8	
	comp=Z,7.2nm,1.0s						
QSPA	**South Pole Qui**	**79.42**	**180**	P	**P**	**06 18 58.7**	**+2.0**
QSPA				IAmb	IAmb	06 19 05.3	
	comp=Z,12nm,1.4s						
MCK	**McKinley**	**82.30**	**19**	P	**P**	**06 19 13.1**	**+1.2**
MCK				IAmb	IAmb	06 19 22.7	
	comp=Z,7.7nm,1.1s						
IMAR	**Indian Mountai**	**82.48**	**16**	P	**P**	**06 19 13.6**	**+0.8**
HDA	**Harding Lake**	**83.41**	**19**	P	**P**	**06 19 18.5**	**+0.9**
IL31		**83.67**	**19**	P	**P**	**06 19 20.2**	**+1.4**
IL31				IAmb	IAmb	06 19 28.6	
	comp=Z,8.3nm,1.3s						
ILAR	**Eielson Array**	**83.67**	**19**	P	**P**	**06 19 18.8**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=232,slow=4.4,SNR=7.3						
ILAR				LR	LR	06 54 02.3	
	comp=Z,125nm,18.6s,baz=233,slow=34						
ILAR	**Eielson Array**	**83.67**	**19**	P	**P**	**06 19 18.3**	**-0.6**
MAW	**Mawson**	**84.46**	**202**	LR	LR	06 53 59.1	
	comp=Z,67nm,19.4s,baz=66,slow=34						
PRP	**Porcupine Dome**	**84.59**	**19**	P	**P**	**06 19 24.0**	**+0.2**
PRP				IAmb	IAmb	06 19 24.8	
	comp=Z,7.9nm,0.8s						
K27K	**Chicken**	**84.82**	**21**	P	**P**	**06 19 26.2**	**+1.5**
EGAK	**Eagle**	**85.58**	**21**	P	**P**	**06 19 29.1**	**+0.5**
DAWY	**Dawson**	**85.80**	**22**	P	**P**	**06 19 30.7**	**+1.0**
DAWY				IAmb	IAmb	06 19 39.8	
	comp=Z,11nm,1.4s						
LON	**Longmire**	**87.11**	**42**	P	**P**	**06 19 37.4**	**+0.8**
NVAR	**Mina Array Bea**	**87.13**	**50**	P	**P**	**06 19 38.4**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=250,slow=9.8,SNR=4.1						
NVAR				LR	LR	06 52 24.0	
	comp=Z,64nm,19.2s,baz=264,slow=31						
NVAR	**Mina Array Bea**	**87.13**	**50**	P	**P**	**06 19 38.7**	**+1.6**
WMQ	**Urumqi**	**87.48**	**315**	*e*P	**P**	**06 19 39.6**	**+1.1**
A05A	**Maple Falls**	**87.66**	**39**	P	**P**	**06 19 40.4**	**+1.3**
WVOR	**Wild Horse Val**	**87.99**	**46**	P	**P**	**06 19 42.8**	**+1.7**
WVOR				IAmb	IAmb	06 19 51.4	
	comp=Z,8.1nm,1.3s						
GLA	**Glamis**	**88.51**	**56**	P	**P**	**06 19 46.1**	**+2.5**
GLA				IAmb	IAmb	06 19 52.8	
	comp=Z,5.7nm,0.8s						
G08A	**Pilot Rock**	**88.57**	**44**	P	**P**	**06 19 46.3**	**+2.6**
G08A				IAmb	IAmb	06 19 53.2	
	comp=Z,5.2nm,1.1s						
PRN	**Pahroc Range**	**89.36**	**52**	P	**P**	**06 19 49.3**	**+1.7**
PRN				IAmb	IAmb	06 19 57.3	
	comp=Z,8.7nm,1.2s						
LCMT	**Little Creek M**	**90.67**	**53**	P	**P**	**06 19 55.2**	**+1.4**
LCMT				IAmb	IAmb	06 20 03.3	
	comp=Z,8.1nm,1.4s						
MTPU	**Mount Pierson**	**91.72**	**52**	P	**P**	**06 20 00.3**	**+1.4**
MTPU				IAmb	IAmb	06 20 08.7	
	comp=Z,5.0nm,1.1s						
MK31	**Makanchi Array**	**91.94**	**317**	P	**P**	**06 19 58.8**	**-0.4**
MKAR	**Makanchi Array**	**91.94**	**317**	P	**P**	**06 19 58.3**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=95,slow=5.8,SNR=11						
MKAR	**Makanchi Array**	**91.94**	**317**	P	**P**	**06 19 56.9**	**-2.3**
HVU	**Hansel Valley**	**92.06**	**48**	P	**P**	**06 20 02.3**	**+2.2**
ZALV	**Zalesovo Beam**	**92.12**	**324**	LR	LR	06 59 57.0	
	comp=Z,41nm,20.9s,baz=110,slow=35						
MAKZ	**Makanchi**	**92.15**	**317**	P	**P**	**06 19 59.7**	**-0.6**
MAKZ				IAmb	IAmb	06 20 12.8	
	comp=Z,4.1nm,1.2s						
DLMT	**Dillon**	**92.94**	**45**	P	**P**	**06 20 04.4**	**+0.4**
DLMT				IAmb	IAmb	06 20 15.8	
	comp=Z,4.7nm,1.0s						
NRIK	**Noril'sk**	**95.06**	**340**	LR	LR	07 00 22.2	
	comp=Z,85nm,21.7s,baz=92,slow=34						
YKA	**Yellowknife Ar**	**95.41**	**27**	P	**P**	**06 20 14.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=250,slow=4.7,SNR=4.1						
YKA				LR	LR	07 00 14.3	
	comp=Z,121nm,18.3s,baz=0.0,slow=34						
ESDC	**Sonseca Array**	**149.08**	**342**	PKPbc	**PKPbc**	**06 26 38.2**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=360,slow=2.5,SNR=2.8						

IDC 04 06:14:00.8±2.6, 53.69N×86.83E, h0km, mb1 2.9/2, mb1mx2.8/36, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=14.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**283**	*i*		06 22 00.0	
	baz=102,slow=312,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.22**	**283**	Pg	Pg	06 14 22.3	-1.8
	1.2nm,0.3s,baz=100,slow=13,SNR=11						
ZALV				Lg	Lg	06 14 40.3	
	1.0nm,0.3s,baz=107,slow=31,SNR=7.9						
KURBB	**Kurchatov Arra**	**5.96**	**242**	Pn	Pn	06 15 31.8	+1.7
	0.1nm,0.3s,baz=57,slow=13,SNR=5.7						
KURBB				Lg	Lg	06 17 11.1	
	0.0nm,0.3s,baz=61,slow=25,SNR=2.2						
MKAR	**Makanchi Array**	**7.49**	**205**	Pn	Pn	06 15 52.1	+0.9
	0.1nm,0.3s,baz=26,slow=13,SNR=6.5						

IDC 04 06:43:21.0±1.4, 7.08S×155.59E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/38, mbtmp3.7/4, Error ellipse: s-maj=49.9km s-min=36.0km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**26.56**	**229**	P	P	06 49 00.7	-0.3
	0.3nm,0.5s,baz=56,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**61.35**	**295**	P	P	06 53 39.0	-0.2
	0.6nm,0.3s,baz=122,slow=5.4,SNR=4.1						
ILAR	**Eielson Array**	**83.23**	**21**	P	P	06 55 48.6	-0.5
	0.3nm,0.4s,baz=243,slow=5.5,SNR=6.5						
MKAR	**Makanchi Array**	**83.85**	**319**	P	P	06 55 53.5	+0.8
	0.7nm,0.9s,baz=107,slow=4.1,SNR=5.1						
BDFB	**Brasilia**	**147.50**	**134**	PKPbc	PKPbc	07 03 07.9	-0.5
	5.1nm,0.9s,baz=0.0,slow=2.0,SNR=4.1						

*IDC **04** 06:49:13.7±0.5, 28.71S×71.47W, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/30, mbtmp4.3/15, ML4.1/4, MS4.0/13, Ms1 4.0/13, ms1mx3.8/21, Error ellipse: s-maj=22.4km s-min=17.4km az=86.0*

*VAO **04** 06:49:13.1±0.8, 28.78S×71.67W, h10km, mb4.8*

*GUC **04** 06:49:16.4±0.7, 28.77S×71.44W, h42km±4km, ML4.6*

*NEIC **04** 06:49:17.7±1.3, 28.75S±0.03×71.56W±0.09, h26km±3km, mb4.8/134, Mwr4.6/37, ML4.6(GUC), Error ellipse: s-maj=11.5km s-min=4.3km az=99.0*

*NEIC **04** 06:49:17.2, 28.75S×71.50W, h29km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.58; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-6.79; $M_{r\theta}$1.00; $M_{\theta\phi}$-1.15; $M_{\phi r}$-5.76; Fault plane solution: M_o8.96000×10^{15} NP1:ϕ_s176.78000°, δ65.66000°, λ79.21000°. NP2:ϕ_s21.59000°, δ26.49000°, λ112.48000°. Principal axes: T 8.9283, Plg68.0000°, Azm66.0000°; N 0.0582, Plg10.0000°, Azm181.0000°; P -8.9865, Plg20.0000°, Azm275.0000°;*

*SJA **04** 06:49:19.1±0.5, 28.94S×71.44W, h12km, ML4.8, MW4.7*

ISC 04 06:49:14.8±1.0, 28.74S±0.02×71.59W±0.05, h11km±6km, n311, σ1°20/303, mb4.8/75, MS4.0/10, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.70**	**41**	⇓*i*P	**Pb**	**06 49 29.5**	**+0.5**
AC04				*i* S	**Sb**	**06 49 38.2**	**-0.4**
AC04				IAML		06 49 41.3	
	comp=E,48μm,0.1s						
AC04	**Llanos de Chal**	**0.70**	**41**		**Pb**	**06 49 29.5**	**+0.5**
AC04				Sg	**Sb**	**06 49 38.3**	**-0.4**
LCO	**Las Campanas**	**0.83**	**109**		**Pb**	**06 49 31.3**	**-0.1**
CO05	**La Serena**	**1.22**	**165**	⇓*i*P	**Pn**	**06 49 37.9**	**+0.1**
CO05				*i* S	**Sn**	**06 49 53.6**	**-0.7**
GO04	**Tololo Observa**	**1.59**	**154**	⇓*i*P	**Pb**	**06 49 43.7**	**-0.6**
GO04				*i* S	**Sb**	**06 50 04.1**	**-0.4**
GO04	**Tololo Observa**	**1.59**	**154**		**Pb**	**06 49 44.1**	**-0.2**
GO04				Sn	**Sb**	**06 50 04.2**	**-0.3**
GO03	**Copiap**	**1.65**	**47**	⇑*i*P	**Pn**	**06 49 44.5**	**+0.7**
GO03				*i* S	**Sb**	**06 50 05.5**	**-0.7**
GO03				IAML		06 50 08.9	
	comp=E,11μm,0.4s						
GO03	**Copiap**	**1.65**	**47**		**Pb**	**06 49 45.1**	**-0.2**
GO03				Sn	**Sb**	**06 50 06.0**	**-0.2**
CO03	**El Pedregal**	**2.24**	**160**	⇑*i*P	**Pn**	**06 49 52.7**	**+0.9**
CO03				*i* S	**Sn**	**06 50 20.7**	**+1.1**
CO03				IAML		06 50 29.1	
	comp=N,4μm,0.5s						
CO03	**El Pedregal**	**2.24**	**160**		**Pn**	**06 49 53.0**	**+1.1**
AROD	**Rodeo**	**2.33**	**128**	*e*P	**Pb**	**06 49 56.8**	**-0.3**
AROD				*e*S	Sn	06 50 05.6	-17
CO02	**Combarbal**	**2.51**	**168**	⇑*i*P	**Pn**	**06 49 56.3**	**+0.6**
CO02				*i* S	**Sn**	**06 50 27.5**	**+1.1**
CO02	**Combarbal**	**2.51**	**168**	Pn	**Pn**	**06 49 56.7**	**+1.0**
ACDV	**Cuesta del Vie**	**2.59**	**124**	*e*P	**Pb**	**06 50 00.4**	**-0.9**
ACDV				*e*S	Sn	06 50 10.0	-18
ACDV				IAML		06 50 10.5	
	comp=Z,6μm,0.8s						
AC01	**Pan de Azucar**	**2.73**	**19**	⇑*i*P	**Pn**	**06 49 57.9**	**-0.7**
AC01				*i* S	**Sn**	**06 50 28.8**	**-2.7**
AC01				IAML		06 50 45.3	
	comp=E,2μm,0.7s						
AC01	**Pan de Azucar**	**2.73**	**19**	Pn	**Pn**	**06 49 58.2**	**-0.3**
AGUA	**GUANDACOL**	**2.81**	**106**	*e*P	**Pb**	**06 50 04.3**	**-0.8**
AGUA				IAML		06 50 57.0	
	comp=Z,3μm,0.9s						
ACCO	**Cerro Coronel**	**2.87**	**131**	*e*P	**Pb**	**06 50 04.8**	**-1.4**
ACCO				IAML		06 50 55.4	
	comp=Z,2μm,1.3s						
AC02	**Maricunga**	**2.89**	**50**	⇑*i*P	**Pn**	**06 50 02.9**	**+1.7**
AC02				*i* S	**Sn**	**06 50 38.5**	**+2.2**
AC02				IAML		06 50 51.3	
	comp=E,5μm,0.5s						
AC02	**Maricunga**	**2.89**	**50**	Pn	**Pn**	**06 50 03.2**	**+2.0**
VCA	**Vinchina**	**2.97**	**91**	⇑*i*P	**Pb**	**06 50 07.0**	**-0.9**
VCA				*i* S	**Sb**	**06 50 42.5**	**-1.9**
VCA				IAML		06 50 58.5	
	comp=N,3μm,0.2s						
VCA	**Vinchina**	**2.97**	**91**	*e*P	**Pb**	**06 50 06.8**	**-1.1**
VCA				IAML		06 51 02.0	
	comp=Z,3μm,1.0s						
RTLS	**Leoncito**	**3.64**	**148**	*e*P	**Pb**	**06 50 15.6**	**-3.7**
RTLS				IAML		06 51 13.7	
	comp=Z,2μm,1.1s						
RTLL	**Cerro Villicun**	**3.74**	**134**	*e*P	**Pn**	**06 50 16.4**	**+3.9**
GO02	**Mina Guanaco**	**3.98**	**27**	Pn	**Pn**	**06 50 16.9**	**+0.8**
AVFE	**Valle Fertil**	**4.08**	**119**	*e*P	**Pn**	**06 50 19.9**	**+2.8**
AVFE				IAML		06 51 23.5	
	comp=Z,1μm,0.9s						
RTCV	**Cerro Valdivia**	**4.08**	**140**	*e*P	**Pn**	**06 50 20.8**	**+3.6**
AANI	**Anillaco**	**4.09**	**92**	*e*P	**Pn**	**06 50 14.9**	**-2.5**
VA03	**San Esteban**	**4.11**	**168**	⇑*i*P	**Pn**	**06 50 19.1**	**+1.4**
VA03				*i* S	**Sn**	**06 51 06.3**	**+0.5**
VA03	**San Esteban**	**4.11**	**168**		**Pn**	**06 50 19.7**	**+2.0**
PB14	**IPOC Station P**	**4.23**	**15**	Pn	**Pn**	**06 50 17.9**	**-1.6**
ROCH	**El Roble**	**4.25**	**173**	⇓*e*P	**Pn**	**06 50 20.2**	**+0.5**
ROCH				*i* S	**Sn**	**06 51 10.5**	**+1.0**
VA01	**Torpederas**	**4.27**	**181**		**Pn**	**06 50 20.4**	**+0.6**
MT02	**Curacav**	**4.52**	**175**		**Pn**	**06 50 23.5**	**+0.2**
ARCO	**CERRO ARCO**	**4.69**	**151**	*e*P	Pn	06 50 29.9	+4.3
ARCO				IAML		06 51 51.0	
	comp=Z,1μm,1.8s						
MT05	**Renca**	**4.70**	**171**	Pn	**Pn**	**06 50 26.4**	**+0.7**
MT03	**Universidad Ad**	**4.83**	**169**		**Pn**	**06 50 28.5**	**+0.9**
VA05	**Santo Domingo**	**4.90**	**180**		**Pn**	**06 50 28.1**	**-0.4**
ACHE	**Chepes**	**4.91**	**121**	*e*P	**Pn**	**06 50 31.2**	**+2.5**
AAGR	**Agrelo**	**4.94**	**152**	*e*P	Pn	06 50 33.2	+4.1
AAGR				IAML		06 52 08.0	
	comp=Z,2μm,1.3s						
MT09	**Talagante**	**5.05**	**174**		**Pn**	**06 50 31.7**	**+1.1**
CYA	**Choya**	**5.10**	**88**	*e*P	**Pn**	**06 50 33.6**	**+2.4**
CYA				IAML		06 51 58.7	
	comp=Z,513nm,1.5s						
MT01	**Popeta**	**5.12**	**177**	Pn	**Pn**	**06 50 32.2**	**+0.8**
ACAN	**Cantantal**	**5.18**	**134**	*e*P	**Pn**	**06 50 35.2**	**+2.9**
ACAN				IAML		06 51 58.1	
	comp=Z,342nm,0.9s						
PB10	**IPOC Station P**	**5.29**	**10**	Pn	**Pn**	**06 50 31.4**	**-2.4**
FSA	**Cafayete**	**5.63**	**64**	*e*P	Pn	06 50 43.2	+4.5
BO01	**Tunca**	**5.65**	**176**	Pn	**Pn**	**06 50 40.6**	**+1.8**
PB15	**IPOC Station P**	**5.83**	**20**		**Pn**	**06 50 40.9**	**-0.5**
BO02	**Sierra Bellavi**	**6.08**	**174**		**Pn**	**06 50 45.9**	**+1.2**
MRA	**San Martin**	**6.25**	**127**	*e*P	**Pn**	**06 50 49.2**	**+2.1**
MRA				IAML		06 52 35.2	
	comp=Z,514nm,0.7s						
GO05	**Huala**	**6.26**	**183**		**Pn**	**06 50 46.6**	**-0.6**
PB06	**IPOC Station P**	**6.28**	**17**		**Pn**	**06 50 45.7**	**-1.8**
LAMA	**Las Malvinas**	**6.50**	**162**	*e*P	Pn	06 50 54.8	+4.3
PB04	**IPOC Station P**	**6.51**	**12**		**Pn**	**06 50 48.4**	**-2.3**
LVC	**Limon Verde**	**6.56**	**22**	Pn	**Pn**	**06 50 50.3**	**-1.3**
	comp=Z,4.6nm,0.3s,baz=172,slow=7.8,SNR=44						
LVC				Lg	Lg	06 52 27.2	
	comp=Z,29nm,0.3s,baz=252,slow=16,SNR=7.3						
LVC				LR	LR	06 53 35.8	
	comp=Z,1μm,19.0s,baz=220,slow=40						
LVC	**Limon Verde**	**6.56**	**22**	Pn	**Pn**	**06 50 51.0**	**-0.6**
LVC	**Limon Verde**	**6.56**	**22**	*e*P	**Pn**	**06 50 50.3**	**-1.3**
COIS	**El Sosneado**	**6.57**	**166**	*e*P	Pn	06 50 56.0	+4.6
RFA	**San Rafael**	**6.58**	**157**	*e*P	**Pn**	**06 50 54.0**	**+2.5**
RFA				IAML		06 52 50.6	
	comp=Z,342nm,1.0s						
SLA	**San Lorenzo**	**6.75**	**55**	*e*P	Pn	06 50 58.8	+4.8
SLA				IAML		06 53 07.6	
	comp=Z,117nm,1.3s						
PB07	**IPOC Station P**	**7.15**	**13**		**Pn**	**06 50 57.3**	**-2.2**
PB09	**IPOC Station P**	**7.23**	**18**		**Pn**	**06 50 59.5**	**-1.2**
H03N1	**Juan Fernandez**	**7.83**	**231**	T	T	06 59 16.6	
	baz=59,slow=72,SNR=6390						
H03N2	**Juan Fernandez**	**7.85**	**231**	T	T	06 59 17.0	
	baz=59,slow=72,SNR=8568						
H03N3	**Juan Fernandez**	**7.85**	**231**	T	T	06 59 12.3	
	baz=59,slow=72,SNR=6959						
PB01	**IPOC Station P**	**7.90**	**14**		**Pn**	**06 51 06.6**	**-3.1**
PATCX	**Punta Patache**	**7.99**	**10**		**Pn**	**06 51 10.4**	**-0.6**
H03S3	**Juan Fernandez**	**8.06**	**229**	T	T	06 59 08.6	
	baz=56,slow=24,SNR=18						
H03S1	**Juan Fernandez**	**8.06**	**229**	T	T	06 59 04.6	
	baz=56,slow=24,SNR=14						
H03S2	**Juan Fernandez**	**8.07**	**229**	T	T	06 59 10.9	
	baz=56,slow=24,SNR=16						
PB08	**IPOC Station P**	**8.84**	**15**		**Pn**	**06 51 20.9**	**-2.0**
PB11	**IPOC Station P**	**9.11**	**12**		**Pn**	**06 51 23.2**	**-3.2**
MNMC	**Minye Minye**	**9.74**	**11**		**Pn**	**06 51 31.7**	**-3.4**
PB16	**IPOC Station P**	**10.53**	**11**		**Pn**	**06 51 44.5**	**-1.7**
PLCA	**Paso Flores**	**12.00**	**176**	Pn	**Pn**	**06 52 06.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=335,slow=15,SNR=2.3						
PLCA				LR	LR	06 57 07.1	
	comp=Z,822nm,18.8s,baz=352,slow=39						
PLCA	**Paso Flores**	**12.00**	**176**	Pn	**Pn**	**06 52 04.9**	**-0.9**
LPAZ	**La Paz**	**12.80**	**15**	Pn	**Pn**	**06 52 15.3**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=184,slow=6.6,SNR=32						
LPAZ				LR	LR	06 58 02.5	
	comp=

CBOC Ciudad Bolivar 34.66 352 *e*P P **06 56 06.3 +1.6**
HELC Santa Helena 34.93 353 *e*P P **06 56 06.8 -0.4**
HOPE Hope Point 36.03 145 P P **06 56 14.7 -1.1**
ZARC Zaragoza, Cauc 36.16 355 *e*P P **06 56 17.1 -0.3**
PMSA Palmer Station 36.37 175 P P **06 56 19.2 +0.6**
PMSA IAmb IAmb 06 56 20.6
comp=Z,21nm,1.0s
UREC San Jos de Ur 36.48 353 *e*P P **06 56 19.4 -0.7**
NBPS Pedro II - PI 37.48 55 *e*P P **06 56 27.9 -0.9**
NBMA Muriti-CE 37.55 62 *e*P P **06 56 28.6 -0.7**
NBPB Pedra_Branca-C 38.08 59 *e*P P **06 56 33.2 -0.6**
SJCC San Jacinto, C 38.56 354 P P **06 56 38.1 +0.3**
SJCC IAmb IAmb 06 56 55.8
comp=Z,17nm,1.0s
SRBA San Rafael, Bu 39.42 342 P P **06 56 46.5 +1.5**
SRBA IAmb IAmb 06 56 50.0
comp=Z,20nm,1.3s
CBYP Canovanas 47.06 7 P P **06 57 45.3 -1.4**
CBYP IAmb IAmb 06 57 46.4
comp=Z,12nm,0.9s
CUPR Culebra, Puert 47.16 8 P P **06 57 47.8 +0.4**
CUPR IAmb IAmb 06 58 08.3
comp=Z,15nm,1.1s
ABVI Anegada Island 47.71 9 P P **06 57 50.5 -1.1**
VNA3 Neumayer Olymp 54.10 159 P P **06 58 39.6 +0.3**
SNAA Sanae 56.33 159 P P **06 58 55.3 -0.1**
SNAA Sanae 56.33 159 P P **06 58 55.4 -0.1**
SNAA IAmb IAmb 06 59 13.9
comp=Z,11nm,1.2s
RKT Rikitea 56.70 260 *e*T T 07 59 59.3
comp=Z,5.5nm,0.2s
QSPA South Pole Qui 61.48 180 P P **06 59 32.3 +0.9**
344A Westbrook Farm 62.57 342 P P **06 59 40.1 +1.3**
HKT Hockley 62.78 336 P P **06 59 41.5 +1.3**
GOGA Godfrey 62.83 349 P P **06 59 40.4 -0.1**
GOGA IAmb IAmb 06 59 47.9
comp=Z,9.7nm,1.4s
Y57A Sumter 62.97 352 P P **06 59 41.8 +0.4**
Y57A IAmb IAmb 06 59 51.3
comp=Z,7.1nm,0.8s
143A Socs Landing, 63.94 341 P P **06 59 49.2 +1.4**
X51A Calhoun 64.20 348 P P **06 59 49.0 -0.5**
X51A IAmb IAmb 06 59 50.9
comp=Z,12nm,0.9s
X48A Hartselle 64.53 346 P P **06 59 52.0 +0.3**
X48A IAmb IAmb 06 59 59.5
comp=Z,6.7nm,1.0s
JCT Junction City 64.74 333 P P **06 59 54.6 +1.4**
JCT IAmb IAmb 07 00 02.5
comp=Z,7.6nm,1.1s
W50A Signal Mountai 64.90 348 P P **06 59 54.7 +0.5**
W50A IAmb IAmb 06 59 55.1
comp=Z,6.7nm,0.9s
CPCT Cooper Cave 65.00 348 P P **06 59 52.9 -1.9**
CPCT IAmb IAmb 06 59 56.2
comp=Z,8.2nm,1.0s
SWET Sewanee 65.03 347 P P **06 59 54.9 -0.2**
SWET IAmb IAmb 07 00 05.9
comp=Z,11nm,1.2s
WLAR White Oak Lake 65.35 340 P P **06 59 57.1 +0.1**
TXAR Lajitas Array 65.38 329 P P **06 59 58.4 +0.9**
comp=Z,1.2nm,0.9s,baz=152,slow=8.0,SNR=11
TXAR LR LR 07 24 10.1
comp=Z,49nm,19.5s,baz=0.0,slow=32
TXAR Lajitas Array 65.38 329 P P **06 59 57.9 +0.5**
TX31 Lajitas Ar. Si 65.38 329 P P **06 59 58.1 +0.6**
TX31 IAmb IAmb 07 00 06.3
comp=Z,5.2nm,0.8s
TX32 Lajitas Array 65.38 329 P P **06 59 58.1 +0.6**
MIAR Mount Ida 66.28 340 P P **07 00 03.7 +0.6**
MIAR IAmb IAmb 07 00 24.4
comp=Z,8.1nm,1.1s
WVT Waverly 66.31 346 P P **07 00 02.9 -0.3**
ABTX Abilene, Hawle 66.59 334 P P **07 00 05.1 0.0**
ABTX IAmb IAmb 07 00 07.7
comp=Z,15nm,1.2s
R58B Mineral 66.61 355 P P **07 00 06.5 +1.4**
R58B IAmb IAmb 07 00 08.0
comp=Z,9.9nm,1.0s
LCAR Lake Charles 67.04 343 P P **07 00 08.0 +0.1**
LCAR IAmb IAmb 07 00 15.9
comp=Z,8.4nm,0.8s
PARMO Parma 67.26 344 P P **07 00 09.9 +0.7**
T45A Paducah 67.34 345 P P **07 00 10.8 +1.0**
PBMO Poplar Bluff 67.53 344 P P **07 00 11.6 +0.6**
PBMO IAmb IAmb 07 00 19.1
comp=Z,8.0nm,0.8s
X34A Smith Ranch, M 67.70 337 P P **07 00 13.0 +0.9**
X34A IAmb IAmb 07 00 27.8
comp=Z,12nm,1.1s
U40A Yellville 67.77 342 P P **07 00 13.1 +0.6**
U40A IAmb IAmb 07 00 20.9
comp=Z,9.5nm,1.1s
HHAR Hobbs 68.01 341 P P **07 00 14.2 +0.2**
HHAR IAmb IAmb 07 00 30.6
comp=Z,6.1nm,1.0s
USIN University of 68.04 346 P P **07 00 14.4 +0.2**
S44A Carbondale 68.13 345 P P **07 00 14.8 +0.1**
S44A IAmb IAmb 07 00 16.3
comp=Z,12nm,0.9s
SIUC Southern Illin 68.14 345 P P **07 00 15.0 +0.2**
MNTX Cornudas Mount 68.16 329 P P **07 00 15.3 +0.2**
WMOK Wichita Mounta 68.16 336 P P **07 00 15.6 +0.6**
WMOK IAmb IAmb 07 00 18.2
comp=Z,7.8nm,1.1s
U38A Gravette 68.29 340 P P **07 00 16.4 +0.6**
MGMO Mountain Grove 68.36 342 P P **07 00 17.1 +0.9**
MGMO IAmb IAmb 07 00 32.8
comp=Z,10nm,1.2s
CCM Cathedral Cave 68.95 343 P P **07 00 19.5 -0.3**
CCM IAmb IAmb 07 00 21.7
comp=Z,15nm,1.1s
MSTX Muleshoe 69.00 333 P P **07 00 20.9 +0.5**
TBI Tubuai 69.02 254 *e*LR LR 07 21 21.0
comp=Z,88nm,26.8s
TBI Tubuai 69.02 254 *e*T T 08 15 21.0
comp=Z,4.0nm,0.3s
S39A Bolivar 69.15 342 P P **07 00 22.0 +0.9**
S39A IAmb IAmb 07 00 37.8
comp=Z,11nm,1.1s
Q44A Meyer Farm, Va 69.23 346 P P **07 00 21.4 -0.2**
Q44A IAmb IAmb 07 00 22.5
comp=Z,12nm,1.0s
VNDA Vanda 69.32 191 P P **07 00 23.4 +1.7**
comp=Z,0.8nm,0.8s,baz=129,slow=4.5,SNR=2.8
R40A Maddies Statio 69.43 343 P P **07 00 23.5 +0.7**
P46A Rosedale 69.54 347 P P **07 00 22.8 -0.7**
P46A IAmb IAmb 07 00 24.3
comp=Z,10nm,1.0s
P43A Skaggs, Pawnee 70.05 345 P P **07 00 26.4 -0.1**
KAN10 Anthony SW Sta 70.08 338 P P **07 00 26.6 -0.3**
N49A Columbus Grove 70.28 350 P P **07 00 28.7 +0.7**
P40A Paris 70.54 343 P P **07 00 30.6 +0.9**
L56A Greenwood 70.74 355 P P **07 00 31.6 +0.8**
L56A IAmb IAmb 07 00 32.8
comp=Z,12nm,0.9s
HDIL Hopedale 70.88 346 P P **07 00 31.9 +0.3**
P38A Dawn 71.02 342 P P **07 00 33.2 +0.7**
P38A IAmb IAmb 07 00 34.2
comp=Z,12nm,1.2s
WVNY West Valley, N 71.09 355 P P **07 00 33.6 +0.7**
TIAR Tiarei 71.27 260 *e*T T 08 18 10.9
comp=Z,0.7nm,0.3s
L48A N Adams 71.32 350 P P **07 00 33.2 -1.1**
L48A IAmb IAmb 07 00 35.3
comp=Z,8.8nm,0.8s
N41A Harden Midland 71.37 345 P P **07 00 34.3 -0.3**
PPT2 Papeete2 71.45 260 *e*LR LR 07 22 23.4
comp=Z,215nm,22.8s,baz=105
R32A Long Quarter, 71.46 338 P P **07 00 35.6 +0.4**
R32A IAmb IAmb 07 00 45.0
comp=Z,5.8nm,0.8s
K50A Casco 71.88 351 P P **07 00 38.0 +0.4**
K50A IAmb IAmb 07 00 38.5
comp=Z,11nm,0.7s
N38A Joes South For 72.03 343 P P **07 00 39.6 +1.0**
L42A Oliver, Polo 72.34 346 P P **07 00 39.6 -0.8**
L42A IAmb IAmb 07 00 41.8
comp=Z,12nm,1.2s
T25A Trinidad 72.41 333 P P **07 00 41.6 +0.4**
L40A Anamosa 72.74 345 P P **07 00 42.7 -0.1**
N35A Tabor 72.75 341 P P **07 00 43.5 +0.5**
LONY Lake Ozonia 73.05 358 P P **07 00 45.4 +0.8**
LONY IAmb IAmb 07 00 46.7
comp=Z,8.0nm,1.0s
SCIA State Center 73.08 343 P P **07 00 46.1 +1.3**
SCIA IAmb IAmb 07 00 52.7
comp=Z,6.5nm,0.5s
DBIC Dimbokro 73.18 72 P P **07 00 46.0 -0.1**
comp=Z,13nm,0.8s,baz=211,slow=6.4,SNR=6.9
DBIC LR LR 07 29 38.1
comp=Z,71nm,21.7s,baz=180,slow=33
DBIC Dimbokro 73.18 72 P P **07 00 46.0 -0.1**
EMMW East Machias 73.19 3 P P **07 00 46.5 +1.1**
EMMW IAmb IAmb 07 01 12.0
comp=Z,19nm,1.3s
FRNY Flat Rock 73.24 359 P P **07 00 46.7 +1.0**
FRNY IAmb IAmb 07 00 47.8
comp=Z,8.3nm,0.9s
X16A Lo Mia Camp, P 73.25 326 P P **07 00 47.1 +0.9**
JFWS Jewell Farm 73.34 346 P P **07 00 46.0 -0.3**
JFWS IAmb IAmb 07 00 48.1
comp=Z,6.8nm,0.8s
SADO Sadowa 73.48 354 P P **07 00 47.5 +0.4**
SADO IAmb IAmb 07 00 48.5
comp=Z,11nm,0.8s
G62A West of Eustis 73.61 1 P P **07 00 47.9 0.0**
G62A IAmb IAmb 07 00 50.4
comp=Z,10nm,0.8s
K38A Parkersburg 73.66 344 P P **07 00 48.4 +0.1**
K38A IAmb IAmb 07 00 49.6
comp=Z,6.9nm,0.7s
G65A Princeton 73.67 3 P P **07 00 49.7 +1.5**
G65A IAmb IAmb 07 01 00.3
comp=Z,11nm,1.2s
PKME Peaks-Kenny Pk 73.68 2 P P **07 00 48.6 +0.4**
MOQ Mont Orford 73.70 360 P P **07 00 48.8 +0.3**
L34A Svendsen Farm, 73.98 341 P P **07 00 50.2 0.0**
BGNE Belgrade 74.00 340 P P **07 00 51.2 +0.9**
I42A Draeger Farm, 74.00 347 P P **07 00 50.9 +0.7**
I42A IAmb IAmb 07 00 51.8
comp=Z,6.5nm,0.8s
H43A Windswept, Lux 74.34 348 P P **07 00 52.7 +0.6**
H43A IAmb IAmb 07 00 53.7
comp=Z,9.4nm,0.8s
I40A Norwalk 74.35 346 P P **07 00 52.7 +0.4**
TRQ Mont Tremblant 74.65 358 P P **07 00 54.2 +0.2**
I37A Lemond, Waseca 75.11 344 P P **07 00 57.1 +0.5**
PV05 Paradox Valley 75.17 330 P P **07 00 57.2 -0.2**
ISCO Idaho Springs 75.18 334 P P **07 00 57.4 -0.1**
SMCO Snowmass 75.19 332 P P **07 00 58.3 +0.6**
PV17 East Wray Mesa 75.27 330 P P **07 00 57.4 -0.6**
U15A North Rim 75.28 327 P P **07 00 58.5 +0.4**
K31A O'Neill 75.29 340 P P **07 00 58.9 +1.1**
G40A Rib Lake 75.58 347 P P **07 01 00.0 +0.7**
E46A Sault Ste Mari 75.63 351 P P **07 00 59.9 +0.3**
E46A IAmb IAmb 07 01 00.9
comp=Z,14nm,1.0s
ECSD EROS Data Cent 75.68 342 P P **07 01 00.3 +0.3**
ECSD IAmb IAmb 07 01 01.9
comp=Z,12nm,0.8s
LATQ La Tuque 75.78 359 P P **07 01 00.2 -0.2**
E43A Lone Tree Farm 76.05 349 P P **07 01 02.2 +0.2**
E43A IAmb IAmb 07 01 03.6
comp=Z,6.9nm,0.8s
SPMN Marine on St. 76.10 345 P P **07 01 02.6 +0.3**
SPMN IAmb IAmb 07 01 03.5
comp=Z,9.6nm,0.7s
VLDQ Val d'Or 76.68 356 P P **07 01 05.8 +0.4**
VLDQ IAmb IAmb 07 01 07.7
comp=Z,8.3nm,1.1s
F36A Milaca 76.87 344 P P **07 01 07.0 +0.3**
F36A IAmb IAmb 07 01 08.0
comp=Z,6.8nm,0.8s
D41A Chassel 76.99 348 P P **07 01 07.6 +0.3**
PRN Pahroc Range 77.39 326 P P **07 01 11.0 +1.0**
MAW Mawson 78.11 164 P P **07 01 14.0 +0.6**
comp=Z,3.9nm,0.8s,baz=241,slow=7.2,SNR=5.3
HWUT Hardware Ranch 79.15 331 P P **07 01 20.5 +0.9**
HWUT IAmb IAmb 07 01 33.0
comp=Z,8.6nm,0.8s
PDAR Pinedale Array 79.27 333 P P **07 01 21.6 +1.3**
comp=Z,0.9nm,0.6s,baz=158,slow=5.6,SNR=9.2
PDAR Pinedale Array 79.27 333 P P **07 01 21.5 +1.1**
BW06 Boulder Array 79.27 333 P P **07 01 21.2 +0.8**
B35A Bob, Littlefor 79.27 345 P P **07 01 19.9 -0.1**
B35A IAmb IAmb 07 01 21.4
comp=Z,6.3nm,0.8s
AGMN Agassiz Nation 79.72 344 P P **07 01 22.7 +0.3**
AGMN IAmb IAmb 07 01 24.0
comp=Z,7.7nm,0.8s
NVAR Mina Array Bea 79.81 324 P P **07 01 25.4 +1.9**
comp=Z,0.5nm,0.3s,baz=161,slow=5.7,SNR=7.4
ELK Elko 80.11 328 P P **07 01 25.8 +0.8**
SNOW Snow King Moun 80.33 332 P P **07 01 26.4 +0.3**
LOHW Long Hollow 80.39 332 P P **07 01 26.8 +0.3**
FLWY Flagg Ranch 80.82 333 P P **07 01 29.3 +0.6**
FLWY IAmb IAmb 07 01 42.2
comp=Z,6.9nm,0.8s
YNE Yellowstone No 81.32 334 P P **07 01 32.2 +0.9**
YMR Madison River 81.42 333 P P **07 01 31.7 -0.2**
YMR IAmb IAmb 07 01 42.4
comp=Z,12nm,1.1s
YHH Holmes Hill 81.47 333 P P **07 01 32.6 +0.4**
YHH IAmb IAmb 07 01 46.8
comp=Z,8.2nm,1.1s
ULM Lac du Bonnet 81.54 345 P P **07 01 31.8 -0.2**
comp=Z,8.7nm,0.9s,baz=184,slow=4.3,SNR=13
ULM Lac du Bonnet 81.54 345 P P **07 01 32.6 +0.5**
ULM IAmb IAmb 07 01 33.5
comp=Z,11nm,0.9s
HLID Hailey 81.97 330 P P **07 01 35.1 +0.4**
TORD Torodi Ar. Bea 82.07 70 LR LR 07 35 44.2
comp=Z,91nm,20.6s,baz=220,slow=34
BCYI Bear Canyon 82.13 331 P P **07 01 36.5 +0.9**
BOSA Boshof 82.19 118 P P **07 01 36.6 +0.2**
comp=Z,6.8nm,0.9s,baz=245,slow=5.8,SNR=4.7
BOSA LR LR 07 33 15.4
comp=Z,126nm,20.5s,baz=190,slow=32
BOSA Boshof 82.19 118 P P **07 01 35.8 -0.6**
DGMT Dagmar 82.22 339 P P **07 01 35.8 0.0**
DGMT IAmb IAmb 07 01 38.4
comp=Z,11nm,0.7s
ORV Oroville 82.31 323 P P **07 01 37.6 +1.2**
MCMT McKenzie Canyo 82.32 332 P P **07 01 37.5 +0.9**
PINE Pine Mountain 85.16 327 P P **07 01 51.9 +0.8**
PINE IAmb IAmb 07 01 54.5
comp=Z,4.9nm,0.8s
HAWA Hanford 86.45 329 P P **07 01 58.5 +1.2**
HAWA IAmb IAmb 07 01 59.3
comp=Z,7.6nm,1.2s
ESDC Sonseca Array 92.65 46 LR LR 07 40 48.6
comp=Z,127nm,21.9s,baz=240,slow=33
YKA Yellowknife Ar 97.21 341 P P **07 02 47.0 +0.1**
comp=Z,0.9nm,0.8s,baz=136,slow=4.3,SNR=5.7
KEST Kesra 99.53 55 LR LR 07 51 18.1
comp=Z,135nm,18.4s,baz=235,slow=38
BRTR Keskin Array B 118.84 58 PKP **PKPdf 07 08 02.2 -1.2**
comp=Z,0.9nm,0.8s,baz=224,slow=3.4,SNR=4.7
BRTR Keskin Array B 118.84 58 **PKPdf 07 08 02.5 -0.9**
ASAR Alice Springs 122.40 208 PKP **PKPdf 07 08 10.2 -0.6**
comp=Z,0.9nm,0.7s,baz=122,slow=1.7,SNR=8.8
ASAR Alice Springs 122.40 208 **PKPdf 07 08 09.9 -0.9**
WRA Warramunga Arr 125.51 210 PKP **PKPdf 07 08 16.7 -0.1**
baz=161,slow=1.6
H11S2 WAKE ISLAND Hyl 26.07 273 T T 09 27 14.3
baz=112,slow=74,SNR=34
H11S1 WAKE ISLAND Hyl 26.08 273 T T 09 27 19.1
baz=112,slow=74,SNR=14
H11S3 WAKE ISLAND Hyl 26.09 273 T T 09 27 15.5
baz=112,slow=74,SNR=14
H11N3 WAKE ISLAND Hyl 26.35 274 T T 09 27 21.9
baz=112,slow=75,SNR=6.3
H11N1 WAKE ISLAND Hyl 26.36 274 T T 09 27 23.0
baz=112,slow=75,SNR=8.9
H11N2 WAKE ISLAND Hyl 26.36 274 T T 09 27 23.8
baz=112,slow=75,SNR=7.5
ARU Arti 135.42 37 PKP **PKiKP 07 08 35.5 -0.3**
comp=Z,1.7nm,0.2s,baz=274,slow=1.6,SNR=5.1
BVAR Borovoye Array 143.04 38 PKP **PKPdf 07 08 48.6 +0.3**
comp=Z,1.0nm,0.8s,baz=176,slow=5.8,SNR=6.5
KURK Kurchatov 148.62 37 **PKPbc 07 09 02.2 +0.6**
KURBB Kurchatov Arra 148.62 38 PKP **PKPdf 07 08 59.1 +1.2**
comp=Z,7.0nm,0.8s,baz=301,slow=3.2,SNR=40
KURBB PKPbc **pPKPdf 07 09 02.2 +1.6**
comp=Z,6.9nm,0.8s,baz=304,slow=3.1,SNR=43
AAK Ala-Archa 149.38 54 PKPbc **PKiKP 07 09 05.4 +0.1**
comp=Z,9.1nm,0.8s,baz=240,slow=2.8,SNR=17
AAK Ala-Archa 149.38 54 PKPdf **PKPdf 07 09 01.1 +1.4**
AAK **PKiKP 07 09 05.3 +0.1**
ZALV Zalesovo Beam 149.49 28 PKP **PKPdf 07 09 00.1 +0.9**
comp=Z,21nm,0.7s,baz=318,slow=2.0,SNR=12
ZALV PKPbc **pPKPdf 07 09 04.0 +2.0**
comp=Z,21nm,0.7s,baz=302,slow=3.3,SNR=37
ZALV Zalesovo Beam 149.49 28 **PKPdf 07 08 59.2 0.0**
ZALV PKPbc **PKiKP 07 09 04.8 0.0**
ZALV PKPab **pPKPab 07 09 11.8 -0.2**
MKAR Makanchi Array 152.79 41 PKP **PKPdf 07 09 05.2 +0.7**
comp=Z,0.6nm,0.8s,baz=304,slow=2.2,SNR=5.8
MKAR PKPbc **PKPbc 07 09 11.6 -0.1**
comp=Z,6.4nm,0.8s,baz=320,slow=2.0,SNR=43
KLR Kul'dur 152.84 325 PKPbc **PKPbc 07 09 11.6 -0.1**
comp=Z,0.6nm,0.5s,baz=184,slow=6.1,SNR=3.7
SONM Songino Array 160.87 4 PKPab **PKPab 07 09 59.3 +2.0**
comp=Z,1.6nm,0.9s,baz=338,slow=3.5,SNR=5.2
SONM Songino Array 160.87 4 PKPdf **PKPdf 07 09 15.8 +0.8**
SONM **PKPab 07 09 58.5 +1.1**
CMAR Chiang Mai Arr 166.59 138 PKP **PKPdf 07 09 21.2 +0.2**
comp=Z,0.5nm,0.3s,baz=264,slow=2.4,SNR=5.4
XAN Xi'an 174.70 355 PKP **PKPdf 07 09 25.1 +0.1**
XAN pPKP sPKPdf 07 09 33.5 +4.8
XAN Xi'an 174.70 355 pPKP pPKPdf 07 09 33.5 +5.8
XAN pmax pmax
comp=Z,4.0nm,1.2s

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*BJI **04** 06:52:59.9±0.0,36°.69N×69°.99E,h203km,mB4.7/8, mb4.5/19*
*MOS **04** 06:53:00.1±0.8,36°.56N×70°.07E,h213km,mb4.3/16,Error ellipse: s-maj=8.5km s-min=4.6km az=79.3*
*IDC **04** 06:53:00.4±2.1,36°.51N×70°.12E,h203km±21km,mb3.9/17, mb1 3.9/24,mb1mx3.6/46,mbtmp4.5/24,Error ellipse: s-maj=13.1km s-min=10.9km az=15.0*
*NEIC **04** 06:53:01.4±1.9,36°.55N±0°.06×70°.01E±0°.06,h215km±6km, mb4.4/25,Error ellipse: s-maj=9.4km s-min=6.5km az=166.0*
*NNC **04** 06:53:05.2±1.6,36°.93N×70°.24E,h213km±13km,mb3.6, mpv4.4,Error ellipse: s-maj=14.8km s-min=8.9km az=4.0*
ISC 04 06:53:00.8±0.4,36°.50N±0°.04×70°.18E±0°.04,h213km,n166, σ1s50/183,**mb4.2/37,22C-10D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.16**	**206**	PN	**Pn**	**06 53 42.1**	**-0.1**
KBL	**Kabul**	**2.16**	**206**	Pn	**Pn**	**06 53 42.1**	**-0.1**
CHGR	**Chuyangaron**	**2.30**	**340**		**Pn**	**06 53 42.8**	**-0.6**
GAR	**Garm**	**2.50**	**2**	Pn	**Pn**	**06 53 45.2**	**-0.3**
CEP	**Cherat**	**3.02**	**152**	P	**Pn**	**06 53 52.8**	**+1.3**
BTK	**Batken**	**3.59**	**8**	PN	**Pn**	**06 53 59.0**	**+0.9**
BTK	**Batken**	**3.59**	**8**	Pn	**Pn**	**06 53 59.0**	**+0.9**
NIL	**Nilore**	**3.79**	**138**	PN	**Pn**	**06 54 02.5**	**+1.9**
NIL	**Nilore**	**3.79**	**138**	Pn	**Pn**	**06 54 02.5**	**+1.9**
CHCP	**Chirah Chowk**	**3.80**	**137**	P	**Pn**	**06 54 02.2**	**+1.6**
THW	**Thamme Wali**	**3.91**	**160**	P	**Pn**	**06 54 02.6**	**+0.6**
SARP	**Sargodha**	**5.01**	**155**	P	**Pn**	**06 54 16.0**	**+0.4**
ARSB	**Arslanbob**	**5.29**	**24**	PN	**Pn**	**06 54 18.8**	**-0.4**
ARSB	**Arslanbob**	**5.29**	**24**		**Pn**	**06 54 18.8**	**-0.4**
KSH	**Kashi**	**5.47**	**55**	P	**Pn**	**06 54 17.1**	**-4.5**
KSH				SMN			
	320nm,0.4s						
KSH				SME			
	340nm,0.4s						
THN	**Thein Dam**	**6.11**	**130**	*e*P	Pn	06 54 20.5	-9.1
THN				*e*S	**S**	**06 55 37.5**	**-2.4**
AML	**Almayashu**	**6.25**	**25**	P	**Pn**	**06 54 31.5**	**-0.2**
	SNR=211						
DHRM	**DHARAMSHALA**	**6.60**	**128**	*e*P	**Pn**	**06 54 35.8**	**-0.3**
DHRM				*e*S	**S**	**06 55 48.4**	**-3.4**
DHRM				IAML		06 55 49.6	
	comp=E,1μm,0.5s						
DHRM				IAML		06 55 49.6	
	comp=N,974nm,0.5s						
KK31	**Karatay Array**	**6.60**	**2**	⇓P	**Pn**	**06 54 34.8**	**-1.1**
	comp=N,6.5nm,0.3s,baz=189,slow=14,SNR=168						
KK31				⇑S	**S**	**06 55 46.3**	**-5.1**
	comp=N,24nm,0.6s,baz=187,slow=27,SNR=3.5						
KK31	**Karatay Array**	**6.60**	**2**	*i* PN	**Pn**	**06 54 34.7**	**-1.1**
KK31	**Karatay Array**	**6.60**	**2**	Pn	**Pn**	**06 54 35.0**	**-0.8**
KKAR	**Karatay Array**	**6.60**	**2**	PN	**Pn**	**06 54 35.0**	**-0.8**
KKAR	**Karatay Array**	**6.60**	**2**	Pn	**Pn**	**06 54 35.0**	**-0.8**
EKS2	**Erkin-Say**	**6.75**	**23**	P	**Pn**	**06 54 38.1**	**+0.2**
	SNR=31						
HRA	**Herat**	**6.81**	**254**	Pn	**Pn**	**06 54 36.3**	**-2.6**
AAK	**Ala-Archa**	**6.98**	**27**	P	**Pn**	**06 54 40.4**	**-0.4**
	comp=N,12nm,0.3s,baz=197,slow=7.1,SNR=47						
AAK				S	**S**	**06 55 57.4**	**-3.0**
	comp=N,13nm,0.3s,baz=330,slow=23,SNR=21						
AAK	**Ala-Archa**	**6.98**	**27**	P	**Pn**	**06 54 41.0**	**+0.2**
	SNR=34						
AAK	**Ala-Archa**	**6.98**	**27**	⇓P	**Pn**	**06 54 40.9**	**+0.2**
	comp=N,23nm,0.5s						
AAK				⇑S	**S**	**06 55 55.8**	**-4.6**
	comp=N,136nm,0.9s						
AAK	**Ala-Archa**	**6.98**	**27**	PN	**Pn**	**06 54 40.9**	**+0.1**
AAK	**Ala-Archa**	**6.98**	**27**	Pn	**Pn**	**06 54 40.8**	**+0.1**
KBK	**Karagaybulak**	**7.17**	**29**	P	**Pn**	**06 54 43.8**	**+0.5**
	SNR=27						
FRU1	**Bishkek**	**7.17**	**27**	PN	**Pn**	**06 54 43.7**	**+0.4**
FRU1	**Bishkek**	**7.17**	**27**	Pn	**Pn**	**06 54 43.7**	**+0.4**
CHMS	**Chumysh**	**7.38**	**27**	P	**Pn**	**06 54 46.0**	**+0.1**
	SNR=28						
ULHL	**Ulahol**	**7.41**	**37**	P	**Pn**	**06 54 46.3**	**-0.2**
	SNR=32						
BOOM	**Boomskoye usch**	**7.46**	**35**	PN	**Pn**	**06 54 47.2**	**+0.2**
BOOM	**Boomskoye usch**	**7.46**	**35**	Pn	**Pn**	**06 54 47.2**	**+0.2**
USP	**Ospennovka**	**7.53**	**25**	P	**Pn**	**06 54 47.6**	**-0.2**
	SNR=27						
TKM2	**Tokmak 2**	**7.65**	**31**	P	**Pn**	**06 54 49.4**	**-0.2**
	SNR=42						
TKM2	**Tokmak 2**	**7.65**	**31**	⇑P	**Pn**	**06 54 48.7**	**-0.9**
	comp=N,17nm,0.6s						
TKM2				⇑S	**S**	**06 56 12.6**	**-3.8**
	comp=N,28nm,0.7s						
TKM2	**Tokmak 2**	**7.65**	**31**	PN	**Pn**	**06 54 48.7**	**-0.9**
KDJ	**Kajisay**	**7.81**	**42**	PN	**Pn**	**06 54 51.3**	**-0.3**
KDJ	**Kajisay**	**7.81**	**42**	Pn	**Pn**	**06 54 51.3**	**-0.3**
SMLA	**Simla**	**7.90**	**131**	⇑eP	**Pn**	**06 54 52.8**	**+0.1**
SMLA				*e*S	**S**	**06 56 17.4**	**-4.7**
SMLA				IAML		06 56 20.6	
	comp=E,254nm,0.4s						
SMLA				IAML		06 56 20.8	
	comp=N,360nm,0.4s						
PRZ	**Przheval'sk**	**8.72**	**44**	PN	**Pn**	**06 55 03.8**	**+0.4**
PRZ	**Przheval'sk**	**8.72**	**44**	Pn	**Pn**	**06 55 03.8**	**+0.4**
GEYT	**Alibeck**	**9.73**	**282**	P	**Pn**	**06 55 14.7**	**-1.6**
	comp=N,1.6nm,0.3s,baz=354,slow=1.5,SNR=4.7						
GEYT				S	**S**	**06 57 01.1**	**-4.4**
	comp=N,1.4nm,0.3s,baz=97,slow=12,SNR=7.2						
GYA0	**ALIBECK ARRAY**	**9.73**	**282**	P	**Pn**	**06 55 13.9**	**-2.4**
GYA0B	**ALIBECK ARRAY**	**9.73**	**282**	Pn	**Pn**	**06 55 13.9**	**-2.5**
PDGK	**Podgornoye**	**9.88**	**43**	⇓P	**Pn**	**06 55 18.0**	**-0.2**
	comp=N,12nm,1.0s						
PDGK				⇑S	**S**	**06 57 05.0**	**-4.0**
	comp=N,54nm,1.1s						
PDGK	**Podgornoye**	**9.88**	**43**	P	**Pn**	**06 55 18.2**	**0.0**
PDGK				S	**S**	**06 57 05.0**	**-4.0**
AJM	**Ajmer**	**10.69**	**158**	*e*P	**Pn**	**06 55 28.0**	**-0.7**
OTUK	**Ortayu**	**11.85**	**7**	⇑P	**Pn**	**06 55 42.9**	**-0.3**
	comp=N,18nm,1.1s						
OTUK	**Ortayu**	**11.85**	**7**	P	**Pn**	**06 55 42.9**	**-0.3**
MAKZ	**Makanchi**	**13.54**	**37**	⇑P	**Pn**	**06 56 04.0**	**-0.4**
	comp=N,22nm,0.8s						
MAKZ	**Makanchi**	**13.54**	**37**	P	**Pn**	**06 56 04.2**	**-0.2**
MAKZ	**Makanchi**	**13.54**	**37**		**Pn**	**06 56 04.2**	**-0.2**
MK31	**Makanchi Array**	**13.69**	**38**	P	**Pn**	**06 56 05.7**	**-0.5**
	comp=N,6.3nm,0.4s,baz=223,slow=11,SNR=109						
MK31	**Makanchi Array**	**13.69**	**38**	*c* P	**Pn**	**06 56 05.8**	**-0.4**
MK31	**Makanchi Array**	**13.69**	**38**		**Pn**	**06 56 06.1**	**-0.1**
MKAR	**Makanchi Array**	**13.69**	**38**	P	**Pn**	**06 56 06.0**	**-0.2**
	comp=N,0.9nm,0.3s,baz=220,slow=16,SNR=46						
MKAR	**Makanchi Array**	**13.69**	**38**	P	**Pn**	**06 56 06.0**	**-0.2**
MKAR	**Makanchi Array**	**13.69**	**38**	Pn	**Pn**	**06 56 06.5**	**+0.3**
BHPL	**Bhopal**	**14.62**	**153**	*e*P	**P**	**06 56 19.1**	**+0.4**
BHPL				*e*S	**S**	**06 58 53.7**	**-6.1**
BHPL				IAML		06 58 59.4	
	comp=E,203nm,0.4s						
AB31	**Akbulak array**	**14.78**	**333**	⇑P	**Pn**	**06 56 18.2**	**-1.4**
	comp=E,2.6nm,0.4s,baz=150,slow=12,SNR=158						
AB31	**Akbulak array**	**14.78**	**333**	*i* P	**Pn**	**06 56 18.1**	**-1.4**
ABKAR	**Akbulak array**	**14.78**	**333**		**Pn**	**06 56 17.8**	**-1.7**
ABKAR	**Akbulak array**	**14.78**	**333**	P	**Pn**	**06 56 17.6**	**-1.9**
WMQ	**Urumqi**	**15.24**	**56**	*e*P	**P**	**06 56 25.6**	**+0.2**

WMQ					pmax	pmax		
	comp=E,37nm,0.9s							
WMQ					pmax	pmax		
	comp=E,170nm,5.1s							
KURBB	**Kurchatov Arra**	**15.34**	**20**		P	**Pn**	**06 56 25.7**	**-0.7**
	comp=E,0.5nm,0.3s,baz=210,slow=10,SNR=52							
KURBB	**Kurchatov Arra**	**15.34**	**20**	⇓	P	**Pn**	**06 56 25.3**	**-1.0**
	comp=E,15nm,0.7s							
KURK	**Kurchatov**	**15.45**	**20**		P	**P**	**06 56 25.7**	**-1.9**
KURK	**Kurchatov**	**15.45**	**20**		P	**P**	**06 56 25.7**	**-1.9**
AKTO	**Aktyubinsk**	**16.46**	**332**		P	**P**	**06 56 38.4**	**-0.3**
	comp=E,1.3nm,0.3s,baz=140,slow=9.1,SNR=44							
AKTO	**Aktyubinsk**	**16.46**	**332**	⇑	P	**Pn**	**06 56 39.4**	**-0.4**
	comp=E,26nm,1.1s							
AKTO	**Aktyubinsk**	**16.46**	**332**		P	**Pn**	**06 56 39.3**	**-0.4**
BVAR	**Borovoye Array**	**16.53**	**0**		P	**P**	**06 56 39.7**	**+0.3**
	comp=E,2.3nm,0.3s,baz=153,slow=17,SNR=31							
BRVK	**Borovoye**	**16.56**	**0**	⇓	P	**Pn**	**06 56 40.5**	**-0.4**
	comp=E,7.3nm,0.5s							
BRVK	**Borovoye**	**16.56**	**0**	*c*	*i*P	**Pn**	**06 56 40.4**	**-0.5**
BRVK					pmax	pmax		
	comp=E,26nm,1.3s							
BRVK	**Borovoye**	**16.56**	**0**		P	**Pn**	**06 56 40.4**	**-0.5**
BRVK					IAmb	IAmb	06 56 42.9	
	comp=E,20nm,1.1s							
WSAR	**Wadi Sarin**	**16.56**	**220**		P	**Pn**	**06 56 40.9**	**-0.3**
	comp=E,0.8nm,0.3s,baz=38,slow=4.1,SNR=5.5							
DGZ	**Jazzator, Alta**	**18.18**	**38**	*c*	*i*P	**Pn**	**06 56 59.7**	**-0.5**
DGZ					pmax	pmax		
	comp=E,56nm,0.8s							
LSA	**Lhasa**	**18.81**	**105**		P	**P**	**06 57 06.7**	**+1.7**
LSA					pmax	pmax		
	comp=E,11nm,0.4s							
LSA	**Lhasa**	**18.81**	**105**		P	**P**	**06 57 06.7**	**+1.7**
LSA					IAmb	IAmb	06 57 11.4	
	comp=E,11nm,0.4s							
ZAA0	**Zalesovo Array**	**20.20**	**26**	⇑	P	**P**	**06 57 19.4**	**+0.3**
	comp=E,3.7nm,0.6s							
ZAA0	**Zalesovo Array**	**20.20**	**26**		P	**P**	**06 57 19.4**	**+0.3**
ZALV	**Zalesovo Beam**	**20.20**	**26**		P	**P**	**06 57 19.5**	**+0.4**
	comp=E,27nm,0.5s,baz=218,slow=12,SNR=69							
ZALV	**Zalesovo Beam**	**20.20**	**26**		P	**P**	**06 57 19.2**	**+0.2**
HYB	**Hyderabad**	**20.40**	**157**	*i*	P	**P**	**06 57 24.0**	**+2.4**
ARU	**Arti**	**21.43**	**342**		P	**P**	**06 57 31.7**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=158,slow=12,SNR=18							
ARU	**Arti**	**21.43**	**342**	*d*	*i*P	**P**	**06 57 32.6**	**+0.7**
ARU					S	**S**	**07 01 16.8**	**+1.4**
ARU					pmax	pmax		
	comp=Z,38nm,1.4s							
ARU	**Arti**	**21.43**	**342**		P	**P**	**06 57 31.5**	**-0.4**
NCK	**Nalchik**	**21.48**	**297**	⇑	*e*P	**P**	**06 57 34.6**	**+2.0**
NCK					pmax	pmax		
	comp=Z,13nm,0.2s							
SHL	**Shillong**	**21.50**	**114**		P	**P**	**06 57 34.0**	**+0.8**
SHL					pmax	pmax		
	comp=Z,17nm,0.5s							
SHL	**Shillong**	**21.50**	**114**		P	**P**	**06 57 34.0**	**+0.8**
BELG	**Belogornoye**	**22.48**	**322**		P	**P**	**06 57 41.3**	**-0.7**
	comp=E,20nm,0.7s,baz=11,slow=1.4,SNR=5.9							
BELG	**Belogornoye**	**22.48**	**322**	*ce*	P	**P**	**06 57 42.5**	**+0.5**
BELG					pmax	pmax		
	comp=E,4.0nm,0.8s							
GTA	**Gaotai**	**23.50**	**74**	*e*	P	**P**	**06 57 54.7**	**+3.2**
GTA					pP	pP	06 58 36.9	+5.0
GTA					pmax	pmax		
	comp=E,6.0nm,1.2s							
RAYN	**Ar Rayn**	**24.90**	**246**		P	**P**	**06 58 03.5**	**-0.8**
RAYN					pmax	pmax		
	comp=E,6.0nm,1.1s							
RAYN	**Ar Rayn**	**24.90**	**246**		P	**P**	**06 58 03.5**	**-0.8**
KIRV	**Kirov**	**25.96**	**335**		P	**P**	**06 58 12.9**	**-0.5**
	comp=E,23nm,0.6s,baz=165,slow=2.7,SNR=6.9							
KIRV	**Kirov**	**25.96**	**335**	*c*	*i*P	**P**	**06 58 14.2**	**+0.9**
TLY	**Talaya**	**28.12**	**47**		P	**P**	**06 58 33.6**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=291,slow=4.5,SNR=3.1							
TLY	**Talaya**	**28.12**	**47**	⇑	*i*P	**P**	**06 58 35.0**	**+2.3**
TLY					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BR131	**Keskin Array S**	**28.81**	**288**	⇑	*e*P	**P**	**06 58 41.8**	**+2.7**
SONM	**Songino Array**	**28.88**	**56**		P	**P**	**06 58 41.2**	**+1.6**
	comp=Z,2.7nm,0.6s,baz=259,slow=9.3,SNR=15							
SONM	**Songino Array**	**28.88**	**56**		P	**P**	**06 58 41.6**	**+1.9**
SONM					pmax	pmax		
	comp=Z,7.0nm,1.3s							
SONM	**Songino Array**	**28.88**	**56**		P	**P**	**06 58 41.6**	**+1.9**
SONM					IAmb	IAmb	06 58 42.9	
	comp=Z,6.5nm,1.3s							
ULN	**Ulaanbaatar**	**29.32**	**56**	*ce*	P	**P**	**06 58 45.4**	**+1.8**
ULN					pmax	pmax		
	comp=Z,8.0nm,2.5s							
ULN	**Ulaanbaatar**	**29.32**	**56**		P	**P**	**06 58 45.0**	**+1.5**
PRGR	**Permogore**	**29.50**	**336**	*e*	P	**P**	**06 58 43.7**	**-1.1**
OBN	**Obninsk**	**29.51**	**320**	*e*	P	**P**	**06 58 44.9**	**0.0**
OBN				*e*	*PP	**pP**	**06 59 27.2**	**-0.8**
OBN				*e*			07 01 47.1	
OBN					pmax	pmax		
	comp=Z,9.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.03**	**118**		P	**P**	**06 58 59.9**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=292,slow=8.1,SNR=9.4							
CMAR	**Chiang Mai Arr**	**31.03**	**118**		P	**P**	**06 58 59.6**	**+0.8**
KLMR	**Klimovskoe**	**31.16**	**331**	*e*	P	**P**	**06 58 58.9**	**-0.4**
KLMR					pmax	pmax		
	comp=Z,9.0nm,0.8s							
KLMR	**Klimovskoe**	**31.16**	**331**	*e*	P	**P**	**06 58 59.0**	**-0.4**
KLMR					AMP		06 59 00.4	
	comp=Z,9.0nm,0.8s							
XAN	**Xi'an**	**31.58**	**83**		P	**P**	**06 59 01.2**	**-2.3**
XAN					pP	pP	06 59 45.4	-2.9
HHC	**Hu-ho-hao-te**	**32.38**	**69**	*e*	P	**P**	**06 59 09.1**	**-1.3**
AKASG	**Malin Array Be**	**32.44**	**309**		P	**P**	**06 59 11.0**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=84,slow=6.7,SNR=7.7							
AKASG	**Malin Array Be**	**32.44**	**309**		P	**P**	**06 59 09.5**	**-1.1**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**32.44**	**309**		P	**P**	**06 59 09.5**	**-1.1**
AKBB	**Malin Array Si**	**32.44**	**309**		P	**P**	**06 59 10.2**	**-0.4**
AKBB					pmax	pmax		
	comp=Z,8.0nm,1.5s							
AKBB	**Malin Array Si**	**32.44**	**309**		P	**P**	**06 59 10.2**	**-0.4**
AKBB					IAmb	IAmb	06 59 12.4	
	comp=Z,8.4nm,1.4s							
MNK	**Minsk**	**34.04**	**315**	*i*	P	**P**	**06 59 24.5**	**+0.1**
MNK				*i*	S	**S**	**07 04 33.7**	**+0.1**
MNK					pmax	pmax		
	comp=E,3.0nm,1.0s							
MNK					pmax	pmax		
	comp=Z,7.0nm,0.8s							
MNK					pmax	pmax		
	comp=N,39nm,1.0s							
MNK					MLR	MLR		
	comp=Z,175nm,23.0s							
MNK					MLR	MLR		
	comp=N,324nm,22.0s							
MNK					MLR	MLR		
	comp=E,9.0nm,20.0s							
MNK	**Minsk**	**34.04**	**315**	*i*	P	**P**	**06 59 24.6**	**+0.2**
	comp=E,3.0nm,1.0s							
MNK				*i*	P	**P**	**06 59 24.6**	**+0.2**
	comp=N,39nm,1.0s							
MNK				*i*	P	**P**	**06 59 24.6**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=104							
MNK				*i*	S	**S**	**07 04 33.7**	**+0.1**
MNK				*i*	SS	**SS**	**07 07 10.5**	**+3.1**
MNK				*i*	LRM	MLR	07 15 26.6	
	comp=Z,175nm,22.9s							
MNK				*i*	LRM	MLR	07 15 34.9	
	comp=N,324nm,22.1s							
MNK				*i*	LRM	MLR	07 15 48.2	
	comp=E,9.0nm,20.4s							
NRIK	**Noril'sk**	**34.25**	**11**		P	**P**	**06 59 27.3**	**+1.3**
	comp=E,13nm,0.5s,baz=196,slow=6.2,SNR=13							
NRIK	**Noril'sk**	**34.25**	**11**	*c*	*i*P	**P**	**06 59 27.8**	**+1.8**
NRIK	**Noril'sk**	**34.25**	**11**		P	**P**	**06 59 26.5**	**+0.5**
NRIK					IAmb	IAmb	06 59 28.6	
	comp=Z,15nm,0.9s							
FIA1	**FINESS Array S**	**37.12**	**326**		P	**P**	**06 59 51.0**	**+0.5**
FINES	**FINESS Array B**	**37.12**	**326**		P	**P**	**06 59 51.3**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=108,slow=8.9,SNR=15							
FINES	**FINESS Array B**	**37.12**	**326**	*i*	P	**P**	**06 59 51.2**	**+0.7**
FINES					pmax	pmax		
	comp=Z,5.0nm,0.6s							
FINES	**FINESS Array B**	**37.12**	**326**		P	**P**	**06 59 50.2**	**-0.3**
KEV	**Kevo**	**40.56**	**339**		P	**P**	**07 00 19.3**	**+0.4**
KEV					pmax	pmax		
	comp=Z,31nm,1.2s							
KEV	**Kevo**	**40.56**	**339**		P	**P**	**07 00 19.3**	**+0.4**
KEV					IAmb	IAmb	07 00 44.0	
	comp=Z,31nm,1.2s							
ARCES	**ARCESS Array B**	**40.90**	**338**		P	**P**	**07 00 22.2**	**+0.6**
	comp=Z,7.3nm,0.6s,baz=108,slow=7.5,SNR=29							
ARCES	**ARCESS Array B**	**40.90**	**338**		P	**P**	**07 00 22.3**	**+0.6**
ARCES					pmax	pmax		
	comp=Z,13nm,0.9s							
ARCES	**ARCESS Array B**	**40.90**	**338**		P	**P**	**07 00 22.3**	**+0.6**
ARCES					IAmb	IAmb	07 00 23.6	
	comp=Z,13nm,0.9s							
NC303	**NORSAR Array S**	**43.93**	**323**		P	**P**	**07 00 46.6**	**+0.4**
NC303					IAmb	IAmb	07 01 14.4	
	comp=Z,17nm,1.3s							
NB201	**NORSAR Array S**	**43.95**	**323**		P	**P**	**07 00 46.6**	**+0.2**
NB201					IAmb	IAmb	07 00 52.3	
	comp=Z,36nm,1.3s							
NOA	**NORSAR Array B**	**43.99**	**323**		P	**P**	**07 00 46.8**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=97,slow=7.8,SNR=9.9							
NC204	**NORSAR Array S**	**44.23**	**323**		P	**P**	**07 00 48.7**	**+0.1**
KSRS	**Korea Array**	**45.50**	**71**		P	**P**	**07 01 00.1**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=275,slow=7.5,SNR=5.7							
KLR	**Kul'dur**	**45.67**	**54**	⇓	*e*P	**P**	**07 01 00.5**	**+0.4**
KLR					pmax	pmax		
	comp=Z,9.0nm,2.3s							
TIXI	**Tiksi**	**46.02**	**22**	⇑	*e*P	**P**	**07 01 03.3**	**+0.8**
TIXI	**Tiksi**	**46.02**	**22**		P	**P**	**07 01 03.0**	**+0.5**
TIXI					IAmb	IAmb	07 01 04.2	
	comp=Z,9.2nm,0.8s							
KMBO	**Kilima Mbogo**	**48.35**	**227**		P	**P**	**07 01 22.7**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=49,slow=10,SNR=7.0							
YSS	**Yuzh-Sakhalins**	**53.36**	**55**	⇓	*e*P	**P**	**07 02 00.1**	**+2.0**
YSS					pmax	pmax		
	comp=Z,99nm,2.5s							
SEY	**Seymchan**	**54.78**	**34**	⇓	*e*P	**P**	**07 02 09.9**	**+1.8**
BILL	**Bilibino**	**58.90**	**26**		*eP	**P**	**07 02 37.8**	**+0.9**
BILL					*e		07 03 25.8	
BILL					*e		07 04 49.4	
BILL					pmax	pmax		
	comp=Z,7.0nm,1.9s							
BILL	**Bilibino**	**58.90**	**26**		P	**P**	**07 02 38.4**	**+1.5**
TOLK	**Toolik Lake Re**	**71.09**	**14**		P	**P**	**07 03 56.7**	**+1.4**
TOLK					IAmb	IAmb	07 03 57.5	
	comp=Z,5.1nm,0.6s							
COLD	**Coldfoot**	**72.15**	**15**		P	**P**	**07 04 02.9**	**+1.3**
IMAR	**Indian Mountai**	**72.37**	**17**		P	**P**	**07 04 03.6**	**+0.6**
BMAR	**Burnt Mountain**	**73.10**	**13**		P	**P**	**07 04 09.9**	**+2.6**
C36M	**Paulatuk**	**73.94**	**5**		P	**P**	**07 04 12.5**	**+0.5**
C36M					IAmb	IAmb	07 04 33.3	
	comp=Z,17nm,1.5s							
ROSA	**Rosas**	**73.94**	**306**		P	**P**	**07 04 12.0**	**-0.7**
INK	**Inuvik**	**74.01**	**9**		P	**P**	**07 04 13.9**	**+1.4**
INK					pmax	pmax		
	comp=Z,4.0nm,0.7s							
INK	**Inuvik**	**74.01**	**9**		P	**P**	**07 04 13.9**	**+1.4**
INK					IAmb	IAmb	07 04 14.6	
	comp=Z,3.9nm,0.7s							
COLA	**College**	**74.66**	**16**	⇓	*e*P	**P**	**07 04 16.5**	**+0.2**
COLA					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ILAR	**Eielson Array**	**74.96**	**16**		P	**P**	**07 04 18.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=314,slow=4.8,SNR=9.2							
ILAR	**Eielson Array**	**74.96**	**16**		P	**P**	**07 04 18.1**	**+0.1**
SCRK	**Sand Creek**	**76.27**	**15**		P	**P**	**07 04 26.2**	**+0.6**
YKA	**Yellowknife Ar**	**81.28**	**2**		P	**P**	**07 04 53.4**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=355,slow=4.8,SNR=6.9							
ASAR	**Alice Springs**	**84.80**	**124**		P	**P**	**07 05 10.4**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=310,slow=4.8,SNR=20							
ASAR	**Alice Springs**	**84.80**	**124**		P	**P**	**07 05 11.4**	**+0.1**
ASAR	**Alice Springs**	**84.80**	**124**		P	**P**	**07 05 11.4**	**+0.1**

IDC ***04*** *07:20:56.4±4.0,* ***54°26N×87°54E,h0km,mb1 2.7****/2,* ***mb1mx2.7****/45,****mbtmp2.7****/2,****ML2.4****/2,Error ellipse:* ***s-maj=37.5km s-min=22.1km az=35.0,Southwestern Siberia***

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**260**	*i*		07 29 30.0	
	baz=78,slow=295,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.63**	**260**	Pg	Pn	07 21 24.6	-1.7
	0.8nm,0.3s,baz=81,slow=16,SNR=5.3						
ZALV				Lg	Lg	07 21 49.1	
	0.6nm,0.3s,baz=78,slow=21,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.60**	**240**	Pn	Pn	07 22 35.1	+0.5
	0.1nm,0.3s,baz=54,slow=15,SNR=5.3						
MKAR	**Makanchi Array**	**8.19**	**206**	Pn	Pn	07 22 57.9	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=2.6						

NNC ***04*** *07:24:48.9±0.4,* ***50°03N×78°67E,h0km,mb3.6,mpv3.2,*** ***15C-9D,Error ellipse: s-maj=6.7km s-min=2.2km az=76.0,Suspected Mining explosion.,Eastern Kazakhstan***

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**350**	⇑P	Pg	07 24 59.9	+0.2
KUR07				⇑S	Sg	07 25 08.5	+1.4
KUR06	**Kurchatov Arra**	**0.59**	**351**	⇑P	Pg	07 25 00.3	+0.2
KUR06				⇓S	Sg	07 25 08.8	+1.1
KUR14	**Kurchatov Arra**	**0.59**	**355**	⇑P	Pg	07 25 00.1	-0.1
KUR14				⇓S	Sg	07 25 08.7	+0.8
KUR15	**Kurchatov Arra**	**0.60**	**353**	⇑P	Pg	07 25 00.3	0.0
KUR15				⇑S	Sg	07 25 09.3	+1.2
KURBB	**Kurchatov Arra**	**0.60**	**352**	⇑P	Pg	07 25 00.5	0.0
	40nm,0.3s						
KURBB				⇑S	Sg	07 25 09.3	+1.0
	98nm,0.5s						
KUR16	**Kurchatov Arra**	**0.61**	**350**	⇑P	Pg	07 25 00.6	+0.1
KUR16				⇓S	Sg	07 25 09.6	+1.1
KUR17	**Kurchatov Arra**	**0.62**	**348**	⇑P	Pg	07 25 00.8	0.0
KUR17				⇑S	Sg	07 25 09.3	+0.5
KUR05	**Kurchatov Arra**	**0.62**	**352**	P	Pg	07 25 00.8	0.0
KUR05				S	Sg	07 25 10.2	+1.3
SEM	**Semipalatinsk**	**1.08**	**69**	P	Pg	07 25 09.4	-0.3
	5.8nm,0.1s						
SEM				S	Sg	07 25 23.2	-0.5
	34nm,0.2s						
BRZS	**Berezniki**	**3.87**	**272**	Pg	Pg	07 26 01.2	-1.6
	4.1nm,0.4s						
BRZS				Lg	Lg	07 26 52.5	
	9.5nm,0.5s						
MAKZ	**Makanchi**	**3.90**	**144**	⇓Pn	Pn	07 25 49.7	-0.4
	2.2nm,0.8s						
MAKZ				⇑Pg	Pb	07 26 00.4	+1.9
	2.2nm,0.5s						
MAKZ				⇓Lg	Lg	07 26 52.4	
	14nm,0.6s						
MK31	**Makanchi Array**	**4.03**	**142**	⇓Pn	Pn	07 25 52.2	+0.3
	0.1nm,0.1s,baz=17,slow=4.0,SNR=43						
MK31				⇑Pg	Pb	07 26 01.5	+0.8
	1.3nm,0.3s,baz=335,slow=14,SNR=16						
MK31				⇓Lg	Lg	07 26 56.8	
	6.8nm,0.5s,baz=329,slow=33,SNR=16						
OTUK	**Ortayu**	**4.52**	**249**	⇓Pn	Pn	07 25 59.1	+0.5
	1.4nm,0.2s						
OTUK				⇓Lg	Lg	07 27 10.9	
	4.8nm,0.6s						
KAPS	**Kapalarasan**	**4.77**	**174**	Pg	Pb	07 26 15.7	+2.5
	0.2nm,0.3s						
KAPS				Lg	Lg	07 27 17.9	
	1.5nm,0.7s						
ZSN	**Zaisan**	**4.84**	**120**	Pg	Pg	07 26 19.1	-2.5
	4.1nm,0.3s						
ZSN				Lg	Lg	07 27 22.6	
	13nm,0.7s						
ARXS	**Arharly**	**5.84**	**186**	Pg	Pb	07 26 35.4	+3.8
	1.8nm,0.3s						
ARXS				Lg	Lg	07 27 50.8	
	8.6nm,0.4s						
KTBS	**Karatobe**	**6.46**	**193**	Pg	Pg	07 26 48.8	-3.8
	1.5nm,0.4s						
KTBS				Lg	Lg	07 28 16.7	
	7.0nm,0.7s						
PDGK	**Podgornoye**	**6.72**	**175**	⇑Lg	Lg	07 28 22.1	
	7.3nm,0.6s						
UZB	**Uzynbulak**	**6.88**	**178**	Pg	Pg	07 26 56.4	-4.3
	2.3nm,0.4s						
UZB				Lg	Lg	07 28 26.6	
	4.6nm,0.7s						
TKM2	**Tokmak 2**	**7.42**	**198**	⇑Lg	Lg	07 28 44.4	
	3.2nm,0.6s						

IDC ***04*** *07:32:27.2±1.3,55°45S×27°64W,h0km,mb3.9/3,* *mb1 4.0/3,mb1mx3.8/16,mbtmp3.9/3,Error ellipse:* *s-maj=50.4km s-min=33.5km az=87.0*
NEIC ***04*** *07:32:29.0±1.1,55°5S±0°1×27°9W±0°2,h10km±1km,* *mb4.5/8,Error ellipse: s-maj=21.3km s-min=15.0km az=347.0*

ISC 04 07:32:31.3±0.9,55°5S±0°1×28°0W±0°2,h26km,n18,σ0s66/16,mb4.1/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.07**	**280**	Pn	**Pn**	**07 33 44.4**	**-1.0**
SNAA	**Sanae**	**19.43**	**156**	P	**P**	**07 36 54.3**	**-1.0**
QSPA	**South Pole Qui**	**34.76**	**180**	P	**P**	**07 39 19.7**	**+0.6**
MT09	**Talagante**	**36.72**	**288**	P	**P**	**07 39 37.2**	**+1.0**
MT09				IAmb	IAmb	07 39 46.8	
	comp=Z,18nm,1.5s						
MT02	**Curacav**	**37.19**	**289**	P	**P**	**07 39 39.9**	**-0.2**
AC02	**Maricunga**	**41.23**	**297**	P	**P**	**07 40 14.4**	**0.0**
VNDA	**Vanda**	**47.11**	**183**	P	**P**	**07 41 00.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=186,slow=4.7,SNR=5.8						
VNDA	**Vanda**	**47.11**	**183**	IAmb	IAmb	07 41 07.9	
	comp=Z,1.7nm,0.8s						
LPAZ	**La Paz**	**49.69**	**306**	P	**P**	**07 41 22.4**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=173,slow=5.7,SNR=6.2						
LPAZ	**La Paz**	**49.69**	**306**	IAmb	IAmb	07 41 23.9	
	comp=Z,4.9nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.79**	**30**	P	**P**	**07 43 57.2**	**-0.1**
TOA0				IAmb	IAmb	07 44 05.1	
	comp=Z,10nm,1.5s						
TORD	**Torodi Ar. Bea**	**72.79**	**30**	P	**P**	**07 43 56.5**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=201,slow=6.1,SNR=5.7						
PEZE	**Perez Zeledon,**	**79.44**	**304**	P	**P**	**07 44 35.1**	**-0.2**
BCAR	**Beaver Creek A**	**146.79**	**310**	PKPbc	**PKPbc**	**07 52 10.2**	**+0.6**
DOT	**Dot Lake**	**147.95**	**311**	PKPab	**PKPab**	**07 52 15.9**	**+0.5**
ILAR	**Eielson Array**	**149.41**	**313**	PKPbc	**PKPbc**	**07 52 16.3**	**0.0**
	comp=Z,1.2nm,0.9s,baz=122,slow=0.7,SNR=7.2						
TOLK	**Toolik Lake Re**	**150.97**	**320**	PKPbc	**PKPbc**	**07 52 19.9**	**-0.2**
IMAR	**Indian Mountai**	**152.43**	**314**	PKPbc	**PKPbc**	**07 52 22.8**	**-0.6**

SOME ***04*** *07:59:34.1,41°00N×76°48E,h0km*
KRNET ***04*** *07:59:35.0±0.1,40°96N×76°64E,h20km,mb3.1*
KNET ***04*** *07:59:36.7±0.6,41°07N×76°71E,h0km±5km,ml2.5,Error ellipse: s-maj=8.0km s-min=3.8km az=66.0*
NNC ***04*** *07:59:37.3±1.1,41°02N×76°71E,h0km,mb3.7,mpv3.4,* *Error ellipse: s-maj=7.7km s-min=5.4km az=169.0*

ISC 04 07:59:35.3±1.8,40°99N±0°07×76°67E±0°03,h1km±11km,n58,σ1s58/92,25C-12D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.20**	**19**	⇓ *i*P	**Pn**	**07 59 58.7**	**-0.8**
	baz=19						
KDJ				⇓ *i*S	**Sn**	**08 00 16.2**	**-0.4**
	baz=19						
ULHL	**Ulahol**	**1.29**	**346**	⇑ *i*P	**Pg**	**08 00 00.1**	**0.0**
	baz=47						
ULHL				⇑ *i*S	**Sn**	**08 00 18.4**	**-0.5**
	baz=47						
ULHL	**Ulahol**	**1.29**	**346**	⇑P	**Pg**	**08 00 00.2**	**0.0**
	5.6nm,0.1s,SNR=41						
ULHL				⇓S	**Sn**	**08 00 18.5**	**-0.5**
	30nm,0.3s						
BOOM	**Boomskoye usch**	**1.59**	**340**	⇑ *i*P	**Pb**	**08 00 05.4**	**-0.3**
	baz=41						
BOOM				⇑ *i*S	**Sg**	**08 00 27.7**	**+1.2**
	baz=41						
ANVS	**Anan'yevo**	**1.94**	**22**	⇑ *i*P	**Pg**	**08 00 11.6**	**-0.9**
	baz=22						
ANVS				⇑ *i*S	**Sg**	**08 00 38.4**	**+0.7**
	baz=22						
ARLS	**Aral**	**1.96**	**297**	⇑ *i*P	**Pn**	**08 00 11.3**	**+1.3**
	baz=98						
ARLS				⇑ *i*S	**Sb**	**08 00 37.8**	**+0.7**
	baz=98						
IZV	**Izvestkoviy**	**2.04**	**359**	*e*P	**Pg**	**08 00 14.3**	**-0.2**
	12nm,0.2s						
IZV				*e*S	**Sg**	**08 00 43.2**	**+2.2**
	38nm,0.6s						
IZV	**Izvestkoviy**	**2.04**	**359**	Pg	**Pg**	**08 00 14.3**	**-0.2**
	12nm,0.2s						
IZV				Lg	Lg	08 00 43.2	
	38nm,0.6s						
TKM2	**Tokmak 2**	**2.09**	**338**	⇑ *i*P	**Pb**	**08 00 13.7**	**-0.4**
	baz=39						
TKM2				⇑ *i*S	**Sg**	**08 00 41.8**	**-0.6**
	baz=39						
TKM2	**Tokmak 2**	**2.09**	**338**	⇓P	**Pg**	**08 00 14.8**	**-0.5**
	18nm,0.2s,SNR=38						
TKM2				⇓S	**Sg**	**08 00 43.6**	**+1.3**
	12nm,0.2s						
TKM2	**Tokmak 2**	**2.09**	**338**	Pn	**Pg**	**08 00 14.7**	**-0.6**
	5.5nm,0.2s						
TKM2				⇓Lg	Lg	08 00 44.0	
	14nm,0.7s						
KBK	**Karagaybulak**	**2.10**	**323**	⇑ *i*P	**Pb**	**08 00 13.8**	**-0.6**
	baz=24						
KBK				⇑ *i*S	**Sg**	**08 00 41.9**	**-1.0**
	baz=24						
KBK	**Karagaybulak**	**2.10**	**323**	⇑P	**Pb**	**08 00 14.9**	**+0.5**
	6.0n

CHMS	**Chumysh**	**2.46**	**325**	⇑*iP*		**Pb**	**08 00 18.6**	**-1.8**
	baz=26								
CHMS				⇑*iS*		**Sb**	**08 00 50.5**	**-0.8**
	baz=26								
CHMS	**Chumysh**	**2.46**	**325**	⇓P		**Pb**	**08 00 20.9**	**+0.4**
	9.1nm,0.3s,SNR=5.9								
AML	**Almayashu**	**2.50**	**298**	⇑*iP*		**Pn**	**08 00 19.2**	**+1.6**
	baz=99								
AML				⇑*iS*		**Sb**	**08 00 51.5**	**-1.4**
	baz=99								
AML	**Almayashu**	**2.50**	**298**	⇑P		**Pb**	**08 00 20.5**	**-0.9**
	8.9nm,0.2s,SNR=21								
KTBS	**Karatobe**	**2.72**	**0**	*eP*		**Pg**	**08 00 25.9**	**-1.6**
	6.9nm,0.4s								
KTBS				*eS*		**Sg**	**08 01 03.0**	**+0.3**
	31nm,0.4s								
KTBS	**Karatobe**	**2.72**	**0**	Pg		**Pg**	**08 00 25.9**	**-1.6**
	6.9nm,0.4s								
KTBS				Lg		Lg	08 01 03.0		
	31nm,0.4s								
EKS2	**Erkin-Say**	**2.73**	**309**	⇓*eP*		**Pn**	**08 00 22.3**	**+1.9**
	baz=9.0								
EKS2				⇓*iS*		**Sb**	**08 00 56.7**	**-2.4**
	baz=9.0								
KURS	**Kuram**	**2.73**	**24**	*eP*		**Pg**	**08 00 25.8**	**-1.9**
	6.7nm,0.5s								
KURS				*eS*		**Sg**	**08 01 03.1**	**0.0**
	8.8nm,0.8s								
KURS	**Kuram**	**2.73**	**24**	Pg		**Pg**	**08 00 25.8**	**-1.9**
	6.7nm,0.5s								
KURS				Lg		Lg	08 01 03.1		
	8.8nm,0.8s								
UZB	**Uzynbulak**	**2.78**	**38**	*eP*		**Pb**	**08 00 26.0**	**+0.1**
	6.4nm,0.4s								
UZB				*eS*		**Sg**	**08 01 03.4**	**-1.2**
	17nm,0.5s								
UZB	**Uzynbulak**	**2.78**	**38**	Pg		**Pb**	**08 00 26.0**	**+0.1**
	6.4nm,0.4s								
UZB				Lg		Lg	08 01 03.3		
	17nm,0.5s								
USP	**Ospenovka**	**2.79**	**325**	⇑*eP*		**Pn**	**08 00 23.2**	**+2.0**
	baz=26								
USP				⇑*iS*		**Sb**	**08 00 58.4**	**-2.3**
	baz=26								
KRBS	**Karabastau**	**2.80**	**345**	*eP*		**Pg**	**08 00 27.6**	**-1.4**
	12nm,0.3s								
KRBS				*eS*		**Sg**	**08 01 06.4**	**+1.1**
	22nm,0.7s								
KRBS	**Karabastau**	**2.80**	**345**	Pg		**Pg**	**08 00 27.6**	**-1.4**
	12nm,0.3s								
KRBS				Lg		Lg	08 01 06.4		
	22nm,0.7s								
CHKK	**Chushkaly**	**2.87**	**5**	*eP*		**Pb**	**08 00 28.0**	**+0.6**
	3.7nm,0.3s								
CHKK				*eS*		**Sg**	**08 01 07.5**	**-0.1**
	18nm,0.4s								
CHKK	**Chushkaly**	**2.87**	**5**	Pg		**Pb**	**08 00 27.6**	**+0.2**
	3.7nm,0.3s								
CHKK				Lg		Lg	08 01 07.5		
	18nm,0.4s								
SGDS	**Sogindy**	**2.89**	**329**	Pg		**Pb**	**08 00 28.6**	**+0.9**
	7.8nm,0.3s								
SGDS				Lg		Lg	08 01 07.3		
	11nm,0.4s								
KPKS	**Kokpek**	**2.89**	**31**	*eP*		**Pg**	**08 00 28.7**	**-2.0**
	13nm,0.4s								
KPKS				*eS*		**Sg**	**08 01 08.3**	**+0.1**
	45nm,0.6s								
SHLS	**Shalkode**	**3.00**	**43**	*eP*		**Pg**	**08 00 35.0**	**+2.1**
	12nm,0.4s								
SHLS				*eS*		**Sg**	**08 01 18.7**	**+6.9**
	22nm,0.7s								
SHLS	**Shalkode**	**3.00**	**43**	Pg		**Pg**	**08 00 35.0**	**+2.1**
	12nm,0.4s								
SHLS				Lg		Lg	08 01 18.7		
	22nm,0.7s								
MRKS	**Merke**	**3.11**	**305**	*eP*		**Pb**	**08 00 31.4**	**-0.1**
	2.8nm,0.2s								
MRKS				*eS*		**Sb**	**08 01 12.7**	**+2.7**
	9.5nm,0.5s								
MRKS	**Merke**	**3.11**	**305**	Pg		**Pb**	**08 00 31.4**	**-0.1**
	2.8nm,0.2s								
MRKS				Lg		Lg	08 01 12.7		
	9.5nm,0.5s								
PDGK	**Podgornoye**	**3.14**	**41**	Pn		**Pb**	**08 00 28.7**	**-3.4**
	2.9nm,0.6s								
PDGK				Lg		Lg	08 01 15.2		
	14nm,0.6s								
ARXS	**Arharly**	**3.33**	**15**	*eP*		**Pb**	**08 00 36.4**	**+1.1**
	5.8nm,0.8s								
ARXS				*eS*		**Sg**	**08 01 22.0**	**-0.4**
	7.6nm,0.3s								
ARXS	**Arharly**	**3.33**	**15**	Pg		**Pb**	**08 00 36.4**	**+1.1**
	5.8nm,0.8s								
ARXS				Lg		Lg	08 01 22.0		
	7.6nm,0.3s								
DJR	**Jarkent**	**4.06**	**34**	*eP*		**Pg**	**08 00 49.9**	**-3.2**
	0.2nm,0.1s								
DJR				*eS*		**Sg**	**08 01 44.7**	**-0.9**
	0.4nm,0.4s								
DJR	**Jarkent**	**4.06**	**34**	Pg		**Pg**	**08 00 49.9**	**-3.2**
	0.2nm,0.1s								
DJR				Lg		Lg	08 01 44.7		
	0.4nm,0.4s								
BTLS	**Baital**	**4.48**	**335**	*eP*		**Pb**	**08 00 56.5**	**+1.7**
	2.1nm,0.3s								
BTLS				*eS*		**Sg**	**08 01 56.3**	**-2.9**
	3.5nm,0.4s								
BTLS	**Baital**	**4.48**	**335**	Pg		**Pb**	**08 00 56.4**	**+1.7**
	2.1nm,0.3s								
BTLS				Lg		Lg	08 01 56.3		
	3.5nm,0.4s								
KK31	**Karatay Array**	**5.04**	**297**	⇑Pg		**Pg**	**08 01 09.7**	**-2.3**
	0.4nm,0.4s,baz=122,slow=18,SNR=5.5								
KK31				⇑Lg		Lg	08 02 17.1		
	0.8nm,0.5s,baz=109,slow=30,SNR=4.0								

IDC 04 08:30:27.7±2.9, 53°.57N×87°.94E, h0km, mb1 3.1/2, mb1mx2.9/36, mbtmp3.1/2, ML2.7/2, 2C-3D, Error ellipse: s-maj=24.6km s-min=18.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	*i*		08 42 20.0	
	baz=98,slow=311,SNR=5.2						
ZAA0	**Zalesovo Array**	**1.89**	**283**	⇑Pn	Pn	08 31 00.4	-0.9
	0.7nm,0.3s						
ZAA0				⇓Lg	Lg	08 31 27.1	
	2.3nm,0.5s						
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pn	Pn	08 31 00.7	-0.5
	2.3nm,0.3s,baz=104,slow=11,SNR=31						
ZALV				Lg	Lg	08 31 27.6	
	4.3nm,0.3s,baz=101,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	08 32 05.3	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=8.5						
KURBB				Sn	Sn	08 33 19.4	0.0
	0.0nm,0.3s,baz=69,slow=24,SNR=3.1						
KURBB				Lg	Lg	08 33 53.0	
	0.0nm,0.3s,baz=61,slow=35,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.50**	**247**	⇓Pn	Pn	08 32 04.5	0.0
	2.1nm,0.6s,baz=63,slow=14						
KURBB				⇑Sn	Sn	08 33 17.8	-1.6
	6.9nm,0.7s						
KURBB				⇓Lg	Lg	08 33 50.9	
	7.0nm,0.8s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	08 32 21.9	+1.1
	0.1nm,0.3s,baz=24,slow=12,SNR=2.9						
MKAR				Lg	Lg	08 34 29.2	
	baz=25,slow=38,SNR=5.2						

*IDC **04** 09:03:44.3±1.9, 49°.86N×29°.07W, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/47, mbtmp3.5/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/28, Error ellipse: s-maj=59.1km s-min=29.1km az=53.0*

ISC 04 09:03:45.6±1.8, 49°.8N±0°.3×29°.1W±0°.4, h10km, n10, σ0§51/5, mb3.7/4, MS3.0/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.42**	**110**	P	Pn	09 08 23.8	-1.1
	0.3nm,0.6s,baz=254,slow=7.9,SNR=1.5						
ESDC				LR	LR	09 14 40.5	
	comp=Z,36nm,19.4s,baz=235,slow=32						
NOA	**NORSAR Array B**	**25.04**	**48**	LR	LR	09 17 27.3	
	comp=Z,46nm,18.8s,baz=285,slow=33						
GERES	**GERESS Array B**	**27.61**	**75**	LR	LR	09 19 58.4	
	comp=Z,35nm,18.5s,baz=282,slow=35						
FINES	**FINESS Array B**	**32.22**	**48**	LR	LR	09 22 13.0	
	comp=Z,50nm,19.3s,baz=127,slow=34						
TORD	**Torodi Ar. Bea**	**44.41**	**135**	P	**P**	**09 11 56.6**	**+0.1**
	0.5nm,0.6s,baz=332,slow=8.3,SNR=4.9						
KBZ	**Khabaz**	**47.92**	**68**	LR	LR	09 32 49.6	
	comp=Z,42nm,19.7s,baz=42,slow=36						
ILAR	**Eielson Array**	**56.02**	**333**	P	**P**	**09 13 24.1**	**+0.2**
	0.6nm,1.0s,baz=33,slow=6.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**62.45**	**43**	P	**P**	**09 14 08.4**	**-0.1**
	0.5nm,0.6s,baz=319,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	**66.95**	**44**	P	**P**	**09 14 38.2**	**+0.2**
	0.6nm,0.7s,baz=316,slow=5.6,SNR=7.9						
ASAR	**Alice Springs**	**150.69**	**33**	PKPbc	**PKiKP**	**09 23 37.9**	**-0.6**
	0.7nm,0.7s,baz=350,slow=1.8,SNR=10						

*IDC **04** 09:23:40.8±0.9, 58°.64S×24°.88W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/23, mbtmp4.2/8, ML4.2/1, MS3.2/5, Ms1 3.2/5, ms1mx3.1/23, Error ellipse: s-maj=36.1km s-min=19.9km az=69.0*

ISC 04 09:23:45.0±0.9, 58°.7S±0°.1×24°.9W±0°.2, h28km, n21, σ0§62/14, mb4.1/7, MS3.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.88**	**157**	P	**Pn**	**09 26 59.6**	**+0.1**
VNA1				S	Sn	09 29 18.5	-14
VNA3	**Neumayer Olymp**	**14.09**	**160**	P	**Pn**	**09 27 01.3**	**-1.0**
VNA3				S	Sn	09 29 19.9	-18
VNA2	**Neumayer--Watz**	**14.28**	**156**	P	**Pn**	**09 27 04.5**	**-0.5**
	baz=320,slow=14						
VNA2				S	Sn	09 29 26.9	-15
SNAA	**Sanae**	**15.82**	**154**	P	**Pn**	**09 27 25.4**	**-0.1**
SNAA				S	Sn	09 30 08.1	-12
SNAA	**Sanae**	**15.82**	**154**	Pn	**Pn**	**09 27 24.7**	**-0.8**
	0.9nm,0.3s,baz=308,slow=13,SNR=24						
SNAA				LR	LR	09 32 09.0	
	comp=Z,101nm,19.0s,baz=99,slow=32						
PMSA	**Palmer Station**	**19.25**	**235**	LR	LR	09 34 19.9	
	comp=Z,111nm,19.9s,baz=109,slow=33						
QSPA	**South Pole Qui**	**31.56**	**180**	P	**P**	**09 30 05.4**	**+0.7**
	3.1nm,0.6s,baz=196,slow=6.3,SNR=11						
PLCA	**Paso Flores**	**33.72**	**282**	P	**P**	**09 30 23.4**	**-0.3**
	2.8nm,1.0s,baz=102,slow=7.1,SNR=3.5						
PLCA				LR	LR	09 42 27.5	
	comp=Z,40nm,20.1s,baz=193,slow=33						
CPUP	**Villa Florida**	**39.48**	**311**	P	**P**	**09 31 12.8**	**+0.1**
	1.0nm,0.6s,baz=170,slow=10,SNR=2.8						
CPUP				LR	LR	09 48 32.4	
	comp=Z,24nm,18.7s,baz=171,slow=38						
VNDA	**Vanda**	**43.99**	**182**	P	**P**	**09 31 50.0**	**+0.9**
	3.8nm,0.8s,baz=191,slow=6.4,SNR=14						
BOSA	**Boshof**	**45.53**	**71**	LR	LR	09 47 21.6	
	comp=Z,29nm,22.0s,baz=181,slow=31						
H10S2	**ASCENSION HYDR**	**50.23**	**13**	T	T	10 27 02.2	
	baz=33,slow=74,SNR=5.4						
H10S3	**ASCENSION HYDR**	**50.23**	**13**	T	T	10 26 58.8	
	baz=187,slow=74,SNR=16						
H10N1	**ASCENSION HYDR**	**51.35**	**13**	T	T	10 28 31.3	
	baz=190,slow=71,SNR=5.9						
H10N3	**ASCENSION HYDR**	**51.35**	**13**	T	T	10 28 29.9	
	baz=190,slow=71,SNR=16						
H10N2	**ASCENSION HYDR**	**51.37**	**13**	T	T	10 28 34.0	
	baz=190,slow=71,SNR=9.4						
LPAZ	**La Paz**	**52.90**	**304**	P	**P**	**09 32 58.9**	**-0.2**
	1.2nm,0.8s,baz=189,slow=13,SNR=5.7						
TORD	**Torodi Ar. Bea**	**74.80**	**27**	P	**P**	**09 35 22.8**	**+0.4**
	4.9nm,1.2s,baz=198,slow=6.1,SNR=8.0						
ASAR	**Alice Springs**	**96.09**	**161**	P	**P**	**09 37 09.1**	**-0.8**
	0.5nm,0.7s,baz=192,slow=4,SNR=6.9						
YKA	**Yellowknife Ar**	**138.94**	**315**	PKP	**PKPdf**	**09 43 06.8**	**-0.2**
	0.6nm,0.7s,baz=118,slow=3.0,SNR=4.7						
ILAR	**Eielson Array**	**152.75**	**307**	PKPbc	**PKPbc**	**09 43 37.5**	**0.0**
	3.5nm,0.8s,baz=145,slow=2.5,SNR=29						

NNC 04 09:40:18.7±4.6, 37°.18N×71°.14E, h0km, mb3.7, mpv3.4, 5C-1D, Error ellipse: s-maj=35.3km s-min=34.2km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.93**	**356**	⇑P	Pn	09 41 46.6	-1.3
	2.8nm,0.7s,baz=176,slow=13,SNR=13						
KK31				⇓S	Sn	09 42 58.2	+1.6
	0.7nm,0.3s,baz=167,slow=17,SNR=5.5						
AAK	**Ala-Archa**	**6.03**	**24**	⇑P	Pn	09 41 50.2	+0.9
	1.5nm,0.6s						
AAK				⇑S	Sn	09 43 01.0	+2.0
	6.0nm,0.7s						
TKM2	**Tokmak 2**	**6.67**	**29**	⇑P	Pn	09 41 58.8	+0.6
	1.5nm,0.5s						
TKM2				⇑S	Sn	09 43 14.4	-0.6
	1.9nm,0.7s						

*SOME **04** 09:45:19.4, 43°.73N×69°.55E*
*NNC **04** 09:45:21.0±1.1, 43°.70N×69°.78E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=8.2km s-min=4.8km az=80.0, Suspected Mining explosion.*
*KRNET **04** 09:45:20.6±0.1, 43°.81N×69°.44E, mb3.0*

ISC 04 09:45:19.3±1.5, 43°.72N±0°.04×69°.52E±0°.08, h0km, n20, σ1§64/30, 14C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.95**	**130**	P	**Pg**	**09 45 36.0**	**-1.6**
	1.9nm,0.3s,baz=320,slow=16,SNR=138						
KK31				⇑S	**Sg**	**09 45 47.5**	**-2.4**
	16nm,0.5s,baz=309,slow=22,SNR=98						
DZA	**Taraz**	**1.56**	**121**	P	**Pb**	**09 45 48.3**	**-0.8**
	147nm,0.1s						
DZA				S	**Sg**	**09 46 08.5**	**-0.9**
	143nm,0.2s						
IUG	**Iuzhnay**	**1.62**	**166**	P	**Pb**	**09 45 49.6**	**-0.5**
	419nm,0.5s						
IUG				S	**Sg**	**09 46 11.4**	**+0.1**
	70nm,0.5s						
TRKS	**Terek-Say**	**2.50**	**151**	⇑*iP*	**Pb**	**09 46 04.7**	**-0.4**
	baz=51						
TRKS				⇑*iS*	**Sb**	**09 46 36.8**	**+0.4**
	baz=51						
MNAS	**Manas**	**2.51**	**118**	⇑*iP*	**Pb**	**09 46 03.7**	**-1.6**
	baz=19						
MNAS				⇑*iS*	**Sb**	**09 46 35.2**	**-1.6**
	baz=19						
MRKS	**Merke**	**2.88**	**109**	Pg	**Pb**	**09 46 10.3**	**-1.3**
	5.5nm,0.6s						
MRKS				Lg	Lg	09 46 46.6	
	8.9nm,0.5s						
EKS2	**Erkin-Say**	**3.29**	**107**	⇑*iP*	**Pn**	**09 46 14.4**	**+2.2**
	baz=8.0						
EKS2				⇑*iS*	**Sn**	**09 46 53.7**	**+1.6**
	baz=8.0						
AML	**Almayashu**	**3.45**	**116**	⇑*iP*	**Pn**	**09 46 17.1**	**+2.4**
	baz=17						
AML				⇑*iS*	**Sn**	**09 46 58.3**	**+1.8**
	baz=17						
BTLS	**Baital**	**3.50**	**66**	Pg	**Pg**	**09 46 25.2**	**-1.2**
	13nm,0.5s						
BTLS				Lg	Lg	09 47 12.1	
	3.6nm,0.8s						
ARSB	**Arslanbob**	**3.51**	**132**	⇓*iP*	**Pn**	**09 46 17.5**	**+2.3**
	baz=32						
ARSB				⇓*iS*	**Sn**	**09 46 59.0**	**+1.5**
	baz=32						
SGDS	**Sogindy**	**3.72**	**92**	Pg	**Pb**	**09 46 25.9**	**-0.1**
	3.2nm,0.3s						
SGDS				Lg	Lg	09 47 13.6	
	6.1nm,0.4s						
AAK	**Ala-Archa**	**3.80**	**105**	⇑Pg	**Pb**	**09 46 26.5**	**-0.8**
	3.7nm,0.4s						
AAK				⇓Lg	Lg	09 47 16.4	
	5.9nm,0.5s						
ARLS	**Aral**	**3.99**	**116**	⇑*iP*	**Pn**	**09 46 24.5**	**+2.6**
	baz=17						
ARLS				⇑*iS*	**Sn**	**09 47 10.4**	**+0.9**
	baz=17						
KRBS	**Karabastau**	**4.46**	**88**	Pg	**Pb**	**09 46 40.4**	**+1.8**
	1.9nm,0.5s						
KRBS				Lg	Lg	09 47 38.0	
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**4.51**	**98**	⇑Pg	**Pb**	**09 46 39.6**	**+0.2**
	2.8nm,0.6s						
TKM2				⇑Lg	Lg	09 47 38.3	
	7.9nm,0.8s						
DGS	**Degeres**	**4.58**	**94**	Pg	**Pb**	**09 46 42.8**	**+2.3**
	5.2nm,0.6s						
DGS				Lg	Lg	09 47 42.3	
	6.1nm,0.6s						
KST	**Kastek**	**4.75**	**96**	Pg	**Pb**	**09 46 44.4**	**+0.9**
	4.2nm,0.7s						
KST				Lg	Lg	09 47 47.5	
	7.0nm,0.6s						
OTUK	**Ortayu**	**4.93**	**22**	⇓Pn	**Pn**	**09 46 35.2**	**+0.5**
	1.8nm,0.3s						
OTUK				⇓Sn	**Sn**	**09 47 31.7**	**-0.7**
	1.6nm,0.6s						
OTUK				⇓Lg	Lg	09 47 54.1	
	3.8nm,0.8s						
KTBS	**Karatobe**	**5.19**	**88**	Pg	**Pb**	**09 46 52.9**	**+1.9**
	3.7nm,0.5s						
KTBS				Lg	Lg	09 47 59.5	
	9.8nm,0.7s						
IZV	**Izvestkoviy**	**5.22**	**95**	Pg	**Pg**	**09 46 56.4**	**-2.9**
	2.7nm,0.3s						
IZV				Lg	Lg	09 48 05.5	
	9.2nm,0.3s						

*NAO **04** 10:00:24.8±0.9, 64°.67N×30°.70E, ML2.2*
*HEL **04** 10:00:24.2±0.3, 64°.67N×30°.87E, h0km, ML1.9, Explosion*
*IDC **04** 10:00:28.3±1.4, 64°.77N×29°.77E, h0km, mb1 2.9/3, mb1mx2.8/41, mbtmp2.7/3, ML1.9/2, Error ellipse: s-maj=20.6km s-min=7.4km az=105.0*

ISC 04 10:00:25.8±1.7, 64°.76N±0°.05×30°.16E±0°.06, h4km±12km, n20, σ1§19/33, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.25**	**338**	*eP*	**Pn**	**10 00 50.0**	**-0.1**
MSF				*eS*	**Sn**	**10 01 09.0**	**+1.7**
KU6	**Riekki**	**1.28**	**355**	*eP*	**Pg**	**10 00 49.8**	**-0.5**
KU6				*eS*	**Sn**	**10 01 08.0**	**0.0**
OLKF	**Oulanka, Finla**	**1.60**	**349**	*eP*	**Pb**	**10 00 55.6**	**-0.3**
OLKF				*eS*	**Sg**	**10 01 17.8**	**+0.6**
OUL	**Oulu**	**1.85**	**282**	*eP*	**Pg**	**10 01 01.4**	**+0.2**
OUL				*eS*	**Sg**	**10 01 28.0**	**+2.9**
OUL				MSG		10 01 29.8	
	comp=Z,7.3nm,0.1s						
OBF4	**Vikkela, Lumij**	**2.17**	**274**	*eP*	**Pb**	**10 01 06.0**	**+0.5**
OBF4				*eS*	**Sg**	**10 01 36.4**	**+1.0**
OUF	**Merijarvi**	**2.38**	**263**	*eP*	**Pb**	**10 01 07.9**	**-1.2**
OUF				*eS*	**Sg**	**10 01 41.5**	**-0.5**
OUF				MSG		10 01 46.9	
	comp=Z,3.1nm,0.1s						
RNF	**Rovaniemi**	**2.53**	**319**	*eP*	**Pb**	**10 01 10.4**	**-1.3**
RNF				*eS*	**Sb**	**10 01 44.3**	**+1.2**
RNF				MSG		10 01 53.7	
	comp=Z,3.7nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.56**	**267**	*eP*	**Pb**	**10 01 11.0**	**-1.3**
OBF0				*eS*	**Sg**	**10 01 45.5**	**-2.6**
OBF0				MSG		10 01 54.0	
	comp=Z,4.8nm,0.2s						
APA0	**Apatity Array**	**3.08**	**21**	Pn	**Pn**	**10 01 15.1**	**-0.1**
	baz=212,slow=14						
APA0				Sn	**Sn**	**10 01 52.4**	**0.0**
	baz=199,slow=28						
APA0				Lg	Lg	10 02 01.4	
	baz=197,slow=28						
APA0	**Apatity Array**	**3.08**	**21**	Pn	**Pn**	**10 01 15.1**	**-0.1**
	baz=212,slow=14						
APA0				Sn	**Sn**	**10 01 52.4**	**0.0**
	baz=199,slow=28						
APA0				Lg	Lg	10 02 01.4	
	baz=197,slow=28						
FIA0	**FINESS Array S**	**3.81**	**211**	Pn	**Pn**	**10 01 25.6**	**+0.4**
	baz=32,slow=14						
FIA0				Lg	Lg	10 02 23.3	
	baz=42,slow=28						
FIA0	**FINESS Array S**	**3.81**	**211**	Pn	**Pn**	**10 01 25.6**	**+0.4**
	baz=32,slow=14						
FIA0				Lg	Lg	10 02 23.3	
	baz=42,slow=28						
FINES	**FINESS Array B**	**3.81**	**211**	Pn	**Pn**	**10 01 26.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=2.0						
FINES				Pg	**Pb**	**10 01 34.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=29,slow=15,SNR=7.8						
FINES				Lg	Lg	10 02 24.2	
	comp=Z,0.8nm,0.3s,baz=30,slow=29,SNR=6.4						
ARA0	**ARCESS Array S**	**5.13**	**341**	Pn	**Pn**	**10 01 43.9**	**+0.6**
	baz=151,slow=14						
ARA0				Sn	**Sn**	**10 02 42.6**	**-0.2**
	baz=159,slow=28						
ARA0				Lg	Lg	10 03 03.4	
	baz=165,slow=28						
ARA0	**ARCESS Array S**	**5.13**	**341**	Pn	**Pn**	**10 01 43.9**	**+0.6**
	baz=151,slow=14						
ARA0				Sn	**Sn**	**10 02 42.6**	**-0.2**
	baz=159,slow=28						
ARA0				Lg	Lg	10 03 03.4	
	baz=165,slow=28						
ARCES	**ARCESS Array B**	**5.13**	**341**	Pn	**Pn**	**10 01 43.4**	**+0.1**
	baz=156,slow=16,SNR=22						
ARCES				Sn	**Sn**	**10 02 41.4**	**-1.4**
	baz=155,slow=24,SNR=2.3						
ARCES				Lg	Lg	10 03 06.1	
	baz=158,slow=23,SNR=3.5						
I37NO	**I37NO**	**6.27**	**319**	*i*		10 39 08.4	
	baz=130,slow=325,SNR=4.0						
HFS	**Hagfors**	**8.92**	**246**	Pn	**Pn**	**10 02 34.1**	**-1.1**
	baz=68,slow=16						
HFS	**Hagfors**	**8.92**	**246**	Pn	**Pn**	**10 02 34.1**	**-1.1**
	baz=68,slow=16						
NOA	**NORSAR Array B**	**9.40**	**255**	Pn	**Pn**	**10 02 39.5**	**-2.4**
	baz=63,slow=14,SNR=1.5						

*NOU **04** 10:12:32.9, 15°.44S×168°.28E, h184km, mb5.0, Vanuatu Islands*
*NEIC **04** 10:12:35.6±1.5, 15°.66S±0°.07×167°.95E±0°.09, h177km±3km, mb4.9/41, Error ellipse: s-maj=14.5km s-min=7.2km az=58.0*
*IDC **04** 10:12:36.7±2.0, 15°.69S×167°.92E, h192km±18km, mb4.1/19, mb1 4.2/21, mb1mx4.0/42, mbtmp4.6/21, MS3.2/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=12.9km s-min=11.7km az=38.0*

ISC 04 10:12:37.2±0.4, 15°.66S±0°.06×167°.98E±0°.07, h200km, n161, σ1§41/160, mb4.7/56, 1C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.78**	**286**	Pn	**Pn**	**10 13 01.1**	**-4.5**
SANVU				Sn	**Sn**	**10 13 21.0**	**-6.4**
SANVU	**Saraoutou**	**0.78**	**286**	P	**Pn**	**10 13 01.8**	**-3.7**
DVP	**Devils Point**	**2.06**	**174**	P	**Pn**	**10 13 13.5**	**-2.8**
KOUNC	**Koumac, New Ca**	**6.00**	**215**	P	**Pn**

ARMA **Armadale** 20.99 223 P P 10 17 05.2 0.0
baz=21,SNR=15
ARMA **Armadale** 20.99 223 P P 10 17 06.0 +0.8
ARMA IAmb IAmb 10 17 08.0
comp=Z,55nm,1.0s
CTA **Charters Tower** 21.13 255 P P 10 17 06.4 -0.3
comp=Z,29nm,0.8s,baz=79,slow=12,SNR=27
CTAO **Charters Tower** 21.13 255 P P 10 17 06.9 +0.2
CTAO IAmb IAmb 10 17 08.7
comp=Z,36nm,0.8s
PMG **Port Moresby** 21.24 285 P P 10 17 08.4 +0.5
comp=Z,41nm,1.0s,baz=184,slow=2.1,SNR=5.4
NIUE **Niue** 21.36 102 P P 10 17 08.0 -1.0
MTSU **Mount Surprise** 22.77 260 P P 10 17 21.8 -0.9
baz=23,SNR=32
TOZ **Tahuroa Road** 22.97 165 P P 10 17 25.7 +1.5
KMRZ **Kaimai** 23.20 164 P P 10 17 14.8 -11
MGCD **Mangrove Creek** 23.20 218 P P 10 17 27.2 +0.8
baz=23,SNR=15
HAZ **Te Kaha** 23.66 160 P P 10 17 32.8 +2.4
RUGZ **Raukumara Rang** 23.82 161 P P 10 17 34.4 +2.4
URZ **Urewera** 23.91 162 P P 10 17 32.9 +0.2
comp=Z,12nm,0.6s,baz=297,slow=23,SNR=10
URZ **Urewera** 23.91 162 IAmb IAmb 10 18 01.4
comp=Z,78nm,1.5s
URZ **Urewera** 23.91 162 P P 10 17 34.5 +1.8
TWGZ **Tauwhareparae** 24.11 160 P P 10 17 35.1 +0.6
MWZ **Matawai** 24.11 161 P P 10 17 35.4 +0.9
OTVZ **Oturere** 24.37 165 P P 10 17 41.4 +4.3
CNGZ **Carnagh Statio** 24.46 160 P P 10 17 39.5 +1.8
BKZ **Black Stump Fm** 24.58 164 P P 10 17 39.0 +0.1
NMHZ **Naumai** 24.60 163 P P 10 17 40.3 +1.2
QLP **Quilpie** 24.63 240 P P 10 17 39.5 +0.1
baz=24,SNR=28
BHHZ **Black Hill Sta** 24.77 165 P P 10 17 41.8 +1.2
KWHZ **Kaweka Forest** 24.80 164 P P 10 17 41.8 +0.9
KRHZ **Kereru** 25.00 165 P P 10 17 42.9 +0.3
CMSA **Cobar Meteorol** 25.74 228 P P 10 17 49.2 -0.2
baz=26,SNR=17
QIS **Mount Isa** 27.38 256 P P 10 18 03.6 -0.6
baz=27,SNR=4.5
STKA **Stephens Creek** 28.93 231 P P 10 18 18.0 +0.3
comp=Z,30nm,0.7s,baz=45,slow=7.4,SNR=52
STKA PcP PcP 10 21 21.5 -0.2
comp=Z,6.7nm,0.7s,baz=24,slow=2.4,SNR=8.6
STKA **Stephens Creek** 28.93 231 P P 10 18 18.1 +0.3
TOO **Toolangi** 29.53 218 P P 10 18 23.5 +0.5
baz=30,SNR=7.2
TOO **Toolangi** 29.53 218 P P 10 18 23.4 +0.4
TOO IAmb IAmb 10 18 24.2
comp=Z,18nm,0.8s
HTT **Hallett** 31.64 231 P P 10 18 41.8 +0.1
baz=32,SNR=7.6
AS31 **Alice Springs** 32.99 251 P P 10 18 52.9 -0.7
ASAR **Alice Springs** 32.99 251 P P 10 18 52.2 -1.4
comp=Z,22nm,0.6s,baz=77,slow=8.9,SNR=304
ASAR PcP PcP 10 21 32.6 -0.2
comp=Z,2.6nm,0.7s,baz=93,slow=2.5,SNR=9.0
ASAR ScP ScP 10 24 59.4 +1.4
comp=Z,2.0nm,1.0s,baz=95,slow=3.4,SNR=8.5
ASAR **Alice Springs** 32.99 251 P P 10 18 52.6 -1.0
ASAR PcP 10 21 32.1 -0.7
BBOO **Buckleboo** 33.56 234 P P 10 18 58.4 +0.1
baz=33,SNR=30
BBOO **Buckleboo** 33.56 234 P P 10 18 58.2 -0.1
KDU **Kakadu** 34.52 270 P P 10 19 05.5 -1.3
baz=34,SNR=4.8
MTN **Manton Dam** 35.79 270 P P 10 19 17.0 -0.6
baz=36,SNR=6.7
MTN **Manton Dam** 35.79 270 P P 10 19 16.5 -1.1
MTN IAmb IAmb 10 19 19.7
comp=Z,54nm,1.5s
FAKI **Fak Fak** 37.38 286 P P 10 19 30.4 -0.6
FAKI IAmb IAmb 10 19 31.5
comp=Z,24nm,0.7s
KNRA **Kununurra** 37.72 265 P P 10 19 32.7 -1.2
WRKA **Warakurna** 38.24 249 P P 10 19 37.2 -1.0
baz=38,SNR=17
SIJI **Sorong** 39.08 289 P P 10 19 45.4 +0.1
comp=Z,18nm,0.5s,baz=117,slow=6.5,SNR=14
FORT **Forrest** 39.42 240 P P 10 19 47.7 -0.2
baz=39,SNR=39
FORT **Forrest** 39.42 240 P P 10 19 47.7 -0.2
FITZ **Fitzroy Crossi** 40.52 260 P P 10 19 56.4 -0.7
comp=Z,35nm,0.6s,baz=93,slow=8.7,SNR=94
FITZ **Fitzroy Crossi** 40.52 260 P P 10 19 56.4 -0.7
baz=40,SNR=60
FITZ **Fitzroy Crossi** 40.52 260 P P 10 19 56.4 -0.7
BATI **Baumata** 43.47 272 P P 10 20 20.5 -0.5
comp=Z,86nm,0.7s,baz=91,slow=0.9,SNR=8.5
BATI **Baumata** 43.47 272 P P 10 20 22.0 +1.0
comp=Z,70nm,0.8s
SANI **Sanana** 43.52 284 P P 10 20 21.1 -0.3
comp=Z,33nm,0.8s
KMBL **Kambalda** 44.73 241 P P 10 20 30.2 -0.6
baz=45,SNR=17
MMRI **Maumere** 45.18 273 P P 10 20 33.9 -0.7
PSA00 **Pilbara Seismi** 45.85 255 P P 10 20 39.4 -0.4
PSA00 IAmb IAmb 10 20 40.4
comp=Z,40nm,0.8s
PSA00 **Pilbara Seismi** 45.85 255 P P 10 20 38.9 -0.8
PSA00 IAmb IAmb 10 20 40.4
comp=Z,24nm,0.9s
MEEK **Meekatharra** 47.06 248 P P 10 20 48.6 -0.5
baz=47,SNR=31
KLBR **Kellerberrin** 48.25 242 P P 10 20 56.9 -1.2
baz=48,SNR=8.1
BNSI **Bone** 48.33 278 P P 10 20 58.6 -0.4
comp=Z,34nm,0.9s
KAPI **Kappang** 48.50 277 P P 10 21 00.1 -0.2
comp=Z,25nm,0.7s,baz=133,slow=6.5,SNR=16
KAPI **Kappang** 48.50 277 P P 10 20 58.9 -1.3
KAPI IAmb IAmb 10 21 01.2
comp=Z,28nm,0.8s
NWAO **Narrogin (SRO)** 48.87 240 P P 10 21 02.1 -0.7
baz=49,SNR=9.9
NWAO **Narrogin (SRO)** 48.87 240 P P 10 21 02.1 -0.7
NWAO IAmb IAmb 10 21 03.4
comp=Z,40nm,0.9s
BLDU **Ballidu** 49.04 243 P P 10 21 03.9 -0.2
baz=49,SNR=6.6
PLAI **Plampang** 49.43 272 P P 10 21 08.2 +0.9
comp=Z,68nm,0.7s
MORW **Morawa** 49.49 245 P P 10 21 06.9 -0.8
baz=49,SNR=12
MORW **Morawa** 49.49 245 P P 10 21 06.8 -0.8
MORW IAmb IAmb 10 21 07.8
comp=Z,26nm,0.8s
TOLI2 **Tolitoli** 49.51 285 P P 10 21 06.6 -1.4
TWSI **Taliwang, Sumb** 50.31 272 P P 10 21 13.8 -0.2
comp=Z,861nmcomp=Z,103nm,0.9s
GIRL **Giralia** 51.02 253 P P 10 21 19.9 +0.7
baz=51,SNR=7.6
GIRL **Giralia** 51.02 253 P P 10 21 19.8 +0.7
JAGI **Jajag, Banyuwa** 53.00 271 P P 10 21 32.6 -1.3
UGM **Wanagama** 56.63 271 P P 10 21 59.4 -0.5
SSLB **Suanglung** 60.40 310 P P 10 22 25.4 -0.4
SSLB IAmb IAmb 10 22 26.1
comp=Z,20nm,0.8s
VNDA **Vanda** 61.95 182 P P 10 22 35.5 +0.3
comp=Z,3.3nm,0.6s,baz=3.3,slow=5.7,SNR=16
VNDA **Vanda** 61.95 182 P P 10 22 35.6 +0.3
SBA **Scott Base** 62.21 180 P P 10 22 38.6 +1.6
SBA IAmb IAmb 10 22 39.4
comp=Z,21nm,0.8s
CASY **Casey** 62.93 203 P P 10 22 42.5 +0.5
CASY IAmb IAmb 10 22 42.9
comp=Z,18nm,0.7s
MDSI **Maura Dua** 63.58 273 P P 10 22 46.1 -1.0
comp=Z,1μmcomp=Z,12nm,0.7s
SSE **Sheshan** 64.66 316 P P 10 22 57.6 +3.8
KSRS **Korea Array** 64.89 326 P P 10 22 55.5 +0.4
comp=Z,1.1nm,0.9s,baz=143,slow=8.0,SNR=7.2
KSAR **Wonju Array Be** 64.90 326 P P 10 22 55.4 +0.3
DLV **T Lat** 64.95 291 P P 10 22 56.9 +0.7
DLV IAmb IAmb 10 22 58.6
comp=Z,13nm,0.9s
NJ2 **Nanjing** 66.81 316 eP P 10 23 09.1 +1.6
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
USRK **Ussuriysk Ar.** 68.02 333 P P 10 23 15.3 +0.6
comp=Z,1.1nm,0.6s,baz=134,slow=5.9,SNR=6.0
WHN **Wuhan** 69.07 312 P P 10 23 21.7 +0.1
RPSI **Rantau Prapat** 70.64 279 P P 10 23 30.3 -1.2
GSI **Gunungsitoli** 71.52 277 P P 10 23 36.6 -0.3
GSI IAmb IAmb 10 23 37.6
comp=Z,18nm,0.8s
GSI **Gunungsitoli** 71.52 277 P P 10 23 37.7 +0.8
comp=Z,23nm,0.8s
KLR **Kul'dur** 72.13 336 P P 10 23 40.1 +0.4
comp=Z,2.3nm,0.8s,baz=306,slow=2.6,SNR=6.1
GYA **Guiyang** 72.80 305 ⇓P P 10 23 44.8 +0.5
GYA pmax pmax
comp=Z,2.0nm,0.8s
BJI **Beijing** 73.41 321 P P 10 23 48.2 +0.8
BJI pmax pmax
comp=Z,7.0nm,1.0s
QSPA **South Pole Qui** 74.37 180 P P 10 23 53.0 +0.2
QSPA IAmb IAmb 10 23 53.5
comp=Z,13nm,0.7s
UTHA **Uthaitani** 74.44 291 P P 10 23 56.0 +2.1
comp=Z,0.0nmcomp=Z,2.8nm,1.0s
XAN **Xi'an** 74.82 312 P P 10 23 55.0 -0.8
XAN pP pP 10 24 36.7 -6.2
XAN pmax pmax
comp=Z,12nm,0.9s
UMPA **Umpang Tak** 75.19 292 P P 10 24 00.5 +2.3
comp=Z,0.0nmcomp=Z,858nmcomp=Z,1.9nm,0.6s
CM04 **Chiang Mai Arr** 75.90 294 P P 10 24 04.0 +1.8
comp=Z,0.0nmcomp=Z,8.0nm,0.9s
CM09 **Chiang Mai Arr** 75.90 294 P P 10 24 04.0 +1.8
comp=Z,0.0nmcomp=Z,8.9nm,0.9s
CM01 **Chiang Mai Arr** 75.92 294 P P 10 24 04.5 +2.2
comp=Z,0.0nmcomp=Z,7.6nm,0.9s
CM05 **Chiang Mai Arr** 75.93 294 P P 10 24 04.0 +1.6
comp=Z,0.0nmcomp=Z,94nmcomp=Z,5.3nm,0.9s
CM02 **Chiang Mai Arr** 75.94 294 P P 10 24 04.0 +1.6
comp=Z,0.0nmcomp=Z,5.2nm,0.7s
CMAR **Chiang Mai Arr** 75.95 294 P P 10 24 04.0 +1.5
comp=Z,4.0nm,0.8s,baz=130,slow=4.5,SNR=18
CMAR **Chiang Mai Arr** 75.95 294 P P 10 24 02.5 0.0
CM13 **Chiang Mai Arr** 75.97 294 P P 10 24 04.0 +1.4
comp=Z,0.0nmcomp=Z,55nmcomp=Z,6.5nm,0.9s
CMMT **Chiang Mai** 76.08 294 P P 10 24 03.8 +0.6
HHC **Hu-ho-hao-te** 76.73 320 eP P 10 24 06.5 -0.1
CD2 **Chengdu** 77.11 307 eP P 10 24 09.0 +0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY **Seymchan** 79.28 353 P P 10 24 21.0 +1.1
comp=Z,0.4nm,0.3s,baz=158,slow=12,SNR=3.8
LZH **Lanzhou** 79.45 312 eP P 10 24 23.2 +1.5
LZH pP pP 10 25 08.0 -1.5
LZH sP sP 10 25 30.0 -0.6
LZH pmax pmax
comp=Z,21nm,1.2s
MAW **Mawson** 81.28 202 P P 10 24 30.9 +0.2
comp=Z,5.4nm,0.8s,baz=108,slow=5.8,SNR=6.8
MAW **Mawson** 81.28 202 P P 10 24 31.5 +0.8
ULN **Ulaanbaatar** 83.28 324 P P 10 24 40.7 -0.8
SONM **Songino Array** 83.65 323 P P 10 24 43.9 +0.6
comp=Z,1.9nm,0.5s,baz=116,slow=6.8,SNR=5.4
SONM **Songino Array** 83.65 323 P P 10 24 42.1 -1.2
GTA **Gaotai** 83.80 314 ⇑P P 10 24 45.7 +1.4
GTA pP pP 10 25 32.8 +0.5
GTA sP sP 10 25 57.7 +4.6
GTA pmax pmax
comp=Z,7.0nm,0.9s
SHL **Shillong** 84.61 298 P P 10 24 47.7 -1.1
SHL IAmb IAmb 10 24 49.7
comp=Z,16nm,0.7s
BCPM **Bancas Point** 86.33 24 P P 10 24 56.1 -0.1
ILAR **Eielson Array** 87.20 18 P P 10 24 59.0 -1.3
comp=Z,0.9nm,0.6s,baz=241,slow=4.9,SNR=22
ILAR **Eielson Array** 87.20 18 P P 10 24 59.5 -0.8
NVAR **Mina Array Bea** 87.36 49 pP pP 10 25 49.9 -0.3
comp=Z,1.9nm,0.8s,baz=230,slow=7.1,SNR=8.1
SYO **Syowa Base** 88.01 196⇓eP P 10 25 05.2 +0.9
SNAA **Sanae** 92.66 183 P P 10 25 25.0 -0.9
SNAA **Sanae** 92.66 183 P P 10 25 25.4 -0.6
SNAA IAmb IAmb 10 25 25.5
comp=Z,4.3nm,0.6s
VNA3 **Neumayer Olymp** 93.30 181 P P 10 25 27.6 -1.2
VNA2 **Neumayer--Watz** 93.58 182 P P 10 25 29.4 -0.7
baz=185,slow=4.0
WMQ **Urumqi** 93.86 314 eP P 10 25 32.8 +0.9
VNA1 **Neumayer--Stat** 93.87 181 P P 10 25 30.4 -1.0
TXAR **Lajitas Array** 96.12 61 P P 10 25 43.7 +1.1
comp=Z,0.1nm,0.5s,baz=217,slow=6.0,SNR=4.5
T25A **Trinidad** 97.42 54 P Pdif 10 25 50.4 +1.9
T25A IAmb IAmb 10 25 52.3
comp=Z,2.6nm,0.7s
MKAR **Makanchi Array** 98.34 316 P Pdif 10 25 53.4 +1.2
comp=Z,0.3nm,0.6s,baz=99,slow=7.5,SNR=5.5
MKAR pP pP 10 26 36.4 -4.4
comp=Z,0.3nm,0.7s,baz=100,slow=5.4,SNR=4.2
ARCES **ARCESS Array B** 121.32 345 PKP **PKPdf** 10 31 05.7 -0.2
comp=Z,1.4nm,0.5s,baz=79,slow=2.1,SNR=20
CLL **Collm** 139.18 336 ePKPdf **PKiKP** 10 31 43.0 +0.6
GERES **GERESS Array B** 140.78 333 PKP **PKPdf** 10 31 44.4 +1.2
comp=Z,0.6nm,0.7s,baz=97,slow=3.1,SNR=5.4
SNF **Seneffe** 142.83 343 dpPKPdf pPKPdf 10 32 31.2 -7.2
DAVOX **Davos/Dischmat** 144.01 334 PKP **PKPdf** 10 31 48.5 -0.6
comp=Z,2.3nm,0.5s,baz=210,slow=5.5,SNR=5.4
KEST **Kesra** 152.36 320 PKPbc **PKiKP** 10 32 10.4 +0.3
comp=Z,3.2nm,0.7s,baz=58,slow=5.2,SNR=4.9
KEST **Kesra** 152.36 320 **PKiKP** 10 32 10.8 +0.7
TORD **Torodi Ar. Bea** 166.48 261 PKP **PKPdf** 10 32 18.9 -0.5
comp=Z,1.0nm,0.7s,baz=355,slow=0.5,SNR=4.4
TORD PKPab **PKPab** 10 33 21.5 -1.1
comp=Z,1.5nm,0.6s,baz=81,slow=2.8,SNR=7.7
DBIC **Dimbokro** 168.63 219 PKPab **PKPab** 10 33 32.1 +0.3
comp=Z,7.8nm,0.8s,baz=164,slow=4.5,SNR=5.7

*IDC **04** 10:15:14.8±1.2, 13°.73N×92°.31W, h0km, mb3.8/7, mb1 4.2/11, mb1mx3.9/51, mbtmp3.9/11, ML3.5/4, MS3.4/8, Ms1 3.4/8, ms1mx3.1/44, Error ellipse: s-maj=29.6km s-min=18.5km az=34.0*
*NEIC **04** 10:15:24.0±2.1, 14°.02N±0°.08×92°.21W±0°.08, h47km±9km, mb4.3/62, Error ellipse: s-maj=13.9km s-min=8.6km az=48.0*

ISC 04 10:15:21.5±0.8, **13°.91N**±0°.09×**92°.26W**±0°.07, **h35**km, **n80**, σ**1°55**/63, **mb4.3**/34, **MS3.3**/6, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	0.82	42	Pn		Pn	Pn	10 15 35.7	-0.9
HUEH	**Huehuetenango**	1.58	28	Pn		Pn	Pn	10 15 47.6	+0.3
APG	**El Apazote**	2.05	58	Pn		Pn	Pn	10 15 53.8	0.0
	21nm,0.3s,baz=235,slow=8.3,SNR=414								
APG				Sn		Sn	Sn	10 16 23.3	+4.9
	35nm,0.3s,baz=155,slow=22,SNR=5.8								
CCIG	**Comitan**	2.37	3	Pn		Pn	Pn	10 15 59.5	+1.4
MTO3	**Montecristo**	2.85	80	Pn		Pn	Pn	10 16 03.2	-1.6
SNET	**Serv Nac Est T**	2.95	94	Pn		Pn	Pn	10 16 07.8	+1.8
PETF	**Flores**	3.78	37	Pn		Pn	Pn	10 16 18.4	+1.0
CMIG	**Matias Romero**	4.05	322	Pn		Pn	Pn	10 16 20.4	-0.7
	2.0nm,0.3s,baz=156,slow=9.5,SNR=38								
CMIG				Sn		Sn	Sn	10 17 12.8	+5.5
	16nm,0.3s,baz=50,slow=21,SNR=6.5								
TGUH	**Tegucigalpa,Un**	4.84	88				Pn	10 16 34.9	+2.8
TLIG	**Tlapa**	7.08	302				Pn	10 17 03.8	+1.0
ORTG	**Ortega, Santa**	7.53	117				Pn	10 17 11.6	+2.7
JTS	**Las Juntas de**	8.00	116	Pn			Pn	10 17 13.2	-2.2
	0.3nm,0.3s,baz=130,slow=23,SNR=5.7								
RIMA	**Rio Macho**	9.19	116				Pn	10 17 33.1	+1.2
SRBA	**San Rafael, Bu**	9.88	117				Pn	10 17 42.8	+1.5
DRK0	**Durika**	9.96	117	Pn			Pn	10 17 44.6	+2.1
HKT	**Hockley**	16.30	349				P	10 19 08.8	-1.6
HPIG		18.03	318	P			P	10 19 29.9	+0.1
VBMS	**Vicksburg**	18.30	5	P			Pn	10 19 31.2	-1.4
VBMS				IAmb		IAmb	IAmb	10 19 38.7	
	comp=Z,26nm,1.2s								
TXAR	**Lajitas Array**	18.64	327	P			P	10 19 36.5	+0.1
	comp=Z,0.1nm,0.3s,baz=152,slow=9.5,SNR=26								
TXAR				LR			LR	10 26 57.6	
	comp=Z,46nm,21.6s,baz=0.0,slow=38								
TXAR	**Lajitas Array**	18.64	327	P			Pn	10 19 37.0	+0.1
TX31	**Lajitas Ar. Si**	18.64	327	P			P	10 19 36.4	0.0
TX31				IAmb			IAmb	10 19 39.9	
	comp=Z,18nm,1.1s								
TX32	**Lajitas Array**	18.64	327	P			P	10 19 36.4	0.0
143A	**Socs Landing,**	18.73	2	P			P	10 19 36.8	-0.5
352A	**Blakely**	18.74	20	P			Pn	10 19 38.5	+0.4
352A				IAmb			IAmb	10 19 42.6	
	comp=Z,27nm,1.1s								
TIGA	**Tifton**	19.18	23	P			P	10 19 41.5	-0.7
LPIG	**La Paz**	19.83	303	LR			LR	10 27 33.9	
	comp=Z,79nm,18.2s,baz=151,slow=37								
MNTX	**Cornudas Mount**	21.41	328	P			P	10 20 06.3	-0.2
W35A	**Tecumseh**	21.56	350	P			P	10 20 06.0	-2.0
SDV	**Santo Domingo**	21.77	101	LR			LR	10 30 31.1	
	comp=Z,60nm,19.6s,baz=346,slow=42								
SWET	**Sewanee**	21.97	14	P			P	10 20 11.3	-1.2
MSTX	**Muleshoe**	22.14	336	P			P	10 20 13.8	-0.6
MSTX				IAmb			IAmb	10 20 16.0	
	comp=Z,15nm,1.1s								
OK030	**Cody Creek RV**	22.30	350	IAmb			IAmb	10 20 14.0	
	comp=Z,8.7nm,0.5s								
TKL	**Tuckaleechee C**	22.97	18	P			P	10 20 21.7	-1.3
	comp=Z,2.8nm,0.8s,baz=238,slow=6.0,SNR=4.0								
TKL				LR			LR	10 30 59.1	
	comp=Z,212nm,18.6s,baz=198,slow=41								
T35A	**Sooner Cattle**	23.23	351	IAmb			IAmb	10 20 24.6	
	comp=Z,7.9nm,0.7s								
U49A	**Red Boiling Sp**	23.25	13	IAmb			IAmb	10 20 24.0	
	comp=Z,9.0nm,0.9s								
S44A	**Carbondale**	23.84	6	P			P	10 20 29.5	-2.0
S44A				IAmb			IAmb	10 20 30.6	
	comp=Z,12nm,0.9s								
SIUC	**Southern Illin**	23.87	6	IAmb			IAmb	10 20 30.8	
	comp=Z,14nm,0.9s								
BNM	**Barren Site**	24.00	330	P			P	10 20 33.7	+0.4
ANMO	**Albuquerque**	24.56	331	P			P	10 20 38.6	+0.2
	comp=Z,1.8nm,0.8s,baz=151,slow=8.0,SNR=8.5								
ANMO	**Albuquerque**	24.56	331	P			P	10 20 38.3	-0.1
WCI	**Wyandotte Cave**	24.80	11	P			P	10 20 38.0	-2.3
WCI				IAmb			IAmb	10 20 38.9	
	comp=Z,13nm,1.1s								
ATAH	**Atahualpa**	25.03	146	LR			LR	10 29 10.1	
	comp=Z,65nm,21.3s,baz=349,slow=34								
SJG	**San Juan**	25.43	77	LR			LR	10 31 33.5	
	comp=Z,114nm,20.7s,baz=260,slow=38								
T25A	**Trinidad**	25.55	337	P			P	10 20 47.5	+0.1
MVCO	**Mesa Verde**	27.36	331	P			P	10 21 04.2	+0.4
MVCO				IAmb			IAmb	10 21 06.3	
	comp=Z,8.0nm,1.0s								
PV01	**Paradox Valley**	28.14	332	P			P	10 21 12.1	+1.4
PV13	**Radium Mtn., P**	28.27	332	P			P	10 21 12.9	+1.0
PV13				IAmb			IAmb	10 21 13.8	
	comp=Z,9nm,1.1s								
PV05	**Paradox Valley**	28.34	331	P			P	10 21 12.6	+0.1
PV05				IAmb			IAmb	10 21 18.3	
	comp=Z,14nm,1.5s								
PV03	**Paradox Valley**	28.36	332	P			P	10 21 13.1	+0.4
PV03				IAmb			IAmb	10 21 14.6	
	comp=Z,6.9nm,1.0s								
PV18	**Skein Mesa, Pa**	28.39	332	P			P	10 21 14.0	+1.1
PV18				IAmb			IAmb	10 21 14.7	
	comp=Z,11nm,1.2s								
PV12	**Saucer Basin,**	28.39	332	P			P	10 21 13.9	+1.0
PV11	**David Mesa, Pa**	28.41	332	P			P	10 21 13.8	+0.7
PV07	**Paradox Valley**	28.42	332	P			P	10 21 13.9	+0.7
PV07				IAmb			IAmb	10 21 15.1	
	comp=Z,8.0nm,1.0s								
PV17	**East Wray Mesa**	28.44	332	P			P	10 21 13.2	-0.1
PV17				IAmb			IAmb	10 21 15.1	
	comp=Z,11nm,1.1s								
PV16	**Nyswonger Mesa**	28.44	332	IAmb			IAmb	10 21 15.2	
	comp=Z,8.4nm,1.1s								
PV14	**Lion Creek, Pa**	28.54	332	IAmb			IAmb	10 21 16.0	
	comp=Z,8.9nm,1.1s								
PV22	**Blue Mesa, Par**	28.57	332	IAmb			IAmb	10 21 16.3	
	comp=Z,5.5nm,1.0s								
PFO	**Pinyon Flats O**	29.45	316	LR			LR	10 33 08.4	
	comp=Z,105nm,21.9s,baz=48,slow=36								
NNA	**Nana**	29.93	149	LR			LR	10 30 54.4	
	comp=Z,56nm,20.2s,baz=334,slow=32								
SPR3	**Spring Creek 3**	31.69	326	IAmb			IAmb	10 21 43.9	
	comp=Z,5.9nm,1.5s								
HWUT	**Hardware Ranch**	32.30	332	IAmb			IAmb	10 21 49.6	
	comp=Z,4.2nm,1.1s								
PDAR	**Pinedale Array**	32.40	336	P			P	10 21 47.8	-0.5
	comp=Z,0.2nm,0.3s,baz=142,slow=7.5,SNR=5.0								
ELK	**Elko**	33.43	327	P			P	10 21 58.3	+0.9
SNOW	**Snow King Moun**	33.46	335	P			P	10 21 57.5	-0.1
LOHW	**Long Hollow**	33.53	336	IAmb			IAmb	10 21 58.7	
	comp=Z,4.0nm,1.1s								
TPAW	**Teton Pass**	33.57	335	IAmb			IAmb	10 22 07.3	
	comp=Z,6.9nm,1.1s								
NVAR	**Mina Array Bea**	33.59	321	P			P	10 21 59.5	+0.8
	comp=Z,1.7nm,0.7s,baz=135,slow=8.6,SNR=18								
NVAR				PcP			PcP	10 24 38.1	-0.6
	comp=Z,0.4nm,0.7s,baz=113,slow=3.9,SNR=3.5								
KVN	**Kaiserville**	33.86	322	IAmb			IAmb	10 22 08.1	
	comp=Z,4.7nm,1.2s								
HLID	**Hailey**	35.14	332	P			P	10 22 11.6	-0.4
HLID				IAmb			IAmb	10 22 17.9	
	comp=Z,5.3nm,1.3s								
MCMT	**McKenzie Canyo**	35.45	334	P			P	10 22 15.2	+0.5
MFID	**Camas Ranch**	35.70	330	P			P	10 22 17.7	+0.9
MFID				IAmb			IAmb	10 22 24.5	
	comp=Z,4.9nm,1.2s								
DLMT	**Dillon**	35.78	335	P			P	10 22 17.5	0.0
DLMT				IAmb			IAmb	10 22 19.1	
	comp=Z,5.6nm,1.1s								
WVOR	**Wild Horse Val**	36.43	326	IAmb			IAmb	10 22 39.7	
	comp=Z,5.2nm,1.2s								
F10A	**Beach Ranch, E**	38.27	332	IAmb			IAmb	10 22 49.4	
	comp=Z,5.2nm,0.9s								
MNMC	**Minye Minye**	39.70	145	P			P	10 22 53.2	+2.1
SIV	**San Ignacio**	42.81	133	P			P	10 23 13.8	-2.5
	comp=Z,0.7nm,0.7s,baz=357,slow=2.5,SNR=3.7								
YKA	**Yellowknife Ar**	51.06	347	P			P	10 24 18.6	-1.5
	comp=Z,2.9nm,0.7s,baz=148,slow=8.0,SNR=14								
ILAR	**Eielson Array**	62.83	337	P			P	10 25 41.8	-1.7
	comp=Z,1.3nm,1.0s,baz=129,slow=5.5,SNR=8.6								
CMAR	**Chiang Mai Arr**	146.00	341	PKPbc			**PKPdf**	10 34 56.7	-1.1
	comp=Z,3.9nm,0.7s,baz=334,slow=3.2,SNR=18								
CMAR	**Chiang Mai Arr**	146.00	341				**PKPdf**	10 34 57.8	0.0

IDC 04 10:20:56.0±1.1, **6°.07S**×**151°.33E**, **h0**km, **mb3.7**/3, **mb1 4.0**/3, **mb1mx3.5**/42, **mbtmp3.7**/3, **Error ellipse: s-maj=86.5km s-min=12.3km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	5.29	231	Sn		Sn	Sn	10 23 17.0	-1.1
	1.5nm,0.3s,baz=123,slow=11,SNR=1.5								
WRA	**Warramunga Arr**	21.51	229	P		P		10 25 46.5	-0.2
	1.4nm,0.4s,baz=54,slow=11,SNR=7.6								
ASAR	**Alice Springs**	24.23	222	P		P		10 26 14.8	0.0
	1.5nm,0.8s,baz=57,slow=8.9,SNR=11								
ILAR	**Eielson Array**	83.88	22	P		P		10 33 27.2	-0.2
	0.4nm,0.6s,baz=250,slow=4.5,SNR=5.7								
TORD	**Torodi Ar. Bea**	149.27	285	PKPbc		PKPbc		10 40 47.9	+0.1
	0.5nm,0.5s,baz=62,slow=3.3,SNR=1.7								

*IDC **04** 10:29:59.0±1.2, 59°.81N×29°.84W, h0km, mb3.5/7, mb1 3.9/9, mb1mx3.6/40, mbtmp3.6/9, ML3.8/2, MS3.7/23, Ms1 3.7/23, ms1mx3.6/40, Error ellipse: s-maj=33.1km s-min=21.8km az=18.0*
*GCMT **04** 10:29:59.0±0.4, 59°.78N±0°.06×29°.33W±0°.08, h19km±2km, MW4.8/77, Moment Tensor Solution. s19,c21; s77,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.23±.16; $M_{\theta\theta}$0.07±.10; $M_{\phi\phi}$1.16±.10; $M_{r\theta}$0.01±.25; $M_{\theta\phi}$-0.05±.07; $M_{\phi r}$-1.45±.22; Best double couple: $M_0$1.88000×10^{16} NP1:ϕs176.00000°, δ20.00000°, λ-93.00000°. NP2: ϕs359.00000°, δ70.00000°, λ-89.00000°. Principal axes: T 1.8450, Plg25.0000°, Azm288.0000°; N 0.0660, Plg1.0000°, Azm179.0000°; P -1.9140, Plg65.0000°, Azm271.0000°; nsta1 refers to body wa

baz=40
ISAN S **Sn** **10 32 29.1 -0.7**
baz=40
IBJA Bjarnastaoir 5.73 40 P **Pn** **10 31 24.7 +0.5**
baz=42
ISOL Solvholt 5.84 41 P **Pn** **10 31 25.6 -0.1**
baz=43
ISOL S **Sn** **10 32 31.1 -1.4**
baz=43
BORG Borgarnes 6.30 34 Pn **Pn** **10 31 33.7 +1.7**
4.7nm,0.3s,baz=190,slow=9.2,SNR=13
BORG Sn **Sn** **10 32 44.0 0.0**
0.6nm,0.3s,baz=329,slow=16,SNR=1.5
SFJD Kangerlussuaq 11.82 317 Pn **Pn** **10 32 47.6 +0.1**
0.3nm,0.3s,baz=94,slow=15,SNR=3.1
SFJD LR LR 10 36 30.1
comp=Z,671nm,21.7s,baz=120,slow=33
JMIC Jan Mayen 14.15 29 LR LR 10 37 32.2
comp=Z,206nm,19.6s,baz=254,slow=32
EKA Eskdalemuir Ar 14.82 96 Pn **Pn** **10 33 26.5 -2.0**
baz=293,slow=8.7,SNR=4.5
NOA NORSAR Array B 19.97 69 LR LR 10 41 34.3
comp=Z,198nm,18.9s,baz=285,slow=35
SCHQ Schefferville 20.51 272 P **P** **10 34 32.9 -4.2**
2.4nm,0.9s,baz=74,slow=20,SNR=2.3
SCHQ LR LR 10 41 15.1
comp=Z,199nm,18.5s,baz=139,slow=33
HFS Hagfors 21.40 70 LR LR 10 42 27.3
comp=Z,212nm,19.0s,baz=298,slow=35
ARCES ARCESS Array B 24.60 44 LR LR 10 43 14.6
comp=Z,144nm,19.1s,baz=255,slow=32
ESDC Sonseca Array 25.78 130 P **P** **10 35 32.8 +2.8**
1.4nm,1.0s,baz=321,slow=9.8,SNR=5.5
ESDC LR LR 10 43 48.7
comp=Z,105nm,21.0s,baz=330,slow=32
DAVOX Davos/Dischmat 26.50 102 LR LR 10 45 13.7
comp=Z,141nm,20.7s,baz=265,slow=34
FINES FINESS Array B 26.68 62 LR LR 10 45 32.4
comp=Z,130nm,18.7s,baz=260,slow=35
GERES GERESS Array B 27.03 94 LR LR 10 46 18.0
comp=Z,227nm,19.4s,baz=310,slow=36
VRAC Vranov 28.19 91 LR LR 10 48 03.1
comp=Z,143nm,18.9s,baz=308,slow=38
AKASG Malin Array Be 33.67 79 LR LR 10 50 25.6
comp=Z,82nm,18.3s,baz=320,slow=36
ULM Lac du Bonnet 37.62 286 LR LR 10 51 36.5
comp=Z,312nm,18.2s,baz=38,slow=35
YKA Yellowknife Ar 38.33 312 P **P** **10 37 20.6 +1.1**
0.9nm,0.8s,baz=56,slow=8.7,SNR=4.2
YKA LR LR 10 51 50.2
comp=Z,176nm,20.9s,baz=0.0,slow=34
BRTR Keskin Array B 43.55 88 LR LR 10 59 23.6
comp=Z,145nm,18.1s,baz=309,slow=40
NRIK Noril'sk 43.57 27 LR LR 10 56 56.5
comp=Z,39nm,18.9s,baz=48,slow=37
KBZ Khabaz 45.22 77 LR LR 10 57 37.1
comp=Z,88nm,18.3s,baz=333,slow=37
ILAR Eielson Array 47.16 329 P **P** **10 38 31.8 +0.7**
0.3nm,0.8s,baz=26,slow=7.4,SNR=4.8
ILAR LR LR 10 59 05.9
comp=Z,64nm,19.9s,baz=179,slow=37
TIXI Tiksi 48.00 9 LR LR 10 57 25.0
comp=Z,41nm,19.0s,baz=285,slow=34
PDAR Pinedale Array 49.56 288 P **P** **10 38 50.5 +0.3**
0.4nm,0.7s,baz=88,slow=6.4,SNR=2.6
KDAK Kodiak Island 54.49 326 LR LR 11 05 11.8
comp=Z,103nm,18.8s,baz=95,slow=39
NVAR Mina Array Bea 57.11 291 P **P** **10 39 45.8 +0.1**
0.2nm,0.5s,baz=64,slow=7.4,SNR=3.7
NVAR LR LR 11 03 39.2
comp=Z,171nm,18.8s,baz=59,slow=36
TXAR Lajitas Array 57.20 273 P **P** **10 39 46.2 -0.1**
0.2nm,0.5s,baz=57,slow=6.6,SNR=2.5
TXAR LR LR 11 03 36.7
comp=Z,94nm,19.2s,baz=0.0,slow=35
MKAR Makanchi Array 60.19 47 P **P** **10 40 08.1 +1.3**
0.3nm,0.5s,baz=332,slow=4.8,SNR=4.6
ROSC El Rosal 64.50 231 LR LR 11 11 00.3
comp=Z,24nm,18.0s,baz=220,slow=38

*IDC **04** 10:41:52.4±1.5,59.°61N×29.°96W,h0km,mb3.5/4, mb1 3.8/6,mb1mx3.5/46,mbtmp3.6/6,ML3.9/2,MS3.6/25, Ms1 3.6/25,ms1mx3.5/46,Error ellipse: s-maj=39.8km s-min=26.2km az=29.0*

ISC 04 10:41:54.7±1.3,59.°7N±0.°2×29.°9W±0.°1,h14km,n31, σ0s80/6,mb3.5/4,MS3.6/24,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.47**	**35**	Pn	**Pn**	**10 43 28.7**	**-0.7**
	2.2nm,0.3s,baz=208,slow=8.6,SNR=7.7						
BORG				Sn	Sn	10 44 33.9	-9.1
	1.9nm,0.3s,baz=222,slow=7.6,SNR=2.2						
SFJD	**Kangerlussuaq**	**11.78**	**317**	LR	LR	10 48 23.7	
	comp=Z,442nm,21.3s,baz=146,slow=33						
EKA	**Eskdalemuir Ar**	**14.97**	**95**	Pn	**Pn**	**10 45 25.9**	**+0.3**
	baz=305,slow=12,SNR=3.8						
NOA	**NORSAR Array B**	**20.15**	**68**	LR	LR	10 53 37.6	
	comp=Z,190nm,21.2s,baz=285,slow=35						
SCHQ	**Schefferville**	**20.36**	**272**	LR	LR	10 53 26.7	
	comp=Z,181nm,21.0s,baz=80,slow=34						
HFS	**Hagfors**	**21.58**	**70**	LR	LR	10 54 30.7	
	comp=Z,225nm,19.9s,baz=305,slow=35						
ARCES	**ARCESS Array B**	**24.77**	**44**	LR	LR	10 55 36.7	
	comp=Z,78nm,21.7s,baz=290,slow=33						
ESDC	**Sonseca Array**	**25.84**	**129**	P	**P**	**10 47 24.9**	**-0.6**
	1.4nm,1.0s,baz=317,slow=12,SNR=5.0						
DAVOX	**Davos/Dischmat**	**26.63**	**101**	LR	LR	10 58 09.8	
	comp=Z,78nm,20.9s,baz=266,slow=37						
FINES	**FINESS Array B**	**26.86**	**62**	LR	LR	10 57 06.8	
	comp=Z,94nm,21.7s,baz=280,slow=34						
GERES	**GERESS Array B**	**27.18**	**94**	LR	LR	10 58 31.8	
	comp=Z,239nm,19.3s,baz=298,slow=37						
VRAC	**Vranov**	**28.35**	**91**	LR	LR	10 58 59.4	
	comp=Z,137nm,19.6s,baz=310,slow=36						
KEST	**Kesra**	**34.85**	**116**	LR	LR	11 01 54.6	
	comp=Z,193nm,21.0s,baz=292,slow=34						
MLR	**Muntele Rosu**	**35.63**	**88**	LR	LR	11 04 16.6	
	comp=Z,134nm,19.0s,baz=322,slow=38						
VAE	**Valguarnera**	**35.82**	**108**	LR	LR	11 02 04.5	
	comp=Z,64nm,18.9s,baz=324,slow=34						
ULM	**Lac du Bonnet**	**37.49**	**286**	LR	LR	11 03 40.1	
	comp=Z,248nm,18.9s,baz=52,slow=35						
YKA	**Yellowknife Ar**	**38.27**	**312**	LR	LR	11 04 13.2	
	comp=Z,202nm,18.2s,baz=0.0,slow=35						
KIRV	**Kirov**	**38.44**	**56**	LR	LR	11 04 58.2	
	comp=Z,93nm,18.2s,baz=321,slow=36						
BELG	**Belogornoye**	**41.58**	**64**	LR	LR	11 06 11.0	
	comp=Z,47nm,21.2s,baz=41,slow=35						
ARU	**Arti**	**43.67**	**54**	LR	LR	11 07 02.2	
	comp=Z,116nm,18.1s,baz=330,slow=35						
BRTR	**Keskin Array B**	**43.71**	**88**	LR	LR	11 09 48.6	
	comp=Z,108nm,20.7s,baz=306,slow=38						
ILAR	**Eielson Array**	**47.16**	**329**	P	**P**	**10 50 26.6**	**+0.7**
	0.5nm,0.8s,baz=30,slow=7.7,SNR=4.9						
AKTO	**Aktyubinsk**	**47.61**	**60**	LR	LR	11 11 11.2	
	comp=Z,55nm,18.2s,baz=321,slow=37						
KOWA	**Kowa**	**48.98**	**146**	LR	LR	11 08 20.7	
	comp=Z,70nm,20.6s,baz=344,slow=32						
GNI	**Garni**	**48.98**	**78**	LR	LR	11 11 40.4	
	comp=Z,42nm,18.4s,baz=35,slow=36						
EIL	**Elat**	**52.27**	**95**	LR	LR	11 13 26.5	
	comp=Z,49nm,21.5s,baz=232,slow=36						
DBIC	**Dimbokro**	**56.23**	**150**	LR	LR	11 13 18.9	
	comp=Z,49nm,19.4s,baz=26,slow=34						
NVAR	**Mina Array Bea**	**57.00**	**291**	P	**P**	**10 51 39.4**	**-0.5**
	0.1nm,0.3s,baz=50,slow=8.4,SNR=2.1						
MDP	**Montagnes des**	**57.16**	**207**	LR	LR	11 11 30.7	
	comp=Z,34nm,18.5s,baz=12,slow=31						
MKAR	**Makanchi Array**	**60.37**	**47**	P	**P**	**10 52 03.5**	**+0.6**
	0.2nm,0.5s,baz=316,slow=6.0,SNR=3.3						
PTGA	**Pitinga**	**64.65**	**214**	LR	LR	11 16 14.7	
	comp=Z,37nm,20.9s,baz=356,slow=32						

*NEIC **04** 10:49:02.7±1.0,36.°510N±0.°006×97.°25W±0.°02,h5km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=89.0*
*ANF **04** 10:49:02.9±0.4,36.°50N×97.°28W,h4km,ML3.7/14, Error ellipse: s-maj=4.1km s-min=3.6km az=159.0*
*TUL **04** 10:49:03.1±1.2,36.°52N±0.°01×97.°26W±0.°02,h6km±7km, ML3.2,mb_Lg3.0/103(NEIC),Error ellipse: s-maj=2.7km s-min=1.9km az=76.0*

ISC 04 10:49:02.6±1.2,36.°51N±0.°02×97.°26W±0.°02,h2km±10km, n104,σ0s57/87,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.54**	**341**		**Pg**	**10 49 13.0**	**+0.1**
KAN13				Sg	**Sg**	**10 49 20.7**	**+0.8**
QUOK	**Quay**	**0.55**	**127**	Pg	**Pg**	**10 49 13.5**	**+0.2**
CROK	**Carrier**	**0.59**	**270**		**Pg**	**10 49 14.1**	**+0.2**
CROK				Sg	**Sg**	**10 49 22.5**	**+1.0**
GC02	**Grant County #**	**0.60**	**306**		**Pg**	**10 49 14.1**	**0.0**
GC02				Sg	**Sg**	**10 49 22.3**	**+0.5**
OK031	**S. Brethren Rd**	**0.65**	**149**		**Pg**	**10 49 15.2**	**+0.1**
OK030	**Cody Creek RV**	**0.69**	**146**		**Pg**	**10 49 16.0**	**+0.1**
KAN09	**Caldwell North**	**0.69**	**335**		**Pg**	**10 49 15.8**	**-0.1**
KAN09				Sg	**Sg**	**10 49 25.4**	**+0.5**
T35A	**Sooner Cattle**	**0.72**	**55**	Pg	**Pg**	**10 49 16.4**	**-0.1**
T35A				Sg	**Sg**	**10 49 25.9**	**0.0**
T35B	**Sooner Cattle**	**0.72**	**55**	P	**Pg**	**10 49 16.5**	**-0.1**
	baz=235,SNR=292						
T35B				S	**Sg**	**10 49 25.8**	**-0.1**
	baz=235						
T35B	**Sooner Cattle**	**0.72**	**55**	P		10 49 16.5	
	baz=235,SNR=292						
T35B				S		10 49 25.8	
	baz=235						
OK029	**Liberty Lake**	**0.73**	**193**		**Pg**	**10 49 16.6**	**+0.1**
OK029				Sg	**Sg**	**10 49 26.7**	**+0.7**
OK032	**Salt Plains WL**	**0.82**	**291**		**Pg**	**10 49 18.2**	**-0.3**
OK032				Sg	**Sg**	**10 49 29.6**	**+0.5**
BCOK	**Bluff Creek, N**	**0.90**	**199**		**Pg**	**10 49 19.7**	**-0.1**
BCOK				Sg	**Sg**	**10 49 32.0**	**+0.6**
KAN10	**Anthony SW Sta**	**0.91**	**313**		**Pg**	**10 49 19.9**	**-0.3**
KAN10				Sg	**Sg**	**10 49 32.2**	**+0.2**
KAN08	**Anthony NE Sta**	**0.92**	**322**		**Pg**	**10 49 20.0**	**-0.3**
OK025	**Westminster Rd**	**0.93**	**184**		**Pg**	**10 49 20.2**	**-0.1**
KAN16	**Harper SW Stat**	**0.97**	**318**	Pg	**Pg**	**10 49 20.9**	**-0.4**
KAN12	**Harper NE Stat**	**0.99**	**323**		**Pg**	**10 49 21.2**	**-0.4**
OKCFA	**Oklahoma City**	**1.10**	**188**		**Pg**	**10 49 23.3**	**-0.4**
OKCFA	**Oklahoma City**	**1.10**	**188**	P	**Pg**	**10 49 23.4**	**-0.4**
	baz=8.7,SNR=21						
OKCFA				S	**Sg**	**10 49 38.5**	**+0.5**
	baz=8.7						
OKCFA	**Oklahoma City**	**1.10**	**188**	P		10 49 23.4	
	baz=8.7,SNR=21						
OKCFA				S		10 49 38.5	
	baz=8.7						
OKCSW	**OKLAHOMA CITY**	**1.11**	**188**		**Pg**	**10 49 23.5**	**-0.4**
FNO	**Franklin**	**1.25**	**185**		**Pg**	**10 49 25.9**	**-0.8**
TUL1	**Leonard**	**1.32**	**116**	P	**Pn**	**10 49 27.0**	**-1.2**
	baz=298,SNR=115						
TUL1				S	**Sg**	**10 49 45.1**	**-0.1**
	baz=298						
TUL1	**Leonard**	**1.32**	**116**	P		10 49 27.0	
	baz=298,SNR=115						
TUL1				S		10 49 45.1	
	baz=298						
W35A	**Tecumseh**	**1.39**	**167**		**Pn**	**10 49 27.7**	**-1.4**
U32A	**Winter Ranch,**	**1.41**	**265**	IAmb_Lg		10 49 51.1	
	comp=Z,135nm,0.7s						
U32A	**Winter Ranch,**	**1.41**	**265**	P	**Pn**	**10 49 29.0**	**-0.4**
	baz=84						
U32A				S	**Sb**	**10 49 48.0**	**-0.3**
	baz=84						
U32A	**Winter Ranch,**	**1.41**	**265**	P		10 49 29.0	
	baz=84						
U32A				S		10 49 48.0	
	baz=84						
X34A	**Smith Ranch, M**	**1.96**	**194**	Pn	**Pn**	**10 49 37.6**	**+0.7**
WMOK	**Wichita Mounta**	**2.16**	**216**		**Pn**	**10 49 39.7**	**+0.1**
WMOK				IAmb_Lg		10 50 14.9	
	comp=Z,59nm,0.8s						
WMOK	**Wichita Mounta**	**2.16**	**216**	P	**Pn**	**10 49 39.5**	**-0.2**
	baz=35,SNR=144						
WMOK				S	**Sb**	**10 50 09.4**	**-0.4**
	baz=35						
WMOK	**Wichita Mounta**	**2.16**	**216**	P		10 49 39.5	
	baz=35,SNR=144						
WMOK				S		10 50 09.4	
	baz=35						
R32A	**Long Quarter,**	**2.24**	**329**		**Pn**	**10 49 41.2**	**+0.4**
R32A	**Long Quarter,**	**2.24**	**329**	P	**Pn**	**10 49 41.2**	**+0.4**
	baz=148,SNR=28						
R32A				S	**Sn**	**10 50 09.6**	**+0.5**
	baz=148						
R32A	**Long Quarter,**	**2.24**	**329**	P		10 49 41.2	
	baz=148,SNR=28						
R32A				S		10 50 09.6	
	baz=148						
U38A	**Gravette**	**2.31**	**91**		**Pn**	**10 49 42.3**	**+0.4**
U38A				IAmb_Lg		10 50 14.4	
	comp=Z,103nm,0.7s						
U38A	**Gravette**	**2.31**	**91**	P	**Pn**	**10 49 42.2**	**+0.4**
	baz=273,SNR=50						
U38A				S	**Sb**	**10 50 14.4**	**+0.2**
	baz=273						
U38A	**Gravette**	**2.31**	**91**	P		10 49 42.2	
	baz=273,SNR=50						
U38A				S		10 50 14.4	
	baz=273						
X37A	**Clayton**	**2.45**	**141**		**Pn**	**10 49 43.4**	**-0.3**
X37A				IAmb_Lg		10 50 23.6	
	comp=Z,53nm,1.0s						
X37A	**Clayton**	**2.45**	**141**	P	**Pn**	**10 49 44.1**	**+0.4**
	baz=322,SNR=32						
X37A	**Clayton**	**2.45**	**141**	P		10 49 44.1	
	baz=322,SNR=32						
LOOK	**Love County**	**2.51**	**179**		**Pn**	**10 49 44.0**	**-0.5**
KSU1	**Kansas State U**	**2.64**	**11**	Pn	**Pn**	**10 49 46.2**	**-0.1**
HHAR	**Hobbs**	**2.68**	**94**		**Pn**	**10 49 47.7**	**+0.8**
HHAR	**Hobbs**	**2.68**	**94**	P	**Pn**	**10 49 47.5**	**+0.5**
	baz=276						
HHAR				S	**Sb**	**10 50 25.1**	**+0.3**
	baz=276						
HHAR	**Hobbs**	**2.68**	**94**	P		10 49 47.5	
	baz=276						
HHAR				S		10 50 25.1	
	baz=276						
CBKS	**Cedar Bluff**	**3.03**	**320**	Pn	**Pn**	**10 49 51.8**	**+0.1**
CBKS	**Cedar Bluff**	**3.03**	**320**	P	**Pn**	**10 49 52.6**	**+0.8**
	baz=139,SNR=9.4						
CBKS				Sb	**Sg**	**10 50 37.5**	**-2.6**
	baz=139						
CBKS	**Cedar Bluff**	**3.03**	**320**	P		10 49 52.6	
	baz=139,SNR=9.4						
CBKS				Sb		10 50 37.5	
	baz=139						
W39A	**Magazine**	**3.11**	**114**	IAmb_Lg		10 50 49.2	
	comp=Z,73nm,0.8s						
Z35A	**Perchaven, San**	**3.17**	**180**	Pn	**Pn**	**10 49 53.7**	**+0.2**
Z35A	**Perchaven, San**	**3.17**	**180**	S	**Sn**	**10 50 32.8**	**+0.9**
	baz=0.1						
Z35A	**Perchaven, San**	**3.17**	**180**	S		10 50 32.8	
	baz=0.1						
S39A	**Bolivar**	**3.36**	**68**		**Pn**	**10 49 56.2**	**+0.1**
S39A				IAmb_Lg		10 50 56.9	
	comp=Z,37nm,0.7s						
S39A	**Bolivar**	**3.36**	**68**	P	**Pn**	**10 49 56.3**	**+0.1**
	baz=250,SNR=20						
S39A				S	**Sn**	**10 50 36.6**	**0.0**
	baz=250						
S39A	**Bolivar**	**3.36**	**68**	P		10 49 56.3	
	baz=250,SNR=20						
S39A				S		10 50 36.6	
	baz=250						
U40A	**Yellville**	**3.55**	**91**	Pn	**Pn**	**10 49 59.0**	**+0.2**
U40A				IAmb_Lg		10 50 52.9	
	comp=Z,36nm,0.8s						
U40A	**Yellville**	**3.55**	**91**	P	**Pn**	**10 49 59.0**	**+0.2**
	baz=274						
U40A	**Yellville**	**3.55**	**91**	P		10 49 59.0	
	baz=274						
U40A				P		10 49 59.0	
	baz=274						
MIAR	**Mount Ida**	**3.58**	**122**	Pn	**Pn**	**10 49 59.4**	**+0.2**
MIAR				IAmb_Lg		10 50 57.4	
	comp=Z,40nm,0.9s						
MIAR	**Mount Ida**	**3.58**	**122**	P	**Pn**	**10 49 59.7**	**+0.5**
	baz=304,SNR=14						
MIAR	**Mount Ida**	**3.58**	**122**	P		10 49 59.7	
	baz=304,SNR=14						
Z38A	**Mt. Pleasant**	**3.74**	**149**	Pn	**Pn**	**10 50 00.7**	**-0.7**
Z38A				IAmb_Lg		10 51 04.8	
	comp=Z,42nm,0.8s						
MGMO	**Mountain Grove**	**4.05**	**79**		**Pn**	**10 50 05.5**	**-0.2**
MGMO				IAmb_Lg		10 51 14.9	
	comp=Z,35nm,0.9s						
X40A	**Basin Creek Fa**	**4.13**	**118**	Pn	**Pn**	**10 50 06.2**	**-0.6**
X40A				IAmb_Lg		10 51 22.4	
	comp=Z,29nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.20**	**97**	Pn	**Pn**	**10 50 07.0**	**-0.7**
FCAR				IAmb_Lg		10 51 14.4	
	comp=Z,38nm,0.7s						
P38A	**Dawn**	**4.28**	**42**	Pn	**Pn**	**10 50 08.7**	**-0.2**
P38A				IAmb_Lg		10 51 18.8	
	comp=Z,49nm,0.9s						
ABTX	**Abilene, Hawle**	**4.34**	**208**	Pn	**Pn**	**10 50 09.7**	**0.0**
R40A	**Maddies Statio**	**4.35**	**64**		**Pn**	**10 50 09.8**	**0.0**
R40A				IAmb_Lg		10 51 19.5	
	comp=Z,29nm,0.9s						
R40A	**Maddies Statio**	**4.35**	**64**	P	**Pn**	**10 50 09.8**	**0.0**
	baz=247,SNR=18						
R40A	**Maddies Statio**	**4.35**	**64**	P		10 50 09.8	
	baz=247,SNR=18						
WLAR	**White Oak Lake**	**4.41**	**128**	Pn	**Pn**	**10 50 10.5**	**-0.1**
WLAR				IAmb_Lg		10 51 32.2	
	comp=Z,34nm,1.0s						
WHTX	**Lake Whitney,**	**4.51**	**182**	Pn	**Pn**	**10 50 11.5**	**-0.5**
N35A	**Tabor**	**4.53**	**16**	Pn	**Pn**	**10 50 12.1**	**-0.2**
N35A	**Tabor**	**4.53**	**16**	P	**Pn**	**10 50 12.6**	**+0.3**
	baz=196,SNR=5.0						
N35A	**Tabor**	**4.53**	**16**	P		10 50 12.6	
	baz=196,SNR=5.0						
237A	**Washetta, Mont**	**4.65**	**165**	Pn	**Pn**	**10 50 13.4**	**-0.5**
KSCO	**Kaye Shedlock'**	**4.94**	**302**	Pn	**Pn**	**10 50 18.5**	**+0.5**
KSCO				IAmb_Lg		10 51 53.1	
	comp=Z,22nm,0.8s						
BGNE	**Belgrade**	**4.95**	**352**	Pn	**Pn**	**10 50 17.6**	**-0.5**
LCAR	**Lake Charles**	**4.95**	**93**	IAmb_Lg		10 51 39.1	
	comp=Z,31nm,0.9s						
T42A	**Van Buren**	**4.97**	**82**	Pn	**Pn**	**10 50 19.0**	**+0.6**
T42A				IAmb_Lg		10 51 43.5	
	comp=Z,23nm,0.7s						
CCM	**Cathedral Cave**	**5.04**	**70**	Pn	**Pn**	**10 50 19.4**	**+0.2**
P40A	**Paris**	**5.10**	**52**	Pn	**Pn**	**10 50 20.2**	**+0.1**
CCAR	**Cane Creek**	**5.18**	**118**	IAmb_Lg		10 51 55.7	
	comp=Z,30nm,0.8s						
N38A	**Joes South For**	**5.31**	**35**	Pn	**Pn**	**10 50 21.8**	**-1.2**
PBMO	**Poplar Bluff**	**5.50**	**85**	IAmb_Lg		10 51 56.6	
	comp=Z,33nm,0.7s						
L34A	**Svendsen Farm,**	**5.50**	**7**	Pn	**Pn**	**10 50 25.1**	**-0.5**
435B	**Jarrell**	**5.71**	**183**	IAmb_Lg		10 52 16.0	
	comp=Z,25nm,1.0s						
T25A	**Trinidad**	**5.78**	**278**	IAmb_Lg		10 52 19.6	
	comp=Z,31nm,0.8s						
OGNE	**Ogallala**	**5.80**	**321**	IAmb_Lg		10 52 20.2	
	comp=Z,22nm,0.7s						
SLM	**Saint Louis**	**5.97**	**67**	IAmb_Lg		10 52 11.4	
	comp=Z,35nm,0.8s						
143A	**Socs Landing,**	**6.14**	**126**	IAmb_Lg		10 52 24.1	
	comp=Z,17nm,0.9s						
SCIA	**State Center**	**6.24**	**29**	IAmb_Lg		10 52 28.8	
	comp=Z,32nm,0.7s						
JCT	**Junction City**	**6.38**	**200**	IAmb_Lg		10 52 36.5	
	comp=Z,33nm,1.0s						
S44A	**Carbondale**	**6.50**	**77**	IAmb_Lg		10 52 28.6	
	comp=Z,29nm,0.7s						
Y45A	**Yeager Farm, C**	**6.84**	**110**	IAmb_Lg		10 52 49.6	
	comp=Z,28nm,0.9s						
ECSD	**EROS Data Cent**	**7.24**	**4**	Pn	**Pn**	**10 50 48.1**	**-1.3**
L40A	**Anamosa**	**7.26**	**38**	IAmb_Lg		10 52 57.9	
	comp=Z,18nm,0.7s						
HDIL	**Hopedale**	**7.43**	**55**	IAmb_Lg		10 53 15.1	
	comp=Z,25nm,0.7s						
O44A	**Mansfield**	**7.81**	**60**	IAmb_Lg		10 53 16.2	
	comp=Z,16nm,0.9s						
SUSD	**Miller**	**8.03**	**351**	IAmb_Lg		10 53 21.8	
	comp=Z,18nm,0.7s						
L42A	**Oliver, Polo**	**8.05**	**45**	IAmb_Lg		10 53 25.8	
	comp=Z,16nm,0.7s						
I37A	**Lemond, Waseca**	**8.06**	**20**	IAmb_Lg		10 53 23.6	
	comp=Z,20nm,0.8s						
Y22D	**IRIS PASSCAL I**	**8.27**	**256**	IAmb_Lg		10 53 33.2	
	comp=Z,16nm,0.8s						
JFWS	**Jewell Farm**	**8.37**	**38**	IAmb_Lg		10 53 34.9	
	comp=Z,20nm,1.0s						
V48A	**Smith Brothers**	**8.48**	**92**	IAmb_Lg		10 53 43.0	
	comp=Z,12nm,1.1s						
M44A	**Midewin, Midew**	**8.67**	**53**	IAmb_Lg		10 53 44.0	
	comp=Z,15nm,1.0s						
CLTN	**Cedars of Leba**	**8.83**	**89**	IAmb_Lg		10 53 46.7	
	comp=Z,14nm,1.1s						
SFIN	**Lafayette**	**8.86**	**61**	IAmb_Lg		10 53 43.8	
	comp=Z,14nm,0.8s						
WCI	**Wyandotte Cave**	**8.89**	**76**	IAmb_Lg		10 53 43.2	
	comp=Z,14nm,0.8s						
MVCO	**Mesa Verde**	**9.04**	**278**	IAmb_Lg		10 54 02.4	
	comp=Z,10nm,1.1s						
U49A	**Red Boiling Sp**	**9.24**	**87**	IAmb_Lg		10 53 53.2	
	comp=Z,9.4nm,1.0s						
K43A	**Burlington**	**9.26**	**45**	IAmb_Lg		10 53 56.0	
	comp=Z,21nm,1.0s						
Y49A	**Blount Mountai**	**9.26**	**103**	IAmb_Lg		10 53 58.6	
	comp=Z,9.8nm,0.8s						
RWWY	**Rawlins**	**9.31**	**307**	IAmb_Lg		10 54 05.3	
	comp=Z,13nm,1.3s						
K22A	**Casper**	**9.42**	**313**	IAmb_Lg		10 54 12.3	
	comp=Z,13nm,1.1s						
I42A	**Draeger Farm,**	**9.75**	**38**	IAmb_Lg		10 54 09.2	
	comp=Z,10nm,0.8s						
W50A	**Signal Mountai**	**9.78**	**94**	IAmb_Lg		10 54 20.5	
	comp=Z,16nm,0.8s						
P48A	**Milroy**	**9.79**	**69**	IAmb_Lg		10 54 14.9	
	comp=Z,11nm,0.7s						

*BJI **04** 10:51:35.0±0.0,12.°88N×146.°44E,h34km,mB4.9/39, mb4.8/55,Ms4.4/34,Ms7 4.1/36*
*NEIC **04** 10:51:37.4±1.6,12.°94N±0.°07×146.°08E±0.°08,h17km±3km, mb5.0/163,Error ellipse: s-maj=12.6km s-min=9.0km az=52.0*
*MOS **04** 10:51:38.2±0.9,12.°95N×145.°93E,h40km,mb5.1/45, MS4.2/4,Error ellipse: s-maj=9.7km s-min=5.8km az=121.0*
*DJA **04** 10:51:40.3±0.7,13.°N±5.°×14.°E±.°,h49km±5km,M4.9/18, mB5.7/6,mb5.0/18,MLv4.6/1,Mw(mB)5.2/6*
*GCMT **04** 10:51:40.4±0.3,12.°70N±0.°03×146.°01E±0.°03,h12km, MW4.9/92,Moment Tensor Solution. s21,c22; s92,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.68±.08; Mθθ0.68±.07; Mϕϕ 1.01±.08; Mrθ0.45±.29; Mrϕ1.03±.06; Mθϕ2.01±.28; Best double couple: M0.2.73000×10^16 NP1:ϕ60.00000°,δ20.00000°,λ-53.00000°. NP2: ϕs200.00000°,δ70.00000°,λ-105.00000°. Principal axes: T 2.7050, Plg24.0000°, Azm302.0000°; N 0.0560, Plg15.0000°, Azm205.0000°; P -2.7560, Plg62.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **04** 10:51:41.0±0.5,12.°95N×146.°00E,h52km±3km,mb4.2/29, mb1 4.2/29,mb1mx4.1/62,mbtmp4.4/29,MS4.1/27, Ms1 4.1/27,ms1mx3.9/47 Error ellipse:

29nm,0.7s,baz=149,slow=12,SNR=12
JOW LR LR 11 04 12.3
comp=Z,553nm,19.3s,baz=120,slow=35
JOW Kunigami 21.70 312 P **P** **10 56 26.5 0.0**
JOW IAmb IAmb 10 56 55.2
comp=Z,91nm,1.4s
PMG Port Moresby 22.24 177 P **P** **10 56 32.1 -0.3**
comp=Z,41nm,1.1s,baz=345,slow=4.7,SNR=4.5
PMG LR LR 11 05 20.7
comp=Z,193nm,18.5s,baz=340,slow=37
PMG Port Moresby 22.24 177 *de*P **P** **10 56 31.5 -0.9**
PMG pmax pmax
comp=Z,62nm,1.7s
PMG Port Moresby 22.24 177 P **P** **10 56 31.0 -1.4**
PMG IAmb IAmb 10 56 48.6
comp=Z,40nm,0.9s
JSU Suzuyama 23.43 325 P **P** **10 56 43.9 -0.8**
JSU IAmb IAmb 10 57 11.7
comp=Z,42nm,1.1s
JMN Monobe 23.50 334 P **P** **10 56 44.9 -0.4**
JMN IAmb IAmb 10 56 46.6
comp=Z,92nm,1.5s
INU Inuyama 23.77 341 P **P** **10 56 47.6 -0.3**
JGF Kuroka 23.89 342 P **P** **10 56 47.8 -1.4**
JNU Nakatsue 24.43 328 P **P** **10 56 52.0 -2.2**
MJAR Matsushiro Arr 24.54 345 P **P** **10 56 55.0 -0.1**
comp=Z,3.0nm,0.8s,baz=181,slow=10,SNR=6.3
MJAR LR LR 11 06 04.7
comp=Z,597nm,20.1s,baz=170,slow=35
MJAR Matsushiro Arr 24.54 345 P **P** **10 56 52.0 -3.1**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 24.54 345 P **P** **10 56 52.0 -3.1**
MAT Matsushiro 24.54 344 P **P** **10 56 56.2 +1.1**
JHS Saijyo 24.91 334 P **P** **10 56 58.1 -0.4**
JHS IAmb IAmb 10 57 26.2
comp=Z,52nm,1.5s
YULB Yu-li 25.73 297 P **P** **10 57 05.1 -1.0**
HNR Honiara 26.14 148 LR LR 11 07 54.0
comp=Z,715nm,18.7s,baz=307,slow=37
SSLB Suanglung 26.16 298 P **P** **10 57 09.6 -0.5**
SSLB IAmb IAmb 10 57 29.7
comp=Z,58nm,1.4s
MRSI Marisa 26.99 245 P **P** **10 57 19.0 +1.5**
comp=Z,27nm,0.8s
KSRS Korea Array 29.32 329 P **P** **10 57 37.7 -0.4**
comp=Z,1.4nm,0.7s,baz=142,slow=9.2,SNR=8.6
KSRS PcP **PcP** **11 00 45.4 +0.9**
comp=Z,2.1nm,1.1s,baz=132,slow=1.9,SNR=4.4
KSRS LR LR 11 08 36.0
comp=Z,295nm,18.8s,baz=140,slow=35
KSAR Wonju Array Be 29.33 329 P **P** **10 57 37.6 -0.6**
KSAR Wonju Array Be 29.33 329 P **P** **10 57 37.6 -0.6**
MTN Manton Dam 29.64 211 P **P** **10 57 39.8 -1.2**
MTN IAmb IAmb 10 57 42.2
comp=Z,54nm,1.4s
NJ2 Nanjing 31.41 312 *e*P **P** **10 57 58.2 +1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KAPI Kappang 31.71 237 P **P** **10 57 59.4 0.0**
comp=Z,5.4nm,0.4s,baz=15,slow=5.9,SNR=3.7
KAPI Kappang 31.71 237 P **P** **10 57 59.4 0.0**
KAPI pmax pmax
comp=Z,28nm,1.3s
KAPI Kappang 31.71 237 IAmb IAmb 10 58 17.1
comp=Z,28nm,1.3s
USA0B Ussuriysk Arra 33.41 341 P **P** **10 58 13.3 -0.7**
USA0B pmax pmax
comp=Z,9.0nm,1.1s
USA0B Ussuriysk Arra 33.41 341 P **P** **10 58 13.3 -0.7**
USRK Ussuriysk Ar. 33.41 341 P **P** **10 58 13.1 -0.9**
comp=Z,1.3nm,0.6s,baz=91,slow=15,SNR=2.9
USRK LR LR 11 10 34.8
comp=Z,217nm,18.0s,baz=147,slow=34
USRK Ussuriysk Ar. 33.41 341 P **P** **10 58 14.1 +0.1**
USRK Ussuriysk Ar. 33.41 341 P **P** **10 58 14.1 +0.1**
WHN Wuhan 34.14 306 P **P** **10 58 20.7 +0.1**
WHN S **S** **11 03 50.4 +4.0**
WHN L L
comp=Z,720nm,17.2s
WRAB Tennant Creek 34.68 200 P **P** **10 58 25.2 -0.1**
WRAB pmax pmax
comp=Z,12nm,0.9s
WRAB Tennant Creek 34.68 200 P **P** **10 58 25.2 -0.1**
QIZ Qiongzhong 35.35 285 P **P** **10 58 31.3 +0.1**
QIZ S **S** **11 04 04.0 -1.3**
QIZ L L
comp=Z,140nm,15.4s
QIZ L L
comp=Z,230nm,18.6s
QIZ L L
comp=Z,280nm,23.0s
FITZ Fitzroy Crossi 36.89 214 P **P** **10 58 43.5 -0.8**
comp=Z,5.3nm,0.9s,baz=50,slow=16,SNR=5.4
FITZ Fitzroy Crossi 36.89 214 P **P** **10 58 44.8 +0.5**
BJI Beijing 37.70 321 P **P** **10 58 50.1 -0.8**
BJI S **S** **11 04 41.2 +0.6**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI L L
comp=Z,180nm,16.5s
BJI L L
comp=Z,180nm,21.7s
KLR Kul'dur 38.07 345 P **P** **10 58 53.5 -0.4**
comp=Z,0.7nm,0.3s,baz=165,slow=6.2,SNR=3.1
KLR Kul'dur 38.07 345 ⇓*e*P **P** **10 58 54.2 +0.3**
KLR pmax pmax
comp=Z,21nm,3.3s
AS31 Alice Springs 38.31 198 P **P** **10 58 56.1 -0.2**
ASAR Alice Springs 38.31 198 P **P** **10 58 55.9 -0.5**
comp=Z,1.7nm,0.8s,baz=17,slow=7.4,SNR=12
ASAR LR LR 11 16 00.4
comp=Z,233nm,18.3s,baz=8.5,slow=38
ASAR Alice Springs 38.31 198 P **P** **10 58 55.6 -0.7**
ASAR Alice Springs 38.31 198 P **P** **10 58 55.5 -0.7**
SKR Severo-Kuril's 38.49 10 *e*P **P** **10 58 53.7 -3.7**
SKR *e*S **S** **11 04 47.0 -5.3**
SKR pmax pmax
comp=Z,100nm,2.8s
SKR MLR MLR
comp=Z,200nm,14.0s
GYA Guiyang 39.34 296 ⇑P **P** **10 59 07.1 +2.0**
XAN Xi'an 39.75 308 P **P** **10 59 07.6 -0.7**
XAN pP sP 10 59 15.9 +4.9
XAN S **S** **11 05 11.6 -0.2**
XAN SS **SS** **11 08 00.8 -6.9**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,180nm,8.0s
XAN L L
comp=Z,170nm,21.7s
XAN L L
comp=Z,230nm,17.1s
XAN L L
comp=Z,370nm,23.9s
PWJI Pagerwojo 39.97 240 P **P** **10 59 08.5 -1.8**
comp=Z,124nm,0.8s
DZM Mont Dzumac 40.11 150 *e*P P 10 59 21.7 +10
comp=Z,118nm,1.2s
DZM Mont Dzumac 40.11 150 *e*LR LR 11 10 38.1
comp=Z,262nm,23.7s
DZM Mont Dzumac 40.11 150 P **P** **10 59 11.5 0.0**
comp=Z,23nm,0.9s,baz=263,slow=20,SNR=5.5
DZM pP **pwP** **10 59 25.6 -0.3**
comp=Z,28nm,0.9s,baz=18,slow=7.7,SNR=6.0
DZM Mont Dzumac 40.11 150 P **P** **10 59 11.0 -0.4**
DZM IAmb IAmb 10 59 26.4
comp=Z,43nm,1.0s
HHC Hu-ho-hao-te 41.05 319 *e*P **P** **10 59 21.1 +2.0**
PETK Petropavlovsk- 41.10 11 P **P** **10 59 19.0 -0.2**
comp=Z,4.4nm,1.1s,baz=243,slow=16,SNR=1.6
PETK pP **pwP** **10 59 33.5 +0.2**
comp=Z,7.1nm,1.2s,baz=71,slow=19,SNR=3.5
PETK LR LR 11 15 33.5
comp=Z,233nm,21.9s,baz=198,slow=35
CHAI Chaiyaphum 42.79 279 P **P** **10 59 35.1 +1.5**
comp=Z,5.7nm,1.1s
CD2 Chengdu 42.87 302 *e*P **P** **10 59 35.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
UTTA Uttaradit 44.13 282 P P 10 59 49.4 +5.1
comp=Z,2.9nm,1.0s
PHIT Phitsanulok 44.27 281 P **P** **10 59 47.1 +1.7**
comp=Z,414nmcomp=Z,14nm,0.9s
LZH Lanzhou 44.37 309 ⇓P **P** **10 59 47.4 +1.2**
LZH pP pwP 10 59 57.1 -3.4
LZH sP sP 11 00 02.2 +13
LZH pmax pmax
comp=Z,44nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.9s
LZH L L
comp=Z,170nm,16.8s
LZH L L
comp=Z,190nm,16.8s
LZH L L
comp=Z,140nm,17.4s
STKA Stephens Creek 44.79 185 LR LR 11 19 40.0
comp=Z,231nm,19.0s,baz=16,slow=38
UTHA Uthaitani 45.25 279 P **P** **10 59 54.6 +1.3**
comp=Z,86nmcomp=Z,9.6nm,0.9s
LHSI Lahat 45.48 251 P **P** **10 59 55.2 +0.1**
comp=Z,46nm,0.8s
CM09 Chiang Mai Arr 45.61 283 P **P** **10 59 57.5 +1.4**
comp=Z,89nmcomp=Z,13nm,0.9s
CM04 Chiang Mai Arr 45.62 283 P **P** **10 59 57.3 +1.1**
comp=Z,114nmcomp=Z,16nm,0.8s
CM01 Chiang Mai Arr 45.64 283 P **P** **10 59 57.7 +1.4**
comp=Z,129nmcomp=Z,17nm,0.9s
CM33 Chiang Mai Arr 45.65 284 P P 11 00 01.9 +5.5
CM02 Chiang Mai Arr 45.65 283 P **P** **10 59 57.6 +1.2**
comp=Z,97nmcomp=Z,14nm,0.9s
CM05 Chiang Mai Arr 45.65 283 P **P** **10 59 57.4 +0.9**
comp=Z,85nmcomp=Z,12nm,0.9s
CM31 Chiang Mai Arr 45.65 283 P **P** **10 59 57.0 +0.5**
CM31 IAmb IAmb 11 00 13.4
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 45.65 283 P **P** **10 59 57.1 +0.7**
comp=Z,5.1nm,0.8s,baz=84,slow=6.2,SNR=28
CMAR pP **pwP** **11 00 11.2 +0.5**
comp=Z,7.8nm,0.8s,baz=85,slow=6.2,SNR=9.7
CMAR LR LR 11 17 39.3
comp=Z,165nm,20.9s,baz=140,slow=34
CMAR Chiang Mai Arr 45.65 283 P **P** **10 59 55.9 -0.6**
CMAR Chiang Mai Arr 45.65 283 P **P** **10 59 55.9 -0.6**
CM15 Chiang Mai Arr 45.67 283 P **P** **10 59 57.8 +1.2**
comp=Z,15nm,0.9s
UMPA Umpang Tak 45.79 280 P **P** **10 59 59.0 +1.5**
comp=Z,1µmcomp=Z,8.1nm,1.0s
KHLT Khaolaem Dam 46.12 278 P **P** **11 00 01.6 +1.4**
BBOO Buckleboo 46.52 192 P **P** **11 00 02.7 -0.2**
MHMT Maesarieng 46.62 283 P P 11 00 09.6 +5.6
ULN Ulaanbaatar 47.60 325 P **P** **11 00 11.7 +0.2**
ULN pmax pmax
comp=Z,19nm,1.5s
ULN Ulaanbaatar 47.60 325 P **P** **11 00 11.7 +0.2**
ULN IAmb IAmb 11 00 29.3
comp=Z,19nm,1.4s
SONM Songino Array 47.95 325 P **P** **11 00 14.2 +0.1**
comp=Z,2.3nm,0.7s,baz=134,slow=6.4,SNR=6.5
SONM Songino Array 47.95 325 P **P** **11 00 14.5 +0.3**
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 47.95 325 P **P** **11 00 14.5 +0.3**
GTA Gaotai 48.51 312 ⇑P **P** **11 00 19.0 +0.4**
GTA pmax pmax
comp=Z,19nm,1.2s
GTA pmax pmax
comp=Z,73nm,7.8s
GTA L L
comp=Z,110nm,17.8s
GTA L L
comp=Z,100nm,18.5s
GTA L L
comp=Z,170nm,17.8s
SEY Seymchan 50.10 4 P **P** **11 00 30.1 0.0**
comp=Z,7.7nm,1.2s,baz=175,slow=11,SNR=6.2
SEY pP **pwP** **11 00 44.8 +0.4**
comp=Z,4.3nm,0.7s,baz=182,slow=6.7,SNR=8.3
SEY Seymchan 50.10 4 ⇑*e*P **P** **11 00 30.9 +0.7**
TOO Toolangi 50.26 181 P **P** **11 00 32.4 +0.6**
TOO pmax pmax
comp=Z,14nm,1.0s
TOO Toolangi 50.26 181 P **P** **11 00 32.4 +0.6**
TOO IAmb IAmb 11 00 48.4
comp=Z,14nm,1.0s
ATKA Atka Island 50.40 31 P **P** **11 00 33.2 +0.6**
YAK Yakutsk 50.41 350 ⇓*e*P **P** **11 00 32.4 -0.1**
YAK pmax pmax
comp=Z,23nm,0.8s
MORW Morawa 50.90 214 P **P** **11 00 36.7 0.0**
MORW IAmb IAmb 11 00 52.2
comp=Z,18nm,1.1s
ZAK Zakamensk 51.04 326 *e*P **P** **11 00 38.5 +0.8**
ZAK *e* 11 01 53.4
ZAK pmax pmax
comp=Z,8.0nm,1.3s
TLY Talaya 51.54 328 P **P** **11 00 41.7 +0.4**
comp=Z,1.9nm,0.5s,baz=135,slow=7.0,SNR=5.9
TLY Talaya 51.54 328 *e*P **P** **11 00 43.9 +2.6**
TLY *e*S S 11 07 48.6 -13
TLY pmax pmax
comp=Z,38nm,1.4s
TLY MLR MLR
comp=Z,381nm,20.0s
TLY Talaya 51.54 328 P **P** **11 00 42.2 +0.9**
PBA Port Blair 52.10 275 P P 11 00 45.4 -0.6
SHL Shillong 52.40 292 P **P** **11 00 47.5 -0.8**
SHL pmax pmax
comp=Z,10.0nm,0.6s
SHL Shillong 52.40 292 P **P** **11 00 47.5 -0.8**
SHL IAmb IAmb 11 01 04.1
comp=Z,9.6nm,0.6s
BILL Bilibino 56.58 9 *de*P **P** **11 01 18.1 +0.3**
BILL *i* 11 01 31.4
BILL *e* 11 02 12.7
BILL *e* 11 03 23.9
BILL *e*PPP PPP 11 04 39.7
BILL pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 56.58 9 P **P** **11 01 17.6 -0.2**
BILL IAmb IAmb 11 01 32.9
comp=Z,20nm,0.9s
WMQ Urumqi 58.46 314 *e*P **P** **11 01 33.4 +1.9**
WMQ sP pwP 11 01 48.0 +1.7
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,110nm,6.5s
DGZ Jazzator, Alta 60.11 320 ⇑*i*P **P** **11 01 43.4 +0.4**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
ZSN Zaisan 61.20 317 *e*P **P** **11 01 50.2 -0.1**
baz=317
ZSN Zaisan 61.20 317 *e*P **P** **11 01 50.2 -0.1**
MK31 Makanchi Array 62.79 316 P **P** **11 02 01.9 +0.9**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 62.79 316 P **P** **11 02 01.9 +0.9**
MK31 IAmb IAmb 11 02 18.2
comp=Z,9.3nm,0.8s
MKAR Makanchi Array 62.79 316 P **P** **11 02 01.5 +0.5**
comp=Z,8.1nm,0.7s,baz=95,slow=8.3,SNR=30
MKAR pP **pwP** **11 02 16.4 +0.6**
comp=Z,13nm,0.8s,baz=99,slow=7.5,SNR=21
MKAR LR LR 11 31 15.6
comp=Z,130nm,18.4s,baz=54,slow=38
MKAR Makanchi Array 62.79 316 P **P** **11 02 01.8 +0.8**
MKAR Makanchi Array 62.79 316 P **P** **11 02 01.8 +0.8**
ZALV Zalesovo Beam 62.85 324 P **P** **11 02 02.0 +0.8**
comp=Z,1.3nm,0.6s,baz=94,slow=6.4,SNR=6.1
ZALV pP **pwP** **11 02 17.1 +1.1**
comp=Z,3.4nm,0.6s,baz=90,slow=6.2,SNR=7.3
ZALV LR LR 11 30 15.9
comp=Z,114nm,18.1s,baz=158,slow=37
ZALV Zalesovo Beam 62.85 324 P **P** **11 02 01.1 -0.1**
ZALV Zalesovo Beam 62.85 324 P **P** **11 02 01.1 -0.1**
MAKZ Makanchi 63.01 316 P **P** **11 02 02.6 +0.1**
MAKZ pmax pmax
comp=Z,21nm,0.9s
MAKZ Makanchi 63.01 316 P **P** **11 02 02.5 +0.1**
TTA Tatalina 64.19 25 P **P** **11 02 10.6 +0.6**
TTA pmax pmax
comp=Z,7.0nm,1.3s
TTA Tatalina 64.19 25 P **P** **11 02 10.6 +0.6**
SHLS Shalkode 64.25 312 *e*P **P** **11 02 07.1 -3.7**
baz=312
SHLS Shalkode 64.25 312 *e*P **P** **11 02 07.1 -3.7**
UZB Uzynbulak 64.57 312 *e*P **P** **11 02 12.0 -1.0**
baz=312
UZB Uzynbulak 64.57 312 *e*P **P** **11 02 11.9 -1.0**
SEM Semipalatinsk 64.78 320 *e*P **P** **11 02 12.1 -2.1**
baz=320
SEM Semipalatinsk 64.78 320 *e*P **P** **11 02 12.1 -2.1**
KPKS Kokpek 64.85 312 *e*P **P** **11 02 13.4 -1.3**
baz=312
KPKS Kokpek 64.85 312 *e*P **P** **11 02 13.4 -1.3**
SATY Saty 65.01 312 *e*P **P** **11 02 15.0 -0.9**
baz=312
SATY Saty 65.01 312 *e*P **P** **11 02 14.9 -0.9**
HYB Hyderabad 65.08 283 *i*P **P** **11 02 17.0 +0.4**
CNPM China Poot 65.16 30 P **P** **11 02 16.9 +0.6**
KDJ Kajisay 65.83 310 P **P** **11 02 21.8 +0.6**
KDJ pmax pmax
comp=Z,10.0nm,0.6s
KDJ Kajisay 65.83 310 P **P** **11 02 21.8 +0.6**
KDJ IAmb IAmb 11 02 38.3
comp=Z,9.8nm,0.6s
KURK Kurchatov 65.85 320 P **P** **11 02 21.4 +0.5**
KURK Kurchatov 65.85 320 P **P** **11 02 21.4 +0.5**
KURBB Kurchatov Arra 65.89 320 P **P** **11 02 21.4 +0.2**
comp=Z,1.1nm,0.8s,baz=102,slow=6.5,SNR=28
KURBB Kurchatov Arra 65.89 320 P **P** **11 02 20.0 -1.2**
MDOK Medeo 66.01 312 *e*P **P** **11 02 22.4 0.0**
baz=312
MDOK Medeo 66.01 312 *e*P **P** **11 02 22.3 0.0**
CHKK Chushkaly 66.11 312 *e*P **P** **11 02 22.7 -0.1**
baz=312
CHKK Chushkaly 66.11 312 *e*P **P** **11 02 22.7 -0.1**
SEW Seward 66.19 30 P 11 02 23.7
baz=254
IMAR Indian Mountai 66.29 23 P **P** **11 02 24.2 +0.7**
RC01 Rabbit Creek A 66.33 29 P **P** **11 02 25.9 +2.1**
RC01 Rabbit Creek A 66.33 29 P 11 02 24.7
baz=253
MTBS Maitube 66.46 312 *e*P **P** **11 02 24.1 -1.0**
baz=312
MTBS Maitube 66.46 312 *e*P **P** **11 02 24.1 -1.0**
H21K Melozitna Rive 66.53 23 P 11 02 25.6
baz=248
KTH Kantishna Hill 66.56 26 P **P** **11 02 25.6 +0.3**
KUU Kurty 66.58 312 *e*P **P** **11 02 24.7 -1.1**
baz=312
KUU Kurty 66.58 312 *e*P **P** **11 02 24.7 -1.1**
KSH Kashi 66.60 308 P **P** **11 02 27.8 +1.7**
KSH PcP **PcP** **11 02 55.8 +0.4**
KSH S **S** **11 11 19.8 +2.7**
KSH pmax pmax
comp=Z,6.0nm,1.8s
KSH pmax pmax
comp=Z,100nm,3.9s
KSH L L
comp=Z,120nm,5.2s
KSH L L
comp=Z,130nm,7.8s
KSH L L
comp=Z,100nm,9.5s
BPAW Bear Paw Mtn. 66.71 25 P 11 02 26.5
baz=251
PMR Palmer 66.76 28 P 11 02 26.7
baz=254
BOOM Boomskoye usch 66.78 311 P **P** **11 02 28.1 +0.8**
BOOM pmax pmax
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 66.78 311 P **P** **11 02 28.1 +0.8**
BOOM IAmb IAmb 11 02 43.3
comp=Z,6.5nm,0.6s
KNK Knik Glacier 67.02 28 P 11 02 28.4
baz=254
MLY Manley 67.12 24 P **P** **11 02 27.8 -1.0**
MLY Manley 67.12 24 P 11 02 30.0
baz=251
NRIK Noril'sk 67.13 341 P **P** **11 02 27.4 -1.3**
comp=Z,2.7nm,0.6s,baz=118,slow=7.3,SNR=9.9
NRIK LR LR 11 32 36.2
comp=Z,214nm,19.2s,baz=92,slow=37
NRIK Noril'sk 67.13 341 *d*P **P** **11 02 29.0 +0.3**
NRIK pmax pmax
comp=Z,18nm,1.5s
NRIK Noril'sk 67.13 341 P **P** **11 02 28.9 +0.2**
NRIK IAmb IAmb 11 02 44.0
comp=Z,16nm,1.3s
SML Sawmill 67.18 28 P 11 02 30.4
baz=254
BWN Browne 67.37 25 P **P** **11 02 34.1 +3.7**
WAT2 Susitna Watana 67.39 27 P 11 02 32.0
baz=254
WAT6 Susitna Watana 67.66 27 P 11 02 33.7
baz=254
I23K Minto, Yukon-K 67.71 24 P **P** **11 02 33.5 +1.0**
I23K IAmb IAmb 11 02 37.7
comp=Z,20nm,1.4s
I23K Minto, Yukon-K 67.71 24 P 11 02 33.1
baz=252
SGDS Sogindy 67.79 312 *e*P **P** **11 02 32.5 -1.0**
baz=312
SGDS Sogindy 67.79 312 *e*P **P** **11 02 32.5 -1.0**
AAK Ala-Archa 67.85 311 ⇓*i*P **P** **11 02 35.0 +0.9**
AAK pmax pmax
comp=Z,25nm,1.7s
H23K Yukon River 67.85 24 P 11 02 33.4
baz=252
COLD Coldfoot 68.06 22 P **P** **11 02 34.7 0.0**
COLD Coldfoot 68.06 22 P 11 02 35.0
baz=250
TCOL CIGO, UAF Yank 68.24 25 P 11 02 36.1
baz=254
COLA College 68.24 25 ⇑*e*P **P** **11 02 36.9 +1.1**
BTLS Baital 68.30 313 *e*P **P** **11 02 36.0 -0.6**
comp=Z,9.2nm,1.7s,baz=314
BTLS Baital 68.30 313 *e*P **P** **11 02 36.0 -0.6**
BTLS pmax pmax
comp=Z,9.0nm,1.7s
H24K Noodor Dome 68.51 24 P 11 02 39.0
baz=253
IL31 68.61 25 P **P** **11 02 37.3 -0.8**
ILAR Eielson Array 68.61 25 P **P** **11 02 37.1 -1.1**
comp=Z,2.3nm,0.9s,baz=248,slow=5.7,SNR=18
ILAR Eielson Array 68.61 25 P **P** **11 02 37.4 -0.8**
ILAR Eielson Array 68.61 25 P **P** **11 02 37.4 -0.8**
NIL Nilore 68.76 301 P **P** **11 02 41.1 +1.4**
NIL pmax pmax
comp=Z,69nm,1.3s
NIL Nilore 68.76 301 P **P** **11 02 41.1 +1.4**
TOLK Toolik Lake Re 68.76 21 P **P** **11 02 42.6 +3.5**
TOLK Toolik Lake Re 68.76 21 P 11 02 38.7
baz=250
PAX Paxson 68.77 27 P **P** **11 02 39.4 +0.1**
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 68.77 27 P **P** **11 02 39.4 +0.1**
PAX IAmb IAmb 11 02 40.8
comp=Z,12nm,1.0s
PAX Paxson 68.77 27 P 11 02 39.3
baz=256
HARP HAARP 68.78 28 P 11 02 39.4
baz=257
N25K Chitina, Valde 68.86 29 P 11 02 40.2
baz=258
ARSB Arslanbob 68.93 309 P **P** **11 02 41.2 +0.4**
ARSB pmax pmax
comp=Z,40nm,1.4s
ARSB Arslanbob 68.93 309 P **P** **11 02 41.2 +0.4**
GLB Gilahina Butte 69.20 29 P **P** **11 02 44.1 +2.1**
DOT Dot Lake 69.54 27 P **P** **11 02 45.5 +1.5**
DOT IAmb IAmb 11 02 49.8
comp=Z,14nm,1.3s
BRZS Berezniki 69.55 319 *e*P **P** **11 02 42.9 -1.4**
baz=319
BRZS Berezniki 69.55 319 *e*P **P** **11 02 42.9 -1.4**
SCRK Sand Creek 69.64 26 P **P** **11 02 46.3 +1.6**
SCRK Sand Creek 69.64 26 P 11 02 44.7
baz=258
BMAR Burnt Mountain 70.21 23 P **P** **11 02 49.5 +1.4**
CTG Chitna Glacier 70.29 30 P 11 02 49.3
baz=261
PPT Papeete 70.33 114 LR LR 11 26 37.6
comp=Z,213nm,19.2s,baz=310,slow=30
PPT2 Papeete2 70.34 114 *e*LR LR 11 24 23.0
comp=Z,971nm,24.5s
K27K Beaver Creek, 70.41 27 P 11 02 50.7
baz=260
K27K Chicken 70.48 26 P **P** **11 02 50.8 +1.1**
K27K IAmb IAmb 11 02 53.1
comp=Z,14nm,1.2s
K27K Chicken 70.48 26 P 11 02 51.7
baz=259

KK31 Karatay Array 70.79 311 P **P** **11 02 52.7 +0.6**
KK31 pmax pmax
comp=Z,23nm,1.4s
KK31 Karatay Array 70.79 311 P **P** **11 02 52.7 +0.6**
KK31 IAmb IAmb 11 03 20.8
comp=Z,23nm,1.4s
KKAR Karatay Array 70.79 311 P **P** **11 02 52.7 +0.6**
KKAR pmax pmax
comp=Z,23nm,1.4s
KKAR Karatay Array 70.79 311 P **P** **11 02 51.3 -0.8**
KKAR Karatay Array 70.79 311 P **P** **11 02 52.7 +0.6**
KKAR IAmb IAmb 11 03 20.8
comp=Z,23nm,1.4s
EGAK Eagle 71.01 26 P **P** **11 02 54.3 +1.4**
EGAK IAmb IAmb 11 03 08.6
comp=Z,16nm,1.3s
IUG luzhnay 71.15 310 *e*P **P** **11 02 53.9 -0.5**
baz=310
IUG luzhnay 71.15 310 *e*P **P** **11 02 53.8 -0.5**
BVAR Borovoye Array 71.18 322 P **P** **11 02 54.2 0.0**
comp=Z,4.0nm,0.6s,baz=204,slow=9.3,SNR=19
BRVK Borovoye 71.24 322 P **P** **11 02 55.2 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 71.24 322 P **P** **11 02 55.2 +0.6**
BRVK IAmb IAmb 11 03 10.7
comp=Z,9.7nm,0.7s
DAWY Dawson 71.65 27 P **P** **11 02 56.5 -0.4**
DAWY IAmb IAmb 11 03 00.8
comp=Z,13nm,1.2s
CHGR Chuyangaron 71.90 307 P **P** **11 02 58.9 -0.1**
HYT Haines Junctio 72.13 30 P **P** **11 03 00.0 +0.1**
KBL Kabul 72.20 302 P **P** **11 03 01.4 +0.4**
KBL pmax pmax
comp=Z,20nm,1.2s
KBL Kabul 72.20 302 P **P** **11 03 01.4 +0.4**
KBL IAmb IAmb 11 03 05.4
comp=Z,20nm,1.1s
TBI Tubuai 72.59 120 *e*LR LR 11 24 49.5
comp=Z,153nm,23.0s
WHY Whitehorse 73.41 30 P 11 03 08.6
baz=267
INK Inuvik 74.48 22 P **P** **11 03 14.2 +0.8**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 74.48 22 P **P** **11 03 14.2 +0.8**
INK Inuvik 74.48 22 P 11 03 15.0
baz=266
HRA Herat 77.81 303 P **P** **11 03 35.0 +1.6**
AB31 Akbulak array 77.83 318 *i* P **P** **11 03 31.7 -1.2**
ABKAR Akbulak array 77.83 318 P **P** **11 03 32.3 -0.7**
ABKAR Akbulak array 77.83 318 P **P** **11 03 31.8 -1.1**
ABKAR IAmb IAmb 11 03 35.7
comp=Z,9.0nm,0.9s
C36M Paulatuk 77.91 21 P 11 03 34.6
baz=274
ARU Arti 77.98 325 P **P** **11 03 35.0 +1.4**
comp=Z,0.9nm,0.4s,baz=82,slow=3.2,SNR=8.3
ARU Arti 77.98 325 *d i* P **P** **11 03 34.7 +1.1**
ARU *PP **pwP** **11 03 47.9 -0.6**
ARU 11 06 30.6
ARU S **S** **11 13 29.0 +2.4**
ARU SS **SS** **11 18 29.7 +2.4**
ARU pmax pmax
comp=Z,18nm,1.4s
ARU MLR MLR
comp=Z,119nm,15.0s
ARU Arti 77.98 325 P **P** **11 03 34.2 +0.6**
ARU IAmb IAmb 11 03 49.4
comp=Z,8.3nm,0.7s
NLWA Neilton Lookou 80.59 44 P **P** **11 03 50.4 +2.3**
NLWA IAmb IAmb 11 03 52.6
comp=Z,24nm,1.3s
GEYT Alibeck 80.61 307 P **P** **11 03 49.9 +1.4**
comp=Z,7.7nm,0.9s,baz=199,slow=8.5,SNR=5.7
GEYT LR LR 11 42 09.0
comp=Z,64nm,21.2s,baz=30,slow=38
GEYT Alibeck 80.61 307 IAmb IAmb 11 04 13.6
comp=Z,26nm,1.2s
D03D Eldon 81.09 43 P 11 03 52.2
baz=279
E04D Cinebar 81.61 44 P 11 03 54.5
baz=280
B05A Bryant 81.63 42 P 11 03 54.3
baz=280
H04D Lebanon 81.84 46 P 11 03 55.4
baz=280
H04A Detroit Lake 82.20 46 P **P** **11 03 57.2 +0.5**
H04A IAmb IAmb 11 04 12.3
comp=Z,13nm,1.3s
I04A Tendick Farm, 82.20 47 P 11 03 56.1
baz=280
YBH Yreka Blue Hor 82.36 49 P **P** **11 03 59.2 +1.5**
YBH pmax pmax
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 82.36 49 P **P** **11 03 59.2 +1.5**
YBH IAmb IAmb 11 04 00.2
comp=Z,14nm,1.4s
J04D Umpqua Nationa 82.52 47 P 11 03 59.3
baz=281
KIRV Kirov 82.52 328 P **P** **11 03 58.7 +0.7**
comp=Z,10nm,0.8s,baz=71,slow=4.2,SNR=7.0
KIRV LR LR 11 41 59.9
comp=Z,82nm,21.0s,baz=74,slow=37
KIRV Kirov 82.52 328 *i* P **P** **11 03 59.2 +1.2**
L04D Klamath Falls 82.57 48 P 11 03 59.5
baz=281
O02D Mt. Diablo Mer 82.58 51 P 11 04 00.3
baz=281
LTY Liberty 82.76 43 P **P** **11 03 59.1 -0.5**
YKA Yellowknife Ar 82.85 28 P **P** **11 04 00.1 +0.4**
comp=Z,6.6nm,1.1s,baz=284,slow=4.9,SNR=14
I05D Terrebonne, OR 82.86 46 P 11 04 01.4
baz=281
M04C Macdoel 82.99 49 P 11 04 02.0
baz=281
PINE Pine Mountain 83.25 47 P **P** **11 04 02.7 +0.3**
O03E Paynes Creek 83.30 50 P 11 04 02.7
baz=281
EUNU Eureka 83.32 8 P **P** **11 04 02.6 +0.7**
B08A Colville Reser 83.42 42 P **P** **11 04 03.5 +0.6**
B08A IAmb IAmb 11 04 04.6
comp=Z,12nm,1.1s
K05A Summer Lake 83.49 48 P **P** **11 04 04.1 +0.4**
K05A IAmb IAmb 11 04 07.8
comp=Z,21nm,1.3s
PRGR Permogore 83.63 332 *e*P **P** **11 04 02.6 -1.1**
PRGR *e*SP **pwP** **11 04 18.3 -0.3**
PRGR pmax pmax
comp=Z,22nm,0.9s
ORV Oroville 83.68 51 P **P** **11 04 05.4 +0.9**
ORV pmax pmax
comp=Z,14nm,1.4s
ORV Oroville 83.68 51 P **P** **11 04 05.4 +0.9**
ORV IAmb IAmb 11 04 06.2
comp=Z,14nm,1.4s
MOD Modoc Plateau 84.09 49 P **P** **11 04 07.8 +1.1**
MOD IAmb IAmb 11 04 09.8
comp=Z,10.0nm,1.3s
AFDM Forest Hills D 84.20 52 P **P** **11 04 07.6 +0.4**
AFDM IAmb IAmb 11 04 09.2
comp=Z,13nm,1.4s
I07A Izee 84.20 46 P **P** **11 04 08.2 +1.0**
C09A Chrisman Ranch 84.23 42 P **P** **11 04 07.5 +0.3**
G08A Pilot Rock 84.32 45 P **P** **11 04 09.1 +1.4**
BEKR Beckworth 84.47 51 P **P** **11 04 09.6 +0.9**
CMB Columbia Colle 84.84 52 P **P** **11 04 11.6 +1.1**
CMB pmax pmax
comp=Z,7.0nm,1.2s
CMB Columbia Colle 84.84 52 P **P** **11 04 11.6 +1.1**
NEW Newport 84.88 42 P **P** **11 04 10.4 0.0**
NEW pmax pmax
comp=Z,21nm,1.4s
NEW Newport 84.88 42 P **P** **11 04 10.4 0.0**
BELG Belogornoye 84.97 323 LR LR 11 43 42.6
comp=Z,93nm,19.9s,baz=166,slow=37
RKT Rikitea 85.08 115 *e*LR LR 11 31 06.8
comp=Z,274nm,24.5s
J08A Circle Bar Ran 85.09 47 P **P** **11 04 12.9 +1.2**
J08A IAmb IAmb 11 04 15.5
comp=Z,9.3nm,1.2s
WVOR Wild Horse Val 85.18 48 P **P** **11 04 13.3 +1.1**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 85.18 48 P **P** **11 04 13.3 +1.1**

PAHR Pah Rah Range 85.24 51 P **P** **11 04 14.1 +1.5**
PAHR IAmb IAmb 11 04 28.4
comp=Z,11nm,1.4s
F10A Beach Ranch, E 85.35 44 P **P** **11 04 14.3 +1.4**
YERR Yerington 85.51 51 P **P** **11 04 15.9 +1.9**
YERR IAmb IAmb 11 04 30.1
comp=Z,10nm,1.4s
BMO Blue Mountains 85.56 45 P **P** **11 04 14.9 +0.9**
BMO pmax pmax
comp=Z,16nm,1.5s
BMO Blue Mountains 85.56 45 P **P** **11 04 14.9 +0.9**
BMO IAmb IAmb 11 04 30.5
comp=Z,16nm,1.4s
NVAR Mina Array Bea 86.35 52 P **P** **11 04 19.3 +1.1**
comp=Z,1.7nm,0.7s,baz=270,slow=5.3,SNR=16
NVAR Mina Array Bea 86.35 52 P **P** **11 04 18.9 +0.7**
KVN Kaiserville 86.36 51 P **P** **11 04 18.5 +0.3**
KVN pmax pmax
comp=Z,5.0nm,1.1s
KVN Kaiserville 86.36 51 P **P** **11 04 18.5 +0.3**
NV11 Mina Array Sit 86.46 52 P **P** **11 04 18.8 +0.2**
WALA Waterton Lakes 86.74 40 P **P** **11 04 21.4 +1.7**
JTMT Jette 86.86 42 P **P** **11 04 21.1 +0.8**
JTMT IAmb IAmb 11 04 36.0
comp=Z,8.7nm,1.1s
MFID Camas Ranch 86.95 46 P **P** **11 04 20.9 0.0**
CWC Cottonwood Cre 86.99 53 P 11 04 22.1
baz=284
TPH Tonopah 87.26 52 P **P** **11 04 23.1 +0.5**
TPH pmax pmax
comp=Z,50nm,1.3s
TPH Tonopah 87.26 52 P **P** **11 04 23.1 +0.5**
MSO Missoula 87.33 43 P **P** **11 04 23.3 +0.7**
HLID Hailey 87.90 46 P **P** **11 04 25.8 +0.2**
HLID IAmb IAmb 11 04 27.5
comp=Z,6.5nm,1.0s
FURC Furnace Creek, 87.94 53 P 11 04 26.3
baz=284
ARCES ARCESS Array B 88.06 342 LR LR 11 47 16.8
comp=Z,152nm,20.4s,baz=60,slow=38
ELK Elko 88.07 49 P **P** **11 04 27.1 +0.6**
ELK pmax pmax
comp=Z,14nm,1.1s
ELK Elko 88.07 49 P **P** **11 04 27.1 +0.6**
TPNV Topopah Spring 88.29 53 P **P** **11 04 28.2 +0.6**
TPNV pmax pmax
comp=Z,8.0nm,1.2s
TPNV Topopah Spring 88.29 53 P **P** **11 04 28.2 +0.6**
TPNV IAmb IAmb 11 04 29.5
comp=Z,8.3nm,1.1s
BCYI Bear Canyon 88.40 45 P **P** **11 04 27.9 -0.1**
R11A Troy Canyon, C 88.44 51 P **P** **11 04 29.7 +1.4**
R11A IAmb IAmb 11 04 44.4
comp=Z,12nm,1.5s
R11A Troy Canyon, C 88.44 51 P 11 04 29.3
baz=285
MCMT McKenzie Canyo 88.63 44 P **P** **11 04 29.8 +0.7**
DLMT Dillon 88.64 44 P **P** **11 04 28.6 -0.4**
DLMT IAmb IAmb 11 04 45.5
comp=Z,9.4nm,1.4s
HRY Holter Researc 88.75 42 P **P** **11 04 30.1 +0.6**
PFO Pinyon Flats O 88.98 56 *e*P **P** **11 04 31.5 +0.7**
PFO pmax pmax
comp=Z,15nm,1.0s
PFO Pinyon Flats O 88.98 56 P **P** **11 04 31.1 +0.3**
PFO IAmb IAmb 11 04 32.4
comp=Z,9.8nm,1.1s
PFO Pinyon Flats O 88.98 56 P 11 04 30.9
baz=285
PRN Pahroc Range 89.10 52 P **P** **11 04 32.2 +0.9**
PRN IAmb IAmb 11 04 47.7
comp=Z,11nm,1.3s
TKX Tecate 89.12 57 P **P** **11 04 32.7 +1.3**
CBX Cerro Bola 89.14 57 P **P** **11 04 32.3 +0.7**
MONP2 Monument Peak 89.19 57 P 11 04 32.8
baz=285
SPR3 Spring Creek 3 89.21 50 P **P** **11 04 32.8 +0.7**
BELC Belle Mtn. Jos 89.25 55 P 11 04 32.5
baz=285
SHPR Sheep Range 89.25 53 P **P** **11 04 33.0 +0.9**
GMRC Granite Mounta 89.32 55 P 11 04 32.5
baz=285
HVU Hansel Valley 89.56 47 P **P** **11 04 34.2 +0.8**
HVU pmax pmax
comp=Z,23nm,1.4s
HVU Hansel Valley 89.56 47 P **P** **11 04 34.1 +0.8**
QLMT Earthquake Lak 89.59 44 P **P** **11 04 35.3 +1.8**
EGMT Eagleton 89.68 41 P **P** **11 04 34.4 +0.7**
PSUT Pine Spring 89.70 51 P **P** **11 04 34.6 +0.5**
PSUT IAmb IAmb 11 04 38.8
comp=Z,10nm,1.1s
YHL Hebgen Lake 89.75 44 P **P** **11 04 36.2 +1.9**
YHB Horse Butte 89.78 44 P **P** **11 04 35.1 +0.7**
YHB IAmb IAmb 11 04 38.9
comp=Z,11nm,1.1s
BC3 Big Chuckawall 89.78 56 P 11 04 35.3
baz=285
IRM Iron Mountain 89.89 55 P 11 04 34.5
baz=286
SPUT South Promonto 89.94 48 P **P** **11 04 37.4 +2.2**
YMR Madison River 89.96 44 P **P** **11 04 36.4 +1.1**
LPSR Galich'ya Gora 89.96 324 *e*P **P** **11 04 33.0 -1.8**
LPSR pmax pmax
comp=Z,20nm,1.2s
YHH Holmes Hill 90.00 44 P **P** **11 04 36.2 +0.6**
YHH IAmb IAmb 11 04 52.9
comp=Z,13nm,1.4s
DUG Dugway, Tooele 90.00 49 P **P** **11 04 35.6 +0.2**
DUG pmax pmax
comp=Z,19nm,1.3s
DUG Dugway, Tooele 90.00 49 P **P** **11 04 35.6 +0.2**
DUG IAmb IAmb 11 04 52.2
comp=Z,19nm,1.3s
YNR Norris Junctio 90.14 44 P **P** **11 04 38.0 +1.9**
ECR Eagle Creek 90.18 46 P **P** **11 04 38.1 +1.7**
GNI Garni 90.25 311 LR LR 11 48 57.9
comp=Z,63nm,18.9s,baz=74,slow=38
OBN Obninsk 90.30 327 LR LR 11 46 33.5
comp=Z,25nm,20.4s,baz=12,slow=36
OBN Obninsk 90.30 327 *e*P **P** **11 04 35.2 -1.0**
OBN *e*PPP PPP 11 10 10.7
OBN pmax pmax
comp=Z,8.0nm,0.4s
H17A Grant Village 90.31 44 P **P** **11 04 38.7 +1.8**
H17A IAmb IAmb 11 04 55.6
comp=Z,12nm,1.4s
H17A Grant Village 90.31 44 P 11 04 39.2
baz=288
FLWY Flagg Ranch 90.32 45 P **P** **11 04 37.5 +0.6**
FLWY IAmb IAmb 11 04 39.6
comp=Z,10.0nm,1.1s
VSR Storozhevoye 90.32 323 *e*P **P** **11 04 36.0 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.5s
TPAW Teton Pass 90.33 45 P **P** **11 04 37.2 +0.1**
CCUT Cedar City 90.35 51 P **P** **11 04 39.0 +1.7**
MOOW Moose Ponds 90.39 45 P **P** **11 04 38.7 +1.3**
REDW Red Top Meadow 90.44 45 P **P** **11 04 39.4 +1.9**
KBZ Khabaz 90.47 315 LR LR 11 48 24.3
comp=Z,55nm,19.3s,baz=50,slow=38
HWUT Hardware Ranch 90.48 47 P **P** **11 04 38.7 +1.0**
HWUT IAmb IAmb 11 04 54.2
comp=Z,13nm,1.2s
YMP Mirror Lake Pl 90.48 44 P **P** **11 04 39.0 +1.2**
YNE Yellowstone No 90.50 44 P **P** **11 04 38.6 +0.8**
SZCU Shurtz Canyon 90.55 51 P **P** **11 04 39.7 +1.6**
SZCU IAmb IAmb 11 04 55.3
comp=Z,8.9nm,1.3s
KIV Kislovodsk 90.55 315 *e*P **P** **11 04 35.3 -2.6**
KIV pmax pmax
comp=Z,15nm,1.1s
LCMT Little Creek M 90.59 52 P **P** **11 04 38.8 +0.5**
LCMT IAmb IAmb 11 04 40.7
comp=Z,8.1nm,1.3s
NLU North Lily Min 90.61 49 P **P** **11 04 39.4 +1.0**
NLU IAmb IAmb 11 04 55.1
comp=Z,11nm,1.2s
W13A Hualapai Mount 90.63 54 P **P** **11 04 40.1 +1.5**
W13A IAmb IAmb 11 04 55.5
comp=Z,12nm,1.5s
PDMCI Parker Dam,Lak 90.65 55 P 11 04 39.6
baz=286
JLU Jordanelle 90.87 48 P **P** **11 04 39.7 0.0**
KNB Kanab 90.91 52 P **P** **11 04 41.8 +1.9**
KNB pmax pmax
comp=Z,24nm,1.3s
KNB Kanab 90.91 52 P **P** **11 04 41.8 +1.9**
RLMT Red Lodge 90.95 43 P **P** **11 04 41.7 +1.8**
RLMT IAmb IAmb 11 04 58.3
comp=Z,8.9nm,1.2s
U15A North Rim 91.49 52 P **P** **11 04 42.6 -0.1**
U15A IAmb IAmb 11 04 45.2
comp=Z,11nm,1.2s
PDAR Pinedale Array 91.53 46 P **P** **11 04 42.9 +0.3**
comp=Z,0.9nm,0.8s,baz=270,slow=3.0,SNR=4.9
Q16A Castle Valley 91.59 50 P **P** **11 04 44.5 +1.6**
Q16A IAmb IAmb 11 04 60.0
comp=Z,16nm,1.5s
Y14A Wickenburg 91.66 55 P **P** **11 04 44.6 +1.4**
Y14A IAmb IAmb 11 04 45.2
comp=Z,5.3nm,0.8s
FFC Flin Flon 91.68 33 P **P** **11 04 43.0 +0.3**
FFC pmax pmax
comp=Z,8.0nm,1.2s
FFC Flin Flon 91.68 33 P **P** **11 04 43.0 +0.3**
FFC IAmb IAmb 11 04 58.0
comp=Z,8.3nm,1.2s
P17A Butcher Ranch, 91.74 49 P **P** **11 04 45.2 +1.6**
P17A IAmb IAmb 11 05 00.3
comp=Z,14nm,1.5s
SRU San Rafael Swe 92.01 49 P **P** **11 04 45.7 +0.8**
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 92.01 49 P **P** **11 04 45.7 +0.8**
SRU IAmb IAmb 11 04 46.4
comp=Z,4.8nm,0.9s
RDMU Red Mountain 92.24 48 P **P** **11 04 47.0 +1.0**
RDMU IAmb IAmb 11 05 02.4
comp=Z,14nm,1.4s
FINES FINESS Array B 92.25 335 P **P** **11 04 45.7 +0.5**
comp=Z,3.2nm,0.7s,baz=79,slow=9.9,SNR=6.8
FINES LR LR 11 49 35.6
comp=Z,76nm,18.6s,baz=76,slow=38
FINES FINESS Array B 92.25 335 P **P** **11 04 45.0 -0.2**
FINES FINESS Array B 92.25 335 P **P** **11 04 45.0 -0.2**
214A Organ Pipe Nat 92.38 57 P 11 04 47.0
baz=287
LAO LASA Array 92.40 41 P **P** **11 04 47.5 +1.2**
WUAZ Wupatki 92.48 53 P **P** **11 04 48.9 +1.8**
WUAZ IAmb IAmb 11 04 49.6
comp=Z,8.0nm,0.9s
X16A Lo Mia Camp, P 92.76 54 P **P** **11 04 50.7 +2.3**
O20A White River Ci 93.34 48 P 11 04 50.7
baz=290
PV14 Lion Creek, Pa 93.36 50 P **P** **11 04 52.1 +0.9**
PV14 IAmb IAmb 11 04 52.7
comp=Z,9.0nm,0.9s
PV19 Morning Glory 93.41 50 P **P** **11 04 51.4 0.0**
PV20 West Nyswonger 93.41 50 P **P** **11 04 52.3 +0.9**
PV20 IAmb IAmb 11 05 07.6
comp=Z,11nm,1.1s
PV17 East Wray Mesa 93.44 50 P **P** **11 04 52.4 +0.8**
PV17 IAmb IAmb 11 04 53.0
comp=Z,10nm,1.1s
PV04 Paradox Valley 93.44 50 P **P** **11 04 52.8 +1.3**
PV04 IAmb IAmb 11 04 53.1
comp=Z,5.6nm,1.0s
PV16 Nyswonger Mesa 93.46 50 P **P** **11 04 52.4 +0.8**
PV16 IAmb IAmb 11 04 53.1
comp=Z,6.6nm,0.9s
PV22 Blue Mesa, Par 93.48 49 P **P** **11 04 52.9 +1.2**
PV22 IAmb IAmb 11 04 53.2
comp=Z,6.8nm,1.2s
PV18 Skein Mesa, Pa 93.49 50 P **P** **11 04 51.5 -0.3**
PV18 IAmb IAmb 11 04 53.1
comp=Z,8.6nm,1.2s
PV11 David Mesa, Pa 93.50 50 P **P** **11 04 51.9 +0.1**
PV03 Paradox Valley 93.53 50 P **P** **11 04 52.2 +0.2**
PV03 IAmb IAmb 11 04 53.3
comp=Z,6.0nm,1.1s
PV12 Saucer Basin, 93.54 50 P **P** **11 04 52.2 +0.1**
PV07 Paradox Valley 93.62 49 P **P** **11 04 52.5 +0.1**
PV07 IAmb IAmb 11 04 53.1
comp=Z,7.6nm,1.4s
K22A Casper 93.67 45 P 11 04 53.1
baz=291
PV01 Paradox Valley 93.78 50 P **P** **11 04 52.8 -0.3**
PV01 IAmb IAmb 11 04 56.8
comp=Z,6.3nm,1.2s
W18A Petrified Fore 93.87 53 P 11 04 54.1
baz=289
MVCO Mesa Verde 94.14 51 P **P** **11 04 54.9 +0.1**
MVCO IAmb IAmb 11 05 11.3
comp=Z,6.7nm,1.2s
SMCO Snowmass 94.59 48 P **P** **11 04 56.1 -0.9**
SMCO IAmb IAmb 11 05 13.4
comp=Z,6.5nm,1.2s
N23A Red Feather La 94.71 46 P 11 04 58.5
baz=292
MNK Minsk 95.05 329 *i* P **P** **11 04 57.0 -1.3**
MNK *i* 11 08 46.6
MNK *i* PPP PPP 11 10 48.8
MNK *i* S **SKSac** **11 15 28.7 -4.8**
MNK *i* SS **SS** **11 22 36.6 -0.5**
MNK *i* SSS SSS 11 26 20.4
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=N,31nm,1.3s
MNK MLR MLR
comp=N,390nm,24.0s
MNK MLR MLR
comp=E,46nm,27.0s
MNK Minsk 95.05 329 *i* P **P** **11 04 57.0 -1.2**
comp=E,5.0nm,1.0s
MNK *i* P **P** **11 04 57.0 -1.2**
comp=N,31nm,1.3s
MNK *i* P **P** **11 04 57.0 -1.2**
comp=Z,4.0nm,0.7s,baz=240
MNK *i* PP **PP** **11 08 46.7 -0.5**
MNK *i* PPP PPP 11 10 48.9
MNK *i* S **SKSac** **11 15 28.8 -4.7**
MNK *i* SS **SS** **11 22 36.7 -0.4**
MNK *i* SSS SSS 11 26 20.4
MNK *i* LQ LQ 11 41 52.5
MNK *i* LR LR 11 47 55.1
MNK *i* LRM MLR 11 50 40.5
comp=Z,164nm,31.8s
MNK *i* LRM MLR 11 50 48.1
comp=E,46nm,26.7s
MNK *i* LRM MLR 11 50 48.1
comp=N,390nm,24.2s
S22A 4UR Ranch, Cre 95.20 50 P 11 05 00.1
baz=291
AKASG Malin Array Be 96.23 325 LR LR 11 51 03.4
comp=N,168nm,19.2s,baz=50,slow=37
ULM Lac du Bonnet 97.06 35 LR LR 11 42 45.0
comp=N,52nm,21.2s,baz=301,slow=32
T25A Trinidad 97.22 49 P 11 05 09.5
baz=292
NOA NORSAR Array B 98.07 340 LR LR 11 52 01.8
comp=N,72nm,19.8s,baz=30,slow=37
BRTR Keskin Array B 98.38 314 P **P** **11 05 13.2 -0.7**
comp=N,0.6nm,0.8s,baz=35,slow=6.8,SNR=3.9
MNTX Cornudas Mount 98.45 55 P **P** **11 05 14.1 -0.2**
MNTX IAmb IAmb 11 05 16.2
comp=Z,3.7nm,1.1s
MAW Mawson 99.32 203 LR LR 11 47 03.2
comp=Z,96nm,19.0s,baz=265,slow=34
SYO Syowa Base 107.93 201 *e*PKiKP **PKiKP** **11 10 04.0 +1.6**
SYO Syowa Base 107.93 201 *e*PKiKP **PKiKP** **11 10 09.0 +6.6**
SYO Syowa Base 107.93 201 *e*PP **PP** **11 10 26.8 +2.5**
TORD Torodi Ar. Bea 136.23 305 PKP **PKPdf** **11 10 58.1 +0.2**
comp=Z,1.2nm,1.0s,baz=89,slow=1.6,SNR=3.3
PB11 IPOC Station P 145.06 106 **PKPab** **11 11 14.0 +0.6**
DBIC Dimbokro 145.20 302 PKPbc **PKPbc** **11 11 13.3 -0.4**
comp=Z,18nm,0.9s,baz=74,slow=3.1,SNR=3.1
DBIC pPKPbc PKiKP 11 11 28.6 +11
comp=Z,21nm,0.8s,baz=41,slow=5.0,SNR=7.6
DBIC Dimbokro 145.20 302 PKiKP **PKPbc** **11 11 12.8 -0.9**
DBIC Dimbokro 145.20 302 **PKPbc** **11 11 12.8 -0.9**
KIC Kosan Boka 145.27 302 *e*PKP1 **PKPdf** **11 11 14.4 +0.1**
comp=Z,23nm,1.0s
KIC Kosan Boka 145.27 302 *e*P PKiKP 11 11 28.7 +10
comp=Z,36nm,0.9s
TIC Toumodi 145.34 303 *e*PKP1 **PKPab** **11 11 14.5 +0.1**
TIC Toumodi 145.34 303 *e*P PKiKP 11 11 28.9 +11
LVC Limon Verde 145.36 111 PKPbc **PKPbc** **11 11 14.7 +0.3**

comp=Z,3.9nm,0.7s,baz=251,slow=4.2,SNR=8.5
LIC Lamto 145.58 302 *e*PKP1 **PKPab 11 11 15.3 +0.1**
comp=Z,78nm,1.2s
LIC Lamto 145.58 302 *e*P PKiKP 11 11 30.2 +11
comp=Z,248nm,1.8s
LPAZ La Paz 146.71 100 PKPbc **PKPdf 11 11 17.6 +0.2**
comp=Z,2.5nm,0.7s,baz=22,slow=4.9,SNR=9.8
LPAZ La Paz 146.71 100 PKiKP **PKPdf 11 11 16.9 -0.5**
LPAZ La Paz 146.71 100 PKPdf **PKPdf 11 11 16.9 -0.5**
PTGA Pitinga 151.43 67 PKPbc **PKPbc 11 11 29.9 -0.5**
comp=Z,4.5nm,0.8s,baz=336,slow=2.0,SNR=5.1
SIV San Ignacio 153.50 100 PKPbc **PKPbc 11 11 33.2 -1.8**
comp=Z,2.4nm,0.9s,baz=231,slow=4.6,SNR=8.7
SIV pPKPbc **pPKPab 11 11 48.9 -0.3**
comp=Z,5.0nm,0.9s,baz=223,slow=1.5,SNR=10

*NEIC **04** 10:56:17.6±1.5, 13°.03N×0°.08×146°.16E±0°.07, h10km±1km, mb4.8/32, Error ellipse: s-maj=13.9km s-min=10.7km az=199.0*
*IDC **04** 10:56:22.2±0.5, 13°.03N×146°.08E, h50km±4km, mb3.9/20, mb1 4.0/20, mb1mx3.9/57, mbtmp4.2/20, Error ellipse: s-maj=14.1km s-min=7.5km az=24.0*
ISC 04 10:56:21.7±0.5, 12°.95N±0°.08×146°.08E±0°.08, h50km, n56, σ1§06/61, mb4.5/31, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.34 298**		P	**Pn**	**10 56 42.1**	**-1.9**
	270nm,0.3s,baz=178,slow=18,SNR=23						
GUMO				S	**Sn**	**10 56 59.6**	**-1.1**
	320nm,0.3s,baz=81,slow=14,SNR=8.8						
GUMO	**Guam**	**1.34 298**		Pn	**Pn**	**10 56 42.4**	**-1.6**
PATS	**Pohnpei**	**13.49 116**		Pn	Pn	10 59 23.8	-6.7
SIJI	**Sorong**	**20.11 228**		P	Pn	11 00 53.9	+0.2
	20nm,0.9s,baz=49,slow=8.1,SNR=5.8						
FAKI	**Fak Fak**	**20.91 222**		P	**P**	**11 01 00.8**	**+0.7**
FAKI				IAmb	IAmb	11 01 18.6	
	comp=Z,40nm,0.9s						
JOW	**Kunigami**	**21.66 312**		P	**P**	**11 01 08.7**	**+0.5**
	comp=Z,8.6nm,0.6s,baz=147,slow=11,SNR=5.9						
MJAR	**Matsushiro Arr**	**24.53 345**		P	**P**	**11 01 36.0**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=145,slow=19,SNR=2.0						
KSRS	**Korea Array**	**29.30 330**		P	**P**	**11 02 19.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=143,slow=16,SNR=5.4						
FITZ	**Fitzroy Crossi**	**36.86 214**		P	**P**	**11 03 25.4**	**0.0**
	comp=Z,3.9nm,0.8s,baz=53,slow=10,SNR=2.5						
KLR	**Kul'dur**	**38.06 345**		P	**P**	**11 03 33.8**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=172,slow=1.9,SNR=4.2						
ASAR	**Alice Springs**	**38.29 198**		P	**P**	**11 03 37.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=11,slow=10,SNR=3.2						
ASAR				pP	**sP**	**11 03 52.8**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=12,slow=9.7,SNR=6.1						
DZM	**Mont Dzumac**	**40.13 150**		P	**P**	**11 03 52.1**	**-0.9**
	comp=Z,9.1nm,0.9s,baz=308,slow=10,SNR=3.2						
CMAR	**Chiang Mai Arr**	**45.61 283**		P	**P**	**11 04 38.4**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=89,slow=6.0,SNR=4.5						
CMAR				pP	**sP**	**11 04 52.5**	**-1.1**
	comp=Z,3.6nm,0.6s,baz=84,slow=6.3,SNR=8.7						
SONM	**Songino Array**	**47.93 325**		P	**P**	**11 04 55.4**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=90,slow=4.3,SNR=2.4						
SONM				pP	**sP**	**11 05 10.3**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=136,slow=7.5,SNR=4.7						
SEY	**Seymchan**	**50.11 4**		pP	pP	11 05 25.3	+2.8
	comp=Z,3.6nm,0.9s,baz=177,slow=7.7,SNR=6.4						
BILL	**Bilibino**	**56.60 9**		P	**P**	**11 06 00.1**	**+1.1**
BILL				IAmb	IAmb	11 06 02.0	
	comp=Z,9.4nm,1.1s						
MK31	**Makanchi Array**	**62.76 316**		P	**P**	**11 06 42.6**	**+0.7**
MK31				IAmb	IAmb	11 06 58.6	
	comp=Z,5.2nm,0.7s						
MKAR	**Makanchi Array**	**62.76 316**		P	**P**	**11 06 43.6**	**+1.7**
	comp=Z,2.6nm,0.6s,baz=93,slow=8.6,SNR=13						
MKAR				pP	**sP**	**11 06 57.7**	**-0.3**
	comp=Z,7.4nm,0.6s,baz=94,slow=9.0,SNR=21						
MKAR	**Makanchi Array**	**62.76 316**		P	**P**	**11 06 42.9**	**+0.9**
ZALV	**Zalesovo Beam**	**62.83 324**		P	**P**	**11 06 43.6**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=60,slow=5.8,SNR=3.1						
ZALV				pP	**sP**	**11 06 56.8**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=101,slow=6.4,SNR=3.8						
MAKZ	**Makanchi**	**62.98 316**		P	**P**	**11 06 44.6**	**+1.2**
KDJ	**Kajisay**	**65.80 310**		P	**P**	**11 07 02.7**	**+0.6**
BOOM	**Boomskoye usch**	**66.74 311**		P	**P**	**11 07 09.0**	**+0.9**
NRIK	**Noril'sk**	**67.12 341**		P	**P**	**11 07 09.5**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=103,slow=5.7,SNR=3.5						
NRIK	**Noril'sk**	**67.12 341**		IAmb	IAmb	11 07 29.8	
	comp=Z,6.6nm,1.1s						
ILAR	**Eielson Array**	**68.64 25**		P	**P**	**11 07 18.6**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=250,slow=5.7,SNR=19						
ILAR				pP	**pP**	**11 07 32.2**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=249,slow=6.3,SNR=6.5						
ARSB	**Arslanbob**	**68.90 309**		P	**P**	**11 07 21.8**	**+0.1**
ARSB				IAmb	IAmb	11 07 39.8	
	comp=Z,7.0nm,0.8s						
KK31	**Karatay Array**	**70.76 311**		P	**P**	**11 07 33.9**	**+1.0**
KK31				IAmb	IAmb	11 07 50.2	
	comp=Z,7.0nm,1.0s						
KKAR	**Karatay Array**	**70.76 311**		P	**P**	**11 07 34.1**	**+1.3**
KKAR				IAmb	IAmb	11 07 50.1	
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**71.15 322**		P	**P**	**11 07 35.3**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=197,slow=4.6,SNR=14						
BRVK	**Borovoye**	**71.22 322**		P	**P**	**11 07 36.5**	**+1.0**
CHGR	**Chuyangaron**	**71.86 307**		P	**P**	**11 07 40.9**	**+1.1**
KBL	**Kabul**	**72.17 302**		P	**P**	**11 07 44.4**	**+2.6**
KBL				IAmb	IAmb	11 07 58.8	
	comp=Z,7.3nm,0.8s						
HRA	**Herat**	**77.77 303**		P	**P**	**11 08 14.4**	**+0.3**
ABKAR	**Akbulak array**	**77.80 318**		P	**P**	**11 08 14.6**	**+0.9**
ABKAR	**Akbulak array**	**77.80 318**		P	**P**	**11 08 15.2**	**+1.5**
ABKAR				IAmb	IAmb	11 08 29.4	
	comp=Z,4.7nm,0.8s						
ARU	**Arti**	**77.96 325**		P	**P**	**11 08 15.4**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=70,slow=3.5,SNR=3.1						
ARU	**Arti**	**77.96 325**		IAmb	IAmb	11 08 30.2	
	comp=Z,5.5nm,0.6s						
AKTO	**Aktyubinsk**	**78.91 319**		P	**P**	**11 08 21.2**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=111,slow=14,SNR=1.7						
YKA	**Yellowknife Ar**	**82.88 27**		P	**P**	**11 08 40.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=280,slow=5.1,SNR=5.3						
YKA				pP	**sP**	**11 08 55.2**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=284,slow=5.0,SNR=6.2						
B08A	**Colville Reser**	**83.46 42**		P	**P**	**11 08 44.4**	**+0.3**
B08A				IAmb	IAmb	11 08 47.3	
	comp=Z,6.0nm,1.1s						
NEW	**Newport**	**84.92 42**		P	**P**	**11 08 51.0**	**-0.6**
NEW				IAmb	IAmb	11 09 08.3	
	comp=Z,6.2nm,1.0s						
BMO	**Blue Mountains**	**85.60 45**		P	**P**	**11 08 55.0**	**-0.1**
BMO				IAmb	IAmb	11 09 10.7	
	comp=Z,7.5nm,1.4s						
NVAR	**Mina Array Bea**	**86.39 52**		P	**P**	**11 09 00.2**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=271,slow=4.9,SNR=4.6						
NVAR				pP	**sP**	**11 09 14.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=278,slow=5.1,SNR=4.1						
MFID	**Camas Ranch**	**86.99 46**		P	**P**	**11 09 00.3**	**-1.7**
MFID				IAmb	IAmb	11 09 17.9	
	comp=Z,5.1nm,1.0s						
ELK	**Elko**	**88.11 49**		IAmb	IAmb	11 09 24.0	
	comp=Z,5.5nm,1.1s						
PSUT	**Pine Spring**	**89.74 51**		P	**P**	**11 09 15.1**	**-0.1**
YHL	**Hebgen Lake**	**89.79 44**		P	**P**	**11 09 16.6**	**+1.2**
DUG	**Dugway, Tooele**	**90.04 49**		P	**P**	**11 09 15.3**	**-1.2**
KNB	**Kanab**	**90.96 52**		P	**P**	**11 09 21.8**	**+0.9**
FINES	**FINESS Array B**	**92.23 335**		P	**P**	**11 09 26.7**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=41,slow=3.5,SNR=7.3						
FINES				pP	**pP**	**11 09 39.8**	**+2.2**
	comp=Z,5.3nm,0.6s,baz=33,slow=4.6,SNR=5.0						
GDL2	**Guadalupe Moun**	**99.12 54**		P	**Pdif**	**11 09 58.7**	**+0.5**
DBIC	**Dimbokro**	**145.16 302**		PKPbc	**PKPab**	**11 15 54.7**	**+0.3**
	comp=Z,14nm,1.1s,baz=208,slow=4.2,SNR=3.6						
LVC	**Limon Verde**	**145.40 111**		PKPbc	**PKPbc**	**11 15 55.0**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=328,slow=7.2,SNR=3.9						
LPAZ	**La Paz**	**146.75 100**		PKPbc	**PKPab**	**11 16 00.5**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=9.9,slow=7.0,SNR=4.1						
LPAZ				pPKPbc	**sPKPdf**	**11 16 14.1**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=317,slow=5.0,SNR=6.6						
SIV	**San Ignacio**	**153.54 100**		PKPbc	**PKPbc**	**11 16 15.0**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=251,slow=7.6,SNR=3.0						

WEL 04 10:57:35.2±1.2, 33°.5S±29°.4×17°.9E±4°.4, h310km±41km, M4.3/11, mB4.8/1, ML4.4/11, MLv4.3/11, Mw(mB)4.1/1, Error ellipse: s-maj=0.1km s-min=0.0km az=121.7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.54 187**		P	Pn	10 58 48.5	+0.7
WMGZ				S	S	10 59 46.6	+0.5
HAZ	**Te Kaha**	**4.57 193**		P	Pn	10 58 48.1	0.0
HAZ				S	S	10 59 47.0	+0.3
PKGZ	**Pakihiroa**	**4.65 190**		P	Pn	10 58 49.1	0.0
RUGZ	**Raukumara Rang**	**4.79 194**		P	Pn	10 58 50.7	0.0
RUGZ				S	S	10 59 50.5	-1.0
PUZ	**Puketiti**	**4.80 188**		P	Pn	10 58 48.9	-2.0
PUZ				S	S	10 59 52.7	+1.1
TWGZ	**Tauwhareparae**	**4.95 190**		P	Pn	10 58 53.5	+1.0
TWGZ				S	S	10 59 54.9	+0.3
URZ	**Urewera**	**5.20 198**		P	Pn	10 58 55.3	-0.1
URZ				S	S	11 00 01.6	+1.8
CNGZ	**Carnagh Statio**	**5.22 188**		P	Pn	10 58 55.2	-0.4
MUGZ	**Murupara**	**5.50 199**		P	Pn	10 58 59.6	+0.8
NMHZ	**Naumai**	**6.07 197**		P	Pn	10 59 05.6	0.0
NMHZ				S	S	11 00 19.4	+0.9
ARHZ	**Aropaoanui**	**6.18 195**		P	Pn	10 59 07.1	+0.3
ARHZ				S	S	11 00 21.8	+0.9
BKZ	**Black Stump Fm**	**6.21 199**		P	Pn	10 59 07.2	-0.1
BKZ				S	S	11 00 20.3	-1.4
KRHZ	**Kereru**	**6.70 198**		P	Pn	10 59 12.5	-0.5
KRHZ				S	S	11 00 33.0	+0.8

*AUST **04** 11:00:11.9±2.5, 30°.36S×117°.63E, h10km, Error ellipse: s-maj=22.6km s-min=12.9km az=59.0*
CUPWA 04 11:00:13.2±9.2, 30°.36S×117°.61E, h1km±56km, ML1.9, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BENC	**Bencubbin**	**0.50 155**		P	Pg	11 00 21.9	-0.9
BENC				S	Sg	11 00 29.9	+0.6
BLDU	**Ballidu**	**0.82 252**		P	Pg	11 00 28.1	-0.8
	baz=0.8,SNR=6.7						
BLDU				S	Sg	11 00 39.6	0.0
	baz=0.8						
BLDU	**Ballidu**	**0.82 252**		P	Pg	11 00 27.9	-1.1
BLDU				S	Sg	11 00 38.9	-0.7
KLBR	**Kellerberrin**	**1.24 174**		P	Pg	11 00 35.6	-1.3
	baz=1.2						
KLBR				S	Sg	11 00 51.7	-1.2
	baz=1.2						
KLBR	**Kellerberrin**	**1.24 174**		P	Pg	11 00 34.9	-2.0
KLBR				S	Sg	11 00 50.9	-2.1
MORW	**Morawa**	**1.88 313**		P	Pn	11 00 45.0	-1.4
	baz=1.9						
MORW				S	Sn	11 01 07.8	-2.9
	baz=1.9						
MORW	**Morawa**	**1.88 313**		P	Pn	11 00 43.9	-2.6
MORW				S	Sn	11 01 06.8	-3.9
MUN	**Mundaring**	**2.02 216**		P	Pn	11 00 46.7	-1.6
	baz=2.0						
MUN	**Mundaring**	**2.02 216**		P	Pn	11 00 45.9	-2.5

*BJI **04** 11:26:23.5±0.0, 13°.20N×146°.27E, h5km, mB4.8/25, mb4.6/40, Ms4.1/6, Ms7 3.9/6*
*NEIC **04** 11:26:26.1±1.7, 13°.06N±0°.08×146°.22E±0°.07, h10km±1km, mb4.8/32, Error ellipse: s-maj=14.4km s-min=10.7km az=190.0*
*IDC **04** 11:26:31.5±0.7, 13°.10N×146°.09E, h51km±4km, mb3.9/17, mb1 4.0/17, mb1mx3.8/51, mbtmp4.2/17, MS3.6/10, Ms1 3.6/10, ms1mx3.3/48, Error ellipse: s-maj=16.4km s-min=7.5km az=15.0*
ISC 04 11:26:31.8±0.7, 13°.12N±0°.10×146°.06E±0°.09, h50km, n73, σ1§18/74, mb4.7/39, MS3.5/12, 2C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.25 292**		P	**Pn**	**11 26 51.1**	**-1.7**
	210nm,0.3s,baz=128,slow=8.3,SNR=64						
GUMO				LR	LR	11 27 08.0	
	comp=Z,630nm,18.2s,baz=176,slow=28						
GUMO				S	**Sn**	**11 27 09.0**	**+0.4**
	474nm,0.3s,baz=359,slow=19,SNR=12						
GUMO	**Guam**	**1.25 292**			**Pn**	**11 26 51.2**	**-1.6**
PATS	**Pohnpei**	**13.59 116**		Pn	Pn	11 29 33.3	-8.6
SIJI	**Sorong**	**20.21 228**		P	**P**	**11 31 04.0**	**+1.3**
	18nm,0.8s,baz=63,slow=7.3,SNR=6.9						
JHJ	**Hachijo jima 2**	**20.72 345**		LR	LR	11 38 16.3	
	comp=Z,199nm,19.9s,baz=200,slow=34						
JOW	**Kunigami**	**21.54 312**		P	**P**	**11 31 17.7**	**+0.9**
	11nm,0.6s,baz=123,slow=14,SNR=7.3						
JOW				LR	LR	11 39 02.5	
	comp=Z,204nm,20.0s,baz=98,slow=35						
JOW	**Kunigami**	**21.54 312**		P	**P**	**11 31 16.4**	**-0.5**
JMN	**Monobe**	**23.32 334**			**P**	**11 31 36.0**	**+0.4**
JMN				IAmb	IAmb	11 31 38.5	
	comp=Z,50nm,1.3s						
JNU	**Nakatsue**	**24.26 328**		P	**P**	**11 31 44.5**	**+0.2**
JNU				IAmb	IAmb	11 31 50.7	
	comp=Z,49nm,1.5s						
MJAR	**Matsushiro Arr**	**24.36 345**		LR	LR	11 40 56.0	
	comp=Z,167nm,19.3s,baz=160,slow=36						
MAT	**Matsushiro**	**24.37 345**		P	**P**	**11 31 44.1**	**-1.1**
YOJ	**Yonaguni jima**	**24.52 301**		P	**P**	**11 31 46.3**	**-0.4**
JHS	**Saijyo**	**24.73 334**		P	**P**	**11 31 48.2**	**-0.4**
JHS				IAmb	IAmb	11 32 03.4	
	comp=Z,17nm,0.9s						
YULB	**Yu-li**	**25.60 297**		P	**P**	**11 31 55.9**	**-0.7**
HNR	**Honiara**	**26.31 148**		LR	LR	11 42 40.6	
	comp=Z,135nm,18.9s,baz=347,slow=37						
TOLI2	**Tolitoli**	**27.73 247**		P	**P**	**11 32 14.4**	**-1.4**
KSRS	**Korea Array**	**29.15 329**		P	**P**	**11 32 27.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=146,slow=9.3,SNR=7.4						
KSRS				LR	LR	11 44 53.6	
	comp=Z,73nm,18.0s,baz=148,slow=38						
KSAR	**Wonju Array Be**	**29.16 329**		P	**P**	**11 32 27.4**	**-0.9**
NJ2	**Nanjing**	**31.25 312**		*e*P	**P**	**11 32 47.2**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**33.24 341**		LR	LR	11 45 17.4	
	comp=Z,91nm,20.8s,baz=162,slow=34						
USA0B	**Ussuriysk Arra**	**33.24 341**		P	**P**	**11 33 03.2**	**-0.9**
WHN	**Wuhan**	**33.99 306**		P	P	11 33 22.4	+12
BJI	**Beijing**	**37.53 321**		P	**P**	**11 33 39.5**	**-1.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ASAR	**Alice Springs**	**38.44 198**		P	**P**	**11 33 46.8**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=26,slow=9.5,SNR=4.4						
ASAR				pP	**pP**	**11 34 00.8**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=23,slow=10,SNR=5.5						
XAN	**Xi'an**	**39.59 308**		P	**P**	**11 33 58.6**	**+0.1**
XAN				pP	pP	11 34 02.4	-7.5
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				L	L		
	comp=Z,98nm,17.4s						
XAN				L	L		
	comp=Z,130nm,17.3s						
XAN				L	L		
	comp=Z,170nm,19.5s						
HHC	**Hu-ho-hao-te**	**40.88 319**		*e*P	**P**	**11 34 08.4**	**-0.8**
PETK	**Petropavlovsk-**	**40.96 11**		LR	LR	11 49 36.9	
	comp=Z,50nm,20.8s,baz=192,slow=34						
CD2	**Chengdu**	**42.73 302**		P	**P**	**11 34 23.7**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LZH	**Lanzhou**	**44.22 309**		P	**P**	**11 34 37.0**	**+0.6**
LZH				sP	pP	11 34 44.2	-3.8
LZH				PP	**PcP**	**11 36 22.4**	**+2.0**
LZH				pmax	pmax		
	comp=Z,26nm,1.2s						
LZH				pmax	pmax		
	comp=Z,84nm,5.4s						
CMAR	**Chiang Mai Arr**	**45.55 283**		P	**P**	**11 34 46.5**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=86,slow=6.2,SNR=12						
CMAR				pP	**pP**	**11 35 00.9**	**+2.1**
	comp=Z,2.2nm,0.6s,baz=86,slow=5.8,SNR=3.3						
CMAR				LR	LR	11 53 01.7	
	comp=Z,56nm,20.6s,baz=168,slow=35						
CMAR	**Chiang Mai Arr**	**45.55 283**		P	**P**	**11 34 47.5**	**+0.5**
SONM	**Songino Array**	**47.78 325**		P	**P**	**11 35 04.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=126,slow=9.1,SNR=2.5						
SONM				pP	**pP**	**11 35 18.2**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=142,slow=7.5,SNR=3.0						
GTA	**Gaotai**	**48.35 312**		P	**P**	**11 35 09.6**	**+0.8**
GTA				SS	SS	11 45 36.9	+1.2
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,50nm,6.5s						
GTA				L	L		
	comp=Z,68nm,17.1s						
GTA				L	L		
	comp=Z,300nm,20.0s						
GTA				L	L		
	comp=Z,81nm,17.1s						
SEY	**Seymchan**	**49.95 4**		P	**P**	**11 35 19.3**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=177,slow=5.9,SNR=4.5						
BILL	**Bilibino**	**56.44 9**		P	**P**	**11 36 08.1**	**0.0**
BILL				IAmb	IAmb	11 36 23.6	
	comp=Z,9.6nm,0.9s						
WMQ	**Urumqi**	**58.30 314**		*e*P	**P**	**11 36 24.8**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.3s						
MK31	**Makanchi Array**	**62.63 316**		P	**P**	**11 36 52.0**	**+0.9**
MK31				IAmb	IAmb	11 37 08.0	
	comp=Z,4.7nm,0.8s						
MKAR	**Makanchi Array**	**62.63 316**		P	**P**	**11 36 51.7**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=93,slow=8.7,SNR=34						
MKAR				pP	**sP**	**11 37 06.5**	**-2.1**
	comp=Z,6.9nm,0.7s,baz=96,slow=8.8,SNR=19						
MKAR	**Makanchi Array**	**62.63 316**		P	**P**	**11 36 52.3**	**+1.2**
ZALV	**Zalesovo Beam**	**62.68 324**		P	**P**	**11 36 51.9**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=92,slow=7.5,SNR=4.4						
ZALV				pP	**sP**	**11 37 06.9**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=92,slow=6.4,SNR=4.4						
MAKZ	**Makanchi**	**62.84 316**		P	**P**	**11 36 53.9**	**+1.3**
RAR	**Rarotonga**	**63.19 122**		LR	LR	11 59 28.7	
	comp=Z,28nm,21.8s,baz=292,slow=31						
KDJ	**Kajisay**	**65.68 310**		P	**P**	**11 37 12.4**	**+1.0**
KDJ				IAmb	IAmb	11 37 27.4	
	comp=Z,6.0nm,0.7s						
IMAR	**Indian Mountai**	**66.17 23**		P	**P**	**11 37 13.0**	**-0.9**
BOOM	**Boomskoye usch**	**66.62 311**		P	**P**	**11 37 18.4**	**+1.0**
BOOM				IAmb	IAmb	11 37 33.6	
	comp=Z,5.0nm,0.6s						
NRIK	**Noril'sk**	**66.95 341**		P	**P**	**11 37 18.0**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=93,slow=6.1,SNR=4.9						
ILAR	**Eielson Array**	**68.50 25**		P	**P**	**11 37 26.8**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=243,slow=6.1,SNR=9.8						
ILAR				pP	**pP**	**11 37 41.2**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=250,slow=5.7,SNR=8.2						
NIL	**Nilore**	**68.61 301**		P	**P**	**11 37 30.4**	**+0.4**
PPT	**Papeete**	**70.47 114**		LR	LR	12 03 24.8	
	comp=Z,52nm,19.1s,baz=302,slow=31						
KK31	**Karatay Array**	**70.63 311**		P	**P**	**11 37 42.3**	**+0.1**
KK31				IAmb	IAmb	11 37 43.6	
	comp=Z,11nm,1.3s						
KKAR	**Karatay Array**	**70.63 311**		P	**P**	**11 37 42.5**	**+0.3**
KKAR	**Karatay Array**	**70.63 311**		P	**P**	**11 37 42.4**	**+0.2**
KKAR				IAmb	IAmb	11 37 43.6	
	comp=Z,11nm,1.3s						
GAR	**Garm**	**70.83 307**		P	**P**	**11 37 43.5**	**-0.2**
BRVK	**Borovoye**	**71.08 322**		P	**P**	**11 37 44.7**	**0.0**
BRVK				IAmb	IAmb	11 38 00.8	
	comp=Z,4.3nm,0.6s						
CHGR	**Chuyangaron**	**71.75 307**		P	**P**	**11 37 49.3**	**+0.1**
KBL	**Kabul**	**72.06 302**		P	**P**	**11 37 51.1**	**-0.1**
KBL				IAmb	IAmb	11 38 07.9	
	comp=Z,10nm,0.9s						
ABKAR	**Akbulak array**	**77.66 318**		P	**P**	**11 38 22.1**	**-0.9**
ABKAR	**Akbulak array**	**77.66 318**		P	**P**	**11 38 22.0**	**-1.1**
ABKAR				IAmb	IAmb	11 38 38.3	
	comp=Z,4.6nm,0.8s						
HRA	**Herat**	**77.67 303**		P	**P**	**11 38 23.2**	**-0.4**
HRA				IAmb	IAmb	11 38 40.2	
	comp=Z,13nm,0.8s						
ARU	**Arti**	**77.81 325**		P	**P**	**11 38 23.9**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=123,slow=5.3,SNR=5.9						
ARU				pP	**pP**	**11 38 38.2**	**+2.1**
	comp=Z,1.4nm,0.4s,baz=182,slow=6.5,SNR=3.0						
AKTO	**Aktyubinsk**	**78.77 319**		P	**P**	**11 38 29.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=34,slow=18,SNR=3.8						
AKTO				pP	**pP**	**11 38 43.7**	**+2.7**
	comp=Z,0.8nm,0.5s,baz=272,slow=22,SNR=3.0						
YKA	**Yellowknife Ar**	**82.74 28**		P	**P**	**11 38 50.0**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=291,slow=5.7,SNR=3.8						
YKA				pP	**pP**	**11 39 04.3**	**+2.4**
	comp=Z,1.5nm,0.8s,baz=280,slow=5.2,SNR=5.3						
PINE	**Pine Mountain**	**83.19 47**		P	**P**	**11 38 52.7**	**-0.4**
PINE				IAmb	IAmb	11 39 09.6	
	comp=Z,14nm,1.5s						
BELG	**Belogornoye**	**84.80 323**		P	**P**	**11 39 02.3**	**+1.5**
	comp=Z,8.3nm,0.7s,baz=197,slow=15,SNR=4.4						
NEW	**Newport**	**84.81 42**		P	**P**	**11 38 60.0**	**-1.1**
NVAR	**Mina Array Bea**	**86

CABF					*e*Sg	Sg	11 34 04.1	+1.2
	1.7nm,0.4s								
CDF	**Champ du Feu**	**1.86**	**331**		*e*Pg	Pg	11 33 42.7	+1.0
CDF					*e*Sn	Sn	11 34 01.7	-0.3
	1.7nm,0.4s								

LJU 04 11:35:06.2, 45.79N×14.30E, h0km, ML1.0, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEY	**Cerknica**	**0.10**	**122**	*i* Pg	Pg	11 35 08.1	-0.1
CEY				*i* Sg	Sg	11 35 10.1	+0.6
CEY				IAML		11 35 12.3	
	comp=Z,340nm,0.3s						
GBAS	**Gorenja Brezov**	**0.17**	**35**	*i* Pg	Pg	11 35 09.3	-0.2
GBAS				*i* Sg	Sg	11 35 12.0	+0.2
JAVS	**Javornik**	**0.19**	**301**	*i* Pg	Pg	11 35 10.2	+0.3
KNDS	**Knezji Dol**	**0.27**	**168**	*i* Pg	Pg	11 35 11.4	0.0
KNDS				IAML		11 35 19.6	
	comp=Z,10nm,0.3s						
PTJ	**Puntijarka**	**1.17**	**84**	Sg	Sn	11 35 47.8	+1.1
UDBI	**Udbina**	**1.64**	**140**	Sg	Sg	11 36 00.5	+1.8
DUGI	**Dugi Otok**	**1.88**	**163**	Sg	Sg	11 36 07.7	+1.1
MORI	**Morici**	**2.17**	**152**	Sg	Sg	11 36 17.7	+1.7
KIJV	**Kijevo**	**2.33**	**139**	Sg	Sg	11 36 21.8	+0.7

*IDC **04** 12:07:53.5±6.5, 6°.31S×147°.42E, h87km±50km, mb3.6/3, mb1 3.7/5, mb1mx3.3/29, mbtmp3.9/5, ML2.6/2, Error ellipse: s-maj=57.7km s-min=49.4km az=84.0*

ISC 04 12:07:49.2±2.6, 6°.1S±0°.2×147°.6E±0°.4, h77km, n7, σ1§13/8, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.36**	**187**	P	**Pn**	**12 08 38.6**	**-0.8**
	12nm,0.3s,baz=359,slow=8.8,SNR=53						
PMG				S	**Sn**	**12 09 17.5**	**-0.7**
	21nm,0.3s,baz=198,slow=19,SNR=9.8						
CTA	**Charters Tower**	**14.01**	**185**	P	**Pn**	**12 11 05.9**	**+1.7**
	0.1nm,0.3s,baz=8.9,slow=15,SNR=1.6						
WRA	**Warramunga Arr**	**18.88**	**222**	P	**P**	**12 12 03.2**	**-0.4**
	baz=47,slow=11						
ASAR	**Alice Springs**	**21.91**	**216**	P	**P**	**12 12 36.0**	**-0.3**
	1.0nm,0.4s,baz=50,slow=8.9,SNR=18						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	P	**P**	**12 13 03.0**	**+1.1**
	5.8nm,1.1s,baz=58,slow=7.1,SNR=7.4						
STKA	**Stephens Creek**	**26.30**	**192**	P	**P**	**12 13 17.4**	**-0.2**
	1.9nm,0.7s,baz=3.8,slow=15,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.68**	**284**	PKPbc	**PKiKP**	**12 27 22.9**	**-0.9**
	1.5nm,0.6s,baz=80,slow=4.1,SNR=6.5						

*IDC **04** 12:17:04.6±0.4, 59°.80N×29°.92W, h0km, mb4.4/33, mb1 4.5/36, mb1mx4.5/41, mbtmp4.4/36, ML4.0/3, MS4.5/33, Ms1 4.5/33, ms1mx4.5/39, Error ellipse: s-maj=13.2km s-min=9.2km az=179.0*

*GCMT **04** 12:17:05.8±0.2, 59°.82N±0°.02×29°.73W±0°.02, h12km, MW5.1/129, Moment Tensor Solution. s45,c53; s129,c234; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=5.85±.12; Mθθ=0.28±.13; Mϕϕ6.14±.09; Mrθ0.72±.42; Mθϕ0.67±.10; Mϕr=0.70±.35; Best double couple: M=6.11600×10^16^ NP1:ϕs194.00000°, δ43.00000°, λ-78.00000°. NP2:ϕs358.00000°, δ48.00000°, λ-101.00000°. Principal axes: T 6.2410, Plg3.0000°, Azm96.0000°; N -0.2450, Plg8.0000°, Azm5.0000°; P -5.9910, Plg82.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*REY **04** 12:17:06.4, 59°.26N×27°.06W, h10km*

*NEIC **04** 12:17:06.8±2.0, 59°.85N±0°.08×29°.9W±0°.1, h10km±1km, mb4.8/353, Error ellipse: s-maj=14.2km s-min=10.6km az=180.0*

*BGR **04** 12:17:07.1±0.0, 60°.03N×29°.60W, h10km, mb4.9, Ms4.5*

ISC 04 12:17:03.1, 59°.91N±0°.05×29°.90W±0°.04, h16km±10km, n419, σ1§47/296, mb4.8/247, MS4.7/50, 19C-12D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**5.20**	**38**	P	**Pn**	**12 18 23.2**	**-1.0**
	baz=23						
IRNE				S	**Sn**	**12 19 22.8**	**-0.8**
	baz=23						
INYL	**Nylenda**	**5.30**	**37**	S	**Sn**	**12 19 25.6**	**-0.5**
	baz=22						
INYL				P	**Pn**	**12 18 25.3**	**-0.3**
	baz=22						
IGRV	**Grindav??k**	**5.30**	**38**	P	**Pn**	**12 18 24.6**	**-1.1**
	baz=24						
IGRV				S	**Sn**	**12 19 25.4**	**-0.9**
	baz=24						
IKRI	**Krysuvik**	**5.44**	**40**	P	**Pn**	**12 18 26.2**	**-1.3**
	baz=25						
IKRI				S	**Sn**	**12 19 27.5**	**-2.0**
	baz=25						
IVOS	**Vogsosar**	**5.54**	**41**	P	**Pn**	**12 18 26.5**	**-2.4**
	baz=27						
IVOS				S	**Sn**	**12 19 30.1**	**-2.0**
	baz=27						
IKAS	**Kald??rsel**	**5.61**	**39**	P	**Pn**	**12 18 27.5**	**-2.3**
	baz=25						
IKAS				S	**Sn**	**12 19 32.3**	**-1.5**
	baz=25						
ISAN	**Sandskeio**	**5.72**	**40**	P	**Pn**	**12 18 29.6**	**-1.8**
	baz=26						
ISAN				S	**Sn**	**12 19 35.8**	**-0.8**
	baz=26						
IBJA	**Bjarnastaoir**	**5.74**	**41**	P	**Pn**	**12 18 29.5**	**-2.1**
	baz=28						
IBJA				S	**Sn**	**12 19 34.7**	**-2.2**
	baz=28						
IKUD	**Kuludalsa**	**5.81**	**37**	P	**Pn**	**12 18 32.1**	**-0.6**
	baz=24						
IKUD				S	**Sn**	**12 19 38.4**	**-0.4**
	baz=24						
ISOL	**Solvholt**	**5.85**	**43**	P	**Pn**	**12 18 29.9**	**-3.2**
	baz=29						
ISOL				S	**Sn**	**12 19 37.1**	**-2.5**
	baz=29						
IKRO	**Krokur**	**5.90**	**41**	P	**Pn**	**12 18 31.6**	**-2.2**
	baz=28						
IKRO				S	**Sn**	**12 19 38.1**	**-2.7**
	baz=28						
IASM	**Asmuli**	**5.90**	**44**	S	**Sn**	**12 19 36.7**	**-4.3**
	baz=31						
ISAU	**Saurbar**	**6.07**	**43**	P	**Pn**	**12 18 31.8**	**-4.3**
	baz=31						
ISAU				S	**Sn**	**12 19 41.7**	**-3.3**
	baz=31						
IALF	**Alftagrof**	**6.24**	**50**	P	Pn	12 18 32.8	-5.6
	baz=38						
BORG	**Borgarnes**	**6.29**	**36**	Pn	**Pn**	**12 18 39.9**	**+0.8**
	14nm,0.3s,baz=200,slow=9.0,SNR=32						
BORG				Sn	**Sn**	**12 19 50.6**	**+0.1**
	3.0nm,0.3s,baz=176,slow=23,SNR=8.8						
BORG	**Borgarnes**	**6.29**	**36**	Pn	**Pn**	**12 18 39.5**	**+0.4**
IASB	**`sbjarnarst**	**6.29**	**36**	P	**Pn**	**12 18 39.4**	**+0.2**
	baz=24						
IASB				S	**Sn**	**12 19 50.4**	**-0.1**
	baz=24						
IGYG	**Gygjarholskot**	**6.32**	**42**	P	**Pn**	**12 18 36.8**	**-2.8**
	baz=30						
IGYG				S	**Sn**	**12 19 50.1**	**-1.2**
	baz=30						
ANGG	**Ammassalik, Gr**	**6.74**	**332**	Pn	**Pn**	**12 18 46.0**	**+0.7**
ICESG	**Greenland Ices**	**10.11**	**340**	*i*P	**Pn**	**12 19 34.1**	**+2.3**
ICESG				IAmb	IAmb	12 19 35.0	
	comp=Z,22nm,0.8s						
SCO	**Scoresbysund**	**11.12**	**14**	Pn	**Pn**	**12 19 44.2**	**-1.0**
SFJD	**Kangerlussuaq**	**11.63**	**316**	Pn	**Pn**	**12 19 54.1**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=137,slow=13,SNR=9.1						
SFJD				Sn	**Sn**	**12 21 53.5**	**-7.9**
	comp=Z,0.4nm,0.3s,baz=162,slow=5.7,SNR=3.0						
SFJD				LR	LR	12 23 36.6	
	comp=Z,6μm,21.0s,baz=120,slow=34						
SFJD	**Kangerlussuaq**	**11.63**	**316**	Pn	**Pn**	**12 19 52.7**	**+0.5**
JMIC	**Jan Mayen**	**14.12**	**29**	LR	LR	12 24 38.5	
	comp=Z,2μm,20.2s,baz=252,slow=32						
DBG	**Daneborg**	**14.91**	**10**	*i* P	**P**	**12 20 42.2**	**-0.4**
ESK	**Eskdalemuir**	**14.97**	**96**	Pn	**Pn**	**12 20 38.9**	**+1.0**
EKA	**Eskdalemuir Ar**	**14.98**	**96**	Pn	**Pn**	**12 20 36.1**	**-2.0**
	baz=295,slow=13,SNR=6.0						
EKA				LR	LR	12 25 32.0	
	comp=Z,4μm,18.2s,baz=270,slow=34						
DAG	**Danmarks Havn**	**17.38**	**9**	*i* P	**P**	**12 21 13.0**	**+3.1**
DAG				IAmb	IAmb	12 21 16.4	
	comp=Z,20nm,1.3s						
NEEM	**North Greenlan**	**18.98**	**346**	*i* P	**Pn**	**12 21 29.4**	**+0.8**
NEEM				IAmb	IAmb	12 21 32.0	
	comp=Z,28nm,0.9s						
DRLN	**Deer Lake**	**19.07**	**248**	P	**P**	**12 21 28.6**	**0.0**
DRLN				IAmb	IAmb	12 21 33.8	
	comp=Z,56nm,1.2s						
NAO01	**NORSAR Array S**	**19.96**	**70**	P	**P**	**12 21 38.2**	**-0.1**
NOA	**NORSAR Array B**	**20.06**	**69**	P	**P**	**12 21 39.1**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=284,slow=9.9,SNR=5.1						
NOA				LR	LR	12 28 30.9	
	comp=Z,2μm,20.4s,baz=285,slow=34						
NC303	**NORSAR Array S**	**20.09**	**68**	P	**P**	**12 21 39.5**	**-0.2**
NB201	**NORSAR Array S**	**20.10**	**69**	P	**P**	**12 21 39.3**	**-0.6**
NB201				IAmb	IAmb	12 21 47.2	
	comp=Z,88nm,1.4s						
NC602	**NORSAR Array S**	**20.30**	**70**	P	**P**	**12 21 42.7**	**+0.7**
SCHQ	**Schefferville**	**20.35**	**272**	P	**P**	**12 21 42.1**	**-0.5**
	comp=Z,13nm,0.7s,baz=61,slow=7.1,SNR=18						
SCHQ				LR	LR	12 28 21.0	
	comp=Z,2μm,18.7s,baz=69,slow=33						
SCHQ	**Schefferville**	**20.35**	**272**	P	**P**	**12 21 41.4**	**-1.3**
UCC	**Uccle**	**21.28**	**100**	P	**P**	**12 21 53.7**	**+1.2**
UCC				IAmb	IAmb	12 21 55.4	
	comp=Z,81nm,1.5s						
TULEG	**Thule**	**21.32**	**336**	P	**P**	**12 21 51.0**	**-1.9**
TULEG				IAmb	IAmb	12 21 56.1	
	comp=Z,39nm,1.2s						
SNF	**Seneffe**	**21.42**	**101**	*d*P	**P**	**12 21 53.7**	**-0.4**
	comp=Z,27nm,1.2s						
HFS	**Hagfors**	**21.50**	**70**	P	**P**	**12 21 54.9**	**0.0**
	comp=Z,8.6nm,0.9s,baz=238,slow=8.5,SNR=6.2						
HFS				LR	LR	12 29 13.8	
	comp=Z,2μm,20.9s,baz=287,slow=34						
BMRD	**Maredsous**	**21.79**	**101**	*b*P	**P**	**12 21 57.2**	**-0.9**
	comp=Z,46nm,1.3s						
DOU	**Dourbes**	**21.84**	**101**	κP	**P**	**12 21 58.0**	**-0.6**
	comp=Z,31nm,1.9s						
BGES	**Gesves**	**21.90**	**100**	*d*P	**P**	**12 22 00.1**	**+0.9**
	comp=Z,55nm,1.3s						
BCLA	**Clavier**	**21.98**	**100**	*d*P	**P**	**12 21 59.2**	**-1.0**
	comp=Z,42nm,1.6s						
IBBN	**Ibbenburen**	**22.07**	**93**	*e*P	**P**	**12 22 00.6**	**-0.5**
	comp=Z,115nm,1.4s,baz=307,slow=8.9						
CLF	**Chambon-Foret**	**22.09**	**108**	P	**P**	**12 21 60.0**	**-1.4**
MEM	**Membach**	**22.21**	**99**	*b*P	**P**	**12 22 01.7**	**-0.9**
BTNL	**Ternell**	**22.29**	**99**	*d*P	**P**	**12 22 01.4**	**-2.1**
	comp=Z,43nm,1.6s						
PGAV	**Gavieira, Arco**	**22.36**	**134**	*e*LQ	LQ	12 26 22.5	
PGAV				*e*LR	LR	12 27 14.0	
	comp=Z,1μm,20.0s						
BHOU	**Houvegnez**	**22.37**	**99**	*b*P	**P**	**12 22 03.4**	**-1.0**
	comp=Z,50nm,1.8s						
BSEG	**Bad Segeberg**	**22.47**	**88**	*e*L	L	12 29 46.3	
	comp=Z,1μm,21.8s						
WLF	**Walferdange**	**22.89**	**100**	κP	**P**	**12 22 09.7**	**-0.1**
	comp=Z,34nm,2.4s						
WLF	**Walferdange**	**22.89**	**100**	P	**P**	**12 22 10.0**	**+0.2**
WLF				IAmb	IAmb	12 22 29.2	
	comp=Z,53nm,1.5s						
POLO	**Lamas de Olo**	**23.05**	**134**	*e*P	**P**	**12 22 13.3**	**+1.6**
	comp=Z,28nm,1.7s						
PBRG	**Braganca**	**23.07**	**131**	*e*P	**P**	**12 22 13.6**	**+1.8**
	comp=Z,59nm,1.8s						
NRDL	**Niedersach Rie**	**23.15**	**91**	*e*P	**P**	**12 22 11.4**	**-1.0**
	comp=Z,153nm,2.0s,baz=307,slow=8.9						
PVRL	**Vila Real**	**23.17**	**134**	*e*P	**P**	**12 22 14.9**	**+2.1**
	comp=Z,75nm,1.7s						
MVO	**Moncorvo**	**23.52**	**133**	*e*P	**P**	**12 22 18.7**	**+2.4**
	comp=Z,93nm,1.9s						
MVO				*e*LQ	LQ	12 26 37.0	
MVO				*e*LR	LR	12 27 46.8	
	comp=Z,1μm,18.0s						
PVIS	**Viseu**	**23.60**	**135**	*e*P	**P**	**12 22 19.5**	**+2.4**
	comp=Z,99nm,1.7s						
CLZ	**Clausthal**	**23.66**	**92**	*e*P	**P**	**12 22 17.3**	**-0.3**
	comp=Z,131nm,1.9s,baz=307,slow=8.9						
TNS	**Taunus Mts**	**23.68**	**97**	*e*L	L	12 30 34.5	
	comp=Z,2μm,20.8s						
FLTG	**Flechtingen**	**23.81**	**90**	*e*P	**P**	**12 22 18.2**	**-0.8**
	comp=Z,432nm,2.7s,baz=307,slow=8.9						
COI	**Coimbra**	**23.86**	**136**	P	**P**	**12 22 18.6**	**-1.0**
PCAS	**Casmilo, Conde**	**23.97**	**136**	*e*P	**P**	**12 22 19.9**	**-0.7**
	comp=Z,89nm,1.6s						
MTE	**Manteigas**	**24.00**	**134**	*e*P	**P**	**12 22 20.6**	**-0.4**
	comp=Z,78nm,1.9s						
MTE				*e*LR	LR	12 27 48.6	
	comp=Z,1μm,20.0s						
MTE	**Manteigas**	**24.00**	**134**	P	**P**	**12 22 19.2**	**-1.8**
MTE				IAmb	IAmb	12 22 43.2	
	comp=Z,35nm,1.4s						
ECH	**Echery**	**24.34**	**102**	P	**P**	**12 22 23.6**	**-0.4**
PSBE	**Sc Bento**	**24.35**	**137**	*e*P	**P**	**12 22 26.7**	**+2.5**
	comp=Z,129nm,1.9s						
PCBR	**Castelo Branco**	**24.52**	**135**	*e*P	**P**	**12 22 26.6**	**+1.0**
	comp=Z,52nm,2.0s						
BATG	**Bathurst New B**	**24.55**	**255**	P	**P**	**12 22 25.9**	**0.0**
BATG				IAmb	IAmb	12 22 30.3	
	comp=Z,48nm,1.3s						
ARCES	**ARCESS Array B**	**24.61**	**44**	P	**P**	**12 22 25.2**	**-1.1**
	comp=Z,19nm,1.0s,baz=279,slow=8.1,SNR=12						
ARCES				LR	LR	12 30 20.3	
	comp=Z,1μm,18.8s,baz=280,slow=32						
ARCES	**ARCESS Array B**	**24.61**	**44**	P	**P**	**12 22 26.5**	**+0.3**
ARCES				IAmb	IAmb	12 22 29.8	
	comp=Z,38nm,1.1s						
PMAFR	**Mafra**	**24.69**	**139**	*e*P	**P**	**12 22 26.6**	**-0.6**
	comp=Z,145nm,1.8s						
BFO	**Black Forest**	**24.85**	**101**	P	**P**	**12 22 28.6**	**0.0**
BFO	**Black Forest**	**24.85**	**101**	*e*L	L	12 31 25.5	
	comp=Z,751nm,18.7s						
PMRV	**Marv??o**	**24.91**	**135**	*e*P	**P**	**12 22 31.8**	**+2.6**
	comp=Z,90nm,1.8s						
PMRV				*e*LQ	LQ	12 27 10.0	
PMRV				*e*LR	LR	12 28 15.9	
	comp=Z,1μm,18.0s						
PMTG	**Montargil**	**24.94**	**137**	*e*P	**P**	**12 22 31.0**	**+1.5**
	comp=Z,61nm,1.7s						
STU	**Stuttgart**	**24.98**	**99**	P	**P**	**12 22 28.9**	**-0.9**
STU				IAmb	IAmb	12 22 53.3	
	comp=Z,21nm,1.1s						
MOX	**Moxa**	**25.00**	**93**	*e*L	L	12 31 16.2	
	comp=Z,2μm,21.6s						
CLL	**Collm**	**25.30**	**91**	*i* P	**P**	**12 22 33.0**	**+0.4**
	comp=Z,14nm,1.3s						
CLL				*e*		12 22 46.0	
CLL				*e*PP	**PnPn**	**12 23 06.0**	**-1.1**
CLL				*e*S	**S**	**12 27 00.0**	**+2.4**
CLL				Lm	MLR	12 32 00.0	
	comp=Z,2μm,18.5s						
CLL	**Collm**	**25.30**	**91**	P	**P**	**12 22 32.2**	**-0.4**
CLL	**Collm**	**25.30**	**91**	*e*P	**P**	**12 22 33.2**	**+0.6**
	comp=Z,11nm,1.1s,baz=307,slow=8.9						
CLL				*e*L	L	12 32 47.8	
	comp=Z,2μm,18.5s						
PESTR	**Estremoz**	**25.34**	**136**	*e*P	**P**	**12 22 34.2**	**+1.1**
	comp=Z,67nm,1.9s						
PESTR	**Estremoz**	**25.34**	**136**	P	**P**	**12 22 33.8**	**+0.7**
PESTR				IAmb	IAmb	12 22 37.1	
	comp=Z,33nm,1.5s						
GRA1	**Grafenberg Arr**	**25.40**	**95**	P	**P**	**12 22 32.9**	**-0.7**
GRA1				IAmb	IAmb	12 22 35.6	
	comp=Z,29nm,1.3s						
GRF	**Grafenberg Arr**	**25.40**	**95**	*e*P	**P**	**12 22 32.6**	**-0.9**
	comp=Z,32nm,1.4s,baz=307,slow=8.9						
GRF				*e*L	L	12 31 59.3	
	comp=Z,2μm,20.0s						
GRFO	**Grafenberg**	**25.40**	**95**	P	**P**	**12 22 33.2**	**-0.4**
GRFO				IAmb	IAmb	12 22 35.6	
	comp=Z,32nm,1.4s						
MANZ	**Manzenberg**	**25.66**	**94**	*e*P	**P**	**12 22 35.4**	**-0.5**
	comp=Z,25nm,1.5s,baz=307,slow=8.9						
NKC	**Novy Kostel**	**25.68**	**93**	AMS	AMS	12 33 10.0	
	comp=Z,3μm,15.6s						
SENIN	**Lac Senin/Sane**	**25.70**	**105**	P	**P**	**12 22 36.8**	**+0.2**
PNCL	**Nicolau / Gran**	**25.70**	**138**	*e*LQ	LQ	12 27 11.3	
D63A	**Stockholm**	**25.71**	**257**	P		12 22 36.4	
	baz=46						
PQI	**Presque Isle**	**25.93**	**256**	P	**P**	**12 22 38.0**	**-0.3**
ESBB	**Sonseca Array**	**25.97**	**130**	P	**P**	**12 22 39.8**	**+0.9**
ESBB				IAmb	IAmb	12 22 59.9	
	comp=Z,23nm,1.4s						
ESDC	**Sonseca Array**	**25.98**	**130**	P	**P**	**12 22 38.2**	**-0.7**
	comp=Z,6.1nm,1.0s,baz=331,slow=9.3,SNR=22						
ESDC				LR	LR	12 30 54.9	
	comp=Z,797nm,21.8s,baz=330,slow=32						
ESDC	**Sonseca Array**	**25.98**	**130**	P	**P**	**12 22 38.1**	**-0.8**
EUNU	**Eureka**	**25.98**	**341**	P	**P**	**12 22 38.9**	**+0.3**
EUNU				IAmb	IAmb	12 22 45.2	
	comp=Z,38nm,1.4s						
E64A	**Bridgewater**	**26.01**	**256**	P		12 22 39.1	
	baz=45						
BRG	**Berggiesshubel**	**26.04**	**91**	*e*P	**P**	**12 22 41.2**	**+1.9**
BRG				Amp		12 22 43.4	
	comp=Z,36nm,1.8s						
BRG				*ex*	x	12 22 50.5	
BRG				Amp		12 22 57.2	
	comp=Z,27nm,1.8s						
BRG	**Berggiesshubel**	**26.04**	**91**	S	**S**	**12 27 05.0**	**-4.3**
BRG				Amp		12 33 35.0	
	comp=Z,1.8nm,17.2s						
BRG				Amp		12 33 39.0	
	comp=N,1.2nm,16.5s						
BRG				Amp		12 33 49.0	
	comp=E,0.5nm,13.4s						
D62A	**Allapoint, All**	**26.15**	**258**	P	**P**	**12 22 39.6**	**-0.7**
D62A	**Allapoint, All**	**26.15**	**258**	P		12 22 40.4	
	baz=46						
PBAR	**Barrancos**	**26.16**	**136**	*e*P	**P**	**12 22 42.0**	**+1.5**
	comp=E,83nm,1.9s						
E63A	**Oxbow**	**26.30**	**256**	P		12 22 41.0	
	baz=45						
DAVA	**Damuels**	**26.32**	**101**	*e*P	**P**	**12 22 43.8**	**+1.7**
	comp=E,14nm,1.2s						
BNI	**Bardonecchia**	**26.35**	**108**	P	**P**	**12 22 43.6**	**+1.3**
BNI				IAmb	IAmb	12 22 47.2	
	comp=Z,34nm,1.5s						
FUR	**Furstenfeldbru**	**26.42**	**98**	*e*L	L	12 31 56.8	
	comp=Z,1μm,21.9s						
GGN	**Saint George**	**26.47**	**253**	P	**P**	**12 22 42.6**	**-0.7**
GGN				IAmb	IAmb	12 22 47.9	
	comp=Z,29nm,1.4s						
PVCC	**Panska Ves**	**26.56**	**91**	AMS	AMS	12 34 10.0	
	comp=Z,2μm,14.8s						
WET	**Wettzell**	**26.58**	**95**	*e*L	L	12 33 14.1	
	comp=Z,3μm,18.4s						
PVAQ	**Vaqueiros**	**26.61**	**138**	A	A	12 31 15.6	
	comp=Z,2μm,20.0s						
RETA	**Reutte**	**26.62**	**100**	*e*P	**P**	**12 22 46.6**	**+1.9**
	comp=Z,8.8nm,1.3s						
TUE	**Stuetta**	**26.62**	**103**	P	**P**	**12 22 46.1**	**+1.2**
TUE				IAmb	IAmb	12 23 14.8	
	comp=Z,38nm,1.5s						
D61A	**St Aubert, Com**	**26.63**	**260**	P		12 22 44.3	
	baz=47						
F64A	**Sherman**	**26.66**	**256**	P		12 22 44.9	
	baz=44						
DAVOX	**Davos/Dischmat**	**26.67**	**102**	P	**P**	**12 22 46.0**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=325,slow=14,SNR=8.4						
DAVOX				LR	LR	12 32 31.1	
	comp=Z,783nm,21.9s,baz=276,slow=35						
E62A	**Clayton Lake**	**26.70**	**258**	IAmb	IAmb	12 22 51.1	
	comp=Z,23nm,1.2s						
E62A	**Clayton Lake**	**26.70**	**258**	P		12 22 45.3	
	baz=46						
FINES	**FINESS Array B**	**26.75**	**62**	P	**P**	**12 22 44.6**	**-1.0**
	comp=Z,15nm,1.1s,baz=286,slow=7.7,SNR=10.0						
FINES				LR	LR	12 32 47.5	
	comp=Z,1μm,18.4s,baz=278,slow=35						
FINES	**FINESS Array B**	**26.75**	**62**	P	**P**	**12 22 47.3**	**+1.7**
FIA1	**FINESS Array S**	**26.75**	**62**		pP	12 22 50.1	-0.2
G65A	**Princeton**	**26.76**	**254**	P		12 22 45.9	
	baz=43						
PRA	**Prague**	**26.78**	**92**	AMS	AMS	12 34 30.0	
	comp=Z,2μm,15.0s						
PRU	**Pruhonice**	**26.88**	**92**	AMS	AMS	12 34 10.0	
	comp=Z,2μm,14.2s						
MOTA	**Moosalm**	**26.89**	**99**	*e*P	**P**	**12 22 49.2**	**+2.0**
	comp=Z,14nm,2.0s						
FETA	**Feichten**	**26.93**	**100**	*i* P	**P**	**12 22 49.8**	**+2.2**
	comp=Z,14nm,1.4s,SNR=6.3						
H66A	**Whiting**	**26.94**	**253**	P		12 22 46.0	
	baz=42						
KHC	**Kasperske Hory**	**26.94**	**94**	*e*P	**P**	**12 22 49.1**	**+1.5**
KHC				*e*S	**S**	**12 27 19.7**	**-4.0**
KHC				AMS	AMS	12 33 30.0	
	comp=Z,3μm,15.9s						
CHGQ	**Chibougamau**	**26.95**	**268**	P		12 22 46.3	
	baz=51						
WATA	**Walderalm**	**27.13**	**99**	*i* P	**P**	**12 22 51.3**	**+1.9**
	comp=Z,12nm,1.6s,SNR=5.2						
F63A	**Nahmakanta, Br**	**27.15**	**256**	P		12 22 49.0	
	baz=44						
GEC2	**GERESS Array S**	**27.19**	**94**	*e*P	**P**	**12 22 50.9**	**+1.1**
	comp=Z,25nm,1.7s,baz=307,slow=8.9						
GEC2				*e*L	L	12 32 53.9	
	comp=Z,2μm,20.5s						
GERES	**GERESS Array B**	**27.19**	**94**	P	**P**	**12 22 50.7**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=316,slow=5.6,SNR=8.7						
D60A	**Saint Jean D'O**	**27.19**	**260**	P		12 22 49.5	
	baz=46						
WTTA	**Wattenberg**	**27.21**	**99**	*i* P	**P**	**12 22 52.2**	**+2.0**
	comp=Z,19nm,1.7s,SNR=6.2						
KSP	**Ksiaz**	**27.24**	**89**	*e*P	**P**	**12 22 51.5**	**+1.4**
CHVC	**Chvalec**	**27.27**	**89**	AMS	AMS	12 34 20.0	
	comp=Z,2μm,17.2s						
E61A	**Lac Etchemin**	**27.31**	**259**	P		12 22 50.9	
	baz=46						
OSTC	**Ostas**	**27.37**	**89**	AMS	AMS	12 34 30.0	
	comp=Z,2μm,16.3s						
H65A	**Eastbrook**	**27.46**	**254**	P		12 22 51.6	
	baz=43						
CKRC	**Cesky Krumlov**	**27.51**	**94**	*e*P	**P**	**12 22 52.7**	**+0.1**
CKRC				*e*S	**S**	**12 27 29.8**	**-2.8**
CKRC				AMS	AMS	12 33 50.0	
	comp=Z,3μm,16.5s						
PKME	**Peaks-Kenny Pk**	**27.55**	**256**	P		12 22 52.4	
	baz=44	

I64A	**Boothbay**	**28.70**	**254**	P			12 23 02.5		
	baz=42								
E58A	**La Victoria**	**28.74**	**261**	P			12 23 02.4		
	baz=46								
OKC	**Ostrava-Krasne**	**28.79**	**89**	AMS	AMS		12 36 20.0		
	comp=Z,2µm,13.3s								
LSQQ	**Lebel-sur-Quev**	**28.80**	**269**	P			12 23 03.0		
	baz=50								
CONA	**Conrad Observa**	**28.88**	**94**	*e*P	**P**		**12 23 05.6**	**+0.7**	
	comp=Z,12nm,2.0s								
ZCCA	**Zocca**	**28.95**	**104**	IAmb	IAmb		12 23 10.6		
	comp=Z,40nm,1.3s								
H62A	**Milan**	**28.97**	**257**	P			12 23 04.0		
	baz=43								
CADS	**Cadrg**	**28.97**	**98**	*e*P	**P**		**12 23 05.7**	**0.0**	
D56A	**ZEC Mazanza, M**	**29.01**	**264**	P			12 23 04.7		
	baz=47								
I63A	**Otisfield**	**29.07**	**255**	P			12 23 05.6		
	baz=42								
ARSA	**Arzberg**	**29.16**	**95**	*i* P	**P**		**12 23 08.6**	**+1.3**	
	comp=Z,12nm,1.2s,SNR=8.1								
G60A	**Masonville**	**29.17**	**259**	P			12 23 07.5		
	baz=44								
OBKA	**Obir**	**29.18**	**97**	*e*P	**P**		**12 23 03.2**	**-4.4**	
	comp=Z,12nm,1.3s								
JAVS	**Javornik**	**29.37**	**99**	*e*P	**P**		**12 23 09.9**	**+0.6**	
H61A	**Lyndonville**	**29.38**	**257**	P			12 23 09.1		
	baz=43								
OJC	**Ojcow**	**29.39**	**87**	IAmb	IAmb		12 23 12.7		
	comp=Z,18nm,1.3s								
D55A	**Sainte-Anne-du**	**29.39**	**265**	P			12 23 08.9		
	baz=47								
E56A	**St. Veronique**	**29.50**	**263**	P			12 23 10.0		
	baz=46								
LBNH	**Lisbon**	**29.59**	**257**	P			12 23 10.4		
	baz=43								
H60A	**Morristown**	**29.73**	**258**	P			12 23 12.4		
	baz=44								
J63A	**Strafford**	**29.88**	**255**	P			12 23 14.1		
	baz=42								
I61A	**Oroboro, Fairl**	**29.95**	**257**	P			12 23 14.3		
	baz=43								
G58A	**Ormstown**	**29.98**	**261**	P			12 23 14.4		
	baz=45								
VYHS	**Vyhne**	**30.00**	**90**	*e*P	**P**		**12 23 15.8**	**+1.0**	
H59A	**Cadyville**	**30.16**	**259**	P			12 23 15.8		
	baz=44								
J62A	**Henniker**	**30.28**	**256**	P			12 23 17.1		
	baz=42								
G57A	**Newington**	**30.48**	**261**	P			12 23 19.4		
	baz=45								
K63A	**Dunstable**	**30.54**	**255**	P			12 23 19.1		
	baz=41								
I60A	**Shoreham**	**30.55**	**258**	P			12 23 19.2		
	baz=43								
J61A	**Chester**	**30.55**	**256**	P			12 23 20.3		
	baz=42								
H58A	**Gabriels**	**30.57**	**260**	P			12 23 19.5		
	baz=44								
LONY	**Lake Ozonia**	**30.63**	**260**	P			12 23 19.8		
	baz=44								
I59A	**Olmsteadville**	**30.87**	**258**	P			12 23 22.7		
	baz=43								
MNK	**Minsk**	**30.88**	**74**	*i* P	**P**		**12 23 21.3**	**-1.1**	
	comp=E,4.0nm,0.8s								
MNK				*i* P	**P**		**12 23 21.3**	**-1.1**	
	comp=N,39nm,0.7s								
MNK				*i* P	**P**		**12 23 21.3**	**-1.1**	
	comp=Z,25nm,1.1s,baz=124								
MNK				*i* PP	**PnPn**		**12 24 22.0**	**-0.7**	
MNK				*i* PPP	PPP		12 24 30.8		
MNK				*i* PcP	**PcP**		**12 26 17.2**	**-1.4**	
MNK				*i* S	**S**		**12 28 26.1**	**+0.9**	
MNK				*i* SS	**SnSn**		**12 30 07.9**	**+3.4**	
MNK				*i* SSS	SSS		12 30 23.0		
MNK				*i* LQ	LQ		12 31 43.9		
MNK				*i* LR	LR		12 33 27.3		
MNK				*i* LRM	MLR		12 35 17.9		
	comp=Z,2µm,21.1s								
MNK				*i* LRM	MLR		12 35 23.6		
	comp=N,540nm,16.3s								
MNK				*i* LRM	MLR		12 35 37.0		
	comp=E,124nm,17.9s								
K62A	**Royalston**	**30.91**	**255**	P			12 23 23.1		
	baz=41								
NRCA	**Norcia**	**31.11**	**104**	IAmb	IAmb		12 23 28.9		
	comp=Z,13nm,1.2s								
L63A	**North Scituate**	**31.21**	**254**	P			12 23 25.5		
	baz=40								
L61B	**Northampton**	**31.28**	**255**	P			12 23 26.0		
	baz=41								
K61A	**Williamstown**	**31.41**	**256**	P			12 23 27.3		
	baz=42								
ALGO	**Algonquin Park**	**31.42**	**265**	P			12 23 27.0		
	baz=46								
J59A	**Piesco**	**31.43**	**259**	P			12 23 26.9		
	baz=43								
I58A	**Old Forge**	**31.49**	**259**	P			12 23 28.3		
	baz=43								
PLVO	**Plevna**	**31.57**	**263**	IAmb	IAmb		12 23 32.0		
	comp=Z,32nm,1.4s								
I57A	**Carthage**	**31.65**	**260**	P			12 23 29.1		
	baz=44								
G54A	**Lake Saint Pet**	**31.82**	**265**	P			12 23 30.8		
	baz=45								
J58A	**Remsen**	**31.89**	**259**	IAmb	IAmb		12 23 35.3		
	comp=Z,20nm,1.2s								
J58A	**Remsen**	**31.89**	**259**	P			12 23 32.0		
	baz=43								
VSL	**Villasalto**	**31.90**	**112**	IAmb	IAmb		12 23 32.9		
	comp=Z,21nm,1.4s								
L61A	**Hillsdale 1, H**	**31.90**	**256**	P			12 23 32.3		
	baz=41								
K59A	**Cooperstown**	**32.11**	**258**	P			12 23 34.0		
	baz=42								
M62A	**Hamden**	**32.15**	**254**	P			12 23 34.5		
	baz=40								
J57A	**Williamstown**	**32.20**	**260**	IAmb	IAmb		12 23 37.0		
	comp=Z,25nm,1.4s								
J57A	**Williamstown**	**32.20**	**260**	P			12 23 34.4		
	baz=43								
DELO	**Deloro Mine**	**32.21**	**263**	P	**P**		**12 23 34.6**	**+0.4**	
DELO				IAmb	IAmb		12 23 37.0		
	comp=Z,25nm,1.4s								
K58A	**Earlville**	**32.51**	**259**	P			12 23 36.7		
	baz=42								
L59A	**Walton**	**32.64**	**258**	IAmb	IAmb		12 23 43.3		
	comp=Z,18nm,1.1s								
L59A	**Walton**	**32.64**	**258**	P			12 23 38.9		
	baz=42								
H53A	**Bobcaygeon**	**32.66**	**264**	P			12 23 38.6		
	baz=44								
J56A	**Wolcott**	**32.73**	**261**	IAmb	IAmb		12 23 40.6		
	comp=Z,20nm,1.2s								
J56A	**Wolcott**	**32.73**	**261**	P			12 23 39.2		
	baz=43								
SADO	**Sadowa**	**32.80**	**265**	IAmb	IAmb		12 23 41.9		
	comp=Z,14nm,0.9s								
KLMR	**Klimovskoe**	**32.87**	**58**	*e*P	**P**		**12 23 39.4**	**-0.4**	
KLMR				AMP			12 23 43.8		
	comp=Z,110nm,1.4s								
KLMR				LQ	LQ		12 31 56.5		
KLMR				LQ	LQ		12 31 56.5		
KLMR				LR	LR		12 33 45.9		
PAL	**Palisades**	**32.98**	**255**	P			12 23 41.6		
	baz=40								
BINY	**Binghamton**	**33.09**	**259**	P			12 23 43.2		
	baz=42								
L58A	**Harry Jones Me**	**33.14**	**258**	P			12 23 42.8		
	baz=42								
BZS	**Buzias**	**33.35**	**92**	⇑P	**P**		**12 23 45.4**	**+1.3**	
K56A	**Middlesex**	**33.39**	**261**	P			12 23 45.1		
	baz=42								
BUR08	**Bucovina Ar. S**	**33.77**	**86**	IAmb	IAmb		12 23 50.9		
	comp=Z,21nm,1.4s								
AKASG	**Malin Array Be**	**33.80**	**79**	P	**P**		**12 23 47.2**	**-0.7**	
	comp=Z,7.4nm,0.9s,baz=307,slow=8.3,SNR=22								
AKASG				LR	LR		12 37 31.5		
	comp=Z,518nm,18.3s,baz=305,slow=36								
AKBB	**Malin Array Si**	**33.80**	**79**	P	**P**		**12 23 47.9**	**-0.1**	
BURAR	**Bucovina Array**	**33.80**	**86**	⇑P	**P**		**12 23 50.3**	**+2.1**	
BURAR	**Bucovina Array**	**33.80**	**86**	P	**P**		**12 23 48.8**	**+0.6**	
BURAR				IAmb	IAmb		12 23 51.4		
	comp=Z,14nm,1.4s								
L56A	**Greenwood**	**33.92**	**260**	IAmb	IAmb		12 24 19.7		
	comp=Z,24nm,1.5s								
L56A	**Greenwood**	**33.92**	**260**	P			12 23 49.6		
	baz=42								
N59A	**State Game Lan**	**33.96**	**257**	P			12 23 50.3		
	baz=40								
GZR	**Gura Zlata**	**34.09**	**91**	⇑P	**P**		**12 23 51.4**	**+0.7**	
HERR	**Herculane**	**34.27**	**92**	⇑P	**P**		**12 23 52.1**	**-0.1**	
PDG	**Podgorica**	**34.45**	**98**	⇑P	**P**		**12 23 54.7**	**+0.9**	
PDG	**Podgorica**	**34.45**	**98**	IAmb	IAmb		12 24 00.2		
	comp=Z,9.3nm,0.9s								
LOT	**Lotru**	**34.55**	**90**	⇑P	**P**		**12 23 55.1**	**+0.4**	
P60A	**Greenville**	**34.74**	**255**	P			12 23 56.7		
	baz=39								
KEST	**Kesra**	**34.95**	**116**	P	**P**		**12 23 57.9**	**-0.4**	
	comp=Z,3.2nm,0.6s,baz=211,slow=1.6,SNR=14								
KEST				LR	LR		12 36 37.6		
	comp=Z,1µm,21.2s,baz=268,slow=34								
M55A	**Ridgway**	**35.02**	**261**	IAmb	IAmb		12 24 00.8		
	comp=Z,16nm,0.9s								
SORM	**Soroca**	**35.02**	**83**	⇑P	**P**		**12 23 58.5**	**-0.2**	
ERPA	**Erie**	**35.15**	**262**	P			12 24 00.2		
	baz=42								
VOIR		**35.20**	**89**	⇑P	**P**		**12 24 00.7**	**+0.4**	
SSPA	**Standing Stone**	**35.21**	**259**	P	**P**		**12 24 01.5**	**+1.1**	
SSPA				IAmb	IAmb		12 24 03.3		
	comp=Z,17nm,1.1s								
SSPA	**Standing Stone**	**35.21**	**259**	P			12 24 00.8		
	baz=40								
I49A	**Point Hope**	**35.24**	**267**	P	**P**		**12 24 00.6**	**0.0**	
M54A	**Oil Creek Stat**	**35.44**	**261**	P	**P**		**12 24 03.0**	**+0.7**	
M54A				IAmb	IAmb		12 24 04.4		
	comp=Z,18nm,1.0s								
M54A	**Oil Creek Stat**	**35.44**	**261**	P			12 24 03.0		
	baz=42								
PLOR	**Plostina**	**35.72**	**87**	⇑P	**P**		**12 24 06.0**	**+1.2**	
VRI	**Vrincioaia**	**35.75**	**87**	⇑P	**P**		**12 24 06.0**	**+1.0**	
O56A	**Blue Knob Stat**	**35.83**	**259**	IAmb	IAmb		12 24 09.1		
	comp=Z,20nm,1.1s								
O56A	**Blue Knob Stat**	**35.83**	**259**	P			12 24 06.1		
	baz=40								
M53A	**WI Miller and**	**35.99**	**262**	P			12 24 07.2		
	baz=42								
N54A	**Moraine State**	**36.01**	**261**	P			12 24 08.1		
	baz=41								
VTS	**Vitosha**	**36.31**	**94**	⇑P	**P**		**12 24 09.9**	**0.0**	
FNA	**Florina**	**36.74**	**98**	IAmb	IAmb		12 24 17.6		
	comp=Z,22nm,0.9s								
O54A	**Avella**	**36.79**	**261**	IAmb	IAmb		12 24 18.3		
	comp=Z,28nm,1.3s								
EYMN	**Ely**	**36.81**	**279**	IAmb	IAmb		12 24 19.5		
	comp=Z,25nm,1.4s								
EYMN	**Ely**	**36.81**	**279**	P			12 24 13.9		
	baz=48								
TPGR	**Topolog**	**37.31**	**87**	⇑P	**P**		**12 24 17.1**	**-1.2**	
ULM	**Lac du Bonnet**	**37.44**	**285**	P	**P**		**12 24 19.3**	**0.0**	
	comp=Z,10.0nm,1.0s,baz=40,slow=7.3,SNR=11								
ULM				LR	LR		12 38 43.2		
	comp=Z,2µm,18.3s,baz=52,slow=35								
ULM	**Lac du Bonnet**	**37.44**	**285**	P	**P**		**12 24 19.3**	**0.0**	
ULM				IAmb	IAmb		12 24 21.2		
	comp=Z,20nm,1.1s								
FFC	**Flin Flon**	**37.48**	**295**	P	**P**		**12 24 20.3**	**+0.7**	
FFC				IAmb	IAmb		12 24 23.2		
	comp=Z,32nm,1.4s								
P53A	**Whipple**	**37.82**	**261**	IAmb	IAmb		12 24 25.1		
	comp=Z,23nm,0.9s								
P52A	**Corning**	**38.08**	**262**	IAmb	IAmb		12 24 28.4		
	comp=Z,39nm,1.4s								
P52A	**Corning**	**38.08**	**262**	P			12 24 25.3		
	baz=40								
YKA	**Yellowknife Ar**	**38.13**	**312**	P	**P**		**12 24 25.5**	**+0.5**	
	comp=Z,8.6nm,0.9s,baz=55,slow=9.1,SNR=17								
YKA				PcP	**PcP**		**12 26 39.1**	**-0.3**	
	comp=Z,1.3nm,0.8s,baz=53,slow=3.7,SNR=4.6								
YKA				LR	LR		12 39 26.3		
	comp=Z,2µm,18.4s,baz=0.0,slow=35								
N49A	**Columbus Grove**	**38.13**	**265**	IAmb	IAmb		12 24 29.4		
	comp=Z,22nm,0.9s								
AGG	**Agios Georgios**	**38.55**	**99**	IAmb	IAmb		12 24 31.8		
	comp=Z,37nm,1.3s								
P51A	**Williamsport**	**38.66**	**262**	IAmb	IAmb		12 24 32.3		
	comp=Z,44nm,1.4s								
AGMN	**Agassiz Nation**	**38.73**	**283**	P	**P**		**12 24 30.2**	**0.0**	
AGMN	**Agassiz Nation**	**38.74**	**283**	P			12 24 30.2		
	baz=47								
O49A	**Covington**	**38.76**	**264**	P	**P**		**12 24 30.8**	**+0.3**	
N47A	**Urbana**	**38.93**	**266**	IAmb	IAmb		12 24 34.2		
	comp=Z,29nm,1.4s								
ALN	**Alexandroupoli**	**38.99**	**93**	IAmb	IAmb		12 24 36.7		
	comp=Z,30nm,1.2s								
R53A	**Hurricane**	**38.99**	**260**	P	**P**		**12 24 33.8**	**+1.3**	
R53A				IAmb	IAmb		12 24 35.8		
	comp=Z,45nm,1.4s								
L44A	**Lake County Fo**	**39.08**	**270**	P			12 24 33.4		
	baz=43								
BLA	**Blacksburg**	**39.11**	**258**	P			12 24 34.0		
	baz=38								
Q51A	**Peebles**	**39.15**	**262**	IAmb	IAmb		12 24 36.5		
	comp=Z,26nm,1.2s								
SPMN	**Marine on St.**	**39.35**	**277**	P			12 24 35.4		
	baz=45								
P49A	**Miami Univ. Ec**	**39.45**	**264**	P			12 24 36.3		
	baz=40								
JFWS	**Jewell Farm**	**39.72**	**273**	P			12 24 38.7		
	baz=43								
M44A	**Midewin, Midew**	**39.73**	**269**	IAmb	IAmb		12 24 42.0		
	comp=Z,40nm,1.2s								
U56A	**King**	**39.77**	**257**	IAmb	IAmb		12 24 44.7		
	comp=Z,36nm,1.4s								
SFIN	**Lafayette**	**40.01**	**267**	IAmb	IAmb		12 24 43.6		
	comp=Z,42nm,1.5s								
SFIN	**Lafayette**	**40.01**	**267**	P			12 24 41.4		
	baz=41								
L42A	**Oliver, Polo**	**40.09**	**271**	IAmb	IAmb		12 24 43.5		
	comp=Z,20nm,1.1s								
R50A	**Paris**	**40.22**	**262**	IAmb	IAmb		12 24 46.1		
	comp=Z,22nm,1.2s								
S51A	**Beattyville**	**40.35**	**261**	P	**P**		**12 24 44.5**	**+0.8**	
S51A				IAmb	IAmb		12 24 45.5		
	comp=Z,18nm,0.8s								
V55A	**Taylorsville**	**40.57**	**257**	P	**P**		**12 24 46.2**	**+0.6**	
V55A				IAmb	IAmb		12 24 49.6		
	comp=Z,30nm,1.3s								
INK	**Inuvik**	**40.74**	**326**	P			12 24 46.7		
	baz=49								
L40A	**Anamosa**	**40.83**	**272**	IAmb	IAmb		12 24 50.5		
	comp=Z,23nm,1.1s								
MDND	**Maddock**	**40.87**	**285**	P			12 24 47.9		
	baz=46								
HDIL	**Hopedale**	**40.98**	**269**	IAmb	IAmb		12 24 52.8		
	comp=Z,30nm,1.1s								
HDIL	**Hopedale**	**40.98**	**269**	P			12 24 49.8		
	baz=41								
TZTN	**Tazewell**	**41.18**	**260**	IAmb	IAmb		12 24 54.6		
	comp=Z,28nm,1.2s								
TZTN	**Tazewell**	**41.18**	**260**	P			12 24 51.5		
	baz=38								
KMSC	**Kings Mountain**	**41.20**	**257**	P			12 24 50.7		
	baz=37								
WCI	**Wyandotte Cave**	**41.24**	**264**	P	**P**		**12 24 51.9**	**+0.8**	
WCI				IAmb	IAmb		12 24 52.8		
	comp=Z,17nm,0.9s								
WCI	**Wyandotte Cave**	**41.24**	**264**	P			12 24 51.6		
	baz=40								
T50A	**Nancy**	**41.45**	**262**	P	**P**		**12 24 53.1**	**+0.2**	
T50A				IAmb	IAmb		12 24 56.4		
	comp=Z,22nm,1.4s								
V53A	**Saluda**	**41.51**	**259**	P	**P**		**12 24 53.8**	**+0.4**	
P43A	**Skaggs, Pawnee**	**41.78**	**269**	IAmb	IAmb		12 24 59.2		
	comp=Z,49nm,1.4s								
SCIA	**State Center**	**41.95**	**274**	P			12 24 57.1		
	baz=42								
Q44A	**Meyer Farm, Va**	**42.09**	**267**	IAmb	IAmb		12 25 01.5		
	comp=Z,25nm,1.1s								
V51A	**Loudon**	**42.16**	**260**	IAmb	IAmb		12 25 03.0		
	comp=Z,13nm,0.9s								
NHSC	**New Hope**	**42.28**	**254**	P			12 24 59.8		
	baz=35								
U49A	**Red Boiling Sp**	**42.31**	**262**	IAmb	IAmb		12 25 03.3		
	comp=Z,36nm,1.5s								
ECSD	**EROS Data Cent**	**42.32**	**279**	P	**P**		**12 25 00.8**	**+0.9**	
ECSD	**EROS Data Cent**	**42.32**	**279**	P			12 25 00.2		
	baz=43,SNR=5.4								
HODGE	**Hodges**	**42.38**	**257**	P	**P**		**12 25 00.5**	**0.0**	
W52A	**Murphy**	**42.52**	**259**	P	**P**		**12 25 01.6**	**0.0**	
CPCT	**Cooper Cave**	**42.53**	**260**	IAmb	IAmb		12 25 05.6		
	comp=Z,23nm,1.2s								
T47A	**Sharon Grove**	**42.61**	**264**	IAmb	IAmb		12 25 05.8		
	comp=Z,34nm,1.2s								
DGMT	**Dagmar**	**42.65**	**289**	P			12 25 03.5		
	baz=46								
W50A	**Signal Mountai**	**43.12**	**261**	IAmb	IAmb		12 25 09.5		
	comp=Z,21nm,1.1s								
P40A	**Paris**	**43.14**	**271**	IAmb	IAmb		12 25 09.6		
	comp=Z,35nm,1.4s								
X51A	**Calhoun**	**43.40**	**260**	IAmb	IAmb		12 25 10.1		
	comp=Z,15nm,0.8s								
SWET	**Sewanee**	**43.41**	**261**	IAmb	IAmb		12 25 11.3		
	comp=Z,17nm,1.1s								
V48A	**Smith Brothers**	**43.44**	**262**	IAmb	IAmb		12 25 12.6		
	comp=Z,17nm,1.1s								
ARU	**Arti**	**43.48**	**54**	P	**P**		**12 25 10.1**	**+1.1**	
ARU				IAmb	IAmb		12 25 12.7		
	comp=Z,29nm,1.2s								
NRIK	**Noril'sk**	**43.53**	**27**	P	**P**		**12 25 10.6**	**+1.2**	
	comp=Z,7.3nm,1.0s,baz=324,slow=6.6,SNR=14								
NRIK				LR	LR		12 44 51.2		
	comp=Z,135nm,19.1s,baz=350,slow=38								
NRIK	**Noril'sk**	**43.53**	**27**	P	**P**		**12 25 11.0**	**+1.6**	
NRIK				IAmb	IAmb		12 25 13.6		
	comp=Z,20nm,1.2s								
GOGA	**Godfrey**	**43.64**	**257**	IAmb	IAmb		12 25 11.9		
	comp=Z,9.9nm,0.8s								
GOGA	**Godfrey**	**43.64**	**257**	P			12 25 11.4		
	baz=36								
WVT	**Waverly**	**43.64**	**264**	P	**P**		**12 25 10.2**	**-0.4**	
WVT				IAmb	IAmb		12 25 13.6		
	comp=Z,19nm,1.4s								
WVT	**Waverly**	**43.64**	**264**	P			12 25 09.9		
	baz=38								
BR131	**Keskin Array S**	**43.70**	**88**	P	**P**		**12 25 12.4**	**+1.2**	
BR131				IAmb	IAmb		12 25 16.2		
	comp=Z,18nm,1.1s								
BRTR	**Keskin Array B**	**43.70**	**88**	P	**P**		**12 25 12.0**	**+0.7**	
	comp=Z,4.3nm,0.9s,baz=310,slow=6.3,SNR=19								
BRTR				LR	LR		12 46 20.8		
	comp=Z,1µm,18.0s,baz=308,slow=40								
FPAL	**Fort Paine**	**43.79**	**260**	IAmb	IAmb		12 25 13.5		
	comp=Z,23nm,1.3s								
A21K	**Barrow**	**43.90**	**338**	P			12 25 12.1		
	baz=36								
R40A	**Maddies Statio**	**44.20**	**270**	IAmb	IAmb		12 25 17.0		
	comp=Z,14nm,1.2s								
X48A	**Hartselle**	**44.57**	**262**	IAmb	IAmb		12 25 20.4		
	comp=Z,18nm,1.1s								
T42A	**Van Buren**	**44.58**	**267**	IAmb	IAmb		12 25 21.2		
	comp=Z,15nm,1.2s								
TOLK	**Toolik Lake Re**	**44.58**	**333**	IAmb	IAmb		12 25 21.3		
	comp=Z,11nm,1.1s								
TOLK	**Toolik Lake Re**	**44.58**	**333**	P			12 25 18.8		
	baz=39,SNR=6.0								
PLAL	**Pickwick Lake**	**44.67**	**263**	IAmb	IAmb		12 25 21.8		
	comp=Z,24nm,1.1s								
Y49A	**Blount Mountai**	**44.73**	**260**	IAmb	IAmb		12 25 20.9		
	comp=Z,14nm,0.8s								
BGNE	**Belgrade**	**44.80**	**277**	P			12 25 20.2		
	baz=42								
LAO	**LASA Array**	**44.88**	**289**	P			12 25 20.1		
	baz=44								
TIGA	**Tifton**	**45.30**	**256**	P			12 25 24.2		
	baz=35								
KBZ	**Khabaz**	**45.33**	**77**	P	**P**		**12 25 26.0**	**+1.9**	
	comp=Z,7.1nm,1.0s,baz=309,slow=11,SNR=8.9								
KBZ				LR	LR		12 45 02.0		
	comp=Z,692nm,18.6s,baz=325,slow=37								
LCAR	**Lake Charles**	**45.36**	**267**	IAmb	IAmb		12 25 26.6		
	comp=Z,27nm,1.4s								
EGAK	**Eagle**	**45.40**	**326**	IAmb	IAmb		12 25 28.0		
	comp=Z,20nm,1.2s								
EGAK	**Eagle**	**45.40**	**326**	P			12 25 23.8		
	baz=41								
DAWY	**Dawson**	**45.43**	**324**	P	**P**		**12 25 26.1**	**+1.4**	
EGMT	**Eagleton**	**45.59**	**292**	P	**P**		**12 25 27.2**	**+1.0**	
EGMT	**Eagleton**	**45.59**	**292**	P			12 25 26.9		
	baz=44,SNR=8.2								
LRAL	**Lakeview Retre**	**45.68**	**260**	P	**P**		**12 25 27.4**	**+0.4**	
LRAL	**Lakeview Retre**	**45.69**	**260**	P			12 25 27.2		
	baz=36,SNR=12								
RSSD	**Black Hills**	**45.70**	**285**	P			12 25 27.5		
	baz=43								
OXF	**Oxford**	**45.71**	**264**	P			12 25 26.0		
	baz=37								
KSU1	**Kansas State U**	**45.77**	**274**	P			12 25 27.1		
	baz=40								
COLD	**Coldfoot**	**45.84**	**332**	P			12 25 26.6		
	baz=37								
FCAR	**Ozark Folk Cen**	**45.99**	**267**	IAmb	IAmb		12 25 31.6		
	comp=Z,22nm,1.3s								
U40A	**Yellville**	**45.99**	**268**	P			12 25 29.4		
	baz=39,SNR=19								
K27K	**Chicken**	**46.23**	**326**	IAmb	IAmb		12 25 34.7		
	comp=Z,12nm,1.2s								
K27K	**Chicken**	**46.23**	**326**	P			12 25 29.7		
	baz=40								
H24K	**Noodor Dome**	**46.38**	**330**	P			12 25 30.5		
	baz=38,SNR=7.1								
WHY	**Whitehorse**	**46.56**	**319**	P			12 25 32.9		
	baz=42								
W41B	**Gary Mavity, V**	**46.61**	**267**	P			12 25 34.4		
	baz=38,SNR=19								
H23K	**Yukon River**	**46.81**	**331**	P			12 25 37.1		
	baz=37,SNR=6.4								
SCRK	**Sand Creek**	**46.81**	**326**	P			12 25 37.1		
	baz=39,SNR=8.2								
POKR	**Poker Plat Res**	**46.84**	**329**	P			12 25 36.4		
	baz=38								
BCAR	**Beaver Creek A**	**46.89**	**325**	P	**P**		**12 25 37.7**	**+1.6**	
L27K	**Beaver Creek,**	**46.90**	**325**	P	**P**		**12 25 38.6**	**+2.3**	
L27K	**Beaver Creek,**	**46.90**	**325**	P			12 25 36.4		
	baz=40								
IL31		**46.97**	**329**	IAmb	IAmb		12 25 40.8		
	comp=Z,15nm,1.3s								
ILAR	**Eielson Array**	**46.97**	**329**	P	**P**		**12 25 37.7**	**+1.0**	
	comp=Z,4.2nm,0.8s,baz=30,slow=7.4,SNR=40								
ILAR				PcP	**PcP**		**12 27 08.5**	**-0.3**	
	comp=Z,2.1nm,0.7s,baz=0.8,slow=2.9,SNR=12								
ILAR				LR	LR		12 47 34.5		
	comp=Z,388nm,18.0s,baz=39,slow=39								
146A	**Union**	**47.03**	**262**	P	**P**		**12 25 37.4**	**-0.2**	
OGNE	**Ogallala**	**47.08**	**280**	P			12 25 37.0		
	baz=41								
DOT	**Dot Lake**	**47.09**	**326**	IAmb	IAmb		12 25 42.3		
	comp=Z,18nm,1.2s								
COLA	**College**

JTMT PcP 12 27 12.4 -0.1
TIXI Tiksi 47.90 9 P P 12 25 45.1 +1.3
YNE Yellowstone No 47.92 290 P P 12 25 44.9 +0.2
YNE IAmb IAmb 12 25 50.4
comp=Z,14nm,1.3s
K22A Casper 48.00 285 IAmb IAmb 12 25 47.5
comp=Z,16nm,1.4s
K22A Casper 48.00 285 P 12 25 44.7
baz=41
PAX Paxson 48.01 326 IAmb IAmb 12 25 47.8
comp=Z,13nm,1.0s
PAX Paxson 48.02 326 P 12 25 45.0
baz=38
YMP Mirror Lake Pl 48.19 290 IAmb IAmb 12 25 50.6
comp=Z,14nm,1.0s
MCK McKinley 48.34 329 P 12 25 47.5
baz=36
HARP HAARP 48.38 326 P 12 25 47.2
baz=38
CTG Chitna Glacier 48.39 323 P 12 25 47.8
baz=39
MSO Missoula 48.40 294 IAmb IAmb 12 25 51.8
comp=Z,7.9nm,1.0s
MSO Missoula 48.40 294 P 12 25 47.7
baz=42,SNR=7.0
PHWY Pilot Hill 48.50 283 IAmb IAmb 12 25 51.7
comp=Z,12nm,1.4s
MCARA McCarthy VSAT 48.56 324 P 12 25 48.7
baz=38
YHL Hebgen Lake 48.59 290 IAmb IAmb 12 25 53.3
comp=Z,10nm,1.1s
H17A Grant Village 48.64 290 IAmb IAmb 12 25 56.4
comp=Z,17nm,1.1s
X37A Clayton 48.65 269 IAmb IAmb 12 25 54.7
comp=Z,11nm,0.9s
YHB Horse Butte 48.67 290 IAmb IAmb 12 25 53.8
comp=Z,11nm,1.2s
PINM Pinnacle 48.73 321 P 12 25 50.9
baz=39
NEW Newport 48.78 297 P 12 25 51.1
baz=42
YPP Pitchstone Pla 48.84 290 IAmb IAmb 12 26 01.3
comp=Z,14nm,1.1s
KSCO Kaye Shedlock' 48.85 279 P 12 25 51.8
baz=40
N25K Chitina, Valde 48.85 325 P 12 25 52.0
baz=38
DLMT Dillon 48.87 292 IAmb IAmb 12 25 55.3
comp=Z,13nm,1.4s
WAT2 Susitna Watana 48.87 328 P 12 25 51.9
baz=36
M24K Tolsona, Glenn 48.90 326 P 12 25 52.5
baz=37
TRF Thorofare Moun 48.92 329 IAmb IAmb 12 26 01.2
comp=Z,24nm,1.5s
TRF Thorofare Moun 48.93 329 P 12 25 52.3
baz=35
GNI Garni 48.93 79 P P 12 25 54.4 +2.0
FLWY Flagg Ranch 48.94 289 IAmb IAmb 12 26 01.2
comp=Z,12nm,1.2s
CBYP Canovanas 48.94 228 P P 12 25 52.6 0.0
WAT6 Susitna Watana 48.95 327 P 12 25 53.4
baz=36,SNR=5.3
N23A Red Feather La 49.05 283 P 12 25 53.7
baz=40
RWWY Rawlins 49.06 285 IAmb IAmb 12 26 12.5
comp=Z,9.4nm,1.1s
CHUM Lake Minchumin 49.08 330 P 12 25 52.8
baz=34
ABKAR Akbulak array 49.20 60 P P 12 25 54.8 +0.6
ABKAR PcP 12 27 17.6 +0.6
ABKAR Akbulak array 49.20 60 IAmb IAmb 12 25 57.1
comp=Z,17nm,1.0s
KLU Klutina 49.33 325 P 12 25 55.0
baz=37
PDAR Pinedale Array 49.38 287 P P 12 25 55.3 -0.6
comp=Z,3.2nm,0.8s,baz=61,slow=7.0,SNR=12
BW06 Boulder Array 49.38 287 P 12 25 55.8
baz=41
C09A Chrisman Ranch 49.64 298 IAmb IAmb 12 26 00.0
comp=Z,11nm,0.9s
B08A Colville Reser 49.69 299 IAmb IAmb 12 26 00.6
comp=Z,16nm,1.2s
ISCO Idaho Springs 49.72 282 IAmb IAmb 12 26 01.2
comp=Z,12nm,1.4s
ISCO Idaho Springs 49.72 282 P 12 25 58.6
baz=40
SML Sawmill 49.75 327 P 12 25 58.8
baz=36
X34A Smith Ranch, M 49.88 271 IAmb IAmb 12 26 01.2
comp=Z,20nm,1.0s
KNK Knik Glacier 50.10 327 P 12 26 01.9
baz=35
Q24A Divide 50.13 281 P 12 26 01.9
baz=39
PMR Palmer 50.14 327 P 12 26 01.6
baz=35
WMOK Wichita Mounta 50.24 272 IAmb IAmb 12 26 05.3
comp=Z,23nm,1.4s
WMOK Wichita Mounta 50.25 272 P 12 26 02.2
baz=38,SNR=12
NATX Nacogdoches 50.54 266 P 12 26 04.3
baz=36
F10A Beach Ranch, E 50.55 296 IAmb IAmb 12 26 09.4
comp=Z,16nm,1.2s
BRVK Borovoye 50.59 50 P P 12 26 04.7 +0.1
BRVK IAmb IAmb 12 26 08.5
comp=Z,12nm,1.1s
RC01 Rabbit Creek A 50.72 327 P 12 26 05.8
baz=34
O20A White River Ci 50.75 284 IAmb IAmb 12 26 09.3
comp=Z,20nm,1.4s
O20A White River Ci 50.75 284 P 12 26 05.8
baz=40
TTA Tatalina 50.79 332 IAmb IAmb 12 26 10.1
comp=Z,18nm,1.4s
TTA Tatalina 50.79 332 P 12 26 06.5
baz=32,SNR=6.5
RDMU Red Mountain 51.06 286 IAmb IAmb 12 26 12.3
comp=Z,12nm,1.1s
HLID Hailey 51.09 292 P 12 26 09.4
baz=40,SNR=6.7
T25A Trinidad 51.18 279 IAmb IAmb 12 26 12.7
comp=Z,28nm,1.4s
T25A Trinidad 51.19 279 P 12 26 10.4
baz=38,SNR=6.5
SDCO Great Sand Dun 51.25 280 P 12 26 10.2
baz=39
SPCR Spurr Chakacha 51.30 328 P 12 26 10.2
baz=33
BMO Blue Mountains 51.44 295 IAmb IAmb 12 26 14.4
comp=Z,9.6nm,1.0s
WHTX Lake Whitney, 51.77 269 P 12 26 13.6
baz=36
BILL Bilibino 51.81 352 P P 12 26 14.7 +1.1
BILL IAmb IAmb 12 26 15.6
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 51.91 281 P 12 26 15.8
baz=38,SNR=6.1
D04E Lakebay 52.10 300 P 12 26 15.4
baz=40
BRSE Bradley Lake S 52.12 327 P 12 26 16.1
baz=33
TOA0 Torodi Ar. Sit 52.17 140 P P 12 26 16.7 -0.2
TORD Torodi Ar. Bea 52.17 140 P P 12 26 15.2 -1.7
comp=Z,3.3nm,0.6s,baz=339,slow=8.3,SNR=19
TORD LR LR 12 46 40.3
comp=Z,319nm,18.1s,baz=320,slow=34
TORD Torodi Ar. Bea 52.17 140 P P 12 26 15.0 -1.8
ABTX Abilene, Hawle 52.36 271 IAmb IAmb 12 26 19.3
comp=Z,18nm,0.9s
ABTX Abilene, Hawle 52.36 271 P 12 26 17.8
baz=37
PV04 Paradox Valley 52.43 283 IAmb IAmb 12 26 21.7
comp=Z,15nm,1.5s
PV12 Saucer Basin, 52.44 283 IAmb IAmb 12 26 26.4
comp=Z,16nm,1.4s
PV11 David Mesa, Pa 52.49 283 IAmb IAmb 12 26 21.3
comp=Z,8.2nm,0.5s
E04D Cinebar 52.49 300 P 12 26 18.3
baz=39
PV16 Nyswonger Mesa 52.50 283 IAmb IAmb 12 26 22.9
comp=Z,12nm,1.3s
PV13 Radium Mtn., P 52.57 283 IAmb IAmb 12 26 25.4
comp=Z,12nm,1.2s
HKT Hockley 52.60 266 P P 12 26 19.9 +0.1
HKT IAmb IAmb 12 26 23.1
comp=Z,25nm,1.1s

SRU San Rafael Swe 52.66 285 IAmb IAmb 12 26 24.4
comp=Z,13nm,1.4s
PV05 Paradox Valley 52.77 283 IAmb IAmb 12 26 26.2
comp=Z,17nm,1.4s
MSTX Muleshoe 52.86 275 P 12 26 21.8
baz=37
J08A Circle Bar Ran 53.13 294 IAmb IAmb 12 26 26.7
comp=Z,19nm,1.2s
MVCO Mesa Verde 53.15 282 IAmb IAmb 12 26 26.8
comp=Z,18nm,1.5s
MVCO Mesa Verde 53.16 282 P 12 26 24.4
baz=38
ELK Elko 53.65 290 IAmb IAmb 12 26 31.9
comp=Z,14nm,1.2s
H04A Detroit Lake 53.77 298 IAmb IAmb 12 26 31.4
comp=Z,17nm,1.1s
PINE Pine Mountain 53.91 296 P P 12 26 30.4 +0.7
PINE IAmb IAmb 12 26 33.1
comp=Z,13nm,1.2s
WVOR Wild Horse Val 53.92 294 IAmb IAmb 12 26 33.0
comp=Z,17nm,1.2s
ANMO Albuquerque 53.93 279 P P 12 26 31.1 +1.2
ANMO Albuquerque 53.93 279 P 12 26 29.9
baz=37
BRZS Berezniki 53.93 51 eP P 12 26 29.6 +0.1
comp=Z,15nm,1.9s,baz=51
H04D Lebanon 54.15 298 P 12 26 30.6
baz=38
JCT Junction City 54.17 270 P 12 26 30.9
baz=36,SNR=7.6
KDAK Kodiak Island 54.30 326 P 12 26 31.5
baz=32
SPR3 Spring Creek 3 54.59 288 IAmb IAmb 12 26 39.2
comp=Z,14nm,1.3s
PSUT Pine Spring 54.72 287 IAmb IAmb 12 26 39.1
comp=Z,11nm,1.3s
K05A Summer Lake 54.73 296 IAmb IAmb 12 26 52.2
comp=Z,14nm,1.2s
PKCU Pink Cliffs 54.84 285 IAmb IAmb 12 26 59.5
comp=Z,18nm,1.3s
I02D Swisshome 54.97 299 P 12 26 36.4
baz=38
I03D Drain, OR 55.07 298 P 12 26 37.6
baz=38
ZALV Zalesovo Beam 55.10 41 P P 12 26 37.4 -0.6
comp=Z,1.2nm,0.6s,baz=325,slow=7.4,SNR=3.6
ZALV LR LR 12 52 09.7
comp=Z,308nm,19.0s,baz=326,slow=38
W18A Petrified Fore 55.42 281 P 12 26 41.0
baz=37
KNB Kanab 55.42 285 IAmb IAmb 12 26 43.8
comp=Z,14nm,1.3s
R11A Troy Canyon, C 55.70 288 IAmb IAmb 12 26 45.8
comp=Z,10nm,1.4s
R11A Troy Canyon, C 55.70 288 P 12 26 42.8
baz=37,SNR=6.9
833A Chaparral WMA, 55.71 268 P 12 26 41.9
baz=35
J01E Myrtle Point 55.75 298 P 12 26 42.2
baz=37
L04D Klamath Falls 55.77 296 P 12 26 43.0
baz=38
SII Sitkinak Islan 55.80 326 P 12 26 41.6
baz=30
M04C Macdoel 55.90 295 P 12 26 43.7
baz=37
WUAZ Wupatki 55.91 283 IAmb IAmb 12 26 47.9
comp=Z,21nm,1.4s
WUAZ Wupatki 55.91 283 P 12 26 44.6
baz=37
MNTX Cornudas Mount 55.99 275 P P 12 26 44.0 -0.7
MNTX Cornudas Mount 55.99 275 P 12 26 44.0
baz=36,SNR=6.7
K02D Willamette Mer 56.00 297 P 12 26 44.8
baz=37
PRN Pahroc Range 56.19 287 IAmb IAmb 12 26 50.4
comp=Z,16nm,1.3s
L02E Cave Junction 56.40 297 P 12 26 47.5
baz=37
DBIC Dimbokro 56.41 150 LR LR 12 48 41.6
comp=Z,527nm,18.3s,baz=342,slow=34
SEM Semipalatinsk 56.45 46 eP P 12 26 47.2 -0.8
baz=46
121A Cookes Peak, D 56.52 278 P 12 26 49.4
baz=36
BEKR Beckworth 56.74 293 IAmb IAmb 12 27 04.3
comp=Z,9.5nm,1.3s
NV11 Mina Array Sit 56.86 290 IAmb IAmb 12 26 56.4
comp=Z,10nm,1.4s
VCNR Virginia City 56.87 292 IAmb IAmb 12 26 54.4
comp=Z,12nm,1.1s
RYN Ryan 56.87 291 IAmb IAmb 12 26 53.6
comp=Z,9.9nm,1.0s
NVAR Mina Array Bea 56.93 290 P P 12 26 52.0 +0.5
comp=Z,1.9nm,0.8s,baz=52,slow=4.6,SNR=14
NVAR LR LR 12 50 45.7
comp=Z,1μm,19.0s,baz=37,slow=36
N02D Trinity Center 56.94 296 P 12 26 51.8
baz=37
SHPR Sheep Range 56.96 287 IAmb IAmb 12 26 55.0
comp=Z,12nm,1.5s
TXAR Lajitas Array 57.04 272 P P 12 26 52.6 +0.3
comp=Z,1.0nm,0.8s,baz=56,slow=6.6,SNR=14
TXAR PcP PcP 12 27 46.3 -0.8
comp=Z,1.1nm,0.9s,baz=58,slow=3.4,SNR=1.8
TXAR LR LR 12 50 43.1
comp=Z,741nm,19.2s,baz=0.0,slow=35
TX31 Lajitas Ar. Si 57.04 272 IAmb IAmb 12 27 03.1
comp=Z,15nm,1.1s
O03E Paynes Creek 57.07 294 P 12 26 52.3
baz=37
TPNV Topopah Spring 57.13 288 P 12 26 52.9
baz=37
GEYT Alibeck 57.15 70 P P 12 26 53.1 +0.3
comp=Z,5.7nm,1.0s,baz=306,slow=12,SNR=6.5
GEYT LR LR 12 52 10.4
comp=Z,505nm,21.5s,baz=240,slow=37
GEYT Alibeck 57.15 70 IAmb IAmb 12 26 56.7
comp=Z,20nm,1.4s
LHV Little Huntoon 57.16 290 IAmb IAmb 12 27 18.1
comp=Z,10nm,1.2s
ORV Oroville 57.52 294 P P 12 26 54.8 -0.6
GRAC Grapevine Rang 57.63 289 P 12 26 56.6
baz=36
FURC Furnace Creek, 57.81 288 P 12 26 57.7
baz=36
TUC Tucson 58.19 280 P P 12 27 01.4 +1.1
TUC Tucson 58.19 280 P 12 27 01.1
baz=36
CWC Cottonwood Cre 58.42 289 P 12 27 02.6
baz=36
BTLS Baital 58.47 54 eP P 12 27 02.1 +0.2
comp=Z,9.4nm,1.9s,baz=54
KK31 Karatay Array 58.58 58 IAmb IAmb 12 27 06.2
comp=Z,21nm,1.5s
KKAR Karatay Array 58.58 58 P P 12 27 03.6 +0.8
KKAR Karatay Array 58.58 58 IAmb IAmb 12 27 06.2
comp=Z,21nm,1.5s
GMRC Granite Mounta 58.59 286 P 12 27 03.4
baz=36
IRM Iron Mountain 58.84 285 P 12 27 05.0
baz=36
HEC Hector,Ludlow 58.88 286 P 12 27 05.7
baz=36
IUG Iuzhnay 59.15 59 eP P 12 27 07.4 +0.5
baz=58
ISA Isabella, Lake 59.23 289 P P 12 27 08.5 +1.0
ISA Isabella, Lake 59.23 289 P 12 27 08.2
baz=36,SNR=5.8
VES Vestal, Richgr 59.38 289 P 12 27 09.4
baz=36
BELC Belle Mtn. Jos 59.38 286 P 12 27 09.8
baz=36,SNR=7.9
BC3 Big Chuckawall 59.40 285 P 12 27 09.2
baz=36
214A Organ Pipe Nat 59.48 282 P 12 27 10.2
baz=35
GLA Glamis 59.58 284 P 12 27 10.6
baz=36
BBRC Big Bear Solar 59.62 287 P 12 27 11.1
baz=36
EDW2 Edwards Air Fo 59.63 288 P 12 27 11.1
baz=36
PFO Pinyon Flats O 59.92 286 P P 12 27 13.8 +1.4
PFO IAmb IAmb 12 27 16.4
comp=Z,11nm,1.2s
PFO Pinyon Flats O 59.92 286 P 12 27 13.5
baz=36

TPFO Pinon Flats 59.93 286 P 12 27 13.5
baz=36
SGDS Sogindy 60.01 54 eP P 12 27 13.1 +0.3
comp=Z,11nm,2.0s,baz=54
MAKZ Makanchi 60.08 47 P P 12 27 12.8 -0.4
MAKZ IAmb IAmb 12 27 16.6
comp=Z,11nm,1.3s
MKAR Makanchi Array 60.21 47 P P 12 27 14.5 +0.5
comp=Z,3.7nm,0.8s,baz=328,slow=6.3,SNR=23
MKAR PcP PcP 12 27 58.9 -0.5
comp=Z,0.7nm,0.7s,baz=316,slow=4.0,SNR=1.2
MKAR LR LR 12 53 27.9
comp=Z,225nm,18.0s,baz=310,slow=36
MKAR Makanchi Array 60.21 47 P P 12 27 13.7 -0.3
KUU Kurty 60.34 53 eP P 12 27 15.5 +0.6
comp=Z,26nm,1.7s,baz=53
ZSN Zaisan 60.59 45 eP P 12 27 16.4 -0.2
baz=45
AAK Ala-Archa 60.63 55 P P 12 27 20.8 +3.7
AAK IAmb IAmb 12 27 21.0
comp=Z,12nm,1.2s
MTBS Maitube 61.01 53 eP P 12 27 20.3 +0.7
baz=53
ARSB Arslanbob 61.08 57 IAmb IAmb 12 27 23.6
comp=Z,14nm,1.1s
MDOK Medeo 61.23 53 eP P 12 27 21.6 +0.3
baz=53
KPKS Kokpek 61.63 52 eP P 12 27 23.9 +0.1
comp=Z,18nm,1.0s,baz=52
GAR Garm 61.86 60 P P 12 27 26.6 +1.2
SATY Saty 61.86 52 eP P 12 27 24.8 -0.6
baz=52
ZAIG Zacatecas 61.90 267 P P 12 27 26.6 +0.5
UZB Uzynbulak 62.03 52 eP P 12 27 26.7 +0.1
baz=52
KDJ Kajisay 62.15 54 IAmb IAmb 12 27 32.7
comp=Z,8.0nm,1.1s
SHLS Shalkode 62.20 51 eP P 12 27 28.8 +1.2
baz=51
MTO3 Montecristo 62.51 250 P P 12 27 28.2 -1.9
MTO3 IAmb IAmb 12 27 33.4
comp=Z,9.6nm,1.2s
RAYN Ar Rayn 62.66 90 P P 12 27 31.3 +0.4
RAYN IAmb IAmb 12 27 34.8
comp=Z,11nm,1.4s
RUSC La Rusia 63.02 230 P P 12 27 34.2 +0.4
KSH Kashi 63.85 56 P P 12 27 40.7 +2.0
KSH PP PP 12 30 23.5 +25
KSH S S 12 36 16.9 +3.8
KSH Kashi 63.85 56 SS SS 12 40 24.0 +3.5
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,160nm,1.4s
KSH L L
comp=Z,2μm,21.1s
KSH L L
comp=Z,1μm,21.1s
KSH L L
comp=Z,1μm,18.5s
TLIG Tlapa 64.28 261 P P 12 27 42.6 +0.9
ROSC El Rosal 64.46 231 P P 12 27 43.1 -0.2
comp=Z,12nm,0.5s,baz=123,slow=3.0,SNR=11
WMQ Urumqi 64.72 45 eP P 12 27 43.5 -0.8
WMQ pmax pmax
comp=Z,55nm,0.8s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ L L
comp=Z,600nm,18.3s
WMQ L L
comp=Z,260nm,18.9s
WMQ L L
comp=Z,540nm,18.3s
PTGA Pitinga 64.84 214 P P 12 27 42.8 -2.4
PTGA IAmb IAmb 12 27 45.0
comp=Z,12nm,1.0s
SONM Songino Array 66.87 30 P P 12 27 58.9 +0.8
comp=Z,1.4nm,0.5s,baz=322,slow=6.3,SNR=4.2
SONM LR LR 12 59 29.3
comp=Z,414nm,19.8s,baz=297,slow=38
ULN Ulaanbaatar 67.01 30 P P 12 28 00.2 +1.2
PETK Petropavlovsk- 67.17 355 LR LR 12 59 12.4
comp=Z,138nm,18.2s,baz=17,slow=38
NIL Nilore 67.62 61 P P 12 28 02.8 -0.1
FLOC Florencia 67.96 231 P P 12 28 05.1 -0.1
OTAV Otavalo 70.30 233 P P 12 28 21.2 +0.9
OTAV IAmb IAmb 12 28 29.2
comp=Z,17nm,1.3s
GTA Gaotai 72.74 39 ⇑P P 12 28 35.1 +0.7
GTA pP PcP 12 28 46.6 -5.0
GTA sP sP 12 28 51.2 +10
GTA S S 12 37 55.4 -3.6
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA pmax pmax
comp=Z,85nm,7.1s
GTA L L
comp=Z,150nm,16.4s
GTA L L
comp=Z,160nm,18.5s
GTA L L
comp=Z,180nm,19.6s
MDJ Mudanjiang 74.49 15 P P 12 28 44.4 0.0
MDJ pmax pmax
comp=Z,17nm,0.8s
MDJ pmax pmax
comp=Z,210nm,3.7s
CN2 Changchun 74.69 18 eP P 12 28 41.3 -4.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 74.71 29 eP P 12 28 46.5 +0.6
USRK Ussuriysk Ar. 75.19 13 P P 12 28 48.1 -0.4
comp=Z,3.6nm,0.9s,baz=335,slow=8.4,SNR=6.5
USRK LR LR 13 05 09.3
comp=Z,78nm,18.4s,baz=353,slow=38
BDFB Brasilia 76.70 198 P P 12 28 56.3 -1.1
comp=Z,9.1nm,0.8s,baz=4.1,slow=6.4,SNR=10
BDFB LR LR 12 57 38.6
comp=Z,215nm,19.3s,baz=330,slow=32
BDFB Brasilia 76.70 198 P P 12 28 57.7 +0.3
BDFB IAmb IAmb 12 28 58.3
comp=Z,13nm,1.0s
LZH Lanzhou 77.04 37 ⇑P P 12 29 01.8 +2.5
LZH pP sP 12 29 07.3 +1.2
LZH sP PcP 12 29 12.8 +2.6
LZH sS sS 12 38 54.6 -0.8
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,92nm,4.9s
LZH L L
comp=Z,320nm,17.9s
LZH L L
comp=Z,310nm,17.3s
LZH L L
comp=Z,280nm,17.3s
XAN Xi'an 80.43 34 P P 12 29 17.6 -0.2
XAN pP PcP 12 29 26.9 +2.1
XAN Xi'an 80.43 34 S S 12 39 27.4 +4.3
KSRS Korea Array 81.28 18 P P 12 29 22.4 +0.2
comp=Z,2.4nm,0.8s,baz=349,slow=5.4,SNR=15
LPAZ La Paz 81.98 217 P P 12 29 26.1 -0.7
comp=Z,1.8nm,0.8s,baz=48,slow=3.4,SNR=7.2
LPAZ LR LR 13 04 07.9
comp=Z,124nm,19.5s,baz=3.0,slow=34
MJAR Matsushiro Arr 83.40 10 P P 12 29 34.4 +1.0
comp=Z,5.6nm,0.8s,baz=351,slow=6.1,SNR=9.5
MJAR Matsushiro Arr 83.40 10 IAmb IAmb 12 29 36.5
comp=Z,6.1nm,1.1s
NJ2 Nanjing 84.82 26 eP P 12 29 41.2 +0.6
NJ2 pmax pmax
comp=Z,11nm,0.5s
KMI Kunming 86.83 42 ⇑P P 12 29 51.1 +0.1
KMI pmax pmax
comp=Z,8.0nm,1.2s
GYA Guiyang 86.86 38 ⇓P P 12 29 51.8 +0.8
GYA pmax pmax
comp=Z,2.0nm,1.1s
LSZ Lusaka 88.23 125 P P 12 29 56.9 -0.6
CPUP Villa Florida 88.83 204 P P 12 29 58.2 -1.7
comp=Z,0.9nm,0.4s,baz=35,slow=2.1,SNR=3.7
CPUP LR LR 13 06 27.1
comp=Z,76nm,20.8s,baz=18,slow=33
CHTO Chiang Mai 91.29 48 P P 12 30 11.3 -0.5
CMAR Chiang Mai Arr 91.62 48 P P 12 30 14.0 +0.6

comp=Z,4.0nm,0.8s,baz=322,slow=5.9,SNR=23
BOSA Boshof 99.11 133 LR LR 13 15 19.3
comp=Z,240nm,20.1s,baz=356,slow=35
PPT2 Papeete2 119.83 287 *e*LR LR 13 12 41.4
comp=Z,288nm,21.0s
TBI Tubuai 124.67 284 *e*LR LR 13 14 55.9
comp=Z,292nm,23.5s
DZM Mont Dzumac 140.47 336 eLR LR 13 22 16.0
ASAR Alice Springs 142.04 25 PKhKP PKPpre 12 36 32.4
comp=Z,1.2nm,0.7s,baz=354,slow=2.5,SNR=5.0
MAW Mawson 143.82 140 PKP PKPbc 12 36 37.4 -0.1
comp=Z,2.9nm,0.7s,baz=278,slow=8.4,SNR=5.3
STKA Stephens Creek 151.40 15 PKPbc **PKPbc 12 36 59.1 -0.4**
comp=Z,5.1nm,0.8s,baz=325,slow=7.9,SNR=5.9
VNDA Vanda 161.87 188 PKPab **PKPab 12 37 51.9 +0.3**
comp=Z,2.1nm,0.7s,baz=165,slow=3.9,SNR=8.3
VNDA Vanda 161.87 188 PKPab 12 37 52.5 +0.9

*SOME **04** 12:21:56.1, 44.70N×82.07E, h5km*
*NNC **04** 12:21:58.0±1.1, 44.71N×82.05E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=13.0km s-min=3.9km az=121.0*
ISC 04 12:21:54.7±1.1, 44.68N±0.04×82.33E±0.06, h10km, n27, σ1℘15/45, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DJR	**Jarkent**	**1.85**	**260**	*e*P		**Pb**	**12 22 29.2**	**+0.5**
	5.0nm,0.5s							
DJR				*e*S		**Sb**	**12 22 53.3**	**+1.4**
	24nm,0.2s							
DJR	**Jarkent**	**1.85**	**260**	P		**Pb**	**12 22 29.2**	**+0.5**
	5.0nm,0.5s							
DJR				S		**Sb**	**12 22 53.3**	**+1.4**
	24nm,0.2s							
KTMS	**Ketmen**	**1.89**	**230**	*e*P		**Pb**	**12 22 29.7**	**+0.4**
	3.4nm,0.3s							
KTMS				*e*S		**Sb**	**12 22 53.5**	**+0.5**
	44nm,0.2s							
KTMS	**Ketmen**	**1.89**	**230**	P		**Pb**	**12 22 29.7**	**+0.4**
	3.4nm,0.3s							
KTMS				S		**Sb**	**12 22 53.5**	**+0.5**
	44nm,0.2s							
MK31	**Makanchi Array**	**2.11**	**359**	Pn		**Pg**	**12 22 34.7**	**-0.5**
	5.9nm,0.3s,baz=186,slow=16,SNR=256							
MK31				Sn		**Sg**	**12 23 02.1**	**-0.5**
	8.1nm,0.4s,baz=183,slow=26,SNR=18							
MAKZ	**Makanchi**	**2.14**	**354**	⇑Pn		**Pb**	**12 22 34.2**	**+0.6**
	3.7nm,0.5s							
MAKZ				⇑Sn		**Sg**	**12 23 02.1**	**-1.3**
	13nm,0.5s							
KAPS	**Kapalarasan**	**2.19**	**287**	*e*P		**Pb**	**12 22 34.6**	**+0.1**
	4.1nm,0.3s							
KAPS				*e*S		**Sb**	**12 23 02.1**	**+0.4**
	18nm,0.4s							
KAPS	**Kapalarasan**	**2.19**	**287**	Pg		**Pb**	**12 22 34.6**	**+0.1**
	4.1nm,0.3s							
KAPS				Lg		Lg	12 23 02.1	
	18nm,0.4s							
PDGK	**Podgornoye**	**2.46**	**238**	Pn		**Pb**	**12 22 37.4**	**-1.6**
	1.8nm,0.5s							
PDGK				⇑Sn		**Sb**	**12 23 09.2**	**-0.1**
	32nm,0.7s							
SHLS	**Shalkode**	**2.57**	**235**	*e*P		**Pn**	**12 22 37.5**	**+1.0**
	7.3nm,0.3s							
SHLS				*e*S		**Sn**	**12 23 07.4**	**-0.5**
	62nm,0.4s							
SHLS	**Shalkode**	**2.57**	**235**	Pg		**Pn**	**12 22 37.5**	**+1.0**
	7.3nm,0.3s							
SHLS				Lg		Lg	12 23 07.4	
	62nm,0.4s							
TDK	**Taldyqorghan**	**2.81**	**278**	*e*P		**Pb**	**12 22 44.6**	**-0.3**
	35nm,0.2s							
TDK				*e*S		**Sb**	**12 23 19.7**	**+0.2**
	24nm,0.4s							
TDK	**Taldyqorghan**	**2.81**	**278**	Pg		**Pb**	**12 22 44.6**	**-0.3**
	35nm,0.2s							
TDK				Lg		Lg	12 23 19.7	
	24nm,0.4s							
UZB	**Uzynbulak**	**2.84**	**238**	*e*P		**Pb**	**12 22 45.3**	**-0.3**
	3.8nm,0.3s							
UZB				*e*S		**Sb**	**12 23 20.7**	**+0.3**
	8.1nm,0.4s							
UZB	**Uzynbulak**	**2.84**	**238**	Pg		**Pb**	**12 22 45.3**	**-0.3**
	3.8nm,0.3s							
UZB				Lg		Lg	12 23 20.7	
	8.1nm,0.4s							
KPKS	**Kokpek**	**2.90**	**246**	*e*P		**Pb**	**12 22 46.2**	**-0.3**
	5.4nm,0.2s							
KPKS				*e*S		**Sb**	**12 23 22.1**	**+0.1**
	49nm,0.3s							
KURS	**Kuram**	**3.23**	**250**	*e*P		**Pb**	**12 22 52.3**	**+0.2**
	1.9nm,0.3s							
KURS				*e*S		**Sb**	**12 23 32.7**	**+1.3**
	3.9nm,0.4s							
KURS	**Kuram**	**3.23**	**250**	Pg		**Pb**	**12 22 52.3**	**+0.2**
	1.9nm,0.3s							
KURS				Lg		Lg	12 23 32.7	
	3.9nm,0.4s							
ARXS	**Arharly**	**3.26**	**263**	*e*P		**Pb**	**12 22 52.6**	**0.0**
	2.6nm,0.4s							
ARXS				*e*S		**Sb**	**12 23 33.5**	**+1.1**
	28nm,0.3s							
ARXS	**Arharly**	**3.26**	**263**	Pg		**Pb**	**12 22 52.6**	**0.0**
	2.6nm,0.4s							
ARXS				Lg		Lg	12 23 33.5	
	28nm,0.3s							
SATY	**Saty**	**3.27**	**242**	*e*P		**Pb**	**12 22 52.9**	**+0.1**
	1.9nm,0.1s							
SATY				*e*S		**Sb**	**12 23 33.9**	**+1.1**
	16nm,0.3s							
SATY	**Saty**	**3.27**	**242**	Pg		**Pb**	**12 22 52.9**	**+0.1**
	1.9nm,0.1s							
SATY				Lg		Lg	12 23 33.9	
	16nm,0.3s							
ZSN	**Zaisan**	**3.28**	**32**	*e*P		**Pg**	**12 22 56.5**	**-1.1**
	3.2nm,0.4s							
ZSN				*e*S		**Sg**	**12 23 39.6**	**-0.5**
	3.7nm,0.5s							
KTBS	**Karatobe**	**4.17**	**259**	*e*P		**Pb**	**12 23 07.9**	**-0.4**
	0.4nm,0.3s							
KTBS				*e*S		**Sb**	**12 23 59.7**	**+1.0**
	5.4nm,0.8s							
KTBS	**Karatobe**	**4.17**	**259**	Pg		**Pb**	**12 23 07.9**	**-0.4**
	0.4nm,0.3s							
KTBS				Lg		Lg	12 23 59.7	
	5.4nm,0.8s							
MTBS	**Maitube**	**4.54**	**252**	*e*P		**Pb**	**12 23 17.9**	**+3.5**
	2.2nm,0.1s							
MTBS				*e*S		**Sg**	**12 24 17.0**	**-3.3**
	11nm,0.3s							
MTBS	**Maitube**	**4.54**	**252**	Pg		**Pb**	**12 23 18.0**	**+3.5**
	2.2nm,0.1s							
MTBS				Lg		Lg	12 24 17.0	
	11nm,0.3s							

*IDC **04** 12:22:49.2±0.7, 59.83N×29.88W, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/38, mbtmp3.8/14, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/42, Error ellipse: s-maj=27.8km s-min=14.5km az=18.0*
*NEIC **04** 12:22:51.1±1.0, 59.71N±0.10×30.0W±0.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=18.0km s-min=13.9km az=215.0*
ISC 04 12:22:50.6±0.6, 59.86N±0.10×29.87W±0.06, h10km, n31, σ0℘80/28, mb3.9/17, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**6.32**	**35**	Pn		**Pn**	**12 24 23.4**	**-0.2**
	1.2nm,0.3s,baz=256,slow=17,SNR=3.2							
BORG				Sn		**Sn**	**12 25 34.9**	**-0.8**
	baz=126,slow=12,SNR=0.9							
BORG				LR		LR	12 26 21.2	
	comp=Z,289nm,20.7s,baz=191,slow=33							
ANGG	**Ammassalik, Gr**	**6.79**	**332**	Pn		**Pn**	**12 24 30.2**	**+0.1**
EKA	**Eskdalemuir Ar**	**14.96**	**96**	Pn		**P**	**12 26 27.0**	**-0.5**
	baz=309,slow=9.0,SNR=6.2							
SCHQ	**Schefferville**	**20.38**	**272**	P		**P**	**12 27 26.6**	**-0.6**
	2.7nm,0.6s,baz=61,slow=18,SNR=2.4							
STU	**Stuttgart**	**24.95**	**99**	P		**P**	**12 28 14.4**	**+0.6**
ESDC	**Sonseca Array**	**25.93**	**130**	P		**P**	**12 28 22.9**	**+0.1**
	1.2nm,0.9s,baz=331,slow=8.8,SNR=5.1							
ESDC	**Sonseca Array**	**25.93**	**130**	IAmb		IAmb	12 28 25.7	
	comp=Z,4.2nm,1.4s							
AKASG	**Malin Array Be**	**33.78**	**79**	P		**P**	**12 29 31.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=304,slow=8.4,SNR=1.5							

KEST	**Kesra**	**34.91**	**116**	P		**P**	**12 29 42.9**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=355,slow=9.8,SNR=3.7							
KEST	**Kesra**	**34.91**	**116**	IAmb		IAmb	12 30 09.0	
	comp=Z,12nm,1.4s							
ULM	**Lac du Bonnet**	**37.47**	**285**	P		**P**	**12 30 04.3**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=67,slow=6.2,SNR=1.7							
ULM	**Lac du Bonnet**	**37.47**	**285**	IAmb		IAmb	12 30 04.8	
	comp=Z,5.3nm,1.1s							
YKA	**Yellowknife Ar**	**38.18**	**312**	P		**P**	**12 30 08.7**	**-1.0**
	comp=Z,5.7nm,1.3s,baz=53,slow=8.4,SNR=4.1							
BRTR	**Keskin Array B**	**43.68**	**88**	P		**P**	**12 30 55.9**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=316,slow=3.4,SNR=3.6							
CCM	**Cathedral Cave**	**43.88**	**269**	P		**P**	**12 30 56.3**	**-0.6**
CCM				IAmb		IAmb	12 30 59.2	
	comp=Z,13nm,1.4s							
S39A	**Bolivar**	**45.21**	**270**	P		**P**	**12 31 07.5**	**-0.1**
S39A				IAmb		IAmb	12 31 09.6	
	comp=Z,7.5nm,1.2s							
DAWY	**Dawson**	**45.48**	**324**	P		**P**	**12 31 11.3**	**+1.9**
LRAL	**Lakeview Retre**	**45.70**	**260**	P		**P**	**12 31 10.9**	**-0.5**
U40A	**Yellville**	**46.01**	**269**	P		**P**	**12 31 13.4**	**-0.5**
U40A				IAmb		IAmb	12 31 15.6	
	comp=Z,7.9nm,1.1s							
WHAR	**Wooly Hollow**	**46.56**	**267**	P		**P**	**12 31 17.1**	**-1.1**
ILAR	**Eielson Array**	**47.02**	**329**	P		**P**	**12 31 22.5**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=34,slow=7.1,SNR=9.5							
X40A	**Basin Creek Fa**	**47.46**	**267**	P		**P**	**12 31 25.0**	**-0.2**
ABKAR	**Akbulak array**	**49.21**	**60**	P		**P**	**12 31 39.5**	**+1.0**
ABKAR				IAmb		IAmb	12 31 40.2	
	comp=Z,5.5nm,0.9s							
PDAR	**Pinedale Array**	**49.42**	**287**	P		**P**	**12 31 41.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=57,slow=5.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**52.12**	**140**	P		**P**	**12 32 00.4**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=337,slow=8.8,SNR=4.5							
KVN	**Kaiserville**	**56.37**	**291**	P		**P**	**12 32 32.5**	**+0.6**
KVN				IAmb		IAmb	12 32 33.9	
	comp=Z,5.7nm,1.2s							
NVAR	**Mina Array Bea**	**56.96**	**291**	P		**P**	**12 32 36.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=59,slow=9.5,SNR=2.2							
TXAR	**Lajitas Array**	**57.06**	**272**	P		**P**	**12 32 35.6**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=95,slow=1.4,SNR=4.3							
MKAR	**Makanchi Array**	**60.23**	**47**	P		**P**	**12 32 58.1**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=340,slow=6.4,SNR=4.3							
ASAR	**Alice Springs**	**142.08**	**25**	PKhKP		PKPpre	12 42 16.6	
	comp=Z,0.4nm,0.8s,baz=353,slow=3.5,SNR=2.5							
STKA	**Stephens Creek**	**151.44**	**15**	PKPbc		**PKiKP**	**12 42 45.5**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=286,slow=6.3,SNR=3.5							

*IDC **04** 12:29:00.6±4.8, 5.44S×151.35E, h26km±30km, mb4.0/12, mb1 4.2/13, mb1mx4.0/29, mbtmp4.2/13, ML3.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/34, Error ellipse: s-maj=31.4km s-min=17.3km az=112.0*
*NEIC **04** 12:29:07.1±1.6, 5.35S±0.07×150.97E±0.07, h79km±7km, mb4.5/11, Error ellipse: s-maj=10.5km s-min=9.5km az=90.0*
ISC 04 12:29:05.6±0.6, 5.5S±0.1×151.1E±0.1, h65km, n37, σ1℘41/38, mb4.2/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.70**	**40**			**Pn**	**12 29 33.5**	**+0.3**
RABL				Sn		**Sn**	**12 29 56.2**	**+2.1**
PMG	**Port Moresby**	**5.48**	**225**	Pn		**Pn**	**12 30 24.8**	**+0.1**
	38nm,0.3s,baz=58,slow=6.7,SNR=78							
PMG				Sn		**Sn**	**12 31 25.5**	**-0.9**
	47nm,0.3s,baz=138,slow=16,SNR=12							
PMG				LR		LR	12 32 54.8	
	comp=Z,189nm,18.0s,baz=80,slow=41							
GUMO	**Guam**	**19.94**	**342**	LR		LR	12 41 47.8	
	comp=Z,31nm,18.5s,baz=180,slow=38							
MTN	**Manton Dam**	**20.97**	**248**	P		**P**	**12 33 43.5**	**-0.1**
MTN				IAmb		IAmb	12 33 44.9	
	comp=Z,20nm,0.6s							
WRAB	**Tennant Creek**	**21.68**	**227**	P		**P**	**12 33 50.8**	**-0.4**
WRAB				IAmb		IAmb	12 34 04.7	
	comp=Z,16nm,0.7s							
DZM	**Mont Dzumac**	**22.20**	**139**	LR		LR	12 41 38.0	
	comp=Z,144nm,18.2s,baz=326,slow=34							
KNRA	**Kununurra**	**24.11**	**243**	P		**P**	**12 34 15.0**	**-0.5**
KNRA				IAmb		IAmb	12 34 35.2	
	comp=Z,17nm,0.9s							
AS31	**Alice Springs**	**24.48**	**221**	P		**P**	**12 34 18.8**	**0.0**
ASAR	**Alice Springs**	**24.48**	**221**	P		**P**	**12 34 19.4**	**+0.5**
	comp=Z,3.8nm,0.7s,baz=58,slow=8.7,SNR=50							
ASAR				PcP		**PcP**	**12 37 57.3**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=41,slow=2.3,SNR=3.7							
ASAR				ScP		**ScP**	**12 41 33.8**	**+4.2**
	comp=Z,0.2nm,0.7s,baz=42,slow=3.0,SNR=1.7							
STKA	**Stephens Creek**	**27.69**	**198**	P		**P**	**12 34 48.7**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=346,slow=7.9,SNR=3.3							
STKA	**Stephens Creek**	**27.69**	**198**	P		**P**	**12 34 48.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.80**	**241**	P		**P**	**12 34 48.9**	**0.0**
	comp=Z,9.0nm,0.5s,baz=62,slow=7.4,SNR=17							
FITZ	**Fitzroy Crossi**	**27.80**	**241**	P		**P**	**12 34 48.1**	**-0.8**
FITZ				IAmb		IAmb	12 34 49.4	
	comp=Z,8.3nm,0.6s							
DAV	**Davao City (W)**	**28.33**	**296**	LR		LR	12 45 03.6	
	comp=Z,66nm,20.6s,baz=158,slow=34							
GIRL	**Giralia**	**39.41**	**241**	P		**P**	**12 36 29.3**	**-0.2**
MORW	**Morawa**	**40.56**	**231**	P		**P**	**12 36 38.5**	**-0.4**
MORW				IAmb		IAmb	12 36 50.3	
	comp=Z,14nm,1.3s							
LEM	**Lembang**	**43.20**	**266**	P		**P**	**12 37 03.4**	**+2.5**
	comp=Z,20nm,0.6s,baz=159,slow=19,SNR=3.6							
KSRS	**Korea Array**	**47.88**	**335**	P		**P**	**12 37 37.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=154,slow=8.3,SNR=1.9							
USA0B	**Ussuriysk Arra**	**52.38**	**343**	P		**P**	**12 38 09.2**	**-2.0**
USA0B				IAmb		IAmb	12 38 19.9	
	comp=Z,3.1nm,0.8s							
PETK	**Petropavlovsk-**	**58.66**	**5**	P		**P**	**12 38 54.3**	**-1.8**
	comp=Z,3.9nm,1.0s,baz=181,slow=13,SNR=1.9							
SONM	**Songino Array**	**66.01**	**329**	P		**P**	**12 39 47.2**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=170,slow=8.8,SNR=2.1							
MKAR	**Makanchi Array**	**79.72**	**319**	P		**P**	**12 41 07.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=90,slow=5.3,SNR=3.6							
MKAR	**Makanchi Array**	**79.72**	**319**	P		**P**	**12 41 05.7**	**-0.9**
ZALV	**Zalesovo Beam**	**80.78**	**327**	P		**P**	**12 41 11.4**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=106,slow=5.1,SNR=1.9							
ZALV	**Zalesovo Beam**	**80.78**	**327**	P		**P**	**12 41 09.3**	**-2.7**
ILAR	**Eielson Array**	**83.46**	**22**	P		**P**	**12 41 24.1**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=239,slow=4.7,SNR=6.5							
ILAR	**Eielson Array**	**83.46**	**22**	P		**P**	**12 41 24.6**	**-1.2**
MAW	**Mawson**	**84.26**	**203**	P		**P**	**12 41 30.6**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=107,slow=6.8,SNR=7.4							
MAW	**Mawson**	**84.26**	**203**	P		**P**	**12 41 30.1**	**+0.2**
MAW				IAmb		IAmb	12 41 49.7	
	comp=Z,2.0nm,1.4s							
QSPA	**South Pole Qui**	**84.46**	**180**	P		**P**	**12 41 31.8**	**+0.7**
NVAR	**Mina Array Bea**	**93.88**	**52**	P		**P**	**12 42 14.9**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=252,slow=4.9,SNR=5.5							
GERES	**GERESS Array B**	**123.73**	**327**	PKP		**PKPdf**	**12 47 55.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=50,slow=1.7,SNR=4.3							
LPAZ	**La Paz**	**135.59**	**120**	PKP		**PKiKP**	**12 48 21.8**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=294,slow=4.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**148.86**	**286**	PKPbc		**PKPbc**	**12 48 46.8**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=65,slow=2.5,SNR=19							
TORD	**Torodi Ar. Bea**	**148.86**	**286**			**PKPdf**	**12 48 44.5**	**+1.5**
BDFB	**Brasilia**	**151.74**	**138**	PKPbc		**PKPbc**	**12 48 53.8**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=207,slow=3.3,SNR=4.8							
BDFB	**Brasilia**	**151.74**	**138**			**PKPbc**	**12 48 51.7**	**-2.3**

*SKHL **04** 12:44:16.1±0.8, 43.70N×147.90E, h24km±2km, mb3.8/4*
*JMA **04** 12:44:16.3±0.4, 43.64N×147.60E, h1km, M3.5*
ISC 04 12:44:14.8±4.5, 43.8N±0.2×147.7E±0.1, h1km±22km, n14, σ1℘02/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.36**	**279**	*e*P		Pn	12 44 40.6	-0.2
YUK				AMB		AMB	12 44 43.2	
	20nm,0.2s							
YUK				*e*S		**Sg**	**12 44 58.2**	**-0.2**
YUK				A		A	12 44 59.3	
	180nm,0.3s							
YUK				A		A	12 44 59.3	
	320nm,0.3s							
KUR	**Kuril'sk**	**1.41**	**4**	*e*P		Pn	12 44 40.8	-0.7
KUR				AMB		AMB	12 44 42.4	
	10.0nm,0.2s							
KUR				*e*S		**Sg**	**12 44 59.5**	**-0.6**
KUR				A		A	12 45 00.5	
	70nm,0.2s							
KUR				A		A	12 45 00.5	
	150nm,0.2s							
GRPR	**Tuman**	**1.42**	**277**	*e*P		Pn	12 44 40.8	-0.8
GRPR				AMB		AMB	12 44 41.5	
	20nm,0.2s							
GRPR				*e*S		**Sn**	**12 45 00.0**	**-0.9**
GRPR				A		A	12 45 01.2	
	250nm,0.3s							
GRPR				A		A	12 45 01.2	
	200nm,0.3s							
NEM2	**Nemuro 2**	**1.51**	**253**	P		Pn	12 44 42.4	-0.5
NEM2				*e*S		**Sn**	**12 45 01.3**	**-1.8**
NMR	**Nemuro--Hokkai**	**1.52**	**253**	*e*P		Pn	12 44 42.5	-0.5
NMR				*e*S		**Sn**	**12 45 02.8**	**-0.5**
GLVR	**Golovnino**	**1.60**	**268**	*e*P		**Pn**	**12 44 44.4**	**+0.3**
GLVR				AMB		AMB	12 44 46.4	
	30nm,0.2s							
GLVR				*e*S		**Sn**	**12 45 05.1**	**-0.2**
GLVR				A		A	12 45 09.0	
	400nm,0.4s							
GLVR				A		A	12 45 09.0	
	360nm,0.4s							
JRA	**Rausu**	**1.88**	**274**	P		**Pn**	**12 44 49.0**	**+1.0**
JNSB	**Nemuroshibetsu**	**1.97**	**269**	P		**Pn**	**12 44 50.3**	**+1.1**
JNK	**Nakash**	**2.19**	**265**	P		**Pn**	**12 44 52.9**	**+0.7**
JAK	**Akkeshi**	**2.35**	**250**	P		**Pn**	**12 44 54.5**	**0.0**
JTKR	**Abashiri--Toko**	**2.76**	**274**	P		Pn	12 45 02.0	+1.9
JAR	**Ashorobuto**	**2.92**	**261**	P		Pn	12 45 03.8	+1.5
JAR				*e*S		**Sn**	**12 45 38.8**	**+0.8**
JOB	**Onbets**	**2.98**	**253**	P		Pn	12 45 05.0	+1.9
JCH	**Churui**	**3.41**	**251**	P		Pn	12 45 10.2	+1.2

*IDC **04** 12:45:41.9±0.5, 6.33S×154.99E, h62km±4km, mb4.1/21, mb1 4.3/24, mb1mx4.2/38, mbtmp4.4/24, MS3.4/9, Ms1 3.5/9, ms1mx3.2/35, Error ellipse: s-maj=14.4km s-min=11.8km az=91.0*
*NEIC **04** 12:45:45.0±1.4, 6.33S±0.07×155.08E±0.08, h90km±7km, mb4.6/47, Error ellipse: s-maj=12.7km s-min=9.0km az=48.0*
*DJA **04** 12:45:45.2±0.4, 6°S±4°×155°E±°, h99km±5km, M4.8/12, mB4.8/4, mb4.8/12, MLv5.0/3, Mw(mB)4.1/4*
ISC 04 12:45:44.9±0.3, 6.30S±0.05×155.04E±0.05, h100km, n120, σ1℘98/114, mb4.6/50, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**3.55**	**306**			**Pn**	**12 46 39.0**	**+0.9**
RABL	**Rabaul**	**3.55**	**306**	P		**Pn**	**12 46 38.6**	**+0.5**
HNR	**Honiara**	**5.77**	**123**	P		**Pn**	**12 47 06.5**	**-1.7**
	21nm,0.3s,baz=198,slow=5.4,SNR=5.5							
HNR				S		**Sn**	**12 48 13.8**	**+0.7**
	10nm,0.3s,baz=292,slow=23,SNR=2.5							
HNR				LR		LR	12 48 58.2	
	comp=Z,153nm,19.3s,baz=303,slow=34							
HNR	**Honiara**	**5.77**	**123**	P		**Pn**	**12 47 08.6**	**+0.4**
PMG	**Port Moresby**	**8.40**	**248**	P		**Pn**	**12 47 43.0**	**-0.9**
	23nm,0.3s,baz=67,slow=6.6,SNR=44							
PMG				S		**Sn**	**12 49 16.3**	**-0.7**
	3.6nm,0.3s,baz=71,slow=21,SNR=2.4							
PMG				LR		LR	12 50 48.7	
	comp=Z,227nm,21.1s,baz=49,slow=37							
PMG	**Port Moresby**	**8.40**	**248**	Pn		**Pn**	**12 47 43.1**	**-0.7**
PMG	**Port Moresby**	**8.40**	**248**	P		**Pn**	**12 47 44.2**	**+0.3**
PATS	**Pohnpei**	**13.45**	**14**	Pn		**Pn**	**12 48 50.5**	**-1.3**
CTA	**Charters Tower**	**16.15**	**211**	P		**Pn**	**12 49 26.1**	**-0.1**
	0.3nm,0.3s,baz=43,slow=16,SNR=3.0							
CTAO	**Charters Tower**	**16.15**	**211**	Pn		**Pn**	**12 49 25.3**	**-0.9**
DZM	**Mont Dzumac**	**19.17**	**146**	P		**Pn**	**12 50 02.4**	**-0.3**
	3.8nm,0.3s,baz=265,slow=11,SNR=20							
DZM				LR		LR	12 55 58.5	
	comp=Z,188nm,18.2s,baz=318,slow=32							
DZM	**Mont Dzumac**	**19.17**	**146**			**Pn**	**12 50 02.4**	**-0.3**
DZM				IAmb		IAmb	12 50 02.9	
	comp=Z,27nm,0.6s							
EIDS	**Eidsvold**	**19.34**	**191**	Pn		**Pn**	**12 50 04.0**	**-0.6**
ONTNC	**Ouen Toro**	**19.36**	**146**	Pn		**Pn**	**12 50 03.6**	**-1.3**
ONTNC				IAmb		IAmb	12 50 06.6	
	comp=Z,33nm,0.8s							
OUENC	**Ouen Island, N**	**19.66**	**146**	P		**P**	**12 50 06.1**	**0.0**
OUENC				IAmb		IAmb	12 50 07.9	
	comp=Z,17nm,0.7s							
GUMO	**Guam**	**22.19**	**333**	LR		LR	12 58 04.8	
	comp=Z,42nm,18.6s,baz=156,slow=34							
FAKI	**Fak Fak**	**22.96**	**277**	P		**P**	**12 50 41.6**	**+0.4**
FAKI				IAmb		IAmb	12 51 02.3	
	comp=Z,27nm,1.0s							
ARMA	**Armidale**	**24.21**	**187**	P		**P**	**12 50 52.8**	**+0.3**
WRAB	**Tennant Creek**	**24.24**	**234**	P		**P**	**12 50 53.3**	**+0.5**
WRAB				IAmb		IAmb	12 50 55.1	
	comp=Z,23nm,0.7s							
WRA	**Warramunga Arr**	**24.26**	**234**	P		**P**	**12 50 53.8**	**+0.9**
	comp=Z,13nm,0.6s							
SIJI	**Sorong

MORW				IAmb	IAmb	12 53 54.5	
	comp=Z,9.2nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.99**	**228**	P	**P**	**12 53 42.5**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=63,slow=9.0,SNR=1.3						
YULB	**Yu-li**	**44.24**	**313**	P	**P**	**12 53 45.1**	**+0.5**
YULB				IAmb	IAmb	12 53 50.4	
	comp=Z,7.4nm,0.7s						
TPUB	**Ta-pu**	**44.67**	**312**	P	**P**	**12 53 48.0**	**-0.1**
SSLB	**Suanglung**	**44.73**	**313**	P	**P**	**12 53 49.4**	**+0.9**
KSRS	**Korea Array**	**50.35**	**332**	P	**P**	**12 54 32.5**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=142,slow=7.3,SNR=8.5						
KSRS				pP	**pP**	**12 54 48.6**	**-7.2**
	comp=Z,1.9nm,0.9s,baz=146,slow=8.8,SNR=4.3						
KSRS				LR	LR	13 15 25.6	
	comp=Z,38nm,18.1s,baz=325,slow=35						
BKNI	**Bangkinang**	**54.29**	**275**	P	P	12 55 11.6	+10
USRK	**Ussuriysk Ar.**	**54.39**	**340**	P	**P**	**12 55 03.5**	**+2.0**
	comp=Z,1.9nm,0.8s,baz=144,slow=6.3,SNR=3.6						
PDSI	**Padang**	**54.70**	**273**	P	**P**	**12 55 04.6**	**+0.1**
MNSI	**Mandailing Nat**	**55.80**	**275**	P	P	12 55 28.5	+16
NONG	**Nongkai**	**56.63**	**296**	P	**P**	**12 55 19.5**	**+1.4**
CHAI	**Chaiyaphum**	**56.96**	**293**	P	**P**	**12 55 22.0**	**+1.6**
	comp=Z,2.8nm,0.8s						
PHIT	**Phitsanulok**	**58.79**	**294**	P	**P**	**12 55 35.0**	**+1.8**
	comp=Z,13nm,0.7s						
UTTA	**Uttaradit**	**58.85**	**295**	P	**P**	**12 55 35.4**	**+1.8**
	comp=Z,6.7nm,0.8s						
PETK	**Petropavlovsk-**	**59.22**	**2**	P	**P**	**12 55 38.0**	**+2.5**
	comp=Z,4.8nm,0.8s,baz=155,slow=5.4,SNR=14						
PETK				pP	**pP**	**12 55 54.0**	**-6.5**
	comp=Z,2.0nm,0.5s,baz=161,slow=6.1,SNR=3.2						
CM35	**Chiang Mai Arr**	**60.41**	**295**	P	**P**	**12 55 46.0**	**+1.7**
CM36	**Chiang Mai Arr**	**60.41**	**295**	P	**P**	**12 55 46.0**	**+1.6**
CM34	**Chiang Mai Arr**	**60.47**	**296**	P	**P**	**12 55 46.0**	**+1.2**
CM04	**Chiang Mai Arr**	**60.48**	**295**	P	**P**	**12 55 47.0**	**+2.1**
	comp=Z,133nmcomp=Z,16nm,0.8s						
CM09	**Chiang Mai Arr**	**60.48**	**295**	P	**P**	**12 55 47.2**	**+2.4**
	comp=Z,114nmcomp=Z,17nm,0.8s						
CM01	**Chiang Mai Arr**	**60.50**	**295**	P	**P**	**12 55 47.0**	**+2.0**
	comp=Z,122nmcomp=Z,16nm,0.8s						
CM05	**Chiang Mai Arr**	**60.51**	**295**	P	**P**	**12 55 47.1**	**+2.1**
	comp=Z,94nmcomp=Z,11nm,0.9s						
CM02	**Chiang Mai Arr**	**60.52**	**295**	P	**P**	**12 55 47.4**	**+2.3**
	comp=Z,97nmcomp=Z,15nm,0.8s						
CM31	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**12 55 47.5**	**+2.3**
	comp=Z,3µmcomp=Z,373nm,0.8s						
CM31	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**12 55 46.8**	**+1.6**
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**12 55 47.0**	**+1.8**
	comp=Z,7.9nm,0.8s,baz=122,slow=5.1,SNR=43						
CMAR				pP	**pP**	**12 56 04.0**	**-5.8**
	comp=Z,10.0nm,0.7s,baz=121,slow=5.4,SNR=14						
CMAR	**Chiang Mai Arr**	**60.53**	**295**	P	**P**	**12 55 46.4**	**+1.2**
CM15	**Chiang Mai Arr**	**60.54**	**295**	P	**P**	**12 55 47.5**	**+2.2**
	comp=Z,15nm,0.7s						
CM13	**Chiang Mai Arr**	**60.55**	**295**	P	**P**	**12 55 47.0**	**+1.7**
	comp=Z,101nmcomp=Z,13nm,0.8s						
CMMT	**Chiang Mai**	**60.64**	**296**	P	**P**	**12 55 47.0**	**+1.1**
	comp=Z,9.9nm,1.0s						
CM33	**Chiang Mai Arr**	**60.64**	**296**	P	**P**	**12 55 47.0**	**+1.1**
CHTO	**Chiang Mai**	**60.64**	**296**	P	**P**	**12 55 47.1**	**+1.2**
CHTO				IAmb	IAmb	12 56 04.5	
	comp=Z,5.5nm,0.8s						
CM32	**Chiang Mai Arr**	**60.67**	**295**	P	**P**	**12 55 48.0**	**+1.8**
ULN	**Ulaanbaatar**	**68.44**	**327**	P	**P**	**12 56 38.3**	**+1.9**
ULN				IAmb	IAmb	12 56 38.7	
	comp=Z,3.8nm,0.7s						
SONM	**Songino Array**	**68.78**	**327**	P	**P**	**12 56 39.7**	**+1.3**
	comp=Z,3.0nm,0.5s,baz=135,slow=3.5,SNR=6.0						
SONM	**Songino Array**	**68.78**	**327**	IAmb	IAmb	12 56 40.6	
	comp=Z,4.8nm,1.1s						
SEY	**Seymchan**	**69.06**	**359**	P	**P**	**12 56 40.9**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=138,slow=4.8,SNR=8.8						
VNDA	**Vanda**	**71.28**	**178**	P	**P**	**12 56 53.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=321,slow=7.7,SNR=5.5						
VNDA	**Vanda**	**71.28**	**178**	IAmb	IAmb	12 56 56.5	
	comp=Z,1.7nm,0.8s						
BILL	**Bilibino**	**74.58**	**4**	P	**P**	**12 57 13.8**	**+1.1**
BILL				IAmb	IAmb	12 57 16.0	
	comp=Z,7.7nm,0.8s						
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**12 57 58.0**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=243,slow=5.4,SNR=14						
ILAR				pP	pP	12 58 14.6	-8.9
	comp=Z,3.5nm,1.2s,baz=240,slow=5.2,SNR=5.0						
ILAR				LR	LR	13 31 09.6	
	comp=Z,29nm,21.2s,baz=195,slow=33						
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**12 57 58.7**	**+1.5**
MK31	**Makanchi Array**	**82.91**	**319**	P	**P**	**12 57 59.2**	**+0.5**
MK31				IAmb	IAmb	12 58 00.7	
	comp=Z,4.8nm,0.8s						
MKAR	**Makanchi Array**	**82.91**	**319**	P	**P**	**12 57 59.7**	**+1.0**
	comp=Z,5.7nm,0.7s,baz=103,slow=5.4,SNR=42						
MKAR				pP	pP	12 58 17.0	-7.8
	comp=Z,2.5nm,0.6s,baz=98,slow=6.1,SNR=7.5						
MKAR	**Makanchi Array**	**82.91**	**319**	P	**P**	**12 57 59.5**	**+0.8**
MAKZ	**Makanchi**	**83.12**	**319**	P	**P**	**12 58 00.6**	**+0.8**
MAKZ				IAmb	IAmb	12 58 01.7	
	comp=Z,7.1nm,0.8s						
ZAA0	**Zalesovo Array**	**83.63**	**326**	P	**P**	**12 58 01.5**	**-0.7**
ZAA0				IAmb	IAmb	12 58 02.7	
	comp=Z,3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**83.63**	**326**	P	**P**	**12 58 02.1**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=114,slow=5.8,SNR=12						
ZALV				pP	pP	12 58 19.5	-8.8
	comp=Z,1.8nm,0.4s,baz=126,slow=6.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**83.63**	**326**	P	**P**	**12 58 01.6**	**-0.6**
QSPA	**South Pole Qui**	**83.67**	**180**	P	**P**	**12 58 02.7**	**+0.3**
QSPA				IAmb	IAmb	12 58 04.3	
	comp=Z,8.6nm,0.8s						
MAW	**Mawson**	**85.06**	**203**	P	**P**	**12 58 10.4**	**+1.3**
	comp=Z,6.6nm,0.6s,baz=108,slow=5.6,SNR=25						
MAW	**Mawson**	**85.06**	**203**	P	**P**	**12 58 08.6**	**-0.5**
KDJ	**Kajisay**	**85.26**	**313**	P	**P**	**12 58 12.2**	**+1.2**
DRK	**Karamyk**	**88.76**	**310**	P	**P**	**12 58 27.7**	**-0.4**
NVAR	**Mina Array Bea**	**91.25**	**52**	P	**P**	**12 58 42.0**	**+2.4**
	comp=Z,1.8nm,0.9s,baz=255,slow=5.8,SNR=8.8						
NVAR				pP	**pP**	**12 58 59.0**	**-7.2**
	comp=Z,1.3nm,0.9s,baz=252,slow=7.7,SNR=3.4						
BVAR	**Borovoye Array**	**91.77**	**323**	P	**P**	**12 58 43.1**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=242,slow=15,SNR=4.4						
YKA	**Yellowknife Ar**	**95.70**	**28**	P	**P**	**12 59 01.2**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=265,slow=3.9,SNR=8.1						
YKA				pP	pP	12 59 18.0	-7.9
	comp=Z,1.4nm,0.8s,baz=271,slow=5.1,SNR=3.9						
PDAR	**Pinedale Array**	**98.20**	**48**	P	Pdif	12 59 12.4	+1.0
	comp=Z,0.3nm,0.4s,baz=262,slow=1.8,SNR=1.8						
AKASG	**Malin Array Be**	**117.00**	**325**	PKP	**PKiKP**	**13 04 18.7**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=54,slow=3.4,SNR=1.8						
GERES	**GERESS Array B**	**126.48**	**329**	PKP	**PKiKP**	**13 04 37.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.3,SNR=6.1						
GERES				pPKP	**pPKPdf**	**13 04 53.8**	**-10**
	comp=Z,0.6nm,0.7s,baz=38,slow=2.4,SNR=3.1						
BDFB	**Brasilia**	**148.43**	**134**	PKPbc	**PKPbc**	**13 05 21.2**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=211,slow=5.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**152.88**	**287**	PKPbc	**PKPbc**	**13 05 31.6**	**0.0**
	comp=Z,1.3nm,0.5s,baz=78,slow=2.1,SNR=13						

***BEO* 04** *12:53:57.7±0.4, 41°.46N×20°.32E, h0km, ML2.9/13*
ISC 04 12:53:53.8±1.0, 41°.11N±0°.02×20°.23E±0°.02, h8km±9km, n92, σ1826/134, 5C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.36**	**312**	P	**Pg**	**12 54 00.3**	**-0.6**
TIR				S	**Sg**	**12 54 06.6**	**+0.9**
TIR				AML	AML	12 54 09.6	
	comp=E,9112µm,0.2s						
TIR				AML	AML	12 54 10.7	
	comp=N,9439µm,0.4s						
TIR	**Tirane**	**0.36**	**312**	P	**Pg**	**12 54 00.7**	**-0.2**
TIR				S	**Sg**	**12 54 06.4**	**+0.7**
	comp=N,2µm,0.3s						
TIR	**Tirane**	**0.36**	**312**	*e*Pg	**Pg**	**12 54 01.3**	**+0.4**
TIR				*e*Sg	**Sb**	**12 54 08.3**	**-0.1**
TIR	**Tirane**	**0.36**	**312**	P	**Pg**	**12 54 00.6**	**-0.2**
	baz=314						
TIR				S	**Sb**	**12 54 07.3**	**-1.1**
	baz=314						
TIR	**Tirane**	**0.36**	**312**	*i* Pg	**Pg**	**12 54 00.8**	**-0.1**
OHR	**Ohrid**	**0.43**	**89**	*i* Pg	**Pg**	**12 54 02.8**	**+0.6**
OHR				*i* Sg	**Sb**	**12 54 10.4**	**0.0**
KBN	**Korca**	**0.64**	**138**	P	**Pg**	**12 54 05.1**	**-1.0**
KBN				S	**Sg**	**12 54 15.4**	**+0.9**
	comp=N,1µm,0.6s						
VLO	**Vlora**	**0.84**	**221**	P	**Pg**	**12 54 09.8**	**-0.2**
	baz=224						
FNA	**Florina**	**0.93**	**110**	P	**Pg**	**12 54 10.8**	**-0.8**
FNA				S	**Sb**	**12 54 25.1**	**+0.4**
FNA				AML	AML	12 54 28.4	
	comp=N,1642µm,0.4s						
FNA				AML	AML	12 54 28.6	
	comp=E,1622µm,0.3s						
FNA	**Florina**	**0.93**	**110**	P	**Pg**	**12 54 11.0**	**-0.6**
FNA				S	**Sb**	**12 54 24.7**	**0.0**
	comp=E,818nm,0.3s						
FNA	**Florina**	**0.93**	**110**	P	**Pg**	**12 54 10.8**	**-0.8**
	baz=108						
FNA				S	**Sb**	**12 54 25.0**	**+0.4**
	baz=108						
FNA	**Florina**	**0.93**	**110**	*i* Pg	**Pg**	**12 54 10.8**	**-0.8**
FNA				*i* Sg	**Sb**	**12 54 25.9**	**+1.2**
NEST	**Nestorio**	**0.93**	**138**	P	**Pg**	**12 54 11.3**	**-0.3**
NEST				S	**Sb**	**12 54 26.2**	**+1.4**
NEST				AML	AML	12 54 30.3	
	comp=E,1213µm,0.6s						
NEST				AML	AML	12 54 31.4	
	comp=N,589µm,0.5s						
NEST	**Nestorio**	**0.93**	**138**	P	**Pg**	**12 54 10.6**	**-1.0**
NEST				S	**Sb**	**12 54 25.1**	**+0.3**
	comp=N,445nm,0.6s						
PUK	**Puka**	**0.97**	**345**	P	**Pg**	**12 54 12.2**	**-0.2**
	baz=345						
PUK				S	**Sn**	**12 54 28.4**	**+0.6**
	baz=345						
LSK	**Leskovik**	**0.99**	**163**	P	**Pg**	**12 54 12.2**	**-0.7**
	baz=163						
ULC	**Ulcinj**	**1.13**	**320**	*i* Pn	**Pg**	**12 54 14.4**	**-1.1**
ULC	**Ulcinj**	**1.13**	**320**	*i*Pg	**Pg**	**12 54 14.7**	**-0.8**
ULC				*i* Sg	**Sn**	**12 54 32.4**	**+0.7**
PENT	**Pentalofos**	**1.14**	**142**	P	**Pg**	**12 54 14.9**	**-0.8**
PENT				AML	AML	12 54 38.4	
	comp=E,406µm,0.5s						
PENT				AML	AML	12 54 39.2	
	comp=N,647µm,0.6s						
PENT	**Pentalofos**	**1.14**	**142**	P	**Pg**	**12 54 15.8**	**+0.1**
PENT				S	**Sb**	**12 54 32.0**	**+1.1**
SRN	**Sarande**	**1.24**	**188**	P	**Pg**	**12 54 16.9**	**-0.6**
SRN				S	**Sn**	**12 54 34.9**	**+0.7**
	comp=N,400nm,0.6s						
SRN	**Sarande**	**1.24**	**188**	P	**Pg**	**12 54 16.0**	**-1.4**
	baz=189						
SRN				S	**Sn**	**12 54 35.6**	**+1.4**
	baz=189						
SKO	**Skopje**	**1.26**	**46**	*e*Pg	**Pg**	**12 54 16.6**	**-1.3**
SKO				*e*Sg	**Sg**	**12 54 29.2**	**-5.0**
SKO	**Skopje**	**1.26**	**46**	*i* Pn	**Pn**	**12 54 18.6**	**+0.9**
BCI	**Bajram Curri**	**1.27**	**355**	P	**Pn**	**12 54 18.5**	**+0.7**
	baz=355						
DRME	**Dracevica, Mon**	**1.33**	**324**	*e*Pn	**Pg**	**12 54 18.6**	**-0.7**
DRME	**Dracevica, Mon**	**1.33**	**324**	*i*Pg	**Pg**	**12 54 17.9**	**-1.4**
DRME				*i* Sg	**Sn**	**12 54 39.3**	**+2.6**
KASA	**Kassiopi**	**1.38**	**189**	P	**Pn**	**12 54 18.7**	**-0.6**
KASA				AML	AML	12 54 41.4	
	comp=N,681µm,0.4s						
KASA				AML	AML	12 54 42.8	
	comp=E,1288µm,0.5s						
KZN	**Kozani**	**1.42**	**124**	P	**Pn**	**12 54 19.4**	**-0.6**
KZN				AML	AML	12 54 44.2	
	comp=N,381µm,0.5s						
KZN				AML	AML	12 54 46.8	
	comp=E,358µm,0.6s						
KEK	**Kerkira**	**1.43**	**193**	P	**Pn**	**12 54 19.0**	**-1.0**
KEK				S	**Sg**	**12 54 39.4**	**-0.2**
KEK				AML	AML	12 54 44.8	
	comp=E,996µm,0.9s						
KEK				AML	AML	12 54 46.0	
	comp=N,628µm,0.7s						
KEK	**Kerkira**	**1.43**	**193**	P	**Pn**	**12 54 19.6**	**-0.4**
KEK				S	**Sn**	**12 54 40.7**	**+1.7**
KPRO	**Kipourio**	**1.44**	**143**	P	**Pn**	**12 54 19.6**	**-0.6**
KPRO				AML	AML	12 54 48.4	
	comp=N,494µm,0.9s						
KPRO				AML	AML	12 54 50.5	
	comp=E,603µm,0.7s						
PVY	**Plav**	**1.50**	**352**	*i*Pg	**Pb**	**12 54 22.0**	**0.0**
PVY				*i* Sg	**Sn**	**12 54 45.1**	**+4.1**
PDG	**Podgorica**	**1.51**	**332**	*e*Pg	**Pn**	**12 54 21.8**	**+0.7**
PDG				*e*Sg	**Sn**	**12 54 38.1**	**-2.9**
PDG	**Podgorica**	**1.51**	**332**	*e*Pn	**Pn**	**12 54 21.4**	**+0.3**
PDG	**Podgorica**	**1.51**	**332**	*i* Pn	**Pb**	**12 54 22.0**	**0.0**
TTG	**Podgorica**	**1.51**	**332**	*i*Pg	**Pn**	**12 54 21.3**	**+0.2**
TTG				*i* Sg	**Sg**	**12 54 44.8**	**+2.5**
JAN	**Janina**	**1.52**	**162**	P	**Pn**	**12 54 21.3**	**0.0**
JAN				AML	AML	12 54 52.6	
	comp=N,648µm,0.6s						
JAN				AML	AML	12 54 54.6	
	comp=E,765µm,0.5s						
BUM	**Brajici-Budva**	**1.56**	**321**	*i*Pg	**Pn**	**12 54 22.1**	**+0.3**
BUM				*i* Sg	**Sg**	**12 54 45.5**	**+1.7**
IGT	**Igoumenitsa**	**1.57**	**177**	P	**Pn**	**12 54 22.0**	**0.0**
IGT	**Igoumenitsa**	**1.57**	**177**	P	**Pn**	**12 54 21.7**	**-0.3**
IGT				S	**Sg**	**12 54 44.4**	**+0.1**
IGT	**Igoumenitsa**	**1.57**	**177**	P	**Pn**	**12 54 22.3**	**+0.3**
	baz=177						
IGT				S	**Sg**	**12 54 45.4**	**+1.1**
	baz=177						
STIP	**Stip**	**1.59**	**68**	*i* Pn	**Pg**	**12 54 25.2**	**+1.0**
GRG	**Griva**	**1.65**	**94**	P	**Pn**	**12 54 23.6**	**+0.5**
GRG	**Griva**	**1.65**	**94**	*i* Pn	**Pn**	**12 54 23.3**	**+0.2**
SCTE	**Santa Cesarea**	**1.69**	**233**	P	**Pn**	**12 54 22.6**	**-1.0**
CEME	**Cevo**	**1.74**	**326**	*i*Pn	**Pn**	**12 54 24.7**	**+0.3**
CEME				*i* Sn	**Sg**	**12 54 50.0**	**+0.3**
VAY	**Valandovo**	**1.78**	**82**	*i* Pn	**Pn**	**12 54 24.1**	**-0.7**
IVA	**Berane**	**1.78**	**352**	*i*Pn	**Pb**	**12 54 26.6**	**-0.2**
IVA				*i* Sn	**Sg**	**12 54 52.6**	**+1.5**
KOME	**Kolasin**	**1.82**	**343**	*i*Pn	**Pb**	**12 54 27.3**	**-0.1**
KOME				*i* Sn	**Sg**	**12 54 53.1**	**+0.7**
HCY	**Herceg Novi**	**1.86**	**317**	*e*Pn	**Pn**	**12 54 25.6**	**-0.4**
HCY	**Herceg Novi**	**1.86**	**317**	*i*Pn	**Pn**	**12 54 25.8**	**-0.2**
HCY				*i* Sn	**Sg**	**12 54 53.7**	**0.0**
NKME	**Niksic**	**1.91**	**331**	*i*Pn	**Pn**	**12 54 27.7**	**+1.0**
NKME				*i* Sn	**Sg**	**12 54 54.8**	**-0.4**
NKY	**Niksic**	**1.94**	**332**	*i*Pn	**Pn**	**12 54 28.5**	**+1.4**
NKY				*i* Sn	**Sg**	**12 54 56.2**	**+0.1**
LIT	**Litokhoron**	**1.99**	**119**	P	**Pn**	**12 54 28.4**	**+0.6**
THL	**Klokotos Trika**	**2.06**	**138**	P	**Pn**	**12 54 29.8**	**+1.2**
BARS	**Barje**	**2.08**	**34**	*e*Pn	**Pn**	**12 54 28.5**	**-0.5**
BARS	**Barje**	**2.08**	**34**	*e*Pn	Pg	12 54 44.3	+11
BARS				*e*Sg	**Sn**	**12 54 52.2**	**-2.9**
BARS				*e*Sg	Sg	12 55 29.0	+28
TREB	**Trebinje**	**2.13**	**320**	*e*Pn	**Pn**	**12 54 29.0**	**-0.7**
SJES	**Sjenica**	**2.16**	**355**	*e*Pg	**Pn**	**12 54 29.3**	**-0.9**
SJES				*e*Sg	**Sn**	**12 54 55.6**	**-1.7**
BOSS	**Bosilegrad**	**2.18**	**50**	*e*Pg	**Pn**	**12 54 31.3**	**+0.9**
BRY	**Bratogost**	**2.19**	**326**	*e*Pn	**Pn**	**12 54 31.8**	**+1.1**
BRY	**Bratogost**	**2.19**	**326**	*i*Pn	**Pn**	**12 54 31.4**	**+0.8**
BRY				*i* Sn	**Sb**	**12 55 02.0**	**+0.9**
SELS	**Selova**	**2.21**	**17**	*e*Pg	**Pn**	**12 54 31.8**	**+0.9**
SELS				*e*Sg	**Sn**	**12 54 54.8**	**-3.7**
PLE	**Pljevlja**	**2.31**	**345**	*i*Pn	**Pn**	**12 54 33.7**	**+1.5**
PLE				*i* Sn	**Sb**	**12 55 05.2**	**+0.7**
UPM	**Unac-Piva**	**2.31**	**335**	*e*Pn	**Pn**	**12 54 34.2**	**+1.8**
UPM	**Unac-Piva**	**2.31**	**335**	*i*Pn	**Pn**	**12 54 33.7**	**+1.3**
UPM				*i* Sn	**Sb**	**12 55 05.2**	**+0.5**
IVAS	**Ivanjica**	**2.47**	**359**	*e*Pg	**Pn**	**12 54 35.4**	**+1.0**
IVAS				*e*Sg	**Sn**	**12 55 05.0**	**+0.2**
STON	**Ston**	**2.58**	**314**	*e*Pn	**Pn**	**12 54 33.9**	**-1.9**
RUDO	**Rudo**	**2.59**	**346**	*e*Pn	**Pb**	**12 54 40.0**	**-0.5**
VTS	**Vitosha**	**2.71**	**55**	*i* Pn	**Pn**	**12 54 38.8**	**+1.1**
BOVS	**Bovan**	**2.76**	**23**	*e*Pn	**Pn**	**12 54 37.4**	**-0.9**
BOVS				*e*Sg	**Sn**	**12 55 13.6**	**+1.9**
GRUS	**Gruza**	**2.81**	**7**	*e*Pn	**Pn**	**12 54 40.1**	**+1.2**
BBLS	**Lazići**	**2.83**	**348**	*e*Pn	**Pn**	**12 54 41.0**	**+1.7**
BBLS				*e*Sg	**Sb**	**12 55 17.2**	**-2.1**
BBLS	**Lazići**	**2.83**	**348**	*e*Pn	**Pn**	**12 54 39.7**	**+0.4**
DIVS	**Divibare**	**3.00**	**357**	*e*Pn	**Pn**	**12 54 43.2**	**+1.5**
DIVS				*e*Sg	**Sn**	**12 55 20.6**	**+2.8**
DIVS	**Divibare**	**3.00**	**357**	*e*Pn	**Pn**	**12 54 43.1**	**+1.4**
ZAGS	**Zajecar**	**3.09**	**28**	*e*Pn	**Pn**	**12 54 43.9**	**+1.1**
TRUS	**Trudelj**	**3.12**	**2**	*e*Pn	**Pn**	**12 54 44.7**	**+1.4**
TRUS				*e*Sg	**Sb**	**12 55 25.8**	**-1.9**
HAPS	**Han Pijesak,Bl**	**3.12**	**343**	*e*Pn	**Pn**	**12 54 42.6**	**-0.8**
KUBS	**Kucevo**	**3.47**	**17**	*e*Pn	**Pn**	**12 54 48.8**	**+0.7**
MGRS	**Mrkonjic Grad**	**4.04**	**326**	*e*Pn	Pn	12 54 46.1	-10
FRGS	**Fruska Gora**	**4.06**	**356**	*e*Pn	**Pn**	**12 54 57.2**	**+1.0**
MRAK	**Mrakovica**	**4.60**	**329**	*e*Pn	**Pn**	**12 55 04.8**	**+1.1**
MORH	**Mrgy, Hungar**	**5.24**	**348**	*e*Pn	**Pn**	**12 55 14.8**	**+2.5**
CRES	**Cresnjev**	**5.86**	**325**	*i* Pn	**Pn**	**12 55 20.6**	**-0.3**
CRES	**Cresnjev**	**5.86**	**325**	*e*Pn	**Pn**	**12 55 20.5**	**-0.4**
GBRS	**Gornja Briga**	**5.93**	**320**	*i* Pn	**Pn**	**12 55 22.0**	**+0.1**
CEY	**Cerknica**	**6.27**	**320**	*e*Pn	**Pn**	**12 55 23.9**	**-2.6**
VYHS	**Vyhne**	**7.45**	**353**	*e*PN	Pn	12 55 47.9	+5.1
ABTA	**Abfaltersbach**	**7.92**	**318**	*e*Pn	**Pn**	**12 55 49.5**	**+0.2**
	comp=E,0.9nm,0.2s						
ABTA				*e*Sn	**Sn**	**12 57 18.4**	**-0.7**
	comp=E,4.6nm,0.8s						
WTTA	**Wattenberg**	**8.71**	**318**	*e*Pn	**Pn**	**12 56 01.0**	**+0.8**
	comp=E,1.5nm,0.2s						

***ATH* 04** *13:08:02.5, 36°.00N×28°.41E, h62km±4km, ML2.2/2, Error ellipse: s-maj=7.9km s-min=2.6km az=357.0*
NIC 04** *13:08:04.5±0.0, 35°.85N×28°.48E, h36km±23km, Ml3.1/2*
ISK 04** *13:08:05.4, 36°.14N×28°.61E, h23km, ML2.3/6*
DDA 04** *13:08:05.3, 36°.09N×28°.59E, h7km±6km, ML2.0*
ISC 04 13:08:03.5±1.4, 36°.01N±0°.05×28°.50E±0°.03, h17km±9km, n29, σ0887/50, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.37**	**305**	P	**Pn**	**13 08 14.3**	**+0.3**
ARG				S	**Sn**	**13 08 21.4**	**+0.6**
ARG				AML	AML	13 08 22.2	
	comp=N,673µm,0.1s						
ARG				AML	AML	13 08 22.4	
	comp=E,843µm,0.2s						
ARG	**Arkhangelos**	**0.37**	**305**	PG	**Pn**	**13 08 14.3**	**+0.3**
ARG				SG	**Sn**	**13 08 21.1**	**+0.4**
ARG	**Arkhangelos**	**0.37**	**305**	P	**Pn**	**13 08 14.4**	**+0.3**
ARG				S	**Sn**	**13 08 21.4**	**+0.6**
MRSB	**Marmaris-Mugla**	**0.75**	**341**	PG	**Pb**	**13 08 18.9**	**+0.9**
MRSB				SG	**Sg**	**13 08 28.9**	**+0.8**
FETY	**Fethiye**	**0.78**	**37**	*i* P	**Pg**	**13 08 18.4**	**-0.4**
FETY				*i* S	**Sb**	**13 08 29.8**	**+0.8**
FETY	**Fethiye**	**0.78**	**37**	PG	**Pg**	**13 08 18.5**	**-0.3**
TURN	**Turunc**	**0.79**	**345**	*i* P	**Pb**	**13 08 19.7**	**+0.9**
TURN				*i* S	**Sb**	**13 08 30.9**	**+1.6**
TURN				IAML		13 08 32.0	
	comp=E,51nm,0.3s						
TURN	**Turunc**	**0.79**	**345**	PG	**Pb**	**13 08 19.6**	**+0.8**
TURN				SG	**Sg**	**13 08 30.0**	**+0.5**
DALY	**Dalyan (Mula)**	**0.82**	**9**	*i* P	**Pg**	**13 08 19.4**	**0.0**
DALY				*i* S	**Sg**	**13 08 30.5**	**+0.2**
DALY	**Dalyan (Mula)**	**0.82**	**9**	PG	**Pb**	**13 08 19.8**	**+0.6**
DALY				SG	**Sg**	**13 08 29.9**	**-0.3**
KSL	**Kastellorizon**	**0.89**	**80**	P	**Pn**	**13 08 21.8**	**+0.7**
KSL				AML	AML	13 08 34.6	
	comp=N,151µm,0.3s						
KSL				AML	AML	13 08 35.4	
	comp=E,216µm,0.3s						
KSL	**Kastellorizon**	**0.89**	**80**	P	**Pn**	**13 08 21.8**	**+0.7**
KSL				S	**Sn**	**13 08 34.3**	**+0.7**
AKAS	**Kas**	**0.92**	**76**	*i* P	**Pg**	**13 08 21.0**	**-0.4**
AKAS				*i* S	**Sn**	**13 08 34.5**	**-0.1**
AKAS	**Kas**	**0.92**	**76**	PG	**Pb**	**13 08 21.2**	**+0.1**
AKAS				SG	**Sb**	**13 08 33.7**	**+0.6**
YER	**Yerkesik**	**1.14**	**351**	PG	**Pb**	**13 08 24.8**	**+0.

JKK2				eS		Sn	13 15 04.4	-0.3
JFR	**Furan**	**0.81**	**245**	P		Pn	13 14 48.2	+0.4
JNK	**Nakash**	**0.82**	**84**	P		Pn	13 14 48.1	+0.3
JNK				eS		Sn	13 15 06.8	+0.9
JCH	**Churui**	**0.91**	**191**	P		Pn	13 14 48.3	-0.2
JCH				eS		Sn	13 15 06.2	-0.8
JAK	**Akkeshi**	**0.95**	**122**	P		Pn	13 14 48.6	-0.2
JAK				eS		Sn	13 15 07.1	-0.5
ASAJ	**Asahikawa**	**0.95**	**311**	P		Pn	13 14 49.3	+0.5
	11nm,0.3s,baz=181,slow=4.3,SNR=86							
ASAJ				S		Sn	13 15 08.1	+0.4
	3.7nm,0.3s,baz=15,slow=20,SNR=5.0							
ASAJ	**Asahikawa**	**0.95**	**311**	P		Pn	13 14 49.2	+0.4
ASAJ				eS		Sn	13 15 07.7	0.0
JAB	**Ashibetsu**	**1.00**	**271**	P		Pn	13 14 49.9	+0.7
JRA	**Rausu**	**1.19**	**68**	P		Pn	13 14 51.5	+0.7
JNBK	**Urakawa-nobuka**	**1.37**	**207**	P		Pn	13 14 52.6	-0.1
JHR	**Hokuryu**	**1.38**	**281**	P		Pn	13 14 53.4	+0.7
GLVR	**Golovnino**	**1.42**	**80**	eP		Pn	13 14 53.4	+0.4
GLVR				eS		Sn	13 15 16.1	+0.9
GLVR				A		A	13 15 17.1	
	270nm,0.5s							
GLVR				A		A	13 15 17.1	
	150nm,0.5s							
NMR	**Nemuro--Hokkai**	**1.56**	**94**	eP		Pn	13 14 54.1	-0.4
NMR				eS		Sn	13 15 16.4	-1.4
NEM2	**Nemuro 2**	**1.57**	**94**	P		Pn	13 14 54.1	-0.5
NEM2				eS		Sn	13 15 16.3	-1.7
JSE	**Soyaes**	**1.63**	**334**	P		Pn	13 14 55.4	+0.2
GRPR	**Tuman**	**1.65**	**72**	eP		Pn	13 14 56.2	+0.7
GRPR				eS		Sn	13 15 21.4	+1.8
GRPR				A		A	13 15 23.7	
	90nm,0.3s							
GRPR				A		A	13 15 23.7	
	90nm,0.3s							
JEW	**Eniwo**	**1.71**	**248**	P		Pn	13 14 56.6	+0.5
YUK	**Yuzh-Kuril'sk**	**1.72**	**71**	eP		Pn	13 14 58.4	+2.1
YUK				AMB		AMB	13 15 00.5	
	10.0nm,0.4s							
YUK				eS		Sn	13 15 23.9	+2.9
YUK				A		A	13 15 25.8	
	80nm,0.3s							
YUK				A		A	13 15 25.8	
	60nm,0.3s							
JWK2	**Keihoku**	**2.18**	**327**	P		Pn	13 15 02.5	+1.0
MJAR	**Matsushiro Arr**	**8.09**	**213**	P		Pn	13 16 20.9	+2.2
	0.1nm,0.3s,baz=15,slow=14,SNR=2.4							
PETK	**Petropavlovsk-**	**13.41**	**39**	P		Pn	13 17 27.3	-0.9
	0.3nm,0.3s,baz=216,slow=8.9,SNR=9.8							
SEY	**Seymchan**	**20.13**	**12**	P		P	13 18 44.2	-1.6
	1.0nm,0.3s,baz=188,slow=8.3,SNR=37							
ILAR	**Eielson Array**	**43.21**	**36**	P		P	13 22 09.2	-0.2
	0.9nm,0.8s,baz=265,slow=6.6,SNR=9.5							
FINES	**FINESS Array B**	**63.90**	**332**	P		P	13 24 39.3	-0.7
	2.3nm,0.8s,baz=32,slow=8.9,SNR=2.2							
ASAR	**Alice Springs**	**67.43**	**190**	P		P	13 25 04.0	+0.9
	0.3nm,0.7s,baz=7.2,slow=6.4,SNR=4.1							
TXAR	**Lajitas Array**	**84.91**	**54**	P		P	13 26 43.0	+1.0
	0.3nm,0.6s,baz=267,slow=2.5,SNR=3.6							

*NNC **04** 13:24:27.7±0.3,50.°01N×78.°71E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=2.8km s-min=1.4km az=72.0,
Suspected Mining explosion.
*ASRS **04** 13:24:30.3±0.3,50°N±2.°×7.°9E±.°,h10km,MLh3.5/7,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
ISC 04 13:24:29.1±0.8,50.°01N±0.°04×78.°69E±0.°03,h0km,n32,
σ1s28/54,19C-11D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.58**	**349**	⇑P	**Pg**	**13 24 39.2**	**-1.0**
KUR07				⇑S	**Sg**	**13 24 48.2**	**+0.3**
KUR06	**Kurchatov Arra**	**0.60**	**350**	⇑P	**Pg**	**13 24 39.6**	**-1.1**
KUR06				⇑S	**Sg**	**13 24 48.2**	**-0.2**
KUR14	**Kurchatov Arra**	**0.61**	**354**	⇑P	**Pg**	**13 24 39.6**	**-1.1**
KUR14				⇓S	**Sg**	**13 24 48.3**	**-0.3**
KUR15	**Kurchatov Arra**	**0.61**	**352**	⇓P	**Pg**	**13 24 39.7**	**-1.1**
KUR15				⇑S	**Sg**	**13 24 48.9**	**+0.1**
KURBB	**Kurchatov Arra**	**0.62**	**351**	⇑P	**Pg**	**13 24 39.8**	**-1.1**
	41nm,0.3s						
KURBB				⇑S	**Sg**	**13 24 48.9**	**-0.1**
	217nm,0.8s						
KUR16	**Kurchatov Arra**	**0.63**	**349**	⇑P	**Pg**	**13 24 39.9**	**-1.2**
KUR16				⇑S	**Sg**	**13 24 49.2**	**-0.1**
KUR17	**Kurchatov Arra**	**0.64**	**347**	⇓P	**Pg**	**13 24 40.1**	**-1.2**
KUR17				⇑S	**Sg**	**13 24 49.1**	**-0.5**
KUR05	**Kurchatov Arra**	**0.64**	**351**	⇑P	**Pg**	**13 24 40.0**	**-1.3**
KUR05				⇑S	**Sg**	**13 24 48.9**	**-0.7**
SEM	**Semipalatinsk**	**1.08**	**68**	P	**Pg**	**13 24 48.8**	**-0.9**
	8.4nm,0.1s						
SEM				S	**Sg**	**13 25 02.7**	**-1.0**
	47nm,0.2s						
BRZS	**Berezniki**	**3.88**	**272**	Pg	**Pb**	**13 25 40.0**	**+1.6**
	10.0nm,0.4s						
BRZS				Lg	Lg	13 26 30.3	
	8.7nm,0.7s						
MAKZ	**Makanchi**	**3.88**	**144**	P	**Pn**	**13 25 30.5**	**+0.5**
MAKZ				S	**Sn**	**13 26 14.5**	**-1.8**
MAKZ	**Makanchi**	**3.88**	**144**	⇓Pn	**Pn**	**13 25 29.3**	**-0.7**
	0.4nm,0.3s						
MAKZ				⇓Pg	**Pb**	**13 25 37.3**	**-1.1**
	5.6nm,1.1s						
MAKZ				⇓Lg	Lg	13 26 28.7	
	9.0nm,0.6s						
UKR	**Ust'-Kan**	**3.99**	**74**	P	**Pn**	**13 25 32.5**	**+0.9**
UKR				S	**Sn**	**13 26 18.3**	**-0.8**
MK31	**Makanchi Array**	**4.01**	**142**	⇑Pn	**Pn**	**13 25 31.3**	**-0.6**
	0.1nm,0.1s,baz=322,slow=10,SNR=29						
MK31				⇓Pg	**Pb**	**13 25 39.9**	**-0.7**
	0.7nm,0.2s,baz=323,slow=13,SNR=27						
MK31				⇑Lg	Lg	13 26 35.7	
	14nm,0.7s,baz=330,slow=24,SNR=20						
MKAR	**Makanchi Array**	**4.01**	**142**	P	**Pn**	**13 25 32.2**	**+0.4**
MKAR				S	**Sn**	**13 26 18.9**	**-0.7**
OTUK	**Ortayu**	**4.53**	**249**	⇓Pn	**Pn**	**13 25 37.1**	**-1.8**
	2.1nm,0.3s						
OTUK				⇑Pg	**Pb**	**13 25 50.6**	**+1.1**
	1.2nm,0.5s						
OTUK				⇑Lg	Lg	13 26 50.8	
	4.1nm,0.5s						
KAPS	**Kapalarasan**	**4.75**	**174**	Pg	**Pb**	**13 25 55.2**	**+1.9**
	2.0nm,0.1s						
KAPS				Lg	Lg	13 26 56.3	
	13nm,0.5s						
ZSN	**Zaisan**	**4.82**	**120**	Pg	**Pb**	**13 25 57.3**	**+2.8**
	3.6nm,0.4s						
ZSN				Lg	Lg	13 26 59.9	
	4.9nm,0.4s						
ZAA0	**Zalesovo Array**	**5.47**	**41**	⇓Pn	**Pn**	**13 25 50.3**	**-1.4**
	0.2nm,0.2s						
ZAA0				⇓Lg	Lg	13 27 21.9	
	0.7nm,0.7s						
NVSII	**Novosibirsk**	**5.58**	**28**	S	**Sn**	**13 27 00.6**	**+2.6**
DGZ	**Jazzator, Alta**	**5.66**	**90**	P	**Pn**	**13 25 56.0**	**+1.5**
DGZ				S	**Sn**	**13 27 01.2**	**+0.8**
CHBI	**Chibit, Altay**	**5.67**	**84**	P	**Pn**	**13 25 55.6**	**+0.9**
CHBI				S	**Sn**	**13 27 00.9**	**+0.3**
ELT	**Eltsovka**	**5.72**	**52**	P	**Pn**	**13 25 55.9**	**+0.8**
ELT				S	**Sn**	**13 27 01.1**	**-0.3**
ARTR	**Artybash**	**5.72**	**68**	P	**Pn**	**13 25 56.1**	**+0.9**
ARTR				S	**Sn**	**13 27 01.8**	**+0.2**
DJR	**Jarkent**	**5.73**	**172**	Pg	**Pb**	**13 26 13.4**	**+3.5**
	0.5nm,0.1s						
DJR				Lg	Lg	13 27 27.6	
	6.4nm,0.6s						
AKAR	**Aktash**	**5.75**	**83**	P	**Pn**	**13 25 55.0**	**-0.8**
AKAR				S	**Sn**	**13 27 02.7**	**+0.3**
BTLS	**Baital**	**5.88**	**214**	Pg	**Pb**	**13 26 15.7**	**+3.3**
	0.7nm,0.1s						
BTLS				Lg	Lg	13 27 31.2	
	3.5nm,0.9s						
ULGR	**Ulagan, Altay**	**5.97**	**81**	P	**Pn**	**13 25 59.7**	**+0.9**
BRVK	**Borovoye**	**6.07**	**303**	P	**Pn**	**13 26 00.2**	**+0.2**
BRVK				S	**Sn**	**13 27 09.1**	**-0.9**
BRVK	**Borovoye**	**6.07**	**303**	⇓Pn	**Pn**	**13 25 59.2**	**-0.8**
	2.6nm,1.1s						
BRVK				⇑Sn	**Sn**	**13 27 10.1**	**+0.1**
	3.2nm,0.8s						
BRVK				⇑Lg	Lg	13 27 41.2	
	3.2nm,0.9s						
CUR	**Chagan-Uzun**	**6.22**	**85**	P	**Pn**	**13 26 03.5**	**+1.3**
CUR				S	**Sn**	**13 27 15.3**	**+1.2**
UZB	**Uzynbulak**	**6.87**	**178**	Pg	**Pg**	**13 26 36.3**	**-4.3**
	2.7nm,0.2s						
UZB				Lg	Lg	13 28 06.9	
	3.7nm,0.6s						

*ANF **04** 13:48:23.4±0.3,46.°49N×122.°43W,h22km±2km,ML2.7/9,*
Error ellipse: s-maj=3.2km s-min=2.1km az=61.0,
Hypocentre not reviewed by the ISC
*NEIC **04** 13:48:23.6±1.2,46.°50N±0.°02×122.°41W±0.°03,h19km±2km,*
Error ellipse: s-maj=2.7km s-min=2.5km az=65.0
*SEA **04** 13:48:24.3±1.7,46.°49N±0.°02×122.°41W±0.°03,h19km±2km,*
ML2.8/56,ML2.5/26(NEIC),Error ellipse: s-maj=2.8km
s-min=2.5km az=86.0
*PGC **04** 13:48:24.3,46.°49N×122.°41W,h19km,ML2.0/9,ML2.8,*
124km south of Seattle, Wa Washington
ISC 04 13:48:24.0±0.9,46.°50N±0.°01×122.°43W±0.°02,h18km±3km,
n153,σ1s14/188,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E04D	**Cinebar**	**0.11**	**300**		**Pg**	**13 48 28.2**	**+0.4**
E04D	**Cinebar**	**0.11**	**300**	P		13 48 28.2	
	baz=123,SNR=1000						
E04D				S		13 48 31.0	
	baz=123						
ERK	**Elk Rock**	**0.20**	**163**		**Pg**	**13 48 28.8**	**-0.4**
TDL	**Tradedollar La**	**0.21**	**136**		**Pg**	**13 48 29.0**	**-0.2**
B201	**Coldwater, Mou**	**0.23**	**150**		**Pg**	**13 48 29.0**	**-0.4**
B201					**Sg**	**13 48 32.7**	**-0.4**
LCW	**Lucas Creek**	**0.25**	**312**		**Pg**	**13 48 30.1**	**+0.3**
JRO	**Jston Ridge Ob**	**0.27**	**147**		**Pg**	**13 48 29.8**	**-0.3**
JRO					**Sg**	**13 48 34.0**	**-0.2**
STD	**Studebaker Rid**	**0.30**	**152**		**Pg**	**13 48 30.1**	**-0.5**
STD					**Sg**	**13 48 34.7**	**-0.4**
STD	**Studebaker Rid**	**0.30**	**152**		**Pg**	**13 48 30.2**	**-0.3**
FL2	**Flat Top 2**	**0.31**	**170**		**Pg**	**13 48 30.3**	**-0.5**
B202	**Windy Ridge, M**	**0.33**	**142**		**Pg**	**13 48 30.4**	**-0.6**
SOSW	**Source of Smit**	**0.33**	**142**		**Pg**	**13 48 30.6**	**-0.5**
VALT	**Mount Saint He**	**0.33**	**150**		**Pg**	**13 48 30.8**	**-0.3**
VALT					**Sb**	**13 48 36.0**	**-0.4**
SHW	**Mount Saint He**	**0.34**	**157**		**Pg**	**13 48 30.8**	**-0.4**
B203	**Quarry, Mount**	**0.34**	**169**		**Pg**	**13 48 30.6**	**-0.6**
B203					**Sg**	**13 48 35.7**	**-0.4**
SEPW	**September Lobe**	**0.34**	**151**		**Pg**	**13 48 31.1**	**-0.3**
ESD	**East Dome**	**0.36**	**148**		**Pg**	**13 48 31.4**	**-0.3**
HSR	**South Ridge**	**0.37**	**153**		**Pg**	**13 48 31.5**	**-0.3**
JLK	**June Lake**	**0.40**	**152**		**Pg**	**13 48 31.8**	**-0.5**
RVW	**Rose Valley**	**0.41**	**212**		**Pg**	**13 48 32.1**	**-0.5**
LVP	**Lakeview Peak**	**0.43**	**178**		**Pg**	**13 48 32.4**	**-0.5**
CDFW	**Cedar Flats**	**0.47**	**145**		**Pg**	**13 48 32.9**	**-0.6**
LON	**Longmire**	**0.49**	**59**		**Pg**	**13 48 33.3**	**-0.7**
MTMW	**Mount Mitchell**	**0.50**	**162**		**Pg**	**13 48 33.4**	**-0.7**
B941	**Kapowsin**	**0.51**	**16**		**Pg**	**13 48 33.4**	**-0.8**
REMR	**Mount Rainier-**	**0.52**	**51**		**Pg**	**13 48 33.9**	**-0.5**
RRHS	**Rochester High**	**0.52**	**306**		**Pg**	**13 48 34.5**	**+0.1**
RRHS					**Sb**	**13 48 42.9**	**+1.2**
GHW	**Garrison Hill**	**0.55**	**11**		**Pg**	**13 48 34.3**	**-0.8**
GLK	**Glacier Lake**	**0.57**	**83**		**Pg**	**13 48 34.5**	**-0.8**
F04D	**Rainier, OR**	**0.58**	**224**		**Pg**	**13 48 35.0**	**-0.6**
F04D					**Sg**	**13 48 43.5**	**+0.1**
F04D	**Rainier, OR**	**0.58**	**224**	P		13 48 34.9	
	baz=46,SNR=15						
F04D				S		13 48 43.3	
	baz=46						
OBSR	**Observation Ro**	**0.58**	**46**		**Pg**	**13 48 35.1**	**-0.6**
OBSR					**Sg**	**13 48 43.4**	**-0.1**
RCM	**Mount Rainier-**	**0.58**	**55**		**Pg**	**13 48 35.0**	**-0.8**
RCM					**Sg**	**13 48 43.2**	**-0.5**
B023	**Clatskanie**	**0.60**	**229**		**Pg**	**13 48 34.9**	**-0.9**
B023					**Sg**	**13 48 43.5**	**-0.2**
RCS	**Mount Rainier-**	**0.61**	**52**		**Pg**	**13 48 35.4**	**-0.8**
WPW	**White Pass**	**0.64**	**72**		**Pg**	**13 48 35.7**	**-1.0**
PANH	**Panhandle Gap,**	**0.65**	**56**		**Pg**	**13 48 35.9**	**-1.0**
PANH					**Sg**	**13 48 45.0**	**-0.6**
ASR	**Mount Adams--S**	**0.68**	**121**		**Pg**	**13 48 36.3**	**-1.0**
FMW	**Mount Fremont**	**0.68**	**50**	P	**Pg**	**13 48 36.6**	**-0.8**
FMW				S	**Sg**	**13 48 44.8**	**-1.7**
FMW	**Mount Fremont**	**0.68**	**50**		**Pg**	**13 48 36.5**	**-0.8**
CPW	**Capitol Peak**	**0.68**	**314**		**Pg**	**13 48 36.9**	**-0.5**
CPW					**Sg**	**13 48 46.8**	**+0.3**
EGRN	**Evergreen Coll**	**0.69**	**327**		**Pg**	**13 48 37.0**	**-0.5**
D04E	**Lakebay**	**0.72**	**341**	P		13 48 37.8	
	baz=160,SNR=59						
D04E				Sn		13 48 49.2	
	baz=160						
D05A	**Enumclaw**	**0.75**	**23**	P	**Pg**	**13 48 38.0**	**-0.7**
D05A				S	**Sg**	**13 48 48.1**	**-0.6**
D05A	**Enumclaw**	**0.75**	**23**		**Pg**	**13 48 38.0**	**-0.7**
E03A	**Lebam**	**0.79**	**274**	P	**Pg**	**13 48 38.4**	**-1.0**
E03A				S	**Sg**	**13 48 49.7**	**-0.1**
E03A	**Lebam**	**0.79**	**274**		**Pg**	**13 48 38.4**	**-1.0**
E03A	**Lebam**	**0.79**	**274**	IAML		13 48 57.6	
	comp=N,251nm,0.4s						
E03A				IAML		13 48 58.0	
	comp=E,205nm,0.4s						
GULW	**Guler Mountain**	**0.82**	**135**		**Pg**	**13 48 38.7**	**-1.2**
NLO	**Nicolai Mounta**	**0.82**	**240**		**Pg**	**13 48 39.2**	**-0.8**
GSM	**Grass Mountain**	**0.83**	**31**		**Pg**	**13 48 39.1**	**-1.1**
B019	**Raymond**	**0.86**	**281**		**Pg**	**13 48 40.1**	**-0.6**
F05D	**White Salmon**	**0.91**	**132**		**Pg**	**13 48 40.6**	**-1.2**
F05D					**Sg**	**13 48 53.1**	**-0.7**
F05D	**White Salmon**	**0.91**	**132**	P		13 48 40.3	
	baz=313,SNR=14						
F05D				S		13 48 52.7	
	baz=313						
B017	**Montesano**	**0.92**	**303**		**Pg**	**13 48 41.2**	**-0.7**
VVHS	**Vashon High Sc**	**0.92**	**359**		**Pg**	**13 48 40.9**	**-1.1**
RADR	**Rader Ridge**	**0.95**	**266**		**Pg**	**13 48 41.2**	**-1.3**
WPO	**West Portland**	**0.96**	**195**		**Pg**	**13 48 41.2**	**-1.5**
RATT	**Rattlesnake La**	**1.02**	**25**		**Pg**	**13 48 42.0**	**-1.7**
SMW	**South Mountain**	**1.03**	**323**	P	**Pg**	**13 48 42.9**	**-1.2**
SMW	**South Mountain**	**1.03**	**323**		**Pg**	**13 48 43.3**	**-0.7**
PGO	**Gresham**	**1.03**	**181**		**Pg**	**13 48 42.5**	**-1.5**
SP2	**Seward Park 2**	**1.06**	**7**		**Pg**	**13 48 43.5**	**-1.1**
GMW	**Gold Mountain**	**1.08**	**347**		**Pg**	**13 48 42.8**	**-2.1**
GNW	**Green Mountain**	**1.10**	**346**	P	**Pb**	**13 48 43.0**	**-1.4**
GNW				S	**Sg**	**13 48 57.4**	**-2.3**
GNW	**Green Mountain**	**1.10**	**346**		**Pb**	**13 48 43.0**	**-1.4**
WISH	**Wishkah**	**1.11**	**304**	P	**Pb**	**13 48 44.5**	**-0.1**
WISH				S	**Sb**	**13 48 57.9**	**-0.8**
WISH	**Wishkah**	**1.11**	**304**		**Pb**	**13 48 44.6**	**0.0**
NAC	**Naches**	**1.13**	**77**		**Pb**	**13 48 44.4**	**-0.5**
D03D	**Eldon**	**1.13**	**337**		**Pb**	**13 48 43.9**	**-1.0**
D03D	**Eldon**	**1.13**	**337**	P		13 48 43.9	
	baz=156,SNR=93						
D03D				S		13 48 59.4	
	baz=156						
KMOR	**Kings Mountain**	**1.14**	**221**		**Pb**	**13 48 43.7**	**-1.5**
HIYU	**Hiyu Mountain**	**1.15**	**158**		**Pb**	**13 48 44.4**	**-0.9**
B022	**Seaside**	**1.18**	**243**		**Pb**	**13 48 44.3**	**-1.4**
HDW	**Hoodsport**	**1.23**	**340**	P	**Pn**	**13 48 45.0**	**-1.3**
HDW				S	**Sb**	**13 49 01.4**	**-0.8**
HDW	**Hoodsport**	**1.23**	**340**		**Pn**	**13 48 45.0**	**-1.3**
TWW	**Teanaway**	**1.25**	**59**		**Pn**	**13 48 47.2**	**+0.7**
C04A	**Brinnon**	**1.27**	**343**		**Pn**	**13 48 45.9**	**-0.9**
TDH	**Tom, Dick, Har**	**1.29**	**160**		**Pn**	**13 48 46.5**	**-0.7**
G04A	**Mulino**	**1.29**	**182**		**Pn**	**13 48 46.2**	**-0.9**
HOOD	**Mount Hood Mea**	**1.30**	**155**		**Pn**	**13 48 46.9**	**-0.5**
TRW	**Toppenish Ridg**	**1.32**	**98**		**Pn**	**13 48 48.1**	**+0.5**
NLWA	**Neilton Lookou**	**1.33**	**313**	Pn	**Pn**	**13 48 47.2**	**-0.5**
NLWA				IAML		13 49 06.7	
	comp=E,81nm,0.6s						
NLWA				IAML		13 49 10.9	
	comp=E,78nm,0.5s						
EBG	**Ellensburg**	**1.34**	**72**		**Pn**	**13 48 48.2**	**+0.3**
B013	**Quilcene**	**1.35**	**346**		**Pn**	**13 48 47.3**	**-0.7**
B013	**Quilcene**	**1.35**	**346**		**Pn**	**13 48 47.2**	**-0.7**
BLH	**Bald Hill**	**1.36**	**11**		**Pn**	**13 48 48.1**	**0.0**
OLQ	**Olympics--Lake**	**1.39**	**318**		**Pn**	**13 48 48.2**	**-0.2**
G03D	**McMinnville, O**	**1.42**	**205**		**Pn**	**13 48 48.2**	**-0.5**
G03D	**McMinnville, O**	**1.42**	**205**	P		13 48 47.9	
	baz=25,SNR=39						
G03D				S		13 49 06.7	
	baz=25						
TBM	**Table Mountain**	**1.42**	**61**		**Pn**	**13 48 49.9**	**+1.0**
LTY	**Liberty**	**1.42**	**57**	P	**Pn**	**13 48 49.3**	**+0.3**
LTY				S	**Sn**	**13 49 07.2**	**-0.1**
LTY	**Liberty**	**1.42**	**57**		**Pn**	**13 48 49.3**	**+0.3**
LTY				IAML		13 49 09.2	
	comp=E,64nm,0.3s						
LTY				IAML		13 49 12.8	
	comp=N,51nm,0.5s						
MXC	**Moxie City**	**1.48**	**86**		**Pn**	**13 48 50.4**	**+0.8**
G05D	**Wamic, OR**	**1.48**	**148**		**Pn**	**13 48 50.6**	**+0.9**
G05D	**Wamic, OR**	**1.48**	**148**	Pb		13 48 50.3	
	baz=329						
G05D				Sb		13 49 09.8	
	baz=329						
VGB	**Gordon Butte**	**1.51**	**130**		**Pn**	**13 48 50.7**	**+0.5**
BLN	**Blyn Mountain**	**1.55**	**346**	P	**Pn**	**13 48 50.4**	**-0.3**
BLN				S	**Sn**	**13 49 09.9**	**-0.5**
BLN	**Blyn Mountain**	**1.55**	**346**		**Pn**	**13 48 50.4**	**-0.3**
OSD	**Olympics--Snow**	**1.58**	**327**	P	**Pn**	**13 48 51.6**	**+0.3**
OSD	**Olympics--Snow**	**1.58**	**327**		**Pn**	**13 48 52.2**	**+0.9**
HEBO	**Mount Hebo**	**1.59**	**216**		**Pn**	**13 48 52.7**	**+1.5**
SQM	**Sequim**	**1.63**	**345**		**Pn**	**13 48 52.6**	**+0.9**
BLTW	**Bickleton**	**1.67**	**110**		**Pn**	**13 48 52.9**	**+0.6**
WRW	**Wenatchee Ridg**	**1.72**	**37**		**Pn**	**13 48 54.2**	**+1.1**
B04A	**Port Angeles**	**1.72**	**335**		**Pn**	**13 48 53.9**	**+0.9**
JCW	**Jim Creek**	**1.73**	**11**	P	**Pn**	**13 48 53.7**	**+0.5**
JCW	**Jim Creek**	**1.73**	**11**		**Pn**	**13 48 53.6**	**+0.5**
B05A	**Bryant**	**1.78**	**7**		**Pn**	**13 48 54.5**	**+0.7**
H04A	**Detroit Lake**	**1.82**	**175**		**Pn**	**13 48 54.7**	**+0.3**
F07A	**Phinny Hill Vi**	**1.84**	**108**	Pn	**Pn**	**13 48 54.6**	**0.0**
F07A				IAML		13 49 28.8	
	comp=E,41nm,0.6s						
GPW	**Glacier Peak**	**1.84**	**28**	P	**Pn**	**13 48 56.2**	**+1.3**
GPW				S	**Sn**	**13 49 18.6**	**+0.8**
GPW	**Glacier Peak**	**1.84**	**28**		**Pn**	**13 48 56.2**	**+1.3**
MDW	**Midway**	**1.84**	**86**		**Pn**	**13 48 56.3**	**+1.7**
STW	**Striped Peak**	**1.85**	**333**	P	**Pn**	**13 48 56.8**	**+2.0**
GBB	**Gable Butte**	**1.94**	**86**		**Pn**	**13 48 56.4**	**+0.5**
CMW	**Cultus Mountai**	**1.94**	**6**	P	**Pn**	**13 48 57.2**	**+1.2**
CMW				S	**Sn**	**13 49 20.9**	**+0.9**
H04D	**Lebanon**	**1.99**	**186**		**Pn**	**13 48 57.5**	**+0.8**
HAWA	**Hanford**	**2.00**	**92**	Pn	**Pn**	**13 48 56.1**	**-0.7**
VGZ	**Gonzales**	**2.01**	**343**	P	**Pn**	**13 48 57.9**	**+0.9**
VGZ				S	**Sn**	**13 49 23.1**	**+1.5**
COR	**Corvallis**	**2.01**	**198**		**Pn**	**13 48 57.9**	**+0.9**
COR				Sg	**Sb**	**13 49 25.3**	**+0.7**
RPW	**Rockport**	**2.04**	**17**	P	**Pn**	**13 48 59.0**	**+1.5**
RPW	**Rockport**	**2.04**	**17**		**Pn**	**13 48 59.0**	**+1.5**
GBL	**Gable Mountain**	**2.05**	**86**		**Pn**	**13 48 58.5**	**+1.0**
WTV	**Waterville**	**2.07**	**54**		**Pn**	**13 49 00.5**	**+2.6**
H2OWA	**Water**	**2.08**	**92**		**Pn**	**13 48 58.5**	**+0.6**
JBO	**Jordan Butte**	**2.08**	**119**		**Pn**	**13 48 58.5**	**+0.5**
B06A	**Marblemount**	**2.12**	**17**	P	**Pn**	**13 49 00.2**	**+1.8**
B06A				Sg	**Sb**	**13 49 28.4**	**+0.7**
B06A	**Marblemount**	**2.12**	**17**		**Pn**	**13 48 59.2**	**+0.7**
B06A				IAML		13 49 32.0	
	comp=N,49nm,0.2s						
NLW	**Nelson Butte**	**2.12**	**41**		**Pn**	**13 49 01.4**	**+2.7**
MCW	**Mount Constitu**	**2.20**	**353**	P	**Pn**	**13 49 01.4**	**+1.8**
BROR	**Big Rock Looko**	**2.23**	**180**		**Pn**	**13 49 02.0**	**+2.0**
PA12	**PA12 Sannich**	**2.26**	**343**	P	**Pn**	**13 49 01.4**	**+1.0**
B009	**North Saanich**	**2.26**	**342**	P	**Pn**	**13 49 01.6**	**+1.3**
B009				S	**Sn**	**13 49 29.7**	**+2.0**
B011	**North Saanich**	**2.26**	**343**	P	**Pn**	**13 49 01.8**	**+1.4**
B011				S	**Sn**	**13 49 29.5**	**+1.8**
B010	**North Saanich**	**2.26**	**343**	P	**Pn**	**13 49 01.7**	**+1.3**
B010				S	**Sn**	**13 49 29.5**	**+1.8**
PGC	**Sidney**	**2.26**	**343**	P	**Pn**	**13 49 01.2**	**+0.8**
PGC				S	**Sn**	**13 49 28.7**	**+1.0**
PGC	**Sidney**	**2.26**	**343**	Pn	**Pn**	**13 49 01.1**	**+0.7**
MBW	**Mount Baker**	**2.31**	**9**	P	**Pn**	**13 49 03.3**	**+2.0**
MBW	**Mount Baker**	**2.31**	**9**		**Pn**	**13 49 03.2**	**+1.9**
PRLK	**Prince Lake**	**2.31**	**172**		**Pn**	**13 49 03.8**	**+2.6**
SNB	**Saturna Island**	**2.33**	**348**	P	**Pn**	**13 49 03.1**	**+1.8**
SNB				S	**Sn**	**13 49 32.4**	**+2.8**
BUCK	**Buck

AKMS						AML	AML	14 30 48.2	
	comp=E,0.5nm,0.3s								
AKMS						AML	AML	14 30 48.2	
	comp=E,0.5nm,0.3s								
AKMS						S	**Sn**	**14 30 49.1**	**+0.7**
OSC1	**CSNet OBS 1**	**2.41**	**140**			P	**Pn**	**14 30 21.4**	**+1.2**
OSC1						S	**Sn**	**14 30 49.6**	**+1.0**
GAZI	**Gazipasa**	**2.49**	**69**		*i* P	**Pn**	**14 30 19.3**	**-2.0**
GAZI					*i* S	**Sn**	**14 30 48.4**	**-2.3**
GAZI					IAML		14 30 50.0		
	comp=N,47nm,0.5s								
GAZI					IAML		14 30 53.0		
	comp=E,37nm,0.4s								
ALFC	**Alefka**	**2.59**	**94**		P	**Pn**	**14 30 23.0**	**+0.3**	
ALFC					AML	AML	14 30 52.2		
	comp=E,0.4nm,0.2s								
ALFC					AML	AML	14 30 56.4		
	comp=E,0.5nm,0.3s								
NATA	**Nata**	**2.63**	**102**		P	**Pn**	**14 30 23.9**	**+0.6**	
ZKR	**Zakros**	**2.65**	**265**		P	**Pb**	**14 30 27.8**	**-1.7**	
SEDI	**Konya, Seydise**	**2.79**	**41**	*i*	P	**Pn**	**14 30 26.5**	**+1.0**	
SEDI				*i*	S	**Sn**	**14 30 59.9**	**+1.7**	
SZAC	**Souni**	**2.89**	**101**	⇓	P	**Pn**	**14 30 27.5**	**+0.7**	
SZAC					AML	AML	14 31 00.0		
	comp=E,1.0nm,0.4s								
SZAC					AML	AML	14 31 00.0		
	comp=E,1.0nm,0.4s								
SZAC					S	**Sn**	**14 31 00.7**	**+0.1**	
SZAC					AML	AML	14 31 01.0		
	comp=E,0.7nm,0.2s								
SZAC					AML	AML	14 31 01.0		
	comp=E,0.7nm,0.2s								
ASGA	**Asgata**	**3.18**	**100**	⇑	P	**Pn**	**14 30 31.3**	**+0.6**	
CSS	**Mathiatis**	**3.21**	**96**		P	**Pn**	**14 30 31.8**	**+0.5**	
CSS					S	**Sn**	**14 31 08.4**	**-0.2**	
OSC2	**CSNet OBS 4**	**3.28**	**134**		P	**Pn**	**14 30 32.2**	**+0.1**	
KKBE	**Karaman, Kazim**	**3.37**	**56**	*i*	S	**Sn**	**14 31 12.0**	**-0.6**	
GULN	**MERSIN_Gulnar**	**3.43**	**75**	*i*	P	**Pn**	**14 30 34.9**	**+0.7**	
GULN				*i*	S	**Sn**	**14 31 13.0**	**-0.9**	
GULN					IAML		14 31 14.0		
	comp=N,15nm,0.5s								
MVOU	**Mavrovouni**	**3.45**	**95**		P	**Pn**	**14 30 35.0**	**+0.5**	

*ANF **04** 15:12:48.1±0.1,35°.50N×118°.42W,h9km±1km,ML3.5/34, Error ellipse: s-maj=1.2km s-min=0.9km az=78.0, Hypocentre not reviewed by the ISC*
*SCEDC **04** 15:12:49.2,35°.48N×118°.42W,h5km, Hypocentre not reviewed by the ISC*
*PAS **04** 15:12:49.2±1.3,35°.482N±0°.010×118°.42W±0°.01, h5km±5km,ML3.5/133,ML3.2/91(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=100.0*
NEIC 04 15:12:49.0±1.1,35°.473N±0°.010×118°.43W±0°.01, h9km±5km, Error ellipse: s-maj=1.5km s-min=1.5km az=190.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ISA	**Isabella, Lake**	**0.19**	**348**				Pg	15 12 52.6	-0.5
ISA						Sg	Sg	15 12 55.9	-0.1
ISA						IAML		15 12 56.6	
	comp=E,4μm,0.2s								
ISA						IAML		15 12 56.9	
	comp=N,4μm,0.2s								
ISA	**Isabella, Lake**	**0.19**	**348**	P				15 12 52.9	
	baz=167,SNR=1000								
ISA				S				15 12 55.6	
	baz=167								
WHFM	**Hanning Flat**	**0.23**	**16**				Pg	15 12 53.6	-0.2
WHFM							Sg	15 12 56.8	-0.2
WBSM	**Bird Springs**	**0.24**	**75**				Pg	15 12 54.0	0.0
WBSM							Sg	15 12 57.6	+0.2
WOFM	**Oak Flat**	**0.24**	**285**				Pg	15 12 54.1	+0.1
WORM	**Onyx Ranch**	**0.27**	**34**				Pg	15 12 54.3	-0.2
WORM							Sg	15 12 57.9	-0.2
WASM	**Alta Sierra Ca**	**0.28**	**338**				Pg	15 12 54.7	-0.2
WASM							Sg	15 12 58.8	+0.1
TEJ	**El Tejon**	**0.33**	**222**				Pg	15 12 55.6	+0.1
MAGC	**SCE Magundon P**	**0.42**	**255**				Pg	15 12 57.9	+0.6
CCAC	**Calif City Air**	**0.46**	**134**				Pg	15 12 58.0	0.0
CCAC							Sg	15 13 04.6	+0.5
ARVC	**Arvin**	**0.48**	**224**				Pg	15 12 58.8	+0.5
ARVC							Sg	15 13 05.7	+1.0
ARVC	**Arvin**	**0.48**	**224**	P				15 12 58.8	
	baz=43,SNR=54								
ARVC				S				15 13 05.1	
	baz=43								
WCHM	**Chimney Peak**	**0.50**	**35**				Pg	15 12 58.5	-0.3
TJR	**Tejon Ranch**	**0.52**	**210**				Pg	15 12 59.1	+0.1
TJR							Sg	15 13 06.2	+0.4
DTP	**Desert Tortois**	**0.52**	**113**				Pg	15 12 58.9	-0.2
WNMM	**Nine Mile Cany**	**0.56**	**49**				Sg	15 13 07.3	0.0
SRTC	**Snort**	**0.59**	**68**				Sb	15 13 09.4	-0.8
THC	**Tehachapi Micr**	**0.60**	**199**				Pg	15 13 00.5	-0.1
LRMC	**Laurel Mtn Rad**	**0.61**	**89**				Pg	15 13 00.7	-0.2
LRMC							Sg	15 13 08.7	-0.1
LRMC	**Laurel Mtn Rad**	**0.61**	**89**	P				15 13 00.6	
	baz=270,SNR=222								
LRMC				S				15 13 08.3	
	baz=270								
TPO	**Tropico Hills**	**0.61**	**165**				Pg	15 13 00.9	0.0
VES	**Vestal, Richgr**	**0.65**	**305**				Pg	15 13 01.4	-0.2
VES							Sg	15 13 09.6	-0.5
VES	**Vestal, Richgr**	**0.65**	**305**	P				15 13 01.4	
	baz=124,SNR=56								
VES				S				15 13 09.5	
	baz=124								
WLHM	**Little Horse**	**0.68**	**8**				Pg	15 13 01.8	-0.6
WVPM	**Volcano Peak E**	**0.69**	**46**				Pg	15 13 02.0	-0.4
WVPM							Sg	15 13 11.2	-0.2
EDW2	**Edwards Air Fo**	**0.69**	**149**				Pg	15 13 01.8	-0.5
EDW2							Sg	15 13 11.7	+0.3
EDW2	**Edwards Air Fo**	**0.69**	**149**	P				15 13 02.0	
	baz=330,SNR=276								
EDW2				S				15 13 11.5	
	baz=330								
WRVM	**Rose V. Centra**	**0.69**	**39**				Pg	15 13 01.9	-0.4
WRVM							Sg	15 13 11.2	-0.2
CLC	**China Lake**	**0.76**	**63**				Pg	15 13 03.2	-0.5
CLC							Sg	15 13 13.6	+0.1
WCSM	**Coso Springs S**	**0.77**	**44**				Pg	15 13 03.6	-0.4
WCSM							Sg	15 13 13.6	-0.3
SPG2	**Springville 2**	**0.78**	**339**				Pg	15 13 04.1	0.0
ALPC	**Antelope**	**0.79**	**172**				Pg	15 13 04.2	-0.1
BTPC	**Burnt Peak**	**0.80**	**189**				Pg	15 13 04.3	-0.1
LEOC	**Leona Valley**	**0.85**	**173**				Pg	15 13 05.0	-0.3
CCCA	**Chr Cany lake**	**0.87**	**86**				Pg	15 13 05.6	-0.1
MPI	**Mount Pinos, F**	**0.89**	**222**				Pg	15 13 05.8	-0.3
MPI							Sg	15 13 17.6	-0.1
OSI	**Osito Audit: C**	**0.89**	**196**				Pg	15 13 05.9	-0.3
OSI						Sg	Sg	15 13 17.9	+0.1
OSI						IAML		15 13 22.2	
	comp=E,1μm,0.8s								
OSI						IAML		15 13 22.8	
	comp=N,819nm,0.6s								
OSI	**Osito Audit: C**	**0.89**	**196**	P				15 13 06.0	
	baz=16,SNR=23								
OSI				S				15 13 17.9	
	baz=16								
ABL	**Mount Abel**	**0.90**	**227**				Pg	15 13 06.2	-0.2
SBB	**Saddle Back Bu**	**0.93**	**148**				Pg	15 13 06.2	-0.6
HYS	**Haystack Butte**	**0.93**	**131**				Pg	15 13 06.2	-0.7
HYS							Sg	15 13 18.4	-0.6
BCW	**Bitter Crk WRg**	**0.97**	**237**				Pg	15 13 07.2	-0.5
CJV	**Casa Juvan**	**0.97**	**166**				Pb	15 13 08.0	-0.1
LRRC	**Littlerock Res**	**1.00**	**161**				Pg	15 13 08.2	0.0
LRRC							Sg	15 13 21.3	0.0
CWC	**Cottonwood Cre**	**1.00**	**16**				Pg	15 13 07.5	-0.9
CWC							Sg	15 13 20.8	-0.7
CWC	**Cottonwood Cre**	**1.00**	**16**	P				15 13 07.5	
	baz=196								
CWC				S				15 13 20.5	
	baz=196								
PDE	**Pardee, Santa**	**1.04**	**187**				Pg	15 13 07.0	-2.0
CRGC	**Crocker Grade**	**1.09**	**258**				Pg	15 13 09.3	-0.6
JNH	**Juniper Hills**	**1.09**	**159**				Pg	15 13 09.6	-0.5
RYS	**Reyes Peak**	**1.12**	**223**				Pg	15 13 10.2	-0.4
OAT	**Oat Mountain**	**1.14**	**188**				Pb	15 13 11.1	+0.1
VOG	**Valley Oaks Go**	**1.15**	**318**				Pb	15 13 10.3	-0.8
VOG	**Valley Oaks Go**	**1.15**	**318**	P				15 13 10.1	
	baz=137,SNR=5.5								
VOG				S				15 13 25.2	
	baz=137								
CARC	**Carrizo Plain**	**1.17**	**262**				Pb	15 13 10.7	-0.8
CHFC	**Chilao Flat St**	**1.18**	**164**				Pb	15 13 11.1	-0.7
CGO	**Cerro Gordo**	**1.19**	**25**				Pg	15 13 11.2	-0.7
DECC	**Green Verdugo**	**1.22**	**176**				Pb	15 13 11.9	-0.4
DECC	**Green Verdugo**	**1.22**	**176**	P				15 13 11.8	
	baz=357,SNR=14								
DECC				S				15 13 28.9	
	baz=357								
BLCC	**Black Canyon**	**1.24**	**190**				Pg	15 13 13.3	+0.4
YEG	**Yeguas Mountai**	**1.25**	**269**				Pn	15 13 12.6	-0.2
XTL	**Crystal Lake,**	**1.26**	**158**				Pn	15 13 12.6	-0.4
PKM	**Mcpherson Peak**	**1.28**	**243**				Pn	15 13 12.8	-0.4
PKM	**Mcpherson Peak**	**1.28**	**243**	P				15 13 12.2	
	baz=62,SNR=56								
PKM				S				15 13 29.5	
	baz=62								
MWC	**Mount Wilson**	**1.28**	**166**				Pn	15 13 12.9	-0.4
MWC							Sg	15 13 30.4	+0.1
MWC						IAML		15 13 32.2	
	comp=N,624nm,0.5s								
MWC						IAML		15 13 33.0	
	comp=E,511nm,0.2s								
SMMC	**Simmler**	**1.29**	**263**	P				15 13 12.3	
	baz=82,SNR=23								
HELL	**Mitchell Peak,**	**1.30**	**338**				Pn	15 13 12.4	-1.1
RRX	**Edison Barstow**	**1.31**	**117**				Pn	15 13 13.2	-0.3
RRX	**Edison Barstow**	**1.31**	**117**	P				15 13 13.2	
	baz=298,SNR=9.8								
RRX				S				15 13 30.9	
	baz=298								
PASC	**Pasadena Art C**	**1.31**	**171**			Pn	Pn	15 13 13.2	-0.4
PASC						IAML		15 13 33.9	
	comp=N,266nm,0.5s								
GR2C	**Griffith Obs.**	**1.36**	**176**				Pb	15 13 14.4	-0.2
QSM	**Queen of Sheba**	**1.36**	**68**				Pn	15 13 14.4	+0.2
PEM	**Pine Mountain**	**1.38**	**161**				Pn	15 13 14.7	+0.2
BFSC	**Mount Baldy Ra**	**1.38**	**153**				Pn	15 13 14.4	-0.3
BFSC	**Mount Baldy Ra**	**1.38**	**153**	P				15 13 14.3	
	baz=333,SNR=52								
BFSC				S				15 13 32.6	
	baz=333								
BCH	**Branch Mountai**	**1.39**	**259**				Pn	15 13 13.6	-1.1
GVRC	**Garvey Reservo**	**1.44**	**170**				Pb	15 13 16.0	0.0
PSRC	**Puddingstone R**	**1.47**	**160**				Pb	15 13 16.2	-0.3
SBC	**Santa Barbara**	**1.48**	**226**	Pg				15 13 17.0	
	baz=45,SNR=7.9								
SBC						Sb		15 13 36.9	
	baz=45								
FIGC	**Figueroa Mtn.**	**1.48**	**240**				Pn	15 13 16.3	+0.3
PKEM	**Kettleman Hill**	**1.49**	**294**				Pn	15 13 16.2	+0.2
MCA	**Marble Canyon**	**1.49**	**38**				Pn	15 13 15.6	-0.5
PT2	**Point Dume**	**1.50**	**192**				Pn	15 13 16.4	+0.3
RHC	**Rose Hills Cem**	**1.51**	**167**				Pb	15 13 16.9	-0.2
PAGB	**Antelope Grade**	**1.51**	**280**				Pn	15 13 15.3	-1.0
PAGB							Sn	15 13 36.0	-0.1
PAGB						IAML		15 13 44.8	
	comp=E,507nm,0.7s								
TIN	**Tinemaha, Big**	**1.59**	**6**				Pb	15 13 18.2	-0.4
TIN	**Tinemaha, Big**	**1.59**	**6**	Pg				15 13 18.1	
	baz=186,SNR=8.8								
TIN						Sb		15 13 39.2	
	baz=186								
FURC	**Furnace Creek,**	**1.61**	**51**	Sg				15 13 40.6	
	baz=232								
BBRC	**Big Bear Solar**	**1.73**	**134**	Sb				15 13 43.8	
	baz=315								
PWMM	**Westland Maint**	**1.74**	**304**				Pn	15 13 20.2	+0.8
PARM	**Anticline Ridg**	**1.74**	**297**				Pn	15 13 19.9	+0.5
GRAC	**Grapevine Rang**	**1.74**	**29**	Pb				15 13 20.0	
	baz=210,SNR=137								
GRAC						Sg		15 13 44.9	
	baz=210								
PKD	**Bear Valley Ra**	**1.79**	**286**				Pn	15 13 19.6	-0.5
HEC	**Hector,Ludlow**	**1.83**	**110**				Pn	15 13 20.2	-0.5
HEC	**Hector,Ludlow**	**1.83**	**110**	P				15 13 20.0	
	baz=292,SNR=36								
HEC						Sb		15 13 47.4	
	baz=292								
SME	**Santa Rosa Min**	**1.87**	**152**				Pn	15 13 21.1	-0.2
MTUM	**Tungsten Hills**	**1.88**	**357**				Pb	15 13 23.2	-0.4
PJUM	**Juniper Ridge**	**1.92**	**294**				Pn	15 13 22.1	+0.1
MHDM	**Hidden Dam**	**2.02**	**325**				Pn	15 13 24.3	+1.0
TUQ	**Turquoise Moun**	**2.04**	**90**	Sb				15 13 53.3	
	baz=272								
PMPB	**Monarch Peak**	**2.07**	**292**				Pn	15 13 24.0	-0.1
HMTC	**Hemet**	**2.12**	**146**				Pn	15 13 24.4	-0.3
MURC	**Murrieta**	**2.13**	**151**	P				15 13 24.7	
	baz=332,SNR=21								
MURC						Sb		15 13 55.5	
	baz=332								
MLAC	**Mammoth, Mammo**	**2.18**	**351**	Pb				15 13 28.4	
	baz=171								
MDPB	**Devils Postpil**	**2.22**	**346**				Pb	15 13 28.6	-0.9
TPNV	**Topopah Spring**	**2.29**	**49**				Pn	15 13 27.2	-0.1
TPNV						IAML		15 14 04.2	
	comp=E,106nm,0.6s								
TPNV						IAML		15 14 06.8	
	comp=E,109nm,0.4s								
TPNV	**Topopah Spring**	**2.29**	**49**	Pg				15 13 32.0	
	baz=231,SNR=106								
GMRC	**Granite Mounta**	**2.37**	**106**	P				15 13 26.7	
	baz=288,SNR=26								
GMRC						Sb		15 14 03.5	
	baz=288								
SNCC	**San Nicolas Is**	**2.40**	**203**	Pn		Pn		15 13 29.0	+0.5
SNCC						IAML		15 14 02.7	
	comp=E,91nm,1.1s								
SNCC						IAML		15 14 12.3	
	comp=N,84nm,1.7s								
PFO	**Pinyon Flats O**	**2.47**	**138**				Pn	15 13 29.2	-0.4
PFO						IAML		15 14 08.9	
	comp=N,123nm,0.5s								
PFO						IAML		15 14 08.9	
	comp=N,105nm,0.8s								
PFO	**Pinyon Flats O**	**2.47**	**138**	P				15 13 29.1	
	baz=320,SNR=14								
PFO						Sb		15 14 05.7	
	baz=320								
TPFO	**Pinon Flats**	**2.47**	**138**	P				15 13 29.2	
	baz=320,SNR=13								
TPFO						Sb		15 14 05.8	
	baz=320								
BELC	**Belle Mtn. Jos**	**2.48**	**126**	P				15 13 28.8	
	baz=307,SNR=12								
SAO	**San Andreas Ge**	**2.77**	**299**				Pn	15 13 33.6	0.0
TPH	**Tonopah**	**2.77**	**20**				Pn	15 13 33.9	+0.1
TPH	**Tonopah**	**2.77**	**20**			IAML		15 14 20.6	
	comp=N,68nm,0.5s								
TPH						IAML		15 14 21.1	
	comp=E,77nm,0.6s								
LHV	**Little Huntoon**	**2.77**	**359**				Pn	15 13 33.9	+0.3
LHV						IAML		15 14 22.3	
	comp=N,115nm,0.6s								
LHV						IAML		15 14 32.2	
	comp=E,117nm,0.9s								
109C	**Camp Elliot, M**	**2.80**	**157**				Pn	15 13 34.0	-0.1
109C						IAML		15 14 17.6	
	comp=N,103nm,0.4s								
109C						IAML		15 14 18.7	
	comp=E,90nm,0.3s								
109C	**Camp Elliot, M**	**2.80**	**157**	Sb				15 14 15.3	
	baz=338								
SHPR	**Sheep Range**	**2.84**	**68**				Pn	15 13 35.1	+0.4
NVAR	**Mina Array Bea**	**2.95**	**2**				Pn	15 13 36.8	+0.5
NV11	**Mina Array Sit**	**2.96**	**4**				Pn	15 13 37.5	+1.2
IRM	**Iron Mountain**	**3.00**	**115**	P				15 13 35.7	
	baz=297,SNR=6.2								
CMB	**Columbia Colle**	**3.00**	**329**				Pn	15 13 38.2	+1.4
CMB						IAML		15 14 21.8	
	comp=E,70nm,0.5s								
CMB						IAML		15 14 30.8	
	comp=N,88nm,0.6s								
BC3	**Big Chuckawall**	**3.05**	**126**	P				15 13 36.5	
	baz=308								
MONP2	**Monument Peak**	**3.06**	**147**	P				15 13 37.8	
	baz=328,SNR=7.2								
WAKR	**Walker**	**3.13**	**345**				Pn	15 13 39.5	+0.7
WAKR						IAML		15 14 30.4	
	comp=E,104nm,0.7s								
BAR	**Barrett**	**3.14**	**152**				Pn	15 13 39.0	+0.3
BAR						IAML		15 14 28.2	
	comp=E,67nm,0.5s								
BAR						IAML		15 14 28.5	
	comp=N,55nm,0.4s								
RYN	**Ryan**	**3.15**	**359**				Pn	15 13 39.8	+0.8
RYN						IAML		15 14 29.7	
	comp=E,52nm,0.4s								
RYN						IAML		15 14 31.0	
	comp=N,54nm,0.3s								
NEE2	**Needles Airpor**	**3.20**	**102**	P				15 13 38.4	
	baz=284								
PRN	**Pahroc Range**	**3.33**	**54**				Pn	15 13 41.6	+0.1
PRN						IAML		15 14 40.0	
	comp=N,47nm,1.0s								
PRN						IAML		15 14 49.5	
	comp=E,41nm,0.5s								
CBX	**Cerro Bola**	**3.48**	**155**				Pn	15 13 44.1	+0.7
CBX						IAML		15 14 41.6	
	comp=N,54nm,0.6s								
CBX						IAML		15 14 47.5	
	comp=E,40nm,0.7s								
YERR	**Yerington**	**3.57**	**350**				Pn	15 13 47.3	+2.5
YERR						IAML		15 14 51.6	
	comp=N,49nm,0.6s								
KVN	**Kaiserville**	**3.58**	**4**				Pn	15 13 47.8	+2.9
R11A	**Troy Canyon, C**	**3.66**	**38**				Pn	15 13 48.3	+2.3
PNTR	**Pine Nut**	**3.73**	**346**				Pn	15 13 47.8	+0.8
W13A	**Hualapai Mount**	**3.73**	**94**				Pn	15 13 46.3	-0.8
W13A						IAML		15 14 49.5	
	comp=E,33nm,0.6s								
W13A						IAML		15 14 51.5	
	comp=N,42nm,1.1s								
RUBR	**Rubicon Trail**	**3.83**	**339**			Pn	Pn	15 13 50.9	+2.5
GLA	**Glamis**	**3.84**	**128**				Pn	15 13 46.9	-1.4
GLA						IAML		15 14 59.0	
	comp=N,50nm,0.6s								
GLA	**Glamis**	**3.84**	**128**	Pg				15 14 01.0	
	baz=310								
CCX	**Cicese**	**3.88**	**157**			Pn	Pn	15 13 49.5	+0.6
CCX						IAML		15 14 27.9	
	comp=N,42nm,0.1s								
VCNR	**Virginia City**	**3.94**	**346**				Pn	15 13 50.3	+0.4
AFDM	**Forest Hills D**	**4.02**	**330**				Pn	15 13 51.5	+0.7
AFDM						IAML		15 14 56.1	
	comp=E,59nm,0.5s								
AFDM						IAML		15 14 58.7	
	comp=N,40nm,0.7s								
PAHR	**Pah Rah Range**	**4.29**	**350**				Pn	15 13 53.9	-0.8
PAHR						IAML		15 15 10.9	
	comp=E,29nm,1.0s								
PAHR						IAML		15 15 12.0	
	comp=N,19nm,0.9s								
MCCM	**Marconi Confer**	**4.46**	**308**			Pn	Pn	15 13 57.8	+1.0
LCMT	**Little Creek M**	**4.46**	**68**				Pn	15 13 56.3	-0.6
CCUT	**Cedar City**	**4.57**	**62**				Pn	15 13 59.1	+0.5
BEKR	**Beckworth**	**4.65**	**341**				Pn	15 14 02.7	+3.2
BEKR						IAML		15 15 14.0	
	comp=N,33nm,0.6s								
Y14A	**Wickenburg**	**4.72**	**107**			Pn	Pn	15 13 59.4	-1.0
Y14A						IAML		15 15 22.3	
	comp=N,31nm,0.4s								
Y14A						IAML		15 15 25.8	
	comp=E,25nm,0.4s								
ORV	**Oroville**	**4.75**	**330**			Pn	Pn	15 14 02.5	+1.6
ORV						IAML		15 15 17.1	
	comp=E,23nm,1.1s								
ORV						IAML		15 15 21.1	
	comp=N,16nm,0.6s								
PSUT	**Pine Spring**	**4.76**	**49**				Pn	15 14 02.3	+1.1
KNB	**Kanab**	**4.78**	**70**				Pn	15 14 02.2	+0.8
SPR3	**Spring Creek 3**	**4.80**	**42**				Pn	15 14 01.0	-0.8
U15A	**North Rim**	**5.07**	**77**				Pn	15 14 06.5	+1.1
U15A						IAML		15 15 44.6	
	comp=E,9.5nm,0.9s								
SPX	**San Pedro Mart**	**5.07**	**150**			Pn	Pn	15 14 06.3	+0.8
MTPU	**Mount Pierson**	**5.63**	**61**				Pn	15 14 12.6	-0.6
TCRU	**Three Creeks R**	**5.71**	**55**				Pn	15 14 14.8	+0.4
WUAZ	**Wupatki**	**5.75**	**88**				Pn	15 14 16.0	+1.3
ELK	**Elko**	**5.83**	**25**				Pn	15 14 16.7	+0.8
X16A	**Lo Mia Camp, P**	**5.83**	**98**				Pn	15 14 16.7	+0.8

*TIR **04** 15:33:27.5,41°.04N×20°.18E,h6km±2km,Md2.9,Ml3.0*
*THE **04** 15:33:28.6,41°.20N×20°.19E,h6km±1km,ML2.5/4, Error ellipse: s-maj=2.5km s-min=0.4km az=31.0*
*ATH **04** 15:33:29.5,41°.10N×20°.22E,h11km±5km,ML2.5/8, Error ellipse: s-maj=6.5km s-min=1.0km az=21.0*
*PDG **04** 15:33:29.1±0.4,41°.07N×20°.18E,h7km,ML3.0/13, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*SKO **04** 15:33:29.1,41°.00N×20°.14E,h2km*
ISC 04 15:33:28.8±1.1,41°.06N±0°.02×20°.17E±0°.02,h4km±10km, n63,σ1s04/94,10C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**321**			P	**Pg**	**15 33 36.6**	**+0.7**
TIR						S	**Sg**	**15 33 41.8**	**+1.1**
TIR						AML	AML	15 33 44.7	
	comp=E,4328μm,0.3s								
TIR						AML	AML	15 33 45.3	
	comp=N,2662μm,0.1s								
TIR	**Tirane**	**0.37**	**321**			P	**Pg**	**15 33 33.8**	**-2.1**
TIR						S	**Sg**	**15 33 38.6**	**-2.1**
	comp=N,690nm,0.3s								
TIR	**Tirane**	**0.37**	**321**	P			**Pg**	**15 33 35.7**	**-0.2**
	baz=323								
TIR				S			**Sg**	**15 33 41.4**	**+0.6**
	baz=323								
TIR						AMP			
	comp=E,3.5nm,0.2s,baz=323								
TIR	**Tirane**	**0.37**	**321**	*i*	Pg	**Pg**		**15 33 36.6**	**+0.7**
OHR	**Ohrid**	**0.48**	**84**	⇑	*i*Pg	**Pg**		**15 33 38.0**	**+0.1**
OHR				*i*	Sg	**Sb**		**15 33 45.7**	**-1.6**
OHR				*e*	Lg	Lg		15 33 46.0	
	comp=N,181nm,0.7s								
OHR				*e*	Lg	Lg		15 33 46.1	
	comp=E,236nm,0.8s								
**KB

SRN	**Sarande** baz=187	**1.19**	**186**	P	**Pg**	**15 33 51.5**	**0.0**	
SRN	baz=187			S	**Sg**	**15 34 07.3**	**+0.5**	
BCI	**Bajram Curri** baz=357	**1.31**	**357**	P	**Pg**	**15 33 54.0**	**+0.2**	
BCI	baz=357			S	**Sn**	**15 34 13.1**	**+1.3**	
BCI	comp=N,0.9nm,0.5s,baz=357			AMP				
SKO	**Skopje**	**1.32**	**46**	*i* Pg	**Pg**	**15 33 54.4**	**+0.3**	
SKO				*i* Sg	**Sn**	**15 34 12.8**	**+0.7**	
KASA	**Kassiopi**	**1.32**	**188**	P	**Pg**	**15 33 54.7**	**+0.6**	
DRME	**Dracevica, Mon**	**1.35**	**327**	*e*Pn	**Pn**	**15 33 53.0**	**-1.4**	
DRME	**Dracevica, Mon**	**1.35**	**327**	⇑*i*Pg	**Pn**	**15 33 53.2**	**-1.2**	
DRME				*i* Sg	**Sn**	**15 34 15.0**	**+2.2**	
KEK	**Kerkira**	**1.38**	**192**	P	**Pn**	**15 33 55.0**	**+0.2**	
KEK	comp=N,306μm,0.4s			AML	AML	15 34 18.2		
KEK	comp=E,366μm,0.4s			AML	AML	15 34 20.7		
KPRO	**Kipourio**	**1.43**	**140**	P	**Pn**	**15 33 55.8**	**+0.2**	
KPRO	comp=N,246μm,0.9s			AML	AML	15 34 23.5		
KPRO	comp=E,336μm,0.5s			AML	AML	15 34 25.7		
KPRO	**Kipourio**	**1.43**	**140**	P	**Pn**	**15 33 55.8**	**+0.2**	
KZN	**Kozani**	**1.43**	**121**	P	**Pn**	**15 33 55.4**	**-0.2**	
KZN	comp=N,180μm,0.6s			AML	AML	15 34 20.0		
KZN	comp=E,293μm,0.5s			AML	AML	15 34 24.5		
JAN	**Janina**	**1.50**	**159**	P	**Pn**	**15 33 57.0**	**+0.5**	
IGT	**Igoumenitsa**	**1.53**	**175**	P	**Pb**	**15 33 57.8**	**+0.1**	
IGT	comp=E,418μm,0.5s			AML	AML	15 34 25.8		
IGT	comp=N,364μm,0.5s			AML	AML	15 34 26.2		
IGT	**Igoumenitsa**	**1.53**	**175**	P	**Pb**	**15 33 57.9**	**+0.1**	
IGT	comp=N,198nm,0.5s			S	**Sg**	**15 34 20.2**	**+2.3**	
IGT	**Igoumenitsa** baz=175	**1.53**	**175**	P	**Pb**	**15 33 57.9**	**+0.1**	
IGT	**Igoumenitsa**	**1.53**	**175**	*i* Pn	**Pb**	**15 33 57.9**	**+0.1**	
PDG	**Podgorica**	**1.53**	**334**	*e*Pn	**Pn**	**15 33 57.2**	**+0.3**	
PDG	**Podgorica**	**1.53**	**334**	*i* Pn	**Pb**	**15 33 57.5**	**-0.3**	
TTG	**Podgorica**	**1.53**	**334**	⇑*i*Pg	**Pn**	**15 33 57.2**	**+0.3**	
TTG				*i* Sg	**Sg**	**15 34 20.6**	**+2.6**	
PVY	**Plav**	**1.54**	**354**	⇑*i*Pg	**Pb**	**15 33 57.6**	**-0.4**	
PVY				*i* Sg	**Sg**	**15 34 20.6**	**+2.3**	
BUM	**Brajici-Budva**	**1.57**	**323**	⇑*i*Pg	**Pb**	**15 33 58.0**	**-0.4**	
BUM				*i* Sg	**Sg**	**15 34 21.2**	**+2.1**	
SCTE	**Santa Cesarea**	**1.63**	**233**	P	**Pb**	**15 33 59.7**	**+0.2**	
STIP	**Stip**	**1.64**	**67**	*i* Pn	**Pg**	**15 34 01.0**	**+0.7**	
GRG	**Griva**	**1.69**	**93**	*i* Pn	**Pn**	**15 33 58.7**	**-0.4**	
CEME	**Cevo**	**1.76**	**328**	⇓*i*Pn	**Pn**	**15 34 00.3**	**+0.2**	
CEME				*i* Sn	**Sg**	**15 34 25.3**	**+0.1**	
IVA	**Berane**	**1.82**	**354**	⇑*i*Pn	**Pb**	**15 34 02.0**	**-0.8**	
IVA				*i* Sn	**Sg**	**15 34 27.6**	**+0.3**	
KOME	**Kolasin**	**1.85**	**345**	⇓*i*Pn	**Pb**	**15 34 02.7**	**-0.6**	
KOME				*i* Sn	**Sg**	**15 34 28.5**	**+0.1**	
HCY	**Herceg Novi**	**1.87**	**318**	*e*Pn	**Pn**	**15 34 02.4**	**+0.8**	
HCY	**Herceg Novi**	**1.87**	**318**	⇑*i*Pn	**Pn**	**15 34 02.5**	**+0.8**	
HCY				*i* Sn	**Sg**	**15 34 28.9**	**+0.1**	
NKME	**Niksic**	**1.93**	**332**	⇑*i*Pn	**Pn**	**15 34 02.9**	**+0.4**	
NKME				*i* Sn	**Sg**	**15 34 30.2**	**-0.7**	
NKY	**Niksic**	**1.96**	**334**	⇓*i*Pn	**Pn**	**15 34 03.8**	**+0.9**	
NKY				*i* Sn	**Sb**	**15 34 30.7**	**+0.7**	
TREB	**Trebinje**	**2.14**	**321**	*e*Pn	**Pn**	**15 34 04.2**	**-1.2**	
BRY	**Bratogost**	**2.21**	**327**	*e*Pn	**Pn**	**15 34 06.9**	**+0.5**	
BRY	**Bratogost**	**2.21**	**327**	⇑*i*Pn	**Pn**	**15 34 07.2**	**+0.8**	
BRY				*i* Sn	**Sb**	**15 34 36.8**	**-0.3**	
UPM	**Unac-Piva**	**2.34**	**337**	*e*Pn	**Pn**	**15 34 09.5**	**+1.2**	
UPM	**Unac-Piva**	**2.34**	**337**	⇓*i*Pn	**Pn**	**15 34 09.4**	**+1.2**	
UPM				*i* Sn	**Sb**	**15 34 40.1**	**-0.9**	
PLE	**Pljevlja**	**2.34**	**346**	⇑*i*Pn	**Pn**	**15 34 08.9**	**+0.7**	
PLE				*i* Sn	**Sb**	**15 34 39.9**	**-1.1**	
STON	**Ston**	**2.58**	**315**	*e*Pn	**Pn**	**15 34 09.0**	**-2.4**	
RUDO	**Rudo**	**2.62**	**347**	*e*Pn	**Pn**	**15 34 12.4**	**+0.4**	
VTS	**Vitosha**	**2.77**	**55**	*i* Pn	**Pn**	**15 34 14.1**	**0.0**	
BBLS	**Lazići**	**2.86**	**349**	*e*Pn	**Pn**	**15 34 16.8**	**+1.5**	
DIVS	**Divibare**	**3.04**	**358**	*e*Pn	**Pn**	**15 34 18.3**	**+0.5**	
MRAK	**Mrakovica**	**4.62**	**330**	*e*Pn	**Pn**	**15 34 39.8**	**+0.3**	
MORH	**Mrgy, Hungar**	**5.27**	**348**	*e*Pn	**Pn**	**15 34 51.3**	**+3.0**	
CRES	**Cresnjev**	**5.87**	**326**	*e*Pn	**Pn**	**15 34 55.8**	**-0.8**	
CEY	**Cerknica**	**6.27**	**320**	*e*Pn	**Pn**	**15 34 59.2**	**-2.9**	

*ARE **04** 16:43:03.1±1.9, 16°.15S±0°.07×73°.8W±0°.1, h32km±5km, Error ellipse: s-maj=14.6km s-min=9.1km az=70.0*
*IDC **04** 16:43:03.6±1.1, 16°.28S×74°.24W, h53km±8km, mb2.8/1, mb1 3.9/5, mb1mx3.6/27, mbtmp3.8/5, MS2.9/7, Ms1 2.9/7, ms1mx2.8/13, Error ellipse: s-maj=48.4km s-min=14.7km az=54.0*
*NEIC **04** 16:43:04.0±2.2, 16°.12S±0°.07×73°.9W±0°.1, h46km±9km, mb4.3/7, ML4.5(ARE), Error ellipse: s-maj=15.4km s-min=9.2km az=62.0*

ISC 04 16:43:03.5±0.7, 16°.20S±0°.07×73°.97W±0°.10, h54km, n48, σ1§58/39, mb4.2/4, MS3.0/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.08**	**123**	Pn	**Pn**	**16 44 04.7**	**+1.3**
PSGCX	**Pisagua**	**4.98**	**133**	Pn	**Pn**	**16 44 15.9**	**-0.1**
NNA	**Nana**	**5.03**	**326**	P	**Pn**	**16 44 15.7**	**-0.8**
NNA	6.6nm,0.3s,baz=141,slow=13,SNR=7.3			S	**Sn**	**16 45 11.5**	**-1.9**
NNA	16nm,0.3s,baz=159,slow=17,SNR=2.1			LR	LR	16 46 09.0	
NNA	comp=Z,25nm,20.3s,baz=138,slow=37 **Nana**	**5.03**	**326**	Pn	**Pn**	**16 44 16.0**	**-0.5**
MNMC	**Minye Minye**	**5.09**	**126**		**Pn**	**16 44 17.6**	**+0.1**
PB11	**IPOC Station P**	**5.42**	**132**	Pn	**Pn**	**16 44 22.0**	**0.0**
TA02	**Huaiquique**	**5.45**	**139**	Pn	**Pn**	**16 44 22.0**	**-0.2**
LPAZ	**La Paz**	**5.61**	**92**	P	**Pn**	**16 44 28.4**	**+3.4**
LPAZ	1.2nm,0.3s,baz=272,slow=8.5,SNR=34			LR	LR	16 46 38.0	
LPAZ	comp=Z,44nm,19.9s,baz=250,slow=36 **La Paz**	**5.61**	**92**	Pn	**Pn**	**16 44 26.0**	**+1.1**
TA01	**Diego Aracena**	**5.64**	**141**	Pn	**Pn**	**16 44 25.2**	**+0.3**
PATCX	**Punta Patache**	**5.85**	**142**		**Pn**	**16 44 27.9**	**+0.1**
PB08	**IPOC Station P**	**6.03**	**131**		**Pn**	**16 44 30.9**	**+0.4**
PB01	**IPOC Station P**	**6.42**	**139**		**Pn**	**16 44 35.9**	**+0.2**
PB07	**IPOC Station P**	**6.72**	**146**		**Pn**	**16 44 40.0**	**+0.2**
PB04	**IPOC Station P**	**7.09**	**150**		**Pn**	**16 44 44.7**	**-0.2**
PB09	**IPOC Station P**	**7.14**	**142**		**Pn**	**16 44 46.6**	**+1.1**
PB06	**IPOC Station P**	**7.69**	**148**	Pn	**Pn**	**16 44 53.3**	**+0.3**
PB10	**IPOC Station P**	**7.96**	**157**	Pn	**Pn**	**16 44 56.9**	**+0.3**
LVC	**Limon Verde** 2.8nm,0.3s,baz=322,slow=10,SNR=30	**7.97**	**144**	P	**Pn**	**16 44 58.4**	**+1.3**
LVC	2.2nm,0.3s,baz=81,slow=18,SNR=9.4			S	**Sn**	**16 46 23.4**	**-2.6**
PB15	**IPOC Station P**	**8.16**	**149**		**Pn**	**16 45 00.9**	**+1.4**
PB14	**IPOC Station P**	**9.03**	**159**	Pn	**Pn**	**16 45 11.6**	**+0.1**
ATAH	**Atahualpa** 0.3nm,0.3s,baz=101,slow=16,SNR=2.2	**9.99**	**334**	P	**Pn**	**16 45 25.5**	**+0.6**
ATAH	0.3nm,0.3s,baz=74,slow=19,SNR=1.4			S	**Sn**	**16 47 15.4**	**-0.4**
SIV	**San Ignacio** 0.2nm,0.3s,baz=258,slow=15,SNR=2.0	**12.39**	**91**	P	**Pn**	**16 45 57.4**	**0.0**
H03N1	**Juan Fernandez** baz=17,slow=74,SNR=833	**17.74**	**194**	T	T	17 05 38.9	
H03N2	**Juan Fernandez** baz=17,slow=74,SNR=1197	**17.75**	**194**	T	T	17 05 30.9	
H03N3	**Juan Fernandez** baz=17,slow=74,SNR=1342	**17.76**	**194**	T	T	17 05 37.1	
PTGA	**Pitinga** 5.9nm,0.6s,baz=208,slow=13,SNR=11	**20.66**	**43**	P	**P**	**16 47 35.7**	**-3.2**
PTGA	comp=Z,88nm,19.8s,baz=122,slow=37			LR	LR	16 56 05.4	
PTGA	**Pitinga**	**20.66**	**43**	P	**P**	**16 47 35.9**	**-3.1**
ROSC	**El Rosal** comp=Z,56nm,18.4s,baz=136,slow=41	**20.90**	**359**	LR	LR	16 57 20.4	
ROSC	**El Rosal**	**20.90**	**359**	P	**P**	**16 47 42.3**	**+0.3**
ROSC	comp=Z,11nm,0.6s			IAmb	IAmb	16 48 20.9	
RUSC	**La Rusia**	**21.96**	**2**	P	**P**	**16 47 51.5**	**-1.9**
RUSC	comp=Z,17nm,0.9s			IAmb	IAmb	16 47 55.5	
PLCA	**Paso Flores** comp=Z,44nm,19.8s,baz=326,slow=31	**24.63**	**174**	LR	LR	16 55 43.8	
PLCA	**Paso Flores**	**24.63**	**174**	P	**P**	**16 48 21.6**	**+2.5**
PLCA	comp=Z,18nm,1.4s			IAmb	IAmb	16 48 27.2	
SDV	**Santo Domingo** comp=Z,320nm,19.1s,baz=80,slow=39	**25.14**	**8**	LR	LR	16 59 17.8	
SJCC	**San Jacinto, C**	**25.95**	**357**	P	**P**	**16 48 33.2**	**+2.1**
MDP	**Montagnes des** comp=Z,61nm,21.6s,baz=188,slow=37	**29.88**	**47**	LR	LR	17 01 48.5	
TXAR	**Lajitas Array** comp=Z,0.1nm,0.4s,baz=160,slow=11,SNR=1.9	**53.58**	**327**	P	**P**	**16 52 19.6**	**+0.2**
TXAR				pP	**pP**	**16 52 34.5**	**+0.5**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.6s,baz=150,slow=9.1,SNR=4.2	**85.56**	**47**	pP	pP	16 55 52.1	+0.5
H11N3	**WAKE ISLAND Hyd** baz=97,slow=74,SNR=6.2	**22.24**	**283**	T	T	19 15 53.6	
H11N2	**WAKE ISLAND Hyd** baz=97,slow=74,SNR=6.0	**22.26**	**283**	T	T	19 15 50.2	
H11N1	**WAKE ISLAND Hyd** baz=97,slow=74,SNR=6.1	**22.26**	**283**	T	T	19 15 49.9	
H11S2	**WAKE ISLAND Hyd** baz=99,slow=74,SNR=10	**22.28**	**282**	T	T	19 15 58.4	
H11S1	**WAKE ISLAND Hyd** baz=99,slow=74,SNR=6.4	**22.28**	**282**	T	T	19 15 59.0	
H11S3	**WAKE ISLAND Hyd** baz=99,slow=74,SNR=6.6	**22.30**	**282**	T	T	19 15 59.8	
ASAR	**Alice Springs** comp=Z,0.6nm,1.1s,baz=153,slow=2.0,SNR=5.4	**131.93**	**215**	PKP	**PKPdf**	**17 02 11.1**	**-0.7**
ASAR	comp=Z,0.2nm,0.5s,baz=150,slow=1.9,SNR=1.5			pPKP	**pPKPdf**	**17 02 26.2**	**-1.6**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.4s,baz=297,slow=1.8,SNR=1.9	**143.67**	**28**	PKP	PKPbc	17 02 32.1	+2.0
MKAR	comp=Z,0.3nm,0.7s,baz=338,slow=2.2,SNR=3.2			pPKP	pPKPdf	17 02 46.7	-2.0
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=15,slow=2.3,SNR=1.8	**148.45**	**360**	PKPbc	**PKPbc**	**17 02 43.9**	**-0.4**
SONM	comp=Z,0.4nm,0.5s,baz=9.3,slow=2.6,SNR=2.7			pPKPbc	**pPKPbc**	**17 03 00.7**	**+0.4**
XAN	**Xi'an**	**162.04**	**352**	PKP	**PKPdf**	**17 03 03.9**	**+4.5**
XAN				pPKP	pPKPdf	17 03 16.9	+1.2
XAN	comp=Z,200nm,18.4s			L	L		
XAN	comp=Z,160nm,18.4s			L	L		
XAN	comp=Z,140nm,16.3s			L	L		

IDC 04 17:21:40.3±1.9, 6°.81S×152°.83E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, ML1.6/1, Error ellipse: s-maj=74.2km s-min=30.1km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.9nm,0.3s,baz=56,slow=12,SNR=1.5	**6.18**	**245**	Pn	Pn	17 23 12.8	-0.1
PMG	1.4nm,0.3s,baz=175,slow=12,SNR=1.9			Sn	Sn	17 24 16.0	-8.4
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=52,slow=9.9,SNR=4.6	**22.20**	**232**	P	P	17 26 38.6	+0.1
ASAR	**Alice Springs** 0.8nm,0.6s,baz=64,slow=8.4,SNR=13	**24.73**	**225**	P	P	17 27 04.4	+0.7
STKA	**Stephens Creek** 0.9nm,0.3s,baz=32,slow=9.5,SNR=4.3	**27.06**	**201**	P	P	17 27 23.5	-1.1
ILAR	**Eielson Array** 0.4nm,0.6s,baz=256,slow=5.3,SNR=2.8	**83.99**	**22**	P	P	17 34 12.4	+0.2

*IDC **04** 17:49:06.9±1.3, 60°.08N×30°.40W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/38, mbtmp3.6/8, ML3.4/2, MS3.1/11, Ms1 3.1/11, ms1mx2.9/38, Error ellipse: s-maj=31.8km s-min=22.7km az=178.0*
*REY **04** 17:49:10.0, 59°.97N×29°.33W, h10km*
ISC 04 17:49:08.4±0.9, 59°.9N±0°.1×30°.03W±0°.10, h10km, n28, σ1§33/25, mb3.7/7, MS3.1/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRI	**Krysuvik** baz=38	**5.45**	**40**	P	**Pn**	**17 50 29.8**	**+0.2**
IVOS	**Vogsosar** baz=40	**5.55**	**42**	S	**Sn**	**17 51 34.8**	**0.0**
IKAS	**Kald??rsel** baz=38	**5.62**	**40**	P	**Pn**	**17 50 31.2**	**-0.6**
ISAN	**Sandskeio** baz=38	**5.73**	**40**	P	**Pn**	**17 50 34.0**	**+0.6**
ISAN				S	**Sn**	**17 51 39.6**	**+0.4**
IBJA	**Bjarnastaoir** baz=40	**5.75**	**42**	P	**Pn**	**17 50 33.4**	**-0.3**
IBJA				S	**Sn**	**17 51 38.2**	**-1.4**
ISOL	**Solvholt** baz=41	**5.86**	**43**	P	**Pn**	**17 50 34.8**	**-0.4**
ISOL				S	**Sn**	**17 51 40.9**	**-1.4**
IKRO	**Krokur** baz=40	**5.91**	**41**	P	**Pn**	**17 50 35.4**	**-0.5**
IKRO				S	**Sn**	**17 51 43.3**	**-0.3**
IASM	**Asmuli** baz=43	**5.92**	**45**	P	**Pn**	**17 50 35.8**	**-0.2**
ISAU	**Saurbar** baz=42	**6.08**	**44**	P	**Pn**	**17 50 38.0**	**-0.2**
BORG	**Borgarnes** 1.7nm,0.3s,baz=246,slow=6.5,SNR=6.4	**6.29**	**36**	Pn	**Pn**	**17 50 42.4**	**+1.2**
BORG	baz=107,slow=19,SNR=1.2			Sn	**Sn**	**17 51 54.3**	**+1.3**
BORG	comp=Z,32nm,20.1s,baz=276,slow=28			LR	LR	17 52 02.2	
IGYG	**Gygjarholskot** baz=41	**6.33**	**42**	P	**Pn**	**17 50 40.6**	**-1.1**
IGYG	baz=41			S	**Sn**	**17 51 54.0**	**+0.1**
SFJD	**Kangerlussuaq** comp=Z,223nm,20.6s,baz=104,slow=35	**11.55**	**316**	LR	LR	17 55 39.1	
EKA	**Eskdalemuir Ar** baz=303,slow=9.2,SNR=7.1	**15.05**	**96**	Pn	**P**	**17 52 45.0**	**-1.2**
NOA	**NORSAR Array B** comp=Z,35nm,20.8s,baz=270,slow=32	**20.11**	**69**	LR	LR	18 00 00.3	
HFS	**Hagfors** comp=Z,37nm,19.2s,baz=268,slow=34	**21.55**	**70**	LR	LR	18 01 28.0	
ARCES	**ARCESS Array B** 3.6nm,1.0s,baz=269,slow=9.0,SNR=2.1	**24.63**	**44**	P	**P**	**17 54 28.8**	**+0.3**
ESDC	**Sonseca Array** 0.7nm,0.9s,baz=328,slow=8.2,SNR=3.8	**26.05**	**129**	P	**P**	**17 54 43.9**	**+2.2**
ESDC	comp=Z,32nm,20.7s,baz=100,slow=32			LR	LR	18 03 18.0	
DAVOX	**Davos/Dischmat** comp=Z,41nm,21.8s,baz=268,slow=34	**26.74**	**102**	LR	LR	18 04 09.0	
FINES	**FINESS Array B** comp=Z,46nm,18.5s,baz=52,slow=32	**26.79**	**62**	LR	LR	18 03 28.8	
GERES	**GERESS Array B** comp=Z,73nm,18.5s,baz=292,slow=35	**27.26**	**94**	LR	LR	18 05 06.7	
VRAC	**Vranov** comp=Z,53nm,18.4s,baz=310,slow=37	**28.41**	**91**	LR	LR	18 06 51.7	
AKASG	**Malin Array Be** 0.9nm,0.4s,baz=300,slow=8.3,SNR=5.1	**33.85**	**79**	P	**P**	**17 55 49.9**	**-0.7**
ULM	**Lac du Bonnet** comp=Z,62nm,18.2s,baz=38,slow=35	**37.37**	**285**	LR	LR	18 10 45.4	
YKA	**Yellowknife Ar** 0.9nm,0.8s,baz=52,slow=8.9,SNR=3.0	**38.06**	**311**	P	**P**	**17 56 23.2**	**-3.3**
BRTR	**Keskin Array B** comp=Z,41nm,18.4s,baz=289,slow=40	**43.76**	**88**	LR	LR	18 18 40.6	
ILAR	**Eielson Array** 1.0nm,1.0s,baz=35,slow=7.2,SNR=6.0	**46.90**	**329**	P	**P**	**17 57 41.4**	**+3.0**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=38,slow=7.0,SNR=2.4	**56.98**	**272**	P	**P**	**17 58 53.5**	**-0.5**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=345,slow=5.1,SNR=4.9	**60.23**	**47**	P	**P**	**17 59 17.6**	**+1.3**

*NOU **04** 17:52:08.2, 19°.87S×133°.92E, h0km, mb4.3, Northern Territory, Australia*
AUST 04 17:52:08.3±0.6, 19°.80S×133°.95E, h10km, Error ellipse: s-maj=9.3km s-min=6.1km az=32.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASPA	**Alice Springs** baz=3.9	**3.85**	**181**	P	Pn	17 53 10.6	+3.0
ASPA	baz=3.9			S	Sn	17 53 54.7	+1.8
QIS	**Mount Isa** baz=5.4,SNR=8.2	**5.36**	**99**	P	Pn	17 53 30.8	+2.4
QIS	baz=5.4			S	Sn	17 54 29.5	-0.8

KNRA	**Kununurra** baz=6.4	**6.42**	**309**	P	Pn	17 53 43.5	+0.5	
KNRA	baz=6.4			S	Sn	17 54 56.3	-0.1	
KDU	**Kakadu** baz=7.3,SNR=24	**7.21**	**348**	P	Pn	17 53 54.7	+0.8	
KDU	baz=7.3			S	Sn	17 55 14.0	-1.9	
WRKA	**Warakurna** baz=7.4,SNR=8.3	**7.38**	**224**	P	Pn	17 53 56.5	+0.2	
WRKA	baz=7.4			S	Sn	17 55 17.9	-2.3	
MTN	**Manton Dam** baz=7.5,SNR=6.2	**7.43**	**338**	P	Pn	17 53 57.8	+1.0	
MTN	baz=7.5,SNR=5.6			S	Sn	17 55 19.9	-1.3	
FITZ	**Fitzroy Crossi** baz=8.0,SNR=11	**8.05**	**281**	P	Pn	17 54 06.7	+1.4	
FITZ	baz=8.0			S	Sn	17 55 33.3	-3.2	
OOD	**Oodnadatta** baz=8.1,SNR=14	**8.12**	**169**	P	Pn	17 54 07.1	+1.0	
MTSU	**Mount Surprise** baz=9.9,SNR=6.7	**9.94**	**82**	P	Pn	17 54 31.5	+0.1	
MTSU	baz=9.9			S	Sn	17 56 19.8	-3.3	
INKA	**Innaminka** baz=10,SNR=11	**10.05**	**143**	P	Pn	17 54 33.0	+0.2	
INKA	baz=10			S	Sn	17 56 25.0	-0.7	
MULG	**Mulgathing** baz=10,SNR=6.8	**10.44**	**180**	P	Pn	17 54 38.0	0.0	
MULG	baz=10			S	Sn	17 56 30.3	-4.8	
LCRK	**Leigh Creek** baz=11,SNR=5.2	**11.28**	**161**	P	Pn	17 54 49.3	-0.3	
QLP	**Quilpie** baz=12,SNR=6.4	**11.61**	**127**	P	Pn	17 54 54.1	-0.1	
FORT	**Forrest** baz=12,SNR=63	**12.16**	**205**	P	Pn	17 55 00.4	-1.2	
BBOO	**Buckleboo** baz=13	**13.09**	**172**	P	Pn	17 55 12.4	-2.0	
MEEK	**Meekatharra** baz=16,SNR=10	**15.65**	**241**	P	Pn	17 55 45.6	-3.5	
CMSA	**Cobar Meteorol** baz=16	**15.75**	**140**	P	Pn	17 55 48.1	-2.2	
BLDU	**Ballidu** baz=19,SNR=6.5	**18.93**	**232**	P	Pn	17 56 29.9	-0.1	

*NEIC **04** 18:19:44.9±1.9, 24°.57S±0°.08×177°.4W±0°.1, h111km±5km, mb4.9/130, Error ellipse: s-maj=17.7km s-min=11.1km az=102.0*
*NOU **04** 18:19:44.9, 24°.87S×176°.11W, h192km, mb4.8, South of Fiji Islands*
*IDC **04** 18:19:47.7±0.7, 24°.61S×177°.41W, h139km±5km, mb4.4/16, mb1 4.5/18, mb1mx4.4/28, mbtmp4.8/18, MS3.6/13, Ms1 3.6/13, ms1mx3.5/26, Error ellipse: s-maj=16.3km s-min=13.0km az=118.0*
*GCMT **04** 18:19:47.8±0.2, 24°.79S±0°.01×177°.04W±0°.01, h144km±1km, MW5.1/126, Moment Tensor Solution. s73,c92; s126,c188; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.96±.13; Mθθ-4.71±.17; Mφφ 1.74±.16; Mrθ-3.20±.12; Mrφ2.89±.13; Mθr-2.24±.10; Best double couple: M06.37100×10^16 NP1:ϕs146.00000°, δ46.00000°, λ152.00000°. NP2:ϕs256.00000°, δ71.00000°, λ48.00000°. Principal axes: T 6.3450, Plg47.0000°, Azm122.0000°; N 0.0430, Plg39.0000°, Azm273.0000°; P -6.3980, Plg15.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 18:19:47.4±0.5, 24°.81S±0°.04×177°.28W±0°.06, h145km±4km, h143km:pP-P, n327, σ1§61/321, mb4.8/75, 27C-17D, Fault plane solution: NP1:ϕs134.64926°, δ26.40388°, λ133.20445°. **NP2:**ϕs268.29034°, δ71.08618°, λ71.22720°. **Principal axes:** T Plg59.6039°, Azm151.5632°; N Plg17.7245°, Azm274.5776°; P Plg23.8371°, Azm12.6957°; **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.46**	**187**	P	**Pn**	**18 20 53.2**	**-0.3**
RIZ				S	**Sn**	**18 21 46.1**	**+1.1**
RAO	**Raoul Island** 83nm,0.3s,baz=75,slow=18,SNR=2.2	**4.46**	**187**	P	**Pn**	**18 20 52.8**	**-0.7**
RAO	332nm,0.3s,baz=84,slow=22,SNR=8.9			S	**Sn**	**18 21 45.2**	**+0.2**
RAO	**Raoul Island**	**4.46**	**187**	Pn	**Pn**	**18 20 52.9**	**-0.7**
RAO					**Sn**	**18 21 47.1**	**+2.0**
RAO	**Raoul Island**	**4.46**	**187**	P	**Pn**	**18 20 55.2**	**+1.7**
GLKZ	**Green Lake**	**4.47**	**187**	P	**Pn**	**18 20 52.3**	**-1.3**
GLKZ				S	**Sn**	**18 21 46.9**	**+1.6**
MSVF	**Nonsavu** 10nm,0.3s,baz=141,slow=13,SNR=102	**8.28**	**327**	P	**Pn**	**18 21 46.1**	**+1.5**
MSVF	comp=Z,621nm,19.2s,baz=144,slow=30			LR	LR	18 23 50.7	
MSVF	**Nonsavu**	**8.28**	**327**	Pn	**Pn**	**18 21 45.7**	**+1.1**
NIUE	**Niue**	**8.89**	**52**	Pn	Pn	18 21 45.7	-7.1
AFI	**Afiamalu** 192nm,0.3s,baz=215,slow=2.0,SNR=118	**12.02**	**27**	P	Pn	18 22 24.7	-10
AFI	16nm,0.3s,baz=252,slow=20,SNR=1.8			S	Sn	18 24 23.3	-24
AFI	**Afiamalu**	**12.02**	**27**	Pn	Pn	18 22 24.2	-10
AFI	**Afiamalu**	**12.02**	**27**	P	Pn	18 22 25.2	-9.0
HAZ	**Te Kaha**	**13.58**	**197**	P	Pn	18 22 47.2	-6.8
HAZ				S	Sn	18 25 14.3	-10
PINNC	**Pines Island,**	**14.16**	**276**	P	**Pn**	**18 23 01.4**	**-0.1**
CNGZ	**Carnagh Statio**	**14.16**	**195**	P	**Pn**	**18 23 01.5**	**0.0**
MWZ	**Matawai**	**14.19**	**197**	P	Pn	18 22 54.5	-7.3
MWZ				S	Sn	18 25 23.7	-15
TKGZ	**Te Karaka**	**14.20**	**196**	P	**Pn**	**18 23 02.6**	**+0.6**
URZ	**Urewera** 7.5nm,0.3s,baz=301,slow=19,SNR=30	**14.23**	**198**	P	**Pn**	**18 23 03.4**	**+1.1**
URZ	8.4nm,0.3s,baz=158,slow=18,SNR=5.9			S	Sn	18 25 27.9	-12
URZ	**Urewera**	**14.23**	**198**		**Pn**	**18 22 59.3**	**-3.0**
URZ	**Urewera**	**14.23**	**198**	P	Pn	18 22 53.0	-9.3
URZ				S	Sn	18 25 28.2	-12
TOZ	**Tahuroa Road**	**14.28**	**204**	P	**P**	**18 23 08.7**	**+2.9**
OMRZ	**Omania**	**14.31**	**201**	P	**P**	**18 23 09.4**	**+3.1**
RAGZ	**Rawiri**	**14.37**	**197**	P	**Pn**	**18 23 04.3**	**+0.2**
RAGZ				S	Sn	18 25 29.3	-14
MUGZ	**Murupara**	**14.53**	**199**	P	**Pn**	**18 23 04.5**	**-1.7**
MUGZ				S	Sn	18 25 32.8	-14
RTZ	**Ruatahuna**	**14.60**	**198**	P	**Pn**	**18 23 04.0**	**-3.0**
RTZ				S	Sn	18 25 30.7	-18
PRGZ	**Paritu Road

SNVZ South Ngauruho 15.53 201 P **Pn** **18 23 18.1 -0.7**
NGZ Ngauruhoe 15.54 201 P **Pn** **18 23 18.2 -0.6**
NGZ S **Sn** **18 26 01.0 -10**
TUVZ Tukino 15.60 201 P **P** **18 23 21.0 +0.3**
TUVZ S **Sn** **18 26 05.6 -7.5**
BHHZ Black Hill Sta 15.68 199 P **Pn** **18 23 17.7 -2.7**
BHHZ S Sn 18 25 57.6 -17
MOVZ Moawhango 15.70 200 P **Pn** **18 23 19.5 -1.2**
MOVZ S Sn 18 26 01.0 -14
PKVZ Pokaka 15.72 202 P **Pn** **18 23 20.9 -0.1**
PKVZ S **Sn** **18 26 06.7 -9.1**
KRHZ Kereru 15.73 198 P **Pn** **18 23 19.4 -1.6**
KRHZ S Sn 18 25 58.4 -18
KAHZ Kahuranaki 15.73 197 P **Pn** **18 23 18.5 -2.6**
KAHZ S Sn 18 25 58.8 -17
VRZ Vera Road 15.78 203 P **P** **18 23 23.8 +1.3**
PNHZ Pukenui 16.03 198 P **Pn** **18 23 22.4 -2.3**
PNHZ S Sn 18 26 04.4 -19
WPHZ Waipukurau 16.10 198 P **Pn** **18 23 25.3 -0.2**
WPHZ S Sn 18 26 07.3 -17
NEZ North Egmont 16.15 205 P **P** **18 23 31.6 +4.9**
DVHZ Dannevirke 16.39 198 P **Pn** **18 23 27.0 -2.1**
DVHZ S S 18 26 14.1 -18
RAR Rarotonga 16.51 81 P **P** **18 23 31.3 +0.6**
comp=Z,3.2nm,0.3s,baz=237,slow=7.8,SNR=8.4
RAR S S 18 26 18.8 -16
comp=Z,6.1nm,0.3s,baz=70,slow=12,SNR=5.0
RAR LR LR 18 29 06.1
comp=Z,229nm,18.6s,baz=252,slow=34
RAR Rarotonga 16.51 81 **Pn** **18 23 28.6 -2.1**
FUNA Funafuti 16.54 348 **P** **18 23 27.6 -3.4**
FUNA IAmb IAmb 18 23 33.3
comp=Z,133nm,1.1s
POWZ Post Office Ro 16.59 199 P **P** **18 23 29.8 -1.7**
POWZ S S 18 26 18.6 -18
PRWZ Pori Road 16.69 198 P **Pn** **18 23 32.6 0.0**
PRWZ S S 18 26 20.2 -18
BFZ Birch Farm 16.73 197 P **P** **18 23 31.4 -1.5**
BFZ IAmb IAmb 18 23 55.1
comp=Z,70nm,1.1s
SANVU Saraoutou 17.28 300 **P** **18 23 38.8 -0.3**
NNZ Nelson 18.12 203 P **P** **18 23 48.2 0.0**
NNZ IAmb IAmb 18 23 55.1
comp=Z,93nm,1.2s
BSWZ Blackbirch Sta 18.39 201 P **P** **18 23 49.9 -1.3**
THZ Tophouse 18.77 203 P **P** **18 23 53.5 -1.9**
KHZ Kahutara 19.13 201 P **P** **18 23 56.8 -2.4**
KHZ IAmb IAmb 18 24 04.8
comp=Z,57nm,1.2s
LTZ Lake Taylor 19.89 203 P **P** **18 24 05.9 -1.6**
OXZ Oxford 20.45 203 P **P** **18 24 11.6 -1.8**
OXZ IAmb IAmb 18 24 25.4
comp=Z,51nm,1.2s
RPZ Rata Peaks 21.14 204 P **P** **18 24 19.7 -1.1**
RPZ IAmb IAmb 18 24 29.1
comp=Z,70nm,1.4s
FOZ Fox Glacier 21.46 206 P **P** **18 24 25.2 +0.9**
FOZ IAmb IAmb 18 24 41.7
comp=Z,103nm,1.3s
KNTN Kanton 22.55 15 P **P** **18 24 32.8 -2.8**
DCZ Deep Cove 24.14 207 P **P** **18 24 50.2 +0.3**
DCZ IAmb IAmb 18 25 09.9
comp=Z,45nm,1.2s
WHZ Wether Hill Ro 24.16 206 P **P** **18 24 49.2 -0.9**
WHZ IAmb IAmb 18 24 52.9
comp=Z,48nm,1.3s
TBI Tubuai 25.43 93 *e*S **S** **18 29 14.0 -4.0**
comp=Z,532nm,35.0s
TBI *e*LQ LQ 18 30 13.1
comp=Z,499nm,27.0s
TBI *e*LR LR 18 31 29.1
comp=Z,266nm,27.0s
TBI Tubuai 25.43 93 *e*T T 18 50 36.2
comp=Z,31nm,0.4s
PAE Paea 26.75 80 *e*T T 18 51 25.8
comp=Z,15nm,0.3s
PPT2 Papeete2 26.78 80 *e*LQ LQ 18 30 42.3
comp=Z,575nm,25.0s
PPT2 *e*LR LR 18 31 59.0
comp=Z,402nm,26.8s
PPT2 Papeete2 26.78 80 *e*T T 18 51 29.9
comp=Z,12nm,0.3s
PPT Papeete 26.79 80 LR LR 18 33 56.4
comp=Z,156nm,19.0s,baz=262,slow=32
TIAR Tiarei 27.00 80 *e*T T 18 51 39.5
comp=Z,1.7nm,0.3s
TARA Tarawa 27.69 339 P **P** **18 25 19.5 -2.5**
MEH Mehetia 28.04 81 *e*T T 18 53 24.2
comp=Z,50nm,0.3s
EIDS Eidsvold 28.62 262 **P** **18 25 31.1 +0.8**
EIDS IAmb IAmb 18 25 33.6
comp=Z,25nm,0.8s
XMAS Kiritimati 32.91 39 P **P** **18 26 07.3 -0.7**
CTAO Charters Tower 33.96 271 P **P** **18 26 17.9 +0.7**
CTAO IAmb IAmb 18 26 20.7
comp=Z,18nm,0.6s
TOO Toolangi 34.07 239 P **P** **18 26 20.3 +2.3**
TOO IAmb IAmb 18 26 23.3
comp=Z,24nm,1.2s
KWAJ Kwajalein Atol 36.51 334 P **P** **18 26 37.9 -1.0**
STKA Stephens Creek 36.70 249 P **P** **18 26 40.4 -0.1**
comp=Z,1.5nm,0.5s,baz=100,slow=10,SNR=6.7
STKA PcP **PcP** **18 29 01.1 +1.0**
comp=Z,1.5nm,0.5s,baz=110,slow=3.1,SNR=4.4
STKA LR LR 18 39 24.4
comp=Z,194nm,19.1s,baz=60,slow=32
STKA Stephens Creek 36.70 249 P **P** **18 26 39.8 -0.8**
RKT Rikitea 38.59 97 *e*T T 19 07 18.3
comp=Z,7.9nm,0.3s
BBOO Buckleboo 41.38 248 P **P** **18 27 18.5 -0.9**
BBOO IAmb IAmb 18 27 35.0
comp=Z,28nm,1.4s
AS31 Alice Springs 44.34 261 P **P** **18 27 43.6 +0.2**
ASAR Alice Springs 44.34 261 P **P** **18 27 42.8 -0.6**
comp=Z,9.2nm,0.8s,baz=96,slow=6.8,SNR=72
ASAR pP **pP** **18 28 16.1 +0.9**
comp=Z,8.9nm,0.7s,baz=99,slow=8.3,SNR=6.7
ASAR PcP **PcP** **18 29 25.8 +0.7**
comp=Z,2.8nm,0.8s,baz=116,slow=2.6,SNR=5.2
ASAR ScP **ScP** **18 33 05.6 +2.1**
comp=Z,1.4nm,0.9s,baz=120,slow=4.0,SNR=5.9
ASAR S **S** **18 34 03.1 -3.7**
comp=Z,0.8nm,0.6s,baz=98,slow=14,SNR=6.1
ASAR LR LR 18 44 45.0
comp=Z,99nm,18.4s,baz=92,slow=34
ASAR Alice Springs 44.34 261 P **P** **18 27 43.0 -0.4**
WRAB Tennant Creek 44.81 266 P **P** **18 27 47.5 +0.4**
WRAB IAmb IAmb 18 27 48.3
comp=Z,24nm,1.2s
FORT Forrest 48.33 250 P **P** **18 28 12.8 -1.5**
FORT IAmb IAmb 18 28 15.5
comp=Z,12nm,0.6s
MTN Manton Dam 49.99 274 P **P** **18 28 26.8 -0.4**
MTN IAmb IAmb 18 28 37.0
comp=Z,9.3nm,0.9s
KNRA Kununurra 51.16 269 P **P** **18 28 37.1 +1.1**
GUMO Guam 53.10 312 LR LR 18 47 20.5
comp=Z,48nm,19.8s,baz=140,slow=31
FITZ Fitzroy Crossi 53.23 265 P **P** **18 28 51.5 +0.2**
FITZ IAmb IAmb 18 28 53.5
comp=Z,23nm,1.1s
SBA Scott Base 53.64 184 P **P** **18 28 56.9 +3.6**
VNDA Vanda 53.70 186 P **P** **18 28 56.5 +2.7**
comp=Z,4.6nm,0.5s,baz=9.4,slow=8.4,SNR=26
VNDA Vanda 53.70 186 P **P** **18 28 56.5 +2.7**
VNDA IAmb IAmb 18 28 58.0
comp=Z,8.9nm,0.8s
SWI Sorong 55.08 287 P **P** **18 29 03.8 -0.9**
SWI pP **pP** **18 29 37.6 -0.2**
PSA00 Pilbara Seismi 57.44 259 P **P** **18 29 20.9 -0.5**
PSA00 IAmb IAmb 18 29 28.5
comp=Z,23nm,1.5s
CASY Casey 60.39 206 P **P** **18 29 41.1 +0.2**
QSPA South Pole Qui 65.28 180 P **P** **18 30 15.3 +1.8**
MJAR Matsushiro Arr 74.06 324 P **P** **18 31 05.9 -1.6**
comp=Z,2.2nm,0.7s,baz=163,slow=5.9,SNR=5.5
MJAR LR LR 19 04 55.7
comp=Z,18nm,18.1s,baz=90,slow=37
MAT Matsushiro 74.07 324 P **P** **18 31 03.7 -3.8**
JHS Saijyo 75.80 320 P **P** **18 31 17.0 -0.5**
AMKA Amchitka 75.91 358 P **P** **18 31 16.9 -0.8**
ADK Adak 76.36 0 P **P** **18 31 19.1 -1.0**
ATKA Atka Island 76.73 2 P **P** **18 31 21.1 -1.1**
TPUB Ta-pu 76.88 303 P **P** **18 31 21.8 -2.0**
TPUB IAmb IAmb 18 31 39.8
comp=Z,50nm,1.5s
SSLB Suanglung 76.91 304 P **P** **18 31 22.2 -1.8**
SSLB IAmb IAmb 18 31 40.6
comp=Z,24nm,1.2s
MAW Mawson 77.75 200 P **P** **18 31 29.7 +1.8**
comp=Z,32nm,0.5s,baz=129,slow=6.1,SNR=116
MAW Mawson 77.75 200 P **P** **18 31 29.8 +1.8**
MAW IAmb IAmb 18 31 30.9
comp=Z,30nm,1.5s
NIKH Nikolski High 77.80 5 P 18 31 27.8
baz=188,SNR=5.5
NIKH Nikolski High 77.80 5 P **P** **18 31 27.9 -0.3**
FALS False Pass 80.23 8 P 18 31 43.3
baz=193
KSRS Korea Array 80.55 319 P **P** **18 31 43.8 +0.3**
comp=Z,0.7nm,0.7s,baz=123,slow=5.7,SNR=2.7
KSRS LR LR 19 02 10.2
comp=Z,34nm,21.4s,baz=136,slow=32
PETK Petropavlovsk- 80.58 345 P **P** **18 31 43.1 -0.3**
comp=Z,5.7nm,0.7s,baz=110,slow=5.3,SNR=20
PETK LR LR 19 02 17.1
comp=Z,26nm,19.4s,baz=156,slow=32
SDPT Sand Point 81.12 10 P 18 31 45.7
baz=195
SDPT Sand Point 81.12 10 P **P** **18 31 45.8 -0.3**
BFSC Mount Baldy Ra 81.55 46 P 18 31 50.1
baz=232
MONP2 Monument Peak 81.56 48 P 18 31 50.7
baz=233
IKP In-Ko-Pah, Jac 81.63 48 P 18 31 50.4
baz=234
EDW2 Edwards Air Fo 81.72 46 P 18 31 51.4
baz=232
ISA Isabella, Lake 81.89 45 P 18 31 52.2
baz=232
PFO Pinyon Flats O 81.96 47 P 18 31 50.9
baz=233
TPFO Pinon Flats 81.96 47 P 18 31 52.2
baz=233
SWSC Sam W. Stewart 82.01 48 P 18 31 52.5
baz=234
O02D Mt. Diablo Mer 82.17 39 P 18 31 53.8
baz=228
LRMC Laurel Mtn Rad 82.29 45 P 18 31 54.2
baz=232
BELC Belle Mtn. Jos 82.50 47 P 18 31 55.5
baz=234,SNR=7.0
ORV Oroville 82.50 40 P **P** **18 31 54.6 +0.8**
CWC Cottonwood Cre 82.62 44 P 18 31 56.2
baz=232
BC3 Big Chuckawall 82.66 48 P 18 31 55.9
baz=234,SNR=6.3
SYO Syowa Base 82.69 193‖ *e*P **P** **18 31 55.0 +0.7**
SYO Syowa Base 82.69 193‖ *e*PcP **PcP** **18 32 00.6 +1.7**
GLA Glamis 82.73 49 P 18 31 56.7
baz=234,SNR=5.9
GLA Glamis 82.74 49 P **P** **18 31 56.6 +1.4**
GLA IAmb IAmb 18 31 58.2
comp=Z,18nm,1.0s
GSC Goldstone, Bar 82.75 46 P **P** **18 31 56.2 +0.9**
GSC Goldstone, Bar 82.75 46 P 18 31 56.5
baz=233
HEC Hector,Ludlow 82.77 46 P 18 31 56.7
baz=233
O03E Paynes Creek 82.81 39 P 18 31 56.7
baz=229
M02C Callahan 82.94 38 P 18 31 57.8
baz=228
H03S2 Juan Fernandez 83.03 124 T T 20 03 37.6
baz=244,slow=74,SNR=48
H03S1 Juan Fernandez 83.04 124 T T 20 03 38.8
baz=244,slow=74,SNR=28
H03S3 Juan Fernandez 83.05 124 T T 20 03 37.6
baz=244,slow=74,SNR=29
WAKR Walker 83.06 42 P **P** **18 31 58.5 +1.5**
NJ2 Nanjing 83.13 310 *e*P **P** **18 31 59.0 +1.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
IRM Iron Mountain 83.17 48 P 18 31 58.7
baz=234,SNR=10
GMRC Granite Mounta 83.19 47 P 18 31 58.7
baz=234
113A Mohawk Valley, 83.30 49 P **P** **18 31 59.3 +1.3**
PNTR Pine Nut 83.33 41 P **P** **18 31 59.6 +1.2**
PNTR IAmb IAmb 18 32 00.7
comp=Z,12nm,0.8s
K02D Willamette Mer 83.37 37 P 18 31 59.2
baz=227
SII Sitkinak Islan 83.38 13 P 18 31 59.1
baz=201
214A Organ Pipe Nat 83.50 51 P 18 32 00.2
baz=236
214A Organ Pipe Nat 83.50 51 P **P** **18 31 59.9 +0.8**
J01E Myrtle Point 83.54 36 P 18 32 00.1
baz=227
SNAA Sanae 83.70 178 P **P** **18 32 00.4 +0.7**
NVAR Mina Array Bea 83.71 43 P **P** **18 32 01.2 +0.9**
comp=Z,2.8nm,0.6s,baz=221,slow=8.5,SNR=7.5
NVAR LR LR 19 06 38.5
comp=Z,41nm,19.1s,baz=256,slow=34
M04C Macdoel 83.77 38 P 18 32 01.5
baz=229
L04D Klamath Falls 83.80 38 P 18 32 01.9
baz=228
LL02 Futaleuf 83.82 135 P **P** **18 32 01.9 +1.2**
LL02 IAmb IAmb 18 32 06.6
comp=Z,20nm,1.4s
VNA3 Neumayer Olymp 83.82 176 P **P** **18 32 00.9 +0.7**
VNA3 Neumayer Olymp 83.82 176 PP PP 18 35 16.2 +1.5
VNA3 Neumayer Olymp 83.82 176 PcP **PcP** **18 32 04.7 +0.8**
VNA3 Neumayer Olymp 83.82 176 sP sP 18 32 46.5 -4.7
PAHR Pah Rah Range 83.86 41 P **P** **18 32 01.8 +0.9**
PDMCI Parker Dam,Lak 83.93 48 P 18 32 03.1
baz=235
TPNV Topopah Spring 84.10 45 P 18 32 03.5
baz=233
TPNV Topopah Spring 84.10 45 P **P** **18 32 03.2 +1.0**
TPH Tonopah 84.16 43 P **P** **18 32 03.3 +0.7**
TPH IAmb IAmb 18 32 05.6
comp=Z,23nm,0.9s
OHAK Old Harbor 84.17 13 P 18 32 02.9
baz=202
KVN Kaiserville 84.22 42 P **P** **18 32 03.4 +0.6**
VNA2 Neumayer--Watz 84.27 177 P **P** **18 32 03.4 +1.0**
baz=190,slow=3.1
VNA2 Neumayer--Watz 84.27 177 PP PP 18 35 19.4 +1.2
VNA1 Neumayer--Stat 84.49 176 P **P** **18 32 04.5 +1.0**
Y14A Wickenburg 84.49 49 P **P** **18 32 05.4 +1.3**
SHPR Sheep Range 84.54 46 P **P** **18 32 05.4 +1.0**
J04D Umpqua Nationa 84.58 37 P 18 32 06.2
baz=228
MOD Modoc Plateau 84.72 39 P **P** **18 32 05.7 +0.4**
MOD IAmb IAmb 18 32 07.8
comp=Z,11nm,1.0s
I04A Tendick Farm, 84.78 36 P 18 32 06.5
baz=228
KDAK Kodiak Island 84.84 13 P **P** **18 32 05.0 -0.2**
comp=Z,13nm,0.9s,baz=185,slow=5.3,SNR=4.9
KDAK Kodiak Island 84.84 13 IAmb IAmb 18 32 06.0
comp=Z,31nm,1.2s
K05A Summer Lake 84.92 38 P **P** **18 32 07.2 +1.0**
K05A IAmb IAmb 18 32 08.8
comp=Z,16nm,1.0s
TUC Tucson 85.13 51 P **P** **18 32 09.0 +1.6**
TUC IAmb IAmb 18 32 10.6
comp=Z,17nm,0.9s
TUC Tucson 85.13 51 P 18 32 09.3
baz=237
PRN Pahroc Range 85.14 45 P **P** **18 32 08.2 +0.8**
PINE Pine Mountain 85.58 37 P **P** **18 32 11.0 +1.5**
319A Douglas 85.70 53 P **P** **18 32 12.2 +1.8**
319A IAmb IAmb 18 32 13.4
comp=Z,23nm,1.0s
X16A Lo Mia Camp, P 85.83 49 P **P** **18 32 12.8 +1.8**
X16A IAmb IAmb 18 32 14.1
comp=Z,11nm,1.0s
PLCA Paso Flores 85.85 133 P **P** **18 32 12.8 +1.8**
comp=Z,6.7nm,0.7s,baz=227,slow=6.2,SNR=12
PLCA LR LR 19 02 29.9
comp=Z,39nm,21.9s,baz=215,slow=30
PLCA Paso Flores 85.85 133 P **P** **18 32 12.8 +1.8**
PLCA IAmb IAmb 18 32 13.4
comp=Z,14nm,1.0s
WVOR Wild Horse Val 86.01 39 P **P** **18 32 12.7 +1.1**
CCUT Cedar City 86.31 46 P **P** **18 32 13.6 +0.3**
U15A North Rim 86.38 47 P **P** **18 32 14.8 +1.0**
U15A IAmb IAmb 18 32 16.6
comp=Z,7.4nm,0.8s
WUAZ Wupatki 86.48 48 P 18 32 15.6
baz=236
KLR Kul'dur 86.56 329 P **P** **18 32 13.8 -0.1**
comp=Z,1.0nm,0.6s,baz=137,slow=4.6,SNR=4.8
PSUT Pine Spring 86.56 45 P **P** **18 32 15.3 +0.8**
D03D Eldon 86.94 33 P 18 32 17.0
baz=228
ELK Elko 87.00 42 P **P** **18 32 17.3 +0.7**
BRSE Bradley Lake S 87.02 13 P 18 32 16.8
baz=204
MTPU Mount Pierson 87.36 46 P **P** **18 32 19.4 +0.8**
MTPU IAmb IAmb 18 32 21.6
comp=Z,7.9nm,0.7s
W18A Petrified Fore 87.39 49 P 18 32 20.0
baz=237
121A Cookes Peak, D 87.39 52 P **P** **18 32 20.3 +1.7**
121A IAmb IAmb 18 32 21.8
comp=Z,9.4nm,1.0s
121A Cookes Peak, D 87.39 52 P 18 32 20.5
baz=238
SVW2 Sparrevohn 87.39 10 P **P** **18 32 17.9 +0.2**
SVW2 IAmb IAmb 18 32 18.4
comp=Z,12nm,0.6s
SEW Seward 87.62 14 P 18 32 21.0
baz=205
G08A Pilot Rock 87.63 37 P **P** **18 32 20.2 +0.8**
B05A Bryant 87.92 33 P 18 32 22.1
baz=228
A04D Lummi Island 87.93 33 P 18 32 22.1
baz=228
LTY Liberty 87.99 35 P **P** **18 32 21.6 +0.6**
LTY IAmb IAmb 18 32 22.8
comp=Z,10.0nm,1.2s
CRAG Craig 88.38 23 P 18 32 24.3
baz=219
SUA Susitna One 88.60 12 P 18 32 24.0
baz=204
SUA Susitna One 88.60 12 P **P** **18 32 23.6 0.0**
TMUT Trail Mountain 88.69 45 P **P** **18 32 26.0 +1.2**
TMUT IAmb IAmb 18 32 27.3
comp=Z,13nm,0.7s
MT01 Popeta 88.70 127 P **P** **18 32 25.4 +0.7**
MNTX Cornudas Mount 88.71 54 P **P** **18 32 25.6 +0.9**
MNTX IAmb IAmb 18 32 27.2
comp=Z,12nm,1.1s
MNTX Cornudas Mount 88.71 54 P 18 32 26.0
baz=240
D08A Wollman Farm, 88.77 36 P **P** **18 32 25.6 +1.0**
D08A IAmb IAmb 18 32 26.3
comp=Z,7.1nm,0.9s
TX31 Lajitas Ar. Si 88.83 57 P **P** **18 32 26.4 +1.1**
TX32 Lajitas Array 88.83 57 P **P** **18 32 26.2 +0.8**
TX32 IAmb IAmb 18 32 28.0
comp=Z,16nm,1.4s
TXAR Lajitas Array 88.83 57 P **P** **18 32 26.6 +1.2**
comp=Z,4.0nm,1.0s,baz=216,slow=6.2,SNR=28
TXAR pP **pP** **18 33 03.4 +1.6**
comp=Z,1.0nm,0.8s,baz=215,slow=8.4,SNR=2.7
TXAR Lajitas Array 88.83 57 P **P** **18 32 26.2 +0.8**
GLI Glacier Island 88.83 14 P 18 32 24.8
baz=207
E09A Wood Farm, Sta 88.84 36 P **P** **18 32 25.8 +0.9**
E09A IAmb IAmb 18 32 26.8
comp=Z,14nm,1.3s
EYAK Cordova Ski Ar 88.85 15 P 18 32 24.9
baz=208
SKT Skwentna 88.92 12 P 18 32 25.0
baz=203
SKT Skwentna 88.93 12 P **P** **18 32 24.5 -0.4**
SKT IAmb IAmb 18 32 25.3
comp=Z,11nm,0.8s
M22K Willow 88.99 13 P 18 32 25.7
baz=204
F10A Beach Ranch, E 89.01 37 P **P** **18 32 26.0 +0.2**
F10A IAmb IAmb 18 32 27.3
comp=Z,9.1nm,0.9s
KNK Knik Glacier 89.02 13 P 18 32 26.0
baz=206
SRU San Rafael Swe 89.03 46 P **P** **18 32 26.9 +0.7**
SRU IAmb IAmb 18 32 28.2
comp=Z,6.3nm,0.8s
PMR Palmer 89.04 13 P 18 32 26.0
baz=205
BNM Barren Site 89.06 51 P **P** **18 32 28.1 +1.6**
TTA Tatalina 89.06 10 P 18 32 26.2
baz=199,SNR=6.9
TTA Tatalina 89.06 10 P **P** **18 32 26.0 +0.4**
TTA IAmb IAmb 18 32 27.1
comp=Z,10nm,0.9s
P17A Butcher Ranch, 89.09 45 P **P** **18 32 27.3 +0.8**
HLID Hailey 89.16 40 P 18 32 28.2
baz=234
HLID Hailey 89.16 40 P **P** **18 32 27.7 +1.0**
GHO Glory Hole Cre 89.25 13 P **P** **18 32 26.6 +0.1**
GYA Guiyang 89.34 300 *e*P P 18 32 32.8 +4.9
GYA pmax pmax
comp=Z,1.0nm,1.7s
B08A Colville Reser 89.38 34 P **P** **18 32 27.9 +0.5**
WRAK Wrangell Islan 89.39 23 P 18 32 29.8
baz=220
BMRM Bremner River 89.49 15 P 18 32 28.7
baz=209
BMRM Bremner River 89.49 15 P **P** **18 32 28.1 +0.5**
CUT Chulitna 89.55 12 P 18 32 27.7
baz=204,SNR=6.2
CUT Chulitna 89.56 12 P **P** **18 32 27.9 +0.1**
C09A Chrisman Ranch 89.58 35 P **P** **18 32 28.7 +0.3**
C09A IAmb IAmb 18 32 30.2
comp=Z,8.7nm,0.9s
ANMO Albuquerque 89.58 51 P **P** **18 32 29.8 +0.9**
ANMO IAmb IAmb 18 32 31.3
comp=Z,7.9nm,1.1s
ANMO Albuquerque 89.58 51 P 18 32 30.0
baz=239
SCM Sheep Creek Mo 89.64 14 P **P** **18 32 28.8 +0.5**
KLU Klutina 89.64 14 P 18 32 29.1
baz=208
N25K Chitina, Valde 90.05 15 P 18 32 31.1
baz=209
N25K Chitina, Valde 90.05 15 P **P** **18 32 30.8 +0.5**
GLB Gilahina Butte 90.09 15 P **P** **18 32 31.0 +0.5**
M24K Tolsona, Glenn 90.13 14 P 18 32 32.0
baz=208
BCYI Bear Canyon 90.19 40 P **P** **18 32 32.9 +1.4**
WAT6 Susitna Watana 90.22 13 P 18 32 31.3
baz=207,SNR=5.1
CTG Chitna Glacier 90.30 17 P 18 32 32.9
baz=212
WAT2 Susitna Watana 90.39 13 P 18 32 32.8
baz=206
NEW Newport 90.47 35 P 18 32 33.3
baz=232
KTH Kantishna Hill 90.49 11 P **P** **18 32 31.7 -0.5**
TRF Thorofare Moun 90.51 12 P 18 32 31.9
baz=204,SNR=13
TRF Thorofare Moun 90.51 12 P **P** **18 32 32.1 -0.4**
HARP HAARP 90.62 14 P 18 32 33.7
baz=209
SEY Seymchan 90.70 347 P **P** **18 32 33.3 +0.2**
comp=Z,16nm,0.8s,baz=151,slow=5.4,SNR=66
RND Reindeer 90.74 12 P **P** **18 32 32.6 -0.8**
S22A 4UR Ranch, Cre 90.76 48 P 18 32 35.6
baz=239
MCMT McKenzie Canyo 90.81 40 P **P** **18 32 35.5 +1.1**
BPAW Bear Paw Mtn. 90.98 11 P 18 32 36.8
baz=204
MCK McKinley 91.02 12 P 18 32 35.6
baz=206
MCK McKinley 91.02 12 P **P** **18 32 34.4 -0.2**
MCK IAmb IAmb 18 32 37.4
comp=Z,11nm,0.8s
PAX Paxson 91.05 14 P 18 32 35.6
baz=209
DLMT Dillon 91.26 40 P **P** **18 32 37.3 +1.0**
DLMT IAmb IAmb 18 32 38.6
comp=Z,7.0nm,1.1s
MSO Missoula 91.34 38 P 18 32 37.5
baz=234
SMCO Snowmass 91.41 47 P **P** **18 32 37.8 +0.3**
SMCO IAmb IAmb 18 32 39.6
comp=Z,9.6nm,1.4s
BW06 Boulder Array 91.64 43 P **P** **18 32 38.6 +0.3**
BW06 Boulder Array 91.64 43 P 18 32 38.7

baz=237,SNR=5.5
PDAR Pinedale Array 91.64 43 P P 18 32 38.5 +0.2
comp=Z,3.0nm,0.8s,baz=204,slow=3.3,SNR=17
PDAR Pinedale Array 91.64 43 P P 18 32 37.9 -0.4
833A Chaparral WMA, 91.65 60 P 18 32 38.8
baz=243
FLWY Flagg Ranch 91.66 41 P P 18 32 37.7 -0.7
FLWY IAmb IAmb 18 32 41.4
comp=Z,6.0nm,0.9s
SDCO Great Sand Dun 91.67 49 P 18 32 39.7
baz=240
SDCO Great Sand Dun 91.67 49 P P 18 32 39.0 +0.4
YHL Hebgen Lake 91.80 41 P P 18 32 40.2 +1.2
YHL IAmb IAmb 18 32 42.5
comp=Z,11nm,1.2s
WRH Wood River Hil 91.85 12 P P 18 32 38.1 -0.3
MLY Manley 91.87 11 P 18 32 38.2
baz=204,SNR=6.6
MLY Manley 91.88 11 P P 18 32 37.6 -1.0
MLY IAmb IAmb 18 32 38.7
comp=Z,5.0nm,0.7s
DOT Dot Lake 91.96 14 P P 18 32 39.3 +0.3
YHH Holmes Hill 91.96 41 P P 18 32 39.4 -0.5
L27K Beaver Creek, 91.97 15 P 18 32 39.6
baz=212
HDA Harding Lake 92.02 13 P 18 32 39.8
baz=207
HDA P 18 32 39.8
baz=207
HDA Harding Lake 92.02 13 P P 18 32 39.1 -0.2
CCB Clear Creek Bu 92.06 12 P P 18 32 38.7 -0.7
CCB IAmb IAmb 18 32 39.8
comp=Z,7.8nm,0.7s
H21K Melozitna Rive 92.11 10 P 18 32 39.8
baz=202
T25A Trinidad 92.12 50 P 18 32 40.9
baz=240
CMAR Chiang Mai Arr 92.16 289 P P 18 32 42.6 +1.6
comp=Z,1.1nm,0.7s,baz=116,slow=4.1,SNR=6.0
CMAR PKKPbc **PKKPbc 18 49 56.0 +0.2**
comp=Z,0.2nm,0.3s,baz=291,slow=4.4,SNR=4.3
CMAR Chiang Mai Arr 92.16 289 P P 18 32 42.1 +1.1
I23K Minto, Yukon-K 92.22 11 P 18 32 40.3
baz=205
TCOL CIGO, UAF Yank 92.25 12 P 18 32 41.2
baz=206
TCOL CIGO, UAF Yank 92.25 12 P P 18 32 39.6 -0.7
COLA College 92.26 12 P 18 32 41.1
baz=206
SCRK Sand Creek 92.26 14 P 18 32 40.6
baz=210,SNR=6.2
SCRK Sand Creek 92.26 14 P P 18 32 40.9 +0.4
SCRK IAmb IAmb 18 32 42.8
comp=Z,6.9nm,0.8s
MDM Murphy Dome 92.26 12 P P 18 32 39.8 -0.6
MDM IAmb IAmb 18 32 40.7
comp=Z,8.0nm,0.9s
IMAR Indian Mountai 92.28 9 P P 18 32 40.5 +0.2
CHTO Chiang Mai 92.31 290 P P 18 32 43.8 +2.1
CHTO IAmb IAmb 18 32 49.7
comp=Z,5.7nm,1.2s
IL31 92.35 13 P P 18 32 40.1 -0.6
IL31 IAmb IAmb 18 32 44.5
comp=Z,6.0nm,0.7s
ILAR Eielson Array 92.35 13 P P 18 32 40.8 0.0
comp=Z,4.2nm,0.8s,baz=223,slow=5.8,SNR=26
ILAR Eielson Array 92.35 13 P P 18 32 39.8 -1.0
POKR Poker Plat Res 92.55 12 P 18 32 41.9
baz=207
POKR Poker Plat Res 92.56 12 P P 18 32 41.3 -0.4
POKR IAmb IAmb 18 32 43.8
comp=Z,7.9nm,0.8s
K27K Chicken 92.73 15 P 18 32 43.4
baz=212
H23K Yukon River 92.81 11 P 18 32 43.7
baz=205
HHC Hu-ho-hao-te 92.82 314 eP P 18 32 44.1 +0.5
H24K Noodor Dome 93.12 12 P 18 32 45.4
baz=206
RDOG Red Dog Mine 93.19 5 P 18 32 45.5
baz=193
BILL Bilibino 93.37 354 P P 18 32 45.2 -0.1
BILL IAmb IAmb 18 32 46.1
comp=Z,5.1nm,0.7s
ABTX Abilene, Hawle 93.42 56 P 18 32 46.6
baz=243
ABTX Abilene, Hawle 93.42 56 P P 18 32 47.5 +1.0
K22A Casper 93.48 44 P 18 32 47.2
baz=239
EGAK Eagle 93.58 15 P 18 32 47.6
baz=212
CD2 Chengdu 93.65 302 eP P 18 32 49.0 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
COLD Coldfoot 93.98 10 P 18 32 49.1
baz=204
COLD Coldfoot 93.98 10 P P 18 32 49.7 +1.5
COLD IAmb IAmb 18 32 59.0
comp=Z,6.7nm,1.2s
WMOK Wichita Mounta 95.02 54 P P 18 32 54.2 +0.4
WMOK IAmb IAmb 18 32 55.4
comp=Z,5.9nm,0.8s
TOLK Toolik Lake Re 95.36 10 P 18 32 54.8
baz=205
RSSD Black Hills 95.79 44 P 18 32 57.8
baz=241
YAK Yakutsk 96.34 338 P P 18 32 58.4 -0.6
comp=Z,8.4nm,0.5s,baz=193,slow=0.1,SNR=13
YAK Yakutsk 96.34 338 P P 18 32 57.5 -1.5
SONM Songino Array 99.41 318 LR LR 19 20 32.4
comp=Z,18nm,18.0s,baz=60,slow=37
Q61A Milford 114.07 57 P 18 38 10.6
baz=257
ZALV Zalesovo Beam 114.23 320 PKP PKPdf 18 38 08.3 -0.9
comp=Z,1.3nm,0.7s,baz=170,slow=1.7,SNR=4.7
L58A Harry Jones Me 114.37 53 P 18 38 11.2
baz=258
MKAR Makanchi Array 114.59 312 PKP PKPdf 18 38 09.7 -0.6
comp=Z,0.6nm,0.5s,baz=207,slow=1.3,SNR=13
MKAR PKKPbc **PKKPbc 18 48 50.0 +0.1**
comp=Z,0.9nm,0.6s,baz=258,slow=4.9,SNR=13
E56A St. Veronique 115.78 49 P 18 38 13.5
baz=261
K61A Williamstown 116.37 53 P 18 38 13.9
baz=260
J61A Chester 117.00 52 P 18 38 15.1
baz=261
KURK Kurchatov 117.57 316 PKPdf 18 38 15.2 -0.6
KURBB Kurchatov Arra 117.62 316 PKP PKPdf 18 38 15.2 -0.7
comp=Z,0.7nm,0.5s,baz=112,slow=1.7,SNR=7.3
KURBB pPKP **pPKPdf 18 38 51.7 -2.1**
comp=Z,0.7nm,0.7s,baz=96,slow=1.9,SNR=2.8
M64A Tiverton 117.68 55 P 18 38 17.4
baz=261
I63A Otisfield 118.52 52 P 18 38 18.2
baz=262
I64A Boothbay 119.18 52 P 18 38 19.7
baz=263
H64A Troy 119.56 51 P 18 38 20.0
baz=264
G64A Maxfield 119.96 51 P 18 38 21.1
baz=264
F64A Sherman 120.30 50 P 18 38 21.8
baz=265
SPA0 Spitsbergen Ar 126.19 357 ePKPdf PKiKP 18 38 32.3 +0.2
GEYT Alibeck 131.57 300 PKP PKiKP 18 38 43.9 -0.2
comp=Z,2.9nm,0.7s,baz=306,slow=3.2,SNR=2.4
GEYT SKPbc **SKPab 18 41 57.3 +1.4**
comp=Z,1.8nm,0.5s,baz=207,slow=6.3,SNR=3.7
HAMF Hammerfest 132.56 351 ePKPdf PKiKP 18 38 44.7 -0.3
ARCES ARCESS Array B 133.26 349 PKP PKPdf 18 38 45.6 +0.3
comp=Z,2.2nm,0.6s,baz=36,slow=1.8,SNR=15
ARCES ARCESS Array B 133.26 349 PKPdf 18 38 45.2 -0.1
KTK1 Kautokeino 134.10 350 ePKPdf PKiKP 18 38 48.3 +0.1
TRO Tromso 134.14 352 ePKPdf PKiKP 18 38 47.8 -0.4
KLMR Klimovskoe 136.06 335 ePKPdf PKPdf 18 38 48.4 -2.3
KLMR AMP 18 38 57.2
comp=Z,10.0nm,1.3s
LOF Lofoten 136.16 354 ePKPdf PKPdf 18 38 51.2 +0.5
FINES FINESS Array B 140.07 343 PKhKP PKPpre 18 50.4
comp=Z,4.2nm,0.9s,baz=48,slow=4.1,SNR=1.8
FINES PKP **PKiKP 18 39 00.3 -0.2**
comp=Z,2.5nm,0.6s,baz=90,slow=3.8,SNR=7.8
FINES SKPbc **SKiKP 18 42 22.5 -0.7**
comp=Z,3.4nm,0.9s,baz=42,slow=4.3,SNR=4.2
FINES FINESS Array B 140.07 343 PKiKP 18 38 59.6 -1.0

AKN Aaknes 142.53 357 ePKPdf PKPdf 18 39 02.0 -0.5
NB2 NORSAR Subarra 143.32 353 PKPab PKPbc 18 39 01.2 -0.3
baz=18,slow=3.8
NOA NORSAR Array B 143.32 353 PKhKP PKPpre 18 39 00.7
comp=Z,1.4nm,0.6s,baz=20,slow=3.2,SNR=8.5
NC602 NORSAR Array S 143.58 353 ePKPdf PKPbc 18 39 02.8 +0.7
SKAR Skarslia 143.94 355 ePKPdf PKPdf 18 39 05.9 +0.8
BER Bergen 144.40 358 ePKPdf PKPbc 18 39 04.8 +0.2
OSL Oslo 144.45 353 ePKPdf PKPbc 18 39 05.0 +0.2
ODD1 Odda 144.81 357 ePKPbc PKPab 18 39 04.8 -1.1
KONO Kongsberg 144.85 354 ePKPbc PKPbc 18 39 06.0 -0.1
MNK Minsk 144.95 334 *i* PKP PKPbc 18 39 05.0 -1.5
comp=E,3.0nm,1.1s
MNK *i* PKP PKPbc 18 39 05.0 -1.5
comp=N,11nm,1.1s
MNK *i* PKP PKPbc 18 39 05.0 -1.5
comp=Z,43nm,1.1s,baz=222
MNK *i* pPKP pPKPdf 18 39 37.4 -7.4
MNK *i* PP **PP 18 42 22.9 -3.2**
MNK *i* SKP 18 42 27.9
MNK *i* PKS **PKSdf 18 42 40.5 -1.7**
MNK *i* PPP PPP 18 45 36.5
MNK *i* SKS **SKSdf 18 46 03.0 +0.5**
MNK *i* SKKS **SKKSdf 18 55 09.9 -4.2**
MNK *i* SS **SS 19 01 03.3 +0.1**
MNK *i* SSS SSS 19 06 30.2
MNK *i* LRM MLR 19 44 02.4
comp=E,6.0nm,15.3s
MNK *i* LRM MLR 19 44 08.1
comp=Z,47nm,13.3s
MNK *i* LRM MLR 19 44 17.0
comp=N,52nm,24.8s
NACGM Naroch 145.07 336 *i* PKP **PKPdf 18 39 07.6 +0.5**
baz=287
BLS5 Blasjo 145.31 357 ePKPbc PKPab 18 39 07.9 +0.1
KMY Karmoy 145.57 358 ePKPbc PKPbc 18 39 08.5 +0.2
HOMB Homborsund 146.31 354 ePKPbc PKPab 18 39 11.1 -0.5
SNART Snartemo 146.34 356 ePKPbc PKPbc 18 39 11.0 +0.3
KAC Achnashellach 146.83 8 eP PKPbc 18 39 11.9 -0.2
KPL Plockton 146.94 8 eP PKPbc 18 39 12.8 +0.4
MCD Coleburn Disti 146.97 6 eP PKPab 18 39 14.2 -0.1
MDO Dochfour 147.00 7 eP PKPbc 18 39 11.5 -1.1
AKASG Malin Array Be 147.05 329 PKPbc PKPbc 18 39 12.5 -0.4
comp=N,6.4nm,0.5s,baz=41,slow=4.0,SNR=51
AKASG pPKPbc **pPKPdf 18 39 48.2 -0.4**
comp=N,7.6nm,0.6s,baz=43,slow=4.3,SNR=4.3
EDU Dundee 148.02 6 eP PKPab 18 39 18.6 +0.2
LAWE Loch Awe, Argy 148.03 9 eP PKPbc 18 39 15.8 +0.5
INVG Invergeldie, C 148.03 7 eP PKPbc 18 39 15.9 +0.5
EBL Broad Law 148.78 6 eP PKPbc 18 39 17.8 +0.5
NEWG New Galloway 149.29 8 eP PKPbc 18 39 18.3 -0.3
GAL1 Galloway 149.48 8 eP PKPbc 18 39 19.0 0.0
BEL Belsk 149.69 338 ePKP PKiKP 18 39 20.5 -0.1
EDMD Edmundbyers 149.81 5 eP PKPbc 18 39 20.2 +0.2
BRTR Keskin Array B 150.10 307 PKP PKPdf 18 39 16.1 -0.1
comp=N,1.1nm,0.9s,baz=48,slow=2.1,SNR=3.0
BRTR PKPbc **PKPbc 18 39 21.1 -0.2**
comp=N,4.6nm,1.1s,baz=137,slow=2.1,SNR=5.4
BRTR Keskin Array B 150.10 307 PKPdf 18 39 15.7 -0.5
OJC Ojcow 151.38 337 ePKP PKiKP 18 39 24.2 0.0
KOLS Kolonicke sedl 151.45 332 ePKP PKPdf 18 39 18.8 +1.0
KOLS *e* 18 39 26.0
KOLS *e* 18 39 32.2
FOEL Foel Wylfa 151.60 8 eP PKPbc 18 39 23.8 -0.4
KSP Ksiaz 151.98 342 ePKP PKiKP 18 39 26.0 +0.6
OSTC Ostas 152.25 341⇑ePKP PKiKP 18 39 26.9 +0.9
CHVC Chvalec 152.27 342⇑ePKP PKPbc 18 39 24.9 -0.9
CLL Collm 152.39 346 *i* PKPbc **PKiKP 18 39 26.3 +0.1**
comp=Z,14nm,0.7s
CLL *i* 18 39 29.5
comp=Z,13nm,0.8s
CLL *i* 18 39 33.2
comp=Z,13nm,0.8s
CLL ePKPab **PKPab 18 39 38.0 +1.4**
comp=Z,16nm,1.2s
CLL *i* pPKPab **pPKPbc 18 40 04.7 +1.0**
comp=Z,14nm,0.8s
CLL *i* (PKSdf) 18 42 50.4
LANS Liptovska Anna 152.39 336 ePKP PKiKP 18 39 28.0 +1.6
DPC Dobruska-Polom 152.41 341⇑ePKP PKiKP 18 39 27.0 +0.6
MORC Moravsky Berou 152.53 339 ePKP PKiKP 18 39 27.4 +0.7
MORC *e* 18 39 37.7
PVCC Panska Ves 152.73 343⇑ePKP PKiKP 18 39 27.5 +0.5
VYHS Vyhne 153.16 336 ePKP PKiKP 18 39 29.0 +1.0
VYHS *e* 18 39 40.4
PRU Pruhonice 153.23 343⇑ePKP PKiKP 18 39 29.2 +1.2
VRAC Vranov 153.24 340 ePKP PKiKP 18 39 29.5 +1.4
VRAC *e* 18 39 40.8
JAVC Velka Javorina 153.28 338 ePKP PKiKP 18 39 29.8 +1.6
JAVC *e* 18 39 41.9
MOX Moxa 153.30 347 eL L 19 39 45.1
comp=Z,45nm,21.2s
KRUC Moravsky 153.52 340 ePKP PKiKP 18 39 29.7 +1.0
KRUC *e* 18 39 41.9
TNS Taunus Mts 154.24 352 eL L 19 35 41.4
comp=Z,52nm,20.6s
KHC Kasperske Hory 154.27 343 ePKPDF PKPdf 18 39 21.6 -0.3
KHC ⇑ePKP **PKiKP 18 39 30.3 0.0**
KHC ePKPAB **PKPab 18 39 45.3 +0.6**
GRF Grafenberg Arr 154.29 347 ePKPab PKPab 18 39 44.0 -0.7
baz=18,slow=3.9
BCLA Clavier 154.35 356 *d*PKPab **PKPab 18 39 44.4 -0.5**
CKRC Cesky Krumlov 154.36 342 ePKPDF PKPdf 18 39 22.6 +0.6
BMRD Maredsous 154.50 357 *d*PKPab **PKPab 18 39 45.4 -0.2**
GERES GERESS Array B 154.50 343 PKP PKPdf 18 39 21.9 -0.4
comp=Z,0.6nm,0.8s,baz=28,slow=2.3,SNR=6.4
GERES PKPbc **PKPbc 18 39 30.5 -0.3**
comp=Z,0.8nm,0.5s,baz=36,slow=2.9,SNR=5.8
GERES PKPab **PKPab 18 39 45.4 -0.4**
comp=Z,2.0nm,0.8s,baz=35,slow=4.9,SNR=9.5
CONA Conrad Observa 154.69 339 eP PKPab 18 39 47.5 +0.9
comp=Z,6.5nm,0.7s
DOU Dourbes 154.71 357 *d*PKPab **PKPab 18 39 46.4 -0.1**
WLF Walferdange 155.04 355 *d*PKPab **PKPab 18 39 46.6 -1.3**
MOA Molln 155.25 341 eP PKPab 18 39 50.1 +1.2
comp=Z,2.4nm,0.6s
ARSA Arzberg 155.39 339 eP PKPab 18 39 50.0 +0.4
comp=Z,3.2nm,0.8s
KBA Koelnbreinsper 156.21 342 *i* P **PKPab 18 39 54.1 +0.9**
comp=Z,5.0nm,0.6s
OBKA Obir 156.36 339 eP PKPab 18 39 53.8 0.0
comp=Z,3.0nm,0.6s
WATA Walderalm 156.44 345 eP PKPab 18 39 55.0 +0.8
comp=Z,3.2nm,0.5s
RETA Reutte 156.48 346 eP PKPab 18 39 54.6 +0.4
comp=Z,3.3nm,0.6s
WTTA Wattenberg 156.49 345 eP PKPab 18 39 54.9 +0.4
comp=Z,6.2nm,0.8s
MYKA Terra Mystica 156.53 341 eP PKPab 18 39 54.1 -0.4
comp=Z,4.6nm,0.5s
MOTA Moosalm 156.54 346 eP PKPab 18 39 54.8 +0.1
comp=Z,4.8nm,0.8s
ABTA Abfaltersbach 156.75 343 eP PKPab 18 39 55.1 -0.3
comp=Z,7.9nm,1.1s
DBIC Dimbokro 160.56 157 PKPab PKPab 18 40 13.7 +1.0
comp=Z,3.3nm,0.5s,baz=168,slow=5.5,SNR=6.3
ESDC Sonseca Array 164.15 19 PKP PKPdf 18 39 34.0 +0.4
comp=Z,0.4nm,0.5s,baz=299,slow=2.6,SNR=5.2
ESDC PKPab **PKPab 18 40 28.4 +0.5**
comp=Z,1.8nm,0.9s,baz=319,slow=3.3,SNR=8.4
ESDC Sonseca Array 164.15 19 PKPdf 18 39 34.8 +1.1
KEST Kesra 167.70 334 PKPab PKPab 18 40 43.7 0.0
comp=Z,4.8nm,0.8s,baz=335,slow=4.0,SNR=5.2

TAP **04** *18:31:50.5,24.83N,122.00E,h12km,ML2.5,C*
JMA **04** *18:31:50.9±0.3,24.81N,122.00E,h2km±4km,M2.1*
ISC 04 18:31:51.1±0.9,24.82N±0.02,122.00E±0.02,h11km±6km,
n70,σ0.8s3/115,6C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.16**	**284**	*i* P		**Pg**	**18 31 54.8**	**0.0**
	baz=279							
NTC				*i* S		**Sg**	**18 31 57.3**	**-0.1**
	baz=279							
TWB1	**Santiao Chiao**	**0.19**	**356**	⇑*i* P		**Pg**	**18 31 54.7**	**-0.6**
	baz=349							
TWB1				*i* S		**Sg**	**18 31 57.6**	**-0.6**
	baz=349							
TIPB	**Shuangxi**	**0.22**	**314**	⇑*i* P		**Pg**	**18 31 55.6**	**-0.2**
	baz=304							
TIPB				*i* S		**Sg**	**18 31 58.9**	**-0.2**
	baz=304							

ILA Ilan 0.24 258 *i* P **Pg 18 31 57.1 +1.0**
baz=255
ILA *i* S **Sg 18 32 00.6 +1.2**
baz=255
TWC Suao 0.25 214 *i* P **Pg 18 31 56.1 -0.2**
baz=214
TWC *i* S **Sg 18 31 59.4 -0.3**
baz=214
NDS Dongshan 0.32 235 P **Pg 18 31 57.5 0.0**
baz=235
NDS S **Sg 18 32 01.7 -0.1**
baz=235
TWE Neicheng 0.32 253 *i* P **Pg 18 31 57.5 -0.1**
baz=242
TWE *i* S **Sg 18 32 01.9 0.0**
baz=242
NWF Wu-fen Shan 0.33 322⇑*i* P **Pg 18 31 57.7 0.0**
baz=314
NWF *i* S **Sb 18 32 02.8 -1.5**
baz=314
WFSB Wu-fen Shan 0.33 322 ⇑P **Pg 18 31 57.8 +0.1**
baz=314
WFSB S **Sb 18 32 02.9 -1.4**
baz=314
TNOU National Taiwa 0.39 328 P **Pg 18 31 58.9 -0.1**
baz=317
TNOU S **Sg 18 32 04.3 +0.1**
baz=317
TWA Mucha 0.41 293⇑*i* P **Pg 18 31 59.3 0.0**
baz=284
TWA *i* S **Sg 18 32 05.0 +0.1**
baz=284
EWUT Wuta 0.42 209 P **Pg 18 31 59.6 +0.2**
baz=214
EWUT S **Sg 18 32 05.3 +0.2**
baz=214
ENTT Nioudou 0.43 246 *i* P **Pg 18 31 59.8 +0.1**
baz=246
ENTT S **Sg 18 32 05.8 +0.3**
baz=246
NWLT Wulai 0.46 265 *i* P **Pg 18 32 00.1 -0.1**
baz=264
NWLT *i* S **Sg 18 32 05.8 -0.4**
baz=264
NHDH Xindian Distri 0.46 289 *e*P **Pb 18 32 00.3 -0.9**
baz=280
NHDH S **Sb 18 32 06.9 -1.2**
baz=280
NDT Datong Townshi 0.49 245 P **Pg 18 32 00.9 +0.1**
baz=239
TATO Taipei 0.49 289 S **Sg 18 32 07.7 +0.4**
baz=278
YM01 YM01 0.51 310 ⇑P **Pb 18 32 01.6 -0.6**
baz=298
YM01 S **Sb 18 32 08.9 -0.8**
baz=298
YM08 YM08 0.53 315 P **Pg 18 32 01.6 +0.1**
baz=303
YM08 *e*S **Sb 18 32 09.6 -0.5**
baz=303
BACT New Taipei Cit 0.54 290 S **Sb 18 32 10.3 -0.1**
baz=277
ANP Anpu 0.57 310 *i* P **Pg 18 32 02.3 0.0**
baz=300
TWY Chenhua 0.59 322 P **Pb 18 32 03.1 -0.3**
baz=319
YHNB Yeheng 0.59 256 P **Pg 18 32 02.2 -0.5**
baz=255
YHNB S **Sg 18 32 10.4 0.0**
baz=255
NSK Sanguang 0.60 257 *i* P **Pg 18 32 02.3 -0.6**
baz=265
NSK *i* S **Sg 18 32 10.1 -0.8**
baz=265
TWS1 Kuangyinshan 0.60 298 *i* P **Pb 18 32 03.7 0.0**
baz=296
TWS1 *i* S **Sb 18 32 12.2 0.0**
baz=296
NTST Danshui 0.61 305 *i* P **Pb 18 32 04.1 +0.3**
baz=302
NTST S **Sb 18 32 12.3 -0.1**
baz=302
NTY Taoyuan 0.67 286 *e*P **Pg 18 32 03.5 -0.6**
baz=277
NTY *e*S **Sb 18 32 13.6 -0.4**
baz=277
NNSB Datong 0.68 236 P **Pg 18 32 04.1 -0.3**
baz=236
NNSB S **Sb 18 32 14.4 -0.3**
baz=236
NNSH Datong 0.68 236 *e*P **Pg 18 32 04.3 -0.1**
baz=233
NNSH S **Sg 18 32 13.2 -0.2**
baz=233
NNS Nan Shan 0.68 237 *e*P **Pg 18 32 03.9 -0.6**
baz=237
NNS S **Sg 18 32 13.1 -0.4**
baz=237
NACB Ninganchiao 0.74 210 P **Pb 18 32 05.6 -0.4**
baz=213
NACB S **Sb 18 32 16.0 -0.1**
baz=213
ETLH Xiulin Townshi 0.77 218 *e*P **Pg 18 32 05.6 -0.4**
baz=220
ETLH S **Sb 18 32 17.0 -0.1**
baz=220
PCYT Pengchaiyu 0.81 4 *i* P **Pb 18 32 07.0 -0.3**
baz=357
PCYT S **Sb 18 32 19.1 +0.8**
baz=357
TWD Chiawan 0.82 207 *i* P **Pg 18 32 06.8 -0.2**
baz=209
TWD S **Sb 18 32 18.4 0.0**
baz=209
NJD Zhudong 0.83 265 *e*P **Pb 18 32 07.2 -0.4**
baz=259
NJD *e*S **Sb 18 32 18.8 -0.1**
baz=259
LIOB Emei 0.91 260 P **Pb 18 32 08.8 -0.2**
baz=259
LIOB S **Sb 18 32 22.3 +1.1**
baz=259
NSTT Nanjuang 0.93 259 *i* P **Pb 18 32 09.2 -0.1**
baz=258
NSTT S **Sb 18 32 22.1 +0.5**
baz=258
JYNG Yonagunijimaku 0.93 113 P **Pb 18 32 09.0 -0.3**
JYNG *e*S **Sg 18 32 21.0 -0.2**
WHF Hehuan Shan 0.95 225 *i* P **Pb 18 32 09.7 -0.2**
baz=227
WHF S **Sb 18 32 22.7 +0.1**
baz=227
TDCB Techi 0.95 234 P **Pb 18 32 09.8 +0.1**
baz=230
TDCB S **Sg 18 32 21.9 -0.1**
baz=230
ETM Tongmen 0.96 209 *e*P **Pg 18 32 09.3 -0.4**
baz=213
ETM S **Sb 18 32 22.7 0.0**
baz=213
YOJ Yonaguni jima 0.98 111 P **Pg 18 32 09.7 -0.4**
YOJ *e*S **Sg 18 32 22.8 -0.1**
YOJ Yonaguni jima 0.98 111 P **Pg 18 32 09.8 -0.2**
baz=114
YOJ S **Sb 18 32 23.3 +0.2**
baz=114
CHGB Renai 1.06 225 P **Pg 18 32 11.3 -0.4**
baz=228
CHGB S **Sg 18 32 25.4 -0.1**
baz=228
WHP Taichung City 1.10 241 P **Pn 18 32 12.9 +0.3**
baz=243
WHP *e*S **Sg 18 32 26.3 -0.4**
baz=243
ESL Shilin 1.12 208 P **Pg 18 32 12.3 -0.5**
baz=219
ESL *e*S **Sg 18 32 26.4 -1.0**
baz=219
OWD Renai 1.14 222 *e*P **Pn 18 32 13.4 +0.2**
baz=223
NSY Sanyi 1.20 251 P **Pn 18 32 14.4 +0.6**
baz=252
NSY S **Sn 18 32 31.4 +1.3**
baz=252
TWQ1 Liyutan 1.21 248 P **Pn 18 32 14.7 +0.7**
baz=249
TWQ1 S **Sn 18 32 31.1 +0.6**
baz=249

WCS	**Beigang Elemen** baz=242	**1.25**	**233**	*eP*	**Pg**	**18 32 15.2 +0.1**
WCS	baz=242			*eS*	**Sg**	**18 32 29.8 -1.6**
DPDB	**Guoxing** baz=241	**1.25**	**232**	*eP*	**Pg**	**18 32 15.5 +0.3**
DPDB	baz=241			*eS*	**Sg**	**18 32 30.6 -0.9**
EGFH	**Guangfu** baz=215	**1.26**	**205**	*eS*	**Sb**	**18 32 30.7 -0.3**
SMLT	**Sun Moon Lake** baz=221	**1.37**	**228**	*eP*	**Pn**	**18 32 16.5 +0.2**
SSLB	**Suanglung** baz=225	**1.40**	**223**	*eP*	**Pg**	**18 32 17.6 -0.4**
HGSD	**Ruisui** baz=193	**1.42**	**202**	*eP*	**Pg**	**18 32 17.8 -0.6**
EHY	**Hungye** baz=208	**1.44**	**206**	*eP*	**Pn**	**18 32 17.3 +0.1**
YULB	**Yu-li** baz=208	**1.56**	**205**	*eP*	**Pn**	**18 32 18.4 -0.3**
EYUL	**Yuli** baz=219	**1.59**	**203**	*eP*	**Pn**	**18 32 18.9 -0.3**
TWF1	**Yuli** baz=220	**1.59**	**204**	*eP*	**Pg**	**18 32 21.2 -0.5**
IRIF	**Iriomote-Funau**	**1.64**	**107**	P	**Pb**	**18 32 21.5 +0.1**
ALS	**Alishan** baz=209	**1.70**	**220**	*eP*	**Pg**	**18 32 23.8 0.0**
CHN5	**Tsauling** baz=228	**1.71**	**225**	*eP*	**Pg**	**18 32 23.3 -0.7**
ELDTW	**Lidau** baz=212	**1.85**	**209**	*eP*	**Pn**	**18 32 23.6 +0.7**
JKRS	**Kuro-shima**	**1.92**	**107**	P	**Pb**	**18 32 25.7 -0.4**
CHN4	**Tsaushan** baz=224	**1.94**	**222**	*eP*	**Pg**	**18 32 27.9 -0.6**
TPUB	**Ta-pu** baz=223	**1.96**	**220**	*eP*	**Pg**	**18 32 27.7 -1.1**
JIJ	**Ishigaki jima**	**2.00**	**103**	P	**Pn**	**18 32 26.1 +1.2**
STYT	**Tauyuan** baz=206	**2.00**	**215**	*eP*	**Pb**	**18 32 26.9 -0.7**
WTP	**Ta-pu** baz=222	**2.01**	**219**	*eP*	**Pb**	**18 32 27.6 -0.2**
TWK	**Hsinying** baz=224	**2.07**	**222**	*eP*	**Pb**	**18 32 29.5 +0.7**

*IDC **04** 18:47:26.5±1.0,54.01N×163.80W,h0km,mb3.9/18, mb1 4.0/20,mb1mx3.9/37,mbtmp3.8/20,ML3.1/2,MS3.5/2, Ms1 3.4/2,ms1mx2.7/31,Error ellipse: s-maj=27.8km s-min=14.8km az=174.0*

*NEIC **04** 18:47:30.4±1.2,53.93N±0.05×163.64W±0.05,h26km±6km, Error ellipse: s-maj=7.6km s-min=2.6km az=148.0*

*AEIC **04** 18:47:30±1.1,53.96N±0.04×163.63W±0.06,h41km±6km, ML3.6/39,mb3.8/4(NEIC), Error ellipse: s-maj=5.3km s-min=4.8km az=222.0*

ISC 04 18:47:30.6±1.6,53.97N±0.07×163.57W±0.04, h30km±10km,n81,σ0°90/80,mb3.9/18,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.69**	**352**			**Pb**	**18 47 44.2**	**+0.1**
BRPK						**Sb**	**18 47 52.8**	**-0.6**
SSLS	**Shishaldin Sou**	**0.79**	**342**			**Pb**	**18 47 46.0**	**+0.2**
SSLS						**Sn**	**18 47 57.5**	**+0.9**
WESP	**Westdahl Peak**	**0.86**	**309**			**Pn**	**18 47 46.5**	**-0.1**
WESP						**Sn**	**18 47 58.7**	**+0.4**
SSBA	**Shishaldin**	**0.87**	**338**			**Pb**	**18 47 47.1**	**-0.1**
SSBA						**Sb**	**18 47 59.8**	**+1.2**
SSLN	**Shishaldin Nor**	**0.88**	**344**			**Pb**	**18 47 48.0**	**+0.6**
SSLN						**Sb**	**18 48 00.2**	**+1.3**
FALS	**False Pass**	**0.90**	**6**			**Pn**	**18 47 47.3**	**+0.2**
WECS	**Westdahl Cape**	**0.91**	**309**			**Pn**	**18 47 47.4**	**+0.1**
AKSA	**Akutan Strait**	**1.27**	**279**			**Pn**	**18 47 51.9**	**-0.4**
AKSA						**Sn**	**18 48 07.9**	**-0.2**
AKSA	**Akutan Strait**	**1.27**	**279**			**Pn**	**18 47 51.8**	**-0.4**
AKUT	**Akutan**	**1.31**	**278**			**Pn**	**18 47 52.5**	**-0.2**
DT1	**Dutton Round H**	**1.37**	**33**			**Pn**	**18 47 53.5**	**-0.2**
HSB	**Akutan Spr's B**	**1.40**	**280**			**Pn**	**18 47 54.0**	**-0.1**
HSB						**Sn**	**18 48 11.4**	**0.0**
AKBBA	**Akutan Broad B**	**1.40**	**276**			**Pn**	**18 47 53.7**	**-0.3**
AKLV	**Akutan Long Va**	**1.42**	**279**			**Pn**	**18 47 54.1**	**-0.3**
AKMO	**Akutan Morgan**	**1.44**	**276**			**Pn**	**18 47 54.4**	**-0.2**
AKGG	**Akutan Green G**	**1.45**	**280**			**Pn**	**18 47 54.8**	**+0.1**
AKGG						**Sn**	**18 48 12.3**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.48**	**277**			**Pn**	**18 47 55.0**	**-0.2**
AKRB						**Sb**	**18 48 15.4**	**-0.4**
HAG	**Hague Volcano**	**1.67**	**35**			**Pn**	**18 47 58.8**	**+1.0**
PS4A	**Pavlof South-4**	**1.71**	**35**			**Pn**	**18 47 59.3**	**+1.0**
PVV	**Pavlof Volcano**	**1.75**	**36**			**Pn**	**18 47 59.9**	**+1.0**
PVV						**Sb**	**18 48 22.7**	**-0.8**
MTBL	**Makushin Table**	**1.83**	**271**			**Pn**	**18 48 00.2**	**+0.1**
MNAT	**Makushin Natee**	**1.84**	**269**			**Pn**	**18 47 59.6**	**-0.5**
MSW	**Makushin Switc**	**1.90**	**270**			**Pn**	**18 48 00.7**	**-0.2**
MGOD	**Makushin Gods**	**1.96**	**266**			**Pn**	**18 48 01.4**	**-0.4**
MGOD						**Sn**	**18 48 24.9**	**-0.5**
MAPS	**Pakushin South**	**2.00**	**267**			**Pn**	**18 48 02.1**	**-0.2**
SDPT	**Sand Point**	**2.27**	**51**			**Pn**	**18 48 06.5**	**+0.5**
OKFG	**Magazine Ridge**	**2.64**	**260**			**Pn**	**18 48 10.9**	**-0.2**
NIKH	**Nikolski High**	**3.31**	**255**	Pn		**Pn**	**18 48 19.9**	**-0.4**
VNHG	**Veniaminof 1**	**3.40**	**46**			**Pn**	**18 48 22.6**	**+1.1**
SII	**Sitkinak Islan**	**5.96**	**60**	Pn		**Pn**	**18 48 55.7**	**-1.1**
OHAK	**Old Harbor**	**6.68**	**57**	Pn		**Pn**	**18 49 05.3**	**-1.2**
KDAK	**Kodiak Island** 0.9nm,0.3s,baz=184,slow=3.0,SNR=22	**7.27**	**54**	Pn		**Pn**	**18 49 14.3**	**-0.2**
KDAK	0.4nm,0.3s,baz=342,slow=20,SNR=1.6					**Sn**	**18 50 31.8**	**-4.1**
ADK	**Adak**	**8.20**	**261**	Pn		**Pn**	**18 49 26.3**	**-1.0**
SVW2	**Sparrevohn**	**8.34**	**28**	Pn		**Pn**	**18 49 29.5**	**+0.2**
CNPM	**China Poot**	**8.77**	**46**	Pn		**Pn**	**18 49 36.1**	**+0.9**
TTA	**Tatalina**	**9.82**	**21**	Pn		**Pn**	**18 49 49.6**	**+0.1**
SEW	**Seward**	**9.84**	**46**	Pn		**Pn**	**18 49 50.2**	**+0.4**
PWL	**Port Wells**	**10.71**	**44**	Pn		**Pn**	**18 50 01.5**	**-0.4**
PPLA	**Purkeypile**	**10.74**	**29**	Pn		**Pn**	**18 50 02.0**	**-0.3**
SCM	**Sheep Creek Mo**	**11.67**	**41**	Pn		**Pn**	**18 50 14.9**	**0.0**
KLU	**Klutina**	**12.04**	**44**	Pn		**Pn**	**18 50 19.2**	**-0.8**
M24K	**Tolsona, Glenn**	**12.27**	**41**	Pn		**Pn**	**18 50 23.8**	**+0.6**
N25K	**Chitina, Valde**	**12.65**	**45**	Pn		**Pn**	**18 50 27.8**	**-0.5**
GRNC	**Granite Creek**	**13.54**	**51**	Pn		**Pn**	**18 50 40.2**	**-0.4**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=222,slow=12,SNR=2.0	**13.71**	**31**	Pn		**Pn**	**18 50 41.6**	**-1.1**
SCRK	**Sand Creek**	**14.16**	**37**			**P**	**18 50 55.7**	**-0.5**
COLD	**Coldfoot**	**14.78**	**21**			**P**	**18 51 03.5**	**+0.7**
TOLK	**Toolik Lake Re**	**16.11**	**19**			**Pn**	**18 51 11.3**	**-3.3**
BMAR	**Burnt Mountain**	**16.28**	**27**	P		**P**	**18 51 19.5**	**0.0**
PEA0B	**Petropavlovsk-**	**22.84**	**284**	P		**P**	**18 52 30.9**	**-0.1**
PETK	**Petropavlovsk-** 1.8nm,0.4s,baz=83,slow=14,SNR=28	**22.84**	**284**	P		**P**	**18 52 30.3**	**-0.8**
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=273,slow=8.6,SNR=1.7	**26.54**	**52**	P		**P**	**18 53 06.1**	**+0.9**
TIXI	**Tiksi** 0.5nm,0.3s,baz=104,slow=8.3,SNR=2.2	**33.21**	**328**	P		**P**	**18 54 03.5**	**-0.7**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=306,slow=11,SNR=2.4	**34.31**	**98**	P		**P**	**18 54 16.1**	**+1.7**
ULM	**Lac du Bonnet** comp=Z,42nm,18.0s,baz=314,slow=35	**40.31**	**67**	LR		LR	19 11 00.8	
H11N2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=190	**40.97**	**225**	T		T	19 39 04.8	
H11N3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=215	**40.98**	**225**	T		T	19 39 05.4	
H11N1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=166	**40.99**	**225**	T		T	19 39 03.0	
H11S1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=215	**42.15**	**225**	T		T	19 40 24.1	
H11S2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=182	**42.16**	**225**	T		T	19 40 22.8	
H11S3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=130	**42.16**	**225**	T		T	19 40 30.2	
MJAR	**Matsushiro Arr** 0.9nm,0.6s,baz=29,slow=6.9,SNR=4.3	**43.21**	**271**	P		**P**	**18 55 27.8**	**-0.9**
MJAR	**Matsushiro Arr** comp=Z,3.0nm,1.4s	**43.21**	**271**	IAmb		IAmb	18 55 36.0	
KSRS	**Korea Array** comp=Z,0.7nm,0.7s,baz=56,slow=7.0,SNR=3.3	**48.64**	**279**	P		**P**	**18 56 10.7**	**-0.7**
TXAR	**Lajitas Array** comp=Z,0.9nm,0.6s,baz=298,slow=5.3,SNR=14	**49.31**	**95**	P		**P**	**18 56 18.2**	**+1.3**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=37,slow=9.2,SNR=2.8	**53.42**	**303**	P		**P**	**18 56 46.3**	**-1.2**
ARCES	**ARCESS Array B** comp=Z,2.6nm,0.8s,baz=353,slow=6.8,SNR=1.3	**56.63**	**356**	P		**P**	**18 57 09.6**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=23,slow=7.8,SNR=2.7	**58.53**	**320**	P		**P**	**18 57 24.5**	**+0.8**
FINES	**FINESS Array B** comp=Z,1.8nm,0.6s,baz=17,slow=8.0,SNR=10	**64.68**	**355**	P		**P**	**18 58 04.5**	**-0.5**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=41,slow=6.6,SNR=11	**65.15**	**316**	P		**P**	**18 58 08.2**	**-0.2**
NOA	**NORSAR Array B** comp=Z,1.2nm,0.7s,baz=358,slow=6.6,SNR=3.7	**65.27**	**3**	P		**P**	**18 58 08.7**	**-0.2**
AKASG	**Malin Array Be** comp=Z,1.0nm,0.4s,baz=13,slow=6.0,SNR=6.3	**75.15**	**352**	P		**P**	**18 59 08.7**	**-0.8**
AKASG	**Malin Array Be** comp=Z,1.4nm,1.2s	**75.15**	**352**	IAmb		IAmb	18 59 31.9	
GERES	**GERESS Array B** comp=Z,0.4nm,0.8s,baz=352,slow=5.0,SNR=2.4	**77.54**	**2**	P		**P**	**18 59 24.1**	**+0.9**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.4s,baz=22,slow=5.4,SNR=6.2	**79.58**	**287**	P		**P**	**18 59 35.3**	**+0.5**
GEYT	**Alibeck** comp=Z,34nm,18.8s,baz=60,slow=39	**81.67**	**328**	LR		LR	19 39 53.2	
ESDC	**Sonseca Array** comp=Z,0.8nm,0.8s,baz=342,slow=4.6,SNR=6.0	**85.09**	**16**	P		**P**	**19 00 04.6**	**+1.2**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.8s,baz=35,slow=4.6,SNR=4.0	**85.51**	**347**	P		**P**	**19 00 06.0**	**+0.4**
H03N2	**Juan Fernandez** baz=323,slow=77,SNR=40	**113.35**	**115**	T		T	21 09 24.5	
H03N1	**Juan Fernandez** baz=323,slow=77,SNR=41	**113.36**	**115**	T		T	21 09 25.8	
H03N3	**Juan Fernandez** baz=323,slow=77,SNR=47	**113.37**	**115**	T		T	21 09 24.9	

*DNK **04** 19:24:24.5±1.2,49.09N×1.56W,h59km*

*MOS **04** 19:24:37.7±1.0,50.01N×0.52E,h11km,mb4.3/2,Error ellipse: s-maj=10.9km s-min=6.4km az=86.9*

*IDC **04** 19:24:37.7±1.4,50.01N×0.39E,h0km,mb3.6/5, mb1 3.9/10,mb1mx3.7/38,mbtmp3.8/10,ML4.2/5,Error ellipse: s-maj=25.7km s-min=21.8km az=21.0*

*INMG **04** 19:24:38.0,49.95N×0.42E,h2km,ML4.2*

*PRU **04** 19:24:41.5±0.0,50.21N×0.54E,h0km*

ISC 04 19:24:37.9±0.6,50.03N±0.04×0.33E±0.05,h10km,n87, σ2°11/98,mb3.7/7,1C-4D,United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FLN	**La Foliniere**	**1.37**	**203**		P	**Pg**	**19 25 04.1**	**-0.2**
FLN					SN	**Sg**	**19 25 22.7**	**+0.6**
LDF	**La Druitiere**	**1.47**	**192**		P	**Pg**	**19 25 06.1**	**+0.1**
LDF					SG	**Sg**	**19 25 25.7**	**+0.6**
GIVF	**Givet**	**2.90**	**87**		P	**Pn**	**19 25 25.2**	**+1.1**
ROSF	**Rostrenen**	**2.91**	**236**		P	**Pn**	**19 25 26.2**	**+2.0**
ROSF					S	**Sg**	**19 26 10.7**	**-0.6**
MFF	**Saint Martin d**	**3.44**	**185**		P	**Pn**	**19 25 31.2**	**-0.4**
SSF	**Saint Saulge**	**3.64**	**143**		P	**Pn**	**19 25 34.3**	**0.0**
SSF					S	**Sn**	**19 26 14.4**	**-2.9**
AVF	**Avril sur Loir**	**3.81**	**147**		P	**Pn**	**19 25 37.2**	**+0.5**
AVF					S	**Sn**	**19 26 19.2**	**-2.4**
LFF	**La Frestale**	**5.10**	**177**		P	**Pn**	**19 25 54.9**	**+0.6**
CAF	**Calviac**	**5.24**	**166**		P	**Pn**	**19 25 55.9**	**-0.4**
EKA	**Eskdalemuir Ar** baz=163,slow=14,SNR=59	**5.72**	**340**		Pn	**Pn**	**19 26 04.4**	**+1.5**
EKA	baz=158,slow=26,SNR=2.7				Sn	**Sn**	**19 27 03.3**	**-5.2**
REMY	**Saint-Rhmy-en**	**6.21**	**130**		P	**Pn**	**19 26 10.9**	**+1.1**
BNALP	**Bannalp**	**6.24**	**117**		⇓P	**Pn**	**19 26 11.1**	**+0.9**
LPL	**La Plagne**	**6.24**	**134**		P	**Pn**	**19 26 09.7**	**-0.6**
LSD	**Lago del Serru**	**6.47**	**132**		P	**Pn**	**19 26 15.1**	**+1.6**
CIRO	**Champorcher**	**6.58**	**130**		P	**Pn**	**19 26 16.3**	**+1.3**
CIRO	**Champorcher**	**6.58**	**130**		⇓P	**Pn**	**19 26 16.5**	**+1.5**
RRL	**Rocca Remolon**	**6.73**	**137**		P	**Pn**	**19 26 18.6**	**+1.7**
RRL	**Rocca Remolon**	**6.73**	**137**		⇑P	**Pn**	**19 26 19.0**	**+2.0**
TRAV	**Traversella**	**6.74**	**129**		P	**Pn**	**19 26 18.4**	**+1.5**
TRAV	**Traversella**	**6.74**	**129**		⇓P	**Pn**	**19 26 18.4**	**+1.5**
RSP	**Reno Superiore**	**6.77**	**134**		P	**Pn**	**19 26 19.6**	**+2.2**
DAVA	**Damuels** 3.0nm,0.3s,SNR=7.1	**6.89**	**110**	*i*	Pn	**Pn**	**19 26 21.0**	**+1.8**
DAVA	2.9nm,0.2s				*e*Sn	**Sn**	**19 27 38.8**	**+1.1**
DAVOX	**Davos/Dischmat** 8.0nm,0.3s,baz=184,slow=4.4,SNR=53	**7.14**	**113**		Pn	**Pn**	**19 26 23.9**	**+1.5**
DAVOX	**Davos/Dischmat**	**7.14**	**113**		P	**Pn**	**19 26 24.0**	**+1.5**
PZZ	**Stroppo**	**7.20**	**138**		P	**Pn**	**19 26 25.7**	**+2.4**
PZZ	**Stroppo**	**7.20**	**138**		P	**Pn**	**19 26 25.8**	**+2.4**
ISO	**Isola**	**7.43**	**139**		P	**Pn**	**19 26 28.5**	**+2.1**
FETA	**Feichten** 1.1nm,0.3s	**7.53**	**110**	*e*	Pn	**Pn**	**19 26 30.3**	**+2.4**
FETA	3.7nm,0.7s				*e*Sn	**Sn**	**19 27 55.5**	**+2.1**
MOTA	**Moosalm** 1.3nm,0.2s,SNR=8.0	**7.62**	**107**	*i*	Pn	**Pn**	**19 26 31.3**	**+2.2**
MGRO	**Montegrosso**	**7.87**	**137**		P	**Pn**	**19 26 34.2**	**+1.7**
QLNO	**Quiliano**	**7.90**	**133**		S	**Pn**	**19 26 36.0**	**+3.2**
WATA	**Walderalm** 1.0nm,0.2s	**7.92**	**106**	*e*	Pn	**Pn**	**19 26 36.1**	**+3.0**
WTTA	**Wattenberg** 2.2nm,0.3s,SNR=5.4	**7.98**	**106**		Pn	**Pn**	**19 26 37.0**	**+2.9**
MAGA	**Magasa**	**8.12**	**118**		S	**Pn**	**19 26 39.0**	**+3.1**
CLL	**Collm**	**8.15**	**76**	*e*	Pn	**Pn**	**19 26 36.0**	**-0.2**
CLL					*e*		19 27 01.0	
CLL					*e*		19 28 17.0	
CLL					*e*		19 28 43.0	
CLL					*e*Sg	**Sg**	**19 28 54.0**	**-5.4**
CLL	**Collm**	**8.15**	**76**	*e*	P	**Pn**	**19 26 36.0**	**-0.2**
MUD	**Monsted U'grnd**	**8.34**	**36**	*i*	P	**Pn**	**19 26 39.8**	**+1.1**
MUD	1.0nm,0.2s				IAmb	IAmb	19 26 39.9	
MUD	**Monsted U'grnd** comp=Z,10.0nm,0.4s	**8.34**	**36**	*i*	P	**Pn**	**19 26 39.8**	**+1.1**
MUD					pmax	pmax		
KHC	**Kasperske Hory**	**8.66**	**91**	*e*	P	**Pn**	**19 26 44.9**	**+1.7**
KHC				*e*			19 28 17.2	
KHC	**Kasperske Hory**	**8.66**	**91**	*e*	PN	**Pn**	**19 26 44.9**	**+1.7**
KHC				*ex*		x	19 27 05.5	
KHC				*e*	SN	**Sn**	**19 28 17.2**	**-3.7**
KHC				*ex*		x	19 29 03.5	
ABTA	**Abfaltersbach** comp=Z,1.8nm,0.3s,SNR=5.5	**8.75**	**107**		Pn	**Pn**	**19 26 48.0**	**+3.6**
ABTA	comp=Z,1.6nm,0.4s				*e*Sn	**Sn**	**19 28 29.1**	**+6.0**
GERES	**GERESS Array B** comp=Z,3.3nm,0.3s,baz=283,slow=14,SNR=87	**8.80**	**93**		Pn	**Pn**	**19 26 43.8**	**-1.3**
GERES					Sn	**Sn**	**19 28 19.4**	**-5.0**
MYKA	**Tena Mystica** comp=Z,2.5nm,0.3s	**9.50**	**106**	*i*	Pn	**Pn**	**19 26 57.7**	**+3.0**
PBRG	**Braganca** comp=Z,20nm,2.1s	**9.58**	**214**	*e*	P	**Pn**	**19 26 55.6**	**-0.3**
LUNU	**Lund**	**9.71**	**50**	*i*	P	**Pn**	**19 26 58.0**	**+0.4**
PGAV	**Gavieira, Arco** comp=Z,29nm,2.0s	**10.04**	**220**	*e*	P	**Pn**	**19 27 01.6**	**-0.5**
ONAU	**Onsala**	**10.07**	**38**	*i*	P	**Pn**	**19 27 02.2**	**-0.2**
FABU	**Falkenberg**	**10.15**	**42**	*i*	P	**Pn**	**19 27 02.5**	**-1.0**
PCAB	**Cabril**	**10.15**	**218**	*e*	P	**Pn**	**19 27 04.1**	**+0.4**
MVO	**Moncorvo** comp=Z,19nm,1.9s	**10.25**	**213**	*e*	P	**Pn**	**19 27 04.6**	**-0.5**
POLO	**Lagas de Olo** comp=Z,10nm,1.8s	**10.35**	**216**	*e*	P	**Pn**	**19 27 06.3**	**-0.1**
TJOU	**Tjoern**	**10.40**	**35**	*i*	P	**Pn**	**19 27 07.1**	**+0.2**
CONA	**Conrad Observa** comp=Z,2.9nm,0.4s,SNR=8.6	**10.43**	**96**	Pn		**Pn**	**19 27 10.0**	**+2.5**
ARSA	**Arzberg** comp=Z,1.1nm,0.3s	**10.43**	**100**	*e*	Pn	**Pn**	**19 27 11.4**	**+3.9**
ESDC	**Sonseca Array** comp=Z,0.6nm,0.3s,baz=14,slow=12,SNR=14	**10.79**	**198**	Pn		**Pn**	**19 27 12.0**	**-0.4**
ESDC	comp=Z,0.3nm,0.3s,baz=21,slow=23,SNR=3.9				Sn	**Sn**	**19 29 05.9**	**-7.4**
PVIS	**Viseu**	**10.96**	**215**	*e*	P	**Pn**	**19 27 14.1**	**-0.6**
MTE	**Manteigas** comp=Z,25nm,1.8s	**11.11**	**213**	*e*	P	**Pn**	**19 27 16.2**	**-0.6**
BLEU	**Blekinge**	**11.21**	**50**	*i*	P	**Pn**	**19 27 18.3**	**+0.4**
PCBR	**Castelo Branco** comp=Z,24nm,2.0s	**11.59**	**211**	*e*	P	**Pn**	**19 27 22.9**	**-0.3**
PMRV	**Marv??o** comp=Z,30nm,1.9s	**11.93**	**210**	*e*	P	**Pn**	**19 27 27.5**	**-0.5**
VYHS	**Vyhne**	**12.19**	**90**	*e*	P	Pn	19 27 23.2	-8.3
VYHS	**Vyhne**	**12.19**	**90**	*e*	PN	Pn	19 27 23.2	-8.3
NORES	**NORESS Array B**	**12.46**	**26**	*e*	P	**Pn**	**19 27 38.0**	**+3.0**
PMTG	**Montargil**	**12.53**	**212**	*e*	P	**Pn**	**19 27 35.3**	**-0.9**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=206,slow=14,SNR=1.5	**12.62**	**25**	Pn		**Pn**	**19 27 34.6**	**-2.6**
HFS	**Hagfors** comp=Z,0.5nm,0.3s,baz=216,slow=13,SNR=16	**12.66**	**32**	Pn		**Pn**	**19 27 36.6**	**-1.2**
HFS	comp=Z,0.1nm,0.3s,baz=232,slow=24,SNR=1.7				Sn	Sn	19 29 48.1	-11
EVO	**Evora** comp=Z,42nm,1.4s	**12.94**	**211**	*e*	P	**Pn**	**19 27 41.9**	**+0.1**
PBAR	**Barrancos** comp=Z,28nm,1.7s	**12.97**	**207**	*e*	P	**Pn**	**19 27 42.4**	**+0.2**
PBEJ	**Beja** comp=Z,17nm,0.8s	**13.36**	**209**	*e*	P	**Pn**	**19 27 47.4**	**-0.1**
PNCL	**Nicolau / Gran**	**13.49**	**211**	*e*	P	**Pn**	**19 27 49.5**	**+0.2**
PCVE	**Castro Verde** comp=Z,46nm,1.6s	**13.77**	**209**	*e*	P	**Pn**	**19 27 52.8**	**-0.3**
PTEO	**Sao Teotonio** comp=Z,99nm,2.0s	**14.07**	**211**	*e*	P	**Pn**	**19 27 56.9**	**-0.3**
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,baz=239,slow=8.6,SNR=16	**18.31**	**42**	P		**P**	**19 28 52.5**	**+0.6**
FINES	**FINESS Array B**	**18.31**	**42**	*e*	P	**P**	**19 28 52.7**	**+0.9**
OBN	**Obninsk** comp=Z,3.0nm,0.8s	**22.43**	**63**	*e*	P	**P**	**19 29 37.6**	**+1.1**
OBN					pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.3s,baz=217,slow=12,SNR=17	**22.97**	**23**	P		**P**	**19 29 42.4**	**+0.2**
NEY	**Neytrino**	**29.57**	**87**	*e*	P	**P**	**19 30 40.9**	**-2.0**
NEY	comp=Z,4.0nm,0.9s				pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=296,slow=7.5,SNR=2.7	**49.23**	**51**	P		**P**	**19 33 26.5**	**+0.5**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=316,slow=7.1,SNR=11	**51.88**	**60**	P		**P**	**19 33 47.3**	**+1.0**
DGZ	**Jazzator, Alta**	**52.96**	**54**	⇓*e*	P	**P**	**19 33 56.6**	**+2.2**
KMBO	**Kilima Mbogo**	**59.96**	**136**	*i*	P	**P**	**19 34 45.2**	**+0.5**
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=302,slow=9.2,SNR=2.2	**63.61**	**46**	P		**P**	**19 35 09.7**	**+0.9**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.4s,baz=67,slow=7.0,SNR=2.4	**76.33**	**299**	P		**P**	**19 36 29.9**	**+2.7**

ROM 04 19:24:59.0±0.1,42.831N±0.004×12.946E±0.006, h11km±1km,ML0.4/1,1D,Error ellipse: s-maj=0.4km s-min=0.3km az=64.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.12**	**89**		P	Pg	19 25 02.6	+0.5
NRCA					S	Sg	19 25 05.2	+0.8
NRCA	comp=N,166μm,1.4s				AML	AML		
NRCA	comp=E,135μm,0.9s				AML	AML		
FEMA	**Monte Fema**	**0.15**	**30**		P	Pg	19 25 03.1	+0.5
FEMA					S	Sg	19 25 06.0	+0.9
CESI	**CESI - Serrava**	**0.18**	**350**		P	Pg	19 25 03.5	+0.6
CESI					S	Sg	19 25 06.6	+0.8
CESI	comp=E,13μm,0.5s				AML	AML		
CESI	comp=E,13μm,0.5s				AML	AML		
CESI	comp=N,23μm,0.5s				AML	AML		
FDMO	**Fiordimonte**	**0.23**	**27**		P	Pg	19 25 04.0	+0.2
FDMO					S	Sg	19 25 08.1	+0.9
LNSS	**Leonessa**	**0.24**	**163**		P	Pg	19 25 04.6	+0.6
LNSS					S	Sg	19 25 08.6	+1.1
LNSS	comp=E,24μm,1.0s				AML	AML		
LNSS	comp=N,30μm,0.7s				AML	AML		
MOMA	**Monte Martano**	**0.28**	**264**		P	Pg	19 25 05.0	+0.3
MOMA					S	Sg	19 25 09.5	+0.9
ASSB	**Assisi San Ben**	**0.30**	**315**		P	Pg	19 25 05.3	+0.3
ASSB					S	Sg	19 25 09.9	+0.8
ATCC	**AVT- Casa Cast**	**0.42**	**328**		P	Pg	19 25 07.6	+0.3
ATCC					S	Sb	19 25 14.2	-0.6
PP3	**Marolino**	**0.73**	**41**		⇓P	Pg	19 25 09.5	-3.6
TOLF	**Tolfa**	**1.04**	**223**		P	Pb	19 25 17.0	-1.9
TOLF					S	Sn	19 25 35.0	+1.1

*MOS **04** 19:37:49.8±0.0,42.33N×44.97E,h25km,MPVA3.4*

*DRS **04** 19:37:49.5±0.0,42.35N×44.84E,h14km*

*NORS **04** 19:37:51.2±0.0,42.31N×44.93E,h21km,MPVA3.4*

*TIF **04** 19:37:52.0,42.43N×44.98E,h18km±1km*

ISC 04 19:37:52.0±1.0,42.42N±0.02×44.97E±0.02,h13km±8km, n32,σ1°25/66,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNSH	**Pansheti**	**0.33**	**310**		P	**Pb**	**19 37 59.7**	**-0.3**
PNSH					S	**Sb**	**19 38 04.9**	**-0.5**
GUDG	**Gudauri**	**0.36**	**277**		P	**Pg**	**19 37 57.5**	**-1.9**
GUDG					S	**Sg**	**19 38 03.5**	**-1.0**
MTEO	**Meteo**	**0.41**	**309**		P	**Pb**	**19 38 01.1**	**-0.3**
MTEO					S	**Sg**	**19 38 06.9**	**+0.9**
LACR	**Lac** 35nm,0.1s	**0.64**	**310**	*i*	Pg	**Pg**	**19 38 04.6**	**+

BGD	**Bogdanovka**	**1.54**	**222**	P	**Pb**	**19 38 20.8**	**+0.2**
BGD				S	**Sg**	**19 38 41.4**	**-0.3**
ABS	**Abastumani**	**1.73**	**248**	P	**Pb**	**19 38 23.4**	**-0.5**
ABS				S	**Sg**	**19 38 47.1**	**-0.8**

*SJA **04** 19:49:51.5±0.5,23˚.17S×69˚.56W,h47km±5km, ML4.0, MW4.0*
*NEIC **04** 19:49:52.3±1.8,23˚.16S±0˚.05×69˚.74W±0˚.06,h60km±6km, Error ellipse: s-maj=9.1km s-min=4.4km az=130.0*
*GUC **04** 19:49:52.3±0.8,23˚.14S×69˚.65W,h61km±3km, ML4.3*
*IDC **04** 19:49:53.7±1.6,23˚.11S×69˚.48W,h76km±9km, mb4.0/6, mb1 3.9/10, mb1mx3.6/29, mbtmp4.1/10, MS2.6/2, Ms1 2.6/2, ms1mx2.5/17, Error ellipse: s-maj=32.8km s-min=19.5km az=106.0*

ISC 04 19:49:51.9±0.6, 23˚.13S±0˚.03×69˚.66W±0˚.04, h59km±5km, n93, σ1°82/100, mb4.5/7, 8C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.19**	**114**	*e*P	**Pn**	**19 50 02.4**	**+0.9**
PB15				eS	**Sn**	**19 50 09.7**	**+1.3**
PB15	**IPOC Station P**	**0.19**	**114**		**Pn**	**19 50 02.5**	**+0.9**
PB06	**IPOC Station P**	**0.43**	**10**	*e*P	**Pn**	**19 50 04.3**	**+1.0**
PB06				eS	**Sn**	**19 50 12.9**	**+1.3**
PB06	**IPOC Station P**	**0.43**	**10**		**Pn**	**19 50 04.1**	**+0.7**
PB06	**IPOC Station P**	**0.43**	**10**	*e*P	**Pn**	**19 50 04.0**	**+0.6**
PB06				eS	**Sn**	**19 50 11.6**	**0.0**
PB06				IAML		19 50 15.0	
	comp=Z,6µm,0.2s						
PB05	**IPOC Station P**	**0.57**	**299**	*e*P	**Pn**	**19 50 06.0**	**+1.2**
PB05				eS	**Sn**	**19 50 16.0**	**+1.8**
PB05				IAML		19 50 16.4	
	comp=N,10µm,0.2s						
PB05	**IPOC Station P**	**0.57**	**299**	*e*P	**Pn**	**19 50 05.8**	**+1.0**
PB05				eS	**Sn**	**19 50 16.4**	**+2.2**
PB05				IAML		19 50 19.3	
	comp=Z,4µm,0.2s						
LVC	**Limon Verde**	**0.86**	**53**	P	**Pn**	**19 50 10.0**	**+1.5**
	comp=Z,336nm,0.3s,baz=187,slow=9.4,SNR=1181						
LVC				S	**Sn**	**19 50 22.6**	**+1.9**
	comp=Z,951nm,0.3s,baz=240,slow=16,SNR=36						
LVC				LR	LR	19 50 39.3	
	comp=Z,151nm,20.9s,baz=175,slow=64						
LVC	**Limon Verde**	**0.86**	**53**	*e*P	**Pn**	**19 50 09.6**	**+1.1**
LVC				eS	**Sn**	**19 50 22.4**	**+1.7**
LVC	**Limon Verde**	**0.86**	**53**	Pn	**Pn**	**19 50 09.8**	**+1.3**
LVC	**Limon Verde**	**0.86**	**53**	eS	Sn	19 50 09.8	-11
LVC				IAML		19 50 23.3	
	comp=Z,3µm,0.3s						
PB10	**IPOC Station P**	**0.91**	**245**	*e*P	**Pn**	**19 50 09.9**	**+1.1**
PB10				eS	**Sn**	**19 50 22.8**	**+1.6**
PB10				IAML		19 50 27.6	
	comp=E,6µm,0.3s						
PB10	**IPOC Station P**	**0.91**	**245**		**Pn**	**19 50 09.8**	**+1.1**
PB10	**IPOC Station P**	**0.91**	**245**	*e*P	**Pn**	**19 50 09.9**	**+1.1**
PB10				eS	**Sn**	**19 50 23.6**	**+2.4**
PB10				IAML		19 50 26.2	
	comp=Z,3µm,0.3s						
PB04	**IPOC Station P**	**0.92**	**330**	*e*P	**Pn**	**19 50 10.1**	**+1.0**
PB04				eS	**Sn**	**19 50 23.1**	**+1.5**
PB04				IAML		19 50 24.1	
	comp=N,21µm,0.5s						
PB04	**IPOC Station P**	**0.92**	**330**		**Pn**	**19 50 09.2**	**+0.1**
PB03	**IPOC Station P**	**1.08**	**355**	*e*P	**Pn**	**19 50 12.3**	**+1.1**
PB03				eS	**Sn**	**19 50 27.1**	**+1.6**
PB03				IAML		19 50 29.0	
	comp=N,13µm,0.2s						
PB03	**IPOC Station P**	**1.08**	**355**	eS	**Pn**	**19 50 12.3**	**+1.1**
PB03				*e*P	**Pn**	**19 50 12.3**	**+1.1**
PB03				eS	**Sn**	**19 50 28.0**	**+2.5**
PB03				IAML		19 50 29.9	
	comp=Z,8µm,0.2s						
PB09	**IPOC Station P**	**1.38**	**16**	IAML		19 50 39.8	
	comp=E,5µm,0.6s						
PB09	**IPOC Station P**	**1.38**	**16**		**Pn**	**19 50 17.6**	**+2.4**
PB07	**IPOC Station P**	**1.42**	**351**	*e*P	**Pn**	**19 50 16.9**	**+1.2**
PB07				eS	**Sn**	**19 50 35.6**	**+2.2**
PB07				IAML		19 50 40.5	
	comp=N,6µm,0.4s						
PB07	**IPOC Station P**	**1.42**	**351**		**Pn**	**19 50 16.2**	**+0.6**
PB07	**IPOC Station P**	**1.42**	**351**	*e*P	**Pn**	**19 50 16.9**	**+1.2**
PB07				eS	Sn	19 50 17.3	-16
PB07				IAML		19 50 42.3	
	comp=Z,4µm,0.3s						
PB14	**IPOC Station P**	**1.64**	**205**	*e*P	**Pn**	**19 50 19.9**	**+1.1**
PB14				eS	**Sn**	**19 50 41.1**	**+2.2**
PB14	**IPOC Station P**	**1.64**	**205**		**Pn**	**19 50 19.4**	**+0.6**
PB14	**IPOC Station P**	**1.64**	**205**	*e*P	**Pn**	**19 50 19.8**	**+1.0**
PB14				eS	**Sn**	**19 50 40.9**	**+1.9**
PB14				IAML		19 50 43.8	
	comp=Z,2µm,0.6s						
GO02	**Mina Guanaco**	**2.02**	**178**	IAML		19 50 55.7	
	comp=N,2µm,0.2s						
GO02	**Mina Guanaco**	**2.02**	**178**	Pn	**Pn**	**19 50 25.5**	**+1.5**
PB01	**IPOC Station P**	**2.08**	**4**	*e*P	**Pn**	**19 50 26.5**	**+1.8**
PB01				eS	**Sn**	**19 50 51.9**	**+2.4**
PB01				IAML		19 50 56.5	
	comp=E,6µm,0.4s						
PB01	**IPOC Station P**	**2.08**	**4**		**Pn**	**19 50 26.4**	**+1.8**
PB01	**IPOC Station P**	**2.08**	**4**	*e*P	**Pn**	**19 50 26.4**	**+1.7**
PB01				eS	**Sn**	**19 50 53.1**	**+3.5**
PB01				IAML		19 50 58.6	
	comp=Z,1µm,0.3s						
PATCX	**Punta Patache**	**2.35**	**349**	*e*P	**Pn**	**19 50 28.9**	**+0.7**
PATCX				eS	**Sn**	**19 50 58.0**	**+2.0**
PATCX				IAML		19 51 06.7	
	comp=N,3µm,0.6s						
PATCX	**Punta Patache**	**2.35**	**349**		**Pn**	**19 50 28.9**	**+0.7**
TA01	**Diego Aracena**	**2.60**	**349**	*e*P	**Pn**	**19 50 31.8**	**+0.3**
TA01				eS	**Sn**	**19 51 03.1**	**+1.1**
TA01				IAML		19 51 14.5	
	comp=N,2µm,0.6s						
TA01	**Diego Aracena**	**2.60**	**349**	Pn	**Pn**	**19 50 31.6**	**0.0**
HMBC	**Humberstone**	**2.85**	**356**	*e*P	**Pn**	**19 50 35.7**	**+0.6**
HMBC				eS	**Sn**	**19 51 09.1**	**+0.8**
TA02	**Huaiquique**	**2.88**	**351**		**Pn**	**19 50 35.5**	**0.0**
PB08	**IPOC Station P**	**3.01**	**9**		**Pn**	**19 50 38.9**	**+1.3**
PB08	**IPOC Station P**	**3.01**	**9**	*e*P	**Pn**	**19 50 39.6**	**+2.1**
PB08				eS	**Sn**	**19 51 21.2**	**+8.5**
PB08				IAML		19 51 35.8	
	comp=Z,413nm,0.4s						
AC01	**Pan de Azucar**	**3.12**	**196**	IAML		19 51 26.1	
	comp=E,1µm,0.2s						
AC01	**Pan de Azucar**	**3.12**	**196**	Pn	**Pn**	**19 50 38.2**	**-0.5**
PB11	**IPOC Station P**	**3.35**	**0**	Pn	**Pn**	**19 50 42.0**	**0.0**
PSGCX	**Pisagua**	**3.54**	**353**	Pn	**Pn**	**19 50 43.3**	**-1.3**
AC02	**Maricunga**	**3.72**	**173**	Pn	**Pn**	**19 50 49.5**	**+2.1**
MNMC	**Minye Minye**	**3.98**	**1**		**Pn**	**19 50 51.2**	**+0.4**
GO03	**Copiap**	**4.47**	**187**		**Pn**	**19 50 56.3**	**-1.0**
GO03	**Copiap**	**4.47**	**187**	*e*P	**Pn**	**19 50 57.9**	**+0.6**
GO03				eS	Sn	19 52 00.9	+13
PB16	**IPOC Station P**	**4.78**	**2**		**Pn**	**19 51 01.0**	**-0.9**
AC04	**Llanos de Chal**	**5.21**	**194**	Pn	**Pn**	**19 51 04.6**	**-2.7**
VCA	**Vinchina**	**5.73**	**167**	*e*P	**Pn**	**19 51 16.9**	**+2.2**
VCA				eS	Sn	19 52 32.9	+14
VCA				IAML		19 52 35.2	
	comp=Z,104nm,1.1s						
ACLC	**CERRO LA CRUZ**	**6.72**	**159**	*e*P	**Pn**	**19 51 29.1**	**+1.0**
ACLC				IAML		19 53 39.5	
	comp=Z,17nm,0.6s						
LPAZ	**La Paz**	**6.96**	**12**	P	**Pn**	**19 51 34.1**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=204,slow=8.8,SNR=12						
LPAZ	**La Paz**	**6.96**	**12**	Pn	**Pn**	**19 51 33.5**	**+1.7**
LPAZ	**La Paz**	**6.96**	**12**	*e*P	**Pn**	**19 51 34.9**	**+3.0**
GO04	**Tololo Observa**	**7.09**	**188**	Pn	**Pn**	**19 51 30.8**	**-2.5**
CO03	**El Pedregal**	**7.73**	**187**		**Pn**	**19 51 39.0**	**-2.9**
CO02	**Combarbal**	**8.13**	**188**	Pn	**Pn**	**19 51 43.2**	**-4.2**
ZON	**Zonda**	**8.43**	**174**	Pn	**Pn**	**19 51 52.6**	**+1.2**
ACHE	**Chepes**	**8.43**	**162**	*e*P	**Pn**	**19 51 51.0**	**-0.5**
VA03	**San Esteban**	**9.63**	**185**	Pn	**Pn**	**19 52 00.4**	**-7.5**
VA03	**San Esteban**	**9.63**	**185**	*e*P	**Pn**	**19 51 59.7**	**-8.2**
MRA	**San Martin**	**9.88**	**160**	*e*P	**Pn**	**19 52 11.6**	**+0.2**
MRA				eS	**Sn**	**19 54 03.2**	**+2.3**
SIV	**San Ignacio**	**10.76**	**50**	P	**Pn**	**19 52 23.1**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=258,slow=8.5,SNR=14						
SIV				S	**Sn**	**19 54 18.4**	**-4.1**
	comp=Z,0.0nm,0.3s,baz=307,slow=20,SNR=2.3						
MT01	**Popeta**	**10.78**	**187**	Pn	**Pn**	**19 52 26.1**	**+2.5**
RFA	**San Rafael**	**11.64**	**175**	*e*P	**Pn**	**19 52 32.4**	**-3.0**
RFA				eS	Sn	19 54 19.1	-25
CPUP	**Villa Florida**	**11.65**	**108**	P	**Pn**	**19 52 35.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=305,slow=10,SNR=4.7						
CPUP				LR	LR	19 58 01.0	
	comp=Z,30nm,18.6s,baz=264,slow=42						
BO02	**Sierra Bellavi**	**11.66**	**185**	Pn	**Pn**	**19 52 34.7**	**-0.9**
NNA	**Nana**	**13.03**	**327**	LR	LR	19 57 31.9	
	comp=Z,26nm,21.1s,baz=202,slow=35						
PLCA	**Paso Flores**	**17.57**	**182**	P	**P**	**19 53 53.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=360,slow=13,SNR=4.9						
BDFB	**Brasilia**	**21.71**	**74**	P	**P**	**19 54 37.6**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=182,slow=12,SNR=3.4						
PTGA	**Pitinga**	**24.18**	**24**	P	**P**	**19 55 02.9**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=180,slow=20,SNR=2.0						
PTGA	**Pitinga**	**24.18**	**24**	IAmb	IAmb	19 55 20.4	
	comp=Z,8.5nm,1.4s						
255A	**Hazlehurst**	**56.10**	**347**		**S**	**20 07 07.8**	**-2.0**
KMSC	**Kings Mountain**	**59.00**	**349**		**S**	**20 07 47.2**	**-0.5**
BLA	**Blacksburg**	**60.87**	**350**	P	**P**	**19 59 58.3**	**-0.1**
SNAA	**Sanae**	**60.97**	**161**	P	**P**	**19 59 58.3**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=275,slow=7.3,SNR=11						
SNAA	**Sanae**	**60.97**	**161**	P	**P**	**19 59 58.0**	**-0.8**
SNAA				IAmb	IAmb	20 00 24.3	
	comp=Z,4.2nm,0.7s						
DBIC	**Dimbokro**	**69.86**	**73**	P	**P**	**20 00 56.4**	**-0.6**
	comp=Z,5.9nm,0.8s,baz=238,slow=7.0,SNR=3.7						
PV03	**Paradox Valley**	**71.29**	**328**	P	**P**	**20 01 06.4**	**+1.0**
PV03				IAmb	IAmb	20 01 10.6	
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**82.97**	**163**	P	**P**	**20 02 10.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=198,slow=6.0,SNR=2.4						
MAW	**Mawson**	**82.97**	**163**	IAmb	IAmb	20 02 37.7	
	comp=Z,2.2nm,1.4s						
BOSA	**Boshof**	**83.29**	**118**	P	**P**	**20 02 12.2**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=239,slow=4.5,SNR=6.3						
BOSA	**Boshof**	**83.29**	**118**	IAmb	IAmb	20 02 18.2	
	comp=Z,19nm,1.4s						
H11S2	**WAKE ISLAND Hyd**	**127.38**	**276**	T	T	22 28 44.8	
	baz=105,slow=74,SNR=41						
H11S1	**WAKE ISLAND Hyd**	**127.39**	**276**	T	T	22 28 48.2	
	baz=105,slow=74,SNR=29						
H11S3	**WAKE ISLAND Hyd**	**127.40**	**276**	T	T	22 28 48.8	
	baz=105,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hyd**	**127.50**	**278**	T	T	22 29 04.1	
	baz=104,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hyd**	**127.52**	**278**	T	T	22 29 04.5	
	baz=104,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hyd**	**127.52**	**278**	T	T	22 29 05.3	
	baz=104,slow=75,SNR=15						
ASAR	**Alice Springs**	**128.15**	**208**	PKP	**PKPdf**	**20 08 51.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=150,slow=1.3,SNR=6.5						
KURBB	**Kurchatov Arra**	**143.07**	**34**	PKP	PKPbc	20 09 17.3	+1.4
	comp=Z,0.1nm,0.4s,baz=294,slow=2.0,SNR=1.6						
ZALV	**Zalesovo Beam**	**143.72**	**25**	PKP	PKPbc	20 09 18.7	+1.1
	comp=Z,0.6nm,0.5s,baz=323,slow=2.2,SNR=4.1						
MKAR	**Makanchi Array**	**147.35**	**37**	PKPbc	**PKPdf**	**20 09 26.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=331,slow=3.6,SNR=8.1						
MKAR				pPKPbc	**pPKPbc**	**20 09 47.6**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=324,slow=3.0,SNR=7.3						

*IDC **04** 19:59:43.5±0.4,27˚.79N×140˚.75E,h681km±4km, mb3.2/21, mb1 3.3/26, mb1mx3.1/55, mbtmp4.2/26, Error ellipse: s-maj=11.4km s-min=9.9km az=74.0*
*JMA **04** 19:59:43.5±0.3,27˚.88N×140˚.84E,h694km±4km, M3.8*
*NEIC **04** 19:59:44.7±1.4,27˚.9N±0˚.1×140˚.7E±0˚.1,h686km±9km, mb4.0/51, Error ellipse: s-maj=18.0km s-min=14.8km az=142.0*

ISC 04 19:59:44.4±0.5, 27˚.75N±0˚.08×140˚.74E±0˚.08, h700km, n113, σ1°10/118, mb4.0/45, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.44**	**116**	P	**P**	**20 01 04.5**	**-1.5**
CBIJ				S	**S**	**20 02 08.6**	**-3.7**
JCJ	**Chichijima**	**1.44**	**116**	P	**P**	**20 01 04.2**	**-1.9**
	27nm,0.3s,baz=75,slow=23,SNR=21						
JCJ				S	**S**	**20 02 08.4**	**-3.8**
	193nm,0.3s,baz=274,slow=22,SNR=50						
JCJ	**Chichijima**	**1.44**	**116**	P	**P**	**20 01 03.2**	**-2.8**
JCJ				S		20 02 00.9	-11
JHH2	**Haha-jima-NKT2**	**1.69**	**131**	P	**P**	**20 01 05.9**	**-0.8**
JHH2				S	**S**	**20 02 10.7**	**-2.8**
JHJ2	**Mitsune**	**5.41**	**352**	P	**P**	**20 01 24.6**	**-1.5**
JHJ2	**Mitsune**	**5.41**	**352**	P	**P**	**20 01 24.8**	**-1.3**
JHJ	**Hachijo jima 2**	**5.42**	**351**	P	**P**	**20 01 24.8**	**-1.5**
	3.8nm,0.3s,baz=19,slow=21,SNR=8.8						
JHJ				S	**S**	**20 02 46.5**	**-3.0**
	11nm,0.3s,baz=49,slow=22,SNR=5.7						
BSO1	**Boso 1**	**6.89**	**2**	P	**P**	**20 01 35.7**	**-1.2**
BSO3	**Boso 3**	**7.04**	**358**	P	**P**	**20 01 37.3**	**-1.1**
JKN2	**Miekihoku**	**7.52**	**330**	P	**P**	**20 01 41.5**	**-1.2**
JOD2	**Odawara 2**	**7.63**	**350**	P	**P**	**20 01 42.0**	**-1.6**
JMN	**Monobe**	**8.39**	**317**	P	**P**	**20 01 49.2**	**-1.0**
JRY	**Ryogami san**	**8.39**	**350**	P	**P**	**20 01 48.8**	**-1.4**
JAG	**Ashikaga**	**8.72**	**353**	P	**P**	**20 01 51.1**	**-1.9**
JWT	**Wachi**	**8.79**	**330**	P	**P**	**20 01 52.4**	**-1.2**
JHO	**Hitachi**	**8.84**	**359**	P	**P**	**20 01 52.7**	**-1.4**
MJAR	**Matsushiro Arr**	**9.03**	**347**	P	**P**	**20 01 53.9**	**-1.8**
	0.1nm,0.3s,baz=246,slow=12,SNR=6.2						
JHS	**Saijyo**	**9.73**	**320**	P	**P**	**20 02 01.2**	**-0.8**
JHS	**Saijyo**	**9.73**	**320**	P	**P**	**20 02 01.0**	**-1.1**
JNU	**Nakatsue**	**10.06**	**305**	P	**P**	**20 02 04.0**	**-1.0**
JMM	**Marumori**	**10.09**	**0**	P	**P**	**20 02 04.1**	**-1.1**
JAMN	**Amaminishikomi**	**10.24**	**275**	P	**P**	**20 02 06.4**	**-0.3**
JOW	**Kunigami**	**11.13**	**268**	P	**P**	**20 02 14.6**	**-0.1**
	2.4nm,0.3s,baz=112,slow=18,SNR=7.6						
JTU	**Tsushima**	**11.83**	**308**	P	**P**	**20 02 20.1**	**-0.9**
JTU	**Tsushima**	**11.83**	**308**	P	**P**	**20 02 20.1**	**-0.9**
KSRS	**Korea Array**	**14.49**	**315**	P	**P**	**20 02 44.7**	**-0.4**
	0.8nm,0.3s,baz=146,slow=8.7,SNR=17						
KSAR	**Wonju Array Be**	**14.51**	**315**	P	**P**	**20 02 43.7**	**-1.5**
KS19	**Wonju Array Si**	**14.56**	**315**	P	**P**	**20 02 44.3**	**-1.4**
YOJ	**Yonaguni jima**	**16.26**	**262**	P	**P**	**20 03 00.4**	**-0.9**
ASAJ	**Asahikawa**	**16.41**	**5**	P	**P**	**20 03 02.0**	**-0.3**
	0.4nm,0.3s,baz=201,slow=13,SNR=6.8						
KLR	**Kul'dur**	**22.55**	**345**	P	**P**	**20 03 56.8**	**-0.1**
	0.7nm,0.3s,baz=147,slow=8.3,SNR=5.2						
ENH	**Enshi**	**27.41**	**283**	P	**P**	**20 04 39.3**	**-0.4**
PETK	**Petropavlovsk**	**28.29**	**22**	P	**P**	**20 04 46.6**	**-0.2**
	1.5nm,0.6s,baz=183,slow=4.7,SNR=8.0						
PETK	**Petropavlovsk**	**28.29**	**22**	P	**P**	**20 04 47.1**	**+0.4**
SONM	**Songino Array**	**33.36**	**316**	P	**P**	**20 05 29.8**	**+0.1**
	2.8nm,0.5s,baz=130,slow=8.5,SNR=18						
SONM	**Songino Array**	**33.36**	**316**	P	**P**	**20 05 29.6**	**-0.1**
SONM				IAmb	IAmb	20 05 30.9	
	comp=Z,3.7nm,1.0s						
LUWI	**Luwuk**	**33.43**	**214**	P	**P**	**20 05 29.8**	**-0.8**
SLVN	**Son La**	**34.02**	**267**	P	**P**	**20 05 35.4**	**-0.1**
SLVN				IAmb	IAmb	20 05 37.3	
	comp=Z,6.0nm,1.0s						
SEY	**Seymchan**	**36.01**	**9**	P	**P**	**20 05 51.0**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=194,slow=7.9,SNR=25						
CHTO	**Chiang Mai**	**39.26**	**266**	P	**P**	**20 06 17.9**	**+0.2**
CHTO				IAmb	IAmb	20 06 18.9	
	comp=Z,3.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.38**	**266**	P	**P**	**20 06 19.3**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=56,slow=7.0,SNR=14						
BILL	**Bilibino**	**43.12**	**14**	P	**P**	**20 06 47.2**	**+0.2**
BILL				IAmb	IAmb	20 06 48.0	
	comp=Z,7.9nm,0.8s						
LSA	**Lhasa**	**43.27**	**285**	P	**P**	**20 06 51.1**	**+1.7**
LSA				IAmb	IAmb	20 06 51.8	
	comp=Z,4.7nm,0.6s						
SHL	**Shillong**	**43.49**	**279**	P	**P**	**20 06 50.9**	**+0.1**
TIXI	**Tiksi**	**44.44**	**355**	P	**P**	**20 06 56.5**	**-0.4**
WRA	**Warramunga Arr**	**47.81**	**188**	P	**P**	**20 07 23.5**	**+0.6**
	baz=5.8,slow=7.5						
ZAA0	**Zalesovo Array**	**48.16**	**319**	P	**P**	**20 07 24.1**	**-0.9**
ZALV	**Zalesovo Beam**	**48.16**	**319**	P	**P**	**20 07 24.6**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=105,slow=8.1,SNR=16						
ZALV	**Zalesovo Beam**	**48.16**	**319**	P	**P**	**20 07 24.4**	**-0.5**
MK31	**Makanchi Array**	**49.07**	**309**	P	**P**	**20 07 31.7**	**-0.1**
MKAR	**Makanchi Array**	**49.07**	**309**	P	**P**	**20 07 32.0**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=87,slow=9.3,SNR=56						
MKAR				ScP	**ScP**	**20 11 32.0**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=82,slow=4.4,SNR=2.2						
MKAR	**Makanchi Array**	**49.07**	**309**	P	**P**	**20 07 31.8**	**0.0**
MAKZ	**Makanchi**	**49.29**	**309**	P	**P**	**20 07 33.5**	**+0.1**
ASAR	**Alice Springs**	**51.54**	**188**	P	**P**	**20 07 50.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=0.4,slow=7.1,SNR=8.2						
KURK	**Kurchatov**	**51.62**	**314**	P	**P**	**20 07 50.4**	**+0.4**
KURBB	**Kurchatov Arra**	**51.67**	**314**	P	**P**	**20 07 50.4**	**0.0**
	comp=Z,6.0nm,0.4s,baz=91,slow=7.9,SNR=151						
PRZ	**Przheval'sk**	**51.98**	**304**	P	**P**	**20 07 54.4**	**+1.4**
RDOG	**Red Dog Mine**	**52.14**	**23**	P	**P**	**20 07 54.9**	**+1.5**
KDJ	**Kajisay**	**52.91**	**303**	P	**P**	**20 08 00.3**	**+0.8**
BOOM	**Boomskoye usch**	**53.79**	**304**	P	**P**	**20 08 06.5**	**+0.9**
BOOM				IAmb	IAmb	20 08 07.1	
	comp=Z,3.7nm,0.6s						
AAK	**Ala-Archa**	**54.83**	**304**	P	**P**	**20 08 12.5**	**-0.4**
AAK				IAmb	IAmb	20 09 23.2	
	comp=Z,14nm,1.9s						
IMAR	**Indian Mountai**	**55.05**	**27**	P	**P**	**20 08 13.1**	**-0.6**
ARSB	**Arslanbob**	**56.13**	**303**	P	**P**	**20 08 22.6**	**+0.8**
MLY	**Manley**	**56.15**	**28**	P	**P**	**20 08 22.4**	**+1.1**
MLY				IAmb	IAmb	20 10 25.5	
	comp=Z,26nm,2.0s						
COLD	**Coldfoot**	**56.64**	**26**	P	**P**	**20 08 25.8**	**+1.3**
BVAR	**Borovoye Array**	**56.70**	**317**	P	**P**	**20 08 25.5**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=127,slow=17,SNR=26						
BRVK	**Borovoye**	**56.76**	**317**		**P**	**20 08 25.6**	**+0.1**
MCK	**McKinley**	**56.80**	**30**	P	**P**	**20 08 26.3**	**+0.6**
MCK				IAmb	IAmb	20 08 26.7	
	comp=Z,10nm,0.8s						
NEA2	**Nenana**	**56.81**	**29**	P	**P**	**20 08 26.6**	**+0.9**
NEA2				IAmb	IAmb	20 08 27.2	
	comp=Z,4.4nm,0.6s						
MDM	**Murphy Dome**	**57.20**	**29**	P	**P**	**20 08 29.3**	**+0.9**
MDM				IAmb	IAmb	20 10 43.0	
	comp=Z,21nm,1.8s						
NIL	**Nilore**	**57.42**	**294**	P	**P**	**20 08 31.8**	**+1.4**
NIL				IAmb	IAmb	20 08 32.7	
	comp=Z,8.7nm,0.6s						
KK31	**Karatay Array**	**57.66**	**305**	P	**P**	**20 08 31.9**	**0.0**
KK31				IAmb	IAmb	20 08 32.9	
	comp=Z,5.6nm,0.6s						
KKAR	**Karatay Array**	**57.66**	**305**	P	**P**	**20 08 32.0**	**+0.1**
KKAR	**Karatay Array**	**57.66**	**305**	P	**P**	**20 08 32.1**	**+0.3**
KKAR				IAmb	IAmb	20 08 32.9	
	comp=Z,5.6nm,0.6s						
HDA	**Harding Lake**	**57.72**	**29**	P	**P**	**20 08 31.1**	**-0.7**
HDA				IAmb	IAmb	20 10 01.3	
	comp=Z,13nm,1.3s						
IL31		**57.76**	**29**	P	**P**	**20 08 31.3**	**-0.8**
IL31				IAmb	IAmb	20 08 58.9	
	comp=Z,20nm,1.6s						
ILAR	**Eielson Array**	**57.76**	**29**	P	**P**	**20 08 31.6**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=242,slow=5.7,SNR=19						
ILAR	**Eielson Array**	**57.76**	**29**	P	**P**	**20 08 31.1**	**-1.0**
GAR	**Garm**	**58.56**	**301**	P	**P**	**20 08 38.3**	**+0.2**
BMAR	**Burnt Mountain**	**58.83**	**26**	P	**P**	**20 08 40.5**	**+1.3**
SCRK	**Sand Creek**	**59.00**	**30**	P	**P**	**20 08 40.6**	**+0.1**
SCRK				IAmb	IAmb	20 08 41.4	
	comp=Z,7.1nm,0.6s						
CHGR	**Chuyangaron**	**59.52**	**300**	P	**P**	**20 08 44.2**	**-0.2**
BCAR	**Beaver Creek A**	**60.01**	**31**	P	**P**	**20 08 47.7**	**+0.6**
EGAK	**Eagle**	**60.22**	**29**	P	**P**	**20 08 48.2**	**-0.1**
EGAK				IAmb	IAmb	20 09 10.6	
	comp=Z,20nm,1.6s						
INK	**Inuvik**	**62.97**	**25**	P	**P**	**20 09 06.2**	**+0.3**
INK				IAmb	IAmb	20 09 06.7	
	comp=Z,21nm,1.9s						
ARU	**Arti**	**63.12**	**322**	P	**P**	**20 09 07.1**	**0.0**
	comp=Z,1.0nm,0.4s,baz=134,slow=5.7,SNR=6.7						
ARU	**Arti**	**63.12**	**322**	P	**P**	**20 09 06.7**	**-0.5**
ARU				IAmb	IAmb	20 09 07.6	
	comp=Z,4.

comp=N,650μm,0.7s

ZKR	**Zakros**	**0.62**	**239**	P	Pg	20 46 30.7	-0.7
ZKR				S	Sb	20 46 40.3	-0.6

comp=N,488nm,0.4s

STIA	**Sitia Lasithi**	**0.67**	**250**	P	Pg	20 46 32.3	-0.2
STIA				S	Sb	20 46 42.1	-0.4
NPS	**Neapolis**	**1.04**	**261**	P	Pb	20 46 39.0	-0.4
NPS				S	Sn	20 46 54.8	+0.4
NPS				AML	AML	20 46 59.4	

comp=E,687μm,0.4s

NPS				AML	AML	20 47 02.3	

comp=N,714μm,0.4s

NPS	**Neapolis**	**1.04**	**261**	P	Pb	20 46 39.0	-0.4
NPS				S	Sg	20 46 52.7	-0.2
NPS				AML	AML	20 46 59.4	

comp=E,687μm,0.4s

NPS				AML	AML	20 47 02.1	

comp=N,714μm,0.4s

NPS	**Neapolis**	**1.04**	**261**	P	Pb	20 46 38.9	-0.5
NPS				S	Sn	20 46 54.4	0.0

comp=N,345nm,0.3s

LAST	**Lasithi**	**1.17**	**257**	P	Pb	20 46 41.1	-0.5
LAST				S	Sg	20 46 57.2	+0.3
LAST				AML	AML	20 47 03.2	

comp=E,225μm,0.4s

LAST				AML	AML	20 47 05.0	

comp=N,290μm,0.5s

LAST	**Lasithi**	**1.17**	**257**	P	Pb	20 46 41.1	-0.5
LAST				AML	AML	20 47 03.2	

comp=E,225μm,0.4s

LAST				AML	AML	20 47 08.1	

comp=N,276μm,0.4s

LAST	**Lasithi**	**1.17**	**257**	P	Pb	20 46 40.9	-0.7
LAST				S	Sg	20 46 57.2	+0.2

comp=N,130nm,0.5s

NIS1	**Nisyros Isl.**	**1.19**	**12**	P	Pb	20 46 41.3	-0.6
NIS1				S	Sg	20 46 57.6	-0.2
NIS1				AML	AML	20 47 02.1	

comp=N,409μm,0.5s

NIS1				AML	AML	20 47 12.8	

comp=E,715μm,0.5s

ARG	**Arkhangelos**	**1.29**	**53**	P	Pb	20 46 43.7	0.0
ARG				S	Sg	20 47 01.1	+0.2
ARG				AML	AML	20 47 04.7	

comp=N,310μm,0.4s

ARG				AML	AML	20 47 04.8	

comp=E,362μm,0.3s

ARG	**Arkhangelos**	**1.29**	**53**	P	Pn	20 46 43.0	-0.4
ARG				S	Sb	20 46 60.0	-0.2
ARG				AML	AML	20 47 04.7	

comp=N,310μm,0.4s

ARG				AML	AML	20 47 04.8	

comp=E,362μm,0.3s

ARG	**Arkhangelos**	**1.29**	**53**	P	Pn	20 46 42.2	-1.1
IDI	**Anoyia**	**1.62**	**265**	P	Pb	20 46 49.4	0.0
IDI				AML	AML	20 47 12.5	

comp=N,200μm,0.4s

IDI				AML	AML	20 47 13.6	

comp=E,224μm,0.3s

IDI	**Anoyia**	**1.62**	**265**	P	Pb	20 46 48.8	-0.5
IDI				AML	AML	20 47 12.5	

comp=N,200μm,0.4s

IDI				AML	AML	20 47 13.6	

comp=E,224μm,0.3s

SIVA	**Sivas**	**1.73**	**257**	P	Pb	20 46 50.7	-0.5
VAM	**Vamos**	**2.17**	**270**	P	Pb	20 46 57.8	-1.0
IMMV	**Iera Moni Meta**	**2.35**	**271**	P	Pb	20 46 60.0	-1.8

NEIC ***04*** *21:14:09.6±1.9, 18°.1S±0°.2×177°.9W±0°.1, h581km±9km, mb4.3/15, Error ellipse: s-maj=22.8km s-min=17.4km az=154.0*

IDC ***04*** *21:14:12.2±2.1, 17°.92S×178°.15W, h606km±21km, mb3.2/5, mb1 3.5/7, mb1mx3.1/24, mbtmp4.2/7, Error ellipse: s-maj=56.8km s-min=20.5km az=147.0*

ISC 04 21:14:09.2±0.6, **18°.1S**±0°.1×**177°.76W**±0°.09, **h590**km, **n34,** σ1§**28**/36, **mb4.3**/13, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.00**	**274**	P	**P**	**21 15 35.8**	**+1.7**

4.8nm,0.3s,baz=126,slow=14,SNR=42

MSVF	**Nonsavu**	**4.00**	**274**		**P**	**21 15 35.6**	**+1.5**
AFI	**Afiamalu**	**7.08**	**55**	P	**P**	**21 15 59.9**	**+0.1**

3.5nm,0.3s,baz=235,slow=19,SNR=2.1

AFI				S	**S**	**21 17 26.5**	**-3.7**

2.2nm,0.3s,baz=59,slow=14,SNR=1.5

AFI	**Afiamalu**	**7.08**	**55**	P	**P**	**21 15 59.4**	**-0.4**
NIUE	**Niue**	**7.50**	**99**	P	**P**	**21 16 02.5**	**-1.0**
FUNA	**Funafuti**	**9.93**	**342**	P	**P**	**21 16 26.1**	**-1.1**
PINNC	**Pines Island,**	**14.59**	**249**	P	**P**	**21 17 12.7**	**-1.2**
SANVU	**Saraoutou**	**14.63**	**278**	P	**P**	**21 17 14.7**	**+0.3**
OUENC	**Ouen Island, N**	**15.08**	**251**	P	**P**	**21 17 18.6**	**+0.1**
DZM	**Mont Dzumac**	**15.36**	**252**	P	**P**	**21 17 20.7**	**-0.5**

0.5nm,0.3s,baz=96,slow=20,SNR=1.3

DZM	**Mont Dzumac**	**15.36**	**252**	P	**P**	**21 17 19.6**	**-1.7**
DZM				IAmb	IAmb	21 17 37.1	

comp=Z,12nm,1.1s

ONTNC	**Ouen Toro**	**15.40**	**251**	P	**P**	**21 17 20.0**	**-1.5**
CMWZ	**Cape Campbell**	**24.58**	**195**	P	**P**	**21 18 44.4**	**+0.3**
LTZ	**Lake Taylor**	**26.05**	**197**	P	**P**	**21 18 57.8**	**+0.8**
LTZ				IAmb	IAmb	21 19 11.0	

comp=Z,13nm,1.2s

DCZ	**Deep Cove**	**30.07**	**201**	P	**P**	**21 19 31.2**	**-0.6**
DCZ				IAmb	IAmb	21 19 49.7	

comp=Z,12nm,1.1s

WHZ	**Wether Hill Ro**	**30.18**	**200**	P	**P**	**21 19 32.9**	**+0.1**
WHZ				IAmb	IAmb	21 19 38.4	

comp=Z,12nm,0.9s

CTAO	**Charters Tower**	**34.03**	**261**	P	**P**	**21 20 05.4**	**-0.4**
CTAO				IAmb	IAmb	21 20 25.2	

comp=Z,6.9nm,0.9s

STKA	**Stephens Creek**	**39.09**	**241**	P	**P**	**21 20 47.0**	**-0.1**

comp=Z,4.0nm,0.8s,baz=92,slow=11,SNR=7.1

STKA	**Stephens Creek**	**39.09**	**241**	P	**P**	**21 20 47.0**	**-0.1**
BBOO	**Buckleboo**	**43.87**	**241**	P	**P**	**21 21 24.2**	**-0.4**
AS31	**Alice Springs**	**45.34**	**254**	P	**P**	**21 21 35.7**	**-0.4**
AS31				IAmb	IAmb	21 21 36.6	

comp=Z,2.3nm,0.6s

ASAR	**Alice Springs**	**45.34**	**254**	P	**P**	**21 21 35.5**	**-0.7**

comp=Z,7.2nm,0.7s,baz=88,slow=8.2,SNR=74

ASAR				PcP	**PcP**	**21 23 02.7**	**-0.3**

comp=Z,0.3nm,0.5s,baz=99,slow=4.8,SNR=2.4

MTN	**Manton Dam**	**49.41**	**268**	P	**P**	**21 22 05.7**	**-0.9**
MTN				IAmb	IAmb	21 22 22.0	

comp=Z,15nm,1.1s

FORT	**Forrest**	**50.50**	**245**	P	**P**	**21 22 12.9**	**-1.5**
FORT				IAmb	IAmb	21 22 18.5	

comp=Z,12nm,1.1s

KNRA	**Kununurra**	**51.09**	**264**	P	**P**	**21 22 18.2**	**-0.6**
KNRA				IAmb	IAmb	21 22 23.1	

comp=Z,6.5nm,0.9s

FITZ	**Fitzroy Crossi**	**53.61**	**261**	P	**P**	**21 22 36.3**	**-0.5**
SOEI	**Soe**	**56.69**	**270**	P	**P**	**21 22 57.0**	**-1.4**
MBWA	**Marble Bar**	**58.63**	**256**	P	**P**	**21 23 12.6**	**+1.3**
GIRL	**Giralia**	**63.44**	**253**	P	**P**	**21 23 42.8**	**+0.2**
MJAR	**Matsushiro Arr**	**68.40**	**323**	P	**P**	**21 24 12.5**	**-0.6**

comp=Z,0.9nm,0.4s,baz=145,slow=6.5,SNR=2.8

NVAR	**Mina Array Bea**	**79.11**	**44**	P	**P**	**21 25 16.2**	**+2.3**

comp=Z,0.4nm,0.5s,baz=231,slow=6.9,SNR=2.8

TXAR	**Lajitas Array**	**85.56**	**57**	P	**P**	**21 25 48.9**	**+2.5**

comp=Z,1.0nm,0.8s,baz=224,slow=6.3,SNR=11

TXAR	**Lajitas Array**	**85.56**	**57**	P	**P**	**21 25 48.3**	**+1.9**
BRTR	**Keskin Array B**	**145.33**	**315**	PKP	**PKPdf**	**21 32 42.5**	**+1.4**

comp=Z,0.5nm,0.7s,baz=53,slow=5.6,SNR=3.6

ATH ***04*** *21:15:55.4, 36°.67N×20°.46E, h12km±1km, ML3.6/27, Error ellipse: s-maj=3.9km s-min=1.2km az=38.0*

IDC ***04*** *21:15:56.8±1.1, 36°.88N×20°.67E, h0km, mb3.8/10, mb1 3.9/23, mb1mx3.8/45, mbtmp3.8/23, ML3.5/12, MS3.4/7, Ms1 3.4/7, ms1mx3.1/42, Error ellipse: s-maj=22.3km s-min=12.9km az=16.0*

THE ***04*** *21:15:56.7, 36°.64N×20°.49E, h4km±1km, ML3.6/7, Error ellipse: s-maj=1.5km s-min=0.9km az=200.0*

MOS ***04*** *21:15:57.3±1.1, 36°.73N×20°.44E, h21km, mb4.3/11, Error ellipse: s-maj=7.6km s-min=4.0km az=76.5*

NEIC ***04*** *21:15:59.2±2.0, 36°.82N±0°.03×20°.52E±0°.07, h10km±1km, mb4.1/10, ML4.1(THE), Error ellipse: s-maj=10.5km s-min=4.9km az=244.0*

HLW ***04*** *21:16:00.0, 36°.56N×20°.48E, h14km±9km, Md3.9, Ml4.0*

ISC 04 21:15:57.8±1.0, **36.74N**±0°.04×**20.50E**±0°.04, **h11**km±6km,

n263, σ1§**82**/283, **mb4.1**/21, **MS3.3**/5, **18C-7D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**1.00**	**15**	P	**Pg**	**21 16 16.3**	**-0.8**
LTHK				AML	AML	21 16 38.9	

comp=N,7538μm,0.4s

LTHK				AML	AML	21 16 43.3	

comp=E,6728μm,0.5s

LTHK	**Lithakia**	**1.00**	**15**	P	**Pn**	**21 16 17.7**	**-0.1**
LTHK				S	**Sn**	**21 16 33.1**	**+1.2**

comp=E,4μm,0.4s

PYL	**PYLOS**	**1.01**	**81**	P	**Pg**	**21 16 15.8**	**-1.4**
PYL				S	**Sg**	**21 16 30.4**	**+0.1**
PYL				AML	AML	21 16 33.0	

comp=E,5754μm,0.7s

PYL				AML	AML	21 16 37.0	

comp=N,2737μm,0.5s

PYL	**PYLOS**	**1.01**	**81**	P	**Pg**	**21 16 15.8**	**-1.4**
PYL				S	**Sg**	**21 16 31.4**	**+1.1**

comp=N,2μm,0.6s

VLMS	**Volimes, Zakyn**	**1.14**	**6**	P	**Pg**	**21 16 18.7**	**-1.1**
VLMS				AML	AML	21 16 46.7	

comp=E,6630μm,0.4s

VLMS				AML	AML	21 16 48.2	

comp=N,8576μm,0.5s

VLMS	**Volimes, Zakyn**	**1.14**	**6**	P	**Pb**	**21 16 19.5**	**-0.1**
VLMS				S	**Sn**	**21 16 38.1**	**+2.8**

comp=N,4μm,0.4s

ITM	**Ithomi**	**1.22**	**69**	P	**Pn**	**21 16 19.3**	**-1.5**
ITM				AML	AML	21 16 47.2	

comp=E,2965μm,0.5s

ITM				AML	AML	21 16 51.1	

comp=N,2380μm,1.2s

ITM	**Ithomi**	**1.22**	**69**	P	**Pn**	**21 16 19.9**	**-0.9**
ITM				S	**Sn**	**21 16 38.5**	**+1.2**

comp=N,1μm,0.5s

ITM	**Ithomi**	**1.22**	**69**	Pn	**Pn**	**21 16 19.6**	**-1.2**
AMT	**Artemida-Makis**	**1.25**	**50**	P	**Pn**	**21 16 20.4**	**-0.7**
AMT				AML	AML	21 16 53.7	

comp=N,9798μm,1.0s

AMT				AML	AML	21 16 54.0	

comp=E,8704μm,0.7s

AMT	**Artemida-Makis**	**1.25**	**50**	P	**Pn**	**21 16 21.7**	**+0.5**
AMT				S	**Sn**	**21 16 39.8**	**+1.9**

comp=E,5μm,1.0s

VTN	**Vitineika**	**1.29**	**25**	P	**Pn**	**21 16 22.2**	**+0.4**
VTN	**Vitineika**	**1.29**	**25**	P	**Pg**	**21 16 22.5**	**-0.2**
PSDA	**Pessada-Kefalo**	**1.37**	**3**	P	**Pn**	**21 16 22.7**	**-0.1**
PSDA	**Pessada-Kefalo**	**1.37**	**3**	P	**Pn**	**21 16 22.7**	**-0.1**
VLS	**Valsamata**	**1.44**	**3**	P	**Pn**	**21 16 23.3**	**-0.5**
VLS				AML	AML	21 16 57.0	

comp=E,1594μm,0.7s

VLS				AML	AML	21 16 58.4	

comp=N,1894μm,0.4s

VLS	**Valsamata**	**1.44**	**3**	P	**Pn**	**21 16 23.7**	**-0.1**
VLS				S	**Sg**	**21 16 45.0**	**+0.9**

comp=N,770nm,0.4s

VLS	**Valsamata**	**1.44**	**3**	P	**Pn**	**21 16 24.2**	**+0.4**
KEF3	**Kipouria, Keph**	**1.47**	**355**	P	**Pn**	**21 16 24.3**	**+0.1**
KEF3	**Kipouria, Keph**	**1.47**	**355**	P	**Pn**	**21 16 24.2**	**+0.1**
DMLN	**Damoulianata-K**	**1.50**	**356**	P	**Pn**	**21 16 24.4**	**-0.2**
DMLN	**Damoulianata-K**	**1.50**	**356**	P	**Pn**	**21 16 24.7**	**+0.1**
KEF4	**Livadi, Kephal**	**1.52**	**358**	P	**Pn**	**21 16 24.9**	**0.0**
KEF4	**Livadi, Kephal**	**1.52**	**358**	P	**Pn**	**21 16 25.1**	**+0.3**
RLS	**Riolos of Patr**	**1.52**	**30**	P	**Pn**	**21 16 25.5**	**+0.7**
RLS				AML	AML	21 17 01.4	

comp=E,1791μm,1.3s

RLS				AML	AML	21 17 09.5	

comp=N,2195μm,1.4s

RLS	**Riolos of Patr**	**1.52**	**30**	P	**Pn**	**21 16 25.6**	**+0.7**
KEF5	**Kardakata, Kep**	**1.54**	**359**	P	**Pn**	**21 16 25.0**	**0.0**
KEF5	**Kardakata, Kep**	**1.54**	**359**	P	**Pn**	**21 16 25.1**	**0.0**
DRO	**Drossia**	**1.55**	**38**	P	**Pn**	**21 16 25.7**	**+0.4**
DRO				AML	AML	21 17 04.7	

comp=E,4401μm,1.1s

DRO				AML	AML	21 17 08.1	

comp=N,3717μm,0.9s

DRO	**Drossia**	**1.55**	**38**	P	**Pn**	**21 16 25.7**	**+0.4**
DRO				S	**Sg**	**21 16 47.9**	**+0.3**

comp=N,2μm,0.3s

VLX	**Vlachokerasia**	**1.63**	**67**	P	**Pn**	**21 16 27.0**	**+0.5**
VLX				AML	AML	21 16 59.6	

comp=N,2216μm,0.5s

VLX				AML	AML	21 17 01.1	

comp=E,2843μm,0.6s

FSK	**Fiskardo**	**1.72**	**2**	P	**Pn**	**21 16 28.0**	**+0.4**
FSK				AML	AML	21 17 08.0	

comp=N,1839μm,0.8s

FSK				AML	AML	21 17 11.2	

comp=E,1404μm,0.7s

KLV	**Kalavryta, Ach**	**1.85**	**45**	P	**Pn**	**21 16 29.9**	**+0.5**
KLV				AML	AML	21 17 18.1	

comp=N,941μm,0.8s

KLV				AML	AML	21 17 25.1	

comp=E,986μm,1.3s

KLV	**Kalavryta, Ach**	**1.85**	**45**	P	**Pn**	**21 16 29.7**	**+0.2**
EVGI	**Lefkada island**	**1.88**	**4**	P	**Pn**	**21 16 30.9**	**+1.0**
LAKA	**Lakka**	**1.90**	**38**	P	**Pn**	**21 16 31.6**	**+1.5**
LAKA				AML	AML	21 17 14.8	

comp=E,6170μm,1.7s

LAKA				AML	AML	21 17 17.1	

comp=N,7000μm,1.0s

DRAG	**Dragano-Lefkad**	**1.94**	**2**	P	**Pn**	**21 16 31.4**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.94**	**2**	P	**Pn**	**21 16 31.3**	**+0.6**
VLI	**Veliai**	**1.96**	**90**	P	**Pn**	**21 16 31.5**	**+0.6**
VLI				AML	AML	21 17 03.2	

comp=N,1395μm,1.1s

VLI				AML	AML	21 17 14.7	

comp=E,1081μm,0.7s

NYDR	**Nydri-Lefkada**	**1.98**	**4**	P	**Pn**	**21 16 32.5**	**+1.3**
NYDR	**Nydri-Lefkada**	**1.98**	**4**	P	**Pn**	**21 16 31.7**	**+0.6**
EFP	**Efpalio**	**2.02**	**33**	P	**Pn**	**21 16 33.5**	**+1.8**
EFP				AML	AML	21 17 22.7	

comp=E,1130μm,1.0s

EFP				AML	AML	21 17 23.3	

comp=N,971μm,0.7s

MNVA	**Monemvasia**	**2.04**	**91**	P	**Pn**	**21 16 32.7**	**+0.8**
PVO	**Paravola**	**2.04**	**23**	P	**Pn**	**21 16 33.6**	**+1.6**
TRIZ	**Trizonia**	**2.05**	**37**	P	**Pn**	**21 16 33.7**	**+1.6**
LKD2	**Lefkada island**	**2.05**	**3**	P	**Pn**	**21 16 33.4**	**+1.2**
LKD2				AML	AML	21 17 10.8	

comp=N,1201μm,0.5s

LKD2				AML	AML	21 17 14.6	

comp=E,1318μm,0.7s

SERG	**Sergoula**	**2.08**	**36**	P	**Pn**	**21 16 33.9**	**+1.4**
TSLK	**Tsoukalades, L**	**2.08**	**3**	P	**Pb**	**21 16 34.6**	**-1.0**
KTHA	**Kythira Island**	**2.12**	**102**	P	**Pn**	**21 16 34.0**	**+0.9**
KTHA				AML	AML	21 17 03.5	

comp=E,1658μm,1.0s

KTHA				AML	AML	21 17 21.0	

comp=N,934μm,0.5s

THAL	**Thalero**	**2.15**	**52**	P	**Pn**	**21 16 34.9**	**+1.3**
THAL				AML	AML	21 17 31.8	

comp=N,4181μm,1.0s

THAL				AML	AML	21 17 36.5	

comp=E,4403μm,1.2s

ANX	**Ano Chora**	**2.17**	**31**	P	**Pn**	**21 16 35.3**	**+1.4**
KRND	**KRANIDI**	**2.21**	**72**	P	**Pn**	**21 16 34.4**	**0.0**
LOUT	**Loutraki**	**2.33**	**57**	P	**Pn**	**21 16 36.7**	**+0.6**
LTK	**Loutraki**	**2.34**	**56**	P	**Pn**	**21 16 36.4**	**+0.2**
EVR	**Evrytania**	**2.41**	**25**	P	**Pn**	**21 16 38.7**	**+1.6**
EVR				AML	AML	21 17 51.6	

comp=N,648μm,1.1s

EVR				AML	AML	21 17 54.9	

comp=E,1160μm,1.5s

ANKY	**Antikythira Is**	**2.42**	**110**	P	**Pn**	**21 16 38.0**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.61**	**29**	P	**Pn**	**21 16 41.6**	**+1.7**
MAKR				AML	AML	21 17 55.0	

comp=N,2046μm,1.9s

MAKR				AML	AML	21 17 59.8	

comp=E,1702μm,1.9s

VIL2	**Platees**	**2.65**	**55**	P	**Pn**	**21 16 40.4**	**0.0**
VIL2				AML	AML	21 17 41.1	

comp=E,1400μm,0.8s

VIL2				AML	AML	21 17 44.6	

comp=N,1000μm,1.3s

AGG	**Agios Georgios**	**2.70**	**32**	P	**Pn**	**21 16 42.2**	**+1.1**
AGG	**Agios Georgios**	**2.70**	**32**	P	**Pn**	**21 16 41.9**	**+0.8**
AGG	**Agios Georgios**	**2.70**	**32**		**Pn**	**21 16 41.9**	**+0.8**
LKR	**Lokris**	**2.75**	**45**	P	**Pn**	**21 16 42.6**	**+0.8**
ATAL	**Atalanti**	**2.79**	**45**	P	**Pn**	**21 16 42.9**	**+0.6**
ATAL				AML	AML	21 17 52.2	

comp=N,709μm,0.9s

ATAL				AML	AML	21 17 56.3	

comp=E,539μm,2.0s

IGT	**Igoumenitsa**	**2.79**	**357**	P	**Pn**	**21 16 42.8**	**+0.4**
ATH	**Athens Observa**	**2.84**	**63**	AML	AML	21 17 48.5	

comp=E,1065μm,1.1s

ATH				AML	AML	21 17 54.8	

comp=N,901μm,1.1s

VLY	**Voula,Athens**	**2.85**	**66**	P	**Pn**	**21 16 42.8**	**-0.4**
ATHU	**Athens Univers**	**2.89**	**64**	P	**Pn**	**21 16 43.4**	**-0.2**
ATHU				AML	AML	21 17 42.7	

comp=E,268μm,1.4s

ATHU				AML	AML	21 17 43.3	

comp=N,251μm,1.4s

JAN	**Janina**	**2.92**	**5**	P	**Pb**	**21 16 47.4**	**-2.6**
PTL	**Penteli**	**2.98**	**63**	P	**Pn**	**21 16 44.7**	**-0.3**
KEK	**Kerkira**	**3.02**	**350**	P	**Pn**	**21 16 45.8**	**+0.3**
SMIA	**Simia**	**3.02**	**44**	P	**Pn**	**21 16 46.4**	**+0.8**
SMIA				AML	AML	21 17 52.7	

comp=E,1021μm,1.0s

SMIA				AML	AML	21 17 53.3	

comp=N,1162μm,1.2s

DION	**Dionisos Attik**	**3.04**	**63**	P	**Pn**	**21 16 44.9**	**-0.9**
DION				AML	AML	21 17 53.5	

comp=N,1106μm,1.0s

DION				AML	AML	21 17 54.3	

comp=E,945μm,1.3s

THL	**Klokotos Trika**	**3.06**	**22**	P	**Pn**	**21 16 46.9**	**+0.8**
IMMV	**Iera Moni Meta**	**3.09**	**113**	P	**Pn**	**21 16 47.3**	**+0.8**
EREA	**Eretria**	**3.20**	**57**	P	**Pn**	**21 16 48.4**	**+0.4**
EREA				AML	AML	21 18 01.7	

comp=E,430μm,2.0s

EREA				AML	AML	21 18 03.8	

comp=N,258μm,1.0s

VAM	**Vamos**	**3.28**	**113**	P	**Pn**	**21 16 48.8**	**-0.2**
KPRO	**Kipourio**	**3.28**	**12**	P	**Pn**	**21 16 51.0**	**+1.8**
NEO	**Neokhori**	**3.34**	**39**	P	**Pn**	**21 16 50.5**	**+0.5**
NEO				AML	AML	21 17 31.4	

comp=E,342μm,0.4s

NEO				AML	AML	21 17 34.7	

comp=N,466μm,0.4s

XOR	**Xorichti**	**3.37**	**38**	P	**Pn**	**21 16 51.2**	**+0.8**
KARY	**Karystos**	**3.39**	**66**	P	**Pn**	**21 16 50.6**	**+0.1**
KYMI	**Kymi, Euboea I**	**3.42**	**55**	P	**Pn**	**21 16 51.0**	**+0.0**
SCTE	**Santa Cesarea**	**3.69**	**335**	P	**Pn**	**21 16 56.0**	**+1.3**
SCTE	**Santa Cesarea**	**3.69**	**335**	Pn	**Pn**	**21 16 54.8**	**+0.1**
KZN	**Kozani**	**3.70**	**15**	P	**Pn**	**21 16 56.7**	**+1.8**
LIT	**Litokhoron**	**3.70**	**24**	P	**Pn**	**21 16 55.6**	**+0.7**
LIT	**Litokhoron**	**3.70**	**24**		**Pn**	**21 16 55.6**	**+0.7**
TIP	**Timpagrande**	**3.83**	**311**	P	**Pn**	**21 16 56.4**	**-0.3**
TIP	**Timpagrande**	**3.83**	**311**	⇓P	**Pn**	**21 16 57.7**	**+1.0**
TIP	**Timpagrande**	**3.83**	**311**	Pn	**Pn**	**21 16 57.4**	**+0.7**
IDI	**Anoyia**	**3.84**	**111**	P	**Pn**	**21 16 58.0**	**+1.2**
IDI	**Anoyia**	**3.84**	**111**	Pn	**Pn**	**21 16 58.1**	**+1.2**

comp=N,0.4nm,0.3s,baz=304,slow=15,SNR=2.2

IDI				Sn	**Sn**	**21 17 41.0**	**-1.0**

comp=N,4.2nm,0.3s,baz=54,slow=20,SN

SALO **Salr** 11.62 323 Pn **Pn** 21 18 43.3 -0.2
HFRF **Wahat Farafira** 11.63 143 P **Pn** 21 18 42.7 -1.0
baz=142
HFRF AMP 21 21 00.0
baz=142
ABTA **Abfaltersbach** 11.64 332 *e*Pn **Pn** 21 18 45.7 +1.9
comp=N,2.5nm,0.5s
ABTA *i* Sn **Sn** 21 20 48.9 -4.8
comp=N,3.5nm,0.7s
MOA **Molln** 12.02 339 *e*Pn **Pn** 21 18 49.7 +0.7
comp=N,2.9nm,0.6s
MOA *e*Sn **Sn** 21 21 01.0 -1.9
comp=N,1.0nm,0.3s
MOTA **Moosalm** 12.68 330 Pn **Pn** 21 19 01.3 +3.2
comp=N,3.0nm,0.7s
DAVOX **Davos/Dischmat** 12.78 325 Pn **Pn** 21 18 59.9 +0.4
comp=N,0.2nm,0.3s,baz=131,slow=14,SNR=3.8
MMAI **Mount Meron Ar** 12.79 103 Pn **Pn** 21 18 58.3 -1.3
comp=N,0.6nm,0.3s,baz=276,slow=13,SNR=3.0
MMAI Sn Sn 21 21 08.6 -13
comp=N,0.7nm,0.3s,baz=287,slow=23,SNR=1.5
TUE **Stuetta** 12.80 323 Pn **Pn** 21 19 00.3 +0.5
VRAC **Vranov** 12.88 348 Pn **Pn** 21 18 59.8 -0.9
comp=N,0.4nm,0.3s,baz=160,slow=12,SNR=2.8
GEC2 **GERESS Array S** 13.08 340 Pn **Pn** 21 19 03.0 -0.4
GERES **GERESS Array B** 13.08 340 Pn **Pn** 21 19 02.6 -0.9
comp=N,0.1nm,0.3s,baz=156,slow=13,SNR=6.1
GERES Sn **Sn** 21 21 21.0 -7.9
comp=N,0.1nm,0.3s,baz=153,slow=26,SNR=1.9
GERES LR LR 21 25 58.1
comp=N,103nm,19.0s,baz=106,slow=46
GERES **GERESS Array B** 13.08 340 *e*P **Pn** 21 19 03.1 -0.4
GERES **GERESS Array B** 13.08 340 Pn **Pn** 21 19 03.1 -0.4
DAVA **Damuels** 13.15 327 *i* Pn **Pn** 21 19 07.6 +3.0
comp=N,3.3nm,0.7s
DAVA *e*Sn **Sn** 21 21 32.8 +2.0
comp=N,2.9nm,0.3s
BNI **Bardonecchia** 13.34 313 P **Pn** 21 19 08.5 +1.4
BNI **Bardonecchia** 13.34 313 Pn **Pn** 21 19 08.5 +1.4
KHC **Kasperske Hory** 13.37 340 *e*P **Pn** 21 19 05.0 -2.5
KHC **Kasperske Hory** 13.37 340 *e*P **Pn** 21 19 05.0 -2.5
OJC **Ojcow** 13.48 358 P **Pn** 21 19 09.5 +0.6
OJC **Ojcow** 13.48 358 Pn **Pn** 21 19 09.5 +0.6
EIL **Elat** 13.99 116 Pn **Pn** 21 19 13.8 -2.2
comp=N,0.4nm,0.3s,baz=276,slow=2.5,SNR=8.2
EIL Sn Sn 21 21 35.9 -15
comp=N,0.3nm,0.3s,baz=92,slow=20,SNR=1.5
ECH **Echery** 15.09 324 P **Pn** 21 19 31.4 +0.6
ECH pmax pmax
comp=Z,14nm,1.7s
ECH **Echery** 15.09 324 Pn **Pn** 21 19 31.4 +0.6
ECH lAmb lAmb 21 19 56.2
comp=Z,14nm,1.7s
AKASG **Malin Array Be** 15.30 21 Pn **Pn** 21 19 32.5 -0.9
comp=Z,0.3nm,0.3s,baz=209,slow=11,SNR=1.7
AKASG **Malin Array Be** 15.30 21 P **Pn** 21 19 34.0 +0.5
AKASG **Malin Array Be** 15.30 21 Pn **Pn** 21 19 34.0 +0.5
AKBB **Malin Array Si** 15.30 21⇓ *e*P **Pn** 21 19 34.7 +1.2
AKBB pmax pmax
comp=Z,8.0nm,1.8s
AKBB **Malin Array Si** 15.30 21 Pn **Pn** 21 19 34.8 +1.3
SUW **Suwalki** 17.37 5 P **Pn** 21 19 59.5 -0.5
SUW pmax pmax
comp=Z,18nm,1.0s
SUW **Suwalki** 17.37 5 Pn **Pn** 21 19 59.5 -0.5
SUW lAmb lAmb 21 20 03.6
comp=Z,18nm,1.0s
KIV **Kislovodsk** 18.35 60 *e*P **P** 21 20 14.3 +2.0
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,51nm,14.0s
KIV **Kislovodsk** 18.35 60 **P** 21 20 13.5 +1.2
KBZ **Khabaz** 18.44 61 P **P** 21 20 12.7 -0.4
comp=Z,0.2nm,0.3s,baz=290,slow=4.9,SNR=5.2
MNK **Minsk** 18.48 14 *i* P **P** 21 20 07.7 -5.8
MNK *i* S **Sn** 21 23 31.1 -8.8
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.2s
MNK pmax pmax
comp=Z,2.0nm,0.7s
MNK MLR MLR
comp=N,77nm,12.0s
MNK MLR MLR
comp=Z,69nm,11.0s
MNK MLR MLR
comp=E,12nm,11.0s
MNK **Minsk** 18.48 14 *i* P **P** 21 20 07.8 -5.7
comp=E,3.0nm,1.2s
MNK *i* P **P** 21 20 07.8 -5.7
comp=N,10.0nm,1.0s
MNK *i* P **P** 21 20 07.8 -5.7
comp=Z,2.0nm,0.7s,baz=20
MNK *i* PP **pwP** 21 20 19.3 -0.7
MNK *i* PPP PPP 21 20 27.0
MNK *i* S **Sn** 21 23 31.2 -8.7
MNK *i* SS **S** 21 23 48.2 +4.0
MNK *i* SSS SSS 21 24 01.0
MNK *i* PcP **PcP** 21 24 39.5 -3.7
MNK *i* LQ LQ 21 25 35.0
MNK *i* LR LR 21 26 58.5
MNK *i* LRM MLR 21 28 42.3
comp=N,77nm,11.8s
MNK *i* LRM MLR 21 28 49.3
comp=Z,69nm,11.2s
MNK *i* LRM MLR 21 29 12.2
comp=E,12nm,11.1s
NCK **Nalchik** 18.87 62⇑ *e*P **Pn** 21 20 21.6 +3.1
NCK pmax pmax
comp=Z,5.0nm,0.4s
GOF **Gofitskoye** 18.91 57⇑ *e*P **Pn** 21 20 22.8 +3.8
ZEI **Tsey** 18.95 64 *e*P **Pn** 21 20 21.2 +1.6
ZEI pmax pmax
comp=Z,10.0nm,1.0s
GNI **Garni** 19.27 72 P **P** 21 20 22.1 -0.5
comp=Z,0.6nm,0.3s,baz=328,slow=8.4,SNR=6.4
GNI **Garni** 19.27 72⇓ *e*P **P** 21 20 23.7 +1.2
GNI pmax pmax
comp=Z,10.0nm,1.5s
GNI **Garni** 19.27 72 **P** 21 20 23.0 +0.5
GNI lAmb lAmb 21 20 37.5
comp=Z,11nm,1.1s
ESDC **Sonseca Array** 19.43 286 P **Pn** 21 20 26.0 +0.6
comp=Z,0.1nm,0.3s,baz=86,slow=11,SNR=9.4
VORD **Divnogorie** 19.56 37 *e*P **Pn** 21 20 28.4 +1.7
VORD pmax pmax
comp=Z,3.0nm,0.6s
VSR **Storozhevoye** 19.66 37 *e*P **P** 21 20 27.4 +0.9
VSR pmax pmax
comp=Z,6.0nm,0.6s
GROC **Groznyy** 20.39 64 *e*P **P** 21 20 35.8 +1.3
GROC *e*S **S** 21 24 24.0 +1.3
GROC pmax pmax
comp=Z,17nm,0.9s
LPSR **Galich'ya Gora** 20.48 33 *e*P **P** 21 20 35.2 -0.1
LPSR pmax pmax
comp=Z,20nm,1.4s
VRH **Novokhopyorsk** 20.92 40 *e*P **P** 21 20 41.1 +0.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
MDT **Midelt** 20.98 267 P Pn 21 20 43.4 -0.2
comp=Z,1.6nm,0.7s,baz=72,slow=9.6,SNR=3.6
OBN **Obninsk** 21.41 26 *e*P **P** 21 20 45.0 -0.4
OBN *e* 21 21 10.0
OBN *e*PPP PPP 21 21 17.4
OBN pmax pmax
comp=Z,30nm,2.1s
AKT **Akhty** 21.61 69 *e*P **P** 21 20 47.8 0.0
AKT *e* 21 21 08.5
AKT pmax pmax
comp=Z,11nm,1.6s
HFS **Hagfors** 23.82 352 P **P** 21 21 09.0 -1.5
comp=Z,3.7nm,0.7s,baz=179,slow=8.9,SNR=7.7
HFS **Hagfors** 23.82 352 P **P** 21 21 09.0 -1.5
EKA **Eskdalemuir Ar** 24.61 327 P **P** 21 21 18.2 +0.4
comp=Z,1.0nm,0.6s,baz=128,slow=11,SNR=5.8
BELG **Belogornoye** 24.66 42 P **P** 21 21 17.3 -1.0
comp=Z,3.0nm,0.4s,baz=330,slow=0.3,SNR=5.8
FINES **FINESS Array B** 24.98 6 P **P** 21 21 21.1 +0.1
comp=Z,1.7nm,0.6s,baz=193,slow=7.8,SNR=6.9
FINES LR LR 21 32 08.0
comp=Z,101nm,20.5s,baz=165,slow=39
FINES **FINESS Array B** 24.98 6 *e*P **P** 21 21 21.4 +0.4
FINES pmax pmax
comp=Z,2.0nm,0.6s
NOA **NORSAR Array B** 25.02 349 P **P** 21 21 21.0 -0.6
comp=Z,2.1nm,0.6s,baz=160,slow=9.3,SNR=12
NOA LR LR 21 32 38.5
comp=Z,44nm,18.1s,baz=160,slow=40
NOA **NORSAR Array B** 25.02 349 *e*P **P** 21 21 21.8 +0.2
NOA pmax pmax
comp=Z,2.0nm,0.6s
RAYN **Ar Rayn** 25.23 114 P **P** 21 21 25.5 +1.7
RAYN pmax pmax
comp=Z,7.0nm,1.4s
RAYN **Ar Rayn** 25.23 114 P **P** 21 21 25.5 +1.7
RAYN lAmb lAmb 21 21 30.7
comp=Z,7.4nm,1.4s
KLMR **Klimovskoe** 26.98 21 *e*P **P** 21 21 38.5 -0.7
KLMR pmax pmax
comp=Z,7.0nm,1.2s
KLMR **Klimovskoe** 26.98 21 *e*P **P** 21 21 38.6 -0.7
KLMR AMP 21 21 39.7
comp=Z,7.0nm,1.2s
ABKAR **Akbulak array** 31.08 54 P **P** 21 22 18.6 +2.8
ARCES **ARCESS Array B** 32.97 3 P **P** 21 22 34.5 +2.4
comp=Z,2.1nm,0.8s,baz=191,slow=9.1,SNR=2.5
ARCES LR LR 21 38 32.9
comp=Z,60nm,20.0s,baz=190,slow=41
AAK **Ala-Archa** 41.37 65⇓ *e*P **P** 21 23 47.4 +3.4
AAK pmax pmax
comp=Z,6.0nm,1.3s
NIL **Nilore** 42.77 78 P **P** 21 23 56.5 +1.2
NIL pmax pmax
comp=Z,4.0nm,0.7s
NIL **Nilore** 42.77 78 P **P** 21 23 56.5 +1.2
NIL lAmb lAmb 21 24 00.7
comp=Z,3.7nm,0.7s
MK31 **Makanchi Array** 46.08 57 P **P** 21 24 20.5 -1.1
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 **Makanchi Array** 46.08 57 P **P** 21 24 20.5 -1.1
MK31 lAmb lAmb 21 24 29.4
comp=Z,1.7nm,0.8s
MKAR **Makanchi Array** 46.08 57 P **P** 21 24 20.4 -1.2
comp=Z,0.9nm,0.5s,baz=271,slow=7.4,SNR=24
MKAR LR LR 21 46 08.1
comp=Z,34nm,18.2s,baz=207,slow=40
MKAR **Makanchi Array** 46.08 57 P **P** 21 24 20.6 -1.0
MKAR **Makanchi Array** 46.08 57 P **P** 21 24 20.6 -1.0
ZALV **Zalesovo Beam** 46.67 47 P **P** 21 24 24.7 -1.4
comp=Z,0.3nm,0.4s,baz=286,slow=9.6,SNR=2.7
DGZ **Jazzator, Alta** 48.90 52⇑ *e*P **P** 21 24 45.1 +1.4
DGZ pmax pmax
comp=Z,3.0nm,0.7s
SHL **Shillong** 60.84 79 P **P** 21 26 10.1 -0.4
SHL pmax pmax
comp=Z,10.0nm,1.4s
SHL **Shillong** 60.84 79 P **P** 21 26 10.1 -0.4
RES **Resolute Bay** 61.14 344 P **P** 21 26 12.2 +0.6
RES pmax pmax
comp=Z,14nm,1.5s
RES **Resolute Bay** 61.14 344 P **P** 21 26 12.2 +0.6
SONM **Songino Array** 61.39 50 P **P** 21 26 13.2 -0.6
comp=Z,0.3nm,0.4s,baz=293,slow=6.4,SNR=2.0
BOSA **Boshof** 65.16 175 LR LR 22 00 19.0
comp=Z,103nm,18.2s,baz=29,slow=41
ZEA **Zeya** 70.03 37 *e*P P 21 27 15.1 +5.8
CMAR **Chiang Mai Arr** 70.11 81 P **P** 21 27 09.6 -0.8
comp=Z,0.3nm,0.3s,baz=305,slow=8.4,SNR=4.6
BILL **Bilibino** 72.42 13 *e*P **P** 21 27 24.7 +1.2
BILL *e* 21 27 42.0
BILL *e* 21 30 07.9
BILL pmax pmax
comp=Z,2.0nm,1.2s

IDC ***04*** *21:18:31.0±1.6, 45°.67N×106°.46W, h0km, mb1 3.5/2, mb1mx3.2/29, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=67.8km s-min=9.8km az=135.0*
NEIC ***04*** *21:18:32.7±2.8, 45°.88N±0°.04×106°.56W±0°.08, h0km±2km, ML3.1/46, Error ellipse: s-maj=9.0km s-min=6.5km az=98.0*
ISC 04 21:18:32.2±1.1, 45°.86N±0°.05×106°.57W±0°.06, h0km, n34, σ1s42/34, Montana

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LAO	**LASA Array**	**0.86**	**16**	Pg	**Pg**		**21 18 48.8**	**0.0**
RLMT	**Red Lodge**	**2.04**	**250**	Pn	**Pn**		**21 19 06.4**	**-1.6**
RLMT				lAML			21 19 34.8	
	104nm,0.5s							
RLMT				lAML			21 19 35.6	
	160nm,0.3s							
GCMT	**Greycliff**	**2.17**	**269**		**Pn**		**21 19 09.2**	**-0.6**
RSSD	**Black Hills**	**2.50**	**133**	Pn	**Pn**		**21 19 14.7**	**+0.3**
RSSD				lAML			21 19 53.9	
	74nm,0.6s							
YNE	**Yellowstone No**	**2.57**	**252**		**Pn**		**21 19 13.9**	**-1.3**
YNE				lAML			21 19 48.3	
	comp=E,122nm,0.5s							
YMP	**Mirror Lake Pl**	**2.77**	**247**		**Pn**		**21 19 17.5**	**-0.6**
DGMT	**Dagmar**	**3.07**	**31**		**Pn**		**21 19 22.7**	**+0.7**
EGMT	**Eagleton**	**3.08**	**316**		**Pn**		**21 19 23.1**	**+1.0**
YNR	**Norris Junctio**	**3.12**	**250**		**Pn**		**21 19 24.2**	**+1.4**
YNR				lAML			21 20 04.0	
	comp=N,56nm,0.7s							
YNR				lAML			21 20 05.4	
	comp=E,58nm,0.6s							
YHH	**Holmes Hill**	**3.20**	**252**		**Pn**		**21 19 25.4**	**+1.2**
K22A	**Casper**	**3.21**	**179**		**Pn**		**21 19 24.2**	**+0.2**
K22A				lAML			21 20 21.7	
	comp=E,56nm,0.8s							
K22A				lAML			21 20 25.0	
	comp=N,52nm,0.6s							
YMR	**Madison River**	**3.33**	**251**		**Pn**		**21 19 26.5**	**+0.8**
YMR				lAML			21 20 34.2	
	comp=E,61nm,0.8s							
YPP	**Pitchstone Pla**	**3.40**	**244**	Pn	**Pn**		**21 19 27.0**	**+0.3**
YHL	**Hebgen Lake**	**3.41**	**254**		**Pn**		**21 19 25.9**	**-0.9**
YHL				lAML			21 20 22.2	
	comp=N,44nm,2.0s							
FLWY	**Flagg Ranch**	**3.43**	**240**		**Pn**		**21 19 28.7**	**+1.6**
FLWY				lAML			21 20 37.2	
	comp=N,47nm,2.2s							
YHB	**Horse Butte**	**3.45**	**253**		**Pn**		**21 19 30.2**	**+2.9**
YHB				lAML			21 20 23.7	
	comp=E,37nm,1.4s							
YHB				lAML			21 20 32.8	
	comp=N,33nm,1.9s							
QLMT	**Earthquake Lak**	**3.58**	**255**		**Pn**		**21 19 32.6**	**+3.4**
MOOW	**Moose Ponds**	**3.65**	**236**	Pn	**Pn**		**21 19 30.0**	**-0.1**
LOHW	**Long Hollow**	**3.65**	**233**	Pn	**Pn**		**21 19 32.0**	**+1.8**
LOHW				lAML			21 21 39.6	
	comp=N,24nm,3.6s							
HRY	**Holter Researc**	**3.75**	**285**		**Pn**		**21 19 33.9**	**+2.5**
BW06	**Boulder Array**	**3.76**	**216**		**Pn**		**21 19 32.1**	**+0.4**
BW06				lAML			21 20 33.2	
	comp=N,26nm,0.6s							
BW06				lAML			21 20 33.2	
	comp=N,27nm,0.6s							
PDAR	**Pinedale Array**	**3.76**	**216**	Pn	**Pn**		**21 19 31.6**	**-0.1**
	comp=N,1.0nm,0.3s,baz=41,slow=12,SNR=18							
PDAR				Pg	**Pb**		**21 19 39.6**	**0.0**
	comp=N,2.9nm,0.3s,baz=44,slow=17,SNR=18							
PDAR				Lg	Lg		21 20 25.4	
	comp=N,1.6nm,0.3s,baz=45,slow=31,SNR=5.9							
PDAR	**Pinedale Array**	**3.76**	**216**	Pn	**Pn**		**21 19 32.0**	**+0.3**
TPAW	**Teton Pass**	**3.92**	**234**		**Pn**		**21 19 35.0**	**+1.1**
TPAW				lAML			21 21 42.5	
	comp=N,26nm,3.4s							
REDW	**Red Top Meadow**	**3.95**	**232**	Pn	**Pn**		**21 19 34.8**	**+0.6**
REDW				lAML			21 21 48.3	
	comp=N,26nm,3.3s							
REDW				lAML			21 22 08.9	
	comp=N,18nm,3.6s							
LRM	**Limekiln Ridge**	**4.11**	**272**		**Pn**		**21 19 34.5**	**-2.0**
RWWY	**Rawlins**	**4.19**	**187**	Pn	**Pn**		**21 19 37.6**	**0.0**
RWWY				lAML			21 20 50.8	
	comp=N,26nm,1.0s							
DLMT	**Dillon**	**4.26**	**265**		**Pn**		**21 19 37.6**	**-0.9**
DLMT				lAML			21 20 52.1	
	comp=N,25nm,0.7s							
DLMT				lAML			21 21 03.6	
	comp=N,26nm,2.6s							
ECR	**Eagle Creek**	**4.44**	**233**	Pn	**Pn**		**21 19 39.5**	**-1.5**
AHID	**Auburn Hatcher**	**4.49**	**228**	Pn	**Pn**		**21 19 43.1**	**+1.5**
AHID				lAML			21 20 54.2	
	comp=E,16nm,0.3s							
AHID				lAML			21 20 54.4	
	comp=N,21nm,1.4s							
MCMT	**McKenzie Canyo**	**4.55**	**259**			**Pn**	**21 19 43.4**	**+0.9**
PHWY	**Pilot Hill**	**4.63**	**170**	Pn		**Pn**	**21 19 45.3**	**+1.6**
I56US	**NEWPORT INFRAS**	**7.60**	**292**	*i*			22 01 00.0	
	baz=105,slow=322,SNR=7.4							
ULM	**Lac du Bonnet**	**8.40**	**55**	Pn		**Pn**	**21 20 33.0**	**-2.1**
	comp=N,0.5nm,0.3s,baz=232,slow=11,SNR=2.3							
ULM				Lg		Lg	21 22 51.8	
	comp=N,0.2nm,0.3s,baz=161,slow=22,SNR=1.9							

VAO ***04*** *21:34:50.4±0.5, 12°.27S×78°.25W, h10km, mb4.4*
IDC ***04*** *21:34:53.3±1.2, 12°.67S×77°.62W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/37, mbtmp4.1/7, ML4.3/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/25, Error ellipse: s-maj=24.4km s-min=19.6km az=159.0*
ARE ***04*** *21:34:57.1±1.6, 12°.46S±0°.08×77°.68W±0°.08, h15km±6km, Error ellipse: s-maj=12.4km s-min=10.1km az=137.0*
NEIC ***04*** *21:34:57.9±1.0, 12°.47S±0°.07×77°.59W±0°.09, h34km±7km, mb4.6/15, ML4.7(ARE), Error ellipse: s-maj=13.6km s-min=10.5km az=108.0*
ISC 04 21:34:55.3±0.7, 12°.46S±0°.07×77°.60W±0°.08, h10km, n90, σ1s65/75, mb4.4/14, MS3.3/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NNA	**Nana**	**0.88**	**58**	Pg		**Pn**	**21 35 13.4**	**-0.4**
	2μm,0.3s,baz=237,slow=15,SNR=986							
NNA				Lg		Lg	21 35 24.5	
	4μm,0.3s,baz=152,slow=18,SNR=32							
NNA	**Nana**	**0.88**	**58**			**Pn**	**21 35 13.5**	**-0.3**
NNA				Sn		**Sn**	**21 35 25.1**	**-1.6**
ATAH	**Atahualpa**	**5.35**	**352**	Pn		**Pn**	**21 36 18.8**	**+3.1**
	10.0nm,0.3s,baz=171,slow=13,SNR=28							
ATAH				Sn		**Sn**	**21 37 17.7**	**0.0**
	32nm,0.3s,baz=43,slow=13,SNR=7.8							
ATAH				LR		LR	21 38 23.6	
	comp=Z,575nm,18.4s,baz=175,slow=38							
PB16	**IPOC Station P**	**9.74**	**128**			**Pn**	**21 37 16.5**	**+0.3**
LPAZ	**La Paz**	**9.93**	**114**	Pn		**Pn**	**21 37 22.0**	**+3.2**
	0.3nm,0.3s,baz=277,slow=6.8,SNR=6.9							
LPAZ				LR		LR	21 40 58.7	
	comp=Z,51nm,22.0s,baz=302,slow=37							
LPAZ	**La Paz**	**9.93**	**114**			**Pn**	**21 37 18.4**	**-0.4**
LPAZ	**La Paz**	**9.93**	**114**	*e*P		**Pn**	**21 37 22.1**	**+3.2**
LPAZ	**La Paz**	**9.93**	**114**	*e*P		**Pn**	**21 37 22.4**	**+3.6**
PSGCX	**Pisagua**	**10.10**	**136**	Pn		**Pn**	**21 37 20.8**	**+0.2**
MNMC	**Minye Minye**	**10.16**	**132**			**Pn**	**21 37 21.2**	**-0.4**
PB11	**IPOC Station P**	**10.53**	**135**	Pn		**Pn**	**21 37 26.1**	**-0.5**
TA01	**Diego Aracena**	**10.75**	**140**	Pn		**Pn**	**21 37 28.3**	**-1.1**
PATCX	**Punta Patache**	**10.95**	**140**	Pn		**Pn**	**21 37 31.9**	**-0.4**
PB08	**IPOC Station P**	**11.13**	**134**	Pn		**Pn**	**21 37 35.1**	**+0.1**
ETMB	**Extrema**	**11.48**	**78**	*e*P		**Pn**	**21 37 42.0**	**+2.6**
PB01	**IPOC Station P**	**11.54**	**139**	Pn		**Pn**	**21 37 40.7**	**+0.4**
PB07	**IPOC Station P**	**11.80**	**142**	Pn		**Pn**	**21 37 44.5**	**+0.6**
OTAV	**Otavalo**	**12.64**	**356**	Pn		**Pn**	**21 37 56.1**	**+0.3**
OTAV	**Otavalo**	**12.64**	**356**	*e*P		Pn	21 37 47.5	-8.4
LVC	**Limon Verde**	**13.05**	**142**	LR		LR	21 42 51.7	
	comp=Z,100nm,19.8s,baz=318,slow=37							
FLOC	**Florencia**	**14.09**	**8**	Pn		**Pn**	**21 38 16.1**	**+0.9**
FLOC	**Florencia**	**14.09**	**8**	*e*P		**P**	**21 38 20.7**	**-2.2**
BBAC	**Balboa, Cauca**	**14.39**	**1**	*e*P		**P**	**21 38 23.4**	**-3.1**
SOTA	**Rioblanco**	**14.54**	**4**	*e*P		**P**	**21 38 26.4**	**-2.0**
GARC	**Garzon, Huila**	**14.70**	**8**	*e*P		**P**	**21 38 32.3**	**+2.2**
MACC	**Macarena, Meta**	**14.98**	**15**	*e*P		**Pn**	**21 38 29.7**	**+2.3**
AC02	**Maricunga**	**16.36**	**152**	Pn		**Pn**	**21 38 45.1**	**-0.6**
SIV	**San Ignacio**	**16.40**	**104**	Pn		**P**	**21 38 47.6**	**-1.1**
	0.1nm,0.3s,baz=293,slow=18,SNR=3.5							
SIV				LR		LR	21 45 42.3	
	comp=Z,329nm,19.0s,baz=285,slow=40							
VILC	**Villavicencio,**	**16.92**	**14**	*e*P		**P**	**21 38 58.0**	**+3.5**
ROSC	**El Rosal**	**17.50**	**11**	LR		LR	21 47 02.0	
	comp=Z,325nm,19.3s,baz=228,slow=41							
GUY2C	**Guyana, Caldas**	**17.71**	**7**	*e*P		**P**	**21 39 07.8**	**+4.1**
PTLB	**Pontes e Lacer**	**18.16**	**102**	*e*P		**P**	**21 39 09.4**	**+1.3**
CBOC	**Ciudad Bolivar**	**18.27**	**5**	*e*P		**P**	**21 39 11.9**	**+2.3**
RUSC	**La Rusia**	**18.78**	**14**			**P**	**21 39 15.3**	**-0.1**
RUSC	**La Rusia**	**18.78**	**14**	*e*P		**Pn**	**21 39 18.5**	**+2.6**
ZARC	**Zaragoza, Cauc**	**20.01**	**8**	*e*P		**Pn**	**21 39 29.7**	**-0.4**
PAMC	**Pamplona, Colo**	**20.27**	**14**	*e*P		Pn	21 39 34.4	+0.8
H03N1	**Juan Fernandez**	**20.92**	**183**	T		T	22 01 37.0	
	baz=1.8,slow=75							
H03N2	**Juan Fernandez**	**20.92**	**183**	T		T	22 01 36.3	
	baz=1.8,slow=75							
H03N3	**Juan Fernandez**	**20.93**	**183**	T		T	22 01 44.4	
	baz=1.8,slow=75							
PTGA	**Pitinga**	**21.01**	**58**	P		**P**	**21 39 38.9**	**-0.5**
	3.5nm,0.5s,baz=229,slow=11,SNR=9.3							
PTGA				S		**S**	**21 43 30.2**	**-3.4**
	2.4nm,0.5s,baz=11,slow=22,SNR=1.7							
PTGA				LR		LR	21 48 22.4	
	comp=Z,137nm,20.1s,baz=242,slow=38							
SMLC	**San Martn de**	**21.41**	**10**	*e*P		**P**	**21 39 43.8**	**+0.2**
SDV	**Santo Domingo**	**22.31**	**18**	LR		LR	21 50 24.5	
	comp=Z,65nm,19.1s,baz=188,slow=41							
SJCC	**San Jacinto, C**	**22.34**	**6**	P		**P**	**21 39 53.3**	**-0.4**
SJCC				lAmb		lAmb	21 40 08.8	
	comp=Z,14nm,1.0s							
SJCC	**San Jacinto, C**	**22.34**	**6**	*e*P		**P**	**21 39 55.8**	**+2.2**
AQDB	**Aquidauana**	**22.44**	**114**	P		**P**	**21 39 54.2**	**-0.4**
AQDB				lAmb		lAmb	21 39 58.3	
	comp=Z,6.6nm,0.8s							
AQDB	**Aquidauana**	**22.44**	**114**	*e*P		**P**	**21 39 56.8**	**+2.1**
BOAV	**Boa Vista**	**22.49**	**50**	*e*P		**P**	**21 39 55.1**	**0.0**
ITTB	**Itaituba**	**23.06**	**71**	*e*P		**P**	**21 40 00.6**	**-0.6**
CPUP	**Villa Florida**	**23.53**	**129**	P		**P**	**21 40 04.2**	**-1.6**
	comp=Z,6.9nm,1.2s,baz=315,slow=11,SNR=4.6							
CPUP				LR		LR	21 51 35.8	
	comp=Z,75nm,18.4s,baz=326,slow=43							
CPUP	**Villa Florida**	**23.53**	**129**	*e*P		**P**	**21 40 07.3**	**+1.4**
JTS	**Las Juntas de**	**23.75**	**342**	LR		LR	21 48 16.8	
	comp=Z,141nm,20.6s,baz=214,slow=34							
ARAG	**Araguaiana, MT**	**25.21**	**100**	*e*P		**P**	**21 40 22.1**	**+0.6**
SNDB	**Serra Nova Dou**	**25.71**	**92**	*e*P		**P**	**21 40 27.9**	**+1.7**
ITQB	**Itaqui**	**25.93**	**135**	*e*P		**P**	**21 40 29.0**	**+1.1**
PCMB	**Pacaembu**	**26.74**	**113**	*e*P		**P**	**21 40 37.9**	**+2.6**
MCPB	**Macapa, AP**	**28.04**	**67**	*e*P		**P**	**21 40 46.4**	**-0.7**
FRTB	**Fartura**	**28.73**	**116**	*e*P		**P**	**21 40 54.8**	**+1.5**
BDFB	**Brasilia**	**28.86**	**100**	LR		LR	21 53 20.1	
	comp=Z,301nm,18.1s,baz=287,slow=38							
IPMB	**Ipameri, GO**	**28.86**	**105**	*e*P		**P**	**21 40 54.1**	**-0.4**
PLTB	**Pedras Altas**	**29.26**	**135**	*e*P		**P**	**21 40 57.9**	**+0.1**
SMTB	**Santa Maria do**	**29.70**	**86**	*e*P		**P**	**21 41 02.2**	**+0.3**
DLPL	**La Plaine**	**32.01**	**31**	P		**P**	**21 41 20.5**	**-1.7**
JANB	**Januaria**	**32.42**	**98**	*e*P		**P**	**21 41 25.4**	**-0.5**
ROSB	**Rosrio**	**34.47**	**77**	*e*P		**P**	**21 41 43.2**	**-0.5**
DUB01	**Friburgo-RJ**	**34.90**	**111**	*e*P		**P**	**21 41 47.5**	**+0.1**
NBLA	**Lagarto - SE**	**38.98**	**92**	*e*P		**P**	**21 42 22.0**	**-0.3**
NBAN	**Anadia - AL**	**40.62**	**90**	*e*P		**P**	**21 42 35.9**	**-0.1**
152A	**Waverly Hall**	**45.39**	**352**	P		**P**	**21 43 13.1**	**-1.0**
152A				lAmb		lAmb	21 43 14.2	
	comp=Z,4.0nm,0.9s							
TXAR	**Lajitas Array**	**48.58**	**329**	P		**P**	**21 43 39.5**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=136,slow=12,SNR=3.6							
BLA	**Blacksburg**	**49.48**	**357**	P		**P**	**21 43 46.1**	**+0.1**
R53A	**Hurricane**	**50.69**	**356**	P		**P**	**21 43 54.1**	**-0.9**
R53A				lAmb		lAmb	21 43 59.5	
	comp=Z,26nm,1.1s							
R50A	**Paris**	**50.87**	**353**	P		**P**	**21 43 54.1**	**-2.3**
R50A				lAmb		lAmb	21 43 56.9	
	comp=Z,5.3nm,0.8s							
S44A	**Carbondale**	**51.08**	**348**	P		**P**	**21 43 56.1**	**-1.9**
S44A				lAm

H11N1	WAKE ISLAND Hyl	17.92	286	T	T	00 02 16.8		
	baz=93,slow=74,SNR=43							
H11S2	WAKE ISLAND Hyl	18.00	284	T	T	00 02 23.4		
	baz=94,slow=74,SNR=150							
H11S1	WAKE ISLAND Hyl	18.01	284	T	T	00 02 24.0		
	baz=94,slow=74,SNR=248							
H11S3	WAKE ISLAND Hyl	18.02	284	T	T	00 02 24.8		
	baz=94,slow=74,SNR=138							
ASAR	Alice Springs	132.69	221	PKP	PKPdf	21 54 10.6	-0.8	
	comp=Z,0.3nm,0.6s,baz=140,slow=3.0,SNR=2.0							
ZALV	Zalesovo Beam	136.33	15	PKP	PKPdf	21 54 17.2	0.0	
	comp=Z,0.9nm,0.7s,baz=238,slow=2.7,SNR=3.0							

IDC 04 21:36:52.0±2.0, 0.96S×128.04E, h0km, mb3.4/2, mb1 3.5/2, mb1mx3.2/49, mbtmp3.5/2, Error ellipse: s-maj=135.1km s-min=25.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.84	162	P	Pn	21 41 25.5	-0.7
	baz=342,slow=12						
ASAR	Alice Springs	23.27	166	P	P	21 42 00.9	-0.5
	0.8nm,0.8s,baz=346,slow=11,SNR=7.2						
MKAR	Makanchi Array	62.14	326	P	P	21 47 15.1	0.0
	0.4nm,0.5s,baz=116,slow=7.5,SNR=7.0						

*ATH **04** 21:37:08.0, 36.63N×20.41E, h12km±2km, ML2.9/15, Error ellipse: s-maj=5.9km s-min=1.8km az=41.0*
*IDC **04** 21:37:10.8±2.2, 37.00N×20.70E, h0km, mb3.4/2, mb1 3.4/6, mb1mx3.2/54, mbtmp3.3/6, ML3.4/2, Error ellipse: s-maj=48.9km s-min=20.9km az=31.0*
*THE **04** 21:37:12.4, 36.81N×20.60E, h2km±1km, ML2.7/5, Error ellipse: s-maj=2.1km s-min=1.2km az=52.0*
ISC 04 21:37:10.9±1.5, 36.80N±0.04×20.60E±0.04, h5km±10km, n54, σ0=86/68, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	PYLOS	0.92	84	P	Pb	21 37 29.3	-0.1
PYL				S	Sn	21 37 43.4	-0.8
PYL				AML	AML	21 37 50.3	
	comp=N,1374μm,0.6s						
PYL				AML	AML	21 37 53.2	
	comp=E,1193μm,0.7s						
PYL	PYLOS	0.92	84	P	Pb	21 37 29.1	-0.3
PYL				S	Sn	21 37 44.0	-0.1
	comp=E,498nm,0.6s						
LTHK	Lithakia	0.93	12	P	Pb	21 37 29.3	-0.1
LTHK				S	Sn	21 37 44.7	+0.4
LTHK				AML	AML	21 37 56.5	
	comp=E,1309μm,0.6s						
LTHK				AML	AML	21 38 06.2	
	comp=N,1684μm,0.9s						
LTHK	Lithakia	0.93	12	P	Pb	21 37 29.7	+0.3
LTHK				S	Sb	21 37 42.4	+0.3
	comp=N,698nm,0.6s						
ITM	Ithomi	1.13	70	P	Pb	21 37 32.9	0.0
ITM				AML	AML	21 37 59.5	
	comp=N,520μm,0.4s						
ITM				AML	AML	21 38 13.7	
	comp=E,719μm,0.7s						
ITM	Ithomi	1.13	70	P	Pb	21 37 33.0	+0.1
ITM				S	Sn	21 37 48.8	-0.5
	comp=E,245nm,0.7s						
AMT	Artemida-Makis	1.15	50	P	Pn	21 37 34.2	+0.5
AMT				AML	AML	21 38 02.6	
	comp=N,1727μm,0.5s						
AMT				AML	AML	21 38 05.2	
	comp=E,1655μm,1.0s						
AMT	Artemida-Makis	1.15	50	P	Pn	21 37 34.2	+0.5
AMT				S	Sn	21 37 50.6	+0.8
	comp=E,750nm,0.8s						
VTN	Vitineika	1.21	23	P	Pn	21 37 35.6	+1.1
PSDA	Pessada-Kefalo	1.31	359	P	Pn	21 37 36.2	+0.4
VLS	Valsamata	1.37	360	P	Pg	21 37 36.9	-0.3
VLS				AML	AML	21 38 08.1	
	comp=E,378μm,0.7s						
VLS				AML	AML	21 38 12.2	
	comp=N,402μm,0.7s						
KEF3	Kipouria, Keph	1.41	352	P	Pn	21 37 37.2	-0.1
RLS	Riolos of Patr	1.43	29	P	Pg	21 37 38.4	+0.1
RLS				S	Sn	21 37 58.9	+2.2
DMLN	Damoulianata-K	1.45	353	P	Pn	21 37 37.6	-0.1
DRO	Drossia	1.45	37	P	Pg	21 37 39.2	+0.5
DRO				AML	AML	21 38 22.7	
	comp=E,890μm,0.6s						
DRO				AML	AML	21 38 22.7	
	comp=N,696μm,0.8s						
DRO	Drossia	1.45	37	P	Pg	21 37 39.1	+0.4
DRO				S	Sn	21 37 58.5	+1.2
KEF5	Kardakata, Kep	1.48	356	P	Pn	21 37 38.1	-0.1
VLX	Vlachokerasia	1.53	68	P	Pg	21 37 40.2	-0.1
VLX				AML	AML	21 38 14.9	
	comp=E,1175μm,1.0s						
VLX				AML	AML	21 38 24.1	
	comp=N,565μm,0.6s						
VLX	Vlachokerasia	1.53	68	P	Pg	21 37 40.2	-0.1
VLX				S	Sg	21 38 01.1	+1.0
FSK	Fiskardo	1.66	359	P	Pn	21 37 40.9	+0.3
FSK				AML	AML	21 38 18.9	
	comp=N,438μm,0.7s						
FSK				AML	AML	21 38 26.0	
	comp=E,377μm,1.1s						
LAKA	Lakka	1.81	37	P	Pg	21 37 45.0	-0.5
LAKA				AML	AML	21 38 43.5	
	comp=N,1799μm,0.9s						
LAKA				AML	AML	21 38 47.8	
	comp=E,858μm,0.8s						
EVGI	Lefkada island	1.82	1	P	Pb	21 37 43.9	-0.7
VLI	Veliai	1.88	92	P	Pb	21 37 44.9	-0.8
VLI	Veliai	1.88	92	P	Pb	21 37 45.0	-0.7
VLI				S	Sg	21 38 10.9	-0.4
	comp=E,122nm,0.5s						
DRAG	Dragano-Lefkad	1.88	359	P	Pn	21 37 44.3	+0.6
NYDR	Nydri-Lefkada	1.91	2	P	Pb	21 37 45.4	-0.8
EFP	Efpalio	1.93	32	P	Pb	21 37 46.5	0.0
EFP				AML	AML	21 38 50.1	
	comp=E,266μm,0.9s						
EFP				AML	AML	21 38 50.8	
	comp=N,271μm,1.4s						
TRIZ	Trizonia	1.95	36	P	Pb	21 37 47.1	+0.2
PVO	Paravola	1.96	22	P	Pb	21 37 46.5	-0.5
SERG	Sergoula	1.98	35	P	Pb	21 37 47.5	0.0
SERG				AML	AML	21 38 31.8	
	comp=N,235μm,0.9s						
SERG				AML	AML	21 38 37.9	
	comp=E,261μm,0.7s						
LKD2	Lefkada island	1.98	1	P	Pb	21 37 47.0	-0.5
KTHR	Kythira	2.01	105	P	Pn	21 37 45.8	+0.3
KTHR				S	Sb	21 38 12.9	-0.4
TSLK	Tsoukalades, L	2.02	1	P	Pb	21 37 47.4	-0.7
KTHA	Kythira Island	2.06	105	P	Pn	21 37 47.0	+0.9
KTHA				S	Sn	21 38 13.6	+1.4
ANX	Ano Chora	2.07	30	P	Pb	21 37 48.6	-0.5
ANX				AML	AML	21 38 38.0	
	comp=E,317μm,0.8s						
ANX				AML	AML	21 38 42.6	
	comp=N,530μm,0.6s						
KRND	KRANIDI	2.12	73	P	Pn	21 37 47.7	+0.7
LTK	Loutraki	2.25	56	P	Pn	21 37 49.5	+0.7
ANKY	Antikythira Is	2.37	112	P	Pn	21 37 50.8	+0.4
MAKR	Makrakomi, Fth	2.52	28	P	Pb	21 37 54.6	-2.1
MAKR				AML	AML	21 39 06.8	
	comp=E,229μm,1.6s						
MAKR				AML	AML	21 39 08.1	
	comp=N,223μm,2.0s						
VIL2	Platees	2.55	56	P	Pn	21 37 53.4	+0.5
VIL2				AML	AML	21 38 55.0	
	comp=E,300μm,0.7s						
VIL2				AML	AML	21 38 58.5	
	comp=N,114μm,0.8s						
AGG	Agios Georgios	2.61	31	P	Pn	21 37 55.6	+1.9
LKR	Lokris	2.65	45	P	Pn	21 37 55.8	+1.5
ATAL	Atalanti	2.69	45	P	Pn	21 37 55.9	+1.0
ATAL				AML	AML	21 38 56.1	
	comp=N,109μm,0.8s						
ATAL				AML	AML	21 39 01.7	
	comp=E,83μm,1.0s						
VLY	Voula,Athens	2.75	67	P	Pn	21 37 55.9	+0.1
DION	Dionisos Attik	2.94	63	P	Pn	21 37 58.4	0.0
KEK	Kerkira	2.98	348	P	Pn	21 37 58.6	-0.1
THL	Klokotos Trika	2.98	22	P	Pn	21 37 59.8	+1.0
VAM	Vamos	3.23	114	P	Pn	21 38 02.3	0.0
IDI	Anoyia	3.79	112	Pn	Pn	21 38 12.4	+2.4
	baz=292,slow=17						
IDI				Sn	Sn	21 38 55.6	+0.5
	comp=E,1.4nm,0.3s,baz=341,slow=21,SNR=3.6						
VAE	Valguarnera	4.99	280	Pn	Pn	21 38 27.6	+1.2
	baz=142,slow=3.7						
VAE				Sn	Sn	21 39 26.4	+1.8
	comp=E,0.6nm,0.3s,baz=344,slow=21,SNR=1.6						
MMAI	Mount Meron Ar	12.72	103	Pn	Pn	21 40 13.0	+0.5
	comp=E,0.1nm,0.3s,baz=294,slow=11,SNR=1.4						
GERES	GERESS Array B	13.05	339	Pn	Pn	21 40 17.1	+0.1
	comp=E,0.1nm,0.3s,baz=154,slow=16,SNR=1.9						
NOA	NORSAR Array B	24.98	349	P	P	21 42 34.2	-1.0
	comp=E,0.8nm,0.8s,baz=158,slow=9.1,SNR=3.6						
MKAR	Makanchi Array	45.98	57	P	P	21 45 33.2	-1.7
	comp=E,0.4nm,0.6s,baz=279,slow=8.0,SNR=7.0						

ROM 04 21:42:02.1±0.1, 42.812N±0.003×12.573E±0.006, h9km, ML0.8/3, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.3km az=271.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOMA	Monte Martano	0.01	194	P	Pg	21 42 04.1	+0.3
MOMA				S	Sg	21 42 05.0	0.0
MOMA				AML	AML		
	comp=E,538μm,0.5s						
MOMA				AML	AML		
	comp=N,372μm,0.8s						
CESX	Cesi	0.20	179	P	Pg	21 42 07.0	+0.7
CESX				S	Sg	21 42 10.6	+1.5
CESX				AML	AML		
	comp=E,40μm,0.5s						
CESX				AML	AML		
	comp=N,46μm,1.6s						
CESX				AML	AML		
	comp=E,40μm,0.5s						
CESX				AML	AML		
	comp=N,46μm,1.6s						
ASSB	Assisi San Ben	0.24	15	P	Pg	21 42 07.8	+0.8
ASSB				S	Sg	21 42 11.8	+1.6
ARRO	Arrone	0.27	149	P	Pb	21 42 08.6	-0.6
ARRO				S	Sb	21 42 12.7	-1.1
CESI	CESI - Serrava	0.31	52	P	Pb	21 42 09.1	-0.7
CESI				S	Sb	21 42 13.8	-1.3
MGAB	Montegabbione	0.35	287	P	Pb	21 42 10.1	-0.4
MGAB				S	Sb	21 42 15.2	-1.0
NRCA	Norcia	0.40	87	P	Pb	21 42 10.7	-0.7
NRCA				S	Sb	21 42 17.1	-0.5
NRCA				AML	AML		
	comp=E,33μm,0.9s						
NRCA				AML	AML		
	comp=N,34μm,1.2s						
NRCA				AML	AML		
	comp=E,33μm,0.9s						
LNSS	Leonessa	0.40	121	P	Pg	21 42 10.7	+0.7
LNSS				S	Sb	21 42 16.9	-0.8
FDMO	Fiordimonte	0.44	59	P	Pg	21 42 10.8	+0.1
FDMO				S	Sb	21 42 17.9	-0.8
FDMO				AML	AML		
	comp=N,11μm,1.1s						
FDMO				AML	AML		
	comp=E,11μm,1.5s						
SACS	San Casciano d	0.49	275	AML	AML		
	comp=N,661μm,0.4s						
SACS				AML	AML		
	comp=E,446μm,0.2s						
SACS				AML	AML		
	comp=E,56μm,0.1s						
SACS				AML	AML		
	comp=N,213μm,0.4s						
SACS				AML	AML		
	comp=N,212μm,0.4s						
SACS				AML	AML		
	comp=E,446μm,0.2s						
PP3	Marolino	0.95	53	P	Pg	21 42 16.3	-4.0
SAMA	S.Maria delle	1.03	179	⇓P	Pg	21 42 16.9	-5.0
SAMA				AML	AML		
	comp=E,1070μm,0.1s						
SAMA				AML	AML		
	comp=N,711μm,0.1s						
MA9	Marino	1.04	176	P	Pn	21 42 25.0	+2.2
LMD	Lutirano	1.41	334	P	Pn	21 42 21.2	-6.8
TRIV	Trivento	1.80	125	S	Sg	21 43 01.0	+1.0
PTRJ	Pietraroja	2.05	134	S	Sn	21 43 01.0	-1.6
EUCT	Pavia	3.44	315	P	Pn	21 42 45.5	-10
AG11	Viggiano (PZ)	3.54	133	P	Pn	21 42 56.7	-0.6
ERC	Erice	4.77	180	P	Pn	21 43 12.2	-1.9
PUK	Puka	5.47	96	⇑P	Pg	21 43 46.7	-0.2

*BGR **04** 21:42:35.5±0.0, 36.45N×20.96E, h10km, Ms3.0*
*PDG **04** 21:42:36.8±0.4, 36.70N×20.37E, h14km, ML4.3/13, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0*
*IDC **04** 21:42:37.8±1.0, 36.89N×20.67E, h0km, mb4.0/15, mb1 4.0/28, mb1mx3.9/58, mbtmp4.0/28, ML3.8/12, MS3.5/10, Ms1 3.5/10, ms1mx3.1/48, Error ellipse: s-maj=20.5km s-min=12.0km az=16.0*
*MOS **04** 21:42:37.8±1.3, 36.79N×20.53E, h15km, mb4.5/11, Error ellipse: s-maj=6.5km s-min=3.7km az=73.1*
*ATH **04** 21:42:37.3, 36.70N×20.48E, h19km±1km, ML3.8/28, Error ellipse: s-maj=3.6km s-min=1.2km az=45.0*
*THE **04** 21:42:39.9, 36.81N×20.58E, h5km±1km, ML3.9/6, Error ellipse: s-maj=1.9km s-min=0.7km az=51.0*
*NEIC **04** 21:42:41.5±2.0, 36.77N±0.08×20.595E±0.009, h30km±6km, mb4.2/26, ML4.3(ISK), Error ellipse: s-maj=11.0km s-min=1.0km az=179.0*
*HLW **04** 21:42:46.1, 36.81N×21.77E, h12km±12km, Md4.1, Ml4.2*
ISC 04 21:42:39.3±1.2, 36.74N±0.03×20.57E±0.03, h16km±7km, n378, σ1°54/408, mb4.2/43, MS3.3/6, 36C-16D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	PYLOS	0.96	80	P	Pg	21 42 57.0	-0.8
PYL				S	Sb	21 43 10.7	+0.8
PYL				AML	AML	21 43 18.3	
	comp=N,10080μm,0.6s						
PYL				AML	AML	21 43 22.4	
	comp=E,10814μm,0.7s						
PYL	PYLOS	0.96	80	P	Pg	21 42 57.1	-0.8
PYL				S	Sb	21 43 10.9	+0.9
	comp=E,5μm,0.7s						
LTHK	Lithakia	0.99	12	P	Pg	21 42 57.2	-1.4
LTHK				S	Sb	21 43 12.2	+1.1
LTHK				AML	AML	21 43 19.9	
	comp=E,11905μm,0.5s						
LTHK				AML	AML	21 43 23.4	
	comp=N,16900μm,0.5s						
LTHK	Lithakia	0.99	12	P	Pg	21 42 57.0	-1.6
LTHK				S	Sg	21 43 10.6	-1.0
	comp=N,7μm,0.5s						
VLMS	Volimes, Zakyn	1.14	4	P	Pg	21 42 59.7	-1.6
VLMS				AML	AML	21 43 26.4	
	comp=E,12446μm,0.4s						
VLMS				AML	AML	21 43 28.0	
	comp=N,22055μm,0.6s						
VLMS	Volimes, Zakyn	1.14	4	P	Pg	21 42 59.6	-1.8
VLMS				S	Sg	21 43 15.3	-1.0
	comp=N,9μm,0.5s						
ITM	Ithomi	1.18	67	P	Pg	21 43 00.3	-1.7
ITM				S	Sb	21 43 17.6	+1.2
ITM				AML	AML	21 43 31.8	
	comp=N,6123μm,0.5s						
ITM				AML	AML	21 43 41.0	
	comp=E,6909μm,0.8s						
ITM	Ithomi	1.18	67	P	Pg	21 43 01.3	-0.7
ITM				S	Sb	21 43 17.5	+1.2
	comp=E,3μm,0.4s						
ITM	Ithomi	1.18	67		Pg	21 43 00.2	-1.8
AMT	Artemida-Makis	1.21	49	P	Pg	21 43 01.9	-0.8
AMT				AML	AML	21 43 33.9	
	comp=N,14589μm,1.0s						
AMT				AML	AML	21 43 38.9	
	comp=E,13590μm,0.7s						
AMT	Artemida-Makis	1.21	49	P	Pg	21 43 01.8	-0.8
AMT				S	Sg	21 43 18.3	-0.2
	comp=E,7μm,0.5s						
VTN	Vitineika	1.28	23	P	Pg	21 43 03.2	-0.7
VTN	Vitineika	1.28	23	P	Pn	21 43 03.0	+0.5
VTN				S	Sb	21 43 20.5	+1.3
PSDA	Pessada-Kefalo	1.38	1	P	Pn	21 43 03.6	-0.2
PSDA	Pessada-Kefalo	1.38	1	P	Pn	21 43 03.5	-0.4
PSDA				S	Sb	21 43 22.1	+0.1
	comp=E,302nm,0.4s						
VLS	Valsamata	1.44	1	P	Pn	21 43 04.3	-0.5
VLS				AML	AML	21 43 34.0	
	comp=E,3718μm,0.6s						
VLS				AML	AML	21 43 35.4	
	comp=N,3876μm,0.6s						
VLS	Valsamata	1.44	1	P	Pn	21 43 04.5	-0.3
VLS	Valsamata	1.44	1	P	Pn	21 43 04.0	-0.8
LXRA	Lixouri, Kepha	1.47	356	P	Pn	21 43 05.3	+0.2
KEF3	Kipouria, Keph	1.48	353	P	Pn	21 43 05.2	0.0
KEF3	Kipouria, Keph	1.48	353	P	Pn	21 43 05.3	0.0
RLS	Riolos of Patr	1.50	28	P	Pn	21 43 06.2	+0.6
RLS				AML	AML	21 43 50.9	
	comp=N,4168μm,1.4s						
RLS				AML	AML	21 43 57.1	
	comp=E,4018μm,1.0s						
RLS	Riolos of Patr	1.50	28	P	Pn	21 43 06.2	+0.6
DMLN	Damoulianata-K	1.51	354	P	Pn	21 43 05.5	-0.3
DMLN	Damoulianata-K	1.51	354	P	Pn	21 43 05.4	-0.3
DRO	Drossia	1.52	37	P	Pn	21 43 06.8	+0.9
DRO				AML	AML	21 43 38.7	
	comp=N,6163μm,0.5s						
DRO				AML	AML	21 43 47.4	
	comp=E,8082μm,0.5s						
DRO	Drossia	1.52	37	P	Pn	21 43 06.4	+0.5
KEF4	Livadi, Kephal	1.52	356	P	Pn	21 43 05.5	-0.4
KEF4	Livadi, Kephal	1.52	356	P	Pn	21 43 05.8	-0.1
KEF5	Kardakata, Kep	1.54	357	P	Pn	21 43 05.7	-0.4
KEF5	Kardakata, Kep	1.54	357	P	Pn	21 43 06.0	-0.2
VLX	Vlachokerasia	1.58	66	P	Pn	21 43 07.5	+0.7
VLX				AML	AML	21 43 37.7	
	comp=N,4534μm,0.6s						
VLX				AML	AML	21 43 41.0	
	comp=E,7384μm,0.6s						
VLX	Vlachokerasia	1.58	66	P	Pn	21 43 07.6	+0.8
FSK	Fiskardo	1.72	360	P	Pn	21 43 08.9	+0.3
FSK				AML	AML	21 43 45.9	
	comp=N,4013μm,0.9s						
FSK				AML	AML	21 43 54.2	
	comp=E,3458μm,1.1s						
KLV	Kalavryta, Ach	1.81	44	P	Pn	21 43 11.0	+1.0
KLV				AML	AML	21 43 54.4	
	comp=N,2228μm,0.8s						
KLV				AML	AML	21 43 60.0	
	comp=E,2314μm,1.5s						
KLV	Kalavryta, Ach	1.81	44	P	Pn	21 43 10.9	+0.9
LAKA	Lakka	1.88	36	P	Pb	21 43 12.6	-0.6
LAKA				AML	AML	21 43 58.0	
	comp=N,14478μm,0.7s						
LAKA				AML	AML	21 44 27.9	
	comp=E,9547μm,1.4s						
EVGI	Lefkada island	1.88	2	P	Pn	21 43 11.7	+0.9
VLI	Veliai	1.91	90	P	Pb	21 43 12.8	-0.9
VLI				AML	AML	21 44 03.6	
	comp=N,2185μm,1.1s						
VLI				AML	AML	21 44 04.9	
	comp=E,2757μm,1.1s						
VLI	Veliai	1.91	90	P	Pb	21 43 12.8	-0.9
DRAG	Dragano-Lefkad	1.94	0	P	Pn	21 43 12.3	+0.6
DRAG	Dragano-Lefkad	1.94	0	P	Pn	21 43 12.2	+0.5
NYDR	Nydri-Lefkada	1.98	3	P	Pn	21 43 13.0	+0.9
MNVA	Monemvasia	1.99	91	P	Pn	21 43 13.9	+1.7
EFP	Efpalio	2.00	32	P	Pb	21 43 14.3	-0.9
EFP				AML	AML	21 44 03.2	
	comp=N,2524μm,0.8s						
EFP				AML	AML	21 44 03.9	
	comp=E,1922μm,1.5s						
TRIZ	Trizonia	2.02	36	P	Pb	21 43 14.8	-0.8
PVO	Paravola	2.03	22	P	Pn	21 43 12.6	-0.2
LKD2	Lefkada island	2.05	2	P	Pn	21 43 14.2	+1.0
SERG	Sergoula	2.05	35	P	Pb	21 43 15.3	-0.9
SERG				AML	AML	21 44 04.3	
	comp=N,1833μm,0.6s						
SERG				AML	AML	21 44 05.8	
	comp=E,1815μm,0.7s						
KTHA	Kythira Island	2.07	103	P	Pn	21 43 14.9	+1.5
TSLK	Tsoukalades, L	2.09	2	P	Pn	21 43 14.8	+1.1
THAL	Thalero	2.12	51	P	Pn	21 43 15.6	+1.5
THAL				AML	AML	21 44 11.5	
	comp=N,7735μm,1.0s						
THAL				AML	AML	21 44 22.0	
	comp=E,8133μm,0.7s						
ANX	Ano Chora	2.14	30	P	Pn	21 43 14.4	-0.2
ANX				AML	AML	21 44 03.8	
	comp=N,3572μm,0.7s						
ANX				AML	AML	21 44 04.5	
	comp=E,3092μm,0.8s						
KRND	KRANIDI	2.17	72	P	Pn	21 43 15.4	+0.7
KRND				AML	AML	21 44 10.4	
	comp=N,1755μm,1.2s						
KRND				AML	AML	21 44 16.1	
	comp=E,2606μm,1.0s						
LOUT	Loutraki	2.29	56	P	Pn	21 43 17.5	+1.1
LTK	Loutraki	2.30	55	P	Pn	21 43 17.4	+0.8
DLFA	Delphi	2.32	41	P	Pn	21 43 18.2	+1.4
ANKY	Antikythira Is	2.37	111	P	Pn	21 43 18.9	+1.3
MAKR	Makrakomi, Fth	2.59	28	P	Pn	21 43 22.2	+1.6
MAKR				AML	AML	21 44 33.8	
	comp=Z,2018μm,1.7s						
MAKR				AML	AML	21 44 35.1	
	comp=N,3293μm,2.2s						
VIL2	Platees	2.61	55	P	Pn	21 43 21.0	+0.2
AGG	Agios Georgios	2.67	31	P	Pn	21 43 23.4	+1.7
AGG	Agios Georgios	2.67	31	P	Pn	21 43 22.7	+0.9
AGG	Agios Georgios	2.67	31	Pn	Pn	21 43 22.7	+0.9
LKR	Lokris	2.72	45	P	Pn	21 43 23.4	+1.1
ATAL	Atalanti	2.76	44	P	Pn	21 43 23.9	+1.0
ATAL				AML	AML	21 44 42.1	
	comp=E,786μm,1.3s						
ATAL				AML	AML	21 44 48.3	
	comp=N,662μm,1.0s						
ATH	Athens Observa	2.80	63	P	Pn	21 43 23.4	0.0
ATH				AML	AML	21 44 21.2	
	comp=N,1213μm,1.1s						
ATH				AML	AML	21 44 31.2	
	comp=E,1184μm,1.4s						
IGT	Igoumenitsa	2.80	356	P	Pn	21 43 23.5	+0.1
VLY	Voula,Athens	2.81	66	P	Pn	21 43 23.3	-0.2
VLY				AML	AML	21 44 19.3	
	comp=N,967μm,0.6s						
VLY				AML	AML	21 44 19.7	
	comp=E,1114μm,0.6s						
ATHU	Athens Univers	2.84	63	P	Pn	21 43 23.7	-0.3
JAN	Janina	2.92	4	P	Pn	21 43 24.7	-0.5
SMIA	Simia	2.99	44	P	Pn	21 43 27.2	+1.1
DION	Dionisos Attik	3.00	62	P	Pn	21 43 26.2	0.0
DION				AML	AML	21 44 30.8	
	comp=N,1766μm,1.3s						
DION				AML	AML	21 44 35.2	
	comp=E,1319μm,1.5s						
KEK	Kerkira	3.03	349	P	Pn	21 43 26.8	+0.1
IMMV	Iera Moni Meta	3.04	114	P	Pn	21 43 27.5	+0.7
IMMV				AML	AML	21 44 17.6	
	comp=N,1451μm,0.7s						
IMMV				AML	AML	21 44 18.0	
	comp=E,850μm,0.7s						
THL	Klokotos Trika	3.05	22	P	Pn	21 43 28.2	+1.4
MHLO	Agia Marina, M	3.08	90	P	Pn	21 43 28.1	+0.8
MHLO				AML	AML	21 44 11.7	
	comp=E,2196μm,0.4s						
MHLO				AML	AML	21 44 17.6	
	comp=N,2377μm,0.5s						
EREA	Eretria	3.16	57	P	Pn	21 43 28.5	+0.1
EREA				AML	AML	21 44 46.9	
	comp=N,597μm,1.4s						
EREA				AML	AML	21 44 47.8	
	comp=E,646μm,1.3s						
VAM	Vamos	3.23	113	P	Pn	21 43 30.1	+0.7
VAM	Vamos	3.23	113	P	Pn	21 43 29.9	+0.6
KPRO	Kipourio	3.27	11	P	Pn	21 43 31.9	+1.8
NEO	Neokhori	3.31	38	P	Pn	21 43 31.3	+0.7
KARY	Karystos	3.34	66	P	Pn	21 43 30.8	-0.1
XOR	Xorichti	3.34	37	P	Pn	21 43 31.4	+0.5
K

LIT Litokhoron 3.68 24 P **Pn** **21 43 36.9 +1.3**
LIT Litokhoron 3.68 24 **Pn** **21 43 36.9 +1.3**
KZN Kozani 3.69 14 P **Pn** **21 43 37.3 +1.5**
KZN AML AML 21 44 22.6
comp=E,561µm,0.4s
KZN AML AML 21 44 26.2
comp=N,564µm,0.8s
NEST Nestorio 3.69 6 P **Pn** **21 43 38.3 +2.5**
SCTE Santa Cesarea 3.72 334 P **Pn** **21 43 35.8 -0.2**
SCTE Santa Cesarea 3.72 334 Pn **Pn** **21 43 36.2 +0.2**
IDI Anoyia 3.79 111 P **Pn** **21 43 37.7 +0.6**
IDI Anoyia 3.79 111 Pn **Pn** **21 43 37.3 +0.2**
comp=N,4.2nm,0.3s,baz=304,slow=16,SNR=23
IDI Sn **Sn** **21 44 22.3 +0.9**
comp=N,7.1nm,0.3s,baz=74,slow=10,SNR=5.7
IDI Anoyia 3.79 111 ⇑P **Pb** **21 43 43.8 -2.1**
IDI Anoyia 3.79 111 Pn **Pn** **21 43 38.5 +1.3**
SIVA Sivas 3.85 115 P **Pn** **21 43 39.9 +2.0**
TIP Timpagrande 3.87 310 P **Pn** **21 43 38.2 0.0**
TIP Timpagrande 3.87 310 ⇑P **Pn** **21 43 38.2 0.0**
TIP Timpagrande 3.87 310 Pn **Pn** **21 43 38.1 -0.2**
SANT Santorini 3.96 94 Pn **Pn** **21 43 39.6 +0.2**
APE Apeiranthos 3.99 84 P **Pn** **21 43 39.5 -0.4**
CEL Celeste 4.01 294 Pn **Pn** **21 43 41.0 +0.8**
FNA Florina 4.09 9 P **Pn** **21 43 41.8 +0.6**
FNA Florina 4.09 9 P **Pn** **21 43 41.9 +0.6**
FNA Florina 4.09 9 Pn **Pn** **21 43 41.9 +0.6**
PLG Polygyros 4.28 31 P **Pn** **21 43 44.5 +0.8**
LAST Lasithi 4.28 110 P **Pn** **21 43 44.8 +0.8**
THE Thessaloniki 4.32 25 P **Pn** **21 43 45.1 +0.8**
HORT Hortiatis 4.34 26 P **Pn** **21 43 45.4 +0.7**
OHR Ohrid 4.37 2 *i* Pn **Pn** **21 43 46.3 +1.2**
SOH Sokhos 4.62 27 P **Pn** **21 43 49.4 +0.8**
TIR Tirane 4.64 353 P **Pn** **21 43 49.3 +0.6**
TIR Tirane 4.64 353 ⇑P **Pn** **21 43 49.2 +0.6**
TIR Tirane 4.64 353 ⇑P **Pn** **21 43 49.2 +0.6**
TIR Tirane 4.64 353 Pn **Pn** **21 43 49.3 +0.6**
KNT Kendrikon 4.78 22 P **Pn** **21 43 51.4 +0.7**
LIA Limnos Island 4.81 48 P **Pn** **21 43 51.2 +0.1**
VAY Valandovo 4.84 18 *i* Pn **Pn** **21 43 52.8 +1.3**
NOCI Noci 4.88 327 P **Pn** **21 43 51.9 -0.2**
MATE Matera 4.94 323 ⇑P **Pn** **21 43 51.4 -1.4**
CUC Castrocucco 4.95 312 P **Pn** **21 43 52.8 +0.8**
WDD Wied Dalam 4.96 261 Pn **Pn** **21 43 53.9 +0.8**
VAE Valguarnera 4.97 280 Pn **Pn** **21 43 56.2 +2.8**
comp=N,6.2nm,0.3s,baz=69,slow=5.1,SNR=31
VAE Sn **Sn** **21 44 50.8 +0.1**
comp=N,1.4nm,0.3s,baz=28,slow=22,SNR=1.1
RAFF Raffo Rosso 4.99 277 Pn **Pn** **21 43 54.0 +0.4**
STIP Stip 5.11 14 *i* Pn **Pn** **21 43 55.0 -0.1**
ULC Ulcinj 5.32 349 ⇓*i*Pn **Pn** **21 43 57.0 -1.1**
ULC *i* Sn **Sn** **21 44 57.8 -1.3**
DRME Dracevica, Mon 5.55 349 ⇑*i*Pn **Pn** **21 43 59.9 -1.3**
DRME Dracevica, Mon 5.55 349 ⇑*i*Pn **Pn** **21 44 00.3 -0.9**
DRME *i* Sn **Sn** **21 45 03.2 -1.4**
BUM Brajici-Budva 5.71 347 ⇑*i*Pn **Pn** **21 44 02.4 -1.0**
BUM *i* Sn **Sn** **21 45 07.2 -1.4**
PDG Podgorica 5.78 350 ⇑P **Pn** **21 44 03.3 -1.1**
PDG Podgorica 5.78 350 ⇑*i*Pn **Pn** **21 44 03.1 -1.2**
PDG Podgorica 5.78 350 Pn **Pn** **21 44 03.2 -1.1**
TTG Podgorica 5.78 350 ⇑*i*Pn **Pn** **21 44 03.1 -1.2**
TTG *i* Sn **Sn** **21 45 09.2 -1.0**
PVY Plav 5.87 356 ⇑*i*Pn **Pn** **21 44 05.3 -0.5**
PVY *i* Sn **Sn** **21 45 11.8 -1.0**
CORL Corleone 5.90 283 **Pn** **21 44 08.2 +2.1**
HCY Herceg Novi 5.92 345 *e*Pn **Pn** **21 44 04.0 -2.4**
HCY Herceg Novi 5.92 345 ⇓*i*Pn **Pn** **21 44 04.7 -1.7**
HCY *i* Sn **Sn** **21 45 12.5 -1.4**
CLTB Caltabellotta 5.93 280 Pn **Pn** **21 44 08.2 +1.6**
CEME Cevo 5.94 348 ⇑*i*Pn **Pn** **21 44 05.0 -1.7**
CEME *i* Sn **Sn** **21 45 10.5 -3.9**
ALN Alexandroupoli 5.96 44 P **Pn** **21 44 07.6 +0.7**
ALN Alexandroupoli 5.96 44 **Pn** **21 44 07.6 +0.7**
IVA Berane 6.15 355 ⇑*i*Pn **Pn** **21 44 09.4 -0.2**
IVA *i* Sn **Sn** **21 45 16.8 -2.8**
NKME Niksic 6.15 349 ⇓*i*Pn **Pn** **21 44 08.3 -1.2**
NKME *i* Sn **Sn** **21 45 16.3 -3.3**
KOME Kolasin 6.16 353 ⇓*i*Pn **Pn** **21 44 09.6 -0.1**
KOME *i* Sn **Sn** **21 45 19.1 -0.8**
NKY Niksic 6.19 349 ⇓*i*Pn **Pn** **21 44 10.0 -0.1**
TREB Trebinje 6.21 345 *e*Pn **Pn** **21 44 08.1 -2.2**
VTS Vitosha 6.22 18 ⇑P **Pn** **21 44 11.7 +1.1**
VTS Vitosha 6.22 18 ⇑P **Pn** **21 44 11.7 +1.1**
SGRT San Giovanni R 6.25 325 Pn **Pn** **21 44 10.5 -0.5**
PAOL Paolisi 6.35 314 **Pn** **21 44 12.8 +0.6**
BRY Bratogost 6.35 346 *e*Pn **Pn** **21 44 10.3 -2.1**
BRY Bratogost 6.35 346 ⇓*i*Pn **Pn** **21 44 11.4 -1.0**
BRY *i* Sn **Sn** **21 45 20.4 -4.3**
SLUM Salum 6.50 142 P **Pn** **21 44 15.1 +0.8**
baz=150
SLUM AMP 21 45 00.0
baz=150
STON Ston 6.51 341 *e*Pn **Pn** **21 44 11.7 -2.7**
UPM Unac-Piva 6.58 349 *e*Pn **Pn** **21 44 14.6 -1.0**
UPM Unac-Piva 6.58 349 ⇑*i*Pn **Pn** **21 44 15.0 -0.6**
UPM *i* Sn **Sn** **21 45 28.3 -2.1**
PLE Pljevlja 6.65 353 ⇑*i*Pn **Pn** **21 44 15.9 -0.5**
PLE *i* Sn **Sn** **21 45 29.9 -2.0**
RUDO Rudo 6.94 353 *e*Pn **Pn** **21 44 18.4 -1.9**
BOVS Bovan 6.95 7 ⇓P **Pn** **21 44 19.7 -0.6**
BBLS Lazići 7.18 353 *e*Pn **Pn** **21 44 22.0 -1.6**
AKAS Kas 7.30 91 **Pn** **21 44 25.5 +0.1**
DIVS Divibare 7.37 357 *e*Pn **Pn** **21 44 24.2 -2.1**
INTR Introdacqua 7.37 318 Pn **Pn** **21 44 27.3 +1.0**
HAPS Han Pijesak,BI 7.45 351 *e*Pn **Pn** **21 44 24.6 -2.8**
ELL Elmali 7.50 87 P **Pn** **21 44 29.7 +1.6**
ELL Elmali 7.50 87 Pn **Pn** **21 44 29.7 +1.6**
AQU L'Aquila 7.88 318 P **Pn** **21 44 34.0 +0.7**
AQU L'Aquila 7.88 318 *e*Pn **Pn** **21 44 33.8 +0.5**
AQU L'Aquila 7.88 318 Pn **Pn** **21 44 34.0 +0.7**
MDVR Moldovita 8.08 6 ⇓P **Pn** **21 44 35.7 -0.4**
MGRS Mrkonjic Grad 8.12 342 *e*Pn **Pn** **21 44 35.6 -0.9**
HERR Herculane 8.26 9 ⇑P **Pn** **21 44 38.4 0.0**
BLY Banja Luka 8.40 343 *e*Pn **Pn** **21 44 40.8 +0.4**
FRGS Fruska Gora 8.43 356 ⇓P **Pn** **21 44 39.5 -1.3**
FRGS Fruska Gora 8.43 356 *e*Pn **Pn** **21 44 38.4 -2.4**
SWA2 8.52 150 P **Pn** **21 44 42.9 +0.8**
baz=156
SWA2 S **Sn** **21 46 11.3 -6.6**
baz=156
MRAK Mrakovica 8.72 343 *e*Pn **Pn** **21 44 44.5 -0.3**
BZS Buzias 8.91 5 ⇑P **Pn** **21 44 46.8 -0.5**
BZS Buzias 8.91 5 ⇑P **Pn** **21 44 46.8 -0.5**
MURB Monte Urbino 8.97 319 **Pn** **21 44 50.1 +1.8**
KEST Kesra 9.12 267 Pn **Pn** **21 44 52.2 +1.9**
comp=N,0.8nm,0.3s,baz=52,slow=6.5,SNR=13
KEST Sn **Sn** **21 46 28.7 -4.0**
comp=N,0.0nm,0.3s,baz=232,slow=13,SNR=1.1
KEST LR LR 21 49 35.2
comp=N,304nm,19.1s,baz=352,slow=45
KEST Kesra 9.12 267 Pn **Pn** **21 44 51.8 +1.4**
ARR Arges 9.15 18 ⇑P **Pn** **21 44 50.7 0.0**
VOIR 9.33 20 ⇑P **Pn** **21 44 54.0 +0.9**
VOIR 9.33 20 ⇑P **Pn** **21 44 54.0 +0.9**
MORH Mrgy, Hungar 9.58 352 ⇓P **Pn** **21 44 54.6 -1.9**
MORH Mrgy, Hungar 9.58 352 *e*Pn **Pn** **21 44 54.3 -2.2**
CASP Castiglione de 9.61 312 Pn **Pn** **21 44 57.9 +1.0**
BOJS Bojanci 9.63 337 *e*Pn **Pn** **21 44 55.9 -1.3**
MLR Muntele Rosu 9.64 23 Pn **Pn** **21 44 59.9 +2.4**
comp=N,0.3nm,0.3s,baz=199,slow=6.4,SNR=5.1
MLR Muntele Rosu 9.64 23 ⇑P **Pn** **21 44 59.9 +2.4**
MLR Muntele Rosu 9.64 23 Pn **Pn** **21 44 58.5 +1.0**
GBRS Gornja Briga 9.80 336 *i* Pn **Pn** **21 44 59.2 -0.3**
OSSC Osservatorio P 9.84 316 **Pn** **21 45 01.6 +1.5**
CRES Cresnjev 9.86 339 ⇑*i*Pn **Pn** **21 44 58.4 -2.0**
CEY Cerknica 10.11 335 *e*Pn **Pn** **21 45 02.7 -1.1**
DRGR 10.17 8 P **Pn** **21 45 05.4 +0.7**
PLOR Plostina 10.19 25 ⇓P **Pn** **21 45 07.3 +2.4**
PLOR Plostina 10.19 25 ⇓P **Pn** **21 45 07.3 +2.4**
VRI Vrincioaia 10.23 25 ⇑P **Pn** **21 45 05.6 +0.2**
VRI Vrincioaia 10.23 25 ⇑P **Pn** **21 45 05.6 +0.2**
LJU Ljubljana 10.34 336 *e*Pn **Pn** **21 45 06.6 -0.4**
LJU Ljubljana 10.34 336 *e*Pn **Pn** **21 45 06.5 -0.4**
CSS Mathiatis 10.51 96 Pn **Pn** **21 45 09.2 -0.1**
ZCCA Zocca 10.53 319 Pn **Pn** **21 45 11.6 +2.0**
BR131 Keskin Array S 10.71 70 P **Pn** **21 45 12.4 +0.3**
BR131 Keskin Array S 10.71 70 Pn **Pn** **21 45 12.4 +0.3**
BRTR Keskin Array B 10.71 70 Pn **Pn** **21 45 14.1 +2.0**
comp=N,0.1nm,0.3s,baz=257,slow=14,SNR=5.9
BRTR Keskin Array B 10.71 70 *e*P **Pn** **21 45 14.4 +2.3**
OBKA Obir 10.75 337 *e*Pn **Pn** **21 45 13.8 +1.2**
comp=N,3.8nm,0.2s
OBKA *e*Sn **Sn** **21 47 09.2 -3.4**
comp=N,16nm,0.6s
TEOL Teolo 10.92 325 Pn **Pn** **21 45 13.9 -0.9**
HNAT Natroun 11.00 127 P **Pn** **21 45 15.1 -0.9**
baz=131
ARSA Arzberg 11.15 342 Pn **Pn** **21 45 17.6 -0.5**
comp=N,3.1nm,0.3s,SNR=5.4
STAL STALIGIAL 11.18 331 **Pn** **21 45 17.7 -0.9**
PSZ Piszkesteto 11.19 358 P **Pn** **21 45 18.4 -0.2**
PSZ Piszkesteto 11.19 358 Pn **Pn** **21 45 18.4 -0.2**
MSSA Maissana 11.31 315 Pn **Pn** **21 45 22.2 +2.0**
ZOU Zoufplan 11.33 332 **Pn** **21 45 21.1 +0.4**
BURAR Bucovina Array 11.40 16 ⇑P **Pn** **21 45 21.6 +0.1**
BURAR Bucovina Array 11.40 16 ⇑P **Pn** **21 45 21.6 +0.1**
BUR08 Bucovina Ar. S 11.43 16 Pn **Pn** **21 45 23.8 +1.9**
TRPA Tarpa 11.48 7 ⇑P **Pn** **21 45 23.3 +0.8**
HSAF As Saff 11.62 124 P **Pn** **21 45 23.6 -0.9**
baz=128
KBA Koelnbreinsper 11.64 335 *e*Pn **Pn** **21 45 26.4 +1.5**
comp=N,2.4nm,0.3s
KBA *e*Sn **Sn** **21 47 30.0 -4.6**
comp=N,3.6nm,0.6s
SALO Salr 11.65 323 Pn **Pn** **21 45 24.2 -0.7**
ABTA Abfaltersbach 11.66 332 Pn **Pn** **21 45 25.6 +0.5**
comp=N,1.9nm,0.5s,SNR=5.8
CONA Conrad Observa 11.71 344 *e*Pn **Pn** **21 45 28.3 +2.5**
comp=N,1.7nm,0.5s
GLL Jalalah 11.75 124 P **Pn** **21 45 25.1 -1.2**
baz=128
VYHS Vyhne 11.82 354 *e*P **Pn** **21 45 26.2 -1.0**
VYHS Vyhne 11.82 354 *e*PN **Pn** **21 45 26.2 -1.0**
KOLL Kolacno 11.94 353 *e*PN **Pn** **21 45 26.7 -2.1**
MOA Molln 12.04 339 Pn **Pn** **21 45 30.3 +0.1**
comp=N,4.2nm,0.3s,SNR=8.0
MOA *e*Sn **Sn** **21 47 41.4 -2.7**
comp=N,2.1nm,0.3s
KOLS Kolonicke sedl 12.26 5 *e*P **Pn** **21 45 32.7 -0.4**
KOLS Kolonicke sedl 12.26 5 *e*PN **Pn** **21 45 32.7 -0.4**
JAVC Velka Javorina 12.30 351 *e*PN **Pn** **21 45 33.9 +0.1**
WTTA Wattenberg 12.43 331 *e*Pn **Pn** **21 45 40.0 +4.3**
comp=N,2.6nm,0.5s
WTTA *e*Sn **Sn** **21 47 49.4 -4.5**
comp=N,7.0nm,0.8s
WATA Walderalm 12.51 331 Pn **Pn** **21 45 38.6 +1.8**
comp=N,6.5nm,0.5s,SNR=6.4
FETA Feichten 12.61 328 *e*Pn **Pn** **21 45 42.3 +4.1**
comp=N,2.3nm,0.5s
MOTA Moosalm 12.71 329 *e*Pn **Pn** **21 45 40.2 +0.7**
comp=N,1.1nm,0.5s
MOTA *e*Sn **Sn** **21 47 58.7 -2.0**
comp=N,6.2nm,0.8s
MMAI Mount Meron Ar 12.73 103 Pn **Pn** **21 45 37.7 -2.1**
comp=N,0.6nm,0.3s,baz=300,slow=12,SNR=2.4
MMAI Sn Sn 21 47 49.2 -12
comp=N,2.2nm,0.3s,baz=294,slow=21,SNR=3.0
DAVOX Davos/Dischmat 12.81 325 Pn **Pn** **21 45 41.8 +1.0**
comp=N,0.6nm,0.3s,baz=146,slow=17,SNR=4.7
TUE Stuetta 12.84 323 Pn **Pn** **21 45 41.0 -0.2**
VRAC Vranov 12.89 348 LR LR 21 51 00.1
comp=N,121nm,18.0s,baz=168,slow=39
GERES GERESS Array B 13.10 340 Pn **Pn** **21 45 44.3 -0.5**
comp=N,0.6nm,0.3s,baz=155,slow=14,SNR=21
GERES Sn **Sn** **21 48 03.6 -6.5**
comp=N,0.3nm,0.3s,baz=155,slow=24,SNR=2.2
GERES LR LR 21 52 39.9
comp=N,255nm,18.4s,baz=142,slow=46
DAVA Damuels 13.19 326 *e*Pn **Pn** **21 45 48.3 +2.3**
comp=N,4.7nm,0.6s
DAVA *e*Sn **Sn** **21 48 10.0 -2.3**
comp=N,3.1nm,0.4s
MORC Moravsky Berou 13.22 351 *e*PN **Pn** **21 45 45.0 -1.3**
BNI Bardonecchia 13.38 313 P **Pn** **21 45 50.3 +1.7**
BNI Bardonecchia 13.38 313 Pn **Pn** **21 45 50.3 +1.7**
KHC Kasperske Hory 13.39 340 *e*P **Pn** **21 45 48.0 -0.7**
KHC Kasperske Hory 13.39 340 *e*PN **Pn** **21 45 48.0 -0.7**
HDK1 Dakhla 13.47 143 P **Pn** **21 45 48.4 -1.5**
baz=147
GHAJ Ghor Haditha 13.57 109 Pn **Pn** **21 45 50.7 -0.3**
SENIN Lac Senin/Sane 13.81 318 Pn **Pn** **21 45 57.1 +2.6**
EIL Elat 13.95 116 Pn **Pn** **21 45 54.6 -1.7**
comp=N,0.7nm,0.3s,baz=270,slow=16,SNR=11
EIL Sn Sn 21 48 19.2 -12
comp=N,0.5nm,0.3s,baz=243,slow=22,SNR=2.5
HKAT Jabal Katrina 13.96 122 P **Pn** **21 45 55.0 -1.6**
baz=125
MALT Malatya 14.27 78 P **P** **21 46 07.0 -1.0**
GRF Grafenberg Arr 14.62 335 *e*P **P** **21 46 13.3 +1.6**
comp=N,20nm,1.2s,baz=148,slow=13
GRF *e*L L 21 53 55.6
comp=N,100nm,18.9s
BFO Black Forest 14.66 326 P **Pn** **21 46 06.0 0.0**
BFO Black Forest 14.66 326 Pn **Pn** **21 46 06.0 0.0**
ANN Anapa 15.09 53 *e*P **P** **21 46 16.3 -0.6**
ANN pmax pmax
comp=Z,13nm,0.8s
ECH Echery 15.12 324 P **Pn** **21 46 12.4 +0.2**
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH Echery 15.12 324 Pn **Pn** **21 46 12.4 +0.2**
AKASG Malin Array Be 15.28 21 Pn **Pn** **21 46 12.6 -1.7**
comp=Z,0.4nm,0.3s,baz=208,slow=11,SNR=3.0
AKASG Malin Array Be 15.28 21 P **Pn** **21 46 16.3 +2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 15.28 21 Pn **Pn** **21 46 16.3 +2.0**
AKBB Malin Array Si 15.28 21 P **Pn** **21 46 16.8 +2.6**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 15.28 21 P **Pn** **21 46 16.8 +2.6**
MOX Moxa 15.32 338 *e*L L 21 53 57.1
comp=Z,116nm,19.9s
CLL Collm 15.54 342 *e*PP **P** **21 46 27.0 +5.1**
CLL *es*PP 21 46 38.0
comp=Z,8.0nm,1.1s
CLL *e* 21 47 26.0
CLL Collm 15.54 342 *e*P **P** **21 46 25.0 +3.1**
SOC Sochi 16.14 59 *e*P **Pn** **21 46 23.6 -1.8**
SOC *e* 21 49 25.3
SOC MLR MLR
comp=Z,63nm,12.0s
SUW Suwalki 17.37 5 *e*P **P** **21 46 42.4 +0.2**
SUW Suwalki 17.37 5 *e*P **P** **21 46 44.2 +2.1**
SUW Suwalki 17.37 5 P **Pn** **21 46 41.6 +0.7**
SUW pmax pmax
comp=Z,38nm,1.0s
SUW Suwalki 17.37 5 P **Pn** **21 46 41.6 +0.7**
SUW IAmb IAmb 21 46 55.7
comp=Z,38nm,1.0s
BMRD Maredsous 17.70 325 *d*pPn **P** **21 46 51.4 +5.6**
KIV Kislovodsk 18.31 60 *e*P **P** **21 46 53.6 +0.9**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,71nm,14.0s
KIV Kislovodsk 18.31 60 P **P** **21 46 53.5 +0.9**
KVAR Kislovodsk Arr 18.31 60 P **Pn** **21 46 53.2 +0.5**
baz=254,slow=20,SNR=1.9
AKH Akhalkalaki 18.39 68 P **P** **21 46 55.6 +1.9**
KBZ Khabaz 18.39 61 P **Pn** **21 46 53.7 +0.1**
comp=Z,0.6nm,0.3s,baz=292,slow=6.4,SNR=8.9
NACGM Naroch 18.67 11 *i* P **P** **21 46 57.0 +0.6**
NCK Nalchik 18.83 62 ⇓*i*P **Pn** **21 47 00.6 +1.7**
NCK pmax pmax
comp=Z,10.0nm,0.6s
GOF Gofitskoye 18.87 57 ⇑*e*P **Pn** **21 47 00.6 +1.2**
GOF pmax pmax
comp=Z,21nm,0.6s
ZEI Tsey 18.90 64 *e*P **P** **21 46 59.8 +0.4**
ZEI pmax pmax
comp=Z,12nm,0.9s
IIGN Ignalina 19.02 10 *e*P **P** **21 47 00.5 +0.3**
IIGN Ignalina 19.02 10 *e*P **Pn** **21 47 02.7 +1.7**
IIGN IAmb IAmb 21 47 06.2
comp=Z,3.8nm,0.7s
IDID Didziasalis 19.06 11 *e*P **P** **21 47 01.0 +0.4**
IDID Didziasalis 19.06 11 *e*P **Pn** **21 47 02.4 +0.9**
KZRT Kazreti 19.06 69 P **Pn** **21 47 03.2 +1.5**
ISAL Salakas 19.22 10 *e*P **P** **21 47 02.8 +0.3**
GNI Garni 19.23 72 P **P** **21 47 03.9 +1.0**
comp=Z,0.7nm,0.3s,baz=334,slow=4.4,SNR=7.4
GNI LR LR 21 54 43.7
comp=Z,65nm,18.9s,baz=278,slow=38
GNI Garni 19.23 72 ⇓*i*P **Pn** **21 47 04.3 +0.4**
GNI pmax pmax
comp=Z,15nm,1.5s
GNI Garni 19.23 72 Pn **P** **21 47 04.1 +1.2**
GNI IAmb IAmb 21 47 15.9
comp=Z,7.4nm,0.7s
GUDG Gudauri 19.27 65 P **Pn** **21 47 07.1 +2.7**
ESDC Sonseca Array 19.48 286 P **Pn** **21 47 07.8 +1.0**
comp=Z,0.1nm,0.3s,baz=87,slow=11,SNR=12
VSR Storozhevoye 19.63 37 *e*P **P** **21 47 05.7 -1.3**
VSR pmax pmax
comp=Z,20nm,1.5s
PAB San Pablo 19.78 286 P **Pn** **21 47 10.0 -0.4**
PAB pmax pmax
comp=Z,6.0nm,1.0s
PAB San Pablo 19.78 286 P **Pn** **21 47 10.0 -0.4**
GROC Groznyy 20.34 64 *e*P **P** **21 47 13.2 -1.7**
GROC *e*S **S** **21 51 03.9 +1.6**
GROC pmax pmax
comp=Z,12nm,0.6s
LPSR Galich'ya Gora 20.45 33 *e*P **P** **21 47 14.8 -1.1**
LPSR pmax pmax
comp=Z,50nm,1.2s
LGD Lagodekhi 20.48 68 P **Pn** 21 47 19.6 +1.0
VRH Novokhopyorsk 20.89 40 *e*P **P** **21 47 19.6 -1.1**
VRH pmax pmax
comp=Z,20nm,0.6s
MDT Midelt 21.02 267 P **P** **21 47 23.6 +1.2**
comp=Z,1.8nm,0.7s,baz=113,slow=11,SNR=5.7
MDT LR LR 21 56 27.3
comp=Z,85nm,21.5s,baz=82,slow=39
OBN Obninsk 21.39 26 P **P** **21 47 24.0 -2.0**
comp=Z,2.3nm,0.4s,baz=156,slow=10.0,SNR=3.8
OBN Obninsk 21.39 26 *e*P **P** **21 47 24.4 -1.6**
OBN *e* 21 47 47.9
OBN *e*PPP PPP 21 47 57.4
OBN pmax pmax
comp=Z,30nm,1.6s
AKT Akhty 21.56 69 *e*P **P** **21 47 26.9 -1.3**
AKT *e* 21 47 47.6
AKT *e*S **S** **21 51 27.9 +1.2**
AKT pmax pmax
comp=Z,14nm,1.2s
PBRG Braganca 21.70 292 *e*P **P** **21 47 30.8 +1.3**
comp=Z,23nm,1.7s
MVO Moncorvo 21.87 290 *e*P **P** **21 47 32.2 +0.8**
comp=Z,18nm,1.8s
MVO *e*LR LR 21 56 43.5
comp=Z,109nm,18.0s
PBAR Barrancos 21.93 282 *e*P **P** **21 47 38.1 +6.0**
comp=Z,24nm,2.0s
PBAR *e*LR LR 21 57 22.1
MTSE Matsula 22.09 5 *e*P **P** **21 47 33.4 -0.1**
VSU Vasula 22.11 9 *e*P **P** **21 47 32.9 -0.9**
VSU Vasula 22.11 9 *e*P **P** **21 47 35.2 +1.5**
VSU IAmb IAmb 21 47 44.2
comp=Z,50nm,0.7s
VSU Vasula 22.11 9 ⇑*e*P **P** **21 47 34.5 +0.8**
VSU pmax pmax
comp=Z,54nm,0.8s
PMRV Marv??o 22.14 286 *e*LR LR 21 57 44.4
comp=Z,93nm,18.0s
MTE Manteigas 22.24 288 *e*P **P** **21 47 37.1 +1.7**
comp=Z,18nm,1.3s
MTE *e*S **S** **21 51 43.3 +3.6**
MTE *e*LR LR 21 56 56.8
comp=Z,81nm,16.0s
MOS Moscow 22.26 26 *e*P **P** **21 47 34.5 -0.8**
MOS *e* 21 47 57.0
MOS *e*S **S** **21 51 34.3 -5.2**
MOS pmax pmax
comp=Z,36nm,1.0s
POLO Lamas de Olo 22.46 291 *e*P **P** **21 47 43.8 +6.0**
comp=Z,8.6nm,1.8s
HFS Hagfors 23.83 351 P **P** **21 47 50.5 -0.9**
comp=Z,3.1nm,0.6s,baz=169,slow=9.1,SNR=12
HFS LR LR 21 57 47.7
comp=Z,75nm,19.3s,baz=168,slow=38
BELG Belogornoye 24.63 42 P **P** **21 47 58.3 -0.5**
comp=Z,11nm,0.6s,baz=165,slow=2.5,SNR=12
EKA Eskdalemuir Ar 24.64 327 P **P** **21 47 59.4 +0.5**
comp=Z,0.4nm,0.3s,baz=124,slow=8.5,SNR=15
ESK Eskdalemuir 24.65 326 P **P** **21 47 59.1 +0.1**
ESK pmax pmax
comp=Z,4.0nm,0.9s
ESK Eskdalemuir 24.65 326 P **P** **21 47 59.1 +0.1**
ESK IAmb IAmb 21 48 09.4
comp=Z,4.2nm,0.8s
NC602 NORSAR Array S 24.70 349 P **P** **21 47 59.2 -0.2**
NC602 IAmb IAmb 21 48 12.4
comp=Z,12nm,1.1s
NAO01 NORSAR Array S 24.90 349 P **P** **21 48 01.1 -0.2**
FINES FINESS Array B 24.97 6 P **P** **21 48 01.3 -0.5**
comp=Z,0.9nm,0.3s,baz=174,slow=9.3,SNR=12
FINES LR LR 21 58 58.1
comp=Z,216nm,18.4s,baz=185,slow=40
FINES FINESS Array B 24.97 6 *i* P **P** **21 48 02.0 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 24.97 6 P **P** **21 48 01.7 -0.1**
FIA1 FINESS Array S 24.97 6 P **P** **21 48 01.7 -0.1**
FIA1 IAmb IAmb 21 48 13.3
comp=Z,8.7nm,1.1s
NOA NORSAR Array B 25.04 349 P **P** **21 48 02.1 -0.4**
comp=Z,2.2nm,0.7s,baz=159,slow=9.3,SNR=8.0
NOA LR LR 21 58 56.5
comp=Z,63nm,20.2s,baz=160,slow=39
NBO00 NORSAR Array S 25.10 349 P **P** **21 48 04.0 +1.0**
RAYN Ar Rayn 25.18 115 P **P** **21 48 06.8 +2.6**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 25.18 115 P **P** **21 48 06.8 +2.6**
RAYN IAmb IAmb 21 48 12.0
comp=Z,5.4nm,0.9s
NC204 NORSAR Array S 25.33 349 P **P** **21 48 06.0 +0.8**
NC204 IAmb IAmb 21 48 19.6
comp=Z,14nm,1.1s
KLMR Klimovskoe 26.97 21 *e*P P 21 48 13.4 -6.5
KLMR pmax pmax
comp=Z,20nm,1.4s
KLMR Klimovskoe 26.97 21 *e*P P 21 48 13.4 -6.5
KLMR AMP 21 48 25.2
comp=Z,20nm,1.4s
KIRV Kirov 28.85 32 LR LR 22 00 52.5
comp=Z,119nm,19.6s,baz=238,slow=38
GEYT Alibeck 29.75 76 P **P** **21 48 45.1 0.0**
comp=Z,1.2nm,0.4s,baz=268,slow=8.7,SNR=2.3
AKTO Aktyubinsk 30.04 51 P **P** **21 48 48.3 +0.9**
comp=Z,0.6nm,0.3s,baz=304,slow=7.7,SNR=2.4
ABKAR Akbulak array 31.05 54 P **P** **21 48 56.4 +0.1**
ABKAR Akbulak array 31.05 54 P **P** **21 48 56.2 -0.1**
ARCES ARCESS Array B 32.97 3 P **P** **21 49 11.7 -1.2**
comp=Z,2.9nm,0.9s,baz=191,slow=9.9,SNR=4.0
ARCES LR LR 22 05 13.4
comp=Z,150nm,18.1s,baz=185,slow=41
ARCES ARCESS Array B 32.97 3 P **P** **21 49 12.1 -0.8**
ARCES ARCESS Array B 32.97 3 P **P** **21 49 12.1 -0.8**
BRVK Borovoye 37.97 48 ⇓*e*P **P** **21 49 59.3 +3.2**
BRVK pmax pmax
comp=Z,7.0nm,1.8s
KK31 Karatay Array 38.36 65 P **P** **21 49 59.7 +0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KK31 Karatay Array 38.36 65 P **P** **21 49 59.7 +0.1**
KK31 IAmb IAmb 21 50 08.9
comp=Z,1.6nm,0.6s
KKAR Karatay Array 38.36 65 P **P** **21 49 59.7 +0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 38.36 65 P **P** **21 49 59.8 +0.1**
KKAR Karatay Array 38.36 65 P **P** **21 49 59.7 +0.1**
KKAR IAmb IAmb 21 50 08.9
comp=Z,1.6nm,0.6s
SOCY Socotra 38.70 121 P **P** **21 50 01.7 -1.0**
GAR Garm 38.95 71 P **P** **21 50 05.6 +0.9**
ARSB Arslanbob 40.47 67 P **P** **21 50 17.3 0.0**
ARSB pmax pmax
comp=Z,3.0nm,0.8s
ARSB Arslanbob 40.47 67 P **P** **21 50 17.3 0.0**
ARSB IAmb IAmb 21 50 27.9
comp=Z,3.2nm,0.8s
MAKZ Makanchi 45.82 57 P **P** **21 50 59.5 -0.9**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 45.82 57 P **P** **21 50 59.5 -0.9**
MAKZ IAmb IAmb 21 51 02.3
comp=Z,1.6nm,0.7s

MK31	**Makanchi Array**	**46.04**	**57**	IAmb	IAmb	21 51 01.7		
	comp=Z,2.7nm,0.6s							
MKAR	**Makanchi Array**	**46.04**	**57**	P	**P**	**21 51 01.1**	**-1.1**	
	comp=Z,2.5nm,0.4s,baz=271,slow=7.4,SNR=55							
MKAR				PcP	**PcP**	**21 52 39.0**	**+0.6**	
	comp=Z,0.5nm,0.8s,baz=279,slow=5.0,SNR=1.6							
ZALV	**Zalesovo Beam**	**46.63**	**47**	P	**P**	**21 51 05.4**	**-1.2**	
	comp=Z,0.9nm,0.3s,baz=265,slow=8.3,SNR=6.5							
ZALV	**Zalesovo Beam**	**46.63**	**47**	*e*P	**P**	**21 51 05.1**	**-1.5**	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
DGZ	**Jazzator, Alta**	**48.86**	**52**	⇑*i*P	**P**	**21 51 23.3**	**-0.9**	
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
DRLN	**Deer Lake**	**56.03**	**309**	P	**P**	**21 52 17.5**	**+0.3**	
EUNU	**Eureka**	**56.93**	**349**	P	**P**	**21 52 24.4**	**+1.2**	
EUNU				IAmb	IAmb	21 52 25.7		
	comp=Z,2.1nm,1.1s							
SHEL	**Horse Pasture**	**58.00**	**210**	P	**P**	**21 52 30.9**	**-0.5**	
SHEL	**Horse Pasture**	**58.00**	**210**	P	**P**	**21 52 30.9**	**-0.5**	
LSA	**Lhasa**	**58.27**	**75**	P	**P**	**21 52 33.6**	**-0.3**	
LSA				pmax	pmax			
	comp=Z,24nm,0.9s							
SCHQ	**Schefferville**	**59.55**	**318**	P	**P**	**21 52 40.4**	**-1.4**	
SCHQ				IAmb	IAmb	21 52 48.7		
	comp=Z,2.0nm,1.0s							
GTA	**Gaotai**	**60.48**	**61**	⇑P	**P**	**21 52 48.5**	**-0.1**	
GTA				pP	pwP	21 52 57.7	+0.6	
GTA				sP	sP	21 53 01.6	+7.5	
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TIXI	**Tiksi**	**60.99**	**20**	P	**P**	**21 52 51.7**	**+0.3**	
	comp=Z,1.1nm,0.8s,baz=313,slow=5.8,SNR=2.5							
TIXI	**Tiksi**	**60.99**	**20**	⇑*e*P	**P**	**21 52 51.9**	**+0.6**	
SONM	**Songino Array**	**61.35**	**50**	P	**P**	**21 52 53.0**	**-1.4**	
	comp=Z,0.4nm,0.4s,baz=283,slow=7.4,SNR=6.5							
SONM	**Songino Array**	**61.35**	**50**	*e*P	**P**	**21 52 54.2**	**-0.2**	
CMAR	**Chiang Mai Arr**	**70.06**	**82**	P	**P**	**21 53 48.8**	**-2.1**	
	comp=Z,1.0nm,0.3s,baz=74,slow=42,SNR=1.9							
BILL	**Bilibino**	**72.41**	**13**	*e*P	**P**	**21 54 04.4**	**+0.1**	
BILL				*e*		21 54 22.1		
BILL				*e*		21 56 42.7		
BILL				*e*PPP	PPP	21 58 26.0		
BILL				pmax	pmax			
	comp=Z,2.0nm,1.3s							
NJ2	**Nanjing**	**77.51**	**59**	*e*P	P	21 54 47.1	+13	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KSRS	**Korea Array**	**80.22**	**50**	P	**P**	**21 54 50.0**	**+0.9**	
	comp=Z,1.1nm,0.5s,baz=303,slow=5.0,SNR=5.1							

BJI **04** *21:46:18.0±0.0,28.°05N×142.°72E,h5km,mB4.9/53, mb5.0/79,Ms4.5/72,Ms7 4.3/69*

IDC **04** *21:46:18.4±0.4,27.°96N×142.°93E,h0km,mb4.8/32, mb1 4.8/37,mb1mx4.7/51,mbtmp4.8/37,ML3.8/5,MS3.9/31, Ms1 3.9/31,ms1mx3.9/41,Error ellipse: s-maj=13.9km s-min=9.2km az=105.0*

NEIC **04** *21:46:19.5±1.4,27.°96N±0.°06×142.°98E±0.°09,h9km±3km, mb5.0/215,Error ellipse: s-maj=12.4km s-min=8.1km az=106.0*

MOS **04** *21:46:19.7±0.9,27.°97N×142.°84E,h19km,mb5.4/49, MS4.5/9,Error ellipse: s-maj=7.1km s-min=3.9km az=121.5*

JMA **04** *21:46:22.0,28.°07N×142.°72E,h61km±3km,M4.9*

GCMT **04** *21:46:22.5±0.6,27.°61N±0.°03×142.°84E±0.°04,h25km±1km, MW4.9/72,Moment Tensor Solution. s21,c24; s72,c96; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.38±.18; Mθθ0.48±.10; Mϕϕ-1.86±.12; Mrθ1.94±.27; Mϕθ-0.60±.07; Mϕr-0.34±.20; Best double couple: M☉2.51000×10¹⁶ NP1:ϕs162.00000°,δ54.00000°,λ38.00000°. NP2: ϕs48.00000°,δ60.00000°,λ137.00000°. Principal axes: T 3.0080, Plg50.0000°, Azm12.0000°; N -0.9900, Plg39.0000°, Azm199.0000°; P -2.0130, Plg4.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR **04** *21:46:27.5±0.0,28.°06N×142.°98E,h33km,mb5.3,Ms4.1*

ISC 04 21:46:20.4±0.6,28.°00N±0.°03×142.°92E±0.°04,h13km±3km, h12km:pP-P,n647,σ1s22/666,mb5.0/247**,MS4.2**/63**, 65C-20D,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.11**	**216**	P	**Pb**	**21 46 41.3**	**-0.1**
CBIJ				S	**Sb**	**21 46 55.7**	**-0.1**
JCJ	**Chichijima**	**1.11**	**216**	Pn	**Pb**	**21 46 41.5**	**+0.1**
	516nm,0.3s,baz=8.7,slow=4.9,SNR=84						
JCJ				Sn	**Sb**	**21 46 55.6**	**-0.2**
	1μm,0.3s,baz=289,slow=23,SNR=9.7						
JCJ	**Chichijima**	**1.11**	**216**	Pn	**Pb**	**21 46 41.0**	**-0.5**
JHH2	**Haha-jima-NKT2**	**1.51**	**206**	P	**Pn**	**21 46 47.3**	**+0.1**
JHJ2	**Mitsune**	**5.76**	**333**	P	**Pn**	**21 47 45.2**	**-0.3**
JHJ2				S	**Sn**	**21 48 49.2**	**-2.3**
JHJ2	**Mitsune**	**5.76**	**333**	Pn	**Pn**	**21 47 45.3**	**-0.3**
JHJ	**Hachijo jima 2**	**5.78**	**333**	Pn	**Pn**	**21 47 45.5**	**-0.4**
	14nm,0.3s,baz=204,slow=20,SNR=11						
JHJ				Sn	**Sn**	**21 48 49.6**	**-2.4**
	68nm,0.3s,baz=126,slow=16,SNR=6.8						
JHJ				LR	LR	21 49 41.0	
	comp=Z,1μm,19.6s,baz=162,slow=35						
JMKN	**Mikurajimanish**	**6.53**	**335**	P	**Pn**	**21 47 56.6**	**+0.4**
BSO1	**Boso 1**	**6.84**	**346**	P	**Pn**	**21 47 58.3**	**-1.6**
BSO3	**Boso 3**	**7.09**	**344**	P	**Pn**	**21 48 02.4**	**-1.2**
BSO4	**Boso 4**	**7.31**	**343**	P	**Pn**	**21 48 04.9**	**-1.9**
BSO4				*e*S	**Sn**	**21 49 27.5**	**-2.1**
JIM2	**Oshima 3**	**7.33**	**337**	P	**Pn**	**21 48 07.0**	**-0.2**
JIM2				*e*S	**Sn**	**21 49 27.9**	**-2.5**
TATJ	**Tateyama 2**	**7.47**	**341**	*e*S	**Sn**	**21 49 31.5**	**-2.3**
JYO	**Yokosk**	**7.72**	**340**	P	**Pn**	**21 48 12.5**	**0.0**
JCN	**Nagara**	**7.75**	**343**	*e*S	**Sn**	**21 49 38.7**	**-1.9**
JOD2	**Odawara 2**	**7.94**	**337**	P	**Pn**	**21 48 15.2**	**-0.4**
JOD2				*e*S	**Sn**	**21 49 42.8**	**-2.6**
JSGW	**Sagamiharawaka**	**8.21**	**338**	P	**Pn**	**21 48 18.6**	**-0.7**
JSGW				S	**Sn**	**21 49 48.5**	**-3.5**
JYN	**Shimob**	**8.35**	**335**	P	**Pn**	**21 48 21.1**	**-0.2**
JHU	**Hanno**	**8.42**	**339**	P	**Pn**	**21 48 20.6**	**-1.5**
JHU				S	**Sn**	**21 49 51.3**	**-5.7**
JYT	**Yasato**	**8.52**	**345**	Pn	**Pn**	**21 48 22.9**	**-0.6**
JHYU	**Hitachinakayam**	**8.55**	**347**	*e*S	**Sn**	**21 49 53.5**	**-6.7**
JRY	**Ryogami san**	**8.69**	**338**	P	**Pn**	**21 48 25.1**	**-0.8**
JRY				S	**Sn**	**21 49 59.6**	**-4.2**
JAO	**Obara**	**8.70**	**328**	P	**Pn**	**21 48 25.8**	**-0.3**
INU	**Inuyama**	**8.88**	**327**	Pn	**Pn**	**21 48 28.8**	**+0.3**
JGF	**Kuroka**	**8.93**	**329**		**Pn**	**21 48 30.3**	**+1.1**
MJAR	**Matsushiro Arr**	**9.40**	**336**	Pn	**Pn**	**21 48 34.5**	**-1.2**
	1.5nm,0.3s,baz=156,slow=10,SNR=73						
MJAR				Sn	**Sn**	**21 50 20.3**	**-1.0**
	0.6nm,0.3s,baz=152,slow=14,SNR=5.6						
MJAR				LR	LR	21 51 58.2	
	comp=Z,701nm,18.1s,baz=160,slow=36						
MJAR	**Matsushiro Arr**	**9.40**	**336**	P	**Pn**	**21 48 35.6**	**-0.1**
MJAR	**Matsushiro Arr**	**9.40**	**336**		**Pn**	**21 48 35.6**	**-0.1**
MAJO	**Matsushiro**	**9.40**	**336**	*c i*P	**Pn**	**21 48 35.8**	**+0.1**
MAJO	**Matsushiro**	**9.40**	**336**		**Pn**	**21 48 35.8**	**+0.1**
MAT	**Matsushiro**	**9.40**	**336**	P	**Pn**	**21 48 35.7**	**0.0**
MAT				*e*S	**Sn**	**21 50 17.3**	**-4.0**
JMN	**Monobe**	**9.64**	**309**		**Pn**	**21 48 39.3**	**+0.4**
JWT	**Wachi**	**9.68**	**320**		**Pn**	**21 48 40.0**	**+0.6**
JMM	**Marumori**	**10.00**	**350**		**Pn**	**21 48 42.8**	**-1.0**
JSD	**Sado**	**10.75**	**340**	Pn	**Pn**	**21 48 53.2**	**-0.8**
JHS	**Saijyo**	**10.89**	**312**		**Pn**	**21 48 56.6**	**+0.5**
JSU	**Suzuyama**	**11.38**	**291**	Pn	**Pn**	**21 49 03.0**	**+0.3**
JNU	**Nakatsue**	**11.56**	**299**	Pn	**Pn**	**21 49 06.4**	**+1.1**
JTM	**Tenmabayashi**	**12.85**	**354**	Pn	**Pn**	**21 49 19.8**	**-3.0**
JOW	**Kunigami**	**13.06**	**268**	Pn	**Pn**	**21 49 29.4**	**+3.6**
	0.8nm,0.3s,baz=89,slow=12,SNR=11						
JOW				LR	LR	21 53 56.1	
	comp=Z,375nm,19.6s,baz=40,slow=35						
JOW	**Kunigami**	**13.06**	**268**		**Pn**	**21 49 26.7**	**+0.9**
TJN	**Taejon**	**15.58**	**306**	*d i*P	**P**	**21 50 04.5**	**+0.5**
KSRS	**Korea Array**	**15.73**	**311**	Pn	**Pn**	**21 50 00.8**	**-0.9**
	0.2nm,0.3s,baz=106,slow=37,SNR=4.5						
KSRS				LR	LR	21 56 00.8	
	comp=Z,625nm,18.5s,baz=120,slow=37						
KSAR	**Wonju Array Be**	**15.76**	**311**	P	**Pn**	**21 50 02.7**	**+0.7**
KSAR	**Wonju Array Be**	**15.76**	**311**	P	**Pn**	**21 50 02.6**	**+0.7**
KS19	**Wonju Array Si**	**15.80**	**311**		**Pn**	**21 50 02.6**	**0.0**
ASAJ	**Asahikawa**	**16.09**	**359**	Pn	**Pn**	**21 50 04.8**	**-1.5**
	0.8nm,0.3s,baz=174,slow=19,SNR=2.9						
ASAJ				LR	LR	21 58 11.3	
	comp=Z,259nm,20.4s,baz=178,slow=44						
INCN	**Inchon**	**16.63**	**309**	P	**Pn**	**21 50 14.1**	**+0.9**
INCN				pmax	pmax		
	comp=Z,70nm,0.9s						
INCN	**Inchon**	**16.63**	**309**		**Pn**	**21 50 14.1**	**+0.9**
MSHR	**Mys Shultsa**	**17.40**	**330**	⇓*e*P	**Pn**	**21 50 23.1**	**+0.2**
MSHR				pmax	pmax		
	comp=Z,115nm,1.4s						
TEY	**Ternei**	**17.74**	**345**	⇑*e*P	Pn	21 50 19.0	-8.0
TEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YOJ	**Yonaguni jima**	**18.20**	**263**	P	**Pn**	**21 50 32.8**	**-0.1**
YOJ				pmax	pmax		
	comp=Z,145nm,1.0s						
YOJ	**Yonaguni jima**	**18.20**	**263**	P	**Pn**	**21 50 32.8**	**-0.1**
YOJ				IAmb	IAmb	21 50 38.4	
	comp=Z,145nm,1.0s						
USA0B	**Ussuriysk Arra**	**18.39**	**334**	P	**P**	**21 50 32.7**	**-2.4**
USA0B				pmax	pmax		
	comp=Z,58nm,1.0s						
USA0B	**Ussuriysk Arra**	**18.39**	**334**	P	**P**	**21 50 32.7**	**-2.4**
USRK	**Ussuriysk Ar.**	**18.39**	**334**	P	**P**	**21 50 33.9**	**-1.2**
	baz=148,slow=12,SNR=28						
USRK				LR	LR	21 58 13.5	
	comp=Z,387nm,18.1s,baz=137,slow=39						
USRK	**Ussuriysk Ar.**	**18.39**	**334**	P	**P**	**21 50 33.3**	**-1.8**
YSS	**Yuzh-Sakhalins**	**18.92**	**360**	*e*P	**Pn**	**21 50 43.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
TATO	**Taipei**	**19.41**	**266**	P	**P**	**21 50 46.8**	**+0.4**
TATO				IAmb	IAmb	21 51 02.7	
	comp=Z,180nm,1.3s						
NACB	**Ninganchiao**	**19.52**	**264**	P	**P**	**21 50 47.3**	**-0.3**
YHNB	**Yeheng**	**19.59**	**265**	P	**P**	**21 50 48.2**	**-0.3**
YHNB				IAmb	IAmb	21 50 50.0	
	comp=Z,106nm,1.0s						
MDJ	**Mudanjiang**	**19.71**	**331**	P	**Pn**	**21 50 50.6**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,80nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,2μm,3.9s						
MDJ				L	L		
	comp=Z,780nm,13.9s						
MDJ				L	L		
	comp=Z,540nm,12.8s						
MDJ				L	L		
	comp=Z,880nm,15.7s						
MDJ	**Mudanjiang**	**19.71**	**331**	IAmb	IAmb	21 50 52.9		
	comp=Z,60nm,0.9s							
YULB	**Yu-li**	**20.01**	**262**		**P**	**21 50 52.8**	**-0.2**	
YULB				IAmb	IAmb	21 51 15.8		
	comp=Z,216nm,1.5s							
SSLB	**Suanglung**	**20.19**	**263**		**P**	**21 50 54.5**	**-0.5**	
SSLB				IAmb	IAmb	21 51 01.3		
	comp=Z,104nm,0.7s							
TWG	**Pinlang**	**20.39**	**260**	IAmb	IAmb	21 51 12.4		
	comp=Z,76nm,0.9s							
TPUB	**Ta-pu**	**20.62**	**262**	P	**P**	**21 51 00.2**	**+0.6**	
DL2	**Dalian**	**20.78**	**307**	P	**P**	**21 51 00.5**	**-0.7**	
DL2				PP	**PnPn**	**21 51 24.3**	**+4.9**	
DL2				S	**S**	**21 54 54.9**	**+2.0**	
DL2				pmax	pmax			
	comp=Z,49nm,0.9s							
DL2				L	L			
	comp=Z,950nm,13.3s							
DL2				L	L			
	comp=Z,710nm,14.3s							
DL2				L	L			
	comp=Z,1μm,14.8s							
UGL	**Uglegorsk**	**21.06**	**358**	*e*P	**P**	**21 51 06.5**	**+2.4**	
UGL				pmax	pmax			
	comp=Z,170nm,1.2s							
CN2	**Changchun**	**21.12**	**323**	*e*P	**P**	**21 51 05.2**	**+0.4**	
CN2				S	**S**	**21 54 56.0**	**-3.6**	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				L	L			
	comp=Z,1μm,14.0s							
CN2				L	L			
	comp=Z,1μm,14.0s							
CN2				L	L			
	comp=Z,900nm,16.0s							
NJ2	**Nanjing**	**21.21**	**287**	⇓*i*P	**P**	**21 51 05.7**	**-0.2**	
NJ2				pP	**sP**	**21 51 09.2**	**0.0**	
NJ2				sP	**pwP**	**21 51 12.9**	**-0.1**	
NJ2				PP	pP	21 51 29.6	+21	
NJ2				S	**S**	**21 55 01.6**	**+0.1**	
NJ2				sS	Sn	21 55 07.3	-1.2	
NJ2				pmax	pmax			
	comp=Z,60nm,0.9s							
NJ2				pmax	pmax			
	comp=Z,92nm,3.5s							
NJ2				L	L			
	comp=Z,430nm,11.8s							
NJ2				L	L			
	comp=Z,410nm,11.4s							
NJ2				L	L			
	comp=Z,520nm,14.2s							
QZH	**Quanzhou**	**21.98**	**268**	P	**P**	**21 51 16.0**	**+1.8**	
QZH				S	**S**	**21 55 18.3**	**+1.6**	
QZH				L	L			
	comp=Z,320nm,14.0s							
QZH				L	L			
	comp=Z,300nm,14.7s							
KNMB	**Chin-men Tao**	**22.27**	**267**	P	**P**	**21 51 16.7**	**-0.7**	
KNMB				IAmb	IAmb	21 51 19.4		
	comp=Z,71nm,0.7s							
KLR	**Kul'dur**	**22.88**	**341**	P	**P**	**21 51 24.4**	**+0.8**	
	comp=Z,15nm,0.6s,baz=142,slow=9.0,SNR=32							
KLR				LR	LR	22 00 15.7		
	comp=Z,208nm,18.8s,baz=152,slow=36							
KLR	**Kul'dur**	**22.88**	**341**	*d i*P	**P**	**21 51 23.6**	**0.0**	
KLR				pmax	pmax			
	comp=Z,77nm,1.5s							
SZP	**Santa**	**23.14**	**248**	P	**P**	**21 51 26.0**	**-0.5**	
GRNR	**Gornyy**	**23.27**	**350**	⇑*i*P	**P**	**21 51 29.6**	**+2.0**	
GRNR				pmax	pmax			
	comp=N,7.0nm,0.6s							
GRNR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GRNR				MLR	MLR			
	comp=E,290nm,13.0s							
GRNR				MLR	MLR			
	comp=N,200nm,16.0s							
GRNR				MLR	MLR			
	comp=Z,330nm,17.0s							
TIA	**Tai'an**	**23.29**	**297**	P	**P**	**21 51 25.6**	**-2.3**	
TIA				S	**S**	**21 55 37.8**	**-2.3**	
TIA				pmax	pmax			
	comp=Z,32nm,1.1s							
TIA				pmax	pmax			
	comp=Z,160nm,5.0s							
TIA				L	L			
	comp=Z,310nm,13.1s							
TIA				L	L			
	comp=Z,370nm,15.5s							
TIA				L	L			
	comp=Z,500nm,14.7s							
H11N2	**WAKE ISLAND Hy**	**23.39**	**105**	T	T	22 15 45.8		
	baz=297,slow=75,SNR=48							
H11N1	**WAKE ISLAND Hy**	**23.39**	**105**	T	T	22 15 46.1		
	baz=297,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hy**	**23.41**	**105**	T	T	22 15 47.1		
	baz=297,slow=75,SNR=40							
H11S3	**WAKE ISLAND Hy**	**23.76**	**108**	T	T	22 16 59.9		
	baz=295,slow=74							
H11S1	**WAKE ISLAND Hy**	**23.77**	**108**	T	T	22 16 40.2		
	baz=295,slow=74							
H11S2	**WAKE ISLAND Hy**	**23.78**	**108**	T	T	22 17 05.0		
	baz=295							
TGY	**Tagaytay City**	**24.68**	**240**	P	**P**	**21 51 42.3**	**+1.0**	
	comp=Z,146nm,0.3s,baz=90,slow=4.8							
SKR	**Severo-Kuril's**	**24.77**	**20**	*e*P	P	21 51 28.4	-13	
SKR				pmax	pmax			
	comp=Z,200nm,3.8s							
SKR				MLR	MLR			
	comp=Z,700nm,16.0s							
SKR				MLR	MLR			
	comp=Z,200nm,17.0s							
WHN	**Wuhan**	**25.02**	**283**	⇓*i*P	**P**	**21 51 43.8**	**-0.4**	
WHN				pmax	pmax			
	comp=Z,290nm,1.4s							
WHN				pmax	pmax			
	comp=Z,380nm,7.5s							
WHN				L	L			
	comp=Z,680nm,11.2s							
WHN				L	L			
	comp=Z,430nm,12.0s							
WHN				L	L			
	comp=Z,740nm,16.3s							
BJT	**Baijiatuau**	**25.11**	**305**	P	**P**	**21 51 42.7**	**-2.2**	
BJT				pmax	pmax			
	comp=Z,29nm,1.1s							
BJT	**Baijiatuau**	**25.11**	**305**	P	**P**	**21 51 42.7**	**-2.2**	
BJT				IAmb	IAmb	21 51 50.5		
	comp=Z,29nm,1.1s							
BJI	**Beijing**	**25.11**	**306**	P	**P**	**21 51 43.1**	**-1.8**	
BJI				S	**S**	**21 56 10.2**	**+0.9**	
BJI				pmax	pmax			
	comp=Z,10.0nm,1.3s							
BJI				pmax	pmax			
	comp=Z,63nm,3.8s							
BJI				L	L			
	comp=Z,240nm,16.5s							
BJI				L	L			
	comp=Z,550nm,15.8s							
BJI				L	L			
	comp=Z,380nm,22.8s							
DAV	**Davao City (W)**	**26.51**	**222**	LR	LR	22 00 23.0		
	comp=Z,268nm,21.7s,baz=57,slow=32							
TIY	**Taiyuan**	**27.28**	**299**	*e*P	P	21 52 13.8	+9.1	
TIY				pP	pwP	21 52 31.5	+18	
TIY				S	**S**	**21 56 44.7**	**+0.9**	
TIY				SS	**SnSn**	**21 57 44.5**	**-7.5**	
TIY				pmax	pmax			
	comp=Z,19nm,0.4s							
TIY				L	L			
	comp=Z,430nm,13.7s							
TIY				L	L			
	comp=Z,170nm,9.1s							
TIY				L	L			
	comp=Z,320nm,15.0s							
PETK	**Petropavlovsk-**	**27.37**	**20**	LR	LR	22 03 35.8		
	comp=Z,68nm,21.2s,baz=192,slow=38							
HIA	**Hailar**	**27.71**	**326**	P	**P**	**21 52 09.3**	**+0.9**	
HIA				pmax	pmax			
	comp=Z,71nm,1.1s							
HIA	**Hailar**	**27.71**	**326**	P	**P**	**21 52 09.3**	**+0.9**	
ZEA	**Zeya**	**28.18**	**340**	*e*P	**P**	**21 52 10.4**	**-2.1**	
ZEA				*e*		21 52 20.3		
ZEA				pmax	pmax			
	comp=Z,20nm,0.6s							
ZEA				MLR	MLR			
	comp=Z,200nm,13.0s							
HHC	**Hu-ho-hao-te**	**28.70**	**305**	*e*P	**P**	**21 52 17.0**	**-0.4**	
HHC				pmax	pmax			
	comp=Z,17nm,0.8s							
HHC				pmax	pmax			
	comp=Z,73nm,4.6s							
ENH	**Enshi**	**29.23**	**283**	P	**P**	**21 52 20.6**	**-1.5**	
XAN	**Xi'an**	**29.66**	**290**	P	**P**	**21 52 24.7**	**-1.2**	
XAN				pP	pP	21 52 27.5	-0.7	
XAN				S	**S**	**21 57 19.7**	**-1.7**	
XAN				SS	**SnSn**	**21 58 54.0**	**+3.8**	
XAN				PcS	**PcS**	**21 59 14.6**	**+1.1**	
XAN				pmax	pmax			
	comp=Z,38nm,1.2s							
XAN				pmax	pmax			
	comp=Z,170nm,3.6s							
XAN				L	L			
	comp=Z,150nm,14.0s							
XAN				L	L			
	comp=Z,560nm,16.2s							
XAN				L	L			
	comp=Z,750nm,16.1s							
SWI	**Sorong**	**30.80**	**203**	P	**P**	**21 52 38.6**	**+2.6**	
	comp=Z,16nm,0.7s							
SIJI	**Sorong**	**30.80**	**203**	P	**P**	**21 52 35.3**	**-0.8**	
	comp=Z,12nm,0.8s,baz=60,slow=5.5,SNR=8.8							
QIZ	**Qiongzhong**	**31.53**	**261**	P	**P**	**21 52 42.0**	**-0.5**	
QIZ				S	**S**	**21 57 51.8**	**+0.9**	
QIZ				L	L			
	comp=Z,73nm,13.6s							
QIZ				L	L			
	comp=Z,190nm,13.4s							
QIZ				L	L			
	comp=Z,260nm,16.6s							
GYA	**Guiyang**	**32.20**	**276**	⇑P	**P**	**21 52 47.5**	**-1.0**	
GYA				PcP	**PcP**	**21 55 32.8**	**-4.4**	
GYA				S	**S**	**21 58 01.6**	**+0.2**	
GYA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,24nm,12.8s							
GTOI	**Gorontalo**	**33.22**	**218**	P	**P**	**21 52 56.5**	**-0.8**	
	comp=Z,291nmcomp=Z,19nm,0.9s							
LZH	**Lanzhou**	**33.91**	**294**	⇓P	**P**	**21 53 02.6**	**-0.8**	
LZH				sP	sP	21 53 09.6	+2.7	
LZH				PP	**PnPn**	**21 54 12.9**	**-3.3**	
LZH				pmax	pmax			
	comp=Z,23nm,1.2s							
LZH				pmax	pmax			
	comp=Z,93nm,6.0s							
LZH				L	L			
	comp=Z,410nm,15.7s							
LZH				L	L			
	comp=Z,400nm,15.2s							
LZH				L	L			
	comp=Z,280nm,14.1s							
MRSI	**Marisa**	**33.95**	**220**	P	**P**	**21 53 04.0**	**+0.3**	
	comp=Z,1μmcomp=Z,148nm,0.9s							
CD2	**Chengdu**	**34.10**	**285**	P	**P**	**21 53 06.0**	**+1.0**	
CD2				S	**S**	**21 58 32.5**	**+1.7**	
CD2				L	L			
	comp=Z,450nm,13.2s							
CD2				L	L			
	comp=Z,790nm,12.8s							
TOLI2	**Tolitoli**	**34.11**	**222**	P	**P**	**21 53 03.9**	**-1.2**	
TOLI2				IAmb	IAmb	21 53 18.0		
	comp=Z,34nm,0.9s							
ULN	**Ulaanbaatar**	**34.13**	**315**	*c i*P	**P**	**21 53 05.3**	**+0.2**	
ULN				pmax	pmax			
	comp=Z,39nm,1.0s							
ULN	**Ulaanbaatar**	**34.13**	**315**	P	**P**	**21 53 05.0**	**-0.1**	
ULN				IAmb	IAmb	21 53 08.8		
	comp=Z,30nm,0.9s							
SONM	**Songino Array**	**34.53**	**315**	P	**P**	**21 53 08.6**	**+0.1**	
	comp=Z,16nm,0.9s,baz=124,slow=7.5,SNR=12							
SONM				PcP	**PcP**	**21 55 43.6**	**+0.2**	
	comp=Z,2.8nm,0.9s,baz=147,slow=2.9,SNR=4.0							
SONM				LR	LR	22 07 56.1		
	comp=Z,329nm,18.4s,baz=105,slow=38							
SONM	**Songino Array**	**34.53**	**315**	P	**P**	**21 53 08.7**	**+0.1**	
SONM				pmax	pmax			
	comp=Z,17nm,0.9s							
SONM	**Songino Array**	**34.53**	**315**	P	**P**	**21 53 08.7**	**+0.1**	
SONM				IAmb	IAmb	21 53 12.7		
	comp=Z,17nm,0.9s							
LUWI	**Luwuk**	**34.75**	**217**	P	**P**	**21 53 08.5**	**-2.1**	

SEY Seymchan 35.49 7⇓ iP P 21 53 17.7 +1.3
DLV T Lat 35.92 251 P P 21 53 20.6 -0.4
KMI Kunming 35.94 275 ⇑P P 21 53 20.8 -0.3
KMI pP sP 21 53 25.4 +0.6
KMI sP pwP 21 53 27.6 -2.6
KMI S S 21 58 58.2 -1.3
KMI pmax pmax
comp=Z,38nm,1.2s
KMI pmax pmax
comp=Z,130nm,4.0s
KMI L L
comp=Z,200nm,15.9s
KMI L L
comp=Z,240nm,16.6s
KMI L L
comp=Z,270nm,16.8s
SLVN Son La 35.96 268 P P 21 53 20.7 -0.4
SLVN IAmb IAmb 21 53 22.3
comp=Z,23nm,1.0s
BOD Bodaibo 36.03 334 eP P 21 53 19.5 -1.7
UBPT Khong Chiam 36.89 258 P P 21 53 30.0 +1.0
comp=Z,338nmcomp=Z,7.3nm,1.4s
UBPT Khong Chiam 36.89 258 P P 21 53 28.2 -0.8
GTA Gaotai 37.30 299 ⇑P P 21 53 31.1 -1.4
GTA pP pP 21 53 34.7 -0.1
GTA sP sP 21 53 37.6 +1.6
GTA PcP PcP 21 55 53.0 +1.3
GTA sS sS 21 59 31.8 +8.0
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,96nm,7.8s
GTA L L
comp=Z,350nm,13.4s
GTA L L
comp=Z,350nm,14.5s
GTA L L
comp=Z,390nm,15.3s
ZAK Zakamensk 37.37 318 eP P 21 53 33.1 +0.2
ZAK pmax pmax
comp=Z,20nm,1.1s
IRK Irkutsk 37.54 321 eP P 21 53 34.8 +0.6
IRK pmax pmax
comp=Z,74nm,2.1s
TLY Talaya 37.66 320 c iP P 21 53 36.7 +1.5
TLY e 21 55 08.5
TLY eS S 21 59 29.6 +4.8
TLY pmax pmax
comp=Z,173nm,1.0s
TLY MLR MLR
comp=Z,2µm,17.0s
TLY Talaya 37.66 320 P P 21 53 36.2 +1.0
NONG Nongkai 37.77 264 P P 21 53 37.0 +0.5
comp=Z,56nm,1.0s
SPSI Sidrap Palu 38.82 219 P P 21 53 44.4 -0.9
comp=Z,44nm,1.4s
BNSI Bone 39.00 218 P P 21 53 49.1 +2.3
comp=Z,33nm,1.0s
TARA Tarawa 39.06 127 P P 21 53 44.1 -3.2
MOY Mondy 39.19 319 eP P 21 53 48.4 +0.3
MOY pmax pmax
comp=Z,45nm,1.4s
MTKI Muara Teweh, K 39.39 228 P P 21 53 54.5 +4.5
comp=Z,2µmcomp=Z,16nm,0.4s
CHAI Chaiyaphum 39.65 261 P P 21 53 52.0 -0.3
comp=Z,117nmcomp=Z,11nm,0.9s
KAPI Kappang 39.70 218 P P 21 53 51.4 -1.3
KAPI pmax pmax
comp=Z,40nm,1.0s
KAPI Kappang 39.70 218 P P 21 53 51.4 -1.3
KAPI IAmb IAmb 21 54 04.2
comp=Z,40nm,0.9s
UTTA Uttaradit 40.17 265 P P 21 53 57.6 +1.0
comp=Z,61nmcomp=Z,3.8nm,0.9s
PBKT Sadao Pong 40.26 263 P P 21 53 56.8 -0.6
PHIT Phitsanulok 40.51 264 P P 21 54 01.3 +2.0
comp=Z,9.4nm,0.9s
STKI Sintang 40.98 233 P P 21 54 03.5 +0.3
comp=Z,36nm,0.9s
CM34 Chiang Mai Arr 41.00 267 P P 21 53 59.0 -4.5
CM35 Chiang Mai Arr 41.06 267 P P 21 54 03.0 -0.9
CM36 Chiang Mai Arr 41.17 266 P P 21 54 05.0 +0.2
CM33 Chiang Mai Arr 41.19 267 P P 21 54 05.0 0.0
CMMT Chiang Mai 41.19 267 P P 21 54 04.1 -0.9
comp=Z,327nmcomp=Z,25nm,1.2s
CHTO Chiang Mai 41.19 267 P P 21 54 04.5 -0.5
CHTO pmax pmax
comp=Z,28nm,1.1s
CHTO Chiang Mai 41.19 267 P P 21 54 04.5 -0.5
CHTO IAmb IAmb 21 54 06.4
comp=Z,28nm,1.1s
CM09 Chiang Mai Arr 41.29 266 P P 21 54 07.2 +1.3
comp=Z,93nmcomp=Z,9.5nm,0.6s
CM04 Chiang Mai Arr 41.31 266 P P 21 54 06.8 +0.8
comp=Z,114nmcomp=Z,14nm,1.1s
CM01 Chiang Mai Arr 41.32 266 P P 21 54 07.0 +0.9
comp=Z,86nmcomp=Z,9.3nm,1.0s
CM31 Chiang Mai Arr 41.32 266 P P 21 54 08.0 +1.9
comp=Z,246nm,0.4s
CM31 Chiang Mai Arr 41.32 266 P P 21 54 06.0 -0.2
CMAR Chiang Mai Arr 41.32 266 P P 21 54 06.1 0.0
CMAR pCP PcP 21 56 05.7 +1.0
comp=Z,4.4nm,0.7s,baz=54,slow=8.5,SNR=34
CMAR LR LR 22 12 27.1
comp=Z,3.8nm,1.0s,baz=93,slow=1.3,SNR=7.7
comp=Z,118nm,18.1s,baz=136,slow=38
CMAR Chiang Mai Arr 41.32 266 i P P 21 54 06.3 +0.2
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 41.32 266 P P 21 54 05.9 -0.3
CM02 Chiang Mai Arr 41.33 266 P P 21 54 07.0 +0.8
comp=Z,78nmcomp=Z,11nm,1.1s
CM32 Chiang Mai Arr 41.34 267 P P 21 54 07.0 +0.8
CM15 Chiang Mai Arr 41.34 266 P P 21 54 08.0 +1.7
CM05 Chiang Mai Arr 41.34 266 P P 21 54 07.6 +1.3
comp=Z,87nmcomp=Z,11nm,1.2s
CM13 Chiang Mai Arr 41.37 266 P P 21 54 07.0 +0.5
comp=Z,81nmcomp=Z,9.6nm,1.1s
MMRI Maumere 41.55 212 P P 21 54 07.7 -0.2
SOEI Soe 41.65 208 P P 21 54 07.8 -1.0
SOEI Soe 41.65 208 P P 21 54 13.5 +4.7
UTHA Uthaitani 42.01 262 P P 21 54 13.0 +1.3
comp=Z,71nmcomp=Z,6.1nm,1.0s
MTN Manton Dam 42.17 197 P P 21 54 12.5 -0.4
MTN IAmb IAmb 21 54 16.6
comp=Z,42nm,0.7s
UMPA Umpang Tak 42.26 263 P P 21 54 16.7 +2.9
comp=Z,6.4nm,1.2s
BATI Baumata 42.31 209 LR LR 22 12 52.5
comp=Z,176nm,18.4s,baz=134,slow=38
BATI Baumata 42.31 209 P P 21 54 14.2 +0.1
comp=Z,42nm,1.0s
MHMT Maesarieng 42.32 267 P P 21 54 14.5 +0.3
comp=Z,488nmcomp=Z,33nm,0.8s
BILL Bilibino 42.44 13 eP P 21 54 12.7 -1.9
BILL e 21 55 49.7
BILL pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 42.44 13 P P 21 54 15.7 +1.1
PHET Kaeng Krachan 43.01 259 P P 21 54 21.0 +1.1
comp=Z,79nmcomp=Z,6.7nm,0.9s
TIXI Tiksi 44.39 354 P P 21 54 29.9 -0.4
comp=Z,7.1nm,0.9s,baz=145,slow=5.3,SNR=16
TIXI Tiksi 44.39 354⇓ iP P 21 54 29.7 -0.5
TIXI Tiksi 44.39 354 P P 21 54 29.7 -0.5
SKLT Songkhla 45.02 251 P P 21 54 37.0 +1.0
comp=Z,54nm,1.1s
LSA Lhasa 45.06 285 P P 21 54 36.9 +0.1
LSA pmax pmax
comp=Z,27nm,1.1s
LSA Lhasa 45.06 285 P P 21 54 37.2 +0.4
LSA Lhasa 45.06 285 P P 21 54 36.0 -0.8
LSA pmax pmax
comp=Z,6.0nm,0.9s
LSA Lhasa 45.06 285 P P 21 54 36.0 -0.8
SHL Shillong 45.36 279 P P 21 54 37.6 -1.3
SHL pmax pmax
comp=Z,25nm,1.0s
SHL Shillong 45.36 279 P P 21 54 37.6 -1.3
SHL IAmb IAmb 21 54 41.3
comp=Z,25nm,1.0s
KNRA Kununurra 45.53 199 P P 21 54 39.1 -0.8
SURT Suratani 45.62 254 P P 21 54 44.0 +3.2
comp=Z,1.6nm,1.1s
KRAB Krabi 45.66 253 P P 21 54 42.0 +0.9
comp=Z,2µmcomp=Z,270nm,0.8s
JAGI Jajag, Banyuwa 45.70 222 P P 21 54 40.4 -1.0
JAGI Jajag, Banyuwa 45.70 222 P P 21 54 51.2 +10
PPBI Pangkal Pinang 46.35 236 P P 21 54 47.6 +1.1
PKDT Phuket 46.56 253 P P 21 54 47.9 -0.3
WMQ Urumqi 46.58 305 P P 21 54 48.7 +0.5
WMQ pP sP 21 54 52.4 +0.6
WMQ sP pwP 21 54 58.6 +1.6
WMQ pmax pmax
comp=Z,75nm,1.3s
WMQ pmax pmax
comp=Z,220nm,4.5s
WMQ L L
comp=Z,330nm,13.5s
WMQ L L
comp=Z,630nm,16.9s
WMQ L L
comp=Z,510nm,16.9s
FALS False Pass 46.85 40 P P 21 54 50.0 0.0
DGZ Jazzator, Alta 47.12 313 c iP P 21 54 53.3 +0.9
DGZ pmax pmax
comp=Z,44nm,0.9s
WRAB Tennant Creek 48.36 191 ceP P 21 55 01.7 -0.4
WRAB pmax pmax
comp=Z,43nm,0.8s
WRAB Tennant Creek 48.36 191 P P 21 55 01.1 -1.0
SDPT Sand Point 48.60 39 P P 21 55 04.3 +0.7
ZSN Zaisan 48.66 310⇑ eP P 21 55 04.3 0.0
comp=Z,12nm,0.9s,baz=310
ZSN Zaisan 48.66 310 ceP P 21 55 04.2 0.0
ZSN pmax pmax
comp=Z,12nm,0.9s
FITZ Fitzroy Crossi 48.78 202 P P 21 55 04.8 -0.5
comp=Z,17nm,0.9s,baz=19,slow=8.8,SNR=12
FITZ Fitzroy Crossi 48.78 202 P P 21 55 04.6 -0.7
FITZ IAmb IAmb 21 55 18.1
comp=Z,20nm,1.0s
PSI Prapat 48.85 247 P P 21 55 06.2 +0.1
comp=Z,40nm,1.0s,baz=360,slow=1.8,SNR=23
PSI LR LR 22 15 25.1
comp=Z,106nm,19.1s,baz=271,slow=36
PSI Prapat 48.85 247 P P 21 55 05.9 -0.2
PSI pmax pmax
comp=Z,52nm,1.0s
RPSI Rantau Prapat 48.91 247 P P 21 55 05.9 -0.5
LHMI Lhok Sumawe 49.13 251 P P 21 55 09.3 +1.1
ZAA0 Zalesovo Array 49.24 319 IAmb IAmb 21 55 10.7
comp=Z,24nm,0.9s
ZALV Zalesovo Beam 49.24 319 P P 21 55 08.1 -0.4
comp=Z,22nm,0.8s,baz=101,slow=7.7,SNR=65
ZALV PcP PcP 21 56 31.9 +0.5
comp=Z,11nm,0.8s,baz=104,slow=3.5,SNR=6.3
ZALV ScP ScP 22 00 29.0 +2.6
comp=Z,2.4nm,1.1s,baz=66,slow=4.9,SNR=2.3
ZALV LR LR 22 16 35.7
comp=Z,279nm,18.3s,baz=108,slow=37
ZALV Zalesovo Beam 49.24 319 i P P 21 55 08.6 +0.1
ZALV pmax pmax
comp=Z,22nm,0.9s
ZALV Zalesovo Beam 49.24 319 P P 21 55 08.9 +0.4
PBA Port Blair 49.57 261 P P 21 55 09.2 -2.3
MK31 Makanchi Array 50.41 309 P P 21 55 17.6 0.0
MK31 pmax pmax
comp=Z,18nm,1.0s
MK31 Makanchi Array 50.41 309 P P 21 55 17.6 0.0
MK31 IAmb IAmb 21 55 18.8
comp=Z,18nm,0.9s
MKAR Makanchi Array 50.41 309 P P 21 55 17.1 -0.4
comp=Z,17nm,0.9s,baz=94,slow=9.0,SNR=99
MKAR PcP PcP 21 56 36.4 +0.5
comp=Z,5.7nm,0.8s,baz=93,slow=4.4,SNR=4.7
MKAR ScP ScP 22 00 35.8 +4.2
comp=Z,0.7nm,0.7s,baz=91,slow=5.8,SNR=3.6
MKAR LR LR 22 17 32.2
comp=Z,363nm,18.6s,baz=79,slow=37
MKAR Makanchi Array 50.41 309 i P P 21 55 17.6 +0.1
MKAR pmax pmax
comp=Z,17nm,0.9s
MKAR Makanchi Array 50.41 309 P P 21 55 17.7 +0.1
MAKZ Makanchi 50.62 309 P P 21 55 19.4 +0.2
MAKZ pmax pmax
comp=Z,26nm,1.2s
MAKZ Makanchi 50.62 309 P P 21 55 19.4 +0.2
MAKZ IAmb IAmb 21 55 20.6
comp=Z,26nm,1.1s
GSI Gunungsitoli 50.81 247 P P 21 55 20.7 -0.2
RDOG Red Dog Mine 51.15 23 P P 21 55 23.4 +0.6
RDOG IAmb IAmb 21 55 47.7
comp=Z,32nm,1.4s
SEM Semipalatinsk 51.78 314⇑ iP P 21 55 27.8 -0.3
comp=Z,44nm,1.0s,baz=314
SEM Semipalatinsk 51.78 314 c iP P 21 55 27.7 -0.3
SEM pmax pmax
comp=Z,44nm,1.0s
NRIK Noril'sk 52.05 338 P P 21 55 30.0 +0.6
comp=Z,8.5nm,1.0s,baz=103,slow=7.3,SNR=8.8
NRIK LR LR 22 18 43.1
comp=Z,160nm,18.3s,baz=134,slow=37
NRIK Noril'sk 52.05 338 P P 21 55 29.6 +0.1
NRIK pmax pmax
comp=Z,18nm,1.1s
NRIK Noril'sk 52.05 338 P P 21 55 29.6 +0.1
NRIK IAmb IAmb 21 55 38.6
comp=Z,18nm,1.1s
ASAR Alice Springs 52.09 190 P P 21 55 29.2 -1.1
comp=Z,3.4nm,0.8s,baz=9.6,slow=6.8,SNR=9.5
ASAR PcP PcP 21 56 43.2 +1.0
comp=Z,3.9nm,0.9s,baz=5.4,slow=4.5,SNR=5.7
ASAR LR LR 22 16 24.1
comp=Z,216nm,20.7s,baz=1.0,slow=35
SVW2 Sparrevohn 52.18 33 P P 21 55 31.4 +0.8
SVW2 IAmb IAmb 21 56 02.7
comp=Z,21nm,1.2s
TTA Tatalina 52.34 30 P 21 55 33.2
baz=258
PDGK Podgornoye 52.56 305 i P P 21 55 32.7 -1.1
PDGK pmax pmax
comp=Z,24nm,1.0s
SHLS Shalkode 52.59 305⇑ iP P 21 55 31.2 -2.9
comp=Z,16nm,1.0s,baz=304
SHLS Shalkode 52.59 305 c iP P 21 55 31.2 -2.9
SHLS pmax pmax
comp=Z,16nm,1.0s
OHAK Old Harbor 52.83 38 P 21 55 37.6
baz=265
UZB Uzynbulak 52.92 305⇑ iP P 21 55 36.0 -0.5
comp=Z,12nm,1.1s,baz=304
UZB Uzynbulak 52.92 305 c iP P 21 55 36.0 -0.5
UZB pmax pmax
comp=Z,12nm,1.1s
KPKS Kokpek 53.13 305⇑ iP P 21 55 37.3 -0.7
comp=Z,13nm,1.0s,baz=305
KPKS Kokpek 53.13 305 c iP P 21 55 37.3 -0.7
KPKS pmax pmax
comp=Z,13nm,1.0s
KDAK Kodiak Island 53.26 37 P P 21 55 38.6 +0.1
comp=Z,7.4nm,0.5s,baz=247,slow=1.9,SNR=12
SATY Saty 53.37 304⇑ iP P 21 55 39.3 -0.6
comp=Z,12nm,1.3s,baz=304
SATY Saty 53.37 304 c iP P 21 55 39.2 -0.6
SATY pmax pmax
comp=Z,12nm,1.3s
PRZ Przheval'sk 53.44 304 P P 21 55 41.2 +0.8
PRZ pmax pmax
comp=Z,50nm,0.8s
PRZ Przheval'sk 53.44 304 P P 21 55 41.2 +0.8
SPCR Spurr Chakacha 53.82 33 P 21 55 43.8
baz=263
IMAR Indian Mountai 53.95 27 P P 21 55 44.1 +0.6
PPLA Purkeypile 54.06 31 P P 21 55 45.8 +1.2
PPLA IAmb IAmb 21 56 50.5
comp=Z,46nm,1.7s
PPLA Purkeypile 54.06 31 P 21 55 46.0
baz=261
PSA00 Pilbara Seismi 54.09 207 P P 21 55 42.7 -2.4
SKT Skwentna 54.24 32 P P 21 55 47.0 +1.3
SKT IAmb IAmb 21 56 00.8
comp=Z,11nm,1.0s
SKT Skwentna 54.24 32 P 21 55 46.6
baz=263
H21K Melozitna Rive 54.27 27 P 21 55 46.7
baz=259
CHKK Chushkaly 54.32 306 eP P 21 55 45.6 -1.1
baz=306
CHKK Chushkaly 54.32 306 eP P 21 55 45.5 -1.1
MDOK Medeo 54.35 305 i P P 21 55 47.3 +0.2
baz=305
MDOK Medeo 54.35 305 i P P 21 55 47.2 +0.2
KDJ Kajisay 54.38 303 P P 21 55 47.1 -0.2
KDJ pmax pmax
comp=Z,11nm,0.9s
KDJ Kajisay 54.38 303 P P 21 55 47.1 -0.2
KDJ IAmb IAmb 21 55 50.8
comp=Z,11nm,0.8s
BRSE Bradley Lake S 54.38 35 P 21 55 48.8
baz=265
DZM Mont Dzumac 54.72 153 eLR LR 22 11 45.8
comp=Z,261nm,23.4s
BPAW Bear Paw Mtn. 54.77 29 P 21 55 50.7
baz=262
KUU Kurty 54.78 306⇑ iP P 21 55 49.6 -0.4
comp=Z,44nm,1.0s,baz=306
KUU Kurty 54.78 306 c iP P 21 55 49.5 -0.4
KUU pmax pmax
comp=Z,44nm,1.0s
MTBS Maitube 54.80 305⇑ iP P 21 55 50.3 +0.1
baz=305
MTBS Maitube 54.80 305 c iP P 21 55 50.3 +0.1
TRF Thorofare Moun 54.99 30 P P 21 55 52.4 +1.0
TRF IAmb IAmb 21 55 58.3
comp=Z,11nm,0.7s
TRF Thorofare Moun 54.99 30 P 21 55 51.9
baz=263
MLY Manley 55.01 28 P P 21 55 52.5 +1.2
MLY Manley 55.01 28 P 21 55 52.7
baz=261
ULHL Ulahol 55.06 304 P P 21 55 52.8 +0.5
SNR=15
BOOM Boomskoye usch 55.24 304 P P 21 55 53.3 -0.2
BOOM pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 55.24 304 P P 21 55 53.3 -0.2
BOOM IAmb IAmb 21 55 58.5
comp=Z,20nm,1.1s
PMR Palmer 55.33 33 P 21 55 54.1
baz=265
TKM2 Tokmak 2 55.44 305 P P 21 55 55.7 +0.7
SNR=17
BWN Browne 55.44 29 P P 21 55 56.1 +1.8
BWN IAmb IAmb 21 56 07.9
comp=Z,26nm,0.8s
COLD Coldfoot 55.58 26 P P 21 55 56.1 +0.7
COLD Coldfoot 55.58 26 P 21 55 55.4
baz=260
I23K Minto, Yukon-K 55.60 28 P P 21 55 56.1 +0.6
I23K IAmb IAmb 21 56 03.7
comp=Z,34nm,1.9s
I23K Minto, Yukon-K 55.61 28 P 21 55 56.3
baz=262
H23K Yukon River 55.62 27 P 21 55 56.9
baz=262
MCK McKinley 55.62 30 P P 21 55 56.2 +0.5
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 55.62 30 P P 21 55 56.2 +0.5
MCK IAmb IAmb 21 56 00.4
comp=Z,19nm,1.0s
MCK McKinley 55.62 30 P 21 55 56.4
baz=264
RND Reindeer 55.62 30 P P 21 55 55.7 -0.1
RND pmax pmax
comp=Z,16nm,1.0s
RND Reindeer 55.62 30 P P 21 55 55.7 -0.1
RND IAmb IAmb 21 56 00.5
comp=Z,16nm,1.0s
KNK Knik Glacier 55.64 33 P 21 55 56.7
baz=266
NEA2 Nenana 55.66 29 P P 21 55 56.6 +0.7
NEA2 IAmb IAmb 21 56 01.7
comp=Z,16nm,0.8s
NEA2 Nenana 55.66 29 P 21 55 56.5
baz=263
WAT2 Susitna Watana 55.70 31 P 21 55 55.6
baz=265
SML Sawmill 55.73 32 P 21 55 55.7
baz=266
KBK Karagaybulak 55.95 304 P P 21 55 59.2 +0.6
SNR=16
CHMS Chumysh 56.04 305 P P 21 55 59.5 +0.4
SNR=5.8
TOLK Toolik Lake Re 56.05 24 P P 21 56 00.2 +1.4
TOLK IAmb IAmb 21 56 24.0
comp=Z,18nm,1.4s
TOLK Toolik Lake Re 56.05 24 P 21 55 59.3
baz=260
MDM Murphy Dome 56.06 29 P P 21 56 00.1 +1.2
MDM IAmb IAmb 21 56 10.2
comp=Z,36nm,1.6s
WAT6 Susitna Watana 56.06 31 P 21 55 58.7
baz=266
SGDS Sogindy 56.06 305⇑ iP P 21 55 58.5 -0.8
comp=Z,26nm,2.8s,baz=305
SGDS Sogindy 56.06 305 c iP P 21 55 58.5 -0.8
SGDS pmax pmax
comp=Z,26nm,2.8s
WRH Wood River Hil 56.07 29 P P 21 55 59.7 +0.9
WRH IAmb IAmb 21 56 12.1
comp=Z,12nm,1.0s
FRU1 Bishkek 56.16 305 P P 21 56 00.2 +0.2
FRU1 pmax pmax
comp=Z,20nm,1.0s
FRU1 Bishkek 56.16 305 P P 21 56 00.2 +0.2
FRU1 IAmb IAmb 21 56 01.7
comp=Z,20nm,1.0s
USP Ospenovka 56.19 305 P P 21 56 00.4 +0.3
SNR=9.7
SCM Sheep Creek Mo 56.20 32 P P 21 56 01.1 +1.1
SCM pmax pmax
comp=Z,120nm,1.7s
SCM Sheep Creek Mo 56.20 32 P P 21 56 01.1 +1.1
BTLS Baital 56.27 307⇑ iP P 21 56 00.7 +0.1
comp=Z,16nm,1.2s,baz=307
BTLS Baital 56.27 307 c iP P 21 56 00.7 +0.1
BTLS pmax pmax
comp=Z,16nm,1.2s
AAK Ala-Archa 56.28 304 LR LR 22 19 59.9
comp=Z,90nm,21.3s,baz=72,slow=36
AAK Ala-Archa 56.28 304 i P P 21 56 01.4 +0.4
SNR=5.7
AAK Ala-Archa 56.28 304 ceP P 21 56 01.2 +0.2
AAK pmax pmax
comp=Z,47nm,1.4s
AAK Ala-Archa 56.28 304 P P 21 56 01.0 0.0
AAK IAmb IAmb 21 56 02.4
comp=Z,18nm,1.4s
H24K Noodor Dome 56.30 28 P 21 56 00.4
baz=263
HDA Harding Lake 56.56 29 P 21 56 02.2
baz=265
HDA P 21 56 02.2
baz=265
IL31 56.61 29 P P 21 56 02.6 -0.1
IL31 IAmb IAmb 21 56 07.4
comp=Z,13nm,1.1s
ILAR Eielson Array 56.61 29 P P 21 56 02.4 -0.3
comp=Z,8.0nm,0.9s,baz=261,slow=6.1,SNR=24
ILAR Eielson Array 56.61 29 P P 21 56 02.2 -0.6
BRZS Berezniki 56.66 313⇑ iP P 21 56 03.5 +0.1
comp=Z,31nm,1.0s,baz=313
BRZS Berezniki 56.66 313 c iP P 21 56 03.4 +0.1
BRZS pmax pmax
comp=Z,31nm,1.0s
EKS2 Erkin-Say 56.80 305 P P 21 56 04.7 +0.1
SNR=7.9
KLU Klutina 56.86 33 P 21 56 05.7
baz=268
AML Almayashu 56.95 304 P P 21 56 07.1 +1.1
SNR=25
AML Almayashu 56.95 304 i P P 21 56 06.8 +0.8
SNR=25
OTUK Ortayu 57.05 311 i P P 21 56 07.0 +0.8
OTUK pmax pmax
comp=Z,145nm,1.0s
PAX Paxson 57.12 31 P 21 56 06.9
baz=268
HARP HAARP 57.25 32 P 21 56 08.0
baz=268
BMRM Bremner River 57.49 33 P 21 56 11.0
baz=270
ARSB Arslanbob 57.61 303 IAmb IAmb 21 56 12.4
comp=Z,40nm,1.4s
BMAR Burnt Mountain 57.76 26 P P 21 56 12.7 +1.8
SCRK Sand Creek 57.83 30 P P 21 56 12.0 +0.5

SCRK IAmb IAmb 21 56 16.7
comp=Z,15nm,0.8s
SCRK Sand Creek 57.83 30 P 21 56 11.6
baz=268
GLB Gilahina Butte 57.87 33 P **P** **21 56 11.9 +0.1**
GLB IAmb IAmb 21 57 11.3
comp=Z,22nm,1.1s
BRVK Borovoye 57.88 317 P **P** **21 56 12.6 +0.7**
BRVK pmax pmax
comp=Z,48nm,1.2s
BRVK Borovoye 57.88 317 P **P** **21 56 12.6 +0.7**
SUCK Suckling Hills 57.90 35 P **P** **21 56 12.0 0.0**
K27K Chicken 58.67 30 P **P** **21 56 18.5 +1.2**
K27K IAmb IAmb 21 56 27.6
comp=Z,32nm,1.8s
K27K Chicken 58.67 30 P 21 56 18.1
baz=270
L27K Beaver Creek, 58.79 31 P **P** **21 56 19.1 +1.0**
L27K IAmb IAmb 21 56 35.3
comp=Z,12nm,1.2s
L27K Beaver Creek, 58.79 31 P 21 56 18.9
baz=271
BCAR Beaver Creek A 58.81 31 P **P** **21 56 19.1 +0.9**
DRK Karamyk 58.85 301 P **P** **21 56 18.8 -0.5**
DRK IAmb IAmb 21 56 32.9
comp=Z,16nm,1.1s
YAH Yahtse 58.91 34 P **P** **21 56 16.2 -3.0**
NIL Nilore 59.08 294 P **P** **21 56 21.1 +0.5**
NIL pmax pmax
comp=Z,43nm,1.1s
NIL Nilore 59.08 294 P **P** **21 56 21.1 +0.5**
KK31 Karatay Array 59.09 306 *i* P **P** **21 56 20.7 +0.2**
KK31 pmax pmax
comp=Z,35nm,0.9s
KKAR Karatay Array 59.09 306 P **P** **21 56 21.0 +0.4**
KKAR Karatay Array 59.09 306 P **P** **21 56 21.0 +0.4**
KKAR Karatay Array 59.09 306 IAmb IAmb 21 56 22.9
comp=Z,36nm,0.9s
TABL Table Mountain 59.20 34 **P** **21 56 17.1 -4.1**
BTK Batken 59.47 302 P **P** **21 56 22.9 -0.5**
BTK pmax pmax
comp=Z,13nm,0.9s
BTK Batken 59.47 302 P **P** **21 56 22.9 -0.5**
BTK IAmb IAmb 21 56 46.3
comp=Z,13nm,0.8s
STKA Stephens Creek 59.56 181 P **P** **21 56 23.5 -0.2**
comp=Z,5.8nm,0.8s,baz=346,slow=7.0,SNR=8.8
STKA LR LR 22 22 32.5
comp=Z,118nm,20.7s,baz=18,slow=36
STKA Stephens Creek 59.56 181 ⇑ *i* P **P** **21 56 23.6 -0.1**
STKA Stephens Creek 59.56 181 P **P** **21 56 23.5 -0.2**
IUG Iuzhnay 59.62 305 ⇑ *i* P **P** **21 56 24.8 +0.4**
baz=304
IUG Iuzhnay 59.62 305 *c i* P **P** **21 56 24.7 +0.4**
PCA Pinnacle 59.66 34 P **P** **21 56 25.4 +1.1**
HYB Hyderabad 59.72 275 *i* P **P** **21 56 25.0 -0.3**
DAWY Dawson 59.85 30 P **P** **21 56 25.8 +0.3**
DAWY IAmb IAmb 21 56 31.5
comp=Z,9.4nm,0.9s
COCO West Island 59.89 235 *i* P **P** **21 56 24.4 -1.8**
GAR Garm 60.08 301 P **P** **21 56 27.8 +0.2**
TAS Tashkent 60.33 304 P **P** **21 56 29.8 +0.7**
TAS pmax pmax
comp=Z,55nm,1.1s
TAS Tashkent 60.33 304 P **P** **21 56 29.8 +0.7**
INK Inuvik 61.94 25 P **P** **21 56 40.8 +1.3**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 61.94 25 P **P** **21 56 40.8 +1.3**
INK IAmb IAmb 21 57 05.0
comp=Z,15nm,1.3s
INK Inuvik 61.94 25 P 21 56 41.0
baz=275
PALK Pallekele 62.12 263 LR LR 22 27 05.7
comp=Z,42nm,18.3s,baz=199,slow=39
PALK Pallekele 62.12 263 P **P** **21 56 40.7 -0.9**
PALK pmax pmax
comp=Z,26nm,1.1s
PALK Pallekele 62.12 263 P **P** **21 56 40.7 -0.9**
KBL Kabul 62.20 296 P **P** **21 56 41.8 -0.4**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 62.20 296 P **P** **21 56 41.8 -0.4**
KBL IAmb IAmb 21 56 53.9
comp=Z,11nm,0.8s
WHY Whitehorse 62.26 33 P **P** **21 56 43.4 +1.4**
WHY IAmb IAmb 21 56 59.4
comp=Z,13nm,1.1s
WHY Whitehorse 62.26 33 P 21 56 43.7
baz=278
MORW Morawa 62.30 207 P **P** **21 56 42.4 -0.1**
MORW IAmb IAmb 21 56 54.9
comp=Z,13nm,0.8s
SVE Sverdlovsk 62.91 322 *de* P **P** **21 56 47.2 +1.0**
SVE pmax pmax
comp=Z,62nm,1.0s
ARU Arti 64.11 322 *c i* P **P** **21 56 54.5 +0.3**
ARU 21 57 24.1
ARU 21 59 13.8
ARU S **S** **22 05 34.1 +3.5**
ARU SS **SS** **22 09 37.3 -1.8**
ARU pmax pmax
comp=Z,65nm,0.8s
ARU MLR MLR
comp=Z,161nm,15.0s
ARU Arti 64.11 322 P **P** **21 56 54.7 +0.5**
AB31 Akbulak array 64.94 314 *i* P **P** **21 56 59.7 0.0**
AB31 pmax pmax
comp=Z,22nm,0.6s
ABKAR Akbulak array 64.94 314 P **P** **21 56 60.0 +0.3**
ABKAR Akbulak array 64.94 314 P **P** **21 57 00.0 +0.3**
ABKAR IAmb IAmb 21 57 12.2
comp=Z,34nm,0.7s
C36M Paulatuk 65.16 23 P 21 57 02.6
baz=283
NWAO Narrogin (SRO) 65.32 204 P **P** **21 57 01.6 -0.7**
comp=Z,20nm,1.0s,baz=58,slow=8.0,SNR=4.5
AKTO Aktyubinsk 65.84 316 P **P** **21 57 05.7 +0.1**
comp=Z,16nm,0.7s,baz=87,slow=6.6,SNR=35
HRA Herat 67.60 298 P **P** **21 57 17.6 +0.2**
HRA IAmb IAmb 21 57 19.2
comp=Z,19nm,1.0s
KIRV Kirov 68.31 326 P **P** **21 57 21.6 +0.6**
comp=Z,50nm,0.7s,baz=75,slow=2.5,SNR=20
EUNU Eureka 68.92 8 P **P** **21 57 25.4 +0.8**
EUNU IAmb IAmb 21 57 28.8
comp=Z,7.6nm,0.6s
PRGR Permogore 69.10 330 *e* P **P** **21 57 26.4 +0.5**
PRGR pmax pmax
comp=Z,18nm,0.9s
GEYT Alibeck 69.56 303 P **P** **21 57 30.1 +0.8**
comp=Z,11nm,0.8s,baz=40,slow=2.5,SNR=22
GEYT LR LR 22 31 07.2
comp=Z,130nm,18.6s,baz=40,slow=39
GEYT Alibeck 69.56 303 P **P** **21 57 29.9 +0.6**
GEYT IAmb IAmb 21 57 31.3
comp=Z,17nm,0.9s
GYA0B ALIBECK ARRAY 69.56 303 P **P** **21 57 29.6 +0.3**
YKA Yellowknife Ar 71.04 29 P **P** **21 57 38.7 +0.9**
comp=Z,2.5nm,0.8s,baz=292,slow=6.0,SNR=7.6
BELG Belogornoye 71.40 320 P **P** **21 57 40.8 +0.7**
comp=Z,134nm,0.9s,baz=86,slow=0.8,SNR=36
KLMR Klimovskoe 72.13 330 *e* P **P** **21 57 43.9 -0.5**
KLMR pmax pmax
comp=Z,25nm,1.1s
KLMR Klimovskoe 72.13 330 *e* P **P** **21 57 43.9 -0.5**
KLMR AMP 21 57 50.1
comp=Z,25nm,1.1s
D03D Eldon 72.44 45 P 21 57 47.9
baz=292
ARCES ARCESS Array B 72.91 341 P **P** **21 57 50.3 +1.4**
comp=Z,11nm,0.8s,baz=64,slow=8.2,SNR=11
ARCES LR LR 22 34 57.9
comp=Z,45nm,18.5s,baz=55,slow=40
ARCES ARCESS Array B 72.91 341 P **P** **21 57 49.4 +0.5**
ARCES pmax pmax
comp=Z,91nm,1.8s
ARCES ARCESS Array B 72.91 341 P **P** **21 57 49.4 +0.5**
I03D Drain, OR 73.76 49 P 21 57 54.6
baz=293
TULEG Thule 73.87 7 P **P** **21 57 54.5 0.0**
TULEG IAmb IAmb 21 58 05.5
comp=Z,16nm,1.0s
I04A Tendick Farm, 74.34 49 P 21 57 58.0
baz=294

B08A Colville Reser 74.43 43 P **P** **21 57 58.1 -0.2**
M02C Callahan 75.02 51 P 21 58 02.6
baz=294
MAK Makhachkala 75.17 311 *e* P P 21 57 56.2 -6.4
MAK *e* S **SKiKP** **22 07 32.4 +6.5**
MAK pmax pmax
comp=Z,88nm,1.1s
MAK MLR MLR
comp=Z,542nm,16.0s
VRH Novokhopyorsk 75.23 320 *e* P **P** **21 58 02.6 -0.2**
VRH pmax pmax
comp=Z,40nm,0.6s
PINE Pine Mountain 75.31 48 P **P** **21 58 04.2 +0.5**
PINE IAmb IAmb 21 58 24.7
comp=Z,11nm,0.9s
MOS Moscow 75.33 326 *e* P **P** **21 58 03.4 +0.1**
MOS *e* 22 00 55.5
MOS pmax pmax
comp=Z,38nm,1.1s
SHME Shamm 75.60 292 P **P** **21 58 06.7 +1.3**
AKT Akhty 75.64 309 *e* P **P** **21 58 06.3 +0.8**
AKT *e* 21 58 17.9
AKT *e* 22 00 53.3
AKT *e* S **S** **22 07 44.9 -1.7**
AKT pmax pmax
comp=Z,80nm,1.2s
MDH Madha 75.78 291 P **P** **21 58 07.7 +1.3**
K05A Summer Lake 75.79 49 P **P** **21 58 05.7 -0.8**
K05A IAmb IAmb 21 58 35.7
comp=Z,26nm,1.1s
NEW Newport 75.81 43 P **P** **21 58 06.6 +0.3**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 75.81 43 P **P** **21 58 06.6 +0.3**
MSFE Esma-Masafi 75.87 291 P **P** **21 58 08.7 +1.7**
G08A Pilot Rock 75.96 46 P **P** **21 58 07.5 +0.2**
UOSS Minazif 76.00 291 P **P** **21 58 08.1 +0.4**
SOHO SOHO 76.06 290 *i* P **P** **21 58 08.4 +0.4**
SNR=10
HATD Hatta, Dubai 76.11 291 P **P** **21 58 09.1 +0.8**
LPSR Galich'ya Gora 76.13 322 *e* P **P** **21 58 07.9 0.0**
LPSR pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 76.16 325 P **P** **21 58 08.3 +0.3**
comp=Z,3.4nm,0.5s,baz=344,slow=6.4,SNR=6.0
OBN Obninsk 76.16 325 ⇓ *i* P **P** **21 58 08.9 +0.9**
OBN *e* 21 58 18.9
OBN *e* 22 00 59.7
OBN pmax pmax
comp=Z,37nm,1.2s
GROC Groznyy 76.21 312 *e* P **P** **21 58 07.5 -1.1**
GROC *e* 21 58 19.8
GROC pmax pmax
comp=Z,41nm,1.0s
ASHO Ashiyiah 76.23 291 P **P** **21 58 09.6 +0.5**
FAQ Al Faqa, Dubai 76.59 291 P **P** **21 58 11.2 +0.2**
VSR Storozhevoye 76.65 321 *e* P **P** **21 58 10.4 -0.5**
VSR pmax pmax
comp=Z,40nm,0.8s
ORV Oroville 76.72 52 P **P** **21 58 11.8 +0.2**
ORV pmax pmax
comp=Z,22nm,1.6s
ORV Oroville 76.72 52 P **P** **21 58 11.8 +0.2**
ORV IAmb IAmb 21 58 40.7
comp=Z,22nm,1.6s
ALNE Al Ain 76.75 290 *i* P **P** **21 58 12.9 +0.9**
SNR=8.4
ASUD Al Ashush, Dub 76.86 291 P **P** **21 58 13.2 +0.6**
J08A Circle Bar Ran 77.12 48 P **P** **21 58 14.3 +0.4**
J08A IAmb IAmb 21 58 53.6
comp=Z,18nm,1.5s
GOF Gofitskoye 77.18 314 ⇑ *e* P **P** **21 58 13.6 -0.4**
GOF pmax pmax
comp=Z,19nm,0.6s
BMO Blue Mountains 77.21 46 P **P** **21 58 14.2 -0.1**
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 77.21 46 P **P** **21 58 14.2 -0.1**
BEKR Beckworth 77.38 52 P **P** **21 58 15.1 -0.4**
FINES FINESS Array B 77.43 334 P **P** **21 58 15.5 +0.5**
comp=Z,3.2nm,0.4s,baz=71,slow=4.6,SNR=25
FINES LR LR 22 36 28.0
comp=Z,93nm,18.0s,baz=12,slow=39
FINES FINESS Array B 77.43 334 P **P** **21 58 15.3 +0.3**
NCK Nalchik 77.52 313 ⇓ *e* P **P** **21 58 17.1 +1.1**
NCK pmax pmax
comp=Z,11nm,0.7s
ZEI Tsey 77.64 312 *e* P **P** **21 58 16.8 -0.1**
ZEI pmax pmax
comp=Z,18nm,0.9s
JTMT Jette 77.74 42 P **P** **21 58 17.4 +0.1**
KBZ Khabaz 77.87 313 P **P** **21 58 18.9 +1.1**
comp=Z,36nm,0.9s,baz=80,slow=3.7,SNR=37
KBZ LR LR 22 37 07.9
comp=Z,81nm,18.1s,baz=70,slow=39
KBZ Khabaz 77.87 313 P **P** **21 58 19.0 +1.1**
KIV Kislovodsk 77.90 313 ⇑ P **P** **21 58 19.4 +1.3**
KIV Kislovodsk 77.90 313 *i* P **P** **21 58 19.5 +1.3**
SNR=21
KIV Kislovodsk 77.90 313 *e* P **P** **21 58 19.0 +0.8**
KIV *e* S **S** **22 08 12.3 +1.0**
KIV pmax pmax
comp=Z,103nm,1.1s
KIV pmax pmax
comp=Z,135nm,5.0s
KIV MLR MLR
comp=Z,128nm,19.0s
KIV Kislovodsk 77.90 313 P **P** **21 58 18.7 +0.5**
ONI Oni 78.03 312 P **P** **21 58 20.1 +1.2**
ONI pmax pmax
comp=Z,21nm,0.9s
ONI Oni 78.03 312 P **P** **21 58 20.1 +1.2**
ONI IAmb IAmb 21 58 28.5
comp=Z,21nm,0.9s
PAHR Pah Rah Range 78.13 51 P **P** **21 58 18.6 -1.0**
CMB Columbia Colle 78.17 53 P **P** **21 58 19.3 -0.4**
CMB pmax pmax
comp=Z,12nm,1.1s
CMB Columbia Colle 78.17 53 P **P** **21 58 19.3 -0.4**
CMB IAmb IAmb 21 58 51.4
comp=Z,12nm,1.1s
NEY Neytrino 78.20 313 ⇓ *e* P **P** **21 58 20.9 +0.9**
NEY pmax pmax
comp=Z,12nm,1.1s
GNI Garni 78.26 309 P **P** **21 58 21.9 +1.5**
GNI Garni 78.26 309 ⇓ *e* P **P** **21 58 22.3 +1.9**
GNI pmax pmax
comp=Z,29nm,1.3s
GNI Garni 78.26 309 P **P** **21 58 20.4 +0.1**
GNI IAmb IAmb 21 58 30.9
comp=Z,26nm,0.9s
AKH Akhalkalaki 78.53 311 ⇑ P **P** **21 58 23.8 +1.9**
WAKR Walker 78.62 52 P **P** **21 58 22.8 +0.4**
WAKR IAmb IAmb 21 58 56.6
comp=Z,33nm,1.9s
MFID Camas Ranch 78.81 47 P **P** **21 58 23.5 +0.2**
MFID IAmb IAmb 21 58 32.7
comp=Z,12nm,1.1s
VSU Vasula 78.92 331 *c i* P **P** **21 58 23.7 +0.3**
VSU pmax pmax
comp=Z,71nm,1.1s
RYN Ryan 79.21 52 P **P** **21 58 25.0 -0.6**
MDPB Devils Postpil 79.27 53 P **P** **21 58 26.1 0.0**
KVN Kaiserville 79.31 52 P **P** **21 58 26.2 0.0**
KVN pmax pmax
comp=Z,24nm,1.7s
KVN Kaiserville 79.31 52 P **P** **21 58 26.2 0.0**
KVN IAmb IAmb 21 58 57.9
comp=Z,24nm,1.7s
PMOR Pomariorio Ree 79.43 113 *e* T T 23 25 36.0
comp=Z,3.4nm,0.2s
NVAR Mina Array Bea 79.45 52 P **P** **21 58 26.6 -0.4**
comp=Z,3.0nm,0.7s,baz=344,slow=2.9,SNR=16
NVAR LR LR 22 34 16.0
comp=Z,95nm,18.6s,baz=270,slow=36
NVAR Mina Array Bea 79.45 52 P **P** **21 58 26.3 -0.8**
PPT Papeete 79.48 116 LR LR 22 25 55.6
comp=Z,64nm,19.8s,baz=348,slow=30
PPT2 Papeete2 79.49 116 *e* LR LR 22 23 11.4
comp=Z,152nm,23.5s
NV11 Mina Array Sit 79.56 52 P **P** **21 58 27.5 0.0**
HLID Hailey 79.65 46 P **P** **21 58 27.5 -0.5**
SUMG Summit 79.69 0 P **P** **21 58 28.1 +0.2**
SUMG pmax pmax
comp=Z,12nm,0.9s

SUMG Summit 79.69 0 P **P** **21 58 28.1 +0.2**
SUMG IAmb IAmb 21 58 34.3
comp=Z,12nm,0.9s
BCA Borcka 79.76 311 ⇑ P **P** **21 58 29.3 +0.9**
DLMT Dillon 79.91 44 P **P** **21 58 29.2 -0.1**
SOC Sochi 79.98 314 *e* P **P** **21 58 27.8 -1.7**
SOC *e* 22 01 28.4
SOC *e* S **S** **22 08 31.3 -1.9**
SOC *e* SSS SSS 22 17 08.6
SOC pmax pmax
comp=Z,14nm,0.7s
ELK Elko 80.46 49 P **P** **21 58 31.7 -0.8**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 80.46 49 P **P** **21 58 31.7 -0.8**
FFC Flin Flon 80.63 32 P **P** **21 58 32.3 -0.5**
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 80.63 32 P **P** **21 58 32.3 -0.5**
MNK Minsk 80.73 328 *i* P **P** **21 58 33.3 0.0**
MNK *i* 22 01 36.8
MNK *i* PPP PPP 22 03 26.4
MNK *i* S **S** **22 08 40.9 +0.2**
MNK *i* SS **SS** **22 13 51.5 -1.3**
MNK *i* SSS SSS 22 17 21.9
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=N,141nm,14.0s
MNK MLR MLR
comp=E,17nm,10.0s
MNK MLR MLR
comp=Z,127nm,12.0s
MNK Minsk 80.73 328 *i* P **P** **21 58 33.4 +0.1**
comp=E,2.0nm,1.0s
MNK *i* P **P** **21 58 33.4 +0.1**
comp=N,12nm,0.8s
MNK *i* P **P** **21 58 33.4 +0.1**
comp=Z,29nm,1.0s,baz=235
MNK *i* PP **PP** **22 01 36.9 +0.2**
MNK *i* PPP PPP 22 03 26.5
MNK *i* S **S** **22 08 40.9 +0.3**
MNK *i* SS **SS** **22 13 51.6 -1.2**
MNK *i* SSS SSS 22 17 22.0
MNK *i* LQ LQ 22 29 03.5
MNK *i* LR LR 22 35 12.1
MNK *i* LRM MLR 22 38 02.3
MNK pmax pmax
comp=N,141nm,14.1s
MNK *i* LRM MLR 22 38 03.6
comp=E,17nm,10.2s
MNK *i* LRM MLR 22 38 22.7
comp=Z,127nm,12.1s
IDID Didziasalis 80.78 329 *e* P **P** **21 58 34.5 +0.9**
ANN Anapa 80.80 316 *e* P **P** **21 58 34.3 +0.4**
ANN *e* S **S** **22 08 41.2 -0.5**
ANN pmax pmax
comp=Z,53nm,1.1s
UMR Umm Al-Rimmam 80.83 298 ⇓ *e* P **P** **21 58 33.1 -1.3**
ISAL Salakas 80.91 329 *e* P **P** **21 58 35.1 +0.9**
IIGN Ignalina 81.00 329 *e* P **P** **21 58 35.7 +0.9**
NACGM Naroch 81.01 328 *i* P **P** **21 58 36.0 +1.2**
baz=27
MIB Mutribah 81.01 299 *e* P **P** **21 58 34.2 -1.1**
YHL Hebgen Lake 81.03 44 P **P** **21 58 34.7 -0.8**
QRN Al-Qurain 81.04 298 *e* P **P** **21 58 34.6 -0.8**
YHB Horse Butte 81.07 44 P **P** **21 58 34.2 -1.5**
YHB IAmb IAmb 21 58 50.3
comp=Z,11nm,0.9s
SCO Scoresbysund 81.20 355 P **P** **21 58 35.5 0.0**
SCO pmax pmax
comp=Z,13nm,1.1s
SCO Scoresbysund 81.20 355 P **P** **21 58 35.5 0.0**
SCO IAmb IAmb 21 58 40.4
comp=Z,13nm,1.1s
RDF Al-Radifah 81.25 298 ⇑ *e* P **P** **21 58 35.7 -0.8**
YHH Holmes Hill 81.27 44 P **P** **21 58 36.1 -0.6**
EDW2 Edwards Air Fo 81.32 55 P 21 58 37.6
baz=298
R11A Troy Canyon, C 81.38 51 P **P** **21 58 35.9 -1.5**
R11A Troy Canyon, C 81.38 51 P 21 58 37.9
baz=299
FURC Furnace Creek, 81.38 53 P 21 58 37.9
baz=298
RST Umm Al-Ruwaisa 81.42 299 *e* P **P** **21 58 36.0 -1.5**
HVU Hansel Valley 81.58 47 P **P** **21 58 37.7 -0.6**
HVU pmax pmax
comp=Z,6.0nm,1.1s
HVU Hansel Valley 81.58 47 P **P** **21 58 37.7 -0.6**
TPNV Topopah Spring 81.58 53 P **P** **21 58 38.2 -0.2**
TPNV pmax pmax
comp=Z,8.0nm,0.7s
TPNV Topopah Spring 81.58 53 P **P** **21 58 38.2 -0.2**
TPNV IAmb IAmb 21 58 42.9
comp=Z,7.9nm,0.7s
H17A Grant Village 81.64 44 P 21 58 40.3
baz=301
YMP Mirror Lake Pl 81.72 44 P **P** **21 58 38.6 -0.5**
YMP IAmb IAmb 21 58 48.6
comp=Z,10nm,1.0s
MOOW Moose Ponds 81.86 45 P **P** **21 58 39.6 -0.3**
GSC Goldstone, Bar 81.97 54 P **P** **21 58 40.7 +0.3**
GSC pmax pmax
comp=Z,19nm,1.5s
GSC Goldstone, Bar 81.97 54 P **P** **21 58 40.7 +0.3**
GSC IAmb IAmb 21 58 49.5
comp=Z,19nm,1.5s
GSC Goldstone, Bar 81.98 54 P 21 58 41.1
baz=299
SPUT South Promonto 82.02 47 P **P** **21 58 41.2 +0.6**
RLMT Red Lodge 82.05 43 P **P** **21 58 41.3 +0.4**
RLMT IAmb IAmb 21 58 45.1
comp=Z,8.1nm,0.8s
PRN Pahroc Range 82.20 52 P **P** **21 58 41.5 -0.2**
PRN IAmb IAmb 21 58 45.7
comp=Z,7.5nm,0.8s
AKASG Malin Array Be 82.27 324 P **P** **21 58 41.3 -0.2**
comp=Z,8.8nm,0.7s,baz=48,slow=5.9,SNR=35
AKASG LR LR 22 37 35.7
comp=Z,241nm,18.2s,baz=75,slow=37
AKASG Malin Array Be 82.27 324 *i* P **P** **21 58 41.4 -0.1**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 82.27 324 P **P** **21 58 41.1 -0.4**
AKBB Malin Array Si 82.27 324 *c i* P **P** **21 58 41.4 -0.1**
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 82.27 324 IAmb IAmb 21 58 45.2
comp=Z,15nm,0.8s
DUG Dugway, Tooele 82.34 49 P **P** **21 58 42.4 +0.1**
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway, Tooele 82.34 49 P **P** **21 58 42.4 +0.1**
DUG IAmb IAmb 21 58 46.5
comp=Z,8.3nm,0.8s
HWUT Hardware Ranch 82.44 47 P **P** **21 58 42.8 -0.1**
HWUT IAmb IAmb 21 58 52.4
comp=Z,7.8nm,0.9s
PSUT Pine Spring 82.47 50 P **P** **21 58 43.2 0.0**
HEC Hector,Ludlow 82.54 55 P 21 58 42.7
baz=299
TUQ Turquoise Moun 82.54 54 P 21 58 43.4
baz=299
SHPR Sheep Range 82.56 53 P **P** **21 58 43.2 -0.4**
SIM Simferopol' 82.74 317 *e* P **P** **21 58 43.7 -0.4**
SIM pmax pmax
comp=Z,31nm,1.1s
TBI Tubuai 82.80 121 *e* LR LR 22 24 40.7
comp=Z,133nm,29.5s
HFS Hagfors 82.85 337 P **P** **21 58 44.1 -0.3**
comp=Z,7.1nm,0.8s,baz=54,slow=7.5,SNR=9.8
NC204 NORSAR Array S 82.98 339 P **P** **21 58 44.6 -0.5**
NOA NORSAR Array B 83.01 339 P **P** **21 58 45.3 0.0**
comp=Z,5.6nm,0.8s,baz=41,slow=5.0,SNR=11
NOA LR LR 22 41 25.7
comp=Z,44nm,18.2s,baz=45,slow=40
JLU Jordanelle 83.03 48 P **P** **21 58 46.1 0.0**
TPFO Pinon Flats 83.04 56 P 21 58 45.8
baz=299
GMRC Granite Mounta 83.05 54 P 21 58 45.1
baz=299
BW06 Boulder Array 83.12 45 P **P** **21 58 46.2 -0.2**

PDAR Pinedale Array 83.12 45 P P 21 58 46.5 +0.1
comp=Z,3.0nm,0.9s,baz=258,slow=1.6,SNR=13
PDAR Pinedale Array 83.12 45 P P 21 58 46.3 -0.1
BELC Belle Mtn. Jos 83.18 55 P 21 58 46.3
baz=299
SUW Suwalki 83.22 329 *e*P **P 21 58 46.8 +0.5**
SUW Suwalki 83.22 329 *e*P **P 21 58 46.8 +0.5**
CCUT Cedar City 83.30 51 P P 21 58 47.2 -0.3
IRM Iron Mountain 83.72 55 P 21 58 49.7
baz=300
BC3 Big Chuckawall 83.75 55 P 21 58 50.1
baz=299
MTPU Mount Pierson 83.86 50 P P 21 58 50.6 +0.1
MTPU IAmb IAmb 21 59 00.1
comp=Z,14nm,1.6s
KNB Kanab 83.94 51 P P 21 58 50.5 -0.2
KNB pmax pmax
comp=Z,25nm,1.6s
KNB Kanab 83.94 51 P P 21 58 50.5 -0.2
KNB IAmb IAmb 21 58 52.9
comp=Z,24nm,1.6s
P17A Butcher Ranch, 84.08 48 P P 21 58 51.3 0.0
P17A IAmb IAmb 21 59 13.9
comp=Z,6.9nm,1.0s
Q16A Castle Valley 84.08 49 P P 21 58 51.8 +0.3
Q16A IAmb IAmb 21 59 01.5
comp=Z,11nm,1.2s
SORM Soroca 84.23 322 ⇑P **P 21 58 51.8 +0.1**
RDMU Red Mountain 84.27 47 P P 21 58 53.0 +0.6
RDMU IAmb IAmb 21 58 56.9
comp=Z,11nm,0.7s
PDMCI Parker Dam,Lak 84.38 54 P 21 58 52.6
baz=300
SRU San Rafael Swe 84.42 49 P P 21 58 53.5 +0.4
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 84.42 49 P P 21 58 53.5 +0.4
SRU IAmb IAmb 21 58 57.5
comp=Z,8.1nm,0.7s
BZK Bozkurt 84.42 315 ⇑P **P 21 58 54.2 +1.5**
GLA Glamis 84.50 56 P 21 58 54.8
baz=300
U15A North Rim 84.61 52 P P 21 58 54.0 -0.2
GAZ Gaziantep 84.85 309 P P 21 58 55.4 +0.2
K22A Casper 85.06 44 P P 21 58 56.3 0.0
K22A IAmb IAmb 21 59 00.4
comp=Z,7.8nm,0.7s
K22A Casper 85.06 44 P 21 58 57.3
baz=304
ILGA Ilgaz 85.09 314 P P 21 58 57.2 +0.7
RWWY Rawlins 85.17 45 P P 21 58 57.1 +0.2
RWWY IAmb IAmb 21 59 00.8
comp=Z,11nm,0.8s
O20A White River Ci 85.36 47 P P 21 58 57.9 +0.1
O20A White River Ci 85.36 47 P 21 58 58.6
baz=303
Y14A Wickenburg 85.37 54 P P 21 58 57.3 -0.6
Y14A IAmb IAmb 21 59 02.2
comp=Z,7.6nm,0.7s
RAYN Ar Rayn 85.38 294 *i* P **P 21 58 59.3 +1.2**
SNR=5.7
RAYN Ar Rayn 85.38 294 P P 21 58 58.7 +0.7
RAYN pmax pmax
comp=Z,44nm,0.9s
RAYN Ar Rayn 85.38 294 P P 21 58 58.7 +0.7
113A Mohawk Valley, 85.41 55 P P 21 58 58.2 +0.2
LVV L'vov 85.46 325 *e*P **P 21 58 58.5 +0.6**
BEL Belsk 85.73 328 *e*P **P 21 59 00.1 +0.9**
PRAR RASCA 85.84 322 ⇑P **P 21 59 00.2 +0.3**
PV20 West Nyswonger 85.86 49 P P 21 58 59.8 -0.5
PV20 IAmb IAmb 21 59 04.1
comp=Z,13nm,0.7s
PV19 Morning Glory 85.86 49 P P 21 59 01.4 +1.0
BR131 Keskin Array S 85.86 313 IAmb IAmb 21 59 13.9
comp=Z,15nm,0.7s
BRTR Keskin Array B 85.86 313 P P 21 59 00.6 +0.3
comp=Z,4.1nm,0.8s,baz=101,slow=3.5,SNR=19
BRTR LR LR 22 40 07.7
comp=Z,72nm,20.1s,baz=60,slow=38
BRTR Keskin Array B 85.86 313 P P 21 59 00.0 -0.3
PV22 Blue Mesa, Par 85.87 48 P P 21 59 00.9 +0.5
PV17 East Wray Mesa 85.89 49 P P 21 59 00.4 -0.1
PV16 Nyswonger Mesa 85.91 49 P P 21 59 00.8 +0.2
PV16 IAmb IAmb 21 59 04.7
comp=Z,9.6nm,0.7s
PV11 David Mesa, Pa 85.94 49 P P 21 59 01.4 +0.6
PV11 IAmb IAmb 21 59 06.4
comp=Z,13nm,0.7s
GIRR Girov 85.94 322 ⇑P **P 21 59 00.9 +0.6**
PV18 Skein Mesa, Pa 85.94 49 P P 21 59 00.3 -0.5
PV18 IAmb IAmb 21 59 04.5
comp=Z,11nm,0.8s
PV03 Paradox Valley 85.98 49 P P 21 59 00.7 -0.3
PV03 IAmb IAmb 21 59 04.7
comp=Z,9.3nm,0.9s
PV07 Paradox Valley 86.02 48 P P 21 59 00.2 -1.0
PV07 IAmb IAmb 21 59 58.6
comp=Z,20nm,1.4s
TPGR Topolog 86.13 320 ⇑P **P 21 59 01.7 +0.4**
TESR Tescani 86.13 322 ⇓P **P 21 59 01.5 +0.2**
BIZ Bicaz 86.17 322 ⇑P **P 21 59 02.7 +1.2**
BURAR Bucovina Array 86.23 323 ⇓P **P 21 59 02.4 +0.6**
BURAR Bucovina Array 86.23 323 P P 21 59 02.0 +0.1
PV01 Paradox Valley 86.23 49 P P 21 59 02.1 -0.2
PV01 IAmb IAmb 21 59 05.8
comp=Z,7.1nm,0.7s
ULM Lac du Bonnet 86.34 33 P P 21 59 03.4 +1.2
comp=Z,1.7nm,0.6s,baz=284,slow=2.9,SNR=3.9
ULM LR LR 22 38 23.2
comp=Z,68nm,19.6s,baz=356,slow=36
N23A Red Feather La 86.40 45 P 21 59 03.7
baz=304
VRI Vrincioaia 86.48 321 ⇑P **P 21 59 03.8 +0.8**
214A Organ Pipe Nat 86.52 56 P P 21 59 03.5 0.0
214A IAmb IAmb 21 59 07.7
comp=Z,7.1nm,0.8s
214A Organ Pipe Nat 86.52 56 P 21 59 03.1
baz=301
PLOR Plostina 86.53 321 ⇓P **P 21 59 04.0 +0.6**
SMCO Snowmass 86.70 47 P P 21 59 04.7 -0.1
OZUR 86.86 322 ⇑P **P 21 59 05.7 +0.7**
KOLS Kolonicke sedl 86.92 325 *e*P **P 21 59 05.6 +0.5**
KOLS Kolonicke sedl 86.92 325 *e*P **P 21 59 05.6 +0.5**
BMR Baia Mare 87.10 324 ⇑P **P 21 59 04.4 +0.4**
UZH Uzhgorod 87.10 325 *e*P **P 21 59 06.3 +0.3**
UZH *e* 21 59 10.0
UZH *i* 21 59 14.0
DOPR Dopca 87.16 322 ⇑P **P 21 59 07.0 +0.7**
OJC Ojcow 87.28 327 *e*P **P 21 59 06.9 +0.1**
OJC Ojcow 87.28 327 P P 21 59 06.5 -0.3
OJC pmax pmax
comp=Z,12nm,1.0s
OJC Ojcow 87.28 327 P P 21 59 06.5 -0.3
OJC IAmb IAmb 21 59 11.3
comp=Z,12nm,1.0s
TRPA Tarpa 87.30 325 ⇓P **P 21 59 07.2 +0.3**
NIE Niedzica 87.57 327 *e*P **P 21 59 08.7 +0.4**
VOIR 87.67 321 ⇑P **P 21 59 09.1 +0.2**
ARR Arges 87.95 322 ⇑P **P 21 59 10.8 +0.6**
DRGR 88.07 324 ⇑P **P 21 59 11.4 +0.6**
LANS Liptovska Anna 88.16 327 *e*P **P 21 59 12.6 +1.5**
LANS pmax pmax
comp=Z,4.0nm,1.0s
LANS Liptovska Anna 88.16 327 *e*P **P 21 59 12.5 +1.5**
OKC Ostrava-Krasne 88.32 328 AMS AMS 22 42 40.0
comp=Z,200nm,12.5s
LOT Lotru 88.37 322 ⇑P **P 21 59 12.5 +0.3**
B35A Bob, Littlefor 88.64 34 P P 21 59 13.0 -0.3
B35A IAmb IAmb 22 00 13.1
comp=Z,8.3nm,1.1s
MORC Moravsky Berou 88.64 328 *e*P **P 21 59 13.3 -0.1**
BSEG Bad Segeberg 88.70 334 *e*L L 22 46 05.5
comp=Z,58nm,18.6s
OSTC Ostas 88.71 329 *e*P **P 21 59 15.1 +1.4**
OSTC AMS AMS 22 43 10.0
comp=Z,200nm,14.5s
CHVC Chvalec 88.76 329 *e*P **P 21 59 14.2 +0.3**
CHVC AMS AMS 22 43 20.0
comp=Z,200nm,15.3s
PSZ Piszkesteto 88.78 326 ⇑P **P 21 59 14.1 0.0**
PSZ Piszkesteto 88.78 326 IAmb IAmb 21 59 15.3
comp=Z,11nm,1.0s
KRLC Kraliky 88.79 329 *e*P **P 21 59 14.5 +0.4**
KRLC MLR MLR
comp=Z,200nm,17.8s
KRLC Kraliky 88.79 329 *e*P **P 21 59 14.5 +0.4**
KRLC AMS AMS 22 43 20.0
comp=Z,200nm,17.8s
DPC Dobruska-Polom 88.81 329 *e*P **P 21 59 14.5 +0.4**
DPC MLR MLR
comp=Z,200nm,13.9s
DPC Dobruska-Polom 88.81 329 *e*P **P 21 59 14.5 +0.4**
DPC AMS AMS 22 43 30.0
comp=Z,200nm,13.9s
VYHS Vyhne 88.91 327 *e*P **P 21 59 15.1 +0.4**
VYHS Vyhne 88.91 327 *e*P **P 21 59 15.0 +0.4**
KOLL Kolacno 89.06 327 *e*P **P 21 59 15.7 +0.4**
JAVC Velka Javorina 89.22 327 *e*P **P 21 59 17.1 +1.0**
ANMO Albuquerque 89.41 50⇑ *e*P **P 21 59 18.0 +0.5**
ANMO pmax pmax
comp=Z,7.0nm,2.1s
VRAC Vranov 89.41 328 ⇑P **P 21 59 17.4 +0.5**
VRAC Vranov 89.41 328 *e*P **P 21 59 16.9 -0.1**
BZS Buzias 89.42 323 ⇓P **P 21 59 16.7 -0.3**
HERR Herculane 89.47 322 ⇑P **P 21 59 17.3 0.0**
PVCC Panska Ves 89.47 330 AMS AMS 22 44 30.0
comp=Z,100nm,18.0s
BRG Berggiesshubel 89.49 330 *e*P **P 21 59 17.4 +0.1**
BRG Amp 21 59 20.6
comp=Z,3.9nm,1.0s
SMOL Smolenice 89.57 327 *e*P **P 21 59 18.3 +0.6**
SMOL Smolenice 89.57 327 *e*P **P 21 59 18.3 +0.6**
CLL Collm 89.58 331 *e*P **P 21 59 17.0 -0.7**
comp=Z,5.0nm,1.1s
CLL *e* 21 59 33.0
CLL Collm 89.58 331 *e*P **P 21 59 17.0 -0.7**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 89.58 331 *e*L L 22 39 04.8
comp=Z,68nm,18.0s
KRUC Moravsky 89.68 328 *e*P **P 21 59 17.9 -0.3**
121A Cookes Peak, D 89.82 53 P P 21 59 18.8 -0.7
121A Cookes Peak, D 89.83 53 P
baz=304 21 59 18.5
PRU Pruhonice 89.87 330 AMS AMS 22 43 40.0
comp=Z,200nm,16.0s
MDVR Moldovita 89.91 322 ⇑P **P 21 59 19.6 +0.2**
TREC Trest 89.94 329 AMS AMS 22 43 30.0
comp=Z,300nm,17.4s
CLZ Clausthal 90.27 333 *e*P **P 21 59 20.9 -0.1**
comp=Z,8.1nm,1.1s,baz=41,slow=4.3
MORH Mrgy, Hungar 90.56 325 ⇑P **P 21 59 22.0 -0.3**
NKC Novy Kostel 90.61 331 AMS AMS 22 44 00.0
comp=Z,200nm,14.0s
MOX Moxa 90.66 331 *e*L L 22 48 06.6
comp=Z,71nm,18.6s
FRGS Fruska Gora 90.67 324 ⇑P **P 21 59 22.8 -0.2**
CONA Conrad Observa 90.73 328 *i* P **P 21 59 23.6 +0.4**
comp=Z,9.2nm,1.1s,SNR=7.3
CKRC Cesky Krumlov 90.82 329 *e*P **P 21 59 23.6 +0.1**
CKRC AMS AMS 22 44 20.0
comp=Z,200nm,16.3s
KHC Kasperske Hory 90.92 329 *e*P **P 21 59 24.0 -0.1**
KHC MLR MLR
comp=Z,300nm,15.6s
KHC Kasperske Hory 90.92 329 *e*P **P 21 59 24.0 -0.1**
KHC AMS AMS 22 44 30.0
comp=Z,300nm,15.6s
GEC2 GERESS Array S 91.07 329 P **P 21 59 24.3 -0.6**
GEC2 GERESS Array S 91.07 329 *e*L L 22 45 29.7
comp=Z,182nm,18.3s
GERES GERESS Array B 91.07 329 P **P 21 59 24.2 -0.6**
comp=Z,2.5nm,0.8s,baz=36,slow=5.0,SNR=15
WET Wettzell 91.22 330 *e*L L 22 46 13.8
comp=Z,80nm,19.5s
ARSA Arzberg 91.38 327 *e*P **P 21 59 26.7 +0.5**
comp=Z,6.9nm,1.0s
MOA Molln 91.54 328 *e*P **P 21 59 26.7 -0.2**
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 91.54 331 *e*P **P 21 59 27.0 +0.1**
comp=Z,8.4nm,0.8s,baz=41,slow=4.3
GRF *e*L L 22 44 27.2
comp=Z,58nm,19.7s
MNTX Cornudas Mount 91.98 52 P **P 21 59 29.2 0.0**
PERS Pernice 92.01 327 *i* P **P 21 59 28.8 -0.3**
TNS Taunus Mts 92.29 333 *e*L L 22 51 02.3
comp=Z,54nm,21.8s
RJOB Jochberg 92.30 329 *e*P **P 21 59 30.3 -0.2**
comp=Z,47nm,0.9s,baz=41,slow=4.3
GCIS Gornji Cirnik 92.31 326 *i* P **P 21 59 30.1 -0.4**
OBKA Obir 92.37 327 *e*P **P 21 59 30.3 -0.6**
comp=Z,4.6nm,1.0s
KBA Koelnbreinsper 92.53 328 *e*P **P 21 59 31.9 +0.2**
comp=Z,5.8nm,0.9s
G40A Rib Lake 92.53 34 P **P 21 59 32.2 +0.7**
G40A IAmb IAmb 21 59 35.3
comp=Z,4.9nm,0.8s
FUR Furstenfeldbru 92.66 330 *e*P **P 21 59 32.3 +0.2**
comp=Z,13nm,0.8s,baz=41,slow=4.3
FUR *e*L L 22 50 00.8
comp=Z,52nm,19.7s
MYKA Terra Mystica 92.72 328 *e*P **P 21 59 32.1 -0.3**
comp=Z,9.6nm,0.9s
LJU Ljubljana 92.72 327 *e*P **P 21 59 31.7 -0.7**
JAVS Javornik 93.05 327 *i* P **P 21 59 32.8 -1.3**
ZOU Zoufplan 93.08 328 P **P 21 59 32.7 -1.6**
ZOU IAmb IAmb 21 59 56.6
comp=Z,6.3nm,0.9s
WATA Walderalm 93.15 329 *e*P **P 21 59 34.7 +0.2**
comp=Z,3.4nm,1.2s
ABTA Abfaltersbach 93.16 328 *i* P **P 21 59 33.7 -0.8**
comp=Z,7.8nm,1.0s,SNR=6.7
WTTA Wattenberg 93.18 329 *e*P **P 21 59 36.9 +2.2**
comp=Z,2.9nm,0.6s
MOTA Moosalm 93.36 329 *e*P **P 21 59 35.6 +0.1**
comp=Z,6.1nm,1.2s
RETA Reutte 93.40 330 *e*P **P 21 59 35.8 +0.2**
comp=Z,0.2nm,0.2s
STAL STALIGIAL 93.43 328 P **P 21 59 33.7 -1.9**
STAL IAmb IAmb 21 59 37.9
comp=Z,9.5nm,0.9s
FETA Feichten 93.77 329 *e*P **P 21 59 37.1 -0.3**
comp=Z,6.7nm,1.0s
BFO Black Forest 93.81 332 P **P 21 59 36.5 -0.9**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 93.81 332 P **P 21 59 36.5 -0.9**
BFO IAmb IAmb 21 59 38.1
comp=Z,5.2nm,0.9s
BFO Black Forest 93.81 332 *e*L L 22 45 21.2
comp=Z,75nm,21.2s
DAVA Damuels 93.94 330 *i* P **P 21 59 38.2 0.0**
comp=Z,9.0nm,1.1s
TX31 Lajitas Ar. Si 94.54 53 P **P 21 59 41.3 0.0**
TX31 IAmb IAmb 21 59 45.6
comp=Z,10nm,0.8s
TX32 Lajitas Array 94.54 53 P **P 21 59 41.2 -0.1**
TXAR Lajitas Array 94.55 53 P **P 21 59 42.4 +1.2**
comp=Z,3.0nm,0.8s,baz=298,slow=2.7,SNR=21
TXAR LR LR 22 43 42.8
comp=Z,31nm,18.0s,baz=0.0,slow=36
TXAR Lajitas Array 94.55 53 P **P 21 59 41.3 0.0**
TUE Stuetta 94.80 330 P **P 21 59 41.5 -0.8**
NRCA Norcia 95.74 325 P **P 21 59 45.7 -0.7**
NRCA IAmb IAmb 21 59 49.6
comp=Z,4.5nm,1.0s
RAFF Raffo Rosso 99.13 321 P **Pdif 22 00 01.7 0.0**
ESDC Sonseca Array 105.94 334 PP **PP 22 04 56.2 +2.0**
comp=Z,0.5nm,0.8s,baz=38,slow=6.5,SNR=4.7
QSPA South Pole Qui 117.77 180 PKP **PKPdf 22 05 05.7 -0.1**
comp=Z,4.1nm,1.0s,baz=337,slow=1.9,SNR=8.4
QSPA South Pole Qui 117.77 180 PKiKP 22 05 06.9 +1.1
SYO Syowa Base 120.60 204⇓ *e*Pdiff **Pdif 22 01 35.0 -1.2**
LL01 San Ignacio de 148.01 126 PKPab 22 06 08.0 -0.3
LL02 Futaleuf 148.18 128 PKPab PKPab **22 06 09.2 +0.1**
PSGCX Pisagua 148.71 82 PKPab 22 06 11.0 -0.9
TA02 Huaiquique 148.95 83 PKPdf PKPdf **22 06 04.5 -0.2**
LPAZ La Paz 149.06 74 PKPbc **PKPbc 22 06 09.1 -0.8**
comp=Z,19nm,0.8s,baz=312,slow=2.5,SNR=61
LPAZ La Paz 149.06 74 PKP2 **PKPbc 22 06 09.5 -0.4**
LPAZ La Paz 149.06 74 PKPbc 22 06 09.5 -0.4
LPAZ PKPab **sPKPbc 22 06 13.2 +0.2**
PB11 IPOC Station P 149.18 82 PKPbc 22 06 08.8 -0.7
PB11 PKPab **sPKPbc 22 06 12.7 0.0**
PB08 IPOC Station P 149.76 82 PKPbc 22 06 11.3 +0.1
PB08 PKPab **sPKPbc 22 06 14.9 +0.5**
PLCA Paso Flores 149.78 124 PKPbc **PKPbc 22 06 09.1 -1.2**
comp=Z,14nm,0.9s,baz=252,slow=3.9,SNR=3.4

INET ***04*** *22:01:13.5, 12.˚51N×88.˚00W, h20km, MW3.5*
UCR ***04*** *22:01:16.2±1.4, 12.˚42N×88.˚28W, h36km±999km, ML3.2, MW3.5*
SNET ***04*** *22:01:16.5±1.0, 12.˚50N×88.˚36W, h18km±3km, ML3.1*
ISC 04 22:01:13.4±1.6, **12.˚42N**±0.˚05×**88.˚31W**±0.˚04, **h10**km±11km,
n50, σ0s**77**/**75**, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**0.83**	**4**	*e*P	**Pn**	**22 01 31.3**	**0.0**
JUCU				*e*S	**Sn**	**22 01 41.7**	**-1.9**
JUCU				IAML		22 01 48.1	
	comp=Z,1μm,0.4s						
JUCU	**Jucuarįn**	**0.83**	**4**	*e*P	**Pn**	**22 01 31.3**	**0.0**
JUCU				*e*S	**Sn**	**22 01 41.7**	**-1.9**
JUCU				IAML		22 01 48.1	
	comp=Z,1μm,0.4s						
CNCH	**Conchagua**	**0.96**	**29**	*e*P	**Pn**	**22 01 33.1**	**-0.1**
CNCH				*e*S	**Sn**	**22 01 46.6**	**-0.4**
CNCH	**Conchagua**	**0.96**	**29**	*e*P	**Pn**	**22 01 33.1**	**-0.1**
CNCH				*e*P	**Pb**	**22 01 33.3**	**+0.9**
CNCH				*e*S	**Sn**	**22 01 46.6**	**-0.4**
CNCH				*e*S	**Sb**	**22 01 46.8**	**+1.5**
LCND	**La Caada**	**0.97**	**25**	*e*P	**Pn**	**22 01 33.0**	**-0.2**
LCND				IAML		22 01 50.2	
	comp=Z,709nm,0.3s						
LCND	**La Caada**	**0.97**	**25**	*e*P	**Pn**	**22 01 33.0**	**-0.2**
LCND				IAML		22 01 50.2	
	comp=Z,709nm,0.3s						
LCY	**Lacayo**	**0.99**	**1**	*e*P	**Pn**	**22 01 33.9**	**+0.3**
LCY				*e*S	**Sn**	**22 01 46.6**	**-1.1**
LCY	**Lacayo**	**0.99**	**1**	*e*P	**Pn**	**22 01 33.9**	**+0.3**
LCY				*e*S	**Sn**	**22 01 46.6**	**-1.1**
VSM	**San Miguel**	**1.00**	**2**	*e*P	**Pn**	**22 01 34.4**	**+0.7**
VSM	**San Miguel**	**1.00**	**2**	*e*P	**Pn**	**22 01 34.4**	**+0.7**
PACA	**Pacayal**	**1.04**	**359**	*e*P	**Pn**	**22 01 34.9**	**+0.7**
PACA				*i* S	**Sn**	**22 01 48.7**	**-0.2**
PACA				IAML		22 01 52.1	
	comp=Z,367nm,0.3s						
PACA	**Pacayal**	**1.04**	**359**	*e*P	**Pn**	**22 01 34.9**	**+0.7**
PACA				*i* S	**Sn**	**22 01 48.7**	**-0.2**
PACA				IAML		22 01 52.1	
	comp=Z,367nm,0.3s						
TECA	**Tecapa**	**1.08**	**350**	*e*P	**Pn**	**22 01 35.2**	**+0.4**
TECA	**Tecapa**	**1.08**	**350**	*e*P	**Pn**	**22 01 35.2**	**+0.4**
COEB	**Comit de Eme**	**1.09**	**349**	*e*P	**Pb**	**22 01 34.8**	**+0.3**
COEB	**Comit de Eme**	**1.09**	**349**	*e*P	**Pb**	**22 01 34.8**	**+0.3**
TECO	**Alcaldia de Te**	**1.20**	**337**	*e*P	**Pg**	**22 01 36.5**	**0.0**
TECO				IAML		22 01 55.8	
	comp=Z,166nm,0.1s						
PQSS	**Presa 15 de Se**	**1.22**	**348**	*e*P	**Pn**	**22 01 37.1**	**+0.5**
PQSS				*e*S	**Sn**	**22 01 52.5**	**-0.6**
SJTE	**Alcalda de S**	**1.36**	**330**	*e*P	**Pn**	**22 01 39.1**	**+0.4**
SJTE				*e*S	**Sb**	**22 01 56.4**	**-0.4**
SJTE				IAML		22 02 01.0	
	comp=Z,212nm,0.3s						
SJTE	**Alcalda de S**	**1.36**	**330**	*e*P	**Pn**	**22 01 39.1**	**+0.4**
SJTE				*e*S	**Sb**	**22 01 56.4**	**-0.4**
SJTE				IAML		22 02 01.0	
	comp=Z,212nm,0.3s						
LFRS	**El Faro**	**1.40**	**328**	*e*P	**Pn**	**22 01 39.7**	**+0.5**
LFRS				*e*S	**Sb**	**22 01 57.3**	**-0.4**
LFRS	**El Faro**	**1.40**	**328**	*e*P	**Pn**	**22 01 39.7**	**+0.5**
LFRS				*e*S	**Sb**	**22 01 57.3**	**-0.4**
PAVA	**Las Pavas**	**1.42**	**335**	*e*P	**Pn**	**22 01 39.5**	**+0.1**
PAVA				*e*S	**Sg**	**22 01 58.5**	**-0.7**
PAVA				IAML		22 02 03.2	
	comp=Z,374nm,0.3s						
PAVA	**Las Pavas**	**1.42**	**335**	*e*P	**Pn**	**22 01 39.5**	**+0.1**
PAVA				*e*S	**Sg**	**22 01 58.5**	**-0.7**
PAVA				IAML		22 02 03.2	
	comp=Z,374nm,0.3s						
LBRS	**Las Brisas**	**1.49**	**331**	*e*P	**Pb**	**22 01 41.2**	**-0.1**
LBRS	**Las Brisas**	**1.49**	**331**	*e*P	**Pb**	**22 01 41.2**	**-0.1**
LFU	**La Fuente**	**1.53**	**329**	*e*P	**Pb**	**22 01 41.9**	**-0.1**
LFU				*e*S	**Sb**	**22 02 01.3**	**-0.2**
LFU	**La Fuente**	**1.53**	**329**	*e*P	**Pb**	**22 01 41.9**	**-0.1**
LFU				*e*S	**Sb**	**22 02 01.3**	**-0.2**
BOQS	**Boqueron**	**1.61**	**324**	*e*P	**Pn**	**22 01 43.1**	**+0.9**
BOQS				*e*S	**Sb**	**22 02 04.2**	**+0.2**
BOQS	**Boqueron**	**1.61**	**324**	*e*P	**Pn**	**22 01 43.1**	**+0.9**
BOQS				*e*S	**Sb**	**22 02 04.2**	**+0.2**
JAYA	**Jayaque - finc**	**1.65**	**318**	*e*P	**Pn**	**22 01 43.0**	**+0.3**
JAYA				*e*S	**Sn**	**22 02 03.6**	**-0.5**
JAYA				IAML		22 02 04.4	
	comp=Z,578nm,0.2s						
JAYA	**Jayaque - finc**	**1.65**	**318**	*e*P	**Pn**	**22 01 43.0**	**+0.3**
JAYA				*e*S	**Sn**	**22 02 03.6**	**-0.5**
JAYA				IAML		22 02 04.4	
	comp=Z,578nm,0.2s						
TACO	**Tacachico**	**1.84**	**327**	*e*P	**Pn**	**22 01 46.4**	**+1.2**
TACO				*e*S	**Sn**	**22 02 08.9**	**+0.3**
TACO	**Tacachico**	**1.84**	**327**	*e*P	**Pn**	**22 01 46.4**	**+1.2**
TACO				*e*S	**Sn**	**22 02 08.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.91**	**32**	*e*P	**Pn**	**22 01 46.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**1.91**	**32**	*e*P	**Pn**	**22 01 46.9**	**+0.7**
SNJE	**San Jose**	**1.91**	**319**	*e*P	**Pn**	**22 01 47.2**	**+0.9**
SNJE	**San Jose**	**1.91**	**319**	*e*P	**Pn**	**22 01 47.2**	**+0.9**
MTO3	**Montecristo**	**2.21**	**333**	*e*P	**Pn**	**22 01 51.7**	**+1.3**
MTO3	**Montecristo**	**2.21**	**333**	*e*P	**Pn**	**22 01 51.7**	**+1.3**
SAJU	**San Juanillo,**	**3.46**	**132**	*e*P	**Pn**	**22 02 06.3**	**-1.1**
CUI	**Cuipilapa**	**3.55**	**119**	*e*P	**Pn**	**22 02 06.9**	**-1.8**
JTS	**Las Juntas de**	**3.92**	**122**	*e*P	**Pn**	**22 02 14.2**	**+0.5**
LAFE	**Finca La Fe, P**	**4.23**	**128**	*e*P	**Pn**	**22 02 17.2**	**-0.8**
JACO	**JACO, Garabito**	**4.51**	**127**	*e*P	**Pn**	**22 02 22.9**	**+1.0**
LCR2	**La Lucha 2**	**5.00**	**122**	*e*P	**Pn**	**22 02 30.1**	**+1.4**
RIMA	**Rio Macho**	**5.10**	**121**	*e*P	**Pn**	**22 02 30.9**	**+0.7**
DRK0	**Durika**	**5.88**	**122**	*e*P	**Pn**	**22 02 41.9**	**+1.0**
LPLA	**Las Palmas La**	**6.21**	**122**	*e*P	**Pn**	**22 02 46.5**	**+1.1**
PIRO	**Carate, Puerto**	**6.32**	**129**	*e*P	**Pn**	**22 02 47.9**	**+1.2**

IDC ***04*** *22:12:41.7±13.0, 12.˚03N×143.˚15E, h115km±123km, mb3.6/7, mb1 3.8/7, mb1mx3.4/37, mbtmp3.9/7, MS3.1/2, Ms1 3.1/2, ms1mx2.8/18, Error ellipse: s-maj=51.4km s-min=27.5km az=89.0*
ISC 04 22:12:32.7±1.1, **12.˚0N**±0.˚2×**143.˚2E**±0.˚3, **h31**km, **n15**,
σ1s**44**/**7**, **mb3.8**/**7**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**18.06**	**256**	LR	LR	22 22 07.2	
	comp=Z,65nm,21.2s,baz=116,slow=31						
H11S3	**WAKE ISLAND Hy**	**23.53**	**71**	T	T	22 42 08.0	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**23.55**	**71**	T	T	22 42 23.4	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**23.55**	**71**	T	T	22 42 12.3	
	baz=252,slow=74						
H11N1	**WAKE ISLAND Hy**	**24.01**	**68**	T	T	22 42 51.8	
	baz=255,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**24.02**	**68**	T	T	22 42 46.9	
	baz=255,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**24.03**	**68**	T	T	22 42 46.4	
	baz=255,slow=75,SNR=4.7						
USRK	**Ussuriysk Ar.**	**33.47**	**345**	P	**P**	**22 19 10.0**	**+1.0**
	0.6nm,0.6s,baz=184,slow=6.9,SNR=2.2						
ASAR	**Alice Springs**	**36.63**	**194**	P	**P**	**22 19 36.7**	**+0.2**
	0.3nm,0.6s,baz=27,slow=10,SNR=2.0						
PETK	**Petropavlovsk-**	**42.58**	**13**	LR	LR	22 35 15.1	
	comp=Z,30nm,20.7s,baz=322,slow=32						
SONM	**Songino Array**	**47.09**	**327**	P	**P**	**22 21 02.5**	**+0.6**
	0.4nm,0.5s,baz=148,slow=8.2,SNR=2.0						
ILAR	**Eielson Array**	**70.66**	**25**	P	**P**	**22 23 44.1**	**-1.0**
	1.2nm,0.5s,baz=247,slow=6.1,SNR=15						
ARCES	**ARCESS Array B**	**88.05**	**342**	P	**P**	**22 25 18.9**	**-0.9**
	3.1nm,0.9s,baz=74,slow=6.7,SNR=6.0						
NVAR	**Mina Array Bea**	**89.16**	**51**	P	**P**	**22 25 27.0**	**+1.1**
	0.3nm,0.7s,baz=249,slow=3.8,SNR=2.3						
FINES	**FINESS Array B**	**91.87**	**335**	P	**P**	**22 25 35.7**	**-2.0**
	1.9nm,0.9s,baz=64,slow=3.2,SNR=4.9						

IDC ***04*** *22:58:59.8±1.6, 3.˚92S×143.˚50E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/25, mbtmp3.8/5, Error ellipse: s-maj=54.5km s-min=25.9km az=117.0*
NEIC ***04*** *22:59:07.0±2.4, 3.˚62S±0.˚10×142.˚9E±0.˚1, h35km±2km, mb4.4/8, Error ellipse: s-maj=22.8km s-min=12.9km az=125.0*
ISC 04 22:59:06.3±0.8, **3.˚7S**±0.˚1×**143.˚0E**±0.˚1, **h35**km, **n16**,

σ1⁹32/16, **mb4.0/7, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.00**	**144**	Pn	**Pn**	**23 00 47.4**	**+1.1**
MTN	**Manton Dam**	**14.84**	**232**	Pn	**Pn**	**23 02 33.2**	**-0.5**
KNRA	**Kununurra**	**18.38**	**229**	P	**P**	**23 03 18.7**	**+0.4**
KNRA				IAmb	IAmb	23 03 37.6	
	comp=Z,11nm,0.7s						
PATS	**Pohnpei**	**18.53**	**56**	P	**Pn**	**23 03 19.7**	**-0.6**
PATS				IAmb	IAmb	23 03 39.0	
	comp=Z,19nm,1.0s						
SOEI	**Soe**	**19.55**	**251**	P	**P**	**23 03 32.0**	**+0.7**
BATI	**Baumata**	**20.25**	**250**	P	**P**	**23 03 40.7**	**+1.9**
	comp=Z,47nm,0.6s,baz=107,slow=2.1,SNR=1.9						
ASAR	**Alice Springs**	**21.70**	**203**	P	**P**	**23 03 53.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=32,slow=12,SNR=6.7						
FITZ	**Fitzroy Crossi**	**22.22**	**229**	P	**P**	**23 04 01.0**	**+1.0**
	comp=Z,3.2nm,0.5s,baz=52,slow=10,SNR=16						
FITZ	**Fitzroy Crossi**	**22.22**	**229**	P	**P**	**23 04 01.3**	**+1.4**
BBOO	**Buckleboo**	**29.67**	**192**	P	**P**	**23 05 10.5**	**+1.7**
BBOO				IAmb	IAmb	23 05 11.6	
	comp=Z,8.1nm,1.1s						
FORT	**Forrest**	**30.39**	**206**	P	**P**	**23 05 15.2**	**-0.1**
FORT				IAmb	IAmb	23 05 21.8	
	comp=Z,15nm,1.1s						
CISI	**Cisompet, Garu**	**35.22**	**262**	P	**P**	**23 05 57.3**	**-0.4**
MORW	**Morawa**	**35.93**	**223**	P	**P**	**23 06 02.2**	**-1.3**
MKAR	**Makanchi Array**	**73.23**	**321**	P	**P**	**23 10 35.9**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=108,slow=6.7,SNR=4.7						
MAW	**Mawson**	**82.82**	**202**	P	**P**	**23 11 25.3**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=59,slow=5.9,SNR=1.6						
ILAR	**Eielson Array**	**84.99**	**24**	P	**P**	**23 11 36.7**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=259,slow=5.0,SNR=5.1						

*IDC **04** 23:15:42.0±0.3,6˙04N×116˙64E, h0km, mb5.2/48, mb1 5.2/51,mb1mx5.1/56,mbtmp5.2/51,ML4.4/3,MS5.5/28, Ms1 5.5/28,ms1mx5.4/35,Error ellipse: s-maj=12.4km s-min=8.4km az=75.0*

*MOS **04** 23:15:42.5±1.0,6˙03N×116˙59E,h15km,mb5.8/59, MS5.6/67,Error ellipse: s-maj=6.4km s-min=3.8km az=112.9*

*BJI **04** 23:15:42.0±0.0,6˙10N×116˙60E,h5km,mB5.8/78, mb5.4/82,Ms5.9/98,Ms7 5.8/93*

*NEIC **04** 23:15:43.9±2.1,5˙99N±0˙06×116˙54E±0˙04,h10km±1km, mb5.9/283,Ms_20 5.7/692,Mwb6.0/42,Mwc6.0/36,Mww6.0, Mwc6.0(GCMT),Error ellipse: s-maj=9.8km s-min=6.1km az=171.0*

*NEIC **04** 23:15:43.7,6˙08N×116˙55E,h6km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.96; Mθθ0.04; Mϕϕ0.91; Mrθ0.36; Mθϕ0.10; Mϕr0.33; Fault plane solution: M₀1.06000×10¹⁸ NP1:φs352.12000°,δ36.20000°, λ-115.37000°. NP2:φs202.56000°,δ57.75000°, λ-72.59000°. Principal axes: T 0.9962, Plg11.0000°, Azm280.0000°; N 0.1175, Plg15.0000°, Azm13.0000°; P -1.1136, Plg71.0000°, Azm154.0000°;*

*GCMT **04** 23:15:45.9±0.1,6˙17N×116˙65E,h12km,MW6.0/164, Moment Tensor Solution. s164,c357; s161,c552; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr-0.64±.01; Mθθ-0.08±.00; Mϕϕ0.71±.01; Mrθ0.77±.02; Mθϕ0.27±.00; Mϕr0.59±.02; Best double couple: M₀1.21500×10¹⁸ NP1:φs353.00000°,δ26.00000°, λ-139.00000°. NP2:φs224.00000°,δ73.00000°, λ-70.00000°. Principal axes: T 1.1940, Plg26.0000°, Azm299.0000°; N 0.0440, Plg19.0000°, Azm38.0000°; P -1.2370, Plg57.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 23:15:48,6˙17N×116˙68E,h13km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.74; Mθθ-0.05; Mϕϕ0.78; Mrθ0.65; Mθϕ0.31; Mϕr0.57; Fault plane solution: M₀1.19000×10¹⁸ NP1:φs356.00000°, δ27.00000°,λ-131.00000°. NP2:φs220.00000°, δ70.00000°,λ-71.00000°. Principal axes: T 1.1966, Plg22.0000°, Azm296.0000°; N -0.0054, Plg17.0000°, Azm33.0000°; P -1.1912, Plg61.0000°, Azm158.0000°;*

*DJA **04** 23:15:49.0±0.2,6˙N±2˙×11˙7E±˙,h50km±2km,M6.0/113, mB6.3/105,mb5.9/113,MLv6.5/6,Mw5.9/27, Mw(mB)6.1/105,MwMwp5.8/79,Mwp5.9/79*

*NEIC **04** 23:15:50,5˙88N×116˙65E,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.78; Mθθ-0.03; Mϕϕ0.81; Mrθ0.86; Mθϕ0.31; Mϕr0.17; Fault plane solution: M₀1.22000×10¹⁸ NP1:φs355.00000°, δ37.00000°,λ-140.00000°. NP2:φs232.00000°, δ68.00000°,λ-60.00000°. Principal axes: T 1.0513, Plg17.0000°, Azm300.0000°; N 0.2910, Plg28.0000°, Azm39.0000°; P -1.3423, Plg57.0000°, Azm182.0000°;*

*NEIC **04** 23:15:58.3,5˙55N×116˙41E,h10km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-0.65; Mθθ0.02; Mϕϕ0.64; Mrθ0.54; Mθϕ0.25; Mϕr0.72; Fault plane solution: M₀1.14000×10¹⁸ NP1:φs213.47000°,δ71.80000°, λ-80.24000°. NP2:φs4.61000°,δ20.57000°,λ-117.29000°. Principal axes: T 1.1533, Plg26.0000°, Azm296.0000°; N -0.0284, Plg9.0000°, Azm30.0000°; P -1.1249, Plg62.0000°, Azm138.0000°;*

ISC 04 23:15:45.2±0.4,6˙04N±0˙03×116˙67E±0˙03,h18km±1km, h19km:pP-P,n1513,σ1⁹88/1467,mb5.8/293,MS5.7/461, 136C-106D,Fault plane solution: NP1:φs191.41037°, δ80.90598°,λ-55.36597°. **NP2:**φs294.29907°,δ35.66335°, λ-164.27048°. **Principal axes:** T Plg27.5635°, Azm254.4532°; N Plg34.1381°, Azm5.1799°; P Plg43.3344°, Azm134.9495°; **Borneo**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**6.39**	**140**	Pn	**Pn**	**23 17 19.8**	**+1.2**
PAGZ	**Pagadian**	**6.91**	**75**↑*e*P		**Pn**	**23 17 24.4**	**-1.2**
DCPH	**Dipolog City**	**7.10**	**69**↓*e*P		**Pn**	**23 17 31.5**	**+3.3**
MTKI	**Muara Teweh, K**	**7.16**	**194**	P	**Pn**	**23 17 32.6**	**+3.5**
	6.8nm18μm16μm619nm,0.9s						
BKB	**Balikpapan**	**7.26**	**178**	Pn	**Pn**	**23 17 31.1**	**+0.7**
BKB	**Balikpapan**	**7.26**	**178**	P	**Pn**	**23 17 32.0**	**+1.5**
	16nm68μm43μm2μm,1.0s						
PCI	**Palu**	**7.59**	**155**	P	Pn	23 17 42.6	+7.5
MRSI	**Marisa**	**7.63**	**136**	P	**Pn**	**23 17 37.5**	**+1.9**
	12nm92μm29μm3μm,1.0s						
MRSI				S	**Sn**	**23 19 03.8**	**+2.0**
	12nm92μm29μm3μm,1.0s						
STKI	**Sintang**	**7.88**	**221**	P	**Pn**	**23 17 39.2**	**+0.2**
	5.0nm11μm529nm,0.8s						
RCP	**Roxas**	**8.13**	**47**↑*e*P		**Pn**	**23 17 46.0**	**+3.6**
GTOI	**Gorontalo**	**8.30**	**130**	P	**Pn**	**23 17 44.9**	**+0.1**
	49μm18μm1μm,0.9s						
GTOI				S	**Sn**	**23 19 13.9**	**-4.3**
	49μm18μm1μm,0.9s						
CGP	**Cagayan de Oro**	**8.32**	**73**↓*e*P		Pn	23 17 51.6	+6.7
LLP	**Lapu-Lapu**	**8.38**	**59** *e*P		**Pn**	**23 17 47.5**	**+1.6**
LLP				*e*S	**Sn**	**23 19 21.6**	**+1.5**
LUBP	**Lubang**	**8.42**	**25**↑*e*P		Pb	23 18 01.0	-9.5
KCP	**Kidapawan**	**8.43**	**83**↓*i*P		**Pn**	**23 17 51.0**	**+4.4**
APSI	**Ampana**	**8.51**	**144**	P	**Pn**	**23 17 50.8**	**+3.1**
	49μm19μm1μm,1.1s						
APSI				S	**Sn**	**23 19 26.4**	**+3.0**
	49μm19μm1μm,1.1s						
PGP	**Puerto Galera**	**8.53**	**29**↑*e*P		Pn	23 17 54.6	+6.6
DAV	**Davao City (W)**	**8.91**	**83**	Pn	**Pn**	**23 17 56.9**	**+3.7**
	baz=255,slow=3.0,SNR=8.5						
DAV				LR	LR	23 21 48.2	
	comp=Z,63μm,18.9s,baz=255,slow=41						
DAV	**Davao City (W)**	**8.91**	**83**	P	Pn	23 18 00.1	+6.9
DAV				P	Pn	23 18 00.1	+6.9
DAV				P	Pn	23 18 00.1	+6.9
TGY	**Tagaytay City**	**9.04**	**27**	Pn	**Pn**	**23 17 58.9**	**+3.9**
	baz=270,slow=5.1						
KMSI	**Cibinong**	**9.10**	**126**	P	**Pn**	**23 18 00.4**	**+4.7**
	1μm21μm2μm,0.9s						
SGSI	**Sangihe**	**9.14**	**104**	P	**Pn**	**23 17 57.6**	**+1.4**
	5μm543nm,1.0s						
LUWI	**Luwuk**	**9.31**	**139**	Pn	**Pn**	**23 18 01.2**	**+2.5**
LUWI	**Luwuk**	**9.31**	**139**	P	**Pn**	**23 18 03.0**	**+4.4**
	63μm34μm3μm,1.1s						
LQP	**Lukban**	**9.34**	**31**↑*e*P		Pn	23 18 05.1	+5.9
TTSI	**Tana Toraja**	**9.56**	**161**	P	**Pn**	**23 18 05.5**	**+3.4**
	48μm39μm5μm,0.8s						
TTSI				S	**Sn**	**23 19 52.9**	**+3.7**
	48μm39μm5μm,0.8s						
BBKI	**Banjar Baru**	**9.62**	**191**	P	**Pn**	**23 18 05.7**	**+2.9**
	16μm15μm678nm,1.1s						
DLV	**T Lat**	**9.98**	**307**	Pn	**Pn**	**23 18 06.8**	**-1.2**
PBKI	**Pangkalan Bun**	**10.02**	**210**	P	**Pn**	**23 18 13.1**	**+4.7**
	16μm1μm,1.1s						
JCNP	**Jose Panganiba**	**10.12**	**35**↓*i*P		**Pn**	**23 18 09.2**	**-0.5**
SPSI	**Sidrap Palu**	**10.41**	**163**	P	**Pn**	**23 18 16.9**	**+3.1**
	44μm32μm2μm,0.9s						
SPSI				S	**Sn**	**23 20 14.3**	**+4.2**
	44μm32μm2μm,0.9s						
BNSI	**Bone**	**10.93**	**162**	P	Pn	**23 18 25.5**	**+4.7**
	52μm33μm2μm,0.9s						
KAPI	**Kappang**	**11.41**	**164**	Pn	**Pn**	**23 18 30.4**	**+3.0**
	35nm,0.3s,baz=320,slow=12,SNR=41						
KAPI				LR	LR	23 24 02.0	
	comp=Z,29μm,19.6s,baz=346,slow=44						
KAPI	**Kappang**	**11.41**	**164**	P	**Pn**	**23 18 30.3**	**+2.9**
KAPI	**Kappang**	**11.41**	**164**	Pn	**Pn**	**23 18 30.2**	**+2.9**
KAPI	**Kappang**	**11.41**	**164**	P	Pn	23 18 33.4	+6.0
KAPI				P	Pn	23 18 33.4	+6.0
KAPI				P	Pn	23 18 33.4	+6.0
TNTI	**Ternate**	**11.89**	**116**	Pn	**Pn**	**23 18 37.2**	**+3.2**
TNTI	**Ternate**	**11.89**	**116**	P	**Pn**	**23 18 34.2**	**+0.2**
	36μm16μm393nm,1.6s						
SZP	**Santa**	**12.02**	**18**		**Pn**	**23 18 39.5**	**+3.8**
SANI	**Sanana**	**12.30**	**131**	P	**Pn**	**23 18 39.1**	**-0.5**
	43μm20μm368nm,1.4s						
TPI	**Tanjungpandan**	**12.55**	**226**	P	**Pn**	**23 18 45.0**	**+2.0**
	4μm286nm,1.1s						
LBMI	**Labuha**	**12.69**	**121**	P	**Pn**	**23 18 47.6**	**+2.6**
	28μm2μm,1.6s						
KMMI	**Kalianget**	**13.28**	**192**	P	**Pn**	**23 18 57.1**	**+4.1**
	30μm17μm616nm,1.7s						
PPBI	**Pangkal Pinang**	**13.30**	**233**	P	**Pn**	**23 18 54.5**	**+1.2**
	21μm10μm221nm,1.2s						
TBJI	**Tambak Boyo**	**13.65**	**201**	P	**Pn**	**23 18 59.8**	**+1.8**
	13μm9μm431nm,1.3s						
NLAI	**Namlea**	**13.91**	**131**	P	**Pn**	**23 19 05.1**	**+3.4**
	7μm297nm,1.3s						
ABJI	**Asem Bagus**	**13.96**	**190**	P	**P**	**23 19 10.4**	**+0.2**
SRBI	**Singaraja**	**14.11**	**186**	P	**Pn**	**23 19 05.8**	**+1.5**
	23μm16μm993nm,1.0s						
UBPT	**Khong Chiam**	**14.32**	**311**	P	**Pn**	**23 19 08.4**	**+1.2**
	5μm221nm,1.1s						
UBPT	**Khong Chiam**	**14.32**	**311**	Pn	**Pn**	**23 19 08.4**	**+1.2**
SMRI	**Semarang**	**14.41**	**206**	P	**Pn**	**23 19 07.9**	**-0.6**
SMRI	**Semarang**	**14.41**	**206**	P	**Pn**	**23 19 09.0**	**+0.5**
	24μm15μm324nm,1.9s						
QIZ	**Qiongzhong**	**14.52**	**333**	P	**Pn**	**23 19 08.9**	**-1.0**
QIZ				S	**Sn**	**23 21 51.9**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,110nm,2.3s						
QIZ				pmax	pmax		
	comp=Z,3μm,7.6s						
QIZ				L	L		
	comp=N,24μm,18.6s						
QIZ				L	L		
	comp=E,18μm,19.6s						
QIZ				L	L		
	comp=Z,28μm,18.6s						
QIZ	**Qiongzhong**	**14.52**	**333**		**Pn**	**23 19 12.1**	**+2.2**
JAGI	**Jajag, Banyuwa**	**14.63**	**190**		**Pn**	**23 19 13.4**	**+1.9**
JAGI	**Jajag, Banyuwa**	**14.63**	**190**	P	**Pn**	**23 19 13.7**	**+2.2**
	17μm18μm1μm,0.8s						
TWSI	**Taliwang, Sumb**	**14.69**	**179**	P	Pn	**23 19 14.5**	**+2.3**
	13μm11μm714nm,1.1s						
DNP	**Denpasar**	**14.70**	**186**	P	**Pn**	**23 19 14.2**	**+1.9**
	27μm40μm2μm,2.5s						
PWJI	**Pagerwojo**	**14.79**	**199**	P	Pn	**23 19 13.2**	**-0.4**
	7μm801nm,1.2s						
PLAI	**Plampang**	**14.81**	**176**	P	Pn	**23 19 15.9**	**+1.9**
	31μm52μm4μm,1.4s						
PMBI	**Palembang**	**14.85**	**233**	P	**Pn**	**23 19 16.6**	**+2.2**
PMBI	**Palembang**	**14.85**	**233**	P	**P**	**23 19 20.2**	**+0.1**
JMBI	**JAMBI**	**15.07**	**240**	P	**P**	**23 19 22.6**	**0.0**
UGM	**Wanagama**	**15.16**	**204**	P	**Pn**	**23 19 19.1**	**+0.6**
UGM	**Wanagama**	**15.16**	**204**	P	P	23 19 32.8	+9.2
KPJI	**Karang Pucung**	**15.37**	**210**	P	**Pn**	**23 19 22.9**	**+1.6**
	21μm12μm373nm,1.6s						
MSAI	**Masohi**	**15.39**	**127**	P	**Pn**	**23 19 21.7**	**0.0**
	4μm157nm,1.9s						
MMRI	**Maumere**	**15.61**	**159**		**Pn**	**23 19 25.7**	**+1.3**
MMRI	**Maumere**	**15.61**	**159**	P	**Pn**	**23 19 25.5**	**+1.1**
	33μm31μm2μm,1.5s						
LEM	**Lembang**	**15.65**	**215**	Pn	**Pn**	**23 19 26.2**	**+1.0**
	3.1nm,0.3s,baz=25,slow=13,SNR=8.3						
LEM	**Lembang**	**15.65**	**215**	P	**P**	**23 19 27.7**	**-1.5**
	11μm8μm421nm,1.0s						
RGRI	**Rengat**	**15.65**	**247**	P	**Pn**	**23 19 24.9**	**-0.1**
	303nm,1.1s						
TNG	**Tangerang**	**15.72**	**220**	P	**P**	**23 19 28.0**	**-1.8**
	26μm30μm2μm,0.4s						
TNG				P	**P**	**23 19 28.1**	**-1.8**
	20μm1μm,0.4s						
CBJI	**Citeko**	**15.79**	**219**	P	**P**	**23 19 31.9**	**+1.3**
	15μm13μm1μm,1.0s						
WBSI	**Waikabubak, Su**	**15.82**	**170**	P	**Pn**	**23 19 27.8**	**+0.6**
	41μm2μm,1.2s						
DBJI	**Dramaga**	**15.95**	**218**	P	**Pn**	**23 19 30.1**	**+1.2**
	2μm450nm,1.6s						
SKLT	**Songkhla**	**15.98**	**275**	P	**Pn**	**23 19 30.0**	**+0.8**
	8μm604nm,1.2s						
BLSI	**Bandar Lampung**	**16.08**	**225**	P	**P**	**23 19 34.9**	**+1.1**
	11μm8μm714nm,1.1s						
SWI	**Sorong**	**16.11**	**115**	P	**Pn**	**23 19 31.1**	**+0.2**
	36μm15μm365nm,1.2s						
SIJI	**Sorong**	**16.11**	**115**	Pn	**Pn**	**23 19 31.0**	**0.0**
	0.6nm,0.3s,baz=311,slow=11,SNR=32						
CISI	**Cisompet, Garu**	**16.14**	**213**	P	**Pn**	**23 19 31.5**	**+0.1**
CISI				IAmb	IAmb	23 19 43.5	
	comp=Z,998nm,1.4s						
CISI	**Cisompet, Garu**	**16.14**	**213**	P	**P**	**23 19 33.3**	**-1.2**
	comp=Z,10μmcomp=Z,10μmcomp=Z,304nm,0.7s						
MCO	**Taipa Grande**	**16.26**	**350**	P	**P**	**23 19 35.0**	**-0.8**
MDSI	**Maura Dua**	**16.27**	**230**	P	**Pn**	**23 19 33.9**	**+0.9**
	comp=Z,8μmcomp=Z,5μmcomp=Z,449nm,1.2s						
LHSI	**Lahat**	**16.38**	**234**	P	**Pn**	**23 19 35.8**	**+1.4**
	comp=Z,11μmcomp=Z,564nm,1.1s						
BKNI	**Bangkinang**	**16.60**	**251**		**Pn**	**23 19 36.6**	**-0.6**
BKNI	**Bangkinang**	**16.60**	**251**	P	**Pn**	**23 19 38.0**	**+0.8**
	comp=Z,17μmcomp=Z,20μmcomp=Z,2μm,1.1s						
BASI	**Baing, Sumba**	**16.62**	**166**	P	**P**	**23 19 40.8**	**+1.0**
	comp=Z,29μmcomp=Z,30μmcomp=Z,3μm,1.4s						
LWLI	**Liwa**	**16.71**	**229**	P	**P**	**23 19 43.7**	**+2.8**
SDSI	**Sungai Dareh**	**16.72**	**246**	P	**P**	**23 19 40.1**	**-0.8**
	comp=Z,8μmcomp=Z,661nm,1.1s						
KASI	**Kota Agung**	**16.72**	**227**	P	**P**		
	comp=Z,13μmcomp=Z,8μmcomp=Z,571nm,1.2s					**23 19 43.0**	**+2.1**
BNDI	**Bandanaira**	**16.88**	**126**	P	**P**	**23 19 45.1**	**+2.4**
	comp=Z,64μmcomp=Z,44μmcomp=Z,3μm,1.3s						
KHON	**Khomkaen**	**16.99**	**308**	P	**P**	**23 19 43.2**	**-0.7**
	comp=Z,1μmcomp=Z,57nm,0.8s						
PATY	**Pattaya**	**17.01**	**295**	P	**P**	**23 19 45.0**	**+0.9**
	comp=Z,32nm,0.9s						
KSI	**Kapahiang**	**17.04**	**236**	P	**P**	**23 19 44.7**	**+0.2**
	comp=Z,23μmcomp=Z,771nm,0.9s						
TWG	**Pinlang**	**17.21**	**14**	P	**Pn**	**23 19 45.1**	**+0.3**
TWG				IAmb	IAmb	23 20 10.9	
	comp=Z,981nm,1.5s						
GZH	**Guangzhou**	**17.24**	**350**	P	**P**	**23 19 53.6**	**+7.0**
GZH				S	**S**	**23 23 13.6**	**+8.0**
GZH				pmax	pmax		
	comp=Z,8μm,7.7s						
GZH				L	L		
	comp=Z,20μm,15.7s						
GZH				L	L		
	comp=Z,7μm,14.9s						
CHAI	**Chaiyaphum**	**17.41**	**305**	P	**P**	**23 19 48.8**	**+0.2**
	comp=Z,1μmcomp=Z,98nm,1.6s						
SOEI	**Soe**	**17.43**	**154**		**P**	**23 19 48.9**	**+0.1**
SOEI	**Soe**	**17.43**	**154**	P	**P**	**23 19 50.0**	**+1.1**
	comp=Z,111μmcomp=Z,78μmcomp=Z,4μm,1.1s						
SOEI				pP	**sP**	**23 20 02.5**	**+5.4**
	comp=Z,111μmcomp=Z,78μmcomp=Z,4μm,1.1s						
KRAB	**Krabi**	**17.47**	**278**	P	**P**	**23 19 51.0**	**+1.8**
	comp=Z,8μmcomp=Z,787nm,0.8s						
TPUB	**Ta-pu**	**17.58**	**12**	P	**Pn**	**23 19 49.8**	**+0.4**
BATI	**Baumata**	**17.58**	**157**	P	**P**	**23 19 50.8**	**+0.3**
	comp=Z,36nm,0.3s,baz=273,slow=1.0,SNR=54						
BATI	**Baumata**	**17.58**	**157**	P	**P**	**23 19 51.8**	**+1.3**
	comp=Z,42μmcomp=Z,20μmcomp=Z,1μm,1.0s						
PDSI	**Padang**	**17.59**	**247**	P	**P**	**23 19 50.6**	**0.0**
	comp=Z,12μmcomp=Z,4μmcomp=Z,171nm,1.2s						
NONG	**Nongkai**	**17.80**	**313**	P	**Pn**	**23 19 52.6**	**+0.4**
	comp=Z,7μmcomp=Z,389nm,1.1s						
YULB	**Yu-li**	**17.82**	**14**	P	**P**	**23 19 53.5**	**+0.5**
MNSI	**Mandailing Nat**	**17.83**	**254**	P	**P**	**23 19 53.1**	**-0.1**
	comp=Z,20μmcomp=Z,6μmcomp=Z,485nm,1.0s						
SURT	**Suratani**	**17.95**	**280**	P	**P**	**23 19 57.5**	**+2.9**
	comp=Z,204nmcomp=Z,28nm,1.1s						
PSI	**Prapat**	**17.98**	**260**	P	**Pn**	**23 19 54.7**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=0.9,slow=6.5,SNR=117						
PSI				LR	LR	23 27 28.8	
	comp=Z,12μm,19.2s,baz=90,slow=39						
PSI	**Prapat**	**17.98**	**260**	P	**Pn**	**23 19 54.2**	**-0.3**
PSI				pmax	pmax		
	comp=Z,754nm,1.4s						
RPSI	**Rantau Prapat**	**18.00**	**260**	P	**Pn**	**23 19 54.2**	**-0.4**
PHET	**Kaeng Krachan**	**18.13**	**293**	P	**P**	**23 19 57.9**	**+1.4**
	comp=Z,592nmcomp=Z,63nm,1.1s						
TSI	**Tuntungan**	**18.21**	**263**	P	**P**	**23 20 00.4**	**+3.0**
	comp=Z,22μmcomp=Z,11μmcomp=Z,582nm,1.0s						
PKDT	**Phuket**	**18.29**	**277**	P	**P**	**23 19 58.5**	**+0.2**
	comp=Z,13μmcomp=Z,606nm,1.1s						
KNMB	**Chin-men Tao**	**18.39**	**5**	P	**Pn**	**23 19 60.0**	**+0.6**
PBKT	**Sadao Pong**	**18.59**	**306**	P	**Pn**	**23 20 07.4**	**+5.5**
PBKT	**Sadao Pong**	**18.59**	**306**	P	**P**	**23 20 00.7**	**-0.9**
NACB	**Ninganchiao**	**18.64**	**14**	P	**Pn**	**23 20 02.5**	**+0.1**
QZH	**Quanzhou**	**18.88**	**5**↑*i*P		**Pn**	**23 20 06.2**	**+0.9**
QZH				S	**S**	**23 23 39.9**	**+1.1**
QZH				pmax	pmax		
	comp=Z,210nm,1.6s						
QZH				pmax	pmax		
	comp=Z,5μm,6.6s						
QZH				L	L		
	comp=Z,12μm,16.1s						
QZH				L	L		
	comp=Z,16μm,15.7s						
QZH				L	L		
	comp=Z,25μm,17.5s						
YHNB	**Yeheng**	**19.06**	**13**	P	**Pn**	**23 20 07.9**	**+0.2**
YHNB				IAmb	IAmb	23 20 25.2	
	comp=Z,2μm,1.9s						
YOJ	**Yonaguni jima**	**19.30**	**18**	IAmb	IAmb	23 20 25.0	
	comp=Z,675nm,0.9s						
UTHA	**Uthaitani**	**19.36**	**301**	P	**Pn**	**23 20 11.6**	**+0.4**
	comp=Z,1μmcomp=Z,98nm,1.3s						
PHIT	**Phitsanulok**	**19.37**	**306**	P	**Pn**	**23 20 11.0**	**-0.3**
	comp=Z,2μmcomp=Z,219nm,1.4s						
TATO	**Taipei**	**19.38**	**13**	P	**Pn**	**23 20 13.0**	**+1.6**
TATO				P	**Pn**	**23 20 13.0**	**+1.6**
KMPI	**Kaimana, Papua**	**19.56**	**119**	P	**Pn**	**23 20 12.9**	**-0.7**
	comp=Z,32μmcomp=Z,1μm,1.3s						
UTTA	**Uttaradit**	**19.57**	**308**	P	**Pn**	**23 20 13.8**	**+0.1**
	comp=Z,686nmcomp=Z,69nm,1.3s						
SLVN	**Son La**	**19.59**	**322**	P	**Pn**	**23 20 13.5**	**-0.5**
TPTI		**19.61**	**263**	P	**P**	**23 20 12.9**	**0.0**
	comp=Z,10μmcomp=Z,4μmcomp=Z,221nm,1.2s						
GSI	**Gunungsitoli**	**19.62**	**257**	P	**P**	**23 20 11.6**	**-1.3**
GSI	**Gunungsitoli**	**19.62**	**257**	P	**P**	**23 20 13.0**	**+0.1**
	comp=Z,17μmcomp=Z,26μmcomp=Z,3μm,1.1s						
LHMI	**Lhok Sumawe**	**19.64**	**269**	P	**P**	**23 20 13.6**	**+0.5**
LHMI	**Lhok Sumawe**	**19.64**	**269**	P	**Pn**	**23 20 15.4**	**+0.8**
	comp=Z,27μmcomp=Z,25μmcomp=Z,1μm,1.1s						
XMI	**Christmas Isla**	**19.70**	**214**	P	**P**	**23 20 13.8**	**+0.1**
	comp=Z,638nm,1.0s						
XMIS	**Christmas Isla**	**19.74**	**214**		**P**	**23 20 13.5**	**-0.7**
XMIS				IAmb	IAmb	23 20 24.7	
	comp=Z,1μm,1.2s						
XMIS	**Christmas Isla**	**19.74**	**214**	P	**P**	**23 20 14.0**	**-0.2**
	comp=Z,885nm,1.2s						
UMPA	**Umpang Tak**	**20.16**	**302**	P	**P**	**23 20 19.0**	**+0.2**
	comp=Z,56nm,0.8s						
SAUI	**Saumlaki**	**20.18**	**133**	P	**P**	**23 20 18.7**	**-0.3**
SAUI				IAmb	IAmb	23 20 30.9	
	comp=Z,889nm,1.0s						
BAKI	**Biak**	**20.70**	**110**	P	**P**	**23 20 25.4**	**+0.7**
	comp=Z,27μmcomp=Z,2μm,1.0s						
SRPI	**Serui, Papua**	**21.07**	**111**	P	**P**	**23 20 29.4**	**+0.7**
	comp=Z,41μmcomp=Z,21μmcomp=Z,1μm,0.9s						
CM36	**Chiang Mai Arr**	**21.15**	**307**	P	**P**	**23 20 30.0**	**+0.5**
CM04	**Chiang Mai Arr**	**21.18**	**307**	P	**P**	**23 20 31.0**	**+1.2**
	comp=Z,2μmcomp=Z,188nm,1.0s						
CM09	**Chiang Mai Arr**	**21.19**	**307**	P	**P**	**23 20 31.6**	**+1.7**
	comp=Z,2μmcomp=Z,264nm,0.9s						
CM01	**Chiang Mai Arr**	**21.20**	**307**	P	**P**	**23 20 31.6**	**+1.5**
	comp=Z,3μmcomp=Z,325nm,1.1s						
CM05	**Chiang Mai Arr**	**21.20**	**307**	P	**P**	**23 20 31.6**	**+1.5**
	comp=Z,2μmcomp=Z,227nm,1.2s						
CM02	**Chiang Mai Arr**	**21.22**	**307**	P	**P**	**23 20 31.0**	**+0.7**
	comp=Z,2μmcomp=Z,231nm,1.0s						
CM31	**Chiang Mai Arr**	**21.23**	**307**	P	**P**	**23 20

MTN IAmb IAmb 23 21 02.0
comp=Z,558nm,1.2s
PBA Port Blair 24.28 285 *e*P P 23 21 00.1 -1.6
PBA IAmb IAmb 23 21 03.4
comp=Z,530nm,1.4s
PBA IAMs_20 IAMs_20 23 31 59.9
comp=Z,22µm,16.3s
PBA Port Blair 24.28 285 P P 23 21 00.2 -1.5
PBA IAmb IAmb 23 21 03.2
comp=Z,394nm,1.1s
PBA IAMs_20 IAMs_20 23 30 41.8
comp=Z,29µm,20.0s
PBA Port Blair 24.28 285 P P 23 21 00.1 -1.6
SNR=22
KDU Kakadu 24.35 140 P **P** **23 21 01.2 -1.2**
baz=24,SNR=32
DGPR DIGLIPUR 24.44 289 *e*P **P** **23 21 01.9 -1.2**
DGPR IAmb IAmb 23 21 14.3
comp=Z,126nm,0.7s
WHN Wuhan 24.47 355 ⇓*i*P **P** **23 21 04.4 +1.1**
WHN S **S** **23 25 25.3 +2.6**
WHN pmax pmax
comp=Z,330nm,1.6s
WHN pmax pmax
comp=Z,4µm,4.6s
WHN L L
comp=Z,40µm,13.6s
WHN L L
comp=Z,8µm,13.6s
WHN L L
comp=Z,53µm,14.6s
KNRA Kununurra 24.68 151 P **P** **23 21 04.8 -0.5**
GENI Genyem 24.99 109 P **P** **23 21 08.4 +0.2**
comp=Z,29µmcomp=Z,19µmcomp=Z,884nm,1.6s
ENH Enshi 25.03 345 IAmb IAmb 23 21 50.3
comp=Z,413nm,1.6s
ENH IAMs_20 IAMs_20 23 30 56.8
comp=Z,23µm,19.0s
SSE Sheshan 25.28 9 P **P** **23 21 11.3 +0.7**
SSE pP **pP** **23 21 17.4 +1.1**
SSE S **S** **23 25 37.6 +1.9**
SSE pmax pmax
comp=Z,30nm,0.7s
SSE L L
comp=Z,6µm,17.8s
FITZ Fitzroy Crossi 25.57 160 P **P** **23 21 12.3 -1.0**
comp=Z,85nm,1.1s,baz=358,slow=7.3,SNR=29
FITZ LR LR 23 34 02.0
comp=Z,6µm,18.0s,baz=58,slow=43
FITZ Fitzroy Crossi 25.57 160 P **P** **23 21 12.5 -0.8**
baz=26,SNR=20
FITZ Fitzroy Crossi 25.57 160 P **P** **23 21 12.5 -0.8**
FITZ IAmb IAmb 23 21 21.4
comp=Z,467nm,1.2s
NJ2 Nanjing 25.96 4 ⇓P **P** **23 21 17.8 +1.1**
NJ2 pP **pP** **23 21 20.2 -2.3**
NJ2 sP **sP** **23 21 22.2 -2.7**
NJ2 S **S** **23 25 50.6 +4.2**
NJ2 pmax pmax
comp=Z,22nm,0.5s
NJ2 pmax pmax
comp=Z,3µm,5.3s
NJ2 L L
comp=Z,19µm,17.0s
NJ2 L L
comp=Z,11µm,14.7s
NJ2 L L
comp=Z,26µm,17.1s
PSAD1 Pilbara Seismi 27.50 174 IAMs_20 IAMs_20 23 33 36.9
comp=Z,14µm,20.0s
CD2 Chengdu 27.55 335 P **P** **23 21 30.0 -1.2**
CD2 pP pP 23 21 34.3 -3.0
CD2 S **S** **23 26 10.3 -1.4**
CD2 pmax pmax
comp=Z,100nm,0.7s
CD2 pmax pmax
comp=Z,2µm,5.9s
CD2 L L
comp=Z,20µm,19.2s
CD2 L L
comp=Z,15µm,16.3s
CD2 L L
comp=Z,25µm,19.4s
PSA00 Pilbara Seismi 27.62 174 P **P** **23 21 30.9 -1.0**
PSA00 IAmb IAmb 23 21 38.4
comp=Z,390nm,1.0s
PSA00 Pilbara Seismi 27.62 174 P **P** **23 21 30.6 -1.3**
PSA00 IAmb IAmb 23 21 38.4
comp=Z,337nm,0.9s
JSU Suzuyama 28.43 25 P **P** **23 21 39.0 0.0**
GIRL Giralia 28.61 185 P **P** **23 21 41.1 +0.5**
baz=29,SNR=6.4
GIRL Giralia 28.61 185 P **P** **23 21 40.6 0.0**
GUMO Guam 28.76 73 LR LR 23 33 55.6
comp=Z,4µm,19.8s,baz=244,slow=38
XAN Xi'an 28.77 347 P **P** **23 21 41.5 -0.5**
XAN pP pP 23 21 45.0 -3.2
XAN PcP **PcP** **23 24 55.7 +3.7**
XAN S **S** **23 26 25.9 -4.9**
XAN ScP **ScP** **23 28 28.4 -4.3**
XAN pmax pmax
comp=Z,49nm,1.1s
XAN pmax pmax
comp=Z,1µm,8.4s
XAN L L
comp=Z,18µm,17.1s
XAN L L
comp=Z,15µm,14.7s
XAN L L
comp=Z,36µm,16.5s
KOHI KOHIMA 29.12 315 *e*P **P** **23 21 43.8 -1.5**
KOHI IAmb IAmb 23 21 49.8
comp=Z,255nm,1.2s
BELO BELONIA 29.70 308 *e*P **P** **23 21 50.6 +0.2**
JNU Nakatsue 30.01 24 P **P** **23 21 52.2 -0.9**
TIA Tai'an 30.03 1 P **P** **23 21 52.8 -0.3**
TIA S **S** **23 26 50.3 -0.2**
TIA pmax pmax
comp=Z,58nm,1.5s
TIA pmax pmax
comp=Z,840nm,6.9s
TIA L L
comp=Z,17µm,17.1s
TIA L L
comp=Z,14µm,16.5s
TIA L L
comp=Z,24µm,16.1s
AGT Agartala 30.19 309 *e*P **P** **23 21 54.9 +0.2**
AGT IAmb IAmb 23 22 01.4
comp=Z,333nm,1.2s
ZIRO ZIRO 30.44 317 *e*P **P** **23 21 56.0 -1.1**
SHL Shillong 30.64 312 P **P** **23 21 58.5 -0.4**
SHL pmax pmax
comp=Z,493nm,1.3s
SHL MLR MLR
comp=Z,13µm,19.0s
SHL Shillong 30.64 312 *e*P **P** **23 21 58.8 0.0**
SHL *i* P **pP** **23 22 03.5 -1.4**
SHL IAmb IAmb 23 22 07.7
comp=Z,411nm,1.3s
SHL *e*S **S** **23 26 58.0 -2.7**
SHL IAML 23 36 02.1
comp=Z,14µm,17.3s
SHL Shillong 30.64 312 P **P** **23 21 58.5 -0.4**
SHL IAMs_20 IAMs_20 23 35 58.4
comp=Z,13µm,19.0s
SHL Shillong 30.64 312 P **P** **23 21 59.0 +0.1**
SNR=177
JTU Tsushima 30.69 21 P **P** **23 21 59.2 +0.3**
WRAB Tennant Creek 31.13 146 *d i*P **P** **23 22 01.4 -1.7**
WRAB pmax pmax
comp=Z,181nm,1.4s
WRAB MLR MLR
comp=Z,9µm,19.0s
WRAB Tennant Creek 31.13 146 P **P** **23 22 01.8 -1.3**
WRAB IAmb IAmb 23 23 06.7
comp=Z,175nm,1.1s
GUWA GUWAHATI 31.14 313 *e*P **P** **23 22 02.2 -0.9**
GUWA IAmb IAmb 23 22 07.8
comp=Z,112nm,0.8s
GUWA IAMs_20 IAMs_20 23 35 15.2
comp=Z,9µm,18.2s
MANU Manus Island 31.69 104 P **P** **23 22 07.2 -0.9**
MANU IAmb IAmb 23 22 15.5
comp=Z,354nm,1.8s
TJN Taejon 31.74 17 *d i*P **P** **23 22 08.0 -0.2**

TIY Taiyuan 31.76 354 *e*P **P** **23 22 09.8 +1.3**
TIY PP **PnPn** **23 23 07.8 -5.1**
TIY S **S** **23 27 15.8 -1.9**
TIY pmax pmax
comp=Z,22nm,0.4s
TIY pmax pmax
comp=Z,850nm,6.3s
TIY L L
comp=Z,10µm,14.8s
TIY L L
comp=Z,5µm,15.2s
TIY L L
comp=Z,10µm,16.0s
JMN Monobe 31.84 28 P **P** **23 22 09.5 +0.3**
JMN IAmb IAmb 23 22 18.2
comp=Z,179nm,0.9s
JCJ Chichijima 32.06 46 P **P** **23 22 10.0 -1.2**
LZH Lanzhou 32.13 340 ⇓P **P** **23 22 11.9 0.0**
LZH pP pP 23 22 16.2 -1.9
LZH PP **PnPn** **23 23 19.0 +1.2**
LZH PcP **PcP** **23 25 06.4 +5.5**
LZH S **S** **23 27 22.0 -1.8**
LZH sS pS 23 27 30.5 0.0
LZH ScP **ScP** **23 28 44.4 +0.5**
LZH SS SS 23 29 15.9 -26
LZH ScS **ScS** **23 32 43.1 +0.3**
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,1µm,6.0s
LZH L L
comp=Z,17µm,16.3s
LZH L L
comp=Z,16µm,16.3s
LZH L L
comp=Z,14µm,15.7s
MEEK Meekatharra 32.54 177 P **P** **23 22 14.4 -1.0**
baz=33,SNR=76
JHS Saijyo 32.57 26 P **P** **23 22 15.8 +0.3**
JHS IAmb IAmb 23 22 24.1
comp=Z,228nm,0.9s
INCN Inchon 32.59 15 P **P** **23 22 16.7 +1.0**
INCN pmax pmax
comp=Z,143nm,1.1s
INCN MLR MLR
comp=Z,10µm,18.0s
INCN Inchon 32.59 15 P **P** **23 22 16.7 +1.0**
INCN IAmb IAmb 23 22 27.9
comp=Z,143nm,1.1s
INCN Inchon 32.59 15 IAMs_20 IAMs_20 23 37 05.5
comp=Z,9µm,18.0s
INCN Inchon 32.59 15 P **P** **23 22 18.3 +2.7**
INCN P **P** **23 22 18.3 +2.7**
INCN P **P** **23 22 18.3 +2.7**
KSAR Wonju Array Be 32.88 17 P **P** **23 22 19.5 +1.3**
KSAR Wonju Array Be 32.88 17 P **P** **23 22 19.5 +1.3**
WRKA Warakurna 32.90 160 P **P** **23 22 17.6 -1.0**
baz=33,SNR=32
KSRS Korea Array 32.91 17 P **P** **23 22 19.1 +0.7**
comp=Z,17nm,0.5s,baz=202,slow=8.6,SNR=43
KSRS LR LR 23 36 15.9
comp=Z,6µm,21.1s,baz=205,slow=38
KS19 Wonju Array Si 32.94 17 P **P** **23 22 19.4 +0.7**
KS19 IAmb IAmb 23 22 25.2
comp=Z,388nm,1.9s
DL2 Dalian 33.02 7 ⇓*i*P **P** **23 22 18.8 -0.6**
DL2 S **S** **23 27 35.0 -2.2**
DL2 ScP **ScP** **23 28 50.4 +3.8**
DL2 pmax pmax
comp=Z,120nm,1.4s
DL2 pmax pmax
comp=Z,740nm,6.4s
DL2 L L
comp=Z,13µm,18.0s
DL2 L L
comp=Z,5µm,15.7s
DL2 L L
comp=Z,17µm,18.3s
LSA Lhasa 33.65 317 P **P** **23 22 26.8 +1.2**
LSA S S 23 27 38.4 -10
LSA pmax pmax
comp=Z,210nm,1.7s
LSA L L
comp=Z,26µm,20.6s
LSA L L
comp=Z,14µm,14.2s
LSA L L
comp=Z,29µm,16.4s
LSA Lhasa 33.65 317 *i* P **P** **23 22 25.9 +0.3**
SNR=18
LSA Lhasa 33.65 317 IAmb IAmb 23 22 37.5
comp=Z,232nm,1.4s
LSA Lhasa 33.65 317 P **P** **23 22 26.4 +0.8**
LSA P **P** **23 22 26.4 +0.8**
LSA P **P** **23 22 26.4 +0.8**
BJT Baijiatuau 33.83 359 P **P** **23 22 27.6 +1.1**
BJT pmax pmax
comp=Z,265nm,1.3s
BJT MLR MLR
comp=Z,15µm,18.0s
BJT Baijiatuau 33.83 359 P **P** **23 22 27.6 +1.1**
BJT IAmb IAmb 23 22 39.7
comp=Z,265nm,1.3s
BJT Baijiatuau 33.83 359 IAMs_20 IAMs_20 23 37 46.3
comp=Z,15µm,18.0s
JWT Wachi 33.83 28 P **P** **23 22 27.1 +0.5**
JWT IAmb IAmb 23 22 37.9
comp=Z,101nm,0.9s
BJI Beijing 33.85 359 P **P** **23 22 27.1 +0.5**
BJI S **S** **23 27 51.4 +1.4**
BJI pmax pmax
comp=Z,15nm,1.0s
BJI pmax pmax
comp=Z,2µm,7.0s
BJI L L
comp=Z,12µm,18.6s
BJI L L
comp=Z,14µm,17.5s
BJI L L
comp=Z,11µm,21.7s
AS31 Alice Springs 33.99 151 P **P** **23 22 27.3 -0.8**
ASAR Alice Springs 33.99 151 P **P** **23 22 26.9 -1.2**
comp=Z,12nm,0.7s,baz=331,slow=8.3,SNR=53
ASAR PcP **PcP** **23 25 05.5 -0.6**
comp=Z,32nm,0.9s,baz=1.0,slow=3.0,SNR=9.0
ASAR LR LR 23 39 42.6
comp=Z,12µm,18.3s,baz=318,slow=42
ASAR Alice Springs 33.99 151 P **P** **23 22 26.7 -1.4**
ASAR Alice Springs 33.99 151 P **P** **23 22 26.6 -1.4**
ASAR PcP **PcP** **23 25 05.4 -0.7**
PMG Port Moresby 34.05 117 *d i*P **P** **23 22 26.8 -1.9**
PMG pmax pmax
comp=Z,160nm,1.1s
PMG MLR MLR
comp=Z,5µm,18.0s
PMG Port Moresby 34.05 117 P **P** **23 22 27.3 -1.4**
PMG IAmb IAmb 23 22 39.2
comp=Z,150nm,1.1s
PMG Port Moresby 34.05 117 P **P** **23 22 28.5 -0.2**
BOK Bokaro 34.45 304 *e*P **P** **23 22 32.4 +0.2**
BOK IAmb IAmb 23 22 38.3
comp=Z,110nm,1.1s
BOK IAMs_20 IAMs_20 23 38 05.0
comp=Z,11µm,19.8s
JHJ2 Mitsune 34.48 36 P **P** **23 22 32.1 -0.1**
JHJ2 IAMs_20 IAMs_20 23 36 46.0
comp=Z,11µm,19.0s
VIS Vishakhapatnam 34.55 293 *e*P **P** **23 22 33.4 +0.3**
INU Inuyama 34.67 30 P **P** **23 22 33.4 -0.4**
QIS Mount Isa 34.74 140 P **P** **23 22 33.2 -1.4**
baz=35,SNR=46
MORW Morawa 34.91 181 P **P** **23 22 35.6 -0.4**
baz=35,SNR=28
MORW Morawa 34.91 181 P **P** **23 22 34.9 -1.1**
MORW IAmb IAmb 23 22 42.9
comp=Z,312nm,1.1s
HHC Hu-ho-hao-te 34.95 353 *e*P **P** **23 22 36.1 -0.3**
HHC S **S** **23 28 04.6 -2.7**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,910nm,5.0s
HHC L L
comp=Z,8µm,13.6s
HHC L L
comp=Z,7µm,14.5s

HHC L L
comp=Z,12µm,13.6s
JGF Kuroka 35.03 30 P **P** **23 22 36.5 -0.6**
PALK Pallekele 35.74 274 LR LR 23 37 28.2
comp=Z,12µm,21.3s,baz=195,slow=37
PALK Pallekele 35.74 274 P **P** **23 22 41.9 -1.5**
PALK pmax pmax
comp=Z,576nm,2.0s
PALK MLR MLR
comp=Z,13µm,21.0s
PALK Pallekele 35.74 274 P **P** **23 22 41.9 -1.5**
PALK IAmb IAmb 23 22 49.9
comp=Z,576nm,2.0s
PALK IAMs_20 IAMs_20 23 37 16.6
comp=Z,13µm,21.0s
PALK Pallekele 35.74 274 P **P** **23 22 44.3 +0.9**
MAJO Matsushiro 36.20 30 P **P** **23 22 46.4 -0.6**
MAJO pmax pmax
comp=Z,74nm,1.0s
MAJO MLR MLR
comp=Z,5µm,20.0s
MAJO Matsushiro 36.20 30 P **P** **23 22 46.4 -0.6**
MAT Matsushiro 36.20 30 P **P** **23 22 45.8 -1.2**
MAT S **S** **23 28 26.4 0.0**
MJAR Matsushiro Arr 36.20 30 P **P** **23 22 45.9 -1.1**
comp=Z,13nm,0.9s,baz=211,slow=8.9,SNR=23
MJAR Matsushiro Arr 36.20 30 P **P** **23 22 46.4 -0.6**
MJAR pmax pmax
comp=Z,128nm,1.3s
MJAR Matsushiro Arr 36.20 30 P **P** **23 22 46.4 -0.6**
MTSU Mount Surprise 36.35 132 P **P** **23 22 48.4 -0.1**
baz=36,SNR=23
BLDU Ballidu 36.45 180 P **P** **23 22 48.1 -1.0**
baz=36,SNR=21
GTA Gaotai 36.53 338 ⇑P **P** **23 22 49.8 -0.2**
GTA pP pP 23 22 53.9 -2.2
GTA sP sP 23 22 57.1 -1.0
GTA PP **PP** **23 24 14.4 +1.1**
GTA PcP **PcP** **23 25 15.7 +2.3**
GTA S **S** **23 28 31.8 +0.2**
GTA ScP **ScP** **23 29 00.4 +1.0**
GTA ScS **ScS** **23 33 05.7 -0.2**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,1µm,8.5s
GTA L L
comp=Z,6µm,19.3s
GTA L L
comp=Z,10µm,17.1s
GTA L L
comp=Z,11µm,19.3s
MDRS Chennai 36.55 284 *e*P **P** **23 22 52.1 +1.9**
MDRS IAmb IAmb 23 22 52.6
comp=Z,308nm,1.3s
MDRS IAMs_20 IAMs_20 23 37 13.4
comp=Z,14µm,21.5s
RABL Rabaul 36.88 105 P **P** **23 22 54.7 +1.6**
comp=Z,219nm,0.7s
JYT Yasato 36.98 32 P **P** **23 22 53.5 -0.2**
JYT IAmb IAmb 23 23 43.0
comp=Z,112nm,0.3s
JSD Sado 37.41 29 P **P** **23 22 57.4 +0.2**
KLBR Kellerberrin 37.44 178 P **P** **23 22 57.3 -0.3**
baz=38,SNR=20
KMBL Kambalda 37.53 173 P **P** **23 22 57.6 -0.7**
baz=38,SNR=66
MUN Mundaring 37.81 181 P **P** **23 22 60.0 -0.7**
baz=38,SNR=6.4
FORT Forrest 38.20 164 P **P** **23 23 03.6 -0.5**
baz=38,SNR=20
FORT Forrest 38.20 164 P **P** **23 23 03.4 -0.6**
FORT IAmb IAmb 23 23 28.4
comp=Z,188nm,0.9s
FORT IAMs_20 IAMs_20 23 41 05.8
comp=Z,13µm,20.0s
CN2 Changchun 38.39 10 *e*P **P** **23 23 04.4 -1.1**
CN2 S **S** **23 29 01.0 +1.5**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 L L
comp=Z,10µm,15.0s
CN2 L L
comp=Z,4µm,15.0s
CN2 L L
comp=Z,8µm,15.0s
JMM Marumori 38.53 31 P **P** **23 23 06.1 -0.6**
JMM IAmb IAmb 23 23 19.5
comp=Z,287nm,0.9s
MSHR Mys Shultsa 38.59 17 ⇑*e*P **P** **23 23 08.3 +1.2**
MSHR pmax pmax
comp=Z,117nm,1.3s
MSHR MLR MLR
comp=Z,5µm,18.0s
NWAO Narrogin (SRO) 38.76 179 P **P** **23 23 08.1 -0.6**
comp=Z,135nm,1.1s,baz=351,slow=9.5,SNR=16
NWAO Narrogin (SRO) 38.76 179 P **P** **23 23 08.4 -0.2**
baz=39,SNR=6.8
NWAO Narrogin (SRO) 38.76 179 P **P** **23 23 07.1 -1.6**
NWAO pmax pmax
comp=Z,325nm,1.2s
NWAO MLR MLR
comp=Z,5µm,21.0s
NWAO Narrogin (SRO) 38.76 179 P **P** **23 23 07.1 -1.6**
NWAO IAmb IAmb 23 23 15.8
comp=Z,325nm,1.1s
HYB Hyderabad 38.91 290 *i* P **P** **23 23 10.5 +0.3**
comp=Z,214nm,1.2s
HYB *e*S **S** **23 29 07.0 -1.0**
CTAO Charters Tower 39.00 132 P **P** **23 23 09.5 -1.4**
CTAO pmax pmax
comp=Z,202nm,1.3s
CTAO MLR MLR
comp=Z,4µm,20.0s
CTAO Charters Tower 39.00 132 P **P** **23 23 09.4 -1.4**
MDJ Mudanjiang 40.05 14 P **P** **23 23 20.0 +0.7**
MDJ sP pP 23 23 24.4 -0.8
MDJ PP **PnPn** **23 24 54.8 -0.3**
MDJ S **S** **23 29 28.6 +4.2**
MDJ ScS **ScS** **23 33 26.3 +0.7**
MDJ pmax pmax
comp=Z,150nm,1.4s
MDJ pmax pmax
comp=Z,2µm,3.6s
MDJ L L
comp=Z,9µm,18.5s
MDJ L L
comp=Z,8µm,15.7s
MDJ L L
comp=Z,5µm,17.6s
MDJ Mudanjiang 40.05 14 IAmb IAmb 23 23 28.8
comp=Z,178nm,0.9s
MDJ IAMs_20 IAMs_20 23 39 57.3
comp=Z,8µm,21.0s
USA0B Ussuriysk Arra 40.31 17 P **P** **23 23 21.5 0.0**
USA0B pmax pmax
comp=Z,520nm,2.0s
USA0B Ussuriysk Arra 40.31 17 P **P** **23 23 21.5 0.0**
USA0B IAmb IAmb 23 23 29.1
comp=Z,520nm,1.9s
USRK Ussuriysk Ar. 40.31 17 P **P** **23 23 22.3 +0.8**
comp=Z,14nm,0.9s,baz=193,slow=10,SNR=17
USRK LR LR 23 42 14.1
comp=Z,4µm,18.1s,baz=193,slow=40
USRK Ussuriysk Ar. 40.31 17 P **P** **23 23 21.4 -0.1**
USRK Ussuriysk Ar. 40.31 17 P **P** **23 23 21.4 -0.1**
PATS Pohnpei 41.38 87 P **P** **23 23 31.9 +1.1**
PATS IAMs_20 IAMs_20 23 38 59.6
comp=Z,10µm,22.0s
BHPL Bhopal 41.45 298 *e*P **P** **23 23 30.5 -0.8**
BHPL IAmb IAmb 23 23 36.1
comp=Z,287nm,1.5s
QLP Quilpie 42.02 142 P **P** **23 23 36.2 +0.4**
baz=42,SNR=20
ULN Ulaanbaatar 42.47 350 P **P** **23 23 39.6 +0.2**
ULN pmax pmax
comp=Z,203nm,1.3s
ULN MLR MLR
comp=Z,6µm,21.0s
ULN Ulaanbaatar 42.47 350 P **P** **23 23 39.6 +0.2**
ULN Ulaanbaatar 42.47 350 P **P** **23 23 40.0 +0.6**
ULN P **P** **23 23 40.0 +0.6**
SONM Songino Array 42.56 350 P **P** **23 23 40.0 0.0**
comp=Z,40nm,1.1s,baz=168,slow=8.7,SNR=44

SONM LR LR 23 42 44.2
comp=Z,7μm,18.2s,baz=160,slow=38
SONM PKPPKP 23 55 33.3
comp=Z,0.2nm,0.3s,baz=318,slow=1.9,SNR=1.7
SONM Songino Array 42.56 350 P **P 23 23 39.3 -0.7**
SONM pmax pmax
comp=Z,134nm,1.4s
SONM Songino Array 42.56 350 P **P 23 23 39.3 -0.7**
JEW Eniwo 42.70 27 P **P 23 23 41.1 +0.1**
JEW IAmb IAmb 23 24 10.9
comp=Z,288nm,1.2s
BBOO Buckleboo 42.81 156 P **P 23 23 41.2 -0.9**
baz=43,SNR=17
BBOO Buckleboo 42.81 156 P **P 23 23 41.2 -0.9**
BBOO IAmb IAmb 23 23 52.3
comp=Z,258nm,1.2s
BBOO IAMs_20 IAMs_20 23 44 09.4
comp=Z,8μm,19.0s
ERM Erimo 42.86 29 *de*P **P 23 23 43.9 +1.5**
ERM pmax pmax
comp=Z,134nm,1.3s
ERM MLR MLR
comp=Z,6μm,19.0s
ERM Erimo 42.86 29 P **P 23 23 43.0 +0.6**
ERM Erimo 42.86 29 IAMs_20 IAMs_20 23 43 34.5
comp=Z,7μm,19.0s
JEM Erimo 42.86 29 P P 23 23 51.4 +9.0
JEM IAMs_20 IAMs_20 23 42 50.2
comp=Z,7μm,20.0s
GOA Goa 43.04 286 *e*P **P 23 23 45.1 +0.9**
GOA IAmb IAmb 23 23 52.6
comp=Z,74nm,0.8s
GOA IAMs_20 IAMs_20 23 41 08.9
comp=Z,9μm,18.8s
HIA Hailar 43.15 3 IAMs_20 IAMs_20 23 42 30.2
comp=Z,12μm,20.0s
POO Poona 43.51 291 *e*P **P 23 23 47.8 -0.4**
NDI New Delhi 43.56 306 *e*P **P 23 23 48.0 -0.3**
DDI Dehra Dun 43.57 308 *e*P **P 23 23 47.6 -0.9**
DDI IAmb IAmb 23 23 53.0
comp=Z,276nm,1.5s
ASAJ Asahikawa 44.21 27 P **P 23 23 53.6 +0.3**
comp=Z,55nm,1.0s,baz=234,slow=10,SNR=9.7
JKA Kamikawa-asahi 44.22 27 IAmb IAmb 23 24 15.6
comp=Z,406nm,1.7s
HTT Hallett 44.57 153 P **P 23 23 56.6 +0.2**
baz=45,SNR=36
STKA Stephens Creek 44.58 149 P **P 23 23 56.0 -0.3**
comp=Z,92nm,1.0s,baz=321,slow=8.0,SNR=77
STKA LR LR 23 44 21.7
comp=Z,4μm,21.0s,baz=319,slow=39
SMLA Simla 44.61 309 *e*P **P 23 23 56.6 -0.1**
SMLA IAMs_20 IAMs_20 23 45 49.4
comp=Z,13μm,19.1s
RMQ Roma 44.87 138 P **P 23 23 59.2 +0.4**
baz=45,SNR=9.2
KLR Kul'dur 44.89 14 P **P 23 23 58.6 -0.1**
comp=Z,26nm,1.0s,baz=218,slow=6.9,SNR=41
KLR Kul'dur 44.89 14 *d i*P **P 23 23 58.2 -0.4**
KLR pmax pmax
comp=Z,142nm,1.4s
KLR MLR MLR
comp=Z,6μm,17.0s
WMQ Urumqi 45.42 331 P **P 23 24 02.4 -0.6**
WMQ pP pP 23 24 07.9 -1.3
WMQ sP sP 23 24 12.3 +1.1
WMQ PcP **PcP 23 25 44.9 +2.8**
WMQ ScP **ScP 23 29 36.7 +2.5**
WMQ S **S 23 30 44.0 +0.4**
WMQ SS **ScS 23 33 58.7 -0.3**
WMQ pmax pmax
comp=Z,73nm,1.3s
WMQ pmax pmax
comp=Z,2μm,6.1s
WMQ L L
comp=Z,12μm,16.9s
WMQ L L
comp=Z,10μm,17.9s
WMQ L L
comp=Z,17μm,17.9s
ZAK Zakamensk 45.59 348 *e*P **P 23 24 03.6 -0.7**
ZAK pmax pmax
comp=Z,42nm,1.3s
YUK Yuzh-Kuril'sk 45.68 29 *e*P **P 23 24 04.8 -0.2**
YUK *e* 23 25 41.8
YUK *e* 23 25 52.2
YUK *e*PPP PPP 23 26 31.7
YUK *e*S **S 23 30 48.9 +1.7**
YUK *e* 23 34 00.2
YUK *e*SSS SSS 23 35 03.8
YUK pmax pmax
comp=Z,1μm,2.0s
YUK pmax pmax
comp=E,439nm,1.7s
YUK pmax pmax
comp=N,739nm,1.5s
YUK pmax pmax
comp=Z,711nm,1.5s
YUK MLR MLR
comp=N,2μm,20.0s
YUK MLR MLR
comp=E,3μm,20.0s
YUK MLR MLR
comp=Z,2μm,20.0s
EIDS Eidsvold 45.76 134 P **P 23 24 05.0 -0.9**
baz=46,SNR=20
EIDS Eidsvold 45.76 134 IAmb IAmb 23 24 21.5
comp=Z,188nm,1.4s
DHRM DHARAMSHALA 45.76 310 *e*P **P 23 24 04.9 -1.2**
DHRM IAmb IAmb 23 24 10.0
comp=Z,934nm,1.6s
DHRM IAMs_20 IAMs_20 23 45 50.3
comp=Z,10μm,19.3s
CIT Chita 45.90 357 *e*P **P 23 24 07.3 +0.6**
CIT *e* 23 24 15.5
CIT *e* 23 25 44.2
CIT pmax pmax
comp=Z,341nm,1.9s
DGAR Diego Garcia 46.09 254 IAMs_20 IAMs_20 23 42 36.6
comp=Z,6μm,20.0s
DGAR Diego Garcia 46.09 254 P **P 23 24 13.0 +4.3**
CMSA Cobar Meteorol 46.52 145 P **P 23 24 11.7 -0.1**
baz=47,SNR=97
YSS Yuzh-Sakhalins 46.52 25 *e*P **P 23 24 12.0 +0.4**
YSS *e* 23 25 46.6
YSS *e* 23 25 56.7
YSS *e*S **S 23 30 57.1 -2.1**
YSS *e*SS **ScS 23 34 10.0 +4.2**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS pmax pmax
comp=Z,1μm,11.5s
YSS Yuzh-Sakhalins 46.52 25 P **P 23 24 11.2 -0.3**
YSS IAmb IAmb 23 25 47.9
comp=Z,154nm,1.4s
TLY Talaya 46.76 349 P **P 23 24 14.1 +0.7**
comp=Z,31nm,1.0s,baz=182,slow=5.8,SNR=17
TLY Talaya 46.76 349 *d i*P **P 23 24 13.1 -0.3**
TLY *e* 23 26 06.2
TLY *e*S **S 23 31 03.2 +0.7**
TLY *e* 23 34 06.2
TLY pmax pmax
comp=Z,228nm,1.4s
TLY MLR MLR
comp=Z,13μm,12.0s
TLY Talaya 46.76 349 P **P 23 24 14.0 +0.7**
TLY IAmb IAmb 23 24 19.5
comp=Z,115nm,1.3s
TLY IAMs_20 IAMs_20 23 45 08.9
comp=Z,6μm,18.0s
TLY Talaya 46.76 349 P **P 23 24 14.4 +1.0**
TLY P **P 23 24 14.4 +1.0**
IRK Irkutsk 47.18 350 *e*P **P 23 24 16.0 -0.6**
IRK pmax pmax
comp=Z,224nm,2.3s
MOY Mondy 47.30 347 *e*P **P 23 24 18.7 +1.0**
MOY pmax pmax
comp=Z,577nm,1.4s
GRNR Gornyy 47.53 17 *jj i*P **P 23 24 19.6 +0.2**
GRNR *e*S **S 23 31 18.6 +5.0**
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.6s
GRNR MLR MLR
comp=E,1μm,16.0s
GRNR MLR MLR
comp=N,3μm,18.0s
GRNR MLR MLR
comp=Z,3μm,17.0s
KUR Kuril'sk 47.54 30 *e*P **P 23 24 21.6 +2.1**
KUR *e*S **S 23 31 22.0 +8.3**
KUR pmax pmax
comp=Z,3μm,3.5s
KUR MLR MLR
comp=Z,2μm,13.0s
UGL Uglegorsk 47.97 22 *e*P **P 23 24 24.3 +1.5**
UGL *e*S **S 23 31 24.8 +5.1**
UGL pmax pmax
comp=Z,3μm,6.0s
UGL pmax pmax
comp=Z,350nm,1.1s
UGL smax smax
comp=E,3μm,7.0s
UGL smax smax
comp=N,4μm,9.0s
UGL MLR MLR
comp=E,5μm,17.0s
ZEA Zeya 48.33 8 *e*P **P 23 24 26.5 +1.0**
ZEA *e* 23 26 16.9
ZEA *e*S **S 23 31 30.7 +6.0**
ZEA *e* 00 34 20.4
ZEA pmax pmax
comp=N,50nm,1.1s
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=Z,90nm,1.1s
ZEA pmax pmax
comp=N,800nm,7.0s
ZEA pmax pmax
comp=E,200nm,7.0s
ZEA pmax pmax
comp=Z,1μm,6.4s
ZEA pmax pmax
comp=N,400nm,8.8s
ZEA pmax pmax
comp=Z,400nm,7.8s
ZEA smax smax
comp=E,2μm,15.1s
ZEA MLR MLR
comp=E,1μm,15.0s
ZEA MLR MLR
comp=N,6μm,17.0s
ZEA MLR MLR
comp=Z,6μm,18.0s
BHUJ Bhuj 48.34 296 *e*P **P 23 24 26.8 +0.7**
BHUJ IAmb IAmb 23 24 32.1
comp=Z,387nm,1.6s
ARPS Mount Arapiles 48.67 153 P **P 23 24 28.1 -0.2**
baz=49,SNR=33
NIL Nilore 48.68 310 P **P 23 24 28.0 -0.6**
NIL pmax pmax
comp=Z,444nm,1.1s
NIL MLR MLR
comp=Z,12μm,20.0s
NIL Nilore 48.68 310 P **P 23 24 28.0 -0.6**
NIL Nilore 48.68 310 P **P 23 24 28.8 +0.2**
NIL P **P 23 24 28.8 +0.2**
ARMA Armidale 49.36 139 P **P 23 24 35.2 +1.3**
baz=49,SNR=29
SHLS Shalkode 49.39 324 *e*P **P 23 24 31.8 -2.3**
comp=Z,148nm,2.1s,baz=324
SHLS *e*S **S 23 31 35.8 -4.5**
comp=Z,86nm,4.2s,baz=324
SHLS Shalkode 49.39 324 *e*P **P 23 24 31.7 -2.3**
SHLS *e*S **S 23 31 35.7 -4.5**
SHLS pmax pmax
comp=Z,148nm,2.1s
SHLS smax smax
comp=N,86nm,4.2s
ZSN Zaisan 49.42 332 *e*P **P 23 24 32.6 -1.5**
baz=331
ZSN *e*S **S 23 31 40.3 -0.1**
comp=N,315nm,8.0s,baz=331
ZSN Zaisan 49.42 332 *e*P **P 23 24 32.5 -1.5**
ZSN *e*S **S 23 31 40.2 -0.1**
ZSN smax smax
comp=N,315nm,8.0s
KSH Kashi 49.49 318 P **P 23 24 35.1 +0.2**
KSH sP sP 23 24 43.6 +0.5
KSH PP **PP 23 26 31.5 +2.3**
KSH PcS **PcS 23 29 54.6 +1.1**
KSH S **S 23 31 40.5 -1.3**
KSH SS **SS 23 35 12.3 -1.6**
KSH pmax pmax
comp=N,2μm,5.0s
KSH L L
comp=N,7μm,18.5s
KSH L L
comp=N,8μm,21.1s
KSH L L
comp=N,12μm,23.9s
PRZ Przheval'sk 49.61 323 P **P 23 24 36.5 +0.7**
PRZ pmax pmax
comp=Z,235nm,1.6s
PRZ Przheval'sk 49.61 323 P **P 23 24 36.5 +0.7**
PRZ IAmb IAmb 23 25 12.1
comp=Z,235nm,1.6s
UZB Uzynbulak 49.64 324 *e*P **P 23 24 35.2 -0.8**
comp=Z,97nm,2.2s,baz=324
UZB *i* S **S 23 31 44.1 +0.2**
comp=Z,57nm,3.6s,baz=324
UZB Uzynbulak 49.64 324 *e*P **P 23 24 35.1 -0.8**
UZB *i* S **S 23 31 44.0 +0.2**
UZB pmax pmax
comp=Z,97nm,2.2s
UZB smax smax
comp=E,57nm,3.6s
SATY Saty 49.95 324 *e*P **P 23 24 37.7 -0.6**
comp=E,149nm,2.3s,baz=323
SATY *e*S **S 23 31 48.1 0.0**
baz=323
SATY Saty 49.95 324 *e*P **P 23 24 37.7 -0.6**
SATY *e*S **S 23 31 48.0 0.0**
SATY pmax pmax
comp=Z,149nm,2.3s
DGZ Jazzator, Alta 49.98 336 *d i*P **P 23 24 38.1 -0.3**
DGZ pmax pmax
comp=Z,150nm,1.1s
DGZ MLR MLR
comp=Z,6μm,15.0s
KPKS Kokpek 50.03 324 *e*P **P 23 24 37.6 -1.3**
comp=Z,182nm,2.3s,baz=324
KPKS *i* S **S 23 31 49.2 +0.1**
baz=324
KPKS Kokpek 50.03 324 *e*P **P 23 24 37.5 -1.3**
KPKS *i* S **S 23 31 49.2 +0.1**
KPKS pmax pmax
comp=Z,182nm,2.3s
YNG Young 50.09 145 P **P 23 24 39.8 +0.5**
baz=50,SNR=13
KDJ Kajisay 50.14 322 P **P 23 24 40.5 +0.6**
KDJ pmax pmax
comp=Z,264nm,1.9s
KDJ Kajisay 50.14 322 P **P 23 24 40.5 +0.6**
KDJ IAmb IAmb 23 25 02.1
comp=Z,264nm,1.9s
MKAR Makanchi Array 50.21 330 P **P 23 24 39.5 -0.5**
comp=Z,11nm,0.7s,baz=130,slow=8.6,SNR=73
MKAR PcP **PcP 23 25 59.5 +0.4**
comp=Z,23nm,0.8s,baz=116,slow=5.0,SNR=4.5
MKAR LR LR 23 47 52.9
comp=Z,8μm,18.6s,baz=120,slow=38
MKAR PKPPKP **P'P'df 23 55 27.5 -4.7**
comp=Z,0.7nm,0.9s,baz=288,slow=1.4,SNR=2.1
MAKZ Makanchi 50.38 330 P **P 23 24 40.5 -0.9**
MAKZ pmax pmax
comp=Z,99nm,1.4s
MAKZ MLR MLR
comp=Z,7μm,19.0s
MAKZ Makanchi 50.38 330 P **P 23 24 40.5 -0.9**
MAKZ IAMs_20 IAMs_20 23 47 57.1
comp=Z,7μm,19.0s
KWAJ Kwajalein Atol 50.57 84 P **P 23 24 42.1 -1.1**
KWAJ pmax pmax
comp=Z,546nm,1.6s
KWAJ MLR MLR
comp=Z,5μm,21.0s
KWAJ Kwajalein Atol 50.57 84 P **P 23 24 42.1 -1.1**
ULHL Ulahol 50.79 322 P **P 23 24 45.3 +0.5**
SNR=31
MDOK Medeo 50.81 323 *e*P **P 23 24 44.6 -0.3**
baz=322
MDOK *e*S **S 23 31 59.6 -0.7**
baz=322
MDOK *e*LR LR 23 46 29.5
comp=Z,3μm,15.5s,baz=322
MDOK Medeo 50.81 323 *e*P **P 23 24 44.6 -0.3**
MDOK *e*S **S 23 31 59.5 -0.7**
MDOK MLR MLR
comp=Z,3μm,15.0s
NKL Nikolayevsk 50.90 18 *e*P **P 23 24 42.0 -3.1**
NKL *e* 23 26 00.7
NKL *i* 23 26 42.7
NKL *e*S **S 23 32 05.3 +4.6**
NKL pmax pmax
comp=E,68nm,0.8s
NKL pmax pmax
comp=Z,93nm,1.4s
NKL MLR MLR
comp=N,1.0nm,18.0s
NKL MLR MLR
comp=E,3μm,18.0s
NKL MLR MLR
comp=Z,4μm,18.0s
MGCD Mangrove Creek 50.91 142 P **P 23 24 46.7 +1.2**
baz=51,SNR=8.1
AAA Alma-Ata 50.92 323 *e*P **P 23 24 45.0 -0.6**
baz=322
AAA *e*S **S 23 32 00.9 -0.7**
comp=Z,24nm,6.7s,baz=322
AAA Alma-Ata 50.92 323 *e*P **P 23 24 44.9 -0.6**
AAA *e*S **S 23 32 00.8 -0.7**
AAA smax smax
comp=E,24nm,6.7s
ARXS Arharly 50.97 325 *e*P **P 23 24 45.2 -0.7**
TOO Toolangi 51.04 150 P **P 23 24 47.1 +0.7**
baz=51,SNR=11
TOO Toolangi 51.04 150 P **P 23 24 47.1 +0.7**
TOO pmax pmax
comp=Z,129nm,1.3s
TOO MLR MLR
comp=Z,6μm,20.0s
TOO Toolangi 51.04 150 P **P 23 24 47.1 +0.7**
TOO IAmb IAmb 23 24 50.2
comp=Z,129nm,1.2s
TOO IAMs_20 IAMs_20 23 49 00.3
comp=Z,6μm,20.0s
TDK Taldyqorghan 51.12 326 *e*P **P 23 24 45.8 -1.2**
baz=325
TDK *e*S **S 23 32 02.2 -1.9**
baz=325
TDK *e*LR LR 23 46 40.6
comp=Z,4μm,18.8s,baz=325
TDK Taldyqorghan 51.12 326 *e*P **P 23 24 45.8 -1.2**
TDK *e*S **S 23 32 02.1 -1.9**
TDK MLR MLR
comp=Z,4μm,19.0s
MTBS Maitube 51.17 323 *e*P **P 23 24 46.5 -0.9**
baz=322
MTBS *e*S **S 23 32 04.0 -1.0**
baz=322
MTBS Maitube 51.17 323 *e*P **P 23 24 46.5 -0.9**
MTBS *e*S **S 23 32 03.9 -1.0**
CAN Canberra 51.17 146 IAMs_20 IAMs_20 23 50 19.0
comp=Z,5μm,19.0s
CHKK Chushkaly 51.25 324 *e*P **P 23 24 46.3 -1.7**
baz=323
CHKK Chushkaly 51.25 324 *e*P **P 23 24 46.3 -1.7**
RIV Riverview 51.37 143 P **P 23 24 50.4 +1.5**
baz=51,SNR=3.9
TKM2 Tokmak 2 51.56 322 P **P 23 24 50.5 0.0**
SNR=30
KUU Kurty 51.65 323 *e*P **P 23 24 50.3 -0.8**
comp=Z,300nm,1.7s,baz=323
KUU *e*S **S 23 32 11.1 -0.4**
baz=323
KUU Kurty 51.65 323 *e*P **P 23 24 50.2 -0.8**
KUU *e*S **S 23 32 11.1 -0.4**
KUU pmax pmax
comp=Z,300nm,1.7s
BOD Bodaibo 51.68 358 *e*P **P 23 24 51.2 +0.3**
BOD pmax pmax
comp=Z,236nm,1.8s
KBK Karagaybulak 51.81 321 P **P 23 24 53.2 +0.8**
SNR=29
AAK Ala-Archa 52.09 321 P **P 23 24 54.8 +0.4**
comp=Z,24nm,1.1s,baz=127,slow=5.3,SNR=38
AAK Ala-Archa 52.09 321 P **P 23 24 55.2 +0.8**
SNR=15
AAK Ala-Archa 52.09 321 *i*P **P 23 24 54.8 +0.4**
SNR=25
AAK Ala-Archa 52.09 321 *c i*P **P 23 24 55.0 +0.6**
AAK pmax pmax
comp=Z,135nm,1.0s
AAK Ala-Archa 52.09 321 P **P 23 24 54.9 +0.4**
AAK IAmb IAmb 23 25 05.6
comp=Z,252nm,1.6s
AAK Ala-Archa 52.09 321 IAMs_20 IAMs_20 23 51 10.0
comp=Z,5μm,18.0s
AAK Ala-Archa 52.09 321 P **P 23 24 55.5 +1.1**
AAK P **P 23 24 55.5 +1.1**
FRU1 Bishkek 52.09 321 P **P 23 24 54.7 +0.3**
FRU1 pmax pmax
comp=Z,58nm,1.2s
FRU1 MLR MLR
comp=Z,6μm,22.0s
FRU1 Bishkek 52.09 321 P **P 23 24 54.7 +0.3**
FRU1 IAMs_20 IAMs_20 23 48 36.8
comp=Z,6μm,22.0s
CHMS Chumysh 52.12 322 P **P 23 24 55.0 +0.5**
SNR=7.1
KBL Kabul 52.24 310 P **P 23 24 55.7 0.0**
KBL pmax pmax
comp=Z,213nm,1.3s
KBL MLR MLR
comp=Z,3μm,21.0s
KBL Kabul 52.24 310 P **P 23 24 55.7 0.0**
KBL IAmb IAmb 23 25 01.4
comp=Z,214nm,1.2s
KBL Kabul 52.24 310 P **P 23 24 56.0 +0.3**
SNR=86
KBL P **P 23 24 56.0 +0.3**
SNR=86
DRK Karamyk 52.28 316 IAmb IAmb 23 25 33.4
comp=Z,337nm,1.6s
DRK IAMs_20 IAMs_20 23 50 00.1
comp=Z,8μm,20.0s
AML Almayashu 52.32 320 P **P 23 24 57.0 +0.5**
SNR=17
AML Almayashu 52.32 320 *i*P **P 23 24 56.7 +0.2**
SNR=28
ARSB Arslanbob 52.38 319 P **P 23 24 56.7 +0.1**
ARSB pmax pmax
comp=Z,117nm,1.2s
ARSB Arslanbob 52.38 319 P **P 23 24 56.7 +0.1**
ARSB IAmb IAmb 23 25 14.2
comp=Z,117nm,1.1s
USP Ospenovka 52.42 322 P **P 23 24 56.8 +0.1**
SNR=23
SGDS Sogindy 52.44 322 *e*P **P 23 24 56.1 -0.8**
comp=Z,99nm,2.3s,baz=322
SGDS *e*S **S 23 32 22.0 -0.4**
comp=Z,217nm,9.0s,baz=322
SGDS Sogindy 52.44 322 *e*P **P 23 24 56.1 -0.8**
SGDS *e*S **S 23 32 22.0 -0.4**
SGDS pmax pmax
comp=Z,99nm,2.3s
SGDS smax smax
comp=E,217nm,9.0s
MILA Mila 52.53 147 P **P 23 24 58.1 +0.5**
baz=53,SNR=5.4
EKS2 Erkin-Say 52.55 321 P **P 23 24 59.1 +1.3**
SNR=11
GAR Garm 53.10 315 IAmb IAmb 23 25 33.9
comp=Z,149nm,0.9s
BTK Batken 53.22 317 IAmb IAmb 23 25 53.5
comp=Z,251nm,1.6s
BTLS Baital 53.66 323 *e*P **P 23 25 05.0 -0.8**
comp=Z,60nm,2.1s,baz=323
BTLS *e*S **S 23 32 37.7 -1.2**
baz=323
BTLS Baital 53.66 323 *e*P **P 23 25 04.9 -0.8**
BTLS *e*S **S 23 32 37.6 -1.2**
BTLS pmax pmax
comp=Z,60nm,2.1s
SEM Semipalatinsk 53.67 332 *e*P **P 23 25 03.6 -2.4**
baz=331

SEM eS S 23 32 35.1 -4.2
baz=331
SEM eLR LR 23 48 12.9
comp=Z,3µm,17.4s,baz=331
SEM Semipalatinsk 53.67 332 eP P **23 25 03.6 -2.4**
SEM eS S **23 32 35.0 -4.2**
SEM MLR MLR
comp=Z,3µm,17.0s
KOUNC Koumac, New Ca 53.72 121 P P **23 25 07.3 +0.7**
CHGR Chuyangaron 53.77 314 IAmb IAmb 23 25 41.0
comp=Z,204nm,1.0s
DZA Taraz 54.22 320 eP P **23 25 08.1 -1.9**
baz=319
DZA eS S **23 32 46.8 +0.2**
baz=319
DZA Taraz 54.22 320 eP P **23 25 08.0 -1.9**
DZA eS S **23 32 46.7 +0.2**
ZAA0 Zalesovo Array 54.29 337 IAMs_20 IAMs_20 23 49 08.7
comp=Z,5µm,18.0s
ZALV Zalesovo Beam 54.29 337 P P **23 25 09.3 -0.9**
comp=Z,11nm,0.7s,baz=120,slow=7.4,SNR=64
ZALV PcP PcP **23 26 14.7 +0.5**
comp=Z,9.7nm,0.8s,baz=138,slow=5.3,SNR=1.2
ZALV LR LR 23 49 19.8
comp=Z,5µm,18.5s,baz=138,slow=37
ZALV PKPPKP 23 55 22.6
comp=Z,0.5nm,0.4s,baz=270,slow=1.4,SNR=3.7
ZALV Zalesovo Beam 54.29 337 P P **23 25 08.6 -1.6**
SANVU Saraoutou 54.42 114 P P **23 25 12.0 +0.2**
SANVU Saraoutou 54.42 114 P P **23 25 12.0 +0.2**
KURBB Kurchatov Arra 54.63 331 P P **23 25 12.3 -0.4**
comp=Z,23nm,0.9s,baz=132,slow=7.2,SNR=83
KURBB PcP PcP **23 26 15.1 -0.5**
comp=Z,16nm,1.0s,baz=131,slow=2.5,SNR=4.6
KURK Kurchatov 54.65 331 P P **23 25 12.3 -0.5**
KURK 23 26 15.1
KURK Kurchatov 54.65 331 P P **23 25 12.3 -0.5**
KURK PcP **PcP** **23 26 15.1 -0.6**
IUG Iuzhnay 54.71 319⇑ *i*P P **23 25 13.8 +0.1**
baz=318
IUG eS S **23 32 54.1 +0.8**
baz=318
IUG Iuzhnay 54.71 319*c i*P P **23 25 13.7 +0.1**
IUG eS S **23 32 54.1 +0.8**
TAS Tashkent 54.82 317 P P **23 25 14.4 0.0**
KKAR Karatay Array 54.84 320 P P **23 25 13.7 -0.8**
KKAR Karatay Array 54.84 320 P P **23 25 13.7 -0.8**
KKAR Karatay Array 54.84 320 IAmb IAmb 23 25 19.9
comp=Z,72nm,1.4s
LHI Lord Howe Isla 55.05 135 P P **23 25 16.9 +0.7**
baz=55,SNR=5.3
LHI Lord Howe Isla 55.05 135 P P **23 25 16.2 +0.1**
LHI Lord Howe Isla 55.05 135 P P **23 25 16.6 +0.5**
CHM Chimkent 55.07 319 *i* S S **23 32 57.9 -0.1**
comp=Z,575nm,7.6s,baz=318
SKR Severo-Kuril's 55.30 29‖ eP P **23 25 17.2 -0.4**
NOUC Port Laguerre 56.07 122 P P **23 25 23.8 +0.2**
TAU Tasmania Unive 56.11 153 P P **23 25 24.0 +0.5**
TAU pmax pmax
comp=Z,179nm,1.3s
TAU MLR MLR
comp=Z,10µm,19.0s
TAU Tasmania Unive 56.11 153 P P **23 25 24.0 +0.5**
TAU IAmb IAmb 23 25 25.2
comp=Z,179nm,1.2s
DZM Mont Dzumac 56.18 122 eP P **23 25 24.6 +0.1**
comp=Z,237nm,1.3s
DZM eS S **23 33 14.9 +1.4**
comp=Z,9µm,31.3s
DZM eLR LR 23 41 48.1
comp=Z,7µm,33.0s
DZM Mont Dzumac 56.18 122 IAmb IAmb 23 25 26.1
comp=Z,150nm,1.3s
DZM Mont Dzumac 56.18 122 P P **23 25 24.5 0.0**
ONTNC Ouen Toro 56.28 122 P P **23 25 25.4 +0.2**
ONTNC IAmb IAmb 23 25 26.5
comp=Z,275nm,1.5s
ONTNC Ouen Toro 56.28 122 P P **23 25 25.6 +0.5**
TARA Tarawa 56.31 92 P P **23 25 25.7 +0.2**
TARA Tarawa 56.31 92 IAMs_20 IAMs_20 23 44 51.4
comp=Z,4µm,19.0s
TARA Tarawa 56.31 92 P P **23 25 26.5 +1.0**
YATNC Mamie plateau, 56.55 121 P P **23 25 27.6 +0.5**
OUENC Ouen Island, N 56.65 122 P P **23 25 27.7 0.0**
OUENC IAmb IAmb 23 25 46.1
comp=Z,105nm,1.2s
OUENC Ouen Island, N 56.65 122 P P **23 25 28.3 +0.5**
YAK Yakutsk 56.70 7 P P **23 25 27.2 -0.2**
comp=Z,17nm,0.5s,baz=199,slow=3.1,SNR=15
YAK Yakutsk 56.70 7*d i*P P **23 25 26.7 -0.7**
YAK *e* 23 26 21.5
YAK *e*PPP PPP 23 28 49.3
YAK eS S **23 33 16.8 -2.1**
YAK eSS SS **23 37 06.2 -0.6**
YAK pmax pmax
comp=Z,132nm,1.3s
YAK pmax pmax
comp=N,75nm,1.3s
YAK pmax pmax
comp=E,40nm,1.4s
YAK smax smax
comp=E,2µm,8.9s
YAK smax smax
comp=N,273nm,4.2s
YAK MLR MLR
comp=Z,10µm,25.0s
YAK MLR MLR
comp=N,6µm,23.0s
YAK MLR MLR
comp=E,4µm,21.0s
YAK Yakutsk 56.70 7 P P **23 25 27.3 0.0**
YAK IAmb IAmb 23 25 33.0
comp=Z,223nm,1.1s
YAK IAMs_20 IAMs_20 23 50 56.6
comp=Z,7µm,20.0s
BRZS Berezniki 57.19 328 eP P **23 25 30.6 -0.6**
comp=Z,47nm,1.2s,baz=327
BRZS eS S **23 33 25.2 -0.7**
comp=Z,82nm,4.6s,baz=327
BRZS Berezniki 57.19 328 eP P **23 25 30.6 -0.6**
BRZS eS S **23 33 25.2 -0.7**
BRZS pmax pmax
comp=Z,47nm,1.2s
BRZS smax smax
comp=E,82nm,4.6s
PINNC Pines Island, 57.24 122 P P **23 25 32.2 +0.3**
PINNC IAmb IAmb 23 25 33.9
comp=Z,214nm,1.3s
PINNC Pines Island, 57.24 122 P P **23 25 33.1 +1.2**
JLN Jalan Bani Buh 57.46 292 P P **23 25 33.9 +0.3**
SNR=8.1
JLN P P **23 25 33.9 +0.3**
SNR=8.1
JLN P P **23 25 33.9 +0.3**
SNR=8.1
HRA Herat 57.50 307 P P **23 25 32.8 -1.0**
HRA IAmb IAmb 23 25 39.2
comp=Z,132nm,1.6s
HRA IAMs_20 IAMs_20 23 54 21.1
comp=Z,6µm,20.0s
PEA0B Petropavlovsk- 57.61 28 P P **23 25 34.1 +0.1**
PEA0B pmax pmax
comp=Z,209nm,1.2s
PEA0B Petropavlovsk- 57.61 28 P P **23 25 34.1 +0.1**
PEA0B IAmb IAmb 23 25 45.8
comp=Z,208nm,1.2s
PETK Petropavlovsk- 57.61 28 P P **23 25 34.9 +0.8**
comp=Z,56nm,0.9s,baz=201,slow=4.9,SNR=40
PETK LR LR 23 53 06.0
comp=Z,2µm,18.6s,baz=222,slow=39
PETK Petropavlovsk- 57.61 28 P P **23 25 34.1 +0.1**
PETK Petropavlovsk- 57.61 28 P P **23 25 34.1 +0.1**
WBK Wadi Bani Khal 57.92 293 P P **23 25 37.4 +0.6**
SNR=9.9
WBK P P **23 25 37.4 +0.6**
SNR=9.9
PET Petropavlovsk 58.00 28 eP P **23 25 37.3 +0.5**
PET eS S **23 33 34.1 -2.3**
PET pmax pmax
comp=Z,141nm,1.0s
PET pmax pmax
comp=Z,2µm,8.2s
PET pmax pmax
comp=N,500nm,18.3s
PET MLR MLR
comp=Z,2µm,17.0s
PET MLR MLR
comp=N,2µm,19.0s
PET Petropavlovsk 58.00 28 P P **23 25 37.0 +0.2**
PET IAmb IAmb 23 25 44.9
comp=Z,121nm,1.0s
WSAR Wadi Sarin 58.31 293 P P **23 25 40.5 +1.0**
comp=Z,18nm,0.8s,baz=131,slow=7.9,SNR=5.2
MHTO MHTO 58.66 291 P P **23 25 42.0 0.0**
SNR=11
MHTO P P **23 25 42.0 0.0**
SNR=11
MHTO P P **23 25 42.0 0.0**
SNR=11
JMDO Jabal Madar 58.69 292 P P **23 25 40.9 -1.3**
SNR=9.6
JMDO P P **23 25 40.9 -1.3**
SNR=9.6
JMDO P P **23 25 40.9 -1.3**
SNR=9.6
BIDO Bidbid 58.80 294 P P **23 25 43.2 +0.3**
BIDO P P **23 25 43.2 +0.3**
SMDO Samad 58.82 293 P P **23 25 43.2 0.0**
SMDO P P **23 25 43.2 0.0**
SMDO P P **23 25 43.2 0.0**
DQM DQM 58.96 290 P P **23 25 43.4 -0.7**
SNR=19
DQM P P **23 25 43.4 -0.7**
SNR=19
HOQ Hoqain 59.56 294 P P **23 25 48.4 +0.2**
SNR=5.5
HOQ P P **23 25 48.4 +0.2**
SNR=5.5
BSY Bisya 59.56 293 P P **23 25 48.8 +0.6**
SNR=7.3
BSY P P **23 25 48.8 +0.6**
SNR=7.3
BVAR Borovoye Array 60.09 330 P P **23 25 49.8 -1.5**
comp=Z,13nm,1.0s,baz=149,slow=21,SNR=47
BRVK Borovoye 60.17 330 P P **23 25 51.3 -0.5**
BRVK Borovoye 60.17 330 P P **23 25 51.3 -0.5**
BRVK Borovoye 60.17 330 P P **23 25 53.2 +1.4**
BRVK P P **23 25 53.2 +1.4**
BRVK P P **23 25 53.2 +1.4**
ARQ Araqi 60.25 293 P P **23 25 53.1 +0.1**
SNR=5.5
ARQ P P **23 25 53.1 +0.1**
SNR=5.5
SOHO SOHO 60.33 294 P P **23 25 52.1 -1.4**
SOHO SOHO 60.33 294 P P **23 25 53.5 0.0**
SOHO P P **23 25 53.5 0.0**
SHAO Shalim 60.63 287 P P **23 25 56.5 +0.9**
SHAO P P **23 25 56.5 +0.9**
SHAO P P **23 25 56.5 +0.9**
MDH Madha 60.69 296 P P **23 25 54.6 -1.3**
MDH Madha 60.69 296 P P **23 25 56.6 +0.7**
MDH P P **23 25 56.6 +0.7**
UOSS Minazif 60.73 295 P P **23 25 55.4 -0.8**
UOSS Minazif 60.73 295 P P **23 25 53.7 -2.4**
UOSS IAmb IAmb 23 26 00.2
comp=Z,173nm,1.6s
UOSS Minazif 60.73 295 P P **23 25 57.7 +1.6**
UOSS P P **23 25 57.7 +1.6**
BANOM Banah 60.77 296 P P **23 25 55.3 -1.2**
BANOM Banah 60.77 296 P P **23 25 58.8 +2.3**
HATD Hatta, Dubai 60.78 295 *i* P P **23 25 56.0 -0.6**
SNR=9.7
HATD Hatta, Dubai 60.78 295 P P **23 25 58.7 +2.2**
SNR=5.5
HATD P P **23 25 58.7 +2.2**
SNR=5.5
HATD P P **23 25 58.7 +2.2**
SNR=5.5
MSFE Esma-Masafi 60.82 296 P P **23 25 57.8 +1.0**
MASF Masafi 60.82 296 P P **23 25 58.9 +2.0**
MASF P P **23 25 58.9 +2.0**
ASHO Ashiyiah 60.83 295 *i* P P **23 25 55.9 -1.0**
SNR=9.8
ASHO Ashiyiah 60.83 295 P P **23 25 58.9 +2.0**
ASHO P P **23 25 58.9 +2.0**
SHME Shamm 60.93 296 P P **23 25 59.5 +2.0**
SHME P P **23 25 59.5 +2.0**
SHME P P **23 25 59.5 +2.0**
ALNE Al Ain 61.03 294 *i* P P **23 25 57.1 -1.2**
SNR=17
ALNE Al Ain 61.03 294 P P **23 26 00.4 +2.1**
SNR=10.0
ALNE P P **23 26 00.4 +2.1**
SNR=10.0
NAZ Nazwa, Dubai 61.22 295 P P **23 26 00.8 +1.2**
NAZ Nazwa, Dubai 61.22 295 P P **23 26 01.8 +2.3**
NAZ P P **23 26 01.8 +2.3**
FAQ Al Faqa, Dubai 61.25 295 *i* P P **23 26 00.1 +0.3**
SNR=6.3
FAQ Al Faqa, Dubai 61.25 295 P P **23 26 02.0 +2.3**
SNR=5.0
FAQ P P **23 26 02.0 +2.3**
SNR=5.0
DMTO DMTO 61.26 287 P P **23 26 02.3 +2.4**
DMTO P P **23 26 02.3 +2.4**
ASUD Al Ashush, Dub 61.48 295 *i* P P **23 26 00.3 -0.9**
SNR=12
ASUD Al Ashush, Dub 61.48 295 P P **23 26 01.6 +0.4**
SNR=7.4
ASUD P P **23 26 01.6 +0.4**
SNR=7.4
ASUD P P **23 26 01.6 +0.4**
SNR=7.4
GEYT Alibeck 61.68 310 P P **23 26 02.8 +0.3**
comp=Z,8.5nm,0.9s,baz=142,slow=7.4,SNR=19
GEYT LR LR 23 56 33.8
comp=Z,4µm,19.9s,baz=70,slow=40
GEYT Alibeck 61.68 310 P P **23 26 02.6 +0.2**
GEYT IAmb IAmb 23 26 28.3
comp=Z,78nm,1.2s
GYA0B ALIBECK ARRAY 61.68 310 P P **23 26 02.1 -0.4**
GYA0B IAmb IAmb 23 26 28.9
comp=Z,102nm,1.3s
GYA0B IAMs_20 IAMs_20 23 56 12.9
comp=Z,4µm,20.0s
AJN Ajban 61.78 295 *i* P P **23 26 02.0 -1.3**
SNR=6.3
AJN Ajban 61.78 295 P P **23 26 05.3 +2.0**
AJN P P **23 26 05.3 +2.0**
RBK Rabkut 61.96 287 P P **23 26 07.5 +2.8**
RBK P P **23 26 07.5 +2.8**
MSEY Mahe Island 62.01 261 P P **23 26 03.3 -1.8**
MSEY pmax pmax
comp=Z,57nm,1.2s
MSEY MLR MLR
comp=Z,5µm,21.0s
MSEY Mahe Island 62.01 261 P P **23 26 03.3 -1.8**
MSEY Mahe Island 62.01 261 IAMs_20 IAMs_20 23 49 39.7
comp=Z,5µm,21.0s
MSEY Mahe Island 62.01 261 P P **23 26 09.3 +4.2**
MSEY P P **23 26 09.3 +4.2**
SOCY Socotra 62.08 281 P P **23 26 03.2 -2.4**
SOCY IAmb IAmb 23 26 22.6
comp=Z,51nm,0.9s
SOCY Socotra 62.08 281 P P **23 26 07.7 +2.2**
DOK Doka 62.09 288 P P **23 26 08.4 +2.9**
SNR=9.3
DOK P P **23 26 08.4 +2.9**
SNR=9.3
WHFO Wadi Hawf 62.39 287 P P **23 26 10.1 +2.5**
WHFO P P **23 26 10.1 +2.5**
SEY Seymchan 62.46 18 P P **23 26 07.9 +0.8**
comp=Z,18nm,0.9s,baz=223,slow=6.0,SNR=50
SEY Seymchan 62.46 18*d i*P P **23 26 07.7 +0.6**
ABTO Aybut 62.82 286 P P **23 26 13.2 +2.7**
ABTO P P **23 26 13.2 +2.7**
ABTO P P **23 26 13.2 +2.7**
GHWR Ruwais 63.64 294 P P **23 26 18.1 +2.4**
GHWR P P **23 26 18.1 +2.4**
GHWR P P **23 26 18.1 +2.4**
FUNA Funafuti 64.00 102 P P **23 26 18.2 0.0**
ABKAR Akbulak array 64.12 322 P P **23 26 17.7 -0.7**
ABKAR IAmb IAmb 23 26 23.7
comp=Z,96nm,1.4s
ABKAR Akbulak array 64.12 322 P P **23 26 17.4 -0.9**
SLWR Sila 64.72 294 P P **23 26 25.7 +2.9**
SLWR P P **23 26 25.7 +2.9**
SLWR P P **23 26 25.7 +2.9**
MSVF Nonsavu 65.02 113 P P **23 26 25.7 +0.8**
MSVF pmax pmax
comp=Z,115nm,1.1s
MSVF Nonsavu 65.02 113 P P **23 26 25.7 +0.8**
MSVF IAmb IAmb 23 26 27.0
comp=Z,115nm,1.1s
KHOR Al-Khor Airpor 65.02 295 P P **23 26 27.2 +2.5**
TRNA Turayna 65.22 294 P P **23 26 25.8 -0.2**
SHMA Al-Shehemyia 65.54 296 P P **23 26 27.4 -0.7**
AKTO Aktyubinsk 65.71 323 P P **23 26 28.4 -0.3**
comp=Z,32nm,1.1s,baz=104,slow=6.0,SNR=36
SMY Shemya 65.88 34 P P **23 26 29.5 -0.3**
SMY pmax pmax
comp=Z,198nm,1.2s
SMY Shemya 65.88 34 P P **23 26 29.5 -0.3**
SAKB Bahrain 65.93 296 P P **23 26 30.1 -0.5**
TIXI Tiksi 65.98 4 P P **23 26 28.5 -1.6**
comp=Z,75nm,0.9s,baz=160,slow=4.0,SNR=112
TIXI Tiksi 65.98 4 P P **23 26 27.9 -2.2**
TIXI pmax pmax
comp=Z,254nm,1.0s
TIXI MLR MLR
comp=Z,5µm,19.0s
TIXI Tiksi 65.98 4 P P **23 26 27.9 -2.2**
TIXI IAMs_20 IAMs_20 23 57 07.3
comp=Z,5µm,19.0s
MIDW Midway 66.00 62 P P **23 26 30.6 -0.4**
MIDW IAmb IAmb 23 26 33.0
comp=Z,182nm,1.3s
NRIK Noril'sk 66.04 349 P P **23 26 29.6 -0.8**
comp=Z,61nm,0.8s,baz=136,slow=6.1,SNR=64
NRIK LR LR 23 57 18.4
comp=Z,2µm,19.0s,baz=146,slow=38
SVE Sverdlovsk 66.87 330*ce*P P **23 26 36.1 +0.1**
SVE eS S **23 35 27.5 -0.3**
SVE pmax pmax
comp=Z,109nm,1.4s
SVE MLR MLR
comp=Z,3µm,17.0s
OUZ Omahuta 67.40 132 P P **23 26 40.0 +0.2**
OUZ IAmb IAmb 23 26 50.5
comp=Z,238nm,1.5s
OUZ IAMs_20 IAMs_20 23 56 21.6
comp=Z,4µm,19.0s
ARU Arti 67.73 329 P P **23 26 40.6 -0.9**
comp=Z,6.8nm,0.9s,baz=119,slow=3.2,SNR=34
ARU Arti 67.73 329*d i*P P **23 26 40.2 -1.3**
ARU 23 27 05.7
ARU 23 29 08.7
ARU PPP PPP 23 30 46.6
ARU S S **23 35 36.6 -1.7**
ARU 23 36 39.5
ARU SS SS **23 40 01.0 +1.4**
ARU pmax pmax
comp=Z,45nm,1.1s
ARU MLR MLR
comp=Z,5µm,19.0s
ARU Arti 67.73 329 P P **23 26 40.6 -0.9**
ARU IAmb IAmb 23 27 08.0
comp=Z,222nm,1.5s
ARU IAMs_20 IAMs_20 23 58 12.1
comp=Z,5µm,19.0s
DCZ Deep Cove 68.22 144 P P **23 26 44.1 -0.6**
QRN Al-Qurain 68.49 298 eP P **23 26 45.3 -1.6**
MLZ Mavora Lakes 68.73 144 P P **23 26 46.8 -1.2**
MLZ IAmb IAmb 23 26 51.2
comp=Z,120nm,1.2s
UMR Umm Al-Rimmam 68.74 299 eP P **23 26 46.8 -1.6**
RDF Al-Radifah 68.83 299 eP P **23 26 46.8 -2.1**
WHZ Wether Hill Ro 68.92 144 P P **23 26 47.7 -1.4**
WHZ IAmb IAmb 23 27 12.9
comp=Z,140nm,1.3s
MIB Mutribah 69.09 299 eP P **23 26 48.4 -2.2**
QRZ Quartz Range 69.18 138 P P **23 26 49.9 -0.9**
QRZ IAMs_20 IAMs_20 00 01 54.0
comp=Z,5µm,18.0s
RST Umm Al-Ruwaisa 69.36 299 eP P **23 26 50.3 -2.0**
RPZ Rata Peaks 69.64 141 P P **23 26 53.0 -0.7**
HIZ Hauiti 69.73 135 P P **23 26 53.8 -0.5**
HIZ IAMs_20 IAMs_20 23 59 18.2
comp=Z,3µm,18.0s
THZ Tophouse 69.88 139 P P **23 26 54.3 -0.9**
THZ IAmb IAmb 23 27 32.0
comp=Z,164nm,1.2s
NNZ Nelson 69.93 138 P P **23 26 54.6 -0.9**
NNZ IAMs_20 IAMs_20 00 02 17.2
comp=Z,5µm,19.0s
LTZ Lake Taylor 69.95 140 P P **23 26 54.6 -1.0**
LTZ IAmb IAmb 23 27 08.7
comp=Z,183nm,1.2s
OXZ Oxford 70.07 140 P P **23 26 55.1 -1.2**
OXZ IAmb IAmb 23 27 09.0
comp=Z,122nm,1.1s
BILL Bilibino 70.16 18*c i*P P **23 26 55.4 -1.0**
BILL *e* 23 27 06.2
BILL *i* 23 27 20.8
BILL *i* 23 29 31.8
BILL *i* PPP PPP 23 31 10.1
BILL *i* S S **23 36 04.9 -1.8**
BILL eSS SS **23 40 40.8 +4.2**
BILL pmax pmax
comp=Z,57nm,1.3s
BILL MLR MLR
comp=Z,3µm,17.0s
BILL Bilibino 70.16 18 P P **23 26 55.2 -1.3**
BILL IAmb IAmb 23 27 07.5
comp=Z,76nm,1.1s
BILL IAMs_20 IAMs_20 00 01 42.9
comp=Z,3µm,18.0s
AKT Akhty 70.27 312 eP P **23 26 57.1 -0.7**
AKT *e* 23 27 18.1
AKT *e* 23 29 36.9
AKT pmax pmax
comp=Z,84nm,1.3s
RAYN Ar Rayn 70.35 293 *i* P P **23 26 56.8 -1.7**
SNR=82
RAYN Ar Rayn 70.35 293 P P **23 26 57.5 -1.0**
RAYN pmax pmax
comp=Z,407nm,1.7s
RAYN MLR MLR
comp=Z,4µm,22.0s
RAYN Ar Rayn 70.35 293 P P **23 26 57.5 -1.0**
RAYN IAMs_20 IAMs_20 23 57 19.5
comp=Z,4µm,22.0s
TUWZ Tuamarina 70.41 138 P P **23 26 56.5 -1.9**
BSWZ Blackbirch Sta 70.50 138 P P **23 26 57.6 -1.4**
KHZ Kahutara 70.60 139 P P **23 26 57.6 -1.8**
MQZ McQueen's Vall 70.65 140 P P **23 26 59.4 -0.3**
MAK Makhachkala 70.69 313 eP P **23 26 53.6 -6.5**
MAK *e*PPP PPP 23 31 13.5
MAK eS S **23 36 07.4 -6.2**
MAK pmax pmax
comp=Z,105nm,1.0s
MAK MLR MLR
comp=Z,3µm,19.0s
SNZO South Karori 70.86 137 P P **23 26 59.5 -1.6**
BHW Baring Head 71.02 137 P P **23 27 00.5 -1.6**
BKZ Black Stump Fm 71.17 135 P P **23 27 02.1 -1.0**
URZ Urewera 71.24 134 P P **23 27 02.1 -1.4**
BFZ Birch Farm 71.64 136 P P **23 27 03.8 -2.1**
GROC Groznyy 71.96 313 eP P **23 27 06.6 -1.2**
GROC *e* 23 27 26.4
GROC *e* 23 29 45.4
GROC eS S **23 36 30.5 +2.1**
GROC pmax pmax
comp=Z,57nm,1.1s
KNTN Kanton 72.05 95 IAMs_20 IAMs_20 23 55 33.5
comp=Z,3µm,20.0s
KNTN Kanton 72.05 95 P P **23 27 11.6 +2.7**
CASY Casey 72.28 183 P P **23 27 07.2 -2.0**
CASY IAmb IAmb 23 27 15.6
comp=Z,76nm,1.0s
GNI Garni 72.32 310 P P **23 27 10.1 -0.1**
comp=Z,28nm,1.1s,baz=157,slow=4.4,SNR=17
GNI Garni 72.32 310 P P **23 27 10.7 +0.4**
GNI Garni 72.32 310*d i*P P **23 27 11.3 +1.0**
GNI pmax pmax
comp=Z,121nm,2.5s
GNI MLR MLR
comp=Z,1µm,19.0s
GNI Garni 72.32 310 P P **23 27 10.6 +0.4**
GNI IAmb IAmb 23 27 35.8
comp=Z,98nm,1.1s
GNI Garni 72.32 310 P P **23 27 11.6 +1.4**
GNI P P **23 27 11.6 +1.4**
BELG Belogornoye 72.50 323 P P **23 27 10.1 -0.7**
comp=Z,54nm,0.9s,baz=26,slow=0.7,SNR=20

KZRT	**Kazreti**	**72.73**	**311**		P		**P**	**23 27 13.7**	**+1.1**
ABPO	**Ambohimpanom**	**72.75**	**248**		P		**P**	**23 27 11.8**	**-1.4**
ABPO	comp=Z,141nm,2.0s				pmax		pmax		
ABPO	comp=Z,5µm,19.0s				MLR		MLR		
ABPO	**Ambohimpanom**	**72.75**	**248**		P		**P**	**23 27 11.8**	**-1.4**
ABPO	comp=Z,141nm,2.0s				IAmb		IAmb	23 27 18.1	
JOHN	**Johnston Islan**	**72.80**	**74**		IAMs_20		IAMs_20	23 55 32.3	
GUDG	comp=Z,4µm,20.0s **Gudauri**	**72.81**	**312**		P		**P**	**23 27 12.0**	**-1.2**
ATD	**Arta Tunnel**	**73.00**	**280**		P		**P**	**23 27 13.8**	**-0.8**
KIRV	comp=Z,8.0nm,0.9s,baz=66,slow=20,SNR=3.6 **Kirov**	**73.11**	**330**		P		**P**	**23 27 13.6**	**-0.7**
ZEI	comp=Z,60nm,1.0s,baz=104,slow=1.3,SNR=22 **Tsey**	**73.28**	**313**	⇑	*e*P		**P**	**23 27 15.0**	**-1.0**
ZEI	comp=Z,71nm,1.3s				pmax		pmax		
AKH	**Akhalkalaki**	**73.41**	**311**	⇓	P		**P**	**23 27 17.5**	**+0.8**
AKH	**Akhalkalaki**	**73.41**	**311**		P		**P**	**23 27 17.5**	**+0.8**
GEVA	**Gevas**	**73.42**	**308**		P		**P**	**23 27 16.0**	**-0.8**
ONI	**Oni**	**73.58**	**313**		P		**P**	**23 27 20.5**	**+2.9**
NCK	**Nalchik**	**73.59**	**313**	⇑	*e*P		**P**	**23 27 16.9**	**-0.6**
NCK	comp=Z,40nm,1.2s				pmax		pmax		
NCK	comp=Z,3µm,19.0s				MLR		MLR		
KARS	**Kars**	**73.64**	**310**		P		**P**	**23 27 18.3**	**+0.3**
KARS	comp=Z,246nm,1.3s				pmax		pmax		
KARS	**Kars**	**73.64**	**310**		P		**P**	**23 27 18.3**	**+0.3**
KARS	comp=Z,246nm,1.3s				IAmb		IAmb	23 27 32.0	
AFI	**Afiamalu**	**73.71**	**106**		P		**P**	**23 27 19.0**	**+0.2**
AFI	comp=Z,183nm,1.2s				pmax		pmax		
AFI	**Afiamalu**	**73.71**	**106**		P		**P**	**23 27 19.0**	**+0.2**
AFI	comp=Z,183nm,1.1s				IAmb		IAmb	23 27 28.9	
AFI	**Afiamalu**	**73.71**	**106**		P		**P**	**23 27 19.2**	**+0.4**
VOI	**Vohitsoka**	**73.80**	**245**		IAMs_20		IAMs_20	00 00 21.6	
VOI	comp=Z,5µm,19.0s **Vohitsoka**	**73.80**	**245**		P		**P**	**23 27 21.2**	**+2.0**
KBZ	SNR=6.0 **Khabaz**	**74.12**	**314**		P		**P**	**23 27 20.1**	**-0.5**
KBZ	comp=Z,14nm,1.0s,baz=100,slow=4.6,SNR=17				LR		LR	00 04 53.2	
GOF	comp=Z,3µm,19.5s,baz=82,slow=40 **Gofitskoye**	**74.18**	**315**	⇑	*e*P		**P**	**23 27 20.4**	**-0.6**
GOF	comp=Z,37nm,1.0s				pmax		pmax		
KVAR	**Kislovodsk Arr**	**74.30**	**314**		P		**P**	**23 27 21.6**	**-0.2**
KIV	comp=Z,11nm,1.0s,baz=82,slow=23,SNR=5.7 **Kislovodsk**	**74.30**	**314**	⇑⇑	P		**P**	**23 27 22.4**	**+0.6**
KIV	**Kislovodsk** SNR=23	**74.30**	**314**	*i*	P		**P**	**23 27 20.7**	**-1.1**
KIV	**Kislovodsk**	**74.30**	**314**		*e*P		**P**	**23 27 20.7**	**-1.1**
KIV					*e*PPP		PPP	23 31 53.0	
KIV					*e*S		**S**	**23 36 55.3**	**+0.1**
KIV					*e*SS		**SS**	**23 41 43.0**	**+1.8**
KIV	comp=Z,126nm,1.1s				pmax		pmax		
KIV	comp=Z,424nm,4.6s				pmax		pmax		
KIV	**Kislovodsk**	**74.30**	**314**		P		**P**	**23 27 21.3**	**-0.5**
KIV	**Kislovodsk**	**74.30**	**314**		P		**P**	**23 27 22.2**	**+0.5**
KIV					P		**P**	**23 27 22.2**	**+0.5**
TEND	**Ethiopian Broa**	**74.79**	**281**		*e*P		**P**	**23 27 29.7**	**+4.7**
TEND					*e*S		**S**	**23 37 09.1**	**+7.6**
BCA	**Borcka**	**74.81**	**311**	⇑⇑	P		**P**	**23 27 24.2**	**-0.5**
PRGR	**Permogore**	**75.75**	**332**	⇑	*i*P		**P**	**23 27 28.3**	**-1.3**
PRGR	comp=Z,61nm,0.9s				pmax		pmax		
SPIA	**Saint Paul Isl** baz=259	**75.80**	**33**		P			23 27 29.5	
NIKH	**Nikolski High** baz=261	**75.86**	**37**		P			23 27 29.4	
VRH	**Novokhopyorsk**	**75.89**	**321**		*e*P		**P**	**23 27 29.6**	**-1.0**
VRH					*e*S		**S**	**23 37 05.6**	**-6.7**
VRH	comp=Z,90nm,0.9s				pmax		pmax		
VRH	comp=N,700nm,9.1s				smax		smax		
DESE	**Dese**	**76.17**	**280**		*e*P		P	23 27 40.2	+6.9
DESE					*e*S		S	23 37 27.7	+10
ANKE	**Ethiopia-Afar**	**76.17**	**278**		*e*P		P	23 27 39.4	+6.0
ANKE					*e*S		**S**	**23 37 24.3**	**+6.7**
KTUT	**Trabzon**	**76.17**	**311**	⇑⇑	P		**P**	**23 27 31.8**	**-0.7**
SOC	**Sochi**	**76.41**	**313**		*e*P		**P**	**23 27 30.9**	**-2.9**
SOC					*e*PPP		PPP	23 32 09.6	
SOC					*i* S		**S**	**23 37 15.8**	**-2.6**
SOC					*e*SS		**SS**	**23 42 13.9**	**+1.0**
SOC	comp=Z,34nm,1.0s				pmax		pmax		
SOC	comp=Z,2µm,17.0s				MLR		MLR		
NIUE	**Niue** baz=76,SNR=4.2	**76.43**	**111**		P		**P**	**23 27 33.6**	**-0.8**
NIUE	**Niue**	**76.43**	**111**		P		**P**	**23 27 34.7**	**+0.3**
NIUE	**Niue**	**76.43**	**111**		P		**P**	**23 27 35.6**	**+1.3**
GAMB	**Gambell** baz=256	**76.53**	**26**		P			23 27 34.7	
AAE	**Adis Abeba**	**77.16**	**278**		*e*P		**P**	**23 27 42.2**	**+3.3**
AAE					*e*P		**S**	**23 37 34.5**	**+6.2**
AAE					*e*S		**S**	**23 37 34.5**	**+6.2**
FURI	**Furi**	**77.25**	**278**		IAMs_20		IAMs_20	00 00 58.9	
VORD	comp=Z,5µm,20.0s **Divnogorie**	**77.38**	**321**		*e*P		**P**	**23 27 38.0**	**-1.1**
VORD	comp=Z,50nm,0.9s				pmax		pmax		
VSR	**Storozhevoye**	**77.48**	**321**		*e*P		**P**	**23 27 37.9**	**-1.8**
VSR					*e*S		**S**	**23 37 22.7**	**-7.1**
VSR	comp=Z,60nm,0.9s				pmax		pmax		
VSR	comp=N,1µm,11.6s				smax		smax		
VORR	**Voronezh**	**77.51**	**321**		*e*P		**P**	**23 27 39.0**	**-0.8**
VORR	comp=Z,250nm,0.8s				pmax		pmax		
LPSR	**Galich'ya Gora**	**77.78**	**322**		*e*P		**P**	**23 27 40.4**	**-0.9**
LPSR					*e*S		**S**	**23 37 30.3**	**-2.6**
LPSR	comp=Z,90nm,1.0s				pmax		pmax		
LPSR	comp=N,1µm,11.1s				smax		smax		
LPSR	comp=Z,5µm,20.0s				MLR		MLR		
DILA	**Dilla**	**77.83**	**275**		*e*P		P	23 27 48.3	+5.7
DILA					*e*S		**S**	**23 37 40.5**	**+5.2**
GAZ	**Gaziantep**	**77.98**	**307**		IAmb		IAmb	23 27 52.9	
ANN	comp=Z,148nm,1.8s **Anapa**	**78.13**	**314**		*e*P		**P**	**23 27 40.9**	**-2.5**
ANN					*e*S		**S**	**23 37 28.7**	**-8.3**
ANN	comp=Z,77nm,1.7s				pmax		pmax		
KLMR	**Klimovskoe**	**78.49**	**331**		*e*P		**P**	**23 27 41.7**	**-3.3**
KLMR					*e*S		**S**	**23 37 35.8**	**-4.5**
KLMR	comp=Z,159nm,1.1s				pmax		pmax		
KLMR	**Klimovskoe**	**78.49**	**331**		*e*P		**P**	**23 27 41.8**	**-3.3**
KLMR	comp=Z,159nm,1.1s				AMP			23 27 52.8	
KLMR					*e*S		**S**	**23 37 35.9**	**-4.4**
KLMR					*e*S		**S**	**23 37 35.9**	**-4.4**
KLMR					LQ		LQ	23 55 26.6	
KLMR					LQ		LQ	23 55 26.6	
KLMR					LR		LR	00 02 44.0	
KLMR	comp=Z,4µm,15.4s				AMP			00 10 53.6	
TNA	**Tin City** baz=259	**78.50**	**24**		P			23 27 46.0	
MOS	**Moscow**	**78.86**	**326**		*e*P		**P**	**23 27 45.9**	**-1.3**
MOS					*e*			23 30 47.0	
MOS					*e*PPP		PPP	23 32 32.0	
MOS					*e*S		**S**	**23 37 40.3**	**-4.1**
MOS					*e*SS		**SS**	**23 42 45.0**	**-4.3**
MOS					*e*SSS		SSS	23 46 09.8	
MOS	comp=Z,129nm,1.6s				pmax		pmax		
MOS	comp=Z,2µm,19.0s				MLR		MLR		
KIBK	**Kibwezi**	**78.94**	**266**		P		**P**	**23 27 47.1**	**-1.5**
KIBK					IAMs_20		IAMs_20	00 03 35.5	
KIBK	comp=Z,3µm,19.0s **Kibwezi** SNR=8.7	**78.94**	**266**		P		**P**	**23 27 50.1**	**+1.5**
FALS	**False Pass** baz=265	**79.28**	**35**		P			23 27 50.7	
GHAJ	**Ghor Haditha** comp=Z,137nm,1.2s	**79.29**	**301**		IAmb		IAmb	23 28 22.2	
ANM	**Nome** baz=262	**79.40**	**25**		P			23 27 51.2	
OBN	**Obninsk**	**79.40**	**325**		P		**P**	**23 27 49.5**	**-0.6**
OBN	comp=Z,6.4nm,0.5s,baz=1.3,slow=4.3,SNR=17 **Obninsk**	**79.40**	**325**	⇑⇑	P		**P**	**23 27 50.1**	**0.0**
OBN	**Obninsk**	**79.40**	**325**	*c*	*i*P		**P**	**23 27 49.5**	**-0.6**
OBN					*i*			23 27 58.0	
OBN					*i*			23 30 52.0	
OBN					*i* PPP		PPP	23 32 37.8	
OBN					*i* S		**S**	**23 37 47.8**	**-2.4**
OBN					*e*SS		**SS**	**23 42 56.7**	**-0.7**
OBN	comp=Z,87nm,1.0s				pmax		pmax		
OBN	comp=Z,4µm,19.0s				MLR		MLR		
OBN	**Obninsk**	**79.40**	**325**		P		**P**	**23 27 49.2**	**-0.9**
OBN	comp=Z,102nm,1.1s				IAmb		IAmb	23 27 54.9	
OBN	comp=Z,4µm,19.0s				IAMs_20		IAMs_20	00 09 16.7	
MMAI	**Mount Meron Ar** comp=Z,16nm,1.0s,baz=105,slow=8.7,SNR=17	**79.42**	**302**		P		**P**	**23 27 51.3**	**+0.5**
EIL	**Elat** comp=Z,36nm,1.0s,baz=121,slow=6.3,SNR=17	**79.85**	**299**		P		**P**	**23 27 53.3**	**+0.1**
SIM	**Simferopol'**	**80.49**	**314**	*c*	*e*P		**P**	**23 27 54.8**	**-1.5**
SIM					*e*			23 28 04.0	
SIM								23 31 01.0	
SIM	comp=Z,84nm,1.1s				pmax		pmax		
SIM	comp=Z,55nm,1.5s				pmax		pmax		
ILGA	**Ilgaz**	**80.75**	**310**		P		**P**	**23 27 57.3**	**-0.8**
BRTR	**Keskin Array B** comp=Z,12nm,0.8s,baz=115,slow=5.9,SNR=56	**80.81**	**309**		P		**P**	**23 27 57.5**	**-0.9**
BRTR					PP		**PP**	**23 31 03.3**	**+0.7**
BRTR	comp=Z,6.1nm,1.1s,baz=115,slow=6.8,SNR=4.2				PKKPbc		**PKKPbc**	**23 46 36.4**	**-1.8**
BRTR	comp=Z,1.8nm,1.2s,baz=186,slow=1.4,SNR=4.3				PKPPKP			23 54 41.0	
BRTR	comp=Z,1.6nm,1.1s,baz=306,slow=1.2,SNR=4.8				LR		LR	00 10 59.4	
RDOG	comp=Z,3µm,19.1s,baz=112,slow=41 **Red Dog Mine**	**80.85**	**22**		P		**P**	**23 27 58.6**	**+0.8**
RDOG					IAmb		IAmb	23 28 10.2	
RDOG	comp=Z,266nm,2.0s **Red Dog Mine** baz=264	**80.85**	**22**		P			23 27 58.5	
SDPT	**Sand Point**	**81.00**	**35**		P		**P**	**23 27 57.7**	**-1.1**
SDPT					IAmb		IAmb	23 28 08.0	
SDPT	comp=Z,161nm,1.3s **Sand Point** baz=268	**81.00**	**35**		P			23 27 59.2	
LODK	**Lodwar** comp=Z,3µm,19.0s	**81.01**	**273**		IAMs_20		IAMs_20	00 04 29.3	
LODK	**Lodwar** SNR=13	**81.01**	**273**		P		**P**	**23 28 04.5**	**+4.7**
CSS	**Mathiatis**	**81.11**	**304**		P		**P**	**23 27 58.9**	**-1.0**
CSS					IAmb		IAmb	23 28 05.4	
CSS	comp=Z,127nm,1.3s				IAMs_20		IAMs_20	00 09 19.3	
LVZ	comp=Z,3µm,20.0s **Lovozero**	**81.42**	**338**	⇑	*e*P		**P**	**23 27 59.9**	**-1.0**
LVZ	comp=Z,112nm,1.4s				pmax		pmax		
LVZ	comp=Z,7µm,18.0s				MLR		MLR		
LVZ	**Lovozero**	**81.42**	**338**		P		**P**	**23 27 59.7**	**-1.2**
LVZ					IAmb		IAmb	23 28 20.6	
ANTO	comp=Z,150nm,1.4s **Ankara**	**81.46**	**309**		P		**P**	**23 28 01.1**	**-0.6**
ANTO	comp=Z,94nm,1.4s				pmax		pmax		
ANTO	**Ankara**	**81.46**	**309**		P		**P**	**23 28 01.1**	**-0.6**
LEF	**Lefka**	**81.47**	**305**	⇑	P		**P**	**23 28 02.2**	**+0.5**
APA	**Apatity**	**81.87**	**337**	⇓	*i*P		**P**	**23 28 01.2**	**-2.0**
APA					*i*			23 28 09.6	
APA					*i*			23 31 14.2	
APA	comp=Z,15nm,0.9s				pmax		pmax		
MAW	**Mawson** comp=Z,52nm,1.1s,baz=48,slow=6.6,SNR=12	**82.62**	**198**		P		**P**	**23 28 07.5**	**+0.5**
MAW	comp=Z,2µm,21.6s,baz=42,slow=33				LR		LR	00 00 59.7	
MAW	**Mawson** baz=83,SNR=37	**82.62**	**198**		P		**P**	**23 28 06.7**	**-0.2**
MDUB	**Mudurnu**	**82.67**	**310**		P		**P**	**23 28 05.9**	**-2.2**
VALR	**Valaam**	**82.71**	**331**		*e*P		**P**	**23 28 08.8**	**+1.2**
VALR	comp=Z,118nm,1.1s				pmax		pmax		
PUL	**Pulkovo**	**82.97**	**329**	⇓	*e*P		**P**	**23 28 09.0**	**-0.1**
PUL	comp=Z,136nm,1.0s				pmax		pmax		
A21K	**Barrow**	**83.26**	**19**		P		**P**	**23 28 09.7**	**-0.6**
A21K	comp=Z,2µm,19.0s				IAMs_20		IAMs_20	00 10 46.2	
A21K	**Barrow** baz=269	**83.26**	**19**		P			23 28 10.6	
TTA	**Tatalina**	**83.44**	**27**		P		**P**	**23 28 11.5**	**0.0**
TTA	comp=Z,112nm,1.4s				pmax		pmax		
TTA	**Tatalina**	**83.44**	**27**		P		**P**	**23 28 11.5**	**0.0**
TTA					IAmb		IAmb	23 28 18.7	
TTA	comp=Z,112nm,1.4s **Tatalina** baz=270	**83.44**	**27**		P			23 28 12.1	
KIP	**Kipapa**	**83.48**	**69**	⇑	*i*P		**P**	**23 28 13.5**	**+1.0**
KIP	comp=Z,117nm,1.7s				pmax		pmax		
KIP	comp=Z,1µm,18.0s				MLR		MLR		
SVW2	**Sparrevohn**	**83.66**	**29**		P		**P**	**23 28 12.4**	**-0.2**
SVW2	comp=Z,75nm,1.0s				IAmb		IAmb	23 28 23.9	
DHH	**Diamond Head**	**83.69**	**69**		P		**P**	**23 28 14.3**	**+0.7**
DHH	**Diamond Head**	**83.69**	**69**		P		**P**	**23 28 14.3**	**+0.7**
AKASG	**Malin Array Be** comp=Z,26nm,0.9s,baz=78,slow=4.6,SNR=71	**83.75**	**320**		P		**P**	**23 28 11.8**	**-1.4**
AKASG	comp=Z,0.3nm,0.3s,baz=77,slow=6.9,SNR=1.8				PP		**PP**	**23 31 28.8**	**+2.7**
AKASG					PKKPbc		**PKKPbc**	**23 46 28.6**	**-3.1**
AKASG	comp=Z,0.2nm,0.2s,baz=262,slow=3.3,SNR=5.6				LR		LR	00 08 26.5	
AKASG	comp=Z,5µm,20.6s,baz=80,slow=38 **Malin Array Be**	**83.75**	**320**		P		**P**	**23 28 12.0**	**-1.2**
AKASG	comp=Z,52nm,1.4s				pmax		pmax		
AKASG	**Malin Array Be**	**83.75**	**320**		P		**P**	**23 28 12.0**	**-1.2**
AKBB	**Malin Array Si**	**83.75**	**320**	*d*	*i*P		**P**	**23 28 11.6**	**-1.6**
AKBB	comp=Z,50nm,1.0s				pmax		pmax		
ELL	**Elmali**	**83.83**	**306**		P		**P**	**23 28 12.7**	**-1.5**
ELL	comp=Z,239nm,1.1s				pmax		pmax		
ELL	**Elmali**	**83.83**	**306**		P		**P**	**23 28 12.7**	**-1.5**
AKAS	**Kas**	**84.10**	**306**		P		**P**	**23 28 14.1**	**-1.5**
KIS	**Kishinev** comp=Z,400nm,8.6s	**84.16**	**317**		*e*P		**P**	**23 28 13.0**	**-2.4**
KIS	**Kishinev**	**84.16**	**317**		*e*PP		PP	23 31 31.0	+1.4
KIS	**Kishinev**	**84.16**	**317**		*e*P		**P**	**23 28 13.0**	**-2.4**
KIS					*e*			23 31 31.0	
KIS					*e*S		**S**	**23 38 37.5**	**-2.1**
KIS					*e*PS		**PnS**	**23 39 34.0**	**+0.2**
KIS					*e*SS		**SS**	**23 44 13.0**	**+4.4**
KIS	comp=Z,400nm,8.6s				pmax		pmax		
TLCR		**84.24**	**315**	⇑⇑	P		**P**	**23 28 15.8**	**-0.1**
IMAR	**Indian Mountai**	**84.35**	**24**		P		**P**	**23 28 16.1**	**0.0**
MNK	**Minsk**	**84.42**	**324**	*i*	P		**P**	**23 28 16.2**	**-0.4**
MNK					*i*			23 31 31.1	
MNK					*i* PPP		PPP	23 33 23.8	
MNK					*i* S		**S**	**23 38 36.4**	**-5.5**
MNK					*i* SS		**SS**	**23 44 10.4**	**-1.6**
MNK					*i* SSS		SSS	23 47 42.2	
MNK	comp=E,9.0nm,1.2s				pmax		pmax		
MNK	comp=Z,96nm,1.2s				pmax		pmax		
MNK	comp=N,14nm,1.2s				MLR		MLR		
MNK	comp=N,2µm,20.0s				MLR		MLR		
MNK	comp=Z,2µm,18.0s				MLR		MLR		
MNK	comp=E,214nm,20.0s **Minsk**	**84.42**	**324**	*i*	P		**P**	**23 28 16.3**	**-0.3**
MNK	comp=E,9.0nm,1.2s			*i*	P		**P**	**23 28 16.3**	**-0.3**
MNK	comp=N,14nm,1.2s			*i*	P		**P**	**23 28 16.3**	**-0.3**
MNK	comp=Z,96nm,1.2s,baz=88			*i*	PP		**PP**	**23 31 31.2**	**-0.4**
MNK				*i*	PPP		PPP	23 33 23.8	
MNK				*i*	S		**S**	**23 38 36.4**	**-5.5**
MNK				*i*	SS		**SS**	**23 44 10.4**	**-1.6**
MNK				*i*	SSS		SSS	23 47 42.3	
MNK				*i*	LQ		LQ	00 00 28.4	
MNK				*i*	LR		LR	00 06 21.9	
MNK	comp=N,2µm,19.5s			*i*	LRM		MLR	00 07 20.6	
MNK	comp=Z,2µm,17.8s			*i*	LRM		MLR	00 07 25.3	
MNK	comp=E,214nm,20.4s			*i*	LRM		MLR	00 07 26.6	
SORM	**Soroca**	**84.42**	**318**	⇓	P		**P**	**23 28 16.0**	**-0.7**
SII	**Sitkinak Islan**	**84.53**	**34**		P		**P**	**23 28 17.1**	**0.0**
SII	**Sitkinak Islan** baz=273,SNR=6.4	**84.53**	**34**		P			23 28 17.1	
TPGR	**Topolog**	**84.54**	**314**	⇑	P		**P**	**23 28 17.9**	**+0.5**
HOPEN	**Hopen**	**84.55**	**346**	*e*	P		**P**	**23 28 16.9**	**0.0**
HOPEN	comp=Z,2µm,2.0s				IVmB_BB			23 28 21.5	
HOPEN				*e*	SKSac		**SKSac**	**23 38 40.2**	**+0.6**
TIRR	**Tirgusor**	**84.56**	**314**	⇑⇑	P		**P**	**23 28 18.2**	**+0.6**
TIRR	**Tirgusor** comp=Z,4µm,21.0s	**84.56**	**314**		IAMs_20		IAMs_20	00 11 23.4	
H21K	**Melozitna Rive** baz=273,SNR=57	**84.76**	**25**		P			23 28 19.0	
ARA0	**ARCESS Array S**	**84.79**	**339**		*e*P		**P**	**23 28 17.6**	**-0.6**
ARCES	**ARCESS Array B** comp=Z,20nm,0.8s,baz=85,slow=5.5,SNR=19	**84.79**	**339**		P		**P**	**23 28 17.7**	**-0.5**
ARCES	**ARCESS Array B**	**84.79**	**339**		P		**P**	**23 28 17.6**	**-0.6**
ARCES	comp=Z,322nm,1.5s				pmax		pmax		
ARCES	**ARCESS Array B**	**84.79**	**339**		P		**P**	**23 28 17.6**	**-0.6**
MANT	**Manisa**	**84.80**	**308**		P		**P**	**23 28 17.4**	**-1.8**
VSU	**Vasula**	**84.86**	**328**	*e*	P		**P**	**23 28 18.6**	**-0.1**
VSU	**Vasula**	**84.86**	**328**	*d*	*i*P		**P**	**23 28 17.3**	**-1.4**
VSU	comp=Z,416nm,0.9s				pmax		pmax		
VSU	comp=Z,8µm,18.0s				MLR		MLR		
HARR	**Harsova**	**84.89**	**314**	⇑	P		**P**	**23 28 19.7**	**+0.5**
OHAK	**Old Harbor**	**84.99**	**33**		P		**P**	**23 28 18.6**	**-0.8**
OHAK	comp=Z,95nm,1.0s				IAmb		IAmb	23 28 34.0	
OHAK	**Old Harbor** baz=273	**84.99**	**33**		P			23 28 18.9	
IAS	**Iasi**	**85.00**	**317**	⇑	P		**P**	**23 28 19.6**	**-0.1**
FIA1	**FINESS Array S** comp=Z,94nm,0.9s	**85.02**	**331**		IAmb		IAmb	23 28 28.4	
FINES	**FINESS Array B** comp=Z,36nm,0.7s,baz=88,slow=6.1,SNR=81	**85.02**	**331**		P		**P**	**23 28 18.6**	**-0.9**
NACGM	**Naroch** baz=304	**85.03**	**325**	*i*	P		**P**	**23 28 19.5**	**-0.1**
IDID	**Didziasalis**	**85.03**	**325**	*e*	P		**P**	**23 28 20.3**	**+0.7**
CHUM	**Lake Minchumin** baz=274,SNR=17	**85.07**	**26**		P			23 28 20.5	
PPLA	**Purkeypile**	**85.19**	**27**		P		**P**	**23 28 20.7**	**+0.2**
PPLA	**Purkeypile** baz=274,SNR=22	**85.19**	**27**		P			23 28 20.9	
CAST	**Castle Rocks**	**85.20**	**27**		P		**P**	**23 28 20.7**	**+0.3**
CAST	comp=Z,106nm,1.0s				IAmb		IAmb	23 28 31.7	
CAST	**Castle Rocks** baz=274	**85.20**	**27**		P			23 28 20.7	
BALB	**Balikesir**	**85.25**	**309**		P		**P**	**23 28 19.6**	**-1.5**
BALB	comp=Z,156nm,1.5s				IAmb		IAmb	23 28 26.3	
ARG	**Arkhangelos**	**85.30**	**306**		P		**P**	**23 28 22.3**	**+0.9**
IIGN	**Ignalina**	**85.33**	**325**	*e*	P		**P**	**23 28 21.3**	**+0.1**
HAMF	**Hammerfest**	**85.33**	**340**	*e*	P		**P**	**23 28 21.3**	**+0.4**
HAMF	comp=Z,3µm,1.9s				IVmB_BB			23 28 25.3	
HAMF				*e*	SKSac		**SKSac**	**23 38 46.2**	**+1.5**
HAMF	comp=Z,2µm,3.3s				IVMs_BB		IVMs_BB	23 56 42.9	
KDAK	**Kodiak Island**	**85.33**	**33**		P		**P**	**23 28 21.4**	**+0.3**
KDAK	comp=Z,268nm,1.9s				pmax		pmax		
KDAK	comp=Z,2µm,20.0s				MLR		MLR		
KDAK	**Kodiak Island**	**85.33**	**33**		P		**P**	**23 28 21.4**	**+0.3**
KDAK	comp=Z,268nm,1.9s				IAmb		IAmb	23 28 28.3	
KDAK	**Kodiak Island** comp=Z,2µm,20.0s	**85.33**	**33**		IAMs_20		IAMs_20	00 08 32.4	
KDAK	**Kodiak Island** baz=274	**85.33**	**33**		P			23 28 20.0	
ISAL	**Salakas**	**85.37**	**325**	*e*	P		**P**	**23 28 21.5**	**+0.1**
SKT	**Skwentna** comp=Z,172nm,1.2s	**85.56**	**28**		IAmb		IAmb	23 28 34.1	
SKT	**Skwentna** baz=274,SNR=26	**85.56**	**28**		P			23 28 20.9	
KHLU	**Kahalu`u**	**85.60**	**71**		P		**P**	**23 28 22.9**	**-0.5**
KTK1	**Kautokeino**	**85.63**	**339**	*e*	P		**P**	**23 28 22.5**	**+0.1**
KTK1	comp=Z,2µm,2.0s				IVmBBB			23 28 26.6	
KTK1				*e*	SKSac		**SKSac**	**23 38 48.5**	**+1.8**
BPAW	**Bear Paw Mtn.** baz=275,SNR=48	**85.64**	**26**		P			23 28 22.6	
HUH	**Hualalai**	**85.65**	**71**		P		**P**	**23 28 22.7**	**-1.1**
MLY	**Manley** comp=Z,94nm,1.0s	**85.67**	**25**		IAmb		IAmb	23 28 36.0	
MLY	**Manley** baz=275,SNR=72	**85.67**	**25**		P			23 28 23.3	
VRI	**Vrincioaia**	**85.67**	**316**	⇑⇑	P		**P**	**23 28 23.1**	**0.0**
TESR	**Tescani**	**85.67**	**316**	⇑⇑	P		**P**	**23 28 22.8**	**-0.3**
HOM	**Homer** baz=275	**85.69**	**31**		P			23 28 21.8	
COLD	**Coldfoot** baz=275,SNR=82	**85.69**	**23**		P			23 28 23.4	
KTH	**Kantishna Hill** comp=Z,64nm,1.0s	**85.71**	**27**		IAmb		IAmb	23 28 42.7	
PLOR	**Plostina**	**85.72**	**316**	⇓	P		**P**	**23 28 23.0**	**-0.4**
HPAH	**Hawaii Prepara**	**85.75**	**70**		P		**P**	**23 28 23.5**	**-0.6**
HPAH	comp=Z,3µm,22.0s				IAMs_20		IAMs_20	00 07 25.2	
TOLK	**Toolik Lake Re** comp=Z,2µm,18.0s	**85.79**	**22**		IAMs_20		IAMs_20	00 13 22.3	
TOLK	**Toolik Lake Re** baz=276	**85.79**	**22**		P			23 28 23.7	
MWH	**Moku'aweowe**	**85.89**	**71**		P		**P**	**23 28 24.2**	**-1.2**
PRAR	**RASCA**	**85.90**	**317**	⇑	P		**P**	**23 28 24.1**	**-0.1**
CNPM	**China Poot**	**85.90**	**31**		P		**P**	**23 28 23.4**	**-0.6**
CNPM	comp=Z,135nm,1.2s				IAmb		IAmb	23 28 35.8	
MEF	**Metsahovi**	**85.93**	**330**		*e*P		**P**	**23 28 23.5**	**-0.5**
SUA	**Susitna One** baz=275,SNR=12	**85.98**	**29**		P			23 28 23.5	
HMH	**Humu'ula Sheep**	**85.98**	**71**		P		**P**	**23 28 23.9**	**-1.6**
HMH	comp=Z,188nm,1.2s				IAmb		IAmb	23 28 34.6	
NEHR	**Nehoiu**	**86.00**	**315**	⇑	P		**P**	**23 28 24.7**	**-0.1**
TRF	**Thorofare Moun** comp=Z,97nm,1.0s	**86.00**	**27**		IAmb		IAmb	23 28 38.7	
TRF	**Thorofare Moun** baz=276,SNR=15	**86.00**	**27**		P			23 28 24.1	
**MBA

AIN	Ainahou	86.03	71	P	P	23 28 24.2	-1.4		
AIN				IAMs_20	IAMs_20	00 01 23.7			
	comp=Z,3µm,20.0s								
BRLK	Bradley Lake	86.06	30	P	P	23 28 24.1	-0.6		
MLH	Mauna Loa	86.08	71	P	P	23 28 24.9	-1.1		
H23K	Yukon River	86.09	24	P		23 28 25.9			
	baz=276,SNR=65								
CUT	Chulitna	86.11	28	P	P	23 28 24.2	-0.7		
CUT	Chulitna	86.11	28	P		23 28 24.3			
	baz=276								
BRSE	Bradley Lake S	86.14	30	P		23 28 24.2			
	baz=275,SNR=9.5								
RAR	Rarotonga	86.19	112	P	P	23 28 25.9	-0.2		
RAR				pmax	pmax				
	comp=Z,107nm,1.6s								
RAR	Rarotonga	86.19	112	P	P	23 28 25.9	-0.2		
RAR				IAmb	IAmb	23 28 27.1			
	comp=Z,107nm,1.6s								
SECR		86.19	315	⇑P	P	23 28 26.0	+0.2		
UWB	Uwekahuna B	86.19	71	IAMs_20	IAMs_20	23 55 02.0			
	comp=Z,3µm,19.0s								
SPA0	Spitsbergen Ar	86.23	348	eP	P	23 28 25.4	+0.1		
SPA0				IVmB_BB		23 28 29.7			
	comp=Z,2µm,1.7s								
SPA0				eSKSac	SKSac	23 38 49.9	-0.4		
I23K	Minto, Yukon-K	86.23	25	P		23 28 25.9			
	baz=276,SNR=37								
MLR	Muntele Rosu	86.24	315	P	P	23 28 25.9	-0.2		
	comp=Z,56nm,0.8s,baz=60,slow=1.2,SNR=52								
MLR	Muntele Rosu	86.24	315	⇑P	P	23 28 26.0	-0.1		
MLR	Muntele Rosu	86.24	315	P	P	23 28 24.7	-1.4		
MLR				pmax	pmax				
	comp=Z,128nm,1.1s								
MLR	Muntele Rosu	86.24	315	P	P	23 28 24.7	-1.4		
MLR				IAmb	IAmb	23 28 35.0			
	comp=Z,128nm,1.1s								
MLR				IAMs_20	IAMs_20	00 13 12.8			
	comp=Z,4µm,20.0s								
M22K	Willow	86.25	28	P		23 28 24.6			
	baz=276,SNR=15								
PUH	Pauahi	86.25	71	P	P	23 28 25.3	-1.4		
BJO1	Bjornoya	86.27	345	eP	P	23 28 25.9	+0.4		
BJO1				eSKSac	SKSac	23 38 49.0	-1.5		
BWN	Browne	86.30	26	P	P	23 28 26.1	+0.3		
BWN				IAmb	IAmb	23 28 42.6			
	comp=Z,85nm,0.9s								
OZUR		86.30	316	⇑P	P	23 28 26.6	+0.3		
SGRR	Singureni	86.33	314	⇑P	P	23 28 26.8	+0.4		
JCUZ	Jacuzzi	86.36	71	IAMs_20	IAMs_20	00 12 32.5			
	comp=Z,2µm,20.0s								
MTSE	Matsula	86.36	329	eP	P	23 28 25.9	-0.3		
NEA2	Nenana	86.42	26	IAmb	IAmb	23 28 37.1			
	comp=Z,65nm,0.9s								
NEA2	Nenana	86.42	26	P		23 28 26.0			
	baz=276,SNR=34								
RC01	Rabbit Creek A	86.50	29	P	P	23 28 26.3	-0.5		
RC01				IAmb	IAmb	23 28 48.3			
	comp=Z,83nm,1.0s								
RC01	Rabbit Creek A	86.50	29	P		23 28 26.0			
	baz=276								
ALN	Alexandroupoli	86.56	311	P	P	23 28 26.2	-1.3		
ALN	Alexandroupoli	86.56	311	P	P	23 28 26.2	-1.3		
ALN	Alexandroupoli	86.56	311	P	P	23 28 26.2	-1.3		
BURAR	Bucovina Array	86.56	317	⇑P	P	23 28 27.7	+0.1		
BURAR	Bucovina Array	86.56	317	P	P	23 28 27.5	-0.1		
BURAR				IAmb	IAmb	23 28 37.8			
	comp=Z,95nm,1.1s								
BUR08	Bucovina Ar. S	86.57	317	IAmb	IAmb	23 28 37.5			
	comp=Z,142nm,1.1s								
JETT	Jettan, Norway	86.57	340	eP	P	23 28 27.3	+0.2		
O22K	Cooper Landing	86.57	30	P		23 28 26.3			
	baz=276								
MCK	McKinley	86.58	26	P	P	23 28 27.1	-0.1		
MCK				pmax	pmax				
	comp=Z,153nm,1.0s								
MCK				MLR	MLR				
	comp=Z,1µm,19.0s								
MCK	McKinley	86.58	26	P	P	23 28 27.1	-0.1		
MCK	McKinley	86.58	26	P		23 28 26.9			
	baz=277,SNR=37								
DOPR	Dopca	86.59	316	⇑P	P	23 28 27.3	-0.3		
HSPB	Hornsund (broa	86.65	347	eP	P	23 28 27.9	+0.6		
HSPB				eS	S	23 39 00.8	-2.4		
HSPB				eL	L	00 12 19.7			
	comp=Z,5µm,21.7s								
RND	Reindeer	86.65	27	IAmb	IAmb	23 28 39.6			
	comp=Z,101nm,1.2s								
PMR	Palmer	86.73	29	P	P	23 28 27.2	-0.7		
PMR				pmax	pmax				
	comp=Z,99nm,1.2s								
PMR	Palmer	86.73	29	P	P	23 28 27.2	-0.7		
PMR				IAmb	IAmb	23 28 39.4			
	comp=Z,99nm,1.2s								
PMR	Palmer	86.73	29	P		23 28 27.5			
	baz=277								
SEW	Seward	86.74	30	IAmb	IAmb	23 28 39.4			
	comp=Z,115nm,1.1s								
SEW	Seward	86.74	30	P		23 28 26.7			
	baz=276								
H24K	Noodor Dome	86.77	24	P		23 28 28.9			
	baz=278,SNR=33								
GHO	Glory Hole Cre	86.81	28	P	P	23 28 28.0	-0.5		
GHO				IAmb	IAmb	23 28 35.5			
	comp=Z,168nm,1.5s								
ZIMR		86.81	313	⇑P	P	23 28 29.1	+0.3		
WAT2	Susitna Watana	86.82	27	P		23 28 27.7			
	baz=277,SNR=10								
WRH	Wood River Hil	86.86	26	IAmb	IAmb	23 28 35.4			
	comp=Z,157nm,1.6s								
VOIR		86.87	315	⇑P	P	23 28 29.0	-0.2		
COPA	Copaceanca	86.88	314	⇑P	P	23 28 29.3	+0.3		
TCOL	CIGO, UAF Yank	86.90	25	P	P	23 28 29.2	+0.5		
TCOL				IAmb	IAmb	23 28 46.7			
	comp=Z,78nm,1.3s								
TCOL	CIGO, UAF Yank	86.90	25	P		23 28 27.7			
	baz=278								
COLA	College	86.90	25	P	P	23 28 29.0	+0.3		
COLA				pmax	pmax				
	comp=Z,104nm,1.5s								
COLA	College	86.90	25	P	P	23 28 28.9	+0.3		
COLA				IAmb	IAmb	23 28 46.7			
	comp=Z,104nm,1.4s								
COLA	College	86.91	25	P		23 28 27.7			
	baz=278								
RDO	Rodhopi	86.92	311	P	P	23 28 28.3	-1.0		
KBS	Kingsbay	86.92	349	eP	P	23 28 29.1	+0.5		
KBS				eSKSac	SKSac	23 38 56.2	+1.7		
STFAR	Stefanesti-Arg	86.99	315	⇑P	P	23 28 30.1	+0.5		
HUMR	Humele	87.01	314	⇑P	P	23 28 29.7	0.0		
POKR	Poker Plat Res	87.05	25	P	P	23 28 29.7	+0.2		
POKR	Poker Plat Res	87.05	25	P		23 28 28.7			
	baz=278,SNR=7.4								
TRO	Tromso	87.07	340	eP	P	23 28 29.6	+0.2		
TRO				IVmB_BB		23 28 33.3			
	comp=Z,2µm,1.8s								
TRO				eSKSac	SKSac	23 38 55.7	+0.1		
TRO				IVMs_BB	IVMs_BB	23 56 00.0			
	comp=Z,1µm,3.4s								
KNK	Knik Glacier	87.07	29	P	P	23 28 28.6	-1.1		
KNK	Knik Glacier	87.08	29	P		23 28 29.7			
	baz=277								
SML	Sawmill	87.08	28	P	P	23 28 29.5	-0.3		
SML				IAmb	IAmb	23 28 42.9			
	comp=Z,126nm,1.1s								
SML	Sawmill	87.08	28	P		23 28 29.4			
	baz=277,SNR=13								
VNDA	Vanda	87.11	171	P	P	23 28 28.4	-1.0		
	comp=Z,41nm,1.2s,baz=308,slow=5.7,SNR=35								
VNDA				PKKPbc	PKKPbc	23 46 22.4	-2.5		
	comp=Z,0.8nm,0.6s,baz=78,slow=2.6,SNR=3.9								
VNDA				LR	LR	00 07 27.5			
	comp=Z,917nm,20.1s,baz=324,slow=36								
VNDA	Vanda	87.11	171	IAmb	IAmb	23 28 36.9			
	comp=Z,118nm,1.4s								
LVV	L'vov	87.13	320	eP	P	23 28 28.9	-1.3		
LVV				eS	SKSac	23 38 56.8	0.0		
RAF	Rauma	87.14	331	eP	P	23 28 28.6	-1.3		
ARCR	ARCALIA	87.19	317	⇑P	P	23 28 30.7	+0.1		
SUW	Suwalki	87.20	324	eP	P	23 28 29.1	-1.3		
SUW				eS	S	23 39 06.9	-2.5		
SUW				eL	L	00 09 05.9			
	comp=Z,4µm,22.7s								
SUW	Suwalki	87.20	324	eP	P	23 28 28.6	-1.9		
SUW	Suwalki	87.20	324	IAMs_20	IAMs_20	00 09 18.3			
	comp=Z,4µm,22.0s								
WAT6	Susitna Watana	87.26	27	P		23 28 30.3			
	baz=278,SNR=29								
SLIT	Slitere, Latvi	87.28	328	eP	P	23 28 29.6	-1.1		
IL31		87.33	25	P	P	23 28 30.1	-0.7		
ILAR	Eielson Array	87.33	25	P	P	23 28 29.6	-1.2		
	comp=Z,6.1nm,1.0s,baz=286,slow=3.9,SNR=25								
ILAR				PP	PP	23 32 01.6	+6.8		
	comp=Z,2.3nm,0.9s,baz=289,slow=7.5,SNR=4.0								
ILAR				PKKPbc	PKKPdf	23 46 19.7	+2.6		
	comp=Z,0.2nm,0.5s,baz=123,slow=48,SNR=2.5								
ILAR				PKPPKP	P'P'df	23 54 26.4	-3.5		
	comp=Z,0.5nm,0.7s,baz=79,slow=2.3,SNR=5.1								
ILAR				LR	LR	00 09 24.2			
	comp=Z,560nm,19.4s,baz=302,slow=37								
ILAR	Eielson Array	87.33	25	P	P	23 28 29.0	-1.8		
ILAR	Eielson Array	87.33	25	P	P	23 28 28.9	-1.8		
HDA	Harding Lake	87.35	26	P	P	23 28 30.3	-0.6		
HDA	Harding Lake	87.35	26	P		23 28 29.5			
	baz=278								
HDA				P		23 28 29.5			
	baz=278								
LAST	Lasithi	87.53	305	P	P	23 28 32.4	-0.1		
THAS	Thassos island	87.59	310	P	P	23 28 30.8	-1.8		
PBUR	Paburge	87.68	326	eP	P	23 28 32.7	0.0		
BMR	Baia Mare	87.71	318	⇑P	P	23 28 33.4	+0.4		
BMR	Baia Mare	87.71	318	P	P	23 28 38.2	+5.2		
BMR				pmax	pmax				
	comp=Z,66nm,0.9s								
BMR				MLR	MLR				
	comp=Z,2µm,22.0s								
CJR	Cluj-Napoca	87.75	317	⇑P	P	23 28 33.9	+0.6		
LOT	Lotru	87.77	315	⇓P	P	23 28 33.2	-0.4		
PRP	Porcupine Dome	87.78	24	P		23 28 33.0			
	baz=280								
GLI	Glacier Island	87.80	29	P		23 28 32.7			
	baz=278								
BMAR	Burnt Mountain	87.82	22	P	P	23 28 34.1	+0.9		
IDI	Anoyia	88.00	305	P	P	23 28 34.3	-0.4		
	comp=Z,29nm,1.0s,baz=106,slow=7.1,SNR=7.0								
IDI	Anoyia	88.00	305	⇑P	P	23 28 35.4	+0.6		
IDI	Anoyia	88.00	305	P	P	23 28 34.1	-0.6		
IDI				IAmb	IAmb	23 29 10.2			
	comp=Z,61nm,1.0s								
KWP	Kalwaria Pacla	88.00	320	eP	P	23 28 34.2	-0.2		
KWP				eS	S	23 39 12.8	-4.5		
KWP				eL	L	00 13 44.9			
	comp=Z,3µm,22.1s								
KWP	Kalwaria Pacla	88.00	320	IAmb	IAmb	23 28 44.6			
	comp=Z,63nm,0.9s								
KWP				IAMs_20	IAMs_20	00 13 45.5			
	comp=Z,3µm,21.0s								
M24K	Tolsona, Glenn	88.05	28	P	P	23 28 34.2	-0.2		
M24K	Tolsona, Glenn	88.05	28	P		23 28 33.7			
	baz=279								
SBA	Scott Base	88.11	171	P	P	23 28 34.4	+0.2		
SBA				pmax	pmax				
	comp=Z,169nm,1.5s								
SBA				MLR	MLR				
	comp=Z,2µm,18.0s								
SBA	Scott Base	88.11	171	P	P	23 28 34.4	+0.2		
SBA				IAmb	IAmb	23 28 42.8			
	comp=Z,169nm,1.5s								
SBA	Scott Base	88.11	171	IAMs_20	IAMs_20	00 08 28.3			
	comp=Z,2µm,18.0s								
AAL	Aland	88.12	330	eP	P	23 28 34.7	+0.1		
FID	Port Fidalgo	88.12	29	IAMs_20	IAMs_20	00 07 50.3			
	comp=Z,2µm,22.0s								
NVR	Nevrokopi	88.15	311	P	P	23 28 33.4	-1.9		
HIN	Hinchinbrook I	88.16	30	IAMs_20	IAMs_20	00 09 13.9			
	comp=Z,2µm,21.0s								
PAX	Paxson	88.23	27	P	P	23 28 34.3	-1.0		
PAX				pmax	pmax				
	comp=Z,30nm,1.0s								
PAX	Paxson	88.23	27	P	P	23 28 34.3	-1.0		
PAX	Paxson	88.23	27	P		23 28 35.2			
	baz=280								
KLU	Klutina	88.27	28	P	P	23 28 34.9	-0.6		
KLU	Klutina	88.27	28	P		23 28 35.1			
	baz=280								
TRPA	Tarpa	88.30	318	⇑P	P	23 28 35.4	-0.3		
DEV	Deva	88.32	316	⇑P	P	23 28 36.8	+0.9		
DRGR		88.34	317	⇑P	P	23 28 35.8	-0.4		
KOLS	Kolonicke sedl	88.37	319	eP	P	23 28 35.9	-0.3		
KOLS				eS	S	23 39 18.7	-2.1		
KOLS	Kolonicke sedl	88.37	319	eP	P	23 28 35.9	-0.3		
Q23K	Middleton Isla	88.39	31	P		23 28 34.9			
	baz=279								
UZH	Uzhgorod	88.40	319	i P	P	23 28 36.0	-0.2		
UZH				e		23 28 39.3			
UZH				e		23 32 06.0			
UZH				e		23 39 04.4			
UZH				eS	S	23 39 15.8	-5.2		
UZH				eSS	SS	23 45 08.3	-2.3		
UZH				MLR	MLR				
	comp=Z,250nm,17.0s								
N2IH	Innhavet	88.45	338	eP	P	23 28 35.8	-0.3		
GZR	Gura Zlata	88.47	315	⇑P	P	23 28 37.2	+0.4		
HARP	HAARP	88.47	27	P		23 28 36.2			
	baz=280								
VTS	Vitosha	88.47	313	⇑P	P	23 28 36.5	-0.5		
VTS	Vitosha	88.47	313	IAmb	IAmb	23 28 46.1			
	comp=Z,43nm,1.0s								
EYAK	Cordova Ski Ar	88.51	29	P		23 28 35.6			
	baz=280								
PTL	Penteli	88.52	308	P	P	23 28 36.4	-0.7		
VAM	Vamos	88.55	305	P	P	23 28 37.8	+0.5		
SCRK	Sand Creek	88.70	26	P	P	23 28 37.2	-0.4		
SCRK	Sand Creek	88.70	26	P		23 28 37.0			
	baz=281								
N2ST	Straumen	88.71	338	eP	P	23 28 37.1	-0.2		
STEI	Steigen	88.72	338	eP	P	23 28 37.5	+0.2		
STEI				IVmB_BB		23 28 44.1			
	comp=Z,2µm,1.3s								
STEI				eSKSac	SKSac	23 39 06.2	+0.7		
STEI				IVMs_BB	IVMs_BB	23 54 59.5			
	comp=Z,1µm,3.8s								
IMMV	Iera Moni Meta	88.72	305	P	P	23 28 37.8	-0.3		
N2NF	Nordfold	88.76	338	eP	P	23 28 37.6	+0.1		
HERR	Herculane	88.79	315	⇑P	P	23 28 37.7	-0.5		
FAUS	Fauske	88.82	338	eP	P	23 28 37.9	+0.1		
FAUS				IVmB_BB		23 28 45.4			
	comp=Z,2µm,1.5s								
FAUS				eSKSac	SKSac	23 39 04.0	-2.2		
N2TV	TVrnvik	88.84	338	eP	P	23 28 38.2	+0.3		
N25K	Chitina, Valde	88.87	28	P	P	23 28 38.4	+0.1		
N25K				IAmb	IAmb	23 28 53.5			
	comp=Z,154nm,1.8s								
N25K	Chitina, Valde	88.87	28	P		23 28 38.3			
	baz=281								
KNT	Kendrikon	88.90	311	P	P	23 28 36.7	-2.1		
BEL	Belsk	88.92	322	eP	P	23 28 39.1	+0.4		
BEL				eL	L	00 10 33.7			
	comp=Z,5µm,21.6s								
BMRM	Bremner River	88.99	29	P	P	23 28 38.2	-0.6		
BMRM				IAmb	IAmb	23 28 49.4			
	comp=Z,66nm,0.9s								
BMRM				IAMs_20	IAMs_20	00 08 18.6			
	comp=Z,2µm,22.0s								
BMRM	Bremner River	88.99	29	P		23 28 37.7			
	baz=281								
MENT	Mentasta	89.02	27	P	P	23 28 39.2	+0.3		
VAY	Valandovo	89.12	311	i P	P	23 28 38.2	-1.6		
KRND	KRANIDI	89.16	307	P	P	23 28 38.0	-2.1		
NBB28	Valnes	89.18	338	eP	P	23 28 40.0	+0.5		
LTK	Loutraki	89.23	308	P	P	23 28 40.5	+0.1		
BZS	Buzias	89.25	316	⇑P	P	23 28 39.4	-0.9		
GLB	Gilahina Butte	89.28	28	P	P	23 28 39.7	-0.5		
LOF	Lofoten	89.29	339	eP	P	23 28 39.7	-0.3		
LOF				IVmB_BB		23 28 46.8			
	comp=Z,2µm,2.3s								
LOF				eSKSac	SKSac	23 39 10.0	+1.0		
LOF				eSS	SS	23 45 25.5	+2.9		
GRG	Griva	89.30	311	P	P	23 28 39.3	-1.4		
MDVR	Moldovita	89.30	315	⇑P	P	23 28 40.3	-0.4		
LIT	Litokhoron	89.34	310	P	P	23 28 39.4	-1.5		
LIT	Litokhoron	89.34	310	P	P	23 28 39.4	-1.5		
UPP	Uppsala	89.34	330	eP	P	23 28 38.3	-2.2		
STIP	Stip	89.36	312	i P	P	23 28 38.4	-2.6		
NBB05	Inndyr	89.38	337	eP	P	23 28 39.3	-1.1		
MOR8	Moi Rana	89.43	337	eP	P	23 28 40.0	-0.8		
MOR8				IVmB_BB		23 28 47.4			
	comp=Z,933nm,1.6s								
MOR8				eSKSac	SKSac	23 39 08.5	-1.4		
BOVS	Bovan	89.46	314	⇓P	P	23 28 40.8	-0.6		
K27K	Chicken	89.52	26	P		23 28 41.5			
	baz=283								
NIE	Niedzica	89.59	320	eP	P	23 28 42.8	+0.9		
NIE				eSKSac	SKSac	23 39 11.4	-0.2		
NIE				eS	S	23 39 32.2	0.0		
NIE				eL	L	00 12 17.5			
	comp=Z,3µm,19.6s								
AGG	Agios Georgios	89.60	309	P	P	23 28 39.9	-2.3		
AGG	Agios Georgios	89.60	309	P	P	23 28 39.9	-2.3		
BANR	Banloc	89.62	315	⇑P	P	23 28 42.0	-0.1		
MCARA	McCarthy VSAT	89.66	28	P	P	23 28 42.1	+0.1		
MCARA				IAmb	IAmb	23 29 10.8			
	comp=Z,49nm,1.0s								
MCARA	McCarthy VSAT	89.66	28	P		23 28 42.3			
	baz=282								
EGAK	Eagle	89.73	25	P	P	23 28 42.3	+0.1		
EGAK	Eagle	89.73	25	P		23 28 41.5			
	baz=284								
CRQE	Cirque	89.76	29	P		23 28 42.4			
	baz=282								
OJC	Ojcow	89.78	320	eP	P	23 28 41.6	-1.2		
OJC				eSKSac	SKSac	23 39 10.8	-1.9		
OJC				eS	S	23 39 32.3	-1.7		
OJC				eL	L	00 11 30.2			
	comp=Z,6µm,21.8s								
NOR	Nord	89.82	354	i P	P	23 28 41.2	-1.2		
NOR				IAmb	IAmb	23 28 42.8			
	comp=Z,26nm,1.0s								
NOR				IAMs_20	IAMs_20	00 11 49.7			
	comp=Z,4µm,17.3s								
NOR	Nord	89.82	354	i P	P	23 28 41.1	-1.2		
NOR				pmax	pmax				
	comp=Z,26nm,1.0s								
L27K	Beaver Creek,	89.84	27	P	P	23 28 43.3	+0.5		
L27K				IAmb	IAmb	23 28 56.3			
	comp=Z,51nm,0.9s								
L27K	Beaver Creek,	89.84	27	P		23 28 43.5			
	baz=283								
BCAR	Beaver Creek A	89.86	26	P	P	23 28 43.7	+0.8		
KONS	Konsvik	89.86	337	eP	P	23 28 42.1	-0.6		
KLV	Kalavryta, Ach	89.86	308	P	P	23 28 41.5	-2.0		
SKO	Skopje	89.88	312	i P	P	23 28 41.7	-1.7		
TRIZ	Trizonia	89.88	308	P	P	23 28 41.7	-1.7		
SERG	Sergoula	89.89	308	P	P	23 28 43.1	-0.4		
ANX	Ano Chora	89.97	309	P	P	23 28 41.9	-2.1		
LAKA	Lakka	89.97	308	P	P	23 28 44.4	+0.5		
EFP	Efpalio	90.00	308	P	P	23 28 44.1	+0.1		
EVR	Evrytania	90.01	309	P	P	23 28 41.6	-2.6		
PSZ	Piszkesteto	90.08	318	⇑P	P	23 28 44.3	0.0		
PSZ	Piszkesteto	90.08	318	IAmb	IAmb	23 28 52.0			
	comp=Z,92nm,1.7s								
PSZ				IAMs_20	IAMs_20	00 13 13.6			
	comp=Z,3µm,19.0s								
FNA	Florina	90.09	311	P	P	23 28 46.5	+2.0		
LSZ	Lusaka	90.11	255	IAMs_20	IAMs_20	00 06 13.5			
	comp=Z,3µm,20.0s								
ITM	Ithomi	90.15	307	P	P	23 28 43.1	-1.7		
ITM	Ithomi	90.15	307	IAmb	IAmb	23 28 54.1			
	comp=Z,213nm,2.0s								
LANS	Liptovska Anna	90.17	319	eP	P	23 28 45.0	+0.4		
LANS				pmax	pmax				
	comp=Z,15nm,1.4s								
LANS	Liptovska Anna	90.17	319	eP	P	23 28 45.0	+0.4		
DRO	Drossia	90.22	308	P	P	23 28 43.7	-1.4		
PVO	Paravola	90.27	309	P	P	23 28 43.8	-1.5		
BARN	Barnard Glacie	90.37	28	P	P	23 28 45.7	+0.2		
BARN				IAmb	IAmb	23 28 58.7			
	comp=Z,81nm,1.2s								
RLS	Riolos of Patr	90.40	308	P	P	23 28 44.3	-1.6		
GRNC	Granite Creek	90.40	29	P	P	23 28 45.7	0.0		
GRNC				IAmb	IAmb	23 29 02.8			
	comp=Z,73nm,1.2s								
OHR	Ohrid	90.47	311	i P	P	23 28 44.6	-1.6		
CTG	Chitna Glacier	90.55	29	P		23 28 46.4			
	baz=284								
CTGM	Chitina Glacie	90.55	29	P	P	23 28 45.7	-0.6		
CTGM				IAmb	IAmb	23 29 00.1			
	comp=Z,80nm,1.1s								
FRGS	Fruska Gora	90.58	315	⇑P	P	23 28 46.6	0.0		
FRGS	Fruska Gora	90.58	315	eP	P	23 28 44.9	-1.7		
DIVS	Divibare	90.61	314	eP	P	23 28 45.7	-1.2		
DAWY	Dawson	90.66	25	P	P	23 28 46.0	-0.6		
VYHS	Vyhne	90.69	319	eP	P	23 28 50.7	+3.7		
VYHS				eS	SKSac	23 39 18.1	+0.1		
VYHS	Vyhne	90.69	319	eP	P	23 28 50.7	+3.7		
GKP	Gorka Klasztor	90.81	324	eSKSac	SKSac	23 39 17.7	-0.8		
GKP				eL	L	00 11 43.1			
	comp=Z,4µm,21.8s								
NSS	Namsos	90.85	335	eP	P	23 28 47.3	-0.1		
NSS				eSKSac	SKSac	23 39 19.6	+1.4		
PVY	Plav	90.87	313	⇓i P	P	23 28 47.5	-0.7		
IVA	Berane	90.88	313	⇓i P	P	23 28 46.5	-1.6		
OKC	Ostrava-Krasne	90.90	320	AMS	AMS	00 12 10.0			
	comp=Z,5µm,21.1s								
LKD2	Lefkada Island	90.92	309	P	P	23 28 46.1	-2.2		
EVGI	Lefkada Island	90.95	309	P	P	23 28 48.2	-0.2		
KOLL	Kolacno	90.96	319	eP	P	23 28 48.6	+0.3		
SYO	Syowa Base	91.00	201	⇓i P	P	23 28 47.6	-0.3		
SYO	Syowa Base	91.00	201	⇓eP	cP	23 28 50.0	+1.1		
SYO	Syowa Base	91.00	201	⇓epP	pP	23 28 52.0	-2.8		
BLEU	Blekinge	91.00	327	i P	P	23 28 47.7	-0.6		
BBLS	Lazići	91.07	314	eP	P	23 28 47.5	-1.5		
RUDO	Rudo	91.14	314

DPC				*e*SKS	**SKSac**	**23 39 24.9**	**-0.3**			
DPC				AMS	AMS	00 12 30.0				
	comp=Z,6µm,20.5s									
OSTC	**Ostas**	**91.98**	**321**	*e*P	**P**	**23 28 53.1**	**+0.1**			
OSTC				*e*PP	**PP**	**23 32 39.2**	**+6.9**			
OSTC				AMS	AMS	00 12 30.0				
	comp=Z,6µm,20.0s									
VRAC	**Vranov**	**91.99**	**320**	⇑P	**P**	**23 28 53.1**	**+0.1**			
VRAC	**Vranov**	**91.99**	**320**	*e*P	**P**	**23 28 52.6**	**-0.5**			
VRAC				*e*SKS	**SKSac**	**23 39 23.1**	**-1.8**			
DEL	**Delary**	**92.02**	**327**	*i* P	**P**	**23 28 52.0**	**-1.0**			
DEL				*i* P	**PcP**	**23 28 52.2**	**-1.5**			
NC303	**NORSAR Array S**	**92.03**	**332**	P	**P**	**23 28 51.5**	**-1.4**			
CHVC	**Chvalec**	**92.07**	**321**	*e*P	**P**	**23 28 53.0**	**-0.4**			
CHVC				*ex*	x	23 28 58.2				
CHVC				*e*SKS	**SKSac**	**23 39 26.2**	**+0.4**			
CHVC				AMS	AMS	00 12 20.0				
	comp=Z,5µm,20.1s									
NC602	**NORSAR Array S**	**92.09**	**332**	*e*P	**P**	**23 28 53.3**	**+0.1**			
NC602				*e*SKSac	**SKSac**	**23 39 24.8**	**-0.6**			
NB2	**NORSAR Subarra**	**92.15**	**332**	P	**P**	**23 28 51.1**	**-2.5**			
	baz=67,slow=5.3									
NOA	**NORSAR Array B**	**92.15**	**332**	P	**P**	**23 28 51.9**	**-1.6**			
	comp=Z,3.8nm,0.9s,baz=73,slow=4.6,SNR=11									
NOA				LR	LR	00 12 35.8				
	comp=Z,2µm,20.6s,baz=95,slow=37									
KRUC	**Moravsky**	**92.17**	**320**	*e*P	**P**	**23 28 53.0**	**-0.9**			
KRUC				*e*SKS	**SKSac**	**23 39 25.7**	**-0.7**			
NBO00	**NORSAR Array S**	**92.36**	**332**	P	**P**	**23 28 53.6**	**-0.9**			
HYT	**Haines Junctio**	**92.39**	**28**	P	**P**	**23 28 55.0**	**+0.2**			
HYT				IAmb	IAmb	23 29 08.1				
	comp=Z,83nm,1.1s									
BEHE	**Becsehely**	**92.43**	**317**	*e*P	**P**	**23 28 53.7**	**-1.4**			
LUNU	**Lund**	**92.45**	**326**	*i* P	**P**	**23 28 55.0**	**0.0**			
STON	**Ston**	**92.47**	**313**	*e*P	**P**	**23 28 52.0**	**-3.3**			
BLY	**Banja Luka**	**92.48**	**315**	*e*P	**P**	**23 28 55.3**	**-0.1**			
MGRS	**Mrkonjic Grad**	**92.62**	**315**	*e*P	**P**	**23 28 54.6**	**-1.5**			
MRAK	**Mrakovica**	**92.63**	**316**	*e*P	**P**	**23 28 55.1**	**-1.1**			
OSL	**Oslo**	**92.70**	**331**	*e*SKSac	**SKSac**	**23 39 20.5**	**-8.3**			
TREC	**Trest**	**92.70**	**320**	*e*SKS	**SKSac**	**23 39 29.3**	**-0.1**			
TREC				AMS	AMS	00 13 20.0				
	comp=Z,5µm,19.5s									
CONA	**Conrad Observa**	**92.75**	**319**	*e*P	**P**	**23 28 55.7**	**-1.0**			
	comp=Z,11nm,1.2s									
DOMB	**Dombas**	**92.84**	**333**	*e*P	**P**	**23 28 57.0**	**+0.3**			
DOMB				IVmB_BB		23 29 00.0				
	comp=Z,869nm,3.0s									
DOMB				*e*PP	**PP**	**23 32 39.6**	**+0.9**			
DOMB				*e*SKSac	**SKSac**	**23 39 24.2**	**-5.5**			
DOMB				IVMs_BB	IVMs_BB	23 41 25.8				
	comp=Z,990nm,3.4s									
PVCC	**Panska Ves**	**93.01**	**321**	*e*P	**P**	**23 28 57.8**	**+0.1**			
PVCC				*e*		23 39 30.7				
PVCC				MLR	MLR					
	comp=Z,4µm,21.5s									
PVCC	**Panska Ves**	**93.01**	**321**	*e*P	**P**	**23 28 57.8**	**+0.1**			
PVCC				*e*SKS	**SKSac**	**23 39 30.7**	**-0.3**			
PVCC				AMS	AMS	00 12 40.0				
	comp=Z,4µm,21.5s									
RUE	**Ruedersdorf**	**93.03**	**323**	*e*PP	**P**	**23 28 57.9**	**+0.2**			
ARSA	**Arzberg**	**93.12**	**318**	*e*P	**P**	**23 28 57.7**	**-0.6**			
	comp=Z,14nm,1.6s									
PRU	**Pruhonice**	**93.15**	**321**	*e*P	**P**	**23 28 58.2**	**-0.2**			
PRU				*e*		23 29 02.1				
PRU				*e*		23 39 30.7				
PRU				MLR	MLR					
	comp=Z,6µm,20.5s									
PRU	**Pruhonice**	**93.15**	**321**	*e*P	**P**	**23 28 58.2**	**-0.2**			
PRU				*e*pP	**pP**	**23 29 02.1**	**-2.8**			
PRU				*e*SKS	**SKSac**	**23 39 30.7**	**-1.1**			
PRU				AMS	AMS	00 13 10.0				
	comp=Z,6µm,20.5s									
PRA	**Prague**	**93.20**	**321**	AMS	AMS	00 13 10.0				
	comp=Z,5µm,21.2s									
EUNU	**Eureka**	**93.21**	**4**	P	**P**	**23 28 57.3**	**-0.9**			
EUNU				IAmb	IAmb	23 29 04.1				
	comp=Z,78nm,1.4s									
BRG	**Berggiesshubel**	**93.32**	**322**	*e*P	**P**	**23 28 58.6**	**-0.5**			
BRG				Amp		23 29 04.5				
	comp=Z,53nm,1.3s									
BRG				*ex*	x	23 29 16.1				
BRG				Amp		23 29 18.1				
	comp=Z,19nm,1.1s									
BRG				*ex*	x	23 29 33.8				
BRG				Amp		23 29 35.4				
	comp=Z,28nm,1.3s									
BRG				PP	**PP**	**23 32 46.7**	**+4.0**			
BRG				Amp		23 32 52.5				
	comp=Z,16nm,1.5s									
BRG	**Berggiesshubel**	**93.32**	**322**	SP	SP	23 41 19.0	+1.0			
BRG	**Berggiesshubel**	**93.32**	**322**	SS	SS	23 46 29.0	+7.5			
BRG				Amp		00 21 05.0				
	comp=N,1.4nm,21.3s									
BRG				Amp		00 21 09.0				
	comp=E,2.1nm,19.0s									
BRG				Amp		00 21 29.0				
	comp=Z,3.4nm,17.0s									
BRG	**Berggiesshubel**	**93.32**	**322**	*e*PP	**P**	**23 28 58.7**	**-0.4**			
KONO	**Kongsberg**	**93.33**	**331**	*e*P	**P**	**23 28 59.7**	**+0.7**			
KONO				*e*SKSac	**SKSac**	**23 39 30.8**	**-1.6**			
MOL	**Molde**	**93.33**	**334**	*e*SKSac	**SKSac**	**23 39 34.4**	**+2.2**			
CRES	**Cresnjev**	**93.46**	**317**	*e*P	**P**	**23 28 58.7**	**-1.2**			
LBTB	**Lobatse**	**93.49**	**245**	P	**P**	**23 28 58.7**	**-1.9**			
LBTB				pmax	pmax					
	comp=Z,66nm,1.1s									
LBTB	**Lobatse**	**93.49**	**245**	P	**P**	**23 28 58.7**	**-1.9**			
LBTB				IAmb	IAmb	23 29 16.7				
	comp=Z,66nm,1.1s									
DAG	**Danmarks Havn**	**93.50**	**351**	⇓*i* P	**P**	**23 28 57.7**	**-1.7**			
DAG				IAmb	IAmb	23 28 59.3				
	comp=Z,22nm,1.0s									
DAG				IAMs_20	IAMs_20	00 16 50.1				
	comp=Z,4µm,18.8s									
DAG	**Danmarks Havn**	**93.50**	**351**	⇓*i* P	**P**	**23 28 57.7**	**-1.7**			
DAG				pmax	pmax					
	comp=Z,22nm,1.0s									
PERS	**Pernice**	**93.52**	**317**	*e*P	**P**	**23 28 59.2**	**-1.1**			
LEGS	**Legarje**	**93.53**	**317**	*e*P	**P**	**23 28 59.5**	**-0.8**			
CKRC	**Cesky Krumlov**	**93.56**	**320**	*e*P	**P**	**23 29 00.0**	**-0.3**			
CKRC				*ex*	x	23 29 04.6				
CKRC				*e*SKS	**SKSac**	**23 39 35.1**	**+0.9**			
CKRC				AMS	AMS	00 14 00.0				
	comp=Z,4µm,20.2s									
SKAR	**Skarslia**	**93.62**	**332**	*e*P	**P**	**23 29 00.5**	**+0.1**			
SKAR				IVmBBB		23 29 04.3				
	comp=Z,582nm,3.0s									
SKAR				*e*SKSac	**SKSac**	**23 39 34.3**	**+0.2**			
SKAR				IVMs_BB	IVMs_BB	23 51 59.0				
	comp=Z,789nm,3.6s									
FBE	**Freiberg**	**93.67**	**322**	*e*PP	**P**	**23 29 00.5**	**-0.2**			
WHY	**Whitehorse**	**93.67**	**28**	P	**P**	**23 28 59.7**	**-1.0**			
WHY	**Whitehorse**	**93.67**	**28**	P		23 29 01.1				
	baz=289									
AKN	**Aaknes**	**93.71**	**334**	*e*P	**P**	**23 28 59.4**	**-1.3**			
AKN				*e*SKSac	**SKSac**	**23 39 34.3**	**-0.1**			
CLL	**Collm**	**93.79**	**322**	*e*P	**P**	**23 29 00.0**	**-1.2**			
	comp=Z,13nm,1.1s									
CLL				*i* Pmax		23 29 04.7				
	comp=Z,44nm,1.5s									
CLL				*e*PP	**PP**	**23 32 40.0**	**-6.4**			
CLL				*e*		23 33 00.0				
CLL				*e*		23 36 00.0				
CLL				*e*SKSac	**SKSac**	**23 39 35.0**	**-0.2**			
CLL				*e*S	**ScS**	**23 40 11.0**	**-0.5**			
CLL				*e*SP	SP	23 41 21.0	-2.1			
CLL				*e*PPS	PPS	23 42 18.0				
CLL				*e*SS	**SS**	**23 46 21.0**	**-7.1**			
CLL				*e*SSS	SSS	23 50 12.0				
CLL				*e*SSSS		23 53 42.0				
CLL				LmH		00 19 00.0				
	comp=N,2µm,18.9s									
CLL				LmH		00 19 00.0				
	comp=E,3µm,21.0s									
CLL				LmV		00 21 00.0				
	comp=Z,3µm,18.7s									
CLL	**Collm**	**93.79**	**322**	*e*P	**P**	**23 29 00.0**	**-1.2**			
CLL				*e*		23 39 29.0				
CLL				*e*S	**ScS**	**23 40 11.0**	**-0.5**			
CLL				pmax	pmax					
	comp=Z,44nm,1.5s									
CLL				MLR	MLR					
	comp=Z,3µm,18.7s									
CLL	**Collm**	**93.79**	**322**	P	**P**	**23 28 59.6**	**-1.7**			
CLL	**Collm**	**93.79**	**322**	*e*PP	**P**	**23 29 00.6**	**-0.6**			
CLL				*e*L	L	00 16 32.1				
	comp=Z,4µm,21.0s									
MOA	**Molln**	**93.81**	**319**	*i* P	**P**	**23 29 00.8**	**-0.7**			
	comp=Z,22nm,1.4s,SNR=15									
TIP	**Timpagrande**	**93.85**	**310**	⇑P	**P**	**23 29 01.4**	**-0.5**			
TIP	**Timpagrande**	**93.85**	**310**	P	**P**	**23 29 00.2**	**-1.8**			
TIP				IAmb	IAmb	23 29 07.3				
	comp=Z,93nm,1.8s									
VNDS	**Vrh nad Dolski**	**93.92**	**317**	*e*P	**P**	**23 29 01.3**	**-0.8**			
OBKA	**Obir**	**93.93**	**317**	*e*P	**P**	**23 29 02.1**	**-0.1**			
	comp=Z,9.6nm,1.4s									
GEC2	**GERESS Array S**	**93.95**	**320**	P	**P**	**23 29 00.7**	**-1.5**			
GEC2	**GERESS Array S**	**93.95**	**320**	*e*PP	**P**	**23 29 01.6**	**-0.6**			
GEC2				*e*L	L	00 14 09.2				
	comp=Z,5µm,20.9s									
GERES	**GERESS Array B**	**93.95**	**320**	P	**P**	**23 29 01.4**	**-0.8**			
	comp=Z,3.6nm,0.9s,baz=83,slow=5.5,SNR=25									
GERES				PP	**PP**	**23 32 50.9**	**+3.0**			
	comp=Z,3.5nm,1.1s,baz=87,slow=5.3,SNR=4.1									
GERES				PKKPbc	**PKKPdf**	**23 46 03.0**	**-2.4**			
	comp=Z,1.3nm,0.9s,baz=266,slow=1.6,SNR=5.9									
GERES				LR	LR	00 14 40.5				
	comp=Z,5µm,19.9s,baz=65,slow=38									
GERES	**GERESS Array B**	**93.95**	**320**	P	**P**	**23 29 00.7**	**-1.5**			
GERES	**GERESS Array B**	**93.95**	**320**	P	**P**	**23 29 00.7**	**-1.5**			
KHC	**Kasperske Hory**	**93.96**	**320**	*e*P	**P**	**23 29 00.9**	**-1.3**			
KHC				*e*		23 29 07.7				
KHC				*e*		23 32 55.0				
KHC				*e*		23 39 36.5				
KHC				MLR	MLR					
	comp=Z,6µm,19.7s									
KHC	**Kasperske Hory**	**93.96**	**320**	*e*P	**P**	**23 29 00.9**	**-1.3**			
KHC				*e*pP	**pP**	**23 29 07.7**	**-1.0**			
KHC				*e*PP	**PP**	**23 32 55.0**	**+7.1**			
KHC				*e*SKS	**SKSac**	**23 39 36.5**	**+0.1**			
KHC				AMS	AMS	00 13 40.0				
	comp=Z,6µm,19.7s									
LJU	**Ljubljana**	**94.05**	**317**	*e*P	**P**	**23 29 02.8**	**+0.2**			
BOSA	**Boshof**	**94.09**	**242**	P	**P**	**23 29 03.6**	**+0.3**			
	comp=Z,4.2nm,0.9s,baz=75,slow=13,SNR=7.1									
BOSA				LR	LR	00 06 17.5				
	comp=Z,2µm,21.8s,baz=96,slow=32									
CEY	**Cerknica**	**94.19**	**317**	*e*P	**P**	**23 29 00.5**	**-2.8**			
HOMB	**Homborsund**	**94.30**	**330**	*e*P	**P**	**23 29 03.3**	**-0.2**			
HOMB				*e*SKSac	**SKSac**	**23 39 36.7**	**-0.9**			
GOET	**G??ttrup**	**94.32**	**328**	IAMs_20	IAMs_20	00 17 07.3				
	comp=Z,5µm,17.2s									
TANN	**Tannenbergstha**	**94.34**	**322**	*e*PP	**P**	**23 29 03.2**	**-0.7**			
NKC	**Novy Kostel**	**94.40**	**321**	*e*P	**P**	**23 29 04.3**	**+0.2**			
NKC				*e*		23 39 39.5				
NKC				MLR	MLR					
	comp=Z,4µm,21.8s									
NKC	**Novy Kostel**	**94.40**	**321**	*e*P	**P**	**23 29 04.3**	**+0.2**			
NKC				*e*SKS	**SKSac**	**23 39 39.5**	**+0.8**			
NKC				AMS	AMS	00 13 30.0				
	comp=Z,4µm,21.8s									
WET	**Wettzell**	**94.40**	**320**	*e*PP	**P**	**23 29 03.8**	**-0.4**			
WET				*e*L	L	00 14 21.2				
	comp=Z,6µm,20.8s									
HYA	**Hoyanger**	**94.43**	**333**	*e*SKSac	**SKSac**	**23 39 40.1**	**+1.9**			
WERN	**Wernitzgruen**	**94.43**	**321**	*e*PP	**P**	**23 29 03.6**	**-0.7**			
WERD	**Werda**	**94.43**	**322**	*e*PP	**P**	**23 29 03.4**	**-0.9**			
GUNZ	**Gunzen**	**94.44**	**322**	*e*PP	**P**	**23 29 04.0**	**-0.4**			
MUD	**Monsted U'grnd**	**94.53**	**328**	*i* P	**P**	**23 29 02.6**	**-2.0**			
MUD				IAmb	IAmb	23 29 09.5				
	comp=Z,100nm,1.5s									
MUD				IAMs_20	IAMs_20	00 20 16.8				
	comp=Z,4µm,16.0s									
MUD	**Monsted U'grnd**	**94.53**	**328**	*i* P	**P**	**23 29 02.5**	**-2.0**			
MUD				pmax	pmax					
	comp=Z,100nm,1.5s									
KBA	**Koelnbreinsper**	**94.60**	**318**	*e*P	**P**	**23 29 04.6**	**-0.8**			
	comp=Z,9.9nm,1.3s									
SIT	**Sitka**	**94.61**	**31**	P		23 29 05.0				
	baz=288									
BSEG	**Bad Segeberg**	**94.66**	**325**	*e*L	L	00 21 06.3				
	comp=Z,4µm,18.4s									
ROTZ	**Rotzenmuhle**	**94.67**	**321**	*e*PP	**P**	**23 29 05.4**	**0.0**			
JIS	**Juneau Island**	**94.70**	**30**	P	**P**	**23 29 04.7**	**-0.5**			
JIS				IAmb	IAmb	23 29 17.9				
	comp=Z,80nm,1.3s									
FOO	**Floro**	**94.78**	**334**	*e*P	**P**	**23 29 05.0**	**-0.5**			
FOO				*e*SKSac	**SKSac**	**23 39 38.5**	**-1.6**			
MOX	**Moxa**	**94.80**	**322**	*e*PP	**P**	**23 29 05.3**	**-0.7**			
MOX				*e*L	L	00 15 44.4				
	comp=Z,3µm,21.0s									
BLS5	**Blasjo**	**94.92**	**331**	*e*P	**P**	**23 29 05.1**	**-1.2**			
BLS5				*e*SKSac	**SKSac**	**23 39 40.0**	**-1.1**			
BLS5				*e*SS	**SS**	**23 46 45.8**	**+2.0**			
BLS5				IVMs_BB	IVMs_BB	23 54 29.8				
	comp=Z,987nm,3.6s									
SNART	**Snartemo**	**94.92**	**330**	*e*P	**P**	**23 29 05.9**	**-0.4**			
SNART				*e*SKSac	**SKSac**	**23 39 41.8**	**+0.8**			
ASSE	**Asse, Remlinge**	**94.97**	**324**	*e*PP	**P**	**23 29 06.2**	**-0.3**			
BER	**Bergen**	**95.10**	**332**	*e*P	**P**	**23 29 07.3**	**+0.2**			
BER				*e*SKSac	**SKSac**	**23 39 41.2**	**-0.7**			
SUE	**Sulen**	**95.11**	**333**	*e*P	**P**	**23 29 07.4**	**+0.4**			
SUE				*e*SKSac	**SKSac**	**23 39 41.3**	**-0.5**			
SUE				IVMs_BB	IVMs_BB	23 42 40.5				
	comp=Z,2µm,3.8s									
PAOL	**Paolisi**	**95.12**	**312**	IAMs_20	IAMs_20	00 17 36.9				
	comp=Z,2µm,21.0s									
NRDL	**Niedersach Rie**	**95.19**	**324**	*e*PP	**P**	**23 29 06.8**	**-0.8**			
STAL	**STALIGIAL**	**95.22**	**317**	P	**P**	**23 29 06.5**	**-1.5**			
ABTA	**Abfaltersbach**	**95.24**	**318**	*e*P	**P**	**23 29 06.5**	**-1.7**			
	comp=Z,10nm,1.4s									
GRF	**Grafenberg Arr**	**95.30**	**321**	*e*PP	**PP**	**23 33 04.0**	**+5.7**			
GRF				*e*L	L	00 14 22.6				
	comp=Z,5µm,21.7s									
PPT	**Papeete**	**95.37**	**107**	LR	LR	00 08 28.6				
	comp=Z,496nm,19.7s,baz=268,slow=33									
PPT2	**Papeete2**	**95.37**	**107**	*e*PP	**PP**	**23 32 58.2**	**-1.8**			
	comp=Z,619nm,23.5s									
PPT2				*e*SKSac	**SKSac**	**23 39 42.0**	**-3.1**			
	comp=Z,692nm,28.5s									
PPT2				*e*S	**S**	**23 40 21.9**	**-3.3**			
	comp=Z,994nm,27.0s									
PPT2	**Papeete2**	**95.37**	**107**	*e*PS	PS	23 41 45.6	+0.7			
	comp=Z,2µm,26.8s									
PPT2	**Papeete2**	**95.37**	**107**	*e*LQ	LQ	23 55 55.3				
	comp=Z,2µm,29.8s									
PPT2				*e*LR	LR	23 59 58.2				
	comp=Z,4µm,26.5s									
INTR	**Introdacqua**	**95.39**	**313**	IAMs_20	IAMs_20	00 20 36.0				
	comp=Z,3µm,20.0s									
DBG	**Daneborg**	**95.56**	**349**	*i* P	**P**	**23 29 08.2**	**-0.8**			
DBG				IAmb	IAmb	23 29 14.1				
	comp=Z,106nm,1.4s									
DBG				IAMs_20	IAMs_20	00 18 24.3				
	comp=Z,3µm,17.4s									
AQU	**L'Aquila**	**95.68**	**314**	*e*P	**P**	**23 29 08.6**	**-1.6**			
AQU	**L'Aquila**	**95.68**	**314**	IAMs_20	IAMs_20	00 17 38.5				
	comp=Z,3µm,20.0s									
FUR	**Fursfeldbru**	**95.68**	**320**	*e*L	L	00 15 43.8				
	comp=Z,6µm,19.7s									
WTTA	**Wattenberg**	**95.69**	**319**	*i* P	**P**	**23 29 08.8**	**-1.5**			
	comp=Z,23nm,1.3s,SNR=12									
WATA	**Walderalm**	**95.70**	**319**	*i* P	**P**	**23 29 08.7**	**-1.6**			
	comp=Z,18nm,1.4s,SNR=8.5									
TBI	**Tubuai**	**95.91**	**113**	*e*PP	**PP**	**23 33 04.6**	**+0.6**			
	comp=Z,432nm,25.2s									
TBI				*e*SKSac	**SKSac**	**23 39 45.9**	**-1.7**			
	comp=Z,828nm,29.2s									
TBI	**Tubuai**	**95.91**	**113**	*e*PS	PS	23 41 51.5	+1.1			
	comp=Z,1µm,28.5s									
TBI	**Tubuai**	**95.91**	**113**	*e*LQ	LQ	23 56 07.6				
	comp=Z,1µm,38.0s									
TBI				*e*LR	LR	00 00 10.8				
	comp=Z,4µm,37.2s									
QSPA	**South Pole Qui**	**95.94**	**180**	P	**P**	**23 29 10.0**	**-0.8**			
QSPA				IAmb	IAmb	23 29 18.6				
	comp=Z,76nm,1.0s									
QSPA	**South Pole Qui**	**95.94**	**180**	IAMs_20	IAMs_20	00 12 21.6				
	comp=Z,2µm,21.0s									
MOTA	**Moosalm**	**96.01**	**319**	*i* P	**P**	**23 29 10.7**	**-1.1**			
	comp=Z,14nm,1.1s,SNR=9.2									
MURB	**Monte Urbino**	**96.09**	**315**	P	**P**	**23 29 11.6**	**-0.5**			
TEOL	**Teolo**	**96.16**	**317**	IAMs_20	IAMs_20	00 16 48.0				
	comp=Z,3µm,22.0s									
RETA	**Reutte**	**96.20**	**319**	*e*P	P	23 29 17.5	+5.0			
	comp=Z,7.3nm,0.8s									
CRAG	**Craig**	**96.30**	**33**	P		23 29 12.7				
	baz=290									
FETA	**Feichten**	**96.35**	**319**	*e*P	**P**	**23 29 12.6**	**-0.7**			
	comp=Z,12nm,1.4s									
NEEM	**North Greenlan**	**96.35**	**357**	*i* P	**P**	**23 29 12.9**	**+0.1**			
NEEM				IAMs_20	IAMs_20	00 17 53.2				
	comp=Z,3µm,16.2s									
WRAK	**Wrangell Islan**	**96.37**	**31**	P		23 29 12.9				
	baz=291									
DAVA	**Damuels**	**96.83**	**319**	*e*P	**P**	**23 29 19.7**	**+4.2**			
	comp=Z,8.6nm,1.1s									
TNS	**Taunus Mts**	**96.87**	**322**	*e*L	L	00 21 33.9				
	comp=Z,2µm,20.3s									
ZCCA	**Zocca**	**96.90**	**316**	P	**P**	**23 29 15.2**	**-0.5**			
ZCCA				IAmb	IAmb	23 29 25.1				
	comp=Z,29nm,1.2s									
ZCCA				IAMs_20	IAMs_20	00 19 06.7				
	comp=Z,2µm,19.0s									
OSSC	**Osservatorio P**	**96.92**	**315**	IAMs_20	IAMs_20	00 20 19.5				
	comp=Z,2µm,19.0s									
RES	**Resolute Bay**	**97.14**	**8**	P	**P**	**23 29 15.4**	**-0.7**			
RES				pmax	pmax					
	comp=Z,11nm,0.9s									
RES	**Resolute Bay**	**97.14**	**8**	P	**P**	**23 29 15.4**	**-0.7**			
RES				IAMs_20	IAMs_20	00 18 01.2				
	comp=Z,2µm,19.0s									
VLC	**Villacollemand**	**97.36**	**316**	IAMs_20	IAMs_20	00 16 57.8				
	comp=Z,3µm,22.0s									
TULEG	**Thule**	**97.48**	**1**	P	**P**	**23 29 17.3**	**-0.3**			
TULEG				IAmb	IAmb	23 29 28.6				
	comp=Z,34nm,1.4s									
TULEG				IAMs_20	IAMs_20	00 16 16.9				
	comp=Z,2µm,18.0s									
BFO	**Black Forest**	**97.52**	**320**	*e*L	L	00 15 51.9				
	comp=Z,4µm,21.8s									
MSSA	**Maissana**	**97.91**	**316**	IAMs_20	IAMs_20	00 17 58.6				
	comp=Z,3µm,20.0s									
BTNL	**Ternell**	**98.15**	**323**	*d*P	**P**	**23 29 20.6**	**-0.5**			
MEM	**Membach**	**98.22**	**323**	*d*P	**P**	**23 29 21.3**	**-0.1**			
ECH	**Echery**	**98.30**	**320**	IAMs_20	IAMs_20	00 16 13.9				
	comp=Z,3µm,22.0s									
WLF	**Walferdange**	**98.45**	**322**	*d*P	**P**	**23 29 22.3**	**-0.2**			
WLF				*dx*	x	23 30 21.5				
WLF	**Walferdange**	**98.45**	**322**	P	**P**	**23 29 20.8**	**-1.7**			
WLF				pmax	pmax					
	comp=Z,34nm,1.5s									
WLF	**Walferdange**	**98.45**	**322**	P	**P**	**23 29 20.8**	**-1.7**			
WLF				IAmb	IAmb	23 29 28.0				
	comp=Z,34nm,1.5s									
WLF				IAMs_20	IAMs_20	00 20 20.5				
	comp=Z,3µm,20.0s									
BCLA	**Clavier**	**98.70**	**323**	*d*P	Pdif	23 29 23.8	+0.1			
SCO	**Scoresbysund**	**98.76**	**347**	⇓*i* P	Pdif	23 29 23.6	+0.2			
SCO				IAmb	IAmb	23 29 30.0				
	comp=Z,73nm,1.3s									
SCO				IAMs_20	IAMs_20	00 20 25.3				
	comp=Z,3µm,16.7s									
SCO	**Scoresbysund**	**98.76**	**347**	P	**P**	**23 29 22.9**	**-0.5**			
SCO				pmax	pmax					
	comp=Z,135nm,1.6s									
SCO	**Scoresbysund**	**98.76**	**347**		**P**	**23 29 22.9**	**-0.5**			
BGES	**Gesves**	**98.85**	**323**	*d*P	Pdif	23 29 26.0	+1.7			
BGES				*dx*	x	23 30 05.0				
BMRD	**Maredsous**	**99.07**	**323**	*d*P	**Pdif**	**23 29 24.6**	**-0.7**			
BMRD				*dx*	x	23 30 01.5				
DOU	**Dourbes**	**99.25**	**323**	*d*P	**Pdif**	**23 29 26.3**	**+0.3**			
SUMG	**Summit**	**99.91**	**353**	*i* P	**Pdif**	**23 29 29.6**	**+0.5**			
SUMG				IAmb	IAmb	23 29 31.8				
	comp=Z,50nm,1.2s									
SUMG				IAMs_20	IAMs_20	00 17 37.3				
	comp=Z,3µm,18.8s									
SUMG	**Summit

PVLZ	Pæan de	111.05	311		PP	PP	23 35 02.6	+6.2		
PVLZ					SKS	SKSac	23 40 59.1	+1.4		
MTE	Manteigas	111.07	317	*i*	PP	PP	23 34 57.9	+1.5		
VCNR	Virginia City	111.22	44		IAMs_20	IAMs_20	00 13 24.4			
	comp=Z,2µm,22.0s									
PNTR	Pine Nut	111.36	44		IAMs_20	IAMs_20	00 13 38.9			
	comp=Z,2µm,22.0s									
PMRV	Marv??o	111.42	316	*i*	PP	PP	23 35 05.6	+6.7		
PMRV				*e*	SKS	SKSac	23 40 58.5	-0.6		
PMRV	Marv??o	111.42	316	*e*	LR	LR	00 11 14.8			
	comp=Z,2µm,20.0s									
FFC	Flin Flon	111.43	23		IAMs_20	IAMs_20	00 29 37.0			
	comp=Z,1µm,19.0s									
CEU	Ceuta	111.55	312		PP	PP	23 34 59.9	0.0		
CEU					SKS	SKSdf	23 41 28.7	-1.9		
YERR	Yerington	111.65	44		IAMs_20	IAMs_20	00 13 46.7			
	comp=Z,2µm,22.0s									
WAKR	Walker	111.74	45		IAMs_20	IAMs_20	00 13 24.0			
	comp=Z,2µm,22.0s									
COI	Coimbra	111.74	318	*i*	PP	PP	23 35 03.0	+1.9		
COI				*e*	SKS	SKSac	23 41 08.1	+7.8		
COI	Coimbra	111.74	318		IAMs_20	IAMs_20	00 27 51.7			
	comp=Z,2µm,21.0s									
PBAR	Barrancos	111.75	315	*i*	PP	PP	23 35 06.0	+4.7		
PBAR				*e*	SKS	SKSac	23 41 09.6	+9.1		
PMPB	Monarch Peak	111.78	47		IAMs_20	IAMs_20	00 14 06.5			
	comp=Z,3µm,20.0s									
PESTR	Estremoz	111.82	316	*i*	PP	PP	23 35 08.2	+6.4		
PCAS	Casmilo, Conde	111.88	317	*i*	PP	PP	23 35 05.6	+3.5		
PCAS				*e*	SKS	SKSac	23 41 03.8	+2.9		
SFS	San Fernando	111.91	313		PP	PP	23 35 01.4	-1.1		
SFS					SKS	SKSac	23 41 14.1	+13		
ARNO	Arenosillo	112.02	314		PP	PP	23 34 56.6	-6.6		
ARNO					SKS	SKSac	23 41 04.1	+2.6		
PMTG	Montargil	112.16	316	*i*	PP	PP	23 35 11.6	+7.4		
EVO	Evora	112.27	316		PP	PP	23 35 09.6	+4.6		
EVO					SKS	SKSac	23 41 02.2	-0.3		
RYN	Ryan	112.31	44		IAMs_20	IAMs_20	00 13 56.3			
	comp=Z,2µm,21.0s									
PSBE	So Bento	112.34	317	*i*	PP	PP	23 35 11.2	+5.7		
IFR	Ifrane	112.35	310		PP	PP	23 35 10.0	+4.0		
IFR					SKS	SKSac	23 41 04.6	+1.1		
MDPB	Devils Postpil	112.39	45		IAMs_20	IAMs_20	00 15 22.4			
	comp=Z,2µm,21.0s									
HLID	Hailey	112.48	38		PKiKP		23 34 19.6			
	baz=303									
LHV	Little Huntoon	112.50	44		IAMs_20	IAMs_20	00 13 59.3			
	comp=Z,2µm,22.0s									
NVAR	Mina Array Bea	112.56	44		PKiKP	PKiKP	23 34 20.9	-0.4		
	comp=Z,1.1nm,1.0s,baz=238,slow=1.7,SNR=1.9									
NVAR					PKKPbc	PKKPbc	23 45 11.8	+0.5		
	comp=Z,0.2nm,0.5s,baz=134,slow=3.9,SNR=1.9									
PVAQ	Vaqueiros	112.58	315	*e*	PP	PP	23 35 16.7	+9.4		
PVAQ				*e*	SKS	SKSac	23 41 09.8	+6.0		
PVAQ	Vaqueiros	112.58	315	*e*	LR	LR	00 12 22.0			
	comp=Z,2µm,22.0s									
NV11	Mina Array Sit	112.66	44		IAMs_20	IAMs_20	00 14 06.4			
	comp=Z,2µm,22.0s									
PCVE	Castro Verde	112.70	315	*i*	PP	PP	23 35 12.0	+3.9		
MESJ	Messejana	112.73	315	*e*	Pdif	Pdif	23 30 24.9	-1.4		
MESJ				*e*	PP	PP	23 35 07.0	-1.4		
MESJ					IAMs_20	IAMs_20	00 14 08.9			
	comp=N,2µm,30.7s									
MESJ	Messejana	112.73	315	*e*	P	Pdif	23 30 24.9	-1.4		
MESJ				*e*			23 35 07.0			
PNCL	Nicolau / Gran	112.82	316	*i*	PP	PP	23 35 12.0	+3.1		
PNCL				*e*	SKS	SKSac	23 41 05.5	+0.8		
LIS	Lisbon	112.96	316	*e*	PP	PP	23 35 08.6	-1.3		
LIS					IAMs_20	IAMs_20	00 30 44.6			
	comp=N,3µm,15.6s									
ELK	Elko	113.47	41		PKKPbc	PKKPbc	23 45 09.9	+1.6		
	comp=N,0.3nm,0.3s,baz=171,slow=3.0,SNR=1.5									
PFVI	Vila Bisbo	113.49	315	*i*	PP	PP	23 35 18.9	+5.2		
PFVI				*e*	SKS	SKSac	23 41 14.0	+6.6		
PFVI	Vila Bisbo	113.49	315		IAMs_20	IAMs_20	00 26 21.1			
	comp=Z,2µm,20.0s									
OSI	Osito Audit: C	114.00	48		IAMs_20	IAMs_20	00 14 51.5			
	comp=Z,2µm,22.0s									
AVE	Averroes	114.18	311		PP	PP	23 35 21.8	+3.0		
AVE					SKS	SKSac	23 41 09.5	-0.8		
H17A	Grant Village	114.27	35		IAMs_20	IAMs_20	00 25 31.9			
	comp=Z,2µm,19.0s									
R11A	Troy Canyon, C	114.46	43		IAMs_20	IAMs_20	00 15 21.0			
	comp=Z,1µm,21.0s									
MOOW	Moose Ponds	114.56	36		IAMs_20	IAMs_20	00 16 36.6			
	comp=Z,2µm,22.0s									
PASC	Pasadena Art C	114.60	48		IAMs_20	IAMs_20	00 15 06.4			
	comp=Z,2µm,22.0s									
MWC	Mount Wilson	114.67	48		IAMs_20	IAMs_20	00 14 58.2			
	comp=Z,2µm,22.0s									
TPNV	Topopah Spring	114.70	45		IAMs_20	IAMs_20	00 17 00.5			
	comp=Z,2µm,22.0s									
AHID	Auburn Hatcher	114.93	37		IAMs_20	IAMs_20	00 32 28.5			
	comp=Z,1µm,19.0s									
GSC	Goldstone, Bar	115.09	47		IAMs_20	IAMs_20	00 17 06.1			
	comp=Z,2µm,21.0s									
GSC	Goldstone, Bar	115.09	47		PKiKP		23 34 24.8			
	baz=298									
LAO	LASA Array	115.20	31		PKiKP		23 34 24.5			
	baz=312									
PRN	Pahroc Range	115.30	44			PKiKP	23 34 25.6	-0.9		
PRN					IAMs_20	IAMs_20	00 17 17.3			
	comp=Z,2µm,21.0s									
DUG	Dugway, Tooele	115.32	40		PKiKP	PKiKP	23 34 25.2	-1.2		
DUG	Dugway, Tooele	115.32	40			PKiKP	23 34 25.2	-1.2		
DUG	Dugway, Tooele	115.32	40		PKiKP		23 34 25.2			
	baz=303									
MURC	Murrieta	115.59	48		PKiKP		23 34 25.6			
	baz=297									
HEC	Hector Ludlow	115.65	47		PKiKP		23 34 26.0			
	baz=298									
SHPR	Sheep Range	115.68	45		IAMs_20	IAMs_20	00 17 18.5			
	comp=Z,2µm,21.0s									
PDAR	Pinedale Array	115.84	36		PKP	PKiKP	23 34 27.1	-0.3		
	comp=Z,0.7nm,0.7s,baz=336,slow=2.0,SNR=3.1									
PDAR					PKKPbc	PKKPbc	23 44 59.8	-0.5		
	comp=Z,2.8nm,0.9s,baz=116,slow=3.4,SNR=11									
PFO	Pinyon Flats O	116.13	48		IAMs_20	IAMs_20	00 18 15.9			
	comp=Z,2µm,21.0s									
GMRC	Granite Mounta	116.16	47		PKiKP		23 34 27.2			
	baz=299									
MONP2	Monument Peak	116.49	49		PKiKP		23 34 27.9			
	baz=298									
IRM	Iron Mountain	116.84	47		PKiKP		23 34 27.9			
	baz=299									
BC3	Big Chuckawall	116.85	48		PKiKP		23 34 28.0			
	baz=298									
RDMU	Red Mountain	117.15	38			PKPdf	23 34 29.4	-0.6		
ULM	Lac du Bonnet	117.26	23		PKP	PKPdf	23 34 28.5	-1.1		
	comp=Z,4.1nm,0.8s,baz=319,slow=4.8,SNR=6.1									
ULM					PKKPbc	PKKPbc	23 44 53.2	-2.0		
	comp=Z,3.3nm,0.8s,baz=126,slow=2.0,SNR=7.8									
ULM	Lac du Bonnet	117.26	23		IAMs_20	IAMs_20	00 30 08.2			
	comp=Z,1µm,19.0s									
W13A	Hualapai Mount	117.28	45		IAMs_20	IAMs_20	00 18 07.8			
	comp=Z,2µm,21.0s									
MDND	Maddock	117.57	27		IAMs_20	IAMs_20	00 30 10.8			
	comp=Z,1µm,21.0s									
MDND	Maddock	117.57	27		PKiKP		23 34 29.9			
	baz=319									
GLA	Glamis	117.60	48		IAMs_20	IAMs_20	00 23 14.7			
	comp=Z,1µm,19.0s									
K22A	Casper	117.67	35		PKiKP		23 34 29.7			
	baz=310									
U15A	North Rim	117.70	43			PKiKP	23 34 31.7	+0.4		
U15A					IAMs_20	IAMs_20	00 18 53.8			
	comp=Z,2µm,21.0s									
RWWY	Rawlins	117.88	36		IAMs_20	IAMs_20	00 35 56.5			
	comp=Z,1µm,18.0s									
RSSD	Black Hills	118.06	32		PKIKP	PKPdf	23 34 30.7	-0.9		
RSSD	Black Hills	118.06	32		PKPdf	PKPdf	23 34 30.7	-0.9		
RSSD	Black Hills	118.06	32		PKiKP		23 34 30.9			
	baz=313									
O20A	White River Ci	118.22	38		PKiKP		23 34 31.3			
	baz=307									
Y14A	Wickenburg	118.49	46		IAMs_20	IAMs_20	00 17 25.0			
	comp=Z,2µm,22.0s									
WUAZ	Wupatki	118.81	44		IAMs_20	IAMs_20	00 19 34.3			
	comp=Z,2µm,22.0s									
WUAZ	Wupatki	118.81	44		PKiKP		23 34 32.2			
	baz=303									
AGMN	Agassiz Nation	118.82	24		IAMs_20	IAMs_20	00 34 12.6			
	comp=Z,1µm,20.0s									
AGMN	Agassiz Nation	118.82	24		PKiKP		23 34 31.3			
	baz=323									
PV19	Morning Glory	118.84	40		IAMs_20	IAMs_20	00 26 50.4			
	comp=Z,2µm,21.0s									
PV04	Paradox Valley	118.84	40		IAMs_20	IAMs_20	00 27 15.5			
	comp=Z,2µm,20.0s									
PV16	Nyswonger Mesa	118.88	40		IAMs_20	IAMs_20	00 28 12.5			
	comp=Z,2µm,20.0s									
PV05	Paradox Valley	118.90	40		IAMs_20	IAMs_20	00 28 27.2			
	comp=Z,1µm,19.0s									
PV11	David Mesa, Pa	118.92	40		IAMs_20	IAMs_20	00 28 14.5			
	comp=Z,2µm,20.0s									
PV18	Skein Mesa, Pa	118.92	40		IAMs_20	IAMs_20	00 28 29.7			
	comp=Z,1µm,20.0s									
PV12	Saucer Basin,	118.95	40		IAMs_20	IAMs_20	00 28 26.4			
	comp=Z,2µm,21.0s									
PV03	Paradox Valley	118.96	40		IAMs_20	IAMs_20	00 28 28.6			
	comp=Z,2µm,21.0s									
PV13	Radium Mtn., P	119.03	40			PKiKP	23 34 33.8	+0.1		
PV01	Paradox Valley	119.21	40		IAMs_20	IAMs_20	00 28 37.1			
	comp=Z,1µm,18.0s									
D32A	Dogwood Acres,	119.25	26		IAMs_20	IAMs_20	00 33 47.1			
	comp=Z,1µm,19.0s									
SCHQ	Schefferville	119.28	2		PKP	PKPdf	23 34 32.8	-0.6		
	comp=Z,3.6nm,0.9s,baz=78,slow=5.3,SNR=4.1									
SCHQ					PP	PP	23 35 51.6	-1.4		
	comp=Z,26nm,1.2s,baz=14,slow=11,SNR=7.0									
X16A	Lo Mia Camp, P	119.35	45			PKiKP	23 34 34.7	+0.3		
X16A					IAMs_20	IAMs_20	00 19 36.7			
	comp=Z,2µm,21.0s									
B35A	Bob, Littlefor	119.62	23		IAMs_20	IAMs_20	00 32 11.5			
	comp=Z,1µm,20.0s									
MVCO	Mesa Verde	119.79	41		PKiKP		23 34 33.9			
	baz=306									
ISCO	Idaho Springs	120.01	37		IAMs_20	IAMs_20	00 25 00.0			
	comp=Z,1µm,21.0s									
ISCO	Idaho Springs	120.01	37		PKiKP		23 34 34.5			
	baz=310									
W18A	Petrified Fore	120.15	43			PKiKP	23 34 36.3	+0.3		
W18A	Petrified Fore	120.16	43		PKiKP		23 34 34.5			
	baz=304									
KIC	Kosan Boka	120.24	281	*e*	PKiKP	PKiKP	23 34 41.9	+5.5		
	comp=Z,32nm,0.8s									
DBIC	Dimbokro	120.29	281		PKP	PKPdf	23 34 36.1	-0.3		
	comp=Z,13nm,1.1s,baz=92,slow=14,SNR=1.8									
X18A	Snowflake	120.33	44		IAMs_20	IAMs_20	00 20 05.5			
	comp=Z,2µm,20.0s									
SUSD	Miller	120.41	29		PKiKP		23 34 35.0			
	baz=318									
TIC	Toumodi	120.46	281	*e*	PKiKP	PKiKP	23 34 42.1	+5.2		
LIC	Lamto	120.54	281	*e*	PKiKP	PKiKP	23 34 42.4	+5.4		
	comp=Z,59nm,0.9s									
F33A	5 Mile Ranch,	120.57	26		IAMs_20	IAMs_20	00 33 35.2			
	comp=Z,1µm,20.0s									
EYMN	Ely	120.80	22		IAMs_20	IAMs_20	00 29 48.7			
	comp=Z,2µm,21.0s									
EYMN	Ely	120.80	22		PKiKP		23 34 35.9			
	baz=327									
Q24A	Divide	120.82	37		PKiKP		23 34 35.7			
	baz=310									
TUC	Tucson	120.92	47		IAMs_20	IAMs_20	00 18 43.5			
	comp=Z,1µm,20.0s									
TUC	Tucson	120.92	47		PKiKP		23 34 35.3			
	baz=302									
OGNE	Ogallala	121.31	34		PKiKP		23 34 36.0			
	baz=314									
SDCO	Great Sand Dun	121.37	39		IAMs_20	IAMs_20	00 36 54.2			
	comp=Z,1µm,20.0s									
SDCO	Great Sand Dun	121.37	39		PKiKP		23 34 36.1			
	baz=309									
PMSA	Palmer Station	121.38	180		IAMs_20	IAMs_20	00 34 27.7			
	comp=Z,2µm,18.0s									
PMOZ	Porto Moniz, M	121.59	315		A	A	00 33 35.7			
	comp=Z,2µm,20.0s									
F36A	Milaca	121.73	24		IAMs_20	IAMs_20	00 28 29.3			
	comp=Z,1µm,21.0s									
E38A	The Farm, Brul	121.90	23		IAMs_20	IAMs_20	00 31 09.8			
	comp=Z,2µm,21.0s									
ECSD	EROS Data Cent	122.05	28		IAMs_20	IAMs_20	00 36 07.6			
	comp=Z,2µm,20.0s									
ECSD	EROS Data Cent	122.05	28		PKiKP		23 34 37.3			
	baz=320									
SRIG	Santa Rosalia	122.27	52		IAMs_20	IAMs_20	00 18 60.0			
	comp=Z,1µm,19.0s									
T25A	Trinidad	122.43	38		IAMs_20	IAMs_20	00 23 16.2			
	comp=Z,1µm,21.0s									
T25A	Trinidad	122.43	38		PKiKP		23 34 38.9			
	baz=310									
ANMO	Albuquerque	122.46	42		PKKPab	PKKPab	23 44 38.9	+2.9		
	comp=Z,1.9nm,1.0s,baz=157,slow=3.0,SNR=5.0									
ANMO	Albuquerque	122.46	42	*i*	PKIKP	PKPdf	23 34 40.2	-0.1		
ANMO					MLR	MLR				
	comp=Z,979nm,19.0s									
ANMO	Albuquerque	122.46	42		PKPdf	PKPdf	23 34 40.3	0.0		
ANMO	Albuquerque	122.46	42		IAMs_20	IAMs_20	00 19 57.5			
	comp=Z,1µm,21.0s									
ANMO	Albuquerque	122.46	42		PKiKP		23 34 39.0			
	baz=306									
319A	Douglas	122.50	47		IAMs_20	IAMs_20	00 27 27.3			
	comp=Z,1µm,20.0s									
SPMN	Marine on St.	122.54	24		PKiKP		23 34 38.8			
	baz=325									
D41A	Chassel	122.60	20		IAMs_20	IAMs_20	00 38 54.8			
	comp=Z,1µm,19.0s									
121A	Cookes Peak, D	122.94	45		PKPdf	PKiKP	23 34 41.5	0.0		
121A					IAMs_20	IAMs_20	00 22 35.7			
	comp=Z,1µm,20.0s									
121A	Cookes Peak, D	122.94	45		PKiKP		23 34 39.5			
	baz=304									
BGNE	Belgrade	123.04	31			PKPdf	23 34 39.6	-1.5		
BGNE					IAMs_20	IAMs_20	00 32 32.3			
	comp=Z,2µm,21.0s									
BGNE	Belgrade	123.04	31		PKiKP		23 34 39.6			
	baz=318									
MATQ	Matagami	123.05	11		PKiKP		23 34 39.5			
	baz=343									
COWI	Conover	123.22	21		IAMs_20	IAMs_20	00 38 58.7			
	comp=Z,2µm,20.0s									
I37A	Lemond, Waseca	123.27	26			PKPdf	23 34 40.7	-0.7		
I37A					IAMs_20	IAMs_20	00 33 56.5			
	comp=Z,1µm,20.0s									
CHGQ	Chibougamau	123.45	9		PKiKP		23 34 40.2			
	baz=347									
L34A	Svendsen Farm,	123.51	29		IAMs_20	IAMs_20	00 38 46.4			
	comp=Z,1µm,20.0s									
G40A	Rib Lake	123.53	23		IAMs_20	IAMs_20	00 34 33.1			
	comp=Z,2µm,20.0s									
E43A	Lone Tree Farm	123.72	20		IAMs_20	IAMs_20	00 37 09.8			
	comp=Z,1µm,20.0s									
LSQQ	Lebel-sur-Quev	123.85	11		PKiKP		23 34 40.7			
	baz=344									
N33A	J Bar K, Exete	123.89	31		IAMs_20	IAMs_20	00 39 32.8			
	comp=Z,1µm,19.0s									
CBKS	Cedar Bluff	124.06	34		IAMs_20	IAMs_20	00 28 13.7			
	comp=Z,1µm,21.0s									
CBKS	Cedar Bluff	124.06	34		PKiKP		23 34 41.4			
	baz=315									
I40A	Norwalk	124.53	24		IAMs_20	IAMs_20	00 31 30.5			
	comp=Z,1µm,20.0s									
E46A	Sault Ste Mari	124.58	18		IAMs_20	IAMs_20	00 30 04.2			
	comp=Z,2µm,22.0s									
K38A	Parkersburg	124.64	26		IAMs_20	IAMs_20	00 34 51.9			
	comp=Z,2µm,20.0s									
VLDQ	Val d'Or	124.66	11		IAMs_20	IAMs_20	00 31 35.0			
	comp=Z,2µm,20.0s									
N35A	Tabor	124.71	30		IAMs_20	IAMs_20	00 40 31.3			
	comp=Z,1µm,19.0s									
R32A	Long Quarter,	124.90	34		IAMs_20	IAMs_20	00 28 44.0			
	comp=Z,1µm,21.0s									
SCIA	State Center	125.03	27		IAMs_20	IAMs_20	00 35 11.5			
	comp=Z,1µm,20.0s									
SCIA	State Center	125.04	27		PKiKP		23 34 43.3			
	baz=323									
MNTX	Cornudas Mount	125.09	44		PKiKP		23 34 44.1			
	baz=306									
H43A	Windswept, Lux	125.12	21		IAMs_20	IAMs_20	00 32 26.8			
	comp=Z,2µm,22.0s									
I42A	Draeger Farm,	125.19	22		IAMs_20	IAMs_20	00 35 40.9			
	comp=Z,2µm,20.0s									
MSTX	Muleshoe	125.46	40		IAMs_20	IAMs_20	00 24 30.8			
	comp=Z,2µm,20.0s									
MSTX	Muleshoe	125.46	40		PKiKP		23 34 44.3			
	baz=309									
JFWS	Jewell Farm	125.49	24		IAMs_20	IAMs_20	00 38 23.0			
	comp=Z,1µm,20.0s									
JFWS	Jewell Farm	125.49	24		PKiKP		23 34 43.8			
	baz=327									
KSU1	Kansas State U	125.54	32		IAMs_20	IAMs_20	00 40 37.5			
	comp=Z,1µm,21.0s									
KSU1	Kansas State U	125.54	32		PKiKP		23 34 44.8			
	baz=318									
L40A	Anamosa	125.78	25		IAMs_20	IAMs_20	00 41 17.1			
	comp=Z,2µm,18.0s									
GLMI	Grayling	125.87	19		IAMs_20	IAMs_20	00 34 23.5			
	comp=Z,2µm,19.0s									
N38A	Joes South For	125.91	28		IAMs_20	IAMs_20	00 35 55.7			
	comp=Z,1µm,19.0s									
I45A	Fountain	126.04	20		IAMs_20	IAMs_20	00 39 15.0			
	comp=Z,1µm,19.0s									
D55A	Sainte-Anne-du	126.08	10		PKiKP		23 34 45.0			
	baz=345									
LATQ	La Tuque	126.15	8		PKiKP		23 34 45.2			
	baz=348									
D56A	ZEC Mazanza, M	126.18	10		PKiKP		23 34 45.1			
	baz=346									
D58A	Chemin du LacG	126.42	8		PKiKP		23 34 45.4			
	baz=348									
K43A	Burlington	126.42	23		IAMs_20	IAMs_20	00 30 28.6			
	comp=Z,2µm,22.0s									
L42A	Oliver, Polo	126.48	24		IAMs_20	IAMs_20	00 33 57.4			
	comp=Z,1µm,21.0s									
ALGO	Algonquin Park	126.59	13		PKiKP		23 34 45.9			
	baz=342									
E56A	St. Veronique	126.62	10		PKiKP		23 34 45.6			
	baz=346									
P38A	Dawn	126.69	29		IAMs_20	IAMs_20	00 36 48.5			
	comp=Z,2µm,19.0s									
D60A	Saint Jean D'O	126.85	6		PKiKP		23 34 46.2			
	baz=351									
D62A	Allapoint, All	126.86	5		IAMs_20	IAMs_20	00 34 14.0			
	comp=Z,2µm,22.0s									
D63A	Stockholm	126.98	4		PKiKP		23 34 46.9			
	baz=354									
L44A	Lake County Fo	127.03	23		IAMs_20	IAMs_20	00 40 27.8			
	comp=Z,2µm,18.0s									
N41A	Harden Midland	127.05	26		IAMs_20	IAMs_20	00 39 28.9			
	comp=Z,1µm,19.0s									
E58A	La Victoria	127.07	9		PKiKP		23 34 47.2			
	baz=348									
G54A	Lake Saint Pet	127.11	13		PKiKP		23 34 47.5			
	baz=342									
T35A	Sooner Cattle	127.20	33		IAMs_20	IAMs_20	00 35 14.7			
	comp=Z,1µm,20.0s									
E62A	Clayton Lake	127.28	5		PKiKP		23 34 47.2			
	baz=352									
PQI	Presque Isle	127.35	4		IAMs_20	IAMs_20	00 35 02.1			
	comp=Z,2µm,20.0s									
E61A	Lac Etchemin	127.37	6		PKiKP		23 34 47.8			
	baz=351									
HQIL	Hanson Quary C	127.38	23		IAMs_20	IAMs_20	00 38 29.9			
	comp=Z,2µm,20.0s									
WMOK	Wichita Mounta	127.44	37		PKiKP		23 34 48.2			
	baz=314									
SADO	Sadowa	127.46	14		IAMs_20	IAMs_20	00 39 44.2			
	comp=Z,2µm,18.0s									
P40A	Paris	127.46	28		IAMs_20	IAMs_20	00 40 43.0			
	comp=Z,2µm,19.0s									
OK029	Liberty Lake	127.47	35		IAMs_20	IAMs_20	00 40 42.3			
	comp=Z,2µm,19.0s									
HPIG		127.53	49		IAMs_20	IAMs_20	00 27 27.1			
	comp=Z,1µm,20.0s									
E63A	Oxbow	127.57	4		IAMs_20	IAMs_20	00 39 39.2			
	comp=Z,2µm,20.0s									
E63A	Oxbow	127.57	4		PKiKP		23 34 47.9			
	baz=354									
E64A	Bridgewater	127.62	4		PKiKP		23 34 48.1			
	baz=354									
F60A	Warwick	127.65	8		PKiKP		23 34 48.1			
	baz=349									
F59A	Saint Guilaume	127.65	8		PKiKP		23 34 47.9			
	baz=348									
M44A	Midewin, Midew	127.66	23		IAMs_20	IAMs_20	00 38 42.3			
	comp=Z,1µm,19.0s									
TXAR	Lajitas Array	127.66	46		PKP	PKPdf	23 34 49.6	-0.7		
	comp=Z,3.2nm,1.0s,baz=248,slow=1.3,SNR=20							

baz=354
Q44A Meyer Farm, Va 129.34 26 IAMs_20 IAMs_20 00 37 19.4
comp=Z,1µm,19.0s
EMMW East Machias 129.34 4 IAMs_20 IAMs_20 00 32 41.1
comp=Z,2µm,21.0s
LBNH Lisbon 129.35 8 PKiKP 23 34 51.7
baz=349
I58A Old Forge 129.39 11 PKiKP 23 34 51.4
baz=345
J56A Wolcott 129.40 13 IAMs_20 IAMs_20 00 41 00.4
comp=Z,2µm,19.0s
J56A Wolcott 129.40 13 PKiKP 23 34 51.6
baz=343
FVM French Village 129.46 28 IAMs_20 IAMs_20 00 37 04.9
comp=Z,1µm,21.0s
J57A Williamstown 129.46 12 PKiKP 23 34 51.7
baz=344
I59A Olmsteadville 129.49 10 PKiKP 23 34 52.0
baz=347
N49A Columbus Grove 129.50 20 IAMs_20 IAMs_20 00 37 51.4
comp=Z,1µm,19.0s
P46A Rosedale 129.50 24 IAMs_20 IAMs_20 00 38 41.3
comp=Z,2µm,20.0s
X37A Clayton 129.53 35 IAMs_20 IAMs_20 00 26 04.6
comp=Z,2µm,22.0s
I60A Shoreham 129.54 9 PKiKP 23 34 51.9
baz=347
U40A Yellville 129.56 31 IAMs_20 IAMs_20 00 39 00.6
comp=Z,1µm,20.0s
U40A Yellville 129.56 31 PKiKP 23 34 52.2
baz=321
I61A Oroboro, Fairl 129.62 8 PKiKP 23 34 52.5
baz=349
JCT Junction City 129.62 42 IAMs_20 IAMs_20 00 28 23.1
comp=Z,1µm,20.0s
JCT Junction City 129.62 42 PKiKP 23 34 52.5
baz=310
J58A Remsen 129.65 11 IAMs_20 IAMs_20 00 37 46.8
comp=Z,2µm,20.0s
J58A Remsen 129.65 11 PKiKP 23 34 52.4
baz=345
J59A Piesco 129.69 11 IAMs_20 IAMs_20 00 38 26.9
comp=Z,2µm,19.0s
J59A Piesco 129.70 11 PKiKP 23 34 52.2
baz=346
I63A Otisfield 129.71 7 PKiKP 23 34 52.4
baz=351
I62A Tamworth 129.79 8 PKiKP 23 34 52.3
baz=350
HNH Hanover 129.82 8 IAMs_20 IAMs_20 00 36 34.2
comp=Z,2µm,19.0s
K56A Middlesex 129.85 13 PKiKP 23 34 52.4
baz=342
M52A Chesterland 129.85 18 IAMs_20 IAMs_20 00 36 49.5
comp=Z,2µm,19.0s
T42A Van Buren 129.91 29 IAMs_20 IAMs_20 00 31 21.5
comp=Z,1µm,22.0s
I64A Boothbay 129.94 6 PKiKP 23 34 52.7
baz=352
W39A Magazine 129.95 33 IAMs_20 IAMs_20 00 39 03.3
comp=Z,2µm,21.0s
W39A Magazine 129.95 33 PKiKP 23 34 52.9
baz=319
O49A Covington 130.09 21 IAMs_20 IAMs_20 00 41 14.2
comp=Z,2µm,19.0s
J60A Lant Hill Farm 130.10 10 PKiKP 23 34 53.3
baz=347
WHTX Lake Whitney, 130.12 39 IAMs_20 IAMs_20 00 35 08.7
comp=Z,1µm,20.0s
WHTX Lake Whitney, 130.12 39 PKiKP 23 34 53.2
baz=313
K58A Earlville 130.15 12 IAMs_20 IAMs_20 00 37 00.1
comp=Z,2µm,21.0s
M53A WI Miller and 130.15 17 PKPdf 23 34 53.2 -1.4
M53A IAMs_20 IAMs_20 00 35 07.2
comp=Z,2µm,20.0s
K58A Earlville 130.15 12 PKiKP 23 34 53.2
baz=344
M53A WI Miller and 130.15 17 PKiKP 23 34 53.2
baz=337
S44A Carbondale 130.23 27 IAMs_20 IAMs_20 00 34 25.8
comp=Z,2µm,22.0s
SIUC Southern Illin 130.23 27 PKPdf 23 34 54.9 +0.1
SIUC IAMs_20 IAMs_20 00 34 26.0
comp=Z,2µm,22.0s
FCAR Ozark Folk Cen 130.29 31 IAMs_20 IAMs_20 00 42 54.3
comp=Z,2µm,20.0s
K59A Cooperstown 130.30 11 PKiKP 23 34 53.2
baz=345
L56A Greenwood 130.32 14 IAMs_20 IAMs_20 00 35 19.5
comp=Z,2µm,20.0s
L56A Greenwood 130.32 14 PKiKP 23 34 53.3
baz=342
P48A Milroy 130.33 22 IAMs_20 IAMs_20 00 33 18.1
comp=Z,1µm,22.0s
J62A Henniker 130.36 8 PKiKP 23 34 53.7
baz=349
M54A Oil Creek Stat 130.37 16 PKiKP 23 34 53.3
baz=339
J63A Strafford 130.41 7 PKiKP 23 34 53.6
baz=350
P49A Miami Univ. Ec 130.53 22 PKiKP 23 34 53.8
baz=332
MIAR Mount Ida 130.56 33 PKiKP 23 34 54.3
baz=319
BINY Binghamton 130.62 12 IAMs_20 IAMs_20 00 38 25.1
comp=Z,2µm,20.0s
BINY Binghamton 130.62 12 PKiKP 23 34 54.0
baz=344
LCAR Lake Charles 130.64 30 IAMs_20 IAMs_20 00 38 60.0
comp=Z,1µm,20.0s
M55A Ridgway 130.65 15 IAMs_20 IAMs_20 00 37 24.3
comp=Z,2µm,19.0s
WHAR Wooly Hollow 130.67 31 IAMs_20 IAMs_20 00 43 12.5
comp=Z,2µm,19.0s
K61A Williamstown 130.68 10 PKiKP 23 34 54.4
baz=347
N53A Lisbon 130.68 18 IAMs_20 IAMs_20 00 35 04.4
comp=Z,2µm,20.0s
Z38A Mt. Pleasant 130.71 35 IAMs_20 IAMs_20 00 40 57.8
comp=Z,2µm,19.0s
W41B Gary Mavity, V 130.78 32 PKiKP 23 34 54.7
baz=321
N54A Moraine State 130.79 17 PKPdf 23 34 56.1 +0.3
N54A Moraine State 130.79 17 PKiKP 23 34 54.1
baz=338
L58A Harry Jones Me 130.80 12 PKiKP 23 34 54.1
baz=344
L59A Walton 130.82 11 PKiKP 23 34 54.4
baz=345
PARMO Parma 130.84 28 IAMs_20 IAMs_20 00 40 13.1
comp=Z,1µm,20.0s
K62A Royalston 130.85 9 PKiKP 23 34 54.2
baz=348
435B Jarrell 130.86 40 IAMs_20 IAMs_20 00 39 07.4
comp=Z,2µm,21.0s
435B Jarrell 130.86 40 PKiKP 23 34 54.9
baz=312
K63A Dunstable 130.93 8 PKiKP 23 34 54.9
baz=349
HENM Henderson Moun 130.93 28 IAMs_20 IAMs_20 00 37 08.4
comp=Z,2µm,21.0s
L61B Northampton 130.99 9 PKiKP 23 34 54.9
baz=348
X40A Basin Creek Fa 131.00 33 IAMs_20 IAMs_20 00 39 59.9
comp=Z,2µm,19.0s
X40A Basin Creek Fa 131.00 33 PKiKP 23 34 55.2
baz=320
WCI Wyandotte Cave 131.05 24 PKiKP PKPdf 23 34 56.2 -0.2
WCI Wyandotte Cave 131.05 24 PKPdf PKPdf 23 34 56.2 -0.2
WCI Wyandotte Cave 131.05 24 IAMs_20 IAMs_20 00 36 08.0
comp=Z,2µm,22.0s
WCI Wyandotte Cave 131.05 24 PKiKP 23 34 55.3
baz=329
T45A Paducah 131.06 27 IAMs_20 IAMs_20 00 34 49.8
comp=Z,1µm,20.0s
PENMO Penman 131.07 28 IAMs_20 IAMs_20 00 40 19.2
comp=Z,2µm,20.0s
O53A New Philadelph 131.08 18 IAMs_20 IAMs_20 00 35 20.0
comp=Z,2µm,20.0s
O53A New Philadelph 131.08 18 PKiKP 23 34 55.0
baz=336
L61A Hillsdale 1, H 131.10 10 PKiKP 23 34 55.7
baz=347
HRV Adam Dziewonsk 131.10 8 PKiKP 23 34 55.3
baz=349
237A Washetta, Mont 131.12 37 IAMs_20 IAMs_20 00 27 01.0
comp=Z,2µm,21.0s
P51A Williamsport 131.17 20 IAMs_20 IAMs_20 00 37 02.6
comp=Z,2µm,21.0s
HICK Hickman 131.19 28 IAMs_20 IAMs_20 00 35 58.2
comp=Z,1µm,21.0s
PEBM Pemiscott Bayo 131.23 29 IAMs_20 IAMs_20 00 40 28.6
comp=Z,2µm,19.0s
833A Chaparral WMA, 131.26 44 PKiKP 23 34 56.5
baz=309
GNAR Gosnell 131.28 29 IAMs_20 IAMs_20 00 40 22.8
comp=Z,2µm,20.0s
KSPA Keystone Colle 131.28 12 PKPdf PKiKP 23 34 58.0 +0.3
HBAR Harrisburg 131.29 30 IAMs_20 IAMs_20 00 42 50.3
comp=Z,2µm,22.0s
P52A Corning 131.34 19 IAMs_20 IAMs_20 00 36 38.2
comp=Z,2µm,20.0s
P52A Corning 131.35 19 PKiKP 23 34 55.3
baz=335
GLAT Glass 131.38 28 IAMs_20 IAMs_20 00 45 18.3
comp=Z,1µm,18.0s
LNXT Lenox 131.42 28 IAMs_20 IAMs_20 00 37 47.4
comp=Z,1µm,21.0s
LPAR Lepanto 131.43 30 IAMs_20 IAMs_20 00 34 22.9
comp=Z,1µm,21.0s
R49A Shelbyville 131.44 23 IAMs_20 IAMs_20 00 43 38.7
comp=Z,1µm,19.0s
WLAR White Oak Lake 131.45 34 IAMs_20 IAMs_20 00 42 20.0
comp=Z,1µm,19.0s
Q51A Peebles 131.47 21 IAMs_20 IAMs_20 00 36 21.8
comp=Z,2µm,21.0s
HALT Halls 131.65 28 IAMs_20 IAMs_20 00 44 22.4
comp=Z,1µm,18.0s
SSPA Standing Stone 131.66 15 PKiKP 23 34 56.7
baz=341
L63A North Scituate 131.73 8 PKiKP 23 34 56.5
baz=349
L64A Middleborough 131.76 8 PKiKP 23 34 56.6
baz=350
T47A Sharon Grove 131.77 26 IAMs_20 IAMs_20 00 41 08.2
comp=Z,2µm,20.0s
R50A Paris 131.77 22 IAMs_20 IAMs_20 00 42 31.9
comp=Z,1µm,19.0s
O56A Blue Knob Stat 131.83 16 PKiKP 23 34 56.8
baz=340
N59A State Game Lan 131.90 13 PKiKP 23 34 56.9
baz=344
Z41A Richland Creek 131.94 34 PKiKP 23 34 57.1
baz=319
ODNJ Ogdensburg 131.98 11 IAMs_20 IAMs_20 00 41 11.9
comp=Z,2µm,19.0s
735A Kenedy 131.99 42 IAMs_20 IAMs_20 00 45 50.6
comp=Z,2µm,19.0s
MET Memphis--Engin 131.99 30 IAMs_20 IAMs_20 00 40 48.8
comp=Z,1µm,20.0s
CCAR Cane Creek 132.00 32 IAMs_20 IAMs_20 00 40 09.4
comp=Z,1µm,20.0s
MCWV Mont Chateau 132.03 17 IAMs_20 IAMs_20 00 41 55.2
comp=Z,2µm,20.0s
MCWV Mont Chateau 132.04 17 PKiKP 23 34 57.4
baz=338
M64A Tiverton 132.09 8 PKiKP 23 34 57.4
baz=350
M63A Gales Ferry 132.11 9 PKiKP 23 34 57.2
baz=348
ZAIG Zacatas 132.13 52 IAMs_20 IAMs_20 00 30 38.8
comp=Z,1µm,20.0s
WVT Waverly 132.16 27 IAMs_20 IAMs_20 00 42 21.9
comp=Z,2µm,19.0s
WVT Waverly 132.16 27 PKiKP 23 34 57.3
baz=326
PAL Palisades 132.19 11 IAMs_20 IAMs_20 00 37 05.4
comp=Z,2µm,21.0s
PAL Palisades 132.19 11 PKiKP 23 34 57.4
baz=346
W45A Hickory Valley 132.33 29 IAMs_20 IAMs_20 00 38 16.6
comp=Z,2µm,20.0s
PAGS Pennsylvania G 132.33 14 IAMs_20 IAMs_20 00 36 40.7
comp=Z,2µm,22.0s
HKT Hockley 132.53 39*c* iPKiKP PKiKP 23 35 00.4 0.0
HKT MLR MLR
comp=Z,1µm,20.0s
HKT Hockley 132.53 39 IAMs_20 IAMs_20 00 34 55.3
comp=Z,1µm,20.0s
S51A Beattyville 132.61 22 IAMs_20 IAMs_20 00 37 59.1
comp=Z,2µm,21.0s
MVL Millersville 132.64 14 IAMs_20 IAMs_20 00 38 54.7
comp=Z,1µm,21.0s
T50A Nancy 132.68 24 IAMs_20 IAMs_20 00 43 11.0
comp=Z,2µm,20.0s
U49A Red Boiling Sp 132.73 25 IAMs_20 IAMs_20 00 38 38.6
comp=Z,1µm,20.0s
OXF Oxford 132.74 30 IAMs_20 IAMs_20 00 41 16.6
comp=Z,2µm,20.0s
OXF Oxford 132.74 30 PKiKP 23 34 57.9
baz=324
CLTN Cedars of Leba 132.86 26 IAMs_20 IAMs_20 00 35 32.0
comp=Z,2µm,22.0s
WUPA West Chester U 132.87 13 IAMs_20 IAMs_20 00 42 26.8
comp=Z,1µm,19.0s
V48A Smith Brothers 132.94 26 IAMs_20 IAMs_20 00 41 36.3
comp=Z,1µm,20.0s
P60A Greenville 132.98 13 PKiKP 23 34 58.6
baz=343
PLAL Pickwick Lake 133.00 28 IAMs_20 IAMs_20 00 42 56.2
comp=Z,2µm,19.0s
143A Socs Landing, 133.13 33 IAMs_20 IAMs_20 00 37 52.4
comp=Z,1µm,20.0s
P61A Hammonton 133.30 12 IAMs_20 IAMs_20 00 40 41.9
comp=Z,2µm,19.0s
441A DeRidder 133.58 36 IAMs_20 IAMs_20 00 30 24.8
comp=Z,2µm,21.0s
TZTN Tazewell 133.59 23 IAMs_20 IAMs_20 00 42 40.2
comp=Z,2µm,19.0s
SWET Sewanee 133.77 26 IAMs_20 IAMs_20 00 36 10.2
comp=Z,2µm,21.0s
X48A Hartselle 133.91 27 PKPdf PKPdf 23 35 01.2 -0.7
X48A IAMs_20 IAMs_20 00 42 01.3
comp=Z,1µm,20.0s
V51A Loudon 133.93 24 IAMs_20 IAMs_20 00 43 58.1
comp=Z,1µm,19.0s
Q61A Milford 133.94 13 PKiKP 23 35 00.1
baz=344
VBMS Vicksburg 133.98 33 IAMs_20 IAMs_20 00 42 26.8
comp=Z,2µm,20.0s
W50A Signal Mountai 134.05 25 IAMs_20 IAMs_20 00 35 00.5
comp=Z,1µm,22.0s
CBN Corbin Frederi 134.08 15 IAMs_20 IAMs_20 00 43 31.1
comp=Z,2µm,19.0s
CBN Corbin Frederi 134.08 15 PKiKP 23 35 00.5
baz=341
BLA Blacksburg 134.10 19 PKiKP 23 35 01.3
baz=336
CPCT Cooper Cave 134.16 24 IAMs_20 IAMs_20 00 36 21.4
comp=Z,2µm,21.0s
U54A Nelsons Funny 134.25 21 IAMs_20 IAMs_20 00 43 29.3
comp=Z,2µm,19.0s
TKL Tuckaleechee C 134.28 23 PKP PKPdf 23 35 02.5 -0.1
comp=Z,6.5nm,0.9s,baz=5.5,slow=0.5
344A Westbrook Farm 134.45 33 IAMs_20 IAMs_20 00 37 11.5
comp=Z,2µm,21.0s
Z47A Carrollton 134.46 29 IAMs_20 IAMs_20 00 44 09.9
comp=Z,2µm,20.0s
FPAL Fort Paine 134.48 26 IAMs_20 IAMs_20 00 45 22.1
comp=Z,1µm,19.0s
Y49A Blount Mountai 134.70 27 IAMs_20 IAMs_20 00 38 32.0
comp=Z,2µm,20.0s
X51A Calhoun 134.78 25 IAMs_20 IAMs_20 00 37 00.0
comp=Z,1µm,20.0s
LRAL Lakeview Retre 135.11 29 IAMs_20 IAMs_20 00 46 46.0
comp=Z,2µm,19.0s
LRAL Lakeview Retre 135.11 29 PKiKP 23 35 02.9
baz=326
346A Big Creek Wild 135.19 32 IAMs_20 IAMs_20 00 46 38.7
comp=Z,1µm,18.0s
BG3 Lake Jocassee 135.19 23 IAMs_20 IAMs_20 00 39 54.6
comp=Z,1µm,20.0s
T60A Surry 135.25 15 IAMs_20 IAMs_20 00 38 11.1
comp=Z,2µm,22.0s
V58A Windy Hill, Pi 135.82 18 IAMs_20 IAMs_20 00 41 49.5
comp=Z,2µm,20.0s
W57A Gilead 136.12 20 IAMs_20 IAMs_20 00 48 54.6
comp=Z,2µm,19.0s
250A Grady 136.32 29 IAMs_20 IAMs_20 00 48 29.3
comp=Z,1µm,19.0s
GOGA Godfrey 136.36 25 PKiKP 23 35 05.4
baz=330
JSC Jenkinsville 136.46 22 IAMs_20 IAMs_20 00 46 23.9
comp=Z,1µm,20.0s
V61A Roper 136.56 16 IAMs_20 IAMs_20 00 41 24.9
comp=Z,2µm,20.0s
BRAL Brewton 136.60 30 IAMs_20 IAMs_20 00 46 33.9
comp=Z,2µm,18.0s
BRAL Brewton 136.60 30 PKiKP 23 35 05.1
baz=325
Y58A Scranton 137.36 20 IAMs_20 IAMs_20 00 46 32.6
comp=Z,2µm,19.0s
352A Blakely 137.37 28 IAMs_20 IAMs_20 00 38 32.8
comp=Z,2µm,22.0s
451A Vernon 137.70 29 IAMs_20 IAMs_20 00 47 51.8
comp=Z,2µm,20.0s
TIGA Tifton 138.01 26 PKiKP 23 35 08.4
baz=329
553A Crawfordville 138.68 28 IAMs_20 IAMs_20 00 46 37.6
comp=Z,2µm,19.0s
656A Willston 140.24 27 IAMs_20 IAMs_20 00 46 54.8
comp=Z,2µm,19.0s
CMIG Matias Romero 141.26 53 PKP PKPdf 23 35 16.3 +0.4
comp=Z,10nm,1.0s,baz=262,slow=4.7,SNR=6.7
BBSR BB Station 141.78 2 IAMs_20 IAMs_20 00 42 03.5
comp=Z,1µm,21.0s
061Z Ochoppi 143.98 28 IAMs_20 IAMs_20 00 45 03.9
comp=Z,2µm,21.0s
PLCA Paso Flores 144.86 170 PKP PKPab 23 35 20.6 -0.1
comp=Z,95nm,1.2s,baz=190,slow=3.8,SNR=39
HUEH Huehuetenango 144.94 52 IAMs_20 IAMs_20 00 51 56.3
comp=Z,1µm,22.0s
PETF Flores 145.24 49 IAMs_20 IAMs_20 00 54 36.6
comp=Z,1µm,20.0s
APG El Apazote 145.93 52 PKPbc PKPdf 23 35 24.1 -0.3
comp=Z,41nm,1.1s,baz=318,slow=4.9,SNR=14
TGUH Tegucigalpa,Un 148.97 50 IAMs_20 IAMs_20 00 33 24.6
comp=Z,1µm,21.0s
TGUH Tegucigalpa,Un 148.97 50 *e*P PKPbc 23 35 33.9 +0.6
CRIN San Cristobal 149.96 52 IAMs_20 IAMs_20 00 53 08.8
comp=Z,900nm,18.0s
GO05 Huala 150.10 166 IAMs_20 IAMs_20 00 44 11.1
comp=Z,1µm,20.0s
BO01 Tunca 150.89 167 PKPbc PKPbc 23 35 36.8 -0.6
VA05 Santo Domingo 151.47 165 IAMs_20 IAMs_20 00 39 42.3
comp=Z,2µm,21.0s
MT09 Talagante 151.51 167 IAMs_20 IAMs_20 00 47 14.2
comp=Z,1µm,21.0s
VA03 San Esteban 152.58 167 IAMs_20 IAMs_20 00 36 37.5
comp=Z,1µm,18.0s
JTS Las Juntas de 153.04 53 PKP PKPdf 23 35 34.4 -1.1
comp=Z,3.4nm,0.4s,baz=255,slow=3.3,SNR=1.5
JTS Las Juntas de 153.04 53 IAMs_20 IAMs_20 00 56 55.4
comp=Z,1µm,19.0s
SC01 Santiago de lo 153.66 16 IAMs_20 IAMs_20 00 50 10.2
comp=Z,1µm,19.0s
SDDR Presa de Saban 153.93 17 *e*P PKPdf 23 35 32.8 -3.9
PEZE Perez Zeledon, 154.59 53 IAMs_20 IAMs_20 00 55 39.4
comp=Z,1µm,22.0s
SJG San Juan 155.84 7 PKP PKPdf 23 35 40.5 +1.3
comp=Z,11nm,0.3s,baz=298,slow=20,SNR=3.3
SJG San Juan 155.84 7 *e*P PKPdf 23 35 37.5 -1.8
MTP Monte Pirata 155.91 5 PKPab PKPab 23 36 06.1 +0.2
ANWB Willy Bob 156.39 356 IAMs_20 IAMs_20 00 53 56.8
comp=Z,1µm,22.0s
BCIP Isla Barro Col 157.66 48 IAMs_20 IAMs_20 00 53 28.1
comp=Z,1µm,20.0s
CPUP Villa Florida 159.03 195 PKP PKPdf 23 35 42.5 -0.5
comp=Z,5.2nm,1.1s,baz=236,slow=3.6,SNR=4.2
CPUP PKPab PKPab 23 36 18.9 -0.4
comp=Z,44nm,1.3s,baz=144,slow=4.7,SNR=8.7
CPUP PP PP 23 39 57.5 -1.1
comp=Z,20nm,1.2s,baz=160,slow=9.2,SNR=6.1
FDF Fort de France 159.24 354 IAMs_20 IAMs_20 00 50 48.3
comp=Z,1µm,22.0s
MPOM Morne Pois Mar 159.50 353 IAMs_20 IAMs_20 00 46 34.9
comp=Z,871nm,21.0s
SMRC Santa Marta, M 159.76 32 *e*P PKPdf 23 35 41.0 -3.2
CAPC Capurgana 159.80 44 *e*P PKPdf 23 35 41.7 -2.5
GO02 Mina Guanaco 160.07 163 PKPab PKPab 23 36 22.8 -1.4
SJCC San Jacinto, C 160.25 37 *e*P PKPdf 23 35 44.3 -0.5
URIC Uribia, Colomb 160.38 26 *e*P PKPdf 23 35 43.6 -1.3
MOTC Monteria, Cord 160.82 40 *e*P PKPdf 23 35 44.3 -1.1
ARGC Ariguani, Magd 160.82 35 *e*P PKPdf 23 35 44.9 -0.5
LL2C La Loma 2 Cana 161.52 33 *e*P PKPdf 23 35 44.4 -1.7
UREC San Jos de Ur 161.67 42 *e*P PKPdf 23 35 45.1 -1.3
SMLC San Martn de 161.78 36 *e*P PKPdf 23 35 44.3 -2.1
PB15 IPOC Station P 161.94 162 PKPab 23 36 33.0 +0.7
BDFB Brasilia 162.20 236 PKP PKPdf 23 35 46.2 -0.7
comp=Z,11nm,1.1s,baz=21,slow=6.9,SNR=10
BDFB PKPab PKPab 23 36 33.8 +0.1
comp=Z,7.2nm,1.0s,baz=86,slow=11,SNR=1.9
BDFB PP PP 23 40 20.4 +2.8
comp=Z,3.1nm,1.0s,baz=73,slow=8.2,SNR=1.9
ZARC Zaragoza, Cauc 162.31 41 *e*P PKPdf 23 35 45.4 -1.6
PB06 IPOC Station P 162.38 161 PKPdf PKPdf 23 35 46.1 -0.8
PB06 PKPab 23 36 33.7 -0.5
PB04 IPOC Station P 162.52 159 PKPdf PKPdf 23 35 46.3 -0.9
PB04 PKPab 23 36 34.6 -0.2
OCAC Ocana 162.67 35 *e*P PKPdf 23 35 45.8 -1.7
LVC Limon Verde 162.67 162 PKP PKPdf 23 35 46.9 -0.7
comp=Z,5.1nm,0.9s,baz=265,slow=3.4,SNR=6.4
LVC PKPab PKPab 23 36 36.2 +0.5
comp=Z,34nm,1.1s,baz=190,slow=4.9,SNR=7.6
LVC PP PP 23 40 17.7 -1.1
comp=Z,8.1nm,1.1s,baz=162,slow=5.0,SNR=3.1
LVC Limon Verde 162.67 162 PKPdf 23 35 48.4 +0.8
LVC pPKPab PKPab 23 36 35.9 +0.2
CBOC Ciudad Bolivar 162.68 47 *e*P PKPdf 23 35 44.9 -2.7
HELC Santa Helena 162.80 45 *e*P PKPdf 23 35 45.7 -2.2
PLMC San Jos del P 163.11 50 *e*P PKPdf 23 35 46.0 -1.9
PB07 IPOC Station P 163.17 159 PKPab 23 36 38.3 +0.6
PB09 IPOC Station P 163.33 161 PKPab 23 36 39.5 +1.2
BRRC Barranca, Sant 163.33 39 *e*P PKPdf 23 35 44.6 -3.4
SDV Santo Domingo 163.48 26 PKP PKPdf 23 35 47.4 -1.0
comp=Z,8.8nm,0.4s,baz=314,slow=1.8,SNR=5.0
SDV PKPab PKPab 23 36 39.7 +0.5
comp=Z,14nm,0.4s,baz=9.0,slow=8.6,SNR=1.5
SDV PP PP 23 40 22.5 -0.6
comp=Z,10nm,0.3s,baz=340,slow=3.6,SNR=1.6
SDV Santo Domingo 163.48 26 *e*P PKPdf 23 35 45.6 -2.7
GUY2C Guyana, Caldas 163.58 47 *e*P PKPdf 23 35 46.7 -2.1
YOTC Yotoco, Valle 163.63 53 *e*P PKPdf 23 35 46.3 -2.1
OTAV Otavalo 163.67 68 PKiKP PKPdf 23 35 49.5 +0.6
OTAV Otavalo 163.67 68 PKPdf 23 35 49.5 +0.6
OTAV Otavalo 163.67 68 *e*P PKPdf 23 35 47.1 -1.8
NORC Norcasia 163.71 45 *e*P PKPdf 23 35 46.3 -2.1
PAMC Pamplona, Colo 163.75 35 *e*P PKPdf 23 35 47.5 -1.5
BBAC Balboa, Cauca 163.96 60 *e*P PKPdf 23 35 47.0 -1.9
POPC Popayan, Colom 164.18 58 *e*P PKPdf 23 35 43.8 -5.3
SPBC San Pablo de B 164.19 43 *e*P PKPdf 23 35 47.0 -1.9
GCUF Volcan Galeras 164.26 63 *e*P PKPdf 23 35 48.7 -0.8
SOTA Rioblanco 164.45 59 *e*P PKPdf 23 35 48.3 -1.3
PCON Cinco Dias 164.53 58 *e*P PKPdf 23 35 49.3 -0.5
ORTC Ortega, Tolima 164.53 51 *e*P PKPdf 23 35 45.8 -3.3
ROSC El Rosal 164.60 46 PKP PKPdf 23 35 48.9 -0.8
comp=Z,4.6nm,0.4s,baz=65,slow=4.8,SNR=7.2
MARP Paez Belalcaza 164.61 55 *e*P PKPdf 23 35 48.5 -1.0
RUSC La Rusia 164.66 40 PKPab 23 36 44.7 -0.2
RUSC La Rusia 164.66 40 *e*P PKPdf 23 35 48.1 -1.7
PRAC Prado 164.93 50 *e*P PKPdf 23 35 47.6 -1.9
ATAH Atahualpa 165.00 95 PKP PKPdf 23 35 49.8 -0.2
comp=Z,8.7nm,0.8s,baz=234,slow=2.1,SNR=7.8
ATAH PKPab PKPab 23 36 46.2 -0.4
comp=Z,15nm,1.1s,baz=293,slow=5.2,SNR=1.6
CHIC Chingaza 165.16 45 *e*P PKPdf 23 35 48.3 -1.9
GARC Garzon, Huila 165.36 56 *e*P PKPdf 23 35 48.3 -1.8
NNA Nana 165.41 115 PKP PKPdf 23 35 49.5 -0.3
comp=Z,5.0nm,0.3s,baz=212,slow=7.1,SNR=4.5
FLOC Florencia 165.56 59 PKPab 23 36 48.9 +0.5
FLOC Florencia 165.56 59 *e*P PKPdf 23 35 48.7 -1.3
MNMC Minye Minye 165.63 155 PKPab PKPab 23 36 48.2 -0.5
MACC Macarena, Meta 166.72 53 *e*P PKPdf 23 35 48.7 -2.2
PTLC Puerto Leguiza 167.00 62 *e*P PKPdf 23 35 46.1 -5.0
LPAZ La Paz 168.79 156 PKP PKPdf 23 35 52.5 -0.5
comp=Z,19nm,1.2s,baz=225,slow=4.3,SNR=20
LPAZ PKPab PKPab 23 37 03.0 -0.1
comp=Z,11nm,1.0s,baz=120,slow=4.3,SNR=4.1
LPAZ PP PP 23 40 50.4 -0.6
comp=Z,12nm,1.2s,baz=224,slow=7.5,SNR=4.0
LPAZ La Paz 168.79 156 *e*P PKPdf 23 35 51.5 -1.5
SIV San Ignacio 169.87 192 PKP PKPdf 23 35 51.9 -1.0
comp=Z,27nm,1.2s,baz=220,slow=0.9,SNR=17
SIV PKPab PKPab 23 37 06.8 -0.2
comp=Z,37nm,1.2s,baz=174,slow=2.4,SNR=6.2
SIV PP PP 23 40 54.4 -1.0
comp=Z,17nm,1.2s,baz=197,slow=5.8,SNR=6.6
TBTG Tabatinga, AM 173.20 75 *e*P PKPdf 23 35 49.9 -4.7
PTGA Pitinga 173.74 327 PKP PKPdf 23 35 53.8 -1.0
comp=Z,1.2nm,0.5s,baz=318,slow=22,SNR=1.9

PTGA					PKPab	**PKPab**	**23 37 25.0**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=296,slow=22,SNR=1.8								
PTGA					PP	**PP**	**23 41 19.4**	**+4.2**
	comp=Z,0.9nm,0.2s,baz=15,slow=4.7,SNR=4.7								

*ISK **04** 23:29:17.7, 36°.70N × 27°.51E, h105km ± 1km, ML2.3/16*
*HLW **04** 23:29:17.8, 36°.36N × 27°.54E, h10km ± 20km, Md3.3, Ml3.6*
ISC 04 23:29:16.4±1.7, **36°.63N**±0°.08×**27°.44E**±0°.06, **h117**km ± 11km, **n22**, σ1§**29**/28, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.15**	**47**	PG	**Pn**	**23 29 33.2**	**+0.5**
NIS1	**Nisyros Isl.**	**0.21**	**263**	PG	**Pn**	**23 29 33.7**	**+1.0**
BODT	**Bodrum**	**0.45**	**346**	PG	**Pn**	**23 29 33.6**	**-0.1**
BODT				SG	**Sn**	**23 29 45.2**	**-1.6**
MRSB	**Marmaris-Mugla**	**0.61**	**82**	PG	**Pn**	**23 29 34.6**	**-0.2**
TURN	**Turunc**	**0.66**	**77**	PG	**Pn**	**23 29 35.4**	**+0.3**
TURN				SG	**Sn**	**23 29 47.8**	**-1.4**
ARG	**Arkhangelos**	**0.69**	**127**	PG	**Pn**	**23 29 36.2**	**+0.9**
ARG				SG	**Sn**	**23 29 49.4**	**-0.2**
MLSB	**Milas**	**0.72**	**22**	PG	**Pn**	**23 29 35.5**	**-0.1**
YER	**Yerkesik**	**0.84**	**53**	PG	**Pn**	**23 29 37.2**	**+0.5**
DALY	**Dalyan (Mula)**	**0.99**	**79**	PG	**Pn**	**23 29 39.0**	**+1.0**
DALY				SG	**Sn**	**23 29 53.6**	**-0.7**
FETY	**Fethiye**	**1.32**	**89**	PN	**Pn**	**23 29 41.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**15**	PN	**Pn**	**23 29 42.3**	**+0.1**
CAME	**Cameli-Denizli**	**1.52**	**78**	PN	**Pn**	**23 29 44.6**	**+0.5**
CAME				SN	**Sn**	**23 30 04.4**	**-0.7**
AKAS	**Kas**	**1.79**	**102**	PN	**Pn**	**23 29 47.5**	**+0.3**
ZKR	**Zakros**	**1.81**	**214**	PN	**Pn**	**23 29 49.9**	**+2.5**
ELL	**Elmali**	**1.98**	**86**	PN	**Pn**	**23 29 50.3**	**+0.7**
KORT	**Korkueli**	**2.36**	**80**	PN	**Pn**	**23 29 54.9**	**+0.5**
BASM	**Basmaki-Afyon**	**2.45**	**57**	PN	**Pn**	**23 29 55.9**	**+0.5**
IDI	**Anoyia**	**2.47**	**238**	PN	**Pn**	**23 29 57.7**	**+2.0**
SLUM	**Salum**	**5.45**	**201**	P	**Pn**	**23 30 36.2**	**+0.8**
	baz=203						
SLUM				S	**Sn**	**23 31 32.9**	**-4.0**
	baz=203						
SLUM				AMP		23 32 00.0	
	baz=203						
SWA2		**7.55**	**193**	P	**Pn**	**23 31 04.3**	**+0.5**
	baz=195						
SWA2				AMP		23 31 00.0	
	baz=195						
RYAN	**Fayoum**	**7.89**	**162**	P	**Pn**	**23 31 08.9**	**+0.5**
	baz=161						
HFRF	**Wahat Farafira**	**9.48**	**175**	P	**Pn**	**23 31 31.6**	**+1.6**
	baz=175						

*UPP **04** 23:38:46.1±0.0, 67°.85N × 20°.20E, h0km, ML2.2, Explosion*
HEL 04 23:38:46.6±0.1, **67°.86N** × **20°.22E**, **h0**km, **ML2.0, ML2.2**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.24**	**262**	P	Pg	23 38 50.7	-0.5
RATU				S	Sg	23 38 54.1	-0.2
RATU	**Laukkuluspa**	**0.24**	**262**	*i* P	Pg	23 38 50.7	-0.5
RATU				*i* S	Sg	23 38 54.1	-0.2
KOVU	**Salmi**	**0.37**	**357**	P	Pg	23 38 53.4	-0.3
KOVU	**Salmi**	**0.37**	**357**	*i* P	Pg	23 38 53.4	-0.3
NIKU	**Nikkaluokta**	**0.45**	**272**	P	Pg	23 38 54.7	-0.5
NIKU	**Nikkaluokta**	**0.45**	**272**	*i* P	Pg	23 38 54.7	-0.5
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	23 38 59.4	-0.5
LANU	**Lannavaara**	**0.70**	**73**	*e*P	Pg	23 38 59.3	-0.6
LANU				*e*S	Sg	23 39 08.7	-0.2
DUNU	**Dundret**	**0.75**	**169**	P	Pg	23 39 00.2	-0.7
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	23 39 00.2	-0.7
MASU	**Masugnsbyn**	**0.79**	**120**	P	Pg	23 39 01.0	-0.8
MASU	**Masugnsbyn**	**0.79**	**120**	*i* P	Pg	23 39 01.0	-0.8
KIF	**Kilpisjarvi**	**1.17**	**10**	*e*P	Pg	23 39 08.9	-0.2
KIF	**Kilpisjarvi**	**1.17**	**10**	*e*PB	Pg	23 39 08.8	-0.3
	baz=189						
KIF				MSG		23 39 24.2	
	comp=Z,13nm,0.2s						
KIF				*e*SB	Sg	23 39 24.7	+0.5
PAJU	**Pajala**	**1.40**	**125**	P	Pg	23 39 11.6	-1.7
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pg	23 39 11.5	-1.8
	baz=303						
PAJU				*e*SB	Sg	23 39 30.3	-1.0
HEF	**Hetta**	**1.40**	**65**	*e*P	Pn	23 39 12.2	-1.2
HEF	**Hetta**	**1.40**	**65**	*e*PG	Pn	23 39 12.1	-1.4
	baz=246						
HEF				MSG		23 39 29.4	
	comp=Z,14nm,0.2s						
HEF				*e*SN	Sn	23 39 33.8	+1.2
KLF	**Kolari**	**1.57**	**112**	*e*PG	Pn	23 39 14.7	-1.0
HARU	**Harads**	**1.73**	**170**	P	Pn	23 39 17.9	+0.1
HARU	**Harads**	**1.73**	**170**	*e*P	Pn	23 39 17.9	+0.1
TOF	**Tornio**	**2.41**	**136**	*e*PB	Pn	23 39 28.0	+0.9
TOF				MSG		23 39 55.8	
	comp=Z,6.8nm,0.2s						
TOF				*e*SG	Sb	23 40 00.1	-0.8
SJUU	**Sjulsmark**	**2.42**	**166**	P	Pn	23 39 27.9	+0.5
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	23 39 27.9	+0.5
SGF	**Sodankyl**	**2.45**	**97**	*e*PB	Pn	23 39 29.3	+1.5
ARA0	**ARCESS Array S**	**2.56**	**46**	*e*PB	Pn	23 39 30.3	+1.0
	baz=228						
ARA0				*e*SB	Sb	23 40 03.6	-1.8
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 39 31.2	+1.6
RNF				*e*SB	Sb	23 40 04.7	-1.2
KEV	**Kevo**	**3.12**	**49**	*e*PB	Pb	23 39 41.3	-1.5
KEV				MSG		23 40 19.1	
	comp=Z,3.1nm,0.2s						
KEV				*e*SB	Sb	23 40 19.9	-1.5
BURU	**Burvik**	**3.32**	**171**	*e*P	Pn	23 39 41.1	+1.4
VRF	**Varrio**	**3.57**	**87**	*e*PG	Pb	23 39 49.9	-0.6
	baz=270						

KRSC 04 23:38:54.4±1.1, **53°.76N** × **167°.71E**, **h42**km ± 29km, **ML3.7, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.77**	**326**	*e*P	Pn	23 39 23.7	+1.3
MKZ	**Mys Kozlova**	**3.60**	**285**	*e*P	Pn	23 39 50.9	+3.3
MKZ				*e*S	Sn	23 40 34.5	+5.6
KZV	**Kizimen**	**4.54**	**290**	*e*P	Pn	23 40 04.2	+3.6
KZV				*e*S	Sn	23 40 57.1	+5.0
BZGR	**Bezymyannyi-Gr**	**4.61**	**301**	*e*P	Pn	23 40 05.8	+4.3
SPN	**Mys Shipunski**	**4.64**	**265**	*e*P	Pn	23 40 05.9	+4.0
SPN				*e*S	Sn	23 40 58.7	+4.2
KMNR	**Kamenistaya**	**4.77**	**298**	*e*P	Pn	23 40 08.3	+4.6
SRDR	**Sredinnyy**	**5.26**	**302**	*e*P	Pn	23 40 15.1	+4.6
SDLR	**Sedlovina**	**5.29**	**268**	*e*P	Pn	23 40 15.3	+4.4
UGLR	**Uglovaya**	**5.34**	**268**	*e*P	Pn	23 40 16.2	+4.7
SMAR	**Somma**	**5.34**	**268**	*e*P	Pn	23 40 16.3	+4.6
AVH	**Avacha**	**5.38**	**268**	*e*P	Pn	23 40 17.3	+5.2
KOK	**Koryaka**	**5.43**	**269**	*e*P	Pn	23 40 17.5	+4.6
RUS	**Russkaya**	**5.70**	**260**	*e*P	Pn	23 40 20.3	+3.9
GNL	**Ganaly**	**5.80**	**273**	*e*P	Pn	23 40 22.9	+5.0
KRMR	**Karymshinskiy**	**5.82**	**265**	*e*S	Sn	23 41 28.9	+5.4
MTVR	**Mutnovka**	**5.88**	**261**	*e*P	Pn	23 40 23.8	+4.8
MTVR				*e*S	Sn	23 41 29.8	+4.7
GRL	**Gorelyy**	**5.92**	**262**	*e*P	Pn	23 40 24.7	+5.1
ASAK	**Asacha**	**6.07**	**261**	*e*P	Pn	23 40 26.7	+5.1
KDTR	**Khodutka, Kamc**	**6.16**	**255**	*e*P	Pn	23 40 27.2	+4.5
KDTR				S	Sn	23 41 35.4	+3.5

JMA 04 23:52:13.6, 33°.74N × 135°.07E, h40km ± 1km, **M4.2, 3C-6D Broadband fault plane solution: P waves. NP1:** ϕ_s217.00000°, δ66.00000°, λ-1.00000°. **NP2:** ϕ_s308.00000°, δ89.00000°, λ-156.00000°. **Principal axes:** T Plg16.0000°, Azm80.0000°; N Plg66.0000°, Azm309.0000°; P Plg17.0000°, Azm175.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.26**	**65**	§P	Pn	23 52 21.3	-0.2
JWM				S	Sn	23 52 26.7	-0.2
JTNC	**Tanabenakahech**	**0.46**	**80**	§P	Pn	23 52 23.7	-0.1
JTNC				S	Sn	23 52 30.7	-0.3
JAI	**Aioi**	**0.52**	**276**	↑P	Pn	23 52 24.6	0.0
JAI				S	Sn	23 52 32.3	0.0
JWY	**Kouya**	**0.65**	**42**	§P	Pn	23 52 26.2	-0.2
JWY				S	Sn	23 52 35.0	-0.5
JAWN	**Awajishima-nag**	**0.76**	**349**	§P	Pn	23 52 27.9	+0.1
JAWN				S	Sn	23 52 38.1	0.0
JMN	**Monobe**	**0.99**	**270**	↑P	Pn	23 52 30.9	-0.2
JMN				*e*S	Sn	23 52 43.3	-0.6
JHE	**Heguri**	**1.04**	**29**	§P	Pn	23 52 31.7	-0.1
JHE				S	Sn	23 52 45.1	-0.1
JKN2	**Miekihoku**	**1.12**	**63**	P	Pn	23 52 31.9	-0.8
JKN2				S	Sn	23 52 46.5	-0.4
JJS	**Sakaide**	**1.14**	**304**	↑P	Pn	23 52 33.0	0.0
JJS				S	Sn	23 52 46.7	-0.8
JKS	**Kasai**	**1.25**	**351**	§P	Pn	23 52 34.6	0.0
MAT	**Matsushiro**	**3.80**	**42**	P	Pn	23 53 10.8	+1.2
MAT				*e*S	Sn	23 53 54.5	+1.4

*IDC **05** 00:09:03.6±4.5, 36°.83N × 72°.27E, h180km ± 47km, mb3.6/2, mb1 3.7/4, mb1mx3.1/36, mbtmp4.1/4, MS4.3/1, Ms1 4.3/1, ms1mx3.4/29 Error ellipse: s-maj=95.2km s-min=29.1km az=133.0*
*NEIC **05** 00:09:08.0±2.8, 37°.31N±0°.08×72°.2E±0°.1, h241km ± 5km, mb4.1/4, Error ellipse: s-maj=13.0km s-min=11.2km az=136.0*
*BJI **05** 00:09:07.8±0.0, 37°.18N × 72°.20E, h244km, mB5.0/5, mb4.7/5*
*NNC **05** 00:09:14.8±4.1, 37°.72N × 71°.97E, h226km ± 40km, mb2.8, mpv4.2, Error ellipse: s-maj=37.3km s-min=25.0km az=13.0*
ISC 05 00:09:07.7±0.7, **37°.27N**±0°.05×**72°.20E**±0°.05, **h200**km, **n53,** σ2§**45**/70, **mb4.5/4, 6C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.23**	**352**		**Pn**	**00 09 52.9**	**+4.0**
DRK				S	**Sn**	**00 10 22.5**	**+1.4**
GAR	**Garm**	**2.28**	**320**	Pn	**Pn**	**00 09 52.5**	**+3.3**
GAR					**Sn**	**00 10 23.1**	**+1.4**
CHGR	**Chuyangaron**	**2.77**	**301**		**Pn**	**00 09 57.8**	**+3.1**
CHGR				S	**Sn**	**00 10 32.3**	**+0.8**
BTK	**Batken**	**2.98**	**339**	Pn	**Pn**	**00 10 00.9**	**+3.7**
BTK				S	**Sn**	**00 10 38.5**	**+2.5**
NIL	**Nilore**	**3.71**	**166**	Pn	**Pn**	**00 10 09.8**	**+3.7**
NIL					**Sn**	**00 10 53.3**	**+1.6**
KSH	**Kashi**	**3.72**	**52**	P	**Pn**	**00 10 04.2**	**-1.9**
KSH				S	Sn	00 10 43.9	-8.0
KSH				SMN			
	190nm,0.3s						
KSH				SME			
	150nm,0.2s						
KBL	**Kabul**	**3.74**	**224**	Pn	**Pn**	**00 10 10.1**	**+3.6**
KBL				S	**Sn**	**00 10 55.5**	**+3.1**
ARSB	**Arslanbob**	**4.09**	**8**	Pn	**Pn**	**00 10 12.9**	**+2.2**
ARSB				S	**Sn**	**00 11 01.0**	**+0.6**
TAS	**Tashkent**	**4.63**	**332**	Pn	**Pn**	**00 10 18.8**	**+1.5**
TAS				S	**Sn**	**00 11 11.5**	**-0.8**
AML	**Almayashu**	**4.99**	**13**	P	**Pn**	**00 10 25.1**	**+2.8**
	SNR=192						
EKS2	**Erkin-Say**	**5.52**	**12**	P	**Pn**	**00 10 31.6**	**+2.9**
	SNR=27						
AAK	**Ala-Archa**	**5.64**	**18**	P	**Pn**	**00 10 33.7**	**+3.3**
	SNR=29						
AAK	**Ala-Archa**	**5.64**	**18**	↑P	**Pn**	**00 10 32.6**	**+2.2**
	36nm,0.7s						
AAK				§S	**Sn**	**00 11 37.2**	**+1.4**
	16nm,0.4s						
AAK	**Ala-Archa**	**5.64**	**18**	Pn	**Pn**	**00 10 32.4**	**+2.0**
KBK	**Karagaybulak**	**5.78**	**21**	P	**Pn**	**00 10 35.7**	**+3.6**
	SNR=26						
FRU1	**Bishkek**	**5.84**	**18**	Pn	**Pn**	**00 10 35.0**	**+2.2**
ULHL	**Ulahol**	**5.87**	**31**	P	**Pn**	**00 10 36.1**	**+2.7**
	SNR=35						
BOOM	**Boomskoye usch**	**5.96**	**28**	Pn	**Pn**	**00 10 36.0**	**+1.6**
BOOM				S	**Sn**	**00 11 43.8**	**+0.7**
KK31	**Karatay Array**	**5.97**	**348**	↑P	**Pn**	**00 10 36.3**	**+1.9**
	1.5nm,0.2s,baz=161,slow=13,SNR=48						
KK31				§S	**Sn**	**00 11 40.6**	**-2.6**
	32nm,0.3s,baz=169,slow=20,SNR=30						
KK31	**Karatay Array**	**5.97**	**348**	Pn	**Pn**	**00 10 36.2**	**+1.7**
KK31				S	**Sn**	**00 11 40.8**	**-2.4**
KKAR	**Karatay Array**	**5.97**	**348**	Pn	**Pn**	**00 10 36.0**	**+1.6**
KKAR					**Sn**	**00 11 40.7**	**-2.4**
KKAR	**Karatay Array**	**5.97**	**348**	Pn	**Pn**	**00 10 35.9**	**+1.5**
KKAR				S	**Sn**	**00 11 40.6**	**-2.5**
DHRM	**DHARAMSHALA**	**6.04**	**145**	*e*P	**Pn**	**00 10 38.5**	**+2.8**
DHRM				*e*S	**Sn**	**00 11 44.9**	**-0.3**
DHRM				IAML		00 11 47.6	
	comp=E,157nm,0.6s						
CHMS	**Chumysh**	**6.05**	**18**	P	**Pn**	**00 10 38.2**	**+2.7**
	SNR=18						
KDJ	**Kajisay**	**6.19**	**37**	Pn	**Pn**	**00 10 39.3**	**+1.8**
TARG	**Taragay, Kyrgy**	**6.21**	**43**	Pn	**Pn**	**00 10 39.3**	**+1.2**
TKM2	**Tokmak 2**	**6.22**	**24**	P	**Pn**	**00 10 40.7**	**+2.9**
	SNR=16						
TKM2	**Tokmak 2**	**6.22**	**24**	↑P	**Pn**	**00 10 40.6**	**+2.7**
	comp=E,39nm,0.5s						
TKM2				↑S	**Sn**	**00 11 49.9**	**+0.6**
	comp=E,8.4nm,0.9s						
USP	**Ospenovka**	**6.24**	**16**	P	**Pn**	**00 10 40.0**	**+1.9**
	SNR=12						
PRZ	**Przheval'sk**	**7.06**	**41**	Pn	**Pn**	**00 10 49.6**	**+0.8**
SMLA	**Simla**	**7.38**	**145**	*e*P	**Pn**	**00 10 56.1**	**+3.3**
SMLA				*e*S	**Sn**	**00 12 14.4**	**-2.1**
SMLA				IAML		00 12 20.2	
	comp=N,39nm,0.7s						
SMLA				IAML		00 12 20.8	
	comp=E,47nm,0.5s						
HRA	**Herat**	**8.58**	**253**		**Pn**	**00 11 09.7**	**+1.0**
GEYT	**Alibeck**	**11.19**	**278**	S	**Sn**	**00 13 45.8**	**-1.3**
	comp=E,0.8nm,0.3s,baz=104,slow=22,SNR=3.3						
GEYT	**Alibeck**	**11.19**	**278**	Pn	**Pn**	**00 11 42.0**	**-0.3**
MAKZ	**Makanchi**	**11.98**	**34**	Pn	**Pn**	**00 11 51.1**	**-1.0**
MK31	**Makanchi Array**	**12.11**	**35**	P	**Pn**	**00 11 53.6**	**-0.2**
MKAR	**Makanchi Array**	**12.11**	**35**	P	**Pn**	**00 11 54.4**	**+0.6**
	comp=E,0.2nm,0.3s,baz=224,slow=12,SNR=13						
MKAR	**Makanchi Array**	**12.11**	**35**	Pn	**Pn**	**00 11 52.7**	**-1.1**
WMQ	**Urumqi**	**13.47**	**56**	*e*P	**Pn**	**00 12 12.4**	**+1.4**
AB31	**Akbulak array**	**14.91**	**327**	§P	**Pn**	**00 12 29.0**	**+0.3**
	comp=E,0.5nm,0.6s,baz=133,slow=12,SNR=11						
AB31				§S	S	00 15 06.5	-7.7
	comp=E,1.9nm,0.9s,baz=155,slow=22,SNR=5.3						
ABKAR	**Akbulak array**	**14.91**	**327**	P	**Pn**	**00 12 26.6**	**-2.1**
BRVK	**Borovoye**	**15.85**	**356**		**P**	**00 12 37.1**	**-2.6**
BRVK				IAmb	IAmb	00 12 43.4	
	comp=Z,3.8nm,0.9s						
AKTO	**Aktyubinsk**	**16.63**	**327**	↑P	**Pn**	**00 12 50.8**	**+1.5**
	comp=Z,1.1nm,0.6s						
AKTO				↑S	**S**	**00 15 47.6**	**-4.1**
	comp=Z,2.5nm,1.0s						
LSA	**Lhasa**	**17.50**	**110**	P	**P**	**00 12 55.3**	**-3.3**
LSA				IAmb	IAmb	00 12 56.6	
	comp=Z,6.6nm,0.5s						
ZAA0	**Zalesovo Array**	**18.82**	**24**	P	**P**	**00 13 10.0**	**-2.1**
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	**00 13 13.6**	**+1.5**
	comp=Z,2.4nm,0.3s,baz=226,slow=11,SNR=33						
ZALV				S	**S**	**00 16 42.0**	**+6.7**
	comp=Z,0.2nm,0.3s,baz=204,slow=17,SNR=1.6						
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	**00 13 09.9**	**-2.2**
SONM	**Songino Array**	**27.11**	**56**	P	**P**	**00 14 26.8**	**-5.3**
XAN	**Xi'an**	**29.90**	**85**	P	P	00 15 03.5	+6.8
XAN				sP	PP	00 16 17.8	+9.5
XAN				pmax	pmax		
	comp=Z,21nm,0.8s						
XAN				L	L		
	comp=Z,590nm,15.2s						
XAN				L	L		
	comp=Z,280nm,16.2s						
XAN				L	L		
	comp=Z,710nm,18.4s						
HHC	**Hu-ho-hao-te**	**30.60**	**71**	*e*P	**P**	**00 15 03.1**	**+0.2**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,6.6s						
ARCES	**ARCESS Array B**	**40.81**	**337**	P	**P**	**00 16 30.3**	**+1.2**
	comp=Z,6.0nm,1.2s,baz=97,slow=7.4,SNR=2.0						
ASAJ	**Asahikawa**	**52.34**	**59**	LR	LR	00 43 06.4	
	comp=Z,239nm,18.1s,baz=84,slow=39						
YKA	**Yellowknife Ar**	**80.43**	**3**	P	**P**	**00 20 57.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=357,slow=4.9,SNR=3.1						

*IDC **05** 00:11:01.8±1.7, 4°.57S × 143°.97E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/25, mbtmp4.0/6, MS3.9/2, Ms1 3.9/2, ms1mx3.3/35, Error ellipse: s-maj=64.0km s-min=24.6km az=114.0*
ISC 05 00:11:12.4±1.6, **4°.9S**±0°.3×**144°.2E**±0°.4, **h98**km, **n8,** σ0§**97**/6, **mb3.8**/6, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**21.14**	**207**	P	**P**	**00 15 50.4**	**+0.7**
	5.3nm,0.8s,baz=24,slow=12,SNR=33						
FITZ	**Fitzroy Crossi**	**22.40**	**233**	P	**P**	**00 16 02.2**	**-0.8**
	3.4nm,1.0s,baz=51,slow=14,SNR=2.1						
RAR	**Rarotonga**	**56.63**	**112**	LR	LR	00 41 11.7	
	comp=Z,115nm,18.8s,baz=294,slow=32						
PETK	**Petropavlovsk-**	**58.90**	**9**	P	**P**	**00 21 01.5**	**+0.5**
	2.0nm,0.7s,baz=179,slow=5.8,SNR=2.4						
MKAR	**Makanchi Array**	**74.89**	**321**	P	**P**	**00 22 43.5**	**+0.9**
	0.5nm,0.3s,baz=105,slow=7.5,SNR=10.0						
ZALV	**Zalesovo Beam**	**76.61**	**328**	P	**P**	**00 22 51.6**	**-0.6**
	1.5nm,0.5s,baz=121,slow=4.9,SNR=7.9						
ILAR	**Eielson Array**	**85.58**	**24**	P	**P**	**00 23 39.0**	**-0.6**
	0.5nm,0.5s,baz=262,slow=4.7,SNR=5.1						
GNI	**Garni**	**100.37**	**310**	LR	LR	01 15 03.9	
	comp=Z,53nm,19.1s,baz=304,slow=38						

*DJA **05** 00:30:24.0±0.8, 4°.N±6°×12°.6E±°, h108km ± 6km, M4.2/10, mb4.2/5, mB5.1/2, MLv4.2/10, Mw(mB)4.5/2*
ISC 05 00:30:21.4±1.3, **3°.91N**±0°.05×**126°.21E**±0°.08, **h107**km, **n13,** σ1§**55**/19, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.71**	**252**	P	**Pn**	**00 30 41.6**	**+2.0**
SGSI				S	**Sn**	**00 30 56.8**	**+3.5**
DDMP	**Don Marcelino,**	**2.24**	**347**	*e*P	**Pn**	**00 30 57.0**	**-0.4**
DDMP				*e*S	**Sn**	**00 31 24.1**	**-0.8**
SKMP	**Bagumbayan, Su**	**3.08**	**328**	*e*P	**Pn**	**00 31 08.0**	**-0.4**
SKMP				*e*S	**Sn**	**00 31 43.0**	**-1.6**
KCP	**Kidapawan**	**3.27**	**340**	§P	**Pn**	**00 31 12.6**	**+1.5**
TNTI	**Ternate**	**3.33**	**160**	P	**Pn**	**00 31 12.6**	**+0.9**
TNTI				S	**Sn**	**00 31 50.7**	**+0.1**
BUKP	**Musuan**	**4.11**	**344**	*e*P	**Pn**	**00 31 22.5**	**+0.2**
GTOI	**Gorontalo**	**4.56**	**225**	P	**Pn**	**00 31 28.5**	**+0.2**
GTOI				S	**Sn**	**00 32 18.3**	**-1.9**
LBMI	**Labuha**	**4.70**	**164**	P	**Pn**	**00 31 31.2**	**+1.0**
LBMI				S	**Sn**	**00 32 22.8**	**-0.8**
PAGZ	**Pagadian**	**4.82**	**324**	*e*P	**Pn**	**00 31 30.2**	**-1.6**
MRSI	**Marisa**	**5.46**	**231**	P	**Pn**	**00 31 41.5**	**+1.0**
	0.2nm47nm,0.6s						
SANI	**Sanana**	**5.92**	**182**	P	**Pn**	**00 31 44.4**	**-2.4**
	0.4nm2µm38nm,0.7s						
LUWI	**Luwuk**	**6.00**	**215**	P	**Pn**	**00 31 48.1**	**+0.3**
	0.3nm29nm,0.7s						
NLAI	**Namlea**	**7.16**	**173**	P	**Pn**	**00 32 02.6**	**-0.9**

*IDC **05** 00:31:58.8±0.6, 8°.59S × 158°.93E, h142km ± 6km, mb3.9/8, mb1 4.0/8, mb1mx3.8/27, mbtmp4.3/8, MS3.6/2, Ms1 3.6/2, ms1mx3.2/23, Error ellipse: s-maj=18.6km s-min=11.3km az=55.0*
*NEIC **05** 00:31:58.7±0.9, 8°.5S±0°.1×159°.0E±0°.2, h139km ± 8km, mb4.5/14, Error ellipse: s-maj=23.5km s-min=14.3km az=67.0*
ISC 05 00:31:59.2±0.6, **8°.57S**±0°.08×**159°.0E**±0°.1, **h150**km, **n32,** σ0§**89**/34, **mb4.2**/14, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.25**	**133**	P	**Pn**	**00 32 25.1**	**-1.1**
	423nm,0.3s,baz=220,slow=5.6,SNR=86						
HNR				S	**Sn**	**00 32 46.3**	**-0.6**
	924nm,0.3s,baz=348,slow=20,SNR=31						
HNR	**Honiara**	**1.25**	**133**		**Pn**	**00 32 25.4**	**-0.9**
HNR					**Sn**	**00 32 45.5**	**-1.5**
PMG	**Port Moresby**	**11.75**	**265**	LR	LR	00 38 59.1	
	comp=Z,202nm,19.2s,baz=216,slow=36						
PATS	**Pohnpei**	**15.32**	**357**		**P**	**00 35 28.4**	**-0.6**
PATS				IAmb	IAmb	00 35 39.7	
	comp=Z,35nm,1.0s						
EIDS	**Eidsvold**	**18.34**	**203**	P	**Pn**	**00 36 03.6**	**-0.5**
ARMA	**Armidale**	**22.81**	**197**	P	**P**	**00 36 51.1**	**+1.7**
ARMA				IAmb	IAmb	00 36 53.3	
	comp=Z,8.4nm,0.8s						
STKA	**Stephens Creek**	**28.29**	**213**	P	**P**	**00 37 38.5**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=49,slow=15,SNR=11						
STKA	**Stephens Creek**	**28.29**	**213**	IAmb	IAmb	00 37 42.1	
	comp=Z,0.7nm,1.1s						
AS31	**Alice Springs**	**28.34**	**235**	P	**P**	**00 37 38.7**	**-0.6**
AS31				IAmb	IAmb	00 37 41.8	
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**28.35**	**235**	P	**P**	**00 37 38.4**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=63,slow=9.8,SNR=29						
ASAR				PcP	**PcP**	**00 40 48.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=84,slow=2.8,SNR=2.3						
ASAR	**Alice

PMG	**Port Moresby**	**17.07 182**	Pn	**Pn**	**01 11 34.5**	**-0.5**
JCJ	**Chichijima**	**19.94 345**	LR	LR	01 18 13.6	
	comp=Z,66nm,21.2s,baz=118,slow=32					
H11S3	**WAKE ISLAND Hy 21.26**	**58**	T	T	01 34 57.9	
	baz=244,slow=75,SNR=50					
H11S2	**WAKE ISLAND Hy 21.27**	**58**	T	T	01 34 52.5	
	baz=244,slow=75,SNR=58					
H11S1	**WAKE ISLAND Hy 21.28**	**58**	T	T	01 34 51.9	
	baz=244,slow=75,SNR=33					
H11N1	**WAKE ISLAND Hy 22.01**	**55**	T	T	01 35 57.7	
	baz=241,slow=75,SNR=411					
H11N2	**WAKE ISLAND Hy 22.03**	**55**	T	T	01 35 58.9	
	baz=241,slow=75,SNR=255					
H11N3	**WAKE ISLAND Hy 22.03**	**55**	T	T	01 35 39.8	
	baz=241,slow=75,SNR=317					
WRA	**Warramunga Arr**	**30.55 205**	P	**P**	**01 13 48.1**	**-1.9**
	3.9nm,0.8s,baz=33,slow=8.0,SNR=5.3					
AS31	**Alice Springs**	**34.05 203**	P	**P**	**01 14 20.5**	**-0.2**
ASAR	**Alice Springs**	**34.05 203**	P	**P**	**01 14 18.8**	**-2.0**
	0.9nm,0.8s,baz=35,slow=7.2,SNR=8.2					
KSRS	**Korea Array**	**34.61 332**	P	**P**	**01 14 26.7**	**+1.3**
	1.2nm,0.6s,baz=144,slow=11,SNR=5.2					
STKA	**Stephens Creek**	**39.86 188**	P	**P**	**01 15 09.5**	**-0.5**
	2.0nm,0.7s,baz=16,slow=15,SNR=3.4					
FORT	**Forrest**	**42.73 205**	P	**P**	**01 15 33.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**48.59 288**	P	**P**	**01 16 21.1**	**+0.9**
	2.3nm,0.3s,baz=101,slow=6.0,SNR=3.0					
CMAR			LR	LR	01 38 02.2	
	comp=Z,28nm,18.6s,baz=90,slow=38					
SONM	**Songino Array**	**53.12 326**	P	**P**	**01 16 55.7**	**+1.6**
	1.5nm,0.4s,baz=123,slow=7.1,SNR=3.4					
SONM			LR	LR	01 39 06.6	
	comp=Z,91nm,19.2s,baz=342,slow=36					
SONM	**Songino Array**	**53.12 326**	P	**P**	**01 16 54.6**	**+0.5**
MKAR	**Makanchi Array**	**67.66 317**	P	**P**	**01 18 34.4**	**+0.9**
	1.4nm,0.6s,baz=102,slow=5.8,SNR=6.8					
MKAR	**Makanchi Array**	**67.66 317**	P	**P**	**01 18 34.2**	**+0.6**
MAKZ	**Makanchi**	**67.87 317**	P	**P**	**01 18 36.6**	**+1.7**
MAKZ			IAmb	IAmb	01 18 47.4	
	comp=Z,2.3nm,0.8s					
ZAA0	**Zalesovo Array**	**68.00 325**	P	**P**	**01 18 36.8**	**+1.4**
ZAA0			IAmb	IAmb	01 18 43.4	
	comp=Z,2.1nm,0.8s					
ZALV	**Zalesovo Beam**	**68.00 325**	P	**P**	**01 18 35.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=110,slow=6.4,SNR=2.1					
ZALV	**Zalesovo Beam**	**68.00 325**	P	**P**	**01 18 36.6**	**+1.1**
KDJ	**Kajisay**	**70.45 312**	P	**P**	**01 18 52.1**	**+0.9**
KDJ			IAmb	IAmb	01 19 03.7	
	comp=Z,2.5nm,0.9s					
IL31		**72.63 24**	P	**P**	**01 19 02.6**	**-1.0**
IL31			IAmb	IAmb	01 19 16.7	
	comp=Z,4.3nm,1.1s					
ILAR	**Eielson Array**	**72.63 24**	P	**P**	**01 19 02.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=254,slow=5.5,SNR=6.1					
ILAR	**Eielson Array**	**72.63 24**	P	**P**	**01 19 03.4**	**-0.3**
BVAR	**Borovoye Array**	**76.25 323**	P	**P**	**01 19 25.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=146,slow=13,SNR=2.6					
ARU	**Arti**	**83.15 326**	P	**P**	**01 20 03.1**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=86,slow=19,SNR=1.9					
YKA	**Yellowknife Ar**	**86.68 27**	P	**P**	**01 20 20.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=278,slow=5.0,SNR=1.7					
NVAR	**Mina Array Bea**	**88.29 52**	P	**P**	**01 20 28.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=254,slow=8.9,SNR=2.1					
LPAZ	**La Paz**	**143.93 107**	PKP	**PKPdf**	**01 27 13.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=271,slow=4.6,SNR=1.9					

*SOME **05** 01:07:59.8, 44˚.25N×83˚.30E, h20km*
*NNC **05** 01:08:04.2±1.2, 44˚.43N×82˚.96E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=11.9km s-min=4.9km az=129.0*

ISC 05 01:08:01.9±1.4, 44˚.33N±0˚.06×83˚.20E±0˚.07, h17km, n31, σ2s45/46, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.24**	**248**	*eP*	**Pb**	**01 08 41.5**	**-0.4**
	14nm,0.3s						
KTMS				*eS*	**Sg**	**01 09 11.6**	**-2.4**
	61nm,0.3s						
KTMS	**Ketmen**	**2.24**	**248**	Pg	**Pb**	**01 08 42.6**	**+0.6**
	14nm,0.3s						
KTMS				Lg	Lg	01 09 11.5	
	61nm,0.3s						
DJR	**Jarkent**	**2.45**	**271**	*eP*	**Pb**	**01 08 45.3**	**-0.2**
	10nm,0.2s						
DJR				*eS*	**Sg**	**01 09 17.5**	**-3.1**
	15nm,0.2s						
DJR	**Jarkent**	**2.45**	**271**	Pg	**Pb**	**01 08 46.4**	**+1.0**
	10nm,0.2s						
DJR				Lg	Lg	01 09 17.5	
	15nm,0.2s						
MK31	**Makanchi Array**	**2.55**	**346**	⇑Pn	**Pn**	**01 08 43.2**	**+0.7**
	0.8nm,0.3s,baz=170,slow=15,SNR=47						
MK31				⇑Lg	Lg	01 09 20.9	
	29nm,0.7s,baz=164,slow=29,SNR=21						
MAKZ	**Makanchi**	**2.63**	**341**	⇑Pn	**Pb**	**01 08 47.0**	**-1.5**
	2.3nm,0.5s						
MAKZ				⇑Lg	Lg	01 09 22.2	
	7.0nm,0.4s						
PDGK	**Podgornoye**	**2.87**	**251**	⇑Pn	**Pb**	**01 08 51.5**	**-1.1**
	7.8nm,0.8s						
PDGK				⇑Lg	Lg	01 09 28.9	
	18nm,0.5s						
KAPS	**Kapalarasan**	**2.90**	**291**	*eP*	**Pg**	**01 08 56.3**	**-1.2**
	5.8nm,0.2s						
KAPS				*eS*	**Sg**	**01 09 36.6**	**+1.6**
	15nm,0.4s						
KAPS	**Kapalarasan**	**2.90**	**291**	Pg	**Pb**	**01 08 53.6**	**+0.4**
	5.8nm,0.2s						
KAPS				Lg	Lg	01 09 30.0	
	15nm,0.4s						
SHLS	**Shalkode**	**2.95**	**248**	*eP*	**Pn**	**01 08 49.4**	**+1.3**
	11nm,0.2s						
SHLS				*eS*	**Sn**	**01 09 25.0**	**+1.8**
	89nm,0.2s						
SHLS	**Shalkode**	**2.95**	**248**	Pg	**Pn**	**01 08 50.8**	**+2.7**
	13nm,0.1s						
SHLS				Lg	Lg	01 09 24.9	
	89nm,0.2s						
UZB	**Uzynbulak**	**3.25**	**250**	*eP*	**Pb**	**01 08 58.3**	**-0.9**
	1.1nm,0.1s						
UZB				*eS*	**Sb**	**01 09 40.6**	**+2.1**
	12nm,0.2s						
UZB	**Uzynbulak**	**3.25**	**250**	Pg	**Pb**	**01 09 00.6**	**+1.4**
	1.1nm,0.1s						
UZB				Lg	Lg	01 09 42.9	
	12nm,0.2s						
ZSN	**Zaisan**	**3.33**	**20**	*eP*	**Pb**	**01 09 00.0**	**-0.5**
	8.4nm,0.2s						
ZSN				*eS*	**Sb**	**01 09 43.4**	**+2.6**
	20nm,0.4s						
ZSN	**Zaisan**	**3.33**	**20**	Pg	**Pb**	**01 09 01.6**	**+1.1**
	8.4nm,0.2s						
ZSN				Lg	Lg	01 09 43.2	
	20nm,0.4s						
KPKS	**Kokpek**	**3.38**	**257**	*eP*	**Pb**	**01 09 01.0**	**-0.3**
	19nm,0.2s						
KPKS				*eS*	**Sb**	**01 09 44.8**	**+2.7**
	52nm,0.4s						
TDK	**Taldyqorghan**	**3.49**	**283**	*eP*	**Pb**	**01 09 05.2**	**+2.1**
	23nm,0.2s						
TDK				*eS*	**Sg**	**01 09 51.9**	**-2.0**
	57nm,0.5s						
TDK	**Taldyqorghan**	**3.49**	**283**	Pg	**Pg**	**01 09 07.2**	**-1.5**
	23nm,0.2s						
TDK				Lg	Lg	01 09 52.1	
	57nm,0.5s						
SATY	**Saty**	**3.70**	**252**	*eP*	**Pb**	**01 09 06.4**	**-0.5**
	6.4nm,0.3s						
SATY				*eS*	**Sb**	**01 09 54.2**	**+2.7**
	14nm,0.2s						
SATY	**Saty**	**3.70**	**252**	Pg	**Pb**	**01 09 08.3**	**+1.5**
	6.4nm,0.3s						
SATY				Lg	Lg	01 09 54.1	
	14nm,0.2s						
KURS	**Kuram**	**3.73**	**259**	*eP*	**Pb**	**01 09 10.1**	**+2.8**
	4.9nm,0.4s						
KURS				*eS*	**Sg**	**01 10 01.1**	**-0.6**
	5.5nm,0.7s						
KURS	**Kuram**	**3.73**	**259**	Pg	**Pg**	**01 09 10.7**	**-2.7**
	4.9nm,0.4s						
KURS				Lg	Lg	01 09 58.0	
	6.1nm,0.3s						
ARXS	**Arharly**	**3.86**	**270**	*eP*	**Pb**	**01 09 10.3**	**+0.7**
	8.8nm,0.4s						
ARXS				*eS*	**Sg**	**01 10 01.4**	**-4.5**
	12nm,0.2s						
ARXS	**Arharly**	**3.86**	**270**	Pg	**Pb**	**01 09 12.2**	**+2.6**
	8.8nm,0.4s						
ARXS				Lg	Lg	01 10 01.4	
	12nm,0.2s						
MDOK	**Medeo**	**4.61**	**258**	*eP*	**Pb**	**01 09 24.5**	**+2.1**
	1.6nm,0.5s						
MDOK				*eS*	**Sg**	**01 10 25.4**	**-4.4**
	4.6nm,0.6s						
MDOK	**Medeo**	**4.61**	**258**	Pg	**Pg**	**01 09 26.4**	**-3.7**
	2.7nm,0.3s						
MDOK				Lg	Lg	01 10 26.4	
	4.6nm,0.6s						
KTBS	**Karatobe**	**4.74**	**265**	*eP*	**Pb**	**01 09 27.2**	**+2.6**
	1.7nm,0.5s						
KTBS				*eS*	**Sg**	**01 10 30.0**	**-4.0**
	10nm,0.4s						
KTBS	**Karatobe**	**4.74**	**265**	Pg	**Pb**	**01 09 28.3**	**+3.8**
	1.7nm,0.5s						
KTBS				Lg	Lg	01 10 29.9	
	10nm,0.4s						
KUU	**Kurty**	**4.96**	**267**	*eP*	**Pb**	**01 09 31.7**	**+3.4**
	2.0nm,0.4s						
KUU				*eS*	**Sg**	**01 10 37.2**	**-3.8**
	6.4nm,0.2s						
KUU	**Kurty**	**4.96**	**267**	Pg	**Pg**	**01 09 33.0**	**-3.8**
	2.0nm,0.4s						
KUU				Lg	Lg	01 10 37.0	
	6.4nm,0.2s						
MTBS	**Maitube**	**5.05**	**259**	*eP*	**Pb**	**01 09 33.8**	**+3.9**
	1.6nm,0.3s						
MTBS				*eS*	**Sg**	**01 10 41.6**	**-2.4**
	5.1nm,0.2s						

*NEIC **05** 01:18:22.0±0.6, 34˚.77N±0˚.10×137˚.9E±0˚.1, h270km±7km, mb4.0/12, Error ellipse: s-maj=15.3km s-min=11.7km az=143.0*
*JMA **05** 01:18:21.7±0.1, 34˚.80N×137˚.89E, h271km±2km, M3.4*
*IDC **05** 01:18:22.0±0.6, 34˚.88N×138˚.00E, h268km±8km, mb3.4/10, mb1 3.5/14, mb1mx3.3/38, mbtmp4.1/14, Error ellipse: s-maj=31.0km s-min=9.5km az=68.0*

ISC 05 01:18:21.8±0.6, 34˚.80N±0˚.06×137˚.86E±0˚.06, h269km±5km, n67, σ0s76/77, mb3.9/15, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHMK	**Hamakita**	**0.08**	**281**	S	**S**	**01 19 23.0**	**0.0**
JKKG	**Kakegawa**	**0.10**	**99**	P	**Pn**	**01 18 56.5**	**+0.4**
JKKS	**Kakegawashinom**	**0.12**	**115**	P	**Pn**	**01 18 56.7**	**+0.5**
JKKS				*eS*	**S**	**01 19 23.4**	**+0.1**
HMMJ	**Hamamatsu 2**	**0.12**	**296**	P	**Pn**	**01 18 56.3**	**+0.2**
HMMJ				S	**S**	**01 19 23.2**	**0.0**
JYZW	**Yoshizawa**	**0.22**	**333**	P	**Pn**	**01 18 56.4**	**+0.2**
JFNN	**Fujinakano**	**0.79**	**60**	P	**Pn**	**01 18 58.2**	**+0.4**
TK02	**Tokai 2**	**0.86**	**186**	P	**Pn**	**01 18 58.7**	**+0.8**
INU	**Inuyama**	**0.88**	**309**	Pn	**Pn**	**01 18 58.7**	**+0.5**
JYN	**Shimob**	**0.90**	**39**	P	**Pn**	**01 18 58.9**	**+0.6**
JYN				S	**S**	**01 19 27.6**	**+0.3**
JGF	**Kuroka**	**0.90**	**333**		**Pn**	**01 18 58.5**	**+0.2**
JIE	**Ise**	**1.03**	**247**	P	**Pn**	**01 18 59.5**	**+0.5**
JIE				S	**S**	**01 19 28.4**	**0.0**
JOD2	**Odawara 2**	**1.11**	**65**	P	**Pn**	**01 18 59.9**	**+0.5**
JOD2				S	**S**	**01 19 29.3**	**+0.2**
JYTA	**Yamagatataniai**	**1.21**	**311**	P	**Pn**	**01 19 00.4**	**+0.5**
JYTA				S	**S**	**01 19 30.5**	**+0.4**
TTO1	**TONANKAI O.B.S**	**1.47**	**217**	P	**Pn**	**01 19 02.3**	**+0.9**
JRY	**Ryogami san**	**1.48**	**35**	P	**Pn**	**01 19 02.7**	**+0.9**
JRY				S	**S**	**01 19 33.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.76**	**9**	P	**Pn**	**01 19 04.3**	**+0.5**
	2.9nm,0.3s,baz=191,slow=9.1,SNR=198						
MJAR				S	**S**	**01 19 35.4**	**-1.8**
	0.2nm,0.3s,baz=188,slow=16,SNR=12						
MAJO	**Matsushiro**	**1.76**	**9**	Pn	**Pn**	**01 19 03.9**	**+0.1**
MAT	**Matsushiro**	**1.76**	**9**	P	**Pn**	**01 19 04.3**	**+0.4**
MAT				S	**S**	**01 19 36.8**	**-0.4**
MAT	**Matsushiro**	**1.76**	**9**	P	**Pn**	**01 19 04.2**	**+0.4**
MAT				S	**S**	**01 19 37.1**	**-0.1**
JKG	**Kaga**	**1.93**	**320**	P	**Pn**	**01 19 05.6**	**+0.5**
JWT	**Wachi**	**2.07**	**284**	P	**Pn**	**01 19 06.9**	**+0.5**
JWT	**Wachi**	**2.07**	**284**	Pn	**Pn**	**01 19 06.6**	**+0.2**
JAG	**Ashikaga**	**2.08**	**38**	P	**Pn**	**01 19 06.1**	**-0.3**
JHJ	**Hachijo jima 2**	**2.32**	**136**	P	**Pn**	**01 19 08.8**	**+0.1**
	10nm,0.3s,baz=32,slow=12,SNR=1.6						
JHJ				S	**S**	**01 19 47.8**	**+1.8**
	36nm,0.3s,baz=66,slow=23,SNR=2.4						
JYT	**Yasato**	**2.38**	**53**	Pn	**Pn**	**01 19 09.4**	**+0.2**
BSO1	**Boso 1**	**2.58**	**92**	P	**Pn**	**01 19 10.0**	**-0.5**
BSO1				S	**S**	**01 19 49.4**	**+0.1**
JSZ	**Suzu**	**2.67**	**352**	P	**Pn**	**01 19 12.5**	**+0.5**
JSD	**Sado**	**3.25**	**6**	Pn	**Pn**	**01 19 18.5**	**+0.6**
JMN	**Monobe**	**3.46**	**253**		**Pn**	**01 19 19.8**	**-0.6**
JMM	**Marumori**	**3.87**	**37**		**Pn**	**01 19 24.4**	**-0.4**
JHS	**Saijyo**	**3.90**	**274**	Pn	**Pn**	**01 19 25.3**	**0.0**
JNU	**Nakatsue**	**6.04**	**256**	Pn	**Pn**	**01 19 50.8**	**0.0**
JTM	**Tenmabayashi**	**6.49**	**22**	Pn	**Pn**	**01 19 55.5**	**-0.8**
KSRS	**Korea Array**	**8.46**	**291**	P	**Pn**	**01 20 22.2**	**+1.4**
	0.7nm,0.3s,baz=107,slow=13,SNR=25						
KS19	**Wonju Array Si**	**8.52**	**291**		**Pn**	**01 20 21.4**	**-0.1**
JCJ	**Chichijima**	**8.53**	**153**	P	**Pn**	**01 20 18.7**	**-3.2**
	6.7nm,0.3s,baz=262,slow=14,SNR=1.8						
JCJ				S		01 21 47.0	-12
	33nm,0.3s,baz=287,slow=20,SNR=8.4						
USRK	**Ussuriysk Ar.**	**10.42**	**336**	P	**Pn**	**01 20 46.4**	**+1.2**
	baz=70,slow=13,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**12.69**	**15**	Pn	**Pn**	**01 21 12.0**	**-1.2**
CN2	**Changchun**	**13.14**	**317**	*eP*	Pn	01 21 09.2	-10
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**15.11**	**344**	P	**P**	**01 21 41.4**	**-0.1**
	baz=136,slow=11,SNR=8.0						
XAN	**Xi'an**	**23.85**	**276**	P	**P**	**01 23 10.3**	**-0.8**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN	**Xi'an**	**23.85**	**276**	P	**P**	**01 23 10.8**	**-0.4**
ENH	**Enshi**	**24.30**	**267**	P	**P**	**01 23 13.5**	**-1.7**
ULN	**Ulaanbaatar**	**26.36**	**309**	P	**P**	**01 23 34.1**	**+0.4**
ULN				IAmb	IAmb	01 23 39.2	
	comp=Z,5.2nm,0.6s						
SONM	**Songino Array**	**26.78**	**309**	P	**P**	**01 23 38.6**	**+1.3**
	comp=Z,2.2nm,0.5s,baz=120,slow=8.7,SNR=8.3						
SONM	**Songino Array**	**26.78**	**309**	P	**P**	**01 23 37.2**	**-0.1**
SONM				IAmb	IAmb	01 23 39.9	
	comp=Z,4.7nm,1.1s						
ZALV	**Zalesovo Beam**	**41.34**	**314**	P	**P**	**01 25 42.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=110,slow=7.6,SNR=7.3						
ZALV	**Zalesovo Beam**	**41.34**	**314**	P	**P**	**01 25 41.3**	**-0.1**
MK31	**Makanchi Array**	**42.90**	**304**	P	**P**	**01 25 54.2**	**+0.1**
MKAR	**Makanchi Array**	**42.90**	**304**	P	**P**	**01 25 55.0**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=88,slow=10.0,SNR=29						
MKAR	**Makanchi Array**	**42.90**	**304**	P	**P**	**01 25 54.7**	**+0.5**
MAKZ	**Makanchi**	**43.12**	**304**	P	**P**	**01 25 56.2**	**+0.4**
MAKZ				IAmb	IAmb	01 25 57.1	
	comp=Z,2.8nm,0.5s						
KDJ	**Kajisay**	**47.20**	**298**	P	**P**	**01 26 27.4**	**-0.7**
BRVK	**Borovoye**	**50.02**	**313**	P	**P**	**01 26 49.2**	**+0.1**
KK31	**Karatay Array**	**51.76**	**301**	P	**P**	**01 27 01.7**	**-0.4**
KK31				IAmb	IAmb	01 27 03.6	
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**51.76**	**301**	P	**P**	**01 27 01.4**	**-0.7**
CHGR	**Chuyangaron**	**54.02**	**296**	P	**P**	**01 27 17.6**	**-1.2**
ABKAR	**Akbulak array**	**57.17**	**310**	P	**P**	**01 27 41.0**	**+0.2**
ASAR	**Alice Springs**	**58.27**	**184**	P	**P**	**01 27 48.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=356,slow=4.7,SNR=12						
GEYT	**Alibeck**	**62.37**	**299**	P	**P**	**01 28 15.9**	**-0.4**
GEYT				IAmb	IAmb	01 28 17.2	
	comp=Z,12nm,1.9s						
ARCES	**ARCESS Array B**	**65.05**	**339**	P	**P**	**01 28 34.1**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=46,slow=6.6,SNR=1.3						
FINES	**FINESS Array B**	**69.42**	**332**	P	**P**	**01 29 01.0**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=61,slow=5.4,SNR=18						
KBZ	**Khabaz**	**70.14**	**310**	P	**P**	**01 29 06.3**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=100,slow=2.4,SNR=4.1						
AKASG	**Malin Array Be**	**74.26**	**321**	P	**P**	**01 29 29.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=50,slow=6.0,SNR=6.0						
AKASG	**Malin Array Be**	**74.26**	**321**	IAmb	IAmb	01 31 51.5	
	comp=Z,2.9nm,1.5s						
NOA	**NORSAR Array B**	**75.09**	**336**	P	**P**	**01 29 34.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=44,slow=5.6,SNR=2.2						
GERES	**GERESS Array B**	**83.03**	**327**	P	**P**	**01 30 17.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=51,slow=6.4,SNR=3.8						

*SKO **05** 01:29:28.9, 41˚.28N×22˚.74E, h15km*
*SOF **05** 01:29:33.5, 41˚.26N×22˚.73E, h8km, MD2.5*
*THE **05** 01:29:34.5, 41˚.26N×22˚.75E, h10km±1km, ML1.8/9, Error ellipse: s-maj=1.7km s-min=0.7km az=158.0*
*ATH **05** 01:29:34.6, 41˚.27N×22˚.75E, h8km±3km, ML1.9/7, Error ellipse: s-maj=3.5km s-min=1.6km az=140.0*

ISC 05 01:29:33.3±0.9, 41˚.29N±0˚.03×22˚.75E±0˚.02, h16km±6km, n32, σ0s46/48, 5C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.14**	**282**	⇑*i*Pg	**Pb**	**01 29 37.5**	**-0.1**
VAY				*i* Sg	**Sg**	**01 29 39.8**	**+0.1**
VAY				*e*Lg	Lg	01 29 40.0	
	comp=N,155nm,0.3s						
VAY				*e*Lg	Lg	01 29 40.7	
	comp=E,95nm,0.2s						
KNT	**Kendrikon**	**0.17**	**139**	P	**Pb**	**01 29 38.0**	**-0.1**
KNT				S	**Sg**	**01 29 40.3**	**-0.2**
KNT				AML	AML	01 29 40.5	
	comp=E,1991μm,0.1s						
KNT				AML	AML	01 29 41.0	
	comp=N,2604μm,0.1s						
KNT	**Kendrikon**	**0.17**	**139**	P	**Pb**	**01 29 38.0**	**-0.1**
KNT				S	**Sg**	**01 29 40.5**	**0.0**
	comp=N,1μm,0.1s						
KNT	**Kendrikon**	**0.17**	**139**	⇑*i*Pg	**Pb**	**01 29 38.0**	**-0.1**
KNT				*i* Sg	**Sg**	**01 29 40.5**	**0.0**
GRG	**Griva**	**0.43**	**218**	P	**Pb**	**01 29 42.5**	**0.0**
GRG				S	**Sg**	**01 29 48.1**	**+0.3**
	comp=N,172nm,0.3s						
GRG	**Griva**	**0.43**	**218**	⇑*i*Pg	**Pb**	**01 29 42.5**	**0.0**
STIP	**Stip**	**0.58**	**314**	⇑*i*Pg	**Pg**	**01 29 44.2**	**-0.6**
STIP				*i* Sg	**Sg**	**01 29 51.9**	**-0.7**
KKB	**Krupnik**	**0.63**	**23**	*i* Pg	**Pn**	**01 29 46.7**	**-0.9**
SOH	**Sokhos**	**0.66**	**136**	P	**Pb**	**01 29 46.6**	**+0.2**
SOH				S	**Sb**	**01 29 55.3**	**0.0**
SOH				AML	AML	01 29 57.5	
	comp=N,646μm,0.4s						
SOH				AML	AML	01 29 58.7	
	comp=E,477μm,0.2s						
SOH	**Sokhos**	**0.66**	**136**	P	**Pb**	**01 29 46.6**	**+0.2**
SOH				S	**Sb**	**01 29 55.7**	**+0.4**
	comp=E,228nm,0.3s						
THE	**Thessaloniki**	**0.68**	**166**	P	**Pb**	**01 29 46.7**	**0.0**
THE	**Thessaloniki**	**0.68**	**166**	P	**Pb**	**01 29 47.0**	**+0.2**
THE				S	**Sb**	**01 29 56.2**	**+0.3**
	comp=E,52nm,0.3s						
THE	**Thessaloniki**	**0.68**	**166**	⇑*i*Pg	**Pb**	**01 29 47.0**	**+0.2**
HORT	**Hortiatis**	**0.74**	**159**	P	**Pb**	**01 29 48.3**	**+0.4**
HORT				AML	AML	01 30 00.6	
	comp=E,139μm,0.3s						
HORT				AML	AML	01 30 03.5	
	comp=N,160μm,0.5s						
HORT	**Hortiatis**	**0.74**	**159**	P	**Pb**	**01 29 48.3**	**+0.4**
HORT				S	**Sn**	**01 29 59.2**	**-1.0**
	comp=N,75nm,0.4s						
MMB	**Musomiste**	**0.79**	**68**	*i* Pg	**Pn**	**01 29 49.8**	**-0.1**
NVR	**Nevrokopi**	**0.84**	**86**	P	**Pn**	**01 29 50.2**	**-0.4**
NVR				S	**Sn**	**01 30 01.8**	**-0.7**
NVR				AML	AML	01 30 04.7	
	comp=E,106μm,0.2s						
NVR				AML	AML	01 30 08.1	
	comp=N,106μm,0.2s						
NVR	**Nevrokopi**	**0.84**	**86**	P	**Pn**	**01 29 50.1**	**-0.4**
NVR				S	**Sn**	**01 30 02.1**	**-0.4**
	comp=N,55nm,0.2s						
PLG	**Polygyros**	**1.06**	**150**	P	**Pg**	**01 29 53.6**	**-0.2**
PLG				S	**Sn**	**01 30 08.4**	**+0.4**
PLG				AML	AML	01 30 10.9	
	comp=E,91μm,0.4s						
PLG				AML	AML	01 30 13.1	
	comp=N,88μm,0.4s						
PLG	**Polygyros**	**1.06**	**150**	P	**Pg**	**01 29 53.6**	**-0.2**
PLG				S	**Sn**	**01 30 08.5**	**+0.6**
	comp=N,45nm,0.4s						
FNA	**Florina**	**1.16**	**244**	P	**Pg**	**01 29 55.8**	**+0.2**
FNA				AML	AML	01 30 19.2	
	comp=N,34μm,0.5s						
FNA				AML	AML	01 30 19.6	
	comp=E,29μm,0.4s						
FNA	**Florina**	**1.16**	**244**	P	**Pg**	**01 29 55.9**	**+0.2**
FNA				S	**Sg**	**01 30 11.8**	**+1.0**
	comp=E,15nm,0.4s						
OUR	**Ouranopolis**	**1.34**	**135**	P	**Pg**	**01 29 59.2**	**+0.1**
KAVA	**Kavala**	**1.36**	**102**	P	**Pg**	**01 29 59.8**	**+0.2**
KAVA	**Kavala**	**1.36**	**102**	P	**Pg**	**01 29 59.9**	**+0.3**
KAVA				S	**Sg**	**01 30 17.4**	**+0.1**
	comp=E,48nm,0.6s						
VTS	**Vitosha**	**1.37**	**15**	*i* P	**Pg**	**01 30 00.3**	**+0.5**
VTS	**Vitosha**	**1.37**	**15**	*i* Pg	**Pg**	**01 30 00.3**	**+0.5**
RZN	**Rozhen**	**1.53**	**74**	P	**Pg**	**01 30 03.4**	**+0.7**
THAS	**Thassos island**	**1.64**	**114**	P	**Pg**	**01 30 04.4**	**-0.5**
THAS				AML	AML	01 30 27.5	
	comp=N,87μm,0.4s						
THAS				AML	AML	01 30 29.0	
	comp=

NVAR	**Mina Array Bea**	**62.82**	**62**	P		**P**	**01 49 28.3**	**0.0**
	comp=Z,0.1nm,0.4s,baz=297,slow=7.0,SNR=2.2							
FINES	**FINESS Array B**	**64.39**	**335**	P		**P**	**01 49 38.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=24,slow=6.0,SNR=8.8							
NOA	**NORSAR Array B**	**68.62**	**341**	P		**P**	**01 50 05.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=38,slow=7.5,SNR=8.7							
KBZ	**Khabaz**	**71.06**	**314**	P		**P**	**01 50 21.6**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=17,slow=2.8,SNR=3.9							
AKASG	**Malin Array Be**	**71.84**	**326**	P		**P**	**01 50 25.0**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=34,slow=6.1,SNR=12							
GNI	**Garni**	**72.69**	**310**	P		**P**	**01 50 29.9**	**-0.5**
GNI				IAmb		IAmb	01 50 54.3	
	comp=Z,5.5nm,1.1s							
BUR08	**Bucovina Ar. S**	**75.86**	**326**	P		**P**	**01 50 48.4**	**-0.2**
BUR08				IAmb		IAmb	01 50 51.9	
	comp=Z,5.9nm,1.4s							
BURAR	**Bucovina Array**	**75.88**	**326**	P		**P**	**01 50 48.2**	**-0.5**
BURAR				IAmb		IAmb	01 50 51.0	
	comp=Z,2.4nm,0.8s							
TXAR	**Lajitas Array**	**77.89**	**60**	P		**P**	**01 51 00.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=306,slow=3.8,SNR=5.0							
BRTR	**Keskin Array B**	**78.61**	**317**	P		**P**	**01 51 05.3**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=53,slow=5.6,SNR=2.9							
GERES	**GERESS Array B**	**78.80**	**334**	P		**P**	**01 51 06.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=35,slow=4.9,SNR=4.5							

*OMAN **05** 02:13:29.3±0.2, 28°.11N×55°.45E, h33km, mb4.9/2, ml3.6/10, Error ellipse: s-maj=6.9km s-min=2.8km az=254.0*
*DSN **05** 02:13:30.3±1.6, 27°.69N×55°.11E, h10km, ML3.0/7, Error ellipse: s-maj=43.9km s-min=11.9km az=55.0*
*TEH **05** 02:13:35.6, 27°.20N×55°.00E, h11km, ML3.6*
*THR **05** 02:13:36.3±0.3, 27°.38N×54°.94E, h18km±5km, ML3.4*
ISC 05 02:13:36.9±0.8, 27°.22N±0°.03×54°.98E±0°.03, h10km, n63, σ1§07/78, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.71**	**310**	*e*Pg	**Pg**	**02 13 49.0**	**-1.6**
LAR1				*e*		02 14 09.3	
	comp=Z,45μm,0.5s						
BNDS	**Bandar-Abbas**	**1.07**	**80**	*e*Pg	**Pg**	**02 13 56.9**	**-0.6**
BNDS				*e*Sg	**Sg**	**02 14 11.8**	**+0.3**
BNDS				IAML		02 14 17.8	
	comp=N,938nm,0.4s						
BNDS	**Bandar-Abbas**	**1.07**	**80**	*e*Pg	**Pg**	**02 13 56.9**	**-0.6**
GENO	**Geno**	**1.07**	**80**	*e*Pg	**Pg**	**02 13 57.0**	**-0.5**
GENO				*e*		02 14 21.9	
	comp=Z,14μm,0.4s						
IBND	**Bandar-abas**	**1.40**	**80**	*e*Pg	**Pn**	**02 14 02.3**	**-0.2**
IBND				*e*Sg	**Sg**	**02 14 23.6**	**+1.5**
SHME	**Shamm**	**1.56**	**138**	P	**Pn**	**02 14 02.9**	**-1.8**
SHME				S	**Sb**	**02 14 25.9**	**+0.4**
SHME	**Shamm**	**1.56**	**138**	*e*Pn	**Pn**	**02 14 03.6**	**-1.0**
SHME	**Shamm**	**1.56**	**138**	P	**Pn**	**02 14 03.7**	**-1.0**
SHME				S	**Sg**	**02 14 28.2**	**+1.3**
LMD1	**Lamerd**	**1.62**	**275**	*e*Sg	**Sg**	**02 14 31.6**	**+2.4**
LMD1				*e*Pg	**Pg**	**02 14 06.9**	**-1.2**
LMD1				*e*		02 14 44.7	
	comp=Z,11μm,0.7s						
BANOM	**Banah**	**1.74**	**137**	P	**Pn**	**02 14 05.6**	**-1.6**
BANOM				S	**Sg**	**02 14 32.8**	**-0.2**
BANOM	**Banah**	**1.74**	**137**	*e*Pn	**Pn**	**02 14 06.7**	**-0.6**
BANOM	**Banah**	**1.74**	**137**	P	**Pn**	**02 14 06.4**	**-0.8**
	SNR=18						
BANOM				S	**Sg**	**02 14 33.1**	**+0.1**
JHRM	**Jahrom**	**1.79**	**316**	*e*		02 14 41.5	
	comp=Z,8μm,0.6s						
JHRM				*e*Pg	**Pb**	**02 14 09.5**	**-0.4**
MASF	**Masafi**	**2.12**	**150**	P	**Pn**	**02 14 12.4**	**0.0**
	SNR=6.8						
MASF				S	**Sg**	**02 14 43.9**	**-1.0**
MSFE	**Esma-Masafi**	**2.13**	**150**	P	**Pn**	**02 14 12.0**	**-0.5**
MSFE				S	**Sg**	**02 14 43.6**	**-1.7**
MSFE	**Esma-Masafi**	**2.13**	**150**	*e*Pn	**Pn**	**02 14 12.9**	**+0.4**
QIR1	**Qir**	**2.13**	**307**	*e*Pn	**Pb**	**02 14 14.2**	**-1.4**
QIR1				*e*		02 15 04.3	
	comp=Z,6μm,0.5s						
MDH	**Madha**	**2.24**	**148**	P	**Pn**	**02 14 12.5**	**-1.6**
MDH	**Madha**	**2.24**	**148**	P	**Pn**	**02 14 13.9**	**-0.2**
MDH				S	**Sb**	**02 14 46.2**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.30**	**164**	P	**Pn**	**02 14 15.2**	**+0.4**
UOSS	**Minazif**	**2.51**	**154**	P	**Pn**	**02 14 16.2**	**-1.6**
UOSS	**Minazif**	**2.51**	**154**	*e*Pn	**Pn**	**02 14 17.5**	**-0.3**
UOSS	**Minazif**	**2.51**	**154**	P	**Pn**	**02 14 17.9**	**+0.1**
UOSS				S	**Sg**	**02 14 58.7**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.52**	**167**	P	**Pn**	**02 14 18.1**	**+0.2**
KHNJ	**Kahnooj**	**2.52**	**73**	*e*Pn	**Pn**	**02 14 17.7**	**-0.3**
HATD	**Hatta, Dubai**	**2.59**	**156**	P	**Pn**	**02 14 19.0**	**+0.1**
HATD	**Hatta, Dubai**	**2.59**	**156**	*e*Pn	**Pn**	**02 14 19.8**	**+0.9**
HATD	**Hatta, Dubai**	**2.59**	**156**	P	**Pn**	**02 14 19.0**	**+0.1**
HATD				S	**Sg**	**02 14 59.2**	**-1.0**
ASUD	**Al Ashush, Dub**	**2.60**	**173**	P	**Pn**	**02 14 20.1**	**+1.1**
ASUD				S	**Sg**	**02 15 03.1**	**+2.8**
ASHO	**Ashiyiah**	**2.70**	**159**	P	**Pn**	**02 14 20.1**	**-0.3**
ASHO	**Ashiyiah**	**2.70**	**159**	*e*Pn	**Pn**	**02 14 20.2**	**-0.2**
ASHO	**Ashiyiah**	**2.70**	**159**	P	**Pn**	**02 14 20.4**	**0.0**
	SNR=29						
NGRK	**Negar Kerman**	**2.87**	**32**	*e*Pn	**Pn**	**02 14 22.9**	**-0.1**
KRBR	**Kerman**	**3.17**	**29**	*e*Pn	**Pn**	**02 14 26.0**	**-1.1**
KRBR				*e*Sg	**Sb**	**02 15 11.7**	**-0.6**
KRBR	**Kerman**	**3.17**	**29**	*e*Pn	**Pn**	**02 14 26.0**	**-1.1**
TVBK	**TV Kerman**	**3.17**	**29**	*e*Pn	**Pn**	**02 14 27.0**	**-0.2**
TVBK				*e*		02 15 27.1	
	comp=Z,885nm,0.5s						
SOHO	**SOHO**	**3.37**	**155**	P	**Pn**	**02 14 27.0**	**-2.6**
KHGB	**Koh Gabri**	**3.41**	**22**	*e*Pn	**Pn**	**02 14 31.1**	**+0.7**
CHMN	**Cheshme madani**	**3.46**	**40**	*e*Pn	**Pn**	**02 14 32.4**	**+1.2**
CHMN				*e*		02 14 40.1	
	comp=Z,490nm,0.3s						
ARQ	**Araqi**	**4.11**	**160**	P	**Pn**	**02 14 39.7**	**0.0**
	SNR=9.7						
IMEH	**Mehriz**	**4.17**	**356**	*e*Pn	**Pn**	**02 14 41.4**	**+0.5**
IBAF	**Bafgh**	**4.39**	**7**	*e*Pn	**Pn**	**02 14 43.5**	**-0.3**
KLNJ	**Kolanjah**	**4.82**	**320**	*e*Pn	**Pn**	**02 14 49.8**	**+0.1**
ISAD	**Sadrabad**	**4.82**	**347**	*e*Pn	**Pn**	**02 14 50.7**	**+0.9**
SMDO	**Samad**	**4.98**	**145**	P	**Pn**	**02 14 52.4**	**+0.6**
SMDO				S	**Sn**	**02 15 51.6**	**+2.0**
ICHK	**Chekchek**	**5.04**	**354**	*e*Pn	**Pn**	**02 14 52.7**	**0.0**
IRAM	**Ramesheh**	**5.11**	**334**	*e*Pn	**Pn**	**02 14 53.7**	**0.0**
YZKH	**Yazd**	**5.17**	**356**	*e*Pn	**Pn**	**02 14 53.0**	**-1.3**
YZKH	**Yazd**	**5.17**	**356**	*e*Pn	**Pn**	**02 14 53.1**	**-1.3**
WBK	**Wadi Bani Khal**	**5.84**	**141**	P	**Pn**	**02 15 03.4**	**-0.2**
	SNR=8.6						
NASN	**Na'in**	**5.88**	**342**	*e*Pn	**Pn**	**02 15 02.6**	**-1.8**
NASN	**Na'in**	**5.88**	**342**	*e*Pn	**Pn**	**02 15 02.6**	**-1.8**
BSRN	**Basiran**	**5.95**	**36**	*e*Pn	**Pn**	**02 15 04.5**	**-0.7**
BSRN	**Basiran**	**5.95**	**36**	*e*Pn	**Pn**	**02 15 04.5**	**-0.7**
TPRV	**Parvadeh(Tabas**	**5.98**	**14**	*e*Pn	**Pn**	**02 15 05.7**	**+0.2**
IZEF	**Zefreh**	**6.11**	**339**	*e*Pn	**Pn**	**02 15 06.5**	**-1.0**
IPIR	**Pirpir**	**6.50**	**328**	*e*Pn	**Pn**	**02 15 13.4**	**+0.4**
SRVN	**Saravan**	**6.60**	**87**	*e*Pn	**Pn**	**02 15 14.4**	**+0.3**
IKLH	**Kolahrood**	**6.76**	**335**	*e*Pn	**Pn**	**02 15 17.7**	**+1.3**
MHTO	**MHTO**	**6.77**	**156**	P	**Pn**	**02 15 15.2**	**-1.2**
	SNR=6.1						
KRSH	**Karshahi**	**7.17**	**341**	*e*Pn	**Pn**	**02 15 21.3**	**-0.6**
ISFB	**Sefidab**	**7.50**	**342**	*e*Pn	**Pn**	**02 15 26.5**	**+0.1**
IDOB	**Doab**	**8.79**	**320**	*e*Pn	**Pn**	**02 15 46.5**	**+2.2**

*GCG **05** 02:49:39.8±0.5, 15°.05N×90°.65W, h175km±18km, MD3.7*
*SNET **05** 02:49:39.5±1.1, 13°.28N×89°.72W, h42km±14km, ML3.0*
ISC 05 02:49:40.7±1.8, 13°.29N±0°.07×89°.69W±0°.04, h33km±3km, n31, σ0§76/54, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.43**	**32**	*e*P	**Pb**	**02 49 50.2**	**-0.3**
JAYA				*e*S	**Sn**	**02 49 58.2**	**+0.7**
JAYA				IAML		02 49 59.8	
	comp=Z,4μm,0.2s						
SBLS	**San Blas**	**0.55**	**6**	*e*P	**Pn**	**02 49 51.7**	**-0.8**
SBLS				*e*S	**Sn**	**02 50 01.0**	**+0.4**
MAGS	**Ministerio de**	**0.56**	**44**	*e*P	**Pn**	**02 49 51.8**	**-0.6**
MAGS				*e*S	**Sn**	**02 50 00.8**	**+0.2**
PMON	**Piamonte**	**0.56**	**40**	*e*P	**Pn**	**02 49 51.7**	**-0.7**
PMON				*e*S	**Sn**	**02 50 01.6**	**+1.0**
SNJE	**San Jose**	**0.58**	**8**	*e*P	**Pn**	**02 49 52.1**	**-0.7**
CEDA	**San Andres**	**0.59**	**29**	*e*P	**Pn**	**02 49 52.0**	**-0.7**
CEDA				*e*S	**Sn**	**02 50 02.0**	**+0.8**
SNET	**Serv Nac Est T**	**0.60**	**48**	*e*P	**Pn**	**02 49 52.0**	**-0.9**
SNET				*e*S	**Sn**	**02 50 01.7**	**+0.2**
SNET				IAML		02 50 05.8	
	comp=Z,752nm,0.2s						
BOQS	**Boqueron**	**0.60**	**42**	*e*P	**Pn**	**02 49 52.5**	**-0.5**
BOQS				*e*S	**Sn**	**02 50 02.5**	**+0.8**
RTR	**El Retiro**	**0.61**	**4**	*e*P	**Pn**	**02 49 52.4**	**-0.8**
RTR				*e*S	**Sb**	**02 50 02.5**	**+0.7**
UEES	**Universidad Ev**	**0.61**	**45**	*e*P	**Pn**	**02 49 51.9**	**-1.2**
UEES				*e*S	**Sb**	**02 50 02.4**	**+0.7**
UEES				IAML		02 50 09.8	
	comp=Z,812nm,0.1s						
UTEC	**Universidad Te**	**0.63**	**49**	*e*P	**Pn**	**02 49 52.7**	**-0.6**
UTEC				*e*S	**Sb**	**02 50 02.4**	**+0.2**
LFRS	**El Faro**	**0.69**	**61**	*e*P	**Pn**	**02 49 53.5**	**-0.8**
LFRS				*e*S	**Sb**	**02 50 04.4**	**+0.3**
UNIC	**Universidad Ca**	**0.70**	**11**	*e*P	**Pn**	**02 49 53.6**	**-0.8**
UNIC				*e*S	**Sb**	**02 50 04.8**	**+0.5**
LFU	**La Fuente**	**0.72**	**50**	*e*P	**Pn**	**02 49 54.2**	**-0.5**
LFU				*e*S	**Sb**	**02 50 05.7**	**+0.9**
SJTE	**Alcalda de S**	**0.74**	**64**	*e*P	**Pn**	**02 49 54.2**	**-0.7**
SJTE				*e*S	**Sn**	**02 50 05.1**	**0.0**
SJTE				IAML		02 50 08.9	
	comp=Z,366nm,0.3s						
TACO	**Tacachico**	**0.75**	**25**	*e*P	**Pn**	**02 49 54.1**	**-1.0**
TACO				*e*S	**Sb**	**02 50 05.8**	**+0.2**
LBRS	**Las Brisas**	**0.77**	**54**	*e*P	**Pn**	**02 49 54.8**	**-0.5**
LBRS				*e*S	**Sb**	**02 50 06.3**	**+0.2**
PAVA	**Las Pavas**	**0.84**	**60**	*e*P	**Pn**	**02 49 56.0**	**-0.4**
PAVA				*e*S	**Sb**	**02 50 08.6**	**+0.4**
PAVA				IAML		02 50 11.0	
	comp=Z,601nm,0.4s						
COEG	**Centro de Oper**	**0.85**	**67**	*e*P	**Pn**	**02 49 56.0**	**-0.4**
TECO	**Alcaldia de Te**	**0.92**	**74**	*e*P	**Pn**	**02 49 56.0**	**-1.3**
UESV	**Universidad de**	**0.94**	**68**	*e*P	**Pn**	**02 49 57.1**	**-0.6**
UESV				IAML		02 50 14.2	
	comp=Z,296nm,0.4s						
COEB	**Comit de Eme**	**1.15**	**79**	*e*P	**Pn**	**02 49 59.5**	**-1.0**
MTO3	**Montecristo**	**1.15**	**16**	*e*P	**Pn**	**02 49 59.6**	**-1.1**
MTO3				IAML		02 50 00.0	
	comp=Z,77nm,0.2s						
TECA	**Tecapa**	**1.17**	**80**	*e*P	**Pn**	**02 49 59.9**	**-1.0**
PACA	**Pacayal**	**1.34**	**82**	*e*P	**Pn**	**02 50 03.4**	**+0.2**
PACA				*e*S	**Sn**	**02 50 21.0**	**+1.1**
JUCU	**Jucuarɨn**	**1.40**	**91**	*e*P	**Pn**	**02 50 03.7**	**-0.3**
JUCU				*e*S	**Sn**	**02 50 21.6**	**+0.2**
JUCU				IAML		02 50 26.0	
	comp=Z,162nm,0.3s						
PCG	**Pacaya**	**1.42**	**321**	*e*P	**Pn**	**02 50 06.0**	**+1.6**
PCG				*e*S	**Sb**	**02 50 24.5**	**-0.1**
NBG	**Las Nubes**	**1.44**	**334**	*e*P	**Pn**	**02 50 05.5**	**+0.7**
NBG				*e*S	**Sb**	**02 50 25.2**	**-0.2**
FUG	**Fuego 3**	**1.61**	**316**	*e*P	**Pn**	**02 50 06.6**	**-0.4**
FUG				*e*S	**Sn**	**02 50 25.2**	**-1.5**
LCND	**La Caada**	**1.75**	**89**	*e*P	**Pn**	**02 50 08.2**	**-0.7**
LCND				*e*S	**Sn**	**02 50 31.0**	**+1.1**
LCND				IAML		02 50 33.9	
	comp=Z,182nm,0.3s						
CNCH	**Conchagua**	**1.80**	**90**	*e*P	**Pn**	**02 50 09.2**	**-0.4**

*ECX **05** 03:01:15.4±0.5, 30°.41N×114°.39W, h0km±9km, MD2.8, ML2.7*
*MEX **05** 03:01:16.0±0.3, 31°.74N×114°.36W, h5km, MD3.8*
ISC 05 03:01:17.0±1.3, 31°.2N±0°.1×114°.38W±0°.06, h10km, n6, σ0§55/10, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.45**	**243**	*e*P	**Pn**	**03 01 28.8**	**-0.7**
SFX				⇑*e*		03 01 41.2	
SFX				IAML		03 01 41.2	
	comp=E,382nm,0.8s						
SPIG	**San Pedro Mart**	**0.95**	**258**	*e*P	**Pg**	**03 01 35.4**	**+0.2**
SPIG				*i* S	**Sn**	**03 01 50.6**	**+0.2**
SPIG	**San Pedro Mart**	**0.95**	**258**	*e*P	**Pg**	**03 01 35.5**	**+0.2**
SPIG				*e*S	**Sn**	**03 01 51.1**	**+0.7**
SPX	**San Pedro Mart**	**0.95**	**258**	*e*P	**Pg**	**03 01 35.5**	**+0.2**
SPX				*e*S	**Sn**	**03 01 51.2**	**+0.7**
SPX				*e*		03 01 53.4	
SPX				IAML		03 01 53.4	
	comp=E,134nm,0.7s						
SPX				IAML		03 01 53.7	
	comp=N,180nm,0.3s						
214A	**Organ Pipe Nat**	**1.52**	**62**	*e*P	**Pg**	**03 01 46.7**	**+0.6**
214A				*i* S	**Sn**	**03 02 03.7**	**-0.4**
GLA	**Glamis**	**1.84**	**348**	*e*S	**Sn**	**03 02 12.1**	**-0.1**

KMA 05 03:29:02.9±1.1, 37°.94N×127°.02E, h4km±8km, Error ellipse: s-maj=11.7km s-min=3.1km az=32.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDDC	**Dongducheon**	**0.05**	**142**	P	Pg	03 29 04.2	+0.2
	SNR=44						
KSDDC	**Dongducheon**	**0.05**	**142**	P	Pg	03 29 04.2	+0.2
	SNR=44						
YNCB	**YEONCHEON**	**0.13**	**324**	P	Pg	03 29 05.3	0.0
	SNR=11						
YNCB	**YEONCHEON**	**0.13**	**324**	P	Pg	03 29 05.3	0.0
	SNR=11						
KSCWO	**Cheorwon**	**0.42**	**70**	P	Pg	03 29 11.0	+0.1
	SNR=11						
KSCWO	**Cheorwon**	**0.42**	**70**	P	Pg	03 29 11.0	+0.1
	SNR=11						
KSCHC	**Chuncheon**	**0.65**	**104**	P	Pg	03 29 15.3	0.0
	SNR=21						
KSCHC	**Chuncheon**	**0.65**	**104**	P	Pg	03 29 15.3	0.0
	SNR=21						
SEHB	**SEOHWA**	**1.03**	**71**	P	Pg	03 29 22.5	-0.1
	SNR=8.5						
SEHB	**SEOHWA**	**1.03**	**71**	P	Pg	03 29 22.5	-0.1
	SNR=8.5						
KSDGY	**Daegwallycong**	**1.33**	**100**	P	Pn	03 29 26.0	-2.3
	SNR=10						

WEL 05 04:17:25.7±1.1, 36°.S±18°×177°.8E±2°.1, h184km±21km, M3.6/14, ML3.9/13, MLv3.6/14, Error ellipse: s-maj=0.0km s-min=0.0km az=127.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.80**	**179**	P	Pn	04 18 01.0	+0.2
MXZ				S	Sn	04 18 28.0	-0.3
HAZ	**Te Kaha**	**2.03**	**191**	P	Pn	04 18 03.3	+0.1
HAZ				S	Sn	04 18 32.6	0.0
WMGZ	**Waiomatatini S**	**2.06**	**177**	P	Pn	04 18 04.1	+0.6
PKGZ	**Pakihiroa**	**2.13**	**184**	P	Pn	04 18 04.7	+0.3
PKGZ				S	Sn	04 18 35.5	+0.8
RUGZ	**Raukumara Rang**	**2.25**	**192**	P	Pn	04 18 05.3	-0.5
RUGZ				S	Sn	04 18 36.3	-0.8
PUZ	**Puketiti**	**2.31**	**180**	P	Pn	04 18 06.9	+0.6
PUZ				S	Sn	04 18 37.5	-0.7
TWGZ	**Tauwhareparae**	**2.42**	**185**	P	Pn	04 18 08.4	+0.7
TWGZ				S	Sn	04 18 41.5	+1.0
MWZ	**Matawai**	**2.63**	**193**	P	Pn	04 18 10.3	+0.2
MWZ				S	Sn	04 18 45.5	+0.7
URZ	**Urewera**	**2.66**	**200**	P	Pn	04 18 10.2	-0.1
URZ				S	Sn	04 18 45.5	+0.3
TKGZ	**Te Karaka**	**2.69**	**187**	P	Pn	04 18 10.8	+0.1
TKGZ				S	Sn	04 18 45.4	-0.6
CNGZ	**Carnagh Statio**	**2.72**	**181**	P	Pn	04 18 11.2	+0.2
RTZ	**Ruatahuna**	**3.03**	**199**	P	Pn	04 18 14.5	-0.3
SNGZ	**Shannon Statio**	**3.10**	**193**	P	Pn	04 18 15.8	+0.1
SNGZ				S	Sn	04 18 56.2	+1.3
PRGZ	**Paritu Road**	**3.17**	**185**	P	Pn	04 18 15.9	-0.6
RAHZ	**Arahi**	**3.29**	**196**	P	Pn	04 18 17.2	-0.7
RAHZ				S	Sn	04 18 57.9	-1.0
MTMZ	**Maungataniwha**	**3.29**	**200**	P	Pn	04 18 17.9	-0.1
MHGZ	**Mahia Peninsul**	**3.40**	**185**	P	Pn	04 18 18.6	-0.6
NMHZ	**Naumai**	**3.52**	**199**	P	Pn	04 18 20.8	-0.2
NMHZ				S	Sn	04 19 05.7	+1.4
ARHZ	**Aropaoanui**	**3.64**	**196**	P	Pn	04 18 21.4	-0.8
BKZ	**Black Stump Fm**	**3.68**	**202**	P	Pn	04 18 22.3	-0.5
HIZ	**Hauiti**	**3.87**	**224**	P	Pn	04 18 27.8	+2.7
MCHZ	**McNeill Hill**	**3.88**	**198**	P	Pn	04 18 24.9	-0.4
MCHZ				S	Sn	04 19 12.8	+0.7
NTVZ	**North Tongarir**	**3.92**	**211**	P	Pn	04 18 25.9	0.0
TMVZ	**Te Maari**	**3.92**	**211**	P	Pn	04 18 25.8	-0.1
KWHZ	**Kaweka Forest**	**3.94**	**201**	P	Pn	04 18 25.5	-0.6
KWHZ				S	Sn	04 19 13.2	-0.3
WTVZ	**West Tongariro**	**3.96**	**212**	P	Pn	04 18 28.5	+2.0
NNVZ	**North Ngauruho**	**3.97**	**211**	P	Pn	04 18 26.8	+0.2
OTVZ	**Oturere**	**3.97**	**211**	P	Pn	04 18 26.4	-0.2
SNVZ	**South Ngauruho**	**4.00**	**211**	P	Pn	04 18 26.8	-0.2
TUVZ	**Tukino**	**4.07**	**210**	P	Pn	04 18 27.2	-0.6
BHHZ	**Black Hill Sta**	**4.11**	**204**	P	Pn	04 18 26.9	-1.4
BHHZ				S	Sn	04 19 17.1	-0.3
MOVZ	**Moawhango**	**4.15**	**208**	P	Pn	04 18 27.2	-1.6
MOVZ				S	Sn	04 19 17.4	-0.9
KRHZ	**Kereru**	**4.16**	**201**	P	Pn	04 18 27.4	-1.4
KRHZ				S	Sn	04 19 17.0	-1.4
KAHZ	**Kahuranaki**	**4.17**	**195**	P	Pn	04 18 27.7	-1.3
VRZ	**Vera Road**	**4.36**	**219**	P	Pn	04 18 36.0	+4.6
PXZ	**Pawanui**	**4.40**	**194**	P	Pn	04 18 30.0	-1.9
PXZ				S	Sn	04 19 20.4	-3.6
PNHZ	**Pukenui**	**4.45**	**201**	P	Pn	04 18 30.6	-2.0
PNHZ				S	Sn	04 19 22.4	-2.9
TSZ	**Takapari Road**	**4.66**	**202**	P	Pn	04 18 33.0	-2.3
PRHZ	**Porangahau**	**4.68**	**195**	P	Pn	04 18 33.4	-2.0
NEZ	**North Egmont**	**4.82**	**222**	P	Pn	04 18 39.8	+2.4
DVHZ	**Dannevirke**	**4.82**	**199**	P	Pn	04 18 34.7	-2.6
PKE	**Pukeiti**	**4.83**	**224**	P	Pn	04 18 40.9	+3.5
ANWZ	**Angora Road**	**4.90**	**196**	P	Pn	04 18 35.9	-2.4
ANWZ				S	Sn	04 19 31.5	-3.9
PRWZ	**Pori Road**	**5.11**	**200**	P	Pn	04 18 39.5	-1.6
PRWZ				S	Sn	04 19 35.3	-5.2
BFZ	**Birch Farm**	**5.16**	**197**	P	Pn	04 18 38.9	-2.8
BFZ				S	Sn	04 19 37.3	-4.3
MRZ	**Mangatainoka R**	**5.33**	**203**	P	Pn	04 18 40.9	-2.9
MRZ				S	Sn	04 19 39.7	-5.7
TIWZ	**Tintock**	**5.34**	**200**	P	Pn	04 18 41.3	-2.8
TIWZ				S	Sn	04 19 42.7	-3.2
TMWZ	**Te Maipa**	**5.65**	**199**	P	Pn	04 18 44.9	-3.2

*ISK **05** 04:31:33.9, 38°.89N×43°.59E, h19km, ML2.6/8*
*DDA **05** 04:31:34.8, 38°.90N×43°.55E, h7km±2km, ML2.5*
ISC 05 04:31:34.5±0.9, 38°.92N±0°.03×43°.58E±0°.04, h16km±6km, n13, σ0§56/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.07**	**355**	*i* P	**Pg**	**04 31 37.5**	**-0.4**
VMUR				IAML		04 31 40.0	
	comp=N,4μm,0.2s						
VMUR				IAML		04 31 40.0	
	comp=E,6μm,0.3s						
VMUR				*i* S	**Sg**	**04 31 40.7**	**+0.5**
CLDR	**Calderan**	**0.35**	**49**	*i* P	**Pg**	**04 31 41.1**	**-0.7**
CLDR				*i* S	**Sb**	**04 31 47.9**	**+0.1**
CLDR				IAML		04 31 49.0	
	comp=E,324nm,0.4s						
CLDR				IAML		04 31 49.0	
	comp=N,210nm,0.3s						
CLDR	**Calderan**	**0.35**	**49**	PG	**Pg**	**04 31 41.3**	**-0.5**
CLDR				SG	**Sb**	**04 31 47.9**	**+0.1**
VANB	**Van**	**0.35**	**205**	PG	**Pb**	**04 31 42.8**	**+0.3**
VANB				SG	**Sb**	**04 31 49.5**	**+1.6**
TVAN	**Van**	**0.41**	**199**	*i* P	**Pg**	**04 31 42.6**	**-0.3**
TVAN				*i* S	**Sb**	**04 31 49.6**	**0.0**
TVAN				IAML		04 31 50.0	
	comp=N,403nm,0.5s						
TVAN				IAML		04 31 53.0	
	comp=E,514nm,0.4s						
ADCV	**BITLIS_Adilcev**	**0.68**	**261**	*i* P	**Pg**	**04 31 47.3**	**-0.5**
ADCV				IAML		04 31 57.0	
	comp=E,324nm,0.5s						
ADCV				*i* S	**Sb**	**04 31 57.5**	**+0.3**
ADCV				IAML		04 31 58.0	
	comp=N,307nm,0.2s						
AKDM	**Akdamar-Van**	**0.75**	**219**	PG	**Pg**	**04 31 48.4**	**-0.8**
AKDM				SG	**Sb**	**04 31 59.6**	**+0.2**
AGRB	**Hanur-Agry**	**0.80**	**325**	PG	**Pg**	**04 31 49.9**	**-0.2**
AGRB				SG	**Sn**	**04 32 02.8**	**-0.2**
MLAZ	**Malazgirt-MUS**	**0.83**	**286**	PG	**Pg**	**04 31 50.7**	**0.0**
MLAZ				SG	**Sn**	**04 32 03.1**	**-0.7**
**KOT

σ2$\hat{9}$45/10, mb4.0/4, 2C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.54**	**14**	P	**Pn**	**05 24 52.2**	**+1.7**
	14nm,0.3s,baz=221,slow=22,SNR=22						
SIJI				S	**Sn**	**05 25 50.0**	**-3.0**
	10.0nm,0.3s,baz=266,slow=23,SNR=8.3						
FITZ	**Fitzroy Crossi**	**12.47**	**199**	P	**P**	**05 26 29.7**	**-2.6**
	0.6nm,0.3s,baz=30,slow=10,SNR=22						
FITZ				S	**Sn**	**05 28 42.8**	**+1.1**
	0.5nm,0.3s,baz=212,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**17.69**	**168**	P	**Pn**	**05 27 33.6**	**+3.0**
	0.5nm,0.3s,baz=348,slow=9.9,SNR=29						
ASAR				S	**Sn**	**05 30 45.0**	**-2.9**
	0.2nm,0.3s,baz=356,slow=27,SNR=5.0						
STKA	**Stephens Creek**	**27.68**	**158**	P	**P**	**05 29 09.9**	**+0.7**
	0.9nm,0.5s,baz=325,slow=8.6,SNR=4.5						
MSVF	**Nonsavu**	**48.26**	**108**	LR		05 52 19.8	
	comp=Z,207nm,19.1s,baz=175,slow=36						
MK31	**Makanchi Array**	**67.61**	**327**	⇑Pn	**P**	**05 34 17.4**	**+0.8**
	1.5nm,0.7s,baz=117,slow=7.7,SNR=8.8						
MK31				⇑Lg	Lg	05 35 49.7	
	1.3nm,0.8s,baz=113,slow=29,SNR=3.7						
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**05 34 18.2**	**+1.6**
	1.7nm,0.6s,baz=121,slow=7.7,SNR=11						
MAKZ	**Makanchi**	**67.79**	**327**	⇓Pn	**P**	**05 34 16.7**	**-1.0**
	1.1nm,0.7s						
MAKZ				⇓Lg	Lg	05 35 53.3	
	0.9nm,1.1s						

*IDC **05** 05:39:44.7±1.1, 32.77S×177.80W, h0km, mb4.1/4, mb1 4.3/6, mb1mx4.0/27, mbtmp4.2/6, ML4.2/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/20, Error ellipse: s-maj=32.5km s-min=25.4km az=104.0*
*WEL **05** 05:39:48.7±0.7, 33°S±7°×17°8W±1°7, h30km, M4.5/25, mB4.9/9, ML5.3/18, MLv4.9/25, Mw(mB)4.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=110.2*

ISC 05 05:39:48.6±1.0, 32.86S±0.07×177.8W±0.2, h35km, n42, σ1$\hat{9}$87/68, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.59**	**359**	P	**Pn**	**05 40 39.0**	**-2.8**
GLKZ				S	**Sn**	**05 41 21.0**	**-1.9**
RAO	**Raoul Island**	**3.60**	**359**	Pn	**Pn**	**05 40 40.3**	**-1.6**
	78nm,0.3s,baz=82,slow=22,SNR=1.7						
RAO				Sn	**Sn**	**05 41 21.4**	**-1.7**
	241nm,0.3s,baz=41,slow=23,SNR=5.9						
RIZ	**Raoul Island**	**3.60**	**358**	S	**Sn**	**05 41 21.0**	**-2.3**
MXZ	**Matakaoa Point**	**5.66**	**213**	P	**Pn**	**05 41 09.5**	**-0.8**
MXZ				S	**Sn**	**05 42 12.4**	**-1.6**
WMGZ	**Waiomatatini S**	**5.83**	**211**	P	**Pn**	**05 41 12.5**	**0.0**
WMGZ				S	**Sn**	**05 42 15.9**	**-2.1**
PKGZ	**Pakihiroa**	**6.03**	**213**	P	**Pn**	**05 41 15.4**	**0.0**
PKGZ				S	**Sn**	**05 42 23.1**	**-0.1**
HAZ	**Te Kaha**	**6.07**	**215**	P	**Pn**	**05 41 16.8**	**+1.0**
HAZ				S	**Sn**	**05 42 26.1**	**+2.2**
PUZ	**Puketiti**	**6.11**	**211**	P	**Pn**	**05 41 15.7**	**-0.6**
PUZ				S	**Sn**	**05 42 25.2**	**+0.2**
RUGZ	**Raukumara Rang**	**6.28**	**215**	P	**Pn**	**05 41 19.2**	**+0.3**
RUGZ				S	**Sn**	**05 42 30.2**	**+0.7**
TWGZ	**Tauwhareparae**	**6.31**	**212**	P	**Pn**	**05 41 19.5**	**+0.3**
TWGZ				S	**Sn**	**05 42 30.8**	**+0.6**
CNGZ	**Carnagh Statio**	**6.47**	**209**	P	**Pn**	**05 41 20.6**	**-0.8**
TKGZ	**Te Karaka**	**6.59**	**211**	P	**Pn**	**05 41 22.2**	**-0.7**
TKGZ				S	**Sn**	**05 42 35.7**	**-1.2**
MWZ	**Matawai**	**6.65**	**213**	P	**Pn**	**05 41 23.7**	**-0.1**
MWZ				S	**Sn**	**05 42 38.8**	**+0.5**
URZ	**Urewera**	**6.79**	**216**	Pn	**Pn**	**05 41 25.2**	**-0.4**
	1.5nm,0.3s,baz=301,slow=23,SNR=14						
URZ				Sn	**Sn**	**05 42 39.9**	**-1.8**
	3.8nm,0.3s,baz=122,slow=24,SNR=2.8						
URZ	**Urewera**	**6.79**	**216**	P	**Pn**	**05 41 25.9**	**+0.2**
URZ				S	**Sn**	**05 42 41.5**	**-0.2**
RAGZ	**Rawiri**	**6.83**	**213**	P	**Pn**	**05 41 26.1**	**-0.2**
PRGZ	**Paritu Road**	**6.98**	**209**	P	**Pn**	**05 41 26.9**	**-1.5**
SNGZ	**Shannon Statio**	**7.10**	**212**	P	**Pn**	**05 41 28.9**	**-1.0**
SNGZ				S	**Sn**	**05 42 48.4**	**-0.9**
MUGZ	**Murupara**	**7.13**	**217**	P	**Pn**	**05 41 30.6**	**+0.3**
MUGZ				S	**Sn**	**05 42 48.4**	**-1.7**
RTZ	**Ruatahuna**	**7.13**	**215**	P	**Pn**	**05 41 31.0**	**+0.5**
MHGZ	**Mahia Peninsul**	**7.17**	**208**	P	**Pn**	**05 41 29.1**	**-1.8**
MHGZ				S	**Sn**	**05 42 50.8**	**-0.3**
MTHZ	**Maungataniwha**	**7.38**	**214**	P	**Pn**	**05 41 34.0**	**+0.1**
MTHZ				S	**Sn**	**05 42 56.3**	**-0.1**
NMHZ	**Naumai**	**7.59**	**213**	P	**Pn**	**05 41 36.4**	**-0.5**
NMHZ				S	**Sn**	**05 43 01.1**	**-0.6**
ARHZ	**Aropaoanui**	**7.64**	**212**	P	**Pn**	**05 41 36.1**	**-1.3**
ARHZ				S	**Sn**	**05 43 01.7**	**-1.1**
BKZ	**Black Stump Fm**	**7.80**	**215**	P	**Pn**	**05 41 38.9**	**-0.7**
BKZ				S	**Sn**	**05 43 04.8**	**-1.9**
MCHZ	**McNeill Hill**	**7.92**	**212**	P	**Pn**	**05 41 40.6**	**-0.7**
MCHZ				S	**Sn**	**05 43 08.8**	**-0.9**
KWHZ	**Kaweka Forest**	**8.04**	**214**	P	**Pn**	**05 41 41.1**	**-1.8**
KWHZ				S	**Sn**	**05 43 10.0**	**-2.6**
KAHZ	**Kahuranaki**	**8.13**	**210**	P	**Pn**	**05 41 41.5**	**-2.7**
NTVZ	**North Tongarir**	**8.15**	**218**	P	**Pn**	**05 41 44.9**	**+0.3**
OTVZ	**Oturere**	**8.21**	**218**	P	**Pn**	**05 41 46.0**	**+0.7**
OTVZ				S	**Sn**	**05 43 14.9**	**-2.0**
SNVZ	**South Ngauruho**	**8.24**	**218**	P	**Pn**	**05 41 45.5**	**-0.3**
BHHZ	**Black Hill Sta**	**8.26**	**215**	P	**Pn**	**05 41 45.4**	**-0.5**
BHHZ				S	**Sn**	**05 43 15.0**	**-3.0**
MOVZ	**Moawhango**	**8.35**	**217**	P	**Pn**	**05 41 46.0**	**-1.2**
MOVZ				S	**Sn**	**05 43 15.5**	**-4.7**
PNHZ	**Pukenui**	**8.53**	**213**	P	**Pn**	**05 41 47.1**	**-2.6**
PNHZ				S	**Sn**	**05 43 20.7**	**-3.9**
BFZ	**Birch Farm**	**9.14**	**210**	P	**Pn**	**05 41 53.6**	**-4.4**
BFZ				S	**Sn**	**05 43 32.3**	**-7.3**
DZM	**Mont Dzumac**	**17.60**	**304**	LR	LR	05 49 14.0	
	comp=Z,291nm,19.8s,baz=226,slow=32						
CTA	**Charters Tower**	**34.41**	**283**	P	**P**	**05 46 35.4**	**+2.6**
	3.0nm,0.6s,baz=118,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**43.18**	**269**	P	**P**	**05 47 47.1**	**+0.8**
	2.1nm,0.7s,baz=109,slow=7.4,SNR=20						
QSPA	**South Pole Qui**	**57.26**	**180**	P	**P**	**05 49 34.9**	**+2.5**
	1.6nm,0.7s,baz=359,slow=1.1,SNR=12						
NVAR	**Mina Array Bea**	**89.94**	**43**	P	**P**	**05 52 45.9**	**+1.5**
	0.6nm,0.8s,baz=214,slow=5.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**122.87**	**313**	PKP	**PKiKP**	**05 58 41.1**	**+0.4**
	0.6nm,0.7s,baz=100,slow=2.1,SNR=4.9						
FINES	**FINESS Array B**	**147.49**	**339**	PKPbc	**PKPbc**	**05 59 28.8**	**+0.7**
	1.0nm,0.5s,baz=73,slow=4.7,SNR=9.1						

NEIC 05 05:43:33.0±1.8, 19.05N±0.06×70.42W±0.05, h83km±8km, mb4.0/7, Error ellipse: s-maj=9.9km s-min=5.0km az=205.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.47**	**323**		Pn	05 43 46.9	+0.1
SC01				Sn	Sn	05 43 57.9	+0.9
BANI	**BANI**	**0.66**	**175**		Pn	05 43 48.5	-0.1
SDD	**Santo Domingo**	**0.76**	**141**		Pn	05 43 48.6	-0.9
SDD				Sn	Sn	05 44 00.8	-1.0
SDDR	**Presa de Saban**	**0.82**	**265**		Pn	05 43 50.2	0.0
SDDR				Sn	Sn	05 44 04.3	+1.2
DR12	**Loma Pena Alta**	**1.02**	**105**		Pn	05 43 52.0	-0.5
PCDR	**Punta Cana, DR**	**2.01**	**105**	Pn	Pn	05 44 05.5	+0.5
LGNH	**Logne**	**2.14**	**256**		Pn	05 44 06.6	-0.1
JAKH	**Jacmel**	**2.14**	**248**	Pn	Pn	05 44 06.6	-0.3
GRTK	**Grand Turk**	**2.54**	**345**	Pn	Pn	05 44 11.3	-0.8
AGPR	**Aguadilla, PR**	**3.19**	**100**		Pn	05 44 20.9	-0.1
MPR	**Mayaguez**	**3.22**	**104**		Pn	05 44 21.6	+0.2
MLPR	**Magueyes Islan**	**3.38**	**108**	Pn	Pn	05 44 23.9	+0.4
AOPR	**Arecibo Observ**	**3.55**	**101**		Pn	05 44 26.5	+0.7
EMPR	**Esperanza - Ma**	**3.73**	**98**		Pn	05 44 27.5	-0.8
OBIP	**Obispado Ponce**	**3.76**	**105**	Pn	Pn	05 44 26.9	-1.7
ICMP	**Isla Caja de M**	**3.88**	**107**	Pn	Pn	05 44 28.7	-1.5
SJG	**San Juan**	**4.16**	**102**		Pn	05 44 34.6	+0.5
PDPR	**Patillas Dam,**	**4.30**	**103**	Pn	Pn	05 44 36.6	+0.6
CBYP	**Canovanas**	**4.40**	**99**		Pn	05 44 37.1	-0.3
HUMP	**Col San Antoni**	**4.43**	**101**		Pn	05 44 37.5	-0.3
GTBY	**Guantanamo Bay**	**4.51**	**282**	Pn	Pn	05 44 36.8	-2.1
MTP	**Monte Pirata**	**4.72**	**101**	Pn	Pn	05 44 42.0	+0.3
CDVI	**St. Croix**	**5.53**	**103**	Pn	Pn	05 44 53.3	+0.6
MTDJ	**Mount Denham**	**6.79**	**264**	Pn	Pn	05 45 09.4	-0.7
TOSP	**Speyside**	**12.26**	**128**	Pn	Pn	05 46 23.9	-0.7
BCIP	**Isla Barro Col**	**13.41**	**224**	Pn	Pn	05 46 38.1	-1.7
ROSC	**El Rosal**	**14.63**	**196**		Pn	05 46 55.0	-1.2
656A	**Willston**	**15.07**	**315**	Pn	Pn	05 46 58.1	-3.3
656A					IAmb	IAmb	05 47 00.6	
	comp=Z,43nm,1.2s						
CNNC	**Cliffs of the**	**17.43**	**339**	P	P	05 47 31.6	+0.8
BIRD	**Birdtown, Kers**	**17.91**	**332**		P	05 47 34.7	-1.4
BIRD					IAmb	IAmb	05 47 55.0	
	comp=Z,9.9nm,1.4s						
OTAV	**Otavalo**	**20.29**	**204**	P	P	05 48 03.3	+0.6
OTAV					IAmb	IAmb	05 48 08.8	
	comp=Z,12nm,1.4s						
TZTN	**Tazewell**	**20.90**	**329**	P	P	05 48 09.2	+0.5
TZTN					IAmb	IAmb	05 48 10.3	
	comp=Z,16nm,1.4s						
WVT	**Waverly**	**22.90**	**322**	P	P	05 48 29.6	-0.3

*IDC **05** 05:56:10.6±2.6, 53.61N×87.14E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.2/2, Error ellipse: s-maj=24.3km s-min=15.2km az=68.0*
*NNC **05** 05:56:10.1±2.2, 53.74N×87.20E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=19.1km s-min=8.2km az=43.0, Suspected Mining explosion.*

ISC 05 05:56:11.0±4.8, 53.8N±0.2×87.0E±0.3, h0km, n8, σ1$\hat{9}$30/10, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**279**	*i*		06 02 39.9	
	baz=104,slow=299,SNR=1.1						
ZAA0	**Zalesovo Array**	**1.31**	**279**	⇑P	**Pb**	**05 56 36.0**	**-0.5**
	0.9nm,0.6s						
ZAA0				⇓S	**Sn**	**05 56 56.2**	**+1.5**
	4.5nm,0.9s						
ZALV	**Zalesovo Beam**	**1.31**	**279**	Pg	**Pg**	**05 56 34.9**	**-1.2**
	0.7nm,0.3s,baz=103,slow=16,SNR=23						
ZALV				Lg	Lg	05 56 56.6	
	1.8nm,0.3s,baz=106,slow=26,SNR=20						
ZALV				Rg	Rg	05 57 04.0	
	34nm,1.1s,baz=98,slow=32,SNR=10						
KURBB	**Kurchatov Arra**	**6.09**	**242**	Pn	**Pn**	**05 57 42.6**	**+0.4**
	0.0nm,0.3s,baz=60,slow=14,SNR=6.3						
KURBB				Lg	Lg	05 59 24.7	
	0.0nm,0.3s,baz=54,slow=32,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.09**	**242**	⇓Pn	**Pn**	**05 57 43.6**	**+1.5**
	2.7nm,0.9s						
KURBB				⇑Lg	Lg	05 59 25.0	
	13nm,1.1s						
MK31	**Makanchi Array**	**7.60**	**205**	⇓Pn	**Pn**	**05 58 05.3**	**+2.3**
	0.9nm,0.8s,baz=22,slow=10,SNR=5.1						
MK31				⇓Sn	**Sn**	**05 59 30.0**	**+0.1**
	0.4nm,0.6s						
MK31				⇑Lg	Lg	06 00 10.6	
	5.2nm,1.0s,baz=33,slow=30,SNR=8.0						
MKAR	**Makanchi Array**	**7.60**	**205**	Pn	**Pn**	**05 58 02.6**	**-0.4**
	0.1nm,0.3s,baz=20,slow=12,SNR=7.4						
MKAR				Lg	Lg	06 00 08.7	
	0.1nm,0.3s,baz=33,slow=29,SNR=10						
MAKZ	**Makanchi**	**7.67**	**207**	⇑Pn	**Pn**	**05 58 04.0**	**+0.1**
	1.0nm,0.5s						
MAKZ				⇓Sn	**Sn**	**05 59 31.1**	**-0.4**
	2.3nm,1.1s						
MAKZ				⇑Lg	Lg	06 00 15.8	
	3.7nm,0.9s						

*TAP **05** 06:01:54.9, 24.61N×122.70E, h22km, ML2.7, C*
*JMA **05** 06:01:55.0±0.1, 24.56N×122.69E, h21km±1km, M2.3*

ISC 05 06:01:54.7±1.1, 24.59N±0.06×122.68E±0.02, h19km±2km, n27, σ0$\hat{9}$32/52, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**120**	P	**Pb**	**06 02 00.9**	**-0.1**
JYNG				S	**Sb**	**06 02 05.2**	**0.0**
YOJ	**Yonaguni jima**	**0.33**	**113**	P	**Pg**	**06 02 01.7**	**-0.1**
YOJ				*e*S	**Sg**	**06 02 06.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.33**	**113**	*i* P	**Pg**	**06 02 01.7**	**-0.1**
	baz=116						
YOJ				*i* S	**Sg**	**06 02 06.7**	**+0.1**
	baz=116						
TWB1	**Santiao Chiao**	**0.76**	**304**	P	**Pb**	**06 02 09.1**	**-0.1**
	baz=301						
TWB1				*i* S	**Sb**	**06 02 18.9**	**-0.3**
	baz=301						
TWC	**Suao**	**0.76**	**272**	*e*P	**Pb**	**06 02 08.5**	**-0.8**
	baz=269						
TWC				*e*S	**Sb**	**06 02 19.5**	**+0.3**
	baz=269						
EWUT	**Wuta**	**0.83**	**260**	*e*P	**Pb**	**06 02 10.3**	**-0.3**
	baz=258						
EWUT				*e*S	**Sb**	**06 02 20.9**	**-0.5**
	baz=258						
TIPB	**Shuangxi**	**0.87**	**296**	*e*P	**Pb**	**06 02 11.0**	**-0.1**
	baz=294						
NDS	**Dongshan**	**0.88**	**273**	*e*P	**Pb**	**06 02 11.2**	**-0.2**
	baz=271						
NDS				*e*S	**Sb**	**06 02 22.7**	**0.0**
	baz=271						
TWE	**Neicheng**	**0.93**	**278**	*e*P	**Pb**	**06 02 12.2**	**-0.1**
	baz=276						
TWE				*e*S	**Sb**	**06 02 24.4**	**+0.2**
	baz=276						
IRIF	**Iriomote-Funau**	**0.99**	**105**	P	**Pb**	**06 02 12.8**	**-0.4**
IRIF				S	**Sb**	**06 02 26.3**	**+0.4**
ENTT	**Nioudou**	**1.02**	**273**	*e*P	**Pn**	**06 02 14.0**	**0.0**
	baz=271						
ENTT				*e*S	**Sb**	**06 02 27.2**	**+0.5**
	baz=271						
NDT	**Datong Townshi**	**1.06**	**271**	P	**Pb**	**06 02 14.5**	**-0.1**
	baz=269						
NDT				*e*S	**Sn**	**06 02 28.9**	**-0.1**
	baz=269						
NACB	**Ninganchiao**	**1.07**	**248**	*e*P	**Pn**	**06 02 14.6**	**-0.2**
	baz=246						
NACB				*e*S	**Sb**	**06 02 28.8**	**+0.5**
	baz=246						
NWLT	**Wulai**	**1.09**	**280**	*e*P	**Pb**	**06 02 15.5**	**+0.5**
	baz=278						
NWLT				*e*S	**Sb**	**06 02 29.2**	**+0.4**
	baz=278						
HATJ	**Hateruma jima**	**1.15**	**117**	P	**Pn**	**06 02 15.6**	**-0.2**
HATJ				*e*S	**Sb**	**06 02 30.4**	**-0.2**
ETLH	**Xiulin Townshi**	**1.16**	**251**	*e*P	**Pn**	**06 02 16.0**	**0.0**
	baz=250						
ETLH				*e*S	**Sn**	**06 02 31.4**	**0.0**
	baz=250						
YHNB	**Yeheng**	**1.19**	**274**	*e*P	**Pb**	**06 02 17.4**	**+0.6**
	baz=272						
YHNB				*e*S	**Sb**	**06 02 31.8**	**-0.1**
	baz=272						
NNSB	**Datong**	**1.19**	**263**	*e*P	**Pb**	**06 02 16.9**	**+0.1**
	baz=261						
NNSB				*e*S	**Sn**	**06 02 32.6**	**+0.3**
	baz=261						
NNSH	**Datong**	**1.19**	**263**	*e*P	**Pb**	**06 02 16.8**	**0.0**
	baz=261						
NNSH				*e*S	**Sb**	**06 02 31.4**	**-0.5**
	baz=261						
NNS	**Nan Shan**	**1.20**	**263**	*e*P	**Pb**	**06 02 17.3**	**+0.3**
	baz=261						
NNS				*e*S	**Sb**	**06 02 31.8**	**-0.3**
	baz=261						
NSK	**Sanguang**	**1.21**	**274**	*e*P	**Pb**	**06 02 17.5**	**+0.5**
	baz=273						
NSK				*e*S	**Sb**	**06 02 32.1**	**-0.2**
	baz=273						
JKRS	**Kuro-shima**	**1.26**	**106**	P	**Pn**	**06 02 17.3**	**0.0**
JKRS				*e*S	**Sn**	**06 02 34.3**	**+0.6**
JIJ	**Ishigaki jima**	**1.35**	**99**	P	**Pn**	**06 02 18.7**	**+0.1**
JIJ				*e*S	**Sn**	**06 02 35.9**	**-0.1**
WHF	**Hehuan Shan**	**1.37**	**251**	*e*P	**Pb**	**06 02 20.2**	**+0.2**
	baz=250						
WHF				*e*S	**Sb**	**06 02 37.4**	**+0.2**
	baz=250						
CHGB	**Renai**	**1.47**	**249**	*e*P	**Pb**	**06 02 21.9**	**+0.3**
	baz=248						
CHGB				*e*S	**Sg**	**06 02 42.2**	**-0.3**
	baz=248						
JISG	**Ishigakijimahi**	**1.48**	**90**	P	**Pn**	**06 02 20.7**	**+0.3**
YULB	**Yu-li**	**1.74**	**227**	*e*P	**Pn**	**06 02 23.8**	**-0.2**
	baz=226						
YULB				*e*S	**Sn**	**06 02 46.1**	**+0.5**
	baz=226						

*SCEDC **05** 06:11:16.7, 35.86N×117.69W, h4km, Hypocentre not reviewed by the ISC*

*ANF **05** 06:11:16.1±0.1, 35.85N×117.69W, h12km±1km, ML3.3/31, Error ellipse: s-maj=0.9km s-min=0.8km az=65.0, Hypocentre not reviewed by the ISC*
*PAS **05** 06:11:16.7±1.5, 35.86N±0.01×117.69W±0.01, h4km±4km, ML3.3/106, ML2.9/30(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=81.0*

NEIC 05 06:11:16.9±1.6, 35.86N±0.01×117.68W±0.01, h8km±3km, Error ellipse: s-maj=1.6km s-min=1.6km az=78.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**125**		Pg	06 11 18.6	-0.5
WVPM	**Volcano Peak E**	**0.14**	**308**		Pg	06 11 19.7	-0.3
WCSM	**Coso Springs S**	**0.17**	**337**		Pg	06 11 20.3	-0.3
SRTC	**Snort**	**0.18**	**197**		Pg	06 11 20.6	0.0
WNMM	**Nine Mile Cany**	**0.18**	**263**		Pg	06 11 23.7	+3.1
WRVM	**Rose V. Centra**	**0.22**	**311**		Pg	06 11 21.2	-0.2
LRMC	**Laurel Mtn Rad**	**0.38**	**180**		Sg	06 11 29.8	+0.3
LRMC	**Laurel Mtn Rad**	**0.38**	**180**	P		06 11 24.0	
	baz=359,SNR=410						
LRMC				S		06 11 29.5	
	baz=359						
CCCA	**Chr Cany lake**	**0.43**	**142**		Pg	06 11 25.5	+0.3
WLHM	**Little Horse**	**0.59**	**300**		Sg	06 11 36.2	+0.2
DTP	**Desert Tortois**	**0.61**	**193**		Pg	06 11 28.1	-0.6
DTP					Sg	06 11 37.0	+0.3
CWC	**Cottonwood Cre**	**0.66**	**331**		Pg	06 11 29.3	-0.4
CWC	**Cottonwood Cre**	**0.66**	**331**	P		06 11 29.5	
	baz=151						
CWC				S		06 11 38.9	
	baz=151						
QSM	**Queen of Sheba**	**0.67**	**81**		Pg	06 11 29.4	-0.4
ISA	**Isabella, Lake**	**0.67**	**253**	Pg	Pg	06 11 29.4	-0.5
ISA				IAML		06 11 38.6	
	comp=N,918nm,0.4s						
ISA				IAML		06 11 40.5	
	comp=E,634nm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**253**		Sg	06 11 38.4	-0.3
ISA	**Isabella, Lake**	**0.67**	**253**	P		06 11 29.4	
	baz=72,SNR=382						
ISA				S		06 11 38.4	
	baz=72						
CGO	**Cerro Gordo**	**0.69**	**352**		Pg	06 11 29.7	-0.6
WASM	**Alta Sierra Ca**	**0.72**	**260**		Pg	06 11 30.3	-0.5
CCAC	**Calif City Air**	**0.76**	**201**		Pg	06 11 31.0	-0.5
CCAC					Sg	06 11 41.5	+0.1
MCA	**Marble Canyon**	**0.85**	**23**		Pg	06 11 32.4	-0.8
FURC	**Furnace Creek,**	**0.90**	**48**		Sb	06 11 46.6	-0.1
FURC	**Furnace Creek,**	**0.90**	**48**	P		06 11 34.1	
	baz=228,SNR=228						
FURC				S		06 11 46.5	
	baz=228						
WOFM	**Oak Flat**	**0.90**	**249**		Pg	06 11 33.5	-0.7
GSC	**Goldstone, Bar**	**0.91**	**128**		Pg	06 11 33.7	-0.7
GSC				IAML		06 11 49.2	
	comp=N,480nm,0.3s						
GSC				IAML		06 11 50.3	
	comp=E,667nm,0.6s						
GSC	**Goldstone, Bar**	**0.91**	**128**		Sg	06 11 46.2	0.0
GSC	**Goldstone, Bar**	**0.91**	**128**	P		06 11 33.7	
	baz=308,SNR=177						
GSC				S		06 11 46.2	
	baz=308						
SPG2	**Springville 2**	**0.94**	**291**		Pg	06 11 34.1	-0.8
HYS	**Haystack Butte**	**1.00**	**175**		Pg	06 11 35.2	-0.9
EDW2	**Edwards Air Fo**	**1.01**	**195**		Pg	06 11 35.3	-1.1
EDW2	**Edwards Air Fo**	**1.01**	**195**	P		06 11 35.2	
	baz=14,SNR=61						
EDW2				S		06 11 48.6	
	baz=14						
TEJ	**El Tejon**	**1.04**	**233**		Pg	06 11 35.7	-1.1
TPO	**Tropico Hills**	**1.08**	**205**		Pg	06 11 36.6	-1.0
RRX	**Edison Barstow**	**1.14**	**150**		Pn	06 11 38.9	-0.1
RRX	**Edison Barstow**	**1.14**	**150**	P		06 11 37.9	
	baz=330,SNR=25						
VES	**Vestal, Richgr**	**1.14**	**269**		Pg	06 11 38.0	-0.7
VES	**Vestal, Richgr**	**1.14**	**269**	P		06 11 37.9	
	baz=88,SNR=100						
VES				S		06 11 52.6	
	baz=88						
SHOC	**Shoshone, Teco**	**1.14**	**88**		Pb	06 11 38.9	+0.1
SHOC					Sb	06 11 54.2	+0.3
SHOC	**Shoshone, Teco**	**1.14**	**88**	P		06 11 38.1	
	baz=269,SNR=127						
SHOC				S		06 11 54.0	
	baz=269						
GRAC	**Grapevine Rang**	**1.16**	**13**		Pn	06 11 39.4	0.0
GRAC	**Grapevine Rang**	**1.16**	**13**	P		06 11 38.5	
	baz=193,SNR=67						
GRAC				S		06 11 54.8	
	baz=193						
SBB	**Saddle Back Bu**	**1.18**	**186**		Pb	06 11 38.5	-1.0
ARVC	**Arvin**	**1.19**	**232**		Pn	06 11 40.2	+0.5
ARVC	**Arvin**	**1.19**	**232**	P		06 11 39.0	
	baz=51,SNR=27						
TJR	**Tejon Ranch**	**1.20**	**226**		Pb	06 11 38.6	-1.3
THC	**Tehachapi Micr**	**1.25**	**220**		Pb	06 11 39.5	-1.2
TIN	**Tinemaha, Big**	**1.27**	**340**		Pg	06 11 41.4	+0.2
TIN	**Tinemaha, Big**	**1.27**	**340**	Pb		06 11 40.5	
	baz=160,SNR=21						
TIN				Sb		06 11 58.2	
	baz=160						
BAKC	**Calstate**	**1.27**	**246**		Sn	06 11 58.0	0.0
AMDNV	**

baz=18
BBRC Big Bear Solar 1.72 158 Pg 06 11 48.9
baz=339
PASC Pasadena Art C 1.74 194 Pn 06 11 47.8 +0.5
PSRC Puddingstone R 1.77 183 Pg 06 11 50.4 -0.5
CARC Carrizo Plain 1.85 253 Pb 06 11 50.4 -0.5
GTM Goat Mountain 1.91 145 Pb 06 11 52.2 +0.2
SMMC Simmler 1.96 254 Pb 06 11 51.7
baz=73
SMMC Sb 06 12 17.5
baz=73
GMRC Granite Mounta 1.97 122 Pn 06 11 49.1 -1.6
GMRC Granite Mounta 1.97 122 P 06 11 49.0
baz=304,SNR=16
GMRC Sb 06 12 18.3
baz=304
MLAC Mammoth, Mammo 1.99 333 Pb 06 11 53.9 +0.4
MLAC Mammoth, Mammo 1.99 333 Pg 06 11 54.1
baz=152
MLAC Sg 06 12 22.7
baz=152
PKM Mcpherson Peak 1.99 241 Pb 06 11 52.5
baz=60
PKM Sb 06 12 18.6
baz=60
BCH Branch Mountai 2.07 252 Pn 06 11 53.3 +1.3
BLAC Blackrock camp 2.08 149 Pn 06 11 51.9 -0.3
PAGB Antelope Grade 2.09 267 Pn 06 11 53.0 +0.8
PAGB IAML 06 12 33.1
comp=N,153nm,0.9s
PWMM Westland Maint 2.12 286 Pb 06 11 55.2 -0.3
SHPR Sheep Range 2.14 72 Pn 06 11 52.9 -0.1
SHPR IAML 06 12 26.7
comp=N,73nm,0.6s
SHPR IAML 06 12 32.1
comp=E,90nm,0.6s
TPH Tonopah 2.24 9 Pn 06 11 54.7 +0.4
POB Polly Butte 2.26 164 Pn 06 11 54.5 -0.1
MURC Murrieta 2.29 170 P 06 11 54.2
baz=350
BELC Belle Mtn. Jos 2.32 143 Pn 06 11 54.6 -0.8
BELC Belle Mtn. Jos 2.32 143 P 06 11 54.5
baz=324,SNR=14
PFO Pinyon Flats O 2.46 155 Pn 06 11 57.0 -0.4
PFO IAML 06 12 36.3
comp=E,45nm,0.4s
PFO IAML 06 12 40.6
comp=E,48nm,0.7s
PFO Pinyon Flats O 2.46 155 P 06 11 56.4
baz=336
LHV Little Huntoon 2.47 345 Pn 06 11 58.1 +0.7
LHV IAML 06 12 40.2
comp=E,50nm,0.5s
CIS Catalina Islan 2.53 194 P 06 11 57.2
baz=13
PMPB Monarch Peak 2.55 279 Pn 06 11 59.3 +0.8
MBUM Mount Bullion 2.56 312 Pb 06 12 02.3 -0.8
NV11 Mina Array Sit 2.59 352 Pn 06 11 59.6 +0.4
IRM Iron Mountain 2.69 129 P 06 11 58.8
baz=310,SNR=6.9
BRMM Rolling Bench 2.71 292 Pb 06 12 03.8 -1.8
NEE2 Needles Airpor 2.73 113 P 06 11 59.7
baz=294
BC3 Big Chuckawall 2.87 140 P 06 12 01.6
baz=321

JMA 05 06:11:47.2±0.1, 38.72N×142.25E, h38km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.58**	**309**	P	Pn		06 11 59.0	-0.1
OFUJ				S	Sn		06 12 07.1	-0.2
JKMT	**Kesennumamotoy**	**0.61**	**279**	P	Pn		06 11 59.5	0.0
JKMT				S	Sn		06 12 07.9	-0.2
JIKH	**Ishinomakikobu**	**0.74**	**237**	P	Pn		06 12 01.1	0.0
JIKH				S	Sn		06 12 10.7	-0.4
JIO	**Ouri**	**0.75**	**250**	P	Pn		06 12 01.2	-0.1
JIO				S	Sn		06 12 10.8	-0.7
JMK	**Ichinoseki**	**0.84**	**286**	P	Pn		06 12 02.8	+0.4
JMK				S	Sn		06 12 13.8	+0.2
JOM	**Ohasama**	**1.06**	**316**	P	Pn		06 12 06.1	+0.6
JOM				S	Sn		06 12 19.6	+0.6
JTH	**Tanohata**	**1.25**	**346**	P	Pn		06 12 08.4	+0.2
JOU	**Okura**	**1.29**	**255**	P	Pn		06 12 09.3	+0.6
JOU				S	Sn		06 12 26.1	+1.3
JRG	**Rokugo**	**1.43**	**299**	P	Pn		06 12 11.6	+1.0
JMM	**Marumori**	**1.43**	**234**	P	Pn		06 12 10.7	+0.1
JYK	**Kaneyama**	**1.49**	**278**	P	Pn		06 12 12.2	+0.8
MAT	**Matsushiro**	**3.88**	**237**	P	Pn		06 12 48.2	+4.0
MAT				*e*S	Sn		06 13 32.3	+3.8

KRSC 05 06:33:53.4±2.0, 50.32N×156.92E, h40km±19km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.63**	**306**	P	Pn		06 34 06.0	+0.1
SKR				S	Sn		06 34 14.8	+0.1
ALID	**Alaid**	**1.03**	**303**	P	Pn		06 34 11.0	-0.5
PAU	**Pauzhetka**	**1.15**	**357**	P	Pn		06 34 14.4	+1.4
PAU				S	Sn		06 34 29.6	+2.1
KDTR	**Khodutka, Kamc**	**1.66**	**26**	P	Pn		06 34 22.0	+2.0
KDTR				S	Sn		06 34 42.1	+2.0
ASAK	**Asacha**	**2.16**	**16**	P	Pn		06 34 29.7	+2.8
ASAK				S	Sn		06 34 54.3	+1.9
MTVR	**Mutnovka**	**2.31**	**20**	P	Pn		06 34 31.7	+2.7
MTVR				S	Sn		06 34 58.9	+2.7
RUS	**Russkaya**	**2.34**	**25**	P	Pn		06 34 31.1	+1.8
RUS				S	Sn		06 34 58.5	+1.7
GRL	**Gorelyy**	**2.35**	**17**	P	Pn		06 34 32.5	+2.9
GRL				S	Sn		06 35 00.4	+3.2
KRMR	**Karymshinskiy**	**2.63**	**16**	P	Pn		06 34 37.7	+4.5
KRMR				S	Sn		06 35 08.6	+4.8
PET	**Petropavlovsk**	**2.92**	**21**	S	Sn		06 35 13.3	+2.3
DALK	**Dalny**	**2.95**	**22**	P	Pn		06 34 40.8	+3.2
DALK				S	Sn		06 35 15.1	+3.4
UGLR	**Uglovaya**	**3.13**	**21**	P	Pn		06 34 44.7	+4.5
UGLR				S	Sn		06 35 21.6	+5.2
AVH	**Avacha**	**3.16**	**20**	P	Pn		06 34 45.3	+4.7
AVH				S	Sn		06 35 21.5	+4.4
KOK	**Koryaka**	**3.16**	**19**	P	Pn		06 34 45.8	+5.1
KOK				S	Sn		06 35 22.4	+5.2
SMAR	**Somma**	**3.17**	**21**	P	Pn		06 34 45.8	+4.9
SMAR				S	Sn		06 35 23.6	+6.0
KRER	**Koryakskii**	**3.20**	**20**	P	Pn		06 34 46.3	+5.0
KRER				S	Sn		06 35 23.7	+5.5
SDLR	**Sedlovina**	**3.21**	**22**	P	Pn		06 34 44.3	+3.0
SDLR				S	Sn		06 35 21.1	+2.8
KRX	**Arik**	**3.23**	**19**	P	Pn		06 34 46.7	+5.0
KRX				S	Sn		06 35 24.2	+5.3
SPN	**Mys Shipunski**	**3.39**	**34**	P	Pn		06 34 46.4	+2.7
SPN				S	Sn		06 35 25.3	+2.7
GNL	**Ganaly**	**3.44**	**10**	P	Pn		06 34 48.5	+4.0
MKZ	**Mys Kozlova**	**5.16**	**33**	P	Pn		06 35 09.9	+1.9

*NNC **05** 06:53:12.2±2.5, 53.71N×88.20E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=20.4km s-min=10.4km az=56.0, Suspected Mining explosion.*
*IDC **05** 06:53:13.6±2.7, 53.68N×88.03E, h0km, mb1 3.5/2, mb1mx3.2/37, mbtmp3.5/2, ML3.3/2, Error ellipse: s-maj=23.3km s-min=16.2km az=57.0*
ISC 05 06:53:13.8±3.7, 53.7N±0.1×88.0E±0.2, h0km, n8, σ1s27/13, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**278**	*i*			07 05 25.3	
baz=92,slow=305,SNR=1.6								
ZAA0	**Zalesovo Array**	**1.88**	**278**	⇑Pn		**Pn**	**06 53 46.7**	**-0.4**
7.1nm,0.8s								
ZAA0				⇑Sn		**Sg**	**06 54 14.7**	**+0.7**
21nm,0.8s								
ZALV	**Zalesovo Beam**	**1.88**	**278**	Pn		**Pn**	**06 53 47.1**	**-0.1**
6.1nm,0.3s,baz=100,slow=12,SNR=99								
ZALV				Lg		Lg	06 54 14.8	
19nm,0.3s,baz=93,slow=24,SNR=24								
KURBB	**Kurchatov Arra**	**6.59**	**245**	Pn		**Pn**	**06 56 52.6**	**+0.8**
0.7nm,0.3s,baz=62,slow=14,SNR=45								
KURBB				Sn		**Sn**	**06 56 06.8**	**-0.9**
0.1nm,0.3s,baz=69,slow=25,SNR=2.4								
KURBB				Lg		Lg	06 56 42.9	
0.1nm,0.3s,baz=66,slow=34,SNR=9.3								
KURBB	**Kurchatov Arra**	**6.59**	**245**	⇓Pn		**Pn**	**06 54 52.0**	**+0.1**
3.2nm,0.3s								
KURBB				⇑Sn		**Sn**	**06 56 07.6**	**-0.1**
7.1nm,0.6s								
KURBB				⇑Lg		Lg	06 56 47.2	
18nm,0.7s								
MK31	**Makanchi Array**	**7.85**	**210**	⇓Pn		**Pn**	**06 55 09.8**	**+0.6**
0.2nm,0.4s,baz=28,slow=14,SNR=17								
MK31				Sn		**Sn**	**06 56 40.6**	**+1.9**
0.5nm,0.4s,baz=35,slow=26,SNR=6.1								
MK31				⇓Lg		Lg	06 57 23.6	
4.2nm,0.8s,baz=19,slow=32,SNR=6.8								
MKAR	**Makanchi Array**	**7.85**	**210**	Pn		**Pn**	**06 55 09.8**	**+0.6**
0.4nm,0.3s,baz=28,slow=13,SNR=13								
MKAR				Sn		**Sn**	**06 56 35.6**	**-3.1**
0.2nm,0.3s,baz=20,slow=14,SNR=2.0								
MKAR				Lg		Lg	06 57 22.1	
0.2nm,0.3s,baz=44,slow=24,SNR=6.1								
MAKZ	**Makanchi**	**7.93**	**211**	⇓Pn		**Pn**	**06 55 10.1**	**-0.2**
0.7nm,0.7s								
MAKZ				⇑Sn		**Sn**	**06 56 40.2**	**-0.5**
0.9nm,0.5s								
MAKZ				⇑Lg		Lg	06 57 24.4	
6.0nm,1.0s								

*NOU **05** 07:27:41.3, 18.38S×177.90W, h314km, mb4.4, Fiji Islands Region*
*NEIC **05** 07:27:43.0±1.6, 18.0S±0.1×178.0W±0.1, h429km±6km, mb4.4/15, Error ellipse: s-maj=21.7km s-min=11.5km az=145.0*
*IDC **05** 07:27:46.0±1.1, 17.88S×178.28W, h466km±10km, mb3.5/6, mb1 3.8/7, mb1mx3.5/23, mbtmp4.3/7, Error ellipse: s-maj=26.0km s-min=13.4km az=149.0*
ISC 05 07:27:43.4±0.5, 17.89S±0.1×177.97W±0.08, h450km, n42, σ1s81/45, mb4.4/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.80**	**272**	P	P		**07 28 57.5**	**+0.5**
24nm,0.3s,baz=157,slow=23,SNR=109								
MSVF				S	S		**07 29 57.5**	**+0.8**
baz=138,slow=23,SNR=13								
AFI	**Afiamalu**	**7.15**	**57**	P	P		**07 29 26.3**	**-3.7**
7.9nm,0.3s,baz=260,slow=4.1,SNR=7.8								
AFI				S	S		07 30 48.0	-9.0
1.7nm,0.3s,baz=199,slow=21,SNR=1.5								
AFI	**Afiamalu**	**7.15**	**57**		P		**07 29 26.6**	**-3.3**
AFI	**Afiamalu**	**7.15**	**57**	P	P		**07 29 27.2**	**-2.7**
FUNA	**Funafuti**	**9.71**	**343**	P	P		**07 29 57.4**	**-0.2**
PINNC	**Pines Island,**	**14.47**	**249**	P	P		**07 30 48.9**	**0.0**
PINNC	**Pines Island,**	**14.47**	**249**	P	P		**07 30 49.3**	**+0.3**
YATNC	**Mamie plateau,**	**14.82**	**251**	P	P		**07 30 55.7**	**+2.9**
OUENC	**Ouen Island, N**	**14.96**	**250**	P	P		**07 30 57.4**	**+3.2**
DZM	**Mont Dzumac**	**15.23**	**252**	P	P		**07 30 54.1**	**-3.2**
0.3nm,0.3s,baz=63,slow=20,SNR=2.3								
DZM	**Mont Dzumac**	**15.23**	**252**	P	P		**07 30 53.9**	**-3.3**
DZM	**Mont Dzumac**	**15.23**	**252**	P	P		**07 30 59.2**	**+2.0**
NOUC	**Port Laguerre**	**15.37**	**252**	P	P		**07 30 59.8**	**+1.3**
OUZ	**Omahuta**	**18.82**	**202**	P	P		**07 31 33.9**	**0.0**
URZ	**Urewera**	**20.75**	**191**	P	P		**07 31 47.2**	**-4.3**
8.4nm,0.9s,baz=301,slow=24,SNR=1.9								
EIDS	**Eidsvold**	**29.67**	**250**	P	P		**07 33 10.1**	**-1.0**
EIDS				IAmb	IAmb		07 33 10.8	
comp=E,8.3nm,0.8s								
WHZ	**Wether Hill Ro**	**30.28**	**200**	P	P		**07 33 15.8**	**-0.3**
WHZ				IAmb	IAmb		07 33 19.1	
comp=Z,24nm,1.1s								
ARMA	**Armidale**	**30.31**	**240**	P	P		**07 33 16.4**	**-0.3**
ARMA				IAmb	IAmb		07 33 17.2	
comp=Z,11nm,0.7s								
CAN	**Canberra**	**34.05**	**233**	P	P		**07 33 48.1**	**-0.6**
CAN				IAmb	IAmb		07 34 14.0	
comp=Z,32nm,1.5s								
TOO	**Toolangi**	**37.51**	**231**	P	P		**07 34 16.9**	**-0.6**
TOO				IAmb	IAmb		07 34 18.3	
comp=Z,32nm,1.4s								
STKA	**Stephens Creek**	**39.01**	**241**	P	P		**07 34 29.1**	**-0.8**
comp=Z,7.9nm,0.8s,baz=94,slow=10,SNR=16								
STKA	**Stephens Creek**	**39.01**	**241**	P	P		**07 34 29.1**	**-0.7**
AS31	**Alice Springs**	**45.20**	**254**	P	P		**07 35 18.4**	**-0.7**
AS31				IAmb	IAmb		07 35 18.8	
comp=Z,9.2nm,0.6s								
ASAR	**Alice Springs**	**45.20**	**254**	P	P		**07 35 17.9**	**-1.3**
comp=Z,35nm,0.7s,baz=89,slow=8.3,SNR=296								
ASAR				S	S		**07 41 22.0**	**-3.3**
comp=Z,1.5nm,0.9s,baz=94,slow=16,SNR=10.0								
ASAR	**Alice Springs**	**45.20**	**254**	P	P		**07 35 18.3**	**-0.9**
FORT	**Forrest**	**50.40**	**245**	P	P		**07 35 57.2**	**-1.0**
FORT				IAmb	IAmb		07 35 57.7	
comp=Z,22nm,0.8s								
FITZ	**Fitzroy Crossi**	**53.45**	**260**	P	P		**07 36 20.2**	**-0.2**
SBA	**Scott Base**	**60.46**	**184**	P	P		**07 37 09.6**	**+1.8**
SBA				IAmb	IAmb		07 37 11.4	
comp=Z,7.0nm,1.0s								
VNDA	**Vanda**	**60.50**	**185**	P	P		**07 37 09.3**	**+1.2**
comp=Z,1.0nm,0.6s,baz=357,slow=7.5,SNR=11								
VNDA	**Vanda**	**60.50**	**185**	P	P		**07 37 09.7**	**+1.6**
GIRL	**Giralia**	**63.30**	**253**	P	P		**07 37 28.0**	**+0.6**
QSPA	**South Pole Qui**	**72.16**	**180**	P	P		**07 38 22.2**	**+0.9**
QSPA				IAmb	IAmb		07 38 23.3	
comp=Z,12nm,0.8s								
NVAR	**Mina Array Bea**	**79.12**	**44**	P	P		**07 39 02.7**	**+2.1**
comp=Z,1.4nm,0.8s,baz=226,slow=8.9,SNR=12								
TXAR	**Lajitas Array**	**85.63**	**57**	P	P		**07 39 36.0**	**+2.2**
comp=Z,1.1nm,0.8s,baz=222,slow=6.7,SNR=14								
TXAR	**Lajitas Array**	**85.63**	**57**	P	P		**07 39 35.6**	**+1.8**
ILAR	**Eielson Array**	**85.78**	**13**	P	P		**07 39 34.3**	**+0.7**
comp=Z,0.3nm,0.4s,baz=226,slow=5.7,SNR=8.7								
VNA3	**Neumayer Olymp**	**90.73**	**176**	P	P		**07 39 57.3**	**+0.4**
VNA2	**Neumayer--Watz**	**91.17**	**177**	P	P		**07 39 59.4**	**+0.5**
baz=166,slow=3.8								
VNA1	**Neumayer--Stat**	**91.40**	**177**	P	P		**07 40 00.9**	**+1.0**
BRTR	**Keskin Array B**	**145.07**	**315**	PKP		**PKPab**	**07 46 30.6**	**+0.3**
comp=Z,0.7nm,0.5s,baz=116,slow=2.9,SNR=4.7								
CLL	**Collm**	**145.54**	**348**	*i* PKPbc		**PKPab**	**07 46 31.6**	**+0.1**
CLL				*i* PKPab		**PKiKP**	**07 46 32.9**	**-0.6**
GERES	**GERESS Array B**	**147.70**	**346**	PKPbc		**PKiKP**	**07 46 37.5**	**-0.7**
comp=Z,0.8nm,0.5s,baz=45,slow=2.3,SNR=5.1								

*ISK **05** 07:29:29.8, 39.70N×25.58E, h5km, ML2.5/14*
*THE **05** 07:29:31.2, 39.69N×25.53E, h14km±1km, ML2.3/7, Error ellipse: s-maj=1.7km s-min=0.6km az=240.0*
*ATH **05** 07:29:31.4, 39.70N×25.54E, h16km±2km, ML2.2/5, Error ellipse: s-maj=3.5km s-min=0.9km az=235.0*
*DDA **05** 07:29:31.1, 39.71N×25.61E, h7km±1km, ML2.0*
ISC 05 07:29:31.0±0.9, 39.71N±0.02×25.58E±0.02, h13km±8km, n40, σ0s58/60, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.36**	**303**	P	P		**07 29 38.2**	**-0.1**
LIA				S	Sg		**07 29 43.0**	**-0.1**
LIA				AML	AML		07 29 43.7	
comp=N,626μm,0.4s								
LIA				AML	AML		07 29 43.8	
comp=E,546μm,0.4s								
LIA	**Limnos Island**	**0.36**	**303**	P	Pg		**07 29 38.3**	**+0.1**
LIA				S	Sg		**07 29 43.6**	**+0.5**
comp=E,318nm,0.4s								
BOZC	**Bozcaada**	**0.39**	**70**	*i* P	Pg		**07 29 38.5**	**-0.4**
BOZC				IAML			07 29 44.0	
comp=N,181nm,0.5s								
BOZC				*i* S	Sg		**07 29 44.1**	**0.0**
BOZC				IAML			07 29 50.0	
comp=E,98nm,0.7s								
BOZC	**Bozcaada**	**0.39**	**70**	PG	Pg		**07 29 38.7**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.48**	**115**	*i* P	Pg		**07 29 40.3**	**-0.2**
KOCA				IAML			07 29 47.0	
comp=N,142nm,0.2s								
KOCA				*i* S	Sg		**07 29 47.2**	**+0.3**
KOCA				IAML			07 29 52.0	
comp=E,137nm,0.5s								
EFSA	**Agios Efstrati**	**0.48**	**250**	P	Pg		**07 29 40.7**	**+0.2**
EFSA				S	Sg		**07 29 47.4**	**+0.5**
SIGR	**SIGRI**	**0.54**	**156**	P	Pg		**07 29 41.3**	**-0.3**
SIGR				S	Sb		**07 29 49.6**	**-0.2**
SIGR				AML	AML		07 29 50.0	
comp=E,1668μm,0.3s								
SIGR				AML	AML		07 29 50.2	
comp=N,1336μm,0.4s								
SIGR	**SIGRI**	**0.54**	**156**	P	Pg		**07 29 41.2**	**-0.3**
SIGR				S	Sg		**07 29 49.3**	**+0.6**
comp=N,792nm,0.5s								
SIGR	**SIGRI**	**0.54**	**156**	PG	Pg		**07 29 41.3**	**-0.3**
SIGR				SG	Sb		**07 29 49.7**	**-0.2**
GADA	**Gvkgeada**	**0.55**	**27**	PG	Pg		**07 29 41.6**	**-0.1**
GOKA	**anakkale-Gk**	**0.55**	**28**	*i* P	Pg		**07 29 40.0**	**-1.7**
GOKA				*i* S	Sb		**07 29 50.1**	**-0.1**
GOKA				IAML			07 29 54.0	
comp=E,434nm,0.5s								
PRK	**Paraskevi**	**0.71**	**130**	P	Pb		**07 29 45.5**	**+0.3**
PRK				S	Sb		**07 29 55.8**	**+1.0**
PRK				AML	AML		07 29 59.5	
comp=E,698μm,0.3s								
PRK				AML	AML		07 29 59.7	
comp=N,570μm,0.2s								
PRK	**Paraskevi**	**0.71**	**130**	P	Pb		**07 29 45.5**	**+0.3**
PRK				S	Sn		**07 29 56.3**	**-1.1**
comp=N,350nm,0.4s								
BAYC	**CANAKKALE_Bayr**	**0.75**	**87**	*i* P	Pg		**07 29 45.0**	**-0.5**
BAYC				*i* S	Sg		**07 29 55.2**	**-0.2**
BAYC				IAML			07 29 59.0	
comp=N,80nm,0.3s								
BAYC				IAML			07 29 59.0	
comp=E,104nm,0.2s								
SMTH	**Samothraki Isl**	**0.77**	**357**	P	Pg		**07 29 45.6**	**-0.2**
SMTH				S	Sb		**07 29 56.6**	**+0.2**
SMTH				AML	AML		07 29 59.0	
comp=E,352μm,0.4s								
SMTH				AML	AML		07 29 59.2	
comp=N,451μm,0.4s								
SMTH	**Samothraki Isl**	**0.77**	**357**	P	Pg		**07 29 45.6**	**-0.2**
SMTH				S	Sb		**07 29 56.7**	**+0.2**
comp=N,200nm,0.4s								
GELI	**Tayfur-Gelibol**	**0.98**	**45**	PG	Pb		**07 29 49.8**	**0.0**
GELI				SG	Sn		**07 30 03.9**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.08**	**25**	*i* P	Pb		**07 29 50.6**	**-1.0**
THAS	**Thassos island**	**1.11**	**324**	P	Pb		**07 29 51.8**	**-0.4**
THAS				S	Sb		**07 30 06.2**	**-0.3**
THAS				AML	AML		07 30 08.2	
comp=E,185μm,0.5s								
THAS				AML	AML		07 30 11.8	
comp=N,157μm,0.5s								
THAS	**Thassos island**	**1.11**	**324**	P	Pb		**07 29 51.7**	**-0.4**
THAS				S	Sb		**07 30 06.4**	**-0.1**
comp=N,98nm,0.4s								
ENEZ	**Enez**	**1.12**	**23**	PN	Pb		**07 29 52.1**	**-0.1**
ENEZ				SN	Sn		**07 30 08.8**	**+1.2**
LPK	**Lapseki**	**1.13**	**53**	PN	Pb		**07 29 52.3**	**0.0**
PSRA	**Psara**	**1.16**	**180**	P	Pb		**07 29 52.4**	**-0.5**
BUHA	**Balikesir, Bur**	**1.18**	**100**	*i* P	Pn		**07 29 52.9**	**-0.2**
ERIK	**Erikli-Kesan**	**1.20**	**36**	PN	Pb		**07 29 53.8**	**+0.2**
DKL	**Dikili**	**1.21**	**121**	PN	Pn		**07 29 53.7**	**+0.1**
ALN	**Alexandroupoli**	**1.24**	**17**	P	Pn		**07 29 53.8**	**-0.3**
ALN				S	Sg		**07 30 11.3**	**+0.2**
comp=N,85nm,0.4s								
CHOS	**Chios island**	**1.37**	**164**	P	Pn		**07 29 55.4**	**-0.4**
CHOS	**Chios island**	**1.37**	**164**	P	Pn		**07 29 55.5**	**-0.4**
CHOS				S	Sn		**07 30 13.1**	**-0.8**
comp=N,150nm,0.5s								
RDO	**Rodhopi**	**1.44**	**359**	P	Pn		**07 29 56.2**	**-0.5**
RDO	**Rodhopi**	**1.44**	**359**	PN	Pb		**07 29 57.6**	**-0.1**
KRBG	**Karabiga-Canak**	**1.49**	**62**	PN	Pb		**07 29 58.6**	**+0.1**
URLA	**Izmir**	**1.56**	**149**	PN	Pn		**07 29 59.2**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.57**	**51**	PN	Pb		**07 29 59.5**	**-0.4**
GZKV	**Gazikoy-Tekird**	**1.70**	**52**	PN	Pb		**07 30 01.7**	**-0.3**
MAR4	**Marsite Statio**	**1.71**	**50**	PN	Pb		**07 30 01.9**	**-0.4**
MRMT	**Marmara Adasi**	**1.79**	**59**	PN	Pn		**07 30 02.6**	**+1.0**
EDC	**Edincik**	**1.87**	**69**	PN	Pn		**07 30 03.9**	**+1.2**
KDZ	**Kurdzhali**	**1.95**	**357**	PN	Pn		**07 30 04.8**	**+1.1**
ARMT	**Armutlu**	**2.66**	**70**	PN	Pn		**07 30 15.2**	**+1.6**

DJA 05 07:29:39.0±0.8, 10°S±5°×11°8E±°, h24km±9km, M3.9/8, mb4.2/1, MLv3.7/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.83**	**16**	P	Pb		07 29 54.5	-0.3
PLAI				S	Sn		07 30 06.2	-0.5
TWSI	**Taliwang, Sumb**	**1.10**	**323**	P	Pn		07 29 58.3	-0.7
TWSI				S	Sb		07 30 12.4	-1.0
WBSI	**Waikabubak, Su**	**1.81**	**91**	P	Pn		07 30 07.3	-1.5
DNP	**Denpasar**	**2.50**	**292**	P	Pn		07 30 18.9	+0.8
SRBI	**Singaraja**	**2.77**	**303**	P	Pn		07 30 22.5	+0.5
JAGI	**Jajag, Banyuwa**	**3.55**	**289**	P	Pn		07 30 32.6	0.0
PWJI	**Pagerwojo**	**5.90**	**285**	P	Pn		07 31 05.6	+0.6

*IDC **05** 07:40:54.2±1.4, 5.01S×152.98E, h0km, mb4.2/7, mb1 4.3/8, mb1mx3.9/41, mbtmp4.2/8, ML2.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/35, Error ellipse: s-maj=48.8km s-min=19.9km az=120.0*
ISC 05 07:41:00.7±1.2, 5.03S±0.2×152.96E±0.2, h43km, n11, σ0s79/10, mb4.3/7, MS3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.13**	**232**	Pn		**Pn**	**07 42 42.8**	**+0.3**
1.7nm,0.3s,baz=151,slow=19,SNR=2.4								
PMG				Sn		**Sn**	**07 44 01.4**	**-0.8**
7.2nm,0.3s,baz=52,slow=4.0,SNR=6.5								
SIJI	**Sorong**	**21.95**	**280**	LR		LR	07 54 34.5	
comp=Z,42nm,20.6s,baz=185,slow=37								
ASAR	**Alice Springs**	**26.02**	**223**	P		**P**	**07 46 30.2**	**+0.2**
1.5nm,0.3s,baz=56,slow=8.9,SNR=24								
STKA	**Stephens Creek**	**28.72**	**200**	P		**P**	**07 46 54.6**	**+0.6**
0.6nm,0.4s,baz=52,slow=9.0,SNR=3.0								
FITZ	**Fitzroy Crossi**	**29.59**	**242**	P		**P**	**07 47 01.3**	**-0.7**
4.7nm,0.4s,baz=46,slow=5.9,SNR=37								
FITZ				LR		LR	07 58 19.1	
comp=Z,71nm,19.8s,baz=241,slow=35								
CMAR	**Chiang Mai Arr**	**58.02**	**295**	P		**P**	**07 50 50.4**	**+0.6**
1.4nm,0.5s,baz=113,slow=5.3,SNR=8.1								
PETK	**Petropavlovsk-**	**58.07**	**3**	P		**P**	**07 50 49.0**	**-0.4**
3.6nm,0.9s,baz=158,slow=6.5,SNR=5.0								
MKAR	**Makanchi Array**	**80.53**	**319**	P		**P**	**07 53 09.6**	**+1.0**
0.2nm,0.5s,baz=111,slow=3.2,SNR=2.6								
ILAR	**Eielson Array**	**82.35**	**22**	P		**P**	**07 53 17.2**	**-0.6**
2.0nm,0.7s,baz=243,slow=5.9,SNR=21								
RPN	**Rapa Nui**	**94.66**	**118**	LR		LR	08 28 29.2	
comp=Z,293nm,20.7s,baz=114,slow=

BVAR	Borovoye Array	22.46	333	P		P	08 01 40.6	+0.9
	0.5nm,0.5s,baz=205,slow=16,SNR=4.4							
GEYT	Alibeck	23.75	288	LR	LR		08 13 04.0	
	comp=Z,105nm,19.1s,baz=35,slow=42							
AKTO	Aktyubinsk	26.86	317	LR	LR		08 13 22.8	
	comp=Z,30nm,18.3s,baz=108,slow=37							
ARU	Arti	29.75	328	LR	LR		08 16 06.9	
	comp=Z,94nm,20.6s,baz=173,slow=39							
KSRS	Korea Array	33.13	72	LR	LR		08 18 18.5	
	comp=Z,32nm,18.1s,baz=264,slow=39							
BRTR	Keskin Array B	42.64	294	P		P	08 04 35.8	-1.5
	0.5nm,0.6s,baz=71,slow=8.7,SNR=2.8							
AKASG	Malin Array Be	44.73	310	P		P	08 04 53.7	-0.1
	0.3nm,0.4s,baz=74,slow=7.7,SNR=2.9							
FINES	FINESS Array B	47.05	325	P		P	08 05 12.5	+0.6
	1.1nm,0.6s,baz=112,slow=15,SNR=4.9							
ARCES	ARCESS Array B	48.71	336	LR	LR		08 25 37.7	
	comp=Z,30nm,18.8s,baz=50,slow=36							
HFS	Hagfors	53.09	323	P		P	08 05 57.6	-0.3
	2.1nm,0.7s,baz=113,slow=10,SNR=5.1							
NOA	NORSAR Array B	54.22	324	P		P	08 06 06.1	-0.1
	1.5nm,0.8s,baz=83,slow=7.2,SNR=6.3							
NOA				LR	LR		08 30 48.1	
	comp=Z,27nm,19.6s,baz=100,slow=38							
GERES	GERESS Array B	54.93	309	P		P	08 06 12.4	+0.8
	1.0nm,0.7s,baz=76,slow=5.6,SNR=6.8							
ASAR	Alice Springs	72.58	136	P		P	08 08 08.2	+0.1
	0.7nm,0.8s,baz=326,slow=6.9,SNR=7.0							
ILAR	Eielson Array	72.94	21	P		P	08 08 08.9	-0.8
	0.5nm,0.7s,baz=327,slow=5.7,SNR=5.7							
TORD	Torodi Ar. Bea	79.02	278	P		P	08 08 43.9	-1.3
	0.8nm,0.7s,baz=38,slow=5.5,SNR=3.7							
YKA	Yellowknife Ar	82.27	10	P		P	08 09 01.4	-0.4
	0.6nm,0.8s,baz=330,slow=5.2,SNR=4.2							

IDC ***05*** *08:11:30.6±2.5, 19.˚55S×177.˚89W, h451km±26km, mb3.0/5, mb1 3.2/6, mb1mx3.0/28, mbtmp3.8/6, Error ellipse: s-maj=33.7km s-min=23.5km az=125.0*

ISC 05 08:11:30.4±1.0, 19.˚5S±0.˚2×177.˚9W±0.˚2, h450km, n7, σ0§45/7, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.25	294	P		P	P	08 12 48.2	+0.3
	7.7nm,0.3s,baz=246,slow=23,SNR=37								
STKA	Stephens Creek	38.31	243	P		P	P	08 18 11.1	0.0
	1.0nm,0.6s,baz=81,slow=10,SNR=4.8								
ASAR	Alice Springs	44.85	256	P		P	P	08 19 03.3	0.0
	1.6nm,0.5s,baz=91,slow=8.3,SNR=39								
VNDA	Vanda	58.87	185	P		P	P	08 20 44.0	-0.1
	0.8nm,0.6s,baz=340,slow=6.8,SNR=7.6								
TXAR	Lajitas Array	86.45	57	P		P	P	08 23 25.2	+0.6
	0.2nm,0.7s,baz=224,slow=3.8,SNR=2.9								
ILAR	Eielson Array	87.36	13	P		P	P	08 23 27.3	-0.6
	0.2nm,0.6s,baz=232,slow=4.3,SNR=2.2								
GERES	GERESS Array B	149.31	345	PKPbc		PKPbc	PKPbc	08 30 27.4	-0.1
	0.6nm,0.7s,baz=64,slow=3.1,SNR=6.1								

BJI ***05*** *08:24:32.1±0.0, 28.˚97S×176.˚04W, h10km, mB5.6/11, mb5.3/21, Ms5.2/6, Ms7 4.7/5*

IDC ***05*** *08:24:32.7±0.5, 28.˚78S×176.˚07W, h0km, mb4.7/18. mb1 4.8/19, mb1mx4.7/29, mbtmp4.6/19, ML4.4/1, MS3.9/20, Ms1 3.9/20, ms1mx3.8/32, Error ellipse: s-maj=19.4km s-min=16.4km az=129.0*

MOS ***05*** *08:24:33.4±1.0, 28.˚60S×176.˚13W, h10km, mb5.2/34, MS4.4/4, Error ellipse: s-maj=11.7km s-min=10.0km az=135.6*

NEIC ***05*** *08:24:34.7±1.2, 28.˚83S±0.˚08×176.˚01W±0.˚07, h10km±1km, mb5.0/98, Ms_20 4.7/22, Error ellipse: s-maj=13.5km s-min=9.6km az=14.0*

GCMT ***05*** *08:24:35.7±0.3, 28.˚90S±0.˚03×175.˚74W±0.˚02, h20km, MW4.9/88, Moment Tensor Solution. s28,c30; s88,c117; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.07±.18; Mθθ=0.42±.12; Mϕϕ=2.65±.11; Mrθ=-1.31±.28; Mθϕ=0.64±.07; Mϕr=0.23±.20; Best double couple: Mo=3.19300×10^16 NP1:ϕs=179.00000°, δ42.00000°, λ=-117.00000°. NP2: ϕs=33.00000°, δ53.00000°, λ=-68.00000°. Principal axes: T 2.8790, Plg6.0000°, Azm108.0000°; N 0.6250, Plg17.0000°, Azm200.0000°; P -3.5070, Plg72.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***05*** *08:24:46.6, 29.˚425S×176.˚40W, h81km, mb4.9, Kermadec Islands Region*

ISC 05 08:24:33.5±0.3, 28.˚95S±0.˚05×175.˚93W±0.˚05, h10km, n335, σ1§54/314, mb5.0/86, MS4.4/36, 7C-4D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.77	260	Pn		P	Pb	08 25 06.4	+0.4
	725nm,0.3s,baz=34,slow=17,SNR=16								
RAO				Sn			Sn	08 25 26.6	-0.1
	2µm,0.3s,baz=105,slow=22,SNR=7.8								
RAO	Raoul Island	1.77	260	P		P	Pb	08 25 05.7	-0.3
RAO								08 25 26.9	
RAO	Raoul Island	1.77	260				Pb	08 25 05.7	-0.3
RAO				Sn			Sn	08 25 26.9	+0.2
RAO	Raoul Island	1.77	260	P			Pg	08 25 09.3	+1.9
GLKZ	Green Lake	1.77	259	P			Pb	08 25 06.0	0.0
GLKZ				S			Sg	08 25 29.8	-0.6
RIZ	Raoul Island	1.77	260	P			Pb	08 25 06.7	+0.6
RIZ				S			Sg	08 25 29.6	-0.9
MXZ	Matakaoa Point	9.85	208	P			Pn	08 26 53.3	-1.9
MXZ				S			Sn	08 28 41.2	-4.6
WMGZ	Waiomatatini S	10.03	207	P			Pn	08 26 53.6	-4.0
WMGZ				S			Sn	08 28 45.8	-4.4
PKGZ	Pakihiroa	10.22	208	P			Pn	08 26 56.8	-3.5
PKGZ				S			Sn	08 28 51.6	-3.5
HAZ	Te Kaha	10.23	209	P			Pn	08 26 57.3	-3.1
HAZ				S			Sn	08 28 53.3	-1.9
PUZ	Puketiti	10.31	207	P			Pn	08 27 00.4	-1.0
PUZ				S			Sn	08 28 53.0	-4.1
RUGZ	Raukumara Rang	10.46	209	P			Pn	08 26 59.5	-4.1
RUGZ				S			Sn	08 28 55.5	-5.4
TWGZ	Tauwhareparae	10.51	207	P			Pn	08 27 01.0	-3.2
TWGZ				S			Sn	08 28 59.6	-2.4
CNGZ	Carnagh Statio	10.69	206	P			Pn	08 27 02.6	-4.0
CNGZ				S			Sn	08 28 54.0	-12
WCZ	Waipu Caves	10.77	227	P			Pn	08 27 13.9	+6.1
TKGZ	Te Karaka	10.79	207	P			Pn	08 27 04.4	-3.5
TKGZ				S			Sn	08 29 04.3	-4.5
MWZ	Matawai	10.83	208	P			Pn	08 27 03.3	-5.3
MWZ				S			Sn	08 29 04.4	-5.5
URZ	Urewera	10.95	210	Pn			Pn	08 27 10.4	+0.2
	2.8nm,0.3s,baz=300,slow=23,SNR=7.6								
URZ				Sn			Sn	08 29 08.6	-4.0
	5.5nm,0.3s,baz=123,slow=16,SNR=6.2								
URZ	Urewera	10.95	210	Pn			Pn	08 27 08.2	-1.9
NIUE	Niue	11.25	30	P			Pn	08 27 07.1	-7.3
	baz=11,SNR=3.2								
NIUE				S			Sn	08 28 49.7	-31
	baz=11								
NIUE	Niue	11.25	30	P			Pn	08 27 33.0	+19
	356nm,0.8s								
MSVF	Nonsavu	12.45	332	Pn			Pn	08 27 31.1	+0.2
	0.9nm,0.3s,baz=123,slow=16,SNR=6.3								
MSVF				LR		LR	LR	08 31 32.8	
	comp=Z,1µm,18.8s,baz=157,slow=34								
MSVF	Nonsavu	12.45	332	P			Pn	08 27 29.4	-1.5
MSVF	Nonsavu	12.45	332	Pn			Pn	08 27 29.4	-1.5
BFZ	Birch Farm	13.35	207	Pn			Pn	08 27 41.6	-1.3
SNZO	South Karori	14.51	209	Pn			Pn	08 28 00.6	+1.8
AFI	Afiamalu	15.45	15	LR		LR	LR	08 33 11.8	
	comp=Z,104nm,20.8s,baz=158,slow=34								
THZ	Tophouse	15.68	212	P			Pn	08 28 07.5	-7.0
THZ				S			Sn	08 30 53.8	-15
KHZ	Kahutara	15.91	210	P			Pn	08 28 14.0	-3.4
KHZ				S			Sn	08 30 59.9	-14
RAR	Rarotonga	16.53	66	Pn			Pn	08 28 19.9	-5.6
	1.7nm,0.3s,baz=252,slow=4.0,SNR=7.2								
RAR				LR		LR	LR	08 33 50.3	
	comp=Z,407nm,20.2s,baz=253,slow=34								
RAR	Rarotonga	16.53	66	P		P	P	08 28 40.2	+12
GVZ	Greta Valley S	16.58	210	P			Pn	08 28 25.1	-0.9
LTZ	Lake Taylor	16.77	211	P		P	Pn	08 28 22.1	-6.4
LTZ				S		P	Sn	08 31 18.0	-17
OUENC	Ouen Island, N	16.83	289	P			Pn	08 28 29.5	+0.2
YATNC	Mamie plateau,	16.95	290	P			P	08 28 36.3	+3.6
INZ	Inchbonnie	17.11	213	P		P	Pn	08 28 30.4	-2.3
INZ				S		S	Sn	08 31 25.5	-17
OXZ	Oxford	17.30	211	P		P	Pn	08 28 31.7	-3.4
OXZ				S		S	Sn	08 31 28.9	-19
DZM	Mont Dzumac	17.31	289	eP	n	P	P	08 28 39.5	+2.6
	82nm,1.4s								
DZM				e	LR	LR	LR	08 32 48.3	
	comp=Z,1µm,27.9s								
DZM	Mont Dzumac	17.31	289	P		P	P	08 28 38.8	+1.9
	0.9nm,0.3s,baz=88,slow=14,SNR=11								
DZM					LR		LR	08 34 01.6	
	comp=Z,330nm,18.4s,baz=115,slow=33								
DZM	Mont Dzumac	17.31	289	P		P	P	08 28 41.1	+4.2
RACZ	Rakaia	17.58	210	P		P	Pn	08 28 37.7	-0.8
MHCZ	Mount Hutt	17.68	211	P		P	Pn	08 28 40.3	+0.5
WVZ	Waitaha Valley	17.72	214	P		P	P	08 28 43.0	+1.9
WVZ				S		S	Sn	08 31 44.0	-14
RPZ	Rata Peaks	18.05	212	P		P	Pn	08 28 43.6	-0.8
RPZ				S		S	Sn	08 31 49.2	-17
GCSZ	Gaunt Creek Bo	18.10	214	P		P	Pn	08 28 43.8	-1.2
ARCZ	Arundel	18.18	211	P		P	Pn	08 28 42.9	-3.0
FOZ	Fox Glacier	18.51	214	P		P	P	08 28 49.6	-0.2
FOZ				S		S	Sn	08 31 58.1	-19
TMZ	Timaru	18.59	211	P		P	P	08 28 47.8	-3.0
TBI	Tubuai	24.38	83	eLQ		LQ	LQ	08 34 27.0	
	803nm,30.0s								
TBI				e	LR		LR	08 35 40.8	
	comp=Z,528nm,33.5s								
TBI	Tubuai	24.38	83	eT		T	T	08 52 59.4	
	7.7nm,0.3s								
PAE	Paea	26.62	71	eT		T	T	08 55 51.3	
	6.2nm,0.3s								
PPT2	Papeete2	26.66	71	eLQ		LQ	LQ	08 35 21.2	
	823nm,24.5s								
PPT2				e	LR		LR	08 36 45.7	
	comp=Z,413nm,27.5s								
PPT2	Papeete2	26.66	71	eT		T	T	08 56 01.0	
	4.4nm,0.4s								
PPT	Papeete	26.67	71	LR		LR	LR	08 38 42.7	
	comp=Z,240nm,18.9s,baz=248,slow=32								
ARMA	Armidale	28.17	259	P		P	P	08 30 28.1	+1.8
	baz=28,SNR=5.3								
ARMA	Armidale	28.17	259	P		P	P	08 30 28.9	+2.6
CAN	Canberra	30.26	249	P		P	P	08 30 46.8	+2.1
CAN					pmax		pmax		
	comp=Z,21nm,1.0s								
RMQ	Roma	31.29	266	P		P	P	08 30 55.2	+1.3
	baz=32,SNR=8.8								
CTA	Charters Tower	35.40	276	P		P	P	08 31 29.8	+0.1
	comp=Z,5.2nm,0.4s,baz=99,slow=9.9,SNR=17								
STKA	Stephens Creek	36.58	255	P		P	P	08 31 40.0	+0.3
	comp=Z,4.0nm,0.7s,baz=98,slow=8.9,SNR=8.0								
STKA					LR		LR	08 45 59.2	
	comp=Z,383nm,18.2s,baz=67,slow=35								
STKA	Stephens Creek	36.58	255	P		P	P	08 31 40.6	+0.8
STKA					pmax		pmax		
	comp=Z,3.0nm,1.4s								
STKA	Stephens Creek	36.58	255	P		P	P	08 31 40.6	+0.8
RKT	Rikitea	37.12	91	eLR		LR	LR	08 41 32.1	
	comp=Z,310nm,29.0s								
MTSU	Mount Surprise	37.84	278	P		P	P	08 31 50.7	+0.1
	baz=38,SNR=10								
HTT	Hallett	38.65	252	P		P	P	08 31 58.7	+1.4
	baz=39,SNR=6.4								
PMG	Port Moresby	39.68	292	i	P	P	P	08 32 03.4	-2.6
PMG					pmax		pmax		
	comp=Z,36nm,1.4s								
BBOO	Buckleboo	41.11	252	P		P	P	08 32 18.8	+1.1
	baz=41,SNR=5.5								
BBOO	Buckleboo	41.11	252	P		P	P	08 32 17.1	-0.6
AS31	Alice Springs	45.01	265	P		P	P	08 32 48.6	-0.9
ASAR	Alice Springs	45.01	265	P		P	P	08 32 48.2	-1.2
	comp=Z,7.6nm,0.7s,baz=100,slow=7.2,SNR=60								
ASAR					LR		LR	08 51 16.4	
	comp=Z,496nm,18.2s,baz=108,slow=36								
ASAR	Alice Springs	45.01	265	P		P	P	08 32 47.7	-1.8
ASAR	Alice Springs	45.01	265	P		P	P	08 32 47.7	-1.8
WRAB	Tennant Creek	45.87	270	P		P	P	08 32 54.9	-1.4
WRAB					pmax		pmax		
	comp=Z,14nm,0.8s								
WRAB	Tennant Creek	45.87	270	P		P	P	08 32 54.9	-1.4
WRAB					IAmb		IAmb	08 32 57.6	
	comp=Z,14nm,0.8s								
FORT	Forrest	48.17	253	P		P	P	08 33 13.2	-0.9
FORT					IAmb		IAmb	08 33 30.5	
	comp=Z,16nm,0.8s								
VNDA	Vanda	49.72	186	LR		LR	LR	08 51 33.6	
	comp=Z,58nm,19.9s,baz=3.5,slow=32								
KDU	Kakadu	50.48	277	P		P	P	08 33 31.6	-0.3
	baz=51,SNR=3.2								
KNRA	Kununurra	52.42	272	P		P	P	08 33 45.7	-0.8
	baz=52,SNR=6.0								
KIP	Kipapa	52.98	21	ce	P	P	P	08 33 47.4	-2.9
KIP					pmax		pmax		
	comp=Z,45nm,1.0s								
FITZ	Fitzroy Crossi	54.19	268	LR		LR	LR	08 57 12.1	
	comp=Z,276nm,18.2s,baz=120,slow=36								
FITZ	Fitzroy Crossi	54.19	268	P		P	P	08 33 58.4	-1.0
	baz=54,SNR=8.9								
GUMO	Guam	56.77	313	LR		LR	LR	08 56 51.3	
	comp=Z,62nm,18.3s,baz=146,slow=34								
CASY	Casey	57.26	207	P		P	P	08 34 23.2	+2.4
CASY					IAmb		IAmb	08 34 26.4	
	comp=Z,18nm,0.9s								
SIJI	Sorong	57.52	289	LR		LR	LR	08 56 41.7	
	comp=Z,67nm,20.5s,baz=122,slow=34								
BATI	Baumata	59.28	275	LR		LR	LR	09 00 30.6	
	comp=Z,297nm,19.1s,baz=128,slow=36								
QSPA	South Pole Qui	61.16	180	P		P	P	08 34 51.1	+3.1
	comp=Z,3.5nm,0.9s,baz=22,slow=1.7,SNR=7.9								
QSPA	South Pole Qui	61.16	180	P		P	P	08 34 50.9	+2.9
QSPA					IAmb		IAmb	08 35 14.9	
	comp=Z,12nm,1.1s								
MAW	Mawson	74.29	200	P		P	P	08 36 12.5	+2.0
	comp=Z,6.3nm,0.9s,baz=107,slow=6.7,SNR=9.6								
MAW	Mawson	74.29	200	P		P	P	08 36 13.7	+3.2
	baz=75,SNR=6.2								
MAW	Mawson	74.29	200	P		P	P	08 36 14.1	+3.6
MAW					pmax		pmax		
	comp=Z,2.0nm,1.1s								
MAW	Mawson	74.29	200	P		P	P	08 36 14.1	+3.6
CISI	Cisompet, Garu	74.37	270	P		P	P	08 36 10.9	-1.1
JOW	Kunigami	77.05	311	LR		LR	LR	09 07 49.6	
	comp=Z,103nm,18.0s,baz=326,slow=34								
MJAR	Matsushiro Arr	78.11	324	P		P	P	08 36 32.1	-0.6
	comp=Z,3.5nm,0.7s,baz=163,slow=5.9,SNR=8.9								
MJAR	Matsushiro Arr	78.11	324	P		P	P	08 36 30.8	-1.8
MJAR					pmax		pmax		
	comp=Z,4.0nm,0.9s								
MJAR	Matsushiro Arr	78.11	324	P		P	P	08 36 30.8	-1.8
MAJO	Matsushiro	78.11	324	P		P	P	08 36 30.8	-1.8
MAJO					pmax		pmax		
	comp=Z,11nm,1.1s								
MAJO	Matsushiro	78.11	324	P		P	P	08 36 30.8	-1.8
MAT	Matsushiro	78.11	324	P		P	P	08 36 32.3	-0.3
MJB9	Matsu-Tunnel	78.11	324	P		P	P	08 36 31.8	-0.9
SYO	Syowa Base	78.92	192	eP		P	P	08 36 38.0	+1.3
SYO	Syowa Base	78.92	192	ep	P	pP	pP	08 36 41.8	+4.6
JSD	Sado	79.23	325	P		P	P	08 36 38.2	-0.5
SNAA	Sanae	79.54	178	P		P	P	08 36 41.9	+1.7
SNAA					pmax		pmax		
	comp=Z,18nm,1.2s								
SNAA	Sanae	79.54	178	P		P	P	08 36 41.9	+1.7
SNAA					IAmb		IAmb	08 36 45.5	
	comp=Z,18nm,1.2s								
VNA3	Neumayer Olymp	79.62	176	P		P	P	08 36 41.8	+1.2
JHS	Saijyo	79.73	320	P		P	P	08 36 41.4	-0.1
JHS					IAmb		IAmb	08 36 55.7	
	comp=Z,35nm,1.3s								
H03S2	Juan Fernandez	79.75	123	T		T	T	10 04 15.5	
	baz=242,slow=75,SNR=6.8								
H03S1	Juan Fernandez	79.76	123	T		T	T	10 04 18.2	
	baz=242,slow=75,SNR=5.4								
H03S3	Juan Fernandez	79.77	123	T		T	T	10 04 19.1	
	baz=242,slow=75,SNR=6.6								
VNA2	Neumayer--Watz	80.08	176	P		P	P	08 36 44.3	+1.3
VNA1	Neumayer--Stat	80.30	176	P		P	P	08 36 45.4	+1.3
NIKH	Nikolski High	81.81	4	P		P	P	08 36 52.8	+0.6
PLCA	Paso Flores	82.16	132	P		P	P	08 36 56.9	+2.1
	comp=Z,9.1nm,1.1s,baz=226,slow=5.6,SNR=5.3								
PLCA					LR		LR	09 05 50.9	
	comp=Z,75nm,18.3s,baz=244,slow=30								
MURC	Murrieta	83.43	46	P		P		08 37 02.5	
	baz=229								
MONP2	Monument Peak	83.46	47	P		P		08 37 02.9	
	baz=230								
BFSC	Mount Baldy Ra	83.56	45	P		P		08 37 02.8	
	baz=229								
VES	Vestal, Richgr	83.75	43	P		P		08 37 03.7	
	baz=228								
EDW2	Edwards Air Fo	83.78	44	P		P		08 37 04.1	
	baz=228								
TPFO	Pinon Flats	83.90	46	P		P		08 37 05.3	
	baz=229								
PFO	Pinyon Flats O	83.90	46	P		P		08 37 05.5	
	baz=229								
PFO	Pinyon Flats O	83.90	46	eP		P		08 37 05.0	+1.2
PFO	Pinyon Flats O	83.90	46	P		P		08 37 05.0	+1.2
PFO					IAmb		IAmb	08 37 09.7	
	comp=Z,9.9nm,1.2s								
ISA	Isabella, Lake	84.00	44	P		P		08 37 05.3	
	baz=228								
ISA	Isabella, Lake	84.00	44	P		P		08 37 05.0	+0.8
ISA					pmax		pmax		
	comp=Z,8.0nm,1.2s								
ISA	Isabella, Lake	84.00	44	P		P		08 37 05.0	+0.8
LRMC	Laurel Mtn Rad	84.36	44	P		P		08 37 07.3	
	baz=228								
KSRS	Korea Array	84.44	318	P		P		08 37 06.7	+0.5
	comp=Z,1.8nm,0.8s,baz=130,slow=6.5,SNR=6.6								
KSRS					LR		LR	09 10 05.4	
	comp=Z,38nm,21.2s,baz=106,slow=32								
BELC	Belle Mtn. Jos	84.44	46	P		P		08 37 08.1	
	baz=230								
KSAR	Wonju Array Be	84.45	318	P		P		08 37 06.5	+0.2
KSAR	Wonju Array Be	84.45	318	P		P		08 37 06.5	+0.2
CMB	Columbia Colle	84.48	41	P		P		08 37 06.6	+0.1
CMB					pmax		pmax		
	comp=Z,13nm,1.2s								
CMB	Columbia Colle	84.48	41	P		P		08 37 06.6	+0.1
CMB					IAmb		IAmb	08 37 08.6	
	comp=Z,13nm,1.1s								
BC3	Big Chuckawall	84.57	47	P		P		08 37 08.5	
	baz=230								
GLA	Glamis	84.59	48	P		P		08 37 08.8	
	baz=230								
GLA	Glamis	84.59	48	P		P		08 37 06.9	-0.3
GLA					pmax		pmax		
	comp=Z,12nm,1.0s								
GLA	Glamis	84.59	48	P		P		08 37 06.9	-0.3
GLA					IAmb		IAmb	08 37 09.9	
	comp=Z,12nm,0.9s								
O02D	Mt. Diablo Mer	84.64	38	P		P		08 37 08.5	
	baz=225								
HSIG		84.71	53	P		P		08 37 07.8	0.0
HSIG					IAmb		IAmb	08 37 09.1	
	comp=Z,10nm,0.8s								
CWC	Cottonwood Cre	84.76	43	P		P		08 37 09.0	
	baz=228								
HEC	Hector,Ludlow	84.77	45	P		P		08 37 09.9	
	baz=229								
AFDM	Forest Hills D	84.78	40	P		P		08 37 07.9	-0.1
AFDM					IAmb		IAmb	08 37 12.0	
	comp=Z,11nm,1.3s								
GSC	Goldstone, Bar	84.78	45	P		P		08 37 09.2	
	baz=229								
GSC	Goldstone, Bar	84.79	45	P		P		08 37 09.5	+1.3
GSC					pmax		pmax		
	comp=Z,24nm,1.5s								
GSC	Goldstone, Bar	84.79	45	P		P		08 37 09.5	+1.3
GSC					IAmb		IAmb	08 37 10.7	
	comp=Z,24nm,1.5s								
PETK	Petropavlovsk-	84.88	344	P		P		08 37 08.8	+0.7
	comp=Z,21nm,0.9s,baz=116,slow=6.8,SNR=12								
PETK					LR		LR	09 12 04.0	
	comp=Z,71nm,18.5s,baz=165,slow=34								
ORV	Oroville	84.91	39	P		P		08 37 09.2	+0.7
ORV					pmax		pmax		
	comp=Z,8.0nm,1.0s								
ORV	Oroville	84.91	39	P		P		08 37 09.2	+0.7
ORV					IAmb		IAmb	08 37 10.5	
	comp=Z,7.8nm,1.0s								
MDPB	Devils Postpil	84.97	42	P		P		08 37 09.1	-0.1
WDC	Whiskeytown Da	85.06	38	P		P		08 37 10.1	+0.8
WDC					pmax		pmax		
	comp=Z,22nm,1.1s								
WDC	Whiskeytown Da	85.06	38	P		P		08 37 10.1	+0.8
IRM	Iron Mountain	85.09	47	P				08 37 11.3	
	baz=230								
GMRC	Granite Mounta	85.16	46	P				08 37 11.6	
	baz=230								
214A	Organ Pipe Nat	85.22	50	P				08 37 11.8	
	baz=232								
N02D	Trinity Center	85.25	37	P				08 37 12.2	
	baz=225								
WAKR	Walker	85.35	41	P		P		08 37 12.1	+1.1
WAKR					IAmb		IAmb	08 37 13.5	
	comp=Z,18nm,1.1s								
TUQ	Turquoise Moun	85.42	45	P				08 37 13.0	
	baz=230								
M02C	Callahan	85.47	37	P				08 37 13.3	
	baz=225								
SHOC	Shoshone, Teco	85.50	45	P				08 37 13.3	
	baz=229								
FURC	Furnace Creek,	85.51	44	P				08 37 13.0	
	baz=229								
GRAC	Grapevine Rang	85.56	43	P				08 37 13.4	
	baz=229								
PNTR	Pine Nut	85.66	41	P		P		08 37 13.7	+1.0
LHV

USA0B	**Ussuriysk Arra**	**86.97**	**325**	P	**P**		**08 37 19.1**	**+0.5**
USA0B				pmax	pmax				
	comp=Z,14nm,1.1s								
USA0B	**Ussuriysk Arra**	**86.97**	**325**	P	**P**		**08 37 19.1**	**+0.5**
USA0B				IAmb	IAmb		08 37 20.8		
	comp=Z,14nm,1.1s								
USRK	**Ussuriysk Ar.**	**86.97**	**325**	P	**P**		**08 37 19.5**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=153,slow=3.5,SNR=13								
USRK				LR	LR		09 10 44.2		
	comp=Z,63nm,20.1s,baz=101,slow=32								
USRK	**Ussuriysk Ar.**	**86.97**	**325**	P	**P**		**08 37 19.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**86.97**	**325**	P	**P**		**08 37 19.2**	**+0.6**
RPSI	**Rantau Prapat**	**87.04**	**275**	P	**P**		**08 37 19.2**	**-0.5**
PSI	**Prapat**	**87.09**	**275**	P	**P**		**08 37 19.2**	**-1.0**
PSI				pmax	pmax				
	comp=Z,28nm,1.1s								
J04D	**Umpqua Nationa**	**87.17**	**36**	P			08 37 21.3		
	baz=225								
MOD	**Modoc Plateau**	**87.19**	**38**	P	**P**		**08 37 20.3**	**+0.3**
MOD				IAmb	IAmb		08 37 21.7		
	comp=Z,7.3nm,0.9s								
PRN	**Pahroc Range**	**87.23**	**44**	P	**P**		**08 37 21.2**	**+1.0**
PRN				IAmb	IAmb		08 37 23.2		
	comp=Z,16nm,1.1s								
319A	**Douglas**	**87.27**	**52**	P	**P**		**08 37 21.8**	**+1.2**
HPIG		**87.29**	**57**	P	**P**		**08 37 21.4**	**+0.5**
I04A	**Tendick Farm,**	**87.40**	**36**	P			08 37 21.7		
	baz=225								
K05A	**Summer Lake**	**87.44**	**37**	P	**P**		**08 37 21.3**	**0.0**
R11A	**Troy Canyon, C**	**87.51**	**43**	P			08 37 22.4		
	baz=230								
R11A	**Troy Canyon, C**	**87.51**	**43**	P	**P**		**08 37 21.5**	**-0.2**
OHAK	**Old Harbor**	**87.94**	**12**	P	**P**		**08 37 24.0**	**+1.1**
LCMT	**Little Creek M**	**88.09**	**45**	P	**P**		**08 37 25.7**	**+1.2**
LCMT				IAmb	IAmb		08 37 27.1		
	comp=Z,6.9nm,1.0s								
PINE	**Pine Mountain**	**88.16**	**36**	P	**P**		**08 37 25.6**	**+1.0**
PINE				IAmb	IAmb		08 37 26.4		
	comp=Z,8.8nm,0.9s								
I05D	**Terrebonne, OR**	**88.34**	**36**	P			08 37 26.5		
	baz=226								
WUAZ	**Wupatki**	**88.36**	**47**	P	**P**		**08 37 26.5**	**+0.8**
WUAZ				IAmb	IAmb		08 37 28.6		
	comp=Z,13nm,1.2s								
WVOR	**Wild Horse Val**	**88.46**	**39**	P	**P**		**08 37 26.4**	**+0.4**
WVOR				pmax	pmax				
	comp=Z,9.0nm,1.3s								
WVOR	**Wild Horse Val**	**88.46**	**39**	P	**P**		**08 37 26.4**	**+0.4**
WVOR				IAmb	IAmb		08 37 27.4		
	comp=Z,8.9nm,1.2s								
MDJ	**Mudanjiang**	**88.47**	**324**	P	**P**		**08 37 27.1**	**+1.3**
MDJ				pmax	pmax				
	comp=Z,16nm,1.3s								
MDJ				pmax	pmax				
	comp=Z,120nm,5.8s								
SZCU	**Shurtz Canyon**	**88.55**	**45**	P	**P**		**08 37 28.2**	**+1.5**
SZCU				IAmb	IAmb		08 37 29.5		
	comp=Z,9.8nm,1.2s								
PSUT	**Pine Spring**	**88.67**	**44**	P	**P**		**08 37 28.4**	**+1.2**
X18A	**Snowflake**	**88.69**	**49**	P	**P**		**08 37 28.8**	**+1.4**
X18A				IAmb	IAmb		08 37 30.4		
	comp=Z,16nm,1.4s								
G05D	**Wamic, OR**	**88.98**	**35**	P			08 37 29.5		
	baz=226								
I07A	**Izee**	**89.11**	**37**	P	**P**		**08 37 30.0**	**+1.0**
I07A				IAmb	IAmb		08 37 31.1		
	comp=Z,8.7nm,1.2s								
J08A	**Circle Bar Ran**	**89.17**	**38**	P	**P**		**08 37 29.7**	**+0.4**
W18A	**Petrified Fore**	**89.18**	**49**	P			08 37 31.1		
	baz=233								
W18A	**Petrified Fore**	**89.18**	**49**	P	**P**		**08 37 30.3**	**+0.6**
ELK	**Elko**	**89.26**	**41**	P	**P**		**08 37 30.2**	**+0.2**
ELK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ELK	**Elko**	**89.26**	**41**	P	**P**		**08 37 30.2**	**+0.2**
E04D	**Cinebar**	**89.29**	**34**	P			08 37 31.2		
	baz=225								
MTPU	**Mount Pierson**	**89.39**	**45**	P	**P**		**08 37 32.3**	**+1.5**
MTPU				IAmb	IAmb		08 37 35.0		
	comp=Z,14nm,1.4s								
D03D	**Eldon**	**89.73**	**33**	P			08 37 33.4		
	baz=224								
LON	**Longmire**	**89.79**	**34**	P	**P**		**08 37 32.6**	**+0.5**
LON				pmax	pmax				
	comp=Z,5.0nm,0.9s								
LON	**Longmire**	**89.79**	**34**	P	**P**		**08 37 32.6**	**+0.5**
D05A	**Enumclaw**	**90.02**	**33**	P	**P**		**08 37 34.4**	**+1.4**
TX31	**Lajitas Ar. Si**	**90.09**	**56**	P	**P**		**08 37 34.4**	**+0.4**
TX32	**Lajitas Array**	**90.09**	**56**	P	**P**		**08 37 34.9**	**+0.9**
TX32				IAmb	IAmb		08 37 36.4		
	comp=Z,20nm,1.4s								
TXAR	**Lajitas Array**	**90.09**	**56**	P	**P**		**08 37 34.7**	**+0.8**
	comp=Z,4.8nm,1.0s,baz=212,slow=6.8,SNR=31								
TXAR				LR	LR		09 13 09.7		
	comp=Z,65nm,18.4s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**90.09**	**56**	P	**P**		**08 37 34.4**	**+0.4**
TXAR	**Lajitas Array**	**90.09**	**56**	P	**P**		**08 37 34.4**	**+0.4**
CN2	**Changchun**	**90.10**	**322**	*e*P	**P**		**08 37 34.5**	**+1.0**
CN2				pmax	pmax				
	comp=Z,20nm,0.8s								
MNTX	**Cornudas Mount**	**90.17**	**53**	P	**P**		**08 37 34.5**	**+0.3**
G08A	**Pilot Rock**	**90.22**	**36**	P	**P**		**08 37 34.6**	**+0.4**
E07A	**Sunnyside**	**90.63**	**35**	P	**P**		**08 37 36.8**	**+0.8**
HAWA	**Hanford**	**90.68**	**35**	P	**P**		**08 37 36.9**	**+0.7**
BNM	**Barren Site**	**90.70**	**51**	P	**P**		**08 37 37.5**	**+0.6**
B05A	**Bryant**	**90.72**	**33**	P			08 37 37.8		
	baz=225								
A04D	**Lummi Island**	**90.76**	**32**	P			08 37 37.4		
	baz=225								
TMUT	**Trail Mountain**	**90.76**	**45**	P	**P**		**08 37 37.3**	**+0.2**
TMUT				IAmb	IAmb		08 37 39.7		
	comp=Z,8.3nm,1.1s								
BRSE	**Bradley Lake S**	**90.78**	**12**	P			08 37 37.0		
	baz=202								
BMO	**Blue Mountains**	**90.80**	**37**	P	**P**		**08 37 36.2**	**-0.6**
BMO				pmax	pmax				
	comp=Z,5.0nm,1.1s								
BMO				MLR	MLR				
	comp=Z,200nm,18.0s								
BMO	**Blue Mountains**	**90.80**	**37**	P	**P**		**08 37 36.2**	**-0.6**
BMO				IAMs_20	IAMs_20		09 17 50.7		
	comp=Z,212nm,18.0s								
P17A	**Butcher Ranch,**	**91.16**	**45**	P	**P**		**08 37 39.6**	**+0.8**
P17A				IAmb	IAmb		08 37 41.2		
	comp=Z,9.6nm,1.3s								
MVCO	**Mesa Verde**	**91.23**	**48**	IAMs_20	IAMs_20		09 14 05.0		
	comp=Z,181nm,21.0s								
ANMO	**Albuquerque**	**91.27**	**50**	P	**P**		**08 37 40.4**	**+1.0**
ANMO				pmax	pmax				
	comp=Z,8.0nm,1.2s								
ANMO	**Albuquerque**	**91.27**	**50**	P	**P**		**08 37 40.4**	**+1.0**
ANMO				IAmb	IAmb		08 37 41.7		
	comp=Z,8.3nm,1.1s								
HVU	**Hansel Valley**	**91.35**	**42**	P	**P**		**08 37 39.8**	**+0.2**
HVU				pmax	pmax				
	comp=Z,19nm,1.4s								
HVU	**Hansel Valley**	**91.35**	**42**	P	**P**		**08 37 39.8**	**+0.2**
E09A	**Wood Farm, Sta**	**91.47**	**36**	P	**P**		**08 37 40.7**	**+0.9**
HLID	**Hailey**	**91.54**	**40**	P	**P**		**08 37 41.4**	**+1.0**
PV18	**Skein Mesa, Pa**	**91.57**	**46**	P	**P**		**08 37 40.6**	**-0.2**
PV18				IAmb	IAmb		08 37 42.6		
	comp=Z,6.6nm,1.1s								
F10A	**Beach Ranch, E**	**91.58**	**37**	P	**P**		**08 37 39.6**	**-0.8**
PV16	**Nyswonger Mesa**	**91.61**	**46**	P	**P**		**08 37 41.3**	**+0.3**
PV07	**Paradox Valley**	**91.85**	**46**	P	**P**		**08 37 42.8**	**+0.8**
PV07				IAmb	IAmb		08 37 43.8		
	comp=Z,6.9nm,1.0s								
PV15	**Paradox Valley**	**91.90**	**47**	P	**P**		**08 37 43.2**	**+0.8**
PV15				IAmb	IAmb		08 37 44.0		
	comp=Z,5.5nm,1.0s								
ENH	**Enshi**	**92.29**	**303**	P	**P**		**08 37 43.5**	**-0.6**
S22A	**4UR Ranch, Cre**	**92.62**	**48**	P			08 37 47.0		
	baz=235								
PMR	**Palmer**	**92.79**	**12**	P			08 37 46.4		
	baz=203								
TTA	**Tatalina**	**92.93**	**9**	P			08 37 47.2		
	baz=198								
AHID	**Auburn Hatcher**	**92.94**	**42**	P	**P**		**08 37 47.9**	**+1.0**
AHID				IAmb	IAmb		08 37 49.0		
	comp=Z,10nm,1.1s								
AHID				IAMs_20	IAMs_20		09 15 00.8		
	comp=Z,264nm,20.0s								
O20A	**White River Ci**	**93.10**	**45**	P			08 37 48.5		
	baz=234								
NEW	**Newport**	**93.15**	**35**	P	**P**		**08 37 48.3**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=180,slow=10,SNR=2.3								
NEW	**Newport**	**93.15**	**35**	P	**P**		**08 37 48.3**	**+0.7**
NEW				pmax	pmax				
	comp=Z,3.0nm,1.0s								
NEW	**Newport**	**93.15**	**35**	IAmb	IAmb		08 37 48.9		
	comp=Z,2.6nm,0.9s								
MSTX	**Muleshoe**	**93.25**	**53**	P			08 37 49.0		
	baz=237								
REDW	**Red Top Meadow**	**93.44**	**41**	P	**P**		**08 37 49.6**	**+0.2**
REDW				IAmb	IAmb		08 37 51.3		
	comp=Z,12nm,1.1s								
TPAW	**Teton Pass**	**93.47**	**41**	P	**P**		**08 37 49.4**	**-0.1**
TPAW				IAmb	IAmb		08 37 51.4		
	comp=Z,4.8nm,0.8s								
PDAR	**Pinedale Array**	**93.85**	**43**	P	**P**		**08 37 51.5**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=227,slow=3.5,SNR=7.2								
YHL	**Hebgen Lake**	**94.16**	**40**	P	**P**		**08 37 53.9**	**+1.3**
YMR	**Madison River**	**94.17**	**40**	P	**P**		**08 37 54.0**	**+1.4**
YMR				IAmb	IAmb		08 37 55.2		
	comp=Z,13nm,1.1s								
H17A	**Grant Village**	**94.23**	**41**	P			08 37 54.7		
	baz=233								
H17A	**Grant Village**	**94.23**	**41**	P	**P**		**08 37 54.8**	**+1.9**
H17A				IAmb	IAmb		08 37 56.0		
	comp=Z,5.3nm,0.9s								
MNMC	**Minye Minye**	**94.37**	**115**	P	**P**		**08 37 54.3**	**-0.1**
MNMC				IAmb	IAmb		08 37 57.5		
	comp=Z,7.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**94.64**	**288**	P	**P**		**08 37 55.5**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=146,slow=4.1,SNR=6.1								
CMAR	**Chiang Mai Arr**	**94.64**	**288**	P	**P**		**08 37 56.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**94.64**	**288**	P	**P**		**08 37 56.7**	**+1.6**
XAN	**Xi'an**	**94.69**	**306**	P	**P**		**08 37 58.9**	**+3.9**
XAN				pP	pwP		08 38 03.9	-3.0
XAN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
XAN				L	L				
	comp=Z,140nm,20.9s								
XAN				L	L				
	comp=Z,140nm,18.4s								
KMI	**Kunming**	**94.79**	**296**	⇑P	**P**		**08 37 53.8**	**-2.2**
KMI				pP	sP		08 38 01.8	+5.2
KMI				sP	pwP		08 38 06.7	-1.1
KMI				pmax	pmax				
	comp=Z,4.0nm,0.5s								
BPAW	**Bear Paw Mtn.**	**94.79**	**11**	IAMs_20	IAMs_20		09 18 27.4		
	comp=Z,264nm,20.0s								
CHTO	**Chiang Mai**	**94.81**	**289**	IAMs_20	IAMs_20		09 13 01.2		
	comp=Z,154nm,19.0s								
SEY	**Seymchan**	**94.99**	**346**	P	**P**		**08 37 55.9**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=158,slow=5.4,SNR=24								
K22A	**Casper**	**95.60**	**44**	P			08 37 59.7		
	baz=236								
MLY	**Manley**	**95.70**	**10**	P			08 37 58.5		
	baz=202								
HDA	**Harding Lake**	**95.78**	**12**	P			08 37 59.5		
	baz=205								
HDA				P			08 37 59.5		
	baz=205								
TCOL	**CIGO, UAF Yank**	**96.04**	**12**	P			08 38 00.4		
	baz=205								
COLA	**College**	**96.04**	**12**	*i* P	**P**		**08 37 59.1**	**-1.2**
COLA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ILAR	**Eielson Array**	**96.12**	**12**	P	**P**		**08 38 00.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=223,slow=5.4,SNR=16								
ILAR				PP	**PP**		**08 41 51.2**	**-2.9**
	comp=Z,0.7nm,0.9s,baz=212,slow=7.3,SNR=4.9								
ILAR				LR	LR		09 15 14.9		
	comp=Z,30nm,19.5s,baz=154,slow=32								
ILAR	**Eielson Array**	**96.12**	**12**	P	**P**		**08 38 00.5**	**-0.3**
ILAR	**Eielson Array**	**96.12**	**12**	P	**P**		**08 38 00.5**	**-0.3**
IMAR	**Indian Mountai**	**96.15**	**9**		**P**		**08 38 01.9**	**+1.0**
ACON	**Acoyapa**	**96.35**	**80**	IAMs_20	IAMs_20		09 18 39.0		
	comp=Z,242nm,22.0s								
HHC	**Hu-ho-hao-te**	**96.54**	**313**	*e*P	**P**		**08 38 03.9**	**+0.5**
HHC				pmax	pmax				
	comp=Z,15nm,0.8s								
HHC				pmax	pmax				
	comp=Z,78nm,6.6s								
PRP	**Porcupine Dome**	**97.05**	**12**	IAMs_20	IAMs_20		09 10 43.1		
	comp=Z,243nm,18.0s								
BILL	**Bilibino**	**97.60**	**353**	⇓*e*P	**P**		**08 38 06.4**	**-1.0**
BILL				*e*			08 42 02.3		
BILL				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BILL				MLR	MLR				
	comp=Z,59nm,17.0s								
BMAR	**Burnt Mountain**	**98.93**	**12**	P	Pdif		08 38 14.3	+0.8
TOLK	**Toolik Lake Re**	**99.22**	**9**	P			08 38 15.4		
	baz=203								
LZH	**Lanzhou**	**99.31**	**306**	*e*P	**Pdif**		**08 38 13.3**	**-2.8**
LZH				pP	sP		08 38 18.0	+1.2
LZH				sP	pP		08 38 20.8	+4.2
LZH				pmax	pmax				
	comp=Z,12nm,1.0s								
LZH				L	L				
	comp=Z,310nm,13.8s								
LZH				L	L				
	comp=Z,450nm,15.2s								
LZH				L	L				
	comp=Z,240nm,14.4s								
CPUP	**Villa Florida**	**99.44**	**127**	LR	LR		09 15 58.5		
	comp=Z,63nm,20.6s,baz=224,slow=31								
KSU1	**Kansas State U**	**100.14**	**51**	IAMs_20	IAMs_20		09 17 23.3		
	comp=Z,253nm,22.0s								
OXF	**Oxford**	**103.16**	**58**	IAMs_20	IAMs_20		09 25 14.9		
	comp=Z,200nm,18.0s								
PLAL	**Pickwick Lake**	**104.35**	**58**	IAMs_20	IAMs_20		09 26 06.5		
	comp=Z,254nm,18.0s								
WMQ	**Urumqi**	**113.75**	**308**	*e*PKP	**PKiKP**		**08 43 08.9**	**-3.4**
SEUS	**St. Eustatius**	**118.03**	**85**	IAMs_20	IAMs_20		09 42 07.9		
	comp=Z,162nm,22.0s								
ZALV	**Zalesovo Beam**	**118.14**	**319**	PKP	**PKPdf**		**08 43 19.2**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=88,slow=1.3,SNR=7.7								
MK31	**Makanchi Array**	**118.22**	**310**	PKIKP	**PKPdf**		**08 43 20.5**	**-0.2**
MK31	**Makanchi Array**	**118.22**	**310**		**PKPdf**		**08 43 20.5**	**-0.2**
MKAR	**Makanchi Array**	**118.22**	**310**	PKP	**PKPdf**		**08 43 19.4**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=80,slow=1.5,SNR=23								
MKAR	**Makanchi Array**	**118.22**	**310**	*c* iPKIKP	**PKPdf**		**08 43 20.3**	**-0.4**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**118.22**	**310**	PKPdf	**PKPdf**		**08 43 20.4**	**-0.4**
BOSA	**Boshof**	**119.28**	**201**	PKP	**PiKP**		**08 43 25.1**	**+1.4**
	comp=Z,5.1nm,0.9s,baz=138,slow=6.4,SNR=3.3								
KSH	**Kashi**	**121.05**	**301**	*e*PKP	**PKPdf**		**08 43 21.7**	**-4.8**
KURK	**Kurchatov**	**121.34**	**314**	PKIKP	**PKPdf**		**08 43 26.5**	**0.0**
KURK	**Kurchatov**	**121.34**	**314**		**PKPdf**		**08 43 26.5**	**0.0**
KURBB	**Kurchatov Arra**	**121.38**	**314**	PKP	**PKPdf**		**08 43 26.5**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=108,slow=2.0,SNR=30								
AAK	**Ala-Archa**	**122.80**	**304**	*c* iPKIKP	**PKPdf**		**08 43 28.9**	**-0.9**
AAK				pmax	pmax				
	comp=Z,12nm,1.3s								
BVAR	**Borovoye Array**	**126.61**	**316**	PKP	**PKPdf**		**08 43 36.3**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=245,slow=11,SNR=14								
ARU	**Arti**	**133.09**	**322**	PKP	**PKPdf**		**08 43 49.2**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=250,slow=5.9,SNR=4.0								
ARU	**Arti**	**133.09**	**322**	*i* PKIKP	**PKPdf**		**08 43 48.8**	**0.0**
ARU							08 46 11.1		
AKTO	**Aktyubinsk**	**134.43**	**314**	PKP	**PKPdf**		**08 43 51.7**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=51,slow=2.1,SNR=11								
ARCES	**ARCESS Array B**	**137.53**	**349**	PKhKP	PKPpre		08 43 50.8		
	comp=Z,2.5nm,0.8s,baz=28,slow=5.5,SNR=4.2								
ARCES				PKP	**PKPdf**		**08 43 56.0**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=45,slow=1.9,SNR=6.2								
APA	**Apatity**	**137.55**	**344**	⇓*i* PKIKP	**PKPdf**		**08 43 50.7**	**-6.1**
APA				pmax	pmax				
	comp=Z,7.0nm,1.2s								
H10N3	**ASCENSION HYDR**	**139.28**	**151**	T	T		11 21 04.6		
	baz=204,slow=75,SNR=7.0								
H10N1	**ASCENSION HYDR**	**139.28**	**151**	T	T		11 21 04.6		
	baz=204,slow=75,SNR=5.5								
H10N2	**ASCENSION HYDR**	**139.29**	**151**	T	T		11 21 04.6		
	baz=204,slow=75,SNR=4.7								
KLMR	**Klimovskoe**	**140.30**	**334**	*e*PKIKP	**PKPdf**		**08 44 01.8**	**-0.2**
KLMR				pmax	pmax				
	comp=Z,18nm,1.4s								
KLMR	**Klimovskoe**	**140.30**	**334**	*e*PKPdf	**PKPdf**		**08 44 01.8**	**-0.2**
KLMR				AMP			08 44 06.2		
	comp=Z,18nm,1.4s								
MOS	**Moscow**	**144.11**	**328**	*e*PKIKP	PKPab		08 44 06.0	-0.5
FINES	**FINESS Array B**	**144.36**	**342**	PKP	**PKPab**		**08 44 07.5**	**+0.2**
	comp=Z,13nm,0.5s,baz=71,slow=2.9,SNR=62								
OBN	**Obninsk**	**144.97**	**327**	PKP	**PKPab**		**08 44 10.0**	**+0.4**
	comp=Z,7.2nm,0.4s,baz=113,slow=2.7,SNR=11								
OBN	**Obninsk**	**144.97**	**327**	*d* iPKIKP	**PKPab**		**08 44 09.2**	**-0.5**
OBN				*e*			08 47 30.1		
OBN				pmax	pmax				
	comp=Z,66nm,1.1s								
OBN				MLR	MLR				
	comp=Z,47nm,16.0s								
OBN	**Obninsk**	**144.97**	**327**	IAMs_20	IAMs_20		09 42 12.6		
	comp=Z,158nm,20.0s								
LPSR	**Galich'ya Gora**	**145.11**	**322**	*e*PKIKP	**PKPab**		**08 44 09.5**	**-0.8**
LPSR				pmax	pmax				
	comp=Z,30nm,1.1s								
ZEI	**Tsey**	**145.22**	**304**	*i* PKIKP	**PKPbc**		**08 44 11.2**	**0.0**
ZEI				pmax	pmax				
	comp=Z,18nm,0.7s								
VSR	**Storozhevoye**	**145.62**	**320**	*e*PKP2	**PKPdf**		**08 44 09.8**	**-1.9**
VSR				pmax	pmax				
	comp=Z,50nm,0.8s								
VORD	**Divnogorie**	**145.66**	**320**	*e*PKIKP	**PKPdf**		**08 44 11.5**	**-0.3**
VORD				pmax	pmax				
	comp=Z,30nm,0.7s								
KBZ	**Khabaz**	**145.75**	**306**	PKPbc	**PKPdf**		**08 44 13.2**	**+1.1**
	comp=Z,7.1nm,0.9s,baz=150,slow=1.5,SNR=11								
RAF	**Rauma**	**145.81**	**345**	*e*P	**PKPdf**		**08 44 11.8**	**+0.1**
MEF	**Metsahovi**	**145.84**	**342**	*e*P	**PKPdf**		**08 44 12.1**	**+0.3**
KIV	**Kislovodsk**	**145.85**	**307**	*i* PKIKP	**PKPdf**		**08 44 13.5**	**+1.0**
KIV				pmax	pmax				
	comp=Z,60nm,1.1s								
KIV	**Kislovodsk**	**145.85**	**307**	PKPdf	**PKPdf**		**08 44 13.5**	**+1.0**
VSU	**Vasula**	**146.59**	**338**	*e*P	**PKPbc**		**08 44 15.1**	**+0.5**
AAL	**Aland**	**146.96**	**345**	*e*P	**PKPdf**		**08 44 14.7**	**+1.0**
MTSE	**Matsula**	**147.27**	**341**	*e*P	**PKPdf**		**08 44 16.1**	**+1.9**
NC204	**NORSAR Array S**	**147.36**	**354**		**PKPbc**		**08 44 17.0**	**+0.1**
NC405	**NORSAR Array S**	**147.43**	**353**		**PKPbc**		**08 44 16.9**	**-0.1**
NB2	**NORSAR Subarra**	**147.55**	**354**	PKP	**PKPbc**		**08 44 17.1**	**-0.3**
	baz=16,slow=2.9								
NOA	**NORSAR Array B**	**147.55**	**354**	PKPbc	**PKPdf**		**08 44 17.0**	**+2.3**
	comp=Z,8.5nm,0.8s,baz=12,slow=2.7,SNR=24								
NOA	**NORSAR Array B**	**147.55**	**354**	PKP2	**PKPdf**		**08 44 17.0**	**+2.3**
UPP	**Uppsala**	**147.75**	**347**	*e*P	**PKPbc**		**08 44 17.5**	**-0.3**
NAO01	**NORSAR Array S**	**147.78**	**354**		**PKPdf**		**08 44 17.2**	**+2.1**
NC602	**NORSAR Array S**	**147.82**	**353**		**PKPdf**		**08 44 17.5**	**+2.4**
KONO	**Kongsberg**	**149.07**	**355**	*c* iPKP2	**PKPdf**		**08 44 20.1**	**+2.9**
KONO				pmax	pmax				
	comp=Z,27nm,1.3s								
MNK	**Minsk**	**149.18**	**333**	*i* PKIKP	**PKPdf**		**08 44 17.1**	**-0.4**
MNK				*i*			08 47 52.5		
MNK				*i* PPP	PPP		08 51 11.7		
MNK				*i*			08 51 25.5		
MNK				*i*			09 00 42.1		
MNK				*i* SS	SS		09 07 04.7	-0.3	
MNK				*i* SSS	SSS		09 12 41.6		
MNK				pmax	pmax				
	comp=E,4.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,26nm,0.9s								
MNK				pmax	pmax				
	comp=Z,25nm,0.9s								
MNK				MLR	MLR				
	comp=E,5.0nm,17.0s								
MNK				MLR	MLR				
	comp=N,92nm,20.0s								
MNK				MLR	MLR				
	comp=Z,129nm,23.0s								
MNK	**Minsk**	**149.18**	**333**	*i* PKP	**PKPdf**		**08 44 17.2**	**-0.3**
	comp=E,4.0nm,1.0s								
MNK				*i* PKP	**PKPdf**		**08 44 17.2**	**-0.3**
	comp=N,26nm,0.9s								
MNK				*i* PKP	**PKPdf**		**08 44 17.2**	**-0.3**
	comp=Z,25nm,0.9s,baz=43								
MNK				*i* PP	**PP**		**08 47 52.5**	**-0.6**
MNK				*i* PPP	PPP		08 51 11.8		
MNK				*i* SKS	**SKSdf**		**08 51 25.5**	**0.0**
MNK				*i* SKKS	SKKSdf		09 00 42.2	+20
MNK				*i* SS	**SS**		**09 07 04.8**	**-0.3**
MNK				*i* SS	**SS**		**09 07 04.8**	**-0.3**
MNK				*i* SSS	SSS		09 12 41.7		
MNK				*i* SSS	SSS		09 12 48.8		
MNK				*i* LR	LR		09 45 43.7		
MNK				*i* LRM	MLR		09 51 35.4		
	comp=E,5.0nm,17.4s								
MNK				*i* LRM	MLR		09 51 39.7		
	comp=N,92nm,20.3s								
MNK				*i* LRM	MLR		09 51 54.2		
	comp=Z,129nm,23.1s								
ANN	**Anapa**	**149.24**	**310**	*i* PKIKP	**PKPdf**		**08 44 20.3**	**+2.4**
ANN				pmax	pmax				
	comp=Z,34nm,0.9s								
NACGM	**Naroch**	**149.32**	**334**	*i* PKP	**PKPdf**		**08 44 19.4**	**+1.7**
AKASG	**Malin Array Be**	**151.18**	**326**	PKPbc	**PKPbc**		**08 44 26.8**	**+0.1**
	comp=Z,31nm,0.9s,baz=45,slow=2.6,SNR=43								
SUW	**Suwalki**	**151.34**	**336**	*e*P	**PKPbc**		**08 44 27

SNPH				*i* S		**Sn**	**08 46 47.9**	**+1.7**
DAV	**Davao City (W)**	**3.20**	**190**	LR		LR	08 47 52.7	
	comp=Z,197nm,20.1s,baz=350,slow=48							
DCPH	**Dipolog City**	**3.22**	**240**	⇑*i* P		**Pn**	**08 46 16.2**	**+2.3**
DCPH				*i* S		**Sn**	**08 46 52.8**	**+1.6**
KCP	**Kidapawan**	**3.38**	**198**	⇓*e* P		**Pn**	**08 46 19.3**	**+3.2**
RCP	**Roxas**	**3.60**	**292**	⇓*e* P		Pb	08 46 23.1	-5.5
PAGZ	**Pagadian**	**3.63**	**229**	*e* P		**Pn**	**08 46 20.8**	**+1.3**
PAGZ				*e* S		Sn	08 46 54.4	-6.8
SKMP	**Bagumbayan, Su**	**4.03**	**204**	*e* P		**Pn**	**08 46 27.8**	**+2.9**
JCNP	**Jose Panganiba**	**5.26**	**320**	⇓*i* P		**Pn**	**08 46 42.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**27.57**	**290**	P		**P**	**08 51 09.5**	**-0.5**
	0.9nm,0.3s,baz=125,slow=31,SNR=1.0							
FITZ	**Fitzroy Crossi**	**28.16**	**181**	P		**P**	**08 51 14.9**	**-0.2**
	0.9nm,0.4s,baz=30,slow=8.1,SNR=1.2							
ASAR	**Alice Springs**	**34.54**	**167**	P		**P**	**08 52 10.4**	**-0.8**
	1.0nm,0.4s,baz=349,slow=6.8,SNR=37							
ASAR				PcP		**PcP**	**08 54 45.5**	**-0.3**
	0.5nm,0.6s,baz=348,slow=3.3,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**40.03**	**73**	T		T	09 35 50.9	
	baz=262,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**40.05**	**73**	T		T	09 35 55.6	
	baz=262,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**40.05**	**73**	T		T	09 35 52.4	
	baz=262,slow=75,SNR=23							
H11N1	**WAKE ISLAND Hy**	**40.37**	**72**	T		T	09 36 18.5	
	baz=262,slow=74,SNR=81							
H11N2	**WAKE ISLAND Hy**	**40.38**	**72**	T		T	09 36 19.6	
H11N3	**WAKE ISLAND Hy**	**40.39**	**72**	T		T	09 36 19.8	
	baz=251,slow=74,SNR=74							
STKA	**Stephens Creek**	**44.41**	**161**	P		**P**	**08 53 32.9**	**-0.4**
	0.7nm,0.3s,baz=351,slow=7.2,SNR=6.5							
MKAR	**Makanchi Array**	**51.99**	**323**	P		**P**	**08 54 31.1**	**-0.6**
	1.1nm,0.6s,baz=125,slow=8.5,SNR=13							
MKAR				PcP		**PcP**	**08 55 43.1**	**-0.7**
	0.6nm,0.5s,baz=118,slow=4.4,SNR=7.8							
ZALV	**Zalesovo Beam**	**54.60**	**331**	P		**P**	**08 54 49.9**	**-0.9**
	0.9nm,0.3s,baz=138,slow=6.7,SNR=2.2							
KURBB	**Kurchatov Arra**	**56.04**	**325**	P		**P**	**08 55 00.8**	**-0.4**
	1.0nm,0.5s,baz=127,slow=6.8,SNR=1.1							
TIXI	**Tiksi**	**61.39**	**1**	P		**P**	**08 55 39.0**	**+0.9**
	1.2nm,0.3s,baz=154,slow=1.9,SNR=4.2							
ILAR	**Eielson Array**	**79.52**	**26**	P		**P**	**08 57 29.4**	**+0.5**
	0.5nm,0.6s,baz=214,slow=5.7,SNR=6.5							
ARCES	**ARCESS Array B**	**84.19**	**340**	P		**P**	**08 57 53.3**	**-0.1**
	2.8nm,0.8s,baz=54,slow=6.6,SNR=4.3							
FINES	**FINESS Array B**	**85.87**	**332**	P		**P**	**08 58 01.4**	**-0.5**
	0.6nm,0.3s,baz=74,slow=3.8,SNR=6.6							
TORD	**Torodi Ar. Bea**	**120.18**	**292**	PKP		**PKPdf**	**09 04 13.0**	**-1.3**
	0.4nm,0.4s,baz=64,slow=2.0,SNR=6.7							

*IDC **05** 08:53:52.1±3.6, 25°.23N×95°.47E, h125km±40km, mb3.4/3, mb1 3.4/4, mb1mx3.0/53, mbtmp3.7/4, Error ellipse: s-maj=101.7km s-min=18.9km az=61.0*

ISC 05 08:53:49.9±1.2, 25°.2N±0°.2×95°.2E±0°.1, h100km, n5, σ1§31/6, mb3.6/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
SHL	**Shillong**	**3.03**	**277**	*e* PN		**Pn**	**08 54 37.0**		**+0.7**
SHL				eSN		**Sn**	**08 55 11.0**		**-1.0**
CMAR	**Chiang Mai Arr**	**7.57**	**152**	P		**Pn**	**08 55 38.5**		**+0.9**
	0.7nm,0.3s,baz=330,slow=13,SNR=18								
MKAR	**Makanchi Array**	**23.87**	**338**	P		**P**	**08 58 54.9**		**+0.8**
	1.5nm,0.5s,baz=151,slow=9.3,SNR=19								
KURBB	**Kurchatov Arra**	**28.44**	**337**	P		**P**	**08 59 35.1**		**0.0**
	0.4nm,0.4s,baz=145,slow=9.9,SNR=3.2								
ASAR	**Alice Springs**	**61.38**	**139**	P		**P**	**09 03 54.1**		**-1.5**
	0.4nm,0.5s,baz=323,slow=6.7,SNR=11								

*IDC **05** 09:06:06.4±1.2, 25°.92N×99°.92E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, ML4.3/1, MS3.1/2, Ms1 3.2/2, ms1mx2.7/37, Error ellipse: s-maj=41.5km s-min=18.8km az=80.0*

*BJI **05** 09:06:06.1±0.0, 25°.86N×99°.79E, h15km, mb4.2/4, ML4.0/9, Ms3.9/7, Ms7 3.7/5*

ISC 05 09:06:09.8±0.8, 26°.11N±0°.05×99°.96E±0°.06, h10km, n34, σ2§38/33, mb3.8/4, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
KMI	**Kunming**	**2.69**	**111**	⇑Pn		**Pn**	**09 06 52.8**		**-0.6**
KMI				Pg		**Pb**	**09 06 56.8**		**-1.4**
KMI				Sg		**Sg**	**09 07 37.3**		**+1.0**
KMI				SMN					
	420nm,1.0s								
KMI				SME					
	380nm,0.9s								
CD2	**Chengdu**	**5.83**	**34**	Pg		**Pg**	**09 08 00.1**		**-1.4**
CD2				Sg		**Sg**	**09 09 18.4**		**+1.3**
CD2				SMN					
	80nm,1.9s								
CD2				SME					
	130nm,1.3s								
GYA	**Guiyang**	**6.02**	**85**	*e* Pn		**Pn**	**09 07 40.8**		**+1.7**
GYA				Sn		**Sn**	**09 08 52.3**		**+4.1**
CM33	**Chiang Mai Arr**	**7.32**	**188**	P		**Pb**	**09 08 17.0**		**+0.1**
CM35	**Chiang Mai Arr**	**7.43**	**186**	P		**Pb**	**09 08 22.0**		**+3.1**
CM32	**Chiang Mai Arr**	**7.49**	**188**	P		**Pb**	**09 08 22.0**		**+2.1**
CM32	**Chiang Mai Arr**	**7.49**	**188**	P		**Pn**	**09 07 58.0**		**-1.2**
CM36	**Chiang Mai Arr**	**7.60**	**186**	P		**Pb**	**09 08 24.0**		**+2.3**
CM31	**Chiang Mai Arr**	**7.67**	**187**	P		**Pb**	**09 08 26.0**		**+3.0**
	20μm2μm,0.6s								
CMAR	**Chiang Mai Arr**	**7.67**	**187**	Pn		Pn	09 07 58.6		-3.1
	1.1nm,0.3s,baz=2.8,slow=13,SNR=14								
CMAR				Pg		**Pb**	**09 08 25.6**		**+2.6**
	2.4nm,0.3s,baz=359,slow=16,SNR=41								
CMAR				Lg		Lg	09 10 02.6		
	1.0nm,0.3s,baz=359,slow=30,SNR=6.0								
CMAR				LR		LR	09 11 07.8		
	comp=Z,140nm,21.1s,baz=76,slow=40								
CM15	**Chiang Mai Arr**	**7.68**	**187**	P		**Pb**	**09 08 26.0**		**+2.9**
	72nm,0.7s								
CM15	**Chiang Mai Arr**	**7.68**	**187**	P		**Pn**	**09 08 04.0**		**+2.2**
CM09	**Chiang Mai Arr**	**7.68**	**187**	P		**Pb**	**09 08 26.1**		**+3.0**
	525nm70nm,0.7s								
CM09	**Chiang Mai Arr**	**7.68**	**187**	P		**Pn**	**09 08 01.7**		**-0.1**
CM02	**Chiang Mai Arr**	**7.70**	**187**	P		**Pb**	**09 08 26.4**		**+3.1**
	817nm118nm,0.8s								
CM02	**Chiang Mai Arr**	**7.70**	**187**	P		**Pn**	**09 08 00.0**		**-2.0**
CM01	**Chiang Mai Arr**	**7.71**	**187**	P		**Pb**	**09 08 26.0**		**+2.4**
	609nm86nm,0.9s								
CM01	**Chiang Mai Arr**	**7.71**	**187**	P		**Pn**	**09 08 00.0**		**-2.1**
CM13	**Chiang Mai Arr**	**7.71**	**188**	P		**Pb**	**09 08 26.3**		**+2.6**
	431nm62nm,0.7s								
CM04	**Chiang Mai Arr**	**7.73**	**187**	P		**Pn**	**09 07 60.0**		**-2.5**
CM05	**Chiang Mai Arr**	**7.73**	**187**	P		**Pb**	**09 08 26.8**		**+2.8**
	534nm62nm,0.8s								
CM05	**Chiang Mai Arr**	**7.73**	**187**	P		Pn	09 07 59.0		-3.4
MHMT	**Maesarieng**	**8.12**	**194**	P		Pb	09 08 38.0		+7.5
UTTA	**Uttaradit**	**8.34**	**176**	P		Pb	09 08 41.0		+6.6
	132nm62nm,0.7s								
NONG	**Nongkai**	**8.53**	**159**	P		Pg	09 08 45.5		-7.6
LOEI	**Loei**	**8.64**	**172**	P		**Pg**	**09 08 54.3**		**-1.0**
PHIT	**Phitsanulok**	**8.88**	**177**	P		Pg	09 08 49.9		-10
	404nm55nm,1.0s								
XAN	**Xi'an**	**11.07**	**42**	P		**Pn**	**09 08 48.1**		**-0.1**
XAN				S		**Sn**	**09 10 56.9**		**+4.7**
XAN				pmax		pmax			
	comp=Z,6.0nm,0.7s								
XAN				L		L			
	comp=N,680nm,12.8s								
XAN				L		L			
	comp=E,440nm,12.0s								
XAN				L		L			
	comp=Z,380nm,8.6s								
WMQ	**Urumqi**	**20.29**	**334**	*e* P		**P**	**09 10 45.4**		**-0.3**
SONM	**Songino Array**	**22.27**	**11**	P		**P**	**09 11 07.3**		**+0.2**
	1.1nm,0.6s,baz=193,slow=12,SNR=4.9								
MKAR	**Makanchi Array**	**24.96**	**330**	P		**P**	**09 11 32.7**		**-0.6**
	2.2nm,0.7s,baz=138,slow=10,SNR=26								
KSRS	**Korea Array**	**26.23**	**58**	LR		LR	09 21 55.0		
	comp=Z,39nm,19.7s,baz=280,slow=36								
WRA	**Warramunga Arr**	**56.65**	**141**	P		**P**	**09 15 49.9**		**-3.6**
	1.5nm,0.7s,baz=330,slow=7.6,SNR=3.6								
ASAR	**Alice Springs**	**59.39**	**144**	P		**P**	**09 16 10.6**		**-2.0**
	0.2nm,0.7s,baz=324,slow=6.9,SNR=1.8								

*NEIC **05** 09:27:23.8±2.9, 17°.42S±0°.05×69°.65W±0°.07, h150km±5km, mb4.7/86, Error ellipse: s-maj=10.4km s-min=6.7km az=113.0*

*SJA **05** 09:27:24.3±0.5, 17°.58S×69°.94W, h172km±5km, ML4.7, MW4.3*

*VAO **05** 09:27:24.4±0.5, 17°.37S×69°.44W, h147km±4km, mb4.8*

*IDC **05** 09:27:25.9±0.6, 17°.46S×69°.34W, h154km±5km, mb4.1/12, mb1 4.3/15, mb1mx4.1/29, mbtmp4.6/15, MS3.2/2, Ms1 3.2/2, ms1mx2.6/29, Error ellipse: s-maj=12.2km s-min=8.4km az=107.0*

*GUC **05** 09:27:25.9±0.7, 17°.59S×69°.87W, h166km±4km, ML4.8, MW4.7*

ISC 05 09:27:23.7±0.5, 17°.46S±0°.03×69°.71W±0°.05, h150km±4km, n268, σ1§93/312, mb4.7/56, 3C-3D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
PB16	**IPOC Station P**	**0.89**	**168**			**Pn**	**09 27 49.5**		**+1.2**
PB16				Sn		**Sn**	**09 28 08.7**		**+1.7**
AP01	**Chacalluta**	**1.09**	**213**	⇑*i* P		**Pn**	**09 27 50.5**		**+1.3**
AP01				*i* S		**Sn**	**09 28 10.1**		**+1.4**
AP01				IAML			09 28 11.0		
	comp=N,23μm,0.4s								
AP01	**Chacalluta**	**1.09**	**213**			**Pn**	**09 27 50.3**		**+1.1**
AP01				Sn		**Sn**	**09 28 10.2**		**+1.4**
MNMC	**Minye Minye**	**1.67**	**176**	⇓*i* P		**Pn**	**09 27 56.9**		**+1.5**
MNMC				*i* S		**Sn**	**09 28 20.9**		**+1.2**
MNMC				IAML			09 28 23.8		
	comp=N,8μm,0.3s								
MNMC	**Minye Minye**	**1.67**	**176**	Pn		**Pn**	**09 27 56.8**		**+1.5**
MNMC				Sn		**Sn**	**09 28 21.3**		**+1.6**
MNMCX	**Minye Minye**	**1.67**	**176**	*e* P		**Pn**	**09 27 57.0**		**+1.7**
MNMCX				IAML			09 28 25.4		
	comp=Z,4μm,0.4s								
I08BO	**LAS PENAS INFR**	**1.73**	**44**	P		**Pn**	**09 27 56.5**		**+0.3**
	baz=239,slow=14,SNR=9.3								
LPAZ	**La Paz**	**1.91**	**53**	P		**Pn**	**09 27 58.6**		**+0.2**
	comp=Z,342nm,0.3s,baz=246,slow=7.2,SNR=6823								
LPAZ				S		**Sn**	**09 28 22.6**		**-2.3**
	comp=Z,90nm,0.3s,baz=54,slow=19,SNR=12								
LPAZ				LR		LR	09 28 40.3		
	comp=Z,552nm,19.3s,baz=192,slow=45								
LPAZ	**La Paz**	**1.91**	**53**			**Pn**	**09 27 58.7**		**+0.3**
LPAZ				Sn		**Sn**	**09 28 24.0**		**-0.9**
LPAZ	**La Paz**	**1.91**	**53**	*e* P		**Pn**	**09 27 58.8**		**+0.3**
PSGC	**Pisagua**	**2.16**	**190**	⇑*i* P		**Pn**	**09 28 01.5**		**+0.7**
PSGC				*i* S		**Sn**	**09 28 28.6**		**-0.9**
PSGC				IAML			09 28 30.2		
	comp=N,4μm,0.4s								
PSGCX	**Pisagua**	**2.16**	**190**			**Pn**	**09 28 01.6**		**+0.7**
PSGCX	**Pisagua**	**2.16**	**190**	*e* P		**Pn**	**09 28 01.8**		**+1.0**
PSGCX				IAML			09 28 33.7		
	comp=Z,2μm,0.3s								
PB11	**IPOC Station P**	**2.29**	**179**	⇓*i* P		**Pn**	**09 28 03.5**		**+1.1**
PB11				*i* S		**Sn**	**09 28 32.6**		**+0.3**
PB11				IAML			09 28 35.2		
	comp=N,6μm,0.3s								
PB11	**IPOC Station P**	**2.29**	**179**			**Pn**	**09 28 03.5**		**+1.1**
PB11	**IPOC Station P**	**2.29**	**179**	*e* P		**Pn**	**09 28 04.0**		**+1.6**
PB11				eS		**Sn**	**09 28 32.8**		**+0.5**
PB11				IAML			09 28 35.8		
	comp=Z,3μm,0.4s								
PB08	**IPOC Station P**	**2.72**	**169**	⇓*i* P		**Pn**	**09 28 09.5**		**+1.6**
PB08				*i* S		**Sn**	**09 28 42.8**		**+0.7**
PB08				IAML			09 28 44.9		
	comp=E,3μm,0.1s								
PB08	**IPOC Station P**	**2.72**	**169**			**Pn**	**09 28 09.4**		**+1.6**
PB08	**IPOC Station P**	**2.72**	**169**	*e* P		**Pn**	**09 28 09.6**		**+1.7**
PB08				eS		**Sn**	**09 28 43.0**		**+0.9**
PB08				IAML			09 28 45.1		
	comp=Z,2μm,0.5s								
TA02	**Huaiquique**	**2.83**	**188**	*e* P		**Pn**	**09 28 09.2**		**+0.4**
TA02				eS		**Sn**	**09 28 41.9**		**-1.9**
TA02	**Huaiquique**	**2.83**	**188**	Pn		**Pn**	**09 28 09.2**		**+0.4**
TA01	**Diego Aracena**	**3.12**	**188**	⇑*e* P		**Pn**	**09 28 12.7**		**+0.1**
TA01				*i* S		**Sn**	**09 28 47.9**		**-2.6**
TA01				IAML			09 28 49.7		
	comp=N,2μm,0.2s								
TA01	**Diego Aracena**	**3.12**	**188**			**Pn**	**09 28 12.9**		**+0.3**
PATCX	**Punta Patache**	**3.37**	**187**	*e* P		**Pn**	**09 28 15.9**		**+0.1**
PATCX				*i* S		**Sn**	**09 28 53.9**		**-2.4**
PATCX				IAML			09 28 59.2		
	comp=E,2μm,0.1s								
PATCX	**Punta Patache**	**3.37**	**187**			**Pn**	**09 28 16.2**		**+0.4**
PATCX	**Punta Patache**	**3.37**	**187**	*e* P		**Pn**	**09 28 16.4**		**+0.5**
PATCX				IAML			09 29 01.8		
	comp=Z,749nm,0.3s								
PB01	**IPOC Station P**	**3.57**	**177**	*e* P		**Pn**	**09 28 18.9**		**+0.4**
PB01				*i* S		**Sn**	**09 28 59.3**		**-1.7**
PB01	**IPOC Station P**	**3.57**	**177**			**Pn**	**09 28 19.0**		**+0.6**
PB01	**IPOC Station P**	**3.57**	**177**	*e* P		**Pn**	**09 28 19.4**		**+0.9**
PB01				eS		**Sn**	**09 28 59.4**		**-1.7**
PB01				IAML			09 29 00.3		
	comp=Z,3μm,0.2s								
PB07	**IPOC Station P**	**4.25**	**182**	*e* P		**Pn**	**09 28 27.9**		**+0.6**
PB07				*i* S		**Sn**	**09 29 13.0**		**-3.9**
PB07	**IPOC Station P**	**4.25**	**182**			**Pn**	**09 28 27.8**		**+0.4**
PB07	**IPOC Station P**	**4.25**	**182**	*e* P		**Pn**	**09 28 28.2**		**+0.8**
PB07				eS		**Sn**	**09 29 13.6**		**-3.4**
PB07				IAML			09 29 19.6		
	comp=Z,2μm,0.4s								
PB09	**IPOC Station P**	**4.34**	**174**			**Pn**	**09 28 29.4**		**+0.9**
PB03	**IPOC Station P**	**4.57**	**181**	*e* P		**Pn**	**09 28 31.8**		**+0.3**
PB03				eS		**Sn**	**09 29 21.0**		**-3.4**
PB03				IAML			09 29 25.7		
	comp=Z,1μm,0.2s								
PB04	**IPOC Station P**	**4.87**	**185**			**Pn**	**09 28 35.7**		**+0.1**
PB04	**IPOC Station P**	**4.87**	**185**	*e* P		**Pn**	**09 28 35.6**		**+0.1**
PB04				eS		**Sn**	**09 29 27.0**		**-4.5**
PB04				IAML			09 29 35.5		
	comp=Z,1μm,0.3s								
LVC	**Limon Verde**	**5.18**	**172**	P		**Pn**	**09 28 40.9**		**+1.0**
	comp=Z,83nm,0.3s,baz=20,slow=8.5,SNR=274								
LVC				S		**Sn**	**09 29 36.5**		**-2.7**
	comp=Z,91nm,0.3s,baz=197,slow=20,SNR=17								
LVC	**Limon Verde**	**5.18**	**172**	*e* P		**Pn**	**09 28 40.5**		**+0.7**
LVC	**Limon Verde**	**5.18**	**172**	*e* P		**Pn**	**09 28 40.9**		**+1.0**
LVC				eS		**Sn**	**09 29 37.6**		**-1.6**
LVC				IAML			09 29 41.8		
	comp=Z,248nm,0.2s								
PB06	**IPOC Station P**	**5.22**	**179**			**Pn**	**09 28 40.2**		**+0.1**
PB06	**IPOC Station P**	**5.22**	**179**	*e* P		**Pn**	**09 28 40.4**		**+0.2**
PB06				eS		**Sn**	**09 29 35.6**		**-4.3**
PB06				IAML			09 29 43.1		
	comp=Z,885nm,0.3s								
PB05	**IPOC Station P**	**5.39**	**185**	*e* P		**Pn**	**09 28 42.2**		**-0.1**
PB05				eS		**Sn**	**09 29 38.2**		**-5.6**
PB05				IAML			09 29 43.6		
	comp=Z,723nm,0.2s								
PB15	**IPOC Station P**	**5.72**	**178**			**Pn**	**09 28 47.0**		**+0.1**
PB15	**IPOC Station P**	**5.72**	**178**	*e* P		**Pn**	**09 28 47.2**		**+0.3**
PB15				eS		**Sn**	**09 29 47.0**		**-5.0**
PB15				IAML			09 29 52.4		
	comp=Z,3μm,0.3s								
PB10	**IPOC Station P**	**6.08**	**187**	Pn		**Pn**	**09 28 50.6**		**-0.7**
PB10	**IPOC Station P**	**6.08**	**187**	*e* P		**Pn**	**09 28 50.8**		**-0.7**
PB10				eS		**Sn**	**09 29 53.5**		**-6.5**
PB10				IAML			09 29 58.2		
	comp=Z,616nm,0.7s								
YJA	**Yavi**	**6.13**	**141**	*e* P		**Pn**	**09 28 54.4**		**+1.8**
YJA				eS		**Sn**	**09 30 09.7**		**+7.6**
YJA				IAML			09 30 13.4		
	comp=Z,1.8nm,1.0s								
PB14	**IPOC Station P**	**7.16**	**185**	Pn		**Pn**	**09 29 04.9**		**-1.3**
GO02	**Mina Guanaco**	**7.67**	**179**	Pn		**Pn**	**09 29 11.7**		**-1.2**
SLA	**San Lorenzo**	**8.22**	**152**	*e* P		**Pn**	**09 29 20.6**		**+0.4**
SLA				eS		**Sn**	**09 30 51.5**		**-0.3**
SLA				IAML			09 30 54.2		
	comp=Z,22nm,0.8s								
ETMB	**Extrema**	**8.32**	**25**	*e* P		**Pn**	**09 29 19.1**		**-2.3**
SIV	**San Ignacio**	**8.40**	**81**	P		**Pn**	**09 29 18.7**		**-3.9**
	comp=Z,146nm,0.3s,baz=272,slow=10,SNR=309								
SIV				S		Sn	09 30 45.7		-10
	comp=Z,3.3nm,0.3s,baz=351,slow=7.0,SNR=3.6								
AC01	**Pan de Azucar**	**8.69**	**185**	Pn		**Pn**	**09 29 24.2**		**-2.1**
NNA	**Nana**	**8.78**	**307**	P		**Pn**	**09 29 28.7**		**+1.1**
	comp=Z,8.3nm,0.3s,baz=130,slow=11,SNR=15								
NNA				S		**Sn**	**09 31 01.7**		**-3.6**
	comp=Z,2.6nm,0.3s,baz=30,slow=12,SNR=11								
NNA	**Nana**	**8.78**	**307**	Pn		**Pn**	**09 29 28.2**		**+0.5**
FSA	**Cafayete**	**9.28**	**159**	*e* P		**Pn**	**09 29 33.8**		**-0.5**
AC02	**Maricunga**	**9.35**	**177**			**Pn**	**09 29 34.7**		**-0.8**
GO03	**Copiap**	**10.10**	**183**			**Pn**	**09 29 42.5**		**-2.5**
GO03	**Copiap**	**10.10**	**183**	*e* P		**Pn**	**09 29 43.0**		**-2.0**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
GO03				*e* S		**Sn**	**09 31 28.8**		**-8.1**
CZSB	**Cruzeiro do Su**	**10.10**	**343**	*e* P		**Pn**	**09 29 45.1**		**0.0**
VILB	**Vilhena**	**10.21**	**65**	*e* P		**Pn**	**09 29 42.7**		**-3.9**
PTLB	**Pontes e Lacer**	**10.34**	**80**	*e* P		**Pn**	**09 29 44.0**		**-4.3**
SAML	**Samuel**	**10.58**	**38**	Pn		**Pn**	**09 29 47.8**		**-3.6**
VCA	**Vinchina**	**11.31**	**173**	*e* P		**Pn**	**09 30 00.4**		**-0.7**
VCA				*e* S		**Sn**	**09 32 04.3**		**-1.9**
CYA	**Choya**	**11.51**	**162**	*e* P		**Pn**	**09 30 01.8**		**-1.7**
LCO	**Las Campanas**	**11.54**	**184**	Pn		**Pn**	**09 30 02.0**		**-2.1**
AGUA	**GUANDACOL**	**12.03**	**175**	*e* P		**Pn**	**09 30 09.1**		**-1.2**
AGUA				*e* S		**Sn**	**09 32 21.6**		**-1.8**
AROD	**Rodeo**	**12.65**	**179**	*e* P		**Pn**	**09 30 20.0**		**+1.3**
GO04	**Tololo Observa**	**12.70**	**184**	Pn		**Pn**	**09 30 17.3**		**-1.9**
AVFE	**Valle Fertil**	**13.30**	**172**	*e* P		**Pn**	**09 30 25.1**		**-1.6**
AVFE				*e* S		Sn	09 32 44.9		-9.1
CO03	**El Pedregal**	**13.35**	**184**			**Pn**	**09 30 25.9**		**-1.6**
AQDB	**Aquidauana**	**13.59**	**105**			**Pn**	**09 30 27.8**		**-2.6**
AQDB	**Aquidauana**	**13.59**	**105**	*e* P		**Pn**	**09 30 27.5**		**-2.9**
CO02	**Combarbal**	**13.73**	**185**			**Pn**	**09 30 31.2**		**-1.1**
RTLL	**Cerro Villicun**	**13.86**	**176**	*e* P		**Pn**	**09 30 32.5**		**-1.3**
RTLL				*e* P		**P**	**09 30 32.8**		**-4.4**
RTLL				*e* S		**Sn**	**09 33 01.3**		**-6.0**
ACHE	**Chepes**	**13.92**	**169**	*e* P		**Pn**	**09 30 32.7**		**-2.0**
ACHE				*e* S		**Sn**	**09 33 02.2**		**-6.8**
ZON	**Zonda**	**14.06**	**176**			**Pn**	**09 30 36.4**		**0.0**
PP1B	**Ponte de Pedra**	**14.15**	**93**	*e* P		**Pn**	**09 30 33.5**		**-4.0**
CPUP	**Villa Florida**	**14.48**	**130**	P		**Pn**	**09 30 40.1**		**-1.5**
	comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=6.4								
CPUP	**Villa Florida**	**14.48**	**130**			**Pn**	**09 30 40.7**		**-0.9**
AUSP	**Uspallata**	**14.70**	**179**	*e* P		**Pn**	**09 30 45.0**		**+0.3**
CLDB	**Colider**	**14.99**	**66**	*e* P		**Pn**	**09 30 45.3**		**-2.8**
VA03	**San Esteban**	**15.26**	**183**			**Pn**	**09 30 50.2**		**-1.2**
MRA	**San Martin**	**15.33**	**167**	*e* P		**Pn**	**09 30 50.6**		**-1.6**
AAGR	**Agrelo**	**15.58**	**177**	*e* P		**P**	**09 30 56.8**		**+0.4**
MT02	**Curacav**	**15.79**	**184**			**Pn**	**09 30 57.0**		**-0.8**
MT02				IAmb		IAmb	09 30 59.7		
	comp=Z,18nm,0.7s								
MT05	**Renca**	**15.89**	**183**			**Pn**	**09 30 56.8**		**-2.3**
MT05				IAmb		IAmb	09 31 04.3		
	comp=Z,69nm,1.1s								
MT03	**Universidad Ad**	**15.98**	**182**	P		**P**	**09 31 03.6**		**+2.7**
VA05	**Santo Domingo**	**16.22**	**186**	P		**P**	**09 31 05.3**		**+2.0**
VA05				IAmb		IAmb	09 31 06.7		
	comp=Z,30nm,1.0s								
MT09	**Talagante**	**16.29**	**184**	P		**P**	**09 31 05.2**		**+1.0**
MT09				IAmb		IAmb	09 31 09.6		
	comp=Z,38nm,0.7s								
MT01	**Popeta**	**16.40**	**185**	P		**P**	**09 31 07.1**		**+1.8**
TRCB	**Terra Rica**	**16.89**	**111**	P		**P**	**09 31 10.1**		**-0.8**
TRCB	**Terra Rica**	**16.89**	**111**	*e* P		**P**	**09 31 08.4**		**-2.5**
BO01	**Tunca**	**16.91**	**184**	P		**Pn**	**09 31 12.9**		**+1.5**
BO01				IAmb		IAmb	09 31 16.8		
	comp=Z,49nm,0.7s								
**ITQ

STVI	**Saint Thomas**	**35.89**	**8**	P	**P**	**09 34 08.4**	**-1.0**
STVI				IAmb	IAmb	09 34 25.4	
	comp=Z,24nm,1.2s						
V52A	**Sevierville**	**54.62**	**346**	P	**P**	**09 36 35.4**	**-1.3**
V52A				IAmb	IAmb	09 36 60.0	
	comp=Z,14nm,1.5s						
WVT	**Waverly**	**55.99**	**342**	P	**P**	**09 36 46.7**	**+0.2**
S54A	**Dingess, Beckl**	**56.04**	**349**	P	**P**	**09 36 44.6**	**-2.3**
S54A				IAmb	IAmb	09 36 48.5	
	comp=Z,5.6nm,0.6s						
TXAR	**Lajitas Array**	**56.91**	**324**	P	**P**	**09 36 55.7**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=148,slow=7.0,SNR=8.7						
TXAR				pP	**pP**	**09 37 33.5**	**+3.7**
	comp=Z,0.3nm,0.5s,baz=140,slow=7.2,SNR=3.0						
TXAR	**Lajitas Array**	**56.91**	**324**	P	**P**	**09 36 52.3**	**-1.0**
T45A	**Paducah**	**57.05**	**342**	P	**P**	**09 36 53.3**	**-0.7**
Q54A	**Coxs Mills**	**57.10**	**350**	P	**P**	**09 36 54.4**	**+0.1**
Q54A				IAmb	IAmb	09 37 07.9	
	comp=Z,13nm,1.5s						
FCAR	**Ozark Folk Cen**	**57.15**	**338**	P	**P**	**09 36 54.3**	**-0.4**
U40A	**Yellville**	**57.83**	**338**	P	**P**	**09 36 59.4**	**-0.1**
FNO	**Franklin**	**58.65**	**334**	P	**P**	**09 37 03.7**	**-1.4**
CCM	**Cathedral Cave**	**58.81**	**340**	P	**P**	**09 37 06.8**	**+0.5**
S39A	**Bolivar**	**59.19**	**338**	P	**P**	**09 37 07.8**	**-1.1**
R40A	**Maddies Statio**	**59.36**	**339**	P	**P**	**09 37 09.4**	**-0.6**
M54A	**Oil Creek Stat**	**59.39**	**351**	P	**P**	**09 37 10.8**	**+0.7**
M54A				IAmb	IAmb	09 37 25.9	
	comp=Z,6.4nm,1.1s						
M53A	**WI Miller and**	**59.47**	**350**	P	**P**	**09 37 11.1**	**+0.3**
M53A				IAmb	IAmb	09 37 21.6	
	comp=Z,7.3nm,1.1s						
SRIG	**Santa Rosalia**	**60.68**	**316**	P	**P**	**09 37 17.5**	**-1.7**
SRIG				IAmb	IAmb	09 37 21.3	
	comp=Z,13nm,1.2s						
P38A	**Dawn**	**60.99**	**339**	P	**P**	**09 37 22.5**	**+1.4**
DELO	**Deloro Mine**	**62.10**	**354**	P	**P**	**09 37 29.1**	**+0.7**
DELO				IAmb	IAmb	09 37 41.2	
	comp=Z,8.0nm,1.4s						
BNM	**Barren Site**	**62.21**	**326**	P	**P**	**09 37 29.1**	**-0.6**
G62A	**West of Eustis**	**62.38**	**359**	P	**P**	**09 37 29.9**	**-0.4**
G62A				IAmb	IAmb	09 37 32.4	
	comp=Z,7.2nm,0.7s						
G65A	**Princeton**	**62.39**	**2**	P	**P**	**09 37 29.5**	**-0.8**
G65A				IAmb	IAmb	09 37 31.7	
	comp=Z,6.8nm,0.7s						
LENM	**Lemitar**	**62.41**	**325**	P	**P**	**09 37 29.5**	**-1.4**
PKME	**Peaks-Kenny Pk**	**62.42**	**0**	P	**P**	**09 37 31.1**	**+0.6**
PKME				IAmb	IAmb	09 37 32.0	
	comp=Z,6.6nm,0.7s						
GBN	**Guysborough**	**63.01**	**6**	P	**P**	**09 37 34.8**	**+0.4**
GBN				IAmb	IAmb	09 37 35.1	
	comp=Z,13nm,1.2s						
F64A	**Sherman**	**63.03**	**1**	P	**P**	**09 37 35.5**	**+1.0**
F64A				IAmb	IAmb	09 37 35.6	
	comp=Z,8.1nm,1.1s						
LMN	**Caledonia Moun**	**63.17**	**4**	P	**P**	**09 37 35.2**	**-0.3**
LMN				IAmb	IAmb	09 37 36.4	
	comp=Z,11nm,0.9s						
VNA3	**Neumayer Olymp**	**64.13**	**162**	P	**P**	**09 37 43.9**	**+2.4**
BGNE	**Belgrade**	**64.22**	**337**	P	**P**	**09 37 44.0**	**+1.4**
D62A	**Allapoint, All**	**64.24**	**1**	P	**P**	**09 37 43.1**	**+0.6**
D62A				IAmb	IAmb	09 37 44.0	
	comp=Z,7.2nm,0.7s						
VNA1	**Neumayer--Stat**	**64.33**	**161**	P	**P**	**09 37 45.4**	**+2.6**
BATG	**Bathurst New B**	**64.52**	**3**	P	**P**	**09 37 44.2**	**-0.1**
BATG				IAmb	IAmb	09 37 45.2	
	comp=Z,5.7nm,0.7s						
VNA2	**Neumayer--Watz**	**64.70**	**161**	P	**P**	**09 37 47.4**	**+2.2**
	baz=298,slow=8.2						
ECSD	**EROS Data Cent**	**65.69**	**339**	P	**P**	**09 37 52.9**	**+0.9**
ECSD				IAmb	IAmb	09 37 54.2	
	comp=Z,6.5nm,1.1s						
SPMN	**Marine on St.**	**65.83**	**342**	P	**P**	**09 37 51.4**	**-1.4**
SPMN				IAmb	IAmb	09 37 55.2	
	comp=Z,6.5nm,0.6s						
WUAZ	**Wupatki**	**65.84**	**324**	P	**P**	**09 37 51.4**	**-1.9**
SMCO	**Snowmass**	**66.25**	**329**	P	**P**	**09 37 58.3**	**+2.2**
F36A	**Milaca**	**66.61**	**342**	P	**P**	**09 37 58.8**	**+1.0**
F36A				IAmb	IAmb	09 37 59.4	
	comp=Z,7.1nm,0.7s						
F33A	**5 Mile Ranch,**	**67.45**	**340**	P	**P**	**09 38 02.4**	**-0.7**
F33A				IAmb	IAmb	09 38 04.9	
	comp=Z,9.1nm,0.8s						
EYMN	**Ely**	**67.97**	**344**	P	**P**	**09 38 05.0**	**-1.2**
LIC	**Lamto**	**68.06**	**76**	*e*P	**P**	**09 38 06.6**	**-1.0**
	comp=Z,56nm,0.6s						
TIC	**Toumodi**	**68.22**	**75**	*e*P	**P**	**09 38 08.0**	**-0.6**
KIC	**Kosan Boka**	**68.37**	**76**	*e*P	**P**	**09 38 09.2**	**-0.3**
	comp=Z,181nm,0.6s						
DBIC	**Dimbokro**	**68.38**	**75**	P	**P**	**09 38 09.3**	**-0.3**
	comp=Z,70nm,0.6s,baz=229,slow=6.1,SNR=90						
DBIC	**Dimbokro**	**68.38**	**75**	P	**P**	**09 38 08.8**	**-0.7**
RDMU	**Red Mountain**	**68.60**	**328**	P	**P**	**09 38 08.9**	**-1.7**
B35A	**Bob, Littlefor**	**68.94**	**343**	P	**P**	**09 38 13.2**	**+0.9**
B35A				IAmb	IAmb	09 38 13.8	
	comp=Z,8.3nm,0.5s						
AGMN	**Agassiz Nation**	**69.50**	**342**	P	**P**	**09 38 14.9**	**-0.9**
AGMN				IAmb	IAmb	09 38 17.7	
	comp=Z,8.8nm,0.7s						
TPNV	**Topopah Spring**	**69.67**	**322**	P	**P**	**09 38 18.4**	**+1.2**
PDAR	**Pinedale Array**	**70.25**	**330**	P	**P**	**09 38 23.6**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=124,slow=8.3,SNR=8.0						
PDAR	**Pinedale Array**	**70.25**	**330**	P	**P**	**09 38 21.0**	**+0.2**
MDND	**Maddock**	**70.31**	**339**	P	**P**	**09 38 22.8**	**+2.1**
MDND				IAmb	IAmb	09 38 24.4	
	comp=Z,24nm,1.1s						
ULM	**Lac du Bonnet**	**71.25**	**343**	P	**P**	**09 38 27.2**	**+0.9**
	comp=Z,14nm,0.5s,baz=151,slow=6.3,SNR=24						
ULM	**Lac du Bonnet**	**71.25**	**343**	P	**P**	**09 38 27.3**	**+0.9**
ULM				IAmb	IAmb	09 38 28.0	
	comp=Z,15nm,0.6s						
NVAR	**Mina Array Bea**	**71.86**	**322**	P	**P**	**09 38 33.5**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=148,slow=6.5,SNR=5.7						
NVAR	**Mina Array Bea**	**71.86**	**322**	P	**P**	**09 38 31.6**	**+1.1**
YPP	**Pitchstone Pla**	**71.98**	**330**	P	**P**	**09 38 29.2**	**-2.1**
SCHQ	**Schefferville**	**72.04**	**2**	P	**P**	**09 38 31.3**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=225,slow=7.2,SNR=5.3						
RYN	**Ryan**	**72.12**	**322**	P	**P**	**09 38 33.7**	**+1.7**
KOWA	**Kowa**	**72.16**	**68**	P	**P**	**09 38 32.1**	**-0.4**
YHH	**Holmes Hill**	**72.39**	**331**	P	**P**	**09 38 34.8**	**+1.2**
QSPA	**South Pole Qui**	**72.71**	**180**	P	**P**	**09 38 38.2**	**+3.1**
QSPA				IAmb	IAmb	09 38 39.2	
	comp=Z,9.7nm,1.2s						
EGMT	**Eagleton**	**74.36**	**333**	P	**P**	**09 38 43.5**	**-1.3**
EGMT				IAmb	IAmb	09 38 45.0	
	comp=Z,7.3nm,0.6s						
TOA0	**Torodi Ar. Sit**	**76.76**	**72**	P	**P**	**09 38 58.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.76**	**72**	P	**P**	**09 38 58.9**	**-0.2**
	comp=Z,53nm,0.5s,baz=261,slow=4.9,SNR=433						
TORD	**Torodi Ar. Bea**	**76.76**	**72**	P	**P**	**09 38 58.6**	**-0.5**
PNCL	**Nicolau / Gran**	**79.65**	**45**	*e*P	**P**	**09 39 16.1**	**+1.6**
	comp=Z,57nm,1.9s						
PCVE	**Castro Verde**	**79.73**	**45**	*e*P	**P**	**09 39 16.5**	**+1.5**
	comp=Z,67nm,1.9s						
PVAQ	**Vaqueiros**	**79.83**	**46**	*e*P	**P**	**09 39 16.5**	**+1.0**
EVO	**Evora**	**80.22**	**44**	*e*P	**P**	**09 39 19.0**	**+1.4**
PMTG	**Montargil**	**80.36**	**44**	*e*P	**P**	**09 39 19.9**	**+1.6**
	comp=Z,26nm,1.9s						
PESTR	**Estremoz**	**80.67**	**44**	*e*P	**P**	**09 39 21.6**	**+1.6**
VNDA	**Vanda**	**80.68**	**190**	P	**P**	**09 39 22.9**	**+3.5**
	comp=Z,2.6nm,0.8s,baz=129,slow=4.6,SNR=15						
PBAR	**Barrancos**	**80.69**	**45**	*e*P	**P**	**09 39 20.5**	**+0.4**
	comp=Z,24nm,1.8s						
PCBR	**Castelo Branco**	**81.25**	**44**	*e*P	**P**	**09 39 25.0**	**+2.0**
	comp=Z,17nm,1.8s						
PVIS	**Viseu**	**81.44**	**43**	*e*P	**P**	**09 39 24.5**	**+0.4**
	comp=Z,19nm,1.8s						
MTE	**Manteigas**	**81.50**	**43**	*e*P	**P**	**09 39 25.4**	**+1.0**
	comp=Z,23nm,1.7s						
PVRL	**Vila Real**	**81.84**	**42**	*e*P	**P**	**09 39 26.8**	**+0.6**
POLO	**Lamas de Olo**	**81.85**	**42**	*e*P	**P**	**09 39 26.9**	**+0.6**
	comp=Z,9.8nm,1.8s						
MVO	**Moncorvo**	**82.23**	**43**	*e*P	**P**	**09 39 28.5**	**+0.3**
	comp=Z,19nm,0.6s						
PBRG	**Braganca**	**82.74**	**42**	*e*P	**P**	**09 39 31.4**	**+0.5**
PAB	**San Pablo**	**83.19**	**45**	P	**P**	**09 39 33.1**	**-0.1**
PAB				IAmb	IAmb	09 39 35.9	
	comp=Z,8.0nm,0.8s						
ESDC	**Sonseca Array**	**83.51**	**45**	P	**P**	**09 39 35.9**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=253,slow=5.3,SNR=24						
ESDC	**Sonseca Array**	**83.51**	**45**	P	**P**	**09 39 34.8**	**-0.1**
ESDC				IAmb	IAmb	09 39 37.0	
	comp=Z,12nm,1.3s						
YKA	**Yellowknife Ar**	**87.14**	**341**	P	**P**	**09 39 54.2**	**+2.0**
	comp=Z,3.5nm,0.6s,baz=132,slow=5.1						
YKA				pP	**pP**	**09 40 33.2**	**+1.6**
MAW	**Mawson**	**88.40**	**164**	P	**P**	**09 40 00.5**	**+2.2**
	comp=Z,5.4nm,0.6s,baz=200,slow=6.1,SNR=18						
MNK	**Minsk**	**108.41**	**38**	*i* PP	**PP**	**09 46 02.3**	**+1.2**
	comp=E,3.0nm,0.8s						
MNK				*i* PP	**PP**	**09 46 02.3**	**+1.2**
	comp=N,14nm,0.7s						
MNK				*i* PP	**PP**	**09 46 02.3**	**+1.2**
	comp=Z,15nm,0.8s,baz=266						
MNK				*i* PPP	PPP	09 48 20.1	
MNK				*i* SKS	**SKSdf**	**09 52 31.3**	**-0.5**
MNK				*i* SP	**SP**	**09 55 10.7**	**+1.1**
MNK				*i* PS	**PS**	**09 55 30.1**	**+1.7**
MNK				*i* SS	**SS**	**10 01 06.5**	**+1.7**
MNK				*i* SSS	SSS	10 05 12.1	
MNK				*i* LRM	MLR	10 31 31.6	
MNK				*i* LRM	MLR	10 31 31.6	
MNK				*i* LRM	MLR	10 31 31.6	
ASAR	**Alice Springs**	**133.07**	**210**	PKP	**PKiKP**	**09 46 24.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=120,slow=1.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**138.58**	**23**	PKP	**PKiKP**	**09 46 32.7**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=318,slow=1.9,SNR=4.3						
MKAR	**Makanchi Array**	**142.72**	**32**	PKhKP	PKPpre	09 46 36.6	
	comp=Z,0.4nm,0.6s,baz=288,slow=2.3,SNR=4.4						
TLY	**Talaya**	**145.45**	**7**	PKPbc	**PKiKP**	**09 46 46.8**	**-1.0**
	comp=Z,4.6nm,0.5s,baz=262,slow=3.4,SNR=11						
TLY	**Talaya**	**145.45**	**7**	PKPbc	**PKPab**	**09 46 45.5**	**+1.1**
SONM	**Songino Array**	**149.54**	**5**	PKPbc	**PKiKP**	**09 46 57.5**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=311,slow=2.1,SNR=7.9						
SONM				pPKPbc	**pPKPbc**	**09 47 38.5**	**+2.0**
	comp=Z,2.7nm,0.9s,baz=319,slow=1.6,SNR=2.9						

DJA 05 10:12:49.0±0.6, 9°S±6°×12°2E±°, h37km±9km, M3.9/7, mb4.2/1, MLv3.8/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.67**	**338**	P	Pn	10 13 02.1	0.0
MMRI				S	Sn	10 13 13.2	+1.9
BATI	**Baumata**	**1.49**	**129**	P	Pn	10 13 13.9	+0.6
SOEI	**Soe**	**1.82**	**106**	P	Pn	10 13 17.8	-0.1
BASI	**Baing, Sumba**	**2.11**	**243**	P	Pn	10 13 20.4	-1.4
BASI				S	Sn	10 13 48.3	+1.5
WBSI	**Waikabubak, Su**	**3.08**	**263**	P	Pn	10 13 37.3	+2.1
PLAI	**Plampang**	**4.67**	**275**	P	Pn	10 13 56.9	-0.2
PLAI				S	Sn	10 14 46.1	-4.0
TWSI	**Taliwang, Sumb**	**5.56**	**275**	P	Pn	10 14 09.3	0.0

KMA 05 10:20:39.9±0.2, 36.12N×126.83E, h5km±3km, Error ellipse: s-maj=3.0km s-min=1.2km az=298.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSGUS	**GUNSAN**	**0.10**	**204**	P	Pg	10 20 41.9	0.0
	SNR=14						
KSGUS	**GUNSAN**	**0.10**	**204**	P	Pg	10 20 41.9	0.0
	SNR=14						
KSBUY	**BUYEO**	**0.16**	**27**	P	Pg	10 20 41.7	-1.5
KSJEO	**Jeonju**	**0.42**	**116**	P	Pg	10 20 48.0	0.0
	SNR=29						
KSJEO	**Jeonju**	**0.42**	**116**	P	Pg	10 20 48.0	0.0
	SNR=29						
KSMSA	**Geumsan**	**0.53**	**92**	P	Pg	10 20 49.9	-0.1
KSJEU	**Jeongeup**	**0.64**	**173**	P	Pg	10 20 52.1	0.0
	SNR=20						
KSJEU	**Jeongeup**	**0.64**	**173**	P	Pg	10 20 52.1	0.0
	SNR=20						
KSBON	**Boeun**	**0.87**	**64**	P	Pg	10 20 56.9	+0.4
	SNR=9.0						

*IDC **05** 10:30:42.6±0.7, 30.28N×102.91E, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.1/48, mbtmp4.1/22, ML4.4/2, MS3.3/10, Ms1 3.3/10, ms1mx3.1/41, Error ellipse: s-maj=18.5km s-min=14.5km az=41.0*

*MOS **05** 10:30:44.3±1.2, 30.27N×102.96E, h19km, mb4.6/20, Error ellipse: s-maj=8.6km s-min=6.2km az=106.8*

*BJI **05** 10:30:47.0±0.0, 30.28N×102.78E, h28km, mB4.7/14, mb4.6/26, ML4.2/20, Ms4.0/19, Ms7 3.6/17*

*NEIC **05** 10:30:49.5±1.9, 30.87N±0.08×102.93E±0.09, h18km±3km, mb4.5/43, Error ellipse: s-maj=11.4km s-min=10.8km az=190.0*

ISC 05 10:30:46.4±0.3, 30.62N±0.03×102.90E±0.04, h10km, n157, σ1s97/164, mb4.5/54, MS3.4/11, 7C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.79**	**69**	⇓*i* Pg	**Pn**	**10 31 06.5**	**+2.8**
CD2				Sg	**Sn**	**10 31 20.7**	**+5.0**
CD2				SMN			
	16μm,0.6s						
CD2				SME			
	8μm,0.6s						
GYA	**Guiyang**	**5.31**	**141**	*e*Pn	**Pn**	**10 32 08.4**	**+2.5**
GYA				Pg	**Pg**	**10 32 26.2**	**-2.0**
GYA				Sn	**Sn**	**10 33 07.5**	**+0.3**
GYA				SMN			
	61nm,1.0s						
GYA				SME			
	79nm,0.9s						
GYA				L	L		
	comp=Z,43nm,2.5s						
KMI	**Kunming**	**5.48**	**182**	⇓Pn	**Pn**	**10 32 05.4**	**-3.0**
KMI				Sg	**Sb**	**10 33 26.9**	**-1.5**
KMI				SMN			
	230nm,1.2s						
KMI				SME			
	340nm,1.0s						
KMI				L	L		
	comp=N,530nm,6.5s						
KMI				L	L		
	comp=E,1μm,6.5s						
KMI				L	L		
	comp=Z,650nm,10.5s						
LZH	**Lanzhou**	**5.50**	**8**	*e*Pg	**Pb**	**10 32 24.1**	**+1.3**
LZH				Sg	**Sg**	**10 33 39.4**	**-3.8**
LZH				SMN			
	66nm,1.1s						
LZH				SME			
	83nm,1.1s						
LZH				L	L		
	comp=N,440nm,5.2s						
LZH				L	L		
	comp=E,750nm,6.2s						
LZH				L	L		
	comp=Z,420nm,8.1s						
ENH	**Enshi**	**5.70**	**92**	Pn	**Pn**	**10 32 12.1**	**+0.9**
XAN	**Xi'an**	**6.13**	**55**	Pn	**Pn**	**10 32 18.0**	**+0.9**
XAN				Pg	**Pg**	**10 32 42.6**	**-1.2**
XAN				Sn	**Sn**	**10 33 28.9**	**+1.6**
XAN				Sg	**Sg**	**10 34 07.0**	**+3.8**
XAN				SMN			
	580nm,1.2s						
XAN				SME			
	790nm,0.9s						
XAN				L	L		
	comp=N,1μm,4.3s						
XAN				L	L		
	comp=E,940nm,4.2s						
XAN				L	L		
	comp=Z,520nm,13.7s						
GTA	**Gaotai**	**9.12**	**345**	*e*P	Pn	10 33 11.9	+14
GTA				pP		10 33 17.7	
GTA				sP		10 33 20.9	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,6.2s						
GTA				L	L		
	comp=N,240nm,12.4s						
GTA				L	L		
	comp=E,310nm,10.9s						
GTA				L	L		
	comp=Z,270nm,13.1s						
SLVN	**Son La**	**9.30**	**174**	⇑Pn	**Pn**	**10 33 05.1**	**+4.5**
WHN	**Wuhan**	**9.87**	**88**	⇑P	Pn	10 33 18.6	+10
WHN				S	**Sn**	**10 34 54.8**	**-4.5**
WHN				L	L		
	comp=N,1μm,5.2s						
WHN				L	L		
	comp=E,560nm,4.0s						
WHN				L	L		
	comp=Z,1μm,11.3s						
LSA	**Lhasa**	**10.21**	**268**	P	**Pn**	**10 33 15.8**	**+2.2**
LSA				pmax	pmax		
	comp=Z,26nm,0.7s						
LSA	**Lhasa**	**10.21**	**268**	P	**Pn**	**10 33 14.5**	**+0.9**
LSA	**Lhasa**	**10.21**	**268**	Pn	**Pn**	**10 33 14.5**	**+0.9**
SHL	**Shillong**	**10.95**	**245**	P	**Pn**	**10 33 21.1**	**-2.3**
GZH	**Guangzhou**	**11.96**	**126**	P	**Pn**	**10 33 33.7**	**-3.4**
CM34	**Chiang Mai Arr**	**12.21**	**197**	P	Pn	10 33 48.0	+7.6
CM33	**Chiang Mai Arr**	**12.29**	**198**	P	Pn	10 33 51.0	+9.4
CHTO	**Chiang Mai**	**12.29**	**198**	P	**Pn**	**10 33 39.9**	**-1.8**
CHTO	**Chiang Mai**	**12.29**	**198**	Pn	**Pn**	**10 33 45.5**	**+3.8**
CMMT	**Chiang Mai**	**12.29**	**198**	P	Pn	10 33 50.0	+8.3
	820nm5.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**12.39**	**32**	*e*P	**Pn**	**10 33 45.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,40nm,6.6s						
CMAR	**Chiang Mai Arr**	**12.63**	**197**	Pn	Pn	10 33 40.7	-5.7
	1.0nm,0.3s,baz=315,slow=30,SNR=4.6						
CMAR				LR	LR	10 38 44.5	
	comp=Z,89nm,19.5s,baz=342,slow=39						
CMAR	**Chiang Mai Arr**	**12.63**	**197**	Pn	**Pn**	**10 33 50.9**	**+4.6**
CM13	**Chiang Mai Arr**	**12.68**	**198**	P	Pn	10 33 58.0	+11
	4.4nm,0.9s						
CM04	**Chiang Mai Arr**	**12.68**	**197**	P	Pn	10 33 55.0	+8.0
	5.7nm,0.8s						
CM05	**Chiang Mai Arr**	**12.69**	**197**	P	Pn	10 33 55.1	+8.1
QIZ	**Qiongzhong**	**13.15**	**150**	Pn	**Pn**	**10 33 57.6**	**+4.3**
NJ2	**Nanjing**	**13.71**	**80**	*e*P	**Pn**	**10 34 01.8**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				L	L		
	comp=N,250nm,10.9s						
NJ2				L	L		
	comp=E,410nm,11.4s						
NJ2				L	L		
	comp=Z,330nm,11.4s						
KHON	**Khomkaen**	**14.22**	**180**	P	**P**	**10 34 19.8**	**+4.3**
BJT	**Baijiatuau**	**14.31**	**45**	P	**Pn**	**10 34 06.5**	**-2.6**
BJT	**Baijiatuau**	**14.31**	**45**	Pn	**Pn**	**10 34 06.5**	**-2.6**
CHAI	**Chaiyaphum**	**14.68**	**183**	P	**P**	**10 34 22.5**	**+2.0**
	91nm5.4nm,0.7s						
UTHA	**Uthaitani**	**15.33**	**193**	P	**Pn**	**10 34 23.8**	**+0.8**
	5.3nm,0.9s						
UBPT	**Khong Chiam**	**15.45**	**171**	P	**Pn**	**10 34 25.0**	**+0.4**
	26nm,0.8s						
UBPT	**Khong Chiam**	**15.45**	**171**	Pn	**Pn**	**10 34 24.9**	**+0.4**
UBPT				IAmb	IAmb	10 34 32.8	
	comp=Z,17nm,0.8s						
KHLT	**Khaolaem Dam**	**16.24**	**195**	P	**P**	**10 34 42.8**	**+4.9**
SRAK	**Srakaew**	**16.55**	**183**	P	**Pn**	**10 34 36.8**	**-1.9**
	comp=Z,591nmcomp=Z,55nm,0.8s						
SRDT	**SRDT**	**16.57**	**193**	P	**Pn**	**10 34 36.7**	**-2.3**
	comp=Z,18nm,1.0s						
SONM	**Songino Array**	**17.40**	**8**	P	**P**	**10 34 52.9**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=197,slow=14,SNR=17						
SONM				LR	LR	10 42 25.9	
	comp=Z,123nm,20.9s,baz=28,slow=40						
SONM	**Songino Array**	**17.40**	**8**	Pn	**Pn**	**10 34 44.2**	**-5.1**
ULN	**Ulaanbaatar**	**17.51**	**9**	*e*P	**P**	**10 34 53.5**	**+1.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ULN	**Ulaanbaatar**	**17.51**	**9**	Pn	**Pn**	**10 34 48.5**	**-2.3**
WMQ	**Urumqi**	**17.85**	**322**	*e*P	**P**	**10 34 58.7**	**+3.0**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,19nm,4.1s						
PHET	**Kaeng Krachan**	**17.89**	**190**	P	**Pn**	**10 34 54.1**	**-1.3**
ZAK	**Zakamensk**	**19.74**	**1**	*e*P	**Pn**	**10 35 20.1**	**+2.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TLY	**Talaya**	**21.05**	**1**	LR	LR	10 44 38.5	
	comp=Z,138nm,19.4s,baz=175,slow=39						
TLY	**Talaya**	**21.05**	**1**	*e*P	P	10 35 39.2	+8.8
TLY				pmax	pmax		
	comp=Z,12nm,1.0s						
TLY				MLR	MLR		
	comp=Z,192nm,7.0s						
TLY	**Talaya**	**21.05**	**1**	P	**P**	**10 35 29.1**	**-1.4**
TJN	**Taejon**	**21.17**	**68**	*e*P	**P**	**10 35 34.2**	**+2.4**
KS19	**Wonju Array Si**	**21.75**	**65**	P	**P**	**10 35 38.4**	**+0.3**
KSAR	**Wonju Array Be**	**21.76**	**65**	P	**P**	**10 35 36.7**	**-1.5**
KSAR	**Wonju Array Be**	**21.76**	**65**	P	**P**	**10 35 36.7**	**-1.5**
KSRS	**Korea Array**	**21.79**	**65**	P	**P**	**10 35 38.5**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=252,slow=9.7,SNR=28						
KSRS				LR	LR	10 45 09.1	
	comp=Z,67nm,19.0s,baz=245,slow=40						
SRIT	**Nakonsritamara**	**22.13**	**189**	P	**P**	**10 35 44.7**	**+2.3**
DGZ	**Jazzator, Alta**	**22.34**	**333**	*i* P	**P**	**10 35 47.6**	**+3.1**
DGZ				pmax	pmax		
	comp=Z,21nm,1.0s						
JOW	**Kunigami**	**22.55**	**93**	P	**P**	**10 35 46.7**	**-0.2**
MK31	**Makanchi Array**	**22.68**	**321**	*i* P	**P**	**10 35 49.7**	**+1.6**
MK31				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**22.68**	**321**	P	**P**	**10 35 49.9**	**+1.8**
	comp=Z,17nm,0.8s,baz=125,slow=12,SNR=62						
MKAR				LR	LR	10 45 00.3	
	comp=Z,16nm,19.4s,baz=121,slow=37						
MAKZ	**Makanchi**	**22.86**	**321**	P	**P**	**10 35 51.6**	**+1.7**
MAKZ				pmax	pmax		
	comp=Z,14nm,0.8s						
MAKZ	**Makanchi**	**22.86**	**321**	P	**P**	**10 35 51.6**	**+1.7**
MAKZ				IAmb	IAmb	10 35 53.5	
	comp=Z,14nm,0.8s						
TARG	**Taragay, Kyrgy**	**23.

ZALV	**Zalesovo Beam**	**26.72**	**336**	*i* P		**P**		**10 36 27.7**	**+1.9**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ZALV	**Zalesovo Beam**	**26.72**	**336**	P		**P**		**10 36 26.4**	**+0.6**
KURBB	**Kurchatov Arra**	**27.01**	**325**	P		**P**		**10 36 29.1**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=132,slow=9.8,SNR=22								
KURK	**Kurchatov**	**27.03**	**325**	P		**P**		**10 36 29.1**	**+0.5**
KURK	**Kurchatov**	**27.03**	**325**	P		**P**		**10 36 29.1**	**+0.5**
JWT	**Wachi**	**27.59**	**72**	P		**P**		**10 36 34.3**	**+0.4**
JWT				IAmb		IAmb		10 36 35.0	
	comp=Z,8.4nm,0.8s								
KKAR	**Karatay Array**	**28.57**	**305**	P		**P**		**10 36 42.3**	**-0.2**
KKAR	**Karatay Array**	**28.57**	**305**	P		**P**		**10 36 42.3**	**-0.2**
KLR	**Kul'dur**	**28.63**	**41**	P		**P**		**10 36 43.4**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=267,slow=11,SNR=10								
KLR				LR		LR		10 49 02.2	
	comp=Z,35nm,18.6s,baz=229,slow=38								
JGF	**Kuroka**	**29.19**	**71**	P		**P**		**10 36 51.3**	**+3.1**
MJAR	**Matsushiro Arr**	**29.89**	**69**	LR		LR		10 49 39.2	
	comp=Z,51nm,20.5s,baz=65,slow=38								
JSD	**Sado**	**29.90**	**66**	P		**P**		**10 36 56.2**	**+1.0**
TOLI2	**Tolitoli**	**33.90**	**147**	P		**P**		**10 37 33.6**	**+3.9**
AB31	**Akbulak array**	**37.22**	**312**	*i* P		**P**		**10 37 58.2**	**+0.3**
ABKAR	**Akbulak array**	**37.22**	**312**	P		**P**		**10 37 58.2**	**+0.2**
ABKAR				IAmb		IAmb		10 37 59.5	
	comp=Z,5.2nm,0.7s								
GEYT	**Alibeck**	**37.43**	**294**	P		**P**		**10 37 60.0**	**+0.1**
	comp=Z,20nm,0.6s,baz=107,slow=9.5,SNR=4.5								
GYA0B	**ALIBECK ARRAY**	**37.43**	**294**	P		**P**		**10 37 59.9**	**0.0**
GYA0B				IAmb		IAmb		10 38 01.3	
	comp=Z,10nm,1.1s								
AKTO	**Aktyubinsk**	**38.71**	**314**	P		**P**		**10 38 10.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=101,slow=16,SNR=7.3								
NRIK	**Noril'sk**	**39.74**	**352**	P		**P**		**10 38 20.3**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=97,slow=6.3,SNR=3.6								
NRIK	**Noril'sk**	**39.74**	**352**	IAmb		IAmb		10 38 20.9	
	comp=Z,4.8nm,1.1s								
ARU	**Arti**	**40.18**	**323**	*c i* P		**P**		**10 38 24.7**	**+2.0**
ARU				S		**S**		**10 44 31.8**	**+2.5**
ARU				SS		**SS**		**10 47 22.1**	**-4.8**
ARU				pmax		pmax			
	comp=Z,10.0nm,1.2s								
TIXI	**Tiksi**	**43.43**	**12**	P		**P**		**10 38 48.2**	**-0.8**
	comp=Z,5.3nm,0.7s,baz=250,slow=3.4,SNR=10.0								
TIXI	**Tiksi**	**43.43**	**12**	*ce* P		**P**		**10 38 49.5**	**+0.5**
TIXI	**Tiksi**	**43.43**	**12**	P		**P**		**10 38 48.2**	**-0.8**
TIXI				IAmb		IAmb		10 38 50.1	
	comp=Z,5.4nm,0.7s								
KIV	**Kislovodsk**	**48.71**	**303**	*e* P		**P**		**10 39 31.0**	**-0.2**
KIV				pmax		pmax			
	comp=Z,25nm,1.0s								
KIV				MLR		MLR			
	comp=Z,43nm,16.0s								
KLMR	**Klimovskoe**	**50.87**	**326**	*e* P		**P**		**10 39 45.7**	**-1.5**
KLMR				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KLMR	**Klimovskoe**	**50.87**	**326**	*e* P		**P**		**10 39 45.8**	**-1.5**
KLMR				AMP				10 39 48.0	
	comp=Z,5.0nm,0.6s								
BILL	**Bilibino**	**52.05**	**25**	*i* P		**P**		**10 39 56.4**	**+0.5**
BILL				*e*				10 41 06.6	
BILL				*e*				10 41 55.8	
BILL				*e* S		S		10 47 42.6	+23
BILL				pmax		pmax			
	comp=Z,12nm,1.9s								
BR131	**Keskin Array S**	**56.08**	**300**	P		**P**		**10 40 26.9**	**+0.9**
BR131				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BR131	**Keskin Array S**	**56.08**	**300**	P		**P**		**10 40 26.9**	**+0.9**
BR131				IAmb		IAmb		10 40 36.5	
	comp=Z,3.5nm,0.9s								
BRTR	**Keskin Array B**	**56.08**	**300**	P		**P**		**10 40 23.8**	**-2.2**
	comp=Z,0.8nm,0.8s,baz=51,slow=4.6,SNR=2.8								
BRTR	**Keskin Array B**	**56.08**	**300**	P		**P**		**10 40 24.5**	**-1.5**
BRTR	**Keskin Array B**	**56.08**	**300**	P		**P**		**10 40 24.5**	**-1.5**
AKASG	**Malin Array Be**	**56.96**	**313**	P		**P**		**10 40 30.6**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=74,slow=6.4,SNR=5.2								
AKASG	**Malin Array Be**	**56.96**	**313**	IAmb		IAmb		10 40 31.0	
	comp=Z,1.8nm,1.2s								
MNK	**Minsk**	**57.20**	**318**	*i* P		**P**		**10 40 34.6**	**+1.1**
MNK				*i*				10 41 29.3	
MNK				*i*				10 42 41.4	
MNK				*i* PPP		PPP		10 43 57.7	
MNK				*i* S		**S**		**10 48 26.4**	**-2.6**
MNK				*i* SS		**SS**		**10 52 17.4**	**-0.1**
MNK				*i* SSS		SSS		10 54 41.4	
MNK				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MNK				pmax		pmax			
	comp=N,23nm,0.9s								
MNK				pmax		pmax			
	comp=E,4.0nm,0.8s								
MNK				MLR		MLR			
	comp=E,7.0nm,18.0s								
MNK				MLR		MLR			
	comp=Z,52nm,22.0s								
MNK				MLR		MLR			
	comp=N,101nm,23.0s								
MNK	**Minsk**	**57.20**	**318**	*i* P		**P**		**10 40 34.6**	**+1.1**
	comp=E,4.0nm,0.8s								
MNK				*i* P		**P**		**10 40 34.6**	**+1.1**
	comp=N,23nm,0.9s								
MNK				*i* P		**P**		**10 40 34.6**	**+1.1**
	comp=Z,10.0nm,0.9s,baz=263								
MNK				*i* PcP		**PcP**		**10 41 29.4**	**+1.4**
MNK				*i* PP		**PP**		**10 42 41.5**	**+1.2**
MNK				*i* PPP		PPP		10 43 57.8	
MNK				*i* ScP		**ScP**		**10 45 26.3**	**-1.5**
MNK				*i* PcS		**PcS**		**10 45 30.3**	**+1.7**
MNK				*i* S		**S**		**10 48 26.4**	**-2.5**
MNK				*i* SS		**SS**		**10 52 17.5**	**-0.1**
MNK				*i* SSS		SSS		10 54 41.4	
MNK				*i* LQ		LQ		10 59 19.6	
MNK				*i* LR		LR		11 03 56.4	
MNK				*i* LRM		MLR		11 07 33.5	
	comp=E,7.0nm,18.1s								
MNK				*i* LRM		MLR		11 07 39.1	
	comp=N,101nm,22.6s								
MNK				*i* LRM		MLR		11 07 39.1	
	comp=Z,52nm,21.7s								
ARCES	**ARCESS Array B**	**57.27**	**336**	P		**P**		**10 40 33.5**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=78,slow=7.6,SNR=3.7								
ARCES				LR		LR		11 07 06.3	
	comp=Z,27nm,18.1s,baz=5.0,slow=38								
FINES	**FINESS Array B**	**57.39**	**326**	P		**P**		**10 40 33.0**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=145,slow=30,SNR=5.5								
FINES	**FINESS Array B**	**57.39**	**326**	*i* P		**P**		**10 40 38.2**	**+3.5**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
FINES	**FINESS Array B**	**57.39**	**326**	P		**P**		**10 40 33.9**	**-0.8**
WRAB	**Tennant Creek**	**58.66**	**145**	*i* P		**P**		**10 40 46.5**	**+2.3**
WRAB				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ASAR	**Alice Springs**	**61.63**	**148**	P		**P**		**10 41 00.7**	**-3.9**
	comp=Z,3.3nm,0.7s,baz=332,slow=6.8,SNR=43								
KOLS	**Kolonicke sedl**	**61.73**	**312**	*e* P		**P**		**10 41 06.0**	**+1.1**
KOLS	**Kolonicke sedl**	**61.73**	**312**	*e* P		**P**		**10 41 06.0**	**+1.1**
STHS	**Stebnicka Huta**	**62.25**	**313**	*e* P		**P**		**10 41 09.5**	**+1.0**
STHS	**Stebnicka Huta**	**62.25**	**313**	*e* P		**P**		**10 41 09.5**	**+1.0**
LANS	**Liptovska Anna**	**63.45**	**313**	*e* P		**P**		**10 41 18.6**	**+2.1**
LANS	**Liptovska Anna**	**63.45**	**313**	*e* P		**P**		**10 41 18.5**	**+2.1**
NOA	**NORSAR Array B**	**64.50**	**327**	P		**P**		**10 41 23.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=311,slow=23,SNR=1.7								
CTAO	**Charters Tower**	**65.41**	**135**	P		**P**		**10 41 26.3**	**-3.3**
GERES	**GERESS Array B**	**67.14**	**314**	P		**P**		**10 41 39.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=64,slow=4.5,SNR=2.0								
IMAR	**Indian Mountai**	**67.60**	**26**	P		**P**		**10 41 42.7**	**-0.3**
TOLK	**Toolik Lake Re**	**67.88**	**22**	P		**P**		**10 41 45.6**	**+0.8**
TOLK				IAmb		IAmb		10 41 45.7	
	comp=Z,4.2nm,0.9s								
COLD	**Coldfoot**	**68.33**	**24**	P		**P**		**10 41 47.7**	**+0.2**
COLD				IAmb		IAmb		10 41 48.6	
	comp=Z,2.7nm,0.6s								
MLY	**Manley**	**69.15**	**26**	P		**P**		**10 41 53.2**	**+0.5**
MLY				IAmb		IAmb		10 41 53.9	
	comp=Z,3.1nm,0.6s								
BPAW	**Bear Paw Mtn.**	**69.49**	**27**	P		**P**		**10 41 55.3**	**+0.5**
BPAW				IAmb		IAmb		10 41 55.8	
	comp=Z,3.4nm,0.7s								
PPLA	**Purkeypile**	**69.58**	**28**	P		**P**		**10 41 56.0**	**+0.5**
I23K	**Minto, Yukon-K**	**69.61**	**25**	P		**P**		**10 41 56.3**	**+0.9**
I23K				IAmb		IAmb		10 41 56.5	
	comp=Z,2.5nm,0.8s								
KTH	**Kantishna Hill**	**69.78**	**27**	P		**P**		**10 41 57.2**	**+0.5**
KTH				IAmb		IAmb		10 42 20.9	
	comp=Z,9.8nm,1.4s								
NEA2	**Nenana**	**69.99**	**26**	P		**P**		**10 41 58.3**	**+0.4**
NEA2				IAmb		IAmb		10 41 58.7	
	comp=Z,3.5nm,0.7s								
BMAR	**Burnt Mountain**	**70.11**	**22**	P		**P**		**10 41 59.5**	**+0.9**
MDM	**Murphy Dome**	**70.12**	**25**	P		**P**		**10 41 58.0**	**-0.7**
MDM				IAmb		IAmb		10 42 07.8	
	comp=Z,7.8nm,1.1s								
TCOL	**CIGO, UAF Yank**	**70.30**	**25**	P		**P**		**10 41 59.8**	**0.0**
COLA	**College**	**70.31**	**25**	P		**P**		**10 41 59.7**	**0.0**
COLA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
COLA	**College**	**70.31**	**25**	P		**P**		**10 41 59.7**	**0.0**
DAVOX	**Davos/Dischmat**	**70.31**	**313**	LR		LR		11 15 15.8	
	comp=Z,41nm,18.7s,baz=91,slow=38								
POKR	**Poker Plat Res**	**70.33**	**25**	P		**P**		**10 42 00.0**	**0.0**
ILAR	**Eielson Array**	**70.71**	**25**	P		**P**		**10 42 00.9**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=281,slow=7.1,SNR=10								
ILAR	**Eielson Array**	**70.71**	**25**	P		**P**		**10 42 01.0**	**-1.3**
ILAR	**Eielson Array**	**70.71**	**25**	P		**P**		**10 42 01.0**	**-1.3**
STKA	**Stephens Creek**	**72.18**	**146**	P		**P**		**10 42 07.5**	**-4.0**
	comp=Z,2.3nm,0.7s,baz=317,slow=7.0,SNR=5.9								
SCRK	**Sand Creek**	**72.20**	**25**	P		**P**		**10 42 11.2**	**-0.2**
SCRK				IAmb		IAmb		10 42 11.5	
	comp=Z,3.4nm,0.9s								
INK	**Inuvik**	**72.94**	**19**	P		**P**		**10 42 14.8**	**-0.7**
	comp=Z,3.5nm,0.6s,baz=335,slow=8.6,SNR=18								
INK	**Inuvik**	**72.94**	**19**	IAmb		IAmb		10 42 16.1	
	comp=Z,3.3nm,0.7s								
BCAR	**Beaver Creek A**	**73.54**	**25**	P		**P**		**10 42 19.8**	**+0.5**
C36M	**Paulatuk**	**74.62**	**16**	P		**P**		**10 42 25.3**	**-0.1**
C36M				IAmb		IAmb		10 42 25.5	
	comp=Z,11nm,1.3s								
BORG	**Borgarnes**	**75.53**	**339**	*i* P		P		10 42 35.8	+5.1
YKA	**Yellowknife Ar**	**82.45**	**17**	P		**P**		**10 43 08.0**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=331,slow=4.9,SNR=8.3								
TXAR	**Lajitas Array**	**115.22**	**26**	PKP		**PKiKP**		**10 49 25.7**	**-3.0**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=0.2,SNR=2.3								

RSPR ***05*** *11:29:11.9, 18.94N×68.00W, h57km±3km, MD3.4/10*
NEIC ***05*** *11:29:12.6±2.0, 18.91N±0.04×67.91W±0.02, h35km±10km, Error ellipse: s-maj=6.4km s-min=2.8km az=183.0*

ISC 05 11:29:10.6±1.1, 18.94N±0.07×67.92W±0.03, h20km, n51, σ0.6 s64/54, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.61**	**226**	*i*	*eP*		**Pn**	**11 29 23.7**	**-0.5**
PCDR	**Punta Cana, DR**	**0.61**	**226**		*eS*		**Sn**	**11 29 32.6**	**-0.9**
PCDR	**Punta Cana, DR**	**0.61**	**226**				**Pn**	**11 29 23.8**	**-0.4**
PCDR							**Sn**	**11 29 33.5**	**+0.1**
PCDR					IAML			11 29 34.3	
	comp=N,576nm,0.7s								
AGPR	**Aguadilla, PR**	**0.90**	**122**				**Pb**	**11 29 25.6**	**-1.9**
AGPR					IAML			11 29 43.3	
	comp=E,534nm,0.4s								
AGPR					IAML			11 29 45.2	
	comp=N,432nm,0.2s								
MPR	**Mayaguez**	**1.03**	**135**				**Pn**	**11 29 30.8**	**+0.8**
MPR					IAML			11 29 47.3	
	comp=N,584nm,0.4s								
LSP	**Las Mesas**	**1.10**	**134**	*i*	*eP*		**Pb**	**11 29 30.6**	**-0.4**
LSP	**Las Mesas**	**1.10**	**134**		*eS*		**Sn**	**11 29 46.3**	**+0.8**
LSP	**Las Mesas**	**1.10**	**134**				**Pb**	**11 29 30.6**	**-0.4**
LSP							**Sn**	**11 29 46.3**	**+0.8**
AOPR	**Arecibo Observ**	**1.25**	**118**	*i*	*eP*		**Pn**	**11 29 33.0**	**0.0**
AOPR	**Arecibo Observ**	**1.25**	**118**		*eS*		**Sn**	**11 29 49.8**	**+0.5**
AOPR	**Arecibo Observ**	**1.25**	**118**				**Pn**	**11 29 31.7**	**-1.2**
AOPR					IAML			11 29 52.0	
	comp=N,454nm,0.2s								
AOPR	**Arecibo Observ**	**1.25**	**118**				**Sn**	**11 29 49.8**	**+0.5**
MLPR	**Magueyes Islan**	**1.27**	**139**	*i*	*eP*		**Pb**	**11 29 33.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.27**	**139**		*eS*		**Sn**	**11 29 49.9**	**+0.2**
MLPR	**Magueyes Islan**	**1.27**	**139**				**Pn**	**11 29 33.2**	**-0.1**
MLPR					IAML			11 29 53.5	
	comp=E,418nm,0.3s								
MLPR					IAML			11 29 56.9	
	comp=N,290nm,0.5s								
MLPR	**Magueyes Islan**	**1.27**	**139**				**Sn**	**11 29 49.9**	**+0.2**
EMPR	**Esperanza - Ma**	**1.39**	**109**	*i*	*eP*		**Pn**	**11 29 35.2**	**+0.3**
EMPR	**Esperanza - Ma**	**1.39**	**109**		*eS*		**Sb**	**11 29 53.7**	**+0.4**
EMPR	**Esperanza - Ma**	**1.39**	**109**				**Pn**	**11 29 34.8**	**-0.1**
EMPR	**Esperanza - Ma**	**1.39**	**109**				**Sb**	**11 29 53.7**	**+0.4**
DR12	**Loma Pena Alta**	**1.40**	**264**				**Pb**	**11 29 36.9**	**+0.9**
OBIP	**Obispado Ponce**	**1.53**	**126**	*i*	*eP*		**Pn**	**11 29 36.8**	**0.0**
OBIP	**Obispado Ponce**	**1.53**	**126**		*eS*		**Sb**	**11 29 56.8**	**-0.5**
OBIP	**Obispado Ponce**	**1.53**	**126**				**Pn**	**11 29 36.8**	**0.0**
OBIP							**Sb**	**11 29 56.8**	**-0.5**
OBIP	**Obispado Ponce**	**1.53**	**126**		IAML			11 29 59.5	
	comp=E,205nm,0.4s								
OBIP					IAML			11 29 59.6	
	comp=N,307nm,0.4s								
CELP	**Cerrillos**	**1.53**	**124**	*i*	*eP*		**Pn**	**11 29 37.0**	**+0.1**
CELP	**Cerrillos**	**1.53**	**124**		*eS*		**Sn**	**11 29 56.4**	**+0.2**
CELP	**Cerrillos**	**1.53**	**124**				**Pn**	**11 29 37.0**	**+0.1**
CELP							**Sn**	**11 29 56.4**	**+0.2**
ICMP	**Isla Caja de M**	**1.69**	**128**	*i*	*eP*		**Pn**	**11 29 39.5**	**+0.6**
ICMP	**Isla Caja de M**	**1.69**	**128**				**Pn**	**11 29 39.1**	**+0.2**
ICMP					IAML			11 30 08.1	
	comp=N,170nm,0.7s								
ICMP					IAML			11 30 09.3	
	comp=E,173nm,0.5s								
GCPR	**Guaynabo City**	**1.85**	**110**	*i*	*eP*		**Pn**	**11 29 41.7**	**+0.5**
GCPR	**Guaynabo City**	**1.85**	**110**				**Pn**	**11 29 41.7**	**+0.5**
SJG	**San Juan**	**1.87**	**116**				**Pn**	**11 29 41.0**	**-0.5**
SJG					IAML			11 30 08.2	
	comp=E,234nm,0.4s								
SJG					IAML			11 30 12.1	
	comp=E,170nm,0.3s								
IGPR	**InterUniversit**	**1.97**	**119**	*i*	*eP*		**Pn**	**11 29 43.3**	**+0.4**
IGPR	**InterUniversit**	**1.97**	**119**		*eS*		**Sn**	**11 30 07.3**	**+0.2**
PDPR	**Patillas Dam,**	**2.02**	**117**				**Pn**	**11 29 43.4**	**-0.1**
PDPR					IAML			11 30 17.6	
	comp=E,87nm,0.6s								
CBYP	**Canovanas**	**2.06**	**109**	*i*	*eP*		**Pn**	**11 29 44.1**	**-0.1**
CBYP	**Canovanas**	**2.06**	**109**		*eS*		**Sn**	**11 30 09.9**	**+0.6**
CBYP	**Canovanas**	**2.06**	**109**				**Pn**	**11 29 43.4**	**-0.8**
CBYP	**Canovanas**	**2.06**	**109**				**Sn**	**11 30 09.9**	**+0.6**
HUMP	**Col San Antoni**	**2.12**	**112**	*i*	*eP*		**Pn**	**11 29 45.1**	**+0.3**
HUMP	**Col San Antoni**	**2.12**	**112**		*eS*		**Sn**	**11 30 11.5**	**+0.9**
HUMP	**Col San Antoni**	**2.12**	**112**				**Pn**	**11 29 45.1**	**+0.3**
HUMP							**Sn**	**11 30 11.5**	**+0.9**
HUMP	**Col San Antoni**	**2.12**	**112**		IAML			11 30 16.8	
	comp=N,86nm,0.2s								
HUMP					IAML			11 30 17.1	
	comp=E,130nm,0.2s								
MTP	**Monte Pirata**	**2.39**	**110**	*i*	*eP*		**Pn**	**11 29 49.1**	**+0.4**
MTP	**Monte Pirata**	**2.39**	**110**				**Pn**	**11 29 49.1**	**+0.4**
MTP					IAML			11 30 27.2	
	comp=N,59nm,0.2s								
CUPR	**Culebra, Puert**	**2.58**	**104**	*i*	*eP*		**Pn**	**11 29 52.0**	**+0.9**
CUPR	**Culebra, Puert**	**2.58**	**104**				**Pn**	**11 29 50.5**	**-0.7**
STVI	**Saint Thomas**	**2.87**	**101**			Pn	**Pn**	**11 29 55.7**	**+0.5**
SDDR	**Presa de Saban**	**3.19**	**271**			Pn	**Pn**	**11 30 00.8**	**+1.0**
SDDR					IAML			11 30 55.4	
	comp=N,70nm,0.7s								
SDDR					IAML			11 30 55.6	
	comp=N,69nm,0.8s								
GRTK	**Grand Turk**	**3.96**	**311**		Pn		**Pn**	**11 30 08.8**	**-1.4**

IDC ***05*** *11:34:48.1±1.0, 5.61S×152.06E, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.1/30, mbtmp4.2/10, MS3.2/7, Ms1 3.2/7, ms1mx3.0/30, Error ellipse: s-maj=38.1km s-min=19.2km az=120.0*
NEIC ***05*** *11:34:55.3±1.5, 5.61S±0.07×152.13E±0.08, h41km±8km, mb4.4/7, Error ellipse: s-maj=11.8km s-min=10.7km az=96.0*

ISC 05 11:34:55.3±0.8, 5.6S±0.1×152.0E±0.2, h45km, n30, σ1.9 s61/28, mb4.1/14, MS3.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.36**	**8**	Pn			**Pn**	**11 35 18.5**	**+0.5**
PMG	**Port Moresby**	**6.12**	**231**	Pn			**Pn**	**11 36 24.3**	**+1.1**
	2.9nm,0.3s,baz=14,slow=10,SNR=7.7								
PMG						Sn	**Sn**	**11 37 31.5**	**-0.6**
	3.2nm,0.3s,baz=98,slow=21,SNR=5.6								
PMG						LR	LR	11 38 24.2	
	comp=Z,97nm,19.9s,baz=64,slow=35								
PMG	**Port Moresby**	**6.12**	**231**				**Pn**	**11 36 24.2**	**+0.9**
HNR	**Honiara**	**8.79**	**116**	LR		LR	LR	11 39 59.8	
	comp=Z,154nm,18.3s,baz=274,slow=36								
GUMO	**Guam**	**20.28**	**340**	LR		LR		11 48 18.0	
	comp=Z,37nm,18.1s,baz=162,slow=40								
DZM	**Mont Dzumac**	**21.58**	**141**	LR		LR		11 47 18.3	
	comp=Z,135nm,18.6s,baz=316,slow=35								
WRA	**Warramunga Arr**	**22.34**	**229**	P			**P**	**11 39 48.9**	**-0.6**
	baz=54,slow=10								
KNRA	**Kununurra**	**24.91**	**244**	P			**P**	**11 40 17.1**	**+2.7**
AS31	**Alice Springs**	**25.04**	**222**	P			**P**	**11 40 15.6**	**+0.1**
AS31				IAmb			IAmb	11 40 17.3	
	comp=Z,2.6nm,0.7s								
ASAR	**Alice Springs**	**25.05**	**222**	P			**P**	**11 40 14.2**	**-1.4**
	comp=Z,8.0nm,0.8s,baz=55,slow=9.5,SNR=61								
ASAR				ScP			**ScP**	**11 47 31.2**	**+6.0**
	comp=Z,0.3nm,0.9s,baz=21,slow=4.0,SNR=1.1								
ASAR				LR			LR	11 51 30.2	
	comp=Z,98nm,18.3s,baz=349,slow=40								
ASAR	**Alice Springs**	**25.05**	**222**	P			**P**	**11 40 15.1**	**-0.5**
STKA	**Stephens Creek**	**27.93**	**199**	P			**P**	**11 40 39.2**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=357,slow=16,SNR=2.2								
STKA				LR			LR	11 51 50.2	
	comp=Z,52nm,18.5s,baz=28,slow=37								
STKA	**Stephens Creek**	**27.93**	**199**	P			**P**	**11 40 41.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.58**	**242**	P			**P**	**11 40 46.4**	**-1.1**
	comp=Z,5.6nm,0.5s,baz=58,slow=8.0,SNR=4.1								
MJAR	**Matsushiro Arr**	**43.81**	**344**	LR			LR	12 00 39.0	
	comp=Z,21nm,18.9s,baz=180,slow=35								
CMAR	**Chiang Mai Arr**	**57.46**	**296**	P			**P**	**11 44 40.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=126,slow=7.3,SNR=5.8								
SONM	**Songino Array**	**66.53**	**328**	P			**P**	**11 45 41.1**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=117,slow=5.2,SNR=5.7								
SONM	**Songino Array**	**66.53**	**328**	IAmb			IAmb	11 45 42.8	
	comp=Z,1.7nm,0.9s								
MKAR	**Makanchi Array**	**80.35**	**319**	P			**P**	**11 47 01.4**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=104,slow=5.1,SNR=5.3								
MKAR	**Makanchi Array**	**80.35**	**319**	P			**P**	**11 47 01.0**	**-1.0**
ZALV	**Zalesovo Beam**	**81.32**	**327**	P			**P**	**11 47 06.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=118,slow=5.2,SNR=2.4								
MCK	**McKinley**	**81.87**	**23**	P			**P**	**11 47 09.5**	**-0.2**
MCK				IAmb			IAmb	11 47 11.1	
	comp=Z,13nm,1.2s								
MLY	**Manley**	**81.88**	**21**	P			**P**	**11 47 10.3**	**+0.6**
MLY				IAmb			IAmb	11 47 10.4	
	comp=Z,2.9nm,0.6s								
ILAR	**Eielson Array**	**83.16**	**22**	P			**P**	**11 47 15.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=252,slow=5.2,SNR=17								
ILAR	**Eielson Array**	**83.16**	**22**	P			**P**	**11 47 15.8**	**-0.6**
DAWY	**Dawson**	**85.81**	**24**	P			**P**	**11 47 30.7**	**+0.9**
DAWY				IAmb			IAmb	11 47 31.9	
	comp=Z,6.9nm,1.2s								
NVAR	**Mina Array Bea**	**93.19**	**52**	P			**P**	**11 48 06.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=255,slow=5.5,SNR=3.0								
YKA	**Yellowknife Ar**	**96.47**	**28**	P			**P**	**11 48 18.9**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=273,slow=4.9,SNR=3.7								
TORD	**Torodi Ar. Bea**	**149.75**	**287**	PKPbc			**PKPbc**	**11 54 40.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=79,slow=2.8,SNR=6.7								
TORD	**Torodi Ar. Bea**	**149.75**	**287**				**PKPbc**	**11 54 40.0**	**-1.4**

PB01	**IPOC Station P**	**1.47 191**	⇑	*e*P	**Pg**	**13 02 09.0**	**+1.7**
PB01				*e*S	**Sg**	**13 02 28.3**	**+1.9**
PB01				IAML		13 02 28.9	
	comp=E,8µm,0.1s						
PATCX	**Punta Patache**	**1.52 216**	⇓	*e*P	**Pg**	**13 02 08.7**	**+0.4**
PATCX				*e*S	**Sg**	**13 02 28.0**	**0.0**
PATCX				IAML		13 02 29.7	
	comp=N,9µm,0.2s						
AP01	**Chacalluta**	**1.64 318**	⇑	*e*P	**Pb**	**13 02 10.4**	**+0.3**
AP01				*e*S	**Sb**	**13 02 30.8**	**-0.3**
AP01				IAML		13 02 34.5	
	comp=E,10µm,0.3s						
PB09	**IPOC Station P**	**2.19 181**	⇑	*e*P	**Pg**	**13 02 22.0**	**+0.8**
PB09				*e*S	**Sg**	**13 02 50.5**	**+0.9**
PB09				IAML		13 02 55.2	
	comp=E,5µm,0.6s						
PB07	**IPOC Station P**	**2.22 197**	⇓	*e*P	**Pg**	**13 02 20.8**	**-0.9**
PB07				*e*S	**Sg**	**13 02 49.1**	**-1.4**
PB03	**IPOC Station P**	**2.50 192**	⇓	*e*P	**Pb**	**13 02 24.8**	**0.0**
PB03				*e*S	**Sb**	**13 02 56.7**	**+0.6**
PB03				IAML		13 02 58.6	
	comp=E,4µm,0.3s						
PB04	**IPOC Station P**	**2.87 198**	⇑	*e*P	**Pb**	**13 02 30.1**	**-1.0**
PB04				*e*S	**Sb**	**13 03 05.7**	**-1.1**
PB04				IAML		13 03 13.0	
	comp=E,3µm,0.5s						
LVC	**Limon Verde**	**3.01 175**		P	**Pb**	**13 02 34.1**	**+0.4**
	comp=E,56nm,0.3s,baz=23,slow=9.6,SNR=152						
LVC				S	**Sg**	**13 03 15.8**	**-0.2**
	comp=E,358nm,0.3s,baz=134,slow=11,SNR=57						
LVC				LR	LR	13 03 55.4	
	comp=E,114nm,18.6s,baz=360,slow=44						
PB06	**IPOC Station P**	**3.11 187**	⇑	*e*P	**Pb**	**13 02 34.0**	**-1.4**
PB06				*e*S	**Sb**	**13 03 12.9**	**-0.9**
PB06				IAML		13 03 20.3	
	comp=N,1µm,0.3s						
PB05	**IPOC Station P**	**3.37 196**	⇑	*e*P	**Pb**	**13 02 36.6**	**-3.2**
PB05				*e*S	**Sb**	**13 03 16.6**	**-4.7**
PB05				IAML		13 03 27.5	
	comp=N,1µm,0.3s						
LPAZ	**La Paz**	**3.44 17**		P	**Pg**	**13 02 43.7**	**-1.6**
	comp=N,0.9nm,0.3s,baz=246,slow=5.2,SNR=14						
LPAZ				LR	LR	13 03 54.4	
	comp=N,34nm,21.4s,baz=212,slow=35						
PB15	**IPOC Station P**	**3.60 184**	⇑	*e*P	**Pb**	**13 02 41.7**	**-2.1**
PB15				*e*S	**Sb**	**13 03 26.5**	**-1.5**
SIV	**San Ignacio**	**8.52 66**		P	Pn	13 03 48.1	+4.4
	comp=N,0.4nm,0.3s,baz=250,slow=10,SNR=7.8						
CPUP	**Villa Florida**	**12.81 124**		P	**Pn**	**13 04 44.0**	**+1.7**
	comp=N,0.1nm,0.3s,baz=298,slow=11,SNR=5.4						
H03N1	**Juan Fernandez**	**16.29 210**		T	T	13 20 51.2	
	baz=34,slow=72,SNR=26						
H03N2	**Juan Fernandez**	**16.30 210**		T	T	13 20 55.1	
	baz=34,slow=72,SNR=23						
H03N3	**Juan Fernandez**	**16.31 210**		T	T	13 20 48.0	
	baz=34,slow=72,SNR=22						
TORD	**Torodi Ar. Bea**	**76.97 71**		P	**P**	**13 13 35.7**	**+1.9**
	comp=N,0.5nm,0.6s,baz=255,slow=4.9,SNR=2.6						
YKA	**Yellowknife Ar**	**89.31 341**		P	P	13 14 40.8	+4.3
	comp=N,0.7nm,0.7s,baz=133,slow=5.2,SNR=6.0						
H11S2	**WAKE ISLAND Hyd**	**27.36 279**		T	T	15 40 16.0	
	baz=101,slow=74,SNR=41						
H11S1	**WAKE ISLAND Hyd**	**27.36 279**		T	T	15 40 16.5	
	baz=101,slow=74,SNR=27						
H11S3	**WAKE ISLAND Hyd**	**27.37 279**		T	T	15 40 17.2	
	baz=101,slow=74,SNR=31						

*IDC **05** 13:12:14.0±1.1,6˚64N×117˚19E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.6/39,mbtmp3.9/6,ML4.5/2,MS3.1/4, Ms1 3.1/4,ms1mx2.8/37,Error ellipse: s-maj=91.8km s-min=18.5km az=58.0*

*DJA **05** 13:12:18.0±0.5,6˚N×6˚×11˚7E±˚,h10km,M4.4/12,mB4.8/6, mb4.6/12,MLv4.6/2,Mw(mB)4.1/6*

ISC 05 13:12:16.1±0.9,6˚3N±0˚1×116˚6E±0˚1,h10km,n20, σ1°40/18,mb3.5/5,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**7.84**	**137**	P	**Pn**	**13 14 11.3**	**+0.9**
	0.2nm797nm67nm,0.7s						
DAV	**Davao City (W)**	**8.92**	**85**	LR	LR	13 18 08.2	
	comp=Z,136nm,22.0s,baz=172,slow=42						
KMSI	**Cibinong**	**9.28**	**127**	P	**Pn**	**13 14 29.8**	**-0.3**
LUWI	**Luwuk**	**9.53**	**140**	P	**Pn**	**13 14 32.4**	**-1.1**
	2µm40nm,0.6s						
TTSI	**Tana Toraja**	**9.81**	**161**	P	Pn	13 14 34.1	-3.3
	626nm55nm,0.9s						
SPSI	**Sidrap Palu**	**10.66**	**163**	P	**Pn**	**13 14 49.6**	**+0.5**
	33nm,1.1s						
BNSI	**Bone**	**11.18**	**162**	P	**Pn**	**13 14 57.6**	**+1.5**
	30nm,1.0s						
KAPI	**Kappang**	**11.66**	**164**	Pn	**Pn**	**13 15 04.1**	**+1.4**
	2.6nm,0.3s,baz=303,slow=7.9,SNR=6.8						
KAPI				LR	LR	13 20 17.1	
	comp=Z,67nm,18.9s,baz=347,slow=41						
PLAI	**Plampang**	**15.07**	**176**	P	**Pn**	**13 15 48.3**	**-1.0**
	64nm,0.8s						
MDSI	**Maura Dua**	**16.41**	**230**	P	**Pn**	**13 16 08.2**	**+1.5**
	9.2nm,1.1s						
BATI	**Baumata**	**17.83**	**157**	P	**Pn**	**13 16 23.4**	**-1.1**
	2.2nm,0.3s,baz=0.0,slow=4.0,SNR=2.1						
BATI	**Baumata**	**17.83**	**157**	P	**Pn**	**13 16 23.8**	**-0.8**
	33nm,0.9s						
MNSI	**Mandailing Nat**	**17.87**	**253**	P	**Pn**	**13 16 23.6**	**-1.4**
GSI	**Gunungsitoli**	**19.64**	**256**	P	**P**	**13 16 44.3**	**-0.9**
	42nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.05**	**307**	P	**P**	**13 17 02.7**	**+2.1**
	2.0nm,0.8s,baz=129,slow=8.5,SNR=11						
CMAR				LR	LR	13 25 37.6	
	comp=Z,91nm,18.9s,baz=175,slow=38						
GUMO	**Guam**	**28.72**	**73**	LR	LR	13 31 14.0	
	comp=Z,17nm,19.0s,baz=90,slow=41						
ASAR	**Alice Springs**	**34.23**	**151**	P	**P**	**13 19 02.0**	**-0.3**
	0.4nm,0.7s,baz=325,slow=8.2,SNR=10						
ASAR				PcP	**PcP**	**13 21 36.2**	**-2.9**
	0.5nm,0.7s,baz=329,slow=2.6,SNR=4.2						
STKA	**Stephens Creek**	**44.81**	**149**	P	**P**	**13 20 31.6**	**+1.2**
	2.2nm,0.6s,baz=323,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**49.98**	**330**	P	**P**	**13 21 10.9**	**+0.4**
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.5						
MKAR				PcP	**PcP**	**13 22 29.7**	**-0.9**
	0.5nm,0.8s,baz=113,slow=3.7,SNR=2.2						
FINES	**FINESS Array B**	**84.78**	**331**	P	P	13 24 49.2	-1.3
	2.0nm,0.8s,baz=72,slow=4.5,SNR=2.4						

*IDC **05** 13:27:02.0±2.5,37˚35S×178˚09E,h0km,mb4.2/3, mb1 4.2/3,mb1mx3.8/21,mbtmp4.2/3,Error ellipse: s-maj=42.9km s-min=27.2km az=89.0*

*NEIC **05** 13:27:02.7±2.5,37˚41S±0˚06×178˚4E±0˚1,h18km±4km, mb4.6/14, Error ellipse: s-maj=17.8km s-min=7.2km az=107.0*

*WEL **05** 13:27:03.3,37˚S±6˚×17˚8E±˚,h12km±5km,M3.6/42, ML3.9/42,MLv3.6/42,Error ellipse: s-maj=0.0km s-min=0.0km az=4.3*

ISC 05 13:27:00.7±1.5,37˚30S±0˚04×178˚27E±0˚05,h10km±9km, n147,σ1°62/155,mb4.5/10,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.26**	**173**	Pg	**Pb**	**13 27 06.9**	**-0.6**
MXZ	**Matakaoa Point**	**0.26**	**173**	P	**Pb**	**13 27 06.9**	**-0.6**
MXZ				S	**Sg**	**13 27 09.6**	**+0.1**
WMGZ	**Waiomatatini S**	**0.53**	**167**	P	**Pb**	**13 27 12.3**	**+0.2**
WMGZ				S	**Sb**	**13 27 19.2**	**-0.5**
HAZ	**Te Kaha**	**0.59**	**220**	P	**Pb**	**13 27 13.3**	**+0.1**
HAZ				S	**Sb**	**13 27 21.4**	**-0.3**
PKGZ	**Pakihiroa**	**0.60**	**195**	P	**Pb**	**13 27 12.9**	**-0.5**
PKGZ				S	**Sg**	**13 27 20.1**	**-0.3**
PUZ	**Puketiti**	**0.77**	**181**	P	**Pn**	**13 27 16.7**	**-0.9**
RUGZ	**Raukumara Rang**	**0.81**	**215**	P	**Pb**	**13 27 17.3**	**+0.4**
RUGZ				S	**Sg**	**13 27 27.6**	**+0.7**
WIZ	**White Island**	**0.89**	**255**	P	**Pn**	**13 27 18.8**	**-0.4**
WSRZ	**White Island S**	**0.90**	**256**	P	**Pn**	**13 27 19.8**	**+0.4**
TWGZ	**Tauwhareparae**	**0.90**	**195**	P	**Pn**	**13 27 19.7**	**+0.1**
WHRZ	**Whale Island**	**1.17**	**241**	P	**Pg**	**13 27 24.5**	**+1.4**
CNGZ	**Carnagh Statio**	**1.18**	**182**	P	**Pg**	**13 27 24.2**	**+0.9**
TKGZ	**Te Karaka**	**1.18**	**196**	P	**Pg**	**13 27 24.5**	**+1.1**
MWZ	**Matawai**	**1.19**	**209**	P	**Pg**	**13 27 24.1**	**+0.7**
URZ	**Urewera**	**1.32**	**224**	Pn	**Pb**	**13 27 25.7**	**+0.1**
	101nm,0.3s,baz=121,slow=24,SNR=314						
URZ				Sn	**Sg**	**13 27 43.7**	**+0.4**
	111nm,0.3s,baz=217,slow=22,SNR=5.8						
URZ	**Urewera**	**1.32**	**224**	P	**Pb**	**13 27 25.8**	**+0.1**
RAGZ	**Rawiri**	**1.37**	**209**	P	**Pg**	**13 27 27.8**	**+0.8**
RAGZ				S	**Sb**	**13 27 44.8**	**+0.7**
MARZ	**Manawahe**	**1.44**	**241**	P	**Pg**	**13 27 28.0**	**-0.2**
EDRZ	**Edgecumbe**	**1.46**	**236**	P	**Pg**	**13 27 28.1**	**-0.5**
OPRZ	**Ohinepanea**	**1.47**	**248**	P	**Pb**	**13 27 27.6**	**-0.4**
MYRZ	**Mayor Island**	**1.62**	**270**	P	**Pg**	**13 27 31.6**	**-0.1**
PRGZ	**Paritu Road**	**1.65**	**191**	P	**Pn**	**13 27 29.9**	**+0.2**
SNGZ	**Shannon Statio**	**1.65**	**206**	P	**Pb**	**13 27 31.6**	**+0.4**
LIRZ	**Lichensteins R**	**1.65**	**244**	P	**Pb**	**13 27 31.4**	**+0.1**
TGRZ	**Tauranga**	**1.65**	**254**	P	**Pb**	**13 27 30.5**	**-0.7**
MKRZ	**Makatiti**	**1.66**	**239**	P	**Pb**	**13 27 31.5**	**+0.1**
RTZ	**Ruatahuna**	**1.66**	**217**	P	**Pb**	**13 27 30.9**	**-0.5**
MUGZ	**Murupara**	**1.67**	**225**	P	**Pb**	**13 27 31.0**	**-0.5**
TARZ	**Mount Tarawera**	**1.68**	**236**	P	**Pb**	**13 27 31.8**	**0.0**
OMRZ	**Omania**	**1.71**	**241**	P	**Pb**	**13 27 31.9**	**-0.3**
RRRZ	**Republican Roa**	**1.73**	**233**	P	**Pb**	**13 27 32.2**	**-0.4**
KARZ	**Kaharoa**	**1.76**	**245**	P	**Pb**	**13 27 32.4**	**-0.7**
KNZ	**Kokohu**	**1.78**	**195**	P	**Pn**	**13 27 31.3**	**-0.2**
HLRZ	**Highlands Stat**	**1.79**	**237**	P	**Pb**	**13 27 33.0**	**-0.6**
NGRZ	**Ngongotaha**	**1.83**	**244**	P	**Pb**	**13 27 34.1**	**-0.3**
RAHZ	**Arahi**	**1.86**	**210**	P	**Pb**	**13 27 35.0**	**+0.2**
UTU	**Utuhina**	**1.86**	**241**	P	**Pb**	**13 27 34.1**	**-0.8**
MHGZ	**Mahia Peninsul**	**1.87**	**189**	P	**Pn**	**13 27 32.6**	**-0.1**
HSRZ	**Hossack Road**	**1.89**	**237**	P	**Pb**	**13 27 34.9**	**-0.5**
PRRZ	**Plateau Road**	**1.91**	**231**	P	**Pb**	**13 27 34.2**	**-1.3**
HRRZ	**Handcock Road**	**1.91**	**235**	P	**Pb**	**13 27 35.2**	**-0.5**
MTHZ	**Maungataniwha**	**1.91**	**216**	P	**Pb**	**13 27 34.4**	**-1.3**
KMRZ	**Kaimai**	**1.93**	**253**	P	**Pb**	**13 27 34.7**	**-1.2**
WHHZ	**Waihuka**	**1.95**	**204**	P	**Pb**	**13 27 35.8**	**-0.5**
ALRZ	**Allen Road**	**1.98**	**230**	P	**Pn**	**13 27 35.2**	**+0.9**
GRRZ	**Galatos Road**	**2.00**	**238**	P	**Pb**	**13 27 36.3**	**-0.9**
KUZ	**Kuaotunu**	**2.11**	**284**	P	**Pn**	**13 27 36.5**	**+0.4**
MRHZ	**Matea Rd**	**2.12**	**223**	P	**Pn**	**13 27 37.1**	**+0.9**
NMHZ	**Naumai**	**2.13**	**212**	P	**Pb**	**13 27 38.7**	**-0.7**
ARHZ	**Aropaoanui**	**2.20**	**207**	P	**Pb**	**13 27 39.1**	**-1.5**
TOZ	**Tahuroa Road**	**2.24**	**258**	P	**Pn**	**13 27 38.8**	**+1.0**
KUTZ	**Kaahu Road**	**2.27**	**238**	P	**Pb**	**13 27 39.9**	**-1.9**
BKZ	**Black Stump Fm**	**2.33**	**216**		**Pn**	**13 27 39.6**	**+0.5**
BKZ	**Black Stump Fm**	**2.33**	**216**	P	**Pn**	**13 27 40.1**	**+1.0**
TLZ	**Tolley Road**	**2.39**	**244**	P	**Pn**	**13 27 41.3**	**+1.3**
MCHZ	**McNeill Hill**	**2.47**	**210**	P	**Pn**	**13 27 42.5**	**+1.4**
GRZ	**Great Barrier**	**2.49**	**294**	P	**Pb**	**13 27 42.5**	**-3.0**
RATZ	**Rangitukua**	**2.51**	**231**	P	**Pn**	**13 27 44.1**	**-1.9**
CKHZ	**Cape Kidnapper**	**2.53**	**201**	P	**Pn**	**13 27 42.2**	**+0.3**
RITZ	**Rihia Road**	**2.53**	**228**	P	**Pn**	**13 27 43.8**	**+1.9**
WIAZ	**Waiheke Island**	**2.56**	**281**	P	**Pn**	**13 27 43.3**	**+1.1**
KWHZ	**Kaweka Forest**	**2.57**	**214**	P	**Pn**	**13 27 43.9**	**+1.4**
KATZ	**Kakaramea**	**2.63**	**230**	P	**Pb**	**13 27 45.9**	**-2.1**
ETAZ	**East Tamaki Re**	**2.69**	**276**	P	**Pn**	**13 27 45.5**	**+1.4**
TMVZ	**Te Maari**	**2.71**	**227**	P	**Pn**	**13 27 45.8**	**+1.3**
KAHZ	**Kahuranaki**	**2.72**	**203**	P	**Pn**	**13 27 44.3**	**-0.2**
NTVZ	**North Tongarir**	**2.72**	**228**	P	**Pn**	**13 27 46.2**	**+1.7**
ETVZ	**East Tongariro**	**2.72**	**227**	P	**Pn**	**13 27 45.9**	**+1.2**
KRVZ	**Karewarewa**	**2.74**	**228**	P	**Pn**	**13 27 46.8**	**+2.0**
MBAZ	**Motutapu North**	**2.75**	**280**	P	**Pn**	**13 27 46.4**	**+1.6**
OTVZ	**Oturere**	**2.77**	**227**	P	**Pn**	**13 27 46.6**	**+1.3**
KRHZ	**Kereru**	**2.77**	**212**	P	**Pn**	**13 27 45.8**	**+0.6**
NNVZ	**North Ngauruho**	**2.78**	**228**	P	**Pn**	**13 27 46.8**	**+1.5**
WTVZ	**West Tongariro**	**2.78**	**229**	P	**Pn**	**13 27 47.0**	**+1.5**
BHHZ	**Black Hill Sta**	**2.79**	**218**	P	**Pn**	**13 27 46.7**	**+1.3**
SNVZ	**South Ngauruho**	**2.80**	**227**	P	**Pn**	**13 27 47.1**	**+1.5**
NGZ	**Ngauruhoe**	**2.81**	**228**	P	**Pn**	**13 27 47.4**	**+1.5**
ABAZ	**Army Bay**	**2.84**	**283**	P	**Pn**	**13 27 47.7**	**+1.6**
TUVZ	**Tukino**	**2.84**	**226**	P	**Pn**	**13 27 47.5**	**+1.4**
TWVZ	**Taurewa**	**2.84**	**231**	P	**Pb**	**13 27 50.4**	**-1.3**
EPAZ	**Eden Park BICE**	**2.85**	**278**	P	**Pb**	**13 27 49.5**	**-2.1**
HBAZ	**Herne Bay Bore**	**2.87**	**278**	P	**Pb**	**13 27 48.5**	**-3.4**
MOVZ	**Moawhango**	**2.88**	**223**	P	**Pn**	**13 27 47.6**	**+0.8**
WHVZ	**Whangaehu Hut**	**2.89**	**226**	P	**Pb**	**13 27 49.7**	**-2.7**
FWVZ	**Far West T-bar**	**2.89**	**227**	P	**Pb**	**13 27 49.8**	**-2.7**
AWAZ	**Awhitu Peninsu**	**2.91**	**274**	P	**Pn**	**13 27 48.7**	**+1.7**
WNVZ	**Wahianoa**	**2.92**	**225**	P	**Pn**	**13 27 48.8**	**+1.5**
TRVZ	**Turoa**	**2.92**	**226**	P	**Pb**	**13 27 50.3**	**-2.7**
PXZ	**Pawanui**	**2.94**	**202**	P	**Pn**	**13 27 47.1**	**-0.3**
HIZ	**Hauiti**	**2.96**	**245**		**Pn**	**13 27 49.1**	**+1.4**
HIZ	**Hauiti**	**2.96**	**245**	P	**Pn**	**13 27 49.6**	**+1.9**
WTAZ	**Waiatarua**	**2.98**	**276**	P	**Pn**	**13 27 50.0**	**+2.0**
RVAZ	**Riverhead Bore**	**3.00**	**279**	P	**Pn**	**13 27 50.0**	**+1.7**
MTVZ	**Mangateitei**	**3.03**	**226**	P	**Pb**	**13 27 51.6**	**-3.1**
PKVZ	**Pokaka**	**3.04**	**228**	P	**Pb**	**13 27 52.3**	**-2.6**
PNVZ	**Pukenui**	**3.07**	**211**	P	**Pn**	**13 27 49.3**	**0.0**
WPHZ	**Waipukurau**	**3.11**	**207**	P	**Pn**	**13 27 50.0**	**+0.2**
PRHZ	**Porangahau**	**3.22**	**203**	P	**Pn**	**13 27 50.6**	**-0.8**
TSZ	**Takapari Road**	**3.29**	**213**	P	**Pn**	**13 27 52.0**	**-0.3**
VRZ	**Vera Road**	**3.31**	**236**	P	**Pn**	**13 27 55.4**	**+2.8**
DVHZ	**Dannevirke**	**3.41**	**208**	P	**Pn**	**13 27 53.6**	**-0.4**
WCZ	**Waipu Caves**	**3.44**	**292**	P	**Pn**	**13 27 56.2**	**+1.9**
ANWZ	**Angora Road**	**3.45**	**203**	P	**Pn**	**13 27 53.9**	**-0.6**
WAZ	**Wanganui**	**3.55**	**225**	P	**Pn**	**13 27 58.3**	**+2.4**
MHEZ	**Mangahewa**	**3.58**	**239**	P	**Pb**	**13 28 01.8**	**-2.3**
POWZ	**Post Office Ro**	**3.65**	**212**	P	**Pn**	**13 27 57.0**	**-0.2**
OHWZ	**Ohakea**	**3.71**	**218**	P	**Pn**	**13 27 59.4**	**+1.4**
PRWZ	**Pori Road**	**3.71**	**208**	P	**Pn**	**13 27 58.8**	**+0.7**
DREZ	**Durham Road**	**3.71**	**238**	P	**Pb**	**13 28 02.0**	**-4.4**
LREZ	**Lake Rotokare**	**3.72**	**233**	P	**Pb**	**13 28 02.2**	**-4.3**
PREZ	**Palmer Road**	**3.82**	**237**	P	**Pb**	**13 28 04.3**	**-3.9**
NEZ	**North Egmont**	**3.83**	**238**	P	**Pb**	**13 28 03.7**	**-4.6**
PKE	**Pukeiti**	**3.86**	**239**	P	**Pn**	**13 28 03.8**	**+3.6**
KHEZ	**Kahui Hut**	**3.89**	**238**	P	**Pn**	**13 28 04.5**	**+3.8**
TIWZ	**Tintock**	**3.93**	**207**	P	**Pn**	**13 28 06.6**	**+1.4**
NBEZ	**Newall Road No**	**3.98**	**239**	P	**Pn**	**13 28 05.1**	**+3.3**
NMEZ	**Namu Road**	**4.04**	**237**	P	**Pb**	**13 28 07.7**	**-4.3**
HOWZ	**Holdsworth Sta**	**4.18**	**210**	P	**Pn**	**13 28 03.5**	**-1.0**
OUZ	**Omahuta**	**4.31**	**297**		**Pn**	**13 28 08.8**	**+2.5**
OUZ	**Omahuta**	**4.31**	**297**	P	**Pn**	**13 28 08.8**	**+2.5**
KIW	**Kapiti Island**	**4.41**	**215**	P	**Pn**	**13 28 06.6**	**-1.1**
NNZ	**Nelson**	**5.45**	**223**	P	**Pn**	**13 28 21.0**	**-0.9**
BSWZ	**Blackbirch Sta**	**5.56**	**216**	P	**Pn**	**13 28 20.7**	**-2.8**
BSWZ				S	**Sn**	**13 29 24.6**	**-2.9**
QRZ	**Quartz Range**	**5.69**	**230**	P	**Pn**	**13 28 25.6**	**+0.4**
KHZ	**Kahutara**	**6.27**	**214**	P	**Pn**	**13 28 32.1**	**-1.1**
DSZ	**Denniston Nort**	**6.68**	**226**	P	**Pn**	**13 28 38.0**	**-0.9**
CTZ	**Chatham Island**	**7.51**	**150**	P	**Pn**	**13 28 49.6**	**-0.6**
WVZ	**Waitaha Valley**	**8.15**	**223**	P	**Pn**	**13 29 00.1**	**+1.1**
ARMA	**Armidale**	**23.12**	**279**	P	**P**	**13 32 06.5**	**-0.6**
ARMA				IAmb	IAmb	13 32 08.1	
	comp=Z,25nm,1.4s						
EIDS	**Eidsvold**	**26.00**	**289**	P	**P**	**13 32 32.7**	**-1.1**
EIDS				IAmb	IAmb	13 32 36.4	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**30.54**	**269**	P	**P**	**13 33 16.9**	**+2.5**
	comp=Z,1.9nm,0.6s,baz=96,slow=9.2,SNR=4.5						
STKA	**Stephens Creek**	**30.54**	**269**	P	**P**	**13 33 13.6**	**-0.7**
CTAO	**Charters Tower**	**32.70**	**293**	P	**P**	**13 33 32.8**	**-0.7**
CTAO				IAmb	IAmb	13 33 48.1	
	comp=Z,7.9nm,1.3s						
BBOO	**Buckleboo**	**34.63**	**265**	P	**P**	**13 33 50.6**	**+0.4**
BBOO				IAmb	IAmb	13 33 52.5	
	comp=Z,15nm,1.4s						
PMG	**Port Moresby**	**39.50**	**307**	P	**P**	**13 34 31.3**	**-0.3**
PMG				IAmb	IAmb	13 34 40.8	
	comp=Z,25nm,1.0s						
AS31	**Alice Springs**	**40.22**	**277**	P	**P**	**13 34 39.1**	**+1.4**
ASAR	**Alice Springs**	**40.22**	**277**	P	**P**	**13 34 38.9**	**+1.2**
	comp=Z,2.5nm,0.5s,baz=123,slow=7.8,SNR=96						
ASAR	**Alice Springs**	**40.22**	**277**	P	**P**	**13 34 38.6**	**+0.9**
VNDA	**Vanda**	**40.94**	**185**	P	**P**	**13 34 40.8**	**-2.2**
WRAB	**Tennant Creek**	**41.85**	**282**	P	**P**	**13 34 51.7**	**+0.6**
WRAB				IAmb	IAmb	13 35 07.1	
	comp=Z,6.4nm,1.0s						
WRA	**Warramunga Arr**	**41.85**	**282**	P	**P**	**13 34 52.8**	**+1.7**
	baz=122,slow=7.6,SNR=8.9						
MTN	**Manton Dam**	**48.52**	**287**	P	**P**	**13 35 44.7**	**+0.6**
KNRA	**Kununurra**	**48.64**	**283**	P	**P**	**13 35 47.3**	**+2.3**
FITZ	**Fitzroy Crossi**	**49.71**	**278**	P	**P**	**13 35 54.8**	**+1.6**
FITZ				IAmb	IAmb	13 35 60.0	
	comp=Z,12nm,1.4s						
MORW	**Morawa**	**51.91**	**260**	P	**P**	**13 36 10.1**	**+0.4**
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**13 36 18.7**	**+2.6**
	comp=Z,1.7nm,0.9s,baz=172,slow=0.2,SNR=3.7						
QSPA	**South Pole Qui**	**52.82**	**180**	P	**P**	**13 36 18.0**	**+1.9**
QSPA				IAmb	IAmb	13 36 22.6	
	comp=Z,6.7nm,1.4s						

WEL 05 13:33:15.0±1.1,41˚S±5˚×17˚7E±˚,h19km±6km,M3.7/54, ML4.0/54,MLv3.7/54,Error ellipse: s-maj=0.0km s-min=0.0km az=123.1,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.51**	**307**	P	Pn	13 33 26.5	-0.7
ANWZ				S	Sb	13 33 32.9	+0.7
PRHZ	**Porangahau**	**0.57**	**331**	P	Pn	13 33 27.5	-0.6
PRHZ				S	Sg	13 33 34.5	+0.4
BFZ	**Birch Farm**	**0.58**	**278**	P	Pn	13 33 27.9	-0.4
CPWZ	**Castlepoint**	**0.62**	**256**	P	Pn	13 33 29.5	+0.7
PXZ	**Pawanui**	**0.74**	**352**	P	Pn	13 33 30.3	-0.2
DVHZ	**Dannevirke**	**0.79**	**306**	P	Pg	13 33 30.3	-0.2
DVHZ				S	Sb	13 33 39.1	-1.3
PRWZ	**Pori Road**	**0.81**	**285**	P	Pn	13 33 31.3	-0.2
WPHZ	**Waipukurau**	**0.82**	**328**	P	Pg	13 33 31.1	0.0
TIWZ	**Tintock**	**0.85**	**269**	P	Pg	13 33 31.8	+0.2
TMWZ	**Te Maipa**	**0.91**	**248**	P	Pn	13 33 32.8	0.0
KAHZ	**Kahuranaki**	**0.97**	**354**	P	Pn	13 33 33.7	0.0
POWZ	**Post Office Ro**	**1.01**	**291**	P	Pn	13 33 33.9	0.0
PNHZ	**Pukenui**	**1.05**	**324**	P	Pb	13 33 34.4	-0.1
TSZ	**Takapari Road**	**1.06**	**311**	P	Pb	13 33 34.5	-0.3
MRZ	**Mangatainoka R**	**1.09**	**275**	P	Pb	13 33 34.9	-0.4
CKHZ	**Cape Kidnapper**	**1.11**	**3**	P	Pn	13 33 35.5	0.0
HOWZ	**Holdsworth Sta**	**1.14**	**263**	P	Pn	13 33 35.7	-0.3
TRWZ	**Traveller**	**1.18**	**237**	P	Pn	13 33 36.5	0.0
MTW	**Mount Morrison**	**1.20**	**250**	P	Pn	13 33 36.5	-0.3
KRHZ	**Kereru**	**1.22**	**336**	P	Pn	13 33 36.8	-0.3
MCHZ	**McNeill Hill**	**1.34**	**350**	P	Pn	13 33 39.0	+0.3
PAWZ	**Paruwai Farm**	**1.34**	**242**	P	Pn	13 33 38.5	-0.3
OGWZ	**Otaki Gorge**	**1.39**	**267**	P	Pn	13 33 39.3	-0.1
OHWZ	**Ohakea**	**1.40**	**293**	P	Pb	13 33 40.4	-0.2
KWHZ	**Kaweka Forest**	**1.41**	**341**	P	Pn	13 33 39.8	0.0
BHHZ	**Black Hill Sta**	**1.46**	**330**	P	Pn	13 33 40.3	-0.2
MSWZ	**Moikau Station**	**1.48**	**243**	P	Pn	13 33 41.0	-0.5
ARHZ	**Aropaoanui**	**1.50**	**360**	P	Pn	13 33 41.0	-0.1
CAW	**Cannon Point**	**1.51**	**256**	P	Pn	13 33 40.7	-0.3
PLWZ	**Palliser**	**1.54**	**238**	P	Pn	13 33 40.9	-0.7
KIW	**Kapiti Island**	**1.59**	**266**	P	Pn	13 33 42.2	0.0
BKZ	**Black Stump Fm**	**1.65**	**346**	P	Pn	13 33 43

Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.09**	**353**	Sn	Sg	13 36 05.1	+0.1
	1.9nm,0.3s,baz=200,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**17.11**	**171**	P	Pn	13 38 58.6	-0.1
	0.1nm,0.3s,baz=351,slow=13,SNR=1.5						
ASAR	**Alice Springs**	**20.72**	**174**	P	P	13 39 40.2	0.0
	2.0nm,0.5s,baz=351,slow=11,SNR=19						
MKAR	**Makanchi Array**	**65.73**	**325**	P	P	13 45 44.7	0.0
	0.1nm,0.5s,baz=132,slow=6.0,SNR=1.9						

IDC ***05*** *13:49:50.2±0.6,56°.24S×26°.65W,h0km,mb4.7/10, mb1 4.8/11,mb1mx4.5/20,mbtmp4.7/11,ML4.5/1,MS3.5/5, Ms1 3.5/5,ms1mx3.3/21,Error ellipse: s-maj=22.7km s-min=17.4km az=67.0*

NEIC ***05*** *13:50:02.0±1.9,56°.38S±0°.09×26°.9W±0°.1,h99km±5km, mb4.8/37, Error ellipse: s-maj=13.8km s-min=8.5km az=153.0*

ISC 05 13:50:02.0±0.4,**56°.39S**±0°.07×**26°.85W**±0°.09,**h101**km,**n68,** σ1§**61**/60,**mb4.8**/24,**1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.89**	**287**		**Pn**	**13 51 26.5**	**-0.1**
VNA1	**Neumayer--Stat**	**16.41**	**158**	P	**P**	**13 53 49.1**	**+2.4**
VNA3	**Neumayer Olymp**	**16.60**	**160**	P	**Pn**	**13 53 48.5**	**+0.3**
VNA2	**Neumayer--Watz**	**16.80**	**158**	P	**P**	**13 53 51.8**	**+0.7**
	baz=315,slow=13						
SNAA	**Sanae**	**18.35**	**156**	P	**P**	**13 54 08.5**	**+0.3**
SNAA	**Sanae**	**18.35**	**156**	P	**P**	**13 54 08.1**	**-0.1**
	1.6nm,0.3s,baz=306,slow=8.4,SNR=27						
SNAA				S	**S**	**13 57 24.2**	**-8.1**
	0.8nm,0.3s,baz=328,slow=22,SNR=3.2						
SNAA				LR	LR	13 59 17.1	
	comp=Z,76nm,19.9s,baz=55,slow=31						
SNAA	**Sanae**	**18.35**	**156**	P	**P**	**13 54 08.5**	**+0.3**
PMSA	**Palmer Station**	**19.82**	**230**	P	**P**	**13 54 25.0**	**+0.9**
	53nm,0.8s,baz=83,slow=7.1,SNR=9.4						
PMSA				LR	LR	14 01 01.3	
	comp=Z,133nm,19.1s,baz=90,slow=34						
PMSA	**Palmer Station**	**19.82**	**230**	Pn	**Pn**	**13 54 26.5**	**-0.1**
PLTB	**Pedras Altas**	**30.87**	**312**	P	**P**	**13 56 06.8**	**-1.7**
PLTB				IAmb	IAmb	13 56 09.5	
	comp=Z,20nm,1.3s						
SYO	**Syowa Base**	**31.20**	**140**	||esP	sP	13 56 43.4	-0.5
QSPA	**South Pole Qui**	**33.85**	**180**	P	**P**	**13 56 35.1**	**+0.7**
QSPA				IAmb	IAmb	13 56 36.0	
	comp=Z,22nm,0.8s						
ITAB	**Concordia**	**34.31**	**318**	P	**P**	**13 56 38.0**	**-0.6**
ITAB				IAmb	IAmb	13 57 05.2	
	comp=Z,18nm,1.5s						
CPUP	**Villa Florida**	**37.18**	**311**	P	**P**	**13 57 02.4**	**-0.7**
	comp=Z,4.1nm,0.6s,baz=146,slow=7.4,SNR=11						
CPUP				LR	LR	14 10 59.1	
	comp=Z,35nm,20.2s,baz=196,slow=34						
CPUP	**Villa Florida**	**37.18**	**311**	P	**P**	**13 57 02.7**	**-0.4**
MAW	**Mawson**	**39.76**	**143**	P	**P**	**13 57 25.2**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=230,slow=6.4,SNR=11						
MAW	**Mawson**	**39.76**	**143**	P	**P**	**13 57 25.1**	**+1.0**
AC02	**Maricunga**	**42.20**	**297**	P	**P**	**13 57 44.5**	**-0.7**
AC02				IAmb	IAmb	13 58 06.8	
	comp=Z,22nm,1.5s						
GO02	**Mina Guanaco**	**43.82**	**297**	P	**P**	**13 57 57.7**	**-0.4**
GO02				IAmb	IAmb	13 58 22.0	
	comp=Z,15nm,0.6s						
LVC	**Limon Verde**	**45.64**	**300**	P	**P**	**13 58 12.9**	**+0.4**
LVC				IAmb	IAmb	13 58 15.4	
	comp=Z,20nm,1.2s						
SBA	**Scott Base**	**45.75**	**184**	P	**P**	**13 58 14.6**	**+2.2**
SBA				IAmb	IAmb	13 58 16.8	
	comp=Z,11nm,0.8s						
BOSA	**Boshof**	**45.87**	**75**	P	**P**	**13 58 12.0**	**-2.2**
	comp=Z,7.0nm,0.8s,baz=221,slow=7.8,SNR=5.7						
BOSA				LR	LR	14 14 20.1	
	comp=Z,170nm,18.3s,baz=203,slow=32						
VNDA	**Vanda**	**46.24**	**183**	P	**P**	**13 58 17.4**	**+1.2**
	comp=Z,17nm,0.7s,baz=185,slow=7.4,SNR=73						
VNDA	**Vanda**	**46.24**	**183**	P	**P**	**13 58 17.4**	**+1.2**
VNDA				IAmb	IAmb	13 58 19.9	
	comp=Z,18nm,0.8s						
PB09	**IPOC Station P**	**46.49**	**300**	P	**P**	**13 58 18.2**	**-0.9**
PB01	**IPOC Station P**	**47.25**	**300**	P	**P**	**13 58 24.8**	**-0.1**
PB01				IAmb	IAmb	13 58 26.1	
	comp=Z,23nm,1.3s						
PB08	**IPOC Station P**	**47.86**	**301**	P	**P**	**13 58 29.9**	**-0.1**
PB08				IAmb	IAmb	13 58 31.8	
	comp=Z,20nm,1.3s						
H10S2	**ASCENSION HYDR**	**48.28**	**16**	T	T	14 51 30.6	
	baz=31,slow=74,SNR=69						
H10S3	**ASCENSION HYDR**	**48.28**	**16**	T	T	14 51 28.8	
	baz=189,slow=74,SNR=76						
PB11	**IPOC Station P**	**48.43**	**301**	P	**P**	**13 58 33.0**	**-1.1**
PB11				IAmb	IAmb	13 58 35.8	
	comp=Z,19nm,1.1s						
PSGCX	**Pisagua**	**48.79**	**301**	P	**P**	**13 58 36.4**	**-0.4**
LBTB	**Lobatse**	**48.93**	**73**	P	**P**	**13 58 37.0**	**-0.8**
LBTB				IAmb	IAmb	13 58 39.3	
	comp=Z,8.0nm,0.7s						
MNMC	**Minye Minye**	**48.94**	**302**	P	**P**	**13 58 39.0**	**+0.9**
H10N1	**ASCENSION HYDR**	**49.40**	**16**	T	T	14 52 50.3	
	baz=189,slow=75,SNR=27						
H10N3	**ASCENSION HYDR**	**49.40**	**16**	T	T	14 52 53.2	
	baz=189,slow=75,SNR=63						
H10N2	**ASCENSION HYDR**	**49.41**	**16**	T	T	14 52 30.4	
	baz=189,slow=75,SNR=50						
PB16	**IPOC Station P**	**49.58**	**302**	P	**P**	**13 58 44.0**	**+0.6**
PB16				IAmb	IAmb	13 58 49.7	
	comp=Z,14nm,1.5s						
LPAZ	**La Paz**	**50.73**	**305**	P	**P**	**13 58 52.8**	**+0.8**
	comp=Z,13nm,0.4s,baz=107,slow=4.4,SNR=47						
LPAZ	**La Paz**	**50.73**	**305**	P	**P**	**13 58 52.9**	**+0.8**
SAML	**Samuel**	**55.18**	**315**	P	**P**	**13 59 23.4**	**-0.7**
DBIC	**Dimbokro**	**65.40**	**24**	P	**P**	**14 00 33.9**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=249,slow=8.6,SNR=1.0						
TOA0	**Torodi Ar. Sit**	**73.27**	**29**	P	**P**	**14 01 23.1**	**+1.0**
TOA0				IAmb	IAmb	14 01 50.3	
	comp=Z,12nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.27**	**29**	P	**P**	**14 01 22.7**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=199,slow=6.0,SNR=9.9						
TORD	**Torodi Ar. Bea**	**73.27**	**29**	P	**P**	**14 01 22.0**	**0.0**
TORD				IAmb	IAmb	14 01 50.3	
	comp=Z,9.5nm,0.7s						
PAYG	**Puerto Ayora**	**75.03**	**292**	P	**P**	**14 01 31.8**	**-0.7**
MPOM	**Morne Pois Mar**	**76.08**	**326**	P	**P**	**14 01 37.0**	**-1.2**
MLZ	**Mavora Lakes**	**77.83**	**191**	P	**P**	**14 01 47.4**	**-0.5**
MLZ				IAmb	IAmb	14 02 00.4	
	comp=Z,34nm,1.3s						
TAU	**Tasmania Unive**	**80.94**	**176**	P	**P**	**14 02 04.5**	**-0.3**
MTO3	**Montecristo**	**87.52**	**301**	P	**P**	**14 02 36.9**	**-1.6**
CAN	**Canberra**	**88.58**	**177**	P	**P**	**14 02 42.8**	**-0.4**
CAN				IAmb	IAmb	14 02 52.9	
	comp=Z,21nm,1.4s						
BBOO	**Buckleboo**	**89.96**	**166**	P	**P**	**14 02 48.5**	**-1.2**
BBOO				IAmb	IAmb	14 03 02.2	
	comp=Z,13nm,1.4s						
FORT	**Forrest**	**90.58**	**159**	P	**P**	**14 02 53.5**	**+0.8**
FORT				IAmb	IAmb	14 02 58.8	
	comp=Z,19nm,1.2s						
FORT	**Forrest**	**90.59**	**159**	IAmb	IAmb	14 02 58.8	
	comp=Z,19nm,1.2s						
FORT	**Forrest**	**90.59**	**159**	P	**P**	**14 02 53.5**	**-0.9**
STKA	**Stephens Creek**	**91.53**	**170**	P	**P**	**14 02 58.6**	**+1.6**
	comp=Z,1.6nm,0.4s,baz=174,slow=3.2,SNR=4.7						
PFVI	**Vila Bisbo**	**94.42**	**14**	P	**P**	**14 03 10.2**	**+0.4**
ESDC	**Sonseca Array**	**97.65**	**18**	LR	LR	14 45 12.4	
	comp=Z,30nm,18.3s,baz=275,slow=34						
ASAR	**Alice Springs**	**98.60**	**162**	P	Pdif	14 03 30.0	+0.5
	comp=Z,2.2nm,0.8s,baz=180,slow=4.1,SNR=22						
FINES	**FINESS Array B**	**124.60**	**28**	PKP	**PKiKP**	**14 08 50.0**	**+1.8**
	comp=Z,1.9nm,0.9s,baz=173,slow=1.5,SNR=8.3						
ARCES	**ARCESS Array B**	**131.19**	**22**	PKP	**PKiKP**	**14 09 03.7**	**+2.4**
	comp=Z,6.1nm,1.1s,baz=270,slow=3.5,SNR=5.3						
YKA	**Yellowknife Ar**	**136.55**	**318**	PKP	**PKPdf**	**14 09 10.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=119,slow=3.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**142.35**	**64**	PKP	**PKiKP**	**14 09 23.1**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=245,slow=3.1,SNR=5.6						
BCAR	**Beaver Creek A**	**147.85**	**309**		**PKPbc**	**14 09 34.4**	**+0.6**
ILAR	**Eielson Array**	**150.48**	**311**	PKPbc	**PKPbc**	**14 09 40.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=130,slow=5.0,SNR=30						
ILAR	**Eielson Array**	**150.48**	**311**		**PKPbc**	**14 09 39.9**	**-0.3**
SONM	**Songino Array**	**150.56**	**87**	PKPbc	**PKPbc**	**14 09 41.4**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=218,slow=4.5,SNR=5.4						
IMAR	**Indian Mountai**	**153.50**	**313**		**PKiKP**	**14 09 47.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**161.88**	**123**	PKPdf	**PKPdf**	**14 09 55.1**	**+4.9**

IDC ***05*** *13:57:04.4±4.4,2°.85S×131°.63E,h0km,mb3.9/2, mb1 4.1/2,mb1mx3.6/21,mbtmp4.0/2,Error ellipse: s-maj=310.3km s-min=8.7km az=73.0*

NEIC ***05*** *13:57:11.6±2.2,3°.21S±0°.09×130°.8E±0°.2,h48km±14km, mb4.1/5, Error ellipse: s-maj=23.7km s-min=11.0km az=107.0*

ISC 05 13:57:10.2±1.2,**3°.2S**±0°.1×**130°.8E**±0°.2,**h35**km,**n10,** σ1§**32**/10,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.50**	**79**	Pn	**Pn**	**13 57 35.2**	**+0.5**
MTN	**Manton Dam**	**9.58**	**178**	Pn	**Pn**	**13 59 25.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.62**	**198**		**P**	**14 00 52.1**	**+0.4**
FITZ				IAmb	IAmb	14 01 03.7	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**16.99**	**168**	P	**Pn**	**14 01 06.2**	**+1.0**
	baz=352,slow=13						
AS31	**Alice Springs**	**20.56**	**172**	P	**P**	**14 01 46.5**	**+0.5**
ASAR	**Alice Springs**	**20.56**	**172**	P	**P**	**14 01 47.5**	**+1.5**
	comp=Z,4.4nm,0.6s,baz=351,slow=11,SNR=91						
CAN	**Canberra**	**36.14**	**154**	P	**P**	**14 04 06.9**	**-2.3**
MK31	**Makanchi Array**	**65.53**	**326**	P	**P**	**14 07 48.9**	**-1.3**
MK31				IAmb	IAmb	14 07 59.1	
	comp=Z,1.5nm,1.1s						
MKAR	**Makanchi Array**	**65.53**	**326**	P	**P**	**14 07 51.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=114,slow=7.0,SNR=7.1						
MKAR	**Makanchi Array**	**65.53**	**326**	P	**P**	**14 07 50.8**	**+0.6**

ISK 05 14:03:55.0,39°.63N×32°.95E,h0km,ML1.6/7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.27**	**333**	PG	Pg	14 04 01.3	+1.2
ANTO				SG	Sg	14 04 05.2	+1.7
LOD	**Lodumlu**	**0.29**	**331**	PG	Pg	14 04 01.4	+0.8
LOD				SG	Sg	14 04 05.4	+0.9
BRTR	**Keskin Array B**	**0.54**	**80**	PG	Pg	14 04 06.3	+1.0
BRTR				SG	Sg	14 04 13.8	+1.5
BRTR	**Keskin Array B**	**0.54**	**80**	Pdif	Pg	14 04 06.0	+0.7
KULU	**Kulu**	**0.59**	**176**	PG	Pg	14 04 06.9	+0.6
KULU				SG	Sb	14 04 16.1	-1.1
YAYX	**Yaylak**	**0.96**	**136**	PG	Pg	14 04 13.7	+0.2
SVRH	**Sivrihisar-ESK**	**1.12**	**261**	PN	Pg	14 04 16.7	+0.3
YUVA	**Yuva-Kibriscik**	**1.23**	**308**	PN	Pn	14 04 19.4	-0.2
CORM	**Corum**	**1.40**	**67**	PN	Pg	14 04 21.3	-0.6
YOZ	**Yozgat**	**1.83**	**89**	PN	Pn	14 04 27.3	-0.6

IDC ***05*** *14:05:03.9±2.1,6°.11S×130°.33E,h102km±19km,mb3.8/7, mb1 4.0/10,mb1mx3.7/27,mbtmp4.3/10,Error ellipse: s-maj=26.6km s-min=15.0km az=96.0*

DJA ***05*** *14:05:06.4±0.2,6°.5S±2°×13°.0E±°,h122km±5km,M4.6/12, mB5.2/4,mb4.5/12,MLv4.7/11,Mw(mB)4.6/4*

NEIC ***05*** *14:05:06.3±2.3,6°.13S±0°.06×130°.4E±0°.1,h131km±9km, mb4.3/10,Error ellipse: s-maj=16.8km s-min=8.4km az=101.0*

ISC 05 14:05:05.0±0.5,**6°.19S**±0°.05×**130°.29E**±0°.07,**h124**km,**n44,** σ1§**97**/46,**mb4.1**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.70**	**347**	P	**Pn**	**14 05 37.1**	**+2.1**
SAUI	**Saumlaki**	**2.04**	**151**		**Pn**	**14 05 41.7**	**+2.5**
SAUI	**Saumlaki**	**2.04**	**151**	P	**Pn**	**14 05 41.7**	**+2.5**
SAUI				S	**Sn**	**14 06 05.2**	**-0.1**
MSAI	**Masohi**	**3.14**	**334**	P	**Pn**	**14 05 56.1**	**+2.9**
FAKI	**Fak Fak**	**3.79**	**31**		**Pn**	**14 06 01.9**	**+0.1**
FAKI	**Fak Fak**	**3.79**	**31**	P	**Pn**	**14 06 02.1**	**+0.2**
KMPI	**Kaimana, Papua**	**4.23**	**54**	P	**Pn**	**14 06 09.2**	**+1.5**
SIJI	**Sorong**	**5.38**	**10**	P	**Pn**	**14 06 22.0**	**-1.1**
	17nm,0.3s,baz=192,slow=13,SNR=56						
SIJI				S	**Sn**	**14 07 20.0**	**-4.0**
	22nm,0.3s,baz=63,slow=24,SNR=16						
SWI	**Sorong**	**5.38**	**10**	P	**Pn**	**14 06 23.1**	**0.0**
MTN	**Manton Dam**	**6.66**	**173**		**Pn**	**14 06 40.6**	**+0.2**
SOEI	**Soe**	**6.94**	**239**		**Pn**	**14 06 45.6**	**+1.4**
SOEI	**Soe**	**6.94**	**239**	P	**Pn**	**14 06 46.1**	**+1.9**
	0.7nm202nm,0.8s						
BAKI	**Biak**	**7.64**	**50**	P	**Pn**	**14 06 55.7**	**+2.1**
BATI	**Baumata**	**7.67**	**238**	P	**Pn**	**14 06 53.5**	**-0.6**
	23nm,0.3s,baz=144,slow=3.4,SNR=20						
BATI				S	**Sn**	**14 08 18.2**	**-1.3**
	18nm,0.3s,baz=98,slow=20,SNR=6.8						
BATI	**Baumata**	**7.67**	**238**	P	**Pn**	**14 06 54.8**	**+0.7**
	0.3nm128nm,0.9s						
KNRA	**Kununurra**	**9.54**	**189**		**Pn**	**14 07 17.1**	**-2.1**
WBSI	**Waikabubak, Su**	**11.32**	**252**	P	**Pn**	**14 07 44.5**	**+1.2**
	31nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.67**	**201**	P	**Pn**	**14 07 58.0**	**-2.9**
	2.1nm,0.3s,baz=31,slow=9.9,SNR=76						
FITZ				S	Sn	14 10 09.3	-11
	2.4nm,0.3s,baz=120,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**12.67**	**201**	Pn	Pn	14 07 57.6	-3.2
PLAI	**Plampang**	**12.68**	**257**	P	**Pn**	**14 08 02.6**	**+1.6**
	25nm,1.1s						
WRA	**Warramunga Arr**	**14.22**	**164**	S	Sn	14 10 46.2	-12
	3.7nm,0.3s,baz=344,slow=21,SNR=11						
AS31	**Alice Springs**	**17.72**	**169**	P	**P**	**14 09 04.2**	**+1.1**
ASAR	**Alice Springs**	**17.72**	**169**	P	**Pn**	**14 09 05.0**	**+0.9**
	1.4nm,0.3s,baz=342,slow=9.2,SNR=110						
ASAR				S	**S**	**14 12 12.8**	**-8.2**
	1.2nm,0.3s,baz=346,slow=26,SNR=9.6						
ASAR	**Alice Springs**	**17.72**	**169**	P	**P**	**14 09 04.6**	**+1.5**
PSA00	**Pilbara Seismi**	**18.33**	**212**	P	**P**	**14 09 10.4**	**+0.7**
PSA00				IAmb	IAmb	14 09 17.6	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**18.33**	**212**	P	**P**	**14 09 09.6**	**-0.2**
PSA00				IAmb	IAmb	14 09 17.5	
	comp=Z,5.7nm,1.1s						
FORT	**Forrest**	**24.55**	**185**	P	**P**	**14 10 14.4**	**+1.3**
BBOO	**Buckleboo**	**27.02**	**169**	P	**P**	**14 10 36.2**	**+0.7**
BBOO				IAmb	IAmb	14 10 46.9	
	comp=Z,5.7nm,1.1s						
EIDS	**Eidsvold**	**27.56**	**136**	P	**P**	**14 10 39.2**	**-1.2**
EIDS				IAmb	IAmb	14 10 40.1	
	comp=Z,9.7nm,1.1s						
STKA	**Stephens Creek**	**27.65**	**159**	P	**P**	**14 10 42.6**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=311,slow=11,SNR=1.6						
NWAO	**Narrogin (SRO)**	**29.25**	**203**	P	**P**	**14 10 56.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**39.44**	**309**	P	**P**	**14 12 24.1**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=136,slow=7.3,SNR=17						
CHTO	**Chiang Mai**	**39.65**	**309**	P	**P**	**14 12 24.4**	**-0.6**
CHTO				IAmb	IAmb	14 12 26.4	
	comp=Z,3.9nm,0.7s						
SONM	**Songino Array**	**57.77**	**341**	P	**P**	**14 14 44.8**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=134,slow=6.2,SNR=2.6						
PETK	**Petropavlovsk-**	**63.47**	**18**	P	**P**	**14 15 23.2**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=190,slow=7.3,SNR=4.8						
MK31	**Makanchi Array**	**67.71**	**327**	P	**P**	**14 15 49.8**	**+0.8**
MK31				IAmb	IAmb	14 15 51.2	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**67.71**	**327**	P	**P**	**14 15 50.5**	**+1.4**
	comp=Z,4.6nm,0.6s,baz=125,slow=7.9,SNR=56						
MKAR	**Makanchi Array**	**67.71**	**327**	P	**P**	**14 15 50.2**	**+1.2**
MAKZ	**Makanchi**	**67.89**	**326**	P	**P**	**14 15 51.1**	**+1.0**
MAKZ				IAmb	IAmb	14 15 52.2	
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**70.99**	**334**	P	**P**	**14 16 09.7**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=104,slow=4.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**70.99**	**334**	P	**P**	**14 16 08.7**	**-0.3**
AMKA	**Amchitka**	**71.02**	**30**	P	**P**	**14 16 08.1**	**-1.1**
ILAR	**Eielson Array**	**92.50**	**25**	P	**P**	**14 18 01.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=265,slow=4.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**128.93**	**282**	PKP	**PKPdf**	**14 23 59.3**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=98,slow=2.5,SNR=2.2						

ISK ***05*** *14:10:28.6,38°.75N×43°.52E,h19km,ML2.5/5*

DDA ***05*** *14:10:29.4,38°.72N×43°.48E,h7km±5km,ML2.1*

ISC 05 14:10:29.1±1.0,**38°.73N**±0°.02×**43°.52E**±0°.03,**h14**km±8km, **n16,** σ0§**66**/28,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**217**	PG	**Pb**	**14 10 34.2**	**+0.2**
TVAN	**Van**	**0.22**	**204**	*i* P	**Pg**	**14 10 34.1**	**0.0**
TVAN				*i* S	**Sb**	**14 10 38.7**	**-0.2**
TVAN				IAML		14 10 44.0	
	comp=E,965nm,0.8s						
TVAN				IAML		14 10 46.0	
	comp=N,837nm,0.5s						
VMUR	**Van-Muradiye**	**0.26**	**9**	*i* P	**Pg**	**14 10 34.9**	**0.0**
VMUR				*i* S	**Sb**	**14 10 40.7**	**+0.5**
VMUR				IAML		14 10 42.0	
	comp=N,377nm,0.2s						
VMUR				IAML		14 10 43.0	
	comp=E,449nm,0.3s						
OZAP	**Van, Ozalp-Mer**	**0.38**	**100**	*i* P	**Pb**	**14 10 37.8**	**+0.1**
OZAP				*i* S	**Sn**	**14 10 47.2**	**-0.2**
OZAP				IAML		14 10 50.0	
	comp=E,165nm,0.5s						
OZAP				IAML		14 10 53.0	
	comp=N,151nm,1.6s						
CLDR	**Caldiran**	**0.52**	**37**	*i* P	**Pg**	**14 10 39.0**	**-0.4**
CLDR				*i* S	**Sb**	**14 10 48.8**	**+1.3**
CLDR				IAML		14 10 49.0	
	comp=N,166nm,0.3s						
CLDR				IAML		14 10 49.0	
	comp=E,244nm,0.4s						
CLDR	**Caldiran**	**0.52**	**37**	PG	**Pg**	**14 10 39.2**	**-0.2**
CLDR				SG	**Sg**	**14 10 46.7**	**+0.4**
AKDM	**Akdamar-Van**	**0.58**	**227**	PG	**Pb**	**14 10 41.3**	**+0.2**
ADCV	**BITLIS_Adilcev**	**0.63**	**278**	*i* P	**Pg**	**14 10 41.2**	**-0.2**
ADCV				*i* S	**Sb**	**14 10 50.0**	**-0.6**
ADCV				IAML		14 10 52.0	
	comp=E,88nm,0.2s						
BASK	**Baskale_VAN**	**0.78**	**150**	*i* P	**Pg**	**14 10 43.7**	**-0.5**
BASK				*i* S	**Sg**	**14 10 53.8**	**-0.6**
BASK				IAML		14 10 56.0	
	comp=N,75nm,0.2s						
BASK				IAML		14 11 00.0	
	comp=E,57nm,0.2s						
MLAZ	**Malazgirt-MUS**	**0.86**	**299**	PG	**Pb**	**14 10 45.8**	**-0.1**
AGRB	**Hanur-Agry**	**0.94**	**334**	PG	**Pg**	**14 10 46.9**	**-0.4**
AGRB				SG	**Sb**	**14 11 00.0**	**+0.4**
KOTA	**Agri, Merkez-K**	**1.10**	**347**	*i* P	**Pb**	**14 10 50.0**	**0.0**
KOTA				*i* S	**Sn**	**14 11 05.4**	**+0.1**
GURO	**Guroymak-BITLI**	**1.18**	**262**	PN	**Pb**	**14 10 50.9**	**-0.3**
GURO				SN	**Sg**	**14 11 06.6**	**-0.5**
HAKT	**HAKKARI**	**1.18**	**173**	*i* P	**Pb**	**14 10 51.3**	**-0.1**
HAKT				*i* S	**Sn**	**14 11 08.7**	**+1.5**
SRTM	**Siirt_Merkez**	**1.46**	**240**	*i* P	**Pg**	**14 10 56.8**	**-0.3**
SRTM				*i* S	**Sg**	**14 11 17.9**	**+1.9**
SRTM				IAML		14 11 19.0	
	comp=E,26nm,0.6s						
SRTM				IAML		14 11 21.0	
	comp=N,32nm,0.6s						
GNI	**Garni**	**1.71**	**33**	PN	**Pn**	**14 10 57.8**	**-0.7**

IDC ***05*** *14:27:00.3±6.2,21°.73N×143°.19E,h244km±60km, mb3.2/11,mb1 3.4/11,mb1mx3.1/49,mbtmp3.8/11,Error ellipse: s-maj=32.6km s-min=14.2km az=86.0*

ISC 05 14:27:05.7±0.7,**21°.74N**±0°.10×**143°.1E**±0°.2,**h300**km,**n14,** σ0§**80**/14,**mb3.4**/10,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.39**	**352**	S	**S**	**14 29 32.7**	**-1.1**
	7.5nm,0.3s,baz=102,slow=23,SNR=5.5						
KSRS	**Korea Array**	**20.41**	**323**	P	**P**	**14 31 21.1**	**+0.4**
	0.6nm,0.7s,baz=147,slow=9.0,SNR=4.1						
KLR	**Kul'dur**	**28.87**	**345**	P	**P**	**14 32 35.7**	**-1.3**
	1.2nm,0.6s,baz=245,slow=4.7,SNR=5.2						
ASAR	**Alice Springs**	**46.01**	**192**	P	**P**	**14 34 59.5**	**-0.4**
	0.6nm,0.6s,baz=16,slow=12,SNR=15						
STKA	**Stephens Creek**	**53.33**	**182**	P	**P**	**14 35 53.9**	**-0.7**
	0.5nm,0.3s,baz=342,slow=11,SNR=3.1						
ZALV	**Zalesovo Beam**	**54.10**	**322**	P	**P**	**14 36 00.9**	**+0.9**
	0.4nm,0.3s,baz=80,slow=3.6,SNR=3.6						
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**14 36 04.6**	**+1.0**
	0.4nm,0.7s,baz=106,slow=7.2,SNR=3.7						
ILAR	**Eielson Array**	**62.05**	**27**	P	**P**	**14 36 54.6**	**0.0**
	0.5nm,0.6s,baz=247,slow=6.1,SNR=5.3						
YKA	**Yellowknife Ar**	**76.47**	**28**	P	**P**	**14 38 22.6**	**0.0**
	0.7nm,0.6s,baz=292,slow=5.4,SNR=6.2						
ARCES	**ARCESS Array B**	**78.84**	**341**

BANOM					S		**Sb**		**14 41 50.3**	**-2.0**	
MASF	**Masafi**		**3.06**	**204**	P		**Pn**		**14 41 26.2**	**+2.0**	
MASF					S		**Sb**		**14 42 06.3**	**-1.8**	
MSFE	**Esma-Masafi**		**3.08**	**204**	P		**Pn**		**14 41 26.6**	**+2.3**	
MDH	**Madha**		**3.08**	**201**	P		**Pn**		**14 41 24.1**	**-0.3**	
ZHDN	**Zahedan**		**3.11**	**66**	*e*Pn		**Pn**		**14 41 28.2**	**+3.3**	
ZHSF	**Zahedan**		**3.17**	**63**	*e*Pn		**Pb**		**14 41 31.3**	**-1.7**	
ZHSF	**Zahedan**		**3.17**	**63**	*e*Pn		**Pb**		**14 41 31.3**	**-1.7**	
UOSS	**Minazif**		**3.44**	**201**	P		**Pn**		**14 41 30.9**	**+1.5**	
UOSS	**Minazif**		**3.44**	**201**	P		**Pn**		**14 41 30.8**	**+1.5**	
HATD	**Hatta, Dubai**		**3.58**	**201**	P		**Pn**		**14 41 32.7**	**+1.5**	
HATD	**Hatta, Dubai**		**3.58**	**201**	P		**Pn**		**14 41 33.2**	**+2.0**	
NAZ	**Nazwa, Dubai**		**3.60**	**208**	P		**Pn**		**14 41 35.1**	**+3.5**	
NAZ					S		**Sn**		**14 42 17.1**	**+3.8**	
ASHO	**Ashiyiah**		**3.73**	**201**	P		**Pn**		**14 41 35.2**	**+1.8**	
ASHO	**Ashiyiah**		**3.73**	**201**	P		**Pn**		**14 41 36.0**	**+2.6**	
	SNR=8.2										
IBAF	**Bafgh**		**3.80**	**334**	*e*Pn		**Pn**		**14 41 37.4**	**+3.0**	
FAQ	**Al Faqa, Dubai**		**3.85**	**207**	P		**Pn**		**14 41 37.1**	**+2.2**	
FAQ					S		**Sn**		**14 42 20.1**	**+0.7**	
NHDN	**Nehbandan**		**3.87**	**34**	*e*Pn		**Pn**		**14 41 38.0**	**+2.7**	
QIR1	**Qir**		**3.98**	**275**	*e*Pn		**Pn**		**14 41 37.9**	**+1.2**	
BSRN	**Basiran**		**4.01**	**20**	*e*Pn		**Pn**		**14 41 40.1**	**+2.9**	
BSRN	**Basiran**		**4.01**	**20**	*e*Pn		**Pn**		**14 41 40.1**	**+2.9**	
ASUD	**Al Ashush, Dub**		**4.06**	**210**	P		**Pn**		**14 41 40.9**	**+3.0**	
ASUD					S		**Sn**		**14 42 26.6**	**+1.9**	
IMEH	**Mehriz**		**4.08**	**322**	*e*Pn		**Pn**		**14 41 40.6**	**+2.2**	
SOHO	**SOHO**		**4.14**	**193**	P		**Pn**		**14 41 37.8**	**-1.0**	
SRVN	**Saravan**		**4.37**	**99**	*e*Pn		**Pn**		**14 41 46.7**	**+4.5**	
IKOO	**Kooshah**		**4.41**	**16**	*e*Pn		**Pn**		**14 41 45.8**	**+3.0**	
ALNE	**Al Ain**		**4.42**	**202**	P		**Pn**		**14 41 44.9**	**+2.1**	
HOQ	**Hoqain**		**4.59**	**183**	P		**Pn**		**14 41 45.0**	**-0.2**	
HOQ					S		**Sn**		**14 42 37.3**	**-0.4**	
BIDO	**Bidbid**		**4.67**	**173**	P		**Pn**		**14 41 46.0**	**-0.3**	
TPRV	**Parvadeh(Tabas**		**4.88**	**351**	*e*Pn		**Pn**		**14 41 52.8**	**+3.6**	
YZKH	**Yazd**		**4.91**	**329**	*e*Pn		**Pn**		**14 41 50.9**	**+1.4**	
YZKH	**Yazd**		**4.91**	**329**	*e*Pn		**Pn**		**14 41 50.9**	**+1.4**	
ARQ	**Araqi**		**4.92**	**191**	P		**Pn**		**14 41 51.7**	**+2.1**	
	SNR=86										
ARQ					S		**Sn**		**14 42 47.3**	**+1.6**	
WSAR	**Wadi Sarin**		**5.02**	**169**	P		**Pn**		**14 41 50.6**	**-0.5**	
	comp=Z,2.2nm,0.3s,baz=346,slow=6.8,SNR=54										
WSAR					S		**Sn**		**14 42 45.7**	**-2.7**	
	comp=Z,4.0nm,0.3s,baz=135,slow=12,SNR=3.9										
SMDO	**Samad**		**5.13**	**175**	P		**Pn**		**14 41 53.7**	**+1.1**	
AFRZ	**Afriz**		**5.37**	**13**	*e*Pn		**Pn**		**14 41 59.9**	**+3.9**	
TKDS	**Koohdasht(Taba**		**5.42**	**356**	*e*Pn		**Pn**		**14 42 00.3**	**+3.7**	
TABS	**Tabas**		**5.46**	**356**	*e*Pn		**Pn**		**14 41 59.7**	**+2.6**	
TABS	**Tabas**		**5.46**	**356**	*e*Pn		**Pn**		**14 41 59.7**	**+2.6**	
WBK	**Wadi Bani Khal**		**5.70**	**167**	P		**Pn**		**14 42 01.0**	**+0.5**	
IRAM	**Ramesheh**		**5.75**	**310**	*e*Pn		**Pn**		**14 42 02.5**	**+1.2**	
KLNJ	**Kolanjah**		**5.90**	**300**	*e*Pn		**Pn**		**14 42 04.9**	**+1.5**	
ANAR	**Anarak**		**5.97**	**328**	*e*Pn		**Pn**		**14 42 07.2**	**+3.0**	
IGAR	**Gharneh**		**6.35**	**313**	*e*Pn		**Pn**		**14 42 10.8**	**+1.3**	
IZEF	**Zefreh**		**6.50**	**318**	*e*Pn		**Pn**		**14 42 13.0**	**+1.4**	
QRN	**Al-Qurain**		**8.49**	**276**	*e*P		**Pn**		**14 42 37.7**	**-1.0**	
RDF	**Al-Radifah**		**8.82**	**277**	*e*P		**Pn**		**14 42 42.6**	**-0.6**	
MIB	**Mutribah**		**9.08**	**283**	*e*P		**Pn**		**14 42 45.3**	**-1.4**	
RST	**Umm Al-Ruwaisa**		**9.34**	**281**	*e*P		**Pn**		**14 42 49.3**	**-1.0**	
GEYT	**Alibeck**		**9.73**	**3**	LR		LR		14 47 09.0		
	comp=Z,72nm,18.8s,baz=90,slow=40										
MMAI	**Mount Meron Ar**		**19.65**	**290**	P		**P**		**14 45 04.2**	**-0.1**	
	baz=81,slow=13,SNR=2.0										
AKTO	**Aktyubinsk**		**22.22**	**1**	P		**P**		**14 45 32.3**	**+0.5**	
	comp=Z,1.8nm,0.8s,baz=176,slow=9.2,SNR=6.5										
AKTO					LR		LR		14 55 55.5		
	comp=Z,23nm,19.2s,baz=166,slow=41										
BRTR	**Keskin Array B**		**22.86**	**306**	P		**P**		**14 45 38.9**	**0.0**	
	comp=Z,0.9nm,0.8s,baz=130,slow=12,SNR=4.6										
MKAR	**Makanchi Array**		**26.85**	**40**	P		**P**		**14 46 16.6**	**+0.8**	
	comp=Z,0.1nm,0.4s,baz=198,slow=9.1,SNR=2.1										
ZALV	**Zalesovo Beam**		**32.57**	**30**	P		**P**		**14 47 07.0**	**+0.7**	
	comp=Z,0.7nm,0.3s,baz=243,slow=6.5,SNR=3.7										
TORD	**Torodi Ar. Bea**		**53.92**	**266**	P		**P**		**14 49 57.0**	**-2.1**	
	comp=Z,0.6nm,0.5s,baz=62,slow=7.6,SNR=5.7										
KSRS	**Korea Array**		**58.64**	**61**	P		**P**		**14 50 31.2**	**-1.2**	
	comp=Z,0.9nm,0.6s,baz=277,slow=5.9,SNR=4.8										
KLR	**Kul'dur**		**59.18**	**47**	LR		LR		15 20 12.5		
	comp=Z,93nm,20.1s,baz=132,slow=40										
JOW	**Kunigami**		**61.88**	**73**	LR		LR		15 19 49.3		
	comp=Z,74nm,18.2s,baz=278,slow=38										
ASAR	**Alice Springs**		**89.81**	**117**	P		**P**		**14 53 33.9**	**-0.3**	
	comp=Z,0.3nm,1.0s,baz=313,slow=4.7,SNR=4.1										

*BJI **05** 14:53:58.6±0.0, 37.28S×77.75E, h13km, mB5.3/44, mb4.9/51, Ms5.4/49, Ms7 5.1/46*

*MOS **05** 14:53:58.6±0.9, 37.20S×78.13E, h10km, mb5.1/33, MS4.9/5, Error ellipse: s-maj=14.8km s-min=7.9km az=96.6*

*IDC **05** 14:53:59.7±0.5, 36.95S×78.08E, h0km, mb4.4/21, mb1 4.4/21, mb1mx4.3/45, mbtmp4.4/21, MS5.1/31, Ms1 5.1/31, ms1mx5.0/37, Error ellipse: s-maj=15.5km s-min=15.2km az=11.0*

*NEIC **05** 14:54:00.7, 37.16S×78.13E, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.24; $M_{\theta\theta}$=-2.21; $M_{\phi\phi}$ 1.97; $M_{r\theta}$=-0.52; $M_{\theta\phi}$=-0.02; $M_{r\phi}$=0.08; Fault plane solution: M_o=2.17000×10^{17} NP1:ϕ_s135.22000°, δ83.75000°, λ-169.88000°. NP2:ϕ_s44.11000°, δ79.94000°, λ-6.35000°. Principal axes: T 1.9785, Plg3.0000°, Azm269.0000°; N 0.3416, Plg78.0000°, Azm167.0000°; P -2.3201, Plg12.0000°, Azm360.0000°;*

*NEIC **05** 14:54:01.0±2.5, 37.17S±0.06×78.18E±0.08, h10km±1km, mb5.0/46, Ms_20 5.4/166, Mwb5.5/24, Mww5.6, Mwc5.6(GCMT) Error ellipse: s-maj=12.5km s-min=9.0km az=128.0*

*GCMT **05** 14:54:04.0±0.1, 36.93S±0.01×78.21E±0.01, h12km, MW5.5/148, Moment Tensor Solution. s126,c211; s148,c283; Duration: 1ꜛ4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.01±.03; $M_{\theta\theta}$-2.46±.03; $M_{\phi\phi}$2.45±.03; $M_{r\theta}$-0.14±.07; $M_{\theta\phi}$-0.23±.03; $M_{r\phi}$0.62±.07; Best double couple: M_o2.54500×10^{17} NP1:ϕ_s43.00000°, δ78.00000°, λ8.00000°. NP2:ϕ_s312.00000°, δ82.00000°, λ168.00000°. Principal axes: T 2.6140, Plg14.0000°, Azm267.0000°; N -0.1370, Plg76.0000°, Azm99.0000°; P -2.4760, Plg3.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 14:54:05, 36.95S×78.13E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.25; $M_{\theta\theta}$-2.37; $M_{\phi\phi}$2.12; $M_{r\theta}$-1.06; $M_{\theta\phi}$-0.29; $M_{r\phi}$-1.27; Fault plane solution: M_o2.81000×10^{17} NP1:ϕ_s130.00000°, δ54.00000°, λ175.00000°. NP2:ϕ_s223.00000°, δ86.00000°, λ36.00000°. Principal axes: T 2.7714, Plg28.0000°, Azm93.0000°; N 0.0820, Plg53.0000°, Azm228.0000°; P -2.8533, Plg22.0000°, Azm351.0000°;*

*NEIC **05** 14:54:05, 36.95S×78.20E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.06; $M_{\theta\theta}$-2.56; $M_{\phi\phi}$2.62; $M_{r\theta}$-0.05; $M_{\theta\phi}$-0.18; $M_{r\phi}$0.77; Fault plane solution: M_o2.71000×10^{17} NP1:ϕ_s44.00000°, δ79.00000°, λ10.00000°. NP2:ϕ_s312.00000°, δ80.00000°, λ169.00000°. Principal axes: T 2.8346, Plg15.0000°, Azm268.0000°; N -0.2688, Plg75.0000°, Azm90.0000°; P -2.5659, Plg1.0000°, Azm358.0000°;*

ISC 05 14:54:00.6±0.3, **37.20S**±0.05×**78.05E**±0.06, **h9km**, **n296**, σ1ꜛ**75**/211, **mb4.9**/71, **MS5.3**/141, **4C-4D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.70**	**212**	Pg	**Pn**		**14 54 16.2**	**-0.5**
CRZF	**Crozet Islands**	**21.50**	**236**	IAMs_20	IAMs_20		15 04 23.8	
	comp=Z,9μm,22.0s							
H01W2	**Cape Leeuwin H**	**29.16**	**96**	T	T		15 30 15.1	
	baz=255,slow=75,SNR=5192							
H01W3	**Cape Leeuwin H**	**29.17**	**96**	T	T		15 30 16.9	
	baz=255,slow=75,SNR=5114							
H01W1	**Cape Leeuwin H**	**29.18**	**96**	T	T		15 30 16.6	
	baz=255,slow=75,SNR=4651							
H08S2	**Diego Garcia H**	**29.86**	**349**	T	T		15 31 03.4	
	baz=171,slow=76,SNR=2545							
H08S1	**Diego Garcia H**	**29.86**	**349**	T	T		15 31 03.9	
	baz=171,slow=76,SNR=2192							
H08S3	**Diego Garcia H**	**29.87**	**349**	T	T		15 31 07.8	
	baz=171,slow=76,SNR=2695							
DGAR	**Diego Garcia**	**30.09**	**349**	IAMs_20	IAMs_20		15 08 31.7	
	comp=Z,7μm,21.0s							
VOI	**Vohitsoka**	**31.00**	**291**	P	**P**		**15 00 19.3**	**+0.6**
VOI					IAMs_20	IAMs_20	15 09 00.8	
	comp=Z,9μm,22.0s							
MAW	**Mawson**	**31.63**	**191**	P	**P**		**15 00 26.9**	**+3.3**
	comp=Z,1.6nm,0.8s,baz=350,slow=11,SNR=2.3							
MAW				LR	LR		15 10 50.2	
	comp=Z,7μm,19.1s,baz=22,slow=32							
MAW	**Mawson**	**31.63**	**191**	P	**P**		**15 00 22.9**	**-0.7**
MAW				pmax	pmax			
	comp=Z,7.0nm,1.9s							
MAW	**Mawson**	**31.63**	**191**	P	**P**		**15 00 22.9**	**-0.7**
NWAO	**Narrogin (SRO)**	**32.20**	**94**	LR	LR		15 10 28.7	
	comp=Z,10μm,20.2s,baz=274,slow=31							
NWAO	**Narrogin (SRO)**	**32.20**	**94**	P	**P**		**15 00 26.3**	**-2.7**
NWAO				pmax	pmax			
	comp=Z,81nm,1.9s							
NWAO	**Narrogin (SRO)**	**32.20**	**94**	P	**P**		**15 00 26.3**	**-2.7**
NWAO	**Narrogin (SRO)**	**32.20**	**94**	IAMs_20	IAMs_20		15 10 06.3	
	comp=Z,11μm,21.0s							
ABPO	**Ambohimpanom**	**32.46**	**295**	P	**P**		**15 00 32.8**	**+1.2**
ABPO				pmax	pmax			
	comp=Z,79nm,1.8s							
ABPO	**Ambohimpanom**	**32.46**	**295**	P	**P**		**15 00 32.8**	**+1.2**
ABPO	**Ambohimpanom**	**32.46**	**295**	IAMs_20	IAMs_20		15 09 50.6	
	comp=Z,6μm,18.0s							
OPO	**Ambohidratompo**	**32.78**	**296**	P	**P**		**15 00 32.7**	**-1.7**
	comp=Z,7.6nm,1.1s,baz=91,slow=12,SNR=3.1							
OPO				LR	LR		15 10 37.7	
	comp=Z,2μm,18.1s,baz=357,slow=30							
CASY	**Casey**	**34.61**	**158**	P	**P**		**15 00 46.9**	**-2.7**
CASY				IAmb	IAmb		15 01 05.1	
	comp=Z,40nm,1.6s							
XMIS	**Christmas Isla**	**36.42**	**50**	P	**P**		**15 01 05.1**	**-0.6**
SYO	**Syowa Base**	**38.10**	**201**	*i*eP	**P**		**15 01 20.2**	**+0.9**
MSEY	**Mahe Island**	**38.41**	**322**	P	**P**		**15 01 21.3**	**-1.3**
MSEY				pmax	pmax			
	comp=Z,63nm,1.4s							
MSEY	**Mahe Island**	**38.41**	**322**	P	**P**		**15 01 21.3**	**-1.3**
MSEY				IAmb	IAmb		15 01 30.3	
	comp=Z,63nm,1.4s							
PSA00	**Pilbara Seismi**	**39.28**	**79**	P	**P**		**15 01 27.4**	**-2.4**
PSA00				IAmb	IAmb		15 01 40.9	
	comp=Z,40nm,1.6s							
MBWA	**Marble Bar**	**39.41**	**78**	IAMs_20	IAMs_20		15 14 09.9	
	comp=Z,5μm,20.0s							
LEM	**Lembang**	**40.48**	**49**	LR	LR		15 15 00.6	
	comp=Z,1μm,21.5s,baz=208,slow=31							
GSI	**Gunungsitoli**	**42.38**	**30**	IAMs_20	IAMs_20		15 14 44.0	
	comp=Z,4μm,20.0s							
JAGI	**Jajag, Banyuwa**	**43.43**	**58**	P	**P**		**15 02 02.1**	**-1.8**
JAGI				IAMs_20	IAMs_20		15 16 14.2	
	comp=Z,3μm,21.0s							
RPSI	**Rantau Prapat**	**44.19**	**31**	P	**P**		**15 02 10.4**	**+0.4**
PSI	**Prapat**	**44.28**	**31**	LR	LR		15 16 30.5	
	comp=Z,5μm,21.1s,baz=269,slow=31							
PSI	**Prapat**	**44.28**	**31**	P	**P**		**15 02 10.4**	**-0.5**
PSI				pmax	pmax			
	comp=Z,13nm,1.2s							
PALK	**Pallekele**	**44.31**	**4**	LR	LR		15 16 50.5	
	comp=Z,5μm,19.3s,baz=287,slow=31							
PALK	**Pallekele**	**44.31**	**4**	IAMs_20	IAMs_20		15 16 20.1	
	comp=Z,5μm,19.0s							
BOSA	**Boshof**	**44.65**	**265**	P	**P**		**15 02 13.9**	**+0.1**
	comp=Z,5.8nm,0.9s,baz=142,slow=8.3,SNR=4.3							
BOSA				LR	LR		15 17 52.4	
	comp=Z,2μm,18.2s,baz=120,slow=32							
FITZ	**Fitzroy Crossi**	**45.73**	**79**	LR	LR		15 18 25.0	
	comp=Z,3μm,20.1s,baz=254,slow=32							
MATP	**Matopo**	**45.99**	**277**	P	**P**		**15 02 24.4**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=139,slow=7.4,SNR=7.9							
SUR	**Sutherland**	**46.64**	**258**	P	**P**		**15 02 31.6**	**+1.9**
	comp=Z,12nm,0.8s,baz=79,slow=10,SNR=22							
SUR	**Sutherland**	**46.64**	**258**	IAMs_20	IAMs_20		15 17 24.2	
	comp=Z,5μm,21.0s							
BATI	**Baumata**	**49.02**	**69**	LR	LR		15 20 20.2	
	comp=Z,2μm,21.6s,baz=238,slow=32							
LSZ	**Lusaka**	**49.12**	**283**	P	**P**		**15 02 49.6**	**+0.7**
LSZ				pmax	pmax			
	comp=Z,38nm,1.4s							
LSZ	**Lusaka**	**49.12**	**283**	P	**P**		**15 02 49.6**	**+0.7**
LSZ				IAmb	IAmb		15 02 51.9	
	comp=Z,38nm,1.4s							
LSZ	**Lusaka**	**49.12**	**283**	IAMs_20	IAMs_20		15 20 04.5	
	comp=Z,4μm,20.0s							
ASAR	**Alice Springs**	**49.37**	**91**	P	**P**		**15 02 50.3**	**-0.4**
	comp=Z,5.6nm,1.1s,baz=242,slow=5.2,SNR=18							
ASAR				LR	LR		15 21 11.6	
	comp=Z,6μm,19.6s,baz=253,slow=33							
ASAR	**Alice Springs**	**49.37**	**91**	P	**P**		**15 02 51.1**	**+0.4**
ASAR	**Alice Springs**	**49.37**	**91**	P	**P**		**15 02 51.1**	**+0.4**
AS31	**Alice Springs**	**49.37**	**91**	P	**P**		**15 02 50.0**	**-0.7**
KNRA	**Kununurra**	**49.56**	**78**	P	**P**		**15 02 52.0**	**-0.1**
KNRA				IAmb	IAmb		15 02 58.1	
	comp=Z,20nm,0.8s							
KAPI	**Kappang**	**49.75**	**60**	LR	LR		15 19 47.6	
	comp=Z,3μm,21.6s,baz=212,slow=31							
KAPI	**Kappang**	**49.75**	**60**	IAMs_20	IAMs_20		15 19 13.8	
	comp=Z,3μm,22.0s							
PBA	**Port Blair**	**50.53**	**19**	P	P		15 02 59.8	+0.5
KIBK	**Kibwezi**	**50.54**	**304**	P	**P**		**15 03 00.2**	**+0.6**
BKB	**Balikpapan**	**50.59**	**54**	IAMs_20	IAMs_20		15 21 04.3	
	comp=Z,3μm,20.0s							
WRAB	**Tennant Creek**	**51.63**	**87**	P	**P**		**15 03 07.7**	**0.0**
WRAB				pmax	pmax			
	comp=Z,62nm,1.8s							
WRAB	**Tennant Creek**	**51.63**	**87**	P	**P**		**15 03 07.7**	**0.0**
WRAB	**Tennant Creek**	**51.63**	**87**	IAMs_20	IAMs_20		15 22 34.8	
	comp=Z,5μm,20.0s							
STKA	**Stephens Creek**	**51.76**	**104**	P	**P**		**15 03 09.7**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=245,slow=6.8,SNR=6.9							
STKA				LR	LR		15 21 10.5	
	comp=Z,4μm,20.3s,baz=244,slow=32							
STKA	**Stephens Creek**	**51.76**	**104**	P	**P**		**15 03 09.1**	**+0.5**
STKA				pmax	pmax			
	comp=Z,6.0nm,1.5s							
STKA	**Stephens Creek**	**51.76**	**104**	P	**P**		**15 03 09.1**	**+0.5**
KMBO	**Kilima Mbogo**	**51.97**	**304**	P	**P**		**15 03 10.1**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=118,slow=4.3,SNR=5.4							
KMBO				LR	LR		15 20 12.9	
	comp=Z,641nm,20.8s,baz=108,slow=30							
KMBO	**Kilima Mbogo**	**51.97**	**304**	*i* P	**P**		**15 03 11.8**	**+1.2**
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SNAA	**Sanae**	**52.33**	**203**	P	**P**		**15 03 15.0**	**+2.7**
	comp=Z,5.0nm,0.8s,baz=71,slow=11,SNR=6.1							
SNAA	**Sanae**	**52.33**	**203**	P	**P**		**15 03 13.1**	**+0.8**
SNAA				pmax	pmax			
	comp=Z,25nm,1.5s							
SNAA	**Sanae**	**52.33**	**203**	P	**P**		**15 03 13.1**	**+0.8**
SNAA				IAmb	IAmb		15 03 19.8	
	comp=Z,25nm,1.5s							
TOO	**Toolangi**	**52.49**	**112**	P	**P**		**15 03 13.6**	**-0.4**
TOO				pmax	pmax			
	comp=Z,19nm,1.2s							
TOO	**Toolangi**	**52.49**	**112**	P	**P**		**15 03 13.6**	**-0.4**
TOO				IAmb	IAmb		15 03 24.2	
	comp=Z,19nm,1.1s							
VNDA	**Vanda**	**52.67**	**164**	P	**P**		**15 03 16.1**	**+1.3**
	comp=Z,3.6nm,1.0s,baz=270,slow=9.0,SNR=11							
VNDA				LR	LR		15 23 23.9	
	comp=Z,4μm,20.4s,baz=266,slow=33							
VNDA	**Vanda**	**52.67**	**164**	P	**P**		**15 03 14.5**	**-0.2**
VNDA				pmax	pmax			
	comp=Z,12nm,1.3s							
VNDA	**Vanda**	**52.67**	**164**	P	**P**		**15 03 14.5**	**-0.2**
QSPA	**South Pole Qui**	**52.95**	**180**	P	**P**		**15 03 18.2**	**+1.1**
	comp=Z,23nm,1.2s,baz=296,slow=4.6,SNR=9.9							
QSPA	**South Pole Qui**	**52.95**	**180**	P	**P**		**15 03 17.6**	**+0.5**
QSPA				IAmb	IAmb		15 03 24.6	
	comp=Z,29nm,1.0s							
SBA	**Scott Base**	**53.69**	**165**	IAMs_20	IAMs_20		15 23 44.2	
	comp=Z,2μm,19.0s							
VNA2	**Neumayer--Watz**	**53.88**	**204**	P	**P**		**15 03 27.0**	**+3.3**
	baz=86,slow=7.9							
VNA1	**Neumayer--Stat**	**54.21**	**204**	P	**P**		**15 03 29.8**	**+3.7**
HYB	**Hyderabad**	**54.33**	**1**	*i* P	**P**		**15 03 26.0**	**-1.5**
VNA3	**Neumayer Olymp**	**54.55**	**203**	P	**P**		**15 03 31.8**	**+3.2**
LUWI	**Luwuk**	**54.69**	**60**	IAMs_20	IAMs_20		15 22 25.6	
	comp=Z,2μm,21.0s							
TOLI2	**Tolitoli**	**54.92**	**56**	P	**P**		**15 03 31.2**	**-0.7**
TOLI2				IAmb	IAmb		15 03 43.4	
	comp=Z,11nm,1.0s							
TSUM	**Tsumeb**	**55.33**	**271**	P	**P**		**15 03 34.4**	**-0.7**
TSUM				IAmb	IAmb		15 03 45.0	
	comp=Z,20nm,1.4s							
CAN	**Canberra**	**55.97**	**111**	IAMs_20	IAMs_20		15 22 38.9	
	comp=Z,3μm,20.0s							
LODK	**Lodwar**	**56.62**	**306**	P	**P**		**15 03 45.0**	**+0.8**
LODK				IAmb	IAmb		15 03 49.0	
	comp=Z,19nm,1.6s							
DLV	**T Lat**	**56.64**	**36**	P	**P**		**15 03 45.0**	**+0.5**
DLV				IAmb	IAmb		15 03 47.5	
	comp=Z,15nm,1.1s							
MBAR	**Mbarara**	**56.79**	**299**	P	**P**		**15 03 44.7**	**-0.9**
MBAR				pmax	pmax			
	comp=Z,14nm,0.3s							
MBAR	**Mbarara**	**56.79**	**299**	P	**P**		**15 03 44.7**	**-0.9**
MBAR	**Mbarara**	**56.79**	**299**	IAMs_20	IAMs_20		15 23 38.4	
	comp=Z,2μm,21.0s							
UBPT	**Khong Chiam**	**58.24**	**32**	P	**P**		**15 03 54.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**58.77**	**23**	P	**P**		**15 03 57.4**	**-1.7**
	comp=Z,3.4nm,1.1s,baz=211,slow=6.3,SNR=14							
CMAR				LR	LR		15 25 27.6	
	comp=Z,1μm,21.1s,baz=240,slow=32							
CMAR	**Chiang Mai Arr**	**58.77**	**23**	*i* P	**P**		**15 04 00.4**	**+1.3**
CMAR				pmax	pmax			
	comp=Z,3.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**58.77**	**23**	P	**P**		**15 03 57.1**	**-2.0**
CHTO	**Chiang Mai**	**59.10**	**23**	P	**P**		**15 03 59.8**	**-1.6**
CHTO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CHTO	**Chiang Mai**	**59.10**	**23**	P	**P**		**15 03 59.8**	**-1.6**
CTA	**Charters Tower**	**61.04**	**94**	P	**P**		**15 04 16.2**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=221,slow=12,SNR=3.1							
CTA				LR	LR		15 28 25.4	
	comp=Z,6μm,19.6s,baz=233,slow=34							
CTAO	**Charters Tower**	**61.04**	**94**	P	**P**		**15 04 13.9**	**-1.1**
CTAO				pmax	pmax			
	comp=Z,29nm,1.6s							
CTAO	**Charters Tower**	**61.04**	**94**	P	**P**		**15 04 13.8**	**-1.1**
CTAO				IAmb	IAmb		15 04 21.6	
	comp=Z,29nm,1.6s							
DAV	**Davao City (W)**	**62.52**	**56**	LR	LR		15 28 18.5	
	comp=Z,259nm,20.1s,baz=198,slow=33							
SLVN	**Son La**	**63.12**	**27**	P	**P**		**15 04 26.8**	**-2.0**
SLVN				IAmb	IAmb		15 04 30.9	
	comp=Z,32nm,1.8s							
QIZ	**Qiongzhong**	**63.46**	**34**	P	**P**		**15 04 31.0**	**+0.1**
QIZ				S	**S**		**15 13 05.9**	**+1.7**
QIZ				SS	**SS**		**15 17 14.5**	**+2.8**
QIZ				L	L			
	comp=Z,760nm,24.7s							
QIZ				L	L			
	comp=Z,360nm,23.2s							
QIZ				L	L			
	comp=Z,730nm,24.5s							
SHL	**Shillong**	**63.78**	**14**	P	**P**		**15 04 32.2**	**-1.0**
SHL				pmax	pmax			
	comp=Z,24nm,0.4s							
SHL	**Shillong**	**63.78**	**14**	P	**P**		**15 04 32.2**	**-1.0**
KMI	**Kunming**	**66.21**	**24**	⇓P	**P**		**15 04 50.2**	**+1.1**
KMI				pP	pwP		15 04 53.9	-0.1
KMI				sP	sP		15 04 55.6	+3.4
KMI				PcP	**PcP**		**15 05 17.9**	**-1.3**
KMI				S	**S**		**15 13 40.7**	**+2.4**
KMI				SS	**SS**		**15 17 57.5**	**+2.6**
KMI				pmax	pmax			
	comp=Z,10.0nm,0.5s		

LZH					*e*S	**S**	**15 15 39.1**	**-0.5**		
LZH					pmax	pmax				
	comp=Z,19nm,1.0s									
LZH					pmax	pmax				
	comp=Z,230nm,4.1s									
LZH					L	L				
	comp=Z,920nm,17.1s									
LZH					L	L				
	comp=Z,810nm,15.5s									
LZH					L	L				
	comp=Z,1µm,18.2s									
GEYT	**Alibeck**	**77.00**	**344**		LR	LR	15 35 37.6			
	comp=Z,787nm,19.6s,baz=170,slow=32									
BTK	**Batken**	**77.17**	**354**		P	**P**	**15 05 54.7**	**+0.1**		
BTK					pmax	pmax				
	comp=Z,36nm,1.3s									
BTK	**Batken**	**77.17**	**354**		P	**P**	**15 05 54.7**	**+0.1**		
HNR	**Honiara**	**77.94**	**93**		IAMs_20	IAMs_20	15 35 50.7			
	comp=Z,3µm,22.0s									
NJ2	**Nanjing**	**78.74**	**34**	⇓	P	**P**	**15 06 07.7**	**+4.4**		
NJ2					pP	**PcP**	**15 06 12.4**	**+0.3**		
NJ2					sP	**pwP**	**15 06 14.6**	**+6.3**		
NJ2					S	**S**	**15 16 04.1**	**+3.2**		
NJ2					sS	**SKSac**	**15 16 13.7**	**-4.9**		
NJ2					SS	**SS**	**15 21 11.7**	**+5.6**		
NJ2					pmax	pmax				
	comp=Z,4.0nm,0.6s									
NJ2					pmax	pmax				
	comp=Z,190nm,5.5s									
NJ2					L	L				
	comp=Z,470nm,17.5s									
NJ2					L	L				
	comp=Z,750nm,17.5s									
NJ2					L	L				
	comp=Z,920nm,17.5s									
GTA	**Gaotai**	**78.83**	**17**	⇑	P	**P**	**15 06 04.2**	**+0.4**		
GTA					pP	pwP	15 06 08.7	-0.1		
GTA					sP	PcP	15 06 11.5	-1.0		
GTA					S	**S**	**15 15 58.3**	**-3.5**		
GTA					SS	**SS**	**15 21 11.5**	**+4.0**		
GTA					pmax	pmax				
	comp=Z,8.0nm,0.9s									
GTA					pmax	pmax				
	comp=Z,150nm,6.9s									
GTA					L	L				
	comp=Z,620nm,23.3s									
GTA					L	L				
	comp=Z,560nm,21.4s									
GTA					L	L				
	comp=Z,890nm,23.6s									
GHAJ	**Ghor Haditha**	**78.89**	**324**		IAMs_20	IAMs_20	15 37 37.1			
	comp=Z,885nm,18.0s									
KDJ	**Kajisay**	**78.96**	**359**		P	**P**	**15 06 04.8**	**+0.2**		
KDJ					pmax	pmax				
	comp=Z,12nm,1.1s									
KDJ	**Kajisay**	**78.96**	**359**		P	**P**	**15 06 04.8**	**+0.2**		
KDJ					IAmb	IAmb	15 06 17.2			
	comp=Z,12nm,1.1s									
IUG	**Iuzhnay**	**79.31**	**354**		*e*P	**P**	**15 06 07.0**	**+0.5**		
	baz=354									
IUG	**Iuzhnay**	**79.31**	**354**		*e*P	**P**	**15 06 06.9**	**+0.5**		
AAK	**Ala-Archa**	**79.53**	**357**		P	**P**	**15 06 07.6**	**-0.1**		
AAK					pmax	pmax				
	comp=Z,10.0nm,1.0s									
AAK	**Ala-Archa**	**79.53**	**357**		P	**P**	**15 06 07.6**	**-0.1**		
AAK	**Ala-Archa**	**79.53**	**357**		IAMs_20	IAMs_20	15 37 53.2			
	comp=Z,3µm,20.0s									
SATY	**Saty**	**79.89**	**0**		*e*P	**P**	**15 06 07.9**	**-1.6**		
	comp=Z,10nm,1.3s,baz=0.1									
SATY	**Saty**	**79.89**	**0**		*e*P	**P**	**15 06 07.9**	**-1.6**		
SATY					pmax	pmax				
	comp=Z,10.0nm,1.3s									
MTBS	**Maitube**	**79.97**	**359**		*e*P	**P**	**15 06 09.2**	**-0.8**		
	baz=359									
MTBS	**Maitube**	**79.97**	**359**		*e*P	**P**	**15 06 09.1**	**-0.8**		
UZB	**Uzynbulak**	**79.98**	**1**		*e*P	**P**	**15 06 08.9**	**-1.1**		
	comp=Z,10nm,1.4s,baz=0.6									
UZB	**Uzynbulak**	**79.98**	**1**		*e*P	**P**	**15 06 08.9**	**-1.1**		
UZB					pmax	pmax				
	comp=Z,10.0nm,1.4s									
SHLS	**Shalkode**	**79.99**	**1**		*i* P	**P**	**15 06 09.4**	**-0.8**		
	comp=Z,24nm,1.6s,baz=1.2									
SHLS	**Shalkode**	**79.99**	**1**		*i* P	**P**	**15 06 09.3**	**-0.8**		
SHLS					pmax	pmax				
	comp=Z,24nm,1.6s									
MDOK	**Medeo**	**80.00**	**359**		*e*P	**P**	**15 06 09.2**	**-0.9**		
	baz=359									
MDOK	**Medeo**	**80.00**	**359**		*e*P	**P**	**15 06 09.2**	**-0.9**		
SANVU	**Saraoutou**	**80.17**	**102**		IAMs_20	IAMs_20	15 37 23.0			
	comp=Z,2µm,21.0s									
KK31	**Karatay Array**	**80.22**	**354**		P	**P**	**15 06 10.9**	**-0.3**		
KK31					pmax	pmax				
	comp=Z,25nm,1.0s									
KK31	**Karatay Array**	**80.22**	**354**		P	**P**	**15 06 10.9**	**-0.3**		
KK31					IAmb	IAmb	15 06 17.4			
	comp=Z,25nm,0.9s									
KKAR	**Karatay Array**	**80.22**	**354**		P	**P**	**15 06 10.5**	**-0.7**		
KKAR					pmax	pmax				
	comp=Z,25nm,1.0s									
KKAR	**Karatay Array**	**80.22**	**354**		P	**P**	**15 06 10.7**	**-0.5**		
KKAR	**Karatay Array**	**80.22**	**354**		P	**P**	**15 06 10.5**	**-0.7**		
KKAR					IAmb	IAmb	15 06 17.4			
	comp=Z,25nm,0.9s									
SGDS	**Sogindy**	**80.34**	**357**		*e*P	**P**	**15 06 10.9**	**-1.0**		
	comp=Z,13nm,2.2s,baz=357									
SGDS	**Sogindy**	**80.34**	**357**		*e*P	**P**	**15 06 10.8**	**-1.1**		
SGDS					pmax	pmax				
	comp=Z,13nm,2.2s									
CHKK	**Chushkaly**	**80.69**	**359**		*e*P	**P**	**15 06 13.1**	**-0.6**		
	baz=359									
CHKK	**Chushkaly**	**80.69**	**359**		*e*P	**P**	**15 06 13.1**	**-0.6**		
KUU	**Kurty**	**80.73**	**359**		*e*P	**P**	**15 06 13.3**	**-0.6**		
	baz=359									
KUU	**Kurty**	**80.73**	**359**		*e*P	**P**	**15 06 13.3**	**-0.6**		
ARXS	**Arharly**	**81.04**	**360**		*e*P	**P**	**15 06 14.1**	**-1.5**		
WMQ	**Urumqi**	**81.12**	**7**		*e*P	**P**	**15 06 18.3**	**+2.2**		
WMQ					pP	pwP	15 06 21.0	0.0		
WMQ					sP	PcP	15 06 24.3	+2.0		
WMQ					PP	**PP**	**15 09 27.1**	**+5.4**		
WMQ					S	**S**	**15 16 24.7**	**-1.0**		
WMQ					pmax	pmax				
	comp=Z,24nm,1.1s									
WMQ					pmax	pmax				
	comp=Z,290nm,3.7s									
WMQ					L	L				
	comp=Z,2µm,21.1s									
WMQ					L	L				
	comp=Z,1µm,16.5s									
WMQ					L	L				
	comp=Z,5µm,23.5s									
TIA	**Tai'an**	**81.54**	**31**		P	**P**	**15 06 17.1**	**-1.3**		
TIA					S	**S**	**15 16 28.0**	**-2.2**		
TIA					pmax	pmax				
	comp=Z,10.0nm,0.9s									
TIA					pmax	pmax				
	comp=Z,140nm,10.8s									
TIA					L	L				
	comp=Z,770nm,17.2s									
TIA					L	L				
	comp=Z,490nm,15.7s									
TIA					L	L				
	comp=Z,1µm,16.7s									
TDK	**Taldyqorghan**	**81.83**	**0**		*e*P	**P**	**15 06 19.1**	**-0.6**		
	baz=0.1									
TDK	**Taldyqorghan**	**81.83**	**0**		*e*P	**P**	**15 06 19.1**	**-0.6**		
BTLS	**Baital**	**81.95**	**357**		*e*P	**P**	**15 06 19.7**	**-0.6**		
	comp=Z,14nm,1.5s,baz=357									
BTLS	**Baital**	**81.95**	**357**		*e*P	**P**	**15 06 19.7**	**-0.6**		
BTLS					pmax	pmax				
	comp=Z,14nm,1.5s									
GNI	**Garni**	**82.83**	**335**		LR	LR	15 39 22.2			
	comp=Z,533nm,21.7s,baz=144,slow=33									
GNI	**Garni**	**82.83**	**335**		*i* P	**P**	**15 06 25.0**	**-0.3**		
GNI					pmax	pmax				
	comp=Z,7.0nm,0.9s									
AKT	**Akhty**	**83.07**	**338**		*e*P	**P**	**15 06 28.6**	**+2.2**		
AKT					*e*		15 06 33.2			
AKT					pmax	pmax				
	comp=Z,7.0nm,0.7s									
HHC	**Hu-ho-hao-te**	**83.53**	**25**		*e*P	**P**	**15 06 28.5**	**-0.3**		
HHC					pmax	pmax				
	comp=Z,16nm,0.7s									
HHC					pmax	pmax				
	comp=Z,160nm,6.6s									
MK31	**Makanchi Array**	**83.71**	**3**		P	**P**	**15 06 27.8**	**-1.6**		
MK31					pmax	pmax				
	comp=Z,11nm,1.0s									
MK31	**Makanchi Array**	**83.71**	**3**		P	**P**	**15 06 27.8**	**-1.6**		
MK31					IAmb	IAmb	15 06 34.1			
	comp=Z,11nm,0.9s									
MKAR	**Makanchi Array**	**83.71**	**3**		P	**P**	**15 06 27.8**	**-1.6**		
	comp=Z,5.5nm,0.7s,baz=174,slow=5.3,SNR=51									
MKAR					LR	LR	15 41 06.5			
	comp=Z,2µm,20.7s,baz=186,slow=34									
MKAR	**Makanchi Array**	**83.71**	**3**		P	**P**	**15 06 27.7**	**-1.7**		
MKAR	**Makanchi Array**	**83.71**	**3**		P	**P**	**15 06 27.7**	**-1.7**		
MAKZ	**Makanchi**	**83.71**	**3**		P	**P**	**15 06 28.3**	**-1.2**		
MAKZ					pmax	pmax				
	comp=Z,12nm,1.0s									
MAKZ	**Makanchi**	**83.71**	**3**		P	**P**	**15 06 28.2**	**-1.2**		
MAKZ					IAmb	IAmb	15 06 34.2			
	comp=Z,12nm,1.0s									
MAK	**Makhachkala**	**84.49**	**338**		*e*P	**P**	**15 06 29.7**	**-3.7**		
MAK					*e*		15 09 46.4			
MAK					*e*S	S	15 16 50.3	-10		
MAK					pmax	pmax				
	comp=Z,102nm,1.0s									
ZSN	**Zaisan**	**84.50**	**5**		*e*P	**P**	**15 06 33.5**	**+0.1**		
	baz=4.5									
ZSN	**Zaisan**	**84.50**	**5**		*e*P	**P**	**15 06 33.5**	**+0.1**		
KBZ	**Khabaz**	**86.64**	**335**		LR	LR	15 42 22.5			
	comp=Z,360nm,20.0s,baz=147,slow=34									
BRTR	**Keskin Array B**	**86.75**	**327**		P	**P**	**15 06 44.8**	**-0.2**		
	comp=Z,1.9nm,0.9s,baz=159,slow=7.6,SNR=9.0									
BRTR	**Keskin Array B**	**86.75**	**327**		*i* P	**P**	**15 06 46.2**	**+1.2**		
BRTR					pmax	pmax				
	comp=Z,2.0nm,0.8s									
KIV	**Kislovodsk**	**86.92**	**335**		*e*P	**P**	**15 06 44.7**	**-0.9**		
KIV					*e*		15 10 03.4			
KIV					*e*SS	SS	15 23 06.6	-0.7		
KIV					pmax	pmax				
	comp=Z,15nm,1.0s									
DGZ	**Jazzator, Alta**	**86.93**	**6**		*i* P	**P**	**15 06 45.8**	**+0.2**		
DGZ					pmax	pmax				
	comp=Z,13nm,1.4s									
BRZS	**Berezniki**	**86.94**	**357**		*e*P	**P**	**15 06 45.1**	**-0.4**		
	baz=356									
BRZS	**Berezniki**	**86.94**	**357**		*e*P	**P**	**15 06 45.1**	**-0.4**		
SEM	**Semipalatinsk**	**87.26**	**1**		*e*P	**P**	**15 06 46.8**	**-0.6**		
	baz=1.3									
SEM	**Semipalatinsk**	**87.26**	**1**		*e*P	**P**	**15 06 46.7**	**-0.6**		
TORD	**Torodi Ar. Bea**	**87.28**	**289**		P	**P**	**15 06 48.9**	**+0.9**		
	comp=Z,0.7nm,0.6s,baz=109,slow=4.3,SNR=3.6									
TORD					LR	LR	15 44 57.8			
	comp=Z,3µm,18.1s,baz=125,slow=35									
KSRS	**Korea Array**	**87.43**	**38**		P	**P**	**15 06 47.5**	**-0.6**		
	comp=Z,1.3nm,0.8s,baz=194,slow=4.8,SNR=5.9									
KSRS					LR	LR	15 46 05.1			
	comp=Z,246nm,18.0s,baz=226,slow=36									
KURBB	**Kurchatov Arra**	**87.45**	**0**		P	**P**	**15 06 47.2**	**-0.7**		
	comp=Z,12nm,1.1s,baz=191,slow=4.9,SNR=22									
KURK	**Kurchatov**	**87.55**	**0**		P	**P**	**15 06 47.2**	**-1.2**		
KURK	**Kurchatov**	**87.55**	**0**		P	**P**	**15 06 47.2**	**-1.2**		
ABKAR	**Akbulak array**	**87.57**	**348**		P	**P**	**15 06 46.6**	**-1.9**		
SOC	**Sochi**	**87.62**	**333**		*e*P	**P**	**15 06 47.4**	**-1.5**		
SOC					*e*		15 10 13.9			
SOC					*e*S	**SKSac**	**15 17 14.8**	**-1.9**		
SOC					*e*SSS	SSS	15 26 49.9			
SOC					MLR	MLR				
	comp=Z,353nm,20.0s									
DBIC	**Dimbokro**	**88.36**	**280**		LR	LR	15 43 10.5			
	comp=Z,2µm,19.4s,baz=102,slow=33									
SONM	**Songino Array**	**88.37**	**19**		P	**P**	**15 06 52.8**	**+0.2**		
	comp=Z,1.1nm,0.7s,baz=215,slow=4.9,SNR=8.4									
SONM					LR	LR	15 45 12.5			
	comp=Z,1µm,19.6s,baz=194,slow=35									
SONM	**Songino Array**	**88.37**	**19**		P	**P**	**15 06 53.2**	**+0.7**		
SONM					pmax	pmax				
	comp=Z,8.0nm,1.4s									
SONM	**Songino Array**	**88.37**	**19**		P	**P**	**15 06 53.2**	**+0.7**		
ULN	**Ulaanbaatar**	**88.56**	**19**		P	**P**	**15 06 53.7**	**+0.2**		
ULN					pmax	pmax				
	comp=Z,8.0nm,1.3s									
ULN					MLR	MLR				
	comp=Z,800nm,20.0s									
ULN	**Ulaanbaatar**	**88.56**	**19**		P	**P**	**15 06 53.7**	**+0.2**		
ULN					IAmb	IAmb	15 07 02.0			
	comp=Z,8.4nm,1.2s									
ULN	**Ulaanbaatar**	**88.56**	**19**		IAMs_20	IAMs_20	15 45 05.6			
	comp=Z,777nm,20.0s									
BVAR	**Borovoye Array**	**90.11**	**355**		P	**P**	**15 06 59.7**	**-0.7**		
	comp=Z,0.7nm,0.7s,baz=203,slow=14,SNR=5.0									
BRVK	**Borovoye**	**90.14**	**355**	*ce*	P	**P**	**15 06 59.7**	**-0.9**		
BRVK					pmax	pmax				
	comp=Z,3.0nm,0.9s									
BRVK	**Borovoye**	**90.14**	**355**		IAMs_20	IAMs_20	15 45 15.1			
	comp=Z,2µm,20.0s									
ZALV	**Zalesovo Beam**	**90.97**	**4**		P	**P**	**15 07 03.4**	**-1.0**		
	comp=Z,0.8nm,0.5s,baz=186,slow=4.0,SNR=4.4									
ZALV					LR	LR	15 45 57.6			
	comp=Z,2µm,19.9s,baz=192,slow=34									
ZALV	**Zalesovo Beam**	**90.97**	**4**		*i* P	**P**	**15 07 05.4**	**+1.0**		
ZALV					pmax	pmax				
	comp=Z,1.0nm,0.6s									
ZALV	**Zalesovo Beam**	**90.97**	**4**		P	**P**	**15 07 03.2**	**-1.2**		
MJAR	**Matsushiro Arr**	**92.12**	**44**		LR	LR	15 45 03.9			
	comp=Z,274nm,21.9s,baz=250,slow=33									
TIRR	**Tirgusor**	**92.86**	**327**		IAMs_20	IAMs_20	15 47 53.9			
	comp=Z,856nm,20.0s									
HIA	**Hailar**	**93.69**	**26**		IAMs_20	IAMs_20	15 47 35.2			
	comp=Z,900nm,20.0s									
USRK	**Ussuriysk Ar.**	**94.61**	**36**		LR	LR	15 50 42.2			
	comp=Z,441nm,18.1s,baz=214,slow=36									
TARA	**Tarawa**	**94.70**	**92**		IAMs_20	IAMs_20	15 45 56.2			
	comp=Z,2µm,20.0s									
ARU	**Arti**	**94.73**	**349**	*d*	iP	**P**	**15 07 21.2**	**-0.5**		
ARU							15 11 09.4			
ARU					S	**SKSac**	**15 17 56.4**	**-0.3**		
ARU					SP	**SP**	**15 19 51.6**	**+0.8**		
ARU					pmax	pmax				
	comp=Z,4.0nm,0.9s									
ARU					MLR	MLR				
	comp=Z,828nm,19.0s									
ARU	**Arti**	**94.73**	**349**		IAMs_20	IAMs_20	15 47 47.6			
	comp=Z,865nm,19.0s									
KEST	**Kesra**	**96.55**	**310**		LR	LR	15 50 20.6			
	comp=Z,513nm,18.9s,baz=117,slow=35									
OBN	**Obninsk**	**98.58**	**337**	‖	*e*P	Pdif	15 07 39.5	+0.4		
OBN					*e*		15 11 38.2			
OBN					pmax	pmax				
	comp=Z,13nm,0.4s									
OBN					MLR	MLR				
	comp=Z,457nm,19.0s									
UZH	**Uzhgorod**	**98.77**	**326**		*e*P	P	15 07 32.1	-8.1		
SPB	**Sao Paulo**	**100.69**	**229**		IAMs_20	IAMs_20	15 42 35.2			
	comp=Z,1µm,21.0s									
MNK	**Minsk**	**101.00**	**333**		*i* P	**Pdif**	**15 07 47.7**	**-2.3**		
MNK					*i*		15 11 56.4			
MNK					*i* PPP	PPP	15 14 04.7			
MNK					*i* S	**SKSac**	**15 18 27.0**	**-1.7**		
MNK					*i* PS	**PS**	**15 20 59.8**	**-0.6**		
MNK					*i* SS	**SS**	**15 26 27.8**	**0.0**		
MNK					*i* SSS	SSS	15 30 19.3			
MNK					pmax	pmax				
	comp=E,3.0nm,0.7s									
MNK					pmax	pmax				
	comp=Z,11nm,0.7s									
MNK					pmax	pmax				
	comp=N,10.0nm,0.8s									
MNK					MLR	MLR				
	comp=N,478nm,25.0s									
MNK					MLR	MLR				
	comp=Z,262nm,19.0s									
MNK					MLR	MLR				
	comp=E,8.0nm,14.0s									
MNK	**Minsk**	**101.00**	**333**		*i* P	**Pdif**	**15 07 47.8**	**-2.2**		
	comp=E,3.0nm,0.7s									
MNK					*i* P	**Pdif**	**15 07 47.8**	**-2.2**		
	comp=N,10.0nm,0.8s									
MNK					*i* P	**Pdif**	**15 07 47.8**	**-2.2**		
	comp=Z,11nm,0.7s,baz=141									
MNK					*i* PP	**PP**	**15 11 56.5**	**-2.4**		
MNK					*i* PPP	PPP	15 14 04.7			
MNK					*i* S	**SKSac**	**15 18 27.0**	**-1.7**		
MNK					*i* PS	**PS**	**15 20 59.9**	**-0.6**		
MNK					*i* SS	**SS**	**15 26 27.9**	**0.0**		
MNK					*i* SSS	SSS	15 30 19.4			
MNK					*i* LQ	LQ	15 44 01.9			
MNK					*i* LR	LR	15 48 25.2			
MNK					*i* LRM	MLR	15 51 05.5			
	comp=N,478nm,25.3s									
MNK					*i* LRM	MLR	15 51 06.8			
	comp=Z,262nm,18.8s									
MNK					*i* LRM	MLR	15 51 14.4			
	comp=E,8.0nm,13.8s									
OKC	**Ostrava-Krasne**	**101.51**	**325**		AMS	AMS	16 03 20.0			
	comp=E,300nm,21.1s									
KRLC	**Kraliky**	**102.31**	**325**		AMS	AMS	16 03 40.0			
	comp=E,300nm,15.9s									
SUW	**Suwalki**	**102.41**	**330**		IAMs_20	IAMs_20	16 00 48.2			
	comp=Z,740nm,19.0s									
CKRC	**Cesky Krumlov**	**102.61**	**323**		AMS	AMS	16 05 00.0			
	comp=Z,400nm,17.2s									
DPC	**Dobruska-Polom**	**102.71**	**325**		AMS	AMS	16 04 00.0			
	comp=Z,300nm,18.7s									
OSTC	**Ostas**	**102.90**	**325**		AMS	AMS	16 02 10.0			
	comp=Z,300nm,18.6s									
UPC	**Upice**	**102.96**	**325**		AMS	AMS	16 04 40.0			
	comp=Z,300nm,18.4s									
CHVC	**Chvalec**	**103.00**	**325**		AMS	AMS	16 03 00.0			
	comp=Z,300nm,17.2s									
KHC	**Kasperske Hory**	**103.17**	**323**		AMS	AMS	16 07 30.0			
	comp=Z,400nm,18.1s									
PRU	**Pruhonice**	**103.29**	**324**		AMS	AMS	16 04 50.0			
	comp=Z,400nm,16.6s									
PVCC	**Panska Ves**	**103.65**	**324**		AMS	AMS	16 03 30.0			
	comp=Z,400nm,18.5s									
NKC	**Novy Kostel**	**104.46**	**323**		AMS	AMS	16 04 40.0			
	comp=Z,400nm,20.7s									
CLL	**Collm**	**104.91**	**324**		IAMs_20	IAMs_20	16 05 21.7			
	comp=Z,514nm,18.0s									
TBI	**Tubuai**	**104.98**	**135**	*e*	LQ	LQ	15 38 02.3			
	comp=Z,1µm,37.2s									
TBI				*e*	LR	LR	15 42 46.1			
	comp=Z,809nm,29.0s									
YAK	**Yakutsk**	**107.30**	**23**		IAMs_20	IAMs_20	15 56 46.9			
	comp=Z,1µm,20.0s									
PPT2	**Papeete2**	**109.42**	**132**	*e*	LQ	LQ	15 39 33.0			
	comp=Z,2µm,33.0s									
PPT2				*e*	LR	LR	15 44 51.8			
	comp=Z,705nm,26.0s									
MTE	**Manteigas**	**109.99**	**306**		IAMs_20	IAMs_20	15 59 13.5			
	comp=Z,675nm,20.0s									
COI	**Coimbra**	**110.45**	**305**		IAMs_20	IAMs_20	16 00 42.8			
	comp=Z,624nm,22.0s									
KONO	**Kongsberg**	**111.70**	**329**		IAMs_20	IAMs_20	16 04 26.9			
	comp=Z,560nm,19.0s									
RKT	**Rikitea**	**112.41**	**147**	*e*	LR	LR	15 46 07.0			
	comp=Z,427nm,23.2s									
RKT	**Rikitea**	**112.41**	**147**	*e*	T	T	17 15 00.3			
	comp=Z,3.3nm,0.2s									
TIXI	**Tiksi**	**114.29**	**16**		IAMs_20	IAMs_20	16 00 26.4			
	comp=Z,679nm,21.0s									
SAML	**Samuel**	**121.47**	**226**		IAMs_20	IAMs_20	15 58 22.8			
	comp=Z,1µm,19.0s									
KBS	**Kingsbay**	**121.88**	**348**		IAMs_20	IAMs_20	16 07 39.2			
	comp=Z,563nm,20.0s									
BILL	**Bilibino**	**123.27**	**27**		IAMs_20	IAMs_20	16 08 46.0			
	comp=Z,559nm,19.0s									
PTGA	**Pitinga**	**125.86**	**236**		IAMs_20	IAMs_20	16 00 11.0			
	comp=Z,869nm,19.0s									
GAMB	**Gambell**	**131.47**	**34**		IAMs_20	IAMs_20	16 14 59.0			
	comp=Z,814nm,19.0s									
ALE	**Alert**	**132.66**	**353**		IAMs_20	IAMs_20	16 12 31.3			
	comp=Z,633nm,20.0s									
ANM	**Nome**	**134.21**	**33**		IAMs_20	IAMs_20	16 16 56.6			
	comp=Z,511nm,20.0s									
RDOG	**Red Dog Mine**	**134.72**	**28**		IAMs_20	IAMs_20	16 13 45.8			
	comp=Z,845nm,21.0s									
A21K	**Barrow**	**135.95**	**22**		IAMs_20	IAMs_20	16 13 03.2			
	comp=Z,731nm,22.0s									
OTAV	**Otavalo**	**137.28**	**216**		IAMs_20	IAMs_20	16 08 09.6			
	comp=Z,527nm,19.0s									
TULEG	**Thule**	**137.90**	**349**		IAMs_20	IAMs_20	16 15 34.4			
	comp=Z,539nm,21.0s									
IMAR	**Indian Mountai**	**138.72**	**29**			PKPpre	15 13 22.5			
TOLK	**Toolik Lake Re**	**139.24**	**24**		IAMs_20	IAMs_20	16 21 18.0			
	comp=Z,813nm,18.0s									
MLY	**Manley**	**140.22**	**30**		IAMs_20	IAMs_20	16 18 29.0			
	comp=Z,769nm,21.0s									
BPAW	**Bear Paw Mtn.**	**140.43**	**31**		IAMs_20	IAMs_20	16 19 04.8			
	comp=Z,906nm,21.0s									
KTH	**Kantishna Hill**	**140.63**	**32**		IAMs_20	IAMs_20	16 18 56.2			
	comp=Z,711nm,21.0s									
I23K	**Minto, Yukon-K**	**140.72**	**29**		IAMs_20	IAMs_20	16 18 20.4			
	comp=Z,639nm,21.0s									
MDM	**Murphy Dome**	**141.23**	**29**		IAMs_20	IAMs_20	16 22 18.0			
	comp=Z,694nm,19.0s									
CUT	**Chulitna**	**141.27**	**34**		IAMs_20	IAMs_20	16 19 08.2			
	comp=Z,682nm,22.0s									
MCK	**McKinley**	**141.41**	**31**		IAMs_20	IAMs_20	16 21 20.7			
	comp=Z,683nm,18.0s									
TCOL	**CIGO, UAF Yank**	**141.41**	**29**		IAMs_20	IAMs_20	16 22 22.7			
	comp=Z,662nm,19.0s									
COLA	**College**	**141.42**	**29**		IAMs_20	IAMs_20	16 22 22.7			
	comp=Z,624nm,19.0s									
WRH	**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**2.00**	**140**	P	**Pn**	**14 54 56.2**	**+0.6**
KOUNC	**Koumac, New Ca**	**6.76**	**193**	P	Pn	14 56 09.0	+7.8
DZM	**Mont Dzumac**	**8.13**	**176**	Pn	**Pn**	**14 56 20.5**	**+0.5**
	1.4nm,0.3s,baz=17,slow=7.3,SNR=16						
DZM				Sn	**Sn**	**14 57 48.7**	**-2.0**
	0.8nm,0.3s,baz=344,slow=22,SNR=1.8						
DZM	**Mont Dzumac**	**8.13**	**176**	P	**Pn**	**14 56 22.1**	**+2.1**
NOUC	**Port Laguerre**	**8.15**	**177**	P	Pn	**14 56 23.3**	**+3.1**
YATNC	**Mamie plateau,**	**8.15**	**173**	P	**Pn**	**14 56 21.2**	**+0.9**
STKA	**Stephens Creek**	**28.51**	**227**	P	**P**	**15 00 15.7**	**-1.0**
	2.4nm,0.4s,baz=63,slow=9.0,SNR=14						
WRA	**Warramunga Arr**	**30.72**	**254**	P	**P**	**15 00 36.1**	**-0.2**
	baz=86,slow=9.1						
ASAR	**Alice Springs**	**31.71**	**247**	P	**P**	**15 00 45.1**	**+0.1**
	0.7nm,0.4s,baz=77,slow=9.5,SNR=34						

IDC 05 14:56:21.7±3.6, 30.80N×140.71E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/51, mbtmp3.5/5, ML2.5/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/45, Error ellipse: s-maj=142.8km s-min=23.6km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.09**	**341**	Pn	Pn	14 57 52.3	-0.8
	0.1nm,0.3s,baz=159,slow=12,SNR=6.8						
MJAR				LR	LR	15 00 22.1	
	comp=Z,21nm,18.9s,baz=275,slow=40						
GUMO	**Guam**	**17.55**	**166**	LR	LR	15 05 24.8	
	comp=Z,28nm,21.3s,baz=288,slow=31						
SONM	**Songino Array**	**31.20**	**313**	P	P	15 02 44.3	+1.6
	0.3nm,0.3s,baz=94,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**47.17**	**307**	P	P	15 04 54.5	-1.4
	0.1nm,0.4s,baz=98,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**50.82**	**188**	P	P	15 05 24.0	-0.1
	0.4nm,0.4s,baz=5.2,slow=7.6,SNR=2.1						
ASAR	**Alice Springs**	**54.55**	**188**	P	P	15 05 51.5	-0.1
	0.3nm,0.5s,baz=0.8,slow=5.0,SNR=11						
AKTO	**Aktyubinsk**	**52.30**	**314**	LR	LR	15 35 20.4	
	comp=Z,62nm,21.9s,baz=239,slow=37						

*NEIC **05** 15:11:08.8±2.1, 47.0°N±0.1°×152.76°E±0.08, h68km±8km, mb4.6/15, Error ellipse: s-maj=18.1km s-min=8.0km az=175.0*

*IDC **05** 15:11:10.4±2.3, 47.11N×152.88E, h79km±20km, mb3.7/18, mb1 3.9/25, mb1mx3.7/66, mbtmp4.0/25, MS2.8/3, Ms1 2.8/3, ms1mx2.6/40, Error ellipse: s-maj=19.5km s-min=12.0km az=150.0*

ISC 05 15:11:07.3±0.6, 46.96N±0.09×152.87E±0.08, h56km, n76, σ1°25/66, mb4.3/35, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEA0B	**Petropavlovsk-**	**6.89**	**25**	Pn	**Pn**	**15 12 46.2**	**+0.6**
PETK	**Petropavlovsk-**	**6.89**	**25**	P	**Pn**	**15 12 45.8**	**+0.2**
	0.7nm,0.3s,baz=176,slow=12,SNR=19						
PETK				LR	LR	15 14 49.0	
	comp=Z,29nm,20.6s,baz=211,slow=32						
PETK	**Petropavlovsk-**	**6.89**	**25**	Pn	**Pn**	**15 12 46.4**	**+0.8**
YSS	**Yuzh-Sakhalins**	**6.92**	**274**	Pn	**Pn**	**15 12 49.9**	**+3.9**
JKA	**Kamikawa-asahi**	**7.75**	**252**	Pn	**Pn**	**15 13 00.0**	**+2.6**
ASAJ	**Asahikawa**	**7.75**	**252**	P	**Pn**	**15 13 00.7**	**+3.3**
	1.1nm,0.3s,baz=48,slow=12,SNR=13						
ASAJ				LR	LR	15 15 39.8	
	comp=Z,80nm,20.7s,baz=356,slow=34						
ERM	**Erimo**	**8.52**	**238**	Pn	**Pn**	**15 13 09.8**	**+1.9**
JTM	**Tenmabayashi**	**10.52**	**238**	Pn	**Pn**	**15 13 33.5**	**-1.6**
MA2	**Magadan**	**12.70**	**355**	P	**Pn**	**15 14 05.3**	**+0.5**
	1.4nm,0.3s,baz=162,slow=10,SNR=12						
KLR	**Kul'dur**	**14.29**	**287**	P	**P**	**15 14 29.4**	**-2.7**
	0.1nm,0.3s,baz=101,slow=18,SNR=2.4						
USA0B	**Ussuriysk Arra**	**14.88**	**267**		**P**	**15 14 36.6**	**-2.0**
USRK	**Ussuriysk Ar.**	**14.88**	**267**	P	**P**	**15 14 37.0**	**-1.7**
	baz=70,slow=12,SNR=12						
USRK	**Ussuriysk Ar.**	**14.88**	**267**	Pn	**Pn**	**15 14 35.6**	**+1.6**
MJAR	**Matsushiro Arr**	**15.08**	**232**	P	**P**	**15 14 41.8**	**+0.9**
	0.1nm,0.3s,baz=37,slow=9.0,SNR=8.8						
SEY	**Seymchan**	**16.01**	**359**	P	**P**	**15 14 50.4**	**-0.6**
	0.2nm,0.3s,baz=188,slow=16,SNR=5.1						
KSRS	**Korea Array**	**20.70**	**252**	P	Pn	15 15 45.5	0.0
	1.9nm,0.5s,baz=55,slow=11,SNR=11						
TIXI	**Tiksi**	**27.21**	**344**	P	**P**	**15 16 44.4**	**-0.9**
	0.9nm,0.3s,baz=177,slow=3.1,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**29.49**	**152**	T	T	15 48 12.5	
	baz=340,slow=76,SNR=510						
H11N1	**WAKE ISLAND Hy**	**29.50**	**152**	T	T	15 48 33.6	
	baz=340,slow=76,SNR=284						
H11N3	**WAKE ISLAND Hy**	**29.50**	**152**	T	T	15 48 33.7	
	baz=340,slow=76,SNR=284						
H11S1	**WAKE ISLAND Hy**	**30.57**	**154**	T	T	15 49 44.0	
	baz=341,slow=76,SNR=175						
H11S3	**WAKE ISLAND Hy**	**30.58**	**154**	T	T	15 49 36.0	
	baz=341,slow=76,SNR=315						
H11S2	**WAKE ISLAND Hy**	**30.59**	**154**	T	T	15 49 34.6	
	baz=341,slow=76,SNR=258						
KDAK	**Kodiak Island**	**34.51**		LR	LR	15 32 04.1	
	comp=Z,33nm,18.3s,baz=340,slow=37						
COLD	**Coldfoot**	**35.25**	**34**	P	**P**	**15 17 56.6**	**+0.7**
COLD				IAmb	IAmb	15 17 58.2	
	comp=Z,5.9nm,1.3s						
ILAR	**Eielson Array**	**36.49**	**39**	P	**P**	**15 18 06.3**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=268,slow=8.2,SNR=9.0						
BMAR	**Burnt Mountain**	**37.44**	**34**	P	**P**	**15 18 15.0**	**+0.4**
K27K	**Chicken**	**38.61**	**40**	P	**P**	**15 18 23.9**	**-0.6**
L27K	**Beaver Creek,**	**38.83**	**41**	P	**P**	**15 18 26.3**	**-0.1**
L27K				IAmb	IAmb	15 19 39.8	
	comp=Z,17nm,1.9s						
BCAR	**Beaver Creek A**	**38.85**	**41**	P	**P**	**15 18 27.6**	**+1.0**
EGAK	**Eagle**	**38.94**	**39**	P	**P**	**15 18 26.5**	**-0.7**
EGAK				IAmb	IAmb	15 19 48.6	
	comp=Z,20nm,1.9s						
INK	**Inuvik**	**41.56**	**33**	P	**P**	**15 18 48.9**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=294,slow=7.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.35**	**306**	PcP	**PcP**	**15 20 47.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=91,slow=5.9,SNR=3.6						
JIS	**Juneau Island**	**43.45**	**47**	P	**P**	**15 19 02.6**	**-1.7**
C36M	**Paulatuk**	**44.72**	**30**	P	**P**	**15 19 14.6**	**+0.3**
C36M				IAmb	IAmb	15 20 32.4	
	comp=Z,19nm,1.5s						
MK31	**Makanchi Array**	**46.69**	**297**	P	**P**	**15 19 28.0**	**-2.2**
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**15 19 29.8**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=70,slow=6.4,SNR=5.7						
MKAR				PcP	**PcP**	**15 21 01.9**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=64,slow=3.6,SNR=4.0						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**15 19 27.9**	**-2.3**
KURBB	**Kurchatov Arra**	**47.20**	**303**	P	**P**	**15 19 33.9**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=68,slow=8.4,SNR=8.1						
YKA	**Yellowknife Ar**	**50.85**	**37**	P	**P**	**15 20 02.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=295,slow=7.2,SNR=6.1						
CMAR	**Chiang Mai Arr**	**52.26**	**256**	P	**P**	**15 20 14.6**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=36,slow=7.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**52.26**	**256**	P	**P**	**15 20 12.2**	**-0.7**
NEEM	**North Greenlan**	**54.97**	**6**	*i* P	**P**	**15 20 31.5**	**-0.9**
NEEM				IAmb	IAmb	15 20 32.1	
	comp=Z,9.3nm,0.7s						
PINE	**Pine Mountain**	**57.63**	**59**	P	**P**	**15 20 52.8**	**+1.1**
SUMG	**Summit**	**60.50**	**4**	*i* P	**P**	**15 21 11.5**	**+0.2**
SUMG				IAmb	IAmb	15 21 12.6	
	comp=Z,12nm,0.9s						
SUMG	**Summit**	**60.50**	**4**	P	**P**	**15 21 10.9**	**-0.4**
SUMG				IAmb	IAmb	15 21 12.8	
	comp=Z,12nm,0.9s						
NVAR	**Mina Array Bea**	**62.48**	**62**	P	**P**	**15 21 25.7**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=289,slow=7.3,SNR=7.2						
FINES	**FINESS Array B**	**63.77**	**335**	P	**P**	**15 21 32.6**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=37,slow=8.2,SNR=14						
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**15 21 39.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=272,slow=4.2,SNR=6.2						
GEYT	**Allbeck**	**66.35**	**301**	P	**P**	**15 21 48.3**	**-1.7**
NOA	**NORSAR Array B**	**67.97**	**341**	P	**P**	**15 21 59.8**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=27,slow=6.3,SNR=12						
KBZ	**Khabaz**	**70.59**	**314**	P	**P**	**15 22 16.7**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=187,slow=4.6,SNR=3.7						
AKASG	**Malin Array Be**	**71.28**	**326**	P	**P**	**15 22 19.8**	**-0.5**
	comp=Z,4.2nm,0.4s,baz=36,slow=6.3,SNR=23						
AKASG				LR	LR	15 56 19.0	
	comp=Z,400nm,19.6s,baz=145,slow=38						
AKBB	**Malin Array Si**	**71.28**	**326**	P	**P**	**15 22 19.7**	**-0.6**
AKBB				IAmb	IAmb	15 22 20.4	
	comp=Z,4.7nm,0.6s						
ASAR	**Alice Springs**	**72.36**	**198**	P	**P**	**15 22 27.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=11,slow=6.2,SNR=6.7						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUR08	**Bucovina Ar. S**	**75.30**	**326**	P	**P**	**15 22 44.0**	**-0.2**
BUR08				IAmb	IAmb	15 22 45.1	
	comp=Z,4.9nm,0.6s						
BURAR	**Bucovina Array**	**75.32**	**326**	P	**P**	**15 22 44.2**	**-0.1**
BURAR				IAmb	IAmb	15 22 45.4	
	comp=Z,4.3nm,0.7s						
CLL	**Collm**	**76.20**	**335**	*i* P	**P**	**15 22 49.0**	**-0.2**
	comp=Z,10.0nm,1.3s						
TX31	**Lajitas Ar. Si**	**77.53**	**60**	P	**P**	**15 22 57.0**	**-0.2**
TX31				IAmb	IAmb	15 22 58.0	
	comp=Z,6.1nm,0.7s						
TX32	**Lajitas Array**	**77.53**	**60**	P	**P**	**15 22 56.9**	**-0.3**
TXAR	**Lajitas Array**	**77.53**	**60**	P	**P**	**15 22 57.2**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=300,slow=4.6,SNR=17						
TXAR	**Lajitas Array**	**77.53**	**60**	P	**P**	**15 22 57.1**	**-0.1**
BRTR	**Keskin Array B**	**78.12**	**317**	P	**P**	**15 23 01.3**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=44,slow=3.8,SNR=5.1						
GERES	**GERESS Array B**	**78.19**	**334**	P	**P**	**15 23 00.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=42,slow=6.2,SNR=5.2						
CONA	**Conrad Observa**	**78.33**	**332**	*e*P	**P**	**15 23 01.9**	**+0.6**
	comp=Z,2.5nm,0.7s						
KBA	**Koelnbreinsper**	**79.87**	**333**	*i* P	**P**	**15 23 10.3**	**+0.5**
	comp=Z,4.8nm,0.6s						
OBKA	**Obir**	**80.00**	**332**	*e*P	**P**	**15 23 12.6**	**+2.1**
	comp=Z,2.8nm,0.6s						
WTTA	**Wattenberg**	**80.22**	**334**	*e*P	**P**	**15 23 12.6**	**+0.8**
	comp=Z,4.0nm,0.5s						
MOTA	**Moosalm**	**80.31**	**335**	*i* P	**P**	**15 23 13.0**	**+0.9**
	comp=Z,5.0nm,1.1s						
ABTA	**Abfaltersbach**	**80.42**	**334**	*i* P	**P**	**15 23 14.1**	**+1.4**
	comp=Z,2.4nm,0.9s						
FETA	**Feichten**	**80.71**	**335**	*i* P	**P**	**15 23 15.4**	**+1.0**
	comp=Z,4.3nm,1.2s						
QSPA	**South Pole Qui**	**136.70**	**180**	PKP	**PKPdf**	**15 30 21.8**	**-0.1**
	comp=Z,1.0nm,1.1s,baz=280,slow=2.1,SNR=5.9						
QSPA	**South Pole Qui**	**136.70**	**180**		**PKPdf**	**15 30 23.1**	**+1.2**
H03N2	**Juan Fernandez**	**138.92**	**90**	T	T	18 05 25.8	
	baz=308,slow=77,SNR=14						
H03N1	**Juan Fernandez**	**138.93**	**90**	T	T	18 05 28.4	
	baz=308,slow=77,SNR=17						
H03N3	**Juan Fernandez**	**138.93**	**90**	T	T	18 05 34.4	
	baz=308,slow=77,SNR=18						

*IDC **05** 15:13:32.5±0.8, 6.05N×116.69E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.7/61, mbtmp3.9/13, ML4.7/1, Error ellipse: s-maj=45.1km s-min=15.7km az=64.0*

*NEIC **05** 15:13:35.6±2.8, 6.14N±0.08×116.7E±0.1, h18km±3km, mb4.4/12, Error ellipse: s-maj=17.9km s-min=10.3km az=66.0*

*DJA **05** 15:13:36.4±3.4, 6°N±6°×117°E±°, h12km±27km, M4.6/7, mB5.0/5, mb4.5/7, MLv4.8/2, Mw(mB)4.3/5*

ISC 05 15:13:35.1±0.5, 6.22N±0.06×116.87E±0.08, h10km, n61, σ2°40/55, mb4.0/25, Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**6.40**	**142**		**Pn**	**15 15 11.0**	**+1.5**
BKB	**Balikpapan**	**7.43**	**180**	Pn	Pn	15 15 17.4	-6.2
MRSI	**Marisa**	**7.62**	**138**	P	**Pn**	**15 15 30.7**	**+4.4**
	0.3nm1µm73nm,0.8s						
STKI	**Sintang**	**8.14**	**222**	P	**Pn**	**15 15 33.5**	**0.0**
GTOI	**Gorontalo**	**8.26**	**132**	P	**Pn**	**15 15 36.4**	**+1.3**
	309nm41nm,0.8s						
APSI	**Ampana**	**8.54**	**146**	P	**Pn**	**15 15 43.1**	**+4.3**
	32nm,0.9s						
TTSI	**Tana Toraja**	**9.66**	**162**	P	**Pn**	**15 15 58.2**	**+3.9**
	998nm125nm,0.8s						
DLV	**T Lat**	**10.05**	**305**	Pn	**Pn**	**15 15 58.9**	**-0.8**
SPSI	**Sidrap Palu**	**10.52**	**164**	P	Pn	15 16 11.3	+5.3
BNSI	**Bone**	**11.03**	**163**	P	Pn	15 16 18.8	+5.8
UBPT	**Khong Chiam**	**14.37**	**310**	P	**Pn**	**15 17 01.0**	**+2.2**
	6.2nm,1.6s						
UBPT	**Khong Chiam**	**14.37**	**310**	P	**Pn**	**15 16 58.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**14.84**	**191**	P	**Pn**	**15 17 07.3**	**+2.2**
TWSI	**Taliwang, Sumb**	**14.86**	**180**	P	**P**	**15 17 10.2**	**-1.0**
PLAI	**Plampang**	**14.97**	**177**	P	**P**	**15 17 12.5**	**0.0**
UGM	**Wanagama**	**15.40**	**204**	P	**Pn**	**15 17 14.3**	**+1.7**
MDSI	**Maura Dua**	**16.54**	**230**	P	**Pn**	**15 17 27.6**	**+0.2**
BKNI	**Bangkinang**	**16.85**	**250**	Pn	**Pn**	**15 17 28.1**	**-3.2**
CHAI	**Chaiyaphum**	**17.48**	**305**	P	**P**	**15 17 46.1**	**+5.7**
	2.8nm,0.8s						
YULB	**Yu-li**	**17.60**	**14**	Pn	**Pn**	**15 17 39.6**	**-1.0**
BATI	**Baumata**	**17.66**	**157**	P	**Pn**	**15 17 40.9**	**-0.6**
	2.6nm,0.3s,baz=307,slow=5.1,SNR=2.2						
MNSI	**Mandailing Nat**	**18.07**	**253**	P	**Pn**	**15 17 45.4**	**-1.2**
GSI	**Gunungsitoli**	**19.86**	**257**	P	**P**	**15 18 03.8**	**-2.8**
GSI				IAmb	IAmb	15 18 04.9	
	comp=Z,27nm,0.6s						
GSI	**Gunungsitoli**	**19.86**	**257**	P	**P**	**15 18 04.9**	**-1.7**
	comp=Z,38nm,0.6s						
SRPI	**Serui, Papua**	**20.94**	**112**	P	**P**	**15 18 20.3**	**+2.0**
CM04	**Chiang Mai Arr**	**21.24**	**306**	P	**P**	**15 18 25.8**	**+4.3**
	comp=Z,44nmcomp=Z,4.9nm,0.9s						
CM09	**Chiang Mai Arr**	**21.25**	**306**	P	**P**	**15 18 26.0**	**+4.3**
	comp=Z,61nmcomp=Z,8.6nm,0.9s						
CM01	**Chiang Mai Arr**	**21.27**	**306**	P	**P**	**15 18 25.0**	**+3.2**
	comp=Z,54nmcomp=Z,5.8nm,1.2s						
CM05	**Chiang Mai Arr**	**21.27**	**306**	P	**P**	**15 18 25.0**	**+3.2**
	comp=Z,48nmcomp=Z,5.8nm,1.0s						
CM02	**Chiang Mai Arr**	**21.28**	**306**	P	**P**	**15 18 26.1**	**+4.1**
	comp=Z,100nmcomp=Z,6.3nm,0.9s						
CM31	**Chiang Mai Arr**	**21.30**	**306**	P	P	15 18 29.4	+7.2
	comp=Z,96nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.30**	**306**	P	**P**	**15 18 21.4**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=131,slow=8.5,SNR=25						
CMAR	**Chiang Mai Arr**	**21.30**	**306**	P	**P**	**15 18 20.1**	**-2.1**
CM13	**Chiang Mai Arr**	**21.31**	**306**	P	**P**	**15 18 26.0**	**+3.7**
	comp=Z,42nmcomp=Z,6.2nm,0.9s						
CM15	**Chiang Mai Arr**	**21.31**	**306**	P	**P**	**15 18 26.2**	**+4.0**
	comp=Z,5.5nm,1.0s						
CMMT	**Chiang Mai**	**21.49**	**307**	P	**P**	**15 18 26.6**	**+2.4**
	comp=Z,2.9nm,1.0s						
CHTO	**Chiang Mai**	**21.49**	**307**	P	**P**	**15 18 22.6**	**-1.6**
MHMT	**Maesarieng**	**21.97**	**304**	P	P	15 18 37.0	+7.6
SSE	**Sheshan**	**25.08**	**9**	P	**P**	**15 18 58.1**	**-1.8**
SSE				S	**S**	**15 23 27.0**	**+2.6**
SSE				pmax	pmax		
	comp=Z,20nm,0.7s						
SSE				pmax	pmax		
	comp=Z,63nm,5.8s						
SSE				L	L		
	comp=Z,290nm,20.4s						
SSE				L	L		
	comp=Z,290nm,18.3s						
FITZ	**Fitzroy Crossi**	**25.66**	**160**	P	**P**	**15 19 02.8**	**-2.5**
	comp=Z,2.5nm,1.1s,baz=344,slow=18,SNR=1.3						
FITZ	**Fitzroy Crossi**	**25.66**	**160**	P	**P**	**15 19 02.5**	**-2.8**
FITZ				IAmb	IAmb	15 19 11.1	
	comp=Z,7.1nm,1.2s						
PSA00	**Pilbara Seismi**	**27.77**	**174**	P	**P**	**15 19 22.0**	**-2.3**
PSA00				IAmb	IAmb	15 19 28.9	
	comp=Z,4.1nm,0.7s						
PSA00	**Pilbara Seismi**	**27.77**	**174**	P	**P**	**15 19 21.6**	**-2.7**
PSA00				IAmb	IAmb	15 19 28.9	
	comp=Z,9.6nm,0.7s						
AS31	**Alice Springs**	**34.04**	**151**	P	**P**	**15 20 18.9**	**-0.7**
ASAR	**Alice Springs**	**34.04**	**151**	P	**P**	**15 20 18.1**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=334,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**34.04**	**151**	P	**P**	**15 20 19.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**38.93**	**180**	P	P	15 20 57.0	-4.2
NWAO				IAmb	IAmb	15 21 09.2	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**42.43**	**350**	P	**P**	**15 21 30.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=152,slow=6.5,SNR=2.1						
BBOO	**Buckleboo**	**42.88**	**156**	P	**P**	**15 21 33.2**	**-0.7**
BBOO				IAmb	IAmb	15 21 48.7	
	comp=Z,4.3nm,0.9s						
STKA	**Stephens Creek**	**44.62**	**150**	P	**P**	**15 21 46.2**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=314,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**50.17**	**329**	P	**P**	**15 22 30.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=131,slow=7.9,SNR=3.4						
MKAR				PcP	**PcP**	**15 23 48.9**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=116,slow=3.4,SNR=1.6						
MKAR	**Makanchi Array**	**50.17**	**329**	P	**P**	**15 22 30.2**	**-0.7**
ZALV	**Zalesovo Beam**	**54.21**	**337**	P	**P**	**15 23 00.0**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=138,slow=9.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**54.58**	**331**	P	**P**	**15 23 02.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=131,slow=7.3,SNR=5.4						
KURK	**Kurchatov**	**54.59**	**331**	P	**P**	**15 23 02.8**	**-0.9**
PETK	**Petropavlovsk-**	**57.36**	**28**	P	**P**	**15 23 25.3**	**+1.8**
	comp=Z,3.2nm,0.9s,baz=244,slow=15,SNR=2.5						
TIXI	**Tiksi**	**65.79**	**4**	P	**P**	**15 24 19.2**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=144,slow=3.3,SNR=6.4						
TIXI	**Tiksi**	**65.79**	**4**	P	**P**	**15 24 19.4**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**83.75**	**320**	P	**P**	**15 26 04.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=86,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**84.97**	**331**	P	P	15 26 08.3	-2.1
	comp=Z,1.3nm,0.7s,baz=92,slow=3.3,SNR=4.3						
FINES	**FINESS Array B**	**84.97**	**331**	P	P	15 26 07.7	-2.8

*NEIC **05** 15:15:35.2±1.8, 20.6S±0.1°×169.9E±0.1°, h116km±9km, mb4.1/11, Error ellipse: s-maj=19.7km s-min=12.8km az=122.0*

*IDC **05** 15:15:36.0±3.7, 20.65S×169.75E, h125km±27km, mb3.7/6, mb1 3.9/7, mb1mx3.5/35, mbtmp4.1/7, MS3.5/1, Ms1 3.5/1, ms1mx3.0/20, Error ellipse: s-maj=35.0km s-min=27.7km az=4.0*

*NOU **05** 15:16:19.8, 22.11S×166.87E, h16km, MLv2.6, New Caledonia*

ISC 05 15:15:33.1±1.0, 20.58S±0.10×169.9E±0.1, h100km, n33, σ2°09/34, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**3.05**	**228**		**Pn**	**15 16 21.8**	**+2.3**
YATNC	**Mamie plateau,**	**3.17**	**242**	P	**Pn**	**15 16 23.6**	**+2.5**
OUENC	**Ouen Island, N**	**3.38**	**237**		**Pn**	**15 16 27.0**	**+3.0**
OUENC	**Ouen Island, N**	**3.38**	**237**	P	**Pn**	**15 16 27.5**	**+3.5**
DZM	**Mont Dzumac**	**3.54**	**245**	*e*Pn	**Pn**	**15 16 28.5**	**+2.2**
	39nm,0.2s						
DZM				*e*Sn	**Sn**	**15 17 03.5**	**-3.9**
	292nm,0.2s						
DZM	**Mont Dzumac**	**3.54**	**245**	P	**Pn**	**15 16 28.4**	**+2.2**
	8.5nm,0.3s,baz=104,slow=10,SNR=433						
DZM				S	**Sn**	**15 17 07.8**	**+0.4**
	88nm,0.3s,baz=303,slow=21,SNR=23						
DZM	**Mont Dzumac**	**3.54**	**245**		**Pn**	**15 16 28.1**	**+1.8**
DZM	**Mont Dzumac**	**3.54**	**245**	P	**Pn**	**15 16 28.9**	**+2.6**
ONTNC	**Ouen Toro**	**3.64**	**241**		**Pn**	**15 16 29.7**	**+2.3**
ONTNC	**Ouen Toro**	**3.64**	**241**	P	**Pn**	**15 16 29.7**	**+2.3**
NOUC	**Port Laguerre**	**3.68**	**245**	P	**Pn**	**15 16 31.0**	**+3.1**
SANVU	**Saraoutou**	**5.71**	**333**	Pn	**Pn**	**15 16 57.8**	**+2.2**
EIDS	**Eidsvold**	**17.96**	**251**	Pn	**P**	**15 19 38.0**	**+2.3**
EIDS				IAmb	IAmb	15 19 38.9	
	comp=Z,9.4nm,1.1s						
AFI	**Afiamalu**	**18.71**	**72**	LR	LR	15 26 24.7	
	comp=Z,157nm,20.1s,baz=96,slow=34						
ARMA	**Armidale**	**19.16**	**236**	Pn	**P**	**15 19 51.5**	**+2.7**
ARMA				IAmb	IAmb	15 19 52.7	
	comp=Z,6.5nm,0.7s						
CTA	**Charters Tower**	**22.17**	**267**	P	**P**	**15 20 20.9**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=91,slow=12,SNR=5.8						
CAN	**Canberra**	**23.52**	**227**	P	**P**	**15 20 30.1**	**-4.2**
CAN				IAmb	IAmb	15 20 35.3	
	comp=Z,4.8nm,0.9s						
STKA	**Stephens Creek**	**27.69**	**240**	P	**P**	**15 21 11.7**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=96,slow=13,SNR=6.8						
STKA	**Stephens Creek**	**27.69**	**240**	P	**P**	**15 21 12.7**	**+0.8**
BBOO	**Buckleboo**	**32.45**	**241**	P	**P**	**15 21 54.0**	**0.0**
BBOO				IAmb	IAmb	15 22 11.4	
	comp=Z,9.3nm

AFI	**Afiamalu**	**9.93**	**38**	P		**P**	**16 08 12.0**	**+0.3**
PINNC	**Pines Island,**	**13.43**	**264**	P		**P**	**16 08 49.0**	**-1.2**
DZM	**Mont Dzumac**	**14.37**	**266**	P		**P**	**16 09 01.5**	**+0.8**
	0.5nm,0.3s,baz=82,slow=19,SNR=6.1							
DZM	**Mont Dzumac**	**14.37**	**266**	P		**P**	**16 09 01.7**	**+1.1**
WMGZ	**Waiomatatini S**	**16.18**	**190**	P		**Pn**	**16 09 23.0**	**-0.5**
HAZ	**Te Kaha**	**16.23**	**192**	P		**P**	**16 09 22.0**	**+1.6**
PKGZ	**Pakihiroa**	**16.30**	**191**	P		**Pn**	**16 09 23.3**	**-1.7**
PUZ	**Puketiti**	**16.45**	**190**	P		**P**	**16 09 24.7**	**+1.7**
RUGZ	**Raukumara Rang**	**16.45**	**192**	P		**P**	**16 09 24.6**	**+1.6**
MWZ	**Matawai**	**16.84**	**192**	P		**P**	**16 09 28.3**	**+1.2**
URZ	**Urewera**	**16.85**	**193**	P		**P**	**16 09 25.9**	**-1.2**
	2.9nm,0.3s,baz=120,slow=24,SNR=11							
URZ				S		**S**	**16 12 22.4**	**-1.6**
	0.6nm,0.3s,baz=122,slow=23,SNR=1.8							
URZ	**Urewera**	**16.85**	**193**	P		**P**	**16 09 28.1**	**+0.9**
URZ	**Urewera**	**16.85**	**193**	P		**P**	**16 09 28.0**	**+0.9**
TKGZ	**Te Karaka**	**16.88**	**191**	P		**Pn**	**16 09 30.1**	**-1.4**
RAGZ	**Rawiri**	**17.02**	**192**	P		**P**	**16 09 30.7**	**+1.7**
MUGZ	**Murupara**	**17.13**	**194**	P		**Pn**	**16 09 32.6**	**-1.4**
RTZ	**Ruatahuna**	**17.22**	**193**	P		**Pn**	**16 09 33.5**	**-1.7**
MTHZ	**Maungataniwha**	**17.48**	**193**	P		**Pn**	**16 09 36.2**	**-1.9**
RAHZ	**Arahi**	**17.49**	**193**	P		**Pn**	**16 09 37.0**	**-1.2**
NMHZ	**Naumai**	**17.72**	**193**	P		**Pn**	**16 09 39.5**	**-1.4**
BKZ	**Black Stump Fm**	**17.85**	**194**	P		**P**	**16 09 39.5**	**+1.5**
BKZ				IAmb	IAmb		16 09 54.1	
	comp=Z,6.3nm,0.9s							
CAN	**Canberra**	**31.70**	**238**	P		**P**	**16 11 42.1**	**-2.3**
CAN				IAmb	IAmb		16 11 50.7	
	comp=Z,7.7nm,1.1s							
CTAO	**Charters Tower**	**33.31**	**266**	P		**P**	**16 11 57.7**	**-0.7**
CTAO				IAmb	IAmb		16 11 59.8	
	comp=Z,5.0nm,0.9s							
STKA	**Stephens Creek**	**37.15**	**246**	P		**P**	**16 12 30.8**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=86,slow=11,SNR=7.1							
STKA	**Stephens Creek**	**37.15**	**246**	P		**P**	**16 12 30.1**	**-0.5**
BBOO	**Buckleboo**	**41.89**	**245**	P		**P**	**16 13 08.9**	**-0.4**
BBOO				IAmb	IAmb		16 13 10.2	
	comp=Z,6.9nm,0.9s							
AS31	**Alice Springs**	**44.15**	**258**	P		**P**	**16 13 27.4**	**+0.1**
ASAR	**Alice Springs**	**44.15**	**258**	P		**P**	**16 13 27.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=90,slow=6.6,SNR=29							
ASAR				ScP		**ScP**	**16 18 21.6**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=112,slow=4.9,SNR=4.0							
ASAR	**Alice Springs**	**44.15**	**258**	P		**P**	**16 13 26.5**	**-0.9**
FORT	**Forrest**	**48.70**	**248**	P		**P**	**16 14 00.7**	**-1.4**
KNRA	**Kununurra**	**50.51**	**267**	P		**P**	**16 14 14.1**	**-1.8**
KNRA				IAmb	IAmb		16 14 21.0	
	comp=Z,14nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.79**	**263**	P		**P**	**16 14 29.9**	**-2.6**
VNDA	**Vanda**	**56.54**	**185**	P		**P**	**16 15 00.3**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=53,slow=10,SNR=3.7							
VNDA	**Vanda**	**56.54**	**185**	P		**P**	**16 14 58.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**57.70**	**244**	P		**P**	**16 15 07.6**	**+0.7**
CASY	**Casey**	**62.70**	**206**	P		**P**	**16 15 39.8**	**-0.1**
QSPA	**South Pole Qui**	**68.20**	**180**	P		**P**	**16 16 15.9**	**+1.0**
QSPA				IAmb	IAmb		16 16 18.4	
	comp=Z,3.9nm,0.8s							
SNAA	**Sanae**	**86.64**	**178**	P		**P**	**16 17 56.1**	**+0.3**
VNA3	**Neumayer Olymp**	**86.78**	**176**	P		**P**	**16 17 57.0**	**+0.7**
VNA2	**Neumayer--Watz**	**87.22**	**177**	P		**P**	**16 17 59.3**	**+0.8**
	baz=181,slow=3.6							
ILAR	**Eielson Array**	**89.66**	**13**	P		**P**	**16 18 11.1**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=225,slow=6.2,SNR=5.8							
ARCES	**ARCESS Array B**	**130.25**	**349**	PKP		**PKiKP**	**16 24 20.2**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=82,slow=2.6,SNR=5.0							
AKASG	**Malin Array Be**	**144.17**	**330**	PKP		PKPbc	16 24 44.9	+0.3
	comp=Z,1.0nm,0.3s,baz=44,slow=4.3,SNR=7.2							
BRTR	**Keskin Array B**	**147.69**	**311**	PKPbc		**PKiKP**	**16 24 56.4**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=107,slow=2.2,SNR=2.5							
BRTR	**Keskin Array B**	**147.69**	**311**			**PKiKP**	**16 24 56.8**	**-0.2**
GERES	**GERESS Array B**	**151.50**	**344**	PKPbc		**PKiKP**	**16 25 06.3**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=294,slow=1.3,SNR=3.0							

*NEIC **05** 16:38:05.3±2.7, 9.32S±0.06×111.50E±0.03, h56km±7km, mb4.9/39, Error ellipse: s-maj=9.4km s-min=3.2km az=161.0*

*DJA **05** 16:38:05.9±0.3, 9.3S×3.1×11.2E±.1°, h10km, M5.1/19, mb5.2/16, mB5.7/6, MLv5.0/19, Mw(mB)5.2/6*

*IDC **05** 16:38:08.0±2.4, 8.93S×111.60E, h62km±22km, mb4.2/18, mb1 4.3/21, mb1mx4.2/32, mbtmp4.5/21, ML4.2/3, MS3.6/5, Ms1 3.6/5, ms1mx3.2/32, Error ellipse: s-maj=20.5km s-min=12.5km az=39.0*

ISC 05 16:38:05.0±0.4, 9.28S±0.06×111.51E±0.05, h50km, n151, σ1s92/151, mb4.8/60, MS3.9/6, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.28**	**13**	P		**Pn**	**16 38 28.1**	**+1.6**
PWJI				S		**Sn**	**16 38 44.2**	**+1.6**
UGM	**Wanagama**	**1.67**	**324**			**Pn**	**16 38 33.4**	**+1.6**
UGM				Sn		**Sn**	**16 38 54.6**	**+2.5**
UGM	**Wanagama**	**1.67**	**324**	P		**Pn**	**16 38 34.0**	**+2.2**
SMRI	**Semarang**	**2.45**	**334**			**Pn**	**16 38 45.6**	**+3.0**
SMRI	**Semarang**	**2.45**	**334**	P		**Pn**	**16 38 46.0**	**+3.4**
TBJI	**Tambak Boyo**	**2.46**	**8**	P		**Pn**	**16 38 45.9**	**+3.2**
JAGI	**Jajag, Banyuwa**	**2.73**	**73**	Pn		**Pn**	**16 38 49.1**	**+2.7**
JAGI	**Jajag, Banyuwa**	**2.73**	**73**	P		**Pn**	**16 38 49.5**	**+3.1**
ABJI	**Asem Bagus**	**3.07**	**62**	P		**Pn**	**16 38 55.2**	**+4.2**
KPJI	**Karang Pucung**	**3.20**	**307**	P		**Pn**	**16 38 55.8**	**+3.0**
KMMI	**Kalianget**	**3.29**	**48**	P		**Pn**	**16 38 56.9**	**+2.9**
DNP	**Denpasar**	**3.71**	**81**	P		**Pn**	**16 39 02.8**	**+3.1**
SRBI	**Singaraja**	**3.85**	**72**	P		**Pn**	**16 39 04.8**	**+3.1**
CISI	**Cisompet, Garu**	**4.03**	**295**			**Pn**	**16 39 06.0**	**+1.7**
CISI	**Cisompet, Garu**	**4.03**	**295**	P		**Pn**	**16 39 05.9**	**+1.6**
LEM	**Lembang**	**4.56**	**302**	P		**Pn**	**16 39 14.6**	**+3.0**
	20nm,0.3s,baz=39,slow=9.6,SNR=12							
LEM				S		**Sn**	**16 40 07.0**	**+3.7**
	33nm,0.3s,baz=359,slow=22,SNR=6.6							
LEM				LR		LR	16 41 16.7	
	comp=Z,473nm,18.6s,baz=122,slow=42							
TWSI	**Taliwang, Sumb**	**5.34**	**85**	P		**Pn**	**16 39 25.3**	**+3.2**
	1.0nm6µm132nm,0.5s							
DBJI	**Dramaga**	**5.43**	**300**	P		**Pn**	**16 39 26.7**	**+3.2**
	0.4nm4µm63nm,0.7s							
XMI	**Christmas Isla**	**5.85**	**258**	P		**Pn**	**16 39 30.4**	**+1.2**
	439nm,0.6s							
XMIS	**Christmas Isla**	**5.89**	**258**			**Pn**	**16 39 30.0**	**+0.1**
XMIS	**Christmas Isla**	**5.89**	**258**	P		**Pn**	**16 39 29.9**	**+0.1**
	273nm,0.7s							
PLAI	**Plampang**	**6.21**	**86**	P		**Pn**	**16 39 37.6**	**+3.5**
	1.7nm8µm447nm,0.7s							
PBKI	**Pangkalan Bun**	**6.53**	**1**	P		**Pn**	**16 39 42.0**	**+3.5**
	1.4nm4µm298nm,0.4s							
BBKI	**Banjar Baru**	**6.66**	**30**	P		**Pn**	**16 39 44.5**	**+4.2**
	0.3nm54nm,0.6s							
TPI	**Tanjungpandan**	**7.53**	**329**	P		**Pn**	**16 39 54.4**	**+2.2**
	0.1nm20nm,1.1s							
WBSI	**Waikabubak, Su**	**7.79**	**93**	P		**Pn**	**16 39 55.1**	**-0.7**
KASI	**Kota Agung**	**7.89**	**298**	P		Pn	16 40 02.1	+4.9
	0.2nm41nm,0.9s							
WSI	**Waingapu**	**8.68**	**93**	P		**Pn**	**16 40 11.5**	**+3.5**
PPBI	**Pangkal Pinang**	**8.86**	**323**	P		**Pn**	**16 40 13.0**	**+2.5**
	4µm59nm,0.5s							
BASI	**Baing, Sumba**	**8.99**	**97**	P		**Pn**	**16 40 15.3**	**+3.0**
	4µm223nm,0.6s							
KAPI	**Kappang**	**9.21**	**63**	P		**Pn**	**16 40 16.8**	**+1.5**
	3.0nm,0.3s,baz=262,slow=6.7,SNR=13							
KAPI				LR		LR	16 45 00.5	
	comp=Z,103nm,18.2s,baz=262,slow=46							
KAPI	**Kappang**	**9.21**	**63**	Pn		**Pn**	**16 40 17.6**	**+2.4**
STKI	**Sintang**	**9.28**	**360**	P		**Pn**	**16 40 19.7**	**+3.5**
MMRI	**Maumere**	**10.62**	**87**	Pn		**Pn**	**16 40 34.6**	**0.0**
MMRI	**Maumere**	**10.62**	**87**	P		**Pn**	**16 40 36.1**	**+1.5**
	3µm243nm,0.6s							
BATI	**Baumata**	**12.02**	**95**	P		**Pn**	**16 40 55.1**	**+1.4**
	57nm,0.3s,baz=285,slow=5.4,SNR=45							
BATI				S		**Sn**	**16 43 01.5**	**-4.9**
	8.2nm,0.3s,baz=321,slow=21,SNR=2.4							
BATI	**Baumata**	**12.02**	**95**	P		**Pn**	**16 40 55.3**	**+1.6**
	97nm,0.5s							
SOEI	**Soe**	**12.60**	**93**	Pn		**Pn**	**16 41 01.6**	**-0.1**
SOEI	**Soe**	**12.60**	**93**	P		**Pn**	**16 41 04.0**	**+2.3**
	144nm,0.8s							
GIRL	**Giralia**	**13.55**	**169**	Pn		**Pn**	**16 41 15.0**	**+0.5**
PSA00	**Pilbara Seismi**	**14.62**	**148**	Pn		**Pn**	**16 41 27.2**	**-1.8**
PSA00	**Pilbara Seismi**	**14.62**	**148**	Pn		**Pn**	**16 41 28.2**	**-0.8**
GTOI	**Gorontalo**	**15.11**	**50**	P		**Pn**	**16 41 37.5**	**+2.2**
	14nm,0.8s							
FITZ	**Fitzroy Crossi**	**16.28**	**124**	P		**P**	**16 41 52.9**	**+0.2**
	0.4nm,0.3s,baz=290,slow=6.3,SNR=12							
FITZ				S		Sn	16 44 38.6	-12
	1.4nm,0.3s,baz=153,slow=16,SNR=7.3							
FITZ	**Fitzroy Crossi**	**16.28**	**124**	Pn		**Pn**	**16 41 49.0**	**-1.4**
GSI	**Gunungsitoli**	**17.41**	**306**	Pn		**Pn**	**16 42 00.0**	**-4.5**
KNRA	**Kununurra**	**18.00**	**112**	P		**P**	**16 42 09.3**	**-2.4**
SAUI	**Saumlaki**	**19.61**	**88**	Pn		**P**	**16 42 30.2**	**+0.8**
SIJI	**Sorong**	**21.36**	**68**	P		**P**	**16 42 47.2**	**-1.2**
	9.4nm,0.5s,baz=276,slow=6.3,SNR=12							
FAKI	**Fak Fak**	**21.56**	**74**	P		**P**	**16 42 47.6**	**-2.9**
FAKI				IAmb	IAmb		16 43 06.6	
	comp=Z,58nm,1.3s							
ASAR	**Alice Springs**	**25.75**	**126**	P		**P**	**16 43 34.0**	**+2.8**
	comp=Z,7.6nm,0.6s,baz=304,slow=9.2,SNR=98							
AS31	**Alice Springs**	**25.75**	**126**	P		**P**	**16 43 33.4**	**+2.2**
FORT	**Forrest**	**26.38**	**147**	P		**P**	**16 43 34.0**	**-2.7**
FORT				IAmb	IAmb		16 44 11.1	
	comp=Z,31nm,1.1s							
CM31	**Chiang Mai Arr**	**30.22**	**336**	P		**P**	**16 44 09.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**30.22**	**336**	P		**P**	**16 44 09.7**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=172,slow=8.1,SNR=29							
CMAR				PcP		**PcP**	**16 47 13.0**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=188,slow=3.3,SNR=4.8							
CMAR				LR		LR	16 56 19.4	
	comp=Z,138nm,18.8s,baz=187,slow=36							
CMAR	**Chiang Mai Arr**	**30.22**	**336**	P		**P**	**16 44 10.1**	**-0.9**
CMAR				PcP		**PcP**	**16 47 13.4**	**+2.2**
CHTO	**Chiang Mai**	**30.54**	**336**	P		**P**	**16 44 13.7**	**-0.2**
BBOO	**Buckleboo**	**32.60**	**139**	P		**P**	**16 44 31.5**	**-0.5**
BBOO				IAmb	IAmb		16 45 40.4	
	comp=Z,50nm,1.8s							
CTA	**Charters Tower**	**35.21**	**112**	P		**P**	**16 44 57.3**	**+2.5**
	comp=Z,5.2nm,0.7s,baz=273,slow=8.7,SNR=8.2							
STKA	**Stephens Creek**	**35.83**	**133**	P		**P**	**16 45 03.3**	**+3.4**
	comp=Z,4.7nm,0.6s,baz=315,slow=9.5,SNR=27							
STKA				LR		LR	17 02 06.4	
	comp=Z,72nm,18.1s,baz=271,slow=40							
MDRS	**Chennai**	**38.16**	**305**	*eP*		**P**	16 45 14.6	-5.3
MDRS				IAmb	IAmb		16 45 17.5	
	comp=Z,28nm,1.4s							
H08S2	**Diego Garcia H**	**38.61**	**269**	T		T	17 26 33.6	
H08S3	**Diego Garcia H**	**38.62**	**269**	T		T	17 26 34.6	
	baz=94,slow=75,SNR=15							
H08S1	**Diego Carcia H**	**38.63**	**269**	T		T	17 26 34.1	
	baz=94,slow=75,SNR=7.9							
KOHI	**KOHIMA**	**38.69**	**334**	*eP*		**P**	**16 45 23.2**	**-1.2**
KOHI				IAmb	IAmb		16 45 25.9	
	comp=Z,6.9nm,0.8s							
MOKO	**MOKOCHONG**	**39.05**	**335**	*eP*		**P**	**16 45 26.2**	**-1.2**
MOKO				IAmb	IAmb		16 45 28.9	
	comp=Z,14nm,0.6s							
ENH	**Enshi**	**39.37**	**357**	P		**P**	**16 45 29.6**	**-0.2**
ENH				IAmb	IAmb		16 45 31.9	
	comp=Z,11nm,0.5s							
NJ2	**Nanjing**	**41.69**	**9**	*eP*		**P**	**16 45 50.0**	**+1.1**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
ODAN	**Odare**	**42.87**	**328**	*eP*		**P**	**16 45 58.1**	**-0.8**
	comp=Z,13nm,0.5s							
ODAN	**Odare**	**42.87**	**328**	*eP*		**P**	**16 45 58.2**	**-0.7**
	comp=Z,20nm,0.7s							
TAPN	**Taplejung**	**43.10**	**328**	*eP*		**P**	**16 46 00.2**	**-0.6**
	comp=Z,25nm,0.6s							
TAPN	**Taplejung**	**43.10**	**328**	*eP*		**P**	**16 46 00.9**	**+0.1**
	comp=Z,25nm,0.6s							
XAN	**Xi'an**	**43.15**	**357**	P		**P**	**16 46 00.2**	**-0.6**
XAN				pP	pwP		16 46 16.4	-0.4
XAN				pmax	pmax			
	comp=Z,13nm,0.9s							
XAN				L	L			
	comp=Z,120nm,19.5s							
XAN				L	L			
	comp=Z,90nm,19.5s							
XAN				L	L			
	comp=Z,97nm,19.5s							
RAMN	**Ramite**	**43.37**	**327**	*eP*		**P**	**16 46 02.7**	**-0.2**
	comp=Z,8.3nm,0.5s							
RAMN	**Ramite**	**43.37**	**327**	*eP*		**P**	**16 46 02.9**	**0.0**
	comp=Z,8.3nm,0.5s							
LSA	**Lhasa**	**43.43**	**334**	P		**P**	**16 46 03.6**	**0.0**
LSA				IAmb	IAmb		16 46 05.8	
	comp=Z,8.1nm,0.5s							
JIRN	**Jiri**	**44.15**	**327**	*eP*		**P**	**16 46 09.1**	**-0.3**
	comp=Z,30nm,0.6s							
JIRN	**Jiri**	**44.15**	**327**	*eP*		**P**	**16 46 09.1**	**-0.3**
	comp=Z,30nm,0.6s							
PKI	**Pulchoki**	**44.51**	**326**	*eP*		**P**	**16 46 11.2**	**-1.0**
PKI	**Pulchoki**	**44.51**	**326**	*eP*		**P**	**16 46 11.1**	**-1.1**
	comp=Z,6.8nm,0.6s							
GUN	**Gumba**	**44.52**	**327**	*eP*		**P**	**16 46 11.9**	**-0.4**
	comp=Z,40nm,0.6s							
GUN	**Gumba**	**44.52**	**327**	*eP*		**P**	**16 46 11.6**	**-0.7**
	comp=Z,40nm,0.6s							
DMN	**Daman**	**44.70**	**326**	*eP*		**P**	**16 46 13.2**	**-0.4**
	comp=Z,28nm,0.5s							
DMN	**Daman**	**44.70**	**326**	*eP*		**P**	**16 46 13.2**	**-0.4**
	baz=94,slow=75,SNR=28							
KKN	**Kakani**	**44.75**	**326**	*eP*		**P**	**16 46 13.1**	**-0.9**
KKN	**Kakani**	**44.75**	**326**	*eP*		**P**	**16 46 13.2**	**-0.8**
	comp=Z,8.3nm,0.6s							
GKN	**Gorkha**	**45.27**	**326**	*eP*		**P**	**16 46 17.4**	**-0.6**
	comp=Z,20nm,0.4s							
GKN	**Gorkha**	**45.27**	**326**	*eP*		**P**	**16 46 17.3**	**-0.7**
	comp=Z,20nm,0.4s							
KOLN	**Koldanda**	**45.67**	**325**	*eP*		**P**	**16 46 20.8**	**-0.5**
	comp=Z,36nm,0.5s							
KOLN	**Koldanda**	**45.67**	**325**	*eP*		**P**	**16 46 20.7**	**-0.5**
	comp=Z,49nm,0.6s							
DANN	**Dangsing**	**46.03**	**325**	*eP*		**P**	**16 46 23.5**	**-0.7**
	comp=Z,51nm,0.6s							
DANN	**Dangsing**	**46.03**	**325**	*eP*		**P**	**16 46 23.4**	**-0.7**
	comp=Z,51nm,0.6s							
PYUN	**Piuthan**	**46.27**	**324**	*eP*		**P**	**16 46 26.0**	**0.0**
	comp=Z,17nm,0.4s							
PYUN	**Piuthan**	**46.27**	**324**	*eP*		**P**	**16 46 25.7**	**-0.3**
KSRS	**Korea Array**	**48.96**	**17**	P		**P**	**16 46 45.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=202,slow=7.3,SNR=11							
BJI	**Beijing**	**49.26**	**5**	P		**P**	**16 46 48.1**	**-0.5**
BJI				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GTA	**Gaotai**	**49.64**	**348**	⇑P		**P**	**16 46 52.2**	**+0.4**
GTA				pP	pwP		16 47 07.4	-0.2
GTA				sP	sP		16 47 15.6	+5.4
GTA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,25nm,5.1s							
GTA				L	L			
	comp=Z,68nm,15.6s							
GTA				L	L			
	comp=Z,160nm,15.6s							
GTA				L	L			
	comp=Z,56nm,17.1s							
HHC	**Hu-ho-hao-te**	**49.87**	**0**	*eP*		P	16 46 48.4	-5.1
HHC				pmax	pmax			
	comp=Z,13nm,0.8s							
HHC				pmax	pmax			
	comp=Z,84nm,6.6s							
SMLA	**Simla**	**51.94**	**322**	*eP*		**P**	**16 47 07.6**	**-1.4**
SMLA				IAmb	IAmb		16 47 08.9	
	comp=Z,24nm,0.5s							
MAJO	**Matsushiro**	**52.03**	**27**	P		**P**	**16 47 07.4**	**-2.2**
MAT	**Matsushiro**	**52.03**	**27**	P		**P**	**16 47 08.3**	**-1.4**
MJAR	**Matsushiro Arr**	**52.03**	**27**	P		**P**	**16 47 08.5**	**-1.2**
	comp=Z,2.6nm,0.4s,baz=196,slow=9.8,SNR=9.9							
JYT	**Yasato**	**52.70**	**29**	P		**P**	**16 47 12.6**	**-2.0**
DHRM	**DHARAMSHALA**	**53.25**	**322**	*eP*		**P**	**16 47 16.2**	**-2.8**
JSD	**Sado**	**53.29**	**26**	P		**P**	**16 47 17.2**	**-1.7**
JSD				IAmb	IAmb		16 47 18.8	
	comp=Z,14nm,0.9s							
JMM	**Marumori**	**54.30**	**28**	P		**P**	**16 47 24.3**	**-2.0**
JMM				IAmb	IAmb		16 47 26.9	
	comp=Z,22nm,0.9s							
NIL	**Nilore**	**56.07**	**322**	P		**P**	**16 47 36.7**	**-2.5**
NIL				IAmb	IAmb		16 47 38.5	
	comp=Z,21nm,0.8s							
USA0B	**Ussuriysk Arra**	**56.37**	**18**	P		**P**	**16 47 40.4**	**-0.6**
USA0B				IAmb	IAmb		16 47 42.1	
	comp=Z,14nm,0.9s							
USRK	**Ussuriysk Ar.**	**56.37**	**18**	P		**P**	**16 47 40.8**	**-0.3**
	comp=Z,11nm,0.8s,baz=202,slow=4.7,SNR=36							
USRK	**Ussuriysk Ar.**	**56.37**	**18**	P		**P**	**16 47 39.5**	**-1.5**
ULN	**Ulaanbaatar**	**57.03**	**356**	P		**P**	**16 47 45.7**	**-0.2**
ULN				IAmb	IAmb		16 47 46.4	
	comp=Z,9.9nm,0.9s							
SONM	**Songino Array**	**57.04**	**356**	P		**P**	**16 47 45.7**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=177,slow=8.5,SNR=29							
SONM				PcP		**PcP**	**16 48 41.5**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=158,slow=3.8,SNR=5.7							
SONM	**Songino Array**	**57.04**	**356**	P		**P**	**16 47 44.7**	**-1.2**
SONM						**PcP**	**16 48 41.5**	**+1.0**
WMQ	**Urumqi**	**57.10**	**340**	*eP*		**P**	**16 47 47.8**	**+1.4**
KSH	**Kashi**	**58.68**	**328**	P		**P**	**16 47 53.6**	**-4.0**
KSH				PcP		**PcP**	**16 48 49.4**	**+2.3**
KSH				S		**S**	**16 55 53.0**	**-5.7**
KSH				pmax	pmax			
	comp=Z,10.0nm,0.4s							
KSH				pmax	pmax			
	comp=Z,85nm,3.4s							
KSH				L	L			
	comp=Z,980nm,29.1s							
KSH				L	L			
	comp=Z,690nm,35.8s							
KSH				L	L			
	comp=Z,83nm,8.8s							
KBL	**Kabul**	**59.29**	**320**	P		**P**	**16 48 00.2**	**-1.9**
KBL				IAmb	IAmb		16 48 01.5	
	comp=Z,13nm,0.8s							
TARG	**Taragay, Kyrgy**	**59.44**	**331**	P		**P**	**16 48 02.7**	**-0.5**
TARG				IAmb	IAmb		16 48 12.1	
	comp=Z,5.1nm,0.9s							
KDJ	**Kajisay**	**60.04**	**331**	IAmb	IAmb		16 48 08.7	
	comp=Z,20nm,1.1s							
BOOM	**Boomskoye usch**	**60.91**	**331**	P		**P**	**16 48 12.9**	**-0.1**
BOOM				IAmb	IAmb		16 48 13.5	
	comp=Z,10nm,0.8s							
TKM2	**Tokmak 2**	**61.41**	**331**	P		**P**	**16 48 16.0**	**-0.4**
	SNR=33							
GAR	**Garm**	**61.42**	**324**	P		**P**	**16 48 14.2**	**-2.2**
KBK	**Karagaybulak**	**61.52**	**330**	P		**P**	**16 48 17.2**	**+0.1**
	SNR=22							
ARSB	**Arslanbob**	**61.56**	**328**	P		**P**	**16 48 15.8**	**-1.5**
ARSB				IAmb	IAmb		16 48 17.6	
	comp=Z,11nm,0.9s							
MK31	**Makanchi Array**	**61.60**	**338**	IAmb	IAmb		16 48 17.8	
	comp=Z,5.6nm,0.9s							
MKAR	**Makanchi Array**	**61.60**	**338**	P		**P**	**16 48 16.8**	**-0.5**
	comp=Z,5.6nm,0.5s,baz=150,slow=7.2,SNR=108							
MAKZ	**Makanchi**	**61.73**	**337**	P		**P**	**16 48 16.6**	**-1.6**
AAK	**Ala-Archa**	**61.74**	**330**	P		**P**	**16 48 18.8**	**+0.3**
	SNR=6.2							
AML	**Almayashu**	**61.77**	**329**	P		**P**	**16 48 18.6**	**-0.5**
	SNR=9.9							
BTK	**Batken**	**61.85**	**325**	P		**P**	**16 48 17.4**	**-1.8**
BTK				IAmb	IAmb		16 48 19.4	
	comp=Z,6.5nm,0.8s							
CHGR	**Chuyangaron**	**61.87**	**323**	IAmb	IAmb		16 48 17.9	
	comp=Z,18nm,0.8s							
EKS2	**Erkin-Say**	**62.11**	**329**	P		**P**	**16 48 21.0**	**0.0**
	SNR=17							
USP	**Ospenovka**	**62.20**	**330**	P		**P**	**16 48 21.2**	**-0.3**
	SNR=12							
YSS	**Yuzh-Sakhalins**	**62.52**	**24**	P		**P**	**16 48 23.0**	**-0.4**
UOSS	**Minazif**	**63.71**	**304**	P		**P**	**16 48 31.3**	**-0.5**
URZ	**Urewera**	**65.18**	**128**	LR		LR	17 19 43.6	
	comp=Z,92nm,18.1s,baz=31,slow=38							
ZAA0	**Zalesovo Array**	**66.91**	**343**	P		**P**	**16 48 49.9**	**-2.0**
ZAA0				IAmb	IAmb		16 48 51.8	
	comp=Z,14nm,0.9s							
ZALV	**Zalesovo Beam**	**66.91**	**343**	P		**P**	**16 48 51.0**	**-0.9**
	comp=Z,11nm,0.5s,baz=154,slow=4.9,SNR=60							
GEYT	**Alibeck**	**68.44**	**317**	P		**P**	**16 49 02.3**	**+0.3**
	comp=Z,15nm

comp=Z,1.7nm,0.8s,baz=95,slow=4.7,SNR=4.2
ASAR Alice Springs 50.12 254 P **P** **17 12 48.2 -2.1**
FITZ Fitzroy Crossi 58.52 260 P **P** **17 13 50.6 -1.0**
FITZ IAmb IAmb 17 14 19.8
comp=Z,8.3nm,1.2s
NVAR Mina Array Bea 75.87 41 P **P** **17 15 44.9 +3.3**
comp=Z,2.5nm,1.0s,baz=225,slow=8.6,SNR=8.2
NVAR LR LR 17 43 25.4
comp=Z,44nm,18.9s,baz=270,slow=31
NVAR Mina Array Bea 75.87 41 P **P** **17 15 40.7 -0.9**
NV11 Mina Array Sit 75.96 41 P **P** **17 15 41.3 -0.8**
NV11 IAmb IAmb 17 16 02.1
comp=Z,16nm,1.8s
TPH Tonopah 76.34 42 P **P** **17 15 47.4 +3.2**
KVN Kaiserville 76.37 41 P **P** **17 15 46.0 +1.6**
Y14A Wickenburg 76.81 47 P **P** **17 15 46.0 -0.8**
Y14A IAmb IAmb 17 15 49.3
comp=Z,5.0nm,0.9s
MOD Modoc Plateau 76.83 37 P **P** **17 15 48.1 +1.3**
MOD IAmb IAmb 17 15 51.0
comp=Z,5.9nm,1.2s
TUC Tucson 77.53 50 P **P** **17 15 48.5 -2.5**
PINE Pine Mountain 77.68 35 P P 17 15 47.1 -4.5
PINE IAmb IAmb 17 15 56.2
comp=Z,8.2nm,1.0s
319A Douglas 78.16 51 P **P** **17 15 56.2 +1.7**
319A IAmb IAmb 17 15 59.4
comp=Z,3.9nm,0.7s
U15A North Rim 78.64 46 P **P** **17 15 57.3 0.0**
U15A IAmb IAmb 17 16 02.4
comp=Z,9.9nm,1.7s
SPR3 Spring Creek 3 78.72 42 P **P** **17 15 57.8 +0.1**
KSRS Korea Array 78.79 316 P **P** **17 15 59.2 +1.6**
comp=Z,1.4nm,0.9s,baz=148,slow=6.8,SNR=4.7
J08A Circle Bar Ran 78.79 37 P **P** **17 15 57.0 -0.7**
ELK Elko 79.15 41 P **P** **17 15 59.7 -0.2**
ELK IAmb IAmb 17 16 04.7
comp=Z,11nm,1.8s
MTPU Mount Pierson 79.59 44 P **P** **17 16 00.7 -1.8**
MTPU IAmb IAmb 17 16 08.1
comp=Z,9.8nm,1.4s
G08A Pilot Rock 79.73 35 P **P** **17 16 02.1 -0.7**
G08A IAmb IAmb 17 16 06.8
comp=Z,6.4nm,1.1s
121A Cookes Peak, D 79.84 51 P **P** **17 16 06.1 +2.3**
121A IAmb IAmb 17 16 12.6
comp=Z,13nm,1.6s
BMO Blue Mountains 80.38 36 P **P** **17 16 09.0 +2.8**
TMUT Trail Mountain 80.91 44 P **P** **17 16 10.9 +1.4**
F10A Beach Ranch, E 81.11 35 P **P** **17 16 10.9 +0.8**
F10A IAmb IAmb 17 16 13.7
comp=Z,5.2nm,0.9s
HLID Hailey 81.28 39 P **P** **17 16 11.7 +0.5**
TX31 Lajitas Ar. Si 81.48 55 P **P** **17 16 15.1 +2.6**
TX32 Lajitas Array 81.48 55 P **P** **17 16 11.4 -1.2**
TX32 IAmb IAmb 17 16 18.0
comp=Z,8.8nm,1.4s
TXAR Lajitas Array 81.48 55 P **P** **17 16 15.5 +3.0**
comp=Z,2.1nm,1.1s,baz=224,slow=5.2,SNR=10
TXAR LR LR 17 46 48.9
comp=Z,29nm,18.8s,baz=0.0,slow=32
TXAR Lajitas Array 81.48 55 P **P** **17 16 13.5 +1.0**
C09A Chrisman Ranch 81.67 34 P **P** **17 16 14.1 +1.0**
C09A IAmb IAmb 17 16 16.8
comp=Z,13nm,1.3s
PV18 Skein Mesa, Pa 81.89 45 P **P** **17 16 17.5 +2.9**
PV13 Radium Mtn., P 81.91 46 P **P** **17 16 13.9 -0.8**
PV13 IAmb IAmb 17 16 19.9
comp=Z,7.4nm,1.2s
PV16 Nyswonger Mesa 81.92 45 P **P** **17 16 15.9 +1.1**
PV16 IAmb IAmb 17 16 20.0
comp=Z,8.5nm,1.3s
PV11 David Mesa, Pa 81.94 45 P **P** **17 16 18.3 +3.4**
PV12 Saucer Basin, 82.00 45 P **P** **17 16 17.0 +1.8**
PV12 IAmb IAmb 17 16 27.1
comp=Z,9.9nm,1.1s
PV01 Paradox Valley 82.06 46 P **P** **17 16 15.7 +0.1**
PV01 IAmb IAmb 17 16 20.0
comp=Z,5.3nm,1.0s
NJ2 Nanjing 82.57 307 *e*P **P** **17 16 17.5 -0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MCMT McKenzie Canyo 82.93 38 P **P** **17 16 21.9 +1.9**
SMCO Snowmass 83.67 45 P **P** **17 16 26.4 +2.3**
PDAR Pinedale Array 83.81 41 P **P** **17 16 26.9 +2.4**
comp=Z,0.6nm,0.3s,baz=223,slow=3.7,SNR=7.6
PDAR Pinedale Array 83.81 41 P **P** **17 16 24.9 +0.4**
CN2 Changchun 83.81 320 *e*P **P** **17 16 24.5 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YHL Hebgen Lake 83.93 39 P **P** **17 16 26.6 +1.5**
YHL IAmb IAmb 17 16 30.0
comp=Z,6.9nm,0.9s
WRH Wood River Hil 84.57 10 P **P** **17 16 28.0 +0.4**
WRH IAmb IAmb 17 16 48.4
comp=Z,14nm,1.5s
MLY Manley 84.67 9 P **P** **17 16 28.6 +0.5**
MLY IAmb IAmb 17 16 31.1
comp=Z,4.7nm,1.2s
CCB Clear Creek Bu 84.78 10 P **P** **17 16 30.1 +1.5**
CCB IAmb IAmb 17 16 31.4
comp=Z,16nm,1.7s
ILAR Eielson Array 85.06 11 P **P** **17 16 31.4 +1.4**
comp=Z,0.6nm,0.5s,baz=218,slow=4.9,SNR=7.6
ILAR Eielson Array 85.06 11 P **P** **17 16 31.0 +1.0**
DAWY Dawson 85.95 14 P **P** **17 16 36.6 +2.0**
ABTX Abilene, Hawle 86.01 54 P **P** **17 16 35.9 +0.3**
PLCA Paso Flores 86.97 132 LR LR 17 49 22.1
comp=Z,44nm,18.9s,baz=175,slow=31
BILL Bilibino 87.43 352 P **P** **17 16 41.8 +0.2**
BILL IAmb IAmb 17 16 44.5
comp=Z,3.6nm,1.0s
XAN Xi'an 90.99 306 P P 17 17 04.9 +5.6
XAN pP pwP 17 17 14.0 +3.1
XAN pmax pmax
comp=Z,7.0nm,1.2s
HHC Hu-ho-hao-te 91.59 313 *e*P **P** **17 16 59.9 -2.1**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,70nm,6.6s
MGMO Mountain Grove 93.34 52 P **P** **17 17 06.9 -3.1**
ULM Lac du Bonnet 95.59 39 LR LR 17 57 50.5
comp=Z,62nm,18.1s,baz=282,slow=34
LPAZ La Paz 98.03 110 LR LR 17 53 57.3
comp=Z,38nm,18.0s,baz=238,slow=30
KMBO Kilima Mbogo 144.98 240 PKP **PKiKP** **17 23 36.4 -0.9**
comp=Z,7.2nm,1.0s,baz=64,slow=6.9,SNR=12
FLTG Flechtingen 145.86 356 *e*PKPbc **PKPab** **17 23 36.5 +2.1**
baz=5.2,slow=2.7
IBBN Ibbenburen 146.01 360 *e*PKPbc **PKiKP** **17 23 37.6 -0.3**
baz=5.2,slow=2.7
CLZ Clausthal 146.40 357 *e*PKPbc **PKiKP** **17 23 38.9 +0.2**
baz=5.2,slow=2.7
CLL Collm 146.72 354 *i* PKPbc **PKiKP** **17 23 39.4 +0.1**
comp=Z,15nm,1.3s
CLL Collm 146.72 354 *e*PKPbc **PKiKP** **17 23 39.5 +0.1**
baz=5.2,slow=2.7
OSTC Ostas 147.02 350 *e*PKP **PKiKP** **17 23 40.1 0.0**
BRG Berggiesshubel 147.04 353 *e*(PKP) **PKiKP** **17 23 41.5 +1.4**
BRG Amp 17 23 43.1
comp=Z,3.8nm,1.2s
BRG Berggiesshubel 147.04 353 *e*PKPbc **PKiKP** **17 23 40.6 +0.5**
baz=5.2,slow=2.7
DPC Dobruska-Polom 147.20 350 *e*PKP **PKiKP** **17 23 41.1 +0.6**
KRLC Kraliky 147.38 349 *e*PKP **PKiKP** **17 23 41.4 +0.5**
MANZ Manzenberg 148.12 354 *e*PKPbc **PKPab** **17 23 43.8 +0.4**
baz=5.2,slow=2.7
ROTZ Rotzenmuhle 148.33 354 *e*PKPbc **PKPab** **17 23 44.3 +0.1**
baz=5.2,slow=2.7
KHC Kasperske Hory 148.80 352 *e*PKP **PKPdf** **17 23 38.0 -0.5**
KHC epPKP **PKiKP** **17 23 45.1 +1.3**
BRTR Keskin Array B 148.88 319 PKPbc **PKiKP** **17 23 44.8 +0.3**
comp=Z,1.2nm,0.9s,baz=29,slow=2.8,SNR=7.0
BRTR Keskin Array B 148.88 319 **PKiKP** **17 23 44.6 +0.2**
CKRC Cesky Krumlov 149.01 351 *e*PKP **PKiKP** **17 23 45.6 +1.4**
GEC2 GERESS Array S 149.07 352 *e*PKPbc **PKiKP** **17 23 46.1 +1.7**
baz=5.2,slow=2.7
GERES GERESS Array B 149.07 352 PKPbc **PKiKP** **17 23 44.6 +0.2**
comp=Z,0.6nm,0.6s,baz=49,slow=2.5,SNR=4.6
BFO Black Forest 149.99 359 *e*PKPbc **PKiKP** **17 23 48.3 +2.1**
baz=5.2,slow=2.7
RJOB Jochberg 150.27 353 *e*PKPbc **PKiKP** **17 23 49.0 +2.1**
baz=5.2,slow=2.7
UBR Ueberruh 150.56 356 *e*PKPbc **PKiKP** **17 23 49.7 +2.2**
baz=5.2,slow=2.7

IDC ***05*** *17:06:13.1±5.3,47.85N×153.37E,h0km,mb3.7/7, mb1 3.7/10,mb1mx3.6/37,mbtmp3.7/10,ML2.6/3,Error ellipse: s-maj=117.6km s-min=25.0km az=138.0*
ISC 05 17:06:17.3±4.0,47.6N±0.5×153.7E±0.4,h50km,n13, σ0s85/10,mb3.6/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.07**	**24**	Pn	**Pn**	**17 07 43.5**	**-0.9**
	0.4nm,0.3s,baz=177,slow=12,SNR=8.8						
ASAJ	**Asahikawa**	**8.48**	**250**	Pn	**Pn**	**17 08 16.5**	**-0.9**
	0.1nm,0.3s,baz=56,slow=11,SNR=1.4						
USRK	**Ussuriysk Ar.**	**15.46**	**265**	Pn	**Pn**	**17 09 51.8**	**-0.1**
	baz=79,slow=11,SNR=5.6						
KSRS	**Korea Array**	**21.42**	**251**	P	**P**	**17 11 01.5**	**+0.6**
	1.1nm,0.7s,baz=68,slow=9.6,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**30.93**	**155**	T	T	17 44 49.3	
	baz=343,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**30.94**	**155**	T	T	17 44 46.7	
	baz=343,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**30.95**	**155**	T	T	17 44 50.3	
	baz=343,slow=76,SNR=36						
SONM	**Songino Array**	**31.40**	**288**	P	**P**	**17 12 32.7**	**-0.8**
	0.4nm,0.6s,baz=77,slow=14,SNR=1.9						
ZALV	**Zalesovo Beam**	**42.41**	**305**	P	**P**	**17 14 06.9**	**+0.3**
	0.7nm,0.6s,baz=54,slow=7.3,SNR=2.4						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**17 14 42.7**	**+0.4**
	0.6nm,0.7s,baz=70,slow=8.3,SNR=5.5						
FINES	**FINESS Array B**	**63.41**	**335**	P	**P**	**17 16 41.6**	**+0.5**
	1.0nm,0.5s,baz=19,slow=8.1,SNR=8.3						
NOA	**NORSAR Array B**	**67.52**	**341**	P	**P**	**17 17 09.1**	**+1.4**
	0.9nm,0.6s,baz=26,slow=6.3,SNR=5.6						
AKASG	**Malin Array Be**	**71.03**	**326**	P	**P**	**17 17 29.8**	**+0.3**
	0.3nm,0.4s,baz=36,slow=6.3,SNR=4.9						

NNC 05 17:14:25.0±4.1,36.53N×70.53E,h124km±73km,mb3.1, mpv3.5,6C-3D,Error ellipse: s-maj=32.3km s-min=25.9km az=33.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.57**	**360**	⇑P	Pn	17 15 59.6	+0.5
	2.1nm,0.5s,baz=186,slow=13,SNR=20						
KK31				⇓S	Sn	17 17 14.6	+2.1
	4.0nm,0.6s,baz=186,slow=24,SNR=6.7						
AAK	**Ala-Archa**	**6.83**	**25**	⇑P	Pn	17 16 01.9	-0.8
	1.7nm,0.5s						
AAK				⇑S	Sn	17 17 18.5	-0.6
	9.9nm,0.7s						
TKM2	**Tokmak 2**	**7.48**	**30**	⇑P	Pn	17 16 11.5	-0.1
	1.7nm,0.7s						
TKM2				⇑S	Sn	17 17 36.1	+1.1
	4.2nm,0.7s						
AB31	**Akbulak array**	**14.88**	**332**	P	Pn	17 17 49.4	+0.5
	0.6nm,0.3s,baz=146,slow=12,SNR=29						
AB31				⇑S	Sn	17 20 29.8	-3.6
	0.5nm,0.5s,baz=156,slow=24,SNR=3.4						
AKTO	**Aktyubinsk**	**16.57**	**331**	⇓P	P	17 18 11.3	+1.1
	2.7nm,0.6s						
AKTO				⇓S	Sn	17 21 13.5	-0.6
	2.9nm,1.0s						

IDC ***05*** *17:19:41.5±2.9,1.74N×126.34E,h49km±33km,mb3.7/4, mb1 3.7/6,mb1mx3.4/36,mbtmp3.8/6,ML3.4/2,MS3.6/1, Ms1 3.6/1,ms1mx2.6/33,Error ellipse: s-maj=45.2km s-min=5.7km az=72.0*
NEIC ***05*** *17:19:41.7±1.5,1.75N±0.03×126.39E±0.07,h47km±9km, mb4.4/15,Error ellipse: s-maj=10.6km s-min=3.7km az=72.0*
DJA ***05*** *17:19:41.0±0.4,2°N±5°×12°6E±°,h64km±8km,M4.3/9, mb4.7/5,mB4.8/1,MLv4.1/9,Mw(mB)4.1/1*
ISC 05 17:19:41.1±0.6,1.76N±0.07×126.42E±0.08,h47km,n37, σ0s84/37,mb4.1/8,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.36**	**136**		**Pn**	**17 20 03.4**	**-0.3**
TNTI				Sn	**Sn**	**17 20 22.5**	**+1.9**
TNTI	**Ternate**	**1.36**	**136**	P	**Pn**	**17 20 03.6**	**-0.1**
SGSI	**Sangihe**	**2.11**	**335**	P	**Pn**	**17 20 14.1**	**0.0**
KMSI	**Cibinong**	**2.71**	**244**	P	**Pn**	**17 20 22.5**	**+0.3**
GTOI	**Gorontalo**	**3.58**	**252**	P	**Pn**	**17 20 35.2**	**+0.9**
SANI	**Sanana**	**3.80**	**187**	P	**Pn**	**17 20 37.0**	**-0.3**
LUWI	**Luwuk**	**4.58**	**233**		**Pn**	**17 20 48.4**	**+0.4**
LUWI	**Luwuk**	**4.58**	**233**	P	**Pn**	**17 20 47.5**	**-0.5**
MRSI	**Marisa**	**4.66**	**254**	P	**Pn**	**17 20 49.5**	**+0.6**
APSI	**Ampana**	**5.46**	**241**	P	**Pn**	**17 21 01.5**	**+1.5**
	0.3nm945nm69nm,0.6s						
SIJI	**Sorong**	**5.50**	**118**	P	**Pn**	**17 21 01.8**	**+1.2**
	0.5nm,0.3s,baz=252,slow=20,SNR=2.4						
TOLI2	**Tolitoli**	**5.67**	**264**		**Pn**	**17 21 01.6**	**-1.4**
FAKI	**Fak Fak**	**7.45**	**129**	Pn	**Pn**	**17 21 26.4**	**-0.9**
TTSI	**Tana Toraja**	**8.14**	**234**	P	**Pn**	**17 21 37.1**	**+0.3**
	28nm,0.8s						
BNSI	**Bone**	**8.79**	**226**	P	**Pn**	**17 21 46.4**	**+0.8**
	27nm,0.5s						
KAPI	**Kappang**	**9.46**	**225**	Pn	**Pn**	**17 21 56.1**	**+1.1**
MTN	**Manton Dam**	**15.24**	**162**	Pn	**Pn**	**17 23 11.7**	**-1.7**
MTN				IAmb	IAmb	17 23 36.5	
	comp=Z,45nm,1.4s						
KNRA	**Kununurra**	**17.48**	**172**	Pn	**Pn**	**17 23 40.2**	**-1.4**
KNRA				IAmb	IAmb	17 24 13.5	
	comp=Z,45nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.74**	**182**	P	**P**	**17 24 06.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=124,slow=21,SNR=1.1						
FITZ	**Fitzroy Crossi**	**19.74**	**182**	P	**P**	**17 24 06.4**	**-0.7**
TPUB	**Ta-pu**	**22.14**	**346**	P	**P**	**17 24 32.7**	**-0.4**
TPUB				IAmb	IAmb	17 24 34.5	
	comp=Z,66nm,1.7s						
YHNB	**Yeheng**	**23.30**	**348**	P	**P**	**17 24 45.7**	**+0.7**
AS31	**Alice Springs**	**26.30**	**164**	P	**P**	**17 25 12.6**	**0.0**
AS31				IAmb	IAmb	17 25 20.2	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**26.30**	**164**	P	**P**	**17 25 12.8**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=347,slow=11,SNR=62						
MORW	**Morawa**	**32.22**	**197**	P	**P**	**17 26 04.6**	**-0.5**
JWT	**Wachi**	**34.39**	**13**	P	**P**	**17 26 24.7**	**+0.8**
BBOO	**Buckleboo**	**35.57**	**166**	P	**P**	**17 26 33.6**	**-0.5**
STKA	**Stephens Creek**	**36.42**	**158**	P	**P**	**17 26 40.7**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=342,slow=5.6,SNR=5.5						
STKA	**Stephens Creek**	**36.42**	**158**	IAmb	IAmb	17 26 41.5	
	comp=Z,3.2nm,1.8s						
CAN	**Canberra**	**42.51**	**152**	P	**P**	**17 27 33.1**	**+1.0**
MK31	**Makanchi Array**	**59.00**	**326**	P	**P**	**17 29 35.6**	**-0.5**
MKAR	**Makanchi Array**	**59.00**	**326**	P	**P**	**17 29 36.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=120,slow=7.8,SNR=12						
MKAR				LR	LR	17 56 23.5	
	comp=Z,50nm,20.1s,baz=232,slow=37						
MAKZ	**Makanchi**	**59.18**	**326**	P	**P**	**17 29 37.2**	**-0.2**
MAKZ				IAmb	IAmb	17 29 44.3	
	comp=Z,1.2nm,0.6s						
BKZ	**Black Stump Fm**	**61.34**	**137**	P	**P**	**17 29 52.4**	**0.0**
ZALV	**Zalesovo Beam**	**62.20**	**334**	P	**P**	**17 29 57.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=142,slow=9.0,SNR=2.6						
ABKAR	**Akbulak array**	**73.48**	**321**	P	**P**	**17 31 08.6**	**-0.2**
VNDA	**Vanda**	**81.52**	**173**	P	**P**	**17 31 54.1**	**+1.0**
VNDA				IAmb	IAmb	17 32 32.2	
	comp=Z,5.4nm,1.6s						

IDC ***05*** *17:21:24.4±1.7,47.28N×154.20E,h0km,mb3.7/8, mb1 3.8/11,mb1mx3.6/42,mbtmp3.8/11,ML2.6/3,Error ellipse: s-maj=41.3km s-min=23.6km az=121.0*
NEIC ***05*** *17:21:28.2±0.9,47.3N±0.1×154.1E±0.2,h22km±9km, mb4.2/5,Error ellipse: s-maj=20.5km s-min=13.5km az=127.0*
ISC 05 17:21:29.4±1.4,47.3N±0.2×154.1E±0.2,h31km,n20, σ0s90/19,mb3.9/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEA0B	**Petropavlovsk-**	**6.27**	**20**	Pn	**Pn**	**17 22 59.6**	**0.0**
PETK	**Petropavlovsk-**	**6.27**	**20**	Pn	**Pn**	**17 22 58.0**	**-1.6**
	0.4nm,0.3s,baz=175,slow=13,SNR=6.7						
PETK	**Petropavlovsk-**	**6.27**	**20**		**Pn**	**17 22 59.3**	**-0.3**
JKA	**Kamikawa-asahi**	**8.63**	**253**		**Pn**	**17 23 30.9**	**-1.2**
ASAJ	**Asahikawa**	**8.63**	**253**	Pn	**Pn**	**17 23 30.9**	**-1.2**
	0.1nm,0.3s,baz=115,slow=17,SNR=1.0						
ERM	**Erimo**	**9.39**	**240**	Pn	**Pn**	**17 23 42.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**15.71**	**267**	Pn	**Pn**	**17 25 08.7**	**+0.4**
	baz=71,slow=12,SNR=7.8						
KSRS	**Korea Array**	**21.59**	**252**	P	**P**	**17 26 17.7**	**+1.4**
	1.4nm,0.6s,baz=64,slow=9.5,SNR=11						
SONM	**Songino Array**	**31.77**	**289**	P	**P**	**17 27 51.1**	**+0.3**
	0.3nm,0.5s,baz=95,slow=14,SNR=2.2						
SONM	**Songino Array**	**31.77**	**289**	IAmb	IAmb	17 28 01.9	
	comp=Z,1.6nm,1.5s						
ZALV	**Zalesovo Beam**	**42.82**	**306**	P	**P**	**17 29 23.1**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=73,slow=8.3,SNR=2.9						
ABKAR	**Akbulak array**	**58.58**	**310**	P	**P**	**17 31 22.8**	**0.0**
ABKAR				IAmb	IAmb	17 31 28.9	
	comp=Z,3.4nm,1.6s						
FIA1	**FINESS Array S**	**63.82**	**335**	P	**P**	**17 31 58.3**	**+0.2**
FIA1				IAmb	IAmb	17 32 25.8	
	comp=Z,18nm,1.6s						
FINES	**FINESS Array B**	**63.82**	**335**	P	**P**	**17 31 58.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=46,slow=8.2,SNR=9.3						
NC204	**NORSAR Array S**	**67.80**	**342**	P	**P**	**17 32 25.1**	**+1.2**
NB201	**NORSAR Array S**	**67.89**	**341**	P	**P**	**17 32 25.2**	**+0.8**
NOA	**NORSAR Array B**	**67.92**	**342**	P	**P**	**17 32 25.3**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=26,slow=6.3,SNR=6.6						
AKASG	**Malin Array Be**	**71.45**	**327**	P	**P**	**17 32 46.3**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=33,slow=6.2,SNR=4.6						
ASAR	**Alice Springs**	**72.94**	**199**	P	**P**	**17 32 55.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=11,slow=5.2,SNR=4.1						
BRTR	**Keskin Array B**	**78.44**	**317**	P	**P**	**17 33 28.2**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=46,slow=5.3,SNR=3.6						

IDC ***05*** *17:38:10.4±0.9,56.54S×27.15W,h0km,mb4.2/2, mb1 4.3/2,mb1mx3.8/17,mbtmp4.2/2,Error ellipse: s-maj=34.0km s-min=15.8km az=0.0*
NEIC ***05*** *17:38:24.1±1.1,56.3S±0.1×27.4W±0.1,h97km±7km, mb4.6/15,Error ellipse: s-maj=20.8km s-min=7.8km az=201.0*
ISC 05 17:38:21.1±0.7,56.0S±0.1×27.1W±0.2,h63km,n25, σ1s51/25,mb4.5/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.68**	**284**	Pn	**Pn**	**17 39 44.3**	**+1.5**
VNA1	**Neumayer--Stat**	**16.80**	**158**	P	**P**	**17 42 13.3**	**+0.2**
VNA3	**Neumayer Olymp**	**17.00**	**161**	P	**Pn**	**17 42 15.0**	**+0.7**
VNA2	**Neumayer--Watz**	**17.20**	**158**	P	**P**	**17 42 17.6**	**+0.2**
	baz=314,slow=13						
SNAA	**Sanae**	**18.75**	**156**	P	**P**	**17 42 34.5**	**0.0**
SNAA	**Sanae**	**18.75**	**156**		**P**	**17 42 34.5**	**0.0**
QSPA	**South Pole Qui**	**34.24**	**180**	P	**P**	**17 44 59.8**	**-0.8**
QSPA				IAmb	IAmb	17 45 15.4	
	comp=Z,6.4nm,1.4s						
GO02	**Mina Guanaco**	**43.54**	**297**	P	**P**	**17 46 16.9**	**-1.9**
GO02				IAmb	IAmb	17 46 32.3	
	comp=Z,32nm,1.6s						
LVC	**Limon Verde**	**45.35**	**300**	P	**P**	**17 46 31.5**	**-1.8**
LVC				IAmb	IAmb	17 46 48.8	
	comp=Z,8.5nm,1.3s						
PB09	**IPOC Station P**	**46.20**	**300**	P	**P**	**17 46 39.4**	**-0.3**
PB07	**IPOC Station P**	**46.57**	**299**	P	**P**	**17 46 41.7**	**-1.0**
PB01	**IPOC Station P**	**46.96**	**300**	P	**P**	**17 46 44.4**	**-1.2**
PB01				IAmb	IAmb	17 46 48.0	
	comp=Z,25nm,1.6s						
PB08	**IPOC Station P**	**47.56**	**301**	P	**P**	**17 46 50.3**	**-0.4**
PB08				IAmb	IAmb	17 46 50.8	
	comp=Z,3.3nm,0.5s						
PB11	**IPOC Station P**	**48.13**	**301**	P	**P**	**17 46 52.2**	**-2.6**
PB11				IAmb	IAmb	17 47 04.5	
	comp=Z,26nm,1.6s						
PSGCX	**Pisagua**	**48.50**	**301**	P	**P**	**17 46 54.5**	**-3.0**
PB16	**IPOC Station P**	**49.28**	**302**	P	**P**	**17 47 02.9**	**-1.2**
PB16				IAmb	IAmb	17 47 04.6	
	comp=Z,8.6nm,1.6s						
LPAZ	**La Paz**	**50.42**	**305**	P	**P**	**17 47 12.2**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=128,slow=5.6,SNR=9.4						
LPAZ	**La Paz**	**50.42**	**305**	P	**P**	**17 47 12.1**	**-0.6**
TOA0	**Torodi Ar. Sit**	**72.98**	**29**	P	**P**	**17 49 44.7**	**+0.9**
TOA0				IAmb	IAmb	17 50 13.5	
	comp=Z,18nm,1.6s						
TORD	**Torodi Ar. Bea**	**72.98**	**29**	P	**P**	**17 49 44.6**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=198,slow=6.9,SNR=9.8						
GRGR	**Grenville**	**73.78**	**325**	P	**P**	**17 49 48.2**	**-0.3**
FINES	**FINESS Array B**	**124.31**	**28**	PKP	**PKPdf**	**17 57 09.9**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=222,slow=1.9,SNR=4.8						
ILAR	**Eielson Array**	**150.15**	**312**	PKPbc	**PKPdf**	**17 58 01.8**	**+3.7**
	comp=Z,1.9nm,0.7s,baz=110,slow=2.0,SNR=8.6						
SONM	**Songino Array**	**150.65**	**86**	PKPbc	**PKPbc**	**17 58 04.1**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=222,slow=4.9,SNR=3.9						
TOLK	**Toolik Lake Re**	**151.70**	**319**		**PKPbc**	**17 58 05.7**	**-1.0**

IDC ***05*** *17:45:15.5±1.6,3.63N×123.15E,h552km±21km,mb2.9/9, mb1 3.0/11,mb1mx2.8/45,mbtmp3.9/11,Error ellipse: s-maj=35.3km s-min=9.9km az=64.0*
ISC 05 17:45:15.0±0.8,3.7N±0.1×123.2E±0.2,h545km,n12, σ0s72/14,mb3.5/9,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**9.24**	**119**	P	**P**	**17 47 25.5**	**+0.3**
	0.7nm,0.3s,baz=139,slow=20,SNR=3.6						
KAPI	**Kappang**	**9.26**	**202**	P	**P**	**17 47 25.5**	**+0.2**
	1.2nm,0.3s,baz=106,slow=15,SNR=3.8						
BATI	**Baumata**	**13.77**	**178**	P	**P**	**17 48 10.8**	**-1.2**
	3.7nm,0.3s,baz=342,slow=3.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**21.74**	**174**	P	**P**	**17 49 26.9**	**-0.3**
	2.8nm,1.0s,baz=292,slow=23,SNR=1.2						
CMAR	**Chiang Mai Arr**	**27.91**	**304**	P	**P**	**17 50 22.2**	**+0.5**
	0.6nm,0.9s,baz=105,slow=5.7,SNR=3.9						
ASAR	**Alice Springs**	**29.09**	**159**	P	**P**	**17 50 32.1**	**+0.1**
	0.2nm,0.4s,baz=337,slow=7.3,SNR=6.5						
ASAR				PcP	**PcP**	**17 53 22.9**	**+0.3**
	0.3nm,0.4s,baz=340,slow=2.0,SNR=5.9						
ASAR				S	**S**	**17 54 44.8**	**-1.0**
	0.3nm,0.6s,baz=336,slow=13,SNR=4.3						
STKA	**Stephens Creek**	**39.43**	**155**	P	**P**	**17 51 59.5**	**+1.1**
	0.7nm,0.3s,baz=320,slow=9.7,SNR=5.5						
SONM	**Songino Array**	**46.34**	**344**	P	**P**	**17 52 52.3**	**0.0**
	0.6nm,0.4s,baz=158,slow=9.5,SNR=5.9						
MKAR	**Makanchi Array**	**55.65**	**327**	P	**P**	**17 53 59.8**	**+0.1**
	2.6nm,0.3s,baz=123,slow=7.8,SNR=63						
ZALV	**Zalesovo Beam**	**59.10**	**335**	P	**P**	**17

KTK1					IAML			17 50 37.5	
	comp=Z,16nm,0.3s								
I37NO	**I37NO**	**2.19**	**338**	*i*				18 03 10.0	
	baz=158,slow=323,SNR=8.3								
JETT	**Jettan, Norway**	**2.50**	**356**		Pn		**Pb**	**17 49 56.8**	**-0.4**
JETT					Sn		**Sb**	**17 50 26.9**	**-1.7**
ARA0	**ARCESS Array S**	**3.00**	**32**		Pn		**Pn**	**17 50 01.2**	**+1.1**
	baz=220,slow=14								
ARA0	**ARCESS Array S**	**3.00**	**32**		Pn		**Pn**	**17 50 01.2**	**+1.1**
	baz=220,slow=14								
ARCES	**ARCESS Array B**	**3.00**	**32**		Pn		**Pn**	**17 50 01.6**	**+1.4**
	baz=216,slow=13,SNR=18								
ARCES					Sn		**Sb**	**17 50 40.7**	**-2.1**
	baz=219,slow=23,SNR=6.7								
APA0	**Apatity Array**	**4.69**	**78**		Pn		**Pn**	**17 50 23.3**	**-0.1**
	baz=270,slow=9.3								
APA0	**Apatity Array**	**4.69**	**78**		Pn		**Pn**	**17 50 23.3**	**-0.1**
	baz=270,slow=9.3								
APA0	**Apatity Array**	**4.69**	**78**		P		**Pn**	**17 50 19.9**	**-3.5**
APA0					S		**Sn**	**17 51 19.3**	**+0.8**
FIA0	**FINESS Array S**	**6.08**	**156**		Pn		**Pn**	**17 50 43.6**	**+1.3**
	baz=346,slow=16								
FIA0	**FINESS Array S**	**6.08**	**156**		Pn		**Pn**	**17 50 43.6**	**+1.3**
	baz=346,slow=16								
FINES	**FINESS Array B**	**6.08**	**156**		Pn		**Pn**	**17 50 43.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=8.5								
FINES					Sn		**Sn**	**17 51 52.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=340,slow=23,SNR=1.4								
NB2	**NORSAR Subarra**	**7.40**	**220**		Pn		**Pn**	**17 51 00.6**	**0.0**
	baz=34,slow=16								
NB2	**NORSAR Subarra**	**7.40**	**220**		Pn		**Pn**	**17 51 00.6**	**0.0**
	baz=34,slow=16								
NOA	**NORSAR Array B**	**7.40**	**220**		Pn		**Pn**	**17 51 01.0**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=19,slow=18,SNR=0.8								
NRA0	**NORESS Array S**	**7.58**	**217**		Pn		**Pn**	**17 51 04.5**	**+1.4**
	baz=26,slow=12								
NRA0	**NORESS Array S**	**7.58**	**217**		Pn		**Pn**	**17 51 04.5**	**+1.4**
	baz=26,slow=12								
HFS	**Hagfors**	**7.67**	**208**		Pn		**Pn**	**17 51 04.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=5.7								
HFS	**Hagfors**	**7.67**	**208**		Pn		**Pn**	**17 51 04.4**	**+0.1**
	baz=16,slow=14								
HFS	**Hagfors**	**7.67**	**208**		Pn		**Pn**	**17 51 04.4**	**+0.1**
	baz=16,slow=14								

*IDC **05** 17:49:27.8±0.5, 67.00N×21.06E, h0km, mb1 2.9/4, mb1mx2.8/53, mbtmp2.8/4, ML2.1/4, Error ellipse: s-maj=9.7km s-min=2.8km az=94.0*
*HEL **05** 17:49:28.6±0.3, 67.03N×20.84E, h0km, ML2.5, Explosion*
ISC 05 17:49:27.8±1.0, 67.02N±0.03×20.72E±0.05, h0km, n18, σ1s28/27, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.94**	**89**	PB	**Pg**	**17 49 44.8**	**-0.9**
PAJU				SB	**Sg**	**17 49 58.1**	**+0.2**
KLF	**Kolari**	**1.28**	**79**	PG	**Pg**	**17 49 50.8**	**-1.6**
	baz=265						
TOF	**Tornio**	**1.73**	**122**	PN	**Pn**	**17 49 59.3**	**+0.3**
TOF				MSG		17 50 19.1	
	comp=Z,45nm,0.2s						
HEF	**Hetta**	**1.79**	**38**	PG	**Pn**	**17 50 00.1**	**+0.2**
	baz=218						
HEF				SB	**Sn**	**17 50 20.4**	**-2.8**
HEF				MSG		17 50 20.9	
	comp=Z,39nm,0.2s						
KIF	**Kilpisjarvi**	**1.99**	**1**	PG	**Pb**	**17 50 05.0**	**+0.2**
KIF				MSG		17 50 28.7	
	comp=Z,46nm,0.2s						
KIF				SG	**Sb**	**17 50 30.0**	**-0.1**
RNF	**Rovaniemi**	**2.14**	**99**	PG	**Pn**	**17 50 05.6**	**+0.9**
RNF				SG	**Sb**	**17 50 33.4**	**-0.9**
SGF	**Sodankyl**	**2.30**	**77**	PG	**Pn**	**17 50 08.2**	**+1.3**
	baz=258						
SGF				SG	**Sb**	**17 50 37.5**	**-1.4**
BURU	**Burvik**	**2.47**	**173**	PG	**Pb**	**17 50 12.5**	**-0.4**
	baz=359						
ARA0	**ARCESS Array S**	**3.09**	**33**	SN	**Sn**	**17 50 55.3**	**0.0**
ARCES	**ARCESS Array B**	**3.09**	**33**	Pn	**Pn**	**17 50 17.1**	**-0.7**
	baz=213,slow=16,SNR=17						
ARCES				Sn	**Sn**	**17 50 55.4**	**+0.1**
	baz=213,slow=27,SNR=7.8						
UMAU	**Umeaa**	**3.15**	**180**	SG	**Sb**	**17 51 05.8**	**+2.2**
MSF	**Maaselka**	**3.52**	**105**	SG	**Sb**	**17 51 14.3**	**+0.2**
OLKF	**Oulanka, Finla**	**3.52**	**98**	PG	**Pb**	**17 50 31.6**	**+0.6**
KEV	**Kevo**	**3.60**	**37**	PG	**Pb**	**17 50 34.1**	**+1.9**
KEV				SG	**Sb**	**17 51 18.9**	**+2.7**
KU6	**Riekki**	**3.80**	**101**	PG	**Pb**	**17 50 36.8**	**+1.1**
	baz=287						
KU6				SN	**Sn**	**17 51 13.3**	**+0.4**
FINES	**FINESS Array B**	**6.07**	**155**	Pn	**Pn**	**17 50 57.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=347,slow=11,SNR=5.9						
FINES				Sn	**Sn**	**17 52 07.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=343,slow=22,SNR=9.6						
NOA	**NORSAR Array B**	**7.31**	**219**	Pn	**Pn**	**17 51 16.2**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=56,slow=12,SNR=4.1						
HFS	**Hagfors**	**7.59**	**208**	Pn	**Pn**	**17 51 20.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=2.2						

*IDC **05** 17:51:09.6±16.0, 37.00S×77.67E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/33, mbtmp3.8/3, MS4.1/16, Ms1 4.1/16, ms1mx3.9/27, Error ellipse: s-maj=528.8km s-min=44.1km az=35.0*
*NEIC **05** 17:51:12.3±1.8, 37.10S±0.07×78.0E±0.2, h10km±1km, mb4.6/16, Error ellipse: s-maj=23.1km s-min=5.8km az=296.0*
*GCMT **05** 17:51:17.3±0.3, 36.93S±0.02×78.43E±0.02, h12km, MW4.9/90, Moment Tensor Solution. s16,c18; s90,c124; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.08±.09; Mθθ=2.38±.08; Mφφ 2.46±.08; Mrθ 1.39±.28; Mθφ 0.00±.08; Mφr=0.35±.24; Best double couple: Mo 2.77700×10^16 NP1: φs 222.00000°, δ 66.00000°, λ=12.00000°. NP2: φs 317.00000°, δ 79.00000°, λ=155.00000°. Principal axes: T 2.5160, Plg 9.0000°, Azm 87.0000°; N 0.5190, Plg 63.0000°, Azm 339.0000°; P -3.0390, Plg 25.0000°, Azm 182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 17:51:12.2±0.7, 37.02S±0.08×78.0E±0.1, h9km, n46, σ1s76/25, mb4.6/11, MS4.2/19, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.84**	**202**		**Pn**	**17 51 29.7**	**-0.6**
AIS				Sg	**Sg**	**17 51 34.6**	**-4.8**
AIS					**Sn**	**17 51 48.4**	**+5.7**
H01W2	**Cape Leeuwin H**	**29.24**	**97**	T	T	18 27 19.6	
	baz=255,slow=75,SNR=694						
H01W3	**Cape Leeuwin H**	**29.25**	**97**	T	T	18 27 20.0	
	baz=255,slow=75,SNR=572						
H01W1	**Cape Leeuwin H**	**29.26**	**97**	T	T	18 27 20.9	
	baz=255,slow=75,SNR=558						
H08S2	**Diego Garcia H**	**29.66**	**349**	T	T	18 28 09.3	
	baz=170,slow=76,SNR=339						
H08S1	**Diego Garcia H**	**29.66**	**349**	T	T	18 28 09.6	
	baz=170,slow=76,SNR=277						
H08S3	**Diego Garcia H**	**29.68**	**349**	T	T	18 28 10.8	
	baz=170,slow=76,SNR=399						
MAW	**Mawson**	**31.81**	**191**	LR	LR	18 09 06.5	
	comp=Z,697nm,18.0s,baz=40,slow=34						
BOSA	**Boshof**	**44.61**	**265**	LR	LR	18 14 01.5	
	comp=Z,202nm,21.9s,baz=128,slow=31						
LSZ	**Lusaka**	**49.02**	**283**	P	**P**	**18 00 00.7**	**+0.9**
ASAR	**Alice Springs**	**49.43**	**91**	P	**P**	**18 00 04.5**	**+1.8**
	0.8nm,1.0s,baz=231,slow=5.9,SNR=2.6						
ASAR				LR	LR	18 18 21.3	
	comp=Z,478nm,19.9s,baz=256,slow=33						
ASAR	**Alice Springs**	**49.43**	**91**	P	**P**	**18 00 03.0**	**+0.3**
WRA	**Warramunga Arr**	**51.66**	**87**	P	**P**	**18 00 19.2**	**-0.4**
	0.9nm,0.8s,baz=237,slow=7.5,SNR=4.3						
KMBO	**Kilima Mbogo**	**51.81**	**304**	LR	LR	18 19 32.7	
	comp=Z,93nm,18.9s,baz=94,slow=33						
STKA	**Stephens Creek**	**51.86**	**104**	LR	LR	18 18 09.7	
	comp=Z,332nm,21.4s,baz=221,slow=31						
SNAA	**Sanae**	**52.48**	**203**	P	**P**	**18 00 26.1**	**+1.1**
SNAA				IAmb	IAmb	18 00 44.1	
	comp=Z,13nm,1.6s						
TOO	**Toolangi**	**52.62**	**112**	P	**P**	**18 00 26.9**	**+0.4**
VNDA	**Vanda**	**52.87**	**164**	LR	LR	18 20 45.4	
	comp=Z,227nm,19.6s,baz=271,slow=34						
VNDA	**Vanda**	**52.87**	**164**	P	**P**	**18 00 27.4**	**-0.4**

QSPA	**South Pole Qui**	**53.14**	**180**		P		**P**	**18 00 29.6**	**-0.5**
QSPA					IAmb		IAmb	18 00 37.2	
	comp=Z,8.4nm,1.4s								
CMAR	**Chiang Mai Arr**	**58.62**	**23**		LR		LR	18 22 49.4	
	comp=Z,102nm,20.4s,baz=238,slow=32								
CMAR	**Chiang Mai Arr**	**58.62**	**23**		P		**P**	**18 01 08.1**	**-1.6**
KBL	**Kabul**	**71.67**	**352**		P		**P**	**18 02 35.2**	**+0.8**
KBL					IAmb		IAmb	18 02 36.4	
	comp=Z,5.2nm,1.0s								
DZM	**Mont Dzumac**	**75.89**	**107**	*e*	LR		LR	18 26 52.8	
	comp=Z,275nm,25.0s								
GEYT	**Alibeck**	**76.80**	**344**		LR		LR	18 33 26.3	
	comp=Z,68nm,18.0s,baz=155,slow=33								
BTK	**Batken**	**76.98**	**354**		P		**P**	**18 03 05.3**	**+0.3**
ARSB	**Arslanbob**	**78.10**	**356**		P		**P**	**18 03 11.8**	**+0.5**
ARSB					IAmb		IAmb	18 03 19.7	
	comp=Z,7.7nm,1.1s								
KDJ	**Kajisay**	**78.77**	**359**		P		**P**	**18 03 15.2**	**+0.1**
AAK	**Ala-Archa**	**79.34**	**357**		P		**P**	**18 03 19.2**	**+1.0**
KK31	**Karatay Array**	**80.03**	**354**		P		**P**	**18 03 21.6**	**-0.2**
KK31					IAmb		IAmb	18 03 24.0	
	comp=Z,8.8nm,1.2s								
KKAR	**Karatay Array**	**80.03**	**354**		P		**P**	**18 03 21.7**	**-0.1**
KKAR					IAmb		IAmb	18 03 24.1	
	comp=Z,8.8nm,1.2s								
KKAR	**Karatay Array**	**80.03**	**354**		P		**P**	**18 03 21.6**	**-0.1**
SIRT	**Sirnak**	**81.10**	**332**		P		**P**	**18 03 27.0**	**-0.7**
MK31	**Makanchi Array**	**83.52**	**3**		P		**P**	**18 03 39.6**	**-0.5**
MK31					IAmb		IAmb	18 03 40.7	
	comp=Z,2.4nm,1.0s								
MKAR	**Makanchi Array**	**83.52**	**3**		P		**P**	**18 03 39.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=181,slow=7.1,SNR=14								
MKAR					LR		LR	18 38 07.1	
	comp=Z,183nm,21.7s,baz=184,slow=34								
MKAR	**Makanchi Array**	**83.52**	**3**		P		**P**	**18 03 39.7**	**-0.4**
MAKZ	**Makanchi**	**83.52**	**3**		P		**P**	**18 03 39.9**	**-0.2**
MAKZ					IAmb		IAmb	18 03 40.8	
	comp=Z,5.6nm,1.3s								
TORD	**Torodi Ar. Bea**	**87.16**	**289**		LR		LR	18 42 20.8	
	comp=Z,296nm,18.4s,baz=125,slow=35								
KSRS	**Korea Array**	**87.31**	**38**		LR		LR	18 39 55.8	
	comp=Z,14nm,21.5s,baz=223,slow=34								
SONM	**Songino Array**	**88.21**	**19**		LR		LR	18 43 00.9	
	comp=Z,85nm,18.9s,baz=210,slow=35								
DBIC	**Dimbokro**	**88.28**	**280**		LR		LR	18 40 25.5	
	comp=Z,168nm,19.7s,baz=112,slow=34								
ZALV	**Zalesovo Beam**	**90.79**	**4**		LR		LR	18 43 45.3	
	comp=Z,90nm,19.6s,baz=196,slow=35								
MJAR	**Matsushiro Arr**	**92.03**	**44**		LR		LR	18 42 01.4	
	comp=Z,27nm,22.0s,baz=320,slow=33								
KEST	**Kesra**	**96.38**	**310**		LR		LR	18 47 23.8	
	comp=Z,59nm,18.6s,baz=317,slow=35								
TBI	**Tubuai**	**105.15**	**135**	*e*	LR		LR	18 40 25.0	
	comp=Z,111nm,32.8s								
PPT2	**Papeete2**	**109.59**	**132**	*e*	LR		LR	18 42 26.4	
	comp=Z,56nm,24.0s								

*NEIC **05** 17:57:48.7±1.3, 36.66N±0.02×98.28W±0.05, h7km±6km, Error ellipse: s-maj=5.9km s-min=3.1km az=96.0*
*ANF **05** 17:57:48.9±0.3, 36.62N×98.25W, h5km, ML3.6/9, Error ellipse: s-maj=3.4km s-min=3.3km az=108.0*
*TUL **05** 17:57:48.3±1.7, 36.66N±0.02×98.30W±0.04, h5km±6km, ML3.3, mb_Lg3.0/77(NEIC), Error ellipse: s-maj=4.7km s-min=2.7km az=94.0*
ISC 05 17:57:48.8±1.1, 36.64N±0.02×98.27W±0.02, h6km±11km, n97, σ0s69/93, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.17**	**16**		**Pg**	**17 57 52.0**	**-0.1**
OK032					**Sg**	**17 57 54.6**	**+0.2**
CROK	**Carrier**	**0.27**	**121**		**Pg**	**17 57 54.3**	**+0.3**
GC02	**Grant County #**	**0.39**	**58**		**Pg**	**17 57 56.4**	**+0.1**
GC02				Sg	**Sg**	**17 58 02.1**	**+0.7**
KAN10	**Anthony SW Sta**	**0.50**	**16**		**Pg**	**17 57 58.0**	**-0.3**
KAN10				Sg	**Sg**	**17 58 04.8**	**-0.1**
KAN16	**Harper SW Stat**	**0.60**	**16**		**Pg**	**17 58 00.0**	**-0.4**
KAN16				Sg	**Sg**	**17 58 08.2**	**0.0**
KAN08	**Anthony NE Sta**	**0.63**	**22**		**Pg**	**17 58 00.6**	**-0.3**
KAN08				Sg	**Sg**	**17 58 09.1**	**0.0**
U32A	**Winter Ranch,**	**0.65**	**246**	Pg	**Pg**	**17 58 00.7**	**-0.6**
U32A				Sg	**Sg**	**17 58 09.6**	**0.0**
U32A	**Winter Ranch,**	**0.65**	**246**	P	**Pg**	**17 58 00.6**	**-0.6**
	baz=63,SNR=9.1						
U32A				S	**Sg**	**17 58 09.7**	**0.0**
	baz=63						
U32A	**Winter Ranch,**	**0.65**	**246**	P		17 58 00.6	
	baz=63,SNR=9.1						
U32A				S		17 58 09.7	
	baz=63						
KAN12	**Harper NE Stat**	**0.69**	**18**		**Pg**	**17 58 01.5**	**-0.5**
KAN12				Sg	**Sg**	**17 58 10.7**	**-0.3**
KAN09	**Caldwell North**	**0.72**	**47**		**Pg**	**17 58 02.2**	**-0.4**
KAN09				Sg	**Sg**	**17 58 12.0**	**+0.1**
KAN13	**South Haven SW**	**0.73**	**60**		**Pg**	**17 58 02.5**	**-0.3**
KAN13				Sg	**Sg**	**17 58 12.0**	**-0.4**
OK029	**Liberty Lake**	**1.07**	**142**		**Pg**	**17 58 08.7**	**-0.6**
OK029				Sg	**Sg**	**17 58 23.8**	**+0.5**
BCOK	**Bluff Creek, N**	**1.12**	**151**		**Pg**	**17 58 09.6**	**-0.7**
BCOK				Sg	**Sg**	**17 58 25.2**	**+0.4**
OK025	**Westminster Rd**	**1.30**	**144**		**Pn**	**17 58 12.8**	**-0.8**
OK025				Sg	**Sg**	**17 58 30.6**	**0.0**
OK031	**S. Brethren Rd**	**1.34**	**120**		**Pn**	**17 58 13.6**	**-0.5**
QUOK	**Quay**	**1.34**	**110**		**Pn**	**17 58 13.8**	**-0.3**
QUOK				Sn	**Sb**	**17 58 31.6**	**-0.3**
OKCFA	**Oklahoma City**	**1.39**	**151**		**Pn**	**17 58 14.2**	**-0.6**
OKCFA	**Oklahoma City**	**1.39**	**151**	P	**Pn**	**17 58 14.2**	**-0.6**
	baz=332,SNR=5.2						
OKCFA				S	**Sb**	**17 58 33.6**	**+0.3**
	baz=332						
OKCFA	**Oklahoma City**	**1.39**	**151**	P		17 58 14.2	
	baz=332,SNR=5.2						
OKCFA				S		17 58 33.6	
	baz=332						
OK030	**Cody Creek RV**	**1.40**	**120**		**Pn**	**17 58 14.4**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**1.41**	**151**		**Pn**	**17 58 14.6**	**-0.4**
T35A	**Sooner Cattle**	**1.44**	**79**		**Pn**	**17 58 15.1**	**-0.3**
T35B	**Sooner Cattle**	**1.44**	**79**	P	**Pn**	**17 58 15.2**	**-0.2**
	baz=260						
T35B				S	**Sb**	**17 58 34.3**	**-0.2**
	baz=260						
T35B	**Sooner Cattle**	**1.44**	**79**	P		17 58 15.2	
	baz=260						
T35B				S		17 58 34.3	
	baz=260						
FNO	**Franklin**	**1.55**	**153**		**Pn**	**17 58 16.9**	**-0.1**
R32A	**Long Quarter,**	**1.81**	**349**		**Pn**	**17 58 21.0**	**+0.5**
R32A	**Long Quarter,**	**1.81**	**349**	P	**Pn**	**17 58 21.1**	**+0.5**
	baz=169,SNR=20						
R32A				S	**Sb**	**17 58 45.2**	**-0.1**
	baz=169						
R32A	**Long Quarter,**	**1.81**	**349**	P		17 58 21.1	
	baz=169,SNR=20						
R32A				S		17 58 45.2	
	baz=169						
W35A	**Tecumseh**	**1.87**	**142**	IAmb_Lg		17 58 47.2	
	comp=Z,70nm,0.8s						
WMOK	**Wichita Mounta**	**1.95**	**193**		**Pn**	**17 58 22.6**	**+0.2**
WMOK	**Wichita Mounta**	**1.95**	**193**	P	**Pn**	**17 58 22.7**	**+0.2**
	baz=11						
WMOK				S	**Sb**	**17 58 49.6**	**+0.3**
	baz=11						
WMOK	**Wichita Mounta**	**1.95**	**193**	P		17 58 22.4	
	baz=11,SNR=18						
WMOK				Sb		17 58 49.6	
	baz=11						
WMOK	**Wichita Mounta**	**1.95**	**193**	P		17 58 22.7	
	baz=11						
WMOK				S		17 58 49.6	
	baz=11						
X34A	**Smith Ranch, M**	**2.07**	**170**	Pn	**Pn**	**17 58 25.2**	**+1.1**
TUL1	**Leonard**	**2.13**	**109**	P	**Pn**	**17 58 25.0**	**+0.1**
	baz=291,SNR=12						
TUL1	**Leonard**	**2.13**	**109**	P		17 58 25.1	
	baz=291,SNR=12						
TUL1				Sb		17 58 54.9	
	baz=291						
TUL1	**Leonard**	**2.13**	**109**	P		17 58 25.0	
	baz=291,SNR=12						
CBKS	**Cedar Bluff**	**2.46**	**332**	Pn	**Pn**	**17 58 30.6**	**+1.1**
CBKS	**Cedar Bluff**	**2.46**	**332**	S	**Sb**	**17 59 03.9**	**-0.1**
	baz=152						
CBKS	**Cedar Bluff**	**2.46**	**332**	P		17 58 30.1	
	baz=152						
CBKS				S		17 59 01.7	
	baz=152						
CBKS	**Cedar Bluff**	**2.46**	**332**	S		17 59 03.9	
	baz=152						
KSU1	**Kansas State U**	**2.78**	**28**		**Pn**	**17 58 34.3**	**+0.4**
KSU1				IAmb_Lg		17 59 22.1	
	comp=Z,39nm,0.9s						
KSU1	**Kansas State U**	**2.78**	**28**	P		17 58 34.6	
	baz=209						
KSU1				S		17 59 09.0	
	baz=209						
LOOK	**Love County**	**2.79**	**161**		**Pn**	**17 58 34.8**	**+0.7**
X37A	**Clayton**	**3.13**	**130**		**Pn**	**17 58 38.8**	**+0.2**
X37A				IAmb_Lg		17 59 31.3	
	comp=Z,30nm,0.7s						
X37A	**Clayton**	**3.13**	**130**	P	**Pn**	**17 58 38.8**	**+0.2**
	baz=312,SNR=6.7						
X37A	**Clayton**	**3.13**	**130**	P		17 58 38.8	
	baz=312,SNR=6.7						
U38A	**Gravette**	**3.13**	**93**		**Pn**	**17 58 38.5**	**-0.2**
Z35A	**Perchaven, San**	**3.41**	**166**	Pn	**Pn**	**17 58 43.2**	**+0.7**
HHAR	**Hobbs**	**3.51**	**95**		**Pn**	**17 58 42.6**	**-1.2**
W39A	**Magazine**	**3.92**	**110**	Pn	**Pn**	**17 58 49.9**	**+0.4**
W39A				IAmb_Lg		18 00 03.9	
	comp=Z,46nm,0.8s						
W39A	**Magazine**	**3.92**	**110**	P		17 58 50.1	
	baz=293,SNR=6.4						
S39A	**Bolivar**	**4.09**	**74**		**Pn**	**17 58 52.1**	**+0.3**
S39A	**Bolivar**	**4.09**	**74**	P	**Pn**	**17 58 52.1**	**+0.3**
	baz=257,SNR=10						
S39A	**Bolivar**	**4.09**	**74**	P		17 58 52.1	
	baz=257,SNR=10						
N33A	**J Bar K, Exete**	**4.14**	**9**	Pn	**Pn**	**17 58 51.1**	**-1.5**
ABTX	**Abilene, Hawle**	**4.17**	**196**	Pn	**Pn**	**17 58 51.4**	**-1.6**
ABTX				IAmb_Lg		18 00 00.6	
	comp=Z,38nm,1.3s						
ABTX	**Abilene, Hawle**	**4.17**	**196**	P	**Pn**	**17 58 52.6**	**-0.4**
	baz=15						
ABTX	**Abilene, Hawle**	**4.17**	**196**	P		17 58 52.5	
	baz=15						
ABTX				S		17 59 41.4	
	baz=15						
ABTX	**Abilene, Hawle**	**4.17**	**196**	P		17 58 52.6	
	baz=15						
KSCO	**Kaye Shedlock'**	**4.18**	**306**		**Pn**	**17 58 51.9**	**-1.4**
KSCO	**Kaye Shedlock'**	**4.18**	**306**	P		17 58 53.7	
	baz=123						
KSCO				Sb		17 59 58.9	
	baz=123						
Z38A	**Mt. Pleasant**	**4.32**	**140**	Pn	**Pn**	**17 58 54.9**	**-0.1**
Z38A				IAmb_Lg		18 00 12.8	
	comp=Z,43nm,1.2s						
MIAR	**Mount Ida**	**4.36**	**117**		**Pn**	**17 58 55.9**	**+0.3**
MIAR				IAmb_Lg		18 00 14.0	
	comp=Z,21nm,0.8s						
MIAR	**Mount Ida**	**4.36**	**117**	S		17 59 47.1	
	baz=300						
U40A	**Yellville**	**4.37**	**92**		**Pn**	**17 58 56.5**	**+0.8**
U40A	**Yellville**	**4.37**	**92**	P		17 58 56.2	
	baz=276						
U40A				S		17 59 46.4	
	baz=276						
MSTX	**Muleshoe**	**4.55**	**235**		**Pn**	**17 58 58.2**	**-0.1**
MSTX	**Muleshoe**	**4.55**	**235**	P		17 58 58.3	
	baz=52						
N35A	**Tabor**	**4.68**	**25**	Pn	**Pn**	**17 58 60.0**	**-0.1**
WHTX	**Lake Whitney,**	**4.69**	**172**	Pn	**Pn**	**17 59 00.9**	**+0.8**
WHTX	**Lake Whitney,**	**4.69**	**172**	P		17 59 00.0	
	baz=352						
WHTX				S		17 59 54.1	
	baz=352						
BGNE	**Belgrade**	**4.76**	**1**	Pn	**Pn**	**17 59 01.0**	**-0.1**
BGNE	**Belgrade**	**4.76**	**1**	P		17 59 01.0	
	baz=181						
BGNE				S		17 59 57.7	
	baz=181						
P38A	**Dawn**	**4.77**	**50**		**Pn**	**17 59 01.5**	**+0.2**
MGMO	**Mountain Grove**	**4.84**	**82**	Pn	**Pn**	**17 59 03.0**	**+0.9**
X40A	**Basin Creek Fa**	**4.92**	**114**	Pn	**Pn**	**17 59 02.5**	**-0.8**
X40A				IAmb_Lg		18 00 25.4	
	comp=Z,19nm,0.9s						
T25A	**Trinidad**	**4.95**	**278**	Pn	**Pn**	**17 59 03.3**	**-0.6**
T25A				IAmb_Lg		18 00 32.0	
	comp=Z,36nm,0.8s						
T25A	**Trinidad**	**4.95**	**278**	P		17 59 03.7	
	baz=94						
T25A				Sb		18 00 20.4	
	baz=94						
FCAR	**Ozark Folk Cen**	**5.02**	**97**	Pn	**Pn**	**17 59 03.8**	**-0.9**
FCAR				IAmb_Lg		18 00 30.4	
	comp=Z,27nm,0.8s						
WHAR	**Wooly Hollow**	**5.04**	**104**		**Pn**	**17 59 03.4**	**-1.5**
WHAR				IAmb_Lg		18 00 31.0	
	comp=Z,31nm,0.8s						
R40A	**Maddies Statio**	**5.05**	**69**		**Pn**	**17 59 04.9**	**-0.2**
R40A				IAmb_Lg		18 00 32.9	
	comp=Z,16nm,0.7s						
237A	**Washetta, Mont**	**5.06**	**156**	Pn	**Pn**	**17 59 04.3**	**-0.9**
237A				IAmb_Lg		18 00 36.7	
	comp=Z,15nm,0.8s						
W41B	**Gary Mavity, V**	**5.10**	**105**	S		18 00 03.8	
	baz=289						
WLAR	**White Oak Lake**	**5.15**	**123**	Pn	**Pn**	**17 59 06.2**	**-0.3**
WLAR				IAmb_Lg		18 00 37.8	
	comp=Z,22nm,0.8s						
OGNE	**Ogallala**	**5.20**	**327**		**Pn**	**17 59 08.3**	**+1.0**
OGNE				IAmb_Lg		18 00 33.3	
	comp=Z,30nm,0.8s

K22A	**Casper**	**8.74**	**316**	IAmb_Lg		18 02 39.6
	comp=Z,14nm,1.1s					
JFWS	**Jewell Farm**	**8.79**	**42**	IAmb_Lg		18 02 37.9
	comp=Z,11nm,0.8s					
T47A	**Sharon Grove**	**8.96**	**84**	IAmb_Lg		18 02 45.7
	comp=Z,13nm,0.9s					
P46A	**Rosedale**	**9.21**	**68**	IAmb_Lg		18 02 42.8
	comp=Z,14nm,0.7s					
V48A	**Smith Brothers**	**9.30**	**92**	IAmb_Lg		18 02 41.6
	comp=Z,10nm,0.9s					
X48A	**Hartselle**	**9.40**	**100**	IAmb_Lg		18 02 50.4
	comp=Z,6.8nm,0.8s					
CLTN	**Cedars of Leba**	**9.64**	**90**	IAmb_Lg		18 03 16.3
	comp=Z,14nm,1.2s					
WCI	**Wyandotte Cave**	**9.65**	**77**	IAmb_Lg		18 02 58.9
	comp=Z,11nm,0.8s					

NEIC ***05*** *18:31:35.5±1.4, 36.˚18N±0.˚01×96.˚99W±0.˚02, h5km±7km, Error ellipse: s-maj=2.7km s-min=1.9km az=87.0*
TUL ***05*** *18:31:35.2±1.5, 36.˚17N±0.˚01×96.˚98W±0.˚02, h5km±7km, ML3.2, mb_Lg3.2/103(NEIC), Error ellipse: s-maj=2.7km s-min=1.7km az=83.0*
ANF ***05*** *18:31:35.3±0.2, 36.˚16N×96.˚95W, h5km, ML3.8/6, Error ellipse: s-maj=2.5km s-min=2.0km az=128.0*

ISC 05 18:31:35.4±1.0, 36.˚18N±0.˚02×96.˚99W±0.˚02, h10km±10km, n104, σ0°93/99, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.22**	**91**		**Pg**	**18 31 40.1**	**+0.1**
QUOK				Sg	**Sg**	**18 31 43.4**	**+0.2**
OK031	**S. Brethren Rd**	**0.25**	**152**		**Pg**	**18 31 40.3**	**-0.2**
OK031				Sg	**Sg**	**18 31 43.9**	**0.0**
OK030	**Cody Creek RV**	**0.30**	**147**		**Pg**	**18 31 41.2**	**-0.1**
OK030				Sg	**Sg**	**18 31 45.2**	**-0.1**
OK029	**Liberty Lake**	**0.54**	**225**		**Pg**	**18 31 45.6**	**-0.2**
OK029				Sg	**Sg**	**18 31 52.9**	**0.0**
OK005	**Luther M Schoo**	**0.55**	**198**		**Pg**	**18 31 45.8**	**-0.2**
OK025	**Westminster Rd**	**0.66**	**206**		**Pg**	**18 31 47.8**	**-0.3**
OK025				Sg	**Sg**	**18 31 57.1**	**+0.3**
BCOK	**Bluff Creek, N**	**0.72**	**225**		**Pg**	**18 31 49.0**	**-0.3**
BCOK				Sg	**Sg**	**18 31 58.9**	**0.0**
T35A	**Sooner Cattle**	**0.83**	**27**		**Pg**	**18 31 51.3**	**-0.1**
T35A				Sg	**Sg**	**18 32 01.5**	**-0.8**
T35B	**Sooner Cattle**	**0.83**	**27**	P	**Pg**	**18 31 51.3**	**-0.1**
	baz=207						
T35B				S	**Sg**	**18 32 03.0**	**+0.7**
	baz=207						
T35B	**Sooner Cattle**	**0.83**	**27**	P		18 31 51.3	
	baz=207						
T35B				S		18 32 03.0	
	baz=207						
OKCFA	**Oklahoma City**	**0.85**	**207**		**Pg**	**18 31 51.1**	**-0.6**
OKCFA				Sg	**Sg**	**18 32 02.7**	**-0.1**
OKCFA	**Oklahoma City**	**0.85**	**207**	P	**Pg**	**18 31 51.1**	**-0.6**
	baz=27						
OKCFA				S	**Sg**	**18 32 02.9**	**+0.1**
	baz=27						
OKCFA	**Oklahoma City**	**0.85**	**207**	P		18 31 51.1	
	baz=27						
OKCFA				S		18 32 02.9	
	baz=27						
OKCSW	**OKLAHOMA CITY**	**0.85**	**206**		**Pg**	**18 31 51.0**	**-0.8**
OKCSW				Sg	**Sg**	**18 32 02.9**	**0.0**
CROK	**Carrier**	**0.87**	**292**		**Pg**	**18 31 51.9**	**-0.3**
CROK				Sg	**Sg**	**18 32 03.6**	**+0.1**
KAN13	**South Haven SW**	**0.93**	**335**		**Pg**	**18 31 53.1**	**-0.1**
KAN13				Sg	**Sg**	**18 32 05.4**	**+0.2**
GC02	**Grant County #**	**0.97**	**314**		**Pg**	**18 31 53.9**	**-0.3**
FNO	**Franklin**	**0.98**	**200**		**Pg**	**18 31 53.1**	**-1.1**
FNO				IAmb_Lg		18 32 05.3	
	comp=Z,385nm,0.9s						
FNO				Sg	**Sg**	**18 32 06.7**	**-0.2**
TUL1	**Leonard**	**1.00**	**105**	P	**Pg**	**18 31 53.8**	**-0.8**
	baz=285						
TUL1				S	**Sg**	**18 32 06.9**	**-0.8**
	baz=285						
TUL1	**Leonard**	**1.00**	**105**	P		18 31 53.8	
	baz=285						
TUL1				S		18 32 06.9	
	baz=285						
KAN09	**Caldwell North**	**1.09**	**332**		**Pg**	**18 31 55.8**	**-0.5**
KAN09				Sg	**Sg**	**18 32 10.3**	**-0.1**
OK032	**Salt Plains WL**	**1.17**	**303**	Pg	**Pg**	**18 31 57.3**	**-0.6**
OK032				Sg	**Sg**	**18 32 12.9**	**-0.2**
KAN10	**Anthony SW Sta**	**1.30**	**317**		**Pn**	**18 31 59.7**	**0.0**
KAN08	**Anthony NE Sta**	**1.31**	**323**		**Pn**	**18 31 59.9**	**+0.1**
KAN16	**Harper SW Stat**	**1.36**	**321**	Pn	**Pn**	**18 32 00.7**	**+0.2**
KAN12	**Harper NE Stat**	**1.38**	**324**		**Pn**	**18 32 01.4**	**+0.6**
U32A	**Winter Ranch,**	**1.64**	**278**		**Pn**	**18 32 05.0**	**+0.6**
U32A	**Winter Ranch,**	**1.64**	**278**	P	**Pn**	**18 32 05.3**	**+0.9**
	baz=97						
U32A	**Winter Ranch,**	**1.64**	**278**	P		18 32 05.3	
	baz=97						
X34A	**Smith Ranch, M**	**1.72**	**204**		**Pn**	**18 32 06.1**	**+0.8**
WMOK	**Wichita Mounta**	**2.05**	**226**		**Pn**	**18 32 10.7**	**+0.7**
WMOK	**Wichita Mounta**	**2.05**	**226**	P	**Pn**	**18 32 10.8**	**+0.8**
	baz=45						
WMOK				S	**Sb**	**18 32 38.1**	**-0.2**
	baz=45						
WMOK	**Wichita Mounta**	**2.05**	**226**	P		18 32 10.8	
	baz=45						
WMOK				S		18 32 38.1	
	baz=45						
X37A	**Clayton**	**2.06**	**140**		**Pn**	**18 32 11.4**	**+1.3**
X37A	**Clayton**	**2.06**	**140**	P	**Pn**	**18 32 11.5**	**+1.5**
	baz=321						
X37A				Sb	**Sg**	**18 32 40.7**	**-0.9**
	baz=321						
X37A	**Clayton**	**2.06**	**140**	P		18 32 11.5	
	baz=321						
X37A				Sb		18 32 40.7	
	baz=321						
U38A	**Gravette**	**2.12**	**82**		**Pn**	**18 32 12.2**	**+1.4**
U38A				IAmb_Lg		18 32 43.6	
	comp=Z,135nm,1.0s						
LOOK	**Love County**	**2.18**	**184**		**Pn**	**18 32 13.0**	**+1.2**
LOOK				IAmb_Lg		18 32 46.5	
	comp=Z,113nm,0.8s						
HHAR	**Hobbs**	**2.46**	**87**		**Pn**	**18 32 16.8**	**+1.1**
R32A	**Long Quarter,**	**2.63**	**329**		**Pn**	**18 32 18.8**	**+0.8**
R32A				IAmb_Lg		18 32 59.7	
	comp=Z,76nm,0.7s						
R32A	**Long Quarter,**	**2.63**	**329**	P	**Pn**	**18 32 19.0**	**+1.0**
	baz=148						
R32A	**Long Quarter,**	**2.63**	**329**	P		18 32 19.0	
	baz=148						
W39A	**Magazine**	**2.78**	**110**	Pn	**Pn**	**18 32 21.4**	**+1.4**
Z35A	**Perchaven, San**	**2.85**	**185**	Pn	**Pn**	**18 32 21.7**	**+0.8**
KSU1	**Kansas State U**	**2.94**	**6**		**Pn**	**18 32 23.2**	**+1.1**
MIAR	**Mount Ida**	**3.23**	**119**	Pn	**Pn**	**18 32 27.5**	**+1.4**
S39A	**Bolivar**	**3.30**	**62**		**Pn**	**18 32 28.7**	**+1.6**
S39A				IAmb_Lg		18 33 23.7	
	comp=Z,60nm,0.9s						
Z38A	**Mt. Pleasant**	**3.34**	**150**	Pn	**Pn**	**18 32 28.8**	**+1.1**
Z38A				IAmb_Lg		18 33 25.7	
	comp=Z,61nm,0.8s						
U40A	**Yellville**	**3.34**	**86**	Pn	**Pn**	**18 32 28.6**	**+0.9**
U40A				IAmb_Lg		18 33 23.7	
	comp=Z,60nm,0.8s						
CBKS	**Cedar Bluff**	**3.42**	**321**	Pn	**Pn**	**18 32 30.1**	**+1.2**
MGMO	**Mountain Grove**	**3.92**	**74**		**Pn**	**18 32 35.5**	**-0.1**
MGMO				IAmb_Lg		18 33 42.8	
	comp=Z,45nm,0.8s						
WHAR	**Wooly Hollow**	**3.92**	**102**	Pn	**Pn**	**18 32 35.0**	**-0.7**
WHAR				IAmb_Lg		18 33 43.9	
	comp=Z,73nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.95**	**93**		**Pn**	**18 32 37.6**	**+1.6**
FCAR				IAmb_Lg		18 33 40.5	
	comp=Z,51nm,0.7s						
ABTX	**Abilene, Hawle**	**4.17**	**213**	Pn	**Pn**	**18 32 39.7**	**+0.6**
ABTX				IAmb_Lg		18 33 49.0	
	comp=Z,40nm,0.9s						
237A	**Washetta, Mont**	**4.28**	**166**	Pn	**Pn**	**18 32 40.7**	**+0.1**
R40A	**Maddies Statio**	**4.32**	**59**		**Pn**	**18 32 40.9**	**-0.2**
R40A				IAmb_Lg		18 33 52.2	
	comp=Z,44nm,0.8s						
P38A	**Dawn**	**4.39**	**37**		**Pn**	**18 32 43.4**	**+1.2**
P38A				IAmb_Lg		18 34 06.5	
	comp=Z,54nm,0.8s						
N33A	**J Bar K, Exete**	**4.57**	**356**		**Pn**	**18 32 44.4**	**-0.2**
LCAR	**Lake Charles**	**4.72**	**90**	Pn	**Pn**	**18 32 47.6**	**+1.0**
LCAR				IAmb_Lg		18 34 14.5	
	comp=Z,33nm,0.8s						
N35A	**Tabor**	**4.79**	**12**		**Pn**	**18 32 48.6**	**+0.9**
NATX	**Nacogdoches**	**4.81**	**156**	Pn	Pn	18 32 43.1	-4.8
NATX				IAmb_Lg		18 34 20.5	
	comp=Z,44nm,1.1s						
T42A	**Van Buren**	**4.82**	**78**		**Pn**	**18 32 49.1**	**+1.2**
T42A				IAmb_Lg		18 34 13.7	
	comp=Z,58nm,0.8s						
CCAR	**Cane Creek**	**4.83**	**116**	Pn	**Pn**	**18 32 44.5**	**-3.7**
CCAR				IAmb_Lg		18 34 20.3	
	comp=Z,58nm,1.1s						
P40A	**Paris**	**5.14**	**48**		**Pn**	**18 32 53.9**	**+1.4**
P40A				IAmb_Lg		18 34 26.0	
	comp=Z,63nm,0.8s						
HBAR	**Harrisburg**	**5.18**	**95**	Pn	**Pn**	**18 32 54.0**	**+1.1**
MSTX	**Muleshoe**	**5.23**	**247**		**Pn**	**18 32 54.9**	**+1.1**
KSCO	**Kaye Shedlock'**	**5.30**	**304**	Pn	**Pn**	**18 32 54.3**	**-0.5**
KSCO				IAmb_Lg		18 34 26.4	
	comp=Z,29nm,0.8s						
BGNE	**Belgrade**	**5.30**	**350**		**Pn**	**18 32 54.6**	**-0.1**
PBMO	**Poplar Bluff**	**5.32**	**82**	Pn	**Pn**	**18 32 54.5**	**-0.3**
PBMO				IAmb_Lg		18 34 30.8	
	comp=Z,44nm,0.8s						
435B	**Jarrell**	**5.40**	**185**	Pn	**Pn**	**18 32 58.5**	**+2.5**
N38A	**Joes South For**	**5.47**	**31**	Pn	**Pn**	**18 32 57.8**	**+0.8**
L34A	**Svendsen Farm,**	**5.80**	**4**		**Pn**	**18 32 58.8**	**-2.8**
SLM	**Saint Louis**	**5.91**	**63**	Pn	**Pn**	**18 33 01.6**	**-1.3**
SLM				IAmb_Lg		18 34 45.1	
	comp=Z,50nm,0.8s						
T25A	**Trinidad**	**6.05**	**281**	Pn	**Pn**	**18 33 05.1**	**0.0**
T25A				IAmb_Lg		18 34 50.7	
	comp=Z,23nm,0.7s						
JCT	**Junction City**	**6.15**	**203**	Pn	**Pn**	**18 33 06.9**	**+0.5**
JCT				IAmb_Lg		18 34 57.1	
	comp=Z,32nm,0.7s						
OGNE	**Ogallala**	**6.19**	**322**	Pn	**Pn**	**18 33 06.7**	**-0.3**
OGNE				IAmb_Lg		18 34 54.1	
	comp=Z,37nm,0.8s						
S44A	**Carbondale**	**6.37**	**74**	Pn	**Pn**	**18 33 10.0**	**+0.6**
SIUC	**Southern Illin**	**6.41**	**74**	Pn	**Pn**	**18 33 10.2**	**+0.4**
OXF	**Oxford**	**6.41**	**103**	IAmb_Lg		18 35 02.7	
	comp=Z,24nm,0.8s						
W45A	**Hickory Valley**	**6.43**	**97**	IAmb_Lg		18 35 12.7	
	comp=Z,36nm,0.9s						
SCIA	**State Center**	**6.43**	**26**	Pn	**Pn**	**18 33 10.0**	**-0.1**
SCIA				IAmb_Lg		18 35 15.7	
	comp=Z,48nm,0.8s						
Y45A	**Yeager Farm, C**	**6.53**	**109**	Pn	**Pn**	**18 33 11.0**	**-0.5**
Y45A				IAmb_Lg		18 35 12.9	
	comp=Z,20nm,0.8s						
K31A	**O'Neill**	**6.58**	**349**	Pn	**Pn**	**18 33 12.5**	**+0.2**
N41A	**Harden Midland**	**6.60**	**45**	Pn	**Pn**	**18 33 11.1**	**-1.4**
SDCO	**Great Sand Dun**	**7.00**	**285**		**Pn**	**18 33 19.2**	**+1.0**
344A	**Westbrook Farm**	**7.02**	**130**	Pn	**Pn**	**18 33 18.2**	**0.0**
344A				IAmb_Lg		18 35 29.7	
	comp=Z,26nm,0.8s						
K38A	**Parkersburg**	**7.24**	**25**	IAmb_Lg		18 35 40.0	
	comp=Z,28nm,0.7s						
PLAL	**Pickwick Lake**	**7.36**	**97**	IAmb_Lg		18 35 31.7	
	comp=Z,17nm,0.9s						
L40A	**Anamosa**	**7.39**	**36**	IAmb_Lg		18 35 28.5	
	comp=Z,41nm,0.9s						
ECSD	**EROS Data Cent**	**7.55**	**2**	Pn	**Pn**	**18 33 25.2**	**-0.4**
ISCO	**Idaho Springs**	**7.71**	**301**	Pn	**Pn**	**18 33 26.9**	**-1.2**
ANMO	**Albuquerque**	**7.82**	**264**	Pn	**Pn**	**18 33 30.5**	**+1.2**
T47A	**Sharon Grove**	**7.99**	**81**	IAmb_Lg		18 35 58.1	
	comp=Z,35nm,0.9s						
MNTX	**Cornudas Mount**	**8.28**	**240**	Pn	**Pn**	**18 33 36.5**	**+0.8**
I37A	**Lemond, Waseca**	**8.30**	**18**	IAmb_Lg		18 36 17.7	
	comp=Z,20nm,0.7s						
X48A	**Hartselle**	**8.30**	**99**	IAmb_Lg		18 35 59.1	
	comp=Z,15nm,0.9s						
SUSD	**Miller**	**8.39**	**350**	IAmb_Lg		18 36 11.1	
	comp=Z,37nm,0.9s						
JFWS	**Jewell Farm**	**8.50**	**36**	IAmb_Lg		18 36 06.0	
	comp=Z,23nm,0.7s						
CLTN	**Cedars of Leba**	**8.62**	**87**	IAmb_Lg		18 36 12.1	
	comp=Z,18nm,1.1s						
WCI	**Wyandotte Cave**	**8.77**	**73**	IAmb_Lg		18 36 23.0	
	comp=Z,26nm,0.8s						
SFIN	**Lafayette**	**8.83**	**59**	IAmb_Lg		18 36 25.7	
	comp=Z,29nm,0.8s						
U49A	**Red Boiling Sp**	**9.05**	**85**	IAmb_Lg		18 36 19.0	
	comp=Z,16nm,1.2s						
I40A	**Norwalk**	**9.12**	**30**	IAmb_Lg		18 36 22.2	
	comp=Z,18nm,0.8s						
W50A	**Signal Mountai**	**9.55**	**92**	IAmb_Lg		18 36 48.2	
	comp=Z,21nm,0.8s						
RSSD	**Black Hills**	**9.59**	**328**	IAmb_Lg		18 36 53.2	
	comp=Z,14nm,0.8s						
R49A	**Shelbyville**	**9.65**	**74**	IAmb_Lg		18 36 52.1	
	comp=Z,14nm,0.9s						
F33A	**5 Mile Ranch,**	**9.67**	**3**	IAmb_Lg		18 36 37.5	
	comp=Z,14nm,1.1s						
RWWY	**Rawlins**	**9.68**	**308**	IAmb_Lg		18 36 59.3	
	comp=Z,13nm,1.1s						
P48A	**Milroy**	**9.71**	**67**	IAmb_Lg		18 36 47.1	
	comp=Z,20nm,0.7s						
T50A	**Nancy**	**9.80**	**81**	IAmb_Lg		18 36 57.2	
	comp=Z,14nm,0.8s						
K22A	**Casper**	**9.81**	**314**	IAmb_Lg		18 37 12.9	
	comp=Z,25nm,1.1s						

IDC ***05*** *18:41:33.5±2.4, 5.˚95S×147.˚93E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/37, mbtmp3.8/6, ML2.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=73.7km s-min=22.0km az=94.0*
NEIC ***05*** *18:41:46.5±2.5, 6.˚52S±0.˚07×147.˚9E±0.˚1, h104km±11km, mb4.3/9, Error ellipse: s-maj=16.1km s-min=9.4km az=79.0*

ISC 05 18:41:45.5±0.7, 6.˚51S±0.˚06×148.˚00E±0.˚09, h100km, n19, σ1°72/21, mb3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.99**	**196**	Pn	**Pn**	**18 42 31.0**	**-0.2**
	16nm,0.3s,baz=357,slow=5.6,SNR=26						
PMG				Sn	**Sn**	**18 43 07.7**	**+1.4**
	8.5nm,0.3s,baz=227,slow=23,SNR=6.5						
PMG				LR	LR	18 44 16.1	
	comp=Z,168nm,18.9s,baz=348,slow=46						
PMG	**Port Moresby**	**2.99**	**196**		**Pn**	**18 42 30.9**	**-0.3**
PMG				Sn	**Sn**	**18 43 05.2**	**-1.2**
MANU	**Manus Island**	**4.48**	**352**	Pn	**Pn**	**18 42 52.1**	**+0.9**
RABL	**Rabaul**	**4.75**	**61**		**Pn**	**18 42 56.1**	**+1.3**
EIDS	**Eidsvold**	**18.98**	**171**	P	**Pn**	**18 46 02.5**	**+1.5**
EIDS				IAmb	IAmb	18 46 45.3	
	comp=Z,27nm,1.6s						
SANVU	**Saraoutou**	**20.82**	**117**	P	**P**	**18 46 20.4**	**+1.2**
SANVU				IAmb	IAmb	18 46 22.4	
	comp=Z,35nm,0.9s						
KNRA	**Kununurra**	**20.94**	**243**	P	**P**	**18 46 20.4**	**0.0**
KNRA				IAmb	IAmb	18 46 21.4	
	comp=Z,22nm,1.1s						
AS31	**Alice Springs**	**21.78**	**217**	P	**P**	**18 46 30.6**	**+1.2**
ASAR	**Alice Springs**	**21.78**	**217**	P	**P**	**18 46 31.2**	**+1.8**
	comp=Z,1.8nm,0.5s,baz=52,slow=9.1,SNR=52						
ASAR	**Alice Springs**	**21.78**	**217**	P	**P**	**18 46 29.2**	**-0.2**
TNTI	**Ternate**	**21.83**	**289**	P	**P**	**18 46 29.2**	**-0.7**
TNTI				IAmb	IAmb	18 46 38.0	
	comp=Z,9.7nm,0.9s						
OUENC	**Ouen Island, N**	**24.09**	**133**	P	**P**	**18 46 50.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**24.66**	**240**	P	**P**	**18 46 58.1**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=50,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**25.93**	**193**	P	**P**	**18 47 12.2**	**+3.7**
	comp=Z,1.5nm,0.6s,baz=344,slow=10,SNR=5.5						
CMWZ	**Cape Campbell**	**42.12**	**150**	P	**P**	**18 49 27.0**	**-0.8**
NIUE	**Niue**	**42.77**	**111**	P	**P**	**18 49 30.5**	**-2.9**
SONM	**Songino Array**	**65.33**	**331**	P	**P**	**18 52 14.2**	**-3.0**
	comp=Z,0.2nm,0.5s,baz=132,slow=4.1,SNR=2.4						
SONM	**Songino Array**	**65.33**	**331**	P	**P**	**18 52 18.9**	**+1.8**
SONM				IAmb	IAmb	18 53 00.2	
	comp=Z,1.4nm,1.4s						
MKAR	**Makanchi Array**	**78.52**	**320**	P	**P**	**18 53 34.6**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=96,slow=8.4,SNR=4.4						

IDC 05 18:49:46.3±5.2, 44.˚16N×148.˚39E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/54, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=112.2km s-min=38.5km az=157.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**10.86**	**31**	Pn	Pn	18 52 23.8	+0.9
	0.3nm,0.3s,baz=202,slow=10,SNR=8.8						
SEY	**Seymchan**	**18.95**	**6**	P	P	18 54 08.2	-0.5
	0.1nm,0.3s,baz=216,slow=8.7,SNR=4.4						
ILAR	**Eielson Array**	**40.62**	**37**	P	P	18 57 27.3	-0.3
	0.3nm,0.7s,baz=259,slow=8.6,SNR=4.0						
MKAR	**Makanchi Array**	**45.19**	**298**	P	P	18 58 04.8	0.0
	0.4nm,0.9s,baz=63,slow=7.0,SNR=2.4						

IDC ***05*** *18:59:19.8±1.5, 6.˚17S×147.˚99E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/44, mbtmp3.8/9, ML1.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=47.5km s-min=17.6km az=100.0*

ISC 05 18:59:26.6±1.3, 6.˚26S±0.˚09×148.˚0E±0.˚3, h51km, n13, σ1°14/13, mb3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.23**	**195**	Pn	**Pn**	**19 00 13.5**	**-1.4**
	9.7nm,0.3s,baz=2.5,slow=5.6,SNR=24						
PMG				Sn	**Sn**	**19 00 52.5**	**+0.3**
	13nm,0.3s,baz=39,slow=23,SNR=10						
PMG	**Port Moresby**	**3.23**	**195**	P	**Pn**	**19 00 15.7**	**+0.8**
SIJI	**Sorong**	**17.54**	**287**	LR	LR	19 12 04.7	
	comp=Z,56nm,18.8s,baz=64,slow=44						
WRA	**Warramunga Arr**	**19.01**	**223**	P	**P**	**19 03 42.8**	**-1.6**
GUMO	**Guam**	**19.97**	**351**	LR	LR	19 10 25.7	
	comp=Z,17nm,21.4s,baz=162,slow=34						
ASAR	**Alice Springs**	**21.99**	**217**	P	**P**	**19 04 16.1**	**-0.4**
	2.9nm,0.6s,baz=52,slow=9.1,SNR=63						
ASAR				S	**S**	**19 08 16.6**	**0.0**
	0.7nm,0.8s,baz=37,slow=21,SNR=4.0						
FITZ	**Fitzroy Crossi**	**24.79**	**240**	P	**P**	**19 04 43.5**	**-0.5**
	4.6nm,0.5s,baz=58,slow=8.6,SNR=31						
STKA	**Stephens Creek**	**26.18**	**192**	P	**P**	**19 04 58.2**	**+1.8**
	2.3nm,0.8s,baz=355,slow=11,SNR=6.8						
STKA				LR	LR	19 15 20.3	
	comp=Z,80nm,18.5s,baz=217,slow=37						
CMAR	**Chiang Mai Arr**	**54.26**	**298**	P	**P**	**19 08 48.7**	**+0.8**
	0.3nm,0.6s,baz=133,slow=7.2,SNR=2.4						
SONM	**Songino Array**	**65.12**	**330**	P	**P**	**19 10 03.6**	**+1.3**
	0.8nm,0.7s,baz=148,slow=4.4,SNR=4.7						
MKAR	**Makanchi Array**	**78.34**	**320**	P	**P**	**19 11 21.1**	**-0.5**
	0.2nm,0.4s,baz=99,slow=8.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**79.77**	**328**	P	**P**	**19 11 28.1**	**-1.0**
	0.8nm,0.6s,baz=104,slow=6.1,SNR=2.7						
ILAR	**Eielson Array**	**85.33**	**23**	P	**P**	**19 11 57.1**	**-0.8**
	0.3nm,0.7s,baz=243,slow=6.0,SNR=2.8						

IDC ***05*** *19:11:34.6±1.9, 62.˚71S×148.˚91E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/20, mbtmp4.1/3, ML4.3/1, MS3.6/1, Ms1 3.5/1, ms1mx3.0/16, Error ellipse: s-maj=135.4km s-min=22.3km az=80.0*
NEIC ***05*** *19:11:36.6±1.3, 62.˚8S±0.˚1×148.˚7E±0.˚4, h14km±2km, mb4.3/7, Error ellipse: s-maj=26.6km s-min=18.1km az=79.0*

ISC 05 19:11:35.6±0.9, 63.˚00S±0.˚09×148.˚5E±0.˚2, h10km, n28, σ2°47/19, mb4.2/3, MS3.6/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.19**	**169**	Pn	**Pn**	**19 15 11.4**	**+1.7**
	1.2nm,0.3s,baz=336,slow=11,SNR=30						
VNDA				Sn	**Sn**	**19 17 52.3**	**-5.3**
	0.2nm,0.3s,baz=119,slow=13,SNR=3.6						
VNDA	**Vanda**	**15.19**	**169**		**Pn**	**19 15 11.3**	**+1.7**
VNDA				IAmb	IAmb	19 15 21.2	
	comp=Z,6.1nm,0.7s						
VNDA					**Sn**	**19 17 52.3**	**-5.3**
SBA	**Scott Base**	**15.97**	**166**		**Pn**	**19 15 21.4**	**+1.5**
SBA				IAmb	IAmb	19 15 31.1	
	comp=Z,8.2nm,0.9s						
CASY	**Casey**	**16.42**	**242**	Pn	**Pn**	**19 15 24.1**	**-1.6**
CASY				IAmb	IAmb	19 15 50.8	
	comp=Z,18nm,1.3s						
QSPA	**South Pole Qui**	**27.08**	**180**	P	**P**	**19 17 22.3**	**+4.3**
	comp=Z,1.3nm,0.7s,baz=328,slow=1.5,SNR=7.8						
QSPA	**South Pole Qui**	**27.08**	**180**	IAmb	IAmb	19 17 53.2	
	comp=Z,27nm,1.9s						
MAW	**Mawson**	**33.38**	**224**	LR	LR	19 31 40.3	
	comp=Z,98nm,19.8s,baz=68,slow=36						
MAW	**Mawson**	**33.38**	**224**	P	**P**	**19 18 15.7**	**+2.3**
FORT	**Forrest**	**34.81**	**328**	P	**P**	**19 18 24.6**	**-1.6**
H01W1	**Cape Leeuwin H**	**35.28**	**307**	T	T	19 55 18.5	
	baz=153,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**35.29**	**306**	T	T	19 55 16.5	
	baz=153,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**35.30**	**306**	T	T	19 55 19.7	
	baz=153,slow=76,SNR=18						
MORW	**Morawa**	**39.91**	**313**	P	**P**	**19 19 08.7**	**-0.7**
MORW				IAmb	IAmb	19 19 25.1	
	comp=Z,48nm,1.8s						
ASAR	**Alice Springs**	**40.53**	**339**	P	**P**	**19 19 13.6**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=165,slow=8.9,SNR=10						
DZM	**Mont Dzumac**	**42.67**	**25**	eLR	LR	19 31 11.9	
	comp=Z,118n

MASF	**Masafi**	**2.10**	**150**	P		**Pn**	**19 12 35.2**	**+0.6**
MASF				S		**Sb**	**19 13 03.4**	**-0.3**
	SNR=8.1							
MSFE	**Esma-Masafi**	**2.11**	**150**	P		**Pn**	**19 12 35.3**	**+0.5**
MSFE	**Esma-Masafi**	**2.11**	**150**	*e*Pn		**Pn**	**19 12 35.3**	**+0.5**
QIR1	**Qir**	**2.14**	**307**	*e*Pn		**Pb**	**19 12 37.2**	**-0.9**
QIR1				*e*			19 13 24.3	
	comp=E,7μm,0.4s							
MDH	**Madha**	**2.22**	**148**	*e*Pn		**Pn**	**19 12 36.9**	**+0.6**
MDH	**Madha**	**2.22**	**148**	P		**Pn**	**19 12 37.0**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.28**	**164**	*e*Pn		**Pn**	**19 12 36.3**	**-0.8**
UOSS	**Minazif**	**2.49**	**154**	P		**Pn**	**19 12 39.9**	**-0.1**
UOSS	**Minazif**	**2.49**	**154**	*e*Pn		**Pn**	**19 12 40.2**	**+0.1**
UOSS	**Minazif**	**2.49**	**154**	P		**Pn**	**19 12 40.1**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.50**	**167**	*e*Pn		**Pn**	**19 12 41.2**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.50**	**167**	P		**Pn**	**19 12 41.3**	**+1.2**
KHNJ	**Kahnooj**	**2.53**	**72**	*e*Pn		**Pn**	**19 12 40.2**	**-0.4**
HATD	**Hatta, Dubai**	**2.57**	**156**	P		**Pn**	**19 12 42.0**	**+0.9**
HATD	**Hatta, Dubai**	**2.57**	**156**	*e*Pn		**Pn**	**19 12 42.1**	**+0.9**
HATD	**Hatta, Dubai**	**2.57**	**156**	P		**Pn**	**19 12 41.6**	**+0.5**
HATD				S		**Sn**	**19 13 14.8**	**+1.8**
ASUD	**Al Ashush, Dub**	**2.57**	**173**	P		**Pn**	**19 12 40.1**	**-1.0**
ASUD	**Al Ashush, Dub**	**2.57**	**173**	P		**Pn**	**19 12 40.8**	**-0.3**
ASHO	**Ashiyiah**	**2.68**	**159**	P		**Pn**	**19 12 42.9**	**+0.3**
ASHO	**Ashiyiah**	**2.68**	**159**	*e*Pn		**Pn**	**19 12 42.6**	**0.0**
ASHO	**Ashiyiah**	**2.68**	**159**	P		**Pn**	**19 12 42.8**	**+0.3**
	SNR=92							
NGRK	**Negar Kerman**	**2.89**	**32**	*e*Pn		**Pn**	**19 12 45.3**	**-0.5**
KRBR	**Kerman**	**3.19**	**29**	*e*Pn		**Pn**	**19 12 51.1**	**+1.2**
KRBR	**Kerman**	**3.19**	**29**	*e*Pn		**Pn**	**19 12 51.1**	**+1.2**
TVBK	**TV Kerman**	**3.19**	**29**	*e*Pn		**Pn**	**19 12 51.8**	**+1.8**
ALNE	**Al Ain**	**3.20**	**167**	*e*Pn		**Pn**	**19 12 50.4**	**+0.7**
ALNE	**Al Ain**	**3.20**	**167**	P		**Pn**	**19 12 50.7**	**+0.9**
SOHO	**SOHO**	**3.35**	**155**	P		**Pn**	**19 12 51.1**	**-0.7**
SOHO	**SOHO**	**3.35**	**155**	*e*Pn		**Pn**	**19 12 51.4**	**-0.4**
SOHO	**SOHO**	**3.35**	**155**	P		**Pn**	**19 12 51.5**	**-0.3**
KHGB	**Koh Gabri**	**3.43**	**22**	*e*Pn		**Pn**	**19 12 54.1**	**+0.9**
CHMN	**Cheshme madani**	**3.48**	**40**	*e*Pn		**Pn**	**19 12 55.6**	**+1.6**
CHMN				*e*			19 13 00.6	
	comp=E,513nm,0.4s							
ARQ	**Araqi**	**4.08**	**160**	P		**Pn**	**19 13 02.9**	**+0.9**
	SNR=18							
HOQ	**Hoqain**	**4.16**	**149**	P		**Pn**	**19 13 02.8**	**-0.3**
IMEH	**Mehriz**	**4.20**	**356**	*e*Pn		**Pn**	**19 13 04.1**	**+0.4**
IBAF	**Bafgh**	**4.41**	**6**	*e*Pn		**Pn**	**19 13 06.8**	**+0.2**
UMZA	**Um Al Zommool**	**4.46**	**178**	*e*Pn		**Pn**	**19 13 07.2**	**+0.1**
KLNJ	**Kolanjah**	**4.83**	**323**	*e*Pn		**Pn**	**19 13 12.5**	**+0.1**
SMDO	**Samad**	**4.96**	**145**	P		**Pn**	**19 13 15.4**	**+1.2**
IRAM	**Ramesheh**	**5.13**	**334**	*e*Pn		**Pn**	**19 13 17.0**	**+0.5**
CHBR	**Chabahar**	**5.18**	**107**	*e*Pn		**Pn**	**19 13 16.8**	**-0.2**
CHBR	**Chabahar**	**5.18**	**107**	*e*Pn		**Pn**	**19 13 16.8**	**-0.2**
YZKH	**Yazd**	**5.19**	**356**	*e*Pn		**Pn**	**19 13 18.0**	**+0.8**
YZKH	**Yazd**	**5.19**	**356**	*e*Pn		**Pn**	**19 13 18.0**	**+0.8**
ZHDN	**Zahedan**	**5.59**	**65**	*e*Pn		**Pn**	**19 13 24.7**	**+1.9**
WBK	**Wadi Bani Khal**	**5.82**	**141**	P		**Pn**	**19 13 26.1**	**+0.3**
	SNR=15							
BSRN	**Basiran**	**5.97**	**36**	*e*Pn		**Pn**	**19 13 29.1**	**+1.1**
BSRN	**Basiran**	**5.97**	**36**	*e*Pn		**Pn**	**19 13 29.1**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.00**	**14**	*e*Pn		**Pn**	**19 13 29.1**	**+0.7**
ANAR	**Anarak**	**6.08**	**350**	*e*Pn		**Pn**	**19 13 29.5**	**+0.1**
SRVN	**Saravan**	**6.60**	**86**	*e*Pn		**Pn**	**19 13 37.6**	**+1.0**
IKLH	**Kolahrood**	**6.78**	**335**	*e*Pn		**Pn**	**19 13 39.1**	**-0.1**
KRSH	**Karshahi**	**7.19**	**341**	*e*Pn		**Pn**	**19 13 44.6**	**-0.1**
ISFB	**Sefidab**	**7.52**	**342**	*e*Pn		**Pn**	**19 13 49.2**	**0.0**
IDHR	**Dehrash**	**10.51**	**318**	*e*Pn		**Pn**	**19 14 29.7**	**-0.6**
BRTR	**Keskin Array B**	**21.70**	**311**	P		**P**	**19 16 52.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=127,slow=12,SNR=5.8							
MKAR	**Makanchi Array**	**29.07**	**40**	P		**P**	**19 18 00.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=232,slow=10.0,SNR=2.5							
ZALV	**Zalesovo Beam**	**34.58**	**31**	P		**P**	**19 18 47.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=218,slow=9.7,SNR=2.6							
FINES	**FINESS Array B**	**39.35**	**339**	P		**P**	**19 19 27.4**	**-1.5**
	comp=Z,3.8nm,1.1s,baz=131,slow=9.5,SNR=3.4							
MDT	**Midelt**	**51.33**	**292**	LR		LR	19 49 00.9	
	comp=Z,36nm,18.1s,baz=168,slow=44							

*IDC **05** 19:37:13.7±1.5,34˚42.N×24˚51.E,h0km,mb3.6/6, mb1 3.7/12,mb1mx3.5/55,mbtmp3.6/12,ML3.7/6,MS2.5/4, Ms1 2.5/4,ms1mx2.3/40,Error ellipse: s-maj=24.3km s-min=14.4km az=94.0*
*HLW **05** 19:37:18.2,34˚.65N×24˚.57E,h19km±15km,Md3.7,Ml3.6*
*ISK **05** 19:37:19.9,34˚.63N×24˚.69E,h77km,ML3.5/18*
*ATH **05** 19:37:23.0,34˚.79N×24˚.69E,h35km±3km,ML3.4/9,Error ellipse: s-maj=4.2km s-min=1.2km az=357.0*
*THE **05** 19:37:23.8,34˚.79N×24˚.68E,h24km±1km,ML3.4/9,Error ellipse: s-maj=1.8km s-min=0.7km az=343.0*
*DDA **05** 19:37:27.0,35.20N×24˚.70E,h76km±37km,MW3.6*

ISC 05 19:37:20.9±1.0,34˚.63N±0˚.04×24˚.75E±0˚.03,h32km±7km, n88,σ1°67/114,mb3.5/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.39**	**7**	P	**Pb**	**19 37 30.1**	**+0.3**
SIVA				S	**Sb**	**19 37 35.1**	**-0.7**
SIVA				AML	AML	19 37 37.7	
SIVA				AML	AML	19 37 37.7	
	comp=N,65180μm,0.5s						
SIVA	**Sivas**	**0.39**	**7**	P	**Pb**	**19 37 30.1**	**+0.3**
SIVA				S	**Sb**	**19 37 35.1**	**-0.7**
	comp=N,42μm,0.4s						
GVDS	**Gavdos**	**0.58**	**291**	PG	**Pn**	**19 37 34.2**	**+1.2**
GVDS				SG	**Sn**	**19 37 44.5**	**+3.1**
GVD	**Gavdhos**	**0.59**	**291**	P	**Pn**	**19 37 34.0**	**+1.0**
GVD				S	**Sb**	**19 37 40.6**	**-0.4**
GVD				AML	AML	19 37 48.5	
	comp=E,22063μm,0.4s						
GVD				AML	AML	19 37 50.4	
	comp=N,23642μm,0.4s						
GVD	**Gavdhos**	**0.59**	**291**	P	**Pn**	**19 37 34.0**	**+1.0**
GVD				S	**Sb**	**19 37 40.6**	**-0.4**
	comp=N,11μm,0.4s						
GVD	**Gavdhos**	**0.59**	**291**	PG	**Pn**	**19 37 33.9**	**+1.0**
GVD				SG	**Sn**	**19 37 44.8**	**+3.3**
IDI	**Anoyia**	**0.66**	**10**	P	**Pb**	**19 37 33.6**	**-0.6**
IDI				S	**Sb**	**19 37 42.3**	**-0.9**
IDI				AML	AML	19 37 47.1	
	comp=N,5763μm,0.6s						
IDI				AML	AML	19 37 49.2	
	comp=E,5714μm,0.4s						
IDI	**Anoyia**	**0.66**	**10**	Pg	**Pb**	**19 37 33.2**	**-1.0**
	comp=E,99nm,0.3s,baz=199,slow=13,SNR=347						
IDI				Lg	Lg	19 37 43.4	
	comp=E,196nm,0.3s,baz=323,slow=20,SNR=16						
IDI	**Anoyia**	**0.66**	**10**	P	**Pb**	**19 37 33.6**	**-0.6**
IDI				S	**Sb**	**19 37 42.3**	**-0.9**
	comp=E,3μm,0.4s						
IACM	**Heraklion**	**0.72**	**21**	P	**Pn**	**19 37 35.5**	**+0.7**
IACM				S	**Sb**	**19 37 44.0**	**-0.7**
IACM	**Heraklion**	**0.72**	**21**	P	**Pn**	**19 37 35.5**	**+0.7**
IACM				S	**Sb**	**19 37 44.0**	**-0.7**
	comp=E,13μm,0.4s						
HRKL	**Herakleio**	**0.73**	**23**	PG	**Pn**	**19 37 36.6**	**+1.6**
HRKL				SG	**Sn**	**19 37 48.2**	**+3.1**
LAST	**Lasithi**	**0.80**	**48**	P	**Pn**	**19 37 37.2**	**+1.2**
LAST				S	**Sn**	**19 37 47.3**	**+0.5**
LAST				AML	AML	19 37 52.9	
	comp=E,3264μm,0.4s						
LAST				AML	AML	19 37 53.2	
	comp=N,3669μm,0.6s						
LAST	**Lasithi**	**0.80**	**48**	P	**Pn**	**19 37 37.2**	**+1.2**
LAST				S	**Sn**	**19 37 47.8**	**+1.0**
	comp=N,2μm,0.5s						
FRMA	**Ierapetra Chan**	**0.89**	**64**	P	**Pb**	**19 37 40.9**	**+3.0**
FRMA				S	**Sn**	**19 37 55.0**	**+6.0**
VAM	**Vamos**	**0.90**	**330**	P	**Pn**	**19 37 37.3**	**0.0**
VAM				S	**Sb**	**19 37 48.1**	**-1.5**
VAM				AML	AML	19 37 55.4	
	comp=N,5378μm,0.3s						
VAM				AML	AML	19 37 56.2	
	comp=E,5710μm,0.5s						
VAM	**Vamos**	**0.90**	**330**	P	**Pn**	**19 37 37.3**	**0.0**
VAM				S	**Sb**	**19 37 48.1**	**-1.5**
	comp=E,3μm,0.6s						
NPS	**Neapolis**	**0.94**	**48**	P	**Pb**	**19 37 40.3**	**+1.5**
NPS				S	**Sn**	**19 37 52.2**	**+1.8**
NPS				AML	AML	19 37 57.2	
	comp=N,3431μm,0.5s						
NPS				AML	AML	19 38 03.3	
	comp=E,3472μm,0.6s						
NPS	**Neapolis**	**0.94**	**48**	P	**Pb**	**19 37 40.3**	**+1.5**
NPS				S	**Sn**	**19 37 52.2**	**+1.8**
	comp=E,2μm,0.5s						
IMMV	**Iera Moni Meta**	**1.04**	**323**	P	**Pn**	**19 37 39.8**	**+0.6**
IMMV				AML	AML	19 37 59.5	
	comp=N,5172μm,0.5s						
IMMV				AML	AML	19 38 01.4	
	comp=E,4679μm,0.8s						
IMMV	**Iera Moni Meta**	**1.04**	**323**	P	**Pn**	**19 37 39.8**	**+0.6**
IMMV	**Iera Moni Meta**	**1.04**	**323**	PG	**Pn**	**19 37 40.1**	**+0.8**
IMMV				SG	**Sb**	**19 37 54.4**	**+0.6**
KNDR	**Palaiochora Ch**	**1.06**	**305**	PG	**Pb**	**19 37 40.7**	**-0.1**
KNDR				SG	**Sb**	**19 37 55.4**	**+1.1**
ZKR	**Zakros**	**1.30**	**68**	P	**Pb**	**19 37 46.0**	**+1.3**
ZKR				AML	AML	19 38 12.9	
	comp=E,1743μm,0.7s						
ZKR				AML	AML	19 38 17.1	
	comp=N,828μm,0.7s						
ZKR	**Zakros**	**1.30**	**68**	P	**Pb**	**19 37 46.0**	**+1.3**
ZKR				S	**Sb**	**19 38 01.4**	**+0.4**
	comp=N,642nm,0.7s						
ZKR	**Zakros**	**1.30**	**68**	PN	**Pb**	**19 37 44.7**	**0.0**
ANKY	**Antikythira Is**	**1.71**	**316**	P	**Pn**	**19 37 50.4**	**+1.9**
ANKY				AML	AML	19 38 22.4	
	comp=E,1023μm,0.8s						
ANKY				AML	AML	19 38 28.6	
	comp=N,844μm,0.5s						
ANKY	**Antikythira Is**	**1.71**	**316**	P	**Pn**	**19 37 50.4**	**+1.9**
ANKY				S	**Sn**	**19 38 08.8**	**-0.4**
	comp=N,475nm,0.6s						
SANT	**Santorini**	**1.83**	**18**	*i* P	**Pn**	**19 37 50.1**	**0.0**
SANT	**Santorini**	**1.83**	**18**	PN	**Pn**	**19 37 50.8**	**+0.7**
KTHA	**Kythira Island**	**2.13**	**320**	PN	**Pn**	**19 37 54.4**	**+0.2**
APE	**Apeiranthos**	**2.51**	**14**	*i* P	**Pn**	**19 37 58.8**	**-0.7**
APE				*i* S	Sn	19 38 23.4	-5.6
APE	**Apeiranthos**	**2.51**	**14**	PN	**Pn**	**19 38 00.2**	**+0.7**
KOSK	**Kos Island**	**2.78**	**40**	PN	**Pn**	**19 38 04.0**	**+0.8**
NIS1	**Nisyros Isl.**	**2.79**	**44**	PN	**Pn**	**19 38 05.0**	**+1.7**
DAT	**Datca**	**3.11**	**47**	PN	**Pn**	**19 38 08.8**	**+1.0**
SLUM	**Salum**	**3.16**	**173**	P	**Pn**	**19 38 10.3**	**+2.0**
SLUM	baz=170			AMP		19 38 00.0	
	baz=170						
ARG	**Arkhangelos**	**3.17**	**59**	PN	**Pn**	**19 38 10.7**	**+2.1**
BODT	**Bodrum**	**3.19**	**40**	PN	**Pn**	**19 38 10.3**	**+1.4**
BDRM	**Kayabasi**	**3.27**	**41**	*i* P	**Pn**	**19 38 11.6**	**+1.7**
ITM	**Ithomi**	**3.42**	**319**	PN	**Pn**	**19 38 12.7**	**+0.7**
MRSB	**Marmaris-Mugla**	**3.49**	**52**	PN	**Pn**	**19 38 14.4**	**+1.5**
TURN	**Turunc**	**3.56**	**52**	P	**Pn**	**19 38 15.8**	**+2.0**
TURN				*i* S	**Sn**	**19 38 50.7**	**-4.0**
TURN				IAML		19 38 52.0	
	comp=N,14nm,0.6s						
TURN				IAML		19 39 08.0	
	comp=E,20nm,0.2s						
TURN	**Turunc**	**3.56**	**52**	PN	**Pn**	**19 38 15.4**	**+1.6**
MLSB	**Milas**	**3.62**	**42**	PN	**Pn**	**19 38 15.9**	**+1.2**
GCAM	**G?zelcaml?**	**3.66**	**33**	PN	**Pn**	**19 38 16.7**	**+1.5**
YER	**Yerkesik**	**3.80**	**48**	PN	**Pn**	**19 38 19.2**	**+1.9**
DALY	**Dalyan (Mula)**	**3.85**	**54**	PN	**Pn**	**19 38 19.5**	**+1.7**
CHOS	**Chios island**	**3.89**	**15**	PN	**Pn**	**19 38 19.2**	**+0.7**
MULA	**Mugla, Merkez-**	**3.90**	**47**	*i* P	**Pn**	**19 38 20.8**	**+2.1**
AYDN	**Tasoluk**	**3.94**	**39**	*i* P	**Pn**	**19 38 21.1**	**+1.9**
FETY	**Fethiye**	**4.05**	**59**	PN	**Pn**	**19 38 20.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**4.17**	**37**	PN	**Pn**	**19 38 23.6**	**+1.3**
AKAS	**Kas**	**4.27**	**67**	*i* P	**Pn**	**19 38 23.6**	**-0.2**
AKAS				*i* S	**Sn**	**19 39 06.3**	**-6.3**
AKAS	**Kas**	**4.27**	**67**	PN	**Pn**	**19 38 23.9**	**+0.1**
CAME	**Cameli-Denizli**	**4.36**	**57**	PN	**Pn**	**19 38 26.5**	**+1.5**
TAVA	**DENIZLI_Tavas**	**4.40**	**49**	*i* P	**Pn**	**19 38 27.4**	**+1.9**
CAEL	**Denizli, Camel**	**4.46**	**55**	*i* P	**Pn**	**19 38 27.8**	**+1.3**
GOLH	**Golhisar**	**4.69**	**55**	*i* P	**Pn**	**19 38 30.8**	**+1.3**
ELL	**Elmali**	**4.70**	**62**	PN	**Pn**	**19 38 30.6**	**+1.0**
AGG	**Agios Georgios**	**4.79**	**337**	*i* P	**Pn**	**19 38 32.1**	**+1.3**
AGG	**Agios Georgios**	**4.79**	**337**	PN	**Pn**	**19 38 30.9**	**0.0**
AKUM	**Antalya-Kumluc**	**4.86**	**68**	*i* P	**Pn**	**19 38 32.2**	**+0.4**
AKUM				*i* S	**Sn**	**19 39 22.3**	**-4.7**
KORT	**Korkueli**	**5.12**	**61**	*i* P	**Pn**	**19 38 37.0**	**+1.5**
KORT				*i* S	**Sn**	**19 39 34.7**	**+1.1**
KORT	**Korkueli**	**5.12**	**61**	PN	**Pn**	**19 38 36.3**	**+0.8**
USAK	**Uak-Merkez**	**5.32**	**39**	*i* P	**Pn**	**19 38 39.9**	**+1.7**
SWA2		**5.41**	**173**	P	**Pn**	**19 38 40.6**	**+1.3**
SWA2	baz=171			AMP		19 39 00.0	
	baz=171						
SWA2				S	**Sn**	**19 39 39.2**	**-1.2**
	baz=171						
HSAF	**As Saff**	**7.63**	**129**	P	**Pn**	**19 39 10.8**	**+0.9**
	baz=128						
GLL	**Jalalah**	**7.76**	**129**	P	**Pn**	**19 39 11.4**	**-0.2**
	baz=127						
HFRF	**Wahat Farafira**	**8.06**	**157**	P	**Pn**	**19 39 16.2**	**+0.4**
	baz=155						
HFRF				S	**Sn**	**19 40 41.7**	**-4.1**
	baz=155						
NBNS	**Bani Suef**	**8.18**	**135**	P	**Pn**	**19 39 18.1**	**+0.7**
	baz=134						
ZAF	**Zafarana**	**8.50**	**127**	P	**Pn**	**19 39 21.3**	**-0.5**
	baz=126						
BRTR	**Keskin Array B**	**8.72**	**52**	Pn	**Pn**	**19 39 25.9**	**+0.9**
	comp=E,0.1nm,0.3s,baz=217,slow=13,SNR=2.7						
BRTR				LR	LR	19 43 12.1	
	comp=E,41nm,21.3s,baz=219,slow=40						
MMAI	**Mount Meron Ar**	**9.01**	**97**	Pn	**Pn**	**19 39 25.7**	**-3.0**
	comp=E,2.1nm,0.3s,baz=289,slow=11,SNR=17						
HDK1	**Dakhla**	**9.91**	**155**	P	**Pn**	**19 39 41.7**	**+0.5**
	baz=154						
HKAT	**Jabal Katrina**	**9.96**	**125**	P	**Pn**	**19 39 40.8**	**-1.1**
	baz=124						
EIL	**Elat**	**9.96**	**117**	Pn	**Pn**	**19 39 40.6**	**-1.1**
	comp=E,0.5nm,0.3s,baz=200,slow=3.7,SNR=12						
AKASG	**Malin Array Be**	**16.39**	**10**	Pn	**Pn**	**19 41 08.0**	**-0.4**
	comp=E,1.2nm,0.3s,baz=198,slow=11,SNR=8.3						
GERES	**GERESS Array B**	**16.39**	**333**	Pn	**Pn**	**19 41 08.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=143,slow=12,SNR=6.7						
DAVOX	**Davos/Dischmat**	**16.53**	**322**	LR	LR	19 50 24.5	
	comp=E,27nm,19.6s,baz=269,slow=48						
KBZ	**Khabaz**	**16.72**	**52**	P	**P**	**19 41 14.7**	**+0.1**
	comp=E,0.1nm,0.3s,baz=126,slow=4.9,SNR=8.0						
GNI	**Garni**	**16.80**	**65**	LR	LR	19 49 10.2	
	comp=E,23nm,19.6s,baz=36,slow=42						
HFS	**Hagfors**	**26.52**	**348**	P	**P**	**19 42 54.3**	**-0.9**
	comp=E,1.0nm,0.7s,baz=144,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**26.84**	**1**	P	**P**	**19 42 56.8**	**-1.3**
	comp=E,1.1nm,0.8s,baz=146,slow=17,SNR=3.7						
NOA	**NORSAR Array B**	**27.82**	**346**	P	**P**	**19 43 05.1**	**-1.9**
	comp=E,0.2nm,0.5s,baz=160,slow=10,SNR=1.5						
NOA				LR	LR	19 55 10.1	
	comp=E,3.1nm,18.0s,baz=295,slow=38						
KURBB	**Kurchatov Arra**	**41.71**	**51**	P	**P**	**19 45 06.2**	**-0.4**
	comp=E,0.2nm,0.3s,baz=273,slow=8.0,SNR=7.1						
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**19 45 27.9**	**-0.1**
	comp=E,0.7nm,0.3s,baz=269,slow=8.3,SNR=16						
SONM	**Songino Array**	**60.08**	**50**	P	**P**	**19 47 24.5**	**-0.5**
	comp=E,0.3nm,0.4s,baz=282,slow=7.2,SNR=2.6						

RSNC 05 19:48:09.9±0.8,6˚.57N×73˚.71W,h96km±6km,ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.53**	**88**	*e*P	Pn	19 48 25.6	-0.2
BARC				*e*S	Sn	19 48 37.4	-0.2
BARC				*i*		19 48 39.0	
	comp=Z,24nm,0.2s						
BARC	**Barichara**	**0.53**	**88**	*e*P	Pn	19 48 25.5	-0.2
BARC				*e*S	Sn	19 48 36.9	-0.7
BARC				*i*		19 48 39.1	
	comp=Z,24nm,0.2s						
BRRC	**Barranca, Sant**	**0.53**	**0**	*e*P	Pn	19 48 25.1	-0.5
BRRC				*e*S	Sn	19 48 37.4	+0.2
BRRC				*i*		19 48 42.5	
	comp=Z,15nm,0.3s						
BRRC	**Barranca, Sant**	**0.53**	**0**	*e*P	Pn	19 48 25.1	-0.5
BRRC				*e*S	Sn	19 48 37.5	+0.3
BRRC				*i*		19 48 42.5	
	comp=Z,15nm,0.3s						
SPBC	**San Pablo de B**	**0.98**	**201**	*e*P	Pn	19 48 29.7	-0.3
SPBC				*e*S	Sn	19 48 44.5	-0.4
SPBC				*i*		19 48 47.8	
	comp=Z,18nm,0.3s						
SPBC	**San Pablo de B**	**0.98**	**201**	*e*P	Pn	19 48 29.6	-0.3
SPBC				*e*S	Sn	19 48 44.7	-0.3
SPBC				*i*		19 48 48.1	
	comp=Z,23nm,1.4s						
PAMC	**Pamplona, Colo**	**1.26**	**53**	*e*S	Sn	19 48 51.0	-0.4
PAMC				*i*		19 48 52.3	
	comp=Z,15nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.46**	**309**	*e*S	Sn	19 48 54.0	-0.7
ZARC				*i*		19 48 59.0	
	comp=Z,11nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.46**	**309**	*e*S	Sn	19 48 53.4	-1.4
ZARC				*i*		19 48 59.0	
	comp=Z,11nm,0.1s						
NORC	**Norcasia**	**1.53**	**229**	*e*P	Pn	19 48 35.4	-1.0
NORC				*e*S	Sn	19 48 55.8	-0.6
NORC				*i*		19 48 58.8	
	comp=Z,7.7nm,0.2s						
NORC	**Norcasia**	**1.53**	**229**	*e*P	Pn	19 48 35.3	-1.0
NORC				*e*S	Sn	19 48 56.0	-0.3
NORC				*i*		19 48 58.8	
	comp=Z,7.7nm,0.2s						
HELC	**Santa Helena**	**1.84**	**258**	*e*P	Pn	19 48 40.4	-0.3
HELC				*e*S	Sn	19 49 03.9	-0.1
HELC				*i*		19 49 11.8	
	comp=Z,8.5nm,0.4s						
HELC	**Santa Helena**	**1.84**	**258**	*e*P	Pn	19 48 40.7	+0.1
HELC				*e*S	Sn	19 49 04.1	+0.1
HELC				*i*		19 49 11.8	
	comp=Z,8.5nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.12**	**231**	*e*P	Pn	19 48 44.7	+0.3
GUY2C				*e*S	Sn	19 49 10.7	+0.1
GUY2C				*i*		19 49 15.7	
	comp=Z,4.0nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.12**	**231**	*e*P	Pn	19 48 44.8	+0.5
GUY2C				*e*S	Sn	19 49 09.9	-0.7
GUY2C				*i*		19 49 16.9	
	comp=Z,4.7nm,2.0s						

*IDC **05** 19:53:56.7±1.9,49˚.82N×178˚.63W,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.6/40,mbtmp3.8/9,ML3.5/2,Error ellipse: s-maj=50.8km s-min=30.4km az=142.0*
*AEIC **05** 19:54:01.8±1.6,50˚.04N±0˚.04×178˚.64W±0˚.08,h26km±6km, Error ellipse: s-maj=7.7km s-min=5.4km az=89.0*
*NEIC **05** 19:54:02.6±1.4,50˚.09N±0˚.04×178˚.61W±0˚.09,h23km±8km, mb4.1/10,ML3.4/30(AEIC),Error ellipse: s-maj=8.8km s-min=5.4km az=98.0*

ISC 05 19:53:58.4±3.2,50˚.00N±0˚.08×178˚.65W±0˚.04,h3km±18km, n48,σ1°06/54,mb4.0/9,South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.77**	**357**		**Pn**	**19 54 30.9**	**+1.0**
GAEA	**Gareloi East**	**1.79**	**358**		**Pn**	**19 54 30.5**	**+0.3**
GAEA					**Sg**	**19 54 54.6**	**-1.2**
TASE	**Tanaga Southea**	**1.88**	**12**		**Pn**	**19 54 32.4**	**+0.9**
AMKA	**Amchitka**	**1.90**	**317**		**Pn**	**19 54 31.4**	**-0.3**
AMKA					**Sn**	**19 54 54.4**	**-1.6**
TAFP	**Tanaga Falls P**	**1.95**	**12**		**Pn**	**19 54 32.9**	**+0.5**
TAFP					**Sb**	**19 54 57.7**	**-1.5**
KIMD	**Kanaga Island**	**1.98**	**26**		**Pn**	**19 54 33.1**	**+0.4**
KIWB	**Kanaga Island**	**2.08**	**26**	Pn	**Pn**	**19 54 33.8**	**-0.4**
KIKV	**Kanaga Island**	**2.10**	**26**		**Pn**	**19 54 35.5**	**+1.0**
KIRH	**Kanaga Island**	**2.14**	**27**		**Pn**	**19 54 36.1**	**+1.1**
CERAA	**Semis' Rag'd T**	**2.18**	**332**		**Pn**	**19 54 36.8**	**+1.3**
CESW	**Semis' Southwe**	**2.21**	**330**		**Pn**	**19 54 37.2**	**+1.2**
CESW					**Sn**	**19 55 04.2**	**+0.3**
CERB	**Semis' Cerberu**	**2.22**	**331**		**Sn**	**19 55 05.0**	**+1.0**
ADK	**Adak**	**2.26**	**33**		**Pn**	**19 54 36.5**	**-0.1**
ADK					**Sn**	**19 55 03.6**	**-1.3**
ADAG	**Mount Adagdak**	**2.37**	**32**		**Pn**	**19 54 38.6**	**+0.5**
GSTD	**Great Sitkin T**	**2.59**	**37**		**Pn**	**19 54 41.9**	**+0.6**
GSTD					**Sn**	**19 55 13.2**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.93**	**349**	LR	LR	20 06 56.5	
	comp=Z,3μm,19.2s,baz=162,slow=32						
H03S2	**Juan Fernandez**	**23.64**	**96**	T	T	20 33 02.1	
	baz=259,slow=75,SNR=66						
H03S1	**Juan Fernandez**	**23.66**	**96**	T	T	20 33 04.7	
	baz=259,slow=75,SNR=65						
H03S3	**Juan Fernandez**	**23.66**	**96**	T	T	20 33 03.4	
	baz=259,slow=75,SNR=78						
H03N2	**Juan Fernandez**	**23.71**	**95**	T	T	20 33 03.1	
	baz=268,slow=74,SNR=13						
H03N3	**Juan Fernandez**	**23.72**	**95**	T	T	20 33 04.7	
	baz=268,slow=74,SNR=11						
H03N1	**Juan Fernandez**	**23.73**	**95**	T	T	20 33 06.7	
	baz=268,SNR=12						
RKT	**Rikitea**	**26.60**	**289**	*e*LQ	LQ	20 13 53.7	
	2μm,29.0s						
RKT	**Rikitea**	**26.60**	**289**	*e*T	T	20 35 37.0	
	1.6nm,0.3s						
LL02	**Futaleuf**	**28.77**	**117**	P	**P**	**20 08 53.3**	**+1.4**
VA05	**Santo Domingo**	**29.64**	**98**	P	**P**	**20 09 01.3**	**+1.6**
PLCA	**Paso Flores**	**29.66**	**112**	P	**P**	**20 09 02.0**	**+2.2**
	6.8nm,1.0s,baz=251,slow=11,SNR=5.2						
PLCA				LR	LR	20 17 18.8	
	comp=Z,880nm,20.8s,baz=276,slow=29						
PLCA	**Paso Flores**	**29.66**	**112**	P	**P**	**20 09 01.1**	**+1.2**
PLCA				IAmb	IAmb	20 09 14.5	
	comp=Z,43nm,1.6s						
BO01	**Tunca**	**29.92**	**100**	P	**P**	**20 09 02.8**	**+0.7**
GO09	**Cerro Castillo**	**30.11**	**134**	P	**P**	**20 09 05.5**	**+1.9**
MT02	**Curacav**	**30.12**	**97**		**P**	**20 09 04.7**	**+0.8**
MT02				IAmb	IAmb	20 10 00.4	
	comp=Z,43nm,1.7s						
MT09	**Talagante**	**30.13**	**98**	P	**P**	**20 09 04.1**	**-0.1**
MT09				IAmb	IAmb	20 09 06.0	
	comp=Z,30nm,1.4s						
MT05	**Renca**	**30.42**	**98**	P	**P**	**20 09 07.3**	**+0.7**
MT03	**Universidad Ad**	**30.58**	**98**	P	**P**	**20 09 08.0**	**-0.2**
MT03				IAmb	IAmb	20 09 10.1	
	comp=Z,30nm,1.1s						
VA03	**San Esteban**	**30.72**	**97**	P	**P**	**20 09 09.9**	**+0.5**
VA03				IAmb	IAmb	20 09 20.2	
	comp=Z,49nm,1.6s						
ZON	**Zonda**	**32.58**	**95**	P	**P**	**20 09 26.5**	**+0.9**
ZON				IAmb	IAmb	20 09 28.2	
	comp=Z,44nm,1.4s						
AC01	**Pan de Azucar**	**32.88**	**85**	P	**P**	**20 09 30.1**	**+1.8**
AC02	**Maricunga**	**33.81**	**87**	P	**P**	**20 09 37.3**	**+0.3**
AC02				IAmb	IAmb	20 09 39.7	
	comp=Z,16nm,1.0s						
GO02	**Mina Guanaco**	**34.12**	**84**	P	**P**	**20 09 40.4**	**+0.9**
GO02				IAmb	IAmb	20 10 07.6	
	comp=Z,38nm,1.4s						
PB04	**IPOC Station P**	**34.97**	**79**	P	**P**	**20 09 46.9**	**+0.2**
PB04				IAmb	IAmb	20 10 00.2	
	comp=Z,55nm,1.5s						
PB15	**IPOC Station P**	**35.10**	**81**	P	**P**	**20 09 47.7**	**-0.1**
PB15				IAmb	IAmb	20 09 50.8	
	comp=Z,25nm,1.0s						
PB06	**IPOC Station P**	**35.26**	**80**	P	**P**	**20 09 49.2**	**+0.1**
PB06				IAmb	IAmb	20 09 51.5	
	comp=Z,21nm,1.1s						
PB07	**IPOC Station P**	**35.48**	**78**	P	**P**	**20 09 50.9**	**-0.3**
PB07				IAmb	IAmb	20 10 14.1	
	comp=Z,30nm,1.4s						
PATCX	**Punta Patache**	**35.73**	**77**	P	**P**	**20 09 53.7**	**+0.5**
TA01	**Diego Aracena**	**35.84**	**76**	P	**P**	**20 09 54.3**	**+0.4**
TA01				IAmb	IAmb	20 09 56.4	
	comp=Z,21nm,0.9s						
LVC	**Limon Verde**	**35.84**	**80**	P	**P**	**20 09 55.6**	**+1.2**
	comp=Z,7.7nm,0.9s,baz=224,slow=9.8,SNR=5.7						
LVC	**Limon Verde**	**35.84**	**80**	P	**P**	**20 09 55.6**	**+1.2**
LVC				IAmb	IAmb	20 09 57.7	
	comp=Z,34nm,1.4s						
PB09	**IPOC Station P**	**35.97**	**79**	P	**P**	**20 09 56.1**	**+0.8**
NNA	**Nana**	**36.04**	**58**	P	**P**	**20 09 56.2**	**+0.5**
PB01	**IPOC Station P**	**36.15**	**78**	P	**P**	**20 09 57.7**	**+0.9**
PB01				IAmb	IAmb	20 09 59.8	
	comp=Z,56nm,1.6s						
PSGCX	**Pisagua**	**36.40**	**75**	P	**P**	**20 09 57.0**	**-1.8**
PSGCX				IAmb	IAmb	20 10 00.5	
	comp=Z,50nm,1.6s						
PB11	**IPOC Station P**	**36.68**	**76**	P	**P**	**20 10 01.4**	**0.0**
PB11				IAmb	IAmb	20 10 03.6	
	comp=Z,25nm,1.1s						
PB08	**IPOC Station P**	**36.88**	**77**	P	**P**	**20 10 04.6**	**+1.3**
MNMC	**Minye Minye**	**37.07**	**75**	P	**P**	**20 10 04.7**	**-0.1**
TBI	**Tubuai**	**38.11**	**276**	*e*LQ	LQ	20 18 53.7	
	comp=Z,4μm,31.8s						
TBI				*e*LR	LR	20 20 19.0	
	comp=Z,2μm,27.2s						
ATAH	**Atahualpa**	**38.55**	**51**	P	**P**	**20 10 17.2**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=253,slow=8.3,SNR=5.6						
TAOE	**Nuku Hiva Isla**	**39.52**	**303**	*e*S	**S**	**20 16 29.8**	**+2.0**
	comp=Z,412nm,27.0s						
TAOE				*e*LR	LR	20 21 11.2	
	comp=Z,2μm,28.7s						
MEH	**Mehetia**	**39.73**	**285**	*e*T	T	20 51 58.6	
	comp=Z,29nm,0.3s						
LPAZ	**La Paz**	**39.81**	**72**	P	**P**	**20 10 28.3**	**0.0**
	comp=Z,7.2nm,0.7s,baz=234,slow=5.1,SNR=26						
LPAZ				LR	LR	20 23 13.5	
	comp=Z,683nm,18.6s,baz=232,slow=31						
LPAZ	**La Paz**	**39.81**	**72**	P	**P**	**20 10 28.3**	**0.0**
PPT2	**Papeete2**	**41.09**	**284**	*e*S	**S**	**20 16 51.8**	**+0.5**
	comp=Z,171nm,26.5s						
PPT2				*e*LQ	LQ	20 19 56.6	
	comp=Z,6μm,28.8s						
PPT2				*e*LR	LR	20 21 46.8	
	comp=Z,369nm,22.8s						
PPT	**Papeete**	**41.10**	**284**	LR	LR	20 22 26.6	
	comp=Z,310nm,18.6s,baz=118,slow=29						
ITQB	**Itaqui**	**43.02**	**98**	P	**P**	**20 10 54.0**	**+0.2**
ITQB				IAmb	IAmb	20 10 55.1	
	comp=Z,56nm,1.3s						
CPUP	**Villa Florida**	**43.70**	**93**	P	**P**	**20 10 59.5**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=273,slow=8.4,SNR=5.3						
CPUP				LR	LR	20 26 18.9	
	comp=Z,778nm,20.0s,baz=252,slow=32						
CPUP	**Villa Florida**	**43.70**	**93**	P	**P**	**20 10 59.2**	**-0.1**
CPUP				IAmb	IAmb	20 11 09.5	
	comp=Z,43nm,1.9s						
OTAV	**Otavalo**	**44.33**	**44**	P	**P**	**20 11 04.3**	**-0.7**
PLTB	**Pedras Altas**	**44.75**	**102**	P	**P**	**20 11 06.7**	**-1.0**
PLTB				IAmb	IAmb	20 11 19.6	
	comp=Z,16nm,1.0s						
FLOC	**Florencia**	**47.05**	**46**	P	**P**	**20 11 26.2**	**+0.2**
FLOC	**Florencia**	**47.05**	**46**	*e*P	**P**	**20 11 25.1**	**-0.9**
ITAB	**Concordia**	**47.59**	**97**	P	**P**	**20 11 29.9**	**-0.2**
AQDB	**Aquidauana**	**47.64**	**87**	P	**P**	**20 11 30.6**	**0.0**
AQDB				IAmb	IAmb	20 11 31.8	
	comp=Z,12nm,1.1s						
MACC	**Macarena, Meta**	**48.58**	**48**	*e*P	**P**	**20 11 36.4**	**-1.5**
YOTC	**Yotoco, Valle**	**48.59**	**44**	*e*P	**P**	**20 11 37.2**	**-0.8**
RIOS	**Rincon, Osa**	**49.01**	**32**	P	**P**	**20 11 44.5**	**+3.4**
TRCB	**Terra Rica**	**49.08**	**91**	P	**P**	**20 11 42.0**	**+0.3**
ORTC	**Ortega, Tolima**	**49.16**	**45**	*e*P	**P**	**20 11 42.7**	**+0.4**
CDTO	**Canoas**	**49.18**	**33**	P	**P**	**20 11 42.8**	**+0.4**
PRAC	**Prado**	**49.21**	**45**	*e*P	**P**	**20 11 43.3**	**+0.6**
PLMC	**San Jos del P**	**49.38**	**43**	*e*P	**P**	**20 11 43.5**	**-0.5**
TOLC	**Tolima**	**49.66**	**44**	*e*P	**P**	**20 11 46.3**	**-0.2**
ORTG	**Ortega, Santa**	**49.69**	**29**	P	**P**	**20 11 46.1**	**-0.2**
JTS	**Las Juntas de**	**49.83**	**30**	P	**P**	**20 11 49.4**	**+2.1**
GUY2C	**Guyana, Caldas**	**50.16**	**44**	*e*P	**P**	**20 11 51.0**	**+0.5**
CBOC	**Ciudad Bolivar**	**50.32**	**43**	*e*P	**P**	**20 11 51.4**	**+0.1**
ROSC	**El Rosal**	**50.45**	**45**	P	**P**	**20 11 51.7**	**-0.9**
	comp=Z,10nm,0.4s,baz=106,slow=14,SNR=6.0						
ROSC				LR	LR	20 29 17.9	
	comp=Z,2μm,21.6s,baz=228,slow=31						
ROSC	**El Rosal**	**50.45**	**45**	P	**P**	**20 11 52.1**	**-0.4**
ROSC				IAmb	IAmb	20 12 02.7	
	comp=Z,35nm,1.1s						
CHIC	**Chingaza**	**50.62**	**46**	*e*P	**P**	**20 11 53.3**	**-0.6**
NORC	**Norcasia**	**50.72**	**44**	*e*P	P	20 11 47.6	-6.6
HELC	**Santa Helena**	**50.86**	**43**	*e*P	**P**	**20 11 53.8**	**-1.8**
RUSC	**La Rusia**	**52.02**	**46**	P	**P**	**20 12 04.2**	**-0.3**
RUSC	**La Rusia**	**52.02**	**46**	*e*P	**P**	**20 12 03.0**	**-1.5**
MTO3	**Montecristo**	**52.03**	**23**	P	**P**	**20 12 04.9**	**+0.8**
ZARC	**Zaragoza, Cauc**	**52.30**	**43**	*e*P	**P**	**20 12 04.6**	**-1.4**
TGUH	**Tegucigalpa,Un**	**52.40**	**25**	P	**P**	**20 12 05.6**	**-1.2**
BRRC	**Barranca, Sant**	**52.63**	**44**	*e*P	**P**	**20 12 07.8**	**-0.7**
MOTC	**Monteria, Cord**	**52.92**	**41**	*e*P	**P**	**20 12 10.1**	**-0.5**
SPB	**Sao Paulo**	**52.98**	**95**	P	**P**	**20 12 12.0**	**+1.0**
SPB				IAmb	IAmb	20 12 12.6	
	comp=Z,22nm,1.4s						
SMLC	**San Martn de**	**53.81**	**43**	*e*P	**P**	**20 12 16.8**	**-0.3**
SJCC	**San Jacinto, C**	**54.12**	**41**	P	**P**	**20 12 20.1**	**+0.7**
SJCC				IAmb	IAmb	20 12 33.6	
	comp=Z,13nm,1.1s						
SBA	**Scott Base**	**55.23**	**195**	P	**P**	**20 12 27.8**	**+1.2**
SBA				IAmb	IAmb	20 12 34.1	
	comp=Z,46nm,1.9s						
QSPA	**South Pole Qui**	**55.26**	**180**	P	**P**	**20 12 27.9**	**+0.6**
	comp=Z,5.4nm,1.0s,baz=147,slow=2.7,SNR=10						
QSPA	**South Pole Qui**	**55.26**	**180**	P	**P**	**20 12 28.4**	**+1.1**
QSPA				IAmb	IAmb	20 12 36.9	
	comp=Z,37nm,1.7s						
VNDA	**Vanda**	**56.31**	**195**	P	**P**	**20 12 36.1**	**+1.7**
	comp=Z,2.2nm,1.0s,baz=52,slow=3.9,SNR=4.1						
VNDA				LR	LR	20 31 44.1	
	comp=Z,342nm,18.7s,baz=98,slow=31						
VNDA	**Vanda**	**56.31**	**195**	P	**P**	**20 12 35.9**	**+1.5**
VNDA				IAmb	IAmb	20 12 48.1	
	comp=Z,22nm,1.9s						
BDFB	**Brasilia**	**56.38**	**86**	LR	LR	20 34 36.8	
	comp=Z,587nm,18.6s,baz=249,slow=34						
BDFB	**Brasilia**	**56.38**	**86**	P	**P**	**20 12 35.3**	**-0.6**
URIC	**Uribia, Colomb**	**57.35**	**43**	P	**P**	**20 12 42.6**	**+0.1**
ZAIG	**Zacatecas**	**57.59**	**5**	P	**P**	**20 12 46.0**	**+1.7**
ZAIG				IAmb	IAmb	20 14 10.2	
	comp=Z,23nm,1.8s						
MXZ	**Matakaoa Point**	**58.34**	**244**	P	**P**	**20 12 49.6**	**+0.2**
VNA3	**Neumayer Olymp**	**59.81**	**158**	P	**P**	**20 12 56.8**	**-2.2**
VNA1	**Neumayer--Stat**	**60.45**	**158**	P	**P**	**20 13 00.8**	**-2.6**
KVTX	**Kingsville**	**62.82**	**10**	P	**P**	**20 13 19.9**	**+0.2**
TXAR	**Lajitas Array**	**64.03**	**4**	LR	LR	20 36 19.9	
	comp=Z,192nm,19.8s,baz=0.0,slow=32						
JCT	**Junction City**	**65.48**	**7**	P	**P**	**20 13 36.9**	**-0.4**
435B	**Jarrell**	**66.05**	**9**	P	**P**	**20 13 41.9**	**+1.0**
BIM	**Bigot**	**66.07**	**50**	P	**P**	**20 13 41.2**	**-0.2**
MNTX	**Cornudas Mount**	**66.32**	**2**	P	**P**	**20 13 42.6**	**0.0**
CUPR	**Culebra, Puert**	**66.47**	**44**	P	**P**	**20 13 44.9**	**+1.1**
DSLB	**Salisbury**	**66.55**	**49**	*e*P	**P**	**20 13 47.1**	**+2.7**
TUC	**Tucson**	**66.96**	**357**	P	**P**	**20 13 47.5**	**+0.7**
121A	**Cookes Peak, D**	**67.12**	**360**	P	**P**	**20 13 49.4**	**+1.5**
121A				IAmb	IAmb	20 14 03.5	
	comp=Z,16nm,1.6s						
WHTX	**Lake Whitney,**	**67.25**	**9**	P	**P**	**20 13 48.7**	**+0.1**
WHTX				IAmb	IAmb	20 14 02.1	
	comp=Z,18nm,1.1s						
ABVI	**Anegada Island**	**67.35**	**45**	P	**P**	**20 13 52.0**	**+2.6**
237A	**Washetta, Mont**	**67.50**	**11**	P	**P**	**20 13 51.2**	**+1.1**
113A	**Mohawk Valley,**	**67.60**	**354**	P	**P**	**20 13 52.8**	**+2.1**
ABTX	**Abilene, Hawle**	**67.62**	**7**	P	**P**	**20 13 50.7**	**-0.2**
ABTX				IAmb	IAmb	20 14 22.8	
	comp=Z,20nm,1.5s						
656A	**Willston**	**68.19**	**23**	P	**P**	**20 13 56.3**	**+1.8**
MSTX	**Muleshoe**	**68.70**	**4**	P	**P**	**20 13 56.8**	**-0.9**
MSTX				IAmb	IAmb	20 14 10.8	
	comp=Z,14nm,1.2s						
Y14A	**Wickenburg**	**68.71**	**355**	P	**P**	**20 13 59.4**	**+1.7**
BNM	**Barren Site**	**68.73**	**1**	P	**P**	**20 13 58.6**	**+0.5**
LENM	**Lemitar**	**68.75**	**1**	P	**P**	**20 13 58.0**	**-0.1**
X16A	**Lo Mia Camp, P**	**69.09**	**357**	P	**P**	**20 14 00.0**	**-0.2**
X18A	**Snowflake**	**69.14**	**358**	P	**P**	**20 14 01.3**	**+0.7**
X18A				IAmb	IAmb	20 14 20.1	
	comp=Z,14nm,1.4s						
352A	**Blakely**	**69.42**	**21**	P	**P**	**20 14 03.0**	**+0.9**
WLAR	**White Oak Lake**	**69.60**	**13**	P	**P**	**20 14 04.4**	**+1.2**
X34A	**Smith Ranch, M**	**69.78**	**9**	P	**P**	**20 14 05.5**	**+1.2**
X34A				IAmb	IAmb	20 14 17.7	
	comp=Z,8.3nm,0.9s						
WMOK	**Wichita Mounta**	**69.80**	**8**	P	**P**	**20 14 04.1**	**-0.4**
X37A	**Clayton**	**70.10**	**11**	P	**P**	**20 14 05.4**	**-0.9**
X37A				IAmb	IAmb	20 14 18.9	
	comp=Z,10nm,0.8s						
WUAZ	**Wupatki**	**70.18**	**357**	P	**P**	**20 14 07.2**	**+0.2**
MIAR	**Mount Ida**	**70.36**	**12**	P	**P**	**20 14 08.4**	**+0.6**
GSC	**Goldstone, Bar**	**70.41**	**352**	P	**P**	**20 14 08.1**	**-0.1**
GSC				IAmb	IAmb	20 15 52.3	
	comp=Z,22nm,1.9s						
W39A	**Magazine**	**70.95**	**12**	P	**P**	**20 14 10.5**	**-0.9**
W39A				IAmb	IAmb	20 14 24.7	
	comp=Z,9.7nm,1.0s						
WHAR	**Wooly Hollow**	**71.31**	**13**	P	**P**	**20 14 14.2**	**+0.6**
WHAR				IAmb	IAmb	20 14 31.4	
	comp=Z,13nm,1.2s						
HHAR	**Hobbs**	**71.99**	**12**	P	**P**	**20 14 16.2**	**-1.5**
HHAR				IAmb	IAmb	20 14 31.2	
	comp=Z,17nm,1.0s						
U38A	**Gravette**	**72.07**	**11**	P	**P**	**20 14 17.3**	**-0.9**
U38A				IAmb	IAmb	20 14 31.2	
	comp=Z,16nm,1.1s						
U40A	**Yellville**	**72.25**	**12**	P	**P**	**20 14 18.1**	**-1.2**
U40A				IAmb	IAmb	20 14 32.7	
	comp=Z,8.9nm,0.9s						
T42A	**Van Buren**	**73.23**	**14**	P	**P**	**20 14 25.0**	**-0.1**
T42A				IAmb	IAmb	20 14 38.3	
	comp=Z,12nm,1.1s						
BG3	**Lake Jocassee**	**73.29**	**21**	P	**P**	**20 14 24.3**	**-1.2**
BG3				IAmb	IAmb	20 14 56.7	
	comp=Z,15nm,1.3s						
PAULI	**Pauline**	**73.46**	**22**	P	**P**	**20 14 25.5**	**-1.0**
PAULI				IAmb	IAmb	20 14 40.8	
	comp=Z,15nm,0.9s						
S39A	**Bolivar**	**73.47**	**12**	P	**P**	**20 14 25.7**	**-0.7**
SYO	**Syowa Base**	**73.56**	**168‖**	*e*P	**P**	20 14 20.8	-5.9
SYO	**Syowa Base**	**73.56**	**168‖**	*e*P	**P**	**20 14 25.4**	**-1.3**
NV11	**Mina Array Sit**	**73.66**	**351**	P	**P**	**20 14 28.9**	**+1.2**
TKL	**Tuckaleechee C**	**73.67**	**20**	P	**P**	**20 14 28.0**	**+0.3**
TKL				IAmb	IAmb	20 17 04.0	
	comp=Z,13nm,0.6s						
NVAR	**Mina Array Bea**	**73.67**	**351**	P	**P**	**20 14 27.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=185,slow=7.7,SNR=8.7						
NVAR				LR	LR	20 40 26.2	
	comp=Z,274nm,18.5s,baz=180,slow=31						
NVAR	**Mina Array Bea**	**73.67**	**351**	P	**P**	**20 14 27.8**	**-0.1**
SMCO	**Snowmass**	**73.75**	**0**	P	**P**	**20 14 28.6**	**0.0**
T47A	**Sharon Grove**	**74.05**	**17**	P	**P**	**20 14 30.3**	**+0.4**
T47A				IAmb	IAmb	20 14 45.7	
	comp=Z,9.2nm,0.7s						
KVN	**Kaiserville**	**74.26**	**352**	P	**P**	**20 14 32.4**	**+1.1**
DZM	**Mont Dzumac**	**74.55**	**254**	*e*S	**S**	**20 24 10.0**	**+0.9**
	comp=Z,440nm,25.4s						
DZM	**Mont Dzumac**	**74.55**	**254**	*e*LR	LR	20 37 18.0	
	comp=Z,1μm,31.2s						
T50A	**Nancy**	**74.66**	**19**	P	**P**	**20 14 31.9**	**-1.5**
RDMU	**Red Mountain**	**75.16**	**358**	P	**P**	**20 14 36.5**	**0.0**
RDMU				IAmb	IAmb	20 15 03.9	
	comp=Z,27nm,1.8s						
T59A	**Double "B" Far**	**76.81**	**24**	P	**P**	**20 14 45.2**	**-0.5**
T59A				IAmb	IAmb	20 14 51.8	
	comp=Z,14nm,0.7s						
P48A	**Milroy**	**76.81**	**17**	P	P	20 14 41.1	-4.6
BW06	**Boulder Array**	**77.35**	**359**	P	**P**	**20 14 48.3**	**-0.7**
BW06				IAmb	IAmb	20 14 59.6	
	comp=Z,21nm,1.8s						
PDAR	**Pinedale Array**	**77.35**	**359**	P	**P**	**20 14 46.8**	**-2.2**
	comp=Z,1.3nm,0.8s,baz=163,slow=6.2,SNR=8.9						
PDAR	**Pinedale Array**	**77.35**	**359**	P	**P**	**20 14 46.4**	**-2.6**
WVOR	**Wild Horse Val**	**77.66**	**352**	P	**P**	**20 14 50.2**	**-0.3**
WVOR				IAmb	IAmb	20 15 01.7	
	comp=Z,12nm,1.2s						
TPAW	**Teton Pass**	**78.12**	**357**	P	**P**	**20 14 53.8**	**+0.5**
TPAW				IAmb	IAmb	20 15 26.6	
	comp=Z,24nm,1.8s						
HLID	**Hailey**	**78.38**	**355**	P	**P**	**20 14 54.3**	**-0.3**
J08A	**Circle Bar Ran**	**78.56**	**352**	P	**P**	**20 14 56.0**	**+0.5**
ECSD	**EROS Data Cent**	**78.94**	**8**	P	**P**	**20 14 56.3**	**-1.1**
N53A	**Lisbon**	**79.29**	**20**	P	**P**	**20 14 58.4**	**-1.0**
N53A				IAmb	IAmb	20 15 26.6	
	comp=Z,23nm,1.2s						
I07A	**Izee**	**79.39**	**351**	P	**P**	**20 15 00.9**	**+0.8**
I07A				IAmb	IAmb	20 15 11.0	
	comp=Z,18nm,1.3s						
BMO	**Blue Mountains**	**79.91**	**353**	P	**P**	**20 15 02.8**	**0.0**
F36A	**Milaca**	**81.42**	**10**	P	**P**	**20 15 10.8**	**+0.1**
F36A				IAmb	IAmb	20 15 42.1	
	comp=Z,32nm,1.8s						
ULM	**Lac du Bonnet**	**85.45**	**8**	P	**P**	**20 15 29.8**	**-1.6**
	comp=Z,1.9nm,0.6s,baz=226,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**87.07**	**233**	LR	LR	20 48 16.9	
	comp=Z,389nm,19.7s,baz=172,slow=31						
ASAR	**Alice Springs**	**97.59**	**234**	LR	LR	20 59 25.0	
	comp=Z,466nm,18.0s,baz=157,slow=35						
CLL	**Collm**	**134.93**	**50**	*e*PKPdf	**PKiKP**	**20 22 15.0**	**+0.8**
CLL				*e*PKSdf	**PKSdf**	**20 25 51.0**	**+2.2**
CLL				*e*(PPP)		20 27 30.0	
CLL				*e*PS	**PS**	**20 35 12.0**	**+2.6**
CLL				*e*PPS	PPS	20 36 48.0	
CLL				*e*SSS	SSS	20 47 42.0	
CLL				*e*SSSS		20 51 36.0	
GERES	**GERESS Array B**	**135.22**	**53**	PKP	**PKPdf**	**20 22 10.2**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=310,slow=3.2,SNR=1.4						
VYHS	**Vyhne**	**138.60**	**54**	*e*PKP	**PKiKP**	**20 22 24.0**	**+2.2**
FINES	**FINESS Array B**	**140.58**	**33**	PKP	**PKPdf**	**20 22 21.2**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=45,slow=0.2,SNR=2.0						
NJ2	**Nanjing**	**141.43**	**279**	*e*PKP	**PKPdf**	**20 22 25.5**	**+0.2**
NACGM	**Naroch**	**142.86**	**43**	*i* PKP	PKiKP	20 22 40.8	+11
MNK	**Minsk**	**143.58**	**44**	*i* PKP	**PKPdf**	**20 22 27.8**	**-0.6**
	comp=E,2.0nm,0.8s						
MNK				*i* PKP	**PKPdf**	**20 22 27.8**	**-0.6**
	comp=N,9.0nm,0.7s						
MNK				*i* PKP	**PKPdf**	**20 22 27.8**	**-0.6**
	comp=Z,20nm,0.9s,baz=286						
MNK				*i* PP	**PP**	**20 25 39.9**	**-1.1**
MNK				*i* PPP	PPP	20 28 49.5	
MNK				*i* SKS	**SKSdf**	**20 29 37.5**	**-0.3**
MNK				*i* SKKS	**SKKSdf**	**20 38 52.2**	**-1.3**
MNK				*i* SS	**SS**	**20 44 22.4**	**-0.3**
MNK				*i* SSS	SSS	20 49 39.2	
MNK				*i* LQ	LQ	21 18 50.9	
MNK				*i* LR	LR	21 21 56.4	
MNK				*i* LRM	MLR	21 26 02.6	
	comp=N,59nm,23.2s						
MNK				*i* LRM	MLR	21 26 02.6	
	comp=Z,57nm,20.2s						
AKASG	**Malin Array Be**	**145.17**	**50**	PKPbc	**PKPbc**	**20 22 27.7**	**-3.2**
	comp=Z,0.7nm,0.4s,baz=278,slow=3.5,SNR=7.8						
AKASG	**Malin Array Be**	**145.17**	**50**		**PKPbc**	**20 22 26.9**	**-4.0**
KLMR	**Klimovskoe**	**146.60**	**29**	*e*PKPdf	**PKPbc**	**20 22 35.3**	**+0.3**
KLMR				AMP		20 22 43.7	
	comp=Z,42nm,1.4s						
HHC	**Hu-ho-hao-te**	**148.74**	**293**	*e*PKPbc	**PKPdf**	**20 22 35.0**	**-2.8**
BRTR	**Keskin Array B**	**148.97**	**70**	PKPbc	**PKPbc**	**20 22 41.2**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=197,slow=2.6,SNR=5.5						
BRTR	**Keskin Array B**	**148.97**	**70**		**PKiKP**	**20 22 43.2**	**-0.3**
XAN	**Xi'an**	**150.00**	**279**	PKPbc	**PKPab**	**20 22 51.2**	**+0.5**
XAN				pPKP	sPKPab	20 22 56.4	+2.9
XAN				L	L		
	comp=Z,120nm,21.7s						
XAN				L	L		
	comp=Z,100nm,22.8s						
XAN				L	L		
	comp=Z,200nm,19.5s						
CMAR	**Chiang Mai Arr**	**151.30**	**242**	PKPbc	**PKPdf**	**20 22 44.9**	**+2.5**
	comp=Z,2.0nm,0.9s,baz=189,slow=1.8,SNR=11						
CMAR	**Chiang Mai Arr**	**151.30**	**242**		**PKPdf**	**20 22 43.3**	**+1.0**
SONM	**Songino Array**	**151.68**	**307**	PKPbc	**PKPbc**	**20 22 45.7**	**-2.8**
	comp=Z,1.8nm,1.0s,baz=98,slow=1.4,SNR=7.1						
LZH	**Lanzhou**	**154.45**	**282**	PKPbc	**PKPdf**	**20 22 47.1**	**+0.4**
LZH				SS	SS	20 46 26.0	-0.3
KURBB	**Kurchatov Arra**	**163.71**	**346**	PKPab	**PKPab**	**20 23 45.9**	**-2.8**
	comp=Z,0.4nm,0.7s,baz=21,slow=4.6,SNR=3.2						
WMQ	**Urumqi**	**165.25**	**312**	*e*PKP	**PKPdf**	**20 22 58.8**	**+0.3**
MKAR	**Makanchi Array**	**166.01**	**331**	PKPab	**PKPab**	**20 23 57.3**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=46,slow=6.9,SNR=4.8						

*IDC **05** 20:40:18.8±1.2, 48°.38S×99°.52E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/30, mbtmp4.0/5, MS4.0/5, Ms1 3.9/5, ms1mx3.5/22, Error ellipse: s-maj=48.8km s-min=23.1km az=107.0*

ISC 05 20:40:20.3±1.2, 48°.4S±0°.2×99°.5E±0°.3, h10km, n14, σ1s31/7, mb4.0/5, MS3.9/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.32**	**44**	T	T	21 02 06.9	
	baz=215,slow=74,SNR=54						

YHNB	**Yeheng**	**19.88**	**282**	P	**P**	**21 16 57.4**	**+0.6**
YHNB				IAmb	IAmb	21 17 03.3	
	comp=Z,29nm,1.1s						
ERM	**Erimo**	**20.03**	**1**	P	**P**	**21 16 59.1**	**+1.0**
KSRS	**Korea Array**	**20.13**	**324**	P	**P**	**21 16 59.7**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=144,slow=9.1,SNR=9.5						
SSLB	**Suanglung**	**20.23**	**279**	P	**P**	**21 17 01.7**	**+1.2**
SSLB				IAmb	IAmb	21 17 08.7	
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**28.63**	**345**	P	**P**	**21 18 17.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=180,slow=6.5,SNR=6.5						
AMKA	**Amchitka**	**40.78**	**35**	P	**P**	**21 20 01.4**	**+0.6**
SEY	**Seymchan**	**41.50**	**7**	P	**P**	**21 20 05.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=177,slow=18,SNR=2.4						
FITZ	**Fitzroy Crossi**	**43.19**	**204**	P	**P**	**21 20 20.5**	**0.0**
	comp=Z,2.8nm,0.9s,baz=18,slow=9.6,SNR=1.7						
FITZ	**Fitzroy Crossi**	**43.19**	**204**	P	**P**	**21 20 20.8**	**+0.3**
FITZ				IAmb	IAmb	21 20 40.6	
	comp=Z,9.2nm,1.1s						
ASAR	**Alice Springs**	**46.14**	**191**	P	**P**	**21 20 42.9**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=14,slow=6.7,SNR=5.6						
GSI	**Gunungsitoli**	**48.55**	**251**	P	**P**	**21 21 02.8**	**+0.4**
SDPT	**Sand Point**	**53.43**	**36**	P	**P**	**21 21 37.5**	**-0.6**
ZAA0	**Zalesovo Array**	**53.82**	**322**	P	**P**	**21 21 42.2**	**+1.2**
ZAA0				IAmb	IAmb	21 21 43.6	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**53.82**	**322**	P	**P**	**21 21 41.6**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=113,slow=6.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**53.82**	**322**	P	**P**	**21 21 41.7**	**+0.8**
MK31	**Makanchi Array**	**54.29**	**313**	P	**P**	**21 21 44.4**	**-0.1**
MKAR	**Makanchi Array**	**54.29**	**313**	P	**P**	**21 21 44.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=92,slow=7.9,SNR=15						
MAKZ	**Makanchi**	**54.51**	**313**	P	**P**	**21 21 46.0**	**0.0**
DOT	**Dot Lake**	**63.09**	**29**	P	**P**	**21 22 46.6**	**+1.9**
DOT				IAmb	IAmb	21 22 48.7	
	comp=Z,8.7nm,1.1s						
GAR	**Garm**	**63.24**	**304**	P	**P**	**21 22 45.2**	**-1.0**
GAR				IAmb	IAmb	21 22 45.9	
	comp=Z,3.3nm,0.9s						
BMAR	**Burnt Mountain**	**63.28**	**24**	P	**P**	**21 22 46.4**	**+0.5**
KBZ	**Khabaz**	**81.97**	**314**	P	**P**	**21 24 35.5**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=165,slow=1.6,SNR=3.9						
FINES	**FINESS Array B**	**82.83**	**334**	P	**P**	**21 24 38.6**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=74,slow=6.0,SNR=13						

*IDC **05** 21:37:18.7±1.5,48°.20S×99°.27E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/26,mbtmp3.9/4,Error ellipse: s-maj=63.4km s-min=25.3km az=95.0*
*NEIC **05** 21:37:21.1±2.3,48°.25S±0°.1×99°.36E±0°.07,h10km±1km, mb4.7/14,Error ellipse: s-maj=21.9km s-min=8.5km az=178.0*
ISC 05 21:37:20.8±0.7,48°2S±0°.1×99°4E±0°.1,h12km,n23, σ0s94/23,mb4.5/11,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	**Forrest**	**27.94**	**62**	P	**P**	**21 43 12.1**	**+1.3**
FORT				IAmb	IAmb	21 43 15.1	
	comp=Z,15nm,1.0s						
PSA00	**Pilbara Seismi**	**31.24**	**39**	P	**P**	**21 43 41.0**	**+0.8**
ASAR	**Alice Springs**	**36.69**	**61**	P	**P**	**21 44 27.5**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=207,slow=9.3,SNR=2.5						
VNDA	**Vanda**	**37.57**	**162**	P	**P**	**21 44 34.5**	**0.0**
	comp=Z,2.9nm,1.1s,baz=288,slow=8.7,SNR=7.6						
VNDA	**Vanda**	**37.57**	**162**	P	**P**	**21 44 34.6**	**+0.2**
SBA	**Scott Base**	**38.66**	**162**	P	**P**	**21 44 44.9**	**+1.2**
KNRA	**Kununurra**	**40.45**	**47**	P	**P**	**21 44 59.5**	**+0.3**
KNRA				IAmb	IAmb	21 45 03.6	
	comp=Z,9.6nm,1.0s						
JAGI	**Jajag, Banyuwa**	**41.53**	**22**	P	**P**	**21 45 08.7**	**+0.7**
JAGI				IAmb	IAmb	21 45 12.2	
	comp=Z,31nm,1.1s						
QSPA	**South Pole Qui**	**41.94**	**180**	P	**P**	**21 45 10.6**	**-0.6**
	comp=Z,3.6nm,1.0s,baz=304,slow=0.9,SNR=7.3						
QSPA	**South Pole Qui**	**41.94**	**180**	P	**P**	**21 45 10.5**	**-0.6**
QSPA				IAmb	IAmb	21 45 27.1	
	comp=Z,11nm,1.1s						
SMRI	**Semarang**	**42.08**	**17**	P	**P**	**21 45 11.5**	**-1.0**
CTAO	**Charters Tower**	**46.89**	**70**	P	**P**	**21 45 51.0**	**0.0**
CTAO				IAmb	IAmb	21 46 01.8	
	comp=Z,8.1nm,1.1s						
ODZ	**Otahua Downs**	**47.45**	**114**	P	**P**	**21 45 54.9**	**-0.1**
CMWZ	**Cape Campbell**	**51.41**	**112**	P	**P**	**21 46 26.8**	**+1.4**
TUWZ	**Tuamarina**	**51.42**	**112**	P	**P**	**21 46 23.2**	**-2.2**
BHW	**Baring Head**	**52.01**	**112**	P	**P**	**21 46 30.5**	**+0.6**
LHMI	**Lhok Sumawe**	**53.24**	**357**	P	**P**	**21 46 38.3**	**-0.8**
LHMI				IAmb	IAmb	21 46 49.8	
	comp=Z,32nm,1.1s						
MXZ	**Matakaoa Point**	**56.43**	**111**	P	**P**	**21 47 00.7**	**-1.4**
OUENC	**Ouen Island, N**	**58.75**	**89**	P	**P**	**21 47 18.2**	**-0.4**
BOSA	**Boshof**	**58.98**	**261**	P	**P**	**21 47 20.5**	**+0.1**
BOSA				IAmb	IAmb	21 47 37.9	
	comp=Z,3.2nm,1.0s						
LBTB	**Lobatse**	**61.16**	**264**	P	**P**	**21 47 36.5**	**+1.2**
LBTB				IAmb	IAmb	21 47 46.0	
	comp=Z,6.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**66.35**	**360**	P	**P**	**21 48 09.1**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=205,slow=6.8,SNR=4.8						
NVAR	**Mina Array Bea**	**151.17**	**96**	PKPbc	**PKiKP**	**21 57 13.8**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=225,slow=5.0,SNR=2.3						

*IDC **05** 21:37:32.8±1.0,48°.11S×99°.22E,h0km,mb4.2/6, mb1 4.3/6,mb1mx4.0/26,mbtmp4.2/6,MS4.3/4,Ms1 4.3/4, ms1mx3.7/35,Error ellipse: s-maj=29.5km s-min=23.1km az=99.0*
ISC 05 21:37:34.3±1.0,48°1S±0°.2×99°3E±0°.2,h10km,n11, σ0s82/7,mb4.1/6,MS4.5/4,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.75**	**79**	P	**P**	**21 44 32.1**	**-1.0**
	1.8nm,0.8s,baz=219,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**36.69**	**61**	P	**P**	**21 44 42.0**	**+0.7**
	2.4nm,0.8s,baz=216,slow=7.4,SNR=13						
VNDA	**Vanda**	**37.57**	**162**	P		**21 44 49.9**	**+0.8**
	3.2nm,1.0s,baz=288,slow=9.1,SNR=7.6						
LEM	**Lembang**	**41.75**	**13**	LR	LR	21 59 00.1	
	comp=Z,345nm,19.8s,baz=164,slow=31						
QSPA	**South Pole Qui**	**42.03**	**180**	P	**P**	**21 45 25.2**	**-0.4**
	6.0nm,0.9s,baz=309,slow=4.1,SNR=11						
OPO	**Ambohidratompo**	**51.27**	**286**	LR	LR	22 03 54.7	
	comp=Z,70nm,20.9s,baz=204,slow=31						
CMAR	**Chiang Mai Arr**	**66.26**	**360**	P	**P**	**21 48 22.9**	**+0.4**
	1.2nm,0.4s,baz=193,slow=5.7,SNR=6.1						
KMBO	**Kilima Mbogo**	**70.80**	**291**	P	**P**	**21 48 51.0**	**-0.3**
	0.7nm,0.4s,baz=96,slow=8.7,SNR=4.2						
AFI	**Afiamalu**	**79.09**	**99**	LR	LR	22 19 58.5	
	comp=Z,423nm,19.5s,baz=171,slow=32						
JCJ	**Chichijima**	**84.18**	**38**	LR	LR	22 28 19.8	
	comp=Z,444nm,18.1s,baz=128,slow=36						
NVAR	**Mina Array Bea**	**151.23**	**96**	PKPbc	**PKiKP**	**21 57 27.9**	**-0.3**
	2.2nm,0.8s,baz=215,slow=4.8,SNR=4.9						

*KRSC **05** 21:48:05.7±1.6,52°.58N×160°.49E,h50km±16km,ML4.6*
*NEIC **05** 21:48:08.4±1.8,52°.73N±0°.08×160°.1E±0°.1,h35km±1km, mb4.3/39,Error ellipse: s-maj=13.8km s-min=10.4km az=351.0*
*MOS **05** 21:48:08.5±1.0,52°.66N×160°.27E,h59km,mb4.2/6,Error ellipse: s-maj=6.8km s-min=3.8km az=91.7*
*IDC **05** 21:48:10.1±2.4,52°.79N×160°.18E,h54km±22km,mb3.8/20, mb1 3.9/23,mb1mx3.8/57,mbtmp4.0/23,ML3.6/3,MS3.1/1, Ms1 3.1/1,ms1mx2.6/36,Error ellipse: s-maj=19.3km s-min=12.7km az=157.0*
ISC 05 21:48:06.9±0.9,52°60N±0°.03×160°38E±0°.03,h32km±2km, n191,σ1s72/223,mb4.2/45,4D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.54**	**336**	PN	**Pb**	**21 48 18.6**	**+0.5**
SPN				S	**Sb**	**21 48 26.1**	**+0.3**
SPN	**Mys Shipunski**	**0.54**	**336**	*e*P	**Pb**	**21 48 18.6**	**+0.5**
SPN				*e*S	**Sb**	**21 48 26.1**	**+0.3**
NLC	**Nalytchevo**	**0.85**	**313**	PN	**Pb**	**21 48 23.0**	**-0.1**
NLC				S	**Sb**	**21 48 34.3**	**+0.1**
NLC	**Nalytchevo**	**0.85**	**313**	*e*P	**Pb**	**21 48 23.0**	**-0.1**
NLC				*e*S	**Sb**	**21 48 34.3**	**+0.1**
DALK	**Dalny**	**1.08**	**294**	PN	**Pn**	**21 48 26.8**	**+1.1**
DALK				S	**Sn**	**21 48 40.6**	**+1.1**
DALK	**Dalny**	**1.08**	**294**	*e*P	**Pn**	**21 48 26.8**	**+1.1**
DALK				*e*S	**Sn**	**21 48 40.6**	**+1.1**
UGLR	**Uglovaya**	**1.12**	**303**	PN	**Pn**	**21 48 27.7**	**+1.3**
UGLR				S	**Sn**	**21 48 42.2**	**+1.4**
UGLR	**Uglovaya**	**1.12**	**303**	*e*P	**Pn**	**21 48 27.7**	**+1.3**
UGLR				*e*S	**Sn**	**21 48 42.2**	**+1.4**
PET	**Petropavlovsk**	**1.13**	**293**	*i*PN	**Pn**	**21 48 27.6**	**+1.2**
PET				*e*S	**Sn**	**21 48 41.7**	**+0.9**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=N,800nm,1.9s						
PET				smax	smax		
	comp=E,800nm,0.9s						
PET				smax	smax		
	comp=N,11μm,0.5s						
PET				smax	smax		
	comp=N,12μm,0.5s						
PET				smax	smax		
	comp=E,8μm,0.5s						
PET	**Petropavlovsk**	**1.13**	**293**	*e*P	**Pn**	**21 48 27.6**	**+1.2**
PET				*e*S	**Sn**	**21 48 41.5**	**+0.7**
PET	**Petropavlovsk**	**1.13**	**293**		**Pn**	**21 48 27.6**	**+1.2**
PET				Sn	**Sn**	**21 48 40.6**	**-0.2**
SDLR	**Sedlovina**	**1.13**	**307**	PN	**Pn**	**21 48 27.5**	**+0.9**
SDLR				S	**Sn**	**21 48 41.9**	**+0.8**
SDLR	**Sedlovina**	**1.13**	**307**	*e*P	**Pn**	**21 48 27.5**	**+0.9**
SDLR				*e*S	**Sn**	**21 48 41.9**	**+0.8**
RUS	**Russkaya**	**1.16**	**262**	PN	**Pb**	**21 48 28.1**	**-0.1**
RUS				S	**Sb**	**21 48 42.9**	**0.0**
RUS	**Russkaya**	**1.16**	**262**	*e*P	**Pb**	**21 48 28.1**	**-0.1**
RUS				*e*S	**Sb**	**21 48 42.9**	**0.0**
SMAR	**Somma**	**1.16**	**305**	PN	**Pn**	**21 48 27.9**	**+0.8**
SMAR	**Somma**	**1.16**	**305**	*e*P	**Pn**	**21 48 27.9**	**+0.8**
AVH	**Avacha**	**1.20**	**304**	PN	**Pn**	**21 48 28.8**	**+1.4**
AVH	**Avacha**	**1.20**	**304**	*e*P	**Pn**	**21 48 28.8**	**+1.4**
KRER	**Koryakskii**	**1.21**	**306**	PN	**Pn**	**21 48 29.0**	**+1.3**
KRER				S	**Sn**	**21 48 44.7**	**+1.5**
KRER	**Koryakskii**	**1.21**	**306**	*e*P	**Pn**	**21 48 29.0**	**+1.3**
KRER				*e*S	**Sn**	**21 48 44.7**	**+1.5**
KOK	**Koryaka**	**1.26**	**304**	PN	**Pn**	**21 48 29.6**	**+1.3**
KOK	**Koryaka**	**1.26**	**304**	*e*P	**Pn**	**21 48 29.6**	**+1.3**
KRX	**Arik**	**1.29**	**307**	PN	**Pn**	**21 48 29.9**	**+1.1**
KRX				S	**Sn**	**21 48 46.3**	**+1.2**
KRX	**Arik**	**1.29**	**307**	*e*P	**Pn**	**21 48 29.9**	**+1.1**
KRX				*e*S	**Sn**	**21 48 46.3**	**+1.2**
MTVR	**Mutnovka**	**1.35**	**266**	PN	**Pb**	**21 48 31.3**	**-0.3**
MTVR				S	**Sb**	**21 48 48.6**	**0.0**
MTVR	**Mutnovka**	**1.35**	**266**	*e*P	**Pb**	**21 48 31.3**	**-0.3**
MTVR				*e*S	**Sb**	**21 48 48.6**	**0.0**
KRMR	**Karymshinskiy**	**1.39**	**280**	PN	**Pb**	**21 48 32.1**	**-0.1**
KRMR	**Karymshinskiy**	**1.39**	**280**	*e*P	**Pb**	**21 48 32.1**	**-0.1**
GRL	**Gorelyy**	**1.41**	**269**	PN	**Pb**	**21 48 32.6**	**0.0**
GRL	**Gorelyy**	**1.41**	**269**	*e*P	**Pb**	**21 48 32.6**	**0.0**
ASAK	**Asacha**	**1.53**	**263**	PN	**Pb**	**21 48 34.3**	**-0.4**
ASAK				S	**Sb**	**21 48 54.0**	**+0.2**
ASAK	**Asacha**	**1.53**	**263**	*e*P	**Pb**	**21 48 34.3**	**-0.4**
ASAK				*e*S	**Sb**	**21 48 54.0**	**+0.2**
KII	**Karymskiy**	**1.54**	**339**	PN	**Pn**	**21 48 33.6**	**+1.4**
KII				S	**Sn**	**21 48 52.3**	**+1.2**
KII	**Karymskiy**	**1.54**	**339**	*e*P	**Pn**	**21 48 33.6**	**+1.4**
KII				*e*S	**Sn**	**21 48 52.3**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.63**	**242**	PN	**Pn**	**21 48 34.6**	**+1.4**
KDTR	**Khodutka, Kamc**	**1.63**	**242**	*e*P	**Pn**	**21 48 34.6**	**+1.4**
PEA0B	**Petropavlovsk-**	**1.71**	**288**		**Pn**	**21 48 36.4**	**+2.1**
PEA0B				Sn	**Sb**	**21 48 58.3**	**-0.3**
PETK	**Petropavlovsk-**	**1.71**	**288**	P	**Pn**	**21 48 35.5**	**+1.1**
	comp=E,179nm,0.3s,baz=95,slow=20,SNR=694						
PETK				LR	LR	21 48 52.7	
	comp=E,37nm,20.6s,baz=100,slow=28						
PETK				S	**Sb**	**21 48 58.5**	**-0.1**
	comp=E,306nm,0.3s,baz=86,slow=39,SNR=28						
PETK	**Petropavlovsk-**	**1.71**	**288**	PN	**Pn**	**21 48 36.3**	**+2.0**
PETK						21 48 58.0	
PETK	**Petropavlovsk-**	**1.71**	**288**		**Pn**	**21 48 36.3**	**+2.0**
PETK					**Sb**	**21 48 58.0**	**-0.6**
GNL	**Ganaly**	**1.83**	**308**	PN	**Pb**	**21 48 38.7**	**-1.1**
GNL				S	**Sb**	**21 49 01.4**	**-1.0**
GNL	**Ganaly**	**1.83**	**308**	*e*P	**Pb**	**21 48 38.7**	**-1.1**
GNL				*e*S	**Sb**	**21 49 01.4**	**-1.0**
APC	**Apacha**	**1.99**	**281**	PN	**Pb**	**21 48 40.9**	**-1.4**
APC				S	**Sb**	**21 49 05.6**	**-1.0**
APC	**Apacha**	**1.99**	**281**	*e*P	**Pb**	**21 48 40.9**	**-1.4**
APC				*e*S	**Sb**	**21 49 05.6**	**-1.0**
MKZ	**Mys Kozlova**	**2.12**	**22**	PN	**Pn**	**21 48 40.5**	**+0.6**
MKZ				S	**Sn**	**21 49 04.7**	**-0.4**
MKZ	**Mys Kozlova**	**2.12**	**22**	*e*P	**Pn**	**21 48 40.5**	**+0.6**
MKZ				*e*S	**Sn**	**21 49 04.7**	**-0.4**
MIPR	**Malaya Ipel'ka**	**2.24**	**263**	PN	**Pb**	**21 48 45.6**	**-1.1**
MIPR	**Malaya Ipel'ka**	**2.24**	**263**	*e*P	**Pb**	**21 48 45.6**	**-1.1**
PAU	**Pauzhetka**	**2.48**	**244**	PN	**Pn**	**21 48 47.5**	**+2.5**
PAU	**Pauzhetka**	**2.48**	**244**	*e*P	**Pn**	**21 48 47.5**	**+2.5**
KZV	**Kizimen**	**2.52**	**359**	PN	**Pn**	**21 48 47.5**	**+1.9**
KZV	**Kizimen**	**2.52**	**359**	*e*P	**Pn**	**21 48 47.5**	**+1.9**
TUMD	**Tumrok D**	**2.61**	**0**	*e*P	**Pn**	**21 48 48.2**	**+1.5**
TUMR	**Tumrok**	**2.69**	**357**	PN	**Pn**	**21 48 48.2**	**+0.2**
TUMR	**Tumrok**	**2.69**	**357**	*e*P	**Pn**	**21 48 50.4**	**+2.4**
KMNR	**Kamenistaya**	**3.16**	**359**	PN	**Pn**	**21 48 57.6**	**+3.2**
KMNR	**Kamenistaya**	**3.16**	**359**	*e*P	**Pn**	**21 48 57.6**	**+3.2**
SKR	**Severo-Kuril's**	**3.28**	**236**	*e*PN	**Pn**	**21 48 58.1**	**+2.2**
SKR				*e*S	**Sn**	**21 49 34.6**	**+0.8**
SKR				smax	smax		
	comp=E,226nm,0.3s						
SKR				smax	smax		
	comp=N,269nm,0.4s						
SKR	**Severo-Kuril's**	**3.28**	**236**	*e*P	**Pn**	**21 48 57.9**	**+2.0**
SKR				*e*S	**Sn**	**21 49 34.2**	**+0.4**
BZMR	**Bezymyannaya**	**3.34**	**1**	PN	**Pn**	**21 49 00.2**	**+3.3**
BZMR	**Bezymyannaya**	**3.34**	**1**	*e*P	**Pn**	**21 49 00.2**	**+3.3**
BZGR	**Bezymyannyi-Gr**	**3.35**	**3**	PN	**Pn**	**21 48 59.6**	**+2.6**
BZGR	**Bezymyannyi-Gr**	**3.35**	**3**	*e*P	**Pn**	**21 48 59.6**	**+2.6**
KIRR	**Kirishev**	**3.36**	**360**	PN	**Pn**	**21 48 59.0**	**+1.8**
KIRR	**Kirishev**	**3.36**	**360**	*e*P	**Pn**	**21 48 59.0**	**+1.8**
BZWR	**Bezymyannyi-We**	**3.37**	**1**	PN	**Pn**	**21 49 00.3**	**+3.0**
BZWR	**Bezymyannyi-We**	**3.37**	**1**	*e*P	**Pn**	**21 49 00.3**	**+3.0**
ZLN	**Zelenaya**	**3.43**	**4**	PN	**Pn**	**21 49 01.9**	**+3.8**
ZLN	**Zelenaya**	**3.43**	**4**	*e*P	**Pn**	**21 49 01.9**	**+3.8**
ESO	**Esso**	**3.47**	**344**	PN	**Pn**	**21 49 01.8**	**+3.2**
ESO	**Esso**	**3.47**	**344**	*e*P	**Pn**	**21 49 01.8**	**+3.2**
KOZ	**Kozyrevsk**	**3.48**	**355**	PN	**Pn**	**21 49 01.4**	**+2.7**
KOZ	**Kozyrevsk**	**3.48**	**355**	*e*P	**Pn**	**21 49 01.4**	**+2.7**
LGNR	**Loginova**	**3.49**	**3**	PN	**Pn**	**21 49 03.2**	**+4.1**
LGNR	**Loginova**	**3.49**	**3**	*e*P	**Pn**	**21 49 03.2**	**+4.1**
CIRR	**Tsirk**	**3.53**	**3**	PN	**Pn**	**21 49 03.2**	**+3.7**
CIRR	**Tsirk**	**3.53**	**3**	*e*P	**Pn**	**21 49 03.2**	**+3.7**
SRDR	**Sredinnyy**	**3.74**	**354**	PN	**Pn**	**21 49 04.8**	**+2.4**
SRDR	**Sredinnyy**	**3.74**	**354**	*e*P	**Pn**	**21 49 04.8**	**+2.4**
KBTR	**Krutoberegovo**	**3.88**	**21**	PN	**Pn**	**21 49 05.6**	**+1.4**
KBTR	**Krutoberegovo**	**3.88**	**21**	*e*P	**Pn**	**21 49 05.6**	**+1.4**
KBG	**Krutoberegovo**	**3.90**	**19**	PN	**Pn**	**21 49 06.9**	**+2.4**
KBG	**Krutoberegovo**	**3.90**	**19**	*e*P	**Pn**	**21 49 06.9**	**+2.4**
BDR	**Baidarnaya**	**4.00**	**7**	PN	**Pn**	**21 49 09.4**	**+3.4**
BDR	**Baidarnaya**	**4.00**	**7**	*e*P	**Pn**	**21 49 09.4**	**+3.4**
SMKR	**Semkarok**	**4.04**	**9**	PN	**Pn**	**21 49 09.5**	**+3.1**
SMKR	**Semkarok**	**4.04**	**9**	*e*P	**Pn**	**21 49 09.5**	**+3.1**
SRKR	**Sorokina**	**4.09**	**6**	PN	**Pn**	**21 49 10.5**	**+3.4**
SRKR	**Sorokina**	**4.09**	**6**	*e*P	**Pn**	**21 49 10.5**	**+3.4**
BKI	**Bering**	**4.21**	**50**	PN	**Pn**	**21 49 09.5**	**+0.8**
BKI	**Bering**	**4.21**	**50**	*e*P	**Pn**	**21 49 09.5**	**+0.8**
BKI				*e*S	**Sn**	**21 49 52.5**	**-4.2**
MA2	**Magadan**	**8.81**	**326**	LR	LR	21 54 00.4	
	comp=N,120nm,19.7s,baz=179,slow=41						
SEY	**Seymchan**	**11.19**	**341**	P	**Pn**	**21 50 45.0**	**+0.6**
	comp=N,0.1nm,0.3s,baz=166,slow=17,SNR=2.2						
YSS	**Yuzh-Sakhalins**	**12.71**	**251**	*i*PN	**Pn**	**21 51 06.8**	**+1.7**
YSS				pmax	pmax		
	comp=Z,15nm,1.2s						
ASAJ	**Asahikawa**	**14.53**	**241**	P	**Pn**	**21 51 31.0**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=267,slow=14,SNR=6.1						
ASAJ	**Asahikawa**	**14.53**	**241**	P	**Pn**	**21 51 31.0**	**+1.0**
ERM	**Erimo**	**15.72**	**235**	P	**Pn**	**21 51 42.9**	**-2.9**
ERM				pmax	pmax		
	comp=Z,45nm,1.2s						
ERM	**Erimo**	**15.72**	**235**	Pn	**Pn**	**21 51 42.9**	**-2.9**
BILL	**Bilibino**	**15.75**	**8**	*de*P	**Pn**	**21 51 47.7**	**+1.8**
BILL				*e*S	**Sn**	**21 54 42.3**	**+3.2**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,65nm,20.0s						
BILL	**Bilibino**	**15.75**	**8**	P	**Pn**	**21 51 46.9**	**+1.0**
BILL				IAmb	IAmb	21 51 52.7	
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**18.31**	**271**	P	**P**	**21 52 18.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=82,slow=9.9,SNR=6.5						
YAK	**Yakutsk**	**18.89**	**312**	*i*P	**P**	**21 52 23.8**	**-0.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**20.53**	**257**	P	**P**	**21 52 42.6**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=33,slow=13,SNR=4.5						
USRK	**Ussuriysk Ar.**	**20.53**	**257**	P	**P**	**21 52 43.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**20.53**	**257**	P	**P**	**21 52 43.0**	**+0.7**
MAJO	**Matsushiro**	**22.38**	**233**	*i*P	**P**	**21 53 04.3**	**+2.0**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MJAR	**Matsushiro Arr**	**22.38**	**233**	P	**P**	**21 53 04.0**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=19,slow=11,SNR=7.4						
TIXI	**Tiksi**	**23.60**	**336**	P	**P**	**21 53 12.7**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=124,slow=9.8,SNR=10						
TIXI	**Tiksi**	**23.60**	**336**	P	**P**	**21 53 11.5**	**-2.9**
TTA	**Tatalina**	**24.94**	**48**	P	**P**	**21 53 28.4**	**+1.5**
TTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TTA	**Tatalina**	**24.94**	**48**	P	**P**	**21 53 28.4**	**+1.5**
IMAR	**Indian Mountai**	**26.25**	**42**	P	**P**	**21 53 39.9**	**+1.2**
OHAK	**Old Harbor**	**26.61**	**61**	P	**P**	**21 53 45.0**	**+3.1**
KDAK	**Kodiak Island**	**26.89**	**60**	P	**P**	**21 53 44.6**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=306,slow=14,SNR=1.4						
ILAR	**Eielson Array**	**29.04**	**45**	P	**P**	**21 54 03.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=265,slow=7.8,SNR=6.2						
ILAR	**Eielson Array**	**29.04**	**45**	*e*P	**P**	**21 54 05.7**	**+2.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JSU	**Suzuyama**	**30.28**	**238**	P	**P**	**21 54 15.2**	**+0.3**
DOT	**Dot Lake**	**30.33**	**47**	P	**P**	**21 54 17.1**	**+2.0**
L27K	**Beaver Creek,**	**31.40**	**48**	P	**P**	**21 54 26.3**	**+1.8**
BCAR	**Beaver Creek A**	**31.42**	**48**	P	**P**	**21 54 24.9**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**33.20**	**169**	T	T	22 30 22.5	
	baz=353,slow=76,SNR=254						
H11N3	**WAKE ISLAND Hy**	**33.21**	**169**	T	T	22 30 15.3	
	baz=353,slow=76,SNR=134						
H11N1	**WAKE ISLAND Hy**	**33.21**	**169**	T	T	22 30 11.9	
	baz=353,slow=76,SNR=172						
ULN	**Ulaanbaatar**	**33.78**	**284**	*i*P	**P**	**21 54 44.9**	**-0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TLY	**Talaya**	**34.06**	**292**	*i*P	**P**	**21 54 47.3**	**-0.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**34.15**	**37**	P	**P**	**21 54 48.7**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=277,slow=4.4,SNR=5.8						
SONM	**Songino Array**	**34.19**	**284**	P	**P**	**21 54 48.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=77,slow=8.0,SNR=5.9						
SONM	**Songino Array**	**34.19**	**284**	P	**P**	**21 54 47.6**	**-1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**34.19**	**284**	P	**P**	**21 54 47.6**	**-1.5**
EUNU	**Eureka**	**42.39**	**14**	P	**P**	**21 55 59.0**	**+1.5**
EUNU				IAmb	IAmb	21 56

comp=Z,1.0nm,0.9s
AKASG Malin Array Be 69.12 329 P P 21 59 08.6 -0.8
comp=Z,2.4nm,0.4s,baz=30,slow=6.3,SNR=7.5
KIV Kislovodsk 69.92 317 *eP* **P 21 59 14.4 -0.2**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 70.01 317 P P **21 59 14.9 -0.1**
comp=Z,1.3nm,0.5s,baz=27,slow=4.5,SNR=3.0
TX31 Lajitas Ar. Si 70.67 67 P P **21 59 20.9 +1.5**
TX31 IAmb IAmb 21 59 24.2
comp=Z,1.3nm,0.6s
TX32 Lajitas Array 70.67 67 P P **21 59 20.9 +1.6**
TXAR Lajitas Array 70.67 67 P P **21 59 20.9 +1.5**
comp=Z,1.2nm,0.5s,baz=300,slow=4.6,SNR=18
LRAL Lakeview Retre 76.53 53 P P **21 59 54.6 +1.0**
BRTR Keskin Array B 77.11 321 P P **21 59 56.2 -0.7**
comp=Z,0.7nm,0.6s,baz=38,slow=1.9,SNR=4.4
BRTR Keskin Array B 77.11 321 *eP* P **21 59 58.9 +1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
DIVS Divibare 77.82 332 P P **22 00 00.3 -0.5**
DIVS IAmb IAmb 22 00 01.6
comp=Z,3.9nm,0.8s
ASAR Alice Springs 79.38 205 P P **22 00 10.8 +1.4**
comp=Z,1.0nm,0.5s,baz=14,slow=5.3,SNR=13
ASAR Alice Springs 79.38 205 P P **22 00 10.5 +1.1**
H03N2 Juan Fernandez 134.02 90 T T 00 36 02.9
baz=314,slow=77,SNR=11
H03N1 Juan Fernandez 134.03 90 T T 00 36 03.4
baz=314,slow=77,SNR=12
H03N3 Juan Fernandez 134.04 90 T T 00 36 03.1
baz=314,slow=77,SNR=10

*IDC **05** 21:50:39.7±0.9,48°.10S×99°.21E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.9/37,mbtmp4.0/6,MS4.0/6,Ms1 4.0/6, ms1mx3.6/26,Error ellipse: s-maj=29.4km s-min=23.6km az=96.0*
*NEIC **05** 21:50:41.9±1.7,48°.1S±0°.1×99°.2E±0°.2,h10km±1km, mb4.7/31,Error ellipse: s-maj=24.6km s-min=18.5km az=278.0*
ISC 05 21:50:41.5±0.7,48°.07S±0°.09×99°.2E±0°.1,h10km,n51, σ1s06/42,mb4.5/23,MS3.9/6,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.24**	**46**	T	T	22 12 21.8	
	baz=215,slow=74,SNR=54						
H01W3	**Cape Leeuwin H**	**17.26**	**46**	T	T	22 12 21.9	
	baz=215,slow=74,SNR=63						
H01W1	**Cape Leeuwin H**	**17.26**	**46**	T	T	22 12 27.7	
	baz=215,slow=74,SNR=67						
NWAO	**Narrogin (SRO)**	**20.35**	**49**	LR	LR	22 01 11.0	
	comp=Z,456nm,21.7s,baz=240,slow=31						
MORW	**Morawa**	**23.01**	**41**	P	**P**	**21 55 47.4 +0.9**	
MAW	**Mawson**	**26.84**	**210**	LR	LR	22 04 54.5	
	comp=Z,354nm,19.1s,baz=58,slow=33						
MAW	**Mawson**	**26.84**	**210**	P	**P**	**21 56 21.8 +0.1**	
FORT	**Forrest**	**27.98**	**62**	P	**P**	**21 56 31.7 -0.5**	
FORT				IAmb	IAmb	21 56 51.3	
	comp=Z,10nm,0.8s						
PSA00	**Pilbara Seismi**	**31.21**	**39**	P	**P**	**21 57 00.9 -0.1**	
PSA00	**Pilbara Seismi**	**31.21**	**39**	P	**P**	**21 57 01.8 +0.9**	
PSA00				IAmb	IAmb	21 57 18.3	
	comp=Z,8.6nm,1.0s						
MBWA	**Marble Bar**	**31.53**	**39**	P	**P**	**21 57 02.9 -0.9**	
BBOO	**Buckleboo**	**31.59**	**75**	P	**P**	**21 57 02.3 -2.0**	
BBOO				IAmb	IAmb	21 57 07.5	
	comp=Z,3.4nm,0.9s						
TOO	**Toolangi**	**35.07**	**90**	P	**P**	**21 57 35.9 +1.4**	
TOO				IAmb	IAmb	21 57 42.6	
	comp=Z,6.1nm,1.1s						
STKA	**Stephens Creek**	**35.80**	**79**	P	**P**	**21 57 40.4 -0.4**	
	comp=Z,2.1nm,0.8s,baz=221,slow=7.0,SNR=3.3						
STKA	**Stephens Creek**	**35.80**	**79**	P	**P**	**21 57 40.7 -0.2**	
ASAR	**Alice Springs**	**36.73**	**61**	P	**P**	**21 57 48.9 0.0**	
	comp=Z,3.3nm,0.9s,baz=218,slow=8.0,SNR=16						
ASAR				LR	LR	22 10 40.5	
	comp=Z,143nm,20.0s,baz=224,slow=33						
ASAR	**Alice Springs**	**36.73**	**61**	P	**P**	**21 57 48.4 -0.4**	
AS31	**Alice Springs**	**36.73**	**61**	P	**P**	**21 57 48.6 -0.3**	
FITZ	**Fitzroy Crossi**	**36.86**	**45**	LR	LR	22 11 52.1	
	comp=Z,270nm,18.6s,baz=235,slow=34						
FITZ	**Fitzroy Crossi**	**36.86**	**45**	P	**P**	**21 57 49.2 -0.7**	
FITZ				IAmb	IAmb	21 57 51.9	
	comp=Z,14nm,1.1s						
MCQ	**Macquarie Isla**	**36.93**	**123**	P	**P**	**21 57 50.8 +0.6**	
VNDA	**Vanda**	**37.73**	**162**	P	**P**	**21 57 56.8 +0.1**	
	comp=Z,1.3nm,0.9s,baz=289,slow=7.8,SNR=4.4						
VNDA				LR	LR	22 11 45.5	
	comp=Z,187nm,20.1s,baz=282,slow=34						
SBA	**Scott Base**	**38.82**	**162**	P	**P**	**21 58 07.1 +1.2**	
WRAB	**Tennant Creek**	**39.90**	**58**	P	**P**	**21 58 15.5 -0.1**	
WRAB				IAmb	IAmb	21 58 31.9	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**40.45**	**47**	P	**P**	**21 58 18.6 -1.5**	
KNRA				IAmb	IAmb	21 58 32.0	
	comp=Z,8.8nm,0.9s						
CISI	**Cisompet, Garu**	**41.04**	**13**	P	**P**	**21 58 25.2 +0.1**	
CISI				IAmb	IAmb	21 58 26.5	
	comp=Z,24nm,0.9s						
SMRI	**Semarang**	**41.99**	**17**	P	**P**	**21 58 33.5 +0.7**	
SMRI				IAmb	IAmb	21 58 41.9	
	comp=Z,39nm,1.0s						
QSPA	**South Pole Qui**	**42.07**	**180**	P	**P**	**21 58 32.7 -0.4**	
	comp=Z,3.9nm,1.0s,baz=320,slow=2.2,SNR=6.0						
QSPA				LR	LR	22 14 52.7	
	comp=Z,177nm,18.1s,baz=251,slow=35						
QSPA	**South Pole Qui**	**42.07**	**180**	P	**P**	**21 58 32.8 -0.4**	
SOEI	**Soe**	**43.65**	**37**	P	**P**	**21 58 44.7 -1.7**	
MMRI	**Maumere**	**43.88**	**34**	P	**P**	**21 58 47.3 -0.7**	
H08S2	**Diego Garcia H**	**46.21**	**322**	T	T	22 49 20.3	
	baz=163,slow=74,SNR=9.2						
H08S1	**Diego Garcia H**	**46.22**	**322**	T	T	22 49 21.5	
	SNR=126						
H08S3	**Diego Garcia H**	**46.23**	**322**	T	T	22 49 21.8	
	baz=141,slow=74,SNR=11						
EIDS	**Eidsvold**	**46.34**	**80**	P	**P**	**21 59 07.3 -0.3**	
EIDS				IAmb	IAmb	21 59 22.1	
	comp=Z,5.5nm,1.1s						
KAPI	**Kappang**	**46.38**	**29**		**P**	**21 59 08.2 +0.3**	
KAPI				IAmb	IAmb	21 59 12.9	
	comp=Z,16nm,1.0s						
WKZ	**Wanaka**	**46.71**	**113**	P	**P**	**21 59 10.9 +0.5**	
WKZ				IAmb	IAmb	21 59 25.2	
	comp=Z,16nm,1.0s						
CTAO	**Charters Tower**	**46.95**	**70**	P	**P**	**21 59 15.4 +2.9**	
CTAO				IAmb	IAmb	21 59 18.5	
	comp=Z,8.9nm,1.1s						
LBZ	**Lake Benmore**	**47.66**	**113**	P	**P**	**21 59 16.3 -1.4**	
RPSI	**Rantau Prapat**	**50.56**	**360**	P	**P**	**21 59 40.8 +0.7**	
RPSI				IAmb	IAmb	21 59 56.5	
	comp=Z,5.6nm,0.4s						
KHZ	**Kahutara**	**50.77**	**113**	P	**P**	**21 59 42.9 +1.4**	
KHZ				IAmb	IAmb	21 59 57.0	
	comp=Z,17nm,1.2s						
TOLI2	**Tolitoli**	**52.47**	**28**	P	**P**	**21 59 53.9 -0.6**	
TOLI2				IAmb	IAmb	21 59 56.9	
	comp=Z,5.1nm,0.9s						
FAKI	**Fak Fak**	**53.21**	**43**	P	**P**	**21 59 59.6 -0.4**	
ONTNC	**Ouen Toro**	**58.68**	**89**	P	**P**	**22 00 36.4 -2.7**	
OUENC	**Ouen Island, N**	**58.86**	**90**	P	**P**	**22 00 41.8 +1.4**	
CMAR	**Chiang Mai Arr**	**66.22**	**360**	P	**P**	**22 01 29.5 +0.1**	
	comp=Z,1.0nm,0.3s,baz=195,slow=5.5,SNR=9.1						
CMAR	**Chiang Mai Arr**	**66.22**	**360**	P	**P**	**22 01 29.6 +0.2**	
KMBO	**Kilima Mbogo**	**70.73**	**291**	P	**P**	**22 01 58.4 +0.2**	
	comp=Z,0.5nm,0.3s,baz=127,slow=2.0,SNR=4.0						
KBL	**Kabul**	**86.55**	**335**	P	**P**	**22 03 24.4 -0.2**	
KBL				IAmb	IAmb	22 03 30.1	
	comp=Z,3.7nm,0.8s						
NVAR	**Mina Array Bea**	**151.30**	**96**	PKPbc	**PKPbc**	**22 10 33.6 -1.5**	
	comp=Z,1.6nm,0.8s,baz=238,slow=5.0,SNR=7.3						
TXAR	**Lajitas Array**	**154.32**	**129**	PKPab	**PKPab**	**22 10 54.7 -1.2**	
	comp=Z,0.4nm,0.8s,baz=204,slow=5.5,SNR=4.3						

*IDC **05** 21:55:13.0±3.3,6°.54S×146°.91E,h102km±30km,mb3.4/6, mb1 3.6/8,mb1mx3.4/36,mbtmp3.8/8,Error ellipse: s-maj=37.8km s-min=26.4km az=102.0*
ISC 05 21:55:13.0±1.2,6°.5S±0°.1×146°.8E±0°.3,h100km,n8, σ0s83/9,mb3.5/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.92**	**174**	P	**Pn**	**21 55 58.3 +0.6**	
	20nm,0.3s,baz=11,slow=39,SNR=39						
PMG				S	**Sn**	**21 56 30.8 -1.3**	
	20nm,0.3s,baz=193,slow=21,SNR=22						
CTA	**Charters Tower**	**13.53**	**182**	P	**Pn**	**21 58 22.1 +1.1**	
	0.7nm,0.3s,baz=360,slow=14,SNR=5.5						
ASAR	**Alice Springs**	**21.12**	**215**	P	**P**	**21 59 49.6 -0.3**	
	0.4nm,0.6s,baz=48,slow=9.7,SNR=7.9						
FITZ	**Fitzroy Crossi**	**23.66**	**239**	P	**P**	**22 00 15.8 +0.2**	
	2.7nm,0.9s,baz=55,slow=13,SNR=1.5						
STKA	**Stephens Creek**	**25.73**	**190**	P	**P**	**22 00 33.5 -0.7**	
	0.5nm,0.4s,baz=349,slow=16,SNR=1.2						
MKAR	**Makanchi Array**	**77.76**	**321**	P	**P**	**22 06 59.0 -0.2**	
	0.2nm,0.4s,baz=95,slow=7.6,SNR=6.5						
QSPA	**South Pole Qui**	**83.48**	**180**	P	**P**	**22 07 29.1 -0.4**	
	1.0nm,0.6s,baz=234,slow=1.0,SNR=8.2						
ILAR	**Eielson Array**	**85.99**	**23**	P	**P**	**22 07 42.0 0.0**	
	0.9nm,0.6s,baz=260,slow=5.3,SNR=8.4						

*IDC **05** 22:16:32.6±0.7,15°.57N×147°.17E,h0km,mb4.4/21, mb1 4.5/22,mb1mx4.3/45,mbtmp4.4/22,ML4.3/1,MS3.9/17, Ms1 3.9/17,ms1mx3.6/47,Error ellipse: s-maj=21.0km s-min=14.8km az=106.0*
*BJI **05** 22:16:37.5±0.0,15°.59N×147°.14E,h41km,mB4.9/32, mb4.7/51,Ms4.5/26,Ms7 4.2/23*
*NEIC **05** 22:16:39.2±1.1,15°.31N±0°.04×147°.12E±0°.08,h52km±7km, mb4.8/82,Error ellipse: s-maj=12.5km s-min=4.8km az=70.0*
ISC 05 22:16:38.7±0.4,15°.34N±0°.05×147°.23E±0°.07,h50km,n158, σ1s35/154,mb4.7/83,MS4.0/28,1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.76**	**304**	Pn	**Pn**	**22 17 06.4 -0.5**	
GUMO	**Guam**	**2.87**	**233**	Pn	**Pn**	**22 17 20.7 -1.4**	
	41nm,0.3s,baz=47,slow=7.8,SNR=15						
GUMO				Sn	**Sn**	**22 17 55.2 -0.2**	
	161nm,0.3s,baz=108,slow=22,SNR=13						
GUMO	**Guam**	**2.87**	**233**		**Pn**	**22 17 21.1 -1.0**	
JCJ	**Chichijima**	**12.60**	**339**	Pn	**Pn**	**22 19 35.5 +0.2**	
JHJ	**Hachijo jima 2**	**18.94**	**340**	LR	LR	22 28 20.1	
	comp=Z,256nm,18.8s,baz=96,slow=38						
JOW	**Kunigami**	**21.02**	**306**	LR	LR	22 29 12.7	
	comp=Z,141nm,18.4s,baz=132,slow=36						
JOW	**Kunigami**	**21.02**	**306**	P	**P**	**22 21 19.8 +1.4**	
JOW				IAmb	IAmb	22 21 36.9	
	comp=Z,80nm,1.4s						
SIJI	**Sorong**	**22.55**	**226**	P	**P**	**22 21 36.4 +1.5**	
	comp=Z,70nm,1.1s,baz=26,slow=10,SNR=26						
SIJI				LR	LR	22 30 57.6	
	comp=Z,244nm,18.8s,baz=316,slow=38						
SWI	**Sorong**	**22.55**	**226**	P	**P**	**22 21 37.6 +2.8**	
	comp=Z,1μmcomp=Z,97nm,1.2s						
MJAR	**Matsushiro Arr**	**22.59**	**341**	P	**P**	**22 21 31.3 -3.8**	
	comp=Z,4.6nm,0.9s,baz=169,slow=9.3,SNR=5.1						
MJAR				LR	LR	22 28 57.3	
	comp=Z,175nm,21.5s,baz=175,slow=33						
MAT	**Matsushiro**	**22.59**	**341**	P	**P**	**22 21 33.1 -2.0**	
DAV	**Davao City (W)**	**22.75**	**251**	LR	LR	22 29 41.3	
	comp=Z,263nm,21.4s,baz=97,slow=35						
FAKI	**Fak Fak**	**23.43**	**220**	P	**P**	**22 21 43.0 -0.7**	
FAKI	**Fak Fak**	**23.43**	**220**	P	**P**	**22 21 45.0 +1.3**	
	comp=Z,132nm,1.3s						
TNTI	**Ternate**	**24.37**	**235**	P	**P**	**22 21 52.1 -0.3**	
TNTI				IAmb	IAmb	22 22 05.8	
	comp=Z,30nm,1.1s						
PMG	**Port Moresby**	**24.59**	**180**	P	**P**	**22 21 54.2 -0.1**	
PMG				IAmb	IAmb	22 22 12.2	
	comp=Z,58nm,1.2s						
HNR	**Honiara**	**27.66**	**152**	LR	LR	22 32 15.4	
	comp=Z,409nm,19.8s,baz=327,slow=34						
JEW	**Eniwo**	**27.85**	**351**	P	**P**	**22 22 24.3 +0.8**	
KSRS	**Korea Array**	**27.89**	**326**	P	**P**	**22 22 21.7 -2.2**	
	comp=Z,1.3nm,0.6s,baz=145,slow=9.9,SNR=6.5						
KSRS				LR	LR	22 32 16.9	
	comp=Z,338nm,21.6s,baz=142,slow=34						
TARA	**Tarawa**	**28.92**	**116**	P	**P**	**22 22 33.3 -0.1**	
JKA	**Kamikawa-asahi**	**28.95**	**353**	P	**P**	**22 22 34.2 +1.0**	
JKA				IAmb	IAmb	22 22 51.8	
	comp=Z,52nm,1.4s						
ASAJ	**Asahikawa**	**28.95**	**353**	P	**P**	**22 22 31.3 -1.9**	
	comp=Z,12nm,0.8s,baz=160,slow=12,SNR=3.9						
APSI	**Ampana**	**30.00**	**240**	P	**P**	**22 22 44.5 +1.6**	
	comp=Z,26nm,0.8s						
NJ2	**Nanjing**	**30.71**	**308**	*eP*	**P**	**22 22 47.8 -1.2**	
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**31.54**	**339**	P	**P**	**22 22 55.0 -1.2**	
	comp=Z,0.8nm,0.6s,baz=150,slow=9.3,SNR=4.3						
USRK	**Ussuriysk Ar.**	**31.54**	**339**	P	**P**	**22 22 56.2 0.0**	
WHN	**Wuhan**	**33.69**	**302**	P	P	22 23 28.1 +13	
QIZ	**Qiongzhong**	**35.86**	**281**	P	**P**	**22 23 32.7 -1.3**	
QIZ				S	**S**	**22 29 06.5 -2.1**	
QIZ				L	L		
	comp=Z,760nm,11.8s						
QIZ				L	L		
	comp=Z,230nm,16.5s						
KLR	**Kul'dur**	**36.09**	**343**	LR	LR	22 37 26.0	
	comp=Z,168nm,19.7s,baz=146,slow=35						
BJI	**Beijing**	**36.58**	**318**	P	**P**	**22 23 40.5 +0.6**	
BJI				S	**S**	**22 29 19.0 -0.1**	
BJI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJI				L	L		
	comp=Z,170nm,15.9s						
BJI				L	L		
	comp=Z,81nm,12.5s						
BJI				L	L		
	comp=Z,220nm,18.3s						
ENH	**Enshi**	**37.63**	**300**	P	**P**	**22 23 48.8 -0.3**	
ENH				IAmb	IAmb	22 23 50.4	
	comp=Z,17nm,1.1s						
PETK	**Petropavlovsk-**	**38.58**	**10**	LR	LR	22 39 17.4	
	comp=Z,160nm,19.5s,baz=194,slow=36						
XAN	**Xi'an**	**39.17**	**305**	P	**P**	**22 24 01.5 -0.5**	
XAN				pP	pP	22 24 14.4 +0.6	
XAN				S	**S**	**22 30 01.2 +2.4**	
XAN				ScS	**ScS**	**22 33 59.6 -7.3**	
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,170nm,11.4s						
XAN				L	L		
	comp=Z,140nm,17.4s						
XAN				L	L		
	comp=Z,200nm,15.1s						
XAN				L	L		
	comp=Z,290nm,15.5s						
HHC	**Hu-ho-hao-te**	**40.01**	**317**	*eP*	**P**	**22 24 07.8 -1.1**	
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,60nm,6.6s						
UBPT	**Khong Chiam**	**40.23**	**276**	P	**P**	**22 24 14.1 +3.2**	
	comp=Z,1μmcomp=Z,7.1nm,1.6s						
UBPT	**Khong Chiam**	**40.23**	**276**	P	**P**	**22 24 11.0 +0.1**	
AS31	**Alice Springs**	**40.90**	**199**	P	**P**	**22 24 16.2 -0.1**	
ASAR	**Alice Springs**	**40.90**	**199**	P	**P**	**22 24 16.9 +0.5**	
	comp=Z,0.8nm,0.9s,baz=21,slow=8.1,SNR=5.8						
ASAR	**Alice Springs**	**40.90**	**199**	P	**P**	**22 24 17.1 +0.8**	
SLVN	**Son La**	**41.45**	**285**	P	**P**	**22 24 20.6 -0.4**	
DZM	**Mont Dzumac**	**41.68**	**153**	*eLR*	LR	22 35 40.0	
	comp=Z,563nm,22.7s						
NONG	**Nongkai**	**42.23**	**280**	P	**P**	**22 24 29.0 +1.6**	
	comp=Z,14nm,1.3s						
CD2	**Chengdu**	**42.59**	**299**	P	**P**	**22 24 30.4 +0.2**	
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				L	L		
	comp=Z,170nm,15.3s						
CD2				L	L		
	comp=Z,230nm,13.7s						
CD2				L	L		
	comp=Z,280nm,15.9s						
CHAI	**Chaiyaphum**	**43.51**	**277**	P	**P**	**22 24 38.5 +0.8**	
	comp=Z,117nmcomp=Z,5.2nm,1.1s						
LZH	**Lanzhou**	**43.76**	**306**	*eP*	**P**	**22 24 40.6 +0.9**	
LZH				*eS*	**S**	**22 31 09.7 +2.8**	
LZH				SS	SS	22 34 10.5 -14	
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.9s						
LZH				L	L		
	comp=Z,1μm,12.2s						
LZH				L	L		
	comp=Z,1μm,12.2s						
LZH				L	L		
	comp=Z,1μm,13.6s						
UTTA	**Uttaradit**	**44.72**	**280**	P	**P**	**22 24 48.3 +0.9**	
	comp=Z,41nmcomp=Z,3.6nm,0.8s						
PHIT	**Phitsanulok**	**44.89**	**279**	P	**P**	**22 24 50.3 +1.6**	
	comp=Z,15nm,1.1s						
MBWA	**Marble Bar**	**45.21**	**217**	P	**P**	**22 24 49.5 -1.6**	
UTHA	**Uthaitani**	**45.98**	**277**	P	**P**	**22 24 59.5 +2.2**	
	comp=Z,40nmcomp=Z,4.4nm,1.1s						
CMMT	**Chiang Mai**	**46.17**	**281**	P	**P**	**22 24 58.8 -0.1**	
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**46.17**	**281**	P	**P**	**22 24 58.8 -0.1**	
CM31	**Chiang Mai Arr**	**46.20**	**281**	P	**P**	**22 24 59.9 +0.7**	
CM31				IAmb	IAmb	22 25 01.4	
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**46.20**	**281**	P	**P**	**22 25 00.2 +1.1**	
	comp=Z,3.8nm,0.4s,baz=72,slow=6.5,SNR=42						
CMAR				LR	LR	22 46 03.5	
	comp=Z,92nm,18.5s,baz=170,slow=38						
CMAR	**Chiang Mai Arr**	**46.20**	**281**	P	**P**	**22 24 59.7 +0.6**	
ULN	**Ulaanbaatar**	**46.30**	**323**	P	**P**	**22 24 59.2 -0.5**	
ULN				IAmb	IAmb	22 25 00.5	
	comp=Z,12nm,1.3s						
SRDT	**SRDT**	**46.43**	**275**	P	**P**	**22 25 02.2 +1.2**	
	comp=Z,12nm,1.2s						
UMPA	**Umpang Tak**	**46.47**	**278**	P	**P**	**22 25 04.1 +2.9**	
SONM	**Songino Array**	**46.67**	**323**	P	**P**	**22 25 02.4 -0.1**	
	comp=Z,3.7nm,0.9s,baz=129,slow=8.6,SNR=19						
SONM	**Songino Array**	**46.67**	**323**	P	**P**	**22 25 02.2 -0.4**	
STKA	**Stephens Creek**	**47.26**	**187**	P	**P**	**22 25 09.2 +2.1**	
	comp=Z,1.4nm,0.7s,baz=318,slow=13,SNR=3.1						
SEY	**Seymchan**	**47.67**	**3**	P	**P**	**22 25 09.8 -0.1**	
	comp=Z,2.9nm,0.8s,baz=156,slow=7.6,SNR=8.4						
GTA	**Gaotai**	**47.77**	**310**	↓P	**P**	**22 25 12.0 +0.7**	
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,6.4s						
GTA				L	L		
	comp=Z,220nm,17.8s						
GTA				L	L		
	comp=Z,200nm,18.2s						
GTA				L	L		
	comp=Z,210nm,16.7s						
YAK	**Yakutsk**	**48.27**	**349**	P	**P**	**22 25 13.7 -0.8**	
RPSI	**Rantau Prapat**	**49.20**	**260**	P	**P**	**22 25 21.5 -0.9**	
TLY	**Talaya**	**50.14**	**326**	P	**P**	**22 25 28.8 -0.3**	
TLY				IAmb	IAmb	22 25 29.9	
	comp=Z,8.3nm,1.3s						
LSA	**Lhasa**	**53.26**	**296**	P	**P**	**22 25 54.3 +1.0**	
LSA				pmax	pmax		
	comp=Z,35nm,1.3s						
LSA	**Lhasa**	**53.26**	**296**	P	**P**	**22 25 53.0 -0.2**	
LSA				IAmb	IAmb	22 25 56.0	
	comp=Z,12nm,1.2s						
BILL	**Bilibino**	**54.08**	**9**	P	**P**	**22 25 59.9 +1.9**	
BILL				IAmb	IAmb	22 26 13.6	
	comp=Z,6.4nm,0.9s						
TIXI	**Tiksi**	**57.35**	**353**	P	**P**	**22 26 20.9 -0.5**	
WMQ	**Urumqi**	**57.62**	**312**	*eP*	**P**	**22 26 24.9 +1.0**	
WMQ				pmax	pmax		
	comp=Z,30nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,36nm,3.7s						
WMQ				L	L		
	comp=Z,110nm,9.7s						
WMQ				L	L		
	comp=Z,44nm,9.7s						
WMQ				L	L		
	comp=Z,690nm,24.3s						
ZAA0	**Zalesovo Array**	**61.56**	**323**	P	**P**	**22 26 49.7 -1.0**	
ZAA0				IAmb	IAmb	22 26 51.0	
	comp=Z,10nm,1.1s						
ZALV	**Zalesovo Beam**	**61.56**	**323**	P	**P**	**22 26 50.0 -0.7**	
	comp=Z,2.6nm,0.6s,baz=99,slow=6.8,SNR=18						
ZALV				LR	LR	22 52 56.3	
	comp=Z,124nm,21.7s,baz=102,slow=36						
ZALV	**Zalesovo Beam**	**61.56**	**323**		**P**	**22 26 49.6 -1.1**	
MK31	**Makanchi Array**	**61.84**	**315**	P	**P**	**22 26 52.9 +0.1**	
MK31				IAmb	IAmb	22 26 54.2	
	comp=Z,9.9nm,1.1s						
MKAR	**Makanchi Array**	**61.84**	**315**	P	**P**	**22 26 53.0 +0.2**	
	comp=Z,2.4nm,0.4s,baz=90,slow=8.5,SNR=47						
MKAR				LR	LR	22 53 44.4	
	comp=Z,80nm,20.8s,baz=98,slow=36						
MAKZ	**Makanchi**	**62.06**	**315**	P	**P**	**22 26 54.2 0.0**	
PLWZ	**Palliser**	**62.28**	**157**	P	**P**	**22 26 53.8 -1.8**	
SUA	**Susitna One**	**63.39**	**28**	P	**P**	**22 27 01.1 -1.8**	
O22K	**Cooper Landing**	**63.58**	**30**	P	**P**	**22 27 04.6 +0.6**	
IMAR	**Indian Mountai**	**63.70**	**23**	P	**P**	**22 27 05.5 +0.7**	
KTH	**Kantishna Hill**	**63.97**	**26**	P	**P**	**22 27 07.1 +0.5**	
KTH				IAmb	IAmb	22 27 21.9	
	comp=Z,10nm,0.9s						
BPAW	**Bear Paw Mtn.**	**64.12**	**25**	P	**P**	**22 27 08.4 +0.8**	
BPAW				IAmb	IAmb	22 27 10.7	
	comp=Z,13nm,1.2s						
PMR	**Palmer**	**64.17**	**28**	P	**P**	**22 27 07.7 -0.1**	
TRF	**Thorofare Moun**	**64.20**	**26**	P	**P**	**22 27 09.1 +0.7**	
TRF				IAmb	IAmb	22 27 21.8	
	comp=Z,13nm,1.3s						
PWL	**Port Wells**	**64.34**	**29**	P	**P**	**22 27 10.1 +1.0**	
MLY	**Manley**	**64.52**	**25**	P	**P**	**22 27 11.4 +1.2**	
MLY				IAmb	IAmb	22 27 22.6	
	comp=Z,11nm,1.3s						
SML	**Sawmill**	**64.59**	**28**	P	**P**	**22 27 11.8 +1.0**	
TARG	**Taragay, Kyrgy**	**64.64**	**309**	P	**P**	**22 27 11.7 -0.3**	
TARG				IAmb	IAmb	22 27 14.2	
	comp=Z,8.3nm,1.3s						
KURBB	**Kurchatov Arra**	**64.79**	**319**	P	**P**	**22 27 11.3 -0.8**	
	comp=Z,28nm,1.0s,baz=95,slow=7.3,SNR=6.6						
MCK	**McKinley**	**64.86**	**26**	P	**P**	**22 27 13.4 +0.9**	
SCM	**Sheep Creek Mo**	**65.06**	**28**	P	**P**	**22 27 15.1 +1.3**	
KDJ	**Kajisay**	**65.12**	**310**	P	**P**	**22 27 14.6 -0.2**	
KDJ				IAmb	IAmb	22 27 16.6	
	comp=Z,9.3nm,1.1s						
NRIK	**Noril'sk**	**65.24**	**340**	P	**P**	**22 27 13.6 -1.2**

KKAR					IAmb	IAmb	22 27 46.9		
	comp=Z,9.5nm,0.9s								
BRVK	**Borovoye**	**70.05**	**321**		P	**P**	**22 27 45.0**	**-0.4**
BRVK					IAmb	IAmb	22 27 46.4		
	comp=Z,8.8nm,1.0s								
PPT	**Papeete**	**70.36**	**115**		LR	LR	22 51 16.2		
	comp=Z,138nm,19.6s,baz=350,slow=30								
PPT2	**Papeete2**	**70.37**	**115**	*e*	LR	LR	22 48 49.3		
	comp=Z,204nm,24.0s								
GAR	**Garm**	**70.42**	**306**		P	**P**	**22 27 47.3**	**-0.8**
GAR					IAmb	IAmb	22 27 48.9		
	comp=Z,17nm,1.1s								
CHGR	**Chuyangaron**	**71.35**	**306**		P	**P**	**22 27 54.0**	**+0.3**
KBL	**Kabul**	**71.85**	**302**		P	**P**	**22 27 56.5**	**-0.5**
KBL					IAmb	IAmb	22 27 58.4		
	comp=Z,15nm,1.4s								
TBI	**Tubuai**	**72.87**	**121**	*e*	LR	LR	22 50 02.5		
	comp=Z,108nm,28.0s								
TAOE	**Nuku Hiva Isla**	**75.85**	**103**	*e*	LR	LR	22 51 27.0		
	comp=Z,224nm,23.8s								
ARU	**Arti**	**76.64**	**325**		P	**P**	**22 28 23.6**	**-0.5**
ARU					IAmb	IAmb	22 28 25.0		
	comp=Z,10nm,0.9s								
ABKAR	**Akbulak array**	**76.78**	**318**		P	**P**	**22 28 24.2**	**-0.9**
ABKAR	**Akbulak array**	**76.78**	**318**		P	**P**	**22 28 24.6**	**-0.5**
ABKAR					IAmb	IAmb	22 28 25.7		
	comp=Z,5.1nm,1.0s								
GEYT	**Alibeck**	**80.05**	**307**		P	**P**	**22 28 43.2**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=197,slow=1.5,SNR=5.8								
YKA	**Yellowknife Ar**	**80.26**	**28**		P	**P**	**22 28 44.5**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=285,slow=5.1,SNR=11								
B08A	**Colville Reser**	**80.95**	**42**		P	**P**	**22 28 48.6**	**+0.6**
NEW	**Newport**	**82.41**	**42**		P	**P**	**22 28 56.5**	**+0.7**
J08A	**Circle Bar Ran**	**82.70**	**47**		P	**P**	**22 28 58.4**	**+1.0**
J08A					IAmb	IAmb	22 29 13.2		
	comp=Z,7.5nm,1.2s								
PAHR	**Pah Rah Range**	**82.92**	**51**		P	**P**	**22 28 59.8**	**+1.1**
PAHR					IAmb	IAmb	22 29 01.9		
	comp=Z,9.0nm,1.4s								
BMO	**Blue Mountains**	**83.14**	**45**		P	**P**	**22 29 00.1**	**+0.5**
KVN	**Kaiserville**	**84.04**	**51**		P	**P**	**22 29 04.8**	**+0.2**
NVAR	**Mina Array Bea**	**84.05**	**52**		P	**P**	**22 29 05.3**	**+0.7**
	comp=Z,4.4nm,1.2s,baz=269,slow=6.0,SNR=6.1								
MFID	**Camas Ranch**	**84.55**	**47**		P	**P**	**22 29 07.4**	**+0.5**
MFID					IAmb	IAmb	22 29 22.6		
	comp=Z,6.8nm,1.2s								
KLMR	**Klimovskoe**	**85.09**	**332**	*e*	P	**P**	**22 29 05.7**	**-3.4**
KLMR					AMP		22 29 09.5		
	comp=Z,17nm,1.4s								
ELK	**Elko**	**85.71**	**49**		P	**P**	**22 29 12.8**	**-0.1**
ARCES	**ARCESS Array B**	**86.11**	**343**		P	**P**	**22 29 14.2**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=69,slow=6.6,SNR=8.1								
ARCES					LR	LR	23 12 01.8		
	comp=Z,93nm,19.7s,baz=55,slow=39								
YHL	**Hebgen Lake**	**87.31**	**44**		P	**P**	**22 29 21.8**	**+1.0**
YHL					IAmb	IAmb	22 29 26.0		
	comp=Z,9.6nm,1.1s								
PSUT	**Pine Spring**	**87.37**	**51**		P	**P**	**22 29 21.1**	**0.0**
PSUT					IAmb	IAmb	22 29 36.8		
	comp=Z,4.0nm,0.9s								
YHH	**Holmes Hill**	**87.55**	**44**		P	**P**	**22 29 22.9**	**+1.0**
DUG	**Dugway, Tooele**	**87.64**	**49**		P	**P**	**22 29 22.5**	**+0.2**
DUG					IAmb	IAmb	22 29 37.5		
	comp=Z,4.9nm,0.9s								
YMP	**Mirror Lake Pl**	**88.04**	**44**		P	**P**	**22 29 24.4**	**+0.1**
YMP					IAmb	IAmb	22 29 37.6		
	comp=Z,4.8nm,0.8s								
HWUT	**Hardware Ranch**	**88.09**	**47**		P	**P**	**22 29 25.5**	**+1.1**
HWUT					IAmb	IAmb	22 29 28.1		
	comp=Z,6.2nm,1.2s								
NLU	**North Lily Min**	**88.25**	**49**		P	**P**	**22 29 25.3**	**0.0**
NLU					IAmb	IAmb	22 29 40.8		
	comp=Z,4.0nm,1.0s								
W13A	**Hualapai Mount**	**88.38**	**54**		P	**P**	**22 29 26.4**	**+0.4**
KNB	**Kanab**	**88.61**	**52**		P	**P**	**22 29 28.0**	**+1.0**
KNB					IAmb	IAmb	22 29 39.4		
	comp=Z,7.4nm,1.2s								
Q16A	**Castle Valley**	**89.25**	**50**		P	**P**	**22 29 30.9**	**+1.0**
Q16A					IAmb	IAmb	22 29 34.4		
	comp=Z,8.5nm,1.2s								
KBZ	**Khabaz**	**89.54**	**315**		LR	LR	23 13 07.5		
	comp=Z,68nm,18.3s,baz=43,slow=38								
WUAZ	**Wupatki**	**90.20**	**53**		P	**P**	**22 29 35.2**	**+0.8**
FINES	**FINESS Array B**	**90.53**	**336**		P	**P**	**22 29 33.6**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=143,slow=3.8,SNR=14								
PV14	**Lion Creek, Pa**	**91.02**	**50**		P	**P**	**22 29 38.5**	**+0.2**
PV12	**Saucer Basin,**	**91.20**	**50**		P	**P**	**22 29 39.5**	**+0.4**
PV12					IAmb	IAmb	22 29 54.8		
	comp=Z,4.2nm,1.0s								
MNK	**Minsk**	**93.56**	**329**		*i* P	**P**	**22 29 50.9**	**+1.5**
MNK									
	comp=E,1.0nm,0.7s								
MNK					*i* P	**P**	**22 29 50.9**	**+1.5**
	comp=N,4.0nm,0.6s								
MNK					*i* P	**P**	**22 29 50.9**	**+1.5**
	comp=Z,4.0nm,0.6s,baz=236								
MNK					*i* PP	**PP**	**22 33 34.7**	**+0.9**
MNK					*i* PPP	PPP	22 35 35.9		
MNK					*i* S	**SKSac**	**22 40 19.9**	**+0.3**
MNK					*i* PS	**PS**	**22 42 15.5**	**+2.1**
MNK					*i* SS	**SS**	**22 47 13.5**	**+2.4**
MNK					*i* SSS	SSS	22 50 54.3		
MNK					*i* LR	LR	23 09 23.5		
MNK					*i* LRM	MLR	23 12 53.4		
MNK					*i* LRM	MLR	23 12 53.4		
MNK					*i* LRM	MLR	23 12 53.4		
NOA	**NORSAR Array B**	**96.21**	**340**		LR	LR	23 15 28.1		
	comp=Z,55nm,20.3s,baz=60,slow=37								
BRTR	**Keskin Array B**	**97.49**	**315**		LR	LR	23 17 25.7		
	comp=Z,43nm,21.1s,baz=62,slow=38								
TZTN	**Tazewell**	**109.60**	**41**		Pdif	**Pdif**	**22 31 03.4**	**+1.8**
LPAZ	**La Paz**	**146.00**	**96**		PKPbc	**PKiKP**	**22 36 17.4**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=330,slow=1.4,SNR=8.8								

NEIC 05 22:25:09.7±0.9, 36°.15N±0°.01×97°.30W±0°.01, h4km±7km, mb_Lg2.7/49, Error ellipse: s-maj=1.6km s-min=1.5km az=45.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.37**	**200**		Pg	22 25 16.9	0.0
OK029				Sg	Sg	22 25 22.2	+0.4
OK031	**S. Brethren Rd**	**0.42**	**117**	Pg	Pg	22 25 17.8	0.0
OK031				Sg	Sg	22 25 23.6	+0.3
OK030	**Cody Creek RV**	**0.47**	**118**	Pg	Pg	22 25 18.8	0.0
OK030				Sg	Sg	22 25 25.2	+0.3
QUOK	**Quay**	**0.48**	**87**		Pg	22 25 19.0	0.0
QUOK				Sg	Sg	22 25 25.6	+0.5
OK005	**Luther M Schoo**	**0.50**	**170**	Pg	Pg	22 25 19.3	0.0
BCOK	**Bluff Creek, N**	**0.55**	**207**		Pg	22 25 20.3	-0.1
BCOK				Sg	Sg	22 25 27.8	+0.3
OK025	**Westminster Rd**	**0.57**	**183**		Pg	22 25 20.6	0.0
OK025				Sg	Sg	22 25 28.4	+0.4
BLOK	**Blackwell**	**0.61**	**6**	Pg	Pg	22 25 21.9	+0.3
BLOK				Sg	Sg	22 25 30.2	+0.6
CROK	**Carrier**	**0.66**	**303**		Pg	22 25 22.5	+0.1
CROK				Sg	Sg	22 25 31.6	+0.7
OKCFA	**Oklahoma City**	**0.74**	**190**	Pg	Pg	22 25 23.7	-0.2
OKCFA				Sg	Sg	22 25 33.8	+0.2
GC02	**Grant County #**	**0.84**	**327**		Pg	22 25 25.6	-0.2
KAN13	**South Haven SW**	**0.88**	**351**	Pg	Pg	22 25 26.3	-0.3
KAN13				Sg	Sg	22 25 38.3	+0.4
FNO	**Franklin**	**0.89**	**185**	Pg	Pg	22 25 26.3	-0.6
FNO				Sg	Sg	22 25 38.4	0.0
OK032	**Salt Plains WL**	**0.98**	**312**		Pg	22 25 28.2	-0.4
T35A	**Sooner Cattle**	**0.99**	**39**		Pg	22 25 28.4	-0.5
T35A				Sg	Sg	22 25 41.5	-0.3
KAN09	**Caldwell North**	**1.02**	**345**	Pg	Pg	22 25 28.9	-0.4
KAN09				Sg	Sg	22 25 42.6	+0.1
KAN10	**Anthony SW Sta**	**1.17**	**327**		Pg	22 25 31.6	-0.5
KAN08	**Anthony NE Sta**	**1.21**	**334**	Pg	Pg	22 25 32.2	-0.7
KAN08				Sg	Sg	22 25 48.6	+0.1
KAN16	**Harper SW Stat**	**1.24**	**330**		Pg	22 25 33.0	-0.5
KAN16				Sg	Sb	22 25 49.9	-0.2
KAN12	**Harper NE Stat**	**1.28**	**334**		Pg	22 25 33.4	-0.8
U32A	**Winter Ranch,**	**1.40**	**280**	Pn	Pn	22 25 35.6	-0.5
X34A	**Smith Ranch, M**	**1.60**	**196**	Pn	Pn	22 25 39.1	+0.2
WMOK	**Wichita Mounta**	**1.86**	**221**	Pn	Pn	22 25 42.5	+0.1
WMOK				IAmb_Lg		22 26 10.2	
	comp=Z,52nm,0.9s						
LOOK	**Love County**	**2.15**	**177**	Pn	Pn	22 25 46.9	+0.4
X37A	**Clayton**	**2.21**	**134**	Pn	Pn	22 25 47.2	-0.1
U38A	**Gravette**	**2.37**	**82**	Pn	Pn	22 25 49.6	+0.1
R32A	**Long Quarter,**	**2.54**	**334**	Pn	Pn	22 25 53.3	+1.6
Z35A	**Perchaven, San**	**2.81**	**179**	Pn	Pn	22 25 55.3	-0.2
KSU1	**Kansas State U**	**3.00**	**10**	Pn	Pn	22 25 59.2	+1.1
KSU1				IAmb_Lg		22 26 47.5	
	comp=Z,18nm,0.8s						
W39A	**Magazine**	**3.01**	**107**	Pn	Pn	22 25 58.7	+0.4
W39A				IAmb_Lg		22 26 49.7	
	comp=Z,28nm,0.8s						
MIAR	**Mount Ida**	**3.44**	**117**		Pn	22 26 04.7	+0.6
MIAR				IAmb_Lg		22 27 01.7	
	comp=Z,19nm,0.7s						
Z38A	**Mt. Pleasant**	**3.45**	**146**	Pn	Pn	22 26 04.7	+0.3
Z38A				IAmb_Lg		22 27 05.8	
	comp=Z,32nm,1.0s						
S39A	**Bolivar**	**3.54**	**63**	Pn	Pn	22 26 05.6	+0.1
S39A				IAmb_Lg		22 27 06.6	
	comp=Z,19nm,1.0s						
U40A	**Yellville**	**3.60**	**85**	Pn	Pn	22 26 05.6	-0.7
U40A				IAmb_Lg		22 27 11.6	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**4.01**	**113**	Pn	Pn	22 26 13.0	+1.0
X40A				IAmb_Lg		22 27 16.2	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.17**	**100**	Pn	Pn	22 26 14.5	+0.4
WHAR				IAmb_Lg		22 27 24.1	
	comp=Z,22nm,1.0s						
MGMO	**Mountain Grove**	**4.17**	**75**	IAmb_Lg		22 27 26.4	
	comp=Z,23nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.20**	**92**	IAmb_Lg		22 27 21.9	
	comp=Z,13nm,0.7s						
WLAR	**White Oak Lake**	**4.22**	**124**	IAmb_Lg		22 27 24.3	
	comp=Z,14nm,0.7s						
R40A	**Maddies Statio**	**4.55**	**60**	Pn	Pn	22 26 19.5	+0.1
LCAR	**Lake Charles**	**4.97**	**89**	IAmb_Lg		22 27 49.3	
	comp=Z,11nm,0.8s						
T42A	**Van Buren**	**5.07**	**78**	IAmb_Lg		22 28 03.4	
	comp=Z,11nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.11**	**306**	IAmb_Lg		22 28 03.6	
	comp=Z,13nm,0.8s						
CCM	**Cathedral Cave**	**5.20**	**67**	IAmb_Lg		22 28 00.0	
	comp=Z,16nm,1.0s						
BGNE	**Belgrade**	**5.29**	**353**	Pn	Pn	22 26 29.0	-0.7
BGNE				IAmb_Lg		22 28 11.4	
	comp=Z,18nm,0.8s						
435B	**Jarrell**	**5.36**	**183**	IAmb_Lg		22 28 11.3	
	comp=Z,13nm,0.8s						
N38A	**Joes South For**	**5.63**	**33**	IAmb_Lg		22 28 10.9	
	comp=Z,15nm,0.9s						
FVM	**French Village**	**5.79**	**70**	IAmb_Lg		22 28 16.9	
	comp=Z,12nm,0.8s						
T25A	**Trinidad**	**5.80**	**282**	IAmb_Lg		22 28 19.5	
	comp=Z,12nm,1.0s						
OXF	**Oxford**	**6.65**	**102**	IAmb_Lg		22 28 45.5	
	comp=Z,15nm,0.9s						
N41A	**Harden Midland**	**6.80**	**46**	IAmb_Lg		22 28 57.7	
	comp=Z,11nm,0.8s						
PLAL	**Pickwick Lake**	**7.61**	**96**	IAmb_Lg		22 29 15.9	
	comp=Z,6.8nm,0.7s						
W50A	**Signal Mountai**	**9.80**	**92**	IAmb_Lg		22 30 22.2	
	comp=Z,5.6nm,0.8s						

*IDC **05** 22:29:35.7±0.9, 48°.11S×99°.24E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/30, mbtmp4.1/6, MS3.8/9, Ms1 3.8/9, ms1mx3.7/17, Error ellipse: s-maj=28.5km s-min=22.7km az=99.0*

*NEIC **05** 22:29:38.8±1.3, 48°.3S±0°.1×99°.5E±0°.2, h10km±1km, mb4.6/16, Error ellipse: s-maj=20.5km s-min=18.9km az=239.0*

ISC 05 22:29:38.1±0.6, 48°.27S±0°.09×99°.5E±0°.1, h10km, n34, σ1°04/24, mb4.5/12, MS3.8/9, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.23**	**45**	T	T	22 51 16.7	
	baz=215,slow=74,SNR=49						
H01W1	**Cape Leeuwin H**	**17.24**	**45**	T	T	22 51 21.7	
	baz=215,slow=74,SNR=81						
H01W3	**Cape Leeuwin H**	**17.24**	**44**	T	T	22 51 21.7	
	baz=215,slow=74,SNR=59						
NWAO	**Narrogin (SRO)**	**20.32**	**48**	LR	LR	22 40 05.7	
	comp=Z,435nm,20.8s,baz=226,slow=31						
MORW	**Morawa**	**23.02**	**40**	P	**P**	**22 34 43.7**	**+0.5**
MAW	**Mawson**	**26.79**	**210**	LR	LR	22 43 31.0	
	comp=Z,362nm,20.0s,baz=56,slow=31						
MAW	**Mawson**	**26.79**	**210**	P	**P**	**22 35 18.6**	**+0.8**
STKA	**Stephens Creek**	**35.63**	**78**	P	**P**	**22 36 36.0**	**+0.1**
	2.5nm,0.7s,baz=212,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**35.63**	**78**	IAmb	IAmb	22 36 38.1	
	comp=Z,1.1nm,1.1s						
COCO	**West Island**	**36.03**	**356**	P	**P**	**22 36 40.7**	**+1.2**
ASAR	**Alice Springs**	**36.64**	**60**	P	**P**	**22 36 44.5**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=218,slow=7.9,SNR=21						
ASAR				LR	LR	22 49 14.0	
	comp=Z,131nm,19.6s,baz=269,slow=32						
AS31	**Alice Springs**	**36.64**	**60**	P	**P**	**22 36 44.0**	**-0.7**
MCQ	**Macquarie Isla**	**36.64**	**123**	P	**P**	**22 36 42.0**	**-2.4**
FITZ	**Fitzroy Crossi**	**36.85**	**44**	P	**P**	**22 36 47.2**	**+0.7**
FITZ				IAmb	IAmb	22 36 48.4	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**37.47**	**162**	P	**P**	**22 36 51.9**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=287,slow=8.9,SNR=5.4						
VNDA				LR	LR	22 51 01.6	
	comp=Z,202nm,19.1s,baz=293,slow=34						
VNDA	**Vanda**	**37.47**	**162**	P	**P**	**22 36 52.6**	**+1.4**
VNDA				IAmb	IAmb	22 36 58.9	
	comp=Z,2.3nm,1.1s						
WRAB	**Tennant Creek**	**39.82**	**57**	P	**P**	**22 37 12.1**	**+0.5**
WRAB				IAmb	IAmb	22 37 17.7	
	comp=Z,11nm,0.5s						
QSPA	**South Pole Qui**	**41.87**	**180**	P	**P**	**22 37 28.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=318,slow=2.6,SNR=12						
QSPA	**South Pole Qui**	**41.87**	**180**	P	**P**	**22 37 28.9**	**+0.7**
QSPA				IAmb	IAmb	22 37 41.6	
	comp=Z,5.0nm,1.1s						
SMRI	**Semarang**	**42.11**	**16**	P	**P**	**22 37 31.2**	**+0.8**
SMRI				IAmb	IAmb	22 37 33.1	
	comp=Z,65nm,1.1s						
ARMA	**Armidale**	**43.19**	**85**	P	**P**	**22 37 40.2**	**+1.0**
ARMA				IAmb	IAmb	22 37 50.0	
	comp=Z,16nm,1.1s						
RER	**Riviere de l'E**	**44.16**	**292**	P	**P**	**22 37 47.5**	**+0.4**
DGAR	**Diego Garcia**	**46.72**	**322**	P	**P**	**22 38 07.6**	**+0.3**
RPSI	**Rantau Prapat**	**50.76**	**359**	P	**P**	**22 38 38.2**	**0.0**
RPSI				IAmb	IAmb	22 38 48.4	
	comp=Z,3.7nm,0.5s						
BHW	**Baring Head**	**51.89**	**112**	P	**P**	**22 38 46.5**	**-0.1**
BFZ	**Birch Farm**	**53.16**	**112**	P	**P**	**22 38 55.9**	**-0.1**
BFZ				IAmb	IAmb	22 38 58.0	
	comp=Z,42nm,1.2s						
BOSA	**Boshof**	**59.07**	**261**	LR	LR	23 00 15.1	
	comp=Z,48nm,19.9s,baz=123,slow=31						
CMAR	**Chiang Mai Arr**	**66.42**	**359**	P	**P**	**22 40 25.1**	**-2.2**
	comp=Z,1.9nm,0.6s,baz=197,slow=5.4,SNR=10.0						
CMAR				LR	LR	23 06 11.0	
	comp=Z,107nm,19.3s,baz=208,slow=33						
KMBO	**Kilima Mbogo**	**71.00**	**291**	P	**P**	**22 40 54.5**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=70,slow=5.7,SNR=4.9						
KSRS	**Korea Array**	**89.02**	**22**	LR	LR	23 19 33.7	
	comp=Z,22nm,21.9s,baz=206,slow=34						
PLCA	**Paso Flores**	**90.94**	**188**	LR	LR	23 22 35.0	
	comp=Z,118nm,19.0s,baz=178,slow=35						
MJAR	**Matsushiro Arr**	**91.22**	**30**	LR	LR	23 26 03.9	
	comp=Z,8.9nm,18.4s,baz=165,slow=37						
NVAR	**Mina Array Bea**	**151.06**	**96**	PKPbc	**PKPbc**	**22 49 31.1**	**0.0**
	comp=Z,2.9nm,0.8s,baz=222,slow=4.3,SNR=20						
TXAR	**Lajitas Array**	**154.03**	**128**	PKPbc	**PKPbc**	**22 49 38.1**	**+0.2**
	comp=Z,0.7nm,1.1s,baz=251,slow=2.3,SNR=3.9						

*JMA **05** 22:37:33.5±0.1, 24°.35N×121°.82E, h0km, M3.1*
*TAP **05** 22:37:34.2, 24°.37N×121°.80E, h16km, ML3.3, B*

ISC 05 22:37:34.4±0.8, 24°.36N±0°.02×121°.83E±0°.02, h16km±5km, n124, σ0°79/178, 11C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**239**	⇓P	**Pg**	**22 37 37.7**	**0.0**
	baz=217						
EHP				S	**Sg**	**22 37 40.0**	**+0.1**
	baz=217						
EWUT	**Wuta**	**0.10**	**332**	P	**Pg**	**22 37 37.7**	**-0.1**
	baz=345						
EWUT				S	**Sg**	**22 37 39.9**	**0.0**
	baz=345						
TWC	**Suao**	**0.25**	**4**	⇓*i*P	**Pb**	**22 37 39.9**	**-0.7**
	baz=18						
TWC				*i* S	**Sg**	**22 37 43.4**	**-0.3**
	baz=18						
NACB	**Ninganchiao**	**0.28**	**229**	⇓P	**Pg**	**22 37 40.1**	**-0.3**
	baz=220						
NACB				S	**Sg**	**22 37 44.1**	**-0.4**
	baz=220						
NDS	**Dongshan**	**0.29**	**340**	⇑P	**Pb**	**22 37 40.7**	**-0.6**
	baz=349						
NDS				S	**Sg**	**22 37 44.6**	**-0.3**
	baz=349						
TWD	**Chiawan**	**0.35**	**218**	⇓P	**Pg**	**22 37 41.2**	**-0.4**
	baz=217						
TWD				S	**Sg**	**22 37 46.4**	**-0.1**
	baz=217						
ETLH	**Xiulin Townshi**	**0.35**	**245**	⇓P	**Pg**	**22 37 41.3**	**-0.3**
	baz=242						
ETLH				S	**Sg**	**22 37 46.1**	**-0.5**
	baz=242						
ENTT	**Nioudou**	**0.37**	**320**	⇑*i*P	**Pb**	**22 37 41.8**	**-0.8**
	baz=322						
ENTT				*i* S	**Sg**	**22 37 46.5**	**-0.6**
	baz=322						
NDT	**Datong Townshi**	**0.38**	**310**	⇑*i*P	**Pb**	**22 37 42.0**	**-0.7**
	baz=312						
NDT				S	**Sg**	**22 37 47.0**	**-0.4**
	baz=312						
TWE	**Neicheng**	**0.39**	**338**	⇑*i*P	**Pb**	**22 37 42.3**	**-0.7**
	baz=343						
TWE				S	**Sg**	**22 37 47.5**	**-0.2**
	baz=343						
NNSB	**Datong**	**0.41**	**280**	⇓P	**Pb**	**22 37 42.6**	**-0.9**
	baz=286						
NNSB				S	**Sg**	**22 37 47.0**	**-1.6**
	baz=286						
NNSH	**Datong**	**0.41**	**280**	⇓*i*P	**Pb**	**22 37 42.6**	**-0.9**
	baz=279						
NNSH				S	**Sg**	**22 37 47.5**	**-1.1**
	baz=279						
ILA	**Ilan**	**0.41**	**350**	P	**Pb**	**22 37 43.0**	**-0.3**
	baz=347						
ILA				*i* S	**Sb**	**22 37 48.8**	**-0.7**
	baz=347						
NNS	**Nan Shan**	**0.42**	**281**	⇓P	**Pb**	**22 37 42.7**	**-0.9**
	baz=287						
NNS				*i* S	**Sg**	**22 37 47.7**	**-1.2**
	baz=287						
HWA	**Hwalien**	**0.43**	**208**	P	**Pb**	**22 37 43.7**	**0.0**
	baz=210						
EGS		**0.49**	**11**	⇓*i*P	**Pb**	**22 37 44.5**	**-0.3**
	baz=21						
EGS				S	**Sb**	**22 37 51.2**	**-0.6**
	baz=21						
NTC	**Toucheng**	**0.49**	**0**	⇓P	**Pb**	**22 37 44.4**	**-0.4**
	baz=3.0						
NTC				S	**Sg**	**22 37 51.0**	**+0.1**
	baz=3.0						
ETM	**Tongmen**	**0.50**	**218**	P	**Pg**	**22 37 43.8**	**-0.5**
	baz=215						
NWLT	**Wulai**	**0.51**	**325**	⇑*i*P	**Pb**	**22 37 44.4**	**-0.7**
	baz=321						
NWLT				S	**Sg**	**22 37 50.9**	**-0.6**
	baz=321						
YHNB	**Yeheng**	**0.52**	**307**	⇑P	**Pb**	**22 37 44.5**	**-0.7**
	baz=308						
YHNB				S	**Sg**	**22 37 51.0**	**-0.7**
	baz=308						
TEYL	**Yanliau Villag**	**0.53**	**203**	P	**Pb**	**22 37 45.1**	**-0.3**
	baz=207						
WHF	**Hehuan Shan**	**0.56**	**248**	⇓*i*P	**Pg**	**22 37 45.1**	**-0.5**
	baz=254						
WHF				*i* S	**Sg**	**22 37 52.2**	**-0.9**
	baz=254						
TDCB	**Techi**	**0.62**	**260**	⇓P	**Pb**	**22 37 46.5**	**-0.5**
	baz=260						
TDCB				S	**Sg**	**22 37 54.0**	**-1.0**
	baz=260						
ESL	**Shilin**	**0.65**	**214**	P	**Pg**	**22 37 46.7**	**-0.5**
	baz=218						
TWA	**Mucha**	**0.66**	**340**	⇑P	**Pb**	**22 37 47.3**	**-0.3**
	baz=342						
TWA				*i* S	**Sg**	**22 37 55.7**	**-0.4**
	baz=342						
NHDH	**Xindian Distri**	**0.66**	**335**	*e*P	**Pb**	**22 37 47.3**	**-0.4**
	baz=332						
TWB1	**Santiao Chiao**	**0.66**	**13**	⇓*i*P	**Pb**	**22 37 47.3**	**-0.3**
	baz=15						
TWB1				*i* S	**Sg**	**22 37 55.4**	**-0.8**
	baz=15						
CHGB	**Renai**	**0.67**	**244**	⇓P	**Pb**	**22 37 47.2**	**-0.7**
	baz=252						
CHGB				S	**Sg**	**22 37 55.9**	**-0.6**
	baz=252						
TATO	**Taipei**	**0.69**	**333**	⇑P	**Pb**	**22 37 47.8**	**-0.3**
	baz=335						
TATO				S	**Sg**	**22 37 56.2**	**-0.8**
	baz=335						
TEGC	**Jichi Village**	**0.70**	**202**	*e*P	**Pb**	**22 37 48.7**	**+0.5**
	baz=188						
NWF	**Wu-fen Shan**	**0.71**	**357**	P	**Pb**	**22 37 48.5**	**0.0**
	baz=350						
NWF				*i* S	**Sg**	**22 37 57.4**	**-0.5**
	baz=350						
WFSB	**Wu-fen Shan**	**0.71**	**357**	P	**Pb**	**22 37 48.5**	**+0.1**
	baz=352						
WFSB				S	**Sg**	**

NMLH	**Miaoli**	**0.96**	**281**	*eP*	**Pn**	**22 37 54.0 +0.7**
	baz=280					
TWQ1	**Liyutan**	**0.96**	**270**	*eP*	**Pn**	**22 37 53.6 +0.3**
	baz=268					
SMLT	**Sun Moon Lake**	**0.97**	**241**	P	**Pb**	**22 37 52.7 -0.3**
	baz=241					
SMLT				S	**Sg**	**22 38 04.9 -1.1**
	baz=241					
SSLB	**Suanglung**	**0.98**	**235**	⇑P	**Pb**	**22 37 52.8 -0.3**
	baz=235					
SSLB				*eS*	**Sg**	**22 38 04.8 -1.5**
	baz=235					
TYC	**Yuchr**	**1.00**	**243**	⇓P	**Pb**	**22 37 53.0 -0.3**
	baz=242					
JYNG	**Yonagunijimaku**	**1.02**	**85**	P	**Pg**	**22 37 53.9 -0.3**
JYNG				S	**Sg**	**22 38 07.6 0.0**
TCU	**Taichung**	**1.07**	**259**	*eP*	**Pn**	**22 37 56.2 +1.4**
	baz=258					
YULB	**Yu-li**	**1.08**	**207**	*eP*	**Pg**	**22 37 53.1 -2.1**
	baz=216					
WWF	**Wufeng**	**1.08**	**253**	*eP*	**Pn**	**22 37 56.2 +1.3**
	baz=249					
WWF				*eS*	**Sn**	**22 38 10.9 +1.4**
	baz=249					
YOJ	**Yonaguni jima**	**1.08**	**84**	P	**Pg**	**22 37 54.7 -0.6**
YOJ				S	**Sg**	**22 38 09.0 -0.5**
YOJ	**Yonaguni jima**	**1.08**	**84**	P	**Pg**	**22 37 54.7 -0.6**
	baz=73					
YOJ				S	**Sb**	**22 38 09.5 +0.8**
	baz=73					
WDJ	**Dajia District**	**1.08**	**270**	*eP*	**Pn**	**22 37 56.1 +1.2**
	baz=269					
EYUL	**Yuli**	**1.11**	**205**	*eP*	**Pg**	**22 37 55.1 -0.8**
	baz=215					
WHYT	**Xinyi Township**	**1.11**	**234**	*eP*	**Pn**	**22 37 55.5 +0.2**
	baz=233					
TWF1	**Yuli**	**1.11**	**206**	*eP*	**Pg**	**22 37 53.6 -2.3**
	baz=216					
WJS	**Zhushan**	**1.14**	**242**	*eP*	**Pn**	**22 37 57.4 +1.7**
	baz=234					
WNT1	**Nantou City**	**1.14**	**247**	*eP*	**Pn**	**22 37 57.4 +1.7**
	baz=246					
WNT	**Mingjian**	**1.15**	**246**	*eP*	**Pn**	**22 37 57.4 +1.5**
	baz=243					
WNT				S	**Sn**	**22 38 13.5 +2.2**
	baz=243					
YUS	**Yu-Shan**	**1.18**	**223**	*eP*	**Pg**	**22 37 56.4 -0.8**
	baz=211					
FULB	**Fuli**	**1.25**	**203**	*eP*	**Pn**	**22 37 57.4 +0.1**
	baz=215					
ALS	**Alishan**	**1.26**	**228**	*eP*	**Pn**	**22 37 58.2 +0.5**
	baz=214					
PCYT	**Pengchaiyu**	**1.28**	**10**	*eP*	**Pn**	**22 37 58.1 +0.3**
	baz=11					
CHN5	**Tsauling**	**1.30**	**234**	*eP*	**Pg**	**22 37 59.1 -0.3**
	baz=236					
CHN5				*eS*	**Sn**	**22 38 17.4 +2.4**
	baz=236					
CHKT	**Chengkung**	**1.32**	**199**	*eP*	**Pn**	**22 37 58.1 -0.2**
	baz=183					
WGK	**Gukeng**	**1.34**	**240**	*eP*	**Pg**	**22 38 00.3 +0.1**
	baz=240					
WDLH	**Douliu**	**1.35**	**241**	*eP*	**Pg**	**22 38 00.7 +0.2**
	baz=240					
ELDTW	**Lidau**	**1.38**	**213**	*eP*	**Pn**	**22 37 58.8 -0.4**
	baz=213					
EDH	**Donghe**	**1.46**	**199**	*eP*	**Pn**	**22 37 59.2 -0.9**
	baz=186					
WTK	**Tuku**	**1.48**	**243**	*eP*	**Pg**	**22 38 02.3 -0.5**
	baz=243					
CHN4	**Tsaushan**	**1.51**	**229**	⇓*eP*	**Pg**	**22 38 02.5 -1.0**
	baz=218					
CHN4				*eS*	**Sg**	**22 38 24.1 +1.0**
	baz=218					
TPUB	**Ta-pu**	**1.52**	**226**	⇑P	**Pb**	**22 38 02.5 +0.2**
	baz=218					
TPUB				*eS*	**Sg**	**22 38 23.4 0.0**
	baz=218					
STYH	**Taoyuan**	**1.52**	**219**	*eP*	**Pb**	**22 38 02.3 0.0**
	baz=220					
STYT	**Tauyuan**	**1.54**	**220**	*eP*	**Pb**	**22 38 02.5 -0.1**
	baz=220					
CHY	**Chiayi**	**1.54**	**237**	*eP*	**Pg**	**22 38 03.3 -0.8**
	baz=223					
WTP	**Ta-pu**	**1.57**	**225**	*eP*	**Pb**	**22 38 03.2 +0.1**
	baz=213					
LONT	**Longtian**	**1.58**	**204**	*eP*	**Pn**	**22 38 00.6 -1.2**
	baz=190					
TWK	**Hsinying**	**1.64**	**229**	*eP*	**Pb**	**22 38 04.6 +0.3**
	baz=216					
TWK				*eS*	**Sg**	**22 38 27.3 +0.1**
	baz=216					
SNST	**Tainan City**	**1.66**	**227**	*eP*	**Pb**	**22 38 04.7 0.0**
	baz=214					
CHN1	**Nanshi**	**1.67**	**226**	*eP*	**Pb**	**22 38 04.5 -0.2**
	baz=229					
CHN1				*eS*	**Sg**	**22 38 27.8 -0.4**
	baz=229					
TWG	**Pinlang**	**1.68**	**205**	*eP*	**Pn**	**22 38 03.4 +0.2**
	baz=191					
TWGBT	**Beinan**	**1.68**	**204**	*eP*	**Pn**	**22 38 02.7 -0.5**
	baz=191					
SGST	**Jiashian**	**1.71**	**222**	*eP*	**Pn**	**22 38 04.6 +1.0**
	baz=212					
LDUT	**Ludao**	**1.71**	**191**	*eP*	**Pn**	**22 38 02.1 -1.5**
	baz=193					
ICHU	**Yijhu**	**1.73**	**235**	*eP*	**Pb**	**22 38 06.1 +0.3**
	baz=235					
IRIF	**Iriomote-Funau**	**1.73**	**90**	P	**Pn**	**22 38 04.2 +0.3**
IRIF				S	**Sn**	**22 38 26.1 +0.4**
SLGT	**Liugui**	**1.74**	**219**	*eP*	**Pb**	**22 38 05.8 -0.2**
	baz=220					
HATJ	**Hateruma jima**	**1.83**	**99**	P	**Pn**	**22 38 06.7 +1.5**
SCST	**Cishan**	**1.91**	**220**	*eP*	**Pb**	**22 38 08.6 -0.3**
	baz=221					
SSD	**Sandimen**	**1.94**	**215**	*eP*	**Pb**	**22 38 08.6 -0.8**
	baz=216					
TSMG	**Majia**	**1.97**	**214**	*eP*	**Pn**	**22 38 08.9 -1.0**
	baz=225					
JKRS	**Kuro-shima**	**1.99**	**93**	P	**Pn**	**22 38 08.4 +0.9**
JKRS				S	**Sn**	**22 38 33.0 +0.9**
MASBT	**Mashibuluo**	**2.06**	**213**	*eP*	**Pn**	**22 38 09.9 +1.6**
	baz=215					
MASBT				*eS*	**Sb**	**22 38 36.5 -0.2**
	baz=215					
JIJ	**Ishigaki jima**	**2.11**	**89**	P	**Pn**	**22 38 09.6 +0.5**
JIJ				S	**Sn**	**22 38 34.8 -0.2**
EAST	**Anshuo**	**2.16**	**205**	*eP*	**Pn**	**22 38 11.1 +1.2**
	baz=196					
PHUB	**P'eng-hu**	**2.23**	**248**	*eP*	**Pn**	**22 38 11.0 +0.3**
	baz=248					
VWUC	**VWUC**	**2.25**	**287**	*eP*	**Pn**	**22 38 10.6 -0.5**
	baz=286					
SCZT	**Fangliau**	**2.27**	**210**	*eP*	**Pn**	**22 38 12.7 +1.4**
	baz=197					
WDGT	**Dungji**	**2.27**	**242**	*eP*	**Pn**	**22 38 12.5 +1.3**
	baz=251					
JISG	**Ishigakijimahi**	**2.27**	**84**	P	**Pn**	**22 38 11.1 -0.2**
JISG				S	**Sn**	**22 38 39.3 +0.3**
LAY	**Lan-yu**	**2.32**	**186**	*eP*	**Pn**	**22 38 11.0 -1.0**
	baz=189					
MATB	**Ma-tsu**	**2.47**	**317**	*eP*	**Pn**	**22 38 13.6 -0.5**
	baz=315					
VCHM	**Qimei**	**2.48**	**243**	*eP*	**Pn**	**22 38 15.1 +1.0**
	baz=246					
VCHM				*eS*	**Sn**	**22 38 45.2 +1.1**
	baz=246					
MSUT	**Lienchiang**	**2.50**	**317**	*eP*	**Pn**	**22 38 15.0 +0.6**
	baz=315					
PTMZ	**Houxiangcun**	**2.56**	**286**	*eP*	**Pn**	**22 38 15.3 +0.1**
	baz=285					
JTJ	**Tarama**	**2.63**	**83**	P	**Pn**	**22 38 17.7 +1.4**
LYJJ	**Jianjiangzhen**	**2.87**	**320**	*eP*	**Pn**	**22 38 19.9 +0.3**
	baz=318					
XPSS	**Dashiqiu**	**2.96**	**330**	*eP*	**Pn**	**22 38 20.3 -0.4**
	baz=328					
MHZQ	**Yeshan**	**3.07**	**305**	*eP*	**Pn**	**22 38 22.6 +0.3**
	baz=304					
KNM	**Kinmen**	**3.10**	**272**	*eP*	**Pn**	**22 38 25.3 +2.6**
	baz=271					
KNMB	**Chin-men Tao**	**3.14**	**273**	*eP*	**Pn**	**22 38 23.3 0.0**
	baz=272					
AXDP	**Jialang**	**3.55**	**280**	*eP*	**Pn**	**22 38 29.1 +0.2**
	baz=279					

NEIC 05 22:52:26.1±0.8,**37°27N**±0°.03×**97°.961W**±0°.008,**h8**km±2km,
mb_Lg2.8/74,**Error ellipse: s-maj=3.9km s-min=0.9km az=176.0,Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.04**	**191**	Pg	Pg	22 52 27.5	-0.1
KAN08				Sg	Sg	22 52 28.2	-0.5
KAN12	**Harper NE Stat**	**0.04**	**315**	Pg	Pg	22 52 28.3	+0.6
KAN12				Sg	Sg	22 52 29.7	+0.8
KAN16	**Harper SW Stat**	**0.09**	**243**	Pg	Pg	22 52 28.6	+0.2
KAN16				Sg	Sg	22 52 29.9	0.0
KAN10	**Anthony SW Sta**	**0.18**	**217**	Pg	Pg	22 52 29.7	0.0
KAN10				Sg	Sg	22 52 32.1	-0.1
KAN09	**Caldwell North**	**0.30**	**116**	Pg	Pg	22 52 32.3	+0.2
KAN09				Sg	Sg	22 52 36.2	+0.1
GC02	**Grant County #**	**0.42**	**169**	Pg	Pg	22 52 34.1	-0.2
GC02				Sg	Sg	22 52 39.6	-0.3
KAN13	**South Haven SW**	**0.46**	**123**	Pg	Pg	22 52 35.1	0.0
KAN13				Sg	Sg	22 52 41.3	+0.2
OK032	**Salt Plains WL**	**0.50**	**203**	Pg	Pg	22 52 35.6	-0.2
OK032				Sg	Sg	22 52 42.1	-0.4
CROK	**Carrier**	**0.76**	**181**	Pg	Pg	22 52 40.1	-0.6
CROK				Sg	Sg	22 52 50.4	-0.2
BLOK	**Blackwell**	**0.78**	**130**	Pg	Pg	22 52 40.9	-0.3
T35A	**Sooner Cattle**	**1.21**	**106**	Pg	Pb	22 52 48.8	-0.5
U32A	**Winter Ranch,**	**1.22**	**224**		Pb	22 52 48.8	-0.7
R32A	**Long Quarter,**	**1.30**	**333**		Pg	22 52 51.0	0.0
QUOK	**Quay**	**1.49**	**137**		Pn	22 52 53.3	+0.1
OK029	**Liberty Lake**	**1.52**	**164**	Pn	Pn	22 52 53.9	+0.2
OK031	**S. Brethren Rd**	**1.59**	**145**	Pn	Pn	22 52 55.1	+0.5
BCOK	**Bluff Creek, N**	**1.63**	**170**	Pn	Pn	22 52 55.5	+0.3
OK030	**Cody Creek RV**	**1.64**	**144**	Pn	Pb	22 52 56.1	-0.5
OK025	**Westminster Rd**	**1.76**	**163**	Pn	Pn	22 52 57.7	+0.8
OKCFA	**Oklahoma City**	**1.89**	**167**	IAmb_Lg		22 53 26.5	
	comp=Z,40nm,0.8s						
X34A	**Smith Ranch, M**	**2.66**	**178**	IAmb_Lg		22 53 53.8	
	comp=Z,24nm,0.7s						
U38A	**Gravette**	**2.98**	**105**	Pn	Pn	22 53 15.2	+1.4
U38A				IAmb_Lg		22 54 02.6	
	comp=Z,22nm,0.8s						
LOOK	**Love County**	**3.33**	**169**	IAmb_Lg		22 54 12.4	
	comp=Z,23nm,0.7s						
X37A	**Clayton**	**3.40**	**141**	IAmb_Lg		22 54 17.1	
	comp=Z,39nm,0.8s						
W39A	**Magazine**	**3.96**	**120**	IAmb_Lg		22 54 34.8	
	comp=Z,29nm,0.8s						
Z35A	**Perchaven, San**	**3.97**	**171**	IAmb_Lg		22 54 41.2	
	comp=Z,22nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.07**	**297**	IAmb_Lg		22 54 42.8	
	comp=Z,27nm,1.0s						
P38A	**Dawn**	**4.20**	**55**	IAmb_Lg		22 54 40.5	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**4.20**	**101**	IAmb_Lg		22 54 43.1	
	comp=Z,13nm,0.7s						
MIAR	**Mount Ida**	**4.48**	**126**	IAmb_Lg		22 54 50.8	
	comp=Z,17nm,0.8s						
Z38A	**Mt. Pleasant**	**4.68**	**148**	IAmb_Lg		22 55 07.0	
	comp=Z,25nm,0.8s						
OGNE	**Ogallala**	**4.85**	**320**	IAmb_Lg		22 55 12.8	
	comp=Z,21nm,0.8s						
WHAR	**Wooly Hollow**	**4.99**	**112**	IAmb_Lg		22 55 15.6	
	comp=Z,18nm,1.0s						
X40A	**Basin Creek Fa**	**5.00**	**122**	IAmb_Lg		22 55 13.5	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**5.15**	**271**	IAmb_Lg		22 55 10.5	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**5.16**	**62**	IAmb_Lg		22 55 18.3	
	comp=Z,11nm,0.8s						
T42A	**Van Buren**	**5.49**	**90**	IAmb_Lg		22 55 30.8	
	comp=Z,13nm,0.7s						
PBMO	**Poplar Bluff**	**6.05**	**92**	IAmb_Lg		22 55 41.9	
	comp=Z,13nm,0.8s						
SLM	**Saint Louis**	**6.26**	**75**	IAmb_Lg		22 55 42.1	
	comp=Z,16nm,0.9s						
435B	**Jarrell**	**6.48**	**177**	IAmb_Lg		22 55 48.5	
	comp=Z,9.6nm,0.8s						
N41A	**Harden Midland**	**6.51**	**56**	IAmb_Lg		22 55 51.9	
	comp=Z,17nm,0.8s						
ECSD	**EROS Data Cent**	**6.54**	**9**	IAmb_Lg		22 56 02.9	
	comp=Z,7.3nm,0.8s						
JCT	**Junction City**	**6.94**	**193**	IAmb_Lg		22 56 12.3	
	comp=Z,9.7nm,0.9s						
SIUC	**Southern Illin**	**6.97**	**84**	IAmb_Lg		22 56 07.3	
	comp=Z,15nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.03**	**68**	IAmb_Lg		22 56 17.1	
	comp=Z,16nm,0.9s						
PHWY	**Pilot Hill**	**7.07**	**307**	IAmb_Lg		22 56 27.5	
	comp=Z,8.9nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.24**	**74**	IAmb_Lg		22 56 21.2	
	comp=Z,12nm,0.8s						
W45A	**Hickory Valley**	**7.40**	**104**	IAmb_Lg		22 56 22.1	
	comp=Z,13nm,0.8s						
I37A	**Lemond, Waseca**	**7.58**	**26**	IAmb_Lg		22 56 45.4	
	comp=Z,11nm,0.7s						
O44A	**Mansfield**	**7.96**	**66**	IAmb_Lg		22 56 55.9	
	comp=Z,13nm,0.7s						
RSSD	**Black Hills**	**8.25**	**328**	IAmb_Lg		22 56 59.1	
	comp=Z,6.3nm,0.7s						
K22A	**Casper**	**8.49**	**312**	IAmb_Lg		22 57 17.3	
	comp=Z,8.4nm,0.8s						
F33A	**5 Mile Ranch,**	**8.66**	**8**	IAmb_Lg		22 57 23.3	
	comp=Z,7.5nm,1.0s						
I40A	**Norwalk**	**8.66**	**38**	IAmb_Lg		22 56 53.9	
	comp=Z,8.9nm,0.8s						
T47A	**Sharon Grove**	**8.68**	**89**	IAmb_Lg		22 57 21.7	
	comp=Z,12nm,1.2s						
SPMN	**Marine on St.**	**8.85**	**24**	IAmb_Lg		22 57 11.9	
	comp=Z,8.2nm,0.8s						

NEIC 05 22:53:05.1±1.3,**37°.22N**±0°.04×**97°.95W**±0°.04,**h7**km±5km,
mb_Lg3.2/116,**Error ellipse: s-maj=6.9km s-min=3.7km az=202.0,Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.01**	**290**	Pg	Pg	22 53 05.9	-0.6
KAN08				Sg	Sg	22 53 06.6	-0.8
KAN12	**Harper NE Stat**	**0.08**	**335**	Pg	Pg	22 53 06.7	-0.5
KAN12				Sg	Sg	22 53 08.1	-0.7
KAN16	**Harper SW Stat**	**0.09**	**273**	Pg	Pg	22 53 07.0	-0.4
KAN16				Sg	Sg	22 53 08.3	-0.6
KAN10	**Anthony SW Sta**	**0.15**	**229**	Pg	Pg	22 53 08.2	0.0
KAN10				Sg	Sg	22 53 10.7	+0.2
KAN09	**Caldwell North**	**0.28**	**108**	Pg	Pg	22 53 10.7	0.0
KAN09				Sg	Sg	22 53 14.1	-0.3
GC02	**Grant County #**	**0.38**	**169**	Pg	Pg	22 53 12.4	-0.1
GC02				Sg	Sg	22 53 17.0	-0.4
KAN13	**South Haven SW**	**0.43**	**119**	Pg	Pg	22 53 13.5	-0.1
KAN13				Sg	Sg	22 53 19.7	+0.4
OK032	**Salt Plains WL**	**0.47**	**206**	Pg	Pg	22 53 14.1	-0.1
OK032				Sg	Sg	22 53 20.7	+0.4
CROK	**Carrier**	**0.72**	**182**	Pg	Pg	22 53 18.7	-0.2
CROK				Sg	Sg	22 53 28.7	+0.5
BLOK	**Blackwell**	**0.75**	**128**	Pg	Pg	22 53 19.4	-0.1
BLOK				Sg	Sg	22 53 29.6	+0.3
T35A	**Sooner Cattle**	**1.19**	**104**	Pg	Pg	22 53 27.3	-0.7
T35A				Sg	Sg	22 53 43.0	-0.4
R32A	**Long Quarter,**	**1.34**	**334**	Pn	Pn	22 53 29.6	-0.7
QUOK	**Quay**	**1.45**	**136**		Pn	22 53 31.5	-0.3
OK029	**Liberty Lake**	**1.48**	**164**		Pn	22 53 32.0	-0.1
OK031	**S. Brethren Rd**	**1.55**	**144**		Pn	22 53 33.2	+0.1
BCOK	**Bluff Creek, N**	**1.59**	**170**	Pn	Pn	22 53 33.5	-0.1
BCOK				IAmb_Lg		22 53 53.9	
	comp=Z,143nm,1.1s						
OK030	**Cody Creek RV**	**1.60**	**144**	Pn	Pn	22 53 34.4	+0.6
OK025	**Westminster Rd**	**1.71**	**163**	Pn	Pn	22 53 35.8	+0.5
OKCFA	**Oklahoma City**	**1.85**	**167**	Pn	Pn	22 53 38.0	+0.7
OKCSW	**OKLAHOMA CITY**	**1.86**	**167**	Pn	Pn	22 53 37.7	+0.3
FNO	**Franklin**	**2.01**	**167**	Pn	Pn	22 53 40.5	+1.0
CBKS	**Cedar Bluff**	**2.12**	**319**	IAmb_Lg		22 54 12.1	
	comp=Z,181nm,0.9s						
KSU1	**Kansas State U**	**2.15**	**29**	IAmb_Lg		22 54 12.3	
	comp=Z,109nm,0.8s						
W35A	**Tecumseh**	**2.24**	**157**	Pn	Pn	22 53 39.4	-3.3
WMOK	**Wichita Mounta**	**2.57**	**195**	Pn	Pn	22 53 44.9	-2.2
WMOK				IAmb_Lg		22 54 31.4	
	comp=Z,42nm,0.8s						
X34A	**Smith Ranch, M**	**2.62**	**178**	Pn	Pb	22 53 50.1	-2.2
X34A				IAmb_Lg		22 54 28.3	
	comp=Z,44nm,0.8s						
U38A	**Gravette**	**2.97**	**104**	Pn	Pn	22 53 53.6	+1.0
U38A				IAmb_Lg		22 54 45.4	
	comp=Z,79nm,0.9s						
HHAR	**Hobbs**	**3.36**	**105**	Pn	Pn	22 53 58.9	+0.9
X37A	**Clayton**	**3.36**	**141**	Pn	Pn	22 53 58.6	+0.6
N33A	**J Bar K, Exete**	**3.53**	**6**	Pn	Pn	22 54 00.3	-0.1
N33A				IAmb_Lg		22 55 01.9	
	comp=Z,96nm,0.7s						
S39A	**Bolivar**	**3.71**	**81**	Pn	Pn	22 54 03.9	+1.0
S39A				IAmb_Lg		22 55 08.0	
	comp=Z,56nm,0.8s						
Z35A	**Perchaven, San**	**3.92**	**171**	Pn	Pn	22 54 05.1	-0.7
Z35A				IAmb_Lg		22 55 14.6	
	comp=Z,35nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.10**	**297**		Pn	22 54 08.2	-0.1
KSCO				IAmb_Lg		22 55 20.5	
	comp=Z,61nm,0.7s						
U40A	**Yellville**	**4.18**	**100**	Pn	Pn	22 54 10.4	+1.0
U40A				IAmb_Lg		22 55 16.9	
	comp=Z,76nm,0.8s						
BGNE	**Belgrade**	**4.18**	**358**		Pn	22 54 09.7	+0.3
BGNE				IAmb_Lg		22 55 25.4	
	comp=Z,69nm,0.7s						
P38A	**Dawn**	**4.22**	**54**	Pn	Pn	22 54 09.8	-0.1
P38A				IAmb_Lg		22 55 18.9	
	comp=Z,60nm,0.8s						
MGMO	**Mountain Grove**	**4.54**	**89**	Pn	Pn	22 54 15.1	+0.9
MGMO				IAmb_Lg		22 55 30.0	
	comp=Z,76nm,0.9s						
R40A	**Maddies Statio**	**4.63**	**75**	Pn	Pn	22 54 16.7	+1.3
Z38A	**Mt. Pleasant**	**4.64**	**148**		Pn	22 54 16.4	+0.9
ABTX	**Abilene, Hawle**	**4.79**	**197**	IAmb_Lg		22 55 44.6	
	comp=Z,28nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.88**	**104**		Pn	22 54 19.3	+0.5
FCAR				IAmb_Lg		22 55 39.8	
	comp=Z,58nm,0.7s						
OGNE	**Ogallala**	**4.89**	**321**	Pn	Pn	22 54 19.5	+0.4
OGNE				IAmb_Lg		22 55 50.5	
	comp=Z,64nm,0.8s						
L34A	**Svendsen Farm,**	**4.89**	**14**		Pn	22 54 20.3	+1.2
WHAR	**Wooly Hollow**	**4.97**	**111**		Pn	22 54 20.2	+0.1
X40A	**Basin Creek Fa**	**4.97**	**122**		Pn	22 54 19.8	-0.4
X40A				IAmb_Lg		22 55 54.1	
	comp=Z,54nm,0.9s						
MSTX	**Muleshoe**	**5.09**	**232**		Pn	22 54 21.7	-0.2
N38A	**Joes South For**	**5.12**	**44**		Pn	22 54 23.5	+1.3
T25A	**Trinidad**	**5.16**	**271**		Pn	22 54 22.9	0.0
T25A				IAmb_Lg		22 55 49.5	
	comp=Z,43nm,0.8s						
P40A	**Paris**	**5.18**	**62**	Pn	Pn	22 54 24.3	+1.3
P40A				IAmb_Lg		22 55 50.6	
	comp=Z,43nm,0.9s						
WHTX	**Lake Whitney,**	**5.23**	**175**		Pn	22 54 23.4	-0.4
WLAR	**White Oak Lake**	**5.29**	**130**	IAmb_Lg		22 55 53.0	
	comp=Z,43nm,0.7s						
T42A	**Van Buren**	**5.49**	**90**	IAmb_Lg		22 56 01.2	
	comp=Z,25nm,0.9s						
237A	**Washetta, Mont**	**5.50**	**161**	IAmb_Lg		22 56 09.9	
	comp=Z,45nm,1.0s						
LCAR	**Lake Charles**	**5.59**	**100**	IAmb_Lg		22 56 01.2	
	comp=Z,30nm,1.0s						
CCAR	**Cane Creek**	**6.02**	**121**	IAmb_Lg		22 56 19.8	
	comp=Z,38nm,0.8s						
FVM	**French Village**	**6.03**	**80**	IAmb_Lg		22 56 19.0	
	comp=Z,25nm,0.8s						
NATX	**Nacogdoches**	**6.09**	**153**	IAmb_Lg		22 56 28.0	
	comp=Z,25nm,0.8s						
435B	**Jarrell**	**6.43**	**177**	IAmb_Lg		22 56 37.4	
	comp=Z,40nm,0.9s						
ISCO	**Idaho Springs**	**6.54**	**296**		Pn	22 54 41.8	-0.1
ECSD	**EROS Data Cent**	**6.58**	**8**		Pn	22 54 42.4	+0.1
ECSD				IAmb_Lg		22 56 38.7	
	comp=Z,24nm,1.1s						
JCT	**Junction City**	**6.90**	**193**	IAmb_Lg		22 56 55.3	
	comp=Z,45nm,1.1s						
L40A	**Anamosa**	**7.09**	**45**	Pn	Pn	22 54 49.7	+0.4
L40A				IAmb_Lg		22 57 05.7	
	comp=Z,50nm,0.8s						
PHWY	**Pilot Hill**	**7.11**	**307**	Pn	Pn	22 54 50.0	+0.3
PHWY				IAmb_Lg		22 56 50.4	
	comp=Z,32nm,1.1s						
Q44A	**Meyer Farm, Va**	**7.25**	**74**	IAmb_Lg		22 56 59.7	
	comp=Z,38nm,0.8s						
SUSD	**Miller**	**7.25**	**354**	IAmb_Lg		22 57 08.0	
	comp=Z,38nm,0.9s						
W45A	**Hickory Valley**	**7.38**	**104**	IAmb_Lg		22 57 00.2	
	comp=Z,36nm,0.7s						
OXF	**Oxford**	**7.44**	**109**	IAmb_Lg		22 57 10.4	
	comp=Z,37nm,0.9s						
I37A	**Lemond, Waseca**	**7.62**	**26**	IAmb_Lg		22 57 16.6	
	comp=Z,32nm,0.9s						
Y45A	**Yeager Farm, C**	**7.63**	**114**	IAmb_Lg		22 57 16.8	
	comp=Z,33nm,1.0s						
O44A	**Mansfield**	**7.97**	**66**	IAmb_Lg		22 57 21.0	
	comp=Z,40nm,0.8s						
JFWS	**Jewell Farm**	**8.20**	**44**	IAmb_Lg		22 57 33.5	
	comp=Z,39nm,0.7s						
MNTX	**Cornudas Mount**	**8.24**	**230**	Pn	Pn	22 55 04.9	-0.2
MNTX				IAmb_Lg		22 57 32.3	
	comp=Z,20nm,0.8s						
RSSD	**Black Hills**	**8.30**	**328**	Pn	Pn	22 55 07.2	+1.1
RSSD				IAmb_Lg		22 57 40.7	
	comp=Z,15nm,0.9s						
PLAL	**Pickwick Lake**	**8.30**	**103**	Pn	Pn	22 55 06.6	+0.7
RWWY	**Rawlins**	**8.44**	**305**	IAmb_Lg		22 57 36.2	
	comp=Z,18nm,0.9s						
K22A	**Casper**	**8.53**	**312**	Pn	Pn	22 55 08.5	-0.6
O20A	**White River Ci**	**8.56**	**293**	IAmb_Lg		22 57 41.1	
	comp=Z,13nm,0.7s						
T47A	**Sharon Grove**	**8.67**	**88**	IAmb_Lg		22 57 48.2	
	comp=Z,20nm,0.8s						
I40A	**Norwalk**	**8.69**	**38**	IAmb_Lg		22 57 44.8

*ANF **05** 23:12:40.9±0.2, 37°.22N×97°.98W, h5km, ML5.1/21, Error ellipse: s-maj=2.8km s-min=2.1km az=29.0*
*NEIC **05** 23:12:41.3±1.2, 37°.22N±0°.04×97°.97W±0°.06, h5km±6km, mb3.6/9, Error ellipse: s-maj=7.1km s-min=5.5km az=74.0*
ISC 05 23:12:40.9±0.9, 37°.23N±0°.03×97°.98W±0.03, h7km±6km, n118, σ0§91/121, mb3.7/3, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.01**	**97**		**Pg**	**23 12 41.8**	**-0.4**
KAN16	**Harper SW Stat**	**0.07**	**268**		**Pg**	**23 12 42.9**	**+0.1**
KAN12	**Harper NE Stat**	**0.07**	**348**		**Pg**	**23 12 42.8**	**0.0**
KAN10	**Anthony SW Sta**	**0.14**	**222**		**Pg**	**23 12 44.1**	**+0.3**
KAN09	**Caldwell North**	**0.30**	**107**		**Pg**	**23 12 47.1**	**+0.3**
GC02	**Grant County #**	**0.39**	**166**		**Pg**	**23 12 48.5**	**+0.1**
KAN13	**South Haven SW**	**0.45**	**118**		**Pg**	**23 12 49.9**	**+0.2**
OK032	**Salt Plains WL**	**0.46**	**204**	Pg	**Pg**	**23 12 50.0**	**+0.2**
CROK	**Carrier**	**0.72**	**180**		**Pg**	**23 12 54.7**	**-0.1**
BLOK	**Blackwell**	**0.77**	**127**	Pg	**Pg**	**23 12 55.2**	**-0.4**
U32A	**Winter Ranch,**	**1.18**	**224**		**Pg**	**23 13 03.1**	**-0.3**
U32A	**Winter Ranch,** baz=44	**1.18**	**224**	P	**Pg**	**23 13 03.0**	**-0.5**
U32A	**Winter Ranch,** baz=44	**1.18**	**224**	P		23 13 03.0	
T35A	**Sooner Cattle**	**1.21**	**104**		**Pg**	**23 13 03.4**	**-0.8**
T35B	**Sooner Cattle** baz=285,SNR=1000	**1.21**	**104**	P	**Pg**	**23 13 03.3**	**-0.8**
T35B	**Sooner Cattle** baz=285,SNR=1000	**1.21**	**104**	P		23 13 03.3	
R32A	**Long Quarter,**	**1.33**	**334**		**Pn**	**23 13 05.5**	**-0.4**
R32A	**Long Quarter,** baz=154,SNR=282	**1.33**	**334**	P	**Pn**	**23 13 05.4**	**-0.4**
R32A	**Long Quarter,** baz=154,SNR=282	**1.33**	**334**	P		23 13 05.4	
QUOK	**Quay**	**1.47**	**136**		**Pn**	**23 13 07.8**	**+0.1**
OK029	**Liberty Lake**	**1.49**	**163**		**Pn**	**23 13 08.3**	**+0.3**
OK031	**S. Brethren Rd**	**1.57**	**144**		**Pn**	**23 13 09.6**	**+0.5**
BCOK	**Bluff Creek, N**	**1.60**	**169**		**Pn**	**23 13 10.0**	**+0.5**
OK025	**Westminster Rd**	**1.72**	**162**		**Pn**	**23 13 12.0**	**+0.7**
OKCFA	**Oklahoma City**	**1.86**	**167**		**Pn**	**23 13 14.0**	**+0.9**
OKCFA	**Oklahoma City** baz=347,SNR=23	**1.86**	**167**	P	**Pn**	**23 13 13.4**	**+0.3**
OKCFA	**Oklahoma City** baz=347,SNR=23	**1.86**	**167**	P		23 13 13.4	
OKCSW	**OKLAHOMA CITY**	**1.87**	**166**		**Pn**	**23 13 14.2**	**+0.9**
FNO	**Franklin**	**2.02**	**166**		**Pn**	**23 13 16.2**	**+0.9**
OK011	**Prague**	**2.03**	**149**	Pn	**Pn**	**23 13 16.2**	**+0.8**
CBKS	**Cedar Bluff**	**2.11**	**319**	Pn	**Pn**	**23 13 17.6**	**+1.0**
CBKS	**Cedar Bluff** baz=138,SNR=32	**2.11**	**319**	P	**Pn**	**23 13 16.7**	**+0.2**
CBKS	baz=138			Sb	**Sb**	**23 13 46.5**	**+0.8**
CBKS	**Cedar Bluff** baz=138,SNR=68	**2.11**	**319**	P		23 13 17.5	
CBKS	baz=138			S		23 13 44.5	
CBKS	**Cedar Bluff** baz=138,SNR=32	**2.11**	**319**	P		23 13 16.7	
CBKS	baz=138			Sb		23 13 46.5	
KSU1	**Kansas State U**	**2.16**	**30**		**Pn**	**23 13 18.4**	**+1.2**
TUL1	**Leonard** baz=307,SNR=43	**2.20**	**126**	P	**Pn**	**23 13 18.4**	**+0.6**
TUL1	baz=307			Sb	**Sb**	**23 13 49.2**	**+0.9**
TUL1	**Leonard** baz=307,SNR=87	**2.20**	**126**	P		23 13 18.5	
TUL1	baz=307			S		23 13 48.2	
TUL1	**Leonard** baz=307,SNR=43	**2.20**	**126**	P		23 13 18.4	
TUL1	baz=307			Sb		23 13 49.2	
W35A	**Tecumseh**	**2.25**	**156**		**Pn**	**23 13 19.3**	**+0.7**
WMOK	**Wichita Mounta**	**2.57**	**195**		**Pn**	**23 13 23.8**	**+0.9**
WMOK	**Wichita Mounta** baz=15,SNR=58	**2.57**	**195**	P	**Pn**	**23 13 23.2**	**+0.3**
WMOK	**Wichita Mounta** baz=15,SNR=194	**2.57**	**195**	P		23 13 23.2	
WMOK	baz=15			S		23 13 56.6	
WMOK	**Wichita Mounta** baz=15,SNR=58	**2.57**	**195**	P		23 13 23.2	
X34A	**Smith Ranch, M**	**2.62**	**177**	Pn	**Pn**	**23 13 25.4**	**+1.8**
U38A	**Gravette**	**2.99**	**104**		**Pn**	**23 13 29.4**	**+0.8**
U38A	**Gravette** baz=286,SNR=96	**2.99**	**104**	P	**Pn**	**23 13 29.8**	**+1.2**
U38A	baz=286			Sb	**Sb**	**23 14 13.4**	**+2.3**
U38A	**Gravette** baz=286,SNR=96	**2.99**	**104**	P		23 13 29.8	
U38A	baz=286			Sb		23 14 13.4	
LOOK	**Love County**	**3.29**	**168**		**Pb**	**23 13 38.8**	**-0.8**
HHAR	**Hobbs** baz=287	**3.38**	**105**	P	**Pn**	**23 13 35.0**	**+0.9**
HHAR	**Hobbs** baz=287	**3.38**	**105**	P		23 13 35.0	
X37A	**Clayton**	**3.38**	**140**		**Pn**	**23 13 35.2**	**+1.2**
X37A	**Clayton** baz=322,SNR=73	**3.38**	**140**	P	**Pn**	**23 13 34.7**	**+0.7**
X37A	**Clayton** baz=322,SNR=73	**3.38**	**140**	P		23 13 34.7	
N33B	**J Bar K, Exete** baz=187,SNR=19	**3.53**	**7**	P	**Pn**	**23 13 35.8**	**-0.3**
N33B	**J Bar K, Exete** baz=187,SNR=19	**3.53**	**7**	P		23 13 35.8	
N33A	**J Bar K, Exete**	**3.53**	**7**		**Pn**	**23 13 36.4**	**+0.3**
S39A	**Bolivar**	**3.73**	**81**	Pn	**Pn**	**23 13 39.5**	**+0.6**
S39A	**Bolivar** baz=264,SNR=49	**3.73**	**81**	P	**Pn**	**23 13 39.4**	**+0.5**
S39A	**Bolivar** baz=264,SNR=49	**3.73**	**81**	P		23 13 39.4	
Z35A	**Perchaven, San** baz=352,SNR=8.0	**3.93**	**171**	P	**Pn**	**23 13 41.9**	**+0.3**
Z35A	**Perchaven, San** baz=352,SNR=8.0	**3.93**	**171**	P		23 13 41.9	
W39A	**Magazine**	**3.95**	**120**	Pn	**Pn**	**23 13 42.0**	**+0.1**
W39A	**Magazine** baz=302,SNR=13	**3.95**	**120**	P		23 13 41.8	
W39A	baz=302			S		23 14 29.6	
N35A	**Tabor**	**4.06**	**26**		**Pn**	**23 13 44.9**	**+1.5**
KSCO	**Kaye Shedlock'**	**4.08**	**297**	Pn	**Pn**	**23 13 44.8**	**+1.1**
KSCO	**Kaye Shedlock'** baz=115,SNR=6.0	**4.08**	**297**	P	**Pn**	**23 13 44.8**	**+1.1**
KSCO	**Kaye Shedlock'** baz=115	**4.08**	**297**	P		23 13 43.1	
KSCO	**Kaye Shedlock'** baz=115,SNR=6.0	**4.08**	**297**	P		23 13 44.8	
BGNE	**Belgrade**	**4.18**	**358**	Pn	**Pn**	**23 13 46.4**	**+1.4**
BGNE	**Belgrade** baz=178	**4.18**	**358**	S		23 14 35.3	
U40A	**Yellville** baz=283,SNR=39	**4.21**	**100**	P	**Pn**	**23 13 46.0**	**+0.7**
U40A	**Yellville** baz=283,SNR=74	**4.21**	**100**	P		23 13 46.0	
U40A	**Yellville** baz=283,SNR=39	**4.21**	**100**	P		23 13 46.0	
U40A	baz=283,SNR=39			P		23 13 46.0	
P38A	**Dawn**	**4.23**	**54**	Pn	**Pn**	**23 13 46.8**	**+1.1**
P38A	**Dawn** baz=237,SNR=16	**4.23**	**54**	P	**Pn**	**23 13 46.5**	**+0.8**
P38A	**Dawn** baz=237,SNR=16	**4.23**	**54**	P		23 13 46.5	
MIAR	**Mount Ida**	**4.46**	**126**	Pn	**Pn**	**23 13 49.6**	**+0.7**
MIAR	**Mount Ida** baz=308,SNR=28	**4.46**	**126**	P	**Pn**	**23 13 49.3**	**+0.3**
MIAR	**Mount Ida** baz=308,SNR=36	**4.46**	**126**	P		23 13 49.6	
MIAR	**Mount Ida** baz=308,SNR=28	**4.46**	**126**	P		23 13 49.3	
R40A	**Maddies Statio** baz=258,SNR=144	**4.65**	**75**	P	**Pn**	**23 13 51.9**	**+0.5**
R40A	**Maddies Statio** baz=258,SNR=144	**4.65**	**75**	P		23 13 51.9	
Z38A	**Mt. Pleasant** baz=329,SNR=20	**4.66**	**147**	P	**Pn**	**23 13 52.3**	**+0.7**
Z38A	**Mt. Pleasant** baz=329,SNR=20	**4.66**	**147**	P		23 13 52.3	
ABTX	**Abilene, Hawle** baz=16	**4.79**	**197**	P		23 13 54.6	
ABTX	baz=16			S		23 14 50.3	
OGNE	**Ogallala**	**4.87**	**321**	Pn	**Pn**	**23 13 56.1**	**+1.5**
OGNE	**Ogallala** baz=138,SNR=8.6	**4.87**	**321**	P		23 13 55.4	
WHAR	**Wooly Hollow**	**4.99**	**111**	Pn	**Pn**	**23 13 56.6**	**+0.5**
X40A	**Basin Creek Fa** baz=305,SNR=34	**4.99**	**122**	P	**Pn**	**23 13 56.7**	**+0.5**
X40A	**Basin Creek Fa** baz=305,SNR=32	**4.99**	**122**	P		23 13 56.7	
X40A	baz=305			S		23 14 55.3	
X40A	**Basin Creek Fa** baz=305,SNR=34	**4.99**	**122**	P		23 13 56.7	
X40A	baz=305,SNR=34			P		23 13 56.7	
W41B	**Gary Mavity, V** baz=296,SNR=31	**5.07**	**112**	P		23 13 57.6	
MSTX	**Muleshoe**	**5.08**	**232**	Pn	**Pn**	**23 13 58.5**	**+1.0**
MSTX	**Muleshoe** baz=49,SNR=10.0	**5.08**	**232**	P	**Pn**	**23 13 58.6**	**+1.0**
MSTX	**Muleshoe** baz=49,SNR=11	**5.08**	**232**	P		23 13 58.1	
MSTX	baz=49			S		23 14 57.9	
MSTX	**Muleshoe** baz=49,SNR=10.0	**5.08**	**232**	P		23 13 58.6	
T25A	**Trinidad**	**5.14**	**271**	Pn	**Pn**	**23 13 59.0**	**+0.6**
T25A	**Trinidad** baz=87,SNR=12	**5.14**	**271**	P		23 13 58.5	
P40A	**Paris**	**5.20**	**62**	Pn	**Pn**	**23 13 59.9**	**+0.9**
P40A	**Paris** baz=245,SNR=22	**5.20**	**62**	P	**Pn**	**23 13 59.7**	**+0.7**
P40A	**Paris** baz=245,SNR=22	**5.20**	**62**	P		23 13 59.7	
WHTX	**Lake Whitney,** baz=356,SNR=13	**5.24**	**175**	P	**Pn**	**23 13 59.5**	**-0.1**
WHTX	**Lake Whitney,** baz=356,SNR=6.4	**5.24**	**175**	P		23 13 59.6	
WHTX	**Lake Whitney,** baz=356,SNR=13	**5.24**	**175**	P		23 13 59.5	
WLAR	**White Oak Lake**	**5.32**	**130**	Pn	**Pn**	**23 14 01.7**	**+1.1**
237A	**Washetta, Mont** baz=342,SNR=6.2	**5.51**	**160**	P	**Pn**	**23 14 03.1**	**-0.2**
237A	**Washetta, Mont** baz=342,SNR=6.2	**5.51**	**160**	P		23 14 03.1	
Z41A	**Richland Creek** baz=315,SNR=6.6	**5.80**	**132**	P	**Pn**	**23 14 07.3**	**0.0**
Z41A	**Richland Creek** baz=315,SNR=6.2	**5.80**	**132**	P		23 14 07.5	
Z41A	**Richland Creek** baz=315,SNR=6.6	**5.80**	**132**	P		23 14 07.3	
Z41A	baz=315,SNR=6.6			P		23 14 07.3	
Q24A	**Divide** baz=105,SNR=9.8	**5.92**	**289**	P		23 14 09.1	
SDCO	**Great Sand Dun**	**6.00**	**277**	Pn	**Pn**	**23 14 11.4**	**+1.0**
SDCO	**Great Sand Dun** baz=93	**6.00**	**277**	P		23 14 10.9	
NATX	**Naogdoches** baz=334,SNR=5.1	**6.10**	**152**	P		23 14 11.3	
435B	**Jarrell** baz=357	**6.44**	**177**	P		23 14 16.4	
ISCO	**Idaho Springs**	**6.51**	**296**	Pn	**Pn**	**23 14 18.3**	**+0.9**
ISCO	**Idaho Springs** baz=111,SNR=9.1	**6.51**	**296**	P	**Pn**	**23 14 18.0**	**+0.7**
ISCO	**Idaho Springs** baz=111	**6.51**	**296**	P		23 14 17.0	
ISCO	**Idaho Springs** baz=111,SNR=9.1	**6.51**	**296**	P		23 14 18.0	
ECSD	**EROS Data Cent**	**6.58**	**9**	Pn	**Pn**	**23 14 18.4**	**+0.4**
ECSD	**EROS Data Cent** baz=189,SNR=22	**6.58**	**9**	P		23 14 17.0	
ECSD	baz=189			S		23 15 35.8	
JCT	**Junction City** baz=12	**6.90**	**193**	P		23 14 22.7	
N23A	**Red Feather La** baz=116	**7.20**	**303**	P		23 14 27.4	
ANMO	**Albuquerque** 0.3nm,0.3s,baz=68,slow=15,SNR=3.6	**7.23**	**254**	Pn	**Pn**	**23 14 27.2**	**+0.1**
ANMO	11nm,0.3s,baz=11,slow=9.7,SNR=5.5			Lg	Lg	23 16 27.7	
ANMO	**Albuquerque** baz=69	**7.23**	**254**	P		23 14 28.2	
SUSD	**Miller** baz=174	**7.25**	**354**	P		23 14 28.1	
SUSD	baz=174			S		23 15 49.6	
OXF	**Oxford** baz=294,SNR=7.6	**7.47**	**109**	P	**Pn**	**23 14 29.6**	**-0.5**
OXF	**Oxford** baz=294,SNR=18	**7.47**	**109**	P		23 14 29.9	
OXF	**Oxford** baz=294,SNR=7.6	**7.47**	**109**	P		23 14 29.6	
HDIL	**Hopedale**	**7.54**	**61**	Pn	**Pn**	**23 14 32.1**	**+0.9**
HDIL	**Hopedale** baz=246,SNR=30	**7.54**	**61**	P		23 14 31.7	
HDIL	baz=246			S		23 15 57.0	
BNM	**Barren Site**	**7.68**	**249**	Pn	**Pn**	**23 14 35.4**	**+2.1**
JFWS	**Jewell Farm** baz=229,SNR=11	**8.21**	**44**	P	**Pn**	**23 14 41.1**	**+0.8**
JFWS	**Jewell Farm** baz=229,SNR=9.0	**8.21**	**44**	P		23 14 40.3	
JFWS	baz=229			S		23 16 13.1	
JFWS	**Jewell Farm** baz=229,SNR=11	**8.21**	**44**	P		23 14 41.1	
USIN	**University of**	**8.22**	**82**	Pn	**Pn**	**23 14 40.7**	**+0.2**
WVT	**Waverly**	**8.23**	**95**	Pn	**Pn**	**23 14 40.2**	**-0.4**
WVT	**Waverly** baz=281	**8.23**	**95**	P		23 14 40.7	
WVT	baz=281			S		23 16 16.4	
MNTX	**Cornudas Mount**	**8.23**	**230**	Pn	**Pn**	**23 14 40.9**	**+0.2**
MNTX	**Cornudas Mount** baz=46	**8.23**	**230**	P		23 14 41.1	
RSSD	**Black Hills**	**8.28**	**328**	Pn	**Pn**	**23 14 42.7**	**+1.2**
RSSD	**Black Hills** baz=144	**8.28**	**328**	P		23 14 42.4	
RSSD	baz=144			S		23 16 16.5	
K22A	**Casper** baz=127	**8.51**	**312**	P		23 14 44.6	
SPMN	**Marine on St.** baz=208	**8.89**	**24**	P		23 14 49.6	
SPMN	baz=208			S		23 16 29.2	
Z47A	**Carrollton**	**9.05**	**113**		**Pn**	**23 14 52.5**	**+0.6**
SFIN	**Lafayette** baz=253,SNR=6.2	**9.06**	**66**	P		23 14 52.3	
L44A	**Lake County Fo** baz=241	**9.20**	**54**	P		23 14 55.2	
TXAR	**Lajitas Array** 1.3nm,0.3s,baz=29,slow=10,SNR=70	**9.20**	**213**	Pn	**Pn**	**23 14 53.9**	**-0.1**
TXAR	**Lajitas Array**	**9.20**	**213**	Pn	**Pn**	**23 14 54.2**	**+0.1**
X48A	**Hartselle**	**9.30**	**104**	Pn	**Pn**	**23 14 54.8**	**-0.5**
WCI	**Wyandotte Cave**	**9.31**	**80**	Pn	**Pn**	**23 14 56.5**	**+1.1**
WCI	**Wyandotte Cave** baz=267	**9.31**	**80**	P		23 14 56.0	
CLTN	**Cedars of Leba**	**9.43**	**93**		**Pn**	**23 14 57.8**	**+0.7**
U49A	**Red Boiling Sp**	**9.80**	**91**	Pn	**Pn**	**23 15 02.9**	**+0.7**
LRAL	**Lakeview Retre**	**9.92**	**112**		**Pn**	**23 15 03.8**	**0.0**
LRAL	**Lakeview Retre** baz=298	**9.92**	**112**	P		23 15 03.5	
SWET	**Sewanee**	**9.94**	**98**		**Pn**	**23 15 04.2**	**+0.1**
BW06	**Boulder Array** baz=118,SNR=8.6	**10.46**	**306**	P		23 15 10.6	
PDAR	**Pinedale Array** 0.8nm,0.3s,baz=112,slow=17,SNR=15	**10.46**	**306**	Pn	**Pn**	**23 15 09.2**	**-2.3**
PDAR	**Pinedale Array**	**10.46**	**306**	Pn	**Pn**	**23 15 11.3**	**-0.1**
P49A	**Miami Univ. Ec** baz=262	**10.66**	**73**	P		23 15 13.8	
BRAL	**Brewton**	**10.88**	**121**	Pn	**Pn**	**23 15 17.6**	**+0.7**
CPCT	**Cooper Cave**	**11.00**	**95**	Pn	**Pn**	**23 15 19.1**	**+0.5**
COWI	**Conover**	**11.05**	**34**		**Pn**	**23 15 20.6**	**+1.3**
TKL	**Tuckaleechee C** 0.5nm,0.3s,baz=37,slow=2.2,SNR=5.0	**11.55**	**94**	Pn	**Pn**	**23 15 24.7**	**-1.4**
B35A	**Bob, Littlefor**	**11.55**	**14**		**Pn**	**23 15 24.3**	**-1.8**
TZTN	**Tazewell** baz=278	**11.58**	**89**	P		23 15 26.4	
RLMT	**Red Lodge**	**11.59**	**316**	Pn	**Pn**	**23 15 26.8**	**-0.1**
RLMT	**Red Lodge** baz=129,SNR=11	**11.59**	**316**	P		23 15 26.2	
TPAW	**Teton Pass**	**11.70**	**306**	Pn	**Pn**	**23 15 28.4**	**0.0**
EYMN	**Ely** baz=206	**11.72**	**22**	P		23 15 28.9	
Y52A	**Lilburn**	**11.82**	**102**		**Pn**	**23 15 30.9**	**+1.1**
DGMT	**Dagmar**	**12.12**	**340**	Pn	**Pn**	**23 15 34.1**	**+0.2**
DGMT	**Dagmar** baz=156,SNR=6.5	**12.12**	**340**	P		23 15 33.7	
AAM	**Ann Arbor** baz=250	**12.13**	**61**	P		23 15 33.3	
GOGA	**Godfrey** baz=292	**12.45**	**104**	P		23 15 37.8	
ULM	**Lac du Bonnet**	**13.11**	**6**		**Pn**	**23 15 49.6**	**+2.3**
P53A	**Whipple**	**13.22**	**75**	Pn	**Pn**	**23 15 50.1**	**+1.2**
I49A	**Point Hope**	**13.32**	**55**	Pn	**Pn**	**23 15 51.1**	**+0.9**
O53A	**New Philadelph** baz=262	**13.43**	**72**	P		23 15 52.2	
V55A	**Taylorsville**	**13.55**	**91**		**Pn**	**23 15 53.6**	**+0.1**
KMSC	**Kings Mountain** baz=284	**13.61**	**94**	P		23 15 52.7	
EGMT	**Eagleton**	**13.82**	**325**		**Pn**	**23 15 56.8**	**-0.4**
EGMT	**Eagleton** baz=137,SNR=22	**13.82**	**325**	P		23 15 56.4	
BLA	**Blacksburg** baz=275	**14.00**	**85**	P		23 15 58.7	
N54A	**Moraine State** baz=261	**14.46**	**70**	P		23 16 04.8	
M54A	**Oil Creek Stat** baz=259	**14.79**	**68**	P		23 16 10.0	
M55A	**Ridgway**	**15.45**	**68**		**Pn**	**23 16 16.1**	**-3.1**
M55A	comp=Z,2.8nm,0.6s			IAmb	IAmb	23 16 20.1	
SSPA	**Standing Stone**	**16.00**	**72**	P	**Pn**	**23 16 24.1**	**-2.2**
SSPA	comp=Z,3.8nm,1.0s			IAmb	IAmb	23 16 25.0	
SSPA	**Standing Stone** baz=264	**16.00**	**72**	P		23 16 26.6	
WVOR	**Wild Horse Val**	**16.69**	**295**		**Pn**	**23 16 35.3**	**+0.1**
MDPB	**Devils Postpil**	**16.77**	**278**	Pn	**Pn**	**23 16 36.6**	**+0.2**
MDPB	comp=Z,5.1nm,1.5s			IAmb	IAmb	23 16 39.8	
FFC	**Flin Flon**	**17.71**	**352**	P	**Pn**	**23 16 48.4**	**+0.5**
YBH	**Yreka Blue Hor** comp=Z,0.1nm,0.3s,baz=100,slow=6.1,SNR=3.3	**19.59**	**291**	P	**P**	**23 17 09.6**	**0.0**
YBH	**Yreka Blue Hor**	**19.59**	**291**		**Pn**	**23 17 11.1**	**+0.3**
YBH	comp=Z,3.1nm,0.8s			IAmb	IAmb	23 17 14.7	
FRNY	**Flat Rock**	**19.86**	**60**	P	**P**	**23 17 12.4**	**0.0**
FRNY	comp=Z,3.7nm,0.8s			IAmb	IAmb	23 17 12.5	
ILAR	**Eielson Array** comp=Z,0.7nm,0.8s,baz=113,slow=7.7,SNR=8.8	**39.73**	**330**	P	**P**	**23 20 13.5**	**-0.1**
LPAZ	**La Paz** comp=Z,0.9nm,0.8s,baz=334,slow=3.1,SNR=3.6	**60.20**	**147**	P	**P**	**23 22 49.3**	**-1.0**
NOA	**NORSAR Array B** comp=Z,0.5nm,1.0s,baz=296,slow=6.1,SNR=1.7	**66.51**	**30**	P	**P**	**23 23 30.8**	**-0.2**

*IDC **05** 23:12:46.6±0.5, 37°.34N×97°.90W, h0km, mb4.1/13, mb1 4.3/21, mb1mx4.1/47, mbtmp4.1/21, ML3.5/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/23, Error ellipse: s-maj=12.9km s-min=10.1km az=112.0*
*NEIC **05** 23:12:47.5±2.0, 37°.27N±0°.03×97°.92W±0°.05, h2km±3km, mb3.9/32, mb_Lg4.3/161, Mwr4.1/53, Error ellipse: s-maj=6.3km s-min=3.9km az=74.0*
*NEIC **05** 23:12:47.5, 37°.25N×97°.93W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.58; $M_{\theta\theta}$1.37; $M_{\phi\phi}$0.22; $M_{r\theta}$1.22; $M_{r\phi}$0.40; $M_{\theta\phi}$0.54; Fault plane solution: M_o2.04000×10^{15} NP1:ϗ$_s$248.37000°, δ65.52000°, λ-93.21000°. NP2:ϗ$_s$76.08000°, δ24.67000°, λ-82.98000°. Principal axes: T 1.9924, Plg20.0000°, Azm341.0000°; N 0.0956, Plg3.0000°, Azm250.0000°; P -2.0880, Plg69.0000°, Azm152.0000°;*
ISC 05 23:12:47.1±0.8, 37°.24N±0°.03×97°.93W±0°.03, h7km±5km, n236, σ1§28/182, mb4.2/13, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.04**	**242**	Pg	**Pg**	**23 12 48.3**	**-0.1**
KAN08				Sg	**Sg**	**23 12 48.6**	**-0.8**
KAN12	**Harper NE Stat**	**0.08**	**316**	Pg	**Pg**	**23 12 49.2**	**+0.2**
KAN12				Sg	**Sg**	**23 12 50.6**	**+0.3**
KAN16	**Harper SW Stat**	**0.11**	**261**	Pg	**Pg**	**23 12 49.7**	**+0.2**
KAN16				Sg	**Sg**	**23 12 51.0**	**-0.1**
KAN10	**Anthony SW Sta**	**0.18**	**228**	Pg	**Pg**	**23 12 51.0**	**+0.4**
KAN10				Sg	**Sg**	**23 12 53.2**	**+0.1**
KAN09	**Caldwell North**	**0.27**	**113**	Pg	**Pg**	**23 12 53.5**	**+1.0**
GC02	**Grant County #**	**0.40**	**172**	Pg	**Pg**	**23 12 55.4**	**+0.7**
KAN13	**South Haven SW**	**0.43**	**122**	Pg	**Pg**	**23 12 56.4**	**+1.0**
OK032	**Salt Plains WL**	**0.49**	**207**	Pg	**Pg**	**23 12 56.9**	**+0.3**
CROK	**Carrier**	**0.74**	**183**	Pg	**Pg**	**23 13 02.1**	**+0.9**
BLOK	**Blackwell**	**0.75**	**130**	Pg	**Pg**	**23 13 02.3**	**+0.8**
BLOK	comp=Z,2μm,1.1s			IAmb_Lg		23 13 11.3	
T35A	**Sooner Cattle**	**1.18**	**106**	Pg	**Pb**	**23 13 10.0**	**+0.1**
T35A	comp=Z,1μm,0.8s			IAmb_Lg		23 13 26.2	
U32A	**Winter Ranch,** comp=Z,2μm,0.8s	**1.22**	**225**	IAmb_Lg		23 13 26.9	
R32A	**Long Quarter,**	**1.33**	**333**	Pn	**Pn**	**23 13 12.3**	**+0.1**
QUOK	**Quay**	**1.45**	**137**		**Pn**	**23 13 14.7**	**+0.9**
OK029	**Liberty Lake**	**1.49**	**165**		**Pn**	**23 13 15.1**	**+0.7**
OK029	comp=Z,8μm,0.7s			IAmb_Lg		23 13 37.8	
OK031	**S. Brethren Rd**	**1.56**	**145**		**Pn**	**23 13 16.3**	**+1.1**
OK031	comp=Z,672nm,0.7s			IAmb_Lg		23 13 35.6	
BCOK	**Bluff Creek, N**	**1.60**	**171**	Pn	**Pn**	**23 13 16.9**	**+0.9**
OK030	**Cody Creek RV**	**1.60**	**145**		**Pn**	**23 13 17.2**	**+1.3**
OK005	**Luther M Schoo**	**1.69**	**159**	Pn	**Pn**	**23 13 18.4**	**+1.3**
OK009	**Oakdale Elemen**	**1.71**	**166**	Pn	**Pn**	**23 13 18.7**	**+1.3**
OK025	**Westminster Rd**	**1.73**	**164**	Pn	**Pn**	**23 13 19.0**	**+1.4**
OK025	comp=Z,1μm,0.8s			IAmb_Lg		23 13 42.4	
OKCFA	**Oklahoma City**	**1.86**	**168**	Pn	**Pn**	**23 13 21.1**	**+1.7**
OKCFA	comp=Z,3μm,0.7s			IAmb_Lg		23 13 50.6	
OK011	**Prague**	**2.02**	**150**	Pn	**Pn**	**23 13 23.4**	**+1.7**
FNO	**Franklin**	**2.03**	**168**	Pn	**Pn**	**23 13 23.0**	**+1.3**
FNO	comp=Z,3μm,0.8s			IAmb_Lg		23 13 50.8	
CBKS	**Cedar Bluff**	**2.12**	**318**	Pn	**Pb**	**23 13 24.9**	**-1.0**
CBKS	comp=Z,3μm,0.9s			IAmb_Lg		23 13 56.4	
KSU1	**Kansas State U**	**2.13**	**29**	Pn	**Pb**	**23 13 25.1**	**-0.9**
KSU1	comp=Z,1μm,0.8s			IAmb_Lg		23 13 56.0	
W35A	**Tecumseh**	**2.25**	**157**	Pn	**Pn**	**23 13 26.4**	**+1.5**
W35A	comp=Z,5μm,0.8s			IAmb_Lg		23 14 03.1	
WMOK	**Wichita Mounta** comp=Z,935nm,0.9s	**2.59**	**196**	IAmb_Lg		23 14 13.6	
X34A	**Smith Ranch, M** comp=Z,1μm,0.8s	**2.64**	**178**	IAmb_Lg		23 14 14.1	
U38A	**Gravette**	**2.96**	**105**	Pn	**Pn**	**23 13 36.0**	**+1.5**
U38A	comp=Z,1μm,0.7s			IAmb_Lg		23 14 22.9	
LOOK	**Love County** comp=Z,1μm,1.0s	**3.30**	**169**	IAmb_Lg		23 14 37.9	
HHAR	**Hobbs**	**3.35**	**105**	Pn	**Pn**	**23 13 41.9**	**+2.0**
HHAR	comp=Z,1μm,1.1s			IAmb_Lg		23 14 37.2	
X37A	**Clayton**	**3.37**	**141**	Pn	**Pn**	**23 13 42.0**	**+1.9**
X37A	comp=Z,3μm,0.7s			IAmb_Lg		23 14 38.8	
N33A	**J Bar K, Exete** comp=Z,896nm,0.8s	**3.51**	**6**	IAmb_Lg		23 14 43.9	
S39A	**Bolivar**	**3.69**	**82**	Pn	**Pn**	**23 13 46.2**	**+1.6**
S39A	comp=Z,878nm,0.9s			IAmb_Lg		23 14 50.4	
W39A	**Magazine**	**3.93**	**120**	Pn	**Pn**	**23 13 50.1**	**+2.3**
W39A	comp=Z,2μm,0.7s			IAmb_Lg		23 15 01.3	
Z35A	**Perchaven, San**	**3.94**	**172**		**Pn**	**23 13 50.0**	**+2.0**
Z35A	comp=Z,935nm,1.0s			IAmb_Lg		23 14

ABTX IAmb_Lg 23 15 22.3
comp=Z,463nm,1.0s
FCAR Ozark Folk Cen 4.87 104 IAmb_Lg 23 15 29.1
comp=Z,645nm,0.9s
L34A Svendsen Farm, 4.87 14 IAmb_Lg 23 15 22.7
comp=Z,778nm,0.8s
OGNE Ogallala 4.88 320 IAmb_Lg 23 15 31.4
comp=Z,763nm,0.8s
X40A Basin Creek Fa 4.97 122 IAmb_Lg 23 15 32.7
comp=Z,772nm,0.8s
N38A Joes South For 5.09 44 IAmb_Lg 23 15 31.4
comp=Z,562nm,0.8s
MSTX Muleshoe 5.12 232 IAmb_Lg 23 15 36.7
comp=Z,348nm,0.8s
T25A Trinidad 5.17 271 IAmb_Lg 23 15 36.8
comp=Z,807nm,0.9s
WLAR White Oak Lake 5.30 131 IAmb_Lg 23 15 42.4
comp=Z,772nm,0.8s
CCM Cathedral Cave 5.37 79 IAmb_Lg 23 15 42.9
comp=Z,453nm,1.0s
K31A O'Neill 5.41 354 Pn Pn 23 14 09.9 +1.7
T42A Van Buren 5.47 90 IAmb_Lg 23 15 51.3
comp=Z,390nm,0.9s
LCAR Lake Charles 5.57 100 IAmb_Lg 23 15 46.7
comp=Z,685nm,1.0s
SCIA State Center 5.91 37 Pn 23 14 17.2 +2.1
FVM French Village 6.00 81 IAmb_Lg 23 16 00.1
comp=Z,301nm,0.7s
CCAR Cane Creek 6.02 122 Pn 23 14 18.1 +1.5
SDCO Great Sand Dun 6.04 277 IAmb_Lg 23 16 07.0
comp=Z,534nm,1.2s
SLM Saint Louis 6.24 75 Pn **Pn 23 14 20.4 +0.8**
435B Jarrell 6.45 177 Pn 23 14 23.1 +0.6
435B IAmb_Lg 23 16 24.2
comp=Z,652nm,0.8s
N41A Harden Midland 6.51 56 Pn **Pn 23 14 24.6 +1.3**
N41A IAmb_Lg 23 16 14.8
comp=Z,353nm,0.8s
ISCO Idaho Springs 6.54 295 IAmb_Lg 23 16 16.5
comp=Z,300nm,0.7s
K38A Parkersburg 6.70 35 Pn 23 14 27.0 +1.1
K38A IAmb_Lg 23 16 33.4
comp=Z,424nm,0.9s
S44A Carbondale 6.92 84 IAmb_Lg 23 16 45.1
comp=Z,429nm,0.9s
JCT Junction City 6.92 194 Pn **Pn 23 14 29.9 +0.8**
SIUC Southern Illin 6.95 83 IAmb_Lg 23 16 28.3
comp=Z,374nm,0.7s
HICK Hickman 7.01 93 Pn 23 14 31.9 +1.7
143A Socs Landing, 7.01 128 IAmb_Lg 23 16 34.0
comp=Z,503nm,0.9s
P43A Skaggs, Pawnee 7.02 68 IAmb_Lg 23 16 39.4
comp=Z,626nm,1.1s
L40A Anamosa 7.07 45 IAmb_Lg 23 16 43.4
comp=Z,285nm,0.9s
PHWY Pilot Hill 7.11 307 IAmb_Lg 23 16 33.3
comp=Z,262nm,0.7s
SUSD Miller 7.23 354 Pn 23 14 33.8 +0.5
SUSD IAmb_Lg 23 16 44.3
comp=Z,324nm,0.9s
ANMO Albuquerque 7.27 254 Pn **Pn 23 14 35.9 +1.9**
comp=Z,1.1nm,0.3s,baz=68,slow=16,SNR=16
ANMO Lg Lg 23 16 36.0
comp=Z,20nm,0.3s,baz=3.3,slow=14,SNR=8.0
OXF Oxford 7.43 109 Pn **Pn 23 14 37.0 +1.0**
HDIL Hopedale 7.50 61 IAmb_Lg 23 16 49.0
comp=Z,510nm,1.2s
441A DeRidder 7.58 147 Pn 23 14 39.5 +1.5
I37A Lemond, Waseca 7.59 26 IAmb_Lg 23 16 58.3
comp=Z,394nm,1.1s
Y45A Yeager Farm, C 7.62 114 IAmb_Lg 23 17 03.6
comp=Z,484nm,0.8s
VBMS Vicksburg 7.90 127 Pg 23 15 17.4 -0.9
VBMS IAmb_Lg 23 17 19.3
comp=Z,202nm,1.0s
O44A Mansfield 7.95 66 IAmb_Lg 23 17 04.4
comp=Z,249nm,1.0s
L42A Oliver, Polo 7.95 51 Pn **Pn 23 14 43.2 +0.1**
L42A IAmb_Lg 23 17 04.0
comp=Z,524nm,1.2s
LENM Lemitar 7.97 250 Pn 23 14 42.8 -0.8
Y22D IRIS PASSCAL I 7.97 249 Pn **Pn 23 14 46.1 +2.6**
Y22D IAmb_Lg 23 17 16.2
comp=Z,388nm,0.8s
JFWS Jewell Farm 8.17 44 IAmb_Lg 23 17 18.2
comp=Z,230nm,0.8s
MNTX Cornudas Mount 8.27 230 IAmb_Lg 23 17 20.0
comp=Z,354nm,0.9s
PLAL Pickwick Lake 8.29 103 IAmb_Lg 23 17 09.9
comp=Z,294nm,1.2s
735A Kenedy 8.37 179 IAmb_Lg 23 17 32.1
comp=Z,268nm,0.9s
MVCO Mesa Verde 8.43 273 IAmb_Lg 23 17 23.7
comp=Z,283nm,1.3s
RWWY Rawlins 8.44 305 IAmb_Lg 23 17 22.1
comp=Z,304nm,1.0s
O20A White River Ci 8.56 293 IAmb_Lg 23 17 39.0
comp=Z,197nm,1.2s
146A Union 8.61 120 Pn **Pn 23 14 52.9 +0.7**
PV02 Paradox Valley 8.62 280 IAmb_Lg 23 17 37.2
comp=Z,265nm,1.2s
T47A Sharon Grove 8.65 88 IAmb_Lg 23 17 37.6
comp=Z,459nm,1.1s
I40A Norwalk 8.66 38 Pn 23 14 53.5 +0.6
I40A IAmb_Lg 23 17 28.9
comp=Z,184nm,1.0s
PV12 Saucer Basin, 8.68 280 IAmb_Lg 23 17 34.7
comp=Z,289nm,1.2s
F33A 5 Mile Ranch, 8.68 8 Pn **Pn 23 14 53.8 +0.8**
PV13 Radium Mtn., P 8.68 279 Pn 23 14 55.0 +1.7
PV13 IAmb_Lg 23 17 42.6
comp=Z,223nm,1.2s
M44A Midewin, Midew 8.71 59 Pn **Pn 23 14 52.9 -0.6**
PV11 David Mesa, Pa 8.73 280 Pn 23 14 56.3 +2.4
PV11 IAmb_Lg 23 17 32.2
comp=Z,354nm,1.2s
P46A Rosedale 8.74 71 Pn **Pn 23 14 54.6 +0.7**
P46A IAmb_Lg 23 17 34.8
comp=Z,262nm,0.9s
PV16 Nyswonger Mesa 8.76 280 IAmb_Lg 23 17 46.0
comp=Z,236nm,1.3s
PV17 East Wray Mesa 8.80 280 Pn **Pn 23 14 56.9 +2.0**
PV19 Morning Glory 8.82 280 Pn **Pn 23 14 57.6 +2.4**
PV14 Lion Creek, Pa 8.85 281 Pn **Pn 23 14 57.4 +1.7**
PV14 IAmb_Lg 23 17 30.5
comp=Z,179nm,1.2s
SPMN Marine on St. 8.86 24 Pn **Pn 23 14 56.2 +0.7**
PV10 Paradox Valley 8.86 281 Pn **Pn 23 14 57.6 +1.7**
PV10 IAmb_Lg 23 17 43.2
comp=Z,187nm,1.2s
PV05 Paradox Valley 8.90 279 IAmb_Lg 23 17 36.4
comp=Z,176nm,1.2s
HQIL Hanson Quary C 9.02 57 IAmb_Lg 23 17 46.3
comp=Z,309nm,1.2s
SFIN Lafayette 9.02 66 Pn **Pn 23 14 59.1 +1.4**
SFIN IAmb_Lg 23 17 37.6
comp=Z,208nm,0.9s
Z47A Carrollton 9.02 114 Pn **Pn 23 14 59.0 +1.3**
Z47A IAmb_Lg 23 17 36.0
comp=Z,205nm,0.9s
V48A Smith Brothers 9.07 96 IAmb_Lg 23 17 33.6
comp=Z,430nm,1.2s
346A Big Creek Wild 9.12 127 Pn **Pn 23 14 59.8 +0.7**
L44A Lake County Fo 9.16 54 Pn **Pn 23 14 59.8 +0.2**
L44A IAmb_Lg 23 17 46.5
comp=Z,414nm,1.0s
K43A Burlington 9.16 51 Pn 23 15 00.8 +1.0
BLO Bloomington 9.19 74 Pn **Pn 23 15 00.6 +0.6**
BLO IAmb_Lg 23 17 53.3
comp=Z,305nm,1.0s
TX31 Lajitas Ar. Si 9.23 213 Pn **Pn 23 15 01.4 +0.6**
TX32 Lajitas Array 9.23 213 Pn **Pn 23 15 01.1 +0.3**
TXAR Lajitas Array 9.23 213 Pn **Pn 23 15 00.7 -0.1**
comp=Z,3.4nm,0.3s,baz=30,slow=12,SNR=40
TXAR Sn Sn **Sn 23 16 41.0 -4.0**
comp=Z,5.3nm,0.3s,baz=26,slow=17,SNR=5.5
TXAR Lg Lg 23 17 32.2
comp=Z,4.9nm,0.3s,baz=81,slow=16,SNR=3.4
TXAR LR LR 23 18 28.3
comp=Z,144nm,19.8s,baz=0.0,slow=37
TXAR Lajitas Array 9.23 213 Pn **Pn 23 15 01.0 +0.2**
X48A Hartselle 9.27 104 IAmb_Lg 23 17 44.5
comp=Z,199nm,0.9s
WCI Wyandotte Cave 9.27 80 IAmb_Lg 23 17 57.8
comp=Z,197nm,0.9s
121A Cookes Peak, D 9.36 243 Pn **Pn 23 15 04.0 +1.4**

CLTN Cedars of Leba 9.39 94 IAmb_Lg 23 17 43.3
comp=Z,203nm,1.0s
I42A Draeger Farm, 9.54 43 Pn **Pn 23 15 05.2 +0.3**
I42A IAmb_Lg 23 17 57.6
comp=Z,261nm,1.2s
E28A Huff 9.55 348 Pn **Pn 23 15 06.3 +1.3**
U49A Red Boiling Sp 9.77 91 Pn **Pn 23 15 09.4 +1.5**
U49A IAmb_Lg 23 18 06.5
comp=Z,192nm,1.0s
LRAL Lakeview Retre 9.89 112 IAmb_Lg 23 18 18.8
comp=Z,160nm,1.1s
G40A Rib Lake 9.90 34 Pn **Pn 23 15 10.4 +0.6**
SWET Sewanee 9.90 98 Pn **Pn 23 15 10.2 +0.3**
SWET IAmb_Lg 23 17 58.3
comp=Z,193nm,1.1s
Y49A Blount Mountai 9.97 106 Pn 23 15 12.2 +1.3
Y49A IAmb_Lg 23 18 09.8
comp=Z,240nm,1.0s
N47A Urbana 10.19 65 Pn **Pn 23 15 13.6 -0.1**
PDAR Pinedale Array 10.48 305 Pn **Pn 23 15 18.2 +0.2**
comp=Z,1.5nm,0.3s,baz=110,slow=18,SNR=9.6
PDAR Lg Lg 23 18 09.4
comp=Z,2.7nm,0.3s,baz=104,slow=18,SNR=4.2
E38A The Farm, Brul 10.49 25 Pn 23 15 17.8 -0.1
X51A Calhoun 10.94 100 Pn **Pn 23 15 24.5 +0.4**
250A Grady 10.95 115 Pn 23 15 24.6 +0.3
CPCT Cooper Cave 10.96 95 Pn **Pn 23 15 25.0 +0.6**
Z51A Franklin 11.14 107 Pn **Pn 23 15 26.4 -0.4**
F42A Maple Grove Fa 11.23 38 Pn 23 15 27.6 -0.5
N49A Columbus Grove 11.30 67 Pn **Pn 23 15 28.2 -0.8**
S51A Beattyville 11.41 84 Pn **Pn 23 15 30.5 0.0**
L48A N Adams 11.42 62 Pn **Pn 23 15 29.8 -0.8**
TKL Tuckaleechee C 11.51 94 Sn **Sn 23 17 37.2 -3.6**
comp=Z,1.5nm,0.3s,baz=141,slow=16,SNR=3.6
TKL Lg Lg 23 18 38.3
comp=Z,2.7nm,0.3s,baz=20,slow=21,SNR=5.5
W52A Murphy 11.52 97 Pn 23 15 31.9 -0.2
B35A Bob, Littlefor 11.53 14 Pn **Pn 23 15 31.5 -0.6**
SNOW Snow King Moun 11.58 306 Pn 23 15 33.7 +0.6
V52A Sevierville 11.62 93 Pn **Pn 23 15 33.4 0.0**
Q51A Peebles 11.63 77 Pn **Pn 23 15 32.8 -0.6**
EYMN Ely 11.70 22 Pn **Pn 23 15 32.2 -2.2**
P51A Williamsport 11.89 75 Pn **Pn 23 15 36.0 -1.0**
D41A Chassel 12.01 32 Pn **Pn 23 15 36.0 -2.7**
AAM Ann Arbor 12.09 61 Pn **Pn 23 15 38.8 -0.9**
HPIG 12.18 215 Pn **Pn 23 15 41.4 0.0**
E43A Lone Tree Farm 12.23 38 Pn **Pn 23 15 40.8 -0.9**
M50A Fremont 12.25 66 Pn **Pn 23 15 41.2 -0.8**
V53A Saluda 12.28 93 Pn **Pn 23 15 42.8 +0.4**
HVU Hansel Valley 12.32 296 Pn 23 15 44.0 +0.9
BG3 Lake Jocassee 12.34 96 Pn **Pn 23 15 42.5 -0.7**
GOGA Godfrey 12.41 104 Pn **Pn 23 15 43.9 -0.3**
Q52A Bidwell 12.46 77 Pn **Pn 23 15 43.4 -1.5**
GLMI Grayling 12.57 49 Pn **Pn 23 15 44.4 -2.1**
PSUT Pine Spring 12.65 281 Pn **Pn 23 15 48.1 +0.5**
R53A Hurricane 12.69 80 Pn **Pn 23 15 48.9 +0.9**
O52A Adamsville 12.90 72 Pn **Pn 23 15 50.1 -0.8**
U54A Nelsons Funny 12.92 88 Pn **Pn 23 15 50.8 -0.4**
SPR3 Spring Creek 3 13.04 283 Pn **Pn 23 15 54.9 +1.9**
W13A Hualapai Mount 13.07 265 Pn **Pn 23 15 56.1 +2.7**
ULM Lac du Bonnet 13.09 6 Pn Pn 23 15 48.5 -4.9
comp=Z,0.9nm,0.3s,baz=173,slow=11,SNR=7.8
ULM Sn Sn 23 18 08.2 -11
comp=Z,3.3nm,0.3s,baz=100,slow=21,SNR=5.4
ULM Lg Lg 23 19 26.7
comp=Z,1.2nm,0.3s,baz=224,slow=8.9,SNR=4.2
PAULI Pauline 13.27 96 Pn **Pn 23 15 54.9 -1.0**
O53A New Philadelph 13.39 72 Pn **Pn 23 15 56.0 -1.5**
M52A Chesterland 13.52 66 Pn **Pn 23 15 57.5 -1.8**
MCMT McKenzie Canyo 13.56 309 Pn **Pn 23 16 01.2 +1.2**
Q54A Coxs Mills 13.58 77 Pn **Pn 23 16 00.1 0.0**
PRN Pahroc Range 13.63 276 Pn **Pn 23 16 02.8 +1.9**
113A Mohawk Valley, 13.72 256 Pn **Pn 23 16 03.1 +1.0**
255A Hazlehurst 13.79 108 Pn **Pn 23 16 03.0 -0.1**
JSC Jenkinsville 13.86 97 Pn **Pn 23 16 02.2 -1.7**
ELK Elko 13.91 290 LR LR 23 22 38.3
comp=Z,64nm,18.4s,baz=98,slow=43
O54A Avella 14.02 73 Pn **Pn 23 16 03.1 -3.0**
R55A Marlinton 14.13 80 Pn **Pn 23 16 07.3 -0.5**
BIRD Birdtown, Kers 14.39 95 Pn **Pn 23 16 09.8 -1.4**
N54A Moraine State 14.42 70 Pn **Pn 23 16 10.6 -1.0**
M54A Oil Creek Stat 14.75 68 Pn **Pn 23 16 15.8 -0.3**
Q56A Snyder Ridge, 14.86 77 Pn 23 16 15.1 -2.6
TPH Tonopah 15.30 279 Pn 23 16 23.6 -0.2
GSC Goldstone, Bar 15.35 268 Pn **Pn 23 16 25.2 +1.0**
GSC IAmb IAmb 23 16 34.6
comp=Z,7.2nm,1.2s
O56A Blue Knob Stat 15.41 73 Pn **Pn 23 16 22.9 -2.1**
O56A IAmb IAmb 23 16 50.3
comp=Z,11nm,1.1s
M55A Ridgway 15.41 68 Pn **Pn 23 16 24.7 -0.3**
M55A IAmb IAmb 23 16 44.0
comp=Z,14nm,0.9s
R58B Mineral 15.91 81 Pn **Pn 23 16 32.2 +0.7**
JTMT Jette 15.95 316 Pn **Pn 23 16 33.2 +1.1**
KVN Kaiserville 15.97 283 IAmb IAmb 23 16 41.1
comp=Z,10nm,0.9s
SADO Sadowa 16.03 56 Pn **Pn 23 16 28.0 -5.0**
comp=Z,0.6nm,0.3s,baz=257,slow=12,SNR=4.6
SADO Sadowa 16.03 56 IAmb IAmb 23 16 39.7
comp=Z,7.7nm,1.1s
NVAR Mina Array Bea 16.14 280 Pn **Pn 23 16 34.2 -0.5**
comp=Z,0.1nm,0.3s,baz=87,slow=8.2,SNR=4.5
NVAR Mina Array Bea 16.14 280 Pn 23 16 33.6 -1.0
T59A Double "B" Far 16.26 85 Pn **Pn 23 16 35.5 -0.4**
T59A IAmb IAmb 23 16 38.0
comp=Z,11nm,1.1s
BMO Blue Mountains 16.45 304 Pn **Pn 23 16 37.4 -1.0**
PAHR Pah Rah Range 16.98 285 Pn 23 16 45.4 +0.2
PAHR IAmb IAmb 23 16 51.8
comp=Z,10nm,1.2s
FFC Flin Flon 17.70 352 P 23 16 55.5 +0.5
FFC IAmb IAmb 23 17 23.1
comp=Z,3.5nm,0.7s
CMB Columbia Colle 17.80 279 Pn **Pn 23 16 55.3 -0.1**
NEW Newport 17.84 314 P **P 23 16 57.0 +0.5**
comp=Z,0.2nm,0.3s,baz=139,slow=11,SNR=5.9
NEW Newport 17.84 314 P **P 23 16 57.0 +0.5**
NEW IAmb IAmb 23 17 02.2
comp=Z,7.6nm,1.1s
MOD Modoc Plateau 17.85 292 P 23 16 57.4 +0.6
LUPA Lehigh Univers 17.86 72 Pn **Pn 23 16 54.5 -1.6**
LUPA IAmb IAmb 23 16 54.9
comp=Z,10nm,0.9s
K58A Earlville 17.92 65 Pn 23 16 56.9 +0.1
K58A IAmb IAmb 23 16 58.4
comp=Z,11nm,0.8s
E08A Dider Farm, El 18.20 307 P 23 17 01.1 +0.6
E08A IAmb IAmb 23 17 03.0
comp=Z,4.4nm,0.5s
C09A Chrisman Ranch 18.28 312 Pn 23 17 01.5 +0.3
C09A IAmb IAmb 23 17 04.6
comp=Z,4.7nm,0.7s
J58A Remsen 18.30 63 Pn **Pn 23 16 59.1 -2.3**
J58A IAmb IAmb 23 16 59.6
comp=Z,12nm,1.0s
HAWA Hanford 18.47 306 P **Pn 23 17 03.8 +0.3**
PINE Pine Mountain 18.65 298 Pn 23 17 06.4 +0.5
PINE IAmb IAmb 23 17 11.9
comp=Z,9.5nm,1.1s
E07A Sunnyside 18.74 307 P **P 23 17 05.2 -1.2**
E07A IAmb IAmb 23 17 16.5
comp=Z,5.6nm,0.8s
YBH Yreka Blue Hor 19.62 291 P **Pn 23 17 18.3 +0.8**
comp=Z,0.2nm,0.3s,baz=104,slow=6.0,SNR=7.9
YBH Yreka Blue Hor 19.62 291 IAmb IAmb 23 17 21.1
comp=Z,9.3nm,1.1s
FRNY Flat Rock 19.82 60 P **P 23 17 16.9 -1.4**
FRNY IAmb IAmb 23 17 18.3
comp=Z,16nm,1.1s
CMIG Matias Romero 20.25 172 P Pn 23 17 26.2 +1.2
comp=Z,2.6nm,0.4s,baz=357,slow=9.1,SNR=7.5
MOQ Mont Orford 20.85 59 P **P 23 17 29.9 +0.3**
APG El Apazote 23.12 161 P **P 23 17 54.4 +0.3**
comp=Z,3.6nm,0.7s,baz=345,slow=11,SNR=6.0
SCHQ Schefferville 27.52 40 P **P 23 18 34.3 +0.2**
comp=Z,3.7nm,0.9s,baz=304,slow=13,SNR=4.1
FRB Frobisher Bay 31.90 24 P **P 23 19 12.4 -0.3**
comp=Z,2.2nm,0.5s,baz=218,slow=9.9,SNR=10
IL31 39.73 330 P **P 23 20 21.2 +1.4**
IL31 IAmb IAmb 23 20 21.8
comp=Z,4.5nm,0.9s
ILAR Eielson Array 39.73 330 P **P 23 20 20.7 +0.8**
comp=Z,3.1nm,0.8s,baz=107,slow=7.0,SNR=23

LPAZ La Paz 60.19 147 P **P 23 22 55.9 -0.6**
comp=Z,1.4nm,0.8s,baz=304,slow=4.5,SNR=5.1
LPAZ La Paz 60.19 147 IAmb IAmb 23 22 57.0
comp=Z,2.8nm,1.1s
ARCES ARCESS Array B 65.83 19 P **P 23 23 32.4 -0.3**
comp=Z,2.7nm,0.7s,baz=308,slow=6.0,SNR=5.8
ESDC Sonseca Array 70.09 55 P **P 23 24 00.5 +0.4**
comp=Z,1.3nm,1.0s,baz=306,slow=6.6,SNR=5.3
ESDC Sonseca Array 70.09 55 IAmb IAmb 23 24 01.6
comp=Z,2.4nm,1.2s
FINES FINESS Array B 71.70 25 P **P 23 24 08.9 -0.4**
comp=Z,1.8nm,0.6s,baz=336,slow=4.2,SNR=9.1
GERES GERESS Array B 75.05 39 P **P 23 24 29.5 0.0**
comp=Z,0.2nm,0.4s,baz=298,slow=2.1,SNR=2.3
AKASG Malin Array Be 80.88 31 P **P 23 25 01.8 +0.1**
comp=Z,0.6nm,0.4s,baz=316,slow=4.5,SNR=6.1
AKASG LR LR 23 59 58.9
comp=Z,21nm,18.4s,baz=205,slow=35
KEST Kesra 80.94 52 P **P 23 25 03.1 +0.6**
comp=Z,5.7nm,0.8s,baz=30,slow=2.8,SNR=7.5
ZALV Zalesovo Beam 89.15 358 P **P 23 25 43.0 -0.1**
comp=Z,1.1nm,0.5s,baz=338,slow=3.5,SNR=4.1
MKAR Makanchi Array 96.34 360 LR LR 00 11 38.6
comp=Z,26nm,19.0s,baz=148,slow=37
QSPA South Pole Qui 127.09 180 PKP **PKPdf 23 31 51.9 +0.8**
comp=Z,2.1nm,0.7s,baz=250,slow=1.3,SNR=9.4
VNDA Vanda 128.24 196 PKP **PKPdf 23 31 53.8 +0.8**
comp=Z,0.9nm,0.9s,baz=348,slow=3.5,SNR=2.5
MAW Mawson 147.72 166 PKPbc **PKPbc 23 32 32.1 +0.6**
comp=Z,7.5nm,0.7s,baz=187,slow=3.3,SNR=17
MAW Mawson 147.72 166 PKPbc 23 32 32.2 +0.8

IDC 05 23:37:32.1±325.0, 17.69N×42.71E, h0km, Error ellipse: s-maj=144.1km s-min=116.9km az=43.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I19DJ	**I19DJ**	**6.19**	**176**	*i*			00 16 20.0	
	baz=356,slow=310,SNR=0.8							
I32KE	**NAIROBI INFRAS**	**19.68**	**198**	*i*			01 41 10.0	
	baz=15,slow=319,SNR=1.1							
I48TN	**KESRA INFRASON**	**34.62**	**308**	*i*			03 08 00.0	
	baz=107,slow=329,SNR=0.6							
I26DE	**FREYUNG INFRAS**	**38.97**	**329**	*i*			03 38 10.0	
	baz=132,slow=322,SNR=1.0							

TAP 06 00:03:21.8, 23.43N×120.62E, h10km, ML1.6, 1C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHN4	**Tsaushan**	**0.08**	**200**	⇑*i*	P	Pg	00 03 24.7	+0.5
	baz=199							
CHN4				*i*	S	Sg	00 03 26.9	+1.0
	baz=199							
TPUB	**Ta-pu**	**0.13**	**178**	⇓*i*	P	Pg	00 03 25.4	+0.6
	baz=177							
TPUB				*i*	S	Sg	00 03 28.2	+1.1
	baz=177							
CHN2	**Minshiung**	**0.17**	**307**		P	Pb	00 03 26.4	-0.7
	baz=306							
CHN2					S	Sg	00 03 29.7	+1.6
	baz=306							
CHN5	**Tsauling**	**0.17**	**16**		P	Pg	00 03 26.3	+0.7
	baz=16							
CHN5					S	Sg	00 03 29.6	+1.2
	baz=16							
WTP	**Ta-pu**	**0.18**	**183**	*e*P		Pb	00 03 26.6	-0.7
	baz=180							
WTP					S	Sg	00 03 30.1	+1.6
	baz=180							
ALS	**Alishan**	**0.18**	**64**	*i* P		Pb	00 03 26.9	-0.5
	baz=65							
ALS					S	Sg	00 03 30.5	+1.7
	baz=65							
CHY	**Chiayi**	**0.20**	**290**	*i* P		Pb	00 03 26.8	-0.7
	baz=290							
CHY					S	Sg	00 03 30.2	+1.4
	baz=290							
TWK	**Hsinying**	**0.20**	**218**		P	Pb	00 03 27.0	-0.7
	baz=214							
TWK				*e*S		Sg	00 03 30.7	+1.6
	baz=214							
SNST	**Tainan City**	**0.24**	**209**		P	Pb	00 03 27.7	-0.5
	baz=209							
SNST					S	Sg	00 03 31.9	+1.9
	baz=209							
CHN1	**Nanshi**	**0.26**	**200**		P	Pb	00 03 27.9	-0.6
	baz=199							
WGK	**Gukeng**	**0.26**	**347**	*e*P		Pb	00 03 28.0	-0.7
	baz=349							
WGK				*e*S		Sb	00 03 32.5	-0.7
	baz=349							
WDLH	**Douliu**	**0.27**	**343**	*e*P		Pb	00 03 28.2	-0.6
	baz=343							
WDLH				*e*S		Sb	00 03 32.9	-0.5
	baz=343							
STYT	**Tauyuan**	**0.29**	**155**		P	Pb	00 03 28.7	-0.5
	baz=154							
STYH	**Taoyuan**	**0.29**	**152**		P	Pb	00 03 28.7	-0.4
	baz=151							
YUS	**Yu-Shan**	**0.31**	**79**		P	Pg	00 03 28.8	+0.6
	baz=79							
ICHU	**Yijhu**	**0.32**	**258**	*e*P		Pb	00 03 29.3	-0.4
	baz=257							
WTK	**Tuku**	**0.34**	**320**	*e*P		Pb	00 03 29.5	-0.4
	baz=320							
SGST	**Jiashian**	**0.35**	**186**	*e*P		Pg	00 03 29.2	+0.5
	baz=185							
WSF	**Szhu**	**0.42**	**299**	*e*P		Pb	00 03 31.2	-0.2
	baz=299							
CHN3	**Shinhua**	**0.42**	**214**	*e*P		Pb	00 03 31.0	-0.4
	baz=214							
ELDTW	**Lidau**	**0.43**	**123**	*e*P		Pb	00 03 31.5	-0.1
	baz=123							
SSLB	**Suanglung**	**0.47**	**40**	*e*P		Pb	00 03 31.6	-0.5
	baz=40							
SSLB				*e*S		Sb	00 03 39.1	-0.1
	baz=40							
SMLT	**Sun Moon Lake**	**0.52**	**29**	*e*P		Pb	00 03 33.6	+0.5
	baz=30							
TYC	**Yuchr**	**0.52**	**24**	*e*P		Pb	00 03 32.9	-0.1
	baz=25							
WTCT	**Ta-ch'eng**	**0.54**	**324**	*e*P		Pb	00 03 32.9	-0.3
	baz=324							
SCST	**Cishan**	**0.55**	**193**	*e*P		Pb	00 03 33.3	-0.3
	baz=192							
TAI	**Tainan**	**0.58**	**222**	*e*P		Pb	00 03 33.9	-0.2
	baz=222							

TAP 06 00:03:27.0, 23.42N×120.63E, h9km, ML2.1, 1C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHN4	**Tsaushan**	**0.08**	**205**	⇑*i*	P	Pg	00 03 29.7	+0.4
	baz=203							
CHN4				*i*	S	Sg	00 03 32.0	+1.2
	baz=203							
TPUB	**Ta-pu**	**0.12**	**180**	⇓P		Pg	00 03 30.5	+0.6
	baz=179							
TPUB					S	Sg	00 03 33.2	+1.3
	baz=179							
WTP	**Ta-pu**	**0.18**	**184**	*i* P		Pg	00 03 31.6	+0.9
	baz=181							
WTP				*i*	S	Sg	00 03 35.1	+1.7
	baz=181							
CHN2	**Minshiung**	**0.18**	**308**	*i* P		Pg	00 03 31.6	+0.8
	baz=307							
CHN2					S	Sg	00 03 35.0	+1.6
	baz=307							
CHN5	**Tsauling**	**0.18**	**15**		P	Pg	00 03 31.4	+0.5
	baz=14							
CHN5					S	Sg	00 03 35.2	+1.6
	baz=14							
ALS	**Alishan**	**0.18**	**62**	*i* P		Pg	00 03 32.0	+1.0
	baz=63							
ALS				*i*	S	Sg	00 03 35.8	+1.9
	baz=63							
CHY	**Chiayi**	**0.20**	**292**	*i* P		Pg	00 03 31.8	+0.6
	baz=291							
CHY					S	Sg	00 03 35.6	+1.5
	baz=291							
TWK	**Hsinying**	**0.20**	**220**	*i* P		Pg	00 03 32.1	+0.9
	baz=216							

TWK				*i*	S		Sg	00 03 35.9	+1.8
	baz=216								
SNST	**Tainan City**	**0.24**	**211**		P		Pg	00 03 32.6	+0.8
	baz=210								
SNST					S		Sg	00 03 37.1	+2.1
	baz=210								
CHN1	**Nanshi**	**0.25**	**201**		P		Pg	00 03 32.9	+0.8
	baz=201								
CHN1					S		Sb	00 03 37.8	-0.5
	baz=201								
CHN1	**Nanshi**	**0.25**	**201**		S		Pg	00 03 32.6	+0.4
	baz=199								
WGK	**Gukeng**	**0.27**	**347**		P		Pb	00 03 33.2	-0.8
	baz=348								
WGK					S		Sb	00 03 37.9	-0.8
	baz=348								
WDLH	**Douliu**	**0.28**	**343**	*eP*			Pb	00 03 33.5	-0.7
	baz=342								
WDLH					eS		Sb	00 03 37.8	-1.2
	baz=342								
STYT	**Tauyuan**	**0.28**	**156**	*i*	P		Pb	00 03 33.6	-0.7
	baz=154								
STYT				*i*	S		Sb	00 03 38.8	-0.4
	baz=154								
STYT	**Tauyuan**	**0.28**	**156**		S		Pg	00 03 33.9	+1.1
	baz=154								
STYH	**Taoyuan**	**0.28**	**152**		P		Pb	00 03 33.7	-0.6
	baz=151								
STYH					eS		Sb	00 03 38.7	-0.5
	baz=151								
STYH	**Taoyuan**	**0.28**	**152**		eS		Pg	00 03 33.5	+0.8
	baz=151								
YUS	**Yu-Shan**	**0.30**	**77**		P		Pg	00 03 34.0	+0.7
	baz=78								
YUS					S		Sb	00 03 39.0	-1.2
	baz=78								
YUS	**Yu-Shan**	**0.30**	**77**		eS		Pb	00 03 34.0	-0.9
	baz=79								
ICHU	**Yijhu**	**0.33**	**259**		eP		Pb	00 03 34.4	-0.6
	baz=258								
ICHU					eS		Sb	00 03 40.0	-0.4
	baz=258								
WHYT	**Xinyi Township**	**0.34**	**37**		eP		Pb	00 03 35.1	-0.2
	baz=37								
WHYT					eS		Sb	00 03 40.4	-0.5
	baz=37								
SGST	**Jiashian**	**0.34**	**187**		eP		Pg	00 03 34.5	+0.7
	baz=185								
SGST					S		Sb	00 03 40.5	-0.3
	baz=185								
WTK	**Tuku**	**0.34**	**320**		P		Pb	00 03 35.0	-0.3
	baz=320								
WTK					S		Sb	00 03 40.3	-0.5
	baz=320								
WTK	**Tuku**	**0.34**	**320**		eS		Pg	00 03 34.7	+0.9
	baz=320								
CHN8	**Yiju**	**0.39**	**259**		P		Pb	00 03 35.5	-0.5
	baz=258								
CHN8					eS		Sb	00 03 41.7	-0.5
	baz=258								
WJS	**Zhushan**	**0.41**	**13**		eP		Pb	00 03 36.0	-0.4
	baz=12								
WJS					eS		Sb	00 03 42.5	-0.2
	baz=12								
CHN3	**Shinhua**	**0.42**	**215**		eP		Pb	00 03 36.4	-0.2
	baz=215								
CHN3					eS		Sb	00 03 43.3	+0.2
	baz=215								
ELDTW	**Lidau**	**0.43**	**123**	*i*	P		Pb	00 03 36.5	-0.2
	baz=122								
ELDTW					S		Sb	00 03 43.3	0.0
	baz=122								
SLGT	**Liugui**	**0.43**	**178**		eP		Pb	00 03 36.6	-0.1
	baz=177								
SLGT					eS		Sb	00 03 43.0	-0.3
	baz=177								
WSF	**Szhu**	**0.43**	**300**		eP		Pb	00 03 36.3	-0.5
	baz=300								
WSF					eS		Sb	00 03 43.2	-0.1
	baz=300								
WNT	**Mingjian**	**0.46**	**6**		eP		Pb	00 03 36.8	-0.4
	baz=7.0								
WNT					eS		Sb	00 03 43.9	-0.1
	baz=7.0								
SCLT	**Jiali**	**0.47**	**238**		eP		Pb	00 03 37.2	-0.3
	baz=237								
SCLT					eS		Sb	00 03 44.5	0.0
	baz=237								
SSLB	**Suanglung**	**0.47**	**39**		eP		Pb	00 03 37.0	-0.5
	baz=39								
SSLB					S		Sb	00 03 44.9	+0.4
	baz=39								
WNT1	**Nantou City**	**0.48**	**6**		eP		Pb	00 03 37.5	-0.2
	baz=5.0								
WNT1					eS		Sb	00 03 45.1	+0.2
	baz=5.0								
SMLT	**Sun Moon Lake**	**0.52**	**28**		eP		Pb	00 03 38.0	-0.3
	baz=29								
SMLT					eS		Sb	00 03 45.6	-0.5
	baz=29								
TYC	**Yuchr**	**0.52**	**24**		P		Pb	00 03 38.8	+0.4
	baz=24								
TYC					S		Sb	00 03 46.7	+0.7
	baz=24								
TAI1	**Yung-k'ang**	**0.53**	**224**		eP		Pb	00 03 38.2	-0.2
	baz=223								
TAI1					eS		Sb	00 03 46.1	0.0
	baz=223								
WTCT	**Ta-ch'eng**	**0.54**	**324**		P		Pb	00 03 38.6	-0.1
	baz=324								
WTCT					eS		Sb	00 03 46.7	+0.1
	baz=324								
SCST	**Cishan**	**0.55**	**193**		eP		Pb	00 03 38.6	-0.2
	baz=193								
SCST					eS		Sb	00 03 47.2	+0.5
	baz=193								
TAI	**Tainan**	**0.58**	**223**		eS		Sb	00 03 48.3	+0.6
	baz=222								
YULB	**Yu-li**	**0.61**	**93**		eP		Pb	00 03 39.5	-0.5
	baz=92								
YULB					eS		Sb	00 03 48.4	-0.2
	baz=92								
TWF1	**Yuli**	**0.62**	**96**		eP		Pb	00 03 40.0	0.0
	baz=96								
TWF1					eS		Sb	00 03 49.0	+0.2
	baz=96								
WWF	**Wufeng**	**0.62**	**6**		eP		Pb	00 03 40.0	0.0
	baz=5.0								
WWF					eS		Sb	00 03 49.7	+0.9
	baz=5.0								
TWM1	**Shoushan**	**0.63**	**198**		eS		Sb	00 03 49.3	+0.3
	baz=196								
ECS	**Chishang**	**0.63**	**121**		eS		Sb	00 03 49.7	+0.5
	baz=121								
EYUL	**Yuli**	**0.64**	**97**		eP		Pb	00 03 40.1	-0.2
	baz=96								
EYUL					eS		Sb	00 03 50.0	+0.7
	baz=96								
EHY	**Hungye**	**0.64**	**82**		eP		Pb	00 03 40.5	+0.1
	baz=82								
EHY					eS		Sb	00 03 49.7	+0.2
	baz=82								
FULB	**Fuli**	**0.65**	**110**		eP		Pb	00 03 41.4	+0.9
	baz=110								
FULB					eS		Sb	00 03 50.4	+0.7
	baz=110								
WCHH	**Zhanghua**	**0.66**	**354**		eS		Sb	00 03 50.9	+1.0
	baz=354								
DPDB	**Guoxing**	**0.67**	**24**		eS		Sb	00 03 50.9	+0.7
	baz=24								
WCS	**Beigang Elemen**	**0.68**	**22**		eS		Sb	00 03 50.9	+0.3
	baz=22								
TSMG	**Majia**	**0.71**	**179**		eP		Pb	00 03 41.6	0.0
	baz=178								

*IDC **06** 00:05:34.0±1.9,51°.86N×152°.60E,h425km±20km,mb2.9/6, mb1 3.0/9,mb1mx2.7/51,mbtmp3.7/9,Error ellipse: s-maj=23.2km s-min=21.3km az=13.0*

*KRSC **06** 00:05:36.1±2.0,51°.70N×153°.40E,h420km±25km,ML4.4*

ISC 06 00:05:33.9±0.9,51°.9N±0°.1×152°.96E±0°.09,h426km,n18, σ2s21/23,mb3.2/6,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**2.79**	**66**	*eP*	**P**	**00 06 38.3**	**+1.0**
ASAK	**Asacha**	**3.09**	**78**	*eP*	**P**	**00 06 41.7**	**+2.0**
PETK	**Petropavlovsk-**	**3.16**	**65**	P	**P**	**00 06 41.0**	**+0.8**
	0.5nm,0.3s,baz=213,slow=5.1,SNR=3.9						
KDTR	**Khodutka, Kamc**	**3.17**	**89**	*eP*	**P**	**00 06 40.6**	**+0.3**
KDTR				*eS*	**S**	**00 07 31.1**	**-3.3**
RUS	**Russkaya**	**3.47**	**78**	*eP*	**P**	**00 06 43.6**	**+0.9**
RUS				*eS*	**S**	**00 07 37.7**	**-1.1**
UGLR	**Uglovaya**	**3.83**	**67**	P	**P**	**00 06 48.9**	**+3.0**
SDLR	**Sedlovina**	**3.89**	**66**	P	**P**	**00 06 48.8**	**+2.3**
SPN	**Mys Shipunski**	**4.50**	**71**	*eP*	**P**	**00 06 52.3**	**+0.4**
SPN				*eS*	**S**	**00 07 51.6**	**-4.1**
MKZ	**Mys Kozlova**	**5.92**	**59**	*eP*	**P**	**00 07 06.7**	**+0.5**
MKZ				*eS*	**S**	**00 08 17.1**	**-4.9**
MA2	**Magadan**	**7.84**	**352**	P	**P**	**00 07 27.4**	**+0.2**
	0.3nm,0.3s,baz=151,slow=13,SNR=3.8						
BKI	**Bering**	**8.45**	**61**	*eP*	**P**	**00 07 36.8**	**+3.1**
BKI				*eS*	**S**	**00 09 10.5**	**-1.8**
SEY	**Seymchan**	**11.12**	**359**	P	**P**	**00 08 04.5**	**+1.5**
	0.3nm,0.3s,baz=177,slow=8.0,SNR=6.2						
ILAR	**Eielson Array**	**32.75**	**43**	P	**P**	**00 11 30.6**	**+1.5**
	0.4nm,0.6s,baz=276,slow=10.0,SNR=5.6						
MKAR	**Makanchi Array**	**44.68**	**293**	P	**P**	**00 13 05.3**	**-1.5**
	0.5nm,0.4s,baz=61,slow=7.1,SNR=10						
FINES	**FINESS Array B**	**59.40**	**333**	P	**P**	**00 14 51.6**	**-1.5**
	0.9nm,0.8s,baz=20,slow=6.1,SNR=6.5						
TXAR	**Lajitas Array**	**75.11**	**62**	P	**P**	**00 16 32.4**	**+1.4**
	0.2nm,0.4s,baz=302,slow=4.5,SNR=3.9						
ASAR	**Alice Springs**	**77.03**	**198**	P	**P**	**00 16 41.5**	**0.0**
	0.5nm,0.6s,baz=11,slow=5.1,SNR=7.4						
MMAI	**Mount Meron Ar**	**79.38**	**311**	P	**P**	**00 16 53.9**	**-0.4**
	0.6nm,0.4s,baz=43,slow=6.2,SNR=7.8						

*JMA **06** 00:42:10.9±0.1,36°.84N×141°.34E,h37km±1km,M3.5*

*IDC **06** 00:42:10.0±1.1,37°.16N×141°.27E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.7/35,mbtmp3.8/8,ML2.7/2,Error ellipse: s-maj=26.8km s-min=23.2km az=101.0*

*NIED **06** 00:42:11.0,36°.84N×141°.34E,h37km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.02; $M_{\theta\theta}$=1.32; $M_{\phi\phi}$=2.70; $M_{r\theta}$=-1.28; $M_{\theta\phi}$=3.12; $M_{r\phi}$=0.18; Fault plane solution: M_0=4.85000×10^{14} NP1:ϕ_s56.00000°, δ52.00000°, λ=-66.00000°. NP2:ϕ_s200.00000°, δ44.00000°, λ=-117.00000°.*

ISC 06 00:42:09.1±1.8,36°.75N±0°.05×141°.34E±0°.07,h13km±10km, n28,σ1s16/27,mb3.8/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**309**	P	**Pb**	**00 42 21.4**	**+0.7**
ONAJ				S	**Sb**	**00 42 29.1**	**+0.5**
JHO	**Hitachi**	**0.64**	**257**	P	**Pn**	**00 42 23.6**	**-0.2**
JHO				S	**Sn**	**00 42 32.8**	**-1.0**
JFFD	**Fukushimafurud**	**0.71**	**298**	P	**Pb**	**00 42 23.7**	**+0.4**
JFFD				*eS*	**Sb**	**00 42 33.2**	**+0.2**
JFK	**Kawauchi**	**0.72**	**329**	P	**Pg**	**00 42 23.3**	**+0.2**
JFK				S	**Sg**	**00 42 32.2**	**-0.3**
JHYU	**Hitachinakayam**	**0.74**	**236**	P	**Pn**	**00 42 25.4**	**+0.3**
JHYU				S	**Sn**	**00 42 36.0**	**-0.1**
JYT	**Yasato**	**1.06**	**241**	P	**Pn**	**00 42 30.4**	**+0.8**
JYT				S	**Sn**	**00 42 44.1**	**-0.1**
JFT	**Otama**	**1.11**	**314**	P	**Pb**	**00 42 30.3**	**+0.2**
JFT				*eS*	**Sb**	**00 42 44.0**	**-0.4**
JMM	**Marumori**	**1.19**	**339**	P	**Pb**	**00 42 30.6**	**-0.9**
JMM				*eS*	**Sb**	**00 42 44.9**	**-2.0**
MJAR	**Matsushiro Arr**	**2.53**	**266**	Pn	**Pn**	**00 42 51.2**	**+1.4**
	0.5nm,0.3s,baz=90,slow=14,SNR=19						
MAT	**Matsushiro**	**2.53**	**266**	P	**Pb**	**00 42 52.4**	**-1.9**
MAT				*eS*	**Sb**	**00 43 25.6**	**+0.2**
JHJ	**Hachijo jima 2**	**3.85**	**200**	Pn	**Pb**	**00 43 16.3**	**-0.4**
	3.7nm,0.3s,baz=73,slow=19,SNR=2.1						
SONM	**Songino Array**	**27.90**	**304**	P	**P**	**00 47 59.9**	**+1.2**
	0.6nm,0.6s,baz=100,slow=11,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	01 17 25.9	
	baz=313,slow=75,SNR=362						
H11N1	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	01 17 26.1	
	baz=313,slow=75,SNR=296						
H11N3	**WAKE ISLAND Hy**	**28.07**	**120**	T	T	01 17 26.0	
	baz=313,slow=75,SNR=347						
H11S1	**WAKE ISLAND Hy**	**28.75**	**122**	T	T	01 18 16.0	
	baz=315,slow=76,SNR=142						
H11S3	**WAKE ISLAND Hy**	**28.76**	**122**	T	T	01 18 18.1	
	baz=315,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	01 18 19.0	
	baz=315,slow=76,SNR=87						
ZALV	**Zalesovo Beam**	**42.06**	**313**	P	**P**	**00 50 00.5**	**+0.3**
	1.3nm,0.7s,baz=87,slow=6.1,SNR=4.3						
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**00 50 18.4**	**+0.6**
	0.9nm,0.6s,baz=85,slow=10,SNR=10						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**00 51 01.4**	**+0.7**
	1.0nm,0.7s,baz=261,slow=6.6,SNR=9.5						
ASAR	**Alice Springs**	**60.50**	**188**	P	P	00 52 24.6	+5.9
	0.9nm,0.9s,baz=13,slow=6.0,SNR=6.4						
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**00 53 15.1**	**+1.1**
	1.1nm,0.9s,baz=76,slow=12,SNR=1.9						
AKASG	**Malin Array Be**	**74.48**	**322**	P	**P**	**00 53 43.4**	**-3.5**
	0.4nm,0.4s,baz=43,slow=5.9,SNR=4.4						
LPAZ	**La Paz**	**146.88**	**60**	PKPbc	**PKPbc**	**01 01 53.5**	**+1.2**
	0.7nm,0.6s,baz=300,slow=6.3,SNR=4.1						
H03N2	**Juan Fernandez**	**147.05**	**96**	T	T	03 46 18.7	
	baz=290,slow=75,SNR=13						
H03N3	**Juan Fernandez**	**147.06**	**96**	T	T	03 46 17.4	
	baz=290,slow=75,SNR=14						
H03N1	**Juan Fernandez**	**147.06**	**96**	T	T	03 46 15.8	
	baz=290,slow=75,SNR=13						

NEIC 06 01:50:38.0±0.8,35°.69N±0°.03×97°.44W±0°.05,h5km±2km, mb_Lg2.2/13,Error ellipse: s-maj=7.0km s-min=3.2km az=60.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.11**	**354**		Pg	01 50 41.1	+0.8
OK009	**Oakdale Elemen**	**0.11**	**172**	Pg	Pg	01 50 40.5	+0.1
OK025	**Westminster Rd**	**0.14**	**142**		Pg	01 50 40.7	-0.2
BCOK	**Bluff Creek, N**	**0.14**	**256**		Pg	01 50 41.8	+0.9
OK005	**Luther M Schoo**	**0.21**	**100**	Pg	Pg	01 50 41.9	-0.2
OKCFA	**Oklahoma City**	**0.28**	**182**	Pg	Pg	01 50 43.4	0.0
OKCSW	**OKLAHOMA CITY**	**0.28**	**179**	Pg	Pg	01 50 43.6	0.0
FNO	**Franklin**	**0.43**	**176**	Pg	Pg	01 50 46.4	0.0
OK031	**S. Brethren Rd**	**0.56**	**62**	Pg	Pg	01 50 48.5	-0.2
QUOK	**Quay**	**0.76**	**51**	Pg	Pg	01 50 52.2	-0.5
CROK	**Carrier**	**0.92**	**332**	Pg	Pg	01 50 56.1	+0.3
BLOK	**Blackwell**	**1.08**	**10**	Pg	Pg	01 50 58.5	-0.3
X34A	**Smith Ranch, M**	**1.13**	**197**		Pg	01 50 59.4	-0.4
GC02	**Grant County #**	**1.21**	**344**	Pg	Pg	01 51 01.0	-0.2
OK032	**Salt Plains WL**	**1.27**	**331**		Pg	01 51 02.0	-0.5
T35A	**Sooner Cattle**	**1.43**	**31**	Pn	Pn	01 51 04.2	-0.6
U32A	**Winter Ranch,**	**1.44**	**299**	Pn	Pb	01 51 05.4	0.0
KAN09	**Caldwell North**	**1.45**	**354**	Pn	Pn	01 51 05.1	+0.2
WMOK	**Wichita Mounta**	**1.45**	**229**		Pn	01 51 04.7	-0.3
KAN10	**Anthony SW Sta**	**1.52**	**340**	Pn	Pb	01 51 06.4	-0.4
LOOK	**Love County**	**1.71**	**173**	Pn	Pn	01 51 08.5	0.0
X37A	**Clayton**	**2.02**	**122**	Pn	Pn	01 51 12.8	0.0
X37A				lAmb_Lg		01 51 42.4	
	comp=Z,7.7nm,0.8s						
U38A	**Gravette**	**2.59**	**72**	Pn	Pn	01 51 21.7	+1.1
HHAR	**Hobbs**	**2.90**	**77**	Pn	Pn	01 51 24.6	-0.3
MIAR	**Mount Ida**	**3.37**	**109**	Pn	Pn	01 51 30.7	-0.6
MIAR				lAmb_Lg		01 52 28.8	
	comp=Z,7.9nm,1.3s						
U40A	**Yellville**	**3.78**	**79**	Pn	Pn	01 51 36.7	-0.2
U40A				lAmb_Lg		01 52 46.9	
	comp=Z,4.0nm,0.7s						
S39A	**Bolivar**	**3.87**	**58**	Pn	Pn	01 51 37.9	-0.3
X40A	**Basin Creek Fa**	**3.96**	**106**	lAmb_Lg		01 52 47.8	
	comp=Z,13nm,1.2s						
WHAR	**Wooly Hollow**	**4.22**	**94**	Pn	Pn	01 51 43.2	+0.1
R40A	**Maddies Statio**	**4.89**	**56**	lAmb_Lg		01 53 23.0	
	comp=Z,3.0nm,0.7s						
P40A	**Paris**	**5.75**	**47**	lAmb_Lg		01 53 41.9	
	comp=Z,7.4nm,0.9s						
PBMO	**Poplar Bluff**	**5.77**	**77**	lAmb_Lg		01 53 48.4	
	comp=Z,3.5nm,0.7s						

NOU 06 02:16:10.7,20°.00S×175°.26W,h216km,mb4.3,Tonga Islands,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.11**	**81**	P	Pn	02 17 27.1	+0.2
DVP	**Devils Point**	**15.83**	**275**	P	P	02 19 42.0	+0.2
PINNC	**Pines Island,**	**16.32**	**258**	P	P	02 19 47.1	-0.1
YATNC	**Mamie plateau,**	**16.79**	**260**	P	P	02 19 52.7	+0.3
DZM	**Mont Dzumac**	**17.20**	**260**	P	P	02 19 57.0	0.0
NOUC	**Port Laguerre**	**17.34**	**260**	P	P	02 19 58.1	-0.2
KOUNC	**Koumac, New Ca**	**19.20**	**265**	P	P	02 20 18.1	-0.4

*IDC **06** 02:28:42.5±2.7,6°.38S×129°.88E,h106km±30km,mb3.9/5, mb1 4.1/8,mb1mx3.7/30,mbtmp4.4/8,MS3.2/1,Ms1 3.2/1, ms1mx2.4/34,Error ellipse: s-maj=48.0km s-min=17.2km az=80.0*

*DJA **06** 02:28:44.7±0.3,6°.5S±3°.3×13°.0E±°.1,h189km±12km,M4.5/7, mB5.2/4,mb4.3/6,MLv4.6/7,Mw(mB)4.6/4*

*NEIC **06** 02:28:45.0±1.9,6°.30S±0°.07×130°.2E±0°.1,h134km±9km, mb4.3/15,Error ellipse: s-maj=18.4km s-min=10.8km az=88.0*

ISC 06 02:28:45.0±0.6,6°.28S±0°.05×130°.33E±0°.10,h150km,n43, σ1s96/44,mb4.3/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.80**	**346**	P	**Pn**	**02 29 18.6**	**+0.8**
SAUI	**Saumlaki**	**1.94**	**150**	Pn	**Pn**	**02 29 18.2**	**-1.3**
MSAI	**Maoshi**	**3.23**	**334**	P	**Pn**	**02 29 36.9**	**+1.6**
FAKI	**Fak Fak**	**3.85**	**30**	Pn	**Pn**	**02 29 43.4**	**+0.1**
FAKI	**Fak Fak**	**3.85**	**30**	P	**Pn**	**02 29 43.4**	**+0.1**
SIJI	**Sorong**	**5.46**	**10**	P	**Pn**	**02 30 04.0**	**-0.5**
	10nm,0.3s,baz=51,slow=5.7,SNR=35						
SIJI				S	**Sn**	**02 31 02.1**	**-4.7**
	6.7nm,0.3s,baz=193,slow=22,SNR=8.9						
SWI	**Sorong**	**5.46**	**10**	P	**Pn**	**02 30 04.6**	**0.0**
	0.5nm4µm36nm,0.4s						
MTN	**Manton Dam**	**6.57**	**173**	Pn	**Pn**	**02 30 19.4**	**+0.1**
SOEI	**Soe**	**6.92**	**240**	Pn	**Pn**	**02 30 23.4**	**-0.8**
SOEI	**Soe**	**6.92**	**240**	P	**Pn**	**02 30 23.6**	**-0.5**
	0.5nm42nm,1.2s						
BATI	**Baumata**	**7.66**	**239**	P	**Pn**	**02 30 34.2**	**+0.3**
	0.3nm41nm,1.1s						
KNRA	**Kununurra**	**9.46**	**189**		**Pn**	**02 30 56.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**12.60**	**201**	P	**Pn**	**02 31 36.1**	**-3.0**
	2.1nm,0.3s,baz=24,slow=6.9,SNR=62						
FITZ				S	Sn	02 33 46.8	-12
	2.3nm,0.3s,baz=200,slow=19,SNR=6.4						
FITZ	**Fitzroy Crossi**	**12.60**	**201**		**Pn**	**02 31 36.4**	**-2.7**
WRA	**Warramunga Arr**	**14.13**	**164**	P	**Pn**	**02 31 56.5**	**-2.1**
MTKI	**Muara Teweh, K**	**16.28**	**288**	P	**Pn**	**02 32 21.9**	**-3.4**
AS31	**Alice Springs**	**17.62**	**169**	P	**Pn**	**02 32 41.7**	**+0.3**
AS31				lAmb	lAmb	02 32 45.7	
	comp=Z,5.8nm,0.4s						
ASAR	**Alice Springs**	**17.62**	**169**	P	**Pn**	**02 32 41.8**	**+0.3**
	comp=Z,2.5nm,0.3s,baz=350,slow=9,SNR=67						
ASAR				S	**S**	**02 35 51.8**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=355,slow=28,SNR=5.8						
ASAR	**Alice Springs**	**17.62**	**169**	P	**Pn**	**02 32 42.4**	**+1.0**
PSA00	**Pilbara Seismi**	**18.27**	**213**	P	**Pn**	**02 32 47.8**	**-1.2**
PSA00				lAmb	lAmb	02 32 55.6	
	comp=Z,21nm,1.3s						
BBOO	**Buckleboo**	**26.93**	**169**	P	**P**	**02 34 16.5**	**+4.2**
BBOO				lAmb	lAmb	02 34 22.1	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**27.56**	**159**	P	**P**	**02 34 19.8**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=336,slow=15,SNR=2.9						
NWAO	**Narrogin (SRO)**	**29.18**	**203**	LR	LR	02 48 28.1	
	comp=Z,46nm,18.9s,baz=326,slow=41						
CMAR	**Chiang Mai Arr**	**39.53**	**309**	P	**P**	**02 35 59.7**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=127,slow=11,SNR=4.7						
CHTO	**Chiang Mai**	**39.73**	**309**	P	**P**	**02 36 01.4**	**-1.8**
LZH	**Lanzhou**	**48.93**	**331**	*eP*	**P**	**02 37 14.5**	**-1.7**
LZH				pP	pP	02 37 43.6	-5.4
LZH				sP	pwP	02 37 57.3	+3.1
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC	**Hu-ho-hao-te**	**49.97**	**341**	*eP*	**P**	**02 37 26.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,7.3s						
ULN	**Ulaanbaatar**	**57.69**	**342**	P	**P**	**02 38 20.9**	**+0.9**
ULN				lAmb	lAmb	02 38 23.0	
	comp=Z,3.3nm,0.6s						
SONM	**Songino Array**	**57.87**	**341**	P	**P**	**02 38 23.5**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=155,slow=5.4,SNR=4.0						
SONM	**Songino Array**	**57.87**	**341**	P	**P**	**02 38 23.4**	**+2.3**
WMQ	**Urumqi**	**62.98**	**327**	*eP*	**P**	**02 38 59.1**	**+3.3**
NIL	**Nilore**	**67.00**	**310**	P	**P**	**02 39 23.1**	**+1.1**
MK31	**Makanchi Array**	**67.81**	**327**	P	**P**	**02 39 28.0**	**+1.2**
MK31				lAmb	lAmb	02 39 29.4	
	comp=Z,4.1nm,0.7s						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**02 39 28.6**	**+1.8**
	comp=Z,7.1nm,0.8s,baz=119,slow=8.1,SNR=68						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**02 39 27.4**	**+0.7**
MAKZ	**Makanchi**	**67.99**	**326**	P	**P**	**02 39 29.1**	**+1.2**
ZALV	**Zalesovo Beam**	**71.09**	**334**	P	**P**	**02 39 47.8**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=129,slow=6.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**71.09**	**334**		**P**	**02 39 47.5**	**+0.8**
GAR	**Garm**	**71.40**	**315**	P	**P**	**02 39 50.5**	**+1.5**
KK31	**Karatay Array**	**73.02**	**319**	P	**P**	**02 39 60.0**	**+1.5**
KK31				lAmb	lAmb	02 40 01.4	
	comp=Z,3.3nm,1.0s						
KKAR	**Karatay Array**	**73.02**	**319**	P	**P**	**02 39 59.9**	**+1.4**
QSPA	**South Pole Qui**	**83.69**	**180**	P	**P**	**02 40 58.2**	**+1.4**
QSPA				lAmb	lAmb	02 41 13.8	
	comp=Z,4.8nm,1.5

RIOS	**Rincon, Osa**	**0.83**	**303**	*eP*	**Pg**	**02 49 02.6**	**-1.9**
CHGR2	**Aguacate**	**0.96**	**43**	*eP*	**Pg**	**02 49 05.6**	**-1.2**
CHGR2				*eS*	**Sb**	**02 49 19.4**	**-0.5**
EDPN	**Palmar Norte**	**0.96**	**318**	*eP*	**Pg**	**02 49 05.1**	**-1.8**
EDPN				*eS*	**Sb**	**02 49 20.8**	**+0.8**
EDBA	**Buenos Aires**	**1.03**	**333**	*eP*	**Pg**	**02 49 07.7**	**-0.4**
NANC3	**Nancito, Chiri**	**1.07**	**90**	*eP*	**Pg**	**02 49 08.1**	**-0.7**
NANC3				*eS*	**Sb**	**02 49 23.8**	**+0.8**
DRK0	**Durika**	**1.11**	**337**	*eP*	**Pg**	**02 49 07.9**	**-1.8**
DRK0				*eS*	**Sb**	**02 49 24.5**	**+0.3**
DRK0	**Durika**	**1.11**	**337**	*eP*	**Pg**	**02 49 07.8**	**-1.9**
CNI2	**El Empalme, Bo**	**1.23**	**16**	*eP*	**Pg**	**02 49 09.7**	**-2.2**
CNI2				*eS*	**Sg**	**02 49 27.4**	**-0.5**
EDLM	**Las Mercedes**	**1.29**	**323**	*eP*	**Pg**	**02 49 11.4**	**-1.7**
EDDO	**Dominical**	**1.45**	**314**	⇑*iP*	**Pn**	**02 49 14.4**	**-0.3**
EDDO				*eS*	**Sg**	**02 49 35.8**	**+0.8**
GMAL	**Guarumal, Vera**	**1.63**	**107**	*eP*	**Pn**	**02 49 16.9**	**-0.3**
GMAL				*eS*	**Sn**	**02 49 38.4**	**+0.1**
RIMA	**Rio Macho**	**1.84**	**326**	*eP*	**Pn**	**02 49 19.3**	**-1.0**
LCR2	**La Lucha 2**	**1.90**	**322**	*eP*	**Pn**	**02 49 21.3**	**+0.1**
BATAN	**Batan**	**1.93**	**343**	*eP*	**Pn**	**02 49 21.1**	**-0.2**
BATAN				*eS*	**Sn**	**02 49 46.6**	**+0.9**
OCM	**Ochomogo**	**2.00**	**325**	*eP*	**Pn**	**02 49 22.5**	**+0.1**
CVTR	**Volcan Turrial**	**2.00**	**332**	*eP*	**Pn**	**02 49 23.1**	**+0.4**
CACAO	**El Cacao, Vera**	**2.12**	**115**	*eP*	**Pn**	**02 49 23.8**	**-0.1**
CACAO				*eS*	**Sn**	**02 49 51.8**	**+1.3**
HDC	**Heredia**	**2.17**	**324**	*eP*	**Pn**	**02 49 25.3**	**+0.5**
HDC				*eS*	**Sn**	**02 49 53.2**	**+1.3**
HDC	**Heredia**	**2.17**	**324**	*eP*	**Pn**	**02 49 25.8**	**+1.0**
SRA1	**San Ramn**	**2.47**	**318**	*eP*	**Pn**	**02 49 30.4**	**+1.6**
AZU	**Azuero**	**2.55**	**100**	*eP*	**Pn**	**02 49 30.7**	**+0.8**
AZU				*eS*	**Sn**	**02 50 02.2**	**+1.2**
CEDE	**Laguna Cedeo**	**2.91**	**320**	*eP*	**Pn**	**02 49 37.0**	**+2.2**
COVE	**Coope Vega, Sa**	**2.92**	**328**	*eP*	**Pn**	**02 49 36.6**	**+1.6**
JTS	**Las Juntas de**	**2.94**	**314**	*eP*	**Pn**	**02 49 35.8**	**+0.6**
JTS				*eS*	**Sn**	**02 50 11.2**	**+0.6**
JTS	**Las Juntas de**	**2.94**	**314**	*eP*	**Pn**	**02 49 36.0**	**+0.8**
BCIP	**Isla Barro Col**	**3.08**	**72**	*eP*	**Pn**	**02 49 37.6**	**+0.5**
BCIP				⇓*eS*	**Sn**	**02 50 14.7**	**+0.6**
ACAL	**Aguas Claras**	**3.24**	**318**	*eP*	**Pn**	**02 49 42.0**	**+2.6**
GRZA	**Playa Garza**	**3.25**	**301**	*eP*	**Pn**	**02 49 38.3**	**-1.1**
PTEN	**Parque Tenorio**	**3.27**	**319**	*eP*	**Pn**	**02 49 42.2**	**+2.4**
UPA	**Univ. de Panam**	**3.32**	**77**	*eP*	**Pn**	**02 49 42.9**	**+2.4**
UPA				*eS*	**Sb**	**02 50 26.8**	**-1.2**
CUI	**Cuipilapa**	**3.34**	**316**	*i P*	**Pn**	**02 49 41.4**	**+0.6**
GUAI	**GUAI**	**3.34**	**307**	⇑*iP*	**Pn**	**02 49 40.9**	**+0.1**
COLC	**Colonia**	**3.38**	**316**	*eP*	**Pn**	**02 49 42.4**	**+1.2**
HORNC	**Hornillas**	**3.39**	**317**	*eP*	**Pn**	**02 49 43.0**	**+1.5**
SAJU	**San Juanillo,**	**3.39**	**303**	*eP*	**Pn**	**02 49 40.1**	**-1.3**
LIM1	**Limonal**	**3.43**	**316**	*eP*	**Pn**	**02 49 43.6**	**+1.6**
LAPC	**Finca la Perla**	**3.61**	**314**	*eP*	**Pn**	**02 49 44.5**	**+0.1**
BUEV	**Buena Vista**	**3.61**	**315**	*i P*	**Pn**	**02 49 46.0**	**+1.5**
BUAI	**Buenos Aires**	**3.61**	**317**	*eP*	**Pn**	**02 49 45.7**	**+1.2**
GB1A	**Borinquen Arri**	**3.62**	**315**	*eP*	**Pn**	**02 49 45.9**	**+1.3**
GBS3	**Finca Las Img**	**3.63**	**314**	*eP*	**Pn**	**02 49 46.2**	**+1.5**

*IDC **06** 02:49:42.0±1.4,5˚.28N×94˚.07E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.7/50, mbtmp4.0/8, ML4.5/2, Error ellipse: s-maj=63.5km s-min=21.2km az=50.0*
*NEIC **06** 02:49:49.1±1.5,5˚.5N±0˚.2×94˚.3E±0˚.2, h44km±11km, mb4.2/6, Error ellipse: s-maj=36.2km s-min=3.3km az=48.0*

ISC 06 02:49:49.0±1.0,5˚.5N±0˚.1×94˚.3E±0˚.1, h46km, n22, σ0§91/20, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.51**	**346**	*eP*	**Pn**	**02 50 14.4**	**+0.8**
CMBY				*eS*	**Sn**	**02 50 30.5**	**-1.7**
CMBY				IAML		02 50 46.3	
	comp=E,995nm,0.3s						
PSI	**Prapat**	**5.35**	**120**	Pn	**Pn**	**02 51 06.4**	**-0.1**
	comp=E,4.5nm,0.3s,baz=358,slow=3.0,SNR=16						
PSI				Sn	**Sn**	**02 52 07.8**	**+0.8**
	comp=E,2.1nm,0.3s,baz=360,slow=15,SNR=4.4						
RPSI	**Rantau Prapat**	**5.41**	**121**		**Pn**	**02 51 07.7**	**+0.6**
RPSI	**Rantau Prapat**	**5.41**	**121**		**Pn**	**02 51 06.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**13.62**	**19**	Pn	**Pn**	**02 53 00.3**	**+0.7**
	comp=E,1.4nm,0.3s,baz=208,slow=13,SNR=2.1						
CHTO	**Chiang Mai**	**13.95**	**19**	Pn	**Pn**	**02 53 03.4**	**-0.7**
H08S3	**Diego Garcia H**	**25.39**	**239**	T	T	03 20 59.2	
	baz=59,slow=76,SNR=35						
H08S2	**Diego Garcia H**	**25.39**	**239**	T	T	03 21 14.9	
	baz=59,slow=76,SNR=47						
H08S1	**Diego Garcia H**	**25.41**	**239**	T	T	03 21 08.8	
	baz=59,slow=76,SNR=28						
GAR	**Garm**	**39.76**	**330**	P	**P**	**02 57 17.6**	**+0.1**
GAR				IAmb	IAmb	02 57 27.1	
	comp=Z,7.6nm,0.5s						
MK31	**Makanchi Array**	**42.39**	**348**	P	**P**	**02 57 38.4**	**-0.5**
MKAR	**Makanchi Array**	**42.39**	**348**	P	**P**	**02 57 40.4**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=168,slow=7.7,SNR=23						
MAKZ	**Makanchi**	**42.47**	**347**	P	**P**	**02 57 39.9**	**+0.3**
MAKZ				IAmb	IAmb	02 57 41.4	
	comp=Z,2.6nm,0.5s						
AS31	**Alice Springs**	**48.33**	**129**	P	**P**	**02 58 25.5**	**-0.8**
AS31				IAmb	IAmb	02 58 29.2	
	comp=Z,1.1nm,1.1s						
ASAR	**Alice Springs**	**48.33**	**129**	P	**P**	**02 58 25.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=298,slow=7.8,SNR=14						
ZALV	**Zalesovo Beam**	**48.88**	**353**	P	**P**	**02 58 30.8**	**+0.8**
BVAR	**Borovoye Array**	**51.24**	**342**	P	**P**	**02 58 47.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=192,slow=14,SNR=4.0						
FINES	**FINESS Array B**	**74.84**	**332**	P	**P**	**03 01 24.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=94,slow=5.7,SNR=5.5						
ARCES	**ARCESS Array B**	**77.50**	**340**	P	**P**	**03 01 40.9**	**+1.5**
	comp=Z,2.3nm,0.8s,baz=97,slow=7.4,SNR=3.6						
ARCES	**ARCESS Array B**	**77.50**	**340**	IAmb	IAmb	03 01 41.0	
	comp=Z,13nm,1.4s						
GEC2	**GERESS Array S**	**79.67**	**319**	P	**P**	**03 01 51.5**	**-0.4**
GEC2				IAmb	IAmb	03 01 56.8	
	comp=Z,4.2nm,1.5s						
GERES	**GERESS Array B**	**79.67**	**319**	P	**P**	**03 01 52.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=104,slow=5.6,SNR=5.3						

*IDC **06** 03:13:51.0±1.3,48˚.20S×99˚.95E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/25, mbtmp4.1/4, MS4.0/9, Ms1 4.0/9, ms1mx3.7/27, Error ellipse: s-maj=53.8km s-min=23.1km az=97.0*
*NEIC **06** 03:13:53.4±2.0,48˚.1S±0˚.1×98˚.9E±0˚.2, h10km±1km, mb4.6/10, Error ellipse: s-maj=27.3km s-min=18.1km az=260.0*

ISC 06 03:13:52.6±0.7,48˚.1S±0˚.1×99˚.0E±0˚.2, h10km, n39, σ1§03/26, mb4.5/8, MS4.0/9, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.35**	**46**	T	T	03 35 35.4	
	baz=215,slow=74,SNR=34						
H01W1	**Cape Leeuwin H**	**17.37**	**46**	T	T	03 35 29.0	
	baz=215,slow=74,SNR=41						
H01W3	**Cape Leeuwin H**	**17.37**	**46**	T	T	03 35 30.2	
	baz=215,slow=74,SNR=27						
NWAO	**Narrogin (SRO)**	**20.47**	**49**	LR	LR	03 24 38.1	
	comp=Z,552nm,18.9s,baz=218,slow=32						
MAW	**Mawson**	**26.75**	**210**	LR	LR	03 28 06.0	
	comp=Z,569nm,19.4s,baz=54,slow=32						
MAW	**Mawson**	**26.75**	**210**	P	**P**	**03 19 32.1**	**+0.2**
STKA	**Stephens Creek**	**35.91**	**79**	LR	LR	03 33 44.1	
	comp=Z,52nm,18.2s,baz=212,slow=34						
ASAR	**Alice Springs**	**36.85**	**61**	P	P	03 20 56.5	-4.4
	3.1nm,1.1s,baz=214,slow=8.3,SNR=11						
ASAR				LR	LR	03 34 26.9	
	comp=Z,234nm,18.4s,baz=212,slow=34						
ASAR	**Alice Springs**	**36.85**	**61**	P	**P**	**03 20 59.0**	**-2.0**
AS31	**Alice Springs**	**36.85**	**61**	P	**P**	**03 21 00.8**	**-0.2**
VNDA	**Vanda**	**37.71**	**162**	P	**P**	**03 21 05.2**	**-2.5**
	1.7nm,0.9s,baz=290,slow=7.7,SNR=6.3						
VNDA				LR	LR	03 35 04.5	
	comp=Z,339nm,20.6s,baz=287,slow=34						
VNDA	**Vanda**	**37.71**	**162**	P	**P**	**03 21 07.6**	**-0.1**
VNDA				IAmb	IAmb	03 21 22.0	
	comp=Z,7.7nm,1.4s						
CAN	**Canberra**	**38.78**	**90**	P	**P**	**03 21 18.1**	**+0.9**
CAN				IAmb	IAmb	03 21 25.2	
	comp=Z,19nm,1.3s						
SBA	**Scott Base**	**38.81**	**162**	P	**P**	**03 21 19.6**	**+2.7**
SBA				IAmb	IAmb	03 21 19.8	
	comp=Z,11nm,1.5s						
QSPA	**South Pole Qui**	**42.02**	**180**	P	**P**	**03 21 43.0**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=298,slow=2.0,SNR=16						
QSPA	**South Pole Qui**	**42.02**	**180**	P	**P**	**03 21 43.6**	**-0.3**
QSPA				IAmb	IAmb	03 21 44.2	
	comp=Z,29nm,1.4s						
H08S2	**Diego Garcia H**	**46.18**	**322**	T	T	04 11 49.6	
	baz=155,slow=76,SNR=6.1						
H08S1	**Diego Garcia H**	**46.19**	**322**	T	T	04 11 49.3	
	baz=155,slow=76,SNR=7.8						
H08S3	**Diego Garcia H**	**46.20**	**322**	T	T	04 11 51.1	
	baz=155,slow=76,SNR=5.2						
SIJI	**Sorong**	**54.70**	**41**	LR	LR	03 43 38.8	
	comp=Z,69nm,21.6s,baz=178,slow=33						
BOSA	**Boshof**	**58.78**	**261**	LR	LR	03 44 41.5	
	comp=Z,106nm,18.3s,baz=182,slow=31						
DAV	**Davao City (W)**	**59.73**	**31**	LR	LR	03 45 55.5	
	comp=Z,81nm,21.2s,baz=154,slow=32						
CMAR	**Chiang Mai Arr**	**66.27**	**360**	P	**P**	**03 24 41.4**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=191,slow=5.4,SNR=8.6						
CMAR				LR	LR	03 50 07.4	
	comp=Z,159nm,19.9s,baz=216,slow=33						
CMAR	**Chiang Mai Arr**	**66.27**	**360**	P	**P**	**03 24 40.9**	**0.0**
NIL	**Nilore**	**84.61**	**339**	P	**P**	**03 26 25.0**	**-0.8**
KBL	**Kabul**	**86.55**	**336**	P	**P**	**03 26 35.8**	**0.0**
KBL				IAmb	IAmb	03 26 45.9	
	comp=Z,3.4nm,0.7s						
KSAR	**Wonju Array Be**	**88.99**	**23**	P	**P**	**03 26 47.3**	**+0.3**
BJT	**Baijiatuan**	**89.07**	**13**	P	**P**	**03 26 47.9**	**+0.5**
AAK	**Ala-Archa**	**92.93**	**342**	P	**P**	**03 27 05.5**	**0.0**
AAK				IAmb	IAmb	03 27 06.2	
	comp=Z,3.7nm,1.3s						
CBYP	**Canovanas**	**147.77**	**208**		**PKPbc**	**03 33 37.8**	**+0.1**
ISA	**Isabella, Lake**	**149.74**	**100**	PKPbc	**PKPbc**	**03 33 41.9**	**-0.4**
LHV	**Little Huntoon**	**151.17**	**96**		**PKPbc**	**03 33 45.7**	**+0.2**
PAHR	**Pah Rah Range**	**151.33**	**93**		**PKPbc**	**03 33 46.8**	**+0.7**
NVAR	**Mina Array Bea**	**151.40**	**96**	PKPbc	**PKPbc**	**03 33 44.9**	**-1.5**
	comp=Z,2.6nm,1.1s,baz=208,slow=4.5,SNR=8.7						
NVAR	**Mina Array Bea**	**151.40**	**96**		**PKPbc**	**03 33 46.2**	**-0.2**
KVN	**Kaiserville**	**151.86**	**95**		**PKPbc**	**03 33 47.4**	**0.0**
TPH	**Tonopah**	**151.93**	**97**		**PKPbc**	**03 33 46.6**	**-1.0**
TPNV	**Topopah Spring**	**151.95**	**100**		**PKPbc**	**03 33 47.6**	**0.0**
MTPU	**Mount Pierson**	**155.24**	**102**	PKPbc	PKPdf	03 33 54.2	+8.2
MTPU					**PKPab**	**03 34 11.6**	**+0.5**

IDC 06 03:27:16.3±4.7,12˚.05S×166˚.91E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/29, mbtmp3.8/3, Error ellipse: s-maj=214.4km s-min=36.8km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.38**	**245**	P	P	03 33 56.8	0.0
	0.4nm,0.6s,baz=72,slow=9.0,SNR=6.8						
ILAR	**Eielson Array**	**84.11**	**18**	P	P	03 39 48.9	+0.1
	1.0nm,0.6s,baz=240,slow=4.9,SNR=14						
MKAR	**Makanchi Array**	**95.03**	**317**	P	P	03 40 40.9	-0.3
	0.3nm,0.5s,baz=98,slow=6.9,SNR=3.2						

*JMA **06** 03:37:07.4±0.2,24˚.24N×121˚.04E, h0km, M3.4*
*TAP **06** 03:37:08.3,24˚.24N×121˚.07E, h5km, ML4.0, C*

ISC 06 03:37:08.5±0.8,24˚.25N±0˚.01×121˚.05E±0˚.01, h8km±5km, n140, σ0§79/246, 25C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDCB	**Techi**	**0.10**	**89**	⇑*iP*	**Pg**	**03 37 10.8**	**-0.1**
	baz=80						
TDCB				*i* S	**Sg**	**03 37 12.2**	**-0.5**
	baz=80						
WHP	**Taichung City**	**0.10**	**285**	⇑*iP*	**Pg**	**03 37 11.3**	**+0.4**
	baz=272						
WHP				*i* S	**Sg**	**03 37 13.1**	**+0.5**
	baz=272						
TWT	**Tachien**	**0.11**	**89**	*eP*	**Pg**	**03 37 10.9**	**-0.3**
	baz=83						
TWT				*eS*	**Sg**	**03 37 12.4**	**-0.7**
	baz=83						
CHGB	**Renai**	**0.22**	**150**	⇓*iP*	**Pg**	**03 37 13.2**	**+0.2**
	baz=151						
CHGB				S	**Sg**	**03 37 16.0**	**-0.1**
	baz=151						
WHF	**Hehuan Shan**	**0.22**	**118**	⇓*iP*	**Pg**	**03 37 13.7**	**+0.6**
	baz=116						
WHF				*i* S	**Sg**	**03 37 17.4**	**+1.2**
	baz=116						
DPDB	**Guoxing**	**0.24**	**208**	⇑*iP*	**Pg**	**03 37 13.6**	**+0.2**
	baz=212						
DPDB				S	**Sg**	**03 37 17.0**	**+0.3**
	baz=212						
WPL	**Puli Township**	**0.25**	**200**	⇑*iP*	**Pg**	**03 37 13.6**	**+0.1**
	baz=204						
WPL				S	**Sg**	**03 37 16.7**	**-0.2**
	baz=204						
TWQ1	**Liyutan**	**0.27**	**291**	*i* P	**Pb**	**03 37 15.2**	**-0.4**
	baz=293						
TWQ1				*i* S	**Sb**	**03 37 19.8**	**-0.6**
	baz=293						
NSY	**Sanyi**	**0.31**	**302**	⇓*iP*	**Pb**	**03 37 16.4**	**+0.1**
	baz=303						
NSY				S	**Sb**	**03 37 21.7**	**+0.1**
	baz=303						
OWD	**Renai**	**0.32**	**159**	*eP*	**Pg**	**03 37 14.9**	**+0.1**
	baz=160						
OWD				S	**Sg**	**03 37 18.8**	**-0.2**
	baz=160						
NNS	**Nan Shan**	**0.35**	**57**	⇑*iP*	**Pg**	**03 37 15.6**	**+0.2**
	baz=55						
NNS				S	**Sg**	**03 37 20.0**	**0.0**
	baz=55						
NNSB	**Datong**	**0.35**	**60**	⇑*iP*	**Pg**	**03 37 15.4**	**0.0**
	baz=57						
NNSB				*eS*	**Sg**	**03 37 19.7**	**-0.4**
	baz=57						
NNSH	**Datong**	**0.35**	**60**	⇑*iP*	**Pg**	**03 37 15.4**	**0.0**
	baz=56						
NNSH				S	**Sg**	**03 37 19.4**	**-0.6**
	baz=56						
TCU	**Taichung**	**0.36**	**253**	⇑*iP*	**Pb**	**03 37 17.3**	**+0.2**
	baz=255						
TCU				*i* S	**Sb**	**03 37 23.5**	**+0.6**
	baz=255						
NMLH	**Miaoli**	**0.37**	**320**	⇓*iP*	**Pb**	**03 37 17.6**	**+0.2**
	baz=320						
NMLH				*eS*	**Sb**	**03 37 23.5**	**+0.2**
	baz=320						
NSTT	**Nanjuang**	**0.38**	**353**	⇓*iP*	**Pb**	**03 37 17.0**	**-0.5**
	baz=353						
NSTT				S	**Sb**	**03 37 22.4**	**-1.1**
	baz=353						
WWF	**Wufeng**	**0.38**	**237**	*eP*	**Pb**	**03 37 17.8**	**+0.2**
	baz=240						
WWF				*eS*	**Sb**	**03 37 24.2**	**+0.5**
	baz=240						
WDJ	**Dajia District**	**0.39**	**284**	⇑*iP*	**Pb**	**03 37 18.1**	**+0.5**
	baz=286						
WDJ				S	**Sb**	**03 37 24.2**	**+0.5**
	baz=286						
TYC	**Yuchr**	**0.39**	**207**	⇑*iP*	**Pg**	**03 37 16.1**	**+0.1**
	baz=208						
TYC				S	**Sg**	**03 37 21.2**	**0.0**
	baz=208						
SMLT	**Sun Moon Lake**	**0.39**	**201**	⇑*iP*	**Pb**	**03 37 16.4**	**-1.4**
	baz=202						
SMLT				*i* S	**Sb**	**03 37 22.0**	**-2.0**
	baz=202						
LIOB	**Emei**	**0.39**	**355**	⇓*iP*	**Pb**	**03 37 17.4**	**-0.4**
	baz=354						
LIOB				S	**Sb**	**03 37 23.0**	**-1.0**
	baz=354						
ETLH	**Xiulin Townshi**	**0.40**	**96**	⇓*iP*	**Pb**	**03 37 16.8**	**-1.0**
	baz=95						
ETLH				*i* S	**Sg**	**03 37 21.9**	**+0.5**
	baz=95						
SSLB	**Suanglung**	**0.47**	**191**	⇓*iP*	**Pg**	**03 37 17.1**	**-0.5**
	baz=193						
SSLB				S	**Sg**	**03 37 22.7**	**-1.1**
	baz=193						
WCHH	**Zhanghua**	**0.48**	**249**	*eP*	**Pb**	**03 37 20.1**	**+0.9**
	baz=251						
WNT1	**Nantou City**	**0.48**	**225**	*eP*	**Pb**	**03 37 19.6**	**+0.4**
	baz=227						
WNT1				*eS*	**Sb**	**03 37 28.0**	**+1.5**
	baz=227						
ETM	**Tongmen**	**0.49**	**125**	⇓*iP*	**Pb**	**03 37 18.5**	**-0.9**
	baz=125						
ETM				*i* S	**Sg**	**03 37 24.9**	**+0.4**
	baz=125						
WNT	**Mingjian**	**0.50**	**222**	*eP*	**Pb**	**03 37 19.8**	**+0.3**
	baz=223						
WNT				*eS*	**Sb**	**03 37 28.0**	**+1.0**
	baz=223						
NACB	**Ninganchiao**	**0.50**	**99**	⇓*iP*	**Pb**	**03 37 18.7**	**-0.9**
	baz=98						
NACB				*i* S	**Sg**	**03 37 25.2**	**+0.5**
	baz=98						
NSK	**Sanguang**	**0.51**	**33**	⇑*iP*	**Pg**	**03 37 18.5**	**+0.2**
	baz=32						
NSK				*eS*	**Sg**	**03 37 24.8**	**-0.2**
	baz=32						
YHNB	**Yeheng**	**0.51**	**35**	⇑*iP*	**Pg**	**03 37 18.4**	**0.0**
	baz=33						
YHNB				*eS*	**Sg**	**03 37 25.2**	**+0.1**
	baz=33						
WJS	**Zhushan**	**0.52**	**215**	*eP*	**Pb**	**03 37 19.7**	**-0.2**
	baz=217						
WJS				*eS*	**Sb**	**03 37 27.9**	**+0.3**
	baz=217						
TWD	**Chiawan**	**0.53**	**109**	⇓*iP*	**Pb**	**03 37 19.2**	**-0.8**
	baz=108						
TWD				*i* S	**Sb**	**03 37 26.4**	**-1.3**
	baz=108						
SBCB	**Hsinchu**	**0.54**	**354**	⇓*P*	**Pb**	**03 37 20.9**	**+0.6**
	baz=353						
SBCB				*eS*	**Sb**	**03 37 29.1**	**+0.8**
	baz=353						
NDT	**Datong Townshi**	**0.55**	**50**	⇑*iP*	**Pg**	**03 37 19.1**	**0.0**
	baz=48						
NDT				*eS*	**Sg**	**03 37 25.6**	**-0.7**
	baz=48						
ESL	**Shilin**	**0.56**	**141**	⇓*iP*	**Pb**	**03 37 19.7**	**-0.8**
	baz=141						
ESL				S	**Sg**	**03 37 25.9**	**-0.6**
	baz=141						
HWA	**Hwalien**	**0.57**	**118**	⇓*iP*	**Pb**	**03 37 20.5**	**-0.3**
	baz=118						
HWA				*i* S	**Sb**	**03 37 28.7**	**-0.4**
	baz=118						
WHYT	**Xinyi Township**	**0.58**	**198**	*eP*	**Pb**	**03 37 20.1**	**-0.8**
	baz=200						
WHYT				*eS*	**Sb**	**03 37 28.0**	**-1.4**
	baz=200						
ENTT	**Nioudou**	**0.61**	**50**	P	**Pg**	**03 37 20.2**	**0.0**
	baz=49						
ENTT				*eS*	**Sg**	**03 37 28.4**	**+0.2**
	baz=49						
TEYL	**Yanliau Villag**	**0.63**	**127**	P	**Pb**	**03 37 20.9**	**-0.8**
	baz=124						
TEYL				*eS*	**Sg**	**03 37 29.0**	**+0.2**
	baz=124						
EHP	**Heping Village**	**0.63**	**85**	*eP*	**Pg**	**03 37 20.5**	**-0.1**
	baz=84						
EHP				*eS*	**Sb**	**03 37 29.6**	**-1.1**
	baz=84						
ENA	**Nanau**	**0.65**	**74**	⇑*eP*	**Pg**	**03 37 21.2**	**+0.1**
	baz=73						
ENA				*eS*	**Sg**	**03 37 29.2**	**-0.4**
	baz=73						
NWLT	**Wulai**	**0.67**	**38**	⇑*iP*	**Pg**	**03 37 21.2**	**-0.1**
	baz=37						
NWLT				*eS*	**Sg**	**03 37 29.3**	**-0.7**
	baz=37						
EGFH	**Guangfu**	**0.67**	**149**	⇓*iP*	**Pb**	**03 37 21.5**	**-1.0**
	baz=150						
EGFH				S	**Sg**	**03 37 29.2**	**-1.0**
	baz=150						
TEGC	**Jichi Village**	**0.70**	**140**	*eP*	**Pb**	**03 37 22.8**	**-0.2**
	baz=140						
TEGC				*eS*	**Sb**	**03 37 32.8**	**+0.1**
	baz=140						
WGK	**Gukeng**	**0.72**	**219**	*eP*	**Pn**	**03 37 24.0**	**-0.9**
	baz=219						
WGK				*eS*	**Sb**	**03 37 33.2**	**0.0**
	baz=219						
NCUH	**Zhongli**	**0.72**	**10**	*eP*	**Pn**	**03 37 24.5**	**-0.5**
	baz=9.0						
NCUH				*eS*	**Sb**	**03 37 34.7**	**+1.3**
	baz=9.0						
NCU	**National Centr**	**0.73**	**10**	*eP*	**Pn**	**03 37 24.6**	**-0.4**
	baz=9.0						
NCU				*eS*	**Sb**	**03 37 34.3**	**+0.8**
	baz=9.0						
TWE	**Neicheng**	**0.73**	**50**	⇑*iP*	**Pg**	**03 37 22.7**	**+0.1**
	baz=50						
TWE				*eS*	**Sg**	**03 37 31.4**	**-0.7**
	baz=50						
WDLH	**Douliu**	**0.73**	**220**	⇑*P*	**Pb**	**03 37 24.0**	**+0.5**
	baz=221						
WDLH				*eS*	**Sb**	**03 37 34.0**	**+0.4**
	baz=221						
CHN5	**Tsauling**	**0.74**	**208**	*eP*	**Pb**	**03 37 23.8**	**+0.2**
	baz=209						
CHN5				*eS*	**Sb**	**03 37 34.7**	**+0.8**
	baz=209						
YUS	**Yu-Shan**	**0.76**	**187**	P	**Pg**	**03 37 22.6**	**-0.6**
	baz=187						
YUS				*eS*	**Sb**	**03 37 35.1**	**+0.1**
	baz=187						
ALS	**Alishan**	**0.77**	**197**	P	**Pg**	**03 37 23.1**	**-0.3**
	baz=198						
ALS				*eS*	**Sb**	**03 37 34.2**	**-0.9**
	baz=198						
NTY	**Taoyuan**	**0.78**	**17**	*eP*	**Pn**	**03 37 25.7**	**0.0**
	baz=16						
EHY	**Hungye**	**0.78**	**162**	⇓*iP*	**Pb**	**03 37 23.4**	**-1.0**
	baz=162						
EHY				*eS*	**Sg**	**03 37 33.0**	**-0.7**
	baz=162

CHN4				eS	Sn	03 37 42.3	-0.6	
	baz=206							
TIPB	**Shuangxi**	**1.00**	**44**	*eP*	**Pg**	**03 37 27.5**	**-0.3**	
	baz=43							
TIPB				eS	Sg	03 37 41.1	+0.2	
	baz=43							
YM01	**YM01**	**1.01**	**28**	*eP*	**Pn**	**03 37 28.9**	**-0.1**	
	baz=27							
YM01				eS	Sn	03 37 43.5	+0.1	
	baz=27							
TPUB	**Ta-pu**	**1.02**	**202**	*eP*	**Pn**	**03 37 28.6**	**-0.6**	
	baz=203							
TPUB				eS	Sb	03 37 42.3	+0.3	
	baz=203							
ANP	**Anpu**	**1.02**	**24**	*eP*	**Pn**	**03 37 29.3**	**0.0**	
	baz=24							
ANP				eS	Sn	03 37 43.7	-0.2	
	baz=24							
NWF	**Wu-fen Shan**	**1.05**	**39**⇑	*eP*	**Pb**	**03 37 29.1**	**+0.1**	
	baz=38							
NWF				eS	Sn	03 37 45.1	+0.6	
	baz=38							
WFSB	**Wu-fen Shan**	**1.05**	**39**⇑	*eP*	**Pb**	**03 37 29.1**	**+0.1**	
	baz=38							
WFSB				eS	Sb	03 37 43.8	+0.9	
	baz=38							
YM08	**YM08**	**1.05**	**28**⇑	*eP*	**Pn**	**03 37 29.5**	**0.0**	
	baz=27							
YM08				eS	Sb	03 37 43.7	+0.8	
	baz=27							
ELDTW	**Lidau**	**1.06**	**182**	*eP*	**Pg**	**03 37 27.3**	**-1.5**	
	baz=182							
ELDTW				eS	Sb	03 37 42.7	-0.4	
	baz=182							
FULB	**Fuli**	**1.07**	**168**⇓	*eP*	**Pb**	**03 37 29.2**	**-0.1**	
	baz=169							
FULB				eS	Sb	03 37 44.0	+0.6	
	baz=169							
WTP	**Ta-pu**	**1.08**	**202**⇑	*eP*	**Pn**	**03 37 29.6**	**-0.3**	
	baz=202							
WTP				eS	Sb	03 37 44.2	+0.6	
	baz=202							
TWK	**Hsinying**	**1.11**	**208**	*eP*	**Pn**	**03 37 30.2**	**-0.2**	
	baz=208							
TWK				eS	Sb	03 37 45.1	+0.6	
	baz=208							
TNOU	**National Taiwa**	**1.11**	**36**	*eP*	**Pn**	**03 37 30.5**	**+0.2**	
	baz=35							
TNOU				eS	Sn	03 37 46.1	+0.3	
	baz=35							
STYT	**Tauyuan**	**1.12**	**194**	*eP*	**Pb**	**03 37 29.6**	**-0.5**	
	baz=194							
STYT				eS	Sn	03 37 45.8	-0.3	
	baz=194							
ICHU	**Yijhu**	**1.13**	**219**	*eP*	**Pn**	**03 37 30.5**	**-0.2**	
	baz=219							
ICHU				eS	Sn	03 37 46.4	0.0	
	baz=219							
TWY	**Chenhua**	**1.14**	**26**	*eP*	**Pn**	**03 37 31.6**	**+0.9**	
	baz=26							
TWB1	**Santiao Chiao**	**1.14**	**48**	*eP*	**Pg**	**03 37 29.8**	**-0.6**	
	baz=48							
TWB1				eS	Sb	03 37 46.0	+0.7	
	baz=48							
SNST	**Tainan City**	**1.15**	**206**	*eP*	**Pn**	**03 37 31.0**	**+0.2**	
	baz=207							
CHN1	**Nanshi**	**1.17**	**204**	*eP*	**Pn**	**03 37 31.8**	**+0.7**	
	baz=205							
CHN1				eS	Sn	03 37 47.4	+0.1	
	baz=205							
CHKT	**Chengkung**	**1.18**	**166**	*eP*	**Pn**	**03 37 31.2**	**-0.1**	
	baz=166							
CHN8	**Yiju**	**1.19**	**221**	*eP*	**Pn**	**03 37 31.3**	**0.0**	
	baz=221							
CHN8				eS	Sn	03 37 48.7	+1.0	
	baz=221							
SGST	**Jiashian**	**1.24**	**200**	*eP*	**Pn**	**03 37 31.9**	**-0.3**	
	baz=201							
SGST				eS	Sn	03 37 49.4	+0.3	
	baz=201							
EDH	**Donghe**	**1.29**	**170**	*eP*	**Pn**	**03 37 33.1**	**+0.2**	
	baz=170							
SLGT	**Liugui**	**1.31**	**197**	*eP*	**Pn**	**03 37 34.1**	**+1.0**	
	baz=197							
SLGT				eS	Sn	03 37 52.3	+1.6	
	baz=197							
CHN3	**Shinhua**	**1.33**	**208**	*eP*	**Pb**	**03 37 33.6**	**0.0**	
	baz=209							
CHN3				eS	Sg	03 37 49.8	-1.4	
	baz=209							
SCLT	**Jiali**	**1.33**	**216**	*eP*	**Pb**	**03 37 33.7**	**+0.1**	
	baz=217							
SCLT				eS	Sn	03 37 53.7	+2.5	
	baz=217							
LONT	**Longtian**	**1.34**	**177**	*eP*	**Pb**	**03 37 33.8**	**0.0**	
	baz=177							
LONT				eS	Sn	03 37 53.6	+2.1	
	baz=177							
TWG	**Pinlang**	**1.42**	**179**	*eP*	**Pg**	**03 37 35.1**	**-0.7**	
	baz=179							
TWG				eS	Sn	03 37 56.4	+2.8	
	baz=179							
TWGBT	**Beinan**	**1.43**	**179**	*eP*	**Pg**	**03 37 35.0**	**-0.9**	
	baz=179							
TWGBT				eS	Sn	03 37 56.5	+2.9	
	baz=179							
SCST	**Cishan**	**1.45**	**201**	*eP*	**Pg**	**03 37 37.2**	**+0.8**	
	baz=201							
SCST				eS	Sn	03 37 56.8	+2.5	
	baz=201							
PNG	**Penghu**	**1.53**	**244**	*eP*	**Pb**	**03 37 36.9**	**-0.2**	
	baz=244							
PNG				eS	Sg	03 37 57.4	-0.3	
	baz=244							
TWM1	**Shoushan**	**1.53**	**202**	*eP*	**Pg**	**03 37 38.5**	**+0.6**	
	baz=202							
PHUB	**P'eng-hu**	**1.54**	**242**	*eP*	**Pn**	**03 37 35.8**	**-0.5**	
	baz=242							
PHUB				eS	Sg	03 37 57.5	-0.5	
	baz=242							
SSD	**Sandimen**	**1.55**	**195**	*eP*	**Pg**	**03 37 38.3**	**+0.1**	
	baz=195							
SSD				eS	Sg	03 37 59.9	+1.6	
	baz=195							
TSMG	**Majia**	**1.58**	**194**	*eP*	**Pg**	**03 37 38.6**	**-0.2**	
	baz=194							
TSMG				eS	Sg	03 37 59.2	-0.2	
	baz=194							
WDGT	**Dungji**	**1.61**	**233**	*eP*	**Pn**	**03 37 37.3**	**+0.1**	
	baz=233							
WDGT				eS	Sg	03 37 59.7	-0.6	
	baz=233							
LDUT	**Ludao**	**1.62**	**166**	*eP*	**Pn**	**03 37 36.7**	**-0.6**	
	baz=167							
SNJT	**Kaohsiung City**	**1.63**	**204**	*eP*	**Pg**	**03 37 39.9**	**+0.2**	
	baz=204							
VWUC	**VWUC**	**1.63**	**297**	*eP*	**Pn**	**03 37 36.8**	**-0.7**	
	baz=297							
VWUC				eS	Sn	03 37 57.6	-1.1	
	baz=297							
ECL	**Taimali**	**1.65**	**183**	*eP*	**Pg**	**03 37 39.6**	**-0.5**	
	baz=183							
PCYT	**Pengchaiyu**	**1.66**	**34**	*eP*	**Pb**	**03 37 38.6**	**-0.6**	
	baz=34							
MASBT	**Mashibuluo**	**1.68**	**193**	*eP*	**Pg**	**03 37 39.7**	**-0.9**	
	baz=194							
MASBT				eS	Sg	03 38 02.5	+0.1	
	baz=194							
JYNG	**Yonaguni jima**	**1.74**	**83**	P	**Pn**	**03 37 39.3**	**+0.3**	
JYNG				S	Sn	03 38 02.2	+0.9	
YOJ	**Yonaguni jima**	**1.80**	**83**	P	**Pb**	**03 37 41.1**	**-0.6**	
YOJ				S	Sb	03 38 04.4	0.0	
YOJ	**Yonaguni jima**	**1.80**	**83**	*eP*	**Pb**	**03 37 41.0**	**-0.6**	
	baz=83							
VCHM	**Qimei**	**1.81**	**235**	*eP*	**Pn**	**03 37 40.4**	**+0.4**	
	baz=236							
VCHM				eS	Sn	03 38 03.3	+0.1	
	baz=236							
EAST	**Anshuo**	**1.87**	**186**	*eP*	**Pb**	**03 37 42.8**	**-0.1**	
	baz=186							
TAW	**Tawu**	**1.89**	**184**	*eP*	**Pg**	**03 37 43.6**	**-1.1**	
	baz=185							
SCZT	**Fangliau**	**1.91**	**192**	*eP*	**Pb**	**03 37 43.1**	**-0.5**	
	baz=192							
SCZT				eS	Sb	03 38 08.1	+0.5	
	baz=192							
PTMZ	**Houxiangcun**	**1.93**	**294**	*eP*	**Pn**	**03 37 40.9**	**-0.7**	
	baz=294							
PTMZ				eS	Sn	03 38 04.3	-1.6	
	baz=294							
WLCH	**Liuqiu**	**1.99**	**198**	*eP*	**Pg**	**03 37 45.5**	**-1.2**	
	baz=199							
SLIU	**Shizi**	**2.04**	**187**	*eP*	**Pb**	**03 37 44.9**	**-0.8**	
	baz=187							
MATB	**Ma-tsu**	**2.14**	**332**	*eP*	**Pn**	**03 37 43.9**	**-0.6**	
	baz=331							
MSUT	**Lienchiang**	**2.17**	**332**	*eP*	**Pn**	**03 37 44.8**	**-0.1**	
	baz=332							
LAY	**Lan-yu**	**2.25**	**168**	*eP*	**Pn**	**03 37 46.7**	**+0.7**	
	baz=168							
HEN	**Hengchun**	**2.25**	**187**	*eP*	**Pb**	**03 37 48.9**	**-0.6**	
	baz=188							
TWK1	**Hengchun**	**2.31**	**186**	*eP*	**Pb**	**03 37 48.3**	**-2.0**	
	baz=186							
TWKBT	**Hengchun**	**2.31**	**186**	*eP*	**Pn**	**03 37 48.2**	**+1.4**	
	baz=186							
KNM	**Kinmen**	**2.39**	**274**	*eP*	**Pb**	**03 37 50.0**	**-1.8**	
	baz=274							
KNMB	**Chin-men Tao**	**2.44**	**276**	*eP*	**Pn**	**03 37 49.0**	**+0.4**	
	baz=275							
IRIF	**Iriomote-Funau**	**2.44**	**87**	P	**Pn**	**03 37 49.6**	**+0.9**	
IRIF				S	**Sn**	**03 38 20.9**	**+2.1**	
HATJ	**Hateruma jima**	**2.52**	**94**	S	**Sb**	**03 38 23.2**	**-2.0**	
LYJJ	**Jianjiangzhen**	**2.57**	**333**	*eP*	**Pn**	**03 37 50.4**	**-0.1**	
	baz=333							
MHZQ	**Yeshan**	**2.60**	**316**	*eP*	**Pn**	**03 37 50.7**	**0.0**	
	baz=315							
JKRS	**Kuro-shima**	**2.70**	**90**	P	**Pn**	**03 37 54.5**	**+2.3**	
JKRS				S	**Sn**	**03 38 26.9**	**+1.8**	
XPSS	**Dashiqiu**	**2.78**	**344**	*eP*	**Pn**	**03 37 52.9**	**-0.4**	
	baz=344							
JIJ	**Ishigaki jima**	**2.82**	**87**	P	**Pn**	**03 37 55.2**	**+1.3**	
JIJ				S	**Sn**	**03 38 28.5**	**+0.4**	
AXDP	**Jialang**	**2.88**	**284**	*eP*	**Pn**	**03 37 54.3**	**-0.4**	
	baz=283							
JISG	**Ishigakijimahi**	**2.99**	**83**	P	**Pn**	**03 37 57.4**	**+1.2**	
JISG				S	**Sn**	**03 38 33.7**	**+1.5**	
ZPLA	**Ao Xicun**	**3.03**	**265**	*eP*	**Pn**	**03 37 56.7**	**-0.1**	
	baz=264							

*IDC **06** 03:39:54.9±4.0, 38˚.08N×142˚.29E, h81km±25km, mb3.3/2, mb1 3.3/4, mb1mx3.1/36, mbtmp3.7/4, Error ellipse: s-maj=47.5km s-min=10.5km az=80.0*
*JMA **06** 03:39:55.1, 38˚.41N×141˚.94E, h63km±1km, M3.3*
ISC 06 03:39:53.3±1.6**, 38˚.33N**±0˚.04×**142˚.2E**±0˚.1**, h56**km±12km**, n17**, σ1§02/30**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.54**	**268**	P	**Pn**		**03 40 06.3**		**+0.9**
JIKH				S	**Sn**		**03 40 14.1**		**-0.1**
JIO	**Ouri**	**0.64**	**281**	P	**Pn**		**03 40 07.1**		**+0.5**
JIO				S	**Sn**		**03 40 15.4**		**-0.9**
JKMT	**Kesennumamotoy**	**0.72**	**312**	P	**Pn**		**03 40 07.9**		**+0.4**
JKMT				S	**Sn**		**03 40 16.9**		**-1.0**
OFUJ	**Ofunato**	**0.84**	**333**	P	**Pn**		**03 40 09.6**		**+0.5**
OFUJ				S	**Sn**		**03 40 20.0**		**-0.7**
JMK	**Ichinoseki**	**0.96**	**311**	P	**Pn**		**03 40 10.8**		**+0.2**
JMK				S	**Sn**		**03 40 22.1**		**-1.3**
JMM	**Marumori**	**1.17**	**247**	P	**Pn**		**03 40 13.6**		**+0.2**
JMM				S	**Sn**		**03 40 27.3**		**-1.1**
JOU	**Okura**	**1.17**	**272**	P	**Pn**		**03 40 13.6**		**+0.1**
JOU				S	**Sn**		**03 40 27.0**		**-1.5**
JOM	**Ohasama**	**1.32**	**330**	P	**Pn**		**03 40 15.7**		**+0.2**
JOM				S	**Sn**		**03 40 31.4**		**-0.7**
JFK	**Kawauchi**	**1.40**	**227**	P	**Pn**		**03 40 17.4**		**+0.9**
JFK				S	**Sn**		**03 40 34.2**		**+0.3**
JYK	**Kaneyama**	**1.52**	**293**	P	**Pn**		**03 40 18.0**		**-0.2**
JYK				S	**Sn**		**03 40 35.1**		**-1.8**
JRG	**Rokugo**	**1.59**	**312**	P	**Pn**		**03 40 19.0**		**-0.1**
JYS	**Shirataka**	**1.65**	**267**	P	**Pn**		**03 40 20.2**		**+0.3**
JYS				S	**Sn**		**03 40 38.8**		**-1.2**
JFT	**Otama**	**1.65**	**241**	P	**Pn**		**03 40 20.9**		**+1.0**
JFT				S	**Sn**		**03 40 39.7**		**-0.4**
MJAR	**Matsushiro Arr**	**3.61**	**242**	P	**Pn**		**03 40 48.1**		**+1.4**
	0.2nm,0.3s,baz=57,slow=10,SNR=9.5								
JHJ	**Hachijo jima 2**	**5.55**	**201**	P	**Pn**		**03 41 12.2**		**-1.0**
	4.3nm,0.3s,baz=60,slow=23,SNR=1.9								
JHJ				S	**Sn**		**03 42 13.2**		**-2.5**
	6.7nm,0.3s,baz=94,slow=22,SNR=6.2								
ZALV	**Zalesovo Beam**	**41.49**	**311**	P	**P**		**03 47 35.6**		**+1.1**
	0.8nm,0.5s,baz=83,slow=12,SNR=2.1								
MKAR	**Makanchi Array**	**43.94**	**301**	P	**P**		**03 47 55.2**		**+0.6**
	0.1nm,0.4s,baz=92,slow=7.3,SNR=4.2								

*IDC **06** 03:48:31.1±0.9, 48˚.19S×99˚.41E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.1/23, mbtmp4.2/8, MS4.0/18, Ms1 4.0/18, ms1mx3.9/23, Error ellipse: s-maj=34.9km s-min=17.3km az=115.0*
*NEIC **06** 03:48:33.1±1.9, 48˚.2S×0˚.1×99˚.2E×0˚.2, h10km±1km, mb4.7/15, Error ellipse: s-maj=27.9km s-min=18.6km az=287.0*
*GCMT **06** 03:48:34.1±0.3, 48˚.14S×0˚.02×99˚.24E±0˚.05, h15km±1km, MW4.9/94, Moment Tensor Solution. s25,c28; s94,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.92±.19; $M_{\theta\theta}$2.38±.12; $M_{\theta\phi}$0.54±.11; $M_{r\theta}$-0.51±.21; $M_{\phi\phi}$-0.70±.07; $M_{r\phi}$0.08±.28; Best double couple: M_o2.81700×10^{16} NP1:ϕ_s107.00000°,δ50.00000°,λ-92.00000°. NP2: ϕ_s290.00000°,δ40.00000°,λ-88.00000°. Principal axes: T 2.6650, Plg5.0000°, Azm199.0000°; N 0.3050, Plg1.0000°, Azm108.0000°; P -2.9690, Plg85.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 03:48:32.5±0.5**, 48˚.19S**±0˚.09×**99˚.3E**±0˚.1**, h10**km**, n57**, σ0§57/37**, mb4.6**/12**, MS4.1**/18**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.26**	**45**	T	T			04 10 11.5	
	baz=214,slow=74,SNR=79								
H01W1	**Cape Leeuwin H**	**17.27**	**45**	T	T			04 10 12.3	
	baz=214,slow=74,SNR=96								
H01W3	**Cape Leeuwin H**	**17.27**	**45**	T	T			04 10 12.7	
	baz=214,slow=74,SNR=87								
CASY	**Casey**	**19.07**	**166**	P	**P**		**03 52 54.0**		**-0.6**
CASY				IAmb	IAmb		03 53 03.9		
	comp=Z,22nm,1.3s								
NWAO	**Narrogin (SRO)**	**20.36**	**48**	P	**P**		**03 53 09.2**		**+0.2**
	comp=Z,7.1nm,0.8s,baz=54,slow=12,SNR=1.8								
NWAO				LR	LR		03 59 00.2		
	comp=Z,1μm,22.0s,baz=218,slow=31								
NWAO	**Narrogin (SRO)**	**20.36**	**48**	IAmb	IAmb		03 53 26.8		
	comp=Z,33nm,1.4s								
MAW	**Mawson**	**26.79**	**210**	P	**P**		**03 54 12.1**		**-0.1**
	comp=Z,2.3nm,0.9s,baz=73,slow=14,SNR=3.5								
MAW				LR	LR		04 03 04.8		
	comp=Z,861nm,18.1s,baz=56,slow=33								
MAW	**Mawson**	**26.79**	**210**	IAmb	IAmb		03 54 19.5		
	comp=Z,2.1nm,1.2s								
STKA	**Stephens Creek**	**35.73**	**79**	P	**P**		**03 55 30.8**		**-0.5**
	comp=Z,1.6nm,0.7s,baz=234,slow=3.9,SNR=3.8								
STKA				LR	LR		04 08 51.3		
	comp=Z,104nm,18.9s,baz=209,slow=34								
STKA	**Stephens Creek**	**35.73**	**79**	IAmb	IAmb		03 55 33.6		
	comp=Z,2.4nm,1.4s								
ASAR	**Alice Springs**	**36.70**	**61**	P	**P**		**03 55 38.7**		**-1.0**
	comp=Z,3.3nm,0.8s,baz=214,slow=8.1,SNR=22								
ASAR				LR	LR		04 09 16.7		
	comp=Z,291nm,18.1s,baz=219,slow=34								
ASAR	**Alice Springs**	**36.70**	**61**	P	**P**		**03 55 40.0**		**+0.3**
AS31	**Alice Springs**	**36.70**	**61**	P	**P**		**03 55 39.1**		**-0.5**
VNDA	**Vanda**	**37.58**	**162**	P	**P**		**03 55 46.9**		**+0.3**
	comp=Z,2.4nm,0.9s,baz=281,slow=8.8,SNR=13								
VNDA				LR	LR		04 10 04.2		
	comp=Z,538nm,18.2s,baz=287,slow=34								
VNDA	**Vanda**	**37.58**	**162**	P	**P**		**03 55 47.6**		**+1.1**
VNDA				IAmb	IAmb		03 55 50.4		
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**39.87**	**57**	LR	LR		04 11 39.1		
	comp=Z,139nm,19.3s,baz=185,slow=35								
WRAB	**Tennant Creek**	**39.88**	**57**	P	**P**		**03 56 06.5**		**+0.1**
WRAB				IAmb	IAmb		03 56 22.0		
	comp=Z,17nm,0.7s								
QSPA	**South Pole Qui**	**41.95**	**180**	P	**P**		**03 56 23.0**		**-0.2**
	comp=Z,9.7nm,0.9s,baz=309,slow=4.1,SNR=23								
QSPA	**South Pole Qui**	**41.95**	**180**	P	**P**		**03 56 23.5**		**+0.3**
QSPA				IAmb	IAmb		03 56 25.8		

	comp=Z,39nm,1.5s							
H08S2	**Diego Garcia H**	**46.36**	**322**	T	T		04 46 30.1	
	baz=155,slow=76,SNR=9.1							
H08S1	**Diego Garcia H**	**46.37**	**322**	T	T		04 46 30.6	
	baz=155,slow=76,SNR=9.8							
H08S3	**Diego Garcia H**	**46.38**	**322**	T	T		04 46 31.6	
	baz=155,slow=76,SNR=8.5							
SNAA	**Sanae**	**48.67**	**204**	P	**P**		**03 57 16.5**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=112,slow=7.9,SNR=5.5							
SNAA	**Sanae**	**48.67**	**204**	P	**P**		**03 57 16.4**	**+0.1**
DZM	**Mont Dzumac**	**58.74**	**89**	LR	LR		04 21 22.3	
	comp=Z,71nm,18.5s,baz=312,slow=34							
BOSA	**Boshof**	**58.96**	**261**	LR	LR		04 19 03.1	
	comp=Z,188nm,19.1s,baz=163,slow=31							
HNR	**Honiara**	**63.59**	**74**	LR	LR		04 23 34.4	
	comp=Z,163nm,20.0s,baz=178,slow=33							
RAO	**Raoul Island**	**64.22**	**106**	LR	LR		04 21 33.7	
	comp=Z,53nm,18.1s,baz=189,slow=31							
CMAR	**Chiang Mai Arr**	**66.34**	**360**	P	**P**		**03 59 21.6**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=198,slow=5.7,SNR=12							
CMAR				LR	LR		04 25 07.4	
	comp=Z,272nm,19.6s,baz=214,slow=33							
CMAR	**Chiang Mai Arr**	**66.34**	**360**	P	**P**		**03 59 21.8**	**+0.6**
CHTO	**Chiang Mai**	**66.70**	**360**	P	**P**		**03 59 23.6**	**+0.1**
CHTO				IAmb	IAmb		03 59 47.0	
	comp=Z,8.5nm,1.5s							
LSA	**Lhasa**	**77.88**	**353**	P	**P**		**04 00 30.4**	**-0.3**
ENH	**Enshi**	**78.64**	**9**	P	**P**		**04 00 34.2**	**0.0**
ENH				IAmb	IAmb		04 00 35.6	
	comp=Z,13nm,1.3s							
NIL	**Nilore**	**84.75**	**338**	P	**P**		**04 01 05.2**	**-1.3**
RAYN	**Ar Rayn**	**86.12**	**312**	P	**P**		**04 01 13.6**	**+0.1**
RAYN				IAmb	IAmb		04 01 15.3	
	comp=Z,10nm,1.4s							
KBL	**Kabul**	**86.70**	**335**	P	**P**		**04 01 15.7**	**-0.7**
KBL				IAmb	IAmb		04 01 17.3	
	comp=Z,7.5nm,0.9s							
KSAR	**Wonju Array Be**	**88.97**	**22**	P	**P**		**04 01 27.7**	**+0.9**
KSRS	**Korea Array**	**89.00**	**22**	LR	LR		04 38 49.8	
	comp=Z,42nm,22.0s,baz=202,slow=34							
PPT	**Papeete**	**90.39**	**117**	LR	LR		04 34 40.0	
	comp=Z,28nm,19.6s,baz=158,slow=31							
PLCA	**Paso Flores**	**91.00**	**188**	LR	LR		04 41 18.9	
	comp=Z,285nm,20.0s,baz=175,slow=35							
MJAR	**Matsushiro Arr**	**91.21**	**30**	LR	LR		04 40 19.4	
	comp=Z,32nm,20.8s,baz=185,slow=34							
MKAR	**Makanchi Array**	**95.76**	**348**	LR	LR		04 42 02.4	
	comp=Z,80nm,21.1s,baz=176,slow=34							
SONM	**Songino Array**	**95.84**	**5**	LR	LR		04 44 58.0	
	comp=Z,96nm,20.1s,baz=96,slow=35							
USRK	**Ussuriysk Ar.**	**96.38**	**23**	LR	LR		04 45 14.1	
	comp=Z,23nm,20.2s,baz=172,slow=35							
DAWY	**Dawson**	**145.11**	**41**	PKPbc		**PKPbc**	**04 08 08.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	**145.53**	**169**			**PKPbc**	**04 08 10.7**	**-0.6**
MTO3	**Montecristo**	**145.55**	**165**			**PKPdf**	**04 08 10.9**	**-0.4**
HYT	**Haines Junctio**	**145.81**	**47**	PKPbc		**PKPab**	**04 08 12.6**	**+1.3**
PETF	**Flores**	**147.91**	**163**	PKPbc		**PKPbc**	**04 08 17.1**	**-0.9**
OSI	**Osito Audit: C**	**148.74**	**102**	PKPbc		**PKiKP**	**04 08 20.6**	**-0.6**
MWC	**Mount Wilson**	**148.94**	**103**	PKPbc		**PKPbc**	**04 08 20.9**	**+0.4**
SUMG	**Summit**	**149.08**	**337**	PKPbc		**PKPbc**	**04 08 20.5**	**+0.6**
ISA	**Isabella, Lake**	**149.53**	**100**	PKPbc		**PKiKP**	**04 08 23.4**	**+0.6**
CMB	**Columbia Colle**	**149.59**	**95**	PKPbc		**PKPbc**	**04 08 21.7**	**-0.1**
ORV	**Oroville**	**149.64**	**91**	PKPbc		**PKPbc**	**04 08 21.7**	**0.0**
NVAR	**Mina Array Bea**	**151.19**	**96**	PKPbc		**PKPbc**	**04 08 26.0**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=220,slow=4.6,SNR=16							
TXAR	**Lajitas Array**	**154.17**	**128**	PKPbc		**PKiKP**	**04 08 32.7**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=251,slow=3.8,SNR=3.5							
TXAR				PKPab		**PKPab**	**04 08 46.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=187,slow=8.8,SNR=4.9							

*IDC **06** 04:17:47.1±1.7, 17˚.63S×178˚.74W, h621km±18km, mb3.2/9, mb1 3.5/10, mb1mx3.1/37, mbtmp4.1/10, Error ellipse: s-maj=62.7km s-min=12.9km az=152.0*
ISC 06 04:17:45.6±1.3**, 17˚.6S**±0˚.4×**178˚.7W**±0˚.3**, h600**km**, n11**, σ1§30/12**, mb3.6**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**267**	P	**P**		**04 19 08.7**		**+3.2**
	4.4nm,0.3s,baz=144,slow=2.4,SNR=27								
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**		**04 24 18.2**		**-0.4**
	1.0nm,0.5s,baz=101,slow=8.7,SNR=4.5								
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**		**04 25 03.9**		**-1.1**
	1.8nm,0.5s,baz=95,slow=7.3,SNR=9.6								
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**		**04 25 06.2**		**-0.2**
	7.7nm,0.5s,baz=87,slow=8.8,SNR=103								
ASAR				S	**S**		**04 30 58.9**		**-1.4**
	1.0nm,0.8s,baz=88,slow=15,SNR=5.9								
YBH	**Yreka Blue Hor**	**78.45**	**39**	P	**P**		**04 28 46.3**		**+0.6**
	1.0nm,0.6s,baz=190,slow=11,SNR=1.4								
NVAR	**Mina Array Bea**	**79.38**	**44**	P	**P**		**04 28 50.4**		**-0.5**
	1.3nm,0.8s,baz=227,slow=9.1,SNR=4.7								
SEY	**Seynchan**	**83.41**	**347**	P	**P**		**04 29 10.5**		**0.0**
	0.8nm,0.2s,baz=6.7,slow=21,SNR=3.9								
ILAR	**Eielson Array**	**85.64**	**13**	P	**P**		**04 29 20.7**		**-0.7**
	0.5nm,0.4s,baz=218,slow=5.1,SNR=9.9								
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**		**04 29 24.5**		**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.60**	**335**	P	**Pn**	**05 03 41.1**	**+1.4**
JKN2	**Miekihoku**	**0.73**	**303**	P	**Pn**	**05 03 41.2**	**+1.2**
HMMJ	**Hamamatsu 2**	**1.17**	**30**	P	**Pn**	**05 03 43.0**	**+1.3**
JTNC	**Tanabenakahech**	**1.17**	**269**	P	**Pn**	**05 03 42.6**	**+0.8**
JWY	**Kouya**	**1.24**	**288**	P	**Pn**	**05 03 43.1**	**+1.0**
JAO	**Obara**	**1.43**	**8**	P	**Pn**	**05 03 44.6**	**+1.6**
JNY	**Yasuok**	**1.66**	**25**	P	**Pn**	**05 03 45.7**	**+1.3**
JYTA	**Yamagatataniai**	**1.76**	**353**	P	**Pn**	**05 03 46.1**	**+1.2**
JWT	**Wachi**	**1.95**	**318**	P	**Pn**	**05 03 47.2**	**+1.0**
JAI	**Aioi**	**2.13**	**269**	P	**Pn**	**05 03 47.9**	**+0.4**
JHU	**Hanno**	**2.73**	**42**	P	**Pn**	**05 03 53.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.86**	**20**	P	**Pn**	**05 03 53.6**	**+0.3**
	0.6nm,0.3s,baz=194,slow=9.6,SNR=19						
MAT	**Matsushiro**	**2.86**	**20**	P	**Pn**	**05 03 54.1**	**+0.8**
MAT				*e*S	**S**	**05 04 41.1**	**+1.0**
MAT	**Matsushiro**	**2.86**	**20**	P	**Pn**	**05 03 54.3**	**+0.9**
BSO3	**Boso 3**	**3.05**	**71**	P	**Pn**	**05 03 54.2**	**-0.5**
BSO3				S	**S**	**05 04 44.0**	**+1.4**
JAG	**Ashikaga**	**3.26**	**37**	P	**Pn**	**05 03 56.5**	**-0.4**
JYT	**Yasato**	**3.53**	**47**	P	**Pn**	**05 03 58.5**	**-1.0**
JHO	**Hitachi**	**4.01**	**46**	P	**Pn**	**05 04 03.6**	**-0.7**
KSRS	**Korea Array**	**8.23**	**299**	P	**Pn**	**05 04 53.0**	**+0.9**
	0.2nm,0.3s,baz=113,slow=12,SNR=5.0						
USRK	**Ussuriysk Ar.**	**11.05**	**341**	P	**P**	**05 05 26.0**	**-0.2**
	baz=162,slow=12,SNR=8.1						
FINES	**FINESS Array B**	**69.92**	**331**	P	**P**	**05 13 26.8**	**-2.1**
	0.8nm,0.5s,baz=54,slow=5.9,SNR=14						

IDC ***06*** *05:08:56.3±0.5,56˚.35N×164˚.17E, h0km,mb4.3/37, mb1 4.4/42,mb1mx4.3/68,mbtmp4.3/42,ML4.5/3,MS4.2/31, Ms1 4.2/31,ms1mx4.1/47,Error ellipse: s-maj=14.6km s-min=9.0km az=164.0*

BJI ***06*** *05:08:57.4±0.0,56˚.40N×164˚.04E, h22km,mB4.8/38, mb4.8/49,Ms5.0/43,Ms7 4.7/42*

KRSC ***06*** *05:08:57.2±1.6,56˚.30N×164˚.39E, h61km±22km, ML4.8*

MOS ***06*** *05:08:59.6±1.0,56˚.33N×164˚.28E, h37km, mb5.0/51, MS4.4/12,Error ellipse: s-maj=5.6km s-min=3.6km az=65.6*

GCMT ***06*** *05:09:00.6±0.2,56˚.40N±0˚.01×164˚.49E±0˚.02, h20km±1km, MW5.0/119,Moment Tensor Solution. s41,c49; s119,c188; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.41±.14; Mθθ=3.45±.11; Mϕϕ3.86±.12; Mrθ0.72±.24; Mθϕ1.70±.10; Mϕr1.24±.23; Best double couple: Mo4.24700×10^16^ NP1:ϕs326.00000°,δ74.00000°, λ174.00000°. NP2:ϕs58.00000°,δ85.00000°,λ16.00000°. Principal axes: T 4.6100, Plg15.0000°, Azm283.0000°; N -0.7250, Plg73.0000°, Azm75.0000°; P -3.8850, Plg8.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***06*** *05:09:01.6±1.3,56˚.36N±0˚.06×164˚.2E±0˚.1, h35km±3km, mb4.9/129 Error ellipse: s-maj=9.3km s-min=8.7km az=146.0*

ISC 06 05:09:01.3±0.4,**56˚.29N**±0˚.03×**164˚.37E**±0˚.03,**h36**km±1km, **h37**km:**pP-P,n436,**σ1ϕ**55**/484,**mb4.8**/155,**MS4.5**/61, **14C-2D,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.87**	**265**	PN	**Pn**	**05 09 13.0**	**-3.9**
KBTR	**Krutoberegovo**	**0.87**	**265**	*e*P	**Pn**	**05 09 13.0**	**-3.9**
KBG	**Krutoberegovo**	**0.93**	**269**	PN	**Pn**	**05 09 13.9**	**-3.8**
KBG				S	**Sn**	**05 09 27.4**	**-2.4**
KBG	**Krutoberegovo**	**0.93**	**269**	*e*P	**Pn**	**05 09 13.9**	**-3.8**
KBG				*e*S	**Sn**	**05 09 27.4**	**-2.4**
BKI	**Bering**	**1.42**	**140**	PN	**Pn**	**05 09 22.3**	**-2.1**
BKI				S	**Sn**	**05 09 40.3**	**-1.5**
BKI	**Bering**	**1.42**	**140**	*e*P	**Pn**	**05 09 22.3**	**-2.1**
BKI				*e*S	**Sn**	**05 09 40.3**	**-1.5**
SMKR	**Semkarok**	**1.64**	**281**	PN	**Pn**	**05 09 25.4**	**-2.1**
SMKR	**Semkarok**	**1.64**	**281**	*e*P	**Pn**	**05 09 25.4**	**-2.1**
BDR	**Baidarnaya**	**1.78**	**280**	PN	**Pn**	**05 09 27.8**	**-1.7**
BDR	**Baidarnaya**	**1.78**	**280**	*e*P	**Pn**	**05 09 27.8**	**-1.7**
SRKR	**Sorokina**	**1.81**	**283**	PN	**Pn**	**05 09 28.2**	**-1.8**
SRKR	**Sorokina**	**1.81**	**283**	*e*P	**Pn**	**05 09 28.2**	**-1.8**
ZLN	**Zelenaya**	**2.01**	**264**	PN	**Pn**	**05 09 32.2**	**-0.5**
ZLN	**Zelenaya**	**2.01**	**264**	*e*P	**Pn**	**05 09 32.2**	**-0.5**
CIRR	**Tsirk**	**2.03**	**267**	PN	**Pn**	**05 09 32.4**	**-0.6**
CIRR	**Tsirk**	**2.03**	**267**	*e*P	**Pn**	**05 09 32.4**	**-0.6**
LGNR	**Loginova**	**2.07**	**266**	PN	**Pn**	**05 09 33.3**	**-0.3**
LGNR	**Loginova**	**2.07**	**266**	*e*P	**Pn**	**05 09 33.3**	**-0.3**
KLY	**Klyuchi**	**2.07**	**272**	PN	**Pn**	**05 09 30.7**	**-2.7**
KLY	**Klyuchi**	**2.07**	**272**	*e*P	**Pn**	**05 09 30.7**	**-2.7**
BZGR	**Bezymyannyi-Gr**	**2.09**	**262**	PN	**Pn**	**05 09 33.1**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**2.09**	**262**	*e*P	**Pn**	**05 09 33.1**	**-0.6**
BZWR	**Bezymyannyi-We**	**2.19**	**263**	PN	**Pn**	**05 09 34.7**	**-0.6**
BZWR	**Bezymyannyi-We**	**2.19**	**263**	*e*P	**Pn**	**05 09 34.7**	**-0.6**
BZMR	**Bezymyannaya**	**2.20**	**262**	PN	**Pn**	**05 09 34.8**	**-0.6**
BZMR	**Bezymyannaya**	**2.20**	**262**	*e*P	**Pn**	**05 09 34.8**	**-0.6**
KIRR	**Kirishev**	**2.28**	**263**	PN	**Pn**	**05 09 35.5**	**-0.9**
KIRR				S	**Sn**	**05 10 02.7**	**-0.6**
KIRR	**Kirishev**	**2.28**	**263**	*e*P	**Pn**	**05 09 35.5**	**-0.9**
KIRR				*e*S	**Sn**	**05 10 02.7**	**-0.6**
MKZ	**Mys Kozlova**	**2.30**	**222**	PN	**Pn**	**05 09 34.6**	**-1.9**
MKZ				S	**Sn**	**05 10 01.4**	**-2.1**
MKZ	**Mys Kozlova**	**2.30**	**222**	*e*P	**Pn**	**05 09 34.6**	**-1.9**
MKZ				*e*S	**Sn**	**05 10 01.4**	**-2.1**
KMNR	**Kamenistaya**	**2.38**	**259**	PN	**Pn**	**05 09 37.8**	**0.0**
KMNR	**Kamenistaya**	**2.38**	**259**	*e*P	**Pn**	**05 09 37.8**	**0.0**
TUMD	**Tumrok D**	**2.49**	**246**	*e*P	**Pn**	**05 09 38.8**	**-0.5**
TUMD				*e*S	**Sn**	**05 10 07.6**	**-0.8**
KOZ	**Kozyrevsk**	**2.52**	**267**	PN	**Pn**	**05 09 39.7**	**0.0**
KOZ				S	**Sn**	**05 10 11.2**	**+2.0**
KOZ	**Kozyrevsk**	**2.52**	**267**	*e*P	**Pn**	**05 09 39.7**	**0.0**
KOZ				*e*S	**Sn**	**05 10 11.2**	**+2.0**
TUMR	**Tumrok**	**2.59**	**249**	PN	**Pn**	**05 09 40.6**	**-0.1**
TUMR				S	**Sn**	**05 10 11.5**	**+0.6**
TUMR	**Tumrok**	**2.59**	**249**	*e*P	**Pn**	**05 09 40.6**	**-0.1**
TUMR				*e*S	**Sn**	**05 10 11.5**	**+0.6**
KZV	**Kizimen**	**2.59**	**245**	PN	**Pn**	**05 09 40.5**	**-0.2**
KZV	**Kizimen**	**2.59**	**245**	*e*P	**Pn**	**05 09 40.5**	**-0.2**
SRDR	**Sredinnyy**	**2.59**	**273**	PN	**Pn**	**05 09 40.3**	**-0.4**
SRDR	**Sredinnyy**	**2.59**	**273**	*e*P	**Pn**	**05 09 40.3**	**-0.4**
OSSR	**Ossora**	**3.05**	**347**	PN	**Pn**	**05 09 44.3**	**-2.5**
OSSR	**Ossora**	**3.05**	**347**	*e*P	**Pn**	**05 09 44.3**	**-2.5**
OSSR				*e*S	**Sn**	**05 10 17.8**	**-4.2**
ESO	**Esso**	**3.19**	**266**	PN	**Pn**	**05 09 49.2**	**+0.3**
ESO				S	**Sn**	**05 10 26.6**	**+0.9**
ESO	**Esso**	**3.19**	**266**	*e*P	**Pn**	**05 09 49.2**	**+0.3**
ESO				*e*S	**Sn**	**05 10 26.6**	**+0.9**
KII	**Karymskiy**	**3.61**	**233**	PN	**Pn**	**05 09 55.2**	**+0.5**
KII	**Karymskiy**	**3.61**	**233**	*e*P	**Pn**	**05 09 55.2**	**+0.5**
SPN	**Mys Shipunski**	**4.07**	**220**	PN	**Pn**	**05 09 59.3**	**-1.6**
SPN	**Mys Shipunski**	**4.07**	**220**	*e*P	**Pn**	**05 09 59.3**	**-1.6**
SPN				*e*S	**Sn**	**05 10 43.4**	**-3.9**
NLC	**Nalytchevo**	**4.27**	**225**	PN	**Pn**	**05 10 03.9**	**+0.3**
NLC	**Nalytchevo**	**4.27**	**225**	*e*P	**Pn**	**05 10 03.9**	**+0.3**
NLC				*e*S	**Sn**	**05 10 51.9**	**-0.2**
TILK	**Tilichiki**	**4.27**	**12**	PN	**Pn**	**05 10 02.9**	**-0.7**
TILK	**Tilichiki**	**4.27**	**12**	*e*P	**Pn**	**05 10 02.9**	**-0.7**
SDLR	**Sedlovina**	**4.38**	**229**	PN	**Pn**	**05 10 05.1**	**-0.2**
SDLR	**Sedlovina**	**4.38**	**229**	*e*P	**Pn**	**05 10 05.1**	**-0.2**
SDLR				*e*S	**Sn**	**05 10 53.8**	**-1.2**
KRER	**Koryakskii**	**4.42**	**230**	PN	**Pn**	**05 10 07.0**	**+1.1**
KRER	**Koryakskii**	**4.42**	**230**	*e*P	**Pn**	**05 10 07.0**	**+1.1**
KRX	**Arik**	**4.42**	**231**	PN	**Pn**	**05 10 06.9**	**+1.0**
KRX	**Arik**	**4.42**	**231**	*e*P	**Pn**	**05 10 06.9**	**+1.0**
SMAR	**Somma**	**4.42**	**229**	PN	**Pn**	**05 10 05.9**	**-0.1**
SMAR	**Somma**	**4.42**	**229**	*e*P	**Pn**	**05 10 05.9**	**-0.1**
SMAR				*e*S	**Sn**	**05 10 54.9**	**-1.4**
AVH	**Avacha**	**4.45**	**229**	PN	**Pn**	**05 10 07.6**	**+1.4**
AVH	**Avacha**	**4.45**	**229**	*e*P	**Pn**	**05 10 07.6**	**+1.4**
UGLR	**Uglovaya**	**4.46**	**228**	PN	**Pn**	**05 10 06.4**	**+0.1**
UGLR	**Uglovaya**	**4.46**	**228**	*e*P	**Pn**	**05 10 06.4**	**+0.1**
KOK	**Koryaka**	**4.47**	**230**	PN	**Pn**	**05 10 06.6**	**0.0**
KOK	**Koryaka**	**4.47**	**230**	*e*P	**Pn**	**05 10 06.6**	**0.0**
GNL	**Ganaly**	**4.52**	**238**	PN	**Pn**	**05 10 08.2**	**+1.0**
GNL	**Ganaly**	**4.52**	**238**	*e*P	**Pn**	**05 10 08.2**	**+1.0**
DALK	**Dalny**	**4.61**	**227**	PN	**Pn**	**05 10 08.4**	**+0.1**
DALK	**Dalny**	**4.61**	**227**	*e*P	**Pn**	**05 10 08.4**	**+0.1**
DALK				*e*S	**Sn**	**05 10 59.0**	**-1.6**
PET	**Petropavlovsk**	**4.66**	**228**	*e*PN	**Pn**	**05 10 08.9**	**-0.1**
PET				pmax	pmax		
	comp=Z,80nm,0.6s						
PET				MLR	MLR		
	comp=Z,4μm,13.0s						
PET				MLR	MLR		
	comp=Z,2μm,7.0s						
PET	**Petropavlovsk**	**4.66**	**228**	*e*P	**Pn**	**05 10 08.9**	**-0.1**
PET				*e*S	**Sn**	**05 11 01.0**	**-0.8**
PET	**Petropavlovsk**	**4.66**	**228**	Pn	**Pn**	**05 10 08.7**	**-0.3**
PET				Sn	**Sn**	**05 11 00.9**	**-0.8**
PEA0B	**Petropavlovsk-**	**5.01**	**233**	PN	**Pn**	**05 10 12.6**	**-1.3**
PEA0B	**Petropavlovsk-**	**5.01**	**233**		**Pn**	**05 10 12.6**	**-1.3**
PETK	**Petropavlovsk-**	**5.01**	**233**	Pn	**Pn**	**05 10 13.2**	**-0.7**
	comp=Z,4.7nm,0.3s,baz=77,slow=17,SNR=67						
PETK				Sn	**Sn**	**05 11 13.7**	**+3.2**
	comp=Z,4.6nm,0.3s,baz=303,slow=30,SNR=6.8						
PETK				LR	LR	05 12 18.4	
	comp=Z,3μm,20.1s,baz=46,slow=41						
PETK	**Petropavlovsk-**	**5.01**	**233**	Pn	**Pn**	**05 10 13.4**	**-0.5**
KRMR	**Karymshinskiy**	**5.02**	**229**	PN	**Pn**	**05 10 15.2**	**+1.3**
KRMR				S	**Sn**	**05 11 11.5**	**+0.9**
KRMR	**Karymshinskiy**	**5.02**	**229**	*e*P	**Pn**	**05 10 15.2**	**+1.3**
KRMR				*e*S	**Sn**	**05 11 11.5**	**+0.9**
RUS	**Russkaya**	**5.16**	**224**	PN	**Pn**	**05 10 15.2**	**-0.7**
RUS	**Russkaya**	**5.16**	**224**	*e*P	**Pn**	**05 10 15.2**	**-0.7**
RUS				*e*S	**Sn**	**05 11 11.0**	**-3.1**
GRL	**Gorelyy**	**5.25**	**227**	PN	**Pn**	**05 10 18.0**	**+0.8**
GRL	**Gorelyy**	**5.25**	**227**	*e*P	**Pn**	**05 10 18.0**	**+0.8**
MTVR	**Mutnovka**	**5.25**	**226**	PN	**Pn**	**05 10 17.5**	**+0.2**
MTVR	**Mutnovka**	**5.25**	**226**	*e*P	**Pn**	**05 10 17.5**	**+0.2**
MTVR				*e*S	**Sn**	**05 11 14.9**	**-1.7**
APC	**Apacha**	**5.38**	**234**	PN	**Pn**	**05 10 21.1**	**+2.3**
APC	**Apacha**	**5.38**	**234**	*e*P	**Pn**	**05 10 21.1**	**+2.3**
ASAK	**Asacha**	**5.44**	**227**	PN	**Pn**	**05 10 20.3**	**+0.5**
ASAK	**Asacha**	**5.44**	**227**	*e*P	**Pn**	**05 10 20.3**	**+0.5**
KDTR	**Khodutka, Kamc**	**5.82**	**222**	PN	**Pn**	**05 10 23.9**	**-1.0**
KDTR	**Khodutka, Kamc**	**5.82**	**222**	*e*P	**Pn**	**05 10 23.9**	**-1.0**
KDTR				*e*S	**Sn**	**05 11 25.7**	**-4.6**
KMSK	**Kamenskaya**	**6.27**	**8**	PN	**Pn**	**05 10 30.0**	**-1.0**
KMSK	**Kamenskaya**	**6.27**	**8**	*e*P	**Pn**	**05 10 30.0**	**-1.0**
PAU	**Pauzhetka**	**6.58**	**226**	PN	**Pn**	**05 10 35.5**	**+0.2**
PAU	**Pauzhetka**	**6.58**	**226**	*e*P	**Pn**	**05 10 35.5**	**+0.2**
SMY	**Shemya**	**6.70**	**118**	PN	**Pn**	**05 10 37.9**	**+1.0**
SMY	**Shemya**	**6.70**	**118**	Pn	**Pn**	**05 10 37.9**	**+1.0**
SKR	**Severo-Kuril's**	**7.46**	**225**	*i* PN	**Pn**	**05 10 47.5**	**0.0**
MA2	**Magadan**	**7.95**	**300**	Pn	**Pn**	**05 10 53.1**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=59,slow=16,SNR=4.1						
MA2				LR	LR	05 14 13.7	
	comp=Z,2μm,18.8s,baz=106,slow=41						
MA2	**Magadan**	**7.95**	**300**	*ce*PN	**Pn**	**05 10 55.0**	**+0.9**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**7.95**	**300**	Pn	**Pn**	**05 10 52.6**	**-1.5**
SEY	**Seymchan**	**9.00**	**323**	Pn	**Pn**	**05 11 07.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=17,slow=20,SNR=1.4						
AMKA	**Amchitka**	**10.10**	**113**	Pn	**Pn**	**05 11 25.4**	**+1.9**
BILL	**Bilibino**	**11.82**	**3**	*ce*PN	**Pn**	**05 11 48.2**	**+1.1**
BILL				pmax	pmax		
	comp=Z,72nm,1.7s						
BILL	**Bilibino**	**11.82**	**3**	Pn	**Pn**	**05 11 47.4**	**+0.3**
ADK	**Adak**	**11.96**	**104**	PN	**Pn**	**05 11 49.1**	**+0.1**
ADK	**Adak**	**11.96**	**104**	Pn	**Pn**	**05 11 49.1**	**+0.1**
OKH	**Okha**	**12.62**	**266**	*d i* PN	**P**	**05 12 06.1**	**-2.8**
OKH				*e*S	S	05 14 30.3	-13
OKH				pmax	pmax		
	comp=Z,200nm,13.4s						
OKH				MLR	MLR		
	comp=N,2μm,14.0s						
OKH				MLR	MLR		
	comp=Z,2μm,13.0s						
OKH				MLR	MLR		
	comp=E,1μm,13.0s						
ATKA	**Atka Island**	**13.17**	**99**	Pn	**Pn**	**05 12 04.5**	**-1.0**
TYV	**Tymovskoe**	**13.97**	**256**	*e*P	**Pn**	**05 12 18.6**	**+2.2**
TYV				*e*S	**Sn**	**05 14 56.4**	**+6.5**
TYV				pmax	pmax		
	comp=Z,30nm,1.6s						
TYV				pmax	pmax		
	comp=Z,200nm,3.3s						
TYV				smax	smax		
	comp=N,200nm,4.2s						
KUR	**Kuril'sk**	**15.17**	**230**	*i* P	**Pn**	**05 12 32.0**	**-0.6**
NIKH	**Nikolski High**	**15.81**	**91**	P	**P**	**05 12 44.3**	**0.0**
NIKH	**Nikolski High**	**15.81**	**91**	P		05 12 45.9	
	baz=293						
YSS	**Yuzh-Sakhalins**	**16.29**	**244**	*e*P	**Pn**	**05 12 47.3**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**16.29**	**244**		**Pn**	**05 12 47.0**	**0.0**
YUK	**Yuzh-Kuril'sk**	**16.99**	**232**	*e*P	**P**	**05 12 56.6**	**-0.8**
YUK				*e*S	**Sn**	**05 16 04.1**	**+0.7**
YUK				pmax	pmax		
	comp=Z,321nm,1.2s						
JKA	**Kamikawa-asahi**	**18.41**	**238**	P	**P**	**05 13 12.6**	**-0.5**
ASAJ	**Asahikawa**	**18.41**	**238**	P	**P**	**05 13 12.7**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=343,slow=10,SNR=16						
ASAJ				LR	LR	05 19 31.7	
	comp=Z,974nm,21.9s,baz=45,slow=35						
YAK	**Yakutsk**	**18.52**	**302**	P	**P**	**05 13 13.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=4.6						
YAK				LR	LR	05 20 25.1	
	comp=Z,1μm,18.6s,baz=94,slow=38						
YAK	**Yakutsk**	**18.52**	**302**	*c i* P	**P**	**05 13 12.8**	**-1.3**
YAK				*e*S	**Sn**	**05 16 38.5**	**-1.6**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				smax	smax		
	comp=N,112nm,2.2s						
YAK				smax	smax		
	comp=E,77nm,2.1s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,720nm,12.0s						
YAK				MLR	MLR		
	comp=E,811nm,12.0s						
YAK	**Yakutsk**	**18.52**	**302**	P	**P**	**05 13 12.6**	**-1.5**
ERM	**Erimo**	**19.79**	**233**	P	**P**	**05 13 28.2**	**0.0**
ERM				pmax	pmax		
	comp=Z,86nm,1.3s						
ERM	**Erimo**	**19.79**	**233**		**P**	**05 13 28.2**	**0.0**
ERM				IAmb	IAmb	05 13 34.3	
	comp=Z,86nm,1.3s						
KLR	**Kul'dur**	**20.81**	**264**	P	**P**	**05 13 38.7**	**-0.6**
	comp=Z,18nm,1.1s,baz=51,slow=11,SNR=29						
KLR				LR	LR	05 22 38.7	
	comp=Z,852nm,19.2s,baz=64,slow=40						
TTA	**Tatalina**	**20.83**	**55**	P	**P**	**05 13 40.4**	**+1.0**
TTA				pmax	pmax		
	comp=Z,64nm,1.4s						
TTA	**Tatalina**	**20.83**	**55**	P	**P**	**05 13 40.4**	**+1.0**
TTA				IAmb	IAmb	05 13 51.8	
	comp=Z,64nm,1.4s						
TTA	**Tatalina**	**20.83**	**55**	P		05 13 41.9	
	baz=270,SNR=17						
SVW2	**Sparrevohn**	**21.10**	**60**	P	**P**	**05 13 42.6**	**+0.3**
ZEA	**Zeya**	**21.27**	**279**	*e*P	**P**	**05 13 41.7**	**-2.4**
ZEA				*e*S	S	05 17 24.1	-14
ZEA				pmax	pmax		
	comp=E,10.0nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
ZEA				smax	smax		
	comp=N,200nm,13.6s						
ZEA				MLR	MLR		
	comp=N,700nm,15.0s						
ZEA				MLR	MLR		
	comp=E,400nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,13.0s						
TIXI	**Tiksi**	**21.38**	**330**	P	**P**	**05 13 44.4**	**-0.7**
	comp=Z,10nm,0.8s,baz=123,slow=13,SNR=25						
TIXI				LR	LR	05 21 32.8	
	comp=Z,362nm,19.2s,baz=162,slow=36						
TIXI	**Tiksi**	**21.38**	**330**	*ce*P	**P**	**05 13 44.2**	**-1.0**
TIXI	**Tiksi**	**21.38**	**330**	P	**P**	**05 13 45.1**	**-0.1**
IMAR	**Indian Mountai**	**21.98**	**47**	P	**P**	**05 13 51.8**	**+0.2**
H21K	**Melozitna Rive**	**22.34**	**48**	P		05 13 57.1	
	baz=266,SNR=6.6						
RSO	**Redoubt South**	**22.55**	**62**	P	**P**	**05 13 56.8**	**-1.3**
PPLA	**Purkeypile**	**22.58**	**55**	P		05 14 01.2	
	baz=273						
OHAK	**Old Harbor**	**22.96**	**70**	P	**P**	**05 14 03.8**	**+1.7**
OHAK				IAmb	IAmb	05 14 06.9	
	comp=Z,95nm,1.8s						
BPAW	**Bear Paw Mtn.**	**23.07**	**52**	P	**P**	**05 14 03.2**	**0.0**
BPAW				IAmb	IAmb	05 14 19.7	
	comp=Z,31nm,1.3s						
BPAW	**Bear Paw Mtn.**	**23.07**	**52**	P		05 14 04.6	
	baz=271						
MLY	**Manley**	**23.18**	**50**	P	**P**	**05 14 04.7**	**+0.4**
MLY	**Manley**	**23.18**	**50**	P		05 14 04.5	
	baz=270						
KDAK	**Kodiak Island**	**23.18**	**68**	P	**P**	**05 14 05.1**	**+0.7**
	comp=Z,4.9nm,0.6s,baz=241,slow=2.4,SNR=8.6						
KDAK				LR	LR	05 23 41.2	
	comp=Z,612nm,18.3s,baz=290,slow=38						
KDAK	**Kodiak Island**	**23.18**	**68**	P	**P**	**05 14 05.0**	**+0.7**
KDAK				pmax	pmax		
	comp=Z,92nm,1.8s						
KDAK	**Kodiak Island**	**23.18**	**68**	P	**P**	**05 14 05.0**	**+0.7**
KDAK				IAmb	IAmb	05 14 22.1	
	comp=Z,92nm,1.8s						
SUA	**Susitna One**	**23.39**	**59**	P		05 14 08.3	
	baz=278						
TRF	**Thorofare Moun**	**23.41**	**54**	P	**P**	**05 14 08.2**	**+1.5**
TRF	**Thorofare Moun**	**23.41**	**54**	P		05 14 07.9	
	baz=274						
CNPM	**China Poot**	**23.47**	**64**	P	**P**	**05 14 07.4**	**+0.2**
CNPM				IAmb	IAmb	05 14 53.6	
	comp=Z,90nm,1.5s						
COLD	**Coldfoot**	**23.51**	**44**	P	**P**	**05 14 08.3**	**+0.8**
COLD	**Coldfoot**	**23.51**	**44**	P		05 14 08.8	
	baz=265,SNR=6.0						
H23K	**Yukon River**	**23.69**	**48**	P		05 14 10.7	
	baz=269,SNR=6.8						
USRK	**Ussuriysk Ar.**	**23.73**	**253**	P	**P**	**05 14 08.6**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=46,slow=12,SNR=7.0						
USRK				LR	LR	05 23 50.8	
	comp=Z,923nm,18.7s,baz=42,slow=38						
BWN	**Browne**	**23.74**	**52**	P	**P**	**05 14 11.3**	**+1.7**
BWN				IAmb	IAmb	05 14 27.4	
	comp=Z,36nm,0.9s						
I23K	**Minto, Yukon-K**	**23.76**	**49**	P	**P**	**05 14 09.9**	**+0.1**
I23K				IAmb	IAmb	05 14 21.9	
	comp=Z,44nm,1.4s						
I23K	**Minto, Yukon-K**	**23.76**	**49**	P		05 14 11.3	
	baz=270						
NEA2	**Nenana**	**23.89**	**51**	P	**P**	**05 14 11.4**	**+0.3**
NEA2	**Nenana**	**23.89**	**51**	P		05 14 12.2	
	baz=272						
TOLK	**Toolik Lake Re**	**23.91**	**41**	P	**P**	**05 14 11.3**	**-0.1**
TOLK				IAmb	IAmb	05 14 23.1	
	comp=Z,77nm,1.6s						
TOLK	**Toolik Lake Re**	**23.91**	**41**	P		05 14 12.6	
	baz=262,SNR=9.7						
MCK	**McKinley**	**24.00**	**53**	P		05 14 13.3	
	baz=274						
RND	**Reindeer**	**24.05**	**54**	P	**P**	**05 14 12.2**	**-0.5**
RND				pmax	pmax		
	comp=Z,13nm,0.8s						
RND	**Reindeer**	**24.05**	**54**	P	**P**	**05 14 12.2**	**-0.5**
MDM	**Murphy Dome**	**24.24**	**50**	P	**P**	**05 14 15.4**	**+1.0**
H24K	**Noodor Dome**	**24.38**	**48**	P		05 14 16.6	
	baz=270						
COLA	**College**	**24.41**	**50**	*i* P	**P**	**05 14 16.6**	**+0.8**
COLA				pmax	pmax		
	comp=Z,30nm,1.5s						
CCB	**Clear Creek Bu**	**24.44**	**50**	P	**P**	**05 14 16.2**	**+0.1**
CCB				IAmb	IAmb	05 14 28.3	
	comp=Z,59nm,1.6s						
PWL	**Port Wells**	**24.64**	**60**	P	**P**	**05 14 19.0**	**+1.0**
WAT6	**Susitna Watana**	**24.65**	**55**	P		05 14 18.9	
	baz=278						
MDJ	**Mudanjiang**	**24.75**	**257**	P	**P**	**05 14 20.1**	**+1.0**
MDJ				S	**S**	**05 18 37.1**	**-1.6**
MDJ				sS	sS	05 18 52.9	-0.7
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ			

DAWY Dawson 28.14 51 P **P** **05 14 50.4 +0.9**
INK Inuvik 29.82 41 P **P** **05 15 04.2 -0.1**
comp=Z,3.8nm,1.0s,baz=299,slow=6.9,SNR=4.5
INK LR LR 05 27 58.4
comp=Z,336nm,20.4s,baz=264,slow=38
INK Inuvik 29.82 41 P **P** **05 15 04.4 +0.1**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 29.82 41 P **P** **05 15 04.4 +0.1**
INK Inuvik 29.82 41 P 05 15 05.2
baz=278
KSRS Korea Array 30.73 248 P **P** **05 15 11.0 -1.6**
comp=Z,2.2nm,0.7s,baz=35,slow=8.7,SNR=6.5
KSRS LR LR 05 26 59.8
comp=Z,394nm,20.6s,baz=52,slow=35
C36M Paulatuk 33.00 38 P 05 15 33.1
baz=284
NRIK Noril'sk 34.79 323 P **P** **05 15 46.8 -1.0**
comp=Z,4.9nm,0.9s,baz=77,slow=7.5,SNR=8.4
NRIK LR LR 05 29 43.9
comp=Z,181nm,18.1s,baz=72,slow=36
NRIK Noril'sk 34.79 323 P **P** **05 15 46.8 -1.0**
NRIK pmax pmax
comp=Z,22nm,1.5s
NRIK Noril'sk 34.79 323 IAmb IAmb 05 15 49.1
comp=Z,22nm,1.5s
TLY Talaya 34.98 289 *e*P **P** **05 15 50.9 +1.2**
TLY *e* 05 17 14.3
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,969nm,10.0s
ULN Ulaanbaatar 35.27 281 P **P** **05 15 51.5 -0.8**
ULN pmax pmax
comp=Z,24nm,1.5s
ULN Ulaanbaatar 35.27 281 P **P** **05 15 51.5 -0.8**
ULN IAmb IAmb 05 15 53.4
comp=Z,24nm,1.5s
SONM Songino Array 35.64 281 P **P** **05 15 54.2 -1.4**
comp=Z,5.4nm,0.9s,baz=63,slow=9.2,SNR=22
SONM PcP **PcP** **05 18 24.3 +1.0**
comp=Z,1.1nm,0.7s,baz=68,slow=2.9,SNR=3.9
SONM LR LR 05 32 06.2
comp=Z,791nm,18.9s,baz=63,slow=39
SONM Songino Array 35.64 281 P **P** **05 15 54.7 -0.8**
SONM pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 35.64 281 P **P** **05 15 54.7 -0.8**
SONM IAmb IAmb 05 15 56.1
comp=Z,11nm,1.2s
H11N2 WAKE ISLAND Hy 36.55 176 T T 05 54 59.3
baz=357,slow=76
H11N3 WAKE ISLAND Hy 36.57 176 T T 05 55 03.6
baz=357,slow=76,SNR=8095
H11N1 WAKE ISLAND Hy 36.57 176 T T 05 55 03.8
baz=357,slow=76
HHC Hu-ho-hao-te 37.20 268 *e*P **P** **05 16 09.4 +0.6**
HHC S **S** **05 21 58.1 +5.1**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,56nm,5.6s
HHC L L
comp=Z,730nm,14.3s
HHC L L
comp=Z,990nm,14.1s
HHC L L
comp=Z,970nm,14.1s
YKA Yellowknife Ar 39.14 47 P **P** **05 16 25.6 +0.8**
comp=Z,1.0nm,0.4s,baz=290,slow=11,SNR=16
SSE Sheshan 39.16 248 P **P** **05 16 23.2 -2.1**
SSE S **S** **05 22 21.8 -0.8**
SSE pmax pmax
comp=Z,12nm,0.7s
SSE pmax pmax
comp=Z,41nm,4.0s
SSE L L
comp=Z,130nm,19.1s
SSE L L
comp=Z,160nm,18.7s
RES Resolute Bay 39.40 24 P **P** **05 16 26.9 +0.1**
comp=Z,1.7nm,0.7s,baz=325,slow=10,SNR=5.5
RES Resolute Bay 39.40 24 P **P** **05 16 26.9 +0.1**
RES pmax pmax
comp=Z,16nm,1.6s
NJ2 Nanjing 39.63 252 *e*P **P** **05 16 28.1 -1.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 L L
comp=Z,700nm,15.9s
NJ2 L L
comp=Z,720nm,17.1s
NJ2 L L
comp=Z,580nm,20.6s
ZALV Zalesovo Beam 43.17 302 LR LR 05 36 04.6
comp=Z,265nm,19.1s,baz=45,slow=38
DGZ Jazzator, Alta 44.51 296 *i* P **P** **05 17 08.4 -0.6**
DGZ pmax pmax
comp=Z,6.0nm,1.2s
NEEM North Greenlan 44.71 10 *i* P **P** **05 17 11.2 +0.7**
NEEM IAmb IAmb 05 17 14.7
comp=Z,6.7nm,0.8s
GTA Gaotai 44.72 276 ⇑P **P** **05 17 10.6 -0.2**
GTA pP pP 05 17 17.8 -2.7
GTA sP pwP 05 17 22.2 -1.9
GTA pmax pmax
comp=Z,21nm,1.4s
GTA pmax pmax
comp=Z,100nm,5.8s
GTA L L
comp=Z,560nm,16.0s
GTA L L
comp=Z,670nm,16.0s
GTA L L
comp=Z,830nm,16.4s
LZH Lanzhou 44.84 270 *e*P **P** **05 17 13.4 +1.6**
LZH pP pP 05 17 19.1 -2.5
LZH sP pwP 05 17 23.2 -1.9
LZH *e*S **S** **05 23 42.0 -4.8**
LZH sS sS 05 23 56.0 -6.2
LZH pmax pmax
comp=Z,25nm,0.9s
LZH pmax pmax
comp=Z,56nm,4.1s
LZH L L
comp=Z,2μm,13.3s
LZH L L
comp=Z,1μm,14.4s
LZH L L
comp=Z,1μm,14.4s
B08A Colville Reser 45.04 66 P **P** **05 17 13.5 +0.4**
B08A IAmb IAmb 05 17 25.3
comp=Z,13nm,1.1s
LTY Liberty 45.06 68 P **P** **05 17 12.0 -1.3**
NEW Newport 46.23 65 P **P** **05 17 24.0 +1.5**
comp=Z,1.5nm,0.7s,baz=306,slow=17,SNR=3.4
NEW Newport 46.23 65 P **P** **05 17 24.0 +1.5**
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 46.23 65 P 05 17 27.8
baz=311
E09A Wood Farm, Sta 46.86 68 P **P** **05 17 26.5 -0.9**
E09A IAmb IAmb 05 17 39.2
comp=Z,14nm,0.8s
DAG Danmarks Havn 47.19 1 *e*P **P** **05 17 30.4 +0.8**
DAG IAmb IAmb 05 17 33.4
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 47.19 1 *e*P **P** **05 17 30.3 +0.8**
DAG pmax pmax
comp=Z,3.0nm,1.0s
G08A Pilot Rock 47.26 69 P **P** **05 17 31.2 +0.5**
WALA Waterton Lakes 47.31 62 P **P** **05 17 32.4 +1.3**
WALA IAmb IAmb 05 17 42.4
comp=Z,13nm,0.8s
F10A Beach Ranch, E 47.69 67 P **P** **05 17 34.4 +0.4**
F10A IAmb IAmb 05 17 45.9
comp=Z,6.8nm,0.8s
JTMT Jette 48.00 64 P **P** **05 17 37.2 +0.8**
KURK Kurchatov 48.16 302 P **P** **05 17 36.9 -0.5**
WMQ Urumqi 48.26 289 *e*P **P** **05 17 38.7 +0.3**
WMQ pP pP 05 17 48.6 +0.6
WMQ sP sP 05 17 54.6 +1.3
WMQ pmax pmax
comp=Z,31nm,0.9s
WMQ pmax pmax
comp=Z,220nm,3.6s
WMQ L L
comp=Z,1μm,9.7s
WMQ L L
comp=Z,630nm,20.9s
WMQ L L
comp=Z,680nm,21.7s
KURBB Kurchatov Arra 48.26 302 P **P** **05 17 36.9 -1.3**
comp=Z,3.5nm,0.5s,baz=50,slow=7.6,SNR=46
KURBB PP **PP** **05 19 30.8 +0.3**
comp=Z,8.4nm,1.3s,baz=49,slow=9.5,SNR=8.9
BMO Blue Mountains 48.41 69 P **P** **05 17 41.0 +1.4**
BMO pmax pmax
comp=Z,5.0nm,0.7s
BMO Blue Mountains 48.41 69 P **P** **05 17 41.0 +1.4**
BMO IAmb IAmb 05 17 51.6
comp=Z,5.1nm,0.7s
CD2 Chengdu 48.74 265 *e*P **P** **05 17 39.7 -2.5**
CD2 L L
comp=Z,670nm,14.9s
CD2 L L
comp=Z,860nm,16.7s
CD2 L L
comp=Z,660nm,14.2s
MSO Missoula 48.79 65 P **P** **05 17 42.5 +0.1**
MSO IAmb IAmb 05 17 54.5
comp=Z,36nm,1.9s
MSO Missoula 48.79 65 P 05 17 43.5
baz=313
MK31 Makanchi Array 49.01 296 P **P** **05 17 42.9 -1.2**
MK31 pmax pmax
comp=Z,4.0nm,1.3s
MK31 Makanchi Array 49.01 296 P **P** **05 17 42.9 -1.2**
MKAR Makanchi Array 49.01 296 P **P** **05 17 42.7 -1.3**
comp=Z,1.0nm,0.6s,baz=55,slow=6.8,SNR=18
MKAR LR LR 05 39 24.3
comp=Z,481nm,18.7s,baz=36,slow=37
MKAR Makanchi Array 49.01 296 P **P** **05 17 42.4 -1.6**
DBG Daneborg 49.64 2 *e*P **P** **05 17 48.9 +0.4**
DBG IAmb IAmb 05 17 54.5
comp=Z,3.9nm,1.1s
EGMT Eagleton 50.05 61 P 05 17 53.0
baz=314
MFID Camas Ranch 50.18 69 P **P** **05 17 53.8 +0.7**
MFID IAmb IAmb 05 18 05.3
comp=Z,12nm,1.2s
BVAR Borovoye Array 50.34 308 P **P** **05 17 52.3 -1.8**
comp=Z,6.0nm,0.8s,baz=253,slow=9.1,SNR=27
BRVK Borovoye 50.37 309 *ce*P **P** **05 17 54.4 +0.2**
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK Borovoye 50.37 309 P **P** **05 17 53.9 -0.4**
SUMG Summit 50.45 9 *i* P P 05 18 03.5 +8.4
SUMG IAmb IAmb 05 18 05.8
comp=Z,5.7nm,0.9s
MCMT McKenzie Canyo 50.72 66 P **P** **05 17 57.5 +0.1**
HLID Hailey 50.81 68 P **P** **05 17 58.1 +0.2**
HLID Hailey 50.81 68 P 05 17 59.5
baz=315
ARCES ARCESS Array B 50.99 343 P **P** **05 17 57.4 -1.4**
comp=Z,2.4nm,0.9s,baz=9.3,slow=13,SNR=1.3
ARCES LR LR 05 42 50.8
comp=Z,153nm,18.9s,baz=10.0,slow=40
ARCES ARCESS Array B 50.99 343 P **P** **05 17 57.4 -1.4**
ARCES pmax pmax
comp=Z,86nm,2.0s
BRZS Berezniki 51.44 304 *e*P **P** **05 18 01.1 -1.3**
BRZS pmax pmax
comp=Z,13nm,1.6s
YHL Hebgen Lake 51.55 65 P **P** **05 18 04.0 +0.3**
YHB Horse Butte 51.61 65 P **P** **05 18 05.2 +1.2**
YHB IAmb IAmb 05 18 16.1
comp=Z,12nm,0.8s
YHH Holmes Hill 51.76 65 P **P** **05 18 06.4 +1.2**
YHH IAmb IAmb 05 18 17.9
comp=Z,17nm,1.5s
YNE Yellowstone No 52.03 64 P **P** **05 18 07.8 +0.6**
YNE IAmb IAmb 05 18 18.7
comp=Z,8.6nm,0.6s
H17A Grant Village 52.18 65 P **P** **05 18 08.8 +0.5**
H17A IAmb IAmb 05 18 21.9
comp=Z,12nm,1.1s
H17A Grant Village 52.18 65 P 05 18 11.0
baz=316
RLMT Red Lodge 52.32 63 P **P** **05 18 11.0 +1.7**
RLMT IAmb IAmb 05 18 21.7
comp=Z,21nm,1.0s
RLMT Red Lodge 52.32 63 P 05 18 11.4
baz=316,SNR=5.6
NVAR Mina Array Bea 52.42 75 P **P** **05 18 10.7 +0.6**
comp=Z,0.6nm,0.7s,baz=292,slow=7.8,SNR=4.3
NVAR LR LR 05 39 37.6
comp=Z,90nm,18.5s,baz=276,slow=35
TPAW Teton Pass 52.63 66 P **P** **05 18 12.2 +0.5**
TPAW IAmb IAmb 05 18 24.3
comp=Z,8.6nm,0.7s
ARU Arti 52.71 318 *d* iP **P** **05 18 11.8 +0.1**
ARU *PP **pP** **05 18 20.5 -1.0**
ARU *SP **pwP** **05 18 25.9 +0.6**
ARU 05 20 07.4
ARU S **S** **05 25 39.9 +3.3**
ARU SS **SS** **05 29 16.9 +2.4**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU MLR MLR
comp=Z,636nm,16.0s
ARU Arti 52.71 318 P **P** **05 18 11.7 +0.1**
ARU IAmb IAmb 05 18 21.8
comp=Z,10nm,0.7s
PRGR Permogore 53.03 328 *e*P **P** **05 18 13.9 -0.1**
PRGR *e*PP **pP** **05 18 21.4 -2.2**
ARXS Arharly 53.05 296 *e*P **P** **05 18 13.8 -0.7**
TPH Tonopah 53.26 75 P **P** **05 18 18.6 +2.3**
TPH pmax pmax
comp=Z,23nm,0.9s
TPH Tonopah 53.26 75 P **P** **05 18 18.6 +2.3**
FRB Frobisher Bay 53.56 26 P **P** **05 18 17.7 -0.1**
comp=Z,3.5nm,0.8s,baz=327,slow=8.8,SNR=6.0
KMI Kunming 53.79 261 ⇑P **P** **05 18 22.6 +2.2**
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI L L
comp=Z,1μm,19.8s
KMI L L
comp=Z,830nm,18.0s
KMI L L
comp=Z,370nm,24.6s
BW06 Boulder Array 53.86 65 P **P** **05 18 20.9 +0.3**
BW06 IAmb IAmb 05 18 32.8
comp=Z,10nm,0.9s
PDAR Pinedale Array 53.86 65 P **P** **05 18 21.5 +0.8**
comp=Z,2.2nm,0.6s,baz=359,slow=2.6,SNR=15
PDAR Pinedale Array 53.86 65 P **P** **05 18 21.5 +0.8**
PDAR pP **pP** **05 18 31.6 +1.3**
SPR3 Spring Creek 3 54.13 72 P **P** **05 18 25.0 +2.3**
SPR3 IAmb IAmb 05 18 36.4
comp=Z,9.9nm,0.9s
BTLS Baital 54.32 299 *e*P **P** **05 18 23.0 -0.7**
BTLS pmax pmax
comp=Z,1.0nm,0.4s
TPNV Topopah Spring 54.61 75 P **P** **05 18 28.2 +2.1**
TPNV pmax pmax
comp=Z,24nm,1.5s
TPNV Topopah Spring 54.61 75 P **P** **05 18 28.2 +2.1**
TPNV IAmb IAmb 05 18 39.1
comp=Z,24nm,1.5s
TPNV Topopah Spring 54.61 75 P 05 18 28.4
baz=318
FURC Furnace Creek, 54.63 76 P 05 18 28.7
ULM Lac du Bonnet 54.84 51 P **P** **05 18 28.1 +0.7**
comp=Z,6.8nm,0.7s,baz=313,slow=11,SNR=5.1
ULM LR LR 05 43 59.7
comp=Z,249nm,18.2s,baz=314,slow=38
ULM Lac du Bonnet 54.84 51 P **P** **05 18 27.5 +0.1**
ULM pmax pmax
comp=Z,12nm,0.7s
ULM Lac du Bonnet 54.84 51 P **P** **05 18 27.5 +0.1**
ULM IAmb IAmb 05 18 38.4
comp=Z,12nm,0.7s
KDJ Kajisay 54.89 295 P **P** **05 18 27.3 -0.8**
KDJ pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 54.89 295 P **P** **05 18 27.3 -0.8**
KDJ IAmb IAmb 05 18 29.9
comp=Z,13nm,1.0s
QIZ Qiongzhong 54.89 250 P **P** **05 18 26.5 -1.6**
QIZ S **S** **05 26 06.4 -0.5**
QIZ L L
comp=Z,260nm,20.6s
QIZ L L
comp=Z,350nm,16.7s
QIZ L L
comp=Z,200nm,17.6s
TKM2 Tokmak 2 55.11 296 P **P** **05 18 30.5 +0.8**
SNR=6.2
SGDS Sogindy 55.20 298 *e*P **P** **05 18 30.3 +0.2**
SGDS pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 55.25 296 P **P** **05 18 30.5 -0.2**
BOOM pmax pmax
comp=Z,17nm,1.2s
BOOM Boomskoye usch 55.25 296 P **P** **05 18 30.5 -0.2**
BOOM IAmb IAmb 05 18 32.8
comp=Z,17nm,1.2s
KLMR Klimovskoe 55.40 331 *e*P P 05 18 24.2 -7.0
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR MLR MLR
comp=Z,217nm,11.0s
KLMR Klimovskoe 55.40 331 *e*P P 05 18 24.3 -6.9
KLMR AMP 05 18 32.7
comp=Z,24nm,1.2s
KLMR LR LR 05 40 28.1
KLMR AMP 05 46 39.8
comp=Z,217nm,11.0s
USP Ospenovka 55.40 297 P **P** **05 18 33.0 +1.4**
SNR=12
TMUT Trail Mountain 55.55 69 P **P** **05 18 33.9 +0.9**
TMUT IAmb IAmb 05 18 45.9
comp=Z,8.4nm,1.0s
RSSD Black Hills 55.62 61 P **P** **05 18 34.0 +0.7**
RSSD pmax pmax
comp=Z,13nm,0.7s
RSSD Black Hills 55.62 61 P **P** **05 18 34.0 +0.7**
RSSD Black Hills 55.62 61 P 05 18 34.5
baz=318
KBK Karagaybulak 55.62 297 P **P** **05 18 34.7 +1.3**
SNR=7.0
JOF Joensuu 55.68 336 P **P** **05 18 33.7 +0.5**
JOF pmax pmax
comp=Z,8.0nm,1.6s
CCUT Cedar City 55.71 72 P **P** **05 18 34.8 +0.7**
CCUT IAmb IAmb 05 18 47.1
comp=Z,6.3nm,0.8s
AAK Ala-Archa 55.86 297 P **P** **05 18 34.5 -0.5**
comp=Z,13nm,0.9s,baz=85,slow=4.7,SNR=23
AAK Ala-Archa 55.86 297 P **P** **05 18 36.5 +1.4**
SNR=8.8
AAK Ala-Archa 55.86 297 *ce*P **P** **05 18 35.0 -0.1**
AAK pmax pmax
comp=Z,62nm,1.0s
AAK Ala-Archa 55.86 297 P **P** **05 18 34.9 -0.1**
AAK IAmb IAmb 05 18 37.0
comp=Z,17nm,0.9s
SRU San Rafael Swe 56.05 69 P **P** **05 18 36.2 -0.2**
SRU pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael Swe 56.05 69 P **P** **05 18 36.2 -0.2**
SRU IAmb IAmb 05 18 49.3
comp=Z,13nm,0.8s
LCMT Little Creek M 56.17 73 P **P** **05 18 37.4 +0.1**
EKS2 Erkin-Say 56.20 297 P **P** **05 18 37.7 +0.3**
SNR=13
AGMN Agassiz Nation 56.31 52 P **P** **05 18 38.5 +0.5**
AGMN IAmb IAmb 05 18 48.9
comp=Z,13nm,0.8s
AGMN Agassiz Nation 56.31 52 P 05 18 38.5
baz=319
O20A White River Ci 56.47 67 P **P** **05 18 40.2 +0.8**
O20A IAmb IAmb 05 18 51.9
comp=Z,13nm,0.9s
O20A White River Ci 56.47 67 P 05 18 41.2
baz=318
AML Almayashu 56.64 297 P **P** **05 18 42.3 +1.4**
SNR=8.1
N23A Red Feather La 57.07 65 P 05 18 44.5
baz=319,SNR=5.1
B35A Bob, Littlefor 57.19 51 P **P** **05 18 45.2 +1.0**
PV22 Blue Mesa, Par 57.38 68 P **P** **05 18 47.3 +1.4**
PV22 IAmb IAmb 05 18 58.5
comp=Z,8.7nm,0.8s
KSH Kashi 57.44 293 P **P** **05 18 50.0 +3.8**
KSH S **S** **05 26 41.2 +0.5**
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,96nm,3.9s
KSH L L
comp=Z,990nm,9.2s
KSH L L
comp=Z,980nm,11.6s
KSH L L
comp=Z,490nm,7.2s
AKTO Aktyubinsk 57.47 313 P **P** **05 18 45.5 -0.7**
comp=Z,2.5nm,0.5s,baz=31,slow=8.4,SNR=14
KK31 Karatay Array 57.47 300 P **P** **05 18 46.0 -0.3**
KK31 pmax pmax
comp=Z,23nm,0.9s
KK31 Karatay Array 57.47 300 P **P** **05 18 46.0 -0.3**
KKAR Karatay Array 57.47 300 P **P** **05 18 45.5 -0.7**
KKAR pP **pP** **05 18 55.0 -1.1**
KKAR Karatay Array 57.47 300 P **P** **05 18 46.0 -0.3**
KKAR IAmb IAmb 05 18 47.9
comp=Z,23nm,0.9s
ABKAR Akbulak array 57.58 311 P **P** **05 18 46.8 -0.1**
ABKAR Akbulak array 57.58 311 P **P** **05 18 47.2 +0.3**
ABKAR pP **pP** **05 18 55.9 -0.9**
PV13 Radium Mtn., P 57.64 69 P **P** **05 18 49.6 +1.8**
PV13 IAmb IAmb 05 19 01.1
comp=Z,9.8nm,0.7s
SMCO Snowmass 57.83 67 P **P** **05 18 48.9 -0.4**
ISCO Idaho Springs 58.05 65 P 05 18 53.3
baz=319
FINES FINESS Array B 58.13 338 P **P** **05 18 49.7 -0.8**
comp=Z,1.5nm,0.7s,baz=49,slow=8.8,SNR=4.7
FINES LR LR 05 47 17.4
comp=Z,156nm,18.9s,baz=32,slow=40
FINES FINESS Array B 58.13 338 *ce*P **P** **05 18 53.0 +2.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
EYMN Ely 58.47 50 P **P** **05 18 53.3 +0.1**
EYMN Ely 58.47 50 P 05 18 53.7
baz=321
S22A 4UR Ranch, Cre 58.98 68 P 05 18 59.6
baz=320
SHL Shillong 59.48 271 P **P** **05 18 59.8 -0.9**
SHL pmax pmax
comp=Z,18nm,1.1s
SHL Shillong 59.48 271 P **P** **05 18 59.8 -0.9**
SHL IAmb IAmb 05 19 00.4
comp=Z,18nm,1.1s
E38A The Farm, Brul 59.48 51 P **P** **05 19 00.7 +0.5**
BTK Batken 59.63 297 P **P** **05 19 01.3 -0.1**
BTK pmax pmax
comp=Z,41nm,1.3s
BTK Batken 59.63 297 P **P** **05 19 01.3 -0.1**
BELG Belogornoye 59.85 321 P **P** **05 19 01.9 -0.7**
comp=Z,39nm,1.0s,baz=100,slow=0.8,SNR=7.5
MOS Moscow 60.27 329 *e*P **P** **05 19 03.7 -1.7**
UBPT Khong Chiam 60.31 252 P **P** **05 19 06.7 +0.5**
GAR Garm 60.69 297 P **P** **05 19 08.7 0.0**
CHTO Chiang Mai 60.94 260 P **P** **05 19 10.2 -0.3**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 60.94 260 P **P** **05 19 10.2 -0.3**
CHTO IAmb IAmb 05 19 11.7
comp=Z,14nm,1.1s
OBN Obninsk 61.11 329 ⇑*e*P **P** **05 19 12.0 +0.9**
OBN *PP **pP** **05 19 22.0 +1.0**
OBN *e* 05 19 29.4
OBN *eS **S** **05 27 35.8 +8.5**
OBN SSS SSS 05 34 12.0
OBN pmax pmax
comp=Z,15nm,2.0s
OBN MLR MLR
comp=Z,194nm,16.0s
NOA NORSAR Array B 61.11 345 P **P** **05 19 11.3 +0.2**
comp=Z,1.0nm,0.6s,baz=18,slow=6.8,SNR=6.5
NOA LR LR 05 47 18.7
comp=Z,90nm,20.4s,baz=10.0,slow=38
CMAR Chiang Mai Arr 61.23 260 P **P** **05 19 13.2 +0.8**
comp=Z,5.1nm,0.9s,baz=20,slow=7.2,SNR=29

CMAR					LR	LR	05 47 27.4		
	comp=Z,306nm,18.4s,baz=87,slow=38								
CMAR	**Chiang Mai Arr**	**61.23**	**260**	*ceP*	**P**	**05 19 13.3**	**+0.8**		
CMAR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**61.23**	**260**	P	**P**	**05 19 12.7**	**+0.2**		
ANMO	**Albuquerque**	**61.32**	**69**	P		05 19 13.1			
	baz=321								
CHGR	**Chuyangaron**	**61.52**	**297**	P	**P**	**05 19 13.8**	**-0.6**		
HFS	**Hagfors**	**61.62**	**344**	P	**P**	**05 19 14.4**	**-0.1**		
	comp=Z,1.6nm,0.4s,baz=35,slow=5.4,SNR=14								
SCHQ	**Schefferville**	**61.64**	**31**	P	**P**	**05 19 15.3**	**+0.5**		
	comp=Z,3.8nm,0.7s,baz=356,slow=8.4,SNR=5.1								
LPSR	**Galich'ya Gora**	**62.57**	**326**	*eP*	**P**	**05 19 20.6**	**-0.4**		
LPSR					pmax	pmax			
	comp=Z,9.0nm,1.0s								
VRH	**Novokhopyorsk**	**62.87**	**323**	*eP*	**P**	**05 19 21.5**	**-1.5**		
VRH					pmax	pmax			
	comp=Z,8.0nm,1.0s								
NIL	**Nilore**	**63.33**	**291**	P	**P**	**05 19 26.0**	**-0.5**		
NIL					pmax	pmax			
	comp=Z,21nm,1.0s								
NIL	**Nilore**	**63.33**	**291**	P	**P**	**05 19 26.0**	**-0.5**		
VSR	**Storozhevoye**	**63.69**	**325**	*eP*	**P**	**05 19 27.5**	**-1.0**		
VSR					pmax	pmax			
	comp=Z,20nm,1.2s								
VLDQ	**Val d'Or**	**63.92**	**41**	P	**P**	**05 19 29.5**	**-0.5**		
VLDQ					IAmb	IAmb	05 19 38.7		
	comp=Z,11nm,0.8s								
MNK	**Minsk**	**63.99**	**333**	*i* P	**P**	**05 19 26.0**	**-4.4**		
MNK				*i*		05 20 00.0			
MNK				*i*		05 21 48.0			
MNK				*i* S	**S**	**05 27 58.2**	**-5.4**		
MNK				*i* SS	**SS**	**05 32 10.8**	**-0.7**		
MNK				*i* SSS	SSS	05 35 08.2			
MNK					pmax	pmax			
	comp=E,2.0nm,0.8s								
MNK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
MNK					pmax	pmax			
	comp=N,8.0nm,0.6s								
MNK					MLR	MLR			
	comp=E,27nm,17.0s								
MNK					MLR	MLR			
	comp=Z,236nm,21.0s								
MNK					MLR	MLR			
	comp=N,269nm,25.0s								
MNK	**Minsk**	**63.99**	**333**	*i* P	**P**	**05 19 26.0**	**-4.4**		
	comp=E,2.0nm,0.8s								
MNK				*i* P	**P**	**05 19 26.0**	**-4.4**		
	comp=N,8.0nm,0.6s								
MNK				*i* P	**P**	**05 19 26.0**	**-4.4**		
	comp=Z,5.0nm,0.6s,baz=25								
MNK				*i* PcP	**PcP**	**05 20 00.1**	**-5.5**		
MNK				*i* PP	**PP**	**05 21 48.1**	**-2.7**		
MNK				*i* PPP	PPP	05 23 18.3			
MNK				*i* S	**S**	**05 27 58.2**	**-5.3**		
MNK				*i* SS	**SS**	**05 32 10.8**	**-0.6**		
MNK				*i* SSS	SSS	05 35 08.3			
MNK				*i* LQ	LQ	05 42 50.9			
MNK				*i* LR	LR	05 46 58.8			
MNK				*i* LRM	MLR	05 49 29.3			
	comp=E,27nm,16.9s								
MNK				*i* LRM	MLR	05 49 55.4			
	comp=Z,236nm,20.8s								
MNK				*i* LRM	MLR	05 50 07.0			
	comp=N,269nm,24.6s								
MNTX	**Cornudas Mount**	**64.41**	**71**	P		05 19 34.9			
	baz=322								
KBL	**Kabul**	**64.80**	**295**	P	**P**	**05 19 34.3**	**-2.0**		
KBL					pmax	pmax			
	comp=Z,14nm,0.9s								
KBL	**Kabul**	**64.80**	**295**	P	**P**	**05 19 34.3**	**-2.0**		
KBL					IAmb	IAmb	05 19 36.6		
	comp=Z,14nm,0.8s								
TOLI2	**Tolitoli**	**65.18**	**229**	P	**P**	**05 19 38.5**	**-0.2**		
TOLI2					IAmb	IAmb	05 19 50.2		
	comp=Z,8.7nm,0.8s								
WMOK	**Wichita Mounta**	**65.41**	**64**	P	**P**	**05 19 40.9**	**+0.9**		
WMOK					pmax	pmax			
	comp=Z,10.0nm,0.9s								
WMOK	**Wichita Mounta**	**65.41**	**64**	P	**P**	**05 19 40.9**	**+0.9**		
WMOK					IAmb	IAmb	05 19 51.2		
	comp=Z,9.7nm,0.8s								
WMOK	**Wichita Mounta**	**65.41**	**64**	P		05 19 41.6			
	baz=323,SNR=6.5								
MGMO	**Mountain Grove**	**66.66**	**58**	P	**P**	**05 19 48.5**	**+0.6**		
MGMO					IAmb	IAmb	05 19 58.1		
	comp=Z,10nm,0.7s								
FVM	**French Village**	**66.85**	**56**	P	**P**	**05 19 49.0**	**-0.2**		
FVM					pmax	pmax			
	comp=Z,14nm,0.6s								
FVM	**French Village**	**66.85**	**56**	P	**P**	**05 19 49.0**	**-0.2**		
AKASG	**Malin Array Be**	**67.09**	**331**	P	**P**	**05 19 50.4**	**-0.1**		
	comp=Z,0.6nm,0.4s,baz=29,slow=6.8,SNR=11								
AKASG					LR	LR	05 50 31.8		
	comp=Z,258nm,19.1s,baz=35,slow=37								
TX31	**Lajitas Ar. Si**	**67.17**	**71**	P	**P**	**05 19 52.1**	**+0.7**		
TX32	**Lajitas Array**	**67.17**	**71**	P	**P**	**05 19 51.9**	**+0.5**		
TX32					IAmb	IAmb	05 20 03.2		
	comp=Z,5.8nm,0.6s								
TXAR	**Lajitas Array**	**67.18**	**71**	P	**P**	**05 19 52.7**	**+1.2**		
	comp=Z,1.9nm,0.7s,baz=296,slow=4.4,SNR=20								
TXAR					LR	LR	05 48 04.6		
	comp=Z,107nm,20.4s,baz=0.0,slow=35								
TXAR	**Lajitas Array**	**67.18**	**71**	P	**P**	**05 19 52.4**	**+0.9**		
TXAR					pP	**pP**	**05 20 01.7**	**+0.4**	
GEYT	**Alibeck**	**67.37**	**305**	P	**P**	**05 19 52.7**	**+0.2**		
	comp=Z,8.1nm,0.5s,baz=325,slow=2.3,SNR=12								
GEYT					LR	LR	05 51 21.5		
	comp=Z,477nm,18.1s,baz=45,slow=38								
GYA0B	**ALIBECK ARRAY**	**67.37**	**305**	P	**P**	**05 19 53.1**	**+0.6**		
FCAR	**Ozark Folk Cen**	**67.74**	**59**	P	**P**	**05 19 56.4**	**+1.6**		
FCAR					IAmb	IAmb	05 20 04.8		
	comp=Z,8.0nm,0.9s								
HRA	**Herat**	**68.29**	**300**	P	**P**	**05 19 58.9**	**+0.3**		
KIV	**Kislovodsk**	**68.73**	**319**	*eP*	**P**	**05 20 00.9**	**-0.2**		
KIV					pmax	pmax			
	comp=Z,16nm,1.1s								
KIV					MLR	MLR			
	comp=Z,574nm,17.0s								
GLAT	**Glass**	**68.77**	**56**	P	**P**	**05 20 02.1**	**+0.8**		
KBZ	**Khabaz**	**68.85**	**318**	P	**P**	**05 20 02.2**	**+0.6**		
	comp=Z,4.6nm,0.9s,baz=98,slow=2.0,SNR=8.6								
KBZ					LR	LR	05 54 43.9		
	comp=Z,423nm,18.8s,baz=19,slow=40								
AKT	**Akhty**	**68.90**	**314**	*eP*	**P**	**05 20 02.3**	**+0.1**		
AKT				*e*		05 20 26.1			
AKT					pmax	pmax			
	comp=Z,20nm,1.2s								
L56A	**Greenwood**	**68.92**	**45**	P		05 20 02.2			
	baz=328								
ZEI	**Tsey**	**69.28**	**317**	*eP*	**P**	**05 20 04.8**	**+0.2**		
ZEI					pmax	pmax			
	comp=Z,14nm,1.4s								
WVT	**Waverly**	**69.56**	**55**	P	**P**	**05 20 06.4**	**+0.3**		
WVT	**Waverly**	**69.56**	**55**	P	**P**	**05 20 06.4**	**+0.3**		
WVT					IAmb	IAmb	05 20 16.5		
	comp=Z,7.1nm,0.7s								
WVT	**Waverly**	**69.56**	**55**	P		05 20 07.3			
	baz=326								
KWP	**Kalwaria Pacla**	**69.74**	**335**	*eP*	**P**	**05 20 08.8**	**+1.7**		
KWP	**Kalwaria Pacla**	**69.74**	**335**	P	**P**	**05 20 08.5**	**+1.4**		
KWP					pmax	pmax			
	comp=Z,64nm,1.7s								
KWP	**Kalwaria Pacla**	**69.74**	**335**	P	**P**	**05 20 08.5**	**+1.4**		
OJC	**Ojcow**	**69.86**	**337**	*eP*	**P**	**05 20 08.0**	**+0.2**		
CLZ	**Clausthal**	**70.11**	**343**	*eP*	**P**	**05 20 10.6**	**+1.2**		
	comp=Z,16nm,1.5s,baz=16,slow=6.3								
SOC	**Sochi**	**70.13**	**321**	*eP*	P	05 20 03.1	-6.4		
SOC				*e*		05 22 43.5			
SOC				*e*PPP	PPP	05 24 29.9			
SOC				*e*S	S	05 29 08.4	-9.4		
SOC				*e*SS	**SS**	**05 33 54.1**	**+7.2**		
SOC					MLR	MLR			
	comp=Z,277nm,14.0s								
CLL	**Collm**	**70.18**	**341**	*i* P	**P**	**05 20 10.6**	**+0.9**		
	comp=Z,11nm,1.5s								
CLL				*e*PcP	**PcP**	**05 20 34.0**	**+2.6**		
CLL				*e*SS	SS	05 33 48.0	+0.8		
CLL				*e*SSS	SSS	05 37 06.0			
CLL				Lm	MLR	05 52 00.0			
	comp=Z,200nm,21.9s								
CLL	**Collm**	**70.18**	**341**	*i* P	**P**	**05 20 10.6**	**+0.9**		
CLL				*e*		05 20 34.0			
CLL					pmax	pmax			
	comp=Z,11nm,1.5s								
CLL	**Collm**	**70.18**	**341**	*e*P	**P**	**05 20 10.8**	**+1.0**		
	comp=Z,11nm,1.5s,baz=16,slow=6.3								
OSTC	**Ostas**	**70.29**	**339**	AMS	AMS	05 53 50.0			
	comp=Z,300nm,17.1s								
R53A	**Hurricane**	**70.33**	**50**	P	**P**	**05 20 11.4**	**+0.5**		
PLAL	**Pickwick Lake**	**70.39**	**56**	P	**P**	**05 20 11.7**	**+0.4**		
PLAL					IAmb	IAmb	05 20 21.7		
	comp=Z,12nm,0.8s								
BRG	**Berggiesshubel**	**70.43**	**341**	*e*P	**P**	**05 20 12.3**	**+1.1**		
	comp=Z,4.8nm,1.4s,baz=16,slow=6.3								
DPC	**Dobruska-Polom**	**70.47**	**339**	*e*P	**P**	**05 20 13.4**	**+1.8**		
DPC				*e*		05 20 20.9			
DPC					MLR	MLR			
	comp=Z,200nm,14.3s								
DPC	**Dobruska-Polom**	**70.47**	**339**	*e*P	**P**	**05 20 13.4**	**+1.8**		
DPC				*e*pP	**pP**	**05 20 20.9**	**-0.5**		
DPC					AMS	AMS	05 56 40.0		
	comp=Z,200nm,14.3s								
FBE	**Freiberg**	**70.49**	**341**	*e*P	**P**	**05 20 13.0**	**+1.4**		
	comp=Z,7.5nm,1.3s,baz=16,slow=6.3								
NIE	**Niedzica**	**70.50**	**336**	*e*P	**P**	**05 20 11.6**	**-0.1**		
OKC	**Ostrava-Krasne**	**70.58**	**338**	AMS	AMS	05 56 40.0			
	comp=Z,300nm,15.4s								
KRLC	**Kraliky**	**70.64**	**339**	*e*P	**P**	**05 20 14.4**	**+1.8**		
KRLC					MLR	MLR			
	comp=Z,300nm,15.7s								
KRLC	**Kraliky**	**70.64**	**339**	*e*P	**P**	**05 20 14.4**	**+1.8**		
KRLC				*ex*	x	05 20 19.4			
KRLC					AMS	AMS	05 55 10.0		
	comp=Z,300nm,15.7s								
PVCC	**Panska Ves**	**70.64**	**340**	AMS	AMS	05 55 30.0			
	comp=Z,200nm,16.6s								
MORC	**Moravsky Berou**	**70.76**	**338**	*e*P	**P**	**05 20 14.7**	**+1.3**		
MORC	**Moravsky Berou**	**70.76**	**338**	P	**P**	**05 20 14.7**	**+1.3**		
MORC					pmax	pmax			
	comp=Z,9.0nm,1.4s								
MORC	**Moravsky Berou**	**70.76**	**338**	P	**P**	**05 20 14.7**	**+1.3**		
MORC					IAmb	IAmb	05 20 15.8		
	comp=Z,9.3nm,1.4s								
LANS	**Liptovska Anna**	**70.94**	**336**	*e*P	**P**	**05 20 17.7**	**+3.3**		
LANS				*e*		05 20 25.9			
LANS	**Liptovska Anna**	**70.94**	**336**	*e*P	**P**	**05 20 17.7**	**+3.3**		
LANS				*e*		05 20 25.9			
BURAR	**Bucovina Array**	**70.98**	**332**	P	**P**	**05 20 15.0**	**+0.2**		
BURAR				pP	**pP**	**05 20 24.6**	**-0.1**		
TANN	**Tannenbergstha**	**71.14**	**341**	*e*P	**P**	**05 20 17.0**	**+1.4**		
	comp=Z,12nm,1.6s,baz=16,slow=6.3								
PRU	**Pruhonice**	**71.16**	**340**	AMS	AMS	05 55 50.0			
	comp=Z,300nm,14.6s								
GUNZ	**Gunzen**	**71.21**	**342**	*e*P	**P**	**05 20 17.6**	**+1.5**		
	comp=Z,15nm,1.6s,baz=16,slow=6.3								
GNI	**Garni**	**71.22**	**315**	*ce*P	**P**	**05 20 17.6**	**+1.1**		
GNI					pmax	pmax			
	comp=Z,21nm,1.3s								
NKC	**Novy Kostel**	**71.31**	**341**	AMS	AMS	05 53 00.0			
	comp=Z,300nm,17.6s								
VRAC	**Vranov**	**71.40**	**338**	*e*P	**P**	**05 20 18.2**	**+1.0**		
JAVC	**Velka Javorina**	**71.60**	**338**	*e*P	**P**	**05 20 20.6**	**+2.1**		
MANZ	**Manzenberg**	**71.61**	**342**	*e*P	**P**	**05 20 19.8**	**+1.3**		
	comp=Z,12nm,1.6s,baz=16,slow=6.3								
KRUC	**Moravsky**	**71.68**	**338**	*e*P	**P**	**05 20 19.9**	**+1.0**		
ROTZ	**Rotzenmuhle**	**71.80**	**341**	*e*P	**P**	**05 20 21.1**	**+1.5**		
	comp=Z,13nm,1.5s,baz=16,slow=6.3								
Z47A	**Carrollton**	**71.86**	**57**	P	**P**	**05 20 20.2**	**0.0**		
GRF	**Grafenberg Arr**	**72.05**	**342**	*e*P	**P**	**05 20 22.7**	**+1.6**		
	comp=Z,31nm,1.9s,baz=16,slow=6.3								
KHC	**Kasperske Hory**	**72.17**	**340**	*e*P	**P**	**05 20 23.6**	**+1.8**		
KHC				*e*		05 20 31.6			
KHC					MLR	MLR			
	comp=Z,300nm,16.4s								
KHC	**Kasperske Hory**	**72.17**	**340**	*e*P	**P**	**05 20 23.6**	**+1.8**		
KHC				*e*pP	**pP**	**05 20 31.6**	**-0.1**		
KHC					AMS	AMS	05 55 30.0		
	comp=Z,300nm,16.4s								
WET	**Wettzell**	**72.28**	**341**	*e*P	**P**	**05 20 24.3**	**+1.8**		
	comp=Z,7.6nm,1.3s,baz=16,slow=6.3								
CKRC	**Cesky Krumlov**	**72.32**	**340**	AMS	AMS	05 56 20.0			
	comp=Z,200nm,17.0s								
GEC2	**GERESS Array S**	**72.42**	**340**	*e*P	**P**	**05 20 24.6**	**+1.2**		
	comp=Z,7.9nm,1.3s,baz=16,slow=6.3								
GERES	**GERESS Array B**	**72.42**	**340**	P	**P**	**05 20 23.5**	**+0.1**		
	comp=Z,0.5nm,0.6s,baz=56,slow=3.4,SNR=9.1								
GERES	**GERESS Array B**	**72.42**	**340**	P	**P**	**05 20 24.5**	**+1.1**		
LRAL	**Lakeview Retre**	**72.50**	**57**	P	**P**	**05 20 24.4**	**+0.4**		
LRAL					IAmb	IAmb	05 20 33.9		
	comp=Z,12nm,0.6s								
LRAL	**Lakeview Retre**	**72.50**	**57**	P		05 20 23.8			
	baz=327,SNR=5.7								
CONA	**Conrad Observa**	**72.87**	**338**	*e*P	**P**	**05 20 28.5**	**+2.4**		
	comp=Z,6.7nm,1.2s								
RJOB	**Jochberg**	**73.65**	**340**	*e*P	**P**	**05 20 32.4**	**+1.7**		
	comp=Z,23nm,1.3s,baz=16,slow=6.3								
KBA	**Koelnbreinsper**	**74.18**	**340**	*i* P	**P**	**05 20 36.6**	**+2.7**		
	comp=Z,10nm,1.2s								
PSI	**Prapat**	**74.23**	**251**	P	**P**	**05 20 34.2**	**-0.3**		
	comp=Z,2.1nm,0.4s,baz=359,slow=3.9,SNR=4.5								
PSI					LR	LR	05 54 55.8		
	comp=Z,212nm,19.3s,baz=32,slow=37								
WATA	**Walderalm**	**74.26**	**341**	*i* P	**P**	**05 20 36.3**	**+2.0**		
	comp=Z,12nm,1.4s								
WTTA	**Wattenberg**	**74.32**	**341**	*e*P	**P**	**05 20 36.9**	**+2.2**		
	comp=Z,13nm,1.5s								
MOTA	**Moosalm**	**74.34**	**341**	*e*P	**P**	**05 20 36.4**	**+1.6**		
	comp=Z,5.8nm,1.5s								
OBKA	**Obir**	**74.49**	**339**	*i* P	**P**	**05 20 36.7**	**+1.1**		
	comp=Z,10nm,1.1s								
MYKA	**Terra Mystica**	**74.55**	**340**	*i* P	**P**	**05 20 37.9**	**+1.9**		
	comp=Z,5.1nm,1.3s								
DAVA	**Damuels**	**74.60**	**342**	*e*P	**P**	**05 20 36.4**	**+0.1**		
	comp=Z,6.0nm,1.2s								
ABTA	**Abfaltersbach**	**74.66**	**340**	*i* P	**P**	**05 20 38.5**	**+1.9**		
	comp=Z,8.0nm,1.1s								
BRTR	**Keskin Array B**	**75.65**	**323**	P	**P**	**05 20 41.7**	**-0.8**		
	comp=Z,1.1nm,0.8s,baz=56,slow=4.6,SNR=5.7								
BRTR					LR	LR	05 59 00.0		
	comp=Z,155nm,18.2s,baz=80,slow=40								
BRTR	**Keskin Array B**	**75.65**	**323**	*ce*P	**P**	**05 20 43.2**	**+0.7**		
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**75.65**	**323**	P	**P**	**05 20 42.5**	**-0.1**		
BRTR					pP	**pP**	**05 20 51.5**	**-0.9**	
DZM	**Mont Dzumac**	**78.07**	**178**	*e*LR	LR	05 45 22.4			
	comp=Z,176nm,28.3s								
NRCA	**Norcia**	**78.30**	**339**	P	**P**	**05 20 58.1**	**+0.8**		
NRCA					IAmb	IAmb	05 21 00.2		
	comp=Z,20nm,1.2s								
WRAB	**Tennant Creek**	**80.05**	**209**	*ce*P	**P**	**05 21 05.4**	**-1.4**		
WRAB					pmax	pmax			
	comp=Z,5.0nm,1.1s								
PMOR	**Pomariorio Ree**	**81.44**	**134**	*e*T	T	06 50 47.3			
	comp=Z,2.9nm,0.3s								
PPT	**Papeete**	**83.11**	**136**	LR	LR	05 53 13.9			
	comp=Z,106nm,21.1s,baz=332,slow=32								
PPT2	**Papeete2**	**83.12**	**136**	*e*LR	LR	05 47 40.1			
	comp=Z,199nm,23.5s								
ASAR	**Alice Springs**	**83.72**	**208**	P	**P**	**05 21 27.8**	**+1.6**		
	comp=Z,3.8nm,1.1s,baz=20,slow=5.0,SNR=9.9								
ASAR	**Alice Springs**	**83.72**	**208**	P	**P**	**05 21 27.6**	**+1.5**		
ESDC	**Sonseca Array**	**83.89**	**351**	P	**P**	**05 21 28.2**	**+1.2**		
	comp=Z,0.8nm,0.7s,baz=1.9,slow=3.9,SNR=3.7								
CCIG	**Comitan**	**83.90**	**70**	P	**P**	**05 21 28.8**	**+1.3**		
CCIG					IAmb	IAmb	05 21 40.1		
	comp=Z,8.1nm,0.9s								
RAYN	**Ar Rayn**	**85.27**	**306**	P	**P**	**05 21 33.2**	**-1.1**		
RAYN					pmax	pmax			
	comp=Z,8.0nm,1.0s								
RAYN	**Ar Rayn**	**85.27**	**306**	P	**P**	**05 21 33.2**	**-1.1**		
RAYN					IAmb	IAmb	05 21 35.1		
	comp=Z,8.5nm,1.0s								
KEST	**Kesra**	**85.90**	**340**	LR	LR	06 03 08.3			
	comp=Z,71nm,20.7s,baz=289,slow=38								
TBI	**Tubuai**	**88.41**	**138**	*e*LR	LR	05 50 09.4			
	comp=Z,104nm,22.5s								
STKA	**Stephens Creek**	**89.94**	**199**	LR	LR	06 02 32.8			
	comp=Z,78nm,18.1s,baz=19,slow=36								
MAW	**Mawson**	**144.03**	**220**	PKP	**PKPdf**	**05 28 30.9**	**-0.3**		
	comp=Z,2.6nm,1.0s,baz=195,slow=1.8,SNR=3.6								

*BGR **06** 05:29:01.4±0.0, 18.93S×176.26W, h33km*
*IDC **06** 05:30:00.4±1.6, 18.26S×178.02W, h530km±15km,*
mb3.5/11, mb1 3.7/13, mb1mx3.5/31, mbtmp4.4/13, Error ellipse: s-maj=35.9km s-min=13.3km az=145.0

*NEIC **06** 05:30:01.3±1.8, 18.1S±0.1×178.1W±0.1, h533km±8km,*
mb4.5/21, Error ellipse: s-maj=21.0km s-min=15.1km az=149.0

ISC 06 05:30:02.5±0.6, 18.1S±0.1×178.2W±0.1, h550km, n85,
σ0.66/84, mb4.4/20, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.62**	**276**	P	**P**	**05 31 20.8**	**-0.9**
	15nm,0.3s,baz=130,slow=13,SNR=70						
MSVF	**Nonsavu**	**3.62**	**276**	P	**P**	**05 31 21.4**	**-0.3**
AFI	**Afiamalu**	**7.45**	**57**	P	P	05 31 49.9	-5.1
	5.6nm,0.3s,baz=179,slow=3.0,SNR=4.4						
RAR	**Rarotonga**	**17.60**	**103**	P	**P**	**05 33 36.0**	**-0.8**
OUZ	**Omahuta**	**18.52**	**202**	P	**P**	**05 33 45.9**	**+1.0**
OUZ				IAmb	IAmb	05 34 10.2	
	comp=Z,30nm,1.5s						
EIDS	**Eidsvold**	**29.40**	**250**	P	**P**	**05 35 22.1**	**+0.3**
EIDS				IAmb	IAmb	05 35 41.4	
	comp=Z,9.8nm,1.1s						
ARMA	**Armidale**	**30.02**	**240**	P	**P**	**05 35 27.9**	**+0.6**
ARMA				IAmb	IAmb	05 35 43.4	
	comp=Z,21nm,1.2s						
CTA	**Charters Tower**	**33.63**	**261**	P	**P**	**05 35 57.5**	**-0.5**
	comp=Z,3.2nm,0.4s,baz=81,slow=8.6,SNR=9.4						
CTAO	**Charters Tower**	**33.63**	**261**	P	**P**	**05 35 57.6**	**-0.5**
CTAO				IAmb	IAmb	05 36 14.8	
	comp=Z,18nm,1.2s						
TOO	**Toolangi**	**37.20**	**231**	P	**P**	**05 36 28.1**	**+0.7**
TOO				IAmb	IAmb	05 36 28.4	
	comp=Z,7.1nm,0.8s						
STKA	**Stephens Creek**	**38.71**	**241**	P	**P**	**05 36 39.6**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=94,slow=10,SNR=17						
STKA	**Stephens Creek**	**38.71**	**241**	P	**P**	**05 36 40.1**	**+0.3**
BBOO	**Buckleboo**	**43.49**	**241**	P	**P**	**05 37 17.5**	**-0.1**
BBOO				IAmb	IAmb	05 37 18.3	
	comp=Z,19nm,1.1s						
AS31	**Alice Springs**	**44.94**	**254**	P	**P**	**05 37 29.2**	**+0.2**
AS31				IAmb	IAmb	05 37 29.9	
	comp=Z,9.6nm,0.6s						
ASAR	**Alice Springs**	**44.94**	**254**	P	**P**	**05 37 28.9**	**-0.1**
	comp=Z,28nm,0.5s,baz=89,slow=8.7,SNR=491						
ASAR				PcP	**PcP**	**05 38 58.8**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=100,slow=3.6,SNR=6.2						
ASAR				S	**S**	**05 43 26.6**	**-1.0**
	comp=Z,1.2nm,1.0s,baz=90,slow=16,SNR=5.5						
ASAR	**Alice Springs**	**44.94**	**254**	P	**P**	**05 37 29.4**	**+0.4**
MTN	**Manton Dam**	**49.02**	**269**	P	**P**	**05 37 59.2**	**-0.6**
FORT	**Forrest**	**50.11**	**245**	P	**P**	**05 38 06.9**	**-0.6**
FORT				IAmb	IAmb	05 38 35.7	
	comp=Z,18nm,1.1s						
KNRA	**Kununurra**	**50.69**	**264**	P	**P**	**05 38 12.0**	**0.0**
FITZ	**Fitzroy Crossi**	**53.21**	**261**	P	**P**	**05 38 29.8**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=114,slow=7.1,SNR=12						
FITZ	**Fitzroy Crossi**	**53.21**	**261**	P	**P**	**05 38 30.4**	**+0.3**
PSA00	**Pilbara Seismi**	**58.07**	**256**	P	**P**	**05 39 03.7**	**0.0**
PSA00				IAmb	IAmb	05 39 27.2	
	comp=Z,25nm,1.4s						
MBWA	**Marble Bar**	**58.23**	**256**	P	**P**	**05 39 04.6**	**-0.3**
MBWA				IAmb	IAmb	05 39 32.4	
	comp=Z,33nm,1.5s						
MJAR	**Matsushiro Arr**	**68.23**	**323**	P	**P**	**05 40 08.2**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=154,slow=6.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**68.23**	**323**	IAmb	IAmb	05 40 09.3	
	comp=Z,6.1nm,1.5s						
ADK	**Adak**	**69.74**	**1**	P	**P**	**05 40 16.8**	**-0.4**
UGM	**Wanagama**	**69.86**	**268**	P	**P**	**05 40 18.7**	**-0.2**
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**05 40 30.4**	**+0.3**
SSLB	**Suanglung**	**72.55**	**303**	P	**P**	**05 40 34.0**	**-0.5**
SSLB				IAmb	IAmb	05 40 34.7	
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**73.96**	**345**	P	**P**	**05 40 42.2**	**+0.5**
	comp=Z,8.2nm,0.7s,baz=129,slow=7.7,SNR=7.2						
USRK	**Ussuriysk Ar.**	**76.93**	**326**	P	**P**	**05 41 00.7**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=142,slow=40,SNR=2.5						
BEKR	**Beckworth**	**78.92**	**42**	P	**P**	**05 41 09.8**	**+0.3**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**05 41 12.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=225,slow=7.9,SNR=2.5						
IMAR	**Indian Mountai**	**85.87**	**10**	P	**P**	**05 41 43.5**	**-0.2**
TXAR	**Lajitas Array**	**85

ABTA	**Abfaltersbach**	**150.14**	345	*i* P		**PKPbc**	**05 48 51.4 -0.2**
	comp=Z,6.6nm,0.7s						
FETA	**Feichten**	**150.28**	348	*eP*		**PKiKP**	**05 48 52.5 0.0**
	comp=Z,4.7nm,0.8s						
FNA	**Florina**	**151.86**	327	PKPbc		**PKPbc**	**05 48 55.5 -0.1**

*IDC **06** 05:45:13.3±0.6,6°.25N×116°.87E,h0km,mb4.1/15, mb1 4.3/18,mb1mx3.9/54,mbtmp4.2/18,ML4.1/2,MS3.4/5, Ms1 3.5/5,ms1mx3.0/39,Error ellipse: s-maj=30.3km s-min=13.6km az=67.0*

*NEIC **06** 05:45:15.5±2.1,6°.1N±0°.1×116°.7E±0°.1,h10km±1km, mb4.6/28, Error ellipse: s-maj=23.6km s-min=11.5km az=229.0*

*DJA **06** 05:45:21.7±0.6,6°N±5°×11°7E±°,h48km±11km,M4.6/12, mB5.0/5,mb4.5/12,MLv4.8/3,Mw(mB)4.4/5*

ISC 06 05:45:15.4±0.4,6°.19N±0°.07×116°.78E±0°.07,h10km,n100, σ1§86/95,mb4.4/39,MS3.2/3,2D,Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**6.43**	**142**	Pn	**Pn**	**05 46 50.5**	**+0.3**
TOLI2				Sn	**Sn**	**05 48 04.2**	**+0.5**
MRSI	**Marisa**	**7.66**	**138**	P	**Pn**	**05 47 11.0**	**+3.9**
	0.2nm52nm,0.6s						
DAV	**Davao City (W)**	**8.78**	**84**	LR	LR	05 51 21.5	
	comp=Z,404nm,20.6s,baz=306,slow=42						
TTSI	**Tana Toraja**	**9.66**	**162**	P	Pn	05 47 40.9	+6.3
	1um92nm,0.8s						
DLV	**T Lat**	**9.99**	**306**		**Pn**	**05 47 37.2**	**-2.0**
SPSI	**Sidrap Palu**	**10.52**	**163**	P	Pn	05 47 52.8	+6.5
	1um28nm,0.7s						
BNSI	**Bone**	**11.03**	**162**	P	Pn	05 48 00.5	+7.2
	42nm,0.8s						
KAPI	**Kappang**	**11.52**	**165**	Pn	**Pn**	**05 48 01.8**	**+1.8**
	1.6nm,0.3s,baz=0.0,slow=14,SNR=1.7						
UBPT	**Khong Chiam**	**14.32**	**310**	P	**Pn**	**05 48 40.4**	**+2.1**
	9.7nm,1.1s						
UBPT	**Khong Chiam**	**14.32**	**310**		**Pn**	**05 48 37.1**	**-1.2**
RGRI	**Rengat**	**15.82**	**246**	P	**P**	**05 49 06.3**	**+4.1**
SIJI	**Sorong**	**16.07**	**115**	LR	LR	05 54 03.5	
	comp=Z,113nm,21.1s,baz=26,slow=33						
SKLT	**Songkhla**	**16.08**	**274**	P	**P**	**05 49 06.4**	**+1.3**
	24nm,1.1s						
MDSI	**Maura Dua**	**16.46**	**230**	P	**P**	**05 49 10.2**	**+0.9**
	855nm6.4nm,1.5s						
BKNI	**Bangkinang**	**16.76**	**250**	P	**Pn**	**05 49 10.7**	**+0.3**
BKNI				IAmb	IAmb	05 49 14.0	
	comp=Z,73nm,1.1s						
SRIT	**Nakonsritamara**	**17.20**	**279**	P	**Pn**	**05 49 14.7**	**-1.4**
CHAI	**Chaiyaphum**	**17.43**	**305**	P	**P**	**05 49 22.6**	**+2.5**
	comp=Z,264nmcomp=Z,5.4nm,0.9s						
BATI	**Baumata**	**17.67**	**157**	P	**P**	**05 49 23.0**	**+0.2**
	baz=309,slow=22,SNR=1.3						
NONG	**Nongkai**	**17.79**	**313**	P	**P**	**05 49 28.4**	**+4.4**
	comp=Z,20nm,1.0s						
FAKI	**Fak Fak**	**17.90**	**120**		**Pn**	**05 49 24.2**	**-0.4**
FAKI				IAmb	IAmb	05 49 52.9	
	comp=Z,30nm,1.1s						
MNSI	**Mandailing Nat**	**17.98**	**253**	P	**P**	**05 49 31.0**	**+4.8**
SURT	**Suratani**	**18.04**	**280**	P	**P**	**05 49 32.0**	**+5.1**
	comp=Z,1.0nm,1.1s						
PSI	**Prapat**	**18.12**	**260**	P	**P**	**05 49 29.8**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=0.6,slow=10,SNR=7.0						
RPSI	**Rantau Prapat**	**18.14**	**260**	P	**Pn**	**05 49 24.4**	**-3.2**
SRDT	**SRDT**	**19.17**	**296**	P	**Pn**	**05 49 42.3**	**+2.2**
	comp=Z,22nm,1.3s						
PHIT	**Phitsanulok**	**19.38**	**306**	P	**Pn**	**05 49 44.0**	**+1.3**
	comp=Z,17nm,1.1s						
UTHA	**Uthaitani**	**19.39**	**300**	P	**Pn**	**05 49 45.3**	**+2.5**
	comp=Z,51nmcomp=Z,4.4nm,1.0s						
SLVN	**Son La**	**19.55**	**322**		**P**	**05 49 43.7**	**+0.2**
UTTA	**Uttaradit**	**19.57**	**307**	P	**Pn**	**05 49 49.0**	**+4.0**
	comp=Z,6.6nm,0.9s						
LHMI	**Lhok Sumawe**	**19.76**	**268**	P	**P**	**05 49 43.5**	**-2.3**
GSI	**Gunungsitoli**	**19.77**	**257**	P	**P**	**05 49 42.6**	**-3.2**
GSI				IAmb	IAmb	05 49 45.7	
	comp=Z,44nm,0.8s						
GSI	**Gunungsitoli**	**19.77**	**257**	P	**P**	**05 49 45.4**	**-0.4**
	comp=Z,62nm,0.9s						
UMPA	**Umpang Tak**	**20.18**	**301**	P	Pn	05 49 55.1	+2.8
	comp=Z,6.4nm,0.9s						
SRPI	**Serui, Papua**	**21.01**	**112**	P	**P**	**05 50 01.0**	**+1.6**
CM36	**Chiang Mai Arr**	**21.16**	**307**	P	**P**	**05 50 02.0**	**+1.1**
CM04	**Chiang Mai Arr**	**21.18**	**307**	P	**P**	**05 50 03.0**	**+1.7**
	comp=Z,17nm,1.1s						
CM35	**Chiang Mai Arr**	**21.20**	**307**	P	**P**	**05 50 03.0**	**+1.7**
CM09	**Chiang Mai Arr**	**21.20**	**307**	P	**P**	**05 50 03.0**	**+1.6**
	comp=Z,140nmcomp=Z,17nm,1.2s						
CM01	**Chiang Mai Arr**	**21.21**	**307**	P	**P**	**05 50 03.6**	**+2.1**
	comp=Z,169nmcomp=Z,18nm,1.0s						
CM05	**Chiang Mai Arr**	**21.21**	**306**	P	**P**	**05 50 03.2**	**+1.7**
	comp=Z,90nmcomp=Z,12nm,1.1s						
CM02	**Chiang Mai Arr**	**21.23**	**307**	P	**P**	**05 50 03.8**	**+2.1**
	comp=Z,116nmcomp=Z,15nm,0.9s						
CM31	**Chiang Mai Arr**	**21.24**	**307**	P	**P**	**05 50 05.0**	**+3.2**
	comp=Z,349nm,0.8s						
CM31	**Chiang Mai Arr**	**21.24**	**307**	P	**P**	**05 50 00.6**	**-1.2**
CM31				IAmb	IAmb	05 50 08.0	
	comp=Z,28nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.24**	**307**	P	**P**	**05 50 02.3**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=129,slow=8.9,SNR=43						
CMAR				LR	LR	05 58 36.4	
	comp=Z,175nm,18.9s,baz=150,slow=38						
CMAR	**Chiang Mai Arr**	**21.24**	**307**	P	**P**	**05 50 00.1**	**-1.8**
CM13	**Chiang Mai Arr**	**21.25**	**306**	P	**P**	**05 50 03.9**	**+1.9**
	comp=Z,13nm,1.0s						
CM15	**Chiang Mai Arr**	**21.25**	**307**	P	**P**	**05 50 04.0**	**+2.0**
	comp=Z,22nm,0.9s						
CM34	**Chiang Mai Arr**	**21.30**	**308**	P	**P**	**05 50 04.0**	**+1.6**
CM32	**Chiang Mai Arr**	**21.43**	**307**	P	**P**	**05 50 07.0**	**+3.2**
CMMT	**Chiang Mai**	**21.43**	**307**	P	**P**	**05 50 05.7**	**+1.8**
	comp=Z,18nm,1.0s						
CHTO	**Chiang Mai**	**21.44**	**307**	P	**P**	**05 50 03.5**	**-0.4**
CHTO				IAmb	IAmb	05 50 08.3	
	comp=Z,14nm,1.0s						
CM33	**Chiang Mai Arr**	**21.44**	**307**	P	**P**	**05 50 05.0**	**+1.1**
MHMT	**Maesarieng**	**21.91**	**305**	P	**P**	**05 50 11.0**	**+2.0**
GYA	**Guiyang**	**22.35**	**336**	⇓P	**P**	**05 50 15.9**	**+2.1**
GYA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KMI	**Kunming**	**23.14**	**326**	⇓P	**P**	**05 50 25.0**	**+2.8**
KMI				pmax	pmax		
	comp=Z,22nm,1.2s						
MTN	**Manton Dam**	**23.68**	**143**	P	**P**	**05 50 25.5**	**-2.0**
MTN				IAmb	IAmb	05 50 32.5	
	comp=Z,39nm,1.4s						
KNRA	**Kununurra**	**24.75**	**151**	P	**P**	**05 50 35.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**25.67**	**160**	P	**P**	**05 50 45.8**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=294,slow=5.9,SNR=2.9						
NJ2	**Nanjing**	**25.80**	**4**	*eP*	**P**	**05 50 48.9**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GUMO	**Guam**	**28.61**	**73**	LR	LR	06 03 29.9	
	comp=Z,42nm,18.4s,baz=202,slow=38						
SHL	**Shillong**	**30.63**	**312**	P	**P**	**05 51 29.9**	**-0.3**
ASAR	**Alice Springs**	**34.06**	**151**	P	**P**	**05 51 58.6**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=336,slow=9.5,SNR=7.4						
ASAR				PcP	**PcP**	**05 54 37.1**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=347,slow=2.8,SNR=7.8						
HHC	**Hu-ho-hao-te**	**34.83**	**353**	*eP*	**P**	**05 52 07.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,6.4s						
MJAR	**Matsushiro Arr**	**36.02**	**30**	LR	LR	06 07 33.8	
	comp=Z,45nm,19.9s,baz=215,slow=37						
GTA	**Gaotai**	**36.45**	**338**	*eP*	**P**	**05 52 19.4**	**-1.2**
GTA				sP	sP	05 52 26.5	+1.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				SMN			
	comp=Z,4.0nm,1.4s						
GTA				SME			
	comp=Z,3.0nm,1.4s						
STKA	**Stephens Creek**	**44.64**	**149**	P	**P**	**05 53 27.8**	**-0.5**
	comp=Z,2.8nm,0.7s,baz=319,slow=8.7,SNR=4.8						
STKA	**Stephens Creek**	**44.64**	**149**	P	**P**	**05 53 26.9**	**-1.5**
WMQ	**Urumqi**	**45.35**	**330**	*eP*	**P**	**05 53 35.3**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,39nm,3.8s						
NIL	**Nilore**	**48.67**	**310**	P	**P**	**05 53 57.9**	**-2.2**
MK31	**Makanchi Array**	**50.15**	**330**	P	**P**	**05 54 10.7**	**-0.4**
MKAR	**Makanchi Array**	**50.15**	**330**	P	**P**	**05 54 10.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.2,SNR=5.8						
MKAR				PcP	**PcP**	**05 55 31.0**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=122,slow=5.4,SNR=2.6						
MKAR	**Makanchi Array**	**50.15**	**330**	P	**P**	**05 54 11.3**	**+0.3**
AAK	**Ala-Archa**	**52.05**	**321**	P	**P**	**05 54 25.4**	**-0.2**
KBL	**Kabul**	**52.24**	**309**	P	**P**	**05 54 26.8**	**-0.4**
KBL				IAmb	IAmb	05 54 33.5	
	comp=Z,4.6nm,0.8s						
BTK	**Batken**	**53.20**	**316**	P	**P**	**05 54 33.4**	**-0.7**
BTK				IAmb	IAmb	05 54 60.0	
	comp=Z,2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**54.20**	**337**	P	**P**	**05 54 40.8**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=115,slow=10,SNR=4.2						
ZALV	**Zalesovo Beam**	**54.20**	**337**	P	**P**	**05 54 40.3**	**-0.8**
KURBB	**Kurchatov Arra**	**54.56**	**331**	P	**P**	**05 54 42.9**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=134,slow=7.6,SNR=7.8						
KK31	**Karatay Array**	**54.81**	**320**	P	**P**	**05 54 44.4**	**-1.4**
KKAR	**Karatay Array**	**54.81**	**320**	P	**P**	**05 54 44.9**	**-0.8**
PETK	**Petropavlovsk-**	**57.42**	**28**	P	**P**	**05 55 03.1**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=186,slow=5.7,SNR=2.6						
SEY	**Seymchan**	**62.29**	**18**	P	**P**	**05 55 37.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=217,slow=3.7,SNR=5.5						
ABKAR	**Akbulak array**	**64.07**	**322**	P	**P**	**05 55 49.3**	**-0.3**
ABKAR				IAmb	IAmb	05 55 50.9	
	comp=Z,3.4nm,1.4s						
TIXI	**Tiksi**	**65.83**	**4**	P	**P**	**05 55 59.8**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=145,slow=5.8,SNR=8.0						
TIXI	**Tiksi**	**65.83**	**4**	P	**P**	**05 56 00.4**	**-0.1**
TIXI				IAmb	IAmb	05 56 07.9	
	comp=Z,6.0nm,1.0s						
NRIK	**Noril'sk**	**65.92**	**349**	P	**P**	**05 56 00.7**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=127,slow=5.5,SNR=5.0						
NRIK	**Noril'sk**	**65.92**	**349**	P	**P**	**05 56 01.5**	**+0.3**
AKASG	**Malin Array Be**	**83.71**	**320**	P	**P**	**05 57 43.4**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=65,slow=4.8,SNR=4.7						
AKASG	**Malin Array Be**	**83.71**	**320**	P	**P**	**05 57 43.4**	**-1.2**
IMAR	**Indian Mountai**	**84.17**	**24**	P	**P**	**05 57 47.4**	**+0.7**
ARCES	**ARCESS Array B**	**84.70**	**339**	P	**P**	**05 57 47.8**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=358,slow=3.6,SNR=4.0						
FINES	**FINESS Array B**	**84.95**	**331**	P	**P**	**05 57 49.0**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=73,slow=6.6,SNR=10						
FINES	**FINESS Array B**	**84.95**	**331**	P	**P**	**05 57 49.7**	**-0.9**
BPAW	**Bear Paw Mtn.**	**85.46**	**26**	P	**P**	**05 57 55.1**	**+1.9**
BPAW				IAmb	IAmb	05 57 59.9	
	comp=Z,4.3nm,0.9s						
MLY	**Manley**	**85.49**	**25**	P	**P**	**05 57 54.2**	**+0.9**
MLY				IAmb	IAmb	05 58 05.0	
	comp=Z,5.9nm,1.1s						
BURAR	**Bucovina Array**	**86.53**	**317**	P	**P**	**05 57 57.2**	**-1.8**
BURAR				IAmb	IAmb	05 58 13.6	
	comp=Z,2.6nm,0.9s						
BUR08	**Bucovina Ar. S**	**86.54**	**317**	P	**P**	**05 57 57.9**	**-1.1**
BUR08				IAmb	IAmb	05 58 26.5	
	comp=Z,7.1nm,1.4s						
VNDA	**Vanda**	**87.23**	**171**	P	**P**	**05 58 00.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=313,slow=6.9,SNR=2.7						
BMAR	**Burnt Mountain**	**87.64**	**22**	P	**P**	**05 58 03.8**	**-0.1**
BCAR	**Beaver Creek A**	**89.68**	**27**	P	**P**	**05 58 14.9**	**+1.3**

*NNC **06** 06:17:18.6±4.4,53°.87N×90°.57E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=31.9km s-min=20.8km az=66.0, Suspected Mining explosion.*

*IDC **06** 06:17:21.9±0.5,53°.56N×90°.50E,h0km,mb1 3.1/3, mb1mx3.0/43,mbtmp3.1/3,ML2.3/3,Error ellipse: s-maj=7.1km s-min=0.7km az=11.0*

ISC 06 06:17:18.8±4.2,53°.8N±0°.1×90°.7E±0°.2,h0km,n8,σ1§98/10, 3C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.49**	**275**	*i*		06 38 40.0	
	baz=91,slow=309,SNR=3.3						
ZAA0	**Zalesovo Array**	**3.49**	**275**	⇓Pg	**Pb**	**06 18 20.1**	**-1.3**
	1.5nm,0.9s						
ZAA0				⇑Lg	Lg	06 19 08.8	
	3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**3.49**	**275**	Pn	**Pn**	**06 18 16.1**	**+1.9**
	0.2nm,0.3s,baz=96,slow=13,SNR=4.8						
ZALV				Lg	Lg	06 19 09.7	
	1.2nm,0.3s,baz=92,slow=24,SNR=11						
KURBB	**Kurchatov Arra**	**8.13**	**252**	Pn	**Pn**	**06 19 17.6**	**-0.3**
	0.1nm,0.3s,baz=64,slow=14,SNR=5.5						
KURBB				Sn	**Sn**	**06 20 52.3**	**+1.9**
	0.0nm,0.3s,baz=68,slow=27,SNR=6.6						
KURBB				Lg	Lg	06 21 33.6	
	0.0nm,0.3s,baz=73,slow=35,SNR=2.6						
KURBB	**Kurchatov Arra**	**8.13**	**252**	⇓Pn	**Pn**	**06 19 18.0**	**+0.1**
	3.2nm,0.9s						
KURBB				⇓Sn	**Sn**	**06 20 48.2**	**-2.2**
	9.4nm,0.9s						
KURBB				⇓Lg	Lg	06 21 37.6	
	24nm,1.1s						
MK31	**Makanchi Array**	**8.84**	**221**	Pn	**Pn**	**06 19 27.9**	**+0.2**
	1.0nm,0.6s,baz=39,slow=12,SNR=8.8						
MK31				⇓Sn	**Sn**	**06 21 07.0**	**-0.9**
	0.4nm,0.5s						
MK31				⇑Lg	Lg	06 21 59.5	
	4.0nm,0.8s,baz=44,slow=29,SNR=5.0						
MKAR	**Makanchi Array**	**8.84**	**221**	Pn	**Pn**	**06 19 27.2**	**-0.5**
	0.1nm,0.3s,baz=40,slow=14,SNR=12						
MKAR				Lg	Lg	06 21 53.7	
	0.0nm,0.3s,baz=36,slow=27,SNR=4.0						
MAKZ	**Makanchi**	**8.95**	**222**	⇓Sn	**Sn**	**06 21 14.1**	**+3.5**
	2.0nm,1.2s						
MAKZ				⇑Lg	Lg	06 22 04.0	
	5.4nm,1.3s						

IDC 06 06:19:45.1±1.8,5°.44S×130°.82E,h0km,mb3.6/1, mb1 3.9/2,mb1mx3.5/27,mbtmp3.7/2,ML3.9/1,Error ellipse: s-maj=124.0km s-min=9.9km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.82**	**167**	Pn	Pn	06 23 15.4	-0.7
	baz=348,slow=13						
WRA				Sn	Sn	06 25 44.8	-16
	baz=350,slow=20						
ASAR	**Alice Springs**	**18.36**	**171**	P	Pn	06 24 01.3	-0.1
	0.4nm,0.3s,baz=349,slow=9.9,SNR=25						
ASAR				S	Sn	06 27 10.9	-16
	0.1nm,0.3s,baz=351,slow=28,SNR=1.3						
MKAR	**Makanchi Array**	**67.38**	**326**	P	P	06 30 42.2	-0.1
	0.3nm,0.4s,baz=123,slow=7.6,SNR=5.6						

*UPA **06** 06:28:20.5±1.2,8°.53N×76°.96W,h12km±6km,MW4.2*

*RSNC **06** 06:28:22.1±1.1,8°.53N×77°.02W,h25km±4km,ML3.0, Mw3.3*

ISC 06 06:28:20.7±1.5,8°.53N±0°.03×76°.97W±0°.02,h19km±4km, n39,σ1§20/70,3C-4D,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPC	**Capurgana**	**0.39**	**285**	⇑*i*P	**Pg**	**06 28 28.9**	**0.0**
CAPC				*e*S	**Sb**	**06 28 35.0**	**+0.3**
CAPC				*i*		06 28 36.7	
	comp=Z,3µm,0.2s						
LCBC	**Los crdobas,**	**0.68**	**62**	⇓*e*P	**Pn**	**06 28 36.7**	**+1.4**
LCBC				*e*S	**Sn**	**06 28 46.0**	**+0.6**
UPD2	**Meteti**	**1.03**	**271**	⇑*i*P	**Pb**	**06 28 39.1**	**-0.9**
UPD2				*e*S	**Sb**	**06 28 53.3**	**+0.2**
UPD2	**Meteti**	**1.03**	**271**	⇑*i*P	**Pb**	**06 28 39.0**	**-0.9**
UPD2				*e*S	**Sb**	**06 28 53.1**	**0.0**
MOTC	**Monteria, Cord**	**1.31**	**79**	⇓*i*P	**Pn**	**06 28 44.2**	**+0.1**
MOTC				*e*S	**Sb**	**06 29 02.0**	**+0.7**
MOTC				*i*		06 29 09.1	
	comp=Z,225nm,0.5s						
MONA	**Monteria**	**1.32**	**80**	*e*P	**Pn**	**06 28 44.5**	**+0.3**
MONA				*e*S	**Sn**	**06 29 00.8**	**-0.5**
PTAC	**Punta Ardita,**	**1.61**	**211**	*e*P	**Pn**	**06 28 47.3**	**-0.8**
PTAC				*e*S	**Sn**	**06 29 07.1**	**-1.3**
UREC	**San Jos de Ur**	**1.62**	**119**	*e*P	**Pn**	**06 28 48.0**	**-0.3**
UREC				*e*S	**Sn**	**06 29 08.0**	**-0.7**
UREC				*i*		06 29 14.0	
	comp=Z,154nm,0.2s						
CHPO	**Chepo, Panama**	**2.21**	**287**	*e*P	**Pn**	**06 28 56.0**	**-0.3**
CHPO				*e*S	**Sn**	**06 29 23.7**	**+0.5**
SJCC	**San Jacinto, C**	**2.23**	**52**	*e*P	**Pn**	**06 28 57.0**	**+0.2**
SJCC				*e*S	**Sn**	**06 29 23.8**	**+0.1**
SJCC	**San Jacinto, C**	**2.23**	**52**	*e*P	**Pn**	**06 28 56.7**	**0.0**
SJCC				*e*S	**Sn**	**06 29 24.0**	**+0.3**
SJCC				*i*		06 29 26.5	
	comp=Z,59nm,0.3s						
SOLC	**Bahia Solano**	**2.33**	**191**	*e*P	**Pn**	**06 28 58.4**	**+0.3**
ZARC	**Zaragoza, Cauc**	**2.33**	**116**	*e*P	**Pn**	**06 28 58.4**	**+0.3**
ZARC				*e*S	**Sn**	**06 29 25.2**	**-1.1**
ZARC				*i*		06 29 26.3	
	comp=Z,135nm,0.3s						
TABO3	**Taboga, Panama**	**2.57**	**276**	*e*P	**Pn**	**06 29 02.3**	**+1.0**
TABO3				*e*S	**Sn**	**06 29 34.1**	**+2.1**
UPA	**Univ. de Panam**	**2.57**	**280**	*e*P	**Pn**	**06 29 01.6**	**+0.2**
UPA				*e*S	**Sn**	**06 29 31.3**	**-0.8**
UPA	**Univ. de Panam**	**2.57**	**280**	*e*P	**Pn**	**06 29 01.5**	**+0.1**
UPA				*e*S	**Sn**	**06 29 31.1**	**-1.0**
UPA				*i*		06 29 34.5	
	comp=Z,29nm,0.4s						
HELC	**Santa Helena**	**2.73**	**148**	*e*P	**Pn**	**06 29 04.0**	**+0.1**
HELC				*e*S	**Sn**	**06 29 37.1**	**+0.4**
HELC	**Santa Helena**	**2.73**	**148**	*e*P	**Pn**	**06 29 03.8**	**-0.2**
CHOR3	**La Chorrera**	**2.79**	**278**	*e*P	**Pn**	**06 29 04.5**	**+0.2**
CHOR3				*e*S	**Sn**	**06 29 37.7**	**+0.3**
CBOC	**Ciudad Bolivar**	**2.82**	**160**	*e*P	**Pn**	**06 29 05.9**	**+1.0**
CBOC				*e*S	**Sn**	**06 29 38.8**	**+0.3**
CBOC				*i*		06 29 58.3	
	comp=Z,29nm,0.6s						
SMLC	**San Martn de**	**2.88**	**84**	*e*P	**Pn**	**06 29 06.0**	**+0.4**
SMLC				*e*S	**Sn**	**06 29 39.7**	**0.0**
SMLC				*i*		06 29 48.2	
	comp=Z,80nm,0.1s						
ZANG	**Zanguenga, Cho**	**2.89**	**279**	*e*P	**Pn**	**06 29 05.8**	**0.0**
BCIP	**Isla Barro Col**	**2.90**	**283**	*e*P	**Pn**	**06 29 06.0**	**+0.1**
BCIP				*e*S	**Sn**	**06 29 40.7**	**+0.4**
BCIP	**Isla Barro Col**	**2.90**	**283**	*e*P	**Pn**	**06 29 05.9**	**0.0**
BCIP				*e*S	**Sn**	**06 29 39.9**	**-0.3**
BCIP				*i*		06 29 50.2	
	comp=Z,48nm,0.7s						
MLIR	**Monte Lirio**	**2.93**	**284**	*e*P	**Pn**	**06 29 07.3**	**+0.9**
ARGC	**Ariguani, Magd**	**3.00**	**64**	*e*P	**Pn**	**06 29 08.0**	**+0.8**
ARGC				*e*S	**Sn**	**06 29 42.8**	**+0.2**
ARGC				*i*		06 29 43.1	
	comp=Z,49nm,0.3s						
VTON	**El Valle, Cocl**	**3.11**	**272**	*e*P	**Pn**	**06 29 09.5**	**+0.7**
VTON				*e*S	**Sn**	**06 29 46.4**	**+0.9**
AZU	**Azuero**	**3.35**	**258**	⇓*i*P	**Pn**	**06 29 12.2**	**+0.1**
AZU				*e*S	**Sn**	**06 29 49.6**	**-1.8**
BRRC	**Barranca, Sant**	**3.53**	**113**	*e*P	**Pn**	**06 29 15.5**	**+1.0**
BRRC				*e*S	**Sn**	**06 29 55.3**	**-0.4**
BRRC				*i*		06 29 57.9	
	comp=Z,86nm,0.2s						
NORC	**Norcasia**	**3.61**	**145**	*e*P	**Pn**	**06 29 15.8**	**+0.1**
NORC				*e*S	**Sn**	**06 29 58.9**	**+1.0**
NORC				*i*		06 30 04.4	
	comp=Z,26nm,0.4s						
OCAC	**Ocana**	**3.62**	**94**	*e*P	**Pn**	**06 29 16.4**	**+0.4**
OCAC				*e*S	**Sn**	**06 29 57.3**	**-1.1**
GUY2C	**Guyana, Caldas**	**3.66**	**154**	*e*P	**Pn**	**06 29 18.3**	**+1.6**
GUY2C				*i*		06 30 11.9	
	comp=Z,12nm,0.6s						
PLMC	**San Jos del P**	**3.67**	**169**	*e*P	**Pn**	**06 29 16.6**	**0.0**
PLMC				*i*		06 30 20.9	
	comp=Z,11nm,0.5s						
SPBC	**San Pablo de B**	**4.06**	**135**	*e*P	**Pn**	**06 29 20.4**	**-1.5**
SPBC				*e*S	**Sn**	**06 30 07.5**	**-1.5**
SPBC				*i*		06 30 10.8	
	comp=Z,16nm,0.2s						
BARC	**Barichara**	**4.22**	**117**	*e*P	**Pn**	**06 29 25.1**	**+0.8**
BARC				*e*S	**Sn**	**06 30 11.9**	**-1.3**
PAMC	**Pamplona, Colo**	**4.39**	**105**	*e*P	**Pn**	**06 29 28.3**	**+1.4**
PAMC				*e*S	**Sn**	**06 30 16.8**	**-1.0**
PAMC				*i*		06 30 23.6	
	comp=Z,76nm,0.4s						
RUSC	**La Rusia**	**4.67**	**124**	*e*P	**Pn**	**06 29 30.6**	**0.0**
RUSC				*e*S	**Sn**	**06 30 21.4**	**-3.1**
PRAC	**Prado**	**5.22**	**156**	*e*P	**Pn**	**06 29 38.7**	**+0.9**
PRAC				*i*		06 31 16.0	
	comp=Z,4.7nm,0.4s						
SOTA	**Rioblanco**	**6.37**	**177**	⇓*e*	**Sn**	**06 31 13.1**	**+6.6**

*IDC **06** 07:03:43.2±1.1,23°.04S×66°.70W,h210km±24km,mb3.7/1, mb1 3.6/6,mb1mx3.3/24,mbtmp4.1/6,Error ellipse: s-maj=30.0km s-min=16.1km az=110.0*

*NEIC **06** 07:03:44±1.2,23°.15S±0°.07×66°.9W±0°.2,h231km±12km, Error ellipse: s-maj

s-min=23.7km az=113.0

ISC 06 07:26:41.8±0.9, 11°18N±0.2×142°4E±0.2, h35km, n14, σ0984/10, mb4.3/8, MS3.3/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.03**	**54**	Pn	**Pn**	**07 27 27.5**	**+0.2**
	24nm,0.3s,baz=190,slow=17,SNR=17						
GUMO				Sn	Sn	07 28 13.0	+11
	33nm,0.3s,baz=230,slow=23,SNR=7.6						
GUMO				LR	LR	07 28 46.0	
	comp=Z,363nm,19.7s,baz=216,slow=43						
JHJ	**Hachijo jima 2**	**21.33**	**354**	LR	LR	07 38 51.0	
	comp=Z,143nm,21.3s,baz=134,slow=34						
PMG	**Port Moresby**	**21.62**	**167**	LR	LR	07 39 07.4	
	comp=Z,121nm,20.7s,baz=355,slow=35						
KAPI	**Kappang**	**28.01**	**235**	LR	LR	07 42 48.4	
	comp=Z,77nm,18.6s,baz=354,slow=35						
KSRS	**Korea Array**	**28.62**	**336**	LR	LR	07 44 06.4	
	comp=Z,61nm,18.8s,baz=185,slow=37						
USRK	**Ussuriysk Ar.**	**33.48**	**346**	P	**P**	**07 33 18.4**	**+0.6**
	2.4nm,0.8s,baz=184,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**36.22**	**193**	P	**P**	**07 33 41.5**	**-0.2**
	1.0nm,1.0s,baz=21,slow=11,SNR=5.4						
KLR	**Kul'dur**	**38.32**	**349**	P	**P**	**07 33 58.7**	**-0.4**
	1.0nm,0.6s,baz=141,slow=14,SNR=2.0						
CMAR	**Chiang Mai Arr**	**42.34**	**284**	P	**P**	**07 34 33.2**	**+0.4**
	1.3nm,0.3s,baz=74,slow=7.6,SNR=1.6						
ILAR	**Eielson Array**	**71.21**	**25**	P	**P**	**07 37 56.0**	**-1.1**
	5.0nm,0.6s,baz=245,slow=6.0,SNR=50						
YKA	**Yellowknife Ar**	**85.55**	**27**	P	**P**	**07 39 15.4**	**-0.8**
	2.2nm,0.9s,baz=289,slow=5.3,SNR=8.6						
ARCES	**ARCESS Array B**	**87.99**	**342**	P	**P**	**07 39 27.9**	**-0.1**
	2.6nm,0.9s,baz=46,slow=5.2,SNR=3.6						
NVAR	**Mina Array Bea**	**89.94**	**51**	P	**P**	**07 39 39.7**	**+1.5**
	1.4nm,0.7s,baz=264,slow=5.5,SNR=19						
LPAZ	**La Paz**	**150.12**	**102**	PKPbc	**PKiKP**	**07 46 31.4**	**-0.1**
	2.5nm,0.8s,baz=359,slow=4.6,SNR=9.4						

*IDC **06** 07:28:12.9±0.7, 33°13N×139°31E, h0km, mb4.1/18, mb1 4.3/23, mb1mx4.1/62, mbtmp4.1/23, ML3.7/5, MS3.5/23, Ms1 3.5/23, ms1mx3.4/46, Error ellipse: s-maj=18.3km s-min=9.4km az=11.0*

*BJI **06** 07:28:12.9±0.0, 33°23N×139°46E, h18km, mB4.6/22, mb4.5/35, Ms4.2/24, Ms7 3.9/24*

*MOS **06** 07:28:14.1±1.1, 33°21N×139°12E, h14km, mb4.7/15, Error ellipse: s-maj=12.0km s-min=6.6km az=97.1*

*NIED **06** 07:28:15.1, 33°24N×139°14E, h26km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.80; $M_{\theta\theta}$=0.47; $M_{\phi\phi}$=1.27; $M_{r\theta}$=1.10; $M_{\theta\phi}$=-2.67; $M_{\phi r}$=1.25; Fault plane solution: M_0=3.33000×10^{15} NP1: ϕ_s=185.00000°, δ=72.00000°, λ=-28.00000°. NP2: ϕ_s=284.00000°, δ=63.00000°, λ=-160.00000°.*

*JMA **06** 07:28:15.0±0.1, 33°24N×139°14E, h26km±3km, M4.6*

JMA Felt I J1.

*NEIC **06** 07:28:15.8±1.6, 33°28N±0°06×139°16E±0°04, h10km±1km, mb4.6/44, Error ellipse: s-maj=10.4km s-min=5.6km az=194.0*

ISC 06 07:28:16.7±0.8, 33°25N±0°03×139°15E±0°04, h17km±5km, n180, σ1945/173, mb4.5/61, MS3.6/25, 2C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.55**	**104**	Pn	**Pg**	**07 28 26.1**	**-1.6**
	882nm,0.3s,baz=242,slow=8.4,SNR=64						
JHJ				Sn	**Sg**	**07 28 34.2**	**-0.9**
	3µm,0.3s,baz=126,slow=23,SNR=19						
JHCJ	**Hachijojimakas**	**0.58**	**108**	⇓P	**Pg**	**07 28 26.1**	**-2.1**
JHCJ				S	**Sg**	**07 28 34.1**	**-1.8**
JHJ2	**Mitsune**	**0.58**	**104**	P	**Pg**	**07 28 26.3**	**-1.9**
JHJ2				S	**Sg**	**07 28 34.9**	**-1.1**
JHJ2	**Mitsune**	**0.58**	**104**	Pg	**Pg**	**07 28 26.4**	**-1.8**
JMKN	**Mikurajimanish**	**0.74**	**30**	⇑P	**Pg**	**07 28 29.1**	**-2.1**
JKO	**Kozu shima**	**0.93**	**360**	⇑P	**Pg**	**07 28 32.3**	**-2.5**
JKO				S	**Sg**	**07 28 45.5**	**-1.6**
JAOM	**Aogashimamukai**	**0.94**	**146**	P	**Pg**	**07 28 32.4**	**-2.6**
JSKK	**Shikinejimakit**	**1.08**	**3**	P	**Pg**	**07 28 34.8**	**-2.8**
JSKK				S	**Sg**	**07 28 49.5**	**-2.3**
JTHY	**Toshimahigashi**	**1.27**	**5**	P	**Pn**	**07 28 37.8**	**-1.9**
TK03	**Tokai 3**	**1.34**	**313**	⇓P	**Pn**	**07 28 39.1**	**-1.4**
TK03				S	**Sb**	**07 28 57.4**	**-0.7**
JIZS	**Izushimoda**	**1.48**	**351**	P	**Pn**	**07 28 41.2**	**-1.3**
JIZS				S	**Sn**	**07 29 01.1**	**-0.4**
JIM2	**Oshima 3**	**1.48**	**9**	P	**Pn**	**07 28 40.8**	**-1.8**
TTO4	**TONANKAI O.B.S**	**1.54**	**300**	P	**Pn**	**07 28 40.9**	**-2.2**
TTO4				S	**Sn**	**07 29 00.3**	**-2.3**
TTO5	**TONANKAI O.B.S**	**1.55**	**310**	⇓P	**Pn**	**07 28 41.5**	**-1.9**
TTO5				S	**Sn**	**07 29 01.6**	**-1.5**
TTO3	**TONANKAI O.B.S**	**1.58**	**293**	P	**Pn**	**07 28 41.9**	**-1.9**
TTO3				S	**Sn**	**07 29 02.5**	**-1.3**
JSG	**Sagara**	**1.63**	**331**		**Pn**	**07 28 43.2**	**-1.3**
TTO2	**TONANKAI O.B.S**	**1.83**	**286**	P	**Pn**	**07 28 45.3**	**-1.8**
TTO1	**TONANKAI O.B.S**	**2.01**	**281**	P	**Pn**	**07 28 47.6**	**-1.9**
TTO1				S	**Sn**	**07 29 12.3**	**-1.8**
INU	**Inuyama**	**2.73**	**320**		**Pn**	**07 28 58.0**	**-1.8**
JGF	**Kuroka**	**2.77**	**328**		**Pn**	**07 28 59.2**	**-1.1**
JYT	**Yasato**	**3.09**	**16**		**Pn**	**07 29 03.3**	**-1.4**
MJAR	**Matsushiro Arr**	**3.37**	**347**	Pn	**Pn**	**07 29 09.7**	**+1.1**
	2.1nm,0.3s,baz=157,slow=14,SNR=91						
MJAR	**Matsushiro Arr**	**3.37**	**347**	i	**Pn**	**07 29 07.7**	**-0.9**
MAJO	**Matsushiro**	**3.37**	**347**	P	**Pn**	**07 29 10.1**	**+1.5**
MAJO	**Matsushiro**	**3.37**	**347**		**Pn**	**07 29 10.1**	**+1.5**
MAT	**Matsushiro**	**3.37**	**347**	P	**Pn**	**07 29 09.1**	**+0.5**
MAT				eS	**Sn**	**07 29 47.7**	**-0.5**
JWT	**Wachi**	**3.70**	**304**	Pn	**Pn**	**07 29 12.3**	**-0.8**
JMN	**Monobe**	**4.42**	**278**		**Pn**	**07 29 21.9**	**-1.3**
JMM	**Marumori**	**4.79**	**16**		**Pn**	**07 29 27.4**	**-0.7**
JSD	**Sado**	**4.83**	**352**	Pn	**Pn**	**07 29 28.0**	**-0.6**
JHS	**Saijyo**	**5.29**	**291**		**Pn**	**07 29 34.5**	**-0.6**
JCJ	**Chichijima**	**6.68**	**156**	LR	LR	07 32 03.1	
	comp=Z,139nm,21.0s,baz=0.5,slow=35						
JNU	**Nakatsue**	**6.93**	**271**	Pn	**Pn**	**07 29 56.8**	**-0.7**
JSU	**Suzuyama**	**7.55**	**259**	Pn	**Pn**	**07 30 07.1**	**+1.0**
JTM	**Tenmabayashi**	**7.67**	**11**	Pn	**Pn**	**07 30 07.8**	**+0.2**
JTU	**Tsushima**	**8.20**	**282**	Pn	**Pn**	**07 30 13.4**	**-1.5**
ERM	**Erimo**	**9.31**	**19**	P	**Pn**	**07 30 29.1**	**-0.9**
ERM	**Erimo**	**9.31**	**19**	Pn	**Pn**	**07 30 29.1**	**-0.9**
KSRS	**Korea Array**	**10.08**	**298**	Pn	**Pn**	**07 30 39.8**	**-0.8**
	0.3nm,0.3s,baz=119,slow=14,SNR=3.4						
KSRS				LR	LR	07 34 11.8	
	comp=Z,35nm,18.4s,baz=112,slow=35						
ASAJ	**Asahikawa**	**11.18**	**13**	Pn	**Pn**	**07 30 54.1**	**-1.5**
	1.4nm,0.3s,baz=227,slow=8.5,SNR=8.3						
ASAJ				LR	LR	07 35 37.9	
	comp=Z,326nm,19.3s,baz=218,slow=40						
ASAJ	**Asahikawa**	**11.18**	**13**	P	**Pn**	**07 30 55.4**	**-0.2**
JKA	**Kamikawa-asahi**	**11.18**	**13**	Pn	**Pn**	**07 30 55.4**	**-0.3**
NMR	**Nemuro--Hokkai**	**11.34**	**25**	*eP*	Pn	07 30 50.8	-7.1
JOW	**Kunigami**	**11.38**	**239**	Pn	**Pn**	**07 30 56.5**	**-2.0**
	1.9nm,0.3s,baz=162,slow=20,SNR=3.9						
JOW				LR	LR	07 34 59.4	
	comp=Z,369nm,20.2s,baz=336,slow=36						
JOW	**Kunigami**	**11.38**	**239**	Pn	**Pn**	**07 30 57.8**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**11.97**	**24**	*eP*	Pn	07 30 59.8	-6.7
YUK				MLR	MLR		
	comp=Z,247nm,18.0s						
USRK	**Ussuriysk Ar.**	**12.27**	**335**	LR	LR	07 35 43.6	
	comp=Z,325nm,19.1s,baz=157,slow=36						
MDJ	**Mudanjiang**	**13.55**	**330**	P	**Pn**	**07 31 32.0**	**+3.9**
MDJ				S	**Sn**	**07 34 00.0**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,140nm,3.1s						
MDJ				L	L		
	comp=Z,470nm,17.1s						
MDJ				L	L		
	comp=Z,690nm,13.9s						
MDJ				L	L		
	comp=Z,400nm,19.6s						
KLR	**Kul'dur**	**16.89**	**343**	P	**Pn**	**07 32 11.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=4.3						
KLR				LR	LR	07 38 31.6	
	comp=Z,106nm,19.6s,baz=144,slow=36						
NJ2	**Nanjing**	**17.13**	**272**	*eP*	**Pn**	**07 32 13.8**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
GUMO	**Guam**	**20.26**	**164**	LR	LR	07 39 22.8	
	comp=Z,163nm,20.5s,baz=7.5,slow=33						
WHN	**Wuhan**	**21.21**	**269**	P	**P**	**07 33 05.7**	**+4.1**
WHN				S	Sn	07 37 02.4	-1.6
WHN				L	L		
	comp=Z,680nm,13.0s						
WHN				L	L		
	comp=Z,380nm,10.3s						
WHN				L	L		
	comp=Z,550nm,12.5s						
ZEA	**Zeya**	**22.16**	**341**	*eP*	**P**	**07 33 12.4**	**+0.8**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,100nm,17.0s						
HHC	**Hu-ho-hao-te**	**23.22**	**297**	*eP*	**P**	**07 33 22.2**	**-0.8**
HHC				sP	sP	07 33 37.0	+7.6
HHC				S	**S**	**07 37 31.8**	**-2.5**
HHC				sS	sS	07 37 44.8	+2.8
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,67nm,5.6s						
HHC				L	L		
	comp=Z,370nm,16.1s						
HHC				L	L		
	comp=Z,260nm,13.1s						
PETK	**Petropavlovsk-**	**23.89**	**28**	P	**P**	**07 33 30.1**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=214,slow=7.0,SNR=2.8						
PETK				LR	LR	07 43 19.8	
	comp=Z,115nm,19.9s,baz=211,slow=38						
XAN	**Xi'an**	**25.13**	**280**	P	**P**	**07 33 45.5**	**+4.6**
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
ENH	**Enshi**	**25.35**	**271**	P	**P**	**07 33 42.6**	**-0.3**
ENH				IAmb	IAmb	07 33 48.1	
	comp=Z,16nm,1.0s						
MA2	**Magadan**	**27.44**	**13**	P	**P**	**07 34 00.7**	**-0.6**
	comp=Z,11nm,0.8s,baz=189,slow=16,SNR=4.9						
MA2				LR	LR	07 44 26.6	
	comp=Z,95nm,21.7s,baz=171,slow=35						
MA2	**Magadan**	**27.44**	**13**	P	**P**	**07 34 00.3**	**-1.1**
MA2				IAmb	IAmb	07 34 07.2	
	comp=Z,13nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.15**	**112**	T	T	08 03 39.7	
	baz=304,slow=75,SNR=144						
H11N1	**WAKE ISLAND Hy**	**28.16**	**112**	T	T	08 03 38.3	
	baz=304,slow=75,SNR=87						
H11N3	**WAKE ISLAND Hy**	**28.17**	**112**	T	T	08 03 39.2	
	baz=304,slow=75,SNR=94						
SONM	**Songino Array**	**28.58**	**310**	P	**P**	**07 34 10.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=106,slow=11,SNR=2.1						
SONM				LR	LR	07 46 05.5	
	comp=Z,104nm,18.9s,baz=122,slow=37						
SONM	**Songino Array**	**28.58**	**310**	P	**P**	**07 34 11.5**	**-0.4**
SONM				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONM	**Songino Array**	**28.58**	**310**	P	**P**	**07 34 11.5**	**-0.4**
GYA	**Guiyang**	**28.89**	**265**	⇓P	**P**	**07 34 18.1**	**+3.2**
GYA				S	**S**	**07 39 05.1**	**+0.4**
GYA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DAV	**Davao City (W)**	**28.93**	**209**	LR	LR	07 45 57.0	
	comp=Z,80nm,18.5s,baz=148,slow=37						
CD2	**Chengdu**	**29.99**	**275**	P	**P**	**07 34 23.9**	**-0.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				L	L		
	comp=Z,700nm,16.2s						
CD2				L	L		
	comp=Z,340nm,20.1s						
CD2				L	L		
	comp=Z,300nm,13.5s						
ZAK	**Zakamensk**	**31.35**	**314**	*eP*	**P**	**07 34 38.3**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
TLY	**Talaya**	**31.59**	**316**	LR	LR	07 47 59.5	
	comp=Z,128nm,19.6s,baz=112,slow=37						
GTA	**Gaotai**	**32.09**	**292**	*eP*	**P**	**07 34 44.7**	**+1.7**
GTA				pP	sP	07 34 48.6	-1.1
GTA				sP	pP	07 34 52.1	+4.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,68nm,6.7s						
GTA				L	L		
	comp=Z,230nm,18.2s						
GTA				L	L		
	comp=Z,220nm,18.4s						
GTA				L	L		
	comp=Z,130nm,17.4s						
KMI	**Kunming**	**32.67**	**265**	⇓P	**P**	**07 34 51.3**	**+3.0**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KMI				L	L		
	comp=Z,210nm,16.6s						
KMI				L	L		
	comp=Z,190nm,17.2s						
KMI				L	L		
	comp=Z,260nm,17.2s						
UBPT	**Khong Chiam**	**35.32**	**248**	P	P	07 35 16.4	+5.3
	comp=Z,14nm,1.2s						
NONG	**Nongkai**	**35.60**	**254**	P	P	07 35 18.7	+5.2
	comp=Z,20nm,1.0s						
CHAI	**Chaiyaphum**	**37.70**	**252**	P	**P**	**07 35 35.7**	**+4.2**
	comp=Z,4.7nm,0.9s						
UTTA	**Uttaradit**	**37.86**	**256**	P	**P**	**07 35 35.8**	**+3.0**
	comp=Z,3.7nm,0.8s						
BILL	**Bilibino**	**38.17**	**16**	⇓*eP*	**P**	**07 35 34.9**	**+0.1**
BILL				*e**PP	**sP**	**07 35 44.8**	**+3.2**
BILL						07 37 53.0	
BILL				SS	SS	07 44 06.0	-8.8
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,79nm,16.0s						
CMMT	**Chiang Mai**	**38.63**	**258**	P	**P**	**07 35 42.2**	**+2.9**
	comp=Z,5.1nm,0.9s						
CHTO	**Chiang Mai**	**38.63**	**258**	P	**P**	**07 35 38.6**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**38.63**	**258**	P	**P**	**07 35 38.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**38.81**	**258**	P	**P**	**07 35 41.5**	**+0.7**
	comp=Z,2.3nm,0.4s,baz=52,slow=8.1,SNR=5.1						
TIXI	**Tiksi**	**38.85**	**355**	P	**P**	**07 35 40.1**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIXI	**Tiksi**	**38.85**	**355**	P	**P**	**07 35 40.1**	**-0.4**
WMQ	**Urumqi**	**41.01**	**300**	*eP*	**P**	**07 35 59.8**	**+0.8**
WMQ				sP	sP	07 36 13.2	+7.4
WMQ				pmax	pmax		
	comp=Z,19nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,62nm,3.8s						
WMQ				L	L		
	comp=Z,580nm,10.9s						
WMQ				L	L		
	comp=Z,740nm,22.9s						
WMQ				L	L		
	comp=Z,170nm,21.9s						
PHET	**Kaeng Krachan**	**41.28**	**250**	P	**P**	**07 36 05.0**	**+3.7**
KAPI	**Kappang**	**42.27**	**209**	P	**P**	**07 36 08.7**	**-0.6**
KAPI				pmax	pmax		
	comp=Z,51nm,1.4s						
KAPI	**Kappang**	**42.27**	**209**	P	**P**	**07 36 08.7**	**-0.6**
PMG	**Port Moresby**	**43.10**	**168**	P	**P**	**07 36 15.8**	**-0.3**
PMG				pmax	pmax		
	comp=Z,32nm,1.1s						
PMG	**Port Moresby**	**43.10**	**168**	P	**P**	**07 36 15.8**	**-0.3**
ZAA0	**Zalesovo Array**	**43.19**	**315**	P	**P**	**07 36 16.4**	**-0.1**
ZALV	**Zalesovo Beam**	**43.19**	**315**	LR	LR	07 54 51.1	
	comp=Z,82nm,18.9s,baz=108,slow=37						
ZALV	**Zalesovo Beam**	**43.19**	**315**	P	**P**	**07 36 15.5**	**-1.0**
ZALV	**Zalesovo Beam**	**43.19**	**315**	P	**P**	**07 36 15.5**	**-1.0**
SKLT	**Songkhla**	**44.10**	**243**	P	P	07 36 29.1	+4.9
	comp=Z,708nmcomp=Z,16nm,0.9s						
SURT	**Suratani**	**44.33**	**246**	P	P	07 36 33.0	+6.9
MKAR	**Makanchi Array**	**44.66**	**305**	LR	LR	07 54 25.9	
	comp=Z,56nm,20.2s,baz=92,slow=35						
PKDT	**Phuket**	**45.35**	**246**	P	**P**	**07 36 38.0**	**+3.8**
NRIK	**Noril'sk**	**45.97**	**337**	LR	LR	07 56 43.3	
	comp=Z,170nm,18.6s,baz=126,slow=37						
PSI	**Prapat**	**48.27**	**240**	P	**P**	**07 36 56.6**	**-0.7**
PSI				pmax	pmax		
	comp=Z,11nm,1.1s						
RPSI	**Rantau Prapat**	**48.35**	**240**	P	**P**	**07 36 56.6**	**-1.1**
RPSI				IAmb	IAmb	07 37 01.4	
	comp=Z,10nm,1.1s						
GSI	**Gunungsitoli**	**50.28**	**240**	P	**P**	**07 37 13.6**	**+1.2**
IMAR	**Indian Mountai**	**50.85**	**29**	P	**P**	**07 37 16.9**	**+0.8**
MLY	**Manley**	**52.04**	**30**	P	**P**	**07 37 26.1**	**+1.0**
MLY				IAmb	IAmb	07 37 49.5	
	comp=Z,7.1nm,0.6s						
TOLK	**Toolik Lake Re**	**52.68**	**26**	P	**P**	**07 37 30.1**	**+0.3**
NEA2	**Nenana**	**52.75**	**31**	P	**P**	**07 37 30.8**	**+0.6**
NEA2				IAmb	IAmb	07 37 36.5	
	comp=Z,6.1nm,0.9s						
MDM	**Murphy Dome**	**53.10**	**31**	P	**P**	**07 37 34.1**	**+1.1**
MDM				IAmb	IAmb	07 37 56.5	
	comp=Z,4.7nm,0.6s						
KK31	**Karatay Array**	**53.47**	**302**	P	**P**	**07 37 36.2**	**+0.2**
KK31				pmax	pmax		
	comp=Z,11nm,1.4s						
KK31	**Karatay Array**	**53.47**	**302**	P	**P**	**07 37 36.2**	**+0.2**
KK31				IAmb	IAmb	07 37 41.0	
	comp=Z,11nm,1.4s						
KKAR	**Karatay Array**	**53.47**	**302**	P	**P**	**07 37 35.9**	**-0.1**
KKAR	**Karatay Array**	**53.47**	**302**	P	**P**	**07 37 35.9**	**-0.1**
IL31		**53.68**	**31**	P	**P**	**07 37 37.2**	**+0.1**
IL31				IAmb	IAmb	07 37 57.4	
	comp=Z,6.1nm,0.6s						
ILAR	**Eielson Array**	**53.68**	**31**	P	**P**	**07 37 37.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=282,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**53.68**	**31**	P	**P**	**07 37 37.6**	**+0.4**
ILAR	**Eielson Array**	**53.68**	**31**	P	**P**	**07 37 37.6**	**+0.4**
NIL	**Nilore**	**54.09**	**290**	P	**P**	**07 37 40.1**	**-0.6**
NIL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NIL	**Nilore**	**54.09**	**290**	P	**P**	**07 37 40.1**	**-0.6**
NIL				IAmb	IAmb	07 37 40.9	
	comp=Z,5.0nm,0.8s						
HIN	**Hinchinbrook I**	**54.13**	**36**	P	**P**	**07 37 40.6**	**+0.1**
M24K	**Tolsona, Glenn**	**54.14**	**34**	P	**P**	**07 37 40.6**	**-0.1**
Q23K	**Middleton Isla**	**54.30**	**37**	P	**P**	**07 37 42.3**	**+0.6**
MID	**Middleton Isla**	**54.31**	**37**	P	**P**	**07 37 42.2**	**+0.4**
MID				pmax	pmax		
	comp=Z,98nm,0.8s						
MID	**Middleton Isla**	**54.31**	**37**	P	**P**	**07 37 42.2**	**+0.4**
SCRK	**Sand Creek**	**54.99**	**32**	P	**P**	**07 37 47.5**	**+0.7**
SCRK				IAmb	IAmb	07 38 04.8	
	comp=Z,7.0nm,1.2s						
L27K	**Beaver Creek,**	**56.05**	**33**	P	**P**	**07 37 54.2**	**-0.2**
BCAR	**Beaver Creek A**	**56.07**	**33**	P	**P**	**07 37 54.5**	**-0.1**
EGAK	**Eagle**	**56.13**	**31**	P	**P**	**07 37 54.9**	**+0.1**
EGAK				IAmb	IAmb	07 38 14.4	
	comp=Z,5.1nm,1.0s						
ASAR	**Alice Springs**	**56.82**	**186**	P	**P**	**07 37 58.4**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=14,slow=13,SNR=7.6						
ARU	**Arti**	**58.00**	**320**	P	**P**	**07 38 08.6**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=20,slow=3.2,SNR=7.9						
ARU	**Arti**	**58.00**	**320**	P	**P**	**07 38 06.6**	**-1.6**
ARU				IAmb	IAmb	07 38 11.2	
	comp=Z,7.7nm,0.9s						
INK	**Inuvik**	**58.59**	**26**	P	**P**	**07 38 11.4**	**-0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**58.59**	**26**	P	**P**	**07 38 11.4**	**-0.7**
INK				IAmb	IAmb	07 38 31.9	
	comp=Z,5.1nm,1.1s						
ABKAR	**Akbulak array**	**58.99**	**311**	P	**P**	**07 38 15.2**	**0.0**
AKTO	**Aktyubinsk**	**59.85**	**313**	P	**P**	**07 38 22.2**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=82,slow=12,SNR=7.5						
MSVF	**Nonsavu**	**62.85**	**138**	LR	LR	08 03 36.9	
	comp=Z,45nm,20.5s,baz=5.4,slow=34						
EUNU	**Eureka**	**64.19**	**8**	P	**P**	**07 38 50.5**	**+0.5**
EUNU				IAmb	IAmb	07 39 15.2	
	comp=Z,2.6nm,0.7s						
ARCES	**ARCESS Array B**	**66.88**	**339**	P	**P**	**07 39 08.1**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=69,slow=14,SNR=4.7						
DAG	**Danmarks Havn**	**69.36**	**355**	*i* P	**P**	**07 39 24.2**	**+1.4**
DAG				IAmb	IAmb	07 39 26.1	
	comp=Z,2.2nm,0.7s						
DAG	**Danmarks Havn**	**69.36**	**355**	*i* P	**P**	**07 39 24.2**	**+1.4**
DAG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**71.28**	**332**	P	**P**	**07 39 34.2**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=111,slow=6.2,SNR=3.4						
FINES				LR	LR	08 12 32.1	
	comp=Z,46nm,21.5s,baz=42,slow=37						
KBZ	**Khabaz**	**71.95**	**311**	P	**P**	**07 39 38.7**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=132,slow=3.5,SNR=8.4						
SUMG	**Summit**	**74.44**	**359**	*i* P	**P**	**07 39 56.0**	**+2.1**
SUMG				IAmb	IAmb	07 39 57.8	
	comp=Z,4.4nm,0.7s						
SUMG	**Summit**	**74.44**	**359**	P	**P**	**07 39 55.0**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SUMG	**Summit**	**74.44**	**359**	P	**P**	**07 39 55.0**	**+1.1**
SUMG				IAmb	IAmb	07 39 57.8	
	comp=Z,5.1nm,0.7s						
AKASG	**Malin Array Be**	**76.13**	**322**	P	**P**	**07 40 03.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=48,slow=6.0,SNR=4.1						
AKASG				LR	LR	08 15 51.1	
	comp=Z,64nm,18.2s,baz=65,slow=38						
AKASG	**Malin Array Be**	**76.13**	**322**	P	**P**	**07 40 03.2**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**76.13**	**322**	IAmb	IAmb	07 40 07.7	
	comp=Z,1.2nm,1.0s						
NC405	**NORSAR Array S**	**76.72**	**337**	P	**P**	**07 40 06.2**	**-0.4**
NOA	**NORSAR Array B**	**76.93**	**337**	P	**P**	**07 40 07.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=43,slow=5.5,SNR=4

comp=Z,16nm,21.9s,baz=197,slow=31
TX31 Lajitas Ar. Si 93.92 51 P P 07 41 33.6 -0.3
TX32 Lajitas Array 93.92 51 P P 07 41 33.3 -0.6
TXAR Lajitas Array 93.92 51 P P 07 41 33.5 -0.4
comp=Z,1.1nm,0.7s,baz=297,slow=3.5,SNR=18
LPAZ La Paz 150.16 62 PKPbc PKPbc 07 48 08.0 0.0
comp=Z,2.0nm,0.8s,baz=33,slow=6.4,SNR=5.6

*IDC **06** 07:33:14.5±9.4, 8.°88N×39.°55E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.4/51, mbtmp4.0/4, MS3.3/8, Ms1 3.3/8, ms1mx3.1/34, Error ellipse: s-maj=361.5km s-min=20.1km az=153.0*
ISC 06 07:33:18.8±1.0, 9.°18N±0.°04×39.°95E±0.°08, h10km, n18, σ0°99/13, mb4.1/4, MS3.1/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ANKE	**Ethiopia-Afar**	**0.46**	**333**	*eP*		**Pg**	**07 33 27.8**	**-0.1**
ANKE				*eS*		**Sg**	**07 33 34.6**	**+0.6**
AAE	**Adis Abeba**	**1.18**	**263**	*eP*		**Pg**	**07 33 41.3**	**-0.2**
AAE				*eS*		**Sn**	**07 33 57.8**	**0.0**
DESE	**Dese**	**1.95**	**351**	*eP*		**Pb**	**07 33 54.6**	**0.0**
DESE				*eS*		**Sg**	**07 34 20.6**	**-0.8**
TEND	**Ethiopian Broa**	**2.79**	**22**	*eP*		**Pn**	**07 34 04.2**	**+0.6**
TEND				*eS*		**Sb**	**07 34 40.9**	**-2.3**
DILA	**Dilla**	**3.19**	**211**	*eP*		**Pg**	**07 34 19.8**	**-0.2**
DILA				*eS*		**Sg**	**07 35 00.5**	**-0.8**
KMBO	**Kilima Mbogo**	**10.59**	**195**	Lg		Lg	07 38 50.1	
	1.0nm,0.3s,baz=80,slow=20,SNR=7.7							
MBAR	**Mbarara**	**13.36**	**224**	LR		LR	07 41 43.1	
	comp=Z,135nm,21.6s,baz=70,slow=40							
EIL	**Elat**	**20.91**	**348**	LR		LR	07 44 43.9	
	comp=Z,84nm,19.1s,baz=312,slow=33							
MMAI	**Mount Meron Ar**	**24.09**	**351**	LR		LR	07 46 58.1	
	comp=Z,57nm,19.1s,baz=70,slow=34							
BRTR	**Keskin Array B**	**30.93**	**351**	LR		LR	07 50 47.6	
	comp=Z,54nm,21.1s,baz=177,slow=34							
GNI	**Garni**	**31.13**	**7**	LR		LR	07 51 25.0	
	comp=Z,22nm,18.4s,baz=190,slow=35							
KEST	**Kesra**	**38.41**	**318**	LR		LR	07 59 55.3	
	comp=Z,86nm,19.5s,baz=300,slow=42							
DBIC	**Dimbokro**	**44.42**	**270**	P		P	07 41 24.4	-5.9
	5.2nm,1.0s,baz=102,slow=10,SNR=1.4							
ESDC	**Sonseca Array**	**49.47**	**315**	LR		LR	08 04 52.2	
	comp=Z,51nm,18.2s,baz=30,slow=38							
MKAR	**Makanchi Array**	**51.93**	**36**	P		**P**	**07 42 28.9**	**+0.9**
	0.7nm,0.8s,baz=247,slow=7.4,SNR=5.1							
KURBB	**Kurchatov Arra**	**52.13**	**30**	P		**P**	**07 42 30.4**	**+1.2**
	1.0nm,0.8s,baz=233,slow=7.8,SNR=6.4							
NOA	**NORSAR Array B**	**55.95**	**344**	LR		LR	08 08 03.6	
	comp=Z,16nm,21.2s,baz=20,slow=37							
ZALV	**Zalesovo Beam**	**57.22**	**30**	P		**P**	**07 43 06.3**	**+0.2**
	2.6nm,0.7s,baz=246,slow=7.3,SNR=10.0							

*NNC **06** 07:34:53.8±0.4, 50.°02N×78.°72E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=4.4km s-min=2.0km az=72.0, Suspected Mining explosion.*
ISC 06 07:34:53.6±0.9, 49.°94N±0.°03×78.°56E±0.°04, h0km, n27, σ1°75/42, 13C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.65**	**357**	⇑P		**Pg**	**07 35 04.9**	**-1.0**
KUR07				⇓S		**Sg**	**07 35 13.5**	**-0.8**
KUR06	**Kurchatov Arra**	**0.67**	**358**	⇓P		**Pg**	**07 35 05.3**	**-1.0**
KUR06				⇓S		**Sg**	**07 35 14.1**	**-0.8**
KUR14	**Kurchatov Arra**	**0.68**	**2**	⇑P		**Pg**	**07 35 05.2**	**-1.3**
KUR14				⇑S		**Sg**	**07 35 14.1**	**-1.2**
KUR15	**Kurchatov Arra**	**0.68**	**360**	⇑P		**Pg**	**07 35 05.4**	**-1.2**
KUR15				⇓S		**Sg**	**07 35 14.5**	**-0.9**
KURBB	**Kurchatov Arra**	**0.68**	**358**	⇓P		**Pg**	**07 35 05.6**	**-1.1**
	38nm,0.3s							
KURBB				⇑S		**Sg**	**07 35 14.8**	**-0.8**
	171nm,0.7s							
KUR16	**Kurchatov Arra**	**0.69**	**357**	⇓P		**Pg**	**07 35 05.9**	**-0.9**
KUR16				⇑S		**Sg**	**07 35 14.9**	**-0.8**
KUR17	**Kurchatov Arra**	**0.70**	**355**	⇑P		**Pg**	**07 35 06.2**	**-0.7**
KUR17				⇑S		**Sg**	**07 35 15.5**	**-0.5**
KUR05	**Kurchatov Arra**	**0.70**	**359**	⇓P		**Pg**	**07 35 05.8**	**-1.2**
KUR05				⇑S		**Sg**	**07 35 14.9**	**-1.3**
SEM	**Semipalatinsk**	**1.18**	**66**	P		**Pg**	**07 35 15.1**	**-1.1**
	5.6nm,0.1s							
SEM				S		**Sg**	**07 35 29.1**	**-2.5**
	35nm,0.2s							
MAKZ	**Makanchi**	**3.87**	**143**	P		**Pn**	**07 35 57.2**	**+2.8**
MAKZ				S		**Sn**	**07 36 40.4**	**-0.2**
MAKZ	**Makanchi**	**3.87**	**143**	⇓Pg		**Pb**	**07 36 02.7**	**0.0**
	2.1nm,0.5s							
MAKZ				⇓Lg		Lg	07 36 53.9	
	10nm,0.6s							
MK31	**Makanchi Array**	**4.01**	**140**	⇓Pn		**Pn**	**07 35 57.8**	**+1.6**
	0.3nm,0.2s,baz=323,slow=10.0,SNR=24							
MK31				⇑Pg		**Pb**	**07 36 05.8**	**+0.7**
	1.1nm,0.3s,baz=325,slow=14,SNR=15							
MK31				⇓Lg		Lg	07 37 00.2	
	13nm,0.5s,baz=329,slow=27,SNR=12							
MKAR	**Makanchi Array**	**4.01**	**140**	P		**Pn**	**07 35 58.0**	**+1.8**
MKAR				S		**Sn**	**07 36 46.7**	**+2.7**
UKR	**Ust'-Kan**	**4.09**	**74**	P		**Pn**	**07 35 57.7**	**+0.3**
UKR				S		**Sn**	**07 36 44.1**	**-2.0**
OTUK	**Ortayu**	**4.43**	**250**	⇑Pn		**Pn**	**07 36 04.8**	**+2.8**
	3.1nm,0.5s							
OTUK				⇑Pg		**Pg**	**07 36 17.2**	**-1.2**
	1.0nm,0.3s							
OTUK				⇑Lg		Lg	07 37 18.8	
	5.9nm,0.6s							
KAPS	**Kapalarasan**	**4.69**	**173**	Pg		**Pg**	**07 36 21.3**	**-2.1**
	1.0nm,0.2s							
KAPS				Lg		Lg	07 37 22.9	
	18nm,0.4s							
ZSN	**Zaisan**	**4.86**	**118**	Pg		**Pb**	**07 36 22.5**	**+3.0**
	2.3nm,0.2s							
ZSN				Lg		Lg	07 37 24.8	
	12nm,0.6s							
DGZ	**Jazzator, Alta**	**5.75**	**89**	S		**Sn**	**07 37 25.2**	**-1.6**
AKAR	**Aktash**	**5.84**	**83**	P		**Pn**	**07 36 21.8**	**+0.4**
AKAR				S		**Sn**	**07 37 29.5**	**+0.4**
KUU	**Kurty**	**6.24**	**195**	Pg		**Pg**	**07 36 50.2**	**-2.8**
	1.1nm,0.1s							
KUU				Lg		Lg	07 38 12.0	
	13nm,0.4s							
CUR	**Chagan-Uzun**	**6.31**	**85**	S		**Sn**	**07 37 41.5**	**+0.8**
KRBS	**Karabastau**	**6.55**	**199**	Pg		**Pg**	**07 36 56.5**	**-2.6**
	1.4nm,0.6s							
KRBS				Lg		Lg	07 38 22.4	
	4.9nm,0.5s							
UZB	**Uzynbulak**	**6.80**	**177**	Pg		**Pg**	**07 37 03.6**	**-0.2**
	1.4nm,0.2s							
UZB				Lg		Lg	07 38 34.3	
	7.2nm,0.5s							
MDOK	**Medeo**	**6.86**	**189**	Pg		**Pg**	**07 37 03.6**	**-1.4**
	2.4nm,0.3s							
MDOK				Lg		Lg	07 38 34.9	
	7.2nm,0.7s							
MTBS	**Maitube**	**6.97**	**193**	Pg		**Pg**	**07 37 03.2**	**-3.9**
	1.8nm,0.1s							
MTBS				Lg		Lg	07 38 33.7	
	8.2nm,0.3s							
DGS	**Degeres**	**6.97**	**197**	Pg		**Pg**	**07 37 05.9**	**-1.2**
	2.2nm,0.3s							
DGS				Lg		Lg	07 38 38.8	
	9.4nm,0.5s							
KST	**Kastek**	**7.13**	**196**	Pg		**Pg**	**07 37 06.7**	**-3.4**
	2.1nm,0.7s							
KST				Lg		Lg	07 38 40.3	
	7.6nm,0.6s							

*IDC **06** 08:01:19.2±1.3, 18.°03S×177.°89W, h538km±14km, mb3.4/8, mb1 3.6/11, mb1mx3.3/41, mbtmp4.3/11, Error ellipse: s-maj=24.2km s-min=13.7km az=135.0*
*NEIC **06** 08:01:20.1±1.7, 17.°8S±0.°1×178.°1W±0.°1, h541km±9km, mb4.4/25, Error ellipse: s-maj=22.6km s-min=16.2km az=140.0*
ISC 06 08:01:20.3±0.5, 17.°8S±0.°1×178.°0W±0.°1, h550km, n48, σ1°09/46, mb4.2/19, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.78**	**271**	P		**P**	**08 02 41.1**	**+0.4**
	4.0nm,0.3s,baz=152,slow=2.6,SNR=21							
MSVF	**Nonsavu**	**3.78**	**271**	P		**P**	**08 02 41.6**	**+0.9**
AFI	**Afiamalu**	**7.14**	**58**	P		**P**	**08 03 07.0**	**-2.7**
	11nm,0.3s,baz=203,slow=4.7,SNR=13							
AFI	**Afiamalu**	**7.14**	**58**	P		**P**	**08 03 08.0**	**-1.8**
SANVU	**Saraoutou**	**14.40**	**277**	P		P	08 04 18.0	-5.7
DZM	**Mont Dzumac**	**15.23**	**251**	P		**P**	**08 04 30.6**	**-1.7**
	1.8nm,0.3s,baz=89,slow=19,SNR=7.9							
DZM	**Mont Dzumac**	**15.23**	**251**	IAmb		IAmb	08 04 40.5	
	comp=Z,16nm,0.9s							
DZM	**Mont Dzumac**	**15.23**	**251**	P		**P**	**08 04 32.5**	**+0.2**
NOUC	**Port Laguerre**	**15.37**	**251**	P		**P**	**08 04 35.0**	**+1.4**
KOUNC	**Kouc, New Ca**	**16.96**	**258**	P		**P**	**08 04 48.3**	**-0.5**
OUZ	**Omahuta**	**18.86**	**202**	P		**P**	**08 05 07.7**	**+1.8**
OUZ				IAmb		IAmb	08 05 16.2	
	comp=Z,28nm,1.4s							
URZ	**Urewera**	**20.79**	**191**	P		**P**	**08 05 20.4**	**-2.9**
	comp=Z,4.8nm,0.3s,baz=120,slow=23,SNR=14							
EIDS	**Eidsvold**	**29.67**	**250**	P		**P**	**08 06 41.2**	**-0.8**
EIDS				IAmb		IAmb	08 06 41.7	
	comp=Z,7.6nm,0.7s							
MLZ	**Mavora Lakes**	**29.79**	**200**	P		**P**	**08 06 43.1**	**+0.3**
ARMA	**Armidale**	**30.32**	**240**	P		**P**	**08 06 47.8**	**+0.1**
ARMA				IAmb		IAmb	08 06 48.6	
	comp=Z,8.8nm,0.7s							
CTAO	**Charters Tower**	**33.86**	**260**	P		**P**	**08 07 16.2**	**-1.5**
CTAO				IAmb		IAmb	08 07 17.7	
	comp=Z,12nm,0.8s							
CAN	**Canberra**	**34.07**	**233**	P		**P**	**08 07 19.4**	**0.0**
CAN				IAmb		IAmb	08 07 20.1	
	comp=Z,7.9nm,0.6s							
TOO	**Toolangi**	**37.53**	**231**	P		**P**	**08 07 48.3**	**+0.4**
STKA	**Stephens Creek**	**39.02**	**241**	P		**P**	**08 08 00.2**	**+0.1**
	comp=Z,11nm,0.5s,baz=93,slow=9.8,SNR=32							
STKA	**Stephens Creek**	**39.02**	**241**	P		**P**	**08 08 00.1**	**+0.1**
BBOO	**Buckleboo**	**43.79**	**241**	P		**P**	**08 08 37.0**	**-0.8**
AS31	**Alice Springs**	**45.20**	**254**	P		**P**	**08 08 48.5**	**-0.3**
ASAR	**Alice Springs**	**45.20**	**254**	P		**P**	**08 08 48.1**	**-0.7**
	comp=Z,82nm,0.5s,baz=88,slow=8.4,SNR=1533							
ASAR				PcP		**PcP**	**08 10 17.6**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=102,slow=3.7,SNR=8.4							
ASAR	**Alice Springs**	**45.20**	**254**	P		**P**	**08 08 48.4**	**-0.4**
FORT	**Forrest**	**50.40**	**245**	P		**P**	**08 09 26.5**	**-1.1**
FORT				IAmb		IAmb	08 09 27.2	
	comp=Z,16nm,0.6s							
KNRA	**Kununurra**	**50.90**	**264**	P		**P**	**08 09 30.9**	**-0.5**
KNRA				IAmb		IAmb	08 09 31.2	
	comp=Z,18nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.44**	**260**	P		**P**	**08 09 48.7**	**-0.9**
PSA00	**Pilbara Seismi**	**58.32**	**255**	P		**P**	**08 10 22.0**	**-1.2**
SBA	**Scott Base**	**60.51**	**184**	P		P	08 10 39.5	+2.7
MORW	**Morawa**	**60.88**	**246**	P		**P**	**08 10 39.2**	**-1.1**
MORW				IAmb		IAmb	08 10 50.3	
	comp=Z,24nm,1.4s							
TOLI2	**Tolitoli**	**63.10**	**281**	P		**P**	**08 10 56.2**	**+1.3**
TOLI2				IAmb		IAmb	08 10 56.9	
	comp=Z,5.3nm,0.5s							
GIRL	**Giralia**	**63.30**	**253**	P		**P**	**08 10 57.1**	**+1.1**
CASY	**Casey**	**66.36**	**205**	P		**P**	**08 11 14.7**	**+0.2**
CASY				IAmb		IAmb	08 11 40.9	
	comp=Z,6.2nm,1.0s							
UGM	**Wanagama**	**70.06**	**268**	P		**P**	**08 11 37.7**	**-0.2**
QSPA	**South Pole Qui**	**72.21**	**180**	P		**P**	**08 11 51.1**	**+1.5**
NVAR	**Mina Array Bea**	**79.10**	**44**	P		**P**	**08 12 30.0**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=224,slow=8.9,SNR=4.2							
PMR	**Palmer**	**82.44**	**13**	P		**P**	**08 12 45.2**	**+0.5**
PMR				IAmb		IAmb	08 13 13.8	
	comp=Z,12nm,1.5s							
GHO	**Glory Hole Cre**	**82.65**	**13**	P		**P**	**08 12 46.3**	**+0.3**
GHO				IAmb		IAmb	08 12 58.5	
	comp=Z,10nm,1.3s							
SEY	**Seymchan**	**83.81**	**347**	P		**P**	**08 12 51.5**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=127,slow=10,SNR=6.2							
MAW	**Mawson**	**84.06**	**200**	P		**P**	**08 12 53.2**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=134,slow=12,SNR=4.1							
MAW	**Mawson**	**84.06**	**200**	P		**P**	**08 12 52.8**	**-0.1**
TXAR	**Lajitas Array**	**85.62**	**57**	P		**P**	**08 13 03.0**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=227,slow=6.0,SNR=9.0							
ILAR	**Eielson Array**	**85.73**	**13**	P		**P**	**08 13 00.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=221,slow=5.4,SNR=16							
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P		**P**	**08 13 19.6**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=91,slow=1.7,SNR=8.0							
ARCES	**ARCESS Array B**	**126.32**	**350**	PKP		**PKiKP**	**08 19 20.1**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=15,slow=5.0,SNR=5.0							
BRTR	**Keskin Array B**	**145.03**	**315**	PKPbc		**PKPbc**	**08 19 55.9**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=349,slow=2.5,SNR=6.4							
CLL	**Collm**	**145.49**	**348**	⇓iPKPbc		**PKPab**	**08 19 57.7**	**-0.9**
	comp=Z,4.0nm,0.6s							
GERES	**GERESS Array B**	**147.65**	**346**	PKPbc		**PKPbc**	**08 20 03.4**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=27,slow=3.3,SNR=9.9							

IDC 06 08:23:04.6±2.3, 0.°17S×125.°25E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.8/3, Error ellipse: s-maj=335.3km s-min=26.5km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**24.83**	**161**	P		P	08 28 28.7	-0.1
	0.7nm,0.4s,baz=340,slow=7.7,SNR=14							
STKA	**Stephens Creek**	**35.13**	**155**	P		P	08 29 60.0	0.0
	2.0nm,0.8s,baz=317,slow=9.7,SNR=5.0							
MKAR	**Makanchi Array**	**59.95**	**327**	P		P	08 33 12.7	0.0
	0.3nm,0.4s,baz=122,slow=8.4,SNR=5.6							

*HLW **06** 08:57:29.5, 34.°40N×25.°34E, h10km±12km, Md3.4*
*ATH **06** 08:57:29.1, 34.°59N×24.°96E, h14km±3km, ML2.8/4, Error ellipse: s-maj=4.6km s-min=1.8km az=3.0*
*THE **06** 08:57:30.0, 34.°65N×24.°98E, h12km±2km, ML2.7/7, Error ellipse: s-maj=2.2km s-min=0.7km az=2.0*
ISC 06 08:57:26.9±1.3, 34.°50N±0.°04×24.°99E±0.°04, h13km±10km, n26, σ0°56/40, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.53**	**344**	P		**Pb**	**08 57 38.1**	**0.0**
SIVA				S		**Sg**	**08 57 44.7**	**+0.2**
SIVA				AML		AML	08 57 45.0	
	comp=E,22558μm,0.2s							
SIVA				AML		AML	08 57 46.2	
	comp=N,7822μm,0.2s							
SIVA	**Sivas**	**0.53**	**344**	P		**Pb**	**08 57 38.2**	**+0.1**
SIVA				S		**Sg**	**08 57 44.1**	**-0.4**
	comp=N,8μm,0.2s							
TMBK	**Timbaki Herakl**	**0.60**	**342**	P		**Pb**	**08 57 39.5**	**+0.3**
LAST	**Lasithi**	**0.77**	**32**	P		**Pb**	**08 57 42.1**	**-0.1**
LAST				S		**Sb**	**08 57 53.0**	**+0.4**
LAST				AML		AML	08 57 56.8	
	comp=N,581μm,0.4s							
LAST				AML		AML	08 57 57.1	
	comp=E,702μm,0.8s							
LAST	**Lasithi**	**0.77**	**32**	P		**Pb**	**08 57 42.1**	**-0.1**
LAST				S		**Sb**	**08 57 53.1**	**+0.4**
	comp=E,320nm,0.6s							
IDI	**Anoyia**	**0.79**	**354**	P		**Pg**	**08 57 41.8**	**-0.3**
IDI				S		**Sg**	**08 57 52.1**	**-0.5**
IDI				AML		AML	08 57 53.3	
	comp=E,1876μm,0.6s							
IDI				AML		AML	08 57 56.0	
	comp=N,1248μm,0.5s							
IDI	**Anoyia**	**0.79**	**354**	P		**Pg**	**08 57 41.8**	**-0.3**
IDI				S		**Sg**	**08 57 51.6**	**-0.9**
	comp=N,770nm,0.6s							
KSTL	**Kastelli Herak**	**0.80**	**5**	P		**Pb**	**08 57 42.6**	**-0.1**
KSTL				S		**Sg**	**08 57 52.3**	**-0.6**
GVDS	**Gavdos**	**0.81**	**295**	P		**Pn**	**08 57 44.7**	**+0.6**
GVDS				S		**Sn**	**08 57 56.8**	**+0.8**
	comp=N,940nm,0.6s							
GVD	**Gavdhos**	**0.81**	**295**	P		**Pn**	**08 57 44.3**	**+0.2**
GVD	**Gavdhos**	**0.81**	**295**	P		**Pn**	**08 57 44.5**	**+0.4**
GVD				S		**Sn**	**08 57 56.2**	**+0.2**
	comp=N,1μm,0.5s							
NPS	**Neapolis**	**0.92**	**34**	P		**Pn**	**08 57 45.5**	**0.0**
NPS	**Neapolis**	**0.92**	**34**	P		**Pb**	**08 57 44.8**	**+0.2**
NPS				S		**Sg**	**08 57 56.8**	**+0.2**
	comp=N,330nm,0.5s							
PRNS	**Prines Rethymn**	**0.95**	**335**	P		**Pb**	**08 57 45.1**	**-0.1**
PRNS				S		**Sb**	**08 57 57.4**	**-0.2**
VAM	**Vamos**	**1.11**	**325**	P		**Pb**	**08 57 47.8**	**-0.2**
VAM				S		**Sg**	**08 58 02.6**	**-0.2**
VAM				AML		AML	08 58 04.3	
	comp=E,1114μm,0.6s							
VAM				AML		AML	08 58 08.7	
	comp=N,1273μm,0.3s							
VAM	**Vamos**	**1.11**	**325**	P		**Pb**	**08 57 47.8**	**-0.2**
VAM				S		**Sn**	**08 58 03.0**	**-0.3**
	comp=N,592nm,0.4s							
ZKR	**Zakros**	**1.18**	**59**	P		**Pg**	**08 57 50.5**	**+0.9**
ZKR	**Zakros**	**1.18**	**59**	P		**Pg**	**08 57 50.5**	**+0.9**
IMMV	**Iera Moni Meta**	**1.26**	**319**	P		**Pb**	**08 57 50.5**	**-0.1**
IMMV	**Iera Moni Meta**	**1.26**	**319**	P		**Pb**	**08 57 50.3**	**-0.3**
SLUM	**Salum**	**3.01**	**176**	P		**Pn**	**08 58 15.3**	**+1.0**
	baz=183							
SLUM				S		**Sn**	**08 58 48.5**	**-1.7**
	baz=183							
SWA2		**5.26**	**176**	P		**Pn**	**08 58 46.1**	**+0.9**
	baz=178							
HNAT	**Natroun**	**6.81**	**134**	P		**Pn**	**08 59 05.7**	**-0.8**
	baz=135							
HSAF	**As Saff**	**7.40**	**129**	P		**Pn**	**08 59 14.2**	**-0.4**
	baz=130							
GLL	**Jalalah**	**7.53**	**129**	P		**Pn**	**08 59 16.0**	**-0.4**
	baz=129							
HFRF	**Wahat Farafira**	**7.87**	**158**	P		**Pn**	**08 59 20.8**	**-0.2**
	baz=159							

*IDC **06** 08:59:06.0±5.4, 6.°30S×154.°49E, h69km±51km, mb3.6/6, mb1 4.0/9, mb1mx3.7/39, mbtmp4.1/9, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/28, Error ellipse: s-maj=35.2km s-min=25.5km az=19.0*
ISC 06 08:59:03.9±0.9, 6.°2S±0.°1×154.°6E±0.°1, h50km, n9, σ1°13/10, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.00**	**246**	P		**Pn**	**09 00 57.5**	**0.0**
	12nm,0.3s,baz=52,slow=9.4,SNR=26							
PMG				S		**Sn**	**09 02 26.6**	**-0.1**
	4.5nm,0.3s,baz=108,slow=20,SNR=4.2							
PMG				LR		LR	09 04 01.4	
	comp=Z,166nm,20.2s,baz=78,slow=37							
CTA	**Charters Tower**	**15.98**	**210**	P		**Pn**	**09 02 46.5**	**+0.9**
	0.3nm,0.3s,baz=29,slow=12,SNR=6.8							
DZM	**Mont Dzumac**	**19.50**	**145**	P		**Pn**	**09 03 29.3**	**+0.5**
	1.0nm,0.3s,baz=76,slow=23,SNR=2.4							
DZM				LR		LR	09 09 14.7	
	comp=Z,106nm,18.6s,baz=312,slow=31							
ASAR	**Alice Springs**	**26.38**	**227**	P		**P**	**09 04 33.8**	**-2.1**
	1.1nm,0.7s,baz=57,slow=9.1,SNR=11							
CMAR	**Chiang Mai Arr**	**60.07**	**295**	P		**P**	**09 09 07.6**	**+1.2**
	0.8nm,0.3s,baz=126,slow=5.0,SNR=5.9							
SONM	**Songino Array**	**68.45**	**327**	P		**P**	**09 10 01.3**	**+0.3**
	0.6nm,0.4s,baz=140,slow=7.7,SNR=4.2							
MKAR	**Makanchi Array**	**82.54**	**319**	P		**P**	**09 11 21.6**	**+0.1**
	0.3nm,0.4s,baz=90,slow=6.8,SNR=3.7							
ILAR	**Eielson Array**	**82.81**	**22**	P		**P**	**09 11 21.2**	**-1.3**
	0.5nm,0.6s,baz=236,slow=5.2,SNR=5.1							
NVAR	**Mina Array Bea**	**91.57**	**52**	P		**P**	**09 12 06.3**	**+0.3**
	1.3nm,0.9s,baz=254,slow=6.6,SNR=8.4							

IDC 06 09:01:19.0±1.5, 44.°87N×131.°31E, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.3/38, mbtmp3.9/2, Error ellipse: s-maj=25.7km s-min=11.0km az=46.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**0.83**	**144**	Pg		Pg	09 01 33.0	-1.9
	baz=324,slow=14,SNR=21							
USRK				Lg		Lg	09 01 48.9	
	baz=322,slow=27,SNR=5.0							
ZALV	**Zalesovo Beam**	**31.07**	**304**	P		P	09 07 38.5	0.0
	1.8nm,0.6s,baz=93,slow=7.7,SNR=5.5							
MKAR	**Makanchi Array**	**33.77**	**291**	P		P	09 08 03.2	+0.9
	0.5nm,0.6s,baz=92,slow=7.5,SNR=5.3							

KMA 06 09:07:05.9±0.0, 37.°14N×127.°89E, h12km, Error ellipse: s-maj=1.1km s-min=0.5km az=278.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSCHJ	**Chungju**	**0.28**	**166**	P		Pg	09 07 11.6	-0.1
	SNR=15							
KSCHJ	**Chungju**	**0.28**	**166**	P		Pg	09 07 11.6	-0.1
	SNR=14							
KSCHJ	**Chungju**	**0.28**	**166**	P		Pg	09 07 11.6	-0.1
	SNR=15							
KSCHJ	**Chungju**	**0.28**	**166**	P		Pg	09 07 11.6	-0.1
	SNR=14							
KSCHJ	**Chungju**	**0.28**	**166**	P		Pg	09 07 11.6	-0.1
	SNR=15							
KSCHJ				S		Sg	09 07 15.4	-0.1
KSCHJ	**Chungju**	**0.28**	**166**	P		Pg	09 07 11.6	-0.1
	SNR=14							
KSCHJ				S		Sg	09 07 15.5	-0.1
KSWJU	**Wonju**	**0.29**	**26**	P		Pg	09 07 11.7	-0.2
	SNR=20							
KSWJU	**Wonju**	**0.29**	**26**	P		Pg	09 07 11.7	-0.2
	SNR=20							
KSWJU	**Wonju**	**0.29**	**26**	P		Pg	09 07 11.7	-0.2
	SNR=20							
KSMGY	**Mungyeong**	**0

SAIM					IAML			09 27 10.0	
	comp=E,22nm,0.4s								
SARI	**SarD1z-Kayseri**	**1.07**	**44**	PG		Pb		09 26 01.9	+0.3

*ISK **06** 09:28:16.9, 37.°05N × 42.°27E, h20km, ML2.8/5*
*ISN **06** 09:28:18.0±1.0, 36.°88N × 42.°10E, h25km, ML2.5*
*DDA **06** 09:28:19.9, 37.°25N × 42.°05E, h7km ± 6km, ML2.6*

ISC 06 09:28:17.3±1.5, 37.°13N±0.°07 × 42.°18E±0.°03, h13km±9km, n17, σ1.962/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sirnak**	**0.41**	**27**	*i* P	**Pg**	**09 28 27.0**	**+1.5**
SIRN				*i* S	**Sg**	**09 28 29.4**	**-1.7**
SIRT	**Sirnak**	**0.42**	**29**	PG	**Pg**	**09 28 26.8**	**+1.0**
MIDY	**Mardin/Midyat-**	**0.68**	**294**	*i* P	**Pb**	**09 28 31.6**	**+0.5**
MIDY				*i* S	**Sg**	**09 28 38.3**	**-1.3**
PERV	**Siirt/Pervari-**	**0.86**	**19**	*i* P	**Pg**	**09 28 34.6**	**+0.6**
PERV				*i* S	**Sg**	**09 28 45.9**	**+0.6**
PERV				IAML		09 28 54.0	
	comp=E,176nm,0.3s						
SRTM	**Siirt_Merkez**	**0.88**	**347**	*i* P	**Pb**	**09 28 35.3**	**+0.7**
SRTM				*i* S	**Sb**	**09 28 46.1**	**-0.2**
BTMN	**Batman**	**1.05**	**317**	*i* P	**Pn**	**09 28 38.7**	**+0.9**
BTMN				*i* S	**Sg**	**09 28 49.0**	**-2.3**
BTMN				IAML		09 28 57.0	
	comp=N,218nm,0.3s						
MSL	**Mosul**	**1.05**	**134**	*e*Pg	Pg	09 28 34.8	-2.7
	baz=300						
MSL				*e*Sg	Sg	09 28 48.9	-2.2
MSL				AML	AML	09 28 53.0	
	comp=N,149nm,0.5s						
MSL				AML	AML	09 28 55.0	
	comp=E,126nm,0.3s						
MARD	**Mardin**	**1.13**	**280**	*i* P	**Pg**	**09 28 39.4**	**+0.2**
MARD				*i* S	**Sg**	**09 28 51.8**	**-2.2**
MARD				IAML		09 28 58.0	
	comp=E,210nm,0.3s						
MARD				IAML		09 29 00.0	
	comp=N,160nm,0.2s						
SVAN	**Silvan-Diyarba**	**1.28**	**323**	*i* P	**Pn**	**09 28 42.2**	**+1.2**
SVAN				*i* S	**Sb**	**09 28 56.7**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.28**	**323**	PN	**Pn**	**09 28 42.2**	**+1.2**
SVAN				SN	**Sn**	**09 29 00.2**	**+2.1**
HAKT	**HAKKARI**	**1.29**	**70**	*i* P	**Pn**	**09 28 42.0**	**+0.7**
HAKT				*i* S	**Sb**	**09 28 55.4**	**-2.8**
GEVA	**Gevas**	**1.37**	**30**	*i* P	**Pn**	**09 28 43.3**	**+1.0**
GEVA				*i* S	**Sb**	**09 28 57.9**	**-2.5**
GURO	**Guroymak-BITLI**	**1.42**	**355**	PN	**Pn**	**09 28 43.7**	**+0.7**
GURO				SN	**Sn**	**09 29 03.1**	**+1.4**
MAZI	**Mazidag**	**1.42**	**284**	PN	**Pn**	**09 28 43.5**	**+0.5**
MAZI				SN	**Sn**	**09 29 03.1**	**+1.5**
MUSM	**Mu-Merkez**	**1.67**	**342**	*i* P	**Pb**	**09 28 48.4**	**+0.3**
MUSM				*i* S	**Sn**	**09 29 04.2**	**-3.7**
ADCV	**BITLIS_Adilcev**	**1.73**	**14**	*i* P	**Pb**	**09 28 50.2**	**+1.2**
ADCV				*i* S	**Sn**	**09 29 07.5**	**-1.8**
DYBB	**Diyarbakir**	**1.82**	**297**	PN	**Pn**	**09 28 49.4**	**+1.0**

TAP 06 09:37:47.1, 24.°48N × 121.°48E, h9km, ML0.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.10**	**243**	*i* P	Pg	09 37 49.9	+0.1
	baz=243						
NNSB				*i* S	Sg	09 37 51.7	+0.1
	baz=243						
NNSH	**Datong**	**0.10**	**243**	P	Pg	09 37 49.8	0.0
	baz=245						
NNSH				*e*S	Sg	09 37 51.7	+0.1
	baz=245						
NNS	**Nan Shan**	**0.10**	**251**	*e*P	Pg	09 37 49.7	-0.1
	baz=248						
NDT	**Datong Townshi**	**0.13**	**13**	*e*P	Pg	09 37 50.2	+0.1
	baz=10.0						
YHNB	**Yeheng**	**0.22**	**334**	P	Pg	09 37 51.6	-0.1
	baz=332						
YHNB				S	Sg	09 37 55.0	+0.3
	baz=332						
NDS	**Dongshan**	**0.27**	**54**	*e*P	Pg	09 37 51.6	-0.9
	baz=62						
ETLH	**Xiulin Townshi**	**0.27**	**180**	*e*P	Pb	09 37 54.3	+0.2
	baz=190						
NWLT	**Wulai**	**0.30**	**4**	*e*P	Pg	09 37 53.8	+0.6
	baz=353						
NACB	**Ninganchiao**	**0.32**	**161**	*e*P	Pg	09 37 54.1	+0.7
	baz=162						
TWC	**Suao**	**0.36**	**68**	*e*P	Pb	09 37 55.1	-0.6
	baz=69						

JMA 06 09:38:40.0±0.1, 24.°70N × 122.°91E, h17km, M1.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**173**	P	Pg	09 38 45.6	0.0
JYNG				*e*S	Sg	09 38 49.7	+0.3
YOJ	**Yonaguni jima**	**0.25**	**159**	P	Pg	09 38 45.6	-0.1
YOJ				S	Sg	09 38 49.3	-0.3

IDC 06 09:51:29.9±1.5, 10.°70S × 162.°79E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, Error ellipse: s-maj=51.3km s-min=31.8km az=133.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.77**	**220**	P	P	09 57 29.5	0.0
	1.4nm,0.8s,baz=63,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**30.38**	**241**	P	P	09 57 42.8	-1.2
	0.4nm,0.4s,baz=62,slow=10,SNR=9.3						
FITZ	**Fitzroy Crossi**	**36.67**	**254**	P	P	09 58 39.7	+1.0
	1.2nm,0.4s,baz=84,slow=9.2,SNR=5.9						
VNDA	**Vanda**	**66.80**	**180**	P	P	10 02 23.1	+0.2
	0.9nm,0.8s,baz=7.5,slow=7.0,SNR=3.8						
ILAR	**Eielson Array**	**84.14**	**19**	P	P	10 04 02.4	-0.1
	0.6nm,0.8s,baz=229,slow=5.1,SNR=4.9						

*IDC **06** 10:14:09.4±2.4, 25.°38S × 179.°67E, h488km±26km, mb3.4/6, mb1 3.5/8, mb1mx3.3/27, mbtmp4.3/8, Error ellipse: s-maj=27.8km s-min=18.5km az=123.0*
*NEIC **06** 10:14:10.9±1.4, 25.°4S±0.°1 × 179.°7E±0.°2, h502km±9km, mb4.4/23, Error ellipse: s-maj=24.2km s-min=16.3km az=86.0*

ISC 06 10:14:11.2±0.6, 25.°47S±0.°06 × 179.°63E±0.°10, h507km, n76, σ2.521/89, mb4.3/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.36**	**151**	P	**P**	**10 15 33.8**	**+0.9**
GLKZ				S	**S**	**10 16 38.1**	**-1.5**
MSVF	**Nonsavu**	**7.84**	**349**	P	**P**	**10 16 03.6**	**-2.8**
	1.4nm,0.3s,baz=273,slow=22,SNR=9.5						
MSVF	**Nonsavu**	**7.84**	**349**	P	**P**	**10 16 04.9**	**-1.5**
WCZ	**Waipu Caves**	**11.38**	**202**	P	**P**	**10 16 45.9**	**+3.0**
PINNC	**Pines Island,**	**11.49**	**282**	P	**P**	**10 16 43.3**	**-1.1**
URZ	**Urewera**	**12.92**	**189**	P	**P**	**10 16 57.4**	**-1.9**
	2.2nm,0.3s,baz=121,slow=23,SNR=12						
URZ				S	**S**	**10 19 17.6**	**-0.3**
	2.5nm,0.3s,baz=87,slow=22,SNR=7.3						
URZ	**Urewera**	**12.92**	**189**	P	**P**	**10 16 58.0**	**-1.3**
URZ	**Urewera**	**12.92**	**189**	P	**P**	**10 16 56.3**	**-3.0**
URZ				S	**S**	**10 19 16.1**	**-1.8**
RTZ	**Ruatahuna**	**13.29**	**189**	P	**P**	**10 17 05.1**	**+1.8**
RTZ				P	**S**	**10 19 30.4**	**+5.2**
SNGZ	**Shannon Statio**	**13.41**	**188**	P	**P**	**10 17 02.7**	**-1.8**
SNGZ				S	**S**	**10 19 31.0**	**+3.7**
MTHZ	**Maungataniwha**	**13.54**	**189**	P	**P**	**10 17 10.5**	**+4.6**
RAHZ	**Arahi**	**13.57**	**188**	P	**P**	**10 17 09.6**	**+3.4**
RAHZ	**Arahi**	**13.57**	**188**	P	**P**	**10 17 06.1**	**-0.1**
RAHZ				S	**S**	**10 19 25.4**	**-5.0**
HIZ	**Hauiti**	**13.61**	**196**	P	P	10 17 11.7	+5.1
NMHZ	**Naumai**	**13.79**	**189**	P	**P**	**10 17 12.1**	**+3.6**
NMHZ				S	**S**	**10 19 35.7**	**+1.0**
BKZ	**Black Stump Fm**	**13.90**	**190**	P	**P**	**10 17 09.6**	**-0.1**
BKZ	**Black Stump Fm**	**13.90**	**190**	P	**P**	**10 17 07.1**	**-2.6**
BKZ				S	**S**	**10 19 32.0**	**-4.9**
ETVZ	**East Tongariro**	**14.02**	**193**	P	**P**	**10 17 11.0**	**0.0**
OTVZ	**Oturere**	**14.05**	**193**	P	**P**	**10 17 11.3**	**-0.1**
MCHZ	**McNeill Hill**	**14.15**	**189**	P	P	10 17 06.9	-5.2
MCHZ				S	**S**	**10 19 40.8**	**-0.6**
KWHZ	**Kaweka Forest**	**14.17**	**190**	P	**P**	**10 17 15.3**	**+2.9**
KWHZ	**Kaweka Forest**	**14.17**	**190**	P	**P**	**10 17 10.7**	**-1.7**
KWHZ				S	**S**	**10 19 38.2**	**-3.8**
VRZ	**Vera Road**	**14.22**	**196**	P	**P**	**10 17 16.0**	**+3.1**
BHHZ	**Black Hill Sta**	**14.29**	**191**	P	**P**	**10 17 12.1**	**-1.7**
BHHZ	**Black Hill Sta**	**14.29**	**191**	P	**P**	**10 17 10.5**	**-3.3**
BHHZ				S	**S**	**10 19 40.5**	**-3.9**
KRHZ	**Kereru**	**14.39**	**190**	P	**P**	**10 17 10.0**	**-4.8**
KRHZ				S	**S**	**10 19 46.0**	**-0.2**
KAHZ	**Kahuranaki**	**14.46**	**189**	P	**P**	**10 17 16.6**	**+1.1**
KAHZ	**Kahuranaki**	**14.46**	**189**	P	**P**	**10 17 15.0**	**-0.6**
KAHZ				S	**S**	**10 19 46.3**	**-1.3**
PXZ	**Pawanui**	**14.70**	**188**	P	**P**	**10 17 18.7**	**+0.8**
PXZ	**Pawanui**	**14.70**	**188**	P	**P**	**10 17 16.6**	**-1.3**
PXZ				S	**S**	**10 19 47.0**	**-4.9**
ANWZ	**Angora Road**	**15.18**	**189**	P	**P**	**10 17 20.6**	**-2.3**
ANWZ				S	**S**	**10 19 58.2**	**-2.8**
BFZ	**Birch Farm**	**15.43**	**190**	P	**P**	**10 17 24.0**	**-1.6**
BFZ	**Birch Farm**	**15.43**	**190**	P	**P**	**10 17 22.0**	**-3.5**
BFZ				S	**S**	**10 20 01.4**	**-4.4**
MRZ	**Mangatainoka R**	**15.52**	**192**	P	**P**	**10 17 25.4**	**-1.1**
MRZ	**Mangatainoka R**	**15.52**	**192**	P	**P**	**10 17 24.1**	**-2.4**
MRZ				S	**S**	**10 20 01.7**	**-5.8**
OGWZ	**Otaki Gorge**	**15.74**	**193**	P	**P**	**10 17 27.6**	**-1.2**
HOWZ	**Holdsworth Sta**	**15.76**	**192**	P	**P**	**10 17 28.1**	**-0.9**
MTW	**Mount Morrison**	**16.01**	**191**	P	**P**	**10 17 31.3**	**-0.3**
CAW	**Cannon Point**	**16.05**	**193**	P	**P**	**10 17 31.1**	**-0.9**
SNZO	**South Karori**	**16.32**	**193**	P	**P**	**10 17 34.9**	**+0.1**
QRZ	**Quartz Range**	**16.41**	**199**	P	**P**	**10 17 36.4**	**+0.6**
QRZ	**Quartz Range**	**16.41**	**199**	P	**P**	**10 17 36.9**	**+1.1**
NNZ	**Nelson**	**16.54**	**197**	P	**P**	**10 17 36.4**	**-0.7**
TUWZ	**Tuamarina**	**16.60**	**195**	P	**P**	**10 17 36.9**	**-0.8**
ARMA	**Armidale**	**25.19**	**252**	P	**P**	**10 18 54.9**	**-1.2**
ARMA				IAmb	IAmb	10 18 58.7	
	comp=Z,10nm,0.8s						
EIDS	**Eidsvold**	**25.77**	**264**	P	**P**	**10 19 01.7**	**+0.5**
EIDS				IAmb	IAmb	10 19 03.2	
	comp=Z,10nm,0.9s						
CAN	**Canberra**	**28.09**	**242**	P	**P**	**10 19 22.3**	**+0.7**
CAN				IAmb	IAmb	10 19 49.9	
	comp=Z,16nm,1.5s						
CTAO	**Charters Tower**	**31.18**	**273**	P	**P**	**10 19 48.3**	**-0.2**
CTAO				IAmb	IAmb	10 20 12.6	
	comp=Z,21nm,1.3s						
TOO	**Toolangi**	**31.33**	**239**	P	**P**	**10 19 49.1**	**-0.5**
TOO				IAmb	IAmb	10 19 50.6	
	comp=Z,15nm,1.3s						
TAU	**Tasmania Unive**	**31.63**	**228**	P	**P**	**10 19 52.6**	**+0.6**
TAU				IAmb	IAmb	10 19 53.7	
	comp=Z,30nm,1.1s						
STKA	**Stephens Creek**	**33.85**	**250**	P	**P**	**10 20 11.1**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=74,slow=9.4,SNR=6.2						
STKA	**Stephens Creek**	**33.85**	**250**	P	**P**	**10 20 10.6**	**-0.4**
BBOO	**Buckleboo**	**38.54**	**249**	P	**P**	**10 20 49.7**	**-0.1**
BBOO				IAmb	IAmb	10 21 04.4	
	comp=Z,38nm,1.5s						
AS31	**Alice Springs**	**41.47**	**262**	P	**P**	**10 21 13.9**	**+0.3**
AS31				IAmb	IAmb	10 21 15.7	
	comp=Z,2.8nm,0.3s						
ASAR	**Alice Springs**	**41.47**	**262**	P	**P**	**10 21 14.1**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=92,slow=9.9,SNR=61						
ASAR	**Alice Springs**	**41.47**	**262**	P	**P**	**10 21 13.9**	**+0.3**
WRA	**Warramunga Arr**	**41.99**	**268**	P	**P**	**10 21 16.2**	**-1.5**
	comp=Z,3.3nm,0.6s,baz=103,slow=7.9,SNR=9.0						
KNRA	**Kununurra**	**48.36**	**271**	P	**P**	**10 22 07.0**	**+0.3**
KNRA				IAmb	IAmb	10 22 27.9	
	comp=Z,19nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.39**	**267**	P	**P**	**10 22 22.0**	**+0.4**
FITZ				IAmb	IAmb	10 22 44.7	
	comp=Z,20nm,1.5s						
VNDA	**Vanda**	**52.79**	**185**	P	**P**	**10 22 39.5**	**+1.5**
MORW	**Morawa**	**56.03**	**251**	P	**P**	**10 23 01.7**	**0.0**
MORW				IAmb	IAmb	10 23 07.0	
	comp=Z,18nm,1.4s						
CASY	**Casey**	**58.55**	**206**	P	**P**	**10 23 18.4**	**+0.1**
CASY				IAmb	IAmb	10 23 33.8	
	comp=Z,15nm,0.6s						
QSPA	**South Pole Qui**	**64.61**	**180**	P	**P**	**10 23 59.6**	**+1.5**
JWT	**Wachi**	**73.50**	**323**	P	**P**	**10 24 52.1**	**+0.2**
MAW	**Mawson**	**76.16**	**201**	P	**P**	**10 25 07.6**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=111,slow=1.4,SNR=4.5						
MAW	**Mawson**	**76.16**	**201**	P	**P**	**10 25 07.8**	**+1.5**
ADK	**Adak**	**77.09**	**2**	P	**P**	**10 25 11.0**	**-0.5**
ADK				IAmb	IAmb	10 25 16.4	
	comp=Z,16nm,1.1s						
BKNI	**Bangkinang**	**79.84**	**275**	P	**P**	**10 25 28.9**	**+1.7**
PEA0B	**Petropavlovsk-**	**80.55**	**347**	P	**P**	**10 25 30.0**	**0.0**
PETK	**Petropavlovsk-**	**80.55**	**347**	P	**P**	**10 25 29.5**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=119,slow=7.9,SNR=6.1						
PETK	**Petropavlovsk-**	**80.55**	**347**	P	**P**	**10 25 30.0**	**0.0**
SNAA	**Sanae**	**83.10**	**179**	P	**P**	**10 25 42.8**	**-0.2**
NVAR	**Mina Array Bea**	**86.11**	**44**	P	**P**	**10 25 58.0**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=220,slow=8.1,SNR=6.9						
GCMT	**Greyclif**	**95.55**	**42**	P	**P**	**10 26 42.8**	**+1.1**
NOA	**NORSAR Array B**	**143.57**	**351**	PKP	PKPab	10 32 45.5	-0.5
	comp=Z,2.4nm,0.8s,baz=14,slow=2.4,SNR=7.9						
CLL	**Collm**	**152.25**	**342**	*i* PKPbc	P	10 33 09.7	+1.2

*SNET **06** 10:19:39.5±0.9, 13.°01N × 88.°89W, h58km±10km, ML4.5*
*NEIC **06** 10:19:39.9±1.8, 13.°07N±0.°07 × 88.°79W±0.°07, h57km±6km, mb4.4/121, Md4.5(SNET), Error ellipse: s-maj=12.1km s-min=6.2km az=46.0*
*UCR **06** 10:19:39.8±1.7, 13.°00N × 88.°90W, h53km±17km, ML4.4, MW4.1*
*IDC **06** 10:19:40.2±1.1, 13.°22N × 88.°61W, h78km±9km, mb3.7/10, mb1 4.0/13, mb1mx3.8/37, mbtmp4.1/13, MS3.2/5, Ms1 3.2/5, ms1mx3.0/22, Error ellipse: s-maj=27.9km s-min=8.6km az=43.0*
*INET **06** 10:19:41.2, 13.°12N × 88.°22W, h15km, MW4.4*
*GCG **06** 10:19:48.2±0.5, 13.°98N × 89.°07W, h114km±44km, MD4.2*

ISC 06 10:19:40.3±0.6, 13.°12N±0.°05 × 88.°84W±0.°03, h76km±4km, n279, σ1.910/317, mb4.3/57, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.42**	**8**	*e*P	**Pn**	**10 19 51.8**	**-1.3**
TECO				*e*S	**Sn**	**10 20 01.2**	**-1.3**
COEB	**Comit de Eme**	**0.48**	**39**	*e*P	**Pn**	**10 19 52.7**	**-1.0**
COEB				*e*S	**Sn**	**10 20 03.4**	**-0.2**
COEB				IAML		10 20 05.4	
	comp=Z,14μm,0.1s						
COEB	**Comit de Eme**	**0.48**	**39**	*e*P	**Pn**	**10 19 52.7**	**-1.0**
COEB				*e*S	**Sn**	**10 20 03.4**	**-0.2**
COEB				IAML		10 20 05.4	
	comp=Z,14μm,0.1s						
TECA	**Tecapa**	**0.50**	**41**	*e*P	**Pn**	**10 19 53.0**	**-1.0**
TECA	**Tecapa**	**0.50**	**41**	*e*P	**Pn**	**10 19 53.0**	**-1.0**
COEG	**Centro de Oper**	**0.50**	**355**	*e*P	**Pn**	**10 19 52.5**	**-1.4**
COEG				*e*S	**Sn**	**10 20 02.8**	**-1.0**
COEG				IAML		10 20 08.4	
	comp=Z,14μm,0.3s						
COEG	**Centro de Oper**	**0.50**	**355**	*e*P	**Pn**	**10 19 52.5**	**-1.4**
COEG				*e*S	**Sn**	**10 20 02.8**	**-1.0**
COEG				IAML		10 20 08.4	
	comp=Z,14μm,0.3s						
UESV	**Universidad de**	**0.52**	**6**	*e*P	**Pn**	**10 19 53.0**	**-0.9**
UESV	**Universidad de**	**0.52**	**6**	*e*P	**Pn**	**10 19 53.0**	**-0.9**
SJTE	**Alcalda de S**	**0.52**	**342**	*e*P	**Pn**	**10 19 52.7**	**-1.4**
SJTE				*e*S	**Sn**	**10 20 02.8**	**-1.3**
SJTE	**Alcalda de S**	**0.52**	**342**	*e*P	**Pn**	**10 19 52.7**	**-1.4**
SJTE				*e*S	**Sn**	**10 20 02.8**	**-1.3**
LFRS	**El Faro**	**0.55**	**337**	*e*P	**Pn**	**10 19 52.9**	**-1.4**
LFRS	**El Faro**	**0.55**	**337**	*e*P	**Pn**	**10 19 52.9**	**-1.4**
PQSS	**Presa 15 de Se**	**0.57**	**28**	*e*P	**Pn**	**10 19 53.8**	**-0.7**
PQSS				*e*S	**Sn**	**10 20 05.3**	**+0.5**
PAVA	**Las Pavas**	**0.60**	**351**	*e*P	**Pn**	**10 19 54.1**	**-0.8**
PAVA				*e*S	**Sn**	**10 20 05.3**	**-0.2**
PAVA				IAML		10 20 06.8	
	comp=Z,25μm,0.3s						
PAVA	**Las Pavas**	**0.60**	**351**	*e*P	**Pn**	**10 19 54.1**	**-0.8**
PAVA				*e*S	**Sn**	**10 20 05.3**	**-0.2**
PAVA				IAML		10 20 06.8	
	comp=Z,25μm,0.3s						
LCY	**Lacayo**	**0.61**	**60**	*e*P	**Pn**	**10 19 54.2**	**-0.7**
LCY	**Lacayo**	**0.61**	**60**	*e*P	**Pn**	**10 19 54.2**	**-0.7**
PACA	**Pacayal**	**0.61**	**55**	*e*P	**Pn**	**10 19 54.7**	**-0.2**
PACA				*e*S	**Sn**	**10 20 05.4**	**-0.3**
PACA	**Pacayal**	**0.61**	**55**	*e*P	**Pn**	**10 19 54.7**	**-0.2**
PACA				*e*S	**Sn**	**10 20 05.4**	**-0.3**
LBRS	**Las Brisas**	**0.65**	**342**	*e*P	**Pn**	**10 19 54.7**	**-0.6**
LBRS	**Las Brisas**	**0.65**	**342**	*e*P	**Pn**	**10 19 54.7**	**-0.6**
UDBS	**Universidad Do**	**0.67**	**333**	IAML		10 20 08.0	
	comp=Z,17μm,0.4s						
UDBS	**Universidad Do**	**0.67**	**333**	IAML		10 20 08.0	
	comp=Z,17μm,0.4s						
IGN	**Direccin Gen**	**0.67**	**331**	*e*P	**Pn**	**10 19 54.6**	**-0.9**
IGN				*e*S	**Sn**	**10 20 06.5**	**-0.2**
IGN	**Direccin Gen**	**0.67**	**331**	*e*P	**Pn**	**10 19 54.6**	**-0.9**
IGN				*e*S	**Sn**	**10 20 06.5**	**-0.2**
IGN				*e*S	**Sn**	**10 20 06.8**	**+0.1**
UTEC	**Universidad Te**	**0.68**	**329**	*e*P	**Pn**	**10 19 54.7**	**-0.9**
UTEC	**Universidad Te**	**0.68**	**329**	*e*P	**Pn**	**10 19 54.7**	**-0.9**
LFU	**La Fuente**	**0.68**	**337**	*e*P	**Pn**	**10 19 54.9**	**-0.7**
LFU	**La Fuente**	**0.68**	**337**	*e*P	**Pn**	**10 19 54.9**	**-0.7**
SNET	**Serv Nac Est T**	**0.68**	**326**	*e*P	**Pn**	**10 19 54.5**	**-1.2**
SNET				*e*S	**Sn**	**10 20 05.7**	**-1.2**
SNET				IAML		10 20 07.3	
	comp=Z,15μm,0.3s						
SNET	**Serv Nac Est T**	**0.68**	**326**	*e*P	**Pn**	**10 19 54.5**	**-1.2**
SNET				*e*S	**Sn**	**10 20 05.7**	**-1.2**
SNET				IAML		10 20 07.3	
	comp=Z,15μm,0.3s						
SNET	**Serv Nac Est T**	**0.68**	**326**		**Pn**	**10 19 54.3**	**-1.3**
SNET				Sn	**Sn**	**10 20 05.6**	**-1.4**
SEMO	**Seminario San**	**0.69**	**327**	*e*P	**Pn**	**10 19 54.3**	**-1.4**
SEMO				*e*S	**Sn**	**10 20 06.0**	**-1.1**
ITCA	**Escuela Especi**	**0.70**	**322**	*e*P	**Pn**	**10 19 54.7**	**-1.2**
ITCA	**Escuela Especi**	**0.70**	**322**	*e*P	**Pn**	**10 19 54.7**	**-1.2**
UEES	**Universidad Ev**	**0.71**	**327**	IAML		10 20 09.6	
	comp=Z,17μm,0.1s						
UEES	**Universidad Ev**	**0.71**	**327**	IAML		10 20 09.6	
	comp=Z,17μm,0.1s						
MAGS	**Ministerio de**	**0.71**	**322**	*e*P	**Pn**	**10 19 54.8**	**-1.2**
MAGS				*e*S	**Sn**	**10 20 06.9**	**-0.6**
CNRM	**Centro Naciona**	**0.74**	**61**	*e*P	**Pn**	**10 19 55.6**	**-0.6**
CNRM				*e*S	**Sn**	**10 20 08.5**	**+0.6**
CNRM	**Centro Naciona**	**0.74**	**61**	*e*P	**Pn**	**10 19 55.5**	**-0.6**
CNRM				*e*S	**Sn**	**10 20 08.5**	**+0.6**
BOQS	**Boqueron**	**0.75**	**325**	*i* P	**Pn**	**10 19 55.5**	**-1.0**
BOQS	**Boqueron**	**0.75**	**325**	*i* P	**Pn**	**10 19 55.5**	**-1.0**
PMON	**Piamonte**	**0.75**	**322**	*e*P	**Pn**	**10 19 55.3**	**-1.1**
PMON				*e*S	**Sn**	**10 20 07.4**	**-0.9**
PMON	**Piamonte**	**0.75**	**322**	*e*P	**Pn**	**10 19 55.3**	**-1.1**
PMON				*e*S	**Sn**	**10 20 07.4**	**-0.9**
JAYA	**Jayaque - finc**	**0.80**	**312**	*e*P	**Pn**	**10 19 55.0**	**-2.0**
JAYA	**Jayaque - finc**	**0.80**	**312**	*e*P	**Pn**	**10 19 55.0**	**-2.0**
CEDA	**San Andres**	**0.87**	**321**	*e*P	**Pn**	**10 19 57.0**	**-0.7**
CEDA				*e*S	**Sn**	**10 20 10.9**	**+0.3**
CEDA				IAML		10 20 17.1	
	comp=Z,8μm,0.5s						
CEDA	**San Andres**	**0.87**	**321**	*e*P	**Pn**	**10 19 57.0**	**-0.7**
CEDA				*e*S	**Sn**	**10 20 10.9**	**+0.3**
CEDA				IAML		10 20 17.1	
	comp=Z,8μm,0.5s						
LCND	**La Caada**	**0.94**	**78**	*e*P	**Pn**	**10 19 57.8**	**-0.7**
LCND	**La Caada**	**0.94**	**78**	*e*P	**Pn**	**10 19 57.8**	**-0.7**
LCND				*e*S	**Sn**	**10 20 12.0**	**-0.1**
TACO	**Tacachico**	**0.98**	**329**	*e*P	**Pn**	**10 19 58.3**	**-0.8**
TACO				*e*S	**Sn**	**10 20 12.2**	**-0.7**
TACO	**Tacachico**	**0.98**	**329**	*e*P	**Pn**	**10 19 58.3**	**-0.8**
TACO				*e*S	**Sn**	**10 20 12.2**	**-0.7**
CNCH	**Conchagua**	**0.99**	**81**	*e*P	**Pn**	**10 19 58.4**	**-0.8**
CNCH				*e*S	**Sn**	**10 20 13.1**	**-0.1**
CNCH	**Conchagua**	**0.99**	**81**	*e*P	**Pn**	**10 19 58.4**	**-0.8**
CNCH				*e*S	**Sn**	**10 20 13.1**	**-0.1**
CNCH				*e*S	**Sn**	**10 20 13.9**	**+0.6**
SNJE	**San Jose**	**1.05**	**315**	*e*P	**Pn**	**10 19 59.5**	**-0.6**
SNJE	**San Jose**	**1.05**	**315**	*e*P	**Pn**	**10 19 59.5**	**-0.6**
UNIC	**Universidad Ca**	**1.10**	**321**	*e*P	**Pn**	**10 19 59.6**	**-0.9**
UNIC	**Universidad Ca**	**1.10**	**321**	*e*P	**Pn**	**10 19 59.6**	**-0.9**
RTR	**El Retiro**	**1.10**	**315**	*e*P	**Pn**	**10 19 59.9**	**-0.8**
RTR	**El Retiro**	**1.10**	**315**	*e*P	**Pn**	**10 19 59.9**	**-0.8**
MTO3	**Montecristo**	**1.37**	**338**	*e*P	**Pn**	**10 20 03.7**	**-0.3**
MTO3	**Montecristo**	**1.37**	**338**	*e*P	**Pn**	**10 20 03.7**	**-0.3**
MTO3	**Montecristo**	**1.37**	**338**		**Pn**	**10 20 03.8**	**-0.3**
MTO3				Sn	**Sn**	**10 20 22.4**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.78**	**58**	*e*P	**Pn**	**10 20 09.4**

ZARC Zaragoza, Cauc 14.84 111 eP Pn 10 23 07.7 +1.4
GUY2C Guyana, Caldas 15.43 119 eP Pn 10 23 14.2 0.0
POPC Popayan, Colom 15.98 130 eP Pn 10 23 18.2 -2.7
URIC Uribia, Colomb 16.51 93 Pn Pn 10 23 25.2 -2.1
URIC IAmb IAmb 10 23 47.1
comp=Z,27nm,1.0s
ROSC El Rosal 16.52 119 LR LR 10 31 37.5
comp=Z,54nm,20.2s,baz=294,slow=44
FLOC Florencia 17.37 130 P 10 23 38.3 0.0
441A DeRidder 18.00 348 P Pn 10 23 47.0 +1.6
441A IAmb IAmb 10 24 15.0
comp=Z,26nm,1.0s
833A Chaparral WMA, 18.05 329 P 10 23 47.0
baz=145
346A Big Creek Wild 18.19 358 P Pn 10 23 47.7 0.0
346A IAmb IAmb 10 24 09.0
comp=Z,36nm,0.9s
344A Westbrook Farm 18.33 355 P P 10 23 48.5 0.0
344A IAmb IAmb 10 23 59.9
comp=Z,37nm,0.9s
SDV Santo Domingo 18.36 101 P P 10 23 48.5 -0.7
SDV IAmb IAmb 10 24 12.3
comp=Z,12nm,0.6s
342A Flagon Creek P 18.45 351 P Pn 10 23 51.3 +0.4
342A IAmb IAmb 10 24 01.6
comp=Z,45nm,1.5s
352A Blakely 18.62 11 P Pn 10 23 52.9 0.0
TIGA Tifton 18.86 14 P 10 23 57.5
baz=196
TIGA Tifton 18.86 14 P Pn 10 23 55.9 +0.1
250A Grady 18.92 7 P P 10 23 55.0 0.0
250A IAmb IAmb 10 23 60.0
comp=Z,36nm,1.5s
VBMS Vicksburg 19.07 356 P Pn 10 23 59.7 +1.4
VBMS Vicksburg 19.07 356 P 10 24 00.5
baz=175
435B Jarrell 19.34 337 P P 10 23 59.6 -0.1
435B IAmb IAmb 10 24 02.3
comp=Z,15nm,0.7s
435B Jarrell 19.34 337 P 10 24 01.5
baz=154
DR12 Loma Pena Alta 19.53 71 P Pn 10 24 03.0 -0.9
255A Hazlehurst 19.61 16 P Pn 10 24 04.2 -0.4
255A IAmb IAmb 10 24 06.4
comp=Z,20nm,0.7s
143A Socs Landing, 19.63 354 P Pn 10 24 04.2 -0.7
143A IAmb IAmb 10 24 11.4
comp=Z,22nm,1.1s
152A Waverly Hall 19.82 10 P P 10 24 06.0 +1.1
152A IAmb IAmb 10 24 08.8
comp=Z,22nm,0.9s
237A Washetta, Mont 19.85 342 P Pn 10 24 06.6 -0.8
LRAL Lakeview Retre 19.89 5 P 10 24 08.4
baz=185,SNR=9.6
JCT Junction City 20.03 331 P P 10 24 07.5 +0.3
JCT IAmb IAmb 10 24 08.8
comp=Z,9.1nm,0.7s
JCT Junction City 20.03 331 P 10 24 07.9
baz=147,SNR=9.4
154A Montrose 20.10 14 P Pn 10 24 09.6 -0.7
WHTX Lake Whitney, 20.38 339 P P 10 24 12.0 +1.0
WHTX Lake Whitney, 20.38 339 P 10 24 12.0
baz=155
Z51A Franklin 20.38 9 P Pn 10 24 12.8 -0.8
Z51A IAmb IAmb 10 24 17.2
comp=Z,21nm,1.4s
Y45A Yeager Farm, C 20.66 358 P Pn 10 24 16.0 -1.0
Y45A IAmb IAmb 10 24 21.6
comp=Z,14nm,0.9s
GOGA Godfrey 20.79 13 P P 10 24 16.8 +1.5
GOGA Godfrey 20.79 13 P 10 24 18.2
baz=195,SNR=18
Z38A Mt. Pleasant 20.82 345 P P 10 24 17.1 +1.5
Z38A IAmb IAmb 10 24 34.5
comp=Z,19nm,0.9s
WLAR White Oak Lake 20.84 350 P P 10 24 17.1 +1.3
CCAR Cane Creek 20.88 353 P P 10 24 17.8 +1.5
HPIG 20.91 314 P P 10 24 17.9 +0.9
Y52A Lilburn 21.10 11 P P 10 24 19.6 +0.9
Y52A IAmb IAmb 10 24 22.4
comp=Z,16nm,0.7s
TXAR Lajitas Array 21.21 322 P P 10 24 21.2 +1.2
comp=Z,5.2nm,0.8s,baz=145,slow=11,SNR=72
TXAR PcP PcP 10 28 22.1 -0.6
comp=Z,0.5nm,0.8s,baz=145,slow=3.4,SNR=3.9
TXAR ScP ScP 10 31 53.9 +0.8
comp=Z,0.4nm,0.6s,baz=151,slow=6.1,SNR=6.9
TXAR LR LR 10 33 15.7
comp=Z,44nm,19.1s,baz=0.0,slow=38
TXAR Lajitas Array 21.21 322 P P 10 24 21.4 +1.4
TX31 Lajitas Ar. Si 21.21 322 P P 10 24 21.3 +1.3
TX31 IAmb IAmb 10 24 24.1
comp=Z,18nm,0.8s
TX32 Lajitas Array 21.21 322 P P 10 24 21.3 +1.3
X48A Hartselle 21.30 4 P P 10 24 21.5 +0.7
OXF Oxford 21.30 359 P 10 24 22.3
baz=178
OXF Oxford 21.30 359 P P 10 24 21.8 +0.9
OXF IAmb IAmb 10 24 41.2
comp=Z,20nm,0.9s
FPAL Fort Paine 21.53 7 P P 10 24 23.5 +0.3
MIAR Mount Ida 21.76 349 P 10 24 26.6
baz=167,SNR=14
MIAR Mount Ida 21.76 349 P P 10 24 26.6 +1.0
MIAR IAmb IAmb 10 24 29.6
comp=Z,12nm,0.7s
ABTX Abilene, Hawle 21.79 335 P 10 24 25.8
baz=151
ABTX Abilene, Hawle 21.79 335 P P 10 24 25.7 -0.4
HODGE Hodges 21.85 15 P P 10 24 27.1 +0.4
W41B Gary Mavity, V 22.17 353 P 10 24 31.6
baz=171
Y57A Sumter 22.18 19 P P 10 24 31.0 +0.9
W50A Signal Mountai 22.21 8 P P 10 24 30.9 +0.2
W50A IAmb IAmb 10 24 52.5
comp=Z,14nm,0.9s
WHAR Wooly Hollow 22.29 353 P P 10 24 32.5 +1.0
LPAR Lepanto 22.42 357 P P 10 24 33.8 +1.0
W39A Magazine 22.43 349 P 10 24 34.1
baz=167
PAULI Pauline 22.52 15 P P 10 24 35.0 +1.1
CPCT Cooper Cave 22.57 9 P P 10 24 34.8 +0.3
CPCT IAmb IAmb 10 24 58.0
comp=Z,9.0nm,0.8s
FCAR Ozark Folk Cen 22.86 353 P P 10 24 37.4 0.0
FCAR IAmb IAmb 10 25 03.0
comp=Z,11nm,0.9s
X34A Smith Ranch, M 22.89 341 P P 10 24 39.5 +1.8
X34A IAmb IAmb 10 24 40.4
comp=Z,15nm,0.6s
TKL Tuckaleechee C 22.90 11 P P 10 24 37.3 -0.6
comp=Z,4.8nm,0.9s,baz=185,slow=11,SNR=6.9
TKL LR LR 10 33 43.1
comp=Z,61nm,21.4s,baz=198,slow=37
TKL Tuckaleechee C 22.90 11 P P 10 24 37.9 +0.1
CLTN Cedars of Leba 22.98 5 P P 10 24 38.6 -0.1
V53A Saluda 23.10 13 P P 10 24 40.3 +0.4
V53A IAmb IAmb 10 25 04.2
comp=Z,25nm,1.1s
W35A Tecumseh 23.11 343 P P 10 24 40.8 +0.9
WMOK Wichita Mounta 23.33 339 P 10 24 42.3
baz=155
WMOK Wichita Mounta 23.33 339 P P 10 24 42.4 +0.4
W57A Gilead 23.35 19 P P 10 24 42.1 0.0
W57A IAmb IAmb 10 25 03.4
comp=Z,11nm,1.0s
FNO Franklin 23.36 342 P P 10 24 42.3 +0.1
U40A Yellville 23.42 352 P 10 24 43.7
baz=170,SNR=12
U40A Yellville 23.42 352 P P 10 24 43.7 +0.9
U40A IAmb IAmb 10 24 46.0
comp=Z,11nm,0.8s
U49A Red Boiling Sp 23.45 6 P P 10 24 43.5 +0.5
HHAR Hobbs 23.52 350 P P 10 24 44.7 +1.1
PBMO Poplar Bluff 23.60 357 P P 10 24 43.4 -0.9
PBMO IAmb IAmb 10 24 47.4
comp=Z,9.1nm,0.7s
U38A Gravette 23.75 349 P P 10 24 47.0 +1.3
TZTN Tazewell 23.80 11 P P 10 24 47.4 +1.2
TZTN IAmb IAmb 10 25 15.4
comp=Z,8.4nm,0.9s
T47A Sharon Grove 23.82 3 P P 10 24 46.2 -0.1
T47A IAmb IAmb 10 25 10.8
comp=Z,16nm,0.9s
T42A Van Buren 23.90 356 P P 10 24 47.1 +0.1

MNTX Cornudas Mount 23.94 323 P P 10 24 47.9 +0.4
MNTX Cornudas Mount 23.94 323 P 10 24 47.3
baz=137,SNR=6.5
MGMO Mountain Grove 24.13 353 P P 10 24 49.4 +0.2
MGMO IAmb IAmb 10 24 52.2
comp=Z,9.2nm,0.7s
U54A Nelsons Funny 24.14 14 P P 10 24 50.0 +0.7
U54A IAmb IAmb 10 24 53.0
comp=Z,11nm,0.7s
V58A Windy Hill, Pi 24.22 20 P P 10 24 50.2 +0.3
V58A IAmb IAmb 10 25 16.7
comp=Z,14nm,1.0s
MSTX Muleshoe 24.32 331 P 10 24 50.8
baz=145,SNR=13
MSTX Muleshoe 24.32 331 P P 10 24 50.8 -0.2
S39A Bolivar 24.80 351 P P 10 24 55.8 +0.7
S39A IAmb IAmb 10 24 58.1
comp=Z,12nm,0.7s
CCM Cathedral Cave 24.93 355 P P 10 24 56.1 -0.3
CCM IAmb IAmb 10 25 15.2
comp=Z,17nm,0.9s
WCI Wyandotte Cave 25.11 5 P 10 24 57.7
baz=186
121A Cookes Peak, D 25.96 321 P 10 25 08.5
baz=134
121A Cookes Peak, D 25.96 321 P P 10 25 07.1 +1.0
BNM Barren Site 26.45 325 P P 10 25 11.4 +1.0
P40A Paris 26.46 354 P P 10 25 09.4 -0.8
P40A IAmb IAmb 10 25 36.4
comp=Z,8.7nm,0.8s
LENM Lemitar 26.65 325 P P 10 25 13.6 +1.3
ANMO Albuquerque 26.95 327 P P 10 25 16.0 +1.1
comp=Z,0.7nm,0.5s,baz=147,slow=11,SNR=6.0
ANMO Albuquerque 26.95 327 P 10 25 16.6
baz=140
T25A Trinidad 27.68 332 P 10 25 22.7
baz=146
T25A Trinidad 27.68 332 P P 10 25 22.8 +1.3
T25A IAmb IAmb 10 25 24.2
comp=Z,5.6nm,0.8s
TUC Tucson 27.73 317 P 10 25 27.3
baz=129
P57A Homestead Farm 27.95 18 P P 10 25 24.1 +0.5
P57A IAmb IAmb 10 25 48.5
comp=Z,18nm,1.4s
SDCO Great Sand Dun 28.68 332 P P 10 25 31.6 +1.2
SDCO Great Sand Dun 28.68 332 P 10 25 32.2
baz=144,SNR=6.4
S22A 4UR Ranch, Cre 29.30 330 P 10 25 37.5
baz=142,SNR=11
MVCO Mesa Verde 29.74 327 P P 10 25 41.2 +1.4
MVCO Mesa Verde 29.74 327 P 10 25 41.6
baz=139
ISCO Idaho Springs 30.41 334 P P 10 25 46.3 +0.5
ISCO Idaho Springs 30.41 334 P 10 25 46.9
baz=146,SNR=5.6
PV01 Paradox Valley 30.48 328 P P 10 25 47.5 +1.2
SMCO Snowmass 30.51 332 P P 10 25 47.9 +1.1
SMCO IAmb IAmb 10 25 49.1
comp=Z,4.8nm,0.8s
PV13 Radium Mtn., P 30.62 328 P P 10 25 48.1 +0.6
PV13 IAmb IAmb 10 25 50.4
comp=Z,5.3nm,1.0s
PV05 Paradox Valley 30.71 328 P P 10 25 49.0 +0.7
PV05 IAmb IAmb 10 25 50.7
comp=Z,5.2nm,0.9s
PV03 Paradox Valley 30.71 328 P P 10 25 49.7 +1.3
PV03 IAmb IAmb 10 25 50.9
comp=Z,5.0nm,0.8s
PV12 Saucer Basin, 30.73 328 P P 10 25 49.4 +0.9
PV18 Skein Mesa, Pa 30.73 328 P P 10 25 49.8 +1.3
PV18 IAmb IAmb 10 25 51.0
comp=Z,7.8nm,0.9s
PV07 Paradox Valley 30.75 329 P P 10 25 50.5 +1.8
PV11 David Mesa, Pa 30.76 328 P P 10 25 50.1 +1.4
PV11 IAmb IAmb 10 25 51.3
comp=Z,8.0nm,0.8s
PV17 East Wray Mesa 30.79 328 P P 10 25 50.2 +1.2
PV16 Nyswonger Mesa 30.79 328 P P 10 25 50.3 +1.3
PV16 IAmb IAmb 10 25 51.5
comp=Z,6.2nm,0.8s
PV20 West Nyswonger 30.84 328 P P 10 25 49.5 +0.1
PV20 IAmb IAmb 10 25 51.8
comp=Z,5.0nm,0.7s
PV04 Paradox Valley 30.84 328 P P 10 25 50.8 +1.3
PV04 IAmb IAmb 10 25 52.1
comp=Z,7.6nm,0.7s
PV14 Lion Creek, Pa 30.89 328 P P 10 25 50.1 +0.1
PV14 IAmb IAmb 10 25 52.7
comp=Z,5.4nm,0.8s
PV22 Blue Mesa, Par 30.89 329 P P 10 25 51.1 +1.1
PV22 IAmb IAmb 10 25 52.6
comp=Z,5.4nm,1.0s
N23A Red Feather La 31.46 335 P 10 25 55.7
baz=147
O20A White River Ci 31.86 331 P P 10 25 59.5 +1.0
O20A White River Ci 31.86 331 P 10 26 00.3
baz=142,SNR=14
SPMN Marine on St. 32.17 355 P 10 25 59.6
baz=173,SNR=6.2
SPMN Marine on St. 32.17 355 P P 10 25 59.8 -1.1
SRU San Rafael Swe 32.22 327 P P 10 26 03.3 +1.7
SRU IAmb IAmb 10 26 04.1
comp=Z,2.8nm,0.7s
MTPU Mount Pierson 32.37 324 P P 10 26 03.5 +0.4
PFO Pinyon Flats O 32.37 314 LR LR 10 40 26.8
comp=Z,42nm,19.5s,baz=122,slow=38
P17A Butcher Ranch, 32.60 328 P P 10 26 06.0 +1.1
P17A IAmb IAmb 10 26 07.5
comp=Z,5.2nm,0.8s
MPU Maple Canyon 33.47 327 P P 10 26 12.9 +0.5
MPU IAmb IAmb 10 26 15.3
comp=Z,3.2nm,0.8s
RSSD Black Hills 33.53 340 P P 10 26 13.5 +0.5
RSSD IAmb IAmb 10 26 15.7
comp=Z,3.6nm,0.7s
BW06 Boulder Array 34.55 333 P P 10 26 22.3 +0.5
PDAR Pinedale Array 34.55 333 P P 10 26 22.1 +0.2
comp=Z,0.7nm,0.5s,baz=128,slow=9.6,SNR=9.2
PDAR ScP ScP 10 32 34.0 +0.2
comp=Z,0.3nm,0.5s,baz=110,slow=4.9,SNR=3.9
AHID Auburn Hatcher 35.26 331 P P 10 26 29.1 +1.2
AHID IAmb IAmb 10 26 30.3
comp=Z,4.5nm,0.8s
REDW Red Top Meadow 35.61 332 P P 10 26 31.5 +0.6
SNOW Snow King Moun 35.64 332 P P 10 26 32.0 +0.8
LOHW Long Hollow 35.69 333 P P 10 26 32.6 +1.0
LOHW IAmb IAmb 10 26 34.2
comp=Z,3.3nm,0.7s
TPAW Teton Pass 35.75 332 P P 10 26 33.2 +1.0
TPAW IAmb IAmb 10 26 35.3
comp=Z,4.1nm,0.8s
MOOW Moose Ponds 35.86 333 P P 10 26 33.3 +0.2
H17A Grant Village 36.29 333 P 10 26 38.6
baz=142
NVAR Mina Array Bea 36.31 319 P P 10 26 37.5 +0.5
comp=Z,1.8nm,0.9s,baz=131,slow=7.4,SNR=9.9
NVAR PcP PcP 10 29 00.4 0.0
comp=Z,1.0nm,0.6s,baz=134,slow=3.7,SNR=7.6
NVAR ScP ScP 10 32 40.7 +0.4
comp=Z,1.0nm,0.6s,baz=119,slow=4.4,SNR=11
NVAR LR LR 10 42 44.7
comp=Z,67nm,19.7s,baz=156,slow=38
NVAR Mina Array Bea 36.31 319 P P 10 26 38.3 +1.3
RLMT Red Lodge 36.33 335 P 10 26 37.2
baz=145
RLMT Red Lodge 36.33 335 P P 10 26 37.0 0.0
YMP Mirror Lake Pl 36.39 334 P P 10 26 38.9 +1.2
YMP IAmb IAmb 10 26 49.0
comp=Z,5.4nm,0.8s
LAO LASA Array 36.52 340 P 10 26 39.3
baz=151
YNE Yellowstone No 36.54 335 P P 10 26 39.0 +0.1
YMR Madison River 36.68 333 P P 10 26 41.2 +1.2
YHH Holmes Hill 36.73 333 P P 10 26 41.6 +1.1
YHH IAmb IAmb 10 26 43.7
comp=Z,4.5nm,1.2s
YHL Hebgen Lake 36.92 333 P P 10 26 43.4 +1.2
YHL IAmb IAmb 10 26 47.8
comp=Z,6.7nm,1.5s
LSQQ Lebel-sur-Quev 37.15 13 P 10 26 41.9
baz=199
HLID Hailey 37.47 329 P 10 26 47.0
baz=136
ULM Lac du Bonnet 37.47 353 P P 10 26 45.0 -1.4
comp=Z,1.7nm,0.4s,baz=162,slow=9.9,SNR=6.7
ULM Lac du Bonnet 37.47 353 P P 10 26 45.4 -1.0
ULM IAmb IAmb 10 27 11.9
comp=Z,4.8nm,1.1s
DGMT Dagmar 37.48 343 P P 10 26 47.0 +0.5
DGMT Dagmar 37.48 343 P 10 26 47.0
baz=155
MCMT McKenzie Canyo 37.65 332 P P 10 26 49.5 +1.2
MATQ Matagami 37.68 12 P 10 26 46.4
baz=198
DLMT Dillon 37.95 332 P P 10 26 51.7 +1.0
DLMT IAmb IAmb 10 26 53.3
comp=Z,3.8nm,1.1s
HRY Holter Researc 38.67 335 P P 10 26 56.5 -0.2
EGMT Eagleton 38.91 338 P P 10 26 59.1 +0.4
EGMT Eagleton 38.91 338 P 10 26 59.1
baz=146,SNR=18
WVOR Wild Horse Val 38.97 324 P P 10 27 00.2 +1.0
J08A Circle Bar Ran 39.47 325 P P 10 27 04.5 +1.1
MSO Missoula 39.67 333 P 10 27 05.8
baz=140
F10A Beach Ranch, E 40.59 329 P P 10 27 12.4 -0.3
FFC Flin Flon 42.77 349 P P 10 27 29.7 -0.5
FFC IAmb IAmb 10 27 29.9
comp=Z,3.2nm,0.6s
SCHQ Schefferville 45.04 18 P P 10 27 45.8 -2.6
comp=Z,2.2nm,0.6s,baz=235,slow=8.7,SNR=3.8
PGC Sidney 45.53 328 P P 10 27 53.6 +1.3
CPUP Villa Florida 49.77 142 pP pP 10 28 43.1 -1.2
comp=Z,1.4nm,0.5s,baz=346,slow=8.5,SNR=4.3
YKA Yellowknife Ar 52.62 345 P P 10 28 45.1 -1.1
comp=Z,3.4nm,0.6s,baz=124,slow=9.9,SNR=29
PLCA Paso Flores 56.20 163 P P 10 29 11.5 -1.0
comp=Z,3.3nm,1.1s,baz=269,slow=22,SNR=3.5
PLCA pP pP 10 29 33.5 +1.6
comp=Z,3.2nm,1.0s,baz=329,slow=11,SNR=3.1
INK Inuvik 62.17 343 P 10 29 52.5
baz=129
ILAR Eielson Array 64.87 336 P P 10 30 08.9 -2.3
comp=Z,0.5nm,0.7s,baz=126,slow=5.2,SNR=8.0
BPAW Bear Paw Mtn. 66.26 335 P 10 30 18.1
baz=110
MLY Manley 66.48 336 P 10 30 20.0
baz=110
TOLK Toolik Lake Re 67.40 340 P 10 30 26.4
baz=113
ESDC Sonseca Array 77.84 52 pP pP 10 31 48.3 -2.0
comp=Z,0.3nm,0.6s,baz=290,slow=5.9,SNR=7.8
NACGM Naroch 93.39 31 *i* P P 10 32 46.0 -1.0
ASAR Alice Springs 138.25 249 PKP PKPdf 10 38 57.8 +0.1
comp=Z,0.7nm,0.8s,baz=100,slow=1.6,SNR=6.1
ASAR Alice Springs 138.25 249 PKPdf 10 38 58.0 +0.4
CMAR Chiang Mai Arr 147.70 346 PKPbc PKPdf 10 39 15.2 +0.8
comp=Z,0.8nm,0.6s,baz=342,slow=3.2,SNR=5.4
CMAR Chiang Mai Arr 147.70 346 PKPdf 10 39 14.8 +0.4
CMAR PKPbc PKPbc 10 39 17.5 +0.4
CMAR PKPab PKPab 10 39 21.8 +2.3

IDC 06 10:20:18.6±16.0, 11.38N×87.25W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.6/41, mbtmpg3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/22, Error ellipse: s-maj=366.0km s-min=129.1km az=177.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	33.37	145	LR	LR	10 39 24.7	
	comp=Z,54nm,18.4s,baz=319,slow=34						
NVAR	Mina Array Bea	38.64	320	P	P	10 27 44.3	+0.1
	1.1nm,0.7s,baz=124,slow=7.8,SNR=5.1						
YKA	Yellowknife Ar	54.69	345	P	P	10 29 49.3	-0.1
	1.2nm,0.7s,baz=147,slow=7.7,SNR=4.8						
ILAR	Eielson Array	67.08	336	P	P	10 31 13.4	-0.2
	0.6nm,0.5s,baz=173,slow=5.4,SNR=8.2						
AFI	Afiamalu	87.48	255	LR	LR	11 05 13.8	
	comp=Z,44nm,19.0s,baz=128,slow=31						

*INET **06** 10:24:11.0, 12.76N×88.91W, h15km, MW3.0*
*SNET **06** 10:24:18.2±1.0, 13.04N×88.88W, h64km±6km, ML3.8*
*UCR **06** 10:24:18.1±1.0, 13.03N×88.88W, h63km±7km, ML3.9*

ISC 06 10:24:19.0±1.5, 13.03N±0.09×88.88W±0.04, h59km±13km, n65, σ0.59/101, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TECO	Alcaldia de Te	0.52	11	*e*P	Pn	10 24 30.4	-0.7
TECO				*e*S	Sn	10 24 40.0	+0.1
COEB	Comit de Eme	0.58	36	*e*P	Pn	10 24 31.3	-0.6
COEB				*e*S	Sn	10 24 41.8	+0.5
COEB	Comit de Eme	0.58	36	*e*P	Pn	10 24 31.3	-0.6
COEB				*e*S	Sn	10 24 41.8	+0.5
COEG	Centro de Oper	0.59	0	*e*P	Pn	10 24 31.2	-0.7
COEG				*e*S	Sn	10 24 41.9	+0.4
COEG	Centro de Oper	0.59	0	*e*P	Pn	10 24 31.2	-0.7
COEG				*e*S	Sn	10 24 41.8	+0.4
COEG				*e*S	Sn	10 24 41.9	+0.4
TECA	Tecapa	0.59	38	*i* P	Pn	10 24 31.5	-0.7
TECA	Tecapa	0.59	38	*i* P	Pn	10 24 31.5	-0.7
SJTE	Alcalda de S	0.60	348	*e*P	Pn	10 24 31.3	-0.7
SJTE				*e*S	Sn	10 24 41.7	+0.1
SJTE	Alcalda de S	0.60	348	*e*P	Pn	10 24 31.3	-0.7
SJTE				*e*S	Sn	10 24 41.7	+0.1
UESV	Universidad de	0.61	9	*e*P	Pn	10 24 31.7	-0.5
UESV				*e*S	Sn	10 24 42.5	+0.7
UESV	Universidad de	0.61	9	*e*P	Pn	10 24 31.7	-0.5
UESV				*e*S	Sn	10 24 42.5	+0.7
LFRS	El Faro	0.62	344	*e*P	Pn	10 24 31.7	-0.7
LFRS	El Faro	0.62	344	*e*P	Pn	10 24 31.7	-0.7
PQSS	Presa 15 de Se	0.67	28	*i* P	Pn	10 24 32.3	-0.5
PQSS				*e*S	Sn	10 24 43.6	+0.7
PAVA	Las Pavas	0.68	355	*e*P	Pn	10 24 32.6	-0.5
PAVA				*e*S	Sn	10 24 44.5	+1.1
PAVA				IAML		10 24 46.3	
	comp=Z,2μm,0.2s						
PAVA	Las Pavas	0.68	355	*e*P	Pn	10 24 32.6	-0.5
PAVA				*e*S	Sn	10 24 44.5	+1.1
PAVA				IAML		10 24 46.3	
	comp=Z,2μm,0.2s						
LCY	Lacayo	0.69	55	*e*P	Pn	10 24 32.8	-0.4
LCY	Lacayo	0.69	55	*e*P	Pn	10 24 32.8	-0.4
PACA	Pacayal	0.70	51	*e*P	Pn	10 24 33.0	-0.3
PACA				*e*S	Sn	10 24 45.0	+1.2
PACA	Pacayal	0.70	51	*e*P	Pn	10 24 33.0	-0.3
PACA				*e*S	Sn	10 24 45.0	+1.2
LBRS	Las Brisas	0.72	347	*e*P	Pn	10 24 33.3	-0.3
LBRS	Las Brisas	0.72	347	*e*P	Pn	10 24 33.3	-0.3
IGN	Direccin Gen	0.74	338	*e*P	Pn	10 24 33.3	-0.4
IGN				*e*S	Sn	10 24 45.1	+0.6
IGN	Direccin Gen	0.74	338	*e*P	Pn	10 24 33.3	-0.4
IGN				*e*S	Sn	10 24 45.1	+0.6
SNET	Serv Nac Est T	0.74	333	*e*P	Pn	10 24 33.2	-0.5
SNET				*e*S	Sn	10 24 44.4	-0.2
SNET				IAML		10 24 45.7	
	comp=Z,5μm,0.3s						
SNET	Serv Nac Est T	0.74	333	*e*P	Pn	10 24 33.2	-0.5
SNET				*e*S	Sn	10 24 44.4	-0.2
SNET				IAML		10 24 45.7	
	comp=Z,5μm,0.3s						
SEMO	Seminario San	0.75	334	*e*P	Pn	10 24 33.5	-0.4
SEMO				*e*S	Sn	10 24 44.8	0.0
LFU	La Fuente	0.75	343	*e*P	Pn	10 24 33.6	-0.3
LFU				*e*S	Sn	10 24 45.5	+0.7
LFU	La Fuente	0.75	343	*e*P	Pn	10 24 33.6	-0.3
LFU				*e*S	Sn	10 24 45.5	+0.7
UESS	Universidad de	0.76	336	*e*P	Pn	10 24 33.7	-0.3
UESS	Universidad de	0.76	336	*e*P	Pn	10 24 33.7	-0.3
MAGS	Ministerio de	0.76	329	*e*P	Pn	10 24 33.6	-0.5
MAGS				*e*S	Sn	10 24 45.2	0.0
UEES	Universidad Ev	0.77	333	IAML		10 24 47.7	
	comp=Z,5μm,0.2s						
UEES	Universidad Ev	0.77	333	IAML		10 24 47.7	
	comp=Z,5μm,0.2s						
PMON	Piamonte	0.80	328	*e*P	Pn	10 24 33.9	-0.7
PMON				*e*S	Sn	10 24 46.2	+0.3
PMON	Piamonte	0.80	328	*e*P	Pn	10 24 33.9	-0.7
PMON				*e*S	Sn	10 24 46.2	+0.3
BOQS	Boqueron	0.80	331	*e*P	Pn	10 24 34.4	-0.3
BOQS				*e*S	Sn	10 24 46.5	+0.3
BOQS	Boqueron	0.80	331	*e*P	Pn	10 24 34.4	-0.3
BOQS				*e*S	Sn	10 24 46.5	+0.3
CNRM	Centro Naciona	0.82	57	*e*S	Sn	10 24 47.0	+0.7
CNRM	Centro Naciona	0.82	57	*e*S	Sn	10 24 47.0	+0.7

JAYA	**Jayaque - finc**	**0.83**	**319**	*eP*	**Pn**	**10 24 34.3**	**-0.7**
JAYA				*eS*	**Sn**	**10 24 46.7**	**-0.1**
JAYA				IAML		10 24 48.3	
	comp=Z,4μm,0.2s						
JAYA	**Jayaque - finc**	**0.83**	**319**	*eP*	**Pn**	**10 24 34.3**	**-0.7**
JAYA				*eS*	**Sn**	**10 24 46.7**	**-0.1**
JAYA				IAML		10 24 48.3	
	comp=Z,4μm,0.2s						
CEDA	**San Andres**	**0.92**	**327**	*eP*	**Pn**	**10 24 35.4**	**-0.6**
CEDA				*eS*	**Sn**	**10 24 49.2**	**+0.7**
CEDA				IAML		10 25 01.8	
	comp=Z,2μm,0.3s						
CEDA	**San Andres**	**0.92**	**327**	*eP*	**Pn**	**10 24 35.4**	**-0.6**
CEDA				*eS*	**Sn**	**10 24 49.2**	**+0.7**
CEDA				IAML		10 25 01.8	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**1.00**	**74**	*eP*	**Pn**	**10 24 36.1**	**-0.9**
LCND				*eS*	**Sn**	**10 24 50.5**	**0.0**
LCND				IAML		10 24 53.5	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**1.00**	**74**	*eP*	**Pn**	**10 24 36.1**	**-0.9**
LCND				*eS*	**Sn**	**10 24 50.5**	**0.0**
LCND				*eS*	**Sn**	**10 24 50.6**	**0.0**
LCND				IAML		10 24 53.5	
	comp=Z,1μm,0.2s						
TACO	**Tacachico**	**1.04**	**334**	*eS*	**Sn**	**10 24 51.6**	**+0.2**
TACO	**Tacachico**	**1.04**	**334**	*eS*	**Sn**	**10 24 51.6**	**+0.2**
CNCH	**Conchagua**	**1.05**	**76**	*eP*	**Pn**	**10 24 36.9**	**-0.9**
CNCH				*eS*	**Sn**	**10 24 52.3**	**+0.6**
CNCH	**Conchagua**	**1.05**	**76**	*eP*	**Pn**	**10 24 36.9**	**-0.9**
CNCH				*eS*	**Sn**	**10 24 52.3**	**+0.6**
SBLS	**San Blas**	**1.08**	**318**	*eP*	**Pn**	**10 24 38.3**	**0.0**
SBLS	**San Blas**	**1.08**	**318**	*eP*	**Pn**	**10 24 38.3**	**0.0**
SNJE	**San Jose**	**1.09**	**320**	*eP*	**Pn**	**10 24 38.2**	**-0.3**
SNJE	**San Jose**	**1.09**	**320**	*eP*	**Pn**	**10 24 38.2**	**-0.3**
RTR	**El Retiro**	**1.14**	**319**	*eP*	**Pn**	**10 24 39.1**	**0.0**
RTR	**El Retiro**	**1.14**	**319**	*eP*	**Pn**	**10 24 39.1**	**0.0**
MTO3	**Montecristo**	**1.44**	**341**	*eP*	**Pn**	**10 24 42.5**	**-0.6**
MTO3				*eS*	**Sn**	**10 25 01.1**	**0.0**
MTO3	**Montecristo**	**1.44**	**341**	*eP*	**Pn**	**10 24 42.5**	**-0.6**
MTO3				*eS*	**Sn**	**10 25 01.1**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.87**	**57**	*eP*	**Pn**	**10 24 47.9**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.87**	**57**	*eP*	**Pn**	**10 24 47.9**	**-0.9**
MRL	**Marmol**	**2.19**	**339**	*eP*	**Pn**	**10 24 53.0**	**-0.2**
MRL	**Marmol**	**2.19**	**339**	*eP*	**Pn**	**10 24 53.0**	**-0.2**
CNGN	**Cerro Negro**	**2.19**	**104**	*eP*	**Pn**	**10 24 52.0**	**-1.1**
CNGN	**Cerro Negro**	**2.19**	**104**	*eP*	**Pn**	**10 24 52.0**	**-1.1**
LPLA	**Las Palmas La**	**7.00**	**124**	*eP*	**Pn**	**10 26 00.0**	**+0.9**

GUC 06 10:27:50.2±0.8, 31°.91S×71°.83W, h47km±8km, ML3.2, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**1.00**	**45**	*iP*	Pn	10 28 07.4	-0.6
CO02				*eS*	Sn	10 28 21.4	+0.4
CO02				IAML		10 28 22.6	
	comp=E,2μm,0.3s						
CO02	**Combarbal**	**1.00**	**45**	P	Pn	10 28 07.7	-0.2
ROCH	**El Roble**	**1.26**	**147**	*iP*	Pn	10 28 13.4	+1.7
ROCH				*i* S	Sn	10 28 31.0	+3.4
ROCH				IAML		10 28 33.2	
	comp=N,517nm,0.4s						
VA03	**San Esteban**	**1.37**	**129**	*iP*	Pn	10 28 15.1	+2.0
VA03				*i* S	Sn	10 28 34.1	+3.9
VA03				IAML		10 28 37.4	
	comp=N,685nm,0.5s						
CO03	**El Pedregal**	**1.45**	**43**	*iP*	Pn	10 28 14.5	+0.5
CO03				*eS*	Sn	10 28 30.9	-0.9
CO03				IAML		10 28 38.8	
	comp=E,436nm,0.3s						
MT02	**Curacav**	**1.46**	**157**	*iP*	Pn	10 28 16.0	+1.8
MT02				*eS*	Sn	10 28 35.1	+2.9
MT05	**Renca**	**1.74**	**148**	*iP*	Pn	10 28 20.9	+2.9
MT05				*eS*	Sn	10 28 45.4	+6.4
MT05				IAML		10 28 48.0	
	comp=E,531nm,0.3s						
VA05	**Santo Domingo**	**1.75**	**174**	*eP*	Pn	10 28 22.3	+4.3
VA05				IAML		10 28 53.9	
	comp=E,375nm,0.4s						
MT03	**Universidad Ad**	**1.93**	**145**	*eP*	Pn	10 28 23.1	+2.5
MT03				*eS*	Sn	10 28 47.8	+4.1
MT03				IAML		10 28 56.3	
	comp=N,423nm,0.5s						
MT03	**Universidad Ad**	**1.93**	**145**	P	Pn	10 28 23.9	+3.3
GO04	**Tololo Observa**	**1.94**	**27**	*eP*	Pn	10 28 22.1	+1.1
GO04				*eS*	Sn	10 28 44.4	0.0
MT09	**Talagante**	**1.99**	**159**	*iP*	Pn	10 28 24.1	+2.6
MT09				*eS*	Sn	10 28 49.7	+4.4
MT09				IAML		10 29 04.4	
	comp=N,225nm,0.3s						
MT09	**Talagante**	**1.99**	**159**	P	Pn	10 28 24.4	+2.9
MT01	**Popeta**	**2.01**	**166**	*iP*	Pn	10 28 23.0	+1.4
MT01				*eS*	Sn	10 28 46.9	+1.4
CO05	**La Serena**	**2.05**	**14**	*eP*	Pn	10 28 23.9	+1.7
CO05				*i* S	Sn	10 28 50.1	+3.6
CO05				IAML		10 28 57.5	
	comp=E,220nm,0.5s						
BO01	**Tunca**	**2.55**	**166**	*eP*	Pn	10 28 30.6	+1.5
BO01				IAML		10 29 18.8	
	comp=N,144nm,0.9s						
BO02	**Sierra Bellavi**	**3.00**	**163**	*eP*	Pn	10 28 37.7	+2.3

WEL 06 10:29:29.9, 38°S±1°, 177°E±°, h6km±1km, M3.4/25, ML3.8/25, MLv3.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=93.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAGZ	**Rawiri**	**0.05**	**175**	P	Pg	10 29 31.8	+0.5
RAGZ				S	Sg	10 29 33.2	+0.9
MWZ	**Matawai**	**0.15**	**39**	P	Pg	10 29 33.6	+0.7
MWZ				S	Sg	10 29 36.2	+1.4
URZ	**Urewera**	**0.30**	**309**	P	Pb	10 29 37.1	-0.6
SNGZ	**Shannon Statio**	**0.34**	**189**	P	Pb	10 29 37.5	-0.8
SNGZ				S	Sb	10 29 43.5	-0.6
TKGZ	**Te Karaka**	**0.34**	**89**	P	Pb	10 29 38.0	-0.4
TKGZ				S	Sb	10 29 44.4	+0.3
RTZ	**Ruatahuna**	**0.38**	**243**	P	Pb	10 29 38.4	-0.7
MUGZ	**Murupara**	**0.50**	**266**	P	Pb	10 29 40.8	-0.3
TWGZ	**Tauwhareparae**	**0.52**	**59**	P	Pb	10 29 41.7	+0.2
RUGZ	**Raukumara Rang**	**0.53**	**24**	P	Pb	10 29 40.9	-0.6
RAHZ	**Arahi**	**0.53**	**208**	P	Pb	10 29 41.4	-0.2
MTHZ	**Maungataniwha**	**0.60**	**228**	P	Pb	10 29 42.6	-0.3
PRGZ	**Paritu Road**	**0.60**	**142**	P	Pb	10 29 43.2	+0.3
KNZ	**Kokohu**	**0.61**	**160**	P	Pb	10 29 43.3	+0.4
CNGZ	**Carnagh Statio**	**0.63**	**94**	P	Pn	10 29 44.7	-0.6
EDRZ	**Edgecumbe**	**0.63**	**303**	P	Pb	10 29 43.5	+0.2
WHHZ	**Waihua**	**0.64**	**192**	P	Pb	10 29 44.2	+0.7
WHRZ	**Whale Island**	**0.68**	**330**	P	Pb	10 29 44.6	+0.4
RRRZ	**Republican Roa**	**0.71**	**278**	P	Pb	10 29 45.0	+0.3
MARZ	**Manawahe**	**0.74**	**308**	P	Pb	10 29 45.6	+0.4
TARZ	**Mount Tarawera**	**0.74**	**286**	P	Pb	10 29 46.0	+0.7
HAZ	**Te Kaha**	**0.75**	**23**	P	Pb	10 29 45.1	-0.3
PUZ	**Puketiti**	**0.77**	**61**	P	Pb	10 29 46.4	+0.8
PKGZ	**Pakihiroa**	**0.77**	**43**	P	Pb	10 29 46.2	+0.5
PRRZ	**Plateau Road**	**0.80**	**266**	P	Pb	10 29 46.3	+0.1
NMHZ	**Naumai**	**0.80**	**216**	P	Pb	10 29 46.7	+0.4
MHGZ	**Mahia Peninsul**	**0.80**	**151**	P	Pn	10 29 47.7	-0.1
MKRZ	**Makatiti**	**0.80**	**292**	P	Pn	10 29 47.4	-0.4
ALRZ	**Allen Road**	**0.84**	**262**	P	Pb	10 29 47.2	+0.3
HLRZ	**Highlands Stat**	**0.85**	**283**	P	Pb	10 29 48.0	-0.5
MRHZ	**Matea Rd**	**0.87**	**243**	P	Pb	10 29 47.2	-0.2
ARHZ	**Aropaoanui**	**0.88**	**302**	P	Pb	10 29 48.6	-0.2
OMRZ	**Omania**	**0.89**	**292**	P	Pn	10 29 48.6	-0.3
HRRZ	**Handcock Road**	**0.89**	**273**	P	Pb	10 29 48.3	+0.6
OPRZ	**Ohinepanea**	**0.90**	**312**	P	Pb	10 29 48.2	+0.3
LIRZ	**Lichensteins R**	**0.92**	**298**	P	Pn	10 29 49.3	-0.1
HSRZ	**Hossack Road**	**0.93**	**278**	P	Pn	10 29 49.2	-0.3
UTU	**Utuhina**	**0.99**	**285**	P	Pn	10 29 50.9	+0.5
WMGZ	**Waiomatatini S**	**1.01**	**52**	P	Pn	10 29 51.3	+0.7
KARZ	**Kaharoa**	**1.01**	**295**	P	Pn	10 29 50.4	-0.3
BKZ	**Black Stump Fm**	**1.01**	**225**	P	Pb	10 29 50.1	+0.2
NGRZ	**Ngongotaha**	**1.02**	**289**	P	Pn	10 29 51.2	+0.4
GRRZ	**Galatos Road**	**1.03**	**275**	P	Pn	10 29 50.9	+0.1
MXZ	**Matakaoa Point**	**1.13**	**39**	P	Pn	10 29 52.8	+0.5
MCHZ	**McNeill Hill**	**1.14**	**209**	P	Pn	10 29 53.3	+0.9
TGRZ	**Tauranga**	**1.16**	**308**	P	Pn	10 29 52.9	+0.3
WHTZ	**Whakaora**	**1.16**	**259**	P	Pn	10 29 55.4	+2.7
KWHZ	**Kaweka Forest**	**1.24**	**218**	P	Pn	10 29 54.5	+0.6
KUTZ	**Kaahu Road**	**1.25**	**268**	P	Pn	10 29 54.5	+0.6
KMRZ	**Kaimai**	**1.30**	**297**	P	Pg	10 29 55.4	+0.5
RITZ	**Rihia Road**	**1.32**	**246**	P	Pg	10 29 57.1	+1.8
RATZ	**Rangitukua**	**1.35**	**251**	P	Pg	10 29 58.2	+2.5
KAHZ	**Kahuranaki**	**1.41**	**197**	P	Pb	10 29 56.7	+0.1
KATZ	**Kakaramea**	**1.44**	**248**	P	Pg	10 29 57.7	+0.2
KRHZ	**Kereru**	**1.44**	**214**	P	Pb	10 29 57.4	+0.2
TLZ	**Tolley Road**	**1.48**	**274**	P	Pb	10 29 57.8	0.0
BHHZ	**Black Hill Sta**	**1.48**	**225**	P	Pb	10 29 58.0	+0.2
TMVZ	**Te Maari**	**1.49**	**243**	P	Pb	10 29 57.8	-0.2
ETVZ	**East Tongariro**	**1.50**	**242**	P	Pn	10 29 57.7	+0.3
NTVZ	**North Tongarir**	**1.50**	**244**	P	Pb	10 29 57.9	-0.4
KRVZ	**Karewarewa**	**1.53**	**244**	P	Pn	10 29 58.2	+0.4
OTVZ	**Oturere**	**1.54**	**242**	P	Pn	10 29 58.0	-0.1
NNVZ	**North Ngauruho**	**1.56**	**243**	P	Pb	10 29 59.2	-0.1
SNVZ	**South Ngauruho**	**1.57**	**241**	P	Pb	10 29 59.4	0.0
WTVZ	**West Tongariro**	**1.57**	**244**	P	Pb	10 29 59.6	+0.1
NGZ	**Ngauruhoe**	**1.59**	**242**	P	Pb	10 29 59.5	-0.3
TUVZ	**Tukino**	**1.60**	**239**	P	Pb	10 30 00.2	+0.3
MOVZ	**Moawhango**	**1.61**	**233**	P	Pb	10 29 59.7	-0.3
PXZ	**Pawanui**	**1.64**	**195**	P	Pn	10 29 58.6	-0.7
WHVZ	**Whangaehu Hut**	**1.65**	**239**	P	Pg	10 30 01.5	0.0
FWVZ	**Far West T-bar**	**1.66**	**240**	P	Pg	10 30 01.8	+0.1
TWVZ	**Taurewa**	**1.66**	**247**	P	Pg	10 30 01.9	+0.2
WNVZ	**Wahianoa**	**1.67**	**238**	P	Pg	10 30 01.4	-0.3
TOZ	**Tahuroa Road**	**1.67**	**295**	P	Pb	10 30 01.1	+0.2
PNHZ	**Pukenui**	**1.74**	**212**	P	Pn	10 30 00.8	+0.1
WPHZ	**Waipukurau**	**1.78**	**205**	P	Pn	10 30 01.1	-0.1
PKVZ	**Pokaka**	**1.82**	**242**	P	Pb	10 30 04.0	+0.4
PRHZ	**Porangahau**	**1.91**	**198**	P	Pn	10 30 02.5	-0.6
TSZ	**Takapari Road**	**1.96**	**215**	P	Pn	10 30 03.6	-0.1
HIZ	**Hauiti**	**2.01**	**267**	P	Pb	10 30 07.1	+0.4
OVHZ	**Dannevirke**	**2.08**	**207**	P	Pn	10 30 04.4	-1.0
ANWZ	**Angora Road**	**2.14**	**200**	P	Pn	10 30 05.8	-0.3
KUZ	**Kuaotunu**	**2.17**	**321**	P	Pb	10 30 08.4	-1.1
VRZ	**Vera Road**	**2.18**	**251**	P	Pb	10 30 09.4	-0.3
WAZ	**Wanganui**	**2.29**	**235**	P	Pb	10 30 10.2	-1.5
POWZ	**Post Office Ro**	**2.32**	**213**	P	Pn	10 30 08.2	-0.4
PRWZ	**Pori Road**	**2.38**	**207**	P	Pn	10 30 08.7	-0.8
BFZ	**Birch Farm**	**2.41**	**202**	P	Pn	10 30 08.4	-1.4
WIAZ	**Waiheke Island**	**2.45**	**312**	P	Pn	10 30 11.3	+0.9
ETAZ	**East Tamaki Re**	**2.47**	**306**	P	Pg	10 30 17.8	+0.6
MRZ	**Mangatainoka R**	**2.62**	**212**	P	Pn	10 30 11.5	-1.3
KHEZ	**Kahui Hut**	**2.78**	**251**	P	Pb	10 30 18.9	-1.1
HOWZ	**Holdsworth Sta**	**2.85**	**210**	P	Pn	10 30 14.1	-1.9
TMWZ	**Te Maipa**	**2.90**	**203**	P	Pn	10 30 15.0	-1.7
OGWZ	**Otaki Gorge**	**2.93**	**215**	P	Pn	10 30 15.6	-1.4
DUWZ	**D'Urville Isla**	**3.58**	**228**	P	Pb	10 30 33.0	-0.6
NNZ	**Nelson**	**4.16**	**227**	P	Pn	10 30 33.1	-0.8
THZ	**Tophouse**	**4.78**	**225**	P	Pn	10 30 41.8	-0.8
CZ	**Chatham Island**	**6.95**	**141**	P	Pn	10 31 10.9	-1.2

*MAN **06** 10:48:42.4, 13°.50N×120°.02E, h9km, MS3.3*
*IDC **06** 10:48:49.0±1.7, 13°.56N×120°.46E, h66km±19km, mb3.8/8, mb1 4.0/8, mb1mx3.5/43, mbtmp4.1/8, MS3.4/2, Ms1 3.4/2, ms1mx2.7/44, Error ellipse: s-maj=38.9km s-min=14.7km az=70.0*
*NEIC **06** 10:48:51.0±1.2, 13°.51N±0°.08×120°.25E±0°.08, h83km±8km, mb4.4/17, Error ellipse: s-maj=13.7km s-min=8.8km az=141.0*

ISC 06 10:48:41.5±1.5, 13°.47N±0°.03×120°.10E±0°.04, h6km±10km, n55, σ1°38/67, mb4.5/13, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.30**	**28**	*eP*	**Pb**	**10 48 50.0**	**+0.7**
LUBP				*eS*	**Sb**	**10 48 55.5**	**+1.1**
PGP	**Puerto Galera**	**0.83**	**88**	*eP*	**Pn**	**10 48 59.2**	**-0.6**
PGP				*i* S	**Sb**	**10 49 09.2**	**-0.6**
MACP	**Maragondon, Ca**	**0.99**	**37**	*eP*	**Pg**	**10 49 00.4**	**-0.1**
MACP				*eS*	**Sb**	**10 49 14.6**	**+0.2**
TGY	**Tagaytay City**	**1.02**	**52**	P	**Pn**	**10 49 03.3**	**+0.9**
	2μm,0.3s,baz=242,slow=4.2,SNR=58						
TGY				S	**Sn**	**10 49 16.6**	**-0.6**
	1μm,0.3s,baz=301,slow=24,SNR=8.2						
TGY	**Tagaytay City**	**1.02**	**52**	*eP*	**Pn**	**10 49 03.0**	**+0.5**
TGY				*i* S	**Sn**	**10 49 16.8**	**-0.4**
SJMP	**San Jose**	**1.41**	**135**	*eP*	**Pg**	**10 49 08.5**	**-0.1**
SJMP				*eS*	**Sb**	**10 49 26.5**	**0.0**
BUSP	**Coron**	**1.46**	**176**	*eP*	**Pg**	**10 49 09.8**	**+0.2**
BUSP				*eS*	**Sb**	**10 49 27.5**	**-0.5**
LQP	**Lukban**	**1.53**	**65**	*eP*	**Pg**	**10 49 11.1**	**+0.1**
BOAC	**Boac**	**1.69**	**90**	*eP*	**Pb**	**10 49 12.8**	**-0.3**
BOAC				*eS*	**Sg**	**10 49 36.1**	**0.0**
POLP	**Polilio Island**	**2.18**	**55**	*eP*	**Pn**	**10 49 19.5**	**+1.2**
POLP				*eS*	**Sb**	**10 49 40.0**	**+0.4**
PCPH	**Palayan**	**2.29**	**25**	*eP*	**Pb**	**10 49 21.8**	**-1.4**
PCPH				*eS*	**Sb**	**10 49 50.2**	**-1.7**
ENPP	**El Nido**	**2.35**	**196**	*eP*	**Pn**	**10 49 21.7**	**+1.1**
ENPP				*eS*	**Sn**	**10 49 48.3**	**-1.5**
SMPP	**San Manuel, Pa**	**2.72**	**12**	*eP*	**Pn**	**10 49 27.0**	**+1.2**
SMPP				*eS*	**Sn**	**10 50 00.4**	**+1.4**
BOLP	**Bolinao**	**2.90**	**356**	*eP*	**Pn**	**10 49 28.0**	**-0.2**
BOLP				*eS*	**Sb**	**10 50 08.6**	**-0.7**
JAP	**San Jose, Anti**	**3.25**	**146**	*eP*	**Pn**	**10 49 35.2**	**+2.1**
SAMP	**Sagada Mountai**	**3.67**	**12**	*eP*	**Pn**	**10 49 40.9**	**+2.1**
SAMP				*eS*	**Sn**	**10 50 26.4**	**+3.9**
CAUP	**Cauayan**	**3.83**	**25**	*eP*	**Pn**	**10 49 44.6**	**+3.6**
CAUP				*eS*	**Sb**	**10 50 32.8**	**-3.4**
SZP	**Santa**	**4.07**	**5**		**Pb**	**10 49 50.5**	**-3.1**
DAV	**Davao City (W)**	**8.34**	**139**	LR	LR	10 54 36.7	
	comp=Z,138nm,19.9s,baz=272,slow=42						
YULB	**Yu-li**	**9.93**	**6**	Pn	**Pn**	**10 51 09.4**	**+4.5**
FAKI	**Fak Fak**	**20.26**	**143**	P	**P**	**10 53 18.6**	**+0.7**
FAKI				IAmb	IAmb	10 53 19.6	
	comp=Z,15nm,1.0s						
CMAR	**Chiang Mai Arr**	**20.93**	**286**	P	Pn	10 53 30.7	+3.0
	comp=Z,0.7nm,0.3s,baz=96,slow=11,SNR=4.5						
BATI	**Baumata**	**23.79**	**171**	P	**P**	**10 53 56.7**	**+1.5**
	comp=Z,39nm,0.4s,baz=58,slow=2.0,SNR=7.2						
GSI	**Gunungsitoli**	**25.36**	**243**	P	**P**	**10 54 11.1**	**+1.4**
GSI				IAmb	IAmb	10 54 33.7	
	comp=Z,13nm,0.8s						
MTN	**Manton Dam**	**28.34**	**157**	P	**P**	**10 54 36.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**31.84**	**170**	P	**P**	**10 55 07.0**	**-0.3**
FITZ				IAmb	IAmb	10 55 31.2	
	comp=Z,18nm,1.4s						
MDJ	**Mudanjiang**	**32.08**	**13**	P	**P**	**10 55 08.8**	**-0.4**
MDJ				IAmb	IAmb	10 55 11.0	
	comp=Z,8.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**32.27**	**16**	P	**P**	**10 55 10.3**	**-0.6**
MBWA	**Marble Bar**	**34.42**	**181**	P	**P**	**10 55 29.2**	**-0.6**
PSA00	**Pilbara Seismi**	**34.83**	**180**	P	**P**	**10 55 34.1**	**+0.7**
PSA00				IAmb	IAmb	10 56 03.7	
	comp=Z,3.0nm,1.2s						
PMG	**Port Moresby**	**35.19**	**129**	P	**P**	**10 55 35.0**	**-1.6**
WRA	**Warramunga Arr**	**36.04**	**157**	P	**P**	**10 55 43.5**	**-0.4**
	comp=Z,11nm,0.6s,baz=334,slow=9.9						
SONM	**Songino Array**	**36.12**	**344**	P	**P**	**10 55 44.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=160,slow=9.5,SNR=7.0						
SONM	**Songino Array**	**36.12**	**344**	P	**P**	**10 55 45.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**38.40**	**25**	P	**P**	**10 56 02.1**	**-1.6**
PALK	**Pallekele**	**39.20**	**265**	P	**P**	**10 56 11.7**	**+0.8**
AS31	**Alice Springs**	**39.30**	**160**	P	**P**	**10 56 10.1**	**-1.4**
AS31				IAmb	IAmb	10 56 12.4	
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**39.30**	**160**	P	**P**	**10 56 11.8**	**+0.3**
	comp=Z,5.7nm,0.5s,baz=338,slow=6.9,SNR=104						
ASAR	**Alice Springs**	**39.30**	**160**	P	**P**	**10 56 11.3**	**-0.2**
FORT	**Forrest**	**44.66**	**170**	P	**P**	**10 56 55.5**	**+0.4**
MKAR	**Makanchi Array**	**45.87**	**324**	P	**P**	**10 57 05.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=109,slow=9.5,SNR=3.8						
MKAR	**Makanchi Array**	**45.87**	**324**	P	**P**	**10 57 04.2**	**-0.5**
BBOO	**Buckleboo**	**48.48**	**162**	P	**P**	**10 57 25.1**	**-0.1**
AAK	**Ala-Archa**	**48.82**	**316**	LR	LR	11 19 23.3	
	comp=Z,67nm,19.2s,baz=82,slow=37						
ABKAR	**Akbulak array**	**60.52**	**319**	P	**P**	**10 58 52.2**	**-0.3**
IMAR	**Indian Mountai**	**76.23**	**25**	P	**P**	**11 00 29.6**	**-1.0**
MLY	**Manley**	**77.55**	**26**	P	**P**	**11 00 36.9**	**-1.2**
ARCES	**ARCESS Array B**	**79.09**	**339**	P	**P**	**11 00 46.3**	**-0.2**
	comp=Z,5.9nm,1.1s,baz=100,slow=5.2,SNR=6.6						
ARCES	**ARCESS Array B**	**79.09**	**339**	P	**P**	**11 00 46.6**	**+0.1**
ARCES				IAmb	IAmb	11 01 07.0	
	comp=Z,9.7nm,1.2s						
BMAR	**Burnt Mountain**	**79.70**	**23**	P	**P**	**11 00 49.6**	**-0.4**
CASY	**Casey**	**79.84**	**184**	P	**P**	**11 00 51.0**	**+0.6**
FINES	**FINESS Array B**	**80.20**	**331**	P	**P**	**11 00 52.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=46,slow=5.5,SNR=4.7						
FINES	**FINESS Array B**	**80.20**	**331**	P	**P**	**11 00 52.4**	**-0.2**
NB2	**NORSAR Subarra**	**87.19**	**333**	P	**P**	**11 01 27.1**	**-1.5**
	baz=70,slow=4.4						
NOA	**NORSAR Array B**	**87.19**	**333**	P	**P**	**11 01 27.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=110,slow=1.1,SNR=3.9						

*DJA **06** 11:02:27.7±5.2, 5°N±17°×9°6E±4°4, h10km, M4.3/6, mb4.9/1, mB5.3/1, MLv4.0/6, Mw(mB)4.7/1*
*NEIC **06** 11:02:28.9±0.5, 4°.84N±0°.09×95°.59E±0°.09, h81km±9km, mb4.0/7, Error ellipse: s-maj=13.9km s-min=12.5km az=65.0*
*IDC **06** 11:02:29.9±2.9, 4°.95N×95°.72E, h87km±26km, mb3.6/9, mb1 3.8/12, mb1mx3.5/54, mbtmp4.1/12, Error ellipse: s-maj=42.4km s-min=15.4km az=52.0*

ISC 06 11:02:29.2±0.6, 4°.76N±0°.05×95°.56E±0°.07, h89km, n46, σ1°29/48, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.45**	**71**	Pn	**Pn**	**11 02 54.1**	**-0.2**
LHMI	**Lhok Sumawe**	**1.45**	**71**	P	**Pn**	**11 02 54.4**	**+0.1**
TPTI		**2.20**	**133**	P	**Pn**	**11 03 03.7**	**-0.3**
PSI	**Prapat**	**3.88**	**120**	P	**Pn**	**11 03 28.1**	**+1.3**
	16nm,0.3s,baz=358,slow=3.1,SNR=57						
PSI				S	**Sn**	**11 04 12.8**	**+1.6**
	5.1nm,0.3s,baz=180,slow=23,SNR=4.8						
RPSI	**Rantau Prapat**	**3.93**	**121**		**Pn**	**11 03 27.2**	**-0.2**
GSI	**Gunungsitoli**	**3.98**	**150**	Pn	**Pn**	**11 03 27.9**	**-0.1**
GSI	**Gunungsitoli**	**3.98**	**150**	P	**Pn**	**11 03 27.7**	**-0.3**
PKDT	**Phuket**	**4.15**	**41**	P	**Pn**	**11 03 30.0**	**-0.4**
KRAB	**Krabi**	**4.98**	**46**	P	**Pn**	**11 03 42.8**	**+1.1**
TRTT	**Trang**	**5.12**	**53**	P	**Pn**	**11 03 42.7**	**-0.7**
SURT	**Suratani**	**5.26**	**37**	P	**Pn**	**11 03 46.0**	**+0.6**
SKLT	**Songkhla**	**5.57**	**64**	P	**Pn**	**11 03 51.0**	**+1.4**
MNSI	**Mandailing Nat**	**5.62**	**134**	P	**Pn**	**11 03 50.1**	**-0.3**
UTTA	**Uttaradit**	**13.80**	**20**	P	**P**	**11 05 48.0**	**+1.5**
	3.8nm,0.7s						
CM05	**Chiang Mai Arr**	**13.95**	**13**	P	**P**	**11 05 50.0**	**+1.8**
	4.0nm,1.0s						
CM04	**Chiang Mai Arr**	**13.96**	**14**	P	**P**	**11 05 50.0**	**+1.7**
	4.9nm,0.9s						
CM13	**Chiang Mai Arr**	**13.96**	**13**	P	**P**	**11 05 50.5**	**+2.2**
	4.6nm,0.8s						
CM01	**Chiang Mai Arr**	**13.97**	**13**	P	**P**	**11 05 50.9**	**+2.4**
	6.0nm,0.9s						
CM02	**Chiang Mai Arr**	**13.99**	**13**	P	**P**	**11 05 51.0**	**+2.4**
	6.2nm,1.1s						
CM09	**Chiang Mai Arr**	**14.01**	**14**	P	**P**	**11 05 51.8**	**+3.0**
CMAR	**Chiang Mai Arr**	**14.01**	**13**	P	**Pn**	**11 05 41.4**	**-2.4**
	0.7nm,0.3s,baz=205,slow=12,SNR=2.5						
CMAR	**Chiang Mai Arr**	**14.01**	**13**

POLP	**Polilio Island**	**2.12**	**97**	*eP*		**Pn**	**11 09 05.8**	**-1.1**
POLP				*eS*		**Sn**	**11 09 36.3**	**+4.1**
SAMP	**Sagada Mountai**	**2.36**	**28**	*eP*		**Pn**	**11 09 07.3**	**-2.8**
SAMP				*eS*		**Sn**	**11 09 37.0**	**-1.0**
BOAC	**Boac**	**2.52**	**127**	*eP*		**Pn**	**11 09 11.6**	**-0.8**
SZP	**Santa**	**2.64**	**15**			**Pn**	**11 09 11.9**	**-2.1**
CAUP	**Cauayan**	**2.78**	**45**	*eP*		**Pn**	**11 09 15.0**	**-0.9**
CAUP				*eS*		**Sn**	**11 09 52.1**	**+3.8**
GQP	**Guinayangan**	**2.81**	**112**	⇓*eP*		**Pn**	**11 09 16.0**	**-0.3**
GQP				*eS*		**Pn**	**11 09 16.0**	**-0.3**
SJMP	**San Jose**	**2.83**	**152**	*eP*		**Pn**	**11 09 16.1**	**-0.5**
SJMP				*eS*		**Sn**	**11 09 54.3**	**+4.8**
JCNP	**Jose Panganiba**	**2.92**	**103**	⇓*eP*		**Pn**	**11 09 16.9**	**-0.9**
JCNP				*eS*		**Sn**	**11 09 49.2**	**-2.6**
SIPP	**Brgy, Tapao**	**3.00**	**13**	⇓*iP*		**Pn**	**11 09 18.2**	**-0.7**
SIPP				*i S*		Sn	11 10 07.2	+14
APYP	**Conner**	**3.20**	**26**	*eP*		**Pn**	**11 09 19.1**	**-2.5**
APYP				*eS*		**Sn**	**11 10 01.1**	**+2.6**
CVP	**Callao Caves**	**3.35**	**36**	*eP*		**Pn**	**11 09 21.9**	**-1.7**
CVP				*i S*		Sn	11 10 10.2	+7.9
ENPP	**El Nido**	**3.77**	**185**	*eP*		**Pn**	**11 09 26.0**	**-3.4**
ENPP				*eS*		**Sn**	**11 10 05.5**	**-7.0**
SGCP	**Mt. Cagua**	**3.91**	**34**	*eP*		**Pn**	**11 09 31.3**	**0.0**
SGCP				*eS*		**Sn**	**11 10 21.9**	**+5.9**
BBP	**Basco**	**5.82**	**21**	*eP*		**Pn**	**11 09 55.1**	**-2.4**
CNOP	**Candoni, Negro**	**5.84**	**151**	*eP*		**Pn**	**11 09 57.9**	**+0.1**
TWG	**Pinlang**	**7.90**	**9**			**Pn**	**11 10 25.9**	**0.0**
TPUB	**Ta-pu**	**8.32**	**6**			**Pn**	**11 10 32.0**	**+0.4**
YULB	**Yu-li**	**8.49**	**10**	Pn		**Pn**	**11 10 34.9**	**+0.8**
SSLB	**Suanglung**	**8.83**	**7**	Pn		**Pn**	**11 10 39.4**	**+0.7**
NACB	**Ninganchiao**	**9.31**	**10**	Pn		**Pn**	**11 10 45.0**	**-0.1**
DAV	**Davao City (W)**	**9.72**	**143**	LR		LR	11 15 27.8	
	comp=Z,2µm,18.7s,baz=317,slow=43							
YHNB	**Yeheng**	**9.76**	**9**			**Pn**	**11 10 52.2**	**+0.8**
QIZ	**Qiongzhong**	**10.30**	**294**	P		**Pn**	**11 10 58.5**	**-0.3**
QIZ				S		**Sn**	**11 12 53.8**	**+1.0**
QIZ				L	L			
	comp=N,760nm,15.2s							
QIZ				L	L			
	comp=E,1µm,17.1s							
QIZ				L	L			
	comp=Z,2µm,14.2s							
TOLI2	**Tolitoli**	**13.82**	**176**	Pn		**Pn**	**11 11 46.9**	**+0.2**
JOW	**Kunigami**	**14.22**	**33**	LR		LR	11 17 33.4	
	comp=Z,351nm,19.7s,baz=186,slow=38							
MRSI	**Marisa**	**14.57**	**171**	P		**P**	**11 12 03.9**	**+2.5**
	53nm,0.6s							
GTOI	**Gorontalo**	**14.61**	**167**	P		**Pn**	**11 11 58.7**	**+1.6**
	254nm25nm,1.1s							
KMSI	**Cibinong**	**14.91**	**163**	P		**P**	**11 12 07.3**	**+2.1**
	150nm,0.8s							
APSI	**Ampana**	**15.90**	**173**	P		**P**	**11 12 18.5**	**+2.3**
	31nm,0.6s							
TNTI	**Ternate**	**15.99**	**151**	Pn		**Pn**	**11 12 12.7**	**-2.2**
TNTI	**Ternate**	**15.99**	**151**	P		**P**	**11 12 21.2**	**+4.0**
SSE	**Sheshan**	**16.09**	**4**	P		**P**	**11 12 16.8**	**-1.4**
SSE				S		**Sn**	**11 15 15.4**	**+1.8**
SSE				pmax	pmax			
	comp=Z,25nm,0.7s							
SSE				pmax	pmax			
	comp=Z,25nm,3.5s							
SSE				L	L			
	comp=N,230nm,17.2s							
SSE				L	L			
	comp=E,190nm,17.1s							
LUWI	**Luwuk**	**16.20**	**169**			**Pn**	**11 12 16.0**	**-1.3**
LUWI	**Luwuk**	**16.20**	**169**	P		**P**	**11 12 24.1**	**+4.6**
	3µm193nm,0.8s							
NONG	**Nongkai**	**16.22**	**283**	P		**P**	**11 12 21.3**	**+1.5**
	17nm,1.3s							
WHN	**Wuhan**	**16.27**	**343**	P		P	11 12 32.0	+12
WHN				S		**S**	**11 15 26.0**	**-1.3**
WHN				L	L			
	comp=N,1µm,10.9s							
WHN				L	L			
	comp=E,1µm,12.9s							
WHN				L	L			
	comp=Z,2µm,18.3s							
SLVN	**Son La**	**16.33**	**295**			**Pn**	**11 12 18.5**	**-0.6**
GYA	**Guiyang**	**16.73**	**315**	⇓P		**P**	**11 12 24.6**	**-0.9**
GYA				pP		pwP	11 12 37.5	-5.4
GYA				S		**Sn**	**11 15 32.9**	**+3.6**
GYA				L	L			
	comp=N,170nm,14.5s							
GYA				L	L			
	comp=E,140nm,15.6s							
GYA				L	L			
	comp=Z,260nm,15.3s							
NJ2	**Nanjing**	**17.01**	**357**	*eP*		**P**	**11 12 29.1**	**+0.7**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
NJ2				L	L			
	comp=N,1µm,14.2s							
NJ2				L	L			
	comp=E,570nm,14.2s							
NJ2				L	L			
	comp=Z,1µm,15.6s							
CHAI	**Chaiyaphum**	**17.16**	**275**	P		**P**	**11 12 30.2**	**0.0**
	208nm10nm,1.1s							
TTSI	**Tana Toraja**	**17.91**	**180**	P		**P**	**11 12 41.5**	**+3.1**
	1µm40nm,0.9s							
SANI	**Sanana**	**18.01**	**159**	P		**P**	**11 12 39.1**	**-0.4**
	48nm,0.8s							
SPSI	**Sidrap Palu**	**18.82**	**180**	P		**Pn**	**11 12 52.2**	**+2.6**
	35nm,0.9s							
KMI	**Kunming**	**18.89**	**305**	⇓P		**Pn**	**11 12 51.3**	**+0.8**
KMI				pP		sP	11 13 04.4	-5.2
KMI				S		**Sn**	**11 16 20.4**	**-1.1**
KMI				pmax	pmax			
	comp=Z,14nm,1.0s							
KMI				pmax	pmax			
	comp=Z,180nm,3.9s							
KMI				L	L			
	comp=N,570nm,16.2s							
KMI				L	L			
	comp=E,1µm,14.6s							
KMI				L	L			
	comp=Z,1µm,15.7s							
JSU	**Suzuyama**	**19.14**	**29**	P		**Pn**	**11 12 52.1**	**-1.1**
BNSI	**Bone**	**19.26**	**179**	P		**Pn**	**11 13 00.7**	**+5.9**
PBKI	**Pangkalan Bun**	**19.31**	**205**	P		Pn	11 13 06.6	+11
SIJI	**Sorong**	**19.43**	**143**	P		**P**	**11 12 54.3**	**-0.8**
	1.0nm,0.3s,baz=346,slow=20,SNR=5.0							
SIJI				LR		LR	11 21 21.0	
	comp=Z,367nm,19.2s,baz=326,slow=40							
UTHA	**Uthaitani**	**19.61**	**274**	P		**Pn**	**11 13 01.7**	**+2.8**
	61nm3.9nm,0.9s							
PHET	**Kaeng Krachan**	**19.64**	**266**	P		Pn	11 13 12.6	+13
KAPI	**Kappang**	**19.87**	**180**	P		**P**	**11 13 00.4**	**+0.6**
	1.3nm,0.3s,baz=15,slow=8.3,SNR=5.3							
KAPI				LR		LR	11 20 37.1	
	comp=Z,247nm,21.1s,baz=6.5,slow=37							
CM34	**Chiang Mai Arr**	**20.09**	**284**	P		**Pn**	**11 13 05.0**	**+0.4**
CM36	**Chiang Mai Arr**	**20.10**	**283**	P		**Pn**	**11 13 05.0**	**+0.3**
UMPA	**Umpang Tak**	**20.17**	**276**	P		Pn	11 13 08.0	+2.4
	1µm10nm,1.4s							
CM09	**Chiang Mai Arr**	**20.19**	**283**	P		**Pn**	**11 13 05.9**	**+0.2**
	169nm18nm,1.2s							
CM04	**Chiang Mai Arr**	**20.19**	**283**	P		**Pn**	**11 13 05.0**	**-0.8**
	184nm22nm,1.1s							
CM01	**Chiang Mai Arr**	**20.21**	**283**	P		**Pn**	**11 13 06.0**	**-0.1**
	192nm22nm,1.0s							
CM05	**Chiang Mai Arr**	**20.22**	**283**	P		**Pn**	**11 13 06.0**	**-0.2**
	128nm13nm,1.1s							
CM02	**Chiang Mai Arr**	**20.23**	**283**	P		**Pn**	**11 13 06.0**	**-0.2**
	145nm17nm,1.1s							
CM31	**Chiang Mai Arr**	**20.23**	**283**	P		Pn	11 13 08.8	+2.6
	5µm404nm,1.1s							
CM31	**Chiang Mai Arr**	**20.23**	**283**	P		**P**	**11 13 04.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.23**	**283**	P		**P**	**11 13 01.8**	**-2.0**
	4.4nm,0.8s,baz=95,slow=9.2,SNR=44							
CMAR				PcP		**PcP**	**11 17 16.4**	**+0.5**
	1.5nm,0.6s,baz=38,slow=1.0,SNR=7.5							
CMAR				LR		LR	11 21 07.7	
	comp=Z,584nm,19.0s,baz=154,slow=38							
CMAR	**Chiang Mai Arr**	**20.23**	**283**	P		**P**	**11 13 03.9**	**+0.1**
CM15	**Chiang Mai Arr**	**20.25**	**283**	P		**Pn**	**11 13 06.5**	**0.0**
	144nm18nm,0.9s							
CM13	**Chiang Mai Arr**	**20.26**	**283**	P		**Pn**	**11 13 06.0**	**-0.6**
	138nm16nm,0.9s							
CMMT	**Chiang Mai**	**20.27**	**284**	P		Pn	11 13 06.6	-0.2
	7.9nm,0.9s							
CHTO	**Chiang Mai**	**20.28**	**284**	P		**P**	**11 13 04.7**	**+0.3**
SKLT	**Songkhla**	**20.31**	**250**	P		Pn	11 13 06.9	-0.3
	768nm50nm,1.2s							
CM32	**Chiang Mai Arr**	**20.35**	**283**	P		Pn	11 13 11.0	+3.4
KHLT	**Khaolaem Dam**	**20.46**	**272**	P		Pn	11 13 11.2	+2.2
	20nm,1.2s							
JNU	**Nakatsue**	**20.69**	**27**	P		**P**	**11 13 07.9**	**-0.8**
JNU				IAmb		IAmb	11 13 23.5	
	comp=Z,43nm,1.1s							
TRTT	**Trang**	**20.90**	**252**	P		**P**	**11 13 12.4**	**+1.3**
	comp=Z,30nm,1.2s							
MHMT	**Maesarieng**	**21.16**	**282**	P		P	11 13 20.0	+6.2
SURT	**Suratani**	**21.36**	**256**	P		P	11 13 25.0	+9.1
XAN	**Xi'an**	**21.36**	**335**	P		**P**	**11 13 18.4**	**+2.6**
XAN				S		**S**	**11 17 10.7**	**+1.1**
XAN				SS		**SnSn**	**11 17 46.6**	**+10**
XAN				pmax	pmax			
	comp=Z,11nm,1.0s							
XAN				pmax	pmax			
	comp=Z,120nm,6.3s							
XAN				L	L			
	comp=Z,1µm,15.2s							
XAN				L	L			
	comp=Z,870nm,15.5s							
XAN				L	L			
	comp=Z,2µm,16.3s							
CD2	**Chengdu**	**21.60**	**320**	P		**P**	**11 13 19.0**	**+0.5**
CD2				S		**S**	**11 17 16.5**	**+2.0**
CD2				pmax	pmax			
	comp=Z,50nm,0.9s							
CD2				pmax	pmax			
	comp=Z,250nm,5.2s							
CD2				L	L			
	comp=Z,2µm,13.7s							
CD2				L	L			
	comp=Z,1µm,16.7s							
CD2				L	L			
	comp=Z,2µm,15.2s							
KSRS	**Korea Array**	**23.53**	**16**	P		**P**	**11 13 36.4**	**-1.8**
	comp=Z,4.3nm,0.8s,baz=199,slow=11,SNR=14							
KSRS				LR		LR	11 23 32.2	
	comp=Z,410nm,20.1s,baz=196,slow=38							
MMRI	**Maumere**	**23.59**	**174**	P		**P**	**11 13 39.5**	**+0.5**
PLAI	**Plampang**	**23.74**	**185**	P		**P**	**11 13 42.2**	**+1.9**
	comp=Z,2µmcomp=Z,127nm,1.3s							
TWSI	**Taliwang, Sumb**	**23.74**	**187**	P		**P**	**11 13 44.6**	**+4.3**
PSI	**Prapat**	**23.84**	**242**	P		**P**	**11 13 40.7**	**-0.8**
	comp=Z,6.5nm,0.8s,baz=0.5,slow=18,SNR=3.8							
PSI				LR		LR	11 22 45.9	
	comp=Z,237nm,18.9s,baz=89,slow=36							
RPSI	**Rantau Prapat**	**23.90**	**241**	P		**P**	**11 13 42.3**	**+0.4**
JCJ	**Chichijima**	**24.11**	**56**	LR		LR	11 21 56.5	
	comp=Z,310nm,19.7s,baz=322,slow=34							
PWJI	**Pagerwojo**	**24.18**	**200**	P		**P**	**11 13 46.0**	**+1.7**
	comp=Z,49nm,1.0s							
GUMO	**Guam**	**24.37**	**90**	LR		LR	11 22 51.5	
	comp=Z,456nm,19.3s,baz=237,slow=35							
MNSI	**Mandailing Nat**	**24.41**	**237**	P		P	11 13 58.7	+12
LEM	**Lembang**	**24.79**	**210**	LR		LR	11 24 55.3	
	comp=Z,281nm,18.1s,baz=21,slow=40							
SOEI	**Soe**	**24.98**	**169**	P		**P**	**11 13 51.3**	**-0.5**
SOEI	**Soe**	**24.98**	**169**	P		**P**	**11 13 53.0**	**+1.3**
	comp=Z,93nm,0.8s							
BJT	**Baijiatuau**	**25.14**	**353**	P		**P**	**11 13 51.3**	**-1.5**
BJI	**Beijing**	**25.16**	**354**	P		**P**	**11 13 52.4**	**-0.6**
BJI				S		**S**	**11 18 16.8**	**+3.2**
BJI				pmax	pmax			
	comp=Z,7.0nm,1.5s							
BJI				L	L			
	comp=Z,520nm,17.5s							
BJI				L	L			
	comp=Z,190nm,14.8s							
BJI				L	L			
	comp=Z,470nm,18.3s							
BATI	**Baumata**	**25.32**	**171**	P		**P**	**11 13 53.7**	**-1.0**
	comp=Z,70nm,0.6s,baz=99,slow=0.6,SNR=10							
BATI				LR		LR	11 25 14.6	
	comp=Z,230nm,18.4s,baz=252,slow=40							
BATI	**Baumata**	**25.32**	**171**	P		**P**	**11 13 55.1**	**+0.4**
	comp=Z,64nm,0.8s							
LZH	**Lanzhou**	**25.38**	**329**	*eP*		**P**	**11 13 56.4**	**+1.1**
LZH				*eS*		**S**	**11 18 09.6**	**-8.0**
LZH				SS		**SnSn**	**11 19 21.7**	**+6.4**
LZH				pmax	pmax			
	comp=Z,21nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,4.6s							
LZH				L	L			
	comp=Z,1µm,13.3s							
LZH				L	L			
	comp=Z,1µm,15.2s							
LZH				L	L			
	comp=Z,1µm,15.2s							
JHJ	**Hachijo jima 2**	**25.62**	**42**	LR		LR	11 22 31.1	
	comp=Z,212nm,20.6s,baz=248,slow=33							
HHC	**Hu-ho-hao-te**	**26.74**	**346**	*eP*		**P**	**11 14 08.4**	**+0.9**
HHC				S		**S**	**11 18 41.6**	**+2.8**
HHC				sS		sS	11 19 04.2	+0.1
HHC				pmax	pmax			
	comp=Z,15nm,0.9s							
HHC				pmax	pmax			
	comp=Z,66nm,5.0s							
HHC				L	L			
	comp=Z,490nm,17.5s							
HHC				L	L			
	comp=Z,380nm,15.3s							
HHC				L	L			
	comp=Z,560nm,17.3s							
MAT	**Matsushiro**	**27.05**	**34**	P		**P**	**11 14 09.6**	**-0.6**
MJAR	**Matsushiro Arr**	**27.05**	**34**	P		**P**	**11 14 09.5**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=268,slow=5.7,SNR=4.1							
MJAR				LR		LR	11 24 10.5	
	comp=Z,178nm,21.8s,baz=250,slow=35							
MJAR	**Matsushiro Arr**	**27.05**	**34**	P		**P**	**11 14 10.7**	**+0.5**
SHL	**Shillong**	**28.13**	**296**	P		**P**	**11 14 20.3**	**+0.1**
SHL				IAmb		IAmb	11 14 30.8	
	comp=Z,22nm,0.8s							
GTA	**Gaotai**	**29.98**	**328**	*eP*		**P**	**11 14 36.6**	**+0.3**
GTA				S		**S**	**11 19 30.8**	**+1.0**
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,56nm,5.2s							
GTA				L	L			
	comp=Z,750nm,16.7s							
GTA				L	L			
	comp=Z,730nm,16.7s							
GTA				L	L			
	comp=Z,1µm,17.8s							
MDJ	**Mudanjiang**	**30.70**	**14**	P		**P**	**11 14 44.4**	**+2.0**
MDJ				S		**S**	**11 19 43.5**	**+2.8**
MDJ				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,130nm,4.7s							
MDJ				L	L			
	comp=Z,410nm,19.9s							
MDJ				L	L			
	comp=Z,320nm,16.4s							
MDJ				L	L			
	comp=Z,600nm,18.6s							
USRK	**Ussuriysk Ar.**	**30.93**	**17**	P		**P**	**11 14 43.2**	**-1.2**
	comp=Z,4.2nm,0.8s,baz=223,slow=5.6,SNR=7.4							
USRK				LR		LR	11 27 56.2	
	comp=Z,196nm,20.7s,baz=178,slow=38							
USRK	**Ussuriysk Ar.**	**30.93**	**17**	P		**P**	**11 14 44.2**	**-0.3**
KNRA	**Kununurra**	**31.73**	**163**	P		**P**	**11 14 50.5**	**-1.4**
SONM	**Songino Array**	**34.58**	**344**	P		**P**	**11 15 15.7**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=162,slow=9.3,SNR=12							
SONM				LR		LR	11 30 12.7	
	comp=Z,348nm,19.1s,baz=158,slow=38							
ASAJ	**Asahikawa**	**34.94**	**29**	P		**P**	**11 15 19.2**	**-0.3**
	comp=Z,10nm,0.6s,baz=221,slow=10,SNR=14							
ASAJ				LR		LR	11 30 17.4	
	comp=Z,202nm,20.7s,baz=198,slow=38							
JKA	**Kamikawa-asahi**	**34.94**	**29**	P		**P**	**11 15 19.3**	**-0.3**
JKA				IAmb		IAmb	11 15 37.1	
	comp=Z,22nm,1.1s							
KLR	**Kul'dur**	**35.54**	**14**	P		**P**	**11 15 23.6**	**-1.0**
	comp=Z,11nm,0.8s,baz=234,slow=6.9,SNR=42							
KLR				LR		LR	11 31 08.8	
	comp=Z,362nm,19.8s,baz=192,slow=38							
PSA00	**Pilbara Seismi**	**36.33**	**180**	P		**P**	**11 15 31.2**	**-0.3**
PSA00	**Pilbara Seismi**	**36.33**	**180**	P		**P**	**11 15 31.3**	**-0.3**
PSA00				IAmb		IAmb	11 15 32.3	
	comp=Z,19nm,0.9s							
TLY	**Talaya**	**38.82**	**344**	P		**P**	**11 15 51.7**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=301,slow=2.6,SNR=3.6							
TLY	**Talaya**	**38.82**	**344**	P		**P**	**11 15 51.0**	**-1.4**
WMQ	**Urumqi**	**39.64**	**323**	*eP*		**P**	**11 16 01.2**	**+1.8**
WMQ				pmax	pmax			
	comp=Z,21nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,110nm,3.7s							
WMQ				L	L			
	comp=Z,1µm,12.3s							
WMQ				L	L			
	comp=Z,1µm,13.9s							
WMQ				L	L			
	comp=Z,2µm,17.7s							
AS31	**Alice Springs**	**40.82**	**160**	P		**P**	**11 16 08.9**	**-0.4**
AS31				IAmb		IAmb	11 16 20.8	
	comp=Z,6.1nm,0.6s							
ASAR	**Alice Springs**	**40.82**	**160**	P		**P**	**11 16 08.4**	**-0.9**
	comp=Z,14nm,0.8s,baz=333,slow=7.2,SNR=68							
ASAR				PcP		**PcP**	**11 18 09.9**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=343,slow=2.8,SNR=4.1							
ASAR				LR		LR	11 33 48.6	
	comp=Z,80nm,21.2s,baz=335,slow=37							
ASAR	**Alice Springs**	**40.82**	**160**	P		**P**	**11 16 08.0**	**-1.3**
MORW	**Morawa**	**43.94**	**185**	P		**P**	**11 16 34.1**	**-0.4**
MORW				IAmb		IAmb	11 16 41.7	
	comp=Z,13nm,1.0s							
MK31	**Makanchi Array**	**44.47**	**323**	P		**P**	**11 16 39.1**	**+0.4**
MKAR	**Makanchi Array**	**44.47**	**323**	P		**P**	**11 16 36.8**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=134,slow=7.0,SNR=13							
MKAR				PcP		**PcP**	**11 18 22.0**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=112,slow=4.0,SNR=6.7							
MKAR	**Makanchi Array**	**44.47**	**323**	P		**P**	**11 16 38.6**	**0.0**
MAKZ	**Makanchi**	**44.66**	**323**	P		**P**	**11 16 40.1**	**0.0**
KSH	**Kashi**	**45.37**	**311**	P		P	11 16 56.5	+10
KSH				S		**S**	**11 23 22.2**	**-0.5**
KSH				sS		sS	11 23 51.8	+2.8
KSH				pmax	pmax			
	comp=Z,6.0nm,0.3s							
KSH				pmax	pmax			
	comp=Z,100nm,2.5s							
KSH				L	L			
	comp=Z,530nm,9.0s							
KSH				L	L			
	comp=Z,810nm,12.6s							
KSH				L	L			
	comp=Z,660nm,8.5s							
KDJ	**Kajisay**	**45.49**	**315**	P		**P**	**11 16 45.9**	**-1.2**
ZAA0	**Zalesovo Array**	**47.51**	**333**	P		**P**	**11 17 01.8**	**-0.5**
ZALV	**Zalesovo Beam**	**47.51**	**333**	P		**P**	**11 17 01.8**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=129,slow=8.0,SNR=6.8							
ZALV				LR		LR	11 37 56.1	
	comp=Z,362nm,18.8s,baz=131,slow=37							
ZALV	**Zalesovo Beam**	**47.51**	**333**	P		**P**	**11 17 02.0**	**-0.3**
PETK	**Petropavlovsk-**	**48.36**	**30**	P		**P**	**11 17 08.8**	**-0.2**
	comp=Z,15nm,0.7s,baz=213,slow=5.7,SNR=40							
PETK				LR		LR	11 36 39.7	
	comp=Z,148nm,21.4s,baz=226,slow=35							
PETK	**Petropavlovsk-**	**48.36**	**30**	P		**P**	**11 17 08.1**	**-0.9**
KURBB	**Kurchatov Arra**	**48.62**	**326**	P		**P**	**11 17 10.4**	**-0.7**
	comp=Z,5.8nm,0.7s,baz=123,slow=8.2,SNR=16							
BTK	**Batken**	**49.32**	**310**	P		**P**	**11 17 16.1**	**-0.5**
BTK				IAmb		IAmb	11 17 31.3	
	comp=Z,12nm,1.2s							
GAR	**Garm**	**49.41**	**309**	P		**P**	**11 17 16.8**	**-0.7**
MA2	**Magadan**	**50.01**	**20**	P		**P**	**11 17 21.6**	**+0.1**
BBOO	**Buckleboo**	**50.01**	**162**	P		**P**	**11 17 21.5**	**-0.3**
BBOO				IAmb		IAmb	11 17 24.6	
	comp=Z,17nm,1.1s							
CHGR	**Chuyangaron**	**50.20**	**308**	P		**P**	**11 17 22.3**	**-1.2**
KK31	**Karatay Array**	**50.43**	**314**	P		**P**	**11 17 25.2**	**+0.2**
KK31				IAmb		IAmb	11 17 39.3	
	comp=Z,6.1nm,0.8s							
KKAR	**Karatay Array**	**50.43**	**314**	P		**P**	**11 17 25.6**	**+0.6**
KKAR	**Karatay Array**	**50.43**	**314**	P		**P**	**11 17 25.4**	**+0.3**
KKAR				IAmb		IAmb	11 17 39.3	
	comp=Z,6.1nm,0.8s							
STKA	**Stephens Creek**	**51.08**	**156**	P		**P**	**11 17 28.6**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=353,slow=6.9,SNR=7.8							
STKA				PcP		**PcP**	**11 18 45.9**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=4.8,slow=3.4,SNR=2.8							
STKA				LR		LR	11 41 48.7	
	comp=Z,100nm,18.2s,baz=1.7,slow=39							
STKA	**Stephens Creek**	**51.08**	**156**	P		**P**	**11 17 29.5**	**-0.4**
BVAR	**Borovoye Array**	**54.21**	**326**	P		**P**	**11 17 52.3**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=175,slow=8.3,SNR=7.5							
BVAR				PcP		**PcP**	**11 18 56.3**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=123,slow=7.4,SNR=3.6							
BRVK	**Borovoye**	**54.28**	**326**	P		**P**	**11 17 52.4**	**-0.9**
BRVK				IAmb		IAmb	11 18 06.9	
	comp=Z,21nm,1.3s							
NRIK	**Noril'sk**	**57.97**	**347**	P		**P**	**11 18 19.2**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=143,slow=7.2,SNR=5.9							
NRIK				LR		LR	11 45 11.9	
	comp=Z,380nm,18.3s,baz=156,slow=38							
NRIK	**Noril'sk**	**57.97**	**347**	P		**P**	**11 18 18.8**	**-0.5**
GEYT	**Alibeck**	**58.65**	**305**	P		**P**	**11 18 24.6**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=36,slow=39,SNR=1.5							
DZM	**Mont Dzumac**	**58.73**	**128**	*e*LR		LR	11 36 04.2	
	comp=Z,132nm,24.5s							
ABKAR	**Akbulak array**	**59.17**	**319**	P		**P**	**11 18 28.6**	**+0.5**
ABKAR				IAmb		IAmb	11 18 40.2	
	comp=Z,8.9nm,0.8s							
ABKAR	**Akbulak array**	**59.17**	**319**	P		**P**	**11 18 28.5**	**+0.5**
AKTO	**Aktyubinsk**	**60.65**	**320**	P		**P**	**11 18 37.9**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=92,slow=4.4,SNR=8.7							
ARU	**Arti**	**61.82**	**326**	P		**P**	**11 18 45.3**	**-0.6**
ARU				IAmb		IAmb	11 19 01.1	
	comp=Z,8.3nm,0.9s							
KBZ	**Khabaz**	**70.36**	**311**	P		**P**	**11 19 40.6**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=273,slow

NEA2	**Nenana**	**77.10**	**26**	P	**P**	**11 20 19.7**	**-0.3**
NEA2				IAmb	IAmb	11 20 25.5	
	comp=Z,6.8nm,0.8s						
NEA2	**Nenana**	**77.10**	**26**	P		11 20 20.7	
	baz=278,SNR=8.7						
MCK	**McKinley**	**77.28**	**27**	P	**P**	**11 20 20.5**	**-0.5**
MCK				IAmb	IAmb	11 20 21.9	
	comp=Z,18nm,1.1s						
MCK	**McKinley**	**77.28**	**27**	P		11 20 20.9	
	baz=278,SNR=8.6						
RND	**Reindeer**	**77.36**	**27**	P	**P**	**11 20 21.1**	**-0.5**
RND				IAmb	IAmb	11 20 22.1	
	comp=Z,20nm,1.2s						
MDM	**Murphy Dome**	**77.41**	**26**	P	**P**	**11 20 21.8**	**0.0**
MDM				IAmb	IAmb	11 20 27.7	
	comp=Z,5.6nm,0.8s						
H24K	**Noodor Dome**	**77.43**	**25**	P		11 20 22.7	
	baz=278,SNR=8.1						
PMR	**Palmer**	**77.49**	**29**	P	**P**	**11 20 21.8**	**-0.5**
PMR				IAmb	IAmb	11 20 22.6	
	comp=Z,16nm,1.0s						
PMR	**Palmer**	**77.49**	**29**	P		11 20 22.0	
	baz=278						
WRH	**Wood River Hil**	**77.54**	**26**	P	**P**	**11 20 22.8**	**+0.3**
WRH				IAmb	IAmb	11 20 24.2	
	comp=Z,6.3nm,0.9s						
WAT2	**Susitna Watana**	**77.54**	**28**	P		11 20 22.2	
	baz=278						
ARA0	**ARCESS Array S**	**77.57**	**339**	*e*P	**P**	**11 20 23.0**	**+0.5**
ARCES	**ARCESS Array B**	**77.57**	**339**	P	**P**	**11 20 22.9**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=89,slow=7.8,SNR=12						
ARCES				LR	LR	11 58 15.9	
	comp=Z,219nm,18.0s,baz=85,slow=38						
CCB	**Clear Creek Bu**	**77.63**	**26**	P	**P**	**11 20 22.8**	**-0.2**
BRTR	**Keskin Array B**	**77.65**	**308**	P	**P**	**11 20 24.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=128,slow=8.0,SNR=4.5						
BRTR				LR	LR	11 59 19.6	
	comp=Z,69nm,19.8s,baz=70,slow=39						
BRTR	**Keskin Array B**	**77.65**	**308**	P	**P**	**11 20 23.7**	**-0.1**
KNK	**Knik Glacier**	**77.83**	**29**	P	**P**	**11 20 23.6**	**-0.6**
KNK	**Knik Glacier**	**77.83**	**29**	P		11 20 24.3	
	baz=279						
SML	**Sawmill**	**77.83**	**29**	P		11 20 24.6	
	baz=279						
WAT6	**Susitna Watana**	**77.98**	**28**	P		11 20 25.3	
	baz=279,SNR=9.7						
IL31		**78.00**	**26**	P	**P**	**11 20 25.4**	**+0.4**
ILAR	**Eielson Array**	**78.00**	**26**	P	**P**	**11 20 24.6**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=255,slow=4.7,SNR=20						
ILAR				LR	LR	11 57 21.1	
	comp=Z,40nm,18.2s,baz=310,slow=38						
ILAR	**Eielson Array**	**78.00**	**26**	P	**P**	**11 20 24.4**	**-0.7**
HDA	**Harding Lake**	**78.04**	**26**	P	**P**	**11 20 24.9**	**-0.4**
HDA				IAmb	IAmb	11 20 29.1	
	comp=Z,6.4nm,1.0s						
HDA	**Harding Lake**	**78.04**	**26**	P		11 20 24.7	
	baz=280						
HDA				P		11 20 24.7	
	baz=280						
SPA0	**Spitsbergen Ar**	**78.16**	**348**	*e*P	**P**	**11 20 26.3**	**+0.6**
SCM	**Sheep Creek Mo**	**78.30**	**29**	P	**P**	**11 20 26.8**	**-0.1**
BMAR	**Burnt Mountain**	**78.45**	**23**	P	**P**	**11 20 27.5**	**-0.1**
HSPB	**Hornsund (broa**	**78.67**	**347**	*e*P	**P**	**11 20 28.2**	**-0.3**
FINES	**FINESS Array B**	**78.73**	**331**	P	**P**	**11 20 28.3**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=55,slow=5.7,SNR=32						
FINES				LR	LR	11 58 20.8	
	comp=Z,262nm,18.6s,baz=62,slow=38						
M24K	**Tolsona, Glenn**	**78.79**	**29**	P	**P**	**11 20 29.4**	**-0.1**
M24K	**Tolsona, Glenn**	**78.79**	**29**	P		11 20 30.3	
	baz=281						
AKASG	**Malin Array Be**	**78.90**	**320**	P	**P**	**11 20 29.7**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=65,slow=5.8,SNR=4.4						
AKASG				LR	LR	11 59 53.7	
	comp=Z,53nm,18.2s,baz=75,slow=39						
AKASG	**Malin Array Be**	**78.90**	**320**	P	**P**	**11 20 29.7**	**-0.5**
AKBB	**Malin Array Si**	**78.90**	**320**	P	**P**	**11 20 30.0**	**-0.2**
PAX	**Paxson**	**78.94**	**28**	P		11 20 30.6	
	baz=281,SNR=7.5						
KLU	**Klutina**	**79.02**	**29**	P		11 20 31.4	
	baz=281						
HARP	**HAARP**	**79.20**	**28**	P		11 20 32.9	
	baz=281						
JETT	**Jettan, Norway**	**79.32**	**339**	*e*P	**P**	**11 20 31.1**	**-1.1**
SCRK	**Sand Creek**	**79.39**	**26**	P	**P**	**11 20 32.3**	**-0.6**
SCRK				IAmb	IAmb	11 20 33.8	
	comp=Z,15nm,1.5s						
SCRK	**Sand Creek**	**79.39**	**26**	P		11 20 33.2	
	baz=282,SNR=6.0						
N25K	**Chitina, Valde**	**79.62**	**29**	P	**P**	**11 20 33.8**	**-0.3**
N25K				IAmb	IAmb	11 20 42.7	
	comp=Z,16nm,1.2s						
N25K	**Chitina, Valde**	**79.62**	**29**	P		11 20 34.5	
	baz=282						
BMRM	**Bremner River**	**79.75**	**30**	P		11 20 34.5	
	baz=282						
GLB	**Gilahina Butte**	**80.02**	**29**	P	**P**	**11 20 36.2**	**-0.1**
GLB				IAmb	IAmb	11 20 37.8	
	comp=Z,9.7nm,0.9s						
K27K	**Chicken**	**80.20**	**26**	P	**P**	**11 20 37.3**	**+0.2**
K27K				IAmb	IAmb	11 20 39.3	
	comp=Z,12nm,1.0s						
K27K	**Chicken**	**80.20**	**26**	P		11 20 37.8	
	baz=284						
EGAK	**Eagle**	**80.40**	**25**	P	**P**	**11 20 38.1**	**0.0**
EGAK	**Eagle**	**80.40**	**25**	P		11 20 38.3	
	baz=284,SNR=7.7						
MCARA	**McCarthy VSAT**	**80.40**	**29**	P	**P**	**11 20 39.2**	**+1.0**
MCARA				IAmb	IAmb	11 20 41.2	
	comp=Z,13nm,0.8s						
MCARA	**McCarthy VSAT**	**80.40**	**29**	P		11 20 39.4	
	baz=284						
L27K	**Beaver Creek,**	**80.54**	**27**	P	**P**	**11 20 39.5**	**+0.5**
L27K				IAmb	IAmb	11 20 41.2	
	comp=Z,7.7nm,0.8s						
L27K	**Beaver Creek,**	**80.54**	**27**	P		11 20 40.1	
	baz=284,SNR=12						
BCAR	**Beaver Creek A**	**80.56**	**27**	P	**P**	**11 20 39.5**	**+0.3**
BARN	**Barnard Glacie**	**81.12**	**29**	P	**P**	**11 20 42.3**	**0.0**
BARN				IAmb	IAmb	11 20 44.2	
	comp=Z,15nm,0.8s						
GRNC	**Granite Creek**	**81.16**	**29**	P	**P**	**11 20 43.4**	**+0.8**
GRNC				IAmb	IAmb	11 20 44.3	
	comp=Z,12nm,1.0s						
CTG	**Chitna Glacier**	**81.30**	**29**	P		11 20 44.4	
	baz=285,SNR=10						
CTGM	**Chitina Glacie**	**81.30**	**29**	P	**P**	**11 20 43.9**	**+0.7**
NOR	**Nord**	**81.31**	**354**	*i* P	**P**	**11 20 42.7**	**0.0**
NOR				IAmb	IAmb	11 20 43.0	
	comp=Z,5.4nm,0.8s						
CASY	**Casey**	**81.31**	**184**	P	**P**	**11 20 43.1**	**+0.4**
CASY				IAmb	IAmb	11 20 44.3	
	comp=Z,16nm,0.9s						
DAWY	**Dawson**	**81.33**	**26**	P	**P**	**11 20 43.8**	**+0.7**
DAWY				IAmb	IAmb	11 20 44.8	
	comp=Z,6.7nm,0.8s						
TABL	**Table Mountain**	**81.53**	**30**	P	**P**	**11 20 44.0**	**-0.5**
PINM	**Pinnacle**	**82.05**	**30**	P		11 20 48.0	
	baz=286						
BURAR	**Bucovina Array**	**82.10**	**317**	P	**P**	**11 20 47.7**	**0.0**
MLR	**Muntele Rosu**	**82.11**	**315**	P	**P**	**11 20 48.2**	**+0.4**
MLR				IAmb	IAmb	11 20 56.8	
	comp=Z,7.5nm,0.8s						
BUR08	**Bucovina Ar. S**	**82.11**	**317**	P	**P**	**11 20 48.2**	**+0.5**
LOF	**Lofoten**	**82.12**	**339**	*e*P	**P**	**11 20 46.2**	**-1.0**
BCPM	**Bancas Point**	**82.39**	**30**	P	**P**	**11 20 48.3**	**-0.5**
KMBO	**Kilima Mbogo**	**83.05**	**267**	P	**P**	**11 20 53.4**	**0.0**
	comp=Z,1.0nm,0.4s,baz=144,slow=3.3,SNR=3.2						
HYT	**Haines Junctio**	**83.14**	**29**	P	**P**	**11 20 53.0**	**+0.2**
HYT				IAmb	IAmb	11 20 54.9	
	comp=Z,12nm,1.0s						
KOLS	**Kolonicke sedl**	**83.68**	**319**	*e*P	**P**	**11 20 56.7**	**+1.0**
NSS	**Namsos**	**84.03**	**336**	*e*P	**P**	**11 20 56.6**	**-0.5**
CRVS	**Cervenica-Dubn**	**84.20**	**319**	*e*P	**P**	**11 20 59.9**	**+1.6**
WHY	**Whitehorse**	**84.41**	**29**	P	**P**	**11 20 59.7**	**+0.5**
WHY	**Whitehorse**	**84.41**	**29**	P		11 21 00.6	
	baz=290						
OJC	**Ojcow**	**84.87**	**321**	P	**P**	**11 21 02.0**	**+0.3**
OJC				IAmb	IAmb	11 21 03.4	
	comp=Z,8.1nm,0.9s						
DAG	**Danmarks Havn**	**85.21**	**351**	⇑*i* P	**P**	**11 21 02.1**	**-0.8**
DAG				IAmb	IAmb	11 21 02.8	
	comp=Z,7.4nm,0.8s						
NC405	**NORSAR Array S**	**85.46**	**332**	P	**P**	**11 21 03.6**	**-0.7**
JIS	**Juneau Island**	**85.49**	**31**	P	**P**	**11 21 04.1**	**-0.5**
JIS				IAmb	IAmb	11 21 06.6	
	comp=Z,8.9nm,0.8s						
NC303	**NORSAR Array S**	**85.57**	**333**	P	**P**	**11 21 04.9**	**0.0**
NC602	**NORSAR Array S**	**85.68**	**332**	*e*P	**P**	**11 21 05.3**	**-0.2**
NB2	**NORSAR Subarra**	**85.71**	**332**	P	**P**	**11 21 05.1**	**-0.6**
	baz=69,slow=4.8						
NOA	**NORSAR Array B**	**85.71**	**332**	P	**P**	**11 21 05.5**	**-0.2**
	comp=Z,5.7nm,0.9s,baz=67,slow=4.9,SNR=14						
NOA				LR	LR	12 01 46.2	
	comp=Z,149nm,18.6s,baz=70,slow=37						
NC204	**NORSAR Array S**	**85.82**	**333**	P	**P**	**11 21 05.5**	**-0.7**
OKC	**Ostrava-Krasne**	**86.00**	**321**	AMS	AMS	12 02 00.0	
	comp=Z,200nm,14.8s						
DOMB	**Dombas**	**86.24**	**334**	*e*P	**P**	**11 21 08.3**	**+0.1**
MORC	**Moravsky Berou**	**86.39**	**321**	*e*P	**P**	**11 21 09.9**	**+0.6**
MORC	**Moravsky Berou**	**86.39**	**321**	P	**P**	**11 21 09.6**	**+0.3**
MORC				IAmb	IAmb	11 21 27.4	
	comp=Z,8.3nm,1.2s						
JAVC	**Velka Javorina**	**86.61**	**320**	*e*P	**P**	**11 21 12.4**	**+2.0**
KRLC	**Kraliky**	**86.75**	**321**	*e*P	**P**	**11 21 11.7**	**+0.6**
KRLC				AMS	AMS	12 02 00.0	
	comp=Z,200nm,19.1s						
OSTC	**Ostas**	**86.94**	**322**	AMS	AMS	12 02 10.0	
	comp=Z,200nm,16.5s						
DPC	**Dobruska-Polom**	**86.94**	**321**	*e*P	**P**	**11 21 13.2**	**+1.2**
DPC				*ex*	x	11 21 25.1	
DPC				AMS	AMS	12 01 50.0	
	comp=Z,200nm,18.2s						
KONO	**Kongsberg**	**87.01**	**331**	*e*P	**P**	**11 21 11.7**	**-0.3**
CHVC	**Chvalec**	**87.02**	**322**	*e*P	**P**	**11 21 14.6**	**+2.3**
AKN	**Aaknes**	**87.05**	**334**	*e*P	**P**	**11 21 12.4**	**+0.2**
UPC	**Upice**	**87.07**	**322**	AMS	AMS	12 02 30.0	
	comp=Z,300nm,16.3s						
VRAC	**Vranov**	**87.13**	**320**	*e*P	**P**	**11 21 13.5**	**+0.7**
WRAK	**Wrangell Islan**	**87.22**	**32**	P		11 21 14.7	
	baz=293						
KRUC	**Moravsky**	**87.33**	**320**	*e*P	**P**	**11 21 14.6**	**+0.8**
NEEM	**North Greenlan**	**87.60**	**358**	⇑*i* P	**P**	**11 21 15.5**	**+0.6**
NEEM				IAmb	IAmb	11 21 16.0	
	comp=Z,13nm,0.8s						
PVCC	**Panska Ves**	**87.93**	**322**	AMS	AMS	12 02 40.0	
	comp=Z,300nm,18.9s						
PRU	**Pruhonice**	**88.14**	**321**	AMS	AMS	12 02 50.0	
	comp=Z,300nm,21.3s						
BRG	**Berggiesshubel**	**88.17**	**322**	*e*P	**P**	**11 21 18.7**	**+0.9**
BRG				Amp		11 21 23.8	
	comp=Z,6.5nm,1.2s						
BRG				Amp		12 02 59.0	
	comp=Z,0.3nm,19.5s						
BRG				Amp		12 03 04.0	
	comp=E,0.2nm,18.5s						
BRG	**Berggiesshubel**	**88.17**	**322**	*e*P	**P**	**11 21 18.6**	**+0.8**
	comp=E,4.1nm,0.9s,baz=66,slow=4.6						
FBE	**Freiberg**	**88.50**	**323**	*e*P	**P**	**11 21 20.4**	**+1.0**
	comp=E,7.4nm,0.8s,baz=66,slow=4.6						
BLS5	**Blasjo**	**88.55**	**332**	*e*P	**P**	**11 21 19.1**	**-0.3**
CLL	**Collm**	**88.56**	**323**	*e*P	**P**	**11 21 19.9**	**+0.4**
	comp=E,5.3nm,0.9s,baz=66,slow=4.6						
CLL	**Collm**	**88.56**	**323**	*e*P	**P**	**11 21 20.0**	**+0.4**
CLL	**Collm**	**88.56**	**323**	Lm	MLR	12 03 00.0	
	comp=Z,200nm,18.3s						
CKRC	**Cesky Krumlov**	**88.70**	**320**	AMS	AMS	12 06 40.0	
	comp=Z,200nm,14.3s						
KHC	**Kasperske Hory**	**89.04**	**321**	*e*P	**P**	**11 21 22.4**	**+0.4**
KHC				*ex*	x	11 21 34.8	
KHC				AMS	AMS	12 03 30.0	
	comp=Z,300nm,15.5s						
GEC2	**GERESS Array S**	**89.07**	**321**	P	**P**	**11 21 22.0**	**-0.2**
GEC2				IAmb	IAmb	11 21 39.4	
	comp=Z,3.2nm,0.9s						
GEC2	**GERESS Array S**	**89.07**	**321**	*e*P	**P**	**11 21 22.8**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=66,slow=4.6						
GERES	**GERESS Array B**	**89.07**	**321**	P	**P**	**11 21 22.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=70,slow=5.8,SNR=11						
GERES				LR	LR	12 03 33.2	
	comp=Z,120nm,18.9s,baz=92,slow=37						
MOA	**Molln**	**89.08**	**320**	*e*P	**P**	**11 21 22.9**	**+0.7**
	comp=Z,3.6nm,0.7s						
NKC	**Novy Kostel**	**89.30**	**322**	AMS	AMS	12 03 20.0	
	comp=Z,400nm,16.7s						
WERD	**Werda**	**89.30**	**322**	*e*P	**P**	**11 21 23.8**	**+0.7**
	comp=Z,9.3nm,1.1s,baz=66,slow=4.6						
GUNZ	**Gunzen**	**89.32**	**322**	*e*P	**P**	**11 21 24.0**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=66,slow=4.6						
ROTZ	**Rotenmuhle**	**89.62**	**322**	*e*P	**P**	**11 21 25.6**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=66,slow=4.6						
CLZ	**Clausthal**	**89.86**	**324**	*e*P	**P**	**11 21 26.6**	**+0.9**
	comp=Z,12nm,1.2s,baz=66,slow=4.6						
KBA	**Koelnbreinsper**	**89.95**	**319**	*e*P	**P**	**11 21 26.2**	**-0.2**
	comp=Z,1.4nm,0.5s						
GRF	**Grafenberg Arr**	**90.24**	**322**	*e*P	**P**	**11 21 28.4**	**+0.8**
	comp=Z,6.6nm,0.9s,baz=66,slow=4.6						
WTTA	**Wattenberg**	**90.95**	**320**	*i* P	**P**	**11 21 31.2**	**+0.1**
	comp=Z,9.1nm,0.7s						
WATA	**Waderalm**	**90.96**	**320**	*e*P	**P**	**11 21 31.1**	**-0.1**
	comp=Z,3.1nm,0.5s						
MOTA	**Moosalm**	**91.25**	**320**	*i* P	**P**	**11 21 32.2**	**-0.2**
	comp=Z,6.1nm,0.8s						
FETA	**Feichten**	**91.62**	**320**	*i* P	**P**	**11 21 34.3**	**+0.1**
	comp=Z,7.9nm,1.0s						
TNS	**Taunus Mts**	**91.65**	**323**	*e*P	**P**	**11 21 34.4**	**+0.3**
	comp=Z,29nm,1.8s,baz=66,slow=4.6						
YKA	**Yellowknife Ar**	**91.94**	**42**	P	**P**	**11 21 35.8**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=307,slow=4.0,SNR=16						
MAW	**Mawson**	**92.00**	**199**	P	**P**	**11 21 34.8**	**-0.2**
WLF	**Walferdange**	**93.22**	**323**	*e*P	**P**	**11 21 41.5**	**+0.2**
	comp=Z,13nm,1.1s,baz=66,slow=4.6						
PPT	**Papeete**	**95.03**	**107**	LR	LR	11 55 38.6	
	comp=Z,67nm,21.2s,baz=330,slow=30						
PPT2	**Papeete2**	**95.04**	**107**	*e*LR	LR	11 52 51.0	
	comp=Z,143nm,23.0s						
VNDA	**Vanda**	**95.44**	**172**	P	**P**	**11 21 51.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=307,slow=5.0,SNR=5.6						
VNDA				LR	LR	12 08 12.4	
	comp=Z,41nm,18.1s,baz=351,slow=38						
VNDA	**Vanda**	**95.44**	**172**	P	**P**	**11 21 49.7**	**-1.0**
VNDA				IAmb	IAmb	11 22 08.2	
	comp=Z,3.3nm,1.4s						
TBI	**Tubuai**	**96.51**	**112**	*e*LR	LR	11 53 26.0	
	comp=Z,140nm,24.0s						
TXAR	**Lajitas Array**	**119.19**	**43**	PKP	**PKiKP**	**11 27 17.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=275,slow=1.0,SNR=13						
TXAR	**Lajitas Array**	**119.19**	**43**	P	**PKPdf**	**11 27 16.1**	**-0.3**
PLCA	**Paso Flores**	**152.81**	**163**	PKP	**PKPdf**	**11 28 18.8**	**+2.0**
	comp=Z,1.9nm,0.8s,baz=96,slow=2.5,SNR=3.9						
PLCA				PKPbc	**PKiKP**	**11 28 25.9**	**+1.8**
	comp=Z,11nm,0.8s,baz=198,slow=3.0,SNR=19						
PLCA	**Paso Flores**	**152.81**	**163**		**PKPdf**	**11 28 14.3**	**-2.4**
PLCA				PKPbc	**PKPbc**	**11 28 19.0**	**-4.9**
CPUP	**Villa Florida**	**168.38**	**193**	PKPab	**PKPab**	**11 29 42.5**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=130,slow=3.1,SNR=8.1						
CPUP	**Villa Florida**	**168.38**	**193**	PKPdf	**PKPdf**	**11 28 31.0**	**-2.9**
CPUP					**PKPab**	**11 29 40.7**	**-2.0**
LPAZ	**La Paz**	**172.29**	**101**	PKP	**PKPdf**	**11 28 39.4**	**+2.3**
	comp=Z,2.2nm,0.8s,baz=189,slow=3.6,SNR=6.8						
LPAZ	**La Paz**	**172.29**	**101**		**PKPdf**	**11 28 34.6**	**-2.5**
LPAZ				PKPab	**PKPab**	**11 29 58.2**	**-3.3**

ROM 06 11:18:34.4±0.1, 42.810N±0.004×12.959E±0.007, h10km, Md1.4/1, ML1.0/5, 3C-2D, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.12**	**78**	⇑P	Pg	11 18 37.5	+0.2
NRCA				S	Sg	11 18 40.2	+0.8
NRCA				AML	AML		
	comp=N,150μm,0.2s						
NRCA				AML	AML		
	comp=E,211μm,0.2s						
NRCA				END			
CESI	**CESI - Serrava**	**0.20**	**348**	⇑P	Pg	11 18 39.3	+0.7
CESI				S	Sg	11 18 42.6	+1.1
CESI				AML	AML		
	comp=N,20μm,0.1s						
CESI				AML	AML		
	comp=E,11μm,0.4s						
LNSS	**Leonessa**	**0.22**	**164**	P	Pg	11 18 39.6	+0.7
LNSS				S	Sg	11 18 43.4	+1.4
LNSS				AML	AML		
	comp=E,71μm,0.2s						
LNSS				AML	AML		
	comp=N,87μm,1.2s						
FDMO	**Fiordimonte**	**0.24**	**23**	⇑P	Pg	11 18 40.0	+0.6
FDMO				S	Sg	11 18 44.0	+1.2
FDMO				AML	AML		
	comp=E,90μm,0.4s						
FDMO				AML	AML		
	comp=N,55μm,0.4s						
MOMA	**Monte Martano**	**0.29**	**269**	P	Pb	11 18 41.2	-0.4
ASSB	**Assisi San Ben**	**0.32**	**317**	⇓P	Pg	11 18 41.4	+0.6
ASSB				S	Sb	11 18 46.4	-1.1
ASSB				AML	AML		
	comp=N,26μm,0.4s						
ASSB				AML	AML		
	comp=E,24μm,0.3s						
SNTG	**Esanatoglia**	**0.45**	**358**	⇓P	Pg	11 18 43.5	+0.4
SNTG				S	Sb	11 18 50.6	-0.4

VAO 06 11:37:01.9±0.6, 31.78S×50.40W, h0km, mbR3.7, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLTB	**Pedras Altas**	**2.73**	**270**	*e*P	Pn	11 37 47.2	+0.2
CPSB	**Cacapava Do Su**	**2.95**	**297**	*e*P	Pn	11 37 49.0	-1.0
ITAB	**Concordia**	**4.78**	**341**	*e*P	Pn	11 38 15.4	+0.2
ITQB	**Itaqui**	**5.76**	**290**	*e*P	Pn	11 38 28.4	-0.2
TIJ01	**Guaruva-PR**	**6.55**	**11**	*e*P	Pn	11 38 39.2	-0.4
TIJ01				*e*S	Sn	11 39 54.9	-0.3
PTGB	**Pitanga**	**7.19**	**348**	*e*P	Pn	11 38 48.7	+0.2
PET01	**Itanhaem-SP**	**7.96**	**21**	*e*P	Pn	11 38 58.7	-0.1
FRTB	**Fartura**	**8.44**	**5**	*e*P	Pn	11 39 05.3	-0.2
FRTB				*e*S	Sn	11 40 42.4	+0.8
SPB	**Sao Paulo**	**8.57**	**19**	*e*S	Sn	11 40 45.6	+0.9
TRCB	**Terra Rica**	**9.17**	**347**	*e*P	Pn	11 39 15.4	-0.1
VAO	**Valinhos**	**9.26**	**20**	*e*P	Pn	11 39 16.7	-0.1
VAO				*e*S	Sn	11 41 01.8	0.0
PARB	**Paraibuna**	**9.42**	**28**	*e*P	Pn	11 39 18.6	-0.3
PARB				*e*S	Sn	11 41 06.5	+0.8
RCLB	**Rio Claro- Sao**	**9.67**	**16**	*e*P	Pn	11 39 22.4	0.0
RCLB				*e*S	Sn	11 41 12.6	+0.8
PCMB	**Pacaembu**	**10.16**	**355**	*e*P	Pn	11 39 29.0	-0.2
ESAR	**Angra dos Reis**	**10.21**	**33**	*e*P	Pn	11 39 29.6	0.0
MAN01	**Angra dos Reis**	**10.56**	**34**	*e*P	Pn	11 39 34.4	-0.3
BB19B	**Bebedouro**	**10.80**	**9**	*e*P	Pn	11 39 37.9	-0.1
RIB01	**Linhares ES**	**15.34**	**38**	*e*P	Pn	11 40 39.6	-0.1
ARAG	**Araguaiana, MT**	**16.06**	**355**	*e*P	Pn	11 40 49.2	+0.1
CMC01	**Camacan, BA**	**19.13**	**34**	*e*P	P	11 41 26.3	-0.3

*INET **06** 11:50:29.2, 13.73N×90.90W, h2km, MW3.4*
*UCR **06** 11:50:38.4±1.2, 13.73N×90.95W, h24km±4km, ML4.1, MW3.3*
*SNET **06** 11:50:38.1±1.1, 13.71N×90.96W, h25km±4km, ML4.2*
*IDC **06** 11:50:40.0±2.2, 13.72N×91.09W, h66km±19km, mb3.5/5, mb1 3.9/8, mb1mx3.5/40, mbtmp3.8/8, MS3.3/6, Ms1 3.3/6, ms1mx3.0/24, Error ellipse: s-maj=20.3km s-min=13.6km az=24.0*
*NEIC **06** 11:50:40.6±1.8, 13.81N±0.09×90.92W±0.08, h64km±10km, mb4.1/39, Md4.2(SNET), Error ellipse: s-maj=15.5km s-min=8.3km az=212.0*
*GCG **06** 11:50:48.3±0.3, 14.40N×90.71W, h27km±6km, MD4.1*

ISC 06 11:50:39.8±1.0, 13.78N±0.06×90.95W±0.05, h62km±10km, n134, σ0.95/151, mb4.1/23, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.68**	**9**	*e*P	**Pn**	**11 50 54.1**	**0.0**
PCG	**Pacaya**	**0.70**	**29**	*e*P	**Pn**	**11 50 54.2**	**-0.3**
NBG	**Las Nubes**	**1.00**	**36**	*e*P	**Pn**	**11 50 59.4**	**+1.2**
RTAL	**Retalhuleu**	**1.04**	**316**	*e*P	**Pn**	**11 50 56.8**	**-1.6**
RTAL				*e*S	**Sn**	**11 51 11.4**	**-0.8**
RTAL	**Retalhuleu**	**1.04**	**316**	Pn	**Pn**	**11 50 56.7**	**-1.8**
RTR	**El Retiro**	**1.27**	**84**	*e*P	**Pn**	**11 51 01.5**	**-0.2**
RTR	**El Retiro**	**1.27**	**84**	*e*P	**Pn**	**11 51 01.5**	**-0.2**
SBLS	**San Blas**	**1.29**	**87**	*e*P	**Pn**	**11 51 01.2**	**-0.7**
SBLS	**San Blas**	**1.29**	**87**	*e*P	**Pn**	**11 51 01.2**	**-0.7**
APG	**El Apazote**	**1.31**	**21**	P	**Pn**	**11 51 02.8**	**+0.6**
	409nm,0.3s,baz=181,slow=6.4,SNR=1316						
APG				S	**Sn**	**11 51 22.1**	**+3.1**
	140nm,0.3s,baz=272,slow=22,SNR=16						
SNJE	**San Jose**	**1.31**	**86**	*e*P	**Pn**	**11 51 01.7**	**-0.5**
SNJE	**San Jose**	**1.31**	**86**	*e*P	**Pn**	**11 51 01.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.47**	**95**	*e*P	**Pn**	**11 51 03.2**	**-1.1**
JAYA				*e*S	**Sn**	**11 51 21.9**	**-0.6**
JAYA	**Jayaque - finc**	**1.47**	**95**	*e*P	**Pn**	**11 51 03.2**	**-1.1**
JAYA				*e*S	**Sn**	**11 51 21.9**	**-0.6**
CEDA	**San Andres**	**1.51**	**89**	*e*P	**Pn**	**11 51 04.2**	**-0.5**
CEDA				*e*S	**Sn**	**11 51 24.0**	**+0.4**
CEDA				IAML		11 51 32.0	
	comp=Z,8μm,0.4s						
CEDA	**San Andres**	**1.51**	**89**	*e*P	**

JTS				S		Sn	11 53 32.6	-0.8	
	comp=Z,1.8nm,0.3s,baz=132,slow=16,SNR=1.5								
JTS	**Las Juntas de**	**6.81**	**120**	*eP*		**Pn**	**11 52 17.8**	**+0.6**	
JTS	**Las Juntas de**	**6.81**	**120**	Pn		**Pn**	**11 52 17.6**	**+0.4**	
CAO2	**Cobano, Puntar**	**7.02**	**125**	Pn		**Pn**	**11 52 20.0**	**0.0**	
LAFE	**Finca La Fe, P**	**7.11**	**123**	*eP*		**Pn**	**11 52 20.8**	**-0.5**	
JACO	**JACO, Garabito**	**7.39**	**123**	*eP*		**Pn**	**11 52 25.6**	**+0.5**	
JACO	**JACO, Garabito**	**7.39**	**123**	Pn		**Pn**	**11 52 25.3**	**+0.2**	
LCR2	**La Lucha 2**	**7.90**	**120**	*eP*		**Pn**	**11 52 34.0**	**+1.8**	
RIMA	**Rio Macho**	**8.00**	**119**	*eP*		**Pn**	**11 52 34.8**	**+1.1**	
RIMA	**Rio Macho**	**8.00**	**119**	Pn		**Pn**	**11 52 34.4**	**+0.8**	
TLIG	**Tlapa**	**8.24**	**299**	Pn		**Pn**	**11 52 36.3**	**+0.1**	
MRVA	**Moravia de Chi**	**8.33**	**117**	*eP*		**Pn**	**11 52 41.0**	**+2.9**	
PEZE	**Perez Zeledon,**	**8.36**	**121**			**Pn**	**11 52 39.0**	**+0.6**	
SRBA	**San Rafael, Bu**	**8.70**	**120**	Pn		**Pn**	**11 52 42.9**	**-0.3**	
DRK0	**Durika**	**8.78**	**120**	Pn		**Pn**	**11 52 44.4**	**+0.1**	
PIRO	**Carate, Puerto**	**9.18**	**125**	*eP*		**Pn**	**11 52 52.2**	**+2.6**	
SOR	**Soroa**	**11.71**	**39**			**Pn**	**11 53 22.2**	**-2.0**	
553A	**Crawfordville**	**17.41**	**19**			**Pn**	**11 54 39.2**	**+0.7**	
HPIG		**18.99**	**316**	P		**P**	**11 54 55.9**	**-0.8**	
TXAR	**Lajitas Array**	**19.45**	**325**	P		**P**	**11 55 02.2**	**+0.6**	
	comp=Z,0.4nm,0.3s,baz=148,slow=13,SNR=28								
TXAR	**Lajitas Array**	**19.45**	**325**	P		**P**	**11 55 01.9**	**+0.3**	
TX31	**Lajitas Ar. Si**	**19.46**	**325**	P		**P**	**11 55 02.8**	**+1.2**	
TX31				IAmb		IAmb	11 55 07.4		
	comp=Z,11nm,1.0s								
TX32	**Lajitas Array**	**19.46**	**325**	P		**P**	**11 55 02.4**	**+0.8**	
SDV	**Santo Domingo**	**20.50**	**102**	LR		LR	12 04 49.7		
	comp=Z,81nm,18.7s,baz=182,slow=41								
FPAL	**Fort Paine**	**21.23**	**12**	P		**P**	**11 55 21.4**	**+0.7**	
MNTX	**Cornudas Mount**	**22.21**	**326**	P		**P**	**11 55 30.8**	**-0.4**	
CPCT	**Cooper Cave**	**22.34**	**14**	P		**P**	**11 55 31.3**	**-1.3**	
TKL	**Tuckaleechee C**	**22.73**	**15**	P		**P**	**11 55 36.2**	**-0.5**	
	comp=Z,1.7nm,0.5s,baz=191,slow=15,SNR=4.9								
TKL	**Tuckaleechee C**	**22.73**	**15**	P		**P**	**11 55 35.5**	**-1.2**	
TKL				IAmb		IAmb	11 55 54.1		
	comp=Z,15nm,1.4s								
V53A	**Saluda**	**23.00**	**17**	P		**P**	**11 55 39.3**	**-0.2**	
V53A				IAmb		IAmb	11 56 08.1		
	comp=Z,6.8nm,1.0s								
S39A	**Bolivar**	**23.91**	**355**	P		**P**	**11 55 46.2**	**-1.8**	
S39A				IAmb		IAmb	11 55 46.8		
	comp=Z,5.6nm,0.7s								
121A	**Cookes Peak, D**	**24.19**	**323**	P		**P**	**11 55 50.8**	**0.0**	
SJG	**San Juan**	**24.22**	**76**	LR		LR	12 05 19.8		
	comp=Z,31nm,18.6s,baz=306,slow=36								
ATAH	**Atahualpa**	**24.23**	**148**	LR		LR	12 03 47.2		
	comp=Z,42nm,18.6s,baz=107,slow=32								
BNM	**Barren Site**	**24.77**	**328**	P		**P**	**11 55 56.8**	**+0.7**	
LENM	**Lemitar**	**24.96**	**327**	P		**P**	**11 55 58.4**	**+0.6**	
CUPR	**Culebra, Puert**	**25.07**	**76**	P		**P**	**11 55 58.3**	**-0.3**	
ANMO	**Albuquerque**	**25.31**	**329**	P		**P**	**11 56 00.6**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=142,slow=14,SNR=5.0								
ANMO				LR		LR	12 06 51.4		
	comp=Z,80nm,20.4s,baz=293,slow=38								
ANMO	**Albuquerque**	**25.31**	**329**	P		**P**	**11 55 59.9**	**-1.0**	
PCRV	**Puerto La Cruz**	**25.98**	**95**	LR		LR	12 07 05.1		
	comp=Z,540nm,21.9s,slow=38								
X16A	**Lo Mia Camp, P**	**27.68**	**321**	P		**P**	**11 56 23.1**	**+0.8**	
WUAZ	**Wupatki**	**28.40**	**323**	P		**P**	**11 56 29.4**	**+0.7**	
WUAZ				IAmb		IAmb	11 56 30.8		
	comp=Z,4.5nm,0.9s								
U15A	**North Rim**	**29.57**	**324**	P		**P**	**11 56 38.5**	**-0.7**	
KNB	**Kanab**	**30.28**	**324**	P		**P**	**11 56 46.0**	**+0.6**	
KNB				IAmb		IAmb	11 56 47.3		
	comp=Z,4.2nm,0.8s								
LCMT	**Little Creek M**	**30.52**	**323**	P		**P**	**11 56 48.0**	**+0.5**	
LCMT				IAmb		IAmb	11 56 50.1		
	comp=Z,2.7nm,0.8s								
MTPU	**Mount Pierson**	**30.65**	**326**	P		**P**	**11 56 49.6**	**+0.8**	
Q16A	**Castle Valley**	**30.76**	**328**	P		**P**	**11 56 50.5**	**+0.9**	
SZCU	**Shurtz Canyon**	**30.84**	**324**	P		**P**	**11 56 50.9**	**+0.6**	
SZCU				IAmb		IAmb	11 56 52.2		
	comp=Z,3.2nm,0.8s								
CCUT	**Cedar City**	**30.96**	**324**	P		**P**	**11 56 51.8**	**+0.4**	
CCUT				IAmb		IAmb	11 56 54.2		
	comp=Z,4.5nm,1.1s								
TCRU	**Three Creeks R**	**31.21**	**326**	P		**P**	**11 56 53.6**	**0.0**	
PSUT	**Pine Spring**	**31.93**	**325**	P		**P**	**11 57 00.6**	**+0.7**	
PSUT				IAmb		IAmb	11 57 01.6		
	comp=Z,3.1nm,0.8s								
SPR3	**Spring Creek 3**	**32.52**	**325**	P		**P**	**11 57 05.9**	**+0.7**	
SPR3				IAmb		IAmb	11 57 06.3		
	comp=Z,2.6nm,0.8s								
REDW	**Red Top Meadow**	**34.09**	**334**	P		**P**	**11 57 18.2**	**-0.4**	
REDW				IAmb		IAmb	11 57 20.0		
	comp=Z,3.5nm,1.1s								
ELK	**Elko**	**34.24**	**326**	P		**P**	**11 57 19.8**	**-0.3**	
ELK				IAmb		IAmb	11 57 21.5		
	comp=Z,2.0nm,0.8s								
NV11	**Mina Array Sit**	**34.40**	**321**	P		**P**	**11 57 20.8**	**-0.6**	
NV11				IAmb		IAmb	11 57 23.6		
	comp=Z,2.4nm,0.8s								
NVAR	**Mina Array Bea**	**34.49**	**320**	P		**P**	**11 57 22.6**	**+0.4**	
	comp=Z,3.7nm,0.9s,baz=134,slow=8.5,SNR=20								
NVAR	**Mina Array Bea**	**34.49**	**320**	P		**P**	**11 57 23.1**	**+0.8**	
KVN	**Kaiserville**	**34.75**	**321**	P		**P**	**11 57 25.1**	**+0.6**	
KVN				IAmb		IAmb	11 57 25.8		
	comp=Z,4.0nm,1.2s								
YERR	**Yerington**	**35.41**	**320**	P		**P**	**11 57 30.3**	**+0.2**	
YERR				IAmb		IAmb	11 57 31.6		
	comp=Z,3.4nm,1.2s								
BEKR	**Beckworth**	**36.63**	**321**	P		**P**	**11 57 41.2**	**+0.7**	
BEKR				IAmb		IAmb	11 57 41.9		
	comp=Z,5.5nm,1.4s								
WVOR	**Wild Horse Val**	**37.25**	**325**	P		**P**	**11 57 45.5**	**-0.2**	
WVOR				IAmb		IAmb	11 57 46.7		
	comp=Z,4.5nm,1.1s								
J08A	**Circle Bar Ran**	**37.78**	**327**	P		**P**	**11 57 49.9**	**-0.2**	
F10A	**Beach Ranch, E**	**39.00**	**331**	P		**P**	**11 57 59.7**	**-0.6**	
F10A				IAmb		IAmb	11 58 00.2		
	comp=Z,2.6nm,0.7s								
H04A	**Detroit Lake**	**40.67**	**325**	P		**P**	**11 58 13.7**	**-0.4**	
SIV	**San Ignacio**	**41.80**	**134**	P		**P**	**11 58 24.6**	**+0.9**	
	comp=Z,0.4nm,0.4s,baz=321,slow=3.1,SNR=4.5								
BCAR	**Beaver Creek A**	**60.65**	**336**	P		**P**	**12 00 44.2**	**-0.1**	
ILAR	**Eielson Array**	**63.45**	**337**	P		**P**	**12 01 01.4**	**-1.5**	
	comp=Z,0.2nm,0.8s,baz=164,slow=5.8,SNR=4.7								
ILAR	**Eielson Array**	**63.45**	**337**	P		**P**	**12 01 02.2**	**-0.7**	
OHAK	**Old Harbor**	**63.65**	**327**	P		**P**	**12 01 03.8**	**-0.5**	
BMAR	**Burnt Mountain**	**63.85**	**340**	P		**P**	**12 01 05.1**	**-0.5**	
MLY	**Manley**	**65.05**	**336**	P		**P**	**12 01 12.8**	**-0.7**	
MLY				IAmb		IAmb	12 01 13.4		
	comp=Z,2.4nm,1.3s								
IMAR	**Indian Mountai**	**66.57**	**337**	P		**P**	**12 01 22.7**	**-0.5**	
CMAR	**Chiang Mai Arr**	**146.52**	**343**	PKPbc		**PKPdf**	**12 10 14.2**	**+0.6**	
	comp=Z,1.4nm,0.4s,baz=343,slow=2.9,SNR=9.0								
CMAR	**Chiang Mai Arr**	**146.52**	**343**			**PKPdf**	**12 10 11.6**	**-2.1**	

*DJA **06** 12:24:26.0±9.3, 1°S±5°×12°0E±°, h10km±82km, M3.7/8, MLv3.7/8*

ISC 06 12:24:26.0±3.2, 0°5S±0°2×119°7E±0°2, h35km, n7, σ1§24/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.99**	**101**	P	**Pn**	**12 24 56.5**	**-0.6**
MRSI	**Marisa**	**2.45**	**66**	P	**Pn**	**12 25 04.2**	**+0.7**
TTSI	**Tana Toraja**	**2.51**	**177**	P	**Pn**	**12 25 03.9**	**-0.4**
LUWI	**Luwuk**	**3.11**	**100**	P	**Pn**	**12 25 13.1**	**+0.4**
SPSI	**Sidrap Palu**	**3.42**	**179**	P	**Pn**	**12 25 15.7**	**-1.2**
GTOI	**Gorontalo**	**3.50**	**71**	P	**Pn**	**12 25 17.4**	**-0.7**
BNSI	**Bone**	**3.87**	**174**	P	**Pn**	**12 25 24.9**	**+1.8**

*TUL **06** 13:01:05.4±1.9, 36°23N±0°02×96°72W±0°04, h5km±5km, ML2.9, mb_Lg2.9/75(NEIC), Error ellipse: s-maj=4.7km s-min=3.2km az=100.0*
*ANF **06** 13:01:05.8±0.2, 36°24N×96°74W, h5km, ML3.4/14, Error ellipse: s-maj=2.5km s-min=2.0km az=168.0*

NEIC 06 13:01:05.8±1.1, 36°24N±0°02×96°75W±0°04, h5km±2km, Error ellipse: s-maj=5.2km s-min=3.2km az=253.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.07**	**152**	Pg	Pg	13 01 07.1	-0.4
QUOK				Sg	Sg	13 01 08.4	-0.2
OK031	**S. Brethren Rd**	**0.29**	**194**		Pg	13 01 09.5	-2.0
OK031				Sg	Sg	13 01 15.8	+0.5
OK030	**Cody Creek RV**	**0.31**	**185**		Pg	13 01 11.8	0.0
BLOK	**Blackwell**	**0.64**	**325**		Pg	13 01 18.2	0.0
OK005	**Luther M Schoo**	**0.68**	**212**	Pg	Pg	13 01 19.0	+0.1
T35A	**Sooner Cattle**	**0.70**	**16**		Pg	13 01 19.0	-0.4
T35B	**Sooner Cattle**	**0.71**	**16**	P	Pg	13 01 19.0	-0.4
	baz=194,SNR=34						
T35B				S	Sg	13 01 28.3	-0.3
	baz=194						
T35B	**Sooner Cattle**	**0.71**	**16**	P		13 01 19.0	
	baz=194,SNR=34						
T35B				S		13 01 28.3	
	baz=194						
OK029	**Liberty Lake**	**0.72**	**233**		Pg	13 01 19.7	0.0
OK025	**Westminster Rd**	**0.81**	**216**		Pg	13 01 21.1	-0.2
TUL1	**Leonard**	**0.84**	**112**	P	Pg	13 01 21.1	-0.9
	baz=294						
TUL1				S	Sg	13 01 31.6	-1.3
	baz=294						
TUL1	**Leonard**	**0.84**	**112**	P		13 01 21.1	
	baz=294						
TUL1				S		13 01 31.6	
	baz=294						
BCOK	**Bluff Creek, N**	**0.91**	**231**		Pg	13 01 23.1	-0.1
KAN13	**South Haven SW**	**0.97**	**323**		Pg	13 01 24.2	-0.3
OKCFA	**Oklahoma City**	**1.00**	**215**		Pg	13 01 24.3	-0.6
OKCFA	**Oklahoma City**	**1.00**	**215**	P	Pg	13 01 24.4	-0.6
	baz=36						
OKCFA				S	Sg	13 01 38.4	+0.5
	baz=36						
OKCFA	**Oklahoma City**	**1.00**	**215**	P		13 01 24.4	
	baz=36						
OKCFA				S		13 01 38.4	
	baz=36						
CROK	**Carrier**	**1.03**	**285**		Pg	13 01 25.3	-0.3
GC02	**Grant County #**	**1.08**	**305**		Pg	13 01 26.3	-0.4
FNO	**Franklin**	**1.11**	**209**		Pg	13 01 26.0	-1.1
KAN09	**Caldwell North**	**1.14**	**322**		Pg	13 01 27.2	-0.5
KAN05	**Bluff City Nor**	**1.25**	**314**		Pg	13 01 29.3	-0.6
OK032	**Salt Plains WL**	**1.31**	**296**		Pn	13 01 30.0	-0.7
OK032				Sg	Sb	13 01 47.9	0.0
KAN08	**Anthony NE Sta**	**1.39**	**316**		Pn	13 01 31.6	-0.4
KAN10	**Anthony SW Sta**	**1.40**	**310**		Pn	13 01 31.8	-0.3
KAN16	**Harper SW Stat**	**1.45**	**313**		Pn	13 01 32.7	0.0
KAN12	**Harper NE Stat**	**1.46**	**317**		Pn	13 01 32.9	0.0
KAN12					Pb	13 01 33.1	-0.4
U32A	**Winter Ranch,**	**1.82**	**275**		Pb	13 01 38.8	-0.9
U32A	**Winter Ranch,**	**1.82**	**275**	P	Pb	13 01 38.9	-0.8
	baz=94,SNR=7.1						
U32A				Sb	Sg	13 02 04.1	-0.3
	baz=94						
U32A	**Winter Ranch,**	**1.82**	**275**	P		13 01 38.9	
	baz=94,SNR=7.1						
U32A				Sb		13 02 04.1	
	baz=94						
X34A	**Smith Ranch, M**	**1.85**	**209**		Pb	13 01 39.3	-0.9
U38A	**Gravette**	**1.92**	**83**		Pn	13 01 39.2	0.0
U38A				IAmb_Lg		13 02 08.2	
	comp=Z,78nm,0.9s						
U38A	**Gravette**	**1.92**	**83**	P	Pn	13 01 39.2	0.0
	baz=264,SNR=18						
U38A				S	Sb	13 02 05.2	-0.4
	baz=264						
U38A	**Gravette**	**1.92**	**83**	P		13 01 39.2	
	baz=264,SNR=18						
U38A				S		13 02 05.2	
	baz=264						
X37A	**Clayton**	**1.99**	**145**		Pn	13 01 40.8	+0.6
X37A				IAmb_Lg		13 02 09.9	
	comp=Z,72nm,1.0s						
X37A	**Clayton**	**1.99**	**145**	P	Pn	13 01 40.2	+0.1
	baz=327,SNR=16						
X37A				S	Sb	13 02 06.7	-1.0
	baz=327						
X37A	**Clayton**	**1.99**	**145**	P		13 01 40.2	
	baz=327,SNR=16						
X37A				S		13 02 06.7	
	baz=327						
WMOK	**Wichita Mounta**	**2.23**	**229**		Pn	13 01 44.7	+1.2
WMOK	**Wichita Mounta**	**2.23**	**229**	P	Pn	13 01 44.4	+0.9
	baz=48,SNR=78						
WMOK	**Wichita Mounta**	**2.23**	**229**	P		13 01 44.4	
	baz=48,SNR=78						
LOOK	**Love County**	**2.27**	**189**		Pn	13 01 44.7	+0.8
HHAR	**Hobbs**	**2.27**	**88**		Pn	13 01 44.7	+0.7
HHAR	**Hobbs**	**2.27**	**88**	P	Pn	13 01 44.4	+0.4
	baz=270						
HHAR	**Hobbs**	**2.27**	**88**	P		13 01 44.4	
	baz=270						
W39A	**Magazine**	**2.63**	**112**		Pn	13 01 49.4	+0.5
W39A	**Magazine**	**2.63**	**112**	P	Pn	13 01 49.4	+0.5
	baz=294						
W39A				S	Sn	13 02 21.9	+0.7
	baz=294						
W39A	**Magazine**	**2.63**	**112**	P		13 01 49.4	
	baz=294						
W39A				S		13 02 21.9	
	baz=294						
R32A	**Long Quarter,**	**2.68**	**325**		Pn	13 01 50.4	+0.6
KSU1	**Kansas State U**	**2.86**	**2**	IAmb_Lg		13 02 42.7	
	comp=Z,47nm,0.8s						
Z35A	**Perchaven, San**	**2.93**	**188**	Pn	Pn	13 01 53.7	+0.7
MIAR	**Mount Ida**	**3.09**	**122**	Pn	Pn	13 01 55.9	+0.6
MIAR				IAmb_Lg		13 02 45.4	
	comp=Z,26nm,1.0s						
MIAR	**Mount Ida**	**3.09**	**122**	P	Pn	13 01 55.9	+0.6
	baz=304,SNR=15						
MIAR				S	Sn	13 02 33.6	+0.9
	baz=304						
MIAR	**Mount Ida**	**3.09**	**122**	P		13 01 55.9	
	baz=304,SNR=15						
MIAR				S		13 02 33.6	
	baz=304						
S39A	**Bolivar**	**3.11**	**61**		Pn	13 01 55.8	+0.3
S39A	**Bolivar**	**3.11**	**61**	P	Pn	13 01 55.7	+0.2
	baz=243,SNR=22						
S39A	**Bolivar**	**3.11**	**61**	P		13 01 55.7	
	baz=243,SNR=22						
U40A	**Yellville**	**3.15**	**87**	Pn	Pn	13 01 55.9	-0.2
U40A	**Yellville**	**3.15**	**87**	P	Pn	13 01 56.1	0.0
	baz=269,SNR=20						
U40A				S	Sn	13 02 34.7	+0.6
	baz=269						
U40A				S	Sn	13 02 34.7	+0.6
	baz=269						
U40A	**Yellville**	**3.15**	**87**	P		13 01 56.1	
	baz=269,SNR=20						
U40A				P		13 01 56.1	
	baz=269,SNR=20						
U40A				S		13 02 34.7	
	baz=269						
U40A				S		13 02 34.7	
	baz=269						
Z38A	**Mt. Pleasant**	**3.31**	**153**	IAmb_Lg		13 02 56.4	
	comp=Z,28nm,1.0s						
CBKS	**Cedar Bluff**	**3.50**	**318**	Pn	Pn	13 02 01.2	+0.2
X40A	**Basin Creek Fa**	**3.65**	**117**		Pn	13 02 03.7	+0.8
X40A				IAmb_Lg		13 03 06.5	
	comp=Z,30nm,0.8s						
X40A	**Basin Creek Fa**	**3.65**	**117**	P	Pn	13 02 03.0	+0.1
	baz=300						
X40A	**Basin Creek Fa**	**3.65**	**117**	P		13 02 03.0	
	baz=300						
X40A				P		13 02 03.0	
	baz=300						
MGMO	**Mountain Grove**	**3.72**	**74**		Pn	13 02 04.1	+0.2
MGMO				IAmb_Lg		13 03 02.0	
	comp=Z,20nm,0.7s						
WHAR	**Wooly Hollow**	**3.75**	**103**		Pn	13 02 04.6	+0.3
WHAR				IAmb_Lg		13 03 03.9	
	comp=Z,29nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.76**	**94**	IAmb_Lg		13 03 14.4	
	comp=Z,19nm,0.9s						
W41B	**Gary Mavity, V**	**3.81**	**105**	P	Pn	13 02 05.2	0.0
	baz=288,SNR=8.7						
W41B				S	Sn	13 02 50.3	-0.1
	baz=288						
W41B	**Gary Mavity, V**	**3.81**	**105**	P		13 02 05.2	
	baz=288,SNR=8.7						
W41B				S		13 02 50.3	
	baz=288						
WLAR	**White Oak Lake**	**3.92**	**129**	IAmb_Lg		13 03 18.9	
	comp=Z,19nm,0.9s						
R40A	**Maddies Statio**	**4.12**	**59**		Pn	13 02 09.4	0.0
R40A	**Maddies Statio**	**4.12**	**59**	P	Pn	13 02 09.4	0.0
	baz=241,SNR=16						
R40A	**Maddies Statio**	**4.12**	**59**	P		13 02 09.4	
	baz=241,SNR=16						
P38A	**Dawn**	**4.23**	**36**	Pn	Pn	13 02 11.4	+0.4
P38A				IAmb_Lg		13 03 20.3	
	comp=Z,32nm,0.7s						
WHTX	**Lake Whitney,**	**4.27**	**188**	Pn	Pn	13 02 11.8	+0.2
LCAR	**Lake Charles**	**4.53**	**90**	IAmb_Lg		13 03 31.0	
	comp=Z,21nm,0.8s						
T42A	**Van Buren**	**4.62**	**78**		Pn	13 02 15.9	-0.4
T42A				IAmb_Lg		13 03 34.4	
	comp=Z,28nm,0.7s						
CCAR	**Cane Creek**	**4.69**	**118**	IAmb_Lg		13 03 40.9	
	comp=Z,22nm,0.7s						
N35A	**Tabor**	**4.70**	**10**	Pn	Pn	13 02 14.6	-2.8
CCM	**Cathedral Cave**	**4.76**	**66**		Pb	13 02 29.5	-0.2
P40A	**Paris**	**4.96**	**47**	IAmb_Lg		13 03 41.4	
	comp=Z,15nm,0.8s						
PBMO	**Poplar Bluff**	**5.12**	**82**	IAmb_Lg		13 03 50.4	
	comp=Z,22nm,0.9s						
BGNE	**Belgrade**	**5.28**	**348**	IAmb_Lg		13 03 55.6	
	comp=Z,26nm,0.8s						
N38A	**Joes South For**	**5.32**	**30**	IAmb_Lg		13 03 56.6	
	comp=Z,25nm,0.8s						
FVM	**French Village**	**5.35**	**69**	Pn	Pn	13 02 25.8	-0.5
FVM				IAmb_Lg		13 04 00.4	
	comp=Z,15nm,0.8s						
FVM	**French Village**	**5.35**	**69**	P	Pn	13 02 25.9	-0.4
	baz=253,SNR=6.1						
FVM	**French Village**	**5.35**	**69**	P		13 02 25.9	
	baz=253,SNR=6.1						
KSCO	**Kaye Shedlock'**	**5.42**	**302**	IAmb_Lg		13 04 05.0	
	comp=Z,12nm,0.7s						
SLM	**Saint Louis**	**5.71**	**63**	IAmb_Lg		13 04 04.6	
	comp=Z,18nm,0.7s						
L34A	**Svendsen Farm,**	**5.73**	**3**	IAmb_Lg		13 04 06.5	
	comp=Z,12nm,0.8s						
S44A	**Carbondale**	**6.17**	**74**	IAmb_Lg		13 04 22.7	
	comp=Z,17nm,0.7s						
SIUC	**Southern Illin**	**6.21**	**74**	IAmb_Lg		13 04 25.5	
	comp=Z,22nm,0.8s						
T25A	**Trinidad**	**6.22**	**281**	IAmb_Lg		13 04 26.4	
	comp=Z,16nm,0.7s						
OXF	**Oxford**	**6.24**	**104**	IAmb_Lg		13 04 24.2	
	comp=Z,24nm,1.0s						
OGNE	**Ogallala**	**6.26**	**320**	IAmb_Lg		13 04 33.4	
	comp=Z,18nm,0.8s						
Y45A	**Yeager Farm, C**	**6.37**	**110**	IAmb_Lg		13 04 29.8	
	comp=Z,24nm,0.9s						
L40A	**Anamosa**	**7.23**	**35**	IAmb_Lg		13 05 02.5	
	comp=Z,13nm,0.8s						
T47A	**Sharon Grove**	**7.79**	**82**	IAmb_Lg		13 05 19.0	
	comp=Z,18nm,1.0s						
L42A	**Oliver, Polo**	**7.96**	**42**	IAmb_Lg		13 05 19.5	
	comp=Z,17nm,0.9s						
JFWS	**Jewell Farm**	**8.35**	**35**	IAmb_Lg		13 05 35.3	
	comp=Z,9.7nm,0.8s						
CLTN	**Cedars of Leba**	**8.43**	**88**	IAmb_Lg		13 05 32.4	
	comp=Z,6.8nm,0.8s						
SFIN	**Lafayette**	**8.64**	**58**	IAmb_Lg		13 05 51.3	
	comp=Z,11nm,0.9s						
LRAL	**Lakeview Retre**	**8.65**	**109**	IAmb_Lg		13 05 55.0	
	comp=Z,8.2nm,1.2s						
W50A	**Signal Mountai**	**9.36**	**93**	IAmb_Lg		13 06 08.5	
	comp=Z,14nm,1.1s						
X51A	**Calhoun**	**9.85**	**96**	IAmb_Lg		13 06 37.8	
	comp=Z,8.4nm,0.9s						
K22A	**Casper**	**9.90**	**313**	IAmb_Lg		13 06 48.9	
	comp=Z,8.9nm,1.1s						

SOME 06 13:02:03.2, 43°22N×78°23E, h10km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.20**	**141**	*eP*	Pg	13 02 06.9	-0.6
	5.6nm,0.1s						
SATY				*eS*	Sg	13 02 09.8	-0.7
	69nm,0.1s						
KPKS	**Kokpek**	**0.41**	**53**	*eP*	Pg	13 02 11.0	-0.4
	3.7nm,0.1s						
KPKS				*eS*	Sg	13 02 16.7	-0.1
	9.4nm,0.2s						
UZB	**Uzynbulak**	**0.58**	**97**	*eP*	Pg	13 02 14.0	-0.5
	1.3nm,0.1s						
UZB				*eS*	Sg	13 02 21.8	-0.4
	2.6nm,0.1s						

KRNET 06 13:02:07.6±0.1, 42°11N×76°38E, mb1.4, 4C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.17**	**324**	*⇑iP*	Pg	13 02 11.4	+0.5
	baz=24						
ULHL				*⇑iS*	Sg	13 02 13.9	+0.7
	baz=24						
BOOM	**Boomskoye usch**	**0.50**	**320**	*⇓iP*	Pg	13 02 17.3	0.0
	baz=20						
BOOM				*⇓iS*	Sg	13 02 24.5	+0.7
	baz=20						
KDJ	**Kajisay**	**0.60**	**87**	*⇑iP*	Pg	13 02 19.2	+0.2
	baz=88						
KDJ				*⇑iS*	Sg	13 02 27.8	+1.0
	baz=88						

*KISR **06** 13:16:16.5±0.5, 32°53N×47°95E, h32km±999km, ML3.3*
*ISN **06** 13:16:17.5±1.1, 32°59N×47°72E, h16km±7km, ML2.8*
*THR **06** 13:16:20.8±0.6, 32°63N×47°97E, h14km±7km, ML3.0*

**ISC 06 13:16:16.9±3.8, 32°56N±0°05×47°81E±0°

PCIG eS Sn **13 23 22.7 +0.8**
TGIG 1.68 61 eP Pn **13 23 07.7 +0.1**
TGIG i S Sn **13 23 29.3 +1.0**
TUIG Tuzandepetl 2.06 6 eP Pn **13 23 13.3 +0.6**
TUIG i S Sn **13 23 38.2 +0.8**
OXBJ Oaxaca 2.26 299 i P Pn **13 23 16.6 +1.0**
OXBJ eS Sn **13 23 42.8 +0.3**
VHO Vista Hermosa 2.27 299 eP Pn **13 23 17.4 +1.7**
VHO i S Sn **13 23 41.9 -0.9**
PEIG Puerto Escondi 2.39 271 eP Pn 13 23 16.6 -0.7
PEIG eS Sn **13 23 43.9 -1.6**
CCIG Comitan 2.45 82 Pn **13 23 18.3 +0.2**
THIG 2.54 114 eP Pn **13 23 21.0 +1.7**
THIG i S Sn **13 23 49.5 +0.3**
YOIG Yosondua 2.90 288 eP Pn **13 23 24.9 +0.4**
YOIG eS Sn **13 23 54.8 -3.6**
HUEH Huehuetenango 3.11 102 Pn **13 23 29.1 +1.8**
TOIG Toxpalan 3.12 313 eP Pn **13 23 29.4 +2.2**
TOIG eS Sn **13 24 03.6 +0.2**
RTAL Retalhuleu 3.21 116 eP Pn **13 23 29.9 +1.6**
RTAL eS Sn **13 24 01.5 -3.9**
RTAL Retalhuleu 3.21 116 Pn **13 23 30.1 +1.7**
PNIG Pinotepa 3.35 278 eP Pn **13 23 29.9 -0.5**
PNIG eS Sn 13 24 02.8 -6.2
HLIG Huajuapan de L 3.53 302 eP Pn **13 23 35.1 +2.2**
HLIG eS Sn **13 24 11.7 -1.9**
TPIG Tehuac#an 3.54 314 eP Pn **13 23 35.7 +2.6**
TPIG eS Sn **13 24 11.7 -2.2**
FTIG Fresnillo de T 3.84 301 eP Pn **13 23 39.6 +2.5**
FTIG eS Sn **13 24 19.6 -1.4**
TLJG Tlapa 4.06 293 Pn **13 23 42.4 +2.3**
APG El Apazote 4.16 103 P Pn **13 23 42.1 +0.5**
25nm,0.3s,baz=305,slow=11,SNR=39
APG S Sn **13 24 29.3 +0.2**
92nm,0.3s,baz=113,slow=22,SNR=11
PETF Flores 4.70 78 Pn **13 23 49.2 +0.5**
RTR El Retiro 5.27 112 eP Pn **13 23 59.9 +3.1**
RTR El Retiro 5.27 112 eP Pn **13 23 59.9 +3.1**
SBLS San Blas 5.31 113 eP Pn **13 24 00.9 +3.6**
SBLS San Blas 5.31 113 eP Pn **13 24 00.9 +3.6**
MTO3 Montecristo 5.35 106 Pn **13 23 58.9 +1.0**
TACO Tacachico 5.50 111 eP Pn **13 24 01.9 +2.1**
TACO Tacachico 5.50 111 eP Pn **13 24 01.9 +2.1**
JAYA Jayaque - finc 5.54 114 eP Pn **13 24 01.7 +1.3**
JAYA eS Sn **13 25 00.7 -2.3**
JAYA IAML 13 25 06.9
comp=Z,523nm,0.3s
JAYA Jayaque - finc 5.54 114 eP Pn **13 24 01.7 +1.3**
JAYA eS Sn **13 25 00.7 -2.3**
JAYA IAML 13 25 06.9
comp=Z,523nm,0.3s
PMON Piamonte 5.64 113 eP Pn **13 24 04.4 +2.7**
PMON eS Sn **13 25 03.3 -1.9**
PMON Piamonte 5.64 113 eP Pn **13 24 04.4 +2.7**
PMON eS Sn **13 25 03.3 -1.9**
LFRS El Faro 5.90 113 eP Pn **13 24 08.6 +3.3**
LFRS El Faro 5.90 113 eP Pn **13 24 08.6 +3.3**
SJTE Alcalda de S 5.95 112 eP Pn **13 24 07.8 +1.8**
SJTE Alcalda de S 5.95 112 eP Pn **13 24 07.8 +1.8**
BOAB BOACO BROADBAN 6.40 111 Pn **13 24 55.2 +2.1**
ORTG Ortega, Santa 10.55 121 Pn **13 25 10.8 +1.8**
JTS Las Juntas de 11.01 120 P Pn **13 25 16.8 +1.6**
comp=Z,3.7nm,0.3s,baz=6.2,slow=9.2,SNR=5.7
RIMA Rio Macho 12.20 119 Pn **13 25 33.7 +2.2**
SRBA San Rafael, Bu 12.90 120 Pn **13 25 42.0 +1.0**
SOR Soroa 12.91 57 Pn Pn **13 25 38.5 -2.5**
DRK0 Durika 12.98 120 Pn **13 25 42.9 +0.8**
833A Chaparral WMA, 13.04 341 P 13 25 45.5
baz=160,SNR=9.0
FSCY Frank Sound, G 13.27 74 Pn Pn **13 25 45.1 -0.7**
LCCY Blossom Villag 14.36 73 Pn Pn **13 26 00.4 +0.1**
JCT Junction City 15.19 343 P **13 26 13.2 -1.4**
JCT IAmb IAmb 13 26 39.3
comp=Z,21nm,1.0s
JCT Junction City 15.19 343 P 13 26 12.8
baz=161,SNR=9.4
TX31 Lajitas Ar. Si 15.67 330 P **13 26 19.3 -0.7**
TX31 IAmb IAmb 13 26 23.5
comp=Z,30nm,1.0s
TX32 Lajitas Array 15.67 330 P **13 26 19.4 -0.6**
TXAR Lajitas Array 15.67 330 P P **13 26 19.2 -0.7**
comp=Z,0.2nm,0.3s,baz=153,slow=14,SNR=39
TXAR LR LR 13 32 43.6
comp=Z,38nm,19.8s,baz=0.0,slow=38
WHTX Lake Whitney, 16.15 351 Pn Pn **13 26 22.7 -0.4**
WHTX IAmb IAmb 13 26 50.4
comp=Z,23nm,0.8s
WHTX Lake Whitney, 16.15 351 P 13 26 24.0
baz=171
LPIG La Paz 16.77 301 LR LR 13 32 20.5
comp=Z,68nm,21.6s,baz=76,slow=34
553A Crawfordville 16.98 32 Pn Pn **13 26 31.8 -1.6**
553A IAmb IAmb 13 26 36.1
comp=Z,75nm,1.2s
ABTX Abilene, Hawle 17.18 346 Pn Pn **13 26 35.0 -1.0**
ABTX IAmb IAmb 13 26 39.4
comp=Z,20nm,0.7s
ABTX Abilene, Hawle 17.18 346 P 13 26 38.0
baz=164,SNR=9.3
Z41A Richland Creek 17.29 5 P 13 26 38.7
baz=186
LOOK Love County 18.08 353 P P **13 26 46.4 -0.2**
LOOK IAmb IAmb 13 27 03.6
comp=Z,69nm,1.3s
Z47A Carrollton 18.16 18 P P **13 26 46.4 -1.0**
Z47A IAmb IAmb 13 27 05.2
comp=Z,40nm,1.4s
LRAL Lakeview Retre 18.35 21 P Pn **13 26 48.8 -1.3**
LRAL Lakeview Retre 18.35 21 P 13 26 49.2
baz=204
MNTX Cornudas Mount 18.45 330 P P **13 26 51.7 +1.1**
MNTX Cornudas Mount 18.45 330 P 13 26 51.9
baz=146
MIAR Mount Ida 18.52 3 P P **13 26 50.5 -0.8**
MIAR Mount Ida 18.52 3 P 13 26 51.3
baz=184,SNR=13
X34A Smith Ranch, M 18.77 352 P Pn **13 26 55.3 +0.1**
X34A IAmb IAmb 13 27 06.0
comp=Z,59nm,1.0s
WMOK Wichita Mounta 19.05 350 P 13 26 57.2
baz=168,SNR=12
WMOK Wichita Mounta 19.05 350 P P **13 26 56.6 -0.5**
W39A Magazine 19.16 2 Pn **13 26 58.9 -0.9**
W39A IAmb IAmb 13 27 17.2
comp=Z,14nm,0.7s
W39A Magazine 19.16 2 P 13 26 58.6
baz=183,SNR=7.5
W41B Gary Mavity, V 19.24 6 P 13 26 58.8
baz=187
Y49A Blount Mountai 19.30 21 P P **13 26 57.1 -2.7**
MSTX Muleshoe 19.35 339 P 13 27 03.0
baz=156,SNR=13
WHAR Wooly Hollow 19.35 6 P P **13 26 58.4 -2.1**
OK025 Westminster Rd 19.67 354 P P **13 27 02.2 -1.7**
TUL1 Leonard 19.88 357 P 13 27 08.0
baz=177
OK030 Cody Creek RV 19.96 355 P P **13 27 04.1 -3.0**
OK030 IAmb IAmb 13 27 11.9
comp=Z,45nm,0.8s
FCAR Ozark Folk Cen 19.96 6 P P **13 27 05.0 -2.1**
OK031 S. Brethren Rd 19.99 355 P P **13 27 04.5 -2.9**
OK031 IAmb IAmb 13 27 12.2
comp=Z,41nm,0.7s
GOGA Godfrey 20.09 28 P 13 27 11.9
baz=213
FPAL Fort Paine 20.20 22 P P **13 27 07.2 -2.5**
QUOK Quay 20.20 355 P P **13 27 08.4 -1.2**
QUOK IAmb IAmb 13 27 13.6
comp=Z,50nm,0.9s
HHAR Hobbs 20.23 2 P P **13 27 08.2 -1.9**
121A Cookes Peak, D 20.33 327 P 13 27 14.3
baz=141,SNR=26
121A Cookes Peak, D 20.34 327 P P **13 27 12.4 +1.1**
121A IAmb IAmb 13 27 15.2
comp=Z,62nm,1.2s
U40A Yellville 20.36 4 P 13 27 11.2
baz=185,SNR=15
U40A Yellville 20.36 4 P P **13 27 11.2 -0.2**
U40A IAmb IAmb 13 27 12.3
comp=Z,19nm,0.7s
U38A Gravette 20.38 1 P P **13 27 11.1 -0.6**
BLOK Blackwell 20.83 354 P P **13 27 15.2 -1.3**
T35A Sooner Cattle 20.92 356 P P **13 27 16.4 -1.1**
T35A IAmb IAmb 13 27 21.0
comp=Z,18nm,0.6s
WVT Waverly 20.98 16 P 13 27 18.4
baz=199
PBMO Poplar Bluff 21.06 9 P P **13 27 17.1 -1.8**
BNM Barren Site 21.06 331 P P **13 27 20.0 +0.8**
KAN13 South Haven SW 21.10 354 P P **13 27 20.6 +1.3**
MGMO Mountain Grove 21.20 5 P P **13 27 21.4 +0.9**
KAN05 Bluff City Nor 21.24 353 P P **13 27 21.1 +0.3**
KAN08 Anthony NE Sta 21.37 353 P P **13 27 24.4 +2.2**
KAN12 Harper NE Stat 21.44 353 P P **13 27 25.1 +2.1**
ANMO Albuquerque 21.65 333 P P **13 27 27.8 +2.3**
comp=Z,6.7nm,0.8s,baz=144,slow=11,SNR=26
ANMO Albuquerque 21.65 333 P P **13 27 25.2 -0.2**
ANMO Albuquerque 21.65 333 P 13 27 27.4
baz=148
S39A Bolivar 21.66 3 P P **13 27 25.1 -0.3**
TUC Tucson 21.88 321 P 13 27 30.4
baz=135
TKL Tuckaleechee C 21.88 24 P P **13 27 29.4 +1.7**
comp=Z,4.6nm,0.9s,baz=206,slow=15,SNR=4.9
R40A Maddies Statio 22.33 5 P P **13 27 32.1 -0.4**
R40A IAmb IAmb 13 27 34.3
comp=Z,14nm,0.8s
T25A Trinidad 22.78 340 P 13 27 39.5
baz=155,SNR=23
T25A Trinidad 22.78 340 P P **13 27 36.8 -0.7**
ROSC El Rosal 22.84 117 LR LR 13 36 20.8
comp=Z,35nm,18.2s,baz=44,slow=36
214A Organ Pipe Nat 22.92 317 P 13 27 41.1
baz=130
KSU1 Kansas State U 23.10 356 P 13 27 40.1
baz=175
CBKS Cedar Bluff 23.18 350 P 13 27 42.3
baz=168
P40A Paris 23.58 5 P P **13 27 43.0 -2.0**
P40A IAmb IAmb 13 27 43.9
comp=Z,12nm,0.8s
SDCO Great Sand Dun 23.70 338 P 13 27 48.2
baz=154,SNR=31
X16A Lo Mia Camp, P 23.76 324 P P **13 27 48.7 +1.8**
X16A IAmb IAmb 13 27 51.3
comp=Z,8.1nm,0.8s
113A Mohawk Valley, 24.06 317 P P **13 27 49.7 +0.3**
113A IAmb IAmb 13 27 54.3
comp=Z,14nm,1.2s
S22A 4UR Ranch, Cre 24.20 336 P 13 27 52.8
baz=151,SNR=6.3
Y14A Wickenburg 24.35 321 P P **13 27 53.0 +0.9**
Y14A IAmb IAmb 13 27 56.6
comp=Z,18nm,1.0s
MVCO Mesa Verde 24.45 333 P 13 27 54.9
baz=147
WUAZ Wupatki 24.53 326 P 13 27 56.4
baz=139,SNR=25
WUAZ Wupatki 24.53 326 P P **13 27 55.6 +1.7**
N38A Joes South For 24.76 3 P P **13 27 54.9 -0.8**
GLA Glamis 24.94 317 P 13 27 59.9
baz=128
PV01 Paradox Valley 25.25 334 P P **13 28 00.8 +0.4**
PV01 IAmb IAmb 13 28 03.6
comp=Z,8.4nm,0.9s
PDMCI Parker Dam,Lak 25.30 320 P 13 28 03.0
baz=132
ISCO Idaho Springs 25.59 340 P 13 28 05.2
baz=155,SNR=9.1
OGNE Ogallala 25.69 347 P 13 28 06.0
baz=164
BC3 Big Chuckawall 25.72 317 P 13 28 07.1
baz=128
SCIA State Center 25.87 2 P P **13 28 05.4 -0.4**
SCIA State Center 25.87 2 P 13 28 04.9
baz=183,SNR=5.8
MONP2 Monument Peak 25.91 314 P 13 28 09.0
baz=126
KNB Kanab 26.43 326 P P **13 28 11.4 +0.3**
GMRC Granite Mounta 26.56 319 P 13 28 14.6
baz=130
MTPU Mount Pierson 26.86 328 P P **13 28 16.6 +1.5**
HEC Hector,Ludlow 27.02 318 P 13 28 18.8
baz=129
JFWS Jewell Farm 27.11 7 P P **13 28 16.2 -0.8**
JFWS Jewell Farm 27.11 7 P 13 28 16.4
baz=189,SNR=6.9
TUQ Turquoise Moun 27.14 320 P 13 28 19.6
baz=130
SHPR Sheep Range 27.39 322 P P **13 28 19.0 -0.7**
ECSD EROS Data Cent 27.72 357 P 13 28 21.3
baz=176,SNR=13
ECSD EROS Data Cent 27.72 357 P P **13 28 21.8 -0.6**
ECSD IAmb IAmb 13 28 22.9
comp=Z,9.0nm,0.8s
PSUT Pine Spring 28.10 327 P P **13 28 27.3 +1.3**
PSUT IAmb IAmb 13 28 29.4
comp=Z,8.9nm,1.3s
TPNV Topopah Spring 28.33 322 P 13 28 31.1
baz=132
SPR3 Spring Creek 3 28.69 327 P P **13 28 32.1 +0.6**
R11A Troy Canyon, C 28.91 324 P 13 28 35.7
baz=135
SPMN Marine on St. 29.20 3 P P **13 28 34.6 -0.9**
SPMN Marine on St. 29.20 3 P 13 28 34.3
baz=184,SNR=5.7
PDAR Pinedale Array 29.59 337 P P **13 28 39.8 +0.5**
comp=Z,1.7nm,0.9s,baz=140,slow=9.4,SNR=7.3
F36A Milaca 29.81 2 P P **13 28 39.3 -1.6**
F36A IAmb IAmb 13 28 39.8
comp=Z,5.1nm,0.6s
NV11 Mina Array Sit 30.44 322 P P **13 28 49.5 +2.7**
NV11 IAmb IAmb 13 28 50.7
comp=Z,12nm,1.1s
ELK Elko 30.45 328 P P **13 28 48.6 +1.7**
ELK IAmb IAmb 13 28 50.3
comp=Z,5.6nm,0.9s
NVAR Mina Array Bea 30.53 322 P P **13 28 50.0 +2.4**
comp=Z,8.0nm,0.9s,baz=139,slow=9.4,SNR=51
NVAR PcP PcP **13 31 45.6 +0.3**
comp=Z,0.8nm,0.8s,baz=159,slow=2.9,SNR=4.0
NVAR Mina Array Bea 30.53 322 P P **13 28 50.0 +2.4**
NVAR PcP **13 31 46.1 +0.9**
REDW Red Top Meadow 30.59 336 P P **13 28 48.8 +0.7**
REDW IAmb IAmb 13 28 50.6
comp=Z,12nm,1.1s
SNOW Snow King Moun 30.64 337 P P **13 28 50.1 +1.6**
SNOW IAmb IAmb 13 28 51.2
comp=Z,16nm,0.9s
E38A The Farm, Brul 30.65 4 P P **13 28 47.0 -1.3**
LOHW Long Hollow 30.71 337 P P **13 28 51.4 +2.3**
LOHW IAmb IAmb 13 28 51.6
comp=Z,6.2nm,0.8s
TPAW Teton Pass 30.74 336 P P **13 28 51.0 +1.6**
TPAW IAmb IAmb 13 28 52.2
comp=Z,6.4nm,0.9s
TPAW PcP PcP **13 31 46.3 +0.5**
KVN Kaiserville 30.82 323 P P **13 28 50.1 0.0**
KVN IAmb IAmb 13 28 53.6
comp=Z,5.8nm,1.0s
MOOW Moose Ponds 30.88 337 P P **13 28 51.0 +0.4**
RLMT Red Lodge 31.55 340 P 13 28 57.9
baz=153,SNR=5.2
EYMN Ely 31.99 4 P P **13 28 58.2 -1.8**
EYMN IAmb IAmb 13 28 58.9
comp=Z,9.4nm,0.6s
EYMN Ely 31.99 4 P 13 28 58.2
baz=186,SNR=5.7
PAHR Pah Rah Range 32.00 322 P P **13 29 03.0 +2.6**
PAHR IAmb IAmb 13 29 03.4
comp=Z,4.5nm,0.9s
HLID Hailey 32.23 333 P 13 29 04.1
baz=143,SNR=9.4
AGMN Agassiz Nation 32.25 358 P 13 29 01.5
baz=178,SNR=20
AGMN Agassiz Nation 32.25 358 P P **13 29 01.5 -0.8**
GCMT Greycliff 32.28 340 P P **13 29 03.0 +0.2**
B35A Bob, Littlefor 32.30 1 P P **13 29 01.1 -1.7**
B35A IAmb IAmb 13 29 02.1
comp=Z,8.8nm,0.6s
MCMT McKenzie Canyo 32.60 336 P P **13 29 07.8 +2.0**
MOD Modoc Plateau 33.97 325 P P **13 29 17.4 -0.2**
MOD IAmb IAmb 13 29 20.2
comp=Z,6.7nm,0.8s
J08A Circle Bar Ran 34.01 328 P P **13 29 18.3 +0.5**
ULM Lac du Bonnet 34.20 359 P P **13 29 17.5 -1.8**
comp=Z,3.4nm,0.5s,baz=169,slow=12,SNR=6.1
ULM LR LR 13 43 54.5
comp=Z,26nm,21.9s,baz=305,slow=37
ULM Lac du Bonnet 34.20 359 P P **13 29 17.4 -1.8**
ULM IAmb IAmb 13 29 18.5
comp=Z,10nm,1.2s
EGMT Eagleton 34.29 342 P P **13 29 19.8 -0.5**
EGMT IAmb IAmb 13 29 22.4
comp=Z,17nm,1.1s
EGMT Eagleton 34.29 342 P 13 29 21.4
baz=154,SNR=8.5
MSO Missoula 34.69 337 P 13 29 24.7
baz=146,SNR=7.3
I07A Izee 35.05 328 P P **13 29 28.0 +1.2**
F10A Beach Ranch, E 35.37 332 P P **13 29 30.1 +0.6**
H04D Lebanon 37.04 326 P 13 29 44.9
baz=132
NEW Newport 37.11 335 P P **13 29 43.3 -1.0**
NEW IAmb IAmb 13 29 46.4
comp=Z,5.1nm,0.7s
NEW Newport 37.11 335 P 13 29 45.1
baz=143,SNR=5.2
F05D White Salmon 37.30 329 P 13 29 48.1
baz=134
G03D McMinnville, O 37.77 326 P 13 29 51.7
baz=132
PTGA Pitinga 38.07 113 P P **13 29 51.8 -0.9**
comp=Z,1.7nm,0.8s,baz=327,slow=11,SNR=6.5
PTGA Pitinga 38.07 113 IAmb IAmb 13 29 53.2
comp=Z,3.9nm,0.9s
LON Longmire 38.08 329 P P **13 29 53.9 +1.3**
LON IAmb IAmb 13 29 55.0
comp=Z,8.3nm,0.8s
FFC Flin Flon 39.08 353 P P **13 30 00.3 -0.5**
D03D Eldon 39.26 329 P 13 30 03.0
baz=134
SCHQ Schefferville 44.34 23 LR LR 13 51 07.2
comp=Z,49nm,20.0s,baz=83,slow=39
YKA Yellowknife Ar 48.54 348 P P **13 31 16.4 0.0**
comp=Z,4.5nm,0.8s,baz=152,slow=7.9,SNR=17
WHY Whitehorse 53.15 337 P 13 31 52.4
baz=129
BDFB Brasilia 55.75 122 P P **13 32 10.3 -0.4**
comp=Z,3.4nm,0.6s,baz=285,slow=8.4,SNR=5.8
BDFB Brasilia 55.75 122 IAmb IAmb 13 32 11.8
comp=Z,4.5nm,0.7s
MCARA McCarthy VSAT 56.81 335 P 13 32 19.8
baz=121
BCAR Beaver Creek A 57.21 337 P P **13 32 21.4 +1.0**
L27K Beaver Creek, 57.22 337 P P **13 32 21.0 +0.5**
L27K IAmb IAmb 13 32 23.0
comp=Z,9.0nm,1.4s
L27K Beaver Creek, 57.22 337 P 13 32 21.8
baz=123
N25K Chitina, Valde 57.58 334 P 13 32 24.8
baz=119
INK Inuvik 57.84 344 P 13 32 25.1
baz=135,SNR=5.2
K27K Chicken 57.85 337 P 13 32 25.4
baz=123
KLU Klutina 58.08 334 P 13 32 27.8
baz=118
HARP HAARP 58.20 335 P 13 32 29.5
baz=119
SCRK Sand Creek 58.53 337 P 13 32 31.1
baz=121
WAT6 Susitna Watana 59.34 335 P 13 32 36.5
baz=117
PMR Palmer 59.50 333 P 13 32 37.3
baz=115
WAT2 Susitna Watana 59.86 335 P 13 32 40.0
baz=116,SNR=8.1
HDA Harding Lake 59.87 337 P 13 32 39.3
baz=118
HDA P 13 32 39.3
baz=118
ILAR Eielson Array 60.02 337 P P **13 32 40.2 +0.4**
comp=Z,2.5nm,0.8s,baz=136,slow=4.7,SNR=24
SUA Susitna One 60.16 333 P P **13 32 41.7 +0.7**
SUA PcP PcP **13 33 25.7 -0.3**
SUA Susitna One 60.16 333 P 13 32 42.3
baz=113
RND Reindeer 60.16 335 P P **13 32 41.9 +1.0**
MCK McKinley 60.34 335 P 13 32 43.0
baz=116
BMAR Burnt Mountain 60.57 340 P P **13 32 44.6 +1.0**
PLCA Paso Flores 60.70 159 P P **13 32 44.5 -0.3**
comp=Z,3.6nm,1.1s,baz=332,slow=9.3,SNR=3.1
PLCA Paso Flores 60.70 159 IAmb IAmb 13 33 13.6
comp=Z,9.1nm,1.2s
SKT Skwentna 60.70 333 P P **13 32 45.1 +0.5**
SKT IAmb IAmb 13 32 45.9
comp=Z,6.3nm,0.7s
SKT Skwentna 60.70 333 P 13 32 45.5
baz=113
TRF Thorofare Moun 60.77 335 P P **13 32 46.2 +1.0**
TRF Thorofare Moun 60.77 335 P 13 32 45.9
baz=115,SNR=6.3
H24K Noodor Dome 60.90 338 P 13 32 46.6
baz=118,SNR=9.6
BPAW Bear Paw Mtn. 61.32 335 P P **13 32 48.8 +0.1**
BPAW IAmb IAmb 13 32 50.1
comp=Z,7.7nm,1.1s
BPAW Bear Paw Mtn. 61.32 335 P 13 32 49.1
baz=114,SNR=6.1
MLY Manley 61.61 336 P P **13 32 51.2 +0.6**
MLY Manley 61.61 336 P 13 32 51.3
baz=115,SNR=13
COLD Coldfoot 62.37 339 P P **13 32 55.3 -0.4**
COLD IAmb IAmb 13 32 57.5
comp=Z,2.5nm,0.8s
COLD Coldfoot 62.37 339 P 13 32 57.0
baz=117,SNR=5.2
H21K Melozitna Rive 62.66 337 P 13 32 57.8
baz=113
TOLK Toolik Lake Re 62.80 340 P 13 32 59.6
baz=118
TTA Tatalina 62.99 333 P 13 33 00.0
baz=109
EUNU Eureka 64.22 2 P P **13 33 08.0 +0.2**
ESDC Sonseca Array 80.51 51 P P **13 34 45.0 -0.5**
comp=Z,4.6nm,0.9s,baz=292,slow=5.2,SNR=20
ESDC LR LR 14 06 06.5
comp=Z,19nm,21.1s,baz=175,slow=32
ESDC Sonseca Array 80.51 51 P P **13 34 44.4 -1.1**
ESDC IAmb IAmb 13 34 46.2
comp=Z,5.3nm,1.0s
NOA NORSAR Array B 83.64 28 P P **13 35 02.0 +0.6**
comp=Z,1.2nm,0.7s,baz=294,slow=5.2,SNR=4.6
NOA LR LR 14 11 24.2
comp=Z,12nm,21.4s,baz=90,slow=35
ARCES ARCESS Array B 85.06 18 P P **13 35 09.4 +1.0**
comp=Z,1.4nm,0.6s,baz=302,slow=5.0,SNR=8.6
ARCES LR LR 14 13 35.6
comp=Z,18nm,20.3s,baz=180,slow=36
GERES GERESS Array B 89.70 39 P P **13 35 31.9 +0.5**
comp=Z,0.2nm,0.3s,baz=289,slow=4.1,SNR=4.0
FINES FINESS Array B 89.79 24 LR LR 14 18 33.3
comp=Z,15nm,18.8s,baz=320,slow=37
CMAR Chiang Mai Arr 143.25 338 PKhKP PKPpre 13 42 04.0
comp=Z,0.4nm,0.4s,baz=344,slow=4.2,SNR=5.2

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*IDC **06** 13:43:18.0±3.4, 15°.31N×93°.05W, h70km±16km, mb3.5/5, mb1 3.8/8, mb1mx3.5/37, mbtmp3.8/8, MS3.0/2, Ms1 3.1/2, ms1mx2.5/24, Error ellipse: s-maj=69.2km s-min=7.9km az=26.0*

*MEX **06** 13:43:17.1±1.0, 14°.96N×93°.30W, h50km±19km, MD4.4*

*NEIC **06** 13:43:18.8±2.0, 15°.16N±0°.10×93°.0W±0°.2, h94km±13km, mb4.0/16, Md4.3(MEX), Error ellipse: s-maj=21.9km s-min=13.4km az=73.0*

ISC 06 13:43:15.0±1.3, 14°.98N±0°.08×93°.27W±0°.04, h63km±11km, n45, σ1°72/57, mb3.9/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.72**	**4**	*eP*	**Pn**	**13 43 29.7**	**0.0**
PCIG				*i* S	**Sn**	**13 43 40.1**	**-0.4**
CCIG	**Comitan**	**1.69**	**40**	Pn	**Pn**	**13 43 43.7**	**+1.2**
HUEH	**Huehuetenango**	**1.74**	**79**	Pn	**Pn**	**13 43 44.2**	**+1.0**
TGIG		**1.79**	**4**	*eP*	**Pn**	**13 43 43.9**	**+0.1**
TGIG				*i* S	**Sn**	**13 44 05.8**	**+0.2**
CMIG	**Matias Romero**	**2.61**	**324**	P	**Pn**	**13 43 56.0**	**+1.2**
	8.9nm,0.3s,baz=141,slow=12,SNR=50						
CMIG				S	**Sn**	**13 44 26.1**	**+0.7**
	78nm,0.3s,baz=128,slow=13,SNR=7.6						
CMIG	**Matias Romero**	**2.61**	**324**	*eP*	**Pn**	**13 43 55.9**	**+1.0**
CMIG				*eS*	**Sn**	**13 44 24.9**	**-0.6**
APG	**El Apazote**	**2.71**	**89**	P	**Pn**	**13 43 56.7**	**+0.3**

3.7nm,0.3s,baz=299,slow=9.1,SNR=14
APG S Sn 13 44 27.4 -0.7
5.6nm,0.3s,baz=117,slow=7.2,SNR=5.9
HUIG Huatulco 2.85 286 *eP* **Pn 13 43 58.5 +0.3**
HUIG *i* S **Sn 13 44 29.8 -1.5**
PETF Flores 3.79 59 Pn **Pn 13 44 11.6 +0.6**
MTO3 Montecristo 3.82 98 Pn **Pn 13 44 13.8 +2.2**
PEIG Puerto Escondi 3.88 286 *i* P **Pn 13 44 13.0 +0.8**
PEIG *i* S **Sn 13 44 55.3 -1.2**
VHO Vista Hermosa 3.93 302 *eP* **Pn 13 44 13.6 +0.5**
VHO *eS* **Sn 13 44 56.8 -1.3**
YOIG Yosondua 4.52 295 *eP* **Pn 13 44 23.6 +2.4**
YOIG *eS* **Sn 13 45 13.7 +1.1**
TOIG Toxpalan 4.78 311 *eP* **Pn 13 44 26.4 +1.7**
TOIG *eS* **Sn 13 45 18.4 -0.5**
PNIG Pinotepa 4.89 287 *eP* **Pn 13 44 26.6 +0.6**
PNIG *eS* **Sn 13 45 19.3 -2.0**
HLIG Huajuapan de L 5.19 304 *eP* **Pn 13 44 29.3 -1.2**
HLIG *eS* **Sn 13 45 27.9 -1.3**
TPIG Tehuac#an 5.20 312 *eP* **Pn 13 44 32.3 +1.8**
TPIG *eS* **Sn 13 45 26.8 -2.6**
FTIG Fresnillo de T 5.50 303 *eP* **Pn 13 44 38.4 +3.9**
FTIG *eS* **Sn 13 45 34.6 -2.0**
TXAR Lajitas Array 17.21 328 P **P 13 47 13.5 +1.4**
0.1nm,0.3s,baz=150,slow=13,SNR=17
TXAR Lajitas Array 17.21 328 P **P 13 47 13.2 +1.1**
TX31 Lajitas Ar. Si 17.21 328 P **P 13 47 15.1 +3.0**
TX31 IAmb IAmb 13 47 30.3
comp=Z,7.0nm,0.9s
TX32 Lajitas Array 17.21 328 P **P 13 47 15.4 +3.4**
MIAR Mount Ida 19.48 359 P **P 13 47 32.9 -3.9**
MIAR IAmb IAmb 13 47 41.7
comp=Z,8.1nm,0.9s
MNTX Cornudas Mount 19.99 328 P **P 13 47 42.0 -0.4**
PLAL Pickwick Lake 20.46 12 P **P 13 47 44.9 -2.5**
PLAL IAmb IAmb 13 47 52.4
comp=Z,4.6nm,0.8s
MSTX Muleshoe 20.77 337 P **P 13 47 51.4 +0.4**
MSTX IAmb IAmb 13 47 57.0
comp=Z,18nm,1.5s
121A Cookes Peak, D 21.91 325 P **P 13 48 03.5 +0.2**
121A IAmb IAmb 13 48 07.3
comp=Z,7.2nm,1.0s
TKL Tuckaleechee C 22.28 21 LR LR 13 56 18.8
comp=Z,43nm,21.8s,baz=180,slow=36
S39A Bolivar 22.62 360 P **P 13 48 06.0 -4.7**
S39A IAmb IAmb 13 48 09.7
comp=Z,2.9nm,0.8s
ANMO Albuquerque 23.15 332 P **P 13 48 17.3 +1.0**
comp=Z,1.5nm,0.6s,baz=143,slow=11,SNR=5.7
ANMO Albuquerque 23.15 332 P **P 13 48 15.9 -0.4**
T25A Trinidad 24.19 338 P **P 13 48 28.1 +2.2**
T25A IAmb IAmb 13 48 29.8
comp=Z,5.2nm,0.7s
SDCO Great Sand Dun 25.13 337 P **P 13 48 33.6 -1.0**
PV07 Paradox Valley 27.02 333 P **P 13 48 51.2 -0.3**
PV07 IAmb IAmb 13 48 54.7
comp=Z,4.5nm,0.9s
PDAR Pinedale Array 31.03 336 P **P 13 49 28.9 +1.8**
comp=Z,0.5nm,0.6s,baz=126,slow=6.9,SNR=3.7
REDW Red Top Meadow 32.04 335 P **P 13 49 37.0 +1.1**
SNOW Snow King Moun 32.09 336 P **P 13 49 35.9 -0.5**
NVAR Mina Array Bea 32.14 321 P **P 13 49 39.1 +2.2**
comp=Z,1.2nm,0.7s,baz=134,slow=8.9,SNR=12
LOHW Long Hollow 32.15 336 P **P 13 49 35.4 -1.5**
MCMT McKenzie Canyo 34.06 335 P **P 13 49 56.2 +2.6**
INK Inuvik 59.16 344 P **P 13 53 08.9 0.0**
comp=Z,2.0nm,0.6s,baz=129,slow=4.4,SNR=3.1
INK Inuvik 59.16 344 P **P 13 53 08.2 -0.7**
ILAR Eielson Array 61.46 337 P **P 13 53 24.8 +0.1**
comp=Z,0.4nm,0.6s,baz=131,slow=4.2,SNR=6.6
NOA NORSAR Array B 83.87 28 LR LR 14 32 38.4
comp=Z,8.5nm,19.1s,baz=95,slow=36
CMAR Chiang Mai Arr 144.66 340 PKP **PKPab 14 02 44.3 +0.1**
comp=Z,1.1nm,0.7s,baz=341,slow=3.6,SNR=8.2

*IDC **06** 14:35:08.4±3.0, 15.°04N×93.°22W, h65km±21km, mb3.4/3, mb1 3.9/7, mb1mx3.6/33, mbtmp3.8/7, MS3.0/2, Ms1 3.0/2, ms1mx2.5/23, Error ellipse: s-maj=48.5km s-min=8.0km az=28.0*
*MEX **06** 14:35:08.8±0.8, 15.°01N×93.°16W, h67km±10km, MD4.2*
*GCG **06** 14:35:11.3±0.3, 14.°17N×92.°95W, h98km±41km, MD4.3*
*UCR **06** 14:35:12.1±0.9, 14.°88N×92.°81W, h24km±275km, ML3.6*
*SNET **06** 14:35:12.1±0.9, 14.°88N×92.°80W, h24km±275km, ML3.8*
ISC 06 14:35:07.6±1.1, 14°99N±0.°07×93°20W±0.05, h58km±12km, n25, σ1°31/36, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.71**	**359**	*eP*	**Pn**	**14 35 21.8**	**0.0**
PCIG				*eS*	**Sn**	**14 35 32.2**	**-0.1**
THIG		**0.91**	**95**	*eP*	**Pn**	**14 35 24.2**	**-0.2**
THIG				*eS*	**Sn**	**14 35 35.7**	**-1.1**
RTAL	**Retalhuleu**	**1.53**	**107**	*eP*	**Pn**	**14 35 32.3**	**-0.4**
RTAL				IAML		14 35 55.2	
comp=Z,1μm,0.3s							
CCIG	**Comitan**	**1.64**	**39**	*eP*	**Pn**	**14 35 35.3**	**+1.0**
CCIG				*eS*	**Sn**	**14 35 54.5**	**0.0**
HUEH	**Huehuetenango**	**1.68**	**79**	*eP*	**Pn**	**14 35 35.5**	**+0.7**
HUEH				*eS*	**Sn**	**14 35 54.6**	**-0.8**
TGIG		**1.78**	**3**	*eP*	**Pn**	**14 35 36.0**	**-0.1**
TGIG				*eS*	**Sn**	**14 35 57.1**	**-0.6**
FUG	**Fuego 3**	**2.35**	**103**	*eP*	**Pn**	**14 35 45.4**	**+1.4**
FUG				*eS*	**Sn**	**14 36 12.0**	**+0.2**
PCG	**Pacaya**	**2.58**	**103**	*eP*	**Pn**	**14 35 50.1**	**+2.9**
PCG				*eS*	**Sn**	**14 36 17.7**	**+0.1**
CMIG	**Matias Romero**	**2.64**	**322**	*eP*	**Pn**	**14 35 48.1**	**+0.3**
comp=Z,10.0nm,0.3s,baz=164,slow=13,SNR=74							
CMIG				S	**Sn**	**14 36 18.8**	**+0.2**
comp=Z,34nm,0.3s,baz=106,slow=15,SNR=7.2							
CMIG	**Matias Romero**	**2.64**	**322**	*eP*	**Pn**	**14 35 48.1**	**+0.3**
CMIG				*eS*	**Sn**	**14 36 18.6**	**-0.1**
APG	**El Apazote**	**2.65**	**89**	P	**Pn**	**14 35 48.8**	**+0.7**
comp=Z,13nm,0.3s,baz=287,slow=11,SNR=44							
APG				S	**Sn**	**14 36 21.1**	**+1.9**
comp=Z,30nm,0.3s,baz=175,slow=18,SNR=9.3							
NBG	**Las Nubes**	**2.79**	**98**	*eP*	**Pn**	**14 35 52.4**	**+2.2**
HUIG	**Huatulco**	**2.91**	**286**	*eP*	**Pn**	**14 35 51.7**	**+0.2**
HUIG				*eS*	**Sn**	**14 36 25.9**	**+0.7**
MTO3	**Montecristo**	**3.77**	**99**	*eP*	**Pn**	**14 36 04.0**	**+0.6**
MTO3	**Montecristo**	**3.77**	**99**	*eP*	**Pn**	**14 36 04.0**	**+0.6**
JAYA	**Jayaque - finc**	**3.87**	**110**	*eP*	**Pn**	**14 36 05.0**	**+0.1**
JAYA				*eS*	**Sn**	**14 36 46.4**	**-2.8**
JAYA				IAML		14 36 52.0	
comp=Z,519nm,0.3s							
JAYA	**Jayaque - finc**	**3.87**	**110**	*eP*	**Pn**	**14 36 05.0**	**+0.1**
JAYA				*eS*	**Sn**	**14 36 46.4**	**-2.8**
JAYA				IAML		14 36 52.0	
comp=Z,519nm,0.3s							
JTS	**Las Juntas de**	**9.31**	**119**	P	**Pn**	**14 37 22.3**	**+3.1**
comp=Z,1.4nm,0.3s,baz=16,slow=12,SNR=4.8							
TXAR	**Lajitas Array**	**17.24**	**328**	P	**P**	**14 39 06.0**	**+0.7**
comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=18							
TKL	**Tuckaleechee C**	**22.25**	**21**	LR	LR	14 50 06.8	
comp=Z,57nm,18.1s,baz=232,slow=40							
ANMO	**Albuquerque**	**23.17**	**331**	P	**P**	**14 40 08.8**	**-0.7**
comp=Z,1.3nm,0.7s,baz=161,slow=16,SNR=4.5							
SJG	**San Juan**	**26.11**	**79**	LR	LR	14 51 41.2	
comp=Z,18nm,18.0s,baz=90,slow=38							
NVAR	**Mina Array Bea**	**32.17**	**321**	P	**P**	**14 41 31.1**	**+0.9**
comp=Z,1.5nm,0.8s,baz=132,slow=8.0,SNR=10							
ILAR	**Eielson Array**	**61.48**	**337**	P	**P**	**14 45 17.4**	**-0.6**
comp=Z,0.4nm,0.8s,baz=125,slow=4.8,SNR=4.9							
CMAR	**Chiang Mai Arr**	**144.67**	**340**	PKP	**PKPab**	**14 54 35.8**	**-1.6**
comp=Z,0.5nm,0.3s,baz=335,slow=3.7,SNR=6.8							

IDC 06 15:02:27.2±2.9, 12°99S×167°17E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/25, mbtmp4.0/3, Error ellipse: s-maj=153.4km s-min=33.3km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.07**	**227**	P	P	15 08 38.5	+0.2
2.1nm,0.4s,baz=39,slow=10,SNR=11							
ASAR	**Alice Springs**	**33.23**	**247**	P	P	15 09 06.0	-0.3
1.3nm,0.4s,baz=75,slow=9.2,SNR=48							
ILAR	**Eielson Array**	**84.91**	**18**	P	P	15 15 03.7	0.0
0.1nm,0.5s,baz=231,slow=4.3,SNR=4.3							

IDC 06 15:23:19.0±1.5, 0.°25N×121.°80E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/28, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/28, Error ellipse: s-maj=188.8km s-min=27.4km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**26.52**	**154**	P	P	15 28 58.5	0.0
0.5nm,0.9s,baz=343,slow=14,SNR=5.9							
PMG	**Port Moresby**	**27.01**	**111**	LR	LR	15 42 08.8	
comp=Z,73nm,19.7s,baz=210,slow=42							
SONM	**Songino Array**	**49.25**	**346**	P	P	15 32 09.3	-0.2
0.5nm,0.6s,baz=167,slow=7.0,SNR=4.5							
MKAR	**Makanchi Array**	**57.78**	**329**	P	P	15 33 12.1	0.0
0.3nm,0.3s,baz=129,slow=8.9,SNR=7.3							

*IDC **06** 15:34:21.9±4.4, 10.°24N×127.°42E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/29, mbtmp3.6/3, Error ellipse: s-maj=362.3km s-min=30.8km az=69.0*
*MAN **06** 15:34:38.3, 9.°72N×125.°95E, h121km, MS3.1*
ISC 06 15:34:38.6±1.4, 9°71N±0.°06×125°89E±0.°08, h128km±9km, n14, σ1°10/20, mb3.7/3, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.24**	**72**	*eP*	**Pn**	**15 34 56.0**	**-0.3**
GLSP				*eS*	**Sn**	**15 35 08.6**	**-1.1**
SCPH	**Surigao**	**0.40**	**280**	*iP*	**Pn**	**15 34 57.3**	**+0.4**
SCPH				*i* S	**Sn**	**15 35 10.6**	**-0.1**
BUTP	**Butuan**	**0.78**	**200**	*eP*	**Pn**	**15 35 00.1**	**+0.7**
BUTP				*eS*	**Sn**	**15 35 16.8**	**+1.6**
MSLP	**Maasin**	**1.10**	**293**	*eP*	**Pn**	**15 35 02.8**	**+0.5**
MSLP				*eS*	**Sn**	**15 35 20.5**	**+0.3**
CGP	**Cagayan de Oro**	**1.72**	**224**	*eP*	**Pn**	**15 35 09.5**	**+0.4**
CGP				*eS*	**Sn**	**15 35 30.7**	**-1.7**
OCLP	**Ormoc**	**1.84**	**317**	*eP*	**Pn**	**15 35 12.0**	**+1.5**
OCLP				*eS*	**Sn**	**15 35 35.6**	**+0.7**
LLP	**Lapu-Lapu**	**1.99**	**288**	*iP*	**Pn**	**15 35 13.7**	**+1.3**
LLP				*eS*	**Sn**	**15 35 36.9**	**-1.3**
SNPH	**Sibulan**	**2.65**	**262**	*eP*	**Pn**	**15 35 20.8**	**+0.1**
DCPH	**Dipolog City**	**2.75**	**246**	*iP*	**Pn**	**15 35 22.8**	**+0.9**
MATI	**Mati**	**2.77**	**172**	*eP*	**Pn**	**15 35 23.4**	**+1.2**
MATI				*eS*	**Sn**	**15 35 57.1**	**+1.3**
PAGZ	**Pagadian**	**3.10**	**233**	*eP*	**Pn**	**15 35 26.6**	**+0.2**
ASAR	**Alice Springs**	**34.08**	**167**	P	**P**	**15 41 10.0**	**-1.1**
0.4nm,0.9s,baz=352,slow=7.1,SNR=2.4							
MKAR	**Makanchi Array**	**52.25**	**323**	P	P	15 43 38.8	+2.0
0.6nm,0.6s,baz=128,slow=7.9,SNR=9.3							
ZALV	**Zalesovo Beam**	**54.94**	**332**	P	P	15 43 55.9	-0.2
0.5nm,0.4s,baz=107,slow=7.7,SNR=2.3							

*ANF **06** 15:55:25.5±0.3, 36.°27N×97.°53W, h6km±3km, ML3.4/7, Error ellipse: s-maj=3.9km s-min=1.9km az=163.0*
*TUL **06** 15:55:26.1±1.3, 36.°252N±0.°008×97.°53W±0.°02, h7km±7km, ML3.0, mb_Lg2.8/58(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=65.0*
NEIC 06 15:55:26.1±1.4, 36°25N±0.°01×97°54W±0.°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=302.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.44**	**306**		Pg	15 55 34.6	0.0
OK029	**Liberty Lake**	**0.46**	**171**		Pg	15 55 34.5	-0.3
OK029				Sg	Sg	15 55 41.4	+0.6
BLOK	**Blackwell**	**0.57**	**27**		Pg	15 55 37.2	+0.1
BCOK	**Bluff Creek, N**	**0.59**	**186**		Pg	15 55 37.5	+0.1
BCOK				Sg	Sg	15 55 45.8	+0.6
OK031	**S. Brethren Rd**	**0.64**	**117**		Pg	15 55 38.3	0.0
OK031				Sg	Sg	15 55 47.0	+0.4
GC02	**Grant County #**	**0.66**	**337**		Pg	15 55 38.6	-0.1
QUOK	**Quay**	**0.68**	**96**		Pg	15 55 39.0	0.0
OK025	**Westminster Rd**	**0.69**	**166**		Pg	15 55 39.0	-0.2
OK030	**Cody Creek RV**	**0.69**	**117**		Pg	15 55 39.3	0.0
KAN13	**South Haven SW**	**0.77**	**4**		Pg	15 55 40.5	-0.3
OK032	**Salt Plains WL**	**0.78**	**316**	Pg	Pg	15 55 40.7	-0.3
OKCFA	**Oklahoma City**	**0.83**	**175**		Pg	15 55 41.5	-0.6
OKCFA	**Oklahoma City**	**0.83**	**175**	P	Pg	15 55 41.8	-0.3
baz=355							
OKCFA	**Oklahoma City**	**0.83**	**175**	P		15 55 41.8	
baz=355							
OKCSW	**OKLAHOMA CITY**	**0.84**	**174**	Pg	Pg	15 55 42.1	-0.1
KAN09	**Caldwell North**	**0.89**	**356**		Pg	15 55 42.9	-0.3
KAN05	**Bluff City Nor**	**0.90**	**343**	Pg	Pg	15 55 43.0	-0.3
KAN10	**Anthony SW Sta**	**0.98**	**333**	Pg	Pg	15 55 44.5	-0.5
FNO	**Franklin**	**0.99**	**174**		Pg	15 55 44.6	-0.6
T35A	**Sooner Cattle**	**1.06**	**51**		Pg	15 55 45.9	-0.5
T35B	**Sooner Cattle**	**1.06**	**51**	P	Pg	15 55 45.9	-0.6
baz=231							
T35B				S	Sg	15 56 00.3	+0.1
baz=231							
T35B	**Sooner Cattle**	**1.06**	**51**	P		15 55 45.9	
baz=231							
T35B				S		15 56 00.3	
baz=231							
KAN16	**Harper SW Stat**	**1.06**	**337**	Pg	Pg	15 55 46.0	-0.5
KAN12	**Harper NE Stat**	**1.11**	**341**	Pg	Pg	15 55 46.8	-0.6
U32A	**Winter Ranch,**	**1.19**	**277**	Pg	Pg	15 55 48.1	-0.8
U32A	**Winter Ranch,**	**1.19**	**277**	P	Pg	15 55 48.1	-0.8
baz=96							
U32A				S	Sb	15 56 04.6	-0.2
baz=96							
U32A	**Winter Ranch,**	**1.19**	**277**	P		15 55 48.1	
baz=96							
U32A				S		15 56 04.6	
baz=96							
W35A	**Tecumseh**	**1.22**	**154**		Pg	15 55 48.3	-1.2
TUL1	**Leonard**	**1.45**	**103**	P	Pn	15 55 52.2	-0.9
baz=284							
TUL1				S	Sb	15 56 12.1	-0.3
baz=284							
TUL1	**Leonard**	**1.45**	**103**	P		15 55 52.2	
baz=284							
TUL1				S		15 56 12.1	
baz=284							
X34A	**Smith Ranch, M**	**1.66**	**188**	Pn	Pn	15 55 56.5	+0.6
WMOK	**Wichita Mounta**	**1.82**	**214**	Pn	Pn	15 55 58.1	+0.1
WMOK	**Wichita Mounta**	**1.82**	**214**	P	Pn	15 55 58.1	0.0
baz=34							
WMOK				S	Sb	15 56 22.7	-0.2
baz=34							
WMOK	**Wichita Mounta**	**1.82**	**214**	P		15 55 58.1	
baz=34							
WMOK				S		15 56 22.7	
baz=34							
LOOK	**Love County**	**2.27**	**172**		Pn	15 56 05.3	+1.1
R32A	**Long Quarter,**	**2.36**	**337**	Pn	Pn	15 56 07.0	+1.4
X37A	**Clayton**	**2.42**	**132**		Pn	15 56 06.8	+0.4
X37A	**Clayton**	**2.42**	**132**	P	Pn	15 56 07.0	+0.6
baz=314							
X37A	**Clayton**	**2.42**	**132**	P		15 56 07.0	
baz=314							
U38A	**Gravette**	**2.55**	**85**		Pb	15 56 10.3	-2.1
U38A				lAmb_Lg		15 56 46.8	
comp=Z,31nm,0.8s							
CBKS	**Cedar Bluff**	**3.10**	**326**	lAmb_Lg		15 57 04.6	
comp=Z,20nm,0.8s							
Z38A	**Mt. Pleasant**	**3.65**	**144**	Pn	Pn	15 56 23.6	+0.4
Z38A				lAmb_Lg		15 57 29.7	
comp=Z,20nm,0.8s							
MIAR	**Mount Ida**	**3.66**	**117**	Pn	Pn	15 56 23.6	+0.3
MIAR				lAmb_Lg		15 57 31.6	
comp=Z,20nm,0.8s							
MIAR	**Mount Ida**	**3.66**	**117**	S	Sn	15 57 06.8	0.0
baz=299							
MIAR	**Mount Ida**	**3.66**	**117**	S		15 57 06.8	
baz=299							
S39A	**Bolivar**	**3.67**	**66**		Pn	15 56 23.5	0.0
U40A	**Yellville**	**3.79**	**87**		Pn	15 56 26.4	+1.3
ABTX	**Abilene, Hawle**	**4.01**	**206**	lAmb_Lg		15 57 33.9	
comp=Z,21nm,0.8s							
X40A	**Basin Creek Fa**	**4.23**	**113**	Pn	Pn	15 56 31.6	+0.5
X40A				lAmb_Lg		15 57 47.5	
comp=Z,24nm,0.7s							
WHTX	**Lake Whitney,**	**4.25**	**179**	Pn	Pn	15 56 30.4	-1.0
MGMO	**Mountain Grove**	**4.33**	**76**	lAmb_Lg		15 57 47.7	
comp=Z,18nm,0.7s							
WHAR	**Wooly Hollow**	**4.37**	**101**	lAmb_Lg		15 57 53.0	
comp=Z,16nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.40**	**93**	lAmb_Lg		15 57 43.7	
comp=Z,16nm,0.9s							
WLAR	**White Oak Lake**	**4.44**	**124**	lAmb_Lg		15 57 50.5	
comp=Z,20nm,0.8s							
237A	**Washetta, Mont**	**4.47**	**161**	S	Sn	15 57 27.1	+0.1
baz=342							
237A	**Washetta, Mont**	**4.47**	**161**	S		15 57 27.1	
baz=342							
P38A	**Dawn**	**4.62**	**42**		Pn	15 56 40.4	+3.8
P38A				lAmb_Lg		15 58 03.0	
comp=Z,18nm,0.7s							
KSCO	**Kaye Shedlock'**	**4.89**	**306**	lAmb_Lg		15 58 14.9	
comp=Z,13nm,0.8s							
LCAR	**Lake Charles**	**5.17**	**90**	lAmb_Lg		15 58 12.3	
comp=Z,20nm,1.1s							
T42A	**Van Buren**	**5.24**	**80**	lAmb_Lg		15 58 10.1	
comp=Z,12nm,0.7s							
CCAR	**Cane Creek**	**5.27**	**115**	lAmb_Lg		15 58 19.0	
comp=Z,21nm,0.7s							
P40A	**Paris**	**5.44**	**51**	lAmb_Lg		15 58 24.3	
comp=Z,12nm,0.8s							
T25A	**Trinidad**	**5.59**	**281**	lAmb_Lg		15 58 35.1	
comp=Z,13nm,0.8s							
FVM	**French Village**	**5.94**	**71**	lAmb_Lg		15 58 34.6	
comp=Z,14nm,0.7s							
SDCO	**Great Sand Dun**	**6.55**	**286**	lAmb_Lg		15 58 55.6	
comp=Z,11nm,1.2s							
SCIA	**State Center**	**6.58**	**29**	lAmb_Lg		15 59 06.6	
comp=Z,17nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.18**	**59**	lAmb_Lg		15 59 23.5	
comp=Z,13nm,0.9s							
Q44A	**Meyer Farm, Va**	**7.27**	**66**	lAmb_Lg		15 59 26.7	
comp=Z,9.9nm,0.7s							
PLAL	**Pickwick Lake**	**7.81**	**97**	lAmb_Lg		15 59 39.2	
comp=Z,8.1nm,0.8s							
O44A	**Mansfield**	**8.13**	**59**	lAmb_Lg		16 00 02.5	
comp=Z,13nm,0.8s							
JFWS	**Jewell Farm**	**8.71**	**38**	lAmb_Lg		16 00 18.4	
comp=Z,9.1nm,0.7s							
P46A	**Rosedale**	**8.83**	**65**	lAmb_Lg		16 00 05.0	
comp=Z,11nm,0.8s							
K22A	**Casper**	**9.44**	**315**	lAmb_Lg		16 00 45.6	
comp=Z,6.8nm,0.9s							
FPAL	**Fort Paine**	**9.88**	**96**	lAmb_Lg		16 00 54.7	
comp=Z,5.9nm,1.1s							
W18A	**Petrified Fore**	**9.99**	**267**	lAmb_Lg		16 00 54.9	
comp=Z,6.3nm,0.7s							
W50A	**Signal Mountai**	**10.00**	**92**	lAmb_Lg		16 01 07.1	
comp=Z,5.4nm,0.8s							

*IDC **06** 15:57:44.9±1.4, 9.°56N×127.°30E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/35, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=67.1km s-min=20.6km az=80.0*
*MAN **06** 15:57:45.9, 9.°27N×126.°88E, h1km, MS3.5*
ISC 06 15:57:45.8±1.9, 9°26N±0.°04×126°90E±0.°07, h3km±11km, n18, σ1°90/30, mb3.8/5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**0.92**	**304**	*eP*	**Pg**	**15 58 03.4**	**-0.1**
GLSP				*eS*	**Sb**	**15 58 16.2**	**-1.0**
BUTP	**Butuan**	**1.30**	**257**	*eP*	**Pg**	**15 58 09.6**	**-1.1**
BUTP				*eS*	**Sn**	**15 58 29.4**	**+0.7**
SCPH	**Surigao**	**1.49**	**290**	*eP*	**Pn**	**15 58 13.1**	**-0.3**
SCPH				*i* S	**Sn**	**15 58 34.4**	**+1.0**
MSLP	**Maasin**	**2.19**	**293**	*eP*	**Pn**	**15 58 24.2**	**+1.0**
MSLP				*eS*	**Sn**	**15 58 51.6**	**+0.8**
CGP	**Cagayan de Oro**	**2.33**	**250**	*iP*	**Pn**	**15 58 25.7**	**+0.7**
CGP				*eS*	**Sb**	**15 58 56.9**	**-0.7**
MATI	**Mati**	**2.39**	**196**	*eP*	**Pn**	**15 58 25.7**	**-0.2**
MATI				*eS*	**Sn**	**15 58 53.6**	**-2.1**
DAV	**Davao City (W)**	**2.54**	**211**	Pn	**Pg**	**15 58 34.5**	**-0.1**
28nm,0.3s,baz=70,slow=23,SNR=1.7							
DAV				Sn	**Sg**	**15 59 07.5**	**-0.1**
32nm,0.3s,baz=273,slow=20,SNR=4.0							
KCP	**Kidapawan**	**2.87**	**219**	*eP*	**Pb**	**15 58 38.9**	**+1.2**
KCP				*i* S	**Sg**	**15 59 16.0**	**-2.1**
LLP	**Lapu-Lapu**	**3.08**	**290**	*eP*	**Pn**	**15 58 36.7**	**+1.4**
LLP				*eS*	**Sb**	**15 59 16.1**	**-3.1**
DDMP	**Don Marcelino,**	**3.35**	**201**	*eP*	**Pn**	**15 58 42.0**	**+2.9**
DDMP				*eS*	**Sn**	**15 59 15.1**	**-4.4**
DCPH	**Dipolog City**	**3.57**	**259**	*eP*	**Pn**	**15 58 45.6**	**+3.4**
DCPH				*eS*	**Sn**	**15 59 25.6**	**+0.7**
SKMP	**Bagumbayan, Su**	**3.59**	**221**	*eP*	**Pg**	**15 58 55.2**	**+0.5**
PAGZ	**Pagadian**	**3.75**	**248**	*eP*	**Pn**	**15 58 47.3**	**+2.6**
PAGZ				*eS*	**Sn**	**15 59 28.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**27.22**	**183**	P	**P**	**16 03 34.7**	**+3.6**
3.4nm,0.9s,baz=6.1,slow=13,SNR=2.6							
ASAR	**Alice Springs**	**33.44**	**168**	P	**P**	**16 04 26.4**	**+0.3**
0.2nm,0.3s,baz=346,slow=7.5,SNR=11							
SONM	**Songino Array**	**42.17**	**339**	P	**P**	**16 05 39.5**	**-0.4**
0.3nm,0.5s,baz=141,slow=9.3,SNR=3.3							
MKAR	**Makanchi Array**	**53.20**	**323**	P	**P**	**16 07 03.4**	**-2.1**
0.6nm,0.5s,baz=127,slow=8.0,SNR=9.6							
ARCES	**ARCESS Array B**	**85.35**	**340**	P	**P**	**16 10 23.7**	**-0.4**
1.5nm,0.8s,baz=70,slow=8.2,SNR=5.4							

*IDC **06** 16:09:01.3±4.1, 10.°65S×163.°63E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.9/4, MS3.6/2, Ms1 3.6/2, ms1mx2.9/22, Error ellipse: s-maj=166.9km s-min=33.2km az=136.0*
*NEIC **06** 16:09:03.1±1.3, 10.°7S±0.°1×164.°3E±0.°1, h85km±17km, mb4.4/7, Error ellipse: s-maj=20.9km s-min=8.3km az=217.0*
ISC 06 16:09:01.7±0.9, 10°8S±0.°1×164°4E±0.°1, h50km, n24, σ2°62/22, mb4.0/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.55**	**286**	Pn	**Pn**	**16 10 08.8**	**+0.7**
HNR	**Honiara**	**4.55**	**286**	P	**Pn**	**16 10 11.

LIA					AML	AML	16 12 49.9	
	comp=E,900μm,0.5s							
LIA	**Limnos Island**	**0.37**	**301**	P	**Pg**	**16 12 38.6**	**-0.2**
LIA				S	**Sg**	**16 12 43.7**	**0.0**
	comp=E,412nm,0.5s							
BOZC	**Bozcaada**	**0.38**	**70**	*i* P	**Pg**	**16 12 38.9**	**-0.1**
BOZC				*i* S	**Sg**	**16 12 43.6**	**-0.5**
BOZC				IAML		16 12 45.0		
	comp=N,261nm,0.3s							
BOZC	**Bozcaada**	**0.38**	**70**	PG	**Pg**	**16 12 38.9**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.47**	**116**	*i* P	**Pg**	**16 12 40.1**	**-0.6**
KOCA				*i* S	**Sg**	**16 12 46.5**	**-0.5**
EFSA	**Agios Efstrati**	**0.50**	**250**	P	**Pg**	**16 12 41.0**	**-0.1**
EFSA				S	**Sg**	**16 12 48.2**	**+0.4**
GADA	**Gvkgeada**	**0.53**	**26**	P	**Pg**	**16 12 41.8**	**-0.1**
GADA				S	**Sg**	**16 12 49.9**	**+0.9**
	comp=N,395nm,0.5s							
GADA	**Gvkgeada**	**0.53**	**26**	PG	**Pg**	**16 12 41.8**	**-0.1**
GADA				SG	**Sb**	**16 12 50.1**	**-0.1**
GOKA	**anakkale-Gk**	**0.54**	**27**	*i* P	**Pg**	**16 12 41.9**	**-0.1**
GOKA				*i* S	**Sg**	**16 12 48.3**	**-0.7**
SIGR	**SIGRI**	**0.54**	**158**	P	**Pg**	**16 12 41.7**	**-0.3**
SIGR				S	**Sg**	**16 12 50.1**	**+0.9**
SIGR				AML	AML	16 12 50.2		
	comp=E,1690μm,0.3s							
SIGR				AML	AML	16 12 50.5		
	comp=N,1372μm,0.3s							
SIGR	**SIGRI**	**0.54**	**158**	P	**Pg**	**16 12 41.5**	**-0.5**
SIGR				S	**Sg**	**16 12 49.9**	**+0.8**
	comp=N,762nm,0.3s							
SIGR	**SIGRI**	**0.54**	**158**	PG	**Pg**	**16 12 41.7**	**-0.3**
SIGR				SG	**Sg**	**16 12 50.1**	**+0.9**
EZN	**Ezine**	**0.58**	**78**	P	**Pg**	**16 12 42.4**	**-0.2**
EZN				S	**Sg**	**16 12 50.8**	**+0.5**
	comp=N,358nm,0.4s							
EZN	**Ezine**	**0.58**	**78**	PG	**Pg**	**16 12 42.5**	**-0.2**
EZN				SG	**Sg**	**16 12 51.1**	**+0.8**
PRK	**Paraskevi**	**0.70**	**131**	P	**Pb**	**16 12 45.9**	**+0.4**
PRK				AML	AML	16 13 04.5		
	comp=E,552μm,0.4s							
PRK				AML	AML	16 13 05.0		
	comp=N,595μm,0.5s							
PRK	**Paraskevi**	**0.70**	**131**	P	**Pb**	**16 12 45.9**	**+0.4**
PRK				S	**Sb**	**16 12 56.1**	**+1.1**
	comp=N,300nm,0.5s							
BAYC	**CANAKKALE_Bayr**	**0.74**	**87**	*i* P	**Pg**	**16 12 45.1**	**-0.6**
BAYC				*i* S	**Sg**	**16 12 55.3**	**-0.1**
BAYC				IAML		16 12 59.0		
	comp=N,140nm,0.3s							
BAYC				IAML		16 13 00.0		
	comp=E,157nm,0.2s							
SMTH	**Samothraki Isl**	**0.76**	**356**	P	**Pg**	**16 12 46.1**	**0.0**
SMTH				S	**Sb**	**16 12 57.3**	**+0.5**
SMTH				AML	AML	16 12 59.4		
	comp=N,753μm,0.3s							
SMTH				AML	AML	16 12 59.6		
	comp=E,502μm,0.4s							
SMTH	**Samothraki Isl**	**0.76**	**356**	P	**Pg**	**16 12 46.1**	**0.0**
AYVA	**Ayvalik**	**0.94**	**115**	*i* P	**Pg**	**16 12 45.5**	**-4.0**
AYVA				*i* S	**Sg**	**16 13 01.0**	**-0.8**
AYVA				IAML		16 13 06.0		
	comp=N,111nm,0.3s							
GELI	**Tayfur-Gelibol**	**0.96**	**44**	PG	**Pg**	**16 12 49.8**	**-0.2**
GELI				SG	**Sb**	**16 13 03.9**	**+1.3**
CAVK	**Edirne/Enez-Ca**	**1.07**	**24**	*i* P	**Pg**	**16 12 51.4**	**-0.7**
CAVK				*i* S	**Sg**	**16 13 04.4**	**-1.7**
CAVK				IAML		16 13 07.0		
	comp=E,105nm,0.9s							
CAVK				IAML		16 13 08.0		
	comp=N,71nm,0.3s							
ENEZ	**Enez**	**1.11**	**23**	P	**Pg**	**16 12 52.3**	**-0.5**
ENEZ				S	**Sb**	**16 13 07.9**	**+1.1**
	comp=N,220nm,0.5s							
ENEZ	**Enez**	**1.11**	**23**	PN	**Pg**	**16 12 52.4**	**-0.4**
LPK	**Lapseki**	**1.11**	**53**	PN	**Pg**	**16 12 52.2**	**-0.7**
THAS	**Thassos island**	**1.12**	**323**	P	**Pg**	**16 12 52.1**	**-0.7**
THAS				S	**Sg**	**16 13 06.7**	**-0.7**
THAS				AML	AML	16 13 09.1		
	comp=E,207μm,0.3s							
THAS				AML	AML	16 13 13.6		
	comp=N,230μm,0.5s							
THAS	**Thassos island**	**1.12**	**323**	P	**Pg**	**16 12 52.2**	**-0.7**
BUHA	**Balikesir, Bur**	**1.17**	**100**	*i* P	**Pg**	**16 12 52.3**	**-1.5**
BUHA				*i* S	**Sg**	**16 13 09.3**	**+0.3**
BUHA				IAML		16 13 11.0		
	comp=E,90nm,0.3s							
BUHA				IAML		16 13 12.0		
	comp=N,63nm,0.3s							
PSRA	**Psara**	**1.17**	**181**	P	**Pg**	**16 12 53.0**	**-0.9**
ERIK	**Erikli-Kesan**	**1.19**	**36**	PN	**Pg**	**16 12 53.6**	**-0.7**
DKL	**Dikili**	**1.20**	**122**	PN	**Pb**	**16 12 54.4**	**+0.4**
ALN	**Alexandroupoli**	**1.23**	**16**	P	**Pb**	**16 12 53.9**	**-0.7**
ALN				S	**Sb**	**16 13 11.5**	**+1.1**
ALN	**Alexandroupoli**	**1.23**	**16**	P	**Pb**	**16 12 54.4**	**-0.2**
ALN				S	**Sn**	**16 13 11.8**	**+0.9**
	comp=N,95nm,0.4s							
ALN	**Alexandroupoli**	**1.23**	**16**	PN	**Pb**	**16 12 54.2**	**-0.4**
CHOS	**Chios island**	**1.37**	**165**	P	**Pn**	**16 12 56.0**	**-0.3**
CHOS	**Chios island**	**1.37**	**165**	P	**Pn**	**16 12 56.0**	**-0.3**
ZEDA	**zmir-Bergama**	**1.37**	**122**	*i* P	**Pn**	**16 12 56.8**	**+0.6**
ZEDA				*i* S	**Sb**	**16 13 15.4**	**+1.1**
ZEDA				IAML		16 13 19.0		
	comp=N,44nm,0.4s							
OUR	**Ouranopolis**	**1.38**	**297**	PN	**Pn**	**16 12 56.2**	**-0.2**
KESN	**Edirne-Kesan**	**1.39**	**36**	*i* P	**Pn**	**16 12 56.8**	**-0.1**
KESN				*i* S	**Sb**	**16 13 13.7**	**-1.6**
KESN				IAML		16 13 18.0		
	comp=N,70nm,0.2s							
KESN				IAML		16 13 22.0		
	comp=E,53nm,0.4s							
RDO	**Rodhopi**	**1.43**	**358**	P	**Pn**	**16 12 57.1**	**0.0**
RDO	**Rodhopi**	**1.43**	**358**	P	**Pn**	**16 12 57.1**	**0.0**
RDO				S	**Sb**	**16 13 15.9**	**-0.2**
	comp=E,35nm,0.5s							
RDO	**Rodhopi**	**1.43**	**358**	PN	**Pn**	**16 12 57.7**	**+0.6**
KRBG	**Karabiga-Canak**	**1.48**	**62**	PN	**Pn**	**16 12 58.5**	**+0.8**
KAVA	**Kavala**	**1.52**	**328**	P	**Pn**	**16 12 58.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.56**	**51**	PN	**Pn**	**16 12 59.7**	**+0.8**
SART	**Tekirdag**	**1.56**	**51**	*i* P	**Pn**	**16 12 58.4**	**-0.5**
BALY	**Balya**	**1.56**	**88**	*i* P	**Pn**	**16 12 58.4**	**-0.5**
BALY				*i* S	**Sn**	**16 13 17.8**	**-1.3**
BALY				IAML		16 13 22.0		
	comp=N,44nm,0.4s							
MAR6	**Marsite Statio**	**1.62**	**52**	PN	**Pn**	**16 13 00.5**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.68**	**101**	*i* P	**Pn**	**16 13 01.2**	**+0.7**
STEP				*i* S	**Sb**	**16 13 24.0**	**+0.8**
STEP				IAML		16 13 28.0		
	comp=E,32nm,0.8s							
STEP				IAML		16 13 32.0		
	comp=N,30nm,0.8s							
GZKV	**Gazikoy-Tekird**	**1.68**	**52**	PN	**Pn**	**16 13 01.8**	**+1.3**
MAR4	**Marsite Statio**	**1.69**	**50**	PN	**Pn**	**16 13 01.7**	**+0.9**
BALB	**Balikesir**	**1.77**	**92**	PN	**Pn**	**16 13 02.3**	**+0.6**
MRMT	**Marmara Adasi**	**1.77**	**59**	PN	**Pn**	**16 13 02.9**	**+1.0**
XOR	**Xorichti**	**1.89**	**260**	P	**Pn**	**16 13 03.1**	**-0.3**
KDZ	**Kurdzhali**	**1.94**	**356**	PN	**Pn**	**16 13 04.2**	**+0.1**
EDRB	**Edirne**	**2.31**	**22**	PN	**Pn**	**16 13 10.5**	**+1.4**
KIRK	**Kırklareli**	**2.36**	**28**	*i* P	**Pn**	**16 13 11.1**	**+1.3**
KIRK				IAML		16 13 47.0		
	comp=E,19nm,0.9s							

*AUST **06** 16:24:04.8±2.3,30°.37S×117°.62E,h10km,Error ellipse: s-maj=20.2km s-min=12.0km az=63.0*

CUPWA 06 16:24:06.2±15.0,**30°.39S×117°.62E,h2**km±99km,**ML1.9, Region: WESTERN AUSTRALIA,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENC	**Bencubbin**	**0.47**	**154**	P	Pg	16 24 13.8	-1.4
BENC				S	Sg	16 24 21.9	+0.5
BLDU	**Ballidu**	**0.82**	**254**	P	Pg	16 24 21.0	-0.9
	baz=0.8						
BLDU				S	Sg	16 24 32.4	-0.1
	baz=0.8						
BLDU	**Ballidu**	**0.82**	**254**	P	Pg	16 24 19.9	-2.0
BLDU				S	Sg	16 24 31.9	-0.6
KLBR	**Kellerberrin**	**1.21**	**175**	P	Pg	16 24 28.4	-0.9
	baz=1.2						
KLBR				S	Sg	16 24 44.6	-0.4
	baz=1.2						
KLBR	**Kellerberrin**	**1.21**	**175**	P	Pg	16 24 27.9	-1.5
KLBR				S	Sg	16 24 43.9	-1.2
MORW	**Morawa**	**1.90**	**313**	P	Pn	16 24 38.2	-1.4
	baz=1.9						
MORW				S	Sn	16 25 00.7	-3.4
	baz=1.9						
MORW	**Morawa**	**1.90**	**313**	P	Pn	16 24 37.9	-1.8
MORW				S	Sn	16 24 59.9	-4.3
MUN	**Mundaring**	**2.00**	**217**	P	Pn	16 24 39.2	-1.7
	baz=2.0						
MUN				S	Sn	16 25 05.1	-1.5
	baz=2.0						
MUN	**Mundaring**	**2.00**	**217**	P	Pn	16 24 38.9	-2.1
MUN				S	Sn	16 25 04.8	-1.7

*SOME **06** 16:28:00.7,43°.22N×78°.75E,h0km*
*NNC **06** 16:28:01.0±0.4,43°.24N×78°.79E,h0km,mb2.7,mpv2.3, Error ellipse: s-maj=6.5km s-min=2.2km az=175.0*

ISC 06 16:28:01.2±1.2,**43°.25N**±0°.04×**78°.75E**±0°.03,**h1**km±22km, **n8,σ0°49/15,2C-4D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.22**	**347**	*e*P	**Pg**	**16 28 05.3**	**-0.3**
	7.6nm,0.1s						
KPKS				*e*S	**Sg**	**16 28 09.0**	**+0.6**
	15nm,0.2s						
UZB	**Uzynbulak**	**0.22**	**117**	*e*P	**Pg**	**16 28 05.3**	**-0.2**
	1.7nm,0.1s						
UZB				*e*S	**Sg**	**16 28 09.0**	**+0.6**
	6.6nm,0.1s						
UZB	**Uzynbulak**	**0.22**	**117**	P	**Pg**	**16 28 05.3**	**-0.2**
	1.7nm,0.1s						
UZB				S	**Sg**	**16 28 09.0**	**+0.6**
	6.6nm,0.1s						
SATY	**Saty**	**0.32**	**233**	*e*P	**Pg**	**16 28 06.9**	**-0.4**
	1.5nm,0.1s						
SATY				*e*S	**Sg**	**16 28 11.8**	**+0.4**
	25nm,0.1s						
SATY	**Saty**	**0.32**	**233**	P	**Pg**	**16 28 06.9**	**-0.4**
	1.5nm,0.1s						
SATY				S	**Sg**	**16 28 11.8**	**+0.4**
	25nm,0.1s						
PDGK	**Podgornoye**	**0.54**	**81**	⇓P	**Pg**	**16 28 11.6**	**0.0**
	0.4nm,0.5s						
PDGK				⇓S	**Sg**	**16 28 18.0**	**-0.7**
	1.0nm,0.8s						
KNDC	**Almaty**	**1.31**	**269**	⇓P	**Pg**	**16 28 26.2**	**-0.1**
	4.1nm,0.2s						
KNDC				⇓S	**Sb**	**16 28 44.1**	**+0.2**
	5.5nm,0.2s						
TKM2	**Tokmak 2**	**2.33**	**263**	⇑Pg	**Pb**	**16 28 44.2**	**-0.1**
	1.3nm,1.0s						
TKM2				⇑Lg	Lg	16 29 14.3	
	0.9nm,0.8s						

*BER **06** 16:40:21.8±1.3,67°.08N×20°.93E,h0km,ML1.9,Confirmed Induced event*

HEL 06 16:40:20.6±0.0,**67°.18N×20°.64E,h0**km,**ML1.9, ML2.3**(UPP),**Confirmed Induced event,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**206**	*i* P	Pg	16 40 21.8	-0.1
RATU	**Laukkuluspa**	**0.76**	**328**	*i* P	Pg	16 40 34.1	-1.0
RATU				*i* S	Sg	16 40 44.2	-0.8
KUA	**Kurravaara**	**0.79**	**352**	*i* P	Pg	16 40 34.6	-1.1
KUA				*i* S	Sg	16 40 45.1	-0.6
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	16 40 37.1	-1.2
NIKU				*e*S	Sg	16 40 49.9	-0.4
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	16 40 38.0	-1.4
PAJU				*e*S	Sg	16 40 51.0	-1.0
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	16 40 38.5	-1.5
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	16 40 38.9	-1.5
HARU				*e*S	Sg	16 40 52.9	-0.7
KOVU	**Salmi**	**1.06**	**350**	*e*P	Pg	16 40 39.4	-1.5
KOVU				*e*S	Sg	16 40 53.9	-0.7
KLF	**Kolari**	**1.29**	**86**	*e*P	Pg	16 40 43.6	-1.8
KLF				*e*S	Sg	16 41 01.3	-0.8
HEF	**Hetta**	**1.68**	**42**	*e*P	Pn	16 40 50.1	-1.1
HEF				*e*S	Sn	16 41 12.1	-1.3
HEF	**Hetta**	**1.68**	**42**	*e*P	Pn	16 40 50.1	-1.1
HEF				*e*S	Sn	16 41 12.3	-1.1
HEF				MSG		16 41 16.6	
	comp=Z,7.7nm,0.2s						
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	16 40 51.2	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	16 40 53.3	+0.1
KIF				*e*S	Sb	16 41 18.2	-0.1
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	16 40 53.4	+0.2
KIF				MSG		16 41 20.5	
	comp=Z,11nm,0.2s						
TOF	**Tornio**	**1.84**	**125**	*e*PN	Pn	16 40 53.1	-0.2
TOF				*e*SG	Sn	16 41 17.7	+0.6
TOF				MSG		16 41 19.5	
	comp=Z,6.8nm,0.2s						
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	16 40 54.5	-0.1
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	Pn	16 40 56.6	-0.1
KTK1				*e*S	Sn	16 41 22.4	-0.8
KTK1				IAML		16 41 26.9	
	comp=Z,16nm,0.4s						
FAUS	**Fauske**	**2.09**	**278**	*e*P	Pn	16 40 57.5	+0.7
FAUS				*e*S	Sb	16 41 25.0	-0.7
FAUS				IAML		16 41 29.8	
	comp=Z,12nm,0.4s						
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	Pn	16 40 58.9	+0.7
SGF	**Sodankyl**	**2.30**	**81**	*e*PB	Pn	16 41 00.5	+0.9
JETT	**Jettan, Norway**	**2.39**	**358**	*e*P	Pn	16 41 02.6	+1.7
JETT				*e*S	Sn	16 41 31.1	+0.3
JETT				IAML		16 41 35.7	
	comp=Z,36nm,0.3s						
BURU	**Burvik**	**2.63**	**173**	*e*P	Pn	16 41 04.4	+0.3
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	Pn	16 41 08.5	-0.4
ARA0				*e*S	Sn	16 41 44.0	-1.1
ARA0				IAML		16 41 50.0	
	comp=Z,3.9nm,0.3s						
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	Pn	16 41 09.1	+0.2
OBF4	**Vikkela, Lumij**	**3.00**	**140**	MSG		16 42 04.3	
	comp=Z,2.8nm,0.3s						

*NEIC **06** 16:42:00.5±1.9,3°.30S±0°.06×146°.4E±0°.1,h10km±2km, mb4.6/11,Error ellipse: s-maj=18.2km s-min=9.7km az=107.0*
*IDC **06** 16:42:01.0±1.2,3°.33S×146°.01E,h0km,mb3.9/9, mb1 4.1/11,mb1mx4.0/31,mbtmp4.0/11,ML2.8/2,MS3.5/13, Ms1 3.5/13,ms1mx3.3/24,Error ellipse: s-maj=40.6km s-min=16.7km az=98.0*

ISC 06 16:41:59.9±0.6,**3°.29S**±0°.06×**146°.39E**±0°.08,**h10**km,**n37,** σ1°**43/29,mb4.1/12,MS3.5/11,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.57**	**38**	Pn	**Pn**	**16 42 28.5**	**+0.6**
PMG	**Port Moresby**	**6.12**	**173**	Pn	**Pn**	**16 43 31.9**	**+1.3**
	2.5nm,0.3s,baz=326,slow=6.8,SNR=9.8						
PMG				LR	LR	16 46 02.4	
	comp=Z,646nm,18.2s,baz=343,slow=39						
PMG	**Port Moresby**	**6.12**	**173**		**Pn**	**16 43 31.4**	**+0.8**
FAKI	**Fak Fak**	**14.13**	**271**	Pn	**Pn**	**16 45 16.9**	**-3.3**
HNR	**Honiara**	**14.78**	**115**	Pn	**Pn**	**16 45 27.2**	**-2.1**
PATS	**Pohnpei**	**15.58**	**50**	Pn	**Pn**	**16 45 37.3**	**-2.6**
PATS				IAmb	IAmb	16 45 45.1	
	comp=Z,58nm,1.2s						
CTA	**Charters Tower**	**16.70**	**180**	Pn	**Pn**	**16 45 55.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=2.9,slow=8.4,SNR=3.5						
CTAO	**Charters Tower**	**16.70**	**180**	P	**P**	**16 45 57.5**	**+1.0**
GUMO	**Guam**	**16.84**	**355**	LR	LR	16 50 52.6	
	comp=Z,100nm,21.4s,baz=155,slow=32						
GUMO	**Guam**	**16.84**	**355**	Pn	**Pn**	**16 45 54.7**	**-1.2**
MTN	**Manton Dam**	**17.83**	**237**		**Pn**	**16 46 06.9**	**-1.4**
MTN				IAmb	IAmb	16 46 19.4	
	comp=Z,22nm,1.1s						
WRAB	**Tennant Creek**	**20.29**	**214**	P	**P**	**16 46 35.8**	**-0.2**
WRAB				IAmb	IAmb	16 46 43.9	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**20.31**	**214**	P	**P**	**16 46 35.4**	**-0.8**
	baz=37,slow=11						
KNRA	**Kununurra**	**21.28**	**234**	P	**P**	**16 46 46.6**	**-0.1**
AS31	**Alice Springs**	**23.58**	**210**	P	**P**	**16 47 10.5**	**-0.5**
ASAR	**Alice Springs**	**23.58**	**210**	P	**P**	**16 47 11.6**	**+0.6**
	comp=Z,6.4nm,1.0s,baz=45,slow=8.4,SNR=37						
ASAR				LR	LR	16 57 42.7	
	comp=Z,53nm,19.0s,baz=26,slow=40						
ASAR	**Alice Springs**	**23.58**	**210**	P	**P**	**16 47 11.3**	**+0.3**
MMRI	**Maumere**	**24.59**	**256**	P	**P**	**16 47 20.1**	**-0.5**
MMRI				IAmb	IAmb	16 47 24.5	
	comp=Z,39nm,1.2s						
FITZ	**Fitzroy Crossi**	**25.10**	**233**	P	**P**	**16 47 25.4**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=42,slow=13,SNR=8.1						
FITZ	**Fitzroy Crossi**	**25.10**	**233**	P	**P**	**16 47 24.7**	**-0.3**
FITZ				IAmb	IAmb	16 47 27.9	
	comp=Z,22nm,1.3s						
STKA	**Stephens Creek**	**28.79**	**188**	LR	LR	17 00 30.3	
	comp=Z,168nm,19.4s,baz=15,slow=39						
FORT	**Forrest**	**32.36**	**210**	P	**P**	**16 48 28.7**	**-1.0**
FORT				IAmb	IAmb	16 48 40.9	
	comp=Z,12nm,0.8s						
JOW	**Kunigami**	**34.69**	**331**	LR	LR	17 00 06.9	
	comp=Z,96nm,20.6s,baz=126,slow=31						
MJAR	**Matsushiro Arr**	**40.35**	**350**	P	**P**	**16 49 38.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=159,slow=3.8,SNR=2.6						
KSRS	**Korea Array**	**44.02**	**339**	LR	LR	17 05 19.9	
	comp=Z,62nm,21.4s,baz=190,slow=32						
USRK	**Ussuriysk Ar.**	**49.01**	**346**	P	**P**	**16 50 49.6**	**+2.8**
	comp=Z,1.8nm,0.7s,baz=182,slow=7.3,SNR=9.7						
USRK	**Ussuriysk Ar.**	**49.01**	**346**	P	**P**	**16 50 48.8**	**+2.0**
CMAR	**Chiang Mai Arr**	**51.47**	**297**	P	**P**	**16 51 07.2**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=97,slow=6.3,SNR=6.2						
KLR	**Kul'dur**	**53.83**	**348**	LR	LR	17 10 38.4	
	comp=Z,40nm,20.4s,baz=170,slow=32						
SONM	**Songino Array**	**61.76**	**331**	P	**P**	**16 52 19.7**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=2.2						
SONM				LR	LR	17 18 26.0	
	comp=Z,78nm,19.6s,baz=135,slow=36						
MKAR	**Makanchi Array**	**75.04**	**320**	P	**P**	**16 53 43.0**	**+1.1**
	comp=Z,1.6nm,1.0s,baz=97,slow=9.9,SNR=8.8						
MKAR				LR	LR	17 26 45.6	
	comp=Z,18nm,20.3s,baz=111,slow=36						
MKAR	**Makanchi Array**	**75.04**	**320**	P	**P**	**16 53 43.6**	**+1.7**
MAKZ	**Makanchi**	**75.24**	**320**	P	**P**	**16 53 43.5**	**+0.4**
MAKZ				IAmb	IAmb	16 53 46.1	
	comp=Z,3.2nm,1.1s						
ZALV	**Zalesovo Bram**	**76.41**	**328**	P	**P**	**16 53 50.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.8,SNR=3.7						
ZALV				LR	LR	17 26 12.9	
	comp=Z,34nm,21.4s,baz=140,slow=35						
ILAR	**Eielson Array**	**83.25**	**23**	P	P	16 54 31.7	+5.3
	comp=Z,0.6nm,0.7s,baz=243,slow=5.1,SNR=6.0						
ILAR				LR	LR	17 26 27.5	
	comp=Z,23nm,20.5s,baz=248,slow=32						
GEYT	**Alibeck**	**90.64**	**308**	LR	LR	17 40 25.8	
	comp=Z,27nm,18.1s,baz=60,slow=39						
NVAR	**Mina Array Bea**	**96.19**	**52**	LR	LR	17 31 46.8	
	comp=Z,26nm,20.3s,baz=272,slow=31						

IDC 06 16:52:31.8±1.1,**0°.29S×126°.30E,h0**km,**mb3.7/4, mb1 3.8/4,mb1mx3.5/29,mbtmp3.7/4,MS3.0/1,Ms1 3.0/1, ms1mx2.5/25,Error ellipse: s-maj=79.5km s-min=20.2km az=73.0,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.05**	**159**	P	P	16 57 16.3	-1.3
	baz=340,slow=12						
GUMO	**Guam**	**22.99**	**52**	LR	LR	17 05 23.0	
	comp=Z,44nm,21.9s,baz=160,slow=34						
ASAR	**Alice Springs**	**24.38**	**163**	P	P	16 57 52.9	+0.9
	1.9nm,0.8s,baz=350,slow=11,SNR=14						
USRK	**Ussuriysk Ar.**	**44.59**	**6**	P	P	17 00 47.0	+1.3
	0.7nm,0.6s,baz=183,slow=5.5,SNR=6.1						
SONM	**Songino Array**	**50.97**	**343**	P	P	17 01 34.3	-1.1
	0.6nm,0.7s,baz=148,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	**60.63**	**327**	P	P	17 02 44.1	-0.5
	0.4nm,0.4s,baz=121,slow=7.9,SNR=11						

*IDC **06** 16:56:13.4±0.8,28°.12N×139°.90E,h511km±25km,mb2.5/2, mb1 2.6/6,mb1mx2.4/32,mbtmp3.4/6,Error ellipse: s-maj=75.4km s-min=14.8km az=73.0*

ISC 06 16:56:13.6±1.0,**28°.1N**±0°.1×**139°.7E**±0°.2,**h507**km,**n6,** σ1°**68/8,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.44**	**115**	P	**P**	**16 57 22.5**	**+0.7**
	3.5nm,0.3s,baz=299,slow=23,SNR=2.0						
JCJ				S	**S**	**16 58 16.1**	**-0.9**
	34nm,0.3s,baz=280,slow=19,SNR=14						
MJAR	**Matsushiro Arr**	**8.47**	**352**	P	**P**	**16 58 15.8**	**+0.9**
	0.1nm,0.3s,baz=170,slow=11,SNR=8.1						
MJAR				S	**S**	**16 59 51.7**	**-2.8**
	0.0nm,0.3s,baz=159,slow=16,SNR=4.3						
KSRS	**Korea Array**	**13.57**	**316**	P	**P**	**16 59 09.2**	**+0.7**
	0.1nm,0.3s,baz=126,slow=15,SNR=1.7						
USRK	**Ussuriysk Ar.**	**17.18**	**341**	P	**P**	**16 59 47.4**	**+1.6**
	baz=163,slow=11,SNR=11						
MKAR	**Makanchi Array**	**48.11**	**309**	P	**P**	**17 04 07.0**	**+0.2**
	0.3nm,0.7s,baz=105,slow=9.7,SNR=2.0						
ASAR	**Alice Springs**	**51.81**	**187**	P	**P**	**17 04 33.3**	**-0.9**
	0.2nm,0.3s,baz=2.6,slow=5.6,SNR=9.5						

*IDC **06** 18:12:18.4±0.8,43°.80N×105°.51W,h0km,mb3.9/5, mb1 3.8/11,mb1mx3.7/43,mbtmp3.6/11,ML3.5/6,Error ellipse: s-maj=21.4km s-min=7.9km az=147.0*
*NEIC **06** 18:12:19.3±1.0,43°.80N±0°.02×105°.25W±0°.08,h0km±1km, ML3.4/62,Error ellipse: s-maj=9.9km s-min=3.4km az=259.0*

ISC 06 18:12:18.7±0.7,**43°.79N**±0°.06×**105°.28W

ISCO	Idaho Springs	4.00	184		Pn	18 13 21.9	+0.3
YPP	Pitchstone Pla	4.01	279		Pn	18 13 22.4	+0.7
REDW	Red Top Meadow	4.07	266		Pn	18 13 22.9	+0.5
REDW	comp=N,51nm,1.2s			IAML		18 14 30.0	
REDW	comp=N,49nm,1.1s			IAML		18 14 44.8	
YHH	Holmes Hill	4.12	286		Pn	18 13 23.4	+0.2
YHH	comp=N,27nm,0.9s			IAML		18 14 35.9	
TPAW	Teton Pass	4.13	268	Pn	Pn	18 13 24.4	+1.1
TPAW	comp=N,37nm,0.9s			IAML		18 14 44.6	
TPAW	comp=N,65nm,0.9s			IAML		18 14 45.2	
O20A	White River Ci	4.27	212	Pn	Pn	18 13 25.7	+0.5
O20A	comp=N,64nm,0.7s			IAML		18 14 38.6	
O20A	comp=E,74nm,0.7s			IAML		18 14 45.0	
E28A	Huff	4.27	48		Pn	18 13 26.3	+1.3
YHB	Horse Butte	4.35	285		Pn	18 13 26.8	+0.5
YHB	comp=N,24nm,0.8s			IAML		18 14 44.7	
YHL	Hebgen Lake	4.36	286		Pn	18 13 27.0	+0.4
YHL	comp=E,44nm,1.1s			IAML		18 14 47.7	
YHL	comp=N,33nm,1.0s			IAML		18 14 49.1	
AHID	Auburn Hatcher	4.37	258		Pn	18 13 27.4	+0.8
AHID	comp=N,68nm,1.1s			IAML		18 14 40.1	
AHID	comp=E,51nm,0.7s			IAML		18 14 43.6	
ECR	Eagle Creek	4.50	263		Pn	18 13 29.2	+0.9
RDMU	Red Mountain	4.53	226		Pn	18 13 29.0	+0.2
QLMT	Earthquake Lak	4.53	285		Pn	18 13 29.2	+0.4
SUSD	Miller	4.60	80		Pn	18 13 28.8	-0.8
DGMT	Dagmar	4.74	9	Pn	Pn	18 13 33.0	+1.5
SMCO	Snowmass	4.78	196		Pn	18 13 33.6	+1.2
SMCO	comp=E,34nm,0.5s			IAML		18 14 52.1	
SMCO	comp=E,30nm,0.9s			IAML		18 14 58.9	
HWUT	Hardware Ranch	5.12	247		Pn	18 13 37.0	+0.1
HWUT	comp=E,36nm,0.7s			IAML		18 15 01.4	
KSCO	Kaye Shedlock'	5.18	156	Pn	Pn	18 13 37.3	-0.3
EGMT	Eagleton	5.26	325		Pn	18 13 38.8	+0.1
DLMT	Dillon	5.46	289		Pn	18 13 42.1	+0.7
HRY	Holter Researc	5.47	305		Pn	18 13 42.3	+0.8
LRM	Limekiln Ridge	5.49	294		Pn	18 13 42.4	+0.4
MCMT	McKenzie Canyo	5.53	283		Pn	18 13 40.6	-1.9
JLU	Jordanelle	5.58	237		Pn	18 13 43.2	-0.1
MDND	Maddock	5.67	42		Pn	18 13 44.9	+0.6
CTU	Camp Tracy	5.71	239		Pn	18 13 45.2	+0.2
SPUT	South Promonto	5.85	247		Pn	18 13 47.4	+0.6
HVU	Hansel Valley	5.87	253		Pn	18 13 47.4	+0.2
PV22	Blue Mesa, Par	5.88	208		Pn	18 13 47.9	+0.5
PV07	Paradox Valley	5.92	207		Pn	18 13 48.4	+0.5
P17A	Butcher Ranch,	5.95	225		Pn	18 13 49.0	+0.8
PV15	Paradox Valley	5.96	205		Pn	18 13 48.7	+0.3
PV04	Paradox Valley	6.05	208		Pn	18 13 50.3	+0.7
MPU	Maple Canyon	6.06	234		Pn	18 13 50.7	+1.0
PV14	Lion Creek, Pa	6.11	209		Pn	18 13 51.0	+0.5
SRU	San Rafael Swe	6.11	222		Pn	18 13 50.2	-0.3
PV20	West Nyswonger	6.12	208		Pn	18 13 51.4	+0.8
PV11	David Mesa, Pa	6.12	208		Pn	18 13 50.9	+0.3
PV16	Nyswonger Mesa	6.13	208		Pn	18 13 51.3	+0.6
PV19	Morning Glory	6.15	208		Pn	18 13 51.2	+0.2
PV03	Paradox Valley	6.16	207		Pn	18 13 52.0	+0.8
PV02	Paradox Valley	6.16	206		Pn	18 13 52.1	+0.9
PV17	East Wray Mesa	6.17	208		Pn	18 13 51.7	+0.4
PV01	Paradox Valley	6.18	205		Pn	18 13 51.9	+0.4
PV18	Skein Mesa, Pa	6.18	208		Pn	18 13 51.9	+0.4
ECSD	EROS Data Cent	6.28	88		Pn	18 13 53.4	+0.8
TMUT	Trail Mountain	6.32	227		Pn	18 13 54.3	+0.8
PV05	Paradox Valley	6.40	208		Pn	18 13 54.1	-0.4
BGU	Big Grassy Mou	6.41	246		Pn	18 13 56.1	+1.5
Q16A	Castle Valley	6.58	224		Pn	18 13 57.4	+0.4
HLID	Hailey	6.63	271	Pn	Pn	18 13 59.0	+1.5
DUG	Dugway, Tooele	6.66	240		Pn	18 13 58.2	+0.2
T25A	Trinidad	6.68	174	Pn	Pn	18 13 58.5	+0.2
F33A	5 Mile Ranch,	6.71	69	Pn	Pn	18 13 57.3	-1.2
MVCO	Mesa Verde	7.02	202		Pn	18 14 04.4	+1.4
JTMT	Jette	7.43	305		Pn	18 14 09.7	+1.1
MTPU	Mount Pierson	7.76	225		Pn	18 14 13.4	0.0
ELK	Elko	7.99	251	Pn	Pn	18 14 16.4	+0.1
ELK	comp=E,0.5nm,0.3s,baz=65,slow=13,SNR=7.5			Lg	Lg	18 16 30.5	
ANMO	comp=E,0.1nm,0.3s,baz=176,slow=17,SNR=1.9 Albuquerque	8.88	186	Pg	Pg	18 15 00.8	-8.1
ULM	comp=E,0.1nm,0.3s,baz=346,slow=12,SNR=2.0 Lac du Bonnet	9.11	42	Pn	Pn	18 14 30.3	-1.0
ULM	comp=E,1.9nm,0.3s,baz=234,slow=12,SNR=14			Pg		18 14 58.6	
ULM	comp=E,0.5nm,0.3s,baz=233,slow=17,SNR=1.9			Lg	Lg	18 16 53.9	
NVAR	comp=E,0.3nm,0.3s,baz=135,slow=19,SNR=1.7 Mina Array Bea	11.19	246	Pn	Pn	18 15 00.2	+0.1
TXAR	comp=E,0.2nm,0.3s,baz=59,slow=8.7,SNR=6.2 Lajitas Array	14.49	174	Pn	Pn	18 15 46.5	+1.3
TXAR	comp=E,0.0nm,0.3s,baz=357,slow=15,SNR=1.3			Pg	P	18 16 44.4	+52
TXAR	comp=E,0.1nm,0.3s,baz=9.0,slow=12,SNR=2.2			Lg	Lg	18 19 59.4	
YKA	comp=E,0.0nm,0.3s,baz=4.1,slow=29,SNR=2.1 Yellowknife Ar	19.51	347	P	P	18 16 47.5	+0.2
ARCES	comp=E,0.1nm,0.3s,baz=177,slow=9.7,SNR=4.1 ARCESS Array B	61.37	18	P	P	18 22 34.6	-1.3
AKASG	comp=E,2.6nm,0.9s,baz=340,slow=7.7,SNR=6.4 Malin Array Be	77.91	28	P	P	18 24 17.7	-0.4
ZALV	comp=E,0.2nm,0.4s,baz=321,slow=7.3,SNR=1.7 Zalesovo Beam	82.25	354	P	P	18 24 40.9	-0.7
SONM	comp=E,0.7nm,0.5s,baz=335,slow=3.9,SNR=4.5 Songino Array	84.58	339	P	P	18 24 54.0	+0.1
MKAR	comp=E,0.3nm,0.6s,baz=25,slow=3.8,SNR=2.5 Makanchi Array	89.55	355	P	P	18 25 17.9	0.0
	comp=E,0.5nm,0.6s,baz=2.3,slow=3.9,SNR=8.8						

NEIC ***06*** *19:24:08.8±1.2, 16.18S±0.08×176.0W±0.1, h355km±7km, mb4.3/17, Error ellipse: s-maj=18.8km s-min=6.1km az=125.0*

IDC ***06*** *19:24:09.1±1.1, 16.34S×175.92W, h364km±13km, mb3.5/6, mb1 3.7/9, mb1mx3.3/26, mbtmp4.3/9, Error ellipse: s-maj=28.2km s-min=13.6km az=137.0*

ISC 06 19:24:09.3±0.6, 16.1S±0.1×176.03W±0.09, h360km, n39, σ1§13/40, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.67	62	P	Pn	19 25 26.1	+0.1
AFI	4.3nm,0.3s,baz=242,slow=2.7,SNR=4.4			S		19 26 28.4	+0.5
AFI	3.5nm,0.3s,baz=72,slow=19,SNR=1.6 Afiamalu	4.67	62		Pn	19 25 24.5	-1.5
MSVF	Nonsavu	5.88	253	P	Pn	19 25 41.2	+1.9
MSVF	3.8nm,0.3s,baz=92,slow=11,SNR=25 Nonsavu	5.88	253	Pn	Pn	19 25 41.0	+1.6
NIUE	Niue	6.51	118	Pn	Pn	19 25 47.3	+1.0
SANVU	Saraoutou	16.15	270	P	P	19 27 37.3	+1.2
DZM	Mont Dzumac	17.58	248	P	P	19 27 51.5	0.0
OUZ	0.1nm,0.3s,baz=108,slow=20,SNR=1.7 Omahuta	21.15	204	P	P	19 28 28.4	+1.4
OUZ	comp=Z,29nm,1.4s			IAmb	IAmb	19 28 41.4	
URZ	Urewera	22.85	194	P	P	19 28 39.7	-2.8
URZ	comp=Z,4.1nm,0.3s,baz=301,slow=24,SNR=6.6 Urewera	22.85	194	P	P	19 28 40.3	-2.2
URZ	comp=Z,16nm,1.2s			IAmb	IAmb	19 28 44.0	
THZ	Tophouse	27.26	198	P	P	19 29 20.8	-1.1
THZ	comp=Z,14nm,1.1s			IAmb	IAmb	19 29 25.2	
LBZ	Lake Benmore	30.48	200	P	P	19 29 47.9	-2.3
AS31	Alice Springs	47.48	253	P	P	19 32 08.6	-1.2
ASAR	Alice Springs	47.48	253	P	P	19 32 08.6	-1.2
ASAR	comp=Z,6.6nm,0.4s,baz=89,slow=7.8,SNR=207 Alice Springs	47.48	253	P	P	19 32 08.2	-1.6
KNRA	Kununurra	52.96	262	P	P	19 32 49.7	-0.8
KNRA	comp=Z,36nm,1.5s			IAmb	IAmb	19 32 51.3	
FITZ	Fitzroy Crossi	55.58	259	P	P	19 33 08.5	-0.7
FITZ	comp=Z,12nm,1.4s			IAmb	IAmb	19 33 28.0	
SOEI	Soe	58.37	268	P	P	19 33 28.8	0.0
PSA00	Pilbara Seismi	60.57	254	P	P	19 33 41.8	-1.7
PSA00	Pilbara Seismi	60.57	254	P	P	19 33 42.5	-1.0
PSA00	comp=Z,14nm,1.3s			IAmb	IAmb	19 33 44.2	
MJAR	Matsushiro Arr	67.90	321	P	P	19 34 29.5	-0.7
PEA0B	comp=Z,0.2nm,0.3s,baz=92,slow=11,SNR=1.5 Petropavlovsk-	72.59	344	P	P	19 34 58.0	+0.1
PETK	Petropavlovsk-	72.59	344	P	P	19 34 57.8	-0.2
PETK	comp=Z,1.3nm,0.4s,baz=130,slow=9.2,SNR=8.8 Petropavlovsk-	72.59	344	P	P	19 34 58.0	+0.1
QSPA	South Pole Qui	73.91	180	P	P	19 35 06.8	+1.1
GLB	Gilahina Butte	81.46	15	P	P	19 35 47.1	+0.3
GLB	comp=Z,5.7nm,1.2s			IAmb	IAmb	19 35 58.3	
CCB	Clear Creek Bu	83.38	12	P	P	19 35 56.7	+0.2
CCB	comp=Z,3.0nm,0.7s			IAmb	IAmb	19 35 57.4	
IMAR	Indian Mountai	83.57	9	P	P	19 35 58.2	+0.8
IL31		83.67	12	P	P	19 35 58.4	+0.5
ILAR	Eielson Array	83.67	12	P	P	19 35 58.0	+0.1
ILAR	comp=Z,1.0nm,0.6s,baz=217,slow=5.2,SNR=11 Eielson Array	83.67	12	P	P	19 35 58.2	+0.3
BILL	Bilibino	84.92	353	P	P	19 36 04.7	+0.6
BILL	comp=Z,4.1nm,0.9s			IAmb	IAmb	19 36 05.3	
BMAR	Burnt Mountain	86.46	12	P	P	19 36 12.4	+0.7
CMAR	Chiang Mai Arr	90.45	289	P	P	19 36 32.6	+1.2
ARCES	comp=Z,0.4nm,0.6s,baz=123,slow=3.3,SNR=4.3 ARCESS Array B	124.96	351	PKP	PKPdf	19 42 26.1	-0.3
ARCES	comp=Z,2.7nm,1.0s,baz=356,slow=1.3,SNR=6.1 ARCESS Array B	124.96	351	PKPdf	PKiKP	19 42 26.7	-0.2
BRTR	Keskin Array B	145.07	318	PKPbc	PKPab	19 43 05.2	-0.3
GERES	comp=Z,1.3nm,0.6s,baz=61,slow=1.8,SNR=10 GERESS Array B	146.42	348	PKPbc	PKPbc	19 43 08.7	0.0
GERES	comp=Z,0.4nm,0.5s,baz=32,slow=5.2,SNR=4.1 GERESS Array B	146.42	348		PKPbc	19 43 08.8	+0.2

BYKL ***06*** *19:51:39.0±0.4, 51.61N×99.57E, Hypocentre not reviewed by the ISC*

ASRS 06 19:51:38.8±0.2, 52.7N±2.2×99.6E±0.9, h10km, MLh3.8/10, 1C-1D, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	Mondy	0.86	87	Pg	Pb	19 51 55.8	0.0
MOY				Sg	Sb	19 52 07.9	+0.5
MOY	Mondy	0.86	87	iPg		19 51 55.6	
MOY				eSg		19 52 07.7	
MOY				Pmax			
MOY	184nm,0.4s			Smax			
KNGR	271nm,0.3s Kungurtug, Tuv	1.68	233	Pg	Pn	19 52 08.6	+0.3
KNGR				Sg	Sb	19 52 30.7	-0.2
KNGR	Kungurtug, Tuv	1.68	233	iPg		19 52 08.7	
KNGR				eSg		19 52 30.4	
ARS	Arshan	1.77	80	ePg		19 52 11.9	
ARS				eSg		19 52 35.5	
ARS				Pmax			
ARS	116nm,0.2s			Smax			
TLY	695nm,0.5s Talaya	2.51	87	Pg	Pb	19 52 23.9	0.0
TLY				Sg	Sg	19 52 57.4	-1.9
TLY	Talaya	2.51	87	ePg		19 52 24.4	
TLY				eSg		19 52 57.4	
TLY				Pmax			
TLY	30nm,0.4s			Smax			
ZAK	74nm,0.3s Zakamensk	2.63	117	Pn	Pn	19 52 22.4	+1.0
ZAK				Pg	Pb	19 52 25.3	-0.7
ZAK				Sg	Sg	19 53 01.5	-1.7
ZAK	Zakamensk	2.63	117	ePg		19 52 26.0	
ZAK				eSg		19 53 00.9	
ZAK				Pmax			
ZAK	46nm,0.5s			Smax			
IRK	114nm,0.7s Irkutsk	2.94	76	Sg	Sg	19 53 10.6	-2.6
IRK	Irkutsk	2.94	76	eSg		19 53 10.5	
IRK				Smax			
KZLR	461nm,0.4s Kyzyl	3.22	273	Pn	Pn	19 52 31.6	+2.3
KZLR				Pg	Pb	19 52 36.4	+0.4
KZLR				Sg	Sg	19 53 19.4	-2.6
KZLR	Kyzyl	3.22	273	ePg		19 52 35.7	
KZLR				eSg		19 53 17.8	
LSTR	Listvyanka	3.25	84	ePg		19 52 37.3	
LSTR				eSg		19 53 19.5	
LSTR				Pmax			
LSTR	17nm,0.6s			Smax			
ARDR	43nm,0.5s Aradan	3.93	286	Pn	Pn	19 52 42.0	+2.8
ARDR				Pg	Pg	19 52 52.5	-1.6
ARDR				Sg	Sg	19 53 41.4	-3.5
TRG	Tyrgan	4.29	72	Sg	Sg	19 53 54.3	-2.2
ORY	Orie	4.33	323	Pg	Pb	19 52 56.3	+1.5
ORY				Sg	Sg	19 53 56.9	-0.7
BLRR	Bol'shaya Rech	4.63	291	Pg	Pb	19 53 00.9	+0.9
BLRR				Sg	Sg	19 54 04.8	-2.5
DJOS	Djoyskaya Sosn	5.19	286	Pg	Pb	19 53 12.8	+3.3
DJOS				Sg	Sg	19 54 23.7	-1.4
CERR	Cheremushki	5.19	287	Pg	Pb	19 53 12.3	+2.8
CERR				Sg	Sg	19 54 24.2	-1.0
DJO	Djoy, Khakassi	5.29	286	Pg	Pg	19 53 17.2	-2.8
DJO				Sg	Sg	19 54 24.3	-4.2
GZLN	Zheleznogorsk	5.87	326	Sg	Sg	19 54 46.4	-0.7
SHTK	Zheleznogorsk-	5.89	325	Pg	Pb	19 53 23.2	+1.7
SHTK				Sg	Sg	19 54 42.8	-5.0
TEL	Teeli	5.94	268	Pn	Pn	19 53 13.8	+7.0
TEL				Pg	Pb	19 53 25.9	+3.6
TEL				Sg	Sb	19 54 41.3	+7.9
ULN	Ulaanbaatar	6.12	125	Sg	Sg	19 54 50.7	-4.3
SHRR	Shira	6.38	300	Sg	Sg	19 54 59.5	-3.8
CUR	Chagan-Uzun	7.29	262	Pg	Pb	19 53 50.4	+4.9
CUR				Sg	Sg	19 55 28.3	-4.5
ULGR	Ulagan, Altay	7.41	267	Pg	Pg	19 53 53.9	-6.5
ULGR				Sg	Sg	19 55 33.1	-3.2

IDC ***06*** *20:22:24.6±0.5, 2.25S×139.10E, h0km, mb4.8/17, mb1 4.9/21, mb1mx4.8/26, mbtmp4.8/21, ML4.5/4, MS4.2/25, Ms1 4.3/25, ms1mx4.2/35, Error ellipse: s-maj=20.0km s-min=12.0km az=85.0*

BJI ***06*** *20:22:29.7±0.0, 2.23S×139.21E, h54km, mB5.1/49, mb5.1/73, Ms4.5/51, Ms7 4.3/50*

DJA ***06*** *20:22:29.9±0.3, 2.5S×13°9E±°, h10km, M5.0/15, mb5.2/15, mB5.4/12, MLv5.2/6, Mw(mB)4.9/12, MwMwp4.8/1, Mwp5.2/1*

MOS ***06*** *20:22:30.4±0.9, 2.27S×138.90E, h52km, mb5.4/29, Error ellipse: s-maj=10.4km s-min=4.7km az=116.5*

GCMT ***06*** *20:22:32.4±0.2, 2.08S±0.02×139.03E±0.02, h28km, MW5.0/91, Moment Tensor Solution. s44,c51; s91,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.00±.20; Mθθ-0.26±.13; Mϕϕ-3.74±.13; Mrθ-0.05±.22; Mrϕ1.69±.07; Mθϕ0.80±.18; Best double couple: Mo4.29000×10¹⁶ NP1:ϕs154.00000°, δ40.00000°, λ84.00000°. NP2: ϕs342.00000°, δ50.00000°, λ95.00000°. Principal axes: T 4.0860, Plg84.0000°, Azm286.0000°; N 0.4070, Plg4.0000°, Azm159.0000°; P -4.4940, Plg5.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***06*** *20:22:32.4±1.3, 2.28S±0.08×138.88E±0.06, h46km±5km, mb5.2/132 Error ellipse: s-maj=11.7km s-min=9.2km az=187.0*

ISC 06 20:22:31.6±0.5, 2.32S±0.04×138.91E±0.04, h48km±4km, n453, σ1§56/468, mb5.2/152, MS4.3/36, 110C-35D, Fault plane solution: NP1:ϕs146.23988°, δ58.23768°, λ50.72808°. NP2:ϕs23.46748°, δ48.83627°, λ135.63536°.

Principal axes: T Plg56.8923°, Azm1.2093°; N Plg32.5614°, Azm169.5279°; P Plg5.3482°, Azm262.9551°; **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	Genyem	1.29	102	P	Pn	20 22 50.9	-2.3
WAMI	Wamena	1.57	187	P	Pn	20 23 02.5	+5.5
SRPI	Serui, Papua	2.70	279	P	Pn	20 23 12.0	-0.5
SRPI				S	Sn	20 23 45.0	+1.0
BAKI	Biak	3.01	292	P	Pn	20 23 15.5	-1.3
KMPI	Kaimana, Papua	5.36	255	P	Pn	20 23 50.8	+1.7
FAKI	4.3nm6µm498nm,0.6s Fak Fak	6.68	265	Pn	Pn	20 24 07.2	+0.1
FAKI	Fak Fak	6.68	265	P	Pn	20 24 07.2	+0.1
SIJI	1.8nm4µm3µm267nm,0.5s Sorong	7.77	281	Pn	Pn	20 24 21.9	-0.3
SIJI	6.1nm,0.3s,baz=285,slow=23,SNR=22			Sn	Sn	20 25 48.3	-0.6
SIJI	1.1nm,0.3s,baz=311,slow=19,SNR=2.0			LR	LR	20 27 52.2	
SWI	comp=Z,3µm,19.1s,baz=96,slow=41 Sorong	7.78	281	P	Pn	20 24 24.4	+2.1
MANU	0.3nm970nm61nm,0.7s Manus Island	8.46	88		Pn	20 24 32.2	+0.6
MSAI	Masohi	10.02	264	P	Pn	20 25 01.5	+8.5
PMG	Port Moresby	10.81	131	Pn	Pn	20 25 08.3	+4.5
PMG	1.0nm,0.3s,baz=292,slow=5.0,SNR=1.6			LR	LR	20 30 43.5	
PMG	comp=Z,2µm,18.6s,baz=317,slow=47 Port Moresby	10.81	131	eP	Pn	20 25 07.5	+3.7
NLAI	Namlea	11.83	265	P	Pn	20 25 19.3	+1.6
TNTI	5µm137nm,1.0s Ternate	11.94	285	Pn	Pn	20 25 20.2	+1.0
TNTI	Ternate	11.94	285	P	Pn	20 25 24.0	+4.8
KDU	Kakadu	12.11	211	P	Pn	20 25 20.6	-0.9
KDU	baz=12,SNR=14			S	Sn	20 27 29.8	-5.5
SANI	baz=12 Sanana	12.91	271	P	Pn	20 25 35.7	+3.2
MTN	80nm,0.7s Manton Dam	12.98	216	P	Pn	20 25 33.4	0.0
MTN	baz=13,SNR=3.5 Manton Dam	12.98	216	Pn	Pn	20 25 32.6	-0.9
RABL	Rabaul	13.37	98	Pn	Pn	20 25 38.0	-0.8
LUWI	Luwuk	16.18	274	Pn	Pn	20 26 15.8	0.0
LUWI	comp=Z,200nm,1.0s			IAmb	IAmb	20 26 28.8	
LUWI	Luwuk	16.18	274	P	P	20 26 20.4	+2.1
DAV	Davao City (W)	16.25	305	LR	LR	20 33 25.9	
DAV	comp=Z,730nm,18.5s,baz=98,slow=40 Davao City (W)	16.25	305	Pn	Pn	20 26 16.6	0.0
DAV	comp=Z,163nm,0.5s			IAmb	IAmb	20 26 42.8	
SOEI	Soe	16.32	242	P	Pn	20 26 18.8	+1.1
SOEI	comp=Z,260nm,1.0s			IAmb	IAmb	20 26 56.6	
SOEI	Soe	16.32	242	P	P	20 26 27.0	+7.0
MTSU	Mount Surprise	16.59	162	P	Pn	20 26 21.7	+0.7
KNRA	baz=17,SNR=5.6 Kununurra	16.61	216	P	Pn	20 26 21.5	+0.3
KNRA	baz=17,SNR=5.0 Kununurra	16.61	216	Pn	Pn	20 26 21.6	+0.3
GUMO	Guam	16.88	20	LR	LR	20 32 37.7	
BATI	comp=Z,610nm,18.6s,baz=196,slow=37 Baumata	17.05	242	P	P	20 26 27.5	-0.5
BATI	comp=Z,2.9nm,0.3s,baz=92,slow=2.2,SNR=5.6			S	Sn	20 29 33.3	-2.2
BATI	comp=Z,1.4nm,0.3s,baz=24,slow=12,SNR=2.7 Baumata	17.05	242	P	P	20 26 35.9	+7.9
MRSI	Marisa	17.19	279	P	P	20 26 32.9	+3.4
APSI	Ampana	17.31	274	P	P	20 26 42.1	+11
BUTP	Butuan	17.35	310	eP	Pn	20 26 29.3	-1.2
GLSP	General Luna,	17.51	314	eP	Pn	20 26 31.8	-0.6
CGP	Cagayan de Oro	17.76	307	eP	P	20 26 37.3	+1.5
WRAB	Tennant Creek	18.06	194	eP	P	20 26 38.5	-0.7
WRAB	comp=Z,31nm,0.8s			pmax	pmax		
QIS	Mount Isa	18.14	178	P	Pn	20 26 40.2	+0.1
TOLI2	baz=18,SNR=13 Tolitoli	18.44	280	P	P	20 26 43.1	-0.2
PAGI2	Pagadian	18.49	303	eP	Pn	20 26 45.7	+1.2
MSLP	Maasin	18.67	312	eP	P	20 26 45.7	-0.2
BNSI	Bone	18.88	263	P	Pn	20 26 52.9	+3.8
CTA	Charters Tower	19.06	158	P	P	20 26 50.4	+0.3
CTAO	comp=Z,0.8nm,0.3s,baz=341,slow=12,SNR=8.8 Charters Tower	19.06	158	P	Pn	20 26 51.9	+0.6
CTAO	comp=Z,57nm,1.6s			pmax	pmax		
CTAO	Charters Tower	19.06	158	P	Pn	20 26 51.9	+0.6
TTSI	Tana Toraja	19.08	267	P	Pn	20 26 56.2	+4.7
SPSI	Sidrap Palu	19.18	265	P	Pn	20 26 55.3	+2.6
KAPI	comp=Z,1µmcomp=Z,75nm,1.0s Kappang	19.30	261	P	P	20 26 52.9	+0.1
KAPI	comp=Z,0.9nm,0.3s,baz=252,slow=2.3,SNR=3.4 Kappang	19.30	261	P	Pn	20 26 53.7	-0.5
KAPI	comp=Z,24nm,0.9s			pmax	pmax		
KAPI	Kappang	19.30	261	P	Pn	20 26 53.7	-0.5
CNOP	Candoni, Negro	20.20	307	eP	P	20 27 02.4	-0.2
FITZ	Fitzroy Crossi	20.38	219	P	P	20 27 04.7	+0.2
FITZ	comp=Z,22nm,1.0s,baz=47,slow=11,SNR=8.4			S	S	20 30 43.1	-7.1
FITZ	comp=Z,10nm,0.6s,baz=188,slow=14,SNR=4.6			LR	LR	20 35 54.5	
FITZ	comp=Z,1µm,18.8s,baz=41,slow=39 Fitzroy Crossi	20.38	219	P	P	20 27 04.8	+0.4
FITZ	baz=20,SNR=11 Fitzroy Crossi	20.38	219		P	20 27 04.7	+0.2
RCP	Roxas	21.18	311	eP	P	20 27 14.7	+1.6
PATS	Pohnpei	21.40	65	P	P	20 27 14.2	-1.4
PATS	baz=21,SNR=3.6 Pohnpei	21.40	65	P	P	20 27 15.8	+0.3
PATS	comp=Z,168nm,1.2s			IAmb	IAmb	20 27 43.0	
AS31	Alice Springs	21.77	192	P	P	20 27 19.1	-0.3
ASAR	Alice Springs	21.77	192	P	P	20 27 18.9	-0.5
ASAR	comp=Z,12nm,0.8s,baz=21,slow=11,SNR=53			S	S	20 31 14.0	-3.7
ASAR	comp=Z,2.5nm,0.7s,baz=9.5,slow=25,SNR=3.6			LR	LR	20 36 27.3	
ASAR	comp=Z,2µm,18.4s,baz=15,slow=38 Alice Springs	21.77	192	P	P	20 27 19.0	-0.5
BKB	Balikpapan	22.02	272	P	P	20 27 23.2	+1.0
BKB	Balikpapan	22.02	272	P	P	20 27 27.4	+5.2
JCNP	comp=Z,5µmcomp=Z,263nm,1.1s Jose Panganiba	23.03	316	eP	P	20 27 32.5	-0.3
BUSP	Coron	23.41	308	eP	P	20 27 36.1	-0.5
ENPP	El Nido	23.58	305	eP	P	20 27 37.3	-0.9
LQP	Lukban	23.73	314	eP	P	20 27 39.2	-0.5
BATP	Bataraza	23.76	298	eP	P	20 27 39.9	+0.1
MTKI	Muara Teweh, K	24.04	273	P	P	20 27 44.8	+2.3
BBKI	comp=Z,67nm,1.1s Banjar Baru	24.06	267	P	P	20 27 45.3	+2.6
TGY	comp=Z,3µmcomp=Z,233nm,1.3s Tagaytay City	24.16	313	P	P	20 27 43.5	-0.1
QLP	comp=Z,544nm,1.0s,baz=157,slow=5.6,SNR=14 Quilpie	24.66	169	P	P	20 27 49.6	+1.6
WRKA	baz=25,SNR=5.8 Warakurna	24.80	203	P

FORT IAmb IAmb 20 28 39.2
comp=Z,37nm,0.8s
ARMA Armidale 30.44 158 P **P** **20 28 41.1 +1.3**
ARMA IAmb IAmb 20 29 40.9
comp=Z,78nm,1.9s
BBOO Buckleboo 30.45 185 P **P** **20 28 40.6 +0.9**
baz=31,SNR=5.0
BBOO Buckleboo 30.45 185 P **P** **20 28 40.5 +0.7**
YULB Yu-li 30.78 327 P **P** **20 28 41.2 -1.6**
YULB IAmb IAmb 20 29 09.4
comp=Z,82nm,2.0s
HTT Hallett 30.95 180 P **P** **20 28 45.2 +0.9**
baz=31,SNR=10
MEEK Meekatharra 31.05 217 P **P** **20 28 46.8 +1.6**
baz=31,SNR=3.9
NACB Ninganchiao 31.25 328 P **P** **20 28 45.4 -1.6**
NACB IAmb IAmb 20 28 47.3
comp=Z,87nm,1.4s
SSLB Suanglung 31.28 327 P **P** **20 28 45.8 -1.5**
KMBL Kambalda 33.06 207 P **P** **20 29 03.4 +0.7**
baz=33,SNR=5.9
DLV T Lat 33.39 296 P **P** **20 29 04.7 -1.3**
DLV IAmb IAmb 20 29 07.0
comp=Z,47nm,1.5s
PMBI Palembang 34.10 268 P **P** **20 29 12.8 +0.7**
CAN Canberra 34.15 165 P **P** **20 29 12.9 +0.6**
CAN pmax pmax
comp=Z,16nm,1.0s
CAN Canberra 34.15 165 P **P** **20 29 12.8 +0.6**
MORW Morawa 34.37 217 P **P** **20 29 15.6 +1.4**
baz=34,SNR=11
MORW Morawa 34.37 217 P **P** **20 29 14.8 +0.6**
ARPS Mount Arapiles 34.39 176 P **P** **20 29 15.6 +1.4**
baz=35,SNR=8.5
JSU Suzuyama 34.59 347 P **P** **20 29 15.5 -0.6**
JSU IAmb IAmb 20 29 17.1
comp=Z,38nm,1.2s
BLDU Ballidu 35.12 214 P **P** **20 29 21.8 +1.2**
baz=35,SNR=13
KLBR Kellerberrin 35.29 212 P **P** **20 29 22.8 +0.6**
baz=36,SNR=9.2
QIZ Qiongzhong 35.59 308 P **P** **20 29 24.7 -0.1**
QIZ S **S** **20 34 58.8 +1.0**
QIZ pmax pmax
comp=Z,34nm,0.9s
QIZ L L
comp=Z,200nm,15.8s
QIZ L L
comp=Z,250nm,17.8s
QIZ L L
comp=Z,260nm,19.1s
TOO Toolangi 35.60 171 P **P** **20 29 25.9 +1.2**
TOO pmax pmax
comp=Z,35nm,1.4s
TOO Toolangi 35.60 171 P **P** **20 29 25.9 +1.2**
TOO IAmb IAmb 20 30 09.5
comp=Z,35nm,1.4s
MILA Mila 35.83 166 P **P** **20 29 28.3 +1.6**
baz=36,SNR=3.5
JNU Nakatsue 36.06 349 P **P** **20 29 27.7 -1.0**
JNU IAmb IAmb 20 29 29.4
comp=Z,42nm,1.0s
JMN Monobe 36.17 353 P **P** **20 29 29.4 -0.1**
MUN Mundaring 36.43 214 P **P** **20 29 33.0 +1.2**
baz=37,SNR=4.3
SSE Sheshan 37.27 334 P **P** **20 29 39.0 +0.1**
SSE S **S** **20 35 27.5 +4.5**
SSE pmax pmax
comp=Z,13nm,1.1s
SSE pmax pmax
comp=Z,55nm,3.6s
SSE L L
comp=Z,120nm,20.3s
SSE L L
comp=Z,93nm,20.3s
UBPT Khong Chiam 37.42 299 P **P** **20 29 40.0 -0.5**
comp=Z,32nm,1.4s
UBPT Khong Chiam 37.42 299 P **P** **20 29 39.8 -0.7**
UBPT IAmb IAmb 20 29 41.8
comp=Z,49nm,1.4s
INU Inuyama 37.51 357 P **P** **20 29 40.0 -1.0**
JHS Saijyo 37.52 352 P **P** **20 29 39.9 -1.2**
JHS IAmb IAmb 20 29 41.8
comp=Z,34nm,1.0s
JWT Wachi 37.55 355 P **P** **20 29 40.9 -0.4**
BKNI Bangkinang 37.95 273 P **P** **20 29 44.6 -0.4**
JYT Yasato 38.37 2 P **P** **20 29 46.2 -1.9**
MJAR Matsushiro Arr 38.67 359 P **P** **20 29 48.9 -1.8**
comp=Z,8.3nm,0.6s,baz=180,slow=9.3,SNR=49
MJAR PcP **PcP** **20 32 02.8 +0.7**
comp=Z,3.1nm,0.9s,baz=161,slow=2.5,SNR=7.3
MJAR LR LR 20 43 41.4
comp=Z,296nm,20.1s,baz=165,slow=33
MJAR Matsushiro Arr 38.67 359 P **P** **20 29 49.4 -1.3**
MJAR pmax pmax
comp=Z,21nm,1.8s
MJAR Matsushiro Arr 38.67 359 P **P** **20 29 49.4 -1.3**
MAJO Matsushiro 38.67 359 P **P** **20 29 48.9 -1.8**
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO Matsushiro 38.67 359 P **P** **20 29 48.9 -1.8**
MAT Matsushiro 38.67 359 P **P** **20 29 49.4 -1.3**
MAT *e*S **S** **20 35 50.2 +6.0**
NJ2 Nanjing 39.12 333 ⇑P **P** **20 29 55.0 +0.5**
NJ2 pP **pP** **20 30 05.0 -2.3**
NJ2 S **S** **20 35 51.1 0.0**
NJ2 pmax pmax
comp=Z,19nm,1.0s
NJ2 pmax pmax
comp=Z,190nm,3.5s
NJ2 L L
comp=Z,320nm,18.0s
NJ2 L L
comp=Z,330nm,19.0s
NJ2 L L
comp=Z,500nm,23.7s
SKLT Songkhla 39.35 284 P **P** **20 29 57.5 +0.7**
comp=Z,1μmcomp=Z,108nm,1.1s
TJN Taejon 39.98 345 *ce*P **P** **20 30 00.8 -0.8**
JMM Marumori 40.02 2 P **P** **20 30 01.1 -0.8**
JSD Sado 40.16 359 P **P** **20 30 02.4 -0.7**
KHON Khomkaen 40.18 299 P **P** **20 30 04.3 +0.8**
comp=Z,10nm,1.1s
WHN Wuhan 40.21 326 P **P** **20 30 05.0 +1.4**
WHN pmax pmax
comp=Z,25nm,0.7s
WHN pmax pmax
comp=Z,290nm,4.3s
WHN L L
comp=Z,320nm,11.6s
WHN L L
comp=Z,230nm,8.1s
WHN L L
comp=Z,490nm,17.7s
RPSI Rantau Prapat 40.28 277 P **P** **20 30 04.3 -0.2**
PSI Prapat 40.29 277 P **P** **20 30 04.3 -0.4**
PSI pmax pmax
comp=Z,95nm,0.8s
KSAR Wonju Array Be 40.86 347 P **P** **20 30 08.9 0.0**
KSAR Wonju Array Be 40.86 347 P **P** **20 30 08.8 0.0**
KSRS Korea Array 40.87 347 P **P** **20 30 08.2 -0.8**
comp=Z,5.0nm,0.8s,baz=155,slow=8.7,SNR=16
KSRS PcP **PcP** **20 32 10.1 +1.0**
comp=Z,1.3nm,0.9s,baz=177,slow=1.8,SNR=5.4
KSRS LR LR 20 46 13.7
comp=Z,247nm,18.3s,baz=165,slow=35
KRAB Krabi 40.96 285 P **P** **20 30 11.0 +0.9**
comp=Z,4μmcomp=Z,61nm,0.7s
GSI Gunungsitoli 41.48 275 P **P** **20 30 13.4 -1.0**
SLVN Son La 41.54 306 P **P** **20 30 14.4 -0.4**
PKDT Phuket 41.72 284 P **P** **20 30 15.0 -1.3**
comp=Z,49nm,1.1s
PHET Kaeng Krachan 41.82 292 P **P** **20 30 18.1 +1.0**
comp=Z,120nmcomp=Z,11nm,1.1s
GYA Guiyang 42.29 315 ⇑P **P** **20 30 21.5 +0.6**
GYA sP sP 20 30 41.6 +2.2
GYA PcP **PcP** **20 32 15.1 +1.0**
GYA S **S** **20 36 36.0 -2.7**
LHMI Lhok Sumawe 42.58 280 P **P** **20 30 23.3 0.0**
PHIT Phitsanulok 42.63 299 P **P** **20 30 25.3 +1.7**
comp=Z,17nm,1.1s
UTTA Uttaradit 42.73 299 P **P** **20 30 25.0 +0.5**
comp=Z,71nmcomp=Z,8.2nm,1.1s
SRDT SRDT 42.75 294 P **P** **20 30 26.0 +1.3**
comp=Z,31μmcomp=Z,31nm,1.8s
UTHA Uthaitani 42.88 296 P **P** **20 30 26.2 +0.5**
comp=Z,76nmcomp=Z,6.2nm,1.2s
ENH Enshi 42.88 321 P **P** **20 30 25.0 -0.5**
ENH IAmb IAmb 20 30 26.8
comp=Z,41nm,0.9s
JTM Tenmabayashi 42.95 2 P **P** **20 30 25.0 -0.8**
JTM IAmb IAmb 20 30 27.1
comp=Z,53nm,1.0s
KHLT Khaolaem Dam 43.39 294 P **P** **20 30 31.9 +2.1**
comp=Z,14nm,1.2s
UMPA Umpang Tak 43.64 296 P **P** **20 30 33.0 +1.1**
comp=Z,86nmcomp=Z,8.0nm,1.1s
CM36 Chiang Mai Arr 44.31 300 P **P** **20 30 37.0 -0.2**
CM31 Chiang Mai Arr 44.42 299 P **P** **20 30 38.0 -0.1**
CM31 IAmb IAmb 20 30 40.0
comp=Z,58nm,1.2s
CMAR Chiang Mai Arr 44.42 299 P **P** **20 30 38.4 +0.3**
comp=Z,24nm,1.1s,baz=120,slow=6.2,SNR=83
CMAR PcP **PP** **20 32 22.4 0.0**
comp=Z,3.2nm,0.9s,baz=143,slow=2.3,SNR=6.8
CMAR LR LR 20 50 47.2
comp=Z,96nm,18.1s,baz=177,slow=38
CMAR Chiang Mai Arr 44.42 299 P **P** **20 30 37.8 -0.3**
KMI Kunming 44.42 310 ⇑P **P** **20 30 39.3 +1.0**
KMI pP pP 20 30 50.1 -1.1
KMI sP sP 20 30 59.1 +2.3
KMI pmax pmax
comp=Z,19nm,0.9s
KMI pmax pmax
comp=Z,200nm,6.1s
KMI L L
comp=Z,190nm,17.4s
KMI L L
comp=Z,240nm,20.8s
KMI L L
comp=Z,360nm,23.9s
CMMT Chiang Mai 44.55 300 P **P** **20 30 38.0 -1.2**
comp=Z,28nm,1.2s
CHTO Chiang Mai 44.56 300 P **P** **20 30 39.0 -0.2**
CHTO pmax pmax
comp=Z,40nm,1.3s
CHTO Chiang Mai 44.56 300 P **P** **20 30 39.0 -0.2**
CHTO IAmb IAmb 20 30 40.7
comp=Z,40nm,1.2s
JEW Eniwo 45.01 3 P **P** **20 30 42.0 -0.4**
JEW IAmb IAmb 20 30 49.3
comp=Z,54nm,1.0s
MHMT Maesarieng 45.19 299 P **P** **20 30 44.2 -0.1**
XAN Xi'an 45.87 325 P **P** **20 30 49.3 -0.2**
XAN pP sP 20 31 07.1 -0.9
XAN pmax pmax
comp=Z,24nm,1.3s
USA0B Ussuriysk Arra 46.73 353 P **P** **20 30 55.8 -0.1**
USA0B pmax pmax
comp=Z,15nm,1.0s
USA0B Ussuriysk Arra 46.73 353 P **P** **20 30 55.8 -0.1**
USRK Ussuriysk Ar. 46.73 353 P **P** **20 30 55.1 -0.8**
comp=Z,7.3nm,0.8s,baz=178,slow=6.7,SNR=17
USRK LR LR 20 46 59.1
comp=Z,406nm,21.8s,baz=156,slow=32
USRK Ussuriysk Ar. 46.73 353 P **P** **20 30 55.9 0.0**
USRK Ussuriysk Ar. 46.73 353 P **P** **20 30 55.9 0.0**
TIY Taiyuan 46.78 331 *e*P **P** **20 30 53.3 -3.2**
TIY S **S** **20 37 48.1 +4.7**
TIY pmax pmax
comp=Z,130nm,4.1s
TIY L L
comp=Z,220nm,14.4s
TIY L L
comp=Z,160nm,13.7s
TIY L L
comp=Z,400nm,20.2s
BJT Baijiatuau 47.00 336 P **P** **20 30 57.6 -0.5**
BJT pmax pmax
comp=Z,72nm,1.8s
BJT Baijiatuau 47.00 336 P **P** **20 30 57.6 -0.5**
BJT IAmb IAmb 20 30 59.5
comp=Z,72nm,1.8s
BJI Beijing 47.02 336 P **P** **20 30 57.8 -0.4**
BJI S **S** **20 37 47.3 +0.7**
BJI pmax pmax
comp=Z,19nm,1.4s
BJI pmax pmax
comp=Z,79nm,3.5s
BJI L L
comp=Z,220nm,17.6s
BJI L L
comp=Z,190nm,17.2s
BJI L L
comp=Z,240nm,20.5s
CD2 Chengdu 47.03 317 ⇑P **P** **20 30 59.3 +0.7**
CD2 S **S** **20 37 47.7 +0.5**
CD2 pmax pmax
comp=Z,110nm,0.8s
CD2 pmax pmax
comp=Z,160nm,6.6s
CD2 L L
comp=Z,220nm,18.9s
CD2 L L
comp=Z,330nm,18.6s
CD2 L L
comp=Z,310nm,18.1s
TEY Ternei 47.19 358 ⇓*e*P **P** **20 30 58.4 -1.1**
TEY pmax pmax
comp=Z,10.0nm,1.4s
MDJ Mudanjiang 47.47 351 P **P** **20 31 01.7 +0.1**
MDJ sP sP 20 31 20.2 0.0
MDJ S **S** **20 37 58.2 +5.4**
MDJ pmax pmax
comp=Z,21nm,0.9s
MDJ pmax pmax
comp=Z,84nm,5.6s
MDJ L L
comp=Z,410nm,18.6s
MDJ L L
comp=Z,190nm,17.5s
MDJ L L
comp=Z,570nm,19.9s
MDJ Mudanjiang 47.47 351 P **P** **20 31 01.4 -0.3**
CN2 Changchun 47.48 347 *e*P **P** **20 31 01.2 -0.6**
CN2 *es*P sP 20 31 23.7 +3.4
CN2 *e*S **S** **20 37 51.0 -2.1**
CN2 *es*S sS 20 38 17.7 +2.8
CN2 *e*SS **SS** **20 41 13.6 -8.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 L L
comp=Z,310nm,20.0s
CN2 L L
comp=Z,300nm,20.0s
CN2 L L
comp=Z,360nm,21.0s
YSS Yuzh-Sakhalins 49.18 3 *e*P **P** **20 31 14.5 -0.3**
YSS pmax pmax
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 49.68 333 *e*P **P** **20 31 19.6 +0.7**
HHC sP sP 20 31 39.4 +1.9
HHC S **S** **20 38 23.2 -1.2**
HHC sS sS 20 38 48.8 +2.5
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,77nm,7.1s
HHC L L
comp=Z,300nm,17.3s
HHC L L
comp=Z,220nm,15.9s
HHC L L
comp=Z,310nm,15.7s
TUWZ Tuamarina 50.08 146 P **P** **20 31 21.8 0.0**
BKZ Black Stump Fm 50.15 142 P **P** **20 31 22.7 +0.3**
BKZ IAmb IAmb 20 32 36.4
comp=Z,66nm,1.6s
LZH Lanzhou 50.29 323 *e*P **P** **20 31 24.6 +0.9**
LZH pP pP 20 31 37.0 +0.2
LZH sP sP 20 31 41.9 -0.5
LZH sS sS 20 38 58.2 +3.0
LZH SS **SS** **20 42 04.8 -2.7**
LZH pmax pmax
comp=Z,47nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.9s
LZH L L
comp=Z,1μm,12.5s
LZH L L
comp=Z,1μm,15.2s
LZH L L
comp=Z,1μm,16.5s
KLR Kul'dur 51.72 354 LR LR 20 50 34.2
comp=Z,244nm,20.2s,baz=189,slow=33
SHL Shillong 53.28 304 P **P** **20 31 46.0 -0.2**
SHL pmax pmax
comp=Z,65nm,1.1s
SHL Shillong 53.28 304 P **P** **20 31 46.0 -0.2**
HIA Hailar 53.99 345 P **P** **20 31 50.9 +0.1**
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 53.99 345 P **P** **20 31 50.9 +0.1**
GTA Gaotai 54.88 323 ⇑P **P** **20 31 58.2 +0.7**
GTA pP pP 20 32 12.7 +1.9
GTA sP sP 20 32 21.4 +5.1
GTA S **S** **20 39 36.5 +0.8**
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.3s
GTA L L
comp=Z,140nm,18.2s
GTA L L
comp=Z,130nm,17.1s
GTA L L
comp=Z,130nm,16.4s
LSA Lhasa 55.62 309 P **P** **20 32 05.0 +1.5**
LSA pmax pmax
comp=Z,66nm,1.7s
LSA Lhasa 55.62 309 P **P** **20 32 03.9 +0.4**
LSA pmax pmax
comp=Z,49nm,1.6s
LSA Lhasa 55.62 309 P **P** **20 32 03.9 +0.4**
LSA IAmb IAmb 20 32 06.1
comp=Z,49nm,1.6s
ZEA Zeya 56.70 352 *e*P **P** **20 32 10.2 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ULN Ulaanbaatar 57.20 335 *c i*P **P** **20 32 14.8 +0.8**
ULN pmax pmax
comp=Z,47nm,2.5s
ULN Ulaanbaatar 57.20 335 P **P** **20 32 14.2 +0.2**
TAPN Taplejung 57.41 305 *e*P **P** **20 32 16.7 +0.6**
PETK Petropavlovsk- 57.44 13 P **P** **20 32 14.0 -1.4**
comp=Z,3.1nm,0.9s,baz=112,slow=6.6,SNR=3.8
PETK PcP **PcP** **20 33 08.2 -0.5**
comp=Z,7.6nm,1.0s,baz=186,slow=4.3,SNR=5.1
PETK LR LR 20 53 05.9
comp=Z,207nm,21.9s,baz=203,slow=32
PETK Petropavlovsk- 57.44 13 P **P** **20 32 15.7 +0.3**
SONM Songino Array 57.45 335 P **P** **20 32 16.1 +0.3**
comp=Z,4.0nm,0.9s,baz=155,slow=6.9,SNR=24
SONM LR LR 20 58 21.9
comp=Z,280nm,18.1s,baz=136,slow=38
SONM Songino Array 57.45 335 P **P** **20 32 16.4 +0.6**
SONM pmax pmax
comp=Z,38nm,1.8s
SONM Songino Array 57.45 335 P **P** **20 32 16.4 +0.6**
SONM IAmb IAmb 20 32 19.1
comp=Z,38nm,1.8s
ODAN Odare 57.49 304 *e*P **P** **20 32 17.2 +0.6**
RAMN Ramite 58.18 304 *e*P **P** **20 32 22.1 +0.7**
CIT Chita 58.24 342 *e*P **P** **20 32 22.1 +1.0**
CIT *e* 20 32 38.3
CIT *e* 20 33 12.8
CIT pmax pmax
comp=Z,69nm,2.7s
PALK Pallekele 58.85 280 LR LR 20 59 12.5
comp=Z,86nm,18.3s,baz=208,slow=37
GUN Gumba 59.13 305 *e*P **P** **20 32 28.7 +0.6**
comp=Z,74nm,0.9s
PKI Pulchoki 59.40 304 *e*P **P** **20 32 30.1 +0.1**
PKIN Phulchoki 59.41 304 *e*P **P** **20 32 30.1 +0.1**
KKN Kakani 59.58 304 *e*P **P** **20 32 31.6 +0.5**
DMN Daman 59.66 304 *e*P **P** **20 32 32.0 +0.3**
comp=Z,101nm,1.1s
GKN Gorkha 60.19 304 *e*P **P** **20 32 35.8 +0.6**
ZAK Zakamensk 60.72 335 *e*P **P** **20 32 38.5 +0.2**
ZAK pmax pmax
comp=Z,32nm,1.4s
KOLN Koldanda 60.97 304 *e*P **P** **20 32 41.1 +0.5**
DANN Dangsing 61.03 304 *e*P **P** **20 32 41.6 +0.5**
comp=Z,50nm,0.8s
TLY Talaya 61.54 336 LR LR 20 58 00.7
comp=Z,192nm,22.0s,baz=133,slow=35
TLY Talaya 61.54 336 *e*P **P** **20 32 44.9 +1.1**
TLY pmax pmax
comp=Z,70nm,2.0s
TLY MLR MLR
comp=Z,420nm,18.0s
TLY Talaya 61.54 336 P **P** **20 32 44.4 +0.7**
TLY IAmb IAmb 20 32 46.2
comp=Z,29nm,1.4s
PYUN Piuthan 61.59 304 *e*P **P** **20 32 45.4 +0.6**
comp=Z,228nm,1.0s
HYB Hyderabad 62.62 291 *i*P **P** **20 32 51.5 -0.1**
MOY Mondy 62.65 334 *e*P **P** **20 32 52.5 +1.2**
MOY pmax pmax
comp=Z,66nm,1.9s
YAK Yakutsk 64.56 355 *c i*P **P** **20 33 03.4 -0.1**
YAK *e* 20 33 36.9
YAK *e* 20 35 24.8
YAK *e*S **S** **20 41 43.6 +4.3**
YAK *e**SS **sS** **20 42 02.6 +1.0**
YAK *e* 20 42 57.4
YAK *e*SS **SS** **20 45 50.1 -0.6**
YAK pmax pmax
comp=Z,51nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,61nm,3.1s
YAK pmax pmax
comp=N,33nm,3.3s
YAK pmax pmax
comp=E,28nm,3.2s
YAK smax smax
comp=E,66nm,4.8s
YAK smax smax
comp=N,45nm,3.5s
YAK Yakutsk 64.56 355 P **P** **20 33 03.5 0.0**
WMQ Urumqi 64.83 321 *e*P **P** **20 33 06.8 +1.0**
WMQ pP pP 20 33 17.7 -1.6
WMQ sP sP 20 33 23.2 -1.6
WMQ pmax pmax
comp=N,73nm,1.1s
WMQ pmax pmax
comp=N,290nm,3.6s
CASY Casey 66.89 192 P **P** **20 33 19.3 +0.8**
CASY IAmb IAmb 20 33 20.3
comp=Z,19nm,1.2s
ZSN Zaisan 68.37 324 *e*P **P** **20 33 26.9 -1.4**
baz=324
ZSN Zaisan 68.37 324 *e*P **P** **20 33 26.8 -1.4**
MK31 Makanchi Array 69.60 322 P **P** **20 33 36.8 +0.9**
MK31 pmax pmax
comp=Z,42nm,1.1s
MK31 Makanchi Array 69.60 322 P **P** **20 33 36.8 +0.9**
MK31 IAmb IAmb 20 33 37.9
comp=Z,42nm,1.1s
MKAR Makanchi Array 69.60 322 P **P** **20 33 36.6 +0.7**
comp=Z,28nm,0.7s,baz=115,slow=7.8,SNR=337
MKAR LR LR 21 06 07.5
comp=Z,59nm,18.9s,baz=112,slow=38
MKAR Makanchi Array 69.60 322 P **P** **20 33 36.9 +1.0**
MAKZ Makanchi 69.80 322 P **P** **20 33 37.9 +0.8**
MAKZ pmax pmax
comp=Z,54nm,0.8s
MAKZ Makanchi 69.80 322 P **P** **20 33 37.9 +0.8**
SHLS Shalkode 69.86 318 ⇑*i*P **P** **20 33 36.7 -1.1**
comp=Z,11nm,0.7s,baz=318
SHLS Shalkode 69.86 318 *c i*P **P** **20 33 36.6 -1.1**
SHLS pmax pmax
comp=Z,11nm,0.7s
PDGK Podgornoye 69.91 318 *i*P **P** **20 33 37.9 -0.1**
PDGK pmax pmax
comp=Z,17nm,0.9s
UZB Uzynbulak 70.15 318 ⇑*i*P **P** **20 33 40.3 +0.7**
comp=Z,22nm,1.1s,baz=318
UZB Uzynbulak 70.15 318 *c i*P **P** **20 33 40.2 +0.7**
UZB pmax pmax
comp=Z,22nm,1.1s
PRZ Przheval'sk 70.32 317 P **P** **20 33 41.8 +1.2**
PRZ pmax pmax

comp=Z,49nm,1.1s
PRZ Przheval'sk 70.32 317 P **P** **20 33 41.8 +1.2**
PRZ IAmb IAmb 20 33 43.6
comp=Z,49nm,1.1s
TARG Taragay, Kyrgy 70.44 316 P **P** **20 33 42.4 +0.8**
TARG IAmb IAmb 20 33 44.2
comp=Z,82nm,2.0s
KPKS Kokpek 70.50 318⇑ *i*P **P** **20 33 42.1 +0.4**
comp=Z,52nm,2.1s,baz=318
KPKS Kokpek 70.50 318*c i*P **P** **20 33 42.0 +0.4**
KPKS pmax pmax
comp=Z,52nm,2.1s
SATY Saty 70.53 317⇑ *i*P **P** **20 33 42.7 +0.9**
comp=Z,15nm,0.7s,baz=317
SATY Saty 70.53 317*c i*P **P** **20 33 42.7 +0.9**
SATY pmax pmax
comp=Z,15nm,0.7s
KSH Kashi 70.96 313⇑ *i*P **P** **20 33 46.6 +2.1**
KSH pP pP 20 33 58.8 +0.6
KSH sS SKiKP 20 43 22.5 -0.2
KSH ScS **SKKSac** **20 43 44.2 +0.6**
KSH pmax pmax
comp=Z,27nm,1.4s
KSH L L
comp=Z,100nm,3.8s
KSH L L
comp=Z,100nm,4.3s
KSH L L
comp=Z,130nm,4.2s
KDJ Kajisay 71.02 316 P **P** **20 33 45.3 +0.4**
KDJ pmax pmax
comp=Z,17nm,0.8s
KDJ Kajisay 71.02 316 P **P** **20 33 45.3 +0.4**
KDJ IAmb IAmb 20 33 46.7
comp=Z,17nm,0.8s
NIL Nilore 71.25 307 P **P** **20 33 46.5 +0.2**
NIL pmax pmax
comp=Z,62nm,0.9s
NIL Nilore 71.25 307 P **P** **20 33 46.5 +0.2**
TDK Taldyqorghan 71.29 319 *e*P **P** **20 33 45.8 -0.5**
baz=319
TDK Taldyqorghan 71.29 319 *e*P **P** **20 33 45.8 -0.5**
ARXS Arharly 71.37 318 *e*P **P** **20 33 47.1 +0.3**
MDOK Medeo 71.49 317 *i* P **P** **20 33 48.5 +0.8**
baz=317
MDOK Medeo 71.49 317 *i* P **P** **20 33 48.4 +0.8**
AAA Alma-Ata 71.60 317 *e*P **P** **20 33 48.8 +0.5**
baz=317
AAA Alma-Ata 71.60 317 *e*P **P** **20 33 48.7 +0.5**
PPT Papeete 71.69 108 LR LR 21 02 34.1
comp=Z,67nm,20.8s,baz=285,slow=34
ZAA0 Zalesovo Array 71.70 330 P **P** **20 33 47.9 -0.6**
ZAA0 IAmb IAmb 20 33 48.7
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 71.70 330 P **P** **20 33 48.0 -0.5**
comp=Z,12nm,0.6s,baz=112,slow=6.2,SNR=65
ZALV LR LR 21 05 14.8
comp=Z,146nm,20.5s,baz=104,slow=36
ZALV Zalesovo Beam 71.70 330 *i* P **P** **20 33 48.0 -0.5**
ZALV pmax pmax
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 71.70 330 P **P** **20 33 48.1 -0.4**
ULHL Ulahol 71.72 316 P **P** **20 33 50.0 +0.9**
SNR=11
CHKK Chushkaly 71.79 318 *e*P **P** **20 33 48.5 -0.8**
baz=318
CHKK Chushkaly 71.79 318 *e*P **P** **20 33 48.4 -0.8**
MTBS Maitube 71.90 317 *e*P **P** **20 33 49.6 -0.5**
baz=317
MTBS Maitube 71.90 317 *e*P **P** **20 33 49.5 -0.5**
KUU Kurty 72.24 318⇑ *i*P **P** **20 33 52.4 +0.4**
comp=Z,78nm,1.7s,baz=318
KUU Kurty 72.24 318*c i*P **P** **20 33 52.4 +0.4**
KUU pmax pmax
comp=Z,78nm,1.7s
TKM2 Tokmak 2 72.40 316 P **P** **20 33 53.9 +0.7**
SNR=21
TKM2 Tokmak 2 72.40 316 *i* P **P** **20 33 53.3 +0.1**
TKM2 pmax pmax
comp=Z,21nm,0.8s
SEM Semipalatinsk 72.44 325 *e*P **P** **20 33 50.7 -2.6**
baz=325
SEM Semipalatinsk 72.44 325 *e*P **P** **20 33 50.6 -2.6**
BILL Bilibino 72.75 10⇑ *e*P **P** **20 33 54.6 +0.1**
BILL *i* *PP **PcP** **20 34 11.6 +0.1**
BILL pmax pmax
comp=Z,2.0nm,1.0s
KBK Karagaybulak 72.75 316 P **P** **20 33 56.5 +1.2**
SNR=13
CHMS Chumysh 73.01 316 P **P** **20 33 57.4 +0.8**
SNR=12
FRU1 Bishkek 73.03 316 P **P** **20 33 57.3 +0.5**
FRU1 pmax pmax
comp=Z,20nm,1.0s
FRU1 Bishkek 73.03 316 P **P** **20 33 57.2 +0.5**
FRU1 IAmb IAmb 20 33 58.1
comp=Z,20nm,1.0s
AAK Ala-Archa 73.06 316 P **P** **20 33 57.8 +0.7**
SNR=5.9
AAK Ala-Archa 73.06 316*c i*P **P** **20 33 58.0 +0.9**
AAK pmax pmax
comp=Z,80nm,1.7s
AAK Ala-Archa 73.06 316 P **P** **20 33 57.9 +0.8**
AAK IAmb IAmb 20 33 59.4
comp=Z,50nm,1.8s
SGDS Sogindy 73.25 317⇑ *i*P **P** **20 33 58.2 +0.1**
baz=317
SGDS Sogindy 73.25 317*c i*P **P** **20 33 58.1 +0.1**
USP Ospenovka 73.27 317 P **P** **20 33 59.1 +1.0**
SNR=51
AML Almayashu 73.46 315 P **P** **20 34 01.2 +1.5**
SNR=25
EKS2 Erkin-Say 73.57 316 P **P** **20 34 01.1 +1.1**
SNR=22
ARSB Arslanbob 73.71 314 P **P** **20 34 01.7 +0.8**
ARSB pmax pmax
comp=Z,57nm,1.3s
ARSB Arslanbob 73.71 314 P **P** **20 34 01.7 +0.8**
ARSB IAmb IAmb 20 34 03.2
comp=Z,57nm,1.2s
DRK Karamyk 74.02 312 P **P** **20 34 03.8 +0.9**
DRK IAmb IAmb 20 34 05.4
comp=Z,54nm,1.3s
TIXI Tiksi 74.13 357⇑ *e*P **P** **20 34 01.3 -1.2**
TIXI Tiksi 74.13 357 P **P** **20 34 01.5 -1.0**
BTLS Baital 74.18 318⇑ *i*P **P** **20 34 03.9 +0.4**
comp=Z,26nm,1.7s,baz=318
BTLS Baital 74.18 318*c i*P **P** **20 34 03.8 +0.4**
BTLS pmax pmax
comp=Z,26nm,1.7s
KBL Kabul 74.86 307 P **P** **20 34 07.8 0.0**
KBL pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 74.86 307 P **P** **20 34 07.8 0.0**
KBL IAmb IAmb 20 34 08.9
comp=Z,26nm,0.9s
BTK Batken 74.91 312 P **P** **20 34 08.4 +0.6**
BTK pmax pmax
comp=Z,71nm,1.6s
BTK Batken 74.91 312 P **P** **20 34 08.3 +0.6**
BTK IAmb IAmb 20 34 10.0
comp=Z,71nm,1.6s
GAR Garm 74.99 311 P **P** **20 34 08.8 +0.5**
DZA Taraz 75.35 315 *e*P **P** **20 34 10.1 -0.1**
baz=315
DZA Taraz 75.35 315 *e*P **P** **20 34 10.1 -0.1**
SDPT Sand Point 75.70 31 P **P** **20 34 12.1 +0.2**
SDPT IAmb IAmb 20 35 39.2
comp=Z,57nm,1.4s
CHGR Chuyangaron 75.77 311 P **P** **20 34 13.4 +0.5**
KK31 Karatay Array 75.99 315 P **P** **20 34 14.4 +0.5**
KK31 pmax pmax
comp=Z,14nm,0.9s
KK31 Karatay Array 75.99 315 P **P** **20 34 14.4 +0.5**
KKAR Karatay Array 75.99 315 P **P** **20 34 14.3 +0.5**
KKAR pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 75.99 315 P **P** **20 34 14.4 +0.5**
KKAR Karatay Array 75.99 315 P **P** **20 34 14.3 +0.5**
KKAR IAmb IAmb 20 34 15.1
comp=Z,14nm,0.9s
VNDA Vanda 76.15 175 P **P** **20 34 14.5 +0.4**
comp=Z,7.1nm,0.8s,baz=324,slow=6.1,SNR=38
VNDA LR LR 21 08 17.7
comp=Z,384nm,18.8s,baz=350,slow=36
VNDA Vanda 76.15 175 P **P** **20 34 14.7 +0.6**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 76.15 175 P **P** **20 34 14.7 +0.6**
TAS Tashkent 76.36 313 P **P** **20 34 16.6 +0.6**
TAS pmax pmax
comp=Z,54nm,1.0s
TAS Tashkent 76.36 313 P **P** **20 34 16.6 +0.6**
OTUK Ortayu 76.37 321 *i* P **P** **20 34 16.2 +0.3**
OTUK pmax pmax
comp=Z,38nm,0.8s
BRZS Berezniki 76.74 323⇑ *i*P **P** **20 34 18.2 +0.2**
comp=Z,11nm,0.9s,baz=323
BRZS Berezniki 76.74 323*c i*P **P** **20 34 18.2 +0.2**
BRZS pmax pmax
comp=Z,11nm,0.9s
SBA Scott Base 76.91 174 P **P** **20 34 19.3 +0.9**
SBA pmax pmax
comp=Z,6.0nm,1.0s
SBA Scott Base 76.91 174 P **P** **20 34 19.3 +0.9**
BRVK Borovoye 79.18 325 P **P** **20 34 32.1 +0.7**
BRVK pmax pmax
comp=Z,60nm,0.9s
BRVK Borovoye 79.18 325 P **P** **20 34 32.1 +0.7**
NRIK Noril'sk 79.40 344 P **P** **20 34 32.4 +0.2**
comp=Z,25nm,0.8s,baz=126,slow=5.7,SNR=41
NRIK LR LR 21 12 08.5
comp=Z,180nm,18.8s,baz=118,slow=38
NRIK Noril'sk 79.40 344 P **P** **20 34 32.5 +0.2**
NRIK pmax pmax
comp=Z,42nm,1.0s
NRIK Noril'sk 79.40 344 P **P** **20 34 32.5 +0.2**
NRIK IAmb IAmb 20 34 33.9
comp=Z,42nm,0.9s
OHAK Old Harbor 80.12 31 P **P** **20 34 37.4 +1.0**
OHAK Old Harbor 80.12 31 P 20 34 37.4
baz=250
HRA Herat 80.33 305 P **P** **20 34 38.3 0.0**
HRA IAmb IAmb 20 34 39.6
comp=Z,55nm,1.6s
SVW2 Sparrevohn 80.44 27 P **P** **20 34 39.1 +1.0**
KDAK Kodiak Island 80.67 30 P 20 34 40.4
baz=250
KDAK Kodiak Island 80.67 30 P **P** **20 34 40.0 +0.7**
KDAK pmax pmax
comp=Z,30nm,1.2s
KDAK Kodiak Island 80.67 30 P **P** **20 34 40.0 +0.7**
KDAK IAmb IAmb 20 34 41.3
comp=Z,30nm,1.1s
RDOG Red Dog Mine 80.75 19 P 20 34 41.6
baz=239
TTA Tatalina 80.98 25 P 20 34 41.9
baz=247
TTA Tatalina 80.98 25 P **P** **20 34 41.9 +0.9**
TTA pmax pmax
comp=Z,63nm,1.8s
TTA Tatalina 80.98 25 P **P** **20 34 41.9 +0.9**
TTA IAmb IAmb 20 34 43.0
comp=Z,63nm,1.8s
CNPM China Poot 81.91 29 P **P** **20 34 46.1 +0.2**
MAW Mawson 82.56 202 P **P** **20 34 49.6 +0.5**
comp=Z,6.0nm,0.8s,baz=65,slow=6.0,SNR=12
MAW LR LR 21 09 45.1
comp=Z,362nm,18.8s,baz=56,slow=34
MAW Mawson 82.56 202 P **P** **20 34 50.1 +1.0**
baz=83,SNR=7.2
MAW Mawson 82.56 202 P **P** **20 34 49.9 +0.8**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 82.56 202 P **P** **20 34 49.9 +0.8**
SKT Skwentna 82.57 27 P 20 34 48.7
baz=251
SKT Skwentna 82.57 27 P **P** **20 34 48.4 -1.0**
PPLA Purkeypile 82.59 26 P 20 34 49.7
baz=250
PPLA Purkeypile 82.59 26 P **P** **20 34 49.8 +0.2**
PPLA IAmb IAmb 20 34 57.9
comp=Z,38nm,1.6s
SUA Susitna One 82.76 27 P 20 34 49.5
baz=252
SEW Seward 82.94 29 P 20 34 51.6
baz=253
IMAR Indian Mountai 83.06 22 P **P** **20 34 52.4 +0.6**
RC01 Rabbit Creek A 83.10 28 P 20 34 52.2
baz=252
M22K Willow 83.13 27 P 20 34 52.2
baz=252
H21K Melozitna Rive 83.30 23 P 20 34 54.2
baz=249,SNR=8.1
BPAW Bear Paw Mtn. 83.50 25 P 20 34 54.8
baz=251,SNR=8.8
BPAW Bear Paw Mtn. 83.50 25 P **P** **20 34 54.2 +0.1**
BPAW IAmb IAmb 20 34 56.6
comp=Z,34nm,1.6s
TRF Thorofare Moun 83.59 25 P 20 34 54.6
baz=252
GHO Glory Hole Cre 83.68 27 P **P** **20 34 55.1 -0.1**
GHO IAmb IAmb 20 34 58.1
comp=Z,20nm,1.2s
PWL Port Wells 83.69 28 P **P** **20 34 55.7 +0.5**
PWL IAmb IAmb 20 34 56.5
comp=Z,42nm,1.1s
KNK Knik Glacier 83.79 28 P **P** **20 34 55.8 +0.2**
KNK Knik Glacier 83.79 28 P 20 34 56.2
baz=254,SNR=9.9
MLY Manley 83.91 24 P **P** **20 34 56.7 +0.5**
MLY IAmb IAmb 20 34 59.6
comp=Z,15nm,1.0s
MLY Manley 83.91 24 P 20 34 56.9
baz=251,SNR=13
SML Sawmill 83.96 27 P 20 34 57.0
baz=254,SNR=9.7
GEYT Alibeck 84.15 308 P **P** **20 34 58.4 +0.4**
comp=Z,31nm,0.7s,baz=191,slow=7.2,SNR=27
GEYT LR LR 21 15 01.4
comp=Z,101nm,21.2s,baz=60,slow=38
GYA0B ALIBECK ARRAY 84.15 308 P **P** **20 34 59.0 +0.9**
WAT2 Susitna Watana 84.18 26 P 20 34 57.4
baz=253,SNR=12
RND Reindeer 84.19 26 P **P** **20 34 57.5 -0.2**
RND pmax pmax
comp=Z,30nm,1.0s
RND Reindeer 84.19 26 P **P** **20 34 57.5 -0.2**
RND IAmb IAmb 20 35 00.5
comp=Z,30nm,1.0s
MCK McKinley 84.25 25 P **P** **20 34 57.8 -0.2**
MCK pmax pmax
comp=Z,82nm,1.7s
MCK McKinley 84.25 25 P **P** **20 34 57.8 -0.2**
MCK McKinley 84.25 25 P 20 34 57.8
baz=253,SNR=13
GLI Glacier Island 84.28 28 P 20 34 58.6
baz=255,SNR=6.2
UOSS Minazif 84.36 295 P **P** **20 34 58.4 -0.9**
UOSS IAmb IAmb 20 35 00.1
comp=Z,25nm,1.4s
SCM Sheep Creek Mo 84.42 27 P **P** **20 34 59.3 +0.4**
SCM pmax pmax
comp=Z,59nm,1.2s
SCM Sheep Creek Mo 84.42 27 P **P** **20 34 59.3 +0.4**
WAT6 Susitna Watana 84.44 26 P 20 34 59.2
baz=254,SNR=14
NEA2 Nenana 84.45 24 P **P** **20 34 59.3 +0.4**
NEA2 IAmb IAmb 20 35 01.9
comp=Z,20nm,1.2s
NEA2 Nenana 84.45 24 P 20 34 59.1
baz=253,SNR=19
AB31 Akbulak array 84.55 320*ce*P **P** **20 34 59.1 -0.6**
AB31 pmax pmax
comp=Z,19nm,0.8s
ABKAR Akbulak array 84.55 320 P **P** **20 34 59.6 -0.1**
ABKAR Akbulak array 84.55 320 P **P** **20 34 59.7 -0.1**
ABKAR IAmb IAmb 20 35 01.2
comp=Z,28nm,0.9s
H23K Yukon River 84.63 23 P 20 35 00.6
baz=252,SNR=13
WRH Wood River Hil 84.82 25 P **P** **20 35 00.4 -0.4**
WRH IAmb IAmb 20 35 02.2
comp=Z,38nm,1.2s
COLD Coldfoot 84.82 22 P **P** **20 35 01.9 +1.1**
COLD Coldfoot 84.82 22 P 20 35 01.9
baz=252,SNR=10
EYAK Cordova Ski Ar 84.84 29 P 20 35 01.5
baz=256
CCB Clear Creek Bu 84.99 24 P **P** **20 35 01.0 -0.6**
CCB IAmb IAmb 20 35 02.8
comp=Z,39nm,1.1s
KLU Klutina 84.99 28 P **P** **20 35 02.1 +0.3**
KLU IAmb IAmb 20 35 03.7
comp=Z,25nm,1.0s
KLU Klutina 84.99 28 P 20 35 02.5
baz=256,SNR=7.8
M24K Tolsona, Glenn 85.02 27 P **P** **20 35 02.7 +0.8**
M24K Tolsona, Glenn 85.02 27 P 20 35 02.8
baz=256,SNR=5.4
COLA College 85.03 24*de*P **P** **20 35 01.5 -0.3**
COLA pmax pmax
comp=Z,14nm,1.1s
HDA Harding Lake 85.28 25 P 20 35 02.3
baz=255,SNR=9.6
HDA P 20 35 02.3
baz=255,SNR=9.6
H24K Noodor Dome 85.29 23 P 20 35 03.9
baz=254,SNR=16
IL31 85.40 24 P **P** **20 35 02.7 -0.9**
IL31 IAmb IAmb 20 35 04.7
comp=Z,14nm,0.8s
ILAR Eielson Array 85.40 24 P **P** **20 35 02.5 -1.2**
comp=Z,13nm,0.9s,baz=261,slow=4.2,SNR=67
ILAR LR LR 21 11 27.7
comp=Z,71nm,19.9s,baz=263,slow=34
ILAR Eielson Array 85.40 24 P **P** **20 35 02.7 -1.0**
ILAR Eielson Array 85.40 24 P **P** **20 35 02.6 -1.0**
BMRM Bremner River 85.48 28 P **P** **20 35 04.6 +0.4**
BMRM IAmb IAmb 20 35 05.9
comp=Z,33nm,1.0s
BMRM Bremner River 85.48 28 P 20 35 04.8
baz=257,SNR=7.5
TOLK Toolik Lake Re 85.49 20 P **P** **20 35 05.1 +1.0**
TOLK Toolik Lake Re 85.49 20 IAmb IAmb 20 35 06.8
comp=Z,37nm,1.4s
TOLK Toolik Lake Re 85.49 20 P 20 35 05.6
baz=252,SNR=13
HARP HAARP 85.56 27 P 20 35 05.4
baz=256
N25K Chitina, Valde 85.63 28 P **P** **20 35 05.6 +0.6**
N25K IAmb IAmb 20 35 07.0
comp=Z,25nm,1.4s
N25K Chitina, Valde 85.63 28 P 20 35 05.9
baz=257
GLB Gilahina Butte 85.96 28 P **P** **20 35 07.1 +0.5**
GLB IAmb IAmb 20 35 08.2
comp=Z,21nm,0.9s
CRQE Cirque 86.16 29 P 20 35 08.5
baz=258,SNR=6.0
MCARA McCarthy VSAT 86.32 28 P **P** **20 35 09.1 +0.7**
MCARA IAmb IAmb 20 35 24.9
comp=Z,16nm,1.0s
DOT Dot Lake 86.33 26 P **P** **20 35 08.8 +0.4**
DOT IAmb IAmb 20 35 09.8
comp=Z,16nm,1.0s
SCRK Sand Creek 86.43 26 P **P** **20 35 09.3 +0.4**
SCRK Sand Creek 86.43 26 P 20 35 09.1
baz=257,SNR=7.5
ARU Arti 86.58 327*c i*P **P** **20 35 08.9 -0.8**
ARU *PP **sP** **20 35 28.0 -1.0**
ARU 20 38 29.3
ARU S **SKSac** **20 45 29.5 -2.8**
ARU SS **SS** **20 51 18.1 -6.2**
ARU pmax pmax
comp=Z,25nm,0.9s
ARU Arti 86.58 327 P **P** **20 35 08.7 -0.9**
ARU IAmb IAmb 20 35 10.9
comp=Z,24nm,0.9s
GRNC Granite Creek 86.80 29 P **P** **20 35 11.7 +0.8**
GRNC IAmb IAmb 20 35 13.0
comp=Z,18nm,0.9s
BMAR Burnt Mountain 86.97 22 P **P** **20 35 12.6 +1.2**
CTG Chitna Glacier 87.04 29 P 20 35 13.4
baz=260,SNR=11
CTGM Chitina Glacie 87.05 29 P **P** **20 35 13.0 +0.9**
L27K Beaver Creek, 87.19 27 P 20 35 13.5
baz=259,SNR=18
BCAR Beaver Creek A 87.21 27 P **P** **20 35 13.4 +0.7**
K27K Chicken 87.27 26 P **P** **20 35 14.3 +1.4**
K27K Chicken 87.27 26 P 20 35 14.4
baz=259
QSPA South Pole Qui 87.62 180 P **P** **20 35 14.5 -0.2**
QSPA IAmb IAmb 20 35 15.9
comp=Z,23nm,1.2s
EGAK Eagle 87.79 25 P 20 35 16.4
baz=260
DAWY Dawson 88.44 26 P **P** **20 35 19.7 +1.2**
HYT Haines Junctio 88.88 29 P **P** **20 35 21.8 +1.0**
EPYK Eagle Plains 89.85 24 P 20 35 25.8
baz=264
WHY Whitehorse 90.14 29 P **P** **20 35 27.5 +0.9**
WHY Whitehorse 90.14 29 P 20 35 27.6
baz=266
WRAK Wrangell Islan 91.22 34 P 20 35 32.6
baz=268
INK Inuvik 91.24 22 P 20 35 31.7
baz=267
PRGR Permogore 93.59 331 *e*P **P** **20 35 40.4 -2.0**
RAYN Ar Rayn 94.04 293 P **P** **20 35 44.9 -0.5**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 94.04 293 P **P** **20 35 44.9 -0.5**
KIV Kislovodsk 96.08 314 *e*P **P** **20 35 52.4 -2.0**
KIV pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 96.31 321 *e*P **P** **20 35 53.5 -1.6**
VRH pmax pmax
comp=Z,30nm,1.1s
KLMR Klimovskoe 96.59 331 *e*P **P** **20 35 52.5 -3.7**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 96.59 331 *e*P **P** **20 35 52.5 -3.7**
KLMR AMP 20 35 55.3
comp=Z,15nm,1.4s
VORD Divnogorie 97.86 321 *e*P **P** **20 36 00.4 -1.7**
VORD pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 97.90 323 *e*P **P** **20 35 59.5 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 97.91 321 *e*P **P** **20 35 59.9 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.3s
APA Apatity 98.03 338⇓ *i*P **P** **20 36 00.8 -1.7**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,200nm,14.0s
OBN Obninsk 98.95 325*de*P **P** **20 36 05.1 -1.8**
OBN pmax pmax
comp=Z,37nm,2.5s
YKA Yellowknife Ar 99.63 27 P **Pdif** **20 36 08.9 -0.9**
comp=Z,1.7nm,0.8s,baz=286,slow=4.3,SNR=5.7
ARCES ARCESS Array B 100.21 341 P **Pdif** **20 36 11.4 -0.9**
comp=Z,7.7nm,0.8s,baz=74,slow=6.7,SNR=13
ARCES ARCESS Array B 100.21 341 P **Pdif** **20 36 11.5 -0.7**
ARCES ARCESS Array B 100.21 341 Pdif **Pdif** **20 36 11.5 -0.7**
FINES FINESS Array B 102.80 333 P **Pdif** **20 36 22.8 -1.1**
comp=Z,2.5nm,0.9s,baz=72,slow=4.5,SNR=5.7
BRTR Keskin Array B 103.21 310 Pdiff **Pdif** **20 36 24.4 -2.1**
comp=Z,0.8nm,0.8s,baz=33,slow=5.5,SNR=3.7
MNK Minsk 103.99 326 *i* PP **PKiKP** **20 40 47.2 +0.6**
MNK *i* PP **PKiKP** **20 40 47.2 +0.6**
MNK *i* PP **PKiKP** **20 40 47.2 +0.6**
baz=74
MNK *i* PPP PPP 20 42 58.9
MNK *i* SP SP 20 49 49.3 -3.3
MNK *i* PS **PS** **20 50 11.7 +12**
MNK *i* SS **SS** **20 55 31.4 +0.2**
MNK *i* SSS SSS 20 59 31.0
MNK *i* LQ LQ 21 15 03.1
MNK *i* LR LR 21 20 28.3
MNK *i* LRM MLR 21 24 40.8
comp=N,53nm,20.1s
MNK *i* LRM MLR 21 25 34.1
comp=Z,111nm,19.8s
MNK *i* LRM MLR 21 25 39.9
comp=E,8.0nm,19.8s
AKASG Malin Array Be 104.18 322 Pdiff **Pdif** **20 36 27.8 -2.5**
comp=E,1.9nm,0.9s,baz=64,slow=4.1,SNR=6.9
TXAR Lajitas Array 114.93 59 PKP PKPdf 20 41 08.0 -0.1
comp=E,0.4nm,0.8s,baz=188,slow=2.5,SNR=4.1
BCLA Clavier 118.15 328 *d*PKPdf **PKPdf** **20 41 12.9 -0.6**
P38A Dawn 119.73 45 PKPdf **PKPdf** **20 41 16.3 -0.6**
S39A Bolivar 120.66 47 PKPdf **PKPdf** **20 41 17.8 -0.9**
U40A Yellville 121.53 48 P 20 41 20.1

baz=293
LSQQ Lebel-sur-Quev 124.25 28 P 20 41 24.6
baz=315
TKL Tuckaleechee C 128.43 45 PKP **PKPdf 20 41 33.0 -0.6**
comp=E,3.1nm,0.7s,baz=209,slow=3.3,SNR=6.2
OTAV Otavalo 142.60 93 *e*P **PKPdf 20 42 00.9 -0.3**
KIC Kosan Boka 143.54 278 *e*PKP1 PKPab 20 41 58.8 +0.1
comp=E,11nm,0.8s
DBIC Dimbokro 143.63 278 PKhKP PKPpre 20 41 58.9
comp=E,12nm,1.1s,baz=18,slow=5.4,SNR=4.5
DBIC Dimbokro 143.63 278 PKIKP PKPbc 20 41 59.8 -0.1
DBIC Dimbokro 143.63 278 PKPbc 20 41 59.8 -0.1
TIC Toumodi 143.79 278 *e*PKP1 PKPab 20 41 59.7 0.0
LIC Lamto 143.84 277 *e*PKP1 PKPab 20 41 59.5 -0.3
comp=E,84nm,1.3s
BBAC Balboa, Cauca 143.87 90 *e*P PKPab 20 41 60.0 -0.3
PB11 IPOC Station P 144.39 129 PKPdf PKPbc 20 42 02.5 +0.2
SOTA Rioblanco 144.51 90 *e*P **PKPab 20 42 03.0 -0.1**
PB08 IPOC Station P 144.56 130 PKPab 20 42 02.6 -0.2
PCON Cinco Dias 144.73 89 *e*P PKPbc 20 42 04.3 +0.3
YOTC Yotoco, Valle 144.77 86 *e*P **PKPab 20 42 03.0 -0.5**
PLMC San Jos del P 144.79 85 *e*P **PKPab 20 42 02.6 -0.9**
MNMC Minye Minye 144.79 129 PKPbc 20 42 03.9 +0.2
CBOC Ciudad Bolivar 145.00 83 *e*P **PKPbc 20 42 04.2 -0.1**
MOTC Monteria, Cord 145.02 78 *e*P **PKPbc 20 42 02.5 -1.7**
MARP Paez Belalcaza 145.17 88 *e*P **PKPbc 20 42 05.0 -0.1**
PB16 IPOC Station P 145.30 127 PKPbc 20 42 05.3 -0.4
SJCC San Jacinto, C 145.31 76 PKPbc 20 42 04.8 -0.3
SJCC San Jacinto, C 145.31 76 *e*P **PKPab 20 42 05.5 +0.1**
GUY2C Guyana, Caldas 145.69 84 *e*P **PKPbc 20 42 07.0 +0.1**
TOLC Tolima 145.76 85 *e*P **PKPbc 20 42 07.0 -0.1**
ORTC Ortega, Tolima 145.86 86 *e*P **PKPdf 20 42 06.3 0.0**
SMRC Santa Marta, M 145.98 73 *e*P **PKPdf 20 42 06.6 +0.2**
ZARC Zaragoza, Cauc 145.98 80 *e*P **PKPdf 20 42 06.7 +0.2**
SDDR Presa de Saban 146.12 59 *e*P **PKPbc 20 42 07.2 -0.4**
NORC Norcasia 146.16 84 *e*P **PKPbc 20 42 07.7 -0.2**
SMLC San Martn de 146.57 78 *e*P **PKPbc 20 42 09.0 0.0**
SPDC San Pablo de B 146.94 83 *e*P **PKPdf 20 42 08.7 +0.5**
MACC Macarena, Meta 147.27 90 *e*P **PKPbc 20 42 10.1 -1.0**
CHIC Chingaza 147.34 85 *e*P **PKPbc 20 42 10.7 -1.1**
CPUP Villa Florida 147.48 152 PKP2 **PKPbc 20 42 10.1 -1.1**
CPUP Villa Florida 147.48 152 PKPbc 20 42 10.1 -1.1
LPAZ La Paz 147.51 126 PKPbc **PKPdf 20 42 10.1 +0.3**
comp=E,1.7nm,0.6s,baz=272,slow=2.6,SNR=7.1
LPAZ La Paz 147.51 126 PKPdf **PKPdf 20 42 09.7 -0.1**
LPAZ La Paz 147.51 126 *e*P **PKPdf 20 42 10.0 +0.3**
BARC Barichara 147.74 81 *e*P **PKPbc 20 42 12.9 +0.4**
RUSC La Rusia 147.90 83 PKPbc 20 42 12.4 -0.9
RUSC La Rusia 147.90 83 *e*P **PKPbc 20 42 12.2 -1.2**
PAMC Pamplona, Colo 148.13 80 *e*P **PKPbc 20 42 13.3 -0.6**

NEIC 06 21:00:51.6±0.8, **35°.82N**±0°.01×**97°.46W**±0°.02, **h6**km±3km, **mb_Lg2.4**/34 **Error ellipse: s-maj=2.1km s-min=1.8km az=109.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.02**	**172**		Pg	21 00 52.9	0.0
OK029				Sg	Sg	21 00 53.7	0.0
BCOK	**Bluff Creek, N**	**0.20**	**217**		Pg	21 00 56.0	+0.3
BCOK				Sg	Sg	21 00 58.7	+0.4
OK025	**Westminster Rd**	**0.26**	**157**		Pg	21 00 56.6	-0.1
OK025				Sg	Sg	21 01 00.5	+0.4
OKCFA	**Oklahoma City**	**0.40**	**179**		Pg	21 00 59.4	-0.1
OKCFA				Sg	Sg	21 01 05.0	+0.3
OKCSW	**OKLAHOMA CITY**	**0.41**	**178**		Pg	21 00 59.5	-0.1
OKCSW				Sg	Sg	21 01 05.4	+0.4
OK031	**S. Brethren Rd**	**0.52**	**75**	Pg	Pg	21 01 01.8	+0.2
OK031				Sg	Sg	21 01 08.9	+0.4
OK030	**Cody Creek RV**	**0.56**	**79**		Pg	21 01 02.5	+0.1
OK030				Sg	Sg	21 01 10.0	+0.3
FNO	**Franklin**	**0.56**	**175**		Pg	21 01 02.2	-0.2
FNO				Sg	Sg	21 01 10.0	+0.2
QUOK	**Quay**	**0.70**	**60**		Pg	21 01 05.3	+0.1
QUOK					Sg	21 01 14.7	+0.3
CROK	**Carrier**	**0.81**	**328**		Pg	21 01 07.5	+0.4
CROK				Sg	Sb	21 01 18.5	-0.7
BLOK	**Blackwell**	**0.96**	**12**	Pg	Pg	21 01 10.1	0.0
GC02	**Grant County #**	**1.08**	**343**	Pg	Pg	21 01 12.1	-0.3
OK032	**Salt Plains WL**	**1.16**	**329**	Pg	Pg	21 01 13.5	-0.3
OK032				Sg	Sb	21 01 29.4	+0.1
KAN13	**South Haven SW**	**1.19**	**359**	Pg	Pg	21 01 14.3	-0.2
X34A	**Smith Ranch, M**	**1.25**	**194**		Pg	21 01 15.0	-0.7
KAN09	**Caldwell North**	**1.32**	**354**	Pn	Pn	21 01 16.2	-0.5
KAN05	**Bluff City Nor**	**1.33**	**346**	Pn	Pn	21 01 16.5	-0.2
KAN05				IAmb_Lg		21 01 33.3	
comp=Z,15nm,0.7s							
T35A	**Sooner Cattle**	**1.34**	**35**	Pn	Pn	21 01 16.4	-0.5
U32A	**Winter Ranch,**	**1.37**	**295**	Pn	Pn	21 01 16.7	-0.6
WMOK	**Wichita Mounta**	**1.53**	**225**		Pn	21 01 19.5	0.0
LOOK	**Love County**	**1.84**	**173**	Pn	Pn	21 01 24.0	+0.3
W39A	**Magazine**	**3.06**	**101**	IAmb_Lg		21 02 32.3	
comp=Z,9.0nm,0.8s							
KSU1	**Kansas State U**	**3.35**	**11**	IAmb_Lg		21 02 43.8	
comp=Z,14nm,0.9s							
MIAR	**Mount Ida**	**3.42**	**111**	Pn	Pn	21 01 46.0	+0.5
MIAR				IAmb_Lg		21 02 48.0	
comp=Z,9.7nm,0.8s							
U40A	**Yellville**	**3.77**	**80**	Pn	Pn	21 01 51.7	+1.4
S39A	**Bolivar**	**3.81**	**59**	IAmb_Lg		21 02 58.1	
comp=Z,7.3nm,0.8s							
X40A	**Basin Creek Fa**	**4.01**	**108**	IAmb_Lg		21 03 03.8	
comp=Z,10nm,0.8s							
WHAR	**Wooly Hollow**	**4.25**	**96**	Pn	Pn	21 01 57.5	+0.6
WHAR				IAmb_Lg		21 03 11.8	
comp=Z,8.2nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.33**	**87**	IAmb_Lg		21 03 15.0	
comp=Z,6.2nm,0.8s							
MGMO	**Mountain Grove**	**4.39**	**71**	Pn	Pn	21 01 59.2	+0.4
MGMO				IAmb_Lg		21 03 17.8	
comp=Z,8.2nm,0.7s							
R40A	**Maddies Statio**	**4.83**	**58**	Pn	Pn	21 02 05.4	+0.5
R40A				IAmb_Lg		21 03 25.4	
comp=Z,9.2nm,0.8s							
P38A	**Dawn**	**4.91**	**38**	IAmb_Lg		21 03 28.1	
comp=Z,5.6nm,0.7s							
LCAR	**Lake Charles**	**5.12**	**85**	Pn	Pn	21 02 07.5	-1.3
CCM	**Cathedral Cave**	**5.46**	**64**	IAmb_Lg		21 03 55.9	
comp=Z,6.1nm,0.8s							
P40A	**Paris**	**5.67**	**48**	IAmb_Lg		21 03 52.1	
comp=Z,8.1nm,0.8s							
T25A	**Trinidad**	**5.75**	**285**	IAmb_Lg		21 04 09.1	
comp=Z,7.7nm,1.0s							
PBMO	**Poplar Bluff**	**5.76**	**78**	IAmb_Lg		21 03 57.6	
comp=Z,7.1nm,0.7s							
FVM	**French Village**	**6.04**	**67**	IAmb_Lg		21 04 09.0	
comp=Z,4.4nm,0.8s							
ISCO	**Idaho Springs**	**7.58**	**304**	IAmb_Lg		21 04 58.2	
comp=Z,2.6nm,0.8s							

*TEH **06** 21:29:48.8, 26°.76N×57°.75E, h8km, ML3.2*
*DSN **06** 21:29:49.9±2.3, 26°.32N×58°.21E, h11km±61km, ML2.7/9, Error ellipse: s-maj=65.9km s-min=17.8km az=62.0*
*OMAN **06** 21:29:50.1±0.1, 26°.78N×58°.27E, h36km±27km, ml3.1/16, Error ellipse: s-maj=3.7km s-min=0.8km az=7.0*

ISC 06 21:29:43.1±1.3, **26°.44N**±0°.03×**58°.30E**±0°.03, **h9**km±12km, **n41**, σ1**39/59, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**1.60**	**341**	*e*Pg	**Pn**	**21 30 10.8**	**-0.7**
KHNJ				*e*Sg	**Sn**	**21 30 28.7**	**-3.6**
BANOM	**Banah**	**1.87**	**255**	P	**Pg**	**21 30 19.5**	**+0.5**
BANOM				S	**Sg**	**21 30 44.3**	**+1.1**
BANOM	**Banah**	**1.87**	**255**	*e*Pn	**Pb**	**21 30 18.2**	**+0.8**
BANOM	**Banah**	**1.87**	**255**	P	**Pg**	**21 30 19.5**	**+0.5**
SNR=12							
BANOM				S	**Sg**	**21 30 44.7**	**+1.5**
SNR=7.9							
SHME	**Shamm**	**1.98**	**259**	P	**Pg**	**21 30 21.0**	**0.0**
SHME				S	**Sg**	**21 30 46.9**	**+0.3**
SHME	**Shamm**	**1.98**	**259**	*e*Pn	**Pg**	**21 30 20.9**	**0.0**
SHME	**Shamm**	**1.98**	**259**	P	**Pg**	**21 30 21.0**	**0.0**
SNR=21							
SHME				S	**Sg**	**21 30 47.3**	**+0.7**
GENO	**Geno**	**2.13**	**297**	*e*Pg	**Pn**	**21 30 19.2**	**+0.2**
GENO				*e*		21 31 01.3	
comp=N,4μm,0.4s							
MDH	**Madha**	**2.13**	**238**	P	**Pb**	**21 30 22.6**	**+0.8**
MDH				S	**Sb**	**21 30 48.3**	**-0.1**
MDH	**Madha**	**2.13**	**238**	P	**Pb**	**21 30 22.9**	**+1.0**
SNR=6.9							
MDH				S	**Sb**	**21 30 48.2**	**-0.1**
MASF	**Masafi**	**2.20**	**242**	P	**Pb**	**21 30 24.2**	**+1.2**
MASF				S	**Sg**	**21 30 54.7**	**+0.9**
MSFE	**Esma-Masafi**	**2.21**	**241**	P	**Pb**	**21 30 23.8**	**+0.7**
MSFE	**Esma-Masafi**	**2.21**	**241**	*e*Pn	**Pb**	**21 30 23.6**	**+0.5**
UOSS	**Minazif**	**2.40**	**232**	P	**Pb**	**21 30 27.3**	**+0.8**
UOSS	**Minazif**	**2.40**	**232**	*e*Pn	**Pb**	**21 30 27.3**	**+0.8**
UOSS	**Minazif**	**2.40**	**232**	P	**Pb**	**21 30 27.6**	**+1.1**
UOSS				S	**Sg**	**21 30 59.6**	**-0.7**
HATD	**Hatta, Dubai**	**2.53**	**231**	P	**Pb**	**21 30 29.4**	**+0.7**
HATA	**Hatta, Dubai**	**2.53**	**231**	*e*Pn	**Pg**	**21 30 30.3**	**-1.3**
ASHO	**Ashiyiah**	**2.67**	**230**	P	**Pb**	**21 30 31.3**	**+0.2**
ASHO	**Ashiyiah**	**2.67**	**230**	*e*Pn	**Pb**	**21 30 32.2**	**+1.1**
ASHO	**Ashiyiah**	**2.67**	**230**	P	**Pg**	**21 30 33.6**	**-0.7**
ASHO				S	**Sg**	**21 31 08.0**	**-1.0**
NAZ	**Nazwa, Dubai**	**2.78**	**239**	P	**Pg**	**21 30 35.1**	**-1.4**
NAZ	**Nazwa, Dubai**	**2.78**	**239**	*e*Pn	**Pb**	**21 30 31.2**	**-1.8**
NAZ	**Nazwa, Dubai**	**2.78**	**239**	P	**Pg**	**21 30 35.3**	**-1.1**
SOHO	**SOHO**	**2.79**	**215**	P	**Pb**	**21 30 32.5**	**-0.7**
SOHO	**SOHO**	**2.79**	**215**	P	**Pb**	**21 30 33.1**	**-0.1**
BIDO	**Bidbid**	**2.91**	**183**	P	**Pg**	**21 30 38.5**	**-0.3**
BIDO				S	**Sg**	**21 31 16.9**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.97**	**236**	P	**Pb**	**21 30 36.0**	**-0.1**
FAQ	**Al Faqa, Dubai**	**2.97**	**236**	*e*Pn	**Pb**	**21 30 36.6**	**+0.5**
FAQ	**Al Faqa, Dubai**	**2.97**	**236**	P	**Pb**	**21 30 37.6**	**+1.4**
FAQ				S	**Sg**	**21 31 16.5**	**-2.0**
HOQ	**Hoqain**	**2.98**	**198**	P	**Pb**	**21 30 37.8**	**+1.5**
SNR=18							
HOQ				S	**Sg**	**21 31 16.6**	**-2.2**
ASUD	**Al Ashush, Dub**	**3.23**	**237**	P	**Pb**	**21 30 40.0**	**-0.7**
SMDO	**Samad**	**3.37**	**184**	P	**Pg**	**21 30 45.7**	**-2.0**
SMDO				S	**Sg**	**21 31 28.6**	**-2.8**
ARQ	**Araqi**	**3.48**	**208**	P	**Pb**	**21 30 47.0**	**+2.1**
SNR=8.6							
ARQ				S	**Sb**	**21 31 30.8**	**+3.4**
NGRK	**Negar Kerman**	**3.48**	**337**	*e*Pn	**Pn**	**21 30 39.9**	**+2.1**
NGRK				*e*		21 31 33.3	
comp=Z,497nm,0.4s							
ZHDN	**Zahedan**	**3.69**	**36**	*e*Pn	**Pb**	**21 30 49.8**	**+1.2**
SRVN	**Saravan**	**3.78**	**74**	*e*Pn	**Pg**	**21 30 55.5**	**-0.1**
WBK	**Wadi Bani Khal**	**3.86**	**171**	P	**Pb**	**21 30 53.1**	**+1.8**
SNR=13							
WBK				S	**Sb**	**21 31 40.0**	**+1.8**
JMDO	**Jabal Madar**	**4.05**	**183**	P	**Pb**	**21 30 56.2**	**+1.6**
JMDO				S	**Sb**	**21 31 46.4**	**+2.7**
KHGB	**Koh Gabri**	**4.24**	**338**	*e*	**Sg**	**21 31 57.9**	**-1.4**
comp=Z,257nm,0.6s							
JLN	**Jalan Bani Buh**	**4.38**	**166**	P	**Pb**	**21 31 01.1**	**+0.8**
SNR=6.8							
JLN				S	**Sb**	**21 31 51.8**	**-1.5**

*INET **06** 21:56:42.0, 6°.97N×82°.56W, h15km, MW3.4*
*NEIC **06** 21:56:47.0±2.2, 6°.58N±0°.06×82°.47W±0°.07, h10km±1km, mb4.5/58, Error ellipse: s-maj=12.7km s-min=8.6km az=234.0*
*UPA **06** 21:56:47.5±1.8, 6°.70N×82°.38W, h16km±22km, MW4.2*
*IDC **06** 21:56:47.9±7.5, 7°.27N×81°.85W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.0/27, mbtmp4.1/8, MS3.4/9, Ms1 3.5/9, ms1mx3.4/18, Error ellipse: s-maj=169.5km s-min=85.2km az=4.0*
*UCR **06** 21:56:48.6±1.8, 6°.61N×82°.47W, h35km±220km, MW4.0*
*GCMT **06** 21:56:49.0±0.4, 6°.48N±0°.02×82°.36W±0°.03, h26km±1km, MW4.8/81, Moment Tensor Solution. s13,c13; s81,c97; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.52±.12; Mθθ=0.52±.10; Mφφ=-0.50±.13; Mrθ=0.01±.15; Mrφ=1.88±.07; Mθφ=-0.07±.16; Best double couple: Mo=1.95000×10^16 NP1:φ=278.00000°, δ=88.00000°, λ=-1.00000°. NP2: φ=8.00000°, δ=89.00000°, λ=-178.00000°. Principal axes: T 1.9580, Plg1.0000°, Azm143.0000°; N -0.0160, Plg88.0000°, Azm24.0000°; P -1.9420, Plg2.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 21:56:48.4±3.3, **6°.58N**±0°.07×**82°.39W**±0°.04, **h27**km±26km, **n195**, σ1**48/199, mb4.5**/31, **MS3.6**/12, **6C-6D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**1.65**	**44**	*i*P	**Pn**	**21 57 13.7**	**-1.8**
GMAL				*e*S	**Sn**	**21 57 32.9**	**-3.0**
CACAO	**El Cacao, Vera**	**1.70**	**63**	*i*P	**Pn**	**21 57 13.7**	**-2.6**
CACAO				*e*S	**Sn**	**21 57 31.8**	**-5.4**
MARI3	**Mariato, Verag**	**1.75**	**52**	*e*P	**Pn**	**21 57 14.6**	**-2.4**
MARI3				*e*S	**Sn**	**21 57 35.6**	**-2.9**
CDITO	**Canoas**	**2.04**	**346**	*i*P	**Pn**	**21 57 19.1**	**-2.0**
CDITO				*e*S	**Sn**	**21 57 42.8**	**-2.9**
CDITO	**Canoas**	**2.04**	**346**	Pn	**Pn**	**21 57 18.9**	**-2.2**
CDITO				Sn	**Sn**	**21 57 44.6**	**-1.1**
PIRO	**Carate, Puerto**	**2.04**	**333**	*e*P	**Pn**	**21 57 18.3**	**-2.8**
PIRO				*e*S	**Sn**	**21 57 44.0**	**-1.7**
STIA3	**Santiago, Vera**	**2.07**	**43**	*e*P	**Pn**	**21 57 19.7**	**-1.6**
BCO2	**Palmira**	**2.13**	**356**	*e*P	**Pn**	**21 57 21.1**	**-1.3**
BCO2				*e*S	**Sn**	**21 57 43.9**	**-4.3**
PTJ1	**Puerto Jimnez**	**2.15**	**335**	*e*P	**Pn**	**21 57 20.5**	**-2.0**
BRU2	**Volcan**	**2.23**	**352**	*i*P	**Pn**	**21 57 21.7**	**-2.0**
BRU2				*e*S	**Sn**	**21 57 48.2**	**-2.1**
BRU2	**Volcan**	**2.23**	**352**	*e*P	**Pn**	**21 57 21.9**	**-1.8**
RIOS	**Rincon, Osa**	**2.39**	**332**	*e*P	**Pn**	**21 57 23.3**	**-2.5**
RIOS				*e*S	**Sn**	**21 57 52.4**	**-1.8**
RIOS	**Rincon, Osa**	**2.39**	**332**	Pn	**Pn**	**21 57 23.2**	**-2.5**
AZU	**Azuero**	**2.42**	**60**	*i*P	**Pn**	**21 57 24.6**	**-1.7**
AZU				*e*S	**Sn**	**21 57 53.7**	**-1.3**
AZU	**Azuero**	**2.42**	**60**	*i*P	**Pn**	**21 57 24.5**	**-1.7**
LPLA	**Las Palmas La**	**2.51**	**346**	*i*P	**Pn**	**21 57 25.9**	**-1.8**
LPLA				*e*S	**Sn**	**21 57 57.5**	**0.0**
EDPN	**Palmar Norte**	**2.60**	**336**	*e*P	**Pn**	**21 57 27.0**	**-1.6**
EDBA	**Buenos Aires**	**2.72**	**341**	*e*P	**Pn**	**21 57 28.9**	**-1.4**
DRK0	**Durika**	**2.80**	**342**	*e*P	**Pn**	**21 57 30.4**	**-1.2**
DRK0	**Durika**	**2.80**	**342**		**Pn**	**21 57 30.4**	**-1.2**
SRBA	**San Rafael, Bu**	**2.81**	**340**		**Pn**	**21 57 30.2**	**-1.5**
EDLM	**Las Mercedes**	**2.94**	**336**	*i*P	**Pn**	**21 57 32.5**	**-0.9**
VTON	**El Valle, Cocl**	**3.03**	**48**	*e*P	**Pn**	**21 57 33.4**	**-1.3**
VTON				*e*S	**Sn**	**21 58 13.4**	**+3.3**
EDDO	**Dominical**	**3.04**	**331**	*e*P	**Pn**	**21 57 33.0**	**-1.7**
PEZE	**Perez Zeledon,**	**3.07**	**336**	*e*P	**Pn**	**21 57 34.1**	**-1.2**
PEZE	**Perez Zeledon,**	**3.07**	**336**		**Pn**	**21 57 34.0**	**-1.2**
MRVA	**Moravia de Chi**	**3.39**	**342**	*e*P	**Pn**	**21 57 39.3**	**-0.5**
ZANG	**Zanguenga, Cho**	**3.44**	**46**	*e*P	**Pn**	**21 57 37.8**	**-2.5**
ZANG				*e*S	**Sn**	**21 58 17.8**	**-2.4**
RIMA	**Rio Macho**	**3.49**	**335**	*e*P	**Pn**	**21 57 40.0**	**-1.2**
RIMA	**Rio Macho**	**3.49**	**335**	Pn	**Pn**	**21 57 39.9**	**-1.2**
LCR2	**La Lucha 2**	**3.53**	**333**	*e*P	**Pn**	**21 57 40.6**	**-1.1**
BCIP	**Isla Barro Col**	**3.61**	**44**	Pn	**Pn**	**21 57 42.0**	**-0.6**
BCIP	**Isla Barro Col**	**3.61**	**44**	*e*P	**Pn**	**21 57 42.0**	**-0.6**
BATAN	**Batan**	**3.63**	**344**		**Pn**	**21 57 42.6**	**-0.3**
CVTR	**Volcan Turrial**	**3.68**	**338**	*e*P	**Pn**	**21 57 43.5**	**-0.5**
CVTR	**Volcan Turrial**	**3.68**	**338**		**Pn**	**21 57 43.4**	**-0.5**
UPA	**Univ. de Panam**	**3.70**	**50**	*i*P	**Pn**	**21 57 43.0**	**-0.9**
UPA				*e*S	**Sn**	**21 58 26.0**	**-0.6**
UPA	**Univ. de Panam**	**3.70**	**50**	*e*P	**Pn**	**21 57 43.3**	**-0.6**
JACO	**JACO, Garabito**	**3.80**	**324**	*e*P	**Pn**	**21 57 43.2**	**-2.1**
JACO	**JACO, Garabito**	**3.80**	**324**		**Pn**	**21 57 43.4**	**-1.9**
HDC	**Heredia**	**3.81**	**333**	*e*P	**Pn**	**21 57 43.9**	**-1.6**
HDC				*e*S	**Sn**	**21 58 26.0**	**-3.4**
HDC	**Heredia**	**3.81**	**333**	*e*P	**Pn**	**21 57 45.2**	**-0.2**
HDC	**Heredia**	**3.81**	**333**		**Pn**	**21 57 44.9**	**-0.5**
LAFE	**Finca La Fe, P**	**4.07**	**322**	*e*P	**Pn**	**21 57 47.4**	**-1.5**
CAO2	**Cobano, Puntar**	**4.10**	**319**		**Pn**	**21 57 47.3**	**-2.0**
CHPO	**Chepo, Panama**	**4.14**	**51**	*e*S	**Sn**	**21 58 31.5**	**-6.0**
JTS	**Las Juntas de**	**4.48**	**326**	*e*P	**Pn**	**21 57 53.1**	**-1.5**
JTS	**Las Juntas de**	**4.48**	**326**	Pn	**Pn**	**21 57 53.2**	**-1.3**
JTS	**Las Juntas de**	**4.48**	**326**	*e*P	**Pn**	**21 57 53.1**	**-1.5**
CASO	**Castillo**	**4.48**	**329**	*e*P	**Pn**	**21 57 54.7**	**+0.1**
ARE1	**Arenal 1**	**4.50**	**329**	*e*P	**Pn**	**21 57 55.1**	**+0.3**
CEDE	**Laguna Cedeo**	**4.51**	**330**	*e*P	**Pn**	**21 57 54.3**	**-0.8**
COVE	**Coope Vega, Sa**	**4.57**	**334**	*e*P	**Pn**	**21 57 55.3**	**-0.5**
COVE	**Coope Vega, Sa**	**4.57**	**334**		**Pn**	**21 57 55.1**	**-0.7**
GRZA	**Playa Garza**	**4.62**	**316**	*e*P	**Pn**	**21 57 54.6**	**-1.9**
DUNO	**Dulce Nombre,**	**4.64**	**319**		**Pn**	**21 57 55.4**	**-1.5**
GUAI	**GUAI**	**4.80**	**320**	*i*P	**Pn**	**21 57 58.1**	**-0.8**
ACAL	**Aguas Claras**	**4.81**	**327**	*i*P	**Pn**	**21 57 59.2**	**+0.1**
ORTG	**Ortega, Santa**	**4.83**	**321**	Pn	**Pn**	**21 57 58.2**	**-1.3**
PTEN	**Parque Tenorio**	**4.85**	**328**	*e*P	**Pn**	**21 57 59.9**	**+0.2**
COLC	**Colonia**	**4.92**	**326**	*i*P	**Pn**	**21 58 00.8**	**+0.1**
HORNC	**Hornillas**	**4.95**	**326**	*e*P	**Pn**	**21 58 00.8**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUAB	**Guayabo de Bag**	**4.97**	**326**	*e*P	**Pn**	**21 58 01.3**	**-0.1**
LIM1	**Limonal**	**4.98**	**326**	*e*P	**Pn**	**21 58 01.7**	**+0.2**
GPS2	**Hotel Rincn d**	**5.08**	**325**	*e*P	**Pn**	**21 58 01.9**	**-1.0**
LAPC	**Finca la Perla**	**5.14**	**324**	*e*P	**Pn**	**21 58 02.5**	**-1.2**
BUEV	**Buena Vista**	**5.15**	**325**	*e*P	**Pn**	**21 58 03.6**	**-0.2**
GB1A	**Borinquen Arri**	**5.16**	**325**	*e*P	**Pn**	**21 58 04.2**	**+0.1**
GBS3	**Finca Las Img**	**5.16**	**324**	*e*P	**Pn**	**21 58 04.0**	**0.0**
BUAI	**Buenos Aires**	**5.17**	**326**	*e*P	**Pn**	**21 58 03.1**	**-1.0**
HZTE	**Horizontes, Gu**	**5.19**	**323**			**21 58 04.5**	**+0.2**
CAP2	**Capurgana**	**5.39**	**67**	Pn	**Pn**	**21 58 07.8**	**+0.6**
CAPC	**Capurgana**	**5.40**	**67**	*e*P	**Pn**	**21 58 08.4**	**+1.2**
ESPN	**Las Esperanzas**	**5.89**	**341**		**Pn**	**21 58 12.7**	**-1.4**
ACON	**Acoyapa**	**6.02**	**333**	Pn	**Pn**	**21 58 15.8**	**0.0**
CBOC	**Ciudad Bolivar**	**6.38**	**96**	*e*P	**Pn**	**21 58 19.5**	**-1.4**
YOTC	**Yotoco, Valle**	**6.55**	**113**	*e*P	**Pn**	**21 58 20.3**	**-2.9**
BOAB	**BOACO BROADBAN**	**6.67**	**331**	Pn	**Pn**	**21 58 24.0**	**-0.7**
HELC	**Santa Helena**	**6.83**	**93**	*e*P	**Pn**	**21 58 26.9**	**-0.3**
PRVC	**Isla de Provid**	**6.83**	**8**	Pn	**Pn**	**21 58 28.0**	**+1.1**
BBAC	**Balboa, Cauca**	**6.84**	**131**	*e*P	**Pn**	**21 58 25.4**	**-1.8**
UREC	**San Jos de Ur**	**6.90**	**80**	*e*P	**Pn**	**21 58 28.0**	**+0.1**
POPC	**Popayan, Colom**	**6.96**	**125**	*e*P	Pn	21 58 23.1	-5.8
MOTC	**Monteria, Cord**	**7.01**	**71**	*e*P	**Pn**	**21 58 31.2**	**+1.8**
GUY2C	**Guyana, Caldas**	**7.12**	**101**	*e*P	**Pn**	**21 58 32.4**	**+1.2**
SOTA	**Rioblanco**	**7.26**	**127**	*e*P	**Pn**	**21 58 32.7**	**-0.5**
TOLC	**Tolima**	**7.31**	**105**	*e*P	**Pn**	**21 58 34.4**	**+0.6**
PCON	**Cinco Dias**	**7.31**	**125**	*e*P	**Pn**	**21 58 33.9**	**-0.1**
GCUF	**Volcan Galeras**	**7.32**	**136**	*e*P	**Pn**	**21 58 32.9**	**-1.1**
CRUC	**La Cruz**	**7.36**	**132**	*e*P	**Pn**	**21 58 34.6**	**+0.1**
MARP	**Paez Belalcaza**	**7.41**	**120**	*e*P	**Pn**	**21 58 35.1**	**0.0**
OTAV	**Otavalo**	**7.42**	**148**	Pn	**Pn**	**21 58 33.8**	**-1.6**
ZARC	**Zaragoza, Cauc**	**7.53**	**83**	*e*P	**Pn**	**21 58 36.5**	**0.0**
NORC	**Norcasia**	**7.55**	**97**	*e*P	**Pn**	**21 58 37.2**	**+0.4**
ORTC	**Ortega, Tolima**	**7.59**	**110**	*e*P	**Pn**	**21 58 37.5**	**+0.1**
SJCC	**San Jacinto, C**	**7.86**	**65**	Pn	**Pn**	**21 58 42.1**	**+1.0**
SJCC	**San Jacinto, C**	**7.86**	**65**	*e*P	**Pn**	**21 58 42.7**	**+1.6**
PRAC	**Prado**	**8.00**	**110**	*e*P	**Pn**	**21 58 45.6**	**+2.7**
ROSC	**El Rosal**	**8.21**	**102**	LR	LR	22 01 19.9	
comp=Z,309nm,20.2s,baz=304,slow=35							
FLOC	**Florencia**	**8.35**	**126**	Pn	**Pn**	**21 58 47.2**	**-0.6**
FLOC	**Florencia**	**8.35**	**126**	*e*P	**Pn**	**21 58 46.9**	**-0.9**
SMLC	**San Martn de**	**8.54**	**74**	*e*P	**Pn**	**21 58 52.6**	**+2.2**
ARGC	**Ariguani, Magd**	**8.70**	**67**	*e*P	**Pn**	**21 58 53.6**	**+1.1**
CHIC	**Chingaza**	**8.83**	**102**	*e*P	**Pn**	**21 58 57.5**	**+2.8**
TGUH	**Tegucigalpa,Un**	**8.85**	**328**	Pn	**Pn**

MSO	**Missoula**	**48.39**	**331**	P		**P**		**22 05 29.1**	**+0.9**
E09A	**Wood Farm, Sta**	**50.28**	**328**	P		**P**		**22 05 42.4**	**-0.1**
NEW	**Newport**	**50.94**	**331**	P		**P**		**22 05 48.5**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=136,slow=8.4,SNR=4.7								
NEW	**Newport**	**50.94**	**331**	P		**P**		**22 05 48.0**	**+0.5**
RKT	**Rikitea**	**59.25**	**238**	*e*LR		LR		22 24 11.4	
	comp=Z,285nm,35.2s								
MBO	**M'Bour**	**64.64**	**77**	P		**P**		**22 07 25.1**	**+0.8**
INK	**Inuvik**	**70.28**	**342**	P		**P**		**22 08 00.4**	**+1.4**
	comp=Z,3.9nm,1.0s,baz=119,slow=5.7,SNR=3.4								
PPT2	**Papeete2**	**70.53**	**249**	*e*LR		LR		22 29 27.0	
	comp=Z,83nm,25.8s								
BCAR	**Beaver Creek A**	**70.63**	**335**	P		**P**		**22 08 02.7**	**+1.4**
L27K	**Beaver Creek,**	**70.65**	**335**	P		**P**		**22 08 03.0**	**+1.5**
L27K				IAmb		IAmb		22 08 04.2	
	comp=Z,6.6nm,1.1s								
EGAK	**Eagle**	**71.12**	**337**	P		**P**		**22 08 05.2**	**+1.0**
EGAK				IAmb		IAmb		22 08 05.8	
	comp=Z,2.9nm,0.9s								
DOT	**Dot Lake**	**71.81**	**336**	P		**P**		**22 08 09.5**	**+1.1**
DOT				IAmb		IAmb		22 08 10.9	
	comp=Z,6.3nm,0.9s								
TBI	**Tubuai**	**71.89**	**243**	*e*LR		LR		22 30 00.9	
	comp=Z,127nm,32.2s								
SCRK	**Sand Creek**	**71.91**	**336**	P		**P**		**22 08 10.1**	**+1.0**
SCRK				IAmb		IAmb		22 08 12.4	
	comp=Z,2.7nm,0.8s								
IL31		**73.38**	**336**	P		**P**		**22 08 18.5**	**+0.9**
IL31				IAmb		IAmb		22 08 21.0	
	comp=Z,4.3nm,1.1s								
ILAR	**Eielson Array**	**73.38**	**336**	P		**P**		**22 08 18.8**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=112,slow=4.7,SNR=14								
ILAR				LR		LR		22 46 25.7	
	comp=Z,24nm,18.0s,baz=108,slow=41								
ILAR	**Eielson Array**	**73.38**	**336**	P		**P**		**22 08 18.5**	**+0.8**
BMAR	**Burnt Mountain**	**73.51**	**339**	P		**P**		**22 08 19.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**74.85**	**335**	P		**P**		**22 08 27.0**	**+0.7**
BPAW				IAmb		IAmb		22 08 27.9	
	comp=Z,4.4nm,0.8s								
IMAR	**Indian Mountai**	**76.48**	**336**	P		**P**		**22 08 36.2**	**+0.6**
ESDC	**Sonseca Array**	**76.93**	**51**	LR		LR		22 37 14.4	
	comp=Z,22nm,21.1s,baz=155,slow=32								
NOA	**NORSAR Array B**	**86.05**	**29**	LR		LR		22 46 04.8	
	comp=Z,10.0nm,19.0s,baz=250,slow=35								
FINES	**FINESS Array B**	**92.95**	**27**	LR		LR		22 49 26.8	
	comp=Z,14nm,19.3s,baz=245,slow=34								
AKASG	**Malin Array Be**	**98.33**	**37**	LR		LR		22 54 35.2	
	comp=Z,16nm,18.6s,baz=270,slow=36								
DZM	**Mont Dzumac**	**112.04**	**249**	*e*LR		LR		22 48 37.9	
	comp=Z,68nm,23.5s								

UPP ***06*** *22:04:41.4±0.1, 67°.19N×20°.68E, h0km, ML1.8, Explosion*
HEL 06 22:04:42.0±0.0, 67°.18N×20°.66E, h0km, ML1.4, ML1.8 (UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.07**	**211**	P		Pg	22 04 43.2	-0.1
DUNU	**Dundret**	**0.07**	**211**	*i* P		Pg	22 04 43.2	-0.1
RATU	**Laukkuluspa**	**0.77**	**328**	P		Pg	22 04 55.8	-0.9
RATU				S		Sg	22 05 06.0	-0.5
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P		Pg	22 04 55.8	-0.9
RATU				*i* S		Sg	22 05 06.0	-0.5
KUA	**Kurravaara**	**0.79**	**351**	P		Pg	22 04 56.0	-1.0
KUA	**Kurravaara**	**0.79**	**351**	*i* P		Pg	22 04 56.0	-1.0
NIKU	**Nikkaluokta**	**0.93**	**319**	P		Pg	22 04 58.7	-1.1
NIKU				S		Sg	22 05 11.3	-0.5
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P		Pg	22 04 58.7	-1.1
NIKU				*e*S		Sg	22 05 11.3	-0.5
PAJU	**Pajala**	**0.97**	**98**	P		Pg	22 04 59.5	-1.1
PAJU				S		Sg	22 05 12.3	-0.9
PAJU	**Pajala**	**0.97**	**98**	*e*P		Pg	22 04 59.3	-1.3
	baz=282							
PAJU				*e*SB		Sg	22 05 12.4	-0.8
LANU	**Lannavaara**	**1.01**	**30**	P		Pg	22 05 00.1	-1.2
LANU				S		Sg	22 05 13.7	-0.7
LANU	**Lannavaara**	**1.01**	**30**	*e*P		Pg	22 05 00.1	-1.2
LANU				*e*SN		Sb	22 05 16.7	+0.5
HARU	**Harads**	**1.03**	**173**	P		Pg	22 05 00.3	-1.4
HARU	**Harads**	**1.03**	**173**	*e*P		Pg	22 05 00.3	-1.4
KLF	**Kolari**	**1.29**	**86**	*e*P		Pg	22 05 05.0	-1.7
KLF				*e*SB		Sg	22 05 22.2	-1.1
HEF	**Hetta**	**1.68**	**41**	*e*PG		Pn	22 05 12.1	-0.5
HEF				*e*S		Sn	22 05 33.3	-1.5
HEF				MSG			22 05 33.5	
	comp=Z,1.6nm,0.2s							
SJUU	**Sjulsmark**	**1.72**	**167**	P		Pn	22 05 12.6	-0.6
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P		Pn	22 05 12.6	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*PN		Pn	22 05 15.3	+0.7
KIF				MSG			22 05 38.2	
	comp=Z,2.2nm,0.2s							
KIF				*e*SG		Sg	22 05 40.7	-0.1
TOF	**Tornio**	**1.83**	**125**	*e*PN		Pn	22 05 14.7	0.0
TOF				MSG			22 05 35.9	
	comp=Z,2.1nm,0.2s							
TOF				*e*SN		Sn	22 05 39.1	+0.6
LILU	**Lilltraesk**	**1.93**	**190**	P		Pn	22 05 16.0	0.0
LILU	**Lilltraesk**	**1.93**	**190**	*e*P		Pn	22 05 16.0	0.0
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB		Pn	22 05 20.2	+0.6
	baz=293							
RNF				*e*SG		Sb	22 05 49.2	-0.8
SGF	**Sodankyl**	**2.29**	**81**	*e*PB		Pn	22 05 21.9	+0.9
	baz=266							
SGF				*e*SG		Sb	22 05 52.4	-0.5

RSNC ***06*** *22:13:21.8±1.0, 7°.01N×76°.65W, h2km±3km, ML3.7, Mw4.1, Fault plane solution: NP1φs158.00000°, δ56.00000°, λ58.00000°.*
UPA ***06*** *22:13:21.4±1.7, 6°.82N×76°.82W, h19km±14km, MW4.5*
NEIC ***06*** *22:13:22.1±2.2, 7°.05N±0°.04×76°.76W±0°.05, h20km±6km, mb4.1/8, Error ellipse: s-maj=7.6km s-min=5.3km az=91.0*
ISC 06 22:13:21.2±1.6, 7°.02N±0°.02×76°.75W±0°.03, h17km±11km, n67, σ1s90/105, 9C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOLC	**Bahia Solano**	**1.03**	**220**	*e*P		**Pb**	**22 13 40.6**	**+0.1**
SOLC				*e*Pg		Pn	22 13 46.8	+6.0
SOLC				*e*S		**Sg**	**22 13 56.2**	**+1.6**
SOLC				*i*			22 13 59.7	
	comp=Z,1μm,0.4s							
PTAC	**Punta Ardita,**	**1.06**	**277**	*e*P		**Pb**	**22 13 41.6**	**+0.5**
PTAC				*e*S		**Sn**	**22 13 58.1**	**+2.4**
PTAC				*i*			22 14 00.6	
	comp=Z,5μm,0.2s							
CBOC	**Ciudad Bolivar**	**1.36**	**147**	*e*P		**Pn**	**22 13 44.4**	**-1.2**
CBOC				*e*S		**Sn**	**22 14 02.0**	**-1.4**
CBOC				*i*			22 14 08.0	
	comp=Z,2μm,0.5s							
UREC	**San Jos de Ur**	**1.41**	**59**	*e*P		**Pn**	**22 13 45.4**	**-0.8**
UREC				*e*S		**Sn**	**22 14 03.5**	**-0.9**
UREC				*i*			22 14 05.2	
	comp=Z,1μm,0.4s							
HELC	**Santa Helena**	**1.47**	**124**	*i* P		**Pn**	**22 13 45.9**	**-1.4**
HELC				*e*S		**Sn**	**22 14 04.5**	**-1.8**
HELC	**Santa Helena**	**1.47**	**124**	*i* P		**Pn**	**22 13 45.8**	**-1.4**
HELC				*e*S		**Sn**	**22 14 05.5**	**-0.7**
HELC				*i*			22 14 08.5	
	comp=Z,773nm,0.5s							
CAPC	**Capurgana**	**1.71**	**340**	*e*P		**Pn**	**22 13 49.6**	**-0.7**
CAPC				*e*S		**Sg**	**22 14 15.5**	**-1.0**
CAPC				*i*			22 14 19.9	
	comp=Z,531nm,0.3s							
CAP2	**Capurgana**	**1.73**	**340**			**Pn**	**22 13 49.2**	**-1.3**
LCBC	**Los crdobas,**	**1.86**	**12**	*e*P		**Pb**	**22 13 53.9**	**-1.0**
LCBC				*e*S		**Sg**	**22 14 20.1**	**-1.3**
LCBC				*i*			22 14 29.0	
	comp=Z,433nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.93**	**76**	*e*P		**Pn**	**22 13 53.0**	**-0.4**
ZARC				*e*S		**Sn**	**22 14 16.6**	**-0.7**
UPD2	**Meteti**	**1.97**	**320**	*e*P		**Pn**	**22 13 54.7**	**+0.9**
UPD2				*e*S		**Sb**	**22 14 21.3**	**+0.3**
UPD2	**Meteti**	**1.97**	**320**	*e*P		**Pn**	**22 13 54.4**	**+0.5**
UPD2				*e*S		**Sb**	**22 14 21.7**	**+0.7**
UPD2				*i*			22 14 34.5	
	comp=Z,438nm,0.5s							
MOTC	**Monteria, Cord**	**2.05**	**31**	*e*P		**Pn**	**22 13 54.5**	**-0.5**
MOTC				*e*S		**Sn**	**22 14 21.0**	**+0.8**
MOTC				*i*			22 14 42.8	
	comp=Z,201nm,0.6s							
PLMC	**San Jos del P**	**2.15**	**168**	*e*P		**Pn**	**22 13 53.8**	**-2.7**
PLMC				*e*S		**Sn**	**22 14 18.4**	**-4.4**
PLMC				*i*			22 14 22.2	
	comp=Z,1μm,0.4s							
GUY2C	**Guyana, Caldas**	**2.25**	**142**	*e*P		**Pn**	**22 13 58.8**	**+0.6**
GUY2C				*e*S		**Sn**	**22 14 28.6**	**+2.8**
GUY2C				*i*			22 14 38.4	
	comp=Z,866nm,0.6s							
NORC	**Norcasia**	**2.36**	**128**	*e*P		**Pn**	**22 14 00.0**	**+0.7**
NORC				*e*S		**Sn**	**22 14 30.8**	**+2.8**
NORC				*i*			22 14 35.9	
	comp=Z,472nm,0.6s							
TOLC	**Tolima**	**2.81**	**149**	*e*P		**Pn**	**22 14 07.5**	**+1.9**
TOLC				*e*S		**Sn**	**22 14 43.3**	**+4.0**
TOLC				*i*			22 14 56.5	
	comp=Z,153nm,0.6s							
ANIL	**Santa Ana**	**2.85**	**152**	*e*P		**Pn**	**22 14 07.2**	**+1.0**
ANIL				*e*S		**Sn**	**22 14 40.7**	**+0.5**
ANIL				*i*			22 14 47.6	
	comp=Z,368nm,0.4s							
SPBC	**San Pablo de B**	**2.99**	**117**	*e*P		**Pn**	**22 14 10.4**	**+2.4**
SPBC				*e*S		**Sn**	**22 14 45.0**	**+1.5**
SPBC				*i*			22 14 58.7	
	comp=Z,161nm,0.5s							
BRRC	**Barranca, Sant**	**3.02**	**88**	*e*P		**Pn**	**22 14 11.3**	**+3.0**
BRRC				*e*S		**Sn**	**22 14 45.4**	**+1.3**
BRRC				*i*			22 14 58.0	
	comp=Z,201nm,0.5s							
YOTC	**Yotoco, Valle**	**3.04**	**172**	*e*P		**Pn**	**22 14 06.5**	**-2.3**
YOTC				*e*S		**Sn**	**22 14 39.7**	**-5.2**
YOTC				*i*			22 14 41.8	
	comp=Z,213nm,0.3s							
MALC	**Bahia Malaga**	**3.04**	**191**	*e*P		**Pn**	**22 14 11.3**	**+2.7**
MALC				*e*S		**Sn**	**22 14 47.2**	**+2.5**
MALC				*i*			22 15 00.7	
	comp=Z,91nm,0.7s							
CHPO	**Chepo, Panama**	**3.17**	**313**	*e*P		**Pn**	**22 14 11.4**	**+1.0**
SMLC	**San Martn de**	**3.19**	**56**	*e*P		**Pn**	**22 14 10.6**	**-0.1**
SMLC				*e*S		**Sn**	**22 14 50.2**	**+2.0**
SMLC				*i*			22 15 03.0	
	comp=Z,269nm,0.5s							
ROSC	**El Rosal**	**3.24**	**132**			**Pn**	**22 14 12.9**	**+1.2**
SJCC	**San Jacinto, C**	**3.25**	**28**	*e*P		**Pn**	**22 14 13.8**	**+2.2**
SJCC				*e*S		**Sn**	**22 14 47.8**	**-2.2**
SJCC	**San Jacinto, C**	**3.25**	**28**	Pn		**Pn**	**22 14 11.6**	**0.0**
SJCC	**San Jacinto, C**	**3.25**	**28**	*e*P		**Pn**	**22 14 11.7**	**+0.1**
SJCC				*e*S		**Sn**	**22 14 48.0**	**-2.0**
SJCC				*i*			22 14 58.9	
	comp=Z,76nm,0.7s							
UPA	**Univ. de Panam**	**3.38**	**305**	*e*P		**Pn**	**22 14 12.7**	**-0.6**
UPA				*e*S		**Sn**	**22 14 52.9**	**-0.1**
ORTC	**Ortega, Tolima**	**3.43**	**154**	*e*P		**Pn**	**22 14 16.1**	**+2.0**
ORTC				*e*S		**Sn**	**22 14 58.2**	**+3.7**
ORTC				*i*			22 15 13.7	
	comp=Z,105nm,0.5s							
BARC	**Barichara**	**3.57**	**97**	*e*P		**Pn**	**22 14 16.6**	**+0.5**
BARC				*e*S		**Sn**	**22 14 59.1**	**+1.1**
	comp=Z,404nm,0.6s							
BARC				*i*			22 15 13.3	
	comp=Z,404nm,0.6s							
AZU	**Azuero**	**3.58**	**283**	*e*P		**Pn**	**22 14 16.9**	**+0.9**
AZU				*e*S		**Sn**	**22 14 55.5**	**-2.5**
OCAC	**Ocana**	**3.61**	**70**	*e*P		**Pn**	**22 14 19.2**	**+2.7**
OCAC				*e*S		**Sn**	**22 14 58.8**	**-0.1**
ZANG	**Zanguenga, Cho**	**3.64**	**302**	*e*P		**Pn**	**22 14 14.6**	**-2.2**
VTON	**El Valle, Cocl**	**3.69**	**296**	*e*S		**Sn**	**22 15 00.7**	**-0.1**
BCIP	**Isla Barro Col**	**3.73**	**305**	Pn		**Pn**	**22 14 18.2**	**+0.2**
BCIP	**Isla Barro Col**	**3.73**	**305**	*i* P		**Pn**	**22 14 18.3**	**+0.2**
BCIP				*e*S		**Sn**	**22 15 02.0**	**+0.3**
BCIP				*i*			22 15 05.4	
	comp=Z,69nm,0.5s							
PRAC	**Prado**	**3.77**	**150**	*e*P		**Pn**	**22 14 21.0**	**+2.3**
PRAC				*e*S		**Sb**	**22 15 09.8**	**-3.1**
PRAC				*i*			22 15 24.8	
	comp=Z,114nm,0.6s							
RUSC	**La Rusia**	**3.81**	**107**			**Pn**	**22 14 20.5**	**+0.8**
RUSC	**La Rusia**	**3.81**	**107**	*e*P		**Pn**	**22 14 20.8**	**+1.2**
RUSC				*e*S		**Sn**	**22 15 05.4**	**+1.0**
RUSC				*i*			22 15 24.0	
	comp=Z,191nm,0.7s							
CHIC	**Chingaza**	**3.83**	**128**	*e*P		**Pn**	**22 14 23.3**	**+3.5**
CHIC				*e*S		**Sn**	**22 15 09.4**	**+4.8**
CHIC				*i*			22 15 15.0	
	comp=Z,63nm,0.6s							
PAMC	**Pamplona, Colo**	**4.03**	**85**	*e*P		**Pn**	**22 14 23.5**	**+0.8**
PAMC				*e*S		**Sn**	**22 15 10.2**	**+0.5**
PAMC				*i*			22 15 27.9	
	comp=Z,272nm,0.8s							
VILC	**Villavicencio,**	**4.19**	**133**	*e*P		**Pn**	**22 14 28.9**	**+4.3**
MARP	**Paez Belalcaza**	**4.22**	**169**	*e*P		**Pn**	**22 14 26.4**	**+1.3**
MARP				*e*S		**Sn**	**22 15 14.1**	**-0.2**
POPC	**Popayan, Colom**	**4.45**	**179**	*e*P		Pn	22 14 24.5	-3.7
POPC				*e*S		**Sn**	**22 15 14.2**	**-5.6**
POPC				*i*			22 15 17.2	
	comp=Z,65nm,0.4s							
PCON	**Cinco Dias**	**4.67**	**176**	*e*P		**Pn**	**22 14 33.7**	**+2.1**
PCON				*e*S		**Sn**	**22 15 25.7**	**-0.1**
PCON				*i*			22 15 34.0	
	comp=Z,52nm,0.6s							
SOTA	**Rioblanco**	**4.86**	**178**	*e*P		**Pn**	**22 14 35.3**	**+1.3**
SOTA				*e*S		**Sn**	**22 15 30.7**	**+0.5**
SOTA				*i*			22 15 39.4	
	comp=Z,84nm,0.7s							
GARC	**Garzon, Huila**	**4.96**	**165**	*e*P		**Pn**	**22 14 37.3**	**+2.1**
BBAC	**Balboa, Cauca**	**4.99**	**186**	*e*P		**Pn**	**22 14 37.8**	**+2.1**
FLOC	**Florencia**	**5.51**	**169**	Pn		**Pn**	**22 14 42.9**	**+0.2**
FLOC	**Florencia**	**5.51**	**169**	*e*P		**Pn**	**22 14 42.8**	**+0.2**
MACC	**Macarena, Meta**	**5.64**	**149**	*e*P		**Pn**	**22 14 46.1**	**+1.7**
SDV	**Santo Domingo**	**6.33**	**73**	Pn		**Pn**	**22 14 54.3**	**+0.2**
URIC	**Uribia, Colomb**	**6.61**	**45**			**Pn**	**22 14 57.9**	**+0.2**
DRK0	**Durika**	**6.81**	**290**	Pn		**Pn**	**22 14 59.1**	**-1.4**
OTAV	**Otavalo**	**6.95**	**194**	Pn		**Pn**	**22 15 03.8**	**+1.0**
OTAV	**Otavalo**	**6.95**	**194**	*e*P		**Pn**	**22 15 04.1**	**+1.3**
OTAV				*e*S		**Sn**	**22 16 21.2**	**-0.5**
MTDJ	**Mount Denham**	**11.16**	**356**	Pn		**Pn**	**22 16 01.7**	**+1.4**
GTBY	**Guantanamo Bay**	**12.93**	**7**	Pn		**Pn**	**22 16 26.3**	**+2.0**
SDDR	**Presa de Saban**	**13.02**	**24**	Pn		**Pn**	**22 16 26.6**	**+0.9**
MLPR	**Magueyes Islan**	**14.42**	**40**	Pn		**Pn**	**22 16 43.5**	**-1.2**
GCPR	**Guaynabo City**	**15.29**	**42**	Pn		**Pn**	**22 16 56.0**	**-0.5**
HUMP	**Col San Antoni**	**15.33**	**43**	Pn		**Pn**	**22 16 55.6**	**-1.4**
HUMP						IAmb	IAmb	22 17 04.3	
	comp=Z,9.4nm,0.9s							
CUPR	**Culebra, Puert**	**15.83**	**44**	Pn		**Pn**	**22 17 03.0**	**-0.5**
SAML	**Samuel**	**20.84**	**139**	P		**P**	**22 18 00.1**	**-2.3**
LPAZ	**La Paz**	**24.68**	**160**	P		**P**	**22 18 42.0**	**-0.1**
LPAZ						IAmb	IAmb	22 18 43.9	
	comp=Z,4.7nm,1.1s							
KOWA	**Kowa**	**71.60**	**77**	P		**P**	**22 24 42.5**	**0.0**
KOWA						IAmb	IAmb	22 24 43.8	
	comp=Z,1.3nm,0.7s							

IDC ***06*** *22:26:50.0±0.9, 5°.56S×153°.02E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.3/31, mbtmp4.4/16, ML2.2/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/28, Error ellipse: s-maj=27.5km s-min=16.3km az=116.0*
NEIC ***06*** *22:26:56.4±1.1, 5°.49S±0°.07×152°.91E±0°.10, h35km±1km, mb4.7/53, Error ellipse: s-maj=16.6km s-min=11.3km az=254.0*
DJA ***06*** *22:26:58.8±0.6, 5°.5±11°×15°.3E±°, h54km±15km, M4.7/6, mB4.4/1, mb4.5/6, MLv4.8/2, Mw(mB)3.5/1*
ISC 06 22:26:56.2±0.4, 5°.51S±0°.06×152°.86E±0°.08, h37km, n100, σ0s89/100, mb4.6/45, MS3.5/5, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RABL	**Rabaul**	**1.48**	**332**			**Pn**	**22 27 20.8**	**+0.5**
PMG	**Port Moresby**	**6.85**	**235**	Pn		**Pn**	**22 28 34.2**	**+0.1**
	2.9nm,0.3s,baz=42,slow=10,SNR=8.2							
PMG				Sn		**Sn**	**22 29 49.9**	**-0.9**
	3.4nm,0.3s,baz=52,slow=5.3,SNR=3.6							
PMG	**Port Moresby**	**6.85**	**235**			**Pn**	**22 28 34.8**	**+0.7**
CTA	**Charters Tower**	**15.85**	**203**	Pn		**P**	**22 30 38.9**	**-1.1**
	0.3nm,0.3s,baz=33,slow=16,SNR=3.9							
CTAO	**Charters Tower**	**15.85**	**203**			**P**	**22 30 39.1**	**-0.9**
SANVU	**Saraoutou**	**17.20**	**126**			**Pn**	**22 30 53.1**	**-0.6**
SANVU					IAmb	IAmb	22 30 57.4	
	comp=Z,43nm,0.8s							
EIDS	**Eidsvold**	**19.82**	**185**	P		**P**	**22 31 23.2**	**-0.6**
FAKI	**Fak Fak**	**20.71**	**276**	P		**P**	**22 31 33.7**	**+0.1**
FAKI					IAmb	IAmb	22 32 00.9	
	comp=Z,40nm,1.2s							
DZM	**Mont Dzumac**	**21.07**	**143**	*e*P		**P**	**22 31 41.2**	**+3.8**
DZM					*e*LR	LR	22 36 01.0	
	comp=Z,206nm,25.3s							
DZM	**Mont Dzumac**	**21.07**	**143**	LR		LR	22 38 28.5	
	comp=Z,157nm,21.2s,baz=60,slow=33							
DZM	**Mont Dzumac**	**21.07**	**143**	P		**P**	**22 31 37.7**	**+0.3**
DZM					IAmb	IAmb	22 32 00.8	
	comp=Z,48nm,1.4s							
SIJI	**Sorong**	**22.04**	**281**	P		**P**	**22 31 49.0**	**+1.2**
	comp=Z,9.5nm,0.6s,baz=94,slow=13,SNR=6.1							
MTN	**Manton Dam**	**22.64**	**250**	P		**P**	**22 31 56.0**	**+1.8**
MTN					IAmb	IAmb	22 32 01.3	
	comp=Z,68nm,1.4s							
ARMA	**Armidale**	**24.80**	**183**	P		**P**	**22 32 16.0**	**+1.1**
ARMA					IAmb	IAmb	22 32 18.4	
	comp=Z,16nm,1.2s							
AS31	**Alice Springs**	**25.67**	**223**	P		**P**	**22 32 22.9**	**0.0**
ASAR	**Alice Springs**	**25.67**	**223**	P		**P**	**22 32 22.1**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=56,slow=9.1,SNR=29							
ASAR	**Alice Springs**	**25.67**	**223**	P		**P**	**22 32 22.6**	**-0.2**
KNRA	**Kununurra**	**25.72**	**245**	P		**P**	**22 32 24.1**	**+0.8**
KNRA					IAmb	IAmb	22 32 37.7	
	comp=Z,31nm,0.8s							
MSVF	**Nonsavu**	**27.46**	**118**	LR		LR	22 42 33.9	
	comp=Z,126nm,19.2s,baz=146,slow=35							
STKA	**Stephens Creek**	**28.27**	**201**	P		**P**	**22 32 44.6**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=57,slow=8.7,SNR=4.4							
STKA					LR	LR	22 43 51.5	
	comp=Z,119nm,18.3s,baz=28,slow=36							
STKA	**Stephens Creek**	**28.27**	**201**	P		**P**	**22 32 44.8**	**-1.3**
SOEI	**Soe**	**28.64**	**260**	P		**P**	**22 32 50.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P		**P**	**22 32 55.9**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=77,slow=6.3,SNR=8.4							
FITZ					LR	LR	22 45 50.8	
	comp=Z,88nm,18.5s,baz=75,slow=39							
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P		**P**	**22 32 56.1**	**0.0**
FITZ					IAmb	IAmb	22 33 02.7	
	comp=Z,28nm,1.5s							
TUWZ	**Tuamarina**	**40.42**	**155**	P		**P**	**22 34 31.4**	**+0.6**
JNU	**Nakatsue**	**43.72**	**333**	P		**P**	**22 34 57.6**	**-0.3**
JNU					IAmb	IAmb	22 34 58.6	
	comp=Z,32nm,1.2s							
MJAR	**Matsushiro Arr**	**44.02**	**343**	P		**P**	**22 34 58.3**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=171,slow=8.4,SNR=6.5							
MJAR					PcP	**PcP**	**22 36 46.1**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=156,slow=4.7,SNR=4.0							
MJAR	**Matsushiro Arr**	**44.02**	**343**	P		**P**	**22 34 59.2**	**-1.1**
MAT	**Matsushiro**	**44.02**	**343**	P		**P**	**22 34 57.7**	**-2.6**
JHS	**Saijyo**	**44.38**	**337**	P		**P**	**22 35 02.2**	**-1.0**
JHS					IAmb	IAmb	22 35 04.4	
	comp=Z,32nm,1.4s							
JTM	**Tenmabayashi**	**47.33**	**348**	P		**P**	**22 35 25.5**	**-0.8**
KSRS	**Korea Array**	**48.66**	**333**	P		**P**	**22 35 36.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=154,slow=7.8,SNR=3.3							
NJ2	**Nanjing**	**49.43**	**321**	*e*P		**P**	**22 35 43.6**	**+1.0**
NJ2					pmax	pmax		
	comp=Z,4.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.93**	**341**	P		**P**	**22 36 08.7**	**0.0**
	comp=Z,1.7nm,0.7s,baz=188,slow=8.0,SNR=9.2							
USA0B	**Ussuriysk Arra**	**52.93**	**341**	P		**P**	**22 36 09.0**	**+0.3**
ENH	**Enshi**	**54.68**	**313**	P		**P**	**22 36 21.4**	**-0.5**
ENH					IAmb	IAmb	22 36 39.9	
	comp=Z,9.0nm,1.0s							
KMI	**Kunming**	**57.43**	**304**	P		**P**	**22 36 42.7**	**+0.9**
KMI					pP	pP	22 36 50.2	-1.4
KMI					pmax	pmax		
	comp=Z,7.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**58.23**	**296**	P		**P**	**22 36 48.2**	**+1.0**
	comp=Z,1.4nm,0.4s,baz=114,slow=5.7,SNR=9.8							
CMAR	**Chiang Mai Arr**	**58.23**	**296**	P		**P**	**22 36 47.8**	**+0.5**
CHTO	**Chiang Mai**	**58.34**	**296**	P		**P**	**22 36 48.1**	**0.0**
CHTO				

comp=Z,4.2nm,1.0s
FRU1 Bishkek 85.13 314 P **P** 22 39 29.2 **+0.5**
FRU1 IAmb IAmb 22 39 29.9
comp=Z,6.3nm,1.0s
AAK Ala-Archa 85.19 314 P **P** 22 39 29.6 **+0.5**
AAK IAmb IAmb 22 39 31.1
comp=Z,4.8nm,0.9s
ARSB Arslanbob 86.04 312 P **P** 22 39 33.6 **+0.2**
NRIK Noril'sk 86.65 341 P **P** 22 39 35.5 **0.0**
comp=Z,4.1nm,0.5s,baz=106,slow=4.3,SNR=7.5
NRIK Noril'sk 86.65 341 P **P** 22 39 35.3 **-0.2**
NRIK IAmb IAmb 22 39 37.2
comp=Z,4.9nm,0.6s
EPYK Eagle Plains 87.30 22 P **P** 22 39 38.8 **0.0**
BTK Batken 87.44 310 P **P** 22 39 40.3 **+0.2**
KK31 Karatay Array 88.16 313 P **P** 22 39 43.5 **+0.1**
KKAR Karatay Array 88.16 313 P **P** 22 39 43.3 **-0.1**
INK Inuvik 89.09 21 P **P** 22 39 46.9 **-0.2**
BRVK Borovoye 89.91 323 P **P** 22 39 51.0 **-0.3**
BRVK IAmb IAmb 22 40 05.9
comp=Z,4.9nm,1.3s
NVAR Mina Array Bea 92.47 52 P **P** 22 40 03.3 **-0.6**
comp=Z,0.5nm,0.7s,baz=266,slow=4.4,SNR=3.8
CLL Collm 123.50 331 *e*PKPdf **PKiKP** 22 45 50.0 **+0.2**
CLL *e* 22 45 53.0
GERES GERESS Array B 124.69 328 PKP **PKPdf** 22 45 51.9 **-0.2**
comp=Z,0.8nm,0.6s,baz=93,slow=2.7,SNR=9.8
GERES GERESS Array B 124.69 328 **PKPdf** 22 45 52.1 **0.0**
BDFB Brasilia 150.52 136 PKPbc **PKPbc** 22 46 45.1 **-0.1**
comp=Z,2.2nm,0.7s,baz=172,slow=14,SNR=3.0
BDFB Brasilia 150.52 136 **PKiKP** 22 46 45.4 **-0.6**

*JMA **06** 22:55:14.7,24.41N×122.54E,h22km±1km,M2.5*
*TAP **06** 22:55:16.1,24.47N×122.38E,h6km,ML2.8,D*
ISC 06 22:55:14.2±0.9,24.44N±0.02×122.51E±0.02,h16km±8km,
n88,σ0.95/161,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.40**	**88**	P	**Pg**	**22 55 22.4**	**+0.1**
JYNG				S	**Sg**	**22 55 27.9**	**0.0**
YOJ	**Yonaguni jima**	**0.46**	**87**	P	**Pg**	**22 55 23.6**	**+0.2**
YOJ				*e*S	**Sg**	**22 55 29.7**	**0.0**
YOJ	**Yonaguni jima**	**0.46**	**87**	P	**Pn**	**22 55 28.4**	**+2.3**
	baz=90						
YOJ				*e*S	**Sn**	**22 55 37.7**	**+3.8**
	baz=90						
TWC	**Suao**	**0.62**	**286**	P	**Pg**	**22 55 26.2**	**-0.4**
	baz=286						
TWC				S	**Sg**	**22 55 34.4**	**-0.5**
	baz=286						
EGS		**0.66**	**308**	⇓*i*P	**Pn**	**22 55 28.1**	**-0.8**
	baz=313						
EGS				S	**Sb**	**22 55 36.8**	**+0.4**
	baz=313						
EWUT	**Wuta**	**0.67**	**271**	P	**Pb**	**22 55 27.8**	**+0.4**
	baz=267						
EWUT				S	**Sb**	**22 55 36.8**	**+0.4**
	baz=267						
TWB1	**Santiao Chiao**	**0.74**	**320**	P	**Pn**	**22 55 29.7**	**-0.2**
	baz=327						
TWB1				S	**Sn**	**22 55 39.3**	**-1.6**
	baz=327						
NTC	**Toucheng**	**0.74**	**304**	P	**Pn**	**22 55 29.5**	**-0.6**
	baz=307						
NTC				S	**Sb**	**22 55 39.2**	**+0.5**
	baz=307						
NDS	**Dongshan**	**0.75**	**285**	P	**Pn**	**22 55 29.4**	**-0.7**
	baz=285						
NDS				S	**Sn**	**22 55 39.7**	**-1.3**
	baz=285						
ILA	**Ilan**	**0.77**	**295**	*e*P	**Pn**	**22 55 30.2**	**-0.1**
	baz=297						
ILA				S	**Sb**	**22 55 39.7**	**+0.4**
	baz=297						
TWE	**Neicheng**	**0.82**	**290**	⇑*i*P	**Pn**	**22 55 30.6**	**-0.4**
	baz=291						
TWE				*i* S	**Sg**	**22 55 41.2**	**+0.2**
	baz=291						
TIPB	**Shuangxi**	**0.82**	**311**	⇓*i*P	**Pn**	**22 55 31.1**	**0.0**
	baz=314						
TIPB				S	**Sn**	**22 55 42.4**	**-0.4**
	baz=314						
NACB	**Ninganchiao**	**0.87**	**253**	P	**Pg**	**22 55 31.3**	**+0.1**
	baz=247						
NACB				*e*S	**Sn**	**22 55 44.4**	**+0.2**
	baz=247						
ENTT	**Nioudou**	**0.88**	**283**	P	**Pn**	**22 55 31.7**	**-0.3**
	baz=282						
ENTT				S	**Sg**	**22 55 42.8**	**-0.2**
	baz=282						
TWD	**Chiawan**	**0.91**	**247**	*e*P	**Pn**	**22 55 32.8**	**+0.5**
	baz=241						
TWD				*e*S	**Sn**	**22 55 45.6**	**+0.7**
	baz=241						
NWF	**Wu-fen Shan**	**0.92**	**314**	*e*P	**Pn**	**22 55 32.4**	**-0.1**
	baz=317						
NWF				*e*S	**Sn**	**22 55 45.0**	**-0.3**
	baz=317						
WFSB	**Wu-fen Shan**	**0.92**	**314**	*e*P	**Pn**	**22 55 32.8**	**+0.4**
	baz=317						
WFSB				*e*S	**Sn**	**22 55 45.2**	**0.0**
	baz=317						
NDT	**Datong Townshi**	**0.92**	**280**	P	**Pn**	**22 55 32.2**	**-0.3**
	baz=279						
NDT				S	**Sg**	**22 55 44.2**	**-0.1**
	baz=279						
HWA	**Hwalien**	**0.94**	**241**	*e*S	**Sn**	**22 55 46.3**	**+0.5**
	baz=234						
ETLH	**Xiulin Townshi**	**0.96**	**256**	*e*P	**Pn**	**22 55 33.4**	**+0.3**
	baz=252						
ETLH				*e*S	**Sn**	**22 55 46.9**	**+0.4**
	baz=252						
TNOU	**National Taiwa**	**0.97**	**317**	*e*P	**Pn**	**22 55 33.5**	**+0.3**
	baz=320						
TNOU				*e*S	**Sn**	**22 55 46.6**	**-0.1**
	baz=320						
NWLT	**Wulai**	**0.98**	**290**	P	**Pn**	**22 55 34.2**	**+1.0**
	baz=291						
NWLT				S	**Sn**	**22 55 45.9**	**-0.8**
	baz=291						
TWA	**Mucha**	**1.00**	**303**	*e*P	**Pn**	**22 55 34.3**	**+0.8**
	baz=305						
TWA				*e*S	**Sn**	**22 55 47.1**	**-0.2**
	baz=305						
TEYL	**Yanliau Villag**	**1.01**	**236**	*e*P	**Pg**	**22 55 34.9**	**+1.1**
	baz=231						
TEYL				*e*S	**Sn**	**22 55 48.3**	**+0.9**
	baz=231						
NNSB	**Datong**	**1.03**	**270**	*e*P	**Pg**	**22 55 33.9**	**-0.3**
	baz=267						
NNSB				*e*S	**Sg**	**22 55 47.3**	**-0.3**
	baz=267						
NNSH	**Datong**	**1.03**	**270**	*e*P	**Pg**	**22 55 34.3**	**+0.2**
	baz=267						
NNSH				*e*S	**Sn**	**22 55 47.4**	**-0.7**
	baz=267						
NNS	**Nan Shan**	**1.03**	**270**	*e*P	**Pg**	**22 55 34.2**	**-0.1**
	baz=267						
NNS				*e*S	**Sn**	**22 55 48.1**	**-0.3**
	baz=267						
NHDH	**Xindian Distri**	**1.04**	**301**	*e*P	**Pg**	**22 55 34.3**	**0.0**
	baz=302						
NHDH				*e*S	**Sn**	**22 55 48.3**	**+0.1**
	baz=302						
ETM	**Tongmen**	**1.04**	**243**	*e*P	**Pg**	**22 55 35.8**	**+1.4**
	baz=238						
ETM				*e*S	**Sn**	**22 55 50.5**	**+2.2**
	baz=238						
YHNB	**Yeheng**	**1.06**	**283**	*e*P	**Pg**	**22 55 35.1**	**+0.4**
	baz=282						
YHNB				S	**Sn**	**22 55 48.9**	**0.0**
	baz=282						
YM01	**YM01**	**1.11**	**310**	*e*P	**Pg**	**22 55 36.8**	**+1.2**
	baz=312						
YM01				*e*S	**Sg**	**22 55 50.5**	**+0.3**
	baz=312						
IRIF	**Iriomote-Funau**	**1.12**	**95**	P	**Pn**	**22 55 34.2**	**-0.9**
IRIF				S	**Sb**	**22 55 48.7**	**-0.7**
YM08	**YM08**	**1.12**	**312**	*e*P	**Pg**	**22 55 37.5**	**+1.5**
	baz=315						
YM08				*e*S	**Sg**	**22 55 51.2**	**+0.6**
	baz=315						
ESL	**Shilin**	**1.16**	**238**	*e*P	**Pg**	**22 55 37.2**	**+0.6**
	baz=232						
ESL				*e*S	**Sg**	**22 55 52.6**	**+0.7**
	baz=232						
WHF	**Hehuan Shan**	**1.17**	**256**	*e*P	**Pg**	**22 55 37.4**	**+0.4**
	baz=252						
WHF				*e*S	**Sg**	**22 55 52.7**	**+0.3**
	baz=252						
TWY	**Chenhua**	**1.18**	**315**	*e*P	**Pg**	**22 55 38.6**	**+1.6**
	baz=318						
TWY				*e*S	**Sg**	**22 55 52.8**	**+0.5**
	baz=318						
HATJ	**Hateruma jima**	**1.24**	**107**	P	**Pn**	**22 55 36.9**	**0.0**
HATJ				S	**Sb**	**22 55 52.7**	**-0.3**
TDCB	**Techi**	**1.25**	**262**	*e*P	**Pg**	**22 55 37.8**	**-0.5**
	baz=258						
TDCB				*e*S	**Sg**	**22 55 53.6**	**-1.0**
	baz=258						
EGFH	**Guangfu**	**1.25**	**233**	*e*P	**Pg**	**22 55 39.2**	**+0.8**
	baz=227						
EGFH				*e*S	**Sg**	**22 55 55.5**	**+0.8**
	baz=227						
PCYT	**Pengchaiyu**	**1.25**	**342**	*e*P	**Pg**	**22 55 39.4**	**+0.9**
	baz=346						
CHGB	**Renai**	**1.27**	**253**	*e*P	**Pg**	**22 55 39.6**	**+0.7**
	baz=249						
OWD	**Renai**	**1.31**	**249**	*e*P	**Pg**	**22 55 39.4**	**-0.1**
	baz=244						
OWD				*e*S	**Sg**	**22 55 56.7**	**+0.1**
	baz=244						
HGSD	**Ruisui**	**1.37**	**227**	*e*P	**Pg**	**22 55 40.6**	**0.0**
	baz=221						
HGSD				*e*S	**Sg**	**22 55 58.7**	**+0.3**
	baz=221						
LIOB	**Emei**	**1.38**	**279**	*e*S	**Sg**	**22 55 57.6**	**-1.1**
	baz=278						
JKRS	**Kuro-shima**	**1.38**	**98**	P	**Pn**	**22 55 38.5**	**-0.3**
JKRS				S	**Sn**	**22 55 56.0**	**-0.7**
EHY	**Hungye**	**1.43**	**230**	*e*P	**Pg**	**22 55 42.1**	**+0.3**
	baz=224						
EHY				*e*S	**Sg**	**22 55 59.7**	**-0.7**
	baz=224						
WHP	**Taichung City**	**1.44**	**264**	*e*P	**Pg**	**22 55 41.5**	**-0.4**
	baz=261						
WHP				*e*S	**Sg**	**22 55 59.8**	**-0.8**
	baz=261						
JIJ	**Ishigaki jima**	**1.49**	**92**	P	**Pn**	**22 55 39.7**	**-0.6**
JIJ				S	**Sn**	**22 55 57.1**	**-2.3**
WCS	**Beigang Elemen**	**1.51**	**256**	*e*P	**Pg**	**22 55 42.7**	**-0.5**
	baz=252						
WCS				*e*S	**Sg**	**22 56 01.7**	**-1.1**
	baz=252						
YULB	**Yu-li**	**1.52**	**227**	*e*P	**Pg**	**22 55 43.6**	**+0.1**
	baz=222						
YULB				*e*S	**Sg**	**22 56 03.5**	**+0.2**
	baz=222						
EYUL	**Yuli**	**1.54**	**225**	*e*P	**Pg**	**22 55 44.2**	**+0.4**
	baz=220						
EYUL				*e*S	**Sg**	**22 56 04.4**	**+0.6**
	baz=220						
TWF1	**Yuli**	**1.55**	**226**	*e*P	**Pg**	**22 55 44.0**	**-0.1**
	baz=221						
TWF1				*e*S	**Sg**	**22 56 04.2**	**0.0**
	baz=221						
SSLB	**Suanglung**	**1.56**	**246**	*e*P	**Pg**	**22 55 43.8**	**-0.5**
	baz=242						
SSLB				*e*S	**Sg**	**22 56 03.8**	**-0.9**
	baz=242						
NMLH	**Miaoli**	**1.57**	**274**	*e*P	**Pg**	**22 55 44.0**	**-0.5**
	baz=272						
NMLH				*e*S	**Sg**	**22 56 03.4**	**-1.4**
	baz=272						
TWQ1	**Liyutan**	**1.58**	**267**	*e*S	**Sg**	**22 56 03.7**	**-1.7**
	baz=265						
TYC	**Yuchr**	**1.60**	**251**	*e*P	**Pg**	**22 55 44.4**	**-0.6**
	baz=247						
TYC				*e*S	**Sg**	**22 56 04.8**	**-1.0**
	baz=247						
JISG	**Ishigakijimahi**	**1.65**	**84**	P	**Pn**	**22 55 41.9**	**-0.5**
JISG				S	**Sn**	**22 56 02.5**	**-0.8**
FULB	**Fuli**	**1.66**	**222**	*e*P	**Pg**	**22 55 45.8**	**-0.4**
	baz=218						
FULB				*e*S	**Sg**	**22 56 07.6**	**-0.2**
	baz=218						
CHKT	**Chengkung**	**1.69**	**218**	*e*P	**Pb**	**22 55 45.9**	**+0.9**
	baz=213						
CHKT				*e*S	**Sg**	**22 56 08.4**	**-0.4**
	baz=213						
WWF	**Wufeng**	**1.70**	**257**	*e*P	**Pb**	**22 55 45.5**	**+0.4**
	baz=254						
WWF				*e*S	**Sb**	**22 56 07.0**	**+0.9**
	baz=254						
WDJ	**Dajia District**	**1.71**	**267**	*e*P	**Pb**	**22 55 45.4**	**+0.2**
	baz=265						
WDJ				*e*S	**Sb**	**22 56 07.0**	**+0.6**
	baz=265						
YUS	**Yu-Shan**	**1.71**	**237**	*e*P	**Pb**	**22 55 45.6**	**+0.1**
	baz=232						
YUS				*e*S	**Sg**	**22 56 08.0**	**-1.4**
	baz=232						
WNT	**Mingjian**	**1.76**	**252**	*e*S	**Sb**	**22 56 07.9**	**0.0**
	baz=248						
EDH	**Donghe**	**1.83**	**217**	*e*P	**Pg**	**22 55 48.9**	**-0.5**
	baz=213						
EDH				*e*S	**Sg**	**22 56 11.6**	**-1.5**
	baz=213						
ELDTW	**Lidau**	**1.85**	**228**	*e*P	**Pb**	**22 55 48.2**	**+0.5**
	baz=224						
ELDTW				*e*S	**Sb**	**22 56 11.6**	**+1.0**
	baz=224						
CHN5	**Tsauling**	**1.87**	**244**	*e*P	**Pb**	**22 55 49.0**	**+0.9**
	baz=240						
CHN5				*e*S	**Sb**	**22 56 11.5**	**+0.3**
	baz=240						
WDLH	**Douliu**	**1.95**	**248**	*e*S	**Sb**	**22 56 13.6**	**+0.2**
	baz=245						
LDUT	**Ludao**	**2.00**	**209**	*e*P	**Pb**	**22 55 51.5**	**+1.4**
	baz=204						
LDUT				*e*S	**Sb**	**22 56 16.0**	**+1.2**
	baz=204						
JTJ	**Tarama**	**2.01**	**84**	P	**Pn**	**22 55 47.5**	**+0.1**
JTJ				*e*S	**Sn**	**22 56 11.5**	**-0.6**
STYH	**Taoyuan**	**2.03**	**232**	*e*P	**Pb**	**22 55 50.4**	**-0.3**
	baz=228						
STYH				*e*S	**Sb**	**22 56 16.1**	**+0.5**
	baz=228						
STYT	**Tauyuan**	**2.04**	**232**	*e*P	**Pb**	**22 55 50.8**	**-0.2**
	baz=228						
STYT				*e*S	**Sb**	**22 56 16.2**	**0.0**
	baz=228						
TPUB	**Ta-pu**	**2.06**	**237**	*e*P	**Pb**	**22 55 51.2**	**0.0**
	baz=233						
TPUB				*e*S	**Sb**	**22 56 16.4**	**-0.2**
	baz=233						
CHN4	**Tsaushan**	**2.06**	**239**	*e*P	**Pb**	**22 55 51.6**	**+0.4**
	baz=235						
CHN4				*e*S	**Sb**	**22 56 16.4**	**-0.2**
	baz=235						
WTP	**Ta-pu**	**2.10**	**236**	*e*P	**Pb**	**22 55 51.9**	**0.0**
	baz=232						
WTP				*e*S	**Sb**	**22 56 17.9**	**+0.1**
	baz=232						
TWK	**Hsinying**	**2.19**	**238**	*e*P	**Pb**	**22 55 52.9**	**-0.5**
	baz=235						
TWK				*e*S	**Sb**	**22 56 20.0**	**-0.2**
	baz=235						
CHN1	**Nanshi**	**2.20**	**236**	*e*P	**Pb**	**22 55 53.0**	**-0.6**
	baz=232						
CHN1				*e*S	**Sb**	**22 56 20.3**	**-0.4**
	baz=232						
SLGT	**Liugui**	**2.23**	**230**	*e*P	**Pb**	**22 55 54.2**	**0.0**
	baz=227						
SLGT				*e*S	**Sb**	**22 56 21.3**	**-0.2**
	baz=227						
CHN3	**Shinhua**	**2.39**	**236**	*e*P	**Pb**	**22 56 56.1**	**-0.7**
	baz=232						
SSD	**Sandimen**	**2.41**	**226**	*e*P	**Pb**	**22 55 56.7**	**-0.5**
	baz=222						
TSMG	**Majia**	**2.43**	**225**	*e*P	**Pb**	**22 55 55.8**	**-1.7**
	baz=222						
TSMG				*e*S	**Sb**	**22 56 25.9**	**-1.3**
	baz=222						
MASBT	**Mashibuluo**	**2.50**	**224**	*e*P	**Pb**	**22 55 57.7**	**-1.1**
	baz=220						
MASBT				*e*S	**Sb**	**22 56 28.0**	**-1.3**
	baz=220						
EAST	**Anshuo**	**2.55**	**217**	*e*S	**Sb**	**22 56 29.4**	**-1.4**
	baz=213						
SLIU	**Shizi**	**2.71**	**216**	*e*P	**Pb**	**22 56 01.0**	**-1.3**
	baz=212						
VWUC	**VWUC**	**2.84**	**282**	*e*P	**Pn**	**22 56 00.9**	**+2.1**
	baz=281						
VWUC				*e*S	**Sn**	**22 56 34.6**	**+1.9**
	baz=281						
PHUB	**P'eng-hu**	**2.84**	**252**	*e*S	**Sn**	**22 56 34.8**	**+2.1**
	baz=249						
WDGT	**Dungji**	**2.86**	**246**	*e*P	**Pb**	**22 56 02.0**	**-2.9**
	baz=244						
MATB	**Ma-tsu**	**2.88**	**307**	*e*S	**Sb**	**22 56 36.4**	**-3.8**
	baz=306						
MHZQ	**Yeshan**	**3.56**	**298**	*e*S	**Sn**	**22 56 52.5**	**+2.0**
	baz=298						

*NOU **06** 23:05:34.4,14.78S×168.21E,h0km,MLv5.1,Vanuatu Islands*
*IDC **06** 23:05:37.0±1.3,15.04S×168.23E,h0km,mb4.2/9,*
mb1 4.3/10,mb1mx4.0/35,mbtmp4.2/10,ML4.3/1,MS3.6/5,
Ms1 3.5/5,ms1mx3.1/31,Error ellipse: s-maj=40.3km
s-min=20.6km az=131.0
*NEIC **06** 23:05:40.2±1.5,15.05S±0.1×168.02E±0.07,h10km±1km,*
mb4.6/12,Error ellipse: s-maj=20.2km s-min=7.2km
az=330.0
ISC 06 23:05:43.0±0.7,15.06S±0.08×168.02E±0.08,h36km,n43,
σ1.22/40,mb4.2/12,MS3.5/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.87**	**244**	P	**Pg**	**23 05 56.0**	**-2.7**
SANVU				S	**Sg**	**23 06 08.3**	**-2.1**
SANVU	**Saraoutou**	**0.87**	**244**	P	**Pn**	**23 05 56.1**	**-2.7**
DVP	**Devils Point**	**2.65**	**176**	P	**Pn**	**23 06 21.5**	**-1.8**
KOUNC	**Koumac, New Ca**	**6.51**	**213**	P	**Pn**	**23 07 16.9**	**+0.5**
DZM	**Mont Dzumac**	**7.13**	**192**	Pn	**Pn**	**23 07 23.5**	**-1.4**
	5.2nm,0.3s,baz=150,slow=17,SNR=14						
DZM				Sn	**Sn**	**23 08 42.5**	**-2.2**
	2.4nm,0.3s,baz=113,slow=22,SNR=4.2						
DZM	**Mont Dzumac**	**7.13**	**192**		**Pn**	**23 07 23.8**	**-1.2**
DZM	**Mont Dzumac**	**7.13**	**192**	P	**Pn**	**23 07 23.7**	**-1.2**
NOUC	**Port Laguerre**	**7.19**	**193**	P	**Pn**	**23 07 24.5**	**-1.1**
ONTNC	**Ouen Toro**	**7.36**	**191**	Pn	**Pn**	**23 07 27.9**	**0.0**
ONTNC	**Ouen Toro**	**7.36**	**191**	P	**Pn**	**23 07 28.3**	**+0.3**
OUENC	**Ouen Island, N**	**7.40**	**188**	Pn	**Pn**	**23 07 28.1**	**-0.5**
OUENI	**Ouen Island, N**	**7.40**	**188**	P	**Pn**	**23 07 28.3**	**-0.3**
PINNC	**Pines Island,**	**7.53**	**184**	Pn	**Pn**	**23 07 30.1**	**-0.2**
HNR	**Honiara**	**9.67**	**304**	LR	LR	23 11 29.4	
	comp=Z,144nm,19.9s,baz=142,slow=36						
MSVF	**Nonsavu**	**9.99**	**107**	LR	LR	23 11 05.2	
	comp=Z,347nm,19.2s,baz=312,slow=34						
EIDS	**Eidsvold**	**18.89**	**234**	P	**Pn**	**23 10 03.1**	**+1.8**
PMG	**Port Moresby**	**21.14**	**283**	LR	LR	23 17 26.5	
	comp=Z,146nm,18.4s,baz=64,slow=33						
CTA	**Charters Tower**	**21.33**	**253**	P	**P**	**23 10 28.9**	**+1.8**
	5.7nm,0.8s,baz=95,slow=10,SNR=2.9						
CTAO	**Charters Tower**	**21.33**	**253**	P	**P**	**23 10 29.3**	**+2.2**
CTAO				IAmb	IAmb	23 10 41.8	
	comp=Z,40nm,1.4s						
BKZ	**Black Stump Fm**	**25.14**	**164**	P	**P**	**23 11 04.5**	**-0.3**
BKZ				IAmb	IAmb	23 11 04.7	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**29.34**	**231**	P	**P**	**23 11 43.8**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=4.8,slow=13,SNR=4.0						
STKA				LR	LR	23 21 49.1	
	comp=Z,116nm,18.7s,baz=29,slow=33						
STKA	**Stephens Creek**	**29.34**	**231**	P	**P**	**23 11 42.6**	**+0.1**
WRA	**Warramunga Arr**	**32.45**	**256**	P	**P**	**23 12 10.2**	**+0.1**
	baz=85,slow=8.3						
AS31	**Alice Springs**	**33.23**	**250**	P	**P**	**23 12 17.3**	**+0.3**
ASAR	**Alice Springs**	**33.23**	**250**	P	**P**	**23 12 17.4**	**+0.4**
	comp=Z,3.9nm,0.4s,baz=75,slow=9.1,SNR=123						
ASAR				LR	LR	23 24 19.0	
	comp=Z,147nm,21.0s,baz=114,slow=34						
ASAR	**Alice Springs**	**33.23**	**250**	P	**P**	**23 12 16.9**	**0.0**
KNRA	**Kununurra**	**37.82**	**264**	P	**P**	**23 12 56.7**	**+0.3**
FORT	**Forrest**	**39.75**	**240**	P	**P**	**23 13 13.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**40.66**	**260**	P	**P**	**23 13 20.5**	**+0.3**
MORW	**Morawa**	**49.78**	**245**	P	**P**	**23 14 33.3**	**+0.9**
MJAR	**Matsushiro Arr**	**58.53**	**332**	P	**P**	**23 15 35.6**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=167,slow=9.7,SNR=4.9						
SBA	**Scott Base**	**62.81**	**180**	P	**P**	**23 16 04.9**	**+0.4**
SBA				IAmb	IAmb	23 16 06.6	
	comp=Z,2.9nm,1.1s						
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**23 17 19.4**	**-1.1**
QSPA				IAmb	IAmb	23 17 32.1	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**75.74**	**294**	P	**P**	**23 17 26.3**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=91,slow=4.5,SNR=2.3						
CMAR	**Chiang Mai Arr**	**75.74**	**294**	P	**P**	**23 17 25.1**	**-0.5**
ULN	**Ulaanbaatar**	**82.83**	**324**	P	**P**	**23 18 04.1**	**+0.3**
ULN				IAmb	IAmb	23 18 05.8	
	comp=Z,6.8nm,1.2s						
SONM	**Songino Array**	**83.19**	**323**	P	**P**	**23 18 06.5**	**+0.8**
	comp=Z,1.4nm,1.0s,baz=134,slow=4.5,SNR=7.9						
SONM	**Songino Array**	**83.19**	**323**	P	**P**	**23 18 05.8**	**+0.1**
SONM				IAmb	IAmb	23 18 10.6	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**86.62**	**18**	P	**P**	**23 18 21.1**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=238,slow=5.7,SNR=12						
ILAR	**Eielson Array**	**86.62**	**18**	P	**P**	**23 18 22.1**	**-0.2**
NVAR	**Mina Array Bea**	**86.94**	**49**	P	**P**	**23 18 23.8**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=220,slow=8.0,SNR=5.9						
MKAR	**Makanchi Array**	**97.94**	**316**	P	Pdif	23 19 15.5	+0.1
	comp=Z,0.8nm,0.9s,baz=92,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**97.94**	**316**	P	Pdif	23 19 15.6	+0.2

*NEIC **06** 23:09:07.6±1.5,29.45N±0.02×140.6E±0.2,h98km±8km,*
mb4.4/17,Error ellipse: s-maj=20.5km s-min=1.2km
az=84.0
*IDC **06** 23:09:08.5±1.4,29.35N×140.68E,h110km±13km,mb3.5/9,*
mb1 3.6/12,mb1mx3.3/40,mbtmp3.8/12,Error ellipse:
s-maj=29.6km s-min=11.7km az=71.0
ISC 06 23:09:07.5±0.6,29.41N±0.06×140.7E±0.1,h100km,n48,
σ1.20/47,mb4.2/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.65**	**150**	P	**Pn**	**23 09 48.5**	**-0.1**
	15nm,0.3s,baz=6.6,slow=19,SNR=30						
JCJ				S	**Sn**	**23 10 21.3**	**+1.1**
	77nm,0.3s,baz=308,slow=21,SNR=11						
JCJ	**Chichijima**	**2.65**	**150**		**Pn**	**23 09 48.7**	**+0.1**
JHJ2	**Mitsune**	**3.77**	**349**	Pn	**Pn**	**23 10 05.0**	**+1.6**
JHJ	**Hachijo jima 2**	**3.78**	**348**	P	**Pn**	**23 10 05.3**	**+1.7**
	4.7nm,0.3s,baz=90,slow=20,SNR=1.5						
JHJ				S	**Sn**	**23 10 47.0**	**-0.2**
	9.5nm,0.3s,baz=70,slow=14,SNR=1.2						
JYT	**Yasato**	**6.81**	**357**	Pn	**Pn**	**23 10 43.7**	**-1.0**
MJAR	**Matsushiro Arr**	**7.41**	**344**	P	**Pn**	**23 10 55.3**	**+2.3**
	0.2nm,0.3s,baz=158,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**7.41**	**344**		**Pn**	**23 10 53.6**	**+0.6**
MAJO	**Matsushiro**	**7.41**	**344**	Pn	**Pn**	**23 10 54.1**	**+1.1**
JMM	**Marumori**	**8.43**	**0**	Pn	**Pn**	**23 11 04.3**	**-2.5**
JSD	**Sado**	**8.84**	**347**	Pn	**Pn**	**23 11 10.2**	**-2.2**
JTM	**Tenmabayashi**	**11.35**	**1**	Pn	**Pn**	**23 11 43.7**	**-2.7**
ERM	**Erimo**	**12.73**	**8**	Pn	**Pn**	**23 12 02.0**	**-2.8**
ASAJ	**Asahik

	comp=Z,3.7nm,1.2s							
MDM	**Murphy Dome**	**55.77**	**29**	P	**P**	**23 18 34.4**	**+0.7**
MDM				IAmb	IAmb	23 18 35.1	
	comp=Z,3.2nm,1.1s							
ILAR	**Eielson Array**	**56.33**	**29**	P	**P**	**23 18 37.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=277,slow=6.7,SNR=5.7							
BMAR	**Burnt Mountain**	**57.35**	**26**	P	**P**	**23 18 46.1**	**+1.3**
DOT	**Dot Lake**	**57.56**	**31**	P	**P**	**23 18 46.6**	**+0.2**
DOT				IAmb	IAmb	23 18 53.5	
	comp=Z,4.2nm,1.5s							
SCRK	**Sand Creek**	**57.59**	**30**	P	**P**	**23 18 46.9**	**+0.2**
BCAR	**Beaver Creek A**	**58.61**	**31**	P	**P**	**23 18 54.9**	**+1.2**
ABKAR	**Akbulak array**	**62.55**	**313**	P	**P**	**23 19 19.6**	**-1.1**
ABKAR	**Akbulak array**	**62.55**	**313**	P	**P**	**23 19 19.4**	**-1.3**
ABKAR				IAmb	IAmb	23 19 39.9	
	comp=Z,1.4nm,1.2s							
C36M	**Paulatuk**	**64.62**	**23**	P	**P**	**23 19 34.3**	**+0.4**
C36M				IAmb	IAmb	23 19 58.7	
	comp=Z,8.2nm,1.2s							
EUNU	**Eureka**	**67.80**	**8**	P	**P**	**23 19 54.4**	**+0.2**
EUNU				IAmb	IAmb	23 19 55.0	
	comp=Z,2.2nm,0.7s							
ARCES	**ARCESS Array B**	**70.93**	**340**	P	**P**	**23 20 13.4**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=64,slow=5.5,SNR=5.9							
ARCES	**ARCESS Array B**	**70.93**	**340**	P	**P**	**23 20 13.7**	**+0.1**
ARCES				IAmb	IAmb	23 20 22.1	
	comp=Z,7.8nm,1.4s							
FIA1	**FINESS Array S**	**75.30**	**333**	P	**P**	**23 20 39.5**	**+0.2**
FIA1				IAmb	IAmb	23 21 04.6	
	comp=Z,23nm,1.4s							
FINES	**FINESS Array B**	**75.30**	**333**	P	**P**	**23 20 38.8**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=98,slow=5.8,SNR=8.5							
FINES	**FINESS Array B**	**75.30**	**333**	P	**P**	**23 20 38.3**	**-1.0**
NVAR	**Mina Array Bea**	**80.11**	**52**	P	**P**	**23 21 07.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=286,slow=7.3,SNR=2.7							
TXAR	**Lajitas Array**	**95.25**	**52**	P	**P**	**23 22 20.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=4.1							
TXAR	**Lajitas Array**	**95.25**	**52**	P	**P**	**23 22 21.3**	**+0.8**
LPAZ	**La Paz**	**150.49**	**70**	PKPbc	**PKPbc**	**23 28 48.7**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=297,slow=1.4,SNR=8.2							

*HLW **06** 23:10:13.5, 36°.31N×28°.49E, h10km±11km, Md3.9, Ml3.7*
*ISK **06** 23:10:14.0, 36°.52N×28°.44E, h67km±1km, ML2.9/15*
*THE **06** 23:10:14.8, 36°.53N×28°.46E, h71km±6km, ML2.8/2, Error ellipse: s-maj=6.7km s-min=1.7km az=149.0*
*DDA **06** 23:10:15.7, 36°.47N×28°.50E, h47km±1km, ML2.6*
*NIC **06** 23:10:15.4±0.0, 36°.48N×28°.62E, h52km±3km, Ml3.2/3*
*ATH **06** 23:10:15.5, 36°.78N×28°.34E, h11km±4km, ML2.6/2, Error ellipse: s-maj=4.9km s-min=1.2km az=167.0*

ISC 06 23:10:13.5±1.1,**36°.53N**±0°.03×**28°.45E**±0°.02,**h70**km±6km, **n70**,σ1°**47**/111,**1C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.27**	**313**	PG		**Pn**	**23 10 24.9**	**+0.3**
TURN	**Turunc**	**0.29**	**326**	*i* P		**Pn**	**23 10 25.4**	**+0.7**
TURN				*i* S		**Sn**	**23 10 31.7**	**-1.1**
TURN				IAML			23 10 33.0	
	comp=N,372nm,0.1s							
TURN	**Turunc**	**0.29**	**326**	PG		**Pn**	**23 10 25.4**	**+0.7**
TURN				SG		**Sn**	**23 10 32.9**	**+0.1**
DALY	**Dalyan (Mula)**	**0.33**	**30**	*i* P		**Pn**	**23 10 25.5**	**+0.7**
DALY				*i* S		**Sn**	**23 10 31.4**	**-1.9**
DALY				IAML			23 10 33.0	
	comp=E,274nm,0.4s							
DALY	**Dalyan (Mula)**	**0.33**	**30**	PG		**Pn**	**23 10 25.5**	**+0.6**
ARG	**Arkhangelos**	**0.41**	**220**	P		**Pn**	**23 10 26.7**	**+1.2**
ARG				S		**Sn**	**23 10 34.8**	**+0.5**
ARG	**Arkhangelos**	**0.41**	**220**	P		**Pn**	**23 10 26.7**	**+1.2**
ARG				S		**Sn**	**23 10 35.2**	**+0.9**
	comp=E,1μm,0.2s							
ARG	**Arkhangelos**	**0.41**	**220**	PG		**Pn**	**23 10 26.3**	**+0.8**
ARG				SG		**Sn**	**23 10 35.2**	**+0.9**
ARG	**Arkhangelos**	**0.41**	**220**	P		**Pn**	**23 10 26.7**	**+1.2**
ARG				S		**Sn**	**23 10 35.2**	**+0.9**
FETY	**Fethiye**	**0.52**	**78**	P		**Pn**	**23 10 26.3**	**-0.3**
FETY				S		**Sn**	**23 10 35.5**	**-0.7**
FETY	**Fethiye**	**0.52**	**78**	*i* P		**Pn**	**23 10 26.1**	**-0.4**
FETY				*i* S		**Sn**	**23 10 35.2**	**-1.0**
FETY	**Fethiye**	**0.52**	**78**	PG		**Pn**	**23 10 26.3**	**-0.3**
YER	**Yerkesik**	**0.62**	**348**	P		**Pn**	**23 10 29.3**	**+1.7**
YER				S		**Sn**	**23 10 39.1**	**+1.1**
YER	**Yerkesik**	**0.62**	**348**	PG		**Pn**	**23 10 29.1**	**+1.5**
YER				SG		**Sn**	**23 10 39.5**	**+1.5**
DATC	**Datca-Mugla**	**0.67**	**290**	PG		**Pn**	**23 10 29.0**	**+0.9**
DATC				SG		**Sn**	**23 10 39.9**	**+1.0**
DAT	**Datca**	**0.73**	**286**	PG		**Pn**	**23 10 29.7**	**+0.9**
DAT				SG		**Sn**	**23 10 41.0**	**+0.8**
MULA	**Mugla, Merkez-**	**0.73**	**352**	*i* P		**Pn**	**23 10 30.5**	**+1.6**
MULA				IAML			23 10 44.0	
	comp=E,236nm,0.1s							
MULA				IAML			23 10 44.0	
	comp=N,221nm,0.4s							
CAME	**Cameli-Denizli**	**0.80**	**59**	PG		**Pn**	**23 10 31.1**	**+1.4**
CAME				SG		**Sn**	**23 10 42.9**	**+1.1**
CAEL	**Denizli, Camel**	**0.92**	**50**	*i* P		**Pn**	**23 10 32.8**	**+1.6**
CAEL				*i* S		**Sn**	**23 10 44.2**	**0.0**
CAEL				IAML			23 10 47.0	
	comp=N,173nm,0.7s							
CAEL				IAML			23 10 48.0	
	comp=E,206nm,0.5s							
MLSB	**Milas**	**0.93**	**325**	PG		**Pn**	**23 10 32.7**	**+1.5**
MLSB				SG		**Sn**	**23 10 45.7**	**+1.3**
BDRM	**Kayabasi**	**0.97**	**304**	*i* P		**Pn**	**23 10 32.3**	**+0.7**
BDRM				*i* S		**Sn**	**23 10 42.2**	**-2.8**
AKAS	**Kas**	**0.98**	**107**	*i* P		**Pn**	**23 10 31.4**	**-0.5**
AKAS				*i* S		**Sn**	**23 10 44.4**	**-1.1**
AKAS				IAML			23 10 50.0	
	comp=N,121nm,0.3s							
TAVA	**DENIZLI_Tavas**	**1.01**	**22**	*i* P		**Pn**	**23 10 33.4**	**+1.2**
TAVA				*i* S		**Sn**	**23 10 46.7**	**+0.6**
TAVA				IAML			23 10 49.0	
	comp=E,108nm,0.2s							
TAVA				IAML			23 10 49.0	
	comp=N,121nm,0.3s							
NIS1	**Nisyros Isl.**	**1.02**	**274**	P		**Pn**	**23 10 33.5**	**+1.2**
NIS1				S		**Sn**	**23 10 46.4**	**0.0**
NIS1				AML		AML	23 10 52.5	
	comp=N,614μm,0.4s							
NIS1				AML		AML	23 10 55.5	
	comp=E,611μm,0.5s							
NIS1	**Nisyros Isl.**	**1.02**	**274**	P		**Pn**	**23 10 33.7**	**+1.4**
NIS1				S		**Sn**	**23 10 46.9**	**+0.5**
	comp=E,312nm,0.5s							
NIS1	**Nisyros Isl.**	**1.02**	**274**	PG		**Pn**	**23 10 33.5**	**+1.2**
BODT	**Bodrum**	**1.06**	**301**	P		**Pn**	**23 10 33.2**	**+0.5**
BODT				S		**Sn**	**23 10 47.0**	**-0.1**
BODT	**Bodrum**	**1.06**	**301**	PG		**Pn**	**23 10 33.2**	**+0.5**
NISR	**Nisiros**	**1.06**	**275**	P		**Pn**	**23 10 33.9**	**+1.1**
NISR				S		**Sn**	**23 10 47.6**	**+0.4**
NISR	**Nisiros**	**1.06**	**275**	P		**Pn**	**23 10 33.3**	**+0.5**
NISR				S		**Sn**	**23 10 47.3**	**+0.1**
GOLH	**Golhisar**	**1.14**	**51**	*i* P		**Pn**	**23 10 35.9**	**+2.0**
GOLH				*i* S		**Sn**	**23 10 49.8**	**+0.8**
AYDN	**Tasoluk**	**1.22**	**338**	*i* P		**Pn**	**23 10 36.3**	**+1.5**
DDIM	**Aydin, Didim**	**1.34**	**314**	*i* P		**Pn**	**23 10 37.8**	**+1.5**
DDIM				*i* S		**Sn**	**23 10 54.0**	**+0.6**
DDIM				IAML			23 10 56.0	
	comp=E,132nm,0.8s							
DDIM				IAML			23 10 57.0	
	comp=N,81nm,0.2s							
AYDB	**Zeytinkoy-Aydi**	**1.48**	**343**	PN		**Pn**	**23 10 39.2**	**+0.8**
GCAM	**G?zelcaml?**	**1.52**	**321**	*i* P		**Pn**	**23 10 40.1**	**+1.4**
GCAM				*i* S		**Sn**	**23 10 58.1**	**+0.4**
GCAM				IAML			23 10 59.0	
	comp=E,112nm,0.4s							
GCAM	**G?zelcaml?**	**1.52**	**321**	PN		**Pn**	**23 10 40.4**	**+1.7**
AKUM	**Antalya-Kumluc**	**1.54**	**97**	*i* P		**Pn**	**23 10 40.5**	**+1.5**
AKUM				*i* S		**Sn**	**23 10 59.7**	**+1.5**
AKUM				IAML			23 11 03.0	
	comp=E,94nm,0.2s							
AKUM				IAML			23 11 03.0	
	comp=N,72nm,0.2s							
KORT	**Korkueli**	**1.60**	**72**	*i* P		**Pn**	**23 10 42.3**	**+2.5**
BRDR	**BURDUR-Merkez**	**1.74**	**47**	*i* P		**Pn**	**23 10 43.8**	**+2.1**
SMG	**Samos**	**1.74**	**313**	P		**Pn**	**23 10 43.0**	**+1.3**
SMG				S		**Sn**	**23 11 02.9**	**-0.2**
SMG				AML		AML	23 11 05.9	
	comp=N,330μm,0.3s							
SMG				AML		AML	23 11 06.5	
	comp=E,444μm,0.3s							
BUCA	**Burdur, Bucak-**	**1.87**	**64**	*i* P		**Pn**	**23 10 46.1**	**+2.6**
MANT	**Manisa**	**1.96**	**3**	*i* P		**Pn**	**23 10 45.7**	**+0.9**
MANT				*i* S		**Sn**	**23 11 07.0**	**-1.6**
MANT				IAML			23 11 08.0	
	comp=E,74nm,0.3s							
DGB	**zmir**	**1.97**	**321**	*i* P		**Pn**	**23 10 45.2**	**+0.5**
DGB				IAML			23 11 10.0	
	comp=E,37nm,0.2s							
KULA	**Kula-Manisa**	**1.99**	**5**	P		**Pn**	**23 10 46.1**	**+1.0**
KULA				S		**Sn**	**23 11 08.8**	**-0.3**
BLCB	**Balcova**	**2.16**	**329**	P		**Pn**	**23 10 48.2**	**+0.9**
BLCB				S		**Sn**	**23 11 13.7**	**+0.5**
KZIL	**AFYON_Kizioren**	**2.19**	**38**	*i* P		**Pn**	**23 10 48.9**	**+1.1**
USAK	**Uak-Merkez**	**2.23**	**12**	*i* P		**Pn**	**23 10 49.2**	**+0.9**
USAK				*i* S		**Sn**	**23 11 13.8**	**-1.0**
USAK				IAML			23 11 16.0	
	comp=N,53nm,0.3s							
ZKR	**Zakros**	**2.30**	**233**	P		**Pn**	**23 10 52.1**	**+3.0**
ZEYE	**Izmir, Urla-Ze**	**2.30**	**318**	*i* P		**Pn**	**23 10 49.6**	**+0.4**
ZEYE				*i* S		**Sn**	**23 11 12.0**	**-4.5**
ZEYE				IAML			23 11 17.0	
	comp=N,31nm,0.2s							
URLA	**Izmir**	**2.35**	**322**	*i* P		**Pn**	**23 10 50.3**	**+0.4**
URLA				*i* S		**Sn**	**23 11 13.6**	**-4.1**
SANT	**Santorini**	**2.42**	**267**	PN		**Pn**	**23 10 52.7**	**+1.9**
DEMI	**Demirci**	**2.52**	**5**	*i* P		**Pn**	**23 10 52.7**	**+0.5**
DEMI				*i* S		**Sn**	**23 11 19.5**	**-2.4**
DEMI				IAML			23 11 23.0	
	comp=E,23nm,0.5s							
KEPZ	**Antalya-Kepez**	**2.56**	**81**	*i* P		**Pn**	**23 10 55.5**	**+2.7**
KEPZ				*i* S		**Sn**	**23 11 25.7**	**+2.8**
CHOS	**Chios island**	**2.66**	**315**	PN		**Pn**	**23 10 55.5**	**+1.4**
AKMS	**Akamas**	**3.50**	**114**	⇓P		**Pn**	**23 11 05.9**	**+0.3**
AKMS				S		**Sn**	**23 11 44.7**	**-1.1**
AKMS				AML	AML		23 11 45.2	
	comp=E,0.1nm,0.3s							
AKMS				AML	AML		23 11 45.2	
	comp=E,0.1nm,0.3s							
ALFC	**Alefka**	**3.64**	**111**	P		**Pn**	**23 11 07.7**	**+0.3**
ALFC				AML	AML		23 11 47.2	
	comp=E,0.1nm,0.2s							
ALFC				AML	AML		23 11 47.2	
	comp=E,0.1nm,0.2s							
ALFC				S		**Sn**	**23 11 47.7**	**-1.5**
ALFC				AML	AML		23 11 48.5	
	comp=E,0.1nm,0.3s							
ALFC				AML	AML		23 11 48.5	
	comp=E,0.1nm,0.3s							
NATA	**Nata**	**3.78**	**116**	⇑P		**Pn**	**23 11 10.1**	**+0.7**
NATA				S		**Sn**	**23 11 52.2**	**-0.5**
OSC1	**CSNet OBS 1**	**3.81**	**142**	P		**Pn**	**23 11 10.4**	**+0.7**
OSC1				S		**Sn**	**23 11 53.9**	**+0.6**
SZAC	**Souni**	**4.02**	**115**	P		**Pn**	**23 11 13.5**	**+0.9**
SZAC				AML	AML		23 11 58.5	
	comp=E,0.2nm,0.5s							
SZAC				AML	AML		23 11 59.1	
	comp=E,0.1nm,0.2s							
CSS	**Mathiatis**	**4.27**	**110**	P		**Pn**	**23 11 17.1**	**+1.1**
ASGA	**Asgata**	**4.28**	**113**	⇓P		**Pn**	**23 11 16.9**	**+0.7**
ASGA				S		**Sn**	**23 12 04.5**	**-0.3**
SLUM	**Salum**	**5.70**	**209**	AMP			23 12 00.0	
	baz=211							
KOT	**Kottamia**	**7.17**	**156**	P		**Pn**	**23 11 56.0**	**+0.3**
	baz=155							
HSAF	**As Saff**	**7.37**	**158**	P		**Pn**	**23 11 58.2**	**-0.2**
	baz=158							
GLL	**Jalalah**	**7.45**	**158**	P		**Pn**	**23 11 59.6**	**0.0**
	baz=157							
RYAN	**Fayoum**	**7.58**	**168**	AMP			23 13 00.0	
	baz=167							
SWA2		**7.69**	**200**	P		**Pn**	**23 12 03.5**	**+0.8**
	baz=201							
HKAT	**Jabal Katrina**	**9.25**	**148**	P		**Pn**	**23 12 24.5**	**+0.2**
	baz=147							
TR2	**Tor 2**	**9.26**	**150**	P		**Pn**	**23 12 24.2**	**0.0**
	baz=149							
HFRF	**Wahat Farafira**	**9.35**	**181**	P		**Pn**	**23 12 25.8**	**+0.3**
	baz=181							
HFRF				S		**Sn**	**23 14 02.5**	**-6.7**
	baz=181							

*IDC **06** 23:18:38.0±1.2, 37°.00S×78°.41E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/34, mbtmp3.8/5, Error ellipse: s-maj=36.3km s-min=30.9km az=58.0*
*NEIC **06** 23:18:40.1±1.7, 37°.27S±0°.10×78°.2E±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=18.4km s-min=11.0km az=36.0*

ISC 06 23:18:40.0±0.7,**37°.2S**±0°.1×**78°.3E**±0°.1,**h10**km,**n23**, σ0°**87**/17,**mb4.4/9,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.86**	**223**	Pn		**Pg**	**23 18 56.2**	**-0.4**
H01W2	**Cape Leeuwin H**	**28.95**	**96**	T		T	23 54 52.7	
	baz=255,slow=75,SNR=742							
H01W3	**Cape Leeuwin H**	**28.96**	**96**	T		T	23 54 53.1	
	baz=255,slow=75,SNR=798							
H01W1	**Cape Leeuwin H**	**28.97**	**96**	T		T	23 54 53.9	
	baz=255,slow=75,SNR=1063							
H08S2	**Diego Garcia H**	**29.86**	**348**	T		T	23 55 47.2	
	baz=171,slow=76,SNR=1299							
H08S1	**Diego Garcia H**	**29.86**	**348**	T		T	23 55 42.6	
	baz=171,slow=76,SNR=1268							
H08S3	**Diego Garcia H**	**29.88**	**348**	T		T	23 55 42.6	
	baz=171,slow=76,SNR=1356							
MATP	**Matopo**	**46.20**	**277**	P		**P**	**23 27 05.2**	**-0.3**
	0.8nm,0.5s,baz=133,slow=6.9,SNR=4.5							
ASAR	**Alice Springs**	**49.16**	**91**	P		**P**	**23 27 27.2**	**-1.1**
	0.6nm,1.0s,baz=224,slow=6.5,SNR=1.9							
ASAR	**Alice Springs**	**49.16**	**91**	P		**P**	**23 27 26.5**	**-1.7**
LSZ	**Lusaka**	**49.32**	**282**	P		**P**	**23 27 29.4**	**-0.3**
LSZ				IAmb	IAmb		23 27 32.6	
	comp=Z,4.2nm,0.9s							
KNRA	**Kununurra**	**49.35**	**78**	P		**P**	**23 27 30.2**	**+0.5**
VNDA	**Vanda**	**52.65**	**164**	P		**P**	**23 27 53.6**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=271,slow=6.1,SNR=2.4							
QSPA	**South Pole Qui**	**52.99**	**180**	P		**P**	**23 27 58.0**	**+1.4**
	comp=Z,4.7nm,1.1s,baz=300,slow=2.1,SNR=6.9							
QSPA	**South Pole Qui**	**52.99**	**180**	P		**P**	**23 27 57.2**	**+0.6**
QSPA				IAmb	IAmb		23 28 08.4	
	comp=Z,11nm,1.2s							
LTZ	**Lake Taylor**	**68.50**	**128**	P		**P**	**23 29 42.9**	**+0.4**
KBL	**Kabul**	**71.86**	**352**	P		**P**	**23 30 03.6**	**+0.4**
KBL				IAmb	IAmb		23 30 08.7	
	comp=Z,4.5nm,1.2s							
BTK	**Batken**	**77.16**	**354**	P		**P**	**23 30 34.3**	**+0.6**
BTK				IAmb	IAmb		23 30 37.0	
	comp=Z,16nm,1.7s							
AAK	**Ala-Archa**	**79.51**	**357**	P		**P**	**23 30 47.7**	**+1.0**
KK31	**Karatay Array**	**80.21**	**354**	P		**P**	**23 30 50.2**	**-0.1**
KKAR	**Karatay Array**	**80.21**	**354**	P		**P**	**23 30 50.6**	**+0.3**
MK31	**Makanchi Array**	**83.66**	**3**	P		**P**	**23 31 09.1**	**+0.7**
MK31				IAmb	IAmb		23 31 13.9	
	comp=Z,4.7nm,1.4s							
MKAR	**Makanchi Array**	**83.66**	**3**	P		**P**	**23 31 07.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=181,slow=6.5,SNR=5.9							

*IDC **06** 23:22:26.4±0.6, 36°.96S×78°.21E, h0km, mb4.3/16, mb1 4.3/16, mb1mx4.2/36, mbtmp4.3/16, MS4.7/15, Ms1 4.7/15, ms1mx4.5/23, Error ellipse: s-maj=17.6km s-min=16.0km az=174.0*
*NEIC **06** 23:22:27.6±2.0, 37°.09S±0°.05×78°.0E±0°.1, h10km±1km, mb4.8/32, Error ellipse: s-maj=16.3km s-min=8.0km az=102.0*
*GCMT **06** 23:22:31.6±0.1, 36°.90S±0°.01×78°.28E±0°.01, h12km, MW5.2/129, Moment Tensor Solution. s81,c115; s129,c225; Duration: 1⁄0 Moment tensor: Scale 10^17 Nm; Mrr-0.07±.01; Mθθ-0.85±.01; Mϕϕ 0.91±.01; Mrθ-0.03±.04; Mϕϕ 0.03±.01; Mϕr 0.11±.04; Best double couple: M0 0.89100×10^17 NP1:ϕ1≈46.00000°, δ84.00000°, λ3.00000°. NP2:ϕ2≈316.00000°, δ87.00000°, λ174.00000°. Principal axes: T 0.9300, Plg6.0000°, Azm271.0000°; N -0.0760, Plg83.0000°, Azm114.0000°; P -0.8530, Plg3.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 23:22:27.7±0.4,**37.03S**±0°.07×**78°.11E**±0°.09,**h9**km,**n80**, σ0°**81**/62,**mb4.7**/30,**MS4.8**/19,**1D,Mid-Indian Ridge**

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

AIS	**Amsterdam Isla**	**0.88**	**209**			**Pg**	**23 22 42.9**	**-1.7**
H01W2	**Cape Leeuwin H**	**29.13**	**97**	T		T	23 58 38.7	
	baz=255,slow=75,SNR=306							
H01W3	**Cape Leeuwin H**	**29.13**	**97**	T		T	23 58 42.6	
	baz=255,slow=75,SNR=330							
H01W1	**Cape Leeuwin H**	**29.14**	**97**	T		T	23 58 43.5	
	baz=255,slow=75,SNR=113							
H08S2	**Diego Garcia H**	**29.70**	**349**	T		T	23 59 34.6	
	baz=171,slow=76,SNR=656							
H08S1	**Diego Garcia H**	**29.70**	**349**	T		T	23 59 32.4	
	baz=171,slow=76,SNR=638							
H08S3	**Diego Garcia H**	**29.71**	**349**	T		T	23 59 36.0	
	baz=171,slow=76,SNR=802							
MAW	**Mawson**	**31.81**	**191**	P		**P**	**23 28 53.1**	**+0.8**
	1.8nm,0.8s,baz=321,slow=6.5,SNR=3.5							
MAW				LR		LR	23 39 27.4	
	comp=Z,2μm,18.7s,baz=22,slow=32							
CASY	**Casey**	**34.75**	**158**	P		**P**	**23 29 18.8**	**+1.0**
SYO	**Syowa Base**	**38.28**	**201**	⇓*e*X		P	23 29 43.0	-4.9
BOSA	**Boshof**	**44.72**	**265**	P		**P**	**23 30 41.9**	**+0.4**
	7.4nm,1.0s,baz=113,slow=7.9,SNR=5.6							
BOSA				LR		LR	23 45 25.7	
	comp=Z,714nm,21.4s,baz=118,slow=31							
BOSA	**Boshof**	**44.72**	**265**	P		**P**	**23 30 39.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**45.64**	**79**	P		**P**	**23 30 48.2**	**-0.5**
MATP	**Matopo**	**46.02**	**277**	P		**P**	**23 30 52.0**	**+0.1**
	4.2nm,0.9s,baz=143,slow=8.7,SNR=7.6							
LBTB	**Lobatse**	**46.05**	**270**	P		**P**	**23 30 52.4**	**+0.3**
	5.6nm,0.9s,baz=130,slow=9.4,SNR=2.9							
LBTB	**Lobatse**	**46.05**	**270**	P		**P**	**23 30 51.6**	**-0.4**
LBTB				IAmb	IAmb		23 31 01.1	
	comp=Z,11nm,1.1s							
SUR	**Sutherland**	**46.73**	**258**	P		**P**	**23 30 58.1**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=101,slow=11,SNR=3.1							
SUR	**Sutherland**	**46.73**	**258**	P		**P**	**23 30 57.6**	**+0.1**
LSZ	**Lusaka**	**49.14**	**282**	P		**P**	**23 31 16.4**	**+0.2**
LSZ				IAmb	IAmb		23 31 22.4	
	comp=Z,12nm,0.8s							
ASAR	**Alice Springs**	**49.32**	**91**	P		**P**	**23 31 16.5**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=232,slow=7.2,SNR=8.6							
ASAR				PcP		**PcP**	**23 32 39.5**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=239,slow=3.1,SNR=2.1							
ASAR				LR		LR	23 49 36.8	
	comp=Z,2μm,19.6s,baz=253,slow=33							
ASAR	**Alice Springs**	**49.32**	**91**	P		**P**	**23 31 16.6**	**-0.7**
KNRA	**Kununurra**	**49.47**	**79**	P		**P**	**23 31 18.2**	**-0.3**
WRA	**Warramunga Arr**	**51.55**	**87**	P		**P**	**23 31 33.6**	**-0.7**
	baz=238,slow=7.8							
STKA	**Stephens Creek**	**51.75**	**104**	P		**P**	**23 31 35.2**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=242,slow=5.7,SNR=2.2							
STKA				LR		LR	23 49 36.1	
	comp=Z,1μm,20.5s,baz=240,slow=32							
KMBO	**Kilima Mbogo**	**51.92**	**304**	P		**P**	**23 31 38.2**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=182,slow=5.5,SNR=5.3							
SNAA	**Sanae**	**52.51**	**203**	P		**P**	**23 31 41.4**	**+0.7**
SNAA	**Sanae**	**52.51**	**203**	P		**P**	**23 31 41.7**	**+0.9**
	comp=Z,7.2nm,1.1s,baz=132,slow=8.8,SNR=3.7							
SNAA	**Sanae**	**52.51**	**203**	P		**P**	**23 31 40.8**	**+0.1**
VNDA	**Vanda**	**52.82**	**164**	P		**P**	**23 31 43.6**	**+0.7**
	comp=Z,4.8nm,1.1s,baz=276,slow=8.2,SNR=9.8							
VNDA				LR		LR	23 51 50.7	
	comp=Z,970nm,20.2s,baz=266,slow=33							
VNDA	**Vanda**	**52.82**	**164**	P		**P**	**23 31 43.2**	**+0.3**
QSPA	**South Pole Qui**	**53.12**	**180**	P		**P**	**23 31 45.5**	**0.0**
	comp=Z,18nm,1.0s,baz=286,slow=3.8,SNR=20							
QSPA	**South Pole Qui**	**53.12**	**180**	P		**P**	**23 31 45.6**	**0.0**
VNA2	**Neumayer--Watz**	**54.06**	**204**	P		**P**	**23 31 52.9**	**+0.8**
	baz=83,slow=6.9							
VNA1	**Neumayer--Stat**	**54.39**	**204**	P		**P**	**23 31 56.0**	**+1.6**
VNA3	**Neumayer Olymp**	**54.73**	**203**	P		**P**	**23 31 57.9**	**+1.0**
TSUM	**Tsumeb**	**55.38**	**271**	P		**P**	**23 32 01.2**	**-1.3**
TSUM				IAmb	IAmb		23 32 09.1	
	comp=Z,7.0nm,0.9s							
LODK	**Lodwar**	**56.56**	**306**	P		**P**	**23 32 10.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.59**	**23**	P		**P**	**23 32 24.2**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=216,slow=6.0,SNR=5.6							
CMAR				LR		LR	23 53 42.6	
	comp=Z,367nm,20.9s,baz=236,slow=32							
CMAR	**Chiang Mai Arr**	**58.59**	**23**	P		**P**	**23 32 24.1**	**-0.8**
FURI	**Furi**	**58.76**	**313**	P		**P**	**23 32 27.1**	**+0.5**
LSA	**Lhasa**	**

TAOE	**Nuku Hiva Isla**	**121.95**	**134**	*e*LR	LR	00 19 11.2		
	comp=Z,163nm,25.5s							
ILAR	**Eielson Array**	**141.66**	**29**	PKhKP	PKPpre	23 41 52.7		
	comp=Z,0.5nm,0.9s,baz=302,slow=1.7,SNR=2.4							
YKA	**Yellowknife Ar**	**153.32**	**13**	PKPbc	**PKiKP**	**23 42 26.4**	**+1.0**	
	comp=Z,1.2nm,0.9s,baz=325,slow=3.0,SNR=3.6							
NVAR	**Mina Array Bea**	**166.93**	**79**	PKPab	**PKPab**	**23 43 37.5**	**-0.1**	
	comp=Z,0.3nm,0.7s,baz=247,slow=5.8,SNR=2.2							

UPP ***06*** *23:30:39.7±0.0, 67.84N×20.20E, h0km, ML1.9, Explosion*
HEL 06 23:30:40.1±0.1, 67.84N×20.22E, h0km, ML1.8, ML1.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**21**	P		Pg	23 30 42.2	-0.2
KUA				S		Sg	23 30 43.8	-0.1
KUA	**Kurravaara**	**0.12**	**21**	*i* P		Pg	23 30 42.2	-0.2
KUA				*i* S		Sg	23 30 43.8	-0.1
RATU	**Laukkuluspa**	**0.24**	**266**	P		Pg	23 30 44.2	-0.5
RATU				S		Sg	23 30 47.5	-0.3
RATU	**Laukkuluspa**	**0.24**	**266**	*i* P		Pg	23 30 44.2	-0.5
RATU				*i* S		Sg	23 30 47.5	-0.3
NIKU	**Nikkaluokta**	**0.45**	**274**	P		Pg	23 30 48.1	-0.6
NIKU				S		Sg	23 30 54.4	-0.2
NIKU	**Nikkaluokta**	**0.45**	**274**	*i* P		Pg	23 30 48.1	-0.6
NIKU				*i* S		Sg	23 30 54.4	-0.2
LANU	**Lannavaara**	**0.70**	**72**	P		Pg	23 30 53.0	-0.4
LANU				S		Sg	23 31 02.6	+0.1
LANU	**Lannavaara**	**0.70**	**72**	*e*P		Pg	23 30 52.8	-0.6
LANU				*e*S		Sg	23 31 02.1	-0.4
DUNU	**Dundret**	**0.74**	**169**	P		Pg	23 30 53.4	-0.8
DUNU	**Dundret**	**0.74**	**169**	*i* P		Pg	23 30 53.4	-0.8
SALU	**Saltoluokta**	**0.81**	**235**	P		Pg	23 30 54.9	-0.6
SALU	**Saltoluokta**	**0.81**	**235**	*i* P		Pg	23 30 54.9	-0.6
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P		Pb	23 31 03.6	+0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PN		Pb	23 31 03.4	0.0
	baz=189							
KIF				MSG			23 31 17.1	
	comp=Z,18nm,0.2s							
KIF				*e*SB		Sg	23 31 18.1	-0.1
PAJU	**Pajala**	**1.39**	**125**	P		Pg	23 31 05.1	-1.5
PAJU	**Pajala**	**1.39**	**125**	*e*P		Pg	23 31 04.8	-1.8
	baz=303							
PAJU				*e*SB		Sg	23 31 23.5	-1.0
HEF	**Hetta**	**1.41**	**65**	*e*P		Pn	23 31 05.6	-1.4
HEF	**Hetta**	**1.41**	**65**	*e*PG		Pn	23 31 05.6	-1.4
	baz=244							
HEF				MSG			23 31 23.3	
	comp=Z,6.5nm,0.2s							
HEF				*e*SB		Sg	23 31 23.8	-1.5
KLF	**Kolari**	**1.56**	**111**	*e*PG		Pn	23 31 08.2	-0.9
KLF				*e*SN		Sn	23 31 29.2	-0.8
TOF	**Tornio**	**2.40**	**136**	*e*PB		Pn	23 31 21.4	+0.9
	baz=321							
TOF				MSG			23 31 51.0	
	comp=Z,4.2nm,0.2s							
TOF				*e*SG		Sb	23 31 53.3	-0.8
SGF	**Sodankyl**	**2.44**	**97**	*e*PB		Pn	23 31 22.7	+1.5
	baz=286							
SGF				*e*SB		Sn	23 31 52.8	+1.1
ARA0	**ARCESS Array S**	**2.57**	**46**	*e*P		Pn	23 31 23.7	+0.7
ARA0				*e*SG		Sb	23 31 59.5	+0.3
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB		Pn	23 31 24.5	+1.5
RNF				*e*SB		Sb	23 31 57.6	-1.5
KEV	**Kevo**	**3.12**	**49**	*e*S		Sn	23 32 08.8	+0.3
KEV				MSG			23 32 12.5	
	comp=Z,2.2nm,0.2s							
BURU	**Burvik**	**3.31**	**171**	*e*P		Pn	23 31 34.5	+1.5
KU6	**Riekki**	**4.22**	**111**	*e*PG		Pb	23 31 55.6	+0.5
	baz=300							
KU6				*e*S		Sn	23 32 36.4	+0.9

JMA ***06*** *23:45:13.2, 24.46N×122.29E, h0km, M2.3*
TAP ***06*** *23:45:14.2, 24.47N×122.29E, h12km, ML2.9, C*
ISC 06 23:45:12.9±1.0, 24.46N±0.03×122.31E±0.02, h17km±8km, n38, σ0=50/71, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.45**	**290**	*i* P		**Pg**	**23 45 22.1**	**0.0**
	baz=290							
TWC				*i* S		**Sg**	**23 45 28.6**	**+0.5**
	baz=290							
EWUT	**Wuta**	**0.49**	**269**	*i* P		**Pb**	**23 45 23.1**	**0.0**
	baz=267							
EWUT				*i* S		**Sg**	**23 45 29.7**	**+0.3**
	baz=267							
EGS		**0.52**	**318**	*i* P		**Pg**	**23 45 22.9**	**-0.4**
	baz=320							
EGS				S		**Sb**	**23 45 31.1**	**+0.3**
	baz=320							
NDS	**Dongshan**	**0.57**	**288**	*i* P		**Pb**	**23 45 24.7**	**+0.2**
	baz=287							
NDS				*i* S		**Sb**	**23 45 32.6**	**+0.3**
	baz=287							
JYNG	**Yonagunijimaku**	**0.58**	**91**	P		**Pb**	**23 45 25.3**	**+0.8**
JYNG				S		**Sn**	**23 45 34.4**	**-1.0**
NTC	**Toucheng**	**0.59**	**312**	*i* P		**Pb**	**23 45 25.4**	**+0.6**
	baz=312							
NTC				*i* S		**Sb**	**23 45 33.2**	**+0.3**
	baz=312							
ILA	**Ilan**	**0.60**	**301**	*i* S		**Sb**	**23 45 33.4**	**+0.3**
	baz=301							
TWB1	**Santiao Chiao**	**0.62**	**332**	P		**Pg**	**23 45 24.9**	**-0.3**
	baz=333							
YOJ	**Yonaguni jima**	**0.64**	**90**	P		**Pn**	**23 45 26.4**	**-0.7**
YOJ				S		**Sn**	**23 45 36.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.64**	**90**	P		**Pn**	**23 45 26.4**	**-0.7**
	baz=89							
YOJ				S		**Sn**	**23 45 36.5**	**-0.3**
	baz=89							
TWE	**Neicheng**	**0.64**	**294**	*i* P		**Pb**	**23 45 26.1**	**+0.4**
	baz=294							
TWE				*i* S		**Sg**	**23 45 34.1**	**-0.1**
	baz=294							
TIPB	**Shuangxi**	**0.68**	**319**	*i* P		**Pg**	**23 45 26.0**	**-0.2**
	baz=320							
TIPB				*i* S		**Sg**	**23 45 35.5**	**+0.2**
	baz=320							
ENTT	**Nioudou**	**0.70**	**285**	P		**Pn**	**23 45 28.0**	**-0.1**
	baz=284							
ENTT				S		**Sb**	**23 45 36.8**	**+0.6**
	baz=284							
NACB	**Ninganchiao**	**0.71**	**247**	P		**Pb**	**23 45 27.5**	**+0.6**
	baz=245							
NACB				S		**Sb**	**23 45 37.1**	**+0.6**
	baz=245							
NDT	**Datong Townshi**	**0.74**	**281**	*i* P		**Pb**	**23 45 27.6**	**+0.2**
	baz=280							
NDT				*i* S		**Sb**	**23 45 37.6**	**+0.3**
	baz=280							
NWF	**Wu-fen Shan**	**0.78**	**322**	*i* P		**Pb**	**23 45 28.5**	**+0.5**
	baz=322							
NWF				*i* S		**Sb**	**23 45 38.8**	**+0.4**
	baz=322							
WFSB	**Wu-fen Shan**	**0.78**	**322**	P		**Pb**	**23 45 28.6**	**+0.5**
	baz=322							
WFSB				S		**Sb**	**23 45 38.9**	**+0.6**
	baz=322							
ETLH	**Xiulin Townshi**	**0.80**	**252**	P		**Pb**	**23 45 28.8**	**+0.4**
	baz=250							
ETLH				S		**Sb**	**23 45 39.1**	**+0.2**
	baz=250							
NWLT	**Wulai**	**0.80**	**293**	*i* P		**Pb**	**23 45 29.0**	**+0.5**
	baz=293							
NWLT				*i* S		**Sg**	**23 45 38.3**	**-1.0**
	baz=293							
TWA	**Mucha**	**0.84**	**308**	*i* P		**Pn**	**23 45 30.1**	**0.0**
	baz=308							
TWA				*i* S		**Sb**	**23 45 40.9**	**+0.7**
	baz=308							
TNOU	**National Taiwa**	**0.84**	**325**	P		**Pb**	**23 45 29.6**	**+0.4**
	baz=325							
TNOU				S		**Sg**	**23 45 40.3**	**-0.3**
	baz=325							
NNSB	**Datong**	**0.85**	**268**	P		**Pb**	**23 45 29.5**	**+0.2**
	baz=267							
NNSB				S		**Sb**	**23 45 40.9**	**+0.5**
	baz=267							
NNSH	**Datong**	**0.85**	**268**	*i* P		**Pb**	**23 45 29.6**	**+0.3**
	baz=267							
NNSH				*i* S		**Sg**	**23 45 40.0**	**-0.8**
	baz=267							
NNS	**Nan Shan**	**0.86**	**269**	*i* P		**Pb**	**23 45 29.9**	**+0.4**
	baz=268							
NNS				*i* S		**Sg**	**23 45 40.6**	**-0.5**
	baz=268							
NHDH	**Xindian Distri**	**0.88**	**305**	*i* P		**Pg**	**23 45 29.2**	**-0.8**
	baz=305							
NHDH				*i* S		**Sg**	**23 45 41.2**	**-0.4**
	baz=305							
YHNB	**Yeheng**	**0.88**	**284**	P		**Pn**	**23 45 30.6**	**0.0**
	baz=283							
YHNB				S		**Sb**	**23 45 42.4**	**+1.1**
	baz=283							
TATO	**Taipei**	**0.91**	**305**	P		**Pn**	**23 45 30.9**	**0.0**
	baz=305							
TATO				S		**Sg**	**23 45 42.6**	**0.0**
	baz=305							
YM01	**YM01**	**0.96**	**316**	P		**Pn**	**23 45 31.9**	**+0.3**
	baz=316							
YM08	**YM08**	**0.98**	**318**	P		**Pg**	**23 45 31.9**	**-0.1**
	baz=318							
YM08				S		**Sg**	**23 45 45.3**	**+0.4**
	baz=318							
WHF	**Hehuan Shan**	**1.01**	**252**	*i* P		**Pg**	**23 45 32.4**	**-0.1**
	baz=250							
WHF				*i* S		**Sb**	**23 45 46.1**	**+0.8**
	baz=250							
TWY	**Chenhua**	**1.04**	**322**	P		**Pb**	**23 45 32.8**	**+0.3**
	baz=322							
TWY				*i* S		**Sg**	**23 45 47.0**	**+0.2**
	baz=322							
CHGB	**Renai**	**1.11**	**249**	P		**Pg**	**23 45 35.2**	**+0.6**
	baz=248							
CHGB				S		**Sg**	**23 45 49.2**	**0.0**
	baz=248							
IRIF	**Iriomote-Funau**	**1.30**	**95**	P		**Pg**	**23 45 38.5**	**+0.5**
IRIF				S		**Sg**	**23 45 55.6**	**+0.7**
YULB	**Yu-li**	**1.41**	**221**	P		**Pb**	**23 45 38.7**	**-0.1**
	baz=220							
YULB				S		**Sg**	**23 45 58.2**	**-0.4**
	baz=220							
HATJ	**Hateruma jima**	**1.42**	**106**	S		**Sg**	**23 45 58.7**	**-0.1**
JKRS	**Kuro-shima**	**1.56**	**98**	P		**Pg**	**23 45 43.1**	**+0.1**
JKRS				S		**Sg**	**23 46 03.7**	**+0.3**
JIJ	**Ishigaki jima**	**1.67**	**93**	*e*S		**Sg**	**23 46 05.9**	**-0.9**
JISG	**Ishigakijimahi**	**1.82**	**86**	P		**Pn**	**23 45 43.6**	**+0.1**
JISG				*e*S		**Sn**	**23 46 05.4**	**-0.8**

JMA ***06*** *23:48:53.6±0.4, 24.71N×122.55E, h19km±5km, M1.8*
TAP ***06*** *23:48:55.3, 24.35N×122.42E, h24km±2km, ML2.9, C*
ISC 06 23:48:54.3±1.2, 24.4N±0.1×122.51E±0.0, h24km±12km, n13, σ0=70/25, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.40**	**82**	P		**Pb**	**23 49 02.2**	**-0.7**
JYNG				S		**Sb**	**23 49 09.2**	**+0.5**
YOJ	**Yonaguni jima**	**0.46**	**82**	P		**Pb**	**23 49 03.3**	**-0.6**
YOJ				S		**Sb**	**23 49 10.6**	**+0.3**
TWC	**Suao**	**0.64**	**289**	*i* P		**Pb**	**23 49 06.8**	**0.0**
	baz=297							
TWC				*i* S		**Sn**	**23 49 15.1**	**-2.1**
	baz=297							
EWUT	**Wuta**	**0.67**	**274**	*i* S		**Sb**	**23 49 16.0**	**-0.2**
	baz=287							
NDS	**Dongshan**	**0.76**	**288**	*i* P		**Pb**	**23 49 09.0**	**+0.1**
	baz=294							
NDS				*i* S		**Sb**	**23 49 18.5**	**-0.3**
	baz=294							
TWE	**Neicheng**	**0.83**	**293**	*i* P		**Pb**	**23 49 10.3**	**+0.2**
	baz=299							
TWE				*i* S		**Sb**	**23 49 21.3**	**+0.4**
	baz=299							
TIPB	**Shuangxi**	**0.84**	**313**	*i* P		**Pb**	**23 49 10.7**	**+0.4**
	baz=319							
TIPB				*i* S		**Sb**	**23 49 22.3**	**+1.0**
	baz=319							
NWLT	**Wulai**	**0.99**	**293**	*i* P		**Pb**	**23 49 13.6**	**+0.7**
	baz=292							
NWLT				*i* S		**Sb**	**23 49 26.0**	**+0.4**
	baz=292							
IRIF	**Iriomote-Funau**	**1.11**	**93**	P		**Pn**	**23 49 14.1**	**-0.3**
IRIF				S		**Sn**	**23 49 29.2**	**+0.2**
HATJ	**Hateruma jima**	**1.23**	**106**	P		**Pn**	**23 49 16.7**	**+0.7**
HATJ				*e*S		**Sn**	**23 49 32.2**	**+0.3**
JKRS	**Kuro-shima**	**1.38**	**96**	P		**Pn**	**23 49 18.3**	**+0.3**
JKRS				S		**Sn**	**23 49 36.4**	**+0.9**
JIJ	**Ishigaki jima**	**1.49**	**91**	P		**Pn**	**23 49 19.3**	**-0.3**
JIJ				S		**Sn**	**23 49 37.5**	**-0.8**
JISG	**Ishigakijimahi**	**1.65**	**83**	P		**Pn**	**23 49 21.4**	**-0.4**
JISG				S		**Sn**	**23 49 42.2**	**0.0**

NIED ***06*** *23:50:55.5, 43.50N×144.06E, h0km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.00; Mθθ-0.35; Mφφ-0.64; Mrθ-0.53; Mθφ-0.45; Mφr-0.42; Fault plane solution: M0 1.19000×10^15 NP1: φs225.00000°, δ62.00000°, λ98.00000°. NP2:φs28.00000°, δ29.00000°, λ75.00000°.*
JMA ***06*** *23:50:55.5, 43.49N×144.06E, h0km, M3.9*
JMA Felt III J1.
SKHL ***06*** *23:50:55.4±0.2, 43.30N×144.00E, h23km±6km, mb4.7/6*
IDC ***06*** *23:50:55.1±0.7, 43.62N×144.12E, h0km, mb4.1/17, mb1 4.3/21, mb1mx4.1/41, mbtmp4.1/21, ML3.2/4, MS3.4/4, Ms1 3.4/4, ms1mx2.9/45, Error ellipse: s-maj=18.1km s-min=11.0km az=2.0*
MOS ***06*** *23:50:56.9±0.8, 43.52N×144.08E, h26km, mb4.6/16, Error ellipse: s-maj=7.4km s-min=6.3km az=87.5*
BJI ***06*** *23:50:56.0±0.0, 43.50N×144.10E, h23km, mB4.7/10, mb4.4/17, Ms4.2/4, Ms7 3.9/3*
NEIC ***06*** *23:50:58.7±1.3, 43.53N±0.04×144.04E±0.09, h24km±5km, mb4.4/43, Error ellipse: s-maj=9.3km s-min=5.7km az=79.0*
ISC 06 23:50:56.8±0.9, 43.50N±0.03×144.09E±0.02, h16km±5km, n191, σ1=28/202, mb4.3/56, MS4.2/10, 10C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.31**	**229**	↑P		**Pg**	**23 51 01.6**	**-1.8**
JAR				*e*S		**Sg**	**23 51 06.7**	**-1.1**
JNK	**Nakash**	**0.46**	**79**	↑P		**Pg**	**23 51 04.9**	**-1.2**
JNK				S		**Sg**	**23 51 11.3**	**-1.1**
JTKR	**Abashiri--Toko**	**0.49**	**344**	↓P		**Pg**	**23 51 05.2**	**-1.4**
JTKR				*e*S		**Sg**	**23 51 12.5**	**-0.7**
JOB	**Onbets**	**0.63**	**198**	↑P		**Pg**	**23 51 08.0**	**-1.1**
JAK	**Akkeshi**	**0.67**	**139**	↓P		**Pg**	**23 51 08.7**	**-1.2**
JAK				S		**Sg**	**23 51 18.2**	**-0.6**
JMP	**Maruseppu**	**0.73**	**314**	↓P		**Pg**	**23 51 09.4**	**-1.8**
JRA	**Rausu**	**0.86**	**59**	↑P		**Pb**	**23 51 12.4**	**-1.0**
JKHN	**Kushirohamanak**	**0.88**	**118**	↓P		**Pb**	**23 51 12.5**	**-1.2**
JKHN				S		**Sb**	**23 51 24.9**	**-0.4**
RUSJ	**Misakicho**	**1.03**	**54**	PN		**Pb**	**23 51 15.8**	**-0.5**
RUSJ				S		**Sn**	**23 51 31.1**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.20**	**96**	*i*PN		**Pn**	**23 51 17.2**	**-1.7**
NMR				*i* S		**Sb**	**23 51 33.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.20**	**96**	*i* P		**Pn**	**23 51 17.0**	**-1.9**
NMR				*i* S		**Sb**	**23 51 33.0**	**-1.3**
JKA	**Kamikawa-asahi**	**1.24**	**300**			**Pn**	**23 51 19.1**	**-0.4**
JKA					Sn	**Sn**	**23 51 36.1**	**+0.1**
JKA	**Kamikawa-asahi**	**1.24**	**300**	*e*P		**Pn**	**23 51 19.1**	**-0.4**
ASAJ	**Asahikawa**	**1.25**	**300**	Pg		**Pn**	**23 51 19.1**	**-0.5**
	995nm,0.3s,baz=100,slow=16,SNR=1142							
ASAJ				Lg		Lg	23 51 34.7	
	154nm,0.3s,baz=187,slow=20,SNR=6.4							
ASAJ	**Asahikawa**	**1.25**	**300**	PN		**Pn**	**23 51 19.1**	**-0.5**
ASAJ							23 51 36.1	
GRPR	**Tuman**	**1.31**	**67**	*e*PN		**Pn**	**23 51 19.7**	**-0.8**
GRPR				*e*S		**Sb**	**23 51 38.0**	**+0.4**
GRPR				pmax	pmax			
	comp=Z,1μm,0.3s							
GRPR				smax	smax			
	comp=E,1μm,0.3s							
GRPR				smax	smax			
	comp=N,2μm,0.5s							
GRPR	**Tuman**	**1.31**	**67**	*e*P		**Pn**	**23 51 19.7**	**-0.8**
GRPR				AMB	AMB		23 51 22.1	
	comp=N,1μm,0.3s							
GRPR				*e*S		**Sb**	**23 51 38.0**	**+0.4**
GRPR				A	A		23 51 42.5	
	comp=N,2μm,0.4s							
GRPR				A	A		23 51 42.5	
	comp=N,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.39**	**67**	*e*PN		**Pn**	**23 51 20.7**	**-0.8**
YUK				*e*S		**Sb**	**23 51 39.7**	**-0.1**
YUK				pmax	pmax			
	comp=Z,1μm,0.6s							
YUK				smax	smax			
	comp=N,1μm,0.2s							
YUK				smax	smax			
	comp=E,319nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.39**	**67**	*e*P		**Pn**	**23 51 20.7**	**-0.8**
YUK				AMB	AMB		23 51 23.5	
	comp=E,1μm,0.6s							
YUK				*e*S		**Sn**	**23 51 39.5**	**0.0**
YUK				A	A		23 51 45.3	
	comp=E,2μm,0.5s							
YUK				A	A		23 51 45.3	
	comp=E,2μm,0.5s							
ERM	**Erimo**	**1.64**	**205**	*ce*PN		**Pn**	**23 51 24.9**	**0.0**
ERM				pmax	pmax			
	comp=Z,155nm,0.6s							
ERM	**Erimo**	**1.64**	**205**	Pn		**Pn**	**23 51 25.0**	**+0.1**
ERM				Sn		**Sb**	**23 51 48.0**	**+1.0**
JEW	**Eniwo**	**2.04**	**252**			**Pn**	**23 51 31.0**	**+0.5**
KUR	**Kuril'sk**	**3.21**	**56**	*e*PN		**Pn**	**23 51 47.0**	**+0.4**
KUR				*e*S		**Sn**	**23 52 25.3**	**+0.8**
KUR				pmax	pmax			
	comp=Z,169nm,0.5s							
KUR				smax	smax			
	comp=N,83nm,0.5s							
KUR				smax	smax			
	comp=E,62nm,0.3s							
KUR	**Kuril'sk**	**3.21**	**56**	*e*P		**Pn**	**23 51 47.0**	**+0.4**
KUR				AMB	AMB		23 51 53.0	
	comp=E,200nm,0.6s							
KUR				*e*S		**Sn**	**23 52 25.3**	**+0.8**
KUR				A	A		23 52 40.7	
	comp=E,70nm,0.5s							
KUR				A	A		23 52 40.7	
	comp=E,150nm,0.5s							
JTM	**Tenmabayashi**	**3.52**	**221**	Pn		**Pn**	**23 51 51.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**3.58**	**345**	*e*PN		**Pn**	**23 51 52.6**	**+1.0**
YSS				*e*S		**Sn**	**23 52 34.0**	**+0.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.6s							
YSS				smax	smax			
	comp=N,100nm,0.5s							
YSS				smax	smax			
	comp=E,130nm,0.5s							
YSS				MLR	MLR			
	comp=Z,300nm,12.0s							
YSS	**Yuzh-Sakhalins**	**3.58**	**345**	Pn		**Pn**	**23 51 52.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**3.58**	**345**	*e*P		**Pn**	**23 51 52.8**	**+1.2**
YSS				AMB	AMB		23 52 00.0	
	comp=Z,20nm,0.6s							
YSS				*e*S		**Sn**	**23 52 35.5**	**+1.9**
YSS				A	A		23 52 37.2	
	comp=E,100nm,0.5s							
YSS				A	A		23 52 37.2	
	comp=E,130nm,0.5s							
JMM	**Marumori**	**6.16**	**205**	Pn		**Pn**	**23 52 26.0**	**-1.1**
JSD	**Sado**	**7.03**	**221**			**Pn**	**23 52 39.3**	**+0.3**
MAJO	**Matsushiro**	**8.29**	**215**	*e*PN		**Pn**	**23 52 58.2**	**+1.9**
MAJO				pmax	pmax			
	comp=Z,6.0nm,0.6s							
MAJO	**Matsushiro**	**8.29**	**215**	Pn		**Pn**	**23 52 56.9**	**+0.6**
MJAR	**Matsushiro Arr**	**8.29**	**215**	Pn		**Pn**	**23 52 58.3**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=15							
MJAR	**Matsushiro Arr**	**8.29**	**215**	Pn		**Pn**	**23 52 57.6**	**+1.3**
USRK	**Ussuriysk Ar.**	**8.78**	**279**	Pn		**Pn**	**23 53 03.9**	**+0.9**
	baz=84,slow=15,SNR=5.7							
USRK				LR	LR		23 56 32.2	
	comp=Z,150nm,19.2s,baz=66,slow=38							
JGF	**Kuroka**	**9.45**	**216**	Pn		**Pn**	**23 53 12.6**	**+0.3**
INU	**Inuyama**	**9.80**	**216**	Pn		**Pn**	**23 53 18.5**	**+1.4**
KLR	**Kul'dur**	**10.27**	**308**	Pn		**Pn**	**23 53 28.8**	**+5.3**
	comp=Z,0.2nm,0.3s,baz=122,slow=13,SNR=12							
KLR				LR	LR		23 57 46.0	
	comp=Z,130nm,18.8s,baz=197,slow=40							
JWT	**Wachi**	**10.60**	**222**	Pn		**Pn**	**23 53 29.4**	**+1.4**
EKMR	**Ekimchan**	**12.10**	**326**	*e*P		**Pn**	**23 53 50.2**	**+1.8**
EKMR				AMB	AMB		23 53 54.5	
	comp=Z,6.0nm,0.9s							
PETK	**Petropavlovsk-**	**13.18**	**38**	Pn		**Pn**	**23 54 02.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=208,slow=12,SNR=4.7							
PETK	**Petropavlovsk-**	**13.18**	**38**	PN		**Pn**	**23 54 05.3**	**+2.1**
PETK	**Petropavlovsk-**	**13.18**	**38**	Pn		**Pn**	**23 54 05.3**	**+2.1**
KSRS	**Korea Array**	**13.70**	**249**	Pn		**Pn**	**23 54 12.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=63,slow=14,SNR=5.7							
BMKR	**Bomnak**	**14.98**	**324**	*e*P		**Pn**	**23 54 26.2**	**-1.5**
BMKR				AMB	AMB		23 54 36.2	
	comp=Z,10.0nm,1.0s							
ZEA	**Zeya**	**15.09**	**319**	*e*P		**P**	**23 54 35.3**	**+0.9**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ZEA	**Zeya**	**15.09**	**319**	*e*P		**Pn**	**23 54 28.4**	**-0.8**
HIA	**Hailar**	**17.73**	**297**	*e*P		**P**	**23 55 04.3**	**+0.7**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
HIA	**Hailar**	**17.73**	**297**			**Pn**	**23 55 03.0**	**+0.2**
SEY	**Seymchan**	**20.06**	**11**	P		**P**	**23 55 29.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=5.9							
YAK	**Yakutsk**	**20.42**	**340**	LR		LR	00 03 16.6	
	comp=Z,58nm,20.4s,baz=310,slow=36							
YAK	**Yakutsk**	**20.42**	**340**	*e*P		**P**	**23 55 33.5**	**+0.6**
YAK				pmax	pmax			
	comp=Z,17nm,1.0s							
YAK	**Yakutsk**	**20.42**	**340**	P		**P**	**23 55 33.3**	**+0.4**
YAK				IAmb	IAmb		23 55 36.4	
	comp=Z,15nm,0.9s							
HHC	**Hu-ho-hao-te**	**24.17**	**275**	*e*P		**P**	**23 56 11.8**	**-0.6**
HHC				pmax	pmax			
	comp=Z,13nm,1.1s							
HHC				pmax	pmax			
	comp=Z,79nm,6.3s							
HHC				L	L			
	comp=Z,410nm,15.3s							
HHC				L	L			
	comp=Z,230nm,16.8s							
HHC				L	L			
	comp=Z,330nm,18.4s							
ULN	**Ulaanbaatar**	**26.07**	**293**	*e*P		**P**	**23 56 30.2**	**+0.6**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.4s							
ULN	**Ulaanbaatar**	**26.07**	**293**	P		**P**	**23 56 29.4**	**-0.2**
ULN				IAmb	IAmb	

IMAR	Indian Mountai	40.10	34	P		P		23 58 31.1	-0.1
WMQ	Urumqi	40.11	291	*e*P		P		23 58 33.5	+1.8
WMQ				L		L			
	comp=Z,110nm,10.3s								
RSO	Redoubt South	40.66	43	P		P		23 58 38.0	+1.9
PPLA	Purkeypile	40.77	39	P		P		23 58 37.7	+0.7
PPLA				IAmb		IAmb		23 58 39.5	
	comp=Z,14nm,1.3s								
KDAK	Kodiak Island	41.04	47	P		P		23 58 38.7	-0.4
KDAK				pmax		pmax			
	comp=Z,17nm,1.4s								
KDAK	Kodiak Island	41.04	47	P		P		23 58 38.7	-0.4
KDAK				IAmb		IAmb		23 58 45.5	
	comp=Z,17nm,1.4s								
BPAW	Bear Paw Mtn.	41.26	37	P		P		23 58 41.4	+0.6
NEA2	Nenana	42.07	36	P		P		23 58 48.0	+0.6
NEA2				IAmb		IAmb		23 58 50.2	
	comp=Z,6.0nm,0.8s								
COLA	College	42.58	36⇑	*e*P		P		23 58 51.9	+0.4
COLA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CCB	Clear Creek Bu	42.61	36	P		P		23 58 52.0	+0.2
MK31	Makanchi Array	42.73	297	P		P		23 58 53.3	+0.3
MK31				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MK31	Makanchi Array	42.73	297	P		P		23 58 53.3	+0.3
MK31				IAmb		IAmb		23 58 59.8	
	comp=Z,6.5nm,1.0s								
MKAR	Makanchi Array	42.73	297	P		P		23 58 53.4	+0.4
	comp=Z,6.3nm,0.9s,baz=77,slow=8.5,SNR=22								
MKAR				PcP		PcP		00 00 44.4	0.0
	comp=Z,0.3nm,0.6s,baz=35,slow=5.3,SNR=2.0								
MKAR	Makanchi Array	42.73	297	P		P		23 58 53.2	+0.1
MAKZ	Makanchi	42.92	297	P		P		23 58 54.8	+0.2
MAKZ				pmax		pmax			
	comp=Z,11nm,1.1s								
MAKZ	Makanchi	42.92	297	P		P		23 58 54.8	+0.2
MAKZ				IAmb		IAmb		23 58 57.2	
	comp=Z,11nm,1.1s								
IL31		43.00	36	P		P		23 58 55.4	+0.5
ILAR	Eielson Array	43.00	36	P		P		23 58 55.0	+0.1
	comp=Z,3.4nm,0.9s,baz=270,slow=6.9,SNR=28								
ILAR	Eielson Array	43.00	36	P		P		23 58 54.8	-0.2
PRP	Porcupine Dome	43.50	35	P		P		23 58 59.7	+0.5
PRP				IAmb		IAmb		23 59 01.1	
	comp=Z,4.0nm,0.8s								
BMAR	Burnt Mountain	43.72	32	P		P		23 59 01.9	+1.1
LSA	Lhasa	43.98	270	P		P		23 59 02.0	-1.8
LSA				pmax		pmax			
	comp=Z,6.0nm,0.5s								
LSA	Lhasa	43.98	270	P		P		23 59 01.9	-1.8
SCRK	Sand Creek	44.34	37	P		P		23 59 05.9	-0.1
SCRK				IAmb		IAmb		23 59 06.5	
	comp=Z,4.0nm,0.7s								
DOT	Dot Lake	44.35	37	P		P		23 59 05.9	0.0
CHTO	Chiang Mai	45.09	251	P		P		23 59 12.5	+0.2
CHTO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
CHTO	Chiang Mai	45.09	251	P		P		23 59 12.5	+0.2
CHTO				IAmb		IAmb		23 59 13.6	
	comp=Z,3.9nm,1.2s								
CMAR	Chiang Mai Arr	45.33	251	P		P		23 59 15.7	+1.5
	comp=Z,1.4nm,0.3s,baz=37,slow=6.1,SNR=1.4								
EGAK	Eagle	45.43	35	P		P		23 59 14.3	-0.1
EGAK				IAmb		IAmb		23 59 17.6	
	comp=Z,3.1nm,0.8s								
L27K	Beaver Creek.	45.45	38	P		P		23 59 15.5	+0.9
BCAR	Beaver Creek A	45.47	38	P		P		23 59 16.0	+1.2
INK	Inuvik	47.73	30	P		P		23 59 32.1	-0.3
	comp=Z,1.3nm,0.5s,baz=300,slow=6.4,SNR=4.2								
KDJ	Kajisay	47.88	293	P		P		23 59 33.9	-0.3
KDJ				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KDJ	Kajisay	47.88	293	P		P		23 59 33.9	-0.3
KDJ				IAmb		IAmb		23 59 41.4	
	comp=Z,2.9nm,1.0s								
HYT	Haines Junctio	47.96	40	P		P		23 59 35.6	+1.1
BRVK	Borovoye	47.98	309	*de*P		P		23 59 34.9	+0.3
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BRVK	Borovoye	47.98	309	P		P		23 59 34.3	-0.2
BRVK				IAmb		IAmb		23 59 37.5	
	comp=Z,4.6nm,0.9s								
BRVK	Borovoye	47.98	309	*e*P		P		23 59 34.9	+0.3
BOOM	Boomskoye usch	48.55	294	P		P		23 59 39.7	+0.3
BOOM				pmax		pmax			
	comp=Z,6.0nm,0.9s								
BOOM	Boomskoye usch	48.55	294	P		P		23 59 39.7	+0.3
AAK	Ala-Archa	49.45	294⇓	*e*P		P		23 59 45.2	-1.0
AAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
AAK	Ala-Archa	49.45	294	*e*P		P		23 59 45.2	-1.0
ARSB	Arslanbob	51.05	294	P		P		23 59 58.6	+0.3
ARSB				pmax		pmax			
	comp=Z,9.0nm,0.9s								
ARSB	Arslanbob	51.05	294	P		P		23 59 58.6	+0.3
KKAR	Karatay Array	51.85	297	P		P		00 00 04.0	-0.2
KKAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KKAR	Karatay Array	51.85	297	P		P		00 00 04.0	-0.2
KKAR	Karatay Array	51.85	297	P		P		00 00 04.0	-0.2
KKAR				IAmb		IAmb		00 00 07.2	
	comp=Z,1.8nm,0.8s								
ARU	Arti	53.00	316*c*	*i*P		P		00 00 12.0	-0.4
ARU				S		S		00 07 39.0	-2.1
ARU				SS		SS		00 11 12.3	-7.4
ARU				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ARU	Arti	53.00	316	*e*P		P		00 00 12.0	-0.4
CHGR	Chuyangaron	54.92	292	P		P		00 00 26.4	-0.4
ABKAR	Akbulak array	55.48	308	P		P		00 00 30.5	-0.1
ABKAR	Akbulak array	55.48	308	P		P		00 00 30.6	+0.1
ABKAR				IAmb		IAmb		00 00 33.6	
	comp=Z,4.9nm,1.1s								
LVZ	Lovozero	57.09	335	P		P		00 00 41.5	-0.4
LVZ				pmax		pmax			
	comp=Z,33nm,1.5s								
LVZ	Lovozero	57.09	335	P		P		00 00 41.5	-0.4
YKA	Yellowknife Ar	57.23	33	P		P		00 00 43.1	+0.2
	comp=Z,2.2nm,0.9s,baz=304,slow=6.6,SNR=6.2								
ARCES	ARCESS Array B	58.69	339	LR		LR		00 28 02.8	
	comp=Z,141nm,19.6s,baz=135,slow=38								
FIA1	FINESS Array S	64.07	332	P		P		00 01 28.9	-0.5
FINES	FINESS Array B	64.07	332	P		P		00 01 29.2	-0.2
	comp=Z,4.6nm,0.7s,baz=54,slow=7.0,SNR=16								
FINES	FINESS Array B	64.07	332	*i*P		P		00 01 29.0	-0.4
FINES				pmax		pmax			
	comp=Z,5.0nm,0.7s								
PINE	Pine Mountain	64.70	53	P		P		00 01 35.0	+0.9
PINE				IAmb		IAmb		00 01 37.3	
	comp=Z,5.5nm,1.1s								
VSU	Vasula	65.94	329⇓	*e*P		P		00 01 42.2	+0.6
VSU				pmax		pmax			
	comp=Z,39nm,1.0s								
ASAR	Alice Springs	67.49	190	P		P		00 01 53.9	+2.0
	comp=Z,0.6nm,0.9s,baz=5.9,slow=5.2,SNR=5.9								
ASAR	Alice Springs	67.49	190	P		P		00 01 53.1	+1.2
KIV	Kislovodsk	68.25	310	*e*P		P		00 01 58.2	+1.4
KIV				pmax		pmax			
	comp=Z,26nm,1.1s								
KIV	Kislovodsk	68.25	310	P		P		00 01 56.6	-0.2
KIV	Kislovodsk	68.25	310	*e*P		P		00 01 58.2	+1.4
KBZ	Khabaz	68.28	310	P		P		00 01 56.8	0.0
	comp=Z,2.5nm,0.9s,baz=70,slow=1.6,SNR=4.0								
DLMT	Dillon	68.39	48	P		P		00 01 57.7	+0.1
DLMT				IAmb		IAmb		00 02 05.1	
	comp=Z,2.0nm,0.8s								
NOA	NORSAR Array B	69.01	338	P		P		00 02 01.2	+0.1
	comp=Z,3.4nm,0.8s,baz=36,slow=6.1,SNR=9.3								
KVN	Kaiserville	69.30	56	P		P		00 02 04.3	+0.8
KVN				pmax		pmax			
	comp=Z,2.0nm,1.2s								
KVN	Kaiserville	69.30	56	P		P		00 02 04.3	+0.8
NVAR	Mina Array Bea	69.58	56	P		P		00 02 05.8	+0.5
	comp=Z,0.7nm,0.6s,baz=295,slow=6.9,SNR=8.4								
NVAR	Mina Array Bea	69.58	56	P		P		00 02 06.0	+0.8
SOC	Sochi	70.13	312	*e*P		P		00 02 09.2	+1.0
SOC				*e*				00 04 39.9	
SOC				*e*PPP		PPP		00 06 19.1	
SOC				*e*S		S		00 11 13.2	-5.4
SOC				*e*SSS		SSS		00 18 49.4	
SOC				MLR		MLR			
	comp=Z,109nm,16.0s								
COCO	West Island	70.19	230	*i*P		P		00 02 08.5	-0.3
AKASG	Malin Array Be	70.44	322	P		P		00 02 09.8	-0.2
	comp=Z,1.3nm,0.5s,baz=42,slow=6.3,SNR=6.9								
AKASG	Malin Array Be	70.44	322	*i*P		P		00 02 10.0	0.0
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BW06	Boulder Array	71.75	48	P		P		00 02 18.5	+0.1
BW06				IAmb		IAmb		00 02 19.6	
	comp=Z,5.9nm,1.4s								
PDAR	Pinedale Array	71.75	48	P		P		00 02 18.8	+0.4
	comp=Z,1.3nm,0.7s,baz=320,slow=4.0,SNR=10								
PDAR	Pinedale Array	71.75	48	P		P		00 02 18.6	+0.2
BUR08	Bucovina Ar. S	74.48	322	P		P		00 02 34.7	+0.4
BURAR	Bucovina Array	74.50	322	P		P		00 02 34.4	0.0
KOLS	Kolonicke sedl	74.77	324	*e*P		P		00 02 37.3	+1.4
KOLS	Kolonicke sedl	74.77	324	*e*P		P		00 02 39.1	+3.2
OJC	Ojcow	74.79	327	P		P		00 02 36.1	+0.1
OJC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
OJC	Ojcow	74.79	327	P		P		00 02 36.1	+0.1
LANS	Liptovska Anna	75.77	326	*e*P		P		00 02 44.3	+2.7
MORC	Moravsky Berou	76.04	328	*e*P		P		00 02 44.2	+1.0
MORC	Moravsky Berou	76.04	328	P		P		00 02 44.1	+1.0
MORC				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MORC	Moravsky Berou	76.04	328	P		P		00 02 44.1	+1.0
MORC				IAmb		IAmb		00 02 46.0	
	comp=Z,5.8nm,1.0s								
DPC	Dobruska-Polom	76.05	329	*e*P		P		00 02 45.1	+1.9
DPC	Dobruska-Polom	76.05	329	*e*P		P		00 02 45.1	+1.9
KRLC	Kraliky	76.09	328	*e*P		P		00 02 44.2	+0.7
KRLC	Kraliky	76.09	328	*e*P		P		00 02 44.2	+0.7
KRLC				AMS		AMS		00 32 20.0	
	comp=Z,100nm,14.6s								
CLL	Collm	76.48	331	*i*P		P		00 02 46.7	+1.1
	comp=Z,5.0nm,1.1s								
CLL	Collm	76.48	331	*i*P		P		00 02 46.7	+1.1
CLL				pmax		pmax			
	comp=Z,5.0nm,1.1s								
CLL	Collm	76.48	331	P		P		00 02 45.8	+0.3
CLL				IAmb		IAmb		00 02 47.6	
	comp=Z,4.4nm,0.9s								
PVCC	Panska Ves	76.56	330	AMS		AMS		00 33 50.0	
	comp=Z,100nm,15.5s								
JAVC	Velka Javorina	76.72	327	*e*P		P		00 02 49.1	+2.0
VRAC	Vranov	76.78	328	*e*P		P		00 02 49.4	+2.0
PRU	Pruhonice	77.01	329	*e*P		P		00 02 52.0	+3.4
PRU	Pruhonice	77.01	329	*e*P		P		00 02 52.0	+3.4
PRU				AMS		AMS		00 38 40.0	
	comp=Z,100nm,21.2s								
KRUC	Moravsky	77.06	328	*e*P		P		00 02 50.9	+2.0
CKRC	Cesky Krumlov	78.05	329	AMS		AMS		00 33 30.0	
	comp=Z,200nm,15.6s								
KHC	Kasperske Hory	78.07	329	*e*P		P		00 02 55.4	+0.8
KHC	Kasperske Hory	78.07	329	*e*P		P		00 02 55.4	+0.8
KHC				AMS		AMS		00 36 10.0	
	comp=Z,200nm,20.1s								
CONA	Conrad Observa	78.18	327	*e*P		P		00 02 55.8	+0.5
	comp=Z,3.2nm,1.2s								
GERES	GERESS Array B	78.26	329	P		P		00 02 56.2	+0.5
	comp=Z,0.4nm,0.6s,baz=46,slow=7.1,SNR=2.5								
GERES	GERESS Array B	78.26	329	P		P		00 02 55.4	-0.4
ARSA	Arzberg	78.87	327	*e*P		P		00 03 03.3	+4.3
	comp=Z,2.9nm,1.4s								
WTTA	Wattenberg	80.35	329	*e*P		P		00 03 07.3	0.0
	comp=Z,1.3nm,0.7s								
ABTA	Abfaltersbach	80.45	329	*e*P		P		00 03 12.4	+4.7
	comp=Z,1.9nm,1.0s								
MOTA	Moosalm	80.47	330	*e*P		P		00 03 06.5	-1.4
	comp=Z,2.2nm,0.9s								
FETA	Feichten	80.89	330	*e*P		P		00 03 15.0	+4.9
	comp=Z,5.2nm,1.2s								
TXAR	Lajitas Array	84.62	54	P		P		00 03 30.4	+0.6
	comp=Z,0.7nm,0.9s,baz=258,slow=2.4,SNR=5.9								
TXAR	Lajitas Array	84.62	54	P		P		00 03 30.1	+0.4

AAE 06 23:58:58.4±1.8, 9°05N×40°04E, h0km±19km, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANKE	Ethiopia-Afar	0.61	331	*e*P		Pg		23 59 07.1	-3.1
ANKE				*e*S		Sg		23 59 13.8	-4.4
AAE	Adis Abeba	1.26	269⇑	*i*P		Pg		23 59 19.9	-2.6
AAE				*i*S		Sg		23 59 37.2	-1.6
AAE	Adis Abeba	1.26	269	*e*P		Pg		23 59 20.7	-1.8
AAE				*e*S		Sb		23 59 39.7	-0.4
AAE	Adis Abeba	1.26	269	*i*P		Pg		23 59 20.7	-1.8
AAE				*i*S		Sg		23 59 37.3	-1.5
FURI	Furi	1.35	264	*i*P		Pg		23 59 23.1	-1.3
FURI				*i*S		Sg		23 59 41.6	-0.3
FURI	Furi	1.35	264	*e*P		Pg		23 59 23.1	-1.2
FURI				*e*S		Sg		23 59 41.8	-0.1
FURI	Furi	1.35	264	*i*P		Pg		23 59 23.1	-1.3
FURI				*e*S		Sg		23 59 38.1	-3.8
DESE	Dese	2.09	349	*e*P		Pn		23 59 33.3	-1.7
DESE	Dese	2.09	349	*e*P		Pn		23 59 34.1	-0.9
DESE				*e*S		Sn		23 59 60.0	-2.0
DESE	Dese	2.09	349	*e*P		Pn		23 59 33.4	-1.6
DESE				*e*S		Sn		23 59 55.7	-6.2
TEND	Ethiopian Broa	2.88	19	*e*P		Pn		23 59 43.4	-2.3
TEND				*e*S		Sn		00 00 21.4	+0.2
DILA	Dilla	3.13	214	*e*P		Pg		23 59 59.3	+0.9
DILA				*e*S		Sg		00 00 44.8	+5.8

BJI ***07*** *00:09:40.3±0.0, 12°.09N×144°.23E, h15km, mB4.9/32, mb4.8/59, Ms4.6/37, Ms7 4.3/38*

MOS ***07*** *00:09:44.0±1.0, 12°.21N×143°.89E, h27km, mb5.2/61, MS4.4/4, Error ellipse: s-maj=8.9km s-min=5.3km az=115.3*

NEIC ***07*** *00:09:44.0±1.5, 12°.16N±0°.07×144°.01E±0°.09, h13km±2km, mb5.1/159, Error ellipse: s-maj=13.4km s-min=9.3km az=104.0*

DJA ***07*** *00:09:46.2±1.6, 12°.N±5°×14°.4E±°, h26km±14km, M5.0/16, mB5.4/4, mb5.0/16, MLv5.0/1, Mw(mB)4.9/4*

GCMT ***07*** *00:09:46.0±0.3, 11°.98N±0°.02×143°.91E±0°.01, h20km, MW5.0/90, Moment Tensor Solution. s26,c31; s90,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.84±.22; $M_{\theta\theta}$0.37±.13; $M_{\phi\phi}$3.47±.14; $M_{r\theta}$-0.95±.29; $M_{r\phi}$-1.51±.08; $M_{\theta\phi}$0.88±.21; Best double couple: $M_0$4.17100×10^{16} NP1:ϕs346.00000°, δ37.00000°, λ-77.00000°. NP2: ϕs150.00000°, δ54.00000°, λ-100.00000°. Principal axes: T 4.2560, Plg8.0000°, Azm247.0000°; N -0.1670, Plg8.0000°, Azm156.0000°; P -4.0870, Plg79.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***07*** *00:09:48.4±1.4, 12°.25N×144°.06E, h49km±13km, mb4.3/22, mb1 4.4/24, mb1mx4.4/31, mbtmp4.6/24, ML5.1/2, MS4.1/26, Ms1 4.1/26, ms1mx4.0/40 Error ellipse: s-maj=13.4km s-min=10.4km az=108.0*

ISC 07 00:09:42.9±1.2, 12°.16N±0°.04×144°.05E±0°.05, h9km±7km, n414, σ1s17/398, mb5.0/165, MS4.2/40, 13C-9D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.63	29	P		P	Pb	00 10 12.7	-0.5
	318nm,0.3s,baz=173,slow=3.2,SNR=109								
GUMO						S	Sn	00 10 32.9	-0.2
	436nm,0.3s,baz=319,slow=23,SNR=8.8								
GUMO	Guam	1.63	29			Pb		00 10 12.7	-0.5
GUMO						Sn	Sb	00 10 33.8	-0.2
GUMO	Guam	1.63	29	P		Pg		00 10 14.1	-0.1
ANA2	Anatahan	4.46	21				Pn	00 10 51.8	+1.0
ANA2	Anatahan	4.46	21	P		Pn		00 10 54.9	+4.1
SARN	Sarigan	4.82	20	P		Pn		00 11 00.0	+4.3
JCJ	Chichijima	14.96	354	P		P		00 13 21.4	+1.0
	2.0nm,0.3s,baz=187,slow=3.1,SNR=6.8								
JCJ						LR	LR	00 18 16.0	
	comp=Z,404nm,20.4s,baz=133,slow=34								
JCJ	Chichijima	14.96	354	P		P		00 13 19.9	-0.5
PATS	Pohnpei	15.03	109	Pn		Pn		00 13 14.4	-1.2
PATS						IAmb	IAmb	00 13 29.7	
	comp=Z,76nm,1.1s								
GENI	Genyem	15.15	195	P		P		00 13 21.4	-1.1
SIJI	Sorong	18.13	225	P		P		00 13 58.0	+2.5
	comp=Z,1.1nm,0.3s,baz=28,slow=13,SNR=5.4								
SIJI						LR	LR	00 19 45.2	
	comp=Z,599nm,20.6s,baz=43,slow=33								
DAV	Davao City (W)	18.89	256	P		Pn		00 14 05.6	+1.1
	comp=Z,28nm,0.3s,baz=216,slow=19,SNR=1.4								
DAV						LR	LR	00 22 41.3	
	comp=Z,228nm,19.1s,baz=100,slow=41								
DAV	Davao City (W)	18.89	256	P		P		00 14 04.2	+0.2
TNTI	Ternate	20.04	237	P		P		00 14 15.3	-1.2
TNTI	Ternate	20.04	237	P		Pn		00 14 27.6	+9.3
JOW	Kunigami	20.80	317	P		Pn		00 14 25.9	-1.2
	comp=Z,51nm,1.0s,baz=135,slow=10,SNR=5.9								
JOW						LR	LR	00 21 22.4	
	comp=Z,251nm,18.7s,baz=95,slow=34								
JOW	Kunigami	20.80	317	P		P		00 14 25.1	+0.4
JHJ	Hachijo jima 2	21.23	350	LR		LR		00 21 42.1	
	comp=Z,230nm,21.2s,baz=156,slow=34								
PMG	Port Moresby	21.64	172	LR		LR		00 23 01.1	
	comp=Z,428nm,18.8s,baz=355,slow=36								
TGY	Tagaytay City	22.59	277	P		P		00 14 45.4	+1.3
	comp=Z,110nm,0.4s,baz=186,slow=17,SNR=6.2								
H11S3	WAKE ISLAND Hy	22.71	71	T		T		00 38 24.2	
	baz=253,slow=72,SNR=27								
H11S1	WAKE ISLAND Hy	22.73	71	T		T		00 38 16.8	
	baz=253,slow=72,SNR=18								
H11S2	WAKE ISLAND Hy	22.73	71	T		T		00 38 22.9	
	baz=253,slow=72,SNR=28								
H11N1	WAKE ISLAND Hy	23.20	68	T		T		00 39 02.9	
	baz=255,slow=75,SNR=52								
H11N2	WAKE ISLAND Hy	23.21	68	T		T		00 38 53.7	
	baz=255,slow=75,SNR=66								
H11N3	WAKE ISLAND Hy	23.21	68	T		T		00 38 53.7	
	baz=255,slow=75,SNR=46								
JMN	Monobe	23.40	338	P		P		00 14 51.4	-0.8
JMN				IAmb		IAmb		00 15 00.8	
	comp=Z,80nm,1.6s								
GTOI	Gorontalo	23.80	243	P		P		00 14 57.1	+0.8
	comp=Z,480nmcomp=Z,40nm,1.0s								
INU	Inuyama	23.95	346	P		P		00 14 58.7	+1.1
JNU	Nakatsue	24.10	332	P		P		00 14 58.6	-0.4
JNU				IAmb		IAmb		00 15 05.1	
	comp=Z,36nm,0.8s								
YULB	Yu-li	24.34	300	P		P		00 15 00.5	-0.8
SSLB	Suanglung	24.78	301	P		P		00 15 05.4	0.0
SSLB				IAmb		IAmb		00 15 10.9	
	comp=Z,51nm,1.0s								
YHNB	Yeheng	24.80	303	P		P		00 15 04.9	-0.7
YHNB				IAmb		IAmb		00 15 08.6	
	comp=Z,49nm,1.2s								
JHS	Saijyo	24.81	338	P		P		00 15 06.0	+0.5
JHS				IAmb		IAmb		00 15 10.7	
	comp=Z,40nm,1.2s								
MRSI	Marisa	24.81	244	P		P		00 15 07.7	+2.0
	comp=Z,1μmcomp=Z,147nm,1.1s								
MJAR	Matsushiro Arr	24.84	349	P		P		00 15 03.8	-2.0
	comp=Z,14nm,1.0s,baz=170,slow=9.5,SNR=16								
MJAR				LR		LR		00 24 06.0	
	comp=Z,648nm,18.1s,baz=185,slow=35								
MJAR	Matsushiro Arr	24.84	349	P		P		00 15 04.8	-0.9
MJAR				pmax		pmax			
	comp=Z,9.0nm,1.1s								
MJAR	Matsushiro Arr	24.84	349	P		P		00 15 04.8	-0.9
MAJO	Matsushiro	24.84	349	*ce*P		P		00 15 04.0	-1.7
MAJO				pmax		pmax			
	comp=Z,24nm,1.1s								
MAJO	Matsushiro	24.84	349	P		P		00 15 04.0	-1.7
MAT	Matsushiro	24.84	349	P		P		00 15 03.7	-2.0
LUWI	Luwuk	24.87	240	P		P		00 15 04.9	-1.2
LUWI	Luwuk	24.87	240	P		P		00 15 06.3	+0.2
	comp=Z,6μmcomp=Z,177nm,1.3s								
TPUB	Ta-pu	24.87	300	P		P		00 15 05.4	-0.7
TOLI2	Tolitoli	25.55	246	P		P		00 15 11.3	-1.1
APSI	Ampana	25.75	241	P		P		00 15 17.2	+3.0
	comp=Z,49nm,1.1s								
JSD	Sado	26.29	350	P		P		00 15 19.4	+0.7
JSD				IAmb		IAmb		00 15 25.5	
	comp=Z,31nm,0.8s								
KSRS	Korea Array	29.04	333	P		P		00 15 41.8	-1.7
	comp=Z,1.2nm,0.6s,baz=143,slow=9.2,SNR=3.0								
KSRS				LR		LR		00 26 12.3	
	comp=Z,72nm,18.2s,baz=156,slow=34								
NJ2	Nanjing	30.47	315	*e*P		P		00 15 55.3	-0.9
NJ2				S		S		00 20 57.6	0.0
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,390nm,7.9s								
NJ2				L		L			
	comp=Z,770nm,20.3s								
NJ2				L		L			
	comp=Z,880nm,18.0s								
NJ2				L		L			
	comp=Z,890nm,16.6s								
CTAO	Charters Tower	32.12	176	P		P		00 16 10.9	+0.1
CTAO				pmax		pmax			
	comp=Z,37nm,1.4s								
CTAO	Charters Tower	32.12	176	P		P		00 16 10.9	+0.1
CTAO				IAmb		IAmb		00 16 22.9	
	comp=Z,37nm,1.4s								
WHN	Wuhan	33.01	308	⇑P		P		00 16 18.9	+0.4
WRAB	Tennant Creek	33.29	197⇑	*e*P		P		00 16 17.1	-3.9
WRAB				pmax		pmax	

DZM IAmb IAmb 00 18 36.6
comp=Z,88nm,1.6s
KMI Kunming 41.04 294 ⇓P **P** **00 17 28.1 +0.8**
KMI sP pwP 00 17 34.5 -0.4
KMI pmax pmax
comp=Z,11nm,0.6s
KMI L L
comp=Z,250nm,12.6s
KMI L L
comp=Z,170nm,15.7s
KMI L L
comp=Z,200nm,18.9s
PSA00 Pilbara Seismi 41.09 215 P **P** **00 17 26.4 -0.9**
PSA00 Pilbara Seismi 41.09 215 P **P** **00 17 26.8 -0.5**
PSA00 IAmb IAmb 00 17 28.3
comp=Z,35nm,1.2s
CD2 Chengdu 41.58 303 ⇓*i*P **P** **00 17 31.1 -0.3**
CD2 pP sP 00 17 33.0 -0.1
CD2 S **S** **00 23 46.9 -0.9**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,190nm,6.1s
CD2 L L
comp=Z,310nm,13.9s
CD2 L L
comp=Z,460nm,18.8s
CD2 L L
comp=Z,440nm,16.0s
HIA Hailar 42.11 336 ⇑*i*P **P** **00 17 35.8 +0.4**
HIA pmax pmax
comp=Z,8.0nm,1.0s
HIA Hailar 42.11 336 P **P** **00 17 34.8 -0.6**
PETK Petropavlovsk- 42.28 12 PcP **PcP** **00 19 31.5 +1.1**
comp=Z,4.7nm,1.0s,baz=252,slow=2.3,SNR=4.0
PETK LR LR 00 33 11.1
comp=Z,286nm,20.5s,baz=191,slow=33
UTTA Uttaradit 42.32 283 P **P** **00 17 39.8 +2.3**
comp=Z,2.0nm,1.1s
ARMA Armidale 42.95 170 P **P** **00 17 41.9 -0.6**
ARMA IAmb IAmb 00 17 44.5
comp=Z,82nm,1.8s
LZH Lanzhou 43.31 310 *e*P **P** **00 17 46.4 +0.9**
LZH pP pwP 00 17 50.6 -2.6
LZH sP sP 00 17 53.3 +6.1
LZH pmax pmax
comp=Z,30nm,1.3s
LZH L L
comp=Z,190nm,16.5s
LZH L L
comp=Z,300nm,13.6s
LZH L L
comp=Z,290nm,15.7s
CM35 Chiang Mai Arr 43.67 284 P **P** **00 17 50.0 +1.5**
CM36 Chiang Mai Arr 43.72 284 P **P** **00 17 50.0 +1.1**
CM09 Chiang Mai Arr 43.82 284 P **P** **00 17 51.4 +1.7**
comp=Z,108nmcomp=Z,11nm,0.9s
CM04 Chiang Mai Arr 43.83 284 P **P** **00 17 51.5 +1.7**
comp=Z,77nmcomp=Z,10.0nm,1.0s
STKA Stephens Creek 43.84 183 P **P** **00 17 48.9 -0.7**
comp=Z,2.9nm,0.5s,baz=339,slow=6.2,SNR=6.9
STKA Stephens Creek 43.84 183 P **P** **00 17 48.7 -0.9**
STKA pmax pmax
comp=Z,8.0nm,1.6s
STKA Stephens Creek 43.84 183 P **P** **00 17 48.7 -0.9**
CM01 Chiang Mai Arr 43.85 284 P **P** **00 17 51.8 +1.8**
comp=Z,339nmcomp=Z,9.3nm,0.5s
CM02 Chiang Mai Arr 43.86 284 P **P** **00 17 52.0 +2.0**
comp=Z,80nmcomp=Z,10nm,1.1s
CM05 Chiang Mai Arr 43.86 284 P **P** **00 17 51.6 +1.6**
comp=Z,59nmcomp=Z,7.1nm,1.0s
CM31 Chiang Mai Arr 43.87 284 P **P** **00 17 50.0 -0.1**
CMAR Chiang Mai Arr 43.87 284 P **P** **00 17 50.9 +0.8**
comp=Z,6.0nm,0.9s,baz=85,slow=6.2,SNR=23
CMAR PcP **PcP** **00 19 37.3 +0.9**
comp=Z,1.8nm,0.8s,baz=69,slow=3.0,SNR=2.0
CMAR LR LR 00 36 25.9
comp=Z,132nm,19.2s,baz=171,slow=36
CMAR Chiang Mai Arr 43.87 284 *i* P **P** **00 17 51.4 +1.3**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 43.87 284 P **P** **00 17 50.5 +0.4**
CM15 Chiang Mai Arr 43.88 284 P P 00 17 57.0 +6.8
comp=Z,14nm,0.4s
CM13 Chiang Mai Arr 43.90 284 P **P** **00 17 51.8 +1.5**
comp=Z,63nmcomp=Z,8.7nm,1.0s
BKNI Bangkinang 44.26 258 P **P** **00 17 52.6 -0.6**
KRAB Krabi 44.28 269 P P 00 18 04.5 +11
comp=Z,13µmcomp=Z,195nm,0.6s
SURT Suratani 44.56 270 P **P** **00 18 00.0 +4.3**
MSVF Nonsavu 44.82 131 P **P** **00 17 59.1 +1.4**
comp=Z,9.0nm,0.9s,baz=276,slow=11,SNR=4.4
MSVF Nonsavu 44.82 131 P **P** **00 17 58.6 +0.9**
MSVF pmax pmax
comp=Z,50nm,1.5s
MSVF Nonsavu 44.82 131 P **P** **00 17 58.6 +0.9**
MSVF IAmb IAmb 00 17 59.8
comp=Z,50nm,1.5s
BBOO Buckleboo 45.36 189 P **P** **00 18 01.1 -0.5**
BBOO IAmb IAmb 00 18 01.8
comp=Z,21nm,0.6s
FORT Forrest 45.37 199 P **P** **00 18 02.1 +0.4**
PSI Prapat 45.63 262 P **P** **00 18 04.0 -0.3**
PSI pmax pmax
comp=Z,19nm,1.0s
RPSI Rantau Prapat 45.66 262 P **P** **00 18 04.0 -0.4**
RPSI IAmb IAmb 00 18 06.5
comp=Z,19nm,1.0s
LHMI Lhok Sumawe 47.01 266 P **P** **00 18 15.4 +0.4**
ULN Ulaanbaatar 47.11 326 *de*P **P** **00 18 15.6 +0.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 47.11 326 P **P** **00 18 15.4 -0.1**
ULN Ulaanbaatar 47.11 326 pP pP 00 18 19.5 +2.8
SONM Songino Array 47.45 326 P **P** **00 18 18.3 +0.2**
comp=Z,1.8nm,0.6s,baz=148,slow=7.7,SNR=13
SONM PcP **PcP** **00 19 48.6 +0.1**
comp=Z,5.0nm,1.1s,baz=140,slow=3.7,SNR=5.4
SONM LR LR 00 39 17.9
comp=Z,400nm,18.3s,baz=127,slow=37
SONM Songino Array 47.45 326 P **P** **00 18 18.2 0.0**
SONM pmax pmax
comp=Z,8.0nm,1.2s
SONM Songino Array 47.45 326 P **P** **00 18 18.2 0.0**
GTA Gaotai 47.54 313 ⇑P **P** **00 18 19.4 +0.4**
GTA pP pwP 00 18 24.0 -2.7
GTA sP sP 00 18 26.4 +5.7
GTA PcP **PcP** **00 19 50.0 +1.0**
GTA S **S** **00 25 20.9 +6.5**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,110nm,4.5s
GTA L L
comp=Z,170nm,16.0s
GTA L L
comp=Z,240nm,18.5s
GTA L L
comp=Z,230nm,18.5s
MA2 Magadan 47.60 5 ⇑*e*P **P** **00 18 18.2 -0.7**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
MORW Morawa 49.11 213 P **P** **00 18 30.6 -0.4**
MORW IAmb IAmb 00 18 31.8
comp=Z,42nm,1.2s
TOO Toolangi 49.48 178 P **P** **00 18 34.1 +0.4**
TOO pmax pmax
comp=Z,25nm,1.4s
TOO Toolangi 49.48 178 P **P** **00 18 34.1 +0.4**
TOO IAmb IAmb 00 19 24.9
comp=Z,25nm,1.4s
ZAK Zakamensk 50.59 327 *e*P **P** **00 18 41.3 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ADK Adak 50.70 30 P **P** **00 18 42.8 0.0**
ADK pmax pmax
comp=Z,80nm,1.7s
ADK Adak 50.70 30 P **P** **00 18 42.8 0.0**
SHL Shillong 50.83 293 P **P** **00 18 43.5 -1.0**
SHL pmax pmax
comp=Z,30nm,1.1s
SHL Shillong 50.83 293 P **P** **00 18 43.5 -1.0**
SHL IAmb IAmb 00 18 45.6
comp=Z,30nm,1.1s
YAK Yakutsk 50.87 351 *e*P **P** **00 18 42.1 -1.8**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK Yakutsk 50.87 351 P **P** **00 18 42.8 -1.1**
TLY Talaya 51.15 329 *e*P **P** **00 18 50.0 +3.8**
TLY pmax pmax
comp=Z,14nm,0.6s
TLY MLR MLR
comp=Z,447nm,18.0s
TLY Talaya 51.15 329 pP pP 00 18 51.2 +3.8
LSA Lhasa 51.95 298 P **P** **00 18 53.3 +0.2**
LSA pmax pmax
comp=Z,16nm,1.1s
LSA Lhasa 51.95 298 P **P** **00 18 53.3 +0.2**
MOY Mondy 52.50 328 *e*P **P** **00 18 56.8 +0.3**
TAPN Taplejung 54.71 295 *e*P **P** **00 19 13.2 -0.1**
comp=Z,39nm,1.0s
RAMN Ramite 55.67 294 *e*P **P** **00 19 20.0 -0.2**
JIRN Jiri 56.08 295 *e*P **P** **00 19 23.3 +0.1**
GUN Gumba 56.37 295 *e*P **P** **00 19 25.2 -0.1**
comp=Z,106nm,1.0s
PKI Pulchoki 56.76 295 *e*P **P** **00 19 27.3 -0.8**
PKIN Phulchoki 56.77 295 *e*P **P** **00 19 27.3 -0.8**
KKN Kakani 56.89 295 *e*P **P** **00 19 28.3 -0.6**
DMN Daman 57.03 295 *e*P **P** **00 19 29.7 -0.2**
GKN Gorkha 57.47 295 *e*P **P** **00 19 32.4 -0.5**
WMQ Urumqi 57.55 314 P **P** **00 19 34.1 +1.0**
WMQ pP pwP 00 19 39.9 -0.8
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.7s
WMQ L L
comp=Z,370nm,20.9s
WMQ L L
comp=Z,350nm,19.7s
WMQ L L
comp=Z,370nm,19.7s
BILL Bilibino 57.70 10 *ce*P **P** **00 19 34.1 +0.5**
BILL *i* 00 20 28.0
BILL *e*S **S** **00 27 33.4 +1.2**
BILL pmax pmax
comp=Z,9.0nm,1.3s
BILL MLR MLR
comp=Z,182nm,16.0s
BILL Bilibino 57.70 10 P **P** **00 19 33.7 +0.1**
DANN Dangsing 58.26 296 *e*P **P** **00 19 38.1 -0.5**
KOLN Koldanda 58.38 295 *e*P **P** **00 19 39.0 -0.3**
PYUN Piuthan 58.93 295 *e*P **P** **00 19 42.8 -0.4**
comp=Z,85nm,1.0s
TUWZ Tuamarina 60.03 154 P **P** **00 19 49.6 -0.5**
TIXI Tiksi 60.17 355 *de*P **P** **00 19 50.9 +0.2**
TIXI Tiksi 60.17 355 P **P** **00 19 50.4 -0.3**
SDPT Sand Point 60.77 33 P **P** **00 19 54.5 -0.5**
MK31 Makanchi Array 61.97 317 P **P** **00 20 03.3 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 61.97 317 P **P** **00 20 03.3 -0.1**
MKAR Makanchi Array 61.97 317 P **P** **00 20 03.5 +0.1**
comp=Z,16nm,1.1s,baz=94,slow=7.8,SNR=29
MKAR LR LR 00 48 22.3
comp=Z,127nm,18.7s,baz=98,slow=37
MKAR Makanchi Array 61.97 317 *ce*P **P** **00 20 03.5 +0.1**
MKAR pmax pmax
comp=Z,17nm,1.1s
MKAR Makanchi Array 61.97 317 P **P** **00 20 03.4 0.0**
MAKZ Makanchi 62.18 317 P **P** **00 20 04.7 -0.1**
MAKZ pmax pmax
comp=Z,16nm,1.1s
MAKZ Makanchi 62.18 317 P **P** **00 20 04.7 -0.1**
MAKZ IAmb IAmb 00 20 06.2
comp=Z,16nm,1.1s
ZAA0 Zalesovo Array 62.32 325 P **P** **00 20 04.8 -0.8**
ZAA0 IAmb IAmb 00 20 47.6
comp=Z,16nm,1.6s
ZALV Zalesovo Beam 62.32 325 P **P** **00 20 05.0 -0.5**
comp=Z,3.0nm,0.6s,baz=107,slow=7.1,SNR=12
ZALV PcP **PcP** **00 20 44.3 -0.9**
comp=Z,3.8nm,0.7s,baz=131,slow=4.0,SNR=7.5
ZALV LR LR 00 48 01.9
comp=Z,153nm,19.1s,baz=112,slow=37
ZALV Zalesovo Beam 62.32 325 P **P** **00 20 04.7 -0.9**
ZALV PcP **PcP** **00 20 44.2 -1.0**
SHLS Shalkode 63.28 312 *e*P **P** **00 20 08.9 -3.4**
baz=312
SHLS Shalkode 63.28 312 *e*P **P** **00 20 08.9 -3.4**
HYB Hyderabad 63.29 283 *i* P **P** **00 20 13.0 +0.3**
UZB Uzynbulak 63.59 312 *e*P **P** **00 20 12.5 -1.9**
baz=312
UZB Uzynbulak 63.59 312 *e*P **P** **00 20 12.5 -1.9**
KPKS Kokpek 63.88 313 *e*P **P** **00 20 14.9 -1.3**
baz=312
KPKS Kokpek 63.88 313 *e*P **P** **00 20 16.0 -0.3**
KPKS pmax pmax
comp=Z,7.0nm,1.2s
PRZ Przheval'sk 63.96 311 P **P** **00 20 17.2 +0.3**
PRZ pmax pmax
comp=Z,24nm,1.2s
PRZ Przheval'sk 63.96 311 P **P** **00 20 17.2 +0.3**
PRZ IAmb IAmb 00 20 19.0
comp=Z,24nm,1.1s
SATY Saty 64.03 312 *e*P **P** **00 20 15.1 -2.2**
baz=312
SATY Saty 64.03 312 *e*P **P** **00 20 15.1 -2.2**
SEM Semipalatinsk 64.08 320 *e*P **P** **00 20 15.0 -2.6**
baz=320
SEM Semipalatinsk 64.08 320 *e*P **P** **00 20 15.0 -2.6**
TDK Taldyqorghan 64.31 314 *e*P **P** **00 20 18.4 -0.5**
baz=314
TDK Taldyqorghan 64.31 314 *e*P **P** **00 20 18.4 -0.5**
SII Sitkinak Islan 64.51 33 P **P** **00 20 19.8 -0.2**
SII Sitkinak Islan 64.51 33 P 00 20 20.5
baz=253
ARXS Arharly 64.60 313 *e*P **P** **00 20 21.1 +0.1**
KDJ Kajisay 64.81 311 P **P** **00 20 22.5 0.0**
KDJ pmax pmax
comp=Z,9.0nm,1.1s
KDJ Kajisay 64.81 311 P **P** **00 20 22.5 0.0**
MDOK Medeo 65.03 312 *e*P **P** **00 20 23.3 -0.6**
baz=312
MDOK Medeo 65.03 312 *e*P **P** **00 20 23.3 -0.6**
AAA Alma-Ata 65.13 312 *e*P **P** **00 20 24.0 -0.5**
baz=312
AAA Alma-Ata 65.13 312 *e*P **P** **00 20 23.9 -0.5**
CHKK Chushkaly 65.15 313 *i* P **P** **00 20 23.6 -0.9**
baz=313
CHKK Chushkaly 65.15 313 *i* P **P** **00 20 23.6 -0.9**
OHAK Old Harbor 65.18 32 P 00 20 24.4
baz=253
MTBS Maitube 65.47 312 *e*P **P** **00 20 25.2 -1.5**
baz=312
MTBS Maitube 65.47 312 *e*P **P** **00 20 25.2 -1.5**
KSH Kashi 65.48 308 P **P** **00 20 29.1 +2.3**
KSH S **S** **00 29 14.9 +2.8**
KSH pmax pmax
comp=Z,4.0nm,1.1s
KSH pmax pmax
comp=Z,48nm,2.7s
KSH L L
comp=Z,280nm,9.0s
KSH L L
comp=Z,260nm,12.1s
KSH L L
comp=Z,120nm,4.2s
KDAK Kodiak Island 65.70 32 LR LR 00 46 48.1
comp=Z,158nm,18.9s,baz=280,slow=34
KDAK Kodiak Island 65.70 32 P **P** **00 20 28.4 +0.7**
KDAK pmax pmax
comp=Z,20nm,1.2s
KDAK Kodiak Island 65.70 32 P **P** **00 20 28.4 +0.7**
KDAK IAmb IAmb 00 20 29.2
comp=Z,20nm,1.2s
KDAK Kodiak Island 65.70 32 P 00 20 28.1
baz=254
BOOM Boomskoye usch 65.76 311 P **P** **00 20 28.7 0.0**
BOOM pmax pmax
comp=Z,11nm,1.4s
BOOM Boomskoye usch 65.76 311 P **P** **00 20 28.7 0.0**
TTA Tatalina 65.79 26 P **P** **00 20 28.5 +0.2**
TTA pmax pmax
comp=Z,8.0nm,1.2s
TTA Tatalina 65.79 26 P **P** **00 20 28.5 +0.2**
TTA Tatalina 65.79 26 P 00 20 28.3
baz=248,SNR=5.8
FRU1 Bishkek 66.76 311 P **P** **00 20 34.4 -0.5**
FRU1 pmax pmax
comp=Z,19nm,1.3s
FRU1 Bishkek 66.76 311 P **P** **00 20 34.4 -0.5**
FRU1 IAmb IAmb 00 20 36.1
comp=Z,18nm,1.3s
SGDS Sogindy 66.81 312 *e*P **P** **00 20 33.4 -1.9**
baz=312
SGDS Sogindy 66.81 312 *e*P **P** **00 20 33.3 -1.9**
AAK Ala-Archa 66.84 311 ⇑*e*P **P** **00 20 35.9 +0.3**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 66.84 311 P **P** **00 20 35.7 +0.1**
AAK Ala-Archa 66.84 311 pP pP 00 20 36.6 -0.2
CNPM China Poot 66.87 30 P **P** **00 20 34.4 -0.8**
BRSE Bradley Lake S 67.17 30 P 00 20 36.1
baz=254
NRIK Noril'sk 67.22 341 P **P** **00 20 36.5 -0.8**
comp=Z,5.6nm,0.9s,baz=113,slow=7.7,SNR=8.9
NRIK LR LR 00 50 31.7
comp=Z,157nm,18.9s,baz=117,slow=36
NRIK Noril'sk 67.22 341 P **P** **00 20 37.3 0.0**
NRIK pmax pmax
comp=Z,12nm,1.3s
NRIK Noril'sk 67.22 341 P **P** **00 20 37.2 0.0**
NRIK IAmb IAmb 00 20 38.3
comp=Z,12nm,1.2s
BTLS Baital 67.38 314 *e*P **P** **00 20 38.1 -0.7**
comp=Z,6.5nm,1.2s,baz=314
BTLS Baital 67.38 314 *e*P **P** **00 20 38.0 -0.7**
BTLS pmax pmax
comp=Z,6.0nm,1.2s
PPLA Purkeypile 67.42 26 P **P** **00 20 38.9 +0.1**
PPLA IAmb IAmb 00 20 39.7
comp=Z,9.9nm,1.0s
PPLA Purkeypile 67.42 26 P 00 20 38.7
baz=252
SKT Skwentna 67.43 27 P **P** **00 20 38.1 -0.6**
SKT IAmb IAmb 00 20 42.7
comp=Z,10nm,0.9s
SKT Skwentna 67.43 27 P 00 20 37.8
baz=253
NIL Nilore 67.44 301 P **P** **00 20 39.2 -0.2**
NIL pmax pmax
comp=Z,37nm,1.0s
NIL Nilore 67.44 301 P **P** **00 20 39.2 -0.2**
NIL Nilore 67.44 301 P **P** **00 20 39.1 -0.2**
SUA Susitna One 67.64 28 P **P** **00 20 40.5 +0.3**
SUA IAmb IAmb 00 20 40.6
comp=Z,12nm,1.0s
SUA Susitna One 67.64 28 P 00 20 39.3
baz=254
IMAR Indian Mountai 67.82 23 P **P** **00 20 40.5 -0.6**
O22K Cooper Landing 67.85 29 P **P** **00 20 41.3 0.0**
ARSB Arslanbob 67.88 310 P **P** **00 20 42.2 0.0**
ARSB pmax pmax
comp=Z,24nm,1.2s
ARSB Arslanbob 67.88 310 P **P** **00 20 42.2 0.0**
ARSB IAmb IAmb 00 20 43.6
comp=Z,24nm,1.2s
SEW Seward 67.89 30 P 00 20 39.4
baz=256
M22K Willow 68.01 28 P 00 20 41.6
baz=254
RC01 Rabbit Creek A 68.01 29 P **P** **00 20 42.1 -0.3**
RC01 Rabbit Creek A 68.01 29 P 00 20 41.9
baz=255
H21K Melozitna Rive 68.07 23 P 00 20 43.0
baz=250,SNR=8.6
KTH Kantishna Hill 68.17 26 P **P** **00 20 43.1 -0.3**
KTH IAmb IAmb 00 20 44.4
comp=Z,23nm,1.2s
BPAW Bear Paw Mtn. 68.30 25 P **P** **00 20 43.8 -0.4**
BPAW IAmb IAmb 00 20 45.0
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 68.30 25 P 00 20 43.9
baz=252,SNR=10
TRF Thorofare Moun 68.41 26 P **P** **00 20 44.3 -0.8**
TRF IAmb IAmb 00 20 45.1
comp=Z,9.9nm,1.1s
TRF Thorofare Moun 68.41 26 P 00 20 44.1
baz=253,SNR=5.8
PMR Palmer 68.42 28 P 00 20 44.5
baz=255
GHO Glory Hole Cre 68.56 28 P **P** **00 20 45.5 -0.5**
GHO IAmb IAmb 00 20 49.7
comp=Z,28nm,1.3s
PWL Port Wells 68.61 29 P **P** **00 20 46.0 -0.1**
KNK Knik Glacier 68.69 28 P 00 20 46.5
baz=256
MLY Manley 68.69 24 P **P** **00 20 46.7 0.0**
MLY IAmb IAmb 00 20 47.6
comp=Z,11nm,1.0s
MLY Manley 68.69 24 P 00 20 46.6
baz=252,SNR=13
BRZS Berezniki 68.81 319 *e*P **P** **00 20 45.9 -1.8**
baz=319
BRZS Berezniki 68.81 319 *e*P **P** **00 20 45.8 -1.8**
SML Sawmill 68.84 28 P **P** **00 20 47.3 -0.4**
SML Sawmill 68.84 28 P 00 20 47.5
baz=256
BWN Browne 68.96 25 P **P** **00 20 48.5 +0.3**
A21K Barrow 68.98 17 P **P** **00 20 48.3 0.0**
A21K Barrow 68.98 17 P 00 20 48.9
baz=244
WAT2 Susitna Watana 69.02 27 P 00 20 47.9
baz=255,SNR=7.0
GLI Glacier Island 69.20 29 P **P** **00 20 50.0 +0.2**
GLI Glacier Island 69.20 29 P 00 20 51.1
baz=257
WAT6 Susitna Watana 69.30 27 P 00 20 49.7
baz=256,SNR=8.2
SCM Sheep Creek Mo 69.31 28 P **P** **00 20 50.6 0.0**
SCM pmax pmax
comp=Z,41nm,1.0s
SCM Sheep Creek Mo 69.31 28 P **P** **00 20 50.6 0.0**
H23K Yukon River 69.40 24 P 00 20 51.5
baz=253,SNR=7.5
BTK Batken 69.47 308 P **P** **00 20 52.0 -0.1**
BTK pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 69.47 308 P **P** **00 20 52.0 -0.1**
COLD Coldfoot 69.57 22 P **P** **00 20 52.0 0.0**
COLD IAmb IAmb 00 20 53.5
comp=Z,9.4nm,1.0s
COLD Coldfoot 69.57 22 P 00 20 52.7
baz=252
WRH Wood River Hil 69.62 25 P **P** **00 20 51.2 -1.2**
WRH IAmb IAmb 00 20 52.2
comp=Z,9.3nm,0.9s
MDM Murphy Dome 69.69 25 P **P** **00 20 52.7 -0.1**
KK31 Karatay Array 69.79 312 P **P** **00 20 53.6 -0.3**
KK31 pmax pmax
comp=Z,17nm,1.2s
KK31 Karatay Array 69.79 312 P **P** **00 20 53.6 -0.3**
KK31 IAmb IAmb 00 20 54.9
comp=Z,17nm,1.1s
KKAR Karatay Array 69.79 312 P **P** **00 20 53.8 -0.1**
KKAR Karatay Array 69.79 312 P **P** **00 20 53.8 -0.1**
TCOL CIGO, UAF Yank 69.82 25 P **P** **00 20 53.1 -0.4**
COLA College 69.82 25 ⇓*e*P **P** **00 20 53.1 -0.5**
COLA pmax pmax
comp=Z,8.0nm,1.2s
GAR Garm 69.84 307 P **P** **00 20 53.9 -0.5**
KLU Klutina 69.89 29 P 00 20 54.6
baz=258
M24K Tolsona, Glenn 69.90 28 P 00 20 55.1
baz=258
H24K Noodor Dome 70.06 24 P 00 20 55.3
baz=255,SNR=12
HDA Harding Lake 70.08 26 P **P** **00 20 53.7 -1.5**
HDA Harding Lake 70.08 26 P 00 20 54.1
baz=256
HDA P 00 20 54.1
baz=256
IL31 70.20 25 P **P** **00 20 54.3 -1.6**
IL31 IAmb IAmb 00 20 55.2
comp=Z,22nm,1.4s
ILAR Eielson Array 70.20 25 P **P** **00 20 54.1 -1.8**
comp=Z,4.1nm,0.7s,baz=256,slow=4.9,SNR=32
ILAR LR LR 00 51 38.2
comp=Z,107nm,19.3s,baz=334,slow=36
TOLK Toolik Lake Re 70.23 21 P **P** **00 20 56.1 0.0**
TOLK IAmb IAmb 00 20 57.8
comp=Z,35nm,1.7s
TOLK Toolik Lake Re 70.23 21 P 00 20 56.5
baz=252

BMRM	**Bremner River**	**70.42**	**29**	P		**P**	**00 20 57.7**	**+0.3**
BMRM				IAmb		IAmb	00 21 01.6	
	comp=Z,25nm,1.2s							
BMRM	**Bremner River**	**70.42**	**29**	P			00 20 58.0	
	baz=260							
HARP	**HAARP**	**70.43**	**28**	P			00 20 57.5	
	baz=259							
N25K	**Chitina, Valde**	**70.54**	**29**	P			00 20 58.5	
	baz=259							
BRVK	**Borovoye**	**70.62**	**322**	*d iP*		**P**	**00 20 58.3**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,29nm,1.3s							
BRVK	**Borovoye**	**70.62**	**322**	P		**P**	**00 20 58.3**	**-0.4**
CHGR	**Chuyangaron**	**70.75**	**307**	P		**P**	**00 20 59.5**	**-0.4**
GLB	**Gilahina Butte**	**70.88**	**29**	P		**P**	**00 21 00.4**	**+0.2**
GLB				IAmb		IAmb	00 21 01.3	
	comp=Z,23nm,1.1s							
KBL	**Kabul**	**70.92**	**302**	P		**P**	**00 21 00.4**	**-0.8**
KBL				pmax		pmax		
	comp=Z,16nm,0.9s							
KBL	**Kabul**	**70.92**	**302**	P		**P**	**00 21 00.4**	**-0.8**
KBL				IAmb		IAmb	00 21 03.6	
	comp=Z,16nm,0.9s							
KBL	**Kabul**	**70.92**	**302**	P		**P**	**00 21 00.8**	**-0.3**
	SNR=9.0							
VRDI	**Verde Repeater**	**71.01**	**29**	P		**P**	**00 21 00.9**	**-0.2**
VRDI				IAmb		IAmb	00 21 09.4	
	comp=Z,20nm,1.2s							
CRQM	**Cirque**	**71.09**	**30**	P		**P**	**00 21 02.1**	**+0.4**
CRQM				IAmb		IAmb	00 21 06.3	
	comp=Z,22nm,0.9s							
CRQE	**Cirque**	**71.11**	**30**	P			00 21 02.0	
	baz=261							
DOT	**Dot Lake**	**71.16**	**27**	P		**P**	**00 21 01.3**	**-0.6**
DOT				IAmb		IAmb	00 21 06.3	
	comp=Z,17nm,0.9s							
MCARA	**McCarthy VSAT**	**71.24**	**29**	P		**P**	**00 21 02.3**	**0.0**
MCARA				IAmb		IAmb	00 21 04.5	
	comp=Z,26nm,1.0s							
MCARA	**McCarthy VSAT**	**71.24**	**29**	P			00 21 02.3	
	baz=261							
SCRK	**Sand Creek**	**71.26**	**26**	P			00 21 02.1	
	baz=259,SNR=7.1							
FYU	**Fort Yukon**	**71.28**	**23**	P		**P**	**00 21 03.0**	**+0.5**
BMAR	**Burnt Mountain**	**71.72**	**23**	P		**P**	**00 21 05.9**	**+0.7**
GRNC	**Granite Creek**	**71.76**	**30**	P		**P**	**00 21 05.8**	**+0.1**
GRNC				IAmb		IAmb	00 21 13.1	
	comp=Z,21nm,1.0s							
PPT	**Papeete**	**71.88**	**113**	LR		LR	00 47 18.1	
	comp=Z,206nm,20.1s,baz=328,slow=31							
PPT2	**Papeete2**	**71.89**	**113**	*eS*		**S**	**00 30 30.7**	**+2.1**
	comp=Z,155nm,24.5s							
PPT2	**Papeete2**	**71.89**	**113**	*e*LR		LR	00 42 52.3	
	comp=Z,208nm,21.8s							
CTG	**Chitna Glacier**	**71.99**	**30**	P			00 21 07.4	
	baz=262							
L27K	**Beaver Creek,**	**72.06**	**27**	P		**P**	**00 21 07.2**	**-0.1**
L27K	**Beaver Creek,**	**72.06**	**27**	P			00 21 07.4	
	baz=261,SNR=7.6							
BCAR	**Beaver Creek A**	**72.08**	**27**	P		**P**	**00 21 07.2**	**-0.2**
K27K	**Chicken**	**72.10**	**26**	P			00 21 07.7	
	baz=261							
EGAK	**Eagle**	**72.61**	**26**	P		**P**	**00 21 10.4**	**-0.1**
EGAK	**Eagle**	**72.61**	**26**	P			00 21 11.2	
	baz=262,SNR=6.9							
DAWY	**Dawson**	**73.27**	**27**	P		**P**	**00 21 14.7**	**+0.2**
DAWY				IAmb		IAmb	00 21 17.9	
	comp=Z,15nm,1.1s							
HYT	**Haines Junctio**	**73.84**	**30**	P		**P**	**00 21 18.5**	**+0.5**
HYT				IAmb		IAmb	00 21 22.4	
	comp=Z,16nm,1.0s							
TBI	**Tubuai**	**73.98**	**119**	*e*LR		LR	00 43 40.7	
	comp=Z,141nm,31.8s							
EPYK	**Eagle Plains**	**74.63**	**24**	P		**P**	**00 21 22.2**	**-0.2**
EPYK				IAmb		IAmb	00 21 23.8	
	comp=Z,30nm,1.4s							
EPYK	**Eagle Plains**	**74.63**	**24**	P			00 21 22.5	
	baz=265							
WHY	**Whitehorse**	**75.12**	**30**	P		**P**	**00 21 25.9**	**+0.5**
WHY	**Whitehorse**	**75.12**	**30**	P			00 21 25.9	
	baz=268							
INK	**Inuvik**	**75.99**	**22**	P		**P**	**00 21 29.7**	**-0.3**
INK				pmax		pmax		
	comp=Z,29nm,1.1s							
INK	**Inuvik**	**75.99**	**22**	P		**P**	**00 21 29.7**	**-0.3**
INK				IAmb		IAmb	00 21 31.5	
	comp=Z,29nm,1.1s							
INK	**Inuvik**	**75.99**	**22**	P			00 21 30.0	
	baz=268							
WRAK	**Wrangell Islan**	**76.44**	**35**	P			00 21 33.5	
	baz=272							
HRA	**Herat**	**76.53**	**303**	P		**P**	**00 21 34.1**	**-0.1**
HRA				IAmb		IAmb	00 21 35.4	
	comp=Z,15nm,0.9s							
ABKAR	**Akbulak array**	**77.06**	**318**	P		**P**	**00 21 35.7**	**-0.9**
ABKAR				IAmb		IAmb	00 21 37.0	
	comp=Z,16nm,1.1s							
ABKAR	**Akbulak array**	**77.06**	**318**	P		**P**	**00 21 35.9**	**-0.7**
ARU	**Arti**	**77.48**	**325**	*d iP*		**P**	**00 21 38.0**	**-0.7**
ARU				S		**S**	**00 31 30.5**	**+0.6**
ARU				SS		**SS**	**00 36 26.5**	**-1.9**
ARU				pmax		pmax		
	comp=Z,30nm,1.3s							
ARU	**Arti**	**77.48**	**325**	P		**P**	**00 21 38.1**	**-0.7**
ARU				IAmb		IAmb	00 21 39.2	
	comp=Z,30nm,1.2s							
C36M	**Paulatuk**	**79.38**	**21**	P		**P**	**00 21 48.6**	**-0.4**
C36M				IAmb		IAmb	00 21 50.3	
	comp=Z,22nm,0.9s							
C36M	**Paulatuk**	**79.39**	**21**	P			00 21 48.3	
	baz=276							
GEYT	**Alibeck**	**79.46**	**307**	P		**P**	**00 21 50.6**	**+0.5**
	comp=Z,13nm,1.1s,baz=64,slow=4.3,SNR=13							
GYA0B	**ALIBECK ARRAY**	**79.46**	**307**	P		**P**	**00 21 49.8**	**-0.4**
GYA0B				IAmb		IAmb	00 21 51.7	
	comp=Z,15nm,1.1s							
JLN	**Jalan Bani Buh**	**80.61**	**291**	P		**P**	**00 21 56.4**	**-0.2**
WBK	**Wadi Bani Khal**	**80.94**	**291**	P		**P**	**00 21 58.5**	**+0.1**
BIDO	**Bidbid**	**81.55**	**292**	P		**P**	**00 22 01.9**	**+0.3**
	SNR=6.0							
SMDO	**Samad**	**81.70**	**292**	P		**P**	**00 22 02.3**	**-0.2**
JMDO	**Jabal Madar**	**81.77**	**291**	P		**P**	**00 22 02.3**	**-0.4**
MHTO	**MHTO**	**82.13**	**290**	P		**P**	**00 22 04.6**	**-0.1**
	SNR=7.8							
HOQ	**Hoqain**	**82.28**	**292**	P		**P**	**00 22 05.5**	**0.0**
	SNR=6.3							
DQM	**DQM**	**82.71**	**289**	pP		pP	00 22 08.2	-0.2
BANOM	**Banah**	**82.79**	**295**	pP		pP	00 22 09.0	+0.3
SOHO	**SOHO**	**82.89**	**293**	P		**P**	**00 22 08.3**	**-0.2**
SHME	**Shamm**	**82.90**	**295**	pP		pP	00 22 09.4	+0.1
MASF	**Masafi**	**83.01**	**294**	pP		pP	00 22 10.2	+0.4
	SNR=5.6							
ARQ	**Araqi**	**83.04**	**292**	P		**P**	**00 22 09.7**	**+0.3**
UOSS	**Minazif**	**83.04**	**294**	P		**P**	**00 22 08.8**	**-0.6**
UOSS				IAmb		IAmb	00 22 12.3	
	comp=Z,12nm,1.1s							
UOSS	**Minazif**	**83.04**	**294**	P		**P**	**00 22 09.8**	**+0.4**
HATD	**Hatta, Dubai**	**83.13**	**294**	P		**P**	**00 22 10.0**	**+0.2**
ASHO	**Ashiyiah**	**83.22**	**294**	P		**P**	**00 22 10.5**	**+0.1**
PRGR	**Permogore**	**83.37**	**332**	*eP*		**P**	**00 22 09.3**	**-1.0**
PRGR				pmax		pmax		
	comp=Z,27nm,0.8s							
ALNE	**Al Ain**	**83.61**	**293**	pP		pP	00 22 12.8	-0.1
	SNR=7.7							
ASUD	**Al Ashush, Dub**	**83.88**	**294**	pP		pP	00 22 14.7	+0.4
B06A	**Marblemount**	**83.94**	**42**	P		**P**	**00 22 13.8**	**+0.3**
B06A				IAmb		IAmb	00 22 18.2	
	comp=Z,20nm,1.4s							
HUMO	**Hull Mountain**	**84.06**	**48**	P		**P**	**00 22 15.0**	**+0.7**
HUMO				IAmb		IAmb	00 22 16.9	
	comp=Z,14nm,1.1s							
I04A	**Tendick Farm,**	**84.23**	**47**	P			00 22 15.8	
	baz=281							
M02C	**Callahan**	**84.37**	**49**	P			00 22 17.3	
	baz=281							
EUNU	**Eureka**	**84.39**	**8**	P		**P**	**00 22 15.9**	**+0.6**
YBH	**Yreka Blue Hor**	**84.41**	**49**	P		**P**	**00 22 17.1**	**+0.9**
YBH				pmax		pmax		
	comp=Z,11nm,1.0s							
YBH	**Yreka Blue Hor**	**84.41**	**49**	P		**P**	**00 22 17.1**	**+0.9**
YBH				IAmb		IAmb	00 22 18.1	
	comp=Z,11nm,1.0s							
YKA	**Yellowknife Ar**	**84.49**	**27**	P		**P**	**00 22 15.9**	**-0.1**
	comp=Z,16nm,1.1s,baz=285,slow=4.7,SNR=14							
N02D	**Trinity Center**	**84.56**	**49**	P			00 22 17.8	
	baz=281							
L04D	**Klamath Falls**	**84.61**	**48**	P			00 22 18.1	
	baz=282							
O02D	**Mt. Diablo Mer**	**84.66**	**50**	P			00 22 18.6	
	baz=281							
LTY	**Liberty**	**84.73**	**43**	P		**P**	**00 22 18.1**	**+0.4**
M04C	**Macdoel**	**85.04**	**48**	P			00 22 20.7	
	baz=282							
PINE	**Pine Mountain**	**85.27**	**46**	P		**P**	**00 22 20.5**	**-0.1**
B08A	**Colville Reser**	**85.37**	**42**	P		**P**	**00 22 21.7**	**+0.9**
B08A				IAmb		IAmb	00 22 22.6	
	comp=Z,17nm,1.1s							
O03E	**Paynes Creek**	**85.37**	**50**	P			00 22 21.6	
	baz=282							
K05A	**Summer Lake**	**85.53**	**47**	P		**P**	**00 22 22.7**	**+0.8**
K05A				IAmb		IAmb	00 22 23.7	
	comp=Z,12nm,1.0s							
ORV	**Oroville**	**85.75**	**51**	P		**P**	**00 22 22.8**	**-0.1**
ORV				pmax		pmax		
	comp=Z,14nm,1.4s							
ORV	**Oroville**	**85.75**	**51**	P		**P**	**00 22 22.8**	**-0.1**
ORV				IAmb		IAmb	00 22 26.9	
	comp=Z,14nm,1.4s							
RES	**Resolute Bay**	**86.12**	**13**	P		**P**	**00 22 24.4**	**+0.5**
RES				pmax		pmax		
	comp=Z,34nm,1.0s							
RES	**Resolute Bay**	**86.12**	**13**	P		**P**	**00 22 24.4**	**+0.5**
C09A	**Chrisman Ranch**	**86.19**	**42**	P		**P**	**00 22 25.3**	**+0.5**
C09A				IAmb		IAmb	00 22 26.7	
	comp=Z,28nm,1.5s							
GHWR	**Ruwais**	**86.20**	**294**	PcP		**P**	**00 22 26.4**	**+1.0**
RBK	**Rabkut**	**86.27**	**287**	PcP		**P**	**00 22 26.1**	**+0.2**
AFDM	**Forest Hills D**	**86.28**	**51**	P		**P**	**00 22 26.0**	**+0.4**
G08A	**Pilot Rock**	**86.32**	**45**	P		**P**	**00 22 26.4**	**+0.7**
KLMR	**Klimovskoe**	**86.42**	**332**	*eP*		**P**	**00 22 23.0**	**-2.7**
KLMR				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KLMR	**Klimovskoe**	**86.42**	**332**	*eP*		**P**	**00 22 23.0**	**-2.7**
KLMR				AMP			00 22 24.7	
	comp=Z,9.0nm,0.9s							
APA	**Apatity**	**86.51**	**339**	*i P*		**P**	**00 22 23.2**	**-2.8**
APA				pmax		pmax		
	comp=Z,12nm,1.0s							
MAK	**Makhachkala**	**86.54**	**313**	*eP*		P	00 22 19.0	-7.7
MAK				*e*			00 25 41.5	
MAK				*e*			00 32 42.1	
MAK				*e*SS		SS	00 38 38.2	-5.5
MAK				*e*SSS		SSS	00 42 11.3	
MAK				pmax		pmax		
	comp=Z,160nm,1.2s							
BEKR	**Beckworth**	**86.55**	**50**	P		**P**	**00 22 27.1**	**+0.1**
BEKR				IAmb		IAmb	00 22 28.9	
	comp=Z,14nm,1.2s							
NEW	**Newport**	**86.83**	**41**	P		**P**	**00 22 28.0**	**0.0**
NEW				pmax		pmax		
	comp=Z,18nm,1.2s							
NEW	**Newport**	**86.83**	**41**	P		**P**	**00 22 28.0**	**0.0**
NEW				IAmb		IAmb	00 22 29.8	
	comp=Z,18nm,1.1s							
NEW	**Newport**	**86.83**	**41**	P			00 22 28.5	
	baz=285,SNR=11							
ABTO	**Aybut**	**87.15**	**287**	PcP		**P**	**00 22 30.1**	**-0.1**
WVOR	**Wild Horse Val**	**87.22**	**47**	P		**P**	**00 22 30.2**	**0.0**
WVOR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
WVOR	**Wild Horse Val**	**87.22**	**47**	P		**P**	**00 22 30.2**	**0.0**
SLWR	**Sila**	**87.24**	**294**	PcP		**P**	**00 22 30.9**	**+0.5**
BMO	**Blue Mountains**	**87.56**	**45**	P		**P**	**00 22 32.2**	**+0.5**
BMO	**Blue Mountains**	**87.56**	**45**	P		**P**	**00 22 32.2**	**+0.5**
BMO				IAmb		IAmb	00 22 33.6	
	comp=Z,17nm,1.2s							
SMMC	**Simmler**	**87.86**	**54**	P			00 22 35.1	
	baz=283							
PKM	**Mcpherson Peak**	**88.10**	**55**	P			00 22 36.0	
	baz=284,SNR=9.3							
ARCES	**ARCESS Array B**	**88.19**	**342**	P		**P**	**00 22 32.1**	**-2.0**
	comp=Z,8.0nm,1.0s,baz=81,slow=7.8,SNR=13							
ARCES				LR		LR	01 05 01.3	
	comp=Z,96nm,20.2s,baz=90,slow=38							
ARCES	**ARCESS Array B**	**88.19**	**342**	P		**P**	**00 22 33.6**	**-0.5**
ARCES				pmax		pmax		
	comp=Z,29nm,1.6s							
ARCES	**ARCESS Array B**	**88.19**	**342**	P		**P**	**00 22 33.6**	**-0.5**
VRH	**Novokhopyorsk**	**88.21**	**322**	*eP*		**P**	**00 22 32.1**	**-2.4**
VRH				pmax		pmax		
	comp=Z,20nm,0.8s							
NVAR	**Mina Array Bea**	**88.44**	**51**	P		**P**	**00 22 37.5**	**+1.3**
	comp=Z,8.0nm,0.8s,baz=267,slow=5.4,SNR=52							
NVAR	**Mina Array Bea**	**88.44**	**51**	P		**P**	**00 22 37.3**	**+1.1**
VES	**Vestal, Richgr**	**88.45**	**54**	P			00 22 37.4	
	baz=284							
NV11	**Mina Array Sit**	**88.55**	**51**	P		**P**	**00 22 37.5**	**+0.8**
NV11				IAmb		IAmb	00 22 39.0	
	comp=Z,12nm,1.1s							
WALA	**Waterton Lakes**	**88.66**	**40**	P		**P**	**00 22 37.7**	**+0.8**
WALA				IAmb		IAmb	00 22 42.4	
	comp=Z,8.1nm,1.1s							
MFID	**Camas Ranch**	**88.97**	**46**	P		**P**	**00 22 39.2**	**+0.7**
MFID				IAmb		IAmb	00 22 44.2	
	comp=Z,15nm,0.9s							
ISA	**Isabella, Lake**	**88.98**	**54**	P		**P**	**00 22 38.5**	**-0.1**
ISA				pmax		pmax		
	comp=Z,11nm,1.4s							
ISA	**Isabella, Lake**	**88.98**	**54**	P		**P**	**00 22 38.5**	**-0.1**
ISA				IAmb		IAmb	00 22 40.4	
	comp=Z,11nm,1.4s							
ISA	**Isabella, Lake**	**88.98**	**54**	P			00 22 39.7	
	baz=284							
OSI	**Osito Audit: C**	**89.04**	**55**	P		**P**	**00 22 39.6**	**+0.7**
MOS	**Moscow**	**89.07**	**327**	*eP*		**P**	**00 22 35.5**	**-3.0**
MOS				pmax		pmax		
	comp=Z,35nm,1.1s							
CWC	**Cottonwood Cre**	**89.10**	**53**	P			00 22 40.7	
	baz=284							
ZEI	**Tsey**	**89.15**	**314**	*eP*		**P**	**00 22 37.9**	**-1.6**
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.0s							
TPH	**Tonopah**	**89.35**	**51**	P		**P**	**00 22 41.0**	**+0.5**
TPH				pmax		pmax		
	comp=Z,48nm,0.9s							
TPH	**Tonopah**	**89.35**	**51**	P		**P**	**00 22 41.0**	**+0.5**
LPSR	**Galich'ya Gora**	**89.41**	**324**	*eP*		**P**	**00 22 38.4**	**-1.8**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
EDW2	**Edwards Air Fo**	**89.55**	**55**	P			00 22 43.0	
	baz=284,SNR=6.4							
KBZ	**Khabaz**	**89.60**	**315**	P		**P**	**00 22 40.9**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=17,slow=7.7,SNR=4.2							
KBZ				LR		LR	01 06 50.2	
	comp=Z,117nm,19.0s,baz=62,slow=38							
KIV	**Kislovodsk**	**89.68**	**315**	*eP*		**P**	**00 22 41.2**	**-0.6**
KIV				pmax		pmax		
	comp=Z,15nm,1.1s							
KIV				MLR		MLR		
	comp=Z,257nm,20.0s							
VSR	**Storozhevoye**	**89.73**	**323**	*eP*		**P**	**00 22 38.2**	**-3.5**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
OBN	**Obninsk**	**89.86**	**327**	*c iP*		**P**	**00 22 40.5**	**-1.6**
OBN				pmax		pmax		
	comp=Z,38nm,1.3s							
OBN	**Obninsk**	**89.86**	**327**	P		**P**	**00 22 40.5**	**-1.6**
HLID	**Hailey**	**89.92**	**45**	P		**P**	**00 22 43.6**	**+0.6**
HLID	**Hailey**	**89.92**	**45**	P			00 22 44.0	
	baz=287,SNR=14							
FURC	**Furnace Creek,**	**90.04**	**53**	P			00 22 45.0	
	baz=285,SNR=11							
VNDA	**Vanda**	**90.10**	**176**	P		**P**	**00 22 41.4**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=28,slow=7.2,SNR=2.1							
VNDA				LR		LR	01 04 06.1	
	comp=Z,53nm,18.5s,baz=356,slow=36							
ELK	**Elko**	**90.12**	**48**	P		**P**	**00 22 44.8**	**+0.7**
ELK				pmax		pmax		
	comp=Z,9.0nm,0.9s							
ELK	**Elko**	**90.12**	**48**	P		**P**	**00 22 44.8**	**+0.7**
ELK				IAmb		IAmb	00 22 50.0	
	comp=Z,9.0nm,0.9s							
KARS	**Kars**	**90.34**	**312**	P		**P**	**00 22 44.5**	**-0.5**
KARS				pmax		pmax		
	comp=Z,70nm,1.4s							
KARS	**Kars**	**90.34**	**312**	P		**P**	**00 22 44.5**	**-0.5**
GSC	**Goldstone, Bar**	**90.39**	**54**	P		**P**	**00 22 45.2**	**-0.1**
GSC				pmax		pmax		
	comp=Z,14nm,1.1s							
GSC	**Goldstone, Bar**	**90.39**	**54**	P		**P**	**00 22 45.1**	**-0.1**
GSC				IAmb		IAmb	00 22 47.7	
	comp=Z,14nm,1.1s							
GSC	**Goldstone, Bar**	**90.39**	**54**	P			00 22 46.8	
	baz=285,SNR=5.2							
TPNV	**Topopah Spring**	**90.39**	**52**	P			00 22 46.9	
	baz=286,SNR=11							
R11A	**Troy Canyon, C**	**90.52**	**51**	P			00 22 47.3	
	baz=286							
109C	**Camp Elliot, M**	**90.77**	**56**	P		**P**	**00 22 47.3**	**+0.3**
109C	**Camp Elliot, M**	**90.77**	**56**	P			00 22 47.9	
	baz=285							
HEC	**Hector,Ludlow**	**90.89**	**54**	P			00 22 49.2	
	baz=286,SNR=6.0							
TUQ	**Turquoise Moun**	**91.05**	**54**	P			00 22 49.9	
	baz=286,SNR=12							
PFO	**Pinyon Flats O**	**91.11**	**55**	P		**P**	**00 22 49.3**	**+0.6**
PFO				pmax		pmax		
	comp=Z,27nm,1.8s							
PFO	**Pinyon Flats O**	**91.11**	**55**	P		**P**	**00 22 49.3**	**+0.6**
PFO				IAmb		IAmb	00 22 52.9	
	comp=Z,27nm,1.8s							
PFO	**Pinyon Flats O**	**91.11**	**55**	P			00 22 49.7	
	baz=285							
TPFO	**Pinon Flats**	**91.11**	**55**	P			00 22 49.9	
	baz=285							
MONP2	**Monument Peak**	**91.33**	**56**	P			00 22 51.0	
	baz=285,SNR=5.9							
BELC	**Belle Mtn. Jos**	**91.37**	**55**	P			00 22 51.1	
	baz=286							
GMRC	**Granite Mounta**	**91.43**	**54**	P			00 22 51.7	
	baz=286,SNR=10							
HVU	**Hansel Valley**	**91.60**	**47**	P		**P**	**00 22 51.5**	**+0.7**
HVU				pmax		pmax		
	comp=Z,8.0nm,1.2s							
HVU	**Hansel Valley**	**91.60**	**47**	P		**P**	**00 22 51.5**	**+0.7**
HVU				IAmb		IAmb	00 22 55.4	
	comp=Z,7.6nm,1.2s							
BC3	**Big Chuckawall**	**91.90**	**55**	P			00 22 53.9	
	baz=286							
IRM	**Iron Mountain**	**92.01**	**55**	P			00 22 54.1	
	baz=286,SNR=9.6							
DUG	**Dugway, Tooele**	**92.05**	**48**	P		**P**	**00 22 53.5**	**+0.5**
DUG				pmax		pmax		
	comp=Z,4.0nm,0.7s							
DUG	**Dugway, Tooele**	**92.05**	**48**	P		**P**	**00 22 53.5**	**+0.5**
DUG				IAmb		IAmb	00 25 16.8	
	comp=Z,4.3nm,0.7s							
DUG	**Dugway, Tooele**	**92.05**	**48**	P			00 22 53.8	
	baz=288							
FINES	**FINESS Array B**	**92.11**	**335**	P		**P**	**00 22 50.8**	**-1.8**
	comp=Z,4.4nm,0.6s,baz=66,slow=4.8,SNR=56							
FINES				LR		LR	01 07 42.4	
	comp=Z,105nm,18.5s,baz=54,slow=38							
GCMT	**Greycliff**	**92.43**	**42**	P		**P**	**00 22 55.3**	**+0.8**
HWUT	**Hardware Ranch**	**92.51**	**47**	P		**P**	**00 22 55.5**	**+0.4**
NLU	**North Lily Min**	**92.66**	**48**	P		**P**	**00 22 56.8**	**+1.0**
PDMCI	**Parker Dam,Lak**	**92.77**	**54**	P			00 22 58.5	
	baz=287							
RAYN	**Ar Rayn**	**92.88**	**295**	P		**P**	**00 22 55.5**	**-1.5**
RAYN				pmax		pmax		
	comp=Z,5.0nm,1.2s							
RAYN	**Ar Rayn**	**92.88**	**295**	P		**P**	**00 22 55.5**	**-1.5**
RLMT	**Red Lodge**	**92.92**	**43**	P		**P**	**00 22 57.5**	**+0.6**
RLMT				IAmb		IAmb	00 23 02.9	
	comp=Z,7.7nm,1.0s							
RLMT	**Red Lodge**	**92.92**	**43**	P			00 22 58.5	
	baz=290							
ANN	**Anapa**	**92.99**	**317**	*eP*		**P**	**00 22 53.1**	**-3.8**
ANN				pmax		pmax		
	comp=Z,128nm,1.9s							
PDAR	**Pinedale Array**	**93.54**	**45**	P		**P**	**00 23 00.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=280,slow=5.4,SNR=1.8							
Y14A	**Wickenburg**	**93.78**	**54**	P		**P**	**00 23 01.5**	**+0.6**
Y14A				IAmb		IAmb	00 23 03.3	
	comp=Z,5.4nm,1.0s							
LAO	**LASA Array**	**94.33**	**41**	P		**P**	**00 23 03.4**	**+0.2**
LAO	**LASA Array**	**94.33**	**41**	P			00 23 04.0	
	baz=293							
214A	**Organ Pipe Nat**	**94.52**	**56**	P			00 23 06.0	
	baz=287							
AKASG	**Malin Array Be**	**95.72**	**325**	P		**P**	**00 23 07.4**	**-1.9**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.3,SNR=5.3							
TUC	**Tucson**	**96.05**	**55**	P			00 23 13.8	
	baz=288							
BRTR	**Keskin Array B**	**97.46**	**313**	P		**P**	**00 23 15.6**	**-2.0**
	comp=Z,1.8nm,1.1s,baz=65,slow=3.1,SNR=4.3							
BRTR				LR		LR	01 10 52.6	
	comp=Z,49nm,21.9s,baz=64,slow=38							
BRTR	**Keskin Array B**	**97.46**	**313**	*ce*P		Pdif	00 23 18.0	+0.2
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MAW	**Mawson**	**97.80**	**202**	LR		LR	01 05 27.1	
	comp=Z,162nm,19.8s,baz=56,slow=34							
NOA	**NORSAR Array B**	**98.09**	**339**	P		Pdif	00 23 22.9	+2.9
	comp=Z,1.4nm,1.0s,baz=68,slow=2.8,SNR=2.9							
NOA				LR		LR	01 10 05.5	
	comp=Z,76nm,20.3s,baz=300,slow=37							
MNTX	**Cornudas Mount**	**100.57**	**54**	P			00 23 32.7	
	baz=292							
CRVS	**Cervenica-Dubn**	**100.97**	**326**	*eP*		**Pdif**	**00 23 33.8**	**+0.8**
CRVS	**Cervenica-Dubn**	**100.97**	**326**	*e*PDIFF		**Pdif**	**00 23 33.8**	**+0.8**
KOLL	**Kolacno**	**102.83**	**326**	*e*PDIFF		**Pdif**	**00 23 43.2**	**+2.0**
SMOL	**Smolenice**	**103.39**	**327**	*eP*		**Pdif**	**00 23 44.7**	**+0.9**
SMOL	**Smolenice**	**103.39**	**327**	*e*PDIFF		**Pdif**	**00 23 44.7**	**+0.9**
CLL	**Collm**	**103.90**	**331**	*e*(sPP)			00 28 12.0	
CLL				Lm		MLR

PNHZ	**Pukenui**	**2.04**	**177**	P	Pn	00 19 50.7	0.0
TSZ	**Takapari Road**	**2.18**	**182**	P	Pn	00 19 52.1	-0.3
WPHZ	**Waipukurau**	**2.21**	**172**	P	Pn	00 19 52.2	-0.6
DVHZ	**Dannevirke**	**2.42**	**178**	P	Pn	00 19 54.2	-1.2
MRZ	**Mangatainoka R**	**2.81**	**187**	P	Pn	00 19 58.5	-1.7
MRZ				S	Sn	00 20 33.7	-0.9
OGWZ	**Otaki Gorge**	**3.02**	**193**	P	Pn	00 20 01.1	-1.7

*NEIC **07** 00:31:55.9±2.5, 28.7°S±0.1°×178.2°W±0.1°, h195km±2km, mb4.4/24, Error ellipse: s-maj=21.9km s-min=14.8km az=80.0*

*IDC **07** 00:31:55.2±0.4, 28.71°S×178.28°W, h198km±6km, mb3.7/7, mb1 3.9/8, mb1mx3.7/30, mbtmp4.3/8, Error ellipse: s-maj=29.4km s-min=20.3km az=154.0*

ISC 07 00:31:55.6±0.5, 28.63°S±0.08°×178.2°W±0.1°, h198km, n60, σ1§23/53, mb4.3/16, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.66**	**159**	P	**Pn**	**00 32 23.0**	**-0.1**
RAO	357nm,0.3s,baz=35,slow=0.1,SNR=24			S	**Sn**	**00 32 44.8**	**+0.1**
	558nm,0.3s,baz=282,slow=23,SNR=10.0						
URZ	**Urewera**	**10.38**	**201**	P	Pn	00 34 12.9	-6.6
URZ	0.3nm,0.3s,baz=301,slow=24,SNR=1.7			S	Sn	00 36 02.3	-13
	0.4nm,0.3s,baz=298,slow=23,SNR=2.8						
MSVF	**Nonsavu**	**11.38**	**342**	P	**Pn**	**00 34 33.2**	**+0.4**
	4.0nm,0.3s,baz=151,slow=11,SNR=45						
MSVF	**Nonsavu**	**11.38**	**342**	Pn	**Pn**	**00 34 33.0**	**+0.2**
KHZ	**Kahutara**	**15.30**	**204**		**Pn**	**00 35 19.8**	**-1.6**
KHZ				IAmb	IAmb	00 35 45.2	
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**15.35**	**292**	P	**P**	**00 35 23.9**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=112,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**15.35**	**292**		**P**	**00 35 23.2**	**+0.6**
DZM				IAmb	IAmb	00 35 41.0	
	comp=Z,36nm,1.4s						
OXZ	**Oxford**	**16.64**	**206**	P	**P**	**00 35 35.6**	**-1.0**
OXZ				IAmb	IAmb	00 35 45.6	
	comp=Z,38nm,1.4s						
CTAO	**Charters Tower**	**33.39**	**277**	P	**P**	**00 38 17.6**	**+2.1**
STKA	**Stephens Creek**	**34.76**	**254**	P	**P**	**00 38 26.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=275,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**34.76**	**254**	P	**P**	**00 38 28.4**	**+1.3**
AS31	**Alice Springs**	**43.07**	**265**	P	**P**	**00 39 35.6**	**-0.7**
ASAR	**Alice Springs**	**43.07**	**265**	P	**P**	**00 39 35.2**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=90,slow=7.1,SNR=12						
ASAR				pP	**pP**	**00 40 18.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=98,slow=7.9,SNR=4.0						
ASAR	**Alice Springs**	**43.07**	**265**	P	**P**	**00 39 35.8**	**-0.4**
FORT	**Forrest**	**46.37**	**254**	P	**P**	**00 39 60.0**	**-2.1**
FORT				IAmb	IAmb	00 40 00.0	
	comp=Z,36nm,1.4s						
FAKI	**Fak Fak**	**53.59**	**289**	P	**P**	**00 40 58.7**	**+2.1**
CASY	**Casey**	**56.63**	**207**	P	**P**	**00 41 16.3**	**-1.3**
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**00 41 52.3**	**+1.3**
MAW	**Mawson**	**73.90**	**200**	P	**P**	**00 43 08.6**	**+0.2**
SNAA	**Sanae**	**79.92**	**179**	P	**P**	**00 43 46.0**	**+4.0**
SNAA				IAmb	IAmb	00 43 46.8	
	comp=Z,7.1nm,0.5s						
ADK	**Adak**	**80.17**	**1**	P	**P**	**00 43 42.2**	**-1.1**
ASAJ	**Asahikawa**	**80.80**	**333**	P	**P**	**00 43 47.6**	**+0.7**
	comp=Z,4.3nm,0.7s,baz=171,slow=7.5,SNR=3.7						
NIKH	**Nikolski High**	**81.66**	**6**	P	**P**	**00 43 50.5**	**-0.7**
H03N3	**Juan Fernandez**	**81.76**	**124**	T	T	02 13 16.1	
	baz=235,slow=72,SNR=10.0						
H03N2	**Juan Fernandez**	**81.76**	**124**	T	T	02 13 13.6	
	baz=235,slow=72,SNR=8.4						
H03N1	**Juan Fernandez**	**81.78**	**124**	T	T	02 13 14.1	
	baz=235,slow=72,SNR=8.8						
PEA0B	**Petropavlovsk-**	**84.06**	**346**	P	**P**	**00 44 02.8**	**-0.7**
PETK	**Petropavlovsk-**	**84.06**	**346**	P	**P**	**00 44 02.7**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=148,slow=6.9,SNR=4.8						
PETK	**Petropavlovsk-**	**84.06**	**346**	P	**P**	**00 44 03.1**	**-0.4**
USA0B	**Ussuriysk Arra**	**85.60**	**327**	P	**P**	**00 44 10.8**	**-0.6**
USA0B				IAmb	IAmb	00 44 12.0	
	comp=Z,6.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**85.60**	**327**	P	**P**	**00 44 10.7**	**-0.7**
GSC	**Goldstone, Bar**	**85.97**	**46**	P	**P**	**00 44 14.3**	**+0.7**
GSC				IAmb	IAmb	00 44 15.5	
	comp=Z,5.1nm,0.9s						
PNTR	**Pine Nut**	**86.72**	**42**	P	**P**	**00 44 17.7**	**+0.4**
PNTR				IAmb	IAmb	00 44 18.8	
	comp=Z,5.1nm,0.8s						
NVAR	**Mina Array Bea**	**87.05**	**43**	P	**P**	**00 44 19.7**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=223,slow=8.6,SNR=24						
NVAR	**Mina Array Bea**	**87.05**	**43**	P	**P**	**00 44 19.6**	**+0.6**
HUMO	**Hull Mountain**	**87.21**	**37**	P	**P**	**00 44 20.3**	**+0.9**
HUMO				IAmb	IAmb	00 44 25.4	
	comp=Z,6.8nm,1.4s						
TPH	**Tonopah**	**87.48**	**44**	P	**P**	**00 44 21.3**	**+0.3**
TUC	**Tucson**	**88.14**	**51**	P	**P**	**00 44 25.3**	**+1.3**
X16A	**Lo Mia Camp, P**	**88.92**	**49**	P	**P**	**00 44 29.2**	**+1.4**
X16A				IAmb	IAmb	00 44 30.4	
	comp=Z,3.7nm,0.9s						
U15A	**North Rim**	**89.56**	**47**	P	**P**	**00 44 32.0**	**+1.1**
U15A				IAmb	IAmb	00 44 33.1	
	comp=Z,3.4nm,0.7s						
I07A	**Izee**	**90.06**	**38**	P	**P**	**00 44 33.4**	**+0.5**
I07A				IAmb	IAmb	00 44 34.1	
	comp=Z,2.8nm,0.8s						
TXAR	**Lajitas Array**	**91.57**	**57**	P	**P**	**00 44 41.7**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=190,slow=10,SNR=2.2						
ILAR	**Eielson Array**	**96.24**	**13**	P	**P**	**00 44 59.8**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=223,slow=4.9,SNR=3.9						
MKAR	**Makanchi Array**	**116.50**	**311**	PKP	**PKPdf**	**00 50 14.2**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=186,slow=0.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**116.60**	**319**	PKP	**PKPdf**	**00 50 13.2**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=90,slow=2.9,SNR=2.2						
BOSA	**Boshof**	**118.82**	**204**	PKP	**PKPdf**	**00 50 20.1**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=102,slow=6.5,SNR=3.5						
KK31	**Karatay Array**	**123.95**	**305**		**PKPdf**	**00 50 28.7**	**-1.3**
KKAR	**Karatay Array**	**123.95**	**305**		**PKPdf**	**00 50 28.7**	**-1.3**
KKAR	**Karatay Array**	**123.95**	**305**		**PKPdf**	**00 50 28.6**	**-1.3**
ARCES	**ARCESS Array B**	**136.83**	**348**	PKhKP	PKPpre	00 50 46.9	
	comp=Z,1.2nm,0.8s,baz=64,slow=2.8,SNR=5.4						
ARCES				PKP	**PKPdf**	**00 50 53.0**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=47,slow=0.9,SNR=11						
H10N3	**ASCENSION HYDR**	**140.47**	**154**	T	T	03 28 28.4	
	baz=200						
H10N1	**ASCENSION HYDR**	**140.47**	**154**	T	T	03 28 34.1	
	baz=200						
H10N2	**ASCENSION HYDR**	**140.49**	**154**	T	T	03 27 59.4	
	baz=200						
FINES	**FINESS Array B**	**143.43**	**341**	PKhKP	PKPpre	00 51 01.5	
	comp=Z,3.7nm,0.8s,baz=52,slow=3.8,SNR=13						
KBZ	**Khabaz**	**143.97**	**306**	PKP	PKPab	00 51 04.2	-0.8
	comp=Z,1.6nm,0.8s,baz=88,slow=4.9,SNR=2.1						
NC303	**NORSAR Array S**	**146.78**	**352**		**PKPbc**	**00 51 12.6**	**-1.0**
NOA	**NORSAR Array B**	**146.98**	**352**	PKPbc	**PKPbc**	**00 51 13.1**	**-1.1**
	comp=Z,4.1nm,0.6s,baz=15,slow=4.5,SNR=13						
AKASG	**Malin Array Be**	**149.78**	**324**	PKPbc	**PKPbc**	**00 51 20.8**	**-0.9**
	comp=Z,4.8nm,0.5s,baz=48,slow=2.8,SNR=21						
BRTR	**Keskin Array B**	**151.58**	**301**	PKPbc	**PKPbc**	**00 51 25.9**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=148,slow=7.3,SNR=8.6						
GERES	**GERESS Array B**	**157.84**	**339**	PKPab	**PKPab**	**00 52 00.8**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=37,slow=5.0,SNR=2.2						

IDC 07 00:35:23.3±2.3, 4.37°S×152.66°E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/29, mbtmp3.9/5, MS3.6/13, Ms1 3.6/13, ms1mx3.5/25, Error ellipse: s-maj=69.2km s-min=33.5km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.41**	**227**	LR	LR	00 39 51.5	
	comp=Z,231nm,20.4s,baz=62,slow=36						
HNR	**Honiara**	**8.81**	**125**	LR	LR	00 40 12.3	
	comp=Z,397nm,21.1s,baz=304,slow=33						
GUMO	**Guam**	**19.45**	**337**	LR	LR	00 47 37.3	
	comp=Z,132nm,18.5s,baz=108,slow=38						
ASAR	**Alice Springs**	**26.37**	**222**	P	P	00 41 01.6	+0.1
	1.1nm,0.8s,baz=59,slow=9.0,SNR=2.5						
MSVF	**Nonsavu**	**28.18**	**120**	LR	LR	00 52 44.2	
	comp=Z,170nm,18.7s,baz=318,slow=37						
STKA	**Stephens Creek**	**29.27**	**200**	LR	LR	00 53 10.0	
	comp=Z,137nm,19.0s,baz=21,slow=36						
JCJ	**Chichijima**	**32.88**	**343**	LR	LR	00 53 02.9	
	comp=Z,153nm,21.0s,baz=130,slow=32						
MJAR	**Matsushiro Arr**	**42.88**	**343**	P	P	00 43 23.7	+0.1
	2.6nm,0.9s,baz=169,slow=6.1,SNR=7.6						
MJAR				LR	LR	00 58 29.0	
	comp=Z,85nm,21.8s,baz=195,slow=32						
KSRS	**Korea Array**	**47.55**	**333**	LR	LR	01 01 47.5	
	comp=Z,57nm,20.5s,baz=170,slow=33						
PETK	**Petropavlovsk-**	**57.42**	**4**	LR	LR	01 05 06.1	
	comp=Z,67nm,21.1s,baz=178,slow=31						
CMAR	**Chiang Mai Arr**	**57.57**	**295**	P	P	00 45 15.9	+0.6
	0.8nm,0.3s,baz=106,slow=5.5,SNR=4.9						
CMAR				LR	LR	01 09 31.4	
	comp=Z,77nm,18.9s,baz=222,slow=36						
PPT	**Papeete**	**57.99**	**108**	LR	LR	01 06 13.1	
	comp=Z,60nm,19.7s,baz=316,slow=32						
SONM	**Songino Array**	**65.89**	**328**	LR	LR	01 14 50.0	
	comp=Z,60nm,20.0s,baz=114,slow=36						
ZALV	**Zalesovo Beam**	**80.72**	**326**	P	P	00 47 36.4	-1.9
	0.3nm,0.3s,baz=101,slow=7.5,SNR=2.2						
ZALV				LR	LR	01 21 05.8	
	comp=Z,29nm,21.9s,baz=106,slow=34						
ILAR	**Eielson Array**	**81.82**	**22**	P	P	00 47 44.6	+0.6
	0.4nm,0.8s,baz=258,slow=4.5,SNR=1.9						

*VAO **07** 00:43:35.5±2.5, 19.82°S×71.44°W, h16km±17km, mb4.3*

*IDC **07** 00:43:37.0±0.9, 19.90°S×70.73°W, h0km, mb3.7/7, mb1 4.1/9, mb1mx4.0/22, mbtmp3.9/9, ML4.2/2, MS3.0/3, Ms1 3.0/3, ms1mx2.9/20, Error ellipse: s-maj=27.1km s-min=20.2km az=62.0*

*NEIC **07** 00:43:37.8, 19.98°S×70.98°W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.55; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-1.53; $M_{r\theta}$0.48; $M_{\theta\phi}$0.26; $M_{r\phi}$-0.97; Fault plane solution: M_o1.90000×10^{15} NP1:ϕ_s161.06000°, δ62.37000°, λ81.24000°. NP2:ϕ_s359.44000°, δ28.88000°, λ106.22000°. Principal axes: T 1.9084, Plg71.0000°, Azm51.0000°; N -0.0230, Plg8.0000°, Azm165.0000°; P -1.8854, Plg17.0000°, Azm258.0000°;*

*SJA **07** 00:43:37.1±0.5, 20.08°S×70.97°W, h24km±4km, ML4.1, MW4.3*

*NEIC **07** 00:43:38.9±2.1, 19.97°S±0.02°×70.95°W±0.05°, h15km±4km, mb4.5/15, Mwr4.1/39, ML4.1(GUC), Error ellipse: s-maj=6.6km s-min=3.5km az=83.0*

*GUC **07** 00:43:39.3±0.7, 19.98°S×70.95°W, h40km±2km, ML4.1*

ISC 07 00:43:37.0±1.4, 19.98°S±0.02°×71.04°W±0.04°, h8km±9km, n125, σ1§68/143, mb4.3/12, 12C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.90**	**109**	⇑*iP*	**Pb**	**00 43 54.6**	**-0.2**
TA02				*i* S	**Sb**	**00 44 06.3**	**-0.6**
TA02				IAML		00 44 07.3	
	comp=N,14μm,0.1s						
TA02	**Huaiquique**	**0.90**	**109**		**Pb**	**00 43 54.6**	**-0.2**
TA02					**Sb**	**00 44 06.5**	**-0.5**
PSGC	**Pisagua**	**0.94**	**66**	⇑*iP*	**Pb**	**00 43 55.2**	**-0.4**
PSGC				*i* S	**Sg**	**00 44 06.9**	**-0.5**
PSGCX	**Pisagua**	**0.94**	**66**	Pg	**Pb**	**00 43 54.9**	**-0.7**
PSGCX					**Sg**	**00 44 07.1**	**-0.3**
PSGCX	**Pisagua**	**0.94**	**66**	*eP*	**Pb**	**00 43 55.1**	**-0.5**
PSGCX				*eP*	**Pg**	**00 43 55.3**	**+0.1**
PSGCX				IAML		00 44 09.7	
	comp=Z,4μm,0.6s						
TA01	**Diego Aracena**	**0.99**	**126**	⇑*iP*	**Pb**	**00 43 56.3**	**-0.2**
TA01				*i* S	**Sg**	**00 44 08.8**	**-0.2**
TA01	**Diego Aracena**	**0.99**	**126**	Pg	**Pb**	**00 43 56.2**	**-0.2**
TA01				Sn	**Sg**	**00 44 09.0**	**0.0**
PATCX	**Punta Patache**	**1.18**	**135**	⇑*iP*	**Pg**	**00 43 59.2**	**-0.4**
PATCX				*i* S	**Sg**	**00 44 14.6**	**-0.3**
PATCX				IAML		00 44 20.6	
	comp=N,7μm,0.5s						
PATCX	**Punta Patache**	**1.18**	**135**		**Pg**	**00 43 59.2**	**-0.4**
PATCX	**Punta Patache**	**1.18**	**135**	IAML		00 44 20.6	
	comp=Z,4μm,0.6s						
PB11	**IPOC Station P**	**1.32**	**81**	⇑*iP*	**Pn**	**00 44 01.4**	**-0.4**
PB11				*i* S	**Sb**	**00 44 18.0**	**-1.2**
PB11				IAML		00 44 20.6	
	comp=N,9μm,0.2s						
PB11	**IPOC Station P**	**1.32**	**81**		**Pn**	**00 44 01.2**	**-0.7**
PB11	**IPOC Station P**	**1.32**	**81**	*eP*	**Pn**	**00 44 01.4**	**-0.4**
PB11				*eS*	**Sn**	**00 44 19.4**	**-0.3**
PB11				IAML		00 44 20.2	
	comp=Z,7μm,0.3s						
MNMC	**Minye Minye**	**1.60**	**58**	⇑*iP*	**Pb**	**00 44 06.2**	**-0.9**
MNMC				*i* S	**Sb**	**00 44 26.7**	**-0.8**
MNMC				IAML		00 44 34.5	
	comp=N,7μm,0.4s						
MNMC	**Minye Minye**	**1.60**	**58**		**Pb**	**00 44 06.1**	**-0.9**
MNMCX	**Minye Minye**	**1.60**	**58**	*eP*	**Pb**	**00 44 06.2**	**-0.8**
MNMCX				*eP*	**Pg**	**00 44 06.2**	**-0.8**
MNMCX				*eP*	**Pb**	**00 44 06.2**	**-0.8**
MNMCX				IAML		00 44 34.1	
	comp=Z,4μm,0.6s						
AP01	**Chacalluta**	**1.73**	**22**	*eP*	**Pn**	**00 44 07.7**	**+0.3**
AP01				*i* S	**Sb**	**00 44 30.8**	**-0.2**
AP01	**Chacalluta**	**1.73**	**22**	Pn	**Pb**	**00 44 08.7**	**-0.4**
PB08	**IPOC Station P**	**1.78**	**95**	⇑*iP*	**Pn**	**00 44 08.3**	**-0.1**
PB08				*i* S	**Sn**	**00 44 30.9**	**-0.4**
PB08				IAML		00 44 33.6	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.78**	**95**		**Pn**	**00 44 08.3**	**-0.1**
PB08	**IPOC Station P**	**1.78**	**95**	*eP*	**Pn**	**00 44 08.2**	**-0.1**
PB08				*eS*	**Sb**	**00 44 32.8**	**+0.2**
PB08				IAML		00 44 33.8	
	comp=Z,1μm,0.3s						
PB01	**IPOC Station P**	**1.79**	**126**	⇑*iP*	**Pn**	**00 44 08.2**	**-0.2**
PB01				*i* S	**Sn**	**00 44 30.5**	**-0.9**
PB01				IAML		00 44 39.3	
	comp=N,3μm,0.4s						
PB01	**IPOC Station P**	**1.79**	**126**		**Pn**	**00 44 08.2**	**-0.2**
PB01	**IPOC Station P**	**1.79**	**126**	*eP*	**Pn**	**00 44 08.0**	**-0.3**
PB01				*eS*	**Sn**	**00 44 32.3**	**+0.9**
PB01				IAML		00 44 38.5	
	comp=Z,2μm,0.4s						
PB07	**IPOC Station P**	**2.04**	**148**	⇑*iP*	**Pn**	**00 44 11.4**	**-0.4**
PB07				IAML		00 44 53.5	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**2.04**	**148**		**Pn**	**00 44 11.2**	**-0.6**
PB07	**IPOC Station P**	**2.04**	**148**	*eP*	**Pn**	**00 44 11.0**	**-0.8**
PB07				*eS*	**Sg**	**00 44 48.7**	**+6.0**
PB07				IAML		00 44 49.1	
	comp=Z,2μm,0.3s						
PB16	**IPOC Station P**	**2.19**	**42**		**Pn**	**00 44 14.8**	**+0.6**
PB03	**IPOC Station P**	**2.38**	**150**	⇑*iP*	**Pn**	**00 44 16.1**	**-0.4**
PB03				IAML		00 45 01.9	
	comp=N,753nm,0.4s						
PB03	**IPOC Station P**	**2.38**	**150**	*eP*	**Pn**	**00 44 16.0**	**-0.4**
PB03				*eS*	**Sn**	**00 44 44.2**	**-1.7**
PB03				IAML		00 44 58.2	
	comp=Z,822nm,0.5s						
PB09	**IPOC Station P**	**2.46**	**137**	⇑*iP*	**Pn**	**00 44 18.5**	**+0.9**
PB09				*i* S	**Sb**	**00 44 52.5**	**+0.3**
PB09	**IPOC Station P**	**2.46**	**137**		**Pn**	**00 44 18.4**	**+0.7**
PB09	**IPOC Station P**	**2.46**	**137**	*eS*	**Sg**	**00 45 00.1**	**+3.8**
PB09				IAML		00 45 04.2	
	comp=Z,2μm,0.5s						
PB04	**IPOC Station P**	**2.48**	**161**	⇑*iP*	**Pn**	**00 44 17.2**	**-0.7**
PB04				IAML		00 45 09.8	
	comp=E,1μm,0.7s						
PB04	**IPOC Station P**	**2.48**	**161**		**Pn**	**00 44 17.0**	**-0.9**
PB04	**IPOC Station P**	**2.48**	**161**	*eP*	**Pn**	**00 44 17.2**	**-0.7**
PB04				*eS*	**Sn**	**00 44 45.1**	**-3.4**
PB04				IAML		00 45 06.3	
	comp=Z,929nm,0.7s						
PB05	**IPOC Station P**	**2.96**	**165**	*eP*	**Pn**	**00 44 23.4**	**-1.0**
PB05				*eS*	**Sn**	**00 44 58.7**	**-1.5**
PB05				IAML		00 45 26.0	
	comp=Z,298nm,0.5s						
PB06	**IPOC Station P**	**3.03**	**154**		**Pn**	**00 44 24.8**	**-0.7**
PB06	**IPOC Station P**	**3.03**	**154**	*eP*	**Pn**	**00 44 25.0**	**-0.5**
PB06				*eS*	**Sn**	**00 44 59.6**	**-2.5**
PB06				IAML		00 45 18.6	
	comp=Z,610nm,0.8s						
LVC	**Limon Verde**	**3.28**	**143**	Pn	**Pn**	**00 44 30.2**	**+1.1**
	comp=Z,24nm,0.3s,baz=332,slow=7.7,SNR=238						
LVC				Sn	**Sn**	**00 45 07.8**	**-0.7**
	comp=Z,34nm,0.3s,baz=90,slow=20,SNR=6.0						
LVC				LR	LR	00 45 19.6	
	comp=Z,100nm,21.8s,baz=320,slow=32						
LVC	**Limon Verde**	**3.28**	**143**	*eP*	**Pn**	**00 44 30.2**	**+1.1**
LVC	**Limon Verde**	**3.28**	**143**	*eP*	**Pn**	**00 44 30.2**	**+1.1**
LVC				IAML		00 45 24.4	
	comp=Z,298nm,0.8s						
PB15	**IPOC Station P**	**3.52**	**156**		**Pn**	**00 44 31.5**	**-0.8**
PB15	**IPOC Station P**	**3.52**	**156**	*eP*	**Pn**	**00 44 32.2**	**-0.1**
PB15				*eS*	**Sn**	**00 45 14.3**	**0.0**
PB15				IAML		00 45 38.7	
	comp=Z,788nm,0.3s						
PB10	**IPOC Station P**	**3.54**	**173**		**Pn**	**00 44 31.0**	**-1.3**
PB10	**IPOC Station P**	**3.54**	**173**	*eP*	**Pn**	**00 44 31.6**	**-0.7**
PB10				*eS*	**Sn**	**00 45 11.4**	**-3.0**
LPAZ	**La Paz**	**4.60**	**37**	Pn	**Pn**	**00 44 51.2**	**+3.8**
	comp=Z,1.6nm,0.3s,baz=240,slow=10,SNR=26						
LPAZ	**La Paz**	**4.60**	**37**	*eP*	**Pn**	**00 44 50.8**	**+3.4**
GO02	**Mina Guanaco**	**5.33**	**166**	Pn	**Pn**	**00 44 56.6**	**-0.5**
SLA	**San Lorenzo**	**6.96**	**134**	*eP*	Pb	00 45 30.1	-8.2
AC02	**Maricunga**	**7.04**	**166**	Pn	**Pn**	**00 45 20.7**	**-0.2**
NNA	**Nana**	**9.71**	**324**	Sn	**Sn**	**00 47 44.6**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=151,slow=19,SNR=1.9						
SIV	**San Ignacio**	**10.28**	**69**	Pn	**Pn**	**00 46 03.5**	**-1.4**
	comp=Z,2.2nm,0.3s,baz=266,slow=10.0,SNR=71						
SIV				LR	LR	00 49 59.6	
	comp=Z,82nm,19.6s,baz=288,slow=38						
CO03	**El Pedregal**	**10.81**	**178**	Pn	**Pn**	**00 46 10.0**	**-2.3**
ETMB	**Extrema**	**11.13**	**25**	*eP*	**Pn**	**00 46 15.4**	**-1.2**
PTLB	**Pontes e Lacer**	**12.20**	**70**	*eP*	**Pn**	**00 46 32.4**	**+1.3**
VILB	**Vilhena**	**12.52**	**58**	*eP*	**Pn**	**00 46 36.5**	**+0.9**
SAML	**Samuel**	**13.34**	**36**		**Pn**	**00 46 47.1**	**+0.3**
MT09	**Talagante**	**13.74**	**180**	Pn	**Pn**	**00 46 54.6**	**+2.4**
CPUP	**Villa Florida**	**14.10**	**119**	Pn	**P**	**00 47 01.6**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=285,slow=17,SNR=3.3						
CPUP				LR	LR	00 52 58.3	
	comp=Z,160nm,19.3s,baz=321,slow=40						
CPUP	**Villa Florida**	**14.10**	**119**	Pn	**Pn**	**00 46 58.5**	**+1.5**
CPUP	**Villa Florida**	**14.10**	**119**	*eP*	**P**	**00 47 01.4**	**-3.5**
H03N1	**Juan Fernandez**	**15.13**	**206**	Pn	**Pn**	**00 47 09.4**	**-1.4**
	baz=109,slow=14,SNR=8.7						
H03N1				T	T	01 02 53.1	
	baz=32,slow=72,SNR=56						
H03N2	**Juan Fernandez**	**15.14**	**206**	Pn	**Pn**	**00 47 09.6**	**-1.3**
	baz=109,slow=14,SNR=9.3						
H03N2				T	T	01 02 38.1	
	baz=32,slow=72,SNR=3.5						
H03N3	**Juan Fernandez**	**15.15**	**206**	Pn	**Pn**	**00 47 09.5**	**-1.6**
	baz=109,slow=14,SNR=14						
H03N3				T	T	01 02 52.0	
	baz=32,slow=72,SNR=42						
H03S3	**Juan Fernandez**	**15.46**	**205**	Pn	**Pn**	**00 47 11.1**	**-4.1**
	baz=1.8,slow=22,SNR=5.1						
H03S1	**Juan Fernandez**	**15.48**	**205**	Pn	**Pn**	**00 47 13.5**	**-1.9**
	baz=1.8,slow=22,SNR=6.7						
H03S2	**Juan Fernandez**	**15.48**	**205**	Pn	**Pn**	**00 47 12.4**	**-3.1**
	baz=1.8,slow=22,SNR=6.2						
PP1B	**Ponte de Pedra**	**15.48**	**84**	*eP*	**P**	**00 47 18.2**	**-2.2**
TRCB	**Terra Rica**	**17.36**	**103**		**Pn**	**00 47 40.4**	**+0.5**
TRCB	**Terra Rica**	**17.36**	**103**	*eP*	**P**	**00 47 43.1**	**+1.9**
PCMB	**Pacaembu**	**18.56**	**98**	*eP*	**Pn**	**00 47 55.0**	**+0.4**
ITAB	**Concordia**	**18.75**	**116**		**P**	**00 47 55.9**	**-0.6**
ITAB				IAmb	IAmb	00 48 13.9	
	comp=Z,27nm,1.3s						
ITAB	**Concordia**	**18.75**	**116**	*eP*	**Pn**	**00 47 57.6**	**+0.7**
ARAG	**Araguaiana, MT**	**18.79**	**80**	*eP*	**Pn**	**00 47 57.1**	**-0.3**
CPSB	**Cacapava Do Su**	**18.98**	**127**	*eP*	**Pn**	**00 48 00.3**	**+0.7**
NPGB	**Novo Progresso**	**19.92**	**52**	*eP*	**P**	**00 48 08.1**	**-1.2**
PLCA	**Paso Flores**	**20.69**	**179**	P	Pn	00 48 19.1	-0.8
	comp=Z,3.7nm,0.9s,baz=354,slow=12,SNR=5.1						
PLCA	**Paso Flores**	**20.69**	**179**	P	**P**	**00 48 18.7**	**+1.1**
PLCA	**Paso Flores**	**20.69**	**179**	*eP*	**P**	**00 48 17.1**	**-0.5**
OTAV	**Otavalo**	**21.37**	**339**	*eP*	**P**	**00 48 18.5**	**-7.0**
ITTB	**Itaituba**	**21.52**	**46**	*eP*	**P**	**00 48 24.4**	**-2.3**
IPMB	**Ipameri, GO**	**21.67**	**89**	*eP*	**P**	**00

0.2nm,0.3s,baz=40,slow=16,SNR=2.5
CTAO Charters Tower 15.68 213 P P 00 49 41.0 +0.1
CTAO IAmb IAmb 00 49 42.5
comp=Z,27nm,1.3s
WRAB Tennant Creek 23.98 235 P P 00 51 09.8 -0.2
WRAB IAmb IAmb 00 51 11.3
comp=Z,16nm,1.0s
MTN Manton Dam 24.37 254 P P 00 51 14.9 +1.2
SIJI Sorong 24.57 283 P P 00 51 14.6 -0.9
comp=Z,4.3nm,0.6s,baz=127,slow=20,SNR=1.5
ASAR Alice Springs 26.34 228 P P 00 51 30.9 -0.6
comp=Z,2.2nm,0.7s,baz=56,slow=10.0,SNR=16
KNRA Kununurra 27.27 249 P P 00 51 40.5 +0.5
KNRA IAmb IAmb 00 51 44.8
comp=Z,9.2nm,0.9s
STKA Stephens Creek 27.87 205 P P 00 51 43.1 -2.0
comp=Z,1.8nm,0.6s,baz=15,slow=12,SNR=2.6
STKA LR LR 01 02 01.4
comp=Z,109nm,20.7s,baz=21,slow=34
STKA Stephens Creek 27.87 205 P P 00 51 46.7 +1.6
FITZ Fitzroy Crossi 30.83 246 P P 00 52 11.6 +0.1
PSA00 Pilbara Seismi 37.07 243 P P 00 53 06.5 +0.7
CMAR Chiang Mai Arr 60.89 295 P P 00 56 09.6 +1.3
comp=Z,1.0nm,0.3s,baz=116,slow=4.6,SNR=6.7
CMAR Chiang Mai Arr 60.89 295 P P 00 56 08.4 +0.2
SONM Songino Array 69.36 327 P P 00 57 03.9 +1.2
comp=Z,0.6nm,0.6s,baz=136,slow=6.2,SNR=3.0
QSPA South Pole Qui 83.06 180 P P 00 58 19.4 -0.9
QSPA IAmb IAmb 00 58 20.2
comp=Z,2.7nm,0.8s
ILAR Eielson Array 83.24 21 P P 00 58 21.6 +0.6
comp=Z,0.3nm,0.6s,baz=260,slow=5.1,SNR=4.3
ILAR Eielson Array 83.24 21 P P 00 58 21.2 +0.1
MKAR Makanchi Array 83.45 319 P P 00 58 21.3 -1.2
comp=Z,0.8nm,0.8s,baz=104,slow=5.1,SNR=5.8
MKAR Makanchi Array 83.45 319 P P 00 58 22.8 +0.3
MAW Mawson 84.53 203 P P 00 58 27.3 -0.3
comp=Z,3.1nm,0.7s,baz=80,slow=5.9,SNR=6.2
NVAR Mina Array Bea 91.55 52 P P 00 59 03.8 +1.6
comp=Z,0.1nm,0.3s,baz=246,slow=4.4,SNR=1.4
YKA Yellowknife Ar 96.19 28 P P 00 59 21.6 -1.0
comp=Z,0.6nm,0.7s,baz=253,slow=6.4,SNR=3.0
BDFB Brasilia 147.92 134 PKPbc PKPdf 01 05 39.5 +1.3
comp=Z,1.8nm,0.5s,baz=146,slow=5.3,SNR=4.8

*IDC **07** 01:01:42.0±2.0, 43.0°09N×87.09E, h0km, mb4.2/1, mb1 3.8/4, mb1mx3.5/41, mbtmp3.6/4, ML2.8/2, Error ellipse: s-maj=42.5km s-min=18.4km az=56.0*
*NNC **07** 01:01:53.1±3.9, 43.64N×86.99E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=28.1km s-min=17.2km az=125.0*
*SOME **07** 01:01:57.3, 43.65N×86.73E, h20km*
ISC 07 01:01:44.6±1.1, 43°30N±0.06×87°33E±0.05, h10km, n36, σ2s66/56, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**4.50**	**338**	*e*P	**Pg**	**01 03 10.9**	**+0.1**
	12nm,1.3s						
ZSN				*e*S	**Sg**	**01 04 03.9**	**-5.3**
	18nm,1.0s						
ZSN	**Zaisan**	**4.50**	**338**	Pg	**Pg**	**01 03 10.9**	**+0.1**
	12nm,1.3s						
ZSN				Lg	Lg	01 04 03.9	
	18nm,1.0s						
MK31	**Makanchi Array**	**5.00**	**316**	⇑Pn	**Pn**	**01 03 01.5**	**+1.8**
	0.8nm,0.2s,baz=137,slow=14,SNR=79						
MK31				⇑Sn	**Sn**	**01 03 59.0**	**+1.5**
	9.3nm,0.6s						
MK31				⇓Lg	Lg	01 04 22.2	
	27nm,0.9s,baz=131,slow=30,SNR=6.3						
MKAR	**Makanchi Array**	**5.00**	**316**	Pn	**Pn**	**01 03 01.2**	**+1.5**
	1.9nm,0.3s,baz=128,slow=14,SNR=73						
MKAR				Sn	**Sn**	**01 03 57.9**	**+0.3**
	0.7nm,0.3s,baz=138,slow=26,SNR=2.3						
MKAR				Lg	Lg	01 04 18.6	
	1.6nm,0.3s,baz=141,slow=24,SNR=9.4						
KTMS	**Ketmen**	**5.09**	**274**	*e*P	**Pg**	**01 03 20.1**	**-2.0**
	2.5nm,0.1s						
KTMS				*e*S	**Sb**	**01 04 19.0**	**+3.9**
	15nm,1.1s						
KTMS	**Ketmen**	**5.09**	**274**	Pg	**Pg**	**01 03 20.1**	**-2.0**
	2.5nm,0.1s						
KTMS				Lg	Lg	01 04 19.0	
	15nm,1.1s						
DJR	**Jarkent**	**5.55**	**283**	*e*P	**Pg**	**01 03 32.1**	**+1.1**
	0.5nm,0.7s						
DJR				*e*S	**Sg**	**01 04 40.0**	**-2.9**
	1.6nm,0.7s						
DJR	**Jarkent**	**5.55**	**283**	Pg	**Pg**	**01 03 32.1**	**+1.1**
	0.5nm,0.7s						
DJR				Lg	Lg	01 04 40.0	
	1.6nm,0.7s						
PDGK	**Podgornoye**	**5.72**	**273**	⇑Pn	**Pn**	**01 03 10.2**	**+0.5**
	2.7nm,0.5s						
PDGK				⇓Sn	**Sn**	**01 04 18.9**	**+3.3**
	13nm,0.8s						
PDGK				⇑Lg	Lg	01 04 41.5	
	28nm,0.7s						
SHLS	**Shalkode**	**5.75**	**271**	*e*P	**Pb**	**01 03 28.4**	**+3.3**
	5.7nm,0.5s						
SHLS				*e*S	**Sb**	**01 04 33.6**	**-0.5**
	70nm,1.0s						
SHLS	**Shalkode**	**5.75**	**271**	Pg	**Pb**	**01 03 28.4**	**+3.3**
	5.7nm,0.5s						
SHLS				Lg	Lg	01 04 33.6	
	70nm,1.0s						
KAPS	**Kapalarasan**	**6.06**	**292**	*e*P	**Pg**	**01 03 41.1**	**+0.5**
	0.5nm,0.8s						
KAPS				*e*S	**Sg**	**01 04 55.2**	**-3.8**
	1.1nm,1.0s						
KAPS	**Kapalarasan**	**6.06**	**292**	Pg	**Pg**	**01 03 41.1**	**+0.5**
	0.5nm,0.8s						
KAPS				Lg	Lg	01 04 55.2	
	1.1nm,1.0s						
UZB	**Uzynbulak**	**6.07**	**271**	*e*P	**Pg**	**01 03 40.6**	**-0.3**
	4.0nm,0.7s						
UZB				*e*S	**Sg**	**01 04 54.6**	**-4.9**
	17nm,0.7s						
UZB	**Uzynbulak**	**6.07**	**271**	Pg	**Pg**	**01 03 40.6**	**-0.3**
	4.0nm,0.7s						
UZB				Lg	Lg	01 04 54.6	
	17nm,0.7s						
KPKS	**Kokpek**	**6.30**	**275**	*e*P	**Pg**	**01 03 44.9**	**-0.4**
	8.5nm,0.6s						
KPKS				*e*S	**Sg**	**01 05 02.0**	**-4.9**
	29nm,0.8s						
TDK	**Taldyqorghan**	**6.64**	**288**	*e*P	**Pg**	**01 03 53.6**	**+1.8**
	14nm,0.4s						
TDK				*e*S	**Sg**	**01 05 16.4**	**-1.4**
	49nm,1.7s						
TDK	**Taldyqorghan**	**6.64**	**288**	Pg	**Pg**	**01 03 53.6**	**+1.8**
	14nm,0.4s						
TDK				Lg	Lg	01 05 16.4	
	49nm,1.7s						
KURS	**Kuram**	**6.68**	**275**	*e*P	**Pg**	**01 03 51.1**	**-1.3**
	2.8nm,0.5s						
KURS				*e*S	**Sg**	**01 05 12.2**	**-6.7**
	12nm,1.7s						
KURS	**Kuram**	**6.68**	**275**	Pg	**Pg**	**01 03 51.1**	**-1.3**
	2.8nm,0.5s						
KURS				Lg	Lg	01 05 12.2	
	12nm,1.7s						
ARXS	**Arharly**	**6.94**	**281**	*e*P	**Pg**	**01 03 58.6**	**+1.1**
	3.6nm,0.8s						
ARXS				*e*S	**Sg**	**01 05 24.9**	**-2.5**
	8.5nm,0.9s						
ARXS	**Arharly**	**6.94**	**281**	Pg	**Pg**	**01 03 58.6**	**+1.1**
	3.6nm,0.8s						
ARXS				Lg	Lg	01 05 24.9	
	8.5nm,0.9s						
MDOK	**Medeo**	**7.51**	**273**	*e*P	**Pg**	**01 04 09.6**	**+1.1**
	1.3nm,0.6s						
MDOK				*e*S	**Sg**	**01 05 44.3**	**-1.3**
	7.8nm,1.3s						
MDOK	**Medeo**	**7.51**	**273**	Pg	**Pg**	**01 04 09.5**	**+1.1**
	1.3nm,0.6s						
MDOK				Lg	Lg	01 05 44.3	
	7.8nm,1.3s						
KTBS	**Karatobe**	**7.75**	**277**	*e*P	**Pg**	**01 04 14.1**	**+1.0**
	1.7nm,0.7s						
KTBS				*e*S	**Sg**	**01 05 51.8**	**-1.6**
	12nm,0.9s						
KTBS	**Karatobe**	**7.75**	**277**	Pg	**Pg**	**01 04 14.1**	**+1.0**
	1.7nm,0.7s						
KTBS				Lg	Lg	01 05 51.8	
	12nm,0.9s						
IZV	**Izvestkoviy**	**7.84**	**272**	*e*P	**Pg**	**01 04 11.6**	**-3.1**
	3.7nm,0.6s						
IZV				*e*S	**Sg**	**01 05 47.9**	**-8.3**
	8.4nm,0.8s						
IZV	**Izvestkoviy**	**7.84**	**272**	Pg	**Pg**	**01 04 11.6**	**-3.1**
	3.7nm,0.6s						
IZV				Lg	Lg	01 05 47.9	
	8.4nm,0.8s						
KUU	**Kurty**	**8.00**	**278**	*e*P	**Pg**	**01 04 18.1**	**+0.4**
	1.3nm,0.7s						
KUU				*e*S	**Sg**	**01 05 58.3**	**-3.1**
	6.0nm,1.1s						
KUU	**Kurty**	**8.00**	**278**	Pg	**Pg**	**01 04 18.1**	**+0.4**
	1.3nm,0.7s						
KUU				Lg	Lg	01 05 58.3	
	6.0nm,1.1s						
KST	**Kastek**	**8.31**	**272**	*e*P	**Pg**	**01 04 24.4**	**+0.7**
	3.0nm,0.8s						
KST				*e*S	**Sg**	**01 06 09.4**	**-1.9**
	9.2nm,0.9s						
KST	**Kastek**	**8.31**	**272**	Pg	**Pg**	**01 04 24.4**	**+0.7**
	3.0nm,0.8s						
KST				Lg	Lg	01 06 09.4	
	9.2nm,0.9s						
KURBB	**Kurchatov Arra**	**9.48**	**324**	⇑Pn	**Pn**	**01 04 00.4**	**-0.6**
	3.2nm,0.7s						
KURBB				⇓Sn	**Sn**	**01 05 49.2**	**+1.6**
	7.3nm,0.8s						
KURBB				⇓Lg	Lg	01 06 35.2	
	16nm,0.7s						
ZALV	**Zalesovo Beam**	**10.79**	**352**	Pn	**Pn**	**01 04 19.2**	**+0.2**
	0.1nm,0.3s,baz=184,slow=14,SNR=1.8						
ZALV				Sn	**Sn**	**01 06 15.2**	**-4.6**
	0.1nm,0.3s,baz=233,slow=42,SNR=2.2						
ZALV				Lg	Lg	01 07 31.9	
	0.1nm,0.3s,baz=182,slow=29,SNR=1.6						
SONM	**Songino Array**	**14.10**	**65**	Pn	**Pn**	**01 05 05.4**	**+1.0**
	baz=272,slow=12,SNR=2.0						
CMAR	**Chiang Mai Arr**	**26.64**	**155**	P	**P**	**01 07 21.1**	**-2.4**
	1.3nm,0.3s,baz=334,slow=8.0,SNR=2.1						

*IDC **07** 01:09:39.8±0.9, 6.38N×130.12E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/33, mbtmp4.0/9, ML4.2/2, MS2.8/3, Ms1 2.8/3, ms1mx2.6/37, Error ellipse: s-maj=42.1km s-min=16.4km az=77.0*
*NEIC **07** 01:09:42.9±1.7, 6.41N±0.08×130.06E±0.09, h14km±5km, mb4.3/5, Error ellipse: s-maj=16.9km s-min=4.0km az=47.0*
ISC 07 01:09:41.1±0.8, 6°46N±0.08×130°0E±0.1, h10km, n28, σ1s51/24, mb4.0/9, 1C-1D, East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.77**	**278**	*e*P	Pn	01 10 35.8	-3.7
DDMP	**Don Marcelino,**	**4.30**	**266**	*e*P	**Pn**	**01 10 44.5**	**-2.2**
DDMP				*e*S	Sn	01 11 19.5	-17
DAV	**Davao City (W)**	**4.46**	**278**	Pn	**Pn**	**01 10 49.8**	**+1.0**
	38nm,0.3s,baz=59,slow=7.4,SNR=4.4						
DAV				Sn	**Sn**	**01 11 42.2**	**+1.3**
	45nm,0.3s,baz=75,slow=19,SNR=1.6						
DAV				LR	LR	01 12 53.0	
	comp=Z,75nm,20.6s,baz=160,slow=42						
KCP	**Kidapawan**	**4.93**	**277**	⇑*e*P	**Pn**	**01 10 54.7**	**-0.7**
BUTP	**Butuan**	**5.03**	**300**	*e*P	**Pn**	**01 10 54.4**	**-2.3**
BUTP				*e*S	Sn	01 11 39.5	-15
GLSP	**General Luna,**	**5.08**	**311**	*e*P	Pn	01 10 52.1	-5.3
GLSP				*e*S	Sn	01 11 45.8	-10
SKMP	**Bagumbayan, Su**	**5.45**	**271**	*e*P	Pn	01 10 59.5	-3.0
CGP	**Cagayan de Oro**	**5.65**	**291**	⇓*e*P	**Pn**	**01 11 03.3**	**-1.9**
TNTI	**Ternate**	**6.24**	**205**		**Pn**	**01 11 14.4**	**+1.0**
PAGZ	**Pagadian**	**6.74**	**282**	*e*P	**Pn**	**01 11 18.0**	**-2.2**
SIJI	**Sorong**	**7.39**	**170**	Pn	**Pn**	**01 11 26.4**	**-2.7**
	1.0nm,0.3s,baz=240,slow=23,SNR=1.7						
SIJI				Sn	Sn	01 12 37.4	-16
	1.0nm,0.3s,baz=229,slow=22,SNR=1.8						
SIJI				LR	LR	01 13 43.6	
	comp=Z,80nm,20.0s,baz=176,slow=34						
CNOP	**Candoni, Negro**	**8.04**	**295**	*e*P	Pn	01 11 34.5	-3.6
FAKI	**Fak Fak**	**9.58**	**167**	Pn	**Pn**	**01 11 58.9**	**-0.3**
LUWI	**Luwuk**	**10.39**	**224**	Pn	**Pn**	**01 12 10.8**	**+0.5**
KNRA	**Kununurra**	**22.03**	**183**	P	**P**	**01 14 37.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**24.78**	**190**	P	**P**	**01 15 03.9**	**+0.5**
	3.9nm,0.9s,baz=2.1,slow=12,SNR=2.3						
FITZ	**Fitzroy Crossi**	**24.78**	**190**	P	**P**	**01 15 02.9**	**-0.5**
FITZ				IAmb	IAmb	01 15 17.1	
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**26.58**	**171**	P	**P**	**01 15 19.0**	**-0.7**
	baz=351,slow=9.9						
ASAR	**Alice Springs**	**30.18**	**173**	P	**P**	**01 15 50.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=354,slow=8.8,SNR=11						
ASAR				PcP	**PcP**	**01 18 53.6**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=358,slow=2.2,SNR=2.1						
KSRS	**Korea Array**	**30.91**	**357**	LR	LR	01 26 56.8	
	comp=Z,25nm,21.9s,baz=280,slow=34						
ULN	**Ulaanbaatar**	**45.68**	**338**	P	**P**	**01 18 04.6**	**+2.3**
ULN				IAmb	IAmb	01 18 26.4	
	comp=Z,2.4nm,1.1s						
SONM	**Songino Array**	**45.89**	**338**	P	**P**	**01 18 05.9**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=150,slow=9.9,SNR=6.3						
SONM	**Songino Array**	**45.89**	**338**	IAmb	IAmb	01 18 09.0	
	comp=Z,1.9nm,1.1s						
PETK	**Petropavlovsk-**	**51.70**	**21**	P	**P**	**01 18 49.2**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=182,slow=8.7,SNR=1.7						
MKAR	**Makanchi Array**	**57.29**	**323**	P	**P**	**01 19 30.6**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=118,slow=7.2,SNR=6.2						
ZAA0	**Zalesovo Array**	**59.73**	**331**	P	**P**	**01 19 44.8**	**-1.2**
ZAA0				IAmb	IAmb	01 20 12.6	
	comp=Z,2.6nm,1.2s						
ZALV	**Zalesovo Beam**	**59.73**	**331**	P	**P**	**01 19 46.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=1.9						
ARCES	**ARCESS Array B**	**89.03**	**340**	P	**P**	**01 22 35.1**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=74,slow=6.8,SNR=4.3						

*IGIL **07** 01:20:24.3, 36.84N×12.38W, h1km, ML1.9*
*INMG **07** 01:20:25.4±1.2, 36.61N×12.67W, h10km, ML2.3, Error ellipse: s-maj=7.7km s-min=5.9km az=102.0*
*MDD **07** 01:20:25.4±2.1, 36.95N×12.08W, h0km, mb4.1/4, Error ellipse: s-maj=14.2km s-min=12.4km az=57.0, PRXIMO*
*CNRM **07** 01:20:27.0, 36.21N×11.81W, h148km, ml3.5, Hypocentre not reviewed by the ISC*
ISC 07 01:20:23.7±3.4, 36°91N±0.10×12°3W±0.2, h10km, n48, σ1s38/80, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.79**	**84**	P	**Pn**	**01 21 08.6**	**+0.2**
	5.3nm,0.1s,SNR=12						
PFVI				S	**Sn**	**01 21 41.9**	**-0.2**
	2.4nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.79**	**84**	*e*Pn	**Pn**	**01 21 08.6**	**+0.2**
PFVI				*e*Sn	**Sn**	**01 21 42.2**	**+0.1**
PFVI	**Vila Bisbo**	**2.79**	**84**	P		01 21 08.3	
PFVI				S		01 21 41.7	
PMAFR	**Mafra**	**3.14**	**49**	P	**Pn**	**01 21 14.8**	**+1.5**
	1.2nm,0.2s,SNR=7.5						
PMAFR				S	**Sn**	**01 21 52.3**	**+1.5**
	14nm,0.3s,SNR=21						
PMAFR	**Mafra**	**3.14**	**49**	*e*Sn	**Sn**	**01 21 52.9**	**+2.1**
PMAFR				A	A	01 21 53.8	
	19nm,0.2s						
PNCL	**Nicolau / Gran**	**3.23**	**67**	P	**Pn**	**01 21 15.8**	**+1.3**
PNCL				S	**Sn**	**01 21 53.6**	**+0.6**
	4.4nm,0.1s						
PNCL	**Nicolau / Gran**	**3.23**	**67**	*e*Pn	**Pn**	**01 21 15.8**	**+1.3**
PNCL				*e*Sn	**Sn**	**01 21 53.6**	**+0.6**
PNCL				A	A	01 21 58.1	
	4.4nm,0.1s						
MESJ	**Messejana**	**3.38**	**73**	*e*P	**Pn**	**01 21 17.5**	**+1.0**
MESJ				*e*S	**Sn**	**01 21 56.4**	**-0.3**
MESJ				IAML		01 21 59.3	
	comp=N,3.3nm,0.1s						
MESJ	**Messejana**	**3.38**	**73**	P	**Pn**	**01 21 17.5**	**+1.0**
MESJ				S	**Sn**	**01 21 56.4**	**-0.3**
PCVE	**Castro Verde**	**3.47**	**77**	P	**Pn**	**01 21 18.6**	**+0.7**
PCVE				S	**Sn**	**01 21 58.1**	**-0.9**
	comp=N,1.9nm,0.2s						
PCVE	**Castro Verde**	**3.47**	**77**	*e*Pn	**Pn**	**01 21 18.6**	**+0.7**
PCVE				*e*Sn	**Sn**	**01 21 58.1**	**-0.9**
PCVE				A	A	01 22 04.3	
	comp=N,1.9nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.51**	**83**	P	**Pn**	**01 21 20.2**	**+1.2**
PBDV				S	**Sn**	**01 22 01.2**	**+1.2**
PBDV				A	A	01 22 03.3	
	comp=N,3.1nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.51**	**83**	*e*Pn	**Pn**	**01 21 20.2**	**+1.8**
PBDV				*e*Sn	**Sn**	**01 22 01.2**	**+1.2**
PBDV				A	A	01 22 03.3	
	comp=N,3.1nm,0.9s						
PVAQ	**Vaqueiros**	**3.69**	**81**	P	**Pn**	**01 21 21.8**	**+0.9**
PVAQ				S	**Sn**	**01 22 04.8**	**+0.3**
	comp=N,2.5nm,0.4s						
PVAQ	**Vaqueiros**	**3.69**	**81**	*e*Pn	**Pn**	**01 21 21.8**	**+0.9**
PVAQ				*e*Sn	**Sn**	**01 22 04.8**	**+0.3**
PVAQ				A	A	01 22 11.3	
	comp=N,2.5nm,0.4s						
PVAQ	**Vaqueiros**	**3.69**	**81**	P		01 21 21.5	
PVAQ				S		01 22 03.5	
EVO	**Evora**	**3.76**	**63**	P	**Pn**	**01 21 23.4**	**+1.6**
EVO				S	**Sn**	**01 22 06.2**	**0.0**
	comp=N,5.0nm,0.1s						
EVO	**Evora**	**3.76**	**63**	*e*Pn	**Pn**	**01 21 23.4**	**+1.6**
EVO				*e*Sn	**Sn**	**01 22 06.2**	**0.0**
EVO				A	A	01 22 10.3	
	comp=N,5.0nm,0.1s						
PSBE	**So Bento**	**3.79**	**46**	*e*Sn	**Sn**	**01 22 08.8**	**+1.9**
PMTG	**Montargil**	**3.87**	**55**	P	**Pn**	**01 21 24.4**	**+1.1**
PMTG				S	**Sn**	**01 22 09.5**	**+0.6**
	comp=N,2.6nm,0.2s						
PMTG	**Montargil**	**3.87**	**55**	*e*Pn	**Pn**	**01 21 24.4**	**+1.1**
PMTG				*e*Sn	**Sn**	**01 22 09.5**	**+0.6**
PMTG				A	A	01 22 11.7	
	comp=N,2.6nm,0.2s						
EGRO	**El Granado**	**3.89**	**79**	P	**Pn**	**01 21 24.6**	**+0.9**
	comp=N,0.8nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**01 22 08.6**	**-0.8**
	comp=N,1.3nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.21**	**61**	*e*Pn	**Pn**	**01 21 29.1**	**+1.2**
PESTR				A	A	01 22 16.4	
	comp=N,2.6nm,0.6s						
PESTR				*e*Sn	**Sn**	**01 22 16.7**	**-0.4**
PESTR	**Estremoz**	**4.21**	**61**	P		01 21 30.7	
PESTR				S		01 22 19.6	
PCAS	**Casmilo, Conde**	**4.33**	**42**	S	**Sn**	**01 22 21.2**	**+1.1**
	comp=N,3.4nm,0.5s						
PCAS	**Casmilo, Conde**	**4.33**	**42**	*e*Sn	**Sn**	**01 22 21.2**	**+1.1**
PCAS				A	A	01 22 26.3	
	comp=N,3.4nm,0.5s						
PBAR	**Barrancos**	**4.37**	**72**	P	**Pn**	**01 21 31.2**	**+1.1**
PBAR				S	**Sn**	**01 22 20.0**	**-1.1**
	comp=N,1.7nm,0.1s						
PBAR	**Barrancos**	**4.37**	**72**	*e*Pn	**Pn**	**01 21 31.2**	**+1.1**
PBAR				*e*Sn	**Sn**	**01 22 20.0**	**-1.1**
PBAR				A	A	01 22 22.9	
	comp=N,1.7nm,0.1s						
EMIN	**Mina Concepcio**	**4.56**	**78**	P	**Pn**	**01 21 32.9**	**+0.1**
	comp=N,0.4nm,0.1s,SNR=6.7						
EMIN				S	**Sn**	**01 22 23.9**	**-2.0**
	comp=N,4.9nm,1.1s,SNR=5.8						
EBAD	**Badajoz**	**4.57**	**65**	P	**Pn**	**01 21 33.8**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=14						
EBAD				S	**Sn**	**01 22 25.1**	**-1.0**
	comp=N,1.1nm,0.3s,SNR=7.0						
PMRV	**Marv??o**	**4.61**	**55**	P	**Pn**	**01 21 34.5**	**+1.0**
PMRV				S	**Sn**	**01 22 26.4**	**-0.7**
	comp=N,3.8nm,0.2s						
PMRV	**Marv??o**	**4.61**	**55**	*e*Pn	**Pn**	**01 21 34.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**01 22 26.4**	**-0.7**
PMRV				A	A	01 22 29.9	
	comp=N,3.8nm,0.2s						
MTE	**Manteigas**	**5.10**	**45**	S	**Sn**	**01 22 39.0**	**-0.2**
	comp=N,2.3nm,0.9s						
MTE	**Manteigas**	**5.10**	**45**	*e*Sn	**Sn**	**01 22 39.0**	**-0.2**
MTE				A	A	01 22 44.4	
	comp=N,4.7nm,0.9s						
ESPR	**Espera**	**5.17**	**89**	P	**Pn**	**01 21 41.3**	**+0.2**
	comp=N,1.3nm,0.1s,SNR=8.0						
ESPR				S	**Sn**	**01 22 39.7**	**-1.1**
	comp=N,5.9nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.59**	**76**	P	**Pn**	**01 21 47.7**	**+0.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**01 22 48.3**	**-3.1**
	comp=N,2.0nm,0.4s,SNR=7.9						
POLO	**Lamas de Olo**	**5.67**	**37**	S	**Sn**	**01 22 51.4**	**-1.9**
	comp=N,1.0nm,0.2s						
POLO	**Lamas de Olo**	**5.67**	**37**	*e*Sn	**Sn**	**01 22 51.4**	**-1.9**
POLO				A	A	01 22 56.3	
	comp=N,1.0nm,0.2s						
ECEU	**Ceuta**	**5.67**	**98**	P	**Pn**	**01 21 48.8**	**+0.7**
	comp=N,1.9nm,0.1s,SNR=7.9						
ZHG	**ZHG**	**5.78**	**125**	P		01 21 41.2	
ZHG				S		01 22 38.8	
MVO	**Moncorvo**	**5.90**	**42**	S	**Sn**	**01 22 57.3**	**-1.7**
	comp=N,2.2nm,0.3s,SNR=6.7						
MVO	**Moncorvo**	**5.90**	**42**	*e*Sn	**Sn**	**01 22 57.4**	**-1.7**
MVO				A	A	01 23 00.6	
	comp=N,3.1nm,0.2s						
EZAM	**Zamans**	**5.93**	**27**	P	**Pn**	**01 21 52.1**	**+0.6**
	comp=N,0.5nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**01 22 56.6**	**-3.0**
	comp=N,0.6nm,0.3s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.93**	**30**	S	**Sn**	**01 22 58.3**	**-1.5**
PGAV	**Gavieira, Arco**	**5.93**	**30**	*e*Sn	**Sn**	**01 22 58.3**	**-1.5**
ELOB	**Lobios**	**5.94**	**32**	P	**Pn**	**01 21 53.2**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**01 22 58.5**	**-1.4**
	comp=N,5.2nm,0.7s,SNR=7.3						
EADA	**Adamuz**	**6.26**	**76**	P	**Pn**	**01 21 56.6**	**+0.4**
	comp=N,0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**01 23 04.9**	**-3.0**
	comp=N,7.8nm,0.7s,SNR=7.9						
PBRG	**Braganca**	**6.51**	**40**	S	**Sn**	**01 23 13.1**	**-0.9**
PBRG	**Braganca**	**6.51**	**40**	*e*Sn	**Sn**	**01 23 13.1**	**-0.9**
EMAZ	**Mazaricos**	**6.55**	**22**	S	**Sn**	**01 23 11.6**	**-3.2**
	comp=N,1.0nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.79**	**65**	P	**Pn**	**01 22 04.2**	**+0.8**
	comp=N,0.3nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**01 23 18.0**	**-2.9**
	comp

SZP	Santa	6.51	318	Pn	Pn	01 39 53.0	+3.5		
YULB	Yu-li	11.20	342		Pn	01 40 51.8	-2.0		
SSLB	Suanglung	11.68	342		Pn	01 41 01.2	+0.9		
TOLI2	Tolitoli	12.23	200	Pn	Pn	01 41 07.3	-0.6		
YHNB	Yeheng	12.39	345		Pn	01 41 10.2	+0.1		
JOW	Kunigami	14.41	12	P	Pn	01 41 36.9	-0.4		
	5.4nm,0.3s,baz=201,slow=12,SNR=7.5								
GUMO	Guam	19.40	85	LR	LR	01 49 01.0			
	comp=Z,25nm,19.7s,baz=118,slow=33								
JNU	Nakatsue	21.04	14	P	P	01 42 54.5	-1.3		
JNU				IAmb	IAmb	01 42 59.7			
	comp=Z,11nm,1.0s								
KSAR	Wonju Array Be	24.79	6	P	P	01 43 33.0	-0.1		
KSRS	Korea Array	24.80	6	P	P	01 43 32.1	-1.0		
	comp=Z,5.3nm,0.9s,baz=186,slow=11,SNR=13								
KSRS				LR	LR	01 53 29.7			
	comp=Z,53nm,19.8s,baz=168,slow=37								
CMAR	Chiang Mai Arr	25.70	286	P	P	01 43 40.5	-1.1		
	comp=Z,0.9nm,0.3s,baz=96,slow=7.5,SNR=1.7								
CMAR				LR	LR	01 53 02.3			
	comp=Z,72nm,19.4s,baz=192,slow=34								
LEM	Lembang	25.95	223	LR	LR	01 55 15.5			
	comp=Z,184nm,18.1s,baz=251,slow=39								
USRK	Ussuriysk Ar.	31.97	10	P	P	01 44 38.1	+1.0		
	comp=Z,2.1nm,0.5s,baz=188,slow=8.4,SNR=7.2								
JEW	Eniwo	33.26	22	P	P	01 44 47.4	-0.9		
AS31	Alice Springs	37.17	166	P	P	01 45 22.3	0.0		
ASAR	Alice Springs	37.17	166	P	P	01 45 22.6	+0.4		
	comp=Z,1.8nm,0.4s,baz=343,slow=7.5,SNR=39								
ULN	Ulaanbaatar	38.13	340	P	P	01 45 31.2	+1.0		
ULN				IAmb	IAmb	01 45 46.0			
	comp=Z,2.9nm,1.0s								
SONM	Songino Array	38.32	340	P	P	01 45 32.6	+0.8		
	comp=Z,1.1nm,0.7s,baz=162,slow=6.9,SNR=7.1								
SONM				LR	LR	02 00 56.9			
	comp=Z,55nm,19.1s,baz=74,slow=35								
SONM	Songino Array	38.32	340	IAmb	IAmb	01 45 33.7			
	comp=Z,2.0nm,1.1s								
H11S3	WAKE ISLAND Hy	40.52	76	T	T	02 28 58.3			
	baz=282,slow=73,SNR=26								
H11S1	WAKE ISLAND Hy	40.54	76	T	T	02 29 00.1			
	baz=282,slow=73,SNR=16								
H11S2	WAKE ISLAND Hy	40.54	76	T	T	02 28 59.7			
	baz=282,slow=73								
H11N1	WAKE ISLAND Hy	40.77	75	T	T	02 29 17.9			
	baz=266,slow=74,SNR=35								
H11N2	WAKE ISLAND Hy	40.78	75	T	T	02 29 18.4			
	baz=266,slow=74,SNR=104								
H11N3	WAKE ISLAND Hy	40.79	75	T	T	02 29 13.6			
	baz=266,slow=74,SNR=3.1								
MORW	Morawa	42.40	192	P	P	01 46 04.8	-0.7		
MORW				IAmb	IAmb	01 46 18.5			
	comp=Z,26nm,1.4s								
FORT	Forrest	43.32	176	P	P	01 46 13.6	+0.6		
STKA	Stephens Creek	47.09	161	P	P	01 46 42.6	-0.2		
	comp=Z,3.6nm,0.9s,baz=345,slow=11,SNR=3.6								
PETK	Petropavlovsk-	48.00	26	P	P	01 46 51.3	+1.6		
	comp=Z,2.7nm,0.9s,baz=183,slow=5.8,SNR=2.5								
MK31	Makanchi Array	49.34	322	P	P	01 47 00.8	+0.6		
MKAR	Makanchi Array	49.34	322	P	P	01 47 01.1	+1.0		
	comp=Z,0.9nm,0.6s,baz=112,slow=8.8,SNR=10								
MKAR	Makanchi Array	49.34	322	P	P	01 47 01.3	+1.2		
ZAA0	Zalesovo Array	51.91	331	P	P	01 47 18.2	-1.1		
ZAA0				IAmb	IAmb	01 47 21.9			
	comp=Z,4.8nm,1.1s								
ZALV	Zalesovo Beam	51.91	331	P	P	01 47 20.1	+0.8		
	comp=Z,2.4nm,0.5s,baz=117,slow=8.8,SNR=12								
ZALV	Zalesovo Beam	51.91	331	P	P	01 47 20.0	+0.7		
CAN	Canberra	52.90	155	P	P	01 47 27.3	+0.4		
KK31	Karatay Array	55.66	314	P	P	01 47 46.9	-0.1		
KK31				IAmb	IAmb	01 47 48.4			
	comp=Z,1.9nm,0.6s								
KKAR	Karatay Array	55.66	314	P	P	01 47 47.2	+0.2		
TIXI	Tiksi	58.97	1	P	P	01 48 08.8	-0.9		
TIXI				IAmb	IAmb	01 48 11.0			
	comp=Z,2.5nm,0.8s								
BRVK	Borovoye	59.03	325	P	P	01 48 09.9	-0.7		
BRVK				IAmb	IAmb	01 48 12.3			
	comp=Z,5.2nm,0.7s								
ABKAR	Akbulak array	64.22	319	P	P	01 48 45.5	0.0		
ARU	Arti	66.52	326	P	P	01 49 00.3	0.0		
RAYN	Ar Rayn	75.50	291	P	P	01 49 55.3	-0.1		
RAYN				IAmb	IAmb	01 50 07.1			
	comp=Z,7.9nm,1.4s								
KLMR	Klimovskoe	76.81	330	*e*P	P	01 50 01.3	-0.7		
KLMR				AMP		01 50 03.3			
	comp=Z,19nm,1.5s								
ILAR	Eielson Array	77.83	26	P	P	01 50 07.5	-0.2		
	comp=Z,0.2nm,0.5s,baz=276,slow=4.4,SNR=1.7								
ARCES	ARCESS Array B	81.50	339	P	P	01 50 28.4	+1.0		
	comp=Z,2.5nm,1.0s,baz=70,slow=8.0,SNR=2.5								
BRTR	Keskin Array B	83.02	309	P	P	01 50 35.5	-0.8		
	comp=Z,0.7nm,0.8s,baz=120,slow=4.9,SNR=6.6								
FINES	FINESS Array B	83.17	331	P	P	01 50 36.2	-0.1		
	comp=Z,3.3nm,1.1s,baz=41,slow=6.1,SNR=5.9								
BUR08	Bucovina Ar. S	87.20	318	P	P	01 50 57.6	+0.6		
BUR08				IAmb	IAmb	01 51 13.2			
	comp=Z,2.2nm,0.9s								
NOA	NORSAR Array B	90.04	334	LR	LR	02 34 39.0			
	comp=Z,12nm,19.5s,baz=65,slow=38								

BGR ***07*** *02:31:57.5±0.0,16.36S×177.06W,h33km*
NEIC ***07*** *02:32:39.8±1.8, 15.12S±0.10×177.46W±0.08, h373km±5km,mb4.7/92,Error ellipse: s-maj=14.2km s-min=11.1km az=161.0*
IDC ***07*** *02:32:41.0±0.7, 15.05S×177.52W,h379km±6km,mb4.0/17, mb1 4.1/21,mb1mx4.1/24,mbtmp4.8/21,Error ellipse: s-maj=12.9km s-min=9.0km az=151.0*
NOU ***07*** *02:32:41.1, 15.17S×177.29W,h404km,mb4.8,Fiji Islands Region*

ISC 07 02:32:39.2±0.3, 15.09S±0.06×177.43W±0.05, h372km, n284,σ1s59/265, mb4.7/71, 25D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.08	238	P	Pn	02 34 03.7	+2.9
	128nm,0.3s,baz=227,slow=22,SNR=843						
MSVF				S	S	02 35 09.0	+2.2
	baz=144,slow=20,SNR=0.5						
MSVF	Nonsavu	5.08	238	Pn	Pn	02 34 03.5	+2.8
AFI	Afiamalu	5.60	79	P	Pn	02 34 07.7	+1.2
	51nm,0.3s,baz=62,slow=0.2,SNR=64						
AFI				S	S	02 35 15.9	-1.3
	baz=30,slow=22,SNR=3.7						
AFI	Afiamalu	5.60	79	P	Pn	02 34 07.9	+1.5
FUNA	Funafuti	7.31	333	Pn	P	02 34 26.5	-0.4
NIUE	Niue	8.19	120	Pn	Pn	02 34 35.5	-0.4
SANVU	Saraoutou	14.84	267	P	P	02 35 51.8	+0.7
SANVU	Saraoutou	14.84	267	P	Pn	02 35 53.1	-0.5
LIFNC	LIFOU	15.64	247	P	Pn	02 36 01.4	-1.5
OUENC	Ouen Island, N	16.58	242	P	Pn	02 36 12.4	-1.3
DZM	Mont Dzumac	16.79	243	*e*P	P	02 36 13.8	+1.6
	38nm,0.7s						
DZM	Mont Dzumac	16.79	243	P	P	02 36 13.4	+1.2
	2.9nm,0.3s,baz=60,slow=21,SNR=18						
DZM	Mont Dzumac	16.79	243	P	P	02 36 13.1	+0.9
DZM				IAmb	IAmb	02 36 19.6	
	comp=Z,21nm,0.7s						
DZM	Mont Dzumac	16.79	243	P	Pn	02 36 14.9	-1.3
ONTNC	Ouen Toro	16.86	242	P	P	02 36 14.9	+1.9
NOUC	Port Laguerre	16.92	243	P	Pn	02 36 16.4	-1.2
RAR	Rarotonga	17.84	113	P	Pn	02 36 26.1	-1.8
	comp=Z,1.2nm,0.3s,baz=225,slow=2.8,SNR=11						
RAR	Rarotonga	17.84	113	P	P	02 36 23.4	0.0
KOUNC	Koumac, New Ca	18.23	250	P	P	02 36 29.1	+1.5
HNR	Honiara	22.80	282	P	P	02 37 13.0	+1.7
	comp=Z,34nm,0.3s,baz=148,slow=9.5,SNR=1.7						
HNR	Honiara	22.80	282	IAmb	IAmb	02 37 14.5	
	comp=Z,79nm,0.9s						
URZ	Urewera	23.58	191	P	P	02 37 14.9	-3.0
	comp=Z,23nm,0.6s,baz=121,slow=24,SNR=15						
URZ	Urewera	23.58	191	P	P	02 37 16.6	-1.3
URZ				IAmb	IAmb	02 37 16.8	
	comp=Z,26nm,0.7s						
PPT	Papeete	26.83	99	P	P	02 37 49.0	+1.7
	comp=Z,31nm,0.8s,baz=54,slow=9.1,SNR=4.5						
ARMA	Armidale	32.22	236	P	P	02 38 33.1	-1.4
CTAO	Charters Tower	34.93	256	P	P	02 38 57.1	-0.6
CTAO				IAmb	IAmb	02 38 59.3	
	comp=Z,71nm,1.4s						
PMG	Port Moresby	35.04	275	P	P	02 38 59.2	+0.6
	comp=Z,20nm,0.7s,baz=87,slow=11,SNR=2.4						
PMG	Port Moresby	35.04	275	IAmb	IAmb	02 39 00.4	
	comp=Z,27nm,0.8s						
STKA	Stephens Creek	40.85	239	P	P	02 39 46.6	+0.2
	comp=Z,8.1nm,0.4s,baz=89,slow=10,SNR=23						
STKA				PcP	PcP	02 41 39.1	0.0
	comp=Z,4.4nm,0.8s,baz=329,slow=6.5,SNR=3.3						
STKA	Stephens Creek	40.85	239	P	P	02 39 45.2	-1.3
GENI	Genyem	43.60	282	P	P	02 40 10.3	+1.7
	comp=Z,80nm,0.7s						
BBOO	Buckleboo	45.63	239	P	P	02 40 23.6	-0.6
BBOO				IAmb	IAmb	02 40 25.2	
	comp=Z,47nm,0.8s						
WRAB	Tennant Creek	46.12	257	P	P	02 40 27.4	-0.8
WRA	Warramunga Arr	46.13	257	P	P	02 40 27.6	-0.6
AS31	Alice Springs	46.51	252	P	P	02 40 31.3	+0.1
ASAR	Alice Springs	46.52	252	P	P	02 40 31.3	+0.1
	comp=Z,235nm,0.7s,baz=85,slow=8.3,SNR=2688						
ASAR				PcP	PcP	02 41 59.5	+0.7
	comp=Z,5.8nm,0.6s,baz=86,slow=4.3,SNR=4.3						
ASAR				S	S	02 46 46.4	-4.8
	comp=Z,4.9nm,0.8s,baz=85,slow=16,SNR=14						
ASAR	Alice Springs	46.52	252	P	P	02 40 30.7	-0.5
MTN	Manton Dam	49.88	266	P	P	02 40 55.7	-1.0
KNRA	Kununurra	51.77	262	P	P	02 41 09.6	-1.0
FORT	Forrest	52.10	243	P	P	02 41 12.5	-0.3
SWI	Sorong	52.59	281	P	P	02 41 15.4	-1.2
	comp=Z,112nm,0.9s						
FITZ	Fitzroy Crossi	54.47	258	P	P	02 41 29.6	-0.5
TNTI	Ternate	56.79	281	P	P	02 41 46.8	+0.4
PSA00	Pilbara Seismi	59.56	254	IAmb	IAmb	02 42 06.1	
	comp=Z,17nm,1.0s						
APSI	Ampana	61.74	277	P	P	02 42 22.1	+2.1
	comp=Z,640nmcomp=Z,53nm,1.1s						
MRSI	Marisa	61.87	279	P	P	02 42 21.6	+0.8
	comp=Z,29nm,0.9s						
TOLI2	Tolitoli	63.16	279	P	P	02 42 28.3	-1.0
TOLI2				IAmb	IAmb	02 42 30.3	
	comp=Z,13nm,1.0s						
SBA	Scott Base	63.27	184	P	P	02 42 30.2	+1.3
SBA				IAmb	IAmb	02 42 33.0	
	comp=Z,39nm,1.5s						
VNDA	Vanda	63.32	185	P	P	02 42 31.2	+2.0
	comp=Z,3.6nm,0.5s,baz=0.2,slow=7.4,SNR=33						
VNDA	Vanda	63.32	185	P	P	02 42 30.0	+0.8
TWSI	Taliwang, Sumb	64.40	267	P	P	02 42 37.3	0.0
JYT	Yasato	64.87	323	P	P	02 42 39.9	+0.1
JGF	Kuroka	66.14	321	P	P	02 42 47.7	-0.3
MJAR	Matsushiro Arr	66.25	322	P	P	02 42 48.2	-0.4
	comp=Z,5.4nm,0.8s,baz=156,slow=6.0,SNR=15						
MJAR	Matsushiro Arr	66.25	322	P	P	02 42 47.6	-1.0
MAJO	Matsushiro	66.25	322	P	P	02 42 47.1	-1.6
MAJO				IAmb	IAmb	02 42 49.5	
	comp=Z,8.5nm,0.9s						
MAT	Matsushiro	66.25	322	P	P	02 42 48.4	-0.2
NIKH	Nikolski High	68.18	6	P		02 43 00.5	
	baz=189						
JHS	Saijyo	68.42	318	P	P	02 43 02.5	+0.3
CASY	Casey	69.08	204	P	P	02 43 05.7	+0.1
CASY				IAmb	IAmb	02 43 07.4	
	comp=Z,24nm,1.0s						
JKA	Kamikawa-asahi	69.29	330	P	P	02 43 07.7	+0.5
JKA				IAmb	IAmb	02 43 10.3	
	comp=Z,15nm,0.8s						
PEA0B	Petropavlovsk-	71.22	344	P	P	02 43 18.9	+0.4
PETK	Petropavlovsk-	71.22	344	P	P	02 43 19.3	+0.7
	comp=Z,10.0nm,0.6s,baz=110,slow=8.6,SNR=22						
PETK	Petropavlovsk-	71.22	344	P	P	02 43 19.2	+0.6
KSRS	Korea Array	73.26	317	P	P	02 43 32.1	+1.3
	comp=Z,2.2nm,0.6s,baz=130,slow=6.5,SNR=8.3						
KSAR	Wonju Array Be	73.28	317	P	P	02 43 30.9	-0.1
OHAK	Old Harbor	74.79	13	P		02 43 40.3	
	baz=204						
USA0B	Ussuriysk Arra	74.85	325	P	P	02 43 41.3	+1.5
USRK	Ussuriysk Ar.	74.85	325	P	P	02 43 41.1	+1.3
	comp=Z,3.3nm,0.7s,baz=81,slow=9.2,SNR=7.1						
QSPA	South Pole Qui	74.95	180	P	P	02 43 40.9	+0.6
QSPA				IAmb	IAmb	02 43 42.8	
	comp=Z,14nm,0.8s						
ISA	Isabella, Lake	75.20	46	P	P	02 43 42.1	0.0
MONP2	Monument Peak	75.28	50	P		02 43 42.9	
	baz=241						
KDAK	Kodiak Island	75.46	13	P		02 43 43.8	
	baz=205						
NVAR	Mina Array Bea	76.75	44	P	P	02 43 52.1	+1.2
	comp=Z,1.7nm,1.0s,baz=227,slow=8.2,SNR=6.0						
NVAR				pP	pwP	02 45 17.1	-1.0
	comp=Z,1.0nm,0.8s,baz=222,slow=11,SNR=3.4						
IRM	Iron Mountain	76.82	49	P		02 43 53.9	
	baz=241						
TUQ	Turquoise Moun	76.88	47	P		02 43 53.7	
	baz=241						
NJ2	Nanjing	76.91	309	*e*P	P	02 43 53.4	+1.8
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TPH	Tonopah	77.30	45	IAmb	IAmb	02 44 00.4	
	comp=Z,10.0nm,0.9s						
TPNV	Topopah Spring	77.39	46	P	P	02 43 55.7	+1.2
TPNV	Topopah Spring	77.39	46	P		02 43 56.6	
	baz=240						
BRSE	Bradley Lake S	77.64	13	P		02 43 56.3	
	baz=206						
SVW2	Sparrevohn	77.91	11	IAmb	IAmb	02 43 58.0	
	comp=Z,6.4nm,0.8s						
DLV	T Lat	78.11	286	IAmb	IAmb	02 44 01.9	
	comp=Z,13nm,0.9s						
SUA	Susitna One	79.19	13	P		02 44 04.2	
	baz=206						
TUC	Tucson	79.24	52	P		02 44 07.5	
	baz=244						
TUC	Tucson	79.24	52	P	P	02 44 05.4	+1.0
SKT	Skwentna	79.49	12	P		02 44 05.1	
	baz=205						
TTA	Tatalina	79.55	10	P		02 44 07.0	
	baz=201						
TTA	Tatalina	79.55	10	P	P	02 44 06.3	+0.9
TTA				IAmb	IAmb	02 44 08.0	
	comp=Z,16nm,0.9s						
M22K	Willow	79.58	13	P		02 44 06.5	
	baz=207						
WHN	Wuhan	79.73	305	||P	P	02 44 07.9	+1.0
GHO	Glory Hole Cre	79.86	13	IAmb	IAmb	02 44 08.7	
	comp=Z,11nm,0.7s						
CUT	Chulitna	80.14	12	P	P	02 44 08.1	-0.3
TNA	Tin City	80.73	4	P		02 44 13.1	
	baz=189,SNR=5.4						
N25K	Chitina, Valde	80.75	15	P		02 44 12.0	
	baz=212						
N25K	Chitina, Valde	80.75	15	IAmb	IAmb	02 44 13.6	
	comp=Z,12nm,0.9s						
GRNC	Granite Creek	80.78	17	P	P	02 44 13.0	+0.9
GRNC				IAmb	IAmb	02 44 14.0	
	comp=Z,18nm,1.1s						
WAT6	Susitna Watana	80.84	13	P		02 44 13.0	
	baz=209,SNR=6.0						
WAT2	Susitna Watana	80.99	13	P		02 44 13.3	
	baz=208						
KTH	Kantishna Hill	81.04	12	IAmb	IAmb	02 44 15.6	
	comp=Z,8.9nm,0.8s						
TRF	Thorofare Moun	81.07	12	P		02 44 13.7	
	baz=206,SNR=15						
BARN	Barnard Glacie	81.07	17	IAmb	IAmb	02 44 15.6	
	comp=Z,12nm,0.8s						
CTG	Chitna Glacier	81.08	17	P		02 44 14.8	
	baz=215,SNR=5.7						
CTGM	Chitina Glacie	81.09	17	IAmb	IAmb	02 44 15.9	
	comp=Z,9.9nm,0.8s						
F10A	Beach Ranch, E	81.41	38	P	P	02 44 16.0	+0.4
BPAW	Bear Paw Mtn.	81.52	11	P		02 44 15.4	
	baz=206,SNR=5.5						
MCK	McKinley	81.60	12	P		02 44 16.7	
	baz=208,SNR=9.0						
MCK	McKinley	81.60	12	IAmb	IAmb	02 44 17.5	
	comp=Z,15nm,1.0s						
HLID	Hailey	81.89	41	P		02 44 20.5	
	baz=240						
HYT	Haines Junctio	82.10	19	IAmb	IAmb	02 44 24.5	
	comp=Z,6.0nm,0.7s						
NEA2	Nenana	82.34	12	P		02 44 20.0	
	baz=208,SNR=5.7						
MLY	Manley	82.41	11	P		02 44 20.4	
	baz=206,SNR=17						
MLY	Manley	82.41	11	IAmb	IAmb	02 44 21.4	
	comp=Z,9.4nm,0.8s						
WRH	Wood River Hil	82.43	12	IAmb	IAmb	02 44 21.9	
	comp=Z,19nm,1.0s						
BJT	Baijiatuau	82.46	315	P	P	02 44 21.7	+0.7
BJI	Beijing	82.47	315	P	P	02 44 22.6	+1.6
BJI				pmax	pmax		
	comp=Z,27nm,0.7s						
BJI				pmax	pmax		
	comp=Z,58nm,3.6s						
H21K	Melozitna Rive	82.61	10	P		02 44 22.3	
	baz=204,SNR=12						
HDA	Harding Lake	82.61	13	P		02 44 21.9	
	baz=210,SNR=23						
HDA				P		02 44 21.9	
	baz=210,SNR=23						
DOT	Dot Lake	82.62	14	P	P	02 44 21.7	+0.3
DOT				IAmb	IAmb	02 44 23.0	
	comp=Z,12nm,0.9s						
L27K	Beaver Creek,	82.68	16	IAmb	IAmb	02 44 23.8	
	comp=Z,8.2nm,1.1s						
L27K	Beaver Creek,	82.68	16	P		02 44 22.9	
	baz=214,SNR=7.3						
NEW	Newport	82.69	36	P		02 44 22.9	
	baz=238						
WHY	Whitehorse	82.80	20	P		02 44 23.8	
	baz=221						
TCOL	CIGO, UAF Yank	82.83	12	P		02 44 23.2	
	baz=209,SNR=5.2						
MDM	Murphy Dome	82.83	12	IAmb	IAmb	02 44 23.7	
	comp=Z,20nm,1.0s						
COLA	College	82.83	12	P	P	02 44 22.8	+0.5
SCRK	Sand Creek	82.91	14	P		02 44 24.0	
	baz=212,SNR=15						
SCRK	Sand Creek	82.91	14	IAmb	IAmb	02 44 24.8	
	comp=Z,12nm,1.0s						
IL31		82.95	13	IAmb	IAmb	02 44 24.4	
	comp=Z,14nm,0.9s						
ILAR	Eielson Array	82.95	13	P	P	02 44 23.4	+0.5
	comp=Z,8.1nm,0.6s,baz=229,slow=6.0,SNR=99						
POKR	Poker Plat Res	83.13	12	P		02 44 24.5	
	baz=209,SNR=5.2						
MNTX	Cornudas Mount	83.19	55	P		02 44 27.3	
	baz=248						
H23K	Yukon River	83.35	11	P		02 44 25.6	
	baz=207,SNR=6.2						
K27K	Chicken	83.42	15	P		02 44 27.1	
	baz=214						
K27K	Chicken	83.42	15	IAmb	IAmb	02 44 27.9	
	comp=Z,9.2nm,1.0s						
ENH	Enshi	83.49	304	P	P	02 44 26.9	+0.4
H24K	Noodor Dome	83.68	12	P		02 44 26.3	
	baz=209						
TX31	Lajitas Ar. Si	83.70	58	IAmb	IAmb	02 44 31.6	
	comp=Z,10nm,1.1s						
TXAR	Lajitas Array	83.70	58	P	P	02 44 30.1	+2.5
	comp=Z,2.2nm,0.9s,baz=224,slow=6.7,SNR=13						
TXAR				pP	pP	02 45 56.5	+3.8
	comp=Z,1.3nm,1.0s,baz=224,slow=7.5,SNR=3.2						
TXAR	Lajitas Array	83.70	58	P	P	02 44 28.9	+1.3
BILL	Bilibino	83.74	354	P	P	02 44 26.8	-0.1
PRP	Porcupine Dome	83.88	13	P		02 44 28.6	
	baz=211,SNR=21						
PRP	Porcupine Dome	83.88	13	IAmb	IAmb	02 44 30.0	
	comp=Z,14nm,1.0s						
DAWY	Dawson	84.14	16	IAmb	IAmb	02 44 31.1	
	comp=Z,13nm,0.8s						
EGAK	Eagle	84.26	15	P		02 44 30.6	
	baz=215,SNR=17						
EGAK	Eagle	84.26	15	IAmb	IAmb	02 44 31.5	
	comp=Z,13nm,0.8s						
COLD	Coldfoot	84.49	10	P		02 44 32.3	
	baz=206,SNR=12						
COLD	Coldfoot	84.49	10	IAmb	IAmb	02 44 33.1	
	comp=Z,8.3nm,0.8s						
YHL	Hebgen Lake	84.55	41	IAmb	IAmb	02 44 35.4	
	comp=Z,5.4nm,0.7s						
HIA	Hailar	84.64	324	P	P	02 44 32.4	+0.6
HIA				IAmb	IAmb	02 44 33.7	
	comp=Z,12nm,1.1s						
PDAR	Pinedale Array	84.67	43	P	P	02 44 33.9	+1.5
	comp=Z,1.0nm,0.7s,baz=198,slow=1.9,SNR=6.0						
PDAR				pP	pwP	02 46 00.8	+1.0
	comp=Z,0.6nm,0.8s,baz=197,slow=2.8,SNR=1.9						
PDAR	Pinedale Array	84.67	43	P	P	02 44 31.7	-0.7
SLVN	Son La	85.22	293	IAmb	IAmb	02 44 38.3	
	comp=Z,9.2nm,1.0s						
XAN	Xi'an	85.32	307	P	P	02 44 37.1	+1.6
XAN				pP	PcP	02 44 45.4	+7.5
XAN				pmax	pmax		
	comp=Z,19nm,1.3s						
TOLK	Toolik Lake Re	85.86	10	P		02 44 37.8	
	baz=207						
HHC	Hu-ho-hao-te	85.99	314	*e*P	P	02 44 38.3	-0.4
HHC				pmax	pmax		
	comp=Z,28nm,0.8s						
HHC				pmax	pmax		
	comp=Z,150nm,6.0s						
EPYK	Eagle Plains	86.65	15	P		02 44 41.6	
	baz=219						
MAW	Mawson	86.81	199	P	P	02 44 43.4	+1.3
	comp=Z,17nm,0.6s,baz=133,slow=5.3,SNR=55						
MAW	Mawson	86.81	199	P	P	02 44 42.7	+0.7
KMI	Kunming	87.40	297	||P	P	02 44 48.1	+2.1
KMI				pmax	pmax		
	comp=Z,12nm,1.1s						
CMAR	Chiang Mai Arr	88.84	289	P	P	02 44 54.2	+1.7
	comp=Z,1.4nm,0.3s,baz=104,slow=3.4,SNR=17						
CHTO	Chiang Mai	88.94	290	P	P	02 44 53.9	+0.9
CHTO				IAmb	IAmb	02 44 55.5	
	comp=Z,15nm,1.4s						
LZH	Lanzhou	89.93	307	*e*P	P	02 44 59.2	+1.7
LZH				pP	pwP	02 46 31.7	+5.3
LZH				sP	sP	02 46 57.3	-4.4
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
YKA	Yellowknife Ar	91.39	24	P	P	02 45 05.0	+1.7
	comp=Z,0.2nm,0.3s,baz=244,slow=6.2,SNR=6.6			

comp=Z,3.6nm,0.7s,baz=218,slow=1.7,SNR=8.8
LOF Lofoten 126.52 355 *e*PKPdf **PKPdf 02 50 57.7 -0.3**
STEI Steigen 126.56 354 *e*PKPdf **PKPdf 02 50 58.2 +0.2**
FAUS Fauske 127.09 354 *e*PKPdf **PKPdf 02 50 58.5 -0.5**
KLMR Klimovskoe 127.12 338 *e*P **PKPdf 02 50 57.7 -1.6**
KLMR AMP 02 51 00.3
comp=Z,14nm,1.3s
BELG Belogornoye 128.51 326 PKP **PKPdf 02 51 02.4 +0.2**
comp=Z,7.9nm,0.6s,baz=148,slow=4.2,SNR=5.7
FINES FINESS Array B 130.73 345 PKhKP PKPpre 02 50 55.8
comp=Z,1.5nm,0.8s,baz=2.9,slow=3.8,SNR=5.3
FINES PKP **PKPdf 02 51 06.4 +0.3**
comp=Z,1.5nm,0.6s,baz=93,slow=2.8,SNR=6.4
AKN Aaknes 132.87 357 *e*PKPdf **PKPdf 02 51 09.9 -0.3**
DOMB Dombas 132.88 356 *e*PKPdf **PKPdf 02 51 08.4 -1.9**
NB2 NORSAR Subarra 133.69 354 PKPab **PKiKP 02 51 13.0 -0.2**
baz=12,slow=4.0
NOA NORSAR Array B 133.69 354 PKP **PKPdf 02 51 12.4 +0.5**
comp=Z,1.8nm,0.8s,baz=13,slow=4.0,SNR=7.9
NC602 NORSAR Array S 133.96 354 *e*PKPdf **PKPdf 02 51 10.4 -1.9**
SKAR Skarslia 134.29 356 *e*PKPdf **PKPdf 02 51 12.6 -0.3**
HFS Hagfors 134.29 352 PKhKP PKPpre 02 51 10.0
comp=Z,3.3nm,0.7s,baz=90,slow=4.3,SNR=1.6
ASK Askoy 134.64 358 *e*PKPdf **PKPdf 02 51 12.4 -1.1**
BLS5 Blasjo 135.65 357 *e*PKPdf **PKPdf 02 51 14.8 -0.7**
MNK Minsk 136.01 339 *i* PKP **PKPdf 02 51 09.1 -7.2**
comp=E,4.0nm,1.3s
MNK *i* PKP **PKPdf 02 51 09.1 -7.2**
comp=N,16nm,1.5s
MNK *i* PKP **PKPdf 02 51 09.1 -7.2**
comp=Z,4.0nm,0.7s,baz=216
MNK *i* pPKP **pPKPdf 02 52 44.2 -3.1**
MNK *i* PP **PP 02 53 52.7 -7.2**
MNK *i* SKP 02 54 05.2
MNK *i* PKS PKSdf 02 54 39.5 -13
MNK *i* PKKP **PKKPdf 03 00 52.8 -4.8**
MNK *i* SP SP 03 03 33.9 -12
MNK *i* SKKS **SKKSdf 03 07 25.8 -8.9**
MNK *i* SPP SPP 03 09 50.9
MNK *i* PPS PPS 03 09 55.0
MNK *i* SS **SS 03 11 22.8 -5.4**
MNK *i* SSS SSS 03 16 35.9
MNK *i* LR LR 03 43 08.1
MNK *i* LRM MLR 03 51 39.9
comp=E,17nm,22.1s
MNK *i* LRM MLR 03 51 43.5
comp=Z,40nm,16.4s
MNK *i* LRM MLR 03 51 45.0
comp=N,222nm,25.1s
AKASG Malin Array Be 138.47 335 PKhKP PKPpre 02 51 10.2
comp=N,0.3nm,0.3s,baz=38,slow=3.6,SNR=2.2
AKASG PKP **PKPdf 02 51 20.5 -0.4**
comp=N,0.4nm,0.3s,baz=39,slow=2.4,SNR=7.8
EKA Eskdalemuir Ar 139.60 5 PKhKP PKPpre 02 51 16.8
comp=N,1.0nm,0.4s,baz=344,slow=2.6,SNR=6.8
KWP Kalwaria Pacla 141.84 339 *e*PKP **PKPdf 02 51 23.5 -3.6**
KMBO Kilima Mbogo 142.11 248 PKhKP PKPpre 02 51 25.6
comp=N,3.7nm,0.7s,baz=51,slow=5.2,SNR=6.2
GAZ Gaziantep 142.23 312 PKPdf **PKPdf 02 51 26.3 -2.0**
STHS Stebnicka Huta 142.52 340 *e*PKP **PKPdf 02 51 25.9 -2.4**
KOLS Kolonicke sedl 142.58 339 *e*PKP **PKPdf 02 51 26.3 -2.1**
KSP Ksiaz 142.66 346 *e*PKP **PKPdf 02 51 26.3 -2.2**
NIE Niedzica 142.82 341 *e*PKP **PKPdf 02 51 27.2 -1.7**
CRVS Cervenica-Dubn 142.89 339 *e*PKP **PKPdf 02 51 27.0 -2.0**
CLL Collm 142.91 349 *e*PKPpre PKPpre 02 51 26.0
CLL *i* PKPdf **PKPdf 02 51 27.8 -1.1**
comp=Z,9.0nm,0.7s
CLL *e*PKiKP **PKiKP 02 51 32.0 -0.2**
OSTC Ostas 142.94 346 *e*PKP **PKPdf 02 51 26.4 -2.6**
CHVC Chvalec 142.95 346 *e*PKP **PKPdf 02 51 26.9 -2.2**
UPC Upice 143.03 346 *e*PKP PKPbc 02 51 27.2 +0.3
DPC Dobruska-Polom 143.10 345 *e*PKP PKPbc 02 51 27.4 +0.2
BRG Berggiesshubel 143.15 348 *i* PKP PKPbc 02 51 27.1 -0.1
BRG Amp 02 51 30.2
comp=Z,5.9nm,1.1s
KRLC Kraliky 143.24 345 *e*PKP PKPbc 02 51 27.7 +0.1
MORC Moravsky Berou 143.32 344 *e*PKP PKPbc 02 51 28.1 +0.3
LANS Liptovska Anna 143.32 341 *e*PKP **PKPdf 02 51 29.2 -0.6**
PVCC Panska Ves 143.34 347 *e*PKP PKPbc 02 51 28.3 +0.5
BRTR Keskin Array B 143.40 318 PKP PKPbc 02 51 28.9 +0.4
comp=Z,26nm,0.9s,baz=97,slow=1.8,SNR=79
PRA Prague 143.80 347 *e*PKP **PKPdf 02 51 30.1 -0.4**
PRU Pruhonice 143.86 347 *e*PKP PKPbc 02 51 29.8 +0.5
ANTO Ankara 143.86 319 PKPdf PKPbc 02 51 29.9 +0.1
MLR Muntele Rosu 143.86 332 PKP **PKPdf 02 51 30.6 -0.4**
comp=Z,15nm,0.7s,baz=234,slow=1.5,SNR=34
TANN Tannenbergstha 143.87 349 *e*PKPbc PKPbc 02 51 29.9 +0.5
baz=14,slow=3.2
VRAC Vranov 144.00 344 PKP **PKPdf 02 51 30.6 -0.4**
comp=Z,14nm,0.8s,baz=30,slow=2.3,SNR=28
VRAC Vranov 144.00 344 *e*PKP **PKPdf 02 51 30.5 -0.4**
WERN Wernitzgruen 144.00 349 *e*PKPbc **PKPdf 02 51 30.5 -0.4**
baz=14,slow=3.2
VYHS Vyhne 144.10 341 *e*PKP **PKPdf 02 51 31.1 0.0**
JAVC Velka Javorina 144.11 343 *e*PKP **PKPdf 02 51 32.1 +0.9**
KOLL Kolacno 144.15 342 *e*PKP **PKPdf 02 51 31.6 +0.4**
PBCC Pribram 144.26 347 *e*PKP **PKPdf 02 51 31.2 -0.2**
KRUC Moravsky 144.28 344 *e*PKP **PKPdf 02 51 31.4 0.0**
TREC Trest 144.29 345 *e*PKP PKPbc 02 51 31.0 +0.3
UCC Uccle 144.35 358 *d*P **PKPab 02 51 30.0 -0.7**
AHRW Bad Neuenahr-A 144.45 355 *e*PKPbc **PKPdf 02 51 31.8 +0.2**
baz=14,slow=3.2
MEM Membach 144.46 356 *d*PKP **PKPdf 02 51 31.7 +0.1**
BTNL Ternell 144.48 356 *d*P **PKPdf 02 51 31.7 0.0**
SMOL Smolenice 144.49 343 *e*PKP **PKPdf 02 51 33.1 +1.3**
BSTI Sart Tilman 144.52 357 *d*P **PKPdf 02 51 32.1 +0.4**
ROTZ Rotzenmuhle 144.53 349 *e*PKPbc **PKPdf 02 51 32.4 +0.5**
baz=14,slow=3.2
TNS Taunus Mts 144.64 353 *e*PKPbc **PKPdf 02 51 32.6 +0.5**
baz=14,slow=3.2
SNF Seneffe 144.65 358 *d*PKP **PKPdf 02 51 32.3 +0.4**
BCLA Clavier 144.69 357 *d*PKP **PKPab 02 51 32.6 +0.5**
comp=Z,24nm,0.0s
BHOU Houvegnez 144.72 356 *d*PKP **PKPab 02 51 33.0 +0.8**
BGES Gesves 144.74 357 *d*PKP **PKPab 02 51 32.5 +0.3**
GRF Grafenberg Arr 144.78 350 *e*PKPbc **PKPab 02 51 33.3 +0.9**
baz=14,slow=3.2
GRFO Grafenberg 144.78 350 **PKPab 02 51 32.9 +0.4**
BMRD Maredsous 144.84 358 *d*PKP **PKPab 02 51 32.8 +0.2**
SRO Srobarova 144.86 341 *e*PKP **PKPab 02 51 34.3 +1.5**
KHC Kasperske Hory 144.87 347 *e*PKP **PKPab 02 51 33.1 +0.2**
ZST Bratislava 144.88 343 *e*PKP **PKPab 02 51 33.9 +1.1**
SRO2 Moca 144.88 341 *e*PKP **PKPab 02 51 33.3 +0.4**
MILB Miltenberg 144.92 352 *e*PKPbc **PKPab 02 51 33.6 +0.6**
baz=14,slow=3.2
WET Wettzell 145.00 348 *e*PKPbc **PKPab 02 51 33.9 +0.5**
baz=14,slow=3.2
CKRC Cesky Krumlov 145.01 346 *e*PKP **PKPab 02 51 33.8 +0.4**
DOU Dourbes 145.05 358 *d*PKP **PKPab 02 51 33.5 0.0**
GEC2 GERESS Array S 145.12 347 *e*PKPbc **PKPab 02 51 34.2 +0.3**
baz=14,slow=3.2
GERES GERESS Array B 145.12 347 PKPbc **PKPab 02 51 34.0 +0.2**
comp=Z,13nm,0.7s,baz=29,slow=3.5,SNR=123
WLF Walferdange 145.40 356 *d*PKP **PKPab 02 51 35.3 +0.5**
WLF Walferdange 145.40 356 *e*PKPbc **PKPab 02 51 35.6 +0.9**
baz=14,slow=3.2
CONA Conrad Observa 145.46 344 *i* P **PKPab 02 51 35.7 +0.5**
comp=Z,23nm,0.8s,SNR=16
LODK Lodwar 145.69 254 PKPbc **PKPab 02 51 36.6 -0.5**
MOA Molln 145.93 346 *i* P **PKPab 02 51 36.5 -0.4**
comp=Z,16nm,0.6s,SNR=14
STU Stuttgart 145.97 352 *e*PKPbc **PKPab 02 51 36.9 -0.2**
baz=14,slow=3.2
CSS Mathiatis 146.03 311 **PKPbc 02 51 37.0 +0.6**
ARSA Arzberg 146.17 344 *i* P **PKPbc 02 51 36.8 +0.3**
comp=Z,10nm,0.8s,SNR=12
FUR Furstenfeldbru 146.24 349 *e*PKPbc **PKPab 02 51 37.7 -0.5**
baz=14,slow=3.2
RJOB Jochberg 146.36 348 *e*PKPbc **PKPab 02 51 38.0 -0.7**
baz=14,slow=3.2
BFO Black Forest 146.52 353 **PKPbc 02 51 37.4 0.0**
BFO Black Forest 146.52 353 *e*PKPbc **PKPbc 02 51 38.3 +0.9**
baz=14,slow=3.2
FRGS Fruska Gora 146.68 338 || *i*P **PKPbc 02 51 38.7 +0.8**
KOGS Kog 146.71 343 *i* PKPbc **PKPbc 02 51 38.0 +0.1**
PERS Pernice 146.85 344 *i* PKPbc **PKPbc 02 51 38.6 +0.2**
KBA Koelnbreinsper 146.87 346 *i* P **PKPbc 02 51 38.8 +0.2**
comp=Z,19nm,0.5s,SNR=18
UBR Ueberruh 146.91 351 *e*PKPbc **PKPbc 02 51 39.1 +0.6**
baz=14,slow=3.2
RETA Reutte 146.99 350 *i* P **PKPbc 02 51 39.6 +0.8**
comp=Z,18nm,1.0s,SNR=9.0
WATA Walderalm 146.99 349 *i* P **PKPbc 02 51 39.4 +0.5**
comp=Z,9.1nm,0.5s,SNR=12
WTTA Wattenberg 147.05 349 *i* P **PKPbc 02 51 39.7 +0.7**
comp=Z,33nm,0.6s,SNR=17
MOTA Moosalm 147.07 349 *i* P **PKPbc 02 51 39.6 +0.6**
comp=Z,20nm,1.0s,SNR=11
OBKA Obir 147.11 345 *e*P **PKPbc 02 51 39.0 -0.1**
comp=Z,11nm,0.7s
CLF Chambon-Foret 147.16 0 **PKPbc 02 51 39.5 +0.5**
MYKA Terra Mystica 147.22 346 *i* P **PKPbc 02 51 39.5 +0.1**
comp=Z,17nm,0.5s,SNR=8.9
DAVA Damuels 147.33 351 *i* P **PKiKP 02 51 40.8 -0.9**
comp=Z,14nm,0.6s,SNR=8.2
ABTA Abfaltersbach 147.36 347 *i* P **PKPbc 02 51 40.0 +0.2**
comp=Z,23nm,0.7s,SNR=14
FETA Feichten 147.45 350 *i* P **PKiKP 02 51 41.1 -0.8**
comp=Z,12nm,1.0s,SNR=6.2
CRES Cresnjev 147.50 343 || *i*P **PKPbc 02 51 40.5 +0.4**
DIVS Divibare 147.51 336 || *i*P **PKPbc 02 51 40.7 +0.4**
LJU Ljubljana 147.55 344 || *i*P **PKPbc 02 51 40.6 +0.4**
CRNS Crni Vrh 147.58 345 *i* PKPbc **PKPbc 02 51 40.5 +0.1**
MRAK Mrkovica 147.80 341 *e*P **PKiKP 02 51 42.6 0.0**
DAVOX Davos/Dischmat 147.82 351 PKPbc **PKiKP 02 51 42.4 -0.3**
comp=Z,30nm,0.7s,baz=305,slow=0.5,SNR=58
CEY Cerknica 147.86 344 || *i*P **PKPbc 02 51 41.0 -0.1**
HAPS Han Pijesak,Bl 147.91 338 || *i*P **PKPbc 02 51 41.5 +0.1**
BBLS Lazići 147.93 337 || *i*P **PKPbc 02 51 42.1 +0.7**
BLY Banja Luka 147.95 340 || *i*P **PKiKP 02 51 42.1 -0.7**
MBAR Mbarara 148.09 243 **PKPbc 02 51 41.8 -1.0**
RUDO Rudo 148.15 337 || *i*P **PKPbc 02 51 41.9 0.0**
UPM Unac-Piva 148.68 337 *e*P **PKPbc 02 51 43.2 -0.2**
SALO Salr 148.84 349 **PKPbc 02 51 43.9 +0.3**
BRY Bratogost 149.08 337 *e*P **PKPbc 02 51 44.6 +0.2**
PDG Podgorica 149.20 335 || *i*P **PKPbc 02 51 44.7 +0.2**
TREB Trebinje 149.31 337 *e*P **PKPbc 02 51 44.6 -0.2**
STON Ston 149.42 338 || *i*P **PKPbc 02 51 43.7 -1.3**
HCY Herceg Novi 149.49 336 *e*P **PKPbc 02 51 44.5 -0.7**
BNI Bardonecchia 149.93 354 PKPdf **PKPdf 02 51 42.3 +1.2**
BNI PKPbc **PKiKP 02 51 47.7 +0.6**
SANT Santorini 150.57 320 **PKPbc 02 51 47.3 -0.7**
AQU L'Aquila 151.27 343 || *i*P **PKPbc 02 51 49.6 +0.1**
INTR Introdacqua 151.44 342 PKPdf **PKPdf 02 51 43.6 +0.1**
INTR PKPbc **PKPbc 02 51 49.8 -0.1**
IDI Anoyia 151.62 319 PKPbc **PKPbc 02 51 50.6 +0.1**
comp=Z,12nm,0.6s,baz=257,slow=1.4,SNR=22
ESDC Sonseca Array 154.85 12 PKPbc **PKPbc 02 51 58.2 +0.9**
comp=Z,0.5nm,0.7s,baz=333,slow=2.1,SNR=5.2
ESDC PKPab **PKPab 02 52 15.2 +1.1**
comp=Z,1.0nm,0.8s,baz=315,slow=4.0,SNR=5.4
KEST Kesra 158.57 345 PKPab **PKPab 02 52 31.2 +0.9**
comp=Z,4.5nm,0.7s,baz=360,slow=1.9,SNR=11
KEST Kesra 158.57 345 PKPdf **PKPdf 02 51 51.4 -1.8**
KEST PKPab **PKPab 02 52 30.7 +0.3**

*NEIC **07** 02:35:23.3± 1.0, 59.66N± 0.04× 153.08W± 0.08, h115km± 3km, Error ellipse: s-maj=6.2km s-min=4.9km az=132.0*
*AEIC **07** 02:35:24.9± 1.3, 59.66N± 0.04× 153.07W± 0.07, h105km± 3km, ML3.3/139, ML3.6/81(NEIC), Error ellipse: s-maj=5.8km s-min=4.9km az=127.0*
*IDC **07** 02:35:31.6± 8.7, 60.53N× 153.44W, h156km± 78km, mb3.0/3, mb1 3.2/4, mb1mx3.0/27, mbtmp3.5/4, Error ellipse: s-maj=79.0km s-min=25.9km az=33.0*
ISC 07 02:35:22.7± 0.9, 59.67N± 0.04× 153.06W± 0.04, h118km± 6km, n163, σ1=03/158, mb3.3/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OPT	**Oil Point**	**0.09**	**258**			**Pn**	**02 35 38.8**	**0.0**
OPT	**Oil Point**	**0.09**	**258**	P			02 35 38.8	
baz=88								
ILS	**Iliamna Low So**	**0.29**	**359**			**Pn**	**02 35 39.4**	**0.0**
AU22	**Augustine Moun**	**0.34**	**207**			**Pn**	**02 35 39.6**	**+0.1**
AU22						**Sn**	**02 35 51.6**	**-0.4**
AUL	**Augustine Lava**	**0.35**	**214**			**Pn**	**02 35 39.8**	**+0.3**
AUL						**Sn**	**02 35 51.7**	**-0.5**
AUH	**Augustine H**	**0.36**	**213**			**Pn**	**02 35 40.1**	**+0.4**
AUCH	**Augustine Cone**	**0.37**	**213**			**Pn**	**02 35 39.8**	**+0.1**
AUW	**Augustine West**	**0.37**	**215**			**Pn**	**02 35 39.9**	**+0.3**
HOM	**Homer**	**0.72**	**90**			**Pn**	**02 35 42.6**	**+0.8**
HOM						**Sn**	**02 35 56.3**	**-0.1**
HOM	**Homer**	**0.72**	**90**		IAML		02 35 58.4	
comp=N,2μm,0.6s								
HOM					IAML		02 36 05.8	
comp=E,1μm,0.6s								
HOM	**Homer**	**0.72**	**90**	P			02 35 42.6	
baz=270								
HOM				S			02 35 56.3	
baz=270								
RED	**Redoubt Volcan**	**0.77**	**11**			**Pn**	**02 35 42.6**	**+0.3**
RED						**Sn**	**02 35 56.5**	**-0.8**
RSO	**Redoubt South**	**0.81**	**11**			**Pn**	**02 35 43.3**	**+0.4**
NCT	**North Crescent**	**0.90**	**4**			**Pn**	**02 35 43.9**	**+0.3**
NCT						**Sn**	**02 35 58.9**	**-0.5**
CNPM	**China Poot**	**0.94**	**98**			**Pn**	**02 35 44.3**	**+0.4**
CNPM						**Sn**	**02 35 59.5**	**-0.4**
CNPM	**China Poot**	**0.94**	**98**		IAML		02 36 01.9	
comp=E,635nm,0.3s								
CNPM					IAML		02 36 03.1	
comp=N,637nm,0.4s								
DFR	**Drift River**	**0.94**	**11**			**Pn**	**02 35 44.5**	**+0.5**
DFR						**Sn**	**02 36 00.1**	**-0.1**
BRLK	**Bradley Lake**	**1.11**	**84**			**Pn**	**02 35 46.0**	**+0.4**
BRLK	**Bradley Lake**	**1.11**	**84**		IAML		02 36 04.6	
comp=N,546nm,0.2s								
BRSE	**Bradley Lake S**	**1.18**	**86**			**Pn**	**02 35 46.6**	**+0.3**
BRSE						**Sn**	**02 36 03.3**	**-0.9**
BRSE	**Bradley Lake S**	**1.18**	**86**	P			02 35 46.6	
baz=267								
BRSE				S			02 36 03.3	
baz=267								
KAPH	**Katmai Pasha**	**1.27**	**212**			**Pn**	**02 35 47.8**	**+0.5**
KAPH						**Sn**	**02 36 05.7**	**-0.3**
KAHG	**Katmai Hook Gl**	**1.41**	**214**			**Pn**	**02 35 49.3**	**+0.3**
KAHC	**Katmai Hardscr**	**1.44**	**225**			**Pn**	**02 35 49.6**	**+0.4**
KAHC	**Katmai Hardscr**	**1.44**	**225**	P			02 35 49.6	
baz=44								
KARR	**Katmai Rainbow**	**1.45**	**217**			**Pn**	**02 35 49.9**	**+0.6**
CAPN	**Captain Cook N**	**1.46**	**40**			**Pn**	**02 35 51.4**	**+2.1**
CAPN	**Captain Cook N**	**1.46**	**40**	P			02 35 52.0	
baz=221								
KAWH	**Katmai**	**1.57**	**216**			**Pn**	**02 35 51.3**	**+0.5**
SPCR	**Spurr Chakacha**	**1.59**	**15**			**Pn**	**02 35 51.9**	**+0.8**
SPCR	**Spurr Chakacha**	**1.59**	**15**	P			02 35 51.9	
baz=196								
CKT	**Bend**	**1.59**	**15**			**Pn**	**02 35 51.9**	**+0.8**
SPCN	**Chakachatna No**	**1.62**	**15**			**Pn**	**02 35 52.3**	**+0.9**
SPBG	**Spurr Blockage**	**1.63**	**12**			**Pn**	**02 35 52.6**	**+1.1**
SLKM	**Skilak Lake**	**1.65**	**58**			**Pn**	**02 35 52.3**	**+0.6**
SPCP	**Crater Peak Br**	**1.66**	**15**			**Pn**	**02 35 53.0**	**+1.1**
SPCP						**Sn**	**02 36 15.1**	**+0.8**
SPCG	**Spurr Capps Gl**	**1.71**	**17**			**Pn**	**02 35 53.4**	**+0.9**
SPCG						**Sn**	**02 36 15.0**	**-0.2**
KVTA	**Katmai Vly 10**	**1.73**	**223**			**Pn**	**02 35 53.2**	**+0.6**
KCT	**Katmai Mt Cerb**	**1.81**	**218**			**Pn**	**02 35 54.4**	**+0.9**
KABU	**Katmai Buttres**	**1.82**	**220**			**Pn**	**02 35 54.4**	**+0.7**
KABU						**Sn**	**02 36 17.1**	**-0.4**
KABR	**Katmai Barrier**	**1.83**	**214**			**Pn**	**02 35 54.3**	**+0.3**
O22K	**Cooper Landing**	**1.86**	**63**			**Pn**	**02 35 55.3**	**+1.1**
O22K	**Cooper Landing**	**1.86**	**63**	P			02 35 55.3	
baz=245								
SEW	**Seward**	**1.87**	**75**			**Pn**	**02 35 54.8**	**+0.5**
SEW						**Sn**	**02 36 17.8**	**-0.7**
SEW	**Seward**	**1.87**	**75**	P			02 35 54.8	
baz=258								
SVW2	**Sparrevohn**	**1.90**	**320**			**Pn**	**02 35 55.0**	**+0.2**
KDAK	**Kodiak Island**	**1.91**	**172**			**Pn**	**02 35 54.5**	**-0.3**
STLK	**Strandline Lak**	**1.93**	**18**			**Pn**	**02 35 56.5**	**+1.4**
ANCK	**Angle Creek**	**1.94**	**222**			**Pn**	**02 35 55.9**	**+0.6**
CAHL	**Cahill**	**2.00**	**217**			**Pn**	**02 35 56.7**	**+0.7**
KJL	**Kejulik**	**2.08**	**220**			**Pn**	**02 35 58.0**	**+1.0**
SUA	**Susitna One**	**2.13**	**31**			**Pn**	**02 35 59.0**	**+1.4**
SUA	**Susitna One**	**2.13**	**31**		IAML		02 36 27.0	
comp=N,530nm,1.0s								
SUA	**Susitna One**	**2.13**	**31**	P			02 35 59.0	
baz=213								
RC01	**Rabbit Creek A**	**2.18**	**48**			**Pn**	**02 35 59.3**	**+1.1**
RC01	**Rabbit Creek A**	**2.18**	**48**		IAML		02 36 26.4	
comp=E,373nm,0.6s								
RC01					IAML		02 36 27.7	
comp=N,343nm,0.4s								
RC01	**Rabbit Creek A**	**2.18**	**48**	P			02 35 59.3	
baz=230								

SKT Skwentna 2.44 17 **Pn 02 36 02.4 +0.9**
SKT Skwentna 2.44 17 P 02 36 02.3
baz=198
OHAK Old Harbor 2.46 183 **Pn 02 36 01.0 -0.8**
M22K Willow 2.54 33 **Pn 02 36 04.2 +1.5**
PLK3 Peulik 3 2.60 222 **Pn 02 36 04.7 +1.1**
PWL Port Wells 2.64 61 **Pn 02 36 04.5 +0.4**
PWL Port Wells 2.64 61 IAML 02 36 37.7
comp=E,247nm,0.5s
PMR Palmer 2.73 43 **Pn 02 36 06.3 +1.0**
PMR Palmer 2.73 43 IAML 02 36 45.9
comp=E,132nm,0.8s
PMR Palmer 2.73 43 P 02 36 06.4
baz=227
KNK Knik Glacier 2.87 50 **Pn 02 36 07.5 +0.4**
KNK Knik Glacier 2.87 50 P 02 36 07.5
baz=234
GHO Glory Hole Cre 2.93 42 **Pn 02 36 08.6 +0.6**
GHO Glory Hole Cre 2.93 42 IAML 02 36 50.8
comp=E,270nm,0.5s
GHO IAML 02 36 52.3
comp=N,188nm,0.7s
CUT Chulitna 3.06 25 **Pn 02 36 10.9 +1.3**
CUT Chulitna 3.06 25 IAML 02 36 47.7
comp=N,184nm,0.4s
CUT IAML 02 36 51.0
comp=E,234nm,0.4s
CUT Chulitna 3.06 25 P 02 36 10.9
baz=208
SML Sawmill 3.16 45 **Pn 02 36 11.4 +0.5**
SML Sawmill 3.16 45 IAML 02 36 48.4
comp=E,168nm,0.7s
SML IAML 02 36 55.9
comp=N,142nm,0.8s
SML Sawmill 3.16 45 P 02 36 11.4
baz=229
SII Sitkinak Islan 3.18 191 **Pn 02 36 10.4 -0.8**
SII Sitkinak Islan 3.18 191 IAML 02 36 49.1
comp=N,142nm,0.4s
SII IAML 02 36 56.7
comp=E,192nm,0.6s
SII Sitkinak Islan 3.18 191 P 02 36 10.5
baz=10
GLI Glacier Island 3.21 65 **Pn 02 36 11.8 +0.3**
GLI Glacier Island 3.21 65 IAML 02 36 48.7
comp=N,148nm,0.6s
GLI IAML 02 36 53.6
comp=E,154nm,0.5s
GLI Glacier Island 3.21 65 P 02 36 11.8
baz=250
PPLA Purkeypile 3.26 7 **Pn 02 36 14.1 +1.7**
HIN Hinchinbrook I 3.37 75 Pn **Pn 02 36 14.8 +1.1**
HIN IAML 02 36 55.9
comp=N,126nm,0.7s
HIN IAML 02 36 56.1
comp=E,131nm,0.8s
FID Port Fidalgo 3.46 69 **Pn 02 36 14.8 -0.1**
JPK Jack Peak 3.50 64 **Pn 02 36 16.0 +0.6**
TT01 Tatalina 3.55 338 **Pn 02 36 16.5 +0.5**
SCM Sheep Creek Mo 3.55 50 **Pn 02 36 16.7 +0.6**
TTA Tatalina 3.57 338 **Pn 02 36 16.7 +0.3**
TTA Tatalina 3.57 338 P 02 36 16.7
baz=155
HUR Hurricane 3.71 25 **Pn 02 36 19.6 +1.5**
EYAK Cordova Ski Ar 3.76 73 **Pn 02 36 19.5 +0.7**
EYAK Cordova Ski Ar 3.76 73 P 02 36 19.5
baz=259
WAT7 Susitna Watana 3.77 31 **Pn 02 36 19.8 +0.7**
CAST Castle Rocks 3.79 7 Pn **Pn 02 36 21.3 +2.0**
WAT1 Susitna Watana 3.85 33 **Pn 02 36 20.7 +0.7**
WAT6 Susitna Watana 3.90 39 **Pn 02 36 21.1 +0.3**
WAT6 Susitna Watana 3.90 39 P 02 36 21.1
baz=224
DIV Divide 3.90 65 **Pn 02 36 21.5 +0.8**
WAT2 Susitna Watana 3.94 31 **Pn 02 36 22.2 +0.8**
WAT2 Susitna Watana 3.94 31 P 02 36 22.0
baz=215
KLU Klutina 3.97 60 **Pn 02 36 22.1 +0.4**
KLU Klutina 3.97 60 P 02 36 22.1
baz=246
TRF Thorofare Moun 4.02 18 **Pn 02 36 23.5 +1.1**
TRF Thorofare Moun 4.02 18 IAML 02 37 33.6
comp=N,45nm,0.8s
TRF Thorofare Moun 4.02 18 P 02 36 23.5
baz=200
KTH Kantishna Hill 4.03 14 **Pn 02 36 22.9 +0.4**
M24K Tolsona, Glenn 4.16 51 **Pn 02 36 25.3 +1.1**
CHUM Lake Minchumin 4.24 4 **Pn 02 36 26.2 +1.0**
RND Reindeer 4.25 26 Pn **Pn 02 36 26.4 +0.9**
RND IAML 02 37 15.3
comp=N,44nm,0.6s
PS12 TAPS Pump St12 4.30 62 **Pn 02 36 27.3 +1.2**
BMRM Bremner River 4.40 69 **Pn 02 36 28.5 +1.1**
BMRM Bremner River 4.40 69 IAML 02 37 18.8
comp=E,71nm,0.3s
BMRM IAML 02 37 20.1
comp=N,81nm,0.5s
MCK McKinley 4.52 24 **Pn 02 36 30.2 +1.1**
MCK McKinley 4.52 24 IAML 02 37 23.2
comp=E,36nm,0.5s
BPAW Bear Paw Mtn. 4.55 12 **Pn 02 36 30.5 +1.1**
N25K Chitina, Valde 4.60 61 **Pn 02 36 31.5 +1.4**
N25K Chitina, Valde 4.60 61 IAML 02 37 23.5
comp=E,39nm,0.6s
N25K IAML 02 37 24.4
comp=N,68nm,0.7s
HARP HAARP 4.72 51 **Pn 02 36 33.4 +1.7**
GLB Gilahina Butte 4.90 65 **Pn 02 36 34.7 +0.5**
GLB Gilahina Butte 4.90 65 IAML 02 37 29.0
comp=N,48nm,0.7s
GLB IAML 02 37 30.2
comp=E,31nm,0.8s
KHIT Khitrov Hills 4.98 77 **Pn 02 36 36.0 +0.7**
VRDI Verde Repeater 5.01 68 **Pn 02 36 36.4 +0.6**
VRDI Verde Repeater 5.01 68 IAML 02 37 31.2
comp=N,37nm,0.7s
VRDI IAML 02 37 37.3
comp=E,29nm,0.7s
CRQM Cirque 5.07 73 **Pn 02 36 37.9 +1.4**
CRQM IAML 02 37 38.6
comp=E,57nm,0.7s
TGL Tana Glacier 5.22 74 Pn **Pn 02 36 39.9 +1.5**
TGL IAML 02 37 38.7
comp=E,39nm,0.8s
TGL IAML 02 37 38.9
comp=N,34nm,0.5s
KULT Kultieth River 5.23 79 **Pn 02 36 39.8 +1.1**
MCARA McCarthy VSAT 5.25 67 Pn **Pn 02 36 39.8 +1.1**
NEA2 Nenana 5.28 19 **Pn 02 36 39.4 +0.2**
WRH Wood River Hil 5.35 24 **Pn 02 36 40.5 +0.3**
PTPK Patty Peak 5.46 69 **Pn 02 36 43.5 +1.6**
KIAG Kiagna River 5.47 72 **Pn 02 36 43.0 +1.1**
MLY Manley 5.49 10 **Pn 02 36 42.5 +0.5**
HDA Harding Lake 5.55 29 **Pn 02 36 43.3 +0.4**
CCB Clear Creek Bu 5.57 24 **Pn 02 36 43.3 +0.3**
MESA MESA 5.61 80 Pn **Pn 02 36 45.5 +1.6**
PS08 TAPS Pump Stn8 5.70 28 **Pn 02 36 45.2 +0.4**
YAH Yahtse 5.72 78 **Pn 02 36 46.7 +1.4**
GRNC Granite Creek 5.74 74 **Pn 02 36 46.9 +1.3**
TCOL CIGO, UAF Yank 5.76 23 **Pn 02 36 45.8 +0.2**
COLA College 5.76 23 **Pn 02 36 46.0 +0.4**
MDM Murphy Dome 5.76 21 **Pn 02 36 46.2 +0.4**
BARN Barnard Glacie 5.83 71 **Pn 02 36 48.5 +1.7**
DOT Dot Lake 5.85 43 **Pn 02 36 48.6 +1.6**
IL31 5.88 27 **Pn 02 36 47.5 +0.3**
ILAR Eielson Array 5.88 27 P **Pn 02 36 47.1 -0.1**
comp=N,2.7nm,0.3s,baz=219,slow=13,SNR=113
ILAR S **Sn 02 37 48.4 -4.8**
comp=N,2.6nm,0.3s,baz=209,slow=22,SNR=4.2
ILAR Eielson Array 5.88 27 Pn **Pn 02 36 46.9 -0.3**
RKAV Rock Avalanche 5.92 79 **Pn 02 36 49.4 +1.4**
CTGM Chitina Glacie 5.97 72 **Pn 02 36 50.1 +1.4**
H21K Melozitna Rive 6.01 1 **Pn 02 36 50.0 +0.9**
TABL Table Mountain 6.02 78 **Pn 02 36 51.7 +2.3**

BCAR	Beaver Creek A	6.40	53	Pn		Pn	02 36 56.1 +1.8
PCA	Pinnacle	6.46	81			Pn	02 36 56.3 +1.1
YUK3	Moose Creek	6.53	66			Pn	02 36 57.3 +1.0
H24K	Noodor Dome	6.63	19			Pn	02 36 58.0 +0.6
BCPM	Bancas Point	6.78	82	Pn		Pn	02 37 02.1 +2.7
K27K	Chicken	6.79	45			Pn	02 37 00.4 +0.9
PRP	Porcupine Dome	6.82	27			Pn	02 37 00.6 +0.6
PNL	Peninsula	6.92	84			Pn	02 37 02.2 +0.8
YUK6	Outpost Mounta	7.41	74			Pn	02 37 09.1 +0.9
EGAK	Eagle	7.55	42	Pn		Pn	02 37 10.2 +0.4
COLD	Coldfoot	7.69	8	Pn		Pn	02 37 12.4 +0.7
FYU	Fort Yukon	7.77	24	Pn		Pn	02 37 13.4 +0.6
DAWY	Dawson	7.81	50			Pn	02 37 14.9 +1.4
HYT	Haines Junctio	7.83	75			Pn	02 37 15.2 +1.5
PLBC	Pleasant Camp	8.48	84			Pn	02 37 23.9 +1.5
BMAR	Burnt Mountain	8.65	22	Pn		Pn	02 37 25.3 +0.6
WHY	Whitehorse	9.11	76	Pn		Pn	02 37 32.1 +1.0
TOLK	Toolik Lake Re	9.13	8			Pn	02 37 31.8 +0.5
MSW	Makushin Switc	9.47	238			Pn	02 37 35.7 -0.2
MAPS	Pakushin South	9.62	238			Pn	02 37 37.8 0.0
JIS	Juneau Island	9.74	90	Pn		Pn	02 37 41.6 +2.2
TXAR	Lajitas Array	44.90	110	P		P	02 43 34.8 +9.4
	comp=N,0.2nm,0.6s,baz=331,slow=7.3,SNR=2.0						
SONM	Songino Array	54.96	306	P		P	02 44 42.1 +0.9
	comp=N,0.6nm,0.6s,baz=37,slow=8.7,SNR=3.9						
MKAR	Makanchi Array	64.67	321	P		P	02 45 45.9 -1.6
	comp=N,0.2nm,0.5s,baz=28,slow=7.4,SNR=2.4						

IDC ***07*** *03:09:27.2±0.8,28°.41S×71°.13W,h0km,mb4.1/7, mb1 4.2/10,mb1mx4.0/30,mbtmp4.1/10,ML4.0/3,MS3.2/7, Ms1 3.3/7,ms1mx3.1/23,Error ellipse: s-maj=28.4km s-min=23.3km az=24.0*

SJA ***07*** *03:09:28.9±0.8,28°.18S×71°.59W,h53km±6km,ML4.6, MW4.4*

GUC ***07*** *03:09:30.1±0.5,28°.31S×71°.41W,h40km±2km,ML4.7, MW4.5*

NEIC ***07*** *03:09:31.6±2.3,28°.25S±0°.05×71°.34W±0°.05,h28km±5km, mb4.5/15,ML4.6(GUC),Error ellipse: s-maj=7.8km s-min=5.2km az=148.0*

VAO ***07*** *03:09:34.8±2.2,28°.16S×71°.06W,h39km±10km,mb4.2*

ISC 07 03:09:27.7±1.5,28°25S±0°.04×71°61W±0°.05,h8km±9km, n129,σ1$73/139,mb4.5/13,6C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.47	85	*i* P	Pg	03 09 38.0	+1.2
AC04				*i* S	Sg	03 09 42.6	-0.3
AC04	Llanos de Chal	0.47	85		Pg	03 09 38.3	+1.5
LCO	Las Campanas	1.10	134⇑	*i*P	Pb	03 09 47.6	-1.5
LCO	Las Campanas	1.10	134		Pb	03 09 47.6	-1.5
GO03	Copiap	1.38	62⇓	*i*P	Pn	03 09 52.5	-0.8
GO03				*i* S	Sn	03 10 09.0	-2.8
GO03				IAML		03 10 11.4	
	comp=E,24μm,0.2s						
GO03	Copiap	1.38	62		Pn	03 09 52.7	-0.5
GO03	Copiap	1.38	62	*e*P	Pn	03 09 52.8	-0.5
GO03				*e*S	Sn	03 10 09.9	-1.9
CO05	La Serena	1.69	169⇓	*i*P	Pn	03 09 58.5	+0.9
CO05				*i* S	Sn	03 10 20.2	+0.7
CO05				IAML		03 10 24.6	
	comp=E,8μm,0.4s						
GO04	Tololo Observa	2.04	160⇓	*i*P	Pn	03 10 03.1	+0.5
GO04				*i* S	Sn	03 10 28.9	+0.4
GO04				IAML		03 10 37.4	
	comp=N,16μm,0.5s						
GO04	Tololo Observa	2.04	160		Pn	03 10 03.2	+0.6
GO04	Tololo Observa	2.04	160	*e*P	Pn	03 10 03.6	+1.0
AC01	Pan de Azucar	2.28	23⇑	*i*P	Pn	03 10 06.3	+0.6
AC01	Pan de Azucar	2.28	23	Pn	Pn	03 10 06.2	+0.6
AC02	Maricunga	2.61	58⇑	*i*P	Pn	03 10 11.9	+1.2
AC02				*i* S	Sn	03 10 44.0	+1.2
AC02				IAML		03 10 46.6	
	comp=E,5μm,0.3s						
AC02	Maricunga	2.61	58		Pn	03 10 11.4	+0.8
AROD	Rodeo	2.67	136	*e*P	Pn	03 10 13.6	+2.3
AROD				*e*S	Sn	03 10 44.9	+0.8
CO03	El Pedregal	2.70	163⇑	*i*P	Pn	03 10 12.3	+0.8
CO03				*i* S	Sn	03 10 46.0	+1.5
CO03				IAML		03 10 57.6	
	comp=E,2μm,0.7s						
CO03	El Pedregal	2.70	163		Pn	03 10 12.6	+1.0
ACDV	Cuesta del Vie	2.90	132	*e*P	Pn	03 10 17.0	+2.7
ACDV				IAML		03 11 02.9	
	comp=Z,768nm,0.6s						
CO02	Combarbal	2.99	170	*i* P	Pn	03 10 15.9	+0.3
CO02				*i* S	Sn	03 10 54.3	+2.6
CO02	Combarbal	2.99	170	Pn	Pn	03 10 18.5	+2.9
AGUA	GUANDACOL	3.00	115	*e*P	Pn	03 10 18.0	+2.4
AGUA				IAML		03 11 05.2	
	comp=Z,1μm,0.4s						
VCA	Vinchina	3.03	100⇑	*i*P	Pn	03 10 18.5	+2.4
VCA	Vinchina	3.03	100	*e*P	Pn	03 10 18.6	+2.5
VCA				*e*S	Sb	03 11 01.2	+1.9
VCA				IAML		03 11 09.2	
	comp=Z,1μm,0.5s						
ACCO	Cerro Coronel	3.22	137	*e*P	Pn	03 10 21.2	+2.4
ACCO				IAML		03 11 08.9	
	comp=Z,1μm,0.6s						
GO02	Mina Guanaco	3.56	31⇑	*i*P	Pn	03 10 24.3	+0.7
GO02				*e*S	Sb	03 11 11.3	-3.4
GO02				IAML		03 11 28.3	
	comp=N,2μm,0.4s						
GO02	Mina Guanaco	3.56	31	Pn	Pn	03 10 24.4	+0.7
PB14	IPOC Station P	3.77	17	*i* P	Pn	03 10 26.4	0.0
PB14				IAML		03 11 34.4	
	comp=E,461nm,0.5s						
PB14	IPOC Station P	3.77	17	Pn	Pn	03 10 26.0	-0.4
RTLS	Leoncito	4.07	151	*e*P	Pn	03 10 33.8	+3.3
RTLS				IAML		03 11 36.5	
	comp=Z,774nm,0.6s						
RTLL	Cerro Villicun	4.10	139	*e*P	Pn	03 10 32.8	+2.0
RTLL				*e*S	Sn	03 11 18.8	-0.2
RTLL				IAML		03 11 34.5	
	comp=Z,490nm,0.6s						
AANI	Anillaco	4.14	99	*e*P	Pn	03 10 25.7	-5.7
ACLC	CERRO LA CRUZ	4.25	107	*e*P	Pn	03 10 33.4	+0.5
ACLC				*e*S	Sn	03 11 22.4	-0.4
ACLC				IAML		03 11 29.9	
	comp=Z,617nm,0.3s						
AVFE	Valle Fertil	4.34	125	*e*P	Pn	03 10 35.0	+0.9
AVFE				*e*S	Sn	03 11 25.2	+0.1
AVFE				IAML		03 11 31.1	
	comp=Z,460nm,1.3s						
AUSP	Uspallata	4.40	155	*e*P	Pn	03 10 38.4	+3.3
AUSP				*e*S	Sn	03 11 29.9	+3.1
RTCV	Cerro Valdivia	4.47	144	*e*P	Pn	03 10 38.2	+2.3
VA03	San Esteban	4.59	169		Pn	03 10 38.5	+1.0
VA03	San Esteban	4.59	169	*e*P	Pn	03 10 39.0	+1.4
VA03				IAML		03 11 52.7	
	comp=Z,502nm,0.7s						
ROCH	El Roble	4.74	174	*e*P	Pn	03 10 40.0	+0.4
ROC1	El Roble	4.74	174	*e*P	Pn	03 10 41.0	+1.3
VA01	Torpederas	4.76	180	Pn	Pn	03 10 41.1	+1.4
MT02	Curacav	5.01	176		Pn	03 10 43.4	+0.2
CYA	Choya	5.12	94	*e*P	Pn	03 10 45.4	+0.7
CYA				*e*S	Sn	03 11 42.1	-2.0
CYA				IAML		03 11 47.6	
	comp=Z,280nm,0.6s						
ARCO	CERRO ARCO	5.12	154	*e*P	Pn	03 10 48.2	+3.2
ARCO				IAML		03 12 12.3	
	comp=Z,327nm,1.2s						
ACHE	Chepes	5.19	125	*e*P	Pn	03 10 46.2	+0.4
MT03	Universidad Ad	5.31	170		Pn	03 10 47.5	+0.1
MT03	Universidad Ad	5.31	170	*e*P	Pn	03 10 49.5	+2.0
MT03				IAML		03 12 23.8	
	comp=Z,293nm,0.6s						
PB15	IPOC Station P	5.38	21		Pn	03 10 48.1	-0.3
PB15	IPOC Station P	5.38	21	*e*P	Pn	03 10 49.2	+0.8
PB15				IAML		03 12 19.8	
	comp=Z,934nm,0.4s						
AAGR	Agrelo	5.38	154	*e*P	Pn	03 10 52.7	+4.3
AAGR				*e*P	Pn	03 10 52.8	+4.3
AAGR				IAML		03 12 26.8	
	comp=Z,268nm,1.7s						
VA05	Santo Domingo	5.39	180	Pn	Pn	03 10 47.6	-0.8
FSA	Cafayete	5.44	68	*e*P	Pn	03 10 53.0	+3.6
PB05	IPOC Station P	5.52	14	*e*P	Pn	03 10 50.0	-0.4
PB05				IAML		03 12 39.1	
	comp=Z,237nm,0.6s						
MT09	Talagante	5.54	175		Pn	03 10 50.9	+0.3
ACAN	Cantantal	5.54	137	*e*P	Pn	03 10 52.0	+1.5
ACAN				*e*S	Sn	03 11 52.9	-1.6
ACAN				IAML		03 12 22.8	
	comp=Z,120nm,0.5s						
PB06	IPOC Station P	5.82	19	*e*P	Pn	03 10 54.2	-0.3
PB06				IAML		03 12 38.1	
	comp=Z,268nm,0.4s						
PB04	IPOC Station P	6.04	13	*e*P	Pn	03 10 57.1	-0.3
PB04				IAML		03 12 50.4	
	comp=Z,308nm,0.7s						
LVC	Limon Verde	6.12	24	Pn	Pn	03 10 59.4	+0.5
	comp=Z,4.0nm,0.3s,baz=169,slow=6.4,SNR=49						
LVC				Sn	Sn	03 12 07.1	-2.1
	comp=Z,10nm,0.3s,baz=202,slow=17,SNR=1.9						
LVC				Lg	Lg	03 12 25.6	
	comp=Z,19nm,0.3s,baz=316,slow=14,SNR=9.4						
LVC				LR	LR	03 13 26.8	
	comp=Z,358nm,21.1s,baz=208,slow=39						
LVC	Limon Verde	6.12	24	Pn	Pn	03 10 58.3	-0.5
LVC	Limon Verde	6.12	24	*e*P	Pn	03 10 58.7	-0.1
BO02	Sierra Bellavi	6.56	174	*e*P	Pn	03 11 05.6	+1.0
BO02				IAML		03 12 53.9	
	comp=Z,108nm,1.0s						
MRA	San Martin	6.57	131	*e*P	Pn	03 11 05.3	+0.6
MRA				IAML		03 12 45.9	
	comp=Z,111nm,0.6s						
GO05	Huala	6.75	182	*e*P	Pn	03 11 06.0	-1.1
RFA	San Rafael	7.03	158	*e*P	Pn	03 11 12.4	+1.3
RFA				IAML		03 13 16.1	
	comp=Z,80nm,0.8s						
COIS	El Sosneado	7.05	166	*e*P	Pn	03 11 14.9	+3.6
H03N1	Juan Fernandez	8.14	229	Pn	Pn	03 11 27.2	+1.3
H03N1				Sn	Sn	03 12 54.7	-3.3
H03N1				T	T	03 20 10.4	
	baz=56,slow=72,SNR=1987						
H03N2	Juan Fernandez	8.15	229	Pn	Pn	03 11 27.2	+1.1
H03N2				Sn	Sn	03 12 54.7	-3.6
H03N2				T	T	03 20 08.3	
	baz=56,slow=72,SNR=2135						
H03N3	Juan Fernandez	8.15	229	Pn	Pn	03 11 27.0	+0.8
H03N3				Sn	Sn	03 12 54.4	-4.0
H03N3				T	T	03 19 57.6	
	baz=56,slow=72,SNR=2098						
H03S3	Juan Fernandez	8.38	227	Pn	Pn	03 11 29.3	+0.1
H03S3				Sn	Sn	03 12 54.9	-8.9
H03S1	Juan Fernandez	8.38	226	Pn	Pn	03 11 29.1	-0.2
H03S1				Sn	Sn	03 12 54.7	-9.4
H03S2	Juan Fernandez	8.39	227	Pn	Pn	03 11 29.3	-0.1
H03S2				Sn	Sn	03 12 57.4	-6.8
MNMC	Minye Minye	9.26	12	Pn	Pn	03 11 42.0	+0.2
LPAZ	La Paz	12.33	16	Pn	Pn	03 12 23.6	-0.6
	comp=Z,0.3nm,0.3s,baz=215,slow=7.2,SNR=9.2						
LPAZ				LR	LR	03 17 38.0	
	comp=Z,116nm,20.1s,baz=163,slow=40						
LPAZ	La Paz	12.33	16	Pn	Pn	03 12 23.4	-0.9
LPAZ	La Paz	12.33	16	*e*P	Pn	03 12 23.1	-1.1
PLCA	Paso Flores	12.48	176	LR	LR	03 17 44.2	
	comp=Z,187nm,20.2s,baz=355,slow=40						
CPUP	Villa Florida	12.84	85	Pn	Pn	03 12 25.1	-5.4
	comp=Z,0.2nm,0.3s,baz=274,slow=13,SNR=1.7						
CPUP				Lg	Lg	03 16 02.5	
	comp=Z,0.3nm,0.3s,baz=162,slow=18,SNR=2.4						
CPUP				LR	LR	03 16 58.5	
	comp=Z,74nm,21.4s,baz=262,slow=36						
ITQB	Itaqui	13.20	100	Pn	Pn	03 12 34.4	-1.0
ITQB	Itaqui	13.20	100	*e*P	Pn	03 12 33.6	-1.8
SIV	San Ignacio	15.61	41	Pn	Pn	03 13 02.2	-6.0
	comp=Z,0.6nm,0.3s,baz=240,slow=11,SNR=12						
SIV				LR	LR	03 20 10.4	
	comp=Z,123nm,19.0s,baz=267,slow=42						
CPSB	Cacapava Do Su	15.99	102	*e*P	Pn	03 13 10.7	-2.4
AQDB	Aquidauana	16.42	65	*e*P	Pn	03 13 16.9	-1.6
PTGB	Pitanga	17.84	83	*e*P	Pn	03 13 36.5	0.0
VILB	Vilhena	18.57	37	*e*P	P	03 13 45.1	-0.1
ETMB	Extrema	19.02	17	*e*P	Pn	03 13 52.2	+1.3
SALV	Santo Antonio	19.17	53	*e*P	P	03 13 51.1	-0.7
PCMB	Pacaembu	19.59	75	*e*P	P	03 13 54.8	-1.5
FRTB	Fartura	20.43	81	*e*P	P	03 14 04.0	-1.6
CZSB	Cruzeiro do Su	20.44	357	*e*P	Pn	03 14 09.8	+2.0
SAML	Samuel	20.77	24	P	P	03 14 09.2	-0.1
ITRB	Ituverava	21.17	71	*e*P	P	03 14 11.8	-1.8
ATAH	Atahualpa	21.96	342	LR	LR	03 21 24.9	
	comp=Z,60nm,21.5s,baz=339,slow=32						
BB19B	Bebedouro	22.14	76	*e*P	P	03 14 21.0	-3.0
ARAG	Araguaiana, MT	22.16	60	*e*P	P	03 14 22.7	-1.5
VAO	Valinhos	22.80	82	*e*P	P	03 14 28.1	-3.1
SNDB	Serra Nova Dou	24.95	54	*e*P	P	03 14 49.0	-2.7
BDFB	Brasilia	25.17	65	P	P	03 14 51.7	-2.2
	comp=Z,2.1nm,0.5s,baz=224,slow=5.4,SNR=6.6						
BDFB	Brasilia	25.17	65	IAmb	IAmb	03 15 07.8	
	comp=Z,7.7nm,1.3s						
NPGB	Novo Progresso	26.10	39	*e*P	P	03 15 01.0	-1.2
PEXB	Peixe	27.05	58	*e*P	P	03 15 09.1	-1.8
ITTB	Itaituba	28.14	35	*e*P	P	03 15 20.8	+0.3
PTGA	Pitinga	29.54	24	LR	LR	03 27 07.9	
	comp=Z,41nm,21.1s,baz=170,slow=36						
RUSC	La Rusia	33.97	357	P	P	03 16 12.7	+0.3
NBPN	Ponto Novo - B	34.13	66	*e*P	P	03 16 11.0	-2.4
VNA3	Neumayer Olymp	54.56	159	P	P	03 18 55.7	-0.3
VNA2	Neumayer--Watz	55.19	159	P	P	03 19 00.2	-0.4
	baz=284,slow=8.4						
SNAA	Sanae	56.79	159	P	P	03 19 11.7	-0.4
TXAR	Lajitas Array	64.95	329	P	P	03 20 11.6	+3.5
	comp=Z,1.0nm,0.8s,baz=150,slow=7.5,SNR=8.7						
WVT	Waverly	65.83	346	P	P	03 20 14.3	+0.7
WVT				IAmb	IAmb	03 20 15.4	
	comp=Z,3.1nm,0.8s						
PBMO	Poplar Bluff	67.06	344	IAmb	IAmb	03 20 24.0	
	comp=Z,4.4nm,0.8s						
HHAR	Hobbs	67.55	341	IAmb	IAmb	03 20 27.8	
	comp=Z,3.5nm,1.0s						
MNTX	Cornudas Mount	67.74	329	P	P	03 20 27.7	+1.9
MNTX				IAmb	IAmb	03 20 29.2	
	comp=Z,1.6nm,0.8s						
CCM	Cathedral Cave	68.48	343	P	P	03 20 31.5	+1.2
MSTX	Muleshoe	68.56	332	IAmb	IAmb	03 20 34.9	
	comp=Z,4.3nm,0.7s						
S39A	Bolivar	68.68	342	IAmb	IAmb	03 20 34.7	
	comp=Z,4.5nm,0.8s						
DBIC	Dimbokro	73.05	73	P	P	03 20 57.8	-1.0
	comp=Z,8.1nm,0.7s,baz=201,slow=6.8,SNR=12						
DBIC	Dimbokro	73.05	73	IAmb	IAmb	03 20 58.4	
	comp=Z,13nm,0.8s						
PDAR	Pinedale Array	78.83	333	P	P	03 21 34.3	+2.9
	comp=Z,0.3nm,0.4s,baz=129,slow=5.2,SNR=2.2						
NVAR	Mina Array Bea	79.41	324	P	P	03 21 38.1	+3.5
	comp=Z,0.3nm,0.6s,baz=126,slow=9.1,SNR=2.4						
ULM	Lac du Bonnet	81.06	345	P	P	03 21 44.5	+1.5
	comp=Z,0.9nm,0.5s,baz=184,slow=3.7,SNR=3.5						
ULM	Lac du Bonnet	81.06	345	IAmb	IAmb	03 21 45.3	
	comp=Z,3.3nm,0.9s						
BOSA	Boshof	82.44	118	P	P	03 21 49.9	-1.2
	comp=Z,4.5nm,0.8s,baz=230,slow=3.7,SNR=9.7						
ASAR	Alice Springs	122.83	208	PKP	PKPdf	03 28 25.0	-0.1
	comp=Z,0.4nm,0.6s,baz=128,slow=1.7,SNR=6.5						
WRA	Warramunga Arr	125.92	211	PKP	PKiKP	03 28 31.5	0.0
	baz=158,slow=1.7						
SEY	Seymchan	135.16	333	PKP	PKiKP	03 28 48.7	+0.1
	comp=Z,1.0nm,0.7s,baz=71,slow=8.4,SNR=3.9						
ZALV	Zalesovo Beam	149.06	27	PKPbc	PKiKP	03 29 17.2	-0.2
	comp=Z,7.3nm,0.7s,baz=304,slow=3.5,SNR=18						
MKAR	Makanchi Array	152.43	41	PKP	PKPdf	03 29 17.6	+0.2
	comp=Z,0.4nm,0.8s,baz=348,slow=3.5,SNR=3.1						
MKAR				PKPbc	PKPbc	03 29 24.5	+0.1
	comp=Z,2.4nm,0.7s,baz=327,slow=1.8,SNR=22						
MKAR				PKPab	PKPab	03 29 33.9	-0.6
	comp=Z,1.3nm,0.6s,baz=322,slow=1.7,SNR=7.8						
KLR	Kul'dur	152.44	326	PKPbc	PKiKP	03 29 25.2	+0.7
	comp=Z,0.8nm,0.3s,baz=14,slow=4.2,SNR=3.0						
WMQ	Urumqi	157.25	41	*e*P	PKPdf	03 29 24.1	-0.2

IDC ***07*** *03:13:15.8±3.3,32°.69N×140°.29E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/46,mbtmp3.5/4,ML2.7/1,MS2.7/1, Ms1 2.7/1,ms1mx2.3/30,Error ellipse: s-maj=78.4km s-min=42.8km az=14.0*

JMA ***07*** *03:13:34.0±0.1,33°.98N×140°.16E,h88km±1km,M3.2*

ISC 07 03:13:33.6±0.9,33°96N±0°.04×140°17E±0°.05,h94km±7km, n23,σ0$81/33,mb3.4/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	Mikurajimanish	0.48	262	P	Pn	03 13 48.4	-0.2
JMKN				S	Sn	03 13 59.6	-0.2
JNIO	Niijimaoohara	0.84	298	P	Pn	03 13 51.9	+0.1
JNIO				*e*S	Sn	03 14 05.7	+0.2
BSO3	Boso 3	0.89	19	P	Pn	03 13 52.6	+0.6
BSO3				*e*X	Sn	03 14 06.1	+0.2
JKO	Kozu shima	0.89	285	P	Pn	03 13 52.0	-0.3
JKO				*e*S	Sn	03 14 05.8	-0.5
JHJ2	Mitsune	0.90	199	P	Pn	03 13 52.8	+0.3
JHJ2				*e*S	Sn	03 14 06.9	+0.4
JTHY	Toshimahigashi	0.92	308	P	Pn	03 13 52.9	+0.2
JTHY				*e*S	Sn	03 14 07.5	+0.5
BSO1	Boso 1	0.96	44	P	Pn	03 13 53.1	+0.5
BSO1				*e*S	Sn	03 14 07.8	+0.9
JIM2	Oshima 3	0.97	321	P	Pn	03 13 53.2	-0.1
JIM2				*e*S	Sn	03 14 07.9	-0.1
JIZS	Izushimoda	1.31	306	P	Pn	03 13 57.5	+0.3
JAOM	Aogashimamukai	1.53	193	P	Pn	03 14 00.7	+0.7
JAOM				*e*S	Sn	03 14 21.0	+1.1
JOD2	Odawara 2	1.58	326	P	Pn	03 14 00.8	+0.3
JOD2				*e*S	Sn	03 14 20.6	-0.3
JFNN	Fujinakano	1.74	316	P	Pn	03 14 03.3	+0.8
JFNN				*e*S	Sn	03 14 25.0	+0.5
TK04	Tokai 4	1.95	283	P	Pn	03 14 06.0	+0.8
TK04				*e*S	Sn	03 14 30.5	+1.3
SHZ3	Shizuoka 3	1.96	305	P	Pn	03 14 06.6	+1.1
SHZ3				*e*S	Sn	03 14 30.3	+0.6
MJAR	Matsushiro Arr	3.03	329	Pn	Pn	03 14 20.6	+1.0
	0.4nm,0.3s,baz=158,slow=11,SNR=24						
MAT	Matsushiro	3.04	329	P	Pn	03 14 20.6	+0.9
MAT				*e*S	Sn	03 14 55.5	+0.3
PETK	Petropavlovsk-	22.86	28	LR	LR	03 30 47.0	
	comp=Z,17nm,18.3s,baz=273,slow=44						
H11N2	WAKE ISLAND Hy	27.64	114	T	T	03 48 14.1	
	baz=306,slow=75,SNR=7.9						
H11N1	WAKE ISLAND Hy	27.64	114	T	T	03 48 11.8	
	baz=306,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	27.66	114	T	T	03 48 16.3	
	baz=306,slow=75,SNR=11						
MKAR	Makanchi Array	44.95	305	P	P	03 21 39.0	-0.2
	0.2nm,0.4s,baz=93,slow=9.2,SNR=2.9						
ILAR	Eielson Array	52.64	31	P	P	03 22 39.0	+1.2
	0.3nm,0.8s,baz=264,slow=6.8,SNR=4.2						
TXAR	Lajitas Array	92.81	52	P	P	03 26 33.6	-2.5
	0.4nm,0.9s,baz=250,slow=2.6,SNR=3.0						

IDC ***07*** *03:17:32.7±1.0,7°.13S×154°.85E,h0km,mb4.1/7, mb1 4.3/7,mb1mx3.9/37,mbtmp4.1/7,MS3.3/3,Ms1 3.3/3, ms1mx2.8/33,Error ellipse: s-maj=48.8km s-min=21.7km az=126.0*

NEIC ***07*** *03:17:35.1±1.2,6°.8S±0°.1×154°.4E±0°.1,h10km±1km, mb4.6/20,Error ellipse: s-maj=27.4km s-min=3.0km az=219.0*

ISC 07 03:17:39.2±0.7,6°9S±0°.1×154°4E±0°.1,h39km,n31, σ1$31/25,mb4.4/15,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.47	320	Pn	Pn	03 18 29.8	-0.9
HNR	Honiara	6.06	115	LR	LR	03 20 48.8	
	comp=Z,157nm,19.6s,baz=228,slow=35						
HNR	Honiara	6.06	115	Pn	Pn	03 19 06.5	+0.1
PMG	Port Moresby	7.59	250	LR	LR	03 22 19.4	
	comp=Z,184nm,20.4s,baz=22,slow=36						
AS31	Alice Springs	25.81	227	P	P	03 23 05.2	-1.8
ASAR	Alice Springs	25.81	227	P	P	03 23 06.4	-0.6
	1.0nm,0.7s,baz=57,slow=9.5,SNR=12						
STKA	Stephens Creek	27.59	204	P	P	03 23 22.4	-0.5
	3.4nm,0.7s,baz=34,slow=16,SNR=5.1						
STKA				LR	LR	03 33 11.9	
	comp=Z,122nm,20.7s,baz=20,slow=34						
STKA	Stephens Creek	27.59	204	IAmb	IAmb	03 23 27.3	
	comp=Z,1.3nm,0.9s						
FITZ	Fitzroy Crossi	30.15	246	P	P	03 23 47.2	+1.4
	comp=Z,2.6nm,0.8s,baz=49,slow=9.3,SNR=1.8						
CHTO	Chiang Mai	60.31	296	P	P	03 27 43.8	-0.8
CHTO				IAmb	IAmb	03 28 06.7	
	comp=Z,6.4nm,1.4s						
ULN	Ulaanbaatar	68.58	328	P	P	03 28 40.2	+1.9
SONM	Songino Array	68.91	328	P	P	03 28 43.9	+3.6
	comp=Z,0.5nm,0.4s,baz=131,slow=6.1,SNR=1.9						
SONM	Songino Array	68.91	328	P	P	03 28 39.1	-1.2
BILL	Bilibino	75.21	5	P	P	03 29 18.4	+1.0
BILL				IAmb	IAmb	03 29 28.7	
	comp=Z,5.0nm,1.0s						
TRF	Thorofare Moun	81.51	22	P	P	03 29 53.0	+0.5
IMAR	Indian Mountai	81.81	19	P	P	03 29 53.3	-0.6
RND	Reindeer	82.02	22	P	P	03 29 54.7	-0.5
MLY	Manley	82.25	21	P	P	03 29 56.3	0

0.3nm,0.2s,SNR=7.9
ETOB S **Sn** 03 25 52.5 -1.4
0.1nm,0.1s,SNR=7.9
EIBI **Ibiza** 3.74 19 P **Pn** 03 25 20.8 +0.4
1.1nm,0.2s,SNR=7.9
EIBI S **Sn** 03 26 02.4 -1.7
2.5nm,0.4s,SNR=7.9
EJIF **Jimena Fronter** 4.37 284 S **Sn** 03 26 16.8 -2.7
SNR=7.9

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*IDC **07** 03:33:00.9±2.8,20.57S×177.48W,h499km±23km,mb3.1/4, mb1 3.4/6,mb1mx3.1/21,mbtmp4.0/6,Error ellipse: s-maj=56.5km s-min=21.7km az=150.0*
ISC 07 03:33:01.2±1.3,20.3S±0.3×177.4W±0.2,h500km,n9, σ1.9/78/11,mb3.5/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.01**	**300**	P		**P**		**03 34 29.2**	**+0.7**
	2.4nm,0.3s,baz=272,slow=24,SNR=5.3								
AFI	**Afiamalu**	**8.35**	**41**	P		**P**		**03 35 02.2**	**+0.7**
	4.8nm,0.3s,baz=37,slow=20,SNR=2.1								
AFI				S		**S**		**03 36 37.2**	**-2.8**
	5.6nm,0.3s,baz=296,slow=22,SNR=2.1								
ASAR	**Alice Springs**	**45.09**	**256**	P		**P**		**03 40 31.0**	**-1.5**
	6.0nm,0.8s,baz=96,slow=7.8,SNR=75								
ASAR				PcP		**PcP**		**03 42 02.5**	**-0.2**
	0.4nm,0.5s,baz=103,slow=4.6,SNR=4.5								
MJAR	**Matsushiro Arr**	**70.40**	**323**	P		**P**		**03 43 25.2**	**+0.6**
	1.0nm,0.5s,baz=163,slow=5.5,SNR=6.1								
TXAR	**Lajitas Array**	**86.50**	**57**	P		**P**		**03 44 53.0**	**+2.0**
	0.3nm,0.7s,baz=215,slow=7.6,SNR=3.2								
ILAR	**Eielson Array**	**88.03**	**13**	P		**P**		**03 44 58.6**	**+1.4**
	0.3nm,0.6s,baz=225,slow=6.4,SNR=5.3								
AKASG	**Malin Array Be**	**143.13**	**332**	PKP		**PKPdf**		**03 51 35.4**	**-2.3**
	1.0nm,0.4s,baz=44,slow=4.6,SNR=8.0								
BRTR	**Keskin Array B**	**147.13**	**313**	PKPbc		**PKPbc**		**03 51 48.3**	**+0.1**
	0.5nm,0.6s,baz=142,slow=4.2,SNR=2.2								
GERES	**GERESS Array B**	**150.18**	**345**	PKPbc		**PKPbc**		**03 51 53.8**	**-1.6**
	0.4nm,0.6s,baz=86,slow=4.1,SNR=4.2								

IDC 07 04:19:08.3±1.3,55.55S×27.80W,h0km,mb3.5/1, mb1 3.8/1,mb1mx3.5/15,mbtmp3.5/1,Error ellipse: s-maj=105.0km s-min=49.1km az=92.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.06**	**183**	P		P		04 27 40.8	-0.1
	0.5nm,0.6s,baz=193,slow=7.1,SNR=2.4								
FINES	**FINESS Array B**	**124.10**	**28**	PKP		PKPdf		04 38 06.8	-0.3
	1.1nm,0.7s,baz=235,slow=6.7,SNR=5.1								
ILAR	**Eielson Array**	**149.52**	**312**	PKPbc		PKPbc		04 38 57.5	-0.5
	0.6nm,0.8s,baz=87,slow=1.4,SNR=6.4								
SONM	**Songino Array**	**151.04**	**86**	PKPbc		PKPbc		04 39 02.1	-0.2
	1.3nm,0.5s,baz=230,slow=3.4,SNR=6.7								

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*JMA **07** 04:32:28.2±0.1,23.92N×121.73E,h21km±2km,M3.9*
*NIED **07** 04:32:28.2,23.92N×121.73E,h21km,MW3.7,Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr0.62; Mθθ3.02; Mφφ-3.65; Mrθ-1.28; Mθφ-0.68; Mφr0.43; Fault plane solution: M0 3.70000×10^14^ NP1: φs323.00000°,δ77.00000°,λ20.00000°. NP2: φs228.00000°,δ71.00000°,λ166.00000°.*
*ASIES **07** 04:32:29.1,24.00N×121.71E,h29km,MW3.5*
*TAP **07** 04:32:29.2,23.97N×121.70E,h28km,ML4.0,B*
ISC 07 04:32:29.3±0.9,23.94N±0.02×121.73E±0.02,h28km±4km, n152,σ0.9/78/243,27C-36D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.12**	**289**	⇓*i*P		**Pb**		**04 32 34.7**	**+0.2**
	baz=276								
HWA				S		**Sb**		**04 32 38.6**	**+0.5**
	baz=276								
TEYL	**Yanliau Villag**	**0.14**	**241**	⇓P		**Pb**		**04 32 34.8**	**+0.2**
	baz=232								
TEYL				*e*S		**Sb**		**04 32 39.2**	**+0.9**
	baz=232								
TWD	**Chiawan**	**0.19**	**319**	⇑*i*P		**Pb**		**04 32 34.8**	**-0.4**
	baz=325								
TWD				*i* S		**Sb**		**04 32 38.5**	**-0.6**
	baz=325								
ETM	**Tongmen**	**0.22**	**278**	⇓*i*P		**Pb**		**04 32 35.2**	**-0.3**
	baz=270								
ETM				*i* S		**Sb**		**04 32 39.3**	**-0.5**
	baz=270								
NACB	**Ninganchiao**	**0.27**	**332**	⇑P		**Pb**		**04 32 35.5**	**-0.7**
	baz=336								
NACB				S		**Sb**		**04 32 39.8**	**-1.0**
	baz=336								
TEGC	**Jichi Village**	**0.29**	**218**	P		**Pb**		**04 32 36.7**	**+0.3**
	baz=199								
TEGC				*e*S		**Sn**		**04 32 42.8**	**-0.3**
	baz=199								
ESL	**Shilin**	**0.30**	**246**	⇓*i*P		**Pb**		**04 32 36.2**	**-0.4**
	baz=244								
ESL				S		**Sb**		**04 32 41.4**	**-0.1**
	baz=244								
ETLH	**Xiulin Townshi**	**0.35**	**320**	⇓P		**Pb**		**04 32 36.8**	**-0.7**
	baz=322								
ETLH				S		**Sb**		**04 32 42.2**	**-0.8**
	baz=322								
EHP	**Heping Village**	**0.37**	**1**	P		**Pb**		**04 32 37.1**	**-0.5**
	baz=17								
EHP				S		**Sb**		**04 32 43.4**	**0.0**
	baz=17								
EGFH	**Guangfu**	**0.39**	**226**	⇑P		**Pb**		**04 32 37.7**	**-0.1**
	baz=228								
EGFH				*e*S		**Sb**		**04 32 44.6**	**+1.0**
	baz=228								
WHF	**Hehuan Shan**	**0.47**	**296**	⇓*i*P		**Pb**		**04 32 38.7**	**-0.9**
	baz=289								
WHF				S		**Sb**		**04 32 45.5**	**-1.0**
	baz=289								
EWUT	**Wuta**	**0.51**	**5**	⇑P		**Pb**		**04 32 39.3**	**-0.5**
	baz=12								
EWUT				S		**Sb**		**04 32 46.7**	**-0.2**
	baz=12								
OWD	**Renai**	**0.51**	**272**	*e*P		**Pb**		**04 32 39.3**	**-0.6**
	baz=268								
CHGB	**Renai**	**0.52**	**284**	⇓P		**Pb**		**04 32 39.7**	**-0.5**
	baz=275								
CHGB				S		**Sb**		**04 32 47.1**	**-0.5**
	baz=275								
HGSD	**Ruisui**	**0.53**	**213**	⇑P		**Pb**		**04 32 40.4**	**+0.3**
	baz=204								
HGSD				*e*S		**Sn**		**04 32 49.9**	**+0.9**
	baz=204								
EHY	**Hungye**	**0.57**	**221**	⇑*i*P		**Pb**		**04 32 40.0**	**-0.8**
	baz=226								
EHY				S		**Sb**		**04 32 48.4**	**-0.2**
	baz=226								
NNSB	**Datong**	**0.58**	**327**	⇓P		**Pb**		**04 32 40.4**	**-0.7**
	baz=321								
NNSB				S		**Sb**		**04 32 48.2**	**-1.0**
	baz=321								
NNSH	**Datong**	**0.58**	**327**	⇓P		**Pb**		**04 32 40.5**	**-0.7**
	baz=328								
NNSH				S		**Sb**		**04 32 48.3**	**-0.9**
	baz=328								
TWT	**Tachien**	**0.60**	**302**	⇓*i*P		**Pb**		**04 32 41.0**	**-0.4**
	baz=300								
TWT				*i* S		**Sb**		**04 32 49.2**	**-0.4**
	baz=300								
NNS	**Nan Shan**	**0.60**	**327**	⇓*i*P		**Pb**		**04 32 40.6**	**-0.8**
	baz=321								
NNS				S		**Sb**		**04 32 48.7**	**-0.9**
	baz=321								
TDCB	**Techi**	**0.61**	**301**	⇓P		**Pb**		**04 32 41.1**	**-0.6**
	baz=300								
TDCB				S		**Sb**		**04 32 49.0**	**-1.0**
	baz=300								
YULB	**Yu-li**	**0.67**	**216**	⇑P		**Pb**		**04 32 41.5**	**-1.0**
	baz=222								
YULB				S		**Sb**		**04 32 50.8**	**-0.7**
	baz=222								
TWC	**Suao**	**0.68**	**9**	⇑*i*P		**Pb**		**04 32 42.1**	**-0.6**
	baz=10.0								
TWC				S		**Sb**		**04 32 51.4**	**-0.3**
	baz=10.0								
NDT	**Datong Townshi**	**0.69**	**343**	⇑*e*P		**Pb**		**04 32 42.0**	**-0.8**
	baz=339								
NDS	**Dongshan**	**0.69**	**359**	*e*S		**Sb**		**04 32 51.8**	**-0.4**
	baz=8.0								
EYUL	**Yuli**	**0.70**	**213**	*e*P		**Pb**		**04 32 42.6**	**-0.4**
	baz=220								
TWF1	**Yuli**	**0.70**	**214**	⇑*i*P		**Pb**		**04 32 42.1**	**-1.0**
	baz=223								
TWF1				S		**Sb**		**04 32 51.9**	**-0.6**
	baz=223								
WPL	**Puli Township**	**0.71**	**276**	⇓P		**Pb**		**04 32 42.6**	**-0.6**
	baz=274								
ENTT	**Nioudou**	**0.72**	**348**	⇑*i*P		**Pb**		**04 32 42.5**	**-0.8**
	baz=352								
ENTT				*e*S		**Sb**		**04 32 52.2**	**-0.6**
	baz=352								
SSLB	**Suanglung**	**0.73**	**258**	⇓P		**Pb**		**04 32 42.8**	**-0.7**
	baz=261								
SSLB				S		**Sb**		**04 32 51.7**	**-1.4**
	baz=261								
DPDB	**Guoxing**	**0.74**	**278**	⇓P		**Pb**		**04 32 43.2**	**-0.5**
	baz=271								
DPDB				*e*S		**Sb**		**04 32 53.0**	**-0.6**
	baz=271								
WCS	**Beigang Elemen**	**0.76**	**279**	⇓*i*P		**Pb**		**04 32 43.4**	**-0.6**
	baz=277								
SMLT	**Sun Moon Lake**	**0.76**	**266**	⇓*i*P		**Pb**		**04 32 43.6**	**-0.5**
	baz=267								
SMLT				*i* S		**Sb**		**04 32 53.5**	**-0.7**
	baz=267								
TWE	**Neicheng**	**0.78**	**356**	⇑*i*P		**Pb**		**04 32 43.5**	**-0.9**
	baz=1.0								
TWE				S		**Sb**		**04 32 54.1**	**-0.6**
	baz=1.0								
WHP	**Taichung City**	**0.79**	**295**	⇓*e*P		**Pb**		**04 32 43.9**	**-0.7**
	baz=294								
YHNB	**Yeheng**	**0.80**	**336**	⇑P		**Pb**		**04 32 43.9**	**-0.9**
	baz=339								
YHNB				S		**Sb**		**04 32 53.4**	**-1.8**
	baz=339								
TYC	**Yuchr**	**0.80**	**268**	⇓*i*P		**Pb**		**04 32 44.0**	**-0.6**
	baz=265								
TYC				S		**Sb**		**04 32 54.4**	**-0.8**
	baz=265								
ILA	**Ilan**	**0.82**	**1**	*e*P		**Pb**		**04 32 44.3**	**-0.8**
	baz=353								
FULB	**Fuli**	**0.84**	**209**	*e*P		**Pb**		**04 32 44.9**	**-0.4**
	baz=218								
FULB				*e*S		**Sn**		**04 32 57.6**	**+0.9**
	baz=218								
WHYT	**Xinyi Township**	**0.84**	**254**	*e*P		**Pb**		**04 32 45.3**	**-0.1**
	baz=244								
YUS	**Yu-Shan**	**0.84**	**238**	⇓*i*P		**Pb**		**04 32 45.3**	**-0.4**
	baz=234								
YUS				*i* S		**Sb**		**04 32 56.1**	**-0.8**
	baz=234								
NWLT	**Wulai**	**0.86**	**346**	*e*P		**Pb**		**04 32 44.7**	**-1.0**
	baz=350								
NWLT				S		**Sb**		**04 32 55.7**	**-1.3**
	baz=350								
CHKT	**Chengkung**	**0.90**	**202**	*e*P		**Pn**		**04 32 45.0**	**-1.1**
	baz=186								
NTC	**Toucheng**	**0.92**	**6**	⇑*e*P		**Pn**		**04 32 46.0**	**-0.5**
	baz=9.0								
EGS		**0.92**	**11**	P		**Pn**		**04 32 46.6**	**+0.2**
	baz=16								
WJS	**Zhushan**	**0.93**	**263**	P		**Pb**		**04 32 47.2**	**+0.4**
	baz=260								
WJS				*e*S		**Sn**		**04 33 00.3**	**+1.4**
	baz=260								
ALS	**Alishan**	**0.95**	**244**	⇓*i*P		**Pn**		**04 32 47.1**	**0.0**
	baz=240								
ALS				*e*S		**Sb**		**04 32 59.5**	**-0.2**
	baz=240								
WWF	**Wufeng**	**0.95**	**277**	*e*P		**Pb**		**04 32 47.6**	**+0.4**
	baz=275								
WWF				*e*S		**Sn**		**04 33 01.2**	**+1.7**
	baz=275								
ECS	**Chishang**	**0.96**	**209**	*e*P		**Pn**		**04 32 46.1**	**-0.9**
	baz=217								
NSTT	**Nanjuang**	**0.96**	**316**	⇓P		**Pn**		**04 32 47.1**	**+0.1**
	baz=318								
NSTT				S		**Sb**		**04 32 58.9**	**-0.9**
	baz=318								
WNT	**Mingjian**	**0.96**	**267**	⇓P		**Pb**		**04 32 47.5**	**+0.1**
	baz=264								
WNT				*e*S		**Sn**		**04 33 00.2**	**+0.4**
	baz=264								
LIOB	**Emei**	**0.96**	**317**	⇓P		**Pn**		**04 32 47.3**	**+0.2**
	baz=311								
LIOB				*e*S		**Sb**		**04 32 59.6**	**-0.1**
	baz=311								
WNT1	**Nantou City**	**0.96**	**268**	*e*P		**Pb**		**04 32 47.7**	**+0.3**
	baz=254								
WNT1				*e*S		**Sn**		**04 33 00.6**	**+0.7**
	baz=254								
TWQ1	**Liyutan**	**0.97**	**295**	⇓P		**Pb**		**04 32 47.5**	**0.0**
	baz=302								
TWQ1				*e*S		**Sn**		**04 33 00.7**	**+0.7**
	baz=302								
TCU	**Taichung**	**0.99**	**282**	⇓P		**Pb**		**04 32 48.2**	**+0.4**
	baz=281								
TCU				*e*S		**Sn**		**04 33 01.6**	**+1.1**
	baz=281								
NJD	**Zhudong**	**0.99**	**324**	*e*P		**Pb**		**04 32 48.2**	**+0.3**
	baz=326								
NJD				*e*S		**Sn**		**04 33 01.4**	**+1.0**
	baz=326								
ELDTW	**Lidau**	**0.99**	**222**	⇑*i*P		**Pn**		**04 32 46.4**	**-1.1**
	baz=207								
NSY	**Sanyi**	**1.01**	**298**	⇓*i*P		**Pb**		**04 32 48.5**	**+0.4**
	baz=298								
NSY				*e*S		**Sb**		**04 33 01.3**	**+0.2**
	baz=298								
CHN5	**Tsauling**	**1.02**	**251**	⇓*i*P		**Pn**		**04 32 48.4**	**+0.5**
	baz=248								
CHN5				S		**Sb**		**04 33 02.4**	**+0.8**
	baz=248								
TIPB	**Shuangxi**	**1.03**	**5**	⇑*i*P		**Pn**		**04 32 47.9**	**-0.1**
	baz=357								
TIPB				*e*S		**Sb**		**04 33 02.2**	**+0.3**
	baz=357								
EDH	**Donghe**	**1.04**	**202**	*e*P		**Pn**		**04 32 47.1**	**-0.9**
	baz=190								
NHDH	**Xindian Distri**	**1.04**	**350**	P		**Pn**		**04 32 48.1**	**0.0**
	baz=354								
NHDH				S		**Sn**		**04 33 01.4**	**-0.3**
	baz=354								
NMLH	**Miaoli**	**1.05**	**305**	P		**Pb**		**04 32 49.4**	**+0.5**
	baz=305								
NMLH				*e*S		**Sb**		**04 33 03.7**	**+1.5**
	baz=305								
TWA	**Mucha**	**1.05**	**353**	⇑*i*P		**Pn**		**04 32 48.3**	**+0.1**
	baz=346								
TWA				S		**Sn**		**04 33 01.3**	**-0.6**
	baz=346								
TATO	**Taipei**	**1.06**	**348**	⇑P		**Pn**		**04 32 48.3**	**-0.1**
	baz=352								
TATO				S		**Sn**		**04 33 01.2**	**-1.0**
	baz=352								
WDJ	**Dajia District**	**1.08**	**293**	⇓P		**Pb**		**04 32 49.4**	**+0.1**
	baz=291								
NJN	**Zhunan**	**1.08**	**314**	*e*P		**Pb**		**04 32 49.5**	**+0.1**
	baz=315								
NJN				*e*S		**Sb**		**04 33 03.9**	**+0.7**
	baz=315								
WCHH	**Zhanghua**	**1.08**	**278**	⇓P		**Pb**		**04 32 49.5**	**+0.1**
	baz=276								
BACT	**New Taipei Cit**	**1.09**	**346**	*e*P		**Pn**		**04 32 49.2**	**+0.4**
	baz=348								
SBCB	**Hsinchu**	**1.09**	**322**	*e*P		**Pb**		**04 32 49.7**	**+0.1**
	baz=323								
SBCB				*e*S		**Sb**		**04 33 04.2**	**+0.7**
	baz=323								
TWB1	**Santiao Chiao**	**1.09**	**12**	*e*P		**Pn**		**04 32 49.0**	**+0.2**
	baz=18								
TWB1				*e*S		**Sn**		**04 33 03.4**	**+0.4**
	baz=18								
WGK	**Gukeng**	**1.10**	**257**	⇑P		**Pb**		**04 32 49.8**	**+0.1**
	baz=254								
WDLH	**Douliu**	**1.12**	**258**	*e*P		**Pb**		**04 32 50.0**	**-0.1**
	baz=254								
NTY	**Taoyuan**	**1.13**	**340**	*e*P		**Pb**		**04 32 50.4**	**+0.2**
	baz=343								
NTY				*e*S		**Sb**		**04 33 05.4**	**+0.8**
	baz=343								
NWF	**Wu-fen Shan**	**1.13**	**2**	⇑*e*P		**Pn**		**04 32 49.6**	**+0.2**
	baz=353								
NWF				*e*S		**Sb**		**04 33 05.2**	**+0.5**
	baz=353								
WFSB	**Wu-fen Shan**	**1.13**	**2**	⇑P		**Pn**		**04 32 49.8**	**+0.4**
	baz=353								
WFSB				S		**Sb**		**04 33 05.0**	**+0.4**
	baz=353								
NCUH	**Zhongli**	**1.14**	**334**	*e*P		**Pn**		**04 32 49.8**	**+0.3**
	baz=338								
NCUH				*e*S		**Sb**		**04 33 05.7**	**+0.8**
	baz=338								
NCU	**National Centr**	**1.14**	**334**	P		**Pn**		**04 32 50.0**	**+0.5**
	baz=350								
NCU				S		**Sb**		**04 33 05.8**	**+0.8**
	baz=350								
STYH	**Taoyuan**	**1.16**	**229**	⇑P		**Pn**		**04 32 50.1**	**+0.3**
	baz=219								
STYH				S		**Sn**		**04 33 05.0**	**+0.3**
	baz=219								
LONT	**Longtian**	**1.17**	**208**	*e*P		**Pn**		**04 32 48.8**	**-1.0**
	baz=205								
STYT	**Tauyuan**	**1.18**	**229**	*e*P		**Pn**		**04 32 50.5**	**+0.4**
	baz=219								
STYT				S		**Sn**		**04 33 05.1**	**-0.2**
	baz=219								
TPUB	**Ta-pu**	**1.19**	**238**	⇑P		**Pb**		**04 32 51.2**	**-0.2**
	baz=226								
TPUB				S		**Sb**		**04 33 06.6**	**+0.2**
	baz=226								
TWS1	**Kuangyinshan**	**1.19**	**346**	⇓P		**Pn**		**04 32 51.0**	**+0.7**
	baz=2.0								
TWS1				S		**Sb**		**04 33 06.5**	**+0.1**
	baz=2.0								
CHN4	**Tsaushan**	**1.20**	**241**	⇓P		**Pb**		**04 32 51.3**	**-0.1**
	baz=229								
CHN4				S		**Sb**		**04 33 07.9**	**+1.4**
	baz=229								
TNOU	**National Taiwa**	**1.21**	**2**	*e*P		**Pn**		**04 32 50.2**	**-0.3**
	baz=353								
YM01	**YM01**	**1.21**	**353**	*e*P		**Pn**		**04 32 50.5**	**-0.1**
	baz=356								
CHN2	**Minshiung**	**1.22**	**251**	P		**Pb**		**04 32 52.3**	**+0.5**
	baz=248								
JYNG	**Yonagunijimaku**	**1.22**	**65**	P		**Pn**		**04 32 50.6**	**0.0**
JYNG						S		**Sn**	**04 33 06.1**	**-0.1**
WTP	**Ta-pu**	**1.23**	**236**	⇑*e*P		**Pn**		**04 32 51.8**	**-0.3**
	baz=233								
WTP				*e*S		**Sb**		**04 33 08.3**	**+0.7**
	baz=233								
YM08	**YM08**	**1.25**	**354**	*e*P		**Pn**		**04 32 50.8**	**-0.2**
	baz=342								
WTK	**Tuku**	**1.25**	**259**	*e*P		**Pb**		**04 32 52.6**	**+0.3**
	baz=256								
ANP	**Anpu**	**1.26**	**351**	*e*P		**Pn**		**04 32 50.9**	**-0.3**
	baz=354								
TWG	**Pinlang**	**1.27**	**209**	⇑*e*P		**Pn**		**04 32 49.7**	**-1.5**
	baz=205								
TWG				*e*S		**Sn**		**04 33 05.2**	**-2.1**
	baz=205								
TWGBT	**Beinan**	**1.27**	**208**	⇑P		**Pn**		**04 32 49.7**	**-1.5**
	baz=205								
TWGBT				*e*S		**Sn**		**04 33 05.2**	**-2.0**
	baz=205								
CHY	**Chiayi**	**1.27**	**250**	*e*P		**Pb**		**04 32 52.9**	**+0.2**
	baz=247								
CHY				*e*S		**Sb**		**04 33 10.2**	**+1.5**
	baz=247								
LDUT	**Ludao**	**1.28**	**191**	*e*P		**Pn**		**04 32 49.6**	**-1.8**
	baz=190								
YOJ	**Yonaguni jima**	**1.28**	**66**	P		**Pn**		**04 32 51.4**	**0.0**
YOJ						eS		**Sn**	**04 33 08.3**	**+0.7**
YOJ	**Yonaguni jima**	**1.28**	**66**	⇓P		**Pn**		**04 32 51.4**	**0.0**
	baz=65								
YOJ				*e*S		**Sn**		**04 33 08.5**	**+0.9**
	baz=65								
TWK	**Hsinying**	**1.32**	**240**	*e*P		**Pb**		**04 32 53.2**	**-0.4**
	baz=237								
TWK				S		**Sb**		**04 33 11.0**	**+0.9**
	baz=237								
WTCT	**Ta-ch'eng**	**1.33**	**267**	*e*P		**Pn**		**04 32 52.5**	**+0.5**
	baz=265								
CHN1	**Nanshi**	**1.33**	**236**	*e*P		**Pn**		**04 32 53.1**	**+1.0**
	baz=233								
CHN1				*e*S		**Sb**		**04 33 10.8**	**+0.3**
	baz=233								
SNST	**Tainan City**	**1.34**	**238**	*e*P		**Pn**		**04 32 52.9**	**+0.7**
	baz=235								
TWY	**Chenhua**	**1.34**	**355**	*e*P		**Pn**		**04 32 53.0**	**+0.8**
	baz=344								
SGST	**Jiashian**	**1.35**	**231**	*e*P		**Pn**		**04 32 53.1**	**+0.7**
	baz=228								
SGST				*e*S		**Sb**		**04 33 11.2**	**+0.2**
	baz=228								
SLGT	**Liugui**	**1.37**	**227**	*e*P		**Pb**		**04 32 54.0**	**-0.3**
	baz=214								
WSF	**Szhu**	**1.41**	**258**	⇑P		**Pb**		**04 32 54.7**	**-0.4**
	baz=256								
WSF				S		**Sb**		**04 33 13.9**	**+1.2**
	baz=256								
ICHU	**Yijhu**	**1.45**	**247**	*e*P		**Pb**		**04 32 55.0**	**-0.6**
	baz=244								
CHN8	**Yiju**	**1.51**	**247**	*e*P		**Pn**		**04 32 55.5**	**+0.9**
	baz=245								
CHN8				*e*S		**Sb**		**04 33 14.9**	**-0.6**
	baz=245								
ECL	**Taimali**	**1.51**	**208**	*e*P		**Pn**		**04 32 53.4**	**-1.2**
	baz=196								
SCST	**Cishan**	**1.54**	**228**	*e*P		**Pb**		**04 32 57.4**	**+0.1**
	baz=238								
SSD	**Sandimen**	**1.56**	**221**	*e*P		**Pn**		**04 32 55.9**	**+0.7**
	baz=217								
TSMG	**Majia**	**1.58**	**219**	*e*P		**Pb**		**04 32 57.3**	**-0.6**
	baz=216								
TWM1	**Shoushan**	**1.64**	**228**	*e*P		**Pb**		**04 32 59.4**	**+0.5**
	baz=237								
MASBT	**Mashibuluo**	**1.66**	**218**	*e*P		**Pn**		**04 32 56.9**	**+0.3**
	baz=216								
MASBT				*e*S		**Sn**		**04 33 18.7**	**+1.6**
	baz=216								
PCYT	**Pengchaiyu**	**1.71**	**10**	*e*P		**Pn**		**04 32 57.8**	**+0.4**
	baz=14								
SNJT	**Kaohsiung City**	**1.74**	**228**	*e*P		**Pb**		**04 32 59.7**	**-0.9**
	baz=225								
EAST	**Anshuo**	**1.75**	**208**	*e*P		**Pn**		**04 32 57.0**	**-0.8**
	baz=197								
SSPT	**Xinbi**	**1.80**	**217**	*e*P		**Pn**		**04 33 00.4**	**+1.8**
	baz=214								
SCZT	**Fangliau**	**1.86**	**214**	*e*P		**Pn**		**04 33 00.3**	**+0.9**
	baz=211								
IRIF	**Iriomote-Funau**	**1.87**	**77**	P		**Pn**		**04 32 59.9**	**+0.4**
IRIF						S		**Sn**	**04 33 23.6**	**+1.4**
LAY	**Lan-yu**	**1.90**	**185**	*e*P		**Pn**		**04 32 58.3**	**-1.6**
	baz=185								
HATJ	**Hateruma jima**	**1.90**	**86**	P		**Pn**		**04 33 00.2**	**+0.3**
HATJ						S		**Sn**	**04 33 23.6**	**+0.7**
SLIU	**Shizi**	**1.92**	**207**	*e*P		**Pn**		**04 32 59.9**	**-0.2**
	baz=197								
WLCH	**Liuqiu**	**2.01**	**219**	*

PTMZ	**Houxiangcun**	**2.62**	**295**	*e*P		**Pn**	**04 33 09.3**	**-0.6**
	baz=294								
MATB	**Ma-tsu**	**2.74**	**324**	*e*P		**Pn**	**04 33 10.8**	**-0.6**
	baz=323								
JTJ	**Tarama**	**2.80**	**75**	P		**Pn**	**04 33 12.6**	**+0.3**
JTJ				*e*S		**Sn**	**04 33 45.1**	**0.0**
KNM	**Kinmen**	**3.05**	**280**	*e*P		**Pn**	**04 33 17.2**	**+1.4**
	baz=277								
KNMB	**Chin-men Tao**	**3.10**	**280**	*e*P		**Pn**	**04 33 16.0**	**-0.4**
	baz=279								
LYJJ	**Jianjiangzhen**	**3.16**	**326**	*e*P		**Pn**	**04 33 17.3**	**+0.1**
	baz=326								
JIRB	**Irabujima**	**3.26**	**74**	P		**Pn**	**04 33 19.5**	**+0.9**
JIRB				*e*S		**Sn**	**04 33 56.6**	**+0.1**
MHZQ	**Yeshan**	**3.26**	**312**	*e*P		**Pn**	**04 33 18.1**	**-0.6**
	baz=310								
XPSS	**Dashiqiu**	**3.29**	**335**	*e*P		**Pn**	**04 33 18.1**	**-0.9**
	baz=335								
JIKM	**Ikemajima**	**3.35**	**72**	P		**Pn**	**04 33 21.0**	**+1.1**
JIKM				*e*S		**Sn**	**04 33 59.9**	**+1.1**
JMJ	**Miyako jima 2**	**3.36**	**74**	*e*P		**Pn**	**04 33 21.1**	**+1.1**
	baz=76								
JMJ2	**Miyako jima3**	**3.38**	**76**	P		**Pn**	**04 33 21.7**	**+1.5**
JMJ2				*e*S		**Sn**	**04 34 01.1**	**+1.7**
JOGS	**Gusukube**	**3.45**	**76**	P		**Pn**	**04 33 21.7**	**+0.5**
JOGS				*e*S		**Sn**	**04 34 02.3**	**+1.1**
AXDP	**Jialang**	**3.56**	**286**	*e*P		**Pn**	**04 33 22.4**	**-0.3**
	baz=285								
ZPLA	**Ao Xicun**	**3.64**	**271⇓**	*e*P		**Pn**	**04 33 23.8**	**-0.1**
	baz=269								
JOW	**Kunigami**	**6.58**	**63**	*e*P		**Pn**	**04 34 03.3**	**-1.0**
	baz=67								

TEH ***07*** *04:40:43.2,28.08N×57.63E,h11km,ML3.2*
DSN ***07*** *04:40:43.5±1.6,28.01N×57.89E,h10km,ML3.5/3,Error ellipse: s-maj=50.6km s-min=11.0km az=133.0*
THR ***07*** *04:40:45.1±0.5,27.86N×57.68E,h14km±7km,ML3.1*

ISC 07 04:40:43.8±0.9,28°02N±0.04×57°67E±0.04,h15km±7km, n19,σ1§40/22,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.08**	**159**	*e*Pg	**Pg**	**04 40 46.8**	**-0.1**
KHNJ				*e*Sg	**Sg**	**04 40 49.7**	**+0.7**
IBND	**Bandar-abas**	**1.16**	**241**	*e*Pg	**Pb**	**04 41 05.5**	**+0.1**
GENO	**Geno**	**1.47**	**245**	*e*Pg	**Pb**	**04 41 10.8**	**-0.1**
GENO				*e*		04 41 34.7	
	comp=Z,4μm,0.4s						
BNDS	**Bandar-Abbas**	**1.47**	**245**	*e*Pg	**Pg**	**04 41 11.3**	**-0.8**
BNDS				*e*Sg	**Sg**	**04 41 30.2**	**-1.0**
BNDS				IAML		04 41 41.8	
	comp=E,207nm,0.4s						
BNDS	**Bandar-Abbas**	**1.47**	**245**	*e*Pn	**Pg**	**04 41 11.3**	**-0.8**
NGRK	**Negar Kerman**	**1.81**	**333**	*e*Pn	**Pn**	**04 41 15.3**	**+0.5**
NGRK				*e*		04 41 50.5	
	comp=Z,2μm,0.2s						
CHMN	**Cheshme madani**	**1.83**	**356**	*e*Pn	**Pb**	**04 41 16.3**	**-0.9**
CHMN				*e*		04 41 23.2	
	comp=Z,1μm,0.3s						
KRBR	**Kerman**	**2.11**	**338**	*e*Pn	**Pg**	**04 41 24.7**	**+0.4**
KRBR				IAML		04 41 59.4	
	comp=N,113nm,0.3s						
KRBR				IAML		04 42 00.8	
	comp=E,85nm,0.3s						
SHME	**Shamm**	**2.39**	**215**	P	**Pn**	**04 41 23.3**	**+0.9**
SHME				S	**Sb**	**04 41 56.4**	**+0.6**
BANOM	**Banah**	**2.42**	**211**	P	**Pb**	**04 41 25.3**	**-1.7**
BANOM				S	**Sb**	**04 41 55.5**	**-1.3**
ZHDN	**Zahedan**	**3.08**	**63**	*e*Pn	**Pn**	**04 41 33.6**	**+1.6**
ZHSF	**Zahedan**	**3.15**	**59**	*e*Pn	**Pb**	**04 41 37.5**	**-2.0**
ZHSF	**Zahedan**	**3.15**	**59**	*e*Pn	**Pb**	**04 41 37.5**	**-2.0**
UOSS	**Minazif**	**3.34**	**204**	P	**Pn**	**04 41 36.8**	**+1.4**
ASHO	**Ashiyiah**	**3.63**	**204**	P	**Pn**	**04 41 40.9**	**+1.5**
SRVN	**Saravan**	**4.23**	**97**	*e*Pn	**Pn**	**04 41 50.6**	**+2.8**
YZKH	**Yazd**	**5.11**	**329**	*e*Pn	Pn	04 42 05.4	+5.7
YZKH				*e*Sg	**Sg**	**04 43 27.6**	**-0.1**
YZKH	**Yazd**	**5.11**	**329**	*e*Pn	Pn	04 42 05.4	+5.6
KLNJ	**Kolanjah**	**6.08**	**301**	*e*Pn	**Pn**	**04 42 15.2**	**+1.8**

IDC ***07*** *04:42:32.0±0.6,12.94N×146.13E,h0km,mb4.1/18, mb1 4.2/18,mb1mx4.1/42,mbtmp4.1/18,MS3.4/4, Ms1 3.5/4,ms1mx2.9/39,Error ellipse: s-maj=17.8km s-min=14.1km az=62.0*
NEIC ***07*** *04:42:49.4±0.8,13.9N±0.1×145.1E±0.2,h51km±11km, mb4.5/18,Error ellipse: s-maj=28.6km s-min=6.8km az=124.0*

ISC 07 04:42:39.4±0.6,12°95N±0.09×146°00E±0.09,h50km,n58, σ1§37/52,**mb4.4**/32,**MS3.4**/5,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.27**	**300**	Pn	**Pn**	**04 42 59.4**	**-1.4**
	363nm,0.3s,baz=146,slow=13,SNR=140						
GUMO				Sn	**Sn**	**04 43 17.1**	**+0.3**
	439nm,0.3s,baz=163,slow=19,SNR=11						
GUMO				LR	LR	04 43 42.6	
	comp=Z,645nm,20.6s,baz=184,slow=51						
GUMO	**Guam**	**1.27**	**300**	Pn	**Pn**	**04 42 59.3**	**-1.6**
ANA2	**Anatahan**	**3.39**	**355**	Pn	**Pn**	**04 43 27.1**	**-2.7**
SIJI	**Sorong**	**20.05**	**228**	P	Pn	04 47 13.2	+2.5
	14nm,0.9s,baz=54,slow=11,SNR=5.1						
JOW	**Kunigami**	**21.61**	**312**	P	**P**	**04 47 24.2**	**-1.1**
	15nm,0.7s,baz=128,slow=17,SNR=3.7						
MJAR	**Matsushiro Arr**	**24.52**	**345**	P	**P**	**04 47 53.3**	**-0.8**
	2.6nm,0.8s,baz=187,slow=11,SNR=7.6						
MJAR				LR	LR	04 57 03.0	
	comp=Z,102nm,19.9s,baz=210,slow=36						
MJAR	**Matsushiro Arr**	**24.52**	**345**	P	**P**	**04 47 52.6**	**-1.5**
MAT	**Matsushiro**	**24.52**	**345**	P	**P**	**04 47 52.2**	**-2.0**
JMM	**Marumori**	**25.25**	**350**	P	**P**	**04 47 59.9**	**-0.9**
JMM				IAmb	IAmb	04 48 07.8	
	comp=Z,23nm,1.2s						
HNR	**Honiara**	**26.20**	**147**	LR	LR	04 57 37.5	
	comp=Z,120nm,20.3s,baz=219,slow=35						
KSRS	**Korea Array**	**29.27**	**330**	P	**P**	**04 48 36.5**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=143,slow=9.2,SNR=4.5						
NJ2	**Nanjing**	**31.32**	**312**	*e*P	**P**	**04 48 52.3**	**-2.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**	**34.64**	**200**	P	**P**	**04 49 22.9**	**-1.3**
	baz=27,slow=9.0						
WRA				PcP	**PcP**	**04 51 57.9**	**+0.2**
	baz=13,slow=2.9						
BJI	**Beijing**	**37.63**	**321**	P	**P**	**04 49 51.3**	**+1.8**
BJI				S	S	04 55 27.2	-8.6
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,61nm,4.1s						
BJI				L	L		
	comp=Z,78nm,19.3s						
BJI				L	L		
	comp=Z,56nm,17.2s						
ASAR	**Alice Springs**	**38.26**	**198**	P	**P**	**04 49 53.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=15,slow=11,SNR=9.4						
DZM	**Mont Dzumac**	**40.16**	**150**	P	**P**	**04 50 09.6**	**-1.4**
	comp=Z,6.2nm,0.8s,baz=67,slow=14,SNR=5.6						
DZM				LR	LR	05 04 55.6	
	comp=Z,80nm,18.6s,baz=296,slow=34						
HHC	**Hu-ho-hao-te**	**40.97**	**319**	*e*P	**P**	**04 50 17.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
LZH	**Lanzhou**	**44.28**	**309**	*e*P	**P**	**04 50 44.4**	**-0.1**
LZH				pP	pP	04 50 57.4	+1.5
LZH				sP	pwP	04 51 03.7	-0.6
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.53**	**283**	P	**P**	**04 50 55.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=86,slow=5.8,SNR=8.7						
CMAR				LR	LR	05 09 11.3	
	comp=Z,22nm,21.3s,baz=175,slow=35						
CMAR	**Chiang Mai Arr**	**45.53**	**283**	P	**P**	**04 50 55.1**	**+0.6**
SONM	**Songino Array**	**47.89**	**325**	P	**P**	**04 51 13.1**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=145,slow=7.2,SNR=7.0						
SONM	**Songino Array**	**47.89**	**325**	P	**P**	**04 51 11.9**	**-0.8**
GTA	**Gaotai**	**48.42**	**312**	*e*P	**P**	**04 51 18.0**	**+1.1**
GTA				pP	sP	04 51 33.3	-0.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SEY	**Seymchan**	**50.12**	**4**	P	**P**	**04 51 28.0**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=114,slow=12,SNR=1.6						
BILL	**Bilibino**	**56.62**	**9**	P	**P**	**04 52 20.8**	**+3.8**
WMQ	**Urumqi**	**58.38**	**314**	*e*P	**P**	**04 52 31.8**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.1s						
MK31	**Makanchi Array**	**62.71**	**316**	P	**P**	**04 52 59.8**	**+0.5**
MK31				IAmb	IAmb	04 53 01.3	
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**62.71**	**316**	P	**P**	**04 52 59.9**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=94,slow=8.5,SNR=38						
MKAR	**Makanchi Array**	**62.71**	**316**	P	**P**	**04 52 59.5**	**+0.2**
ZAA0	**Zalesovo Array**	**62.78**	**324**	P	**P**	**04 53 00.5**	**+0.9**
ZAA0				IAmb	IAmb	04 53 16.0	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**62.78**	**324**	P	**P**	**04 53 00.7**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=99,slow=7.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.78**	**324**	P	**P**	**04 53 00.5**	**+0.9**
MAKZ	**Makanchi**	**62.93**	**316**	P	**P**	**04 53 01.0**	**+0.3**
KDAK	**Kodiak Island**	**64.03**	**32**	P	**P**	**04 53 07.6**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=230,slow=7.9,SNR=5.3						
KDJ	**Kajisay**	**65.75**	**310**	P	**P**	**04 53 20.0**	**+0.5**
BOOM	**Boomskoye usch**	**66.69**	**311**	P	**P**	**04 53 26.2**	**+0.7**
NRIK	**Noril'sk**	**67.09**	**341**	P	**P**	**04 53 26.2**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=90,slow=4.0,SNR=1.7						
WRH	**Wood River Hil**	**68.09**	**25**	P	P	04 53 42.0	+8.2
WRH				IAmb	IAmb	04 53 52.8	
	comp=Z,5.3nm,1.0s						
COLD	**Coldfoot**	**68.12**	**22**	P	P	04 53 41.7	+7.9
COLD				IAmb	IAmb	04 53 51.7	
	comp=Z,4.9nm,1.2s						
NIL	**Nilore**	**68.66**	**301**	P	**P**	**04 53 38.8**	**+0.9**
ILAR	**Eielson Array**	**68.68**	**25**	P	**P**	**04 53 35.8**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=250,slow=6.1,SNR=13						
KK31	**Karatay Array**	**70.70**	**311**	P	**P**	**04 53 51.4**	**+1.1**
KKAR	**Karatay Array**	**70.70**	**311**	P	**P**	**04 53 50.8**	**+0.5**
BRVK	**Borovoye**	**71.17**	**322**	P	**P**	**04 53 53.6**	**+0.7**
BRVK				IAmb	IAmb	04 54 09.6	
	comp=Z,3.3nm,0.5s						
HYT	**Haines Junctio**	**72.20**	**30**	P	P	04 54 07.0	+7.8
INK	**Inuvik**	**74.53**	**22**	P	**P**	**04 54 12.6**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=263,slow=7.9,SNR=2.8						
HRA	**Herat**	**77.71**	**303**	P	**P**	**04 54 33.2**	**+1.7**
HRA				IAmb	IAmb	04 54 34.0	
	comp=Z,6.9nm,1.1s						
ABKAR	**Akbulak array**	**77.75**	**318**	P	**P**	**04 54 31.5**	**+0.3**
YKA	**Yellowknife Ar**	**82.92**	**27**	P	**P**	**04 54 58.0**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=301,slow=8.4,SNR=6.0						
E09A	**Wood Farm, Sta**	**84.70**	**44**	P	**P**	**04 55 11.9**	**+3.8**
E09A				IAmb	IAmb	04 55 23.8	
	comp=Z,7.3nm,1.3s						
NVAR	**Mina Array Bea**	**86.46**	**52**	P	**P**	**04 55 17.7**	**+0.3**
	comp=Z,5.5nm,0.6s,baz=273,slow=4.9,SNR=6.6						
ARCES	**ARCESS Array B**	**88.03**	**342**	P	**P**	**04 55 24.3**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=72,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**92.20**	**335**	P	**P**	**04 55 42.3**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=47,slow=6.5,SNR=14						
DBIC	**Dimbokro**	**145.09**	**302**	PKPbc	**PKPbc**	**05 02 12.2**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=90,slow=3.7,SNR=2.6						
KIC	**Kosan Boka**	**145.17**	**302**	*e*PKP1	PKiKP	05 02 26.0	+10
	comp=Z,16nm,0.9s						
TIC	**Toumodi**	**145.24**	**302**	*e*PKP1	PKiKP	05 02 25.0	+8.4
LIC	**Lamto**	**145.48**	**302**	*e*PKP1	PKiKP	05 02 26.0	+9.0
	comp=Z,26nm,1.0s						
LPAZ	**La Paz**	**146.83**	**100**	PKPbc	**PKPbc**	**05 02 17.8**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=276,slow=4.9,SNR=8.7						

NAO ***07*** *04:43:20.6±2.0,79.47N×3.60E,ML2.9*
DNK ***07*** *04:43:22.8±0.9,79.41N×4.01E,h28km±15km,ML2.2*
IEPN ***07*** *04:43:24.0,79.21N×3.83E,h10km*
BER ***07*** *04:43:24.7±2.5,79.39N×3.91E,h22km±18km,ML1.9, ML2.9(NAO),Confirmed Earthquake*

ISC 07 04:43:20.5±1.0,79°32N±0.06×3°74E±0.05,h16km,n30, σ2§18/55,**1C-3D,Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.61**	**100**	*i*P	**Pb**	**04 43 49.3**	**-0.4**
KBS	**Kingsbay**	**1.61**	**100**	Pg	**Pb**	**04 43 49.4**	**-0.4**
KBS				Lg	Lg	04 44 08.2	
KBS	**Kingsbay**	**1.61**	**100⇓**	*i*P	**Pb**	**04 43 49.3**	**-0.4**
KBS				*e*S	**Sn**	**04 44 08.3**	**-0.1**
KBS				IAML		04 44 20.7	
	comp=Z,18nm,0.4s						
KBS	**Kingsbay**	**1.61**	**100⇑**	*i*P	**Pn**	**04 43 48.9**	**+0.8**
KBS				*e*S	**Sn**	**04 44 07.9**	**-0.6**
BRBB	**Barentsburg B**	**2.40**	**116**	Pn	**Pb**	**04 44 01.9**	**-1.3**
BRBB				Sn	**Sn**	**04 44 28.3**	**+0.3**
BRBB	**Barentsburg B**	**2.40**	**116**	Pn	**Pb**	**04 44 01.9**	**-1.3**
BRBB				Sn	**Sn**	**04 44 28.3**	**+0.3**
BRBA	**Barentsburg A**	**2.42**	**116**	Pn	**Pb**	**04 44 02.5**	**-1.1**
BRBA				Sn	**Sn**	**04 44 28.2**	**-0.3**
BRBA	**Barentsburg A**	**2.42**	**116**	Pn	**Pb**	**04 44 02.5**	**-1.1**
BRBA				Sn	**Sn**	**04 44 28.2**	**-0.3**
SPA0	**Spitsbergen Ar**	**2.73**	**109**	Pn	**Pn**	**04 44 05.9**	**+2.3**
	baz=311,slow=8.6						
SPA0				Sn	**Sn**	**04 44 36.4**	**+0.3**
SPA0	**Spitsbergen Ar**	**2.73**	**109**	Pn	**Pn**	**04 44 05.9**	**+2.3**
	baz=311,slow=8.6						
SPA0				Sn	**Sn**	**04 44 36.4**	**+0.3**
SPA0				IAML		04 44 46.3	
	comp=Z,14nm,0.7s						
HSPB	**Hornsund (broa**	**3.36**	**128**	Pn	**Pn**	**04 44 14.8**	**+2.6**
HSPB				Sn	**Sn**	**04 44 51.6**	**-0.1**
HSPB	**Hornsund (broa**	**3.36**	**128**	*e*P	**Pn**	**04 44 14.7**	**+2.4**
HSPB				*e*S	**Sn**	**04 44 51.5**	**-0.1**
HSPB				IAML		04 44 54.0	
	comp=Z,10nm,0.3s						
HSPB	**Hornsund (broa**	**3.36**	**128⇓**	*i*P	**Pn**	**04 44 14.4**	**+2.2**
HSPB				*e*S	**Sn**	**04 44 51.5**	**-0.1**
NOR	**Nord**	**4.07**	**314**	*i*P	**Pn**	**04 44 24.0**	**+2.0**
NOR				*e*S	**Sn**	**04 45 07.5**	**-1.8**
NOR				IAML		04 45 12.5	
	comp=Z,1.0nm,0.3s						
NOR	**Nord**	**4.07**	**314**	Pn	**Pn**	**04 44 23.1**	**+1.2**
NOR				Sn	**Sn**	**04 45 07.2**	**-2.0**
NOR	**Nord**	**4.07**	**314**	*i*P	**Pn**	**04 44 24.0**	**+2.0**
NOR				*e*S	**Sn**	**04 45 07.5**	**-1.8**
HOPEN	**Hopen**	**5.25**	**112**	Pn	**Pn**	**04 44 39.9**	**+1.7**
HOPEN				Sn	**Sn**	**04 45 35.3**	**-3.0**
HOPEN	**Hopen**	**5.25**	**112**	*e*P	**Pn**	**04 44 39.9**	**+1.7**
HOPEN				*e*S	**Sn**	**04 45 36.2**	**-2.0**
HOPEN				IAML		04 46 01.8	
	comp=Z,3.9nm,0.4s						
HOPEN	**Hopen**	**5.25**	**112**	*e*P	**Pn**	**04 44 39.5**	**+1.4**
HOPEN				*e*S	**Sn**	**04 45 35.8**	**-2.5**
DAG	**Danmarks Havn**	**5.28**	**252**	*e*	**Pn**	**04 44 37.4**	**-1.1**
	baz=50,slow=14						
DAG				*i*P	**Pn**	**04 44 40.6**	**+2.1**
DAG				*i*		04 45 34.8	
DAG				IAML		04 45 44.0	
	comp=Z,2.4nm,0.4s						
DAG	**Danmarks Havn**	**5.28**	**252**	*e*	**Pn**	**04 44 37.4**	**-1.1**
	baz=50,slow=14						
DAG				*i*P	**Pn**	**04 44 40.6**	**+2.1**
DAG				*i*		04 45 34.8	
DAG				IAML		04 45 44.0	
	comp=Z,2.4nm,0.4s						
BJO1	**Bjornoya**	**5.93**	**137**	*e*P	**Pn**	**04 44 49.8**	**+2.4**
BJO1	**Bjornoya**	**5.93**	**137**	*e*P	**Pn**	**04 44 49.3**	**+1.9**
BJO1				S	**Sn**	**04 45 52.7**	**-2.1**
DBG	**Daneborg**	**7.36**	**240**	*i*P	**Pn**	**04 45 08.6**	**+1.4**
DBG				*i*S	**Sn**	**04 46 25.9**	**-4.2**
DBG				IAML		04 46 34.9	
	comp=Z,1.2nm,0.4s						
DBG	**Daneborg**	**7.36**	**240**	Pn	**Pn**	**04 45 08.1**	**+1.0**
DBG				Sn	**Sn**	**04 46 24.1**	**-6.1**
DBG	**Daneborg**	**7.36**	**240**	*i*P	**Pn**	**04 45 08.6**	**+1.4**
DBG				*i*S	**Sn**	**04 46 25.9**	**-4.2**
DBG				IAML		04 46 34.9	
	comp=Z,1.2nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.58**	**58**	*e*P	**Pn**	**04 45 10.6**	**+0.7**
ZFI2				*e*S	**Sn**	**04 46 30.1**	**-5.2**
	comp=Z,7.9nm,1.2s						
ZFI	**Zemlya Franca-**	**7.58**	**58**	*e*P	**Pn**	**04 45 11.5**	**+1.5**
ZFI				*e*S	**Sn**	**04 46 31.4**	**-3.9**
ARA0	**ARCESS Array S**	**11.30**	**138**	Pn	**Pn**	**04 46 03.9**	**+2.9**
	baz=318,slow=14						
ARA0	**ARCESS Array S**	**11.30**	**138**	Pn	**Pn**	**04 46 03.9**	**+2.9**
	baz=318,slow=14						

IDC ***07*** *04:52:04.7±1.4,17.62S×167.80E,h0km,mb4.0/6, mb1 4.3/8,mb1mx4.0/23,mbtmp4.1/8,ML4.3/2,MS3.2/4, Ms1 3.2/4,ms1mx2.9/27,Error ellipse: s-maj=40.7km s-min=26.3km az=124.0*
NEIC ***07*** *04:52:08.2±2.0,17.65S±0.06×168.0E±0.2,h30km±9km, mb4.1/5,Error ellipse: s-maj=28.7km s-min=9.2km az=89.0*

ISC 07 04:52:07.3±1.0,17°70S±0.05×167°7E±0.2,h19km,n24, σ1§63/19,**mb4.1/8,MS3.3**/3,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.29**	**348**		**Pn**	**04 52 43.3**	**-0.7**
LIFNC	**LIFOU**	**3.09**	**188**	Pn	**Pn**	**04 52 56.3**	**+1.1**
DZM	**Mont Dzumac**	**4.51**	**195**	*e*Pn	**Pn**	**04 53 15.2**	**+0.5**
	17nm,0.3s						
DZM				*e*Sn	**Sn**	**04 54 04.3**	**-2.4**
	38nm,0.3s						
DZM				*e*LR	LR	04 54 08.8	
	comp=Z,120nm,23.9s						
DZM	**Mont Dzumac**	**4.51**	**195**	Pn	**Pn**	**04 53 14.6**	**-0.1**
	2.4nm,0.3s,baz=24,slow=20,SNR=22						
DZM				Sn	**Sn**	**04 54 03.6**	**-3.1**
	6.8nm,0.3s,baz=53,slow=20,SNR=8.9						
DZM				LR	LR	04 54 41.5	
	comp=Z,52nm,19.8s,baz=25,slow=34						
ONTNC	**Ouen Toro**	**4.73**	**194**	Pn	**Pn**	**04 53 18.6**	**+0.9**
OUENC	**Ouen Island, N**	**4.76**	**190**	Pn	**Pn**	**04 53 15.9**	**-2.3**
MSVF	**Nonsavu**	**9.86**	**92**	LR	LR	04 57 26.8	
	comp=Z,416nm,18.1s,baz=316,slow=33						
HNR	**Honiara**	**11.15**	**316**	Pn	**Pn**	**04 54 44.2**	**-1.6**
	11nm,0.3s,baz=197,slow=17,SNR=4.2						
RAO	**Raoul Island**	**17.48**	**134**	LR	LR	05 01 00.9	
	comp=Z,123nm,20.4s,baz=113,slow=31						
AFI	**Afiamalu**	**20.10**	**82**	LR	LR	05 02 49.3	
	comp=Z,71nm,20.4s,baz=112,slow=32						
STKA	**Stephens Creek**	**27.49**	**234**	P	**P**	**04 57 54.4**	**+1.8**
	2.2nm,0.8s,baz=62,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**27.49**	**234**	IAmb	IAmb	04 57 55.6	
	comp=Z,3.5nm,1.5s						
AS31	**Alice Springs**	**32.12**	**254**	P	**P**	**04 58 35.0**	**+1.2**
AS31				IAmb	IAmb	04 58 35.9	
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**32.12**	**254**	P	**P**	**04 58 34.7**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=80,slow=8.9,SNR=52						
TBI	**Tubuai**	**40.40**	**105**	*e*LR	LR	05 11 31.5	
	comp=Z,55nm,24.2s						
PPT2	**Papeete2**	**40.65**	**97**	*e*LR	LR	05 11 34.5	
	comp=Z,108nm,25.0s						
CMAR	**Chiang Mai Arr**	**76.54**	**295**	P	**P**	**05 03 59.0**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=133,slow=5.0,SNR=1.3						
CMAR	**Chiang Mai Arr**	**76.54**	**295**	P	**P**	**05 03 59.0**	**+2.2**
CHTO	**Chiang Mai**	**76.68**	**295**	P	**P**	**05 03 57.0**	**-0.6**
SONM	**Songino Array**	**85.12**	**324**	P	**P**	**05 04 42.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**85.12**	**324**	IAmb	IAmb	05 04 43.8	
	comp=Z,2.0nm,1.2s						
NVAR	**Mina Array Bea**	**88.89**	**49**	P	**P**	**05 05 01.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=218,slow=10,SNR=2.9						
IL31		**89.21**	**18**	P	**P**	**05 05 01.1**	**-0.2**
IL31				IAmb	IAmb	05 05 25.0	
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**89.21**	**18**	P	**P**	**05 05 00.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=213,slow=6.5,SNR=3.4						

ANF ***07*** *04:54:23.3±0.1,33.92N×118.25W,h14km±1km,ML3.3/29, Error ellipse: s-maj=1.8km s-min=1.1km az=111.0, Hypocentre not reviewed by the ISC*
SCEDC ***07*** *04:54:23.9,33.92N×118.30W,h11km,Hypocentre not reviewed by the ISC*
PAS ***07*** *04:54:23.9±1.6,33.92N±0.02×118.30W±0.01,h11km±2km, ML3.2/169,ML2.9/76(NEIC),Error ellipse: s-maj=2.3km s-min=1.6km az=200.0*

NEIC 07 04:54:23.5±1.3,33°91N±0.01×118°29W±0.01,h19km±1km, Error ellipse: s-maj=2.5km s-min=1.1km az=216.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USC	**University of**	**0.11**	**360**		Pg	04 54 26.9	-0.4
LCGC	**La Cienega, Cu**	**0.12**	**319**		Pg	04 54 27.0	-0.5
LCGC					Sg	04 54 30.1	+0.1
GVRC	**Garvey Reservo**	**0.19**	**45**		Pg	04 54 28.8	+0.4
FMP	**Fort Macarthur**	**0.20**	**182**	P		04 54 28.3	
	baz=359,SNR=138						
FMP				S		04 54 31.5	
	baz=359						
GR2C	**Griffith Obs.**	**0.21**	**357**		Pb	04 54 28.1	-0.1
RHC	**Rose Hills Cem**	**0.24**	**69**

baz=195
THC Tehachapi Micr 1.04 343 Pb 04 54 43.1 0.0
BACC Bachelor Mtn. 1.08 106 Pb 04 54 43.2 -0.5
HMTC Hemet 1.09 100 Pb 04 54 43.3 -0.5
DGR Domenigoni Val 1.09 103 Pb 04 54 43.2 -0.7
BTL Butler Peak 1.12 72 Pb 04 54 44.4 -0.1
HYS Haystack Butte 1.12 32 Pn 04 54 44.2 -0.1
SCZ2 Santa Cruz Isl 1.12 275 P 04 54 45.1
baz=94,SNR=9.5
SCZ2 S 04 55 00.8
baz=94
RYS Reyes Peak 1.14 310 Pb 04 54 45.0 +0.1
POB Polly Butte 1.16 101 Pn 04 54 44.5 -0.3
GORC Green Oak Ranc 1.16 130 Pn 04 54 44.3 -0.5
BBRC Big Bear Solar 1.19 72 Pb 04 54 45.5 0.0
BBRC Big Bear Solar 1.19 72 P 04 54 45.5
baz=254,SNR=32
BBRC S 04 55 02.5
baz=254
SNCC San Nicolas Is 1.23 238 Pn 04 54 45.9 +0.2
SNCC IAML 04 55 09.2
comp=N,370nm,0.8s
SNCC San Nicolas Is 1.23 238 P 04 54 46.1
baz=56
SNCC S 04 55 03.0
baz=56
CCAC Calif City Air 1.26 10 Pg 04 54 47.9 +0.1
ARVC Arvin 1.29 340 Pb 04 54 47.6 +0.4
ARVC Arvin 1.29 340 P 04 54 47.0
baz=160,SNR=108
ARVC S 04 55 05.3
baz=160
SBC Santa Barbara 1.30 294 P 04 54 48.0
baz=114
PLM Palomar 1.31 115 Pb 04 54 47.4 -0.3
CRY Cary Ranch 1.34 105 Pn 04 54 47.4 +0.1
BCW Bitter Crk WRg 1.39 318 Pb 04 54 49.3 +0.4
BZNA Buzz No.'s Pla 1.41 107 Pn 04 54 48.6 +0.2
109C Camp Elliot, M 1.42 136 Pn 04 54 47.9 -0.4
109C IAML 04 55 08.2
comp=E,199nm,0.4s
109C IAML 04 55 17.6
comp=N,192nm,0.7s
109C Camp Elliot, M 1.42 136 P 04 54 47.8
baz=316,SNR=36
CPE Camp Elliot 1.42 136 Pn 04 54 47.9 -0.5
RRX Edison Barstow 1.44 48 Pg 04 54 50.5
baz=229,SNR=15
RRX Sg 04 55 09.3
baz=229
DPP Dos Picos Cty 1.45 129 Pn 04 54 48.4 -0.4
PFO Pinyon Flats O 1.55 101 Pn 04 54 50.8 +0.5
PFO IAML 04 55 21.9
comp=N,134nm,0.8s
PFO IAML 04 55 23.2
comp=N,156nm,0.8s
PFO Pinyon Flats O 1.55 101 P 04 54 50.6
baz=282,SNR=122
PKM Mcpherson Peak 1.59 308 P 04 54 52.1
baz=127,SNR=34
LRMC Laurel Mtn Rad 1.64 17 Pb 04 54 52.8
baz=198,SNR=23
LRMC S 04 55 13.4
baz=198
TJX Tijuana 1.74 143 Pn Pb 04 54 53.9 -1.0
ISA Isabella, Lake 1.75 355 Pn Pn 04 54 53.9 +0.9
ISA Isabella, Lake 1.75 355 P 04 54 54.4
baz=175,SNR=57
ISA S 04 55 16.6
baz=175
BAR Barrett 1.83 132 Pn Pn 04 54 53.7 -0.3
BAR IAML 04 55 20.3
comp=N,118nm,0.5s
GSC Goldstone, Bar 1.85 41 Pn Pb 04 54 55.7 -1.0
GSC Goldstone, Bar 1.85 41 Pb 04 54 56.0
baz=222,SNR=89
GSC Sg 04 55 23.0
baz=222
HEC Hector,Ludlow 1.85 60 Pg 04 54 58.2
baz=241,SNR=36
HEC Sb 04 55 22.2
baz=241
MONP2 Monument Peak 1.86 123 P 04 54 54.8
baz=304,SNR=26
BELC Belle Mtn. Jos 1.90 87 P 04 54 55.5
baz=268,SNR=44
BELC Sb 04 55 23.5
baz=268
TKX Tecate 1.94 133 Pn 04 54 55.7 +0.2
TKX IAML 04 55 20.5
comp=E,133nm,0.2s
TKX IAML 04 55 26.9
comp=N,154nm,0.3s
SMMC Simmler 1.99 315 S 04 55 23.4
baz=134
CBX Cerro Bola 2.10 139 Pn 04 54 58.1 +0.3
CBX IAML 04 55 32.7
comp=N,64nm,0.5s
CBX IAML 04 55 35.8
comp=E,85nm,0.5s
RMX La Rumorosa 2.26 125 Pn 04 55 01.5 +1.4
RMX IAML 04 55 43.5
comp=E,98nm,0.2s
RMX IAML 04 55 43.9
comp=N,78nm,0.6s
SWSC Sam W. Stewart 2.29 114 Pb 04 55 04.3
baz=296
GMRC Granite Mounta 2.34 67 P 04 55 01.7
baz=249,SNR=36
PAGB Antelope Grade 2.43 319 Pn Pn 04 55 04.2 +1.9
PAGB IAML 04 56 03.4
comp=E,45nm,1.0s
CCX Cicese 2.45 146 Pn Pn 04 55 04.5 +2.0
TUQ Turquoise Moun 2.47 51 Sb 04 55 41.0
baz=233
CPBX Cerro Prieto 2.91 120 Pn Pn 04 55 09.5 +0.6
GLA Glamis 3.02 106 Pn Pn 04 55 11.7 +1.4
GLA IAML 04 56 10.2
comp=E,57nm,0.7s
GLA IAML 04 56 16.7
comp=N,36nm,0.7s
PMPB Monarch Peak 3.09 319 Pn Pn 04 55 13.0 +1.6
PMPB IAML 04 56 27.1
comp=N,40nm,1.4s
PMPB IAML 04 56 36.9
comp=E,33nm,3.5s
GRAC Grapevine Rang 3.17 13 Sg 04 56 06.8
baz=194
TPNV Topopah Spring 3.46 28 Pn 04 55 17.9 +1.4
TPNV IAML 04 56 26.2
comp=E,35nm,0.9s
TPNV Topopah Spring 3.46 28 P 04 55 19.0
baz=209,SNR=7.2
TPNV Sg 04 56 14.8
baz=209
SHPR Sheep Range 3.64 44 Pn Pn 04 55 20.2 +1.2
SHPR IAML 04 56 23.5
comp=E,17nm,0.9s
SHPR IAML 04 56 23.9
comp=N,20nm,1.1s
SPX San Pedro Mart 3.73 139 Pn Pn 04 55 21.2 +0.7
MDPB Devils Postpil 3.77 350 Pn 04 55 20.8 -0.1
MDPB IAML 04 56 26.7
comp=E,19nm,0.8s
MDPB IAML 04 56 38.6
comp=N,17nm,0.8s
W13A Hualapai Mount 3.82 71 Pn 04 55 22.6 +1.0
113A Mohawk Valley, 3.95 106 Pn Pn 04 55 23.8 +0.6
SFX San Felipe 4.08 134 Pn Pn 04 55 26.4 +1.4
SFX IAML 04 56 42.3
comp=E,19nm,0.8s
SFX IAML 04 56 47.6
comp=N,17nm,1.0s
TPH Tonopah 4.24 11 Pn Pn 04 55 28.6 +1.3
LHV Little Huntoon 4.33 358 Pn Pn 04 55 29.6 +1.3
LHV IAML 04 56 49.2
comp=N,16nm,1.7s
PRN Pahroc Range 4.37 36 Pn 04 55 29.7 +0.7
Y14A Wickenburg 4.39 88 Pn 04 55 29.8 +0.6
Y14A IAML 04 57 03.3
comp=N,15nm,2.2s
NVAR Mina Array Bea 4.51 360 Pn Pn 04 55 31.2 +0.2
NV11 Mina Array Sit 4.51 1 Pn Pn 04 55 31.5 +0.5
RYN Ryan 4.71 358 Pn Pn 04 55 33.4 -0.3
RYN IAML 04 56 58.3
comp=E,7.8nm,1.9s

R11A Troy Canyon, C 4.94 25 Pn Pn 04 55 35.6 -1.3
R11A IAML 04 57 09.8
comp=E,6.0nm,1.8s
214A Organ Pipe Nat 5.00 111 Pn Pn 04 55 38.7 +1.1
214A IAML 04 57 32.7
comp=E,7.0nm,4.6s
214A IAML 04 58 28.7
comp=N,5.8nm,5.0s
LCMT Little Creek M 5.15 52 Pn 04 55 39.6 -0.1
LCMT IAML 04 57 09.8
comp=E,6.3nm,4.7s
LCMT IAML 04 57 40.2
comp=N,5.1nm,4.8s
PNTR Pine Nut 5.27 349 Pn Pn 04 55 42.8 +1.3
KNB Kanab 5.43 54 Pn Pn 04 55 43.2 -0.4
VCNR Virginia City 5.48 349 Pn Pn 04 55 44.6 +0.2
U15A North Rim 5.51 61 Pn Pn 04 55 43.1 -1.8
PSUT Pine Spring 5.84 37 Pn Pn 04 55 49.6 +0.3
SPR3 Spring Creek 3 5.99 31 Pn Pn 04 55 51.5 -0.1
PKCU Pink Cliffs 6.00 52 Pn Pn 04 55 52.2 +0.5
X18A Snowflake 6.93 83 Pn Pn 04 56 05.5 +1.2

IDC 07 04:55:39.2±2.7, 5°92S×131°19E, h200km±42km, mb3.1/1, mb1 3.3/3, mb1mx3.0/27, mbtmpg3.8/3, Error ellipse: s-maj=116.6km s-min=15.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.02**	**1**	P	Pn	04 56 55.0	+1.1
	2.0nm,0.3s,baz=163,slow=19,SNR=6.4						
SIJI				S	Sn	04 57 52.1	-0.7
	8.0nm,0.3s,baz=268,slow=23,SNR=16						
WRA	**Warramunga Arr**	**14.27**	**168**	P	Pn	04 58 53.2	+0.7
	baz=350,slow=13						
ASAR	**Alice Springs**	**17.84**	**172**	P	Pn	04 59 35.0	-0.3
	0.4nm,0.3s,baz=347,slow=9.5,SNR=21						
ASAR				S	S	05 02 46.9	-1.0
	0.3nm,0.3s,baz=354,slow=28,SNR=5.8						
MKAR	**Makanchi Array**	**67.99**	**326**	P	P	05 06 16.7	0.0
	0.4nm,0.5s,baz=124,slow=7.8,SNR=4.7						

*IDC **07** 05:17:43.7±0.9, 27°.70N×85°.39E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.7/39, mbtmpg3.9/13, ML4.1/2, Error ellipse: s-maj=29.6km s-min=19.3km az=52.0*
*NEIC **07** 05:17:45.9±1.4, 28°.0N±0°.1×85°.5E±0°.1, h10km±1km, mb4.2/17, Error ellipse: s-maj=19.9km s-min=14.5km az=197.0*
*DMN **07** 05:17:45.3±0.1, 27°.90N×85°.64E, h25km, Ml4.7/5, Error ellipse: s-maj=4.1km s-min=1.9km az=11.0*
*NDI **07** 05:17:46.9±2.9, 27°.69N×85°.54E, h10km, ML4.2, mb4.2(NEIC)*
ISC 07 05:17:46.2±0.9, 27°.88N±0°.04×85°.57E±0°.02, h17km±6km, n68, σ1s96/91, mb4.0/16, 1C, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKN	**Kakani**	**0.27**	**252**	*e*Pg	**Pb**	**05 17 53.2**	**+0.5**
KKN				*e*Sg	**Sb**	**05 17 57.5**	**+0.3**
GUN	**Gumba**	**0.28**	**83**	*e*Pg	**Pg**	**05 17 51.2**	**-1.2**
GUN				*e*Sg	**Sg**	**05 17 55.4**	**-1.3**
PKI	**Pulchoki**	**0.34**	**205**	*e*Pg	**Pb**	**05 17 54.0**	**+0.1**
PKI	**Pulchoki**	**0.34**	**205**	*e*Pg	**Pb**	**05 17 54.1**	**+0.1**
PKI				*e*Sg	**Sb**	**05 18 00.0**	**+0.9**
PKI				*e*Sg	**Sg**	**05 18 00.6**	**+2.3**
PKIN	**Phulchoki**	**0.34**	**207**	*e*Pg	**Pb**	**05 17 53.9**	**0.0**
PKIN				*e*Sg	**Sb**	**05 18 00.5**	**+1.5**
DMN	**Daman**	**0.49**	**237**	*e*Pg	**Pb**	**05 17 57.3**	**+0.8**
DMN				*e*Sg	**Sb**	**05 18 04.9**	**+1.4**
GKN	**Gorkha**	**0.84**	**279**	*e*Pg	**Pn**	**05 18 03.3**	**0.0**
GKN				*e*Sg	**Sn**	**05 18 14.6**	**-0.7**
	1μm,0.3s						
RAMN	**Ramite**	**1.30**	**135**	*e*Pg	**Pn**	**05 18 09.8**	**0.0**
DANN	**Dangsing**	**1.67**	**287**	*e*Pg	**Pg**	**05 18 18.4**	**+0.1**
DANN	**Dangsing**	**1.67**	**287**	*e*Pg	**Pg**	**05 18 18.5**	**+0.1**
DANN				*e*Sg	**Sg**	**05 18 40.9**	**+0.9**
	917nm,0.2s						
KOLN	**Koldanda**	**1.75**	**267**	*e*Pg	**Pg**	**05 18 19.5**	**-0.3**
ODAN	**Odare**	**1.91**	**122**	*e*Pg	**Pb**	**05 18 20.7**	**0.0**
ODAN				*e*Sg	**Sb**	**05 18 45.1**	**+0.8**
	1μm,0.4s						
TAPN	**Taplejung**	**1.97**	**105**	*e*Pg	**Pb**	**05 18 21.3**	**-0.5**
TAPN				*e*Sg	**Sb**	**05 18 47.0**	**+0.8**
	1μm,0.4s						
PYUN	**Piuthan**	**2.29**	**276**	*e*Pg	**Pb**	**05 18 28.1**	**+0.9**
PYUN				*e*Sg	**Sg**	**05 18 59.7**	**-0.3**
	1μm,0.3s						
GTK	**Tadong**	**2.75**	**101**	*e*P	**Pn**	**05 18 32.1**	**+2.5**
GTK				*e*S	**Sn**	**05 19 04.2**	**+1.7**
GTK				IAML		05 19 09.9	
	comp=N,326nm,0.4s						
GTK				IAML		05 19 10.4	
	comp=E,327nm,0.5s						
BOK	**Bokaro**	**4.07**	**176**	*e*P	**Pn**	**05 18 46.5**	**-1.3**
LSA	**Lhasa**	**5.22**	**68**	Pn	**Pn**	**05 19 03.7**	**-0.2**
GUWA	**GUWAHATI**	**5.71**	**106**	*e*P	**Pn**	**05 19 11.7**	**+1.5**
GUWA				*e*S	**Sn**	**05 20 14.1**	**-1.3**
SHL	**Shillong**	**6.09**	**111**	*e*P	**Pn**	**05 19 15.0**	**-0.7**
SHL				*e*P	**Pn**	**05 19 15.5**	**-0.2**
SHL				*e*S	**Sn**	**05 20 20.6**	**-4.6**
SHL				*i* S	**Sn**	**05 20 21.5**	**-3.7**
SHL				IAML		05 20 24.8	
	comp=N,321nm,0.2s						
SHL	**Shillong**	**6.09**	**111**		**Pn**	**05 19 15.7**	**0.0**
NDI	**New Delhi**	**7.41**	**278**	*e*P	**Pn**	**05 19 35.0**	**+1.4**
NDI				*e*S	**Sn**	**05 20 56.0**	**-1.3**
KOHI	**KOHIMA**	**7.92**	**104**	*e*P	**Pn**	**05 19 42.0**	**+1.2**
KOHI				*e*S	**Sn**	**05 21 07.4**	**-2.8**
SMLA	**Simla**	**8.01**	**296**	*e*P	**Pn**	**05 19 43.2**	**+1.4**
SMLA				*e*S	**Sn**	**05 21 10.8**	**-1.1**
SMLA				IAML		05 21 14.1	
	comp=E,75nm,0.3s						
MOKO	**MOKOCHONG**	**8.12**	**99**	*e*P	**Pn**	**05 19 43.2**	**-0.3**
BHPL	**Bhopal**	**8.68**	**240**	*e*P	**Pn**	**05 19 48.9**	**-2.2**
BHPL				*e*S	**Sn**	**05 21 21.5**	**-7.2**
BHPL				IAML		05 21 28.3	
	comp=N,1μm,0.3s						
DHRM	**DHARAMSHALA**	**9.14**	**301**	*e*P	**Pn**	**05 19 56.8**	**-0.7**
DHRM				*e*S	**Sn**	**05 21 35.0**	**-5.1**
DHRM				IAML		05 21 43.0	
	comp=E,626nm,0.6s						
AJM	**Ajmer**	**9.83**	**264**	*e*P	**Pn**	**05 20 06.0**	**-0.8**
AJM				*i* S	**Sn**	**05 21 49.0**	**-7.9**
CHCP	**Chirah Chowk**	**12.05**	**302**	P	**Pn**	**05 20 36.5**	**-0.7**
NIL	**Nilore**	**12.05**	**302**		**Pn**	**05 20 35.1**	**-2.1**
HYB	**Hyderabad**	**12.26**	**213**	*i* P	**Pn**	**05 20 38.0**	**-2.1**
HYB				*e*S	**Sn**	**05 23 00.0**	**+3.6**
THW	**Thamme Wali**	**12.91**	**296**	P	**Pn**	**05 20 47.7**	**-1.2**
CEP	**Cherat**	**13.14**	**300**	P	**Pn**	**05 20 49.8**	**-2.4**
CHTO	**Chiang Mai**	**15.23**	**123**	Pn	**Pn**	**05 21 21.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**15.45**	**125**	Pn	**Pn**	**05 21 25.2**	**+1.8**
	comp=E,0.3nm,0.3s,baz=313,slow=12,SNR=8.3						
KBL	**Kabul**	**15.62**	**299**	Pn	**Pn**	**05 21 24.3**	**-1.4**
WMQ	**Urumqi**	**16.00**	**6**	*e*P	**P**	**05 21 33.6**	**-0.4**
ARSB	**Arslanbob**	**16.93**	**326**	Pn	**Pn**	**05 21 39.1**	**-3.3**
BTK	**Batken**	**17.22**	**319**	P	**Pn**	**05 21 43.2**	**-2.8**
BTK				IAmb	IAmb	05 21 50.3	
	comp=Z,6.6nm,0.6s						
CHGR	**Chuyangaron**	**17.41**	**312**		**Pn**	**05 21 47.5**	**-0.8**
CHGR				IAmb	IAmb	05 21 52.1	
	comp=Z,17nm,0.7s						
MK31	**Makanchi Array**	**19.06**	**353**	P	**P**	**05 22 05.7**	**-2.0**
MKAR	**Makanchi Array**	**19.06**	**353**	P	**Pn**	**05 22 09.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=174,slow=12,SNR=13						
MKAR	**Makanchi Array**	**19.06**	**353**	P	**P**	**05 22 03.9**	**-3.8**
PALK	**Pallekele**	**21.00**	**194**	P	**P**	**05 22 30.2**	**+1.2**
PALK				IAmb	IAmb	05 22 41.4	
	comp=Z,10nm,1.1s						
ENH	**Enshi**	**21.03**	**78**	P	**P**	**05 22 31.7**	**+2.5**
ENH				IAmb	IAmb	05 22 37.9	
	comp=Z,5.6nm,0.8s						
KURBB	**Kurchatov Arra**	**23.34**	**349**	P	**P**	**05 22 54.8**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=161,slow=10,SNR=6.0						
SONM	**Songino Array**	**25.69**	**34**	P	**P**	**05 23 17.4**	**+2.0**
	comp=Z,1.7nm,0.4s,baz=219,slow=10.0,SNR=7.4						
SONM	**Songino Array**	**25.69**	**34**	P	**P**	**05 23 16.4**	**+0.9**
ZAA0	**Zalesovo Array**	**26.05**	**359**	P	**P**	**05 23 18.4**	**-0.1**
ZAA0				IAmb	IAmb	05 23 27.9	
	comp=Z,5.9nm,1.4s						
ZALV	**Zalesovo Beam**	**26.05**	**359**	P	**P**	**05 23 21.1**	**+2.7**
	comp=Z,0.9nm,0.3s,baz=175,slow=7.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**26.05**	**359**	P	**P**	**05 23 18.4**	**-0.1**

ABKAR Akbulak array 29.04 324 P **P** 05 23 44.5 -0.7
INCN Inchon 35.63 64 P **P** 05 24 42.8 -0.4
CSS Mathiatis 44.72 293 P **P** 05 25 58.7 +0.1
CSS IAmb IAmb 05 26 06.7
comp=Z,5.4nm,1.0s
AKASG Malin Array Be 47.86 314 P **P** 05 26 23.0 0.0
comp=Z,0.2nm,0.3s,baz=82,slow=6.9,SNR=4.9
FINES FINESS Array B 51.40 328 P **P** 05 26 50.6 +0.8
comp=Z,2.6nm,0.7s,baz=113,slow=7.4,SNR=13
ARCES ARCESS Array B 53.79 338 P **P** 05 27 08.5 +1.1
comp=Z,0.7nm,0.4s,baz=81,slow=7.5,SNR=9.8
ARCES ARCESS Array B 53.79 338 P **P** 05 27 08.3 +0.9
GERES GERESS Array B 57.92 312 P **P** 05 27 37.9 +0.4
comp=Z,0.3nm,0.4s,baz=79,slow=7.1,SNR=6.1
NOA NORSAR Array B 58.50 327 P **P** 05 27 40.4 -0.8
comp=Z,0.3nm,0.5s,baz=89,slow=6.9,SNR=1.4
BNI Bardonecchia 63.32 309 P **P** 05 28 14.6 +0.1
KEST Kesra 63.77 298 P **P** 05 28 18.1 +0.5
comp=Z,3.1nm,0.6s,baz=152,slow=2.3,SNR=7.4
KEST Kesra 63.77 298 P **P** 05 28 18.3 +0.8
ASAR Alice Springs 69.27 133 P **P** 05 28 52.8 +0.1
comp=Z,1.0nm,0.7s,baz=313,slow=6.2,SNR=13
ESDC Sonseca Array 72.46 306 P **P** 05 29 11.9 -0.1
comp=Z,0.5nm,0.7s,baz=62,slow=6.6,SNR=3.2
BMAR Burnt Mountain 77.87 18 P **P** 05 29 44.7 +2.0
LBTB Lobatse 78.09 233 P **P** 05 29 44.5 -0.1
LBTB IAmb IAmb 05 29 52.5
comp=Z,3.1nm,1.1s
SIV San Ignacio 146.98 284 PKPbc **PKPbc** 05 37 28.5 -0.2
comp=Z,0.9nm,0.6s,baz=126,slow=5.7,SNR=6.4
LPAZ La Paz 153.10 290 PKPbc **PKPbc** 05 37 43.8 -0.6
comp=Z,0.2nm,0.4s,baz=104,slow=5.0,SNR=3.6

*IDC **07** 06:14:20.6±1.1, 27°.97N×130°.85E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.7/33, mbtmpg3.8/11, ML3.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/29, Error ellipse: s-maj=29.8km s-min=20.8km az=104.0*
*NEIC **07** 06:14:22.2±1.4, 27°.98N±0°.08×130°.92E±0°.09, h10km±1km, mb4.4/18, Error ellipse: s-maj=17.9km s-min=8.5km az=314.0*
*JMA **07** 06:14:22.7±0.1, 27°.97N×130°.85E, h73km±2km, M4.2*
ISC 07 06:14:23.6±1.5, 27°.96N±0°.04×130°.83E±0°.05, h21km±6km, n68, σ1s34/83, mb4.3/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.84**	**295**	P	**Pb**	**06 14 39.7**	**+0.3**
JAM	**Amami Oshima**	**1.17**	**293**	P	**Pn**	**06 14 44.2**	**-0.5**
JAM				*e*S	**Sb**	**06 14 59.3**	**-0.5**
JAMN	**Amaminishikomi**	**1.49**	**281**	P	**Pn**	**06 14 48.2**	**-0.9**
JAMN				*e*S	**Sn**	**06 15 06.4**	**-1.5**
JTK	**Tokunoshima**	**1.67**	**264**	P	**Pn**	**06 14 51.1**	**-0.5**
JTK				*e*S	**Sn**	**06 15 10.3**	**-2.2**
JTAJ	**Takarajima**	**1.86**	**310**	P	**Pn**	**06 14 53.0**	**-1.2**
JTAJ				*e*S	**Sn**	**06 15 15.4**	**-1.7**
JKDJ	**Kitadaitoujima**	**2.05**	**168**	P	**Pn**	**06 14 55.3**	**-1.5**
JKDJ				*e*S	**Sn**	**06 15 18.9**	**-2.7**
JNN	**Nakanoshima**	**2.05**	**336**	P	**Pn**	**06 14 55.7**	**-1.2**
JNN				*e*S	**Sn**	**06 15 20.6**	**-1.2**
JOKE	**Okinoerabujima**	**2.09**	**254**	P	**Pn**	**06 14 56.7**	**-0.7**
JOKE				*e*S	**Sn**	**06 15 20.7**	**-2.1**
JYAK	**Yakushimahirau**	**2.29**	**353**	P	**Pn**	**06 14 59.1**	**-1.0**
JYAK				*e*S	**Sn**	**06 15 24.5**	**-3.1**
JYRO	**Yoronjima**	**2.31**	**247**	P	**Pn**	**06 14 59.5**	**-0.9**
JYRO				*e*S	**Sn**	**06 15 26.1**	**-2.1**
JMTN	**Minamitane**	**2.43**	**1**	P	**Pn**	**06 15 00.8**	**-1.2**
JMTN				*e*S	**Sn**	**06 15 28.8**	**-2.3**
JOW	**Kunigami**	**2.54**	**244**	Pn	**Pn**	**06 15 02.5**	**-1.0**
JOW	69nm,0.3s,baz=101,slow=23,SNR=320			Sn	**Sn**	**06 15 32.4**	**-1.4**
	34nm,0.3s,baz=50,slow=25,SNR=7.4						
JOW	**Kunigami**	**2.54**	**244**	P	**Pn**	**06 15 02.4**	**-1.1**
JOW				*e*S	**Sn**	**06 15 32.5**	**-1.3**
JKC	**Kuchinoerabu**	**2.55**	**348**	P	**Pn**	**06 15 02.7**	**-1.0**
JKC				*e*S	**Sn**	**06 15 32.1**	**-2.1**
JTN	**Tanegashima 3**	**2.69**	**3**	P	**Pn**	**06 15 04.4**	**-1.2**
JTN				*e*S	**Sn**	**06 15 34.6**	**-2.9**
JIH	**Iheya**	**2.71**	**251**	P	**Pn**	**06 15 05.0**	**-0.8**
JIH				*e*S	**Sn**	**06 15 35.5**	**-2.4**
JNTH	**Nagotoyohara**	**2.88**	**241**	P	**Pn**	**06 15 07.2**	**-1.1**
JNTH				*e*S	**Sn**	**06 15 39.7**	**-2.6**
JTSR	**Tashiro 2**	**3.19**	**1**	*e*S	**Sn**	**06 15 47.5**	**-2.6**
JJT3	**Tamagusuku3**	**3.27**	**237**	P	**Pn**	**06 15 13.1**	**-0.4**
JSU	**Suzuyama**	**3.55**	**355**	Pn	**Pn**	**06 15 16.1**	**-1.3**
JNU	**Nakatsue**	**5.14**	**0**	Pn	**Pn**	**06 15 38.7**	**-0.7**
JMN	**Monobe**	**6.32**	**24**	Pn	**Pn**	**06 15 54.9**	**-0.7**
JTU	**Tsushima**	**6.66**	**350**	Pn	**Pn**	**06 16 00.3**	**+0.2**
JHS	**Saijyo**	**7.28**	**15**	Pn	**Pn**	**06 16 08.3**	**-0.5**
JWT	**Wachi**	**8.27**	**27**	Pn	**Pn**	**06 16 22.5**	**+0.2**
INU	**Inuyama**	**9.05**	**34**	Pn	**Pn**	**06 16 32.4**	**-0.6**
YHNB	**Yeheng**	**9.10**	**251**	Pn	**Pn**	**06 16 34.0**	**+0.3**
JGF	**Kuroka**	**9.42**	**34**		**Pn**	**06 16 38.5**	**+0.3**
SSLB	**Suanglung**	**9.82**	**247**	Pn	**Pn**	**06 16 40.9**	**-2.7**
JCJ	**Chichijima**	**10.12**	**92**	LR	LR	06 19 34.6	
	comp=Z,78nm,21.0s,baz=222,slow=31						
TPUB	**Ta-pu**	**10.31**	**246**	Pn	**Pn**	**06 16 48.1**	**-2.2**
MAJO	**Matsushiro**	**10.59**	**34**	Pn	**Pn**	**06 16 54.6**	**+0.6**
MJAR	**Matsushiro Arr**	**10.59**	**34**	Pn	**Pn**	**06 16 55.0**	**+0.9**
	0.3nm,0.3s,baz=204,slow=13,SNR=12						
MJAR				LR	LR	06 20 16.3	
	comp=Z,49nm,19.1s,baz=250,slow=34						
MJAR	**Matsushiro Arr**	**10.59**	**34**		**Pn**	**06 16 54.3**	**+0.3**
USRK	**Ussuriysk Ar.**	**16.23**	**3**	Pn	**Pn**	**06 18 10.8**	**+0.6**
	baz=141,slow=42,SNR=1.8						
XAN	**Xi'an**	**19.72**	**293**	P	**P**	**06 18 51.4**	**-0.4**
KLR	**Kul'dur**	**21.25**	**2**	P	**P**	**06 19 07.5**	**-0.6**
	0.4nm,0.3s,baz=314,slow=23,SNR=2.3						
SONM	**Songino Array**	**27.47**	**323**	P	**P**	**06 20 07.9**	**-0.4**
WMQ	**Urumqi**	**37.90**	**306**	P	**P**	**06 21 36.7**	**-2.6**
MTN	**Manton Dam**	**40.56**	**180**	P	**P**	**06 22 01.6**	**-0.1**
MKAR	**Makanchi Array**	**42.16**	**310**	P	**P**	**06 22 13.1**	**-1.5**
	0.1nm,0.4s,baz=91,slow=8.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**42.33**	**321**	P	**P**	**06 22 16.3**	**+0.5**
	1.1nm,0.4s,baz=106,slow=8.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.33**	**321**	P	**P**	**06 22 15.8**	**0.0**
KNRA	**Kununurra**	**43.42**	**183**	P	**P**	**06 22 25.5**	**+0.6**
KNRA				IAmb	IAmb	06 22 49.3	
	comp=Z,13nm,1.0s						
KIWB	**Kanaga Island**	**45.29**	**43**	P	**P**	**06 22 38.3**	**-1.3**
ASAR	**Alice Springs**	**51.41**	**176**	P	**P**	**06 23 27.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=9.1,slow=13,SNR=28						
ASAR	**Alice Springs**	**51.41**	**176**	P	**P**	**06 23 26.9**	**-0.2**
IMAR	**Indian Mountai**	**58.89**	**28**	P	**P**	**06 24 20.8**	**+0.2**
OHAK	**Old Harbor**	**59.42**	**38**	P	**P**	**06 24 24.0**	**-0.4**
KDAK	**Kodiak Island**	**59.75**	**37**	P	**P**	**06 24 26.1**	**-0.5**
BPAW	**Bear Paw Mtn.**	**60.09**	**30**	P	**P**	**06 24 28.9**	**0.0**
BPAW				IAmb	IAmb	06 24 55.8	
	comp=Z,4.0nm,1.4s						
MLY	**Manley**	**60.16**	**29**	P	**P**	**06 24 29.8**	**+0.4**
MDM	**Murphy Dome**	**61.23**	**29**	P	**P**	**06 24 36.7**	**+0.1**
MDM				IAmb	IAmb	06 24 37.8	
	comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**61.81**	**29**	P	**P**	**06 24 39.4**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=272,slow=5.1,SNR=5.4						
BMAR	**Burnt Mountain**	**62.45**	**26**	P	**P**	**06 24 46.3**	**+1.4**
M24K	**Tolsona, Glenn**	**62.46**	**32**	P	**P**	**06 24 43.5**	**-1.6**
SCRK	**Sand Creek**	**63.17**	**30**	P	**P**	**06 24 49.5**	**-0.3**
SCRK				IAmb	IAmb	06 24 59.7	
	comp=Z,2.4nm,1.1s						
DOT	**Dot Lake**	**63.19**	**30**	P	**P**	**06 24 49.1**	**-0.7**
DOT				IAmb	IAmb	06 24 54.6	
	comp=Z,2.2nm,1.0s						
BCAR	**Beaver Creek A**	**64.30**	**30**	P	**P**	**06 24 57.7**	**+0.5**
EPYK	**Eagle Plains**	**65.69**	**26**	P	**P**	**06 25 06.7**	**+0.4**
EPYK				IAmb	IAmb	06 25 07.1	
	comp=Z,2.6nm,0.7s						
INK	**Inuvik**	**66.38**	**24**	P	**P**	**06 25 10.4**	**-0.1**
FINES	**FINESS Array B**	**72.50**	**331**	P	**P**	**06 25 49.9**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=61

GUC ***07*** *06:34:01.0±0.7, 43°.01S×74°.38W, h25km, ML4.0*
NEIC ***07*** *06:34:02.2±1.1, 42°.94S±0°.06×74°.27W±0°.10, h24km±6km, mb4.0/3, ML3.4(GUC), Error ellipse: s-maj=10.6km s-min=8.2km az=94.0*
IDC ***07*** *06:34:04.1±1.4, 42°.19S×74°.42W, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.8/31, mbtmp3.9/7, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx3.0/20, Error ellipse: s-maj=30.4km s-min=22.2km az=161.0*

ISC 07 06:34:03.3±0.9, 42.89S±0°.05×74.16W±0°.08, h22km±6km, n35, σ1s20/35, mb3.7/5, 2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.42**	**122**	⇓*i*P		**Pb**		**06 34 11.4**	**-0.8**
GO07				*i* S		**Sb**		**06 34 18.5**	**+0.4**
GO07				IAML				06 34 20.7	
	comp=N,22μm,0.3s								
GO07	**Milladeo Hill,**	**0.42**	**122**			**Pb**		**06 34 11.4**	**-0.8**
LL07	**Hotel Espejo d**	**0.50**	**84**	*e*P		**Pb**		**06 34 13.6**	**+0.1**
LL07				*i* S		**Sn**		**06 34 22.7**	**-0.5**
LL07				IAML				06 34 24.2	
	comp=E,20μm,0.7s								
LL07	**Hotel Espejo d**	**0.50**	**84**			**Pb**		**06 34 14.1**	**+0.6**
LL01	**San Ignacio de**	**1.39**	**69**	*e*P		**Pn**		**06 34 27.2**	**-0.1**
LL01				*i* S		**Sb**		**06 34 47.0**	**+1.3**
LL01	**San Ignacio de**	**1.39**	**69**			**Pn**		**06 34 27.3**	**-0.1**
LL05	**Los Muermos**	**1.57**	**19**	*e*P		**Pn**		**06 34 29.6**	**-0.3**
LL05				*i* S		**Sb**		**06 34 51.8**	**+0.8**
LL05				IAML				06 35 02.3	
	comp=N,1μm,0.7s								
LL05	**Los Muermos**	**1.57**	**19**			**Pn**		**06 34 29.6**	**-0.3**
LL02	**Futaleuf**	**1.72**	**101**	⇓*i*P		**Pn**		**06 34 31.6**	**-0.4**
LL02				*i* S		**Sb**		**06 34 54.7**	**-0.6**
LL02	**Futaleuf**	**1.72**	**101**			**Pn**		**06 34 31.9**	**0.0**
LL03	**Petrohue**	**2.18**	**37**	*e*P		**Pn**		**06 34 38.5**	**+0.2**
LL03				IAML				06 35 15.0	
	comp=E,1μm,0.7s								
LL03	**Petrohue**	**2.18**	**37**			**Pn**		**06 34 38.5**	**+0.2**
COYC	**Coyhaique**	**3.07**	**152**	*e*P		**Pn**		**06 34 51.7**	**+1.2**
COYC				*i* S		**Sn**		**06 35 24.9**	**-1.6**
COYC				IAML				06 35 40.2	
	comp=N,408nm,0.3s								
PLCA	**Paso Flores**	**3.45**	**53**	Pn		**Pn**		**06 34 57.7**	**+1.8**
	comp=N,0.7nm,0.3s,baz=227,slow=7.4,SNR=17								
PLCA				Lg		Lg		06 35 47.3	
	comp=N,3.4nm,0.3s,baz=106,slow=15,SNR=1.7								
PLCA				LR		LR		06 36 27.1	
	comp=N,307nm,18.1s,baz=242,slow=44								
PLCA	**Paso Flores**	**3.45**	**53**			**Pn**		**06 34 57.2**	**+1.3**
BO02	**Sierra Bellavi**	**8.50**	**19**	Pn		**Pn**		**06 36 04.2**	**-1.0**
BO01	**Tunca**	**8.82**	**17**	Pn		**Pn**		**06 36 08.5**	**-0.9**
MT09	**Talagante**	**9.43**	**16**	Pn		**Pn**		**06 36 15.7**	**-2.3**
H03S1	**Juan Fernandez**	**9.77**	**336**	T		T		06 46 21.7	
	baz=159,slow=74,SNR=23								
H03S2	**Juan Fernandez**	**9.78**	**336**	T		T		06 46 19.9	
	baz=159,slow=74,SNR=24								
H03S3	**Juan Fernandez**	**9.79**	**336**	T		T		06 46 17.2	
	baz=159,slow=74,SNR=35								
H03N3	**Juan Fernandez**	**10.14**	**337**	Pn		**Pn**		**06 36 27.1**	**-0.2**
	SNR=15								
H03N1	**Juan Fernandez**	**10.15**	**337**	Pn		**Pn**		**06 36 26.6**	**-0.8**
	SNR=11								
H03N2	**Juan Fernandez**	**10.15**	**337**	Pn		**Pn**		**06 36 26.8**	**-0.7**
	SNR=8.9								
USHA	**Ushuaia**	**12.53**	**165**	Pn		**P**		**06 37 13.5**	**+2.0**
	comp=N,2.8nm,0.3s,baz=243,slow=1.5,SNR=3.5								
LVC	**Limon Verde**	**20.69**	**14**	P		Pn		06 38 43.5	-1.2
	comp=N,2.3nm,0.7s,baz=253,slow=24,SNR=2.2								
CPUP	**Villa Florida**	**21.49**	**45**	P		**P**		**06 38 50.1**	**-0.4**
	comp=N,2.0nm,0.8s,baz=219,slow=9.9,SNR=4.9								
CPUP	**Villa Florida**	**21.49**	**45**	P		**P**		**06 38 50.1**	**-0.4**
CPUP				IAmb		IAmb		06 39 10.5	
	comp=Z,6.7nm,1.4s								
PMSA	**Palmer Station**	**22.67**	**169**	LR		LR		06 46 57.8	
	comp=Z,54nm,18.2s,baz=359,slow=33								
LPAZ	**La Paz**	**27.01**	**13**	P		**P**		**06 39 42.6**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=182,slow=7.2,SNR=2.3								
LPAZ	**La Paz**	**27.01**	**13**	P		**P**		**06 39 42.9**	**-1.5**
LPAZ				IAmb		IAmb		06 39 55.2	
	comp=Z,4.4nm,1.4s								
TXAR	**Lajitas Array**	**76.82**	**334**	P		**P**		**06 45 52.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=166,slow=8.4,SNR=6.5								
BOSA	**Boshof**	**77.44**	**117**	P		P		06 46 04.0	+6.8
	comp=Z,2.8nm,0.8s,baz=228,slow=5.1,SNR=4.0								
BOSA	**Boshof**	**77.44**	**117**	P		**P**		**06 45 55.2**	**-1.9**
BOSA				IAmb		IAmb		06 46 05.5	
	comp=Z,8.9nm,1.1s								
PDAR	**Pinedale Array**	**91.01**	**335**	P		**P**		**06 47 08.6**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=145,slow=6.6,SNR=2.9								

IDC ***07*** *06:39:25.9±0.6, 6°.64S×81°.28W, h0km, mb4.5/17, mb1 4.6/22, mb1mx4.5/31, mbtmp4.5/22, ML3.7/5, MS4.5/18, Ms1 4.5/18, ms1mx4.3/24, Error ellipse: s-maj=17.7km s-min=10.5km az=44.0*
NEIC ***07*** *06:39:28.5±1.3, 6°.63S±0°.07×81°.08W±0°.08, h11km±3km, mb4.8/263, Error ellipse: s-maj=12.3km s-min=9.0km az=55.0*
GCMT ***07*** *06:39:29.5±0.2, 6°.83S±0°.01×81°.37W±0°.01, h14km, MW5.2/114, Moment Tensor Solution. s63,c79; s114,c182; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr5.19±.21; Mθθ-1.46±.12; Mφφ-3.73±.14; Mrθ2.14±.27; Mrφ1.94±.08; Mθφ-6.95±.48; Best double couple: M08.82900×10^16 NP1φs322.00000°, δ18.00000°, λ73.00000°. NP2φs160.00000°, δ73.00000°, λ95.00000°. Principal axes: T 9.0770, Plg62.0000°, Azm79.0000°; N -0.4960, Plg5.0000°, Azm339.0000°; P -8.5810, Plg28.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
VAO ***07*** *06:39:30.5±0.8, 6°.62S×80°.85W, h10km, mb4.9*

ISC 07 06:39:30.8±0.3, 6.70S±0°.04×81.14W±0°.05, h34km, n428, σ1s27/422, mb4.8/127, MS4.6/21, 2C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.76**	**99**	Pn		**Pn**		**06 40 14.4**	**+1.4**
	7.6nm,0.3s,baz=333,slow=2.8,SNR=51								
ATAH				Lg		Lg		06 40 59.5	
	105nm,0.3s,baz=132,slow=17,SNR=5.0								
NNA	**Nana**	**6.75**	**141**	Pn		**Pn**		**06 41 08.0**	**+0.3**
	2.1nm,0.3s,baz=318,slow=8.6,SNR=3.8								
NNA				Sn		**Sn**		**06 42 21.4**	**-2.1**
	4.6nm,0.3s,baz=201,slow=19,SNR=1.2								
NNA				Lg		Lg		06 43 06.4	
	3.9nm,0.3s,baz=221,slow=22,SNR=7.8								
NNA				LR		LR		06 43 38.3	
	comp=Z,4μm,18.6s,baz=316,slow=37								
NNA	**Nana**	**6.75**	**141**	Pn		**Pn**		**06 41 07.9**	**+0.2**
PAC1	**Pacto, Paraso**	**7.31**	**19**	*e*P		**Pn**		**06 41 11.2**	**-4.1**
OTAV	**Otavalo**	**7.39**	**21**	Pn		**Pn**		**06 41 15.7**	**-1.1**
OTAV	**Otavalo**	**7.39**	**21**	*e*P		**Pn**		**06 41 15.0**	**-1.8**
OTAV	**Otavalo**	**7.39**	**21**	*e*P		**Pn**		**06 41 15.6**	**-1.3**
CUSE	**Cuicocha Este**	**7.48**	**22**	*e*P		Pn		06 41 12.2	-5.8
TULM	**Tulcn-Chalpat**	**8.09**	**25**	*e*P		**Pn**		**06 41 22.6**	**-3.8**
CZSB	**Cruzeiro do Su**	**8.44**	**97**	*e*P		**Pn**		**06 41 29.0**	**-1.7**
GCUF	**Volcan Galeras**	**8.74**	**26**	*e*P		**Pn**		**06 41 33.1**	**-2.1**
CRUC	**La Cruz**	**9.22**	**27**	*e*P		**Pn**		**06 41 38.9**	**-2.9**
PTLC	**Puerto Leguiza**	**9.31**	**43**	*e*P		Pn		06 41 35.0	-7.7
BBAC	**Balboa, Cauca**	**9.49**	**24**	*e*P		**Pn**		**06 41 40.8**	**-4.7**
FLOC	**Florencia**	**9.88**	**34**			**Pn**		**06 41 48.6**	**-2.0**
FLOC	**Florencia**	**9.88**	**34**	*e*P		**Pn**		**06 41 49.4**	**-1.3**
POPC	**Popayan, Colom**	**10.20**	**26**	*e*P		Pn		06 41 46.5	-8.7
MARP	**Paez Belalcaza**	**10.80**	**29**	*e*P		**Pn**		**06 42 01.8**	**-1.6**
PAYG	**Puerto Ayora**	**10.91**	**303**	Pn		**Pn**		**06 42 04.5**	**-0.1**
PAYG	**Puerto Ayora**	**10.91**	**303**	*e*P		**Pn**		**06 42 04.6**	**0.0**
TBTG	**Tabatinga, AM**	**11.46**	**78**	*e*P		**Pn**		**06 42 16.1**	**+3.9**
GUVC	**San Jose del G**	**12.51**	**43**	*e*P		**Pn**		**06 42 24.7**	**-1.9**
TOLC	**Tolima**	**12.63**	**28**	*e*P		**P**		**06 42 38.0**	**-1.4**
VILC	**Villavicencio,**	**13.06**	**35**	*e*P		**P**		**06 42 43.8**	**-0.3**
GUY2C	**Guyana, Caldas**	**13.17**	**26**	*e*P		**P**		**06 42 43.7**	**-1.9**
ROSC	**El Rosal**	**13.33**	**31**	Pn		**P**		**06 42 49.9**	**+2.5**
	0.7nm,0.3s,baz=60,slow=13,SNR=2.3								
ROSC				Lg		Lg		06 46 37.3	
	0.8nm,0.3s,baz=182,slow=18,SNR=1.7								
ROSC				LR		LR		06 48 56.2	
	comp=Z,7μm,18.1s,baz=214,slow=43								
ROSC	**El Rosal**	**13.33**	**31**	Pn		**Pn**		**06 42 37.2**	**-0.9**
CHIC	**Chingaza**	**13.47**	**34**	*e*P		**Pn**		**06 42 39.9**	**-0.1**
CBOC	**Ciudad Bolivar**	**13.49**	**22**	*e*P		**Pn**		**06 42 41.8**	**+1.8**
HELC	**Santa Helena**	**13.98**	**24**	*e*P		**P**		**06 42 52.3**	**-2.1**
SPBC	**San Pablo de B**	**14.15**	**30**	*e*P		**Pn**		**06 42 50.4**	**+1.4**
AZU	**Azuero**	**14.42**	**3**	*e*P		**Pn**		**06 42 51.4**	**-1.2**
RUSC	**La Rusia**	**14.87**	**33**	Pn		**Pn**		**06 42 57.9**	**-1.3**
RUSC	**La Rusia**	**14.87**	**33**	*e*P		**Pn**		**06 42 60.0**	**+0.8**
ETMB	**Extrema**	**15.10**	**103**	*e*P		**Pn**		**06 42 59.2**	**-2.5**
CDITO	**Canoas**	**15.27**	**353**	Pn		**Pn**		**06 43 03.9**	**-0.1**
CDITO				IAmb		IAmb		06 43 30.7	
	comp=Z,44nm,1.0s								
UREC	**San Jos de Ur**	**15.41**	**21**	*e*P		**P**		**06 43 10.5**	**+0.4**
BARC	**Barichara**	**15.41**	**31**	*e*P		**Pn**		**06 43 05.7**	**-0.3**
UPD2	**Meteti**	**15.46**	**12**	*e*P		**Pn**		**06 43 07.6**	**+1.1**
RIOS	**Rincon, Osa**	**15.48**	**351**	Pn		**Pn**		**06 43 06.0**	**-0.7**
RIOS				IAmb		IAmb		06 43 28.6	
	comp=Z,44nm,1.2s								
BRRC	**Barranca, Sant**	**15.59**	**29**	*e*P		**Pn**		**06 43 09.5**	**+1.3**
BCIP	**Isla Barro Col**	**15.81**	**5**			**Pn**		**06 43 10.5**	**-0.5**
BCIP	**Isla Barro Col**	**15.81**	**5**	*e*P		**Pn**		**06 43 08.6**	**-2.5**
LPAZ	**La Paz**	**15.91**	**128**	Pn		**P**		**06 43 15.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=303,slow=12,SNR=17								
LPAZ				LR		LR		06 49 55.3	
	comp=Z,4μm,21.5s,baz=305,slow=39								
LPAZ	**La Paz**	**15.91**	**128**			**Pn**		**06 43 12.3**	**-0.6**
LPAZ	**La Paz**	**15.91**	**128**	*e*P		**P**		**06 43 15.2**	**-1.0**
SRBA	**San Rafael, Bu**	**15.98**	**352**			**Pn**		**06 43 11.7**	**-1.6**
DRK0	**Durika**	**15.99**	**352**			**Pn**		**06 43 12.6**	**-1.0**
DRK0				IAmb		IAmb		06 43 36.7	
	comp=Z,44nm,0.8s								
PB16	**IPOC Station P**	**16.20**	**137**			**Pn**		**06 43 15.7**	**-0.8**
PAMC	**Pamplona, Colo**	**16.29**	**31**	*e*P		**P**		**06 43 21.9**	**+1.6**
MOTC	**Monteria, Cord**	**16.32**	**20**	*e*P		**Pn**		**06 43 18.1**	**+0.6**
MNMC	**Minye Minye**	**16.70**	**139**	Pn		**Pn**		**06 43 23.0**	**+0.4**
CVTR	**Volcan Turrial**	**16.81**	**351**	Pn		**Pn**		**06 43 23.8**	**-0.3**
HDC	**Heredia**	**16.85**	**350**			**Pn**		**06 43 23.3**	**-1.1**
HDC				IAmb		IAmb		06 43 49.3	
	comp=Z,93nm,1.4s								
SMLC	**San Martn de**	**16.93**	**25**	*e*P		**Pn**		**06 43 25.7**	**+0.4**
PB11	**IPOC Station P**	**17.12**	**140**	P		**Pn**		**06 43 28.3**	**+0.6**
PB11				IAmb		IAmb		06 43 33.4	
	comp=Z,92nm,1.4s								
TA02	**Huaiquique**	**17.21**	**143**	P		**Pn**		**06 43 24.6**	**-4.1**
DUNO	**Dulce Nombre,**	**17.22**	**345**	P		**Pn**		**06 43 28.3**	**-0.6**
JTS	**Las Juntas de**	**17.30**	**347**	P		**P**		**06 43 33.8**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=228,slow=16,SNR=3.6								
JTS				LR		LR		06 47 57.9	
	comp=Z,1μm,18.2s,baz=242,slow=30								
JTS	**Las Juntas de**	**17.30**	**347**	P		**Pn**		**06 43 29.2**	**-0.6**
JTS				IAmb		IAmb		06 43 55.0	
	comp=Z,109nm,1.5s								
TA01	**Diego Aracena**	**17.41**	**143**	P		**Pn**		**06 43 30.0**	**-1.1**
TA01				IAmb		IAmb		06 43 43.5	
	comp=Z,95nm,1.5s								
SJCC	**San Jacinto, C**	**17.52**	**20**			**Pn**		**06 43 32.5**	**-0.2**
SJCC				IAmb		IAmb		06 43 38.7	
	comp=Z,123nm,1.1s								
SJCC	**San Jacinto, C**	**17.52**	**20**	*e*P		**P**		**06 43 34.3**	**+0.8**
COVE	**Coope Vega, Sa**	**17.61**	**349**	P		**Pn**		**06 43 32.7**	**-0.9**
COVE				IAmb		IAmb		06 43 58.0	
	comp=Z,75nm,1.3s								
PATCX	**Punta Patache**	**17.62**	**144**	P		**Pn**		**06 43 33.7**	**-0.1**
PATCX				IAmb		IAmb		06 43 39.2	
	comp=Z,113nm,1.4s								
PB08	**IPOC Station P**	**17.72**	**140**	P		**Pn**		**06 43 35.2**	**-0.2**
ARGC	**Ariguani, Magd**	**17.82**	**23**	*e*P		**P**		**06 43 37.2**	**+0.4**
SAML	**Samuel**	**17.93**	**98**	P		**Pn**		**06 43 36.5**	**-1.2**
SOCV	**Socops**	**18.08**	**35**	*e*P		**Pn**		**06 43 36.2**	**-3.2**
PB01	**IPOC Station P**	**18.18**	**143**	P		**P**		**06 43 41.9**	**+1.0**
PB07	**IPOC Station P**	**18.48**	**145**	P		**Pn**		**06 43 44.6**	**+0.1**
SDV	**Santo Domingo**	**18.69**	**34**	P		**P**		**06 43 46.7**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=214,slow=12,SNR=7.2								
SDV	**Santo Domingo**	**18.69**	**34**	P		**P**		**06 43 46.2**	**-0.4**
SDV	**Santo Domingo**	**18.69**	**34**	*e*P		**Pn**		**06 43 47.0**	**-0.2**
ACON	**Acoyapa**	**18.97**	**348**	P		**Pn**		**06 43 50.4**	**+0.1**
ESPN	**Las Esperanzas**	**19.03**	**350**	P		**P**		**06 43 50.2**	**+0.1**
PB06	**IPOC Station P**	**19.43**	**146**	P		**P**		**06 43 53.7**	**-0.9**
BOAB	**BOACO BROADBAND**	**19.55**	**347**	P		**P**		**06 43 55.8**	**0.0**
BOAB				IAmb		IAmb		06 44 08.0	
	comp=Z,97nm,1.2s								
LVC	**Limon Verde**	**19.73**	**145**	P		**Pn**		**06 44 00.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=319,slow=8.6,SNR=13								
LVC	**Limon Verde**	**19.73**	**145**	P		**P**		**06 43 57.9**	**-0.2**
LVC	**Limon Verde**	**19.73**	**145**	*e*P		**Pn**		**06 43 59.0**	**-0.8**
MATN	**Matagalpa**	**20.07**	**346**	P		**P**		**06 44 00.9**	**-0.6**
MATN				IAmb		IAmb		06 44 12.4	
	comp=Z,28nm,0.8s								
URIC	**Uribia, Colomb**	**20.42**	**27**	P		**P**		**06 44 04.9**	**-0.3**
URIC				IAmb		IAmb		06 44 11.9	
	comp=Z,50nm,1.2s								
URIC	**Uribia, Colomb**	**20.42**	**27**	*e*P		**P**		**06 44 04.8**	**-0.3**
PB14	**IPOC Station P**	**20.58**	**151**	P		**P**		**06 44 07.6**	**+0.3**
PB14				IAmb		IAmb		06 44 31.4	
	comp=Z,78nm,1.4s								
GO02	**Mina Guanaco**	**21.43**	**150**	P		**P**		**06 44 16.6**	**+0.2**
GO02				IAmb		IAmb		06 44 25.1	
	comp=Z,77nm,1.1s								
TGUH	**Tegucigalpa,Un**	**21.50**	**344**	P		**P**		**06 44 16.4**	**-0.6**
TGUH	**Tegucigalpa,Un**	**21.50**	**344**	*e*P		**P**		**06 44 16.3**	**-0.7**
VILB	**Vilhena**	**21.54**	**108**	*e*P		**P**		**06 44 18.5**	**+1.1**
SIV	**San Ignacio**	**21.72**	**117**	P		**P**		**06 44 20.4**	**+1.1**
	comp=Z,63nm,1.1s,baz=305,slow=12,SNR=78								
SIV				LR		LR		06 52 50.3	
	comp=Z,1μm,18.9s,baz=304,slow=37								
SNET	**Serv Nac Est T**	**21.79**	**338**	P		**P**		**06 44 19.2**	**-0.8**
AC01	**Pan de Azucar**	**21.80**	**154**	P		**P**		**06 44 20.1**	**0.0**
AC01				IAmb		IAmb		06 44 25.7	
	comp=Z,85nm,1.5s								
PTGA	**Pitinga**	**21.94**	**75**	P		**P**		**06 44 20.7**	**-1.0**
	comp=Z,22nm,0.7s,baz=249,slow=11,SNR=20								
PTGA	**Pitinga**	**21.94**	**75**	P		**P**		**06 44 20.6**	**-1.0**
PTGA				IAmb		IAmb		06 44 26.9	
	comp=Z,74nm,1.1s								
BOAV	**Boa Vista**	**22.48**	**67**	*e*P		**P**		**06 44 27.1**	**-0.3**
MTO3	**Montecristo**	**22.49**	**339**	P		**P**		**06 44 26.5**	**-1.3**
PTLB	**Pontes e Lacer**	**23.26**	**114**	*e*P		**P**		**06 44 36.3**	**+0.8**
APG	**El Apazote**	**23.46**	**337**	P		**P**		**06 44 37.4**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=211,slow=21,SNR=6.6								
PCRV	**Puerto La Cruz**	**23.48**	**45**	P		**P**		**06 44 39.3**	**+1.6**
	comp=Z,64nm,0.9s,baz=202,slow=5.8,SNR=30								
CCIG	**Comitan**	**25.29**	**335**	P		**P**		**06 44 51.9**	**-2.6**
CCIG				IAmb		IAmb		06 45 12.1	
	comp=Z,23nm,1.2s								
CLDB	**Colider**	**25.38**	**101**	*e*P		**P**		**06 44 56.5**	**+1.2**
ITTB	**Itaituba**	**25.39**	**86**	*e*P		**P**		**06 44 55.3**	**0.0**
NPGB	**Novo Progresso**	**25.60**	**92**	*e*P		**P**		**06 44 57.0**	**-0.2**
H03N2	**Juan Fernandez**	**26.69**	**176**	T		T		07 12 58.1	
	baz=356,slow=76,SNR=935								
H03N1	**Juan Fernandez**	**26.69**	**176**	T		T		07 13 04.4	
	baz=356,slow=76,SNR=1029								
H03N3	**Juan Fernandez**	**26.70**	**176**	T		T		07 13 03.4	
	baz=356,slow=76,SNR=979								
MALB	**Monte Alegre**	**27.22**	**81**	*e*P		**P**		**06 45 13.3**	**+1.4**
PP1B	**Ponte de Pedra**	**27.82**	**115**	*e*P		**P**		**06 45 19.1**	**+1.9**
PCDR	**Punta Cana, DR**	**28.04**	**26**	P		**P**		**06 45 18.0**	**-1.1**
AQDB	**Aquidauana**	**28.21**	**122**	P		**P**		**06 45 21.4**	**+0.8**
AQDB				IAmb		IAmb		06 45 34.9	
	comp=Z,30nm,1.3s								
AQDB	**Aquidauana**	**28.21**	**122**	*e*P		**P**		**06 45 22.5**	**+1.9**
OBIP	**Obispado Ponce**	**28.47**	**30**	P		**P**		**06 45 22.8**	**-0.1**
AOPR	**Arecibo Observ**	**28.65**	**29**	P		**P**		**06 45 24.6**	**+0.1**
PDPR	**Patillas Dam,**	**28.74**	**31**	P		**P**		**06 45 24.7**	**-0.6**
SJG	**San Juan**	**28.75**	**31**	P		**P**		**06 45 26.1**	**+0.7**
	comp=Z,30nm,1.1s,baz=168,slow=16,SNR=6.1								
SJG	**San Juan**	**28.75**	**31**	P		**P**		**06 45 24.6**	**-0.8**
EMPR	**Esperanza - Ma**	**28.87**	**30**	P		**P**		**06 45 26.4**	**-0.1**
GCPR	**Guaynabo City**	**28.95**	**31**	P		**P**		**06 45 26.6**	**-0.6**
CBYP	**Canovanas**	**29.04**	**31**	P		**P**		**06 45 27.2**	**-0.8**
SNDB	**Serra Nova Dou**	**29.90**	**102**	*e*P		**P**		**06 45 36.5**	**+0.8**
CPUP	**Villa Florida**	**29.93**	**133**	P		**P**		**06 45 37.1**	**+1.2**
	comp=Z,14nm,1.2s,baz=307,slow=11,SNR=6.7								
CPUP				LR		LR		06 59 28.5	
	comp=Z,1μm,18.5s,baz=326,slow=40								
ARAG	**Araguaiana, MT**	**30.10**	**110**	*e*P		**P**		**06 45 38.7**	**+1.3**
PRPB	**Paraupebas**	**31.13**	**91**	*e*P		**P**		**06 45 46.6**	**-0.1**
PCMB	**Pacaembu**	**32.45**	**120**	*e*P		**P**		**06 45 59.6**	**+1.5**
ITRB	**Iturama**	**32.56**	**116**	*e*P		**P**		**06 46 00.6**	**+1.4**
PEXB	**Peixe**	**32.83**	**102**	*e*P		**P**		**06 46 03.3**	**+1.8**
PTGB	**Pitanga**	**33.11**	**126**	*e*P		**P**		**06 46 04.5**	**+0.6**
SMTB	**Santa Maria do**	**33.31**	**96**	*e*P		**P**		**06 46 06.2**	**+0.5**
BDFB	**Brasilia**	**33.65**	**108**	P		**P**		**06 46 09.7**	**+0.9**
	comp=Z,6.4nm,1.0s,baz=297,slow=10.0,SNR=7.2								
BDFB				LR		LR		07 01 03.3	
	comp=Z,1μm,20.1s,baz=283,slow=38								
BDFB	**Brasilia**	**33.65**	**108**	P		**P**		**06 46 08.6**	**-0.3**
BDFB				IAmb		IAmb		06 46 11.2	
	comp=Z,34nm,1.5s								
IPMB	**Ipameri, GO**	**34.00**	**112**	*e*P		**P**		**06 46 11.8**	**0.0**
ITAB	**Concordia**	**34.29**	**130**	P		**P**		**06 46 14.0**	**-0.2**
ITAB	**Concordia**	**34.29**	**130**	*e*P		**P**		**06 46 15.8**	**+1.7**
FRTB	**Fartura**	**34.58**	**122**	*e*P		**P**		**06 46 17.3**	**+0.7**
BB19B	**Bebedouro**	**34.63**	**118**	*e*P		**P**		**06 46 18.3**	**+1.0**
LL03	**Petrohue**	**35.17**	**169**	P		**P**		**06 46 21.6**	**+0.1**
PLCA	**Paso Flores**	**35.19**	**166**	P		**P**		**06 46 22.2**	**+0.4**
	comp=Z,8.9nm,1.1s,baz=347,slow=12,SNR=6.4								
PLCA				LR		LR		06 58 33.6	
	comp=Z,685nm,18.6s,baz=6.5,slow=32								
PLCA	**Paso Flores**	**35.19**	**166**	P		**P**		**06 46 21.6**	**-0.2**
PLCA				IAmb		IAmb		06 46 32.8	
	comp=Z,20nm,1.1s								
PLTB	**Pedras Altas**	**35.81**	**138**	P		**P**		**06 46 27.2**	**-0.1**
PLTB				IAmb		IAmb		06 46 46.2	
	comp=Z,30nm,1.5s								
RCLB	**Rio Claro- Sao**	**35.97**	**119**	*e*P		**P**		**06 46 30.5**	**+1.8**
SDBA	**SAO DESIDERIO**	**36.16**	**102**	*e*P		**P**		**06 46 31.9**	**+1.5**
SPB	**Sao Paulo**	**36.48**	**121**	P		**P**		**06 46 33.2**	**+0.3**
SPB	**Sao Paulo**	**36.48**	**121**	*e*P		**P**		**06 46 35.0**	**+2.1**
PET01	**Itanhaem-SP**	**36.87**	**122**	*e*P		**P**		**06 46 37.5**	**+1.2**
JANB	**Januaria**	**37.06**	**106**	*e*P		**P**		**06 46 39.6**	**+1.5**
ROSB	**Rosrio**	**37.07**	**86**	*e*P		**P**		**06 46 38.8**	**+0.7**
346A	**Big Creek Wild**	**38.70**	**349**	P		**P**		**06 46 50.9**	**-0.7**
346A				IAmb		IAmb		06 47 20.3	
	comp=Z,19nm,0.8s								
250A	**Grady**	**38.77**	**353**	P		**P**		**06 46 52.9**	**+0.8**
250A				IAmb		IAmb		06 47 16.1	
	comp=Z,43nm,1.5s								
735A	**Kenedy**	**38.83**	**336**	P		**P**		**06 46 53.3**	**+0.6**
735A				IAmb		IAmb		06 47 03.3	
	comp=Z,13nm,0.6s								
344A	**Westbrook Farm**	**39.03**	**347**	P		**P**		**06 46 54.7**	**+0.4**
344A				IAmb		IAmb		06 47 06.8

FCAR	Ozark Folk Cen	43.60	347	P	P	06 47 31.9	0.0		
FCAR				IAmb	IAmb	06 47 56.5			
	comp=Z,25nm,1.3s								
BLA	Blacksburg	43.69	1	P	P	06 47 33.1	+0.5		
T47A	Sharon Grove	43.81	353	P	P	06 47 32.5	-1.0		
PARMO	Parma	43.88	350	P	P	06 47 32.9	-1.1		
PARMO				IAmb	IAmb	06 48 01.2			
	comp=Z,20nm,0.8s								
X34A	Smith Ranch, M	44.00	340	P	P	06 47 35.7	+0.6		
PBMO	Poplar Bluff	44.12	349	P	P	06 47 35.6	-0.3		
PBMO				IAmb	IAmb	06 47 59.3			
	comp=Z,17nm,1.4s								
S51A	Beattyville	44.17	357	P	P	06 47 36.1	-0.2		
S51A				IAmb	IAmb	06 47 36.6			
	comp=Z,18nm,1.5s								
W35A	Tecumseh	44.19	341	P	P	06 47 36.7	+0.1		
U40A	Yellville	44.22	346	P	P	06 47 37.2	+0.5		
U40A				IAmb	IAmb	06 47 48.7			
	comp=Z,37nm,1.4s								
U40A	Yellville	44.22	346	P		06 47 37.9			
	baz=163,SNR=9.1								
HHAR	Hobbs	44.41	345	P	P	06 47 37.9	-0.5		
HHAR				IAmb	IAmb	06 47 50.2			
	comp=Z,23nm,1.3s								
WMOK	Wichita Mounta	44.45	339	P		06 47 39.3			
	baz=154,SNR=7.1								
WMOK	Wichita Mounta	44.45	339	P	P	06 47 39.0	+0.3		
WMOK				IAmb	IAmb	06 47 40.4			
	comp=Z,11nm,1.1s								
FNO	Franklin	44.46	341	P	P	06 47 38.4	-0.3		
NBAN	Anadia - AL	44.49	97	eP	P	06 47 39.4	+0.1		
T42A	Van Buren	44.49	349	P	P	06 47 38.4	-0.5		
T42A				IAmb	IAmb	06 48 02.9			
	comp=Z,18nm,1.4s								
R58B	Mineral	44.53	4	P	P	06 47 39.1	-0.2		
R58B				IAmb	IAmb	06 47 40.4			
	comp=Z,32nm,1.4s								
TUL1	Leonard	44.56	343	P		06 47 40.6			
	baz=159								
OKCFA	Oklahoma City	44.62	341	P	P	06 47 40.1	+0.1		
MNTX	Cornudas Mount	44.65	330	P		06 47 39.9			
	baz=144,SNR=10								
MNTX	Cornudas Mount	44.65	330	P	P	06 47 40.0	-0.3		
U38A	Gravette	44.67	345	P	P	06 47 40.6	+0.2		
U38A				IAmb	IAmb	06 47 49.7			
	comp=Z,11nm,0.9s								
OK025	Westminster Rd	44.73	341	P	P	06 47 40.7	-0.2		
S44A	Carbondale	44.81	351	P	P	06 47 42.0	+0.5		
S44A				IAmb	IAmb	06 47 54.7			
	comp=Z,10nm,0.8s								
CBN	Corbin Frederi	44.81	4	P	P	06 47 41.5	+0.1		
CBN				IAmb	IAmb	06 47 42.7			
	comp=Z,34nm,1.4s								
R50A	Paris	44.85	356	P	P	06 47 40.1	-1.7		
R50A				IAmb	IAmb	06 47 42.2			
	comp=Z,15nm,1.4s								
MGMO	Mountain Grove	44.85	347	P	P	06 47 42.3	+0.5		
MGMO				IAmb	IAmb	06 47 56.8			
	comp=Z,29nm,1.4s								
OK030	Cody Creek RV	44.88	342	P	P	06 47 41.6	-0.5		
OK030				IAmb	IAmb	06 47 52.6			
	comp=Z,26nm,1.3s								
BCOK	Bluff Creek, N	44.89	341	P	P	06 47 42.1	-0.1		
OK031	S. Brethren Rd	44.92	342	P	P	06 47 41.7	-0.7		
OK031				IAmb	IAmb	06 47 51.9			
	comp=Z,23nm,1.2s								
OK029	Liberty Lake	44.97	341	P	P	06 47 42.3	-0.5		
MSTX	Muleshoe	45.34	334	P		06 47 47.0			
	baz=149,SNR=6.5								
MSTX	Muleshoe	45.34	334	P	P	06 47 45.9	-0.1		
CCM	Cathedral Cave	45.51	349	P	P	06 47 47.3	+0.2		
CCM				IAmb	IAmb	06 48 02.2			
	comp=Z,22nm,1.4s								
Q51A	Peebles	45.54	358	P	P	06 47 47.0	-0.3		
Q51A				IAmb	IAmb	06 47 55.6			
	comp=Z,10nm,0.9s								
S39A	Bolivar	45.60	346	P	P	06 47 47.5	-0.3		
S39A				IAmb	IAmb	06 47 56.8			
	comp=Z,11nm,0.9s								
HSIG		45.66	323	P	P	06 47 47.5	-0.9		
HSIG				IAmb	IAmb	06 48 04.0			
	comp=Z,4.9nm,0.5s								
T35A	Sooner Cattle	45.71	343	P	P	06 47 49.5	+0.8		
CROK	Carrier	45.79	341	P	P	06 47 48.1	-1.1		
SLM	Saint Louis	45.89	350	P	P	06 47 50.5	+0.5		
SLM				IAmb	IAmb	06 47 58.5			
	comp=Z,26nm,1.3s								
R40A	Maddies Statio	45.94	348	P	P	06 47 49.9	-0.6		
R40A				IAmb	IAmb	06 47 58.6			
	comp=Z,7.9nm,1.0s								
P52A	Corning	46.11	359	P		06 47 51.2			
	baz=179								
OK032	Salt Plains WL	46.13	341	P	P	06 47 51.4	-0.6		
319A	Douglas	46.44	326	P	P	06 47 54.7	+0.1		
319A				IAmb	IAmb	06 48 04.4			
	comp=Z,12nm,0.8s								
KAN08	Anthony NE Sta	46.44	341	P	P	06 47 55.8	+1.3		
KAN08				IAmb	IAmb	06 48 05.4			
	comp=Z,17nm,1.1s								
KAN12	Harper NE Stat	46.52	341	P	P	06 47 55.5	+0.5		
121A	Cookes Peak, D	46.53	329	P		06 47 57.4			
	baz=142								
121A	Cookes Peak, D	46.53	329	P	P	06 47 55.9	+0.4		
121A				IAmb	IAmb	06 48 12.1			
	comp=Z,13nm,1.2s								
MVL	Millersville	46.67	5	P	P	06 47 56.7	+0.5		
MVL				IAmb	IAmb	06 47 57.6			
	comp=Z,11nm,1.2s								
WUPA	West Chester U	46.68	6	P	P	06 47 55.5	-0.7		
WUPA				IAmb	IAmb	06 47 57.6			
	comp=Z,15nm,1.3s								
O56A	Blue Knob Stat	46.79	3	P		06 47 57.4			
	baz=183								
PAGS	Pennsylvania G	46.87	5	P	P	06 47 57.5	-0.2		
PAGS				IAmb	IAmb	06 48 06.1			
	comp=Z,19nm,1.2s								
P40A	Paris	47.09	348	P	P	06 47 59.0	-0.4		
P40A				IAmb	IAmb	06 48 24.9			
	comp=Z,15nm,1.5s								
O44A	Mansfield	47.10	352	P	P	06 47 59.7	+0.1		
O44A				IAmb	IAmb	06 48 09.8			
	comp=Z,18nm,1.2s								
SSPA	Standing Stone	47.19	3	P		06 48 00.1			
	baz=184								
BNM	Barren Site	47.25	331	P	P	06 48 01.2	+0.1		
LUPA	Lehigh Univers	47.36	6	P	P	06 48 01.2	-0.3		
LENM	Lemitar	47.43	331	P	P	06 48 03.0	+0.6		
P38A	Dawn	47.49	347	P	P	06 48 02.5	-0.1		
P38A				IAmb	IAmb	06 48 13.1			
	comp=Z,8.4nm,1.0s								
N59A	State Game Lan	47.64	6	P		06 48 03.2			
	baz=187,SNR=6.3								
N59A	State Game Lan	47.64	6	P	P	06 48 02.7	-1.0		
R32A	Long Quarter,	47.77	341	P	P	06 48 05.2	+0.4		
ANMO	Albuquerque	47.81	332	P	P	06 48 05.8	+0.4		
ANMO				IAmb	IAmb	06 48 14.9			
	comp=Z,7.1nm,1.1s								
ANMO	Albuquerque	47.81	332	P		06 48 05.6			
	baz=145								
M57A	Sunshine Farm,	47.94	4	P	P	06 48 06.4	+0.4		
TUC	Tucson	47.98	326	P		06 48 06.7			
	baz=139								
TUC	Tucson	47.98	326	P	P	06 48 06.7	+0.1		
M54A	Oil Creek Stat	47.99	1	P		06 48 05.2			
	baz=182								
N41A	Harden Midland	48.01	350	P	P	06 48 06.7	+0.1		
L56A	Greenwood	48.71	4	P		06 48 10.7			
	baz=185								
L56A	Greenwood	48.71	4	P	P	06 48 10.7	-1.3		
L56A				IAmb	IAmb	06 48 13.1			
	comp=Z,11nm,0.8s								
T25A	Trinidad	48.74	335	P		06 48 14.2			
	baz=148,SNR=6.4								
T25A	Trinidad	48.74	335	P	P	06 48 13.4	+0.8		
T25A				IAmb	IAmb	06 48 23.6			
	comp=Z,13nm,1.1s								
L58A	Harry Jones Me	48.75	5	P		06 48 11.7			
	baz=187								
214A	Organ Pipe Nat	48.88	324	P	P	06 48 13.9	+0.3		
214A				IAmb	IAmb	06 48 15.9			
	comp=Z,7.1nm,1.0s								
214A	Organ Pipe Nat	48.88	324	P		06 48 15.0			
	baz=136								
BINY	Binghamton	48.89	5	P		06 48 12.0			
	baz=187								
BINY	Binghamton	48.89	5	P	P	06 48 13.3	0.0		
WVNY	West Valley, N	48.92	2	P	P	06 48 13.9	+0.3		
L59A	Walton	48.97	6	P		06 48 14.1			
	baz=188								
L59A	Walton	48.97	6	P	P	06 48 14.1	+0.1		
L42A	Oliver, Polo	49.09	352	P	P	06 48 14.6	-0.2		
K50A	Casco	49.26	359	P	P	06 48 15.2	-0.9		
K57A	Scipio Center	49.37	4	P	P	06 48 15.4	-1.6		
L40A	Anamosa	49.39	350	P	P	06 48 17.4	+0.3		
K43A	Burlington	49.60	353	P	P	06 48 18.2	-0.6		
SDCO	Great Sand Dun	49.71	335	P		06 48 21.4			
	baz=148,SNR=8.4								
SDCO	Great Sand Dun	49.71	335	P	P	06 48 20.2	+0.2		
K62A	Royalston	49.79	9	P		06 48 19.9			
	baz=192								
J47A	Sunmer	49.81	356	P	P	06 48 19.1	-1.3		
J56A	Wolcott	49.89	4	P		06 48 18.9			
	baz=186,SNR=5.0								
J56A	Wolcott	49.89	4	P	P	06 48 18.8	-2.1		
J56A				IAmb	IAmb	06 48 21.7			
	comp=Z,14nm,0.8s								
K63A	Dunstable	49.92	9	P		06 48 21.5			
	baz=192								
X16A	Lo Mia Camp, P	49.93	327	P	P	06 48 21.6	0.0		
113A	Mohawk Valley,	50.03	324	P	P	06 48 22.2	0.0		
JFWS	Jewell Farm	50.07	351	P		06 48 22.4			
	baz=168								
JFWS	Jewell Farm	50.07	351	P	P	06 48 22.0	-0.3		
JFWS				IAmb	IAmb	06 48 36.2			
	comp=Z,10nm,0.9s								
J57A	Williamstown	50.09	5	P		06 48 21.5			
	baz=187								
J57A	Williamstown	50.09	5	P	P	06 48 22.0	-0.4		
J57A				IAmb	IAmb	06 48 24.1			
	comp=Z,15nm,1.2s								
J60A	Lant Hill Farm	50.20	7	P		06 48 23.8			
	baz=190								
S22A	4UR Ranch, Cre	50.29	333	P		06 48 25.1			
	baz=146								
J59A	Piesco	50.29	6	P		06 48 22.0			
	baz=188								
L34A	Svendsen Farm,	50.39	345	P	P	06 48 24.2	-0.6		
L34A				IAmb	IAmb	06 48 47.1			
	comp=Z,9.5nm,0.7s								
J62A	Henniker	50.41	9	P		06 48 24.4			
	baz=192								
J61A	Chester	50.41	8	P		06 48 25.2			
	baz=191								
Y14A	Wickenburg	50.44	325	P	P	06 48 25.6	+0.3		
PECO	Prince Edward	50.54	4	P	P	06 48 24.3	-1.5		
PECO				IAmb	IAmb	06 48 26.4			
	comp=Z,12nm,0.7s								
MVCO	Mesa Verde	50.61	332	P		06 48 27.1			
	baz=144								
MVCO	Mesa Verde	50.61	332	P	P	06 48 26.8	0.0		
MVCO				IAmb	IAmb	06 48 45.7			
	comp=Z,16nm,1.4s								
I57A	Carthage	50.64	5	P		06 48 25.5			
	baz=187								
FFD	Franklin Falls	50.67	9	P	P	06 48 27.2	+0.4		
I59A	Olmsteadville	50.69	7	P		06 48 26.7			
	baz=189								
WUAZ	Wupatki	50.72	328	P		06 48 28.9			
	baz=140								
WUAZ	Wupatki	50.72	328	P	P	06 48 28.3	+0.7		
WUAZ				IAmb	IAmb	06 48 37.4			
	comp=Z,7.8nm,0.8s								
I60A	Shoreham	50.80	7	P		06 48 28.2			
	baz=190,SNR=6.4								
I42A	Draeger Farm,	50.84	353	P	P	06 48 28.3	+0.1		
I42A				IAmb	IAmb	06 48 29.0			
	comp=Z,24nm,1.4s								
I61A	Oroboro, Fairl	51.04	8	P		06 48 29.6			
	baz=191								
DELO	Deloro Mine	51.08	3	P	P	06 48 28.2	-1.7		
DELO				IAmb	IAmb	06 48 30.4			
	comp=Z,10nm,0.8s								
I40A	Norwalk	51.08	351	P	P	06 48 29.6	-0.3		
I40A				IAmb	IAmb	06 48 46.5			
	comp=Z,25nm,1.1s								
H53A	Bobcaygeon	51.09	2	P		06 48 28.3			
	baz=183								
H57A	Richville	51.19	5	P		06 48 29.4			
	baz=187								
SADO	Sadowa	51.26	2	P	P	06 48 29.9	-1.4		
SADO				IAmb	IAmb	06 48 31.0			
	comp=Z,26nm,1.4s								
H43A	Windswept, Lux	51.28	354	P	P	06 48 31.7	+0.3		
PV01	Paradox Valley	51.39	332	P	P	06 48 32.8	+0.1		
PV01				IAmb	IAmb	06 48 49.0			
	comp=Z,20nm,1.5s								
I63A	Otisfield	51.41	10	P		06 48 32.0			
	baz=193								
I63A	Otisfield	51.41	10	P	P	06 48 32.5	+0.1		
I63A				IAmb	IAmb	06 48 34.9			
	comp=Z,18nm,1.1s								
ISCO	Idaho Springs	51.49	336	P		06 48 35.0			
	baz=148								
ISCO	Idaho Springs	51.49	336	P	P	06 48 33.4	-0.1		
PV15	Paradox Valley	51.52	333	P	P	06 48 34.4	+0.8		
PV15				IAmb	IAmb	06 48 47.3			
	comp=Z,16nm,1.1s								
H60A	Morristown	51.59	8	P		06 48 34.5			
	baz=191								
PV03	Paradox Valley	51.62	332	P	P	06 48 34.4	0.0		
PLVO	Plevna	51.63	4	P	P	06 48 32.6	-1.4		
PLVO				IAmb	IAmb	06 48 44.6			
	comp=Z,23nm,1.5s								
BC3	Big Chuckawall	51.65	323	P		06 48 35.5			
	baz=134								
PV04	Paradox Valley	51.76	332	P	P	06 48 34.7	-0.7		
PV04				IAmb	IAmb	06 49 00.6			
	comp=Z,17nm,1.4s								
W13A	Hualapai Mount	51.78	326	P	P	06 48 35.9	+0.3		
PV14	Lion Creek, Pa	51.80	332	P	P	06 48 36.0	+0.2		
PV14				IAmb	IAmb	06 48 53.3			
	comp=Z,13nm,1.3s								
PV22	Blue Mesa, Par	51.82	332	P	P	06 48 35.7	-0.1		
PV22				IAmb	IAmb	06 48 52.8			
	comp=Z,14nm,1.5s								
H62A	Milan	51.82	9	P		06 48 35.6			
	baz=193								
IRM	Iron Mountain	51.82	324	P		06 48 37.4			
	baz=135								
G54A	Lake Saint Pet	51.93	3	P		06 48 34.3			
	baz=184,SNR=6.9								
G58A	Ormstown	52.00	6	P		06 48 36.8			
	baz=189								
H63A	New Sharon	52.09	10	P		06 48 39.4			
	baz=194								
ECSD	EROS Data Cent	52.11	346	P		06 48 36.7			
	baz=160								
G60A	Masonville	52.16	8	P		06 48 37.7			
	baz=191								
BELC	Belle Mtn. Jos	52.22	323	P		06 48 39.3			
	baz=134								
PFO	Pinyon Flats O	52.23	322	LR	LR	07 07 17.8			
	comp=Z,247nm,18.8s,baz=145,slow=32								
G61A	St-Isidore-de-	52.46	9	P		06 48 40.3			
	baz=192								
ALGO	Algonquin Park	52.49	3	P		06 48 38.4			
	baz=184,SNR=6.1								
G62A	West of Eustis	52.55	9	P		06 48 40.5			
	baz=193,SNR=8.8								
G63A	Kingsbury	52.60	10	P		06 48 41.3			
	baz=194								
PHWY	Pilot Hill	52.71	337	P	P	06 48 43.0	+0.5		
PHWY				IAmb	IAmb	06 49 05.6			
	comp=Z,14nm,1.5s								
SPMN	Marine on St.	52.74	350	P	P	06 48 42.2	-0.1		
SPMN				IAmb	IAmb	06 49 01.6			
	comp=Z,13nm,1.2s								
PKME	Peaks-Kenny Pk	52.81	10	P		06 48 42.3			
	baz=195								
HEC	Hector,Ludlow	52.99	324	P		06 48 46.1			
	baz=134								
F60A	Warwick	53.07	8	P		06 48 44.2			
	baz=191								
SRU	San Rafael Swe	53.09	331	P	P	06 48 45.3	+0.1		
SRU				IAmb	IAmb	06 49 02.9			
	comp=Z,18nm,1.4s								
TUQ	Turquoise Moun	53.18	324	P		06 48 47.3			
	baz=135								
Q16A	Castle Valley	53.25	331	P	P	06 48 46.9	+0.5		
E56A	St. Veronique	53.28	5	P		06 48 44.6			
	baz=188								
CCUT	Cedar City	53.31	328	P	P	06 48 47.0	+0.1		
E60A	Ste Agathe de	53.53	8	P		06 48 47.3			
	baz=192,SNR=6.1								
F64A	Sherman	53.56	11	P		06 48 48.5			
	baz=196								
GSC	Goldstone, Bar	53.60	324	P		06 48 50.5			
	baz=134								
D55A	Sainte-Anne-du	53.72	5	P		06 48 47.3			
	baz=187								
D56A	ZEC Mazanza, M	53.81	5	P		06 48 48.2			
	baz=188								
D58A	Chemin du LacG	54.06	7	P		06 48 50.4			
	baz=190								
E62A	Clayton Lake	54.08	10	P		06 48 52.1			
	baz=194,SNR=6.6								
E62A	Clayton Lake	54.08	10	P	P	06 48 52.4	+0.3		
E63A	Oxbow	54.09	11	P		06 48 52.2			
	baz=196								
E63A	Oxbow	54.09	11	P	P	06 48 52.5	+0.4		
D60A	Saint Jean D'O	54.14	9	P		06 48 51.8			
	baz=192								
RKT	Rikitea	54.20	246	eS	S	06 56 30.5	+1.8		
	comp=Z,366nm,25.5s								
RKT				eLR	LR	07 04 30.7			
	comp=Z,828nm,27.2s								
RKT	Rikitea	54.20	246	eT	T	07 47 13.4			
	comp=Z,6.1nm,0.3s								
K22A	Casper	54.28	337	P		06 48 54.1			
	baz=148								
LATQ	La Tuque	54.35	7	P		06 48 53.1			
	baz=190								
TPNV	Topopah Spring	54.44	326	P		06 48 53.8			
	baz=135								
D61A	St Aubert, Com	54.54	9	P		06 48 55.1			
	baz=193,SNR=5.6								
D62A	Allapoint, All	54.61	10	P		06 48 55.9			
	baz=195,SNR=7.2								
D62A	Allapoint, All	54.61	10	P	P	06 48 56.2	+0.3		
RSSD	Black Hills	54.65	340	P		06 48 57.9			
	baz=152								
RSSD	Black Hills	54.65	340	P	P	06 48 56.9	+0.4		
RSSD				IAmb	IAmb	06 49 19.6			
	comp=Z,16nm,1.4s								
VLDQ	Val d'Or	54.67	3	P	P	06 48 55.7	-0.7		
VLDQ				IAmb	IAmb	06 48 56.4			
	comp=Z,11nm,1.1s								
JLU	Jordanelle	54.70	332	P	P	06 48 57.4	+0.3		
JLU				IAmb	IAmb	06 49 18.2			
	comp=Z,17nm,1.4s								
D63A	Stockholm	54.74	11	P		06 48 57.8			
	baz=196								
SPR3	Spring Creek 3	54.89	329	P	P	06 48 58.2	-0.3		
SPR3				IAmb	IAmb	06 49 16.2			
	comp=Z,13nm,1.5s								
DUG	Dugway, Tooele	55.04	331	P	P	06 48 59.8	+0.4		
DUG				IAmb	IAmb	06 49 19.4			
	comp=Z,11nm,1.4s								
R11A	Troy Canyon, C	55.08	327	P	P	06 49 00.2	+0.5		
CWC	Cottonwood Cre	55.13	324	P		06 49 01.5			
	baz=133								
HWUT	Hardware Ranch	55.55	333	P	P	06 49 03.6	+0.5		
HWUT				IAmb	IAmb	06 49 27.3			
	comp=Z,11nm,0.9s								
PDAR	Pinedale Array	55.60	335	P	P	06 49 02.7	-0.8		
	comp=Z,0.8nm,0.7s,baz=133,slow=8.3,SNR=7.7								
PDAR				PcP	PcP	06 50 01.9	-1.1		
	comp=Z,0.9nm,0.6s,baz=121,slow=6.4,SNR=2.2								
PDAR	Pinedale Array	55.60	335	P	P	06 49 03.8	+0.3		
BW06	Boulder Array	55.60	335	P	P	06 49 04.0	+0.5		
BW06				IAmb	IAmb	06 49 23.3			
	comp=Z,9.9nm,1.4s								
LSQQ	Lebel-sur-Quev	55.64	3	P		06 49 01.1			
	baz=185								
AHID	Auburn Hatcher	56.27	334	P	P	06 49 07.8	-0.4		
AGMN	Agassiz Nation	56.27	348	P	P	06 49 07.9	0.0		
AGMN				IAmb	IAmb	06 49 30.0			
	comp=Z,14nm,0.9s								
MATQ	Matagami	56.30	3	P		06 49 06.0			
	baz=184,SNR=5.2								
MDPB	Devils Postpil	56.53	324	P	P	06 49 10.0	-0.3		
NV11	Mina Array Sit	56.55	325	P	P	06 49 10.3	0.0		
NVAR	Mina Array Bea	56.63	325	P	P	06 49 10.7	-0.3		
	comp=Z,1.3nm,0.9s,baz=141,slow=6.9,SNR=8.8								
NVAR				PcP	PcP	06 50 07.0	0.0		
	comp=Z,1.0nm,0.7s,baz=150,slow=5.0,SNR=4.0								
NVAR	Mina Array Bea	56.63	325	P	P	06 49 11.0	+0.1		
REDW	Red Top Meadow	56.64	334	P	P	06 49 11.5	+0.6		
REDW				IAmb	IAmb	06 49 28.2			
	comp=Z,18nm,1.2s								
ELK	Elko	56.66	329	P	P	06 49 11.6	+0.5		
CHGQ	Chibougamau	56.68	5	P		06 49 09.0			
	baz=188								
LOHW	Long Hollow	56.73	335	P	P	06 49 11.9	+0.4		
YERR	Yerington	57.55	325	P	P	06 49 17.8	+0.4		
YNE	Yellowstone No	57.63	336	P	P	06 49 18.4	+0.5		
YNE				IAmb	IAmb	06 49 37.2			
	comp=Z,5.8nm,0.8s								
YHH	Holmes Hill	57.79	335	P	P	06 49 19.8	+0.7		
YHL	Hebgen Lake	57.98	335	P	P	06 49 21.5	+1.1		
ULM	Lac du Bonnet	58.14	349	P	P	06 49 21.2	+0.2		
	comp=Z,2.7nm,0.9s,baz=149,slow=5.5,SNR=3.8								
GCMT	Greycliff	58.14	337	P	P	06 49 21.9	+0.5		
HLID	Hailey	58.39	332	P		06 49 23.4			
	baz=140								
TAOE	Nuku Hiva Isla	58.45	264	eS	S	06 57 28.3	+2.7		
	comp=Z,228nm,26.3s								
TAOE				eLR	LR	07 06 23.1			
	comp=Z,552nm,25.9s								
MFID	Camas Ranch	58.95	331	P	P	06 49 27.4	+0.4		
ORV	Oroville	59.23	324	P	P	06 49 29.3	+0.4		
ORV				IAmb	IAmb	06 49 46.2			
	comp=Z,15nm,1.3s								
WVOR	Wild Horse Val	59.63	329	P	P	06 49 31.5	-0.3		
WVOR				IAmb	IAmb	06 49 44.9			
	comp=Z,10nm,1.4s								
HRY	Holter Researc	59.76	336	P	P	06 49 33.2	+0.7		
EGMT	Eagleton	60.03	338	P		06 49 33.9			
	baz=147								
MSO	Missoula	60.72	335	P		06 49 40.5			
	baz=142,SNR=6.3								
F10A	Beach Ranch, E	61.53	332	P	P	06 49 45.3	+0.8		
SCHQ	Schefferville	62.46	9	P	P	06 49 49.0	-1.5		
	comp=Z,4.5nm,0.8s,baz=213,slow=5.9,SNR=5.3								
SCHQ				LR	LR	07 17 56.1			
	comp=Z,183nm,19.4s,baz=193,slow=37								
SCHQ	Schefferville	62.46	9		S	06 58 15.0	-0.3		
WALA	Waterton Lakes	62.48	336	P	P	06 49 51.3	+0.4		
WALA				IAmb	IAmb	06 50 19.0

EPYK	**Eagle Plains**	**83.09**	**340**	P		**P**	**06 51 53.4**	**+0.6**
EPYK				IAmb		IAmb	06 52 06.5	
	comp=Z,9.2nm,1.1s							
BCAR	**Beaver Creek A**	**83.19**	**336**	P		**P**	**06 51 53.4**	**+0.1**
L27K	**Beaver Creek,**	**83.20**	**336**	P			06 51 53.6	
	baz=119,SNR=5.0							
L27K	**Beaver Creek,**	**83.20**	**336**	P		**P**	**06 51 54.2**	**+0.8**
L27K				IAmb		IAmb	06 52 17.9	
	comp=Z,5.1nm,0.9s							
INK	**Inuvik**	**83.23**	**343**	P			06 51 53.2	
	baz=128,SNR=6.6							
INK	**Inuvik**	**83.23**	**343**	P		**P**	**06 51 53.9**	**+0.5**
QSPA	**South Pole Qui**	**83.40**	**180**	P		**P**	**06 51 55.9**	**+1.4**
SUMG	**Summit**	**83.72**	**12**	P		**P**	**06 51 56.1**	**-0.1**
SUMG				IAmb		IAmb	06 52 12.5	
	comp=Z,10nm,1.1s							
K27K	**Chicken**	**83.78**	**337**	P		**P**	**06 51 57.5**	**+1.2**
K27K				IAmb		IAmb	06 52 05.5	
	comp=Z,6.2nm,1.1s							
K27K	**Chicken**	**83.78**	**337**	P			06 51 57.8	
	baz=119,SNR=5.1							
EGAK	**Eagle**	**83.80**	**338**	P			06 51 56.4	
	baz=120,SNR=10							
EGAK	**Eagle**	**83.80**	**338**	P		**P**	**06 51 56.8**	**+0.4**
ESDC	**Sonseca Array**	**84.47**	**49**	P		**P**	**06 52 01.2**	**+0.8**
	comp=Z,11nm,1.0s,baz=270,slow=5.1,SNR=28							
ESDC				LR		LR	07 28 40.4	
	comp=Z,149nm,18.2s,baz=260,slow=35							
ESDC	**Sonseca Array**	**84.47**	**49**	P		**P**	**06 52 01.6**	**+1.1**
ESBB	**Sonseca Array**	**84.47**	**49**	P		**P**	**06 52 01.6**	**+1.2**
SCRK	**Sand Creek**	**84.49**	**337**	P			06 52 00.1	
	baz=117							
PAX	**Paxson**	**84.63**	**336**	P			06 52 01.3	
	baz=116							
WAT6	**Susitna Watana**	**85.42**	**335**	P			06 52 04.8	
	baz=114							
ILAR	**Eielson Array**	**85.97**	**337**	P		**P**	**06 52 08.0**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=159,slow=2.7,SNR=6.7							
ILAR				LR		LR	07 32 06.1	
	comp=Z,210nm,18.6s,baz=126,slow=37							
ILAR	**Eielson Array**	**85.97**	**337**	P		**P**	**06 52 07.5**	**+0.2**
BMAR	**Burnt Mountain**	**86.30**	**340**	P		**P**	**06 52 09.2**	**+0.3**
MDM	**Murphy Dome**	**86.58**	**337**	P		**P**	**06 52 10.9**	**+0.6**
NEA2	**Nenana**	**86.76**	**336**	P			06 52 10.8	
	baz=113,SNR=6.0							
NEA2	**Nenana**	**86.76**	**336**	P		**P**	**06 52 11.0**	**-0.2**
NEA2				IAmb		IAmb	06 52 12.6	
	comp=Z,7.7nm,1.2s							
H24K	**Noodor Dome**	**86.80**	**338**	P			06 52 11.0	
	baz=114,SNR=6.2							
SKT	**Skwentna**	**86.83**	**334**	P		**P**	**06 52 12.7**	**+1.1**
SKT	**Skwentna**	**86.83**	**334**	P			06 52 10.7	
	baz=110							
BPAW	**Bear Paw Mtn.**	**87.35**	**336**	P		**P**	**06 52 14.1**	**0.0**
BPAW				IAmb		IAmb	06 52 37.4	
	comp=Z,11nm,1.1s							
BPAW	**Bear Paw Mtn.**	**87.35**	**336**	P			06 52 14.0	
	baz=111,SNR=6.1							
PPLA	**Purkeypile**	**87.43**	**334**	P		**P**	**06 52 14.4**	**-0.3**
PPLA	**Purkeypile**	**87.43**	**334**	P			06 52 13.4	
	baz=110							
MLY	**Manley**	**87.59**	**337**	P			06 52 14.8	
	baz=111,SNR=9.7							
MLY	**Manley**	**87.59**	**337**	P		**P**	**06 52 15.4**	**+0.2**
MLY				IAmb		IAmb	06 52 28.6	
	comp=Z,6.1nm,0.9s							
SBA	**Scott Base**	**88.05**	**191**	P		**P**	**06 52 19.0**	**+1.8**
SBA				IAmb		IAmb	06 52 20.7	
	comp=Z,3.7nm,1.0s							
COLD	**Coldfoot**	**88.20**	**339**	P			06 52 19.1	
	baz=112							
COLD	**Coldfoot**	**88.20**	**339**	P		**P**	**06 52 18.0**	**0.0**
SVW2	**Sparrevohn**	**88.39**	**332**	P		**P**	**06 52 19.8**	**+0.7**
SVW2				IAmb		IAmb	06 52 27.4	
	comp=Z,13nm,1.4s							
TOLK	**Toolik Lake Re**	**88.51**	**340**	P			06 52 19.5	
	baz=112,SNR=6.9							
TOLK	**Toolik Lake Re**	**88.51**	**340**	P		**P**	**06 52 21.1**	**+1.6**
TOLK				IAmb		IAmb	06 52 21.4	
	comp=Z,6.6nm,1.1s							
H21K	**Melozitna Rive**	**88.62**	**337**	P			06 52 19.6	
	baz=109							
IMAR	**Indian Mountai**	**89.09**	**337**	P		**P**	**06 52 22.0**	**-0.3**
VNDA	**Vanda**	**89.14**	**191**	P		**P**	**06 52 23.0**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=98,slow=2.0,SNR=8.4							
VNDA				LR		LR	07 24 55.5	
	comp=Z,113nm,19.2s,baz=128,slow=31							
VNDA	**Vanda**	**89.14**	**191**	P		**P**	**06 52 23.0**	**+0.6**
VNDA				IAmb		IAmb	06 52 32.9	
	comp=Z,6.3nm,1.2s							
SYO	**Syowa Base**	**94.29**	**162**	⇑*eX*		**P**	**06 52 42.3**	**-4.1**
CTI	**Castel Tesino**	**96.71**	**44**	P		**P**	**06 52 58.7**	**+0.6**
CTI				IAmb		IAmb	06 53 00.3	
	comp=Z,4.4nm,1.1s							
NOA	**NORSAR Array B**	**96.96**	**29**	LR		LR	07 37 35.7	
	comp=Z,103nm,18.8s,baz=260,slow=36							
CLL	**Collm**	**97.78**	**39**	*eP*		Pdif	06 53 04.0	+1.4
CLL				*ePP*		**PP**	**06 57 01.0**	**+0.1**
CLL				*e*			06 58 18.0	
CLL				*e*SKSac		**SKSac**	**07 03 44.0**	**+6.4**
CLL				*e*S		**S**	**07 04 32.0**	**+6.0**
CLL				*e*(SP)			07 05 40.0	
CLL				*e*SS		**SS**	**07 11 12.0**	**+4.9**
CLL				*e*SSS		SSS	07 14 54.0	
CLL				LmV			07 38 00.0	
	comp=Z,100nm,20.0s							
MNK	**Minsk**	**106.44**	**35**	*i* PKP		**PKiKP**	**06 57 46.9**	**-5.1**
	comp=E,1.0nm,0.6s							
MNK				*i* PKP		**PKiKP**	**06 57 46.9**	**-5.1**
	comp=N,35nm,0.9s							
MNK				*i* PKP		**PKiKP**	**06 57 46.9**	**-5.1**
	comp=Z,5.0nm,0.6s,baz=282							
MNK				*i* PP		**PP**	**06 58 02.7**	**-3.1**
MNK				*i* PPP		PPP	07 00 17.2	
MNK				*i* SKS		**SKSdf**	**07 04 59.6**	**-1.7**
MNK				*i* PS		**PS**	**07 07 27.7**	**+2.7**
MNK				*i* SS		**SS**	**07 13 02.0**	**-4.6**
MNK				*i* SSS		SSS	07 17 14.1	
MNK				*i* LQ		LQ	07 32 04.8	
MNK				*i* LR		LR	07 38 53.4	
MNK				*i* LRM		MLR	07 44 23.4	
	comp=E,28nm,24.7s							
MNK				*i* LRM		MLR	07 45 38.2	
	comp=Z,3μm,24.2s							
MNK				*i* LRM		MLR	07 46 41.4	
	comp=N,249nm,23.9s							
DZM	**Mont Dzumac**	**107.94**	**244**	*e*SP		SP	07 07 36.5	-0.9
	comp=N,143nm,26.6s							
DZM	**Mont Dzumac**	**107.94**	**244**	*e*LR		LR	07 29 38.8	
	comp=N,302nm,29.6s							
H11N3	**WAKE ISLAND Hyl**	**12.87**	**288**	T		T	09 00 56.8	
	baz=90							
H11N2	**WAKE ISLAND Hyl**	**12.88**	**289**	T		T	09 00 57.4	
	baz=90							
H11N1	**WAKE ISLAND Hyl**	**12.89**	**288**	T		T	09 00 56.8	
	baz=90							
STKA	**Stephens Creek**	**124.04**	**224**	PKP		**PKiKP**	**06 58 26.5**	**-0.1**
	comp=N,1.7nm,0.6s,baz=331,slow=4.3,SNR=3.4							
ABKAR	**Akbulak array**	**126.44**	**31**	PKPdf		**PKPdf**	**06 58 30.4**	**+0.1**
ZALV	**Zalesovo Beam**	**131.53**	**11**	PKP		**PKPdf**	**06 58 39.6**	**-0.2**
	comp=N,2.1nm,0.5s,baz=321,slow=2.1,SNR=12							
USRK	**Ussuriysk Ar.**	**132.75**	**328**	PKPdf		**PKPdf**	**06 58 42.3**	**-0.2**
ASAR	**Alice Springs**	**134.37**	**227**	PKP		**PKPdf**	**06 58 45.5**	**-0.7**
	comp=N,1.0nm,0.7s,baz=121,slow=2.7,SNR=12							
ASAR	**Alice Springs**	**134.37**	**227**	PKPdf		**PKPdf**	**06 58 46.0**	**-0.3**
MKAR	**Makanchi Array**	**137.59**	**17**	PKP		**PKPdf**	**06 58 51.0**	**-0.5**
	comp=N,0.9nm,0.7s,baz=324,slow=2.6,SNR=5.6							
MKAR	**Makanchi Array**	**137.59**	**17**			**PKPdf**	**06 58 51.3**	**-0.2**
SONM	**Songino Array**	**138.51**	**352**	PKP		**PKPdf**	**06 58 52.5**	**-0.8**
	comp=N,0.4nm,0.3s,baz=112,slow=23,SNR=2.9							
KSRS	**Korea Array**	**139.56**	**323**	PKP		**PKPdf**	**06 58 55.5**	**+0.2**
	comp=N,1.9nm,1.0s,baz=48,slow=1.9,SNR=5.0							
WMQ	**Urumqi**	**141.75**	**13**	*e*P		**PKPdf**	**06 58 59.1**	**-0.1**
WMQ				pmax		pmax		
	comp=N,120nm,4.9s							
HHC	**Hu-ho-hao-te**	**144.15**	**343**	*e*P		PKPbc	06 59 02.3	+0.6
PSA00	**Pilbara Seismi**	**145.17**	**216**	PKPbc		**PKPab**	**06 59 05.3**	**0.0**
GTA	**Gaotai**	**147.42**	**359**	*e*PKPbc		**PKPbc**	**06 59 12.2**	**+0.5**
GTA				pPKP		sPKPbc	06 59 24.9	-0.6
GTA				sPKP			06 59 29.7	
NJ2	**Nanjing**	**148.63**	**326**	*e*P		**PKPdf**	**06 59 10.5**	**-0.7**
NJ2				pmax		pmax		
	comp=N,11nm,0.5s							
NDI	**New Delhi**	**150.06**	**40**	*e*P		**PKiKP**	**06 59 20.0**	**+0.5**
LZH	**Lanzhou**	**150.40**	**352**	*e*PKPbc		**PKPdf**	**06 59 10.1**	**-4.1**
LZH				pPKP		PKiKP	06 59 20.6	+0.4
LZH				sPKP			06 59 24.9	
LZH				PKPbc		**sPKPdf**	**06 59 28.4**	**-0.1**
LZH				L		L		
	comp=N,120nm,12.7s							
LZH				L		L		
	comp=N,180nm,14.1s							
LZH				L		L		
	comp=N,130nm,14.4s							
XAN	**Xi'an**	**151.24**	**342**	P		**PKPbc**	**06 59 19.5**	**-1.9**
XAN				pP		pPKPdf	06 59 25.3	-1.0
XAN				pmax		pmax		
	comp=N,6.0nm,0.8s							
WHN	**Wuhan**	**152.18**	**330**	⇑PKPbc		**PKPab**	**06 59 30.8**	**-2.3**
CMAR	**Chiang Mai Arr**	**168.31**	**360**	PKPab		**PKPab**	**07 00 42.5**	**-0.8**
	comp=N,1.2nm,0.3s,baz=350,slow=4.6,SNR=4.9							

NNC 07 07:33:58.8±0.4, 50.02N×78.70E, h0km, mb3.6, mpv3.4, 15C-8D, Error ellipse: s-maj=4.1km s-min=1.8km az=63.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**348**	⇑P	Pg	07 34 09.9	+0.2
KUR07				⇑S	Sg	07 34 18.1	+0.9
KUR06	**Kurchatov Arra**	**0.59**	**349**	⇑P	Pg	07 34 10.2	+0.1
KUR06				⇑S	Sg	07 34 19.0	+1.2
KUR14	**Kurchatov Arra**	**0.60**	**353**	⇑P	Pg	07 34 10.2	0.0
KUR14				⇑S	Sg	07 34 18.5	+0.5
KUR15	**Kurchatov Arra**	**0.60**	**351**	⇑P	Pg	07 34 10.4	+0.1
KUR15				⇑S	Sg	07 34 19.1	+0.9
KURBB	**Kurchatov Arra**	**0.61**	**350**	⇑P	Pg	07 34 10.6	+0.1
	97nm,0.3s						
KURBB				⇓S	Sg	07 34 19.5	+1.1
	183nm,0.5s						
KUR16	**Kurchatov Arra**	**0.62**	**348**	⇓P	Pg	07 34 10.9	+0.2
KUR16				⇑S	Sg	07 34 20.0	+1.3
KUR17	**Kurchatov Arra**	**0.63**	**346**	⇓P	Pg	07 34 11.0	+0.2
KUR17				⇓S	Sb	07 34 20.6	-1.4
KUR05	**Kurchatov Arra**	**0.63**	**350**	⇑P	Pg	07 34 11.0	+0.1
KUR05				⇑S	Sg	07 34 19.9	+0.9
SEM	**Semipalatinsk**	**1.07**	**68**	P	Pg	07 34 19.2	0.0
	23nm,0.2s						
SEM				S	Sg	07 34 33.7	+0.7
	75nm,0.3s						
MAKZ	**Makanchi**	**3.88**	**145**	⇓Pg	Pb	07 35 09.5	+1.4
	3.0nm,0.3s						
MAKZ				⇑Lg	Lg	07 35 59.5	
	14nm,0.5s						
MK31	**Makanchi Array**	**4.02**	**142**	⇑Pn	Pn	07 35 02.8	+1.3
	0.7nm,0.2s,baz=277,slow=6.3,SNR=108						
MK31				⇑Pg	Pb	07 35 11.9	+1.5
	3.7nm,0.3s,baz=312,slow=12,SNR=8.8						
MK31				⇓Lg	Lg	07 36 06.1	
	18nm,0.5s,baz=330,slow=34,SNR=16						
KAPS	**Kapalarasan**	**4.76**	**174**	Pg	Pb	07 35 25.9	+2.8
	0.3nm,0.2s						
KAPS				Lg	Lg	07 36 28.1	
	3.1nm,0.8s						
ZSN	**Zaisan**	**4.82**	**120**	Pg	Pb	07 35 25.0	+0.9
	6.5nm,0.3s						
ZSN				Lg	Lg	07 36 27.6	
	9.7nm,0.6s						
DJR	**Jarkent**	**5.74**	**172**	Pg	Pg	07 35 44.6	-4.2
	0.1nm,0.4s						
DJR				Lg	Lg	07 37 00.1	
	0.9nm,0.7s						
ARXS	**Arharly**	**5.84**	**186**	Pg	Pb	07 35 45.2	+3.7
	3.5nm,0.4s						
ARXS				Lg	Lg	07 37 01.2	
	5.0nm,0.5s						
KUU	**Kurty**	**6.34**	**196**	Pg	Pb	07 35 54.4	+4.4
	0.9nm,0.1s						
KUU				Lg	Lg	07 37 17.0	
	10nm,0.7s						
PDGK	**Podgornoye**	**6.72**	**175**	⇓Lg	Lg	07 37 33.7	
	10nm,0.7s						
TKM2	**Tokmak 2**	**7.42**	**198**	⇓Lg	Lg	07 37 51.1	
	6.9nm,0.7s						

*ISU **07** 07:43:32, 41.20N×71.88E, h5km*
*KRNET **07** 07:43:33.3±0.1, 41.21N×71.84E, h15km, mb2.6*
*SOME **07** 07:43:34.3, 41.28N×71.88E, h5km*
*NNC **07** 07:43:34.5±3.2, 41.12N×71.95E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=27.6km s-min=9.3km az=0.0*
ISC 07 07:43:33.5±0.8, 41°21N±0.02×71°89E±0.02, h10km, n29, σ1°05/52, 16C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.65**	**300**	⇑*i*P	**Pg**	**07 43 43.9**	**-2.3**
	baz=97						
TRKS				⇑*i*S	**Sg**	**07 43 52.1**	**-2.7**
	baz=97						
ARSB	**Arslanbob**	**0.83**	**81**	⇓*i*P	**Pg**	**07 43 49.8**	**+0.2**
	baz=82						
ARSB				⇓*i*S	**Sb**	**07 44 01.6**	**+0.2**
	baz=82						
OHH	**Osh**	**0.96**	**135**	⇑*i*P	**Pg**	**07 43 52.3**	**+0.3**
	baz=34						
OHH				⇑*i*S	**Sb**	**07 44 05.9**	**+0.8**
	baz=34						
OHH	**Osh**	**0.96**	**135**	*e*P	**Pg**	**07 43 52.0**	**0.0**
OHH				*e*S	Sn	07 44 17.0	+10
MNAS	**Manas**	**1.36**	**19**	⇑*i*P	**Pn**	**07 43 59.0**	**+0.3**
	baz=21						
MNAS				⇑*i*S	**Sg**	**07 44 17.4**	**+0.1**
	baz=21						
BTK	**Batken**	**1.41**	**216**	*e*P	**Pn**	**07 43 59.0**	**-0.3**
BTK				*e*S	**Sb**	**07 44 17.0**	**-0.9**
CHMG	**Chimgan**	**1.46**	**284**	*e*P	**Pb**	**07 44 01.0**	**+0.2**
CHMG				*e*S	**Pb**	**07 44 01.0**	**+0.2**
CHRV	**Charvak**	**1.52**	**287**	*e*P	**Pg**	**07 44 05.0**	**+2.3**
CHRV				*e*S	**Sg**	**07 44 24.0**	**+1.5**
AML	**Almayashu**	**1.64**	**55**	⇑*i*P	**Pb**	**07 44 04.2**	**+0.2**
	baz=56						
AML				⇑*i*S	**Sg**	**07 44 26.7**	**+0.5**
	baz=56						
IUG	**Iuzhnay**	**1.68**	**305**	*e*P	**Pg**	**07 44 05.4**	**-0.4**
	17nm,0.1s						
IUG				*e*S	**Sg**	**07 44 27.5**	**-0.1**
	150nm,0.4s						
IUG	**Iuzhnay**	**1.68**	**305**	P	**Pg**	**07 44 05.4**	**-0.4**
	17nm,0.1s						
IUG				S	**Sg**	**07 44 27.5**	**-0.1**
	150nm,0.4s						
SFK	**Sufi-Kurgan**	**1.71**	**134**	⇓*e*P	**Pb**	**07 44 05.1**	**-0.1**
	baz=33						
SFK				⇓*i*S	**Sg**	**07 44 29.3**	**+0.8**
	baz=33						
SFK	**Sufi-Kurgan**	**1.71**	**134**	*e*P	**Pb**	**07 44 05.0**	**-0.1**
SFK				*e*S	**Sg**	**07 44 29.0**	**+0.5**
DRK	**Karamyk**	**1.73**	**182**	⇓*i*P	**Pb**	**07 44 05.0**	**-0.5**
	baz=81						
DRK				⇓*i*S	**Sb**	**07 44 28.1**	**+0.8**
	baz=81						
DZA	**Taraz**	**1.74**	**346**	*e*P	**Pg**	**07 44 07.5**	**+0.7**
	94nm,0.1s						
DZA				*e*S	**Sg**	**07 44 31.0**	**+1.6**
	141nm,0.2s						
DZA	**Taraz**	**1.74**	**346**	P	**Pg**	**07 44 07.5**	**+0.7**
	94nm,0.1s						
DZA				S	**Sg**	**07 44 31.0**	**+1.6**
	141nm,0.2s						
MRKS	**Merke**	**1.83**	**32**	*e*P	**Pg**	**07 44 08.9**	**+0.2**
	4.2nm,0.1s						
MRKS				*e*S	**Sg**	**07 44 33.4**	**+1.0**
	19nm,0.2s						
MRKS	**Merke**	**1.83**	**32**	P	**Pg**	**07 44 08.9**	**+0.2**
	4.2nm,0.1s						
MRKS				S	**Sg**	**07 44 33.4**	**+1.0**
	19nm,0.2s						
ARLS	**Aral**	**1.94**	**69**	⇓*i*P	**Pb**	**07 44 09.7**	**+0.6**
	baz=70						
ARLS				⇓*i*S	**Sg**	**07 44 36.2**	**+0.3**
	baz=70						
EKS2	**Erkin-Say**	**2.02**	**43**	⇑*i*P	**Pb**	**07 44 10.4**	**-0.1**
	baz=44						
EKS2				⇑*i*S	**Sg**	**07 44 37.7**	**-0.9**
	baz=44						
KK31	**Karatay Array**	**2.16**	**332**	⇑Pn	**Pb**	**07 44 12.0**	**-0.7**
	2.6nm,0.3s,baz=149,slow=17,SNR=90						
KK31				Sn	**Sb**	**07 44 40.2**	**+0.8**
	15nm,0.4s,baz=158,slow=31,SNR=14						
AAK	**Ala-Archa**	**2.41**	**53**	⇑*i*P	**Pb**	**07 44 16.1**	**-1.0**
	baz=53						
AAK				⇑*i*S	**Sb**	**07 44 47.4**	**+0.4**
	baz=53						
AAK	**Ala-Archa**	**2.41**	**53**	⇑Pg	**Pb**	**07 44 18.4**	**+1.3**
	2.1nm,0.5s						
AAK				⇑Lg	Lg	07 44 50.5	
	5.7nm,0.5s						
SGDS	**Sogindy**	**3.03**	**41**	Pg	**Pg**	**07 44 30.1**	**-1.4**
	0.9nm,0.3s						
SGDS				Lg	Lg	07 45 09.6	
	3.5nm,0.4s						
TKM2	**Tokmak 2**	**3.25**	**57**	⇑Pg	**Pg**	**07 44 36.0**	**+0.2**
	1.4nm,0.5s						
TKM2				⇓Lg	Lg	07 45 16.0	
	4.2nm,0.5s						
DGS	**Degeres**	**3.53**	**53**	*e*P	**Pg**	**07 44 39.4**	**-1.7**
	1.4nm,0.4s						
DGS				*e*S	**Sg**	**07 45 25.9**	**-0.9**
	4.2nm,0.6s						
DGS	**Degeres**	**3.53**	**53**	Pg	**Pg**	**07 44 39.4**	**-1.7**
	1.4nm,0.4s						
DGS				Lg	Lg	07 45 25.9	
	4.2nm,0.6s						
KST	**Kastek**	**3.54**	**57**	*e*P	**Pg**	**07 44 39.6**	**-1.8**
	1.0nm,0.3s						
KST				*e*S	**Sg**	**07 45 26.0**	**-1.3**
	8.1nm,0.6s						
KST	**Kastek**	**3.54**	**57**	Pg	**Pg**	**07 44 39.6**	**-1.8**
	1.0nm,0.3s						
KST				Lg	Lg	07 45 26.0	
	8.1nm,0.6s						

IDC 07 08:12:02.1±2.1, 3.89S×146.26E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/33, mbtmp3.9/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/30, Error ellipse: s-maj=80.9km s-min=28.1km az=115.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**23.00**	**210**	P	P	08 17 10.1	+1.3
	4.2nm,0.9s,baz=40,slow=8.9,SNR=25						
FITZ	**Fitzroy Crossi**	**24.63**	**233**	P	P	08 17 23.1	-1.5
	8.2nm,0.9s,baz=48,slow=10,SNR=12						
FITZ				LR	LR	08 28 19.0	
	comp=Z,151nm,20.1s,baz=53,slow=40						
DZM	**Mont Dzumac**	**26.64**	**134**	LR	LR	08 26 12.2	
	comp=Z,130nm,19.7s,baz=198,slow=32						
URZ	**Urewera**	**44.28**	**145**	LR	LR	08 37 12.2	
	comp=Z,58nm,19.1s,baz=31,slow=34						
KSRS	**Korea Array**	**44.53**	**339**	LR	LR	08 35 51.7	
	comp=Z,23nm,21.6s,baz=265,slow=32						
MKAR	**Makanchi Array**	**75.42**	**320**	P	P	08 23 49.0	+1.0
	0.7nm,0.9s,baz=121,slow=7.2,SNR=3.9						
ILAR	**Eielson Array**	**83.85**	**23**	P	P	08 24 32.7	-0.7
	0.3nm,0.7s,baz=256,slow=3.6,SNR=2.8						

*FUNV **07** 08:14:17.9, 8.06N×71.79W, h4km, MW3.1*
ISC 07 08:14:17.5±1.1, 8.04N±0.04×71.75W±0.03, h11km±10km, n23, σ1°22/37, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.58**	**252**	*e*P	**Pg**	**08 14 28.7**	**-0.2**
CAPV				*e*S	**Sg**	**08 14 37.0**	**+0.3**
SOCV	**Socops**	**0.92**	**75**	*e*P	**Pg**	**08 14 35.2**	**0.0**
SOCV				*e*S	**Sn**	**08 14 48.8**	**-0.9**
PAMC	**Pamplona, Colo**	**1.17**	**233**	*e*P	**Pg**	**08 14 40.3**	**+0.2**
PAMC				*e*S	**Sn**	**08 14 57.3**	**+0.8**
PAMC				*i*		08 15 01.4	
	comp=Z,33nm,0.3s						
SDV	**Santo Domingo**	**1.39**	**53**	*e*P	**Pb**	**08 14 43.9**	**+0.3**
SDV				*e*S	**Sg**	**08 15 03.6**	**+1.3**
SDV				*i*		08 15 11.9	
	comp=Z,21nm,0.2s						
SDV	**Santo Domingo**	**1.39**	**53**	*e*P	**Pn**	**08 14 43.0**	**0.0**
SDV				*e*S	**Sg**	**08 15 02.4**	**+0.1**
OCAC	**Ocana**	**1.56**	**277**	*e*P	**Pg**	**08 14 47.5**	**-0.1**
OCAC				*e*S	**Sg**	**08 15 07.9**	**0.0**
OCAC				*i*		08 15 12.0	
	comp=Z,112nm,0.3s						
BARC	**Barichara**	**2.02**	**225**	*e*P	**Pb**	**08 14 54.4**	**-0.1**
BARC				*e*S	**Sg**	**08 15 21.5**	**-1.1**
BARC				*i*		08 15 24.7	
	comp=Z,12nm,0.2s						
BRRC	**Barranca, Sant**	**2.15**	**245**	*e*P	Pn	08 14 46.5	-6.9
BRRC				*e*S	**Sb**	**08 15 24.2**	**+0.9**
BRRC				*i*		08 15 31.3	
	comp=Z,9.6nm,0.5s						
LL2C	**La Loma 2 Cana**	**2.25**	**312**	*e*P	**Pb**	**08 14 57.0**	**-1.2**
LL2C				*e*S	**Sb**	**08 15 26.0**	**+0.1**
LL2C				*i*		08 15 30.7	
	comp=Z,33nm,0.4s						
SMLC	**San Martn de**	**2.42**	**288**	*e*P	**Pn**	**08 14 58.8**	**+1.8**
SMLC				*e*S	**Sb**	**08 15 29.6**	**-1.3**
SMLC				*i*		08 15 33.6	
	comp=Z,21nm,0.2s						
ELOV	**Elorza**	**2.48**	**115**	*e*P	**Pn**	**08 14 59.3**	**+1.5**
ELOV				*e*S	**Sn**	**08 15 28.8**	**+0.7**
RUSC	**La Rusia**	**2.51**	**212**	*e*P	**Pb**	**08 15 01.9**	**-1.1**
RUSC				*e*S	**Sb**	**08 15 33.9**	**-0.2**
RUSC				*i*		08 15 39.4	
	comp=Z,3.9nm,0.3s						
RUSC	**La Rusia**	**2.51**	**212**	*e*P	**Pn**	**08 14 59.2**	**+0.4**
RUSC				*e*S	**Sn**	**08 15 28.0**	**-1.6**
CURV	**Curarigua**	**2.64**	**42**	*e*P	**Pn**	**08 15 01.1**	**+0.9**
DABV	**Dabajuro**	**3.07**	**21**	*e*P	**Pn**	**08 15 05.8**	**-0.2**
ZARC	**Zaragoza, Cauc**	**3.13**	**260**	*e*P	**Pn**	**08 15 09.5**	**+2.7**
ZARC				*e*S	**Sb**	**08 15 47.6**	**-3.8**

LVC	**Limon Verde**	**7.97**	**157**	P		**Pn**	**08 17 23.3**	**+0.5**
	1.2nm,0.3s,baz=342,slow=11,SNR=16								
LVC				S		**Sn**	**08 18 48.3**	**-3.1**
	0.9nm,0.3s,baz=173,slow=7.3,SNR=3.0								
LVC	**Limon Verde**	**7.97**	**157**			**Pn**	**08 17 23.2**	**+0.4**
ETMB	**Extrema**	**8.03**	**48**	*e*P		**Pn**	**08 17 21.7**	**-1.7**
PB14	**IPOC Station P**	**9.47**	**170**	Pn		**Pn**	**08 17 42.8**	**-0.4**
SIV	**San Ignacio**	**10.83**	**95**	P		**Pn**	**08 17 59.7**	**-1.7**
	0.6nm,0.3s,baz=281,slow=13,SNR=18								
SAML	**Samuel**	**10.89**	**56**	Pn		**Pn**	**08 17 58.8**	**-3.4**
AC02	**Maricunga**	**11.88**	**166**	Pn		**Pn**	**08 18 16.0**	**+0.2**
PTLB	**Pontes e Lacer**	**12.69**	**93**	*e*P		**Pn**	**08 18 26.4**	**+0.4**
AQDB	**Aquidauana**	**16.61**	**111**	P		**P**	**08 19 15.8**	**-0.7**
AQDB				IAmb		IAmb	08 19 17.0		
	comp=Z,12nm,1.4s								
AQDB	**Aquidauana**	**16.61**	**111**	*e*P		**P**	**08 19 15.8**	**-0.7**
CLDB	**Colider**	**16.65**	**77**	*e*P		**P**	**08 19 16.1**	**-0.9**
PP1B	**Ponte de Pedra**	**16.86**	**100**	*e*P		**P**	**08 19 19.1**	**-0.1**
CPUP	**Villa Florida**	**17.77**	**131**	P		**Pn**	**08 19 29.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=302,slow=9.3,SNR=6.6								
CPUP	**Villa Florida**	**17.77**	**131**	P		**P**	**08 19 28.6**	**-0.7**
PTGA	**Pitinga**	**18.89**	**41**	P		**P**	**08 19 40.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=316,slow=22,SNR=1.3								
PTGA	**Pitinga**	**18.89**	**41**	P		**P**	**08 19 40.8**	**-0.7**
PTGA				IAmb		IAmb	08 19 59.9		
	comp=Z,8.7nm,1.2s								
ITTB	**Itaituba**	**19.56**	**58**	*e*P		**P**	**08 19 47.4**	**-1.5**
TRCB	**Terra Rica**	**20.02**	**115**	P		**P**	**08 19 53.4**	**-0.4**
TRCB				IAmb		IAmb	08 19 55.8		
	comp=Z,14nm,1.2s								
ITQB	**Itaqui**	**20.33**	**137**	P		**P**	**08 19 57.2**	**+0.1**
SNDB	**Serra Nova Dou**	**20.66**	**83**	*e*P		**P**	**08 19 59.7**	**-1.1**
PTGB	**Pitanga**	**21.17**	**120**	*e*P		**P**	**08 20 06.0**	**-0.2**
ITRB	**Iturama**	**21.37**	**105**	*e*P		**P**	**08 20 09.3**	**+1.0**
FRTB	**Fartura**	**22.88**	**114**	*e*P		**P**	**08 20 23.5**	**-0.5**
CPSB	**Cacapava Do Su**	**22.94**	**134**	*e*P		**P**	**08 20 27.5**	**+3.1**
IPMB	**Ipameri, GO**	**23.22**	**100**	*e*P		**P**	**08 20 26.0**	**-1.3**
BDFB	**Brasilia**	**23.40**	**94**	P		**P**	**08 20 27.9**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=275,slow=9.7,SNR=8.6								
BDFB	**Brasilia**	**23.40**	**94**	P		**P**	**08 20 27.8**	**-1.1**
BDFB				IAmb		IAmb	08 20 28.5		
	comp=Z,10nm,1.3s								
PEXB	**Peixe**	**23.51**	**85**	*e*P		**P**	**08 20 28.6**	**-1.4**
PLTB	**Pedras Altas**	**23.66**	**137**	P		**P**	**08 20 30.0**	**-1.1**
JANB	**Januaria**	**27.00**	**93**	*e*P		**P**	**08 20 59.7**	**-1.8**
NBPN	**Ponto Novo - B**	**31.55**	**86**	*e*P		**P**	**08 21 41.4**	**-0.4**
GDU01	**Guandu, BA**	**31.69**	**91**	*e*P		**P**	**08 21 43.1**	**+0.1**
TXAR	**Lajitas Array**	**53.71**	**326**	P		**P**	**08 24 42.0**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=152,slow=9.8,SNR=6.6								
TX31	**Lajitas Ar. Si**	**53.71**	**326**	P		**P**	**08 24 39.8**	**-0.7**
TX31				IAmb		IAmb	08 25 02.1		
	comp=Z,3.1nm,1.3s								
PDAR	**Pinedale Array**	**67.14**	**331**	P		**P**	**08 26 13.5**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=109,slow=7.7,SNR=4.6								
NVAR	**Mina Array Bea**	**68.63**	**323**	P		**P**	**08 26 23.9**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=126,slow=7.5,SNR=4.6								

*IDC **07** 08:26:47.4±3.7, 19.°04S×176.°96W, h231km±30km, mb3.4/5, mb1 3.7/6, mb1mx3.4/21, mbtmp4.0/6, Error ellipse: s-maj=108.6km s-min=16.5km az=148.0*
*NEIC **07** 08:26:48.9±1.4, 19.°39S±0.°09×176.°7W±0.°1, h255km±8km, mb4.3/17, Error ellipse: s-maj=18.0km s-min=10.3km az=52.0*
ISC 07 08:26:48.2±0.6,**19.°3S**±0.°1×**176.°72W**±0.°10,**h250**km,**n28,** σ1§**03**/29,**mb4.1**/14,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.42**	**89**	Pn	**Pn**	**08 28 21.4**	**-0.1**
AFI	**Afiamalu**	**7.14**	**42**	P	**Pn**	**08 28 30.6**	**-0.2**
	3.5nm,0.3s,baz=314,slow=11,SNR=4.8						
AFI				S	**S**	**08 29 50.4**	**-2.8**
	1.1nm,0.3s,baz=16,slow=21,SNR=2.5						
BFZ	**Bitch Farm**	**22.16**	**194**	P	**P**	**08 31 22.0**	**-1.5**
EIDS	**Eidsvold**	**30.35**	**253**	P	**P**	**08 32 36.8**	**-0.2**
ARMA	**Armidale**	**30.69**	**243**	P	**P**	**08 32 40.4**	**+0.4**
ARMA				IAmb	IAmb	08 32 41.5	
	comp=Z,7.0nm,1.3s						
CTAO	**Charters Tower**	**34.83**	**262**	P	**P**	**08 33 16.5**	**+0.6**
CTAO				IAmb	IAmb	08 33 16.8	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**39.40**	**243**	P	**P**	**08 33 54.0**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=82,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**39.40**	**243**	P	**P**	**08 33 54.3**	**+0.2**
BBOO	**Buckleboo**	**44.17**	**243**	P	**P**	**08 34 31.4**	**-1.2**
BBOO				IAmb	IAmb	08 34 36.3	
	comp=Z,32nm,1.4s						
WRAB	**Tennant Creek**	**45.97**	**261**	P	**P**	**08 34 46.4**	**-0.4**
WRAB				IAmb	IAmb	08 34 54.6	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**45.98**	**255**	P	**P**	**08 34 46.9**	**0.0**
ASAR	**Alice Springs**	**45.98**	**255**	P	**P**	**08 34 46.6**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=86,slow=8.5,SNR=34						
ASAR	**Alice Springs**	**45.98**	**255**	P	**P**	**08 34 46.4**	**-0.6**
SOEI	**Soe**	**57.68**	**271**	P	**P**	**08 36 12.5**	**-0.9**
SBA	**Scott Base**	**59.15**	**184**	P	**P**	**08 36 23.4**	**+1.1**
QSPA	**South Pole Qui**	**70.77**	**180**	P	**P**	**08 37 37.0**	**-0.2**
OHAK	**Old Harbor**	**78.70**	**13**	P	**P**	**08 38 23.2**	**+0.9**
OHAK				IAmb	IAmb	08 38 49.4	
	comp=Z,11nm,1.4s						
NVAR	**Mina Array Bea**	**79.32**	**43**	P	**P**	**08 38 27.9**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=223,slow=9.2,SNR=6.0						
NVAR	**Mina Array Bea**	**79.32**	**43**	P	**P**	**08 38 27.5**	**+1.0**
KDAK	**Kodiak Island**	**79.37**	**13**	P	**P**	**08 38 26.9**	**+0.9**
KDAK				IAmb	IAmb	08 38 33.4	
	comp=Z,17nm,1.4s						
NV11	**Mina Array Sit**	**79.42**	**43**	P	**P**	**08 38 28.9**	**+1.9**
PMSA	**Palmer Station**	**81.91**	**156**	P	**P**	**08 38 38.7**	**-0.8**
TRF	**Thorofare Moun**	**85.02**	**12**	P	**P**	**08 38 55.6**	**+0.2**
TRF				IAmb	IAmb	08 39 15.1	
	comp=Z,6.2nm,1.4s						
RND	**Reindeer**	**85.26**	**12**	P	**P**	**08 38 57.2**	**+0.8**
RND				IAmb	IAmb	08 39 19.5	
	comp=Z,4.9nm,1.2s						
TXAR	**Lajitas Array**	**85.39**	**57**	P	**P**	**08 38 59.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=226,slow=5.7,SNR=6.9						
IMAR	**Indian Mountai**	**86.77**	**9**	P	**P**	**08 39 03.7**	**+0.1**
ILAR	**Eielson Array**	**86.88**	**12**	P	**P**	**08 39 04.9**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=222,slow=6.6,SNR=3.2						
TOLK	**Toolik Lake Re**	**89.86**	**10**	P	**P**	**08 39 19.3**	**+1.1**
TOLK				IAmb	IAmb	08 39 47.5	
	comp=Z,1.4nm,1.1s						

*HEL **07** 09:00:09.5±0.1, 67.°73N×26.°98E, h0km, ML1.6, Explosion*
*KOLA **07** 09:00:10.5, 67.°74N×26.°81E, h0km, ML2.2, Finland, Lapland*
*BER **07** 09:00:11.0±1.4, 67.°58N×26.°88E, h0km, ML2.9(NAO), Suspected explosion*
ISC 07 09:00:08.6±0.8,**67.°70N**±0.°03×**26.°95E**±0.°03,**h0**km,**n23,** σ0§**96**/**37**,**Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.30**	**213**	PG	**Pb**	**09 00 15.4**	**-1.5**
SGF				SG	**Sg**	**09 00 19.2**	**+0.9**
VRF	**Varrio**	**1.01**	**86**	PB	**Pg**	**09 00 28.1**	**+0.2**
VRF				MSG		09 00 40.1	
	comp=Z,3.9nm,0.2s						
RNF	**Rovaniemi**	**1.15**	**199**	PG	**Pb**	**09 00 31.0**	**-0.3**
	baz=15						
RNF				SB	**Sn**	**09 00 46.9**	**-1.4**
KLF	**Kolari**	**1.24**	**249**	PG	**Pb**	**09 00 32.4**	**-0.5**
KLF				SG	**Sb**	**09 00 48.6**	**-0.7**
HEF	**Hetta**	**1.43**	**302**	*e*P	**Pn**	**09 00 35.9**	**+0.1**
HEF				*e*S	**Sg**	**09 00 54.7**	**+0.2**
HEF	**Hetta**	**1.43**	**302**	PN	**Pn**	**09 00 35.8**	**+0.1**
HEF				MSG		09 00 52.3	
	comp=Z,4.3nm,0.2s						
HEF				SN	**Sn**	**09 00 55.8**	**+0.6**
PAJU	**Pajala**	**1.63**	**247**	PG	**Pb**	**09 00 39.1**	**-0.4**
PAJU				SN	**Sb**	**09 01 00.3**	**-0.3**
KTK1	**Kautokeino**	**1.91**	**316**	*e*P	**Pb**	**09 00 44.0**	**-0.3**
KTK1				*e*S	**Sb**	**09 01 08.4**	**-0.2**
LANU	**Lannavaara**	**1.91**	**283**	PG	**Pb**	**09 00 44.0**	**-0.3**
LANU				SG	**Sb**	**09 01 09.0**	**+0.2**
ARA0	**ARCESS Array S**	**1.92**	**345**	*e*P	**Pb**	**09 00 43.9**	**-0.6**
ARA0				*e*S	**Sb**	**09 01 09.5**	**+0.6**
TOF	**Tornio**	**1.93**	**214**	PG	**Pb**	**09 00 43.9**	**-0.6**
TOF				MSG		09 01 07.8	
	comp=Z,3.7nm,0.2s						
TOF				SG	**Sg**	**09 01 09.1**	**-1.3**
MSF	**Maaselka**	**1.97**	**154**	PG	**Pb**	**09 00 45.1**	**-0.2**
	baz=335						
MSF				SG	**Sg**	**09 01 10.9**	**-0.9**
KU6	**Riekki**	**2.04**	**144**	PG	**Pb**	**09 00 46.2**	**-0.2**
KU6				MSG		09 01 10.7	
	comp=Z,3.4nm,0.2s						
KU6				SG	**Sg**	**09 01 13.5**	**-0.5**
KEV	**Kevo**	**2.07**	**1**	*e*P	**Pb**	**09 00 46.1**	**-0.8**
KEV	**Kevo**	**2.07**	**1**	PG	**Pn**	**09 00 45.7**	**+1.2**
KEV				MSG		09 01 10.1	
	comp=Z,3.6nm,0.2s						
KEV				SG	**Sb**	**09 01 12.7**	**-0.4**
APA0	**Apatity Array**	**2.31**	**89**	P	**Pb**	**09 00 50.0**	**-1.0**
APA0				S	**Sb**	**09 01 19.5**	**-0.6**
KIF	**Kilpisjarvi**	**2.63**	**303**	*e*P	**Pb**	**09 00 54.8**	**-1.7**
KIF	**Kilpisjarvi**	**2.63**	**303**	PG	**Pb**	**09 00 55.3**	**-1.2**
KIF				MSG		09 01 27.2	
	comp=Z,1.9nm,0.2s						
JETT	**Jettan, Norway**	**3.04**	**311**	*e*P	**Pn**	**09 00 59.3**	**+1.4**
OUF	**Merijarvi**	**3.46**	**196**	PN	**Pn**	**09 01 06.1**	**+2.5**
TRO	**Tromso**	**3.52**	**307**	*e*P	**Pn**	**09 01 05.5**	**+1.1**
STEI	**Steigen**	**4.45**	**278**	*e*P	**Pn**	**09 01 17.6**	**+0.5**
UMAU	**Umeaa**	**4.62**	**217**	PN	**Pn**	**09 01 21.1**	**+1.6**

*KRSC **07** 09:34:26.1±1.7, 55.°01N×165.°22E, h46km±15km, ML5.1*
*MOS **07** 09:34:28.0±0.8, 55.°05N×165.°35E, h35km, mb4.6/29, MS3.3/4, Error ellipse: s-maj=5.2km s-min=4.6km az=47.1*
*NEIC **07** 09:34:30.2±1.0, 55.°10N±0.°08×165.°28E±0.°09, h36km±6km, mb4.5/104, Error ellipse: s-maj=12.3km s-min=7.6km az=187.0*
*IDC **07** 09:34:32.0±2.4, 55.°17N×165.°29E, h51km±22km, mb3.8/27, mb1 4.0/32, mb1mx4.0/37, mbtmp4.1/32, ML4.4/5, MS3.5/14, Ms1 3.5/14, ms1mx3.3/36, Error ellipse: s-maj=16.2km s-min=9.9km az=159.0*
ISC 07 09:34:28.5±0.8,**55.°06N**±0.°04×**165.°30E**±0.°04,**h25**km±6km, **n322,** σ1§**19**/359,**mb4.5**/94,**MS3.6**/16,**9C-3D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.41**	**70**	PN	**Pb**	**09 34 35.9**	**-1.4**
BKI				S	**Sb**	**09 34 41.9**	**-1.3**
BKI	**Bering**	**0.41**	**70**	*i* P	**Pb**	**09 34 35.9**	**-1.4**
BKI				*e*S	**Sb**	**09 34 41.9**	**-1.3**
KBTR	**Krutoberegovo**	**1.81**	**310**	PN	**Pn**	**09 34 56.1**	**-2.0**
KBTR				S	**Sn**	**09 35 18.1**	**-2.2**
KBTR	**Krutoberegovo**	**1.81**	**310**	*e*P	**Pn**	**09 34 56.1**	**-2.0**
KBTR				*e*S	**Sn**	**09 35 18.1**	**-2.2**
KBG	**Krutoberegovo**	**1.89**	**310**	PN	**Pn**	**09 34 57.5**	**-1.7**
KBG				S	**Sn**	**09 35 19.6**	**-2.6**
KBG	**Krutoberegovo**	**1.89**	**310**	*e*P	**Pn**	**09 34 57.5**	**-1.7**
KBG				*e*S	**Sn**	**09 35 19.6**	**-2.6**
MKZ	**Mys Kozlova**	**2.13**	**258**	PN	**Pn**	**09 35 02.0**	**-0.4**
MKZ				S	**Sn**	**09 35 25.8**	**-2.1**
MKZ	**Mys Kozlova**	**2.13**	**258**	*e*P	**Pn**	**09 35 02.0**	**-0.4**
MKZ				*e*S	**Sn**	**09 35 25.8**	**-2.1**
SMKR	**Semkarok**	**2.64**	**307**	PN	**Pn**	**09 35 09.6**	**0.0**
SMKR				S	**Sn**	**09 35 40.0**	**-0.8**
SMKR	**Semkarok**	**2.64**	**307**	*e*P	**Pn**	**09 35 09.6**	**0.0**
SMKR				*e*S	**Sn**	**09 35 40.0**	**-0.8**
ZLN	**Zelenaya**	**2.73**	**292**	PN	**Pn**	**09 35 11.9**	**+1.1**
ZLN	**Zelenaya**	**2.73**	**292**	*e*P	**Pn**	**09 35 11.9**	**+1.1**
BDR	**Baidarnaya**	**2.76**	**305**	PN	**Pn**	**09 35 11.3**	**+0.1**
BDR	**Baidarnaya**	**2.76**	**305**	*e*P	**Pn**	**09 35 11.3**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.76**	**290**	PN	**Pn**	**09 35 12.2**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.76**	**290**	*e*P	**Pn**	**09 35 12.2**	**+1.0**
CIRR	**Tsirk**	**2.79**	**294**	PN	**Pn**	**09 35 12.6**	**+0.9**
CIRR	**Tsirk**	**2.79**	**294**	*e*P	**Pn**	**09 35 12.6**	**+0.9**
TUMD	**Tumrok D**	**2.81**	**275**	*e*P	**Pn**	**09 35 12.3**	**+0.4**
TUMD				*e*S	**Sn**	**09 35 43.9**	**-1.1**
SRKR	**Sorokina**	**2.82**	**306**	PN	**Pn**	**09 35 12.4**	**+0.4**
SRKR				S	**Sn**	**09 35 43.8**	**-1.4**
SRKR	**Sorokina**	**2.82**	**306**	*e*P	**Pn**	**09 35 12.4**	**+0.4**
SRKR				*e*S	**Sn**	**09 35 43.8**	**-1.4**
BZMR	**Bezymyannaya**	**2.87**	**290**	PN	**Pn**	**09 35 13.9**	**+1.1**
BZMR	**Bezymyannaya**	**2.87**	**290**	*e*P	**Pn**	**09 35 13.9**	**+1.1**
BZWR	**Bezymyannyi-We**	**2.88**	**290**	PN	**Pn**	**09 35 14.2**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.88**	**290**	*e*P	**Pn**	**09 35 14.2**	**+1.3**
KZV	**Kizimen**	**2.88**	**273**	PN	**Pn**	**09 35 13.1**	**+0.2**
KZV				S	**Sn**	**09 35 45.0**	**-1.7**
KZV	**Kizimen**	**2.88**	**273**	*e*P	**Pn**	**09 35 13.1**	**+0.2**
KZV				*e*S	**Sn**	**09 35 45.0**	**-1.7**
KLY	**Klyuchi**	**2.91**	**297**	PN	**Pn**	**09 35 12.1**	**-1.1**
KLY				S	**Sn**	**09 35 45.5**	**-1.8**
KLY	**Klyuchi**	**2.91**	**297**	*e*P	**Pn**	**09 35 12.1**	**-1.1**
KLY				*e*S	**Sn**	**09 35 45.5**	**-1.8**
KIRR	**Kirishev**	**2.96**	**290**	PN	**Pn**	**09 35 14.9**	**+0.9**
KIRR	**Kirishev**	**2.96**	**290**	*i* P	**Pn**	**09 35 14.9**	**+0.9**
TUMR	**Tumrok**	**2.96**	**276**	PN	**Pn**	**09 35 12.3**	**-1.7**
TUMR	**Tumrok**	**2.96**	**276**	*e*P	**Pn**	**09 35 14.9**	**+0.9**
KMNR	**Kamenistaya**	**2.97**	**286**	PN	**Pn**	**09 35 15.4**	**+1.3**
KMNR	**Kamenistaya**	**2.97**	**286**	*e*P	**Pn**	**09 35 15.4**	**+1.3**
SRDR	**Sredinnyy**	**3.40**	**294**	PN	**Pn**	**09 35 21.1**	**+1.1**
SRDR	**Sredinnyy**	**3.40**	**294**	*e*P	**Pn**	**09 35 21.1**	**+1.1**
KII	**Karymskiy**	**3.56**	**256**	PN	**Pn**	**09 35 22.8**	**+0.6**
KII				S	**Sn**	**09 36 02.8**	**-0.6**
KII	**Karymskiy**	**3.56**	**256**	*e*P	**Pn**	**09 35 22.8**	**+0.6**
KII				*e*S	**Sn**	**09 36 02.8**	**-0.6**
SPN	**Mys Shipunski**	**3.68**	**240**	PN	**Pn**	**09 35 23.1**	**-0.6**
SPN	**Mys Shipunski**	**3.68**	**240**	*e*P	**Pn**	**09 35 23.1**	**-0.6**
SPN				*e*S	**Sn**	**09 36 01.7**	**-4.5**
ESO	**Esso**	**3.85**	**286**	PN	**Pn**	**09 35 27.8**	**+1.7**
ESO	**Esso**	**3.85**	**286**	*e*P	**Pn**	**09 35 27.8**	**+1.7**
NLC	**Nalytchevo**	**3.98**	**244**	PN	**Pn**	**09 35 28.3**	**+0.4**
NLC	**Nalytchevo**	**3.98**	**244**	*e*P	**Pn**	**09 35 28.3**	**+0.4**
NLC				*e*S	**Sn**	**09 36 11.0**	**-2.7**
SDLR	**Sedlovina**	**4.17**	**247**	PN	**Pn**	**09 35 31.0**	**+0.4**
SDLR	**Sedlovina**	**4.17**	**247**	*e*P	**Pn**	**09 35 31.0**	**+0.4**
SDLR				*e*S	**Sn**	**09 36 16.9**	**-1.7**
SMAR	**Somma**	**4.22**	**247**	PN	**Pn**	**09 35 32.2**	**+0.8**
SMAR	**Somma**	**4.22**	**247**	*e*P	**Pn**	**09 35 32.2**	**+0.8**
SMAR				*e*S	**Sn**	**09 36 18.5**	**-1.5**
KRER	**Koryakskii**	**4.23**	**248**	PN	**Pn**	**09 35 32.5**	**+1.0**
KRER	**Koryakskii**	**4.23**	**248**	*e*P	**Pn**	**09 35 32.5**	**+1.0**
KRER				*e*S	**Sn**	**09 36 18.9**	**-1.3**
UGLR	**Uglovaya**	**4.24**	**247**	PN	**Pn**	**09 35 32.2**	**+0.7**
UGLR	**Uglovaya**	**4.24**	**247**	*e*P	**Pn**	**09 35 32.2**	**+0.7**
UGLR				*e*S	**Sn**	**09 36 18.9**	**-1.3**
AVH	**Avacha**	**4.25**	**248**	PN	**Pn**	**09 35 32.6**	**+0.9**
AVH	**Avacha**	**4.25**	**248**	*e*P	**Pn**	**09 35 32.6**	**+0.9**
AVH				*e*S	**Sn**	**09 36 19.5**	**-1.1**
KRX	**Arik**	**4.26**	**249**	PN	**Pn**	**09 35 32.6**	**+0.7**
KRX	**Arik**	**4.26**	**249**	*e*P	**Pn**	**09 35 32.6**	**+0.7**
KRX				*e*S	**Sn**	**09 36 18.7**	**-2.1**
KOK	**Koryaka**	**4.30**	**248**	PN	**Pn**	**09 35 32.9**	**+0.6**
KOK	**Koryaka**	**4.30**	**248**	*e*P	**Pn**	**09 35 32.9**	**+0.6**
KOK				*e*S	**Sn**	**09 36 20.0**	**-1.6**
DALK	**Dalny**	**4.36**	**245**	PN	**Pn**	**09 35 33.4**	**+0.3**
DALK	**Dalny**	**4.36**	**245**	*e*P	**Pn**	**09 35 33.4**	**+0.3**
DALK				*e*S	**Sn**	**09 36 20.3**	**-2.7**
OSSR	**Ossora**	**4.37**	**345**	PN	**Pn**	**09 35 33.4**	**+0.2**
OSSR	**Ossora**	**4.37**	**345**	*e*P	**Pn**	**09 35 33.4**	**+0.2**
OSSR				*e*S	**Sn**	**09 36 23.2**	**-0.1**
PET	**Petropavlovsk**	**4.42**	**245**	*e*PN	**Pn**	**09 35 33.8**	**-0.1**
PET				pmax	pmax		
	comp=Z,123nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,10.0s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET	**Petropavlovsk**	**4.42**	**245**	*e*P	**Pn**	**09 35 34.5**	**+0.6**
PET				*e*S	**Sn**	**09 36 21.8**	**-2.6**
PET	**Petropavlovsk**	**4.42**	**245**	Pn	**Pn**	**09 35 34.4**	**+0.5**
GNL	**Ganaly**	**4.51**	**255**	PN	**Pn**	**09 35 36.6**	**+1.3**
GNL	**Ganaly**	**4.51**	**255**	*e*P	**Pn**	**09 35 36.6**	**+1.3**
KRMR	**Karymshinskiy**	**4.79**	**245**	PN	**Pn**	**09 35 39.1**	**+0.1**
KRMR	**Karymshinskiy**	**4.79**	**245**	*e*P	**Pn**	**09 35 39.1**	**+0.1**
KRMR				*e*S	**Sn**	**09 36 31.2**	**-2.4**
RUS	**Russkaya**	**4.81**	**240**	PN	**Pn**	**09 35 39.3**	**0.0**
RUS	**Russkaya**	**4.81**	**240**	*e*P	**Pn**	**09 35 39.3**	**0.0**
RUS				*e*S	**Sn**	**09 36 30.9**	**-3.2**
PEA0B	**Petropavlovsk-**	**4.88**	**249**	PN	**Pn**	**09 35 40.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.88**	**249**		**Pn**	**09 35 40.9**	**+0.6**
PETK	**Petropavlovsk-**	**4.88**	**249**	P	**Pn**	**09 35 41.6**	**+1.3**
	comp=Z,17nm,0.3s,baz=283,slow=24,SNR=127						
PETK				S	**Sn**	**09 36 35.7**	**-0.2**
	comp=Z,27nm,0.3s,baz=172,slow=39,SNR=4.8						
PETK	**Petropavlovsk-**	**4.88**	**249**	PN	**Pn**	**09 35 41.1**	**+0.8**
PETK	**Petropavlovsk-**	**4.88**	**249**	Pn	**Pn**	**09 35 41.1**	**+0.8**
MTVR	**Mutnovka**	**4.95**	**241**	PN	**Pn**	**09 35 41.9**	**+0.6**
MTVR	**Mutnovka**	**4.95**	**241**	*e*P	**Pn**	**09 35 41.9**	**+0.6**
MTVR				*e*S	**Sn**	**09 36 34.5**	**-3.2**
GRL	**Gorelyy**	**4.96**	**243**	PN	**Pn**	**09 35 42.5**	**+1.0**
GRL	**Gorelyy**	**4.96**	**243**	*e*P	**Pn**	**09 35 42.5**	**+1.0**
GRL				*e*S	**Sn**	**09 36 36.0**	**-2.1**
PALN	**Palana**	**4.97**	**326**	PN	**Pn**	**09 35 43.0**	**+1.5**
PALN	**Palana**	**4.97**	**326**	*e*P	**Pn**	**09 35 43.0**	**+1.5**
ASAK	**Asacha**	**5.15**	**242**	PN	**Pn**	**09 35 45.2**	**+1.2**
ASAK	**Asacha**	**5.15**	**242**	*e*P	**Pn**	**09 35 45.2**	**+1.2**
ASAK				*e*S	**Sn**	**09 36 40.5**	**-2.1**
APC	**Apacha**	**5.26**	**249**	PN	**Pn**	**09 35 47.3**	**+1.9**
APC	**Apacha**	**5.26**	**249**	*e*P	**Pn**	**09 35 47.3**	**+1.9**
APC				*e*S	**Sn**	**09 36 46.2**	**+1.1**
KDTR	**Khodutka, Kamc**	**5.41**	**236**	PN	**Pn**	**09 35 46.9**	**-0.6**
KDTR	**Khodutka, Kamc**	**5.41**	**236**	*e*P	**Pn**	**09 35 46.9**	**-0.6**
KDTR				*e*S	**Sn**	**09 36 43.7**	**-5.1**
SMY	**Shemya**	**5.71**	**111**	PN	**Pn**	**09 35 52.4**	**+0.8**
SMY	**Shemya**	**5.71**	**111**	Pn	**Pn**	**09 35 52.4**	**+0.8**
MIPR	**Malaya Ipel'ka**	**5.79**	**245**	PN	**Pn**	**09 35 54.5**	**+1.7**
MIPR	**Malaya Ipel'ka**	**5.79**	**245**	*e*P	**Pn**	**09 35 54.5**	**+1.7**
PAU	**Pauzhetka**	**6.24**	**238**	PN	**Pn**	**09 35 59.5**	**+0.7**
PAU	**Pauzhetka**	**6.24**	**238**	*e*P	**Pn**	**09 35 59.5**	**+0.7**
SKR	**Severo-Kuril's**	**7.08**	**235**	*e*PN	**Pn**	**09 36 13.0**	**+2.6**
SKR				pmax	pmax		
	comp=Z,99nm,0.5s						
SKR				MLR	MLR		
	comp=Z,800nm,13.0s						
SKR				MLR	MLR		
	comp=Z,500nm,16.0s						
SKR	**Severo-Kuril's**	**7.08**	**235**	*e*P	**Pn**	**09 36 10.2**	**-0.2**
ALID	**Alaid**	**7.23**	**238**	PN	**Pn**	**09 36 14.4**	**+1.8**
ALID	**Alaid**	**7.23**	**238**	*e*P	**Pn**	**09 36 14.4**	**+1.8**
MA2	**Magadan**	**9.06**	**306**	P	**Pn**	**09 36 40.0**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=80,slow=11,SNR=4.1						
MA2				LR	LR	09 40 32.6	
	comp=Z,377nm,18.8s,baz=112,slow=40						
MA2	**Magadan**	**9.06**	**306**	*i* PN	**Pn**	**09 36 39.5**	**+1.9**
MA2	**Magadan**	**9.06**	**306**	Pn	**Pn**	**09 36 38.5**	**+0.9**
AMKA	**Amchitka**	**9.17**	**108**	Pn	**Pn**	**09 36 40.0**	**+0.9**
SEY	**Seymchan**	**10.31**	**325**	P	**Pn**	**09 36 56.6**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=100,slow=15,SNR=5.0						
KIWB	**Kanaga Island**	**10.94**	**100**	Pn	**Pn**	**09 37 04.0**	**+0.7**
ADK	**Adak**	**11.20**	**99**	PN	**Pn**	**09 37 07.4**	**+0.6**
ADK	**Adak

COLA pmax pmax
comp=Z,18nm,3.1s
COLA College 24.82 48 P P 09 39 48.3 +0.1
COLA IAmb IAmb 09 39 58.4
comp=Z,17nm,1.0s
PWL Port Wells 24.83 58 P P 09 39 49.0 +0.7
CCB Clear Creek Bu 24.84 48 P P 09 39 48.6 +0.2
SCM Sheep Creek Mo 25.19 55 P P 09 39 52.3 +0.5
SCM pmax pmax
comp=Z,19nm,0.8s
SCM Sheep Creek Mo 25.19 55 P P 09 39 52.3 +0.5
HDA Harding Lake 25.21 49 P P 09 39 51.9 +0.1
IL31 25.23 48 P P 09 39 51.6 -0.4
IL31 IAmb IAmb 09 40 02.3
comp=Z,13nm,0.8s
ILAR Eielson Array 25.23 48 P P 09 39 51.6 -0.4
comp=Z,2.1nm,0.8s,baz=257,slow=8.8,SNR=22
ILAR Eielson Array 25.23 48 P P 09 39 52.8 +0.8
ILAR Eielson Array 25.23 48 P P 09 39 52.8 +0.8
GLI Glacier Island 25.43 57 P P 09 39 54.3 +0.5
GLI IAmb IAmb 09 39 59.6
comp=Z,22nm,1.2s
PRP Porcupine Dome 25.81 46 P P 09 39 57.1 -0.3
PRP IAmb IAmb 09 40 24.3
comp=Z,8.8nm,0.8s
KLU Klutina 25.90 56 P P 09 39 57.8 -0.3
KLU IAmb IAmb 09 40 25.6
comp=Z,8.8nm,0.9s
PAX Paxson 25.94 52 P P 09 39 57.7 -0.9
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 25.94 52 P P 09 39 57.7 -0.9
FYU Fort Yukon 25.95 44 P P 09 39 58.0 -0.4
FYU IAmb IAmb 09 40 22.4
comp=Z,20nm,1.4s
EYAK Cordova Ski Ar 26.13 58 P P 09 39 59.5 -0.6
EYAK IAmb IAmb 09 40 15.4
comp=Z,23nm,1.2s
MAJO Matsushiro 26.18 236 P P 09 40 01.2 +0.3
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 26.18 236 P P 09 40 01.2 +0.3
MAJO IAmb IAmb 09 40 28.6
comp=Z,12nm,0.8s
MAT Matsushiro 26.18 236 P P 09 40 07.9 +7.0
MAT *e*S **S 09 44 32.2 +1.0**
MJAR Matsushiro Arr 26.18 236 P P 09 40 02.9 +2.0
comp=Z,1.1nm,0.5s,baz=34,slow=9.4,SNR=2.3
MJAR LR LR 09 52 46.0
comp=Z,36nm,19.0s,baz=15,slow=42
MJAR Matsushiro Arr 26.18 236 P P 09 40 01.3 +0.4
MJAR pmax pmax
comp=Z,8.0nm,1.5s
MJAR Matsushiro Arr 26.18 236 P P 09 40 01.3 +0.4
BMAR Burnt Mountain 26.24 42 P P 09 40 00.7 -0.5
N25K Chitina, Valde 26.51 55 P P 09 40 03.4 -0.4
SCRK Sand Creek 26.52 50 P P 09 40 02.7 -1.1
K27K Chicken 27.36 50 P P 09 40 11.4 +0.2
K27K IAmb IAmb 09 40 23.1
comp=Z,7.8nm,0.9s
L27K Beaver Creek, 27.58 52 P P 09 40 13.5 +0.2
L27K IAmb IAmb 09 40 34.6
comp=Z,6.2nm,0.6s
BCAR Beaver Creek A 27.60 52 P P 09 40 14.5 +1.1
EGAK Eagle 27.68 48 P P 09 40 13.7 -0.3
CN2 Changchun 27.88 263 *e*P **P 09 40 15.4 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
DAWY Dawson 28.53 49 P P 09 40 20.7 -1.0
EPYK Eagle Plains 29.37 44 P P 09 40 29.1 0.0
HYT Haines Junctio 30.03 55 P P 09 40 34.4 -0.8
INK Inuvik 30.41 40 P P 09 40 38.3 +0.1
comp=Z,1.6nm,0.6s,baz=243,slow=6.2,SNR=11
INK Inuvik 30.41 40 P P 09 40 38.4 +0.2
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 30.41 40 P P 09 40 38.4 +0.2
KSRS Korea Array 30.78 251 P P 09 40 43.9 +2.1
comp=Z,1.0nm,0.6s,baz=39,slow=9.8,SNR=5.3
KSRS LR LR 09 52 39.0
comp=Z,54nm,20.2s,baz=165,slow=35
C36M Paulatuk 33.65 37 P P 09 41 06.8 +0.3
C36M IAmb IAmb 09 41 22.5
comp=Z,9.0nm,0.9s
H11N2 WAKE ISLAND Hy 35.29 177 T T 10 18 56.4
baz=359,slow=76,SNR=470
H11N3 WAKE ISLAND Hy 35.31 177 T T 10 18 54.6
baz=359,slow=76,SNR=446
H11N1 WAKE ISLAND Hy 35.31 177 T T 10 19 10.9
baz=359,slow=76,SNR=529
TLY Talaya 35.89 291 *d*P **P 09 41 27.9 +1.7**
TLY pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 36.04 283 *c*P **P 09 41 28.9 +1.2**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 36.04 283 P P 09 41 27.8 +0.1
ULN IAmb IAmb 09 41 30.0
comp=Z,7.1nm,1.0s
NRIK Noril'sk 36.09 324 LR LR 09 56 45.5
comp=Z,97nm,19.4s,baz=68,slow=37
SONM Songino Array 36.42 284 P P 09 41 32.6 +1.6
comp=Z,11nm,0.7s,baz=58,slow=8.5,SNR=57
SONM LR LR 09 57 57.3
comp=Z,77nm,18.4s,baz=34,slow=39
SONM Songino Array 36.42 284 P P 09 41 31.6 +0.7
SONM pmax pmax
comp=Z,11nm,0.7s
SONM Songino Array 36.42 284 P P 09 41 31.6 +0.7
H11S1 WAKE ISLAND Hy 36.51 178 T T 10 20 22.8
baz=359,slow=76,SNR=24
H11S3 WAKE ISLAND Hy 36.52 178 T T 10 20 32.2
baz=359,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 36.52 178 T T 10 20 26.0
baz=359,slow=76,SNR=25
ZAK Zakamensk 36.76 289 *e*P **P 09 41 33.2 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
HHC Hu-ho-hao-te 37.71 271 *e*P **P 09 41 43.1 +1.2**
HHC S **S 09 47 26.7 -3.9**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,72nm,5.0s
HHC L L
comp=Z,130nm,14.3s
HHC L L
comp=Z,180nm,11.4s
HHC L L
comp=Z,160nm,11.6s
BTO Baotou 38.76 272 *e*P **P 09 41 51.4 +0.7**
EUNU Eureka 39.27 15 P P 09 41 54.1 -0.4
EUNU IAmb IAmb 09 42 14.3
comp=Z,6.5nm,0.9s
YKA Yellowknife Ar 39.61 46 P P 09 41 58.1 +0.7
comp=Z,1.8nm,0.8s,baz=320,slow=6.7,SNR=5.7
NJ2 Nanjing 39.77 254 *e*P **P 09 41 59.4 +0.3**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 44.27 303 P P 09 42 35.2 -0.4
comp=Z,1.3nm,0.6s,baz=76,slow=7.8,SNR=5.9
ZALV LR LR 10 03 25.1
comp=Z,66nm,18.3s,baz=59,slow=39
ZALV Zalesovo Beam 44.27 303 P P 09 42 35.1 -0.5
D05A Enumclaw 44.38 69 P P 09 42 36.8 +0.3
D05A IAmb IAmb 09 42 42.7
comp=Z,9.5nm,1.0s
KBS Kingsbay 45.32 353 P P 09 42 43.6 0.0
KBS pmax pmax
comp=Z,14nm,1.5s
KBS Kingsbay 45.32 353 P P 09 42 43.6 0.0
KBS IAmb IAmb 09 43 11.6
comp=Z,14nm,1.4s
LZH Lanzhou 45.38 272 *e*P **P 09 42 47.0 +2.1**
LZH pP pwP 09 43 01.7 +3.2
LZH pmax pmax
comp=Z,22nm,1.0s
LZH L L
comp=Z,250nm,10.0s
LZH L L
comp=Z,190nm,12.5s
LZH L L
comp=Z,130nm,13.6s
GTA Gaotai 45.40 278 ⇑P **P 09 42 46.1 +1.2**
GTA sP pwP 09 42 59.4 +0.8
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA pmax pmax
comp=Z,70nm,5.0s
GTA L L
comp=Z,100nm,17.4s
GTA L L
comp=Z,190nm,16.4s
GTA L L
comp=Z,150nm,16.7s
ENH Enshi 46.38 261 P P 09 42 52.8 +0.2
K05A Summer Lake 47.84 73 P P 09 43 03.8 -0.4
JTMT Jette 48.07 63 P P 09 43 06.2 +0.5
JTMT IAmb IAmb 09 43 25.3
comp=Z,4.5nm,0.7s
WMQ Urumqi 49.17 291 *e*P **P 09 43 16.1 +1.9**
CD2 Chengdu 49.18 267 P P 09 43 14.9 +0.6
CD2 pP sP 09 43 23.9 +1.4
CD2 sP pwP 09 43 29.1 +1.1
CD2 S **S 09 50 15.7 -2.5**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,130nm,6.3s
FCC Fort Churchill 49.99 42 P P 09 43 20.4 +0.3
FCC pmax pmax
comp=Z,12nm,1.2s
FCC Fort Churchill 49.99 42 P P 09 43 20.4 +0.3
MK31 Makanchi Array 50.02 297 P P 09 43 20.5 -0.1
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 50.02 297 P P 09 43 20.5 -0.1
MKAR Makanchi Array 50.02 297 P P 09 43 20.2 -0.3
comp=Z,2.4nm,0.7s,baz=57,slow=6.6,SNR=18
MKAR LR LR 10 05 14.9
comp=Z,77nm,21.1s,baz=26,slow=37
MKAR Makanchi Array 50.02 297 P P 09 43 20.4 -0.2
MKAR **pwP 09 43 32.8 -0.9**
MAKZ Makanchi 50.17 297 P P 09 43 21.7 0.0
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 50.17 297 P P 09 43 21.7 0.0
MAKZ IAmb IAmb 09 43 38.0
comp=Z,5.0nm,0.9s
EGMT Eagleton 50.19 61 P P 09 43 22.0 +0.2
MCMT McKenzie Canyo 50.75 65 P P 09 43 26.5 +0.1
WAKR Walker 51.54 76 P P 09 43 33.2 +0.9
WAKR IAmb IAmb 09 43 38.8
comp=Z,9.2nm,1.4s
BRVK Borovoye 51.55 310 *c i*P **P 09 43 31.9 0.0**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 51.55 310 P P 09 43 31.6 -0.4
BRVK IAmb IAmb 09 43 33.0
comp=Z,8.2nm,1.0s
SUMG Summit 51.59 9 *i*P **P 09 43 32.0 -0.4**
SUMG *i* 09 43 47.1
SUMG Summit 51.59 9 *i*P **P 09 43 32.0 -0.4**
SUMG *i* 09 43 47.1
NVAR Mina Array Bea 52.23 75 P P 09 43 38.1 +0.7
comp=Z,0.7nm,0.6s,baz=297,slow=7.5,SNR=6.4
NVAR Mina Array Bea 52.23 75 P P 09 43 37.9 +0.4
NV11 Mina Array Sit 52.31 75 P P 09 43 38.0 +0.1
ARCES ARCESS Array B 52.32 343 P P 09 43 36.7 -0.8
comp=Z,3.0nm,0.7s,baz=24,slow=10,SNR=8.6
ARCES ARCESS Array B 52.32 343 P P 09 43 37.1 -0.4
ARCES pmax pmax
comp=Z,19nm,1.5s
ARCES ARCESS Array B 52.32 343 P P 09 43 37.1 -0.4
PDAR Pinedale Array 53.90 65 P P 09 43 51.0 +1.3
comp=Z,1.6nm,0.9s,baz=336,slow=3.3,SNR=9.4
PDAR Pinedale Array 53.90 65 P P 09 43 50.0 +0.3
ARU Arti 53.98 319 *c i*P **P 09 43 49.1 -0.7**
ARU 09 44 53.8
ARU S **S 09 51 22.6 -1.0**
ARU SS **SS 09 55 03.2 -1.0**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 53.98 319 P P 09 43 48.9 -0.9
TPNV Topopah Spring 54.42 75 P P 09 43 53.4 -0.1
TPNV pmax pmax
comp=Z,6.0nm,1.2s
TPNV Topopah Spring 54.42 75 P P 09 43 53.4 -0.1
TPNV IAmb IAmb 09 44 00.2
comp=Z,6.1nm,1.1s
PRN Pahroc Range 54.76 74 P P 09 43 56.0 +0.1
PRN IAmb IAmb 09 44 16.4
comp=Z,6.1nm,0.8s
ULM Lac du Bonnet 55.22 51 P P 09 43 59.6 +0.7
comp=Z,1.7nm,0.5s,baz=338,slow=7.0,SNR=4.1
ULM LR LR 10 07 35.5
comp=Z,47nm,19.5s,baz=310,slow=36
TMUT Trail Mountain 55.49 69 P P 09 44 02.3 +0.9
TMUT IAmb IAmb 09 44 26.2
comp=Z,6.2nm,0.9s
CCUT Cedar City 55.58 72 P P 09 44 02.7 +0.8
CCUT IAmb IAmb 09 44 22.3
comp=Z,3.3nm,0.9s
Q16A Castle Valley 55.78 70 P P 09 44 03.0 -0.4
Q16A IAmb IAmb 09 44 23.1
comp=Z,5.4nm,1.0s
KDJ Kajisay 55.89 296 P P 09 44 03.6 -0.5
KDJ pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 55.89 296 P P 09 44 03.6 -0.5
KDJ IAmb IAmb 09 44 20.9
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 55.99 69 P P 09 44 05.3 +0.4
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 55.99 69 P P 09 44 05.3 +0.4
Q20A White River Ci 56.47 67 P P 09 44 07.5 -0.7
AAK Ala-Archa 56.90 298 ⇓*i*P **P 09 44 11.5 +0.3**
AAK pmax pmax
comp=Z,17nm,1.3s
LSA Lhasa 57.32 276 P P 09 44 14.7 0.0
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 57.32 276 P P 09 44 14.7 0.0
PV17 East Wray Mesa 57.44 69 P P 09 44 15.2 +0.1
PV05 Paradox Valley 57.51 69 P P 09 44 16.6 +1.0
SMCO Snowmass 57.84 67 P P 09 44 18.5 +0.3
SMCO IAmb IAmb 09 44 37.7
comp=Z,4.0nm,0.9s
KK31 Karatay Array 58.55 301 P P 09 44 21.6 -1.0
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 58.55 301 P P 09 44 21.6 -1.0
KK31 IAmb IAmb 09 44 24.9
comp=Z,4.4nm,0.7s
KKAR Karatay Array 58.55 301 P P 09 44 22.1 -0.5
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 58.55 301 P P 09 44 22.1 -0.5
KKAR IAmb IAmb 09 44 24.9
comp=Z,4.4nm,0.7s
KKAR Karatay Array 58.55 301 P P 09 44 22.4 -0.2
ABKAR Akbulak array 58.79 312 P P 09 44 24.1 -0.1
ABKAR IAmb IAmb 09 44 24.5
comp=Z,2.6nm,0.7s
ABKAR Akbulak array 58.79 312 P P 09 44 23.2 -0.9
EYMN Ely 58.86 50 P P 09 44 24.9 +0.2
FINES FINESS Array B 59.47 339 P P 09 44 28.1 -0.5
comp=Z,3.4nm,0.8s,baz=26,slow=9.1,SNR=5.9
FINES LR LR 10 13 50.8
comp=Z,41nm,18.2s,baz=51,slow=40
FINES FINESS Array B 59.47 339 P P 09 44 28.4 -0.2
ANMO Albuquerque 61.26 69⇑ *e*P **P 09 44 45.3 +3.7**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
CMAR Chiang Mai Arr 61.55 261 P P 09 44 44.5 +1.0
comp=Z,3.3nm,0.8s,baz=18,slow=7.5,SNR=5.3
CMAR LR LR 10 13 31.6
comp=Z,41nm,18.1s,baz=100,slow=38
CMAR Chiang Mai Arr 61.55 261 *i*P **P 09 44 45.2 +1.7**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
GAR Garm 61.72 298 P P 09 44 44.1 -0.4
NC204 NORSAR Array S 62.27 346 P P 09 44 47.5 -0.4
SCHQ Schefferville 62.43 31 P P 09 44 47.7 -1.2
comp=Z,0.8nm,0.3s,baz=315,slow=8.6,SNR=2.2
SCHQ Schefferville 62.43 31 P P 09 44 48.3 -0.6
NOA NORSAR Array B 62.44 346 P P 09 44 48.4 -0.5
comp=Z,1.1nm,0.5s,baz=18,slow=6.8,SNR=5.5
NOA LR LR 10 13 23.9
comp=Z,13nm,21.1s,baz=55,slow=37
NIL Nilore 64.28 292 P P 09 45 01.1 -0.4
NIL pmax pmax
comp=Z,9.0nm,0.8s
NIL Nilore 64.28 292 P P 09 45 01.1 -0.4
TX31 Lajitas Ar. Si 67.07 71 P P 09 45 19.5 -0.1
TX32 Lajitas Array 67.07 71 P P 09 45 19.8 +0.1
TX32 IAmb IAmb 09 45 39.0
comp=Z,3.8nm,0.7s
TXAR Lajitas Array 67.07 71 P P 09 45 19.8 +0.2
comp=Z,0.9nm,0.6s,baz=303,slow=4.0,SNR=16
TXAR Lajitas Array 67.07 71 P P 09 45 19.6 -0.1
TRQ Mont Tremblant 67.16 41 P P 09 45 20.3 +0.4
FCAR Ozark Folk Cen 67.93 59 P P 09 45 25.4 +0.5
FCAR IAmb IAmb 09 45 41.3
comp=Z,2.9nm,0.8s
WHAR Wooly Hollow 68.33 59 P P 09 45 27.5 +0.2
WHAR IAmb IAmb 09 45 50.6
comp=Z,4.5nm,1.0s
D62A Allapoint, All 68.41 37 P P 09 45 27.9 +0.2
D62A IAmb IAmb 09 45 42.6
comp=Z,6.5nm,1.1s
AKASG Malin Array Be 68.42 332 P P 09 45 26.6 -1.1
comp=Z,0.9nm,0.4s,baz=28,slow=6.4,SNR=6.1
AKASG LR LR 10 16 46.5
comp=Z,53nm,20.3s,baz=85,slow=37
GEYT Alibeck 68.51 306 P P 09 45 28.2 -0.3
comp=Z,2.1nm,0.6s,baz=285,slow=2.8,SNR=3.8
WVT Waverly 69.82 56 P P 09 45 35.7 -0.9
WVT pmax pmax
comp=Z,2.0nm,0.8s
WVT Waverly 69.82 56 P P 09 45 35.7 -0.9
KBZ Khabaz 70.12 319 P P 09 45 38.8 +0.5
comp=Z,1.8nm,0.8s,baz=55,slow=7.1,SNR=4.7
M57A Sunshine Farm, 70.26 45 P P 09 45 38.9 -0.3
GGN Saint George 70.87 36 P P 09 45 43.4 +0.5
Z47A Carrollton 72.08 58 P P 09 45 50.6 +0.2
LRAL Lakeview Retre 72.73 57 P P 09 45 53.9 -0.3
LRAL IAmb IAmb 09 45 58.8
comp=Z,3.9nm,0.9s
GERES GERESS Array B 73.75 341 P P 09 46 00.0 -0.1
comp=Z,0.5nm,0.4s,baz=28,slow=6.0,SNR=5.2
GERES GERESS Array B 73.75 341 P P 09 45 59.6 -0.5
GERES GERESS Array B 73.75 341 P P 09 45 59.6 -0.5
HODGE Hodges 73.97 53 P P 09 46 01.7 +0.1
BRTR Keskin Array B 76.95 324 P P 09 46 18.4 -0.3
comp=Z,0.8nm,0.7s,baz=49,slow=4.4,SNR=5.3
BRTR Keskin Array B 76.95 324 P P 09 46 18.3 -0.4
WRA Warramunga Arr 79.24 210 P P 09 46 30.9 -0.4
baz=23,slow=6.0
EIDS Eidsvold 81.03 193 P P 09 46 40.3 -0.5
PPT Papeete 81.85 137 LR LR 10 15 45.7
comp=Z,44nm,21.3s,baz=338,slow=30
ASAR Alice Springs 82.89 209 P P 09 46 51.0 +0.4
comp=Z,1.1nm,0.8s,baz=16,slow=5.4,SNR=7.9
ESDC Sonseca Array 85.19 352 P P 09 47 01.4 -1.0
comp=Z,1.0nm,0.7s,baz=2.0,slow=4.4,SNR=7.9

*NEIC **07** 09:50:02.0±1.5, 4.0°S±0.1°×153.9°E±0.2, h392km±9km, mb4.4/13, Error ellipse: s-maj=23.2km s-min=18.0km az=73.0*
*IDC **07** 09:50:04.8±4.1, 4.07°S×153.91°E, h428km±51km, mb3.2/6, mb1 3.3/8, mb1mx3.0/39, mbtmp4.1/8, Error ellipse: s-maj=28.1km s-min=23.6km az=40.0*
ISC 07 09:50:02.3±0.6, 4.01°S±0.09°×154.0°E±0.1, h398km, n26, σ0°84/26, mb4.0/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.79**	**264**				**Pn**	**09 50 55.1**	**-1.8**
PMG	**Port Moresby**	**8.62**	**231**	P		P	**P**	**09 52 06.5**	**+1.9**
	2.1nm,0.3s,baz=54,slow=8.7,SNR=5.1								
PMG	**Port Moresby**	**8.62**	**231**	P		P	**P**	**09 52 04.4**	**-0.2**
CTA	**Charters Tower**	**17.65**	**205**	P		P	**P**	**09 53 43.9**	**+0.6**
	0.2nm,0.3s,baz=29,slow=13,SNR=4.0								
CTAO	**Charters Tower**	**17.65**	**205**	P		P	**P**	**09 53 43.2**	**-0.1**
CTAO						IAmb	IAmb	09 53 52.3	
	comp=Z,19nm,1.2s								
DZM	**Mont Dzumac**	**21.66**	**147**	P		P	**P**	**09 54 22.7**	**+0.6**
	comp=Z,5.9nm,0.5s,baz=189,slow=17,SNR=11								
DZM	**Mont Dzumac**	**21.66**	**147**	P		P	**P**	**09 54 22.9**	**+0.8**
DZM						IAmb	IAmb	09 54 37.2	
	comp=Z,30nm,1.2s								
WRAB	**Tennant Creek**	**24.81**	**229**	P		P	**P**	**09 54 50.4**	**-0.1**
AS31	**Alice Springs**	**27.50**	**223**	P		P	**P**	**09 55 13.8**	**-0.7**
ASAR	**Alice Springs**	**27.50**	**223**	P		P	**P**	**09 55 14.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=55,slow=9.1,SNR=21								
ASAR	**Alice Springs**	**27.50**	**223**	P		P	**P**	**09 55 13.3**	**-1.1**
URZ	**Urewera**	**40.10**	**151**	P		P	**P**	**09 57 02.1**	**+0.9**
URZ						IAmb	IAmb	09 57 09.2	
	comp=Z,20nm,1.2s								
BKZ	**Black Stump Fm**	**40.53**	**153**	P		P	**P**	**09 57 04.4**	**-0.4**
THZ	**Tophouse**	**41.24**	**158**	P		P	**P**	**09 57 11.3**	**+0.9**
THZ						IAmb	IAmb	09 57 24.0	
	comp=Z,28nm,1.4s								
TUWZ	**Tuamarina**	**41.34**	**157**	P		P	**P**	**09 57 11.3**	**+0.1**
BFZ	**Birch Farm**	**41.66**	**154**	P		P	**P**	**09 57 12.9**	**-0.8**
BFZ						IAmb	IAmb	09 57 23.4	
	comp=Z,36nm,1.3s								
MJB9	**Matsu-Tunnel**	**42.95**	**341**	P		P	**P**	**09 57 25.2**	**+1.1**
PETK	**Petropavlovsk-**	**57.00**	**3**	P		P	**P**	**09 59 08.3**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=190,slow=7.3,SNR=2.0								
OHAK	**Old Harbor**	**74.33**	**27**	P		P	**P**	**10 00 57.1**	**-0.2**
OHAK						IAmb	IAmb	10 01 12.6	
	comp=Z,12nm,1.2s								
PTCN	**Pitcairn Islan**	**75.59**	**115**	P		P	**P**	**10 01 04.1**	**-1.0**
CNPM	**China Poot**	**76.52**	**25**	P		P	**P**	**10 01 10.1**	**+0.6**
MKAR	**Makanchi Array**	**80.50**	**319**	P		P	**P**	**10 01 31.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=114,slow=5.3,SNR=5.5								
MKAR	**Makanchi Array**	**80.50**	**319**	P		P	**P**	**10 01 31.1**	**-0.3**
ILAR	**Eielson Array**	**81.00**	**22**	P		P	**P**	**10 01 33.0**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=240,slow=6.1,SNR=8.6								
ZALV	**Zalesovo Beam**	**81.14**	**326**	P		P	**P**	**10 01 34.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=116,slow=6.6,SNR=1.8								
QSPA	**South Pole Qui**	**85.94**	**180**	P		P	**P**	**10 01 58.6**	**+0.1**
QSPA						IAmb	IAmb	10 01 59.8	
	comp=Z,2.1nm,0.8s								

*IDC **07** 10:05:38.5±2.8, 2.95°S×101.27°E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/44, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/42, Error ellipse: s-maj=99.1km s-min=27.3km az=61.0*
*DJA **07** 10:05:44.6±0.3, 3.3°S±3.3°×110.2°E±0.2°, h10km, M3.9/6, MLv3.9/6*
ISC 07 10:05:41.5±0.8, 2.79°S±0.07°×101.57°E±0.07, h10km, n17, σ0°77/16, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.70**	**351**			P	**Pb**	**10 05 57.0**	**+1.1**
KSI	**Kapahiang**	**1.34**	**130**			P	**Pn**	**10 06 05.8**	**-0.6**
KSI						S	**Sb**	**10 06 23.1**	**-0.9**
SDSI	**Sungai Dareh**	**1.85**	**356**			P	**Pb**	**10 06 15.0**	**-0.4**
PDSI	**Padang**	**2.17**	**329**			P	**Pg**	**10 06 23.1**	**0.0**
LHSI	**Lahat**	**2.21**	**118**			P	**Pn**	**10 06 18.3**	**0.0**
LHSI						S	**Sn**	**10 06 47.0**	**+1.3**
JMBI	**JAMBI**	**2.37**	**61**			P	**Pn**	**10 06 20.7**	**+0.2**
JMBI						S	**Sn**	**10 06 48.9**	**-0.7**
SISI	**Saibi**	**2.87**	**300**			P	**Pb**	**10 06 33.1**	**+0.2**
MDSI	**Maura Dua**	**3.10**	**123**			P	**Pn**	**10 06 31.7**	**+1.1**
PALK	**Pallekele**	**23.10**	**296**			LR	LR	10 18 18.9	
	comp=Z,88nm,19.1s,baz=198,slow=33								
H08S2	**Diego Garcia H**	**29.34**	**259**			T	T	10 41 25.4	
	baz=82,slow=75,SNR=8.8								
H08S3	**Diego Garcia H**	**29.35**	**259**			T	T	10 41 09.7	
	baz=82,slow=75,SNR=12								
H08S1	**Diego Carcia H**	**29.36**	**259**			T	T	10 41 11.6	
	baz=82,slow=75,SNR=8.7								
ASAR	**Alice Springs**	**37.53**	**126**			P	**P**	**10 12 55.9**	**-0.3**
	0.9nm,0.6s,baz=300,slow=8.3,SNR=17								
SONM	**Songino Array**	**50.59**	**4**			P	**P**	**10 14 41.1**	**+0.4**
	0.6nm,0.5s,baz=176,slow=8.7,SNR=4.1								
MKAR	**Makanchi Array**	**52.21**	**343**			P	**P**	**10 14 51.6**	**-1.1**
	0.5nm,0.7s,baz=147,slow=7.2,SNR=4.6								
USRK	**Ussuriysk Ar.**	**54.13**	**27**			P	**P**	**10 15 07.1**	**+0.3**
	0.9nm,0.6s,baz=239,slow=6.1,SNR=5.1								
TXAR	**Lajitas Array**	**144.34**	**40**		PKP		**PKPab**	**10 25 17.1**	**+0.3**
	0.1nm,0.4s,baz=198,slow=0.6,SNR=6.1								

KRSC 07 10:13:46.1±1.9, 52.21°N×153.93°E, h481km±26km, ML4.2, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.68**	**142**	*e*P	P	10 14 49.6	+1.5
MIPR	**Malaya Ipel'ka**	**1.74**	**87**	*e*P	P	10 14 49.8	+1.7
PAU	**Pauzhetka**	**1.94**	**111**	*e*P	P	10 14 50.7	+1.6
SKR	**Severo-Kuril's**	**2.05**	**137**	*e*P	P	10 14 49.8	+0.1
ASAK	**Asacha**	**2.45**	**84**	*e*P	P	10 14 54.2	+2.2
GRL	**Gorelyy**	**2.57**	**81**	*e*P	P	10 14 55.0	+2.3
KDTR	**Khodutka, Kamc**	**2.60**	**97**	*e*P	P	10 14 53.7	+0.9
KDTR				*e*S	S	10 15 47.4	+0.3
MTVR	**Mutnovka**	**2.63**	**82**	*e*P	P	10 14 55.2	+2.1
KRMR	**Karymshinskiy**	**2.65**	**75**	*e*P	P	10 14 53.9	+0.9
RUS	**Russkaya**	**2.83**	**84**	*e*P	P	10 14 55.7	+1.5
GNL	**Ganaly**	**2.85**	**57**	*e*P	P	10 14 56.1	+1.6
PET	**Petropavlovsk**	**3.00**	**72**	*e*P	P	10 14 56.4	+1.0
DALK	**Dalny**	**3.06**	**72**	*e*P	P	10 14 57.1	+1.3
DALK				*e*S	S	10 15 53.3	+0.6
KOK	**Koryaka**	**3.06**	**67**	*e*P	P	10 14 58.4	+2.4
KRX	**Arik**	**3.09**	**66**	*e*P	P	10 14 58.8	+2.5
UGLR	**Uglovaya**	**3.15**	**69**	*e*P	P	10 14 58.7	+2.1
SMAR	**Somma**	**3.15**	**68**	*e*P	P	10 14 59.0	+2.3
SDLR	**Sedlovina**	**3.20**	**68**	*e*P	P	10 14 58.9	+1.9
SPN	**Mys Shipunski**	**3.82**	**74**	*e*P	P	10 15 02.4	+0.8
SPN				*e*S	S	10 16 01.5	-1.8
KZV	**Kizimen**	**4.78**	**50**	*e*P	P	10 15 12.7	+2.7
KZV				*e*S	S	10 16 19.1	+0.5
TUMR	**Tumrok**	**4.81**	**48**	*e*P	P	10 15 13.0	+2.7
TUMR				*e*S	S	10 16 18.8	-0.3
TUMD	**Tumrok D**	**4.88**	**49**	*e*P	P	10 15 13.4	+2.6
KMNR	**Kamenistaya**	**5.15**	**44**	*e*P	P	10 15 15.3	+1.9
MKZ	**Mys Kozlova**	**5.23**	**60**	*e*P	P	10 15 14.8	+0.8
MKZ				*e*S	S	10 16 22.9	-3.0
SRDR	**Sredinnyy**	**5.34**	**37**	*e*P	P	10 15 15.7	+0.6
BDR	**Baidarnaya**	**6.10**	**41**	*e*P	P	10 15 24.1	+1.6
SRKR	**Sorokina**	**6.14**	**41**	*e*P	P	10 15 24.5	+1.6
SMKR	**Semkarok**	**6.21**	**42**	*e*P	P	10 15 24.8	+1.2
SMKR				*e*S	S	10 16 41.2	-2.3
KBTR	**Krutoberegovo**	**6.58**	**49**	*e*P	P	10 15 26.7	-0.4
KBTR				*e*S	S	10 16 48.1	-2.0
BKI	**Bering**	**7.75**	**62**	*e*P	P	10 15 43.3	+4.1
BKI				*e*S	S	10 17 13.2	+1.0

*IDC **07** 10:17:33.6±1.1, 37.°35N×142.°09E, h0km, mb3.4/5, mb1 3.7/9, mb1mx3.5/41, mbtmp3.5/9, ML2.9/4, MS2.8/2, Ms1 2.8/2, ms1mx2.2/31, Error ellipse: s-maj=28.8km s-min=20.3km az=120.0*

*JMA **07** 10:17:35.1±0.1, 37.°51N×141.°93E, h24km±2km, M3.8*

*NIED **07** 10:17:35.2, 37.°51N×141.°93E, h24km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr-1.44; Mθθ 0.85; Mφφ 0.59; Mrθ 0.98; Mθφ 0.96; Mφr 1.65; Fault plane solution: M0 2.48000×10^14^ NP1: φs 214.00000°, δ 71.00000°, λ -101.00000°. NP2: φs 66.00000°, δ 22.00000°, λ -60.00000°.*

ISC 07 10:17:34.9±0.8, 37.°51N±0.°04×141.°88E±0.°06, h10km, n29, σ1s25/33, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**260**	P	**Pb**	**10 17 51.0**	**-0.1**
JFK				*e*S	**Sb**	**10 18 02.1**	**0.0**
JMST	**Minamisoumatoc**	**0.82**	**286**	P	**Pb**	**10 17 50.8**	**-0.3**
JMST				S	**Sb**	**10 18 02.0**	**-0.2**
JIKH	**Ishinomakikobu**	**0.87**	**338**	P	**Pg**	**10 17 51.3**	**-0.3**
JIKH				S	**Sg**	**10 18 02.6**	**-0.3**
JMM	**Marumori**	**0.93**	**293**	P	**Pg**	**10 17 52.6**	**-0.2**
JMM				*e*S	**Sb**	**10 18 05.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.95**	**245**	P	**Pb**	**10 17 53.2**	**-0.3**
ONAJ				S	**Sb**	**10 18 06.4**	**+0.2**
JIO	**Ouri**	**1.03**	**336**	P	**Pg**	**10 17 54.0**	**-0.8**
JIO				S	**Sg**	**10 18 07.3**	**-0.9**
JFT	**Otama**	**1.23**	**271**	P	**Pn**	**10 17 58.0**	**-0.1**
JFT				*e*S	**Sn**	**10 18 14.5**	**-0.2**
JOU	**Okura**	**1.29**	**312**	P	**Pn**	**10 17 58.9**	**0.0**
JOU				*e*S	**Sb**	**10 18 15.8**	**0.0**
JKMT	**Kesennumamotoy**	**1.34**	**346**	P	**Pn**	**10 17 58.5**	**-1.1**
JKMT				*e*S	**Sb**	**10 18 14.8**	**-2.5**
JMK	**Ichinoseki**	**1.53**	**340**	P	**Pn**	**10 18 02.0**	**-0.3**
JYS	**Shirataka**	**1.60**	**297**	P	**Pb**	**10 18 04.0**	**-0.6**
JYK	**Kaneyama**	**1.85**	**320**	P	**Pn**	**10 18 06.8**	**+0.2**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=80,slow=16,SNR=13	**3.09**	**253**	Pn	**Pn**	**10 18 25.4**	**+1.7**
MAT	**Matsushiro**	**3.09**	**253**	P	**Pn**	**10 18 25.3**	**+1.6**
MAT				*e*S	**Sb**	**10 19 05.4**	**-2.3**
JHJ	**Hachijo jima 2** 7.4nm,0.3s,baz=128,slow=22,SNR=7.0	**4.70**	**202**	Pn	**Pn**	**10 18 46.1**	**+0.3**
JHJ				Sn	**Sn**	**10 19 38.8**	**-1.6**
ASAJ	**Asahikawa** 0.6nm,0.3s,baz=191,slow=15,SNR=10	**6.63**	**4**	Pn	**Pn**	**10 19 14.8**	**+2.6**
ASAJ				LR	LR	10 22 04.1	
USRK	**Ussuriysk Ar.** comp=Z,36nm,20.1s,baz=170,slow=40	**10.04**	**315**	Pn	**Pn**	**10 20 02.6**	**+3.6**
H11N2	**WAKE ISLAND Hy** baz=120,slow=14,SNR=4.9	**28.08**	**122**	T	T	10 52 45.2	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=28	**28.09**	**122**	T	T	10 52 55.8	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=30	**28.09**	**122**	T	T	10 52 47.4	
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=26	**28.81**	**124**	T	T	10 53 40.2	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=22	**28.81**	**124**	T	T	10 53 40.5	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=21	**28.83**	**124**	T	T	10 53 41.4	
TLY	**Talaya** comp=Z,34nm,18.4s,baz=148,slow=41	**30.31**	**310**	LR	LR	10 38 18.5	
MKAR	**Makanchi Array** 0.9nm,0.9s,baz=86,slow=8.8,SNR=5.1	**44.19**	**302**	P	**P**	**10 25 45.4**	**+1.5**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=290,slow=5.7,SNR=2.3	**48.90**	**33**	P	**P**	**10 26 21.1**	**+0.5**
ASAR	**Alice Springs** 0.5nm,0.9s,baz=3.6,slow=4.6,SNR=2.6	**61.31**	**188**	P	**P**	**10 27 49.7**	**-0.9**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=279,slow=6.3,SNR=2.7	**74.41**	**53**	P	**P**	**10 29 13.6**	**+0.3**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=291,slow=2.8,SNR=2.2	**89.54**	**53**	P	**P**	**10 30 33.1**	**+0.3**

*JMA **07** 10:20:11.3±0.1, 43.°35N×146.°20E, h49km±1km, M3.7*

JMA Felt I J1.

*SKHL **07** 10:20:11.7±0.5, 43.°50N×146.°30E, h15km±2km, mb4.2/3*

ISC 07 10:20:08.2±1.7, 43.°38N±0.°07×146.°40E±0.°06, h27km±14km, n13, σ1s04/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.48**	**269**	P	**Pn**	**10 20 26.6**	**+1.3**
NEM2				*e*S	**Sn**	**10 20 27.3**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.49**	**269**	*i* P	**Pn**	**10 20 26.8**	**+1.4**
NMR				*i* S	**Sn**	**10 20 27.3**	**+0.2**
YUK	**Yuzh-Kuril'sk** 270nm,0.4s	**0.76**	**329**	*e*P	**Pn**	**10 20 24.0**	**+0.8**
YUK				AMB	AMB	10 20 24.7	
YUK	3μm,0.3s			*e*S	**Sn**	**10 20 33.6**	**-0.3**
YUK	2μm,0.3s			A	A	10 20 36.9	
YUK	1μm,0.3s			A	A	10 20 36.9	
GRPR	**Tuman** 200nm,0.3s	**0.76**	**324**	*e*P	**Pn**	**10 20 24.1**	**+0.8**
GRPR				AMB	AMB	10 20 24.7	
GRPR	2μm,0.3s			*e*S	**Sn**	**10 20 33.3**	**-0.6**
GRPR	1μm,0.3s			A	A	10 20 34.5	
GRPR				A	A	10 20 34.5	
JKHN	**Kushirohamanak**	**0.95**	**252**	P	**Pn**	**10 20 26.8**	**+1.0**
JKHN				*e*S	**Sb**	**10 20 37.8**	**-0.4**
JRA	**Rausu**	**1.08**	**302**	P	**Pb**	**10 20 28.8**	**+0.6**
JRA				*e*S	**Sb**	**10 20 41.4**	**-0.6**
JNSB	**Nemuroshibetsu**	**1.09**	**292**	P	**Pb**	**10 20 28.6**	**+0.2**
JNSB				*e*S	**Sb**	**10 20 41.1**	**-1.0**
JNK	**Nakash**	**1.24**	**280**	P	**Pn**	**10 20 30.2**	**+0.4**
JNK				*e*S	**Sn**	**10 20 43.7**	**-1.9**
JAK	**Akkeshi**	**1.30**	**253**	P	**Pn**	**10 20 31.1**	**+0.5**
JAK				*e*S	**Sn**	**10 20 45.5**	**-1.6**
JTKR	**Abashiri--Toko**	**1.90**	**289**	P	**Pn**	**10 20 40.4**	**+1.5**
JAR	**Ashorobuto**	**1.92**	**268**	P	**Pn**	**10 20 40.2**	**+1.1**
JAR				*e*S	**Sn**	**10 21 01.2**	**-1.2**
JOB	**Onbets**	**1.94**	**257**	P	**Pn**	**10 20 40.1**	**+0.8**
JOB				*e*S	**Sn**	**10 21 01.5**	**-1.3**
KUR	**Kuril'sk** 20nm,0.5s	**2.13**	**29**	*e*P	**Pb**	**10 20 45.8**	**-0.3**
KUR				AMB	AMB	10 20 46.8	
KUR				*e*S	**Sb**	**10 21 11.8**	**-0.3**
KUR	300nm,0.6s			A	A	10 21 15.2	
KUR	190nm,0.6s			A	A	10 21 15.2	

*NEIC **07** 10:24:10.3±0.7, 52.°2N±0.°2×175.°5W±0.°1, h226km±2km, mb3.7/3, ML2.8/24(AEIC), Error ellipse: s-maj=25.6km s-min=8.0km az=165.0*

AEIC 07 10:24:10.9±0.8, 52.°2N±0.°2×175.°5W±0.°1, h227km±5km, Error ellipse: s-maj=26.5km s-min=8.0km az=165.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.31**	**238**		Pn	10 24 40.0	-0.6
GSTR	**Great Sitkin T**	**0.35**	**261**		Pn	10 24 40.1	-0.6
GSMY	**Great Sitkin M**	**0.36**	**253**		Pn	10 24 40.0	-0.7
GSTD	**Great Sitkin T**	**0.41**	**257**		Pn	10 24 39.8	-1.1
GSTD					S	10 25 03.0	-1.9
GSSP	**Great Sitkin S**	**0.42**	**262**		Pn	10 24 40.1	-0.7
ADK	**Adak**	**0.78**	**250**		Pn	10 24 41.4	-0.8
ADK					S	10 25 05.0	-1.6
KOWE	**Korovin West**	**0.80**	**74**		Pn	10 24 41.5	-0.8
ATKA	**Atka Island**	**0.81**	**86**		Pn	10 24 41.3	-1.0
ATKA					S	10 25 05.6	-1.2
KOKL	**Mount Kliuchef**	**0.82**	**77**		Pn	10 24 41.9	-0.6
KOFP	**Korovin Flat P**	**0.87**	**81**		Pn	10 24 42.2	-0.5
KOSE	**Korovin Southe**	**0.91**	**77**		Pn	10 24 42.3	-0.6
KIWB	**Kanaga Island**	**1.06**	**254**		Pn	10 24 43.3	-0.5
KICM	**Kanaga Island**	**1.07**	**258**		Pn	10 24 43.5	-0.4
KIMD	**Kanaga Island**	**1.14**	**251**		Pn	10 24 43.8	-0.5
KIMD					S	10 25 09.6	-0.8
TAFP	**Tanaga Falls P**	**1.56**	**262**		Pn	10 24 46.7	-0.7
TAFP					S	10 25 14.5	-1.4
TANO	**Tanaga North**	**1.64**	**263**		Pn	10 24 47.6	-0.5
GAEA	**Gareloi East**	**2.04**	**261**		Pn	10 24 51.1	-0.7
GALAA	**Gareloi Lava P**	**2.06**	**260**		Pn	10 24 51.3	-0.8
AMKA	**Amchitka**	**3.32**	**259**		Pn	10 25 04.6	-1.0
NIKH	**Nikolski High**	**4.14**	**76**	Pn	Pn	10 25 14.8	-0.4
AKUT	**Akutan**	**6.18**	**67**	Pn	Pn	10 25 39.7	-1.1
GAMB	**Gambell**	**11.83**	**8**	Pn	Pn	10 26 50.6	-1.9
KDAK	**Kodiak Island**	**14.28**	**58**	Pn	Pn	10 27 19.6	-3.4
PPLA	**Purkeypile** comp=Z,7.5nm,1.3s	**16.40**	**40**		P	10 27 47.2	-0.1
PPLA				IAmb	IAmb	10 28 00.8	
MLY	**Manley** comp=Z,1.7nm,1.4s	**18.08**	**35**	P	P	10 28 03.5	-1.9
MLY				IAmb	IAmb	10 28 13.6	

*BJI **07** 10:31:23.5±0.0, 42.°50N×146.°26E, h9km, mB4.8/12, mb4.4/20*

*IDC **07** 10:31:23.5±0.7, 42.°22N×146.°29E, h0km, mb4.2/27, mb1 4.2/33, mb1mx4.1/54, mbtmp4.1/33, ML3.0/6, MS3.3/7, Ms1 3.4/7, ms1mx2.9/43, Error ellipse: s-maj=18.4km s-min=13.6km az=168.0*

*NIED **07** 10:31:26.3, 42.°33N×146.°31E, h53km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr 1.74; Mθθ-0.86; Mφφ-0.88; Mrθ 0.31; Mθφ-1.26; Mφr 0.60; Fault plane solution: M0 2.05000×10^15^ NP1: φs 38.00000°, δ 55.00000°, λ 81.00000°. NP2: φs 233.00000°, δ 36.00000°, λ 102.00000°.*

*SKHL **07** 10:31:26.3±0.3, 42.°30N×146.°40E, h38km±2km, mb4.6/7*

*JMA **07** 10:31:26.2±0.2, 42.°33N×146.°31E, h53km±4km, M4.2*

*MOS **07** 10:31:28.7±1.4, 42.°31N×146.°10E, h50km, mb4.6/21, Error ellipse: s-maj=8.4km s-min=5.3km az=107.0*

*NEIC **07** 10:31:29.6±1.3, 42.°27N±0.°07×146.°1E±0.°1, h36km±8km, mb4.5/42, Error ellipse: s-maj=13.4km s-min=8.5km az=129.0*

ISC 07 10:31:25.8±1.8, 42.°35N±0.°04×146.°21E±0.°04, h11km±10km, n186, σ1s05/201, mb4.5/53, MS3.4/4, 4C-5D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**1.06**	**314**	P	**Pb**	**10 31 46.1**	**0.0**
JKHN				*e*S	**Sn**	**10 32 01.1**	**-0.2**
NEM2	**Nemuro 2**	**1.07**	**342**	P	**Pb**	**10 31 46.1**	**-0.2**
NEM2				*e*S	**Sg**	**10 32 00.6**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.08**	**341**	*i* rPN	**Pb**	**10 31 46.1**	**-0.3**
NMR				*i* S	**Sb**	**10 32 00.6**	**+0.1**
NMR	**Nemuro--Hokkai**	**1.08**	**341**	*i* P	**Pb**	**10 31 46.1**	**-0.3**
NMR				*i* S	**Sb**	**10 32 00.6**	**+0.1**
JAK	**Akkeshi**	**1.29**	**301**	P	**Pn**	**10 31 49.5**	**-0.1**
JAK				*e*S	**Sb**	**10 32 05.8**	**-0.7**
JNK	**Nakash**	**1.65**	**319**	P	**Pn**	**10 31 53.9**	**-0.7**
JNK				*e*S	**Sn**	**10 32 13.3**	**-2.5**
GRPR	**Tuman**	**1.67**	**349**	*e*PN	**Pn**	**10 31 53.9**	**-1.0**
GRPR				*e*S	**Sn**	**10 32 14.4**	**-2.0**
GRPR	comp=Z,958nm,0.5s			pmax	pmax		
GRPR	comp=N,1μm,0.4s			smax	smax		
GRPR	comp=E,989nm,0.4s			smax	smax		
GRPR	**Tuman**	**1.67**	**349**	*e*P	**Pn**	**10 31 53.9**	**-1.0**
GRPR				AMB	AMB	10 31 57.8	
GRPR	comp=E,960nm,0.5s			*e*S	**Sn**	**10 32 14.4**	**-2.0**
GRPR	comp=E,1μm,0.4s			A	A	10 32 16.6	
GRPR	comp=E,990nm,0.4s			A	A	10 32 16.6	
YUK	**Yuzh-Kuril'sk**	**1.70**	**352**	*e*PN	**Pb**	**10 31 56.6**	**-0.5**
YUK				*e*S	**Sn**	**10 32 17.6**	**+0.5**
YUK	comp=Z,483nm,0.5s			pmax	pmax		
YUK	comp=N,1μm,0.5s			smax	smax		
YUK	comp=E,2μm,0.5s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.70**	**352**	*e*P	**Pb**	**10 31 56.6**	**-0.5**
YUK				AMB	AMB	10 31 57.7	
YUK	comp=E,480nm,0.5s			*e*S	**Sn**	**10 32 17.6**	**+0.5**
YUK	comp=E,1μm,0.5s			A	A	10 32 20.5	
YUK	comp=E,2μm,0.5s			A	A	10 32 20.5	
JRA	**Rausu**	**1.77**	**334**	P	**Pn**	**10 31 55.9**	**-0.4**
JRA				*e*S	**Sn**	**10 32 17.2**	**-1.6**
JOB	**Onbets**	**1.83**	**288**	P	**Pn**	**10 31 57.6**	**+0.4**
RUSJ	**Misakicho**	**1.89**	**339**	*e*PN	**Pn**	**10 31 57.7**	**-0.2**
RUSJ				*e*S	**Sn**	**10 32 21.8**	**+0.1**
JAR	**Ashorobuto**	**2.03**	**299**	P	**Pn**	**10 31 59.6**	**-0.2**
JAR				*e*S	**Sn**	**10 32 24.0**	**-1.1**
JCH	**Churui**	**2.12**	**278**	P	**Pn**	**10 32 01.6**	**+0.5**
JCH				*e*S	**Sn**	**10 32 28.2**	**+0.8**
ERM	**Erimo**	**2.29**	**263**	*c i* PN	**Pn**	**10 32 05.2**	**+1.8**
ERM	**Erimo**	**2.29**	**263**	Pn	**Pn**	**10 32 04.7**	**+1.3**
JEM	**Erimo**	**2.29**	**263**	P	**Pn**	**10 32 04.1**	**+0.7**
JTKR	**Abashiri--Toko**	**2.33**	**315**	P	**Pn**	**10 32 04.3**	**+0.3**
JTKR				*e*S	**Sn**	**10 32 32.9**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.56**	**270**	P	**Pn**	**10 32 08.0**	**+0.9**
JMP	**Maruseppu**	**2.66**	**309**	P	**Pn**	**10 32 09.2**	**+0.7**
KUR	**Kuril'sk**	**3.12**	**22**	*e*PN	**Pn**	**10 32 14.8**	**-0.1**
KUR				*i* S	**Sn**	**10 32 50.5**	**-1.6**
KUR	comp=Z,84nm,0.4s			pmax	pmax		
KUR	comp=N,32nm,0.5s			pmax	pmax		
KUR	comp=E,22nm,0.6s			pmax	pmax		
KUR	comp=E,289nm,0.5s			smax	smax		
KUR	comp=N,168nm,0.2s			smax	smax		
KUR	**Kuril'sk**	**3.12**	**22**	*e*P	**Pn**	**10 32 14.1**	**-0.8**
KUR				AMB	AMB	10 32 21.4	
KUR	comp=N,100nm,0.5s			*e*S	**Sn**	**10 32 50.1**	**-2.0**
KUR	comp=N,170nm,0.4s			A	A	10 32 52.4	
KUR	comp=N,340nm,0.4s			A	A	10 32 52.4	
JKA	**Kamikawa-asahi**	**3.17**	**305**	Pn	**Pn**	**10 32 16.8**	**+1.2**
JKA	**Kamikawa-asahi**	**3.17**	**305**	*e*P	**Pn**	**10 32 17.1**	**+1.6**
ASAJ	**Asahikawa** comp=N,5.3nm,0.3s,baz=126,slow=9.0,SNR=59	**3.17**	**305**	Pn	**Pn**	**10 32 17.1**	**+1.5**
ASAJ				Sn	**Sb**	**10 32 58.2**	**-2.5**
ASAJ	comp=N,6.7nm,0.3s,baz=116,slow=27,SNR=4.2			LR	LR	10 33 02.0	
JEW	**Eniwo** comp=N,220nm,18.9s,baz=203,slow=30	**3.54**	**280**	Pn	**Pn**	**10 32 22.7**	**+2.0**
JTM	**Tenmabayashi**	**4.16**	**250**	Pn	**Pn**	**10 32 29.4**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.22**	**333**	*e*PN	**Pn**	**10 32 44.5**	**+0.8**
YSS	comp=Z,20nm,0.7s			pmax	pmax		
YSS	comp=Z,1μm,15.0s			MLR	MLR		
YSS	comp=N,1μm,11.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**5.22**	**333**	*e*P	**Pn**	**10 32 44.5**	**+0.8**
YSS	comp=N,20nm,0.7s			AMB	AMB	10 32 45.1	
YSS				*e*S	**Sn**	**10 33 42.0**	**-1.8**
JMM	**Marumori**	**6.10**	**225**		**Pn**	**10 32 55.3**	**-0.5**
JSD	**Sado**	**7.45**	**237**		**Pn**	**10 33 14.1**	**-0.2**
JYT	**Yasato**	**7.69**	**219**	Pn	**Pn**	**10 33 16.6**	**-0.9**
MJAR	**Matsushiro Arr** comp=N,0.1nm,0.3s,baz=30,slow=14,SNR=8.8	**8.48**	**229**	Pn	**Pn**	**10 33 27.9**	**-0.6**
MAJO	**Matsushiro**	**8.48**	**229**	PN	**Pn**	**10 33 28.0**	**-0.4**
MAJO	**Matsushiro**	**8.48**	**229**		**Pn**	**10 33 28.0**	**-0.4**
JGF	**Kuroka**	**9.63**	**229**	Pn	**Pn**	**10 33 44.7**	**+0.4**
INU	**Inuyama**	**10.01**	**229**		**Pn**	**10 33 49.3**	**0.0**
USRK	**Ussuriysk Ar.** baz=84,slow=11,SNR=7.7	**10.53**	**285**	Pn	**Pn**	**10 33 58.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.53**	**285**		**Pn**	**10 33 56.2**	**-0.3**
VLA	**Vladivostok**	**10.57**	**279**	‖*e*PN	**Pn**	**10 33 58.2**	**+1.2**
VLA	comp=Z,58nm,1.4s			pmax	pmax		
VLA	**Vladivostok**	**10.57**	**279**	*e*P	**Pn**	**10 33 58.2**	**+1.2**
JWT	**Wachi**	**10.98**	**234**	Pn	**Pn**	**10 34 03.3**	**+0.6**
MSHR	**Mys Shultsa**	**11.12**	**276**	‖*e*PN	**Pn**	**10 34 05.7**	**+1.1**
MSHR	comp=Z,43nm,0.9s			pmax	pmax		
KLR	**Kul'dur** comp=Z,0.1nm,0.3s,baz=110,slow=15,SNR=8.9	**12.20**	**309**	Pn	**Pn**	**10 34 21.1**	**+1.7**
KLR	comp=Z,174nm,18.7s,baz=176,slow=40			LR	LR	10 39 40.4	
KLR	**Kul'dur**	**12.20**	**309**	‖*e*PN	**Pn**	**10 34 22.3**	**+3.0**
KLR	comp=Z,6.0nm,1.4s			pmax	pmax		
KLR	**Kul'dur**	**12.20**	**309**	*e*P	**Pn**	**10 34 21.8**	**+2.5**
JHS	**Saijyo**	**12.58**	**239**	Pn	**Pn**	**10 34 24.2**	**-0.4**
PETK	**Petropavlovsk-** comp=Z,0.1nm,0.3s,baz=220,slow=13,SNR=1.6	**13.24**	**32**	Pn	**Pn**	**10 34 33.4**	**0.0**
PETK	**Petropavlovsk-**	**13.24**	**32**	PN	**Pn**	**10 34 35.7**	**+2.2**
PETK	**Petropavlovsk-**	**13.24**	**32**		**Pn**	**10 34 35.7**	**+2.2**
EKMR	**Ekimchan**	**13.93**	**325**	*e*P	**Pn**	**10 34 43.8**	**+0.9**
EKMR	comp=Z,8.0nm,0.9s			AMB	AMB	10 34 51.0	
KSRS	**Korea Array** comp=Z,0.1nm,0.3s,baz=56,slow=14,SNR=2.1	**14.85**	**257**	Pn	**Pn**	**10 34 54.3**	**-1.3**
KSRS	comp=Z,121nm,18.1s,baz=61,slow=38			LR	LR	10 40 51.4	
ZEA	**Zeya**	**16.98**	**319**	*e*P	**P**	**10 35 24.3**	**-0.6**
ZEA	comp=Z,10.0nm,1.2s			pmax	pmax		
ZEA	comp=E,200nm,16.0s			MLR	MLR		
ZEA	comp=N,100nm,10.0s			MLR	MLR		
ZEA	comp=Z,200nm,16.0s			MLR	MLR		
ZEA	**Zeya**	**16.98**	**319**	*e*P	**Pn**	**10 35 21.6**	**-1.4**
ZEA	comp=Z,10.0nm,1.0s			AMB	AMB	10 35 25.1	
KROS	**Kirovskiy**	**17.52**	**320**	*e*P	**Pn**	**10 35 28.5**	**-1.2**
KROS	comp=Z,7.0nm,0.8s			AMB	AMB	10 35 31.2	
SEY	**Seymchan** comp=Z,1.6nm,0.7s,baz=201,slow=11,SNR=4.3	**20.94**	**8**	P	**P**	**10 36 07.2**	**-1.0**
YAK	**Yakutsk** comp=Z,86nm,18.2s,baz=94,slow=38	**22.04**	**339**	LR	LR	10 45 37.4	
YAK	**Yakutsk**	**22.04**	**339**	*e*P	**P**	**10 36 17.7**	**-2.2**
YAK	comp=Z,7.0nm,0.5s			pmax	pmax		
BJI	**Beijing**	**22.66**	**274**	P	**P**	**10 36 26.5**	**-0.4**
BTO	**Botou**	**27.04**	**279**	*e*P	**P**	**10 37 09.3**	**+1.3**
ULN	**Ulaanbaatar**	**27.96**	**295**	*de*P	**P**	**10 37 16.8**	**+0.6**
ULN	comp=Z,15nm,1.3s			pmax	pmax		
ULN	**Ulaanbaatar**	**27.96**	**295**	P	**P**	**10 37 16.5**	**+0.3**
ULN	comp=Z,14nm,1.2s			IAmb	IAmb	10 37 19.5	
ULN	**Ulaanbaatar**	**27.96**	**295**	*e*P	**P**	**10 37 16.8**	**+0.6**
SONM	**Songino Array** comp=Z,12nm,0.9s,baz=84,slow=8.9,SNR=44	**28.40**	**295**	P	**P**	**10 37 20.8**	**+0.6**
SONM	**Songino Array**	**28.40**	**295**	P	**P**	**10 37 20.2**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=328	**28.54**	**136**	T	T	11 07 22.0	
H11N1	**WAKE ISLAND Hy** baz=328	**28.55**	**136**	T	T	11 07 26.6	
H11N3	**WAKE ISLAND Hy** baz=328	**28.55**	**136**	T	T	11 07 22.9	
H11S1	**WAKE ISLAND Hy** baz=328	**29.46**	**138**	T	T	11 08 32.8	
H11S3	**WAKE ISLAND Hy** baz=328	**29.47**	**138**	T	T	11 08 24.6	
H11S2	**WAKE ISLAND Hy** baz=328	**29.48**	**138**	T	T	11 08 32.5	
TLY	**Talaya** comp=Z,1.0nm,0.4s,baz=96,slow=9.1,SNR=6.4	**30.10**	**303**	P	**P**	**10 37 36.0**	**+1.0**
TLY	**Talaya**	**30.10**	**303**	‖*i* P	**P**	**10 37 35.8**	**+0.8**
TLY	comp=Z,3.0nm,0.9s			pmax	pmax		
TLY	**Talaya**	**30.10**	**303**	*e*P	**P**	**10 37 35.8**	**+0.8**
ZAK	**Zakamensk**	**30.33**	**300**	*e*P	**P**	**10 37 36.6**	**-0.6**
ZAK	comp=Z,4.0nm,1.4s			pmax	pmax		
ZAK	**Zakamensk**	**30.33**	**300**	*e*P	**P**	**10 37 36.6**	**-0.6**
MOY	**Mondy**	**31.75**	**303**	*e*P	**P**	**10 37 50.6**	**+0.9**
MOY	comp=Z,28nm,1.8s			pmax	pmax		
MOY	**Mondy**	**31.75**	**303**	*e*P	**P**	**10 37 50.

ILAR	**Eielson Array**	**43.03**	**35**	P	**P**	**10 39 25.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=253,slow=6.8,SNR=7.8						
ILAR	**Eielson Array**	**43.03**	**35**	P	**P**	**10 39 25.0**	**+0.1**
PRP	**Porcupine Dome**	**43.57**	**34**	P	**P**	**10 39 30.9**	**+1.5**
FYU	**Fort Yukon**	**43.66**	**33**	P	**P**	**10 39 31.1**	**+1.2**
BMAR	**Burnt Mountain**	**43.89**	**31**	P	**P**	**10 39 33.7**	**+1.9**
SCRK	**Sand Creek**	**44.34**	**36**	P	**P**	**10 39 35.9**	**+0.3**
MK31	**Makanchi Array**	**44.63**	**299**	P	**P**	**10 39 38.1**	**+0.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**44.63**	**299**	P	**P**	**10 39 38.1**	**+0.1**
MK31				lAmb	lAmb	10 39 39.1	
	comp=Z,4.5nm,0.8s						
MKAR	**Makanchi Array**	**44.63**	**299**	P	**P**	**10 39 38.5**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=82,slow=8.9,SNR=31						
MKAR	**Makanchi Array**	**44.63**	**299**	P	**P**	**10 39 38.3**	**+0.2**
MAKZ	**Makanchi**	**44.83**	**299**	P	**P**	**10 39 39.3**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAKZ	**Makanchi**	**44.83**	**299**	P	**P**	**10 39 39.3**	**-0.3**
MAKZ				lAmb	lAmb	10 39 40.8	
	comp=Z,5.5nm,0.9s						
VRDI	**Verde Repeater**	**44.92**	**40**	P	**P**	**10 39 40.9**	**+0.5**
MCARA	**McCarthy VSAT**	**45.10**	**40**	P	**P**	**10 39 43.8**	**+2.2**
MCARA				lAmb	lAmb	10 40 03.8	
	comp=Z,6.1nm,0.9s						
K27K	**Chicken**	**45.17**	**36**	P	**P**	**10 39 42.6**	**+0.6**
K27K				lAmb	lAmb	10 39 53.5	
	comp=Z,5.3nm,0.8s						
L27K	**Beaver Creek,**	**45.41**	**37**	P	**P**	**10 39 45.4**	**+1.3**
L27K				lAmb	lAmb	10 39 55.8	
	comp=Z,5.4nm,0.8s						
BCAR	**Beaver Creek A**	**45.43**	**37**	P	**P**	**10 39 46.0**	**+1.8**
EGAK	**Eagle**	**45.47**	**35**	P	**P**	**10 39 45.9**	**+1.5**
EPYK	**Eagle Plains**	**47.07**	**32**	P	**P**	**10 39 58.7**	**+1.6**
EPYK				lAmb	lAmb	10 40 13.8	
	comp=Z,5.3nm,0.9s						
HYT	**Haines Junctio**	**47.84**	**40**	P	**P**	**10 40 04.3**	**+1.1**
INK	**Inuvik**	**47.96**	**30**	P	**P**	**10 40 04.7**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=309,slow=5.9,SNR=7.6						
INK	**Inuvik**	**47.96**	**30**	P	**P**	**10 40 04.8**	**+1.0**
INK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
INK	**Inuvik**	**47.96**	**30**	P	**P**	**10 40 04.8**	**+1.0**
INK				lAmb	lAmb	10 40 14.6	
	comp=Z,7.7nm,1.3s						
BRVK	**Borovoye**	**49.91**	**310**	*eP*	**P**	**10 40 19.9**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**49.91**	**310**	P	**P**	**10 40 19.6**	**+0.5**
BRVK				lAmb	lAmb	10 40 20.5	
	comp=Z,6.1nm,0.8s						
BRVK	**Borovoye**	**49.91**	**310**	*eP*	**P**	**10 40 19.9**	**+0.9**
KK31	**Karatay Array**	**53.76**	**298**	P	**P**	**10 40 47.7**	**-0.3**
KK31				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KK31	**Karatay Array**	**53.76**	**298**	P	**P**	**10 40 47.7**	**-0.3**
KK31				lAmb	lAmb	10 40 58.1	
	comp=Z,4.1nm,1.3s						
KKAR	**Karatay Array**	**53.76**	**298**	P	**P**	**10 40 47.7**	**-0.3**
KKAR	**Karatay Array**	**53.76**	**298**	P	**P**	**10 40 47.7**	**-0.3**
EUNU	**Eureka**	**54.36**	**10**	P	**P**	**10 40 51.9**	**0.0**
EUNU				lAmb	lAmb	10 41 00.5	
	comp=Z,8.0nm,1.1s						
ARU	**Arti**	**54.90**	**317**	*c iP*	**P**	**10 40 55.7**	**-0.2**
ARU						10 42 54.4	
ARU				S	**S**	**10 48 38.8**	**+1.8**
ARU				SS	**SS**	**10 52 18.3**	**-1.5**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARU	**Arti**	**54.90**	**317**	P	**P**	**10 40 55.8**	**-0.2**
ARU	**Arti**	**54.90**	**317**	*eP*	**P**	**10 40 56.0**	**0.0**
KBS	**Kingsbay**	**56.05**	**350**	P	**P**	**10 41 03.9**	**-0.1**
KBS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KBS	**Kingsbay**	**56.05**	**350**	P	**P**	**10 41 03.9**	**-0.1**
KBS				lAmb	lAmb	10 41 22.4	
	comp=Z,6.8nm,1.2s						
RES	**Resolute Bay**	**56.51**	**16**	P	**P**	**10 41 07.6**	**+0.4**
	comp=Z,6.8nm,0.8s,baz=335,slow=4.4,SNR=5.8						
YKA	**Yellowknife Ar**	**57.35**	**33**	P	**P**	**10 41 12.9**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=308,slow=6.6,SNR=2.1						
ABKAR	**Akbulak array**	**57.41**	**309**	P	**P**	**10 41 14.1**	**+0.1**
ABKAR				lAmb	lAmb	10 41 17.6	
	comp=Z,5.1nm,0.8s						
ABKAR	**Akbulak array**	**57.41**	**309**	P	**P**	**10 41 14.6**	**+0.6**
AKTO	**Aktyubinsk**	**57.93**	**311**	P	**P**	**10 41 18.6**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=37,slow=7.2,SNR=6.3						
ARCES	**ARCESS Array B**	**60.32**	**340**	P	**P**	**10 41 34.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=41,slow=6.4,SNR=5.8						
ARCES	**ARCESS Array B**	**60.32**	**340**	P	**P**	**10 41 34.5**	**+0.6**
CTAO	**Charters Tower**	**62.12**	**180**	P	**P**	**10 41 44.8**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,26nm,1.4s						
CTAO	**Charters Tower**	**62.12**	**180**	P	**P**	**10 41 44.8**	**-1.8**
BELG	**Belogornoye**	**62.45**	**317**	P	**P**	**10 41 48.6**	**+0.1**
	comp=Z,19nm,0.8s,baz=124,slow=4.2,SNR=4.6						
WRA	**Warramunga Arr**	**62.94**	**193**	P	**P**	**10 41 50.1**	**-2.0**
	comp=Z,1.2nm,0.8s,baz=15,slow=4.1,SNR=3.8						
SUMG	**Summit**	**65.33**	**2**	P	**P**	**10 42 08.9**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SUMG	**Summit**	**65.33**	**2**	P	**P**	**10 42 08.9**	**+1.1**
FIA1	**FINESS Array S**	**65.81**	**333**	P	**P**	**10 42 11.1**	**+0.7**
FINES	**FINESS Array B**	**65.81**	**333**	P	**P**	**10 42 10.4**	**0.0**
	comp=Z,10nm,0.5s,baz=35,slow=7.0,SNR=55						
FINES	**FINESS Array B**	**65.81**	**333**	*eP*	**P**	**10 42 10.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,11nm,0.5s						
FINES	**FINESS Array B**	**65.81**	**333**	P	**P**	**10 42 10.2**	**-0.3**
ASAR	**Alice Springs**	**66.66**	**192**	P	**P**	**10 42 15.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=10,slow=5.7,SNR=1.6						
NVAR	**Mina Array Bea**	**68.92**	**57**	P	**P**	**10 42 31.7**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=287,slow=6.3,SNR=2.2						
KIV	**Kislovodsk**	**70.18**	**312**	*eP*	**P**	**10 42 40.2**	**+1.8**
KIV				pmax	pmax		
	comp=Z,34nm,1.0s						
KBZ	**Khabaz**	**70.21**	**311**	P	**P**	**10 42 38.9**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=55,slow=3.4,SNR=13						
ZEI	**Tsey**	**70.25**	**310**	*eP*	**P**	**10 42 38.4**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NC405	**NORSAR Array S**	**70.46**	**338**	P	**P**	**10 42 40.1**	**+0.4**
NC204	**NORSAR Array S**	**70.58**	**339**	P	**P**	**10 42 41.9**	**+1.4**
NOA	**NORSAR Array B**	**70.66**	**339**	P	**P**	**10 42 40.8**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=33,slow=6.2,SNR=15						
NOA				LR	LR	11 17 47.4	
	comp=Z,31nm,18.6s,baz=105,slow=39						
HFS	**Hagfors**	**70.71**	**337**	P	**P**	**10 42 42.1**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=46,slow=6.4,SNR=13						
PDAR	**Pinedale Array**	**71.35**	**49**	P	**P**	**10 42 45.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=251,slow=2.5,SNR=2.1						
AKASG	**Malin Array Be**	**72.30**	**323**	P	**P**	**10 42 51.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=42,slow=6.3,SNR=7.8						
MORW	**Morawa**	**76.31**	**207**	P	**P**	**10 43 14.6**	**+0.2**
MORW				lAmb	lAmb	10 43 15.0	
	comp=Z,7.5nm,1.0s						
BUR08	**Bucovina Ar. S**	**76.33**	**323**	P	**P**	**10 43 15.1**	**+0.4**
BUR08				lAmb	lAmb	10 43 30.1	
	comp=Z,3.7nm,1.0s						
BURAR	**Bucovina Array**	**76.35**	**323**	P	**P**	**10 43 14.9**	**+0.1**
BURAR				lAmb	lAmb	10 43 16.5	
	comp=Z,2.7nm,0.8s						
KOLS	**Kolonicke sedl**	**76.61**	**326**	*eP*	**P**	**10 43 16.6**	**+0.5**
KOLS	**Kolonicke sedl**	**76.61**	**326**	*eP*	**P**	**10 43 16.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**76.97**	**326**	*eP*	**P**	**10 43 18.7**	**+0.6**
CRVS	**Cervenica-Dubn**	**76.97**	**326**	*eP*	**P**	**10 43 18.7**	**+0.6**
LANS	**Liptovska Anna**	**77.58**	**327**	*eP*	**P**	**10 43 23.5**	**+1.9**
LANS	**Liptovska Anna**	**77.58**	**327**	*eP*	**P**	**10 43 23.5**	**+1.9**
DPC	**Dobruska-Polom**	**77.83**	**330**	*eP*	**P**	**10 43 23.3**	**+0.3**
DPC	**Dobruska-Polom**	**77.83**	**330**	*eP*	**P**	**10 43 23.3**	**+0.3**
BRTR	**Keskin Array B**	**78.00**	**313**	P	**P**	**10 43 24.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=46,slow=3.6,SNR=6.4						
BRTR				LR	LR	11 24 36.9	
	comp=Z,24nm,19.5s,baz=72,slow=41						
BRTR	**Keskin Array B**	**78.00**	**313**	P	**P**	**10 43 24.4**	**+0.1**
CLL	**Collm**	**78.23**	**332**	*i* P	**P**	**10 43 25.0**	**-0.1**
CLL	**Collm**	**78.23**	**332**	*i* P	**P**	**10 43 25.0**	**-0.1**
PRU	**Pruhonice**	**78.78**	**331**	*eP*	**P**	**10 43 28.8**	**+0.6**
PRU	**Pruhonice**	**78.78**	**331**	*eP*	**P**	**10 43 28.8**	**+0.6**
SCHQ	**Schefferville**	**79.17**	**19**	P	**P**	**10 43 29.9**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=328,slow=8.7,SNR=3.7						
SCHQ	**Schefferville**	**79.17**	**19**	P	**P**	**10 43 30.2**	**-0.1**
SCHQ				lAmb	lAmb	10 43 30.9	
	comp=Z,5.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**79.26**	**343**	P	**P**	**10 43 30.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=34,slow=6.1,SNR=4.4						
KHC	**Kasperske Hory**	**79.84**	**331**	*eP*	**P**	**10 43 33.8**	**-0.3**
KHC	**Kasperske Hory**	**79.84**	**331**	*eP*	**P**	**10 43 33.8**	**-0.3**
GERES	**GERESS Array B**	**80.04**	**330**	P	**P**	**10 43 34.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=28,slow=6.0,SNR=5.5						
GERES	**GERESS Array B**	**80.04**	**330**	*eP*	**P**	**10 43 35.6**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**84.01**	**56**	P	**P**	**10 43 55.6**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=286,slow=3.7,SNR=1.9						

*IDC **07** 10:32:59.5±2.9, 34˚.25N×26˚.77E, h0km, mb3.8/3, mb1 3.7/5, mb1mx3.4/42, mbtmp3.5/5, ML2.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/41, Error ellipse: s-maj=63.6km s-min=20.3km az=4.0*

*DDA **07** 10:33:00.0, 34˚.87N×26˚.62E, h7km±4km, MW3.7*

*NIC **07** 10:33:01.6±0.0, 34˚.63N×26˚.55E, h19km±3km, Ml3.9/4*

*ISK **07** 10:33:03.4, 35˚.07N×26˚.79E, h5km, ML3.4/17*

*THE **07** 10:33:04.7, 34˚.98N×26˚.72E, h0km±1km, ML3.2/5, Error ellipse: s-maj=4.1km s-min=0.9km az=162.0*

*ATH **07** 10:33:05.0, 35˚.07N×26˚.74E, h12km±2km, ML3.3/5, Error ellipse: s-maj=4.2km s-min=1.4km az=337.0*

ISC 07 10:33:03.6±1.3, 34.96N±0.05×26.76E±0.02, h8km±9km, n99, σ1s08/118, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.47**	**289**	P		**Pb**	**10 33 13.3**	**-0.8**
ZKR				S		**Sg**	**10 33 19.3**	**+0.5**
ZKR				AML		AML	10 33 22.4	
	comp=E,15061μm,0.4s							
ZKR				AML		AML	10 33 23.3	
	comp=N,6898μm,0.4s							
ZKR	**Zakros**	**0.47**	**289**	P		**Pb**	**10 33 13.3**	**-0.8**
ZKR				S		**Sb**	**10 33 21.3**	**+0.1**
	comp=N,6μm,0.4s							
ZKR	**Zakros**	**0.47**	**289**	PG		**Pb**	**10 33 13.3**	**-0.8**
ZKR				SG		**Sb**	**10 33 21.5**	**+0.3**
ZKR	**Zakros**	**0.47**	**289**	P		**Pg**	**10 33 12.8**	**+0.2**
ZKR				AML		AML	10 33 21.0	
	comp=N,14nm,0.5s							
ZKR				AML		AML	10 33 21.0	
	comp=N,14nm,0.5s							
ZKR				S		**Sb**	**10 33 21.2**	**-0.1**
ZKR				AML		AML	10 33 21.9	
	comp=N,6.5nm,0.4s							
ZKR				AML		AML	10 33 21.9	
	comp=N,6.5nm,0.4s							
STIA	**Sitia Lasithi**	**0.60**	**294**	P		**Pb**	**10 33 15.4**	**-0.9**
STIA				S		**Sb**	**10 33 24.6**	**-0.3**
FRMA	**Ierapetra Chan**	**0.84**	**274**	P		**Pg**	**10 33 18.4**	**-1.4**
FRMA				S		**Sg**	**10 33 30.4**	**-0.3**
	comp=N,1μm,0.4s							
NPS	**Neapolis**	**0.98**	**288**	P		**Pb**	**10 33 22.6**	**-0.3**
NPS				S		**Sn**	**10 33 36.5**	**-1.5**
NPS				AML		AML	10 33 41.0	
	comp=N,4318μm,0.4s							
NPS				AML		AML	10 33 41.2	
	comp=E,4776μm,0.4s							
NPS	**Neapolis**	**0.98**	**288**	P		**Pb**	**10 33 22.9**	**0.0**
NPS				S		**Sn**	**10 33 39.0**	**+1.1**
	comp=E,2μm,0.4s							
LAST	**Lasithi**	**1.07**	**281**	P		**Pb**	**10 33 24.0**	**-0.4**
LAST				S		**Sn**	**10 33 38.8**	**-1.2**
LAST				AML		AML	10 33 45.6	
	comp=E,2149μm,0.5s							
LAST				AML		AML	10 33 45.7	
	comp=N,1949μm,0.4s							
LAST	**Lasithi**	**1.07**	**281**	P		**Pn**	**10 33 24.3**	**-0.7**
LAST				S		**Sn**	**10 33 40.2**	**+0.1**
	comp=N,1μm,0.5s							
HRKL	**Herakleio**	**1.40**	**285**	PN		**Pg**	**10 33 31.2**	**+0.8**
KSTL	**Kastelli Herak**	**1.42**	**284**	P		**Pn**	**10 33 27.3**	**-2.5**
IDI	**Anoyia**	**1.56**	**282**	P		**Pg**	**10 33 33.3**	**-0.3**
IDI	**Anoyia**	**1.56**	**282**	Pn		**Pg**	**10 33 33.9**	**+0.3**
	comp=N,23nm,0.3s,baz=122,slow=9.5,SNR=120							
IDI				Sn		**Sg**	**10 33 56.9**	**+3.0**
	comp=N,26nm,0.3s,baz=28,slow=16,SNR=5.6							
IDI	**Anoyia**	**1.56**	**282**	P		**Pg**	**10 33 33.0**	**-0.6**
IDI	**Anoyia**	**1.56**	**282**	PN		**Pg**	**10 33 33.7**	**+0.1**
SIVA	**Sivas**	**1.60**	**272**	P		**Pg**	**10 33 34.2**	**0.0**
SIVA				S		**Sg**	**10 33 54.4**	**-0.7**
SIVA				AML		AML	10 34 05.3	
	comp=E,1938μm,0.7s							
SIVA				AML		AML	10 34 07.8	
	comp=N,1761μm,0.6s							
SIVA	**Sivas**	**1.60**	**272**	P		**Pn**	**10 33 31.9**	**-0.3**
NIS1	**Nisyros Isl.**	**1.67**	**12**	P		**Pb**	**10 33 33.7**	**-0.9**
NIS1	**Nisyros Isl.**	**1.67**	**12**	PN		**Pn**	**10 33 33.4**	**+0.2**
NISR	**Nisiros**	**1.67**	**10**	P		**Pn**	**10 33 33.1**	**0.0**
NISR	**Nisiros**	**1.67**	**10**	P		**Pn**	**10 33 33.2**	**0.0**
ARG	**Arkhangelos**	**1.68**	**41**	P		**Pb**	**10 33 34.4**	**-0.3**
ARG	**Arkhangelos**	**1.68**	**41**	P		**Pb**	**10 33 34.5**	**-0.2**
ARG				S		**Sg**	**10 33 57.6**	**+0.2**
	comp=N,585nm,0.6s							
ARG	**Arkhangelos**	**1.68**	**41**	PN		**Pn**	**10 33 33.6**	**+0.4**
ARG	**Arkhangelos**	**1.68**	**41**	P		**Pb**	**10 33 34.3**	**-0.3**
ARG				S		**Sg**	**10 34 00.9**	**+3.5**
SANT	**Santorini**	**1.76**	**323**	P		**Pb**	**10 33 34.8**	**-1.3**
SANT	**Santorini**	**1.76**	**323**	P		**Pb**	**10 33 35.0**	**-1.1**
SANT	**Santorini**	**1.76**	**323**	PN		**Pb**	**10 33 35.2**	**-0.9**
THR6	**Thira Island,**	**1.78**	**322**	P		**Pb**	**10 33 35.6**	**-0.9**
THR6	**Thira Island,**	**1.78**	**322**	P		**Pn**	**10 33 35.0**	**+0.4**
KOSK	**Kos Island**	**1.79**	**6**	PN		**Pn**	**10 33 35.2**	**+0.3**
THR9	**Santorini-Faro**	**1.80**	**321**	P		**Pb**	**10 33 36.5**	**-0.3**
THR9	**Santorini-Faro**	**1.80**	**321**	P		**Pb**	**10 33 35.9**	**-0.9**
SNT1	**Gialos, Santor**	**1.81**	**324**	P		**Pn**	**10 33 35.4**	**+0.3**
SNT1	**Gialos, Santor**	**1.81**	**324**	P		**Pn**	**10 33 35.2**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.81**	**323**	P		**Pn**	**10 33 35.4**	**+0.2**
SNT5	**Nea Kammeni, S**	**1.81**	**323**	P		**Pn**	**10 33 35.4**	**+0.2**
THT2	**Imerovigli**	**1.83**	**324**	PN		**Pb**	**10 33 36.2**	**-1.1**
CMBO	**Columbo, Santo**	**1.86**	**324**	P		**Pb**	**10 33 36.8**	**-1.1**
DAT	**Datca**	**1.88**	**20**	P		**Pn**	**10 33 36.3**	**+0.1**
DAT	**Datca**	**1.88**	**20**	PN		**Pn**	**10 33 36.4**	**+0.2**
MRSB	**Marmaris-Mugla**	**2.10**	**33**	PN		**Pn**	**10 33 39.8**	**+0.6**
BODT	**Bodrum**	**2.14**	**12**	P		**Pn**	**10 33 38.9**	**-0.8**
BODT	**Bodrum**	**2.14**	**12**	PN		**Pn**	**10 33 39.9**	**+0.2**
VAM	**Vamos**	**2.14**	**283**	P		**Pb**	**10 33 42.1**	**-0.5**
VAM				AML		AML	10 34 21.6	
	comp=N,585μm,0.5s							
VAM				AML		AML	10 34 23.2	
	comp=E,487μm,0.4s							
BDRM	**Kayabasi**	**2.17**	**15**	*i* P		**Pn**	**10 33 39.9**	**-0.1**
BDRM				*i* S		**Sb**	**10 34 11.0**	**+0.8**
BDRM				IAML			10 34 14.0	
	comp=E,47nm,0.8s							
BDRM				IAML			10 34 20.0	
	comp=N,67nm,0.5s							
TURN	**Turunc**	**2.17**	**33**	*i* P		**Pn**	**10 33 41.4**	**+1.3**
TURN				*i* S		**Sg**	**10 34 12.1**	**-1.3**
TURN				IAML			10 34 20.0	
	comp=N,98nm,0.3s							
TURN				IAML			10 34 24.0	
	comp=E,72nm,0.4s							
TURN	**Turunc**	**2.17**	**33**	PN		**Pn**	**10 33 40.7**	**+0.6**
GVDS	**Gavdos**	**2.20**	**268**	PN		**Pb**	**10 33 43.2**	**-0.4**
GVD	**Gavdhos**	**2.20**	**268**	P		**Pb**	**10 33 43.5**	**-0.1**
GVD	**Gavdhos**	**2.20**	**268**	PN		**Pb**	**10 33 43.1**	**-0.5**
APE	**Apeiranthos**	**2.32**	**335**	P		**Pn**	**10 33 42.1**	**-0.1**
APE	**Apeiranthos**	**2.32**	**335**	PN		**Pn**	**10 33 42.9**	**+0.7**
APE	**Apeiranthos**	**2.32**	**335**	P		**Pn**	**10 33 42.5**	**+0.2**
IMMV	**Iera Moni Meta**	**2.33**	**283**	P		**Pb**	**10 33 44.7**	**-1.1**
IMMV	**Iera Moni Meta**	**2.33**	**283**	PN		**Pb**	**10 33 44.5**	**-1.3**
DALY	**Dalyan (Mula)**	**2.41**	**39**	*i* P		**Pn**	**10 33 44.9**	**+1.6**
DALY				*i* S		**Sg**	**10 34 18.9**	**-2.0**
DALY				IAML			10 34 24.0	
	comp=N,49nm,0.3s							
DALY				IAML			10 34 37.0	
	comp=E,61nm,0.6s							
DALY	**Dalyan (Mula)**	**2.41**	**39**	PN		**Pn**	**10 33 44.2**	**+0.9**
MLSB	**Milas**	**2.47**	**19**	PN		**Pn**	**10 33 44.9**	**+0.7**
YER	**Yerkesik**	**2.49**	**29**	P		**Pn**	**10 33 45.8**	**+1.2**
YER	**Yerkesik**	**2.49**	**29**	PN		**Pn**	**10 33 45.3**	**+0.7**
FETY	**Fethiye**	**2.52**	**48**	PN		**Pn**	**10 33 44.8**	**-0.1**
KNDR	**Palaiochora Ch**	**2.53**	**277**	PN		**Pb**	**10 33 48.3**	**-1.0**
MULA	**Mugla, Merkez-**	**2.61**	**28**	*i* P		**Pb**	**10 33 48.4**	**-2.4**
MULA				*i* S		**Sb**	**10 34 22.3**	**-0.8**
MULA				IAML			10 34 30.0	
	comp=N,33nm,0.9s							
MULA				IAML			10 34 30.0	
	comp=E,85nm,0.6s							
AKAS	**Kas**	**2.64**	**61**	*i* P		**Pn**	**10 33 46.7**	**0.0**
AKAS				*i* S		**Sn**	**10 34 17.6**	**-1.4**
AKAS				IAML			10 34 27.0	
	comp=N,35nm,0.5s							
AKAS				IAML			10 34 30.0	
	comp=E,31nm,0.6s							
AKAS	**Kas**	**2.64**	**61**	PN		**Pn**	**10 33 46.7**	**0.0**
GCAM	**G?zelcaml?**	**2.76**	**8**	PN		**Pn**	**10 33 49.3**	**+1.2**
AYDN	**Tasoluk**	**2.84**	**18**	*i* P		**Pn**	**10 33 51.1**	**+1.8**
AYDN				IAML			10 34 45.0	
	comp=E,15nm,0.6s							
AYDN				IAML			10 34 56.0	
	comp=N,18nm,0.9s							
CAME	**Cameli-Denizli**	**2.86**	**46**	PN		**Pn**	**10 33 50.5**	**+0.9**
TAVA	**DENIZLI_Tavas**	**3.04**	**34**	*i* P		**Pn**	**10 33 53.4**	**+1.2**
TAVA				*i* S		**Sg**	**10 34 40.6**	**-0.7**
TAVA				IAML			10 34 42.0	
	comp=N,54nm,0.8s							
TAVA				IAML			10 34 42.0	
	comp=E,52nm,0.7s							
AYDB	**Zeytinkoy-Aydi**	**3.11**	**17**	PN		**Pn**	**10 33 54.0**	**+0.8**
ELL	**Elmali**	**3.12**	**54**	PN		**Pn**	**10 33 54.5**	**+1.3**
ELL	**Elmali**	**3.12**	**54**	P		**Pn**	**10 33 55.2**	**+2.0**
GOLH	**Golhisar**	**3.21**	**44**	*i* P		**Pn**	**10 33 56.2**	**+1.8**
GOLH				IAML			10 35 00.0	
	comp=N,50nm,1.0s							
AKUM	**Antalya-Kumluc**	**3.22**	**64**	*i* P		**Pn**	**10 33 55.3**	**+0.8**
AKUM				IAML			10 34 38.0	
	comp=N,17nm,0.7s							
AKUM				IAML			10 34 54.0	
	comp=E,21nm,0.6s							
KTHA	**Kythira Island**	**3.28**	**294**	PN		**Pn**	**10 33 57.9**	**+2.6**
URLA	**Izmir**	**3.39**	**358**	PN		**Pn**	**10 33 57.8**	**+0.9**
CHOS	**Chios island**	**3.46**	**351**	PN		**Pn**	**10 33 58.6**	**+0.7**
KORT	**Korkueli**	**3.55**	**54**	*i* P		**Pn**	**10 34 01.1**	**+1.9**
KORT				IAML			10 34 49.0	
	comp=N,34nm,0.7s							
KORT				IAML			10 34 49.0	
	comp=E,55nm,0.6s							
KORT	**Korkueli**	**3.55**	**54**	PN		**Pn**	**10 34 00.8**	**+1.6**
MANT	**Manisa**	**3.81**	**22**	*i* P		**Pn**	**10 34 03.7**	**+0.9**
MANT				IAML			10 34 51.0	
	comp=E,8.9nm,0.8s							
MANT				IAML			10 34 52.0	
	comp=N,9.1nm,0.6s							
KULA	**Kula-Manisa**	**3.86**	**23**	PN		**Pn**	**10 34 04.1**	**+0.7**
BUCA	**Burdur, Bucak-**	**3.88**	**51**	*i* P		**Pn**	**10 34 04.8**	**+1.2**
BUCA				IAML			10 35 12.0	
	comp=E,20nm,0.8s							
BUCA				IAML			10 35 30.0	
	comp=N,11nm,0.7s							
SIGR	**SIGRI**	**4.30**	**351**	PN		**Pn**	**10 34 10.4**	**+1.1**
SIMA	**Simav-Kutahya**	**4.48**	**23**	PN		**Pn**	**10 34 11.9**	**0.0**
ITM	**Ithomi**	**4.50**	**301**	PN		**Pn**	**10 34 14.9**	**+2.9**
AKMS	**Akamas**	**4.58**	**88**	P		**Pn**	**10 34 13.9**	**+0.7**
AKMS				AML		AML	10 35 06.7	
	comp=N,0.3nm,0.9s							
AKMS				AML		AML	10 35 08.8	
	comp=N,0.3nm,0.3s							
NATA	**Nata**	**4.78**	**91**	P		**Pn**	**10 34 16.6**	**+0.6**
ALFC	**Alefka**	**4.79**	**86**	P		**Pn**	**10 34 16.1**	**-0.1**
ALFC				AML		AML	10 35 11.4	
	comp=N,0.3nm,0.7s							
ALFC				AML		AML	10 35 11.8	
	comp=N,0.3nm,0.6s							
SZAC	**Souni**	**5.04**	**91**	P		**Pn**	**10 34 19.1**	**-0.4**
SZAC				AML		AML	10 35 19

STKA	Stephens Creek	46.72	132	P	P	11 11 31.3	+1.8	
	comp=Z,1.8nm,0.6s,baz=299,slow=8.7,SNR=4.1							
STKA	Stephens Creek	46.72	132	P	P	11 11 30.6	+1.1	
KDJ	Kajisay	50.76	336	P	P	11 11 59.6	-0.7	
KDJ				IAmb	IAmb	11 12 25.7		
	comp=Z,4.9nm,0.9s							
SONM	Songino Array	51.43	4	P	P	11 12 06.2	+1.0	
	comp=Z,1.4nm,0.7s,baz=187,slow=8.1,SNR=7.8							
SONM	Songino Array	51.43	4	P	P	11 12 05.9	+0.7	
SONM				IAmb	IAmb	11 12 07.6		
	comp=Z,2.5nm,1.2s							
EIDS	Eidsvold	51.99	119	P	P	11 12 10.3	+0.6	
MJAR	Matsushiro Arr	52.47	37	P	P	11 12 12.3	-0.7	
	comp=Z,0.2nm,0.3s,baz=200,slow=7.7,SNR=5.2							
MK31	Makanchi Array	53.10	343	P	P	11 12 18.3	+0.8	
MKAR	Makanchi Array	53.10	343	P	P	11 12 18.0	+0.5	
	comp=Z,1.0nm,0.5s,baz=147,slow=8.0,SNR=12							
MKAR	Makanchi Array	53.10	343	P	P	11 12 17.3	-0.3	
USRK	Ussuriysk Ar.	54.80	26	P	P	11 12 30.4	+0.6	
	comp=Z,1.9nm,0.5s,baz=211,slow=4.1,SNR=11							
USRK	Ussuriysk Ar.	54.80	26	P	P	11 12 30.2	+0.3	
ZALV	Zalesovo Beam	59.12	348	P	P	11 13 00.4	+0.2	
	comp=Z,2.6nm,0.4s,baz=163,slow=5.4,SNR=9.0							
ZALV	Zalesovo Beam	59.12	348	P	P	11 13 00.1	-0.1	
ABKAR	Akbulak array	63.94	331	P	P	11 13 33.4	+0.7	
ARCES	ARCESS Array B	88.63	340	P	P	11 15 51.6	-0.2	
	comp=Z,1.0nm,0.9s,baz=108,slow=5.8,SNR=1.1							
IMAR	Indian Mountai	99.19	24	P	Pdif	11 16 37.8	-2.5	
TXAR	Lajitas Array	144.85	41	PKP	PKiKP	11 22 37.8	-2.5	
	comp=Z,1.0nm,0.7s,baz=284,slow=1.4,SNR=15							
TXAR	Lajitas Array	144.85	41		PKPdf	11 22 35.1	-1.4	

NOU ***07*** *11:10:58.5, 40.25S×174.40E, h110km, MLv3.9, Cook Strait, New Zealand*
WEL 07 11:11:00.3, 40.3S±4.×17.4E±., h84km±10km, M3.8/57, ML4.0/56, MLv3.8/57, Error ellipse: s-maj=0.0km s-min=0.0km az=46.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.66	42	P	Pn	11 11 17.1	+1.2
WAZ				S	Sn	11 11 30.9	+3.4
DUWZ	D'Urville Isla	0.67	214	P	Pn	11 11 16.2	+0.1
DUWZ				S	Sn	11 11 29.5	+1.8
OHWZ	Ohakea	0.69	87	P	Pn	11 11 17.6	+1.5
OHWZ				S	Sn	11 11 31.4	+3.5
KIW	Kapiti Island	0.72	149	P	Pn	11 11 17.1	+0.6
KIW				S	Sn	11 11 29.1	+0.5
LREZ	Lake Rotokare	0.79	359	P	Pn	11 11 18.0	+0.8
LREZ				S	Sn	11 11 32.1	+2.3
OGWZ	Otaki Gorge	0.81	135	P	Pn	11 11 18.3	+0.8
OGWZ				S	Sn	11 11 31.4	+1.2
PREZ	Palmer Road	0.93	347	P	Pn	11 11 19.0	+0.2
NMEZ	Namu Road	0.93	333	P	Pn	11 11 18.6	-0.2
NMEZ				S	Sn	11 11 33.3	+0.7
TCW	Tory Channel	0.97	186	P	Pn	11 11 19.6	+0.3
TCW				S	Sn	11 11 33.4	0.0
MRZ	Mangatainoka R	0.98	115	P	Pn	11 11 20.0	+0.6
MRZ				S	Sn	11 11 34.5	+0.9
CAW	Cannon Point	0.99	150	P	Pn	11 11 20.2	+0.7
KHEZ	Kahui Hut	1.00	342	P	Pn	11 11 19.7	0.0
NEZ	North Egmont	1.01	346	P	Pn	11 11 19.5	-0.2
POWZ	Post Office Ro	1.04	98	P	Pn	11 11 20.6	+0.5
HOWZ	Holdsworth Sta	1.06	128	P	Pn	11 11 20.8	+0.5
NBEZ	Newall Road No	1.07	336	P	Pn	11 11 20.3	0.0
WEL	Wellington	1.07	166	P	Pn	11 11 20.9	+0.5
DREZ	Durham Road	1.07	351	P	Pn	11 11 20.7	+0.2
PKE	Pukeiti	1.10	342	P	Pn	11 11 20.7	-0.2
VRZ	Vera Road	1.15	13	P	Pn	11 11 21.7	+0.3
MHEZ	Mangahewa	1.17	356	P	Pn	11 11 22.2	+0.5
MTVZ	Mangateitei	1.18	44	P	Pn	11 11 22.3	+0.4
PKVZ	Pokaka	1.20	37	P	Pn	11 11 22.4	+0.4
TSZ	Takapari Road	1.20	81	P	Pn	11 11 22.4	+0.4
BHW	Baring Head	1.21	164	P	Pn	11 11 22.4	+0.3
PRWZ	Pori Road	1.23	105	P	Pn	11 11 23.1	+0.8
MTW	Mount Morrison	1.23	138	P	Pn	11 11 22.7	+0.3
TUWZ	Tuamarina	1.23	197	P	Pn	11 11 22.1	-0.3
TIWZ	Tintock	1.24	116	P	Pn	11 11 23.0	+0.5
NNZ	Nelson	1.25	219	P	Pn	11 11 22.2	-0.3
TRVZ	Turoa	1.29	43	P	Pn	11 11 23.8	+0.5
WNVZ	Wahianoa	1.29	45	P	Pn	11 11 23.9	+0.6
WHVZ	Whangaehu Hut	1.32	44	P	Pn	11 11 24.3	+0.5
FWVZ	Far West T-bar	1.32	42	P	Pn	11 11 24.2	+0.5
MSWZ	Moikau Station	1.33	152	P	Pn	11 11 23.9	+0.3
MOVZ	Moawhango	1.33	51	P	Pn	11 11 23.8	+0.1
DVHZ	Dannevirke	1.34	93	P	Pn	11 11 23.8	0.0
TUVZ	Tukino	1.37	45	P	Pn	11 11 24.7	+0.5
PAWZ	Paruwai Farm	1.37	146	P	Pn	11 11 24.4	+0.2
NGZ	Ngauruhoe	1.41	41	P	Pn	11 11 24.8	0.0
PNHZ	Pukenui	1.41	77	P	Pn	11 11 24.9	+0.3
TMWZ	Te Maipa	1.41	128	P	Pn	11 11 25.0	+0.3
TWVZ	Taurewa	1.42	34	P	Pn	11 11 24.7	-0.1
SNVZ	South Ngauruho	1.42	42	P	Pn	11 11 25.1	+0.2
NNVZ	North Ngauruho	1.45	40	P	Pn	11 11 25.2	-0.1
WTVZ	West Tongariro	1.45	39	P	Pn	11 11 25.3	0.0
OTVZ	Oturere	1.45	42	P	Pn	11 11 25.5	+0.2
BFZ	Birch Farm	1.46	98	P	Pn	11 11 25.3	+0.1
PLWZ	Palliser	1.47	155	P	Pn	11 11 25.1	-0.1
BHHZ	Black Hill Sta	1.48	60	P	Pn	11 11 25.4	-0.2
KRVZ	Karewarewa	1.49	40	P	Pn	11 11 25.8	0.0
ETVZ	East Tongariro	1.49	42	P	Pn	11 11 25.8	0.0
TRWZ	Traveller	1.50	140	P	Pn	11 11 25.8	0.0
NTVZ	North Tongariro	1.50	41	P	Pn	11 11 26.1	+0.2
TMVZ	Te Maari	1.50	42	P	Pn	11 11 26.1	+0.2
CMWZ	Cape Campbell	1.51	186	P	Pn	11 11 26.5	+0.6
CPWZ	Castlepoint	1.51	117	P	Pn	11 11 26.8	+0.9
BSWZ	Blackbirch Sta	1.52	195	P	Pn	11 11 26.1	0.0
QRZ	Quartz Range	1.55	248	P	Pn	11 11 25.0	-1.5
WPHZ	Waipukurau	1.56	84	P	Pn	11 11 26.9	+0.3
ANWZ	Angora Road	1.59	98	P	Pn	11 11 27.0	+0.2
KATZ	Kakaramea	1.61	38	P	Pn	11 11 27.5	+0.1
KRHZ	Kereru	1.62	69	P	Pn	11 11 27.2	-0.1
RITZ	Rihia Road	1.69	42	P	Pn	11 11 28.5	+0.3
PRHZ	Porangahau	1.70	91	P	Pn	11 11 28.3	0.0
RATZ	Rangitukua	1.73	38	P	Pn	11 11 29.0	+1.1
KWHZ	Kaweka Forest	1.75	63	P	Pn	11 11 29.5	+0.4
HIZ	Hauiti	1.77	11	P	Pn	11 11 28.9	-0.3
PXZ	Pawanui	1.89	84	P	Pn	11 11 30.6	-0.2
THZ	Tophouse	1.90	217	P	Pn	11 11 30.3	-0.7
MCHZ	McNeill Hill	1.93	66	P	Pn	11 11 31.4	0.0
BKZ	Black Stump Fm	1.93	57	P	Pn	11 11 30.7	-0.8
KAHZ	Kahuranaki	1.94	77	P	Pn	11 11 31.5	-0.1
WHTZ	Whakaora	1.98	38	P	Pn	11 11 32.3	+0.1
KUTZ	Kaahu Road	2.07	32	P	Pn	11 11 33.1	-0.1
MRHZ	Matea Rd	2.09	48	P	Pn	11 11 32.3	-1.3
TLZ	Tolley Road	2.10	25	P	Pn	11 11 33.1	-0.6
NMHZ	Naumai	2.17	59	P	Pn	11 11 34.3	-0.4
ARHZ	Aropaoanui	2.22	65	P	Pn	11 11 35.3	+0.2
ALRZ	Allen Road	2.25	42	P	Pn	11 11 35.6	-0.1
KHZ	Kahutara	2.27	197	P	Pn	11 11 35.3	-0.5
GRRZ	Galatos Road	2.31	35	P	Pn	11 11 36.2	-0.2
PRRZ	Plateau Road	2.32	42	P	Pn	11 11 35.6	-1.0
MTNZ	Maungataniwha	2.33	94	P	Pn	11 11 35.5	-1.3
HRRZ	Handcock Road	2.35	39	P	Pn	11 11 36.5	-0.5
HSRZ	Hossack Road	2.40	37	P	Pn	11 11 37.9	+0.2
RAHZ	Arahi	2.45	58	P	Pn	11 11 40.2	+1.8
DSZ	Denniston Nort	2.48	232	P	Pn	11 11 37.2	-1.5
UTU	Utuhina	2.49	34	P	Pn	11 11 38.9	+0.1
HLRZ	Highlands Stat	2.50	38	P	Pn	11 11 39.3	+0.3
RRRZ	Republican Roa	2.51	41	P	Pn	11 11 38.6	-0.5
NGRZ	Ngongotaha	2.55	33	P	Pn	11 11 39.6	-0.1
RTZ	Ruatahuna	2.57	51	P	Pn	11 11 38.4	-1.6
TARZ	Mount Tarawera	2.58	40	P	Pn	11 11 39.7	-0.5
OMRZ	Omania	2.62	36	P	Pn	11 11 40.0	-0.7
TOZ	Tahuroa Road	2.65	19	P	Pn	11 11 40.2	-0.8
KMRZ	Kaimai	2.68	27	P	Pn	11 11 41.1	-0.3
URZ	Urewera	2.88	47	P	Pn	11 11 41.9	-2.2
TGRZ	Tauranga	2.90	30	P	Pn	11 11 43.9	-0.4
MHGZ	Mahia Peninsul	2.91	69	P	Pn	11 11 43.1	-1.4
GVZ	Greta Valley S	2.91	200	P	Pn	11 11 42.9	-1.6
OPRZ	Ohinepanea	2.92	35	P	Pn	11 11 43.8	-0.9
PRGZ	Paritu Road	2.99	65	P	Pn	11 11 44.0	-1.5
LTZ	Lake Taylor	3.00	212	P	Pn	11 11 43.7	-2.0
MWZ	Matawai	3.08	53	P	Pn	11 11 44.3	-2.5
AWAZ	Awhitu Peninsu	3.18	3	P	Pn	11 11 47.7	-0.5
AMCZ	Amberley	3.21	204	P	Pn	11 11 46.5	-2.0
WTAZ	Waiatarua	3.31	2	P	Pn	11 11 49.7	-0.3
ETAZ	East Tamaki Re	3.31	7	P	Pn	11 11 49.5	-0.5
INZ	Inchbonnie	3.33	221	P	Pn	11 11 48.3	-1.9
HBAZ	Herne Bay Bore	3.40	4	P	Pn	11 11 50.7	-0.4
RUGZ	Raukumara Rang	3.41	49	P	Pn	11 11 48.5	-2.8
TWGZ	Tauwhareparae	3.46	54	P	Pn	11 11 50.0	-1.9
RVAZ	Riverhead Bore	3.48	2	P	Pn	11 11 51.4	-0.7
MBAZ	Motutapu North	3.49	6	P	Pn	11 11 51.9	-0.5
WIAZ	Waiheke Island	3.50	9	P	Pn	11 11 51.6	-0.8
OXZ	Oxford	3.55	209	P	Pn	11 11 49.9	-3.3
OKCZ	Okains Bay	3.62	196	P	Pn	11 11 51.5	-2.5
KUZ	Kuaotunu	3.64	17	P	Pn	11 11 53.0	-1.4
ABAZ	Army Bay	3.66	5	P	Pn	11 11 54.3	-0.3
PUZ	Puketiti	3.69	55	P	Pn	11 11 52.1	-3.0
PKGZ	Pakihiroa	3.70	52	P	Pn	11 11 52.8	-2.4
MQZ	McQueen's Vall	3.70	200	P	Pn	11 11 51.7	-3.4
AKCZ	Akaroa Harbour	3.79	197	P	Pn	11 11 53.7	-2.7
RACZ	Rakaia	3.87	205	P	Pn	11 11 54.0	-3.4
MHCZ	Mount Hutt	3.91	212	P	Pn	11 11 55.7	-2.3
WMGZ	Waiomatatini S	3.95	53	P	Pn	11 11 55.6	-3.0
WVZ	Waitaha Valley	3.95	223	P	Pn	11 11 56.5	-1.9
MXZ	Matakaoa Point	4.05	50	P	Pn	11 11 57.6	-2.3
GRZ	Great Barrier	4.07	12	P	Pn	11 11 59.2	-1.1
WACZ	Wakanui South	4.16	207	P	Pn	11 11 58.2	-3.2
RPZ	Rata Peaks	4.28	215	P	Pn	11 12 01.5	-1.5
WCZ	Waipu Caves	4.30	359	P	Pn	11 12 02.9	-0.5
GCSZ	Gaunt Creek Bo	4.33	224	P	Pn	11 12 01.1	-2.6
ARCZ	Arundel	4.41	212	P	Pn	11 12 02.8	-2.1
FOZ	Fox Glacier	4.75	225	P	Pn	11 12 06.3	-3.1
TMZ	Timaru	4.84	210	P	Pn	11 12 06.9	-3.8
OUZ	Omahuta	5.06	352	P	Pn	11 12 13.2	-0.5
LBZ	Lake Benmore	5.19	216	P	Pn	11 12 13.3	-2.1
ODZ	Otahua Downs	5.54	209	P	Pn	11 12 17.5	-2.7
JCZ	Jackson Bay	5.67	226	P	Pn	11 12 18.5	-3.5
MSZ	Milford Sound	6.53	225	P	Pn	11 12 32.9	-0.6
CTZ	Chatham Island	7.53	120	P	Pn	11 12 46.6	-0.7

NIED ***07*** *11:37:05.0, 30.58N×137.59E, h532km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=0.55; Mθθ=2.03; Mφφ=-1.48; Mrθ=-0.36; Mθφ=0.85; Mφr=1.12; Fault plane solution: M0=2.33000×10^15 NP1:φs=36.00000°, δ=78.00000°, λ=-148.00000°. NP2:φs=298.00000°, δ=59.00000°, λ=-14.00000°.*
JMA ***07*** *11:37:04.9, 30.58N×137.59E, h532km±4km, M4.0*
MOS ***07*** *11:37:07.4±1.0, 30.63N×137.35E, h497km, mb4.1/28, Error ellipse: s-maj=11.3km s-min=6.2km az=110.3*
BJI ***07*** *11:37:07.6±0.0, 30.57N×137.21E, h489km, mB4.6/12, mb4.6/21*
IDC ***07*** *11:37:07.8±0.7, 30.70N×137.35E, h480km±8km, mb3.4/17, mb1 3.5/26, mb1mx3.4/44, mbtmp4.3/26, Error ellipse: s-maj=14.0km s-min=10.2km az=79.0*
NEIC ***07*** *11:37:08.1±1.5, 30.65N±0.09×137.5E±0.1, h492km±8km, mb4.3/48, Error ellipse: s-maj=15.5km s-min=13.1km az=102.0*
ISC 07 11:37:08.0±0.4, 30.61N±0.05×137.50E±0.06, h496km, n191, σ1=115/204, mb4.2/62, 9C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	TONANKAI O.B.S	3.06	349	P	P	11 38 20.2	+1.6
TTO2	TONANKAI O.B.S	3.14	353	P	P	11 38 21.0	+1.9
JHJ	Hachijo jima 2	3.17	37	P	P	11 38 20.3	+0.7
	30nm,0.3s,baz=144,slow=22,SNR=51						
JHJ				S	S	11 39 14.7	-3.5
	63nm,0.3s,baz=207,slow=5.1,SNR=7.9						
JHJ2	Mitsune	3.18	38	P	P	11 38 20.2	+0.5
JHJ2	Mitsune	3.18	38	P	P	11 38 20.4	+0.6
JWKM	Wakayamakushim	3.19	333	P	P	11 38 20.4	+0.6
JTNC	Tanabenakahech	3.58	334	P	P	11 38 23.1	+0.4
JIE	Ise	3.83	350	P	P	11 38 25.5	+0.9
JIE				S	S	11 39 26.9	-0.3
JWY	Kouya	3.94	336	P	P	11 38 26.3	+0.7
JAI	Aioi	4.09	322	P	P	11 38 27.2	+0.5
JAI				S	S	11 39 29.3	-1.8
JSG	Sagara	4.09	8	P	P	11 38 27.0	+0.3
JMN	Monobe	4.37	316	P	P	11 38 29.9	+0.8
JMN	Monobe	4.37	316		P	11 38 29.7	+0.6
JTO	Tosashimizu	4.59	300	P	P	11 38 31.4	+0.4
JFNN	Fujinakano	4.68	12	P	P	11 38 31.7	0.0
INU	Inuyama	4.74	355		P	11 38 32.5	+0.2
JOD2	Odawara 2	4.83	16	P	P	11 38 33.0	-0.1
JOD2				eS	S	11 39 39.9	-2.8
JGF	Kuroka	4.98	359	P	P	11 38 34.9	+0.5
JWT	Wachi	4.98	340		P	11 38 34.6	+0.2
BSO1	Boso 1	4.99	35	P	P	11 38 33.1	-0.7
CBIJ	Chichi jima	5.40	129	P	P	11 38 36.9	-1.6
CBIJ				S	S	11 39 48.9	-3.4
JCJ	Chichijima	5.40	129	P	P	11 38 37.1	-1.3
	8.9nm,0.3s,baz=65,slow=23,SNR=9.7						
JCJ				S	S	11 39 48.4	-3.9
	42nm,0.3s,baz=287,slow=21,SNR=12						
JCJ	Chichijima	5.40	129	P	P	11 38 37.6	-0.9
JRY	Ryogami san	5.52	12	P	P	11 38 39.2	-0.2
JRY				S	S	11 39 52.6	-1.6
JHS	Saijyo	5.72	321	P	P	11 38 41.6	+0.2
JHS				S	S	11 39 57.1	-0.7
JHS	Saijyo	5.72	321		P	11 38 41.4	0.0
MJAR	Matsushiro Arr	5.95	6	P	P	11 38 42.8	-0.7
	1.6nm,0.3s,baz=186,slow=9.2,SNR=142						
MJAR	Matsushiro Arr	5.95	6	P	P	11 38 43.1	-0.4
MJAR	Matsushiro Arr	5.95	6		P	11 38 43.1	-0.4
MAJO	Matsushiro	5.95	6	P	P	11 38 43.1	-0.4
MAJO	Matsushiro	5.95	6		P	11 38 43.1	-0.4
MAT	Matsushiro	5.95	6	P	P	11 38 43.0	-0.5
MAT				S	S	11 39 57.2	-4.5
MJB9	Matsu-Tunnel	5.95	5	P	P	11 38 43.4	-0.1
MJA0	Matsu Arr-Jizo	5.95	6	eP	P	11 38 42.7	-0.8
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JYT	Yasato	6.04	21		P	11 38 43.4	-0.9
JNU	Nakatsue	6.16	296		P	11 38 45.7	0.0
JOI	OKI	6.69	329	P	P	11 38 50.6	-0.1
JSD	Sado	7.44	5	P	P	11 38 58.0	-0.2
JMM	Marumori	7.74	20	P	P	11 39 01.0	-0.3
JTU	Tsushima	7.87	302	P	P	11 39 02.2	-0.6
JMK	Ichinoseki	8.87	19	P	P	11 39 12.3	-0.8
JMK				eS	S	11 40 53.3	-2.7
JOW	Kunigami	8.93	247	P	P	11 39 14.0	-0.1
	comp=Z,1.9nm,0.3s,baz=64,slow=19,SNR=5.1						
JOW	Kunigami	8.93	247	P	P	11 39 13.7	-0.3
TJN	Taejon	10.23	307	eP	P	11 39 29.2	+1.6
KSRS	Korea Array	10.47	313	P	P	11 39 29.6	-0.5
	comp=Z,1.0nm,0.3s,baz=127,slow=10,SNR=24						
KSAR	Wonju Array Be	10.49	313	P	P	11 39 29.5	-0.8
KSAR	Wonju Array Be	10.49	313	P	P	11 39 29.5	-0.8
KS19	Wonju Array Si	10.53	313	P	P	11 39 29.6	-1.2
JTM	Tenmabayashi	10.56	15	P	P	11 39 29.9	-1.1
ERM	Erimo	12.26	20	ce	P	11 39 51.2	+2.2
ERM	Erimo	12.26	20	P	P	11 39 50.1	+1.0
JEW	Eniwo	12.61	13	P	P	11 39 53.6	+0.8
VLA	Vladivostok	13.27	342	eP	P	11 39 59.6	-0.1
VLA				pmax	pmax		
	comp=Z,52nm,0.8s						
ASAJ	Asahikawa	14.07	15	P	P	11 40 09.6	+1.3
	comp=Z,3.0nm,0.3s,baz=230,slow=9.2,SNR=40						
JKA	Kamikawa-asahi	14.07	15	P	P	11 40 08.6	+0.3
YOJ	Yonaguni jima	14.23	248	P	P	11 40 08.5	-1.7
YOJ	Yonaguni jima	14.23	248	P	P	11 40 08.4	-1.7
USA0B	Ussuriysk Arra	14.25	344	P	P	11 40 10.2	+0.1
USA0B	Ussuriysk Arra	14.25	344	P	P	11 40 10.2	+0.1
USRK	Ussuriysk Ar.	14.25	344	P	P	11 40 10.2	+0.1
	baz=158,slow=11,SNR=108						
YHNB	Yeheng	15.46	251	P	P	11 40 21.1	-2.1
NACB	Ninganchiao	15.51	249	P	P	11 40 21.5	-2.0
YULB	Yu-li	16.12	247	P	P	11 40 28.8	-1.2
YULB				IAmb	IAmb	11 40 35.1	
	comp=Z,17nm,0.9s						
SSLB	Suanglung	16.20	249	P	P	11 40 29.2	-1.8
TWG	Pinlang	16.59	246	P	P	11 40 34.1	-0.9
TPUB	Ta-pu	16.70	248	P	P	11 40 34.3	-1.8
YSS	Yuzh-Sakhalins	16.82	13	eP	P	11 40 37.9	+0.9
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
YSS	Yuzh-Sakhalins	16.82	13	P	P	11 40 37.8	+0.8
GUMO	Guam	18.25	157	P	P	11 40 53.4	+2.4
	comp=Z,5.2nm,0.3s,baz=77,slow=5.5,SNR=4.3						
GUMO	Guam	18.25	157	P	P	11 40 51.2	+0.2
GUMO				pmax	pmax		
	comp=Z,227nm,1.3s						
GUMO	Guam	18.25	157	P	P	11 40 51.2	+0.2
KLR	Kul'dur	19.10	348	P	P	11 40 59.3	+1.0
	comp=Z,0.5nm,0.3s,baz=155,slow=6.3,SNR=14						
KLR	Kul'dur	19.10	348	dP	P	11 40 59.3	+1.0
KLR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WHN	Wuhan	19.93	276	↑P	P	11 41 07.1	+1.0
TYV	Tymovskoe	20.60	9	eP	P	11 41 12.8	+0.9
TYV				pmax	pmax		
	comp=Z,13nm,1.6s						
TYV				pmax	pmax		
	comp=Z,100nm,3.3s						
HIA	Hailar	22.98	329	↑eP	P	11 41 33.2	-0.3
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ENH	Enshi	24.13	276	P	P	11 41 42.5	-1.6
XAN	Xi'an	24.36	286	P	P	11 41 45.3	-0.7
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
ULN	Ulaanbaatar	28.95	315	↑iP	P	11 42 26.7	+0.3
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
SONM	Songino Array	29.34	315	P	P	11 42 29.9	+0.2
	comp=Z,0.7nm,0.6s,baz=128,slow=9.9,SNR=4.3						
SONM	Songino Array	29.34	315	P	P	11 42 27.2	-2.5
SONM				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONM	Songino Array	29.34	315	P	P	11 42 27.2	-2.5
GTA	Gaotai	31.90	296	↓P	P	11 42 51.4	-0.6
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TLY	Talaya	32.62	320	↑eP	P	11 42 58.7	+0.9
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
UBPT	Khong Chiam	33.06	250	P	P	11 43 01.3	-0.7
UBPT				IAmb	IAmb	11 43 03.5	
	comp=Z,7.5nm,1.0s						
NONG	Nongkai	33.56	256	P	P	11 43 07.0	+0.8
	comp=Z,24nm,0.7s						
FAKI	Fak Fak	33.72	189	P	P	11 43 06.2	-1.3
SEY	Seymchan	33.73	12	P	P	11 43 08.2	+1.3
	comp=Z,1.1nm,0.7s,baz=156,slow=5.3,SNR=4.0						
CHAI	Chaiyaphum	35.59	254	P	P	11 43 23.0	-0.2
	comp=Z,7.4nm,0.7s						
UTTA	Uttaradit	35.89	258	P	P	11 43 26.3	+0.6
	comp=Z,7.7nm,0.6s						
PBKT	Sadao Pong	36.10	256	P	P	11 43 26.1	-1.3
PBKT				IAmb	IAmb	11 43 32.2	
	comp=Z,21nm,1.3s						
PHIT	Phitsanulok	36.27	257	P	P	11 43 31.0	+2.2
	comp=Z,6.9nm,0.9s						
CHTO	Chiang Mai	36.77	260	P	P	11 43 32.7	-0.3
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	Chiang Mai	36.77	260	P	P	11 43 32.7	-0.3
CHTO				IAmb	IAmb	11 43 33.8	
	comp=Z,12nm,0.8s						
CM31	Chiang Mai Arr	36.93	260	P	P	11 43 35.3	+1.0
	comp=Z,217nm,0.7s						
CM31	Chiang Mai Arr	36.93	260	P	P	11 43 34.0	-0.3
CM31				IAmb	IAmb	11 43 36.0	
	comp=Z,6.1nm,0.7s						
CMAR	Chiang Mai Arr	36.93	260	P	P	11 43 34.5	+0.2
	comp=Z,3.8nm,0.7s,baz=56,slow=6.6,SNR=31						
CMAR	Chiang Mai Arr	36.93	260	P	P	11 43 34.0	-0.3
CM01	Chiang Mai Arr	36.93	260	P	P	11 43 35.0	+0.7
	comp=Z,6.0nm,0.7s						
CM02	Chiang Mai Arr	36.94	260	P	P	11 43 35.0	+0.7
	comp=Z,57nmcomp=Z,8.4nm,0.8s						
CM15	Chiang Mai Arr	36.95	260	P	P	11 43 35.3	+0.8
BILL	Bilibino	41.09	16	ceP	P	11 44 09.7	+2.4
BILL				e		11 45 58.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BILL	Bilibino	41.09	16	P	P	11 44 08.4	+1.1
SOEI	Soe	42.10	200

KDAK	**Kodiak Island**	**54.10**	**38**	P		**P**		**11 45 47.4**	**+2.2**
	comp=Z,4.3nm,1.0s,baz=300,slow=3.9,SNR=5.1								
KDAK	**Kodiak Island**	**54.10**	**38**	P		**P**		**11 45 44.8**	**-0.4**
KDAK				pmax		pmax			
	comp=Z,23nm,1.5s								
KDAK	**Kodiak Island**	**54.10**	**38**	P		**P**		**11 45 44.8**	**-0.4**
KDAK				IAmb		IAmb		11 45 47.6	
	comp=Z,23nm,1.4s								
GAR	**Garm**	**54.68**	**298**	P		**P**		**11 45 49.6**	**-0.3**
GAR				IAmb		IAmb		11 45 50.8	
	comp=Z,8.8nm,0.8s								
CHGR	**Chuyangaron**	**55.64**	**298**	P		**P**		**11 45 56.8**	**+0.2**
SCM	**Sheep Creek Mo**	**56.59**	**33**	P		**P**		**11 46 02.1**	**-0.6**
SCM				pmax		pmax			
	comp=Z,17nm,1.3s								
SCM	**Sheep Creek Mo**	**56.59**	**33**	P		**P**		**11 46 02.1**	**-0.6**
SCM				IAmb		IAmb		11 46 12.9	
	comp=Z,17nm,1.3s								
BMAR	**Burnt Mountain**	**57.52**	**27**	P		**P**		**11 46 08.7**	**-0.2**
DOT	**Dot Lake**	**57.96**	**31**	P		**P**		**11 46 12.8**	**+0.9**
ARU	**Arti**	**59.12**	**321**	*c*	*iP*	**P**		**11 46 19.3**	**-0.6**
ARU								11 48 35.3	
ARU				*SP		**sP**		**11 48 49.1**	**-3.1**
ARU				S		**S**		**11 53 47.7**	**-0.7**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.5s								
ARU	**Arti**	**59.12**	**321**	P		**P**		**11 46 19.2**	**-0.7**
ARU				IAmb		IAmb		11 46 20.1	
	comp=Z,5.4nm,0.5s								
ABKAR	**Akbulak array**	**59.70**	**312**	P		**P**		**11 46 23.6**	**-0.3**
ABKAR	**Akbulak array**	**59.70**	**312**	P		**P**		**11 46 23.5**	**-0.5**
ABKAR				IAmb		IAmb		11 46 24.6	
	comp=Z,10nm,0.6s								
STKA	**Stephens Creek**	**62.27**	**176**	P		**P**		**11 46 42.9**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=338,slow=6.7,SNR=5.8								
STKA	**Stephens Creek**	**62.27**	**176**	P		**P**		**11 46 41.6**	**+0.7**
BBOO	**Buckleboo**	**63.09**	**181**	P		**P**		**11 46 46.7**	**+0.5**
BBOO				IAmb		IAmb		11 47 07.3	
	comp=Z,26nm,1.5s								
GEYT	**Alibeck**	**64.17**	**300**	P		**P**		**11 46 52.7**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=35,slow=5.4,SNR=3.7								
PRGR	**Permogore**	**64.42**	**328**	*eP*		**P**		**11 46 57.8**	**+3.4**
PRGR				pmax		pmax			
	comp=Z,14nm,0.9s								
EUNU	**Eureka**	**66.99**	**8**	P		**P**		**11 47 11.0**	**+0.7**
ARCES	**ARCESS Array B**	**68.86**	**340**	P		**P**		**11 47 22.6**	**+0.8**
	comp=Z,2.0nm,0.4s,baz=60,slow=8.4,SNR=29								
ARCES	**ARCESS Array B**	**68.86**	**340**	P		**P**		**11 47 21.7**	**-0.1**
ARCES				pmax		pmax			
	comp=Z,15nm,1.5s								
ARCES	**ARCESS Array B**	**68.86**	**340**	P		**P**		**11 47 21.6**	**-0.1**
ARCES				IAmb		IAmb		11 47 36.8	
	comp=Z,15nm,1.5s								
KBZ	**Khabaz**	**72.61**	**311**	P		**P**		**11 47 44.9**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=100,slow=4.9,SNR=12								
KIV	**Kislovodsk**	**72.65**	**311**	*eP*		**P**		**11 47 46.4**	**+1.6**
KIV				pmax		pmax			
	comp=Z,20nm,1.1s								
FIA1	**FINESS Array S**	**72.96**	**332**	P		**P**		**11 47 46.3**	**+0.2**
FIA1				IAmb		IAmb		11 48 12.0	
	comp=Z,23nm,1.3s								
FINES	**FINESS Array B**	**72.96**	**332**	P		**P**		**11 47 46.2**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=72,slow=5.1,SNR=24								
FINES	**FINESS Array B**	**72.96**	**332**	P		**P**		**11 47 46.1**	**0.0**
VSU	**Vasula**	**74.31**	**329**	ǁ	*eP*	**P**		**11 47 57.5**	**+3.6**
VSU				pmax		pmax			
	comp=Z,40nm,1.0s								
NACGM	**Naroch**	**76.26**	**326**	*i*	P	P		11 48 10.1	+5.3
	baz=275								
AKASG	**Malin Array Be**	**77.34**	**322**	P		**P**		**11 48 10.7**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=53,slow=5.7,SNR=12								
AKASG	**Malin Array Be**	**77.34**	**322**	P		**P**		**11 48 09.7**	**-1.1**
NC405	**NORSAR Array S**	**78.57**	**336**	P		**P**		**11 48 17.5**	**+0.2**
NC405				IAmb		IAmb		11 48 21.6	
	comp=Z,19nm,1.1s								
NB201	**NORSAR Array S**	**78.76**	**336**	P		**P**		**11 48 18.3**	**0.0**
NB201				IAmb		IAmb		11 48 43.7	
	comp=Z,12nm,1.3s								
NC204	**NORSAR Array S**	**78.78**	**337**	P		**P**		**11 48 18.4**	**-0.1**
NC204				IAmb		IAmb		11 48 22.8	
	comp=Z,17nm,1.3s								
NOA	**NORSAR Array B**	**78.80**	**336**	P		**P**		**11 48 18.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=44,slow=5.2,SNR=7.8								
RAYN	**Ar Rayn**	**80.01**	**291**	P		**P**		**11 48 26.0**	**+0.3**
RAYN				pmax		pmax			
	comp=Z,6.0nm,1.1s								
RAYN	**Ar Rayn**	**80.01**	**291**	P		**P**		**11 48 26.0**	**+0.3**
RAYN				IAmb		IAmb		11 48 27.7	
	comp=Z,5.7nm,1.1s								
BRTR	**Keskin Array B**	**80.61**	**311**	P		**P**		**11 48 29.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=119,slow=4.4,SNR=6.6								
BRTR	**Keskin Array B**	**80.61**	**311**	P		**P**		**11 48 28.1**	**-0.5**
BUR08	**Bucovina Ar. S**	**81.25**	**321**	P		**P**		**11 48 31.3**	**-0.5**
BURAR	**Bucovina Array**	**81.26**	**321**	P		**P**		**11 48 32.4**	**+0.6**
NVAR	**Mina Array Bea**	**81.52**	**50**	P		**P**		**11 48 35.7**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=286,slow=5.9,SNR=2.5								
NVAR	**Mina Array Bea**	**81.52**	**50**	P		**P**		**11 48 33.5**	**0.0**
GERES	**GERESS Array B**	**86.36**	**327**	P		**P**		**11 48 56.2**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=37,slow=5.0,SNR=2.6								

JMA ***07*** *11:52:22.9±0.1,24.°04N×121.°70E,h21km±1km,M2.4*
TAP ***07*** *11:52:23.7,24.°10N×121.°70E,h22km,ML2.7,B*
ISC 07 11:52:23.9±0.9,24.°08N±0.°01×121.°73E±0.°02,h19km±2km, n96,σ0.°74/175,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWD	**Chiawan**	**0.12**	**270**	*i* P		**Pg**	**11 52 27.9**	**0.0**
	baz=258							
TWD				*i* S		**Sg**	**11 52 31.1**	**+0.5**
	baz=258							
HWA	**Hwalien**	**0.15**	**228**	*i* P		**Pg**	**11 52 29.0**	**+0.7**
	baz=210							
HWA				S		**Sg**	**11 52 33.1**	**+1.8**
	baz=210							
NACB	**Ninganchiao**	**0.16**	**307**	P		**Pg**	**11 52 28.1**	**-0.3**
	baz=309							
NACB				S		**Sg**	**11 52 31.4**	**+0.1**
	baz=309							
EHP	**Heping Village**	**0.23**	**2**	P		**Pg**	**11 52 29.5**	**+0.1**
	baz=13							
EHP				S		**Sg**	**11 52 34.0**	**+0.8**
	baz=13							
TEYL	**Yanliau Villag**	**0.24**	**210**	P		**Pg**	**11 52 29.8**	**+0.2**
	baz=197							
TEYL				S		**Sg**	**11 52 35.1**	**+1.7**
	baz=197							
ETM	**Tongmen**	**0.25**	**242**	P		**Pb**	**11 52 29.6**	**0.0**
	baz=235							
ETM				S		**Sg**	**11 52 34.0**	**+0.4**
	baz=235							
ETLH	**Xiulin Townshi**	**0.26**	**299**	P		**Pb**	**11 52 29.6**	**-0.3**
	baz=299							
ETLH				S		**Sg**	**11 52 34.2**	**+0.2**
	baz=299							
EWUT	**Wuta**	**0.36**	**7**	*i* P		**Pg**	**11 52 31.4**	**-0.2**
	baz=14							
EWUT				S		**Sb**	**11 52 37.3**	**0.0**
	baz=14							
ESL	**Shilin**	**0.38**	**226**	*i* P		**Pg**	**11 52 31.6**	**-0.3**
	baz=222							
ESL				*i* S		**Sg**	**11 52 37.6**	**+0.3**
	baz=222							
TEGC	**Jichi Village**	**0.41**	**205**	P		**Pg**	**11 52 32.7**	**+0.3**
	baz=184							
TEGC				S		**Sb**	**11 52 39.6**	**+1.1**
	baz=184							
WHF	**Hehuan Shan**	**0.43**	**279**	*i* P		**Pg**	**11 52 32.4**	**-0.6**
	baz=276							
WHF				*i* S		**Sg**	**11 52 38.6**	**-0.5**
	baz=276							
NNSB	**Datong**	**0.47**	**317**	P		**Pg**	**11 52 33.1**	**-0.4**
	baz=319							
NNSB				S		**Sg**	**11 52 39.6**	**-0.5**
	baz=319							
NNSH	**Datong**	**0.47**	**317**	*i* P		**Pg**	**11 52 33.2**	**-0.4**
	baz=319							
NNSH				*i* S		**Sg**	**11 52 39.6**	**-0.4**
	baz=319							
NNS	**Nan Shan**	**0.48**	**318**	*i* P		**Pg**	**11 52 33.4**	**-0.4**
	baz=320							
NNS				*i* S		**Sg**	**11 52 40.0**	**-0.5**
	baz=320							
EGFH	**Guangfu**	**0.50**	**214**	*i* P		**Pg**	**11 52 33.5**	**-0.4**
	baz=219							
EGFH				S		**Sb**	**11 52 41.7**	**+0.8**
	baz=219							
CHGB	**Renai**	**0.51**	**268**	P		**Pg**	**11 52 33.7**	**-0.6**
	baz=259							
CHGB				S		**Sg**	**11 52 40.8**	**-0.5**
	baz=259							
OWD	**Renai**	**0.52**	**256**	*i* P		**Pb**	**11 52 33.9**	**-0.6**
	baz=252							
OWD				*i* S		**Sg**	**11 52 40.7**	**-1.0**
	baz=252							
TWT	**Tachien**	**0.54**	**289**	*i* P		**Pb**	**11 52 34.5**	**-0.3**
	baz=286							
TWT				*i* S		**Sb**	**11 52 41.8**	**-0.4**
	baz=286							
TWC	**Suao**	**0.54**	**11**	*i* P		**Pb**	**11 52 34.5**	**-0.1**
	baz=14							
TWC				S		**Sg**	**11 52 42.3**	**+0.3**
	baz=14							
NDS	**Dongshan**	**0.55**	**359**	*i* P		**Pb**	**11 52 34.6**	**-0.3**
	baz=4.0							
NDS				S		**Sb**	**11 52 42.4**	**0.0**
	baz=4.0							
TDCB	**Techi**	**0.55**	**288**	P		**Pb**	**11 52 34.5**	**-0.5**
	baz=287							
TDCB				S		**Sb**	**11 52 41.7**	**-0.9**
	baz=287							
NDT	**Datong Townshi**	**0.56**	**339**	*i* P		**Pb**	**11 52 34.6**	**-0.5**
	baz=337							
NDT				S		**Sb**	**11 52 42.5**	**-0.1**
	baz=337							
ENTT	**Nioudou**	**0.58**	**345**	*i* P		**Pb**	**11 52 34.9**	**-0.5**
	baz=349							
ENTT				*i* S		**Sg**	**11 52 43.4**	**+0.1**
	baz=349							
TWE	**Neicheng**	**0.64**	**355**	*i* P		**Pb**	**11 52 36.0**	**-0.4**
TWE				S		**Sg**	**11 52 45.4**	**+0.2**
HGSD	**Ruisui**	**0.65**	**206**	P		**Pg**	**11 52 37.1**	**+0.3**
	baz=192							
HGSD				*e*S		**Sn**	**11 52 47.2**	**-0.7**
	baz=192							
YHNB	**Yeheng**	**0.67**	**331**	P		**Pb**	**11 52 36.3**	**-0.7**
	baz=333							
YHNB				S		**Sb**	**11 52 44.9**	**-1.1**
	baz=333							
ILA	**Ilan**	**0.68**	**1**	*e*P		**Pg**	**11 52 37.7**	**+0.3**
	baz=359							
EHY	**Hungye**	**0.68**	**213**	*i* P		**Pb**	**11 52 36.1**	**-1.1**
	baz=215							
EHY				*e*S		**Sb**	**11 52 46.6**	**+0.3**
	baz=215							
WPL	**Puli Township**	**0.71**	**265**	P		**Pb**	**11 52 36.9**	**-0.8**
	baz=255							
WPL				S		**Sb**	**11 52 46.5**	**-0.6**
	baz=255							
NWLT	**Wulai**	**0.72**	**343**	*i* P		**Pb**	**11 52 37.4**	**-0.6**
	baz=338							
NWLT				*i* S		**Sb**	**11 52 47.0**	**-0.5**
	baz=338							
DPDB	**Guoxing**	**0.74**	**266**	P		**Pb**	**11 52 37.5**	**-0.7**
	baz=258							
DPDB				S		**Sb**	**11 52 48.1**	**+0.1**
	baz=258							
WHP	**Taichung City**	**0.74**	**285**	*i* P		**Pb**	**11 52 37.6**	**-0.7**
	baz=284							
WHP				*i* S		**Sb**	**11 52 47.7**	**-0.5**
	baz=284							
WCS	**Beigang Elemen**	**0.75**	**268**	*i* P		**Pb**	**11 52 37.6**	**-0.8**
	baz=260							
WCS				*e*S		**Sb**	**11 52 48.2**	**0.0**
	baz=260							
SSLB	**Suanglung**	**0.77**	**248**	P		**Pb**	**11 52 38.3**	**-0.4**
	baz=252							
SSLB				S		**Sb**	**11 52 47.7**	**-1.1**
	baz=252							
NTC	**Toucheng**	**0.78**	**7**	*i* P		**Pb**	**11 52 38.2**	**-0.6**
	baz=11							
NTC				S		**Sg**	**11 52 50.1**	**+0.6**
	baz=11							
EGS		**0.78**	**13**	*i* P		**Pb**	**11 52 39.1**	**+0.2**
	baz=23							
EGS				*e*S		**Sg**	**11 52 49.6**	**-0.1**
	baz=23							
SMLT	**Sun Moon Lake**	**0.79**	**256**	*i* P		**Pb**	**11 52 38.9**	**-0.2**
	baz=252							
SMLT				*i* S		**Sb**	**11 52 49.5**	**+0.1**
	baz=252							
YULB	**Yu-li**	**0.79**	**210**	P		**Pb**	**11 52 37.6**	**-1.6**
	baz=205							
YULB				S		**Sb**	**11 52 49.3**	**-0.1**
	baz=205							
EYUL	**Yuli**	**0.82**	**207**	*i* P		**Pb**	**11 52 39.5**	**-0.1**
	baz=216							
EYUL				*e*S		**Sb**	**11 52 50.7**	**+0.4**
	baz=216							
TWF1	**Yuli**	**0.83**	**209**	*i* P		**Pb**	**11 52 38.4**	**-1.3**
	baz=216							
TWF1				*e*S		**Sb**	**11 52 50.6**	**+0.2**
	baz=216							
LIOB	**Emei**	**0.86**	**311**	*i* P		**Pb**	**11 52 40.5**	**+0.2**
	baz=311							
LIOB				S		**Sb**	**11 52 51.0**	**-0.5**
	baz=311							
NSTT	**Nanjuang**	**0.86**	**310**	*i* P		**Pb**	**11 52 40.0**	**-0.3**
	baz=310							
NSTT				*i* S		**Sb**	**11 52 51.4**	**-0.1**
	baz=310							
TIPB	**Shuangxi**	**0.89**	**5**	*i* P		**Pb**	**11 52 40.4**	**-0.4**
	baz=3.0							
TIPB				S		**Sg**	**11 52 53.5**	**+0.4**
	baz=3.0							
WHYT	**Xinyi Township**	**0.89**	**245**	*i* P		**Pb**	**11 52 40.6**	**-0.2**
	baz=247							
WHYT				*i* S		**Sb**	**11 52 52.8**	**+0.5**
	baz=247							
NHDH	**Xindian Distri**	**0.90**	**348**	*i* P		**Pb**	**11 52 41.0**	**0.0**
	baz=352							
NHDH				S		**Sb**	**11 52 53.0**	**+0.5**
	baz=352							
TATO	**Taipei**	**0.92**	**346**	P		**Pb**	**11 52 41.4**	**+0.1**
	baz=350							
TATO				S		**Sb**	**11 52 53.5**	**+0.4**
	baz=350							
YUS	**Yu-Shan**	**0.93**	**231**	*i* P		**Pb**	**11 52 41.1**	**-0.6**
	baz=226							
YUS				*i* S		**Sb**	**11 52 53.7**	**0.0**
	baz=226							
WWF	**Wufeng**	**0.94**	**268**	P		**Pb**	**11 52 41.7**	**0.0**
	baz=264							
WWF				*e*S		**Sg**	**11 52 55.1**	**+0.3**
	baz=264							
NSY	**Sanyi**	**0.95**	**291**	*i* S		**Sn**	**11 52 56.5**	**+1.3**
	baz=290							
TWB1	**Santiao Chiao**	**0.95**	**14**	*i* P		**Pb**	**11 52 41.4**	**-0.5**
	baz=19							
TWB1				*i* S		**Sn**	**11 52 55.6**	**+0.2**
	baz=19							
WJS	**Zhushan**	**0.95**	**255**	*i* S		**Sg**	**11 52 55.2**	**+0.1**
	baz=252							
FULB	**Fuli**	**0.97**	**205**	*i* P		**Pb**	**11 52 41.4**	**-0.7**
	baz=215							
TCU	**Taichung**	**0.97**	**274**	*i* S		**Sn**	**11 52 57.9**	**+2.1**
	baz=272							
NMLH	**Miaoli**	**0.97**	**298**	P		**Pn**	**11 52 42.8**	**+0.2**
	baz=297							
NMLH				*i* S		**Sn**	**11 52 56.6**	**+0.8**
	baz=297							
WNT	**Mingjian**	**0.98**	**258**	P		**Pb**	**11 52 41.2**	**-1.1**
	baz=254							
WNT				S		**Sn**	**11 52 57.9**	**+1.8**
	baz=254							
SBCB	**Hsinchu**	**0.98**	**316**	S		**Sn**	**11 52 57.0**	**+0.9**
	baz=324							
NWF	**Wu-fen Shan**	**0.99**	**3**	*i* P		**Pn**	**11 52 42.8**	**-0.1**
	baz=359							
NWF				*i* S		**Sn**	**11 52 57.2**	**+0.8**
	baz=359							
WFSB	**Wu-fen Shan**	**0.99**	**3**	P		**Pb**	**11 52 42.4**	**0.0**
WFSB				S		**Sg**	**11 52 57.2**	**+1.1**
ALS	**Alishan**	**1.02**	**236**	*i* P		**Pb**	**11 52 42.3**	**-0.9**
	baz=232							
ALS				*i* S		**Sn**	**11 52 57.7**	**+0.2**
	baz=232							
WDJ	**Dajia District**	**1.03**	**285**	P		**Pg**	**11 52 44.1**	**+0.1**
	baz=284							
WDJ				S		**Sg**	**11 52 59.0**	**+1.5**
	baz=284							
CHKT	**Chengkung**	**1.03**	**199**	P		**Pb**	**11 52 43.0**	**-0.2**
	baz=176							
CHKT				*i* S		**Sg**	**11 52 58.3**	**+0.7**
	baz=176							
TWS1	**Kuangyinshan**	**1.05**	**344**	*i* P		**Pb**	**11 52 43.4**	**-0.2**
	baz=348							
TWS1				S		**Sg**	**11 53 00.1**	**+1.8**
	baz=348							
YM01	**YM01**	**1.07**	**352**	P		**Pb**	**11 52 43.9**	**0.0**
	baz=356							
YM01				S		**Sg**	**11 52 59.1**	**+0.3**
	baz=356							
CHN5	**Tsauling**	**1.08**	**244**	*i* P		**Pb**	**11 52 43.9**	**-0.2**
	baz=240							
CHN5				*i* S		**Sg**	**11 52 59.8**	**+0.8**
	baz=240							
ELDTW	**Lidau**	**1.10**	**217**	*i* P		**Pn**	**11 52 42.8**	**-1.7**
	baz=200							
YM08	**YM08**	**1.11**	**353**	*e*P		**Pn**	**11 52 44.5**	**-0.1**
	baz=357							
WDLH	**Douliu**	**1.16**	**251**	P		**Pb**	**11 52 45.7**	**+0.3**
	baz=248							
WDLH				S		**Sg**	**11 53 02.2**	**+0.6**
	baz=248							
JYNG	**Yonagunijimaku**	**1.17**	**71**	P		**Pn**	**11 52 44.9**	**-0.4**
JYNG				S		**Sb**	**11 52 59.9**	**-0.4**
EDH	**Donghe**	**1.17**	**200**	*i* P		**Pn**	**11 52 43.6**	**-1.7**
	baz=180							
EDH				S		**Sb**	**11 52 59.5**	**-0.9**
	baz=180							
YOJ	**Yonaguni jima**	**1.23**	**72**	P		**Pn**	**11 52 45.7**	**-0.4**
	baz=87							
YOJ				S		**Sn**	**11 53 02.5**	**+0.3**
	baz=87							
STYH	**Taoyuan**	**1.26**	**224**	*i* P		**Pn**	**11 52 46.3**	**-0.2**
	baz=219							
STYH				S		**Sg**	**11 53 04.3**	**-0.5**
	baz=219							
CHN4	**Tsaushan**	**1.27**	**235**	*i* P		**Pb**	**11 52 48.0**	**+0.7**
	baz=232							
CHN4				S		**Sg**	**11 53 05.6**	**+0.5**
	baz=232							
TPUB	**Ta-pu**	**1.27**	**233**	P		**Pn**	**11 52 47.0**	**+0.2**
	baz=220							
TPUB				S		**Sg**	**11 53 04.6**	**-0.7**
	baz=220							
STYT	**Tauyuan**	**1.28**	**225**	P		**Pn**	**11 52 46.5**	**-0.3**
	baz=219							
STYT				*e*S		**Sb**	**11 53 04.2**	**+0.7**
	baz=219							
LONT	**Longtian**	**1.29**	**205**	*e*P		**Pn**	**11 52 45.5**	**-1.5**
	baz=201							
WTP	**Ta-pu**	**1.32**	**231**	*i* P		**Pn**	**11 52 47.7**	**+0.3**
	baz=227							
WTP				S		**Sg**	**11 53 06.5**	**-0.2**
	baz=227							
TWG	**Pinlang**	**1.39**	**206**	P		**Pn**	**11 52 47.9**	**-0.4**
	baz=186							
TWGBT	**Beinan**	**1.39**	**206**	P		**Pn**	**11 52 47.1**	**-1.3**
	baz=186							
CHN1	**Nanshi**	**1.42**	**231**	*i* P		**Pb**	**11 52 50.0**	**+0.1**
	baz=227							
CHN1				S		**Sb**	**11 53 08.6**	**+1.1**
	baz=227							
LDUT	**Ludao**	**1.42**	**190**	*e*P		**Pn**	**11 52 47.8**	**-0.9**
	baz=185							
SGST	**Jiashian**	**1.45**	**227**	P		**Pn**	**11 52 49.9**	**+0.7**
	baz=223							
SGST				S		**Sb**	**11 53 09.6**	**+1.2**
	baz=223							
WSF	**Szhu**	**1.45**	**253**	S		**Sg**	**11 53 10.2**	**-0.7**
	baz=251							
PCYT	**Pengchaiyu**	**1.57**	**11**	*i* P		**Pn**	**11 52 51.5**	**+0.7**
	baz=359							
PCYT				*e*S		**Sb**	**11 53 12.2**	**+0.3**
	baz=359							
SSD	**Sandimen**	**1.67**	**217**	P		**Pb**	**11 52 53.6**	**-0.4**
	baz=224							
SSD				S		**Sb**	**11 53 16.2**	**+1.5**
	baz=224							
TSMG	**Majia**	**1.69**	**216**	P		**Pn**	**11 52 53.4**	**+0.8**
	baz=208							
TSMG				S		**Sg**	**11 53 17.4**	**-1.2**
	baz=208							
MASBT	**Mashibuluo**	**1.78**	**215**	P		**Pn**	**11 52 53.9**	**+0.3**
	baz=206							
MASBT				S		**Sb**	**11 53 18.6**	**+0.8**
	baz=206							
IRIF	**Iriomote-Funau**	**1.84**	**82**	P		**Pn**	**11 52 54.4**	**-0.1**
HATJ	**Hateruma jima**	**1.90**	**90**	P		**Pn**	**11 52 55.4**	**+0.1**
PHUB	**P'eng-hu**	**2.06**	**254**	P		**Pn**	**11 52 57.4**	**-0.1**
	baz=255							
PHUB				S		**Sn**	**11 53 23.2**	**+0.6**
	baz=255							
WDGT	**Dungji**	**2.07**	**247**	*i* P		**Pn**	**11 52 57.5**	**-0.1**
	baz=246							
WDGT				S		**Sn**	**11 53 24.0**	**+1.1**
	baz=246							
JKRS	**Kuro-shima**	**2.09**	**85**	P		**Pn**	**11 52 58.2**	**+0.3**
JKRS				*e*S		**Sn**	**11 53 23.7**	**+0.3**
JIJ	**Ishigaki jima**	**2.22**	**82**	P		**Pn**	**11 52 59.4**	**-0.3**
JIJ				*e*S		**Sn**	**11 53 25.9**	**-0.8**
VWUC	**VWUC**	**2.27**	**294**	*e*S		**Sn**	**11 53 25.8**	**-2.1**
	baz=291							
VCHM	**Qimei**	**2.28**	**248**	*e*P		**Pn**	**11 53 01.3**	**+0.7**
	baz=234							
VCHM				*e*S		**Sn**	**11 53 29.9**	**+1.7**
	baz=234							
JISG	**Ishigakijimahi**	**2.41**	**77**	P		**Pn**	**11 53 01.9**	**-0.4**
JISG				*e*S		**Sn**	**11 53 30.5**	**-0.8**
PTMZ	**Houxiangcun**	**2.56**	**292**	*e*S		**Sn**	**11 53 33.0**	**-2.1**
	baz=289							

IDC 07 12:51:09.3±5.5,55.°97S×29.°20W,h0km,mb3.8/1, mb1 4.0/1,mb1mx3.5/28,mbtmp3.8/1,MS3.2/6,Ms1 3.2/6, ms1mx3.1/17,Error ellipse: s-maj=761.7km s-min=56.7km az=28.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**30.88**	**282**	LR		LR	13 09 16.9	
	comp=Z,52nm,19.8s,baz=147,slow=35							
CPUP	**Villa Florida**	**35.92**	**314**	LR		LR	13 12 09.0	
	comp=Z,24nm,19.8s,baz=214,slow=35							
MAW	**Mawson**	**40.88**	**144**	LR		LR	13 13 35.7	
	comp=Z,42nm,20.1s,baz=233,slow=33							
SIV	**San Ignacio**	**46.72**	**316**	LR		LR	13 17 45.6	
	comp=Z,18nm,21.0s,baz=272,slow=34							
BOSA	**Boshof**	**47.05**	**78**	LR		LR	13 16 08.7	
	comp=Z,59nm,18.5s,baz=114,slow=32							
H10N1	**ASCENSION HYDR**	**49.39**	**19**	T		T	13 53 05.1	
	baz=190							
H10N3	**ASCENSION HYDR**	**49.39**	**19**	T		T	13 53 07.4	
	baz=190							
H10N2	**ASCENSION HYDR**	**49.41**	**19**	T		T	13 52 58.9	
	baz=190							
LPAZ	**La Paz**	**49.42**	**307**	P

KAN08				Sg		Sg	12 56 20.4	0.0	
KAN10	**Anthony SW Sta**	**0.42**	**298**	Pg		Pg	12 56 15.3	-0.1	
KAN10				Sg		Sg	12 56 20.9	0.0	
KAN16	**Harper SW Stat**	**0.46**	**310**	Pg		Pg	12 56 15.9	-0.1	
KAN16				Sg		Sg	12 56 22.1	0.0	
KAN12	**Harper NE Stat**	**0.48**	**321**	Pg		Pg	12 56 16.1	-0.1	
KAN12				Sg		Sg	12 56 22.5	-0.1	
OK032	**Salt Plains WL**	**0.49**	**256**	Pg		Pg	12 56 16.4	0.0	
OK032				Sg		Sg	12 56 22.9	+0.1	
CROK	**Carrier**	**0.51**	**215**	Pg		Pg	12 56 17.1	+0.2	
CROK				Sg		Sg	12 56 24.3	+0.7	
T35A	**Sooner Cattle**	**0.89**	**90**	Pg		Pg	12 56 24.0	-0.2	
T35A				Sg		Sg	12 56 35.8	+0.1	
T35B	**Sooner Cattle**	**0.89**	**90**	P		Pg	12 56 24.0	-0.1	
	baz=272,SNR=56								
T35B				S		Sg	12 56 35.8	+0.1	
	baz=272								
T35B	**Sooner Cattle**	**0.89**	**90**	P			12 56 24.0		
	baz=272,SNR=56								
T35B				S			12 56 35.8		
	baz=272								
QUOK	**Quay**	**1.05**	**135**	Pg		Pg	12 56 27.1	-0.2	
QUOK				Sg		Sg	12 56 41.0	0.0	
OK029	**Liberty Lake**	**1.14**	**173**			Pg	12 56 28.5	-0.3	
OK029				Sg		Sb	12 56 43.9	0.0	
OK031	**S. Brethren Rd**	**1.16**	**147**			Pg	12 56 29.0	-0.2	
OK031				Sg		Sg	12 56 44.6	+0.3	
OK030	**Cody Creek RV**	**1.21**	**146**			Pb	12 56 29.8	-0.3	
OK030				Sg		Sg	12 56 45.8	+0.1	
U32A	**Winter Ranch,**	**1.23**	**244**			Pb	12 56 30.1	-0.5	
U32A				Sg		Sg	12 56 46.5	-0.2	
U32A	**Winter Ranch,**	**1.23**	**244**	P		Pb	12 56 30.1	-0.5	
	baz=62,SNR=7.3								
U32A				S		Sg	12 56 46.5	-0.2	
	baz=62								
U32A	**Winter Ranch,**	**1.23**	**244**	P			12 56 30.1		
	baz=62,SNR=7.3								
U32A				S			12 56 46.5		
	baz=62								
BCOK	**Bluff Creek, N**	**1.27**	**179**			Pn	12 56 30.8	-0.3	
BCOK				Sg		Sg	12 56 48.0	+0.2	
OK005	**Luther M Schoo**	**1.32**	**164**	Pn		Pn	12 56 31.5	-0.3	
OK009	**Oakdale Elemen**	**1.35**	**173**	Pn		Pn	12 56 31.6	-0.7	
OK025	**Westminster Rd**	**1.36**	**170**			Pn	12 56 32.6	+0.1	
OKCFA	**Oklahoma City**	**1.51**	**175**			Pn	12 56 34.6	+0.1	
OKCFA	**Oklahoma City**	**1.51**	**175**	P		Pb	12 56 35.2	-0.3	
	baz=354,SNR=14								
OKCFA				S		Sg	12 56 56.0	+0.3	
	baz=354								
OKCFA	**Oklahoma City**	**1.51**	**175**	P			12 56 35.2		
	baz=354,SNR=14								
OKCFA				S			12 56 56.0		
	baz=354								
OKCSW	**OKLAHOMA CITY**	**1.52**	**174**			Pn	12 56 35.0	+0.3	
FNO	**Franklin**	**1.68**	**174**			Pb	12 56 37.8	-0.4	
R32A	**Long Quarter,**	**1.73**	**330**	Pn		Pn	12 56 36.6	-0.8	
R32A	**Long Quarter,**	**1.73**	**330**	P		Pn	12 56 38.2	+0.8	
	baz=150,SNR=41								
R32A				S		Sb	12 57 00.9	0.0	
	baz=150								
R32A	**Long Quarter,**	**1.73**	**330**	P			12 56 38.2		
	baz=150,SNR=41								
R32A				S			12 57 00.9		
	baz=150								
TUL1	**Leonard**	**1.79**	**124**	P		Pb	12 56 39.4	-0.7	
	baz=305,SNR=94								
TUL1				S		Sb	12 57 03.4	+0.6	
	baz=305								
TUL1	**Leonard**	**1.79**	**124**	P			12 56 39.4		
	baz=305,SNR=94								
TUL1				S			12 57 03.4		
	baz=305								
KSU1	**Kansas State U**	**2.31**	**20**	Pn		Pn	12 56 44.4	-1.2	
KSU1	**Kansas State U**	**2.31**	**20**	P		Pn	12 56 46.8	+1.3	
	baz=201,SNR=15								
KSU1				S		Sb	12 57 18.0	+0.1	
	baz=201								
KSU1	**Kansas State U**	**2.31**	**20**	P			12 56 46.8		
	baz=201,SNR=15								
KSU1				S			12 57 18.0		
	baz=201								
X34A	**Smith Ranch, M**	**2.33**	**184**	Pn		Pn	12 56 46.4	+0.7	
WMOK	**Wichita Mounta**	**2.38**	**204**	Pn		Pn	12 56 45.8	-0.6	
WMOK	**Wichita Mounta**	**2.38**	**204**	P		Pn	12 56 46.9	+0.5	
	baz=22,SNR=65								
WMOK	**Wichita Mounta**	**2.38**	**204**	P			12 56 46.9		
	baz=22,SNR=65								
CBKS	**Cedar Bluff**	**2.52**	**319**			Pn	12 56 47.3	-1.1	
CBKS	**Cedar Bluff**	**2.52**	**319**	P		Pn	12 56 50.0	+1.6	
	baz=138								
CBKS				S		Sn	12 57 21.1	+1.8	
	baz=138								
CBKS	**Cedar Bluff**	**2.52**	**319**	P			12 56 50.0		
	baz=138								
CBKS				S			12 57 21.1		
	baz=138								
U38A	**Gravette**	**2.65**	**100**	Pn		Pn	12 56 49.9	-0.3	
LOOK	**Love County**	**2.95**	**173**			Pn	12 56 54.3	+0.1	
LOOK				IAmb_Lg			12 57 43.8		
	comp=Z,30nm,1.0s								
X37A	**Clayton**	**2.97**	**141**			Pn	12 56 54.2	-0.3	
X37A				IAmb_Lg			12 57 48.3		
	comp=Z,30nm,0.8s								
HHAR	**Hobbs**	**3.03**	**101**	Pn		Pn	12 56 55.2	-0.2	
HHAR				IAmb_Lg			12 57 51.2		
	comp=Z,24nm,0.7s								
S39A	**Bolivar**	**3.51**	**76**	Pn		Pn	12 57 02.2	+0.2	
S39A				IAmb_Lg			12 58 04.9		
	comp=Z,26nm,0.7s								
W39A	**Magazine**	**3.56**	**118**	Pn		Pn	12 57 02.3	-0.3	
W39A				IAmb_Lg			12 58 00.2		
	comp=Z,22nm,0.9s								
Z35A	**Perchaven, San**	**3.60**	**175**	Pn		Pn	12 57 03.3	+0.1	
N33A	**J Bar K, Exete**	**3.81**	**2**	Pn		Pn	12 57 04.8	-1.3	
N33A				IAmb_Lg			12 58 05.0		
	comp=Z,21nm,0.8s								
U40A	**Yellville**	**3.88**	**97**	Pn		Pn	12 57 07.4	+0.4	
MIAR	**Mount Ida**	**4.06**	**125**			Pn	12 57 09.2	-0.3	
P38A	**Dawn**	**4.20**	**49**			Pn	12 57 12.1	+0.7	
P38A				IAmb_Lg			12 58 20.8		
	comp=Z,30nm,0.8s								
N35A	**Tabor**	**4.22**	**21**			Pn	12 57 11.2	-0.6	
Z38A	**Mt. Pleasant**	**4.25**	**149**	Pn		Pn	12 57 11.3	-0.8	
MGMO	**Mountain Grove**	**4.29**	**85**			Pn	12 57 13.2	+0.5	
MGMO				IAmb_Lg			12 58 22.2		
	comp=Z,18nm,0.7s								
R40A	**Maddies Statio**	**4.46**	**71**			Pn	12 57 12.8	-2.3	
R40A				IAmb_Lg			12 58 33.6		
	comp=Z,24nm,0.8s								
KSCO	**Kaye Shedlock'**	**4.47**	**299**			Pn	12 57 15.2	0.0	
KSCO	**Kaye Shedlock'**	**4.47**	**299**	P		Pn	12 57 15.9	+0.6	
	baz=116								
KSCO	**Kaye Shedlock'**	**4.47**	**299**	P			12 57 15.9		
	baz=116								
BGNE	**Belgrade**	**4.49**	**355**	Pn		Pn	12 57 14.0	-1.5	
FCAR	**Ozark Folk Cen**	**4.55**	**101**			Pn	12 57 17.3	+1.0	
FCAR				IAmb_Lg			12 58 29.7		
	comp=Z,19nm,0.8s								
X40A	**Basin Creek Fa**	**4.59**	**121**			Pn	12 57 17.7	+0.9	
X40A				IAmb_Lg			12 58 38.0		
	comp=Z,15nm,0.8s								
WHAR	**Wooly Hollow**	**4.62**	**109**			Pn	12 57 17.4	+0.2	
WLAR	**White Oak Lake**	**4.90**	**130**	IAmb_Lg			12 58 44.1		
	comp=Z,15nm,0.9s								
WHTX	**Lake Whitney,**	**4.92**	**178**	Pn		Pn	12 57 21.5	+0.1	
WHTX	**Lake Whitney,**	**4.92**	**178**	P		Pn	12 57 21.8	+0.4	
	baz=358,SNR=12								
WHTX	**Lake Whitney,**	**4.92**	**178**	P			12 57 21.8		
	baz=358,SNR=12								
P40A	**Paris**	**5.10**	**58**			Pn	12 57 22.8	-1.0	
P40A				IAmb_Lg			12 58 55.3		
	comp=Z,21nm,0.9s								
L34A	**Svendsen Farm,**	**5.12**	**10**	Pn		Pn	12 57 24.2	+0.1	
L34A				IAmb_Lg			12 59 01.8		
	comp=Z,24nm,0.7s								
MSTX	**Muleshoe**	**5.13**	**236**	Pn		Pn	12 57 23.7	-0.7	
MSTX				IAmb_Lg			12 58 59.1		
	comp=Z,13nm,1.1s								
N38A	**Joes South For**	**5.16**	**40**	Pn		Pn	12 57 25.3	+0.6	
N38A				IAmb_Lg			12 58 58.4		
	comp=Z,20nm,0.7s								
T42A	**Van Buren**	**5.23**	**87**	Pn		Pn	12 57 24.0	-1.6	
LCAR	**Lake Charles**	**5.28**	**97**	Pn		Pn	12 57 26.4	+0.1	
LCAR				IAmb_Lg			12 59 01.9		
	comp=Z,14nm,1.0s								
T25A	**Trinidad**	**5.43**	**274**			Pn	12 57 28.9	+0.3	
PBMO	**Poplar Bluff**	**5.77**	**89**	Pn		Pn	12 57 32.2	-0.8	
FVM	**French Village**	**5.82**	**77**	IAmb_Lg			12 59 15.6		
	comp=Z,15nm,0.7s								
SCIA	**State Center**	**6.03**	**33**	IAmb_Lg			12 59 28.2		
	comp=Z,20nm,0.8s								
SLM	**Saint Louis**	**6.10**	**72**	Pn		Pn	12 57 37.2	-0.3	
SLM				IAmb_Lg			12 59 17.5		
	comp=Z,13nm,0.8s								
435B	**Jarrell**	**6.13**	**180**	IAmb_Lg			12 59 30.6		
	comp=Z,10nm,0.8s								
GNAR	**Gosnell**	**6.21**	**97**			Pn	12 57 39.0	0.0	
SDCO	**Great Sand Dun**	**6.33**	**280**	Pn		Pn	12 57 40.9	-0.1	
N41A	**Harden Midland**	**6.49**	**52**	IAmb_Lg			12 59 51.4		
	comp=Z,16nm,0.8s								
JCT	**Junction City**	**6.68**	**196**	IAmb_Lg			12 59 54.2		
	comp=Z,14nm,1.0s								
GLAT	**Glass**	**6.74**	**93**	Pn		Pn	12 57 46.3	0.0	
K38A	**Parkersburg**	**6.83**	**32**	IAmb_Lg			12 59 52.1		
	comp=Z,12nm,0.7s								
ECSD	**EROS Data Cent**	**6.84**	**6**	Pn		Pn	12 57 46.8	-1.0	
ISCO	**Idaho Springs**	**6.90**	**297**			Pn	12 57 48.7	-0.1	
OXF	**Oxford**	**7.10**	**107**	Pn		Pn	12 57 50.0	-1.3	
OXF				IAmb_Lg			13 00 03.1		
	comp=Z,10nm,0.8s								
ANMO	**Albuquerque**	**7.43**	**257**	Pn		Pn	12 57 55.0	-1.0	
HDIL	**Hopedale**	**7.45**	**58**	Pn		Pn	12 57 54.7	-1.4	
SUSD	**Miller**	**7.58**	**353**	IAmb_Lg			13 00 06.9		
	comp=Z,12nm,0.8s								
O44A	**Mansfield**	**7.87**	**63**	IAmb_Lg			13 00 34.5		
	comp=Z,12nm,0.7s								
L42A	**Oliver, Polo**	**7.97**	**48**	Pn		Pn	12 58 02.6	-0.7	
PLAL	**Pickwick Lake**	**7.98**	**101**	Pn		Pn	12 58 03.6	+0.3	
JFWS	**Jewell Farm**	**8.24**	**41**	IAmb_Lg			13 00 28.2		
	comp=Z,9.7nm,0.8s								
T47A	**Sharon Grove**	**8.42**	**86**	IAmb_Lg			13 00 37.6		
	comp=Z,9.2nm,0.8s								
RSSD	**Black Hills**	**8.69**	**328**	IAmb_Lg			13 00 57.5		
	comp=Z,8.0nm,1.1s								
WCI	**Wyandotte Cave**	**9.09**	**78**	IAmb_Lg			13 01 08.6		
	comp=Z,7.5nm,0.9s								

*SKHL **07** 12:59:29.6±0.3, 43°.70N×144°.50E, h18km±2km, mb3.6/1*
JMA 07 12:59:29.6±0.4, 43°.69N×146°.09E, h11km±3km, M2.1,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GRPR	**Tuman**	**0.38**	**323**	*i*	S		Sn	12 59 58.8	-0.7
YUK	**Yuzh-Kuril'sk**	**0.38**	**334**	*eP*			Pn	12 59 47.6	+1.0
YUK						AMB	AMB	12 59 49.1	
	20nm,0.3s								
YUK				*i*	S		Sn	13 00 00.9	+1.4
YUK					A		A	13 00 02.6	
	40nm,0.2s								
YUK					A		A	13 00 02.6	
	40nm,0.2s								
NEM2	**Nemuro 2**	**0.41**	**218**	P			Pn	12 59 46.8	0.0
NEM2				*e*S			Sn	12 59 59.8	+0.1
NMR	**Nemuro--Hokkai**	**0.41**	**220**	*i* P			Pn	12 59 46.8	0.0
NMR				*i* S			Sn	12 59 59.9	+0.2
JNSB	**Nemuroshibetsu**	**0.79**	**277**	P			Pn	12 59 49.9	+0.4
JKHN	**Kushirohamanak**	**0.91**	**228**	P			Pn	12 59 50.8	+0.3
JKHN				*e*S			Sn	13 00 06.8	+0.5
JNK	**Nakash**	**1.00**	**264**	P			Pn	12 59 51.6	+0.2
JAK	**Akkeshi**	**1.23**	**236**	P			Pn	12 59 53.8	0.0
JAK				*e*S			Sn	13 00 12.3	+0.2
JTKR	**Abashiri--Toko**	**1.60**	**281**	P			Pn	12 59 57.8	-0.2
JCH	**Churui**	**2.27**	**243**	P			Pn	13 00 06.2	-0.1
JCH				*e*S			Sn	13 00 33.4	-1.0

*IDC **07** 13:03:52.6±1.4, 10°.32N×73°.20W, h111km±14km, mb3.5/13, mb1 3.8/19, mb1mx3.6/46, mbtmp4.0/19, MS2.3/1, Ms1 2.3/1, ms1mx2.1/24, Error ellipse: s-maj=13.8km s-min=12.1km az=47.0*
*RSNC **07** 13:03:52.7±0.9, 10°.30N×73°.28W, h110km±4km, ML4.4, Mw4.4, Fault plane solution: NP1:φs79.00000°, δ18.00000°, λ-2.00000°.*
*NEIC **07** 13:03:52.6±2.0, 10°.33N±0°.05×73°.34W±0°.05, h94km±6km, mb4.2/97, Error ellipse: s-maj=8.8km s-min=6.0km az=125.0*
ISC 07 13:03:51.4±0.6, 10°.30N±0°.04×73°.29W±0°.03, h100km±5km,
n212, σ1°.971/241, mb4.2/55, 2C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LL2C	**La Loma 2 Cana**	**0.75**	**191**	*eP*			Pn	13 04 11.7	+2.4
LL2C				*e*S			Sn	13 04 25.9	+3.2
LL2C				*i*				13 04 26.6	
	comp=Z,18μm,0.3s								
LL1C	**La Loma 1 Cana**	**0.79**	**199**	⇓*eP*			Pn	13 04 11.5	+1.8
LL1C				*e*S			Sn	13 04 25.4	+2.0
ARGC	**Ariguani, Magd**	**1.03**	**245**	⇓*iP*			Pn	13 04 14.5	+2.2
ARGC				*e*S			Sn	13 04 31.1	+3.2
ARGC				*i*				13 04 35.0	
	comp=Z,8μm,0.3s								
SMRC	**Santa Marta, M**	**1.26**	**313**	*eP*			Pn	13 04 16.1	+1.3
SMRC				*e*S			Sn	13 04 34.3	+1.9
SMRC				*i*				13 04 38.4	
	comp=Z,5μm,0.4s								
SMLC	**San Martn de**	**1.67**	**207**	*eP*			Pn	13 04 20.8	+0.9
SMLC				*e*S			Sn	13 04 42.5	+1.1
SMLC				*i*				13 04 56.5	
	comp=Z,3μm,0.2s								
URIC	**Uribia, Colomb**	**1.89**	**42**	Pn			Pn	13 04 23.6	+0.9
URIC	**Uribia, Colomb**	**1.89**	**42**	*eP*			Pn	13 04 23.5	+0.9
URIC				*e*S			Sn	13 04 47.1	+0.7
URIC				*i*				13 04 51.1	
	comp=Z,2μm,0.6s								
SJCC	**San Jacinto, C**	**1.90**	**258**				Pn	13 04 24.3	+1.5
SJCC	**San Jacinto, C**	**1.90**	**258**	⇓*iP*			Pn	13 04 24.3	+1.5
SJCC				*e*S			Sn	13 04 49.0	+2.3
SJCC				*i*				13 04 57.1	
	comp=Z,3μm,0.5s								
OCAC	**Ocana**	**2.04**	**181**	*eP*			Pn	13 04 26.0	+1.2
OCAC				*e*S			Sn	13 04 51.5	+1.3
OCAC				*i*				13 04 59.3	
	comp=Z,6μm,0.4s								
SDV	**Santo Domingo**	**2.97**	**118**	P			Pn	13 04 38.6	+1.5
	comp=Z,100nm,0.3s,baz=318,slow=7.9,SNR=178								
SDV					S		Sn	13 05 11.9	-0.3
	comp=Z,58nm,0.3s,baz=303,slow=18,SNR=3.1								
SDV	**Santo Domingo**	**2.97**	**118**				Pn	13 04 38.4	+1.4
SDV	**Santo Domingo**	**2.97**	**118**	⇓*eP*			Pn	13 04 38.5	+1.5
SDV				*e*S			Sn	13 05 12.6	+0.4
SDV				*i*				13 05 15.9	
	comp=Z,772nm,0.5s								
PAMC	**Pamplona, Colo**	**3.00**	**169**	⇑*eP*			Pn	13 04 39.3	+1.6
PAMC				*e*S			Sn	13 05 14.2	+1.1
ZARC	**Zaragoza, Cauc**	**3.19**	**209**	*eP*			Pn	13 04 41.0	+1.3
ZARC				*e*S			Sn	13 05 17.6	+0.6
ZARC				*i*				13 05 22.9	
	comp=Z,1μm,0.5s								
BRRC	**Barranca, Sant**	**3.20**	**187**	⇓*iP*			Pn	13 04 41.5	+1.6
BRRC				*e*S			Sn	13 05 18.7	+1.5
BRRC				*i*				13 05 26.6	
	comp=Z,656nm,0.3s								
LCBC	**Los crdobas,**	**3.35**	**245**	*eP*			Pn	13 04 43.3	+1.3
LCBC				*e*S			Sn	13 05 18.7	-2.2
LCBC				*i*				13 05 25.3	
	comp=Z,1μm,0.2s								
UREC	**San Jos de Ur**	**3.36**	**221**	*eP*			Pn	13 04 42.6	+0.5
UREC				*e*S			Sn	13 05 21.2	+0.1
UREC				*i*				13 05 22.0	
	comp=Z,2μm,0.2s								
BARC	**Barichara**	**3.68**	**178**	⇓*eP*			Pn	13 04 48.6	+1.9
BARC				*e*S			Sn	13 05 31.4	+2.2
BARC				*i*				13 05 37.8	
	comp=Z,856nm,0.3s								
CAPC	**Capurgana**	**4.33**	**248**	⇓*iP*			Pn	13 04 54.1	-1.1
CAPC				*e*S			Sn	13 05 36.8	-7.7
CAPC				*i*				13 05 43.4	
	comp=Z,327nm,0.4s								
CAP2	**Capurgana**	**4.33**	**248**				Pn	13 04 54.0	-1.1
RUSC	**La Rusia**	**4.38**	**177**	Pn			Pn	13 04 57.1	+0.8
RUSC	**La Rusia**	**4.38**	**177**	*eP*			Pn	13 04 57.4	+1.1
RUSC				*e*S			Sn	13 05 48.1	+1.6
RUSC				*i*				13 06 12.1	
	comp=Z,218nm,0.5s								
HELC	**Santa Helena**	**4.64**	**209**	*eP*			Pn	13 05 02.8	+3.1
HELC				*e*S			Sn	13 05 53.4	+0.8
HELC				*i*				13 06 12.8	
	comp=Z,328nm,0.4s								
SPBC	**San Pablo de B**	**4.68**	**190**	*eP*			Pn	13 05 01.4	+1.5
SPBC				*e*S			Sn	13 05 53.5	+0.4
SPBC				*i*				13 06 06.6	
	comp=Z,307nm,0.3s								
NORC	**Norcasia**	**4.96**	**198**	*eP*			Pn	13 05 04.9	+1.2
NORC				*e*S			Sn	13 06 01.2	+1.4
NORC				*i*				13 06 11.3	
	comp=Z,516nm,0.6s								
CBOC	**Ciudad Bolivar**	**5.16**	**212**	*eP*			Pn	13 05 09.1	+2.6
CBOC				*e*S			Sn	13 06 01.9	-3.1
CBOC				*i*				13 06 25.3	
	comp=Z,134nm,0.7s								
GUY2C	**Guyana, Caldas**	**5.44**	**202**	*eP*			Pn	13 05 12.2	+1.6
GUY2C				*e*S			Sn	13 06 13.6	+1.3
GUY2C				*i*				13 06 26.8	
	comp=Z,273nm,0.5s								
ROSC	**El Rosal**	**5.52**	**191**	P			Pn	13 05 14.1	+2.5
	comp=Z,19nm,0.3s,baz=90,slow=2.0,SNR=22								
ROSC					S		Sn	13 06 16.6	+2.6
	comp=Z,33nm,0.3s,baz=29,slow=19,SNR=4.1								
ROSC	**El Rosal**	**5.52**	**191**	Pn			Pn	13 05 12.1	+0.5
CHIC	**Chingaza**	**5.65**	**184**	*eP*			Pn	13 05 15.4	+2.0
CHIC				*e*S			Sn	13 06 18.7	+1.6
CHIC				*i*				13 06 27.4	
	comp=Z,112nm,0.4s								
SOLC	**Bahia Solano**	**5.74**	**226**	*eP*			Pn	13 05 16.1	+1.8
SOLC				*e*S			Sn	13 06 18.6	-0.2
SOLC				*i*				13 06 24.6	
	comp=Z,168nm,0.3s								
TOLC	**Tolima**	**6.02**	**200**	*eP*			Pn	13 05 20.9	+2.5
TOLC				*e*S			Sn	13 06 34.1	+8.0
TOLC				*i*				13 06 50.6	
	comp=Z,186nm,0.6s								
PLMC	**San Jos del P**	**6.12**	**209**	*eP*			Pn	13 05 21.3	+1.8
PLMC				*e*S			Sn	13 06 28.4	+0.1
PLMC				*i*				13 06 38.7	
	comp=Z,149nm,0.4s								
ANIL	**Santa Ana**	**6.14**	**200**	*eP*			Pn	13 05 22.2	+2.2
ANIL				*e*S			Sn	13 06 33.5	+4.6
ANIL				*i*				13 06 48.1	
	comp=Z,322nm,0.5s								
VILC	**Villavicencio,**	**6.16**	**184**	*eP*			Pn	13 05 21.6	+1.6
VILC				*e*S			Sn	13 06 30.3	+1.1
VILC				*i*				13 06 41.9	
	comp=Z,268nm,0.4s								
PTGC	**Puerto Gaitan,**	**6.17**	**169**	*eP*			Pn	13 05 20.0	0.0
PTGC				*e*S			Sn	13 06 26.2	-3.0
PTGC				*i*				13 06 30.7	
	comp=Z,131nm,0.4s								
UPA	**Univ. de Panam**	**6.29**	**259**	*eP*			Pn	13 05 21.8	+0.1
UPA				*e*S			Sn	13 06 27.3	-5.0
BCIP	**Isla Barro Col**	**6.55**	**261**	Pn			Pn	13 05 25.2	0.0
BCIP	**Isla Barro Col**	**6.55**	**261**	*eP*			Pn	13 05 25.6	+0.4
BCIP				*e*S			Sn	13 06 34.9	-3.7
BCIP				*i*				13 06 43.5	
	comp=Z,173nm,0.5s								
ORTC	**Ortega, Tolima**	**6.63**	**197**	*eP*			Pn	13 05 28.7	+2.2
ORTC				*e*S			Sn	13 06 43.5	+2.8
ORTC				*i*				13 07 06.5	
	comp=Z,148nm,0.7s								
PRAC	**Prado**	**6.73**	**194**	*eP*			Pn	13 05 29.0	+1.2
YOTC	**Yotoco, Valle**	**6.96**	**206**	*eP*			Pn	13 05 32.3	+1.3
YOTC				*e*S			Sn	13 06 48.7	-0.2
YOTC				*i*				13 06 53.7	
	comp=Z,37nm,0.4s								
MARP	**Paez Belalcaza**	**7.86**	**200**	*eP*			Pn	13 05 44.7	+1.3
MACC	**Macarena, Meta**	**8.12**	**184**	*eP*			Pn	13 05 45.9	-0.8
MACC				*e*S			Sn	13 07 11.2	-5.5
MACC				*i*				13 07 28.6	
	comp=Z,51nm,0.6s								
POPC	**Popayan, Colom**	**8.41**	**204**	*eP*			Pn	13 05 46.8	-4.0
PRVC	**Isla de Provid**	**8.47**	**292**	Pn			Pn	13 05 48.4	-3.1
PCON	**Cinco Dias**	**8.50**	**201**	*eP*			Pn	13 05 54.4	+2.1
PCRV	**Puerto La Cruz**	**8.52**	**90**	P			Pn	13 05 53.5	+1.4
	comp=Z,29nm,0.3s,baz=261,slow=4.1,SNR=94								
BANI	**BANI**	**8.54**	**19**				Pn	13 05 51.3	-1.0
PLCV	**Puerto La Cruz**	**8.57**	**90**				Pn	13 05 53.5	+0.8
SDD	**Santo Domingo**	**8.75**	**22**	Pn			Pn	13 05 55.0	-0.2
SDDR	**Presa de Saban**	**8.85**	**12**	Pn			Pn	13 05 57.6	+1.0
MTDJ	**Mount Denham**	**8.89**	**333**	Pn			Pn	13 05 58.1	+0.9
FLOC	**Florencia**	**8.97**	**195**				Pn	13 05 58.7	+0.5
FLOC	**Florencia**	**8.97**	**195**	*eP*			Pn	13 05 58.9	+0.6
FLOC				*e*S			Sn	13 07 35.0	-2.5
DR12	**Loma Pena Alta**	**9.25**	**24**				Pn	13 06 01.7	-0.4
CRUC	**La Cruz

WVT	**Waverly**	**28.90**	**335**	P	**P**	**13 09 42.0**	**+1.0**
T47A	**Sharon Grove**	**29.36**	**337**	P	**P**	**13 09 46.2**	**+1.2**
T47A				IAmb	IAmb	13 09 47.0	
	comp=Z,4.3nm,0.7s						
LCAR	**Lake Charles**	**30.35**	**331**	P	**P**	**13 09 54.5**	**+0.8**
T42A	**Van Buren**	**31.09**	**332**	P	**P**	**13 10 01.1**	**+0.8**
T42A				IAmb	IAmb	13 10 01.8	
	comp=Z,2.6nm,0.7s						
U40A	**Yellville**	**31.42**	**329**	P	**P**	**13 10 04.3**	**+1.0**
U40A				IAmb	IAmb	13 10 05.2	
	comp=Z,11nm,1.3s						
P46A	**Rosedale**	**31.72**	**339**	P	**P**	**13 10 07.2**	**+1.4**
R40A	**Maddies Statio**	**32.66**	**332**	P	**P**	**13 10 14.6**	**+0.5**
S39A	**Bolivar**	**32.69**	**330**	P	**P**	**13 10 15.1**	**+0.8**
S39A				IAmb	IAmb	13 10 16.2	
	comp=Z,2.9nm,0.7s						
X34A	**Smith Ranch, M**	**32.98**	**321**	P	**P**	**13 10 16.1**	**-0.8**
TXAR	**Lajitas Array**	**34.12**	**308**	P	**P**	**13 10 27.6**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=129,slow=9.0,SNR=17						
TXAR				PcP	**PcP**	**13 13 03.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=134,slow=5.2,SNR=3.4						
TXAR	**Lajitas Array**	**34.12**	**308**	P	**P**	**13 10 27.2**	**+0.2**
TX31	**Lajitas Ar. Si**	**34.12**	**308**	P	**P**	**13 10 26.8**	**-0.2**
TX31				IAmb	IAmb	13 10 36.0	
	comp=Z,4.0nm,1.1s						
TX32	**Lajitas Array**	**34.12**	**308**	P	**P**	**13 10 26.5**	**-0.5**
HPIG		**34.71**	**303**	P	**P**	**13 10 32.5**	**+0.2**
GGN	**Saint George**	**35.14**	**8**	P	**P**	**13 10 36.7**	**+1.3**
GGN				IAmb	IAmb	13 10 51.4	
	comp=Z,6.0nm,1.4s						
MNTX	**Cornudas Mount**	**36.53**	**310**	P	**P**	**13 10 48.3**	**+0.8**
LATQ	**La Tuque**	**36.97**	**1**	P	**P**	**13 10 49.9**	**-1.1**
AC02	**Maricunga**	**37.13**	**174**	P	**P**	**13 10 51.4**	**-1.8**
SDCO	**Great Sand Dun**	**39.80**	**319**	P	**P**	**13 11 16.8**	**+1.6**
EYMN	**Ely**	**40.54**	**341**	P	**P**	**13 11 21.0**	**+0.2**
TUC	**Tucson**	**40.92**	**308**	P	**P**	**13 11 24.8**	**+0.5**
PV01	**Paradox Valley**	**42.03**	**317**	P	**P**	**13 11 34.4**	**+0.9**
PV01				IAmb	IAmb	13 11 36.7	
	comp=Z,3.5nm,1.1s						
PV15	**Paradox Valley**	**42.09**	**317**	P	**P**	**13 11 35.9**	**+1.9**
PV15				IAmb	IAmb	13 11 37.0	
	comp=Z,6.3nm,0.9s						
PV02	**Paradox Valley**	**42.19**	**317**	P	**P**	**13 11 36.5**	**+1.7**
PV02				IAmb	IAmb	13 11 37.6	
	comp=Z,4.5nm,0.8s						
PV13	**Radium Mtn., P**	**42.22**	**317**	P	**P**	**13 11 35.8**	**+0.8**
PV13				IAmb	IAmb	13 11 37.8	
	comp=Z,5.1nm,0.8s						
PV07	**Paradox Valley**	**42.25**	**317**	P	**P**	**13 11 35.8**	**+0.6**
PV07				IAmb	IAmb	13 11 37.9	
	comp=Z,5.9nm,1.2s						
PV12	**Saucer Basin,**	**42.29**	**317**	P	**P**	**13 11 36.8**	**+1.2**
PV05	**Paradox Valley**	**42.36**	**317**	P	**P**	**13 11 37.0**	**+0.8**
PV05				IAmb	IAmb	13 11 40.4	
	comp=Z,3.8nm,0.8s						
214A	**Organ Pipe Nat**	**42.37**	**307**	P	**P**	**13 11 36.0**	**-0.1**
Y14A	**Wickenburg**	**43.27**	**309**		**P**	**13 11 44.4**	**+1.0**
Y14A				IAmb	IAmb	13 11 45.1	
	comp=Z,2.5nm,0.7s						
MT03	**Universidad Ad**	**43.63**	**177**	P	**P**	**13 11 47.9**	**+1.7**
U15A	**North Rim**	**43.80**	**313**	P	**P**	**13 11 49.2**	**+1.4**
SRU	**San Rafael Swe**	**43.85**	**317**	P	**P**	**13 11 49.1**	**+1.0**
ULM	**Lac du Bonnet**	**43.99**	**339**	P	**P**	**13 11 47.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=145,slow=8.9,SNR=3.4						
ULM	**Lac du Bonnet**	**43.99**	**339**	IAmb	IAmb	13 11 55.5	
	comp=Z,6.1nm,1.4s						
SCHQ	**Schefferville**	**44.72**	**5**	P	**P**	**13 11 53.0**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=192,slow=9.3,SNR=1.3						
GO05	**Huala**	**45.08**	**178**	P	**P**		
BW06	**Boulder Array**	**45.22**	**322**	P	**P**	**13 11 59.5**	**+0.7**
BW06				IAmb	IAmb	13 12 00.5	
	comp=Z,8.8nm,1.4s						
PDAR	**Pinedale Array**	**45.22**	**322**	P	**P**	**13 11 59.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=116,slow=8.9,SNR=11						
PDAR				PcP	**PcP**	**13 13 36.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=128,slow=5.8,SNR=1.9						
PDAR	**Pinedale Array**	**45.22**	**322**	P	**P**	**13 11 59.9**	**+0.9**
JLU	**Jordanelle**	**45.23**	**318**	P	**P**	**13 11 59.4**	**+0.3**
CBX	**Cerro Bola**	**45.56**	**305**	P	**P**	**13 12 00.7**	**-1.0**
PSUT	**Pine Spring**	**45.85**	**315**	P	**P**	**13 12 06.1**	**+2.1**
PSUT				IAmb	IAmb	13 12 10.5	
	comp=Z,2.9nm,1.1s						
SHPR	**Sheep Range**	**45.92**	**312**	P	**P**	**13 12 06.3**	**+1.8**
LOHW	**Long Hollow**	**46.33**	**323**	P	**P**	**13 12 09.3**	**+1.7**
LOHW				IAmb	IAmb	13 12 09.7	
	comp=Z,3.9nm,0.8s						
REDW	**Red Top Meadow**	**46.33**	**322**	P	**P**	**13 12 08.4**	**+0.7**
SPR3	**Spring Creek 3**	**46.39**	**315**	P	**P**	**13 12 09.4**	**+1.0**
BGU	**Big Grassy Mou**	**46.42**	**318**	P	**P**	**13 12 08.7**	**+0.3**
BGU				IAmb	IAmb	13 12 10.4	
	comp=Z,2.2nm,0.7s						
TPAW	**Teton Pass**	**46.47**	**322**	P	**P**	**13 12 09.9**	**+1.1**
TPAW				IAmb	IAmb	13 12 10.3	
	comp=Z,1.9nm,0.7s						
GSC	**Goldstone, Bar**	**46.69**	**309**	P	**P**	**13 12 12.0**	**+1.5**
GSC				IAmb	IAmb	13 12 12.6	
	comp=Z,2.4nm,0.8s						
YNE	**Yellowstone No**	**46.78**	**324**	P	**P**	**13 12 12.9**	**+1.6**
TPNV	**Topopah Spring**	**46.90**	**312**	P	**P**	**13 12 13.3**	**+1.1**
TPNV				IAmb	IAmb	13 12 14.9	
	comp=Z,3.3nm,0.9s						
YHL	**Hebgen Lake**	**47.37**	**324**	P	**P**	**13 12 17.4**	**+1.6**
YHL				IAmb	IAmb	13 12 19.8	
	comp=Z,2.8nm,0.8s						
TPH	**Tonopah**	**48.06**	**313**	P	**P**	**13 12 21.8**	**+0.6**
MCMT	**McKenzie Canyo**	**48.34**	**323**	P	**P**	**13 12 25.2**	**+1.9**
DLMT	**Dillon**	**48.49**	**323**	P	**P**	**13 12 25.7**	**+1.4**
DLMT				IAmb	IAmb	13 12 27.3	
	comp=Z,4.9nm,1.3s						
NV11	**Mina Array Sit**	**48.87**	**313**	P	**P**	**13 12 28.9**	**+1.6**
NV11				IAmb	IAmb	13 12 33.6	
	comp=Z,3.5nm,1.5s						
NVAR	**Mina Array Bea**	**48.98**	**313**	P	**P**	**13 12 29.2**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=116,slow=7.4,SNR=9.0						
NVAR				PcP	**PcP**	**13 13 51.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=126,slow=3.8,SNR=4.8						
NVAR	**Mina Array Bea**	**48.98**	**313**	P	**P**	**13 12 29.7**	**+1.4**
KVN	**Kaiserville**	**49.07**	**313**	P	**P**	**13 12 29.6**	**+0.6**
YERR	**Yerington**	**49.87**	**313**	P	**P**	**13 12 36.0**	**+1.0**
YERR				IAmb	IAmb	13 12 36.6	
	comp=Z,2.0nm,0.8s						
PNTR	**Pine Nut**	**50.16**	**313**	P	**P**	**13 12 38.3**	**+1.0**
PNTR				IAmb	IAmb	13 12 43.7	
	comp=Z,2.8nm,0.8s						
VCNR	**Virginia City**	**50.28**	**313**	P	**P**	**13 12 39.4**	**+1.3**
VCNR				IAmb	IAmb	13 12 39.8	
	comp=Z,2.6nm,0.9s						
JTMT	**Jette**	**50.77**	**325**		**P**	**13 12 41.7**	**+0.1**
JTMT				IAmb	IAmb	13 12 43.7	
	comp=Z,2.9nm,0.8s						
PLCA	**Paso Flores**	**50.84**	**177**	P	**P**	**13 12 41.4**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=351,slow=11,SNR=3.0						
PLCA	**Paso Flores**	**50.84**	**177**	P	**P**		
PLCA				IAmb	IAmb	13 13 00.2	
	comp=Z,2.0nm,1.0s						
BEKR	**Beckworth**	**51.00**	**314**	P	**P**	**13 12 44.0**	**+0.6**
BEKR				IAmb	IAmb	13 12 44.5	
	comp=Z,1.3nm,0.7s						
G08A	**Pilot Rock**	**52.32**	**320**	P	**P**	**13 12 53.5**	**+0.3**
G08A				IAmb	IAmb	13 12 55.0	
	comp=Z,2.0nm,1.0s						
PINE	**Pine Mountain**	**52.95**	**318**	P	**P**	**13 12 58.7**	**+0.8**
PINE				IAmb	IAmb	13 13 01.2	
	comp=Z,2.3nm,0.9s						
YBH	**Yreka Blue Hor**	**53.35**	**315**	P	**P**	**13 12 59.4**	**-1.4**
KMRM	**Mail Ridge**	**53.53**	**313**	P	**P**	**13 13 03.0**	**+0.9**
B08A	**Colville Reser**	**53.99**	**324**		**P**	**13 13 05.6**	**+0.4**
KRMB	**Red Mountain**	**54.11**	**314**	P	**P**	**13 13 06.8**	**+0.4**
H04A	**Detroit Lake**	**54.13**	**318**	P	**P**	**13 13 07.1**	**+0.9**
YKA	**Yellowknife Ar**	**59.97**	**339**	P	**P**	**13 13 46.8**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=125,slow=7.6,SNR=20						
KOWA	**Kowa**	**67.58**	**79**	P	**P**	**13 14 38.1**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=279,slow=6.4,SNR=2.3						
ESDC	**Sonseca Array**	**67.60**	**51**	P	**P**	**13 14 38.0**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=270,slow=7.1,SNR=1.3						
HYT	**Haines Junctio**	**68.62**	**332**	P	**P**	**13 14 43.9**	**+0.2**
HYT				IAmb	IAmb	13 15 08.1	
	comp=Z,3.2nm,1.0s						
PCA	**Pinnacle**	**69.72**	**331**	P	**P**	**13 14 51.8**	**+1.3**
INK	**Inuvik**	**69.73**	**340**	P	**P**	**13 14 50.0**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=128,slow=7.1,SNR=4.2						
INK	**Inuvik**	**69.73**	**340**	P	**P**	**13 14 50.0**	**-0.2**
INK				IAmb	IAmb	13 15 06.8	
	comp=Z,5.4nm,1.5s						

BCAR	**Beaver Creek A**	**71.19**	**333**	P	**P**	**13 15 00.5**	**+1.1**
L27K	**Beaver Creek,**	**71.21**	**333**	P	**P**	**13 15 00.8**	**+1.3**
BMRM	**Bremner River**	**72.01**	**331**	P	**P**	**13 15 06.1**	**+1.7**
DOT	**Dot Lake**	**72.33**	**334**	P	**P**	**13 15 07.3**	**+1.1**
DOT				IAmb	IAmb	13 15 07.6	
	comp=Z,6.2nm,1.4s						
PRP	**Porcupine Dome**	**73.35**	**336**	P	**P**	**13 15 12.4**	**+0.1**
BMAR	**Burnt Mountain**	**73.40**	**338**	P	**P**	**13 15 12.9**	**+0.5**
SCM	**Sheep Creek Mo**	**73.46**	**332**	P	**P**	**13 15 13.7**	**+0.8**
ILAR	**Eielson Array**	**73.77**	**335**	P	**P**	**13 15 14.0**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=100,slow=4.7,SNR=2.3						
RND	**Reindeer**	**74.39**	**333**	P	**P**	**13 15 19.3**	**+1.0**
RND				IAmb	IAmb	13 15 19.9	
	comp=Z,4.2nm,0.8s						
SUA	**Susitna One**	**75.02**	**331**	P	**P**	**13 15 23.2**	**+1.1**
TRF	**Thorofare Moun**	**75.04**	**333**	P	**P**	**13 15 22.9**	**+0.8**
TRF				IAmb	IAmb	13 15 25.6	
	comp=Z,5.6nm,1.2s						
KTH	**Kantishna Hill**	**75.33**	**333**	P	**P**	**13 15 23.7**	**0.0**
KTH				IAmb	IAmb	13 15 41.6	
	comp=Z,3.5nm,1.2s						
BPAW	**Bear Paw Mtn.**	**75.42**	**334**	P	**P**	**13 15 24.2**	**0.0**
BPAW				IAmb	IAmb	13 15 25.4	
	comp=Z,3.5nm,1.0s						
MLY	**Manley**	**75.43**	**335**	P	**P**	**13 15 24.2**	**0.0**
MLY				IAmb	IAmb	13 15 40.3	
	comp=Z,3.9nm,1.5s						
SKT	**Skwentna**	**75.45**	**331**	P	**P**	**13 15 24.4**	**+0.1**
SKT				IAmb	IAmb	13 15 32.1	
	comp=Z,9.4nm,1.4s						
PPLA	**Purkeypile**	**75.84**	**332**	P	**P**	**13 15 27.1**	**+0.3**
IMAR	**Indian Mountai**	**76.77**	**336**	P	**P**	**13 15 31.9**	**+0.1**
SVW2	**Sparrevohn**	**77.33**	**330**	P	**P**	**13 15 34.8**	**-0.2**
SVW2				IAmb	IAmb	13 15 53.1	
	comp=Z,6.2nm,1.4s						
CMAR	**Chiang Mai Arr**	**150.42**	**15**	PKPbc	**PKPbc**	**13 23 31.7**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=320,slow=2.2,SNR=6.4						
ASAR	**Alice Springs**	**150.86**	**239**	PKP	**PKPdf**	**13 23 27.2**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=126,slow=1.4,SNR=6.6						
ASAR				PKPbc	**PKPbc**	**13 23 32.6**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=117,slow=3.0,SNR=46						

*AUST **07** 13:06:56.9±3.5, 30.42S×117.61E, h8km±19km, Error ellipse: s-maj=24.8km s-min=15.0km az=50.0*
CUPWA 07 13:06:57.9±0.0, 30.41S×117.58E, h2km, ML1.9, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.78**	**254**	P	Pg	13 07 12.1	-0.9
BLDU	baz=0.8			S	Sg	13 07 23.6	+0.5
	baz=0.8						
BLDU	**Ballidu**	**0.78**	**254**	P	Pg	13 07 11.1	-1.8
BLDU				S	Sg	13 07 22.1	-1.0
KLBR	**Kellerberrin**	**1.19**	**173**	P	Pg	13 07 19.5	-1.3
KLBR	baz=1.2			S	Sg	13 07 35.7	-0.6
	baz=1.2						
KLBR	**Kellerberrin**	**1.19**	**173**	P	Pg	13 07 18.1	-2.8
KLBR				S	Sg	13 07 34.1	-2.2
MORW	**Morawa**	**1.89**	**314**	P	Pn	13 07 29.8	-1.4
MORW	baz=1.9			S	Sn	13 07 50.6	-5.1
	baz=1.9						
MORW	**Morawa**	**1.89**	**314**	P	Pn	13 07 28.1	-3.2
MORW				S	Sn	13 07 49.1	-6.6
MUN	**Mundaring**	**1.96**	**217**	P	Pn	13 07 30.8	-1.4
MUN	baz=2.0			S	Sn	13 07 56.1	-1.3
	baz=2.0						
MUN	**Mundaring**	**1.96**	**217**	P	Pn	13 07 29.1	-3.2
MUN				S	Sn	13 07 55.1	-2.4

*IDC **07** 13:20:24.8±2.7, 22.74N×12.30W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.6/29, mbtmp4.0/5, ML3.7/2, Error ellipse: s-maj=83.9km s-min=29.6km az=83.0*
*NEIC **07** 13:20:24.1±0.6, 22.6N±0.1×12.4W±0.2, h0km±2km, mb4.1/3, Error ellipse: s-maj=37.5km s-min=23.4km az=251.0*
ISC 07 13:20:25.2±2.6, 22.8N±0.2×12.1W±0.5, h0km, n11, σ0.36/9, mb4.0/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**11.26**	**136**	Pn	**Pn**	**13 23 07.5**	**0.0**
	0.7nm,0.3s,baz=325,slow=14,SNR=9.1						
DBIC	**Dimbokro**	**17.47**	**155**	P	**Pn**	**13 24 30.1**	**-0.4**
	0.2nm,0.3s,baz=339,slow=13,SNR=3.1						
DBIC	**Dimbokro**	**17.47**	**155**	IAmb	IAmb	13 24 34.8	
	comp=Z,15nm,1.1s						
MTE	**Manteigas**	**18.00**	**11**	P	**P**	**13 24 37.6**	**+0.1**
MTE				IAmb	IAmb	13 25 02.8	
	comp=Z,21nm,1.5s						
I42PT	**GRACIOSA ISLAN**	**21.13**	**324**	*i*		15 30 20.0	
	baz=137,slow=312,SNR=0.5						
GERES	**GERESS Array B**	**33.10**	**32**	P	**P**	**13 27 02.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=218,slow=7.5,SNR=2.0						
FINES	**FINESS Array B**	**46.69**	**24**	P	**P**	**13 28 55.4**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=240,slow=11,SNR=4.9						
MAKZ	**Makanchi**	**76.45**	**45**	P	**P**	**13 32 16.8**	**-0.2**
MAKZ				IAmb	IAmb	13 32 22.2	
	comp=Z,1.6nm,1.0s						
MKAR	**Makanchi Array**	**76.66**	**45**	P	**P**	**13 32 18.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=291,slow=5.4,SNR=5.9						
MKAR	**Makanchi Array**	**76.66**	**45**	P	**P**	**13 32 18.2**	**+0.1**
ASAR	**Alice Springs**	**148.81**	**98**	PKPbc	**PKPbc**	**13 40 15.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=295,slow=2.2,SNR=8.8						

*NEIC **07** 14:19:38.0±1.4, 36.62N±0.03×121.37W±0.04, h16km±5km, Error ellipse: s-maj=5.4km s-min=3.1km az=61.0*
*ANF **07** 14:19:38.4±0.8, 36.58N×121.27W, h5km, ML3.2/10, Error ellipse: s-maj=7.2km s-min=5.0km az=113.0, Hypocentre not reviewed by the ISC*
NCEDC 07 14:19:38.2±2.4, 36.67N±0.03×121.29W±0.04, h6km±6km, ML3.2/36, ML3.1/54(NEIC), Error ellipse: s-maj=6.0km s-min=2.3km az=58.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZ	**Santa Cruz**	**0.11**	**233**		Pg	14 19 40.5	0.0
BJCM	**Johnson Can.**	**0.14**	**214**		Pg	14 19 41.1	0.0
SAO	**San Andreas Ge**	**0.16**	**308**		Sg	14 19 41.4	-2.1
SAO	**San Andreas Ge**	**0.16**	**308**	Pg	Pg	14 19 41.3	-0.1
HSFM	**Saint Francis**	**0.22**	**311**		Pg	14 19 43.0	+0.4
BBNM	**San Benito**	**0.23**	**132**		Pg	14 19 43.4	+0.6
BSMM	**Soledad Missio**	**0.30**	**201**		Pg	14 19 44.3	+0.2
PACP	**Pacheco Peak**	**0.34**	**1**		Pg	14 19 45.8	+0.9
HAST	**Hastings Reser**	**0.35**	**217**		Pg	14 19 44.9	0.0
GHS	**Gilroy Hot Spr**	**0.45**	**344**		Pg	14 19 47.6	+0.7
PMPB	**Monarch Peak**	**0.60**	**139**	Pg	Pg	14 19 49.5	-0.2
CMPM	**Mikes Peak**	**0.69**	**358**		Pb	14 19 52.4	-0.3
MOBB	**Monterey Bay O**	**0.70**	**272**		Pg	14 19 51.9	+0.2
MHC	**Mount Hamilton**	**0.73**	**337**		Pg	14 19 52.8	+0.5
PAPM	**Alder Peak**	**0.75**	**184**		Pg	14 19 52.6	0.0
SCCB	**Santa Clara Co**	**0.77**	**324**		Pg	14 19 53.4	+0.4
PDRM	**Domengine Ranc**	**0.81**	**114**		Pb	14 19 54.5	-0.2
COSM	**Mount Oso**	**0.84**	**356**		Pb	14 19 55.4	+0.1
PKD	**Bear Valley Ra**	**0.94**	**140**		Pg	14 19 55.6	-0.6
WENL	**Wente Vineyard**	**1.02**	**339**		Pg	14 19 57.7	-0.1
JRSC	**Jasper Ridge**	**1.06**	**314**		Pg	14 19 57.1	-1.3
RAMR	**Ramage Ranch**	**1.08**	**162**		Pg	14 19 58.0	-0.9
TCHL	**Shandon**	**1.21**	**143**		Pg	14 20 00.5	-0.9
PAGB	**Antelope Grade**	**1.26**	**138**	Pg	Pg	14 20 00.5	-1.8
PAGB				IAML		14 20 23.2	
	comp=E,447nm,0.6s						
PAGB				IAML		14 20 24.2	
	comp=N,527nm,0.7s						
THIS	**South End of C**	**1.27**	**137**		Pn	14 20 01.2	-1.4
TRAM	**Private Proper**	**1.29**	**140**		Pn	14 20 01.2	-1.5
TSCN	**Private Proper**	**1.36**	**145**		Pn	14 20 02.2	-1.5
BDM	**Black Diamond**	**1.36**	**341**		Pn	14 20 02.4	-1.4
BKS	**Berkeley--Byer**	**1.42**	**328**		Pn	14 20 02.7	-1.9
VAK	**Adit at Lawren**	**1.43**	**328**		Pn	14 20 02.8	-1.9
CMB	**Columbia Colle**	**1.54**	**28**		Pn	14 20 05.7	-0.6
CMB	**Columbia Colle**	**1.54**	**28**	Pn	Pn	14 20 05.4	-1.0
VOG	**Valley Oaks Go**	**1.58**	**102**	P		14 20 06.6	
VOG	baz=283			S		14 20 27.2	
	baz=283						

SMMC	**Simmler**	**1.71**	**142**	P		14 20 07.8	
	baz=323,SNR=26						
HELL	**Mitchell Peak,**	**1.82**	**89**		Pn	14 20 09.4	-0.8
CVS	**Carmenet Viney**	**1.92**	**331**		Pn	14 20 09.4	-2.0
MCCM	**Marconi Confer**	**1.94**	**320**		Pn	14 20 09.6	-2.2
MCCM	**Marconi Confer**	**1.94**	**320**	Pn	Pn	14 20 09.3	-2.4
MCCM	**Marconi Confer**	**1.94**	**320**	IAML		14 20 50.1	
	comp=E,126nm,1.0s						
VES	**Vestal, Richgr**	**1.96**	**114**	P		14 20 11.7	
VES	baz=296,SNR=21			S		14 20 36.9	
	baz=296						
MDPB	**Devils Postpil**	**2.01**	**61**		Pn	14 20 13.1	+0.2
MDCM	**Deadman Creek**	**2.08**	**59**		Pn	14 20 14.6	+0.8
PKM	**Mcpherson Peak**	**2.14**	**145**	P		14 20 14.1	
	baz=326,SNR=14						
MLAC	**Mammoth, Mammo**	**2.19**	**63**	Pb		14 20 18.7	
	baz=244,SNR=20						
MDRNC	**Doe Ridge**	**2.19**	**63**		Pb	14 20 17.1	-1.2
MTUM	**Tungsten Hills**	**2.29**	**72**		Pn	14 20 17.8	+1.1
AFDM	**Forest Hills D**	**2.29**	**6**	Pn	Pn	14 20 15.7	-0.9
WAKR	**Walker**	**2.35**	**38**		Pn	14 20 18.2	+0.7
WAKR				IAML		14 20 55.7	
	comp=E,146nm,0.8s						
WAKR				IAML		14 21 00.1	
	comp=N,116nm,0.9s						
FTR	**Fort Ross**	**2.38**	**322**		Pn	14 20 15.5	-2.2
GSGM	**Seigler Mounta**	**2.47**	**333**		Pn	14 20 18.8	-0.1
ISA	**Isabella, Lake**	**2.49**	**113**	Pn	Pn	14 20 19.0	-0.3
ISA				IAML		14 20 54.7	
	comp=N,69nm,0.4s						
ISA				IAML		14 20 57.4	
	comp=E,65nm,0.6s						
ISA	**Isabella, Lake**	**2.49**	**113**	P		14 20 19.3	
	baz=295,SNR=88						
ISA				S		14 20 50.6	
	baz=295						
ARVC	**Arvin**	**2.52**	**127**	P		14 20 19.7	
	baz=308,SNR=7.8						
RUBR	**Rubicon Trail**	**2.55**	**20**		Pn	14 20 20.6	+0.4
RUBR				IAML		14 21 05.1	
	comp=E,99nm,0.7s						
SUTB	**Sutter Butte**	**2.59**	**351**		Pn	14 20 18.2	-2.4
CWC	**Cottonwood Cre**	**2.59**	**94**	P		14 20 21.7	
	baz=276						
PNTR	**Pine Nut**	**2.76**	**28**		Pn	14 20 23.5	+0.2
YERR	**Yerington**	**2.83**	**34**		Pn	14 20 22.9	-1.2
YERR				IAML		14 21 12.1	
	comp=N,85nm,0.7s						
ORV	**Oroville**	**2.89**	**357**	Pn	Pn	14 20 24.0	-0.7
OSI	**Osito Audit: C**	**2.93**	**134**		Pn	14 20 24.2	-1.1
OSI				IAML		14 21 12.1	
	comp=N,35nm,0.7s						
OSI				IAML		14 21 14.7	
	comp=E,47nm,0.7s						
VCNR	**Virginia City**	**2.93**	**26**		Pn	14 20 25.0	-0.5
VCNR				IAML		14 21 17.6	
	comp=E,63nm,0.8s						
VCNR				IAML		14 21 20.5	
	comp=N,63nm,0.8s						
RYN	**Ryan**	**2.94**	**47**		Pn	14 20 25.8	+0.1
RYN				IAML		14 21 14.8	
	comp=N,56nm,0.5s						
RYN				IAML		14 21 20.8	
	comp=E,66nm,0.6s						
NVAR	**Mina Array Bea**	**2.96**	**53**	Pn	Pn	14 20 26.2	+0.4
SCZ2	**Santa Cruz Isl**	**2.99**	**153**	P		14 20 25.0	
	baz=334						
BEKR	**Beckworth**	**3.28**	**13**		Pn	14 20 30.5	+0.2
BEKR				IAML		14 21 26.0	
	comp=E,47nm,0.8s						
PAHR	**Pah Rah Range**	**3.39**	**26**		Pn	14 20 32.0	+0.2
PAHR				IAML		14 21 34.7	
	comp=E,33nm,1.4s						
KVN	**Kaiserville**	**3.47**	**46**	Pn	Pn	14 20 33.4	+0.5
KVN				IAML		14 21 32.4	
	comp=N,28nm,1.2s						
KVN				IAML		14 21 40.6	
	comp=E,35nm,1.6s						
TPH	**Tonopah**	**3.53**	**65**	Pn	Pn	14 20 31.7	-2.1
TPH	**Tonopah**	**3.53**	**65**	IAML		14 21 35.4	
	comp=N,34nm,0.7s						
TPH				IAML		14 21 39.7	
	comp=E,31nm,0.9s						
MWC	**Mount Wilson**	**3.59**	**132**		Pn	14 20 32.9	-1.7
SNCC	**San Nicolas Is**	**3.71**	**156**	Pn	Pn	14 20 34.1	-1.9
GSC	**Goldstone, Bar**	**3.88**	**109**	Pn	Pn	14 20 37.9	-0.6
GSC				IAML		14 21 40.9	
	comp=E,22nm,1.9s						
CIS	**Catalina Islan**	**4.02**	**143**	P		14 20 38.9	
	baz=325

EYUL S Sn 14 50 22.6 +0.8
baz=234
TWF1 Yuli 0.60 237 *i* P Pn 14 50 14.0 +0.5
baz=234
TWF1 *i* S Sb 14 50 21.7 +0.3
baz=234
ETLH Xiulin Townshi 0.62 328 P Pn 14 50 14.0 +0.2
baz=338
ETLH S Sb 14 50 21.3 -0.6
baz=338
OWD Renai 0.67 294 *i* P Pn 14 50 14.4 -0.1
baz=296
OWD *i* S Sb 14 50 22.1 -1.3
baz=296
FULB Fuli 0.69 226 *i* P Pn 14 50 16.0 +1.1
baz=228
FULB *i* S Sn 14 50 26.3 +1.6
baz=228
WHF Hehuan Shan 0.70 311 *i* P Pb 14 50 14.9 -0.2
baz=311
WHF *i* S Sb 14 50 23.1 -1.5
baz=311
CHGB Renai 0.72 302 P Pn 14 50 15.4 +0.1
baz=306
CHGB S Sb 14 50 23.6 -1.2
baz=306
CHKT Chengkung 0.73 217 *i* P Pn 14 50 16.1 +0.8
baz=197
CHKT *i* S Sn 14 50 25.6 +0.3
baz=197
EWUT Wuta 0.76 356 P Pn 14 50 16.9 +1.1
baz=6.0
EWUT S Sn 14 50 27.2 +1.0
baz=6.0
ECS Chishang 0.82 224 P Pn 14 50 18.5 +2.0
baz=215
ECS S Sn 14 50 29.8 +2.2
baz=215
SSLB Suanglung 0.82 278 P Pn 14 50 16.7 +0.1
baz=276
SSLB S Sb 14 50 26.3 -1.3
baz=276
YUS Yu-Shan 0.84 257 *i* P Pn 14 50 17.7 +0.4
baz=252
YUS *i* S Sb 14 50 27.7 -0.9
baz=252
TDCB Techi 0.84 312 P Pn 14 50 17.3 +0.3
baz=317
TDCB S Sb 14 50 27.0 -1.4
baz=317
NNSB Datong 0.85 331 P Pn 14 50 17.5 +0.4
baz=338
NNSB S Sb 14 50 27.7 -1.0
baz=338
NNSH Datong 0.85 331 *i* P Pn 14 50 17.7 +0.6
baz=338
NNSH *i* S Sb 14 50 27.3 -1.3
baz=338
EDH Donghe 0.86 215 *i* P Pn 14 50 18.2 +1.0
baz=218
EDH *i* S Sn 14 50 29.1 +0.4
baz=218
NNS Nan Shan 0.87 331 *i* P Pn 14 50 17.8 +0.4
baz=338
NNS *i* S Sb 14 50 27.6 -1.4
baz=338
WPL Puli Township 0.87 292 P Pn 14 50 17.6 +0.3
baz=299
SMLT Sun Moon Lake 0.88 283 *i* P Pn 14 50 17.8 +0.2
baz=285
SMLT *i* S Sb 14 50 28.8 -0.7
baz=285
ELDTW Lidau 0.90 237 *i* P Pn 14 50 17.9 +0.2
baz=229
WHYT Xinyi Township 0.91 271 *i* P Pn 14 50 18.9 +1.1
baz=265
WHYT S Sb 14 50 29.7 -0.3
baz=265
DPDB Guoxing 0.91 293 P Pn 14 50 18.1 +0.2
baz=299
DPDB *e* S Sb 14 50 28.4 -1.7
baz=299
TWC Suao 0.92 1 *i* P Pn 14 50 19.7 +1.8
baz=10.0
TWC *i* S Sn 14 50 31.8 +1.6
baz=10.0
TYC Yuchr 0.93 284 *i* P Pn 14 50 18.5 +0.4
baz=288
TYC *i* S Sb 14 50 29.7 -0.9
baz=288
WCS Beigang Elemen 0.93 294 *i* P Pn 14 50 18.4 +0.3
baz=298
WCS *e* S Sb 14 50 28.7 -2.0
baz=298
NDS Dongshan 0.95 353 *i* P Pn 14 50 19.2 +0.8
baz=350
NDS *i* S Sn 14 50 32.4 +1.4
baz=350
NDT Datong Townshi 0.96 342 P Pn 14 50 18.7 +0.2
baz=341
NDT S Sb 14 50 31.4 -0.3
baz=341
ALS Alishan 0.96 260 *i* P Pn 14 50 19.5 +0.7
baz=263
ALS S Sb 14 50 31.8 -0.2
baz=263
ENTT Nioudou 0.99 345 *i* P Pn 14 50 19.5 +0.6
baz=345
ENTT S Sn 14 50 32.2 +0.4
baz=345
WHP Taichung City 1.01 306 *i* P Pn 14 50 20.6 +1.3
baz=315
WHP *i* S Sb 14 50 31.8 -1.2
baz=315
LONT Longtian 1.01 220 *i* P Pb 14 50 19.2 -0.8
baz=213
LONT S Sn 14 50 33.0 +0.6
baz=213
WJS Zhushan 1.03 278 P Pb 14 50 20.7 +0.4
baz=277
WJS *e* S Sn 14 50 35.3 +2.5
baz=277
TWE Neicheng 1.05 351 *i* P Pb 14 50 21.3 +0.7
baz=350
TWE S Sn 14 50 34.3 +1.1
baz=350
LDUT Ludao 1.06 199 P Pb 14 50 20.9 0.0
baz=184
LDUT S Sn 14 50 34.1 +0.5
baz=184
CHN5 Tsauling 1.07 266 *i* P Pb 14 50 20.9 -0.1
baz=263
CHN5 *i* S Sb 14 50 34.3 -0.5
baz=263
YHNB Yeheng 1.07 337 P Pb 14 50 20.8 -0.3
baz=344
YHNB S Sb 14 50 33.5 -1.3
baz=344
WNT Mingjian 1.08 281 *i* P Pb 14 50 21.3 +0.2
baz=280
WNT *i* S Sb 14 50 34.8 -0.1
baz=280
WNT1 Nantou City 1.09 282 S Sn 14 50 35.2 +0.9
baz=282
STYH Taoyuan 1.10 243 *i* P Pb 14 50 21.3 -0.2
baz=233
STYH *i* S Sb 14 50 35.0 -0.6
baz=233
WWF Wufeng 1.10 289 P Pb 14 50 22.1 +0.5
baz=280
WWF S Sn 14 50 36.4 +1.7
baz=280
TWGBT Beinan 1.11 219 P Pn 14 50 20.5 0.0
baz=212
TWGBT S Sn 14 50 35.5 +0.7
baz=212
TWG Pinlang 1.11 220 P Pn 14 50 20.3 -0.3
baz=212
TWG S Sb 14 50 34.5 -1.3
baz=212
STYT Tauyuan 1.12 243 *i* P Pb 14 50 21.8 -0.1
baz=231
STYT *i* S Sn 14 50 36.1 +0.9
baz=231
NWLT Wulai 1.13 344 P Pb 14 50 22.0 -0.1
baz=345
NWLT S Sb 14 50 35.5 -1.0
baz=345

EGS 1.16 4 *i* P Pb 14 50 23.1 +0.6
baz=12
EGS S Sn 14 50 40.1 +4.0
baz=12
TCU Taichung 1.16 294 S Sn 14 50 37.5 +1.3
baz=296
NTC Toucheng 1.17 360 P Pb 14 50 23.8 +1.2
baz=15
NTC *e* S Sn 14 50 38.7 +2.5
baz=15
WGK Gukeng 1.17 270 *e* S Sb 14 50 37.3 -0.2
baz=269
TPUB Ta-pu 1.17 251 P Pb 14 50 22.8 0.0
baz=247
TPUB S Sn 14 50 37.6 +1.2
baz=247
CHN4 Tsaushan 1.19 254 *i* P Pb 14 50 22.9 -0.1
baz=250
CHN4 *i* S Sn 14 50 38.6 +1.7
baz=250
WDLH Douliu 1.19 271 P Pb 14 50 23.2 +0.1
baz=269
WDLH S Sb 14 50 38.5 +0.3
baz=269
WTP Ta-pu 1.21 249 *i* P Pb 14 50 23.3 -0.1
baz=245
WTP *i* S Sb 14 50 39.4 +0.8
baz=245
NSTT Nanjuang 1.22 321 *i* P Pb 14 50 24.1 +0.6
baz=314
NSTT *i* S Sn 14 50 37.7 +0.2
baz=314
LIOB Emei 1.22 322 *i* P Pb 14 50 23.8 +0.2
baz=315
LIOB S Sn 14 50 38.3 +0.7
baz=315
WCHH Zhanghua 1.24 289 *e* S Sb 14 50 39.8 +0.4
baz=290
NJD Zhudong 1.25 327 *e* S Sb 14 50 40.3 +0.3
baz=338
JYNG Yonagunijimaku 1.27 53 P Pb 14 50 26.0 +1.6
NMLH Miaoli 1.28 312 *e* P Pb 14 50 24.5 -0.1
baz=316
NMLH *e* S Sn 14 50 39.5 +0.3
baz=316
TIPB Shuangxi 1.28 359 P Pb 14 50 25.3 +0.6
baz=356
TIPB S Sb 14 50 41.7 +0.9
baz=356
SLGT Liugui 1.29 238 *i* P Pb 14 50 25.1 +0.3
baz=223
SLGT *i* S Sb 14 50 41.6 +0.6
baz=223
SGST Jiashian 1.30 243 *i* P Pb 14 50 24.2 -0.7
baz=252
SGST *i* S Sb 14 50 41.7 +0.4
baz=252
CHN1 Nanshi 1.30 248 *i* P Pb 14 50 24.8 -0.2
baz=244
CHN1 *i* S Sb 14 50 41.7 +0.3
baz=244
TWK Hsinying 1.31 252 *i* P Pb 14 50 25.0 -0.1
baz=248
TWK *i* S Sn 14 50 40.8 +1.0
baz=248
CHY Chiayi 1.31 262 *e* S Sn 14 50 40.5 +0.7
baz=260
YOJ Yonaguni jima 1.32 54 P Pb 14 50 26.8 +1.5
YOJ Yonaguni jima 1.32 54 P Pb 14 50 27.4 +2.2
baz=57
WTK Tuku 1.33 271 P Pb 14 50 24.6 -0.8
baz=269
WTK S Sn 14 50 40.8 +0.6
baz=269
ECL Taimali 1.35 217 P Pn 14 50 24.4 +0.5
baz=211
ECL *e* S Sn 14 50 40.1 -0.8
baz=211
SSD Sandimen 1.45 230 *i* P Pb 14 50 27.5 0.0
baz=225
SSD *i* S Sb 14 50 45.8 +0.2
baz=225
TSMG Majia 1.47 229 *i* P Pb 14 50 27.5 -0.3
baz=224
TSMG *i* S Sb 14 50 45.8 -0.2
baz=224
SCST Cishan 1.47 238 P Pb 14 50 28.3 +0.5
baz=247
YM01 YM01 1.48 350 S Sn 14 50 44.9 +0.9
baz=357
CHN8 Yiju 1.53 258 *e* P Pb 14 50 27.7 -1.2
baz=255
MASBT Mashibuluo 1.54 226 P Pb 14 50 27.9 -1.1
baz=222
MASBT S Sb 14 50 48.8 +0.7
baz=222
EAST Anshuo 1.58 215 *i* P Pb 14 50 29.9 +0.1
baz=210
SCZT Fangliau 1.72 221 P Pb 14 50 31.4 -0.7
baz=207
SLIU Shizi 1.75 214 P Pb 14 50 31.8 -0.7
baz=209
HATJ Hateruma jima 1.84 78 P Pb 14 50 34.3 +0.3
IRIF Iriomote-Funau 1.85 69 P Pb 14 50 34.9 +0.7
WDGT Dungji 2.04 259 P Pn 14 50 34.0 +0.6
baz=257
JKRS Kuro-shima 2.06 74 P Pb 14 50 37.7 -0.1
JKRS *e* S Sb 14 51 02.9 -0.1
PHUB P'eng-hu 2.09 266 P Pn 14 50 33.9 -0.1
baz=253
PHUB S Sn 14 50 57.7 -1.3
baz=253
PNG Penghu 2.10 267 P Pn 14 50 34.6 +0.4
baz=255
PNG S Sn 14 50 57.4 -1.8
baz=255
JIJ Ishigaki jima 2.21 72 P Pb 14 50 39.1 -1.3
JIJ S Sb 14 51 05.4 -2.0
VCHM Qimei 2.26 258 P Pn 14 50 36.7 +0.3
baz=257
VCHM S Sn 14 51 02.9 -0.5
baz=257
JISG Ishigakijimahi 2.43 68 P Pb 14 50 41.9 -2.2
JISG *e* S Sb 14 51 11.0 -2.6
VWUC VWUC 2.54 301 *e* P Pn 14 50 40.2 0.0
baz=304
VWUC *e* S Sn 14 51 06.8 -3.4
baz=304
JTJ Tarama 2.78 69 P Pb 14 50 47.0 -3.1
JTJ *e* S Sb 14 51 21.2 -2.6
PTMZ Houxiangcun 2.83 299 *e* P Pn 14 50 43.1 -1.0
baz=302
PTMZ *e* S Sn 14 51 13.2 -3.9
baz=302

IDC 07 14:58:39.1±0.7, 13.°83N×144.°79E, h0km, mb3.5/8, mb1 3.8/8, mb1mx3.6/33, mbtmp3.6/8, MS3.4/12, Ms1 3.5/12, ms1mx3.3/24, Error ellipse: s-maj=32.3km s-min=8.1km az=69.0

NEIC 07 14:58:43.6±1.9, 13.°8N±0.°1×144.°7E±0.°1, h31km±7km, mb4.6/4, Error ellipse: s-maj=17.0km s-min=15.0km az=122.0

ISC 07 14:58:44.0±0.6, 13.°7N±0.°1×144.°7E±0.°1, h35km, n29, σ1.12/16, mb3.6/10, MS3.5/11, Mariana Islands

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

GUMO Guam 0.24 129 Pn Pn 14 58 50.2 -1.0
1µm,0.3s,baz=326,slow=11,SNR=2024
GUMO Sn Sn 14 58 57.1 +1.0
4µm,0.3s,baz=301,slow=4.1,SNR=21
PATS Pohnpei 15.06 116 Pn Pn 15 02 14.7 +0.4
JHJ Hachijo jima 2 19.80 348 LR LR 15 08 59.9
comp=Z,113nm,18.9s,baz=164,slow=32
JOW Kunigami 20.13 313 LR LR 15 09 30.4
comp=Z,60nm,19.5s,baz=198,slow=32
H11S3 WAKE ISLAND Hy 21.66 74 T T 15 26 08.1
baz=261,slow=75,SNR=18
H11S1 WAKE ISLAND Hy 21.68 74 T T 15 26 05.4
baz=261,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 21.68 75 T T 15 26 09.5
baz=261,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 22.08 71 T T 15 26 23.6
baz=257,slow=75,SNR=21
H11N2 WAKE ISLAND Hy 22.09 71 T T 15 26 23.5
baz=257,slow=75,SNR=17
H11N3 WAKE ISLAND Hy 22.09 71 T T 15 26 24.7
baz=257,slow=75,SNR=34
PMG Port Moresby 23.13 174 LR LR 15 12 01.4
comp=Z,130nm,19.1s,baz=36,slow=35
MJAR Matsushiro Arr 23.43 347 P P 15 03 47.6 -2.5
1.8nm,0.8s,baz=168,slow=9.4,SNR=5.6
MJAR LR LR 15 12 32.0
comp=Z,90nm,18.3s,baz=185,slow=36
YULB Yu-li 24.12 297 P P 15 03 55.8 -0.9
YULB IAmb IAmb 15 04 00.4
comp=Z,15nm,1.2s
KSRS Korea Array 27.94 331 P P 15 04 31.0 -0.1
comp=Z,1.2nm,0.8s,baz=134,slow=8.7,SNR=4.3
KNRA Kununurra 33.20 209 P P 15 05 17.0 -0.6
KNRA IAmb IAmb 15 05 45.1
comp=Z,20nm,1.3s
FITZ Fitzroy Crossi 36.79 211 P P 15 05 47.4 -1.3
AS31 Alice Springs 38.64 196 P P 15 06 04.2 -0.1
ASAR Alice Springs 38.64 196 P P 15 06 05.0 +0.7
comp=Z,0.4nm,0.7s,baz=23,slow=8.1,SNR=6.9
ASAR LR LR 15 21 57.5
comp=Z,58nm,19.5s,baz=357,slow=36
PETK Petropavlovsk- 40.62 12 LR LR 15 20 20.1
comp=Z,87nm,21.4s,baz=198,slow=32
CMAR Chiang Mai Arr 44.10 282 P P 15 06 50.0 +0.7
comp=Z,0.5nm,0.5s,baz=81,slow=5.6,SNR=4.4
CMAR LR LR 15 26 06.4
comp=Z,79nm,18.3s,baz=210,slow=37
STKA Stephens Creek 45.45 184 LR LR 15 27 50.1
comp=Z,46nm,18.1s,baz=13,slow=38
SONM Songino Array 46.50 325 P P 15 07 09.2 +1.2
comp=Z,0.5nm,0.6s,baz=115,slow=6.8,SNR=2.8
MKAR Makanchi Array 61.25 316 P P 15 08 56.5 +0.8
comp=Z,0.9nm,0.7s,baz=103,slow=8.8,SNR=6.6
ZALV Zalesovo Beam 61.39 324 LR LR 15 37 26.3
comp=Z,30nm,18.1s,baz=127,slow=38
ILAR Eielson Array 68.51 25 P P 15 09 41.6 -1.0
comp=Z,0.2nm,1.0s,baz=268,slow=4.5,SNR=2.1
ILAR LR LR 15 38 11.8
comp=Z,21nm,20.1s,baz=248,slow=35
YKA Yellowknife Ar 82.81 27 LR LR 15 47 20.0
comp=Z,24nm,20.0s,baz=0.0,slow=35
NVAR Mina Array Bea 86.97 51 P P 15 11 27.1 +1.0
comp=Z,0.1nm,0.5s,baz=270,slow=3.6,SNR=2.2
NOA NORSAR Array B 96.84 339 LR LR 15 57 37.5
comp=Z,14nm,19.9s,baz=20,slow=37
LPAZ La Paz 148.23 99 PKPbc PKPbc 15 18 28.4 +0.3
comp=Z,0.9nm,0.6s,baz=316,slow=0.9,SNR=5.1

NEIC 07 15:04:10.3±0.8, 56.°2S±0.°1×28.°3W±0.°2, h221km±7km, mb4.3/36, Error ellipse: s-maj=21.8km s-min=12.9km az=214.0

IDC 07 15:04:11.2±4.5, 56.°20S×28.°27W, h231km±43km, mb3.9/10, mb1 4.0/11, mb1mx3.8/25, mbtmp4.5/11, Error ellipse: s-maj=35.3km s-min=10.0km az=57.0

ISC 07 15:04:13.1±0.7, 56.°3S±0.°1×28.°7W±0.°2, h250km, n53, σ0.81/51, mb4.2/20, South Sandwich Islands region

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

HOPE Hope Point 4.91 291 Pn Pn 15 05 26.0 -1.8
VNA1 Neumayer--Stat 16.88 156 P P 15 07 52.2 -0.9
VNA3 Neumayer Olymp 17.04 159 P P 15 07 53.8 -1.1
VNA2 Neumayer--Watz 17.28 156 P P 15 07 56.5 -0.9
baz=314,slow=12
EFI East Falkland 17.83 273 P P 15 08 04.3 +0.8
SNAA Sanae 18.85 155 P P 15 08 13.3 -1.2
SNAA Sanae 18.85 155 P P 15 08 13.2 -1.2
8.8nm,0.3s,baz=311,slow=11,SNR=789
SNAA Sanae 18.85 155 P P 15 08 13.3 -1.2
MG02 Cerro Sombrero 23.55 261 P P 15 09 00.7 -0.1
PLTB Pedras Altas 30.07 314 P P 15 09 59.5 +0.3
PLCA Paso Flores 31.25 282 P P 15 10 09.2 -0.3
0.6nm,0.6s,baz=172,slow=7.1,SNR=3.3
PLCA Paso Flores 31.25 282 IAmb IAmb 15 10 16.2
comp=Z,6.7nm,1.2s
ITQB Itaqui 33.14 312 P P 15 10 26.3 +0.4
QSPA South Pole Qui 33.95 180 P P 15 10 33.7 +1.0
comp=Z,16nm,0.6s,baz=215,slow=1.0,SNR=162
QSPA PcP PcP 15 13 04.4 0.0
comp=Z,0.6nm,0.6s,baz=252,slow=3.2,SNR=1.8
QSPA South Pole Qui 33.95 180 P P 15 10 33.5 +0.8
CPUP Villa Florida 36.38 313 P P 15 10 53.5 0.0
comp=Z,4.1nm,0.6s,baz=154,slow=6.8,SNR=12
CPUP Villa Florida 36.38 313 IAmb IAmb 15 10 54.1
comp=Z,4.8nm,0.8s
MT09 Talagante 36.62 290 P P 15 10 54.4 -1.4
MT09 IAmb IAmb 15 11 13.2
comp=Z,10nm,1.1s
MT01 Popeta 36.69 289 P P 15 10 54.9 -1.2
MT01 IAmb IAmb 15 11 17.7
comp=Z,17nm,1.3s
MT02 Curacav 37.10 290 P P 15 10 58.9 -0.7
VA03 San Esteban 37.18 291 P P 15 11 01.0 +0.6
CO02 Combarbal 38.65 292 P P 15 11 12.6 -0.1
CO03 El Pedregal 38.78 293 P P 15 11 13.9 +0.2
CO03 IAmb IAmb 15 11 16.9
comp=Z,13nm,1.1s
MAW Mawson 40.43 144 P P 15 11 26.3 -0.4
comp=Z,3.6nm,0.7s,baz=246,slow=8.1,SNR=7.1
MAW Mawson 40.43 144 P P 15 11 26.1 -0.6
AQDB Aquidauana 41.05 320 P P 15 11 31.8 -0.4
AC02 Maricunga 41.27 298 P P 15 11 35.1 +0.5
AC02 IAmb IAmb 15 11 36.3
comp=Z,7.0nm,0.7s
GO02 Mina Guanaco 42.89 299 P P 15 11 47.6 +0.1
GO02 IAmb IAmb 15 11 56.5
comp=Z,14nm,1.3s
BDFB Brasilia 43.19 332 P P 15 11 50.5 +0.8
comp=Z,1.8nm,0.5s,baz=154,slow=8.6,SNR=4.2
LVC Limon Verde 44.73 302 P P 15 12 02.8 +0.7
comp=Z,4.5nm,0.5s,baz=172,slow=5.2,SNR=9.9
LVC Limon Verde 44.73 302 P P 15 12 02.4 +0.3
PB09 IPOC Station P 45.58 302 P P 15 12 09.8 +1.2
PB09 IAmb IAmb 15 12 17.7
comp=Z,34nm,1.5s
PB07 IPOC Station P 45.95 301 P P 15 12 12.0 +0.5
PB07 IAmb IAmb 15 12 34.8
comp=Z,26nm,1.4s
VNDA Vanda 46.28 183 P P 15 12 14.2 +1.1
comp=Z,2.9nm,0.7s,baz=189,slow=6.7,SNR=25
VNDA Vanda 46.28 183 P P 15 12 14.4 +1.3
PB01 IPOC Station P 46.35 302 P P 15 12 14.9 +0.5
PB08 IPOC Station P 46.97 303 P P 15 12 20.7 +1.2
SIV San Ignacio 47.17 315 P P 15 12 20.9 +0.1
comp=Z,2.8nm,0.6s,baz=177,slow=6.4,SNR=13
PB11 IPOC Station P 47.53 303 P P 15 12 23.6 0.0
PB11 IAmb IAmb 15 12 44.3
comp=Z,20nm,1.4s
PSGCX Pisagua 47.89 303 P P 15 12 26.4 +0.1
PSGCX IAmb IAmb 15 12 40.8
comp=Z,28nm,1.5s
MNMC Minye Minye 48.05 304 P P 15 12 28.7 +0.9
MNMC IAmb IAmb 15 12 29.4
comp=Z,9.2nm,0.9s
PB16 IPOC Station P 48.70 304 P P 15 12 32.4 -0.6
LPAZ La Paz 49.87 307 P P 15 12 43.1 +1.3
comp=Z,11nm,0.5s,baz=205,slow=7.1,SNR=58
LPAZ La Paz 49.87 307 P P 15 12 43.0 +1.2
LPAZ IAmb IAmb 15 12 43.8
comp=Z,12nm,0.6s
CASY Casey 53.94 161 P P 15 13 10.8 +0.3
SAML Samuel 54.41 316 P P 15 13 14.2 -0.3
SAML IAmb IAmb 15 13 15.7
comp=Z,7.1nm,0.7s
ASAR Alice Springs 98.98 164 P Pdif 15 17 24.7 -0.6
comp=Z,0.3nm,0.8s,baz=181,slow=3.7,SNR=1.9
YKA Yellowknife Ar 135.81 318 PKP PKPdf 15 23 02.7 +0.3
comp=Z,0.3nm,0.4s,baz=117,slow=3.3,SNR=10
ZALV Zalesovo Beam 143.22 65 PKP PKPbc 15 23 13.1 -0.9
comp=Z,0.6nm,0.6s,baz=207,slow=0.6,SNR=2.2
ILAR Eielson Array 149.67 312 PKPbc PKPbc 15 23 31.9 +0.3
comp=Z,3.6nm,0.6s,baz=131,slow=2.4,SNR=69
ILAR Eielson Array 149.67 312 PKPbc 15 23 31.6 +0.1
SONM Songino Array 151.56 88 PKPbc PKPbc 15 23 36.3 -0.4
comp=Z,0.4nm,0.5s,baz=270,slow=1.5,SNR=3.6
SONM Songino Array 151.56 88 PKPbc 15 23 35.8 -0.9

NEIC 07 15:07:23.5±0.6, 35.°831N±0.°004×97.°47W±0.°02, h5km±4km, mb_Lg2.2/6, Error ellipse: s-maj=2.2km s-min=0.6km az=94.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**166**		**Pg**	15 07 24.6	-0.1
OK029				Sg	Sg	15 07 25.3	-0.1
BCOK	**Bluff Creek, N**	**0.21**	**214**		**Pg**	15 07 28.0	+0.3
BCOK				Sg	Sg	15 07 31.1	+0.7
OK025	**Westminster Rd**	**0.27**	**157**		**Pg**	15 07 28.8	0.0
OK025				Sg	Sg	15 07 33.0	+0.6
OKCFA	**Oklahoma City**	**0.41**	**178**	Pg	Pg	15 07 31.6	0.0
OKCFA				Sg	Sg	15 07 37.5	+0.5
OKCSW	**OKLAHOMA CITY**	**0.42**	**177**		**Pg**	15 07 31.6	-0.1
OKCSW				Sg	Sg	15 07 37.8	+0.5
OK031	**S. Brethren Rd**	**0.52**	**76**	Pg	Pg	15 07 33.6	0.0
OK031				Sg	Sg	15 07 40.6	+0.2
OK030	**Cody Creek RV**	**0.56**	**80**	Pg	Pg	15 07 34.3	-0.1
FNO	**Franklin**	**0.57**	**175**	Pg	Pg	15 07 34.4	-0.1
FNO				Sg	Sg	15 07 42.5	+0.4
QUOK	**Quay**	**0.70**	**61**		**Pg**	15 07 37.0	-0.1
QUOK				Sg	Sg	15 07 46.2	+0.1
CROK	**Carrier**	**0.79**	**328**	Pg	Pg	15 07 39.1	+0.4
CROK				Sg	Sb	15 07 50.3	-0.6
BLOK	**Blackwell**	**0.95**	**12**	Pg	Pg	15 07 41.6	-0.2
GC02	**Grant County #**	**1.07**	**343**	Pg	Pg	15 07 43.7	-0.3
OK032	**Salt Plains WL**	**1.14**	**328**	Pg	Pg	15 07 45.4	0.0
KAN13	**South Haven SW**	**1.18**	**360**	Pg	Pg	15 07 46.0	-0.2
X34A	**Smith Ranch, M**	**1.26**	**194**	Pg	Pg	15 07 47.3	-0.4
KAN09	**Caldwell North**	**1.31**	**355**	IAmb_Lg		15 08 07.0	
	comp=Z,240nm,0.9s						
T35A	**Sooner Cattle**	**1.33**	**35**	Pn	Pn	15 07 47.8	-1.0
KAN12	**Harper NE Stat**	**1.52**	**344**	IAmb_Lg		15 08 13.0	
	comp=Z,17nm,0.8s						
WMOK	**Wichita Mounta**	**1.53**	**225**		Pn	15 07 51.5	-0.1
X37A	**Clayton**	**2.12**	**125**	IAmb_Lg		15 08 34.1	
	comp=Z,5.3nm,0.8s						

*IDC **07** 15:30:50.4±3.2,55°.22S×28°.96W,h0km,mb4.0/2, mb1 4.3/2,mb1mx3.8/14,mbtmp4.0/2,MS3.6/6,Ms1 3.6/6, ms1mx3.5/13,Error ellipse: s-maj=154.7km s-min=34.7km az=69.0*

*NEIC **07** 15:30:55.1±1.4,55°.4S±0°.1×29°.2W±0°.3,h31km±7km, mb4.6/15,Error ellipse: s-maj=27.1km s-min=4.6km az=53.0*

ISC 07 15:30:54.0±0.9,**55°.3S**±0°.2×**29°.1W**±0°.2,**h24**km,**n30**, σ**0**:**92**/**22**,**mb4.5**/8,**MS3.6**/6,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.38**	**280**	Pn	**Pn**	**15 31 58.1**	**-0.7**
VNA1	**Neumayer--Stat**	**17.93**	**157**	P	**P**	**15 35 03.0**	**+1.3**
VNA3	**Neumayer Olymp**	**18.09**	**160**	P	**P**	**15 35 05.4**	**+1.7**
VNA2	**Neumayer--Watz**	**18.33**	**157**	P	**Pn**	**15 35 07.2**	**+1.0**
SNAA	**Sanae**	**19.90**	**156**	P	**Pn**	**15 35 23.9**	**-1.3**
SNAA	**Sanae**	**19.90**	**156**	P	**P**	**15 35 23.0**	**-0.5**
PLCA	**Paso Flores**	**30.78**	**281**	LR	LR	15 48 36.8	
	comp=Z,122nm,20.9s,baz=133,slow=35						
QSPA	**South Pole Qui**	**34.98**	**180**	P	**P**	**15 37 43.1**	**-0.9**
QSPA				IAmb	IAmb	15 37 58.9	
	comp=Z,15nm,1.3s						
CPUP	**Villa Florida**	**35.48**	**313**	LR	LR	15 50 45.9	
	comp=Z,92nm,20.9s,baz=166,slow=34						
CPUP	**Villa Florida**	**35.48**	**313**	P	**P**	**15 37 48.9**	**+0.5**
MT05	**Renca**	**36.18**	**290**	P	**P**	**15 37 56.0**	**+1.5**
AQDB	**Aquidauana**	**40.09**	**319**	P	**P**	**15 38 28.0**	**+0.6**
AQDB				IAmb	IAmb	15 38 30.3	
	comp=Z,12nm,1.5s						
MAW	**Mawson**	**41.42**	**145**	LR	LR	15 53 15.0	
	comp=Z,113nm,21.3s,baz=237,slow=32						
GO02	**Mina Guanaco**	**42.16**	**299**	P	**P**	**15 38 44.7**	**-0.1**
GO02				IAmb	IAmb	15 38 53.1	
	comp=Z,23nm,1.4s						
LVC	**Limon Verde**	**43.96**	**302**	P	**P**	**15 38 59.5**	**0.0**
LVC				IAmb	IAmb	15 39 25.2	
	comp=Z,7.2nm,1.1s						
PB09	**IPOC Station P**	**44.81**	**302**	P	**P**	**15 39 04.2**	**-1.9**
PB09				IAmb	IAmb	15 39 08.8	
	comp=Z,27nm,1.5s						
PB01	**IPOC Station P**	**45.57**	**302**	P	**P**	**15 39 11.8**	**-0.2**
BOSA	**Boshof**	**46.87**	**78**	LR	LR	15 56 34.9	
	comp=Z,158nm,18.2s,baz=195,slow=33						
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**15 39 25.2**	**+0.4**
	comp=Z,2.3nm,1.0s,baz=188,slow=7.3,SNR=7.5						
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**15 39 25.1**	**+0.4**
H10N1	**ASCENSION HYDR**	**48.72**	**19**	T	T	16 32 39.8	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.72**	**19**	T	T	16 32 40.6	
	baz=190,slow=74						
H10N2	**ASCENSION HYDR**	**48.74**	**19**	T	T	16 32 47.1	
	baz=190,slow=74						
LPAZ	**La Paz**	**49.03**	**307**	P	**P**	**15 39 39.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=162,slow=9.0,SNR=6.0						
LPAZ				LR	LR	16 01 36.0	
	comp=Z,23nm,19.8s,baz=164,slow=38						
LPAZ	**La Paz**	**49.03**	**307**	P	**P**	**15 39 39.9**	**+0.2**
LPAZ				IAmb	IAmb	15 39 48.7	
	comp=Z,12nm,1.5s						
CRZF	**Crozet Islands**	**49.13**	**115**	P	**P**	**15 39 38.7**	**-0.6**
SAML	**Samuel**	**53.48**	**316**	P	**P**	**15 40 11.8**	**-0.4**
SAML				IAmb	IAmb	15 40 22.2	
	comp=Z,11nm,1.5s						
ROSC	**El Rosal**	**70.54**	**311**	LR	LR	16 14 36.8	
	comp=Z,40nm,19.1s,baz=202,slow=37						
ILAR	**Eielson Array**	**148.78**	**313**	PKPbc	**PKPbc**	**15 50 37.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=118,slow=1.6,SNR=14						
ILAR	**Eielson Array**	**148.78**	**313**		**PKPbc**	**15 50 37.4**	**-0.4**

IDC 07 15:38:52.8±8.2,**55°.57S**×**156°.64E**,**h0**km,**mb3.8**/3, **mb1 4.0**/3,**mb1mx3.8**/23,**mbtmp3.9**/3,**MS3.6**/5,**Ms1 3.6**/5, **ms1mx3.3**/31,**Error ellipse: s-maj=448.6km s-min=27.4km az=73.0,Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.12**	**177**	P	P	15 43 49.5	+0.1
	4.1nm,1.2s,baz=356,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**25.95**	**330**	P	P	15 44 28.0	+1.3
	1.6nm,0.7s,baz=142,slow=12,SNR=3.0						
STKA				LR	LR	15 52 55.2	
	comp=Z,100nm,19.0s,baz=200,slow=32						
H01W1	**Cape Leeuwin H**	**35.61**	**288**	T	T	16 24 40.0	
	baz=138,slow=76,SNR=1334						
H01W2	**Cape Leeuwin H**	**35.62**	**288**	T	T	16 24 45.2	
	baz=138,slow=76,SNR=1960						
H01W3	**Cape Leeuwin H**	**35.63**	**288**	T	T	16 24 43.1	
	baz=138,slow=76,SNR=1017						
ASAR	**Alice Springs**	**36.02**	**323**	P	P	15 45 54.5	-1.1
	1.1nm,0.9s,baz=155,slow=7.6,SNR=5.4						
MSVF	**Nonsavu**	**41.14**	**32**	LR	LR	16 01 03.1	
	comp=Z,94nm,19.7s,baz=300,slow=32						
TBI	**Tubuai**	**50.81**	**73**	*e*LR	LR	16 01 51.4	
	comp=Z,69nm,29.0s						
PPT2	**Papeete2**	**55.44**	**69**	*e*LR	LR	16 04 01.6	
	comp=Z,129nm,24.5s						
PPT	**Papeete**	**55.45**	**69**	LR	LR	16 06 31.6	
	comp=Z,59nm,20.6s,baz=210,slow=30						
RKT	**Rikitea**	**59.07**	**86**	*e*T	T	16 51 17.9	
	0.9nm,0.2s						
PLCA	**Paso Flores**	**76.01**	**145**	LR	LR	16 17 02.4	
	comp=Z,40nm,18.2s,baz=171,slow=30						
H03S2	**Juan Fernandez**	**79.11**	**136**	T	T	17 17 44.9	
	baz=208,slow=74,SNR=548						
H03S1	**Juan Fernandez**	**79.11**	**136**	T	T	17 17 46.3	
	baz=208,slow=74,SNR=698						
H03S3	**Juan Fernandez**	**79.13**	**136**	T	T	17 17 50.9	
	baz=208,slow=74,SNR=546						
H03N3	**Juan Fernandez**	**79.45**	**135**	T	T	17 18 13.7	
	baz=214,slow=74						
H03N2	**Juan Fernandez**	**79.46**	**135**	T	T	17 18 13.9	
	baz=214,slow=74						
H03N1	**Juan Fernandez**	**79.47**	**135**	T	T	17 18 11.6	
	baz=214						
H08S2	**Diego Garcia H**	**80.44**	**270**	T	T	17 20 56.5	
	baz=144,slow=76,SNR=1599						
H08S1	**Diego Carcia H**	**80.45**	**270**	T	T	17 20 57.4	
	baz=144,slow=76,SNR=903						
H08S3	**Diego Garcia H**	**80.45**	**270**	T	T	17 20 58.0	
	baz=144,slow=76,SNR=2018						
LVC	**Limon Verde**	**93.03**	**139**	LR	LR	16 26 14.9	
	comp=Z,33nm,21.7s,baz=212,slow=31						

*MAN **07** 15:45:22.9, 10°.96N×126°.67E,h49km,MS5.0*

*NEIC **07** 15:45:25.8±1.3,10°.84N±0°.07×126°.1E±0°.1,h15km±4km, mb4.8/76,Error ellipse: s-maj=16.3km s-min=9.8km az=80.0*

*IDC **07** 15:45:27.1±2.6, 10°.83N×126°.18E,h24km±16km,mb4.3/23, mb1 4.4/23,mb1mx4.3/32,mbtmp4.4/23,MS3.9/12, Ms1 3.9/12,ms1mx3.6/39,Error ellipse: s-maj=22.1km s-min=11.2km az=81.0*

*BJI **07** 15:45:29.1±0.0, 10°.90N×126°.16E,h50km,mB4.9/45, mb4.6/60,Ms4.4/51,Ms7 4.2/48*

*DJA **07** 15:45:36.7±0.8, 11°.N±5°×12°.6E±°, h125km±7km,M4.9/30, mb4.7/30,mB5.2/8,MLv5.3/1,Mw(mB)4.6/8,MwMwp5.1/1, Mwp5.4/1*

ISC 07 15:45:26.7±0.9,**10°.88N**±0°.03×**126°.36E**±0°.05,**h25**km±6km, **n206**,σ1°**83**/220,**mb4.7**/85,**MS3.9**/25,**4C-11D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**1.11**	**192**	*e*P	**Pn**	**15 45 44.9**	**-1.7**
GLSP				*e*S	**Sb**	**15 45 57.9**	**-3.5**
BESP	**Borongan**	**1.15**	**308**	*e*P	**Pn**	**15 45 47.1**	**-0.1**
BESP				*e*S	**Sb**	**15 46 07.6**	**+5.0**
SCPH	**Surigao**	**1.39**	**218**	*e*P	**Pn**	**15 45 50.4**	**0.0**
SCPH				*i* S	**Sb**	**15 46 10.2**	**+1.0**
MSLP	**Maasin**	**1.65**	**243**	*e*P	**Pn**	**15 45 54.6**	**+0.6**
MSLP				*e*S	**Sb**	**15 46 18.6**	**+1.7**
BUTP	**Butuan**	**2.03**	**201**	*e*P	**Pn**	**15 46 00.6**	**+1.3**
BUTP				*e*S	**Sb**	**15 46 30.5**	**+2.7**
LLP	**Lapu-Lapu**	**2.42**	**257**	⇓*i* P	**Pn**	**15 46 06.1**	**+1.5**
LLP				*e*S	**Sb**	**15 46 41.1**	**+2.2**
CGP	**Cagayan de Oro**	**2.92**	**214**	⇓*e*P	**Pn**	**15 46 12.6**	**+1.1**
SNPH	**Sibulan**	**3.43**	**244**	⇓*e*P	**Pn**	**15 46 21.1**	**+2.4**
SNPH				*e*S	**Sb**	**15 47 04.3**	**-3.9**
RCP	**Roxas**	**3.61**	**281**	⇓*e*P	**Pn**	**15 46 23.0**	**+2.0**
DCPH	**Dipolog City**	**3.74**	**233**	⇑*e*P	**Pn**	**15 46 24.3**	**+1.5**
CNOP	**Candoni, Negro**	**3.81**	**254**	*i* P	**Pn**	**15 46 23.9**	**+0.2**
CNOP	**Candoni, Negro**	**3.81**	**254**	*e*P	**Pn**	**15 46 25.4**	**+1.7**
CNOP				*e*S	**Sb**	**15 47 27.6**	**+8.7**
DAV	**Davao City (W)**	**3.86**	**192**	Lg	Lg	15 47 23.2	
	51nm,0.3s,baz=263,slow=21,SNR=4.1						
DAV				LR	LR	15 47 53.9	
	comp=Z,2μm,21.2s,baz=13,slow=39						
DAV	**Davao City (W)**	**3.86**	**192**	Pn	**Pn**	**15 46 23.6**	**-0.8**
MATI	**Mati**	**3.91**	**182**	*e*P	**Pb**	**15 46 32.2**	**-2.7**
SCSP	**San Jose Seism**	**3.91**	**315**	*e*P	**Pb**	**15 46 31.0**	**-3.9**
KCP	**Kidapawan**	**4.04**	**198**	⇓*i* P	**Pn**	**15 46 30.5**	**+3.5**
PAGZ	**Pagadian**	**4.21**	**225**	*e*P	**Pn**	**15 46 29.5**	**+0.3**
PAGZ	**Pagadian**	**4.21**	**225**	⇓*e*P	**Pn**	**15 46 29.8**	**+0.5**
JAP	**San Jose, Anti**	**4.34**	**269**	⇓*e*P	Pn	15 46 36.4	+5.4
DDMP	**Don Marcelino,**	**4.79**	**188**	*e*P	Pn	15 46 42.8	+5.6
JCNP	**Jose Panganiba**	**4.93**	**314**	*i* P	**Pn**	**15 46 37.2**	**-1.9**
JCNP	**Jose Panganiba**	**4.93**	**314**	*e*P	**Pn**	**15 46 37.8**	**-1.3**
BOAC	**Boac**	**5.11**	**301**	*e*P	**Pn**	**15 46 42.4**	**+0.8**
SJMP	**San Jose**	**5.37**	**288**	*e*P	**Pn**	**15 46 46.6**	**+1.4**
LQP	**Lukban**	**5.70**	**305**	⇓*e*P	**Pn**	**15 46 51.1**	**+1.1**
POLP	**Polilio Island**	**5.76**	**312**	*e*P	**Pn**	**15 46 50.0**	**-0.6**
PGP	**Puerto Galera**	**5.89**	**297**	⇓*e*P	**Pn**	**15 46 55.6**	**+3.1**
MACP	**Maragondon, Ca**	**6.45**	**302**	*e*P	**Pn**	**15 46 59.0**	**-1.1**
ENPP	**El Nido**	**6.82**	**273**	*e*P	**Pn**	**15 47 06.4**	**+1.3**
PCPH	**Palayan**	**6.92**	**313**	⇑*e*P	**Pn**	**15 47 10.5**	**+4.0**
CAUP	**Cauayan**	**7.47**	**324**	*e*P	**Pn**	**15 47 13.2**	**-0.8**
SMPP	**San Manuel, Pa**	**7.61**	**314**	*e*P	**Pn**	**15 47 15.4**	**-0.7**
CVP	**Callao Caves**	**8.08**	**328**	⇓*e*P	**Pn**	**15 47 23.2**	**+0.7**
APYP	**Conner**	**8.53**	**325**	*e*P	**Pn**	**15 47 29.8**	**+1.2**
TNTI	**Ternate**	**10.09**	**174**	Pn	**Pn**	**15 47 50.9**	**+0.8**
TNTI	**Ternate**	**10.09**	**174**	P	Pn	15 47 55.7	+5.6
	491nm38nm,1.3s						
GTOI	**Gorontalo**	**10.71**	**198**	P	Pn	15 48 04.6	+6.1
	22nm,1.2s						
APSI	**Ampana**	**12.62**	**202**	P	**P**	**15 48 33.3**	**-2.5**
	399nm27nm,1.1s						
YULB	**Yu-li**	**13.35**	**339**	Pn	**Pn**	**15 48 34.8**	**+0.2**
YHNB	**Yeheng**	**14.51**	**342**	P	**P**	**15 48 55.7**	**-1.2**
FAKI	**Fak Fak**	**14.91**	**157**	Pn	**Pn**	**15 48 57.6**	**+1.7**
TTSI	**Tana Toraja**	**15.29**	**206**	P	**P**	**15 49 07.8**	**+2.3**
	505nm32nm,1.0s						
DLV	**T Lat**	**17.55**	**275**		**Pn**	**15 49 27.4**	**-2.5**
QIZ	**Qiongzhong**	**17.89**	**299**	P	**Pn**	**15 49 32.7**	**-1.2**
QIZ				S	**Sn**	**15 52 50.3**	**-2.4**
QIZ				pmax	pmax		
	comp=Z,240nm,11.6s						
QIZ				L	L		
	comp=N,290nm,11.6s						
QIZ				L	L		
	comp=E,270nm,16.1s						
QIZ				L	L		
	comp=Z,310nm,13.2s						
STKI	**Sintang**	**18.28**	**235**	P	**Pn**	**15 49 42.3**	**+3.6**
	19μm24nm,0.7s						
SOEI	**Soe**	**20.61**	**186**	P	**P**	**15 50 04.6**	**+0.4**
SOEI				IAmb	IAmb	15 50 30.7	
	comp=Z,79nm,1.0s						
SOEI	**Soe**	**20.61**	**186**	P	Pn	15 50 07.4	+0.8
	comp=Z,76nm,0.9s						
SSE	**Sheshan**	**20.68**	**347**	P	Pn	15 50 06.9	-0.3
SSE				S	**S**	**15 53 52.8**	**-1.9**
SSE				pmax	pmax		
	comp=Z,24nm,0.7s						
SSE				pmax	pmax		
	comp=Z,53nm,5.0s						
SSE				L	L		
	comp=Z,81nm,17.2s						
SSE				L	L		
	comp=Z,180nm,16.8s						
UBPT	**Khong Chiam**	**20.81**	**284**	P	Pn	15 50 10.0	+1.1
	comp=Z,1μmcomp=Z,16nm,1.9s						
UBPT	**Khong Chiam**	**20.81**	**284**	P	**P**	**15 50 02.5**	**-3.9**
BATI	**Baumata**	**21.12**	**187**	P	**P**	**15 50 10.3**	**+0.6**
	comp=Z,100nm,1.1s,baz=4.7,slow=1.6,SNR=8.5						
BATI	**Baumata**	**21.12**	**187**	P	**P**	**15 50 10.0**	**+0.3**
	comp=Z,41nm,0.8s						
JCJ	**Chichijima**	**21.96**	**41**	P	**P**	**15 50 21.4**	**+2.7**
	comp=Z,33nm,0.8s,baz=270,slow=16,SNR=2.2						
NJ2	**Nanjing**	**22.18**	**343**	*e*P	**P**	**15 50 25.1**	**+4.2**
NJ2				pP	**pwP**	**15 50 33.4**	**-1.8**
NJ2				sP	sP	15 50 39.1	+11
NJ2				S	**S**	**15 54 25.4**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,190nm,5.5s						
NJ2				L	L		
	comp=Z,260nm,14.2s						
NJ2				L	L		
	comp=Z,480nm,12.3s						
NJ2				L	L		
	comp=Z,510nm,20.4s						
JNU	**Nakatsue**	**22.52**	**10**	P	**P**	**15 50 25.7**	**+1.0**
JNU				IAmb	IAmb	15 50 28.0	
	comp=Z,23nm,1.1s						
WHN	**Wuhan**	**22.53**	**332**	⇑P	**P**	**15 50 27.4**	**+2.7**
WHN				L	L		
	comp=Z,500nm,10.7s						
WHN				L	L		
	comp=Z,650nm,10.0s						
WHN				L	L		
	comp=Z,830nm,16.4s						
JAGI	**Jajag, Banyuwa**	**22.74**	**213**	P	**P**	**15 50 27.3**	**+0.2**
TPI	**Tanjungpandan**	**23.02**	**235**	P	**P**	**15 50 30.9**	**+0.9**
	comp=Z,828nmcomp=Z,86nm,1.2s						
KHON	**Khomkaen**	**23.50**	**286**	P	**P**	**15 50 38.4**	**+3.6**
	comp=Z,6.5nm,0.9s						
JMN	**Monobe**	**23.76**	**16**	P	**P**	**15 50 38.3**	**+1.1**
JMN				IAmb	IAmb	15 51 03.3	
	comp=Z,68nm,1.4s						
SMRI	**Semarang**	**23.84**	**222**	P	**P**	**15 50 36.0**	**-2.1**
SMRI	**Semarang**	**23.84**	**222**	P	**P**	**15 50 39.8**	**+1.7**
	comp=Z,98nm,1.1s						
SLVN	**Son La**	**23.91**	**299**	P	**P**	**15 50 36.5**	**-2.3**
PPBI	**Pangkal Pinang**	**23.93**	**238**	P	**P**	**15 50 37.9**	**-1.0**
	comp=Z,3μmcomp=Z,29nm,0.9s						
MTN	**Manton Dam**	**24.04**	**169**	P	**P**	**15 50 40.1**	**+0.2**
MTN				IAmb	IAmb	15 51 04.5	
	comp=Z,46nm,1.2s						
GYA	**Guiyang**	**24.20**	**313**	*e*P	**P**	**15 50 41.5**	**0.0**
GYA				pP	pwP	15 50 56.4	0.0
GYA				PcP	**PcP**	**15 54 21.6**	**-0.3**
GYA				S	**S**	**15 54 54.6**	**-3.9**
GYA				sS	sS	15 55 07.4	-0.6
GYA				L	L		
	comp=Z,64nm,14.9s						
GYA				L	L		
	comp=Z,58nm,18.9s						
GYA				L	L		
	comp=Z,90nm,19.8s						
CHAI	**Chaiyaphum**	**24.22**	**285**	P	**P**	**15 50 43.0**	**+1.4**
	comp=Z,3.0nm,0.9s						
ENH	**Enshi**	**24.87**	**323**	P	**P**	**15 50 46.8**	**-0.7**
ENH				IAmb	IAmb	15 51 00.3	
	comp=Z,15nm,1.1s						
KPJI	**Karang Pucung**	**25.07**	**225**	P	**P**	**15 50 51.2**	**+1.9**
	comp=Z,54nm,1.5s						
SKLT	**Songkhla**	**25.68**	**264**	P	**P**	**15 50 57.0**	**+2.1**
	comp=Z,23nm,1.5s						
DBJI	**Dramaga**	**26.10**	**229**	P	**P**	**15 51 00.5**	**+1.8**
	comp=Z,23nm,1.1s						
INU	**Inuyama**	**26.22**	**20**	P	**P**	**15 51 00.8**	**+1.2**
INU				IAmb	IAmb	15 51 24.2	
	comp=Z,30nm,1.5s						
PHET	**Kaeng Krachan**	**26.23**	**277**	P	**P**	**15 51 03.7**	**+3.8**
	comp=Z,89mcomp=Z,8.1nm,0.9s						
KSAR	**Wonju Array Be**	**26.48**	**3**	P	**P**	**15 51 01.9**	**0.0**
KNRA	**Kununurra**	**26.49**	**175**	P	**P**	**15 51 02.3**	**+0.2**
KNRA				IAmb	IAmb	15 51 30.6	
	comp=Z,29nm,1.1s						
KMI	**Kunming**	**26.49**	**305**	⇓P	**P**	**15 51 02.4**	**0.0**
KMI				pP	pwP	15 51 16.4	-1.1
KMI				S	**S**	**15 55 32.1**	**-3.2**
KMI				sS	sS	15 55 52.6	+7.6
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI				L	L		
	comp=Z,240nm,13.7s						
KMI				L	L		
	comp=Z,300nm,13.0s						
KMI				L	L		
	comp=Z,350nm,17.1s						
KSRS	**Korea Array**	**26.50**	**3**	P	**P**	**15 51 04.0**	**+1.9**
	comp=Z,2.5nm,0.9s,baz=182,slow=10,SNR=11						
KSRS				LR	LR	16 01 39.7	
	comp=Z,252nm,19.6s,baz=168,slow=37						
BLSI	**Bandar Lampung**	**26.50**	**233**	P	**P**	**15 51 02.7**	**+0.4**
	comp=Z,99nm,1.0s						
MDSI	**Maura Dua**	**26.84**	**236**	P	**P**	**15 51 05.1**	**-0.3**
	comp=Z,16nm,1.1s						
KRAB	**Krabi**	**26.91**	**267**	P	**P**	**15 51 11.3**	**+5.3**
	comp=Z,2μmcomp=Z,58nm,1.1s						
KASI	**Kota Agung**	**27.19**	**234**	P	**P**	**15 51 07.5**	**-1.0**
	comp=Z,55nm,0.8s						
CM36	**Chiang Mai Arr**	**27.42**	**289**	P	**P**	**15 51 11.7**	**+1.1**
CM36	**Chiang Mai Arr**	**27.42**	**289**	P	**P**	**15 51 11.7**	**+1.1**
CM34	**Chiang Mai Arr**	**27.44**	**290**	P	**P**	**15 51 11.0**	**+0.2**
CM09	**Chiang Mai Arr**	**27.50**	**289**	P	**P**	**15 51 13.6**	**+2.2**
	comp=Z,50nmcomp=Z,5.8nm,0.8s						
CM02	**Chiang Mai Arr**	**27.54**	**289**	P	**P**	**15 51 13.0**	**+1.4**
	comp=Z,5.3nm,0.8s						
CM31	**Chiang Mai Arr**	**27.55**	**289**	P	**P**	**15 51 13.7**	**+2.0**
	comp=Z,126nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.55**	**289**	P	**P**	**15 51 10.9**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=101,slow=7.0,SNR=20						
CMAR				ScP	**ScP**	**15 58 09.8**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=100,slow=1.5,SNR=10.0						
CMAR				LR	LR	16 02 57.3	
	comp=Z,131nm,18.2s,baz=192,slow=38						
CM15	**Chiang Mai Arr**	**27.56**	**289**	P	**P**	**15 51 13.0**	**+1.1**
	comp=Z,146nmcomp=Z,5.5nm,0.7s						
CM13	**Chiang Mai Arr**	**27.57**	**289**	P	**P**	**15 51 13.6**	**+1.6**
	comp=Z,39nmcomp=Z,3.5nm,1.1s						
CM33	**Chiang Mai Arr**	**27.62**	**290**	P	**P**	**15 51 13.4**	**+1.1**
CM33	**Chiang Mai Arr**	**27.62**	**290**	P	**P**	**15 51 13.4**	**+1.1**
CM32	**Chiang Mai Arr**	**27.68**	**289**	P	**P**	**15 51 14.0**	**+1.1**
MAT	**Matsushiro**	**27.70**	**21**	P	**P**	**15 51 12.3**	**-0.6**
MJAR	**Matsushiro Arr**	**27.70**	**21**	P	**P**	**15 51 12.0**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=187,slow=8.6,SNR=13						
MJAR				LR	LR	16 01 32.0	
	comp=Z,321nm,19.1s,baz=200,slow=35						
MJAR	**Matsushiro Arr**	**27.70**	**21**	P	**P**	**15 51 14.1**	**+1.2**
MJB9	**Matsu-Tunnel**	**27.71**	**21**		**P**	**15 51 14.6**	**+1.6**
KSI	**Kapahiang**	**27.71**	**240**	P	**P**	**15 51 13.6**	**+0.3**
XAN	**Xi'an**	**28.04**	**328**	P	**P**	**15 51 16.3**	**+0.3**
XAN				pP	pwP	15 51 27.0	-3.6
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.80**	**181**	P	**P**	**15 51 22.9**	**+0.1**
	comp=Z,12nm,1.0s,baz=9.0,slow=7.1,SNR=11						
FITZ	**Fitzroy Crossi**	**28.80**	**181**	P	**P**	**15 51 23.4**	**+0.6**
FITZ				IAmb	IAmb	15 51 39.7	
	comp=Z,12nm,0.9s						
CD2	**Chengdu**	**28.93**	**317**	P	**P**	**15 51 23.8**	**-0.1**
CD2				S	**S**	**15 56 10.3**	**-2.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,210nm,5.9s						
CD2				L	L		
	comp=Z,750nm,18.4s						
CD2				L	L		
	comp=Z,760nm,16.9s						
CD2				L	L		
	comp=Z,1μm,16.3s						
JMM	**Marumori**	**29.83**	**23**	P	**P**	**15 51 32.1**

comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,68nm,4.8s
GTA L L
comp=Z,91nm,15.3s
GTA L L
comp=Z,190nm,14.5s
GTA L L
comp=Z,250nm,15.6s
LSA Lhasa 37.75 305 P **P** **15 52 41.6 +0.3**
LSA pmax pmax
comp=Z,19nm,1.7s
LSA Lhasa 37.75 305 P **P** **15 52 38.5 -2.8**
LSA IAmb IAmb 15 52 53.7
comp=Z,16nm,1.3s
HNR Honiara 39.03 120 LR LR 16 07 39.8
comp=Z,178nm,21.1s,baz=346,slow=34
ULN Ulaanbaatar 40.28 340 P **P** **15 53 01.2 -0.7**
SONM Songino Array 40.48 339 P **P** **15 53 04.7 +1.2**
comp=Z,2.7nm,0.7s,baz=160,slow=9.2,SNR=15
SONM Songino Array 40.48 339 P **P** **15 53 02.7 -0.8**
MORW Morawa 40.94 194 P **P** **15 53 05.2 -2.1**
MORW IAmb IAmb 15 53 11.2
comp=Z,33nm,1.1s
FORT Forrest 41.45 178 P **P** **15 53 09.2 -2.2**
FORT IAmb IAmb 15 53 20.6
comp=Z,19nm,0.8s
BBOO Buckleboo 44.42 168 P **P** **15 53 34.8 -0.7**
STKA Stephens Creek 44.95 162 P **P** **15 53 40.3 +0.6**
comp=Z,13nm,1.0s,baz=330,slow=9.7,SNR=13
STKA Stephens Creek 44.95 162 P **P** **15 53 39.5 -0.2**
WMQ Urumqi 46.80 322 *eP* **P** **15 53 55.1 +0.8**
WMQ L L
comp=Z,580nm,14.1s
WMQ L L
comp=Z,800nm,16.3s
WMQ L L
comp=Z,740nm,15.1s
ARMA Armidale 47.71 150 P **P** **15 54 02.3 +0.7**
ARMA IAmb IAmb 15 54 11.7
comp=Z,17nm,1.4s
PEA0B Petropavlovsk- 49.05 25 P **P** **15 54 13.0 +1.5**
PETK Petropavlovsk- 49.05 25 P **P** **15 54 13.3 +1.8**
comp=Z,4.2nm,0.7s,baz=203,slow=2.7,SNR=9.2
PETK LR LR 16 14 25.7
comp=Z,136nm,20.0s,baz=223,slow=35
PETK Petropavlovsk- 49.05 25 P **P** **15 54 12.1 +0.6**
CAN Canberra 50.70 156 P **P** **15 54 22.5 -1.8**
CAN IAmb IAmb 15 54 33.7
comp=Z,31nm,1.4s
DZM Mont Dzumac 51.17 130 P **P** **15 54 28.8 +0.7**
TOO Toolangi 51.43 161 P **P** **15 54 30.5 +0.8**
MK31 Makanchi Array 51.60 322 P **P** **15 54 30.9 -0.1**
MK31 IAmb IAmb 15 54 35.0
comp=Z,7.1nm,0.8s
MKAR Makanchi Array 51.60 322 P **P** **15 54 31.8 +0.8**
comp=Z,8.8nm,0.7s,baz=120,slow=8.3,SNR=79
MKAR PcP **PcP** **15 55 45.0 +0.4**
comp=Z,2.4nm,0.7s,baz=107,slow=4.8,SNR=1.4
MKAR ScP **ScP** **15 59 40.4 +0.6**
comp=Z,2.5nm,1.0s,baz=116,slow=3.4,SNR=7.1
MKAR Makanchi Array 51.60 322 P **P** **15 54 30.7 -0.2**
MAKZ Makanchi 51.80 322 P **P** **15 54 31.4 -1.0**
MAKZ IAmb IAmb 15 54 47.1
comp=Z,14nm,1.2s
PRZ Przheval'sk 52.21 316 P **P** **15 54 36.6 +0.8**
KDJ Kajisay 52.92 315 P **P** **15 54 40.2 -0.8**
NIL Nilore 53.47 304 P **P** **15 54 43.9 -1.2**
NIL IAmb IAmb 15 54 56.0
comp=Z,12nm,1.1s
ZAA0 Zalesovo Array 54.14 331 P **P** **15 54 49.0 -0.5**
ZAA0 IAmb IAmb 15 55 04.9
comp=Z,5.4nm,0.8s
ZALV Zalesovo Beam 54.14 331 P **P** **15 54 49.7 +0.1**
comp=Z,5.3nm,0.7s,baz=117,slow=6.8,SNR=18
ZALV Zalesovo Beam 54.14 331 P **P** **15 54 49.2 -0.3**
GAR Garm 56.97 310 P **P** **15 55 09.3 -1.0**
GAR IAmb IAmb 15 55 15.3
comp=Z,14nm,0.8s
KK31 Karatay Array 57.89 314 P **P** **15 55 15.9 -0.7**
KK31 IAmb IAmb 15 55 30.3
comp=Z,5.9nm,0.8s
KKAR Karatay Array 57.89 314 P **P** **15 55 15.9 -0.7**
KKAR IAmb IAmb 15 55 30.3
comp=Z,5.9nm,0.8s
TIXI Tiksi 60.74 1 P **P** **15 55 36.5 +0.7**
TIXI IAmb IAmb 15 55 50.5
comp=Z,9.4nm,1.4s
BRVK Borovoye 61.29 325 P **P** **15 55 40.1 +0.3**
NRIK Noril'sk 63.45 346 P **P** **15 55 54.4 +0.4**
comp=Z,3.6nm,0.7s,baz=132,slow=3.6,SNR=3.9
GEYT Alibeck 66.25 307 P **P** **15 56 13.2 +0.3**
comp=Z,36nm,0.7s,baz=116,slow=6.6,SNR=2.6
ABKAR Akbulak array 66.47 319 P **P** **15 56 12.9 -1.1**
NNZ Nelson 67.54 143 P **P** **15 56 21.4 +0.5**
THZ Tophouse 67.61 144 P **P** **15 56 21.8 +0.4**
LTZ Lake Taylor 67.90 145 P **P** **15 56 24.3 +1.2**
OXZ Oxford 68.12 146 P **P** **15 56 24.7 +0.2**
BKZ Black Stump Fm 68.19 140 P **P** **15 56 24.7 -0.3**
KHZ Kahutara 68.38 144 P **P** **15 56 27.2 +1.1**
BHW Baring Head 68.54 143 P **P** **15 56 27.5 +0.4**
ARU Arti 68.77 327 P **P** **15 56 28.0 -0.4**
UWE Uwekahuna 75.57 73 P **P** **15 57 11.1 +1.2**
KDAK Kodiak Island 76.11 33 P **P** **15 57 14.1 +2.0**
KDAK IAmb IAmb 15 57 36.4
comp=Z,9.6nm,1.2s
SKT Skwentna 76.76 29 P **P** **15 57 16.8 +1.0**
CNPM China Poot 76.85 31 P **P** **15 57 17.9 +1.6**
CNPM IAmb IAmb 15 57 42.5
comp=Z,12nm,1.2s
BPAW Bear Paw Mtn. 77.08 27 P **P** **15 57 18.4 +0.8**
BPAW IAmb IAmb 15 57 31.2
comp=Z,5.9nm,1.0s
MLY Manley 77.21 26 P **P** **15 57 19.8 +1.5**
RAYN Ar Rayn 77.43 292 P **P** **15 57 18.6 -1.7**
COLD Coldfoot 77.50 23 P **P** **15 57 20.6 +0.8**
RC01 Rabbit Creek A 77.61 30 P **P** **15 57 21.5 +0.9**
RC01 IAmb IAmb 15 57 45.1
comp=Z,6.7nm,0.8s
TOLK Toolik Lake Re 77.78 22 P **P** **15 57 22.6 +1.2**
CASY Casey 77.83 186 P **P** **15 57 21.7 +0.3**
CASY IAmb IAmb 15 57 26.5
comp=Z,9.7nm,0.9s
MCK McKinley 77.98 27 P **P** **15 57 22.9 +0.3**
MCK IAmb IAmb 15 57 26.7
comp=Z,8.8nm,1.2s
MDM Murphy Dome 78.28 26 P **P** **15 57 25.9 +1.7**
WRH Wood River Hil 78.34 26 P **P** **15 57 26.8 +2.2**
CCB Clear Creek Bu 78.47 26 P **P** **15 57 25.8 +0.6**
ILAR Eielson Array 78.86 26 P **P** **15 57 27.1 -0.3**
comp=Z,0.5nm,0.7s,baz=234,slow=5.1,SNR=7.2
KLMR Klimovskoe 79.05 330 *eP* **P** **15 57 27.4 -1.0**
KLMR AMP 15 57 30.6
comp=Z,23nm,1.1s
BMAR Burnt Mountain 79.68 23 P **P** **15 57 32.9 +1.1**
ARCES ARCESS Array B 83.66 340 P **P** **15 57 53.7 +0.9**
comp=Z,3.6nm,0.8s,baz=81,slow=6.7,SNR=9.7
ARCES LR LR 16 41 26.4
comp=Z,38nm,18.3s,baz=105,slow=40
INK Inuvik 83.69 22 P **P** **15 57 54.2 +1.3**
INK IAmb IAmb 15 57 56.1
comp=Z,11nm,1.5s
BRTR Keskin Array B 85.22 309 P **P** **15 58 00.3 -1.2**
comp=Z,1.6nm,0.8s,baz=116,slow=4.0,SNR=8.4
BRTR LR LR 16 43 22.1
comp=Z,30nm,18.1s,baz=114,slow=41
FINES FINESS Array B 85.40 332 P **P** **15 58 01.5 -0.2**
comp=Z,10nm,0.8s,baz=79,slow=4.1,SNR=27
FINES LR LR 16 40 14.9
comp=Z,99nm,18.4s,baz=84,slow=38
MNK Minsk 86.11 325 *i* P P 15 57 59.8 -5.6
comp=E,3.0nm,1.0s
MNK *i* P P 15 57 59.8 -5.6
comp=N,36nm,0.8s
MNK *i* P P 15 57 59.8 -5.6
comp=Z,11nm,0.8s,baz=78
MNK *i* PP **PP** **16 01 19.0 -6.5**
MNK *i* PPP PPP 16 03 12.5
MNK *i* S **SKSac** **16 08 25.1 -4.7**
MNK *i* SS **SS** **16 14 11.6 -4.8**
MNK *i* SSS SSS 16 17 43.1
MNK *i* LQ LQ 16 30 47.5
MNK *i* LR LR 16 34 28.4
MNK *i* LRM MLR 16 37 44.4
MNK *i* LRM MLR 16 37 44.4
MNK *i* LRM MLR 16 37 44.4
AKASG Malin Array Be 86.15 321 P **P** **15 58 04.6 -1.0**
comp=Z,2.6nm,0.7s,baz=63,slow=4.9,SNR=11
AKASG Malin Array Be 86.15 321 P **P** **15 58 05.1 -0.6**
AKASG IAmb IAmb 15 58 06.4
comp=Z,5.9nm,1.4s
AKBB Malin Array Si 86.15 321 P **P** **15 58 04.2 -1.4**
AKBB IAmb IAmb 15 58 27.1
comp=Z,7.9nm,1.2s
PPT Papeete 87.67 108 LR LR 16 29 59.1
comp=Z,48nm,19.2s,baz=297,slow=30
PPT2 Papeete2 87.67 108 *e*LR LR 16 26 22.2
comp=Z,68nm,22.2s
TBI Tubuai 88.99 114 *e*LR LR 16 27 02.9
comp=Z,100nm,24.2s
BUR08 Bucovina Ar. S 89.45 318 P **P** **15 58 21.1 -0.6**
BUR08 IAmb IAmb 15 58 43.0
comp=Z,6.9nm,1.4s
MAW Mawson 90.30 200 P **P** **15 58 26.2 +1.3**
comp=Z,2.7nm,1.0s,baz=80,slow=11,SNR=3.1
VNDA Vanda 90.52 173 P **P** **15 58 26.0 +0.2**
comp=Z,2.9nm,1.1s,baz=304,slow=5.8,SNR=9.2
VNDA Vanda 90.52 173 P **P** **15 58 26.5 +0.7**
VNDA IAmb IAmb 15 58 36.3
comp=Z,5.9nm,1.2s
KOLS Kolonicke sedl 90.96 320 *e*P **P** **15 58 28.9 +0.3**
CRVS Cervenica-Dubn 91.47 320 *e*P **P** **15 58 33.4 +2.4**
NB2 NORSAR Subarra 92.25 334 P **P** **15 58 33.2 -1.2**
baz=82,slow=4.6
NOA NORSAR Array B 92.25 334 P **P** **15 58 33.7 -0.7**
comp=Z,1.5nm,0.8s,baz=64,slow=4.5,SNR=5.1
NOA LR LR 16 45 20.0
comp=Z,61nm,18.6s,baz=60,slow=39
YKA Yellowknife Ar 93.17 24 P **P** **15 58 39.6 +1.1**
comp=Z,0.8nm,0.8s,baz=298,slow=4.2,SNR=6.5
TAOE Nuku Hiva Isla 95.04 98 *e*LR LR 16 29 38.0
comp=Z,116nm,22.1s
GERES GERESS Array B 96.27 322 P **P** **15 58 53.5 +0.4**
comp=Z,0.3nm,0.6s,baz=64,slow=2.3,SNR=2.5
PLCA Paso Flores 146.73 156 PKPbc **PKiKP** **16 05 08.8 -0.7**
comp=Z,2.4nm,0.6s,baz=300,slow=2.9,SNR=11
PLCA Paso Flores 146.73 156 **PKPbc** **16 05 06.9 +0.1**

JMA 07 15:58:33.5±0.1, 33°22N×139°13E, h25km±3km, M2.1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.58**	**105**	P	Pb	15 58 44.8	-0.2
JHCJ				S	Sb	15 58 52.6	-0.3
JHJ2	**Mitsune**	**0.59**	**100**	S	Sb	15 58 52.9	-0.2
JMKN	**Mikurajimanish**	**0.77**	**30**	P	Pb	15 58 47.9	-0.4
JMKN				S	Sb	15 58 58.5	+0.1
JKO	**Kozu shima**	**0.96**	**0**	P	Pn	15 58 51.3	-0.2
JKO				*e*S	Sn	15 59 04.2	-0.2
TK02	**Tokai 2**	**1.36**	**303**	P	Pn	15 58 57.0	+0.4
JIM2	**Oshima 3**	**1.52**	**9**	P	Pb	15 59 00.2	-0.7
TTO2	**TONANKAI O.B.S**	**1.83**	**287**	P	Pn	15 59 04.4	+1.3
TTO2				*e*S	Sb	15 59 27.5	-1.0

*IDC **07** 15:58:20.0±4.5, 45°.67N×149°.76E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.3/43, mbtmp3.5/3, ML2.7/2, MS3.1/1, Ms1 3.3/1, ms1mx2.6/14, Error ellipse: s-maj=108.1km s-min=35.9km az=134.0*
*SKHL **07** 15:58:38.5±0.4, 44°.80N×151°.90E, h32km±5km, mb4.2/3*
ISC 07 15:58:38.6±4.4, 44°.7N±0°.2×151°.9E±0°.2, h35km, n27, σ1s84/28, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.89**	**282**	*e*P	**Pn**	**15 59 23.2**	**+1.1**
KUR				AMB	AMB	15 59 25.4	
	40nm,0.6s						
KUR				*i* S	**Sn**	**15 59 56.4**	**+0.9**
KUR				A	A	16 00 01.2	
	40nm,0.3s						
KUR				A	A	16 00 01.2	
	40nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.36**	**263**	*e*P	**Pn**	**15 59 44.0**	**+1.8**
YUK				AMB	AMB	15 59 46.7	
	10.0nm,0.2s						
YUK				*i* S	**Sn**	**16 00 33.4**	**+1.7**
YUK				A	A	16 00 38.4	
	40nm,0.3s						
YUK				A	A	16 00 38.4	
	60nm,0.3s						
GRPR	**Tuman**	**4.43**	**263**	*e*P	**Pn**	**15 59 44.9**	**+1.7**
GRPR				AMB	AMB	15 59 46.2	
	10.0nm,0.2s						
GRPR				*i* S	**Sn**	**16 00 33.8**	**+0.3**
NEM2	**Nemuro 2**	**4.61**	**255**	P	**Pn**	**15 59 48.6**	**+2.9**
NEM2				*e*S	**Sn**	**16 00 40.0**	**+2.0**
NMR	**Nemuro--Hokkai**	**4.62**	**255**	*e*P	**Pn**	**15 59 48.7**	**+2.8**
NMR				*i* S	**Sn**	**16 00 40.6**	**+2.4**
JRA	**Rausu**	**4.90**	**263**	P	**Pn**	**15 59 50.7**	**+1.0**
JNK	**Nakash**	**5.26**	**260**	P	**Pn**	**15 59 55.7**	**+1.0**
JAK	**Akkeshi**	**5.46**	**254**	*e*S	**Sn**	**16 00 58.3**	**-0.5**
JAK	**Akkeshi**	**5.46**	**254**	P	**Pn**	**15 59 59.2**	**+1.8**
JTKR	**Abashiri--Toko**	**5.75**	**266**	P	**Pn**	**16 00 00.1**	**-1.3**
JAR	**Ashorobuto**	**6.00**	**259**	P	**Pn**	**16 00 05.9**	**+1.0**
JOB	**Onbets**	**6.08**	**256**	*e*S	**Sn**	**16 01 13.0**	**-1.3**
JOB	**Onbets**	**6.08**	**256**	P	**Pn**	**16 00 06.9**	**+0.9**
JCH	**Churui**	**6.51**	**254**	P	**Pn**	**16 00 12.5**	**+0.7**
JCH				*e*S	**Sn**	**16 01 22.4**	**-2.4**
JKK2	**Kamakawa 2**	**6.60**	**266**	P	**Pn**	**16 00 10.6**	**-2.4**
ASAJ	**Asahikawa**	**6.66**	**268**	P	**Pn**	**16 00 11.1**	**-2.9**
JFR	**Furan**	**6.87**	**260**	P	**Pn**	**16 00 16.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**7.05**	**253**	P	**Pn**	**16 00 18.8**	**-0.5**
JBT2	**Biratori 2**	**7.14**	**258**	P	**Pn**	**16 00 19.5**	**-1.0**
JNB	**Noboribetsu**	**8.17**	**258**	P	**Pn**	**16 00 32.6**	**-2.0**
JKB	**Kayabe**	**8.38**	**254**	*e*S	Sn	16 02 02.4	-8.5
JKB	**Kayabe**	**8.38**	**254**	P	**Pn**	**16 00 35.3**	**-2.3**
JANG	**Nango**	**8.78**	**244**	*e*S	**Sn**	**16 02 18.2**	**-2.4**
PETK	**Petropavlovsk-**	**9.25**	**22**	Pn	Pn	16 00 31.9	-17
	0.4nm,0.3s,baz=216,slow=14,SNR=16						
MJAR	**Matsushiro Arr**	**13.18**	**237**	Pn	Pn	16 01 20.2	-23
	0.0nm,0.3s,baz=68,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**47.13**	**299**	P	P	16 06 39.8	-27
	0.3nm,0.6s,baz=68,slow=6.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**51.04**	**257**	LR	LR	16 28 27.2	
	comp=Z,17nm,18.2s,baz=160,slow=36						

JMA 07 15:58:55.2, 41°.84N×139°.47E, h13km±1km, M1.8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.24**	**1**	P	Pg	15 59 00.5	+0.1
JOSM				*e*S	Sg	15 59 04.1	+0.2
JOMM	**Oshimamatsumae**	**0.51**	**128**	P	Pg	15 59 05.2	0.0
JOMM				*e*S	Sg	15 59 12.3	+0.3
JHST	**Hiyamasetana**	**0.66**	**27**	P	Pg	15 59 08.0	0.0
JYM2	**Yakumo 2**	**0.73**	**67**	P	Pg	15 59 08.9	-0.4
JSR	**Shiriuchi**	**0.78**	**113**	*e*S	Sg	15 59 20.1	-0.3
JSH	**Shimam**	**0.91**	**28**	P	Pg	15 59 12.4	-0.4
JSH				*e*S	Sg	15 59 23.8	-0.9
JSI2	**Shiura 2**	**1.05**	**138**	P	Pb	15 59 14.6	-0.7
JSI2				*e*S	Sb	15 59 27.9	-1.1
JKB	**Kayabe**	**1.17**	**87**	P	Pn	15 59 16.5	-0.7
JKB				*e*S	Sb	15 59 31.8	-0.5
JOT	**Ohata**	**1.27**	**111**	P	Pn	15 59 17.8	-0.8
JOT				*e*S	Sb	15 59 34.0	-1.2

JMA 07 15:58:56.5±0.1, 38°.76N×142°.27E, h36km±2km, M2.4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**304**	P	Pn	15 59 08.0	-0.2
OFUJ				S	Sn	15 59 16.0	-0.3
JKMT	**Kesennumamotoy**	**0.62**	**275**	P	Pn	15 59 08.7	-0.2
JKMT				S	Sn	15 59 17.0	-0.6
JIKH	**Ishinomakikobu**	**0.77**	**235**	P	Pn	15 59 10.7	-0.2
JIKH				S	Sn	15 59 20.7	-0.5
JIO	**Ouri**	**0.78**	**247**	P	Pn	15 59 10.9	-0.1
JIO				S	Sn	15 59 20.7	-0.8
JMK	**Ichinoseki**	**0.84**	**283**	P	Pn	15 59 12.0	+0.2
JMK				S	Sn	15 59 22.6	-0.4
JOM	**Ohasama**	**1.04**	**313**	P	Pn	15 59 15.1	+0.5
JOM				S	Sn	15 59 26.6	-1.3
JTH	**Tanohata**	**1.22**	**345**	P	Pn	15 59 17.4	+0.4
JOU	**Okura**	**1.32**	**253**	P	Pn	15 59 18.9	+0.5
JOU				*e*S	Sn	15 59 35.7	+1.0
JRG	**Rokugo**	**1.42**	**297**	P	Pn	15 59 21.0	+1.2
JYK	**Kaneyama**	**1.50**	**277**	P	Pn	15 59 21.6	+0.7

*IDC **07** 16:04:38.4±0.8, 10°.76N×126°.15E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/35, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=55.8km s-min=16.5km az=74.0*
*MAN **07** 16:04:39.2, 10°.99N×126°.53E, h34km, MS4.4*
*NEIC **07** 16:04:41.6±2.3, 10°.8N±0°.1×126°.0E±0°.2, h16km±5km, mb4.6/16, Error ellipse: s-maj=23.5km s-min=15.0km az=78.0*
ISC 07 16:04:41.0±1.6, 10°.83N±0°.04×126°.22E±0°.05, h16km±10km, n45, σ1s61/53, mb4.3/17, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**1.05**	**185**	*e*P	**Pb**	**16 04 59.6**	**-1.1**
GLSP				*e*S	**Sg**	**16 05 13.8**	**-1.3**
SCPH	**Surigao**	**1.27**	**215**	*e*P	**Pg**	**16 05 05.5**	**0.0**
SCPH				*e*S	**Sg**	**16 05 24.6**	**+2.5**
MSLP	**Maasin**	**1.51**	**243**	*e*P	**Pg**	**16 05 09.9**	**-0.2**
MSLP				*e*S	**Sn**	**16 05 28.9**	**+2.2**
BUTP	**Butuan**	**1.94**	**198**	*e*P	**Pn**	**16 05 14.8**	**+1.4**
BUTP				*e*S	**Sb**	**16 05 40.3**	**+0.3**
LLP	**Lapu-Lapu**	**2.27**	**257**	*e*P	**Pb**	**16 05 21.4**	**-0.3**
LLP				*e*S	**Sb**	**16 05 53.1**	**+3.5**
CGP	**Cagayan de Oro**	**2.80**	**213**	*e*P	**Pb**	**16 05 28.9**	**-1.8**
CGP				*e*S	**Sn**	**16 06 02.7**	**+4.1**
SNPH	**Sibulan**	**3.29**	**244**	*e*P	**Pb**	**16 05 36.3**	**-2.8**
SNPH				*e*S	**Sn**	**16 06 07.1**	**-3.7**
RCP	**Roxas**	**3.48**	**282**	*e*P	**Pb**	**16 05 39.6**	**-2.8**
CNOP	**Candoni, Negro**	**3.66**	**254**	*e*P	**Pn**	**16 05 39.2**	**+2.2**
CNOP				*e*S	Sn	16 06 10.9	-9.0
DAV	**Davao City (W)**	**3.79**	**190**	Lg	Lg	16 06 33.1	
	9.2nm,0.3s,baz=311,slow=20,SNR=1.1						
DAV	**Davao City (W)**	**3.79**	**190**	Pn	**Pn**	**16 05 36.6**	**-2.2**
KCP	**Kidapawan**	**3.96**	**196**	*e*P	**Pb**	**16 05 51.1**	**+0.5**
LQP	**Lukban**	**5.61**	**306**	*e*P	**Pn**	**16 06 07.0**	**+2.9**
CAUP	**Cauayan**	**7.42**	**325**	*e*P	**Pn**	**16 06 28.8**	**+0.1**
SMPP	**San Manuel, Pa**	**7.55**	**315**	*e*P	**Pn**	**16 06 30.3**	**-0.1**
GUMO	**Guam**	**18.43**	**80**	P	**P**	**16 08 57.6**	**+1.8**
JMN	**Monobe**	**23.85**	**16**	P	**P**	**16 09 55.6**	**+2.0**
JMN				IAmb	IAmb	16 10 00.5	
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**26.46**	**174**	P	**P**	**16 10 17.6**	**+0.1**
KNRA				IAmb	IAmb	16 10 30.0	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**28.75**	**181**	P	**P**	**16 10 38.6**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=352,slow=7.9,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.75**	**181**	P	**P**	**16 10 37.7**	**-0.3**
PSA00	**Pilbara Seismi**	**32.81**	**191**	P	**P**	**16 11 10.7**	**-3.1**
PSA00				IAmb	IAmb	16 11 15.4	
	comp=Z,4.2nm,1.0s						
USA0B	**Ussuriysk Arra**	**33.62**	**8**	P	**P**	**16 11 19.5**	**-1.1**
USA0B				IAmb	IAmb	16 11 19.7	
	comp=Z,8.6nm,1.2s						
ASAR	**Alice Springs**	**35.10**	**168**	P	**P**	**16 11 32.5**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=351,slow=7.1,SNR=11						
ASAR				PcP	**PcP**	**16 14 04.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=347,slow=2.3,SNR=2.5						
ASAR				LR	LR	16 29 34.3	
	comp=Z,49nm,18.6s,baz=158,slow=43						
HNR	**Honiara**	**39.13**	**120**	P	**P**	**16 12 09.4**	**+1.3**
SONM	**Songino Array**	**40.48**	**339**	P	**P**	**16 12 19.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=146,slow=8.3,SNR=1.8						
FORT	**Forrest**	**41.41**	**178**	P	**P**	**16 12 26.3**	**-0.5**
FORT				IAmb	IAmb	16 12 35.8	
	comp=Z,23nm,1.2s						
BBOO	**Buckleboo**	**44.40**	**168**	P	**P**	**16 12 50.7**	**-0.3**
BBOO				IAmb	IAmb	16 13 09.9	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**44.95**	**161**	P	**P**	**16 12 55.0**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=347,slow=8.5,SNR=6.1						
STKA	**Stephens Creek**	**44.95**	**161**	P	**P**	**16 12 54.6**	**-0.8**
PETK	**Petropavlovsk-**	**49.15**	**25**	P	**P**	**16 13 29.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=256,slow=5.8,SNR=4.1						
TOO	**Toolangi**	**51.43**	**160**	P	**P**	**16 13 45.9**	**+0.5**
MK31	**Makanchi Array**	**51.55**	**323**	P	**P**	**16 13 46.5**	**+0.2**
MKAR	**Makanchi Array**	**51.55**	**323**	P	**P**	**16 13 46.6**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=121,slow=8.2,SNR=18						
MKAR				PcP	**PcP**	**16 15 00.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=138,slow=5.1,SNR=2.2						
MAKZ	**Makanchi**	**51.75**	**322**	P	**P**	**16 13 47.8**	**0.0**
ZALV	**Zalesovo Beam**	**54.11**	**331**	P	**P**	**16 14 04.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=113,slow=7.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**54.11**	**331**	P	**P**	**16 14 03.7**	**-1.3**
KKAR	**Karatay Array**	**57.82**	**314**	P	**P**	**16 14 30.8**	**-1.0**
BRVK	**Borovoye**	**61.25**	**325**	P	**P**	**16 14 54.9**	**-0.3**
BRVK				IAmb	IAmb	16 14 57.2	
	comp=Z,2.8nm,0.7s						
ABKAR	**Akbulak array**	**66.42**	**319**	P	**P**	**16 15 29.0**	**-0.4**
ARU	**Arti**	**68.73**	**327**	P	**P**	**16 15 42.7**	**-1.2**
ARU				IAmb	IAmb	16 15 45.2	
	comp=Z,5.1nm,1.0s						
BMAR	**Burnt Mountain**	**79.77**	**23**	P	**P**	**16 16 47.6**	**-0.6**
ARCES	**ARCESS Array B**	**83.65**	**340**	P	**P**	**16 17 08.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=88,slow=6.4,SNR=4.9						
FINES	**FINESS Array B**	**85.38**	**332**	P	**P**	**16 17 16.8**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=77,slow=6.0,SNR=12						
PLCA	**Paso Flores**	**146.74**	**156**	PKPbc	**PKPdf**	**16 24 21.4**	**+0.5**
	comp=Z,5.1nm,1.2s,baz=229,slow=0.9,SNR=3.6						
PLCA	**Paso Flores**	**146.74**	**156**		**PKPbc**	**16 24 21.9**	**-0.8**

*IDC **07** 16:14:04.8±1.7, 36°.33N×141°.06E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/36, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=39.8km s-min=30.0km az=120.0*
*JMA **07** 16:14:09.2±0.1, 36°.32N×140°.86E, h45km±1km, M3.3*
JMA Felt I J1.
ISC 07 16:14:08.0±1.6, 36°.35N±0°.04×140°.93E±0°.06, h23km±13km, n21, σ0s62/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.28**	**268**	P	**Pn**	**16 14 17.3**	**+0.7**
JHYU				S	Sn	16 14 22.6	+0.6
JHO	**Hitachi**	**0.39**	**312**	P	**Pn**	**16 14 18.5**	**+0.3**
JHO				S	Sn	16 14 24.7	-0.1
JIHU	**Itakohorinouch**	**0.50**	**220**	P	**Pn**	**16 14 20.2**	**+0.5**
JIHU				S	Sn	16 14 27.9	+0.3
JYT	**Yasato**	**0.60**	**258**	P	**Pn**	**16 14 20.7**	**-0.4**
JYT				S	Sb	16 14 28.5	+0.5
ONAJ	**Iwakimizuishiy**	**0.76**	**352**	P	**Pn**	**16 14 23.4**	**+0.1**
ONAJ				S	Sn	16 14 33.2	-0.8
JSMT	**Sammumatsuo**	**0.81**	**209**	P	**Pn**	**16 14 23.9**	**0.0**
JSMT				S	Sn	16 14 34.6	-0.5
JFK	**Kawauchi**	**1.01**	**358**	P	**Pb**	**16 14 26.8**	**-0.1**
JFK				S	Sb	16 14 39.2	-0.6
JAG	**Ashikaga**	**1.19**	**274**	P	**Pb**	**16 14 29.1**	**-0.7**
JAG				S	Sn	16 14 43.5	-1.2
JFT	**Otama**	**1.26**	**338**	P	**Pb**	**16 14 31.3**	**+0.3**
JFT				S	Sb	16 14 47.3	+0.6
JKT	**Katashina**	**1.41**	**288**	P	**Pb**	**16 14 33.1**	**-0.6**
MJAR	**Matsushiro Arr**	**2.20**	**276**	Pn	**Pn**	**16 14 43.7**	**+0.6**
	2.6nm,0.3s,baz=107,slow=8.8,SNR=231						
MJA

*IDC **07** 16:21:03.7±1.0, 10°.76N×126°.11E, h0km, mb4.0/7, mb1 4.0/7, mb1mx3.7/32, mbtmp4.0/7, Error ellipse: s-maj=73.8km s-min=17.9km az=75.0*
*NEIC **07** 16:21:06.2±1.4, 10°.8N±0°.1×125°.9E±0°.3, h10km±1km, mb4.3/9, Error ellipse: s-maj=48.0km s-min=17.9km az=256.0*
*MAN **07** 16:21:09.7, 10°.53N×126°.10E, h1km, MS4.1*

ISC 07 16:21:04.4±2.0, 10°.80N±0°.05×126°.32E±0°.07, h5km±12km, n23, σ0°.85/28, mb4.0/11, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**1.03**	**190**	*eP*	**Pg**	**16 21 24.2**	**+0.1**
GLSP				*eS*	**Sb**	**16 21 39.1**	**+0.7**
MSLP	**Maasin**	**1.58**	**245**	*eP*	**Pg**	**16 21 34.5**	**-0.1**
MSLP				*eS*	**Sn**	**16 21 53.5**	**-0.3**
BUTP	**Butuan**	**1.94**	**201**	*eP*	**Pg**	**16 21 40.0**	**-0.2**
BUTP				*eS*	**Sb**	**16 22 04.7**	**-0.2**
LLP	**Lapu-Lapu**	**2.36**	**258**	*iP*	**Pb**	**16 21 47.5**	**+0.1**
LLP				*eS*	**Sb**	**16 22 17.5**	**+0.6**
CGP	**Cagayan de Oro**	**2.83**	**215**	*eP*	**Pb**	**16 21 54.1**	**-1.2**
CGP				*eS*	**Sn**	**16 22 23.8**	**-0.8**
CNOP	**Candoni, Negro**	**3.75**	**255**	*eP*	**Pn**	**16 22 04.3**	**+1.4**
TATO	**Taipei**	**14.82**	**343**	Pn	**Pn**	**16 24 33.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**28.72**	**181**	P	**P**	**16 27 04.0**	**+1.3**
	2.0nm,0.8s,baz=9.1,slow=10,SNR=7.1						
USRK	**Ussuriysk Ar.**	**33.64**	**7**	P	**P**	**16 27 47.4**	**+1.5**
	0.9nm,0.8s,baz=171,slow=9.8,SNR=2.7						
AS31	**Alice Springs**	**35.05**	**168**	P	**P**	**16 27 57.7**	**-0.7**
ASAR	**Alice Springs**	**35.05**	**168**	P	**P**	**16 27 57.2**	**-1.2**
	0.4nm,0.7s,baz=351,slow=6.8,SNR=9.5						
ASAR				PcP	**PcP**	**16 30 30.0**	**-0.5**
	0.2nm,0.6s,baz=339,slow=2.4,SNR=1.4						
MORW	**Morawa**	**40.86**	**194**	P	**P**	**16 28 47.0**	**-0.3**
MORW				IAmb	IAmb	16 29 08.1	
	comp=Z,21nm,1.4s						
BBOO	**Buckleboo**	**44.35**	**168**	P	**P**	**16 29 15.2**	**-0.5**
BBOO				IAmb	IAmb	16 29 42.4	
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**44.89**	**161**	P	**P**	**16 29 20.8**	**+0.8**
	comp=Z,6.2nm,1.2s,baz=323,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**44.89**	**161**	IAmb	IAmb	16 29 25.2	
	comp=Z,3.0nm,1.4s						
MK31	**Makanchi Array**	**51.64**	**322**	P	**P**	**16 30 11.3**	**-0.7**
MKAR	**Makanchi Array**	**51.64**	**322**	P	**P**	**16 30 11.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=119,slow=9.2,SNR=8.8						
MAKZ	**Makanchi**	**51.83**	**322**	P	**P**	**16 30 13.0**	**-0.5**
MAKZ				IAmb	IAmb	16 30 15.1	
	comp=Z,2.5nm,1.1s						
ZAA0	**Zalesovo Array**	**54.19**	**331**	P	**P**	**16 30 30.0**	**-0.7**
ZAA0				IAmb	IAmb	16 30 31.2	
	comp=Z,1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**54.19**	**331**	P	**P**	**16 30 30.6**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=124,slow=8.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**54.19**	**331**	P	**P**	**16 30 30.3**	**-0.4**
MCQ	**Macquarie Isla**	**70.65**	**161**	P	**P**	**16 32 21.8**	**+1.1**
FINES	**FINESS Array B**	**85.45**	**332**	P	**P**	**16 33 41.9**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=57,slow=5.1,SNR=6.4						

WEL 07 16:31:36.0, 45°S±10°×166°9E±1°8, h6km±30km, M2.6/8, ML2.6/7, MLv2.6/8, Error ellipse: s-maj=0.0km s-min=0.0km az=94.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WKZ	**Wanaka**	**0.31**	**151**	P	Pb	16 31 43.9	-0.1
JCZ	**Jackson Bay**	**0.48**	**358**	P	Pb	16 31 46.8	-0.2
MSZ	**Milford Sound**	**0.64**	**259**	P	Pb	16 31 49.7	+0.1
EAZ	**Earnscleugh**	**0.77**	**152**	P	Pb	16 31 51.9	+0.2
MLZ	**Mavora Lakes**	**0.95**	**211**	P	Pb	16 31 55.1	+0.3
LBZ	**Lake Benmore**	**1.00**	**81**	P	Pn	16 31 56.5	-0.1
FOZ	**Fox Glacier**	**1.25**	**36**	P	Pg	16 32 00.4	+0.3
FOZ	**Fox Glacier**	**1.25**	**36**	P	Pg	16 32 00.1	0.0
ODZ	**Otahua Downs**	**1.40**	**111**	P	Pg	16 32 03.1	+0.3
WHZ	**Wether Hill Ro**	**1.47**	**204**	P	Pg	16 32 04.6	+0.4
TUZ	**Tuapeka**	**1.52**	**158**	P	Pg	16 32 05.7	+0.6

*TUL **07** 16:36:55.1±1.5, 36°.20N±0°.02×97°.31W±0°.02, h6km±7km, ML2.6,mb_Lg2.6/38(NEIC), Error ellipse: s-maj=2.1km s-min=2.0km az=140.0*

NEIC 07 16:36:55.2±1.3, 36°.20N±0°.01×97°.34W±0°.02, h4km±7km, Error ellipse: s-maj=2.2km s-min=1.7km az=146.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.41**	**193**	Pg	Pg	16 37 03.4	+0.2
OK029				Sg	Sg	16 37 08.4	-0.2
OK031	**S. Brethren Rd**	**0.48**	**121**	Pg	Pg	16 37 04.1	-0.3
OK031				Sg	Sg	16 37 10.6	0.0
QUOK	**Quay**	**0.51**	**93**	Pg	Pg	16 37 04.6	-0.5
OK030	**Cody Creek RV**	**0.53**	**121**	Pg	Pg	16 37 04.9	-0.5
OK030				Sg	Sg	16 37 12.1	-0.1
BLOK	**Blackwell**	**0.57**	**10**	Pg	Pg	16 37 06.0	-0.2
BCOK	**Bluff Creek, N**	**0.58**	**202**	Pg	Pg	16 37 06.4	0.0
BCOK				IAmb_Lg		16 37 14.3	
	comp=Z,93nm,0.8s						
CROK	**Carrier**	**0.60**	**300**	Pg	Pg	16 37 06.9	+0.1
OK025	**Westminster Rd**	**0.62**	**180**	Pg	Pg	16 37 07.0	-0.1
GC02	**Grant County #**	**0.77**	**327**	Pg	Pg	16 37 09.9	-0.1
OKCFA	**Oklahoma City**	**0.79**	**186**	Pg	Pg	16 37 10.2	-0.2
OKCFA				Sg	Sg	16 37 21.1	+0.5
OKCSW	**OKLAHOMA CITY**	**0.80**	**186**	Pg	Pg	16 37 10.3	-0.2
OKCSW				Sg	Sg	16 37 21.5	+0.6
KAN13	**South Haven SW**	**0.82**	**352**		Pg	16 37 11.5	+0.6
OK032	**Salt Plains WL**	**0.92**	**311**		Pg	16 37 11.8	-1.1
FNO	**Franklin**	**0.94**	**183**	Pg	Pg	16 37 12.7	-0.6
KAN09	**Caldwell North**	**0.96**	**347**		Pg	16 37 13.7	+0.1
T35A	**Sooner Cattle**	**0.98**	**43**		Pg	16 37 13.2	-0.8
KAN10	**Anthony SW Sta**	**1.10**	**327**	Pn	Pg	16 37 15.9	-0.5
KAN16	**Harper SW Stat**	**1.18**	**331**	Pn	Pg	16 37 17.4	-0.3
U32A	**Winter Ranch,**	**1.35**	**278**	Pn	Pn	16 37 20.5	-0.4
U32A				IAmb_Lg		16 37 40.9	
	comp=Z,24nm,0.8s						
X34A	**Smith Ranch, M**	**1.65**	**194**		Pn	16 37 25.5	+0.5
WMOK	**Wichita Mounta**	**1.87**	**219**	Pn	Pn	16 37 28.3	+0.2
X37A	**Clayton**	**2.28**	**134**	Pn	Pn	16 37 33.8	+0.2
U38A	**Gravette**	**2.40**	**83**	Pn	Pn	16 37 35.7	+0.4
R32A	**Long Quarter,**	**2.47**	**334**	Pn	Pn	16 37 37.7	+1.3
HHAR	**Hobbs**	**2.75**	**87**		Pn	16 37 41.6	+1.4
KSU1	**Kansas State U**	**2.95**	**11**	Pn	Pn	16 37 43.6	+0.6
KSU1				IAmb_Lg		16 38 31.9	
	comp=Z,13nm,0.7s						
W39A	**Magazine**	**3.06**	**108**		Pn	16 37 44.8	+0.4
W39A				IAmb_Lg		16 38 37.0	
	comp=Z,13nm,0.8s						
MIAR	**Mount Ida**	**3.49**	**117**	Pn	Pn	16 37 50.5	+0.2
Z38A	**Mt. Pleasant**	**3.52**	**146**	IAmb_Lg		16 38 52.2	
	comp=Z,15nm,0.8s						
S39A	**Bolivar**	**3.55**	**64**		Pn	16 37 51.8	+0.7
U40A	**Yellville**	**3.63**	**86**	Pn	Pn	16 37 50.9	-1.4
ABTX	**Abilene, Hawle**	**4.04**	**209**	IAmb_Lg		16 39 03.0	
	comp=Z,9.8nm,1.2s						
X40A	**Basin Creek Fa**	**4.06**	**114**	Pn	Pn	16 37 58.7	+0.5
MGMO	**Mountain Grove**	**4.19**	**75**	IAmb_Lg		16 39 11.4	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**4.21**	**101**	IAmb_Lg		16 39 13.1	
	comp=Z,11nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.24**	**93**	IAmb_Lg		16 39 09.5	
	comp=Z,7.9nm,0.7s						
R40A	**Maddies Statio**	**4.55**	**61**	IAmb_Lg		16 39 16.3	
	comp=Z,23nm,0.8s						
P38A	**Dawn**	**4.56**	**40**	IAmb_Lg		16 39 18.5	
	comp=Z,8.5nm,0.9s						
N35A	**Tabor**	**4.84**	**15**	IAmb_Lg		16 39 33.5	
	comp=Z,19nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.05**	**305**	IAmb_Lg		16 39 44.6	
	comp=Z,8.8nm,0.8s						
CCM	**Cathedral Cave**	**5.21**	**67**	IAmb_Lg		16 39 49.5	
	comp=Z,8.3nm,0.9s						
BGNE	**Belgrade**	**5.24**	**353**	IAmb_Lg		16 39 39.3	
	comp=Z,14nm,0.9s						
P40A	**Paris**	**5.35**	**50**	IAmb_Lg		16 39 50.8	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**5.60**	**82**	IAmb_Lg		16 39 58.0	
	comp=Z,12nm,1.0s						
N38A	**Joes South For**	**5.60**	**34**	IAmb_Lg		16 40 08.7	
	comp=Z,8.7nm,0.7s						
O44A	**Mansfield**	**8.03**	**58**	IAmb_Lg		16 41 12.3	
	comp=Z,11nm,0.7s						
P46A	**Rosedale**	**8.71**	**64**	IAmb_Lg		16 41 36.4	
	comp=Z,8.4nm,0.8s						

*IDC **07** 16:49:34.2±0.6, 12°.18N×143°.88E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.4/35, mbtmp4.4/19, MS3.6/15, Ms1 3.6/15, ms1mx3.4/34, Error ellipse: s-maj=18.5km s-min=13.6km az=80.0*
*BJI **07** 16:49:36.2±0.0, 12°.05N×144°.11E, h38km, mB4.9/15, mb4.5/19, Ms4.2/4, Ms7 4.0/4*
*NEIC **07** 16:49:39.0±1.4, 12°.04N±0°.07×143°.98E±0°.08, h35km±2km, mb4.8/107, Error ellipse: s-maj=13.6km s-min=11.1km az=114.0*

ISC 07 16:49:37.4±0.4, 12°.03N±0°.06×143°.93E±0°.07, h26km, n154, σ0°.91/145, mb4.8/67, MS3.7/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.80**	**31**	Pn	**Pn**	**16 50 06.8**	**+0.1**
	505nm,0.3s,baz=212,slow=6.9,SNR=179						
GUMO				Sn	**Sn**	**16 50 29.0**	**+0.3**
	308nm,0.3s,baz=162,slow=19,SNR=8.7						
GUMO				LR	LR	16 50 35.9	
	comp=Z,153nm,21.0s,baz=248,slow=36						
GUMO	**Guam**	**1.80**	**31**	Pn	**Pn**	**16 50 06.7**	**0.0**
ANA2	**Anatahan**	**4.62**	**22**		**Pn**	**16 50 48.2**	**+2.7**
JCJ	**Chichijima**	**15.07**	**354**	LR	LR	16 57 21.9	
	comp=Z,79nm,20.3s,baz=174,slow=31						
JCJ	**Chichijima**	**15.07**	**354**	Pn	**Pn**	**16 53 10.0**	**+1.3**
JCJ				IAmb	IAmb	16 53 17.5	
	comp=Z,79nm,1.1s						
PATS	**Pohnpei**	**15.10**	**109**	Pn	**Pn**	**16 53 08.6**	**-0.5**
FAKI	**Fak Fak**	**18.85**	**219**	P	**P**	**16 53 56.0**	**+0.3**
FAKI				IAmb	IAmb	16 54 22.7	
	comp=Z,74nm,1.4s						
JOW	**Kunigami**	**20.81**	**317**	P	**P**	**16 54 17.8**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=122,slow=8.6,SNR=2.9						
JOW				LR	LR	17 01 16.5	
	comp=Z,110nm,19.5s,baz=328,slow=34						
JOW	**Kunigami**	**20.81**	**317**	P	**P**	**16 54 17.9**	**+1.0**
JOW				IAmb	IAmb	16 54 18.9	
	comp=Z,61nm,1.5s						
JHJ	**Hachijo jima 2**	**21.33**	**350**	LR	LR	17 00 59.0	
	comp=Z,168nm,21.8s,baz=81,slow=32						
PMG	**Port Moresby**	**21.54**	**171**	LR	LR	17 02 41.3	
	comp=Z,84nm,21.4s,baz=327,slow=36						
H11S3	**WAKE ISLAND Hy**	**22.87**	**71**	T	T	17 18 12.0	
	baz=252,slow=76						
H11S1	**WAKE ISLAND Hy**	**22.88**	**71**	T	T	17 18 46.0	
	baz=252,slow=76						
H11S2	**WAKE ISLAND Hy**	**22.88**	**71**	T	T	17 18 32.1	
	baz=252,slow=76						
H11N1	**WAKE ISLAND Hy**	**23.35**	**68**	T	T	17 19 03.1	
	baz=255,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**23.36**	**68**	T	T	17 18 33.3	
	baz=255,slow=75,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**23.37**	**68**	T	T	17 18 33.4	
	baz=255,slow=75,SNR=8.9						
JNU	**Nakatsue**	**24.15**	**332**	P	**P**	**16 54 51.5**	**0.0**
JNU				IAmb	IAmb	16 54 58.0	
	comp=Z,16nm,0.8s						
YULB	**Yu-li**	**24.30**	**301**	P	**P**	**16 54 52.6**	**-0.3**
NACB	**Ninganchiao**	**24.38**	**303**	P	**P**	**16 54 54.1**	**+0.5**
JWT	**Wachi**	**24.40**	**343**	P	**P**	**16 54 55.0**	**+1.3**
LUWI	**Luwuk**	**24.70**	**240**	P	**P**	**16 54 55.8**	**-0.8**
SSLB	**Suanglung**	**24.74**	**301**	P	**P**	**16 54 56.2**	**-0.8**
SSLB				IAmb	IAmb	16 55 01.7	
	comp=Z,11nm,0.6s						
YHNB	**Yeheng**	**24.77**	**304**	P	**P**	**16 54 57.9**	**+0.6**
YHNB				IAmb	IAmb	16 55 07.0	
	comp=Z,37nm,1.5s						
TPUB	**Ta-pu**	**24.82**	**300**	P	**P**	**16 54 57.2**	**-0.5**
TPUB				IAmb	IAmb	16 55 02.0	
	comp=Z,24nm,1.4s						
JHS	**Saijyo**	**24.88**	**339**	P	**P**	**16 54 56.9**	**-1.2**
MJAR	**Matsushiro Arr**	**24.94**	**349**	P	**P**	**16 54 56.5**	**-2.1**
	comp=Z,3.5nm,0.9s,baz=176,slow=10,SNR=10						
MJAR				PcP	**PcP**	**16 58 34.7**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=169,slow=2.4,SNR=4.0						
MJAR				LR	LR	17 04 04.6	
	comp=Z,227nm,18.4s,baz=180,slow=35						
MJAR	**Matsushiro Arr**	**24.94**	**349**	P	**P**	**16 54 57.9**	**-0.7**
MAJO	**Matsushiro**	**24.94**	**349**	P	**P**	**16 54 57.8**	**-0.9**
MAT	**Matsushiro**	**24.94**	**349**	P	**P**	**16 54 56.6**	**-2.0**
MAT				*eS*	**S**	**16 59 23.4**	**+2.7**
JMM	**Marumori**	**25.88**	**354**	P	**P**	**16 55 07.0**	**-0.1**
JSD	**Sado**	**26.39**	**350**	P	**P**	**16 55 11.7**	**+0.1**
JSD				IAmb	IAmb	16 55 18.1	
	comp=Z,35nm,1.5s						
HNR	**Honiara**	**26.61**	**143**	LR	LR	17 03 59.4	
	comp=Z,76nm,19.4s,baz=330,slow=32						
JTM	**Tenmabayashi**	**28.75**	**355**	P	**P**	**16 55 33.2**	**+0.4**
JTM				IAmb	IAmb	16 55 37.2	
	comp=Z,13nm,0.9s						
KSRS	**Korea Array**	**29.09**	**333**	P	**P**	**16 55 36.7**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=141,slow=10,SNR=14						
KSRS				LR	LR	17 07 34.9	
	comp=Z,62nm,18.1s,baz=143,slow=37						
KSAR	**Wonju Array Be**	**29.10**	**333**	P	**P**	**16 55 34.6**	**-1.4**
USRK	**Ussuriysk Ar.**	**33.66**	**344**	P	**P**	**16 56 13.5**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=195,slow=33,SNR=2.3						
AS31	**Alice Springs**	**36.81**	**195**	P	**P**	**16 56 43.1**	**-0.3**
ASAR	**Alice Springs**	**36.81**	**195**	P	**P**	**16 56 45.3**	**+1.9**
	comp=Z,1.0nm,1.0s,baz=15,slow=11,SNR=12						
ASAR				LR	LR	17 11 33.9	
	comp=Z,127nm,20.5s,baz=352,slow=36						
ASAR	**Alice Springs**	**36.81**	**195**	P	**P**	**16 56 43.2**	**-0.2**
EIDS	**Eidsvold**	**37.83**	**169**	P	**P**	**16 56 51.7**	**-0.2**
EIDS				IAmb	IAmb	16 57 04.0	
	comp=Z,19nm,1.4s						
MIDW	**Midway**	**39.54**	**60**	P	**P**	**16 57 05.6**	**-0.8**
DZM	**Mont Dzumac**	**40.46**	**147**	P	**P**	**16 57 16.3**	**+2.2**
	comp=Z,18nm,1.1s,baz=345,slow=16,SNR=2.9						
DZM	**Mont Dzumac**	**40.46**	**147**	IAmb	IAmb	16 57 34.1	
	comp=Z,35nm,1.2s						
CD2	**Chengdu**	**41.55**	**303**	P	**P**	**16 57 22.7**	**-0.3**
CD2				S	**S**	**17 03 37.3**	**-0.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,170nm,4.5s						
CD2				L	L		
	comp=Z,170nm,5.9s						
CD2				L	L		
	comp=Z,260nm,12.9s						
CD2				L	L		
	comp=Z,240nm,11.0s						
PETK	**Petropavlovsk-**	**42.43**	**12**	P	**P**	**16 57 30.8**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=248,slow=6.9,SNR=2.4						
PETK				LR	LR	17 14 32.0	
	comp=Z,68nm,19.9s,baz=206,slow=35						
STKA	**Stephens Creek**	**43.72**	**183**	P	**P**	**16 57 41.1**	**+0.7**
	comp=Z,6.6nm,0.8s,baz=356,slow=7.2,SNR=4.8						
STKA	**Stephens Creek**	**43.72**	**183**	P	**P**	**16 57 40.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**43.78**	**284**	P	**P**	**16 57 42.1**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=85,slow=6.4,SNR=11						
CMAR				LR	LR	17 15 44.2	
	comp=Z,104nm,18.2s,baz=184,slow=36						
CMAR	**Chiang Mai Arr**	**43.78**	**284**	P	**P**	**16 57 41.9**	**+0.6**
CHTO	**Chiang Mai**	**43.79**	**285**	P	**P**	**16 57 41.4**	**0.0**
MSVF	**Nonsavu**	**44.83**	**131**	P	**P**	**16 57 51.5**	**+1.8**
	comp=Z,4.1nm,0.8s,baz=273,slow=10,SNR=4.2						
MSVF	**Nonsavu**	**44.83**	**131**	IAmb	IAmb	16 57 55.7	
	comp=Z,17nm,1.2s						
BBOO	**Buckleboo**	**45.22**	**189**	P	**P**	**16 57 52.9**	**+0.5**
BBOO				IAmb	IAmb	16 58 02.0	
	comp=Z,14nm,1.1s						
ULN	**Ulaanbaatar**	**47.15**	**327**	P	**P**	**16 58 08.1**	**+0.4**
GSI	**Gunungsitoli**	**47.17**	**261**	P	**P**	**16 58 08.2**	**0.0**
SONM	**Songino Array**	**47.48**	**326**	P	**P**	**16 58 10.4**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=147,slow=8.5,SNR=9.7						
SONM				PcP	**PcP**	**16 59 40.9**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=150,slow=3.2,SNR=4.5						
SONM				LR	LR	17 18 12.3	
	comp=Z,118nm,19.7s,baz=110,slow=36						
SONM	**Songino Array**	**47.48**	**326**	P	**P**	**16 58 10.8**	**+0.5**
GTA	**Gaotai**	**47.53**	**313**	*eP*	**P**	**16 58 11.0**	**+0.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,70nm,4.3s						
GTA				L	L		
	comp=Z,65nm,18.5s						
GTA				L	L		
	comp=Z,94nm,18.5s						
GTA				L	L		
	comp=Z,100nm,17.4s						
MORW	**Morawa**	**48.94**	**213**	P	**P**	**16 58 21.2**	**-0.4**
KIWB	**Kanaga Island**	**50.61**	**30**	P	**P**	**16 58 34.2**	**+0.2**
YAK	**Yakutsk**	**50.97**	**351**	P	**P**	**16 58 35.4**	**-1.1**
ATKA	**Atka Island**	**52.30**	**31**	P	**P**	**16 58 46.1**	**-0.5**
COCO	**West Island**	**52.57**	**244**	P	**P**	**16 58 48.1**	**-1.1**
DHH	**Diamond Head**	**56.32**	**72**	P	**P**	**16 59 13.0**	**-3.4**
SPIA	**Saint Paul Isl**	**56.97**	**28**	P	**P**	**16 59 21.1**	**+0.7**
AKUT	**Akutan**	**57.64**	**32**	P	**P**	**16 59 25.2**	**0.0**
BILL	**Bilibino**	**57.84**	**10**	P	**P**	**16 59 25.6**	**-0.8**
SDPT	**Sand Point**	**60.94**	**33**	P	**P**	**16 59 47.4**	**-0.6**
MK31	**Makanchi Array**	**61.98**	**317**	P	**P**	**16 59 54.8**	**-0.5**
MKAR	**Makanchi Array**	**61.98**	**317**	P	**P**	**16 59 55.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=91,slow=8.9,SNR=16						
MKAR	**Makanchi Array**	**61.98**	**317**	P	**P**	**16 59 55.1**	**-0.1**
MAKZ	**Makanchi**	**62.19**	**317**	P	**P**	**16 59 56.7**	**0.0**
ZALV	**Zalesovo Beam**	**62.35**	**325**	P	**P**	**16 59 56.5**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=108,slow=7.2,SNR=5.3						
ZALV				LR	LR	17 27 13.8	
	comp=Z,63nm,19.6s,baz=164,slow=36						
ZALV	**Zalesovo Beam**	**62.35**	**325**	P	**P**	**16 59 56.6**	**-1.0**
SII	**Sitkinak Islan**	**64.68**	**33**	P	**P**	**17 00 13.4**	**+0.5**
SVW2	**Sparrevohn**	**65.47**	**28**	P	**P**	**17 00 17.1**	**-0.9**
SVW2				IAmb	IAmb	17 00 22.7	
	comp=Z,6.5nm,1.1s						
KDAK	**Kodiak Island**	**65.87**	**32**	P	**P**	**17 00 20.8**	**+0.2**
KDAK				IAmb	IAmb	17 00 43.7	
	comp=Z,15nm,1.4s						
CNPM	**China Poot**	**67.03**	**30**	P	**P**	**17 00 27.5**	**-0.5**
BRLK	**Bradley Lake**	**67.27**	**30**	P	**P**	**17 00 28.8**	**-0.8**
BRLK				IAmb	IAmb	17 00 29.7	
	comp=Z,8.2nm,0.6s						
NIL	**Nilore**	**67.40**	**302**	P	**P**	**17 00 30.6**	**-0.3**
PPLA	**Purkeypile**	**67.58**	**26**	P	**P**	**17 00 30.3**	**-1.3**
PPLA				IAmb	IAmb	17 00 37.5	
	comp=Z,6.1nm,1.0s						
SKT	**Skwentna**	**67.59**	**27**	P	**P**	**17 00 30.3**	**-1.3**
SUA	**Susitna One**	**67.80**	**28**	P	**P**	**17 00 32.6**	**-0.4**
SUA				IAmb	IAmb	17 00 40.3	
	comp=Z,14nm,1.3s						
IMAR	**Indian Mountai**	**67.98**	**23**	P	**P**	**17 00 33.9**	**+0.1**
O22K	**Cooper Landing**	**68.02**	**29**	P	**P**	**17 00 33.9**	**-0.3**
SEW	**Seward**	**68.05**	**30**	P	**P**	**17 00 34.5**	**0.0**
SEW				IAmb	IAmb	17 00 44.2	
	comp=Z,16nm,1.2s						
RC01	**Rabbit Creek A**	**68.17**	**29**	P	**P**	**17 00 35.2**	**0.0**
KTH	**Kantishna Hill**	**68.33**	**26**	P	**P**	**17 00 36.2**	**0.0**
KTH				IAmb	IAmb	17 00 37.0	
	comp=Z,6.6nm,0.9s						
BPAW	**Bear Paw Mtn.**	**68.46**	**25**	P	**P**	**17 00 37.1**	**+0.1**
BPAW				IAmb	IAmb	17 00 38.1	
	comp=Z,5.3nm,0.9s						
PMR	**Palmer**	**68.58**	**28**	P	**P**	**17 00 37.1**	**-0.6**
PMR				IAmb	IAmb	17 00 38.1	
	comp=Z,7.4nm,0.8s						
GHO	**Glory Hole Cre**	**68.72**	**28**	P	**P**	**17 00 38.1**	**-0.6**
GHO				IAmb	IAmb	17 00 43.9	
	comp=Z,8.5nm,0.8s						
PWL	**Port Wells**	**68.78**	**29**	P	**P**	**17 00 38.8**	**-0.2**
MLY	**Manley**	**68.85**	**24**	P	**P**	**17 00 39.4**	**0.0**
KNK	**Knik Glacier**	**68.85**	**28**	P	**P**	**17 00 39.6**	**+0.1**
KNK				IAmb	IAmb	17 00 40.1	
	comp=Z,7.8nm,0.8s						
SML	**Sawmill**	**69.00**	**28**	P	**P**	**17 00 40.2**	**-0.2**
SML				IAmb	IAmb	17 00 41.0	
	comp=Z,10nm,0.8s						
BWN	**Browne**	**69.12**	**25**	P	**P**	**17 00 40.5**	**-0.5**
A21K	**Barrow**	**69.13**	**17**	P	**P**	**17 00 41.4**	**+0.4**
RND	**Reindeer**	**69.18**	**26**	P	**P**	**17 00 40.6**	**-0.9**
RND				IAmb	IAmb	17 00 44.7	
	comp=Z,9.0nm,1.3s						
GLI	**Glacier Island**	**69.37**	**29**	P	**P**	**17 00 42.3**	**-0.4**
GLI				IAmb	IAmb	17 01 07.6	
	comp=Z,17nm,1.4s						
I23K	**Minto, Yukon-K**	**69.44**	**24**	P	**P**	**17 00 43.6**	**+0.6**
I23K				IAmb	IAmb	17 00 48.6	
	comp=Z,9.0nm,1.3s						
SCM	**Sheep Creek Mo**	**69.47**	**28**	P	**P**	**17 00 43.7**	**+0.3**
HIN	**Hinchinbrook I**	**69.55**	**30**	P	**P**	**17 00 43.1**	**-0.7**
FID	**Port Fidalgo**	**69.64**	**29**	P

C36M	**Paulatuk**	**79.54**	**21**	P	**P**	**17 01 41.7**	**+0.1**
C36M				IAmb	IAmb	17 01 42.7	
	comp=Z,9.6nm,0.8s						
YKA	**Yellowknife Ar**	**84.66**	**27**	P	**P**	**17 02 09.2**	**+0.6**
	comp=Z,1.9nm,0.4s,baz=340,slow=4.3,SNR=42						
RES	**Resolute Bay**	**86.27**	**13**	P	**P**	**17 02 16.6**	**+0.3**
C09A	**Chrisman Ranch**	**86.36**	**42**	P	**P**	**17 02 16.4**	**-1.0**
C09A				IAmb	IAmb	17 02 20.4	
	comp=Z,5.5nm,0.8s						
PNTR	**Pine Nut**	**87.47**	**51**	P	**P**	**17 02 21.6**	**-1.7**
PNTR				IAmb	IAmb	17 02 30.4	
	comp=Z,4.2nm,0.7s						
ARCES	**ARCESS Array B**	**88.27**	**342**	P	**P**	**17 02 26.3**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=68,slow=5.2,SNR=62						
ARCES				LR	LR	17 45 11.3	
	comp=Z,20nm,18.6s,baz=355,slow=38						
NVAR	**Mina Array Bea**	**88.61**	**51**	P	**P**	**17 02 30.6**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=268,slow=5.3,SNR=5.3						
MFID	**Camas Ranch**	**89.14**	**46**	P	**P**	**17 02 29.6**	**-1.4**
MFID				IAmb	IAmb	17 02 39.7	
	comp=Z,5.2nm,1.0s						
FINES	**FINESS Array B**	**92.17**	**335**	P	**P**	**17 02 43.2**	**-1.3**
	comp=Z,5.0nm,0.4s,baz=65,slow=5.2,SNR=62						
FINES				LR	LR	17 46 31.2	
	comp=Z,35nm,18.7s,baz=68,slow=37						
NOA	**NORSAR Array B**	**98.16**	**339**	LR	LR	17 48 33.4	
	comp=Z,25nm,21.5s,baz=60,slow=36						
DBIC	**Dimbokro**	**143.82**	**299**	PKP	PKPbc	17 09 09.7	+0.7
	comp=Z,4.0nm,0.8s,baz=76,slow=6.5,SNR=2.3						
LPAZ	**La Paz**	**148.65**	**102**	PKPbc	**PKiKP**	**17 09 26.1**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=212,slow=1.8,SNR=8.5						

*ISU **07** 17:12:59,39˚.60N×71˚.02E,h5km*
*KRNET **07** 17:12:59.8±0.1,39˚.60N×71˚.02E,h15km,mb2.9*
*SOME **07** 17:13:00.1,39˚.83N×71˚.52E,h0km*
*NNC **07** 17:13:05.6±6.8,39˚.90N×71˚.33E,h0km,mb3.5,mpv3.4,*
Error ellipse: s-maj=52.7km s-min=25.1km az=2.0

ISC 07 17:12:59.5±1.1,39˚.59N±0˚.03×70˚.99E±0˚.03,h0km±11km, n27,σ1°69/48,18C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.48**	**344**	⇑*i*	P	**Pg**	**17 13 09.2**	**+0.3**
BTK	baz=41			⇑*i*	S	**Sg**	**17 13 15.9**	**+0.8**
	baz=41							
BTK	**Batken**	**0.48**	**344**	*i*	P	**Pg**	**17 13 09.0**	**+0.1**
BTK				*i*	S	**Sg**	**17 13 16.0**	**+0.8**
DRK	**Karamyk**	**0.63**	**100**	⇓*i*	P	**Pg**	**17 13 11.6**	**-0.1**
DRK	baz=0.0			⇓*i*	S	**Sg**	**17 13 20.1**	**+0.2**
	baz=0.0							
GAR	**Garm**	**0.79**	**222**	⇓*i*	P	**Pg**	**17 13 15.2**	**+0.5**
GAR	baz=23			⇓*i*	S	**Sg**	**17 13 26.1**	**+1.2**
	baz=23							
FRG	**Fergana**	**1.29**	**28**	*e*	P	Pn	17 13 19.0	-5.9
FRG				*e*	S	Sb	17 13 32.0	-10
ANR	**Andizhan**	**1.56**	**42**	*e*	P	**Pg**	**17 13 30.0**	**+0.5**
ANR				*e*	S	**Sg**	**17 13 54.0**	**+4.2**
OHH	**Osh**	**1.66**	**55**	⇑*i*	P	**Pb**	**17 13 30.3**	**-0.7**
OHH	baz=55			⇑*i*	S	**Sg**	**17 13 51.7**	**-1.2**
	baz=55							
OHH	**Osh**	**1.66**	**55**	*e*	P	**Pg**	**17 13 34.0**	**+2.6**
OHH				*e*	S	**Sg**	**17 13 54.0**	**+1.1**
CHGR	**Chuyangaron**	**1.71**	**237**	⇑*i*	P	**Pb**	**17 13 31.8**	**0.0**
CHGR	baz=38			⇑*i*	S	**Sg**	**17 13 54.9**	**+0.6**
	baz=38							
TRKS	**Terek-Say**	**1.94**	**3**	⇓*e*	P	**Pb**	**17 13 34.4**	**-1.5**
TRKS	baz=3.0			⇓*i*	S	**Sb**	**17 13 59.3**	**-1.4**
	baz=3.0							
SFK	**Sufi-Kurgan**	**1.98**	**77**	⇑*i*	P	**Pb**	**17 13 35.9**	**-0.6**
SFK	baz=77			⇑*i*	S	**Sg**	**17 14 01.5**	**-1.6**
	baz=77							
CHMG	**Chimgan**	**2.10**	**339**	*e*	P	**Pg**	**17 13 39.0**	**-0.7**
CHMG				*e*	S	**Sg**	**17 14 07.0**	**+0.1**
CHRV	**Charvak**	**2.20**	**339**	*e*	P	**Pb**	**17 13 40.0**	**-0.2**
CHRV				*e*	S	**Sg**	**17 14 11.0**	**+0.9**
ARSB	**Arslanbob**	**2.30**	**41**	⇑*i*	P	**Pb**	**17 13 40.2**	**-1.8**
ARSB	baz=40			⇑*i*	S	**Sb**	**17 14 09.4**	**-1.6**
	baz=40							
ARSB	**Arslanbob**	**2.30**	**41**	*e*	P	**Pb**	**17 13 41.0**	**-1.0**
ARSB				*e*	S	**Sg**	**17 14 18.0**	**+4.5**
IUG	**luzhnay**	**2.66**	**344**	*e*	P	**Pg**	**17 13 49.9**	**-0.5**
IUG	12nm,0.2s			*e*	S	**Sg**	**17 14 25.4**	**+0.5**
	186nm,0.5s							
IUG	**luzhnay**	**2.66**	**344**	Pg		**Pg**	**17 13 49.9**	**-0.5**
IUG	12nm,0.2s			Lg		Lg	17 14 25.4	
	186nm,0.5s							
MNAS	**Manas**	**3.11**	**21**	⇑*i*	P	**Pn**	**17 13 51.2**	**+1.2**
MNAS	baz=21			⇑*i*	S	**Sn**	**17 14 28.4**	**+0.5**
	baz=21							
AML	**Almayashu**	**3.26**	**38**	⇑*e*	P	**Pn**	**17 13 53.5**	**+1.2**
AML	baz=38			⇑*i*	S	**Sn**	**17 14 32.8**	**+0.9**
	baz=38							
KK31	**Karatay Array**	**3.53**	**354**	⇑	Pn	**Pn**	**17 13 57.7**	**+2.1**
	0.5nm,0.2s,baz=158,slow=12,SNR=42							
KK31				⇑	Pg	**Pg**	**17 14 09.0**	**+1.8**
	2.2nm,0.4s,baz=166,slow=15,SNR=6.5							
KK31				⇓	Lg	Lg	17 14 51.3	
	10nm,0.5s,baz=168,slow=29,SNR=9.3							
MRKS	**Merke**	**3.57**	**27**	*e*	P	**Pn**	**17 13 58.5**	**+2.2**
MRKS	4.8nm,0.2s			*e*	S	**Sn**	**17 14 40.9**	**+1.6**
	20nm,0.3s							
MRKS	**Merke**	**3.57**	**27**	Pg		**Pn**	**17 13 58.5**	**+2.2**
MRKS	4.8nm,0.2s			Lg		Lg	17 14 40.9	
	20nm,0.3s							
AAK	**Ala-Archa**	**4.03**	**40**	⇑	Pg	**Pb**	**17 14 12.0**	**+0.6**
AAK	2.0nm,0.3s			⇓	Sn	**Sn**	**17 14 52.2**	**+1.5**
	1.9nm,0.4s							
SGDS	**Sogindy**	**4.72**	**34**	Pg		**Pb**	**17 14 19.7**	**-3.5**
SGDS	2.2nm,0.4s			Lg		Lg	17 15 17.2	
	5.7nm,1.4s							
TKM2	**Tokmak 2**	**4.80**	**45**	⇓	Pn	**Pn**	**17 14 15.7**	**+2.4**
TKM2	3.6nm,0.5s			⇑	Sn	**Sn**	**17 15 09.9**	**+0.1**
	3.1nm,0.6s							
KST	**Kastek**	**5.09**	**46**	*e*	P	**Pb**	**17 14 27.4**	**-2.1**
KST	2.1nm,0.0s			*e*	S	**Sb**	**17 15 29.4**	**-1.8**
	4.3nm,0.6s							
KST	**Kastek**	**5.09**	**46**	Pg		**Pb**	**17 14 27.4**	**-2.1**
KST	2.1nm,0.0s			Lg		Lg	17 15 29.4	
	4.3nm,0.6s							

*NEIC **07** 17:15:20.9±0.8,35˚.69N±0˚.01×97˚.42W±0˚.03,h5km±2km,*
Error ellipse: s-maj=3.6km s-min=3.0km az=83.0
*ANF **07** 17:15:20.6±0.3,35˚.71N×97˚.43W,h5km,ML3.9/13,Error*
ellipse: s-maj=4.1km s-min=3.0km az=107.0
*TUL **07** 17:15:21±0.9,35˚.68N±0˚.02×97˚.40W±0˚.03,h5km±2km,*
ML3.5,mb_Lg3.2/108(NEIC),Error ellipse: s-maj=3.6km
s-min=3.0km az=99.0

ISC 07 17:15:21.0±0.8,35˚.69N±0˚.02×97˚.41W±0˚.03,h9km±6km, n95,σ0°74/61,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**184**			**Pg**	**17 15 23.2**	**-0.4**
OK009					Sg	**Sg**	**17 15 25.1**	**-0.3**
OK029	**Liberty Lake**	**0.12**	**343**			**Pg**	**17 15 24.0**	**+0.2**
OK029					Sg	**Sg**	**17 15 26.2**	**+0.5**
OK025	**Westminster Rd**	**0.12**	**149**			**Pg**	**17 15 23.4**	**-0.4**
BCOK	**Bluff Creek, N**	**0.16**	**260**			**Pg**	**17 15 24.6**	**+0.1**
BCOK					Sg	**Sg**	**17 15 27.6**	**+0.7**
OK005	**Luther M Schoo**	**0.18**	**100**			**Pg**	**17 15 24.6**	**-0.3**
OKCFA	**Oklahoma City**	**0.27**	**186**			**Pg**	**17 15 26.2**	**-0.2**
OKCFA	**Oklahoma City**	**0.27**	**186**	P		**Pg**	**17 15 26.3**	**-0.2**
	baz=9.5,SNR=70							
OKCFA				S		**Sg**	**17 15 30.4**	**+0.3**
	baz=9.5							
OKCSW	**OKLAHOMA CITY**	**0.28**	**184**			**Pg**	**17 15 26.4**	**-0.2**
FNO	**Franklin**	**0.43**	**178**			**Pg**	**17 15 29.1**	**-0.3**
OK031	**S. Brethren Rd**	**0.54**	**60**	Pg		**Pg**	**17 15 31.2**	**-0.3**
OK030	**Cody Creek RV**	**0.57**	**65**	Pg		**Pg**	**17 15 31.6**	**-0.4**
W35A	**Tecumseh**	**0.69**	**140**			**Pg**	**17 15 33.7**	**-0.7**
W35A				IAmb_Lg			17 15 42.1	
	comp=Z,281nm,0.8s							
QUOK	**Quay**	**0.75**	**50**			**Pg**	**17 15 35.0**	**-0.5**
CROK	**Carrier**	**0.94**	**331**			**Pg**	**17 15 38.9**	**-0.2**
BLOK	**Blackwell**	**1.08**	**8**			**Pg**	**17 15 41.3**	**-0.6**
X34A	**Smith Ranch, M**	**1.14**	**198**			**Pg**	**17 15 42.5**	**-0.3**
GC02	**Grant County #**	**1.22**	**343**			**Pg**	**17 15 43.8**	**-0.7**
OK032	**Salt Plains WL**	**1.29**	**330**			**Pg**	**17 15 44.8**	**-0.9**
KAN13	**South Haven SW**	**1.32**	**358**			**Pn**	**17 15 45.7**	**0.0**
TUL1	**Leonard**	**1.34**	**80**	P		**Pn**	**17 15 44.5**	**-1.3**
	baz=260							
TUL1	**Leonard**	**1.34**	**80**	P			17 15 44.5	
	baz=260							
T35A	**Sooner Cattle**	**1.43**	**30**			**Pn**	**17 15 46.9**	**-0.2**
T35B	**Sooner Cattle**	**1.43**	**30**	P		**Pn**	**17 15 47.0**	**-0.2**
	baz=210,SNR=40							
T35B				S		**Sb**	**17 16 06.3**	**+0.2**
	baz=210							
T35B	**Sooner Cattle**	**1.43**	**30**	P			17 15 47.0	
	baz=210,SNR=40							
T35B				S			17 16 06.3	
	baz=210							
KAN09	**Caldwell North**	**1.46**	**354**	Pn		**Pn**	**17 15 47.8**	**+0.3**
U32A	**Winter Ranch,**	**1.46**	**299**			**Pn**	**17 15 47.9**	**+0.3**
U32A	**Winter Ranch,**	**1.46**	**299**	P		**Pn**	**17 15 47.9**	**+0.3**
	baz=118							
U32A	**Winter Ranch,**	**1.46**	**299**	P			17 15 47.9	
	baz=118							
WMOK	**Wichita Mounta**	**1.47**	**230**			**Pn**	**17 15 47.3**	**-0.3**
WMOK	**Wichita Mounta**	**1.47**	**230**	P		**Pn**	**17 15 47.5**	**-0.1**
	baz=50							
WMOK				S		**Sn**	**17 16 07.2**	**+0.3**
	baz=50							
WMOK	**Wichita Mounta**	**1.47**	**230**	P			17 15 47.5	
	baz=50							
WMOK				S			17 16 07.2	
	baz=50							
KAN10	**Anthony SW Sta**	**1.54**	**339**			**Pn**	**17 15 49.0**	**+0.4**
KAN08	**Anthony NE Sta**	**1.60**	**344**			**Pb**	**17 15 50.4**	**-0.4**
KAN08				IAmb_Lg			17 16 16.4	
	comp=Z,111nm,0.7s							
KAN16	**Harper SW Stat**	**1.62**	**341**			**Pb**	**17 15 50.8**	**-0.4**
KAN12	**Harper NE Stat**	**1.68**	**344**			**Pb**	**17 15 51.5**	**-0.5**
LOOK	**Love County**	**1.70**	**173**			**Pn**	**17 15 51.4**	**+0.5**
LOOK				IAmb_Lg			17 16 17.1	
	comp=Z,142nm,0.9s							
X37A	**Clayton**	**2.00**	**123**			**Pn**	**17 15 56.2**	**+1.2**
X37A				IAmb_Lg			17 16 25.0	
	comp=Z,139nm,0.8s							
X37A	**Clayton**	**2.00**	**123**	P		**Pn**	**17 15 55.1**	**+0.2**
	baz=304,SNR=16							
X37A				S		**Sn**	**17 16 21.9**	**+1.8**
	baz=304							
X37A	**Clayton**	**2.00**	**123**	P			17 15 55.1	
	baz=304,SNR=16							
X37A				S			17 16 21.9	
	baz=304							
Z35A	**Perchaven, San**	**2.35**	**177**	Pn		**Pn**	**17 16 00.1**	**+0.3**
Z35A				IAmb_Lg			17 16 42.0	
	comp=Z,64nm,0.9s							
Z35A	**Perchaven, San**	**2.35**	**177**	P		**Pn**	**17 16 00.7**	**+0.8**
	baz=357							
Z35A				S		**Sb**	**17 16 31.6**	**-1.1**
	baz=357							
Z35A	**Perchaven, San**	**2.35**	**177**	P			17 16 00.7	
	baz=357							
Z35A				S			17 16 31.6	
	baz=357							
U38A	**Gravette**	**2.57**	**72**	P		**Pn**	**17 16 04.6**	**+1.8**
	baz=254,SNR=30							
U38A	**Gravette**	**2.57**	**72**	P			17 16 04.6	
	baz=254,SNR=30							
R32A	**Long Quarter,**	**2.92**	**340**	IAmb_Lg			17 16 59.5	
	comp=Z,48nm,0.8s							
R32A	**Long Quarter,**	**2.92**	**340**	P		**Pn**	**17 16 09.2**	**+1.5**
	baz=159							
R32A	**Long Quarter,**	**2.92**	**340**	P			17 16 09.2	
	baz=159							
W39A	**Magazine**	**3.00**	**98**	Pn		**Pn**	**17 16 08.9**	**+0.2**
W39A				IAmb_Lg			17 16 59.6	
	comp=Z,113nm,1.0s							
W39A	**Magazine**	**3.00**	**98**	P		**Pn**	**17 16 08.8**	**0.0**
	baz=280							
W39A	**Magazine**	**3.00**	**98**	P			17 16 08.8	
	baz=280							
Z38A	**Mt. Pleasant**	**3.14**	**140**	P		**Pn**	**17 16 11.0**	**+0.3**
	baz=321							
Z38A	**Mt. Pleasant**	**3.14**	**140**	P			17 16 11.0	
	baz=321							
MIAR	**Mount Ida**	**3.34**	**109**			**Pn**	**17 16 14.4**	**+0.9**
MIAR				IAmb_Lg			17 17 15.4	
	comp=Z,61nm,1.0s							
MIAR	**Mount Ida**	**3.34**	**109**	P		**Pn**	**17 16 14.3**	**+0.9**
	baz=291,SNR=17							
MIAR				S		**Sn**	**17 16 54.6**	**+1.3**
	baz=291							
MIAR	**Mount Ida**	**3.34**	**109**	P			17 16 14.3	
	baz=291,SNR=17							
MIAR				S			17 16 54.6	
	baz=291							
ABTX	**Abilene, Hawle**	**3.57**	**212**	IAmb_Lg			17 17 14.5	
	comp=Z,74nm,1.0s							
CBKS	**Cedar Bluff**	**3.63**	**330**			**Pn**	**17 16 18.3**	**+0.9**
CBKS				IAmb_Lg			17 17 21.8	
	comp=Z,85nm,0.9s							
WHTX	**Lake Whitney,**	**3.69**	**181**			**Pn**	**17 16 18.3**	**+0.2**
U40A	**Yellville**	**3.76**	**78**	IAmb_Lg			17 17 18.2	
	comp=Z,62nm,0.8s							
S39A	**Bolivar**	**3.85**	**57**	IAmb_Lg			17 17 25.0	
	comp=Z,48nm,0.7s							
S39A	**Bolivar**	**3.85**	**57**	P		**Pn**	**17 16 20.8**	**+0.4**
	baz=240,SNR=5.5							
S39A	**Bolivar**	**3.85**	**57**	P			17 16 20.8	
	baz=240,SNR=5.5							
237A	**Washetta, Mont**	**3.91**	**160**	IAmb_Lg			17 17 35.1	
	comp=Z,44nm,0.8s							
WLAR	**White Oak Lake**	**4.07**	**118**	IAmb_Lg			17 17 35.3	
	comp=Z,55nm,0.9s							
WHAR	**Wooly Hollow**	**4.20**	**94**	IAmb_Lg			17 17 41.7	
	comp=Z,53nm,0.8s							
W41B	**Gary Mavity, V**	**4.25**	**95**	P		**Pn**	**17 16 25.9**	**0.0**
	baz=278							
W41B	**Gary Mavity, V**	**4.25**	**95**	P			17 16 25.9	
	baz=278							
FCAR	**Ozark Folk Cen**	**4.30**	**86**	IAmb_Lg			17 17 34.6	
	comp=Z,62nm,0.9s							
MGMO	**Mountain Grove**	**4.40**	**69**	IAmb_Lg			17 17 43.3	
	comp=Z,72nm,1.1s							
MSTX	**Muleshoe**	**4.73**	**250**			**Pn**	**17 16 32.9**	**+0.3**
R40A	**Maddies Statio**	**4.87**	**56**	IAmb_Lg			17 17 55.4	
	comp=Z,38nm,0.9s							
CCAR	**Cane Creek**	**4.97**	**109**	IAmb_Lg			17 18 05.6	
	comp=Z,73nm,0.8s							
N33A	**J Bar K, Exete**	**5.04**	**360**	IAmb_Lg			17 18 12.4	
	comp=Z,61nm,0.8s							
LCAR	**Lake Charles**	**5.10**	**84**	IAmb_Lg			17 18 02.3	
	comp=Z,27nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.32**	**310**	IAmb_Lg			17 18 16.3	
	comp=Z,55nm,0.8s							
CCM	**Cedral Cave**	**5.48**	**63**	IAmb_Lg			17 18 15.3	
	comp=Z,37nm,0.8s							
BGNE	**Belgrade**	**5.74**	**354**	IAmb_Lg			17 18 38.9	
	comp=Z,60nm,0.7s							
PBMO	**Poplar Bluff**	**5.75**	**77**	IAmb_Lg			17 18 20.4	
	comp=Z,56nm,0.8s							
FVM	**French Village**	**6.06**	**66**	IAmb_Lg			17 18 33.1	
	comp=Z,37nm,0.9s							
OGNE	**Ogallala**	**6.38**	**327**	Pn		**Pn**	**17 16 55.7**	**+0.4**
OGNE				IAmb_Lg			17 18 58.9	
	comp=Z,50nm,0.7s							
SLM	**Saint Louis**	**6.44**	**61**	IAmb_Lg			17 18 55.9	
	comp=Z,27nm,0.8s							
OXF	**Oxford**	**6.67**	**98**	IAmb_Lg			17 18 52.8	
	comp=Z,30nm,0.7s							
Y45A	**Yeager Farm, C**	**6.73**	**103**	IAmb_Lg			17 19 05.7	
	comp=Z,27nm,0.8s							
W45A	**Hickory Valley**	**6.74**	**92**	IAmb_Lg			17 18 57.5	
	comp=Z,53nm,0.7s							
SDCO	**Great Sand Dun**	**6.81**	**290**	IAmb_Lg			17 19 09.7	
	comp=Z,26nm,1.2s							
S44A	**Carbondale**	**6.86**	**71**	IAmb_Lg			17 18 58.5	
	comp=Z,34nm,0.7s							
SIUC	**Southern Illin**	**6.89**	**70**	IAmb_Lg			17 19 02.4	
	comp=Z,50nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.42**	**62**	IAmb_Lg			17 19 30.9	
	comp=Z,42nm,0.8s							
MNTX	**Cornudas Mount**	**7.74**	**241**	IAmb_Lg			17 19 33.9	
	comp=Z,22nm,1.1s							
Y22D	**IRIS PASSCAL I**	**7.98**	**261**	IAmb_Lg			17 19 43.6	
	comp=Z,38nm,0.8s							
L40A	**Anamosa**	**7.99**	**35**	IAmb_Lg			17 19 41.1	
	comp=Z,38nm,0.8s							
ECSD	**EROS Data Cent**	**8.06**	**4**	Pn		**Pn**	**17 17 16.7**	**-1.6**
ECSD				IAmb_Lg			17 19 40.2	
	comp=Z,24nm,1.2s							
ECSD	**EROS Data Cent**	**8.06**	**4**	P		**Pn**	**17 17 16.8**	**-1.4**
	baz=184,SNR=8.8							
ECSD	**EROS Data Cent**	**8.06**	**4**	P			17 17 16.8	
	baz=184,SNR=8.8							
USIN	**University of**	**8.14**	**71**	IAmb_Lg			17 19 42.5	
	comp=Z,39nm,1.1s							
T47A	**Sharon Grove**	**8.42**	**78**	IAmb_Lg			17 20 08.3	
	comp=Z,29nm,1.1s							
PHWY	**Pilot Hill**	**8.44**	**314**			**Pn**	**17 17 22.3**	**-1.4**
PHWY				IAmb_Lg			17 19 54.6	
	comp=Z,20nm,0.9s							
SUSD	**Miller**	**8.83**	**353**	IAmb_Lg			17 20 12.5	
	comp=Z,33nm,0.9s							
I37A	**Lemond, Waseca**	**8.87**	**19**	IAmb_Lg			17 20 05.7	
	comp=Z,33nm,0.8s							
JFWS	**Jewell Farm**	**9.10**	**35**	IAmb_Lg			17 20 21.7	
	comp=Z,33nm,0.8s							
WCI	**Wyandotte Cave**	**9.26**	**71**	IAmb_Lg			17 20 12.5	
	comp=Z,15nm,0.7s							
BLO	**Bloomington**	**9.34**	**65**	IAmb_Lg			17 20 43.9	
	comp=Z,29nm,0.8s							
SFIN	**Lafayette**	**9.39**	**57**	IAmb_Lg			17 20 30.6	
	comp=Z,25nm,0.7s							
PV13	**Radium Mtn., P**	**9.46**	**288**	IAmb_Lg			17 20 39.8	
	comp=Z,12nm,1.1s							
I40A	**Norwalk**	**9.72**	**30**	IAmb_Lg			17 20 38.2	
	comp=Z,16nm,0.7s							
RWWY	**Rawlins**	**9.72**	**311**	IAmb_Lg			17 20 46.7	
	comp=Z,13nm,0.9s							
RSSD	**Black Hills**	**9.84**	**331**	IAmb_Lg			17 20 49.5	
	comp=Z,11nm,1.0s							
W50A	**Signal Mountai**	**9.89**	**89**	IAmb_Lg			17 20 43.2	
	comp=Z,18nm,0.9s							
K22A	**Casper**	**9.91**	**317**	IAmb_Lg			17 20 46.3	
	comp=Z,15nm,0.9s							

*JMA **07** 18:02:59.2±0.3,33˚.43N×138˚.53E,h309km±4km,M3.6*
*NIED **07** 18:02:59.3,33˚.43N×138˚.53E,h309km,MW4.0,Moment*
Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm;
Mrr~0.80; Mθθ~0.29; Mϕϕ1.10; Mrθ~0.58; Mθϕ~0.08;
Mϕr~0.64; Fault plane solution: Mo1.31000×10¹⁵ NP1:
ϕs25.00000°,δ68.00000°,λ-61.00000°. NP2:ϕs149.00000°,
δ36.00000°,λ-140.00000°.
*NEIC **07** 18:03:00.8±1.9,33˚.38N±0˚.08×138˚.48E±0˚.09,*
h302km±6km,mb4.0/17 Error ellipse: s-maj=11.9km
s-min=11.1km az=158.0
*IDC **07** 18:03:01.1±0.5,33˚.35N×138˚.31E,h293km±5km,mb3.4/20,*
mb1 3.4/25,mb1mx3.4/39,mbtmp4.0/25,Error ellipse:
s-maj=14.1km s-min=12.5km az=28.0

ISC 07 18:03:00.9±0.6,33˚.39N±0˚.06×138˚.41E±0˚.06,h298km±5km, n89,σ0°98/100,mb3.9/29,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.78**	**316**	*e*	S	**S**	**18 04 12.0**	**+1.3**
TK01	**Tokai 1**	**0.78**	**299**		P	**Pn**	**18 03 40.1**	**+0.4**
TK01				*e*	S	**S**	**18 04 11.0**	**+0.5**
TK03	**Tokai 3**	**0.86**	**334**	*e*	S	**S**	**18 04 12.1**	**+0.7**
TTO4	**TONANKAI O.B.S**	**0.95**	**310**		P	**Pn**	**18 03 40.9**	**+0.5**
TTO4					S	**S**	**18 04 12.4**	**+0.5**
JKO	**Kozu shima**	**1.00**	**37**		P	**Pn**	**18 03 40.7**	**-0.3**
JMKN	**Mikurajimanish**	**1.10**	**63**		P	**Pn**	**18 03 40.7**	**-0.8**
JHJ	**Hachijo jima 2**	**1.18**	**103**		P	**Pn**	**18 03 41.6**	**-0.3**
	74nm,0.3s,baz=145,slow=24,SNR=32							
JHJ					S	**S**	**18 04 15.2**	**+0.6**
	42nm,0.3s,baz=288,slow=21,SNR=8.5							
JHJ2	**Mitsune**	**1.21**	**103**		P	**Pn**	**18 03 41.3**	**-0.8**
JHJ2	**Mitsune**	**1.21**	**103**		Pn	**Pn**	**18 03 41.5**	**-0.6**
JSG	**Sagara**	**1.29**	**352**			**Pn**	**18 03 42.9**	**+0.4**
JSG					Sn	**S**	**18 04 16.1**	**+0.5**
TTO1	**TONANKAI O.B.S**	**1.38**	**280**		P	**Pn**	**18 03 43.1**	**+0.4**
JAOM	**Aogashimamukai**	**1.47**	**129**		P	**Pn**	**18 03 43.1**	**-0.6**
JIE	**Ise**	**1.73**	**306**		P	**Pn**	**18 03 45.5**	**+0.1**
JIE					S	**S**	**18 04 19.8**	**-1.0**
JOD2	**Odawara 2**	**1.95**	**17**		P	**Pn**	**18 03 46.6**	**-0.4**
INU	**Inuyama**	**2.27**	**330**			**Pn**	**18 03 49.9**	**+0.3**
INU					Sn	**S**	**18 04 28.1**	**-0.4**
JGF	**Kuroka**	**2.37**	**339**			**Pn**	**18 03 50.8**	**+0.2**
JGF					Sn	**S**	**18 04 29.2**	**-0.9**
JTNC	**Tanabenakahech**	**2.38**	**281**		P	**Pn**	**18 03 50.2**	**-0.4**
BSO1	**Boso 1**	**2.48**	**59**		P	**Pn**	**18 03 48.9**	**-1.9**
BSO1					eS	**S**	**18 04 29.9**	**-1.8**
JWY	**Kouya**	**2.49**	**290**		P	**Pn**	**18 03 51.9**	**+0.2**
JYTA	**Yamagatataniai**	**2.60**	**328**		P	**Pn**	**18 03 52.9**	**+0.4**
JWT	**Wachi**	**3.12**	**308**		P	**Pn**	**18 03 57.9**	**+0.2**
JWT	**Wachi**	**3.12**	**308**			**Pn**	**18 03 57.9**	**+0.2**
JAG	**Ashikaga

MAKZ IAmb IAmb 18 10 42.5
comp=Z,2.8nm,0.4s

SOEI Soe 44.97 200 P **P** **18 10 46.7 -0.8**
NRIK Noril'sk 45.61 337 P **P** **18 10 52.4 +0.8**
comp=Z,2.3nm,0.3s,baz=68,slow=10,SNR=3.8
NRIK Noril'sk 45.61 337 P **P** **18 10 49.3 -2.3**
NRIK IAmb IAmb 18 10 54.3
comp=Z,3.9nm,0.6s
KDAK Kodiak Island 51.46 40 P **P** **18 11 37.3 +1.3**
comp=Z,1.2nm,0.4s,baz=335,slow=14,SNR=1.4
KK31 Karatay Array 52.88 302 P **P** **18 11 46.4 -0.4**
KK31 IAmb IAmb 18 11 47.7
comp=Z,3.6nm,0.8s
KKAR Karatay Array 52.88 302 P **P** **18 11 46.4 -0.3**
KKAR PcP **PcP** **18 12 51.3 -0.2**
KKAR Karatay Array 52.88 302 P **P** **18 11 46.2 -0.6**
KKAR IAmb IAmb 18 11 47.7
comp=Z,3.6nm,0.8s
ILAR Eielson Array 53.88 31 P **P** **18 11 54.4 +0.8**
comp=Z,0.6nm,0.8s,baz=284,slow=7.1,SNR=5.6
ASAR Alice Springs 56.90 185 P **P** **18 12 15.7 +0.2**
comp=Z,0.3nm,0.6s,baz=18,slow=10,SNR=8.5
ASAR Alice Springs 56.90 185 P **P** **18 12 13.8 -1.7**
ARU Arti 57.49 320 P **P** **18 12 19.1 -0.1**
ABKAR Akbulak array 58.44 311 P **P** **18 12 25.7 -0.2**
ABKAR IAmb IAmb 18 12 26.2
comp=Z,1.8nm,0.6s
INK Inuvik 58.73 26 P **P** **18 12 29.2 +1.7**
comp=Z,0.7nm,0.5s,baz=318,slow=6.4,SNR=6.2
INK Inuvik 58.73 26 P **P** **18 12 27.1 -0.4**
ARCES ARCESS Array B 66.53 339 P **P** **18 13 19.4 +0.7**
comp=Z,1.7nm,0.7s,baz=67,slow=9.3,SNR=5.9
ARCES ARCESS Array B 66.53 339 P **P** **18 13 19.3 +0.5**
ARCES IAmb IAmb 18 13 20.3
comp=Z,3.3nm,1.0s
YKA Yellowknife Ar 68.18 29 P **P** **18 13 30.0 +0.9**
comp=Z,0.3nm,0.6s,baz=300,slow=6.1,SNR=3.9
FINES FINESS Array B 70.88 332 P **P** **18 13 46.0 +0.5**
comp=Z,2.2nm,0.5s,baz=65,slow=5.9,SNR=18
FINES FINESS Array B 70.88 332 P **P** **18 13 45.5 0.0**
KBZ Khabaz 71.39 310 P **P** **18 13 49.4 +0.4**
comp=Z,3.4nm,0.8s,baz=115,slow=2.9,SNR=7.7
AKASG Malin Array Be 75.65 322 P **P** **18 14 13.5 +0.1**
comp=Z,1.9nm,0.6s,baz=50,slow=6.4,SNR=12
NOA NORSAR Array B 76.56 337 P **P** **18 14 19.1 +0.6**
comp=Z,2.0nm,0.7s,baz=43,slow=5.6,SNR=7.0
NVAR Mina Array Bea 79.16 51 P **P** **18 14 35.5 +2.2**
comp=Z,0.4nm,0.6s,baz=299,slow=3.4,SNR=5.1
BRTR Keskin Array B 79.39 311 P **P** **18 14 35.2 +0.7**
comp=Z,1.1nm,0.7s,baz=120,slow=5.1,SNR=7.2
BRTR Keskin Array B 79.39 311 P **P** **18 14 34.7 +0.2**
RAYN Ar Rayn 79.72 291 P **P** **18 14 36.1 -0.3**
RAYN IAmb IAmb 18 14 37.1
comp=Z,2.8nm,0.6s
CLL Collm 82.98 329 *i* P **P** **18 14 53.2 +0.4**
comp=Z,5.0nm,0.9s
GERES GERESS Array B 84.46 327 P **P** **18 15 00.2 -0.3**
comp=Z,0.4nm,0.6s,baz=46,slow=7.6,SNR=4.5
LPIG La Paz 93.16 59 P **P** **18 15 42.3 +0.5**
comp=Z,26nm,0.3s,baz=211,slow=1.8,SNR=5.2
TXAR Lajitas Array 94.31 51 P **P** **18 15 48.2 +1.0**
comp=Z,0.3nm,0.8s,baz=337,slow=2.9,SNR=3.6

*NOU **07** 18:05:26.6, 40.76S×173.95E, h100km, MLv3.7, Cook Strait, New Zealand*
WEL 07 18:05:28.9, 41°S±5°×17°4E±°, h75km±9km, M3.6/27, ML3.9/27, MLv3.6/27, Error ellipse: s-maj=0.0km s-min=0.0km az=85.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.10**	**207**	P	Pn	18 05 40.7	+0.9
DUWZ				S	Sn	18 05 49.3	+1.5
TCW	**Tory Channel**	**0.54**	**156**	P	Pn	18 05 43.6	+1.0
TCW				S	Sn	18 05 54.1	+1.4
NNZ	**Nelson**	**0.68**	**222**	P	Pn	18 05 44.0	+0.1
NNZ				S	Sn	18 05 55.6	+0.6
TUWZ	**Tuamarina**	**0.71**	**182**	P	Pn	18 05 44.6	+0.3
TUWZ				S	Sn	18 05 56.3	+0.6
KIW	**Kapiti Island**	**0.72**	**102**	P	Pn	18 05 45.2	+0.8
KIW				S	Sn	18 05 57.2	+1.3
WEL	**Wellington**	**0.82**	**134**	P	Pn	18 05 46.4	+0.8
WEL				S	Sn	18 05 58.7	+0.8
OGWZ	**Otaki Gorge**	**0.91**	**97**	P	Pn	18 05 47.2	+0.6
CAW	**Cannon Point**	**0.91**	**116**	P	Pn	18 05 47.1	+0.5
BHW	**Baring Head**	**0.97**	**136**	P	Pn	18 05 47.6	+0.4
BHW				S	Sn	18 06 01.0	+0.1
BSWZ	**Blackbirch Sta**	**1.00**	**184**	P	Pn	18 05 48.3	+0.6
BSWZ				S	Sn	18 06 02.6	+0.9
CMWZ	**Cape Campbell**	**1.05**	**170**	P	Pn	18 05 49.5	+1.3
CMWZ				S	Sn	18 06 05.2	+2.6
QRZ	**Quartz Range**	**1.11**	**264**	P	Pn	18 05 47.8	-1.1
QRZ				S	Sn	18 06 02.4	-1.6
OHWZ	**Ohakea**	**1.14**	**64**	P	Pn	18 05 50.1	+0.8
OHWZ				S	Sn	18 06 07.6	+2.9
HOWZ	**Holdsworth Sta**	**1.18**	**99**	P	Pn	18 05 49.9	0.0
HOWZ				S	Sn	18 06 05.8	+0.2
MSWZ	**Moikau Station**	**1.19**	**126**	P	Pn	18 05 50.2	+0.2
MRZ	**Mangatainoka R**	**1.22**	**88**	P	Pn	18 05 50.2	-0.1
WAZ	**Wanganui**	**1.23**	**39**	P	Pn	18 05 51.4	+0.8
MTW	**Mount Morrison**	**1.23**	**111**	P	Pn	18 05 50.6	0.0
PAWZ	**Paruwai Farm**	**1.28**	**122**	P	Pn	18 05 51.2	0.0
PLWZ	**Palliser**	**1.29**	**132**	P	Pn	18 05 51.3	0.0
LREZ	**Lake Rotokare**	**1.30**	**15**	P	Pn	18 05 52.2	+0.8
NMEZ	**Namu Road**	**1.30**	**357**	P	Pn	18 05 51.5	+0.1
THZ	**Tophouse**	**1.32**	**217**	P	Pn	18 05 51.5	-0.2
PREZ	**Palmer Road**	**1.38**	**6**	P	Pn	18 05 52.8	+0.3
POWZ	**Post Office Ro**	**1.40**	**77**	P	Pn	18 05 52.4	-0.3
KHEZ	**Kahui Hut**	**1.42**	**1**	P	Pn	18 05 53.1	+0.1
NEZ	**North Egmont**	**1.45**	**4**	P	Pn	18 05 53.2	-0.2
NBEZ	**Newall Road No**	**1.45**	**357**	P	Pn	18 05 53.4	+0.1
TIWZ	**Tintock**	**1.45**	**93**	P	Pn	18 05 53.0	-0.3
TRWZ	**Traveller**	**1.46**	**118**	P	Pn	18 05 53.5	0.0
TMWZ	**Te Maipa**	**1.50**	**106**	P	Pn	18 05 53.8	-0.2
PKE	**Pukeiti**	**1.52**	**0**	P	Pn	18 05 54.3	0.0
PRWZ	**Pori Road**	**1.52**	**85**	P	Pn	18 05 54.1	-0.3
DREZ	**Durham Road**	**1.54**	**6**	P	Pn	18 05 54.7	+0.2
TSZ	**Takapari Road**	**1.65**	**67**	P	Pn	18 05 55.3	-0.8
MHEZ	**Mangahewa**	**1.66**	**9**	P	Pn	18 05 56.5	+0.4
CPWZ	**Castlepoint**	**1.70**	**97**	P	Pn	18 05 56.6	0.0
VRZ	**Vera Road**	**1.70**	**21**	P	Pn	18 05 56.9	+0.3
DVHZ	**Dannevirke**	**1.72**	**77**	P	Pn	18 05 55.9	-1.0
BFZ	**Birch Farm**	**1.72**	**90**	P	Pn	18 05 56.1	-0.9
KHZ	**Kahutara**	**1.75**	**191**	P	Pn	18 05 56.9	-0.1
MTVZ	**Mangateitei**	**1.75**	**357**	P	Pn	18 05 57.3	-0.1
PKVZ	**Pokaka**	**1.77**	**37**	P	Pn	18 05 57.4	-0.3
TRVZ	**Turoa**	**1.86**	**41**	P	Pn	18 05 59.4	+0.5
WNVZ	**Wahianoa**	**1.86**	**42**	P	Pn	18 05 59.1	+0.1
PNHZ	**Pukenui**	**1.88**	**65**	P	Pn	18 05 57.9	-1.1
MOVZ	**Moawhango**	**1.89**	**47**	P	Pn	18 05 58.6	-0.6
FWVZ	**Far West T-bar**	**1.90**	**40**	P	Pn	18 05 59.5	0.0
ANWZ	**Angora Road**	**1.92**	**83**	P	Pn	18 05 58.6	-0.9
DSZ	**Denniston Nort**	**1.94**	**237**	P	Pn	18 05 58.6	-1.2
TUVZ	**Tukino**	**1.94**	**42**	P	Pn	18 05 59.8	-0.1
NGZ	**Ngauruhoe**	**1.98**	**40**	P	Pn	18 06 00.2	-0.3
TWVZ	**Taurewa**	**1.99**	**35**	P	Pn	18 06 00.1	-0.5
WPHZ	**Waipukurau**	**1.99**	**72**	P	Pn	18 05 59.3	-1.2
SNVZ	**South Ngauruho**	**1.99**	**40**	P	Pn	18 06 00.5	-0.2
BHHZ	**Black Hill Sta**	**2.02**	**53**	P	Pn	18 06 00.1	-0.8
NNVZ	**North Ngauruho**	**2.02**	**39**	P	Pn	18 06 00.7	-0.4
OTVZ	**Oturere**	**2.02**	**40**	P	Pn	18 06 00.9	-0.2
WTVZ	**West Tongariro**	**2.02**	**38**	P	Pn	18 06 00.6	-0.4
KRVZ	**Karewarewa**	**2.06**	**39**	P	Pn	18 06 01.0	-0.6
ETVZ	**East Tongariro**	**2.07**	**41**	P	Pn	18 06 01.2	-0.4
PRHZ	**Porangahau**	**2.08**	**78**	P	Pn	18 06 00.6	-1.0
NTVZ	**North Tongarir**	**2.08**	**39**	P	Pn	18 06 01.3	-0.5
TMVZ	**Te Maari**	**2.08**	**40**	P	Pn	18 06 01.4	-0.4
KRHZ	**Kereru**	**2.12**	**60**	P	Pn	18 06 00.9	-1.4
KATZ	**Kakaramea**	**2.18**	**38**	P	Pn	18 06 02.6	-0.6
RITZ	**Rihia Road**	**2.26**	**40**	P	Pn	18 06 04.0	-0.1
KWHZ	**Kaweka Forest**	**2.28**	**56**	P	Pn	18 06 03.3	-1.1
HIZ	**Hauiti**	**2.30**	**17**	P	Pn	18 06 04.3	-0.4
PXZ	**Pawanui**	**2.31**	**74**	P	Pn	18 06 03.0	-1.7
RATZ	**Rangitukua**	**2.31**	**37**	P	Pn	18 06 04.6	-0.2
GVZ	**Greta Valley S**	**2.36**	**197**	P	Pn	18 06 04.4	-1.0
KAHZ	**Kahuranaki**	**2.40**	**68**	P	Pn	18 06 04.5	-1.5
LTZ	**Lake Taylor**	**2.43**	**211**	P	Pn	18 06 05.1	-1.3
MCHZ	**McNeill Hill**	**2.44**	**60**	P	Pn	18 06 05.1	-1.5
BKZ	**Black Stump Fm**	**2.48**	**52**	P	Pn	18 06 05.6	-1.5
KUTZ	**Kaahu Road**	**2.64**	**33**	P	Pn	18 06 08.8	-0.5
AMCZ	**Amberley**	**2.65**	**201**	P	Pn	18 06 07.8	-1.5
MRHZ	**Matea Rd**	**2.66**	**46**	P	Pn	18 06 07.5	-2.0
TLZ	**Tolley Road**	**2.67**	**27**	P	Pn	18 06 09.1	-0.6
NMHZ	**Naumai**	**2.71**	**54**	P	Pn	18 06 15.6	+5.4
INZ	**Inchbonnie**	**2.76**	**223**	P	Pn	18 06 09.6	-1.3
MTHZ	**Maungataniwha**	**2.89**	**51**	P	Pn	18 06 10.5	-2.2
HSRZ	**Hossack Road**	**2.97**	**37**	P	Pn	18 06 12.6	-1.2
OXZ	**Oxford**	**2.98**	**208**	P	Pn	18 06 11.2	-2.7
RAHZ	**Arahi**	**2.99**	**54**	P	Pn	18 06 17.4	+3.4
UTU	**Utuhina**	**3.06**	**35**	P	Pn	18 06 18.2	+3.2
OKCZ	**Okains Bay**	**3.08**	**192**	P	Pn	18 06 13.3	-2.0
NGRZ	**Ngongotaha**	**3.12**	**34**	P	Pn	18 06 16.4	+0.6
RTZ	**Ruatahuna**	**3.13**	**49**	P	Pn	18 06 13.6	-2.3
MQZ	**McQueen's Vall**	**3.15**	**198**	P	Pn	18 06 13.1	-2.9
OMRZ	**Omania**	**3.20**	**36**	P	Pn	18 06 15.4	-1.5
TOZ	**Tahuroa Road**	**3.21**	**22**	P	Pn	18 06 16.0	-1.0
KARZ	**Kaharoa**	**3.21**	**34**	P	Pn	18 06 17.4	+0.3
SNGZ	**Shannon Statio**	**3.23**	**54**	P	Pn	18 06 18.1	+0.8
KMRZ	**Kaimai**	**3.25**	**29**	P	Pn	18 06 18.4	+0.9
AKCZ	**Akaroa Harbour**	**3.25**	**194**	P	Pn	18 06 15.1	-2.4
RACZ	**Rakaia**	**3.30**	**204**	P	Pn	18 06 15.4	-2.8
MHCZ	**Mount Hutt**	**3.34**	**212**	P	Pn	18 06 16.0	-2.7
WVZ	**Waitaha Valley**	**3.38**	**225**	P	Pn	18 06 17.2	-2.0
MHGZ	**Mahia Peninsul**	**3.40**	**64**	P	Pn	18 06 16.9	-2.6
URZ	**Urewera**	**3.45**	**46**	P	Pn	18 06 17.0	-3.2
RAGZ	**Rawiri**	**3.46**	**51**	P	Pn	18 06 21.9	+1.5
TGRZ	**Tauranga**	**3.47**	**31**	P	Pn	18 06 19.5	-1.0
OPRZ	**Ohinepanea**	**3.50**	**36**	P	Pn	18 06 19.4	-1.5
PRGZ	**Paritu Road**	**3.50**	**60**	P	Pn	18 06 17.7	-3.2
WACZ	**Wakanui South**	**3.59**	**205**	P	Pn	18 06 19.0	-3.1
MWZ	**Matawai**	**3.63**	**50**	P	Pn	18 06 19.5	-3.3
AWAZ	**Awhitu Peninsu**	**3.68**	**8**	P	Pn	18 06 23.0	-0.4
RPZ	**Rata Peaks**	**3.70**	**215**	P	Pn	18 06 20.6	-3.0
GCSZ	**Gaunt Creek Bo**	**3.76**	**225**	P	Pn	18 06 22.5	-1.9
WTAZ	**Waiatarua**	**3.81**	**7**	P	Pn	18 06 24.8	-0.3
ETAZ	**East Tamaki Re**	**3.83**	**11**	P	Pn	18 06 25.0	-0.4
ARCZ	**Arundel**	**3.84**	**212**	P	Pn	18 06 22.4	-3.1
MYRZ	**Mayor Island**	**3.86**	**28**	P	Pn	18 06 25.6	-0.2
EPAZ	**Eden Park BICE**	**3.88**	**9**	P	Pn	18 06 24.1	-2.0
HBAZ	**Herne Bay Bore**	**3.91**	**9**	P	Pn	18 06 26.3	-0.1
RVAZ	**Riverhead Bore**	**3.97**	**7**	P	Pn	18 06 26.8	-0.5
RUGZ	**Raukumara Rang**	**3.97**	**47**	P	Pn	18 06 23.5	-3.9
TWGZ	**Tauwhareparae**	**4.00**	**52**	P	Pn	18 06 25.0	-2.8
MBAZ	**Motutapu North**	**4.01**	**11**	P	Pn	18 06 27.3	-0.6
WIAZ	**Waiheke Island**	**4.02**	**13**	P	Pn	18 06 27.4	-0.6
ABAZ	**Army Bay**	**4.16**	**10**	P	Pn	18 06 29.7	-0.3
FOZ	**Fox Glacier**	**4.18**	**226**	P	Pn	18 06 27.6	-2.6
KUZ	**Kuaotunu**	**4.19**	**20**	P	Pn	18 06 28.8	-1.6
PKGZ	**Pakihiroa**	**4.25**	**50**	P	Pn	18 06 27.5	-3.7
TMZ	**Timaru**	**4.27**	**210**	P	Pn	18 06 28.2	-3.2
GRZ	**Great Barrier**	**4.61**	**15**	P	Pn	18 06 35.0	-1.0
LBZ	**Lake Benmore**	**4.62**	**216**	P	Pn	18 06 33.8	-2.3
WCZ	**Waipu Caves**	**4.78**	**4**	P	Pn	18 06 38.3	-0.1
ODZ	**Otahua Downs**	**4.97**	**208**	P	Pn	18 06 37.7	-3.2
JCZ	**Jackson Bay**	**5.10**	**227**	P	Pn	18 06 39.8	-3.0
OUZ	**Omahuta**	**5.50**	**357**	P	Pn	18 06 46.8	-1.3
EAZ	**Earnscleugh**	**5.66**	**216**	P	Pn	18 06 48.0	-2.5
TUZ	**Tuapeka**	**6.12**	**210**	P	Pn	18 06 55.1	-1.5
SYZ	**Scrubby Hill**	**6.79**	**209**	P	Pn	18 07 03.7	-2.1
CTZ	**Chatham Island**	**7.60**	**116**	P	Pn	18 07 15.0	-1.9

*IGQ **07** 18:06:42±1.0, 2°N±7°×9°1W±°, h12km*
*MOS **07** 18:06:44.0±1.3, 1°.69N×90°.79W, h10km, mb5.2/8, Error ellipse: s-maj=10.5km s-min=6.3km az=104.5*
*NEIC **07** 18:06:45.7±2.0, 1°.59N±0°.07×90°.8W±0°.1, h10km±1km, mb5.0/203, Error ellipse: s-maj=17.8km s-min=11.3km az=261.0*
*IDC **07** 18:06:45.3±0.6, 1°.80N×90°.80W, h0km, mb4.6/15, mb1 4.7/20, mb1mx4.6/30, mbtmp4.5/20, ML3.8/4, MS4.6/27, Ms1 4.6/27, ms1mx4.5/35, Error ellipse: s-maj=27.4km s-min=11.7km az=54.0*
*BJI **07** 18:06:47.5±0.0, 1°.60N×90°.80W, h10km, mB5.4/8, Ms5.2/5, Ms7 4.8/6*
*GCMT **07** 18:06:48.7±0.1, 1°.78N±0°.01×90°.87W±0°.01, h17km, MW5.3/134, Moment Tension Solution. s92,c140; s134,c244; Duration: 1‡1 Moment tensor: Scale 10^17 Nm; Mrr=0.12±.01; Mθθ=0.12±.01; Mφφ=0.00±.01; Mrθ=-0.10±.04; Mrφ=-1.00±.01; Mθφ=-0.03±.04; Best double couple: M=1.00800×10^17 NP1:φ=358.00000°, δ=84.00000°, λ=-3.00000°. NP2:φ=88.00000°, δ=87.00000°, λ=-174.00000°. Principal axes: T 1.0650, Plg2.0000°, Azm223.0000°; N -0.1150, Plg83.0000°, Azm113.0000°; P -0.9500, Plg6.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 18:06:45.6±0.4, 1°.62N±0°.06×90°.90W±0°.07, h10km, n408, σ1‡46/383, mb5.0/126, MS4.6/32, 5C-6D, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FER1	**Fernandina1, P**	**2.16**	**195**	P	**Pn**	**18 07 17.0**	**-4.8**
ALCE	**Alcedo, Punta**	**2.31**	**208**	P	Pn	18 07 17.0	-6.9
PAYG	**Puerto Ayora**	**2.36**	**165**	Pn	**Pn**	**18 07 23.1**	**-1.3**
PAYG	**Puerto Ayora**	**2.36**	**165**	P	**Pn**	**18 07 23.0**	**-1.5**
VCH1	**Volcn Chico**	**2.40**	**185**	P	**Pn**	**18 07 23.0**	**-2.1**
RIOS	**Rincon, Osa**	**10.18**	**46**	Pn	**Pn**	**18 09 10.6**	**-1.3**
ORTG	**Ortega, Santa**	**10.23**	**32**	Pn	**Pn**	**18 09 11.2**	**-1.5**
JTS	**Las Juntas de**	**10.45**	**34**	Pn	**Pn**	**18 09 18.0**	**+2.4**
	0.4nm,0.3s,baz=238,slow=5.7,SNR=7.4						
JTS				LR	LR	18 12 15.9	
	comp=Z,9μm,19.2s,baz=266,slow=32						
JTS	**Las Juntas de**	**10.45**	**34**	*eP*	**Pn**	**18 09 18.1**	**+2.4**
JTS				pmax	pmax		
	comp=Z,76nm,2.6s						
JTS	**Las Juntas de**	**10.45**	**34**	Pn	**Pn**	**18 09 15.1**	**-0.6**
PEZE	**Perez Zeledon,**	**10.54**	**43**		**Pn**	**18 09 16.4**	**-0.6**
CDITO	**Canoas**	**10.56**	**49**		**Pn**	**18 09 17.5**	**+0.3**
SRBA	**San Rafael, Bu**	**10.65**	**45**		**Pn**	**18 09 19.5**	**+0.9**
RIMA	**Rio Macho**	**10.70**	**41**		**Pn**	**18 09 20.5**	**+1.2**
HDC	**Heredia**	**10.72**	**39**	Pn	**Pn**	**18 09 20.7**	**+1.2**
DRK0	**Durika**	**10.76**	**45**		**Pn**	**18 09 20.4**	**+0.4**
CVTR	**Volcan Turrial**	**10.96**	**40**		**Pn**	**18 09 23.6**	**+0.6**
COVE	**Coope Vega, Sa**	**11.11**	**35**		**Pn**	**18 09 25.3**	**+0.6**
BATAN	**Batan**	**11.27**	**41**		**Pn**	**18 09 27.5**	**+0.7**
CRIN	**San Cristobal**	**11.65**	**19**	Pn	**Pn**	**18 09 30.6**	**+0.4**
ACON	**Aconyapa**	**11.75**	**29**		**Pn**	**18 09 33.2**	**+0.2**
BOAB	**BOACO BROADBAN**	**11.95**	**26**		**Pn**	**18 09 36.1**	**0.0**
ARNL	**Arenillas**	**11.98**	**115**	P	**Pn**	**18 09 38.0**	**+1.3**
COHC	**Cochancay**	**12.33**	**109**	P	**Pn**	**18 09 42.0**	**+0.6**
ESPN	**Las Esperanzas**	**12.38**	**32**		**Pn**	**18 09 41.5**	**-0.6**
GGPT	**Toaza - Volcan**	**12.42**	**98**	P	**Pn**	**18 09 43.0**	**0.0**
MCRA	**Macar, Loja**	**12.45**	**119**	P	**Pn**	**18 09 44.0**	**+0.9**
OTAV	**Otavalo**	**12.53**	**96**	P	**Pn**	**18 09 42.0**	**-2.5**
OTAV	**Otavalo**	**12.53**	**96**	Pn	**Pn**	**18 09 42.0**	**-2.5**
OTAV	**Otavalo**	**12.53**	**96**	P	**Pn**	**18 09 43.0**	**-1.5**
CUSE	**Cuicocha Este**	**12.57**	**96**	P	**Pn**	**18 09 44.0**	**-1.1**
CUSW	**Cuicocha Oeste**	**12.62**	**96**	P	**Pn**	**18 09 41.0**	**-4.7**
BNAS	**Cotopaxi Volca**	**12.63**	**100**	P	**Pn**	**18 09 46.0**	**+0.1**
BREF	**Cotopaxi Volca**	**12.67**	**100**	P	**Pn**	**18 09 46.0**	**-0.6**
BVC2	**Cotopaxi Volca**	**12.69**	**100**	P	**Pn**	**18 09 47.0**	**+0.1**
BVAS	**Cotopaxi Volca**	**12.71**	**100**	P	**Pn**	**18 09 44.0**	**-3.1**
IMBA	**Imbabura, San**	**12.77**	**96**	P	**Pn**	**18 09 49.0**	**+1.2**
MTO3	**Montecristo**	**12.79**	**7**	Pn	**Pn**	**18 09 46.9**	**-1.0**
TGUH	**Tegucigalpa,Un**	**12.87**	**16**	Pn	**Pn**	**18 09 48.9**	**+0.9**
ANTS	**Antisana-Sarah**	**12.90**	**99**	P	**Pn**	**18 09 51.0**	**+1.2**
CHL2	**Volcn Chiles**	**13.01**	**93**	P	**Pn**	**18 09 50.0**	**-1.1**
TULM	**Tulcn-Chalpat**	**13.14**	**94**	P	**Pn**	**18 09 53.0**	**0.0**
BOSC	**San Juan Bosco**	**13.28**	**111**	P	P	18 09 59.0	-5.4
APG	**El Apazote**	**13.31**	**2**	Pn	**Pn**	**18 09 54.7**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=270,slow=23,SNR=4.5						
BCIP	**Isla Barro Col**	**13.32**	**55**	P	**Pn**	**18 09 53.2**	**-1.7**
BCIP	**Isla Barro Col**	**13.32**	**55**	Pn	**Pn**	**18 09 53.2**	**-1.7**
CCIG	**Comitan**	**14.62**	**355**		**Pn**	**18 10 15.4**	**+2.6**
MARP	**Paez Belalcaza**	**14.98**	**85**	*eP*	**P**	**18 10 24.1**	**+0.5**
PRVC	**Isla de Provid**	**15.02**	**38**	Pn	**Pn**	**18 10 19.5**	**+1.4**
ATAH	**Atahualpa**	**15.21**	**125**	Pn	**P**	**18 10 23.7**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=302,slow=16,SNR=13						
ATAH				LR	LR	18 15 14.9	
	comp=Z,6μm,18.5s,baz=304,slow=34						
FLOC	**Florencia**	**15.24**	**90**	Pn	**Pn**	**18 10 20.0**	**-1.2**
FLOC				IAmb	IAmb	18 10 40.6	
	comp=Z,91nm,1.2s						
FLOC	**Florencia**	**15.24**	**90**	*eP*	**Pn**	**18 10 18.2**	**-3.0**
CBOC	**Ciudad Bolivar**	**15.44**	**74**	*eP*	**Pn**	**18 10 22.3**	**-1.6**
TOLC	**Tolima**	**15.83**	**79**	*eP*	**Pn**	**18 10 26.0**	**-3.1**
CMIG	**Matias Romero**	**15.87**	**346**	Pn	**Pn**	**18 10 30.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=162,slow=8.2,SNR=8.6						
CMIG				LR	LR	18 15 12.0	
	comp=Z,1μm,20.6s,baz=164,slow=32						
GUY2C	**Guyana, Caldas**	**15.91**	**77**	*eP*	**Pn**	**18 10 26.4**	**-3.9**
HELC	**Santa Helena**	**15.99**	**73**	*eP*	**Pn**	**18 10 28.1**	**-3.1**
PTLC	**Puerto Leguiza**	**16.17**	**95**	*eP*	**Pn**	**18 10 29.1**	**-4.0**
NORC	**Norcasia**	**16.47**	**76**	*eP*	**Pn**	**18 10 36.3**	**-0.8**
MOTC	**Monteria, Cord**	**16.75**	**64**	*eP*	**Pn**	**18 10 38.0**	**-2.6**
ROSC	**El Rosal**	**16.86**	**79**	Pn	**P**	**18 10 43.6**	**-0.9**
	baz=210,slow=4.6,SNR=11						
ROSC				LR	LR	18 16 07.7	
	comp=Z,3μm,21.7s,baz=269,slow=34						
ROSC	**El Rosal**	**16.86**	**79**	P	**Pn**	**18 10 41.3**	**-1.0**
ROSC				pmax	pmax		
	comp=Z,110nm,1.5s						
ROSC	**El Rosal**	**16.86**	**79**	Pn	**Pn**	**18 10 41.3**	**-1.0**
ZARC	**Zaragoza, Cauc**	**17.02**	**69**	*eP*	**Pn**	**18 10 41.3**	**-2.7**
SPBC	**San Pablo de B**	**17.26**	**76**	*eP*	**Pn**	**18 10 44.5**	**-2.6**
TLIG	**Tlapa**	**17.54**	**335**	P	**P**	**18 10 51.4**	**-0.4**
SJCC	**San Jacinto, C**	**17.66**	**62**		**Pn**	**18 10 50.6**	**-1.4**
SJCC				IAmb	IAmb	18 10 58.2	
	comp=Z,112nm,1.3s						
SJCC	**San Jacinto, C**	**17.66**	**62**	*eP*	**Pn**	**18 10 49.5**	**-2.6**
BRRC	**Barranca, Sant**	**17.98**	**72**	*eP*	**Pn**	**18 10 54.2**	**-1.8**
SMLC	**San Martn de**	**18.21**	**66**	*eP*	**Pn**	**18 10 54.4**	**-4.3**
RUSC	**La Rusia**	**18.28**	**76**	P	**Pn**	**18 10 58.9**	**-1.1**
RUSC				IAmb	IAmb	18 11 13.5	
	comp=Z,166nm,1.3s						
RUSC	**La Rusia**	**18.28**	**76**	*eP*	**Pn**	**18 10 57.7**	**-2.3**
BARC	**Barichara**	**18.35**	**74**	*eP*	**P**	**18 10 59.8**	**-0.9**
OCAC	**Ocana**	**18.70**	**69**	*eP*	**P**	**18 11 02.6**	**-1.9**
LL1C	**La Loma 1 Cana**	**18.96**	**65**	*eP*	**Pn**	**18 11 08.8**	**+0.9**
PAMC	**Pamplona, Colo**	**19.01**	**72**	*eP*	**P**	**18 11 06.8**	**-1.5**
LL2C	**La Loma 2 Cana**	**19.07**	**65**	*eP*	**P**	**18 11 06.0**	**-2.5**
SMRC	**Santa Marta, M**	**19.08**	**59**	*eP*	**P**	**18 11 03.5**	**-5.1**
NNA	**Nana**	**19.44**	**134**	P	**Pn**	**18 11 15.2**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=310,slow=16,SNR=3.9						
NNA				LR	LR	18 17 22.3	
	comp=Z,2μm,19.9s,baz=312,slow=33						
SDV	**Santo Domingo**	**21.42**	**70**	P	**P**	**18 11 33.9**	**-0.4**
	comp=Z,26nm,0.4s,baz=241,slow=10,SNR=4.7						
SDV				LR	LR	18 19 52.2	
	comp=Z,1μm,20.8s,baz=251,slow=37						
SDDR	**Presa de Saban**	**25.83**	**47**	P	**P**	**18 12 16.2**	**-1.2**
SDDR				IAmb	IAmb	18 12 40.2	
	comp=Z,26nm,1.2s						
PCRV	**Puerto La Cruz**	**27.45**

comp=Z,25nm,1.2s
TUL1 Leonard 34.42 353 P 18 13 34.4
baz=171
BCOK Bluff Creek, N 34.44 350 P **P** **18 13 31.1 -2.4**
WVT Waverly 34.45 4 P 18 13 35.7
baz=185
WVT Waverly 34.46 4 P **P** **18 13 34.3 +0.7**
WVT pmax pmax
comp=Z,26nm,1.4s
WVT Waverly 34.46 4 P **P** **18 13 34.3 +0.7**
WVT IAmb IAmb 18 13 38.7
comp=Z,26nm,1.4s
KMSC Kings Mountain 34.52 14 P 18 13 33.4
baz=197
KMSC Kings Mountain 34.52 14 P **P** **18 13 32.9 -1.3**
KMSC IAmb IAmb 18 13 39.6
comp=Z,26nm,1.2s
OK029 Liberty Lake 34.55 351 P **P** **18 13 33.7 -0.7**
OK029 IAmb IAmb 18 13 40.2
comp=Z,27nm,1.1s
V51A Loudon 34.55 9 P **P** **18 13 33.4 -1.0**
V51A IAmb IAmb 18 13 40.2
comp=Z,22nm,1.1s
CLTN Cedars of Leba 34.56 7 P **P** **18 13 33.6 -1.0**
CLTN IAmb IAmb 18 13 40.0
comp=Z,32nm,1.5s
HHAR Hobbs 34.60 356 P **P** **18 13 33.8 -1.1**
HHAR IAmb IAmb 18 13 40.3
comp=Z,30nm,1.4s
U40A Yellville 34.61 357 P 18 13 36.5
baz=176
121A Cookes Peak, D 34.61 334 P 18 13 36.6
baz=149
U40A Yellville 34.61 357 P **P** **18 13 34.6 -0.3**
U40A IAmb IAmb 18 13 40.6
comp=Z,29nm,1.5s
121A Cookes Peak, D 34.61 334 P **P** **18 13 35.0 -0.2**
121A IAmb IAmb 18 13 42.9
comp=Z,23nm,1.1s
V53A Saluda 34.70 12 P **P** **18 13 34.0 -1.8**
V52A Sevierville 34.72 10 P **P** **18 13 31.9 -4.0**
U38A Gravette 34.80 355 P **P** **18 13 37.2 +0.6**
U38A IAmb IAmb 18 13 42.6
comp=Z,19nm,1.0s
QUOK Quay 34.80 352 P **P** **18 13 36.6 +0.1**
U49A Red Boiling Sp 35.04 7 P **P** **18 13 37.3 -1.4**
U49A IAmb IAmb 18 13 44.0
comp=Z,16nm,1.1s
T47A Sharon Grove 35.37 5 P **P** **18 13 40.8 -0.6**
T47A IAmb IAmb 18 13 46.9
comp=Z,32nm,1.1s
MGMO Mountain Grove 35.38 358 P **P** **18 13 41.9 +0.3**
TZTN Tazewell 35.41 10 P 18 13 44.9
baz=193
BLOK Blackwell 35.45 351 P **P** **18 13 41.9 -0.3**
T35A Sooner Cattle 35.50 352 P **P** **18 13 42.8 +0.1**
BNM Barren Site 35.55 337 P **P** **18 13 44.2 +0.9**
OK032 Salt Plains WL 35.66 350 P **P** **18 13 42.6 -1.4**
OK032 IAmb IAmb 18 13 49.8
comp=Z,38nm,1.3s
LENM Lemitar 35.70 337 P **P** **18 13 45.4 +0.8**
V58A Windy Hill, Pi 35.72 17 P **P** **18 13 43.0 -1.5**
U54A Nelsons Funny 35.73 13 P **P** **18 13 42.6 -2.1**
U54A IAmb IAmb 18 13 50.1
comp=Z,31nm,1.1s
TUC Tucson 35.81 331 P **P** **18 13 45.1 -0.4**
TUC pmax pmax
comp=Z,12nm,1.1s
TUC Tucson 35.81 331 P **P** **18 13 45.0 -0.4**
TUC Tucson 35.81 331 P 18 13 46.6
baz=144
S44A Carbondale 35.93 2 P **P** **18 13 43.1 -3.1**
SIUC Southern Illin 35.95 2 P **P** **18 13 44.0 -2.5**
S39A Bolivar 35.97 357 P **P** **18 13 47.9 +1.3**
ANMO Albuquerque 36.19 338 eP **P** **18 13 49.2 +0.4**
ANMO pmax pmax
comp=Z,16nm,1.1s
ANMO Albuquerque 36.19 338 P **P** **18 13 47.8 -1.0**
ANMO Albuquerque 36.19 338 P 18 13 49.6
baz=153
CCM Cathedral Cave 36.26 360 P **P** **18 13 48.8 -0.3**
CCM pmax pmax
comp=Z,48nm,0.9s
CCM Cathedral Cave 36.26 360 P **P** **18 13 48.8 -0.3**
S51A Beattyville 36.47 10 P **P** **18 13 49.8 -1.2**
S51A IAmb IAmb 18 13 56.3
comp=Z,19nm,0.9s
R40A Maddies Statio 36.52 358 P **P** **18 13 51.4 +0.1**
214A Organ Pipe Na 36.57 328 P **P** **18 13 53.0 +1.1**
214A Organ Pipe Nat 36.57 328 P 18 13 53.0
baz=141,SNR=7.2
WCI Wyandotte Cave 36.68 6 P 18 13 51.9
baz=188
WCI Wyandotte Cave 36.68 6 P **P** **18 13 50.1 -2.6**
WCI pmax pmax
comp=Z,25nm,1.0s
WCI Wyandotte Cave 36.68 6 P **P** **18 13 50.1 -2.6**
WCI IAmb IAmb 18 13 58.1
comp=Z,25nm,1.0s
BLA Blacksburg 36.71 14 P **P** **18 13 52.3 -0.8**
BLA pmax pmax
comp=Z,35nm,1.1s
BLA Blacksburg 36.71 14 P **P** **18 13 52.3 -0.8**
BLA IAmb IAmb 18 13 59.1
comp=Z,35nm,1.1s
BLA Blacksburg 36.71 14 P 18 13 52.3
baz=198
T57A Hurt 36.81 16 P **P** **18 13 52.4 -1.4**
T57A IAmb IAmb 18 13 59.0
comp=Z,41nm,1.3s
R49A Shelbyville 36.87 8 P **P** **18 13 53.0 -1.4**
R49A IAmb IAmb 18 13 59.5
comp=Z,25nm,1.1s
R50A Paris 36.98 9 P **P** **18 13 54.3 -1.0**
SFX San Felipe 37.01 325 P **P** **18 13 55.5 -0.1**
SFX IAmb IAmb 18 14 02.8
comp=Z,26nm,1.2s
S54A Dingess, Beckl 37.07 13 P **P** **18 13 52.5 -3.6**
S54A IAmb IAmb 18 14 01.2
comp=Z,32nm,1.2s
Q44A Meyer Farm, Va 37.15 2 P **P** **18 13 56.0 -0.7**
X18A Snowflake 37.26 334 P **P** **18 13 58.4 +0.4**
X18A IAmb IAmb 18 14 06.1
comp=Z,39nm,1.5s
R32A Long Quarter, 37.32 350 P **P** **18 13 57.7 -0.5**
R53A Hurricane 37.45 12 P **P** **18 13 58.2 -1.1**
R53A IAmb IAmb 18 14 04.5
comp=Z,24nm,0.9s
T25A Trinidad 37.48 342 P **P** **18 13 59.5 -0.3**
T25A IAmb IAmb 18 14 07.5
comp=Z,39nm,1.1s
T25A Trinidad 37.48 342 P 18 14 01.5
baz=157,SNR=12
BLO Bloomington 37.59 6 P **P** **18 14 00.1 -0.3**
BLO pmax pmax
comp=Z,38nm,1.0s
BLO Bloomington 37.59 6 P **P** **18 14 00.1 -0.3**
BLO IAmb IAmb 18 14 05.8
comp=Z,38nm,0.9s
KSU1 Kansas State U 37.67 353 P 18 14 02.9
baz=171,SNR=13
KSU1 Kansas State U 37.67 353 P **P** **18 14 01.3 +0.2**
P40A Paris 37.75 359 P **P** **18 14 01.8 +0.1**
X16A Lo Mia Camp, P 37.85 332 P **P** **18 14 04.0 +1.1**
X16A IAmb IAmb 18 14 11.2
comp=Z,25nm,1.3s
P43A Skaggs, Pawnee 37.86 2 P **P** **18 14 01.3 -1.5**
Q51A Peebles 37.87 10 P **P** **18 14 01.6 -1.2**
Q51A IAmb IAmb 18 14 08.3
comp=Z,33nm,0.8s
P38A Dawn 37.90 357 P **P** **18 14 04.0 +0.9**
P38A IAmb IAmb 18 14 09.3
comp=Z,60nm,1.4s
P46A Rosedale 37.97 5 P **P** **18 14 03.0 -0.6**
Y14A Wickenburg 38.23 330 P **P** **18 14 06.8 +0.8**
P51A Williamsport 38.36 10 P **P** **18 14 05.6 -1.3**
P51A IAmb IAmb 18 14 12.1
comp=Z,22nm,1.0s
SDCO Great Sand Dun 38.38 341 P 18 14 08.6
baz=156,SNR=22
SDCO Great Sand Dun 38.38 341 P **P** **18 14 08.2 +0.7**
O44A Mansfield 38.42 3 P **P** **18 14 07.0 -0.4**
GLA Glamis 38.50 327 P 18 14 09.9
baz=139
GLA Glamis 38.50 327 P **P** **18 14 08.3 0.0**
GLA pmax pmax
comp=Z,8.0nm,0.9s
GLA Glamis 38.50 327 P **P** **18 14 08.3 0.0**
WUAZ Wupatki 38.72 333 P **P** **18 14 10.8 +0.6**
WUAZ IAmb IAmb 18 14 18.5
comp=Z,66nm,1.4s
WUAZ Wupatki 38.72 333 P 18 14 11.9
baz=146,SNR=18
SFIN Lafayette 38.73 5 P 18 14 12.0
baz=186
SFIN Lafayette 38.73 5 P **P** **18 14 09.6 -0.5**
SFIN IAmb IAmb 18 14 15.2
comp=Z,44nm,1.1s
Q56A Snyder Ridge, 38.75 15 P **P** **18 14 08.4 -1.9**
Q56A IAmb IAmb 18 14 15.9
comp=Z,32nm,1.4s
HDIL Hopedale 38.78 2 P 18 14 11.5
baz=182
HDIL Hopedale 38.78 2 P **P** **18 14 10.2 -0.3**
S22A 4UR Ranch, Cre 38.82 340 P 18 14 12.8
baz=154,SNR=19
N41A Harden Midland 38.91 0 P **P** **18 14 11.6 +0.1**
IKP In-Ko-Pah, Jac 38.92 325 P 18 14 13.5
baz=137
MVCO Mesa Verde 38.96 337 P 18 14 13.4
baz=151
MVCO Mesa Verde 38.96 337 P **P** **18 14 12.7 +0.4**
SWSC Sam W. Stewart 38.96 326 P 18 14 13.2
baz=138
CBX Cerro Bola 38.99 324 P **P** **18 14 10.6 -1.9**
N38A Joes South For 39.05 357 P **P** **18 14 13.2 +0.5**
N38A IAmb IAmb 18 14 18.7
comp=Z,64nm,1.2s
O52A Adamsville 39.19 11 P **P** **18 14 12.8 -1.2**
O52A IAmb IAmb 18 14 19.1
comp=Z,38nm,1.2s
BAR Barrett 39.26 325 P **P** **18 14 14.7 +0.1**
MONP2 Monument Peak 39.27 325 P 18 14 14.4
baz=137
BC3 Big Chuckawall 39.30 327 P 18 14 16.6
baz=139,SNR=15
N47A Urbana 39.36 6 P **P** **18 14 13.1 -2.3**
O53A New Philadelph 39.45 12 P 18 14 15.4
baz=195
O53A New Philadelph 39.45 12 P **P** **18 14 14.4 -1.6**
O53A IAmb IAmb 18 14 21.3
comp=Z,38nm,1.2s
P57A Homestead Farm 39.48 16 P **P** **18 14 13.0 -3.2**
P57A IAmb IAmb 18 14 21.9
comp=Z,42nm,1.4s
IRM Iron Mountain 39.51 328 P 18 14 18.2
baz=140
O54A Avella 39.56 13 P **P** **18 14 13.0 -4.0**
W13A Hualapai Mount 39.59 330 P **P** **18 14 16.9 -0.6**
N49A Columbus Grove 39.59 8 P **P** **18 14 18.2 +0.9**
N49A IAmb IAmb 18 14 22.3
comp=Z,41nm,1.3s
M44A Midewin, Midew 39.67 3 P **P** **18 14 16.7 -1.2**
M44A IAmb IAmb 18 14 22.2
comp=Z,67nm,1.4s
PFO Pinyon Flats O 39.82 326 P **P** **18 14 20.7 +1.3**
PFO pmax pmax
comp=Z,17nm,1.4s
PFO Pinyon Flats O 39.82 326 P **P** **18 14 20.7 +1.3**
PFO Pinyon Flats O 39.82 326 P 18 14 22.9
baz=138
BELC Belle Mtn. Jos 39.85 327 P 18 14 21.2
baz=139
U15A North Rim 39.89 333 P **P** **18 14 20.3 +0.2**
PV13 Radium Mtn., P 39.91 338 P **P** **18 14 20.1 -0.1**
HQIL Hanson Quary C 40.09 4 P **P** **18 14 20.2 -1.2**
SMCO Snowmass 40.16 341 P **P** **18 14 23.0 +0.5**
L42A Oliver, Polo 40.22 1 P **P** **18 14 22.7 +0.3**
M50A Fremont 40.23 9 P **P** **18 14 21.7 -0.8**
M50A IAmb IAmb 18 14 28.4
comp=Z,48nm,1.0s
GMRC Granite Mounta 40.26 328 P 18 14 24.6
baz=140
L40A Anamosa 40.26 360 P **P** **18 14 22.7 -0.1**
L40A IAmb IAmb 18 14 28.5
comp=Z,64nm,1.3s
ISCO Idaho Springs 40.29 342 P **P** **18 14 23.8 +0.3**
ISCO pmax pmax
comp=Z,33nm,1.1s
ISCO Idaho Springs 40.29 342 P **P** **18 14 23.8 +0.3**
ISCO IAmb IAmb 18 14 30.4
comp=Z,33nm,1.1s
ISCO Idaho Springs 40.29 342 P 18 14 24.6
baz=157,SNR=21
OGNE Ogallala 40.42 347 P **P** **18 14 24.6 +0.3**
OGNE IAmb IAmb 18 14 31.0
comp=Z,51nm,1.1s
OGNE Ogallala 40.42 347 P 18 14 26.3
baz=163
L44A Lake County Fo 40.47 3 P 18 14 27.8
baz=184
SSPA Standing Stone 40.59 15 P 18 14 27.2
baz=200
SSPA Standing Stone 40.59 15 P **P** **18 14 26.1 +0.5**
SSPA IAmb IAmb 18 14 30.6
comp=Z,28nm,1.3s
HEC Hector,Ludlow 40.66 327 P 18 14 28.4
baz=139
M53A WI Miller and 40.70 12 P **P** **18 14 23.1 -3.3**
M53A IAmb IAmb 18 14 31.7
comp=Z,52nm,1.3s
PKCU Pink Cliffs 40.74 334 P **P** **18 14 27.9 +0.7**
PKCU IAmb IAmb 18 14 35.9
comp=Z,58nm,1.3s
K38A Parkersburg 40.88 358 P **P** **18 14 27.7 -0.2**
AQDB Aquidauana 40.88 124 P **P** **18 14 26.7 -1.6**
BFSC Mount Baldy Ra 40.96 325 P 18 14 30.6
baz=137
M54A Oil Creek Stat 40.98 13 P 18 14 31.4
baz=197
JFWS Jewell Farm 41.12 1 P 18 14 29.2
baz=181
JFWS Jewell Farm 41.12 1 P **P** **18 14 28.8 -1.0**
JFWS pmax pmax
comp=Z,50nm,1.2s
JFWS Jewell Farm 41.12 1 P **P** **18 14 28.8 -1.0**
JFWS IAmb IAmb 18 14 35.2
comp=Z,50nm,1.2s
SZCU Shurtz Canyon 41.21 333 P **P** **18 14 32.1 +1.1**
SZCU IAmb IAmb 18 14 38.7
comp=Z,28nm,1.4s
GSC Goldstone, Bar 41.27 327 P 18 14 32.7
baz=139
SHPR Sheep Range 41.33 330 P **P** **18 14 31.6 -0.3**
N23A Red Feather La 41.40 343 P 18 14 33.4
baz=157
SHOC Shoshone, Teco 41.44 328 P 18 14 34.4
baz=140
N59A State Game Lan 41.45 17 P 18 14 34.4
baz=203
O20A White River Ci 41.45 340 P **P** **18 14 33.1 +0.2**
O20A IAmb IAmb 18 14 57.8
comp=Z,35nm,1.3s
O20A White River Ci 41.45 340 P 18 14 33.5
baz=153
Q16A Castle Valley 41.49 336 P **P** **18 14 34.0 +0.8**
Q16A IAmb IAmb 18 14 43.6
comp=Z,35nm,1.3s
EDW2 Edwards Air Fo 41.62 326 P 18 14 35.5
baz=137,SNR=13
P17A Butcher Ranch, 41.79 337 P **P** **18 14 35.9 +0.3**
FURC Furnace Creek, 42.18 328 P 18 14 40.4
baz=139,SNR=14
TPNV Topopah Spring 42.23 329 P 18 14 41.0
baz=140,SNR=9.7
ECSD EROS Data Cent 42.24 354 P **P** **18 14 39.1 0.0**
ECSD IAmb IAmb 18 14 44.2
comp=Z,42nm,1.1s
ECSD EROS Data Cent 42.24 354 P 18 14 39.4
baz=171,SNR=39
I37A Lemond, Waseca 42.27 357 P **P** **18 14 39.4 +0.1**
PSUT Pine Spring 42.33 333 P **P** **18 14 40.4 +0.3**
ISA Isabella, Lake 42.45 326 P 18 14 42.2
baz=137
MPU Maple Canyon 42.61 336 P **P** **18 14 41.5 -0.8**
PKM Mcpherson Peak 42.67 324 P 18 14 43.9
baz=135
CPUP Villa Florida 42.69 133 P **P** **18 14 42.8 -0.1**
CPUP comp=Z,5.0nm,1.0s,baz=307,slow=7.3,SNR=7.8 LR LR 18 32 59.8
comp=Z,865nm,21.1s,baz=325,slow=37
CPUP Villa Florida 42.69 133 P **P** **18 14 42.3 -0.6**
CPUP pmax pmax
comp=Z,35nm,1.5s
CPUP Villa Florida 42.69 133 P **P** **18 14 42.3 -0.6**
CPUP IAmb IAmb 18 14 54.9
comp=Z,35nm,1.5s
CWC Cottonwood Cre 42.80 327 P 18 14 44.6
baz=138
L59A Walton 42.83 17 P 18 14 42.5
baz=204
GRAC Grapevine Rang 42.84 328 P 18 14 45.8
baz=139,SNR=12
VES Vestal, Richgr 42.92 326 P 18 14 46.5
baz=136,SNR=11
SMMC Simmler 43.07 324 P 18 14 47.6
baz=135
K22A Casper 43.18 343 P **P** **18 14 45.5 -1.4**
K22A Casper 43.18 343 P 18 14 47.8
baz=157
CTU Camp Tracy 43.23 337 P **P** **18 14 48.2 +0.8**
SUSD Miller 43.23 352 P 18 14 48.0
baz=168
DUG Dugway, Tooele 43.24 335 P 18 14 48.4
baz=147,SNR=17
SPMN Marine on St. 43.45 358 P 18 14 48.5
baz=177
SPMN Marine on St. 43.46 358 P **P** **18 14 48.2 -0.7**
K61A Williamstown 43.81 19 P 18 14 49.5
baz=206
J58A Remsen 43.83 16 P 18 14 50.4
baz=203
RSSD Black Hills 43.90 346 P **P** **18 14 52.0 -0.7**
RSSD pmax pmax
comp=Z,19nm,1.2s
RSSD Black Hills 43.90 346 P **P** **18 14 52.0 -0.7**
RSSD IAmb IAmb 18 15 02.4
comp=Z,19nm,1.1s
BGU Big Grassy Mou 43.95 336 P **P** **18 14 53.2 0.0**
BGU IAmb IAmb 18 15 03.3
comp=Z,21nm,1.1s
SPUT South Promonto 44.04 337 P **P** **18 14 53.6 -0.3**
F36A Milaca 44.12 357 P **P** **18 14 53.3 -0.9**
H53A Bobcaygeon 44.14 13 P 18 14 53.1
baz=198,SNR=7.3
K62A Royalston 44.15 20 P 18 14 53.0
baz=207
J59A Piesco 44.16 17 P 18 14 52.2
baz=204
I58A Old Forge 44.23 17 P 18 14 53.4
baz=203
BW06 Boulder Array 44.24 340 P 18 14 55.5
baz=153,SNR=14
PDAR Pinedale Array 44.24 340 P **P** **18 14 54.8 -0.8**
comp=Z,11nm,1.2s,baz=134,slow=6.4,SNR=14
F33A 5 Mile Ranch, 44.29 355 P **P** **18 14 55.3 -0.3**
F33A IAmb IAmb 18 14 59.8
comp=Z,44nm,1.4s
NV11 Mina Array Sit 44.33 329 P **P** **18 14 57.7 +1.5**
NV11 IAmb IAmb 18 15 03.8
comp=Z,28nm,1.3s
LHV Little Huntoon 44.38 329 P **P** **18 14 56.2 -0.2**
NVAR Mina Array Bea 44.41 329 P **P** **18 14 58.4 +1.4**
comp=Z,10nm,1.0s,baz=150,slow=7.8,SNR=34
NVAR PcP **PcP** **18 16 41.3 +0.5**
comp=Z,0.4nm,0.7s,baz=151,slow=6.2,SNR=1.6
NVAR LR LR 18 31 41.1
comp=Z,418nm,20.3s,baz=136,slow=34
NVAR Mina Array Bea 44.41 329 P **P** **18 14 57.8 +0.8**
I59A Olmsteadville 44.64 18 P 18 14 56.8
baz=204
RYN Ryan 44.67 329 P **P** **18 14 59.3 +0.4**
ELK Elko 44.74 334 P **P** **18 14 59.8 +0.2**
ELK pmax pmax
comp=Z,14nm,1.2s
ELK Elko 44.74 334 P **P** **18 14 59.8 +0.2**
KVN Kaiserville 44.77 330 P **P** **18 15 00.5 +0.7**
KVN pmax pmax
comp=Z,20nm,1.1s
KVN Kaiserville 44.77 330 P **P** **18 15 00.5 +0.7**
KVN IAmb IAmb 18 15 06.8
comp=Z,20nm,1.1s
AHID Auburn Hatcher 44.78 339 P **P** **18 14 59.3 -0.5**
J62A Henniker 44.79 20 P 18 14 58.8
baz=207
E38A The Farm, Brul 44.81 359 P **P** **18 14 59.3 -0.4**
E38A IAmb IAmb 18 15 04.0
comp=Z,33nm,1.1s
G54A Lake Saint Pet 45.03 13 P 18 15 00.5
baz=198,SNR=17
H58A Gabriels 45.12 17 P 18 15 00.5
baz=204
REDW Red Top Meadow 45.21 339 P **P** **18 15 03.2 -0.1**
CMB Columbia Colle 45.23 327 P **P** **18 15 04.0 +0.8**
CMB pmax pmax
comp=Z,17nm,1.5s
CMB Columbia Colle 45.23 327 P **P** **18 15 04.0 +0.8**
SNOW Snow King Moun 45.27 340 P **P** **18 15 04.0 +0.3**
I61A Oroboro, Fairl 45.29 19 P 18 15 02.3
baz=207
YERR Yerington 45.31 329 P **P** **18 15 05.0 +0.9**
YERR IAmb IAmb 18 15 11.4
comp=Z,20nm,1.1s
LOHW Long Hollow 45.34 340 P **P** **18 15 03.4 -0.9**
LOHW IAmb IAmb 18 15 10.5
comp=Z,28nm,1.2s
TPAW Teton Pass 45.36 339 P **P** **18 15 04.1 -0.4**
TPAW IAmb IAmb 18 15 13.9
comp=Z,24nm,1.1s
MOOW Moose Ponds 45.51 340 P **P** **18 15 04.6 -1.0**
MOOW IAmb IAmb 18 15 12.2
comp=Z,16nm,1.2s
G57A Newington 45.52 16 P 18 15 04.3
baz=202
ALGO Algonquin Park 45.57 13 P 18 15 05.1
baz=198,SNR=15
PNTR Pine Nut 45.57 328 P **P** **18 15 07.2 +1.0**
PNTR IAmb IAmb 18 15 13.6
comp=Z,20nm,1.1s
E28A Huff 45.59 351 P **P** **18 15 05.9 0.0**
BDFB Brasilia 45.73 114 P **P** **18 15 08.5 +0.9**
comp=Z,4.2nm,0.9s,baz=273,slow=7.0,SNR=6.0
BDFB LR LR 18 35 04.3
comp=Z,1μm,19.6s,baz=295,slow=37
BDFB Brasilia 45.73 114 P **P** **18 15 06.1 -1.5**
BDFB pmax pmax
comp=Z,21nm,1.4s
BDFB Brasilia 45.73 114 P **P** **18 15 06.1 -1.5**
BDFB IAmb IAmb 18 15 25.9
comp=Z,21nm,1.4s
FLWY Flagg Ranch 45.79 340 P **P** **18 15 06.9 -0.9**
FLWY IAmb IAmb 18 15 14.0
comp=Z,13nm,1.0s
PLCA Paso Flores 46.06 158 P **P** **18 15 10.8 +1.1**
comp=Z,4.6nm,0.9s,baz=332,slow=8.9,SNR=5.7
PLCA LR LR 18 30 41.2
comp=Z,717nm,19.3s,baz=336,slow=31
AFDM Forest Hills D 46.20 327 P **P** **18 15 11.4 +0.5**
AFDM IAmb IAmb 18 15 17.8
comp=Z,16nm,1.3s
RLMT Red Lodge 46.25 342 P 18 15 10.8
baz=154
RLMT Red Lodge 46.25 342 P **P** **18 15 10.8 -0.6**
RLMT IAmb IAmb 18 15 17.3
comp=Z,19nm,1.3s
YNE Yellowstone No 46.38 341 P **P** **18 15 11.8 -0.7**
YMR Madison River 46.40 340 P **P** **18 15 12.8 +0.2**
BEKR Beckworth 46.54 329 P **P** **18 15 14.4 +0.6**
BEKR IAmb IAmb 18 15 20.8
comp=Z,18nm,1.2s
MDND Maddock 46.66 352 P **P** **18 15 14.6 +0.3**
MDND Maddock 46.66 352 P 18 15 15.2
baz=168
AGMN Agassiz Nation 46.69 355 P 18 15 14.4
baz=173,SNR=19
QLMT Earthquake Lak 46.70 340 P **P** **18 15 16.0 +1.0**
HLID Hailey 46.72 337 P 18 15 15.7
baz=147,SNR=31
HLID Hailey 46.72 337 P **P** **18 15 15.5 +0.4**
ORV Oroville 46.92 327 P **P** **18 15 16.7 +0.2**
ORV pmax pmax
comp=Z,22nm,1.2s
ORV Oroville 46.92 327 P **P** **18 15 16.7 +0.2**
ORV IAmb IAmb 18 15 23.9
comp=Z,22nm,1.2s
H64A Troy 46.94 21 P 18 15 15.6
baz=210

GCMT	**Greycliff**	**46.98**	**342**	P		**P**		**18 15 16.6**	**-0.4**
G62A	**West of Eustis**	**46.98**	**20**	P				18 15 16.2	
	baz=208								
D55A	**Sainte-Anne-du**	**47.17**	**14**	P				18 15 17.3	
	baz=201,SNR=6.7								
MCMT	**McKenzie Canyo**	**47.20**	**339**	P		**P**		**18 15 19.2**	**+0.3**
G63A	**Kingsbury**	**47.21**	**21**	P				18 15 17.4	
	baz=209								
H65A	**Eastbrook**	**47.34**	**22**	P				18 15 18.6	
	baz=211								
D56A	**ZEC Mazanza, M**	**47.38**	**15**	P				18 15 18.7	
	baz=202								
PKME	**Peaks-Kenny Pk**	**47.45**	**21**	P				18 15 19.2	
	baz=210								
O03E	**Paynes Creek**	**47.61**	**328**	P				18 15 22.1	
	baz=136								
G64A	**Maxfield**	**47.63**	**21**	P				18 15 20.3	
	baz=210								
WVOR	**Wild Horse Val**	**47.63**	**332**	P		**P**		**18 15 21.9**	**-0.3**
WVOR				pmax		pmax			
	comp=Z,20nm,1.5s								
WVOR	**Wild Horse Val**	**47.63**	**332**	P		**P**		**18 15 21.9**	**-0.3**
WVOR				lAmb		lAmb		18 15 33.5	
	comp=Z,20nm,1.5s								
LRM	**Limekiln Ridge**	**47.92**	**340**	P		**P**		**18 15 23.3**	**-1.2**
D58A	**Chemin du LacG**	**47.94**	**17**	P				18 15 22.5	
	baz=204								
MOD	**Modoc Plateau**	**48.03**	**330**	P		**P**		**18 15 25.0**	**-0.3**
DGMT	**Dagmar**	**48.06**	**348**	P				18 15 26.4	
	baz=162								
F64A	**Sherman**	**48.30**	**21**	P				18 15 25.9	
	baz=211								
E62A	**Clayton Lake**	**48.55**	**20**	P		**P**		**18 15 26.6**	**-2.5**
E62A	**Clayton Lake**	**48.55**	**20**	P				18 15 28.0	
	baz=209								
ULM	**Lac du Bonnet**	**48.64**	**356**	P		**P**		**18 15 28.9**	**-0.8**
	comp=Z,19nm,1.1s,baz=174,slow=8.6,SNR=11								
ULM				LR		LR		18 37 55.8	
	comp=Z,261nm,18.9s,baz=152,slow=39								
ULM	**Lac du Bonnet**	**48.64**	**356**	P		**P**		**18 15 28.1**	**-1.5**
ULM				pmax		pmax			
	comp=Z,33nm,1.1s								
ULM	**Lac du Bonnet**	**48.64**	**356**	P		**P**		**18 15 28.1**	**-1.5**
M04C	**Macdoel**	**48.71**	**329**	P				18 15 31.1	
	baz=137								
D61A	**St Aubert, Com**	**48.85**	**19**	P				18 15 30.3	
	baz=208								
E64A	**Bridgewater**	**48.97**	**21**	P				18 15 30.6	
	baz=211								
EGMT	**Eagleton**	**49.02**	**343**	P				18 15 32.8	
	baz=155								
D62A	**Allapoint, All**	**49.11**	**20**	P				18 15 32.0	
	baz=209								
L04D	**Klamath Falls**	**49.26**	**329**	P				18 15 34.9	
	baz=137								
MATQ	**Matagami**	**49.28**	**11**	P				18 15 33.8	
	baz=197								
MSO	**Missoula**	**49.31**	**339**	P		**P**		**18 15 33.6**	**-1.4**
MSO	**Missoula**	**49.31**	**339**	P				18 15 34.1	
	baz=149								
RKT	**Rikitea**	**49.44**	**237**	*e*S		S		18 22 56.6	+13
	comp=Z,346nm,27.5s								
RKT				*e*LR		LR		18 30 00.8	
	comp=Z,1μm,28.0s								
RKT	**Rikitea**	**49.44**	**237**	*e*T		T		19 08 38.2	
	comp=Z,1.7nm,0.2s								
PINE	**Pine Mountain**	**49.76**	**332**	P		**P**		**18 15 38.3**	**-0.3**
PINE				lAmb		lAmb		18 15 42.3	
	comp=Z,36nm,1.4s								
F10A	**Beach Ranch, E**	**49.84**	**336**	P		**P**		**18 15 39.5**	**+0.4**
F10A				lAmb		lAmb		18 15 48.6	
	comp=Z,18nm,1.2s								
J04D	**Umpqua Nationa**	**49.91**	**330**	P				18 15 39.8	
	baz=137								
CHGQ	**Chibougamau**	**50.13**	**14**	P				18 15 39.2	
	baz=202								
TAOE	**Nuku Hiva Isla**	**50.16**	**257**	*e*T		T		19 09 30.6	
	comp=Z,31nm,0.2s								
K02D	**Willamette Mer**	**50.31**	**329**	P				18 15 43.3	
	baz=135								
E09A	**Wood Farm, Sta**	**50.65**	**336**	P		**P**		**18 15 44.2**	**-0.8**
E09A				lAmb		lAmb		18 15 50.5	
	comp=Z,25nm,1.2s								
NEW	**Newport**	**51.68**	**338**	P		**P**		**18 15 52.3**	**-0.5**
NEW				pmax		pmax			
	comp=Z,13nm,1.3s								
NEW	**Newport**	**51.68**	**338**	P		**P**		**18 15 52.3**	**-0.5**
NEW	**Newport**	**51.68**	**338**	P				18 15 52.4	
	baz=146								
E04D	**Cinebar**	**52.60**	**333**	P				18 15 60.0	
	baz=139								
B08A	**Colville Reser**	**52.61**	**336**	P		**P**		**18 15 59.0**	**-0.7**
B08A				lAmb		lAmb		18 16 09.4	
	comp=Z,24nm,1.4s								
B06A	**Marblemount**	**53.62**	**335**	P		**P**		**18 16 05.1**	**-2.0**
B05A	**Bryant**	**53.68**	**335**	P				18 16 07.6	
	baz=140								
FFC	**Flin Flon**	**53.71**	**352**	P		**P**		**18 16 06.4**	**-1.2**
FFC				pmax		pmax			
	comp=Z,20nm,1.1s								
FFC	**Flin Flon**	**53.71**	**352**	P		**P**		**18 16 06.4**	**-1.2**
FFC				lAmb		lAmb		18 16 13.2	
	comp=Z,20nm,1.1s								
NLWA	**Neilton Lookou**	**53.81**	**333**	P		**P**		**18 16 08.5**	**-0.2**
SCHQ	**Schefferville**	**56.57**	**16**	P		**P**		**18 16 28.6**	**+0.3**
	comp=Z,8.8nm,1.0s,baz=74,slow=2.4,SNR=4.2								
SCHQ				LR		LR		18 40 14.7	
	comp=Z,470nm,20.8s,baz=207,slow=36								
PPT	**Papeete**	**60.83**	**249**	LR		LR		18 36 41.4	
	comp=Z,535nm,19.2s,baz=74,slow=29								
PPT2	**Papeete2**	**60.84**	**249**	*e*S		S		18 25 30.9	+14
	comp=Z,856nm,26.0s								
PPT2				*e*LQ		LQ		18 32 18.1	
	comp=Z,1μm,32.5s								
PPT2				*e*LR		LR		18 35 16.7	
	comp=Z,1μm,25.8s,baz=65								
TBI	**Tubuai**	**62.09**	**243**	*e*S		S		18 25 48.0	+16
	comp=Z,764nm,29.0s								
TBI				*e*LQ		LQ		18 33 11.2	
	comp=Z,757nm,41.0s								
TBI				*e*LR		LR		18 35 52.7	
	comp=Z,2μm,27.5s,baz=72								
TBI	**Tubuai**	**62.09**	**243**	*e*T		T		19 24 25.0	
	comp=Z,6.4nm,0.2s								
YKA	**Yellowknife Ar**	**63.27**	**348**	P		**P**		**18 17 13.9**	**-0.3**
	comp=Z,19nm,1.1s,baz=146,slow=6.9,SNR=22								
YKA				LR		LR		18 45 34.5	
	comp=Z,445nm,19.1s,baz=0,slow=37								
RAR	**Rarotonga**	**70.97**	**247**	LR		LR		18 41 11.4	
	comp=Z,400nm,18.8s,baz=91,slow=29								
BMRM	**Bremner River**	**71.75**	**336**	P				18 18 09.6	
	baz=122								
BMRM	**Bremner River**	**71.75**	**336**	P		**P**		**18 18 08.3**	**+0.3**
BCAR	**Beaver Creek A**	**71.81**	**338**	P		**P**		**18 18 07.5**	**-0.8**
L27K	**Beaver Creek,**	**71.82**	**338**	P		**P**		**18 18 07.5**	**-0.9**
L27K				lAmb		lAmb		18 18 15.0	
	comp=Z,11nm,1.2s								
L27K	**Beaver Creek,**	**71.82**	**338**	P				18 18 08.7	
	baz=125								
N25K	**Chitina, Valde**	**72.09**	**336**	P				18 18 11.0	
	baz=122								
EPYK	**Eagle Plains**	**72.15**	**342**	P				18 18 11.6	
	baz=131,SNR=6.2								
EPYK	**Eagle Plains**	**72.15**	**342**	P		**P**		**18 18 10.2**	**-0.1**
EPYK				lAmb		lAmb		18 18 16.7	
	comp=Z,25nm,1.2s								
K27K	**Chicken**	**72.47**	**339**	P				18 18 13.1	
	baz=125								
K27K	**Chicken**	**72.47**	**339**	P		**P**		**18 18 12.6**	**+0.3**
INK	**Inuvik**	**72.57**	**345**	P		**P**		**18 18 12.0**	**-0.7**
INK				pmax		pmax			
	comp=Z,28nm,1.3s								
INK	**Inuvik**	**72.57**	**345**	P		**P**		**18 18 11.9**	**-0.7**
INK	**Inuvik**	**72.57**	**345**	P				18 18 13.0	
	baz=135,SNR=6.4								
RES	**Resolute Bay**	**73.02**	**359**	P		**P**		**18 18 14.5**	**-0.7**
RES				pmax		pmax			
	comp=Z,16nm,1.4s								
RES	**Resolute Bay**	**73.02**	**359**	P		**P**		**18 18 14.5**	**-0.7**
RES				lAmb		lAmb		18 18 20.2	
	comp=Z,16nm,1.4s								
SCRK	**Sand Creek**	**73.14**	**338**	P		**P**		**18 18 14.2**	**-2.1**
SCRK				lAmb		lAmb		18 18 22.5	
	comp=Z,16nm,1.3s								
SCRK	**Sand Creek**	**73.14**	**338**	P				18 18 15.7	
	baz=123								
PAX	**Paxson**	**73.16**	**337**	P				18 18 16.6	
	baz=122								
KNK	**Knik Glacier**	**73.59**	**335**	P				18 18 18.8	
	baz=118								
SML	**Sawmill**	**73.72**	**335**	P				18 18 19.6	
	baz=119								
WAT6	**Susitna Watana**	**73.86**	**336**	P				18 18 20.6	
	baz=119,SNR=5.9								
WAT2	**Susitna Watana**	**74.38**	**336**	P				18 18 23.6	
	baz=119								
M22K	**Willow**	**74.45**	**335**	P				18 18 25.7	
	baz=117								
HDA	**Harding Lake**	**74.47**	**338**	P				18 18 24.3	
	baz=121,SNR=6.7								
HDA				P				18 18 24.3	
	baz=121,SNR=6.7								
PRP	**Porcupine Dome**	**74.53**	**339**	P		**P**		**18 18 23.8**	**-0.7**
PRP				lAmb		lAmb		18 18 31.1	
	comp=Z,23nm,1.2s								
PRP	**Porcupine Dome**	**74.53**	**339**	P				18 18 24.6	
	baz=122,SNR=7.4								
IL31		**74.63**	**338**	P		**P**		**18 18 25.0**	**+0.1**
IL31				lAmb		lAmb		18 18 31.1	
	comp=Z,18nm,1.1s								
ILAR	**Eielson Array**	**74.63**	**338**	P		**P**		**18 18 24.2**	**-0.7**
	comp=Z,3.9nm,1.0s,baz=144,slow=4.6,SNR=19								
ILAR				LR		LR		18 52 05.6	
	comp=Z,530nm,18.4s,baz=132,slow=36								
ILAR	**Eielson Array**	**74.63**	**338**	P		**P**		**18 18 23.4**	**-1.5**
ILAR	**Eielson Array**	**74.63**	**338**	P		**P**		**18 18 23.4**	**-1.5**
COLA	**College**	**75.04**	**338**	*i*P		P		18 18 31.8	+4.6
COLA				pmax		pmax			
	comp=Z,12nm,1.8s								
SKT	**Skwentna**	**75.15**	**335**	P				18 18 28.0	
	baz=116,SNR=7.3								
MDM	**Murphy Dome**	**75.22**	**338**	P		**P**		**18 18 30.0**	**+1.7**
MDM				lAmb		lAmb		18 18 34.7	
	comp=Z,14nm,1.2s								
BMAR	**Burnt Mountain**	**75.26**	**341**	P		**P**		**18 18 28.7**	**+0.1**
TRF	**Thorofare Moun**	**75.30**	**336**	P				18 18 31.5	
	baz=117								
NEA2	**Nenana**	**75.36**	**338**	P		**P**		**18 18 28.8**	**-0.3**
NEA2				lAmb		lAmb		18 18 35.4	
	comp=Z,20nm,1.2s								
NEA2	**Nenana**	**75.36**	**338**	P				18 18 29.1	
	baz=119,SNR=5.5								
ICESG	**Greenland Ices**	**75.47**	**17**	*i* P		**P**		**18 18 29.0**	**-1.1**
ICESG				lAmb		lAmb		18 18 35.5	
	comp=Z,24nm,1.0s								
H24K	**Noodor Dome**	**75.53**	**339**	P				18 18 30.2	
	baz=120,SNR=24								
I23K	**Minto, Yukon-K**	**75.73**	**338**	P				18 18 31.1	
	baz=118								
I23K	**Minto, Yukon-K**	**75.73**	**338**	P		**P**		**18 18 32.7**	**+1.5**
PPLA	**Purkeypile**	**75.82**	**336**	P				18 18 30.5	
	baz=115								
BPAW	**Bear Paw Mtn.**	**75.87**	**337**	P				18 18 31.6	
	baz=117,SNR=6.5								
MLY	**Manley**	**76.19**	**338**	P		**P**		**18 18 33.7**	**-0.3**
MLY				lAmb		lAmb		18 18 39.8	
	comp=Z,12nm,1.2s								
MLY	**Manley**	**76.19**	**338**	P				18 18 33.6	
	baz=117,SNR=6.3								
COLD	**Coldfoot**	**77.02**	**340**	P				18 18 39.5	
	baz=118,SNR=24								
COLD	**Coldfoot**	**77.03**	**340**	P		**P**		**18 18 39.5**	**+1.0**
COLD				lAmb		lAmb		18 18 46.2	
	comp=Z,25nm,1.2s								
H21K	**Melozitna Rive**	**77.25**	**338**	P				18 18 40.4	
	baz=115,SNR=7.1								
TTA	**Tatalina**	**77.44**	**335**	P		**P**		**18 18 40.8**	**-0.3**
TTA				pmax		pmax			
	comp=Z,8.0nm,1.3s								
TTA	**Tatalina**	**77.44**	**335**	P		**P**		**18 18 40.8**	**-0.3**
TTA	**Tatalina**	**77.44**	**335**	P				18 18 40.9	
	baz=112								
TOLK	**Toolik Lake Re**	**77.50**	**341**	P				18 18 42.5	
	baz=119								
IMAR	**Indian Mountai**	**77.74**	**338**	P		**P**		**18 18 42.0**	**-0.6**
NEEM	**North Greenlan**	**78.74**	**8**	*i* P		**P**		**18 18 50.1**	**+1.9**
NEEM				lAmb		lAmb		18 18 54.0	
	comp=Z,50nm,1.6s								
DAG	**Danmarks Havn**	**84.40**	**13**	*i* P		**P**		**18 19 19.0**	**+1.2**
DAG				lAmb		lAmb		18 19 23.0	
	comp=Z,38nm,1.7s								
DAG	**Danmarks Havn**	**84.40**	**13**	*i* P		**P**		**18 19 19.0**	**+1.2**
DAG				pmax		pmax			
	comp=Z,39nm,1.7s								
TIC	**Toumodi**	**85.72**	**83**	*e*P		**P**		**18 19 29.4**	**+3.6**
LIC	**Lamto**	**85.73**	**84**	*e*P		**P**		**18 19 29.5**	**+3.7**
	comp=Z,60nm,1.2s								
DBIC	**Dimbokro**	**85.89**	**83**	LR		LR		18 55 28.1	
	comp=Z,137nm,19.1s,baz=245,slow=34								
KIC	**Kosan Boka**	**86.01**	**84**	*e*P		**P**		**18 19 30.8**	**+3.6**
	comp=Z,53nm,1.3s								
ESDC	**Sonseca Array**	**86.61**	**51**	P		**P**		**18 19 28.4**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=273,slow=5.0,SNR=4.2								
ESDC				LR		LR		18 52 38.0	
	comp=Z,258nm,20.7s,baz=270,slow=32								
ESDC	**Sonseca Array**	**86.61**	**51**	P		**P**		**18 19 28.5**	**-1.3**
VNA3	**Neumayer Olymp**	**88.70**	**161**	P		**P**		**18 19 39.2**	**+0.2**
VNA2	**Neumayer--Watz**	**89.39**	**161**	P		**P**		**18 19 42.6**	**+0.4**
SNAA	**Sanae**	**90.91**	**162**	P		**P**		**18 19 48.5**	**-0.9**
SNAA	**Sanae**	**90.91**	**162**	*e*P		**P**		**18 19 48.9**	**-0.5**
SNAA				pmax		pmax			
	comp=Z,7.0nm,1.7s								
URZ	**Urewera**	**92.56**	**232**	LR		LR		18 53 41.1	
	comp=Z,314nm,19.3s,baz=31,slow=30								
BILL	**Bilibino**	**93.29**	**338**	*e*P		**P**		**18 20 03.5**	**+3.1**
BILL				pmax		pmax			
	comp=Z,16nm,1.3s								
BILL				MLR		MLR			
	comp=Z,167nm,17.0s								
BILL	**Bilibino**	**93.29**	**338**	P		**P**		**18 19 56.8**	**-3.7**
NOA	**NORSAR Array B**	**94.45**	**29**	LR		LR		18 56 51.5	
	comp=Z,63nm,21.9s,baz=280,slow=32								
VNDA	**Vanda**	**95.27**	**192**	LR		LR		18 52 56.8	
	comp=Z,175nm,21.6s,baz=118,slow=29								
NVL	**N'lazarevskaya**	**95.71**	**161**	*e*P		P		18 20 06.3	-5.1
NVL				pmax		pmax			
	comp=Z,12nm,1.0s								
KEST	**Kesra**	**97.38**	**54**	LR		LR		18 57 33.9	
	comp=Z,121nm,21.9s,baz=220,slow=31								
CLL	**Collm**	**97.41**	**38**	*e*P		Pdif		18 20 21.0	+1.4
CLL				*e*SKSac		**SKSac**		**18 31 00.0**	**+2.9**
CLL				*e*PS		**PS**		**18 33 05.0**	**-2.2**
CLL				*e*PPS		PPS		18 33 45.0	
CLL				*e*				18 37 24.0	
CLL				*e*SS		**SS**		**18 38 22.0**	**-0.2**
CLL				*e*SSS		SSS		18 42 06.0	
CLL				LmV				18 59 00.0	
	comp=Z,200nm,20.4s								
CLL	**Collm**	**97.41**	**38**	*e*P		Pdif		18 20 21.0	+1.4
ARCES	**ARCESS Array B**	**97.47**	**19**	LR		LR		19 03 08.2	
	comp=Z,101nm,18.6s,baz=285,slow=35								
H11N3	**WAKE ISLAND Hyl**	**00.92**	**290**	T		T		20 13 05.7	
	baz=82,slow=74,SNR=4.2								
H11N2	**WAKE ISLAND Hyl**	**00.93**	**290**	T		T		20 13 05.7	
	baz=82,slow=74,SNR=5.5								
H11N1	**WAKE ISLAND Hyl**	**00.94**	**290**	T		T		20 13 15.5	
	baz=82								
APA	**Apatity**	**100.97**	**19**	*i*P		**Pdif**		**18 20 35.9**	**+0.8**
APA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
APA				MLR		MLR			
	comp=Z,400nm,17.0s								
H11S2	**WAKE ISLAND Hyl**	**01.23**	**289**	T		T		20 13 26.9	
	baz=86,slow=75,SNR=323								
H11S1	**WAKE ISLAND Hyl**	**01.23**	**289**	T		T		20 13 30.0	
	baz=86,slow=75,SNR=152								
H11S3	**WAKE ISLAND Hyl**	**01.25**	**289**	T		T		20 13 32.8	
	baz=86,slow=75,SNR=137								
DZM	**Mont Dzumac**	**102.33**	**248**	*e*LR		LR		18 54 34.0	
	comp=Z,183nm,22.9s								
TIXI	**Tiksi**	**102.52**	**348**	*e*P		**Pdif**		**18 20 46.4**	**+4.5**
BRTR	**Keskin Array B**	**114.79**	**44**	PKP		PKPdf		18 25 28.4	+1.2
	comp=Z,1.3nm,1.1s,baz=321,slow=1.6,SNR=3.8								
KIV	**Kislovodsk**	**118.58**	**37**	*i* PKIKP		**PKiKP**		**18 25 34.9**	**+0.6**
KIV				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,298nm,22.0s								
ZALV	**Zalesovo Beam**	**124.51**	**3**	PKP		**PKiKP**		**18 25 45.4**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=258,slow=2.8,SNR=3.7								
ZALV				PP		**PP**		**18 27 30.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=331,slow=12,SNR=4.9								
KSRS	**Korea Array**	**127.07**	**321**	PKP		**PKiKP**		**18 25 52.3**	**+1.2**
	comp=Z,4.7nm,1.1s,baz=31,slow=2.7,SNR=5.5								
KURK	**Kurchatov**	**127.10**	**8**	PKIKP		**PKPdf**		**18 25 49.7**	**-0.6**
KURK	**Kurchatov**	**127.10**	**8**			**PKPdf**		**18 25 49.7**	**-0.6**
KURBB	**Kurchatov Arra**	**127.18**	**8**	PKP		**PKPdf**		**18 25 49.7**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=347,slow=2.2,SNR=11								
KMBO	**Kilima Mbogo**	**128.17**	**90**	PKP		**PKiKP**		**18 25 56.8**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=36,slow=3.3,SNR=3.0								
SONM	**Songino Array**	**128.48**	**345**	PKP		**PKiKP**		**18 25 55.1**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=340,slow=2.2,SNR=6.9								
SONM				PP		**PP**		**18 27 56.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=15,slow=1.7,SNR=3.5								
DGZ	**Jazzator, Alta**	**128.86**	**1**	*i*PKIKP		**PKiKP**		**18 25 56.9**	**+2.3**
GEYT	**Alibeck**	**131.34**	**33**	PKP		**PKiKP**		**18 26 00.2**	**+0.4**
	comp=Z,6.6nm,1.1s,baz=251,slow=7.7,SNR=9.4								
ASAR	**Alice Springs**	**131.41**	**239**	PKhKP		PKPpre		18 25 59.3	
	comp=Z,2.1nm,1.1s,baz=108,slow=2.1,SNR=7.6								
MKAR	**Makanchi Array**	**131.42**	**6**	PKP		**PKiKP**		**18 26 01.3**	**+1.6**
	comp=Z,1.7nm,1.1s,baz=323,slow=0.6,SNR=7.9								
MKAR	**Makanchi Array**	**131.42**	**6**	PKIKP		**PKiKP**		**18 26 01.9**	**+2.2**
MKAR	**Makanchi Array**	**131.42**	**6**	PKPdf		**PKiKP**		**18 26 01.9**	**+2.2**
WRAB	**Tennant Creek**	**132.19**	**244**	*i*PKIKP		**PKiKP**		**18 26 02.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**133.04**	**337**	*e*PKP		**PKPdf**		**18 26 02.0**	**0.0**
AAK	**Ala-Archa**	**134.01**	**15**	*i*PKIKP		**PKiKP**		**18 26 05.9**	**+0.7**
WMQ	**Urumqi**	**134.75**	**1**	*e*PKP		**PKPdf**		**18 26 05.4**	**+0.3**
WMQ				PPMZ					
	comp=Z,160nm,4.5s								
NJ2	**Nanjing**	**136.23**	**322**	*e*PKP		**PKPdf**		**18 26 07.6**	**-0.5**
GTA	**Gaotai**	**138.00**	**348**	*e*PKP		**PKiKP**		**18 26 16.2**	**+2.8**
GTA				L		L			
	comp=Z,120nm,19.6s								
GTA				L		L			
	comp=Z,74nm,17.5s								
GTA				L		L			
	comp=Z,200nm,20.7s								
H01W1	**Cape Leeuwin H**	**139.50**	**212**	T		T		21 01 42.6	
	baz=139,slow=74,SNR=5.1								
H01W2	**Cape Leeuwin H**	**139.50**	**212**	T		T		21 01 46.7	
	baz=139,slow=74,SNR=6.7								
H01W3	**Cape Leeuwin H**	**139.51**	**212**	T		T		21 01 48.0	
	baz=139								
CD2	**Chengdu**	**144.77**	**338**	PKP		**PKPdf**		**18 26 23.6**	**0.0**
CD2				sPKP				18 26 27.0	
CD2				SKS		**SKSdf**		**18 33 31.2**	**-2.3**
CD2				PPMZ					
	comp=Z,130nm,5.5s								
CD2				L		L			
	comp=Z,180nm,16.5s								
CD2				L		L			
	comp=Z,200nm,12.4s								
CD2				L		L			
	comp=Z,290nm,13.7s								
LUWI	**Luwuk**	**146.33**	**271**	PKPdf		**PKiKP**		**18 26 29.8**	**-1.2**
GYA	**Guiyang**	**147.34**	**330**	PKPbc		**PKPab**		**18 26 31.3**	**-1.0**
LSA	**Lhasa**	**148.79**	**357**	PKPbc		**PKiKP**		**18 26 36.0**	**-0.2**
LSA	**Lhasa**	**148.79**	**357**	PKP2		**PKiKP**		**18 26 35.4**	**-0.8**
LSA	**Lhasa**	**148.79**	**357**			**PKiKP**		**18 26 35.4**	**-0.8**
KMI	**Kunming**	**150.31**	**334**	*i*PKPbc		**PKPab**		**18 26 43.8**	**-0.6**
KMI				L		L			
	comp=Z,170nm,16.6s								
KMI				L		L			
	comp=Z,130nm,14.8s								
KMI				L		L			
	comp=Z,180nm,16.5s								
CM31	**Chiang Mai Arr**	**157.82**	**335**	PKPab		**PKPab**		**18 27 20.7**	**+4.6**
CMAR	**Chiang Mai Arr**	**157.82**	**335**	PKP		**PKPdf**		**18 26 44.7**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=38,slow=4.6,SNR=5.1								
CMAR				PKPab		**pPKPab**		**18 27 17.2**	**-1.4**
	comp=Z,4.1nm,1.1s,baz=359,slow=3.8,SNR=4.9								
CMAR	**Chiang Mai Arr**	**157.82**	**335**			pPKPab		18 27 20.4	+1.8

*IDC **07** 18:16:07.8±3.1,2.°44N×89.°88W,h0km,mb3.5/6,mb1 3.8/7, mb1mx3.7/36,mbtmp3.5/7,ML3.4/1,MS3.9/3,Ms1 3.9/3, ms1mx3.4/21,Error ellipse: s-maj=215.2km s-min=24.9km az=51.0*

ISC 07 18:16:08.5±2.8,2.°1N±0.°8×90.°3W±0.°9,h10km,n11,σ1$42/7, mb3.5/6,Galapagos Islands region

Code	Station Name	Δ°	Az°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**15.02**	**128**	Pn		**Pn**	**18 19 42.2**	**+0.8**
	0.1nm,0.3s,baz=307,slow=20,SNR=1.9							
ATAH				LR		LR	18 24 27.5	
	comp=Z,498nm,20.7s,baz=332,slow=34							
NNA	**Nana**	**19.37**	**137**	LR		LR	18 26 34.6	
	comp=Z,407nm,19.2s,baz=336,slow=32							
LPAZ	**La Paz**	**28.53**	**131**	P		**P**	**18 22 04.6**	**-0.7**
	0.2nm,0.3s,baz=307,slow=7.0,SNR=2.8							
TXAR	**Lajitas Array**	**29.89**	**336**	P		**P**	**18 22 15.4**	**-1.3**
	0.1nm,0.7s,baz=157,slow=7.6,SNR=1.9							
TXAR				LR		LR	18 33 19.7	
	comp=Z,174nm,18.8s,baz=0.0,slow=35	

comp=Z,32nm,1.1s
NNA Nana 19.39 134 LR LR 18 49 03.4
comp=Z,202nm,20.8s,baz=300,slow=33
LPAZ La Paz 28.64 129 P **P** **18 44 24.7 +1.3**
comp=Z,4.8nm,1.0s,baz=318,slow=9.7,SNR=14
LPAZ LR LR 18 55 20.7
comp=Z,223nm,20.4s,baz=318,slow=36
LPAZ La Paz 28.64 129 P **P** **18 44 21.0 -2.3**
LPAZ IAmb IAmb 18 44 36.0
comp=Z,7.9nm,1.1s
PB16 IPOC Station P 28.88 134 P **P** **18 44 26.9 +1.4**
PB16 IAmb IAmb 18 44 28.3
comp=Z,11nm,0.9s
LPIG La Paz 29.24 322 LR LR 18 53 09.7
comp=Z,130nm,20.2s,baz=36,slow=30
TXAR Lajitas Array 30.18 337 P **P** **18 44 37.8 +1.5**
comp=Z,0.7nm,0.9s,baz=154,slow=9.7,SNR=8.5
TXAR LR LR 18 55 41.1
comp=Z,150nm,19.0s,baz=0.0,slow=34
TXAR Lajitas Array 30.18 337 P **P** **18 44 37.1 +0.8**
PTGA Pitinga 31.00 94 P **P** **18 44 42.0 -1.7**
PTGA IAmb IAmb 18 44 44.1
comp=Z,7.9nm,1.0s
LVC Limon Verde 32.20 140 P **P** **18 44 56.1 +1.6**
comp=Z,11nm,0.9s,baz=311,slow=7.5,SNR=7.5
LVC Limon Verde 32.20 140 P **P** **18 44 54.4 -0.2**
LVC IAmb IAmb 18 44 58.0
comp=Z,9.2nm,0.8s
MIAR Mount Ida 32.90 356 P **P** **18 45 00.3 +0.2**
MIAR IAmb IAmb 18 45 06.2
comp=Z,14nm,1.4s
MNTX Cornudas Mount 32.95 337 P **P** **18 45 01.3 +0.7**
MNTX IAmb IAmb 18 45 06.2
comp=Z,7.7nm,1.4s
X34A Smith Ranch, M 33.50 350 P **P** **18 45 05.6 +0.2**
MSTX Muleshoe 34.10 342 P **P** **18 45 09.7 -1.0**
U49A Red Boiling Sp 35.09 7 P **P** **18 45 16.9 -2.2**
U49A IAmb IAmb 18 45 24.1
comp=Z,4.8nm,0.9s
T47A Sharon Grove 35.42 5 P **P** **18 45 20.8 -1.1**
T47A IAmb IAmb 18 45 27.0
comp=Z,6.3nm,0.8s
TUC Tucson 35.86 331 P **P** **18 45 26.5 +0.6**
S39A Bolivar 36.02 357 P **P** **18 45 26.3 -0.8**
ANMO Albuquerque 36.24 338 LR LR 18 59 30.5
comp=Z,120nm,18.5s,baz=140,slow=35
ANMO Albuquerque 36.24 338 P **P** **18 45 29.0 -0.3**
R40A Maddies Statio 36.57 358 P **P** **18 45 31.7 -0.1**
R40A IAmb IAmb 18 45 37.4
comp=Z,15nm,1.1s
R49A Shelbyville 36.92 7 P **P** **18 45 34.3 -0.5**
R49A IAmb IAmb 18 45 39.6
comp=Z,23nm,1.4s
T25A Trinidad 37.53 342 P **P** **18 45 40.2 -0.1**
T25A IAmb IAmb 18 45 47.6
comp=Z,15nm,1.2s
P40A Paris 37.80 359 P **P** **18 45 41.7 -0.5**
X16A Lo Mia Camp, P 37.90 332 P **P** **18 45 43.4 0.0**
Q51A Peebles 37.91 10 P **P** **18 45 43.0 -0.3**
P38A Dawn 37.95 357 P **P** **18 45 43.6 +0.1**
P38A IAmb IAmb 18 45 49.3
comp=Z,15nm,1.3s
Y14A Wickenburg 38.28 330 P **P** **18 45 46.5 +0.1**
SDCO Great Sand Dun 38.43 341 P **P** **18 45 47.8 -0.1**
O44A Mansfield 38.47 3 P **P** **18 45 47.2 -0.7**
MVCO Mesa Verde 39.01 337 P **P** **18 45 52.8 +0.1**
MVCO IAmb IAmb 18 46 00.2
comp=Z,10nm,1.2s
PV01 Paradox Valley 39.85 338 P **P** **18 46 00.5 +0.7**
U15A North Rim 39.94 333 P **P** **18 46 01.9 +1.3**
PV02 Paradox Valley 39.97 338 P **P** **18 46 02.1 +1.3**
PV02 IAmb IAmb 18 46 08.3
comp=Z,13nm,1.2s
ISCO Idaho Springs 40.34 342 P **P** **18 46 04.7 +0.8**
ISCO IAmb IAmb 18 46 11.3
comp=Z,11nm,1.1s
K38A Parkersburg 40.93 358 P **P** **18 46 07.2 -1.1**
CCUT Cedar City 41.35 333 P **P** **18 46 12.6 +0.4**
P17A Butcher Ranch, 41.84 337 P **P** **18 46 14.9 -1.2**
P17A IAmb IAmb 18 46 23.3
comp=Z,11nm,1.3s
ECSD EROS Data Cent 42.29 354 P **P** **18 46 19.6 +0.1**
ECSD IAmb IAmb 18 46 24.4
comp=Z,14nm,1.1s
CPUP Villa Florida 42.65 133 P **P** **18 46 22.1 -0.5**
comp=Z,4.5nm,0.9s,baz=322,slow=9.0,SNR=11
CPUP LR LR 19 04 51.4
comp=Z,101nm,21.8s,baz=326,slow=37
CPUP Villa Florida 42.65 133 P **P** **18 46 22.1 -0.5**
CPUP IAmb IAmb 18 46 23.8
comp=Z,8.9nm,1.1s
RSSD Black Hills 43.95 346 P **P** **18 46 33.4 +0.2**
RSSD IAmb IAmb 18 46 39.4
comp=Z,7.5nm,1.3s
BGU Big Grassy Mou 44.00 336 IAmb IAmb 18 46 40.9
comp=Z,10.0nm,1.2s
SADO Sadowa 44.26 12 LR LR 19 05 11.1
comp=Z,75nm,19.5s,baz=354,slow=36
PDAR Pinedale Array 44.29 340 P **P** **18 46 36.8 +0.8**
comp=Z,1.7nm,1.0s,baz=156,slow=7.8,SNR=6.1
PDAR LR LR 19 05 20.5
comp=Z,38nm,19.6s,baz=136,slow=36
LHV Little Huntoon 44.43 329 P **P** **18 46 37.0 +0.2**
NVAR Mina Array Bea 44.46 329 P **P** **18 46 38.6 +1.2**
comp=Z,2.1nm,0.8s,baz=157,slow=9.6,SNR=16
NVAR PcP **PP** **18 48 21.9 +0.8**
comp=Z,0.7nm,0.9s,baz=142,slow=4.6,SNR=2.9
NVAR Mina Array Bea 44.46 329 P **P** **18 46 38.4 +1.1**
HVU Hansel Valley 44.62 337 P **P** **18 46 38.0 -0.5**
HVU IAmb IAmb 18 46 44.8
comp=Z,10.0nm,1.3s
ELK Elko 44.80 334 LR LR 19 03 34.2
comp=Z,103nm,18.2s,baz=146,slow=34
ELK Elko 44.80 334 P **P** **18 46 39.3 -0.7**
PLVO Plevna 44.98 14 P **P** **18 46 41.7 +0.6**
SNOW Snow King Moun 45.32 340 P **P** **18 46 44.9 +0.7**
TPAW Teton Pass 45.41 339 P **P** **18 46 45.4 +0.4**
TPAW IAmb IAmb 18 46 50.9
comp=Z,5.8nm,1.1s
E28A Huff 45.64 351 P **P** **18 46 45.6 -0.8**
BDFB Brasilia 45.69 114 P **P** **18 46 46.8 -0.6**
comp=Z,3.4nm,0.8s,baz=260,slow=4.9,SNR=4.0
PLCA Paso Flores 46.00 158 P **P** **18 46 50.6 +1.2**
comp=Z,6.1nm,0.9s,baz=357,slow=9.6,SNR=7.7
PLCA LR LR 19 01 05.7
comp=Z,61nm,21.3s,baz=358,slow=30
AFDM Forest Hills D 46.25 327 P **P** **18 46 51.5 +0.2**
AFDM IAmb IAmb 18 46 57.9
comp=Z,5.1nm,1.1s
AGMN Agassiz Nation 46.75 355 P **P** **18 46 54.2 -0.8**
HLID Hailey 46.77 337 P **P** **18 46 56.5 +1.0**
ULM Lac du Bonnet 48.69 356 P **P** **18 47 09.3 -0.8**
comp=Z,4.5nm,0.9s,baz=174,slow=7.0,SNR=4.5
ULM Lac du Bonnet 48.69 356 P **P** **18 47 08.9 -1.2**
YBH Yreka Blue Hor 49.17 329 LR LR 19 05 48.8
comp=Z,81nm,19.1s,baz=166,slow=33
RKT Rikitea 49.42 237 *e*LR LR 19 01 51.9
comp=Z,143nm,26.8s
NEW Newport 51.73 338 LR LR 19 09 19.0
comp=Z,83nm,18.6s,baz=146,slow=36
PPT Papeete 60.83 249 LR LR 19 08 38.2
comp=Z,84nm,18.8s,baz=89,slow=30
PPT2 Papeete2 60.83 249 *e*LR LR 19 07 09.3
comp=Z,83nm,23.5s
TBI Tubuai 62.07 243 *e*LR LR 19 07 43.1
comp=Z,180nm,27.8s
YKA Yellowknife Ar 63.32 348 P **P** **18 48 54.2 -0.4**
comp=Z,1.7nm,0.9s,baz=147,slow=6.8,SNR=15
RAR Rarotonga 70.96 247 LR LR 19 14 20.4
comp=Z,55nm,18.6s,baz=130,slow=30
INK Inuvik 72.62 345 P **P** **18 49 54.0 +1.0**
INK IAmb IAmb 18 49 59.1
comp=Z,11nm,1.2s
ILAR Eielson Array 74.68 338 P **P** **18 50 05.0 -0.3**
comp=Z,1.6nm,1.0s,baz=146,slow=4.8,SNR=11
ILAR Eielson Array 74.68 338 P **P** **18 50 04.6 -0.7**
COLD Coldfoot 77.08 340 P **P** **18 50 18.5 -0.4**
COLD IAmb IAmb 18 50 25.6
comp=Z,7.9nm,1.2s
ESDC Sonseca Array 86.64 51 P **P** **18 51 09.6 -0.3**
comp=Z,0.9nm,0.9s,baz=280,slow=4.7,SNR=5.1
ESDC LR LR 19 24 29.2
comp=Z,28nm,20.8s,baz=280,slow=32
VNA3 Neumayer Olymp 88.65 161 P **P** **18 51 19.0 +0.3**
VNA1 Neumayer--Stat 89.02 161 P **P** **18 51 21.0 +0.5**

SNAA Sanae 90.86 162 P **P** **18 51 29.4 +0.2**
NOA NORSAR Array B 94.49 29 LR LR 19 31 22.8
comp=Z,12nm,19.8s,baz=355,slow=34
VNDA Vanda 95.22 192 LR LR 19 25 10.3
comp=Z,26nm,20.2s,baz=140,slow=29
H11S2 WAKE ISLAND Hyl 01.26 289 T T 20 45 12.1
baz=85,slow=74,SNR=44
H11S1 WAKE ISLAND Hyl 01.26 289 T T 20 45 12.3
baz=85,slow=74,SNR=23
H11S3 WAKE ISLAND Hyl 01.27 289 T T 20 45 13.2
baz=85,slow=74,SNR=17
ZALV Zalesovo Beam 124.56 3 PKP **PKPdf** **18 57 26.8 +1.5**
comp=Z,0.5nm,0.5s,baz=320,slow=3.8,SNR=1.3
ASAR Alice Springs 131.40 239 PKP **PKPdf** **18 57 38.6 -0.7**
comp=Z,0.9nm,1.1s,baz=46,slow=2.7,SNR=2.3
CMAR Chiang Mai Arr 157.87 335 PKPab **PKPab** **18 58 56.2 -0.1**
comp=Z,0.3nm,0.6s,baz=350,slow=4.8,SNR=2.7

IDC 07 18:58:01.0±15.0, **9°.36S**×**162°.06E**, **h0**^{km}, **mb3.4**/3, **mb1 3.5**/3, **mb1mx3.3**/32, **mbtmp3.4**/3, **Error ellipse: s-maj=455.5km s-min=44.0km az=116.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**28.05**	**9**	T	T	19 32 36.6	
	baz=196,slow=76,SNR=317						
H11S3	**WAKE ISLAND Hy**	**28.05**	**9**	T	T	19 32 36.6	
	baz=196,slow=76,SNR=224						
H11S1	**WAKE ISLAND Hy**	**28.06**	**9**	T	T	19 32 36.6	
	baz=196,slow=76,SNR=136						
H11N1	**WAKE ISLAND Hy**	**29.28**	**9**	T	T	19 34 08.6	
	baz=196,slow=76,SNR=300						
H11N3	**WAKE ISLAND Hy**	**29.28**	**9**	T	T	19 34 09.2	
	baz=196,slow=76,SNR=161						
H11N2	**WAKE ISLAND Hy**	**29.29**	**9**	T	T	19 34 10.0	
	baz=196,slow=76,SNR=166						
ASAR	**Alice Springs**	**30.43**	**239**	P	P	19 04 15.4	0.0
	0.1nm,0.4s,baz=63,slow=10,SNR=13						
SONM	**Songino Array**	**75.19**	**325**	P	P	19 09 45.2	-0.4
	0.4nm,0.6s,baz=141,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**89.83**	**317**	P	P	19 11 02.2	+0.5
	0.1nm,0.5s,baz=82,slow=6.6,SNR=1.7						

NEIC 07 19:17:16.9±1.2, **35°.68N**±0°.01×**97°.39W**±0°.01, **h5**^{km}±1^{km}, **mb_Lg2.2**/20, **Error ellipse: s-maj=2.9km s-min=2.0km az=223.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.10**	**193**	Pg	Pg	19 17 18.9	-0.1
OK009				Sg	Sg	19 17 20.8	+0.3
OK025	**Westminster Rd**	**0.11**	**155**		Pg	19 17 19.1	0.0
OK025				Sg	Sg	19 17 21.1	+0.4
OK029	**Liberty Lake**	**0.13**	**337**		Pg	19 17 19.7	+0.2
OK029				Sg	Sg	19 17 22.0	+0.8
OK001	**Jones High Sch**	**0.15**	**144**	Pg	Pg	19 17 19.8	0.0
OK001				Sg	Sg	19 17 22.3	+0.5
OK005	**Luther M Schoo**	**0.17**	**99**	Pg	Pg	19 17 20.3	+0.1
OK005				Sg	Sg	19 17 23.1	+0.7
BCOK	**Bluff Creek, N**	**0.18**	**262**	Pg	Pg	19 17 20.2	-0.2
BCOK				Sg	Sg	19 17 23.3	+0.6
OKCFA	**Oklahoma City**	**0.27**	**190**	Pg	Pg	19 17 21.9	-0.1
OKCFA				Sg	Sg	19 17 26.0	+0.4
OKCSW	**OKLAHOMA CITY**	**0.28**	**187**	Pg	Pg	19 17 22.1	-0.1
OKCSW				Sg	Sg	19 17 26.3	+0.4
FNO	**Franklin**	**0.42**	**181**		Pg	19 17 24.8	-0.3
FNO				Sg	Sg	19 17 30.9	+0.4
OK031	**S. Brethren Rd**	**0.53**	**59**	Pg	Pg	19 17 26.9	-0.2
OK031				Sg	Sg	19 17 34.2	+0.3
OK030	**Cody Creek RV**	**0.55**	**63**		Pg	19 17 27.3	-0.2
OK030				Sg	Sg	19 17 35.2	+0.4
QUOK	**Quay**	**0.74**	**48**	Pg	Pg	19 17 30.5	-0.6
QUOK				Sg	Sg	19 17 41.0	+0.3
CROK	**Carrier**	**0.95**	**330**		Pg	19 17 34.4	-0.7
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	19 17 36.8	-0.9
X34A	**Smith Ranch, M**	**1.14**	**199**	Pg	Pg	19 17 38.2	-0.4
GC02	**Grant County #**	**1.23**	**342**	Pg	Pg	19 17 39.2	-1.3
OK032	**Salt Plains WL**	**1.30**	**330**	Pn	Pn	19 17 40.4	-1.3
KAN13	**South Haven SW**	**1.33**	**357**	Pn	Pn	19 17 41.2	-0.9
KAN13				lAmb_Lg		19 18 01.7	
	comp=Z,28nm,0.7s						
T35A	**Sooner Cattle**	**1.42**	**30**	Pn	Pn	19 17 42.6	-0.8
WMOK	**Wichita Mounta**	**1.48**	**231**		Pn	19 17 43.0	-1.1
U32A	**Winter Ranch,**	**1.48**	**299**	lAmb_Lg		19 18 03.6	
	comp=Z,8.6nm,1.3s						
X37A	**Clayton**	**1.98**	**123**	lAmb_Lg		19 18 25.0	
	comp=Z,11nm,0.7s						
MIAR	**Mount Ida**	**3.33**	**109**	Pn	Pn	19 18 10.1	+0.5
MIAR				lAmb_Lg		19 19 10.4	
	comp=Z,7.2nm,0.9s						
ABTX	**Abilene, Hawle**	**3.57**	**212**	lAmb_Lg		19 19 08.2	
U40A	**Yellville**	**3.74**	**78**	lAmb_Lg		19 19 15.2	
	comp=Z,3.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**	lAmb_Lg		19 19 33.2	
	comp=Z,5.4nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**69**	lAmb_Lg		19 19 40.1	
	comp=Z,6.1nm,1.1s						
CCM	**Cathedral Cave**	**5.47**	**63**	lAmb_Lg		19 20 15.6	
	comp=Z,4.2nm,1.0s						
JCT	**Junction City**	**5.57**	**202**	lAmb_Lg		19 20 20.5	
	comp=Z,6.8nm,0.7s						

*BJI **07** 19:28:58.8±0.0, 26°.15N×126°.62E, h124^{km}, mB4.6/40, mb4.6/68*
*BGR **07** 19:28:59.5±0.0, 26°.98N×125°.37E, h33^{km}, mb5.1*
*MOS **07** 19:29:06.3±1.0, 26°.64N×126°.08E, h148^{km}, mb4.6/23, Error ellipse: s-maj=8.6km s-min=5.5km az=105.6*
*NIED **07** 19:29:06.3, 26°.57N×126°.12E, h134^{km}, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.60; $M_{\theta\theta}$-3.09; $M_{\phi\phi}$4.69; $M_{r\theta}$-1.16; $M_{\theta\phi}$-5.55; $M_{\phi r}$-7.14; Fault plane solution: $M_0$9.94000×10^{15} NP1: ϕ_s12.00000°, δ85.00000°, λ-48.00000°. NP2:ϕ_s108.00000°, δ42.00000°, λ-172.00000°.*
*NEIC **07** 19:29:06.3±2.4, 26°.62N±0°.08×126°.16E±0°.07, h131^{km}±6^{km}, mb4.7/81 Error ellipse: s-maj=12.7km s-min=8.4km az=157.0*
*JMA **07** 19:29:06.3±0.2, 26°.57N×126°.12E, h134^{km}±3^{km}, M4.7 JMA Felt I J1.*
*IDC **07** 19:29:06.4±0.6, 26°.69N×126°.18E, h132^{km}±5^{km}, mb4.1/35, mb1 4.2/39, mb1mx4.1/51, mbtmp4.5/39, MS3.2/2, Ms1 3.2/2, ms1mx2.7/48, Error ellipse: s-maj=9.3km s-min=7.6km az=170.0*
ISC 07 19:29:06.4±0.4, **26°.53N**±0°.04×**126°.18E**±0°.03, **h137**^{km}±3^{km}, **h137**^{km}:**pP-P**, **n405**, **σ1937/462**, **mb4.6**/140, **85C-63D**, **Fault plane solution: NP1**:ϕ_s184.95224°, δ80.63550°, λ27.18372°. **NP2**:ϕ_s90.17538°, δ63.20774°, λ169.49721°. **Principal axes:** T Plg25.7083°, Azm50.6769°; N Plg61.3651°, Azm202.5320°; P Plg11.7520°, Azm314.9286°; **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.58**	**110**	P	**Pn**	**19 29 27.1**	**+0.4**
JKE				S	**Sn**	**19 29 41.7**	**-0.3**
JAGN	**Aguni-jima**	**0.95**	**86**	P	**Pn**	**19 29 29.8**	**+0.3**
JAGN				S	**Sn**	**19 29 46.6**	**-0.4**
JJT3	**Tamagusuku3**	**1.49**	**105**	P	**Pn**	**19 29 36.2**	**+1.4**
JJT3				S	**Sn**	**19 29 57.6**	**+1.1**
JNTH	**Nagotoyohara**	**1.65**	**90**	P	**Pn**	**19 29 37.3**	**+0.7**
JNTH				S	**Sn**	**19 29 58.7**	**-1.0**
JIH	**Iheya**	**1.67**	**72**	P	**Pn**	**19 29 37.5**	**+0.6**
JIH				S	**Sn**	**19 29 59.2**	**-1.0**
JIKM	**Ikemajima**	**1.81**	**208**	P	**Pn**	**19 29 38.8**	**+0.3**
JIKM				S	**Sn**	**19 30 02.4**	**-0.6**
JOGS	**Gusukube**	**1.90**	**202**	P	**Pn**	**19 29 40.2**	**+0.7**
JOGS				S	**Sn**	**19 30 04.7**	**-0.2**
JOW	**Kunigami**	**1.90**	**80**	P	**Pn**	**19 29 40.0**	**+0.5**
	547nm,0.3s,baz=207,slow=7.2,SNR=1136						
JOW				S	**Sn**	**19 30 03.1**	**-1.8**
	1μm,0.3s,baz=137,slow=28,SNR=13						
JOW				LR	LR	19 30 20.6	
	comp=Z,1μm,18.4s,baz=283,slow=40						
JOW	**Kunigami**	**1.90**	**80**	P	**Pn**	**19 29 40.0**	**+0.5**
JOW				S	**Sn**	**19 30 03.4**	**-1.5**
JOW	**Kunigami**	**1.90**	**80**		**Pn**	**19 29 40.1**	**+0.6**
JOW				Sn	**Sn**	**19 30 03.2**	**-1.6**

JIRB Irabujima 1.92 208 P **Pn** **19 29 39.8 -0.1**
JIRB S **Sn** **19 30 04.3 -1.1**
JMJ2 Miyako jima3 1.94 204 P **Pn** **19 29 40.6 +0.5**
JMJ2 S **Sn** **19 30 05.5 -0.3**
JYRO Yoronjima 2.09 76 P **Pn** **19 29 42.0 +0.2**
JYRO S **Sn** **19 30 07.3 -1.6**
JOKE Okinoerabujima 2.29 68 P **Pn** **19 29 44.2 -0.1**
JOKE S **Sn** **19 30 12.1 -1.2**
JTJ Tarama 2.31 216 P **Pn** **19 29 44.3 -0.2**
JTJ S **Sn** **19 30 11.9 -1.9**
JISG Ishigakijimahi 2.57 222 P **Pn** **19 29 47.5 -0.3**
JISG S **Sn** **19 30 17.6 -2.0**
JTK Tokunoshima 2.77 62 P **Pn** **19 29 50.0 -0.3**
JTK S **Sn** **19 30 22.6 -1.5**
JIJ Ishigaki jima 2.84 221 P **Pn** **19 29 50.4 -0.8**
JIJ S **Sn** **19 30 22.2 -3.5**
JKRS Kuro-shima 3.01 221 P **Pn** **19 29 52.7 -0.7**
JKRS S **Sn** **19 30 27.8 -1.9**
IRIF Iriomote-Funau 3.11 226 P **Pn** **19 29 54.0 -0.7**
IRIF S **Sn** **19 30 30.0 -2.0**
JAMN Amaminishikomi 3.16 57 P **Pn** **19 29 54.7 -0.6**
JAMN S **Sn** **19 30 30.9 -2.2**
HATJ Hateruma jima 3.27 222 P **Pn** **19 29 55.9 -0.9**
HATJ S **Sn** **19 30 34.1 -1.6**
YOJ Yonaguni jima 3.53 235 P **Pn** **19 30 00.1 -0.1**
YOJ Yonaguni jima 3.53 235 Pn **Pn** **19 30 00.1 -0.1**
TATO Taipei 4.51 251 Pn **Pn** **19 30 14.1 +1.0**
YHNB Yeheng 4.72 248 **Pn** **19 30 17.2 +1.3**
NACB Ninganchiao 4.77 242 Pn **Pn** **19 30 15.3 -1.2**
YULB Yu-li 5.42 236 Pn **Pn** **19 30 22.7 -2.6**
SSLB Suanglung 5.47 241 Pn **Pn** **19 30 24.6 -1.3**
TWG Pinlang 5.94 233 **Pn** **19 30 28.7 -3.4**
TPUB Ta-pu 5.98 239 **Pn** **19 30 31.4 -1.4**
JSU Suzuyama 6.21 36 Pn **Pn** **19 30 35.8 0.0**
SSE Sheshan 6.32 317 P **Pn** **19 30 38.0 +0.8**
SSE S **Sn** **19 31 48.6 +0.4**
SSE SMN
390nm,3.4s
SSE SME
370nm,2.7s
SSE L L
comp=N,170nm,6.3s
SSE L L
comp=E,170nm,6.2s
QZH Quanzhou 7.02 259 *i*P **Pn** **19 30 47.9 +1.1**
QZH S **Sn** **19 32 03.8 -1.5**
QZH SMN
35nm,1.0s
QZH L L
comp=N,620nm,10.1s
QZH L L
comp=Z,400nm,11.1s
KNMB Chin-men Tao 7.34 255 Pn **Pn** **19 30 50.6 -0.3**
JNU Nakatsue 7.73 31 Pn **Pn** **19 30 56.6 +0.3**
JTU Tsushima 8.44 18 Pn **Pn** **19 31 07.8 +2.1**
NJ2 Nanjing 8.44 312 ⇓*i*P **Pn** **19 31 06.7 +1.0**
NJ2 sP 19 31 40.2
NJ2 S **Sn** **19 32 43.9 +4.6**
NJ2 pmax pmax
comp=Z,44nm,1.1s
NJ2 pmax pmax
comp=Z,190nm,3.6s
NJ2 L L
comp=N,260nm,5.5s
NJ2 L L
comp=E,240nm,4.0s
NJ2 L L
comp=Z,300nm,4.3s
KSMAS Masan 8.85 13 P **Pn** **19 31 14.1 +2.8**
SNR=7.0
NAWB Namwon 8.93 6 P **Pn** **19 31 16.0 +3.8**
SNR=11
EURB Uiryeong-eup 8.95 11 P **Pn** **19 31 15.3 +2.8**
SNR=6.4
KSBUS Busan 9.05 15 P **Pn** **19 31 16.2 +2.3**
SNR=5.5
KSBUS Busan 9.05 15 P **Pn** **19 31 16.1 +2.2**
SNR=5.5
HAMB Hamyang 9.05 8 P **Pn** **19 31 17.0 +3.0**
SNR=8.7
KSJEO Jeonju 9.43 6 P **Pn** **19 31 23.0 +4.0**
SNR=6.5
KSUSN Ulsan 9.48 15 P **Pn** **19 31 21.6 +1.9**
SNR=6.2
KSCPR CHUPUNGNYEONG 9.78 9 P **Pn** **19 31 26.5 +2.8**
SNR=7.5
JMN Monobe 9.79 41 Pn **Pn** **19 31 19.9 -3.9**
TJN Taejon 9.87 6⇑*e*P **Pn** **19 31 26.6 +1.8**
OKCB Cheongsan-myeo 9.88 8 P **Pn** **19 31 29.0 +4.0**
SNR=6.2
KOJ2 Gongju-si 9.95 4 P **Pn** **19 31 29.0 +3.2**
SNR=13
KSADO Andong 10.13 13 P **Pn** **19 31 31.0 +2.7**
SNR=6.8
KSCEA Cheonan 10.30 5 P **Pn** **19 31 33.5 +2.9**
SNR=6.2
KSAR Wonju Array Be 10.98 7 P Pn 19 31 34.5 -5.1
KSAR Wonju Array Be 10.98 7 Pn Pn 19 31 34.5 -5.0
KSRS Korea Array 10.99 7 P **Pn** **19 31 41.5 +1.8**
0.8nm,0.3s,baz=184,slow=13,SNR=67
WHN Wuhan 11.14 294 ⇓P **Pn** **19 31 42.8 +0.9**
WHN S **Sn** **19 33 49.4 +4.6**
WHN L L
comp=N,920nm,5.7s
WHN L L
comp=E,510nm,4.6s
WHN L L
comp=Z,400nm,13.9s
JWT Wachi 11.77 40 **Pn** **19 31 46.7 -3.5**
TIA Tai'an 12.36 324 P **Pn** **19 32 00.2 +2.4**
TIA pmax pmax
comp=Z,16nm,1.2s
INU Inuyama 12.79 44 Pn **Pn** **19 32 03.0 -0.2**
DL2 Dalian 12.92 344 P **P** **19 32 08.1 -2.3**
DL2 S **Sn** **19 34 30.3 +2.8**
DL2 pmax pmax
comp=Z,47nm,1.1s
DL2 pmax pmax
comp=Z,130nm,3.5s
TGY Tagaytay City 13.30 203 P **Pn** **19 32 11.4 +1.3**
56nm,0.3s,baz=129,slow=18,SNR=3.1
JHJ Hachijo jima 2 13.50 58 P **Pn** **19 32 13.5 +0.9**
20nm,0.3s,baz=43,slow=23,SNR=7.5
MAJO Matsushiro 14.30 43*ce*P **P** **19 32 25.7 0.0**
MAJO pmax pmax
comp=Z,16nm,1.2s
MAT Matsushiro 14.30 43 P **Pn** **19 32 21.8 -0.8**
MAT *e*S **S** **19 35 14.4 +3.1**
MJAR Matsushiro Arr 14.30 43 P **Pn** **19 32 19.9 -2.7**
comp=Z,0.0nm,0.3s,baz=239,slow=14,SNR=8.3
MJAR Matsushiro Arr 14.30 43 P **Pn** **19 32 20.0 -2.7**
JCJ Chichijima 14.30 84 P **Pn** **19 32 24.0 +1.2**
comp=Z,8.3nm,0.3s,baz=78,slow=3.3,SNR=6.4
JCJ LR LR 19 36 56.9
comp=Z,88nm,19.1s,baz=264,slow=33
JCJ Chichijima 14.30 84 Pn **Pn** **19 32 22.6 -0.1**
BJT Baijiatuau 15.83 331 P **P** **19 32 42.7 0.0**
BJT pmax pmax
comp=Z,40nm,0.9s
BJT Baijiatuau 15.83 331 P **P** **19 32 42.7 0.0**
BJT IAmb IAmb 19 32 55.8
comp=Z,40nm,0.9s
BJI Beijing 15.84 331 P **P** **19 32 43.5 +0.7**
BJI S **S** **19 35 40.0 -0.3**
BJI pmax pmax
comp=Z,13nm,1.5s
BJI pmax pmax
comp=Z,180nm,7.2s
BJI L L
comp=Z,100nm,17.8s
BJI L L
comp=Z,68nm,15.6s
TIY Taiyuan 16.10 317 *e*P **P** **19 32 47.0 +1.2**
TIY sP **sP** **19 33 25.1 -1.8**
TIY pmax pmax
comp=Z,72nm,0.9s
TIY pmax pmax
comp=Z,360nm,3.5s
TIY L L
comp=Z,120nm,8.0s
TIY L L
comp=Z,110nm,7.3s
TIY L L
comp=Z,130nm,8.0s
XAN Xi'an 16.67 301 P **P** **19 32 53.4 +1.3**

XAN pP Pn 19 33 03.0 +11
XAN pmax pmax
comp=Z,50nm,1.5s
CN2 Changchun 17.24 358 *e*P **Pn** **19 33 00.0 +1.2**
CN2 *e*S **S** **19 36 06.8 -4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 L L
comp=Z,100nm,16.0s
CN2 L L
comp=Z,100nm,16.0s
CN2 L L
comp=Z,100nm,11.0s
GYA Guiyang 17.48 274 ⇑P **Pn** **19 33 03.9 +2.0**
GYA pmax pmax
comp=Z,3.0nm,0.8s
USRK Ussuriysk Ar. 18.25 13 P **P** **19 33 09.2 0.0**
baz=191,slow=9.3,SNR=12
USRK Ussuriysk Ar. 18.25 13 P **P** **19 33 05.0 -4.2**
HHC Hu-ho-hao-te 18.72 323 *e*P **Pn** **19 33 15.9 -0.6**
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,220nm,5.9s
CD2 Chengdu 20.14 288 ⇓*i*P **P** **19 33 29.6 -0.3**
CD2 pP pP 19 33 53.7 -0.6
CD2 pmax pmax
comp=Z,70nm,0.9s
KMI Kunming 21.14 271 ⇑P **P** **19 33 41.6 +0.6**
KMI pP pP 19 34 09.7 +4.1
KMI pmax pmax
comp=Z,6.0nm,0.7s
LZH Lanzhou 21.29 302 *e*P **P** **19 33 42.2 -0.2**
LZH pP pP 19 34 06.9 -0.1
LZH sP sP 19 34 18.1 -6.0
LZH pmax pmax
comp=Z,63nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.1s
LZH L L
comp=Z,130nm,12.3s
LZH L L
comp=Z,140nm,13.2s
LZH L L
comp=Z,160nm,14.5s
ASAJ Asahikawa 22.00 33 P **P** **19 33 50.1 +0.6**
comp=Z,2.4nm,0.3s,baz=235,slow=11,SNR=20
KLR Kul'dur 23.07 9 P **P** **19 34 00.5 +0.6**
comp=Z,1.5nm,0.5s,baz=200,slow=8.7,SNR=4.5
KLR PcP **PcP** **19 37 45.4 +0.8**
comp=Z,1.6nm,0.5s,baz=196,slow=0.9,SNR=4.7
KLR Kul'dur 23.07 9⇓*e*P **P** **19 34 00.8 +0.9**
KLR pmax pmax
comp=Z,9.0nm,2.6s
YSS Yuzh-Sakhalins 24.23 28 *e*P P 19 34 22.6 +12
YSS pmax pmax
comp=Z,10.0nm,0.6s
UTTA Uttaradit 25.26 255 P **P** **19 34 21.2 +1.2**
comp=Z,3.7nm,1.0s
GTA Gaotai 25.48 307 ⇓P **P** **19 34 20.6 -1.4**
GTA pP pP 19 34 51.4 +0.5
GTA PcP **PcP** **19 37 51.5 +1.3**
GTA PcS **PcS** **19 41 30.4 -0.5**
GTA ScS ScS 19 45 05.4 -0.7
GTA pmax pmax
comp=Z,17nm,1.1s
PHIT Phitsanulok 25.61 254 P **P** **19 34 24.0 +0.7**
CM34 Chiang Mai Arr 26.05 259 P **P** **19 34 28.0 +0.8**
ULN Ulaanbaatar 26.05 330*de*P **P** **19 34 26.5 -0.6**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 26.05 330 P **P** **19 34 24.2 -2.9**
CM35 Chiang Mai Arr 26.11 258 P **P** **19 34 28.0 +0.2**
CM36 Chiang Mai Arr 26.22 258 P **P** **19 34 29.0 +0.2**
CM33 Chiang Mai Arr 26.24 259 P **P** **19 34 29.0 +0.1**
CMMT Chiang Mai 26.24 259 P **P** **19 34 28.4 -0.5**
comp=Z,16nm,0.8s
CHTO Chiang Mai 26.24 259 P **P** **19 34 29.3 +0.3**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 26.24 259 P **P** **19 34 29.3 +0.3**
SONM Songino Array 26.33 329 P **P** **19 34 28.5 -1.1**
comp=Z,2.5nm,0.4s,baz=144,slow=9.3,SNR=24
SONM PcP **PcP** **19 37 52.4 +0.4**
comp=Z,1.3nm,0.6s,baz=157,slow=4.9,SNR=7.1
SONM ScP **ScP** **19 41 19.8 +0.6**
comp=Z,2.1nm,0.9s,baz=136,slow=4.2,SNR=9.6
SONM Songino Array 26.33 329 P **P** **19 34 29.0 -0.6**
SONM 19 37 53.5
SONM pmax pmax
comp=Z,9.0nm,1.2s
SONM Songino Array 26.33 329 P **P** **19 34 29.0 -0.6**
SONM PcP **PcP** **19 37 53.5 +1.5**
CM09 Chiang Mai Arr 26.34 258 P **P** **19 34 34.4 +4.5**
comp=Z,51nmcomp=Z,5.4nm,0.7s
CM04 Chiang Mai Arr 26.37 258 P **P** **19 34 32.1 +2.0**
comp=Z,53nmcomp=Z,5.3nm,0.6s
CM01 Chiang Mai Arr 26.38 258 P **P** **19 34 34.0 +3.8**
comp=Z,4.5nm,0.9s
CM31 Chiang Mai Arr 26.38 258 P **P** **19 34 31.3 +1.1**
comp=Z,170nm,0.8s
CMAR Chiang Mai Arr 26.38 258 P **P** **19 34 30.8 +0.6**
comp=Z,2.4nm,0.7s,baz=58,slow=8.2,SNR=23
CMAR PcP **PcP** **19 37 54.0 +1.6**
comp=Z,2.5nm,0.8s,baz=45,slow=0.8,SNR=16
CMAR ScP **ScP** **19 41 20.9 +1.2**
comp=Z,1.2nm,0.9s,baz=20,slow=1.6,SNR=9.7
CMAR Chiang Mai Arr 26.38 258 P **P** **19 34 27.8 -2.4**
CMAR PcP **PcP** **19 37 52.7 +0.2**
CM02 Chiang Mai Arr 26.38 258 P **P** **19 34 34.2 +4.0**
comp=Z,36nmcomp=Z,3.5nm,0.8s
CM32 Chiang Mai Arr 26.39 258 P **P** **19 34 31.0 +0.7**
CM15 Chiang Mai Arr 26.40 258 P **P** **19 34 31.0 +0.6**
comp=Z,43nmcomp=Z,5.1nm,0.7s
CM05 Chiang Mai Arr 26.40 258 P **P** **19 34 33.1 +2.7**
comp=Z,2.9nm,0.7s
CM13 Chiang Mai Arr 26.42 258 P **P** **19 34 33.2 +2.7**
comp=Z,30nmcomp=Z,4.7nm,0.8s
UTHA Uthaitani 27.18 252 P **P** **19 34 39.2 +1.9**
comp=Z,56nmcomp=Z,6.5nm,0.8s
UMPA Umpang Tak 27.38 253 P **P** **19 34 42.1 +2.8**
comp=Z,76nmcomp=Z,8.5nm,1.0s
LUWI Luwuk 27.61 187 P **P** **19 34 42.4 +1.2**
LUWI Luwuk 27.61 187 P **P** **19 34 43.0 +1.9**
SRDT SRDT 28.04 250 P **P** **19 34 46.0 +1.1**
comp=Z,8µmcomp=Z,33nm,1.0s
KHLT Khaolaem Dam 28.27 251 P **P** **19 34 48.6 +1.5**
comp=Z,21nm,1.0s
PHET Kaeng Krachan 28.35 247 P **P** **19 34 50.6 +2.8**
TLY Talaya 30.36 332 P **P** **19 35 04.4 -0.8**
comp=Z,5.0nm,0.6s,baz=198,slow=3.2
TLY LR LR 19 47 26.3
comp=Z,50nm,19.5s,baz=70,slow=36
TLY Talaya 30.36 332⇑*i*P **P** **19 35 04.6 -0.6**
TLY pmax pmax
comp=Z,6.0nm,0.7s
MOY Mondy 31.52 330 *e*P **P** **19 35 14.7 -0.8**
MOY pmax pmax
comp=Z,9.0nm,1.3s
PSI Prapat 35.21 233 P **P** **19 35 48.7 +0.8**
comp=Z,12nm,1.1s,baz=360,slow=2.3,SNR=6.3
PETK Petropavlovsk- 35.42 33 P **P** **19 35 48.8 -0.4**
comp=Z,2.1nm,0.9s,baz=170,slow=3.5,SNR=5.6
WMQ Urumqi 35.50 309 P **P** **19 35 49.5 -0.5**
WMQ pmax pmax
comp=Z,26nm,1.1s
WMQ pmax pmax
comp=Z,200nm,5.5s
YAK Yakutsk 35.57 3 P **P** **19 35 48.5 -1.8**
comp=Z,1.0nm,0.3s,baz=208,slow=2.3,SNR=2.2
YAK PcP **PcP** **19 38 15.9 -0.2**
comp=Z,1.0nm,0.3s,baz=13,slow=2.3,SNR=5.0
YAK Yakutsk 35.57 3 IAmb IAmb 19 37 06.6
comp=Z,7.6nm,0.7s
MNSI Mandailing Nat 36.19 229 P **P** **19 35 58.2 +2.1**
comp=Z,18nm,1.1s
DGZ Jazzator, Alta 37.67 318⇓*e*P **P** **19 36 08.6 +0.1**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
LEM Lembang 37.73 211 P **P** **19 36 11.4 +2.1**
comp=Z,18nm,0.7s,baz=161,slow=23,SNR=5.1
MK31 Makanchi Array 39.97 312 P **P** **19 36 26.5 -1.0**
MK31 pmax pmax
comp=Z,13nm,1.3s
MK31 Makanchi Array 39.97 312 P **P** **19 36 26.5 -1.0**
MK31 IAmb IAmb 19 36 27.4
comp=Z,13nm,1.3s
MKAR Makanchi Array 39.97 312 P **P** **19 36 26.3 -1.2**
comp=Z,5.3nm,0.4s,baz=98,slow=10.0,SNR=75
MKAR PcP **PcP** **19 38 30.1 0.0**
comp=Z,8.6nm,0.6s,baz=83,slow=3.6,SNR=24
MKAR ScP **ScP** **19 42 06.0 -0.4**
comp=Z,1.2nm,0.8s,baz=108,slow=4.0,SNR=8.5
MKAR Makanchi Array 39.97 312*ce*P **P** **19 36 26.2 -1.3**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 39.97 312 P **P** **19 36 26.5 -1.0**
MKAR PcP **PcP** **19 38 30.6 +0.5**
MAKZ Makanchi 40.18 312 P **P** **19 36 28.0 -1.2**
MAKZ pmax pmax
comp=Z,17nm,1.1s
MAKZ Makanchi 40.18 312 P **P** **19 36 28.0 -1.2**
MAKZ IAmb IAmb 19 36 29.3
comp=Z,17nm,1.1s
SEY Seymchan 40.29 18 P **P** **19 36 28.3 -1.5**
comp=Z,1.8nm,0.7s,baz=214,slow=9.0,SNR=7.4
ZAA0 Zalesovo Array 40.91 323 P **P** **19 36 33.3 -1.7**
ZAA0 IAmb IAmb 19 36 34.7
comp=Z,6.8nm,0.5s
ZALV Zalesovo Beam 40.91 323 P **P** **19 36 33.6 -1.5**
comp=Z,7.6nm,0.5s,baz=114,slow=8.8,SNR=44
ZALV pP **pP** **19 37 05.2 -0.1**
comp=Z,3.0nm,0.6s,baz=112,slow=7.7,SNR=2.4
ZALV PcP **PcP** **19 38 32.4 -0.5**
comp=Z,2.1nm,0.5s,baz=118,slow=2.5,SNR=7.0
ZALV ScP **ScP** **19 42 09.3 -0.6**
comp=Z,1.7nm,0.8s,baz=97,slow=2.7,SNR=5.7
ZALV Zalesovo Beam 40.91 323 P **P** **19 36 33.5 -1.6**
ZALV PcP **PcP** **19 38 32.8 -0.1**
TARG Taragay, Kyrgy 42.27 304 P **P** **19 36 46.5 -0.3**
TARG **PcP** **19 38 38.8 +0.6**
KDJ Kajisay 42.77 304 P **P** **19 36 48.8 -1.8**
KDJ pmax pmax
comp=Z,10.0nm,1.0s
KDJ Kajisay 42.77 304 P **P** **19 36 48.8 -1.8**
AAK Ala-Archa 44.79 305⇓*e*P **P** **19 37 04.3 -2.4**
AAK pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 45.18 1 PcP **PcP** **19 38 46.5 -0.4**
comp=Z,6.8nm,0.7s,baz=249,slow=0.7,SNR=14
TIXI Tiksi 45.18 1⇓*e*P **P** **19 37 10.8 +1.6**
KKAR Karatay Array 47.74 305 P **P** **19 37 30.0 +0.4**
KKAR Karatay Array 47.74 305 P **P** **19 37 29.9 +0.4**
KKAR PcP **PcP** **19 38 56.7 +0.1**
GAR Garm 47.92 300 P **P** **19 37 30.3 -0.8**
GAR PcP **PcP** **19 38 57.8 +0.3**
GAR IAmb IAmb 19 38 58.6
comp=Z,16nm,0.7s
NRIK Noril'sk 48.41 343 P **P** **19 37 33.2 -1.1**
comp=Z,2.7nm,0.6s,baz=111,slow=14,SNR=2.6
NRIK PcP **PcP** **19 38 58.5 +0.1**
comp=Z,4.6nm,0.6s,baz=84,slow=3.2,SNR=3.9
NRIK Noril'sk 48.41 343 P **P** **19 37 32.0 -2.3**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
NRIK Noril'sk 48.41 343 P **P** **19 37 32.0 -2.3**
CHGR Chuyangaron 48.84 299 P **P** **19 37 37.7 -0.5**
BRVK Borovoye 48.90 318*c*i*P* **P** **19 37 37.8 -0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 48.90 318 P **P** **19 37 37.4 -0.9**
BRVK IAmb IAmb 19 39 01.3
comp=Z,8.2nm,0.8s
KBL Kabul 49.30 294 P **P** **19 37 40.9 -1.1**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 49.30 294 P **P** **19 37 40.9 -1.1**
KBL IAmb IAmb 19 37 43.6
comp=Z,14nm,0.8s
ADK Adak 49.46 43 P **P** **19 37 42.3 -0.3**
ADK pmax pmax
comp=Z,75nm,1.4s
ADK Adak 49.46 43 P **P** **19 37 42.3 -0.3**
AS31 Alice Springs 50.46 171 P **P** **19 37 51.9 +1.6**
ASAR Alice Springs 50.46 171 P **P** **19 37 52.5 +2.2**
comp=Z,0.8nm,0.4s,baz=358,slow=14,SNR=43
ASAR pP **pP** **19 38 23.3 +1.7**
comp=Z,1.8nm,0.8s,baz=354,slow=9.3,SNR=5.0
ASAR Alice Springs 50.46 171 P **P** **19 37 51.9 +1.6**
ABKAR Akbulak array 55.10 313 P **P** **19 38 23.8 -0.4**
ABKAR Akbulak array 55.10 313 P **P** **19 38 23.7 -0.6**
ARU Arti 56.02 322*di*P **P** **19 39 29.6 -1.1**
ARU *e*PP **pP** **19 39 01.4 -1.3**
ARU 19 39 25.4
ARU 19 40 31.4
ARU S **S** **19 46 08.4 +0.1**
ARU SS **SS** **19 49 55.5 -0.5**
ARU pmax pmax
comp=Z,16nm,0.8s
ARU Arti 56.02 322 P **P** **19 38 29.4 -1.3**
GEYT Alibeck 57.55 300 P **P** **19 38 42.3 +0.5**
comp=Z,3.8nm,0.6s,baz=41,slow=2.7,SNR=11
GEYT PcP **PcP** **19 39 33.7 -0.1**
comp=Z,2.9nm,1.0s,baz=132,slow=4.2,SNR=4.2
STKA Stephens Creek 59.91 165 P **P** **19 38 58.4 +0.4**
comp=Z,3.4nm,0.8s,baz=325,slow=8.0,SNR=7.1
STKA Stephens Creek 59.91 165 P **P** **19 38 57.4 -0.6**
STKA pmax pmax
comp=Z,8.0nm,1.9s
STKA Stephens Creek 59.91 165 P **P** **19 38 57.4 -0.6**
TTA Tatalina 61.21 31 P **P** **19 39 05.6 -1.0**
TTA pmax pmax
comp=Z,4.0nm,0.5s
TTA Tatalina 61.21 31 P **P** **19 39 05.6 -1.0**
TTA IAmb IAmb 19 39 07.8
comp=Z,4.1nm,0.5s
TTA Tatalina 61.21 31 P 19 39 07.3
baz=272
SVW2 Sparrevohn 61.51 33 P **P** **19 39 09.7 +1.1**
SVW2 IAmb IAmb 19 39 10.4
comp=Z,7.5nm,0.6s
LIFNC LIFOU 61.61 136 P **P** **19 39 07.7 -2.0**
IMAR Indian Mountai 62.06 27 P **P** **19 39 11.8 -0.3**
H21K Melozitna Rive 62.46 27 P 19 39 16.1
baz=274,SNR=7.3
SII Sitkinak Islan 62.66 38 P **P** **19 39 15.3 -1.0**
CHUM Lake Minchumin 62.81 29 P 19 39 18.4
baz=275
RSO Redoubt South 62.95 33 P **P** **19 39 17.4 -0.9**
PPLA Purkeypile 62.96 31 P **P** **19 39 19.1 +0.8**
PPLA IAmb IAmb 19 39 20.0
comp=Z,6.2nm,0.6s
PPLA Purkeypile 62.96 31 P 19 39 19.3
baz=276
OHAK Old Harbor 63.07 37 P **P** **19 39 19.0 +0.1**
OHAK Old Harbor 63.07 37 P 19 39 19.2
baz=278
SKT Skwentna 63.36 32 P **P** **19 39 19.4 -1.4**
SKT Skwentna 63.36 32 P 19 39 21.0
baz=277
KDAK Kodiak Island 63.37 36 P **P** **19 39 21.1 +0.2**
comp=Z,11nm,0.7s,baz=303,slow=6.7,SNR=18
KDAK Kodiak Island 63.37 36 P **P** **19 39 21.1 +0.2**
KDAK pmax pmax
comp=Z,46nm,1.7s
KDAK Kodiak Island 63.37 36 P 19 39 20.9
baz=278
BPAW Bear Paw Mtn. 63.37 29 P **P** **19 39 21.6 +0.7**
BPAW IAmb IAmb 19 39 22.4
comp=Z,4.6nm,0.6s
BPAW Bear Paw Mtn. 63.37 29 P 19 39 21.9
baz=276,SNR=6.1
MLY Manley 63.38 28 P **P** **19 39 21.9 +1.0**
MLY IAmb IAmb 19 39 22.6
comp=Z,6.3nm,0.8s
MLY Manley 63.38 28 P 19 39 22.1
baz=276,SNR=13
COLD Coldfoot 63.39 26 P 19 39 21.2
baz=275
KTH Kantishna Hill 63.46 30 P **P** **19 39 21.8 +0.2**
TOLK Toolik Lake Re 63.49 24 P 19 39 22.6
baz=275
TRF Thorofare Moun 63.75 30 P **P** **19 39 24.2 +0.7**
TRF IAmb IAmb 19 41 37.3
comp=Z,20nm,1.8s
TRF Thorofare Moun 63.75 30 P 19 39 24.5
baz=277
H23K Yukon River 63.79 27 P 19 39 25.2
baz=277,SNR=14
SUA Susitna One 63.80 32 P **P** **19 39 23.9 +0.1**
SUA Susitna One 63.80 32 P 19 39 23.8
baz=278,SNR=12
CNPM China Poot 63.82 34 P **P** **19 39 24.6 +0.7**
I23K Minto, Yukon-K 63.95 28 P 19 39 25.4
baz=277,SNR=6.3
BRSE Bradley Lake S 64.04 34 P 19 39 26.9
baz=278
M22K Willow 64.05 32 P 19 39 25.4
baz=278
FIS Fire Island 64.09 32 P **P** **19 39 26.4 +0.8**
NEA2 Nenana 64.14 29 P 19 39 26.7
baz=278,SNR=12
MCK McKinley 64.32 29 P **P** **19 39 26.3 -0.8**
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 64.32 29 P **P** **19 39 26.3 -0.8**
MCK IAmb IAmb 19 39 28.6
comp=Z,6.5nm,0.8s
MCK McKinley 64.32 29 P 19 39 27.3
baz=278
RC01 Rabbit Creek A 64.33 32 P **P** **19 39 26.6 -0.6**
RC01 IAmb IAmb 19 39 45.6
comp=Z,13nm,1.2s
RC01 Rabbit Creek A 64.33 32 P 19 39 27.3
baz=279
RND Reindeer 64.40 30 P **P** **19 39 27.8 +0.1**
RND pmax pmax
comp=Z,19nm,0.6s
RND Reindeer 64.40 30 P **P** **19 39 27.8 +0.1**
MDM Murphy Dome 64.45 28 P **P** **19 39 28.3 +0.4**
H24K Noodor Dome 64.47 27 P 19 39 29.6
baz=278,SNR=5.9
PMR Palmer 64.54 32 P **P** **19 39 28.6 +0.1**
PMR pmax pmax
comp=Z,32nm,2.0s
PMR Palmer 64.54 32 P **P** **19 39 28.6 +0.1**
PMR IAmb IAmb 19 40 31.0
comp=Z,32nm,2.0s
PMR Palmer 64.54 32 P 19 39 28.4
baz=279
WRH Wood River Hil 64.58 29 P **P** **19 39 28.6 -0.1**
WAT2 Susitna Watana 64.58 30 P 19 39 28.8
baz=279,SNR=5.0
TCOL CIGO, UAF Yank 64.61 28 P 19 39 30.1
baz=278
SEW Seward 64.62 33 P 19 39 29.3
baz=279
CCB Clear Creek Bu 64.67 28 P **P** **19 39 28.7 -0.6**
POKR Poker Plat Res 64.76 28 P 19 39 31.2
baz=279
SML Sawmill 64.89 32 P 19 39 30.5
baz=280
KNK Knik Glacier 64.89 32 P 19 39 30.8
baz=280
WAT6 Susitna Watana 65.03 31 P 19 39 32.0
baz=280,SNR=6.7
ILAR Eielson Array 65.04 28 P **P** **19 39 31.1 -0.7**
comp=Z,1.3nm,0.5s,baz=255,slow=4.8,SNR=22
PWL Port Wells 65.04 33 P **P** **19 39 31.4 -0.4**
PWL IAmb IAmb 19 39 32.4
comp=Z,10nm,0.7s
HDA Harding Lake 65.08 29 P 19 39 31.6
baz=280,SNR=5.0
HDA P 19 39 31.6
baz=280,SNR=5.0
SCM Sheep Creek Mo 65.35 31 P **P** **19 39 34.1 +0.2**
SCM pmax pmax
comp=Z,9.0nm,0.6s
SCM Sheep Creek Mo 65.35 31 P **P** **19 39 34.1 +0.2**
SCM IAmb IAmb 19 39 34.7
comp=Z,9.4nm,0.6s
BMAR Burnt Mountain 65.52 25 P **P** **19 39 35.8 +1.0**
KLMR Klimovskoe 65.61 328 *e*P **P** **19 39 31.9 -3.5**
KLMR pmax pmax
comp=Z,23nm,1.5s
KLMR Klimovskoe 65.61 328 *e*P **P** **19 39 31.9 -3.5**
KLMR AMP 19 39 36.7
comp=Z,23nm,1.5s
GLI Glacier Island 65.64 32 P **P** **19 39 35.3 -0.3**
GLI IAmb IAmb 19 39 36.4
comp=Z,7.0nm,0.7s
GLI Glacier Island 65.64 32 P 19 39 35.5
baz=281
M24K Tolsona, Glenn 65.83 31 P **P** **19 39 37.5 +0.5**
M24K Tolsona, Glenn 65.83 31 P 19 39 37.7
baz=281
FID Port Fidalgo 65.96 32 P **P** **19 39 37.9 +0.1**
PAX Paxson 65.98 30 P **P** **19 39 38.1 +0.2**
PAX pmax pmax
comp=Z,6.0nm,0.7s
PAX Paxson 65.98 30 P **P** **19 39 38.1 +0.2**
PAX IAmb IAmb 19 39 39.4
comp=Z,5.5nm,0.7s
PAX Paxson 65.98 30 P 19 39 38.4
baz=281
KLU Klutina 66.07 32 P **P** **19 39 38.7 +0.2**
KLU IAmb IAmb 19 39 39.6
comp=Z,7.6nm,0.6s
KLU Klutina 66.07 32 P 19 39 39.0
baz=282
HARP HAARP 66.24 31 P 19 39 40.6
baz=282
SCRK Sand Creek 66.43 29 P **P** **19 39 40.6 -0.2**
SCRK Sand Creek 66.43 29 P 19 39 40.8
baz=282,SNR=9.2
VRH Novokhopyorsk 66.44 317 *e*P **P** **19 39 39.2 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
DOT Dot Lake 66.47 29 P **P** **19 39 41.0 0.0**
DOT IAmb IAmb 19 39 41.6
comp=Z,7.0nm,0.7s
N25K Chitina, Valde 66.67 31 P 19 39 43.2
baz=283
BMRM Bremner River 66.81 32 P 19 39 43.7
baz=283
MSVF Nonsavu 66.88 125 P **P** **19 39 46.2 +2.0**
comp=Z,7.9nm,0.9s,baz=278,slow=9.8,SNR=6.9
GLB Gilahina Butte 67.07 31 P **P** **19 39 44.4 -0.4**
GLB IAmb IAmb 19 39 45.9
comp=Z,6.9nm,0.5s
ZEI Tsey 67.09 308 *e*P **P** **19 39 43.7 -1.8**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
GOF Gofitskoye 67.09 310⇑*e*P **P** **19 39 44.3 -0.9**
K27K Chicken 67.24 29 P **P** **19 39 46.7 +0.9**
K27K IAmb IAmb 19 39 47.5
comp=Z,9.3nm,1.2s
K27K Chicken 67.24 29 P 19 39 46.6
baz=284
EGAK Eagle 67.44 28 P **P** **19 39 46.4 -0.7**
EGAK Eagle 67.44 28 P 19 39 47.3
baz=284,SNR=6.0
MCARA McCarthy VSAT 67.45 31 P 19 39 48.4
baz=284
KBZ Khabaz 67.55 309 P **P** **19 39 48.4 +0.3**
comp=Z,9.4nm,0.8s,baz=123,slow=3.6,SNR=23
CRQE Cirque 67.58 32 P 19 39 48.6
baz=284
L27K Beaver Creek, 67.58 29 P **P** **19 39 48.9 +0.9**
L27K Beaver Creek, 67.58 29 P 19 39 49.1
baz=284,SNR=7.1
KIV Kislovodsk 67.63 309 ⇑P **P** **19 39 49.1 +0.4**
KIV Kislovodsk 67.63 309 *e*P **P** **19 39 48.4 -0.3**
KIV pmax pmax
comp=Z,65nm,1.1s
KIV Kislovodsk 67.63 309 P **P** **19 39 47.1 -1.6**
AKH Akhalkalaki 67.76 306 ⇑P **P** **19 39 50.8 +1.1**
AKH Akhalkalaki 67.76 306 P **P** **19 39 50.6 +0.9**
LPSR Galich'ya Gora 67.78 319 *e*P P 19 39 43.9 -5.4
LPSR pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 67.99 317 *e*P **P** **19 39 48.5 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
CTG Chitna Glacier 68.35 32 P 19 39 54.0
baz=286
OBN Obninsk 68.46 322⇓*e*P **P** **19 39 53.3 -0.2**
OBN *e* 19 42 25.7
OBN pmax pmax
comp=Z,31nm,2.5s
EPYK Eagle Plains 68.78 25 P 19 39 56.1
baz=288,SNR=20
GEVA Gevas 68.98 303 P **P** **19 39 55.3 -2.1**
GEVA IAmb IAmb 19 39 58.2
comp=Z,11nm,0.8s

ARCES	**ARCESS Array B**	**69.05**	**338**	P		**P**		**19 39 56.3**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=66,slow=7.2,SNR=11								
ARCES	**ARCESS Array B**	**69.05**	**338**	P		**P**		**19 39 55.9**	**-1.1**
ARCES				pmax		pmax			
	comp=Z,98nm,1.9s								
ARCES	**ARCESS Array B**	**69.05**	**338**	P		**P**		**19 39 55.9**	**-1.1**
BCA	**Borcka**	**69.10**	**307**	⇑P		**P**		**19 39 57.9**	**+0.1**
INK	**Inuvik**	**69.33**	**23**	P		**P**		**19 39 59.4**	**+0.6**
	comp=Z,7.6nm,0.8s,baz=287,slow=6.4,SNR=25								
INK	**Inuvik**	**69.33**	**23**	IAmb		IAmb		19 39 60.0	
	comp=Z,10nm,0.9s								
INK	**Inuvik**	**69.34**	**23**	P				19 39 59.3	
	baz=290,SNR=14								
SOC	**Sochi**	**69.80**	**309**	*e*P		**P**		**19 39 59.5**	**-2.5**
SOC				*e*PPP		PPP		19 44 19.4	
SOC				*e*S		**S**		**19 48 58.0**	**-2.3**
SOC				pmax		pmax			
	comp=Z,13nm,0.7s								
WHY	**Whitehorse**	**71.45**	**31**	P		**P**		**19 40 12.7**	**+0.8**
WHY				IAmb		IAmb		19 40 13.6	
	comp=Z,5.1nm,0.6s								
WHY	**Whitehorse**	**71.45**	**31**	P				19 40 13.2	
	baz=291								
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**		**19 40 12.3**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=66,slow=5.7,SNR=36								
RAYN	**Ar Rayn**	**71.97**	**288**	P		**P**		**19 40 15.2**	**-0.4**
RAYN				pmax		pmax			
	comp=Z,9.0nm,0.9s								
RAYN	**Ar Rayn**	**71.97**	**288**	P		**P**		**19 40 15.2**	**-0.4**
RAYN				IAmb		IAmb		19 40 16.7	
	comp=Z,8.8nm,0.8s								
C36M	**Paulatuk**	**72.06**	**21**	IAmb		IAmb		19 40 15.9	
	comp=Z,19nm,0.8s								
C36M	**Paulatuk**	**72.06**	**21**	P				19 40 15.3	
	baz=298,SNR=14								
MALT	**Malatya**	**72.43**	**304**	P		**P**		**19 40 18.5**	**+0.4**
MNK	**Minsk**	**73.41**	**323**	*i* P		**P**		**19 40 22.8**	**-0.7**
MNK				*i* *PP		**pP**		**19 40 57.3**	**+0.4**
MNK				*i*				19 43 10.0	
MNK				*i* PPP		PPP		19 44 55.9	
MNK				*i* S		**S**		**19 49 42.1**	**+0.7**
MNK				pmax		pmax			
	comp=Z,17nm,1.0s								
MNK				pmax		pmax			
	comp=N,25nm,1.4s								
MNK				pmax		pmax			
	comp=E,4.0nm,1.4s								
MNK				MLR		MLR			
	comp=N,28nm,20.0s								
MNK				MLR		MLR			
	comp=E,7.0nm,17.0s								
MNK	**Minsk**	**73.41**	**323**	*i* P		**P**		**19 40 22.8**	**-0.6**
	comp=E,4.0nm,1.4s								
MNK				*i* P		**P**		**19 40 22.8**	**-0.6**
	comp=N,25nm,1.4s								
MNK				*i* P		**P**		**19 40 22.8**	**-0.6**
	comp=Z,17nm,1.0s,baz=68								
MNK				*i* pP		**pP**		**19 40 57.3**	**+0.4**
MNK				*i* PP		**PP**		**19 43 10.1**	**+1.7**
MNK				*i* PPP		PPP		19 44 55.9	
MNK				*i* S		**S**		**19 49 42.1**	**+0.7**
MNK				*i* SS		**SS**		**19 54 34.5**	**+8.7**
MNK				*i* SSS		SSS		19 57 25.8	
MNK				*i* LR		LR		20 10 00.8	
MNK				*i* LRM		MLR		20 15 38.3	
	comp=E,7.0nm,16.5s								
MNK				*i* LRM		MLR		20 15 38.3	
	comp=N,28nm,19.5s								
MNK				*i* LRM		MLR		20 15 38.3	
	comp=Z,98nm,33.1s								
NACGM	**Naroch**	**73.85**	**324**	*i* P		**P**		**19 40 23.7**	**-2.3**
ISAL	**Salakas**	**73.93**	**324**	*e*P		**P**		**19 40 26.4**	**0.0**
IIGN	**Ignalina**	**73.97**	**324**	*e*P		**P**		**19 40 26.7**	**0.0**
AKASG	**Malin Array Be**	**74.11**	**319**	P		**P**		**19 40 25.7**	**-1.9**
	comp=Z,6.3nm,0.6s,baz=58,slow=6.4,SNR=39								
AKASG	**Malin Array Be**	**74.11**	**319**	*e*P		**P**		**19 40 26.6**	**-1.0**
AKASG				pmax		pmax			
	comp=Z,6.0nm,0.6s								
AKBB	**Malin Array Si**	**74.11**	**319**	IAmb		IAmb		19 40 27.2	
	comp=Z,10nm,0.8s								
PABE	**Paberze**	**75.08**	**325**	*e*P		**P**		**19 40 32.7**	**-0.4**
BR131	**Keskin Array S**	**75.39**	**307**	IAmb		IAmb		19 40 35.6	
	comp=Z,12nm,0.8s								
BRTR	**Keskin Array B**	**75.40**	**307**	P		**P**		**19 40 34.9**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=101,slow=5.0,SNR=42								
BRTR				pP		**pP**		**19 41 09.4**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=46,slow=8.3,SNR=1.7								
BRTR	**Keskin Array B**	**75.40**	**307**	P		**P**		**19 40 35.2**	**-0.3**
RES	**Resolute Bay**	**75.59**	**10**	P		**P**		**19 40 35.9**	**+0.2**
	comp=Z,9.3nm,0.8s,baz=292,slow=6.1,SNR=12								
SORM	**Soroca**	**75.64**	**317**	⇑P		**P**		**19 40 35.2**	**-1.2**
SUW	**Suwalki**	**76.13**	**324**	*e*P		**P**		**19 40 38.3**	**-0.8**
SUW	**Suwalki**	**76.13**	**324**	*e*P		**P**		**19 40 38.9**	**-0.2**
TLCR		**76.53**	**314**	⇑P		**P**		**19 40 41.1**	**-0.5**
TPGR	**Topolog**	**76.92**	**314**	⇑P		**P**		**19 40 43.5**	**-0.3**
HARR	**Harsova**	**77.31**	**314**	⇑P		**P**		**19 40 45.8**	**-0.1**
TESR	**Tescani**	**77.36**	**316**	⇑P		**P**		**19 40 45.9**	**-0.3**
CSS	**Mathiatis**	**77.48**	**303**	P		**P**		**19 40 46.1**	**-0.9**
CSS				IAmb		IAmb		19 40 47.1	
	comp=Z,17nm,0.7s								
BIZ	**Bicaz**	**77.52**	**316**	⇑P		**P**		**19 40 47.0**	**-0.1**
VRI	**Vrincioaia**	**77.58**	**315**	⇑P		**P**		**19 40 47.8**	**+0.3**
PLOR	**Plostina**	**77.64**	**315**	⇑P		**P**		**19 40 47.9**	**+0.1**
BISRR	**Bisoca**	**77.73**	**315**	⇑P		**P**		**19 40 49.1**	**+0.8**
BUR08	**Bucovina Ar. S**	**77.77**	**317**	P		**P**		**19 40 47.2**	**-1.4**
BURAR	**Bucovina Array**	**77.77**	**317**	⇑P		**P**		**19 40 48.6**	**0.0**
BURAR	**Bucovina Array**	**77.77**	**317**	P		**P**		**19 40 48.3**	**-0.3**
OZUR		**78.08**	**316**	⇑P		**P**		**19 40 50.7**	**+0.4**
NOA	**NORSAR Array B**	**78.23**	**333**	P		**P**		**19 40 49.5**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=54,slow=5.2,SNR=7.4								
MLR	**Muntele Rosu**	**78.24**	**315**	⇓P		**P**		**19 40 51.3**	**0.0**
KWP	**Kalwaria Pacla**	**78.36**	**320**	*e*P		**P**		**19 40 51.5**	**-0.2**
DOPR	**Dopca**	**78.38**	**316**	⇑P		**P**		**19 40 52.3**	**+0.4**
BEL	**Belsk**	**78.41**	**322**	*e*P		**P**		**19 40 51.6**	**-0.3**
BMR	**Baia Mare**	**78.78**	**318**	⇑P		**P**		**19 40 54.6**	**+0.6**
KOLS	**Kolonicke sedl**	**78.93**	**319**	*e*P		**P**		**19 40 54.4**	**-0.4**
KOLS	**Kolonicke sedl**	**78.93**	**319**	*e*P		**P**		**19 40 54.4**	**-0.4**
YKA	**Yellowknife Ar**	**79.02**	**24**	P		**P**		**19 40 55.4**	**+0.4**
	comp=Z,8.1nm,0.6s,baz=303,slow=5.0,SNR=60								
ARR	**Arges**	**79.12**	**315**	⇑P		**P**		**19 40 56.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**79.42**	**320**	*e*P		**P**		**19 40 57.4**	**-0.1**
CRVS	**Cervenica-Dubn**	**79.42**	**320**	*e*P		**P**		**19 40 57.4**	**-0.1**
GKP	**Gorka Klasztor**	**79.60**	**325**	*e*P		**P**		**19 40 57.9**	**-0.4**
LOT	**Lotru**	**79.63**	**316**	⇑P		**P**		**19 40 58.8**	**0.0**
DRGR		**79.67**	**317**	⇑P		**P**		**19 40 58.9**	**0.0**
DRGR		**79.67**	**317**	P		**P**		**19 40 58.7**	**-0.2**
OJC	**Ojcow**	**79.74**	**321**	*e*P		**P**		**19 40 58.8**	**-0.4**
OJC	**Ojcow**	**79.74**	**321**	P		**P**		**19 40 58.9**	**-0.3**
OJC				pmax		pmax			
	comp=Z,12nm,0.7s								
OJC	**Ojcow**	**79.74**	**321**	P		**P**		**19 40 58.9**	**-0.3**
OJC				IAmb		IAmb		19 40 59.8	
	comp=Z,12nm,0.7s								
NIE	**Niedzica**	**79.84**	**320**	*e*P		**P**		**19 41 00.1**	**+0.3**
GZR	**Gura Zlata**	**80.28**	**316**	⇑P		**P**		**19 41 02.2**	**-0.1**
LANS	**Liptovska Anna**	**80.45**	**320**	*e*P		**P**		**19 41 03.4**	**+0.4**
LANS				pmax		pmax			
	comp=Z,7.0nm,1.6s								
LANS	**Liptovska Anna**	**80.45**	**320**	*e*P		**P**		**19 41 03.4**	**+0.4**
SIRR	**Siria**	**80.55**	**317**	⇑P		**P**		**19 41 03.8**	**+0.2**
PUNG	**Punghina**	**80.70**	**315**	⇑P		**P**		**19 41 04.8**	**+0.4**
HERR	**Herculane**	**80.74**	**316**	⇑P		**P**		**19 41 04.4**	**-0.2**
BZS	**Buzias**	**80.89**	**317**	⇑P		**P**		**19 41 04.2**	**-1.1**
VYHS	**Vyhne**	**81.14**	**320**	*e*P		**P**		**19 41 07.0**	**+0.3**
VYHS	**Vyhne**	**81.14**	**320**	*e*P		**P**		**19 41 07.0**	**+0.3**
MORC	**Moravsky Berou**	**81.22**	**322**	⇑P		**P**		**19 41 07.2**	**+0.1**
MORC	**Moravsky Berou**	**81.22**	**322**	*e*P		**P**		**19 41 06.8**	**-0.3**
MDVR	**Moldovita**	**81.23**	**316**	⇑P		**P**		**19 41 07.0**	**-0.3**
VTS	**Vitosha**	**81.28**	**313**	⇑P		**P**		**19 41 08.3**	**+0.6**
VTS	**Vitosha**	**81.28**	**313**	IAmb		IAmb		19 41 08.8	
	comp=Z,14nm,0.8s								
KOLL	**Kolacno**	**81.34**	**320**	*e*P		**P**		**19 41 08.1**	**+0.4**
KSP	**Ksiaz**	**81.35**	**323**	*e*P		**P**		**19 41 07.7**	**-0.1**
KRLC	**Kraliky**	**81.49**	**322**	*e*P		**P**		**19 41 08.2**	**-0.3**
KRLC	**Kraliky**	**81.49**	**322**	*e*P		**P**		**19 41 08.2**	**-0.3**
OSTC	**Ostas**	**81.55**	**323**	*e*P		**P**		**19 41 07.3**	**-1.5**
DPC	**Dobruska-Polom**	**81.60**	**322**	*e*P		**P**		**19 41 07.7**	**-1.4**
DPC	**Dobruska-Polom**	**81.60**	**322**	*e*P		**P**		**19 41 07.7**	**-1.4**
CHVC	**Chvalec**	**81.62**	**323**	*e*P		**P**		**19 41 09.0**	**-0.2**
JAVC	**Velka Javorina**	**81.62**	**321**	*e*P		**P**		**19 41 10.5**	**+1.2**
UPC	**Upice**	**81.68**	**323**	*e*P		**P**		**19 41 09.4**	**-0.1**
UPC	**Upice**	**81.68**	**323**	*e*P		**P**		**19 41 09.4**	**-0.1**
BOVS	**Bovan**	**81.78**	**315**	⇑P		**P**		**19 41 09.4**	**-0.8**
RUE	**Ruedersdorf**	**81.80**	**325**	*e*P		**P**		**19 41 10.1**	**+0.1**
	comp=Z,13nm,0.7s,baz=55,slow=5.1								
SMOL	**Smolenice**	**81.94**	**321**	*e*P		**P**		**19 41 10.9**	**0.0**
SMOL				pmax		pmax			
	comp=Z,6.0nm,1.0s								
SMOL	**Smolenice**	**81.94**	**321**	*e*P		**P**		**19 41 10.9**	**0.0**
VRAC	**Vranov**	**81.99**	**321**	⇑P		**P**		**19 41 11.6**	**+0.4**
VRAC	**Vranov**	**81.99**	**321**	*e*P		**P**		**19 41 11.3**	**+0.1**
FRGS	**Fruska Gora**	**82.22**	**317**	⇑P		**P**		**19 41 11.9**	**-0.5**
FRGS	**Fruska Gora**	**82.22**	**317**	⇓*i*P		**P**		**19 41 11.8**	**-0.7**
KRUC	**Moravsky**	**82.23**	**321**	*e*P		**P**		**19 41 12.4**	**0.0**
PVCC	**Panska Ves**	**82.45**	**323**	*e*P		**P**		**19 41 13.3**	**-0.2**
PVCC	**Panska Ves**	**82.45**	**323**	*e*P		**P**		**19 41 13.3**	**-0.2**
BRG	**Berggiesshubel**	**82.59**	**324**	*i* P		**P**		**19 41 14.1**	**-0.1**
BRG				Amp				19 41 16.6	
	comp=Z,5.2nm,0.9s								
BRG	**Berggiesshubel**	**82.59**	**324**	*e*P		**P**		**19 41 13.9**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=55,slow=5.1								
DIVS	**Divibare**	**82.64**	**316**	⇓*i*P		**P**		**19 41 13.9**	**-0.8**
DIVS	**Divibare**	**82.64**	**316**	IAmb		IAmb		19 41 15.1	
	comp=Z,14nm,1.3s								
BSEG	**Bad Segeberg**	**82.69**	**328**	*e*P		**P**		**19 41 14.8**	**+0.2**
	comp=Z,12nm,0.9s,baz=55,slow=5.1								
PRU	**Pruhonice**	**82.76**	**323**	*e*P		**P**		**19 41 14.4**	**-0.7**
PRU	**Pruhonice**	**82.76**	**323**	*e*P		**P**		**19 41 14.4**	**-0.7**
CLL	**Collm**	**82.85**	**324**	⇓*i*P		**P**		**19 41 15.0**	**-0.5**
	comp=Z,10.0nm,0.8s								
CLL				*e*(PP)				19 44 20.0	
CLL	**Collm**	**82.85**	**324**	⇓*i*P		**P**		**19 41 15.0**	**-0.5**
CLL				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CLL				MLR		MLR			
	comp=Z,300nm,20.2s								
CLL	**Collm**	**82.85**	**324**	P		**P**		**19 41 14.7**	**-0.8**
CLL				IAmb		IAmb		19 41 15.9	
	comp=Z,9.7nm,0.7s								
CLL	**Collm**	**82.85**	**324**	*e*P		**P**		**19 41 15.1**	**-0.4**
	comp=Z,10nm,0.8s,baz=55,slow=5.1								
FBE	**Freiberg**	**82.88**	**324**	*e*P		**P**		**19 41 15.8**	**+0.1**
	comp=Z,13nm,1.1s,baz=55,slow=5.1								
LIT	**Litokhoron**	**82.97**	**311**	P		**P**		**19 41 15.3**	**-1.1**
LIT	**Litokhoron**	**82.97**	**311**	P		**P**		**19 41 15.3**	**-1.1**
BBLS	**Lazići**	**83.12**	**316**	⇓*i*P		**P**		**19 41 16.7**	**-0.5**
CONA	**Conrad Observa**	**83.13**	**321**	*i* P		**P**		**19 41 17.1**	**0.0**
	comp=Z,6.3nm,0.7s,SNR=7.1								
CKRC	**Cesky Krumlov**	**83.52**	**322**	*e*P		**P**		**19 41 18.7**	**-0.4**
D03D	**Eldon**	**83.58**	**40**	P				19 41 21.5	
	baz=303								
ARSA	**Arzberg**	**83.69**	**320**	*e*P		**P**		**19 41 19.7**	**-0.3**
	comp=Z,4.4nm,1.2s								
GUNZ	**Gunzen**	**83.73**	**324**	*e*P		**P**		**19 41 19.9**	**-0.2**
	comp=Z,10nm,0.8s,baz=55,slow=5.1								
NKC	**Novy Kostel**	**83.74**	**324**	*e*P		**P**		**19 41 20.3**	**+0.1**
NKC	**Novy Kostel**	**83.74**	**324**	*e*P		**P**		**19 41 20.3**	**+0.1**
B05A	**Bryant**	**83.75**	**39**	P				19 41 21.2	
	baz=303								
WERN	**Wernitzgruen**	**83.75**	**324**	*e*P		**P**		**19 41 20.1**	**-0.1**
	comp=Z,8.3nm,0.7s,baz=55,slow=5.1								
KHC	**Kasperske Hory**	**83.75**	**322**	*e*P		**P**		**19 41 19.5**	**-0.8**
KHC	**Kasperske Hory**	**83.75**	**322**	*e*P		**P**		**19 41 19.5**	**-0.8**
UPM	**Unac-Piva**	**83.77**	**315**	*e*P		**P**		**19 41 19.5**	**-1.2**
GEC2	**GERESS Array S**	**83.84**	**322**	P		**P**		**19 41 20.6**	**-0.3**
GEC2				IAmb		IAmb		19 41 21.7	
	comp=Z,19nm,1.7s								
GEC2	**GERESS Array S**	**83.84**	**322**	*e*P		**P**		**19 41 20.4**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=55,slow=5.1								
GERES	**GERESS Array B**	**83.84**	**322**	P		**P**		**19 41 20.5**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=54,slow=5.8,SNR=28								
CLZ	**Clausthal**	**83.89**	**326**	*e*P		**P**		**19 41 21.2**	**+0.3**
	comp=Z,22nm,1.1s,baz=55,slow=5.1								
PDG	**Podgorica**	**83.94**	**315**	⇑P		**P**		**19 41 21.2**	**-0.1**
PDG	**Podgorica**	**83.94**	**315**	*e*P		**P**		**19 41 20.6**	**-0.7**
MOX	**Moxa**	**83.95**	**324**	*e*P		**P**		**19 41 20.8**	**-0.4**
	comp=Z,5.5nm,1.0s,baz=55,slow=5.1								
BLY	**Banja Luka**	**84.04**	**317**	⇓*i*P		**P**		**19 41 21.4**	**-0.3**
MRAK	**Mrakovica**	**84.07**	**318**	*e*P		**P**		**19 41 21.6**	**-0.4**
MOA	**Molln**	**84.08**	**321**	*e*P		**P**		**19 41 22.0**	**0.0**
	comp=Z,3.4nm,0.7s								
DRME	**Dracevica, Mon**	**84.11**	**314**	⇓*i*P		**P**		**19 41 21.3**	**-0.9**
WET	**Wettzell**	**84.13**	**323**	*e*P		**P**		**19 41 22.0**	**-0.2**
	comp=Z,10nm,1.9s,baz=55,slow=5.1								
ROTZ	**Rotzenmuhle**	**84.14**	**323**	*e*P		**P**		**19 41 22.3**	**+0.2**
	comp=Z,13nm,1.1s,baz=55,slow=5.1								
BRY	**Bratogost**	**84.16**	**315**	*e*P		**P**		**19 41 21.8**	**-0.8**
GTTG	**Gottingen**	**84.27**	**326**	*e*P		**P**		**19 41 23.0**	**+0.2**
	comp=Z,14nm,1.0s,baz=55,slow=5.1								
MGRS	**Mrkonjic Grad**	**84.27**	**317**	*e*P		**P**		**19 41 23.4**	**+0.4**
TREB	**Trebinje**	**84.37**	**315**	*e*P		**P**		**19 41 22.1**	**-1.4**
HCY	**Hercegnovi**	**84.42**	**315**	*e*P		**P**		**19 41 22.4**	**-1.3**
CRES	**Cresnjev**	**84.50**	**319**	⇓*i*P		**P**		**19 41 20.6**	**-3.5**
OBKA	**Obir**	**84.65**	**320**	*e*P		**P**		**19 41 24.7**	**-0.3**
	comp=Z,4.6nm,0.6s								
STON	**Ston**	**84.70**	**316**	⇓*i*P		**P**		**19 41 22.6**	**-2.5**
GRF	**Grafenberg Arr**	**84.70**	**324**	*e*P		**P**		**19 41 25.3**	**+0.3**
	comp=Z,30nm,1.3s,baz=55,slow=5.1								
IBBN	**Ibbenburen**	**84.91**	**327**	*e*P		**P**		**19 41 25.9**	**-0.1**
	comp=Z,26nm,1.0s,baz=55,slow=5.1								
LJU	**Ljubljana**	**84.92**	**319**	⇓*i*P		**P**		**19 41 24.7**	**-1.5**
RJOB	**Jochberg**	**84.97**	**322**	*e*P		**P**		**19 41 26.4**	**0.0**
	comp=Z,37nm,1.0s,baz=55,slow=5.1								
KBA	**Koelnbreinsper**	**85.03**	**321**	*e*P		**P**		**19 41 26.3**	**-0.7**
	comp=Z,2.5nm,0.5s								
MYKA	**Terra Mystica**	**85.11**	**320**	*e*P		**P**		**19 41 26.2**	**-1.0**
	comp=Z,2.8nm,0.5s								
CEY	**Cerknica**	**85.15**	**319**	*e*P		**P**		**19 41 26.1**	**-1.2**
KASTN	**Kahler Asten**	**85.25**	**326**	*e*P		**P**		**19 41 27.7**	**0.0**
	comp=Z,6.2nm,0.9s,baz=55,slow=5.1								
FUR	**Furstenfeldbru**	**85.56**	**322**	*e*P		**P**		**19 41 29.7**	**+0.4**
	comp=Z,36nm,1.0s,baz=55,slow=5.1								
ABTA	**Abfaltersbach**	**85.69**	**321**	*i* P		**P**		**19 41 28.8**	**-1.2**
	comp=Z,6.8nm,0.7s,SNR=5.7								
WATA	**Walderalm**	**85.87**	**322**	*e*P		**P**		**19 41 30.6**	**-0.5**
	comp=Z,11nm,1.2s								
WTTA	**Wattenberg**	**85.88**	**322**	*i* P		**P**		**19 41 30.6**	**-0.6**
	comp=Z,16nm,1.0s,SNR=5.6								
MOTA	**Moosalm**	**86.13**	**322**	*e*P		**P**		**19 41 31.5**	**-0.8**
	comp=Z,7.9nm,0.7s								
RETA	**Reutte**	**86.24**	**322**	*e*P		**P**		**19 41 32.3**	**-0.5**
	comp=Z,4.0nm,0.6s								
STU	**Stuttgart**	**86.32**	**324**	*e*P		**P**		**19 41 33.0**	**0.0**
	comp=Z,12nm,1.0s,baz=55,slow=5.1								
UBR	**Ueberruh**	**86.48**	**323**	*e*P		**P**		**19 41 33.6**	**-0.3**
	comp=Z,20nm,1.1s,baz=55,slow=5.1								
FETA	**Feichten**	**86.53**	**322**	*e*P		**P**		**19 41 33.7**	**-0.6**
	comp=Z,5.0nm,0.9s								
DAVA	**Damuels**	**86.84**	**322**	*e*P		**P**		**19 41 35.0**	**-0.8**
	comp=Z,8.5nm,0.8s								
L04D	**Klamath Falls**	**86.94**	**44**	P				19 41 38.0	
	baz=304								
M02C	**Callahan**	**87.05**	**45**	P				19 41 38.6	
	baz=303								
M04C	**Macdoel**	**87.47**	**44**	P				19 41 40.6	
	baz=304								
NRCA	**Norcia**	**87.55**	**317**	P		**P**		**19 41 37.2**	**-2.0**
BMRD	**Maredsous**	**87.62**	**327**	κP		**P**		**19 41 38.8**	**-0.5**
OSSC	**Osservatorio P**	**88.28**	**319**	P		**P**		**19 41 41.6**	**-0.9**
OSSC				IAmb		IAmb		19 41 42.7	
	comp=Z,4.0nm,0.7s								
KMBO	**Kilima Mbogo**	**89.54**	**269**	P		**P**		**19 41 49.6**	**+0.3**
	comp=Z,5.5nm,0.9s,baz=39,slow=8.0,SNR=11								
HLID	**Hailey**	**90.84**	**39**	P				19 41 54.6	
	baz=309								
NVAR	**Mina Array Bea**	**91.61**	**45**	P		**P**		**19 41 59.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=294,slow=5.7,SNR=6.1								
PDAR	**Pinedale Array**	**94.06**	**38**	P		**P**		**19 42 10.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=336,slow=3.3,SNR=5.1								
PDAR				pP		**pP**		**19 42 44.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=318,slow=2.0,SNR=3.2								
ULM	**Lac du Bonnet**	**94.96**	**26**	P		**P**		**19 42 12.8**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=281,slow=5.2,SNR=3.3								
SCHQ	**Schefferville**	**98.20**	**8**	P		**P**		**19 42 26.5**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=15,slow=4.4,SNR=4.0								
ESDC	**Sonseca Array**	**99.40**	**323**	P		**Pdif**		**19 42 32.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=29,slow=4.4,SNR=2.8								
DBIC	**Dimbokro**	**122.21**	**298**	PKP		**PKPdf**		**19 47 45.4**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=31,slow=3.3,SNR=7.7								

*NDI **07** 19:47:27.8±5.0, 18°.99N×94°.61E, h50km±29km, ML4.0, mb4.2(NEIC)*
*NEIC **07** 19:47:29.4±1.2, 19°.08N±0°.06×94°.84E±0°.07, h62km±7km, mb4.2/8, Error ellipse: s-maj=12.0km s-min=2.6km az=131.0*
*IDC **07** 19:47:32.4±3.8, 19°.15N×95°.17E, h89km±33km, mb3.7/8, mb1 3.8/9, mb1mx3.4/43, mbtmp3.9/9, Error ellipse: s-maj=38.0km s-min=17.8km az=49.0*

ISC 07 19:47:27.3±0.6, 19°.00N±0°.06×94°.82E±0°.06, h50km, n64, σ2=15/72, mb4.1/12, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**3.06**	**105**	P		P	**Pn**	**19 48 14.0**	**+0.7**
CHTO	**Chiang Mai**	**3.91**	**92**			P	**Pn**	**19 48 26.5**	**+1.5**
CMMT	**Chiang Mai**	**3.92**	**92**	P		P	**Pn**	**19 48 25.5**	**+0.5**
CMMT				S		S	**Sn**	**19 49 06.0**	**-3.8**
CM31	**Chiang Mai Arr**	**3.95**	**97**	Pn		P	**Pn**	**19 48 27.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**3.95**	**97**	P		P	**Pn**	**19 48 26.9**	**+1.5**
	1.7nm,0.3s,baz=273,slow=14,SNR=113								
CMAR				S			**Sn**	**19 49 08.6**	**-1.9**
	21nm,0.3s,baz=268,slow=15,SNR=4.7								
CM05	**Chiang Mai Arr**	**3.96**	**98**	P		P	**Pn**	**19 48 26.9**	**+1.3**
CM09	**Chiang Mai Arr**	**3.99**	**97**	P		P	**Pn**	**19 48 27.4**	**+1.3**
CM34	**Chiang Mai Arr**	**4.10**	**91**	P		P	**Pn**	**19 48 26.5**	**-1.1**
UMPA	**Umpang Tak**	**4.75**	**125**	P		P	**Pn**	**19 48 39.7**	**+3.2**
PHRA	**Phrae**	**5.15**	**95**	P		P	**Pn**	**19 48 43.9**	**+1.9**
BELO	**BELONIA**	**5.27**	**324**	*e*P		P	**Pn**	**19 48 45.8**	**+2.2**
KHLT	**Khaolaem Dam**	**5.52**	**139**	P		P	**Pn**	**19 48 47.5**	**+0.5**
KHLT				S		S	**Sn**	**19 49 47.4**	**-1.9**
UTHA	**Uthaitani**	**5.59**	**127**	P		P	**Pn**	**19 48 49.8**	**+1.8**
UTTA	**Uttaradit**	**5.59**	**102**	P		P	**Pn**	**19 48 49.8**	**+1.8**
AGT	**Agartala**	**5.89**	**326**	*e*P		P	**Pn**	**19 48 55.1**	**+3.1**
AGT				IAmb		IAmb		19 48 56.3	
	comp=Z,100nm,0.6s								
SRDT	**SRDT**	**6.19**	**138**	P		P	**Pn**	**19 48 54.0**	**-2.3**
SRDT				S		S	**Sn**	**19 50 01.2**	**-4.6**
KOHI	**KOHIMA**	**6.72**	**355**	*e*P		P	**Pn**	**19 49 06.2**	**+2.6**
KOHI			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.91**	**237**	P	Pn	19 57 03.4	-0.4
MXZ				S	Sn	19 57 26.0	-0.6
PKGZ	**Pakihiroa**	**2.24**	**232**	P	Pn	19 57 08.9	+0.4
PKGZ				S	Sn	19 57 35.5	+0.4
PUZ	**Puketiti**	**2.25**	**226**	P	Pn	19 57 09.2	+0.6
PUZ				S	Sn	19 57 36.8	+1.6
HAZ	**Te Kaha**	**2.36**	**238**	P	Pn	19 57 10.4	+0.3
TWGZ	**Tauwhareparae**	**2.48**	**228**	P	Pn	19 57 12.5	+0.7
TWGZ				S	Sn	19 57 42.4	+1.4
RUGZ	**Raukumara Rang**	**2.54**	**235**	P	Pn	19 57 13.4	+0.7
CNGZ	**Carnagh Statio**	**2.57**	**220**	P	Pn	19 57 14.2	+1.2
CNGZ				S	Sn	19 57 45.5	+2.4
MWZ	**Matawai**	**2.85**	**230**	P	Pn	19 57 16.8	-0.1
MWZ				S	Sn	19 57 50.1	-0.1
RAGZ	**Rawiri**	**3.02**	**229**	P	Pn	19 57 19.9	+0.6
PRGZ	**Paritu Road**	**3.07**	**218**	P	Pn	19 57 20.1	+0.3
URZ	**Urewera**	**3.08**	**235**	P	Pn	19 57 19.7	-0.2
MHGZ	**Mahia Peninsul**	**3.24**	**215**	P	Pn	19 57 22.9	+0.8
SNGZ	**Shannon Statio**	**3.26**	**225**	P	Pn	19 57 22.9	+0.5
OPRZ	**Ohinepanea**	**3.27**	**245**	P	Pn	19 57 22.3	-0.3
RTZ	**Ruatahuna**	**3.37**	**231**	P	Pn	19 57 24.5	+0.5
RAHZ	**Arahi**	**3.50**	**226**	P	Pn	19 57 26.5	+0.8
MTHZ	**Maungataniwha**	**3.60**	**229**	P	Pn	19 57 27.4	+0.3
MTHZ				S	Sn	19 58 08.8	+0.3
KUZ	**Kuaotunu**	**3.70**	**265**	P	Pn	19 57 26.7	-1.8
BKZ	**Black Stump Fm**	**4.01**	**228**	P	Pn	19 57 31.9	-0.9
TOZ	**Tahuroa Road**	**4.03**	**251**	P	Pn	19 57 31.9	-1.0
CKHZ	**Cape Kidnapper**	**4.03**	**218**	P	Pn	19 57 36.1	+3.0
WIAZ	**Waiheke Island**	**4.17**	**265**	P	Pn	19 57 33.7	-1.2
KWHZ	**Kaweka Forest**	**4.22**	**226**	P	Pn	19 57 35.3	-0.3
KAHZ	**Kahuranaki**	**4.24**	**219**	P	Pn	19 57 34.9	-1.0
MBAZ	**Motutapu North**	**4.36**	**265**	P	Pn	19 57 38.6	+1.1
TMVZ	**Te Maari**	**4.47**	**233**	P	Pn	19 57 39.0	-0.2
BHHZ	**Black Hill Sta**	**4.47**	**227**	P	Pn	19 57 38.4	-0.7
ETVZ	**East Tongariro**	**4.47**	**233**	P	Pn	19 57 39.0	-0.2
NTVZ	**North Tongarir**	**4.48**	**234**	P	Pn	19 57 39.2	0.0
OTVZ	**Oturere**	**4.52**	**233**	P	Pn	19 57 39.8	-0.2
SNVZ	**South Ngauruho**	**4.55**	**233**	P	Pn	19 57 40.0	-0.3
CTZ	**Chatham Island**	**7.57**	**163**	P	Pn	19 58 26.1	+4.5
CTZ				S	Sn	19 59 43.0	-3.2

*IDC **07** 20:06:12.7±2.1, 43.93N×105.59W, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/41, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=66.3km s-min=9.2km az=148.0*
*NEIC **07** 20:06:13.1±1.3, 43.78N±0.04×105.21W±0.06, h0km±2km, ML3.2/46, Error ellipse: s-maj=7.8km s-min=7.2km az=322.0*

ISC 07 20:06:12.5±0.9, **43.77N**±0.06×**105.26W**±0.06, **h0**km, **n43, σ1s29/43, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**68**		**Pg**	**20 06 30.7**	**-0.1**
K22A	**Casper**	**1.45**	**220**		**Pn**	**20 06 39.1**	**-1.1**
K22A				IAML		20 07 03.9	
	comp=E,545nm,0.3s						
PHWY	**Pilot Hill**	**2.47**	**183**		**Pn**	**20 06 55.0**	**+0.7**
RWWY	**Rawlins**	**2.53**	**215**	Pn	**Pn**	**20 06 55.7**	**+0.6**
RWWY				IAML		20 07 33.3	
	comp=E,96nm,0.3s						
RWWY				IAML		20 07 34.7	
	comp=E,91nm,0.7s						
LAO	**LASA Array**	**2.99**	**347**	Pn	**Pn**	**20 07 00.6**	**-0.7**
RLMT	**Red Lodge**	**3.17**	**297**	Pn	**Pn**	**20 07 04.3**	**+0.5**
RLMT				IAML		20 07 59.6	
	comp=E,68nm,0.3s						
RLMT				IAML		20 08 02.4	
	comp=E,56nm,0.6s						
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**20 07 06.5**	**+0.9**
	comp=E,17nm,0.3s,baz=69,slow=16,SNR=35						
PDAR				Pg	**Pb**	**20 07 11.7**	**-0.3**
	comp=E,17nm,0.3s,baz=62,slow=18,SNR=48						
PDAR				Lg	Lg	20 07 51.2	
	comp=E,14nm,0.3s,baz=68,slow=32,SNR=11						
BW06	**Boulder Array**	**3.29**	**254**		**Pn**	**20 07 06.6**	**+1.1**
BW06				IAML		20 07 58.7	
	comp=E,50nm,0.4s						
YNE	**Yellowstone No**	**3.62**	**292**	Pn	**Pn**	**20 07 10.4**	**+0.4**
YNE				IAML		20 08 08.0	
	comp=N,59nm,0.3s						
YNE				IAML		20 08 09.3	
	comp=E,56nm,0.3s						
YMP	**Mirror Lake Pl**	**3.65**	**287**	Pn	**Pn**	**20 07 11.0**	**+0.5**
OGNE	**Ogallala**	**3.70**	**139**		**Pn**	**20 07 12.3**	**+1.3**
OGNE				IAML		20 08 16.9	
	comp=E,56nm,0.6s						
OGNE				IAML		20 08 16.9	
	comp=E,55nm,0.4s						
GCMT	**Greycliff**	**3.73**	**304**	Pn	**Pn**	**20 07 12.3**	**+0.9**
H17A	**Grant Village**	**3.88**	**281**		**Pn**	**20 07 15.8**	**+2.2**
H17A				IAML		20 09 48.8	
	comp=E,38nm,0.1s						
H17A				IAML		20 09 48.8	
	comp=N,35nm,0.1s						
FLWY	**Flagg Ranch**	**3.94**	**276**		**Pn**	**20 07 14.3**	**-0.1**
FLWY				IAML		20 08 26.5	
	comp=N,34nm,2.0s						
SNOW	**Snow King Moun**	**4.00**	**267**		**Pn**	**20 07 17.8**	**+2.5**
SNOW				IAML		20 08 30.6	
	comp=N,29nm,0.8s						
SNOW				IAML		20 08 54.6	
	comp=N,26nm,0.4s						
YPP	**Pitchstone Pla**	**4.03**	**279**	Pn	**Pn**	**20 07 16.4**	**+0.7**
REDW	**Red Top Meadow**	**4.08**	**266**		**Pn**	**20 07 16.1**	**-0.2**
REDW				IAML		20 08 31.2	
	comp=N,36nm,0.8s						
REDW				IAML		20 08 34.6	
	comp=N,22nm,1.3s						
TPAW	**Teton Pass**	**4.14**	**268**		**Pn**	**20 07 18.5**	**+1.3**
TPAW				IAML		20 08 51.8	
	comp=N,22nm,0.8s						
YHH	**Holmes Hill**	**4.14**	**286**		**Pn**	**20 07 18.5**	**+1.3**
O20A	**White River Ci**	**4.26**	**212**		**Pn**	**20 07 18.9**	**+0.1**
O20A				IAML		20 08 30.8	
	comp=E,37nm,0.7s						
O20A				IAML		20 08 31.5	
	comp=N,28nm,0.7s						
YHB	**Horse Butte**	**4.37**	**285**		**Pn**	**20 07 25.2**	**+4.8**
YHL	**Hebgen Lake**	**4.38**	**286**		**Pn**	**20 07 20.6**	**0.0**
YHL				IAML		20 08 37.6	
	comp=N,17nm,0.8s						
YHL				IAML		20 08 42.4	
	comp=E,16nm,0.9s						
DGMT	**Dagmar**	**4.76**	**9**	Pn	**Pn**	**20 07 26.1**	**+0.6**
HWUT	**Hardware Ranch**	**5.12**	**247**		**Pn**	**20 07 31.3**	**+0.6**
HWUT				IAML		20 09 11.6	
	comp=E,13nm,0.9s						
HWUT				IAML		20 09 12.7	
	comp=E,21nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.15**	**157**	Pn	**Pn**	**20 07 28.5**	**-2.5**
EGMT	**Eagleton**	**5.28**	**325**	Pn	**Pn**	**20 07 33.2**	**+0.5**
LRM	**Limekiln Ridge**	**5.51**	**294**	Pn	**Pn**	**20 07 36.7**	**+0.7**
PV22	**Blue Mesa, Par**	**5.87**	**208**		**Pn**	**20 07 42.2**	**+1.3**
HVU	**Hansel Valley**	**5.88**	**253**		**Pn**	**20 07 41.4**	**+0.4**
PV07	**Paradox Valley**	**5.91**	**207**		**Pn**	**20 07 41.7**	**+0.2**
P17A	**Butcher Ranch,**	**5.94**	**226**		**Pn**	**20 07 41.9**	**+0.1**
PV14	**Lion Creek, Pa**	**6.10**	**209**		**Pn**	**20 07 44.9**	**+0.9**
SRU	**San Rafael Swe**	**6.11**	**222**		**Pn**	**20 07 44.0**	**-0.1**
PV11	**David Mesa, Pa**	**6.11**	**208**		**Pn**	**20 07 44.8**	**+0.5**
PV16	**Nyswonger Mesa**	**6.12**	**208**		**Pn**	**20 07 45.2**	**+0.9**
PV02	**Paradox Valley**	**6.15**	**206**	Pn	**Pn**	**20 07 46.4**	**+1.6**
PV13	**Radium Mtn., P**	**6.22**	**207**	Pn	**Pn**	**20 07 47.6**	**+1.8**
ECSD	**EROS Data Cent**	**6.26**	**87**		**Pn**	**20 07 47.1**	**+1.0**
TMUT	**Trail Mountain**	**6.32**	**227**		**Pn**	**20 07 48.3**	**+1.2**
PV05	**Paradox Valley**	**6.39**	**208**		**Pn**	**20 07 48.1**	**0.0**
ANMO	**Albuquerque**	**8.86**	**186**	Lg	Lg	20 10 57.6	
	comp=E,0.3nm,0.3s,baz=330,slow=20,SNR=6.6						
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**20 08 24.7**	**-0.4**
	comp=E,0.6nm,0.3s,baz=235,slow=14,SNR=3.1						
ULM				Lg	Lg	20 10 53.0	
	comp=E,0.4nm,0.3s,baz=139,slow=20,SNR=1.7						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**20 19 11.1**	**-0.6**
	comp=E,0.2nm,0.6s,baz=9.2,slow=7.0,SNR=2.3						

*NEIC **07** 20:20:10.4±0.6, 36.84N±0.01×97.82W±0.03, h6km±5km, ML2.7/18, Error ellipse: s-maj=3.2km s-min=1.9km az=86.0*

ISC 07 20:20:10.1±1.1, **36.83N**±0.03×**97.84W**±0.03, **h9**km±7km, **n22, σ1s12/22, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.02**	**319**	Pg	**Pg**	**20 20 11.7**	**-0.1**
GC02				Sg	**Sg**	**20 20 12.5**	**-0.4**
OK032	**Salt Plains WL**	**0.30**	**264**	Pg	**Pg**	**20 20 16.8**	**+0.7**
OK032				IAML		20 20 21.6	
	724nm,0.3s						
OK032				IAML		20 20 25.3	
	716nm,0.2s						
KAN13	**South Haven SW**	**0.34**	**58**	Pg	**Pg**	**20 20 16.6**	**-0.3**
KAN13				Sg	**Sg**	**20 20 21.1**	**-0.3**
KAN13				IAML		20 20 21.4	
	comp=N,848nm,0.3s						
KAN13				IAML		20 20 25.0	
	comp=E,846nm,0.3s						
CROK	**Carrier**	**0.35**	**199**	Pg	**Pg**	**20 20 17.8**	**+0.8**
KAN09	**Caldwell North**	**0.35**	**30**	Pg	**Pg**	**20 20 16.9**	**-0.1**
KAN10	**Anthony SW Sta**	**0.35**	**325**	Pg	**Pg**	**20 20 17.5**	**+0.4**
KAN08	**Anthony NE Sta**	**0.41**	**345**	Pg	**Pg**	**20 20 18.3**	**+0.2**
KAN08				IAML		20 20 24.0	
	comp=N,871nm,0.3s						
KAN08				IAML		20 20 24.1	
	comp=E,471nm,1.0s						
KAN16	**Harper SW Stat**	**0.43**	**335**	Pg	**Pg**	**20 20 18.8**	**+0.2**
KAN16				IAML		20 20 24.9	
	comp=E,444nm,0.5s						
KAN12	**Harper NE Stat**	**0.48**	**345**	Pg	**Pg**	**20 20 19.5**	**+0.1**
KAN12				IAML		20 20 31.4	
	comp=E,1μm,0.3s						
KAN12				IAML		20 20 33.1	
	comp=N,887nm,0.3s						
T35A	**Sooner Cattle**	**1.07**	**85**	Pg	**Pg**	**20 20 30.2**	**-0.4**
OK029	**Liberty Lake**	**1.08**	**163**	Pg	**Pg**	**20 20 30.9**	**0.0**
QUOK	**Quay**	**1.13**	**126**	Pg	**Pg**	**20 20 31.4**	**-0.4**
BCOK	**Bluff Creek, N**	**1.19**	**171**	Pg	**Pg**	**20 20 32.8**	**-0.2**
OK031	**S. Brethren Rd**	**1.19**	**137**	Pg	**Pg**	**20 20 32.5**	**-0.5**
OK030	**Cody Creek RV**	**1.24**	**136**	Pg	**Pg**	**20 20 33.3**	**-0.6**
OK025	**Westminster Rd**	**1.31**	**162**		**Pn**	**20 20 34.8**	**+0.1**
OKCFA	**Oklahoma City**	**1.45**	**167**	Pn	**Pn**	**20 20 37.4**	**+0.8**
OKCSW	**OKLAHOMA CITY**	**1.46**	**167**	Pn	**Pn**	**20 20 37.6**	**+0.8**
ANMO	**Albuquerque**	**7.24**	**257**	Pg	**Pg**	20 23 57.2	
	comp=N,0.6nm,0.3s,baz=1.9,slow=13,SNR=4.2						
ANMO	**Albuquerque**	**7.24**	**257**	Pg	**Pg**	**20 22 25.0**	**-3.9**
	comp=N,0.4nm,0.3s,baz=67,slow=15,SNR=4.0						
TXAR	**Lajitas Array**	**8.93**	**215**	Lg	Lg	20 24 35.7	
	comp=N,0.6nm,0.3s,baz=86,slow=16,SNR=3.6						
TXAR	**Lajitas Array**	**8.93**	**215**	Pn	**Pn**	**20 22 21.4**	**+1.9**
	comp=N,0.1nm,0.3s,baz=45,slow=11,SNR=2.0						

*IDC **07** 20:20:22.7±2.3, 36.16N×98.29W, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.3/50, mbtmp3.1/3, ML3.6/2, Error ellipse: s-maj=29.3km s-min=16.8km az=95.0*
*NEIC **07** 20:20:25.9±0.8, 36.84N±0.01×97.76W±0.02, h5km±1km, mb_Lg3.3/111, Error ellipse: s-maj=3.5km s-min=2.6km az=272.0*

ISC 07 20:20:25.8±1.0, **36.81N**±0.03×**97.82W**±0.04, **h4**km±8km, **n77, σ0s63/26, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.06**	**325**	Pg	**Pg**	**20 20 27.2**	**+0.1**
GC02				Sg	**Sg**	**20 20 28.1**	**+0.1**
OK032	**Salt Plains WL**	**0.31**	**270**	Pg	**Pg**	**20 20 32.4**	**+0.5**
CROK	**Carrier**	**0.33**	**204**	Pg	**Pb**	**20 20 33.2**	**-1.0**
CROK				Sg	**Sb**	**20 20 38.7**	**-1.2**
KAN13	**South Haven SW**	**0.34**	**53**	Pg	**Pg**	**20 20 32.2**	**-0.2**
KAN09	**Caldwell North**	**0.37**	**26**	Pg	**Pg**	**20 20 32.4**	**-0.5**
KAN10	**Anthony SW Sta**	**0.39**	**325**	Pg	**Pg**	**20 20 33.0**	**-0.3**
KAN08	**Anthony NE Sta**	**0.44**	**344**	Pg	**Pg**	**20 20 33.8**	**-0.5**
KAN16	**Harper SW Stat**	**0.46**	**335**	Pg	**Pg**	**20 20 34.3**	**-0.5**
OK029	**Liberty Lake**	**1.05**	**164**	Pg	**Pb**	**20 20 46.4**	**-0.1**
QUOK	**Quay**	**1.10**	**125**	Pg	**Pg**	**20 20 46.9**	**0.0**
BCOK	**Bluff Creek, N**	**1.16**	**172**	Pg	**Pg**	**20 20 48.2**	**+0.2**
OK031	**S. Brethren Rd**	**1.16**	**137**	Pg	**Pg**	**20 20 48.1**	**0.0**
OK030	**Cody Creek RV**	**1.21**	**136**	Pg	**Pg**	**20 20 48.8**	**-0.3**
OK025	**Westminster Rd**	**1.28**	**162**		**Pb**	**20 20 50.5**	**0.0**
OKCFA	**Oklahoma City**	**1.42**	**168**		**Pg**	**20 20 53.1**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.43**	**167**		**Pg**	**20 20 53.3**	**+0.1**
FNO	**Franklin**	**1.58**	**168**	Pn	**Pb**	**20 20 55.3**	**-0.4**
R32A	**Long Quarter,**	**1.76**	**337**	Pn	**Pn**	**20 20 57.5**	**+0.3**
X34A	**Smith Ranch, M**	**2.20**	**180**	Pn	**Pb**	**20 21 05.9**	**-0.3**
WMOK	**Wichita Mounta**	**2.21**	**201**	Pn	**Pb**	**20 21 04.9**	**-1.5**
WMOK				IAmb_Lg		20 21 39.6	
	comp=Z,147nm,0.8s						
LOOK	**Love County**	**2.85**	**169**	IAmb_Lg		20 22 00.8	
	comp=Z,60nm,1.2s						
X37A	**Clayton**	**2.98**	**137**	IAmb_Lg		20 22 06.2	
	comp=Z,115nm,0.8s						
HHAR	**Hobbs**	**3.17**	**98**	IAmb_Lg		20 22 13.6	
	comp=Z,87nm,0.7s						
W39A	**Magazine**	**3.64**	**115**	IAmb_Lg		20 22 28.4	
	comp=Z,79nm,0.7s						
S39A	**Bolivar**	**3.69**	**75**	IAmb_Lg		20 22 29.6	
	comp=Z,65nm,0.7s						
N33A	**J Bar K, Exete**	**3.94**	**4**	IAmb_Lg		20 22 40.1	
	comp=Z,49nm,0.8s						
U40A	**Yellville**	**4.02**	**95**	IAmb_Lg		20 22 34.2	
	comp=Z,82nm,0.9s						
MIAR	**Mount Ida**	**4.12**	**122**	IAmb_Lg		20 22 39.2	
	comp=Z,46nm,0.8s						
Z38A	**Mt. Pleasant**	**4.23**	**146**	IAmb_Lg		20 22 45.6	
	comp=Z,84nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.39**	**302**	IAmb_Lg		20 22 46.2	
	comp=Z,70nm,0.7s						
P38A	**Dawn**	**4.39**	**49**	IAmb_Lg		20 22 48.2	
	comp=Z,76nm,0.8s						
ABTX	**Abilene, Hawle**	**4.43**	**200**	IAmb_Lg		20 22 46.8	
	comp=Z,36nm,0.7s						
MGMO	**Mountain Grove**	**4.46**	**84**	Pn	**Pn**	**20 21 34.6**	**+0.4**
MGMO				IAmb_Lg		20 22 48.6	
	comp=Z,60nm,0.7s						
R40A	**Maddies Statio**	**4.65**	**70**	IAmb_Lg		20 22 54.9	
	comp=Z,42nm,0.9s						
X40A	**Basin Creek Fa**	**4.67**	**118**	IAmb_Lg		20 23 01.8	
	comp=Z,64nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.69**	**100**	IAmb_Lg		20 22 54.9	
	comp=Z,37nm,0.8s						
WHAR	**Wooly Hollow**	**4.73**	**107**	IAmb_Lg		20 22 59.0	
	comp=Z,61nm,0.9s						
WHTX	**Lake Whitney,**	**4.81**	**176**	Pn	**Pn**	**20 21 39.0**	**-0.1**
WHTX				IAmb_Lg		20 23 10.2	
	comp=Z,44nm,0.8s						
WLAR	**White Oak Lake**	**4.95**	**128**	IAmb_Lg		20 23 15.7	
	comp=Z,45nm,0.7s						
237A	**Washetta, Mont**	**5.07**	**160**	IAmb_Lg		20 23 17.6	
	comp=Z,60nm,1.0s						
T25A	**Trinidad**	**5.29**	**276**	IAmb_Lg		20 23 22.6	
	comp=Z,34nm,0.8s						
P40A	**Paris**	**5.30**	**57**	IAmb_Lg		20 23 19.9	
	comp=Z,75nm,1.1s						
CCM	**Cathedral Cave**	**5.38**	**75**	IAmb_Lg		20 23 19.9	
	comp=Z,39nm,0.8s						
NATX	**Nacogdoches**	**5.67**	**152**	IAmb_Lg		20 23 41.9	
	comp=Z,36nm,0.8s						
CCAR	**Cane Creek**	**5.72**	**118**	IAmb_Lg		20 23 41.5	
	comp=Z,41nm,0.8s						
PBMO	**Poplar Bluff**	**5.93**	**88**	IAmb_Lg		20 23 34.5	
	comp=Z,34nm,0.8s						
FVM	**French Village**	**6.00**	**76**	IAmb_Lg		20 23 35.2	
	comp=Z,41nm,0.8s						
SCIA	**State Center**	**6.22**	**34**	IAmb_Lg		20 23 52.4	
	comp=Z,61nm,0.9s						
SLM	**Saint Louis**	**6.28**	**71**	IAmb_Lg		20 23 45.6	
	comp=Z,44nm,0.8s						
GNAR	**Gosnell**	**6.35**	**95**	IAmb_Lg		20 23 58.9	
	comp=Z,57nm,0.7s						
N41A	**Harden Midland**	**6.69**	**52**	IAmb_Lg		20 23 59.3	
	comp=Z,55nm,0.8s						
ISCO	**Idaho Springs**	**6.82**	**298**	IAmb_Lg		20 24 03.1	
	comp=Z,28nm,0.8s						
S44A	**Carbondale**	**6.89**	**80**	IAmb_Lg		20 24 11.9	
	comp=Z,32nm,0.7s						
SIUC	**Southern Illin**	**6.92**	**80**	IAmb_Lg		20 24 04.2	
	comp=Z,43nm,0.8s						
OXF	**Oxford**	**7.22**	**106**	IAmb_Lg		20 24 33.8	
	comp=Z,26nm,1.0s						
L40A	**Anamosa**	**7.32**	**42**	IAmb_Lg		20 24 16.4	
	comp=Z,48nm,0.9s						
Y45A	**Yeager Farm, C**	**7.37**	**111**	IAmb_Lg		20 24 27.0	
	comp=Z,32nm,1.2s						
PHWY	**Pilot Hill**	**7.45**	**309**	IAmb_Lg		20 24 26.8	
	comp=Z,20nm,0.7s						
SUSD	**Miller**	**7.68**	**354**	IAmb_Lg		20 24 42.1	
	comp=Z,46nm,0.8s						
I37A	**Lemond, Waseca**	**7.95**	**24**	IAmb_Lg		20 24 41.2	
	comp=Z,33nm,0.8s						
MNTX	**Cornudas Mount**	**8.07**	**233**	IAmb_Lg		20 24 52.8	
	comp=Z,16nm,1.0s						
USIN	**University of**	**8.16**	**79**	IAmb_Lg		20 24 45.2	
	comp=Z,38nm,1.1s						
JFWS	**Jewell Farm**	**8.43**	**41**	IAmb_Lg		20 25 04.2	
	comp=Z,30nm,0.7s						
T47A	**Sharon Grove**	**8.59**	**86**	IAmb_Lg		20 25 06.4	
	comp=Z,27nm,1.0s						
RWWY	**Rawlins**	**8.77**	**307**	IAmb_Lg		20 25 16.6	
	comp=Z,19nm,0.9s						
P46A	**Rosedale**	**8.81**	**68**	IAmb_Lg		20 25 11.4	
	comp=Z,27nm,0.8s						
K22A	**Casper**	**8.89**	**314**	IAmb_Lg		20 25 31.5	
	comp=Z,33nm,0.9s						
I40A	**Norwalk**	**8.96**	**36**	IAmb_Lg		20 25 12.2	
	comp=Z,26nm,1.1s						
F33A	**5 Mile Ranch,**	**9.10**	**7**	IAmb_Lg		20 25 12.4	
	comp=Z,18nm,0.8s						
SFIN	**Lafayette**	**9.12**	**64**	IAmb_Lg		20 25 23.1	
	comp=Z,32nm,1.0s						
SPMN	**Marine on St.**	**9.22**	**23**	IAmb_Lg		20 25 18.9	
	comp=Z,16nm,0.7s						
WCI	**Wyandotte Cave**	**9.27**	**78**	IAmb_Lg		20 25 26.6	
	comp=Z,17nm,0.8s						
W18A	**Petrified Fore**	**9.81**	**264**	IAmb_Lg		20 25 30.5	
	comp=Z,19nm,0.9s						
I42A	**Draeger Farm,**	**9.81**	**41**	IAmb_Lg		20 25 38.8	
	comp=Z,15nm,0.8s						
PDAR	**Pinedale Array**	**10.81**	**307**	Pn	**Pn**	**20 23 03.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=121,slow=8.5,SNR=1.3						
PDAR				Lg	Lg	20 26 01.9	
	comp=Z,0.4nm,0.3s,baz=106,slow=31,SNR=7.5						
TKL	**Tuckaleechee C**	**11.40**	**92**	Lg	Lg	20 26 23.6	
	comp=Z,0.8nm,0.3s,baz=13,slow=19,SNR=4.8						
ILAR	**Eielson Array**	**40.15**	**330**	P	**P**	**20 28 02.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=107,slow=7.4,SNR=12						

KRSC 07 20:41:40.3±2.8, **49.18N**×**156.65E, h7**km±47km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**347**	*e*P	Pn	20 42 07.6	-0.6
SKR				*e*S	Sn	20 42 27.2	-1.3
ALID	**Alaid**	**1.83**	**338**	P	Pn	20 42 11.5	-0.8
ALID				S	Sn	20 42 35.1	-0.8
PAU	**Pauzhetka**	**2.29**	**3**	S	Sb	20 42 49.1	-1.4
KDTR	**Khodutka, Kamc**	**2.79**	**19**	P	Pb	20 42 27.9	-2.5
KDTR				S	Sb	20 43 02.7	-2.0
ASAK	**Asacha**	**3.31**	**13**	P	Pb	20 42 37.7	-1.6
MTVR	**Mutnovka**	**3.45**	**16**	P	Pn	20 42 37.9	+3.4
MTVR				S	Sb	20 43 20.9	-3.0
RUS	**Russkaya**	**3.47**	**19**	P	Pn	20 42 37.4	+2.8
GRL	**Gorelyy**	**3.50**	**14**	P	Pb	20 42 39.2	-3.3
GRL				*e*S	Sb	20 43 22.9	-2.3
UGLR	**Uglovaya**	**4.26**	**18**	*e*P	Pn	20 42 50.0	+4.4
AVH	**Avacha**	**4.30**	**17**	P	Pb	20 42 51.3	-4.8
KOK	**Koryaka**	**4.30**	**16**	*e*P	Pb	20 42 51.9	-4.4
SDLR	**Sedlovina**	**4.34**	**18**	P	Pn	20 42 50.7	+4.0
KRX	**Arik**	**4.37**	**16**	P	Pn	20 42 51.9	+4.7
MKZ	**Mys Kozlova**	**6.24**	**28**	P	Pn	20 43 15.1	+2.5

IDC 07 21:00:58.4±1.2, **6.69N**×**123.92E, h0**km, **mb3.9/4, mb1 4.1/4, mb1mx3.5/36, mbtmp3.9/4, Error ellipse: s-maj=80.5km s-min=23.9km az=69.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.70**	**162**	P	P	21 07 25.1	+1.0
	1.1nm,0.5s,baz=343,slow=7.1,SNR=14						
STKA	**Stephens Creek**	**41.90**	**157**	P	P	21 08 49.0	-1.7
	3.0nm,1.1s,baz=336,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**53.55**	**325**	P	P	21 10 20.9	-0.2
	0.7nm,0.4s,baz=120,slow=7.4,SNR=21						
ILAR	**Eielson Array**	**83.66**	**26**	P	P	21 13 29.1	+0.3
	0.6nm,0.7s,baz=264,slow=5.2,SNR=5.2						

*JMA **07** 21:10:21.3±0.1, 24.76N×122.83E, h15km±1km, M1.8*
*TAP **07** 21:10:21.1, 24.74N×122.84E, h19km, ML2.6, D*

ISC 07 21:10:20.3±1.2, **24.76N**±0.04×**122.83E**±0.02, **h13**km±10km, **n52, σ0s60/78, Taiwan region**

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

baz=268
NSK eS Sb 21 11 01.7 -0.9
baz=268
ETLH Xiulin Townshi 1.35 246 eP Pn 21 10 45.3 +0.3
baz=257
ETLH eS Sb 21 11 02.7 0.0
baz=257
JISG Ishigakijimahi 1.35 97 P Pg 21 10 46.4 +0.1
NNSB Datong 1.36 256 eP Pn 21 10 45.3 +0.1
baz=258
NNSB eS Sb 21 11 02.5 -0.6
baz=258
NNSH Datong 1.36 256 eP Pn 21 10 45.0 -0.2
baz=258
NNSH eS Sb 21 11 02.6 -0.5
baz=258
NNS Nan Shan 1.37 257 eP Pn 21 10 44.8 -0.4
baz=258
NNS eS Sn 21 11 02.5 -0.8
baz=258
WHF Hehuan Shan 1.55 247 eP Pb 21 10 49.2 0.0
baz=249
WHF eS Sb 21 11 09.1 +0.1
baz=249
ESL Shilin 1.58 234 eP Pn 21 10 48.7 +0.5
baz=236
TDCB Techi 1.61 252 eP Pn 21 10 48.4 -0.1
baz=238
LIOB Emei 1.66 267 eP Pb 21 10 50.4 -0.4
baz=268
CHGB Renai 1.66 246 eP Pn 21 10 50.2 +0.8
baz=248
CHGB eS Sn 21 11 10.6 -0.2
baz=248
NSTT Nanjuang 1.67 266 eP Pb 21 10 51.3 +0.3
baz=267
NSTT S Sn 21 11 10.9 +0.3
baz=267
OWD Renai 1.71 243 eP Pn 21 10 50.4 +0.4
baz=229
WHP Taichung City 1.79 255 eP Pb 21 10 53.5 +0.6
baz=243
HGSD Ruisui 1.80 226 eP Pn 21 10 51.0 -0.1
baz=228
EHY Hungye 1.86 228 eP Pn 21 10 51.2 -0.7
baz=246
WCS Beigang Elemen 1.89 249 eP Pb 21 10 54.2 -0.4
baz=237
YULB Yu-li 1.95 226 eP Pn 21 10 52.3 -0.9
baz=245
SMLT Sun Moon Lake 1.97 244 eP Pn 21 10 53.4 0.0
baz=231
SSLB Suanglung 1.97 241 eP Pn 21 10 54.8 +1.4
baz=243
FULB Fuli 2.09 223 eP Pn 21 10 55.3 +0.1
baz=224
ALS Alishan 2.23 237 eP Pn 21 10 58.9 +1.6
baz=238
EDH Donghe 2.26 219 eP Pn 21 10 57.3 -0.1
baz=220
ELDTW Lidau 2.28 227 eP Pn 21 10 57.1 -0.6
baz=229
CHN5 Tsauling 2.28 240 eP Pn 21 10 59.7 +1.9
baz=242
CHN4 Tsaushan 2.48 236 eP Pn 21 11 02.4 +1.9
baz=238

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*VAO **07** 21:14:04.7±0.3,29.°16S×67.°53W,h10km,mb4.7*
*IDC **07** 21:14:04.4±0.5,28.°96S×67.°40W,h0km,mb4.4/15, mb1 4.5/20,mb1mx4.4/30,mbtmp4.4/20,ML4.0/4,MS3.6/12, Ms1 3.6/12,ms1mx3.4/23,Error ellipse: s-maj=19.5km s-min=14.4km az=83.0*
*SJA **07** 21:14:06.0±0.7,29.°00S×67.°54W,h10km±3km,ML4.4, MW4.2*
*NEIC **07** 21:14:06.5±1.6,29.°04S±0.°05×67.°30W±0.°07,h14km±3km, Error ellipse: s-maj=8.3km s-min=7.4km az=82.0*
*NEIC **07** 21:14:06.1,29.°03S×67.°32W,h9km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.66; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-1.61; $M_{r\theta}$0.52; $M_{\theta\phi}$0.52; $M_{\phi r}$-3.07; Fault plane solution: M_o3.56000×10^{15} NP1:ϕ_s169.48000°, δ75.67000°,λ93.40000°. NP2:ϕ_s335.98000°,δ14.72000°, λ76.93000°. Principal axes: T 3.5176, Plg59.0000°, Azm84.0000°; N 0.0764, Plg3.0000°, Azm349.0000°; P -3.5939, Plg31.0000°, Azm257.0000°;*
ISC 07 21:14:07.5±0.3,29.°00S±0.°03×67.°51W±0.°03,h21km±2km, n273,σ1§64/297,mb4.8/59,MS3.7/6,5C-2D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ACLC	**CERRO LA CRUZ**	**0.65**	**131**	*eP*		**Pb**	**21**	**14**	**19.6**	**-0.7**
ACLC				*eS*		**Sb**	**21**	**14**	**28.8**	**-0.2**
ACLC				IAML			21	14	32.3	
	comp=Z,23μm,0.5s									
VCA	**Vinchina**	**0.66**	**294**	*eP*		**Pb**	**21**	**14**	**19.2**	**-1.4**
VCA				*eS*		**Sb**	**21**	**14**	**27.9**	**-1.5**
VCA				IAML			21	14	34.9	
	comp=Z,16μm,0.3s									
CYA	**Choya**	**1.60**	**70**	*eP*		**Pb**	**21**	**14**	**36.8**	**+0.3**
CYA				*eS*		**Sb**	**21**	**14**	**58.6**	**+2.3**
CYA				IAML			21	15	05.9	
	comp=Z,10μm,1.2s									
AVFE	**Valle Fertil**	**1.65**	**178**	*eP*		**Pn**	**21**	**14**	**35.8**	**+0.5**
AVFE				*eS*		**Sb**	**21**	**14**	**57.6**	**-0.1**
AVFE				IAML			21	15	01.0	
	comp=Z,6μm,0.5s									
ACDV	**Cuesta del Vie**	**1.82**	**230**	*eP*		**Pb**	**21**	**14**	**39.6**	**-0.6**
ACDV				*eS*		**Sb**	**21**	**15**	**03.1**	**+0.4**
ACDV				IAML			21	15	06.7	
	comp=Z,3μm,1.6s									
AROD	**Rodeo**	**2.06**	**235**	*eP*		**Pb**	**21**	**14**	**43.6**	**-0.9**
AROD				*eS*		**Sb**	**21**	**15**	**10.8**	**+1.0**
ACCO	**Cerro Coronel**	**2.08**	**220**	*eP*		**Pn**	**21**	**14**	**43.4**	**+2.0**
ACCO				*eS*		**Sb**	**21**	**15**	**11.9**	**+1.7**
ACCO				IAML			21	15	22.2	
	comp=Z,1μm,1.4s									
ACHE	**Chepes**	**2.27**	**161**	*eP*		**Pn**	**21**	**14**	**46.0**	**+2.0**
RTLL	**Cerro Villicun**	**2.46**	**200**	*eP*		**Pn**	**21**	**14**	**49.0**	**+2.6**
RTLL				*eS*		**Sb**	**21**	**15**	**21.8**	**+0.8**
RTLL				IAML			21	15	23.4	
	comp=Z,6μm,0.4s									
AC02	**Maricunga**	**2.59**	**326**	*eP*		**Pb**	**21**	**14**	**53.2**	**-0.4**
AC02				*eS*		**Sn**	**21**	**15**	**20.5**	**+0.7**
AC02	**Maricunga**	**2.59**	**326**			**Pn**	**21**	**14**	**51.4**	**+2.8**
AC02						**Sb**	**21**	**15**	**24.3**	**-0.9**
GO03	**Copiap**	**2.78**	**300**	*eP*		**Pn**	**21**	**14**	**52.3**	**+1.4**
GO03				*eS*		**Sn**	**21**	**15**	**20.6**	**-3.2**
GO03				IAML			21	15	32.3	
	comp=N,832nm,0.4s									
GO03	**Copiap**	**2.78**	**300**			**Pn**	**21**	**14**	**54.1**	**+3.2**
GO03						**Sb**	**21**	**15**	**28.4**	**-1.9**
GO03	**Copiap**	**2.78**	**300**	*eP*		**Pn**	**21**	**14**	**54.1**	**+3.2**
LCO	**Las Campanas**	**2.79**	**269**			**Pb**	**21**	**14**	**54.9**	**-2.0**
LCO				Sn		**Sn**	**21**	**15**	**27.6**	**+3.2**
RTCV	**Cerro Valdivia**	**2.98**	**197**	*eP*		**Pn**	**21**	**14**	**56.0**	**+2.4**
RTCV				*eP*		**Pb**	**21**	**14**	**56.6**	**-3.4**
RTCV				*eS*		**Sb**	**21**	**15**	**37.2**	**+1.2**
RTCV				IAML			21	15	48.5	
	comp=Z,491nm,0.7s									
GO04	**Tololo Observa**	**3.09**	**247**	*eP*		**Pn**	**21**	**14**	**59.0**	**+3.7**
GO04				*eS*		**Sn**	**21**	**15**	**33.1**	**+1.3**
GO04	**Tololo Observa**	**3.09**	**247**	Pn		**Pn**	**21**	**14**	**58.8**	**+3.5**
GO04	**Tololo Observa**	**3.09**	**247**	*eP*		**Pn**	**21**	**14**	**59.0**	**+3.7**
GO04				*eS*		**Sb**	**21**	**15**	**41.4**	**+2.1**
GO04				*eS*		**Sb**	**21**	**15**	**43.6**	**+4.3**
RTLS	**Leoncito**	**3.18**	**209**	*eP*		**Pn**	**21**	**14**	**59.7**	**+3.1**
RTLS				IAML			21	15	55.3	
	comp=Z,782nm,0.7s									
FSA	**Cafayete**	**3.19**	**26**	*eP*		**Pn**	**21**	**14**	**59.3**	**+2.8**
AC04	**Llanos de Chal**	**3.23**	**283**	*eP*		**Pn**	**21**	**14**	**59.4**	**+2.5**
AC04				*eS*		**Sn**	**21**	**15**	**29.9**	**-5.0**
AC04				IAML			21	15	50.5	
	comp=N,634nm,0.3s									
AC04	**Llanos de Chal**	**3.23**	**283**			**Pn**	**21**	**14**	**59.5**	**+2.5**
ACAN	**Cantantal**	**3.27**	**175**	*eP*		**Pn**	**21**	**15**	**00.2**	**+2.6**
ACAN				IAML			21	16	02.4	
	comp=Z,1μm,0.4s									
CO03	**El Pedregal**	**3.31**	**236**	*eP*		**Pn**	**21**	**15**	**02.4**	**+4.2**
CO03				*eS*		**Sn**	**21**	**15**	**37.9**	**+1.0**
CO03				IAML			21	15	53.8	
	comp=N,3μm,0.5s									
CO03	**El Pedregal**	**3.31**	**236**			**Pn**	**21**	**15**	**01.5**	**+3.3**
CO03	**El Pedregal**	**3.31**	**236**	*eP*		**Pn**	**21**	**15**	**02.1**	**+4.0**
CO03				IAML			21	15	52.7	
	comp=Z,2μm,0.8s									
CO05	**La Serena**	**3.37**	**253**	*eP*		**Pn**	**21**	**15**	**01.5**	**+2.6**
CO05				*eS*		**Sn**	**21**	**15**	**36.2**	**-2.1**
CO05				IAML			21	15	55.1	
	comp=N,3μm,0.5s									
TCA	**Tanti**	**3.43**	**133**	*eP*		**Pn**	**21**	**15**	**00.8**	**+0.9**
TCA				IAML			21	16	29.5	
	comp=Z,0.2nm,0.6s									
AUSP	**Uspallata**	**3.59**	**206**	*eP*		**Pn**	**21**	**15**	**05.6**	**+3.4**
CO02	**Combarbal**	**3.73**	**233**			**Pn**	**21**	**15**	**07.1**	**+3.1**
MRA	**San Martin**	**3.74**	**156**	*eP*		**Pn**	**21**	**15**	**05.6**	**+1.5**
MRA				IAML			21	16	11.2	
	comp=Z,859nm,0.3s									
AC01	**Pan de Azucar**	**3.95**	**315**	*eP*		**Pn**	**21**	**15**	**09.8**	**+2.9**
AC01				*eS*		**Sn**	**21**	**15**	**48.9**	**-3.7**
AC01				IAML			21	16	14.3	
	comp=E,349nm,0.4s									
AC01	**Pan de Azucar**	**3.95**	**315**	Pn		**Pn**	**21**	**15**	**09.4**	**+2.5**
AAGR	**Agrelo**	**4.22**	**195**	*eP*		**Pn**	**21**	**15**	**13.7**	**+3.0**
AAGR				*eS*		Sb	21	16	23.6	+12
AAGR				IAML			21	16	44.6	
	comp=Z,1μm,0.8s									
GO02	**Mina Guanaco**	**4.25**	**334**	Pn		**Pn**	**21**	**15**	**15.0**	**+3.7**
VA03	**San Esteban**	**4.57**	**214**			**Pn**	**21**	**15**	**17.8**	**+2.3**
VA03	**San Esteban**	**4.57**	**214**	*eP*		**Pn**	**21**	**15**	**18.5**	**+3.1**
VA03				IAML			21	16	40.2	
	comp=Z,1μm,1.4s									
SLA	**San Lorenzo**	**4.63**	**23**	*eP*		**Pn**	**21**	**15**	**20.0**	**+3.6**
SLA				IAML			21	16	42.5	
	comp=Z,815nm,0.9s									
ROC1	**El Roble**	**4.97**	**216**	*eP*		**Pn**	**21**	**15**	**23.8**	**+2.6**
PB14	**IPOC Station P**	**5.07**	**329**	Pn		**Pn**	**21**	**15**	**24.6**	**+2.0**
MT03	**Universidad Ad**	**5.16**	**209**			**Pn**	**21**	**15**	**25.4**	**+1.8**
MT03	**Universidad Ad**	**5.16**	**209**	*eP*		**Pn**	**21**	**15**	**27.3**	**+3.7**
MT03				IAML			21	16	52.1	
	comp=Z,538nm,0.7s									
MT05	**Renca**	**5.17**	**211**	Pn		**Pn**	**21**	**15**	**25.2**	**+1.5**
MT02	**Curacav**	**5.26**	**215**			**Pn**	**21**	**15**	**26.0**	**+1.1**
VA01	**Torpederas**	**5.35**	**220**			**Pn**	**21**	**15**	**27.4**	**+1.3**
MT09	**Talagante**	**5.61**	**211**			**Pn**	**21**	**15**	**31.0**	**+1.1**
MT01	**Popeta**	**5.80**	**212**			**Pn**	**21**	**15**	**32.9**	**+0.6**
RFA	**San Rafael**	**5.81**	**188**	*eP*		**Pn**	**21**	**15**	**34.0**	**+1.5**
RFA				IAML			21	17	12.2	
	comp=Z,932nm,0.9s									
VA05	**Santo Domingo**	**5.81**	**216**	Pn		**Pn**	**21**	**15**	**33.0**	**+0.5**
PB15	**IPOC Station P**	**6.03**	**343**	*eP*		**Pn**	**21**	**15**	**38.7**	**+3.0**
PB15				*eP*		Pb	21	15	41.4	-11
PB15				IAML			21	17	36.8	
	comp=Z,165nm,0.7s									
PB10	**IPOC Station P**	**6.11**	**333**	*eP*		**Pn**	**21**	**15**	**39.1**	**+2.5**
PB10				IAML			21	17	26.7	
	comp=Z,95nm,0.8s									
BO01	**Tunca**	**6.17**	**209**	Pn		**Pn**	**21**	**15**	**38.2**	**+0.8**
BO02	**Sierra Bellavi**	**6.41**	**205**			**Pn**	**21**	**15**	**41.6**	**+0.9**
BO02	**Sierra Bellavi**	**6.41**	**205**	*eP*		**Pn**	**21**	**15**	**43.2**	**+2.5**
BO02				IAML			21	17	39.7	
	comp=Z,210nm,1.6s									
LVC	**Limon Verde**	**6.49**	**349**	Pn		**Pn**	**21**	**15**	**45.4**	**+3.2**
	comp=Z,11nm,0.3s,baz=182,slow=8.4,SNR=80									
LVC					Sn	**Sn**	**21**	**17**	**01.6**	**+5.8**
	comp=Z,3.7nm,0.3s,baz=247,slow=16,SNR=1.8									
LVC					Lg	Lg	21	17	35.3	
	comp=Z,5.0nm,0.3s,baz=5.0,slow=13,SNR=14									
LVC					LR	LR	21	18	25.7	
	comp=Z,690nm,19.1s,baz=193,slow=40									
LVC	**Limon Verde**	**6.49**	**349**			**Pn**	**21**	**15**	**42.8**	**+0.6**
LVC						**Sn**	**21**	**16**	**55.0**	**-0.8**
LVC	**Limon Verde**	**6.49**	**349**	*eP*		**Pn**	**21**	**15**	**45.3**	**+3.2**
LVC				IAML			21	17	51.2	
	comp=Z,51nm,0.8s									
PB06	**IPOC Station P**	**6.54**	**343**	*eP*		**Pn**	**21**	**15**	**45.9**	**+3.2**
PB06				*eS*		Sn	21	17	06.4	+10
PB06				IAML			21	18	11.8	
	comp=Z,68nm,1.0s									
PB04	**IPOC Station P**	**7.05**	**340**	*eP*		**Pn**	**21**	**15**	**52.6**	**+2.9**
PB09	**IPOC Station P**	**7.34**	**347**			**Pn**	**21**	**15**	**54.0**	**+0.3**
TA01	**Diego Aracena**	**8.74**	**343**			**Pn**	**21**	**16**	**13.4**	**+0.7**
TA02	**Huaiquique**	**9.02**	**344**	Pn		**Pn**	**21**	**16**	**17.0**	**+0.5**
CPUP	**Villa Florida**	**9.41**	**76**	Pn		**Pn**	**21**	**16**	**21.1**	**-0.8**
	comp=Z,8.3nm,0.3s,baz=247,slow=12,SNR=119									
CPUP					Lg	Lg	21	19	05.4	
	comp=Z,10nm,0.3s,baz=177,slow=18,SNR=2.4									
CPUP					LR	LR	21	20	47.9	
	comp=Z,196nm,20.5s,baz=258,slow=43									
CPUP	**Villa Florida**	**9.41**	**76**	Pn		**Pn**	**21**	**16**	**19.4**	**-2.5**
CPUP	**Villa Florida**	**9.41**	**76**	*eP*		**Pn**	**21**	**16**	**21.3**	**-0.6**
ITQB	**Itaqui**	**9.53**	**97**	Pn		**Pn**	**21**	**16**	**20.2**	**-3.3**
ITQB	**Itaqui**	**9.53**	**97**	*eP*		**Pn**	**21**	**16**	**23.0**	**-0.5**
PSGCX	**Pisagua**	**9.66**	**345**	Pn		**Pn**	**21**	**16**	**25.8**	**+0.4**
MNMC	**Minye Minye**	**10.01**	**349**			**Pn**	**21**	**16**	**30.4**	**0.0**
H03N1	**Juan Fernandez**	**10.71**	**243**	Pn		**Pn**	**21**	**16**	**40.6**	**+1.1**
	baz=120,slow=18,SNR=6.2									
H03N3	**Juan Fernandez**	**10.73**	**243**	Pn		**Pn**	**21**	**16**	**40.7**	**+1.0**
	baz=120,slow=18,SNR=4.1									
H03N2	**Juan Fernandez**	**10.73**	**243**	Pn		**Pn**	**21**	**16**	**40.9**	**+1.3**
	baz=120,slow=18,SNR=5.9									
PB16	**IPOC Station P**	**10.78**	**350**			**Pn**	**21**	**16**	**41.0**	**-0.2**
PLCA	**Paso Flores**	**11.96**	**191**	Pn		**Pn**	**21**	**16**	**55.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=3.0,slow=11,SNR=7.9									
PLCA					Lg	Lg	21	20	14.9	
	comp=Z,0.6nm,0.3s,baz=336,slow=18,SNR=3.3									
PLCA					LR	LR	21	22	28.8	
	comp=Z,185nm,21.9s,baz=6.5,slow=42									
PLCA	**Paso Flores**	**11.96**	**191**	Pn		**Pn**	**21**	**16**	**56.1**	**-0.7**
PLCA	**Paso Flores**	**11.96**	**191**	*eP*		**Pn**	**21**	**16**	**52.8**	**-4.1**
CPSB	**Cacapava Do Su**	**12.32**	**100**	*eP*		**Pn**	**21**	**17**	**00.2**	**-1.4**
PLTB	**Pedras Altas**	**12.32**	**106**	Pn		**Pn**	**21**	**16**	**59.0**	**-2.7**
PLTB	**Pedras Altas**	**12.32**	**106**	*eP*		**Pn**	**21**	**16**	**59.6**	**-2.1**
LPAZ	**La Paz**	**12.67**	**357**	Pn		**Pn**	**21**	**17**	**07.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=155,slow=11,SNR=17									
LPAZ					LR	LR	21	22	11.0	
	comp=Z,131nm,21.4s,baz=204,slow=38									
LPAZ	**La Paz**	**12.67**	**357**			**Pn**	**21**	**17**	**06.5**	**-0.6**
LPAZ	**La Paz**	**12.67**	**357**	*eP*		**Pn**	**21**	**17**	**07.5**	**+0.4**
AQDB	**Aquidauana**	**13.68**	**54**	Pn		**Pn**	**21**	**17**	**18.3**	**-2.0**
AQDB	**Aquidauana**	**13.68**	**54**	*eP*		**Pn**	**21**	**17**	**20.8**	**+0.5**
ITAB	**Concordia**	**13.69**	**86**	Pn		**Pn**	**21**	**17**	**18.4**	**-2.0**
ITAB	**Concordia**	**13.69**	**86**	*eP*		**Pn**	**21**	**17**	**20.1**	**-0.3**
LL01	**San Ignacio de**	**13.92**	**195**			**Pn**	**21**	**17**	**22.3**	**-1.2**
SIV	**San Ignacio**	**14.25**	**26**	Pn		**Pn**	**21**	**17**	**28.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=231,slow=12,SNR=10									
SIV					LR	LR	21	23	49.0	
	comp=Z,153nm,20.1s,baz=266,slow=41									
PTGB	**Pitanga**	**14.43**	**76**	*eP*		**Pn**	**21**	**17**	**30.1**	**-0.6**
LL02	**Futaleuf**	**14.58**	**193**	Pn		**Pn**	**21**	**17**	**34.1**	**+1.6**
TRCB	**Terra Rica**	**14.74**	**69**	Pn		**Pn**	**21**	**17**	**34.7**	**-0.2**
TRCB	**Terra Rica**	**14.74**	**69**	*eP*		**Pn**	**21**	**17**	**34.1**	**-0.8**
GO07	**Milladeo Hill,**	**14.93**	**198**	P		**Pn**	**21**	**17**	**38.8**	**+1.6**
PTLB	**Pontes e Lacer**	**15.55**	**32**	*eP*		**Pn**	**21**	**17**	**25.8**	**+1.2**
TER01	**Tubaro-SC**	**16.13**	**93**	*eP*		**Pn**	**21**	**17**	**50.8**	**-2.2**
PP1B	**Ponte de Pedra**	**16.22**	**48**	*eP*		**Pn**	**21**	**17**	**54.8**	**+0.7**
PCMB	**Pacaembu**	**16.43**	**67**	*eP*		**Pn**	**21**	**17**	**57.2**	**+0.3**
TIJ01	**Guaruva-PR**	**16.87**	**82**	*eP*		**Pn**	**21**	**18**	**00.6**	**-2.0**
FRTB	**Fartura**	**17.06**	**75**	*eP*		**Pn**	**21**	**18**	**03.8**	**-1.1**
VILB	**Vilhena**	**17.36**	**25**	*eP*		**Pn**	**21**	**18**	**08.4**	**-0.2**
ITRB	**Iturama**	**18.15**	**63**	*eP*		**P**	**21**	**18**	**19.1**	**+0.6**
PET01	**Itanhaem-SP**	**18.68**	**80**	*eP*		**P**	**21**	**18**	**23.7**	**-0.6**
SPB	**Sao Paulo**	**18.79**	**78**	P		**P**	**21**	**18**	**24.5**	**-1.0**
SPB	**Sao Paulo**	**18.79**	**78**	*eP*		**P**	**21**	**18**	**25.0**	**-0.5**
BB19B	**Bebedouro**	**18.92**	**70**	*eP*		**P**	**21**	**18**	**26.9**	**-0.1**
NNA	**Nana**	**19.04**	**331**	P		**P**	**21**	**18**	**28.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=11,SNR=2.1									
NNA					LR	LR	21	24	54.7	
	comp=Z,112nm,20.5s,baz=154,slow=34									
NNA	**Nana**	**19.04**	**331**	P		**Pn**	**21**	**18**	**29.9**	**+0.8**
ETMB	**Extrema**	**19.13**	**4**	*eP*		**Pn**	**21**	**18**	**30.0**	**-0.2**
RCLB	**Rio Claro- Sao**	**19.15**	**75**	*eP*		**P**	**21**	**18**	**29.3**	**-0.3**
VAO	**Valinhos**	**19.40**	**77**	*eP*		**P**	**21**	**18**	**32.6**	**+0.3**
ARAG	**Araguaiana, MT**	**19.62**	**51**	*eP*		**P**	**21**	**18**	**34.3**	**-0.3**
SAML	**Samuel**	**20.36**	**12**	P		**P**	**21**	**18**	**42.1**	**-0.6**
PARB	**Paraibuna**	**20.43**	**79**	*eP*		**P**	**21**	**18**	**43.3**	**-0.2**
IPMB	**Ipameri, GO**	**20.79**	**62**	*eP*		**P**	**21**	**18**	**47.1**	**-0.4**
CLDB	**Colider**	**21.11**	**34**	*eP*		**P**	**21**	**18**	**49.2**	**-1.7**
ESAR	**Angra dos Reis**	**21.56**	**79**	*eP*		**P**	**21**	**18**	**56.2**	**+0.5**
CZSB	**Cruzeiro do Su**	**21.72**	**346**	*eP*		**P**	**21**	**18**	**58.5**	**+1.1**
BDFB	**Brasilia**	**22.36**	**58**	P		**P**	**21**	**19**	**03.0**	**-1.4**
	comp=Z,9.6nm,0.8s,baz=218,slow=10,SNR=16									
BDFB					LR	LR	21	28	37.4	
	comp=Z,397nm,18.1s,baz=211,slow=39									
BDFB	**Brasilia**	**22.36**	**58**			**P**	**21**	**19**	**02.5**	**-2.0**
BDFB					IAmb	IAmb	21	19	15.9	
	comp=Z,17nm,0.7s									
GO09	**Cerro Castillo**	**22.54**	**188**	P		**P**	**21**	**19**	**06.1**	**+0.2**
GO09					IAmb	IAmb	21	19	08.9	
	comp=Z,25nm,0.9s									
MC01	**Montes Claros**	**24.88**	**66**	*eP*		**P**	**21**	**19**	**27.3**	**-1.6**
JANB	**Januaria**	**25.53**	**62**	*eP*		**P**	**21**	**19**	**32.8**	**-2.1**
ALF01	**Guarapari-ES**	**25.67**	**77**	*eP*		**P**	**21**	**19**	**34.8**	**-1.1**
USHA	**Ushuaia**	**25.82**	**181**	P		**P**	**21**	**19**	**38.5**	**+1.5**
	comp=Z,17nm,0.7s,baz=26,slow=7.8,SNR=2.2									
SJMB	**Sao Joao De Ma**	**26.12**	**73**	*eP*		**P**	**21**	**19**	**38.9**	**-1.3**
BSFB	**Barra de Sao F**	**26.34**	**73**	*eP*		**P**	**21**	**19**	**41.5**	**-0.6**
RIB01	**Linhares ES**	**26.50**	**75**	*eP*		**P**	**21**	**19**	**43.0**	**-0.6**
ITTB	**Itaituba**	**26.93**	**27**	*eP*		**P**	**21**	**19**	**46.4**	**-1.1**
NAN01	**Guarapari, ES**	**27.41**	**72**	*eP*		**P**	**21**	**19**	**50.7**	**-1.1**
PTGA	**Pitinga**	**29.02**	**16**	P		**P**	**21**	**20**	**04.7**	**-1.4**
	comp=Z,3.3nm,0.5s,baz=201,slow=17,SNR=8.3									
PTGA	**Pitinga**	**29.02**	**16**	P		**P**	**21**	**20**	**05.5**	**-0.7**
NBIT	**Itapeh - BA**	**29.47**	**68**	*eP*		**P**	**21**	**20**	**09.7**	**-0.5**
GDU01	**Guandu, BA**	**30.03**	**65**	*eP*		**P**	**21**	**20**	**13.1**	**-2.0**
OTAV	**Otavalo**	**30.90**	**338**	P		**P**	**21**	**20**	**23.9**	**+0.6**
OTAV	**Otavalo**	**30.90**	**338**	*eP*		**P**	**21**	**20**	**23.5**	**+0.2**
NBPN	**Ponto Novo - B**	**31.27**	**60**	*eP*		**P**	**21**	**20**	**28.3**	**-2.3**
FLOC	**Florencia**	**31.40**	**344**	P		**P**	**21**	**20**	**27.5**	**+0.4**
FLOC					IAmb	IAmb	21	20	36.7	
	comp=Z,9.5nm,0.7s									
FLOC	**Florencia**	**31.40**	**344**	*eP*		**P**	**21**	**20**	**28.1**	**+0.9**
BOAV	**Boa Vista**	**31.93**	**13**	*eP*		**P**	**21**	**20**	**31.9**	**+0.1**
SOTA	**Rioblanco**	**32.17**	**343**	*eP*		**P**	**21**	**20**	**37.3**	**+2.9**
BBAC	**Balboa, Cauca**	**32.23**	**342**	*eP*		**P**	**21**	**20**	**36.5**	**+1.8**
PCON	**Cinco Dias**	**32.30**	**343**	*eP*		**P**	**21**	**20**	**38.6**	**+2.9**
POPC	**Popayan, Colom**	**32.57**	**343**	*eP*		**P**	**21**	**20**	**36.0**	**-1.8**
ORTC	**Ortega, Tolima**	**33.56**	**346**	*eP*		**P**	**21**	**20**	**46.9**	**+0.8**
YOTC	**Yotoco, Valle**	**33.88**	**344**	*eP*		**P**	**21**	**20**	**51.1**	**+2.1**
TOLC	**Tolima**	**34.23**	**346**	*eP*		**P**	**21**	**20**	**53.2**	**+1.0**
ROSC	**El Rosal**	**34.28**	**348**	LR		LR	21	36	08.8	
	comp=Z,141nm,22.0s,baz=184,slow=39									
PLMC	**San Jos del P**	**34.75**	**345**	*eP*		**P**	**21**	**20**	**56.6**	**+0.1**
GUY2C	**Guyana, Caldas**	**34.86**	**346**	*eP*		**P**	**21**	**20**	**58.8**	**+0.9**
NORC	**Norcasia**	**35.09**	**347**	*eP*		**P**	**21**	**20**	**58.2**	**-1.2**
RUSC	**La Rusia**	**35.11**	**350**	P		**P**	**21**	**20**	**59.1**	**-1.0**
RUSC					IAmb	IAmb	21	21	08.5	
	comp=Z,17nm,0.8s									
RUSC	**La Rusia**	**35.11**	**350**	*eP*		**P**	**21**	**20**	**59.9**	**-0.1**
CBOC	**Ciudad Bolivar**	**35.62**	**345**	*eP*		**P**	**21**	**21**	**05.2**	**+1.1**
HELC	**Santa Helena**	**35.83**	**346**	*eP*		**P**	**21**	**21**	**05.5**	**-0.6**
RPN	**Rapa Nui**	**36.81**	**263**	LR		LR	21	32	49.3	
	comp=Z,135nm,19.5s,baz=122,slow=30									
ZARC	**Zaragoza, Cauc**	**36.97**	**348**	*eP*		**P**	**21**	**21**	**14.2**	**-1.3**
UREC	**San Jos de Ur**	**37.35**	**347**	*eP*		**P**	**21**	**21**	**17.1**	**-1.6**
SMLC	**San Martn de**	**38.11**	**349**	*eP*		**P**	**21**	**21**	**22.4**	**-2.7**
CAP2	**Capurgana**	**38.62**	**344**	P		**P**	**21**	**21**	**29.4**	**0.0**
CAP2					IAmb	IAmb	21	21	31.2	
	comp=Z,21nm,

SIUC	Southern Illin	69.42	342	P		P	21 25 13.4	-0.4
HHAR	Hobbs	69.54	337	P		P	21 25 13.7	-0.9
HHAR				IAmb		IAmb	21 25 16.3	
	comp=Z,4.7nm,0.8s							
P52A	Corning	69.63	348	P			21 25 14.2	
	baz=166							
P52A	Corning	69.63	348	P		P	21 25 14.3	-0.8
P52A				IAmb		IAmb	21 25 15.5	
	comp=Z,9.5nm,0.8s							
O56A	Blue Knob Stat	69.68	351	P			21 25 15.5	
	baz=170							
VNDA	Vanda	69.71	190	P		P	21 25 16.9	+1.7
	comp=Z,1.9nm,0.9s,baz=147,slow=4.8,SNR=9.6							
TUL1	Leonard	69.84	336	P			21 25 16.4	
	baz=154							
DBIC	Dimbokro	69.88	70	P		P	21 25 15.5	-1.7
	comp=Z,4.2nm,0.6s,baz=209,slow=6.7,SNR=8.6							
DBIC				LR		LR	21 53 56.8	
	comp=Z,43nm,19.3s,baz=184,slow=34							
DBIC	Dimbokro	69.88	70	P		P	21 25 15.9	-1.3
DBIC				IAmb		IAmb	21 25 16.2	
	comp=Z,12nm,1.1s							
N59A	State Game Lan	69.99	353	P			21 25 17.9	
	baz=172							
P49A	Miami Univ. Ec	70.04	346	P			21 25 16.9	
	baz=164							
MNTX	Cornudas Mount	70.29	326	P		P	21 25 19.4	0.0
N54A	Moraine State	70.57	350	P			21 25 21.1	
	baz=168							
N54A	Moraine State	70.57	350	P		P	21 25 21.2	+0.4
N54A				IAmb		IAmb	21 25 21.7	
	comp=Z,10nm,0.7s							
L63A	North Scituate	70.61	357	P			21 25 21.4	
	baz=176							
L64A	Middleborough	70.65	357	P			21 25 21.4	
	baz=177							
M55A	Ridgway	70.89	351	P		P	21 25 23.2	+0.4
MSTX	Muleshoe	70.96	330	P			21 25 24.1	
	baz=148							
M54A	Oil Creek Stat	71.05	350	P			21 25 24.3	
	baz=169							
L58A	Harry Jones Me	71.11	353	P			21 25 25.1	
	baz=172							
M53A	WI Miller and	71.14	350	P			21 25 24.8	
	baz=168							
L59A	Walton	71.18	354	P			21 25 25.5	
	baz=173							
L59A	Walton	71.18	354	P		P	21 25 24.6	+0.1
L61B	Northampton	71.26	356	P			21 25 25.3	
	baz=175							
N49A	Columbus Grove	71.27	347	P		P	21 25 24.8	-0.2
SFIN	Lafayette	71.39	344	P			21 25 25.2	
	baz=162							
L56A	Greenwood	71.39	352	P			21 25 26.5	
	baz=171							
K61A	Williamstown	71.51	356	P			21 25 27.3	
	baz=175							
WVNY	West Valley, N	71.79	351	P		P	21 25 28.3	+0.2
WVNY				IAmb		IAmb	21 25 30.1	
	comp=Z,16nm,1.0s							
P40A	Paris	71.91	340	P		P	21 25 29.1	+0.1
P40A				IAmb		IAmb	21 25 29.7	
	comp=Z,13nm,0.7s							
K56A	Middlesex	71.92	352	P			21 25 29.3	
	baz=171							
J62A	Henniker	71.98	357	P			21 25 30.5	
	baz=176							
J60A	Lant Hill Farm	72.10	355	P			21 25 30.9	
	baz=175							
J61A	Chester	72.14	356	P			21 25 31.6	
	baz=175							
J58A	Remsen	72.36	354	P			21 25 32.3	
	baz=173							
J59A	Piesco	72.40	355	P			21 25 32.7	
	baz=174							
J59A	Piesco	72.40	355	P		P	21 25 31.7	-0.1
J59A				IAmb		IAmb	21 25 33.3	
	comp=Z,8.0nm,0.8s							
J56A	Wolcott	72.44	353	P			21 25 32.1	
	baz=172							
J57A	Williamstown	72.48	354	P			21 25 32.6	
	baz=172							
I64A	Boothbay	72.59	358	P			21 25 34.0	
	baz=178							
I62A	Tamworth	72.61	357	P			21 25 34.5	
	baz=176							
I58A	Old Forge	72.66	354	P			21 25 33.9	
	baz=173							
I59A	Olmsteadville	72.68	355	P			21 25 34.0	
	baz=174							
I60A	Shoreham	72.69	356	P			21 25 34.2	
	baz=175							
I61A	Oroboro, Fairl	72.71	356	P			21 25 34.6	
	baz=176							
I63A	Otisfield	72.75	358	P			21 25 35.3	
	baz=177							
I57A	Carthage	72.97	354	P			21 25 35.7	
	baz=173							
L44A	Lake County Fo	73.29	344	P			21 25 37.0	
	baz=162							
H61A	Lyndonville	73.29	357	P			21 25 38.2	
	baz=176							
H62A	Milan	73.30	357	P			21 25 38.3	
	baz=177							
H58A	Gabriels	73.32	355	P			21 25 37.8	
	baz=174							
H65A	Eastbrook	73.35	359	P			21 25 38.4	
	baz=179							
H66A	Whiting	73.43	0	P			21 25 38.9	
	baz=180							
H57A	Richville	73.46	354	P			21 25 38.5	
	baz=173							
H59A	Cadyville	73.51	355	P			21 25 39.2	
	baz=174							
FRNY	Flat Rock	73.69	356	P		P	21 25 39.7	+0.3
FRNY				IAmb		IAmb	21 25 40.7	
	comp=Z,8.5nm,0.8s							
G63A	Kingsbury	73.79	358	P			21 25 41.0	
	baz=178							
G65A	Princeton	73.85	360	P			21 25 41.7	
	baz=180							
G60A	Masonville	73.88	356	P			21 25 42.1	
	baz=176							
G64A	Maxfield	73.91	359	P			21 25 41.4	
	baz=179							
G62A	West of Eustis	73.92	358	P			21 25 41.9	
	baz=177							
H53A	Bobcaygeon	73.92	352	P			21 25 40.8	
	baz=170							
G62A	West of Eustis	73.92	358	P		P	21 25 40.9	+0.2
G62A				IAmb		IAmb	21 25 42.6	
	comp=Z,8.6nm,0.8s							
G61A	St-Isidore-de-	74.02	357	P			21 25 42.5	
	baz=176							
G58A	Ormstown	74.04	355	P			21 25 42.2	
	baz=174							
G57A	Newington	74.06	355	P			21 25 41.8	
	baz=173							
T25A	Trinidad	74.35	330	P			21 25 45.2	
	baz=147							
214A	Organ Pipe Nat	74.35	321	P			21 25 44.7	
	baz=140							
F63A	Nahmakanta, Br	74.36	359	P			21 25 44.2	
	baz=179							
F64A	Sherman	74.52	359	P			21 25 45.3	
	baz=179							
LMN	Caledonia Moun	74.54	2	P		P	21 25 44.6	+0.2
LMN				IAmb		IAmb	21 25 45.9	
	comp=Z,17nm,1.0s							
F62A	Pittston Farm,	74.58	358	P			21 25 45.6	
	baz=178							
G54A	Lake Saint Pet	74.67	352	P			21 25 45.2	
	baz=170							
F61A	St Evariste	74.69	357	P			21 25 46.1	
	baz=177							
F60A	Warwick	74.72	357	P			21 25 45.8	
	baz=176							
E64A	Bridgewater	75.07	360	P			21 25 48.5	
	baz=180							
E63A	Oxbow	75.07	359	P			21 25 48.2	
	baz=179							
E60A	Ste Agathe de	75.10	357	P			21 25 48.1	
	baz=176							
E61A	Lac Etchemin	75.13	358	P			21 25 49.4	
	baz=177							
E58A	La Victoria	75.20	356	P			21 25 48.7	
	baz=175							
E62A	Clayton Lake	75.29	359	P			21 25 49.7	
	baz=178							
E62A	Clayton Lake	75.29	359	P		P	21 25 49.3	+0.6
E62A				IAmb		IAmb	21 25 50.6	
	comp=Z,14nm,0.8s							
E56A	St. Veronique	75.50	355	P			21 25 50.0	
	baz=173							
X16A	Lo Mia Camp, P	75.51	324	P		P	21 25 51.6	+1.1
D60A	Saint Jean D'O	75.62	358	P			21 25 51.4	
	baz=177							
D63A	Stockholm	75.69	360	P			21 25 51.9	
	baz=180							
D62A	Allapoint, All	75.74	359	P			21 25 52.3	
	baz=179							
D58A	Chemin du LacG	75.90	356	P			21 25 52.7	
	baz=175							
S22A	4UR Ranch, Cre	75.93	329	P			21 25 53.4	
	baz=145							
D56A	ZEC Mazanza, M	75.98	355	P			21 25 52.9	
	baz=174							
D55A	Sainte-Anne-du	76.01	354	P			21 25 52.9	
	baz=173							
Q24A	Divide	76.19	331	P			21 25 55.5	
	baz=147							
MVCO	Mesa Verde	76.27	327	P		P	21 25 54.9	+0.1
MAW	Mawson	76.82	163	P		P	21 25 57.4	+0.2
	comp=Z,6.4nm,0.9s,baz=229,slow=8.6,SNR=12							
MAW	Mawson	76.82	163	P		P	21 25 57.5	+0.2
SMCO	Snowmass	77.16	330	P		P	21 26 00.6	+0.6
PV13	Radium Mtn., P	77.18	328	P		P	21 26 00.3	+0.4
PV13				IAmb		IAmb	21 26 02.1	
	comp=Z,6.6nm,1.0s							
PV22	Blue Mesa, Par	77.47	328	P		P	21 26 02.4	+1.0
PV22				IAmb		IAmb	21 26 03.8	
	comp=Z,7.0nm,1.2s							
GMRC	Granite Mounta	78.05	321	P			21 26 05.6	
	baz=138							
N23A	Red Feather La	78.13	331	P			21 26 06.5	
	baz=146							
KNB	Kanab	78.23	324	P		P	21 26 07.0	+1.3
KNB				IAmb		IAmb	21 26 08.6	
	comp=Z,12nm,1.1s							
O20A	White River Ci	78.51	329	P			21 26 08.5	
	baz=144							
O20A	White River Ci	78.51	329	P		P	21 26 07.9	+0.7
O20A				IAmb		IAmb	21 26 09.5	
	comp=Z,6.1nm,0.9s							
MTPU	Mount Pierson	78.71	326	P		P	21 26 09.1	+0.5
SRU	San Rafael Swe	78.74	327	P		P	21 26 08.2	-0.3
SRU				IAmb		IAmb	21 26 10.4	
	comp=Z,7.5nm,1.1s							
BOSA	Boshof	78.89	116	P		P	21 26 09.8	+0.1
	comp=Z,15nm,0.6s,baz=258,slow=3.9,SNR=48							
BOSA				LR		LR	21 56 47.3	
	comp=Z,69nm,19.4s,baz=202,slow=32							
BOSA	Boshof	78.89	116	P		P	21 26 09.6	-0.2
Q16A	Castle Valley	78.90	327	P		P	21 26 10.7	+1.2
CCUT	Cedar City	78.92	324	P		P	21 26 11.2	+1.6
K22A	Casper	79.83	332	P			21 26 15.8	
	baz=146							
PKM	Mcpherson Peak	80.46	319	P			21 26 19.2	
	baz=136							
CWC	Cottonwood Cre	80.60	321	P			21 26 20.4	
	baz=137							
R11A	Troy Canyon, C	80.67	324	P			21 26 20.0	
	baz=139							
LBTB	Lobatse	80.81	113	P		P	21 26 17.9	-2.2
PDAR	Pinedale Array	81.22	330	P		P	21 26 22.1	+0.2
	comp=Z,1.4nm,0.6s,baz=116,slow=5.1,SNR=12							
NVAR	Mina Array Bea	82.17	322	P		P	21 26 27.6	+0.6
	comp=Z,0.9nm,0.9s,baz=172,slow=5.9,SNR=6.1							
TPAW	Teton Pass	82.41	330	P		P	21 26 28.4	+0.2
ULM	Lac du Bonnet	82.82	342	P		P	21 26 29.8	0.0
	comp=Z,2.0nm,0.6s,baz=140,slow=7.8,SNR=3.0							
SCHQ	Schefferville	83.49	0	P		P	21 26 33.5	+0.3
	comp=Z,5.0nm,1.0s,baz=171,slow=3.8,SNR=4.9							
CASY	Casey	85.01	179	P		P	21 26 41.0	0.0
CASY				IAmb		IAmb	21 26 42.4	
	comp=Z,9.5nm,0.9s							
J08A	Circle Bar Ran	85.85	325	P		P	21 26 45.8	+0.3
J08A				IAmb		IAmb	21 26 46.8	
	comp=Z,4.2nm,0.7s							
PSBE	So Bento	87.36	41	*e*P		P	21 26 54.6	+1.7
PMTG	Montargil	87.39	42	*e*P		P	21 26 54.4	+1.4
PESTR	Estremoz	87.64	43	*e*P		P	21 26 55.3	+1.1
MVO	Moncorvo	89.45	41	*e*P		P	21 27 05.2	+2.4
ESDC	Sonseca Array	90.32	44	P		P	21 27 07.4	+0.5
	comp=Z,1.0nm,0.8s,baz=246,slow=3.6,SNR=6.4							
ESDC				LR		LR	22 06 04.8	
	comp=Z,28nm,19.4s,baz=195,slow=35							
YKA	Yellowknife Ar	98.65	340	P		P	21 27 44.1	-0.2
	comp=Z,0.7nm,0.8s,baz=138,slow=5.4,SNR=4.3							
BRTR	Keskin Array B	115.96	57	PKP		PKPdf	21 32 48.5	-0.3
	comp=Z,0.7nm,0.8s,baz=331,slow=7.2,SNR=3.6							
BRTR	Keskin Array B	115.96	57	PKP		PKPdf	21 32 48.3	-0.6
KLMR	Klimovskoe	123.11	34	*e*PKPdf		PKPdf	21 33 00.1	-1.6
KLMR				AMP			21 33 01.5	
	comp=Z,15nm,1.7s							
ASAR	Alice Springs	123.72	204	PKP		PKPdf	21 33 03.1	-1.1
	comp=Z,1.7nm,0.5s,baz=134,slow=1.8,SNR=39							
ASAR	Alice Springs	123.72	204			PKPdf	21 33 03.0	-1.3
BILL	Bilibino	129.91	337			PKPdf	21 33 14.2	-0.4
YAK	Yakutsk	145.08	346	PKPbc		PKPdf	21 33 42.5	-0.1
	comp=Z,24nm,0.7s,baz=176,slow=0.7,SNR=25							
HYB	Hyderabad	146.86	103	*i* PKP		PKPbc	21 33 49.0	+0.1
ZALV	Zalesovo Beam	147.96	31	PKP		PKPdf	21 33 48.2	+0.5
	comp=Z,6.3nm,0.5s,baz=260,slow=4.2,SNR=31							
ZALV				PKPbc		PKPbc	21 33 51.2	+0.5
	comp=Z,6.3nm,0.5s,baz=313,slow=3.7,SNR=31							
KSH	Kashi	148.24	61	PKPbc		PKPbc	21 33 50.9	-1.3
KSH				PP		PP	21 37 30.2	+9.0
KSH				PPMZ				
	comp=Z,99nm,3.9s							
MKAR	Makanchi Array	150.54	45	PKP		PKPdf	21 33 53.4	+1.3
	comp=Z,7.6nm,0.8s,baz=305,slow=4.3,SNR=4.4							
MKAR				PKPbc		PKPbc	21 33 57.5	0.0
	comp=Z,9.1nm,0.9s,baz=305,slow=1.9,SNR=60							
MKAR				PKPab		PKPab	21 34 03.9	-0.3
	comp=Z,7.3nm,0.8s,baz=299,slow=3.1,SNR=18							
ASAJ	Asahikawa	151.69	310	PKPbc		PKPbc	21 34 00.3	+0.1
	comp=Z,6.2nm,0.8s,baz=100,slow=4.0,SNR=6.6							
KLR	Kul'dur	155.01	329	PKPbc		PKPdf	21 34 06.8	+8.3
	comp=Z,2.1nm,0.6s,baz=109,slow=2.5,SNR=8.1							
MJAR	Matsushiro Arr	157.15	296	PKPab		PKPab	21 34 32.8	+0.2
	comp=Z,2.3nm,0.8s,baz=140,slow=2.3,SNR=7.6							
SONM	Songino Array	160.61	12	PKP		PKPdf	21 34 06.3	+0.6
	comp=Z,0.9nm,0.9s,baz=199,slow=0.6,SNR=6.7							
SONM				PKPab		PKPab	21 34 47.7	+0.5
	comp=Z,1.6nm,0.7s,baz=330,slow=5.0,SNR=9.5							

JMA 07 21:37:46.5±0.3, 27.65N×140.30E, h103km, M3.6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	1.76	108	P	Pn	21 38 16.8	+0.6
CBIJ				S	Sn	21 38 39.0	+0.2
JHH2	Haha-jima-NKT2	1.96	121	P	Pn	21 38 18.8	+0.2
JHH2				*e*S	Sn	21 38 43.3	+0.2
BSO1	Boso 1	7.01	5	P	Pn	21 39 27.1	+1.2
BSO3	Boso 3	7.13	1	P	Pn	21 39 28.7	+0.8
BSO4	Boso 4	7.32	0	P	Pn	21 39 32.6	+2.0
JOD2	Odowara 2	7.66	353	P	Pn	21 39 38.1	+2.8
JRY	Ryogami san	8.43	352	P	Pn	21 39 47.7	+1.9
JHO	Hitachi	8.94	1	P	Pn	21 39 51.7	-1.0

*MDD **07** 21:47:11.9±1.4, 39.20N×10.15W, h40km±7km, mb3.6/3, Error ellipse: s-maj=13.6km s-min=6.0km az=86.0, PRXIMO*
*IGIL **07** 21:47:11.4, 39.19N×10.15W, h21km, ML1.0*
*INMG **07** 21:47:12.9±1.6, 39.21N×10.09W, h26km±7km, ML1.3, Error ellipse: s-maj=9.3km s-min=3.2km az=85.0*

ISC 07 21:47:07.3±2.1, 39.22N±0.03×10.17W±0.10, h14km±12km, n42, σ1§45/49, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	Mafra	0.74	111	Pg	Pn	21 47 24.9	+1.5
	3.5nm,0.1s,SNR=7.9						
PMAFR				Lg	Lg	21 47 34.6	
	11nm,0.1s,SNR=7.9						
PMAFR	Mafra	0.74	111	*e*P	Pn	21 47 24.9	+1.5
PMAFR				*e*S	Sn	21 47 34.8	+0.4
PMAFR				A	A	21 47 36.5	
	16nm,0.2s						
PSBE	So Bento	1.10	74	*e*P	Pn	21 47 31.1	+2.7
PSBE				*e*S	Sn	21 47 44.2	+0.7
PSBE				A	A	21 47 47.9	
	1.8nm,0.2s						
PMTG	Montargil	1.52	95	Pg	Pg	21 47 36.4	-0.1
PMTG				Lg	Lg	21 47 52.6	
	1.4nm,0.2s						
PMTG	Montargil	1.52	95	*e*P	Pg	21 47 36.4	-0.1
PMTG				*e*S	Sn	21 47 52.6	-1.0
PMTG				A	A	21 48 00.2	
	1.4nm,0.2s						
PCAS	Casmilo, Conde	1.54	57	Pg	Pg	21 47 36.5	-0.3
PCAS				Lg	Lg	21 47 54.2	
PCAS	Casmilo, Conde	1.54	57	*e*P	Pg	21 47 36.5	-0.3
PCAS				*e*S	Sn	21 47 54.2	+0.1
PNCL	Nicolau / Gran	1.70	130	Pg	Pb	21 47 38.0	-0.2
PNCL				Lg	Lg	21 47 57.2	
	1.4nm,0.8s						
PNCL	Nicolau / Gran	1.70	130	*e*Pn	Pb	21 47 38.0	-0.2
PNCL				*e*Sn	Sn	21 47 57.2	-0.8
PNCL				A	A	21 48 00.5	
	1.4nm,0.8s						
PTEO	Sao Teotonio	2.02	145	Lg	Lg	21 48 05.1	
PTEO	Sao Teotonio	2.02	145	*e*Sn	Sn	21 48 05.1	-0.9
PESTR	Estremoz	2.04	99	*e*Sn	Sn	21 48 06.0	-0.5
MESJ	Messejana	2.06	131	*e*P	Pn	21 47 43.0	+1.6
MESJ				*e*S	Sn	21 48 05.7	-1.3
MESJ				IAML		21 48 06.4	
	comp=E,1.1nm,0.1s						
MESJ	Messejana	2.06	131	Pg	Pn	21 47 43.0	+1.6
MESJ				Lg	Lg	21 48 05.7	
PMRV	Marv??o	2.17	84	Pg	Pb	21 47 45.0	-1.3
PMRV				Lg	Lg	21 48 08.8	
	comp=E,1.2nm,0.1s						
PMRV	Marv??o	2.17	84	*e*Pn	Pb	21 47 45.0	-1.3
PMRV				*e*Sn	Sn	21 48 08.8	-0.8
PMRV				A	A	21 48 09.4	
	comp=E,1.2nm,0.1s						
PVIS	Viseu	2.30	49	Pg	Pb	21 47 47.3	-1.3
PVIS				Lg	Lg	21 48 13.2	
	comp=E,1.5nm,0.1s						
PVIS	Viseu	2.30	49	*e*Pn	Pb	21 47 47.3	-1.3
PVIS				*e*Sn	Sn	21 48 13.2	+0.2
PVIS				A	A	21 48 13.9	
	comp=E,3.0nm,0.1s						
PFVI	Vila Bisbo	2.34	153	Pg	Pn	21 47 46.1	+0.8
	comp=E,1.0nm,0.2s,SNR=7.9						
PFVI				Lg	Lg	21 48 10.8	
	comp=E,0.9nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	2.34	153	*e*Sn	Sn	21 48 12.0	-1.8
EBAD	Badajoz	2.50	100	Pg	Pn	21 47 48.9	+1.3
	comp=E,0.2nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	21 48 15.9	
	comp=E,0.8nm,0.0s,SNR=7.9						
PBDV	Barranco-do-Ve	2.65	138	Sn	Sn	21 48 21.1	-0.4
PBDV	Barranco-do-Ve	2.65	138	*e*Sn	Sn	21 48 21.1	-0.4
PVAQ	Vaqueiros	2.65	132	Pg	Pn	21 47 51.3	+1.7
PVAQ				Lg	Lg	21 48 20.9	
PVAQ	Vaqueiros	2.65	132	*e*Pn	Pn	21 47 51.3	+1.7
PVAQ				*e*Sn	Sn	21 48 20.9	-0.6
PBAR	Barrancos	2.66	112	Lg	Lg	21 48 20.8	
	comp=E,1.1nm,0.5s						
PBAR	Barrancos	2.66	112	*e*Sn	Sn	21 48 20.8	-1.0
PBAR				A	A	21 48 26.0	
	comp=E,1.1nm,0.5s						
EGRO	El Granado	2.70	128	Pg	Pn	21 47 52.1	+1.8
	comp=E,0.6nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	21 48 21.1	-1.7
	comp=E,0.2nm,0.0s,SNR=7.9						
POLO	Lamas de Olo	2.81	39	Pg	Pn	21 47 54.3	+2.3
POLO				Sn	Sn	21 48 24.6	-1.2
POLO	Lamas de Olo	2.81	39	*e*Pn	Pn	21 47 54.3	+2.3
POLO				*e*Sn	Sn	21 48 24.6	-1.2
MVO	Moncorvo	3.09	50	Pn	Pn	21 47 57.2	+1.5
	comp=E,0.1nm,0.0s,SNR=7.9						
MVO				Sn	Sn	21 48 30.6	-1.9
	comp=E,0.3nm,0.0s,SNR=7.9						
MVO	Moncorvo	3.09	50	*e*Pn	Pn	21 47 57.6	+1.9
MVO				*e*Sn	Sn	21 48 30.9	-1.6
MVO				A	A	21 48 32.5	
	comp=E,1.3nm,0.3s						
ELOB	Lobios	3.09	31	Pn	Pn	21 47 58.3	+2.5
	comp=E,0.2nm,0.0s,SNR=7.9						
ELOB				Sn	Sn	21 48 30.0	-2.7
	comp=E,0.2nm,0.0s,SNR=7.9						
ELOB				Lg	Lg	21 48 31.5	
	comp=E,0.4nm,0.1s,SNR=7.9						
PGAV	Gavieira, Arco	3.10	27	Lg	Lg	21 48 32.1	
PGAV	Gavieira, Arco	3.10	27	*e*Sn	Sn	21 48 32.1	-0.7
EMIN	Mina Concepcio	3.10	117	Pn	Pn	21 47 57.6	+1.8
	comp=E,0.4nm,0.1s,SNR=7.9						
EMIN				Lg	Lg	21 48 30.9	
	comp=E,0.3nm,0.1s,SNR=7.9						
EZAM	Zamans	3.13	21	Lg	Lg	21 48 32.1	
	comp=E,0.3nm,0.0s,SNR=7.9						
EPLA	Plasencia	3.27	74	Lg	Lg	21 48 34.9	
	comp=E,0.4nm,0.1s,SNR=7.9						
ECAB	El Cabril	3.89	106	Pn	Pn	21 48 08.3	+1.6
	SNR=7.9						
ECAB				Lg	Lg	21 48 49.6	
	comp=E,0.0nm,0.0s,SNR=7.9						
EAGO	Agolada(Pontev	3.91	23	Lg	Lg	21 48 49.9	
	comp=E,0.3nm,0.0s,SNR=7.9						
EADA	Adamuz	4.50	102	Lg	Lg	21 49 04.9	
	comp=E,0.1nm,0.1s,SNR=7.9						
PAB	San Pablo	4.52	84	Lg	Lg	21 49 04.7	
	comp=E,0.3nm,0.1s,SNR=7.9						

*IDC **07** 22:07:50.8±1.5, 20.22S×177.82W, h545km±17km, mb3.4/13, mb1 3.6/16, mb1mx3.4/34, mbtmp4.3/16, Error ellipse: s-maj=20.6km s-min=14.7km az=105.0*
*NEIC **07** 22:07:50.7±1.3, 20.2S±0.1×177.7W±0.2, h550km±8km, mb4.4/16, Error ellipse: s-maj=22.3km s-min=15.3km az=103.0*

ISC 07 22:07:52.3±0.5, 20.19S±0.09×177.9W±0.1, h569km, n74, σ1§63/75, mb4.1/19, 6C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.58	302	P	P	22 09 18.6	-1.5
	0.8nm,0.3s,baz=117,slow=21,SNR=6.3						
MSVF	Nonsavu	4.58	302	P	P	22 09 18.1	-2.1
AFI	Afiamalu	8.53	44	P	P	22 09 52.6	-3.5
	8.7nm,0.3s,baz=8.9,slow=6.1,SNR=4.0						
AFI				S	S	22 11 28.0	-9.5
	3.3nm,0.3s,baz=33,slow=23,SNR=2.6						
AFI	Afiamalu	8.53	44	P	P	22 09 52.9	-3.1
OUZ	Omahuta	16.76	205	P	P	22 11 17.9	0.0
OUZ				IAmb	IAmb	22 11 21.2	
	comp=Z,14nm,0.8s						
GRZ	Great Barrier	17.04	199	P	P	22 11 20.3	-0.1
MXZ	Matakaoa Point	17.63	190	P	P	22 11 25.6	-0.2
WIAZ	Waiheke Island	17.64	199	P	P	22 11 26.5	+0.7
HAZ	Te Kaha	17.91	191	P	P	22 11 27.4	-0.9
WTAZ	Waiatarua	17.95	200	P	P	22 11 30.2	+1.5
AWAZ	Awhitu Pe

BBOO	**Buckleboo**	**42.80**	**243**	P	**P**	**22 15 00.4**	**-0.5**
BBOO				IAmb	IAmb	22 15 11.8	
	comp=Z,6.7nm,1.1s						
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**22 15 15.5**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=100,slow=7.6,SNR=35						
ASAR				PcP	**PcP**	**22 16 46.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=99,slow=5.0,SNR=5.1						
ASAR				S	**S**	**22 21 10.6**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=93,slow=16,SNR=4.5						
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**22 15 15.1**	**-0.8**
KNRA	**Kununurra**	**50.81**	**266**	P	**P**	**22 15 59.5**	**-1.9**
KNRA				IAmb	IAmb	22 16 15.9	
	comp=Z,12nm,0.9s						
SIJI	**Sorong**	**53.29**	**285**	P	**P**	**22 16 19.1**	**-0.1**
	comp=Z,9.3nm,0.7s,baz=152,slow=10,SNR=3.5						
SOEI	**Soe**	**56.62**	**271**	P	**P**	**22 16 42.5**	**0.0**
SOEI				IAmb	IAmb	22 16 46.2	
	comp=Z,22nm,1.0s						
SBA	**Scott Base**	**58.19**	**184**	P	**P**	**22 16 53.0**	**+1.0**
VNDA	**Vanda**	**58.23**	**185**	P	**P**	**22 16 53.6**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=324,slow=8.7,SNR=8.3						
VNDA	**Vanda**	**58.23**	**185**	P	**P**	**22 16 52.7**	**+0.5**
CASY	**Casey**	**64.30**	**205**	P	**P**	**22 17 32.0**	**-0.1**
QSPA	**South Pole Qui**	**69.88**	**180**	P	**P**	**22 18 07.9**	**+1.4**
MJAR	**Matsushiro Arr**	**70.04**	**324**	P	**P**	**22 18 07.7**	**0.0**
	comp=Z,3.1nm,0.5s,baz=155,slow=6.2,SNR=8.3						
MJAR	**Matsushiro Arr**	**70.04**	**324**	P	**P**	**22 18 07.9**	**+0.2**
ASAJ	**Asahikawa**	**73.52**	**331**	P	**P**	**22 18 29.2**	**+1.5**
	comp=Z,7.7nm,0.6s,baz=194,slow=8.3,SNR=6.0						
PETK	**Petropavlovsk-**	**76.01**	**345**	P	**P**	**22 18 42.0**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=133,slow=8.5,SNR=5.0						
PETK	**Petropavlovsk-**	**76.01**	**345**	P	**P**	**22 18 41.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**78.78**	**326**	P	**P**	**22 18 58.5**	**+1.9**
	comp=Z,3.6nm,0.8s,baz=137,slow=3.1,SNR=7.6						
NVAR	**Mina Array Bea**	**80.71**	**43**	P	**P**	**22 19 09.6**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=235,slow=8.9,SNR=3.5						
NVAR	**Mina Array Bea**	**80.71**	**43**	P	**P**	**22 19 07.0**	**-0.1**
KLR	**Kul'dur**	**82.33**	**329**	P	**P**	**22 19 15.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=146,slow=11,SNR=2.3						
SEY	**Seymchan**	**86.10**	**347**	P	**P**	**22 19 33.1**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=139,slow=5.3,SNR=4.5						
CCB	**Clear Creek Bu**	**87.69**	**12**	P	**P**	**22 19 41.0**	**+0.6**
CCB				IAmb	IAmb	22 19 41.2	
	comp=Z,3.1nm,0.6s						
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**22 19 42.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=215,slow=5.1,SNR=9.6						
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**22 19 42.3**	**+0.4**
PDAR	**Pinedale Array**	**88.65**	**43**	P	**P**	**22 19 44.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=188,slow=2.7,SNR=2.0						
CMAR	**Chiang Mai Arr**	**90.14**	**290**	P	**P**	**22 19 55.2**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=119,slow=3.1,SNR=7.9						
MKAR	**Makanchi Array**	**111.08**	**313**	PKiKP	**PKiKP**	**22 25 21.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=75,slow=2.2,SNR=3.2						
AKASG	**Malin Array Be**	**142.81**	**331**	PKhKP	PKPpre	22 26 18.6	
	comp=Z,2.2nm,0.5s,baz=42,slow=4.4,SNR=15						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	**PKPbc**	**22 26 31.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=135,slow=3.7,SNR=7.8						
CHVC	**Chvalec**	**147.73**	**343**	*e*PKP	**PKPab**	**22 26 43.1**	**+5.2**
CLL	**Collm**	**147.79**	**347**		**PKPbc**	**22 26 34.1**	**+0.5**
DPC	**Dobruska-Polom**	**147.87**	**343**	*e*PKP	**PKiKP**	**22 26 35.1**	**-0.1**
KRLC	**Kraliky**	**147.99**	**342**	*e*PKP	**PKiKP**	**22 26 34.9**	**-0.6**
PRU	**Pruhonice**	**148.67**	**345**	*e*PKP	**PKiKP**	**22 26 36.8**	**0.0**
KHC	**Kasperske Hory**	**149.70**	**345**	*e*PKP	**PKiKP**	**22 26 39.5**	**+0.5**
CKRC	**Cesky Krumlov**	**149.81**	**344**	*e*PKP	**PKiKP**	**22 26 39.2**	**0.0**
GERES	**GERESS Array B**	**149.94**	**345**	PKPbc	**PKPbc**	**22 26 38.8**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=29,slow=3.0,SNR=8.0						
CONA	**Conrad Observa**	**150.18**	**341**	*e*P	**PKiKP**	**22 26 40.4**	**+0.3**
	comp=Z,1.3nm,0.6s						
MOA	**Molln**	**150.71**	**343**	*e*P	**PKiKP**	**22 26 41.4**	**+0.3**
	comp=Z,0.6nm,0.4s						
ARSA	**Arzberg**	**150.89**	**341**	*e*P	**PKPbc**	**22 26 39.6**	**-1.6**
	comp=Z,7.nm,1.0s						
KBA	**Koelnbreinsper**	**151.66**	**344**	*e*P	**PKPbc**	**22 26 41.9**	**-1.2**
	comp=Z,0.8nm,0.5s						
MYKA	**Terra Mystica**	**152.00**	**343**	*e*P	**PKPbc**	**22 26 41.1**	**-2.6**
	comp=Z,4.0nm,1.4s						
ABTA	**Abfaltersbach**	**152.19**	**345**	*e*P	**PKPbc**	**22 26 44.0**	**-0.1**
	comp=Z,1.5nm,0.5s						
DAVA	**Damuels**	**152.25**	**349**	*e*P	**PKPdf**	**22 26 39.2**	**+2.2**
	comp=Z,5.9nm,1.3s						

*IDC **07** 22:11:37.1±0.7, 22°.79N×143°.34E, h59km±5km, mb3.9/20, mb1 4.1/22, mb1mx4.0/35, mbtmp4.2/22, MS2.9/3, Ms1 2.9/3, ms1mx2.7/29, Error ellipse: s-maj=16.8km s-min=11.5km az=76.0*
*NEIC **07** 22:11:40.3±0.8, 23°.00N±0°.09×143°.3E±0°.1, h72km±6km, mb4.5/54, Error ellipse: s-maj=19.9km s-min=12.8km az=77.0*
*JMA **07** 22:11:41.8±0.4, 23°.24N×143°.58E, h112km, M4.7*
ISC 07 22:11:38.8±0.8, 22°.95N±0°.06×143°.3E±0°.1, h71km±6km, n101, σ1§32/104, mb4.5/45, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.81**	**344**	P	**Pn**	**22 12 37.0**	**+1.9**
CBIJ	**Chichi jima**	**4.25**	**346**	P	**Pn**	**22 12 42.5**	**+1.4**
CBIJ				S	**Sn**	**22 13 29.5**	**0.0**
JCJ	**Chichijima**	**4.25**	**346**	P	**Pn**	**22 12 42.5**	**+1.4**
	19nm,0.3s,baz=296,slow=23,SNR=22						
JCJ				S	**Sn**	**22 13 30.8**	**+1.3**
	29nm,0.3s,baz=298,slow=23,SNR=5.6						
JCJ	**Chichijima**	**4.25**	**346**		**Pn**	**22 12 41.8**	**+0.7**
JCJ				Sn	**Sn**	**22 13 30.0**	**+0.5**
BSO3	**Boso 3**	**12.06**	**349**	P	**Pn**	**22 14 28.7**	**+1.2**
JOD2	**Odawara 2**	**12.81**	**344**	P	**Pn**	**22 14 38.2**	**+0.2**
JRY	**Ryogami san**	**13.57**	**345**	P	**Pn**	**22 14 47.5**	**-0.7**
JAG	**Ashikaga**	**13.84**	**347**	P	**Pn**	**22 14 50.2**	**-1.4**
JAG				*e*S	**Sn**	**22 17 15.5**	**-8.2**
MJAR	**Matsushiro Arr**	**14.25**	**343**	P	**Pn**	**22 14 55.0**	**-2.0**
	0.1nm,0.3s,baz=146,slow=9.2,SNR=2.6						
MJAR				S	**Sn**	**22 17 29.7**	**-3.9**
	0.0nm,0.3s,baz=152,slow=5.7,SNR=4.5						
MJAR				LR	LR	22 20 27.7	
	comp=Z,43nm,20.0s,baz=215,slow=37						
MJAR	**Matsushiro Arr**	**14.25**	**343**	Pn	**Pn**	**22 14 57.9**	**+0.9**
JMM	**Marumori**	**15.02**	**352**	P	**Pn**	**22 15 07.7**	**+0.7**
JSD	**Sado**	**15.65**	**345**	P	**P**	**22 15 15.9**	**-1.9**
KSRS	**Korea Array**	**19.61**	**321**	P	**Pn**	**22 16 03.5**	**+0.2**
	0.5nm,0.3s,baz=135,slow=12,SNR=20						
SSLB	**Suanglung**	**20.55**	**277**	P	**P**	**22 16 12.4**	**+0.7**
SSLB				IAmb	IAmb	22 16 16.8	
	comp=Z,12nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**22.19**	**94**	T	T	22 40 48.6	
	baz=282,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**22.19**	**94**	T	T	22 40 29.2	
	baz=282,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**22.20**	**94**	T	T	22 40 33.6	
	baz=282,slow=74,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**22.29**	**97**	T	T	22 39 56.2	
	baz=284,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**22.30**	**97**	T	T	22 39 51.1	
	baz=284,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**22.31**	**97**	T	T	22 39 57.0	
	baz=284,slow=75,SNR=13						
USRK	**Ussuriysk Ar.**	**23.15**	**339**	P	**P**	**22 16 39.7**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=170,slow=9.8,SNR=6.4						
KLR	**Kul'dur**	**27.77**	**344**	P	**P**	**22 17 23.1**	**+2.3**
	comp=Z,4.9nm,0.7s,baz=153,slow=7.8,SNR=23						
PETK	**Petropavlovsk-**	**32.04**	**16**	LR	LR	22 28 12.6	
	comp=Z,33nm,21.4s,baz=145,slow=31						
MTN	**Manton Dam**	**37.53**	**200**	P	**P**	**22 18 46.6**	**+0.5**
MTN				IAmb	IAmb	22 19 02.2	
	comp=Z,7.3nm,0.9s						
SONM	**Songino Array**	**38.46**	**319**	P	**P**	**22 18 55.5**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=123,slow=6.6,SNR=7.8						
SONM				PcP	**PcP**	**22 21 05.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=66,slow=3.6,SNR=3.1						
SONM	**Songino Array**	**38.46**	**319**	P	**P**	**22 18 55.1**	**+1.1**
SONM					**PcP**	**22 21 05.8**	**+0.1**
SEY	**Seymchan**	**40.43**	**6**	P	**P**	**22 19 11.2**	**+1.4**
	comp=Z,2.0nm,0.6s,baz=165,slow=6.4,SNR=7.2						
CMAR	**Chiang Mai Arr**	**41.64**	**272**	P	**P**	**22 19 20.6**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=61,slow=7.4,SNR=1.3						
CMAR				LR	LR	22 34 39.5	
	comp=Z,9.7nm,21.0s,baz=225,slow=33						
FITZ	**Fitzroy Crossi**	**44.31**	**204**	P	**P**	**22 19 40.7**	**-1.1**
ASAR	**Alice Springs**	**47.24**	**192**	P	**P**	**22 20 03.1**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=13,slow=6.3,SNR=29						
ZALV	**Zalesovo Beam**	**53.31**	**321**	P	**P**	**22 20 50.9**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=97,slow=7.9,SNR=10.0						
ZALV	**Zalesovo Beam**	**53.31**	**321**	P	**P**	**22 20 51.1**	**+0.7**
MK31	**Makanchi Array**	**53.95**	**312**	P	**P**	**22 20 56.5**	**+1.3**
MK31				IAmb	IAmb	22 20 56.8	
	comp=Z,2.1nm,0.6s						
MKAR	**Makanchi Array**	**53.95**	**312**	P	**P**	**22 20 56.4**	**+1.1**
	comp=Z,2.2nm,0.4s,baz=88,slow=8.7,SNR=45						
MKAR				pP	**pP**	**22 21 12.3**	**0.0**
	comp=Z,1.3nm,0.5s,baz=88,slow=10.0,SNR=6.7						
MAKZ	**Makanchi**	**54.16**	**312**	P	**P**	**22 20 58.2**	**+1.3**
MAKZ				IAmb	IAmb	22 20 58.8	
	comp=Z,4.2nm,0.9s						
STKA	**Stephens Creek**	**54.55**	**182**	P	**P**	**22 20 56.9**	**-2.7**
	comp=Z,3.4nm,0.7s,baz=31,slow=7.7,SNR=8.0						
PRZ	**Przheval'sk**	**56.64**	**307**	P	**P**	**22 21 15.5**	**+0.6**
KDAK	**Kodiak Island**	**57.10**	**35**	P	**P**	**22 21 18.5**	**+0.9**
	comp=Z,2.7nm,0.5s,baz=300,slow=4.9,SNR=7.3						
KDAK	**Kodiak Island**	**57.10**	**35**	P	**P**	**22 21 18.8**	**+1.2**
KDAK				IAmb	IAmb	22 21 26.9	
	comp=Z,5.3nm,1.1s						
BPAW	**Bear Paw Mtn.**	**59.00**	**28**	P	**P**	**22 21 31.9**	**+1.1**
TRF	**Thorofare Moun**	**59.18**	**29**	P	**P**	**22 21 33.1**	**+0.8**
MLY	**Manley**	**59.30**	**27**	P	**P**	**22 21 34.0**	**+1.0**
MLY				IAmb	IAmb	22 21 35.2	
	comp=Z,4.1nm,1.0s						
SML	**Sawmill**	**59.82**	**31**	P	**P**	**22 21 37.0**	**+0.4**
I23K	**Minto, Yukon-K**	**59.89**	**27**	P	**P**	**22 21 38.0**	**+1.1**
I23K				IAmb	IAmb	22 21 39.0	
	comp=Z,2.6nm,0.8s						
NEA2	**Nenana**	**59.91**	**27**	P	**P**	**22 21 37.6**	**+0.5**
NEA2				IAmb	IAmb	22 21 38.6	
	comp=Z,3.2nm,0.7s						
COLD	**Coldfoot**	**59.97**	**24**	P	**P**	**22 21 37.9**	**+0.4**
COLD				IAmb	IAmb	22 21 40.2	
	comp=Z,2.9nm,0.8s						
TOLK	**Toolik Lake Re**	**60.52**	**23**	P	**P**	**22 21 42.0**	**+0.7**
ILAR	**Eielson Array**	**60.87**	**27**	P	**P**	**22 21 43.1**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=256,slow=5.4,SNR=29						
ILAR	**Eielson Array**	**60.87**	**27**	P	**P**	**22 21 43.8**	**+0.1**
BRVK	**Borovoye**	**61.87**	**319**	P	**P**	**22 21 51.7**	**+1.2**
SCRK	**Sand Creek**	**62.03**	**28**	P	**P**	**22 21 52.4**	**+0.8**
KK31	**Karatay Array**	**62.38**	**308**	P	**P**	**22 21 55.1**	**+0.9**
KK31				IAmb	IAmb	22 21 55.9	
	comp=Z,3.3nm,0.6s						
KKAR	**Karatay Array**	**62.38**	**308**	P	**P**	**22 21 55.2**	**+0.9**
KKAR				IAmb	IAmb	22 21 55.9	
	comp=Z,3.3nm,0.6s						
KKAR	**Karatay Array**	**62.38**	**308**	P	**P**	**22 21 55.1**	**+0.9**
KKAR					**pP**	**22 22 12.5**	**+0.9**
KBL	**Kabul**	**64.85**	**299**	P	**P**	**22 22 11.4**	**+0.5**
KBL				IAmb	IAmb	22 22 12.4	
	comp=Z,5.1nm,0.9s						
EPYK	**Eagle Plains**	**65.19**	**26**	P	**P**	**22 22 13.4**	**+1.1**
EPYK				IAmb	IAmb	22 22 14.3	
	comp=Z,7.3nm,0.9s						
INK	**Inuvik**	**66.37**	**24**	P	**P**	**22 22 19.1**	**-0.7**
ARU	**Arti**	**68.33**	**323**	P	**P**	**22 22 32.7**	**+0.3**
ARU				IAmb	IAmb	22 22 33.2	
	comp=Z,4.1nm,0.5s						
ABKAR	**Akbulak array**	**68.74**	**316**	P	**P**	**22 22 35.3**	**+0.2**
ABKAR	**Akbulak array**	**68.74**	**316**	P	**P**	**22 22 35.4**	**+0.4**
ABKAR				IAmb	IAmb	22 22 52.5	
	comp=Z,3.7nm,0.7s						
YKA	**Yellowknife Ar**	**75.29**	**28**	P	**P**	**22 23 14.1**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=292,slow=5.3,SNR=18						
ARCES	**ARCESS Array B**	**77.78**	**341**	P	**P**	**22 23 28.8**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=65,slow=5.8,SNR=7.4						
B08A	**Colville Reser**	**77.86**	**43**	P	**P**	**22 23 29.6**	**+0.8**
B08A				IAmb	IAmb	22 23 30.1	
	comp=Z,5.8nm,0.8s						
PINE	**Pine Mountain**	**78.42**	**47**	P	**P**	**22 23 32.6**	**+0.4**
NEW	**Newport**	**79.27**	**42**	P	**P**	**22 23 37.4**	**+0.8**
NEW				IAmb	IAmb	22 23 37.9	
	comp=Z,5.1nm,0.8s						
BEKR	**Beckworth**	**80.24**	**51**	P	**P**	**22 23 42.6**	**+0.4**
BEKR				IAmb	IAmb	22 23 43.2	
	comp=Z,6.0nm,0.8s						
J08A	**Circle Bar Ran**	**80.25**	**47**	P	**P**	**22 23 42.9**	**+0.8**
J08A				IAmb	IAmb	22 23 43.6	
	comp=Z,5.1nm,0.7s						
BMO	**Blue Mountains**	**80.46**	**45**	P	**P**	**22 23 43.8**	**+0.6**
WVOR	**Wild Horse Val**	**80.49**	**48**	P	**P**	**22 23 44.1**	**+0.7**
WVOR				IAmb	IAmb	22 23 44.9	
	comp=Z,5.3nm,1.1s						
CMB	**Columbia Colle**	**80.90**	**53**	P	**P**	**22 23 46.1**	**+0.5**
CMB				IAmb	IAmb	22 23 46.7	
	comp=Z,5.1nm,0.8s						
PAHR	**Pah Rah Range**	**81.00**	**51**	P	**P**	**22 23 46.6**	**+0.4**
WAKR	**Walker**	**81.42**	**52**	P	**P**	**22 23 48.8**	**+0.3**
KBZ	**Khabaz**	**81.59**	**314**	P	**P**	**22 23 49.9**	**+0.9**
	comp=Z,6.1nm,0.9s,baz=223,slow=1.1,SNR=14						
KBZ				pP	**pP**	**22 24 06.5**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=83,slow=2.5,SNR=6.5						
MFID	**Camas Ranch**	**82.00**	**46**	P	**P**	**22 23 52.1**	**+0.7**
MFID				IAmb	IAmb	22 23 52.8	
	comp=Z,4.9nm,0.8s						
RYN	**Ryan**	**82.03**	**52**	P	**P**	**22 23 52.1**	**+0.4**
FINES	**FINESS Array B**	**82.11**	**334**	P	**P**	**22 23 50.4**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=76,slow=4.7,SNR=44						
KVN	**Kaiserville**	**82.17**	**51**	P	**P**	**22 23 52.8**	**+0.4**
NVAR	**Mina Array Bea**	**82.27**	**52**	P	**P**	**22 23 53.3**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=268,slow=5.8,SNR=23						
NVAR				pP	**pP**	**22 24 10.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=265,slow=6.6,SNR=3.0						
HLID	**Hailey**	**82.88**	**46**	P	**P**	**22 23 56.2**	**+0.1**
TPNV	**Topopah Spring**	**84.35**	**52**	P	**P**	**22 24 04.1**	**+0.5**
YHL	**Hebgen Lake**	**84.41**	**44**	P	**P**	**22 24 03.9**	**-0.1**
YHL				IAmb	IAmb	22 24 06.5	
	comp=Z,4.3nm,1.0s						
FFC	**Flin Flon**	**84.70**	**32**	P	**P**	**22 24 05.7**	**+0.9**
SPUT	**South Promonto**	**85.16**	**47**	P	**P**	**22 24 07.8**	**+0.1**
DUG	**Dugway, Tooele**	**85.41**	**48**	P	**P**	**22 24 09.5**	**+0.6**
DUG				IAmb	IAmb	22 24 09.6	
	comp=Z,3.0nm,0.6s						
RLMT	**Red Lodge**	**85.49**	**43**	P	**P**	**22 24 09.7**	**+0.4**
JLU	**Jordanelle**	**86.16**	**47**	P	**P**	**22 24 13.2**	**+0.5**
JLU				IAmb	IAmb	22 24 13.8	
	comp=Z,3.8nm,0.7s						
PDAR	**Pinedale Array**	**86.42**	**45**	P	**P**	**22 24 14.8**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=250,slow=4.3,SNR=5.2						
LCMT	**Little Creek M**	**86.50**	**51**	P	**P**	**22 24 14.9**	**+0.5**
LCMT				IAmb	IAmb	22 24 15.7	
	comp=Z,3.1nm,1.0s						
AKASG	**Malin Array Be**	**86.56**	**324**	P	**P**	**22 24 12.8**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=48,slow=5.3,SNR=7.7						
AKASG				pP	pP	22 24 29.4	-2.8
	comp=Z,0.4nm,0.4s,baz=48,slow=6.0,SNR=3.1						
AKASG	**Malin Array Be**	**86.56**	**324**	P	**P**	**22 24 13.2**	**-1.0**
KNB	**Kanab**	**86.80**	**51**	P	**P**	**22 24 16.4**	**+0.5**
Q16A	**Castle Valley**	**87.11**	**49**	P	**P**	**22 24 17.9**	**+0.5**
Q16A				IAmb	IAmb	22 24 20.1	
	comp=Z,3.8nm,1.1s						
RAYN	**Ar Rayn**	**87.78**	**294**	P	**P**	**22 24 21.1**	**+0.5**
RAYN				IAmb	IAmb	22 24 38.7	
	comp=Z,3.0nm,0.9s						
Y14A	**Wickenburg**	**88.03**	**54**	P	**P**	**22 24 22.2**	**+0.5**
BRTR	**Keskin Array B**	**89.57**	**313**	P	**P**	**22 24 27.5**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=357,slow=7.2,SNR=1.9						
BRTR				pP	pP	22 24 44.8	-2.5
	comp=Z,1.0nm,0.8s,baz=86,slow=3.8,SNR=4.3						
TXAR	**Lajitas Array**	**97.22**	**54**	P	Pdif	22 25 04.6	+0.3
	comp=Z,0.1nm,0.4s,baz=306,slow=4.1,SNR=3.9						
TXAR	**Lajitas Array**	**97.22**	**54**	P	Pdif	22 25 04.5	+0.2
PLCA	**Paso Flores**	**146.47**	**130**	PKPbc	**PKPab**	**22 31 11.1**	**-2.1**
	comp=Z,6.8nm,0.7s,baz=242,slow=4.8,SNR=16						
PLCA	**Paso Flores**	**146.47**	**130**	PKPdf	**PKPab**	**22 31 11.6**	**-1.7**
LPAZ	**La Paz**	**149.68**	**83**	PKP	**PKPdf**	**22 31 16.4**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=54,slow=0.3,SNR=4.6						
LPAZ				PKPbc	**PKiKP**	**22 31 21.8**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=267,slow=2.3,SNR=21						
LPAZ	**La Paz**	**149.68**	**83**	PKPdf	**PKPdf**	**22 31 16.6**	**-0.7**

*DSN **07** 22:47:17.6±1.5, 27°.95N×55°.32E, h10km, ML3.1/7, Error ellipse: s-maj=32.4km s-min=10.7km az=54.0*
*THR **07** 22:47:18.3±0.3, 27°.83N×55°.12E, h14km±5km, ML3.2*
*TEH **07** 22:47:19.0, 27°.80N×55°.15E, h15km, ML3.6*
ISC 07 22:47:19.5±0.9, 27.77N±0°.04×55.15E±0.03, h10km, n50, σ0§77/53, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.69**	**262**	*e*Pg	**Pg**	**22 47 32.2**	**-0.8**
BNDS	**Bandar-Abbas**	**0.98**	**112**	*e*Pg	**Pg**	**22 47 37.6**	**-0.7**
BNDS				*e*Sg	**Sb**	**22 47 51.8**	**+0.1**
BNDS				IAML		22 47 58.2	
	comp=N,566nm,0.5s						
BNDS	**Bandar-Abbas**	**0.98**	**112**	*e*Pg	**Pg**	**22 47 37.7**	**-0.7**
GENO	**Geno**	**0.98**	**112**	*e*Pg	**Pg**	**22 47 37.8**	**-0.6**
IBND	**Bandar-abas**	**1.27**	**104**	*e*Pg	**Pn**	**22 47 43.4**	**0.0**
IBND				*e*		22 48 11.9	
	comp=Z,12μm,0.5s						
JHRM	**Jahrom**	**1.57**	**298**	*e*Pg	**Pn**	**22 47 48.1**	**+0.5**
JHRM				*e*		22 48 25.7	
	comp=Z,13μm,0.4s						
LMD1	**Lamerd**	**1.81**	**257**	*e*Pg	**Pb**	**22 47 53.0**	**+0.2**
LMD1				*e*		22 48 34.7	
	comp=Z,5μm,0.3s						
SHME	**Shamm**	**1.93**	**152**	P	**Pn**	**22 47 51.5**	**-0.9**
SHME	**Shamm**	**1.93**	**152**	*e*Pn	**Pn**	**22 47 51.3**	**-1.1**
QIR1	**Qir**	**1.99**	**291**	*e*Pn	**Pn**	**22 47 53.6**	**+0.3**
QIR1				*e*		22 48 32.2	
	comp=Z,5μm,0.5s						
BANOM	**Banah**	**2.10**	**150**	P	**Pn**	**22 47 54.7**	**-0.2**
BANOM				S	**Sn**	**22 48 22.6**	**+1.5**
BANOM	**Banah**	**2.10**	**150**	*e*Pn	**Pn**	**22 47 54.7**	**-0.2**
KHNJ	**Kahnooj**	**2.27**	**85**	*e*Pn	**Pn**	**22 47 57.8**	**+0.6**
NGRK	**Negar Kerman**	**2.33**	**36**	*e*Pn	**Pn**	**22 47 57.6**	**-0.7**
MSFE	**Esma-Masafi**	**2.56**	**159**	P	**Pn**	**22 48 01.3**	**+0.1**
MSFE	**Esma-Masafi**	**2.56**	**159**	*e*Pn	**Pn**	**22 48 01.9**	**+0.7**
KRBR	**Kerman**	**2.62**	**32**	*e*Pn	**Pn**	**22 48 01.9**	**-0.3**
KRBR				*e*Sg	**Sb**	**22 48 39.3**	**+0.1**
KRBR	**Kerman**	**2.62**	**32**	*e*Pn	**Pn**	**22 48 01.9**	**-0.3**
TVBK	**TV Kerman**	**2.62**	**32**	*e*Pn	**Pn**	**22 48 02.8**	**+0.5**
TVBK				*e*		22 48 51.0	
	comp=Z,2μm,0.6s						
MDH	**Madha**	**2.66**	**157**	P	**Pn**	**22 48 02.2**	**-0.3**
MDH	**Madha**	**2.66**	**157**	*e*Pn	**Pn**	**22 48 02.9**	**+0.3**
NAZ	**Nazwa, Dubai**	**2.80**	**170**	*e*Pn	**Pn**	**22 48 05.4**	**+0.9**
CHMN	**Cheshme madani**	**2.96**	**45**	*e*Pn	**Pn**	**22 48 08.0**	**+1.1**
UOSS	**Minazif**	**2.96**	**161**	P	**Pn**	**22 48 05.9**	**-0.8**
UOSS	**Minazif**	**2.96**	**161**	*e*Pn	**Pn**	**22 48 06.8**	**+0.1**
FAQ	**Al Faqa, Dubai**	**3.04**	**172**	P	**Pn**	**22 48 08.0**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.04**	**172**	*e*Pn	**Pn**	**22 48 09.1**	**+1.4**
HATD	**Hatta, Dubai**	**3.06**	**163**	P	**Pn**	**22 48 09.1**	**+1.1**
HATD	**Hatta, Dubai**	**3.06**	**163**	*e*Pn	**Pn**	**22 48 09.1**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.13**	**177**	*e*Pn	**Pn**	**22 48 10.6**	**+1.6**
ASHO	**Ashiyiah**	**3.18**	**165**	P	**Pn**	**22 48 09.7**	**0.0**
ASHO	**Ashiyiah**	**3.18**	**165**	*e*Pn	**Pn**	**22 48 10.2**	**+0.6**
IMEH	**Mehriz**	**3.64**	**353**	*e*Pn	**Pn**	**22 48 15.9**	**-0.3**
ALNE	**Al Ain**	**3.73**	**172**	*e*Pn	**Pn**	**22 48 18.1**	**+0.8**
SOHO	**SOHO**	**3.83

comp=Z,3.5nm,1.0s,baz=322,slow=9.9,SNR=9.6
LPAZ La Paz 28.60 129 P **P** **22 54 43.6 -0.5**
PB16 IPOC Station P 28.84 134 P **P** **22 54 46.3 +0.2**
TX31 Lajitas Ar. Si 30.20 337 P **P** **22 54 58.3 +0.8**
TX31 IAmb IAmb 22 55 03.6
comp=Z,11nm,1.0s
TX32 Lajitas Array 30.20 337 P **P** **22 54 57.6 +0.1**
TXAR Lajitas Array 30.20 337 P **P** **22 54 57.1 -0.4**
comp=Z,2.2nm,0.8s,baz=149,slow=9.8,SNR=12
TXAR Lajitas Array 30.20 337 P **P** **22 54 57.8 +0.3**
WHTX Lake Whitney, 30.91 349 P **P** **22 55 03.8 +0.2**
baz=167
WHTX Lake Whitney, 30.91 349 P **P** **22 55 03.8 +0.2**
ABTX Abilene, Hawle 31.99 346 P **P** 22 55 14.0
baz=163
ABTX Abilene, Hawle 31.99 346 P **P** **22 55 12.8 -0.5**
LVC Limon Verde 32.17 140 P **P** **22 55 17.6 +2.4**
comp=Z,6.3nm,1.0s,baz=296,slow=7.5,SNR=7.3
LVC Limon Verde 32.17 140 P **P** **22 55 14.9 -0.3**
LVC IAmb IAmb 22 55 24.0
comp=Z,12nm,1.1s
MIAR Mount Ida 32.92 356 P 22 55 21.1
baz=175
MIAR Mount Ida 32.92 356 P **P** **22 55 20.7 -0.6**
MIAR IAmb IAmb 22 55 27.0
comp=Z,13nm,0.9s
MNTX Cornudas Mount 32.97 337 P 22 55 21.6
baz=152,SNR=5.5
MNTX Cornudas Mount 32.97 337 P **P** **22 55 21.3 -0.5**
MNTX IAmb IAmb 22 55 27.1
comp=Z,6.9nm,0.9s
X34A Smith Ranch, M 33.52 350 P **P** **22 55 26.5 0.0**
W39A Magazine 33.58 356 P 22 55 27.2
baz=174
W39A Magazine 33.58 356 P **P** **22 55 27.4 +0.4**
SWET Sewanee 33.80 7 P **P** **22 55 28.3 -0.7**
SWET IAmb IAmb 22 55 33.6
comp=Z,20nm,1.4s
WMOK Wichita Mounta 33.83 348 P 22 55 29.1
baz=166,SNR=19
WMOK Wichita Mounta 33.83 348 P **P** **22 55 29.1 -0.2**
W35A Tecumseh 33.90 351 P **P** **22 55 28.3 -1.5**
FNO Franklin 34.08 350 P **P** **22 55 31.2 -0.3**
MSTX Muleshoe 34.12 342 P **P** **22 55 31.4 -0.5**
MSTX Muleshoe 34.12 342 P 22 55 31.8
baz=158,SNR=6.6
FCAR Ozark Folk Cen 34.18 358 P **P** **22 55 31.6 -0.7**
FCAR IAmb IAmb 22 55 37.8
comp=Z,18nm,1.1s
SIV San Ignacio 34.20 122 P **P** **22 55 33.5 +0.8**
comp=Z,4.7nm,1.1s,baz=304,slow=8.8,SNR=8.7
V48A Smith Brothers 34.22 6 P **P** **22 55 31.2 -1.4**
V48A IAmb IAmb 22 55 38.0
comp=Z,13nm,1.1s
319A Douglas 34.40 331 P **P** **22 55 34.9 +0.6**
319A IAmb IAmb 22 55 41.0
comp=Z,9.6nm,0.9s
TKL Tuckaleechee C 34.56 10 P **P** **22 55 33.8 -1.8**
comp=Z,2.3nm,0.8s,baz=195,slow=12,SNR=2.4
U40A Yellville 34.68 357 P 22 55 37.6
baz=176
U40A Yellville 34.68 357 IAmb IAmb 22 55 43.7
comp=Z,10nm,1.1s
U38A Gravette 34.87 355 IAmb IAmb 22 55 43.6
comp=Z,11nm,0.9s
U49A Red Boiling Sp 35.10 7 IAmb IAmb 22 55 44.9
comp=Z,11nm,1.1s
T42A Van Buren 35.30 360 IAmb IAmb 22 55 47.0
comp=Z,8.3nm,0.9s
V58A Windy Hill, Pi 35.77 16 IAmb IAmb 22 55 44.5
comp=Z,14nm,1.1s
LENM Lemitar 35.77 337 P **P** **22 55 46.7 +0.5**
TUC Tucson 35.89 331 P 22 55 47.9
baz=144
TUC Tucson 35.89 331 P **P** **22 55 47.8 +0.6**
TUC IAmb IAmb 22 55 53.7
comp=Z,8.6nm,1.1s
S44A Carbondale 35.99 2 P **P** **22 55 47.0 -0.9**
SIUC Southern Illin 36.02 2 P **P** **22 55 47.4 -0.6**
SIUC IAmb IAmb 22 55 53.4
comp=Z,17nm,1.0s
S39A Bolivar 36.03 357 P **P** **22 55 48.4 +0.2**
ANMO Albuquerque 36.26 338 P **P** **22 55 50.6 +0.1**
ANMO Albuquerque 36.26 338 P 22 55 51.0
baz=153
R40A Maddies Statio 36.58 358 P **P** **22 55 52.3 -0.6**
214A Organ Pipe Nat 36.65 328 P 22 55 54.7
baz=141
214A Organ Pipe Nat 36.65 328 P **P** **22 55 54.2 +0.5**
WCI Wyandotte Cave 36.74 6 P **P** **22 55 53.0 -1.2**
WCI IAmb IAmb 22 55 59.5
comp=Z,16nm,0.9s
BLA Blacksburg 36.77 14 P **P** **22 55 53.6 -0.9**
BLA IAmb IAmb 22 55 59.5
comp=Z,18nm,1.1s
R49A Shelbyville 36.93 7 IAmb IAmb 22 56 00.4
comp=Z,11nm,1.1s
S54A Dingess, Beckl 37.12 13 IAmb IAmb 22 55 58.4
comp=Z,7.1nm,0.8s
Q44A Meyer Farm, Va 37.21 2 P **P** **22 55 57.5 -0.7**
X18A Snowflake 37.34 334 IAmb IAmb 22 56 06.5
comp=Z,16nm,1.2s
T25A Trinidad 37.55 342 P 22 56 02.4
baz=157,SNR=16
KSU1 Kansas State U 37.74 353 P 22 56 02.4
baz=170,SNR=5.3
113A Mohawk Valley, 37.79 328 P **P** **22 56 03.7 +0.4**
113A IAmb IAmb 22 56 09.9
comp=Z,8.7nm,0.8s
Q51A Peebles 37.92 10 P **P** **22 56 03.0 -1.3**
P38A Dawn 37.97 357 P **P** **22 56 04.3 -0.3**
P38A IAmb IAmb 22 56 10.8
comp=Z,8.7nm,0.9s
Q52A Bidwell 38.05 11 IAmb IAmb 22 56 10.2
comp=Z,18nm,1.1s
P48A Milroy 38.05 7 IAmb IAmb 22 56 09.7
comp=Z,21nm,1.1s
Y14A Wickenburg 38.31 330 IAmb IAmb 22 56 14.3
comp=Z,9.2nm,0.8s
P51A Williamsport 38.41 10 IAmb IAmb 22 56 13.5
comp=Z,12nm,0.9s
SDCO Great Sand Dun 38.45 341 P 22 56 09.8
baz=156,SNR=16
SDCO Great Sand Dun 38.45 341 IAmb IAmb 22 56 15.6
comp=Z,14nm,1.1s
P53A Whipple 38.73 12 IAmb IAmb 22 56 16.0
comp=Z,28nm,1.2s
SFIN Lafayette 38.80 5 IAmb IAmb 22 56 16.6
comp=Z,25nm,1.1s
SFIN Lafayette 38.80 5 P 22 56 10.1
baz=186
WUAZ Wupatki 38.80 333 P 22 56 13.3
baz=146,SNR=6.8
WUAZ Wupatki 38.80 333 IAmb IAmb 22 56 19.0
comp=Z,22nm,1.0s
S22A 4UR Ranch, Cre 38.90 340 P 22 56 14.1
baz=154,SNR=16
O49A Covington 38.91 8 IAmb IAmb 22 56 17.0
comp=Z,21nm,1.1s
MVCO Mesa Verde 39.03 337 P 22 56 14.8
baz=151
MVCO Mesa Verde 39.03 337 IAmb IAmb 22 56 20.3
comp=Z,11nm,0.9s
O52A Adamsville 39.25 11 IAmb IAmb 22 56 19.9
comp=Z,27nm,1.4s
BC3 Big Chuckawall 39.38 327 P 22 56 18.0
baz=139,SNR=6.8
N47A Urbana 39.42 6 P **P** **22 56 14.9 -1.9**
O53A New Philadelph 39.50 12 IAmb IAmb 22 56 22.1
comp=Z,19nm,1.2s
PV01 Paradox Valley 39.87 338 P **P** **22 56 22.0 +1.0**
BELC Belle Mtn. Jos 39.94 327 P 22 56 23.0
baz=138
PV13 Radium Mtn., P 39.99 338 IAmb IAmb 22 56 28.2
comp=Z,13nm,1.0s
PV02 Paradox Valley 40.00 338 IAmb IAmb 22 56 28.6
comp=Z,20nm,1.2s
PV15 Paradox Valley 40.02 338 P **P** **22 56 22.5 +0.4**
PV15 IAmb IAmb 22 56 29.0
comp=Z,18nm,1.2s
PV05 Paradox Valley 40.02 337 P **P** **22 56 23.2 +1.0**
PV05 IAmb IAmb 22 56 28.4
comp=Z,12nm,0.9s
PV03 Paradox Valley 40.08 338 IAmb IAmb 22 56 29.0
comp=Z,17nm,1.2s
PV18 Skein Mesa, Pa 40.10 338 IAmb IAmb 22 56 29.0
comp=Z,13nm,1.1s
PV12 Saucer Basin, 40.12 338 P **P** **22 56 24.1 +1.1**
PV11 David Mesa, Pa 40.13 338 P **P** **22 56 23.9 +0.8**
PV11 IAmb IAmb 22 56 31.2
comp=Z,14nm,0.9s
PV17 East Wray Mesa 40.15 338 P **P** **22 56 23.5 +0.3**
PV16 Nyswonger Mesa 40.16 338 P **P** **22 56 24.0 +0.7**
PV16 IAmb IAmb 22 56 29.6
comp=Z,20nm,1.3s
PV07 Paradox Valley 40.17 338 P **P** **22 56 23.5 +0.2**
PV07 IAmb IAmb 22 56 30.4
comp=Z,12nm,1.0s
PV19 Morning Glory 40.18 338 P **P** **22 56 24.6 +1.1**
PV04 Paradox Valley 40.23 338 P **P** **22 56 25.0 +1.2**
PV04 IAmb IAmb 22 56 30.2
comp=Z,14nm,0.9s
SMCO Snowmass 40.24 340 P **P** **22 56 24.5 +0.4**
L42A Oliver, Polo 40.28 1 P **P** **22 56 24.8 +0.8**
PV22 Blue Mesa, Par 40.31 338 P **P** **22 56 25.9 +1.4**
L40A Anamosa 40.33 360 P **P** **22 56 25.4 +1.1**
GMRC Granite Mounta 40.34 328 P 22 56 28.3
baz=140
ISCO Idaho Springs 40.37 342 IAmb IAmb 22 56 31.5
comp=Z,15nm,0.8s
ISCO Idaho Springs 40.37 342 P 22 56 25.8
baz=157,SNR=5.6
KNB Kanab 40.70 333 P **P** **22 56 29.0 +1.2**
HEC Hector,Ludlow 40.74 327 P 22 56 29.0
baz=139,SNR=6.7
AQDB Aquidauana 40.81 124 P **P** **22 56 28.3 -0.4**
PKCU Pink Cliffs 40.82 334 P **P** **22 56 29.9 +1.0**
PKCU IAmb IAmb 22 56 36.3
comp=Z,24nm,1.3s
LCMT Little Creek M 40.89 332 P **P** **22 56 29.3 +0.1**
K38A Parkersburg 40.95 358 P **P** **22 56 30.3 +0.9**
JFWS Jewell Farm 41.18 1 P 22 56 30.1
baz=181,SNR=5.0
JFWS Jewell Farm 41.18 1 P **P** **22 56 32.3 +0.9**
MTPU Mount Pierson 41.26 334 P **P** **22 56 33.0 +0.5**
CCUT Cedar City 41.38 333 P **P** **22 56 34.6 +1.2**
SHPR Sheep Range 41.41 330 P **P** **22 56 34.2 +0.6**
SRU San Rafael Swe 41.47 337 P **P** **22 56 34.4 +0.3**
O20A White River Ci 41.52 340 P **P** **22 56 34.9 +0.4**
O20A IAmb IAmb 22 56 40.9
comp=Z,20nm,0.9s
O20A White River Ci 41.52 340 P 22 56 35.0
baz=153,SNR=5.0
Q16A Castle Valley 41.57 336 IAmb IAmb 22 56 41.5
comp=Z,12nm,1.0s
EDW2 Edwards Air Fo 41.70 326 P 22 56 37.4
baz=137,SNR=7.1
P17A Butcher Ranch, 41.87 337 IAmb IAmb 22 56 43.6
comp=Z,12nm,1.1s
LRMC Laurel Mtn Rad 41.96 327 P 22 56 39.1
baz=138
PRN Pahroc Range 42.06 331 P **P** **22 56 39.2 +0.3**
FURC Furnace Creek, 42.26 328 P 22 56 41.8
baz=139,SNR=5.3
TPNV Topopah Spring 42.30 329 P 22 56 42.3
baz=140
ECSD EROS Data Cent 42.31 354 P 22 56 39.3
baz=171,SNR=28
RDMU Red Mountain 42.38 339 IAmb IAmb 22 56 47.7
comp=Z,21nm,1.4s
ISA Isabella, Lake 42.53 326 P **P** **22 56 43.8 +1.2**
CPUP Villa Florida 42.61 133 P **P** **22 56 42.9 -0.4**
comp=Z,5.5nm,1.1s,baz=302,slow=7.9,SNR=6.5
CPUP Villa Florida 42.61 133 P **P** **22 56 43.3 0.0**
NLU North Lily Min 42.82 336 P **P** **22 56 45.6 +0.5**
CWC Cottonwood Cre 42.88 327 P 22 56 47.6
baz=138
VES Vestal, Richgr 43.00 326 P 22 56 47.7
baz=136
R11A Troy Canyon, C 43.07 331 P 22 56 47.6
baz=142
JLU Jordanelle 43.12 337 P **P** **22 56 47.7 +0.2**
CTU Camp Tracy 43.31 337 P **P** **22 56 49.2 +0.1**
SPMN Marine on St. 43.52 358 IAmb IAmb 22 56 54.7
comp=Z,11nm,0.9s
RSSD Black Hills 43.97 346 P **P** **22 56 54.0 -0.3**
RSSD IAmb IAmb 22 57 00.3
comp=Z,9.2nm,0.9s
BGU Big Grassy Mou 44.03 336 IAmb IAmb 22 57 01.1
comp=Z,10nm,1.0s
SPUT South Promonto 44.12 337 IAmb IAmb 22 57 01.6
comp=Z,9.3nm,1.0s
F36A Milaca 44.19 357 IAmb IAmb 22 57 03.8
comp=Z,12nm,1.1s
SADO Sadowa 44.26 12 P **P** **22 56 55.0 -1.4**
BW06 Boulder Array 44.32 340 P 22 56 57.3
baz=153
PDAR Pinedale Array 44.32 340 P **P** **22 56 56.4 -0.8**
comp=Z,3.3nm,0.9s,baz=148,slow=5.3,SNR=11
BW06 Boulder Array 44.32 340 IAmb IAmb 22 57 02.6
comp=Z,14nm,1.4s
DELO Deloro Mine 44.36 14 P **P** **22 56 56.1 -1.0**
DELO IAmb IAmb 22 57 05.4
comp=Z,15nm,1.2s
F33A 5 Mile Ranch, 44.36 355 IAmb IAmb 22 57 01.4
comp=Z,15nm,1.0s
NV11 Mina Array Sit 44.41 329 IAmb IAmb 22 57 04.9
comp=Z,9.0nm,1.0s
LHV Little Huntoon 44.46 329 IAmb IAmb 22 57 05.2
comp=Z,9.3nm,0.8s
NVAR Mina Array Bea 44.49 329 P **P** **22 56 59.5 +0.9**
comp=Z,2.1nm,0.8s,baz=155,slow=7.5,SNR=17
HVU Hansel Valley 44.64 337 IAmb IAmb 22 57 05.6
comp=Z,14nm,1.3s
ELK Elko 44.82 334 IAmb IAmb 22 57 10.6
comp=Z,8.7nm,1.1s
KVN Kaiserville 44.85 330 IAmb IAmb 22 57 07.9
comp=Z,9.6nm,0.9s
G54A Lake Saint Pet 45.09 13 P 22 57 01.7
baz=198,SNR=5.9
WAKR Walker 45.14 328 P **P** **22 57 04.7 +0.9**
CMB Columbia Colle 45.30 327 P **P** **22 57 05.3 +0.4**
LOHW Long Hollow 45.42 340 IAmb IAmb 22 57 11.5
comp=Z,11nm,1.1s
TPAW Teton Pass 45.44 339 IAmb IAmb 22 57 11.7
comp=Z,10nm,0.8s
ALGO Algonquin Park 45.62 12 P 22 57 05.7
baz=198,SNR=5.9
PNTR Pine Nut 45.65 328 IAmb IAmb 22 57 14.7
comp=Z,9.2nm,0.9s
VCNR Virginia City 45.83 329 P **P** **22 57 09.7 +0.4**
FLWY Flagg Ranch 45.87 340 IAmb IAmb 22 57 15.0
comp=Z,8.8nm,0.8s
PLCA Paso Flores 45.98 158 P **P** **22 57 10.5 +0.3**
comp=Z,4.0nm,0.9s,baz=347,slow=9.7,SNR=4.3
PLCA Paso Flores 45.98 158 P **P** **22 57 10.8 +0.6**
PLCA IAmb IAmb 22 57 13.0
comp=Z,14nm,1.4s
YPP Pitchstone Pla 46.07 340 P **P** **22 57 11.0 -0.2**
H17A Grant Village 46.10 340 P **P** **22 57 11.6 +0.2**
H17A IAmb IAmb 22 57 19.2
comp=Z,12nm,1.5s
EYMN Ely 46.21 359 IAmb IAmb 22 57 16.0
comp=Z,11nm,0.9s
AFDM Forest Hills D 46.28 327 IAmb IAmb 22 57 18.8
comp=Z,7.7nm,1.0s
RLMT Red Lodge 46.33 342 IAmb IAmb 22 57 18.3
comp=Z,6.8nm,0.9s
BEKR Beckworth 46.62 329 P **P** **22 57 16.3 +0.9**
BEKR IAmb IAmb 22 57 21.9
comp=Z,8.4nm,1.0s
MDND Maddock 46.73 352 P **P** **22 57 15.7 -0.3**
AGMN Agassiz Nation 46.76 355 P 22 57 14.7
baz=173,SNR=5.7
QLMT Earthquake Lak 46.78 340 P **P** **22 57 16.3 -0.3**
HLID Hailey 46.80 337 P 22 57 16.6
baz=147,SNR=24
LAO LASA Array 46.91 346 IAmb IAmb 22 57 23.9
comp=Z,11nm,0.8s
ORV Oroville 47.00 327 P **P** **22 57 19.3 +1.2**
ORV IAmb IAmb 22 57 24.9
comp=Z,12nm,1.0s
MFID Camas Ranch 47.25 335 IAmb IAmb 22 57 28.0
comp=Z,4.9nm,0.8s
DLMT Dillon 47.65 339 IAmb IAmb 22 57 28.9
comp=Z,5.5nm,0.8s
O03E Paynes Creek 47.69 328 P 22 57 27.9
baz=136
WVOR Wild Horse Val 47.71 332 IAmb IAmb 22 57 29.5
comp=Z,10.0nm,1.2s
VLDQ Val d'Or 47.80 12 P **P** **22 57 23.8 -0.5**
VLDQ IAmb IAmb 22 57 28.8
comp=Z,7.1nm,0.9s
J08A Circle Bar Ran 48.36 333 IAmb IAmb 22 57 37.8
comp=Z,7.1nm,1.0s
E62A Clayton Lake 48.60 20 P 22 57 29.2
baz=209
E62A Clayton Lake 48.60 20 P **P** **22 57 29.2 -1.3**
E62A IAmb IAmb 22 57 35.6
comp=Z,12nm,1.1s
ULM Lac du Bonnet 48.70 356 P **P** **22 57 29.6 -1.6**
comp=Z,7.0nm,1.1s,baz=211,slow=5.1,SNR=6.0
ULM Lac du Bonnet 48.70 356 P **P** **22 57 29.4 -1.7**
M04C Macdoel 48.79 329 P 22 57 34.8
baz=137,SNR=5.1
LSQQ Lebel-sur-Quev 48.80 12 P 22 57 30.1
baz=198
MATQ Matagami 49.33 11 P 22 57 34.6
baz=197
RKT Rikitea 49.45 238 *e*LR LR 23 12 00.2
comp=Z,1µm,31.2s
RKT Rikitea 49.45 238 *e*T T 23 50 42.5
comp=Z,3.4nm,0.2s
F10A Beach Ranch, E 49.92 336 IAmb IAmb 22 57 47.8
comp=Z,6.7nm,0.8s
TAOE Nuku Hiva Isla 50.20 257 *e*T T 23 51 26.2
comp=Z,47nm,0.2s
E09A Wood Farm, Sta 50.73 336 IAmb IAmb 22 57 51.5
comp=Z,14nm,0.9s
NEW Newport 51.76 338 P **P** **22 57 55.2 +0.7**
B08A Colville Reser 52.69 336 P **P** **22 58 01.2 -0.2**
B08A IAmb IAmb 22 58 07.1
comp=Z,7.5nm,0.9s
D05A Enumclaw 52.89 334 P **P** **22 58 03.0 +0.2**
SCHQ Schefferville 56.62 16 P **P** **22 58 30.7 +1.0**
comp=Z,5.3nm,1.0s,baz=212,slow=5.3,SNR=4.7
SCHQ Schefferville 56.62 16 IAmb IAmb 22 58 38.0
comp=Z,18nm,1.4s
PPT2 Papeete2 60.86 249 *e*S S 23 07 29.4 +11
comp=Z,773nm,28.0s
PPT2 *e*LQ LQ 23 14 38.0
comp=Z,2µm,34.0s
PPT2 *e*LR LR 23 17 13.6
comp=Z,1µm,23.2s,baz=68
TBI Tubuai 62.10 243 *e*S S 23 07 46.3 +13
comp=Z,270nm,28.2s
TBI *e*LQ LQ 23 15 13.8
comp=Z,728nm,38.0s
TBI *e*LR LR 23 17 51.0
comp=Z,2µm,29.8s,baz=72
TBI Tubuai 62.10 243 *e*T T 00 06 34.3
comp=Z,14nm,0.3s
YKA Yellowknife Ar 63.34 348 P **P** **22 59 13.8 -1.9**
comp=Z,4.3nm,1.2s,baz=146,slow=6.7,SNR=13
BESE Bessie Mountai 66.44 337 P **P** **22 59 37.2 +1.1**
VRDI Verde Repeater 71.50 336 P **P** **23 00 08.3 +0.7**
VRDI IAmb IAmb 23 00 16.7
comp=Z,7.0nm,1.1s
DAWY Dawson 71.62 340 P **P** **23 00 09.3 +1.1**
DAWY IAmb IAmb 23 00 14.0
comp=Z,5.9nm,0.9s
GLB Gilahina Butte 71.76 336 P **P** **23 00 10.2 +1.2**
GLB IAmb IAmb 23 00 15.3
comp=Z,9.0nm,1.1s
BMRM Bremner River 71.83 336 P **P** **23 00 10.7 +1.2**
BCAR Beaver Creek A 71.89 338 P **P** **23 00 10.3 +0.5**
L27K Beaver Creek, 71.90 338 P 23 00 09.7
baz=125
N25K Chitina, Valde 72.17 336 IAmb IAmb 23 00 18.2
comp=Z,9.5nm,0.9s
N25K Chitina, Valde 72.17 336 P 23 00 10.9
baz=122
K27K Chicken 72.55 339 IAmb IAmb 23 00 20.1
comp=Z,11nm,0.9s
K27K Chicken 72.55 339 P 23 00 13.9
baz=125
INK Inuvik 72.65 345 IAmb IAmb 23 00 19.9
comp=Z,10nm,1.1s
INK Inuvik 72.65 345 P 23 00 14.0
baz=135,SNR=7.5
EGAK Eagle 72.67 340 P **P** **23 00 15.1 +0.7**
EGAK IAmb IAmb 23 00 19.8
comp=Z,6.7nm,1.0s
DOT Dot Lake 73.06 338 P **P** **23 00 17.5 +0.7**
DOT IAmb IAmb 23 00 22.3
comp=Z,6.1nm,0.9s
SCRK Sand Creek 73.22 338 IAmb IAmb 23 00 23.4
comp=Z,5.6nm,1.0s
SCRK Sand Creek 73.22 338 P 23 00 17.0
baz=123,SNR=6.7
KNK Knik Glacier 73.67 335 P 23 00 20.7
baz=118
SML Sawmill 73.80 335 P 23 00 20.6
baz=118
WAT6 Susitna Watana 73.94 336 P 23 00 21.7
baz=119,SNR=6.2
GHO Glory Hole Cre 74.03 335 P **P** **23 00 23.6 +1.1**
GHO IAmb IAmb 23 00 29.2
comp=Z,7.1nm,0.9s
WAT2 Susitna Watana 74.46 336 P 23 00 24.5
baz=119
HDA Harding Lake 74.55 338 IAmb IAmb 23 00 31.0
comp=Z,9.7nm,1.0s
PRP Porcupine Dome 74.61 339 P **P** **23 00 26.2 +0.3**
PRP IAmb IAmb 23 00 31.3
comp=Z,7.0nm,1.0s
PRP Porcupine Dome 74.61 339 P 23 00 24.9
baz=122,SNR=6.0
IL31 74.71 338 IAmb IAmb 23 00 31.3
comp=Z,7.9nm,0.9s
ILAR Eielson Array 74.71 338 P **P** **23 00 25.1 -1.2**
comp=Z,1.6nm,0.8s,baz=136,slow=4.4,SNR=15
ILAR Eielson Array 74.71 338 P **P** **23 00 25.7 -0.7**
RND Reindeer 74.78 337 IAmb IAmb 23 00 32.4
comp=Z,9.2nm,1.0s
SKT Skwentna 75.23 335 IAmb IAmb 23 00 36.3
comp=Z,7.5nm,1.1s
BMAR Burnt Mountain 75.33 341 P **P** **23 00 30.1 +0.1**
TRF Thorofare Moun 75.37 336 P 23 00 30.5
baz=117
NEA2 Nenana 75.44 338 P **P** **23 00 31.0 +0.4**
NEA2 IAmb IAmb 23 00 36.1
comp=Z,8.6nm,1.1s
NEA2 Nenana 75.44 338 P 23 00 29.8
baz=118,SNR=6.0
H24K Noodor Dome 75.61 339 P 23 00 30.9
baz=120,SNR=9.5
KTH Kantishna Hill 75.67 336 IAmb IAmb 23 00 37.3
comp=Z,7.0nm,0.9s
I23K Minto, Yukon-K 75.81 338 P 23 00 32.2
baz=118,SNR=5.7
I23K Minto, Yukon-K 75.81 338 IAmb IAmb 23 00 38.1
comp=Z,7.8nm,0.8s
PPLA Purkeypile 75.90 336 P **P** **23 00 33.8 +0.4**
PPLA Purkeypile 75.90 336 P 23 00 33.6
baz=115
BPAW Bear Paw Mtn. 75.95 337 IAmb IAmb 23 00 38.9
comp=Z,5.8nm,1.0s
BPAW Bear Paw Mtn. 75.95 337 P 23 00 33.8
baz=117
MLY Manley 76.27 338 IAmb IAmb 23 00 40.6
comp=Z,6.1nm,0.9s
MLY Manley 76.27 338 P 23 00 34.8
baz=117,SNR=8.1
COLD Coldfoot 77.10 340 P 23 00 40.6
baz=118
COLD Coldfoot 77.10 340 P **P** **23 00 40.0 0.0**
COLD IAmb IAmb 23 00 46.4
comp=Z,10.0nm,1.0s
H21K Melozitna Rive 77.33 338 P 23 00 40.3
baz=115
TOLK Toolik Lake Re 77.57 341 IAmb IAmb 23 00 48.2
comp=Z,7.0nm,1.0s
ESDC Sonseca Array 86.62 51 P **P** **23 01 29.6 -1.2**
comp=Z,0.7nm,1.0s,baz=298,slow=5.5,SNR=2.4
ESDC Sonseca Array 86.62 51 P **P** **23 01 30.4 -0.4**
VNA3 Neumayer Olymp 88.62 161 P P 23 01 45.2 +5.6
VNA1 Neumayer--Stat 88.99 161 P P 23 01 46.4 +5.0
VNA2 Neumayer--Watz 89.31 161 P P 23 01 48.2 +5.3
baz=301,slow=5.3
SNAA Sanae 90.84 162 P P 23 01 55.5 +5.5
SNAA Sanae 90.84 162 P **P** **23 01 51.0 +0.9**
SNAA IAmb IAmb 23 01 59.9
comp=Z,9.5nm,1.5s
BILL Bilibino 93.37 338 P **P** **23 02 02.3 +0.5**
BILL IAmb IAmb 23 02 11.1
comp=Z,4.2nm,0.9s
CLL Collm 97.43 38 *e*SKSac **SKSac** **23 12 59.0 +0.8**
CLL *e*S **S** **23 13 46.0 +0.8**

CLL				*e*PS	PS	23 15 07.0	-1.5
CLL				*e*PPS	PPS	23 15 45.0	
CLL				*e*SS	**SS**	**23 20 24.0**	**+0.5**
CLL				*e*SSS	SSS	23 24 06.0	
CLL				Lm	MLR	23 42 00.0	
	comp=N,100nm,18.9s						
CLL				Lm	MLR	23 42 00.0	
	comp=E,200nm,19.9s						
CLL				Lm	MLR	23 42 00.0	
	comp=Z,300nm,20.2s						
H11N3	**WAKE ISLAND Hyl**	**00.98**	**290**	T	T	00 55 43.7	
	baz=85,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hyl**	**01.00**	**290**	T	T	00 55 43.5	
	baz=85,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hyl**	**01.00**	**290**	T	T	00 55 44.6	
	baz=85,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hyl**	**01.30**	**289**	T	T	00 56 04.4	
	baz=86,slow=75,SNR=659						
H11S1	**WAKE ISLAND Hyl**	**01.30**	**289**	T	T	00 56 05.8	
	baz=86,slow=75,SNR=898						
H11S3	**WAKE ISLAND Hyl**	**01.31**	**289**	T	T	00 56 09.5	
	baz=86,slow=75,SNR=779						
DZM	**Mont Dzumac**	**102.35**	**248**	*e*LR	LR	23 36 29.5	
	comp=Z,169nm,22.4s						
ASAR	**Alice Springs**	**131.42**	**239**	PKP	**PKiKP**	**23 08 01.8**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=138,slow=1.7,SNR=5.3						
ASAR	**Alice Springs**	**131.42**	**239**		**PKPdf**	**23 08 00.1**	**-0.3**
MKAR	**Makanchi Array**	**131.48**	**6**	PKP	**PKiKP**	**23 08 01.0**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=343,slow=3.8,SNR=4.6						
MKAR	**Makanchi Array**	**131.48**	**6**	PKP	**PKPdf**	**23 07 59.8**	**0.0**
H01W1	**Cape Leeuwin H**	**139.47**	**212**	T	T	01 44 08.6	
	baz=140,slow=74,SNR=6.2						
H01W2	**Cape Leeuwin H**	**139.47**	**212**	T	T	01 44 13.1	
	baz=140,slow=74,SNR=5.1						
H01W3	**Cape Leeuwin H**	**139.48**	**212**	T	T	01 44 11.1	
	baz=140						
CMAR	**Chiang Mai Arr**	**157.90**	**335**	PKP	**PKPdf**	**23 08 47.8**	**+3.0**
	comp=Z,0.7nm,0.3s,baz=19,slow=2.1,SNR=1.8						
CMAR				PKPab	**PKPab**	**23 09 18.2**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=1.5,slow=5.1,SNR=13						
CMAR	**Chiang Mai Arr**	**157.90**	**335**	PKPdf	**PKPdf**	**23 08 44.3**	**-0.4**

*IDC **07** 22:49:25.1±0.7,1.°98N×90.°59W,h0km,mb4.4/16, mb1 4.6/18,mb1mx4.5/30,mbtmp4.4/18,ML3.2/2,MS4.4/5, Ms1 4.4/5,ms1mx4.2/8,Error ellipse: s-maj=30.8km s-min=12.8km az=55.0.*

*NEIC **07** 22:49:26.9±1.6,1.°79N±0.°10×90.°8W±0.°1,h10km±1km, mb4.8/98,Error ellipse: s-maj=25.9km s-min=14.1km az=246.0*

*GCMT **07** 22:49:32.0±0.2,1.°74N±0.°01×90.°89W±0.°01,h20km±1km, MW5.1/105,Moment Tensor Solution. s77,c101; s105,c154; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.07±.19; Mθθ0.11±.16; Mϕϕ1.96±.19; Mrθ-0.62±.31; Mθϕ-6.01±.15; Mϕr-1.88±.34; Best double couple: M₀6.53000×10¹⁶ NP1:ϕs96.00000°,δ68.00000°, λ-166.00000°. NP2:ϕs1.00000°,δ77.00000°,λ-23.00000°. Principal axes: T 7.2310, Plg6.0000°, Azm50.0000°; N -1.4020, Plg64.0000°, Azm154.0000°; P -5.8290, Plg25.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 22:49:27.2±0.5,1.°82N±0.°08×90.°76W±0.°10,h17km,n132, σ0.°79/129,mb4.8/61,MS4.5/3,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**2.52**	**169**	Pn	**Pn**	**22 50 07.8**	**+0.4**
PAC1	**Pacto, Paraso**	**12.06**	**97**	*e*P	**Pn**	**22 52 21.0**	**+2.3**
APG	**El Apazote**	**13.10**	**1**	LR	LR	22 55 47.8	
	comp=Z,861nm,21.1s,baz=159,slow=30						
ATAH	**Atahualpa**	**15.21**	**126**	Pn	**Pn**	**22 53 02.3**	**+0.5**
	0.4nm,0.3s,baz=280,slow=19,SNR=1.4						
CMIG	**Matias Romero**	**15.71**	**345**	Pn	**Pn**	**22 53 09.7**	**+1.8**
	0.1nm,0.3s,baz=165,slow=20,SNR=2.1						
ROSC	**El Rosal**	**16.68**	**79**	Pn	**Pn**	**22 53 18.6**	**-2.1**
	0.9nm,0.3s,baz=257,slow=11,SNR=3.7						
ROSC				LR	LR	22 58 46.0	
	comp=Z,4μm,19.9s,baz=270,slow=34						
SJCC	**San Jacinto, C**	**17.44**	**62**		**P**	**22 53 30.9**	**-0.3**
FSCY	**Frank Sound, G**	**19.75**	**28**		**Pn**	**22 53 59.6**	**+1.6**
SDV	**Santo Domingo**	**21.22**	**70**	P	**P**	**22 54 10.3**	**-2.3**
	11nm,0.3s,baz=230,slow=5.8,SNR=5.8						
ZAIG	**Zacatecas**	**23.77**	**332**		**P**	**22 54 39.4**	**0.0**
ZAIG				IAmb	IAmb	22 54 43.4	
	comp=Z,24nm,1.2s						
LPAZ	**La Paz**	**28.69**	**130**	P	**P**	**22 55 24.9**	**+0.6**
	comp=Z,8.1nm,1.1s,baz=326,slow=9.9,SNR=7.0						
LPAZ	**La Paz**	**28.69**	**130**		**P**	**22 55 23.7**	**-0.7**
LPAZ				IAmb	IAmb	22 55 28.6	
	comp=Z,22nm,1.4s						
PB16	**IPOC Station P**	**28.96**	**135**	P	**P**	**22 55 25.8**	**-0.8**
TXAR	**Lajitas Array**	**30.00**	**337**	P	**P**	**22 55 35.5**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=150,slow=13,SNR=6.8						
WHTX	**Lake Whitney,**	**30.67**	**349**		**P**	**22 55 41.4**	**+0.4**
PTGA	**Pitinga**	**30.89**	**94**	P	**P**	**22 55 43.7**	**+0.5**
PTGA				IAmb	IAmb	22 55 49.2	
	comp=Z,20nm,1.1s						
Z35A	**Perchaven, San**	**31.93**	**350**	P	**P**	**22 55 50.5**	**-1.6**
LVC	**Limon Verde**	**32.31**	**140**	P	**P**	**22 55 56.3**	**+0.4**
	comp=Z,6.0nm,0.9s,baz=298,slow=7.8,SNR=4.9						
LVC	**Limon Verde**	**32.31**	**140**	P	**P**	**22 55 55.4**	**-0.5**
LVC				IAmb	IAmb	22 55 58.1	
	comp=Z,16nm,1.2s						
X34A	**Smith Ranch, M**	**33.27**	**349**		**P**	**22 56 04.2**	**+0.3**
W39A	**Magazine**	**33.33**	**355**	P	**P**	**22 56 04.8**	**+0.5**
WHAR	**Wooly Hollow**	**33.33**	**358**		**P**	**22 56 04.9**	**+0.5**
WHAR				IAmb	IAmb	22 56 11.5	
	comp=Z,22nm,1.4s						
MSTX	**Muleshoe**	**33.90**	**342**		**P**	**22 56 10.2**	**+0.8**
FCAR	**Ozark Folk Cen**	**33.92**	**358**	P	**P**	**22 56 10.2**	**+0.7**
V48A	**Smith Brothers**	**33.95**	**6**	P	**P**	**22 56 09.0**	**-0.7**
V48A				IAmb	IAmb	22 56 18.1	
	comp=Z,10.0nm,1.0s						
CPCT	**Cooper Cave**	**33.96**	**9**	P	**P**	**22 56 08.9**	**-0.9**
CPCT				IAmb	IAmb	22 56 12.4	
	comp=Z,16nm,1.4s						
LCAR	**Lake Charles**	**34.08**	**359**	P	**P**	**22 56 10.7**	**-0.2**
SIV	**San Ignacio**	**34.26**	**122**	P	**P**	**22 56 11.1**	**-1.6**
	comp=Z,4.4nm,1.1s,baz=314,slow=11,SNR=2.8						
TKL	**Tuckaleechee C**	**34.29**	**10**	P	**P**	**22 56 10.5**	**-2.2**
	comp=Z,3.6nm,0.9s,baz=194,slow=10,SNR=2.0						
TKL	**Tuckaleechee C**	**34.29**	**10**	P	**P**	**22 56 11.4**	**-1.3**
T47A	**Sharon Grove**	**35.16**	**5**	P	**P**	**22 56 20.0**	**-0.2**
T47A				IAmb	IAmb	22 56 26.4	
	comp=Z,15nm,0.8s						
MGMO	**Mountain Grove**	**35.19**	**358**	P	**P**	**22 56 21.3**	**+0.8**
BNM	**Barren Site**	**35.42**	**337**	P	**P**	**22 56 23.6**	**+0.9**
TUC	**Tucson**	**35.71**	**330**	P	**P**	**22 56 25.4**	**+0.2**
S44A	**Carbondale**	**35.73**	**2**	P	**P**	**22 56 24.8**	**-0.3**
SIUC	**Southern Illin**	**35.75**	**2**	P	**P**	**22 56 25.1**	**-0.2**
S51A	**Beattyville**	**36.25**	**10**	P	**P**	**22 56 29.4**	**-0.2**
S51A				IAmb	IAmb	22 56 35.8	
	comp=Z,9.8nm,0.8s						
R40A	**Maddies Statio**	**36.32**	**358**	P	**P**	**22 56 30.0**	**-0.2**
R40A				IAmb	IAmb	22 56 38.5	
	comp=Z,26nm,1.2s						
214A	**Organ Pipe Nat**	**36.48**	**328**		**P**	**22 56 32.0**	**+0.4**
X18A	**Snowflake**	**37.14**	**333**	P	**P**	**22 56 38.2**	**+0.8**
X18A				IAmb	IAmb	22 56 39.6	
	comp=Z,24nm,1.3s						
R32A	**Long Quarter,**	**37.15**	**350**	P	**P**	**22 56 37.4**	**+0.2**
KSU1	**Kansas State U**	**37.49**	**353**	P	**P**	**22 56 40.7**	**+0.7**
P40A	**Paris**	**37.55**	**358**		**P**	**22 56 41.0**	**+0.5**
Q51A	**Peebles**	**37.65**	**9**		**P**	**22 56 41.8**	**+0.4**
Q52A	**Bidwell**	**37.77**	**11**	P	**P**	**22 56 42.6**	**+0.1**
Q52A				IAmb	IAmb	22 56 44.9	
	comp=Z,30nm,1.3s						
O44A	**Mansfield**	**38.21**	**3**	P	**P**	**22 56 46.4**	**+0.2**
P53A	**Whipple**	**38.45**	**12**	P	**P**	**22 56 48.5**	**+0.3**
P53A				IAmb	IAmb	22 56 56.2	
	comp=Z,20nm,1.0s						
MVCO	**Mesa Verde**	**38.83**	**337**		**P**	**22 56 52.3**	**+0.6**
MVCO				IAmb	IAmb	22 56 53.5	
	comp=Z,29nm,1.3s						
CBX	**Cerro Bola**	**38.91**	**324**	P	**P**	**22 56 53.1**	**+0.7**
O53A	**New Philadelph**	**39.22**	**12**	P	**P**	**22 56 54.5**	**-0.1**
O53A				IAmb	IAmb	22 56 56.8	
	comp=Z,30nm,1.3s						
W13A	**Hualapai Mount**	**39.49**	**330**	P	**P**	**22 56 57.7**	**+0.5**
PV18	**Skein Mesa, Pa**	**39.89**	**338**	P	**P**	**22 57 00.6**	**+0.1**
PV18				IAmb	IAmb	22 57 02.1	
	comp=Z,17nm,1.0s						
PV12	**Saucer Basin,**	**39.91**	**338**	P	**P**	**22 57 00.4**	**-0.3**
PV19	**Morning Glory**	**39.98**	**337**	P	**P**	**22 57 02.1**	**+0.9**
PV04	**Paradox Valley**	**40.02**	**338**	P	**P**	**22 57 01.6**	**+0.1**
PV04				IAmb	IAmb	22 57 03.3	
	comp=Z,33nm,1.2s						
PV10	**Paradox Valley**	**40.05**	**337**	P	**P**	**22 57 01.9**	**0.0**
PV10				IAmb	IAmb	22 57 02.8	
	comp=Z,25nm,1.1s						
PV22	**Blue Mesa, Par**	**40.10**	**338**		**P**	**22 57 02.6**	**+0.4**
ISCO	**Idaho Springs**	**40.15**	**342**		**P**	**22 57 03.2**	**+0.5**
ISCO				IAmb	IAmb	22 57 11.8	
	comp=Z,17nm,0.9s						
LCMT	**Little Creek M**	**40.70**	**332**	P	**P**	**22 57 07.4**	**+0.3**
AQDB	**Aquidauana**	**40.88**	**125**		**P**	**22 57 08.9**	**+0.2**
AQDB				IAmb	IAmb	22 57 13.7	
	comp=Z,32nm,1.5s						
SZCU	**Shurtz Canyon**	**41.10**	**333**	P	**P**	**22 57 11.2**	**+0.6**
CCUT	**Cedar City**	**41.19**	**332**	P	**P**	**22 57 11.5**	**+0.2**
SHPR	**Sheep Range**	**41.23**	**330**		**P**	**22 57 11.9**	**+0.3**
SRU	**San Rafael Swe**	**41.27**	**336**	P	**P**	**22 57 12.2**	**+0.3**
O20A	**White River Ci**	**41.31**	**340**		**P**	**22 57 12.9**	**+0.7**
P17A	**Butcher Ranch,**	**41.67**	**337**	P	**P**	**22 57 15.9**	**+0.8**
P17A				IAmb	IAmb	22 57 16.7	
	comp=Z,16nm,1.1s						
RDMU	**Red Mountain**	**42.17**	**339**	P	**P**	**22 57 19.5**	**+0.2**
RDMU				IAmb	IAmb	22 57 20.8	
	comp=Z,31nm,1.4s						
NLU	**North Lily Min**	**42.62**	**336**	P	**P**	**22 57 22.8**	**-0.1**
CPUP	**Villa Florida**	**42.72**	**133**	P	**P**	**22 57 23.6**	**0.0**
	comp=Z,4.0nm,1.0s,baz=328,slow=9.5,SNR=3.4						
CPUP	**Villa Florida**	**42.72**	**133**	P	**P**	**22 57 23.7**	**0.0**
R11A	**Troy Canyon, C**	**42.88**	**331**	P	**P**	**22 57 25.7**	**+0.6**
DUG	**Dugway, Tooele**	**43.12**	**335**	P	**P**	**22 57 27.7**	**+0.7**
DUG				IAmb	IAmb	22 57 33.2	
	comp=Z,19nm,1.4s						
HWUT	**Hardware Ranch**	**43.82**	**337**	P	**P**	**22 57 33.0**	**+0.5**
HWUT				IAmb	IAmb	22 57 34.9	
	comp=Z,25nm,1.4s						
BW06	**Boulder Array**	**44.10**	**340**	P	**P**	**22 57 34.8**	**-0.1**
BW06				IAmb	IAmb	22 57 35.7	
	comp=Z,17nm,1.3s						
PDAR	**Pinedale Array**	**44.10**	**340**	P	**P**	**22 57 34.6**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=151,slow=6.8,SNR=9.0						
PDAR	**Pinedale Array**	**44.10**	**340**		**P**	**22 57 34.5**	**-0.4**
NV11	**Mina Array Sit**	**44.24**	**329**	P	**P**	**22 57 36.5**	**+0.6**
LHV	**Little Huntoon**	**44.28**	**328**	P	**P**	**22 57 37.0**	**+0.9**
NVAR	**Mina Array Bea**	**44.31**	**329**	P	**P**	**22 57 37.6**	**+1.0**
	comp=Z,9.1nm,0.9s,baz=156,slow=9.6,SNR=10						
NVAR				PcP	**PcP**	**22 59 20.1**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=195,slow=2.7,SNR=3.4						
NVAR	**Mina Array Bea**	**44.31**	**329**	P	**P**	**22 57 37.1**	**+0.5**
HVU	**Hansel Valley**	**44.44**	**336**	P	**P**	**22 57 37.9**	**+0.3**
HVU				IAmb	IAmb	22 57 38.8	
	comp=Z,23nm,1.3s						
RYN	**Ryan**	**44.57**	**329**	P	**P**	**22 57 39.4**	**+0.8**
RYN				IAmb	IAmb	22 57 47.7	
	comp=Z,16nm,1.4s						
ELK	**Elko**	**44.63**	**333**		**P**	**22 57 39.7**	**+0.6**
ELK				IAmb	IAmb	22 57 46.4	
	comp=Z,11nm,1.1s						
WAKR	**Walker**	**44.96**	**328**	P	**P**	**22 57 42.2**	**+0.4**
SNOW	**Snow King Moun**	**45.13**	**339**	P	**P**	**22 57 43.0**	**-0.1**
LOHW	**Long Hollow**	**45.21**	**340**	P	**P**	**22 57 43.5**	**-0.2**
LOHW				IAmb	IAmb	22 57 44.6	
	comp=Z,15nm,1.1s						
TPAW	**Teton Pass**	**45.22**	**339**	P	**P**	**22 57 44.1**	**+0.3**
TPAW				IAmb	IAmb	22 57 44.2	
	comp=Z,12nm,0.9s						
PNTR	**Pine Nut**	**45.48**	**328**	P	**P**	**22 57 46.3**	**+0.4**
PNTR				IAmb	IAmb	22 57 51.6	
	comp=Z,17nm,1.3s						
FLWY	**Flagg Ranch**	**45.65**	**340**	P	**P**	**22 57 46.8**	**-0.4**
FLWY				IAmb	IAmb	22 57 48.1	
	comp=Z,14nm,1.1s						
BDFB	**Brasilia**	**45.67**	**114**	P	**P**	**22 57 48.2**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=288,slow=6.0,SNR=4.1						
BDFB	**Brasilia**	**45.67**	**114**	P	**P**	**22 57 47.6**	**0.0**
PAHR	**Pah Rah Range**	**45.82**	**329**	P	**P**	**22 57 48.6**	**+0.1**
PAHR				IAmb	IAmb	22 57 50.1	
	comp=Z,10nm,1.3s						
H17A	**Grant Village**	**45.89**	**340**	P	**P**	**22 57 49.7**	**+0.6**
H17A				IAmb	IAmb	22 57 51.7	
	comp=Z,10.0nm,1.2s						
RLMT	**Red Lodge**	**46.11**	**342**		**P**	**22 57 50.1**	**-0.7**
RLMT				IAmb	IAmb	22 57 50.7	
	comp=Z,13nm,1.2s						
AFDM	**Forest Hills D**	**46.11**	**327**		**P**	**22 57 50.9**	**+0.2**
AFDM				IAmb	IAmb	22 57 51.9	
	comp=Z,8.5nm,1.0s						
PLCA	**Paso Flores**	**46.19**	**159**	P	**P**	**22 57 52.2**	**+0.9**
	comp=Z,16nm,1.2s,baz=333,slow=8.4,SNR=6.2						
PLCA	**Paso Flores**	**46.19**	**159**	P	**P**	**22 57 50.3**	**-1.0**
YNE	**Yellowstone No**	**46.24**	**341**	P	**P**	**22 57 51.1**	**-0.8**
YNE				IAmb	IAmb	22 57 52.3	
	comp=Z,7.1nm,1.0s						
AGMN	**Agassiz Nation**	**46.51**	**355**	P	**P**	**22 57 52.9**	**-0.6**
QLMT	**Earthquake Lak**	**46.56**	**340**		**P**	**22 57 54.8**	**+0.5**
ORV	**Oroville**	**46.83**	**327**		**P**	**22 57 57.1**	**+0.9**
ORV				IAmb	IAmb	22 57 58.0	
	comp=Z,14nm,1.1s						
GCMT	**Greycliff**	**46.83**	**342**	P	**P**	**22 57 56.0**	**-0.4**
DLMT	**Dillon**	**47.43**	**339**	P	**P**	**22 58 01.4**	**+0.3**
DLMT				IAmb	IAmb	22 58 02.0	
	comp=Z,8.5nm,1.2s						
WVOR	**Wild Horse Val**	**47.52**	**332**	P	**P**	**22 58 01.9**	**+0.1**
MOD	**Modoc Plateau**	**47.92**	**330**		**P**	**22 58 04.9**	**0.0**
ULM	**Lac du Bonnet**	**48.45**	**356**	P	**P**	**22 58 08.9**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=162,slow=9.7,SNR=2.6						
PINE	**Pine Mountain**	**49.65**	**331**	P	**P**	**22 58 18.7**	**+0.4**
PINE				IAmb	IAmb	22 58 27.0	
	comp=Z,14nm,0.9s						
G08A	**Pilot Rock**	**49.90**	**334**		**P**	**22 58 18.7**	**-1.3**
E09A	**Wood Farm, Sta**	**50.53**	**336**	P	**P**	**22 58 23.8**	**-0.8**
E09A				IAmb	IAmb	22 58 24.5	
	comp=Z,19nm,1.1s						
E07A	**Sunnyside**	**51.28**	**335**	P	**P**	**22 58 29.8**	**-0.5**
E07A				IAmb	IAmb	22 58 31.4	
	comp=Z,15nm,1.0s						
B08A	**Colville Reser**	**52.49**	**336**	P	**P**	**22 58 38.8**	**-0.5**
B08A				IAmb	IAmb	22 58 39.6	
	comp=Z,11nm,1.1s						
SCHQ	**Schefferville**	**56.34**	**16**	P	**P**	**22 59 07.9**	**+0.8**
	comp=Z,4.9nm,0.9s,baz=204,slow=11,SNR=2.7						
SCHQ	**Schefferville**	**56.34**	**16**	P	**P**	**22 59 08.0**	**+0.9**
SCHQ				IAmb	IAmb	22 59 13.2	
	comp=Z,11nm,1.1s						
YKA	**Yellowknife Ar**	**63.10**	**348**	P	**P**	**22 59 52.1**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=147,slow=7.0,SNR=4.6						
DAWY	**Dawson**	**71.41**	**340**	P	**P**	**23 00 45.6**	**-0.7**
DAWY				IAmb	IAmb	23 00 46.5	
	comp=Z,9.1nm,1.2s						
BCAR	**Beaver Creek A**	**71.68**	**338**		**P**	**23 00 48.0**	**0.0**
N25K	**Chitina, Valde**	**71.96**	**336**	P	**P**	**23 00 50.0**	**+0.2**
N25K				IAmb	IAmb	23 00 56.6	
	comp=Z,10nm,0.9s						
ILAR	**Eielson Array**	**74.50**	**338**	P	**P**	**23 01 03.4**	**-1.2**
	comp=Z,5.2nm,1.0s,baz=137,slow=4.5,SNR=7.1						
RND	**Reindeer**	**74.58**	**337**	P	**P**	**23 01 04.8**	**-0.3**
RND				IAmb	IAmb	23 01 11.4	
	comp=Z,11nm,1.0s						
BMAR	**Burnt Mountain**	**75.12**	**341**		**P**	**23 01 06.0**	**-2.1**
NEA2	**Nenana**	**75.23**	**338**	P	**P**	**23 01 07.9**	**-0.8**
NEA2				IAmb	IAmb	23 01 16.5	
	comp=Z,13nm,1.3s						
I23K	**Minto, Yukon-K**	**75.60**	**338**	P	**P**	**23 01 10.3**	**-0.6**
DBIC	**Dimbokro**	**85.72**	**83**	LR	LR	23 37 58.2	
	comp=Z,172nm,19.3s,baz=246,slow=34						
ESDC	**Sonseca Array**	**86.38**	**51**	P	**P**	**23 02 08.0**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=295,slow=4.9,SNR=3.5						
EKA	**Eskdalemuir Ar**	**87.15**	**35**	LR	LR	23 35 01.9	
	comp=Z,164nm,20.8s,baz=235,slow=32						
KEST	**Kesra**	**97.14**	**54**	LR	LR	23 42 07.2	
	comp=Z,152nm,19.8s,baz=196,slow=33						
ZALV	**Zalesovo Beam**	**124.31**	**3**	PKP	**PKiKP**	**23 08 25.9**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=345,slow=4.5,SNR=5.0						
SONM	**Songino Array**	**128.33**	**345**	PKP	**PKiKP**	**23 08 35.0**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=356,slow=2.3,SNR=2.3						
GEYT	**Alibeck**	**131.09**	**33**	PKP	**PKiKP**	**23 08 40.4**	**+0.8**
	comp=Z,6.2nm,0.6s,baz=255,slow=5.7,SNR=5.2						
MKAR	**Makanchi Array**	**131.21**	**6**	PKP	**PKPdf**	**23 08 37.8**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=28,slow=3.9,SNR=2.4						
ASAR	**Alice Springs**	**131.64**	**240**	PKP	**PKiKP**	**23 08 42.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=112,slow=2.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**157.70**	**335**	PKPab	**PKPab**	**23 09 54.5**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=4.4,slow=4.6,SNR=4.6						

*JMA **07** 23:15:11.5±0.2,24.°00N×122.°43E,h20km±4km,M1.9 TAP **07** 23:15:12.4,24.°11N×122.°44E,h37km,ML2.9,D*

ISC 07 23:15:12.0±1.0,24.°05N±0.°02×122.°42E±0.°02,h27km±11km, n87,σ0.°66/154,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.62**	**50**	P	**Pb**	**23 15 23.8**	**-0.5**
JYNG				S	**Sb**	**23 15 32.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.67**	**53**	P	**Pb**	**23 15 25.1**	**-0.1**
YOJ				*e*S	**Sb**	**23 15 33.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.67**	**53**	P	**Pb**	**23 15 25.1**	**-0.1**
	baz=64						
YOJ				S	**Sb**	**23 15 33.7**	**-0.5**
	baz=64						
EWUT	**Wuta**	**0.70**	**304**	*e*P	**Pb**	**23 15 25.6**	**-0.2**
	baz=299						
EWUT				*e*S	**Sb**	**23 15 35.7**	**+0.6**
	baz=299						
HWA	**Hwalien**	**0.75**	**264**	*e*S	**Sn**	**23 15 37.1**	**-0.2**
	baz=259						
TWD	**Chiawan**	**0.76**	**272**	P	**Pb**	**23 15 26.8**	**+0.2**
	baz=267						
TWD				S	**Sn**	**23 15 38.0**	**+0.6**
	baz=267						
TWC	**Suao**	**0.76**	**317**	*i* P	**Pb**	**23 15 26.0**	**-0.7**
	baz=305						
TWC				*i* S	**Sb**	**23 15 35.4**	**-1.3**
	baz=305						
NACB	**Ninganchiao**	**0.77**	**279**	P	**Pb**	**23 15 26.4**	**-0.3**
	baz=263						
NACB				S	**Sn**	**23 15 38.1**	**+0.4**
	baz=263						
TEYL	**Yanliau Villag**	**0.78**	**256**	P	**Pn**	**23 15 27.4**	**+0.2**
	baz=244						
TEYL				S	**Sn**	**23 15 38.8**	**+0.8**
	baz=244						
ETM	**Tongmen**	**0.85**	**264**	*e*P	**Pb**	**23 15 28.9**	**+0.6**
	baz=260						
ETM				*e*S	**Sn**	**23 15 39.9**	**0.0**
	baz=260						
NDS	**Dongshan**	**0.86**	**312**	*i* P	**Pb**	**23 15 28.6**	**+0.1**
	baz=308						
NDS				*i* S	**Sb**	**23 15 39.8**	**+0.1**
	baz=308						
ETLH	**Xiulin Townshi**	**0.87**	**280**	P	**Pn**	**23 15 28.2**	**-0.4**
	baz=276						
ETLH				S	**Sn**	**23 15 40.9**	**+0.4**
	baz=276						
TEGC	**Jichi Village**	**0.88**	**247**	*e*P	**Pb**	**23 15 29.4**	**+0.7**
	baz=243						
TEGC				*e*S	**Sn**	**23 15 40.7**	**+0.3**
	baz=243						
EGS		**0.91**	**331**	*i* P	**Pn**	**23 15 28.9**	**-0.1**
	baz=317						
EGS				S	**Sb**	**23 15 40.6**	**-0.2**
	baz=317						
ESL	**Shilin**	**0.94**	**255**	P	**Pb**	**23 15 30.0**	**+0.4**
	baz=244						
ESL				S	**Sb**	**23 15 42.5**	**+0.8**
	baz=244						
ILA	**Ilan**	**0.94**	**319**	P	**Pn**	**23 15 29.4**	**-0.1**
	baz=316						
ILA				S	**Sn**	**23 15 41.5**	**-0.4**
	baz=316						
TWE	**Neicheng**	**0.96**	**314**	P	**Pb**	**23 15 29.8**	**-0.2**
	baz=311						
TWE				S	**Sb**	**23 15 42.7**	**+0.4**
	baz=311						
NTC	**Toucheng**	**0.96**	**326**	*e*P	**Pb**	**23 15 30.2**	**+0.1**
	baz=323						
NTC				*e*S	**Sb**	**23 15 43.2**	**+0.7**
	baz=323						
ENTT	**Nioudou**	**0.97**	**307**	*i* P	**Pn**	**23 15 30.1**	**+0.1**
	baz=292						
ENTT				S	**Sn**	**23 15 42.9**	**0.0**
	baz=292						
NDT	**Datong Townshi**	**0.99**	**304**	P	**Pb**	**23 15 31.0**	**+0.4**
	baz=288						
NDT				S	**Sn**	**23 15 43.0**	**-0.3**
	baz=288						
NNSB	**Datong**	**1.02**	**292**	P	**Pn**	**23 15 30.6**	**0.0**
	baz=288						
NNSB				S	**Sb**	**23 15 44.5**	**+0.3**
	baz=288						
NNSH	**Datong**	**1.02**	**292**	*e*P	**Pn**	**23 15 30.5**	**-0.2**
	baz=288						
NNSH				*e*S	**Sn**	**23 15 44.1**	**0.0**

TNOU	**National Taiwa**	**1.24 332**	*e*P	**Pn**	**23 15 33.7**	**+0.1**
	baz=330					
TNOU			*e*S	**Sb**	**23 15 50.2**	**-0.3**
	baz=330					
TWF1	**Yuli**	**1.25 236**	P	**Pn**	**23 15 32.9**	**-0.8**
	baz=224					
TWF1			S	**Sn**	**23 15 49.4**	**-0.2**
	baz=224					
TATO	**Taipei**	**1.25 317**	P	**Pb**	**23 15 35.1**	**+0.2**
	baz=329					
TATO			S	**Sb**	**23 15 51.6**	**+0.9**
	baz=329					
HATJ	**Hateruma jima**	**1.26 90**	S	**Sb**	**23 15 51.3**	**+0.2**
TAP	**Taipei**	**1.29 320**	*e*S	**Sn**	**23 15 50.3**	**-0.3**
	baz=333					
BACT	**New Taipei Cit**	**1.30 317**	*e*P	**Pn**	**23 15 34.9**	**+0.5**
	baz=330					
BACT			*e*S	**Sn**	**23 15 50.6**	**-0.2**
	baz=330					
YM01	**YM01**	**1.34 325**	*e*P	**Pn**	**23 15 34.0**	**-1.0**
	baz=322					
YM01			*e*S	**Sn**	**23 15 51.8**	**-0.1**
	baz=322					
FULB	**Fuli**	**1.34 231**	P	**Pn**	**23 15 34.1**	**-0.9**
	baz=228					
FULB			*e*S	**Sb**	**23 15 53.2**	**0.0**
	baz=228					
WPL	**Puli Township**	**1.34 269**	*e*P	**Pn**	**23 15 35.0**	**+0.1**
	baz=265					
WPL			*e*S	**Sb**	**23 15 52.8**	**-0.5**
	baz=265					
CHKT	**Chengkung**	**1.36 226**	*e*S	**Sb**	**23 15 53.2**	**-0.5**
	baz=215					
YM08	**YM08**	**1.36 326**	*e*P	**Pn**	**23 15 35.5**	**+0.2**
	baz=324					
YM08			*e*S	**Sn**	**23 15 51.9**	**-0.5**
	baz=324					
DPDB	**Guoxing**	**1.37 269**	*e*P	**Pn**	**23 15 34.4**	**-1.0**
	baz=266					
DPDB			*e*S	**Sn**	**23 15 53.2**	**+0.6**
	baz=266					
WHP	**Taichung City**	**1.37 280**	*e*P	**Pn**	**23 15 36.0**	**+0.6**
	baz=267					
WHP			*e*S	**Sb**	**23 15 53.7**	**-0.4**
	baz=267					
SSLB	**Suanglung**	**1.37 259**	*e*P	**Pn**	**23 15 35.2**	**-0.2**
	baz=256					
SSLB			S	**Sn**	**23 15 53.2**	**+0.6**
	baz=256					
WCS	**Beigang Elemen**	**1.38 270**	*e*P	**Pn**	**23 15 35.7**	**+0.2**
	baz=261					
WCS			*e*S	**Sn**	**23 15 52.9**	**0.0**
	baz=261					
TWS1	**Kuangyinshan**	**1.39 319**	*e*S	**Sn**	**23 15 52.9**	**-0.1**
	baz=332					
ANP	**Anpu**	**1.40 324**	*e*S	**Sn**	**23 15 52.4**	**-1.0**
	baz=322					
SMLT	**Sun Moon Lake**	**1.40 263**	*e*P	**Pn**	**23 15 36.2**	**+0.2**
	baz=252					
SMLT			S	**Sn**	**23 15 54.4**	**+0.8**
	baz=252					
LIOB	**Emei**	**1.41 295**	P	**Pb**	**23 15 37.3**	**-0.4**
	baz=292					
LIOB			S	**Sb**	**23 15 56.2**	**+0.8**
	baz=292					
TWY	**Chenhua**	**1.43 329**	P	**Pn**	**23 15 36.0**	**-0.2**
	baz=326					
TWY			*e*S	**Sn**	**23 15 53.7**	**-0.4**
	baz=326					
TYC	**Yuchr**	**1.44 264**	*e*P	**Pn**	**23 15 36.7**	**+0.3**
	baz=261					
TYC			*e*S	**Sb**	**23 15 55.5**	**-0.6**
	baz=261					
JKRS	**Kuro-shima**	**1.46 82**	S	**Sb**	**23 15 57.2**	**+0.5**
EDH	**Donghe**	**1.49 224**	*e*P	**Pn**	**23 15 35.5**	**-1.5**
	baz=214					
EDH			*e*S	**Sn**	**23 15 53.7**	**-1.8**
	baz=214					
SBCB	**Hsinchu**	**1.50 300**	*e*S	**Sn**	**23 15 56.0**	**+0.1**
	baz=296					
ELDTW	**Lidau**	**1.55 237**	*e*P	**Pn**	**23 15 38.2**	**+0.2**
	baz=234					
ELDTW			*e*S	**Sn**	**23 15 56.0**	**-1.2**
	baz=234					
NSY	**Sanyi**	**1.56 284**	*e*S	**Sn**	**23 15 57.5**	**+0.1**
	baz=280					
NMLH	**Miaoli**	**1.56 288**	*e*P	**Pn**	**23 15 38.6**	**+0.5**
	baz=285					
ALS	**Alishan**	**1.58 250**	P	**Pn**	**23 15 39.4**	**+0.9**
	baz=247					
ALS			S	**Sn**	**23 15 58.6**	**+0.4**
	baz=247					
WNT	**Mingjian**	**1.60 264**	*e*P	**Pb**	**23 15 39.8**	**-1.2**
	baz=261					
JIJ	**Ishigaki jima**	**1.60 79**	P	**Pn**	**23 15 39.0**	**+0.4**
JIJ			S	**Sb**	**23 15 59.3**	**-1.5**
PCYT	**Pengchaiyu**	**1.60 349**	*i* P	**Pn**	**23 15 38.5**	**-0.1**
	baz=348					
PCYT			S	**Sn**	**23 15 58.6**	**+0.2**
	baz=348					
LDUT	**Ludao**	**1.63 213**	*e*P	**Pn**	**23 15 39.9**	**+1.0**
	baz=211					
LDUT			*e*S	**Sn**	**23 16 00.1**	**+1.1**
	baz=211					
CHN5	**Tsauling**	**1.66 254**	P	**Pn**	**23 15 40.4**	**+0.9**
	baz=252					
CHN5			*e*S	**Sn**	**23 16 01.1**	**+1.1**
	baz=252					
WGK	**Gukeng**	**1.74 258**	*e*S	**Sn**	**23 16 02.8**	**+1.0**
	baz=255					
TWG	**Pinlang**	**1.74 226**	S	**Sn**	**23 16 03.3**	**+1.4**
	baz=234					
STYH	**Taoyuan**	**1.75 240**	*e*S	**Sn**	**23 16 02.4**	**+0.4**
	baz=230					
JISG	**Ishigakijimahi**	**1.80 72**	S	**Sn**	**23 16 03.8**	**+0.5**
TPUB	**Ta-pu**	**1.81 246**	*e*P	**Pn**	**23 15 42.7**	**+1.3**
	baz=243					
CHN4	**Tsaushan**	**1.82 248**	*e*P	**Pb**	**23 15 43.5**	**-1.1**
	baz=245					
CHN4			*e*S	**Sb**	**23 16 05.4**	**-1.5**
	baz=245					
WTP	**Ta-pu**	**1.84 245**	*e*P	**Pn**	**23 15 42.7**	**+0.8**
	baz=242					
WTP			*e*S	**Sb**	**23 16 06.6**	**-1.2**
	baz=242					
WTK	**Tuku**	**1.90 259**	*e*P	**Pn**	**23 15 42.8**	**+0.2**
	baz=246					
CHY	**Chiayi**	**1.91 254**	*e*P	**Pn**	**23 15 44.0**	**+1.2**
	baz=251					
CHY			*e*S	**Sb**	**23 16 08.2**	**-1.5**
	baz=251					
TWK	**Hsinying**	**1.94 247**	*e*S	**Sn**	**23 16 07.9**	**+1.1**
	baz=244					
CHN1	**Nanshi**	**1.94 244**	*e*P	**Pn**	**23 15 44.8**	**+1.5**
	baz=242					
CHN1			*e*S	**Sn**	**23 16 07.9**	**+1.1**
	baz=242					
JTJ	**Tarama**	**2.16 74**	*e*S	**Sn**	**23 16 13.5**	**+1.4**

*IDC **07** 23:23:55.2±1.6, 1°.07N×91°.58W, h0km, mb3.7/10, mb1 4.1/13, mb1mx4.0/36, mbtmp3.8/13, ML3.3/3, MS3.7/13, Ms1 3.7/13, ms1mx3.5/28, Error ellipse: s-maj=73.4km s-min=18.5km az=54.0*

*NEIC **07** 23:24:00.3±1.9, 1°.4N±0°.1×91°.0W±0°.1, h10km±2km, mb4.4/84, Error ellipse: s-maj=25.4km s-min=15.3km az=238.0*

ISC 07 23:23:58.3±0.8, 1°.3N±0°.1×91°.1W±0°.1, h10km, n121, σ1§27/102, mb4.3/46, MS3.7/12, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**10.84**	**34**	LR	LR	23 29 29.2	
	comp=Z,859nm,19.2s,baz=264,slow=30						
ESQI	**Esquipulas**	**13.31**	**7**	Pn	**Pn**	**23 27 08.4**	**+0.9**
APG	**El Apazote**	**13.65**	**3**	Pn	**Pn**	**23 27 12.3**	**+0.1**
	0.3nm,0.3s,baz=215,slow=15,SNR=3.9						
APG				LR	LR	23 31 18.8	
	comp=Z,149nm,18.7s,baz=94,slow=32						
BCIP	**Isla Barro Col**	**13.67**	**55**	Pn	**Pn**	**23 27 11.7**	**-0.7**
CCIG	**Comitan**	**14.94**	**356**	Pn	**Pn**	**23 27 30.0**	**+0.2**
ATAH	**Atahualpa**	**15.18**	**124**	Pn	**P**	**23 27 35.8**	**-2.7**
	0.1nm,0.3s,baz=348,slow=8.1,SNR=3.8						
PETF	**Flores**	**15.58**	**4**	Pn	**Pn**	**23 27 38.9**	**+0.7**
PETF				IAmb	IAmb	23 27 50.8	
	comp=Z,33nm,1.5s						
CMIG	**Matias Romero**	**16.15**	**347**	Pn	**Pn**	**23 27 44.4**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=185,slow=6.8,SNR=2.7						
ROSC	**El Rosal**	**17.12**	**78**	LR	LR	23 33 19.3	
	comp=Z,336nm,21.2s,baz=234,slow=32						
SJCC	**San Jacinto, C**	**17.99**	**61**		**P**	**23 28 10.0**	**+0.7**
RUSC	**La Rusia**	**18.55**	**75**	P	**P**	**23 28 12.9**	**-3.0**
RUSC				IAmb	IAmb	23 28 24.0	
	comp=Z,33nm,1.3s						
NNA	**Nana**	**19.35**	**133**	LR	LR	23 34 22.9	
	comp=Z,275nm,18.9s,baz=306,slow=32						
URIC	**Uribia, Colomb**	**21.60**	**61**	P	**P**	**23 28 46.9**	**-1.6**
URIC				IAmb	IAmb	23 28 49.5	
	comp=Z,14nm,0.9s						
SDV	**Santo Domingo**	**21.73**	**69**	LR	LR	23 35 50.5	
	comp=Z,202nm,20.9s,baz=257,slow=32						
LPAZ	**La Paz**	**28.62**	**129**	P	**P**	**23 29 56.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=322,slow=12,SNR=2.0						
LPAZ	**La Paz**	**28.62**	**129**	P	**P**	**23 29 55.4**	**-0.4**
LPAZ				IAmb	IAmb	23 30 04.3	
	comp=Z,5.9nm,1.2s						
HKT	**Hockley**	**28.86**	**351**	P	**P**	**23 29 56.2**	**-0.9**
SJG	**San Juan**	**29.66**	**54**	LR	LR	23 40 07.5	
	comp=Z,158nm,19.5s,baz=258,slow=32						
CBYP	**Canovanas**	**29.98**	**54**	P	**P**	**23 30 07.3**	**0.0**
PATCX	**Punta Patache**	**30.05**	**138**	P	**P**	**23 30 08.6**	**+0.7**
TX32	**Lajitas Array**	**30.36**	**338**	P	**P**	**23 30 08.7**	**-1.8**
TXAR	**Lajitas Array**	**30.36**	**338**	P	**P**	**23 30 09.1**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=135,slow=12,SNR=3.9						
TXAR				LR	LR	23 41 04.8	
	comp=Z,159nm,19.3s,baz=0.0,slow=34						
PTGA	**Pitinga**	**31.19**	**94**	P	**P**	**23 30 19.9**	**+1.9**
PTGA				IAmb	IAmb	23 30 22.6	
	comp=Z,5.8nm,0.9s						
PB06	**IPOC Station P**	**31.76**	**140**	P	**P**	**23 30 23.6**	**+0.6**
LVC	**Limon Verde**	**32.12**	**139**	P	**P**	**23 30 28.3**	**+1.9**
LVC				IAmb	IAmb	23 30 29.8	
	comp=Z,6.9nm,1.1s						
ABTX	**Abilene, Hawle**	**32.20**	**346**	P	**P**	**23 30 26.7**	**+0.1**
ABTX				IAmb	IAmb	23 30 32.3	
	comp=Z,5.0nm,1.1s						
WLAR	**White Oak Lake**	**32.29**	**357**	P	**P**	**23 30 26.0**	**-1.4**
W39A	**Magazine**	**33.84**	**356**	P	**P**	**23 30 40.5**	**-0.4**
W39A				IAmb	IAmb	23 30 54.1	
	comp=Z,6.1nm,1.2s						
WMOK	**Wichita Mounta**	**34.05**	**349**	P	**P**	**23 30 43.6**	**+0.8**
WMOK				IAmb	IAmb	23 30 55.9	
	comp=Z,8.0nm,1.3s						
SWET	**Sewanee**	**34.10**	**8**	P	**P**	**23 30 44.1**	**+0.9**
SWET				IAmb	IAmb	23 30 51.8	
	comp=Z,3.0nm,0.8s						
W35A	**Tecumseh**	**34.13**	**352**	P	**P**	**23 30 44.4**	**+1.0**
MSTX	**Muleshoe**	**34.31**	**343**	P	**P**	**23 30 46.1**	**+1.0**
FCAR	**Ozark Folk Cen**	**34.45**	**359**	P	**P**	**23 30 47.6**	**+1.4**
FCAR				IAmb	IAmb	23 30 49.5	
	comp=Z,4.0nm,0.9s						
V48A	**Smith Brothers**	**34.52**	**6**	P	**P**	**23 30 47.7**	**+0.9**
WVT	**Waverly**	**34.81**	**5**	P	**P**	**23 30 49.5**	**+0.3**
WVT				IAmb	IAmb	23 30 56.5	
	comp=Z,6.2nm,1.4s						
U49A	**Red Boiling Sp**	**35.40**	**7**	P	**P**	**23 30 54.8**	**+0.4**
U49A				IAmb	IAmb	23 30 57.1	
	comp=Z,4.9nm,1.1s						
T42A	**Van Buren**	**35.57**	**0**	P	**P**	**23 30 57.0**	**+1.1**
T42A				IAmb	IAmb	23 30 58.6	
	comp=Z,6.4nm,1.1s						
MGMO	**Mountain Grove**	**35.71**	**358**	P	**P**	**23 30 54.4**	**-2.7**
MGMO				IAmb	IAmb	23 31 00.6	
	comp=Z,6.4nm,0.9s						
T47A	**Sharon Grove**	**35.72**	**5**	P	**P**	**23 30 55.9**	**-1.2**
T35A	**Sooner Cattle**	**35.81**	**353**	P	**P**	**23 30 57.0**	**-1.0**
T35A				IAmb	IAmb	23 31 01.7	
	comp=Z,5.6nm,0.9s						
S39A	**Bolivar**	**36.29**	**357**	P	**P**	**23 31 00.6**	**-1.4**
214A	**Organ Pipe Nat**	**36.75**	**328**	P	**P**	**23 31 06.3**	**+0.2**
R40A	**Maddies Statio**	**36.85**	**358**	P	**P**	**23 31 06.9**	**+0.2**
R40A				IAmb	IAmb	23 31 09.9	
	comp=Z,6.0nm,0.8s						
WCI	**Wyandotte Cave**	**37.03**	**6**	P	**P**	**23 31 08.2**	**-0.1**
WCI				IAmb	IAmb	23 31 10.7	
	comp=Z,7.0nm,0.9s						
T25A	**Trinidad**	**37.74**	**343**	P	**P**	**23 31 16.2**	**+1.5**
T25A				IAmb	IAmb	23 31 20.1	
	comp=Z,4.2nm,0.9s						
BLO	**Bloomington**	**37.94**	**6**	P	**P**	**23 31 15.4**	**-0.7**
X16A	**Lo Mia Camp, P**	**38.05**	**332**	P	**P**	**23 31 18.8**	**+1.5**
P40A	**Paris**	**38.08**	**359**	P	**P**	**23 31 15.7**	**-1.5**
P38A	**Dawn**	**38.23**	**357**	P	**P**	**23 31 19.0**	**+0.6**
P38A				IAmb	IAmb	23 31 22.5	
	comp=Z,7.3nm,1.1s						
Q51A	**Peebles**	**38.23**	**10**	P	**P**	**23 31 18.7**	**+0.2**
P46A	**Rosedale**	**38.32**	**5**	P	**P**	**23 31 19.6**	**+0.4**
P48A	**Milroy**	**38.35**	**7**	P	**P**	**23 31 20.2**	**+0.7**
SDCO	**Great Sand Dun**	**38.63**	**342**	P	**P**	**23 31 23.4**	**+1.2**
WUAZ	**Wupatki**	**38.93**	**333**	P	**P**	**23 31 24.3**	**-0.4**
WUAZ				IAmb	IAmb	23 31 31.2	
	comp=Z,8.8nm,1.1s						
O49A	**Covington**	**39.21**	**8**	P	**P**	**23 31 27.0**	**+0.3**
O49A				IAmb	IAmb	23 31 29.2	
	comp=Z,12nm,1.1s						
N47A	**Urbana**	**39.72**	**6**	P	**P**	**23 31 30.3**	**-0.6**
PV03	**Paradox Valley**	**40.24**	**338**	P	**P**	**23 31 36.2**	**+0.6**
PV18	**Skein Mesa, Pa**	**40.26**	**338**	P	**P**	**23 31 36.8**	**+1.0**
PV12	**Saucer Basin,**	**40.28**	**338**	P	**P**	**23 31 36.8**	**+0.9**
PV12				IAmb	IAmb	23 31 45.5	
	comp=Z,6.0nm,1.0s						
PV11	**David Mesa, Pa**	**40.29**	**338**	P	**P**	**23 31 35.2**	**-0.7**
PV11				IAmb	IAmb	23 31 41.0	
	comp=Z,6.8nm,1.1s						
PV17	**East Wray Mesa**	**40.31**	**338**	P	**P**	**23 31 35.8**	**-0.3**
PV17				IAmb	IAmb	23 31 41.0	
	comp=Z,6.9nm,1.1s						
PV16	**Nyswonger Mesa**	**40.32**	**338**	P	**P**	**23 31 36.3**	**+0.1**
PV07	**Paradox Valley**	**40.33**	**339**	P	**P**	**23 31 37.1**	**+0.8**
PV04	**Paradox Valley**	**40.39**	**338**	P	**P**	**23 31 37.5**	**+0.8**
PV04				IAmb	IAmb	23 31 42.0	
	comp=Z,5.1nm,0.9s						
PV14	**Lion Creek, Pa**	**40.41**	**338**	P	**P**	**23 31 38.2**	**+1.2**
PV14				IAmb	IAmb	23 31 50.8	
	comp=Z,12nm,1.4s						
N53A	**Lisbon**	**40.43**	**12**	P	**P**	**23 31 37.9**	**+1.1**
N53A				IAmb	IAmb	23 31 39.1	
	comp=Z,11nm,1.3s						
HQIL	**Hanson Quary C**	**40.44**	**4**	P	**P**	**23 31 37.7**	**+0.8**
ISCO	**Idaho Springs**	**40.55**	**343**	P	**P**	**23 31 38.9**	**+0.6**
JFWS	**Jewell Farm**	**41.46**	**1**	P	**P**	**23 31 46.1**	**+0.8**
PSUT	**Pine Spring**	**42.54**	**333**	P	**P**	**23 31 55.5**	**+1.0**
RDMU	**Red Mountain**	**42.55**	**339**	P	**P**	**23 31 55.3**	**+0.8**
ECSD	**EROS Data Cent**	**42.55**	**354**	P	**P**	**23 31 52.5**	**-1.7**
ECSD				IAmb	IAmb	23 31 57.0	
	comp=Z,6.8nm,0.8s						
I37A	**Lemond, Waseca**	**42.60**	**358**	P	**P**	**23 31 56.1**	**+1.5**
CPUP	**Villa Florida**	**42.60**	**133**	P	**P**	**23 31 54.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=280,slow=9.2,SNR=3.2						
CPUP				LR	LR	23 50 33.9	
	comp=Z,90nm,19.4s,baz=324,slow=37						
CPUP	**Villa Florida**	**42.60**	**133**	P	**P**	**23 31 55.1**	**+0.2**
ISA	**Isabella, Lake**	**42.62**	**326**	P	**P**	**23 31 56.0**	**+1.0**
CTU	**Camp Tracy**	**43.47**	**337**	P	**P**	**23 32 03.9**	**+2.0**
CTU				IAmb	IAmb	23 32 09.2	
	comp=Z,4.4nm,0.9s						
BGU	**Big Grassy Mou**	**44.17**	**336**	P	**P**	**23 32 08.7**	**+1.1**
HWUT	**Hardware Ranch**	**44.18**	**338**	P	**P**	**23 32 08.5**	**+0.9**
HWUT				IAmb	IAmb	23 32 24.7	
	comp=Z,4.2nm,1.1s						
SPUT	**South Promonto**	**44.27**	**337**	P	**P**	**23 32 09.3**	**+1.0**
SPUT				IAmb	IAmb	23 32 13.4	
	comp=Z,4.3nm,1.2s						
PDAR	**Pinedale Array**	**44.49**	**341**	P	**P**	**23 32 10.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=153,slow=10.0,SNR=5.0						
LHV	**Little Huntoon**	**44.56**	**329**	P	**P**	**23 32 11.4**	**+0.9**
NVAR	**Mina Array Bea**	**44.59**	**329**	P	**P**	**23 32 10.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=142,slow=7.5,SNR=8.6						
NVAR	**Mina Array Bea**	**44.59**	**329**	P	**P**	**23 32 11.7**	**+0.6**
F33A	**5 Mile Ranch,**	**44.61**	**355**	P	**P**	**23 32 11.1**	**+0.3**
F33A				IAmb	IAmb	23 32 11.7	
	comp=Z,7.3nm,1.1s						
HVU	**Hansel Valley**	**44.80**	**337**	P	**P**	**23 32 13.9**	**+1.3**
ELK	**Elko**	**44.96**	**334**	P	**P**	**23 32 15.1**	**+1.2**
KVN	**Kaiserville**	**44.97**	**330**	P	**P**	**23 32 15.8**	**+1.8**
KVN				IAmb	IAmb	23 32 19.6	
	comp=Z,3.2nm,0.9s						
E38A	**The Farm, Brul**	**45.14**	**360**	P	**P**	**23 32 15.3**	**+0.4**
REDW	**Red Top Meadow**	**45.46**	**340**	P	**P**	**23 32 19.4**	**+1.5**
REDW				IAmb	IAmb	23 32 22.8	
	comp=Z,6.7nm,1.1s						
YERR	**Yerington**	**45.49**	**329**	P	**P**	**23 32 20.9**	**+2.7**
SNOW	**Snow King Moun**	**45.51**	**340**	P	**P**	**23 32 19.6**	**+1.3**
SNOW				IAmb	IAmb	23 32 28.4	
	comp=Z,5.6nm,0.9s						
TPAW	**Teton Pass**	**45.60**	**340**	P	**P**	**23 32 20.0**	**+0.9**
PLCA	**Paso Flores**	**45.82**	**158**	LR	LR	23 47 51.1	
	comp=Z,69nm,19.7s,baz=360,slow=31						
AGMN	**Agassiz Nation**	**47.02**	**356**	P	**P**	**23 32 28.8**	**-0.9**
MOD	**Modoc Plateau**	**48.22**	**331**	P	**P**	**23 32 38.5**	**-0.9**
MOD				IAmb	IAmb	23 32 47.8	
	comp=Z,4.2nm,1.1s						
ULM	**Lac du Bonnet**	**48.96**	**356**	P	**P**	**23 32 45.3**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=192,slow=7.4,SNR=6.4						
ULM	**Lac du Bonnet**	**48.96**	**356**	P	**P**	**23 32 46.1**	**+1.4**
RKT	**Rikitea**	**49.10**	**238**	*e*T	T	00 25 38.5	
	comp=Z,1.3nm,0.3s						
TAOE	**Nuku Hiva Isla**	**49.90**	**257**	*e*LR	LR	23 47 02.6	
	comp=Z,145nm,23.3s						
E09A	**Wood Farm, Sta**	**50.88**	**336**	P	**P**	**23 33 01.2**	**+1.8**
E09A				IAmb	IAmb	23 33 03.6	
	comp=Z,4.3nm,1.0s						
PPT	**Papeete**	**60.53**	**249**	LR	LR	23 54 19.8	
	comp=Z,88nm,19.2s,baz=24,slow=30						
PPT2	**Papeete2**	**60.54**	**249**	*e*LR	LR	23 52 19.9	
	comp=Z,129nm,24.8s						
TBI	**Tubuai**	**61.76**	**243**	*e*LR	LR	23 52 56.8	
	comp=Z,135nm,28.2s						
YKA	**Yellowknife Ar**	**63.56**	**348**	P	**P**	**23 34 26.7**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=144,slow=6.7,SNR=2.0						
K27K	**Chicken**	**72.72**	**339**	P	**P**	**23 35 28.9**	**+2.6**
K27K				IAmb	IAmb	23 35 31.9	
	comp=Z,3.2nm,0.9s						
INK	**Inuvik**	**72.84**	**345**	P	**P**	**23 35 24.3**	**-2.6**
	comp=Z,1.4nm,1.1s,baz=174,slow=8.7,SNR=3.2						
INK	**Inuvik**	**72.84**	**345**	P	**P**	**23 35 25.2**	**-1.7**
INK				IAmb	IAmb	23 35 34.5	
	comp=Z,2.9nm,1.0s						
ILAR	**Eielson Array**	**74.87**	**338**	P	**P**	**23 35 35.9**	**-3.0**
	comp=Z,1.6nm,0.8s,baz=144,slow=3.3,SNR=5.3						
ILAR	**Eielson Array**	**74.87**	**338**	P	**P**	**23 35 37.1**	**-1.8**
BMAR	**Burnt Mountain**	**75.51**	**341**	P	**P**	**23 35 41.8**	**-0.9**
ESDC	**Sonseca Array**	**86.98**	**51**	P	**P**	**23 36 46.5**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=288,slow=6.9,SNR=3.2						
ESDC				LR	LR	00 11 45.3	
	comp=Z,29nm,19.4s,baz=310,slow=33						
NOA	**NORSAR Array B**	**94.84**	**29**	LR	LR	00 14 03.8	
	comp=Z,6.6nm,20.3s,baz=245,slow=32						
VNDA	**Vanda**	**94.90**	**192**	LR	LR	00 10 52.7	
	comp=Z,34nm,18.1s,baz=168,slow=30						
H11N3	**WAKE ISLAND Hyl**	**00.85**	**290**	T	T	01 30 15.2	
	baz=81,slow=75,SNR=7.3						
H11N2	**WAKE ISLAND Hyl**	**00.86**	**290**	T	T	01 30 16.1	
	baz=81,slow=75,SNR=7.0						
H11N1	**WAKE ISLAND Hyl**	**00.87**	**290**	T	T	01 30 16.5	
	baz=81,slow=75,SNR=6.9						
H11S2	**WAKE ISLAND Hyl**	**01.15**	**289**	T	T	01 30 37.1	
	baz=86,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hyl**	**01.16**	**289**	T	T	01 30 37.6	
	baz=86,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hyl**	**01.17**	**289**	T	T	01 30 38.3	
	baz=86,slow=75,SNR=47						
MKAR	**Makanchi Array**	**131.77**	**6**	PKP	**PKiKP**	**23 43 12.9**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=305,slow=5.1,SNR=3.6						

*ISK **07** 23:36:54.9, 41°.74N×43°.00E, h10km, ML2.5/6*

*TIF **07** 23:36:55.5, 41°.69N×43°.01E, h15km*

*DDA **07** 23:36:57.3, 41°.56N×43°.00E, h7km±2km, ML2.0*

ISC 07 23:36:55.7±0.9, 41°.71N±0°.03×43°.03E±0°.02, h14km±7km, n20, σ0§53/36, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABS	**Abastumani**	**0.17**	**287**	P	**Pg**	**23 36 60.0**	**+0.1**
ABS				S	**Sg**	**23 37 02.9**	**+0.2**
EPOS	**Posof**	**0.30**	**229**	*i* P	**Pg**	**23 37 01.8**	**-0.3**
EPOS				*i* S	**Sg**	**23 37 06.1**	**-0.2**
BKRG	**Bakuriani**	**0.37**	**81**	P	**Pg**	**23 37 03.8**	**+0.6**
BKRG				S	**Sb**	**23 37 10.0**	**+0.1**
AKH	**Akhalkalaki**	**0.46**	**130**	P	**Pb**	**23 37 05.5**	**-0.1**
AKH				S	**Sb**	**23 37 12.3**	**0.0**
AKH	**Akhalkalaki**	**0.46**	**130**	PG	**Pb**	**23 37 05.4**	**-0.2**
AKH				SG	**Sb**	**23 37 12.3**	**0.0**
BGD	**Bogdanovka**	**0.61**	**136**	P	**Pb**	**23 37 08.2**	**-0.1**
BGD				S	**Sb**	**23 37 16.9**	**0.0**
TKB	**Tkibuli**	**0.65**	**358**	P	**Pb**	**23 37 09.0**	**+0.2**
TKB				S	**Sb**	**23 37 18.2**	**+0.5**
ONI	**Oni**	**0.94**	**19**	P	**Pn**	**23 37 14.7**	**+0.2**
ONI				S	**Sn**	**23 37 27.9**	**+0.1**
DAGI	**Agillar**	**1.05**	**234**	*i* P	**Pn**	**23 37 16.6**	**+0.5**
DAGI				*i* S	**Sb**	**23 37 29.3**	**0.0**
KARS	**Kars**	**1.08**	**178**	PN	**Pn**	**23 37 16.9**	**+0.4**
DBOC	**Borcka**	**1.08**	**251**	*i* P	**Pn**	**23 37 16.6**	**+0.1**
DBOC				*i* S	**Sb**	**23 37 30.0**	**-0.4**
DBOC				IAML		23 37 31.0	
	comp=E,43nm,0.3s						
BCA	**Borcka**	**1.09**	**257**	PG	**Pb**	**23 37 16.0**	**-0.3**
BCA				SG	**Sn**	**23 37 31.4**	**0.0**
DBAD	**Bademkaya**	**1.22**	**236**	*i* P	**Pn**	**23 37 18.1**	**-0.3**
DBAD				*i* S	**Sb**	**23 37 34.0**	**-0.2**
DBAD				IAML		23 37 35.0	
	comp=E,34nm,0.

QIR1 *e* 23 57 25.9
comp=Z,15µm,0.7s
BANOM Banah 2.15 152 *e*P **Pn** **23 56 40.5 +0.7**
SNR=50
BANOM Banah 2.15 152 *e*Pn **Pn** **23 56 41.0 +1.2**
BANOM Banah 2.15 152 P **Pn** **23 56 40.5 +0.7**
SNR=38
BANOM S **Sn** **23 57 07.8 +1.3**
KHNJ Kahnooj 2.23 87 *e*Pn **Pb** **23 56 42.7 -1.7**
NGRK Negar Kerman 2.25 37 *e*Pn **Pb** **23 56 43.3 -1.7**
NGRK *e* 23 57 26.2
comp=Z,4µm,0.7s
KRBR Kerman 2.55 32 *e*Pn **Pb** **23 56 48.2 -1.7**
KRBR *e*Sg **Sg** **23 57 25.2 -0.7**
KRBR IAML 23 57 32.2
comp=N,246nm,0.7s
KRBR IAML 23 57 32.3
comp=E,247nm,0.6s
KRBR Kerman 2.55 32 *e*Pn **Pb** **23 56 48.2 -1.7**
TVBK TV Kerman 2.55 32 *e*Pn **Pb** **23 56 48.3 -1.7**
TVBK *e* 23 57 30.9
comp=Z,5µm,0.6s
MASF Masafi 2.60 160 P **Pn** **23 56 47.1 +1.0**
SNR=5.6
MSFE Esma-Masafi 2.62 160 *e*P **Pn** **23 56 46.3 0.0**
SNR=10
MSFE Esma-Masafi 2.62 160 *e*Pn **Pn** **23 56 47.6 +1.4**
MDH Madha 2.71 158 *e*P **Pn** **23 56 48.0 +0.5**
SNR=5.8
MDH Madha 2.71 158 *e*Pn **Pn** **23 56 48.9 +1.3**
MDH Madha 2.71 158 P **Pn** **23 56 48.6 +1.0**
MDH S **Sn** **23 57 20.3 -0.1**
KHGB Koh Gabri 2.77 24 *e*Pn **Pb** **23 56 51.6 -2.1**
KHGB *e* 23 57 40.0
comp=Z,2µm,0.6s
NAZ Nazwa, Dubai 2.87 171 P **Pn** **23 56 50.4 +0.7**
NAZ Nazwa, Dubai 2.87 171 *e*Pn **Pn** **23 56 51.9 +2.2**
NAZ Nazwa, Dubai 2.87 171 P **Pn** **23 56 52.1 +2.4**
CHMN Cheshme madani 2.89 45 *e*Pn **Pb** **23 56 53.1 -2.6**
CHMN *e* 23 57 46.0
comp=Z,2µm,0.6s
SHI Shiraz 2.96 308 *e*Pn **Pn** **23 56 52.4 +1.3**
UOSS Minazif 3.02 162 *e*P **Pn** **23 56 52.3 +0.5**
SNR=12
UOSS Minazif 3.02 162 **Pn** **23 56 52.6 +0.9**
UOSS Minazif 3.02 162 *e*Pn **Pn** **23 56 52.8 +1.0**
UOSS Minazif 3.02 162 P **Pn** **23 56 52.7 +0.9**
FAQ Al Faqa, Dubai 3.10 173 *i* P **Pn** **23 56 54.1 +1.2**
SNR=9.7
FAQ Al Faqa, Dubai 3.10 173 *e*Pn **Pn** **23 56 54.8 +1.9**
FAQ Al Faqa, Dubai 3.10 173 P **Pn** **23 56 55.0 +2.1**
SNR=9.7
HATD Hatta, Dubai 3.12 164 P **Pn** **23 56 52.5 -0.6**
HATD Hatta, Dubai 3.12 164 *e*Pn **Pn** **23 56 54.9 +1.8**
HATD Hatta, Dubai 3.12 164 P **Pn** **23 56 54.3 +1.2**
ASUD Al Ashush, Dub 3.20 178 *i* P **Pn** **23 56 55.9 +1.7**
SNR=7.0
ASUD Al Ashush, Dub 3.20 178 *e*Pn **Pn** **23 56 56.1 +1.9**
ASUD Al Ashush, Dub 3.20 178 P **Pn** **23 56 57.0 +2.8**
SNR=7.0
ASHO Ashiyiah 3.23 166 *i* P **Pn** **23 56 54.8 +0.1**
SNR=20
ASHO Ashiyiah 3.23 166 P **Pn** **23 56 56.2 +1.4**
SNR=20
JRN Qarnain Island 3.56 217 P **Pn** **23 57 01.7 +2.5**
IMEH Mehriz 3.58 352 *e*Pn **Pn** **23 57 02.4 +2.7**
KAZI Kazerun 3.58 301 *e*Pn **Pn** **23 57 00.7 +1.0**
IBAF Bafgh 3.76 5 *e*Pn **Pn** **23 57 04.4 +2.3**
ALNE Al Ain 3.80 172 *e*P **Pn** **23 57 02.0 -0.5**
SNR=5.2
ALNE Al Ain 3.80 172 *e*Pn **Pn** **23 57 03.9 +1.4**
ALNE Al Ain 3.80 172 P **Pn** **23 57 04.1 +1.6**
SNR=6.4
SOHO SOHO 3.88 162 P **Pn** **23 57 04.1 +0.5**
ISAD Sadrabad 4.27 343 *e*Pn **Pn** **23 57 12.0 +2.8**
GHWR Ruwais 4.38 209 P **Pn** **23 57 10.7 +0.3**
ICHK Chekchek 4.45 351 *e*Pn **Pn** **23 57 13.6 +2.0**
KLNJ Kolanjah 4.45 316 *e*Pn **Pn** **23 57 12.9 +1.1**
YZKH Yazd 4.57 354 *e*Pn **Pn** **23 57 15.8 +2.6**
YZKH Yazd 4.57 354 *e*Pn **Pn** **23 57 15.8 +2.6**
ARQ Araqi 4.64 165 P **Pn** **23 57 16.0 +1.9**
SNR=11
HOQ Hoqain 4.65 155 P **Pn** **23 57 15.2 +1.0**
IRAM Ramesheh 4.65 329 *e*Pn **Pn** **23 57 16.5 +2.1**
TRNA Turayna 4.72 230 P **Pn** **23 57 15.6 +0.4**
SLWR Sila 4.89 221 P **Pn** **23 57 18.2 +0.6**
BIDO Bidbid 5.05 148 P **Pn** **23 57 20.1 +0.5**
IGAR Gharneh 5.31 330 *e*Pn **Pn** **23 57 23.6 +0.2**
BSRN Basiran 5.35 39 *e*Pn **Pn** **23 57 26.6 +2.6**
BSRN Basiran 5.35 39 *e*Pn **Pn** **23 57 26.6 +2.6**
SMDO Samad 5.41 151 P **Pn** **23 57 25.9 +1.1**
ANAR Anarak 5.48 347 *e*Pn **Pn** **23 57 27.8 +2.0**
WSAR Wadi Sarin 5.53 145 Pn **Pn** **23 57 27.2 +0.9**
comp=Z,1.6nm,0.3s,baz=324,slow=5.6,SNR=37
WSAR Sn **Sn** **23 58 26.5 -3.5**
comp=Z,0.7nm,0.3s,baz=13,slow=16,SNR=1.6
JMDO Jabal Madar 6.05 153 P **Pn** **23 57 35.0 +1.5**
IPIR Pirpir 6.09 323 *e*Pn **Pn** **23 57 35.8 +1.5**
WBK Wadi Bani Khal 6.23 146 P **Pn** **23 57 36.1 +0.2**
SNR=23
IKLH Kolahrood 6.29 331 *e*Pn **Pn** **23 57 38.6 +1.7**
SRVN Saravan 6.41 92 *e*Pn **Pn** **23 57 41.1 +2.6**
AFRZ Afriz 6.47 30 *e*Pn **Pn** **23 57 41.6 +2.2**
KRSH Karshahi 6.65 338 *e*Pn **Pn** **23 57 43.6 +1.7**
QAMS Qamsar 6.72 332 *e*Pn **Pn** **23 57 45.5 +2.6**
JLN Jalan Bani Buh 6.83 145 P **Pn** **23 57 43.9 -0.3**
ISFB Sefidab 6.97 339 *e*Pn **Pn** **23 57 48.3 +2.2**
MHTO MHTO 7.27 159 P **Pn** **23 57 51.0 +0.7**
SNR=9.4
BMDN Meydan 7.99 318 *e*Pn **Pn** **23 58 02.1 +1.9**
DQM DQM 8.16 164 P **Pn** **23 58 05.6 +3.2**
IDOB Doab 8.46 316 *e*Pn **Pn** **23 58 07.9 +1.2**
IKFM Kafar-mosalman 8.49 314 *e*Pn **Pn** **23 58 08.1 +1.2**
HRA Herat 8.90 41 Pn **Pn** **23 58 15.9 +3.2**
DOK Doka 9.23 186 P **Pn** **23 58 16.5 -0.6**
SNR=6.9
RAYN Ar Rayn 9.73 246 **Pn** **23 58 23.8 -0.2**
SHAO Shalim 9.78 178 P **Pn** **23 58 25.6 +1.0**
SNR=7.9
WHFO Wadi Hawf 9.96 188 P **Pn** **23 58 25.8 -1.3**
SNR=18
DMTO DMTO 10.07 181 P **Pn** **23 58 27.2 -1.4**
IDHR Dehrash 10.17 314 *e*Pn **Pn** **23 58 30.3 +0.1**
RBK Rabkut 10.32 185 P **Pn** **23 58 32.3 +0.2**
KARS Kars 16.20 325 Pn **Pn** **23 59 52.0 +0.3**
NIL Nilore 16.57 65 Pn **P** **23 59 57.8 -1.1**
NIL IAmb IAmb 00 00 02.8
comp=Z,9.2nm,1.1s
GAR Garm 16.81 45 Pn **Pn** **23 59 59.5 0.0**
KOPT Kop Dagi 17.18 319 P **Pn** **00 00 05.4 +1.1**
ONI Oni 17.54 330 **Pn** **00 00 09.4 +0.9**
BTK Batken 17.77 43 **P** **00 00 12.7 +0.5**
GAZ Gaziantep 17.77 306 **Pn** **00 00 11.1 -0.4**
MMAI Mount Meron Ar 17.82 292 P **Pn** **00 00 12.2 +0.1**
comp=Z,0.3nm,0.3s,baz=103,slow=15,SNR=9.7
DRK Karamyk 18.03 46 P **Pn** **00 00 14.9 +0.1**
KBZ Khabaz 18.70 331 P **Pn** **00 00 24.0 +1.4**
comp=Z,0.1nm,0.3s,baz=176,slow=9.0,SNR=2.0
KIV Kislovodsk 18.97 331 P **P** **00 00 25.3 -0.1**
KIV IAmb IAmb 00 00 34.9
comp=Z,6.0nm,0.8s
KK31 Karatay Array 19.64 35 P **Pn** **00 00 34.0 -0.1**
KKAR Karatay Array 19.64 35 P **Pn** **00 00 33.7 -0.4**
KKAR IAmb IAmb 00 00 38.6
comp=Z,7.0nm,1.5s
BRTR Keskin Array B 21.42 309 P **P** **00 00 52.5 +0.4**
comp=Z,3.4nm,0.7s,baz=131,slow=13,SNR=20
BRTR Keskin Array B 21.42 309 P **P** **00 00 51.9 -0.3**
BR131 Keskin Array S 21.42 309 P **P** **00 00 52.0 -0.1**
BR131 IAmb IAmb 00 00 56.8
comp=Z,7.4nm,0.9s
AAK Ala-Archa 21.53 42 P **P** **00 00 53.8 +0.5**
AAK IAmb IAmb 00 01 04.2
comp=Z,5.1nm,0.8s
ABKAR Akbulak array 21.70 8 P **P** **00 00 55.7 +0.9**
ABKAR Akbulak array 21.70 8 P **P** **00 00 55.3 +0.5**
ABKAR IAmb IAmb 00 00 58.4
comp=Z,3.2nm,0.9s
ANTO Ankara 22.07 309 P **P** **00 00 59.2 +0.2**
ANTO IAmb IAmb 00 01 04.7
comp=Z,8.2nm,0.8s
BOOM Boomskoye usch 22.32 44 P **P** **00 01 02.6 +0.8**
BOOM IAmb IAmb 00 01 05.8
comp=Z,5.0nm,1.0s

AKTO Aktyubinsk 22.67 5 P **P** **00 01 05.3 +0.1**
comp=Z,1.5nm,0.7s,baz=157,slow=11,SNR=3.6
KDJ Kajisay 22.89 46 P **P** **00 01 09.4 +1.5**
KDJ IAmb IAmb 00 02 01.9
comp=Z,2.9nm,0.8s
ELL Elmali 23.09 299 P **P** **00 01 08.9 -1.1**
BRVK Borovoye 27.57 20 P **P** **00 01 51.1 +0.2**
BRVK IAmb IAmb 00 01 54.3
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 27.58 20 P **P** **00 01 50.9 -0.1**
comp=Z,1.3nm,0.8s,baz=239,slow=23,SNR=6.7
MAKZ Makanchi 28.29 41 P **P** **00 01 57.8 +0.3**
MAKZ IAmb IAmb 00 01 58.4
comp=Z,3.1nm,1.1s
MK31 Makanchi Array 28.46 41 P **P** **00 01 58.5 -0.5**
MK31 IAmb IAmb 00 02 00.3
comp=Z,4.3nm,1.7s
MKAR Makanchi Array 28.46 41 P **P** **00 01 59.4 +0.4**
comp=Z,0.4nm,0.5s,baz=228,slow=7.1,SNR=4.6
MKAR Makanchi Array 28.46 41 P **P** **00 01 58.8 -0.2**
KURBB Kurchatov Area 28.84 32 P **P** **00 02 02.0 -0.2**
comp=Z,1.0nm,0.8s,baz=232,slow=8.6,SNR=8.3
AKASG Malin Array Be 30.14 326 P **P** **00 02 13.3 -0.5**
comp=Z,0.3nm,0.4s,baz=134,slow=8.4,SNR=4.2
AKASG Malin Array Be 30.14 326 IAmb IAmb 00 02 15.9
comp=Z,1.0nm,1.1s
AKBB Malin Array Si 30.14 326 P **P** **00 02 13.0 -0.8**
AKBB IAmb IAmb 00 02 13.7
comp=Z,2.8nm,0.8s
PDG Podgorica 32.53 306 P **P** **00 02 33.4 -1.5**
TIP Timpagrande 33.75 300 P **P** **00 02 45.3 -0.4**
ZAA0 Zalesovo Array 33.94 32 P **P** **00 02 45.9 -1.1**
ZAA0 IAmb IAmb 00 02 47.2
comp=Z,2.9nm,0.7s
ZALV Zalesovo Beam 33.94 32 P **P** **00 02 46.6 -0.4**
comp=Z,2.8nm,0.6s,baz=241,slow=8.9,SNR=10
ZALV Zalesovo Beam 33.94 32 P **P** **00 02 46.1 -0.9**
PAOL Paolisi 35.68 302 P **P** **00 03 02.4 0.0**
GERES GERESS Array B 38.10 315 P **P** **00 03 21.0 -1.9**
FIA1 FINESS Array S 38.82 338 P **P** **00 03 27.9 -0.7**
FINES FINESS Array B 38.82 338 P **P** **00 03 28.5 -0.1**
comp=Z,1.1nm,0.6s,baz=139,slow=11,SNR=13
KEST Kesra 39.47 293 P **P** **00 03 35.8 +1.2**
comp=Z,2.2nm,0.8s,baz=135,slow=12,SNR=4.2
VSL Villasalto 39.48 299 P **P** **00 03 35.0 +0.5**
VSL IAmb IAmb 00 03 36.5
comp=Z,5.9nm,1.2s
CHTO Chiang Mai 40.99 93 P **P** **00 03 47.0 -0.3**
CHTO IAmb IAmb 00 03 52.0
comp=Z,8.0nm,1.4s
CMAR Chiang Mai Arr 41.12 93 P **P** **00 03 49.1 +0.8**
comp=Z,0.7nm,0.3s,baz=283,slow=7.9,SNR=4.3
SONM Songino Array 44.19 49 P **P** **00 04 13.4 +0.4**
comp=Z,0.9nm,1.0s,baz=269,slow=8.6,SNR=4.4
SONM Songino Array 44.19 49 P **P** **00 04 13.2 +0.1**
SONM IAmb IAmb 00 04 42.1
comp=Z,3.9nm,1.8s
NOA NORSAR Array B 44.28 331 P **P** **00 04 15.1 +1.6**
comp=Z,0.8nm,0.7s,baz=118,slow=7.7,SNR=3.8
ULN Ulaanbaatar 44.63 49 P **P** **00 04 15.1 -1.6**
ULN IAmb IAmb 00 04 17.9
comp=Z,1.5nm,0.8s
NRIK Noril'sk 45.60 15 P **P** **00 04 24.3 +0.6**
comp=Z,1.7nm,0.6s,baz=185,slow=2.9,SNR=3.7
NRIK Noril'sk 45.60 15 P **P** **00 04 23.5 -0.3**
NRIK IAmb IAmb 00 04 25.2
comp=Z,6.4nm,1.2s
ESDC Sonseca Array 49.77 300 P **P** **00 04 55.7 -1.0**
comp=Z,0.6nm,0.7s,baz=69,slow=7.7,SNR=6.7
ESDC Sonseca Array 49.77 300 IAmb IAmb 00 05 10.5
comp=Z,4.7nm,1.7s
PAB San Pablo 50.08 300 P **P** **00 04 57.8 -1.3**
KSRS Korea Array 60.63 61 P **P** **00 06 14.5 -0.5**
comp=Z,2.0nm,0.7s,baz=280,slow=7.0,SNR=8.2
BOSA Boshof 63.03 209 P **P** **00 06 32.5 +1.2**
comp=Z,7.7nm,1.3s,baz=38,slow=8.7,SNR=3.7
ILAR Eielson Array 86.11 9 P **P** **00 08 44.1 -0.5**
comp=Z,0.3nm,0.7s,baz=319,slow=4.5,SNR=4.3
YKA Yellowknife Ar 89.62 355 P **P** **00 09 01.2 -0.3**
comp=Z,0.8nm,0.7s,baz=1.4,slow=2.5,SNR=2.9
ASAR Alice Springs 91.52 116 P **P** **00 09 10.2 -0.8**
comp=Z,0.5nm,0.6s,baz=302,slow=4.2,SNR=5.9

NEIC ***08*** *00:03:11.8±1.9, 11°.1S±0°.1×163°.0E±0°.1, h44km±13km, mb4.5/9, Error ellipse: s-maj=24.1km s-min=9.6km az=211.0*
IDC ***08*** *00:03:12.4±3.0, 11°.22S×162°.84E, h50km±26km, mb3.5/6, mb1 3.8/9, mb1mx3.6/30, mbtmp4.0/9, ML4.1/3, MS2.9/3, Ms1 2.9/3, ms1mx2.7/19, Error ellipse: s-maj=28.7km s-min=19.1km az=67.0*
ISC 08 00:03:10.7±0.8, **11°.24S**±0°.08×**162°.97E**±0°.09, **h34**km, **n23,**
σ1**§89**/24, **mb4.0/9, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.48**	**301**	P	**Pn**	**00 04 02.1**	**-0.4**
	64nm,0.3s,baz=166,slow=7.6,SNR=7.2						
HNR				S	**Sn**	**00 04 41.9**	**-0.6**
	43nm,0.3s,baz=132,slow=18,SNR=2.0						
HNR				LR	LR	00 04 58.4	
	comp=Z,79nm,21.8s,baz=154,slow=32						
HNR	**Honiara**	**3.48**	**301**		**Pn**	**00 04 03.0**	**+0.6**
SANVU	**Saraoutou**	**5.87**	**136**		**Pn**	**00 04 37.0**	**+1.7**
DZM	**Mont Dzumac**	**11.27**	**163**	P	**Pn**	**00 05 51.2**	**+1.7**
	0.4nm,0.3s,baz=14,slow=6.8,SNR=7.6						
DZM				S	**Sn**	**00 07 48.9**	**-5.4**
	0.3nm,0.3s,baz=308,slow=19,SNR=1.6						
DZM				LR	LR	00 09 20.6	
	comp=Z,108nm,18.3s,baz=262,slow=32						
ONTNC	**Ouen Toro**	**11.49**	**164**	Pn	**Pn**	**00 05 55.9**	**+3.4**
PMG	**Port Moresby**	**15.67**	**275**	LR	LR	00 13 07.3	
	comp=Z,62nm,19.3s,baz=84,slow=38						
CTA	**Charters Tower**	**18.33**	**239**	P	**Pn**	**00 07 22.7**	**+0.3**
	0.4nm,0.3s,baz=72,slow=17,SNR=2.5						
CTAO	**Charters Tower**	**18.33**	**239**	P	**Pn**	**00 07 24.5**	**+2.1**
LHI	**Lord Howe Isla**	**20.50**	**190**	P	**P**	**00 07 47.4**	**+1.5**
LHI				IAmb	IAmb	00 07 58.6	
	comp=Z,33nm,0.8s						
ARMA	**Armidale**	**21.80**	**207**	P	**P**	**00 08 03.0**	**+3.0**
STKA	**Stephens Creek**	**28.48**	**221**	P	**P**	**00 09 03.8**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=33,slow=8.1,SNR=3.9						
ASAR	**Alice Springs**	**30.29**	**242**	P	**P**	**00 09 17.0**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=68,slow=9.9,SNR=8.9						
ASAR	**Alice Springs**	**30.29**	**242**	P	**P**	**00 09 19.9**	**+0.9**
BBOO	**Buckleboo**	**32.74**	**225**	P	**P**	**00 09 40.5**	**+0.1**
BBOO				IAmb	IAmb	00 09 41.3	
	comp=Z,6.5nm,0.9s						
KNRA	**Kununurra**	**33.54**	**259**	P	**P**	**00 09 46.5**	**-1.0**
MLZ	**Mavora Lakes**	**34.29**	**174**	P	**P**	**00 09 52.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**36.70**	**255**	P	**P**	**00 10 13.8**	**-1.0**
FITZ				IAmb	IAmb	00 10 24.4	
	comp=Z,3.3nm,0.8s						
MORW	**Morawa**	**47.15**	**241**	P	**P**	**00 11 39.4**	**-0.6**
MORW				IAmb	IAmb	00 11 40.7	
	comp=Z,8.9nm,1.1s						
SONM	**Songino Array**	**77.24**	**325**	P	**P**	**00 15 01.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=136,slow=6.1,SNR=7.4						
SONM	**Songino Array**	**77.24**	**325**	P	**P**	**00 15 01.0**	**-0.5**
SONM				IAmb	IAmb	00 15 18.8	
	comp=Z,2.5nm,1.0s						
ILAR	**Eielson Array**	**84.58**	**19**	P	**P**	**00 15 40.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=218,slow=5.3,SNR=2.3						
NVAR	**Mina Array Bea**	**88.24**	**50**	P	**P**	**00 15 59.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=282,slow=6.4,SNR=2.0						
MKAR	**Makanchi Array**	**91.81**	**317**	P	**P**	**00 16 14.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=101,slow=6.5,SNR=3.5						

NEIC ***08*** *00:40:57.0±1.0, 12°.46S±0°.06×167°.2E±0°.2, h216km±10km, mb4.4/15, Error ellipse: s-maj=27.4km s-min=8.0km az=96.0*
IDC ***08*** *00:41:01.4±4.3, 12°.58S×166°.96E, h260km±44km, mb3.6/10, mb1 3.7/11, mb1mx3.4/39, mbtmp4.1/11, Error ellipse: s-maj=33.6km s-min=28.1km az=130.0*
ISC 08 00:40:56.9±0.6, **12°.57S**±0°.07×**167°.0E**±0°.1, **h220**km, **n33,**
σ1**§36**/35, **mb4.2**/17, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**2.86**	**177**		**Pn**	**00 41 47.3**	**+1.2**
SANVU				Sn	**S**	**00 42 26.2**	**+1.7**
LIFNC	**LIFOU**	**8.16**	**179**	Pn	**Pn**	**00 42 53.5**	**+1.2**
DZM	**Mont Dzumac**	**9.46**	**183**	P	**P**	**00 43 13.5**	**-3.5**
	0.7nm,0.3s,baz=349,slow=19,SNR=5.8						
DZM	**Mont Dzumac**	**9.46**	**183**		**P**	**00 43 13.1**	**-3.9**
EIDS	**Eidsvold**	**19.71**	**227**	P	**Pn**	**00 45 11.7**	**-2.5**
EIDS				IAmb	IAmb	00 45 24.5	
	comp=Z,12nm,1.1s						
LHI	**Lord Howe Isla**	**20.24**	**200**	P	**P**	**00 45 16.9**	**+1.4**
OUZ	**Omahuta**	**23.32**	**166**	P	**P**	**00 45 46.2**	**+0.9**
OUZ				IAmb	IAmb	00 45 59.4	
	comp=Z,11nm,1.2s						
PLWZ	**Palliser**	**29.77**	**168**	P	**P**	**00 46 42.8**	**-0.3**
LBZ	**Lake Benmore**	**31.82**	**176**	P	**P**	**00 47 01.8**	**+0.8**
LBZ				IAmb	IAmb	00 47 18.2	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**33.28**	**246**	P	**P**	**00 47 14.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=72,slow=9.1,SNR=5.9						
BBOO	**Buckleboo**	**34.75**	**229**	P	**P**	**00 47 27.4**	**+0.9**
KNRA	**Kununurra**	**37.20**	**261**	P	**P**	**00 47 47.9**	**+0.5**
KNRA				IAmb	IAmb	00 47 53.4	
	comp=Z,9.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.23**	**257**	P	**P**	**00 48 13.8**	**+1.3**
JMN	**Monobe**	**55.83**	**327**	P	**P**	**00 50 10.9**	**-0.7**
MJAR	**Matsushiro Arr**	**55.90**	**332**	P	**P**	**00 50 11.6**	**-0.4**
	comp=Z,5.0nm,1.0s,baz=172,slow=8.6,SNR=5.2						
JHS	**Saijyo**	**57.20**	**327**	P	**P**	**00 50 21.3**	**+0.1**
JHS				IAmb	IAmb	00 50 22.9	
	comp=Z,6.3nm,0.9s						
PETK	**Petropavlovsk-**	**65.90**	**354**	P	**P**	**00 51 19.7**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=213,slow=9.5,SNR=3.0						
KLR	**Kul'dur**	**68.95**	**336**	P	**P**	**00 51 39.1**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=139,slow=11,SNR=5.6						
SEY	**Seymchan**	**76.12**	**353**	P	**P**	**00 52 20.8**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=197,slow=19,SNR=3.5						
SONM	**Songino Array**	**80.63**	**323**	P	**P**	**00 52 45.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=131,slow=5.9,SNR=3.0						
RND	**Reindeer**	**82.97**	**18**	P	**P**	**00 52 57.0**	**-0.1**
RND				IAmb	IAmb	00 52 57.3	
	comp=Z,4.6nm,0.5s						
WRH	**Wood River Hil**	**83.98**	**18**	P	**P**	**00 53 01.5**	**-0.5**
WRH				IAmb	IAmb	00 53 01.7	
	comp=Z,4.8nm,0.5s						
CCB	**Clear Creek Bu**	**84.19**	**18**	P	**P**	**00 53 02.4**	**-0.7**
MDM	**Murphy Dome**	**84.29**	**18**	P	**P**	**00 53 02.6**	**-1.1**
IL31		**84.56**	**18**	P	**P**	**00 53 04.2**	**-0.7**
IL31				IAmb	IAmb	00 53 05.0	
	comp=Z,4.3nm,0.6s						
ILAR	**Eielson Array**	**84.56**	**18**	P	**P**	**00 53 04.0**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=247,slow=4.9,SNR=59						
ILAR	**Eielson Array**	**84.56**	**18**	P	**P**	**00 53 04.7**	**-0.2**
TXAR	**Lajitas Array**	**95.45**	**61**	P	**P**	**00 53 57.0**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=236,slow=6.4,SNR=2.5						
MKAR	**Makanchi Array**	**95.49**	**317**	P	**P**	**00 53 54.8**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=92,slow=6.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**95.52**	**324**	P	**P**	**00 53 56.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=142,slow=7.2,SNR=2.2						
ARCES	**ARCESS Array B**	**118.12**	**346**	PKP	**PKiKP**	**00 59 16.2**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=63,slow=5.6,SNR=5.8						
KEST	**Kesra**	**149.38**	**323**	PKPbc	**PKiKP**	**01 00 20.7**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=358,slow=6.2,SNR=2.5						
ESDC	**Sonseca Array**	**151.85**	**345**	PKPbc	**PKiKP**	**01 00 26.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=344,slow=3.1,SNR=5.0						
ESDC				PKPab	**PKPab**	**01 00 37.0**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=358,slow=4.2,SNR=6.3						

JMA ***08*** *01:15:09.5±0.2, 29°.39N×130°.78E, h25km±4km, M3.6*
NIED ***08*** *01:15:09.6, 29°.39N×130°.78E, h25km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.51; Mθθ-0.84; Mφφ0.33; Mrθ0.66; Mθφ-0.77; Mφr1.22; Fault plane solution: M0 1.74000×10^15 NP1:φs30.00000°, δ79.00000°, λ59.00000°. NP2:φs283.00000°, δ32.00000°, λ160.00000°.*
IDC ***08*** *01:15:54.6±25.0, 30°.83N×129°.22E, h340km±196km, mb3.1/7, mb1 3.1/7, mb1mx2.9/36, mbtmp3.7/7 Error ellipse: s-maj=182.7km s-min=37.6km az=167.0*
ISC 08 01:15:09.2±1.4, **29°.39N**±0°.04×**130°.74E**±0°.07, **h24**km±10km, **n21,** σ0**§90**/31, **mb3.7**/7, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYAK	**Yakushimahirau**	**0.87**	**347**	P	**Pn**	**01 15 25.7**	**-0.2**
JYAK				S	**Sn**	**01 15 37.4**	**-0.5**
JNN	**Nakanoshima**	**0.88**	**301**	P	**Pn**	**01 15 26.0**	**-0.1**
JNN				S	**Sn**	**01 15 38.8**	**+0.7**
JMTN	**Minamitane**	**1.02**	**8**	P	**Pb**	**01 15 28.1**	**0.0**
JMTN				S	**Sb**	**01 15 41.4**	**+0.3**
JKC	**Kuchinoerabu**	**1.17**	**336**	P	**Pb**	**01 15 30.5**	**-0.3**
JKC				S	**Sn**	**01 15 46.2**	**+0.9**
JTN	**Tanegashima 3**	**1.28**	**9**	P	**Pn**	**01 15 31.8**	**+0.2**
JTN				S	**Sb**	**01 15 49.2**	**+0.5**
JTAJ	**Takarajima**	**1.36**	**261**	P	**Pb**	**01 15 34.0**	**-0.1**
JAM	**Amami Oshima**	**1.39**	**226**	P	**Pb**	**01 15 34.4**	**-0.1**
JAM				*e*S	**Sb**	**01 15 52.3**	**+0.4**
JTSR	**Tashiro 2**	**1.78**	**5**	P	**Pn**	**01 15 39.4**	**+0.9**
JTSR				S	**Sn**	**01 16 01.5**	**+1.2**
JAMN	**Amaminishikomi**	**1.79**	**231**	P	**Pb**	**01 15 40.1**	**-1.1**
JTK	**Tokunoshima**	**2.24**	**225**	P	**Pn**	**01 15 46.6**	**+1.8**
JTK				*e*S	**Sb**	**01 16 14.9**	**-1.5**
JOKE	**Okinoerabujima**	**2.78**	**224**	P	**Pn**	**01 15 54.1**	**+1.9**
JYRO	**Yoronjima**	**3.10**	**221**	P	**Pn**	**01 15 57.8**	**+1.2**
JYRO				*e*S	**Sn**	**01 16 33.1**	**+0.2**
JOW	**Kunigami**	**3.35**	**221**	P	**Pn**	**01 16 01.6**	**+1.5**
JOW				*e*S	**Sn**	**01 16 39.4**	**+0.3**
JKDJ	**Kitadaitoujima**	**3.46**	**172**	*e*S	**Sn**	**01 16 40.7**	**-1.0**
SONM	**Songino Array**	**26.30**	**321**	P	**P**	**01 20 42.1**	**-0.8**
	0.4nm,0.4s,baz=127,slow=9.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.18**	**320**	P	**P**	**01 22 50.9**	**-0.7**
	0.6nm,0.5s,baz=123,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**41.20**	**309**	P	**P**	**01 22 51.5**	**-0.4**
	0.8nm,0.5s,baz=95,slow=11,SNR=12						
MKAR				PcP	**PcP**	**01 24 51.4**	**+0.7**
	0.2nm,0.6s,baz=82,slow=3.1,SNR=1.9						
ILAR	**Eielson Array**	**60.61**	**29**	P	P	01 25 26.0	+8.4
	0.3nm,0.8s,baz=258,slow=4.5,SNR=3.4						
FINES	**FINESS Array B**	**71.22**	**331**	P	**P**	**01 26 25.5**	**-0.3**
	3.4nm

1.2nm,0.3s
AB31 ⇑Lg Lg 01 37 12.8
8.8nm,0.6s
TKM2 Tokmak 2 9.57 71 ⇑Lg Lg 01 37 31.8
12nm,0.8s
OTUK Ortayu 10.12 37 ⇑Pn **Pn 01 34 52.8 -0.7**
1.9nm,0.4s
OTUK ⇑Sn **Sn 01 36 47.5 +0.8**
8.3nm,0.8s
OTUK ⇓Lg Lg 01 37 47.9
8.7nm,0.8s
AKTO Aktyubinsk 10.57 342 Pn **Pn 01 34 59.4 -0.3**
0.4nm,0.3s,baz=163,slow=13,SNR=7.0
AKTO Sn **Sn 01 36 51.4 -6.3**
0.5nm,0.3s,baz=226,slow=21,SNR=3.6
AKTO Lg Lg 01 38 04.4
0.2nm,0.3s,baz=231,slow=22,SNR=1.4
AKTO Aktyubinsk 10.57 342 ⇑Pn **Pn 01 34 58.7 -0.9**
3.0nm,0.8s
AKTO ⇑Lg Lg 01 37 59.6
16nm,1.1s
PDGK Podgornoye 12.45 72 ⇓Lg Lg 01 39 03.5
4.5nm,0.8s
BVAR Borovoye Array 13.44 19 Pn **Pn 01 35 38.4 -0.5**
0.8nm,0.3s,baz=206,slow=16,SNR=12
BVAR Sn **Sn 01 38 00.0 -7.9**
0.6nm,0.3s,baz=182,slow=26,SNR=3.4
BRVK Borovoye 13.45 19 ⇑Pn **Pn 01 35 40.0 +1.1**
1.4nm,0.5s
BRVK ⇑Sn **Sn 01 38 06.4 -1.5**
7.5nm,1.1s
BRVK ⇑Lg Lg 01 39 37.6
7.1nm,1.2s
MKAR Makanchi Array 15.16 59 Pn **Pn 01 36 00.1 -2.2**
0.1nm,0.3s,baz=246,slow=14,SNR=6.1
MKAR Lg Lg 01 40 33.5
0.1nm,0.3s,baz=264,slow=23,SNR=2.0
KBZ Khabaz 15.41 289 Pn **Pn 01 36 03.6 -1.9**
0.1nm,0.3s,baz=212,slow=16,SNR=1.4
KBZ Sn **Sn 01 38 49.9 -6.0**
0.1nm,0.3s,baz=72,slow=18,SNR=1.3
KVAR Kislovodsk Arr 15.57 290 Pn **Pn 01 36 08.1 +0.2**
baz=106,slow=20,SNR=1.2
ARU Arti 16.22 351 Pn **Pn 01 36 15.9 -0.1**
0.0nm,0.3s,baz=186,slow=21,SNR=2.0
ARU Lg Lg 01 41 04.9
0.0nm,0.3s,baz=121,slow=22,SNR=1.2
ZALV Zalesovo Beam 19.79 40 P **Pn 01 36 59.4 -0.5**
0.1nm,0.3s,baz=244,slow=10,SNR=1.9
AKASG Malin Array Be 25.66 305 P **P 01 37 59.2 +1.5**
0.4nm,0.4s,baz=96,slow=6.9,SNR=2.2
FINES FINESS Array B 30.73 325 P **P 01 38 44.4 +1.4**
1.4nm,0.5s,baz=116,slow=13,SNR=7.2
ARCES ARCESS Array B 35.13 338 P **P 01 39 24.6 +3.3**
1.2nm,0.7s,baz=77,slow=5.2,SNR=4.5
HFS Hagfors 36.10 320 P **P 01 39 31.4 +1.6**
1.0nm,0.6s,baz=98,slow=8.9,SNR=4.0
NOA NORSAR Array B 37.46 321 P **P 01 39 42.3 +0.9**
0.4nm,0.5s,baz=99,slow=8.5,SNR=2.0
TORD Torodi Ar. Bea 59.97 261 P **P 01 42 35.7 +0.9**
0.2nm,0.5s,baz=50,slow=7.2,SNR=2.1

*SJA **08** 01:32:48.2±0.6,24.2°29S×67.2°16W,h200km±4km,ML4.1, MW3.9*
*NEIC **08** 01:32:49.4±1.7,24.2°29S±0.2°06×67.2°09W±0.2°09,h178km±6km, mb4.4/82, Error ellipse: s-maj=11.3km s-min=8.2km az=84.0*
*IDC **08** 01:32:49.5±1.3,24.2°20S×67.2°00W,h175km±10km,mb3.5/7, mb1 3.6/13,mb1mx3.5/26,mbtmp4.0/13, Error ellipse: s-maj=20.1km s-min=14.4km az=26.0*
*VAO **08** 01:32:50.0±0.6,24.2°32S×67.2°18W,h200km±6km,mb4.0*
*GUC **08** 01:32:50.1±0.5,24.2°28S×67.2°39W,h210km±7km,ML4.6*

ISC 08 01:32:49.1±0.6,24°31S±0.04×67°17W±0.04,h178km±6km, n209,σ1°26/256,mb4.3/45,14C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.57**	**106**	*eP*	**Pn**	**01 33 23.2**	**+1.5**
SLA				*eS*	**Sn**	**01 33 49.1**	**+2.1**
LVC	**Limon Verde**	**2.33**	**316**	P	**Pn**	**01 33 31.4**	**+1.2**
127nm,0.3s,baz=134,slow=6.3,SNR=1052							
LVC				S	**Sn**	**01 34 02.7**	**+0.8**
90nm,0.3s,baz=72,slow=20,SNR=18							
LVC	**Limon Verde**	**2.33**	**316**	*eP*	**Pn**	**01 33 31.4**	**+1.2**
LVC				*eS*	**Sn**	**01 34 02.5**	**+0.5**
LVC	**Limon Verde**	**2.33**	**316**	Pn	**Pn**	**01 33 31.4**	**+1.2**
LVC				Sn	**Sn**	**01 34 02.4**	**+0.5**
LVC	**Limon Verde**	**2.33**	**316**	*eP*	**Pn**	**01 33 30.8**	**+0.7**
LVC	**Limon Verde**	**2.33**	**316**	*eS*	**Sn**	**01 34 03.1**	**+1.2**
GO02	**Mina Guanaco**	**2.36**	**248**	⇑*iP*	**Pn**	**01 33 31.8**	**+1.4**
GO02				*i* S	**Sn**	**01 34 03.6**	**+1.1**
GO02				IAML		01 34 04.6	
comp=E,3μm,0.5s							
GO02	**Mina Guanaco**	**2.36**	**248**	Pn	**Pn**	**01 33 31.8**	**+1.4**
GO02				Sn	**Sn**	**01 34 03.6**	**+1.1**
PB15	**IPOC Station P**	**2.38**	**297**	⇑*iP*	**Pn**	**01 33 31.9**	**+1.4**
PB15				*i* S	**Sn**	**01 34 03.2**	**+0.6**
PB15	**IPOC Station P**	**2.38**	**297**		**Pn**	**01 33 31.3**	**+0.7**
PB15				Sn	**Sn**	**01 34 02.7**	**+0.1**
PB15	**IPOC Station P**	**2.38**	**297**	*eP*	**Pn**	**01 33 31.8**	**+1.2**
PB15				*eS*	**Sn**	**01 34 03.9**	**+1.2**
YJA	**Yavi**	**2.61**	**36**	*eP*	**Pn**	**01 33 34.8**	**+1.3**
PB06	**IPOC Station P**	**2.73**	**305**	⇑*iP*	**Pn**	**01 33 35.6**	**+1.0**
PB06				*i* S	**Sn**	**01 34 09.5**	**-0.4**
PB06				IAML		01 34 11.6	
comp=N,1μm,0.3s							
PB06	**IPOC Station P**	**2.73**	**305**		**Pn**	**01 33 35.3**	**+0.7**
PB06				Sn	**Sn**	**01 34 09.4**	**-0.4**
PB06	**IPOC Station P**	**2.73**	**305**	*eP*	**Pn**	**01 33 35.5**	**+1.0**
PB06				*eS*	**Sn**	**01 34 10.2**	**+0.4**
PB06				IAML		01 34 16.4	
comp=Z,500nm,0.4s							
PB14	**IPOC Station P**	**2.97**	**263**	⇑*iP*	**Pn**	**01 33 38.2**	**+0.6**
PB14				*i* S	**Sn**	**01 34 13.9**	**-1.4**
PB14	**IPOC Station P**	**2.97**	**263**	Pn	**Pn**	**01 33 38.1**	**+0.5**
PB14				Sn	**Sn**	**01 34 13.8**	**-1.5**
AC02	**Maricunga**	**3.08**	**215**	⇓*iP*	**Pn**	**01 33 40.7**	**+1.6**
AC02	**Maricunga**	**3.08**	**215**	Pn	**Pn**	**01 33 40.4**	**+1.3**
AC02				Sn	**Sn**	**01 34 19.7**	**+1.5**
PB05	**IPOC Station P**	**3.14**	**297**	⇑*iP*	**Pn**	**01 33 40.0**	**+0.5**
PB05				*i* S	**Sn**	**01 34 17.9**	**-0.9**
PB05				IAML		01 34 21.1	
comp=N,511nm,0.3s							
PB09	**IPOC Station P**	**3.15**	**322**	⇑*iP*	**Pn**	**01 33 40.8**	**+1.1**
PB09				*i* S	**Sn**	**01 34 19.2**	**+0.1**
PB09	**IPOC Station P**	**3.15**	**322**		**Pn**	**01 33 40.8**	**+1.1**
PB09				Sn	**Sn**	**01 34 18.6**	**-0.5**
PB09	**IPOC Station P**	**3.15**	**322**	*eP*	**Pn**	**01 33 40.8**	**+1.1**
PB09				*eS*	**Sn**	**01 34 19.4**	**+0.3**
PB09				IAML		01 34 19.9	
comp=Z,501nm,0.9s							
PB10	**IPOC Station P**	**3.20**	**284**	*iP*	**Pn**	**01 33 40.6**	**+0.4**
PB10				*i* S	**Sn**	**01 34 18.5**	**-1.5**
PB10	**IPOC Station P**	**3.20**	**284**	Pn	**Pn**	**01 33 40.8**	**+0.7**
PB10				Sn	**Sn**	**01 34 18.4**	**-1.5**
PB03	**IPOC Station P**	**3.27**	**313**	⇑*iP*	**Pn**	**01 33 41.7**	**+0.5**
PB03				*i* S	**Sn**	**01 34 20.3**	**-1.5**
PB03	**IPOC Station P**	**3.27**	**313**	*eP*	**Pn**	**01 33 41.8**	**+0.5**
PB03				*eS*	**Sn**	**01 34 21.2**	**-0.7**
PB03				IAML		01 34 25.7	
comp=Z,482nm,0.3s							
PB04	**IPOC Station P**	**3.37**	**305**	⇑*iP*	**Pn**	**01 33 42.8**	**+0.3**
PB04				*i* S	**Sn**	**01 34 22.6**	**-1.4**
PB04	**IPOC Station P**	**3.37**	**305**	Pn	**Pn**	**01 33 42.3**	**-0.2**
PB04	**IPOC Station P**	**3.37**	**305**	*eP*	**Pn**	**01 33 43.0**	**+0.5**
PB04				*eS*	**Sn**	**01 34 23.7**	**-0.4**
PB04				IAML		01 34 27.4	
comp=Z,375nm,0.2s							
PB07	**IPOC Station P**	**3.59**	**315**	⇑*iP*	**Pn**	**01 33 45.4**	**+0.2**
PB07				*i* S	**Sn**	**01 34 26.5**	**-2.4**
PB07	**IPOC Station P**	**3.59**	**315**	Pn	**Pn**	**01 33 45.3**	**+0.1**
PB07	**IPOC Station P**	**3.59**	**315**	*eP*	**Pn**	**01 33 45.5**	**+0.2**
PB07				*eS*	**Sn**	**01 34 27.7**	**-1.2**
PB07				IAML		01 34 29.0	
comp=Z,399nm,0.3s							
AC01	**Pan de Azucar**	**3.61**	**239**	⇑*iP*	**Pn**	**01 33 45.0**	**-0.2**
AC01				*i* S	**Sn**	**01 34 27.7**	**-1.4**
AC01	**Pan de Azucar**	**3.61**	**239**	Pn	**Pn**	**01 33 44.9**	**-0.3**
PB01	**IPOC Station P**	**3.89**	**326**	⇑*iP*	**Pn**	**01 33 48.7**	**-0.2**
PB01				*i* S	**Sn**	**01 34 33.2**	**-2.5**
PB01	**IPOC Station P**	**3.89**	**326**		**Pn**	**01 33 48.8**	**-0.2**
PB01	**IPOC Station P**	**3.89**	**326**	*eS*	**Sn**	**01 34 34.1**	**-1.6**
PB01				IAML		01 34 36.0	
comp=Z,286nm,0.3s							
GO03	**Copiap**	**4.28**	**220**	⇑*iP*	**Pn**	**01 33 53.5**	**-0.3**
GO03				*i* S	**Sn**	**01 34 42.8**	**-1.8**
GO03	**Copiap**	**4.28**	**220**		**Pn**	**01 33 54.1**	**+0.2**
GO03	**Copiap**	**4.28**	**220**	*eP*	**Pn**	**01 33 54.3**	**+0.5**
GO03				*eS*	**Sn**	**01 34 43.0**	**-1.6**
PATCX	**Punta Patache**	**4.43**	**321**	⇓*iP*	**Pn**	**01 33 54.8**	**-1.1**
PATCX				*i* S	**Sn**	**01 34 45.1**	**-3.0**
PATCX	**Punta Patache**	**4.43**	**321**		**Pn**	**01 33 55.2**	**-0.6**
PATCX	**Punta Patache**	**4.43**	**321**	*eP*	**Pn**	**01 33 55.8**	**-0.1**
PATCX				IAML		01 34 53.2	
comp=Z,125nm,0.4s							
VCA	**Vinchina**	**4.51**	**192**	*eP*	**Pn**	**01 33 59.1**	**+2.3**
VCA				*eS*	**Sn**	**01 34 53.2**	**+3.3**
PB08	**IPOC Station P**	**4.54**	**336**	⇑*iP*	**Pn**	**01 33 57.8**	**+0.3**
PB08				*i* S	**Sn**	**01 34 49.2**	**-1.8**
PB08	**IPOC Station P**	**4.54**	**336**		**Pn**	**01 33 57.2**	**-0.3**
PB08	**IPOC Station P**	**4.54**	**336**	*eP*	**Pn**	**01 33 57.7**	**+0.3**
PB08				*eS*	**Sn**	**01 34 49.7**	**-1.3**
PB08				IAML		01 34 55.4	
comp=Z,113nm,0.4s							
TA01	**Diego Aracena**	**4.65**	**323**	*iP*	**Pn**	**01 33 57.9**	**-0.7**
TA01				*iS*	**Sn**	**01 34 49.3**	**-3.7**
TA01	**Diego Aracena**	**4.65**	**323**	Pn	**Pn**	**01 33 58.0**	**-0.7**
TA02	**Huaiquique**	**4.87**	**325**		**Pn**	**01 34 00.9**	**-0.5**
PB11	**IPOC Station P**	**5.08**	**332**	⇑*iP*	**Pn**	**01 34 02.8**	**-1.5**
PB11				*i* S	**Sn**	**01 34 59.3**	**-3.9**
PB11	**IPOC Station P**	**5.08**	**332**	Pn	**Pn**	**01 34 02.7**	**-1.5**
PB11	**IPOC Station P**	**5.08**	**332**	*eP*	**Pn**	**01 34 03.0**	**-1.3**
PB11				*eS*	**Sn**	**01 35 00.2**	**-3.1**
PB11				IAML		01 35 01.8	
comp=Z,124nm,0.6s							
AC04	**Llanos de Chal**	**5.23**	**221**	Pn	**Pn**	**01 34 05.0**	**-1.0**
PSGCX	**Pisagua**	**5.43**	**329**	Pn	**Pn**	**01 34 07.3**	**-1.5**
MNMC	**Minye Minye**	**5.62**	**336**		**Pn**	**01 34 10.5**	**-1.0**
LCO	**Las Campanas**	**5.65**	**213**	Pn	**Pn**	**01 34 11.9**	**+0.1**
AROD	**Rodeo**	**6.19**	**199**	*eP*	**Pn**	**01 34 20.0**	**+1.1**
AROD				*eP*		01 34 20.8	
AROD				*eS*	**Sn**	**01 35 30.2**	**+0.7**
PB16	**IPOC Station P**	**6.33**	**339**		**Pn**	**01 34 19.8**	**-1.3**
AVFE	**Valle Fertil**	**6.33**	**182**	*eP*	**Pn**	**01 34 20.8**	**+0.3**
AVFE				*eS*	**Sn**	**01 35 29.2**	**-3.4**
ACCO	**Cerro Coronel**	**6.48**	**195**	*eP*	**Pn**	**01 34 23.4**	**+0.7**
ACCO				*eS*	**Sn**	**01 35 36.2**	**-0.2**
GO04	**Tololo Observa**	**6.68**	**208**	Pn	**Pn**	**01 34 23.6**	**-1.7**
ACHE	**Chepes**	**6.84**	**176**	*eP*	**Pn**	**01 34 27.0**	**-0.3**
ACHE				*eS*	**Sn**	**01 35 41.4**	**-3.4**
CO03	**El Pedregal**	**7.22**	**205**	Pn	**Pn**	**01 34 31.0**	**-1.2**
CO03	**El Pedregal**	**7.22**	**205**	*eP*	**Pn**	**01 34 31.2**	**-1.0**
CO03				*eS*	**Sn**	**01 35 51.8**	**-1.8**
CO03				IAML		01 35 54.4	
comp=Z,24nm,0.6s							
CO02	**Combarbal**	**7.66**	**205**	Pn	**Pn**	**01 34 37.1**	**-1.0**
RTLS	**Leoncito**	**7.70**	**194**	*eP*	**Pn**	**01 34 40.0**	**+1.3**
RTLS				*eS*	**Sn**	**01 36 06.0**	**+0.7**
RTLS				IAML		01 36 09.0	
comp=Z,10nm,0.5s							
ACAN	**Cantantal**	**7.94**	**180**	*eP*	**Pn**	**01 34 40.8**	**-0.8**
ACAN				*eS*	**Sn**	**01 36 05.4**	**-5.3**
ACAN				IAML		01 36 08.3	
comp=Z,15nm,0.8s							
LPAZ	**La Paz**	**8.03**	**353**	P	**Pn**	**01 34 43.5**	**0.0**
comp=Z,2.0nm,0.3s,baz=163,slow=5.4,SNR=31							
LPAZ				S	**Sn**	**01 36 11.2**	**-2.7**
comp=Z,0.7nm,0.3s,baz=143,slow=20,SNR=9.3							
LPAZ	**La Paz**	**8.03**	**353**	Pn	**Pn**	**01 34 43.2**	**-0.3**
LPAZ	**La Paz**	**8.03**	**353**	*eP*	**Pn**	**01 34 43.8**	**+0.3**
AUSP	**Uspallata**	**8.13**	**193**	*eP*	**Pn**	**01 34 45.0**	**+0.7**
AUSP				*eS*	**Sn**	**01 36 16.4**	**+0.9**
MRA	**San Martin**	**8.18**	**171**	*eP*	**Pn**	**01 34 43.4**	**-1.5**
MRA				*eS*	**Sn**	**01 36 11.0**	**-5.6**
MRA				IAML		01 36 29.4	
comp=Z,14nm,0.7s							
CPUP	**Villa Florida**	**9.12**	**105**	P	**Pn**	**01 34 55.6**	**-1.7**
comp=Z,0.2nm,0.3s,baz=272,slow=12,SNR=6.9							
CPUP	**Villa Florida**	**9.12**	**105**	Pn	**Pn**	**01 34 56.1**	**-1.1**
SIV	**San Ignacio**	**10.06**	**36**	P	**Pn**	**01 35 07.1**	**-2.5**
comp=Z,0.5nm,0.3s,baz=223,slow=11,SNR=16							
RFA	**San Rafael**	**10.49**	**186**	*eP*	**Pn**	**01 35 14.0**	**-1.1**
AQDB	**Aquidauana**	**11.27**	**72**	*eP*	**Pn**	**01 35 25.7**	**+0.4**
PTLB	**Pontes e Lacer**	**11.60**	**42**	*eP*	**Pn**	**01 35 30.0**	**+0.4**
VILB	**Vilhena**	**13.08**	**31**	*eP*	**Pn**	**01 35 48.8**	**+0.3**
CPSB	**Cacapava Do Su**	**13.62**	**119**	*eP*	**Pn**	**01 35 54.3**	**-0.9**
SALV	**Santo Antonio**	**13.63**	**54**	*eP*	**Pn**	**01 35 56.4**	**+1.0**
PTGB	**Pitanga**	**13.75**	**95**	*eP*	**Pn**	**01 35 58.4**	**+1.4**
ITAB	**Concordia**	**13.86**	**105**	P	**Pn**	**01 36 00.2**	**+2.1**
ITAB	**Concordia**	**13.86**	**105**	*eP*	**Pn**	**01 35 59.5**	**+1.3**
PLTB	**Pedras Altas**	**14.08**	**125**	P	**Pn**	**01 36 01.6**	**+0.6**
PLTB	**Pedras Altas**	**14.08**	**125**	*eP*	**Pn**	**01 36 02.0**	**+1.0**
ETMB	**Extrema**	**14.44**	**4**	*eP*	**Pn**	**01 36 06.3**	**+0.8**
FRTB	**Fartura**	**16.14**	**90**	*eP*	**P**	**01 36 25.3**	**-0.8**
ITRB	**Iturama**	**16.24**	**77**	*eP*	**P**	**01 36 28.1**	**+0.8**
PLCA	**Paso Flores**	**16.62**	**189**	P	**Pn**	**01 36 32.5**	**+0.4**
comp=Z,0.1nm,0.3s,baz=344,slow=6.4,SNR=2.9							
PLCA	**Paso Flores**	**16.62**	**189**	P	**Pn**	**01 36 32.9**	**+0.9**
TER01	**Tubaro-SC**	**16.69**	**108**	*eP*	**P**	**01 36 31.6**	**-0.5**
ARAG	**Araguaiana, MT**	**16.76**	**62**	*eP*	**P**	**01 36 33.4**	**+0.3**
CLDB	**Colider**	**17.19**	**41**	*eP*	**P**	**01 36 35.9**	**-1.8**
CZSB	**Cruzeiro do Su**	**17.32**	**341**	*eP*	**P**	**01 36 40.1**	**+1.0**
BB19B	**Bebedouro**	**17.50**	**83**	*eP*	**P**	**01 36 41.2**	**+0.1**
PET01	**Itanhaem-SP**	**18.13**	**94**	*eP*	**P**	**01 36 47.1**	**-0.8**
VAO	**Valinhos**	**18.55**	**90**	*eP*	**P**	**01 36 51.6**	**-1.0**
IPMB	**Ipameri, GO**	**18.76**	**74**	*eP*	**P**	**01 36 54.1**	**-0.7**
PARB	**Paraibuna**	**19.73**	**92**	*eP*	**P**	**01 37 05.8**	**+0.4**
BDFB	**Brasilia**	**19.94**	**68**	P	**P**	**01 37 07.1**	**-0.6**
comp=Z,0.9nm,0.3s,baz=266,slow=8.9,SNR=7.9							
BDFB	**Brasilia**	**19.94**	**68**	P	**P**	**01 37 07.1**	**-0.6**
ESAR	**Angra dos Reis**	**20.85**	**91**	*eP*	**P**	**01 37 15.7**	**-1.5**
PEXB	**Peixe**	**21.61**	**59**	*eP*	**P**	**01 37 24.0**	**-1.3**
ITTB	**Itatiuba**	**22.68**	**31**	*eP*	**P**	**01 37 33.4**	**-2.2**
MC01	**Montes Claros**	**23.01**	**75**	*eP*	**P**	**01 37 36.5**	**-2.2**
JANB	**Januaria**	**23.37**	**71**	*eP*	**P**	**01 37 40.0**	**-2.0**
SDBA	**SAO DESIDERIO**	**24.17**	**65**	*eP*	**P**	**01 37 47.3**	**-2.0**
SMTB	**Santa Maria do**	**24.19**	**54**	*eP*	**P**	**01 37 48.3**	**-1.2**
PTGA	**Pitinga**	**24.45**	**18**	P	**P**	**01 37 50.6**	**-1.2**
comp=Z,1.1nm,0.5s,baz=210,slow=20,SNR=1.3							
NAN01	**Guarapari, ES**	**26.01**	**81**	*eP*	**P**	**01 38 03.7**	**-2.1**
BOAV	**Boa Vista**	**27.32**	**15**	*eP*	**P**	**01 38 17.2**	**-0.3**
RUSC	**La Rusia**	**30.57**	**348**	P	**P**	**01 38 46.6**	**-0.2**
RUSC				IAmb	IAmb	01 38 47.5	
comp=Z,8.8nm,1.0s							
NBMO	**Morrinhos-CE**	**33.47**	**56**	*eP*	**P**	**01 39 11.6**	**-0.1**
SJCC	**San Jacinto, C**	**34.88**	**346**	P	**P**	**01 39 22.7**	**-1.1**
SJCC				IAmb	IAmb	01 39 26.6	
comp=Z,10nm,1.1s							
RIMA	**Rio Macho**	**37.59**	**332**	P	**P**	**01 39 49.1**	**+2.1**
RIMA				IAmb	IAmb	01 39 49.9	
comp=Z,4.0nm,0.5s							
MLPR	**Magueyes Islan**	**42.02**	**0**	P	**P**	**01 40 23.1**	**0.0**
OBIP	**Obispado Ponce**	**42.10**	**1**	P	**P**	**01 40 23.1**	**-0.6**
SJG	**San Juan**	**42.17**	**1**	P	**P**	**01 40 22.6**	**-1.8**
SJG				IAmb	IAmb	01 40 41.8	
comp=Z,16nm,1.1s							
SOR	**Soroa**	**49.28**	**341**	P	**P**	**01 41 20.5**	**+0.5**
SOR				IAmb	IAmb	01 41 21.6	
comp=Z,7.7nm,0.8s							
061Z	**Ochoppi**	**51.62**	**344**	P	**P**	**01 41 38.5**	**+1.1**
GOGA	**Godfrey**	**59.46**	**344**	P	**P**	**01 42 33.6**	**+0.4**
JSC	**Jenkinsville**	**59.79**	**347**	P	**P**	**01 42 36.1**	**+0.7**
JSC				IAmb	IAmb	01 42 36.6	
comp=Z,3.4nm,0.6s							
BIRD	**Birdtown, Kers**	**59.97**	**347**	P	**P**	**01 42 37.0**	**+0.3**
W57A	**Gilead**	**60.37**	**348**	P	**P**	**01 42 39.8**	**+0.4**
W57A				IAmb	IAmb	01 42 40.6	
comp=Z,5.3nm,0.7s							
PAULI	**Pauline**	**60.42**	**346**	P	**P**	**01 42 40.2**	**+0.4**
PAULI				IAmb	IAmb	01 42 40.6	
comp=Z,4.2nm,0.6s							
X51A	**Calhoun**	**60.91**	**343**	P	**P**	**01 42 43.5**	**+0.4**
FPAL	**Fort Paine**	**61.09**	**343**	P	**P**	**01 42 44.6**	**+0.2**
FPAL				IAmb	IAmb	01 42 44.8	
comp=Z,3.5nm,0.9s							
V55A	**Taylorsville**	**61.29**	**347**	P	**P**	**01 42 46.2**	**+0.5**
V53A	**Saluda**	**61.46**	**346**	P	**P**	**01 42 46.5**	**-0.4**
V53A				IAmb	IAmb	01 43 01.5	
comp=Z,6.4nm,1.1s							
U56A	**King**	**61.61**	**348**	P	**P**	**01 42 48.3**	**+0.5**
U56A				IAmb	IAmb	01 42 49.4	
comp=Z,6.8nm,1.1s							
W50A	**Signal Mountai**	**61.63**	**343**	P	**P**	**01 42 47.8**	**-0.2**
W50A				IAmb	IAmb	01 42 48.8	
comp=Z,5.8nm,0.8s							
CPCT	**Cooper Cave**	**61.66**	**344**	P	**P**	**01 42 48.5**	**+0.4**
CPCT				IAmb	IAmb	01 42 48.8	
comp=Z,2.7nm,0.7s							
TKL	**Tuckaleechee C**	**61.68**	**345**	P	**P**	**01 42 47.9**	**-0.3**
TKL				IAmb	IAmb	01 42 48.2	
comp=Z,2.6nm,0.6s							
V52A	**Sevierville**	**61.81**	**345**	P	**P**	**01 42 48.8**	**-0.3**
V52A				IAmb	IAmb	01 42 51.6	
comp=Z,5.7nm,1.0s							
SWET	**Sewanee**	**61.81**	**343**	P	**P**	**01 42 49.4**	**+0.2**
SWET				IAmb	IAmb	01 42 49.8	
comp=Z,5.9nm,0.7s							
U54A	**Nelsons Funny**	**62.06**	**347**	P	**P**	**01 42 50.8**	**-0.1**
TZTN	**Tazewell**	**62.47**	**345**	P	**P**	**01 42 52.6**	**-0.9**
TZTN				IAmb	IAmb	01 43 00.3	
comp=Z,5.7nm,1.1s							
S54A	**Dingess, Beckl**	**63.19**	**347**	P	**P**	**01 42 58.3**	**0.0**
WVT	**Waverly**	**63.20**	**341**	P	**P**	**01 42 57.3**	**-1.0**
WVT				IAmb	IAmb	01 42 59.1	
comp=Z,5.3nm,0.8s							
T50A	**Nancy**	**63.23**	**344**	P	**P**	**01 42 58.4**	**-0.1**
T50A				IAmb	IAmb	01 42 58.7	
comp=Z,2.9nm,0.7s							
R55A	**Marlinton**	**63.44**	**349**	P	**P**	**01 43 00.8**	**+0.9**
R55A				IAmb	IAmb	01 43 04.6	
comp=Z,3.9nm,1.1s							
MIAR	**Mount Ida**	**63.68**	**336**	P	**P**	**01 43 01.7**	**+0.2**
T47A	**Sharon Grove**	**63.80**	**342**	P	**P**	**01 43 02.4**	**+0.1**
TXAR	**Lajitas Array**	**63.84**	**325**	P	**P**	**01 43 02.8**	**0.0**
comp=Z,0.2nm,0.6s,baz=152,slow=8.5,SNR=3.7							
TXAR	**Lajitas Array**	**63.84**	**325**	P	**P**	**01 43 03.6**	**+0.8**
TX31	**Lajitas Ar. Si**	**63.84**	**325**	P	**P**	**01 43 02.6**	**-0.2**
Q54A	**Coxs Mills**	**64.25**	**348**	P	**P**	**01 43 05.4**	**+0.3**
Q54A				IAmb	IAmb	01 43 05.7	
comp=Z,4.7nm,0.8s							
W39A	**Magazine**	**64.33**	**336**	P	**P**	**01 43 06.6**	**+0.9**
W39A				IAmb	IAmb	01 43 07.5	
comp=Z,6.4nm,0.9s							
ABTX	**Abilene, Hawle**	**64.54**	**330**	P	**P**	**01 43 08.9**	**+1.7**
MCWV	**Mont Chateau**	**64.73**	**349**	P	**P**	**01 43 08.3**	**+0.1**
MCWV				IAmb	IAmb	01 43 18.7	
comp=Z,3.2nm,0.8s							
WCI	**Wyandotte Cave**	**64.75**	**343**	P	**P**	**01 43 07.3**	**-1.1**
P53A	**Whipple**	**64.84**	**348**	P	**P**	**01 43 09.7**	**+0.8**
P52A	**Corning**	**65.13**	**347**	P	**P**	**01 43 10.6**	**-0.2**
P52A				IAmb	IAmb	01 43 11.2	
comp=Z,5.3nm,0.7s							
O54A	**Avella**	**65.33**	**349**	P	**P**	**01 43 12.3**	**+0.2**
O54A				IAmb	IAmb	01 43 13.4	
comp=Z,6.5nm,1.1s							
O52A	**Adamsville**	**65.53**	**348**	P	**P**	**01 43 13.2**	**-0.2**
O53A	**New Philadelph**	**65.55**	**348**	P	**P**	**01 43 13.8**	**+0.4**
O53A				IAmb	IAmb	01 43 19.9	
comp=Z,6.5nm,1.0s							
P49A	**Miami Univ. Ec**	**65.59**	**345**	P	**P**	**01 43 13.0**	**-0.8**
P48A	**Milroy**	**65.69**	**345**	P	**P**	**01 43 13.4**	**-1.1**
P48A				IAmb	IAmb	01 43 27.3	
comp=Z,3.7nm,0.6s							
QSPA	**South Pole Qui**	**65.90**	**180**	P	**P**	**01 43 16.8**	**+1.2**
N53A	**Lisbon**	**66.02**	**349**	P	**P**	**01 43 17.0**	**+0.5**
N53A				IAmb	IAmb	01 43 25.3	
comp=Z,6.3nm,1.1s							
N54A	**Moraine State**	**66.02**	**349**	P	**P**	**01 43 16.9**	**+0.4**
N54A				IAmb	IAmb	01 43 28.6	
comp=Z,6.6nm,1.1s							
M55A	**Ridgway**	**66.32**	**351**	P	**P**	**01 43 18.8**	**+0.4**
S39A	**Bolivar**	**66.39**	**338**	P	**P**	**01 43 19.2**	**+0.2**
S39A				IAmb	IAmb	01 43 20.0	
comp=Z,8.2nm,1.1s							
R40A	**Maddies Statio**	**66.58**	**339**	P	**P**	**01 43 19.5**	**-0.5**
R40A				IAmb	IAmb	01 43 21.5	
comp=Z,2.6nm,0.6s							
MNTX	**Cornudas

	baz=122							
EGS		**0.73**	**287**	*e*P	**Pb**	**01**	**48**	**42.4 -0.2**
	baz=286							
EGS				*e*S	**Sb**	**01**	**48**	**52.3 +0.1**
	baz=286							
TWB1	**Santiao Chiao**	**0.75**	**300**	*i* P	**Pb**	**01**	**48**	**42.8 -0.1**
	baz=299							
TWB1				*i* S	**Sb**	**01**	**48**	**53.0 +0.1**
	baz=299							
TWC	**Suao**	**0.78**	**269**	*i* P	**Pb**	**01**	**48**	**42.2 -1.1**
	baz=268							
TWC				S	**Sg**	**01**	**48**	**53.9 0.0**
	baz=268							
NTC	**Toucheng**	**0.83**	**286**	P	**Pb**	**01**	**48**	**43.9 -0.2**
	baz=285							
NTC				S	**Sb**	**01**	**48**	**55.0 +0.1**
	baz=285							
EWUT	**Wuta**	**0.86**	**258**	*i* P	**Pb**	**01**	**48**	**44.4 -0.3**
	baz=257							
EWUT				S	**Sg**	**01**	**48**	**57.0 +0.4**
	baz=257							
TIPB	**Shuangxi**	**0.87**	**293**	*e*P	**Pb**	**01**	**48**	**44.3 -0.6**
	baz=292							
TIPB				*e*S	**Sg**	**01**	**48**	**57.1 +0.3**
	baz=292							
ILA	**Ilan**	**0.88**	**279**	*e*P	**Pb**	**01**	**48**	**44.4 -0.6**
	baz=278							
ILA				S	**Sg**	**01**	**48**	**57.4 +0.3**
	baz=278							
NDS	**Dongshan**	**0.90**	**271**	*i* P	**Pb**	**01**	**48**	**45.5 +0.1**
	baz=270							
NDS				*i* S	**Sg**	**01**	**48**	**57.9 +0.1**
	baz=270							
NWF	**Wu-fen Shan**	**0.95**	**298**	*e*P	**Pb**	**01**	**48**	**46.0 -0.3**
	baz=297							
NWF				*e*S	**Sb**	**01**	**48**	**58.5 0.0**
	baz=297							
TWE	**Neicheng**	**0.95**	**276**	P	**Pb**	**01**	**48**	**46.1 -0.1**
	baz=275							
TWE				S	**Sb**	**01**	**48**	**58.5 +0.1**
	baz=275							
WFSB	**Wu-fen Shan**	**0.95**	**298**	*e*P	**Pb**	**01**	**48**	**46.4 +0.2**
	baz=297							
WFSB				*e*S	**Sg**	**01**	**48**	**59.0 -0.2**
	baz=297							
IRIF	**Iriomote-Funau**	**0.98**	**107**	P	**Pn**	**01**	**48**	**47.2 +0.1**
IRIF				*e*S	**Sg**	**01**	**49**	**00.4 +0.2**
TNOU	**National Taiwa**	**0.99**	**302**	*e*P	**Pb**	**01**	**48**	**47.1 +0.1**
	baz=300							
TNOU				*e*S	**Sn**	**01**	**49**	**01.0 +0.1**
	baz=300							
ENTT	**Nioudou**	**1.04**	**271**	P	**Pb**	**01**	**48**	**47.6 -0.1**
	baz=270							
ENTT				S	**Sb**	**01**	**49**	**01.4 +0.4**
	baz=270							
TWA	**Mucha**	**1.08**	**289**	P	**Pb**	**01**	**48**	**48.0 -0.4**
	baz=288							
TWA				*e*S	**Sb**	**01**	**49**	**02.5 +0.3**
	baz=288							
NDT	**Datong Townshi**	**1.08**	**269**	P	**Pn**	**01**	**48**	**48.8 +0.2**
	baz=268							
NDT				S	**Sb**	**01**	**49**	**02.5 +0.1**
	baz=268							
NWLT	**Wulai**	**1.10**	**278**	*e*P	**Pn**	**01**	**48**	**49.2 +0.3**
	baz=277							
NWLT				*e*S	**Sn**	**01**	**49**	**03.5 -0.1**
	baz=277							
NACB	**Ninganchiao**	**1.11**	**246**	P	**Pb**	**01**	**48**	**48.6 -0.3**
	baz=245							
NACB				S	**Sn**	**01**	**49**	**03.7 -0.1**
	baz=245							
NHDH	**Xindian Distri**	**1.12**	**288**	*e*P	**Pn**	**01**	**48**	**49.1 0.0**
	baz=286							
NHDH				*e*S	**Sb**	**01**	**49**	**03.6 +0.1**
	baz=286							
TWD	**Chiawan**	**1.15**	**242**	P	**Pn**	**01**	**48**	**48.9 -0.5**
	baz=241							
TWD				S	**Sb**	**01**	**49**	**04.3 +0.1**
	baz=241							
PCYT	**Pengchaiyu**	**1.15**	**330**	P	**Pn**	**01**	**48**	**49.4 -0.1**
	baz=329							
PCYT				*e*S	**Sb**	**01**	**49**	**04.6 +0.3**
	baz=329							
YM01	**YM01**	**1.15**	**297**	*e*P	**Pn**	**01**	**48**	**49.7 +0.1**
	baz=296							
YM01				S	**Sn**	**01**	**49**	**05.2 +0.3**
	baz=296							
HATJ	**Hateruma jima**	**1.15**	**119**	*e*S	**Sn**	**01**	**49**	**05.0 +0.2**
YM08	**YM08**	**1.16**	**299**	*e*S	**Sb**	**01**	**49**	**04.6 +0.1**
	baz=298							
TATO	**Taipei**	**1.16**	**288**	*e*P	**Pn**	**01**	**48**	**49.7 +0.1**
	baz=286							
TATO				*e*S	**Sn**	**01**	**49**	**05.0 0.0**
	baz=286							
TAP	**Taipei**	**1.16**	**291**	*e*S	**Sb**	**01**	**49**	**04.4 -0.2**
	baz=290							
ETLH	**Xiulin Townshi**	**1.19**	**250**	P	**Pn**	**01**	**48**	**50.2 +0.1**
	baz=249							
ETLH				*e*S	**Sn**	**01**	**49**	**06.2 +0.3**
	baz=249							
TWY	**Chenhua**	**1.19**	**303**	*e*P	**Pn**	**01**	**48**	**49.2 -0.9**
	baz=302							
TWY				*e*S	**Sb**	**01**	**49**	**05.3 -0.2**
	baz=302							
HWA	**Hwalien**	**1.19**	**237**	*e*P	**Pn**	**01**	**48**	**49.1 -1.0**
	baz=236							
HWA				*e*S	**Sn**	**01**	**49**	**06.0 +0.2**
	baz=236							
YHNB	**Yeheng**	**1.21**	**272**	P	**Pb**	**01**	**48**	**50.7 0.0**
	baz=271							
YHNB				S	**Sb**	**01**	**49**	**06.2 +0.2**
	baz=271							
NNSB	**Datong**	**1.22**	**261**	P	**Pn**	**01**	**48**	**50.7 +0.1**
	baz=260							
NNSB				S	**Sb**	**01**	**49**	**06.2 -0.2**
	baz=260							
NNSH	**Datong**	**1.22**	**261**	*e*P	**Pn**	**01**	**48**	**50.7 +0.1**
	baz=260							
NNSH				S	**Sn**	**01**	**49**	**07.2 +0.6**
	baz=260							
NNS	**Nan Shan**	**1.23**	**262**	P	**Pb**	**01**	**48**	**51.0 0.0**
	baz=260							
NNS				*e*S	**Sn**	**01**	**49**	**07.4 +0.5**
	baz=260							
JKRS	**Kuro-shima**	**1.25**	**108**	P	**Pg**	**01**	**48**	**52.2 -0.3**
JKRS				S	**Sb**	**01**	**49**	**07.5 +0.4**
TWS1	**Kuangyinshan**	**1.26**	**292**	*e*P	**Pb**	**01**	**48**	**51.6 +0.1**
	baz=291							
TWS1				*e*S	**Sb**	**01**	**49**	**07.2 -0.2**
	baz=291							
ETM	**Tongmen**	**1.29**	**239**	*e*S	**Sn**	**01**	**49**	**08.3 +0.1**
	baz=239							
JIJ	**Ishigaki jima**	**1.34**	**101**	*e*S	**Sn**	**01**	**49**	**09.4 0.0**
FUSS	**Fushou**	**1.38**	**254**	*e*P	**Pb**	**01**	**48**	**54.3 +0.5**
	baz=254							
FUSS				*e*S	**Sn**	**01**	**49**	**10.8 -0.1**
	baz=254							
WHF	**Hehuan Shan**	**1.40**	**250**	*e*P	**Pb**	**01**	**48**	**54.3 +0.1**
	baz=249							
WHF				*e*S	**Sn**	**01**	**49**	**11.3 -0.2**
	baz=249							
NCU	**National Centr**	**1.42**	**284**	*e*P	**Pn**	**01**	**48**	**53.1 -0.1**
	baz=283							
NCU				*e*S	**Sn**	**01**	**49**	**11.4 0.0**
	baz=283							
TDCB	**Techi**	**1.46**	**255**	*e*P	**Pn**	**01**	**48**	**54.4 +0.6**
	baz=255							
TDCB				*e*S	**Sn**	**01**	**49**	**12.2 -0.4**
	baz=255							
CHGB	**Renai**	**1.51**	**248**	*e*P	**Pn**	**01**	**48**	**54.9 +0.3**
	baz=247							
CHGB				*e*S	**Sn**	**01**	**49**	**13.5 -0.4**
	baz=247							

*JMA **08** 01:50:00.8±0.3,24.67N×122.51E,h17km±4km*
TAP 08 01:50:01.2,24.53N×122.51E,h13km±2km,ML2.3,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**98**	P	Pg	01 50 10.6	+0.2
YOJ				*e*S	Sb	01 50 17.4	-0.6
YOJ	**Yonaguni jima**	**0.46**	**98**	P	Pg	01 50 10.5	+0.1
	baz=97						
YOJ				S	Sb	01 50 18.3	+0.3
	baz=97						
TWC	**Suao**	**0.60**	**278**	P	Pb	01 50 13.5	-0.1
	baz=277						
TWC				S	Sb	01 50 22.6	+0.6
	baz=277						
EGS		**0.61**	**301**	*e*P	Pb	01 50 13.7	0.0
	baz=301						
EWUT	**Wuta**	**0.67**	**263**	*e*P	Pb	01 50 14.9	+0.2
	baz=263						
EWUT				*e*S	Sb	01 50 24.1	+0.2
	baz=263						
TWB1	**Santiao Chiao**	**0.67**	**316**	P	Pb	01 50 14.8	0.0
	baz=315						
TWB1				S	Sb	01 50 24.4	+0.3
	baz=315						
NTC	**Toucheng**	**0.70**	**298**	*e*P	Pb	01 50 15.0	-0.2
	baz=297						
NTC				*e*S	Sb	01 50 25.6	+0.8
	baz=297						
NDS	**Dongshan**	**0.73**	**279**	*e*P	Pb	01 50 16.4	+0.7
	baz=278						
NDS				S	Sb	01 50 26.0	+0.4
	baz=278						
ILA	**Ilan**	**0.73**	**289**	P	Pb	01 50 15.7	-0.1
	baz=289						
ILA				S	Sb	01 50 26.1	+0.4
	baz=289						
EHP	**Heping Village**	**0.73**	**253**	*e*P	Pb	01 50 15.9	+0.1
	baz=252						
EHP				*e*S	Sb	01 50 26.3	+0.6
	baz=252						
TIPB	**Shuangxi**	**0.76**	**306**	*e*P	Pb	01 50 16.3	0.0
	baz=305						
TIPB				*e*S	Sb	01 50 27.1	+0.4
	baz=305						
TWE	**Neicheng**	**0.79**	**284**	*e*P	Pb	01 50 16.8	0.0
	baz=284						
TWE				*e*S	Sb	01 50 27.8	+0.5
	baz=284						
NWF	**Wu-fen Shan**	**0.85**	**310**	P	Pb	01 50 18.3	+0.4
	baz=309						
NWF				*e*S	Sb	01 50 30.2	+0.9
	baz=309						
WFSB	**Wu-fen Shan**	**0.85**	**310**	P	Pb	01 50 18.0	+0.1
	baz=309						
WFSB				*e*S	Sn	01 50 30.3	-1.0
	baz=309						
ENTT	**Nioudou**	**0.86**	**278**	P	Pb	01 50 18.2	+0.1
	baz=277						
ENTT				S	Sn	01 50 30.6	-0.9
	baz=277						
NACB	**Ninganchiao**	**0.90**	**247**	P	Pb	01 50 18.7	0.0
	baz=247						
NACB				S	Sb	01 50 31.5	+0.9
	baz=247						
NDT	**Datong Townshi**	**0.91**	**275**	P	Pn	01 50 19.7	0.0
	baz=274						
NDT				S	Sn	01 50 32.6	0.0
	baz=274						
TNOU	**National Taiwa**	**0.91**	**313**	*e*S	Sn	01 50 31.9	-0.7
	baz=312						
TWD	**Chiawan**	**0.94**	**242**	*e*S	Sn	01 50 32.8	-0.6
	baz=241						
NWLT	**Wulai**	**0.95**	**285**	*e*P	Pn	01 50 20.0	-0.2
	baz=285						
NWLT				*e*S	Sn	01 50 32.9	-0.7
	baz=285						
TWA	**Mucha**	**0.95**	**298**	*e*P	Pb	01 50 18.8	-0.8
	baz=298						
TWA				*e*S	Sb	01 50 32.5	+0.4
	baz=298						
ETLH	**Xiulin Townshi**	**0.99**	**251**	*e*P	Pb	01 50 20.1	-0.1
	baz=251						
ETLH				*e*S	Sg	01 50 33.9	+0.7
	baz=251						
HWA	**Hwalien**	**0.99**	**237**	*e*P	Pg	01 50 20.4	+0.1
	baz=236						
HWA				*e*S	Sn	01 50 34.2	-0.4
	baz=236						
TATO	**Taipei**	**1.03**	**296**	*e*P	Pb	01 50 20.8	-0.1
	baz=295						
NNSB	**Datong**	**1.03**	**265**	*e*P	Pb	01 50 20.6	-0.4
	baz=264						
NNSB				*e*S	Sg	01 50 34.7	+0.1
	baz=264						
NNSH	**Datong**	**1.03**	**265**	*e*P	Pg	01 50 21.2	+0.1
	baz=264						
NNSH				*e*S	Sb	01 50 34.4	0.0
	baz=264						
NNS	**Nan Shan**	**1.04**	**265**	*e*P	Pg	01 50 21.3	+0.1
	baz=265						
NNS				*e*S	Sg	01 50 35.2	+0.4
	baz=265						
YHNB	**Yeheng**	**1.04**	**278**	P	Pg	01 50 21.3	0.0
	baz=277						
YHNB				*e*S	Sn	01 50 35.7	-0.2
	baz=277						
TEYL	**Yanliau Villag**	**1.06**	**232**	*e*P	Pb	01 50 21.1	-0.2
	baz=233						
YM08	**YM08**	**1.06**	**308**	*e*P	Pn	01 50 21.8	0.0
	baz=308						
TWY	**Chenhua**	**1.11**	**312**	*e*P	Pb	01 50 22.3	0.0
	baz=312						
TWY				*e*S	Sn	01 50 38.1	+0.5
	baz=312						
IRIF	**Iriomote-Funau**	**1.13**	**99**	P	Pn	01 50 22.7	0.0
IRIF				*e*S	Sb	01 50 37.2	0.0
PCYT	**Pengchaiyu**	**1.17**	**340**	*e*P	Pn	01 50 23.1	-0.2
	baz=340						
PCYT				*e*S	Sn	01 50 39.6	+0.6
	baz=340						
FUSS	**Fushou**	**1.19**	**257**	*e*P	Pb	01 50 23.5	-0.2
	baz=256						
WHF	**Hehuan Shan**	**1.20**	**252**	*e*P	Pb	01 50 23.4	-0.6
	baz=251						
WHF				*e*S	Sn	01 50 40.9	+0.6
	baz=251						
HATJ	**Hateruma jima**	**1.27**	**111**	S	Sb	01 50 40.5	-0.8
JKRS	**Kuro-shima**	**1.40**	**102**	P	Pn	01 50 25.8	-0.6
JKRS				*e*S	Sn	01 50 43.6	-1.1

*IDC **08** 01:50:06.2±1.9,2.00N×127.54E,h0km,mb3.9/4,*
mb1 4.1/4,mb1mx3.6/34,mbtmp3.9/4,Error ellipse:
s-maj=176.1km s-min=20.9km az=67.0
*NEIC **08** 01:50:21.4±1.3,1.8N±0.1×127.4E±0.1,h123km±10km,*
mb4.4/8,Error ellipse: s-maj=20.7km s-min=16.7km
az=80.0
ISC 08 01:50:19.8±0.9,1.8N±0.1×127.5E±0.2,h112km,n16,
σ0.86/16,mb4.0/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.04**	**184**		**Pn**	**01**	**50**	**42.9 +1.3**
FAKI	**Fak Fak**	**6.72**	**134**	Pn	**Pn**	**01**	**51**	**56.9 +0.9**
KNRA	**Kununurra**	**17.43**	**176**	P	**Pn**	**01**	**54**	**16.4 +0.3**
KNRA				IAmb	IAmb	01	54	31.1
	comp=Z,49nm,1.4s							
FITZ	**Fitzroy Crossi**	**19.87**	**185**	P	**P**	**01**	**54**	**42.5 +0.3**
WRAB	**Tennant Creek**	**22.65**	**163**	P	**P**	**01**	**55**	**12.0 +0.2**
WRAB				IAmb	IAmb	01	55	12.5
	comp=Z,7.1nm,0.9s							
WRA	**Warramunga Arr**	**22.66**	**163**	P	**P**	**01**	**55**	**11.4 -0.4**
	comp=Z,3.2nm,0.6s,baz=342,slow=11							
ASAR	**Alice Springs**	**26.10**	**166**	P	**P**	**01**	**55**	**42.8 -0.6**
	comp=Z,1.1nm,0.3s,baz=348,slow=7.3,SNR=18							
BBOO	**Buckleboo**	**35.39**	**167**	P	**P**	**01**	**57**	**04.7 -0.3**
BBOO				IAmb	IAmb	01	57	05.9
	comp=Z,34nm,1.4s							
MJB9	**Matsu-Tunnel**	**35.96**	**15**	P	**P**	**01**	**57**	**10.6 +0.8**
STKA	**Stephens Creek**	**36.10**	**159**	P	**P**	**01**	**57**	**08.8 -2.1**
MK31	**Makanchi Array**	**59.53**	**326**	P	**P**	**02**	**00**	**11.4 -0.1**
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**02**	**00**	**10.9 -0.5**
	comp=Z,0.5nm,0.3s,baz=120,slow=8.7,SNR=6.9							
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**02**	**00**	**11.1 -0.4**
MAKZ	**Makanchi**	**59.71**	**325**	P	**P**	**02**	**00**	**12.8 +0.1**
MAKZ				IAmb	IAmb	02	00	15.5
	comp=Z,2.2nm,1.2s							
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	**P**	**02**	**00**	**38.9 -0.6**
	comp=Z,0.5nm,0.5s,baz=129,slow=6.1,SNR=7.7							
KURK	**Kurchatov**	**63.73**	**328**	P	**P**	**02**	**00**	**38.9 -0.7**

*SOME **08** 02:00:30.8,44.47N×83.07E,h10km*
*NNC **08** 02:00:31.5±1.5,44.30N×83.11E,h10km±11km,mb3.8,*
mpv3.5,Error ellipse: s-maj=12.4km s-min=5.4km
az=121.0

ISC 08 02:00:32.3±1.8,44.34N±0.06×83.10E±0.09,h17km,n40,
σ2.53/53,8C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.18**	**247**	*e*P	**Pb**	**02**	**01**	**11.7 +0.4**
	3.1nm,0.1s							
KTMS				*e*S	**Sg**	**02**	**01**	**41.4 -0.9**
	172nm,0.3s							
KTMS	**Ketmen**	**2.18**	**247**	Pg	**Pb**	**02**	**01**	**11.7 +0.4**
	3.1nm,0.1s							
KTMS				Lg	Lg	02	01	41.5
	172nm,0.3s							
DJR	**Jarkent**	**2.37**	**271**	*e*P	**Pg**	**02**	**01**	**15.9 -2.0**
	3.5nm,0.3s							
DJR				*e*S	**Sg**	**02**	**01**	**48.1 -0.5**
	4.0nm,0.3s							
DJR	**Jarkent**	**2.37**	**271**	Pg	**Pb**	**02**	**01**	**15.2 +0.6**
	3.5nm,0.3s							
DJR				Lg	Lg	02	01	47.5
	4.0nm,0.3s							
MK31	**Makanchi Array**	**2.52**	**347**	⇑Pn	**Pn**	**02**	**01**	**13.1 +0.6**
	1.0nm,0.3s,baz=158,slow=14,SNR=89							
MK31				⇓Pg	**Pg**	**02**	**01**	**18.1 -2.5**
	2.9nm,0.3s,baz=159,slow=17,SNR=15							
MK31				⇑Lg	Lg	02	01	51.7
	125nm,0.8s,baz=161,slow=29,SNR=27							
MAKZ	**Makanchi**	**2.59**	**343**	⇓Pn	**Pn**	**02**	**01**	**14.0 +0.5**
	1.8nm,0.5s							
MAKZ				⇓Pg	**Pg**	**02**	**01**	**19.6 -2.4**
	3.3nm,0.2s							
MAKZ				⇑Lg	Lg	02	01	54.6
	16nm,0.4s							
PDGK	**Podgornoye**	**2.80**	**250**	⇑Pg	**Pb**	**02**	**01**	**21.8 -0.2**
	5.2nm,0.6s							
PDGK				⇓Lg	Lg	02	01	59.1
	61nm,0.6s							
KAPS	**Kapalarasan**	**2.82**	**291**	*e*P	**Pg**	**02**	**01**	**24.6 -1.9**
	2.0nm,0.2s							
KAPS				*e*S	**Sg**	**02**	**02**	**03.5 +0.4**
	6.4nm,0.4s							
KAPS	**Kapalarasan**	**2.82**	**291**	Pg	**Pg**	**02**	**01**	**24.6 -1.9**
	2.0nm,0.2s							
KAPS				Lg	Lg	02	02	03.5
	6.4nm,0.4s							
SHLS	**Shalkode**	**2.89**	**247**	*e*P	**Pn**	**02**	**01**	**19.2 +1.5**
	24nm,0.2s							
SHLS				*e*S	**Sn**	**02**	**01**	**54.4 +2.3**
	210nm,0.4s							
SHLS	**Shalkode**	**2.89**	**247**	Pg	**Pn**	**02**	**01**	**19.1 +1.5**
	24nm,0.2s							
SHLS				Lg	Lg	02	01	54.5
	210nm,0.4s							
UZB	**Uzynbulak**	**3.18**	**249**	*e*P	**Pb**	**02**	**01**	**28.0 -0.5**
	4.3nm,0.4s							
UZB				*e*S	**Sb**	**02**	**02**	**09.0 +1.9**
	31nm,0.4s							
UZB	**Uzynbulak**	**3.18**	**249**	Pg	**Pb**	**02**	**01**	**28.0 -0.5**
	4.3nm,0.4s							
UZB				Lg	Lg	02	02	09.0
	31nm,0.4s							
KPKS	**Kokpek**	**3.31**	**256**	*e*P	**Pb**	**02**	**01**	**31.3 +0.8**
	24nm,0.2s							
KPKS				*e*S	**Sg**	**02**	**02**	**15.1 -3.5**
	131nm,0.3s							
TDK	**Taldyqorghan**	**3.41**	**283**	*e*P	**Pg**	**02**	**01**	**35.4 -2.2**
	75nm,0.4s							
TDK				*e*S	**Sg**	**02**	**02**	**21.7 -0.2**
	55nm,0.4s							
TDK	**Taldyqorghan**	**3.41**	**283**	Pg	**Pg**	**02**	**01**	**35.4 -2.2**
	75nm,0.4s							
TDK				Lg	Lg	02	02	21.7
	55nm,0.4s							
SATY	**Saty**	**3.63**	**251**	*e*P	**Pb**	**02**	**01**	**36.3 +0.1**
	2.4nm,0.1s							
SATY				*e*S	**Sb**	**02**	**02**	**23.2 +3.2**
	44nm,0.1s							
SATY	**Saty**	**3.63**	**251**	Pg	**Pb**	**02**	**01**	**36.3 +0.1**
	2.4nm,0.1s							
SATY				Lg	Lg	02	02	23.2
	44nm,0.1s							
KURS	**Kuram**	**3.66**	**258**	*e*P	**Pg**	**02**	**01**	**41.4 -1.0**
	10nm,0.7s							
KURS				*e*S	**Sg**	**02**	**02**	**32.3 +2.5**
	30nm,0.5s							
KURS	**Kuram**	**3.66**	**258**	Pg	**Pg**	**02**	**01**	**41.4 -1.0**
	10nm,0.7s							
KURS				Lg	Lg	02	02	32.3
	30nm,0.5s							
CHKK	**Chushkaly**	**4.43**	**266**	*e*P	**Pb**	**02**	**01**	**50.9 +1.3**
	4.7nm,0.5s							
CHKK				*e*S	**Sg**	**02**	**02**	**48.5 -5.9**
	25nm,0.3s							
CHKK	**Chushkaly**	**4.43**	**266**	Pg	**Pb**	**02**	**01**	**50.9 +1.3**
	4.7nm,0.5s							
CHKK				Lg	Lg	02	02	48.5
	25nm,0.3s							
MDOK	**Medeo**	**4.54**	**257**	*e*P	**Pg**	**02**	**01**	**57.6 -1.6**
	4.8nm,0.3s							
MDOK				*e*S	**Sg**	**02**	**02**	**59.7 +1.7**
	13nm,0.5s							
MDOK	**Medeo**	**4.54**	**257**	Pg	**Pg**	**02**	**01**	**57.6 -1.6**
	4.8nm,0.3s							
MDOK				Lg	Lg	02	02	59.7
	13nm,0.5s							
IZV	**Izvestkoviy**	**4.88**	**257**	*e*P	**Pg**	**02**	**02**	**01.3 -4.4**
	2.3nm,0.2s							
IZV				*e*S	**Sg**	**02**	**03**	**06.5 -2.4**
	13nm,0.5s							
IZV	**Izvestkoviy**	**4.88**	**257**	Pg	**Pg**	**02**	**02**	**01.3 -4.4**
	2.3nm,0.2s							
IZV				Lg	Lg	02	03	06.5
	13nm,0.5s							
KUU	**Kurty**	**4.89**	**267**	*e*P	**Pb**	**02**	**02**	**00.0 +2.6**
	3.0nm,0.4s							
KUU				*e*S	**Sg**	**02**	**03**	**04.3 -4.8**
	12nm,0.4s							
KUU	**Kurty**	**4.89**	**267**	Pg	**Pb**	**02**	**02**	**00.0 +2.6**
	3.0nm,0.4s							
KUU				Lg	Lg	02	03	04.3
	12nm,0.4s							
MTBS	**Maitube**	**4.98**	**258**	*e*P	**Pb**	**02**	**02**	**02.3 +3.2**
	8.1nm,0.5s							
MTBS				*e*S	**Sg**	**02**	**03**	**07.8 -4.3**
	15nm,0.3s							
MTBS	**Maitube**	**4.98**	**258**	Pg	**Pb**	**02**	**02**	**02.3 +3.2**
	8.1nm,0.5s							
MTBS				Lg	Lg	02	03	07.8
	15nm,0.3s							
KST	**Kastek**	**5.33**	**258**	*e*P	**Pg**	**02**	**02**	**11.3 -3.1**
	6.3nm,0.4s							
KST				*e*S	**Sg**	**02**	**03**	**23.5 +0.1**
	12nm,0.6s							
KST	**Kastek**	**5.33**	**258**	Pg	**Pg**	**02**	**02**	**11.3 -3.1**
	6.3nm,0.4s							
KST				Lg	Lg	02	03	23.5
	12nm,0.6s							
TKM2	**Tokmak 2**	**5.62**	**258**	⇓Pg	**Pb**	**02**	**02**	**13.9 +3.8**
	2.2nm,0.6s							
TKM2				⇑Lg	Lg	02	03	29.7
	10.0nm,0.7s							
KURBB	**Kurchatov Arra**	**7.00**	**335**	⇑Lg	Lg	02	04	16.4
	16nm,0.7s							
MRKS	**Merke**	**7.35**	**261**	*e*P	**Pg**	**02**	**02**	**48.5 -4.4**
	2.9nm,0.4s							
MRKS				*e*S	**Sg**	**02**	**04**	**26.9 -1.0**
	3.2nm,0.5s							
MRKS	**Merke**	**7.35**	**261**	Pg	**Pg**	**02**	**02**	**48.5 -4.4**
	2.9nm,0.4s							
MRKS				Lg	Lg	02	04	26.9
	3.2nm,0.5s							
OTUK	**Ortayu**	**8.41**	**301**	⇑Lg	Lg	02	05	00.1
	6.5nm,0.8s							
BRZS	**Berezniki**	**9.06**	**312**	*e*P	Pn	02	03	15.8 +33
	1.7nm,0.3s							
BRZS				*e*S	Sn	02	05	14.1 +50
	3.0nm,0.6s							
BRZS	**Berezniki**	**9.06**	**312**	Pg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.45**	**165**	P	Pn	02 11 18.5	+1.5
THZ				S	Sn	02 11 34.1	+2.2
NNZ	**Nelson**	**0.49**	**77**	P	Pn	02 11 18.1	+1.1
NNZ				S	Sn	02 11 34.1	+2.2
QRZ	**Quartz Range**	**0.53**	**341**	P	Pn	02 11 18.3	+0.9
QRZ				S	Sn	02 11 33.3	+0.9
DSZ	**Denniston Nort**	**0.82**	**239**	P	Pn	02 11 20.2	+0.7
DSZ				S	Sn	02 11 36.1	0.0
TUWZ	**Tuamarina**	**0.90**	**97**	P	Pn	02 11 21.1	+1.1
BSWZ	**Blackbirch Sta**	**0.93**	**115**	P	Pn	02 11 21.4	+1.1
BSWZ				S	Sn	02 11 40.2	+2.7
DUWZ	**D'Urville Isla**	**1.03**	**60**	P	Pn	02 11 22.1	+0.9
DUWZ				S	Sn	02 11 41.0	+1.8
TCW	**Tory Channel**	**1.16**	**85**	P	Pn	02 11 23.2	+0.9
TCW				S	Sn	02 11 42.2	+1.0
CMWZ	**Cape Campbell**	**1.18**	**112**	P	Pn	02 11 23.7	+1.2
CMWZ				S	Sn	02 11 44.6	+2.9
KHZ	**Kahutara**	**1.24**	**152**	P	Pn	02 11 24.4	+1.3
KHZ				S	Sn	02 11 43.3	+0.6
LTZ	**Lake Taylor**	**1.50**	**194**	P	Pn	02 11 26.8	+0.8
LTZ				S	Sn	02 11 47.4	-0.4
WEL	**Wellington**	**1.52**	**89**	P	Pn	02 11 26.4	+0.3
BHW	**Baring Head**	**1.60**	**94**	P	Pn	02 11 27.1	+0.1
BHW				S	Sn	02 11 49.1	-0.4
GVZ	**Greta Valley S**	**1.66**	**173**	P	Pn	02 11 28.7	+1.0
KIW	**Kapiti Island**	**1.70**	**75**	P	Pn	02 11 28.2	+0.1
KIW				S	Sn	02 11 51.7	+0.1
INZ	**Inchbonnie**	**1.70**	**214**	P	Pn	02 11 28.4	+0.2
INZ				S	Sn	02 11 50.9	-0.9
CAW	**Cannon Point**	**1.76**	**84**	P	Pn	02 11 29.1	-0.1
CAW				S	Sn	02 11 52.6	-0.3
AMCZ	**Amberley**	**1.85**	**182**	P	Pn	02 11 30.6	+0.7
MSWZ	**Moikau Station**	**1.88**	**94**	P	Pn	02 11 30.1	-0.2
MSWZ				S	Sn	02 11 54.9	-0.6
OGWZ	**Otaki Gorge**	**1.90**	**75**	P	Pn	02 11 30.4	-0.1
PLWZ	**Palliser**	**1.90**	**98**	P	Pn	02 11 30.4	-0.1
PLWZ				S	Sn	02 11 55.1	-0.7
PAWZ	**Paruwai Farm**	**2.02**	**92**	P	Pn	02 11 31.6	-0.3
PAWZ				S	Sn	02 11 57.4	-1.0
OXZ	**Oxford**	**2.07**	**195**	P	Pn	02 11 32.4	-0.1
MTW	**Mount Morrison**	**2.08**	**86**	P	Pn	02 11 32.2	-0.5
NMEZ	**Namu Road**	**2.10**	**25**	P	Pn	02 11 33.5	+0.7
HOWZ	**Holdsworth Sta**	**2.13**	**79**	P	Pn	02 11 32.8	-0.5
TRWZ	**Traveller**	**2.21**	**93**	P	Pn	02 11 34.1	-0.2
MRZ	**Mangatainoka R**	**2.24**	**74**	P	Pn	02 11 33.9	-0.7
OHWZ	**Ohakea**	**2.25**	**61**	P	Pn	02 11 34.9	+0.2
KHEZ	**Kahui Hut**	**2.25**	**26**	P	Pn	02 11 35.2	+0.4
PREZ	**Palmer Road**	**2.25**	**29**	P	Pn	02 11 35.8	+0.9
NEZ	**North Egmont**	**2.30**	**27**	P	Pn	02 11 36.2	+0.8
WVZ	**Waitaha Valley**	**2.30**	**220**	P	Pn	02 11 34.9	-0.4
WAZ	**Wanganui**	**2.31**	**48**	P	Pn	02 11 36.2	+0.6
PKE	**Pukeiti**	**2.33**	**24**	P	Pn	02 11 36.1	+0.3
MHCZ	**Mount Hutt**	**2.37**	**201**	P	Pn	02 11 35.8	-0.5
TMWZ	**Te Maipa**	**2.38**	**86**	P	Pn	02 11 35.9	-0.5
MQZ	**McQueen's Vall**	**2.38**	**182**	P	Pn	02 11 35.9	-0.4
OKCZ	**Okains Bay**	**2.41**	**175**	P	Pn	02 11 36.6	-0.1
TIWZ	**Tintock**	**2.43**	**78**	P	Pn	02 11 36.4	-0.7
RACZ	**Rakaia**	**2.44**	**190**	P	Pn	02 11 36.9	-0.1
POWZ	**Post Office Ro**	**2.47**	**69**	P	Pn	02 11 36.1	-1.4
AKCZ	**Akaroa Harbour**	**2.55**	**177**	P	Pn	02 11 38.0	-0.4
PRWZ	**Pori Road**	**2.56**	**74**	P	Pn	02 11 37.8	-0.7
CPWZ	**Castlepoint**	**2.64**	**82**	P	Pn	02 11 39.8	+0.2
GCSZ	**Gaunt Creek Bo**	**2.68**	**221**	P	Pn	02 11 39.5	-0.6
VRZ	**Vera Road**	**2.68**	**36**	P	Pn	02 11 39.8	-0.4
RPZ	**Rata Peaks**	**2.70**	**207**	P	Pn	02 11 38.4	-2.0
WACZ	**Wakanui South**	**2.70**	**194**	P	Pn	02 11 40.2	-0.2
BFZ	**Birch Farm**	**2.72**	**77**	P	Pn	02 11 39.8	-0.9
TSZ	**Takapari Road**	**2.75**	**64**	P	Pn	02 11 39.9	-1.1
DVHZ	**Dannevirke**	**2.79**	**70**	P	Pn	02 11 40.2	-1.3
PKVZ	**Pokaka**	**2.84**	**45**	P	Pn	02 11 42.5	+0.3
ARCZ	**Arundel**	**2.87**	**203**	P	Pn	02 11 41.5	-1.0
ANWZ	**Angora Road**	**2.95**	**74**	P	Pn	02 11 42.7	-0.9
PNHZ	**Pukenui**	**2.98**	**63**	P	Pn	02 11 42.5	-1.5
MOVZ	**Moawhango**	**2.99**	**51**	P	Pn	02 11 43.2	-1.0
TUVZ	**Tukino**	**3.02**	**48**	P	Pn	02 11 44.5	-0.2
TWVZ	**Taurewa**	**3.05**	**43**	P	Pn	02 11 44.1	-0.9
NGZ	**Ngauruhoe**	**3.06**	**46**	P	Pn	02 11 44.9	-0.3
NGZ				P		02 11 45.0	
SNVZ	**South Ngauruho**	**3.07**	**47**	P	Pn	02 11 45.0	-0.3
WPHZ	**Waipukurau**	**3.07**	**67**	P	Pn	02 11 44.0	-1.2
FOZ	**Fox Glacier**	**3.10**	**224**	P	Pn	02 11 44.3	-1.1
WTVZ	**West Tongariro**	**3.10**	**45**	P	Pn	02 11 45.3	-0.3
NNVZ	**North Ngauruho**	**3.10**	**46**	P	Pn	02 11 45.7	-0.2
OTVZ	**Oturere**	**3.10**	**47**	P	Pn	02 11 45.3	-0.4
BHHZ	**Black Hill Sta**	**3.12**	**55**	P	Pn	02 11 44.6	-1.3
PRHZ	**Porangahau**	**3.13**	**72**	P	Pn	02 11 44.9	-1.0
ETVZ	**East Tongariro**	**3.15**	**47**	P	Pn	02 11 46.2	-0.1
TMVZ	**Te Maari**	**3.16**	**47**	P	Pn	02 11 46.6	+0.2
KRHZ	**Kereru**	**3.23**	**60**	P	Pn	02 11 45.6	-1.6
HIZ	**Hauiti**	**3.24**	**31**	P	Pn	02 11 46.2	-1.2
TMZ	**Timaru**	**3.31**	**202**	P	Pn	02 11 47.5	-0.8
KWHZ	**Kaweka Forest**	**3.39**	**57**	P	Pn	02 11 47.8	-1.5
KAHZ	**Kahuranaki**	**3.50**	**65**	P	Pn	02 11 49.3	-1.4
BKZ	**Black Stump Fm**	**3.58**	**54**	P	Pn	02 11 50.2	-1.7
LBZ	**Lake Benmore**	**3.59**	**211**	P	Pn	02 11 50.6	-1.4
JCZ	**Jackson Bay**	**4.01**	**225**	P	Pn	02 11 56.1	-1.3
ODZ	**Otahua Downs**	**4.02**	**202**	P	Pn	02 11 56.6	-0.9
RTZ	**Ruatahuna**	**4.23**	**52**	P	Pn	02 11 58.0	-2.4
WKZ	**Wanaka**	**4.44**	**217**	P	Pn	02 12 01.1	-2.1
MHGZ	**Mahia Peninsul**	**4.50**	**63**	P	Pn	02 12 01.7	-2.2
PRGZ	**Paritu Road**	**4.61**	**60**	P	Pn	02 12 02.5	-2.9
EAZ	**Earnscleugh**	**4.64**	**212**	P	Pn	02 12 03.5	-2.3
MWZ	**Matawai**	**4.74**	**52**	P	Pn	02 12 05.6	-1.6
HHSZ	**Highcliff Hill**	**4.82**	**198**	P	Pn	02 12 07.5	-0.6
RUGZ	**Raukumara Rang**	**5.07**	**50**	P	Pn	02 12 09.5	-2.1
TUZ	**Tuapeka**	**5.15**	**205**	P	Pn	02 12 11.0	-1.5
MLZ	**Mavora Lakes**	**5.26**	**218**	P	Pn	02 12 12.4	-1.7
WMGZ	**Waiomatatini S**	**5.60**	**53**	P	Pn	02 12 15.2	-3.4
CTZ	**Chatham Island**	**8.21**	**111**	P	Pn	02 12 54.2	+0.6

IDC 08 02:43:46.2±12.0, 2°.33S×99°.94E, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.2/38, mbtmp3.5/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/41, Error ellipse: s-maj=634.7km s-min=32.1km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**24.83**	**109**	LR	LR	02 59 05.0	
	comp=Z,218nm,18.9s,baz=122,slow=37						
H08S2	**Diego Garcia H**	**27.84**	**258**	T	T	03 18 33.3	
	baz=81,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**27.84**	**258**	T	T	03 18 33.8	
	baz=81,slow=75,SNR=19						
H08S1	**Diego Garcia H**	**27.85**	**258**	T	T	03 18 33.2	
	baz=81,slow=75,SNR=13						
ASAR	**Alice Springs**	**39.11**	**126**	P	P	02 51 15.4	-0.3
	0.4nm,0.8s,baz=300,slow=7.9,SNR=5.5						
MKAR	**Makanchi Array**	**51.33**	**345**	P	P	02 52 52.1	-0.3
	0.6nm,0.6s,baz=154,slow=9.0,SNR=9.3						
TXAR	**Lajitas Array**	**145.00**	**38**	PKPbc	PKPab	03 03 25.2	-0.4
	0.5nm,0.7s,baz=344,slow=2.9,SNR=5.0						

WEL 08 02:45:38.1, 39°.S±8°.×17°.5E±1°.1, h177km±16km, M2.8/67, mB4.4/1, ML2.0/7, MLv2.8/67, Mw(mB)3.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=102.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.20**	**106**	P	Pn	02 46 02.3	+0.6
VRZ	**Vera Road**	**0.29**	**292**	P	Pn	02 46 01.6	-0.2
TWVZ	**Taurewa**	**0.31**	**58**	P	Pn	02 46 02.2	+0.2
NGZ	**Ngauruhoe**	**0.39**	**81**	P	Pn	02 46 02.9	+0.6
WTVZ	**West Tongariro**	**0.40**	**73**	P	Pn	02 46 02.8	+0.5
NNVZ	**North Ngauruho**	**0.41**	**76**	P	Pn	02 46 03.0	+0.6
SNVZ	**South Ngauruho**	**0.42**	**83**	P	Pn	02 46 03.1	+0.7
TUVZ	**Tukino**	**0.43**	**94**	P	Pn	02 46 03.3	+0.9
KRVZ	**Karewarewa**	**0.44**	**72**	P	Pn	02 46 02.8	+0.4
OTVZ	**Oturere**	**0.44**	**81**	P	Pn	02 46 03.4	+0.9
NTVZ	**North Tongariro**	**0.47**	**73**	P	Pn	02 46 03.1	+0.6
ETVZ	**East Tongariro**	**0.48**	**78**	P	Pn	02 46 03.4	+0.8
TMVZ	**Te Maari**	**0.48**	**76**	P	Pn	02 46 03.5	+0.9
WAZ	**Wanganui**	**0.53**	**190**	P	Pn	02 46 03.9	+1.3
MOVZ	**Moawhango**	**0.53**	**109**	P	Pn	02 46 03.3	+0.6
LREZ	**Lake Rotokare**	**0.59**	**247**	P	Pn	02 46 03.4	+0.5
DREZ	**Durham Road**	**0.70**	**274**	P	Pn	02 46 03.1	-0.4
PREZ	**Palmer Road**	**0.74**	**261**	P	Pn	02 46 03.3	-0.5
HIZ	**Hauiti**	**0.75**	**345**	P	Pn	02 46 02.2	-1.6
NEZ	**North Egmont**	**0.78**	**267**	P	Pn	02 46 03.8	-0.3
KHEZ	**Kahui Hut**	**0.85**	**266**	P	Pn	02 46 03.9	-0.6
PKE	**Pukeiti**	**0.87**	**272**	P	Pn	02 46 03.9	-0.7
KWHZ	**Kaweka Forest**	**1.04**	**101**	P	Pn	02 46 06.7	+0.9
TSZ	**Takapari Road**	**1.06**	**141**	P	Pn	02 46 07.3	+1.4
KRHZ	**Kereru**	**1.06**	**113**	P	Pn	02 46 07.0	+1.1
BKZ	**Black Stump Fm**	**1.08**	**87**	P	Pn	02 46 06.2	0.0
PNHZ	**Pukenui**	**1.08**	**129**	P	Pn	02 46 07.4	+1.2
MRHZ	**Matea Rd**	**1.10**	**69**	P	Pn	02 46 05.4	-1.0
MCHZ	**McNeill Hill**	**1.25**	**100**	P	Pn	02 46 08.7	+1.2
POWZ	**Post Office Ro**	**1.26**	**156**	P	Pn	02 46 08.7	+1.1
WPHZ	**Waipukurau**	**1.32**	**129**	P	Pn	02 46 09.4	+1.3
NMHZ	**Naumai**	**1.33**	**85**	P	Pn	02 46 08.8	+0.5
DVHZ	**Dannevirke**	**1.34**	**143**	P	Pn	02 46 09.3	+1.0
MTHZ	**Maungataniwha**	**1.41**	**75**	P	Pn	02 46 08.1	-0.9
MRZ	**Mangatainoka R**	**1.47**	**166**	P	Pn	02 46 10.1	+0.7
ARHZ	**Aropaoanui**	**1.47**	**92**	P	Pn	02 46 09.9	+0.4
PRWZ	**Pori Road**	**1.48**	**153**	P	Pn	02 46 10.8	+1.2
KAHZ	**Kahuranaki**	**1.48**	**113**	P	Pn	02 46 10.8	+1.1
TARZ	**Mount Tarawera**	**1.48**	**48**	P	Pn	02 46 08.0	-1.8
PRHZ	**Porangahau**	**1.57**	**132**	P	Pn	02 46 11.5	+1.1
RAHZ	**Arahi**	**1.58**	**79**	P	Pn	02 46 10.2	-0.4
OGWZ	**Otaki Gorge**	**1.58**	**178**	P	Pn	02 46 11.2	+0.7
CKHZ	**Cape Kidnapper**	**1.59**	**106**	P	Pn	02 46 11.5	+0.9
RTZ	**Ruatahuna**	**1.59**	**68**	P	Pn	02 46 09.2	-1.6
ANWZ	**Angora Road**	**1.62**	**140**	P	Pn	02 46 10.8	0.0
KIW	**Kapiti Island**	**1.63**	**185**	P	Pn	02 46 11.3	+0.2
TIWZ	**Tintock**	**1.65**	**159**	P	Pn	02 46 12.0	+0.7
HOWZ	**Holdsworth Sta**	**1.69**	**169**	P	Pn	02 46 11.9	+0.3
BFZ	**Birch Farm**	**1.69**	**149**	P	Pn	02 46 12.2	+0.6
DUWZ	**D'Urville Isla**	**1.81**	**210**	P	Pn	02 46 12.3	-0.6
URZ	**Urewera**	**1.85**	**59**	P	Pn	02 46 10.5	-2.8
CAW	**Cannon Point**	**1.87**	**181**	P	Pn	02 46 13.6	-0.1
MTW	**Mount Morrison**	**1.94**	**171**	P	Pn	02 46 14.2	-0.1
RAGZ	**Rawiri**	**1.95**	**68**	P	Pn	02 46 12.6	-1.9
TMWZ	**Te Maipa**	**1.96**	**162**	P	Pn	02 46 14.7	+0.1
KNZ	**Kokohu**	**2.01**	**85**	P	Pn	02 46 14.1	-0.9
WEL	**Wellington**	**2.06**	**187**	P	Pn	02 46 15.4	-0.2
TCW	**Tory Channel**	**2.07**	**198**	P	Pn	02 46 15.3	-0.3
MWZ	**Matawai**	**2.10**	**65**	P	Pn	02 46 13.6	-2.5
PAWZ	**Paruwai Farm**	**2.16**	**174**	P	Pn	02 46 16.4	-0.3
BHW	**Baring Head**	**2.18**	**185**	P	Pn	02 46 16.3	-0.5
MHGZ	**Mahia Peninsul**	**2.18**	**89**	P	Pn	02 46 16.3	-0.7
MSWZ	**Moikau Station**	**2.18**	**177**	P	Pn	02 46 15.4	-1.5
PRGZ	**Paritu Road**	**2.19**	**83**	P	Pn	02 46 15.8	-1.3
TRWZ	**Traveller**	**2.21**	**168**	P	Pn	02 46 17.0	-0.2
TKGZ	**Te Karaka**	**2.29**	**71**	P	Pn	02 46 16.1	-2.1
PLWZ	**Palliser**	**2.33**	**177**	P	Pn	02 46 18.0	-0.6
TUWZ	**Tuamarina**	**2.36**	**202**	P	Pn	02 46 18.3	-0.6
NNZ	**Nelson**	**2.38**	**213**	P	Pn	02 46 17.5	-1.6
RUGZ	**Raukumara Rang**	**2.38**	**59**	P	Pn	02 46 15.3	-4.1
TWGZ	**Tauwhareparae**	**2.49**	**66**	P	Pn	02 46 17.8	-2.7
QRZ	**Quartz Range**	**2.54**	**230**	P	Pn	02 46 17.8	-3.2
CNGZ	**Carnagh Statio**	**2.54**	**74**	P	Pn	02 46 19.2	-1.9
HAZ	**Te Kaha**	**2.57**	**56**	P	Pn	02 46 17.0	-4.4
BSWZ	**Blackbirch Sta**	**2.65**	**200**	P	Pn	02 46 20.5	-1.8
PUZ	**Puketiti**	**2.73**	**66**	P	Pn	02 46 20.2	-3.1
WMGZ	**Waiomatatini S**	**2.96**	**62**	P	Pn	02 46 22.1	-3.9
MXZ	**Matakaoa Point**	**3.02**	**57**	P	Pn	02 46 23.0	-3.8
THZ	**Tophouse**	**3.03**	**213**	P	Pn	02 46 24.5	-2.5
KHZ	**Kahutara**	**3.39**	**200**	P	Pn	02 46 29.3	-2.0
DSZ	**Denniston Nort**	**3.55**	**224**	P	Pn	02 46 29.4	-4.0
GVZ	**Greta Valley S**	**4.04**	**202**	P	Pn	02 46 36.8	-2.8
LTZ	**Lake Taylor**	**4.14**	**210**	P	Pn	02 46 37.6	-3.3
INZ	**Inchbonnie**	**4.45**	**217**	P	Pn	02 46 41.1	-3.7
OKCZ	**Okains Bay**	**4.74**	**198**	P	Pn	02 46 45.0	-3.6
MQZ	**McQueen's Vall**	**4.80**	**202**	P	Pn	02 46 45.3	-4.4
AKCZ	**Akaroa Harbour**	**4.92**	**199**	P	Pn	02 46 46.7	-4.1
RACZ	**Rakaia**	**5.01**	**205**	P	Pn	02 46 47.5	-4.5
TMZ	**Timaru**	**5.98**	**209**	P	Pn	02 46 59.5	-5.3

*NEIC **08** 03:10:35.7±1.3, 29°.2S±0°.2×175°.86W±0°.10, h44km±7km, mb4.1/4, Error ellipse: s-maj=23.1km s-min=10.2km az=160.0*
*IDC **08** 03:10:40.9±5.8, 29°.02S×176°.33W, h77km±35km, mb3.6/2, mb1 3.7/2, mb1mx3.3/26, mbtmp3.9/2, Error ellipse: s-maj=124.2km s-min=44.8km az=157.0*
ISC 08 03:10:35.1±1.1, 29°.15S±0°.09×175°.9W±0°.1, h38km, n16, σ1s03/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.74**	**266**	P	**Pn**	**03 11 04.5**	**+1.7**
	108nm,0.3s,baz=90,slow=20,SNR=5.4						
RAO				S	**Sn**	**03 11 22.9**	**-0.8**
	147nm,0.3s,baz=125,slow=17,SNR=5.4						
URZ	**Urewera**	**10.77**	**211**	S	**Sn**	**03 15 05.6**	**-0.3**
	1.6nm,0.3s,baz=122,slow=23,SNR=2.3						
MSVF	**Nonsavu**	**12.63**	**333**	Pn	**Pn**	**03 13 32.3**	**0.0**
BFZ	**Birch Farm**	**13.16**	**207**	Pn	**Pn**	**03 13 40.2**	**+0.9**
TUWZ	**Tuamarina**	**14.76**	**211**	P	**P**	**03 14 05.3**	**-1.3**
THZ	**Tophouse**	**15.51**	**213**	P	**P**	**03 14 14.5**	**-0.4**
THZ				IAmb	IAmb	03 14 20.4	
	comp=Z,9.0nm,0.9s						
KHZ	**Kahutara**	**15.73**	**210**	P	**Pn**	**03 14 15.1**	**+1.3**
KHZ				IAmb	IAmb	03 14 23.6	
	comp=Z,22nm,1.2s						
AS31	**Alice Springs**	**44.99**	**265**	P	**P**	**03 18 47.2**	**+0.2**
ASAR	**Alice Springs**	**44.99**	**265**	P	**P**	**03 18 45.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=100,slow=6.3,SNR=19						
ASAR	**Alice Springs**	**44.99**	**265**	P	**P**	**03 18 46.4**	**-0.6**
WRAB	**Tennant Creek**	**45.87**	**270**	P	**P**	**03 18 51.9**	**-2.1**
PETK	**Petropavlovsk-**	**85.08**	**344**	P	**P**	**03 23 06.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=129,slow=5.7,SNR=2.0						
FINES	**FINESS Array B**	**144.56**	**342**	PKP	**PKPab**	**03 30 05.8**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=101,slow=4.4,SNR=6.2						
FINES	**FINESS Array B**	**144.56**	**342**	PKPbc	**PKPab**	**03 30 05.5**	**+0.2**
AKASG	**Malin Array Be**	**151.35**	**326**	PKPbc	**PKiKP**	**03 30 25.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=46,slow=2.7,SNR=4.5						
AKASG	**Malin Array Be**	**151.35**	**326**		**PKPbc**	**03 30 23.8**	**-0.5**

*IDC **08** 03:12:15.1±2.2, 25°.01S×179°.74E, h513km±24km, mb3.0/5, mb1 3.2/6, mb1mx3.0/29, mbtmp3.8/6, Error ellipse: s-maj=26.7km s-min=18.8km az=158.0*
*NEIC **08** 03:12:15.7±2.9, 25°.2S±0°.1×179°.9E±0°.2, h519km±9km, mb4.2/11, Error ellipse: s-maj=21.3km s-min=18.8km az=100.0*
ISC 08 03:12:14.0±0.6, 25°.13S±0°.08×179°.9E±0°.1, h501km, n37, σ1s25/37, mb3.6/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.57**	**346**	P	**P**	**03 14 05.6**	**-0.6**
	2.5nm,0.3s,baz=125,slow=16,SNR=14						
MSVF	**Nonsavu**	**7.57**	**346**	P	**P**	**03 14 05.5**	**-0.7**
OUZ	**Omahuta**	**11.45**	**207**	P	**P**	**03 14 49.5**	**+3.1**
PINNC	**Pines Island,**	**11.70**	**280**	P	**P**	**03 14 50.9**	**+1.6**
OUENC	**Ouen Island, N**	**12.29**	**280**	P	**P**	**03 14 57.7**	**+2.1**
LIFNC	**LIFOU**	**12.47**	**288**	P	**P**	**03 14 59.9**	**+2.4**
URZ	**Urewera**	**13.31**	**190**	S	**S**	**03 17 27.7**	**-0.4**
	0.4nm,0.3s,baz=303,slow=23,SNR=1.9						
BKZ	**Black Stump Fm**	**14.29**	**191**	P	**P**	**03 15 15.6**	**-1.0**
BFZ	**Birch Farm**	**15.81**	**190**	P	**P**	**03 15 31.4**	**-1.0**
QRZ	**Quartz Range**	**16.83**	**200**	P	**P**	**03 15 42.9**	**-0.1**
LTZ	**Lake Taylor**	**18.70**	**198**	P	**P**	**03 15 59.2**	**-1.3**
LTZ				IAmb	IAmb	03 16 17.9	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**31.44**	**272**	P	**P**	**03 17 53.8**	**0.0**
CTAO				IAmb	IAmb	03 17 55.4	
	comp=Z,8.4nm,0.8s						
AS31	**Alice Springs**	**41.78**	**262**	P	**P**	**03 19 18.9**	**-0.4**
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**03 19 18.5**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=94,slow=6.7,SNR=6.8						
ASAR				S	**S**	**03 24 57.8**	**-2.5**
	comp=Z,0.4nm,0.7s,baz=101,slow=14,SNR=6.0						
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**03 19 17.8**	**-1.5**
FORT	**Forrest**	**45.84**	**251**	P	**P**	**03 19 49.3**	**-1.3**
FORT				IAmb	IAmb	03 19 57.9	
	comp=Z,29nm,1.1s						
KNRA	**Kununurra**	**48.63**	**271**	P	**P**	**03 20 11.3**	**-0.5**
KNRA				IAmb	IAmb	03 20 21.9	
	comp=Z,28nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.68**	**267**	P	**P**	**03 20 26.7**	**-0.3**
FITZ				IAmb	IAmb	03 20 40.3	
	comp=Z,12nm,1.4s						
VNDA	**Vanda**	**53.15**	**185**	P	**P**	**03 20 44.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=359,slow=6.7,SNR=1.9						
VNDA	**Vanda**	**53.15**	**185**	P	**P**	**03 20 44.9**	**+1.0**
CASY	**Casey**	**58.98**	**206**	P	**P**	**03 21 23.7**	**-0.7**
CASY				IAmb	IAmb	03 21 35.8	
	comp=Z,4.9nm,1.3s						
QSPA	**South Pole Qui**	**64.96**	**180**	P	**P**	**03 22 04.5**	**+1.0**
MAW	**Mawson**	**76.58**	**201**	P	**P**	**03 23 12.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=157,slow=8.2,SNR=1.9						
MAW	**Mawson**	**76.58**	**201**	P	**P**	**03 23 12.4**	**+0.5**
SNAA	**Sanae**	**83.44**	**179**	P	**P**	**03 23 47.3**	**-0.7**
SNAA				IAmb	IAmb	03 23 50.9	
	comp=Z,2.3nm,1.4s						
NVAR	**Mina Array Bea**	**85.68**	**44**	P	**P**	**03 24 00.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=221,slow=6.8,SNR=4.6						
NVAR	**Mina Array Bea**	**85.68**	**44**	P	**P**	**03 23 59.8**	**+0.2**
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**03 24 25.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=213,slow=6.5,SNR=4.7						
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**03 24 26.8**	**+1.6**
ARCES	**ARCESS Array B**	**133.07**	**348**	PKP	**PKPdf**	**03 30 30.1**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=72,slow=2.9,SNR=1.1						
ARCES	**ARCESS Array B**	**133.07**	**348**		**PKPdf**	**03 30 29.1**	**-2.3**
NOA	**NORSAR Array B**	**143.28**	**351**	PKP	PKPab	03 30 47.0	-1.2
	comp=Z,0.2nm,0.5s,baz=29,slow=4.6,SNR=3.4						
AKASG	**Malin Array Be**	**145.96**	**326**	PKPbc	**PKPdf**	**03 30 55.3**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=39,slow=3.5,SNR=1.4						
AKASG	**Malin Array Be**	**145.96**	**326**		**PKPdf**	**03 30 54.9**	**-0.3**
MMAI	**Mount Meron Ar**	**148.13**	**293**	PKPbc	**PKPbc**	**03 31 03.7**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=123,slow=5.3,SNR=2.0						
BRTR	**Keskin Array B**	**148.25**	**306**	PKPbc	**PKPbc**	**03 31 02.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=140,slow=4.4,SNR=2.2						
CLL	**Collm**	**152.01**	**342**	*e*PKPbc	**PKiKP**	**03 31 12.0**	**0.0**

*PDG **08** 03:14:31.4±0.5, 43°.41N×17°.75E, h3km±1km, ML2.7/14, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
*KRSZO **08** 03:14:31.2±0.9, 43°.40N×17°.76E, h4km±7km, ML3.0/10, Error ellipse: s-maj=2.6km s-min=2.2km az=28.0*
*BEO **08** 03:14:31.4±0.4, 43°.39N×17°.60E, h0km, ML2.6/12*
*RHSSO **08** 03:14:32.1±0.2, 43°.38N×17°.76E, h3km±2km, ML2.7/17*
*PRU **08** 03:14:36.0±0.0, 43°.51N×17°.80E, h0km*
**ISC 08 03:14:32.0±1.1, 43°.38N±0°.02×17°.76E±

	comp=Z,0.1nm,SNR=5.6								
KOVH					Pg	**Pg**	**03 15 24.0**	**-0.1**
KOVH					Sn	**Sn**	**03 15 48.1**	**-1.8**
MATE	**Matera**	**2.84**	**196**	⇓	P	**Pn**	**03 15 15.5**	**-2.6**
MATE	**Matera**	**2.84**	**196**		Pg	**Pg**	**03 15 25.0**	**-1.4**
MATE					Sn	**Sn**	**03 15 52.8**	**0.0**
BOVS	**Bovan**	**2.88**	**84**	⇑	P	**Pn**	**03 15 19.6**	**+0.9**
BOVS				⇑	S	**Sn**	**03 15 56.5**	**+2.7**
MORH	**Mrgy, Hungar**	**2.90**	**12**		Pn	**Pn**	**03 15 18.7**	**-0.3**
	SNR=2.0								
MORH					Pg	**Pg**	**03 15 26.8**	**-0.8**
CRES	**Cresnjev**	**2.95**	**327**	*e*	Pn	**Pn**	**03 15 19.9**	**+0.2**
CRES				*e*	Sn	**Sn**	**03 15 55.5**	**0.0**
CRES	**Cresnjev**	**2.95**	**327**		Pn	**Pn**	**03 15 21.6**	**+1.9**
	SNR=4.2								
CRES					Sn	**Sn**	**03 15 56.4**	**+0.8**
LOBO	**Lobor**	**3.03**	**337**	*e*	Pn	**Pn**	**03 15 20.7**	**0.0**
BEHE	**Becsehely**	**3.17**	**348**	*e*	Pn	**Pn**	**03 15 22.6**	**-0.1**
BEHE				*e*	Sn	**Sn**	**03 16 00.9**	**-0.1**
BEHE	**Becsehely**	**3.17**	**348**		Pg	**Pn**	**03 15 23.3**	**+0.7**
	comp=Z,0.1nm,SNR=3.0								
MDVR	**Moldovita**	**3.17**	**62**	⇑	P	**Pn**	**03 15 22.0**	**-0.8**
ZAGS	**Zajecar**	**3.28**	**81**	*e*	Pn	**Pn**	**03 15 26.9**	**+2.8**
CEY	**Cernica**	**3.35**	**316**	*e*	Pn	**Pn**	**03 15 25.7**	**+0.5**
CEY				*e*	Sn	**Sn**	**03 16 04.8**	**-0.8**
TIH	**Tihany**	**3.52**	**1**		Pn	**Pn**	**03 15 27.4**	**-0.1**
	comp=Z,0.2nm,SNR=2.9								
BZS	**Buzias**	**3.55**	**50**	⇑	P	**Pn**	**03 15 27.8**	**-0.1**
BZS	**Buzias**	**3.55**	**50**		Pg	**Pn**	**03 15 28.1**	**+0.2**
	SNR=2.5								
BZS					Sn	**Sn**	**03 16 06.6**	**-3.7**
BOSS	**Bosilegrad**	**3.57**	**103**	*e*	Sn	**Sn**	**03 16 13.5**	**+2.5**
HERR	**Herculane**	**3.67**	**64**	⇓	P	**Pn**	**03 15 30.0**	**+0.4**
MPLH	**Magyarpolny**	**3.79**	**358**		Pg	**Pg**	**03 15 49.0**	**+4.4**
OBKA	**Obir**	**3.87**	**325**	*e*	Pn	**Pn**	**03 15 32.5**	**0.0**
	comp=Z,5.6nm,0.6s								
OBKA				*e*	Sn	**Sb**	**03 16 30.4**	**+2.2**
	comp=Z,10.0nm,0.7s								
VTS	**Vitosha**	**4.08**	**99**	⇑	P	**Pn**	**03 15 35.3**	**-0.1**
GZR	**Gura Zlata**	**4.12**	**59**	⇑	P	**Pn**	**03 15 35.1**	**-0.6**
GZR	**Gura Zlata**	**4.12**	**59**		Pn	**Pn**	**03 15 34.3**	**-1.4**
	SNR=3.3								
ARSA	**Arzberg**	**4.18**	**339**	*e*	Pn	**Pn**	**03 15 36.4**	**-0.2**
	comp=Z,1.0nm,0.2s								
ARSA				*e*	Sn	**Sn**	**03 16 26.6**	**+0.7**
	comp=Z,1.9nm,0.3s								
CONA	**Conrad Observa**	**4.74**	**344**	*e*	Pn	**Pn**	**03 15 46.1**	**+1.8**
	comp=Z,0.5nm,0.3s								
CONA				*e*	Sn	**Sn**	**03 16 40.3**	**+0.5**
	comp=Z,3.5nm,0.6s								
ABTA	**Abfaltersbach**	**5.02**	**314**	*e*	Pn	**Pn**	**03 15 47.5**	**-0.7**
	comp=Z,3.3nm,0.5s								
ABTA				*e*	Sn	**Sn**	**03 16 46.0**	**-0.6**
	comp=Z,4.0nm,0.6s								
MOA	**Molln**	**5.10**	**332**	*e*	Pn	**Pn**	**03 15 50.4**	**+1.2**
	comp=Z,0.3nm,0.2s								
MOA				*e*	Sn	**Sn**	**03 16 47.8**	**-0.8**
	comp=Z,3.4nm,0.7s								
VYHS	**Vyhne**	**5.17**	**8**	*e*	SN	**Sn**	**03 16 50.1**	**-0.2**
WTTA	**Wattenberg**	**5.81**	**314**	*e*	Pn	**Pn**	**03 15 57.1**	**-1.9**
	comp=Z,2.8nm,0.4s								
WTTA				*e*	Sn	**Sn**	**03 17 05.2**	**-1.1**
	comp=Z,5.9nm,0.6s								
WATA	**Walderalm**	**5.89**	**314**	*e*	Pn	**Pn**	**03 16 01.3**	**+1.2**
	comp=Z,2.1nm,0.4s								
WATA				*e*	Sn	**Sn**	**03 17 06.9**	**-1.2**
	comp=Z,1.9nm,0.4s								
MOTA	**Moosalm**	**6.14**	**313**	*e*	Pn	**Pn**	**03 16 04.2**	**+0.6**
	comp=Z,4.9nm,0.7s								
MOTA				*e*	Sn	**Sn**	**03 17 16.8**	**+2.3**
	comp=Z,2.9nm,0.6s								
KHC	**Kasperske Hory**	**6.44**	**335**	*e*	PN	**Pn**	**03 16 10.0**	**+2.4**
KHC				*e*	SN	**Sn**	**03 17 20.2**	**-1.4**

*IDC **08** 03:28:10.3s 2.6, 36°38′N × 70°02′E, h180km 25km, mb3.8/22, mb1 3.9/27, mb1mx3.6/49, mbtmp4.3/27, Error ellipse: s-maj=14.2km s-min=10.5km az=31.0*

*MOS **08** 03:28:11.0s 1.0, 36°55′N × 70°87′E, h195km, mb4.4/31, Error ellipse: s-maj=6.0km s-min=3.7km az=88.8*

*BJI **08** 03:28:12.3s 0.0, 36°50′N × 70°99′E, h189km, mB4.6/9, mb4.3/18*

*NEIC **08** 03:28:12.5s 1.7, 36°52′N ± 0°06′ × 70°78′E ± 0°08, h194km ± 5km, mb4.3/59, Error ellipse: s-maj=9.2km s-min=8.2km az=68.0*

*NNC **08** 03:28:14.5s 1.3, 36°92′N × 70°73′E, h175km ± 15km, mb3.8, mpv4.7, Error ellipse: s-maj=13.6km s-min=7.3km az=164.0*

ISC 08 03:28:11.2 s 0.3, **36°52′N** ± 0°04 × **70°90′E** ± 0°03, **h188** km, **n291**, σ **1878**/331, **mb4.3**/64, **16C-16D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
KBL	**Kabul**	**2.49**	**218**	PN		**Pn**	**03 28 55.2**	**+0.7**
KBL	**Kabul**	**2.49**	**218**	Pn		**Pn**	**03 28 55.2**	**+0.7**
GAR	**Garm**	**2.52**	**350**	Pn		**Pn**	**03 28 55.9**	**+1.2**
CHGR	**Chuyangaron**	**2.55**	**328**			**Pn**	**03 28 55.7**	**+0.8**
CEP	**Cherat**	**2.81**	**163**	P		**Pn**	**03 28 59.9**	**+1.7**
DRK	**Karamyk**	**3.04**	**13**			**Pn**	**03 29 02.8**	**+1.8**
CHCP	**Chirah Chowk**	**3.45**	**145**	P		**Pn**	**03 29 07.7**	**+1.9**
NIL	**Nilore**	**3.45**	**145**	PN		**Pn**	**03 29 07.5**	**+1.7**
NIL	**Nilore**	**3.45**	**145**	Pn		**Pn**	**03 29 07.5**	**+1.7**
BTK	**Batken**	**3.54**	**359**	PN		**Pn**	**03 29 08.5**	**+1.7**
BTK	**Batken**	**3.54**	**359**			**Pn**	**03 29 08.5**	**+1.7**
THW	**Thamme Wali**	**3.78**	**169**	P		**Pn**	**03 29 11.0**	**+1.1**
TAS	**Tashkent**	**4.96**	**346**	PN		**Pn**	**03 29 25.6**	**+0.8**
TAS	**Tashkent**	**4.96**	**346**	Pn		**Pn**	**03 29 25.6**	**+0.8**
KSH	**Kashi**	**5.00**	**52**	P		**Pn**	**03 29 22.7**	**-2.7**
KSH				S		**Sn**	**03 30 15.3**	**-8.5**
KSH				SMN				
	20μm,0.2s							
KSH				SME				
	15μm,0.2s							
JMU	**Jammu**	**5.02**	**138**	*e*S		**Sn**	**03 30 21.0**	**-3.2**
THN	**Thein Dam**	**5.69**	**134**	*e*P		**Pn**	**03 29 36.0**	**+1.7**
THN				*e*S		**Sn**	**03 30 37.0**	**-2.8**
AML	**Almayashu**	**6.01**	**20**	P		**Pn**	**03 29 39.5**	**+0.7**
	SNR=206							
DHRM	**DHARAMSHALA**	**6.17**	**132**	*e*P		**Pn**	**03 29 40.5**	**-0.3**
DHRM				*e*S		**Sn**	**03 30 45.9**	**-5.4**
DHRM				IAML			03 30 50.4	
	comp=E,2μm,0.6s							
DHRM				IAML			03 30 50.6	
	comp=N,2μm,0.6s							
DZA	**Taraz**	**6.38**	**3**	*e*P		**Pn**	**03 29 43.1**	**-0.1**
	baz=2.8							
DZA				*i* S		**Sn**	**03 30 53.2**	**-2.7**
	baz=2.8							
DZA	**Taraz**	**6.38**	**3**	*e*PN		**Pn**	**03 29 43.0**	**-0.1**
EKS2	**Erkin-Say**	**6.53**	**19**	P		**Pn**	**03 29 45.9**	**+0.6**
	SNR=106							
KK31	**Karatay Array**	**6.58**	**357**	⇑	P	**Pn**	**03 29 45.9**	**0.0**
	comp=N,79nm,0.5s,baz=190,slow=17,SNR=681							
KK31				⇑	S	**Sn**	**03 30 55.2**	**-5.5**
	comp=N,201nm,0.5s,baz=187,slow=24,SNR=12							
KK31	**Karatay Array**	**6.58**	**357**	PN		**Pn**	**03 29 45.9**	**0.0**
KK31	**Karatay Array**	**6.58**	**357**	Pn		**Pn**	**03 29 46.0**	**+0.2**
KKAR	**Karatay Array**	**6.58**	**357**	PN		**Pn**	**03 29 46.4**	**+0.5**
KKAR	**Karatay Array**	**6.58**	**357**			**Pn**	**03 29 46.4**	**+0.5**
KKAR	**Karatay Array**	**6.58**	**357**	Pn		**Pn**	**03 29 46.2**	**+0.3**
AAK	**Ala-Archa**	**6.71**	**23**	P		**Pn**	**03 29 48.7**	**+1.0**
	SNR=42							
AAK	**Ala-Archa**	**6.71**	**23**	⇑	P	**Pn**	**03 29 47.8**	**+0.1**
	comp=N,25nm,0.4s							
AAK				⇑	S	**Sn**	**03 30 58.7**	**-5.3**
	comp=N,74nm,0.5s							
AAK	**Ala-Archa**	**6.71**	**23**	PN		**Pn**	**03 29 47.8**	**+0.1**
AAK	**Ala-Archa**	**6.71**	**23**	Pn		**Pn**	**03 29 48.6**	**+1.0**
KBK	**Karagaybulak**	**6.88**	**26**	P		**Pn**	**03 29 51.0**	**+1.1**
	SNR=55							
FRU1	**Bishkek**	**6.91**	**23**	PN		**Pn**	**03 29 51.3**	**+1.1**
FRU1	**Bishkek**	**6.91**	**23**			**Pn**	**03 29 51.3**	**+1.1**
ULHL	**Ulahoi**	**7.06**	**34**	P		**Pn**	**03 29 53.3**	**+1.1**
	SNR=5.8							
CHMS	**Chumysh**	**7.12**	**23**	P		**Pn**	**03 29 53.5**	**+0.7**
	SNR=25							
BOOM	**Boomskoye usch**	**7.12**	**32**	PN		**Pn**	**03 29 53.7**	**+0.6**
BOOM	**Boomskoye usch**	**7.12**	**32**	Pn		**Pn**	**03 29 53.7**	**+0.6**
USP	**Ospenovka**	**7.29**	**21**	P		**Pn**	**03 29 55.1**	**0.0**
	SNR=58							
TKM2	**Tokmak 2**	**7.35**	**28**	P		**Pn**	**03 29 56.9**	**+0.9**
	SNR=75							
TKM2	**Tokmak 2**	**7.35**	**28**	⇓	P	**Pn**	**03 29 56.1**	**0.0**
	comp=N,87nm,0.6s							
TKM2				⇑	S	**Sn**	**03 31 14.8**	**-4.3**
	comp=N,30nm,0.6s							
TKM2	**Tokmak 2**	**7.35**	**28**	PN		**Pn**	**03 29 56.6**	**+0.6**
HRA	**Herat**	**7.38**	**256**	Pn		**Pn**	**03 29 56.5**	**0.0**
KDJ	**Kajisay**	**7.42**	**39**	PN		**Pn**	**03 29 56.8**	**-0.2**
KDJ	**Kajisay**	**7.42**	**39**	Pn		**Pn**	**03 29 56.8**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.47**	**44**			**Pn**	**03 29 59.1**	**+1.2**
SMLA	**Simla**	**7.49**	**134**	*e*P		**Pn**	**03 29 57.6**	**-0.1**
SMLA				*e*S		**Sn**	**03 31 16.5**	**-5.6**
SMLA				IAML			03 31 21.9	
	comp=E,515nm,0.4s							
SGDS	**Sogindy**	**7.49**	**21**	⇓	*i*P	**Pn**	**03 29 57.7**	**-0.2**
	comp=E,8.7nm,0.3s,baz=22							
SGDS				*e*S		**Sn**	**03 31 20.4**	**-1.9**
	baz=22							
SGDS	**Sogindy**	**7.49**	**21**	*d i*	PN	**Pn**	**03 29 57.6**	**-0.2**
SGDS				pmax		pmax		
	comp=Z,9.0nm,0.3s							
DGS	**Degeres**	**7.69**	**28**	P		**Pn**	**03 30 00.8**	**+0.4**
	comp=Z,22nm,0.6s							
MTBS	**Maitube**	**7.85**	**31**	⇓	*i*P	**Pn**	**03 30 03.5**	**+0.9**
	baz=31							
MTBS				*e*S		**Sn**	**03 31 30.2**	**-0.7**
	baz=31							
MTBS	**Maitube**	**7.85**	**31**	*d i*	PN	**Pn**	**03 30 03.4**	**+0.9**
MTBS				*e*S		**Sn**	**03 31 30.2**	**-0.7**
MDOK	**Medeo**	**8.15**	**34**	*e*P		**Pn**	**03 30 08.0**	**+1.5**
	baz=34							
MDOK	**Medeo**	**8.15**	**34**	*e*PN		**Pn**	**03 30 08.0**	**+1.5**
DDI	**Dehra Dun**	**8.59**	**134**	*e*P		**Pn**	**03 30 12.5**	**+0.1**
DDI				*e*S		**Sn**	**03 31 42.0**	**-6.7**
DDI				IAML			03 31 47.2	
	comp=N,422nm,0.5s							
CHKK	**Chushkaly**	**8.68**	**31**	*e*P		**Pn**	**03 30 12.9**	**-0.4**
	baz=31							
CHKK	**Chushkaly**	**8.68**	**31**	P		**Pn**	**03 30 12.9**	**-0.4**
	comp=N,6.7nm,0.7s							
CHKK	**Chushkaly**	**8.68**	**31**	*e*PN		**Pn**	**03 30 12.9**	**-0.4**
SATY	**Saty**	**8.72**	**39**	*e*P		**Pn**	**03 30 13.8**	**-0.2**
	baz=40							
SATY	**Saty**	**8.72**	**39**	*e*PN		**Pn**	**03 30 13.7**	**-0.2**
BTLS	**Baital**	**8.84**	**15**	⇓	*i*P	**Pn**	**03 30 15.2**	**-0.2**
	comp=N,5.1nm,0.6s,baz=15							
BTLS				*e*S		**Sn**	**03 31 51.5**	**-2.7**
	baz=15							
BTLS	**Baital**	**8.84**	**15**	*d i*	PN	**Pn**	**03 30 15.2**	**-0.2**
BTLS				pmax		pmax		
	comp=Z,5.0nm,0.6s							
UZB	**Uzynbulak**	**9.10**	**41**	*e*P		**Pn**	**03 30 19.2**	**+0.3**
	baz=41							
UZB	**Uzynbulak**	**9.10**	**41**	*e*P		**Pn**	**03 30 19.2**	**+0.3**
KPKS	**Kokpek**	**9.15**	**38**	*e*P		**Pn**	**03 30 20.1**	**+0.5**
	comp=Z,12nm,0.9s,baz=39							
KPKS				*e*S		**Sn**	**03 32 01.2**	**-0.7**
	baz=39							
KPKS	**Kokpek**	**9.15**	**38**	*e*P		**Pn**	**03 30 20.1**	**+0.5**
KPKS				*e*S		**Sn**	**03 32 01.1**	**-0.7**
KPKS				pmax		pmax		
	comp=Z,12nm,0.9s							
ARXS	**Arharly**	**9.32**	**32**	Lg		Lg	03 32 00.4	
	comp=Z,12nm,0.5s							
ARXS	**Arharly**	**9.32**	**32**	*e*P		**Pn**	**03 30 21.7**	**-0.1**
SHLS	**Shalkode**	**9.34**	**42**	*e*P		**Pn**	**03 30 24.6**	**+2.6**
	baz=44							
SHLS	**Shalkode**	**9.34**	**42**	*e*P		**Pn**	**03 30 24.6**	**+2.6**
NDI	**New Delhi**	**9.45**	**144**	*e*P		**Pn**	**03 30 24.0**	**+0.5**
NDI				*e*P			03 32 00.0	
PDGK	**Podgornoye**	**9.47**	**41**	⇑	P	**Pn**	**03 30 24.2**	**+0.4**
	comp=Z,7.6nm,0.9s							
PDGK				⇑	S	**Sn**	**03 32 07.1**	**-2.4**
	comp=Z,33nm,0.9s							
PDGK	**Podgornoye**	**9.47**	**41**	P		**Pn**	**03 30 24.2**	**+0.4**
PDGK				S		**Sn**	**03 32 07.1**	**-2.4**
GEYT	**Alibeck**	**10.29**	**282**	P		**Pn**	**03 30 32.6**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=104,slow=11,SNR=7.6							
GEYT				S		**Sn**	**03 32 23.4**	**-5.8**
	comp=Z,1.1nm,0.3s,baz=80,slow=20,SNR=3.1							
GEYT	**Alibeck**	**10.29**	**282**	Pn		**Pn**	**03 30 33.1**	**-1.4**
GYA0	**ALIBECK ARRAY**	**10.29**	**282**	P		**Pn**	**03 30 33.2**	**-1.3**
GYA0				S		**Sn**	**03 32 27.3**	**-1.8**
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**	⇓	P	**Pn**	**03 30 33.2**	**-1.3**
GYA0B				⇓	S	**Sn**	**03 32 27.3**	**-1.8**
GYA0B	**ALIBECK ARRAY**	**10.29**	**282**			**Pn**	**03 30 33.1**	**-1.3**
AJM	**Ajmer**	**10.50**	**161**	⇑	*i*P	**Pn**	**03 30 36.0**	**-1.3**
AJM					*i* S	**Sn**	**03 32 27.0**	**-7.3**
OTUK	**Ortayu**	**11.77**	**5**	⇑	P	**Pn**	**03 30 51.8**	**-1.5**
	comp=Z,5.7nm,0.5s							
OTUK	**Ortayu**	**11.77**	**5**	P		**Pn**	**03 30 51.8**	**-1.5**
MAKZ	**Makanchi**	**13.19**	**35**	⇓	P	**Pn**	**03 31 11.6**	**+0.3**
	comp=Z,11nm,0.8s							
MAKZ	**Makanchi**	**13.19**	**35**	P		**Pn**	**03 31 11.4**	**+0.1**
MAKZ	**Makanchi**	**13.19**	**35**	Pn		**Pn**	**03 31 11.3**	**+0.1**
PYUN	**Piuthan**	**13.22**	**126**	*e*P		**Pn**	**03 31 10.6**	**-1.5**
	comp=Z,83nm,0.6s							
MK31	**Makanchi Array**	**13.32**	**36**	⇓	P	**Pn**	**03 31 14.3**	**+1.3**
	comp=Z,4.0nm,0.6s,baz=222,slow=10,SNR=49							
MK31	**Makanchi Array**	**13.32**	**36**	*e*P		**Pn**	**03 31 14.3**	**+1.3**
MK31	**Makanchi Array**	**13.32**	**36**			**Pn**	**03 31 14.0**	**+0.9**
MKAR	**Makanchi Array**	**13.32**	**36**	P		**Pn**	**03 31 13.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=226,slow=14,SNR=23							
MKAR	**Makanchi Array**	**13.32**	**36**	Pn		**Pn**	**03 31 13.3**	**+0.3**
BRZS	**Berezniki**	**13.52**	**5**	*e*P		**Pn**	**03 31 14.8**	**-0.7**
	baz=4.9							
BRZS	**Berezniki**	**13.52**	**5**	*e*P		**Pn**	**03 31 14.8**	**-0.7**
DANN	**Dangsing**	**13.56**	**123**	*e*P		**Pn**	**03 31 14.9**	**-1.6**
	comp=Z,186nm,0.8s							
KOLN	**Koldanda**	**13.84**	**125**	*e*P		**Pn**	**03 31 18.4**	**-1.4**
	comp=Z,47nm,0.5s							
GKN	**Gorha**	**14.38**	**122**	*e*P		**Pn**	**03 31 25.8**	**-0.7**
	comp=Z,150nm,0.5s							
BHPL	**Bhopal**	**14.38**	**155**	*e*P		**Pn**	**03 31 26.8**	**+0.4**
BHPL				*e*S		Sn	03 33 56.3	-11
WMQ	**Urumqi**	**14.75**	**55**	*e*P		**P**	**03 31 32.9**	**+0.8**
DMN	**Daman**	**14.95**	**122**	*e*P		**Pn**	**03 31 33.3**	**-0.3**
	comp=Z,120nm,0.7s							
KKN	**Kakani**	**14.95**	**122**	*e*P		**Pn**	**03 31 33.5**	**-0.1**
	comp=Z,226nm,1.0s							
AB31	**Akbulak array**	**15.03**	**331**	P		**Pn**	**03 31 33.5**	**-0.7**
	comp=Z,9.1nm,0.5s,baz=144,slow=12,SNR=211							
AB31				⇑	S	**Sn**	**03 34 14.8**	**-7.2**
	comp=Z,6.3nm,0.6s,baz=157,slow=23,SNR=8.7							
AB31	**Akbulak array**	**15.03**	**331**	P		**Pn**	**03 31 33.5**	**-0.7**
AB31				S		**Sn**	**03 34 14.8**	**-7.2**
ABKAR	**Akbulak array**	**15.03**	**331**	Pn		**Pn**	**03 31 33.2**	**-1.0**
KURBB	**Kurchatov Arra**	**15.13**	**19**	P		**Pn**	**03 31 34.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=209,slow=10,SNR=14							
KURBB				S		**S**	**03 34 19.2**	**-5.0**
	baz=206,slow=21,SNR=1.0							
PKIN	**Phulchoki**	**15.17**	**122**	*e*P		**Pn**	**03 31 36.2**	**-0.1**
	comp=Z,266nm,0.6s							
PKI	**Pulchoki**	**15.18**	**122**	*e*P		**P**	**03 31 37.0**	**-0.2**
	comp=Z,328nm,0.7s							
KURK	**Kurchatov**	**15.24**	**19**	P		**Pn**	**03 31 34.3**	**-2.3**
KURK	**Kurchatov**	**15.24**	**19**	P		**Pn**	**03 31 34.3**	**-2.3**
GUN	**Gumba**	**15.29**	**120**	*e*P		**Pn**	**03 31 37.8**	**-0.1**
	comp=Z,105nm,0.8s							
JIRN	**Jiri**	**15.66**	**120**	*e*P		**P**	**03 31 43.4**	**+0.8**
	comp=Z,95nm,0.5s							
RAMN	**Ramite**	**16.39**	**121**	*e*P		**Pn**	**03 31 51.0**	**-0.1**
	comp=Z,148nm,0.6s							
BVAR	**Borovoye Array**	**16.51**	**359**	P		**Pn**	**03 31 51.8**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=190,slow=16,SNR=25							
BVAR				S		**S**	**03 34 51.3**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=180,slow=33,SNR=4.7							
BRVK	**Borovoye**	**16.55**	**359**	⇓	P	**Pn**	**03 31 52.5**	**+0.1**
	comp=Z,13nm,0.8s							
BRVK				⇑	S	**S**	**03 34 51.1**	**-3.6**
	comp=Z,12nm,0.7s							
BRVK	**Borovoye**	**16.55**	**359**	P		**Pn**	**03 31 52.5**	**+0.1**
BRVK				S		**S**	**03 34 51.6**	**-3.0**
BRVK	**Borovoye**	**16.55**	**359**	P		**Pn**	**03 31 52.9**	**+0.5**
BRVK				IAmb		IAmb	03 31 54.1	
	comp=Z,13nm,0.8s							
AKTO	**Aktyubinsk**	**16.73**	**330**	P		**Pn**	**03 31 55.0**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=140,slow=10,SNR=136							
AKTO				S		**S**	**03 34 58.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=193,slow=23,SNR=4.8							
AKTO	**Aktyubinsk**	**16.73**	**330**	⇑	P	**Pn**	**03 31 54.4**	**-0.2**
	comp=Z,56nm,0.8s							
AKTO				⇓	S	**S**	**03 34 55.0**	**-3.5**
	comp=Z,19nm,1.1s							
AKTO	**Aktyubinsk**	**16.73**	**330**	P		**Pn**	**03 31 54.4**	**-0.2**
AKTO				S		**S**	**03 34 54.9**	**-3.5**
TAPN	**Taplejung**	**16.92**	**118**	*e*P		**Pn**	**03 31 58.9**	**+1.4**
	comp=Z,48nm,0.4s							
TAPN				*e*S		**S**	**03 34 57.0**	**-6.5**
ODAN	**Odare**	**17.00**	**120**	*e*P		**Pn**	**03 32 01.0**	**+2.7**
	comp=Z,126nm,0.8s							
UOSS	**Minazif**	**17.09**	**232**	P		**P**	**03 31 57.4**	**-0.5**
UOSS				IAmb		IAmb	03 31 59.9	
	comp=Z,12nm,1.1s							
DGZ	**Jazzator, Alta**	**17.81**	**37**	⇓	*i*P	**Pn**	**03 32 08.0**	**+0.3**
LSA	**Lhasa**	**18.26**	**106**	P		**Pn**	**03 32 14.8**	**+1.4**
LSA				pmax		pmax		
	comp=Z,100nm,1.3s							
LSA	**Lhasa**	**18.26**	**106**	P		**Pn**	**03 32 14.7**	**+1.4**
LSA				pmax		pmax		
	comp=Z,18nm,0.7s							
LSA	**Lhasa**	**18.26**	**106**	P		**Pn**	**03 32 14.7**	**+1.4**
SEKA	**Sheki**	**19.02**	**291**	P		**Pn**	**03 32 20.4**	**-1.5**
ZKTA	**Zakatala**	**19.51**	**293**	P		**Pn**	**03 32 25.9**	**-1.7**
GANJ	**Ganja**	**19.63**	**290**	P		**P**	**03 32 26.7**	**+1.3**
ZAA0	**Zalesovo Array**	**19.93**	**25**	⇑	P	**P**	**03 32 29.0**	**+0.6**
	comp=Z,2.8nm,0.7s							
ZAA0	**Zalesovo Array**	**19.93**	**25**	P		**P**	**03 32 29.1**	**+0.6**
ZAA0				IAmb		IAmb	03 32 30.1	
	comp=Z,14nm,0.7s							
ZALV	**Zalesovo Beam**	**19.93**	**25**	P		**P**	**03 32 29.4**	**+0.9**
	comp=Z,16nm,0.6s,baz=221,slow=11,SNR=62							
ZALV	**Zalesovo Beam**	**19.93**	**25**	P		**P**	**03 32 28.9**	**+0.5**
HYB	**Hyderabad**	**20.19**	**158**	*i* P		**P**	**03 32 32.0**	**+0.4**
HYB				*e*S		**S**	**03 36 08.0**	**0.0**
NAX	**Nakhchivan**	**20.22**	**285**	P		Pn	03 32 35.2	-1.1
GROC	**Groznyy**	**20.35**	**297**	*e*P		**P**	**03 32 34.8**	**+1.7**
GROC				*e**PP		**pP**	**03 33 07.9**	**+2.9**
GROC				*e**SP		**sP**	**03 33 33.4**	**+4.6**
GROC				*e*			03 36 38.9	
GROC				pmax		pmax		
	comp=Z,46nm,1.3s							
GNI	**Garni**	**20.81**	**288**	P		Pn	03 32 41.9	-2.0
	comp=Z,5.8nm,0.4s,baz=57,slow=17,SNR=4.2							
GNI	**Garni**	**20.81**	**288**	P		**P**	**03 32 37.7**	**-0.5**
GNI				pmax		pmax		
	comp=Z,27nm,1.1s							
GNI	**Garni**	**20.81**	**288**	P		**P**	**03 32 37.7**	**-0.5**
SHL	**Shillong**	**20.99**	**115**	P		**P**	**03 32 41.0**	**+0.9**
SHL				pmax		pmax		
	comp=Z,29nm,1.0s							
SHL	**Shillong**	**20.99**	**115**	P		**P**	**03 32 41.0**	**+0.9**
SVE	**Sverdlovsk**	**21.46**	**344**	*e*P		**P**	**03 32 46.0**	**+1.4**
SVE				pmax		pmax		
	comp=Z,21nm,1.0s							
ARU	**Arti**	**21.59**	**341**	P		**P**	**03 32 47.0**	**+1.0**
	comp=Z,5.5nm,0.7s,baz=152,slow=7.8,SNR=22							
ARU				S		**S**	**03 36 39.7**	**+7.3**
	comp=Z,1.0nm,0.3s,baz=90,slow=23,SNR=1.6							
ARU	**Arti**	**21.59**	**341**	*c i* P		**P**	**03 32 46.9**	**+1.0**
ARU				*PP		**pP**	**03 33 20.4**	**+1.6**
ARU				S		**S**	**03 36 33.5**	**+1.0**
ARU				pmax		pmax		
	comp=Z,28nm,0.9s							
ARU	**Arti**	**21

comp=Z,2.8nm,0.7s,baz=84,slow=9.9,SNR=4.3
AKASG **Malin Array Be** 32.87 309 P **P** 03 34 27.6 +0.4
AKBB **Malin Array Si** 32.87 309 P **P** 03 34 27.5 +0.3
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB **Malin Array Si** 32.87 309 P **P** 03 34 27.5 +0.3
AKBB lAmb lAmb 03 34 28.7
comp=Z,6.6nm,0.8s
NRIK **Noril'sk** 34.12 10 P **P** 03 34 39.0 +1.3
comp=Z,6.6nm,0.7s,baz=202,slow=5.2,SNR=5.8
NRIK **Noril'sk** 34.12 10 P **P** 03 34 39.3 +1.6
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK **Noril'sk** 34.12 10 P **P** 03 34 39.3 +1.6
NRIK lAmb lAmb 03 34 40.6
comp=Z,8.2nm,0.9s
MLR **Muntele Rosu** 34.70 299 P **P** 03 34 44.5 +1.3
MLR pmax pmax
comp=Z,7.0nm,0.9s
MLR **Muntele Rosu** 34.70 299 P **P** 03 34 44.5 +1.3
MLR lAmb lAmb 03 34 46.6
comp=Z,6.9nm,0.9s
NACGM **Naroch** 35.15 316 *i* P **P** 03 34 48.0 +1.4
BURAR **Bucovina Array** 35.21 303 P **P** 03 34 47.8 +0.3
BUR08 **Bucovina Ar. S** 35.22 303 P **P** 03 34 47.9 +0.3
IDID **Didziasalis** 35.27 316 *eP* **P** 03 34 48.8 +1.1
IIGN **Ignalina** 35.56 316 *eP* **P** 03 34 51.8 +1.6
VSU **Vasula** 36.12 322 *eP* **P** 03 34 55.7 +0.8
VSU **Vasula** 36.12 322‖ *eP* **P** 03 34 55.0 +0.1
VSU pmax pmax
comp=Z,36nm,0.7s
PABE **Paberze** 36.85 316 *eP* **P** 03 35 02.4 +1.4
PABE **Paberze** 36.85 316 P **P** 03 35 01.3 +0.2
KWP **Kalwaria Pacla** 36.94 306 P **P** 03 35 00.8 -1.1
KWP pmax pmax
comp=Z,6.0nm,1.0s
KWP **Kalwaria Pacla** 36.94 306 P **P** 03 35 00.8 -1.1
KWP lAmb lAmb 03 35 06.2
comp=Z,5.8nm,1.0s
SUW **Suwalki** 37.05 314 P **P** 03 35 02.8 0.0
SUW pmax pmax
comp=Z,22nm,0.6s
SUW **Suwalki** 37.05 314 P **P** 03 35 02.8 0.0
KOLS **Kolonicke sedl** 37.20 305 *eP* **P** 03 35 06.0 +1.7
KOLS **Kolonicke sedl** 37.20 305 *eP* **P** 03 35 05.9 +1.7
FIA1 **FINESS Array S** 37.42 326 P **P** 03 35 07.1 +1.3
FIA1 lAmb lAmb 03 35 07.8
comp=Z,14nm,0.8s
FINES **FINESS Array B** 37.43 326 P **P** 03 35 07.1 +1.2
comp=Z,8.8nm,0.7s,baz=109,slow=11,SNR=23
FINES **FINESS Array B** 37.43 326 P **P** 03 35 06.0 +0.2
CRVS **Cervenica-Dubn** 37.74 305 *eP* **P** 03 35 11.1 +2.4
CRVS **Cervenica-Dubn** 37.74 305 *eP* **P** 03 35 11.1 +2.4
MEF **Metsahovi** 37.80 324 *eP* **P** 03 35 09.2 +0.2
PSZ **Piszkesteto** 38.80 303 P **P** 03 35 16.1 -1.5
PSZ pmax pmax
comp=Z,3.0nm,0.6s
PSZ **Piszkesteto** 38.80 303 P **P** 03 35 16.1 -1.5
PSZ lAmb lAmb 03 35 16.7
comp=Z,3.0nm,0.6s
OJC **Ojcow** 38.83 307 P **P** 03 35 17.4 -0.4
OJC pmax pmax
comp=Z,4.0nm,0.9s
OJC **Ojcow** 38.83 307 P **P** 03 35 17.4 -0.4
OJC lAmb lAmb 03 35 19.8
comp=Z,4.1nm,0.9s
KEV **Kevo** 40.76 338 P **P** 03 35 33.9 +0.6
KEV pmax pmax
comp=Z,14nm,1.0s
KEV **Kevo** 40.76 338 P **P** 03 35 33.9 +0.6
KEV lAmb lAmb 03 35 52.5
comp=Z,14nm,1.0s
ARA0 **ARCESS Array S** 41.10 338 *eP* **P** 03 35 37.8 +1.6
ARCES **ARCESS Array B** 41.10 338 P **P** 03 35 37.2 +1.1
comp=Z,8.9nm,0.7s,baz=106,slow=8.9,SNR=24
ARCES **ARCESS Array B** 41.10 338 P **P** 03 35 37.8 +1.6
ARCES pmax pmax
comp=Z,5.0nm,1.1s
ARCES **ARCESS Array B** 41.10 338 P **P** 03 35 37.8 +1.6
ARCES lAmb lAmb 03 35 54.4
comp=Z,5.4nm,1.1s
KTK1 **Kautokeino** 41.57 336 *eP* **P** 03 35 41.1 +1.1
HAMF **Hammerfest** 42.18 339 *eP* **P** 03 35 46.7 +1.8
PSI **Prapat** 42.35 136 P **P** 03 35 46.9 -0.2
comp=Z,5.1nm,0.8s,baz=360,slow=8.1,SNR=6.6
SGRT **San Giovanni R** 42.49 295 P **P** 03 35 47.1 -0.8
SGRT lAmb lAmb 03 35 49.5
comp=Z,4.1nm,0.7s
JETT **Jettan, Norway** 42.71 336 *eP* **P** 03 35 50.0 +0.7
GERES **GERESS Array B** 42.86 305 P **P** 03 35 51.9 +1.1
comp=Z,0.5nm,0.6s,baz=89,slow=9.0,SNR=2.7
GERES **GERESS Array B** 42.86 305 P **P** 03 35 50.6 -0.1
TRO **Tromso** 43.22 336 *eP* **P** 03 35 54.0 +0.7
FAUS **Fauske** 43.75 333 *eP* **P** 03 35 58.8 +1.3
STAL **STALIGIAL** 43.84 302 P **P** 03 35 59.6 +1.0
STAL lAmb lAmb 03 36 18.4
comp=Z,6.6nm,1.3s
STEI **Steigen** 43.92 333 *eP* **P** 03 35 59.1 +0.3
NC405 **NORSAR Array S** 44.09 323 P **P** 03 36 00.8 +0.5
NC602 **NORSAR Array S** 44.13 323 *eP* **P** 03 36 00.2 -0.5
NC303 **NORSAR Array S** 44.26 323 P **P** 03 36 03.2 +1.5
NB201 **NORSAR Array S** 44.28 323 P **P** 03 36 02.4 +0.5
NB2 **NORSAR Subarra** 44.32 323 P **P** 03 36 02.4 +0.2
baz=94,slow=7.9
NOA **NORSAR Array B** 44.32 323 P **P** 03 36 02.8 +0.5
comp=Z,8.3nm,0.7s,baz=96,slow=7.8,SNR=38
NSS **Namsos** 44.44 328 *eP* **P** 03 36 03.6 +0.6
NAO01 **NORSAR Array S** 44.46 323 P **P** 03 36 03.1 -0.2
MURB **Monte Urbino** 44.51 297 P **P** 03 36 04.0 0.0
MURB lAmb lAmb 03 36 07.9
comp=Z,6.6nm,0.7s
NBO00 **NORSAR Array S** 44.53 323 P **P** 03 36 04.9 +1.0
NC204 **NORSAR Array S** 44.56 323 P **P** 03 36 04.0 -0.1
LOF **Lofoten** 44.59 333 *eP* **P** 03 36 04.9 +0.7
CTI **Castel Tesino** 44.60 302 P **P** 03 36 04.0 -0.8
CTI pmax pmax
comp=Z,3.0nm,0.7s
CTI **Castel Tesino** 44.60 302 P **P** 03 36 04.0 -0.8
KONO **Kongsberg** 45.02 321 *eP* **P** 03 36 08.0 +0.3
BJO1 **Bjornoya** 45.23 343 *eP* **P** 03 36 07.9 -1.2
TIXI **Tiksi** 45.79 22 P **P** 03 36 13.9 +0.4
comp=Z,3.3nm,0.4s,baz=312,slow=1.1,SNR=9.0
TIXI **Tiksi** 45.79 22⇑ *eP* **P** 03 36 13.5 0.0
TIXI **Tiksi** 45.79 22 P **P** 03 36 14.2 +0.7
BLS5 **Blasjo** 46.62 321 *eP* **P** 03 36 20.8 +0.6
HSPB **Hornsund (broa** 47.10 345 *eP* **P** 03 36 24.3 +0.6
SPA0 **Spitsbergen Ar** 47.46 347 *eP* **P** 03 36 26.8 +0.3
SENIN **Lac Senin/Sane** 47.51 303 P **P** 03 36 28.6 +1.0
BNI **Bardonecchia** 48.22 301 P **P** 03 36 32.6 -0.3
BNI pmax pmax
comp=Z,4.0nm,1.1s
BNI **Bardonecchia** 48.22 301 P **P** 03 36 32.6 -0.3
ESDC **Sonseca Array** 57.38 298 P **P** 03 37 40.1 +0.2
comp=Z,0.8nm,0.8s,baz=70,slow=7.7,SNR=5.6
BILL **Bilibino** 58.63 26 *eP* **P** 03 37 48.9 +0.8
BILL pmax pmax
comp=Z,2.0nm,0.9s
KOWA **Kowa** 69.49 273 P **P** 03 38 58.5 -1.2
KOWA lAmb lAmb 03 39 00.4
comp=Z,5.1nm,1.1s
TOLK **Toolik Lake Re** 70.92 15 P **P** 03 39 08.1 +0.5
TOLK lAmb lAmb 03 39 09.5
comp=Z,5.0nm,0.7s
IMAR **Indian Mountai** 72.18 18 P **P** 03 39 15.5 +0.5
BMAR **Burnt Mountain** 72.94 14 P **P** 03 39 21.4 +1.8
MLY **Manley** 73.69 17 P **P** 03 39 24.8 +0.9
C36M **Paulatuk** 73.87 5 P **P** 03 39 25.4 +0.6
C36M lAmb lAmb 03 39 26.0
comp=Z,6.4nm,0.6s
INK **Inuvik** 73.90 9 P **P** 03 39 26.1 +1.0
comp=Z,2.5nm,0.6s,baz=350,slow=6.6,SNR=14
INK **Inuvik** 73.90 9 P **P** 03 39 26.0 +1.0
INK lAmb lAmb 03 39 29.6
comp=Z,2.7nm,0.7s
TTA **Tatalina** 74.03 20 P **P** 03 39 27.2 +1.2
TTA pmax pmax
comp=Z,2.0nm,1.1s
TTA **Tatalina** 74.03 20 P **P** 03 39 27.2 +1.2
COLA **College** 74.48 16 *i* P **P** 03 39 29.7 +1.3
COLA pmax pmax
comp=Z,5.0nm,0.8s
WRH **Wood River Hil** 74.77 16 P **P** 03 39 30.7 +0.5
ILAR **Eielson Array** 74.78 16 P **P** 03 39 29.6 -0.6
comp=Z,1.0nm,0.9s,baz=330,slow=4.8,SNR=9.5
ILAR **Eielson Array** 74.78 16 P **P** 03 39 30.3 +0.1
ILAR **Eielson Array** 74.78 16 P **P** 03 39 30.3 +0.1
PPLA **Purkeypile** 75.09 19 P **P** 03 39 33.1 +0.9
PPLA lAmb lAmb 03 39 45.5
comp=Z,9.6nm,1.4s
KNRA **Kununurra** 75.30 123 P **P** 03 39 33.7 -0.1
KNRA lAmb lAmb 03 39 49.0
comp=Z,12nm,1.1s
SCRK **Sand Creek** 76.10 15 P **P** 03 39 38.5 +0.6
K27K **Chicken** 76.44 14 P **P** 03 39 41.0 +1.3
PAX **Paxson** 76.66 16 P **P** 03 39 41.1 +0.1
PAX pmax pmax
comp=Z,2.0nm,0.8s
PAX **Paxson** 76.66 16 P **P** 03 39 41.1 +0.1
DAWY **Dawson** 76.92 13 P **P** 03 39 43.2 +0.8
SCM **Sheep Creek Mo** 77.22 18 P **P** 03 39 44.8 +0.7
SCM pmax pmax
comp=Z,5.0nm,1.0s
SCM **Sheep Creek Mo** 77.22 18 P **P** 03 39 44.8 +0.7
SCM lAmb lAmb 03 39 59.3
comp=Z,4.7nm,1.0s
L27K **Beaver Creek,** 77.36 15 P **P** 03 39 46.7 +1.8
BCAR **Beaver Creek A** 77.37 15 P **P** 03 39 46.4 +1.5
BOSA **Boshof** 77.71 220 P **P** 03 39 47.0 -0.2
comp=Z,1.4nm,0.7s,baz=39,slow=13,SNR=3.1
WHY **Whitehorse** 80.89 13 P **P** 03 40 04.5 +0.4
WHY lAmb lAmb 03 40 10.2
comp=Z,4.5nm,1.2s
YKA **Yellowknife Ar** 81.23 3 P **P** 03 40 06.4 +0.7
comp=Z,1.0nm,0.6s,baz=355,slow=5.1,SNR=18
YKA **Yellowknife Ar** 81.23 3 *i* P **P** 03 40 06.8 +1.1
YKA pmax pmax
comp=Z,1.0nm,0.5s
ASAR **Alice Springs** 84.33 125 P **P** 03 40 21.2 -1.1
comp=Z,0.9nm,0.7s,baz=316,slow=4.7,SNR=13
PLCA **Paso Flores** 149.76 250 PKPbc **PKPbc** 03 47 37.4 -1.3
comp=Z,2.5nm,0.8s,baz=95,slow=5.4,SNR=5.7
PLCA **Paso Flores** 149.76 250 **PKiKP** 03 47 39.3 -0.3

*NEIC **08** 04:04:16.7±1.3, 4.9S±0.1°×153.9°E±0.7, h100km±7km, mb4.3/7, Error ellipse: s-maj=20.4km s-min=8.0km az=201.0*
*IDC **08** 04:04:17.9±5.5, 4.9S×153.9E, h120km±45km, mb3.6/8, mb1 3.8/9, mb1mx3.5/36, mbtmp4.0/9, MS3.0/3, Ms1 3.0/3, ms1mx2.6/29, Error ellipse: s-maj=43.9km s-min=23.2km az=103.0*
ISC 08 04:04:16.5±0.8, 4.8S±0.1°×153.9E±0.1, h105km, n28, σ1s13/27, mb3.7/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	1.82	290			**Pn**	**04 04 47.2**	**+0.2**
HNR	**Honiara**	7.57	128	LR		LR	04 08 39.8	
	comp=Z,82nm,18.2s,baz=160,slow=35							
PMG	**Port Moresby**	8.08	235	P		**Pn**	**04 06 13.4**	**+2.3**
	7.7nm,0.3s,baz=72,slow=12,SNR=7.4							
PMG				S		**Sn**	**04 07 39.4**	**-1.4**
	3.4nm,0.3s,baz=348,slow=20,SNR=1.2							
PMG				LR		LR	04 09 57.2	
	comp=Z,75nm,18.5s,baz=216,slow=42							
PMG	**Port Moresby**	8.08	235	Pn		**Pn**	**04 06 14.2**	**+3.0**
DZM	**Mont Dzumac**	21.03	146	LR		LR	04 15 08.2	
	comp=Z,50nm,20.4s,baz=194,slow=31							
WRA	**Warramunga Arr**	24.25	230	P		**P**	**04 09 24.0**	**0.0**
	baz=55,slow=10							
WRA	**Warramunga Arr**	24.25	230	P		**P**	**04 09 24.0**	**0.0**
AS31	**Alice Springs**	26.87	224	P		**P**	**04 09 46.5**	**-1.2**
ASAR	**Alice Springs**	26.87	224	P		**P**	**04 09 47.3**	**-0.4**
	1.9nm,0.9s,baz=61,slow=8.7,SNR=12							
ASAR	**Alice Springs**	26.87	224	P		**P**	**04 09 47.6**	**-0.1**
STKA	**Stephens Creek**	29.28	202	P		**P**	**04 10 07.9**	**-1.1**
	3.0nm,1.0s,baz=340,slow=9.9,SNR=3.1							
STKA	**Stephens Creek**	29.28	202	P		**P**	**04 10 08.4**	**-0.6**
STKA				lAmb		lAmb	04 10 12.9	
	comp=Z,2.6nm,1.4s							
FITZ	**Fitzroy Crossi**	30.60	242	P		**P**	**04 10 20.2**	**-0.6**
FORT	**Forrest**	35.46	220	P		**P**	**04 11 02.8**	**-0.2**
PSA00	**Pilbara Seismi**	36.95	240	P		**P**	**04 11 16.0**	**+0.2**
PSA00				lAmb		lAmb	04 11 25.1	
	comp=Z,3.8nm,1.2s							
MORW	**Morawa**	43.18	232	P		**P**	**04 12 06.5**	**-0.7**
MORW				lAmb		lAmb	04 12 08.4	
	comp=Z,22nm,1.5s							
SONM	**Songino Array**	66.91	327	P		**P**	**04 14 58.7**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=2.9							
SONM	**Songino Array**	66.91	327	P		**P**	**04 14 58.3**	**+0.6**
SONM				lAmb		lAmb	04 15 09.6	
	comp=Z,2.0nm,1.3s							
OHAK	**Old Harbor**	75.08	27	P		**P**	**04 15 48.5**	**+1.8**
OHAK				lAmb		lAmb	04 15 49.2	
	comp=Z,23nm,1.4s							
IMAR	**Indian Mountai**	80.04	19	P		**P**	**04 16 15.7**	**+1.6**
MKAR	**Makanchi Array**	81.04	319	P		**P**	**04 16 20.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=97,slow=6.7,SNR=5.6							
ZALV	**Zalesovo Beam**	81.76	326	P		**P**	**04 16 22.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=102,slow=6.3,SNR=2.2							
ZALV	**Zalesovo Beam**	81.76	326	P		**P**	**04 16 23.1**	**-0.5**
ILAR	**Eielson Array**	81.77	22	P		**P**	**04 16 23.2**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=216,slow=4.5,SNR=2.2							
MAW	**Mawson**	85.97	203	P		**P**	**04 16 43.8**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=106,slow=5.6,SNR=5.6							
MAW	**Mawson**	85.97	203	P		**P**	**04 16 44.1**	**-0.6**
NVAR	**Mina Array Bea**	91.25	52	P		**P**	**04 17 10.0**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=246,slow=8.8,SNR=1.8							
TORD	**Torodi Ar. Bea**	151.33	289	PKPbc		**PKPbc**	**04 23 58.4**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=36,slow=2.7,SNR=6.4							

*KRSZO **08** 04:15:54.6±0.9, 43.39N×17.73E, h5km±7km, ML2.7/10, Error ellipse: s-maj=2.8km s-min=2.3km az=22.0*
*PDG **08** 04:15:54.4±0.3, 43.42N×17.72E, h4km, ML2.5/14, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*RHSSO **08** 04:15:55.1±0.2, 43.40N×17.74E, h4km±2km, ML2.4/15*
*BEO **08** 04:15:55.6±0.6, 43.38N×17.63E, h0km, ML2.3/9*
ISC 08 04:15:55.1±1.1, 43.39N±0.02×17.74E±0.01, h5km±9km, n68, σ1s33/120, 12C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	0.46	284	*i* Pg		**Pg**	**04 16 04.2**	**+0.4**
RICI				Sg		**Sb**	**04 16 10.2**	**-0.5**
STON	**Ston**	0.51	183	*e*Pg		**Pg**	**04 16 04.1**	**-0.9**
STON				*e*Sg		**Sg**	**04 16 11.5**	**-0.1**
STON	**Ston**	0.51	183	‖ *i*Pg		**Pg**	**04 16 04.0**	**-0.9**
STON				*e*Sg		**Sg**	**04 16 12.3**	**+0.7**
STON	**Ston**	0.51	183	*e*Pg		**Pg**	**04 16 03.6**	**-1.3**
STON				Sg		**Sg**	**04 16 12.2**	**+0.5**
BRY	**Bratogost**	0.76	129	⇑ *i*Pg		**Pg**	**04 16 08.7**	**-0.9**
BRY				*e*Sg		**Sg**	**04 16 20.3**	**+0.8**
BRY	**Bratogost**	0.76	129	⇑ *i*Pg		**Pg**	**04 16 08.9**	**-0.7**
BRY				*i* Sg		**Sb**	**04 16 21.5**	**0.0**
TREB	**Trebinje**	0.80	146	*e*Pg		**Pg**	**04 16 09.9**	**-0.6**
TREB				*e*Sg		**Sn**	**04 16 24.6**	**-0.7**
TREB	**Trebinje**	0.80	146	*e*Pg		**Pg**	**04 16 09.7**	**-0.8**
TREB				*e*Sg		**Sg**	**04 16 21.7**	**+0.8**
UPM	**Unac-Piva**	0.87	102	⇑ *i*Pg		**Pg**	**04 16 11.1**	**-0.6**
UPM				*e*Sg		**Sg**	**04 16 23.5**	**+0.5**
UPM	**Unac-Piva**	0.87	102	‖ *i*Pg		**Pg**	**04 16 10.8**	**-0.9**
UPM				*i* Sg		**Sb**	**04 16 25.0**	**+0.3**
LSTV	**Lastovo**	0.88	226	*e*Pg		**Pg**	**04 16 11.3**	**-0.6**
LSTV				Sg		**Sb**	**04 16 24.9**	**+0.3**
NKY	**Niksic**	1.08	122	⇑ *i*Pg		**Pg**	**04 16 15.2**	**-0.6**
NKY				*i* Sg		**Sn**	**04 16 32.7**	**+0.4**
NKME	**Niksic**	1.08	124	⇑ *i*Pg		**Pg**	**04 16 14.7**	**-1.1**
NKME				*i* Sg		**Sn**	**04 16 32.4**	**+0.1**
HCY	**Herceg Novi**	1.09	149	⇑ *i*Pg		**Pb**	**04 16 15.2**	**-1.1**
HCY				*e*Sg		**Sg**	**04 16 29.9**	**-0.1**
HCY	**Herceg Novi**	1.09	149	⇑ *i*Pg		**Pb**	**04 16 15.2**	**-1.1**
HCY				*i* Sg		**Sn**	**04 16 33.3**	**+0.9**
HAPS	**Han Pijesak,Bl**	1.12	51	*e*Pg		**Pg**	**04 16 15.0**	**-1.6**
HAPS				*e*Sg		**Sg**	**04 16 30.0**	**-1.2**
MGRS	**Mrkonjic Grad**	1.14	336	*e*Pg		**Pb**	**04 16 15.6**	**-1.6**
MGRS				*e*Sg		**Sg**	**04 16 30.7**	**-0.9**
KIJV	**Kijevo**	1.15	303	*e*Pg		**Pn**	**04 16 17.4**	**-0.5**
KIJV				Sg		**Sn**	**04 16 36.0**	**+2.0**
PLE	**Pljevlja**	1.20	92	⇑ *i*Pg		**Pb**	**04 16 17.0**	**-1.4**
PLE				*i* Sg		**Sn**	**04 16 36.0**	**+0.6**
CEME	**Cevo**	1.20	134	⇑ *i*Pg		**Pn**	**04 16 16.9**	**-1.7**
CEME				*e*Sg		**Sn**	**04 16 36.8**	**+1.5**
RUDO	**Rudo**	1.21	78	*e*Pg		**Pb**	**04 16 16.1**	**-2.3**
RUDO				*e*Sg		**Sb**	**04 16 33.7**	**-0.6**
BBLS **Lazići** 1.30 68 *e*Pg **Pn** 04 16 19.1 -0.8
BBLS *e*Sg **Sg** 04 16 40.1 +3.2
BBLS **Lazići** 1.30 68 *e*Pg **Pn** 04 16 18.0 -1.9
BBLS *e*Sg **Sb** 04 16 36.5 -0.5
BBLS **Lazići** 1.30 68 Pb **Pg** 04 16 21.0 +1.0
comp=Z,2.1nm,SNR=31
BBLS Sg **Sg** 04 16 39.7 +2.8
BUM **Brajici-Budva** 1.38 142 ‖ *i*Pg **Pb** 04 16 21.2 -0.1
BUM *i* Sg **Sg** 04 16 43.0 +3.7
KOME **Kolasin** 1.41 112 ⇑ *i*Pg **Pn** 04 16 20.6 -0.8
KOME *i* Sg **Sg** 04 16 43.5 +3.3
BLY **Banja Luka** 1.42 344 *e*Pg **Pn** 04 16 20.7 -0.8
BLY *e*Sg **Sb** 04 16 39.9 -0.5
BLY **Banja Luka** 1.42 344 Pg **Pg** 04 16 23.5 +1.2
comp=Z,0.1nm,SNR=8.2
BLY Lg Lg 04 16 41.5
PDG **Podgorica** 1.47 130 *e*Pg **Pg** 04 16 23.4 +0.3
PDG *e*Sg **Sg** 04 16 44.1 +2.0
PDG **Podgorica** 1.47 130 *e*Pg **Pn** 04 16 22.0 -0.1
PDG *e*Sg **Sg** 04 16 42.3 +0.2
TTG **Podgorica** 1.47 130 ⇑ *i*Pg **Pb** 04 16 22.8 0.0
TTG *i* Sg **Sg** 04 16 45.9 +3.8
ZIRJ **Zirje** 1.55 281 *e*Pn **Pb** 04 16 23.4 -0.8
ZIRJ Sg **Sg** 04 16 46.0 +1.1
MORI **Morici** 1.55 289 *e*Pn **Pb** 04 16 23.4 -0.9
MORI Sg **Sg** 04 16 47.6 +2.7
DRME **Dracevica, Mon** 1.60 138 *e*Pn **Pb** 04 16 24.5 -0.6
DRME *e*Sn **Sb** 04 16 45.4 -0.2
DRME **Dracevica, Mon** 1.60 138 ⇑ *i*Pn **Pb** 04 16 25.0 -0.1
DRME *i* Sn **Sg** 04 16 49.4 +2.9
SJES **Sjenica** 1.63 94 *e*Pg **Pb** 04 16 25.4 -0.3
SJES *e*Sg **Sg** 04 16 48.7 +1.1
IVA **Berane** 1.66 107 ‖ *i*Pn **Pb** 04 16 25.6 -0.5
IVA *i* Sn **Sg** 04 16 50.1 +1.8
MRAK **Mrakovica** 1.74 340 *e*Pn **Pn** 04 16 25.7 -0.2
MRAK *e*Sn **Sb** 04 16 48.8 -0.8
TEKS **Tekeris** 1.74 47 *e*Pn **Pg** 04 16 28.4 0.0
TEKS *e*Sn **Sg** 04 16 52.2 +1.3
TEKS **Tekeris** 1.74 47 *e*Pn **Pn** 04 16 25.2 -0.7
TEKS *e*Sn **Sb** 04 16 48.6 -1.0
DIVS **Divibare** 1.78 66 *e*Pn **Pb** 04 16 28.5 +0.3
DIVS *e*Sn **Sg** 04 16 52.8 +0.5
DIVS **Divibare** 1.78 66 *e*Pn **Pn** 04 16 26.8 +0.3
DIVS *e*Sn **Sn** 04 16 49.4 -0.2
DIVS **Divibare** 1.78 66 Pg **Pb** 04 16 28.4 +0.3
comp=Z,0.1nm,SNR=9.6
DIVS Lg Lg 04 16 53.6
ULC **Ulcinj** 1.80 142 ‖ *i*Pn **Pb** 04 16 28.0 -0.5
ULC *i* Sn **Sg** 04 16 54.1 +1.2
PVY **Plav** 1.81 115 ‖ *i*Pn **Pb** 04 16 27.8 -0.9
PVY *i* Sn **Sg** 04 16 54.3 +1.1
UDBI **Udbina** 1.83 309 Sn **Sg** 04 16 55.4 +1.6
DUGI **Dugi Otok** 2.04 288 *e*Pn **Pb** 04 16 32.4 -0.2
DUGI Sn **Sg** 04 16 59.2 -1.3
TRUS **Trudelj** 2.10 66 *e*Pn **Pb** 04 16 33.4 -0.3
TRUS *e*Sn **Sb** 04 17 00.2 +0.1
GRUS **Gruza** 2.22 76 *e*Pn **Pb** 04 16 35.2 -0.4
GRUS *e*Sn **Sb** 04 17 02.5 -0.8
FRGS **Fruska Gora** 2.31 39 *e*Pn **Pb** 04 16 35.5 -1.7
FRGS *e*Sn **Sb** 04 17 05.1 -1.0
FRGS **Fruska Gora** 2.31 39 *e*Pn **Pn** 04 16 34.0 +0.2
FRGS *e*Sn **Sn** 04 17 02.9 +0.3
FRGS **Fruska Gora** 2.31 39 Pg **Pb** 04 16 37.1 -0.1
comp=Z,0.1nm,SNR=5.2
NVLJ **Novalja** 2.38 301 *e*Pn **Pb** 04 16 36.9 -1.5
NVLJ Sn **Sb** 04 17 09.0 +1.0
KOVH **Kovagotottos** 2.71 5 Pn **Pb** 04 16 42.2 -1.9
SNR=4.2
KOVH Lg Lg 04 17 21.5
PTJ **Puntijarka** 2.82 334 Pn **Pb** 04 16 44.7 -1.3
comp=Z,0.1nm,SNR=2.4
MORH **Mrgy, Hungar** 2.90 12 Pn **Pb** 04 16 44.9 -2.3
SNR=2.9
CRES **Cresnjev** 2.94 327 *e*Pn **Pn** 04 16 42.3 -0.1
CRES *e*Sn **Sn** 04 17 17.4 -0.6
CRES **Cresnjev** 2.94 327 Pn **Pb** 04 16 46.6 -1.2
SNR=2.1
CEY **Cerknica** 3.34 316 *e*Pn **Pn** 04 16 47.7 -0.2
CEY *e*Sn **Sn** 04 17 27.1 -0.8
AQU **L'Aquila** 3.35 254 Pn **Pn** 04 16 46.0 -2.1
comp=Z,0.1nm,SNR=2.0
BZS **Buzias** 3.56 50 Pn **Pn** 04 16 52.4 +1.5
SNR=3.4
BZS Pg **Pg** 04 17 01.4 -1.8
ARSA **Arzberg** 4.17 339 *e*Pn **Pn** 04 17 01.4 +2.0
comp=Z,0.8nm,0.3s
ABTA **Abfaltersbach** 5.00 314 *e*Pn **Pn** 04 17 12.2 +1.4
comp=Z,1.3nm,0.4s
MOA **Molln** 5.09 333 *e*Pn **Pn** 04 17 14.2 +2.3
comp=Z,0.6nm,0.3s
WTTA **Wattenberg** 5.79 314 *e*Pn **Pn** 04 17 22.3 +0.5
comp=Z,2.4nm,0.4s
WATA **Walderalm** 5.87 314 *e*Pn **Pn** 04 17 24.5 +1.7
comp=Z,1.5nm,0.3s
MOTA **Moosalm** 6.13 313 *e*Pn **Pn** 04 17 29.2 +2.9
comp=Z,1.7nm,0.4s
FETA **Feichten** 6.14 309 *e*Pn **Pn** 04 17 28.3 +1.8
comp=Z,0.4nm,0.3s

*IDC **08** 04:28:05.1±0.9, 52.92S×21.46E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/26, mbtmp3.8/7, MS3.4/6, Ms1 3.3/6, ms1mx3.1/24, Error ellipse: s-maj=39.0km s-min=21.8km az=84.0*
*NEIC **08** 04:28:07.3±2.2, 52.92S±0.07°×21.4E±0.4, h10km±1km, mb4.0/6, Error ellipse: s-maj=43.4km s-min=11.4km az=274.0*
ISC 08 04:28:06.7±0.8, 52.9S±0.1°×21.5E±0.3, h10km, n21, σ1s83/18, mb3.9/6, MS3.4/7, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	20.55	358	P		**P**	**04 32 45.5**	**0.0**
	5.1nm,0.9s,baz=174,slow=12,SNR=3.1							
SUR				LR		LR	04 38 34.7	
	comp=Z,86nm,18.6s,baz=141,slow=31							
SUR	**Sutherland**	20.55	358	P		**P**	**04 32 45.6**	**+0.1**
SUR				lAmb		lAmb	04 32 46.2	
	comp=Z,14nm,1.2s							
SNAA	**Sanae**	21.63	201	P		**P**	**04 32 57.8**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=52,slow=8.4,SNR=6.9							
SNAA				LR		LR	04 38 50.0	
	comp=Z,88nm,20.9s,baz=13,slow=30							
SNAA	**Sanae**	21.63	201	P		**P**	**04 32 58.0**	**+1.3**
SNAA				lAmb		lAmb	04 33 03.4	
	comp=Z,7.7nm,1.1s							
BOSA	**Boshof**	24.46	8	P		**P**	**04 33 26.3**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=173,slow=6.2,SNR=3.8							
BOSA				LR		LR	04 41 22.5	
	comp=Z,48nm,20.4s,baz=200,slow=33							
BOSA	**Boshof**	24.46	8	P		**P**	**04 33 27.6**	**+1.8**
BOSA				lAmb		lAmb	04 33 33.4	
	comp=Z,2.2nm,1.1s							
MAW	**Mawson**	24.59	143	P		**P**	**04 33 26.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=302,slow=8.6,SNR=2.1							
MAW	**Mawson**	24.59	143	P		**P**	**04 33 26.9**	**+0.4**
QSPA	**South Pole Qui**	37.29	180	P		**P**	**04 35 18.5**	**-0.1**
VNDA	**Vanda**	47.50	169	P		**P**	**04 36 41.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=219,slow=8.5,SNR=6.2							
VNDA				LR		LR	04 56 41.3	
	comp=Z,40nm,18.1s,baz=284,slow=36							
VNDA	**Vanda**	47.50	169	P		**P**	**04 36 41.1**	**-0.2**
VNDA	

IASPEI ***08*** *04:28:15.8±1.1,37.˙24N±0.˙03×97.˙95W±0.˙03,h7km±6km, Error ellipse: s-maj=4.6km s-min=3.8km az=2.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

NEIC ***08*** *04:28:16.2±1.2,37.˙23N×97.˙96W,h6km,ML4.3/21, Error ellipse: s-maj=7.1km s-min=4.7km az=59.0*

ANF ***08*** *04:28:16.2±0.2,37.˙23N×97.˙96W,h6km,ML4.3/21, Error ellipse: s-maj=2.5km s-min=2.2km az=78.0*

IDC ***08*** *04:28:16.1±0.8,37.˙34N×98.˙00W,h0km,mb3.4/1, mb1 3.8/6,mb1mx3.5/45,mbtmp3.5/6,ML2.3/2,Error ellipse: s-maj=11.2km s-min=10.2km az=175.0*

ISC 08 04:28:15.7±0.8,37.˙24N±0.˙03×97.˙95W±0.˙02,h6km±5km, n198,σ1s01/203,Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN08	**Anthony NE Sta**	**0.02**	**238**	Pg	**Pg**	**04 28 16.8**	**-0.2**
KAN08				Sg	**Sg**	**04 28 17.3**	**-0.5**
KAN12	**Harper NE Stat**	**0.07**	**326**		**Pg**	**04 28 18.0**	**+0.5**
KAN12					**Sg**	**04 28 19.5**	**+0.6**
KAN16	**Harper SW Stat**	**0.09**	**262**		**Pg**	**04 28 18.2**	**+0.3**
KAN16				Sg	**Sg**	**04 28 19.7**	**+0.4**
KAN10	**Anthony SW Sta**	**0.16**	**226**		**Pg**	**04 28 19.4**	**+0.3**
KAN10				Sg	**Sg**	**04 28 21.7**	**+0.4**
KAN09	**Caldwell North**	**0.28**	**111**	Pg	**Pg**	**04 28 21.8**	**+0.5**
KAN09				Sg	**Sg**	**04 28 25.9**	**+0.9**
GC02	**Grant County #**	**0.39**	**170**		**Pg**	**04 28 23.6**	**+0.3**
GC02				Sg	**Sg**	**04 28 29.0**	**+0.5**
KAN13	**South Haven SW**	**0.44**	**121**	Pg	**Pg**	**04 28 24.5**	**+0.3**
KAN13				Sg	**Sg**	**04 28 30.3**	**+0.4**
OK032	**Salt Plains WL**	**0.48**	**206**		**Pg**	**04 28 25.2**	**+0.2**
OK032				Sg	**Sg**	**04 28 31.7**	**+0.4**
CROK	**Carrier**	**0.73**	**182**		**Pg**	**04 28 29.8**	**0.0**
CROK				Sg	**Sg**	**04 28 39.3**	**-0.1**
BLOK	**Blackwell**	**0.76**	**129**		**Pg**	**04 28 30.3**	**0.0**
BLOK				Sg	**Sg**	**04 28 40.4**	**+0.3**
T35A	**Sooner Cattle**	**1.19**	**105**		**Pg**	**04 28 38.4**	**-0.2**
T35B	**Sooner Cattle** baz=286,SNR=302	**1.19**	**105**	P	**Pg**	**04 28 38.4**	**-0.3**
T35B				S	**Sg**	**04 28 54.0**	**-0.1**
	baz=286						
T35B	**Sooner Cattle** baz=286,SNR=302	**1.19**	**105**	P		04 28 38.4	
T35B				S		04 28 54.0	
	baz=286						
U32A	**Winter Ranch,**	**1.20**	**225**		**Pg**	**04 28 38.3**	**-0.5**
U32A	**Winter Ranch,** baz=44	**1.20**	**225**	P	**Pg**	**04 28 38.3**	**-0.5**
U32A				S	**Sg**	**04 28 54.5**	**+0.1**
	baz=44						
U32A	**Winter Ranch,** baz=44	**1.20**	**225**	P		04 28 38.3	
U32A				S		04 28 54.5	
	baz=44						
R32A	**Long Quarter,**	**1.33**	**333**		**Pn**	**04 28 40.9**	**0.0**
R32A	**Long Quarter,** baz=153	**1.33**	**333**	P	**Pn**	**04 28 40.8**	**0.0**
R32A				S	**Sb**	**04 28 58.4**	**+0.1**
	baz=153						
R32A	**Long Quarter,** baz=153	**1.33**	**333**	P		04 28 40.8	
R32A				S		04 28 58.4	
	baz=153						
QUOK	**Quay**	**1.46**	**137**	Pn	**Pn**	**04 28 42.8**	**+0.2**
OK029	**Liberty Lake**	**1.49**	**164**		**Pn**	**04 28 43.1**	**0.0**
OK031	**S. Brethren Rd**	**1.56**	**145**		**Pn**	**04 28 44.4**	**+0.4**
BCOK	**Bluff Creek, N**	**1.60**	**170**		**Pn**	**04 28 45.0**	**+0.4**
OK030	**Cody Creek RV**	**1.61**	**144**		**Pn**	**04 28 45.2**	**+0.5**
OK025	**Westminster Rd**	**1.73**	**163**		**Pn**	**04 28 47.1**	**+0.9**
OKCFA	**Oklahoma City**	**1.86**	**167**		**Pn**	**04 28 48.6**	**+0.4**
OKCFA	**Oklahoma City** baz=348,SNR=12	**1.86**	**167**	P	**Pn**	**04 28 49.0**	**+0.8**
OKCFA				S	**Sb**	**04 29 13.6**	**-0.1**
	baz=348						
OKCFA	**Oklahoma City** baz=348,SNR=12	**1.86**	**167**	P		04 28 49.0	
OKCFA				S		04 29 13.6	
	baz=348						
OKCSW	**OKLAHOMA CITY**	**1.88**	**167**		**Pn**	**04 28 48.8**	**+0.4**
FNO	**Franklin**	**2.03**	**167**		**Pn**	**04 28 50.8**	**+0.4**
CBKS	**Cedar Bluff**	**2.11**	**319**	Pn	**Pn**	**04 28 52.6**	**+0.9**
CBKS				IAmb_Lg		04 29 23.8	
	comp=Z,235nm,0.8s						
CBKS	**Cedar Bluff** baz=138,SNR=171	**2.11**	**319**	P	**Pn**	**04 28 53.0**	**+1.4**
CBKS				S	**Sb**	**04 29 20.3**	**-0.6**
	baz=138						
CBKS	**Cedar Bluff** baz=138,SNR=137	**2.11**	**319**	P		04 28 52.8	
CBKS				S		04 29 19.9	
	baz=138						
CBKS	**Cedar Bluff** baz=138,SNR=171	**2.11**	**319**	P		04 28 53.0	
CBKS				S		04 29 20.3	
	baz=138						
KSU1	**Kansas State U**	**2.14**	**29**	Pn	**Pn**	**04 28 53.1**	**+1.2**
KSU1	**Kansas State U** baz=210,SNR=49	**2.14**	**29**	P	**Pn**	**04 28 53.4**	**+1.5**
KSU1				S	**Sb**	**04 29 21.3**	**-0.3**
	baz=210						
KSU1	**Kansas State U** baz=210,SNR=43	**2.14**	**29**	P		04 28 53.4	
KSU1				S		04 29 20.6	
	baz=210						
KSU1	**Kansas State U** baz=210,SNR=49	**2.14**	**29**	P		04 28 53.4	
KSU1				S		04 29 21.3	
	baz=210						
TUL1	**Leonard**	**2.18**	**127**	P	**Pn**	**04 28 53.6**	**+1.1**
TUL1	baz=308,SNR=117 **Leonard** baz=308,SNR=50	**2.18**	**127**	P		04 28 53.6	
TUL1				S		04 29 21.9	
	baz=308						
TUL1	**Leonard** baz=308,SNR=117	**2.18**	**127**	P		04 28 53.6	
WMOK	**Wichita Mounta**	**2.58**	**195**		**Pn**	**04 28 58.5**	**+0.4**
WMOK	**Wichita Mounta** baz=15,SNR=28	**2.58**	**195**	P	**Pn**	**04 28 58.8**	**+0.8**
WMOK	**Wichita Mounta** baz=15	**2.58**	**195**	P		04 28 58.9	
WMOK				S		04 29 31.5	
	baz=15						
WMOK	**Wichita Mounta** baz=15,SNR=28	**2.58**	**195**	P		04 28 58.8	
X34A	**Smith Ranch, M**	**2.63**	**178**	Pn	**Pn**	**04 28 58.9**	**+0.2**
U38A	**Gravette**	**2.97**	**105**		**Pn**	**04 29 04.3**	**+1.0**
U38A	**Gravette** baz=287,SNR=76	**2.97**	**105**	P	**Pn**	**04 29 04.6**	**+1.3**
U38A	**Gravette** baz=287,SNR=76	**2.97**	**105**	P		04 29 04.6	
LOOK	**Love County**	**3.30**	**169**	Pn	**Pn**	**04 29 09.3**	**+1.5**
LOOK				IAmb_Lg		04 30 09.4	
	comp=Z,85nm,0.9s						
HHAR	**Hobbs**	**3.36**	**105**		**Pn**	**04 29 10.1**	**+1.4**
X37A	**Clayton**	**3.37**	**141**		**Pn**	**04 29 10.1**	**+1.2**
X37A	**Clayton** baz=322,SNR=50	**3.37**	**141**	P	**Pn**	**04 29 10.1**	**+1.2**
X37A				S	**Sn**	**04 29 50.6**	**+1.4**
	baz=322						
X37A	**Clayton** baz=322,SNR=50	**3.37**	**141**	P		04 29 10.1	
X37A				S		04 29 50.6	
	baz=322						
N33B	**J Bar K, Exete** baz=187,SNR=25	**3.52**	**6**	P	**Pn**	**04 29 11.2**	**+0.4**
N33B				S	**Sn**	**04 29 53.1**	**+0.4**
	baz=187						
N33B	**J Bar K, Exete** baz=187,SNR=25	**3.52**	**6**	P		04 29 11.2	
N33B				S		04 29 53.1	
	baz=187						
N33A	**J Bar K, Exete**	**3.52**	**6**	Pn	**Pn**	**04 29 11.2**	**+0.3**
N33A				IAmb_Lg		04 30 17.6	
	comp=Z,113nm,0.8s						
S39A	**Bolivar**	**3.71**	**82**		**Pn**	**04 29 14.2**	**+0.8**
S39A	**Bolivar** baz=264,SNR=90	**3.71**	**82**	P	**Pn**	**04 29 14.3**	**+0.8**
S39A				S	**Sn**	**04 29 58.3**	**+0.8**
	baz=264						
S39A	**Bolivar** baz=264,SNR=90	**3.71**	**82**	P		04 29 14.3	
S39A				S		04 29 58.3	
	baz=264						
W39A	**Magazine**	**3.94**	**120**		**Pn**	**04 29 18.4**	**+1.7**
W39A	**Magazine** baz=302	**3.94**	**120**	P		04 29 17.6	
W39A				S		04 30 03.9	
	baz=302						
Z35A	**Perchaven, San**	**3.94**	**171**	Pn	**Pn**	**04 29 16.9**	**+0.2**
Z35A				IAmb_Lg		04 30 28.9	
	comp=Z,76nm,1.1s						
Z35A	**Perchaven, San** baz=352	**3.94**	**171**	S	**Sn**	**04 30 04.1**	**+0.9**
Z35A	**Perchaven, San** baz=352	**3.94**	**171**	S		04 30 04.1	
N35A	**Tabor**	**4.04**	**26**		**Pn**	**04 29 19.5**	**+1.5**
N35A	**Tabor** baz=207,SNR=25	**4.04**	**26**	P	**Pn**	**04 29 19.2**	**+1.2**
N35A	**Tabor** baz=207,SNR=25	**4.04**	**26**	P		04 29 19.2	
KSCO	**Kaye Shedlock'**	**4.09**	**297**	Pn	**Pn**	**04 29 19.5**	**+0.6**
KSCO				IAmb_Lg		04 30 31.3	
	comp=Z,121nm,0.7s						
KSCO	**Kaye Shedlock'** baz=114,SNR=7.3	**4.09**	**297**	P		04 29 19.8	
KSCO				S		04 30 07.3	
	baz=114						
BGNE	**Belgrade**	**4.17**	**358**		**Pn**	**04 29 20.4**	**+0.6**
BGNE				IAmb_Lg		04 30 38.5	
	comp=Z,112nm,0.8s						
BGNE	**Belgrade** baz=178,SNR=24	**4.17**	**358**	P	**Pn**	**04 29 20.6**	**+0.8**
BGNE	**Belgrade** baz=178	**4.17**	**358**	P		04 29 20.6	
BGNE				S		04 30 09.0	
	baz=178						
BGNE	**Belgrade** baz=178,SNR=24	**4.17**	**358**	P		04 29 20.6	
U40A	**Yellville**	**4.18**	**101**	Pn	**Pn**	**04 29 21.2**	**+1.2**
U40A	**Yellville** baz=284,SNR=117	**4.18**	**101**	P	**Pn**	**04 29 20.9**	**+0.9**
U40A	**Yellville** baz=284,SNR=52	**4.18**	**101**	P		04 29 20.9	
U40A				S		04 30 10.1	
	baz=284						
U40A	**Yellville** baz=284,SNR=117	**4.18**	**101**	P		04 29 20.9	
U40A				P		04 29 20.9	
	baz=284,SNR=117						
P38A	**Dawn**	**4.21**	**54**	Pn	**Pn**	**04 29 21.1**	**+0.8**
P38A				IAmb_Lg		04 30 41.0	
	comp=Z,67nm,1.1s						
P38A	**Dawn** baz=237,SNR=29	**4.21**	**54**	P	**Pn**	**04 29 21.3**	**+1.0**
P38A	**Dawn** baz=237,SNR=29	**4.21**	**54**	P		04 29 21.3	
MIAR	**Mount Ida**	**4.45**	**126**	Pn	**Pn**	**04 29 24.6**	**+0.9**
MIAR	**Mount Ida** baz=308,SNR=55	**4.45**	**126**	P	**Pn**	**04 29 24.6**	**+0.9**
MIAR	**Mount Ida** baz=308,SNR=9.1	**4.45**	**126**	P		04 29 24.8	
MIAR				S		04 30 16.2	
	baz=308						
MIAR	**Mount Ida** baz=308,SNR=55	**4.45**	**126**	P		04 29 24.6	
MGMO	**Mountain Grove**	**4.54**	**89**		**Pn**	**04 29 26.6**	**+1.7**
MGMO				IAmb_Lg		04 30 39.4	
	comp=Z,99nm,0.8s						
R40A	**Maddies Statio**	**4.62**	**75**		**Pn**	**04 29 27.0**	**+1.0**
R40A				IAmb_Lg		04 30 52.3	
	comp=Z,65nm,1.0s						
R40A	**Maddies Statio** baz=258,SNR=14	**4.62**	**75**	P	**Pn**	**04 29 26.7**	**+0.7**
R40A	**Maddies Statio** baz=258,SNR=14	**4.62**	**75**	P		04 29 26.7	
Z38A	**Mt. Pleasant**	**4.65**	**148**	Pn	**Pn**	**04 29 27.5**	**+1.0**
Z38A				IAmb_Lg		04 30 51.4	
	comp=Z,110nm,0.8s						
ABTX	**Abilene, Hawle**	**4.81**	**197**	Pn	**Pn**	**04 29 28.7**	**+0.1**
ABTX				IAmb_Lg		04 30 50.7	
	comp=Z,50nm,0.9s						
ABTX	**Abilene, Hawle** baz=16	**4.81**	**197**	P		04 29 28.2	
ABTX				S		04 30 24.8	
	baz=16						
L34A	**Svendsen Farm,**	**4.88**	**14**	Pn	**Pn**	**04 29 30.6**	**+1.0**
L34A	**Svendsen Farm,** baz=195,SNR=12	**4.88**	**14**	P	**Pn**	**04 29 30.1**	**+0.5**
L34A	**Svendsen Farm,** baz=195,SNR=12	**4.88**	**14**	P		04 29 30.1	
FCAR	**Ozark Folk Cen**	**4.88**	**104**		**Pn**	**04 29 29.8**	**+0.2**
FCAR				IAmb_Lg		04 30 49.7	
	comp=Z,57nm,0.9s						
OGNE	**Ogallala**	**4.88**	**321**	Pn	**Pn**	**04 29 31.9**	**+2.2**
OGNE	**Ogallala** baz=138	**4.88**	**321**	S		04 30 26.2	
WHAR	**Wooly Hollow**	**4.97**	**111**	Pn	**Pn**	**04 29 31.1**	**+0.2**
WHAR				IAmb_Lg		04 31 02.1	
	comp=Z,88nm,0.8s						
X40A	**Basin Creek Fa**	**4.98**	**122**	Pn	**Pn**	**04 29 31.3**	**+0.4**
X40A				IAmb_Lg		04 30 58.4	
	comp=Z,54nm,0.7s						
X40A	**Basin Creek Fa** baz=305,SNR=21	**4.98**	**122**	P	**Pn**	**04 29 31.6**	**+0.6**
X40A	**Basin Creek Fa** baz=305	**4.98**	**122**	P		04 29 31.6	
X40A				S		04 30 29.2	
	baz=305						
X40A	**Basin Creek Fa** baz=305,SNR=21	**4.98**	**122**	P		04 29 31.6	
X40A				P		04 29 31.6	
	baz=305,SNR=21						
W41B	**Gary Mavity, V** baz=296	**5.05**	**112**	P		04 29 32.0	
W41B				S		04 30 29.4	
	baz=296						
N38A	**Joes South For**	**5.11**	**45**		**Pn**	**04 29 33.5**	**+0.8**
N38A				IAmb_Lg		04 31 07.6	
	comp=Z,91nm,0.8s						
N38A	**Joes South For** baz=227,SNR=11	**5.11**	**45**	P	**Pn**	**04 29 33.4**	**+0.6**
N38A	**Joes South For** baz=227,SNR=11	**5.11**	**45**	P		04 29 33.4	
MSTX	**Muleshoe**	**5.11**	**232**		**Pn**	**04 29 33.6**	**+0.8**
MSTX	**Muleshoe** baz=49,SNR=6.5	**5.11**	**232**	P		04 29 33.5	
MSTX				S		04 30 32.3	
	baz=49						
T25A	**Trinidad**	**5.16**	**271**		**Pn**	**04 29 34.5**	**+0.8**
T25A				IAmb_Lg		04 31 01.8	
	comp=Z,91nm,0.8s						
T25A	**Trinidad** baz=87	**5.16**	**271**	P		04 29 33.9	
P40A	**Paris**	**5.17**	**62**	IAmb_Lg		04 31 10.4	
	comp=Z,45nm,0.7s						
WHTX	**Lake Whitney,**	**5.25**	**175**	Pn	**Pn**	**04 29 34.8**	**+0.1**
WHTX	**Lake Whitney,** baz=356	**5.25**	**175**	P		04 29 34.9	
WHTX				S		04 30 35.1	
	baz=356						
WLAR	**White Oak Lake**	**5.30**	**130**	Pn	**Pn**	**04 29 36.5**	**+1.1**
WLAR				IAmb_Lg		04 31 15.0	
	comp=Z,78nm,1.0s						
K31A	**O'Neill**	**5.41**	**354**	Pn	**Pn**	**04 29 37.9**	**+0.9**
T42A	**Van Buren**	**5.48**	**90**	Pn	**Pn**	**04 29 38.7**	**+0.8**
T42A				IAmb_Lg		04 31 13.7	
	comp=Z,52nm,0.9s						
T42A	**Van Buren** baz=274,SNR=18	**5.48**	**90**	P	**Pn**	**04 29 38.3**	**+0.4**
T42A	**Van Buren** baz=274,SNR=18	**5.48**	**90**	P		04 29 38.3	
237A	**Washetta, Mont**	**5.51**	**161**	Pn	**Pn**	**04 29 37.9**	**-0.5**
237A				IAmb_Lg		04 31 24.8	
	comp=Z,76nm,0.9s						
237A	**Washetta, Mont** baz=342,SNR=9.4	**5.51**	**161**	P	**Pn**	**04 29 38.3**	**0.0**
237A	**Washetta, Mont** baz=342,SNR=9.4	**5.51**	**161**	P		04 29 38.3	
LCAR	**Lake Charles**	**5.58**	**100**	Pn	**Pn**	**04 29 40.5**	**+1.2**
LCAR				IAmb_Lg		04 31 21.2	
	comp=Z,51nm,0.8s						
Z41A	**Richland Creek** baz=315	**5.79**	**132**	P		04 29 42.3	
SCIA	**State Center** comp=Z,79nm,0.7s	**5.92**	**37**	IAmb_Lg		04 31 36.6	
SCIA	**State Center** baz=220	**5.92**	**37**	P		04 29 44.8	
SCIA				S		04 30 51.5	
	baz=220						
Q24A	**Divide** baz=105	**5.94**	**289**	P		04 29 44.6	
Q24A				S		04 30 51.7	
	baz=105						
FVM	**French Village**	**6.02**	**81**	Pn	**Pn**	**04 29 45.2**	**0.0**
FVM				IAmb_Lg		04 31 28.0	
	comp=Z,46nm,0.7s						
CCAR	**Cane Creek**	**6.03**	**122**	Pn	**Pn**	**04 29 46.7**	**+1.3**
CCAR				IAmb_Lg		04 31 31.0	
	comp=Z,68nm,0.7s						
SDCO	**Great Sand Dun**	**6.03**	**277**	Pn	**Pn**	**04 29 46.3**	**+0.6**
PBMO	**Poplar Bluff**	**6.03**	**92**		**Pn**	**04 29 46.2**	**+0.7**
PBMO				IAmb_Lg		04 31 26.4	
	comp=Z,55nm,0.8s						
NATX	**Nacogdoches**	**6.10**	**153**	Pn	**Pn**	**04 29 46.2**	**-0.2**
NATX				IAmb_Lg		04 31 43.4	
	comp=Z,44nm,0.7s						
NATX	**Nacogdoches** baz=334	**6.10**	**153**	P		04 29 46.6	
LPAR	**Lepanto**	**6.38**	**103**	Pn	**Pn**	**04 29 50.5**	**+0.3**
435B	**Jarrell**	**6.45**	**177**	IAmb_Lg		04 31 44.3	
	comp=Z,60nm,0.9s						
N41A	**Harden Midland**	**6.52**	**56**	Pn	**Pn**	**04 29 52.7**	**+0.6**
N41A	**Harden Midland** baz=240,SNR=12	**6.52**	**56**	P	**Pn**	**04 29 52.7**	**+0.6**
N41A	**Harden Midland** baz=240,SNR=12	**6.52**	**56**	P		04 29 52.7	
ISCO	**Idaho Springs**	**6.53**	**295**		**Pn**	**04 29 53.8**	**+1.2**
ISCO				IAmb_Lg		04 31 49.4	
	comp=Z,39nm,0.8s						
ECSD	**EROS Data Cent** baz=189	**6.57**	**8**	P		04 29 52.8	
ECSD	**EROS Data Cent**	**6.57**	**8**	Pn	**Pn**	**04 29 54.0**	**+1.2**
ECSD				IAmb_Lg		04 31 49.7	
	comp=Z,43nm,1.0s						
K38A	**Parkersburg**	**6.71**	**35**	Pn	**Pn**	**04 29 56.8**	**+2.1**
LNXT	**Lenox**	**6.89**	**97**	Pn	**Pn**	**04 29 57.9**	**+0.7**
JCT	**Junction City**	**6.92**	**193**	Pn	**Pn**	**04 29 58.9**	**+1.3**
JCT				IAmb_Lg		04 32 07.1	
	comp=Z,66nm,1.1s						
S44A	**Carbondale**	**6.93**	**84**	Pn	**Pn**	**04 29 57.8**	**0.0**
SIUC	**Southern Illin**	**6.96**	**83**	Pn	**Pn**	**04 29 58.6**	**+0.4**
GLAT	**Glass**	**7.02**	**95**	Pn	**Pn**	**04 29 59.8**	**+0.8**
143A	**Socs Landing,** comp=Z,34nm,0.8s	**7.02**	**128**	IAmb_Lg		04 32 01.4	
HICK	**Hickman**	**7.02**	**93**	Pn	**Pn**	**04 29 60.0**	**+0.9**
P43A	**Skaggs, Pawnee**	**7.04**	**67**	Pn	**Pn**	**04 29 59.6**	**+0.4**
L40A	**Anamosa**	**7.08**	**45**		**Pn**	**04 30 00.1**	**+0.3**
L40A				IAmb_Lg		04 32 09.4	
	comp=Z,46nm,0.8s						
PHWY	**Pilot Hill**	**7.10**	**307**	Pn	**Pn**	**04 30 01.4**	**+1.0**
PHWY				IAmb_Lg		04 32 00.1	
	comp=Z,36nm,0.8s						
SUSD	**Miller**	**7.24**	**354**	Pn	**Pn**	**04 30 02.6**	**+0.6**
SUSD				IAmb_Lg		04 32 18.1	
	comp=Z,53nm,0.8s						
SUSD	**Miller** baz=174	**7.24**	**354**	P		04 30 02.3	
Q44A	**Meyer Farm, Va**	**7.24**	**74**	Pn	**Pn**	**04 30 03.1**	**+1.1**
Q44A				IAmb_Lg		04 32 13.9	
	comp=Z,56nm,0.9s						
ANMO	**Albuquerque** comp=Z,0.1nm,0.3s,baz=36,slow=11,SNR=2.3	**7.26**	**254**	Pn	**Pn**	**04 30 03.8**	**+1.4**
ANMO				Lg	Lg	04 32 00.2	
	comp=Z,1.5nm,0.3s,baz=140,slow=21,SNR=9.3						
ANMO	**Albuquerque**	**7.26**	**254**		**Pn**	**04 30 02.2**	**-0.3**
SMCO	**Snowmass**	**7.37**	**288**	Pn	**Pn**	**04 30 06.2**	**+2.0**
W45A	**Hickory Valley**	**7.38**	**104**	Pn	**Pn**	**04 30 03.7**	**-0.3**
OXF	**Oxford**	**7.45**	**109**	Pn	**Pn**	**04 30 04.4**	**-0.5**
OXF				IAmb_Lg		04 32 24.3	
	comp=Z,61nm,1.1s						
OXF	**Oxford** baz=294	**7.45**	**109**	P		04 30 04.6	
HDIL	**Hopedale**	**7.52**	**61**	Pn	**Pn**	**04 30 06.5**	**+0.7**
HDIL				IAmb_Lg		04 32 21.0	
	comp=Z,39nm,0.7s						
I37A	**Lemond, Waseca** comp=Z,43nm,0.8s	**7.60**	**26**	IAmb_Lg		04 32 27.1	
Y45A	**Yeager Farm, C**	**7.63**	**114**	Pn	**Pn**	**04 30 08.7**	**+1.3**
Y45A				IAmb_Lg		04 32 33.6	
	comp=Z,42nm,0.8s						
Y22D	**IRIS PASSCAL I** comp=Z,40nm,0.8s	**7.96**	**249**	IAmb_Lg		04 32 37.6	
O44A	**Mansfield**	**7.96**	**66**	Pn	**Pn**	**04 30 12.2**	**+0.3**
O44A				IAmb_Lg		04 32 26.9	
	comp=Z,35nm,0.7s						
L42A	**Oliver, Polo**	**7.97**	**51**	Pn	**Pn**	**04 30 11.7**	**-0.2**
L42A				IAmb_Lg		04 32 48.1	
	comp=Z,46nm,0.8s						
JFWS	**Jewell Farm**	**8.18**	**44**	Pn	**Pn**	**04 30 15.0**	**0.0**
JFWS				IAmb_Lg		04 32 40.7	
	comp=Z,38nm,0.7s						
JFWS	**Jewell Farm** baz=229,SNR=15	**8.18**	**44**	P	**Pn**	**04 30 15.0**	**0.0**
JFWS	**Jewell Farm** baz=229,SNR=7.4	**8.18**	**44**	P		04 30 14.7	
JFWS	**Jewell Farm** baz=229,SNR=15	**8.18**	**44**	P		04 30 15.0	
USIN	**University of** comp=Z,32nm,0.8s	**8.20**	**82**	IAmb_Lg		04 32 41.1	
WVT	**Waverly**	**8.20**	**95**	Pn	**Pn**	**04 30 15.4**	**+0.2**
WVT				IAmb_Lg		04 32 34.6	
	comp=Z,24nm,1.1s						
WVT	**Waverly** baz=281	**8.21**	**95**	P		04 30 15.2	
MNTX	**Cornudas Mount**	**8.26**	**230**	Pn	**Pn**	**04 30 16.4**	**+0.4**
MNTX				IAmb_Lg		04 32 48.3	
	comp=Z,26nm,0.9s						
MNTX	**Cornudas Mount** baz=46,SNR=16	**8.26**	**230**	P	**Pn**	**04 30 16.2**	**+0.2**
MNTX	**Cornudas Mount** baz=46,SNR=6.2	**8.26**	**230**	P		04 30 16.1	
MNTX	**Cornudas Mount** baz=46,SNR=16	**8.26**	**230**	P		04 30 16.2	
RSSD	**Black Hills**	**8.28**	**328**	Pn	**Pn**	**04 30 18.5**	**+2.0**
RSSD	**Black Hills** baz=144,SNR=8.1	**8.28**	**328**	P	**Pn**	**04 30 18.9**	**+2.4**
RSSD	**Black Hills** baz=144	**8.28**	**328**	P		04 30 17.5	
RSSD	**Black Hills** baz=144,SNR=8.1	**8.28**	**328**	P		04 30 18.9	
PLAL	**Pickwick Lake**	**8.30**	**103**	Pn	**Pn**	**04 30 16.1**	**-0.5**
RWWY	**Rawlins**	**8.43**	**305**	Pn	**Pn**	**04 30 18.7**	**+0.1**
RWWY				IAmb_Lg		04 32 49.1	
	comp=Z,33nm,1.0s						
K22A	**Casper**	**8.52**	**312**	Pn	**Pn**	**04 30 21.2**	**+1.4**
K22A				IAmb_Lg		04 33 05.3	
	comp=Z,34nm,0.8s						
146A	**Union**	**8.62**	**120**	Pn	**Pn**	**04 30 22.7**	**+1.7**
T47A	**Sharon Grove**	**8.67**	**88**	Pn	**Pn**	**04 30 22.6**	**+0.9**
I40A	**Norwalk**	**8.67**	**38**		**Pn**	**04 30 22.6**	**+0.9**
I40A				IAmb_Lg		04 33 02.7	
	comp=Z,21nm,0.8s						
F33A	**5 Mile Ranch,** comp=Z,26nm,0.9s	**8.68**	**8**	IAmb_Lg		04 32 52.8	
PV03	**Paradox Valley**	**8.70**	**280**	Pn	**Pn**	**04 30 21.9**	**-0.3**
PV11	**David Mesa, Pa** comp=Z,22nm,0.9s	**8.72**	**280**	IAmb_Lg		04 33 04.7	
M44A	**Midewin, Midew**	**8.72**	**59**	Pn	**Pn**	**04 30 22.7**	**+0.3**
M44A				IAmb_Lg		04 32 50.3	
	comp=Z,34nm,1.1s						
P46A	**Rosedale** comp=Z,49nm,0.9s	**8.76**	**71**	IAmb_Lg		04 32 54.3	
PV17	**East Wray Mesa**	**8.78**	**280**	Pn	**Pn**	**04 30 25.1**	**+1.6**
SPMN	**Marine on St.**	**8.87**	**24**	Pn	**Pn**	**04 30 24.7**	**+0.4**
SPMN				IAmb_Lg		04 33 09.7	
	comp=Z,24nm,0.9s						
SPMN	**Marine on St.** baz=208	**8.87**	**24**	P		04 30 24.2	
Z47A	**Carrollton** comp=Z,21nm,1.0s	**9.03**	**114**	IAmb_Lg		04 33 16.2	
SFIN	**Lafayette**	**9.03**	**66**	Pn	**Pn**	**04 30 27.9**	**+1.3**
SFIN				IAmb_Lg		04 33 01.4	
	comp=Z,28nm,0.8s						
SFIN	**Lafayette** baz=253	**9.03**	**66**	P		04 30 27.3	
**V48

BLO IAmb_Lg 04 33 08.1
comp=Z,32nm,0.8s
TX31 Lajitas Ar. Si 9.22 213 Pn Pn 04 30 29.6 +0.3
TX31 Lajitas Ar. Si 9.22 213 P Pn 04 30 29.4 +0.1
baz=30,SNR=7.4
TX31 Lajitas Ar. Si 9.22 213 P 04 30 29.4
baz=30,SNR=7.4
TX32 Lajitas Array 9.22 213 Pn Pn 04 30 29.2 -0.2
TXAR Lajitas Array 9.22 213 Pn Pn 04 30 29.4 +0.1
comp=Z,0.4nm,0.3s,baz=30,slow=11,SNR=25
TXAR Lg Lg 04 33 04.5
comp=Z,0.7nm,0.3s,baz=27,slow=22,SNR=6.9
F36A Milaca 9.23 20 Pn Pn 04 30 28.4 -0.9
X48A Hartselle 9.28 104 Pn Pn 04 30 31.5 +1.5
WCI Wyandotte Cave 9.29 80 Pn Pn 04 30 31.3 +1.2
WCI IAmb_Lg 04 33 19.3
comp=Z,26nm,0.8s
WCI Wyandotte Cave 9.29 80 P 04 30 29.8
baz=267
E28A Huff 9.55 349 IAmb_Lg 04 33 22.4
comp=Z,31nm,0.9s
I42A Draeger Farm, 9.56 43 Pn Pn 04 30 34.0 +0.2
I42A IAmb_Lg 04 33 26.7
comp=Z,21nm,0.9s
U49A Red Boiling Sp 9.78 91 Pn Pn 04 30 37.2 +0.4
U49A IAmb_Lg 04 33 27.8
comp=Z,18nm,0.9s
LRAL Lakeview Retre 9.90 112 Pn Pn 04 30 38.4 0.0
LRAL Lakeview Retre 9.90 112 P 04 30 38.4
baz=298
D32A Dogwood Acres, 9.91 4 IAmb_Lg 04 33 34.0
comp=Z,26nm,0.8s
G40A Rib Lake 9.91 34 Pn Pn 04 30 38.2 -0.5
SWET Sewanee 9.92 98 Pn Pn 04 30 39.4 +0.6
SWET IAmb_Lg 04 33 27.1
comp=Z,22nm,1.0s
Y49A Blount Mountai 9.99 106 Pn Pn 04 30 39.8 +0.1
Y49A IAmb_Lg 04 33 36.9
comp=Z,23nm,1.0s
P48A Milroy 10.08 73 Pn Pn 04 30 39.9 -1.1
FPAL Fort Paine 10.36 101 Pn Pn 04 30 45.3 +0.3
W50A Signal Mountai 10.41 97 Pn Pn 04 30 47.0 +1.4
T50A Nancy 10.47 87 Pn Pn 04 30 46.7 +0.4
BW06 Boulder Array 10.47 305 Pn Pn 04 30 46.7 +0.1
BW06 Boulder Array 10.47 305 P 04 30 47.0
baz=118
PDAR Pinedale Array 10.47 305 Pn Pn 04 30 47.2 +0.6
comp=Z,0.6nm,0.3s,baz=119,slow=14,SNR=12
PDAR Pg 04 31 29.9
comp=Z,0.7nm,0.3s,baz=118,slow=20,SNR=5.9
PDAR Lg Lg 04 33 39.6
comp=Z,0.6nm,0.3s,baz=115,slow=36,SNR=2.2
PDAR Pinedale Array 10.47 305 Pn Pn 04 30 48.0 +1.4
E38A The Farm, Brul 10.50 25 Pn Pn 04 30 46.2 -0.5
H43A Windswept, Lux 10.56 44 Pn Pn 04 30 46.4 -1.1
R50A Paris 10.84 80 Pn Pn 04 30 52.6 +1.2
CPCT Cooper Cave 10.98 95 Pn Pn 04 30 53.2 0.0
COWI Conover 11.03 34 Pn Pn 04 30 53.6 -0.4
O49A Covington 11.04 70 Pn Pn 04 30 52.1 -1.9
V51A Loudon 11.04 93 Pn Pn 04 30 54.3 +0.2
LAO LASA Array 11.27 330 Pn Pn 04 30 57.2 -0.1
N49A Columbus Grove 11.31 67 Pn Pn 04 30 57.6 -0.3
S51A Beattyville 11.42 84 Pn Pn 04 30 58.9 -0.4
L48A N Adams 11.44 62 Pn Pn 04 30 58.1 -1.4
TKL Tuckaleechee C 11.53 94 Pn Pn 04 31 01.0 +0.2
comp=Z,0.4nm,0.3s,baz=241,slow=10,SNR=8.2
TKL Sn Sn **04 33 08.9 -0.9**
comp=Z,0.4nm,0.3s,baz=336,slow=20,SNR=2.0
TKL Lg Lg 04 34 14.9
comp=Z,1.0nm,0.3s,baz=195,slow=20,SNR=5.8
TKL Tuckaleechee C 11.53 94 Pn Pn 04 31 00.9 +0.1
TZTN Tazewell 11.55 89 Pn Pn 04 31 02.2 +1.1
RLMT Red Lodge 11.60 316 Pn Pn 04 31 02.5 +0.6
V52A Sevierville 11.63 93 Pn Pn 04 31 01.6 -0.6
J47A Sunmer 11.68 55 Pn Pn 04 31 01.4 -1.5
EYMN Ely 11.70 22 Pn Pn 04 30 59.9 -3.2
EYMN Ely 11.70 22 P 04 31 00.3
baz=206
D41A Chassel 12.02 32 Pn Pn 04 31 04.6 -3.0
E43A Lone Tree Farm 12.24 38 Pn Pn 04 31 07.2 -3.3
Q52A Bidwell 12.47 77 Pn Pn 04 31 14.7 +1.0
P52A Corning 12.63 74 Pn Pn 04 31 13.9 -1.9
P52A Corning 12.63 74 P 04 31 14.5
baz=264
U54A Nelsons Funny 12.94 88 Pn Pn 04 31 19.3 -0.8
ULM Lac du Bonnet 13.09 6 Pn Pn 04 31 18.1 -4.0
comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=3.3
ULM Sn Sn 04 33 35.1 -13
comp=Z,0.6nm,0.3s,baz=283,slow=23,SNR=4.1
ULM Lg Lg 04 34 57.7
comp=Z,0.2nm,0.3s,baz=269,slow=22,SNR=1.8
P53A Whipple 13.19 75 Pn Pn 04 31 22.4 -1.1
S54A Dingess, Beckl 13.22 83 Pn Pn 04 31 23.8 -0.2
E46A Sault Ste Mari 13.65 44 Pn Pn 04 31 27.3 -2.4
N53A Lisbon 13.77 70 Pn Pn 04 31 28.5 -2.9
SADO Sadowa 16.05 56 Lg Lg 04 36 37.4
comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.9
ILAR Eielson Array 39.73 330 P P 04 35 49.9 +1.3
comp=Z,0.4nm,0.7s,baz=116,slow=7.2,SNR=5.6

IDC 08 04:43:31.9±7.7, 28°.16N×86°.12E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.3/53, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=129.4km s-min=64.8km az=9.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.84**	**352**	P	P	04 47 52.9	-0.5
	0.2nm,0.3s,baz=175,slow=9.5,SNR=7.3						
KURBB	**Kurchatov Arra**	**23.16**	**348**	P	P	04 48 40.0	+0.1
	0.4nm,0.3s,baz=164,slow=10,SNR=4.2						
SONM	**Songino Array**	**25.19**	**33**	P	P	04 48 59.1	-0.1
	0.7nm,0.6s,baz=218,slow=10,SNR=3.6						
ZALV	**Zalesovo Beam**	**25.78**	**358**	P	P	04 49 04.5	+0.1
	0.8nm,0.5s,baz=177,slow=8.7,SNR=2.4						
ARCES	**ARCESS Array B**	**53.71**	**338**	P	P	04 52 55.5	+0.1
	1.8nm,0.8s,baz=116,slow=6.2,SNR=2.0						

*IDC **08** 04:50:16.8±0.8, 41°.73N×72°.63E, h0km, mb3.8/15, mb1 4.1/22, mb1mx3.8/53, mbtmp3.9/22, ML3.5/7, MS2.9/4, Ms1 2.9/4, ms1mx2.6/43, Error ellipse: s-maj=13.9km s-min=8.9km az=149.0*
*BJI **08** 04:50:16.0±0.0, 41°.80N×72°.70E, h10km, mB4.9/1, mb4.6/3, ML3.8/3, Ms4.2/1*
*ISU **08** 04:50:17, 41°.76N×72°.92E, h25km*
*KRNET **08** 04:50:18.1±0.1, 41°.80N×72°.77E, h18km, mb4.7*
*NNC **08** 04:50:18.2±0.8, 41°.90N×72°.69E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=9.5km s-min=3.7km az=175.0*
*MOS **08** 04:50:18.2±1.2, 41°.90N×72°.60E, h16km, mb4.3/7, Error ellipse: s-maj=7.4km s-min=5.2km az=56.1*
MOS Felt (IV) at Toktogul; (III-IV) at Kara-Kul; (III) at Uch-Terek; (II-III) at Torkent.
*SOME **08** 04:50:18.6, 41°.87N×72°.77E, h0km*
*KNET **08** 04:50:20.3±0.5, 41°.87N×72°.92E, h11km±2km, ml4.1, Error ellipse: s-maj=5.0km s-min=2.3km az=127.0*
*NEIC **08** 04:50:22.8±2.9, 41°.83N±0°.06×72°.75E±0°.07, h40km±7km, mb4.3/11, Error ellipse: s-maj=9.4km s-min=6.6km az=139.0*

ISC 08 04:50:17.5±0.8, 41°.78N±0°.02×72°.81E±0°.01, h7km±5km, n224, σ2s08/326, mb4.0/26, MS3.2/3, 54C-26D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.47**	**165**	⇓*i*P	**Pg**	**04 50 27.5**	**+0.8**
	baz=62						
ARSB				⇓*i*S	**Sg**	**04 50 34.4**	**+1.5**
	baz=62						
ARSB	**Arslanbob**	**0.47**	**165**	*e*P	**Pg**	**04 50 27.0**	**+0.3**
ARSB				*e*S	**Sg**	**04 50 34.0**	**+1.1**
MNAS	**Manas**	**0.74**	**342**	⇓*i*P	**Pg**	**04 50 32.3**	**+0.5**
	baz=44						
MNAS				⇓*i*S	**Sg**	**04 50 42.0**	**+0.5**
	baz=44						
AML	**Almayashu**	**0.74**	**62**	⇑*i*P	**Pb**	**04 50 32.7**	**-0.3**
	baz=64						
AML				⇑*i*S	**Sb**	**04 50 43.1**	**-0.4**
	baz=64						
AML	**Almayashu**	**0.74**	**62**	P	**Pb**	**04 50 32.8**	**-0.3**
	1μm,0.2s,SNR=2036						
AML				⇑S	**Sb**	**04 50 42.9**	**-0.7**
	7μm,0.2s						
AML	**Almayashu**	**0.74**	**62**	*i* PG	**Pb**	**04 50 32.7**	**-0.3**
AML				*i* S	**Sb**	**04 50 43.1**	**-0.4**
MRKS	**Merke**	**1.01**	**17**	⇓*e*P	**Pb**	**04 50 37.5**	**+0.1**
	838nm,0.2s						
MRKS				*e*S	**Sb**	**04 50 50.9**	**0.0**
	3μm,0.2s						
MRKS	**Merke**	**1.01**	**17**	P	**Pb**	**04 50 37.4**	**+0.1**
	937nm,0.4s						
MRKS				S	**Sb**	**04 50 51.2**	**+0.3**
	3μm,0.2s						
MRKS	**Merke**	**1.01**	**17**	*e*PG	**Pb**	**04 50 37.5**	**+0.1**
MRKS				*e*S	**Sb**	**04 50 50.9**	**0.0**
ANR	**Andizhan**	**1.08**	**199**	*e*P	**Pn**	**04 50 40.0**	**+0.9**
ANR				*e*S	**Sn**	**04 50 56.0**	**+1.7**
ARLS	**Aral**	**1.13**	**85**	⇑*i*P	**Pb**	**04 50 39.7**	**+0.2**
	baz=87						
ARLS				⇑*i*S	**Sb**	**04 50 54.9**	**+0.5**
	baz=87						
EKS2	**Erkin-Say**	**1.13**	**39**	⇑*i*P	**Pb**	**04 50 39.6**	**+0.1**
	baz=40						
EKS2				⇑*i*S	**Sb**	**04 50 54.8**	**+0.3**
	baz=40						
EKS2	**Erkin-Say**	**1.13**	**39**	⇓P	**Pb**	**04 50 39.7**	**+0.1**
	268nm,0.2s,SNR=255						
EKS2				⇑S	**Sb**	**04 50 54.9**	**+0.3**
	622nm,0.2s						
EKS2	**Erkin-Say**	**1.13**	**39**	*i* PG	**Pb**	**04 50 39.6**	**+0.1**
EKS2				*i* S	**Sb**	**04 50 54.8**	**+0.3**
OHH	**Osh**	**1.26**	**181**	⇑*i*P	**Pg**	**04 50 42.0**	**+0.4**
	baz=80						
OHH				⇑*i*S	**Sn**	**04 50 59.4**	**+0.7**
	baz=80						
OHH	**Osh**	**1.26**	**181**	*e*P	**Pn**	**04 50 41.0**	**-0.5**
OHH				*e*S	**Sn**	**04 50 59.0**	**+0.3**
TRKS	**Terek-Say**	**1.28**	**259**	⇑*e*P	**Pn**	**04 50 41.2**	**-0.7**
	baz=55						
TRKS				⇑*i*S	**Sg**	**04 50 57.8**	**-0.8**
	baz=55						
FRG	**Fergana**	**1.30**	**217**	*e*P	Pg	04 50 49.0	+6.5
FRG				*e*S	Sn	04 51 11.0	+11
AAK	**Ala-Archa**	**1.51**	**55**	⇑*i*P	**Pg**	**04 50 46.4**	**-0.1**
	baz=56						
AAK				⇑*i*S	**Sg**	**04 51 06.7**	**+0.5**
	baz=56						
AAK	**Ala-Archa**	**1.51**	**55**	⇓P	**Pg**	**04 50 46.5**	**-0.1**
	298nm,0.2s,SNR=234						
AAK				⇓S	**Sg**	**04 51 06.5**	**+0.3**
	441nm,0.2s						
AAK	**Ala-Archa**	**1.51**	**55**	⇓P	**Pg**	**04 50 46.6**	**0.0**
	129nm,0.3s						
AAK				⇓S	**Sg**	**04 51 06.2**	**0.0**
	369nm,0.5s						
AAK	**Ala-Archa**	**1.51**	**55**	PN	**Pg**	**04 50 46.5**	**-0.1**
AAK				S	**Sg**	**04 51 06.2**	**0.0**
AAK	**Ala-Archa**	**1.51**	**55**	Pn	**Pg**	**04 50 46.4**	**-0.1**
AAK				Sn	**Sg**	**04 51 06.2**	**0.0**
DZA	**Taraz**	**1.56**	**316**	*e*P	**Pg**	**04 50 47.8**	**+0.3**
	504nm,0.1s						
DZA				*e*S	**Sg**	**04 51 08.4**	**+0.7**
	7μm,0.3s						
DZA	**Taraz**	**1.56**	**316**	P	**Pg**	**04 50 47.8**	**+0.3**
	504nm,0.1s						
DZA				S	**Sg**	**04 51 08.4**	**+0.7**
	7μm,0.3s						
DZA	**Taraz**	**1.56**	**316**	*e*PG	**Pg**	**04 50 47.8**	**+0.3**
DZA				*e*S	**Sg**	**04 51 08.4**	**+0.7**
FRU1	**Bishkek**	**1.69**	**52**	⇑*i*P	**Pg**	**04 50 49.7**	**-0.3**
	baz=52						
FRU1				⇑*i*S	**Sg**	**04 51 12.7**	**+0.7**
	baz=52						
FRU1	**Bishkek**	**1.69**	**52**	*i* PN	**Pg**	**04 50 49.7**	**-0.3**
FRU1				*i* S	**Sg**	**04 51 12.7**	**+0.7**
FRU1	**Bishkek**	**1.69**	**52**		**Pg**	**04 50 51.1**	**+1.1**
CHMI	**Chimion**	**1.80**	**213**	*e*S	**Sg**	**04 51 16.0**	**+0.7**
KBK	**Karagaybulak**	**1.81**	**60**	⇓*e*P	**Pg**	**04 50 51.9**	**-0.3**
	baz=61						
KBK				⇓*i*S	**Sg**	**04 51 16.2**	**+0.5**
	baz=61						
KBK	**Karagaybulak**	**1.81**	**60**	⇓P	**Pg**	**04 50 51.9**	**-0.3**
	349nm,0.2s,SNR=445						
KBK				⇓S	**Sg**	**04 51 16.8**	**+1.1**
	973nm,0.2s						
KBK	**Karagaybulak**	**1.81**	**60**	*i* PN	**Pg**	**04 50 51.9**	**-0.3**
KBK				*i* S	**Sg**	**04 51 16.2**	**+0.5**
SFK	**Sufi-Kurgan**	**1.84**	**163**	⇑*i*P	**Pb**	**04 50 52.1**	**+0.5**
	baz=63						
SFK				⇑*i*S	**Sg**	**04 51 17.1**	**+0.4**
	baz=63						
CHMS	**Chumysh**	**1.88**	**49**	⇑*i*P	**Pb**	**04 50 52.7**	**+0.5**
	baz=50						
CHMS				⇑*i*S	**Sg**	**04 51 17.4**	**-0.6**
	baz=50						
CHMS	**Chumysh**	**1.88**	**49**	⇓P	**Pg**	**04 50 53.1**	**-0.5**
	336nm,0.2s,SNR=247						
CHMS				⇑S	**Sg**	**04 51 18.5**	**+0.6**
	1μm,0.3s						
USP	**Ospenovka**	**1.94**	**39**	⇑*i*P	**Pb**	**04 50 53.4**	**+0.2**
	baz=40						
USP				⇑*i*S	**Sb**	**04 51 18.5**	**+0.9**
	baz=40						
USP	**Ospenovka**	**1.94**	**39**	P	**Pb**	**04 50 53.9**	**+0.7**
	812nm,0.3s,SNR=1185						
USP				⇑S	**Sg**	**04 51 20.1**	**+0.3**
	3μm,0.2s						
USP	**Ospenovka**	**1.94**	**39**	*i* PN	**Pb**	**04 50 53.4**	**+0.2**
USP				*i* S	**Sb**	**04 51 18.5**	**+0.9**
CHMG	**Chimgan**	**2.11**	**265**	*i* P	**Pg**	**04 50 58.0**	**0.0**
CHMG				*i* S	**Sg**	**04 51 25.0**	**-0.4**
CHRV	**Charvak**	**2.15**	**267**	*i* P	**Pb**	**04 50 56.0**	**-0.7**
CHRV				*i* S	**Sg**	**04 51 26.0**	**-0.5**
KK31	**Karatay Array**	**2.16**	**309**	⇑Pn	**Pb**	**04 50 55.9**	**-1.0**
	108nm,0.3s,baz=124,slow=13,SNR=1714						
KK31				Lg	Lg	04 51 25.2	
	729nm,0.3s,baz=124,slow=30,SNR=23						
KK31	**Karatay Array**	**2.16**	**309**	PN	**Pb**	**04 50 56.5**	**-0.4**
KK31						04 51 26.8	
KK31	**Karatay Array**	**2.16**	**309**		**Pb**	**04 50 55.9**	**-1.0**
KKAR	**Karatay Array**	**2.16**	**309**	PN	**Pb**	**04 50 56.4**	**-0.5**
KKAR						04 50 56.8	
KKAR	**Karatay Array**	**2.16**	**309**		**Pb**	**04 50 56.4**	**-0.5**
KKAR	**Karatay Array**	**2.16**	**309**	Pn	**Pb**	**04 50 56.8**	**0.0**
BTK	**Batken**	**2.29**	**222**	⇓*i*P	**Pb**	**04 50 57.6**	**-1.6**
	baz=21						
BTK				⇓*i*S	**Sb**	**04 51 26.6**	**-1.2**
	baz=21						
BTK	**Batken**	**2.29**	**222**	*i* PN	**Pb**	**04 50 57.6**	**-1.6**
BTK				*i* S	**Sb**	**04 51 26.6**	**-1.2**
BTK	**Batken**	**2.29**	**222**		**Pn**	**04 50 57.2**	**+1.4**
BTK	**Batken**	**2.29**	**222**	*e*P	**Pn**	**04 50 57.0**	**+1.2**
TKM2	**Tokmak 2**	**2.36**	**60**	⇑*i*P	**Pb**	**04 50 59.3**	**-1.1**
	baz=61						
TKM2				⇑*i*S	**Sb**	**04 51 29.3**	**-0.4**
	baz=61						
TKM2	**Tokmak 2**	**2.36**	**60**	⇑P	**Pb**	**04 51 00.4**	**0.0**
	209nm,0.2s,SNR=522						
TKM2	**Tokmak 2**	**2.36**	**60**	⇓Pn	**Pb**	**04 51 00.4**	**0.0**
	744nm,0.6s						
TKM2				⇓Lg	Lg	04 51 34.3	
	990nm,0.5s						
TKM2	**Tokmak 2**	**2.36**	**60**	*i* PN	**Pb**	**04 50 59.3**	**-1.1**
TKM2				*i* S	**Sb**	**04 51 29.3**	**-0.4**
DRK	**Karamyk**	**2.42**	**199**	⇑*i*P	**Pb**	**04 51 00.1**	**-1.5**
	baz=98						
DRK				⇑*i*S	**Sb**	**04 51 30.7**	**-1.1**
	baz=98						
DRK	**Karamyk**	**2.42**	**199**		**Pn**	**04 50 59.7**	**+1.9**
BOOM	**Boomskoye usch**	**2.43**	**72**	⇑*i*P	**Pb**	**04 51 00.2**	**-1.4**
	baz=72						
BOOM				⇑*i*S	**Sb**	**04 51 31.2**	**-0.7**
	baz=72						
BOOM	**Boomskoye usch**	**2.43**	**72**	*i* PN	**Pb**	**04 51 00.2**	**-1.4**
BOOM				*i* S	**Sb**	**04 51 31.2**	**-0.7**
BOOM	**Boomskoye usch**	**2.43**	**72**	Pn	**Pb**	**04 51 02.8**	**+1.2**
CHM	**Chimkent**	**2.45**	**284**	*e*P	**Pg**	**04 51 04.6**	**+0.1**
	1μm,0.3s						
CHM				*e*S	**Sg**	**04 51 36.4**	**+0.1**
	5μm,0.4s						
CHM	**Chimkent**	**2.45**	**284**	*e*PN	**Pg**	**04 51 04.6**	**+0.1**
CHM				*e*S	**Sg**	**04 51 36.4**	**+0.1**
TGS	**TashGRES**	**2.50**	**263**	*i* P	**Pg**	**04 51 05.0**	**-0.3**
TGS				*i* S	**Sg**	**04 51 41.0**	**+3.3**
ULHL	**Ulahol**	**2.60**	**79**	⇑*e*P	**Pb**	**04 51 03.1**	**-1.4**
	baz=79						
ULHL				⇑*i*S	**Sb**	**04 51 35.5**	**-1.2**
	baz=79						
ULHL	**Ulahol**	**2.60**	**79**	⇓P	**Pb**	**04 51 03.3**	**-1.1**
	94nm,0.2s,SNR=266						
ULHL	**Ulahol**	**2.60**	**79**	*e*PN	**Pb**	**04 51 03.1**	**-1.4**
ULHL				*i* S	**Sb**	**04 51 35.5**	**-1.2**
DGS	**Degeres**	**2.63**	**55**	*e*P	**Pb**	**04 51 06.3**	**+1.4**
	506nm,0.5s						
DGS				*e*S	**Sg**	**04 51 40.3**	**-1.7**
	1μm,0.3s						
DGS	**Degeres**	**2.63**	**55**	Pg	**Pb**	**04 51 06.4**	**+1.4**
	506nm,0.5s						
DGS				Lg	Lg	04 51 40.3	
	1μm,0.3s						
DGS	**Degeres**	**2.63**	**55**	*e*PN	**Pb**	**04 51 06.4**	**+1.4**
DGS				*e*S	**Sg**	**04 51 40.3**	**-1.7**
KST	**Kastek**	**2.65**	**61**	*e*P	**Pg**	**04 51 07.6**	**-0.7**
	297nm,0.3s						
KST				*e*S	**Sg**	**04 51 42.4**	**-0.3**
	1μm,0.5s						
KST	**Kastek**	**2.65**	**61**	Pg	**Pg**	**04 51 07.6**	**-0.7**
	297nm,0.3s						
KST				Lg	Lg	04 51 42.2	
	1μm,0.5s						
KST	**Kastek**	**2.65**	**61**	*e*PN	**Pg**	**04 51 07.6**	**-0.7**
KST				*e*S	**Sg**	**04 51 42.4**	**-0.3**
YNGY	**Yangiyul**	**2.92**	**258**	*i* P	**Pn**	**04 51 01.0**	**-3.3**
YNGY				*i* S	**Sn**	**04 51 41.0**	**+1.5**
MTBS	**Maitube**	**3.00**	**62**	*e*P	**Pg**	**04 51 13.8**	**-1.1**
	178nm,0.3s						
MTBS				*e*S	**Sg**	**04 51 52.3**	**-1.4**
	636nm,0.3s						
MTBS	**Maitube**	**3.00**	**62**	Pg	**Pb**	**04 51 13.0**	**+1.8**
	178nm,0.3s						
MTBS				Lg	Lg	04 51 51.5	
	636nm,0.3s						
MTBS	**Maitube**	**3.00**	**62**	*e*PN	**Pg**	**04 51 13.8**	**-1.1**
MTBS				*e*S	**Sg**	**04 51 52.3**	**-1.4**
IZV	**Izvestkoviy**	**3.08**	**65**	*e*P	**Pg**	**04 51 15.2**	**-1.2**
	266nm,0.6s						
IZV				*e*S	**Sg**	**04 51 55.5**	**-1.0**
	615nm,0.6s						
IZV	**Izvestkoviy**	**3.08**	**65**	Pg	**Pg**	**04 51 14.8**	**-1.8**
	266nm,0.6s						
IZV				Lg	Lg	04 51 54.5	
	615nm,0.6s						
IZV	**Izvestkoviy**	**3.08**	**65**	*e*PN	**Pg**	**04 51 15.3**	**-1.2**
IZV				*e*S	**Sg**	**04 51 55.5**	**-1.0**
KDJ	**Kajisay**	**3.27**	**82**	⇑*e*P	**Pn**	**04 51 12.4**	**+3.0**
	baz=83						
KDJ				⇑*i*S	**Sn**	**04 51 51.9**	**+3.2**
	baz=83						
KDJ	**Kajisay**	**3.27**	**82**	*e*PN	**Pn**	**04 51 12.4**	**+3.0**
KDJ	**Kajisay**	**3.27**	**82**	Pn	**Pb**	**04 51 14.8**	**-1.3**
KSH	**Kashi**	**3.30**	**132**	Pn	**Pb**	**04 51 14.0**	**-2.4**
KSH				Sn	**Sb**	**04 51 57.0**	**+0.2**
KSH				SMN			
	330nm,0.3s						
KSH				SME			
	190nm,0.3s						
AAA	**Alma-Ata**	**3.35**	**63**	*e*P	**Pg**	**04 51 20.3**	**-1.4**
	254nm,0.3s						
AAA				*e*S	**Sg**	**04 52 04.2**	**-0.9**
	1μm,0.6s						
AAA	**Alma-Ata**	**3.35**	**63**	Pg	**Pg**	**04 51 19.6**	**-2.1**
	254nm,0.3s						
AAA				Lg	Lg	04 52 03.5	
	1μm,0.6s						
AAA	**Alma-Ata**	**3.35**	**63**	*e*PN	**Pg**	**04 51 20.3**	**-1.4**
AAA				*e*S	**Sg**	**04 52 04.2**	**-0.9**
GAR	**Garm**	**3.37**	**215**	⇑*e*P	**Pn**	**04 51 12.8**	**+2.2**
	baz=15						
GAR				⇑*i*S	**Sn**	**04 51 53.0**	**+2.1**
	baz=15						
GAR	**Garm**	**3.37**	**215**	Pn	**Pn**	**04 51 13.6**	**+3.0**
KNDC	**Almaty**	**3.39**	**64**	⇑Pg	**Pb**	**04 51 19.4**	**+1.5**
	236nm,0.4s						
KNDC				⇓Lg	Lg	04 52 07.2	
	946nm,0.6s						
MDOK	**Medeo**	**3.42**	**65**	*e*P	**Pg**	**04 51 21.0**	**-2.1**
	148nm,0.3s						
MDOK				*e*S	**Sg**	**04 52 05.1**	**-2.3**
	357nm,0.4s						
MDOK	**Medeo**	**3.42**	**65**	Pg	**Pg**	**04 51 21.0**	**-2.1**
	148nm,0.3s						
MDOK				Lg	Lg	04 52 05.1	
	357nm,0.4s						
MDOK	**Medeo**	**3.42**	**65**	*e*PN	**Pg**	**04 51 21.0**	**-2.1**
MDOK				*e*S	**Sg**	**04 52 05.1**	**-2.3**
KTBS	**Karatobe**	**3.44**	**55**	*e*P	**Pg**	**04 51 21.3**	**-2.1**
	96nm,0.4s						
KTBS				*e*S	**Sg**	**04 52 05.6**	**-2.4**
	684nm,0.6s						
KTBS	**Karatobe**	**3.44**	**55**	Pg	**Pg**	**04 51 21.3**	**-2.1**
	96nm,0.4s						
KTBS				Lg	Lg	04 52 05.6	
	684nm,0.6s						
KTBS	**Karatobe**	**3.44**	**55**	*e*PN	**Pg**	**04 51 21.3**	**-2.1**
KTBS				*e*S	**Sg**	**04 52 05.6**	**-2.4**
KOTS	**Kotyrbulak**	**3.49**	**64**	*e*P	**Pg**	**04 51 23.0**	**-1.4**
	369nm,0.3s						
KOTS				*e*S	**Sg**	**04 52 08.6**	**-1.1**
	36nm,1.0s						
KOTS	**Kotyrbulak**	**3.49**	**64**	Pg	**Pg**	**04 51 23.0**	**-1.4**
	369nm,0.3s						
KOTS				Lg	Lg	04 52 08.6	
	36nm,1.0s						
KOTS	**Kotyrbulak**	**3.49**	**64**	*e*PN	**Pg**	**04 51 23.0**	**-1.4**
KOTS				*e*S	**Sg**	**04 52 08.6**	**-1.1**
CHKK	**Chushkaly**	**3.70**	**55**	*e*P	**Pb**	**04 51 25.9**	**+2.7**
	78nm,0.5s						
CHKK				*e*S	**Sg**	**04 52 13.7**	**-2.7**
	384nm,0.6s						
CHKK	**Chushkaly**	**3.70**	**55**	Pg	**Pb**	**04 51 25.6**	**+2.4**
	78nm,0.5s						
CHKK				Lg	Lg	04 52 13.7	
	384nm,0.6s						
CHKK	**Chushkaly**	**3.70**	**55**	*e*PN	**Pb**	**04 51 25.9**	**+2.7**
CHKK				*e*S	**Sg**	**04 52 13.7**	**-2.7**
TARG	**Taragay, Kyrgy**	**3.73**	**89**	Pn	**Pb**	**04 51 22.0**	**-2.0**
DZI	**Dzhizak**	**4.13**	**248**	*e*P	**Pn**	**04 51 23.0**	**+2.0**
DZI				*e*S	**Sn**	**04 52 11.0**	**+1.5**
CHGR	**Chuyangaron**	**4.19**	**223**	⇓*e*P	**Pn**	**04 51 24.5**	**+2.6**
	baz=23						
CHGR				⇓*i*S	**Sn**	**04 52 12.5**	**+1.3**
	baz=23						
CHGR	**Chuyangaron**	**4.19**	**223**	Pn	**Pn**	**04 51 24.1**	**+2.2**
KURS	**Kuram**	**4.30**	**65**	*e*P	**Pg**	**04 51 37.4**	**-2.5**
	92nm,0.5s						
KURS				*e*S	**Sg**	**04 52 33.3**	**-2.4**
	115nm,0.7s						
KURS	**Kuram**	**4.30**	**65**	Pg	**Pg**	**04 51 37.4**	**-2.5**
	92nm,0.5s						

AGL	**Agalyk**	**5.05**	**245**	*e*P		**Pn**	**04 51 34.0**	**+0.3**
AGL				*e*S		**Sn**	**04 52 33.0**	**+0.8**
SHLS	**Shalkode**	**5.11**	**72**	*e*P		**Pg**	**04 51 57.3**	**+2.0**
	118nm,0.7s							
SHLS				*e*S		**Sg**	**04 53 07.3**	**+5.9**
	256nm,0.6s							
SHLS	**Shalkode**	**5.11**	**72**	Pg		**Pg**	**04 51 57.3**	**+2.0**
	118nm,0.7s							
SHLS				Lg		Lg	04 53 07.3	
	256nm,0.6s							
PDGK	**Podgornoye**	**5.17**	**70**	⇓Pn		**Pn**	**04 51 39.9**	**+4.5**
PDGK				⇑Pg		**Pg**	**04 51 55.9**	**-0.6**
	40nm,0.6s							
PDGK				⇑Lg		Lg	04 53 03.1	
	134nm,0.8s							
PDGK	**Podgornoye**	**5.17**	**70**	PN		**Pn**	**04 51 39.9**	**+4.5**
PDGK				PG		**Pg**	**04 51 55.9**	**-0.6**
TDK	**Taldyqorghan**	**5.19**	**50**	*e*P		**Pb**	**04 51 52.7**	**+4.1**
	199nm,0.4s							
TDK				*e*S		**Sg**	**04 52 59.2**	**-5.0**
	233nm,0.8s							
TDK	**Taldyqorghan**	**5.19**	**50**	Pg		**Pb**	**04 51 52.7**	**+4.1**
	199nm,0.4s							
TDK				Lg		Lg	04 52 59.2	
	233nm,0.8s							
DJR	**Jarkent**	**5.71**	**61**	*e*P		**Pb**	**04 52 02.2**	**+4.7**
	3.5nm,0.5s							
DJR				*e*S		**Sg**	**04 53 15.9**	**-4.9**
	12nm,1.1s							
DJR	**Jarkent**	**5.71**	**61**	Pg		**Pb**	**04 52 02.2**	**+4.7**
	3.5nm,0.5s							
DJR				Lg		Lg	04 53 15.9	
	12nm,1.1s							
KTMS	**Ketmen**	**5.81**	**71**	*e*P		**Pg**	**04 52 05.3**	**-3.4**
	0.2nm,0.0s							
KTMS				*e*S		**Sg**	**04 53 21.0**	**-2.8**
	106nm,0.5s							
KTMS	**Ketmen**	**5.81**	**71**	Pg		**Pg**	**04 52 05.3**	**-3.4**
	0.2nm,0.0s							
KTMS				Lg		Lg	04 53 21.0	
	106nm,0.5s							
KAPS	**Kapalarasan**	**5.91**	**51**	*e*P		**Pb**	**04 52 05.3**	**+4.5**
	2.3nm,0.5s							
KAPS				*e*S		**Sg**	**04 53 21.0**	**-6.0**
	20nm,0.6s							
KAPS	**Kapalarasan**	**5.91**	**51**	Pg		**Pb**	**04 52 05.3**	**+4.5**
	2.3nm,0.5s							
KAPS				Lg		Lg	04 53 21.0	
	20nm,0.6s							
KBL	**Kabul**	**7.81**	**204**	P		**Pn**	**04 52 14.1**	**+2.3**
KBL	**Kabul**	**7.81**	**204**	Pn		**Pn**	**04 52 14.1**	**+2.3**
CEP	**Cherat**	**7.98**	**185**	P		**Pn**	**04 52 16.8**	**+2.9**
CHCP	**Chirah Chowk**	**8.12**	**177**	P		**Pn**	**04 52 18.5**	**+2.7**
NIL	**Nilore**	**8.12**	**177**	P		**Pn**	**04 52 18.2**	**+2.3**
NIL	**Nilore**	**8.12**	**177**	Pn		**Pn**	**04 52 18.2**	**+2.3**
MAKZ	**Makanchi**	**8.27**	**49**	⇑Pn		**Pn**	**04 52 21.1**	**+3.3**
	2.5nm,0.5s							
MAKZ				⇑Lg		Lg	04 54 39.8	
	28nm,0.7s							
MAKZ	**Makanchi**	**8.27**	**49**	P		**Pn**	**04 52 21.9**	**+4.1**
MAKZ	**Makanchi**	**8.27**	**49**	Pn		**Pn**	**04 52 21.9**	**+4.1**
MK31	**Makanchi Array**	**8.44**	**50**	Pn		**Pn**	**04 52 23.7**	**+3.5**
	5.0nm,0.3s,baz=228,slow=12,SNR=216							
MK31				⇓Lg		Lg	04 54 45.9	
	9.1nm,0.3s,baz=239,slow=26,SNR=3.7							
MK31	**Makanchi Array**	**8.44**	**50**	*i* P		**Pn**	**04 52 24.3**	**+4.1**
MK31				pmax		pmax		
	comp=E,8.0nm,0.2s							
MK31	**Makanchi Array**	**8.44**	**50**	Pn		**Pn**	**04 52 24.1**	**+4.0**
MKAR	**Makanchi Array**	**8.44**	**50**	Pn		**Pn**	**04 52 24.3**	**+4.1**
	comp=Z,1.3nm,0.3s,baz=233,slow=14,SNR=28							
MKAR				Sn		**Sn**	**04 53 58.1**	**+2.4**
	comp=Z,1.7nm,0.3s,baz=239,slow=17,SNR=1.7							
MKAR				Lg		Lg	04 54 40.1	
	comp=Z,2.0nm,0.3s,baz=241,slow=26,SNR=1.4							
MKAR				LR		LR	04 55 54.7	
	comp=Z,35nm,20.3s,baz=271,slow=39							
MKAR	**Makanchi Array**	**8.44**	**50**	Pn		**Pn**	**04 52 24.1**	**+4.0**
THW	**Thamme Wali**	**9.01**	**186**	P		**Pn**	**04 52 28.6**	**+0.6**
KURBB	**Kurchatov Arra**	**9.69**	**22**	Pn		**Pn**	**04 52 37.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=215,slow=12,SNR=11							
KURBB				Sn		**Sn**	**04 54 26.3**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=218,slow=19,SNR=4.8							
KURBB				Lg		Lg	04 55 19.3	
	comp=Z,0.7nm,0.3s,baz=206,slow=32,SNR=5.4							
KURBB	**Kurchatov Arra**	**9.69**	**22**	⇑Pn		**Pn**	**04 52 37.4**	**+0.2**
	comp=Z,6.0nm,0.5s							
KURBB				⇑Lg		Lg	04 55 22.3	
	comp=Z,128nm,0.7s							
KURK	**Kurchatov**	**9.79**	**22**	P		**Pn**	**04 52 37.3**	**-1.4**
KURK							04 54 26.3	
KURK	**Kurchatov**	**9.79**	**22**			**Pn**	**04 52 37.2**	**-1.4**
DHRM	**DHARAMSHALA**	**9.91**	**163**	*e*P		**Pn**	**04 52 41.2**	**+0.6**
DHRM				*e*S		**Sn**	**04 54 25.6**	**-6.5**
DHRM				IAML			04 54 35.6	
	comp=E,839nm,0.4s							
SEM	**Semipalatinsk**	**10.05**	**28**	Pg		Pn	04 53 23.4	+41
	comp=E,3.4nm,0.1s							
SEM				Lg		Lg	04 55 34.8	
	comp=E,83nm,0.8s							
HRA	**Herat**	**11.12**	**232**	Pn		**Pn**	**04 52 56.4**	**-0.7**
SMLA	**Simla**	**11.19**	**160**	*e*P		**Pn**	**04 52 59.2**	**+1.4**
SMLA				*e*S		Sn	04 54 53.7	-10
SMLA				IAML			04 55 02.1	
	comp=E,468nm,0.3s							
BVAR	**Borovoye Array**	**11.37**	**353**	Pn		**Pn**	**04 52 59.4**	**-0.8**
	comp=E,2.2nm,0.3s,baz=173,slow=12,SNR=13							
BVAR				Sn		**Sn**	**04 55 02.6**	**-4.8**
	comp=E,3.6nm,0.3s,baz=174,slow=28,SNR=6.7							
BVAR				Lg		Lg	04 56 12.9	
	comp=E,1.7nm,0.3s,baz=173,slow=38,SNR=3.8							
BRVK	**Borovoye**	**11.41**	**352**	⇑Pn		**Pn**	**04 53 00.8**	**0.0**
	comp=E,12nm,0.7s							
BRVK				⇑Sn		**Sn**	**04 55 06.2**	**-2.2**
	comp=E,9.4nm,0.5s							
BRVK				⇑Lg		Lg	04 56 15.6	
	comp=E,63nm,1.1s							
BRVK	**Borovoye**	**11.41**	**352**	P		**Pn**	**04 53 00.8**	**0.0**
BRVK				S		**Sn**	**04 55 06.2**	**-2.2**
BRVK	**Borovoye**	**11.41**	**352**	Pn		**Pn**	**04 53 00.1**	**-0.7**
AB31	**Akbulak array**	**11.71**	**314**	Pn		**Pn**	**04 53 04.6**	**-0.3**
	comp=E,11nm,0.5s,baz=119,slow=15,SNR=239							
AB31				Sn		**Sn**	**04 55 15.8**	**0.0**
	comp=E,8.6nm,0.8s,baz=116,slow=26,SNR=4.4							
AB31	**Akbulak array**	**11.71**	**314**	*e*P		**Pn**	**04 53 04.6**	**-0.3**
ABKAR	**Akbulak array**	**11.71**	**314**	Pn		**Pn**	**04 53 04.5**	**-0.4**
GEYT	**Alibeck**	**11.93**	**256**	Pn		**Pn**	**04 53 05.7**	**-2.3**
	comp=E,0.7nm,0.3s,baz=115,slow=6.5,SNR=2.4							
GEYT				Sn		**Sn**	**04 55 14.9**	**-6.5**
	comp=E,1.0nm,0.3s,baz=160,slow=27,SNR=1.4							
GEYT	**Alibeck**	**11.93**	**256**	Pn		**Pn**	**04 53 07.4**	**-0.6**
GYA0	**ALIBECK ARRAY**	**11.93**	**256**	P		**Pn**	**04 53 10.9**	**+2.9**
GYA0				S		**Sn**	**04 55 26.6**	**+5.3**
GYA0B	**ALIBECK ARRAY**	**11.93**	**256**	⇑Pn		**Pn**	**04 53 10.9**	**+2.9**
GYA0B				⇓Sn		**Sn**	**04 55 26.6**	**+5.3**
DGZ	**Jazzator, Alta**	**12.90**	**47**	*e*P		**Pn**	**04 53 22.7**	**+1.3**
AKTO	**Aktyubinsk**	**13.41**	**315**	Pn		**Pn**	**04 53 28.0**	**-0.1**
	comp=E,0.7nm,0.3s,baz=126,slow=14,SNR=15							
AKTO				Sn		**Sn**	**04 55 52.0**	**-5.2**
	comp=E,0.5nm,0.3s,baz=97,slow=16,SNR=1.9							
AKTO				Lg		Lg	04 57 20.8	
	baz=221,slow=20,SNR=1.6							
AKTO				LR		LR	04 57 58.6	
	comp=E,19nm,20.3s,baz=142,slow=35							
AKTO	**Aktyubinsk**	**13.41**	**315**	⇑Pn		**Pn**	**04 53 28.7**	**+0.6**
	comp=E,3.7nm,0.5s							
AKTO				⇑Sn		**Sn**	**04 55 56.1**	**-1.1**
	comp=E,6.7nm,0.8s							
ZAA0	**Zalesovo Array**	**14.57**	**29**	⇑Pn		**Pn**	**04 53 43.4**	**-0.5**
	comp=E,0.7nm,0.6s							
ZAA0				⇑Sn		**Sn**	**04 56 26.4**	**+0.9**
	comp=E,2.4nm,0.7s							
ZAA0	**Zalesovo Array**	**14.57**	**29**	Pn		**Pn**	**04 53 45.8**	**+1.9**
ZALV	**Zalesovo Beam**	**14.57**	**29**	Pn		**Pn**	**04 53 45.0**	**+1.1**
	comp=E,0.6nm,0.3s,baz=222,slow=15,SNR=4.7							
ZALV				Sn		**Sn**	**04 56 26.6**	**+1.0**
	comp=E,0.5nm,0.3s,baz=225,slow=21,SNR=3.7							
ZALV				Lg		Lg	04 57 52.8	
	baz=248,slow=28,SNR=1.6							
ZALV	**Zalesovo Beam**	**14.57**	**29**	P		**Pn**	**04 53 45.9**	**+2.0**
ZALV	**Zalesovo Beam**	**14.57**	**29**	Pn		**Pn**	**04 53 45.9**	**+2.0**
ARU	**Arti**	**17.32**	**333**	P		**Pn**	**04 54 19.3**	**-0.2**
	comp=E,0.0nm,0.3s,baz=165,slow=12,SNR=3.2							
ARU				S		**Sn**	**04 57 21.7**	**-11**
	comp=E,0.0nm,0.3s,baz=108,slow=20,SNR=1.4							
ARU				Lg		Lg	04 59 19.9	
	comp=E,0.0nm,0.3s,baz=127,slow=20,SNR=1.4							
ARU	**Arti**	**17.32**	**333**	P		**Pn**	**04 54 18.7**	**-0.9**
ONI	**Oni**	**21.73**	**282**	P		**Pn**	**04 55 11.0**	**+1.7**
ONI				pmax		pmax		
	comp=E,6.0nm,0.8s							
ONI	**Oni**	**21.73**	**282**	P		**P**	**04 55 11.0**	**+1.7**
WSAR	**Wadi Sarin**	**21.97**	**217**	P		**P**	**04 55 11.5**	**-0.4**
	comp=Z,6.0nm,1.1s,baz=89,slow=11,SNR=2.9							
KBZ	**Shabaz**	**22.00**	**285**	P		**P**	**04 55 11.7**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=81,slow=7.1,SNR=3.3							
KVAR	**Kislovodsk Arr**	**22.13**	**286**	P		**P**	**04 55 12.0**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=45,slow=7.1,SNR=1.5							
KIV	**Kislovodsk**	**22.13**	**286**	*e*P		**P**	**04 55 13.4**	**-0.3**
KIV				pmax		pmax		
	comp=Z,27nm,1.0s							
KIV				MLR		MLR		
	comp=Z,72nm,14.0s							
KIRV	**Kirov**	**22.33**	**327**	LR		LR	05 04 33.6	
	comp=Z,78nm,18.1s,baz=149,slow=38							
SONM	**Songino Array**	**24.45**	**64**	P		**P**	**04 55 38.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=268,slow=9.8,SNR=2.1							
ULN	**Ulaanbaatar**	**24.89**	**64**	⇑*i* P		**P**	**04 55 42.0**	**+1.0**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ANN	**Anapa**	**25.80**	**289**	*e*P		**P**	**04 55 46.6**	**-2.4**
ANN				*e**PP		**pP**	**04 55 48.4**	**-3.1**
ANN				*e*			04 59 16.3	
ANN				*e*S		**S**	**05 00 16.1**	**-2.4**
ANN				pmax		pmax		
	comp=Z,29nm,0.9s							
OBN	**Obninsk**	**27.14**	**312**	*i* P		**P**	**04 56 01.8**	**+0.8**
OBN				pmax		pmax		
	comp=Z,2.0nm,0.5s							
GAZ	**Gaziantep**	**27.74**	**272**	P		**P**	**04 56 06.9**	**+0.2**
GAZ				IAmb		IAmb	04 56 09.0	
	comp=Z,5.8nm,0.7s							
BR131	**Keskin Array S**	**29.58**	**279**	P		**P**	**04 56 24.0**	**+1.0**
BR131				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BR131	**Keskin Array S**	**29.58**	**279**	P		**P**	**04 56 24.0**	**+1.0**
BR131				IAmb		IAmb	04 56 24.6	
	comp=Z,4.7nm,1.0s							
BRTR	**Keskin Array B**	**29.58**	**279**	P		**P**	**04 56 23.9**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=104,slow=7.8,SNR=12							
BRTR	**Keskin Array B**	**29.58**	**279**	*i* P		**P**	**04 56 24.1**	**+1.0**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**29.58**	**279**	P		**P**	**04 56 24.1**	**+1.0**
FINES	**FINESS Array B**	**34.06**	**321**	P		**P**	**04 57 02.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=97,slow=9.1,SNR=5.4							
FINES				LR		LR	05 11 29.1	
	comp=Z,60nm,18.2s,baz=181,slow=37							
FINES	**FINESS Array B**	**34.06**	**321**	P		**P**	**04 57 02.3**	**+0.3**
FINES	**FINESS Array B**	**34.06**	**321**	P		**P**	**04 57 02.3**	**+0.3**
ARCES	**ARCESS Array B**	**36.89**	**334**	P		**P**	**04 57 26.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=104,slow=7.6,SNR=6.1							
IDI	**Anoyia**	**37.65**	**276**	P		**P**	**04 57 33.9**	**+0.7**
IDI				IAmb		IAmb	04 57 37.7	
	comp=Z,9.2nm,1.1s							
VYHS	**Vyhne**	**37.98**	**299**	*e*PP		PP	04 59 02.5	+0.2
ITM	**Ithomi**	**39.08**	**281**	P		**P**	**04 57 44.5**	**-0.6**
ITM				IAmb		IAmb	04 57 52.2	
	comp=Z,9.0nm,1.1s							
TIXI	**Tiksi**	**40.37**	**24**	P		**P**	**04 57 54.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=339,slow=9.1,SNR=1.3							
TIXI	**Tiksi**	**40.37**	**24**	P		**P**	**04 57 54.4**	**-1.0**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TIXI	**Tiksi**	**40.37**	**24**	P		**P**	**04 57 54.4**	**-1.0**
TIXI				IAmb		IAmb	04 58 03.3	
	comp=Z,2.1nm,0.7s							
NOA	**NORSAR Array B**	**41.15**	**319**	P		**P**	**04 58 00.9**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=91,slow=8.3,SNR=6.1							
CLL	**Collm**	**41.17**	**304**	*e*P		**P**	**04 57 59.0**	**-3.2**
CLL	**Collm**	**41.17**	**304**	*e*P		**P**	**04 57 59.0**	**-3.2**
GERES	**GERESS Array B**	**41.24**	**301**	P		**P**	**04 58 03.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=91,slow=8.3,SNR=5.2							
GERES	**GERESS Array B**	**41.24**	**301**	P		**P**	**04 58 03.0**	**0.0**
MJAR	**Matsushiro Arr**	**49.89**	**73**	P		**P**	**04 59 14.3**	**+2.7**
	comp=Z,1.1nm,0.5s,baz=279,slow=10,SNR=2.6							
MJAR	**Matsushiro Arr**	**49.89**	**73**	P		**P**	**04 59 12.8**	**+1.3**
MJAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
MJAR	**Matsushiro Arr**	**49.89**	**73**	P		**P**	**04 59 12.8**	**+1.3**
ESDC	**Sonseca Array**	**56.35**	**296**	P		**P**	**04 59 58.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=56,slow=6.8,SNR=4.5							
ESDC	**Sonseca Array**	**56.35**	**296**	P		**P**	**04 59 59.2**	**+0.1**
IMAR	**Indian Mountai**	**66.72**	**19**	P		**P**	**05 01 08.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**67.31**	**268**	P		**P**	**05 01 11.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=55,slow=5.3,SNR=23							
BMAR	**Burnt Mountain**	**67.48**	**15**	P		**P**	**05 01 15.1**	**+1.5**
C36M	**Paulatuk**	**68.49**	**6**	P		**P**	**05 01 19.5**	**-0.2**
C36M				IAmb		IAmb	05 01 38.6	
	comp=Z,1.8nm,0.8s							
ILAR	**Eielson Array**	**69.32**	**17**	P		**P**	**05 01 24.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=318,slow=5.1,SNR=5.8							
PPLA	**Purkeypile**	**69.64**	**20**	P		**P**	**05 01 28.0**	**+0.7**
KOWA	**Kowa**	**70.72**	**272**	P		**P**	**05 01 32.8**	**-1.6**
KOWA				IAmb		IAmb	05 01 34.3	
	comp=Z,1.9nm,0.7s							
BCAR	**Beaver Creek A**	**71.90**	**16**	P		**P**	**05 01 41.1**	**+0.2**
YKA	**Yellowknife Ar**	**75.90**	**4**	*i* P		**P**	**05 02 03.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=347,slow=5.5,SNR=4.3							
YKA	**Yellowknife Ar**	**75.90**	**4**	*i* P		**P**	**05 02 04.8**	**+0.6**
DBIC	**Dimbokro**	**76.39**	**267**	P		**P**	**05 02 06.7**	**-1.1**
	comp=Z,4.3nm,1.0s,baz=27,slow=6.8,SNR=2.1							
DBIC	**Dimbokro**	**76.39**	**267**	P		**P**	**05 02 07.3**	**-0.5**
DBIC				pmax		pmax		
	comp=Z,19nm,1.4s							
DBIC	**Dimbokro**	**76.39**	**267**	P		**P**	**05 02 07.3**	**-0.5**

*IDC **08** 05:08:21.0±0.9,24°.76S×179°.93E,h496km±9km, mb3.7/14, mb1 4.0/17,mb1mx3.9/22,mbtmp4.6/17,Error ellipse: s-maj=11.2km s-min=10.7km az=86.0*
*NEIC **08** 05:08:22.6±1.6,24°.74S±0°.10×179°.9E±0°.1,h509km±3km, mb4.4/64,Error ellipse: s-maj=16.5km s-min=12.6km az=132.0*
*NOU **08** 05:08:40.5,25°.03S×178°.66E,h672km,mb5.1,South of Fiji Islands*

ISC 08 05:08:21.0±0.4,24°.76S±0°.06×179°.94E±0°.07,h501km, n153,σ1°08/162,mb4.4/53,3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.87**	**157**	P	**P**	**05 09 47.7**	**+1.0**
	72nm,0.3s,baz=308,slow=19,SNR=2.7						
RAO				S	**S**	**05 10 55.9**	**-0.9**
	86nm,0.3s,baz=86,slow=24,SNR=2.5						
RAO	**Raoul Island**	**4.87**	**157**	P	**P**	**05 09 47.9**	**+1.2**
MSVF	**Nonsavu**	**7.21**	**346**	P	**P**	**05 10 10.4**	**+0.8**
	8.4nm,0.3s,baz=256,slow=24,SNR=43						
NIUE	**Niue**	**10.97**	**61**	P	**P**	**05 10 52.4**	**+3.6**
	baz=11,SNR=4.4						
NIUE	**Niue**	**10.97**	**61**	P	**P**	**05 10 48.7**	**-0.1**
PINNC	**Pines Island,**	**11.64**	**278**	P	**P**	**05 10 57.3**	**+1.5**
OUZ	**Omahuta**	**11.78**	**206**	P	**P**	**05 10 59.0**	**+1.9**
LIFNC	**LIFOU**	**12.36**	**286**	P	**P**	**05 11 03.8**	**+0.3**
ONTNC	**Ouen Toro**	**12.61**	**278**	P	**P**	**05 11 08.6**	**+2.5**
DZM	**Mont Dzumac**	**12.67**	**279**	P	**P**	**05 11 09.7**	**+2.8**
	2.2nm,0.3s,baz=227,slow=17,SNR=15						
DZM	**Mont Dzumac**	**12.67**	**279**	P	**P**	**05 11 09.6**	**+2.7**
AFI	**Afiamalu**	**13.32**	**37**	S	S	05 13 25.9	-10
	4.5nm,0.3s,baz=65,slow=22,SNR=2.1						
AFI	**Afiamalu**	**13.32**	**37**	P	**P**	**05 11 13.1**	**-0.6**
URZ	**Urewera**	**13.67**	**189**	P	**P**	**05 11 15.6**	**-1.4**
	3.2nm,0.3s,baz=120,slow=23,SNR=12						
URZ				S	**S**	**05 13 40.7**	**-1.6**
	1.8nm,0.3s,baz=122,slow=23,SNR=3.7						
SANVU	**Saraoutou**	**15.12**	**305**	P	**P**	**05 11 32.5**	**-0.1**
ARMA	**Armidale**	**25.68**	**251**	P	**P**	**05 13 11.5**	**+0.8**
	baz=26,SNR=15						
ARMA	**Armidale**	**25.68**	**251**	P	**P**	**05 13 12.2**	**+1.6**
EIDS	**Eidsvold**	**26.13**	**263**	P	**P**	**05 13 15.3**	**+0.8**
	baz=26,SNR=5.6						
EIDS	**Eidsvold**	**26.13**	**263**	P	**P**	**05 13 15.1**	**+0.6**
MGCD	**Mangrove Creek**	**26.52**	**245**	P	**P**	**05 13 19.7**	**+1.8**
	baz=26,SNR=19						
RMQ	**Roma**	**28.13**	**260**	P	**P**	**05 13 32.7**	**+0.5**
	baz=28,SNR=13						
CAN	**Canberra**	**28.67**	**241**	P	**P**	**05 13 37.3**	**+0.6**
CAN				IAmb	IAmb	05 13 54.8	
	comp=Z,24nm,1.4s						
YNG	**Young**	**28.95**	**243**	P	**P**	**05 13 40.4**	**+1.3**
	baz=29,SNR=6.5						
CMSA	**Cobar Meteorol**	**30.85**	**250**	P	**P**	**05 13 56.2**	**+0.5**
	baz=31,SNR=66						
CTA	**Charters Tower**	**31.43**	**272**	P	**P**	**05 14 01.5**	**+0.7**
	comp=Z,75nm,0.3s,baz=100,slow=10						
CTAO	**Charters Tower**	**31.43**	**272**	P	**P**	**05 14 01.5**	**+0.7**
TOO	**Toolangi**	**31.94**	**238**	P	**P**	**05 14 05.7**	**+0.7**
	baz=32,SNR=9.1						
TOO	**Toolangi**	**31.94**	**238**	P	**P**	**05 14 05.6**	**+0.6**
TOO				IAmb	IAmb	05 14 06.4	
	comp=Z,15nm,0.8s						
QLP	**Quilpie**	**32.17**	**259**	P	**P**	**05 14 07.4**	**+0.4**
	baz=32,SNR=14						
TAU	**Tasmania Unive**	**32.31**	**228**	P	**P**	**05 14 07.3**	**-0.7**
MTSU	**Mount Surprise**	**33.73**	**274**	P	**P**	**05 14 21.4**	**+0.9**
	baz=34,SNR=96						
STKA	**Stephens Creek**	**34.36**	**249**	P	**P**	**05 14 26.0**	**+0.5**
	comp=Z,19nm,0.4s,baz=92,slow=10,SNR=75						
STKA	**Stephens Creek**	**34.36**	**249**	P	**P**	**05 14 26.0**	**+0.5**
STKA				IAmb	IAmb	05 14 26.4	
	comp=Z,5.0nm,0.5s						
ARPS	**Mount Arapiles**	**34.64**	**241**	P	**P**	**05 14 28.2**	**+0.4**
	baz=35,SNR=6.5						
HTT	**Hallett**	**36.68**	**247**	P	**P**	**05 14 44.9**	**0.0**
	baz=37,SNR=29						
QIS	**Mount Isa**	**37.36**	**268**	P	**P**	**05 14 50.7**	**0.0**
	baz=37,SNR=11						
BBOO	**Buckleboo**	**39.06**	**248**	P	**P**	**05 15 03.7**	**-0.6**
	baz=39,SNR=57						
BBOO	**Buckleboo**	**39.06**	**248**	P	**P**	**05 15 03.9**	**-0.4**
AS31	**Alice Springs**	**41.84**	**262**	P	**P**	**05 15 26.7**	**-0.1**
ASAR	**Alice Springs**	**41.85**	**262**	P	**P**	**05 15 26.7**	**-0.1**
	comp=Z,14nm,0.3s,baz=93,slow=7.2,SNR=465						
ASAR				PcP	**PcP**	**05 17 11.2**	**0.0**
	comp=Z,1.5nm,0.4s,baz=113,slow=4.3,SNR=3.7						
ASAR				ScP	**ScP**	**05 20 15.1**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=112,slow=2.9,SNR=5.7						
ASAR				S	**S**	**05 21 09.7**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=94,slow=15,SNR=4.8						
WRAB	**Tennant Creek**	**42.29**	**267**	P	**P**	**05 15 29.8**	**-0.5**
WRA	**Warramunga Arr**	**42.30**	**267**	P	**P**	**05 15 29.9**	**-0.5**
	comp=Z,54nm,0.3s,baz=101,slow=8.3,SNR=1172						
WRA				ScP	**ScP**	**05 20 17.8**	**+2.3**
	comp=Z,6.9nm,0.8s,baz=103,slow=4.1,SNR=14						
WRA				S	**S**	**05 21 14.3**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=102,slow=14,SNR=5.3						
FORT	**Forrest**	**45.96**	**250**	P	**P**	**05 15 57.6**	**-1.0**
	baz=46,SNR=8.6						
FORT	**Forrest**	**45.96**	**250**	P	**P**	**05 15 57.8**	**-0.9**
KDU	**Kakadu**	**46.31**	**276**	P	**P**	**05 16 00.8**	**-0.7**
	baz=46,SNR=15						
WRKA	**Warakurna**	**46.60**	**258**	P	**P**	**05 16 03.1**	**-0.6**
	baz=46,SNR=114						
MTN	**Manton Dam**	**47.47**	**275**	P	**P**	**05 16 09.3**	**-1.0**
	baz=47,SNR=3.6						
MTN	**Manton Dam**	**47.47**	**275**	P	**P**	**05 16 08.2**	**-2.0**
MTN				IAmb	IAmb	05 16 28.9	
	comp=Z,20nm,1.0s						
KNRA	**Kununurra**	**48.63**	**271**	P	**P**	**05 16 19.0**	**+0.1**
	baz=49,SNR=44						
KNRA	**Kununurra**	**48.63**	**271**	P	**P**	**05 16 19.0**	**+0.1**
KMPI	**Kaimana, Papua**	**49.15**	**288**	P	**P**	05 16 17.5	-5.3
RKPI	**Ransiki, Papua**	**49.84**	**290**	P	**P**	05 16 39.3	+11
FITZ	**Fitzroy Crossi**	**50.71**	**266**	P	**P**	**05 16 34.3**	**0.0**
	baz=51,SNR=32						
FITZ	**Fitzroy Crossi**	**50.71**	**266**	P	**P**	**05

comp=Z,1.4nm,0.7s,baz=223,slow=8.8,SNR=16
TPNV Topopah Spring 85.86 46 P **P** 05 20 08.3 +0.8
TPNV IAmb IAmb 05 20 08.8
comp=Z,2.9nm,0.7s
TPH Tonopah 85.89 45 P **P** 05 20 07.8 +0.1
Y14A Wickenburg 86.38 50 P **P** 05 20 11.0 +1.1
PRN Pahroc Range 86.91 46 P **P** 05 20 13.4 +1.0
PRN IAmb IAmb 05 20 14.6
comp=Z,3.2nm,0.8s
TUC Tucson 87.08 52 P **P** 05 20 15.0 +1.7
TUC IAmb IAmb 05 20 16.1
comp=Z,4.6nm,0.9s
WVOR Wild Horse Val 87.60 41 P **P** 05 20 16.6 +1.1
WVOR IAmb IAmb 05 20 17.3
comp=Z,5.2nm,1.1s
319A Douglas 87.70 54 P **P** 05 20 17.6 +1.3
319A IAmb IAmb 05 20 19.0
comp=Z,12nm,1.1s
X16A Lo Mia Camp, P 87.73 50 P **P** 05 20 17.4 +1.0
LCMT Little Creek M 87.89 47 P **P** 05 20 17.6 +0.6
I07A Izee 88.09 39 P **P** 05 20 18.8 +1.0
I07A IAmb IAmb 05 20 19.8
comp=Z,5.9nm,0.9s
KNB Kanab 88.17 48 P **P** 05 20 19.5 +1.1
U15A North Rim 88.22 48 P **P** 05 20 19.8 +1.1
U15A IAmb IAmb 05 20 21.0
comp=Z,8.4nm,1.4s
X18A Snowflake 88.83 51 P **P** 05 20 22.2 +0.6
X18A IAmb IAmb 05 20 23.2
comp=Z,2.7nm,0.7s
G08A Pilot Rock 89.13 38 P **P** 05 20 23.4 +0.7
G08A IAmb IAmb 05 20 24.4
comp=Z,10nm,1.5s
MTPU Mount Pierson 89.16 47 P **P** 05 20 25.0 +1.8
MTPU IAmb IAmb 05 20 25.9
comp=Z,4.0nm,0.8s
XAN Xi'an 89.22 308 P **P** 05 20 24.3 +1.1
XAN pP PcP 05 20 29.2 +5.0
XAN pmax pmax
comp=Z,7.0nm,0.7s
KMI Kunming 89.61 298 ⇓P **P** 05 20 26.7 +1.2
KMI pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 89.77 290 P **P** 05 20 27.9 +1.8
comp=Z,4.3nm,0.8s,baz=136,slow=3.2,SNR=21
MFID Camas Ranch 89.84 41 P **P** 05 20 26.5 +0.6
MFID IAmb IAmb 05 20 27.6
comp=Z,3.8nm,1.0s
CHTO Chiang Mai 89.92 291 P **P** 05 20 25.6 -1.1
CHTO IAmb IAmb 05 20 29.0
comp=Z,6.1nm,0.8s
TMUT Trail Mountain 90.47 46 P **P** 05 20 30.0 +0.8
SPUT South Promonto 90.75 44 P **P** 05 20 30.9 +0.6
SPUT IAmb IAmb 05 20 32.0
comp=Z,5.4nm,1.1s
HLID Hailey 90.77 41 P **P** 05 20 31.3 +0.9
HVU Hansel Valley 90.80 44 P **P** 05 20 30.7 +0.2
HVU IAmb IAmb 05 20 32.0
comp=Z,3.4nm,0.7s
SRU San Rafael Swe 90.83 47 P **P** 05 20 31.0 +0.3
SRU IAmb IAmb 05 20 32.2
comp=Z,4.0nm,0.7s
TX31 Lajitas Ar. Si 90.93 58 P **P** 05 20 31.9 +0.6
TX32 Lajitas Array 90.93 58 P **P** 05 20 31.9 +0.6
TX32 IAmb IAmb 05 20 33.3
comp=Z,3.3nm,0.9s
TXAR Lajitas Array 90.93 58 P **P** 05 20 32.5 +1.2
comp=Z,2.3nm,0.8s,baz=212,slow=6.6,SNR=29
ILAR Eielson Array 92.88 14 P **P** 05 20 38.2 -1.1
comp=Z,0.2nm,0.7s,baz=206,slow=7.9,SNR=1.8
PDAR Pinedale Array 93.34 44 P **P** 05 20 41.0 -1.2
comp=Z,0.4nm,0.6s,baz=241,slow=4.9,SNR=4.8
MKAR Makanchi Array 112.69 312 SKP 05 28 47.5
comp=Z,0.3nm,0.5s,baz=56,slow=1.6,SNR=4.4
ARCES ARCESS Array B 132.71 348 PKP **PKPdf** 05 26 37.2 -0.5
comp=Z,1.4nm,0.6s,baz=98,slow=2.5,SNR=4.6
ARCES SKPbc **SKPbc** 05 29 17.9 -0.1
comp=Z,2.4nm,0.7s,baz=47,slow=4.0,SNR=6.5
FINES FINESS Array B 139.24 341 PKhKP PKPpre 05 26 41.2
comp=Z,0.9nm,0.4s,baz=60,slow=4.6,SNR=11
FINES SKPbc **SKPbc** 05 29 37.3 -0.5
comp=Z,3.4nm,0.7s,baz=96,slow=4.2,SNR=7.2
NOA NORSAR Array B 142.92 351 PKhKP PKPpre 05 26 53.6
comp=Z,1.0nm,0.6s,baz=16,slow=4.6,SNR=3.8
PABE Paberze 144.58 336 **PKPdf** 05 26 57.9 -1.8
AKASG Malin Array Be 145.66 327 PKPbc **PKPdf** 05 27 02.2 +0.5
comp=Z,3.6nm,0.5s,baz=43,slow=4.2,SNR=22
AKASG Malin Array Be 145.66 327 **PKPdf** 05 27 01.9 +0.3
BR131 Keskin Array S 148.04 306 PKPdf **PKPdf** 05 27 03.6 -2.6
BR131 **PKPbc** 05 27 09.4 -0.7
BR131 PKPab **PKPab** 05 27 15.5 +0.8
BRTR Keskin Array B 148.04 306 PKPbc **PKPbc** 05 27 09.6 -0.5
comp=Z,3.4nm,0.7s,baz=138,slow=4.1,SNR=15
BRTR Keskin Array B 148.04 306 **PKPbc** 05 27 09.3 -0.8
BRTR PKPab **PKPab** 05 27 14.9 +0.2
ANTO Ankara 148.62 307 **PKPbc** 05 27 10.2 -1.3
KWP Kalwaria Pacla 149.49 330 **PKPbc** 05 27 13.0 -0.1
CLL Collm 151.66 343 *e*PKPbc **PKPbc** 05 27 18.0 -0.1
CLL *i* PKPab **PKPab** 05 27 29.7 +0.6
GERES GERESS Array B 153.64 339 PKPab **PKPab** 05 27 37.6 -0.2
comp=Z,0.5nm,0.7s,baz=329,slow=1.6,SNR=4.1
BTNL Ternell 153.77 351 *d*PKP **PKPbc** 05 27 19.3 -3.4
BGES Gesves 154.11 352 *d*PKP **PKPbc** 05 27 22.3 -1.1
TORD Torodi Ar. Bea 168.33 188 PKP **PKPdf** 05 27 29.3 -1.3
comp=Z,0.5nm,0.9s,baz=149,slow=3.0,SNR=2.2
TORD PKPab **PKPab** 05 28 41.9 -0.6
comp=Z,1.5nm,0.6s,baz=172,slow=3.7,SNR=13

*IDC **08** 05:15:01.2±4.2, 7°.06S×128°.41E, h249km±38km, mb3.5/3, mb1 3.6/6, mb1mx3.3/30, mbtmp4.2/6, Error ellipse: s-maj=59.5km s-min=17.2km az=66.0*
ISC 08 05:15:01.3±1.1, 7°.1S±0°.1×128°.7E±0°.2, h250km, n9, σ1§55/12, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.30**	**195**	P		**Pn**		**05 17 37.0**	**+0.8**
	baz=25,slow=14								
FITZ				S		**S**		**05 19 40.6**	**-2.0**
	0.3nm,0.3s,baz=80,slow=19,SNR=2.2								
WRA	**Warramunga Arr**	**13.87**	**157**	P		**P**		**05 18 09.4**	**+0.6**
	0.6nm,0.3s,baz=339,slow=12,SNR=6.0								
WRA				S		**S**		**05 20 38.5**	**-3.3**
	0.8nm,0.3s,baz=333,slow=23,SNR=6.0								
ASAR	**Alice Springs**	**17.20**	**164**	P		**Pn**		**05 18 47.5**	**0.0**
	0.7nm,0.3s,baz=346,slow=11,SNR=17								
ASAR				S		**S**		**05 21 52.6**	**+1.3**
	0.1nm,0.3s,baz=346,slow=23,SNR=5.9								
STKA	**Stephens Creek**	**27.42**	**156**	P		**P**		**05 20 24.9**	**+0.7**
	1.2nm,0.4s,baz=333,slow=11,SNR=3.0								
MKAR	**Makanchi Array**	**67.62**	**327**	P		**P**		**05 25 29.7**	**-1.6**
	1.1nm,0.4s,baz=118,slow=8.6,SNR=19								
QSPA	**South Pole Qui**	**82.85**	**180**	P		**P**		**05 26 58.8**	**+1.2**
	0.6nm,0.5s,baz=351,slow=3.7,SNR=1.7								
TORD	**Torodi Ar. Bea**	**127.54**	**281**	PKP		**PKPdf**		**05 33 37.4**	**-0.2**
	0.3nm,0.6s,baz=64,slow=0.8,SNR=1.5								
CPUP	**Villa Florida**	**146.24**	**170**	PKPbc		**PKPbc**		**05 34 13.2**	**+0.1**
	0.7nm,0.5s,baz=270,slow=1.0,SNR=3.9								
LPAZ	**La Paz**	**151.40**	**145**	PKPbc		**PKiKP**		**05 34 27.7**	**+0.1**
	0.2nm,0.3s,baz=236,slow=3.6,SNR=1.7								

*TRN **08** 05:34:43.0, 17°.60N×63°.39W, h177km, MD3.7*
*NEIC **08** 05:34:45.4±1.4, 17°.3N±0°.2×63°.53W±0°.09, h162km±17km, Error ellipse: s-maj=27.6km s-min=4.3km az=205.0*
*RSPR **08** 05:34:46.7, 17°.46N×63°.56W, h158km±10km, MD3.7/6*
ISC 08 05:34:43.4±2.0, 17°.52N±0°.09×63°.44W±0°.06, h180km±15km, n54, σ0§94/72, 11C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SEUS	**St. Eustatius**	**0.44**	**94**	Pn		**Pn**		**05 35 08.7**	**+0.8**
SEUS				IAML				05 35 31.6	
	comp=N,207nm,0.8s								
SEUS				IAML				05 35 33.7	
	comp=E,157nm,0.5s								
SKI	**Saint Kitts**	**0.69**	**106**	*e*P		**Pn**		**05 35 10.1**	**+1.1**
SKI				*e*S		**Sn**		**05 35 29.0**	**+0.2**
SKI	**Saint Kitts**	**0.69**	**106**	Pn		**Pn**		**05 35 09.9**	**+0.8**
SKOC	**St. Kitts, UWI**	**0.71**	**108**	*e*P		**Pn**		**05 35 09.7**	**+0.6**
SKOC				*e*S		**Sn**		**05 35 29.4**	**+0.6**
CDVI	**St. Croix**	**1.29**	**280**	*e*P		**Pn**		**05 35 13.7**	**+0.4**
CDVI	**St. Croix**	**1.29**	**280**	Pn		**Pn**		**05 35 13.7**	**+0.4**
CDVI				IAML				05 35 35.6	
	comp=N,180nm,0.6s								
CDVI				IAML				05 35 35.8	
	comp=E,160nm,0.7s								
MBFL	**Flemmings, Mon**	**1.40**	**123**	*e*P		**Pn**		**05 35 15.2**	**+0.8**
MBFL				*e*S		**Sn**		**05 35 38.8**	**+0.5**
MLYT	**Lee's Yard**	**1.43**	**124**	*e*P		**Pn**		**05 35 15.3**	**+0.6**
MLYT				*e*S		**Sn**		**05 35 38.9**	**0.0**
TBVI	**Tortola**	**1.43**	**309**	⇑*e*P		**Pn**		**05 35 15.3**	**+0.6**
TBVI	**Tortola**	**1.43**	**309**	⇑*e*P		**Pn**		**05 35 15.3**	**+0.6**
TBVI				*e*S		**Sn**		**05 35 37.0**	**-1.9**
TBVI	**Tortola**	**1.43**	**309**			**Pn**		**05 35 15.3**	**+0.6**
TBVI						**Sn**		**05 35 37.0**	**-1.9**
ABV	**Anegada**	**1.47**	**325**	⇑*e*P		**Pn**		**05 35 16.3**	**+1.3**
ABV	**Anegada**	**1.47**	**325**	⇑*e*P		**Pn**		**05 35 16.3**	**+1.3**
ABV				*e*S		**Sn**		**05 35 39.4**	**-0.2**
ABVI	**Anegada Island**	**1.47**	**325**			**Pn**		**05 35 16.3**	**+1.3**
ABVI	**Anegada Island**	**1.47**	**325**			**Sn**		**05 35 39.4**	**-0.2**
ABVI	**Anegada Island**	**1.47**	**325**	IAML				05 35 38.9	
	comp=N,46nm,1.5s								
ANWB	**Willy Bob**	**1.58**	**84**	*e*P		**Pn**		**05 35 16.4**	**+0.3**
ANWB				*e*S		**Sn**		**05 35 39.6**	**-1.7**
ANWB	**Willy Bob**	**1.58**	**84**	Pn		**Pn**		**05 35 16.6**	**+0.6**
ANWB				IAML				05 35 41.3	
	comp=N,111nm,0.2s								
ANWB				IAML				05 35 44.9	
	comp=N,82nm,0.5s								
BPA	**Boggy Peak**	**1.58**	**107**	*e*P		**Pn**		**05 35 16.2**	**+0.1**
BPA				*e*S		**Sn**		**05 35 40.2**	**-1.2**
ANOC	**Antigua Open C**	**1.58**	**104**	*i* P		**Pn**		**05 35 16.3**	**+0.2**
ANOC				*e*S		**Sn**		**05 35 40.0**	**-1.3**
ANDO	**Antigua, Disas**	**1.59**	**105**	*e*P		**Pn**		**05 35 16.3**	**+0.2**
ANDO				*e*S		**Sn**		**05 35 40.3**	**-1.1**
STVI	**Saint Thomas**	**1.66**	**300**	⇑*e*P		**Pn**		**05 35 17.8**	**+0.9**
STVI	**Saint Thomas**	**1.66**	**300**	⇑*e*P		**Pn**		**05 35 17.8**	**+0.9**
STVI				*e*S		**Sn**		**05 35 41.8**	**-1.0**
STVI	**Saint Thomas**	**1.66**	**300**			**Sn**		**05 35 41.6**	**-1.2**
STVI				IAML				05 35 42.1	
	comp=E,82nm,0.6s								
STVI				IAML				05 35 42.7	
	comp=N,116nm,0.4s								
STVI	**Saint Thomas**	**1.66**	**300**			**Pn**		**05 35 17.8**	**+0.9**
ANBD	**Bethesda, Anti**	**1.67**	**106**	*i* P		**Pn**		**05 35 17.1**	**+0.2**
ANBD				*e*S		**Sn**		**05 35 41.4**	**-1.4**
CUPR	**Culebra, Puert**	**1.92**	**294**	⇑*e*P		**Pn**		**05 35 20.2**	**+0.6**
CUPR	**Culebra, Puert**	**1.92**	**294**	*e*S		**Sn**		**05 35 46.9**	**-0.8**
CUPR	**Culebra, Puert**	**1.92**	**294**			**Pn**		**05 35 20.2**	**+0.6**
CUPR	**Culebra, Puert**	**1.92**	**294**			**Sn**		**05 35 46.2**	**-1.4**
CUPR				IAML				05 35 46.9	
	comp=E,51nm,0.7s								
ABD	**La Joyeuse, An**	**2.14**	**119**	*e*P		**Pn**		**05 35 22.5**	**+0.6**
ABD				*e*S		**Sn**		**05 35 50.9**	**-0.8**
HUMP	**Col San Antoni**	**2.38**	**285**	⇑*e*P		**Pn**		**05 35 25.4**	**+0.8**
HUMP	**Col San Antoni**	**2.38**	**285**	⇑*e*P		**Pn**		**05 35 25.4**	**+0.8**
HUMP				*e*S		**Sn**		**05 35 55.8**	**-0.9**
HUMP	**Col San Antoni**	**2.38**	**285**			**Pn**		**05 35 25.4**	**+0.8**
HUMP						**Sn**		**05 35 55.8**	**-0.9**
HUMP	**Col San Antoni**	**2.38**	**285**	IAML				05 36 08.2	
	comp=E,33nm,0.2s								
TBG	**Guadaloupe-3**	**2.39**	**134**	*e*P		**Pn**		**05 35 25.2**	**+0.4**
TDBA	**Terre de Bas,**	**2.40**	**134**	*e*P		**Pn**		**05 35 24.8**	**0.0**
CBYP	**Canovanas**	**2.42**	**288**	⇑*e*P		**Pn**		**05 35 26.7**	**+1.5**
CBYP	**Canovanas**	**2.42**	**288**	⇑*e*P		**Pn**		**05 35 26.7**	**+1.5**
CBYP				*e*S		**Sn**		**05 35 57.2**	**-0.5**
CBYP	**Canovanas**	**2.42**	**288**			**Pn**		**05 35 26.2**	**+1.0**
CBYP						**Sn**		**05 35 57.5**	**-0.2**
PDPR	**Patillas Dam,**	**2.51**	**282**	Pn		**Pn**		**05 35 27.0**	**+0.8**
PDPR				IAML				05 36 55.5	
	comp=E,67nm,1.6s								
MAGL	**Barre de l'ile**	**2.59**	**127**	*e*P		**Pn**		**05 35 27.9**	**+0.8**
GCPR	**Guaynabo City**	**2.64**	**288**	Pn		**Pn**		**05 35 28.7**	**+1.0**
GCPR				IAML				05 35 54.7	
	comp=N,56nm,4.5s								
GCPR				IAML				05 36 01.8	
	comp=E,34nm,0.5s								
SJG	**San Juan**	**2.65**	**283**	Pn		**Pn**		**05 35 27.6**	**-0.2**
DSLB	**Salisbury**	**2.83**	**137**	*e*P		**Pn**		**05 35 30.5**	**+0.5**
ICMP	**Isla Caja de M**	**2.97**	**278**	Pn		**Pn**		**05 35 33.0**	**+1.5**
ICMP				IAML				05 36 58.6	
	comp=E,58nm,0.7s								
ICMP				IAML				05 36 58.6	
	comp=N,57nm,1.7s								
OBIP	**Obispado Ponce**	**3.06**	**280**	Pn		**Pn**		**05 35 31.8**	**-0.9**
MLPR	**Magueyes Islan**	**3.47**	**278**	Pn		**Pn**		**05 35 38.5**	**+0.8**
MLPR				IAML				05 36 29.3	
	comp=N,25nm,2.6s								
MLPR				IAML				05 36 46.7	
	comp=E,24nm,2.5s								
MPR	**Mayaguez**	**3.59**	**282**	Pn		**Pn**		**05 35 40.8**	**+1.5**
AGPR	**Aguadilla, PR**	**3.62**	**286**	Pn		**Pn**		**05 35 39.2**	**-0.4**
BIM	**Bigot**	**3.75**	**142**	*e*P		**Pn**		**05 35 42.3**	**+0.8**
BIM				*e*S		**Sn**		**05 36 26.2**	**-0.7**
BIM	**Bigot**	**3.75**	**142**	Pn		**Pn**		**05 35 41.5**	**+0.1**
MPOM	**Morne Pois Mar**	**3.94**	**141**	*e*P		**Pn**		**05 35 44.7**	**+1.0**
MPOM				*e*S		**Sn**		**05 36 29.6**	**-1.3**
SDDR	**Presa de Saban**	**7.60**	**282**	Pn		**Pn**		**05 36 32.6**	**+1.1**

*KRNET **08** 05:47:41.4±0.1, 40°.52N×80°.05E, mb2.8*
*SOME **08** 05:47:43.7, 41°.13N×80°.23E, h15km*
*NNC **08** 05:47:46.8±2.4, 41°.25N×80°.12E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=22.2km s-min=16.0km az=71.0*
ISC 08 05:47:42.2±2.8, 41°.0N±0°.1×80°.3E±0°.1, h10km, n15, σ1§18/25, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.27**	**345**	*e*P		**Pb**		**05 48 21.7**	**-1.6**
	16nm,0.1s								
SHLS				*e*S		**Sn**		**05 48 49.0**	**+1.0**
	13nm,0.2s								
SHLS	**Shalkode**	**2.27**	**345**	Pg		**Pb**		**05 48 21.7**	**-1.6**
	16nm,0.1s								
SHLS				Lg		Lg		05 48 48.9	
	13nm,0.2s								
UZB	**Uzynbulak**	**2.37**	**337**	*e*P		**Pb**		**05 48 23.9**	**-1.1**
	4.1nm,0.2s								
UZB				*e*S		**Sb**		**05 48 52.8**	**-1.5**
	6.3nm,0.7s								
UZB	**Uzynbulak**	**2.37**	**337**	Pg		**Pb**		**05 48 23.9**	**-1.1**
	4.1nm,0.2s								
UZB				Lg		Lg		05 48 52.8	
	6.3nm,0.7s								
PDGK	**Podgornoye**	**2.43**	**347**	⇓Pn		**Pb**		**05 48 25.2**	**-0.8**
	3.7nm,0.3s								
PDGK				⇓Lg		Lg		05 48 54.4	
	6.0nm,0.4s								
KTMS	**Ketmen**	**2.48**	**1**	*e*P		**Pb**		**05 48 26.4**	**-0.4**
	0.2nm,0.1s								
KTMS				*e*S		**Sb**		**05 48 57.3**	**-0.2**
	16nm,0.5s								
KTMS	**Ketmen**	**2.48**	**1**	Pg		**Pb**		**05 48 26.4**	**-0.4**
	0.2nm,0.1s								
KTMS				Lg		Lg		05 48 57.3	
	16nm,0.5s								
SATY	**Saty**	**2.51**	**327**	*e*P		**Pb**		**05 48 27.4**	**0.0**
	2.7nm,0.2s								
SATY				*e*S		**Sb**		**05 48 58.9**	**+0.6**
	5.4nm,0.2s								
SATY	**Saty**	**2.51**	**327**	Pg		**Pb**		**05 48 27.4**	**0.0**
	2.7nm,0.2s								
SATY				Lg		Lg		05 48 58.9	
	5.4nm,0.2s								
KDJ	**Kajisay**	**2.59**	**298**	⇑*e*P		**Pn**		**05 48 25.7**	**+1.4**
	baz=8.0								
KDJ				⇑*i*S		**Sn**		**05 48 58.0**	**+2.1**
	baz=8.0								
ANVS	**Anan'yevo**	**2.66**	**314**	⇑*i*P		**Pb**		**05 48 28.3**	**-1.6**
	baz=22								
ANVS				⇑*i*S		**Sb**		**05 49 02.8**	**+0.1**
	baz=22								
KPKS	**Kokpek**	**2.76**	**335**	*e*P		**Pb**		**05 48 30.7**	**-0.9**
	14nm,0.2s								
KPKS				*e*S		**Sb**		**05 49 04.7**	**-0.9**
	14nm,0.4s								
DJR	**Jarkent**	**3.38**	**354**	*e*P		**Pb**		**05 48 41.5**	**-0.8**
	0.1nm,0.3s								
DJR				*e*S		**Sb**		**05 49 23.1**	**-0.3**
	0.5nm,0.3s								
BOOM	**Boomskoye usch**	**3.58**	**297**	⇑*i*P		**Pn**		**05 48 39.2**	**+1.3**
	baz=4.0								
BOOM				⇑*i*S		**Sn**		**05 49 21.3**	**+1.1**
	baz=4.0								
ARLS	**Aral**	**4.56**	**283**	⇑*i*P		**Pn**		**05 48 51.3**	**0.0**
	baz=89								
ARLS				⇑*i*S		**Sn**		**05 49 42.4**	**-2.0**
	baz=89								

JMA 08 06:01:09.0±0.1, 41°.49N×141°.97E, h65km±3km, 1C-12D
Broadband fault plane solution: P waves. NP1:
ϕ±201.00000°, δ14.00000°, λ90.00000°. **NP2:** ϕ±21.00000°, δ76.00000°, λ90.00000°. **Principal axes:** T Plg59.0000°, Azm291.0000°; N Plg0.0000°, Azm21.0000°; P Plg31.0000°, Azm111.0000°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.53**	**245**	⇓P		**Pn**		06 01 21.9	+0.3
JARK	**Aomorirokkasho**	**0.66**	**224**	⇓P		**Pn**		06 01 22.9	-0.2
JARK				*e*S		**Sn**		06 01 33.4	-0.1
JOT	**Ohata**	**0.70**	**261**	⇓P		**Pn**		06 01 23.6	+0.1
JKB	**Kayabe**	**0.81**	**300**	⇓P		**Pn**		06 01 24.7	-0.1
JKB				*e*S		**Sn**		06 01 36.9	+0.4
JTM	**Tenmabayashi**	**0.98**	**224**	⇓P		**Pn**		06 01 27.3	+0.3
JTM				*e*S		**Sn**		06 01 41.2	+0.9
JTM	**Tenmabayashi**	**0.98**	**224**			**Pn**		06 01 27.3	+0.4
JNBK	**Urakawa-nobuka**	**0.98**	**36**	⇑P		**Pn**		06 01 26.5	-0.5
JEM	**Erimo**	**1.03**	**59**	P		**Pn**		06 01 27.7	+0.1
JEM				*e*S		**Sn**		06 01 42.0	+0.5
JIAM	**Iburiatsuma**	**1.13**	**358**	⇓P		**Pn**		06 01 29.9	+1.0
JSR	**Shiriuchi**	**1.17**	**272**	⇓P		**Pn**		06 01 29.7	+0.3
JANG	**Nango**	**1.17**	**197**	P		**Pn**		06 01 29.2	-0.2
JANG				*e*S		**Sn**		06 01 45.3	+0.7
JNB	**Noboribetsu**	**1.20**	**325**	⇓P		**Pn**		06 01 29.5	-0.3
JBT2	**Biratori 2**	**1.32**	**13**	⇓P		**Pn**		06 01 31.9	+0.5
JYM2	**Yakumo 2**	**1.35**	**298**	⇓P		**Pn**		06 01 32.5	+0.7
JEW	**Eniwo**	**1.40**	**344**	⇓P		**Pn**		06 01 33.1	+0.6
JEW	**Eniwo**	**1.40**	**344**	Pn		**Pn**		06 01 33.2	+0.7
JOMM	**Oshimamatsumae**	**1.48**	**272**	⇓P		**Pn**		06 01 33.7	+0.3
JCH	**Churui**	**1.53**	**42**	P		**Pn**		06 01 35.1	+0.9
JFR	**Furan**	**1.73**	**15**	P		**Pn**		06 01 37.3	+0.3
JOSM	**Okushiri--Mats**	**1.96**	**288**	P		**Pn**		06 01 40.0	+0.1
SPIA	**Saint Paul Isl**	**34.06**	**46**	P				06 07 45.5	
	baz=264								
GAMB	**Gambell**	**34.74**	**34**	P				06 07 53.5	
	baz=252								
TNA	**Tin City**	**36.81**	**32**	P				06 08 11.4	
	baz=254								
ANM	**Nome**	**37.62**	**34**	P				06 08 18.0	
	baz=258								
RDOG	**Red Dog Mine**	**39.37**	**29**	P				06 08 33.3	
	baz=256								
SDPT	**Sand Point**	**39.47**	**49**	P				06 08 33.4	
	baz=274								
TTA	**Tatalina**	**41.57**	**38**	P				06 08 50.7	
	baz=269,SNR=49								
TTA				S				06 15 03.6	
	baz=269								
A21K	**Barrow**	**42.22**	**25**	P				06 08 54.9	
	baz=259,SNR=58								
A21K				S				06 15 07.6	
	baz=259								
SII	**Sitkinak Islan**	**42.87**	**47**	P				06 09 00.9	
	baz=278								
SII				S				06 15 21.7	
	baz=278								
H21K	**Melozitna Rive**	**43.02**	**33**	P				06 09 02.7	
	baz=269,SNR=42								
H21K				S				06 15 25.9	
	baz=269								
CHUM	**Lake Minchumin**	**43.23**	**36**	P				06 09 04.3	
	baz=271,SNR=11								
CHUM				S				06 15 28.8	
	baz=271								
OHAK	**Old Harbor**	**43.27**	**46**	P				06 09 04.2	
	baz=278								
OHAK				S				06 15 26.2	
	baz=278								
PPLA	**Purkeypile**	**43.32**	**38**	P				06 09 06.2	
	baz=272,SNR=39								
PPLA				S				06 15 31.2	
	baz=272								
SPCR	**Spurr Chakacha**	**43.41**	**40**	P				06 09 06.3	
	baz=274								
SPCR				S				06 15 32.4	
	baz=274								
KDAK	**Kodiak Island**	**43.57**	**45**	P				06 09 06.5	
	baz=278								
KDAK				S				06 15 30.7	
	baz=278								
SKT	**Skwentna**	**43.68**	**39**	P				06 09 08.1	
	baz=274,SNR=6.1								
SKT				S				06 15 36.2	
	baz=274								
BPAW	**Bear Paw Mtn.**	**43.81**	**36**	P				06 09 09.6	
	baz=272,SNR=60								
BPAW				S				06 15 37.3	
	baz=272								
HOM	**Homer**	**43.83**	**42**	P				06 09 09.3	
	baz=276								
HOM				S				06 15 32.4	
	baz=276								
MLY	**Manley**	**43.89**	**34**	P				06 09 10.1	
	baz=271,SNR=84								
MLY				S				06 15 39.1	
	baz=271								
CAPN	**Captain Cook N**	**43.96**	**41**	P				06 09 09.3	
	baz=276								
COLD	**Coldfoot**	**44.09**	**31**	P				06 09 11.0	
	baz=270,SNR=46								
COLD				S				06 15 38.6	
	baz=270								
SUA	**Susitna One**	**44.09**	**40**	P				06 09 11.9	
	baz=275								
TRF	**Thorofare Moun**	**44.15**	**37**	P				06 09 12.1	
	baz=274,SNR=25								
TRF				S				06 15 43.0	
	baz=274								
CUT	**Chulitna**	**44.24**	**38**	P				06 09 11.9	
	baz=275								
BRSE	**Bradley Lake S**	**44.28**	**42**	P				06 09 12.3	
	baz=277								
BRSE				S				06 15 38.0	
	baz=277								
TOLK	**Toolik Lake Re**	**44.34**	**29**	P				06 09 12.7	

H24K				S	06 15 56.4	
	baz=273					
TCOL	**CIGO, UAF Yank**	**45.12**	**35**	P	06 09 19.9	
	baz=274,SNR=26					
TCOL				S	06 15 56.5	
	baz=274					
COLA	**College**	**45.12**	**35**	P	06 09 19.8	
	baz=274					
COLA				S	06 15 56.5	
	baz=274					
KNK	**Knik Glacier**	**45.19**	**39**	P	06 09 20.1	
	baz=277,SNR=9.9					
KNK				S	06 15 54.6	
	baz=277					
SML	**Sawmill**	**45.20**	**39**	P	06 09 20.1	
	baz=277,SNR=30					
SML				S	06 15 58.0	
	baz=277					
POKR	**Poker Plat Res**	**45.28**	**34**	P	06 09 21.5	
	baz=274,SNR=24					
POKR				S	06 15 57.8	
	baz=274					
WAT6	**Susitna Watana**	**45.39**	**38**	P	06 09 21.5	
	baz=277,SNR=14					
WAT6				S	06 15 59.1	
	baz=277					
HDA	**Harding Lake**	**45.55**	**35**	P	06 09 22.2	
	baz=275,SNR=47					
HDA				P	06 09 22.2	
	baz=275,SNR=47					
HDA				S	06 16 00.8	
	baz=275					
HDA				S	06 16 00.8	
	baz=275					
GLI	**Glacier Island**	**45.92**	**40**	P	06 09 25.4	
	baz=279,SNR=6.4					
GLI				S	06 16 06.2	
	baz=279					
PRP	**Porcupine Dome**	**46.05**	**34**	P	06 09 27.4	
	baz=276,SNR=52					
PRP				S	06 16 08.5	
	baz=276					
M24K	**Tolsona, Glenn**	**46.17**	**38**	P	06 09 28.7	
	baz=278,SNR=14					
M24K				S	06 16 13.7	
	baz=278					
PAX	**Paxson**	**46.38**	**37**	P	06 09 30.0	
	baz=278,SNR=14					
PAX				S	06 16 14.8	
	baz=278					
KLU	**Klutina**	**46.38**	**39**	P	06 09 29.6	
	baz=279,SNR=14					
KLU				S	06 16 14.5	
	baz=279					
Q23K	**Middleton Isla**	**46.53**	**42**	S	06 16 17.3	
	baz=281					
HARP	**HAARP**	**46.60**	**38**	P	06 09 31.6	
	baz=279,SNR=17					
HARP				S	06 16 19.5	
	baz=279					
EYAK	**Cordova Ski Ar**	**46.63**	**40**	P	06 09 31.6	
	baz=280					
EYAK				S	06 16 17.2	
	baz=280					
SCRK	**Sand Creek**	**46.89**	**36**	P	06 09 32.9	
	baz=278,SNR=98					
SCRK				S	06 16 19.2	
	baz=278					
N25K	**Chitina, Valde**	**46.99**	**39**	P	06 09 34.8	
	baz=280,SNR=9.8					
N25K				S	06 16 23.4	
	baz=280					
BMRM	**Bremner River**	**47.10**	**40**	P	06 09 35.3	
	baz=281,SNR=8.4					
BMRM				S	06 16 26.0	
	baz=281					
K27K	**Chicken**	**47.71**	**35**	P	06 09 40.1	
	baz=280					
K27K				S	06 16 33.2	
	baz=280					
MCARA	**McCarthy VSAT**	**47.78**	**39**	P	06 09 40.6	
	baz=282,SNR=13					
MCARA				S	06 16 34.9	
	baz=282					
CRQE	**Cirque**	**47.87**	**40**	P	06 09 41.6	
	baz=282,SNR=5.9					
EGAK	**Eagle**	**47.98**	**34**	P	06 09 41.6	
	baz=280,SNR=60					
EGAK				S	06 16 35.6	
	baz=280					
L27K	**Beaver Creek,**	**48.00**	**37**	P	06 09 42.2	
	baz=281,SNR=57					
L27K				S	06 16 37.9	
	baz=281					
MESA	**MESA**	**48.55**	**40**	P	06 09 45.9	
	baz=283					
CTG	**Chitna Glacier**	**48.66**	**39**	P	06 09 47.7	
	baz=283,SNR=12					
CTG				S	06 16 46.4	
	baz=283					
PINM	**Pinnacle**	**49.40**	**40**	P	06 09 52.8	
	baz=285					
PINM				S	06 16 56.6	
	baz=285					
EPYK	**Eagle Plains**	**49.48**	**32**	P	06 09 53.5	
	baz=282					
EPYK				S	06 16 57.2	
	baz=282					
INK	**Inuvik**	**50.25**	**29**	P	06 09 59.4	
	baz=283,SNR=160					
INK				S	06 17 07.3	
	baz=283					
WHY	**Whitehorse**	**51.79**	**38**	P	06 10 11.6	
	baz=288,SNR=16					
WHY				S	06 17 34.0	
	baz=288					
SIT	**Sitka**	**52.78**	**43**	P	06 10 18.4	
	baz=291					
SIT				S	06 17 46.8	
	baz=291					
C36M	**Paulatuk**	**53.23**	**26**	P	06 10 21.0	
	baz=291,SNR=52					
C36M				S	06 17 47.1	
	baz=291					
CRAG	**Craig**	**54.51**	**44**	S	06 18 09.6	
	baz=293					
WRAK	**Wrangell Islan**	**54.54**	**43**	P	06 10 32.0	
	baz=293					
WRAK				S	06 18 11.9	
	baz=293					
A04D	**Lummi Island**	**63.36**	**48**	P	06 11 32.5	
	baz=303					
A04D				S	06 20 01.4	
	baz=303					
D03D	**Eldon**	**63.80**	**49**	P	06 11 35.6	
	baz=304					
D03D				S	06 20 07.3	
	baz=304					
B05A	**Bryant**	**63.95**	**48**	P	06 11 35.5	
	baz=304					
B05A				S	06 20 07.9	
	baz=304					
E04D	**Cinebar**	**64.64**	**49**	P	06 11 41.3	
	baz=304					
E04D				S	06 20 17.9	
	baz=304					
F04D	**Rainier, OR**	**64.65**	**50**	S	06 20 20.9	
	baz=304					
C06D	**Leavenworth**	**64.81**	**48**	S	06 20 19.0	
	baz=305					
F05D	**White Salmon**	**65.66**	**50**	P	06 11 48.9	
	baz=305					
F05D				S	06 20 29.1	
	baz=305					
H04D	**Lebanon**	**65.69**	**51**	P	06 11 47.5	
	baz=305					
H04D				S	06 20 31.9	
	baz=305					
J01E	**Myrtle Point**	**65.76**	**53**	P	06 11 50.4	
	baz=305					
I03D	**Drain, OR**	**65.80**	**52**	P	06 11 49.9	
	baz=305					
I03D				S	06 20 33.9	
	baz=305					
G05D	**Wamic, OR**	**66.11**	**50**	P	06 11 53.2	
	baz=305					
G05D				S	06 20 36.6	
	baz=305					
K02D	**Willamette Mer**	**66.19**	**53**	P	06 11 53.5	
	baz=305					
L02E	**Cave Junction**	**66.53**	**54**	P	06 11 55.0	
	baz=305					
L02E				S	06 20 43.7	
	baz=305					
I05D	**Terrebonne, OR**	**66.62**	**51**	P	06 11 54.8	
	baz=306					
I05D				S	06 20 43.3	
	baz=306					
NEW	**Newport**	**66.67**	**46**	P	06 11 53.0	
	baz=307,SNR=7.9					
NEW				S	06 20 41.9	
	baz=307					
J04D	**Umpqua Nationa**	**66.80**	**52**	P	06 11 56.3	
	baz=306					
J04D				S	06 20 44.9	
	baz=306					
L04D	**Klamath Falls**	**67.28**	**53**	P	06 11 57.6	
	baz=306,SNR=7.0					
L04D				S	06 20 48.8	
	baz=306					
K04D	**Chiloquin, OR**	**67.38**	**53**	P	06 11 59.0	
	baz=306					
K04D				S	06 20 52.4	
	baz=306					
M02C	**Callahan**	**67.44**	**54**	P	06 11 57.6	
	baz=306					
M02C				S	06 20 51.9	
	baz=306					
N02D	**Trinity Center**	**67.77**	**55**	P	06 12 00.5	
	baz=306,SNR=11					
N02D				S	06 20 55.7	
	baz=306					
M04C	**Macdoel**	**67.82**	**53**	P	06 12 01.7	
	baz=306,SNR=8.6					
M04C				S	06 20 59.0	
	baz=306					
O02D	**Mt. Diablo Mer**	**68.19**	**55**	P	06 12 03.3	
	baz=306,SNR=8.9					
O02D				S	06 21 01.7	
	baz=306					
O03E	**Paynes Creek**	**68.73**	**55**	P	06 12 06.6	
	baz=307,SNR=17					
O03E				S	06 21 06.4	
	baz=307					
MSO	**Missoula**	**69.25**	**45**	P	06 12 09.6	
	baz=309					
MSO				S	06 21 12.4	
	baz=309					
EGMT	**Eagleton**	**70.67**	**42**	P	06 12 18.1	
	baz=311,SNR=17					
EGMT				S	06 21 28.2	
	baz=311					
HLID	**Hailey**	**71.06**	**48**	P	06 12 21.0	
	baz=310,SNR=23					
HLID				S	06 21 34.9	
	baz=310					
MLAC	**Mammoth, Mammo**	**72.19**	**55**	S	06 21 49.8	
	baz=309					
H17A	**Grant Village**	**72.63**	**46**	P	06 12 30.7	
	baz=311,SNR=35					
H17A				S	06 21 58.6	
	baz=311					
RLMT	**Red Lodge**	**72.84**	**45**	P	06 12 31.9	
	baz=312,SNR=11					
RLMT				S	06 21 53.1	
	baz=312					
SMMC	**Simmler**	**72.91**	**58**	P	06 12 33.0	
	baz=309					
TIN	**Tinemaha, Big**	**72.92**	**56**	S	06 21 56.3	
	baz=309					
VES	**Vestal, Richgr**	**73.15**	**57**	S	06 21 58.6	
	baz=309					
PKM	**Mcpherson Peak**	**73.29**	**58**	P	06 12 34.9	
	baz=309					
PKM				S	06 22 01.1	
	baz=309					
LAO	**LASA Array**	**73.35**	**42**	P	06 12 34.6	
	baz=313,SNR=8.7					
LAO				S	06 21 59.8	
	baz=313					
CWC	**Cottonwood Cre**	**73.40**	**56**	S	06 22 01.7	
	baz=310					
GRAC	**Grapevine Rang**	**73.49**	**55**	P	06 12 37.1	
	baz=310					
GRAC				S	06 22 03.0	
	baz=310					
SBC	**Santa Barbara**	**73.64**	**58**	P	06 12 35.9	
	baz=309					
ISA	**Isabella, Lake**	**73.65**	**57**	S	06 22 02.8	
	baz=310					
R11A	**Troy Canyon, C**	**73.71**	**53**	P	06 12 37.1	
	baz=310,SNR=18					
R11A				S	06 22 03.4	
	baz=310					
ARVC	**Arvin**	**73.77**	**57**	S	06 22 04.7	
	baz=310					
SCZ2	**Santa Cruz Isl**	**73.97**	**59**	P	06 12 38.9	
	baz=310					
FURC	**Furnace Creek,**	**74.14**	**55**	S	06 22 07.7	
	baz=310					
DUG	**Dugway, Tooele**	**74.14**	**50**	P	06 12 39.8	
	baz=311,SNR=20					
DUG				S	06 22 10.1	
	baz=311					
OSI	**Osito Audit: C**	**74.16**	**58**	P	06 12 40.7	
	baz=310					
OSI				S	06 22 10.8	
	baz=310					
TPNV	**Topopah Spring**	**74.21**	**55**	P	06 12 40.2	
	baz=310					
TPNV				S	06 22 11.4	
	baz=310					
BW06	**Boulder Array**	**74.26**	**47**	P	06 12 40.1	
	baz=312,SNR=24					
BW06				S	06 22 10.8	
	baz=312					
LRMC	**Laurel Mtn Rad**	**74.26**	**57**	S	06 22 11.4	
	baz=310					
EDW2	**Edwards Air Fo**	**74.45**	**57**	S	06 22 12.1	
	baz=310					
SNCC	**San Nicolas Is**	**74.51**	**59**	S	06 22 15.0	
	baz=310					
DECC	**Green Verdugo**	**74.64**	**58**	S	06 22 13.2	
	baz=310					
SHOC	**Shoshone, Teco**	**74.87**	**55**	S	06 22 17.0	
	baz=310					
GSC	**Goldstone, Bar**	**74.93**	**56**	P	06 12 46.5	
	baz=310					
GSC				S	06 22 18.6	
	baz=310					
BFSC	**Mount Baldy Ra**	**75.07**	**57**	S	06 22 19.5	
	baz=310					
CIS	**Catalina Islan**	**75.13**	**59**	S	06 22 19.8	
	baz=310					
SCI2	**San Clemente I**	**75.31**	**59**	P	06 12 48.1	
	baz=310					
TUQ	**Turquoise Moun**	**75.39**	**56**	P	06 12 47.4	
	baz=311					
TUQ				S	06 22 24.2	
	baz=311					
BBRC	**Big Bear Solar**	**75.53**	**57**	P	06 12 49.0	
	baz=311					
BBRC				S	06 22 23.3	
	baz=311					
HEC	**Hector,Ludlow**	**75.53**	**56**	P	06 12 48.6	
	baz=311					
HEC				S	06 22 25.0	
	baz=311					
MDND	**Maddock**	**75.71**	**38**	P	06 12 48.6	
	baz=317					
MDND				S	06 22 23.6	
	baz=317					
MURC	**Murrieta**	**75.78**	**58**	P	06 12 48.7	
	baz=311					
MURC				S	06 22 27.8	
	baz=311					
GMRC	**Granite Mounta**	**75.98**	**56**	P	06 12 51.5	
	baz=311					
GMRC				S	06 22 30.1	
	baz=311					
K22A	**Casper**	**75.98**	**45**	P	06 12 49.8	
	baz=314,SNR=8.6					
K22A				S	06 22 26.9	
	baz=314					
PFO	**Pinyon Flats O**	**76.24**	**57**	P	06 12 51.0	
	baz=311					
PFO				S	06 22 31.2	
	baz=311					
RSSD	**Black Hills**	**76.24**	**43**	P	06 12 51.7	
	baz=315					
RSSD				S	06 22 30.9	
	baz=315					
TPFO	**Pinon Flats**	**76.25**	**57**	P	06 12 51.0	
	baz=311					
TPFO				S	06 22 31.2	
	baz=311					
BELC	**Belle Mtn. Jos**	**76.28**	**57**	P	06 12 52.2	
	baz=311					
BELC				S	06 22 32.3	
	baz=311					
109C	**Camp Elliot, M**	**76.30**	**58**	S	06 22 33.7	
	baz=311					
NEE2	**Needles Airpor**	**76.63**	**55**	P	06 12 54.9	
	baz=312					
NEE2				S	06 22 37.6	
	baz=312					
IRM	**Iron Mountain**	**76.71**	**56**	P	06 12 55.0	
	baz=311					
IRM				S	06 22 37.6	
	baz=311					
MONP2	**Monument Peak**	**76.73**	**58**	P	06 12 55.2	
	baz=311					
MONP2				S	06 22 39.1	
	baz=311					
O20A	**White River Ci**	**76.78**	**48**	P	06 12 54.5	
	baz=314,SNR=15					
O20A				S	06 22 37.0	
	baz=314					
BC3	**Big Chuckawall**	**76.84**	**57**	P	06 12 56.1	
	baz=311,SNR=12					
BC3				S	06 22 37.6	
	baz=311					
AGMN	**Agassiz Nation**	**77.05**	**35**	P	06 12 56.5	
	baz=319					
AGMN				S	06 22 38.3	
	baz=319					
IKP	**In-Ko-Pah, Jac**	**77.09**	**58**	P	06 12 55.8	
	baz=311					
SWSC	**Sam W. Stewart**	**77.09**	**57**	P	06 12 56.2	
	baz=311					
SWSC				S	06 22 43.2	
	baz=311					
PDMCI	**Parker Dam,Lak**	**77.23**	**55**	P	06 12 58.3	
	baz=312					
PDMCI				S	06 22 44.4	
	baz=312					
N23A	**Red Feather La**	**77.51**	**46**	P	06 12 59.3	
	baz=315,SNR=17					
N23A				S	06 22 46.6	
	baz=315					
GLA	**Glamis**	**77.64**	**57**	P	06 12 58.2	
	baz=312					
GLA				S	06 22 47.9	
	baz=312					
WUAZ	**Wupatki**	**78.11**	**53**	P	06 13 02.2	
	baz=313,SNR=12					
WUAZ				S	06 22 55.1	
	baz=313					
ISCO	**Idaho Springs**	**78.46**	**47**	P	06 13 03.7	
	baz=315,SNR=11					
ISCO				S	06 22 56.5	
	baz=315					
SUSD	**Miller**	**78.52**	**40**	P	06 13 03.6	
	baz=318,SNR=5.6					
SUSD				S	06 22 52.9	
	baz=318					
MVCO	**Mesa Verde**	**78.64**	**50**	P	06 13 05.0	
	baz=314,SNR=8.9					
MVCO				S	06 22 57.6	
	baz=314					
EYMN	**Ely**	**79.17**	**33**	P	06 13 06.5	
	baz=322,SNR=12					
EYMN				S	06 22 59.3	
	baz=322					
S22A	**4UR Ranch, Cre**	**79.23**	**49**	P	06 13 07.7	
	baz=315,SNR=13					
S22A				S	06 23 06.2	
	baz=315					
Q24A	**Divide**	**79.30**	**47**	P	06 13 08.9	
	baz=315					
Q24A				S	06 23 06.2	
	baz=315					
W18A	**Petrified Fore**	**79.36**	**52**	P	06 13 08.3	
	baz=314					
W18A				S	06 23 08.3	
	baz=314					
OGNE	**Ogallala**	**79.55**	**44**	P	06 13 09.8	
	baz=317					
OGNE				S	06 23 04.5	
	baz=317					
214A	**Organ Pipe Nat**	**79.63**	**56**	P	06 13 11.1	
	baz=313,SNR=11					
214A				S	06 23 09.0	
	baz=313					
SDCO	**Great Sand Dun**	**79.97**	**48**	P	06 13 11.1	
	baz=315,SNR=12					
SDCO				S	06 23 12.8	
	baz=315					
ECSD	**EROS Data Cent**	**80.17**	**39**	P	06 13 11.8	
	baz=320,SNR=24					
ECSD				S	06 23 10.3	
	baz=320					
KSCO	**Kaye Shedlock'**	**80.64**	**46**	P	06 13 16.8	
	baz=317					
KSCO				S	06 23 16.7	
	baz=317					
TUC	**Tucson**	**80.65**	**55**	P	06 13 17.4	
	baz=314					
TUC				S	06 23 21.2	
	baz=314					
SPMN	**Marine on St.**	**80.75**	**36**	P	06 13 16.9	
	baz=322					
SPMN				S	06 23 17.2	
	baz=322					
T25A	**Trinidad**	**81.01**	**48**	P	06 13 17.8	
	baz=316,SNR=13					
T25A				S	06 23 23.4	
	baz=316					
BGNE	**Belgrade**	**81.18**	**41**	P	06 13 20.3	
	baz=319					
BGNE				S	06 23 21.2	
	baz=319					
ANMO	**Albuquerque**	**81.41**	**51**	P	06 13 21.3	
	baz=315					
ANMO				S	06 23 26.8	
	baz=315					
Y22D	**IRIS PASSCAL I**	**81.75**	**51**	P	06 13 21.1	
	baz=315					
Y22D				S	06 23 33.7	
	baz=315					
CBKS	**Cedar Bluff**	**82.31**	**44**	P	06 13 23.9	
	baz=318					
CBKS				S	06 23 33.6	
	baz=318					
121A	**Cookes Peak, D**	**82.32**	**53**	P	06 13 25.0	
	baz=315,SNR=11					
121A				S	06 23 38.4	
	baz=315					
MATQ	**Matagami**	**82.70**	**25**	P	06 13 26.6	
	baz=331					
MATQ				S	06 23 36.6	
	baz=331					
SCIA	**State Center**	**83.17**	**38**	P	06 13 29.2	
	baz=322					
SCIA				S	06 23 42.5	
	baz=322					
LSQQ	**Lebel-sur-Quev**	**83.53**	**25**	P	06 13 30.5	
	baz=332					
CHGQ	**Chibougamau**	**83.55**	**23**	P	06 13 30.1	
	baz=333,SNR=10					
CHGQ				S	06 23 46.0	
	baz=333					
KSU1	**Kansas State U**	**83.70**	**42**	P	06 13 32.0	
	baz=320					
KSU1				S	06 23 45.7	
	baz=320					
JFWS	**Jewell Farm**	**83.71**	**36**	P	06 13 31.3	
	baz=323					
JFWS				S	06 23 46.5	
	baz=323					
MSTX	**Muleshoe**	**84.22**	**49**	P	06 13 35.2	
	baz=317					
MSTX				S	06 23 54.5	
	baz=317					

MNTX	**Cornudas Mount** baz=316,SNR=14	**84.35**	**52**	P	06 13 35.5
MNTX				S	06 23 57.7
GLMI	**Grayling** baz=316	**84.48**	**31**	P	06 13 35.8
L44A	**Lake County Fo** baz=327	**85.32**	**35**	P	06 13 39.8
L44A				S	06 24 01.8
D55A	**Sainte-Anne-du** baz=325	**85.80**	**25**	P	06 13 41.2
D55A				S	06 24 06.6
WMOK	**Wichita Mounta** baz=333,SNR=7.4	**85.87**	**46**	P	06 13 42.0
WMOK				S	06 24 09.8
ALGO	**Algonquin Park** baz=319	**85.90**	**27**	P	06 13 41.5
ALGO				S	06 24 07.6
D56A	**ZEC Mazanza, M** baz=331	**86.00**	**24**	P	06 13 43.0
D56A				S	06 24 09.3
HDIL	**Hopedale** baz=333,SNR=13	**86.03**	**37**	P	06 13 43.7
E55A	**Montcerf-Lytto** baz=324	**86.12**	**25**	P	06 13 43.0
E55A				S	06 24 09.9
LATQ	**La Tuque** baz=332	**86.29**	**23**	P	06 13 44.8
LATQ				S	06 24 11.1
E56A	**St. Veronique** baz=335	**86.36**	**25**	P	06 13 45.0
E56A				S	06 24 13.2
G54A	**Lake Saint Pet** baz=333,SNR=7.7	**86.38**	**27**	P	06 13 44.2
G54A				S	06 24 11.6
D58A	**Chemin du LacG** baz=331	**86.52**	**23**	P	06 13 45.2
D58A				S	06 24 14.8
TUL1	**Leonard** baz=335,SNR=5.8	**86.56**	**43**	P	06 13 46.4
TUL1				S	06 24 17.0
D59A	**Saint-Raymond** baz=321	**86.91**	**22**	P	06 13 48.5
D59A				S	06 24 17.5
H53A	**Bobcaygeon** baz=335	**86.93**	**28**	P	06 13 47.6
H53A				S	06 24 16.8
AAM	**Ann Arbor** baz=331	**86.97**	**32**	P	06 13 47.6
AAM				S	06 24 19.2
ABTX	**Abilene, Hawle** baz=328	**86.98**	**48**	P	06 13 48.2
ABTX				S	06 24 22.1
E58A	**La Victoria** baz=319	**87.06**	**24**	P	06 13 48.2
E58A				S	06 24 21.2
F57A	**Harrington** baz=334,SNR=8.5	**87.12**	**25**	S	06 24 20.7
SFIN	**Lafayette** baz=333	**87.14**	**35**	P	06 13 48.4
SFIN				S	06 24 21.3
D61A	**St Aubert, Com** baz=326	**87.19**	**21**	P	06 13 48.5
D61A				S	06 24 23.1
D60A	**Saint Jean D'O** baz=336	**87.25**	**22**	P	06 13 48.3
D60A				S	06 24 21.7
F58A	**St-Lin Laurent** baz=336,SNR=10	**87.35**	**24**	S	06 24 23.9
E60A	**Ste Agathe de** baz=334	**87.60**	**22**	P	06 13 50.4
D62A	**Allapoint, All** baz=336	**87.60**	**21**	P	06 13 50.5
D62A				S	06 24 25.5
G57A	**Newington** baz=337,SNR=12	**87.66**	**25**	P	06 13 50.9
G57A				S	06 24 26.2
F59A	**Saint Guilaume** baz=333,SNR=5.9	**87.67**	**24**	P	06 13 50.1
F59A				S	06 24 26.7
U40A	**Yellville** baz=335	**87.70**	**41**	P	06 13 51.1
U40A				S	06 24 27.1
E61A	**Lac Etchemin** baz=322,SNR=14	**87.81**	**22**	P	06 13 51.8
E61A				S	06 24 28.2
F60A	**Warwick** baz=336	**87.81**	**23**	P	06 13 51.8
F60A				S	06 24 28.2
D63A	**Stockholm** baz=335	**87.89**	**20**	P	06 13 52.5
D63A				S	06 24 29.4
E62A	**Clayton Lake** baz=338	**87.90**	**21**	P	06 13 51.7
E62A				S	06 24 29.4
G58A	**Ormstown** baz=337,SNR=5.1	**87.92**	**25**	P	06 13 52.3
G58A				S	06 24 28.3
F61A	**St Evariste** baz=334	**88.09**	**22**	P	06 13 52.9
F61A				S	06 24 31.2
H57A	**Richville** baz=336,SNR=9.9	**88.10**	**26**	P	06 13 53.6
H57A				S	06 24 29.6
W39A	**Magazine** baz=333	**88.14**	**43**	P	06 13 53.7
W39A				S	06 24 31.8
E63A	**Oxbow** baz=322	**88.38**	**20**	P	06 13 53.8
E63A				S	06 24 33.0
F62A	**Pittston Farm,** baz=338	**88.45**	**22**	P	06 13 54.4
F62A				S	06 24 34.5
I57A	**Carthage** baz=337,SNR=6.4	**88.48**	**26**	P	06 13 54.3
I57A				S	06 24 33.1
H59A	**Cadyville** baz=333	**88.48**	**25**	P	06 13 55.4
H59A				S	06 24 35.6
G60A	**Masonville** baz=334	**88.49**	**24**	P	06 13 55.7
G60A				S	06 24 34.8
JCT	**Junction City** baz=335	**88.49**	**50**	P	06 13 56.5
JCT				S	06 24 36.1
H58A	**Gabriels** baz=319	**88.53**	**25**	P	06 13 53.8
H58A				S	06 24 35.0
E64A	**Bridgewater** baz=334,SNR=6.0	**88.54**	**20**	P	06 13 54.8
E64A				S	06 24 33.7
ERPA	**Erie** baz=338,SNR=5.6	**88.55**	**30**	P	06 13 56.4
ERPA				S	06 24 35.6
G61A	**St-Isidore-de-** baz=330	**88.56**	**23**	P	06 13 54.9
G61A				S	06 24 35.1
J56A	**Wolcott** baz=336,SNR=8.8	**88.66**	**27**	P	06 13 55.6
J56A				S	06 24 34.8
WHTX	**Lake Whitney,** baz=332	**88.67**	**47**	P	06 13 56.6
WHTX				S	06 24 38.5
MIAR	**Mount Ida** baz=320	**88.76**	**43**	P	06 13 56.4
MIAR				S	06 24 38.5
J57A	**Williamstown** baz=322,SNR=14	**88.84**	**27**	P	06 13 57.8
J57A				S	06 24 37.7
F63A	**Nahmakanta, Br** baz=333	**88.86**	**21**	P	06 13 57.5
F63A				S	06 24 37.3
P49A	**Miami Univ. Ec** baz=337	**88.86**	**34**	P	06 13 56.3
P49A				S	06 24 38.4
H60A	**Morristown** baz=327,SNR=9.9	**88.87**	**24**	P	06 13 56.5
H60A				S	06 24 39.1
M53A	**WI Miller and** baz=335	**88.88**	**31**	P	06 13 57.6
M53A				S	06 24 37.9
G62A	**West of Eustis** baz=330	**88.91**	**22**	P	06 13 56.7
G62A				S	06 24 39.7
F64A	**Sherman** baz=336	**88.92**	**21**	P	06 13 57.0
F64A				S	06 24 39.3
I58A	**Old Forge** baz=338	**88.93**	**26**	P	06 13 56.1
I58A				S	06 24 38.1
W41B	**Gary Mavity, V** baz=333	**88.93**	**42**	P	06 13 57.4
W41B				S	06 24 40.1
K56A	**Middlesex** baz=323	**89.01**	**28**	S	06 24 39.0
J58A	**Remsen** baz=332	**89.12**	**26**	P	06 13 58.4
J58A				S	06 24 39.5
H61A	**Lyndonville** baz=333	**89.12**	**24**	P	06 13 57.8
H61A				S	06 24 41.1
X40A	**Basin Creek Fa** baz=335,SNR=5.9	**89.18**	**42**	P	06 13 58.6
X40A				S	06 24 43.4
I59A	**Olmsteadville** baz=322	**89.19**	**25**	P	06 13 59.4
I59A				S	06 24 40.6
M54A	**Oil Creek Stat** baz=334	**89.20**	**30**	P	06 13 57.9
M54A				S	06 24 42.0
PKME	**Peaks-Kenny Pk** baz=330,SNR=8.4	**89.21**	**22**	P	06 14 00.2
PKME				S	06 24 41.5
G63A	**Kingsbury** baz=337	**89.26**	**22**	P	06 13 58.3
G63A				S	06 24 42.2
WCI	**Wyandotte Cave** baz=337	**89.27**	**36**	P	06 13 58.2
WCI				S	06 24 42.8
J59A	**Piesco** baz=326	**89.28**	**26**	P	06 13 58.2
J59A				S	06 24 40.6
H62A	**Milan** baz=334,SNR=5.6	**89.32**	**23**	P	06 13 58.8
H62A				S	06 24 42.0
I60A	**Shoreham** baz=336,SNR=13	**89.33**	**25**	P	06 13 59.0
I60A				S	06 24 41.7
G64A	**Maxfield** baz=334	**89.37**	**21**	P	06 13 59.2
G64A				S	06 24 42.7
LBNH	**Lisbon** baz=338,SNR=5.4	**89.39**	**24**	P	06 14 00.3
LBNH				S	06 24 43.6
L56A	**Greenwood** baz=335	**89.42**	**28**	P	06 14 00.2
L56A				S	06 24 42.6
435B	**Jarrell** baz=332	**89.52**	**48**	S	06 24 46.3
N54A	**Moraine State** baz=320	**89.55**	**30**	P	06 13 59.4
N54A				S	06 24 44.5
H63A	**New Sharon** baz=330,SNR=8.4	**89.56**	**22**	S	06 24 45.3
I61A	**Oroboro, Fairl** baz=337	**89.58**	**24**	P	06 14 01.6
I61A				S	06 24 45.8
O53A	**New Philadelph** baz=335	**89.69**	**32**	P	06 14 00.8
O53A				S	06 24 44.7
G65A	**Princeton** baz=329,SNR=7.8	**89.74**	**20**	P	06 14 01.6
G65A				S	06 24 47.3
H64A	**Troy** baz=338	**89.81**	**22**	P	06 14 02.6
H64A				S	06 24 47.3
J60A	**Lant Hill Farm** baz=337	**89.83**	**25**	P	06 14 02.7
J60A				S	06 24 47.8
P52A	**Corning** baz=334	**89.85**	**33**	P	06 14 00.5
P52A				S	06 24 47.2
I62A	**Tamworth** baz=329	**89.90**	**23**	P	06 14 02.4
I62A				S	06 24 49.0
BINY	**Binghamton** baz=336	**89.91**	**27**	P	06 14 02.8
I63A	**Otisfield** baz=333	**89.96**	**23**	P	06 14 02.5
I63A				S	06 24 50.5
J61A	**Chester** baz=336,SNR=8.0	**90.01**	**24**	P	06 14 03.9
J61A				S	06 24 49.1
H65A	**Eastbrook** baz=335	**90.02**	**21**	P	06 14 02.6
H65A				S	06 24 49.1
L58A	**Harry Jones Me** baz=338	**90.10**	**27**	P	06 14 03.0
L58A				S	06 24 49.5
Z41A	**Richland Creek** baz=333	**90.17**	**43**	P	06 14 03.2
H66A	**Whiting** baz=322	**90.19**	**20**	P	06 14 01.9
H66A				S	06 24 49.9
L59A	**Walton** baz=338	**90.24**	**27**	P	06 14 03.3
L59A				S	06 24 50.6
WVT	**Waverly** baz=333,SNR=10	**90.30**	**38**	P	06 14 04.4
WVT				S	06 24 51.9
833A	**Chaparral WMA,** baz=325	**90.34**	**51**	S	06 24 54.9
J62A	**Henniker** baz=319	**90.35**	**24**	P	06 14 05.1
J62A				S	06 24 51.1
I64A	**Boothbay** baz=335	**90.36**	**22**	P	06 14 05.1
I64A				S	06 24 51.9
NATX	**Nacogdoches** baz=337	**90.36**	**45**	P	06 14 04.9
K61A	**Williamstown** baz=321	**90.39**	**25**	P	06 14 04.3
K61A				S	06 24 52.6
J63A	**Strafford** baz=334	**90.52**	**23**	P	06 14 04.9
J63A				S	06 24 53.5
SSPA	**Standing Stone** baz=336	**90.62**	**29**	P	06 14 05.1
SSPA				S	06 24 54.1
O56A	**Blue Knob Stat** baz=331	**90.69**	**30**	P	06 14 04.8
O56A				S	06 24 55.2
K62A	**Royalston** baz=331,SNR=8.3	**90.72**	**24**	P	06 14 06.9
K62A				S	06 24 56.6
MCWV	**Mont Chateau** baz=335	**90.73**	**31**	P	06 14 06.3
MCWV				S	06 24 55.9
L61B	**Northampton** baz=330	**90.78**	**25**	P	06 14 05.4
L61B				S	06 24 56.0
OXF	**Oxford** baz=335	**90.86**	**40**	P	06 14 05.4
OXF				S	06 24 56.7
K63A	**Dunstable** baz=324	**90.92**	**24**	P	06 14 08.1
K63A				S	06 24 57.1
HRV	**Adam Dziewonsk** baz=336	**91.08**	**24**	P	06 14 08.2
HRV				S	06 24 58.2
N59A	**State Game Lan** baz=336	**91.13**	**28**	P	06 14 07.1
N59A				S	06 24 59.4
L63A	**North Scituate** baz=333,SNR=9.4	**91.65**	**24**	P	06 14 10.5
L63A				S	06 25 05.1
PAL	**Palisades** baz=336	**91.68**	**26**	P	06 14 10.0
PAL				S	06 25 03.6
L64A	**Middleborough** baz=334	**91.82**	**24**	P	06 14 10.9
L64A				S	06 25 06.3
TZTN	**Tazewell** baz=336	**91.87**	**35**	P	06 14 12.4
TZTN				S	06 25 06.7
M64A	**Tiverton** baz=328	**92.06**	**24**	P	06 14 12.0
M64A				S	06 25 07.0
P60A	**Greenville** baz=336	**92.15**	**28**	P	06 14 12.9
P60A				S	06 25 07.9
VBMS	**Vicksburg** baz=333	**92.16**	**42**	S	06 25 07.7
BLA	**Blacksburg** baz=324	**92.61**	**33**	P	06 14 15.4
BLA				S	06 25 11.4
LRAL	**Lakeview Retre** baz=330	**93.22**	**39**	P	06 14 17.6
LRAL				S	06 25 16.4
KMSC	**Kings Mountain** baz=326	**94.01**	**34**	P	06 14 21.2
KMSC				S	06 25 22.4
GOGA	**Godfrey** baz=329	**94.55**	**37**	P	06 14 23.3
GOGA				S	06 25 34.2
TIGA	**Tifton** baz=328	**96.15**	**38**	S	06 25 41.9

BJI ***08*** *06:01:06.7±0.0,41°.55N×142°.31E,h72km,mB5.4/67, mb5.5/81,Ms5.6/99,Ms7 5.5/92*

MOS ***08*** *06:01:07.5±1.3,41°.51N×141°.92E,h50km,mb5.8/86, MS5.6/75,Error ellipse: s-maj=4.9km s-min=3.4km az=105.3*

BGR ***08*** *06:01:08.1±0.0,41°.89N×142°.73E,h33km,mb5.4,Ms5.8*

NEIC ***08*** *06:01:08.3±2.3,41°.56N±0°.05×142°.03E±0°.10,h42km±1km, mb5.6/557,Ms_20 5.6/466,Mwb6.1/96,Mwc6.0/31,Mww6.1, Mwc6.1(GCMT),Error ellipse: s-maj=12.5km s-min=8.6km az=292.0*

NEIC ***08*** *06:01:08.6,41°.46N×141°.95E,h47km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.15; Mθθ0.08; Mφφ-1.23; Mrθ0.50; Mφθ-0.31; Mφr0.95; Fault plane solution: M₀1.63000×10¹⁸ NP1:φe180.81000°, δ25.78000°,λ69.83000°. NP2:φe23.00000°,δ65.90000°, λ99.46000°. Principal axes: T 1.5792, Plg68.0000°, Azm311.0000°; N 0.1027, Plg9.0000°, Azm199.0000°; P -1.6819, Plg20.0000°, Azm106.0000°;*

JMA ***08*** *06:01:11.7±0.1,41°.46N×142°.02E,h66km±2km,M5.6 JMA Felt IV J1.*

IDC ***08*** *06:01:11.4±1.2,41°.50N×141°.92E,h75km±10km,mb5.1/32, mb1 5.1/42,mb1mx5.1/45,mbtmp5.3/42,MS5.5/41, Ms1 5.5/41,ms1mx5.4/46,Error ellipse: s-maj=10.5km s-min=7.4km az=114.0*

NIED ***08*** *06:01:11.8,41°.46N×142°.02E,h66km,MW6.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.58; Mθθ-0.04; Mφφ-0.54; Mrθ0.59; Mφθ-0.19; Mφr1.32; Fault plane solution: M₀1.56000×10¹⁸ NP1:φe24.00000°, δ79.00000°,λ92.00000°. NP2:φe192.00000°,δ11.00000°, λ79.00000°.*

GCMT ***08*** *06:01:14.3±0.1,41°.49N×142°.24E,h54km,MW6.1/161, Moment Tensor Solution. s160,c377; s161,c561; Duration: 2≥6 Moment tensor: Scale 10¹⁸Nm; Mrr1.19±.01; Mθθ-0.06±.01; Mφφ-1.12±.01; Mrθ0.39±.01; Mθφ-0.37±.01; Mφr0.86±.01; Best double couple: M₀1.53600×10¹⁸ NP1:φe192.00000°,δ26.00000°, λ81.00000°. NP2:φe22.00000°,δ64.00000°,λ94.00000°. Principal axes: T 1.5180, Plg71.0000°, Azm301.0000°; N 0.0460, Plg4.0000°, Azm200.0000°; P -1.5540, Plg19.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***08*** *06:01:14,41°.43N×142°.34E,h60km,Moment Tensor*

Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.20; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.23; $M_{r\theta}$0.31; $M_{r\phi}$-0.48; $M_{\theta\phi}$0.83; Fault plane solution: M_o1.58000×10^{18} NP1:ϕ_s197.00000°, δ28.00000°, λ88.00000°. NP2:ϕ_s20.00000°, δ62.00000°, λ91.00000°. Principal axes: T 1.4792, Plg73.0000°, Azm293.0000°; N 0.1874, Plg1.0000°, Azm199.0000°; P -1.6666, Plg17.0000°, Azm109.0000°;

*NEIC **08** 06:01:18.41'.56N×142'.09E,h60km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.09; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-0.97; $M_{r\theta}$0.34; $M_{r\phi}$-0.42; $M_{\theta\phi}$0.97; Fault plane solution: M_o1.52000×10^{18} NP1:ϕ_s205.00000°, δ24.00000°, λ94.00000°. NP2:ϕ_s20.00000°, δ66.00000°, λ88.00000°. Principal axes: T 1.4902, Plg69.0000°, Azm286.0000°; N 0.0532, Plg2.0000°, Azm21.0000°; P -1.5434, Plg21.0000°, Azm111.0000°;*

*NEIC **08** 06:01:25.1,41'.20N×142'.07E,h53km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.21; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.34; $M_{r\phi}$-0.26; $M_{\theta\phi}$0.78; Fault plane solution: M_o1.49000×10^{18} NP1:ϕ_s185.66000°, δ28.08000°, λ78.67000°. NP2:ϕ_s18.45000°, δ62.51000°, λ95.98000°. Principal axes: T 1.4893, Plg72.0000°, Azm302.0000°; N 0.0025, Plg5.0000°, Azm196.0000°; P -1.4918, Plg17.0000°, Azm104.0000°;*

ISC 08 06:01:10.4s0.3,**41°.51N**s0.0°.02s**142°.06E**s0.0°.02,**h61**km,$_{2}$2km, **h60**km:**pP-P,n1852,**σ_{2}**10**/1641,**mb5.6**/517,**314C-93D, Fault plane solution: NP1:**ϕ_s165.23892°,δ36.21193°, λ44.75422°. **NP2:**ϕ_s36.58104°,δ65.42120°,λ117.47291°. **Principal axes:** T Plg59.8413°, Azm347.0703°; N Plg24.8048°, Azm204.3772°; P Plg16.0456°, Azm106.7387°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JAHD	**Aomorihigashid**	**0.59**	**246**	P		**Pn**	**06 01 24.8**	**+1.4**
JAHD					*es*	**Sn**	**06 01 34.8**	**+2.0**
JARK	**Aomorirokkasho**	**0.72**	**226**	P		**Pn**	**06 01 25.7**	**+0.8**
JARK					*es*	**Sn**	**06 01 36.4**	**+0.9**
JOT	**Ohata**	**0.77**	**261**	P		**Pn**	**06 01 26.6**	**+1.2**
JOT					*es*	**Sn**	**06 01 38.2**	**+1.7**
JKB	**Kayabe**	**0.86**	**297**	P		**Pn**	**06 01 27.7**	**+1.2**
JKB					*es*	**Sn**	**06 01 40.5**	**+2.0**
JNBK	**Urakawa-nobuka**	**0.93**	**34**	P		**Pn**	**06 01 30.8**	**+3.3**
JNBK					*es*	**Sn**	**06 01 44.8**	**+4.6**
ERM	**Erimo**	**0.97**	**58**	P		**Pn**	**06 01 27.9**	**-0.1**
ERM	**Erimo**	**0.97**	**58**			**Pn**	**06 01 27.9**	**-0.1**
JEM	**Erimo**	**0.97**	**58**	P		**Pn**	**06 01 29.8**	**+1.8**
JEM					*es*	**Sn**	**06 01 43.4**	**+2.4**
JTM	**Tenmabayashi**	**1.04**	**226**	P		**Pn**	**06 01 30.3**	**+1.4**
JTM					*es*	**Sn**	**06 01 43.9**	**+1.3**
JIAM	**Iburiatsuma**	**1.12**	**355**	P		**Pn**	**06 01 32.4**	**+2.4**
JIAM					*es*	**Sn**	**06 01 49.7**	**+5.2**
JANG	**Nango**	**1.20**	**200**	*es*		**Sn**	**06 01 46.7**	**+0.1**
JSR	**Shiriuchi**	**1.23**	**272**	P		**Pn**	**06 01 32.9**	**+1.5**
JSR					*es*	**Sn**	**06 01 49.2**	**+2.0**
JYM2	**Yakumo 2**	**1.40**	**296**	P		**Pn**	**06 01 35.8**	**+2.1**
JYM2					*es*	**Sn**	**06 01 53.3**	**+2.1**
JEW	**Eniwo**	**1.41**	**342**	*es*		**Sn**	**06 01 54.3**	**+2.9**
JCH	**Churui**	**1.47**	**41**	*es*		**Sn**	**06 01 56.9**	**+3.9**
JOMM	**Oshimamatsumae**	**1.54**	**271**	P		**Pn**	**06 01 37.1**	**+1.6**
JOMM					*es*	**Sn**	**06 01 56.2**	**+1.7**
JOSM	**Okushiri--Mats**	**2.01**	**287**	P		**Pn**	**06 01 43.7**	**+1.7**
JOSM					*es*	**Sn**	**06 02 07.8**	**+1.7**
JOM	**Ohasama**	**2.11**	**196**	*es*		**Sn**	**06 02 09.7**	**+1.2**
ASAJ	**Asahikawa**	**2.64**	**8**	P		**Pn**	**06 01 50.8**	**+0.3**
	110nm,0.3s,baz=221,slow=11,SNR=148							
ASAJ					S	**Sn**	**06 02 25.4**	**+4.1**
	250nm,0.3s,baz=108,slow=33,SNR=11							
JKA	**Kamikawa-asahi**	**2.64**	**9**	Pn		**Pn**	**06 01 50.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**3.29**	**54**	*e*P		**Pn**	**06 01 57.3**	**-2.1**
NMR					*i* S	**Sn**	**06 02 36.2**	**-1.1**
RUSJ	**Misakicho**	**3.50**	**41**	*e*P		**Pn**	**06 02 02.1**	**-0.1**
RUSJ					*i* S	**Sn**	**06 02 44.6**	**+2.2**
GRPR	**Tuman**	**3.70**	**47**	*e*P		**Pn**	**06 02 03.9**	**-1.0**
GRPR					*i* S	**Sn**	**06 02 47.5**	**+0.3**
GRPR					pmax	pmax		
	comp=Z,3μm,0.3s							
GRPR					pmax	pmax		
	comp=N,1μm,0.2s							
GRPR					pmax	pmax		
	comp=E,890nm,0.2s							
GRPR					smax	smax		
	comp=N,19μm,0.3s							
GRPR					smax	smax		
	comp=E,26μm,0.3s							
JAW	**Awa shima**	**3.73**	**216**	P		**Pn**	**06 02 06.3**	**+0.8**
JMM	**Marumori**	**3.77**	**195**			**Pn**	**06 02 05.2**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**3.77**	**47**	*e*P		**Pn**	**06 02 04.7**	**-1.3**
YUK					*i* S	**Sn**	**06 02 48.3**	**-0.8**
YUK					pmax	pmax		
	comp=N,3μm,0.3s							
YUK					pmax	pmax		
	comp=E,2μm,0.3s							
YUK					pmax	pmax		
	comp=Z,7μm,0.3s							
YUK					smax	smax		
	comp=E,23μm,0.5s							
YUK					smax	smax		
	comp=N,16μm,0.4s							
JSD	**Sado**	**4.54**	**221**	P		**Pn**	**06 02 16.1**	**-0.3**
JSD	**Sado**	**4.54**	**221**	Pn		**Pn**	**06 02 16.2**	**-0.2**
TEY	**Ternei**	**5.32**	**313**	*e*P		**Pn**	**06 02 25.4**	**-1.7**
TEY					pmax	pmax		
	comp=Z,60nm,0.7s							
TEY					pmax	pmax		
	comp=N,50nm,0.7s							
TEY					pmax	pmax		
	comp=E,60nm,0.7s							
JAG	**Ashikaga**	**5.46**	**203**	P		**Pn**	**06 02 28.2**	**-1.0**
JYT	**Yasato**	**5.47**	**196**	Pn		**Pn**	**06 02 27.4**	**-1.8**
YSS	**Yuzh-Sakhalins**	**5.47**	**5**	*e*P		**Pn**	**06 02 30.0**	**+0.8**
YSS					*es*	**Sn**	**06 03 32.6**	**+1.9**
YSS					pmax	pmax		
	comp=Z,250nm,0.8s							
YSS					smax	smax		
	comp=E,360nm,1.9s							
YSS					MLR	MLR		
	comp=Z,46μm,19.0s							
YSS					MLR	MLR		
	comp=N,38μm,17.0s							
YSS	**Yuzh-Sakhalins**	**5.47**	**5**	Pn		**Pn**	**06 02 28.4**	**-0.8**
KUR	**Kuril'sk**	**5.64**	**47**	*e*P		**Pn**	**06 02 31.4**	**-0.1**
KUR					*i* S	**Sn**	**06 03 35.2**	**+0.3**
KUR					pmax	pmax		
	comp=E,779nm,0.6s							
KUR					pmax	pmax		
	comp=Z,3μm,0.6s							
KUR					pmax	pmax		
	comp=N,761nm,0.9s							
KUR					pmax	pmax		
	comp=Z,15μm,4.8s							
KUR					smax	smax		
	comp=N,2μm,1.1s							
KUR					smax	smax		
	comp=E,2μm,0.6s							
KUR					smax	smax		
	comp=E,47μm,6.7s							
KUR					smax	smax		
	comp=N,23μm,8.1s							
MJB9	**Matsu-Tunnel**	**5.79**	**212**	Pn		**Pn**	**06 02 31.7**	**-2.0**
MAJO	**Matsushiro**	**5.79**	**212**	*ce*P		**Pn**	**06 02 34.4**	**+0.7**
MAJO	**Matsushiro**	**5.79**	**212**	Pn		**Pn**	**06 02 33.8**	**+0.1**
MAT	**Matsushiro**	**5.79**	**212**	P		**Pn**	**06 02 34.2**	**+0.5**
MAT					*es*	**Sn**	**06 03 39.5**	**+0.7**
MAT	**Matsushiro**	**5.79**	**212**	P		**Pn**	**06 02 34.3**	**+0.5**
MJAR	**Matsushiro Arr**	**5.79**	**212**	P		**Pn**	**06 02 34.7**	**+1.0**
	comp=N,3.7nm,0.3s,baz=22,slow=15,SNR=49							
MJAR					LR	LR	06 05 15.7	
	comp=N,42μm,21.6s,baz=35,slow=43							
MJAR	**Matsushiro Arr**	**5.79**	**212**	Pn		**Pn**	**06 02 34.5**	**+0.8**
JGF	**Kuroka**	**6.95**	**213**			**Pn**	**06 02 49.6**	**0.0**
INU	**Inuyama**	**7.31**	**214**			**Pn**	**06 02 55.2**	**+0.7**
JSG	**Sagara**	**7.47**	**205**			**Pn**	**06 02 53.7**	**-3.0**
UGL	**Uglegorsk**	**7.57**	**0**	*e*P		**Pn**	**06 03 00.2**	**+2.3**
UGL					S	**Sn**	**06 04 21.3**	**-0.9**
UGL					pmax	pmax		
	comp=Z,160nm,0.9s							
UGL					smax	smax		
	comp=E,6μm,12.0s							
VLA	**Vladivostok**	**7.71**	**285**	*e*P		**Pn**	**06 02 58.8**	**-1.1**
USA0B	**Ussuriysk Arra**	**7.87**	**293**	P		**Pn**	**06 03 02.7**	**+0.6**
USA0B	**Ussuriysk Arra**	**7.87**	**293**			**Pn**	**06 03 02.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**7.87**	**293**	P		**Pn**	**06 03 01.6**	**-0.5**
	baz=99,slow=11,SNR=55							
USRK					LR	LR	06 06 13.9	
	comp=E,38μm,19.9s,baz=111,slow=39							
USRK	**Ussuriysk Ar.**	**7.87**	**293**			**Pn**	**06 03 00.7**	**-1.4**
MSHR	**Mys Shultsa**	**8.18**	**281**	*e*P		**Pn**	**06 03 05.8**	**-0.5**
JHJ	**Hachijo jima 2**	**8.57**	**193**	P		**Pn**	**06 03 11.7**	**+0.1**
	comp=E,58nm,0.3s,baz=128,slow=22,SNR=14							
JHJ2	**Mitsune**	**8.57**	**193**			**Pn**	**06 03 11.1**	**-0.5**
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		Pn	06 03 30.4	+5.8
	SNR=8.3							
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		**Pn**	**06 03 28.7**	**+4.1**
	SNR=6.4							
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		Pn	06 03 30.4	+5.8
	SNR=8.3							
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		**Pn**	**06 03 28.7**	**+4.1**
	SNR=6.4							
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		Pn	06 03 30.4	+5.8
	SNR=8.3							
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		Pn	06 03 30.4	+5.8
	SNR=8.3							
ULDB	**Ullung-do Bore**	**9.51**	**249**	P		**Pn**	**06 03 28.7**	**+4.1**
	SNR=6.4							
JHS	**Saijyo**	**9.57**	**230**			**Pn**	**06 03 27.1**	**+1.8**
MDJ	**Mudanjiang**	**9.64**	**293**	P		**Pn**	**06 03 27.6**	**+1.4**
MDJ					S	**Sn**	**06 05 10.5**	**-2.4**
MDJ					pmax	pmax		
	comp=E,250nm,0.9s							
MDJ					pmax	pmax		
	comp=E,1μm,6.3s							
MDJ					L	L		
	comp=E,17μm,18.5s							
MDJ					L	L		
	comp=E,35μm,21.7s							
MDJ					L	L		
	comp=E,65μm,24.9s							
MDJ	**Mudanjiang**	**9.64**	**293**	Pn		**Pn**	**06 03 27.9**	**+1.7**
GRNR	**Gornyy**	**10.05**	**339**	*i*P		Pn	06 03 36.7	+4.8
GRNR					pmax	pmax		
	comp=N,110nm,0.8s							
GRNR					pmax	pmax		
	comp=E,70nm,0.8s							
GRNR					pmax	pmax		
	comp=Z,120nm,0.8s							
GRNR					MLR	MLR		
	comp=E,8μm,15.0s							
JMN	**Monobe**	**10.11**	**222**			**Pn**	**06 03 35.1**	**+2.3**
KLR	**Kul'dur**	**10.59**	**320**	P		**Pn**	**06 03 39.9**	**+0.8**
	comp=E,1.9nm,0.3s,baz=124,slow=14,SNR=35							
KLR					LR	LR	06 07 53.7	
	comp=E,43μm,21.0s,baz=136,slow=38							
KLR	**Kul'dur**	**10.59**	**320**			**Pn**	**06 03 39.9**	**+0.8**
IMWB	**Imwonan-gil**	**10.72**	**251**	P		Pn	06 03 48.2	+7.1
	SNR=7.0							
IMWB	**Imwonan-gil**	**10.72**	**251**	P		Pn	06 03 46.0	+4.9
	SNR=31							
IMWB	**Imwonan-gil**	**10.72**	**251**	P		Pn	06 03 46.0	+4.9
	SNR=31							
IMWB	**Imwonan-gil**	**10.72**	**251**	P		Pn	06 03 46.0	+4.9
	SNR=31							
IMWB	**Imwonan-gil**	**10.72**	**251**	P		Pn	06 03 46.0	+4.9
	SNR=31							
UJN	**ULJIN**	**10.79**	**249**	P		**Pn**	**06 03 45.9**	**+3.9**
	SNR=16							
UJN	**ULJIN**	**10.79**	**249**	P		**Pn**	**06 03 45.7**	**+3.8**
	SNR=62							
UJN	**ULJIN**	**10.79**	**249**	P		**Pn**	**06 03 45.7**	**+3.8**
	SNR=62							
OKEB	**Okgye-meyeon**	**10.81**	**253**	P		Pn	06 03 49.0	+6.6
	SNR=5.8							
OKEB	**Okgye-meyeon**	**10.81**	**253**	P		Pn	06 03 47.0	+4.7
	SNR=41							
OKEB	**Okgye-meyeon**	**10.81**	**253**	P		Pn	06 03 49.0	+6.6
	SNR=5.8							
OKEB	**Okgye-meyeon**	**10.81**	**253**	P		Pn	06 03 47.0	+4.7
	SNR=41							
OKEB	**Okgye-meyeon**	**10.81**	**253**	P		Pn	06 03 49.0	+6.6
	SNR=5.8							
OKEB	**Okgye-meyeon**	**10.81**	**253**	P		Pn	06 03 48.0	+5.6
	SNR=18							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		Pn	06 03 49.6	+6.5
	SNR=13							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		**Pn**	**06 03 46.3**	**+3.2**
	SNR=27							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		Pn	06 03 49.6	+6.5
	SNR=13							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		**Pn**	**06 03 46.6**	**+3.6**
	SNR=14							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		Pn	06 03 49.6	+6.5
	SNR=13							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		Pn	06 03 49.6	+6.5
	SNR=13							
KSJMJ	**Jumunjin**	**10.87**	**255**	P		**Pn**	**06 03 46.3**	**+3.2**
	SNR=27							
KSSKC	**Sokcho**	**10.88**	**257**	P		**Pn**	**06 03 46.3**	**+3.0**
	SNR=30							
KSSKC	**Sokcho**	**10.88**	**257**	P		**Pn**	**06 03 46.3**	**+3.0**
	SNR=30							
KSULJ	**Uljin**	**10.93**	**248**	P		Pn	06 03 51.0	+7.0
	SNR=8.5							
KSULJ	**Uljin**	**10.93**	**248**	P		Pn	06 03 50.0	+6.0
	SNR=11							
KSULJ	**Uljin**	**10.93**	**248**	P		Pn	06 03 50.0	+6.0
	SNR=11							
KSULJ	**Uljin**	**10.93**	**248**	P		Pn	06 03 50.0	+6.0
	SNR=11							
KSDGY	**Daegwallycong**	**11.01**	**254**	P		Pn	06 03 52.0	+6.9
	SNR=11							
KSDGY	**Daegwallycong**	**11.01**	**254**	P		Pn	06 03 50.0	+5.0
	SNR=37							
KSDGY	**Daegwallycong**	**11.01**	**254**	P		Pn	06 03 52.0	+6.9
	SNR=11							
KSDGY	**Daegwallycong**	**11.01**	**254**	P		Pn	06 03 52.0	+6.9
	SNR=11							
KSDGY	**Daegwallycong**	**11.01**	**254**	P		Pn	06 03 50.0	+5.0
	SNR=37							
KSDGY	**Daegwallycong**	**11.01**	**254**	P		Pn	06 03 52.0	+6.9
	SNR=11							
KSTBA	**Taebaek**	**11.05**	**251**	P		**Pn**	**06 03 49.6**	**+3.9**
	SNR=171							
KSTBA	**Taebaek**	**11.05**	**251**	P		Pn	06 03 51.1	+5.4
	SNR=38							
KSTBA	**Taebaek**	**11.05**	**251**	P		**Pn**	**06 03 49.6**	**+3.9**
	SNR=171							
KSTBA	**Taebaek**	**11.05**	**251**	P		Pn	06 03 51.1	+5.4
	SNR=38							
KSTBA	**Taebaek**	**11.05**	**251**	P		Pn	06 03 51.1	+5.4
	SNR=38							
KSTBA	**Taebaek**	**11.05**	**251**	P		**Pn**	**06 03 49.6**	**+3.9**
	SNR=171							
SEHB	**SEOHWA**	**11.09**	**258**	P		Pn	06 03 51.7	+5.6
	SNR=27							
SEHB	**SEOHWA**	**11.09**	**258**	P		**Pn**	**06 03 49.5**	**+3.4**
	SNR=60							
SEHB	**SEOHWA**	**11.09**	**258**	P		Pn	06 03 51.3	+5.2
	SNR=11							
SEHB	**SEOHWA**	**11.09**	**258**	P		Pn	06 03 51.3	+5.2
	SNR=11							
SEHB	**SEOHWA**	**11.09**	**258**	P		**Pn**	**06 03 49.5**	**+3.4**
	SNR=60							
KSGWL	**Sabuk**	**11.11**	**252**	P		Pn	06 03 53.7	+7.4
	SNR=16							
KSGWL	**Sabuk**	**11.11**	**252**	P		Pn	06 03 53.7	+7.4
	SNR=16							
KSGWL	**Sabuk**	**11.11**	**252**	P		Pn	06 03 53.7	+7.4
	SNR=16							
KSGWL	**Sabuk**	**11.11**	**252**	P		Pn	06 03 53.7	+7.4
	SNR=16							
KSPHA	**Pohang**	**11.22**	**246**	P		Pn	06 03 55.0	+7.1
	SNR=16							
KSPHA	**Pohang**	**11.22**	**246**	P		Pn	06 03 55.0	+7.1
	SNR=16							
KSPHA	**Pohang**	**11.22**	**246**	P		Pn	06 03 55.0	+7.1
	SNR=16							
KSPHA	**Pohang**	**11.22**	**246**	P		Pn	06 03 55.0	+7.1
	SNR=16							
KSIJA	**INJE**	**11.30**	**256**	P		Pn	06 03 56.0	+7.1
	SNR=24							
KSIJA	**INJE**	**11.30**	**256**	P		**Pn**	**06 03 52.9**	**+4.0**
	SNR=152

KSCHJ Chungju 11.86 252 P Pn 06 04 01.0 +4.4
SNR=69
KSCHJ Chungju 11.86 252 P Pn 06 04 04.1 +7.5
SNR=17
KSCHJ Chungju 11.86 252 P Pn 06 04 04.0 +7.3
SNR=16
KSCHJ Chungju 11.86 252 P Pn 06 04 00.8 +4.1
SNR=70
KSMGY Mungyeong 11.90 251 P Pn 06 04 00.4 +3.2
SNR=37
KSMGY Mungyeong 11.90 251 P Pn 06 04 03.6 +6.4
SNR=17
KSMGY Mungyeong 11.90 251 P Pn 06 04 00.4 +3.2
SNR=37
KSMGY Mungyeong 11.90 251 P Pn 06 04 03.6 +6.4
SNR=17
KSMGY Mungyeong 11.90 251 P Pn 06 04 03.6 +6.4
SNR=17
KSMGY Mungyeong 11.90 251 P Pn 06 04 00.4 +3.2
SNR=37
KSBUS Busan 11.92 243 P Pn 06 04 03.4 +6.0
SNR=8.7
KSBUS Busan 11.92 243 P Pn 06 04 05.0 +7.6
SNR=8.5
KSBUS Busan 11.92 243 P Pn 06 04 03.4 +6.0
SNR=8.7
KSBUS Busan 11.92 243 P Pn 06 04 05.0 +7.6
SNR=8.5
KSBUS Busan 11.92 243 P Pn 06 04 03.4 +6.0
SNR=8.7
KSBUS Busan 11.92 243 P Pn 06 04 05.0 +7.6
SNR=8.5
KSBUS Busan 11.92 243 P Pn 06 04 03.4 +6.0
SNR=8.7
KSBUS Busan 11.92 243 P Pn 06 04 05.0 +7.6
SNR=8.5
KSSAJ Sangju 11.95 249 P Pn 06 04 02.1 +4.2
SNR=36
KSSAJ Sangju 11.95 249 P Pn 06 04 03.7 +5.8
SNR=14
KSSAJ Sangju 11.95 249 P Pn 06 04 02.1 +4.2
SNR=36
KSSAJ Sangju 11.95 249 P Pn 06 04 03.7 +5.8
SNR=14
KSSAJ Sangju 11.95 249 P Pn 06 04 03.7 +5.8
SNR=14
KSSAJ Sangju 11.95 249 P Pn 06 04 02.1 +4.2
SNR=36
MIYA Miryang-si 12.03 244 P P 06 04 07.0 -2.9
SNR=10.0
MIYA Miryang-si 12.03 244 P P 06 04 07.0 -2.9
SNR=10.0
MIYA Miryang-si 12.03 244 P P 06 04 07.0 -2.9
SNR=10.0
MIYA Miryang-si 12.03 244 P P 06 04 07.0 -2.9
SNR=10.0
MIYA Miryang-si 12.03 244 P P 06 04 08.0 -1.9
SNR=5.6
KSBSA Busan_acc 12.06 242 P P 06 04 06.2 -3.9
SNR=6.5
KSBSA Busan_acc 12.06 242 P P 06 04 06.2 -3.9
SNR=6.5
KSBSA Busan_acc 12.06 242 P P 06 04 06.2 -3.9
SNR=6.5
KSBSA Busan_acc 12.06 242 P P 06 04 06.2 -3.9
SNR=6.5
OKH Okha 12.06 3 *c* *i*P Pn 06 04 02.0 +2.7
OKH *i*S Sn 06 06 18.2 +6.2
OKH pmax pmax
comp=Z,2μm,9.7s
OKH smax smax
comp=N,2μm,13.7s
OKH smax smax
comp=E,4μm,12.3s
KSICN Icheon 12.08 254 P P 06 04 07.4 -3.0
SNR=20
KSICN Icheon 12.08 254 P P 06 04 07.4 -3.0
SNR=20
KSICN Icheon 12.08 254 P Pn 06 04 04.3 +4.7
SNR=14
KSICN Icheon 12.08 254 P P 06 04 07.4 -3.0
SNR=20
KSICN Icheon 12.08 254 P Pn 06 04 04.3 +4.7
SNR=14
KSICN Icheon 12.08 254 P P 06 04 07.4 -3.0
SNR=20
KSDDC Dongducheon 12.10 258 P P 06 04 05.4 -5.2
SNR=9.4
KSDDC Dongducheon 12.10 258 P P 06 04 05.4 -5.2
SNR=9.4
YNCB YEONCHEON 12.15 258 P Pn 06 04 04.3 +3.8
SNR=35
YNCB YEONCHEON 12.15 258 P Pn 06 04 04.3 +3.8
SNR=35
YNCB YEONCHEON 12.15 258 P Pn 06 04 03.9 +3.4
SNR=9.5
KSGIC Gimchen 12.16 248 P P 06 04 07.2 -4.1
SNR=10
KSGIC Gimchen 12.16 248 P P 06 04 07.2 -4.1
SNR=10
KSGIC Gimchen 12.16 248 P P 06 04 07.2 -4.1
SNR=10
KSBON Boeun 12.16 250 P P 06 04 06.8 -4.5
SNR=23
KSBON Boeun 12.16 250 P Pn 06 04 04.9 +4.1
SNR=94
KSBON Boeun 12.16 250 P P 06 04 06.8 -4.5
SNR=23
KSBON Boeun 12.16 250 P P 06 04 06.8 -4.5
SNR=23
KSBON Boeun 12.16 250 P P 06 04 09.2 -2.1
SNR=14
JTU Tsushima 12.17 239 Pn Pn 06 04 02.1 +1.3
KSCPR CHUPUNGNYEONG12.18 249 P P 06 04 07.3 -4.2
SNR=17
KSCPR CHUPUNGNYEONG12.18 249 P P 06 04 07.3 -4.2
SNR=17
KSCPR CHUPUNGNYEONG12.18 249 P P 06 04 07.3 -4.2
SNR=17
JNU Nakatsue 12.21 230 Pn 06 04 00.6 -0.8
OKCB Cheongsan-myeo 12.24 250 P P 06 04 09.0 -3.2
SNR=29
OKCB Cheongsan-myeo 12.24 250 P P 06 04 09.0 -3.2
SNR=29
OKCB Cheongsan-myeo 12.24 250 P P 06 04 09.0 -3.2
SNR=29
OKCB Cheongsan-myeo 12.24 250 P P 06 04 09.0 -3.2
SNR=29
OKCB Cheongsan-myeo 12.24 250 P P 06 04 10.0 -2.2
SNR=7.0
KSSOD Songwoldong 12.29 256 P P 06 04 10.2 -2.6
SNR=7.4
KSSOD Songwoldong 12.29 256 P P 06 04 10.2 -2.6
SNR=7.4
KSSOD Songwoldong 12.29 256 P P 06 04 10.2 -2.6
SNR=7.4
KSMUS Musan 12.32 258 P P 06 04 08.4 -4.7
SNR=17
KSMUS Musan 12.32 258 P P 06 04 08.4 -4.7
SNR=17
KSMUS Musan 12.32 258 P Pn 06 04 06.4 +3.4
SNR=20
KSMAS Masan 12.33 243 P P 06 04 09.6 -3.6
SNR=11
KSMAS Masan 12.33 243 P P 06 04 09.3 -3.8
SNR=20
KSMAS Masan 12.33 243 P P 06 04 09.6 -3.6
SNR=11
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSSEO Seoul 12.36 256 P P 06 04 11.0 -2.5
SNR=13
KSCEA Cheonan 12.40 253 P P 06 04 10.1 -3.9
SNR=8.2
KSCEA Cheonan 12.40 253 P Pn 06 04 08.7 +4.7
SNR=36
KSCEA Cheonan 12.40 253 P P 06 04 10.1 -3.9
SNR=8.2

KSCEA Cheonan 12.40 253 P P 06 04 10.1 -3.9
SNR=8.2
KSCEA Cheonan 12.40 253 P P 06 04 11.6 -2.4
SNR=11
KSSWO Suwon 12.42 255 P P 06 04 10.3 -3.8
SNR=25
KSSWO Suwon 12.42 255 P Pn 06 04 08.8 +4.6
SNR=12
KSSWO Suwon 12.42 255 P P 06 04 10.3 -3.8
SNR=25
KSSWO Suwon 12.42 255 P Pn 06 04 08.8 +4.6
SNR=12
EURB Uiryeong-eup 12.43 245 P P 06 04 12.0 -2.3
SNR=16
EURB Uiryeong-eup 12.43 245 P P 06 04 12.0 -2.3
SNR=16
EURB Uiryeong-eup 12.43 245 P P 06 04 12.0 -2.3
SNR=16
EURB Uiryeong-eup 12.43 245 P P 06 04 13.0 -1.3
SNR=5.1
PYTK Pyeongtaek 12.43 254 P P 06 04 11.4 -2.9
SNR=11
PYTK Pyeongtaek 12.43 254 P P 06 04 11.4 -2.9
SNR=11
PYTK Pyeongtaek 12.43 254 P P 06 04 11.4 -2.9
SNR=11
CN2 Changchun 12.44 286 *e*P Pn 06 04 05.7 +1.2
CN2 PP P 06 04 17.2 +2.8
CN2 *e*sP 06 04 24.1
CN2 *e*S Sn 06 06 22.9 +1.5
CN2 pmax pmax
comp=E,30nm,0.9s
CN2 pmax pmax
comp=E,5μm,10.0s
CN2 L L
comp=E,7μm,15.0s
CN2 L L
comp=E,29μm,15.0s
CN2 L L
comp=E,31μm,19.0s
KUJA Jangpyeong 12.47 242 P P 06 04 13.0 -1.7
SNR=8.5
KUJA Jangpyeong 12.47 242 P P 06 04 13.0 -1.7
SNR=8.5
KUJA Jangpyeong 12.47 242 P P 06 04 13.0 -1.7
SNR=8.5
KSKCH Geochang 12.53 247 P P 06 04 12.8 -2.6
SNR=12
KSKCH Geochang 12.53 247 P P 06 04 12.8 -2.6
SNR=12
KSKCH Geochang 12.53 247 P P 06 04 12.8 -2.6
SNR=12
TJN Taejon 12.53 251⇑*e*P Pn 06 04 08.5 +2.8
INCN Inchon 12.57 256 P Pn 06 04 08.0 +1.6
INCN Inchon 12.57 256 Pn 06 04 08.0 +1.6
KSGAH Ganghwa 12.62 258 P Pn 06 04 11.6 +4.6
SNR=6.5
KSGAH Ganghwa 12.62 258 P Pn 06 04 11.6 +4.6
SNR=6.5
HAWB Hwaseong-si 12.63 255 P P 06 04 13.1 -3.4
SNR=22
HAWB Hwaseong-si 12.63 255 P P 06 04 13.1 -3.4
SNR=22
HAWB Hwaseong-si 12.63 255 P P 06 04 13.1 -3.4
SNR=22
KOJ2 Gongju-si 12.64 251 P P 06 04 14.0 -2.6
SNR=11
KOJ2 Gongju-si 12.64 251 P P 06 04 14.0 -2.6
SNR=11
KOJ2 Gongju-si 12.64 251 P P 06 04 14.0 -2.6
SNR=11
HAMB Hamyang 12.70 247 P P 06 04 14.1 -3.2
SNR=23
HAMB Hamyang 12.70 247 P P 06 04 14.1 -3.2
SNR=23
HAMB Hamyang 12.70 247 P P 06 04 14.1 -3.2
SNR=23
KSJEO Jeonju 12.79 249 P P 06 04 15.0 -3.3
SNR=25
KSJEO Jeonju 12.79 249 P P 06 04 15.0 -3.3
SNR=25
KSJEO Jeonju 12.79 249 P P 06 04 15.0 -3.3
SNR=25
KSNAH Namhae 12.96 244 P P 06 04 18.1 -2.1
SNR=16
KSNAH Namhae 12.96 244 P P 06 04 18.1 -2.1
SNR=16
KSNAH Namhae 12.96 244 P P 06 04 18.1 -2.1
SNR=16
KSSES Seosan 12.99 254 P P 06 04 18.0 -2.5
SNR=42
KSSES Seosan 12.99 254 P P 06 04 18.0 -2.5
SNR=42
KSSES Seosan 12.99 254 P P 06 04 18.0 -2.5
SNR=42
KSDEI Deokjeokdo 13.05 256 P P 06 04 20.4 -0.7
SNR=13
KSDEI Deokjeokdo 13.05 256 P P 06 04 18.0 -3.2
SNR=64
KSDEI Deokjeokdo 13.05 256 P P 06 04 20.4 -0.7
SNR=13
KSDEI Deokjeokdo 13.05 256 P P 06 04 18.0 -3.2
SNR=64
KSDEI Deokjeokdo 13.05 256 P P 06 04 20.4 -0.7
SNR=13
KSGUS GUNSAN 13.11 250 P P 06 04 19.4 -2.3
SNR=6.3
KSGUS GUNSAN 13.11 250 P P 06 04 19.4 -2.3
SNR=6.3
KSGUS GUNSAN 13.11 250 P P 06 04 19.4 -2.3
SNR=6.3
PORA Boryeong 13.13 252 P P 06 04 21.0 -1.0
SNR=7.1
PORA Boryeong 13.13 252 P P 06 04 21.0 -1.0
SNR=7.1
PORA Boryeong 13.13 252 P P 06 04 21.0 -1.0
SNR=7.1
KSJEU Jeongeup 13.28 248 P Pn 06 04 19.8 +3.9
SNR=16
KSJEU Jeongeup 13.28 248 P P 06 04 21.6 -2.1
SNR=7.4
KSJEU Jeongeup 13.28 248 P P 06 04 21.6 -2.1
SNR=7.4
KSJEU Jeongeup 13.28 248 P Pn 06 04 19.8 +3.9
SNR=16
SKR Severo-Kuril's 13.37 42 *e*P Pn 06 04 17.3 +0.2
SKR *e*S Sn 06 06 40.3 -3.6
SKR pmax pmax
comp=Z,221nm,0.9s
SKR MLR MLR
comp=Z,16μm,15.0s
SKR MLR MLR
comp=Z,16μm,14.0s
SMKB Mukjeong-gil 13.44 249 P P 06 04 23.0 -2.5
SNR=14
SMKB Mukjeong-gil 13.44 249 P P 06 04 23.0 -2.5
SNR=14
SMKB Mukjeong-gil 13.44 249 P P 06 04 23.0 -2.5
SNR=14
GOCB Gochang-gun 13.58 248 P P 06 04 24.0 -3.1
SNR=27
GOCB Gochang-gun 13.58 248 P P 06 04 24.0 -3.1
SNR=27
JSU Suzuyama 13.65 227 Pn 06 04 17.9 -3.1
KSGBI Gyogryolbido 13.71 255 P P 06 04 26.5 -1.9
SNR=19
KSGBI Gyogryolbido 13.71 255 P P 06 04 26.5 -1.9
SNR=19
SNY Shenyang 13.82 277 ⇓P P 06 04 27.3 -2.4
SNY pP Pn 06 04 35.7 +12
SNY sP 06 04 43.5
SNY pmax pmax
comp=Z,29nm,1.0s
SNY pmax pmax
comp=Z,780nm,4.9s
SNY L L
comp=Z,5μm,17.5s
SNY L L
comp=Z,17μm,24.3s
SNY L L
comp=Z,42μm,24.6s
DACB Daecheong-do R 13.86 260 P P 06 04 29.0 -1.1
SNR=7.6
DACB Daecheong-do R 13.86 260 P P 06 04 29.0 -1.1
SNR=7.6
KSJDO Jindo 14.25 246 P P 06 04 32.8 -1.8
SNR=18
KSJDO Jindo 14.25 246 P P 06 04 32.8 -1.8

SNR=18
JCJ Chichijima 14.38 180 P Pn 06 04 29.2 -1.4
comp=Z,21nm,0.3s,baz=337,slow=22,SNR=14
JCJ S Sn 06 06 56.1 -13
comp=Z,16nm,0.3s,baz=115,slow=22,SNR=2.4
JCJ LR LR 06 12 11.9
comp=Z,3μm,20.3s,baz=358,slow=46
JCJ Chichijima 14.38 180 Pn Pn 06 04 27.9 -2.8
HUK2 Heuksan-myeon 14.73 248 P P 06 04 42.0 +2.1
SNR=7.3
HUK2 Heuksan-myeon 14.73 248 P P 06 04 42.0 +2.1
SNR=7.3
PEA0B Petropavlovsk- 15.68 37 *ce*P Pn 06 04 48.0 +0.7
PEA0B Petropavlovsk- 15.68 37 Pn Pn 06 04 47.2 -0.1
PETK Petropavlovsk- 15.68 37 P Pn 06 04 46.7 -0.6
comp=Z,1.0nm,0.3s,baz=205,slow=9.8,SNR=18
PETK Petropavlovsk- 15.68 37 Pn Pn 06 04 46.1 -1.2
ZEA Zeya 15.75 326 *e*P Pn 06 04 46.3 -1.9
ZEA *e*S Sn 06 07 30.2 -11
ZEA pmax pmax
comp=E,50nm,0.7s
ZEA pmax pmax
comp=N,60nm,0.9s
ZEA pmax pmax
comp=Z,100nm,0.8s
ZEA pmax pmax
comp=E,2μm,11.7s
ZEA pmax pmax
comp=N,2μm,12.7s
ZEA pmax pmax
comp=Z,2μm,13.4s
ZEA smax smax
comp=N,1μm,16.4s
ZEA MLR MLR
comp=N,8μm,18.0s
DL2 Dalian 15.82 267 P Pn 06 04 49.4 +0.2
DL2 S Sn 06 07 47.2 +3.7
DL2 pmax pmax
comp=N,330nm,1.0s
DL2 pmax pmax
comp=N,2μm,10.6s
DL2 L L
comp=N,7μm,20.4s
DL2 L L
comp=N,9μm,26.1s
DL2 L L
comp=N,21μm,29.8s
PET Petropavlovsk 16.07 39 *d i*P Pn 06 04 45.4 -6.7
PET *e*S Sn 06 07 42.2 -7.0
PET pmax pmax
comp=Z,1μm,9.4s
PET pmax pmax
comp=Z,1μm,5.9s
PET pmax pmax
comp=Z,105nm,1.2s
PET MLR MLR
comp=Z,26μm,18.0s
PET MLR MLR
comp=Z,24μm,18.0s
PET Petropavlovsk 16.07 39 Pn Pn 06 04 50.0 -2.1
HIA Hailar 17.45 304 P Pn 06 05 07.1 -2.3
HIA pmax pmax
comp=Z,55nm,0.7s
HIA Hailar 17.45 304 P Pn 06 05 07.1 -2.3
JOW Kunigami 18.52 222 P P 06 05 20.5 -1.3
comp=Z,12nm,0.3s,baz=86,slow=10.0,SNR=13
JOW LR LR 06 12 58.1
comp=Z,17μm,21.4s,baz=40,slow=38
JOW Kunigami 18.52 222 P P 06 05 20.4 -1.3
MA2 Magadan 18.89 14 P P 06 05 24.8 -0.8
comp=Z,3.5nm,0.3s,baz=195,slow=9.0,SNR=28
MA2 LR LR 06 13 39.8
comp=Z,9μm,19.5s,baz=200,slow=40
MA2 Magadan 18.89 14 *c i*P P 06 05 23.5 -2.1
MA2 pmax pmax
comp=Z,177nm,1.7s
MA2 Magadan 18.89 14 P P 06 05 24.0 -1.5
MA2 IAmb IAmb 06 05 48.1
comp=Z,2μm,2.6s
BJI Beijing 19.64 274 P P 06 05 32.3 -1.6
BJI S S 06 09 09.3 -2.8
BJI pmax pmax
comp=Z,34nm,0.9s
BJI pmax pmax
comp=Z,2μm,12.0s
BJI L L
comp=Z,6μm,14.2s
BJI L L
comp=Z,13μm,16.5s
BJI L L
comp=Z,26μm,29.4s
BJT Baijiatuau 19.65 274 P P 06 05 31.1 -3.0
BJT pmax pmax
comp=Z,172nm,0.8s
BJT Baijiatuau 19.65 274 P P 06 05 31.1 -3.0
SSE Sheshan 19.72 245 P P 06 05 33.8 -1.1
SSE S S 06 09 15.2 +1.2
SSE pmax pmax
comp=Z,580nm,9.4s
SSE L L
comp=Z,5μm,18.4s
SSE L L
comp=Z,3μm,16.9s
TIA Tai'an 20.09 263 P P 06 05 35.8 -3.1
TIA sP sP 06 05 59.5 -0.1
TIA S S 06 09 13.7 -7.6
TIA SS SnSn 06 09 49.5 +7.7
TIA pmax pmax
comp=Z,100nm,4.2s
TIA L L
comp=Z,4μm,16.4s
TIA L L
comp=Z,6μm,22.8s
TIA L L
comp=Z,7μm,17.1s
NJ2 Nanjing 20.79 250⇑*i*P P 06 05 44.6 -1.9
NJ2 PP sP 06 06 14.1 +6.8
NJ2 S S 06 09 27.5 -7.6
NJ2 SS SnSn 06 10 04.1 +5.2
NJ2 pmax pmax
comp=Z,100nm,0.5s
NJ2 pmax pmax
comp=Z,2μm,6.4s
NJ2 L L
comp=Z,16μm,16.3s
NJ2 L L
comp=Z,16μm,19.6s
NJ2 L L
comp=Z,19μm,18.2s
YAK Yakutsk 21.86 344 P P 06 05 55.9 -1.7
comp=Z,102nm,0.6s,baz=30,slow=2.0,SNR=27
YAK LR LR 06 14 59.5
comp=Z,11μm,18.9s,baz=156,slow=38
YAK Yakutsk 21.86 344 *e*P P 06 05 51.2 -6.4
YAK *e* 06 06 11.4
YAK *e*S S 06 09 49.0 -6.5
YAK *e* 06 09 52.9
YAK *e**SS Sn 06 10 08.1 -0.3
YAK *e*SSS SSS 06 10 35.3
YAK pmax pmax
comp=Z,149nm,0.9s
YAK pmax pmax
comp=N,55nm,1.1s
YAK pmax pmax
comp=E,19nm,1.0s
YAK smax smax
comp=N,210nm,2.0s
YAK smax smax
comp=E,166nm,1.5s
YAK Yakutsk 21.86 344 P P 06 05 54.4 -3.2
YAK IAmb IAmb 06 05 58.5
comp=Z,270nm,0.7s
CIT Chita 22.04 308 *e*P P 06 05 58.6 -1.1
CIT *e* 06 06 16.0
CIT *e* 06 06 32.8
CIT *e*S S 06 09 59.8 +0.6
CIT *e* 06 10 50.6
CIT pmax pmax
comp=Z,109nm,1.8s
SEY Seymchan 22.32 12 P P 06 05 60.0 -2.6
comp=Z,43nm,0.8s,baz=195,slow=7.8,SNR=24
SEY LR LR 06 15 51.2
comp=Z,8μm,21.4s,baz=199,slow=39
HHC Hu-ho-hao-te 22.91 279 *e*P P 06 06 06.5 -2.6
HHC S S 06 10 10.4 -4.0
HHC SS SnSn 06 10 55.5 +4.7

HHC pmax pmax
comp=Z,59nm,0.8s
HHC pmax pmax
comp=Z,920nm,9.0s
HHC L L
comp=Z,6µm,15.7s
HHC L L
comp=Z,15µm,15.7s
HHC L L
comp=Z,16µm,14.5s
TIY Taiyuan 23.08 270 *e*P **P 06 06 05.8 -5.0**
TIY PP sP 06 06 44.7 +13
TIY pmax pmax
comp=Z,610nm,9.5s
TIY L L
comp=Z,4µm,14.0s
TIY L L
comp=Z,3µm,14.7s
TIY L L
comp=Z,8µm,16.4s
YOJ Yonaguni jima 23.24 229 P **P 06 06 10.2 -2.2**
YOJ pmax pmax
comp=Z,180nm,1.5s
YOJ Yonaguni jima 23.24 229 P **P 06 06 10.2 -2.2**
TATO Taipei 23.73 232 P **P 06 06 15.7 -1.3**
TATO IAmb IAmb 06 06 20.0
comp=Z,258nm,1.1s
YHNB Yeheng 24.03 232 P **P 06 06 18.7 -1.1**
BTO Baotou 24.11 279 *e*P **P 06 06 17.2 -3.2**
BTO S **S 06 10 27.2 -6.6**
BTO L L
comp=Z,16µm,13.0s
BTO L L
comp=Z,53µm,19.8s
NACB Ninganchiao 24.28 231 P **P 06 06 19.4 -2.5**
SMY Shemya 24.32 52 P **P 06 06 20.9 -1.1**
SMY pmax pmax
comp=Z,289nm,1.0s
SMY Shemya 24.32 52 P **P 06 06 20.9 -1.1**
SMY IAmb IAmb 06 06 29.0
comp=Z,288nm,1.0s
WHN Wuhan 24.83 253 ⇑P **P 06 06 26.6 -0.3**
WHN S **S 06 10 43.7 -1.7**
WHN pmax pmax
comp=Z,64nm,0.8s
WHN L L
comp=Z,12µm,13.7s
WHN L L
comp=Z,21µm,15.4s
WHN L L
comp=Z,35µm,16.8s
SSLB Suanglung 24.95 231 P **P 06 06 26.1 -2.0**
SSLB IAMs_20 IAMs_20 06 16 11.9
comp=Z,15µm,22.0s
YULB Yu-li 25.05 230 P **P 06 06 28.6 -0.4**
TPUB Ta-pu 25.51 231 P **P 06 06 30.8 -2.4**
TPUB IAMs_20 IAMs_20 06 16 30.9
comp=Z,18µm,22.0s
ULN Ulaanbaatar 25.53 296 P **P 06 06 31.6 -1.7**
ULN pmax pmax
comp=Z,106nm,1.0s
ULN MLR MLR
comp=Z,16µm,20.0s
ULN Ulaanbaatar 25.53 296 P **P 06 06 31.6 -1.7**
ULN Ulaanbaatar 25.53 296 IAMs_20 IAMs_20 06 17 05.8
comp=Z,16µm,20.0s
QZH Quanzhou 25.53 237 ⇑ *i*P **P 06 06 31.9 -1.4**
QZH S **S 06 10 56.9 +0.4**
QZH pmax pmax
comp=Z,68nm,0.9s
QZH pmax pmax
comp=Z,2µm,9.2s
QZH L L
comp=Z,5µm,19.9s
QZH L L
comp=Z,3µm,16.6s
QZH L L
comp=Z,8µm,27.0s
TWG Pinlang 25.63 230 P **P 06 06 32.7 -1.5**
SONM Songino Array 25.97 296 P **P 06 06 36.4 -0.9**
comp=Z,79nm,0.6s,baz=85,slow=9.9,SNR=59
SONM LR LR 06 17 41.2
comp=Z,17µm,19.1s,baz=84,slow=38
SONM Songino Array 25.97 296 P **P 06 06 34.6 -2.7**
SONM pmax pmax
comp=Z,82nm,0.7s
SONM Songino Array 25.97 296 P **P 06 06 34.6 -2.7**
KNMB Chin-men Tao 26.01 237 P **P 06 06 37.4 -0.2**
KNMB IAmb IAmb 06 06 44.4
comp=Z,165nm,0.7s
XAN Xi'an 27.11 265 P **P 06 06 46.3 -1.3**
XAN pP pP 06 06 59.4 -2.9
XAN PP **PnPn 06 07 41.6 +8.3**
XAN S **S 06 11 27.8 +6.3**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,1µm,12.0s
XAN L L
comp=Z,6µm,25.0s
XAN L L
comp=Z,5µm,25.0s
XAN L L
comp=Z,17µm,25.0s
AMKA Amchitka 27.23 56 P **P 06 06 50.5 +2.1**
IRK Irkutsk 27.67 306 *e*P **P 06 06 51.7 -0.6**
IRK pmax pmax
comp=Z,726nm,0.9s
GUMO Guam 27.92 174 LR LR 06 17 57.6
comp=Z,8µm,21.6s,baz=16,slow=36
TLY Talaya 27.99 304 P **P 06 06 54.8 -0.3**
comp=Z,37nm,0.7s,baz=105,slow=4.4,SNR=19
TLY LR LR 06 18 44.9
comp=Z,13µm,18.9s,baz=89,slow=38
TLY Talaya 27.99 304 *c i*P **P 06 06 56.8 +1.6**
TLY *e*S **S 06 11 35.0 +0.1**
TLY pmax pmax
comp=Z,129nm,0.8s
TLY MLR MLR
comp=Z,22µm,15.0s
TLY Talaya 27.99 304 P **P 06 06 54.0 -1.1**
TLY IAMs_20 IAMs_20 06 18 32.4
comp=Z,13µm,19.0s
ZAK Zakamensk 28.11 302 *e*P **P 06 06 54.6 -1.8**
ZAK pmax pmax
comp=Z,63nm,1.3s
ENH Enshi 28.51 257 P **P 06 06 57.6 -2.4**
ENH IAmb IAmb 06 07 04.3
comp=Z,97nm,0.7s
BILL Bilibino 29.61 18 *d i*P **P 06 07 09.4 0.0**
BILL *i* 06 08 02.2
BILL *e* 06 10 19.2
BILL *i*S S 06 11 50.6 -9.5
BILL *i*SS ScP 06 13 32.2 -17
BILL pmax pmax
comp=Z,25nm,0.8s
BILL Bilibino 29.61 18 P **P 06 07 08.2 -1.2**
MOY Mondy 29.63 304 *e*P **P 06 07 08.3 -1.6**
MOY pmax pmax
comp=Z,118nm,1.8s
ADK Adak 29.77 55 P **P 06 07 10.6 -0.3**
ADK pmax pmax
comp=Z,105nm,1.3s
ADK MLR MLR
comp=Z,9µm,22.0s
ADK Adak 29.77 55 P **P 06 07 10.6 -0.3**
LZH Lanzhou 30.10 272 ⇑P **P 06 07 14.8 +0.6**
LZH pP pP 06 07 28.3 -0.8
LZH PP **PnPn 06 08 18.0 +4.6**
LZH S **S 06 12 03.4 -5.2**
LZH pmax pmax
comp=Z,63nm,1.3s
LZH pmax pmax
comp=Z,790nm,6.0s
LZH L L
comp=Z,5µm,13.1s
LZH L L
comp=Z,8µm,13.0s
LZH L L
comp=Z,7µm,15.2s
GSTR Great Sitkin T 30.17 55 P **P 06 07 13.4 -1.1**
SZP Santa 30.22 224 P **P 06 07 13.5 -1.7**
SZP IAmb IAmb 06 07 27.5
comp=Z,129nm,0.9s
GZH Guangzhou 30.23 241 P **P 06 07 12.1 -3.2**

GZH S **S 06 12 04.0 -6.5**
GZH L L
comp=Z,7µm,19.0s
GZH L L
comp=Z,6µm,18.6s
H11N2 WAKE ISLAND Hy 30.27 128 T T 06 38 55.8
baz=322,slow=74
H11N1 WAKE ISLAND Hy 30.28 128 T T 06 38 55.2
baz=322,slow=74
H11N3 WAKE ISLAND Hy 30.29 128 T T 06 38 51.3
baz=322,slow=74
WAKE Wake Island 30.48 129 IAMs_20 IAMs_20 06 17 26.7
comp=Z,13µm,19.0s
TIXI Tiksi 30.92 352 P **P 06 07 17.3 -3.6**
comp=Z,8.3nm,0.7s,baz=140,slow=5.9,SNR=15
TIXI Tiksi 30.92 352 P **P 06 07 18.4 -2.5**
TIXI pmax pmax
comp=Z,17nm,0.8s
TIXI MLR MLR
comp=Z,5µm,20.0s
TIXI Tiksi 30.92 352 P **P 06 07 18.4 -2.5**
H11S1 WAKE ISLAND Hy 31.12 130 T T 06 39 54.7
baz=324,slow=76
H11S3 WAKE ISLAND Hy 31.12 130 T T 06 39 50.9
baz=324,slow=76
H11S2 WAKE ISLAND Hy 31.13 130 T T 06 39 56.8
baz=324,slow=76
ATKA Atka Island 31.32 55 P **P 06 07 23.0 -1.6**
ATKA IAmb IAmb 06 08 03.5
comp=Z,167nm,1.3s
GTA Gaotai 31.98 280 ⇑P **P 06 07 28.3 -2.5**
GTA PcP **PcP 06 10 22.0 +2.5**
GTA S **S 06 12 33.6 -4.4**
GTA pmax pmax
comp=Z,250nm,6.8s
GTA L L
comp=Z,6µm,18.9s
GTA L L
comp=Z,12µm,18.2s
GTA L L
comp=Z,7µm,18.0s
CD2 Chengdu 32.43 263 P **P 06 07 32.8 -1.8**
CD2 PP **PnPn 06 08 45.1 +1.7**
CD2 S **S 06 12 43.4 -1.5**
CD2 pmax pmax
comp=Z,150nm,0.6s
CD2 pmax pmax
comp=Z,1µm,14.1s
CD2 L L
comp=Z,11µm,25.5s
CD2 L L
comp=Z,12µm,24.3s
CD2 L L
comp=Z,13µm,29.8s
GYA Guiyang 32.71 254 ⇑P **P 06 07 36.0 -1.2**
GYA S **S 06 12 47.7 -1.7**
GYA sS sS 06 13 20.9 +6.5
GYA SS SS 06 14 54.8 -17
GYA pmax pmax
comp=Z,5.0nm,0.7s
GYA pmax pmax
comp=Z,110nm,10.1s
GYA L L
comp=Z,1µm,18.5s
GYA L L
comp=Z,1µm,17.2s
GYA L L
comp=Z,2µm,17.7s
QIZ Qiongzhong 35.40 241 P **P 06 07 59.6 -0.8**
QIZ PP **PnPn 06 09 20.7 +0.1**
QIZ S **S 06 13 32.2 +1.3**
QIZ pmax pmax
comp=Z,18nm,1.7s
QIZ L L
comp=Z,6µm,22.9s
QIZ L L
comp=Z,4µm,17.8s
QIZ L L
comp=Z,5µm,21.5s
KMI Kunming 36.34 256 ⇑P **P 06 08 08.8 +0.1**
KMI pP pP 06 08 21.8 -1.9
KMI PP **PP 06 09 32.4 +0.1**
KMI S **S 06 13 43.2 -2.5**
KMI SS **SnSn 06 16 15.0 -2.9**
KMI pmax pmax
comp=Z,61nm,0.8s
KMI pmax pmax
comp=Z,790nm,7.9s
KMI L L
comp=Z,7µm,21.5s
KMI L L
comp=Z,5µm,23.9s
KMI L L
comp=Z,9µm,25.8s
TNA Tin City 36.76 32 P **P 06 08 12.9 +1.3**
TNA IAmb IAmb 06 09 05.5
comp=Z,94nm,1.3s
PATS Pohnpei 37.43 153 IAMs_20 IAMs_20 06 20 11.1
comp=Z,12µm,22.0s
ANM Nome 37.57 34 P **P 06 08 17.7 -0.7**
ANM pmax pmax
comp=Z,154nm,1.5s
ANM MLR MLR
comp=Z,5µm,20.0s
ANM Nome 37.57 34 P **P 06 08 17.7 -0.7**
ANM IAmb IAmb 06 09 24.1
comp=Z,154nm,1.5s
SLVN Son La 37.87 250 P **P 06 08 20.0 -1.5**
SLVN IAmb IAmb 06 09 15.9
comp=Z,111nm,1.1s
DGZ Jazzator, Alta 38.33 301 *c e*P **P 06 08 24.6 -0.6**
DGZ pmax pmax
comp=Z,116nm,0.7s
RDOG Red Dog Mine 39.32 29 P **P 06 08 32.7 -0.4**
RDOG IAMs_20 IAMs_20 06 27 38.2
comp=Z,9µm,18.0s
ZAA0 Zalesovo Array 39.40 308 P **P 06 08 32.2 -1.6**
ZAA0 IAmb IAmb 06 08 36.8
comp=Z,115nm,0.7s
ZAA0 IAMs_20 IAMs_20 06 25 25.2
comp=Z,12µm,20.0s
ZALV Zalesovo Beam 39.40 308 P **P 06 08 32.6 -1.3**
comp=Z,130nm,0.7s,baz=88,slow=7.7,SNR=52
ZALV PcP **PcP 06 10 42.0 +1.1**
comp=Z,37nm,0.7s,baz=82,slow=2.7,SNR=3.6
ZALV LR LR 06 25 45.8
comp=Z,12µm,20.1s,baz=76,slow=38
ZALV Zalesovo Beam 39.40 308 P **P 06 08 32.3 -1.5**
WMQ Urumqi 39.44 292 P **P 06 08 34.8 +0.3**
WMQ S **S 06 14 32.8 +0.9**
WMQ pmax pmax
comp=Z,380nm,0.7s
WMQ pmax pmax
comp=Z,2µm,10.9s
WMQ L L
comp=Z,8µm,17.1s
WMQ L L
comp=Z,21µm,16.7s
WMQ L L
comp=Z,26µm,18.5s
NRIK Noril'sk 39.46 333 P **P 06 08 32.8 -1.5**
comp=Z,50nm,0.7s,baz=110,slow=5.9,SNR=44
NRIK LR LR 06 25 51.4
comp=Z,22µm,21.1s,baz=106,slow=38
NRIK Noril'sk 39.46 333 P **P 06 08 31.9 -2.3**
NRIK pmax pmax
comp=Z,57nm,0.8s
NRIK MLR MLR
comp=Z,23µm,21.0s
NRIK Noril'sk 39.46 333 P **P 06 08 31.9 -2.3**
KWAJ Kwajalein Atol 39.64 138 IAMs_20 IAMs_20 06 21 37.9
comp=Z,12µm,21.0s
NONG Nongkai 40.58 247 P **P 06 08 43.4 -0.7**
comp=Z,254nm,0.8s
UBPT Khong Chiam 40.98 241 P **P 06 08 48.0 +0.6**
comp=Z,1µmcomp=Z,27nm,0.8s
UBPT Khong Chiam 40.98 241 P **P 06 08 46.1 -1.2**
TTA Tatalina 41.52 38 P **P 06 08 51.1 -0.3**
TTA pmax pmax
comp=Z,72nm,1.2s
TTA Tatalina 41.52 38 P **P 06 08 51.1 -0.3**
DLV T Lat 41.57 235 P **P 06 08 50.7 -1.7**
ZIRO ZIRO 41.58 266 *e*P **P 06 08 53.4 +1.0**
SVW2 Sparrevohn 41.73 40 P **P 06 08 51.8 -1.2**
MOKO MOKOCHONG 41.74 264 ⇑ *e*P **P 06 08 54.5 +0.8**
MOKO IAmb IAmb 06 08 58.3

comp=Z,332nm,0.5s
KHON Khomkaen 42.00 245 P **P 06 08 55.3 -0.4**
comp=Z,1µmcomp=Z,127nm,0.7s
A21K Barrow 42.17 25 P **P 06 08 54.8 -1.7**
A21K IAmb IAmb 06 09 18.1
comp=Z,81nm,0.9s
MK31 Makanchi Array 42.31 298 *i*P **P 06 08 56.5 -1.5**
MK31 pmax pmax
comp=Z,63nm,0.5s
MK31 Makanchi Array 42.31 298 P **P 06 08 56.4 -1.5**
MK31 IAmb IAmb 06 09 05.1
comp=Z,92nm,0.8s
MKAR Makanchi Array 42.31 298 P **P 06 08 56.4 -1.6**
comp=Z,23nm,0.4s,baz=83,slow=8.5,SNR=110
MKAR PcP **PcP 06 10 50.8 +0.2**
comp=Z,19nm,0.8s,baz=49,slow=2.1,SNR=1.9
MKAR LR LR 06 27 57.3
comp=Z,10µm,19.9s,baz=84,slow=38
MKAR Makanchi Array 42.31 298 P **P 06 08 56.4 -1.6**
KOHI KOHIMA 42.37 264 *e*P **P 06 08 57.5 -1.4**
KOHI IAmb IAmb 06 09 02.3
comp=Z,187nm,0.5s
LSA Lhasa 42.48 271 P **P 06 08 59.8 -0.3**
LSA S **S 06 15 21.0 +2.9**
LSA pmax pmax
comp=Z,74nm,1.7s
LSA L L
comp=Z,8µm,17.1s
LSA L L
comp=Z,12µm,17.1s
LSA L L
comp=Z,23µm,18.5s
LSA Lhasa 42.48 271 P **P 06 08 58.2 -1.9**
LSA pmax pmax
comp=Z,65nm,0.9s
LSA MLR MLR
comp=Z,6µm,20.0s
LSA Lhasa 42.48 271 P **P 06 08 58.2 -1.9**
LSA IAMs_20 IAMs_20 06 27 22.7
comp=Z,6µm,20.0s
MAKZ Makanchi 42.51 298 P **P 06 08 58.1 -1.5**
MAKZ pmax pmax
comp=Z,134nm,0.9s
MAKZ MLR MLR
comp=Z,10µm,20.0s
MAKZ Makanchi 42.51 298 P **P 06 08 58.1 -1.5**
MAKZ IAmb IAmb 06 09 07.4
comp=Z,134nm,0.9s
MAKZ IAMs_20 IAMs_20 06 27 42.6
comp=Z,10µm,20.0s
IMAR Indian Mountai 42.59 33 P **P 06 08 59.5 -0.5**
UTTA Uttaradit 42.60 249 P **P 06 09 01.9 +1.3**
comp=Z,218nmcomp=Z,23nm,0.7s
SEM Semipalatinsk 42.74 304 *e*P **P 06 08 58.4 -3.3**
baz=304
SEM *e*S **S 06 15 17.3 -3.7**
baz=304
SEM *e*LR LR 06 27 01.9
comp=Z,2µm,17.2s,baz=304
SEM Semipalatinsk 42.74 304 *e*P **P 06 08 58.3 -3.3**
SEM *e*S **S 06 15 17.3 -3.7**
SEM MLR MLR
comp=Z,2µm,17.0s
SII Sitkinak Islan 42.81 47 IAMs_20 IAMs_20 06 28 54.5
comp=Z,8µm,19.0s
CM34 Chiang Mai Arr 42.86 251 P **P 06 09 04.7 +2.0**
CHAI Chaiyaphum 42.88 246 P **P 06 09 01.5 -1.4**
comp=Z,609nmcomp=Z,68nm,0.7s
CM35 Chiang Mai Arr 42.97 251 P **P 06 09 04.0 +0.4**
IMP Imphal 43.00 263 *e*P **P 06 09 03.0 -0.8**
IMP IAmb IAmb 06 09 08.5
comp=Z,76nm,0.7s
CMMT Chiang Mai 43.03 252 P **P 06 09 04.4 +0.3**
comp=Z,1µmcomp=Z,100nm,0.7s
CHTO Chiang Mai 43.03 252 P **P 06 09 03.2 -0.9**
CHTO pmax pmax
comp=Z,63nm,0.7s
CHTO MLR MLR
comp=Z,5µm,20.0s
CHTO Chiang Mai 43.03 252 P **P 06 09 03.2 -0.9**
CHTO IAmb IAmb 06 09 14.3
comp=Z,63nm,0.7s
PHIT Phitsanulok 43.07 248 P **P 06 09 05.6 +1.2**
comp=Z,495nmcomp=Z,60nm,0.8s
CM36 Chiang Mai Arr 43.12 251 P **P 06 09 06.0 +1.2**
CM32 Chiang Mai Arr 43.20 251 P **P 06 09 07.0 +1.5**
OHAK Old Harbor 43.21 46 IAmb IAmb 06 09 30.4
comp=Z,125nm,1.2s
CM09 Chiang Mai Arr 43.24 251 P **P 06 09 08.0 +2.2**
comp=Z,422nmcomp=Z,44nm,0.6s
CM31 Chiang Mai Arr 43.27 251 P **P 06 09 08.0 +2.0**
comp=Z,13µmcomp=Z,1µm,0.6s
CM31 Chiang Mai Arr 43.27 251 P **P 06 09 08.4 +2.4**
CMAR Chiang Mai Arr 43.27 251 P **P 06 09 05.2 -0.8**
comp=Z,16nm,0.6s,baz=41,slow=8.3,SNR=33
CMAR LR LR 06 27 38.5
comp=Z,4µm,19.8s,baz=94,slow=37
CMAR Chiang Mai Arr 43.27 251 P **P 06 09 05.1 -0.8**
PPLA Purkeypile 43.27 38 P **P 06 09 06.3 +0.6**
CM02 Chiang Mai Arr 43.28 251 P **P 06 09 07.9 +1.8**
comp=Z,362nmcomp=Z,46nm,0.9s
CM04 Chiang Mai Arr 43.28 251 P **P 06 09 07.5 +1.4**
comp=Z,373nmcomp=Z,38nm,0.6s
CM01 Chiang Mai Arr 43.28 251 P **P 06 09 08.0 +1.9**
comp=Z,358nmcomp=Z,47nm,0.8s
CM15 Chiang Mai Arr 43.28 251 P **P 06 09 08.5 +2.4**
comp=Z,368nmcomp=Z,33nm,0.9s
CAST Castle Rocks 43.30 37 P **P 06 09 04.4 -1.3**
CAST IAmb IAmb 06 09 20.8
comp=Z,149nm,1.2s
CAST IAMs_20 IAMs_20 06 26 09.5
comp=Z,8µm,21.0s
SWI Sorong 43.30 196 P **P 06 09 06.8 +0.6**
comp=Z,4µmcomp=Z,2µmcomp=Z,100nm,0.9s
CM05 Chiang Mai Arr 43.30 251 P **P 06 09 07.0 +0.7**
comp=Z,292nmcomp=Z,34nm,0.7s
SIJI Sorong 43.30 196 P **P 06 09 05.6 -0.7**
comp=Z,46nm,0.6s,baz=47,slow=7.5,SNR=19
SIJI LR LR 06 25 14.7
comp=Z,3µm,21.8s,baz=8.5,slow=33
CM13 Chiang Mai Arr 43.31 251 P **P 06 09 08.1 +1.7**
comp=Z,292nmcomp=Z,30nm,0.7s
SPU Mount Spurr 43.43 40 P **P 06 09 06.7 -0.2**
KDAK Kodiak Island 43.51 45 P **P 06 09 09.2 +1.7**
comp=Z,30nm,0.7s,baz=300,slow=3.7,SNR=16
KDAK Kodiak Island 43.51 45 P **P 06 09 09.0 +1.5**
KDAK pmax pmax
comp=Z,150nm,1.2s
KDAK MLR MLR
comp=Z,3µm,22.0s
KDAK Kodiak Island 43.51 45 P **P 06 09 09.0 +1.5**
KDAK IAmb IAmb 06 09 60.0
comp=Z,150nm,1.2s
SKT Skwentna 43.62 39 P **P 06 09 08.3 -0.1**
SKT IAMs_20 IAMs_20 06 27 49.2
comp=Z,6µm,21.0s
KURK Kurchatov 43.68 305 P **P 06 09 08.0 -1.0**
KURK 06 10 56.3
KURK Kurchatov 43.68 305 P **P 06 09 08.0 -1.0**
BPAW Bear Paw Mtn. 43.76 36 P **P 06 09 08.3 -1.2**
BPAW IAmb IAmb 06 09 16.1
comp=Z,283nm,1.8s
KURBB Kurchatov Arra 43.76 304 P **P 06 09 08.0 -1.6**
comp=Z,150nm,0.5s,baz=77,slow=8.7,SNR=93
KURBB PcP **PcP 06 10 56.3 +1.0**
comp=Z,22nm,0.7s,baz=85,slow=3.0,SNR=2.7
KURBB Kurchatov Arra 43.76 304 P **P 06 09 07.8 -1.8**
KTH Kantishna Hill 43.81 37 P **P 06 09 10.2 +0.3**
KTH IAMs_20 IAMs_20 06 29 54.1
comp=Z,6µm,20.0s
MLY Manley 43.84 34 IAmb IAmb 06 09 16.9
comp=Z,86nm,1.0s
MLY IAMs_20 IAMs_20 06 30 10.7
comp=Z,7µm,20.0s
CAPN Captain Cook N 43.90 41 IAMs_20 IAMs_20 06 28 05.7
comp=Z,6µm,22.0s
GUWA GUWAHATI 43.92 266 *e*P **P 06 09 10.1 -1.0**
GUWA IAmb IAmb 06 09 13.6
comp=Z,242nm,1.0s
GENI Genyem 43.92 183 P **P 06 09 10.9 -0.3**
comp=Z,3µmcomp=Z,3µmcomp=Z,97nm,0.8s
LBMI Labuha 43.98 201 P **P 06 09 13.3 +1.6**
comp=Z,2µmcomp=Z,77nm,1.0s
CNPM China Poot 43.99 42 P **P 06 09 12.0 +0.6**
TRF Thorofare Moun 44.10 37 IAmb IAmb 06 09 18.9
comp=Z,336nm,2.1s

TRF IAMs_20 IAMs_20 06 30 02.8
comp=Z,6µm,20.0s
SHL Shillong 44.12 265 P **P** **06 09 09.6 -3.4**
SHL pmax pmax
comp=Z,90nm,1.0s
SHL Shillong 44.12 265 *e*P **P** **06 09 10.5 -2.5**
SHL *e*P pP 06 09 12.4 -16
SHL IAmb IAmb 06 09 16.0
comp=Z,45nm,0.6s
SHL *e*S **S** **06 15 43.0 +1.3**
SHL Shillong 44.12 265 P **P** **06 09 09.6 -3.4**
SHL IAmb IAmb 06 09 15.6
comp=Z,90nm,1.0s
MHMT Maesarieng 44.17 252 P **P** **06 09 14.0 +0.8**
comp=Z,2µmcomp=Z,106nm,0.7s
GTOI Gorontalo 44.18 208 P **P** **06 09 14.4 +1.1**
comp=Z,888nmcomp=Z,29nm,0.9s
CUT Chulitna 44.18 38 P **P** **06 09 11.6 -1.2**
CUT IAmb IAmb 06 10 15.7
comp=Z,176nm,1.3s
TOLK Toolik Lake Re 44.30 29 IAMs_20 IAMs_20 06 30 27.7
comp=Z,5µm,18.0s
I23K Minto, Yukon-K 44.42 34 P **P** **06 09 14.9 +0.3**
I23K IAmb IAmb 06 10 19.4
comp=Z,170nm,1.4s
I23K IAMs_20 IAMs_20 06 30 29.4
comp=Z,7µm,20.0s
RC01 Rabbit Creek A 44.56 40 IAmb IAmb 06 09 38.7
comp=Z,107nm,1.2s
RC01 IAMs_20 IAMs_20 06 29 45.0
comp=Z,7µm,22.0s
TOLI2 Tolitoli 44.56 211 P **P** **06 09 14.2 -2.2**
NEA2 Nenana 44.57 35 P **P** **06 09 15.8 -0.1**
NEA2 IAmb IAmb 06 09 42.4
comp=Z,98nm,0.8s
NEA2 IAMs_20 IAMs_20 06 30 34.1
comp=Z,5µm,20.0s
O22K Cooper Landing 44.64 41 IAMs_20 IAMs_20 06 31 30.1
comp=Z,7µm,21.0s
MCK McKinley 44.69 36 IAmb IAmb 06 10 05.2
comp=Z,103nm,1.2s
MRSI Marisa 44.71 209 P **P** **06 09 19.0 +1.5**
comp=Z,4µmcomp=Z,2µmcomp=Z,131nm,1.1s
RND Reindeer 44.75 37 IAmb IAmb 06 09 58.2
comp=Z,98nm,1.0s
RND IAMs_20 IAMs_20 06 30 42.8
comp=Z,8µm,21.0s
PMR Palmer 44.79 39 P **P** **06 09 17.5 -0.2**
PMR pmax pmax
comp=Z,52nm,1.0s
PMR Palmer 44.79 39 P **P** **06 09 17.5 -0.2**
SEW Seward 44.82 41 IAmb IAmb 06 09 42.7
comp=Z,162nm,1.3s
UMPA Umpang Tak 44.83 249 P **P** **06 09 21.4 +2.9**
comp=Z,1µmcomp=Z,27nm,0.8s
UTHA Uthaitani 44.87 248 P **P** **06 09 20.0 +1.2**
comp=Z,167nmcomp=Z,20nm,0.8s
GHO Glory Hole Cre 44.87 39 P **P** **06 09 18.2 -0.2**
GHO IAmb IAmb 06 09 44.4
comp=Z,92nm,0.8s
MDM Murphy Dome 44.91 34 IAMs_20 IAMs_20 06 30 35.0
comp=Z,6µm,20.0s
WRH Wood River Hil 45.00 35 IAmb IAmb 06 09 53.0
comp=Z,84nm,1.2s
WRH IAMs_20 IAMs_20 06 31 07.5
comp=Z,6µm,22.0s
TCOL CIGO, UAF Yank 45.07 35 IAmb IAmb 06 09 46.9
comp=Z,114nm,0.8s
TCOL IAMs_20 IAMs_20 06 30 49.3
comp=Z,7µm,20.0s
COLA College 45.07 35 P **P** **06 09 19.8 0.0**
COLA pmax pmax
comp=Z,117nm,0.9s
COLA MLR MLR
comp=Z,7µm,20.0s
COLA College 45.07 35 P **P** **06 09 19.8 0.0**
COLA IAmb IAmb 06 09 46.9
comp=Z,117nm,0.8s
COLA College 45.07 35 IAMs_20 IAMs_20 06 30 49.3
comp=Z,7µm,20.0s
CCB Clear Creek Bu 45.11 35 IAMs_20 IAMs_20 06 30 59.4
comp=Z,6µm,21.0s
FAKI Fak Fak 45.11 194 P **P** **06 09 21.0 +0.3**
FAKI Fak Fak 45.11 194 P **P** **06 09 21.3 +0.6**
KNK Knik Glacier 45.13 39 P **P** **06 09 20.0 -0.4**
KNK IAMs_20 IAMs_20 06 30 01.9
comp=Z,6µm,22.0s
SML Sawmill 45.15 39 P **P** **06 09 20.5 -0.1**
POKR Poker Flat Res 45.23 34 P **P** **06 09 21.4 +0.3**
POKR IAMs_20 IAMs_20 06 30 54.6
comp=Z,7µm,20.0s
PWL Port Wells 45.27 40 IAmb IAmb 06 09 45.6
comp=Z,74nm,0.9s
PWL IAMs_20 IAMs_20 06 31 26.8
comp=Z,7µm,20.0s
SHLS Shalkode 45.34 294 *e*P P 06 09 17.7 -4.7
comp=Z,23nm,0.4s,baz=294
SHLS *e*S **S** **06 15 54.9 -3.9**
baz=294
SHLS Shalkode 45.34 294 *e*P P 06 09 17.7 -4.7
SHLS *e*S **S** **06 15 54.8 -3.9**
SHLS pmax pmax
comp=Z,23nm,0.4s
TDK Taldygorghan 45.43 297 *e*P **P** **06 09 22.0 -1.0**
comp=Z,107nm,0.6s,baz=297
TDK *e*S **S** **06 15 56.2 -3.7**
baz=297
TDK *e*LR LR 06 28 25.1
comp=Z,8µm,16.4s,baz=297
TDK Taldyqorghan 45.43 297 *e*P **P** **06 09 22.0 -1.0**
TDK *e*S **S** **06 15 56.1 -3.8**
TDK pmax pmax
comp=Z,107nm,0.6s
TDK MLR MLR
comp=Z,8µm,16.0s
IL31 45.49 35 P **P** **06 09 22.5 -0.6**
IL31 IAmb IAmb 06 09 40.8
comp=Z,85nm,0.9s
ILAR Eielson Array 45.49 35 P **P** **06 09 22.9 -0.4**
comp=Z,59nm,1.1s,baz=263,slow=5.4,SNR=72
ILAR LR LR 06 31 23.6
comp=Z,3µm,18.9s,baz=275,slow=40
ILAR Eielson Array 45.49 35 P **P** **06 09 22.7 -0.5**
HDA Harding Lake 45.50 35 IAmb IAmb 06 09 28.9
comp=Z,83nm,1.1s
HDA IAMs_20 IAMs_20 06 30 52.7
comp=Z,6µm,22.0s
SCM Sheep Creek Mo 45.62 39 P **P** **06 09 24.4 +0.1**
SCM pmax pmax
comp=Z,92nm,1.0s
SCM Sheep Creek Mo 45.62 39 P **P** **06 09 24.4 +0.1**
SCM IAmb IAmb 06 10 33.2
comp=Z,92nm,1.0s
GTK Tadong 45.63 269 *e*P **P** **06 09 25.3 +0.4**
GTK IAmb IAmb 06 09 30.9
comp=Z,64nm,0.7s
UZB Uzynbulak 45.64 294 *e*P **P** **06 09 22.7 -2.2**
comp=Z,31nm,1.1s,baz=294
UZB *e*S **S** **06 15 56.5 -6.7**
baz=294
UZB Uzynbulak 45.64 294 *e*P **P** **06 09 22.7 -2.2**
UZB *e*S **S** **06 15 56.5 -6.7**
UZB pmax pmax
comp=Z,31nm,1.1s
SANI Sanana 45.75 203 P **P** **06 09 27.1 +1.4**
comp=Z,3µmcomp=Z,2µmcomp=Z,82nm,1.1s
PATY Pattaya 45.75 244 P **P** **06 09 28.7 +2.9**
comp=Z,2µmcomp=Z,23nm,0.6s
KPKS Kokpek 45.76 295 *e*P **P** **06 09 23.3 -2.4**
comp=Z,74nm,1.2s,baz=294
KPKS *e*S S 06 15 55.4 -9.4
baz=294
KPKS Kokpek 45.76 295 *e*P **P** **06 09 23.3 -2.4**
KPKS *e*S S 06 15 55.3 -10
KPKS pmax pmax
comp=Z,74nm,1.2s
GLI Glacier Island 45.86 40 IAMs_20 IAMs_20 06 32 14.5
comp=Z,6µm,21.0s
PRP Porcupine Dome 46.00 34 IAMs_20 IAMs_20 06 31 06.8
comp=Z,9µm,22.0s
ARXS Arharly 46.08 296 *e*P **P** **06 09 26.5 -1.8**
SATY Saty 46.09 294 *e*P **P** **06 09 26.4 -2.0**
comp=Z,13nm,0.5s,baz=294
SATY Saty 46.09 294 *e*P **P** **06 09 26.4 -2.0**
SATY pmax pmax
comp=Z,13nm,0.5s

APSI Ampana 46.10 209 P **P** **06 09 30.3 +1.8**
comp=Z,1µmcomp=Z,76nm,1.4s
M24K Tolsona, Glenn 46.12 38 IAMs_20 IAMs_20 06 27 31.2
comp=Z,6µm,22.0s
BMAR Burnt Mountain 46.21 31 P **P** **06 09 29.1 +0.2**
HIN Hinchinbrook I 46.23 41 P **P** **06 09 29.7 +0.6**
HIN IAmb IAmb 06 10 20.0
comp=Z,69nm,1.0s
HIN IAMs_20 IAMs_20 06 32 20.2
comp=Z,6µm,19.0s
PRZ Przheval'sk 46.31 294 P **P** **06 09 29.8 -0.4**
PRZ pmax pmax
comp=Z,208nm,1.5s
PRZ MLR MLR
comp=Z,24µm,19.0s
PRZ Przheval'sk 46.31 294 P **P** **06 09 29.8 -0.4**
PAX Paxson 46.32 37 P **P** **06 09 30.5 +0.6**
PAX pmax pmax
comp=Z,91nm,1.5s
PAX Paxson 46.32 37 P **P** **06 09 30.5 +0.6**
PAX IAmb IAmb 06 10 30.8
comp=Z,91nm,1.5s
KLU Klutina 46.33 39 P **P** **06 09 29.9 0.0**
KLU IAmb IAmb 06 09 55.1
comp=Z,117nm,1.1s
KLU IAMs_20 IAMs_20 06 32 18.8
comp=Z,6µm,22.0s
EYAK Cordova Ski Ar 46.57 40 IAmb IAmb 06 10 07.0
comp=Z,80nm,1.0s
PHET Kaeng Krachan 46.60 245 P **P** **06 09 33.0 +0.6**
comp=Z,450nmcomp=Z,57nm,0.7s
CHKK Chushkaly 46.78 296 *e*P **P** **06 09 31.4 -2.2**
baz=296
CHKK Chushkaly 46.78 296 *e*P **P** **06 09 31.3 -2.3**
SCRK Sand Creek 46.84 36 P **P** **06 09 33.0 -1.0**
SCRK IAmb IAmb 06 10 17.9
comp=Z,147nm,1.3s
N25K Chitina, Valde 46.94 39 P **P** **06 09 35.3 +0.6**
MDOK Medeo 46.98 295 *e*P **P** **06 09 33.0 -2.4**
MDOK baz=295
MDOK *e*S **S** **06 16 19.7 -2.8**
baz=295
MDOK *e*LR LR 06 28 34.5
comp=Z,5µm,22.6s,baz=295
MDOK Medeo 46.98 295 *e*P **P** **06 09 33.0 -2.4**
MDOK *e*S **S** **06 16 19.6 -2.8**
MDOK MLR MLR
comp=Z,5µm,23.0s
TARG Taragay, Kyrgy 47.00 293 IAmb IAmb 06 09 43.3
comp=Z,86nm,0.9s
AAA Alma-Ata 47.06 295 *e*P **P** **06 09 34.8 -1.1**
baz=295
AAA *e*LR LR 06 29 29.5
comp=Z,10µm,25.9s,baz=295
AAA Alma-Ata 47.06 295 *e*P **P** **06 09 34.7 -1.1**
AAA MLR MLR
comp=Z,10µm,26.0s
MENT Mentasta 47.12 37 P **P** **06 09 36.3 +0.3**
MENT IAmb IAmb 06 10 07.0
comp=Z,87nm,1.0s
SBUM Sibu 47.24 223 P **P** **06 09 39.0 +1.6**
KDJ Kajisay 47.28 294 IAmb IAmb 06 10 32.0
comp=Z,61nm,0.9s
HMT Hamilton 47.34 40 IAMs_20 IAMs_20 06 33 13.4
comp=Z,8µm,20.0s
GLB Gilahina Butte 47.34 39 IAMs_20 IAMs_20 06 27 57.4
comp=Z,5µm,22.0s
MTBS Maitube 47.42 295 *e*P **P** **06 09 37.2 -1.6**
baz=295
MTBS *e*S **S** **06 16 26.1 -2.5**
baz=295
MTBS Maitube 47.42 295 *e*P **P** **06 09 37.1 -1.6**
MTBS *e*S **S** **06 16 26.0 -2.5**
BRZS Berezniki 47.55 305 ⇑ *i*P **P** **06 09 37.6 -2.0**
comp=Z,34nm,0.4s,baz=305
BRZS *e*S **S** **06 16 27.2 -2.8**
baz=305
BRZS Berezniki 47.55 305 *c i*P **P** **06 09 37.5 -2.0**
BRZS *e*S **S** **06 16 27.2 -2.8**
BRZS pmax pmax
comp=Z,34nm,0.4s
VRDI Verde Repeater 47.55 39 P **P** **06 09 40.2 +0.6**
VRDI IAmb IAmb 06 10 09.0
comp=Z,55nm,0.8s
VRDI IAMs_20 IAMs_20 06 32 05.1
comp=Z,5µm,22.0s
K27K Chicken 47.66 35 IAMs_20 IAMs_20 06 32 50.9
comp=Z,5µm,21.0s
MCARA **McCarthy VSAT 47.72 39** P **P** **06 09 40.7 0.0**
MCARA IAMs_20 IAMs_20 06 28 43.6
comp=Z,6µm,22.0s
ULHL Ulahol 47.88 294 P **P** **06 09 44.3 +1.8**
SNR=16
EGAK Eagle 47.92 34 P **P** **06 09 41.7 -0.5**
EGAK IAmb IAmb 06 09 48.3
comp=Z,70nm,0.9s
EGAK IAMs_20 IAMs_20 06 32 35.8
comp=Z,5µm,20.0s
L27K Beaver Creek, 47.95 37 IAMs_20 IAMs_20 06 33 48.5
comp=Z,6µm,20.0s
BCAR Beaver Creek A 47.96 37 P **P** **06 09 43.1 +0.5**
BOOM Boomskoye usch 47.99 294 P **P** **06 09 42.0 -1.3**
BOOM pmax pmax
comp=Z,108nm,0.8s
BOOM MLR MLR
comp=Z,20µm,20.0s
BOOM Boomskoye usch 47.99 294 P **P** **06 09 42.0 -1.3**
TKM2 Tokmak 2 48.06 295 P **P** **06 09 46.4 +2.5**
SNR=33
BRVK Borovoye 48.07 310 P **P** **06 09 41.6 -1.9**
BRVK pmax pmax
comp=Z,81nm,1.0s
BRVK MLR MLR
comp=Z,10µm,20.0s
BRVK Borovoye 48.07 310 P **P** **06 09 41.6 -1.9**
BRVK IAmb IAmb 06 09 53.8
comp=Z,81nm,1.0s
BTLS Baital 48.32 298 *e*P **P** **06 09 43.3 -2.2**
comp=Z,17nm,0.5s,baz=298
BTLS *e*S **S** **06 16 41.5 +0.4**
baz=298
BTLS Baital 48.32 298 *e*P **P** **06 09 43.3 -2.2**
BTLS *e*S **S** **06 16 41.4 +0.4**
BTLS pmax pmax
comp=Z,17nm,0.5s
BARN Barnard Glacie 48.43 39 P **P** **06 09 45.7 -0.7**
BARN IAmb IAmb 06 10 15.9
comp=Z,53nm,0.8s
GRNC Granite Creek 48.46 40 P **P** **06 09 47.0 +0.3**
GRNC IAmb IAmb 06 10 16.5
comp=Z,100nm,1.0s
SGDS Sogindy 48.52 296 *e*P **P** **06 09 45.3 -1.9**
comp=Z,18nm,0.8s,baz=296
SGDS *e*S **S** **06 16 45.9 +1.9**
baz=296
SGDS Sogindy 48.52 296 *e*P **P** **06 09 45.2 -1.9**
SGDS *e*S **S** **06 16 45.8 +1.9**
SGDS pmax pmax
comp=Z,18nm,0.8s
YAH Yahtse 48.55 40 P **P** **06 09 48.1 +0.7**
YAH IAmb IAmb 06 10 18.8
comp=Z,105nm,1.1s
KBK Karagaybulak 48.60 295 P **P** **06 09 50.3 +2.3**
SNR=12
CHMS Chumysh 48.61 296 P **P** **06 09 49.6 +1.8**
SNR=9.3
CTGM Chitina Glacie 48.61 39 P **P** **06 09 48.0 +0.2**
CTGM IAmb IAmb 06 10 39.5
comp=Z,74nm,1.0s
USP Ospenovka 48.67 296 P **P** **06 09 50.1 +1.8**
SNR=26
TARA Tarawa 48.70 137 IAMs_20 IAMs_20 06 27 23.5
comp=Z,5µm,20.0s
FRU1 Bishkek 48.76 295 IAMs_20 IAMs_20 06 31 56.0
comp=Z,8µm,21.0s
MTKI Muara Teweh, K 48.90 217 P **P** **06 09 52.2 +2.0**
comp=Z,3µmcomp=Z,8µmcomp=Z,78nm,0.7s
AAK Ala-Archa 48.92 295 P **P** **06 09 52.3 +1.9**
SNR=22
AAK Ala-Archa 48.92 295 *i*P **P** **06 09 49.3 -1.1**
SNR=29
AAK Ala-Archa 48.92 295 P **P** **06 09 48.4 -2.0**
AAK pmax pmax
comp=Z,48nm,0.6s
AAK MLR MLR
comp=Z,10µm,20.0s

AAK Ala-Archa 48.92 295 P **P** **06 09 48.4 -2.0**
AAK IAmb IAmb 06 09 57.5
comp=Z,48nm,0.6s
KSH Kashi 49.16 291 P **P** **06 09 56.3 +4.1**
KSH S **S** **06 17 00.3 +7.1**
KSH SS **SS** **06 20 27.4 +2.7**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,1µm,6.9s
KSH L L
comp=Z,7µm,12.6s
KSH L L
comp=Z,11µm,13.5s
KSH L L
comp=Z,14µm,12.8s
PCA Pinnacle 49.34 40 P **P** **06 09 54.3 +1.1**
PCA IAmb IAmb 06 10 55.0
comp=Z,50nm,0.9s
EKS2 Erkin-Say 49.40 296 P **P** **06 09 55.5 +1.5**
SNR=11
EPYK Eagle Plains 49.43 32 P **P** **06 09 53.6 -0.2**
SPSI Sidrap Palu 49.61 210 P **P** **06 09 57.1 +1.5**
comp=Z,807nmcomp=Z,36nm,1.4s
BOK Bokaro 49.62 267 *e*P **P** **06 09 57.1 +1.4**
BOK IAmb IAmb 06 10 04.3
comp=Z,48nm,0.9s
STKI Sintang 49.66 222 P **P** **06 09 58.5 +2.5**
comp=Z,3µmcomp=Z,32µmcomp=Z,56nm,0.5s
AML Almayashu 49.66 295 P **P** **06 09 58.5 +2.2**
SNR=7.8
AML Almayashu 49.66 295 *i*P **P** **06 09 54.6 -1.8**
SNR=15
BNSI Bone 49.89 209 P **P** **06 10 00.0 +2.3**
comp=Z,2µmcomp=Z,106nm,1.2s
SKLT Songkhla 50.16 239 P **P** **06 10 02.3 +2.4**
comp=Z,1µmcomp=Z,64nm,0.9s
INK Inuvik 50.20 29 P **P** **06 09 59.4 -0.1**
comp=Z,77nm,0.7s,baz=286,slow=6.2,SNR=101
INK Inuvik 50.20 29 P **P** **06 09 59.4 -0.1**
HYT Haines Junctio 50.46 39 P **P** **06 10 02.7 +1.0**
KAPI Kappang 50.59 209 P **P** **06 10 01.9 -1.1**
KAPI pmax pmax
comp=Z,86nm,1.1s
KAPI Kappang 50.59 209 P **P** **06 10 01.9 -1.1**
KAPI IAmb IAmb 06 10 37.4
comp=Z,86nm,1.1s
PMG Port Moresby 50.88 174 LR LR 06 30 14.2
comp=Z,1µm,21.8s,baz=347,slow=34
DZA Taraz 50.95 297 *e*P **P** **06 10 03.4 -2.2**
baz=297
DZA *e*S **S** **06 17 12.5 -5.5**
baz=297
DZA Taraz 50.95 297 *e*P **P** **06 10 03.4 -2.2**
DZA *e*S **S** **06 17 12.4 -5.5**
DGPR DIGLIPUR 51.08 251 *e*P **P** **06 10 08.3 +1.5**
DGPR IAmb IAmb 06 10 14.8
comp=Z,129nm,0.7s
PKDT Phuket 51.11 242 P **P** **06 10 09.1 +2.1**
BBKI Banjar Baru 51.16 216 P **P** **06 10 06.6 -0.8**
comp=Z,3µmcomp=Z,80nm,0.8s
KK31 Karatay Array 51.42 297 P **P** **06 10 07.0 -2.1**
KK31 pmax pmax
comp=Z,61nm,0.8s
KK31 Karatay Array 51.42 297 P **P** **06 10 07.0 -2.1**
KK31 IAmb IAmb 06 10 27.8
comp=Z,61nm,0.8s
KKAR Karatay Array 51.42 297 P **P** **06 10 07.2 -1.9**
KKAR Karatay Array 51.42 297 P **P** **06 10 07.2 -1.9**
KKAR Karatay Array 51.42 297 IAmb IAmb 06 10 27.8
comp=Z,61nm,0.8s
WHY Whitehorse 51.74 39 P **P** **06 10 10.8 -0.5**
WHY IAmb IAmb 06 10 34.5
comp=Z,44nm,0.9s
SVE Sverdlovsk 52.19 317 *e*P **P** **06 10 16.2 +1.6**
SVE *e* 06 12 15.7
SVE *e*S **S** **06 17 38.4 +4.0**
SVE pmax pmax
comp=Z,101nm,0.9s
SVE MLR MLR
comp=E,12µm,18.0s
SVE MLR MLR
comp=Z,17µm,18.0s
SMLA Simla 52.20 281 *e*P **P** **06 10 12.9 -2.1**
SMLA IAmb IAmb 06 10 17.1
comp=Z,394nm,0.5s
DHRM DHARAMSHALA 52.27 282 *e*P **P** **06 10 14.9 -0.9**
DHRM IAmb IAmb 06 10 20.0
comp=Z,305nm,0.5s
MYKOM **Kota Tinggi 52.38 231** P **P** **06 10 19.0 +2.5**
BESE Bessie Mountai 52.43 41 P **P** **06 10 17.9 +1.5**
BESE IAmb IAmb 06 10 47.1
comp=Z,99nm,1.3s
BTK Batken 52.51 294 P **P** **06 10 15.0 -2.4**
BTK pmax pmax
comp=Z,63nm,0.9s
BTK MLR MLR
comp=Z,19µm,22.0s
BTK Batken 52.51 294 P **P** **06 10 15.0 -2.4**
BTK IAmb IAmb 06 11 05.3
comp=Z,63nm,0.9s
THN Thein Dam 52.61 283 *e*P **P** **06 10 19.5 +1.5**
JIS Juneau Island 52.77 41 P **P** **06 10 20.7 +1.9**
JIS IAmb IAmb 06 10 49.8
comp=Z,100nm,1.2s
C36M Paulatuk 53.18 26 P **P** **06 10 21.6 -0.1**
HNR Honiara 53.29 158 LR LR 06 31 25.2
comp=Z,6µm,21.5s,baz=334,slow=34
HNR Honiara 53.29 158 IAMs_20 IAMs_20 06 31 14.4
comp=Z,6µm,20.0s
ARU Arti 53.40 317 *d i*P **P** **06 10 23.0 -0.5**
ARU PCP **PcP** **06 11 29.4 -0.6**
ARU PP **PP** **06 12 19.3 -4.7**
ARU S **S** **06 17 50.4 -0.5**
ARU pmax pmax
comp=Z,44nm,0.7s
ARU Arti 53.40 317 P **P** **06 10 21.9 -1.6**
SOEI Soe 53.57 202 P **P** **06 10 25.5 +0.2**
SOEI Soe 53.57 202 P **P** **06 10 25.6 +0.3**
comp=Z,2µmcomp=Z,212nm,1.1s
NIL Nilore 53.80 285 P **P** **06 10 25.3 -1.5**
NIL pmax pmax
comp=Z,140nm,1.0s
NIL MLR MLR
comp=Z,4µm,21.0s
NIL Nilore 53.80 285 P **P** **06 10 25.3 -1.5**
NIL Nilore 53.80 285 IAMs_20 IAMs_20 06 35 28.2
comp=Z,4µm,21.0s
LHMI Lhok Sumawe 54.01 241 P **P** **06 10 30.0 +1.5**
comp=Z,8µmcomp=Z,3µmcomp=Z,131nm,0.6s
TPI Tanjungpandan 54.02 224 P **P** **06 10 30.3 +1.8**
comp=Z,928nmcomp=Z,79nm,0.8s
BATI Baumata 54.17 203 LR LR 06 33 54.3
comp=Z,732nm,21.4s,baz=31,slow=36
PPBI Pangkal Pinang 54.33 226 P **P** **06 10 32.7 +1.9**
comp=Z,5µmcomp=Z,19µmcomp=Z,122nm,0.9s
WRAK Wrangell Islan 54.48 43 IAMs_20 IAMs_20 06 35 55.2
comp=Z,4µm,21.0s
RPSI Rantau Prapat 54.66 237 IAmb IAmb 06 10 35.3
comp=Z,43nm,0.6s
MTN Manton Dam 55.01 193 P **P** **06 10 35.0 -0.6**
MLSI Meulaboh, Aceh 55.08 240 P **P** **06 10 37.2 +0.9**
comp=Z,241nm,0.8s
TWSI Taliwang, Sumb 55.09 211 P **P** **06 10 37.6 +1.4**
comp=Z,25nm,0.9s
BKNI Bangkinang 55.22 233 P **P** **06 10 39.3 +2.1**
comp=Z,5µmcomp=Z,3µmcomp=Z,319nm,0.9s
AB31 Akbulak array 55.51 308 *i*P **P** **06 10 37.4 -1.5**
ABKAR **Akbulak array 55.51 308** P **P** **06 10 37.5 -1.4**
ALE Alert 55.62 4 IAMs_20 IAMs_20 06 36 20.9
comp=Z,5µm,22.0s
EUNU Eureka 55.70 9 P **P** **06 10 38.9 -1.0**
MNSI Mandailing Nat 55.74 235 P **P** **06 10 42.1 +1.2**
comp=Z,4µmcomp=Z,61nm,0.5s
HOPEN **Hopen 55.83 345** *e*P **P** **06 10 41.4 +0.5**
HOPEN IVmB_BB 06 10 43.1
comp=Z,1µm,3.0s
HOPEN *e*S **S** **06 18 23.8 +0.7**
HOPEN IVMs_BB IVMs_BB 06 43 28.3
comp=Z,1µm,17.6s
SDSI Sungai Dareh 55.99 232 P **P** **06 10 44.8 +2.0**
comp=Z,162nm,1.0s
AKTO Aktyubinsk 56.12 310 P **P** **06 10 40.8 -2.5**
SPA0 **Spitsbergen Ar 56.24 348** *e*P **P** **06 10 45.3 +1.5**
SPA0 *e*S **S** **06 18 32.8 +4.2**
BHPL Bhopal 56.29 272 *e*P **P** **06 10 44.5 -0.3**

BHPL IAmb IAmb 06 10 51.9
comp=Z,38nm,0.7s
SMRI Semarang 56.33 219 P **P** **06 10 47.7 +2.5**
comp=Z,124nm,0.9s
KBS Kingsbay 56.34 350 *i* P **P** **06 10 44.8 +0.3**
KBS IAmb IAmb 06 10 48.2
comp=Z,121nm,0.7s
KBS IAMs_20 IAMs_20 06 38 23.4
comp=Z,6µm,21.7s
KBS Kingsbay 56.34 350 P **P** **06 10 45.3 +0.8**
KBS pmax pmax
comp=Z,69nm,0.9s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 56.34 350 *e*P **P** **06 10 47.0 +2.5**
KBS *e*S **S** **06 18 31.0 +1.2**
KBS IVMs_BB IVMs_BB 06 31 13.2
comp=Z,1µm,33.6s
KBS Kingsbay 56.34 350 P **P** **06 10 45.3 +0.8**
KBS IAmb IAmb 06 11 06.6
comp=Z,69nm,0.9s
KBL Kabul 56.37 289 P **P** **06 10 42.8 -2.8**
KBL pmax pmax
comp=Z,77nm,0.9s
KBL MLR MLR
comp=Z,6µm,19.0s
KBL Kabul 56.37 289 P **P** **06 10 42.8 -2.8**
KBL IAmb IAmb 06 10 52.6
comp=Z,77nm,0.8s
KBL IAMs_20 IAMs_20 06 37 14.6
comp=Z,6µm,19.0s
KBL Kabul 56.37 289 P **P** **06 10 44.9 -0.7**
KBL P **P** **06 10 44.9 -0.7**
PWJI Pagerwojo 56.56 217 P **P** **06 10 47.0 +0.2**
comp=Z,94nm,0.7s
GSI Gunungsitoli 56.59 237 P **P** **06 10 48.4 +1.3**
GSI Gunungsitoli 56.59 237 P P 06 10 53.3 +6.3
NOR Nord 56.62 356 *i* P **P** **06 10 46.5 +0.1**
NOR IAmb IAmb 06 10 48.6
comp=Z,31nm,0.9s
NOR IAMs_20 IAMs_20 06 42 54.9
comp=Z,2µm,16.6s
NOR Nord 56.62 356 *i* P **P** **06 10 46.5 +0.1**
NOR pmax pmax
comp=Z,31nm,0.9s
NOR MLR MLR
comp=Z,2µm,17.0s
LHSI Lahat 57.15 228 P **P** **06 10 53.0 +2.1**
comp=Z,4µmcomp=Z,198nm,0.8s
HSPB Hornsund (broa 57.19 348⇑ *i*P **P** **06 10 52.0 +1.6**
HSPB IVmB_BB 06 10 53.1
comp=Z,636nm,1.0s
HSPB *e*S **S** **06 18 43.7 +2.8**
HSPB IVMs_BB IVMs_BB 06 34 08.4
comp=Z,2µm,25.3s
KPJI Karang Pucung 57.30 220 P **P** **06 10 52.5 +0.5**
comp=Z,3µmcomp=Z,120nm,0.9s
MASI Maura Aman, Be 57.31 229 P P 06 10 58.5 +6.4
PRGR Permogore 57.32 326⇑ *i*P **P** **06 10 53.1 +1.5**
PRGR pmax pmax
comp=Z,83nm,0.8s
MDSI Maura Dua 57.33 227 P **P** **06 10 52.3 +0.1**
comp=Z,1µmcomp=Z,68nm,1.1s
KSI Kapahiang 57.53 229 P **P** **06 10 55.0 +1.3**
comp=Z,68nm,0.8s
KASI Kota Agung 58.03 226 P **P** **06 10 56.3 -0.8**
comp=Z,67nm,0.8s
RES Resolute Bay 58.15 15 P **P** **06 10 56.0 -1.2**
comp=Z,78nm,0.7s,baz=312,slow=4.7,SNR=34
KNRA Kununurra 58.21 195 P **P** **06 10 57.4 -0.8**
KNRA IAmb IAmb 06 11 05.2
comp=Z,56nm,0.8s
LVZ Lovozero 58.26 335⇓ *e*P **P** **06 10 58.9 +0.8**
LVZ pmax pmax
comp=Z,132nm,2.6s
LVZ Lovozero 58.26 335 IAMs_20 IAMs_20 06 39 11.0
comp=Z,4µm,19.0s
BJO1 Bjornoya 58.28 345 *e*P **P** **06 10 57.8 -0.3**
BJO1 *e*S **S** **06 18 57.2 +1.9**
APA Apatity 58.84 335 *i*P **P** **06 11 02.2 +0.1**
APA *i* 06 11 26.0
APA *i* 06 13 08.8
APA *i* PPP PPP 06 14 43.0
APA *i* S **S** **06 19 04.0 +1.3**
APA *i* PS 06 19 20.0
APA *i* 06 20 44.0
APA pmax pmax
comp=Z,23nm,0.8s
HYB Hyderabad 58.91 266 *i* P **P** **06 11 02.0 -1.4**
HYB *e*PcP **PcP** **06 11 51.0 -1.1**
HYB Hyderabad 58.91 266 *e*P **P** **06 11 02.2 -1.2**
HYB IAmb IAmb 06 11 04.2
comp=Z,61nm,0.5s
KEV Kevo 59.45 339 P **P** **06 11 07.5 +1.2**
KEV pmax pmax
comp=Z,39nm,0.8s
KEV MLR MLR
comp=Z,6µm,22.0s
KEV Kevo 59.45 339 P **P** **06 11 07.5 +1.2**
KEV IAmb IAmb 06 11 08.7
comp=Z,39nm,0.8s
KEV IAMs_20 IAMs_20 06 39 15.7
comp=Z,6µm,22.0s
YKA Yellowknife Ar 59.72 32 P **P** **06 11 07.5 -0.7**
comp=Z,6.6nm,0.8s,baz=301,slow=6.3,SNR=32
YKA LR LR 06 41 08.9
comp=Z,2µm,18.9s,baz=0.0,slow=40
HAMF Hammerfest 59.77 340⇑ *e*P **P** **06 11 09.8 +1.3**
HAMF IVmB_BB 06 11 10.0
comp=Z,676nm,2.8s
ARA0 ARCESS Array S 60.00 339 *e*P **P** **06 11 11.5 +1.4**
ARCES ARCESS Array B 60.00 339 P **P** **06 11 09.2 -1.0**
comp=Z,9.2nm,0.6s,baz=47,slow=8.0,SNR=23
ARCES LR LR 06 40 40.5
comp=Z,4µm,21.7s,baz=55,slow=40
ARCES ARCESS Array B 60.00 339 P **P** **06 11 11.1 +1.0**
ARCES pmax pmax
comp=Z,91nm,1.5s
ARCES ARCESS Array B 60.00 339 P **P** **06 11 11.1 +1.0**
ARCES IAmb IAmb 06 12 43.0
comp=Z,91nm,1.5s
KLMR Klimovskoe 60.27 327*c* *i*P **P** **06 11 13.3 +1.2**
KLMR S **S** **06 19 27.5 +6.3**
KLMR pmax pmax
comp=Z,76nm,1.3s
KLMR MLR MLR
comp=Z,6µm,19.0s
KLMR Klimovskoe 60.27 327⇑ *i*P **P** **06 11 13.4 +1.3**
KLMR *e*P **P** **06 11 13.4 +1.3**
KLMR *e*P **P** **06 11 13.4 +1.3**
KLMR AMP 06 11 14.5
comp=Z,76nm,1.3s
KLMR S **S** **06 19 27.6 +6.3**
KLMR S **S** **06 19 27.6 +6.3**
KLMR SS SS 06 23 32.5 +14
KLMR SS SS 06 23 32.5 +14
KLMR LQ LQ 06 32 40.2
KLMR LQ LQ 06 32 40.2
KLMR LR LR 06 33 53.6
KLMR AMP 06 39 16.9
comp=Z,6µm,18.8s
MDRS Chennai 60.39 261⇑ *e*P **P** **06 11 15.3 +1.8**
MDRS IAmb IAmb 06 11 16.6
comp=Z,34nm,0.7s
TULEG Thule 60.61 8 *i* P **P** **06 11 12.5 -1.6**
TULEG IAmb IAmb 06 11 16.1
comp=Z,94nm,0.9s
TULEG IAMs_20 IAMs_20 06 42 41.5
comp=Z,4µm,19.9s
TULEG Thule 60.61 8 IAMs_20 IAMs_20 06 38 40.6
comp=Z,4µm,22.0s
KNTN Kanton 60.84 124 IAMs_20 IAMs_20 06 34 43.2
comp=Z,4µm,20.0s
KTK1 Kautokeino 60.96 339 *e*P **P** **06 11 17.9 +1.2**
KTK1 *e*ScS SKSac 06 21 03.6 +1.9
NEEM North Greenlan 61.04 3 *i* P **P** **06 11 17.3 -0.1**
NEEM IAmb IAmb 06 11 21.2
comp=Z,118nm,0.9s
FITZ Fitzroy Crossi 61.22 198 P **P** **06 11 18.5 -0.5**
HRA Herat 61.25 292 P **P** **06 11 18.5 -0.9**
HRA IAmb IAmb 06 11 26.8
comp=Z,55nm,0.9s
SANVU Saraoutou 61.26 152 IAMs_20 IAMs_20 06 33 01.5
comp=Z,5µm,21.0s
JETT Jettan, Norway 61.34 340 *e*P **P** **06 11 20.4 +1.2**
JETT *e*S **S** **06 19 35.2 +0.5**
JETT IVMs_BB IVMs_BB 06 40 19.4
comp=Z,2µm,21.1s
DAG Danmarks Havn 61.37 355 *i* P **P** **06 11 17.9 -1.4**
DAG IAmb IAmb 06 11 21.5
comp=Z,42nm,0.8s
DAG IAMs_20 IAMs_20 06 46 04.5
comp=Z,2µm,17.3s
DAG Danmarks Havn 61.37 355 *i* P **P** **06 11 17.8 -1.4**
DAG pmax pmax
comp=Z,42nm,0.8s
DAG MLR MLR
comp=Z,2µm,17.0s
CTA Charters Tower 61.40 176 LR LR 06 35 08.7
comp=Z,2µm,21.8s,baz=348,slow=33
WRAB Tennant Creek 61.54 188 P **P** **06 11 20.1 -1.0**
WRAB pmax pmax
comp=Z,73nm,1.0s
WRAB Tennant Creek 61.54 188 P **P** **06 11 20.1 -1.0**
WRAB IAmb IAmb 06 11 49.8
comp=Z,73nm,0.9s
WRAB Tennant Creek 61.54 188 IAMs_20 IAMs_20 06 37 14.5
comp=Z,4µm,22.0s
WRA Warramunga Arr 61.55 188 P **P** **06 11 20.4 -0.8**
comp=Z,18nm,0.4s,baz=6.1,slow=7.0,SNR=79
TRO Tromso 61.66 341 *e*P **P** **06 11 22.2 +0.9**
TRO IVmB_BB 06 11 22.9
comp=Z,640nm,1.0s
TRO IVMs_BB IVMs_BB 06 44 34.6
comp=Z,1µm,15.7s
POO Poona 61.76 270 *e*P **P** **06 11 20.0 -2.9**
comp=Z,110nm,1.0s
GEYT Alibeck 62.17 297 P **P** **06 11 23.9 -1.5**
comp=Z,75nm,0.7s,baz=0.0,slow=1.6,SNR=39
GEYT LR LR 06 40 50.1
comp=Z,10µm,18.4s,baz=60,slow=38
GEYT Alibeck 62.17 297 P **P** **06 11 23.8 -1.5**
GYA0 ALIBECK ARRAY 62.17 297 P **P** **06 11 24.8 -0.6**
NLWA Neilton Lookou 63.37 49 IAMs_20 IAMs_20 06 36 19.8
comp=Z,4µm,22.0s
VALR Valaam 63.40 330 *e*P **P** **06 11 34.0 +1.0**
VALR pmax pmax
comp=Z,67nm,0.8s
KULLO Kullorsuaq 63.48 6 *i* P **P** **06 11 33.2 -0.2**
KULLO IAmb IAmb 06 11 35.0
comp=Z,32nm,0.8s
KULLO IAMs_20 IAMs_20 06 40 31.5
comp=Z,4µm,21.9s
KULLO Kullorsuaq 63.48 6 *i* P **P** **06 11 33.2 -0.2**
KULLO pmax pmax
comp=Z,32nm,0.8s
KULLO MLR MLR
comp=Z,4µm,22.0s
N2IH Innhavet 63.62 340 *e*P **P** **06 11 35.8 +1.4**
N2VI Vinje 63.79 341 *e*P **P** **06 11 36.9 +1.4**
STEI Steigen 63.82 340 *e*P **P** **06 11 36.8 +1.0**
STEI *e*S **S** **06 20 09.7 +3.9**
STEI IVMs_BB IVMs_BB 06 42 43.0
comp=Z,1µm,16.2s
DBG Daneborg 63.86 355 *i* P **P** **06 11 34.7 -1.2**
DBG IAmb IAmb 06 11 38.0
comp=Z,20nm,1.1s
DBG IAMs_20 IAMs_20 06 47 37.3
comp=Z,2µm,18.3s
PALK Pallekele 63.88 256 IAMs_20 IAMs_20 06 40 19.4
comp=Z,4µm,21.0s
N2NF Nordfold 63.95 340 *e*P **P** **06 11 37.9 +1.4**
MOS Moscow 63.98 322 *e*P **P** **06 11 36.9 -0.1**
MOS *e* 06 12 00.4
MOS *e*S S 06 20 41.2 +33
MOS pmax pmax
comp=Z,79nm,1.1s
MOS MLR MLR
comp=Z,4µm,17.0s
LOF Lofoten 64.09 341 *e*P **P** **06 11 37.2 -0.3**
LOF IVmB_BB 06 11 38.5
comp=Z,584nm,2.7s
LOF *e*sP **sP** **06 12 02.4 +2.2**
LOF *e*S **S** **06 20 11.9 +2.7**
LOF IVMsBB 06 38 26.5
comp=Z,1µm,27.4s
N2TV TVrnvik 64.12 340 *e*P **P** **06 11 39.1 +1.4**
FAUS Fauske 64.22 340 *e*P **P** **06 11 38.5 +0.2**
FAUS *e*S **S** **06 20 12.8 +2.1**
FAUS *e*SS **SS** **06 24 21.8 +1.8**
FAUS IVMs_BB IVMs_BB 06 47 57.6
comp=Z,1µm,4.0s
N2SV S¸rvÅgen 64.41 341 *e*P **P** **06 11 40.8 +1.3**
VRH Novokhopyorsk 64.63 317 *e*P **P** **06 11 40.6 -0.7**
VRH *e*S **S** **06 20 10.8 -5.5**
VRH pmax pmax
comp=Z,90nm,0.6s
VRH smax smax
comp=E,910nm,13.2s
VRH MLR MLR
comp=Z,8µm,26.0s
OBN Obninsk 64.84 322 *e*P **P** **06 11 40.1 -2.5**
OBN *i* S S 06 20 10.1 -8.6
OBN pmax pmax
comp=Z,62nm,0.9s
OBN MLR MLR
comp=Z,6µm,18.0s
NBB30 Finnes 64.93 340 *e*P **P** **06 11 44.7 +1.8**
FIA1 FINESS Array S 65.11 332 P **P** **06 11 42.2 -2.0**
FINES FINESS Array B 65.11 332 P **P** **06 11 42.5 -1.7**
comp=Z,93nm,0.7s,baz=54,slow=7.2,SNR=49
FINES LR LR 06 42 30.3
comp=Z,12µm,20.3s,baz=40,slow=38
FINES FINESS Array B 65.11 332 P **P** **06 11 42.5 -1.7**
LPSR Galich'ya Gora 65.22 319 *e*P **P** **06 11 45.4 +0.3**
LPSR *e*S **S** **06 20 18.4 -5.1**
LPSR pmax pmax
comp=Z,110nm,0.7s
LPSR smax smax
comp=N,1µm,16.4s
COR Corvallis 65.26 52 IAMs_20 IAMs_20 06 35 49.8
comp=Z,4µm,22.0s
AS31 Alice Springs 65.28 188 P **P** **06 11 44.4 -1.4**
ASAR Alice Springs 65.28 188 P **P** **06 11 44.0 -1.8**
comp=Z,17nm,0.8s,baz=3.0,slow=6.2,SNR=60
ASAR LR LR 06 39 51.6
comp=Z,3µm,21.8s,baz=359,slow=36
ASAR Alice Springs 65.28 188 P **P** **06 11 44.0 -1.8**
ASAR Alice Springs 65.28 188 P **P** **06 11 43.5 -2.3**
B08A Colville Reser 65.36 47 P **P** **06 11 46.6 +0.5**
B08A IAmb IAmb 06 12 10.5
comp=Z,89nm,1.4s
KONS Konsvik 65.45 340 *e*P **P** **06 11 48.1 +1.8**
JMIC Jan Mayen 65.83 350 *e*P **P** **06 11 50.2 +1.4**
JMIC *e* 06 20 44.0
H04A Detroit Lake 65.86 51 IAmb IAmb 06 12 13.3
comp=Z,84nm,1.0s
VSR Storozhevoye 65.93 318 *e*P **P** **06 11 48.4 -1.3**
VSR *e*S **S** **06 20 28.9 -3.3**
VSR pmax pmax
comp=Z,140nm,0.6s
VSR smax smax
comp=N,1µm,15.1s
VORD Divnogorie 66.01 318 *e*P **P** **06 11 49.8 -0.4**
VORD pmax pmax
comp=Z,100nm,1.0s
PSA00 Pilbara Seismi 66.05 203 P **P** **06 11 51.5 +0.8**
PSA00 IAmb IAmb 06 12 17.4
comp=Z,54nm,1.1s
PSA00 Pilbara Seismi 66.05 203 P **P** **06 11 49.7 -1.1**
PSA00 IAmb IAmb 06 12 17.4
comp=Z,25nm,1.1s
MAK Makhachkala 66.14 307 *e*P **P** **06 11 48.9 -2.3**
MAK *e**PP **pP** **06 12 02.9 -4.4**
MAK *e**SP **sP** **06 12 08.4 -5.6**
MAK *e* 06 12 21.9
MAK *e* 06 14 15.0
MAK *e*PPP PPP 06 15 50.2
MAK *e*S **S** **06 20 30.8 -4.2**
MAK *e**SS **pS** **06 20 58.1 +3.6**
MAK *e*SS **SS** **06 24 50.5 -0.4**
MAK pmax pmax
comp=Z,177nm,1.3s
MAK MLR MLR
comp=Z,2µm,16.0s
SUMG Summit 66.22 0 *i* P **P** **06 11 51.3 -0.4**
SUMG IAmb IAmb 06 11 54.9
comp=Z,75nm,0.7s
SUMG IAMs_20 IAMs_20 06 41 37.6
comp=Z,5µm,21.9s
SUMG Summit 66.22 0 *i* P **P** **06 11 51.3 -0.4**
SUMG pmax pmax
comp=Z,75nm,0.7s
SUMG MLR MLR
comp=Z,5µm,22.0s
SUMG Summit 66.22 0 P **P** **06 11 51.2 -0.5**
SUMG IAMs_20 IAMs_20 06 41 45.5
comp=Z,5µm,22.0s
C09A Chrisman Ranch 66.26 47 IAmb IAmb 06 12 39.5
comp=Z,104nm,1.4s
D08A Wollman Farm, 66.34 47 IAmb IAmb 06 12 18.1
comp=Z,62nm,1.2s
F07A Phinny Hill Vi 66.46 49 P **P** **06 11 52.3 -0.9**
F07A IAmb IAmb 06 12 17.4
comp=Z,74nm,0.9s
MEF Metsahovi 66.55 331 *e*P **P** **06 11 54.2 +0.7**
NEW Newport 66.61 46 P **P** **06 11 55.0 +0.8**
NEW pmax pmax
comp=Z,70nm,1.3s
NEW MLR MLR
comp=Z,3µm,21.0s
NEW Newport 66.61 46 P **P** **06 11 55.0 +0.8**
NEW IAmb IAmb 06 12 18.5
comp=Z,70nm,1.3s
NEW Newport 66.61 46 IAMs_20 IAMs_20 06 41 03.1
comp=Z,3µm,21.0s
NUUG Nuugaatsiaq 66.74 5 *i* P **P** **06 11 55.7 +1.2**
NUUG IAmb IAmb 06 11 56.7
comp=Z,25nm,0.9s
AKT Akhty 66.85 305 *e*P **P** **06 11 54.4 -1.5**
AKT *e**PP **pP** **06 12 10.0 -2.1**
AKT *e**SP **sP** **06 12 17.2 -1.6**
AKT *e* 06 12 22.5
AKT *e* 06 14 20.1
AKT pmax pmax
comp=Z,155nm,0.8s
VSU Vasula 66.87 329 *e*P **P** **06 11 56.6 +1.1**
VSU Vasula 66.87 329*c* *i*P **P** **06 11 57.1 +1.5**
VSU pmax pmax
comp=Z,159nm,0.7s
RAF Rauma 66.91 333 *e*P **P** **06 11 56.5 +0.7**
GROC Groznyy 67.02 308 *e*P **P** **06 11 52.8 -4.0**
GROC *e**PP **pP** **06 12 09.7 -3.2**
GROC *e* 06 12 21.0
GROC *e*S **S** **06 20 46.5 +0.9**
GROC pmax pmax
comp=Z,33nm,0.5s
E09A Wood Farm, Sta 67.09 48 IAmb IAmb 06 12 21.8
comp=Z,113nm,1.3s
PINE Pine Mountain 67.11 51 P **P** **06 11 58.4 +0.8**
KHMM Horse Mountain 67.14 55 P **P** **06 11 55.8 -2.0**
DZM Mont Dzumac 67.18 155 *e*P **P** **06 12 02.5 +4.5**
comp=Z,122nm,1.4s
DZM *e*S **S** **06 20 52.8 +4.9**
comp=Z,2µm,28.6s
DZM *e*SS **SS** **06 25 14.2 +5.4**
comp=Z,3µm,29.9s
DZM *e*LR LR 06 32 28.3
comp=Z,9µm,22.8s
DZM Mont Dzumac 67.18 155 LR LR 06 37 17.5
comp=Z,5µm,22.0s,baz=358,slow=32
DZM Mont Dzumac 67.18 155 IAMs_20 IAMs_20 06 37 06.2
comp=Z,5µm,22.0s
YBH Yreka Blue Hor 67.26 54 P **P** **06 11 57.3 -1.2**
YBH pmax pmax
comp=Z,35nm,1.0s
YBH Yreka Blue Hor 67.26 54 P **P** **06 11 57.3 -1.2**
NSS Namsos 67.28 339 *e*P **P** **06 11 59.1 +1.0**
NSS *e*S **S** **06 20 51.1 +3.0**
NSS *e*SKSac **SKiKP** **06 21 51.3 -0.1**
G08A Pilot Rock 67.37 49 P **P** **06 11 58.8 -0.4**
ONTNC Ouen Toro 67.40 156 IAMs_20 IAMs_20 06 37 02.2
comp=Z,4µm,21.0s
GOF Gofitskoye 67.52 311⇑ *e*P **P** **06 12 02.3 +2.3**
GOF pmax pmax
comp=Z,157nm,0.6s
LGD Lagodekhi 67.55 306 P **P** **06 11 59.4 -0.8**
OUENC Ouen Island, N 67.63 155 IAMs_20 IAMs_20 06 39 43.1
comp=Z,5µm,20.0s
MSVF Nonsavu 67.71 143 LR LR 06 35 55.7
comp=Z,4µm,21.8s,baz=340,slow=31
MSVF Nonsavu 67.71 143 IAMs_20 IAMs_20 06 35 46.1
comp=Z,4µm,21.0s
SCO Scoresbysund 67.72 354 *i* P **P** **06 12 02.2 +1.5**
SCO IAmb IAmb 06 12 03.6
comp=Z,15nm,0.8s
SCO IAMs_20 IAMs_20 06 46 36.1
comp=Z,2µm,21.1s
SCO Scoresbysund 67.72 354 *i* P **P** **06 12 02.2 +1.5**
SCO pmax pmax
comp=Z,15nm,0.8s
SCO MLR MLR
comp=Z,2µm,21.0s
WALA Waterton Lakes 67.82 44 IAmb IAmb 06 13 21.3
comp=Z,56nm,1.3s
WALA IAMs_20 IAMs_20 06 36 59.5
comp=Z,4µm,21.0s
DDFL Dedoflistskaro 67.86 306 P **P** **06 12 05.4 +3.2**
KCPM Cahto Peak 67.92 56 IAmb IAmb 06 12 27.1
comp=Z,73nm,0.9s
F10A Beach Ranch, E 67.93 48 IAmb IAmb 06 12 26.6
comp=Z,75nm,1.5s
WDC Whiskeytown Da 68.04 55 P **P** **06 12 05.5 +2.2**
WDC pmax pmax
comp=Z,68nm,1.2s
WDC Whiskeytown Da 68.04 55 P **P** **06 12 05.5 +2.2**
WDC IAmb IAmb 06 12 36.4
comp=Z,68nm,1.1s
AAL Aland 68.13 333 *e*P **P** **06 12 03.9 +0.4**
NCK Nalchik 68.14 309⇓ *e*P **P** **06 12 05.3 +1.4**
NCK pmax pmax
comp=Z,86nm,1.0s
GUDG Gudauri 68.23 308 P **P** **06 12 03.0 -1.8**
ZEI Tsey 68.38 308 *e*P **P** **06 12 03.3 -2.4**
ZEI pmax pmax
comp=Z,35nm,0.6s
KIV Kislovodsk 68.39 310⇑ P **P** **06 12 06.0 +0.5**
KIV Kislovodsk 68.39 310 *i* P **P** **06 12 04.8 -0.7**
SNR=33
KIV Kislovodsk 68.39 310 *e*P **P** **06 12 04.9 -0.7**
KIV Kislovodsk 68.39 310 *e*P **P** **06 12 05.2 -0.3**
KIV *e*S **S** **06 21 01.7 -0.5**
KIV *e*SS **SS** **06 25 26.8 +0.9**
KIV pmax pmax
comp=Z,98nm,2.5s
KIV pmax pmax
comp=Z,629nm,1.0s
KIV Kislovodsk 68.39 310 P **P** **06 12 04.9 -0.7**
KIV IAMs_20 IAMs_20 06 47 06.9
comp=Z,4µm,18.0s
KIV Kislovodsk 68.39 310 P **P** **06 12 06.8 +1.2**
KIV P **P** **06 12 06.8 +1.2**
KIV P **P** **06 12 06.8 +1.2**
KBZ Khabaz 68.40 310 P **P** **06 12 05.2 -0.3**
comp=Z,75nm,0.8s,baz=35,slow=6.1,SNR=38
KBZ LR LR 06 46 21.0
comp=Z,3µm,21.8s,baz=35,slow=40
JTMT Jette 68.44 45 P **P** **06 12 04.3 -1.6**
JTMT IAmb IAmb 06 12 29.9
comp=Z,70nm,1.3s
BMO Blue Mountains 68.56 49 P **P** **06 12 06.0 -0.6**
BMO pmax pmax
comp=Z,45nm,1.1s
BMO Blue Mountains 68.56 49 P **P** **06 12 06.0 -0.6**
BMO IAMs_20 IAMs_20 06 41 25.1
comp=Z,3µm,22.0s
MOD Modoc Plateau 68.61 53 P **P** **06 12 07.3 +0.2**
MOD IAmb IAmb 06 12 30.9
comp=Z,77nm,1.4s
HOPS Hopland Field 68.65 56 IAMs_20 IAMs_20 06 36 35.8
comp=Z,3µm,21.0s
TBLU Trondheim 68.76 339 *e*P **P** **06 12 06.8 -0.6**
ONI Oni 68.77 308 P **P** **06 12 08.0 +0.1**
ONI pmax pmax
comp=Z,151nm,1.4s
ONI Oni 68.77 308 P **P** **06 12 08.0 +0.1**
NEY Neytrino 68.79 309⇑ *e*P **P** **06 12 09.6 +1.4**
NEY pmax pmax
comp=Z,17nm,0.9s
J08A Circle Bar Ran 68.81 51 P **P** **06 12 07.4 -0.8**
KZRT Kazreti 68.93 307 P **P** **06 12 10.7 +1.8**
GDXM Geysers 68.94 56 P **P** **06 12 09.7 +0.7**
GDXM IAmb IAmb 06 12 34.2
comp=Z,58nm,1.2s
IDID Didziasalis 69.02 326 *e*P **P** **06 12 09.3 +0.2**

MNK	**Minsk**	**69.09**	**325**	*i* P		**P**	**06 12 10.0**	**+0.4**
MNK				*i* *PP		**pP**	**06 12 26.4**	**+0.6**
MNK				*i*			06 12 33.5	
MNK				*i*			06 14 43.0	
MNK				*i* PPP	PPP		06 16 23.8	
MNK				*i* S		**S**	**06 21 11.0**	**+1.0**
MNK				*i* *SS		**sS**	**06 21 39.5**	**+2.0**
MNK				*i*			06 22 06.2	
MNK				*i* SS		**SS**	**06 25 40.6**	**+4.7**
MNK				pmax	pmax			
	comp=Z,91nm,1.0s							
MNK				pmax	pmax			
	comp=N,40nm,1.0s							
MNK				pmax	pmax			
	comp=E,5.0nm,1.0s							
MNK				MLR	MLR			
	comp=Z,8µm,21.0s							
MNK				MLR	MLR			
	comp=N,3µm,18.0s							
MNK				MLR	MLR			
	comp=E,602nm,21.0s							
MNK	**Minsk**	**69.09**	**325**	*i* P		**P**	**06 12 10.1**	**+0.5**
	comp=E,5.0nm,1.0s							
MNK				*i* P		**P**	**06 12 10.1**	**+0.5**
	comp=N,40nm,1.0s							
MNK				*i* P		**P**	**06 12 10.1**	**+0.5**
	comp=Z,91nm,1.0s,baz=227							
MNK				*i* pP		**pP**	**06 12 26.4**	**+0.7**
MNK				*i* PcP		**PcP**	**06 12 33.5**	**+0.3**
MNK				*i* PP		**PP**	**06 14 43.0**	**+0.8**
MNK				*i* PPP	PPP		06 16 23.8	
MNK				*i* S		**S**	**06 21 11.1**	**+1.1**
MNK				*i* sS		**sS**	**06 21 39.5**	**+2.0**
MNK				*i* ScS		**ScS**	**06 22 06.2**	**+1.5**
MNK				*i* SS		**SS**	**06 25 40.6**	**+4.7**
MNK				*i* SSS		SSS	06 28 54.2	
MNK				*i* LQ		LQ	06 37 45.1	
MNK				*i* LR		LR	06 41 51.0	
MNK				*i* LRM		MLR	06 44 53.1	
	comp=Z,8µm,21.1s							
MNK				*i* LRM		MLR	06 44 55.0	
	comp=N,3µm,17.9s							
MNK				*i* LRM		MLR	06 45 04.6	
	comp=E,602nm,21.1s							
ISAL	**Salakas**	**69.09**	**327**	*e*P		**P**	**06 12 10.5**	**+1.0**
SLIT	**Slitere, Latvi**	**69.15**	**330**	*e*P		**P**	**06 12 10.4**	**+0.5**
UPP	**Uppsala**	**69.17**	**334**	*e*P		**P**	**06 12 10.5**	**+0.6**
MSO	**Missoula**	**69.19**	**45**	IAmb	IAmb		06 12 34.9	
	comp=Z,152nm,2.0s							
IIGN	**Ignalina**	**69.21**	**327**	*e*P		**P**	**06 12 10.5**	**+0.2**
WVOR	**Wild Horse Val**	**69.27**	**51**	IAmb	IAmb		06 12 35.9	
	comp=Z,100nm,1.6s							
MCCM	**Marconi Confer**	**69.28**	**57**	IAMs_20	IAMs_20		06 36 17.0	
	comp=Z,3µm,22.0s							
NACGM	**Naroch**	**69.28**	**326**	*i* P		**P**	**06 12 10.6**	**-0.2**
AKH	**Akhalkalaki**	**69.46**	**307**	⇑P		**P**	**06 12 12.8**	**+0.5**
AKH	**Akhalkalaki**	**69.46**	**307**	P		**P**	**06 12 15.0**	**+2.7**
GNI	**Garni**	**69.47**	**306**	P		**P**	**06 12 13.4**	**+1.0**
GNI	**Garni**	**69.47**	**306**	*de*P		**P**	**06 12 13.0**	**+0.6**
GNI				pmax	pmax			
	comp=Z,85nm,1.2s							
GNI	**Garni**	**69.47**	**306**	P		**P**	**06 12 11.8**	**-0.7**
GNI				IAmb	IAmb		06 12 57.3	
	comp=Z,91nm,0.9s							
GNI	**Garni**	**69.47**	**306**	P		**P**	**06 12 14.6**	**+2.2**
GNI				P		**P**	**06 12 14.6**	**+2.2**
AFI	**Afiamalu**	**69.67**	**132**	IAMs_20	IAMs_20		06 36 16.0	
	comp=Z,4µm,22.0s							
FFC	**Flin Flon**	**69.69**	**34**	P		**P**	**06 12 13.2**	**-0.1**
FFC				pmax	pmax			
	comp=Z,61nm,0.9s							
FFC				MLR	MLR			
	comp=Z,4µm,20.0s							
FFC	**Flin Flon**	**69.69**	**34**	P		**P**	**06 12 13.2**	**-0.1**
FFC				IAmb	IAmb		06 12 36.8	
	comp=Z,61nm,0.9s							
FFC	**Flin Flon**	**69.69**	**34**	IAMs_20	IAMs_20		06 45 51.3	
	comp=Z,4µm,20.0s							
ICESG	**Greenland Ices**	**69.72**	**1**	*i* P		**P**	**06 12 12.9**	**-0.7**
ICESG				IAmb	IAmb		06 12 16.5	
	comp=Z,121nm,0.7s							
ICESG				IAMs_20	IAMs_20		06 43 57.6	
	comp=Z,4µm,20.7s							
FCC	**Fort Churchill**	**69.79**	**27**	P		**P**	**06 12 14.0**	**+0.2**
FCC				pmax	pmax			
	comp=Z,95nm,1.3s							
FCC	**Fort Churchill**	**69.79**	**27**	P		**P**	**06 12 14.0**	**+0.2**
FCC				IAmb	IAmb		06 12 53.8	
	comp=Z,95nm,1.3s							
BEKR	**Beckworth**	**69.80**	**54**	P		**P**	**06 12 14.5**	**0.0**
BEKR				IAmb	IAmb		06 12 36.8	
	comp=Z,76nm,0.9s							
AFDM	**Forest Hills D**	**69.99**	**55**	P		**P**	**06 12 14.7**	**-0.7**
AFDM				IAmb	IAmb		06 12 39.2	
	comp=Z,67nm,1.2s							
PABE	**Paberze**	**70.02**	**328**	*e*P		**P**	**06 12 16.1**	**+0.9**
PABE	**Paberze**	**70.02**	**328**	P		**P**	**06 12 14.3**	**-1.0**
PABE				IAmb	IAmb		06 12 17.9	
	comp=Z,86nm,0.8s							
MOL	**Molde**	**70.04**	**339**	*e*P		**P**	**06 12 16.3**	**+1.0**
MOL				*e*S		**S**	**06 21 19.6**	**-1.2**
MOL				IVMs_BB	IVMs_BB		06 41 35.0	
	comp=Z,1µm,3.7s							
NC405	**NORSAR Array S**	**70.06**	**337**	P		**P**	**06 12 14.0**	**-1.4**
DOMB	**Dombas**	**70.07**	**338**	*e*P		**P**	**06 12 16.1**	**+0.5**
DOMB				IVmBBB			06 12 17.2	
	comp=Z,685nm,2.2s							
DOMB				*e*S		**S**	**06 21 21.6**	**+0.2**
DOMB				IVMs_BB	IVMs_BB		06 46 18.1	
	comp=Z,2µm,22.7s							
NC303	**NORSAR Array S**	**70.07**	**337**	P		**P**	**06 12 14.4**	**-1.1**
NC303				IAmb	IAmb		06 12 40.6	
	comp=Z,45nm,0.8s							
KARS	**Kars**	**70.18**	**307**	P		**P**	**06 12 15.4**	**-1.4**
KARS				pmax	pmax			
	comp=Z,218nm,1.0s							
KARS				MLR	MLR			
	comp=Z,7µm,19.0s							
KARS	**Kars**	**70.18**	**307**	P		**P**	**06 12 15.4**	**-1.4**
NB2	**NORSAR Subarra**	**70.26**	**337**	P		**P**	**06 12 15.1**	**-1.7**
	baz=37,slow=6.5							
NOA	**NORSAR Array B**	**70.26**	**337**	P		**P**	**06 12 15.1**	**-1.7**
	comp=Z,39nm,0.8s,baz=37,slow=6.1,SNR=68							
NOA				LR	LR		06 47 10.7	
	comp=Z,2µm,20.9s,baz=35,slow=39							
BANOM	**Banah**	**70.30**	**287**	*i* P		**P**	**06 12 16.7**	**-0.8**
	SNR=24							
BANOM	**Banah**	**70.30**	**287**	P		**P**	**06 12 18.3**	**+0.7**
	SNR=12							
BANOM				P		**P**	**06 12 18.3**	**+0.7**
	SNR=12							
SOC	**Sochi**	**70.31**	**311**	*e*P		**P**	**06 12 14.8**	**-2.5**
SOC				*e*PP		**pP**	**06 12 30.6**	**-3.0**
SOC				*e*SP		**sP**	**06 12 39.9**	**-0.3**
SOC				*e*			06 14 49.6	
SOC				*e*S		**S**	**06 21 21.4**	**-3.3**
SOC				*e*SS		**sS**	**06 21 53.3**	**+0.9**
SOC				pmax	pmax			
	comp=Z,79nm,0.9s							
SOC				MLR	MLR			
	comp=Z,3µm,18.0s							
JLN	**Jalan Bani Buh**	**70.33**	**282**	P		**P**	**06 12 18.3**	**+0.5**
	SNR=5.4							
JLN				P		**P**	**06 12 18.3**	**+0.5**
	SNR=5.4							
SHME	**Shamm**	**70.34**	**288**	*i* P		**P**	**06 12 15.8**	**-2.0**
	SNR=47							
SHME	**Shamm**	**70.34**	**288**	P		**P**	**06 12 16.6**	**-1.1**
	SNR=19							
WBK	**Wadi Bani Khal**	**70.37**	**283**	P		**P**	**06 12 18.9**	**+0.9**
	SNR=8.4							
WBK				P		**P**	**06 12 18.9**	**+0.9**
	SNR=8.4							
HRY	**Holter Researc**	**70.39**	**45**	P		**P**	**06 12 19.2**	**+1.3**
NC602	**NORSAR Array S**	**70.41**	**337**	*e*P		**P**	**06 12 17.7**	**+0.1**
NC602				IVmB_BB			06 12 26.2	
	comp=Z,670nm,1.9s							
NC602				*e*S		**S**	**06 21 26.0**	**+0.7**
NC602				IVMs_BB	IVMs_BB		06 42 55.8	
	comp=Z,2µm,25.0s							
RUBR	**Rubicon Trail**	**70.43**	**55**	IAmb	IAmb		06 12 44.3	
	comp=Z,97nm,0.9s							
BIDO	**Bidbid**	**70.43**	**284**	P		**P**	**06 12 19.3**	**+0.9**
	SNR=9.0							
PBUR	**Paburge**	**70.45**	**329**	*e*P		**P**	**06 12 18.9**	**+1.0**
PAHR	**Pah Rah Range**	**70.50**	**54**	P		**P**	**06 12 18.2**	**-0.5**
PAHR				IAmb	IAmb		06 12 42.6	
	comp=Z,88nm,1.0s							
AKN	**Aaknes**	**70.51**	**339**	*e*P		**P**	**06 12 20.0**	**+1.8**
AKN				*e*S		**S**	**06 21 29.0**	**+2.5**
AKN				IVMs_BB	IVMs_BB		06 47 06.7	
	comp=Z,2µm,4.1s							
NAO01	**NORSAR Array S**	**70.52**	**337**	P		**P**	**06 12 17.9**	**-0.3**
BCA	**Borcka**	**70.54**	**308**	⇑P		**P**	**06 12 19.3**	**+0.5**
CLDR	**Caldiran**	**70.59**	**305**	*e*P		**P**	**06 12 19.6**	**+0.2**
VCNR	**Virginia City**	**70.59**	**55**	P		**P**	**06 12 19.1**	**-0.3**
VCNR				IAmb	IAmb		06 12 49.0	
	comp=Z,55nm,1.0s							
EGMT	**Eagleton**	**70.61**	**43**	IAmb	IAmb		06 13 10.3	
	comp=Z,57nm,1.1s							
EGMT				IAMs_20	IAMs_20		06 41 33.1	
	comp=Z,5µm,22.0s							
MDH	**Madha**	**70.68**	**287**	P		**P**	**06 12 19.1**	**-0.7**
MASF	**Masafi**	**70.73**	**287**	P		**P**	**06 12 21.6**	**+1.4**
	SNR=9.3							
MASF				P		**P**	**06 12 21.6**	**+1.4**
	SNR=9.3							
MSFE	**Esma-Masafi**	**70.74**	**287**	*i* P		**P**	**06 12 18.7**	**-1.5**
	SNR=15							
SMDO	**Samad**	**70.77**	**284**	P		**P**	**06 12 21.2**	**+0.7**
	SNR=10							
ANN	**Anapa**	**70.81**	**313**	*e*P		P	06 12 15.5	-4.8
ANN				*e**PP		pP	06 12 32.5	-4.0
ANN				*e*S		**S**	**06 21 23.8**	**-6.6**
ANN				pmax	pmax			
	comp=Z,107nm,0.7s							
ANN				MLR	MLR			
	comp=Z,4µm,22.0s							
ANN				MLR	MLR			
	comp=E,3µm,18.0s							
ANN				MLR	MLR			
	comp=N,3µm,19.0s							
DLMT	**Dillon**	**70.85**	**46**	IAmb	IAmb		06 12 45.4	
	comp=Z,108nm,1.3s							
AGRB	**Hanur-Agry**	**70.88**	**306**	*e*P		**P**	**06 12 20.5**	**-0.6**
UOSS	**Minazif**	**70.96**	**287**	*i* P		**P**	**06 12 19.9**	**-1.7**
	SNR=19							
UOSS	**Minazif**	**70.96**	**287**	P		**P**	**06 12 19.3**	**-2.2**
UOSS	**Minazif**	**70.96**	**287**	IAMs_20	IAMs_20		06 47 04.0	
	comp=Z,4µm,21.0s							
UOSS	**Minazif**	**70.96**	**287**	P		**P**	**06 12 21.5**	**0.0**
HOQ	**Hoqain**	**70.99**	**285**	P		**P**	**06 12 22.3**	**+0.5**
	SNR=15							
BCYI	**Bear Canyon**	**71.08**	**47**	P		**P**	**06 12 22.3**	**0.0**
AKASG	**Malin Array Be**	**71.08**	**322**	P		**P**	**06 12 20.1**	**-1.7**
	comp=Z,60nm,0.5s,baz=44,slow=6.3,SNR=58							
AKASG				LR	LR		06 46 16.3	
	comp=Z,5µm,18.6s,baz=35,slow=38							
AKASG	**Malin Array Be**	**71.08**	**322**	P		**P**	**06 12 20.1**	**-1.7**
HATD	**Hatta, Dubai**	**71.08**	**287**	*i* P		**P**	**06 12 21.0**	**-1.3**
	SNR=40							
HATD	**Hatta, Dubai**	**71.08**	**287**	P		**P**	**06 12 24.1**	**+1.8**
	SNR=27							
JMDO	**Jabal Madar**	**71.15**	**283**	P		**P**	**06 12 22.8**	**0.0**
	SNR=11							
WAKR	**Walker**	**71.21**	**55**	IAmb	IAmb		06 12 47.4	
	comp=Z,71nm,1.2s							
SOHO	**SOHO**	**71.22**	**286**	*i* P		**P**	**06 12 22.9**	**-0.1**
	SNR=18							
ASHO	**Ashiyiah**	**71.22**	**287**	*i* P		**P**	**06 12 21.6**	**-1.6**
	SNR=29							
ASHO	**Ashiyiah**	**71.22**	**287**	P		**P**	**06 12 25.1**	**+1.9**
	SNR=27							
CHOM	**Cayeli-Rize**	**71.27**	**309**	*e*P		**P**	**06 12 19.7**	**-3.5**
OSL	**Oslo**	**71.30**	**336**	*e*P		**P**	**06 12 25.0**	**+2.0**
OSL				IVmB_BB			06 12 26.9	
	comp=Z,875nm,1.6s							
OSL				IVMs_BB	IVMs_BB		06 44 27.0	
	comp=Z,2µm,22.2s							
NAZ	**Nazwa, Dubai**	**71.32**	**287**	*i* P		**P**	**06 12 22.7**	**-1.0**
	SNR=7.0							
NAZ	**Nazwa, Dubai**	**71.32**	**287**	P		**P**	**06 12 25.2**	**+1.5**
	SNR=13							
NAZ				P		**P**	**06 12 25.2**	**+1.5**
	SNR=13							
SFJD	**Kangerlussuaq**	**71.39**	**5**	*i* P		**P**	**06 12 25.2**	**+1.8**
SFJD				IAMs_20	IAMs_20		06 43 32.1	
	comp=Z,4µm,24.3s							
SFJD	**Kangerlussuaq**	**71.39**	**5**	P		**P**	**06 12 23.8**	**+0.4**
SFJD				pmax	pmax			
	comp=Z,70nm,1.0s							
SFJD				MLR	MLR			
	comp=Z,6µm,22.0s							
SFJD	**Kangerlussuaq**	**71.39**	**5**	P		**P**	**06 12 23.8**	**+0.4**
SFJD				IAmb	IAmb		06 12 26.0	
	comp=Z,70nm,1.0s							
SKAR	**Skarslia**	**71.39**	**338**	*e*P		**P**	**06 12 25.4**	**+1.8**
SKAR				*e*S		**S**	**06 21 40.3**	**+3.5**
SKAR				*e*SKSac		**SKSac**	**06 22 21.7**	**+0.4**
SKAR				IVmB_BB			06 45 19.2	
	comp=Z,2µm,19.2s							
SUW	**Suwalki**	**71.40**	**327**	*e*P		**P**	**06 12 24.2**	**+0.5**
SUW	**Suwalki**	**71.40**	**327**	IAmb	IAmb		06 12 54.6	
	comp=Z,82nm,1.0s							
FOO	**Floro**	**71.51**	**340**	*e*P		**P**	**06 12 25.0**	**+0.8**
FOO				*e*S		**S**	**06 21 39.8**	**+1.9**
FOO				IVMs_BB	IVMs_BB		06 44 34.0	
	comp=Z,2µm,3.6s							
FAQ	**Al Faqa, Dubai**	**71.52**	**287**	*i* P		**P**	**06 12 22.6**	**-2.4**
	SNR=14							
FAQ	**Al Faqa, Dubai**	**71.52**	**287**	P		**P**	**06 12 26.3**	**+1.4**
	SNR=16							
FAQ				P		**P**	**06 12 26.3**	**+1.4**
	SNR=16							
HYA	**Hoyanger**	**71.57**	**339**	*e*P		**P**	**06 12 25.9**	**+1.3**
HYA				*e*SKSac		**SKSac**	**06 22 23.8**	**+1.4**
AKDM	**Akdamar-Van**	**71.67**	**305**	*e*P		**P**	**06 12 23.6**	**-2.2**
RYN	**Ryan**	**71.69**	**54**	IAmb	IAmb		06 12 50.1	
	comp=Z,76nm,1.1s							
ARQ	**Araqi**	**71.71**	**285**	P		**P**	**06 12 28.0**	**+1.9**
	SNR=14							
ASUD	**Al Ashush, Dub**	**71.78**	**287**	*i* P		**P**	**06 12 24.7**	**-1.8**
	SNR=40							
ASUD	**Al Ashush, Dub**	**71.78**	**287**	P		**P**	**06 12 25.7**	**-0.8**
	SNR=26							
ASUD				P		**P**	**06 12 25.7**	**-0.8**
	SNR=26							
ALNE	**Al Ain**	**71.83**	**286**	*i* P		**P**	**06 12 26.4**	**-0.4**
	SNR=7.2							
ALNE	**Al Ain**	**71.83**	**286**	P		**P**	**06 12 27.0**	**+0.2**
	SNR=20							
KONO	**Kongsberg**	**71.86**	**337**	P		**P**	**06 12 27.4**	**+1.0**
KONO				pmax	pmax			
	comp=Z,113nm,1.7s							
KONO				MLR	MLR			
	comp=Z,4µm,21.0s							
KONO	**Kongsberg**	**71.86**	**337**	*e*P		**P**	**06 12 27.1**	**+0.7**
KONO				*e*S		**S**	**06 21 44.5**	**+2.4**
KONO				IVMs_BB	IVMs_BB		06 46 13.8	
	comp=Z,2µm,19.7s							
KONO	**Kongsberg**	**71.86**	**337**	P		**P**	**06 12 27.4**	**+1.0**
KONO				IAmb	IAmb		06 13 38.5	
	comp=Z,113nm,1.7s							
KONO	**Kongsberg**	**71.86**	**337**	IAMs_20	IAMs_20		06 47 47.7	
	comp=Z,4µm,21.0s							
STRU	**Stroemstad**	**71.88**	**336**	*e*P		**P**	**06 12 25.6**	**-0.8**
KTUT	**Trabzon**	**71.92**	**309**	⇓P		**P**	**06 12 27.5**	**+0.4**
LHV	**Little Huntoon**	**71.94**	**55**	P		**P**	**06 12 27.7**	**+0.6**
NVAR	**Mina Array Bea**	**71.95**	**55**	P		**P**	**06 12 27.9**	**+0.4**
	comp=Z,15nm,0.8s,baz=287,slow=6.3,SNR=36							
NVAR				LR	LR		06 39 33.5	
	comp=Z,1µm,21.8s,baz=302,slow=32							
NVAR	**Mina Array Bea**	**71.95**	**55**	P		**P**	**06 12 27.3**	**-0.3**
CUKT	**Cukurca**	**71.95**	**304**	*e*P		**P**	**06 12 25.2**	**-2.3**
YHB	**Horse Butte**	**72.00**	**46**	P		**P**	**06 12 29.2**	**+1.4**
SUE	**Sulen**	**72.04**	**340**	*e*P		**P**	**06 12 28.8**	**+1.4**
SUE				*e*S		**S**	**06 21 45.1**	**+1.1**
SUE				*e*SKSac		**SKSac**	**06 22 27.1**	**+1.1**
MHTO	**MHTO**	**72.10**	**282**	P		**P**	**06 12 28.9**	**+0.5**
	SNR=32							
MHTO				P		**P**	**06 12 28.9**	**+0.5**
	SNR=32							
ARMA	**Armidale**	**72.11**	**171**	P		**P**	**06 12 29.4**	**+1.2**
ARMA				IAMs_20	IAMs_20		06 39 55.2	
	comp=Z,3µm,22.0s							
DY2G	**Dye2**	**72.16**	**3**	*i* P		**P**	**06 12 27.5**	**-0.9**
DY2G				IAmb	IAmb		06 12 31.1	
	comp=Z,156nm,0.6s							
YHH	**Holmes Hill**	**72.16**	**46**	P		**P**	**06 12 29.0**	**+0.2**
YMR	**Madison River**	**72.18**	**46**	P		**P**	**06 12 28.6**	**-0.3**
ASK	**Askoy**	**72.41**	**339**	*e*P		**P**	**06 12 31.4**	**+1.7**
ASK				*e*SKSac		**SKSac**	**06 22 29.6**	**+1.0**
YEDI	**Yedisu-Bingol**	**72.44**	**307**	*e*P		**P**	**06 12 29.9**	**-0.5**
BER	**Bergen**	**72.46**	**339**	*e*P		**P**	**06 12 31.4**	**+1.5**
BER				IVmBBB			06 12 40.1	
	comp=Z,1µm,3.0s							
BER				*e*S		**S**	**06 21 53.8**	**+5.0**
BER				IVMs_BB	IVMs_BB		06 47 54.6	
	comp=Z,2µm,17.8s							
ODD1	**Odda**	**72.50**	**338**	*e*P		**P**	**06 12 31.2**	**+0.9**
ODD1				*e*SKSac		**SKSac**	**06 22 30.6**	**+1.0**
BLEU	**Blekinge**	**72.50**	**332**	*i* P		**P**	**06 12 28.4**	**-1.8**
SIM	**Simferopol'**	**72.51**	**315**	*e*P		**P**	**06 12 31.7**	**+1.2**
SIM				*i*			06 12 45.0	
SIM				*e*S		**SKiKP**	**06 21 56.0**	**-3.5**
SIM				pmax	pmax			
	comp=Z,214nm,0.9s							
SIM				MLR	MLR			
	comp=Z,3µm,20.0s							
LKWY	**Lake**	**72.55**	**46**	IAMs_20	IAMs_20		06 49 31.2	
	comp=Z,3µm,20.0s							
H17A	**Grant Village**	**72.57**	**46**	P		**P**	**06 12 32.4**	**+1.1**
H17A				IAmb	IAmb		06 13 01.5	
	comp=Z,59nm,1.0s							
ESPY	**Espiye-Giresun**	**72.57**	**309**	*e*P		**P**	**06 12 29.3**	**-1.7**
BNGB	**Bingl**	**72.65**	**307**	*e*P		**P**	**06 12 31.2**	**-0.4**
RLMT	**Red Lodge**	**72.78**	**45**	P		**P**	**06 12 32.6**	**+0.1**
RLMT				IAmb	IAmb		06 12 57.6	
	comp=Z,153nm,1.9s							
RLMT				IAMs_20	IAMs_20		06 44 58.3	
	comp=Z,3µm,22.0s							
SVAN	**Silvan-Diyarba**	**72.87**	**306**	*e*P		**P**	**06 12 34.1**	**+1.3**
BLS5	**Blasjo**	**72.96**	**338**	*e*P		**P**	**06 12 35.1**	**+2.2**
BLS5				IVmB_BB			06 12 40.8	
	comp=Z,2µm,3.2s							
BLS5				*e*S		**S**	**06 21 56.9**	**+2.2**
BLS5				IVMs_BB	IVMs_BB		06 46 24.2	
	comp=Z,2µm,21.7s							
TPAW	**Teton Pass**	**72.96**	**47**	IAMs_20	IAMs_20		06 44 18.2	
	comp=Z,3µm,22.0s							
ONAU	**Onsala**	**72.97**	**334**	*i* P		**P**	**06 12 33.2**	**+0.3**
FABU	**Falkenberg**	**73.02**	**334**	*i* P		**P**	**06 12 33.8**	**+0.5**
STKA	**Stephens Creek**	**73.02**	**180**	P		**P**	**06 12 32.5**	**-1.0**
	comp=Z,13nm,0.9s,baz=347,slow=7.1,SNR=13							
STKA				LR	LR		06 44 05.8	
	comp=Z,2µm,21.9s,baz=13,slow=35							
DEL	**Delary**	**73.05**	**333**	*i* P		**P**	**06 12 34.0**	**+0.5**
DGMT	**Dagmar**	**73.05**	**40**	IAMs_20	IAMs_20		06 43 49.2	
	comp=Z,5µm,22.0s							
HVU	**Hansel Valley**	**73.07**	**49**	P		**P**	**06 12 34.4**	**+0.3**
HVU				pmax	pmax			
	comp=Z,38nm,1.0s							
HVU	**Hansel Valley**	**73.07**	**49**	P		**P**	**06 12 34.4**	**+0.3**
FORT	**Forrest**	**73.08**	**193**	IAmb	IAmb		06 12 57.3	
	comp=Z,80nm,1.1s							
SNOW	**Snow King Moun**	**73.09**	**47**	IAMs_20	IAMs_20		06 44 33.5	
	comp=Z,3µm,21.0s							
REDW	**Red Top Meadow**	**73.10**	**47**	P		**P**	**06 12 34.3**	**0.0**
REDW				IAmb	IAmb		06 12 59.6	
	comp=Z,74nm,1.4s							
REDW				IAMs_20	IAMs_20		06 44 33.8	
	comp=Z,3µm,20.0s							
ANGG	**Ammassalik, Gr**	**73.21**	**360**	*e*P		**P**	**06 12 35.2**	**+1.0**
ANGG				IAmb	IAmb		06 12 35.7	
	comp=Z,24nm,0.8s							
ANGG				IAMs_20	IAMs_20		06 42 42.4	
	comp=Z,6µm,24.4s							
ANGG	**Ammassalik, Gr**	**73.21**	**360**	P		**P**	**06 12 33.2**	**-1.0**
ANGG				IAMs_20	IAMs_20		06 48 44.3	
	comp=Z,5µm,22.0s							
SORM	**Soroca**	**73.27**	**320**	⇑P		**P**	**06 12 35.5**	**+0.6**
SORM	**Soroca**	**73.27**	**320**	⇑P		**P**	**06 12 35.5**	**+0.6**
ISOG	**Isortoq, Green**	**73.28**	**0**	*e*P		**P**	**06 12 33.7**	**-0.9**
ISOG				IAmb	IAmb		06 12 36.7	
	comp=Z,41nm,0.8s							
ISOG				IAMs_20	IAMs_20		06 49 31.2	
	comp=Z,4µm,22.8s							
LAO	**LASA Array**	**73.29**	**42**	IAmb	IAmb		06 12 57.4	
	comp=Z,77nm,1.2s							
HOMB	**Homborsund**	**73.32**	**336**	*i* P		**P**	**06 12 36.6**	**+1.6**
HOMB	**Homborsund**	**73.32**	**336**	*e*P		**P**	**06 12 35.7**	**+0.7**
HOMB				IVmB_BB			06 12 40.0	
	comp=Z,1µm,2.9s							
HOMB				*e*S		**S**	**06 21 58.7**	**0.0**
HOMB				IVMs_BB	IVMs_BB		06 47 07.8	
	comp=Z,2µm,19.5s							
AHID	**Auburn Hatcher**	**73.36**	**47**	IAMs_20	IAMs_20		06 45 16.7	
	comp=Z,4µm,22.0s							
JRN	**Qarnain Island**	**73.36**	**289**	P		**P**	**06 12 36.4**	**+0.5**
	SNR=5.1							
JRN				P		**P**	**06 12 36.4**	**+0.5**
	SNR=5.1							
DYBB	**Diyarbakir**	**73.64**	**306**	*i* P		**P**	**06 12 38.0**	**+0.6**
R11A	**Troy Canyon, C**	**73.65**	**53**	IAmb	IAmb		06 13 01.8	
	comp=Z,78nm,1.4s							
SNART	**Snartemo**	**73.65**	**337**	*i* P		**P**	**06 12 37.0**	**0.0**
SNART	**Snartemo**	**73.65**	**337**	*e*P		**P**	**06 12 38.6**	**+1.6**
BSD	**Bornholm Skovb**	**73.75**	**332**	*e*P		**P**	**06 12 36.9**	**-0.7**
BSD	**Bornholm Skovb**	**73.75**	**332**	*i* P		**P**	**06 12 36.3**	**-1.3**
BSD				IAmb	IAmb		06 12 39.7	
	comp=Z,48nm,0.9s							
BSD				IAMs_20	IAMs_20		06 47 15.7	
	comp=Z,7µm,20.1s							
BSD	**Bornholm Skovb**	**73.75**	**332**	*i* P		**P**	**06

comp=Z,6µm,19.0s
MIB Mutribah 74.17 296 *e*P **P 06 12 40.7 +0.2**
BW06 Boulder Array 74.20 47 IAMs_20 IAMs_20 06 45 39.0
comp=Z,3µm,22.0s
PDAR Pinedale Array 74.20 47 P **P 06 12 40.1 -0.7**
comp=Z,8.0nm,0.6s,baz=287,slow=0.8,SNR=44
PDAR Pinedale Array 74.20 47 P **P 06 12 39.6 -1.3**
TOKT Tokat 74.22 310 *e*P **P 06 12 40.1 -0.6**
SVSK Karacayir 74.22 309 *e*P **P 06 12 38.6 -2.0**
LHI Lord Howe Isla 74.34 165 IAMs_20 IAMs_20 06 40 25.6
comp=Z,3µm,22.0s
CTU Camp Tracy 74.36 49 P **P 06 12 41.6 -0.1**
MALT Malatya 74.43 307 *e*P **P 06 12 42.1 0.0**
QRN Al-Qurain 74.44 295 *e*P **P 06 12 42.4 +0.3**
PSUT Pine Spring 74.56 52 P **P 06 12 43.0 +0.1**
BZK Bozkurt 74.56 313 P **P 06 12 44.8 +2.2**
RDF Al-Radifah 74.58 295 *e*P **P 06 12 43.2 +0.2**
VASR Vaslui 74.58 319 ⇑P **P 06 12 43.3 +0.6**
RST Umm Al-Ruwaisa 74.59 296 *e*P **P 06 12 43.1 +0.1**
JLU Jordanelle 74.59 49 P **P 06 12 42.8 -0.4**
MUD Monsted U'grnd 74.61 335 *i* P **P 06 12 43.9 +1.3**
MUD IAmb IAmb 06 12 45.6
comp=Z,27nm,0.7s
MUD IAMs_20 IAMs_20 06 46 43.4
comp=Z,5µm,20.7s
MUD Monsted U'grnd 74.61 335 *i* P **P 06 12 43.8 +1.3**
MUD pmax pmax
comp=Z,27nm,0.7s
MUD MLR MLR
comp=Z,5µm,21.0s
PASC Pasadena Art C 74.72 58 P **P 06 12 42.9 -0.8**
PASC IAmb IAmb 06 13 07.4
comp=Z,108nm,1.6s
URFA Urfa 74.76 307 *e*P **P 06 12 42.7 -1.3**
MWC Mount Wilson 74.77 58 P **P 06 12 45.1 +0.9**
MWC pmax pmax
comp=Z,187nm,1.8s
MWC Mount Wilson 74.77 58 P **P 06 12 45.1 +0.9**
MWC IAmb IAmb 06 13 23.2
comp=Z,187nm,1.8s
KWP Kalwaria Pacla 74.80 324 *e*P **P 06 12 43.6 -0.3**
KWP *e*L L 06 48 40.8
comp=Z,6µm,18.7s
KWP Kalwaria Pacla 74.80 324 P **P 06 12 42.9 -1.0**
KWP Kalwaria Pacla 74.80 324 P **P 06 12 42.9 -1.0**
DARE Darende-Malaty 74.82 308 P **P 06 12 44.3 0.0**
MPU Maple Canyon 74.88 50 P **P 06 12 44.7 0.0**
TLCR 75.10 318 ⇑P **P 06 12 45.7 +0.1**
TLCR 75.10 318 ⇑P **P 06 12 45.7 +0.1**
BUR08 Bucovina Ar. S 75.11 321 IAmb IAmb 06 12 48.8
comp=Z,42nm,0.7s
BURAR Bucovina Array 75.12 321 ⇑P **P 06 12 46.3 +0.4**
BURAR Bucovina Array 75.12 321 ⇑P **P 06 12 46.3 +0.4**
GHRR 75.18 319 ⇓P **P 06 12 46.6 +0.5**
BIZ Bicaz 75.19 320 ⇑P **P 06 12 45.9 -0.2**
TESR Tescani 75.23 320 ⇑P **P 06 12 46.4 0.0**
YOZ Yozgat 75.37 310 *e*P **P 06 12 46.1 -1.4**
CORM Corum 75.41 311 P **P 06 12 46.8 -0.9**
CFR Carcaliu 75.44 318 ⇑P **P 06 12 47.9 +0.3**
CFR Carcaliu 75.44 318 ⇑P **P 06 12 47.9 +0.3**
CCUT Cedar Clfty 75.50 53 P **P 06 12 48.9 +0.5**
KOLS Kolonicke sedl 75.50 324 *e*P **P 06 12 49.9 +2.0**
KOLS Kolonicke sedl 75.50 324 *e*P **P 06 12 49.9 +2.0**
PETR Petresti 75.51 319 ⇑P **P 06 12 48.8 +0.9**
ULM Lac du Bonnet 75.51 34 P **P 06 12 46.0 -1.9**
comp=Z,3.1nm,0.7s,baz=315,slow=6.2,SNR=7.5
ULM LR LR 06 48 17.1
comp=Z,2µm,19.8s,baz=326,slow=37
ULM Lac du Bonnet 75.51 34 P **P 06 12 46.0 -1.9**
TPGR Topolog 75.53 318 ⇑P **P 06 12 48.3 +0.1**
SARI SarD1z-Kayseri 75.56 309 P **P 06 12 47.5 -1.2**
BNN Bunyan 75.60 309 *e*P **P 06 12 47.0 -1.8**
TMUT Trail Mountain 75.60 50 P **P 06 12 48.8 -0.3**
OJC Ojcow 75.61 326 *e*P **P 06 12 47.7 -0.8**
OJC *e*S **S 06 22 25.3 +0.7**
OJC *e*L L 06 49 04.2
comp=Z,9µm,20.3s
SZCU Shurtz Canyon 75.63 52 P **P 06 12 48.8 -0.3**
SZCU IAmb IAmb 06 13 14.2
comp=Z,258nm,2.5s
MDND Maddock 75.65 38 P **P 06 12 48.1 -0.7**
VRI Vrincioaia 75.65 319 ⇑P **P 06 12 49.5 +0.6**
VRI Vrincioaia 75.65 319 *e*P **P 06 12 47.5 -1.4**
VRI Vrincioaia 75.65 319 ⇑P **P 06 12 49.5 +0.6**
RDMU Red Mountain 75.68 48 P **P 06 12 49.0 -0.3**
RDMU IAmb IAmb 06 13 44.6
comp=Z,156nm,1.4s
PLOR Plostina 75.70 319 ⇑P **P 06 12 50.0 +0.8**
PLOR Plostina 75.70 319 ⇑P **P 06 12 50.0 +0.8**
UZH Uzhgorod 75.72 324 *e*P **P 06 12 50.1 +1.0**
UZH *e* 06 13 02.7
UZH *e* 06 15 38.7
UZH *e*S **S 06 22 25.2 -0.7**
UZH MLR MLR
comp=Z,600nm,19.0s
TIRR Tirgusor 75.81 317 ⇑P **P 06 12 50.2 +0.5**
TIRR Tirgusor 75.81 317 ⇑P **P 06 12 50.2 +0.5**
TIRR Tirgusor 75.81 317 ⇑P **P 06 12 50.2 +0.5**
TIRR Tirgusor 75.81 317 IAmb IAmb 06 13 28.6
comp=Z,92nm,1.1s
KMRS Kahramanmaras 75.87 308 P **P 06 12 49.9 -0.4**
MTPU Mount Pierson 75.87 52 IAmb IAmb 06 13 15.6
comp=Z,132nm,1.8s
Q16A Castle Valley 75.88 50 P **P 06 12 51.4 +0.8**
Q16A IAmb IAmb 06 13 44.4
comp=Z,127nm,1.7s
BMR Baia Mare 75.88 322 ⇑P **P 06 12 50.7 +0.6**
BMR Baia Mare 75.88 322 ⇑P **P 06 12 50.7 +0.6**
CRVS Cervenica-Dubn 75.89 324 *e*P **P 06 12 51.5 +1.4**
CRVS pmax pmax
comp=Z,40nm,0.8s
CRVS Cervenica-Dubn 75.89 324 *e*P **P 06 12 51.5 +1.4**
CRVS *e*S S 06 22 46.8 +19
CRVS *e*L L 06 49 42.0
BISRR Bisoca 75.89 319 ⇑P **P 06 12 50.5 +0.2**
HARR Harsova 75.89 318 ⇑P **P 06 12 50.5 +0.3**
HARR Harsova 75.89 318 ⇑P **P 06 12 50.5 +0.3**
GAZ Gaziantep 75.91 307 P **P 06 12 49.7 -0.8**
GAZ Gaziantep 75.91 307 IAmb IAmb 06 12 55.2
comp=Z,67nm,0.9s
ARCR ARCALIA 75.91 321 ⇑P **P 06 12 50.9 +0.7**
K22A Casper 75.92 45 P **P 06 12 50.0 -0.7**
K22A IAmb IAmb 06 13 43.3
comp=Z,81nm,1.2s
LCMT Little Creek M 75.93 53 P **P 06 12 51.0 +0.3**
TLBR Topalu 75.94 318 ⇑P **P 06 12 51.1 +0.7**
OZUR 75.95 320 ⇓P **P 06 12 50.8 +0.2**
MFTR Murfatlar 76.00 317 ⇑P **P 06 12 51.2 +0.4**
NIE Niedzica 76.00 325 *e*P **P 06 12 50.6 -0.2**
NIE *e*L L 06 49 19.5
comp=Z,4µm,19.6s
E28A Huff 76.07 39 IAmb IAmb 06 13 13.0
comp=Z,84nm,1.2s
CVDA Cernavoda 76.09 318 ⇑P **P 06 12 52.4 +1.1**
PFO Pinyon Flats O 76.17 57 P **P 06 12 52.4 +0.2**
PFO pmax pmax
comp=Z,41nm,1.1s
PFO Pinyon Flats O 76.17 57 P **P 06 12 52.4 +0.2**
NEHR Nehoiu 76.18 319 ⇑P **P 06 12 52.4 +0.5**
RSSD Black Hills 76.18 43 P **P 06 12 50.6 -1.6**
RSSD pmax pmax
comp=Z,204nm,2.0s
RSSD MLR MLR
comp=Z,4µm,22.0s
RSSD Black Hills 76.18 43 P **P 06 12 50.6 -1.6**
RSSD IAmb IAmb 06 13 16.7
comp=Z,204nm,2.0s
RSSD Black Hills 76.18 43 IAMs_20 IAMs_20 06 48 09.2
comp=Z,4µm,22.0s
PKCU Pink Cliffs 76.19 52 IAmb IAmb 06 13 19.8
comp=Z,108nm,1.4s
RWWY Rawlins 76.21 46 IAmb IAmb 06 13 20.3
comp=Z,94nm,1.2s
DOPR Dopca 76.23 320 ⇑P **P 06 12 52.5 +0.3**
109C Camp Elliot, M 76.23 58 IAMs_20 IAMs_20 06 40 48.6
comp=Z,4µm,22.0s
BR131 Keskin Array S 76.28 311 P **P 06 12 51.2 -1.5**
BR131 pmax pmax
comp=Z,46nm,0.7s
BR131 Keskin Array S 76.28 311 P **P 06 12 51.2 -1.5**
BR131 IAmb IAmb 06 12 55.2
comp=Z,46nm,0.7s
BRTR Keskin Array B 76.28 311 P **P 06 12 51.9 -0.8**
comp=Z,30nm,0.7s,baz=72,slow=3.9,SNR=57
BRTR LR LR 06 51 32.9
comp=Z,3µm,20.1s,baz=56,slow=40
BRTR Keskin Array B 76.28 311 *i* P **P 06 12 50.9 -1.8**
BRTR Keskin Array B 76.28 311 P **P 06 12 51.3 -1.3**
ISR Istrita 76.28 319 ⇑P **P 06 12 52.9 +0.4**
ISR Istrita 76.28 319 ⇑P **P 06 12 52.9 +0.4**
BSEG Bad Segeberg 76.30 333 *e*P **P 06 12 51.6 -0.7**
comp=Z,61nm,0.8s,baz=35,slow=5.5
MLR Muntele Rosu 76.31 319 ⇓P **P 06 12 53.0 +0.3**
MLR Muntele Rosu 76.31 319 P **P 06 12 51.9 -0.8**
MLR pmax pmax
comp=Z,38nm,1.0s
MLR MLR MLR
comp=Z,4µm,21.0s
MLR Muntele Rosu 76.31 319 P **P 06 12 51.9 -0.8**
MLR IAMs_20 IAMs_20 06 49 57.3
comp=Z,4µm,21.0s
DOK Doka 76.39 283 P **P 06 12 53.9 +0.4**
SNR=5.5
KOZT Kozan 76.52 308 P **P 06 12 53.4 -0.6**
CJR Cluj-Napoca 76.54 322 ⇑P **P 06 12 54.3 +0.4**
CJR Cluj-Napoca 76.54 322 ⇑P **P 06 12 54.3 +0.4**
LANS Liptovska Anna 76.56 325 *e*P **P 06 12 56.3 +2.3**
LANS pmax pmax
comp=Z,25nm,1.0s
LANS Liptovska Anna 76.56 325 *e*P **P 06 12 56.3 +2.3**
KSP Ksiaz 76.57 328 *e*P **P 06 12 53.2 -0.7**
KSP *e*S **S 06 22 36.5 +1.4**
KSP *e*L L 06 50 09.0
comp=Z,3µm,20.6s
SECR 76.57 319 ⇑P **P 06 12 54.3 +0.2**
OKC Ostrava-Krasne 76.59 326 *e*P P 06 12 44.8 -9.3
OKC *e*S **S 06 22 39.7 +4.3**
OKC MLR MLR
comp=Z,6µm,18.8s
OKC Ostrava-Krasne 76.59 326 *e*S **S 06 22 39.7 +4.3**
OKC AMS AMS 06 49 20.0
comp=Z,6µm,18.8s
KECS Kecovo 76.63 324 *e*P **P 06 12 56.5 +2.2**
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 76.63 324 *e*P **P 06 12 56.5 +2.2**
ANTO Ankara 76.65 312 P **P 06 12 54.1 -0.6**
ANTO Ankara 76.65 312 P **P 06 12 53.7 -1.0**
ANTO pmax pmax
comp=Z,116nm,0.8s
ANTO Ankara 76.65 312 P **P 06 12 53.7 -1.0**
LOD Lodumlu 76.66 312 P **P 06 12 54.7 0.0**
VOIR 76.78 320 ⇑P **P 06 12 55.4 +0.1**
VOIR 76.78 320 ⇑P **P 06 12 55.4 +0.1**
AFSR Afar-Bala (An 76.79 311 P **P 06 12 54.0 -1.5**
OSTC Ostas 76.82 328 *e*P **P 06 12 57.4 +2.0**
OSTC *e*S **S 06 22 42.3 +4.3**
OSTC AMS AMS 06 49 20.0
comp=Z,4µm,17.7s
SERE Sereflikochisa 76.85 311 *e*P **P 06 12 56.7 +0.8**
CHVC Chvalec 76.86 328 *e*P **P 06 12 57.3 +1.7**
CHVC *e*S **SKSac 06 23 00.1 -2.3**
CHVC AMS AMS 06 49 30.0
comp=Z,4µm,19.1s
U15A North Rim 76.89 53 IAmb IAmb 06 13 21.1
comp=Z,93nm,1.3s
CEYT Ceyhan 76.89 308 *e*P **P 06 12 57.5 +1.5**
DRGR 76.89 322 ⇑P **P 06 12 56.0 +0.1**
DRGR 76.89 322 ⇑P **P 06 12 56.0 +0.1**
MORC Moravsky Berou 76.89 327 ⇑P **P 06 12 56.0 +0.2**
MORC Moravsky Berou 76.89 327 *e*P **P 06 12 55.1 -0.7**
MORC *e*S **S 06 22 40.0 +1.2**
MORC Moravsky Berou 76.89 327 P **P 06 12 55.2 -0.6**
MORC pmax pmax
comp=Z,59nm,0.9s
MORC MLR MLR
comp=Z,6µm,20.0s
MORC Moravsky Berou 76.89 327 P **P 06 12 55.2 -0.6**
MORC IAmb IAmb 06 12 59.2
comp=Z,58nm,0.9s
CMRD Camardi-Nigde 76.89 309 *e*P **P 06 12 55.9 -0.3**
YUVA Yuva-Kibriscik 76.91 313 *e*P **P 06 12 55.5 -0.7**
DPC Dobruska-Polom 76.94 328 *e*P **P 06 12 55.6 -0.5**
DPC *e*S **S 06 22 39.7 +0.4**
DPC MLR MLR
comp=Z,4µm,17.2s
DPC Dobruska-Polom 76.94 328 *e*P **P 06 12 55.6 -0.5**
DPC *ex* x 06 12 58.3
DPC *e*S **S 06 22 39.7 +0.4**
DPC AMS AMS 06 49 30.0
comp=Z,4µm,17.2s
UPC Upice 76.94 328 *e*P **P 06 12 57.5 +1.4**
UPC *e*S S 06 22 29.6 -10
UPC MLR MLR
comp=Z,4µm,18.2s
UPC Upice 76.94 328 *e*P **P 06 12 57.5 +1.4**
UPC *e*S S 06 22 29.6 -10
UPC AMS AMS 06 49 30.0
comp=Z,4µm,18.2s
KRLC Kraliky 76.97 327 *e*P **P 06 12 55.5 -0.8**
KRLC *e*S **S 06 22 44.8 +5.1**
KRLC MLR MLR
comp=Z,4µm,18.7s
KRLC Kraliky 76.97 327 *e*P **P 06 12 55.5 -0.8**
KRLC *ex* x 06 12 58.5
KRLC *e*S **S 06 22 44.8 +5.1**
KRLC AMS AMS 06 49 20.0
comp=Z,4µm,18.7s
AGMN Agassiz Nation 76.99 35 IAMs_20 IAMs_20 06 46 03.4
comp=Z,3µm,22.0s
ARR Arges 77.03 320 ⇑P **P 06 12 57.6 +0.9**
RMX La Rumorosa 77.07 58 IAmb IAmb 06 13 21.6
comp=Z,77nm,1.5s
KULU Kulu 77.10 311 *e*P **P 06 12 54.7 -2.6**
MDUB Mudurnu 77.12 313 *e*P **P 06 12 55.6 -1.8**
FLTG Flechtingen 77.29 332 *e*P **P 06 12 56.5 -1.4**
comp=Z,66nm,0.8s,baz=35,slow=5.5
VYHS Vyhne 77.33 325 *e*P **P 06 13 00.0 +1.7**
VYHS Vyhne 77.33 325 *e*P **P 06 13 00.0 +1.7**
D32A Dogwood Acres, 77.36 37 P **P 06 12 56.9 -1.5**
D32A IAmb IAmb 06 13 20.5
comp=Z,87nm,1.1s
SULT Sultanhani-AKS 77.38 310 *e*P **P 06 12 55.3 -3.6**
AUMIH MIHALICIK 77.39 312 *e*P **P 06 12 57.8 -1.1**
LOT Lotru 77.39 321 ⇓P **P 06 13 00.0 +1.2**
BRG Berggiesshubel 77.46 329 *e*P **P 06 13 00.4 +1.4**
BRG Amp 06 13 01.5
comp=Z,21nm,0.9s
BRG *ex* x 06 13 15.8
BRG Amp 06 13 16.8
comp=Z,16nm,1.1s
BRG *ex* x 06 13 27.8
BRG Amp 06 13 31.2
comp=Z,26nm,1.1s
BRG Berggiesshubel 77.46 329 PP PP 06 15 57.0 +3.5
BRG Berggiesshubel 77.46 329 S **S 06 22 46.0 +1.2**
BRG Amp 06 48 49.0
comp=E,3.3nm,21.3s
BRG Amp 06 48 57.0
comp=Z,5.3nm,23.1s
BRG Amp 06 49 04.0
comp=N,4.4nm,22.0s
BRG Berggiesshubel 77.46 329 *e*P **P 06 12 57.8 -1.2**
comp=N,21nm,0.9s,baz=35,slow=5.5
CLL Collm 77.47 330 *e*P **P 06 12 57.0 -2.0**
CLL *i* Pmax 06 13 00.2
comp=Z,44nm,0.8s
CLL *es*P **pP 06 13 15.0 -0.4**
CLL *es*PcP 06 13 27.0
CLL *e*PP **PP 06 15 53.0 -0.5**
CLL *e*(pPP) 06 16 08.0
CLL *e*PPP PPP 06 17 54.0
CLL *e*S **S 06 22 43.0 -1.9**
CLL *e*PS **PnS 06 23 28.0 -3.1**
CLL *e* 06 28 36.0
CLL Lm MLR 06 49 00.0
comp=Z,7µm,21.1s
CLL Lmax 06 50 00.0
CLL Collm 77.47 330 *e*P **P 06 12 57.0 -2.0**
CLL *e*'PP **pP 06 13 15.0 -0.4**
CLL *e*S **S 06 22 39.0 -5.9**
CLL pmax pmax
comp=Z,44nm,0.8s
CLL MLR MLR
comp=Z,7µm,21.1s
CLL Collm 77.47 330 IAmb IAmb 06 13 01.6
comp=Z,43nm,0.8s
CLL Collm 77.47 330 *e*P **P 06 12 57.6 -1.4**
comp=Z,44nm,0.8s,baz=35,slow=5.5
CHBY Cihanbeyli 77.48 311 *e*P **P 06 12 57.8 -1.6**
PV14 Lion Creek, Pa 77.48 50 IAmb IAmb 06 13 24.6
comp=Z,83nm,1.0s
PVCC Panska Ves 77.50 329 *e*P **P 06 13 01.2 +2.1**
PVCC *e*S **SKSac 06 23 00.1 -6.9**
PVCC MLR MLR
comp=Z,4µm,18.3s
PVCC Panska Ves 77.50 329 *e*P **P 06 13 01.2 +2.1**
PVCC *e*S **SKSac 06 23 00.1 -6.9**
PVCC AMS AMS 06 50 10.0
comp=Z,4µm,18.3s
NRS Narsarsuaq 77.51 4 *i* P **P 06 12 59.3 +0.3**
NRS IAmb IAmb 06 13 03.9
comp=Z,34nm,1.0s
NRS Narsarsuaq 77.51 4 *i* P **P 06 12 59.3 +0.3**
NRS pmax pmax
comp=Z,34nm,1.0s
NRS Narsarsuaq 77.51 4 IAMs_20 IAMs_20 06 47 26.0
comp=Z,4µm,21.0s
PV22 Blue Mesa, Par 77.51 49 IAmb IAmb 06 13 52.6
comp=Z,48nm,1.0s
GULT Gulveren 77.53 313 *e*P **P 06 13 00.1 +0.5**
PV04 Paradox Valley 77.54 50 P **P 06 12 59.4 -0.4**
PV20 West Nyswonger 77.54 50 IAmb IAmb 06 13 24.9
comp=Z,79nm,1.1s
YESY Yesilyurt 77.54 310 *e*P **P 06 12 58.9 -0.9**
JAVC Velka Javorina 77.55 326 *e*P **P 06 12 59.6 0.0**
PV19 Morning Glory 77.55 50 IAmb IAmb 06 13 25.0
comp=Z,86nm,1.1s
GLA Glamis 77.57 57 P **P 06 13 01.3 +1.3**
GLA pmax pmax
comp=Z,55nm,1.2s
GLA Glamis 77.57 57 P **P 06 13 01.3 +1.3**
GLA IAmb IAmb 06 13 33.3
comp=Z,55nm,1.1s
PV16 Nyswonger Mesa 77.59 50 IAmb IAmb 06 13 25.2
comp=Z,100nm,1.3s
PV11 David Mesa, Pa 77.62 50 P **P 06 13 00.9 +0.5**
PV11 IAmb IAmb 06 13 50.8
comp=Z,99nm,1.2s
PV18 Skein Mesa, Pa 77.64 50 IAmb IAmb 06 13 25.5
comp=Z,64nm,1.1s
PV05 Paradox Valley 77.64 50 IAmb IAmb 06 13 25.6
comp=Z,106nm,1.2s
COPA Copaceanca 77.64 319 ⇑P **P 06 13 00.4 +0.4**
VRAC Vranov 77.65 327 ⇑P **P 06 13 00.4 +0.4**
VRAC Vranov 77.65 327 *e*P **P 06 12 58.6 -1.4**
VRAC *e*S **S 06 22 49.8 +2.9**
VRAC Vranov 77.65 327 ⇑P **P 06 13 00.4 +0.4**
PV12 Saucer Basin, 77.65 50 IAmb IAmb 06 13 30.2
comp=Z,77nm,1.2s
FBE Freiberg 77.65 330 *e*P **P 06 12 59.2 -0.8**
comp=Z,33nm,0.8s,baz=35,slow=5.5
PV07 Paradox Valley 77.65 49 IAmb IAmb 06 14 07.1
comp=Z,83nm,1.4s
SVRH Sivrihisar-ESK 77.65 312 *e*P **P 06 12 56.6 -3.8**
PV03 Paradox Valley 77.67 50 IAmb IAmb 06 13 40.5
comp=Z,138nm,1.4s
SRCK Saricakaya, Es 77.74 313 P **P 06 12 59.8 -0.9**
PV13 Radium Mtn., P 77.75 50 IAmb IAmb 06 13 55.6
comp=Z,103nm,1.3s
PV02 Paradox Valley 77.76 50 IAmb IAmb 06 13 41.0
comp=Z,58nm,1.2s
SIRR Siria 77.77 322 ⇑P **P 06 13 01.4 +0.7**
ABTO Aybut 77.81 282 P **P 06 13 00.4 -1.1**
SNR=7.3
KIZT Kizilcal 77.85 311 *i* P **P 06 13 00.3 -1.2**
B35A Bob, Littlefor 77.86 34 P **P 06 13 00.1 -1.2**
B35A IAmb IAmb 06 13 22.5
comp=Z,93nm,1.4s
GZR Gura Zlata 77.90 321 ⇑P **P 06 13 02.1 +0.5**
GZR Gura Zlata 77.90 321 ⇑P **P 06 13 02.1 +0.5**
PRA Prague 77.91 329 *e*P **P 06 13 03.9 +2.4**
PRA *e*S **S 06 22 44.8 -4.9**
PRA MLR MLR
comp=Z,4µm,18.1s
PRA Prague 77.91 329 *e*P **P 06 13 03.9 +2.4**
PRA *e*S **S 06 22 44.8 -4.9**
PRA AMS AMS 06 50 20.0
comp=Z,4µm,18.1s
SMOL Smolenice 77.92 326 *e*P **P 06 13 04.3 +2.8**
SMOL pmax pmax
comp=Z,21nm,1.0s
SMOL Smolenice 77.92 326 *e*P **P 06 13 04.3 +2.8**
KRUC Moravsky 77.92 327 *e*P **P 06 13 00.8 -0.7**
KRUC *e*S **S 06 22 51.8 +1.9**
PRU Pruhonice 77.93 328 *e*P **P 06 13 00.9 -0.7**
PRU *e*S **S 06 22 55.0 +5.0**
PRU MLR MLR
comp=Z,4µm,18.1s
PRU Pruhonice 77.93 328 *e*P **P 06 13 00.9 -0.7**
PRU *ex* x 06 13 03.6
PRU *e*S **S 06 22 55.0 +5.0**
PRU AMS AMS 06 50 10.0
comp=Z,4µm,18.1s
BORA Eskisehir 77.94 313 P **P 06 13 00.6 -1.4**
CIFT Cifteler, Eski 77.97 312 P **P 06 13 00.3 -1.8**
CLZ Clausthal 78.00 332 *e*P **P 06 13 01.1 -0.8**
comp=Z,58nm,0.8s,baz=35,slow=5.5
LADK Ladik-KONYA 78.04 311 P **P 06 13 00.3 -2.3**
WUAZ Wupatki 78.05 53 P **P 06 13 01.7 -1.0**
WUAZ IAmb IAmb 06 13 42.8
comp=Z,63nm,1.2s
WUAZ IAMs_20 IAMs_20 06 42 35.3
comp=Z,3µm,22.0s
YLV Yalova 78.05 314 *e*P **P 06 13 03.3 +0.8**
SRO Srobarova 78.08 325 *e*P **P 06 13 05.4 +3.0**
SRO pmax pmax
comp=Z,87nm,0.8s
SRO Srobarova 78.08 325 *e*P **P 06 13 05.4 +3.0**
SMCO Snowmass 78.08 48 P **P 06 13 02.1 -1.0**
SMCO IAmb IAmb 06 13 32.5
comp=Z,70nm,1.4s
SMCO IAMs_20 IAMs_20 06 47 20.8
comp=Z,2µm,22.0s
TREC Trest 78.11 327 *e*P **P 06 13 04.0 +1.4**
TREC *e*S **S 06 22 52.5 +0.6**
TREC MLR MLR
comp=Z,4µm,20.4s
TREC Trest 78.11 327 *e*P **P 06 13 04.0 +1.4**
TREC *e*S S 06 22 52.5 +0.6
TREC AMS AMS 06 50 00.0
comp=Z,4µm,20.4s
Y14A Wickenburg 78.12 55 P **P 06 13 02.4 -0.6**
Y14A IAmb IAmb 06 13 42.8
comp=Z,65nm,1.4s
KIZK Mersin 78.19 308 *e*P **P 06 13 02.0 -1.3**
KONT Konya--Tatoy 78.22 311 *e*P **P 06 13 02.3 -1.2**
SRE Strehaia 78.24 320 ⇑P **P 06 13 03.4 0.0**
SRE Strehaia 78.24 320 ⇑P **P 06 13 03.4 0.0**
BZS Buzias 78.28 322 ⇓P **P 06 13 03.8 +0.2**
BZS Buzias 78.28 322 ⇓P **P 06 13 03.8 +0.2**
ZST Bratislava 78.30 326 *e*P **P 06 13 06.1 +2.5**
ZST pmax pmax
comp=Z,61nm,1.0s
ZST Bratislava 78.30 326 *e*P **P 06 13 06.1 +2.5**
INVG Invergeldie, C 78.31 342 *e*P **P 06 13 04.7 +1.2**
ARMT Armutlu 78.33 314 *e*P **P 06 13 03.3 -0.7**
GTTG Gottingen 78.39 332 *e*P **P 06 13 03.2 -0.9**
comp=Z,42nm,0.9s,baz=35,slow=5.5
PBCC Pribram 78.39 329 *e*P **P 06 13 05.0 +0.9**
TANN Tannenbergstha 78.39 330 *e*P **P 06 13 03.1 -1.1**
comp=Z,13nm,1.1s,baz=35,slow=5.5
ISCO Idaho Springs 78.40 47 IAMs_20 IAMs_20 06 46 53.1
comp=Z,3µm,22.0s
ESY Stoneypath 78.42 341 *e*P **P 06 13 05.8 +1.6**
113A Mohawk Valley, 78.42 56 P **P 06 13 04.2 -0.4**
WERD Werda 78.43 330 *e*P **P 06 13 03.2 -1.2**
comp=Z,20nm,0.9s,baz=35,slow=5.5
HERR Herculane 78.45 321 ⇑P **P 06 13 05.2 +0.7**
PLN Plauen 78.45 330 *e*P **P 06 13 03.5 -1.0**
comp=Z,17nm,0.9s,baz=35,slow=5.5
SUSD Miller 78.47 40 IAmb IAmb 06 13 30.9
comp=Z,83nm,0.8s
KEBE Keben-Mersin 78.47 309 *e*P **P 06 13 03.6 -1.3**
GUNZ Gunzen 78.49 330 *e*P **P 06 13 03.7 -1.0**
comp=Z,19nm,0.8s,baz=35,slow=5.5
MOX Moxa 78.53 330 *e*P **P 06 13 03.8 -1.1**
comp=Z,22nm,0.9s,baz=35,slow=5.5
MOX *e*L L 06 50 43.5
comp=Z,5µm,19.5s
WERN Wernitzgruen 78.53 330 *e*P **P 06 13 04.1 -0.8**
comp=Z,24nm,0.8s,baz=35,slow=5.5

NKC Novy Kostel 78.55 330 *e*P **P 06 13 06.9 +1.9**
NKC *e*S **SKSac 06 23 12.8 -1.8**
NKC MLR MLR
comp=Z,6µm,21.9s
NKC Novy Kostel 78.55 330 *e*P **P 06 13 06.9 +1.9**
NKC *e*S **SKSac 06 23 12.8 -1.8**
NKC AMS AMS 06 50 00.0
comp=Z,6µm,21.9s
MVCO Mesa Verde 78.58 50 IAmb IAmb 06 13 32.2
comp=Z,201nm,2.0s
MVCO IAMs_20 IAMs_20 06 44 12.3
comp=Z,3µm,22.0s
IKL Isikli 78.63 308 *e*P **P 06 13 03.2 -2.5**
F33A 5 Mile Ranch, 78.66 37 IAmb IAmb 06 13 27.1
comp=Z,111nm,1.4s
X16A Lo Mia Camp, P 78.75 54 P **P 06 13 06.8 +0.2**
AKKU Akkuyu-Mersin 78.76 309 *e*P P 06 13 01.0 -5.4
TOO Toolangi 78.76 177 IAMs_20 IAMs_20 06 43 57.1
comp=Z,3µm,20.0s
SHUT Suhut-Afyon 78.82 312 P **P 06 13 06.2 -0.7**
BERE Bereket-Mersin 78.82 309 *e*P **P 06 13 05.6 -1.3**
MDVR Moldovita 78.86 321 ⇑P **P 06 13 07.0 +0.2**
CKRC Cesky Krumlov 78.96 328 *e*P **P 06 13 06.4 -0.9**
CKRC *ex* x 06 13 08.5
CKRC *e*S **S 06 23 00.1 -0.9**
MRMT Marmara Adasi 78.98 315 *e*P **P 06 13 06.3 -1.3**
KHC Kasperske Hory 79.00 328 *e*P **P 06 13 06.7 -0.8**
KHC *e* 06 13 09.4
KHC *e*S **S 06 22 59.0 -2.5**
KHC Kasperske Hory 79.00 328 *e*P **P 06 13 06.7 -0.8**
KHC *ex* x 06 13 09.4
KHC *e*S **S 06 22 59.0 -2.5**
KHC AMS AMS 06 45 50.0
comp=Z,6µm,31.0s
ROTZ Rotzenmuhle 79.02 330 *e*P **P 06 13 06.8 -0.8**
comp=Z,25nm,0.9s,baz=35,slow=5.5
EDC Edincik 79.02 315 *e*P **P 06 13 05.3 -2.4**
TEKE Tekeli-Mersin 79.03 309 *e*P **P 06 13 05.9 -2.0**
CONA Conrad Observa 79.03 326 *i* P **P 06 13 07.8 0.0**
comp=Z,20nm,0.7s,SNR=16
ESK Eskdalemuir 79.11 341 *e*P **P 06 13 09.1 +1.2**
ESK Eskdalemuir 79.11 341 P **P 06 13 06.6 -1.4**
ESK pmax pmax
comp=Z,22nm,0.8s
ESK MLR MLR
comp=Z,3µm,20.0s
ESK Eskdalemuir 79.11 341 P **P 06 13 06.6 -1.4**
ESK Eskdalemuir 79.11 341 IAMs_20 IAMs_20 06 52 25.4
comp=Z,3µm,20.0s
EYMN Ely 79.12 33 IAmb IAmb 06 13 30.1
comp=Z,54nm,1.0s
EYMN Ely 79.12 33 IAMs_20 IAMs_20 06 47 38.6
comp=Z,3µm,22.0s
MORH Mrgy, Hungar 79.17 324 ⇑*i*P **P 06 13 09.7 +1.3**
GEC2 GERESS Array S 79.18 328 *e*P **P 06 13 07.5 -1.1**
comp=Z,18nm,0.7s,baz=35,slow=5.5
GERES GERESS Array B 79.18 328 P **P 06 13 07.6 -1.0**
comp=Z,13nm,0.7s,baz=46,slow=5.8,SNR=30
GERES LR LR 06 51 48.7
comp=Z,3µm,18.0s,baz=48,slow=38
GERES GERESS Array B 79.18 328 P **P 06 13 07.2 -1.3**
KASTN Kahler Asten 79.22 332 *e*P **P 06 13 07.6 -1.1**
comp=Z,26nm,0.9s,baz=35,slow=5.5
EDMD Edmundbyers 79.23 340 *e*P **P 06 13 08.8 +0.2**
WET Wettzell 79.26 329 *e*P **P 06 13 08.3 -0.7**
comp=Z,33nm,0.9s,baz=35,slow=5.5
KRBG Karabiga-Canak 79.28 315 *e*P **P 06 13 06.4 -2.8**
ISP Isparta 79.35 311 *e*P **P 06 13 08.2 -1.5**
ISP Isparta 79.35 311 IAMs_20 IAMs_20 06 52 54.9
comp=Z,3µm,22.0s
KDZ Kurdzhali 79.35 317 *e*P **P 06 13 07.5 -2.1**
LFK Lefkose 79.38 308 *e*P **P 06 13 08.7 -1.2**
BUG Bochum--Univer 79.41 333 *e*P **P 06 13 08.4 -1.3**
comp=Z,43nm,0.9s,baz=35,slow=5.5
RAYN Ar Rayn 79.44 292 *i* P **P 06 13 09.0 -1.3**
SNR=38
RAYN Ar Rayn 79.44 292 P **P 06 13 08.7 -1.7**
RAYN pmax pmax
comp=Z,46nm,0.8s
RAYN MLR MLR
comp=Z,3µm,21.0s
RAYN Ar Rayn 79.44 292 P **P 06 13 08.7 -1.7**
RAYN IAmb IAmb 06 13 12.5
comp=Z,46nm,0.8s
RAYN IAMs_20 IAMs_20 06 53 15.3
comp=Z,3µm,21.0s
GRA1 Grafenberg Arr 79.45 330 P **P 06 13 09.1 -0.9**
GRA1 IAmb IAmb 06 13 13.3
comp=Z,66nm,0.7s
GRF Grafenberg Arr 79.45 330 P **P 06 13 09.1 -0.9**
GRF Grafenberg Arr 79.45 330 *e*P **P 06 13 09.4 -0.6**
comp=Z,74nm,0.9s,baz=35,slow=5.5
GRF *e*L L 06 51 22.2
comp=Z,5µm,20.1s
GRFO Grafenberg 79.45 330 P **P 06 13 08.7 -1.2**
GRFO pmax pmax
comp=Z,65nm,0.8s
GRFO MLR MLR
comp=Z,5µm,19.0s
GRFO Grafenberg 79.45 330 P **P 06 13 08.7 -1.2**
GRFO IAmb IAmb 06 13 13.3
comp=Z,65nm,0.8s
FRGS Fruska Gora 79.45 323 ⇓P **P 06 13 10.5 +0.4**
FRGS Fruska Gora 79.45 323 ⇑*i*P **P 06 13 10.2 +0.1**
GRA4 Grafenberg Arr 79.47 330 *e*P **P 06 13 09.4 -0.7**
baz=35,slow=5.5
OGNE Ogallala 79.49 44 P **P 06 13 10.3 -0.1**
ERIK Erikli-Kesan 79.50 316 *e*P **P 06 13 09.6 -0.7**
BALB Balikesir 79.51 314 P **P 06 13 09.3 -1.1**
BALB Balikesir 79.51 314 P **P 06 13 09.8 -0.6**
214A Organ Pipe Nat 79.57 57 P **P 06 13 10.6 -0.3**
ALN Alexandroupoli 79.58 316 *e*P **P 06 13 10.6 -0.2**
ALN Alexandroupoli 79.58 316 P **P 06 13 11.0 +0.2**
ALN pmax pmax
comp=Z,43nm,1.0s
ALN Alexandroupoli 79.58 316 P **P 06 13 11.0 +0.2**
RDO Rodhopi 79.66 317 *e*P **P 06 13 09.8 -1.4**
ARSA Arzberg 79.70 326 *i* P **P 06 13 10.9 -0.5**
comp=Z,16nm,0.8s,SNR=6.3
CSS Mathiatis 79.71 308 *e*P **P 06 13 10.3 -1.4**
CSS Mathiatis 79.71 308 P **P 06 13 09.1 -2.6**
CSS IAmb IAmb 06 13 14.5
comp=Z,74nm,0.7s
GELI Tayfur-Gelibol 79.72 316 *e*P **P 06 13 10.7 -0.8**
BOVS Bovan 79.72 320 ⇑P **P 06 13 11.0 -0.5**
VTS Vitosha 79.74 319 ⇑P **P 06 13 12.1 +0.3**
VTS Vitosha 79.74 319 ⇑P **P 06 13 12.1 +0.3**
VTS Vitosha 79.74 319 IAmb IAmb 06 13 15.4
comp=Z,58nm,0.7s
MOA Molln 79.75 327 *i* P **P 06 13 11.5 -0.1**
comp=Z,9.5nm,0.8s,SNR=7.7
LEF Lefka 79.86 308 ⇑P **P 06 13 13.3 +0.9**
LEF Lefka 79.86 308 P **P 06 13 13.1 +0.7**
GAL1 Galloway 79.89 341 *e*P **P 06 13 13.7 +1.5**
GAL1 IAmb IAmb 06 13 14.6
comp=Z,52nm,0.7s
KULA Kula-Manisa 79.89 313 *e*P **P 06 13 10.6 -2.1**
SDCO Great Sand Dun 79.91 48 P **P 06 13 12.3 -0.8**
HPK Haverah Park 79.92 339 *e*P **P 06 13 13.2 +0.8**
CLGH Cloghs, Cushen 80.02 342 *e*P **P 06 13 13.9 +1.0**
CLGH IAmb IAmb 06 13 15.6
comp=Z,51nm,0.8s
KORT Korkueli 80.02 311 P **P 06 13 11.8 -1.6**
TNS Taunus Mts 80.02 332 *e*P **P 06 13 11.3 -1.8**
comp=Z,25nm,1.0s,baz=35,slow=5.5
E38A The Farm, Brul 80.15 34 P **P 06 13 12.1 -1.7**
E38A IAmb IAmb 06 13 36.1
comp=Z,77nm,1.1s
MMLI Mount Malkishu 80.18 305 *e*P **P 06 13 13.7 -0.5**
DIVS Divibare 80.18 322 ⇑*i*P **P 06 13 12.5 -1.6**
DIVS Divibare 80.18 322 IAMs_20 IAMs_20 06 52 45.8
comp=Z,3µm,21.0s
AHRW Bad Neuenahr-A 80.24 333 *e*P **P 06 13 13.2 -1.0**
comp=Z,32nm,1.0s,baz=35,slow=5.5
PERS Pernice 80.36 326 *e*P **P 06 13 14.0 -1.0**
PERS *e*pP **sP 06 13 40.7 +2.6**
PERS *e*PP **PP 06 16 20.0 +2.2**
PERS *e* 06 18 14.0
IOMK Kirk Michael 80.41 341 *e*P **P 06 13 16.7 +1.7**
IOMK IAmb IAmb 06 13 21.5
comp=Z,108nm,1.2s
LBWR Ladybower, Pea 80.45 339 *e*P **P 06 13 15.9 +0.6**
LBWR IAmb IAmb 06 13 17.9
comp=Z,54nm,0.7s

ELL Elmali 80.45 311 P **P 06 13 14.4 -1.3**
BTNL Ternell 80.52 333 *d*P **P 06 13 17.0 +1.3**
BTNL *dx* x 06 13 43.3
WIM Isle of Man 80.53 341 *e*P **P 06 13 17.2 +1.5**
MEM Membach 80.54 333 *b*P **P 06 13 17.2 +1.5**
comp=Z,25nm,0.8s
MEM *d*PcP **PcP 06 13 21.4 -1.1**
KSCO Kaye Shedlock' 80.58 46 P **P 06 13 16.1 -0.3**
KSCO IAmb IAmb 06 14 19.9
comp=Z,98nm,1.3s
TUC Tucson 80.59 55 P **P 06 13 17.3 +0.8**
TUC pmax pmax
comp=Z,37nm,1.3s
TUC Tucson 80.59 55 P **P 06 13 17.3 +0.8**
TUC Tucson 80.59 55 IAMs_20 IAMs_20 06 44 55.6
comp=Z,3µm,21.0s
SOCY Socotra 80.61 278 P **P 06 13 14.9 -1.9**
SOCY IAmb IAmb 06 13 23.2
comp=Z,89nm,0.9s
BBLS Lazići 80.63 322 ⇑*i*P **P 06 13 15.4 -1.1**
HAPS Han Pijesak,Bl 80.67 322 *e*P **P 06 13 17.7 +0.9**
FUR Furstenfeldbru 80.68 329 *e*P **P 06 13 15.7 -0.9**
comp=Z,81nm,0.7s,baz=35,slow=5.5
OBKA Obir 80.70 326 *i* P **P 06 13 15.5 -1.4**
comp=Z,42nm,0.7s,SNR=19
BSTI Sart Tilman 80.71 334 *d*P **P 06 13 18.1 +1.4**
BSTI *d*PcP **PcP 06 13 23.7 +0.5**
BSTI *d*pP **pP 06 13 28.6 -4.6**
BSTI *d*sP **sP 06 13 34.2 -5.5**
BSTI *dx* x 06 13 44.2
AYDB Zeytinkoy-Aydi 80.72 313 *e*P **P 06 13 14.3 -2.9**
KBA Koelnbreinsper 80.74 327 *i* P **P 06 13 17.1 0.0**
comp=Z,29nm,0.6s,SNR=22
GMM Mts of Mourne 80.76 342 *e*P **P 06 13 17.8 +1.0**
BHOU Houvegnez 80.76 333 *d*P **P 06 13 15.8 -1.2**
BHOU *dx* x 06 13 44.5
RUDO Rudo 80.84 322 *e*P **P 06 13 18.6 +1.1**
CRES Cresnjev 80.86 325 ⇑*i*P **P 06 13 16.0 -1.6**
MRAK Mrakovica 80.87 324 ⇑*i*P **P 06 13 19.7 +1.9**
SCHQ Schefferville 80.91 16 P **P 06 13 16.9 -0.8**
comp=Z,19nm,0.7s,baz=356,slow=7.6,SNR=21
SCHQ LR LR 06 52 16.0
comp=Z,2µm,21.8s,baz=333,slow=38
BCLA Clavier 80.94 334 *d*P **P 06 13 19.3 +1.4**
BCLA *d*PcP **PcP 06 13 25.6 +1.3**
BCLA *dx* x 06 13 45.7
STIP Stip 80.95 319 *i* P **P 06 13 18.6 +0.5**
BLY Banja Luka 80.95 324 ⇑*i*P **P 06 13 19.1 +1.0**
STU Stuttgart 80.96 331 IAMs_20 IAMs_20 06 52 05.3
comp=Z,3µm,20.0s
STU Stuttgart 80.96 331 *e*P **P 06 13 17.1 -1.0**
comp=Z,61nm,0.8s,baz=35,slow=5.5
MYKA Terra Mystica 80.98 327 *i* P **P 06 13 18.4 +0.1**
comp=Z,40nm,1.0s,SNR=15
PRIJ Prijedor 80.98 324 *e*P P 06 13 24.1 +5.9
AKAS Kas 80.99 311 *e*P **P 06 13 16.6 -2.0**
KNT Kendrikon 80.99 318 P **P 06 13 16.3 -2.1**
FETY Fethiye 81.00 311 *e*P **P 06 13 16.0 -2.5**
BGES Gesves 81.04 334 *d*P **P 06 13 19.7 +1.2**
BGES *dx* x 06 13 42.8
PLE Pljevlja 81.05 322 ⇑*i*P **P 06 13 19.9 +0.8**
LJU Ljubljana 81.08 326 *i* P **P 06 13 18.8 0.0**
LJU *e*PP **PP 06 16 23.5 -0.2**
LJU *e*S **S 06 23 21.3 -2.1**
LJU *e* 06 23 57.9
LJU *e*SS **SS 06 28 38.2 +0.3**
LJU Ljubljana 81.08 326 ⇑*i*P **P 06 13 20.1 +1.3**
YER Yerkesik 81.09 312 *e*P **P 06 13 17.5 -1.6**
SKO Skopje 81.10 319 *i* P **P 06 13 21.6 +2.6**
DALY Dalyan (Mula) 81.11 312 *e*P **P 06 13 19.9 +0.9**
BGNE Belgrade 81.12 41 P **P 06 13 19.0 -0.2**
BGNE IAmb IAmb 06 13 53.1
comp=Z,107nm,0.9s
URLA Izmir 81.13 314 *e*P **P 06 13 16.4 -2.8**
IVA Berane 81.16 321 ⇑*i*P **P 06 13 18.4 -1.0**
SNF Seneffe 81.20 334 *d*P **P 06 13 20.8 +1.5**
SNF *d*sP **pP 06 13 36.4 +0.6**
SNF *dx* x 06 13 47.0
BOJS Bojanci 81.20 325 *e*P **P 06 13 20.2 +0.8**
BMRD Maredsous 81.22 334 *d*P **P 06 13 20.0 +0.6**
BMRD *d*sP **pP 06 13 35.6 -0.3**
WATA Walderalm 81.24 328 *i* P **P 06 13 19.3 -0.4**
comp=Z,24nm,0.7s,SNR=11
MLSB Milas 81.25 313 *e*P **P 06 13 19.0 -0.9**
MGRS Mrkonjic Grad 81.26 324 *e*P **P 06 13 22.1 +2.3**
WTTA Wattenberg 81.27 328 *i* P **P 06 13 19.2 -0.8**
comp=Z,42nm,0.8s,SNR=14
WLF Walferdange 81.30 333 *d*P **P 06 13 21.7 +1.9**
WLF *d*pP **pP 06 13 33.9 -2.5**
WLF *dx* x 06 13 48.1
WLF Walferdange 81.30 333 P **P 06 13 19.4 -0.4**
WLF pmax pmax
comp=Z,322nm,2.5s
WLF MLR MLR
comp=Z,8µm,22.0s
WLF Walferdange 81.30 333 P **P 06 13 19.4 -0.4**
FOEL Foel Wylfa 81.30 340 *e*P **P 06 13 20.0 +0.2**
FOEL IAmb IAmb 06 13 21.6
comp=Z,61nm,0.7s
ZOU Zoufplan 81.31 327 P **P 06 13 18.7 -1.5**
ZOU IAmb IAmb 06 13 57.1
comp=Z,94nm,1.7s
YLL Llanberis 81.32 340 *e*P **P 06 13 21.5 +1.6**
ABTA Abfaltersbach 81.34 328 *e*P **P 06 13 20.3 0.0**
comp=Z,17nm,1.2s
PVY Plav 81.34 321 ⇑*i*P **P 06 13 20.3 -0.1**
ANMO Albuquerque 81.35 51 P **P 06 13 20.2 -0.4**
ANMO pmax pmax
comp=Z,88nm,1.8s
ANMO MLR MLR
comp=Z,3µm,21.0s
ANMO Albuquerque 81.35 51 P **P 06 13 20.2 -0.4**
ANMO Albuquerque 81.35 51 IAMs_20 IAMs_20 06 49 10.5
comp=Z,3µm,21.0s
KOME Kolasin 81.36 321 ⇑*i*P **P 06 13 20.8 +0.4**
CEY Cerknica 81.37 326 ⇑*i*P **P 06 13 18.5 -1.8**
TURN Turunc 81.37 312 *e*P **P 06 13 19.0 -1.4**
UPM Unac-Piva 81.37 322 *e*P **P 06 13 21.5 +0.9**
UPM Unac-Piva 81.37 322 ⇑*i*P **P 06 13 18.8 -1.8**
I37A Lemond, Waseca 81.38 37 P **P 06 13 19.2 -1.2**
I37A IAmb IAmb 06 13 42.8
comp=Z,85nm,0.9s
GRG Griva 81.39 318 *e*P **P 06 13 18.8 -1.8**
CHOS Chios island 81.40 314 *e*P **P 06 13 19.8 -0.9**
MOTA Moosalm 81.42 329 *i* P **P 06 13 19.8 -0.9**
comp=Z,83nm,0.9s,SNR=44
RETA Reute 81.43 329 *i* P **P 06 13 19.7 -1.0**
comp=Z,41nm,0.8s,SNR=30
DOU Dourbes 81.45 334 *d*P **P 06 13 19.8 -0.8**
DOU *dx* x 06 13 48.1
HLM1 Long Mynd 81.55 339 *e*P **P 06 13 22.5 +1.4**
COWI Conover 81.57 33 IAMs_20 IAMs_20 06 51 41.3
comp=Z,3µm,20.0s
NKY Niksic 81.63 321 ⇑*i*P **P 06 13 21.1 -0.8**
BFO Black Forest 81.65 331 P **P 06 13 20.4 -1.4**
BFO pmax pmax
comp=Z,58nm,1.2s
BFO MLR MLR
comp=Z,3µm,21.0s
BFO Black Forest 81.65 331 P **P 06 13 20.4 -1.4**
BFO IAMs_20 IAMs_20 06 52 14.5
comp=Z,3µm,21.0s
BFO Black Forest 81.65 331 *e*P **P 06 13 20.6 -1.2**
comp=Z,122nm,1.9s,baz=35,slow=5.5
STAL STALIGIAL 81.66 327 IAmb IAmb 06 13 23.4
comp=Z,39nm,0.7s
BODT Bodrum 81.68 313 *i* P **P 06 13 19.9 -2.2**
NKME Niksic 81.69 321 ⇑*i*P **P 06 13 21.3 -0.8**
Y22D IRIS PASSCAL I 81.69 52 IAMs_20 IAMs_20 06 45 01.6
comp=Z,3µm,22.0s
BRY Bratogost 81.78 322 *e*P **P 06 13 20.7 -2.0**
BRY Bratogost 81.78 322 ⇑*i*P **P 06 13 20.7 -2.0**
PDG Podgorica 81.80 321 ⇓P **P 06 13 21.8 -0.9**
PDG Podgorica 81.80 321 *e*P **P 06 13 21.6 -1.0**
TTG Podgorica 81.80 321 ⇑*i*P **P 06 13 21.3 -1.3**
FETA Feichten 81.83 329 *i* P **P 06 13 22.2 -0.7**
comp=Z,37nm,0.8s,SNR=17
CEME Cevo 81.87 321 ⇑*i*P **P 06 13 22.2 -0.9**
DAVA Damuels 81.94 329 *i* P **P 06 13 22.2 -1.2**
comp=Z,74nm,0.9s,SNR=24
TREB Trebinje 82.01 322 *e*P **P 06 13 23.3 -0.4**
DRME Dracevica, Mon 82.02 321 ⇑*i*P **P 06 13 22.5 -1.3**
DRME Dracevica, Mon 82.02 321 ⇑*i*P **P 06 13 22.7 -1.1**

MCH1 Michaelchurch 82.05 339 *e*P **P 06 13 24.9 +1.2**
MCH1 IAmb IAmb 06 13 27.9
comp=Z,47nm,0.7s
HRFI Mount Harif 82.06 303 *e*P **P 06 13 23.4 -0.8**
OHR Ohrid 82.07 319 *i* P **P 06 13 25.7 +1.5**
BUM Brajici-Budva 82.07 321 ⇑*i*P **P 06 13 23.8 -0.4**
MONM Monmouth 82.14 339 *e*P **P 06 13 25.9 +1.6**
HCY Herceg Novi 82.15 321 *e*P **P 06 13 23.7 -0.8**
HCY Herceg Novi 82.15 321 ⇑*i*P **P 06 13 23.9 -0.6**
319A Douglas 82.16 55 P **P 06 13 26.8 +2.0**
319A IAmb IAmb 06 13 49.3
comp=Z,84nm,1.1s
ULC Ulcinj 82.17 321 ⇑*i*P **P 06 13 24.2 -0.4**
ECH Echery 82.17 331 IAMs_20 IAMs_20 06 51 26.1
comp=Z,3µm,22.0s
STON Ston 82.19 322 ⇑*i*P **P 06 13 23.4 -1.2**
CBKS Cedar Bluff 82.25 44 P **P 06 13 23.2 -2.0**
CBKS pmax pmax
comp=Z,88nm,1.3s
CBKS MLR MLR
comp=Z,2µm,22.0s
CBKS Cedar Bluff 82.25 44 P **P 06 13 23.2 -2.0**
CBKS IAmb IAmb 06 13 47.2
comp=Z,88nm,1.2s
121A Cookes Peak, D 82.26 53 IAmb IAmb 06 13 50.3
comp=Z,81nm,1.2s
CTI Castel Tesino 82.26 328 IAmb IAmb 06 13 26.7
comp=Z,40nm,0.9s
TIR Tirane 82.34 320 ⇑P **P 06 13 25.2 -0.3**
TIR Tirane 82.34 320 P **P 06 13 23.9 -1.6**
TIR pmax pmax
comp=Z,45nm,0.7s
TIR MLR MLR
comp=Z,5µm,20.0s
TIR Tirane 82.34 320 P **P 06 13 23.9 -1.6**
TIR IAmb IAmb 06 13 28.0
comp=Z,45nm,0.7s
I40A Norwalk 82.71 35 IAmb IAmb 06 13 49.8
comp=Z,57nm,1.2s
K38A Parkersburg 82.74 37 IAmb IAmb 06 14 33.5
comp=Z,114nm,1.7s
N35A Tabor 82.77 40 P **P 06 13 26.7 -1.1**
N35A IAmb IAmb 06 13 58.6
comp=Z,64nm,0.8s
ATAL Atalanti 82.78 316 P **P 06 13 28.6 +0.8**
TUE Stuetta 82.82 329 IAmb IAmb 06 13 36.5
comp=Z,53nm,0.7s
R32A Long Quarter, 83.08 44 P **P 06 13 28.3 -1.1**
R32A IAmb IAmb 06 14 31.4
comp=Z,73nm,1.6s
SCIA State Center 83.11 38 IAMs_20 IAMs_20 06 54 14.5
comp=Z,3µm,19.0s
SANT Santorini 83.20 313 ⇓P **P 06 13 30.2 +0.1**
SANT Santorini 83.20 313 IAMs_20 IAMs_20 06 54 27.0
comp=Z,2µm,20.0s
E46A Sault Ste Mari 83.26 30 IAmb IAmb 06 13 59.0
comp=Z,111nm,1.6s
ANX Ano Chora 83.42 317 P **P 06 13 32.3 +1.1**
I42A Draeger Farm, 83.44 34 P **P 06 13 30.2 -0.9**
I42A IAmb IAmb 06 13 52.6
comp=Z,54nm,1.1s
H43A Windswept, Lux 83.45 33 P **P 06 13 29.6 -1.6**
H43A IAmb IAmb 06 14 00.3
comp=Z,124nm,1.4s
SERG Sergoula 83.48 317 P **P 06 13 32.3 +0.8**
TRIZ Trizonia 83.51 317 P **P 06 13 32.3 +0.7**
EPT El Paso 83.56 53 IAMs_20 IAMs_20 06 51 27.4
comp=Z,2µm,20.0s
KEK Kerkira 83.63 319 P **P 06 13 33.6 +1.4**
KSU1 Kansas State U 83.64 42 IAmb IAmb 06 13 54.4
comp=Z,53nm,1.2s
KSU1 Kansas State U 83.64 42 IAMs_20 IAMs_20 06 54 56.8
comp=Z,2µm,19.0s
LAKA Lakka 83.65 317 P **P 06 13 34.0 +1.6**
JFWS Jewell Farm 83.65 36 IAMs_20 IAMs_20 06 54 12.7
comp=Z,3µm,20.0s
SENIN Lac Senin/Sane 83.68 330 P **P 06 13 31.0 -1.6**
SENIN IAmb IAmb 06 14 44.1
comp=Z,162nm,2.0s
SENIN IAMs_20 IAMs_20 06 53 48.3
comp=Z,4µm,21.0s
ZKR Zakros 83.70 312 P **P 06 13 34.5 +1.9**
ZKR Zakros 83.70 312 *e*P **P 06 13 31.5 -1.1**
KLV Kalavryta, Ach 83.71 316 P **P 06 13 33.3 +0.6**
PDO Prodromos 83.79 317 P **P 06 13 34.2 +1.2**
G45A Suttons Bay 83.84 32 IAmb IAmb 06 14 00.5
comp=Z,38nm,0.8s
PRMA PARMA 83.85 328 IAMs_20 IAMs_20 06 54 50.8
comp=Z,3µm,20.0s
L40A Anamosa 83.90 37 P **P 06 13 32.2 -1.3**
L40A IAmb IAmb 06 13 55.7
comp=Z,46nm,0.9s
LKD2 Lefkada island 83.91 318 P **P 06 13 34.8 +1.1**
NYDR Nydri-Lefkada 83.95 318 P **P 06 13 34.9 +1.1**
N38A Joes South For 83.97 39 IAmb IAmb 06 14 02.9
comp=Z,64nm,0.9s
DRO Drossia 84.01 317 P **P 06 13 35.5 +1.3**
DRAG Dragano-Lefkad 84.03 318 P **P 06 13 35.3 +1.0**
EVGI Lefkada island 84.04 318 P **P 06 13 35.5 +1.2**
RLS Riolos of Patr 84.06 317 P **P 06 13 35.9 +1.5**
VLX Vlachokerasia 84.10 316 P **P 06 13 35.8 +1.0**
VLDQ Val d'Or 84.16 25 P **P 06 13 32.5 -2.2**
VLDQ IAmb IAmb 06 14 04.4
comp=Z,62nm,0.9s
FSK Fiskardo 84.21 318 P **P 06 13 35.9 +0.8**
MNTX Cornudas Mount 84.28 52 P **P 06 13 34.3 -1.4**
MNTX IAMs_20 IAMs_20 06 48 33.4
comp=Z,2µm,21.0s
IDI Anoyia 84.31 313 P **P 06 13 36.3 +0.5**
IDI Anoyia 84.31 313 ⇑P **P 06 13 35.0 -0.8**
IDI Anoyia 84.31 313 *e*P **P 06 13 33.2 -2.6**
IDI Anoyia 84.31 313 IAMs_20 IAMs_20 06 55 13.4
comp=Z,2µm,22.0s
VLC Villacollemand 84.32 327 IAmb IAmb 06 14 43.8
comp=Z,90nm,1.3s
VLC IAMs_20 IAMs_20 06 54 35.3
comp=Z,3µm,20.0s
JSA Saint Aubin 84.35 337 *e*P **P 06 13 37.2 +1.6**
JSA IAmb IAmb 06 13 38.4
comp=Z,47nm,0.8s
MATE Matera 84.39 321 ⇑P **P 06 13 35.4 -0.6**
KEF5 Kardakata, Kep 84.40 318 P **P 06 13 37.0 +0.9**
VLS Valsamata 84.41 318 P **P 06 13 37.4 +1.2**
GLMI Grayling 84.43 31 IAmb IAmb 06 13 59.1
comp=Z,84nm,1.1s
GLMI IAMs_20 IAMs_20 06 55 05.8
comp=Z,3µm,20.0s
KEF4 Livadi, Kephal 84.43 318 P **P 06 13 37.7 +1.4**
I45A Fountain 84.44 33 P **P 06 13 35.4 -0.8**
I45A IAmb IAmb 06 14 05.0
comp=Z,54nm,0.8s
DMLN Damoulianata-K 84.47 318 P **P 06 13 37.8 +1.3**
ITM Ithomi 84.48 316 P **P 06 13 37.2 +0.6**
ITM Ithomi 84.48 316 *e*P **P 06 13 34.5 -2.1**
ITM Ithomi 84.48 316 IAMs_20 IAMs_20 06 54 18.9
comp=Z,2µm,22.0s
OSSC Osservatorio P 84.49 326 IAmb IAmb 06 13 40.0
comp=Z,32nm,0.8s
KEF3 Kipouria, Keph 84.51 318 P **P 06 13 37.9 +1.2**
AQU L'Aquila 84.53 324 ⇑*i*P **P 06 13 37.4 +0.6**
MSSA Maissana 84.54 328 IAmb IAmb 06 14 13.7
comp=Z,52nm,1.1s
SIVA Sivas 84.55 313 P **P 06 13 38.7 +1.8**
OK032 Salt Plains WL 84.56 44 P **P 06 13 36.4 -0.6**
OK032 IAmb IAmb 06 14 06.2
comp=Z,72nm,1.2s
OK032 IAMs_20 IAMs_20 06 52 19.0
comp=Z,2µm,21.0s
KTHA Kythira Island 84.58 315 *e*P **P 06 13 36.6 -0.5**
INTR Introdacqua 84.58 324 IAmb IAmb 06 13 40.6
comp=Z,62nm,0.8s
VAM Vamos 84.60 313 P **P 06 13 38.9 +1.7**
L42A Oliver, Polo 84.64 36 P **P 06 13 37.0 -0.2**
L42A IAmb IAmb 06 13 59.3
comp=Z,61nm,1.2s
IMMV Iera Moni Meta 84.68 314 P **P 06 13 39.4 +1.8**
IMMV Iera Moni Meta 84.68 314 *e*P **P 06 13 38.5 +0.9**
ANKY Antikythira Is 84.74 314 P **P 06 13 38.5 +0.6**
P38A Dawn 84.75 40 IAmb IAmb 06 14 00.7
comp=Z,86nm,1.2s
PYL PYLOS 84.79 316 P **P 06 13 38.4 +0.3**
BNI Bardonecchia 85.02 330 P **P 06 13 39.1 -0.2**
BNI pmax pmax
comp=Z,48nm,0.9s
BNI MLR MLR

comp=Z,5µm,20.0s
BNI Bardonecchia 85.02 330 P P 06 13 39.1 -0.2
BNI IAmb IAmb 06 13 46.2
comp=Z,48nm,0.9s
HIZ Hauiti 85.07 155 IAMs_20 IAMs_20 06 46 53.2
comp=Z,3µm,21.0s
GVDS Gavdos 85.08 313 eP P 06 13 37.8 -1.8
GVD Gavdhos 85.08 313 eP P 06 13 37.7 -1.9
BLOK Blackwell 85.11 44 IAmb IAmb 06 14 02.8
comp=Z,92nm,1.3s
L44A Lake County Fo 85.26 35 IAMs_20 IAMs_20 06 59 18.2
comp=Z,2µm,20.0s
MXZ Matakaoa Point 85.38 152 IAMs_20 IAMs_20 06 48 07.4
comp=Z,3µm,22.0s
TIP Timpagrande 85.52 320 ⇓P P 06 13 41.9 +0.1
TIP Timpagrande 85.52 320 IAmb IAmb 06 13 50.1
comp=Z,50nm,1.1s
TIP IAMs_20 IAMs_20 06 56 40.2
comp=Z,3µm,20.0s
P40A Paris 85.53 39 IAmb IAmb 06 14 03.5
comp=Z,67nm,1.1s
PMOR Pomariorio Ree 85.54 114 eT T 07 47 09.8
comp=Z,48nm,0.2s
URZ Urewera 85.59 153 P P 06 13 42.0 +0.3
URZ IAmb IAmb 06 14 14.6
comp=Z,36nm,0.9s
URZ IAMs_20 IAMs_20 06 49 41.9
comp=Z,3µm,20.0s
HQIL Hanson Quary C 85.60 35 IAMs_20 IAMs_20 06 55 12.1
comp=Z,2µm,20.0s
J47A Sunmer 85.67 32 P P 06 13 41.5 -0.9
OK029 Liberty Lake 85.72 45 IAMs_20 IAMs_20 06 51 42.7
comp=Z,2µm,22.0s
BCOK Bluff Creek, N 85.74 45 P P 06 13 43.3 +0.4
WMOK Wichita Mounta 85.81 46 IAmb IAmb 06 14 46.2
comp=Z,49nm,1.3s
OK031 S. Brethren Rd 85.92 44 IAmb IAmb 06 14 06.9
comp=Z,72nm,1.3s
OK031 IAMs_20 IAMs_20 06 58 06.1
comp=Z,3µm,19.0s
OK025 Westminster Rd 85.94 45 P P 06 13 43.9 0.0
OK030 Cody Creek RV 85.97 44 IAMs_20 IAMs_20 06 58 15.4
comp=Z,3µm,20.0s
HDIL Hopedale 85.97 37 IAMs_20 IAMs_20 06 54 35.2
comp=Z,2µm,22.0s
L46A Eue Claire 86.08 34 P P 06 13 43.4 -1.1
FNO Franklin 86.16 45 P P 06 13 45.0 +0.1
PPT Papeete 86.21 117 LR LR 06 46 26.9
comp=Z,7µm,20.4s,baz=321,slow=32
PPT2 Papeete2 86.23 117 eS S 06 24 18.7 +2.8
comp=Z,2µm,25.2s
PPT2 Papeete2 86.23 117 eLR LR 06 41 09.3
comp=Z,12µm,21.2s,baz=312
PPT2 Papeete2 86.23 117 eT T 07 48 27.8
comp=Z,17nm,0.3s
PAE Paea 86.28 117 eT T 07 48 30.6
comp=Z,1.8nm,0.3s
TIAR Tiarei 86.36 117 eT T 07 48 36.6
comp=Z,4.6nm,0.2s
S39A Bolivar 86.36 41 P P 06 13 44.1 -1.8
S39A IAmb IAmb 06 14 08.1
comp=Z,51nm,1.2s
R40A Maddies Statio 86.40 40 IAmb IAmb 06 14 56.4
comp=Z,58nm,1.2s
QRZ Quartz Range 86.49 157 IAMs_20 IAMs_20 06 46 53.4
comp=Z,3µm,20.0s
P43A Skaggs, Pawnee 86.61 37 IAmb IAmb 06 14 16.1
comp=Z,67nm,1.4s
CEL Celeste 86.66 320 IAMs_20 IAMs_20 06 58 12.4
comp=Z,3µm,22.0s
O44A Mansfield 86.67 36 IAmb IAmb 06 14 08.8
comp=Z,56nm,1.3s
TRQ Mont Tremblant 86.76 25 P P 06 13 46.6 -1.2
TAOE Nuku Hiva Isla 86.79 105 eS S 06 24 26.7 +5.1
comp=Z,2µm,25.3s
TAOE Nuku Hiva Isla 86.79 105 eLR LR 06 41 32.0
comp=Z,11µm,21.8s,baz=317
TAOE Nuku Hiva Isla 86.79 105 eT T 07 49 07.0
comp=Z,48nm,0.2s
U38A Gravette 86.81 42 P P 06 13 47.7 -0.5
L48A N Adams 86.91 33 P P 06 13 47.3 -1.2
ABTX Abilene, Hawle 86.92 48 P P 06 13 48.0 -0.8
ABTX IAmb IAmb 06 14 43.7
comp=Z,82nm,1.4s
AAM Ann Arbor 86.92 32 IAMs_20 IAMs_20 06 59 19.0
comp=Z,3µm,21.0s
PLVO Plevna 86.99 27 P P 06 13 48.3 -0.5
TX32 Lajitas Array 87.01 53 P P 06 13 49.4 0.0
TX32 IAmb IAmb 06 14 12.9
comp=Z,52nm,1.4s
TXAR Lajitas Array 87.01 53 P P 06 13 49.3 0.0
comp=Z,4.3nm,0.8s,baz=291,slow=3.2,SNR=33
TXAR PKKPbc **PKKPbc 06 31 41.5 +1.7**
comp=Z,0.5nm,0.8s,baz=120,slow=3.6,SNR=4.6
TXAR Lajitas Array 87.01 53 P P 06 13 48.2 -1.2
CCM Cathedral Cave 87.08 39 IAMs_20 IAMs_20 06 51 48.3
comp=Z,3µm,21.0s
SLM Saint Louis 87.09 38 P P 06 13 48.6 -0.8
SLM pmax pmax
comp=Z,58nm,1.0s
SLM Saint Louis 87.09 38 P P 06 13 48.6 -0.8
SLM IAmb IAmb 06 14 18.4
comp=Z,58nm,1.0s
HHAR Hobbs 87.16 42 P P 06 13 47.9 -2.0
MGMO Mountain Grove 87.30 41 IAmb IAmb 06 15 00.6
comp=Z,72nm,1.6s
MGMO IAMs_20 IAMs_20 06 52 57.7
comp=Z,2µm,21.0s
MEH Mehetia 87.44 116 eT T 07 49 58.3
comp=Z,60nm,0.2s
BFZ Birch Farm 87.49 155 IAMs_20 IAMs_20 06 47 38.1
comp=Z,3µm,21.0s
HPIG 87.52 56 IAmb IAmb 06 14 56.0
comp=Z,61nm,1.3s
FVM French Village 87.53 39 P P 06 13 51.3 -0.2
FVM pmax pmax
comp=Z,45nm,1.2s
FVM French Village 87.53 39 P P 06 13 51.3 -0.2
FVM IAmb IAmb 06 14 14.5
comp=Z,45nm,1.1s
D62A Allapoint, All 87.56 21 IAMs_20 IAMs_20 06 58 05.1
comp=Z,3µm,21.0s
U40A Yellville 87.64 41 P P 06 13 50.3 -1.9
U40A IAmb IAmb 06 14 41.5
comp=Z,42nm,0.9s
U40A IAMs_20 IAMs_20 06 53 54.7
comp=Z,2µm,22.0s
P46A Rosedale 87.67 36 IAmb IAmb 06 14 21.4
comp=Z,53nm,0.9s
X37A Clayton 87.74 44 IAMs_20 IAMs_20 06 59 07.1
comp=Z,3µm,21.0s
E62A Clayton Lake 87.86 21 P P 06 13 52.5 -0.5
E62A IAMs_20 IAMs_20 06 58 35.0
comp=Z,3µm,21.0s
N49A Columbus Grove 87.87 33 IAmb IAmb 06 14 16.3
comp=Z,52nm,1.1s
T42A Van Buren 87.97 40 P P 06 13 52.4 -1.3
T42A IAmb IAmb 06 14 16.6
comp=Z,57nm,1.3s
W39A Magazine 88.08 43 IAMs_20 IAMs_20 06 57 46.2
comp=Z,2µm,20.0s
BATG Bathurst New B 88.14 19 IAmb IAmb 06 14 19.1
comp=Z,51nm,1.0s
CORL Corleone 88.17 322 IAMs_20 IAMs_20 06 57 28.4
comp=Z,3µm,22.0s
PQI Presque Isle 88.22 20 IAmb IAmb 06 14 18.8
comp=Z,32nm,1.2s
PQI IAMs_20 IAMs_20 06 58 50.3
comp=Z,3µm,20.0s
S44A Carbondale 88.31 38 P P 06 13 54.3 -1.0
BLO Bloomington 88.33 36 P P 06 13 55.5 +0.1
BLO pmax pmax
comp=Z,54nm,1.3s
BLO Bloomington 88.33 36 P P 06 13 55.5 +0.1
BLO IAmb IAmb 06 14 18.5
comp=Z,54nm,1.3s
E63A Oxbow 88.34 21 P P 06 13 54.7 -0.5
E63A IAmb IAmb 06 14 19.4
comp=Z,30nm,1.1s
E63A IAMs_20 IAMs_20 07 00 20.6
comp=Z,3µm,19.0s
FCAR Ozark Folk Cen 88.37 41 P P 06 13 53.8 -1.8
FCAR IAmb IAmb 06 14 23.6
comp=Z,51nm,1.2s
F62A Pittston Farm, 88.41 22 IAmb IAmb 06 14 20.2
comp=Z,63nm,1.2s
JCT Junction City 88.43 50 P P 06 13 55.7 -0.3
JCT pmax pmax
comp=Z,128nm,1.8s
JCT MLR MLR
comp=Z,3µm,22.0s
JCT Junction City 88.43 50 P P 06 13 55.7 -0.3
JCT IAMs_20 IAMs_20 06 54 27.0
comp=Z,3µm,22.0s
PBMO Poplar Bluff 88.49 40 IAmb IAmb 06 14 19.3
comp=Z,40nm,0.9s
ERPA Erie 88.50 30 IAMs_20 IAMs_20 06 58 53.5
comp=Z,3µm,21.0s
P48A Milroy 88.57 35 P P 06 13 55.6 -0.9
P48A IAmb IAmb 06 14 18.1
comp=Z,64nm,1.4s
N51A Ashland 88.61 32 IAmb IAmb 06 14 19.1
comp=Z,48nm,1.1s
VSL Villasalto 88.61 325 P P 06 13 55.2 -1.5
J56A Wolcott 88.62 27 IAMs_20 IAMs_20 06 57 05.4
comp=Z,2µm,21.0s
MIAR Mount Ida 88.70 43 IAmb IAmb 06 14 25.9
comp=Z,48nm,1.1s
MIAR IAMs_20 IAMs_20 06 57 56.5
comp=Z,3µm,19.0s
LCAR Lake Charles 88.71 40 P P 06 13 56.5 -0.7
LCAR IAmb IAmb 06 14 25.7
comp=Z,74nm,1.8s
WVNY West Valley, N 88.76 29 IAmb IAmb 06 15 04.4
comp=Z,41nm,1.1s
WHAR Wooly Hollow 88.77 42 P P 06 13 56.1 -1.3
J57A Williamstown 88.79 27 IAMs_20 IAMs_20 06 59 28.0
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 88.81 34 P P 06 13 55.6 -2.0
P49A IAMs_20 IAMs_20 06 54 57.1
comp=Z,2µm,21.0s
M53A WI Miller and 88.83 31 IAMs_20 IAMs_20 06 57 51.2
comp=Z,3µm,20.0s
G62A West of Eustis 88.87 22 IAmb IAmb 06 14 28.3
comp=Z,42nm,1.2s
G62A IAMs_20 IAMs_20 06 56 36.7
comp=Z,2µm,22.0s
F64A Sherman 88.88 21 IAmb IAmb 06 14 59.4
comp=Z,38nm,1.4s
NCB Newcomb 88.88 25 P P 06 13 57.8 -0.1
VT1 Waterbury 89.01 24 IAmb IAmb 06 14 30.3
comp=Z,33nm,1.1s
J58A Remsen 89.07 26 IAmb IAmb 06 14 31.0
comp=Z,30nm,1.1s
J58A IAMs_20 IAMs_20 06 57 34.4
comp=Z,3µm,21.0s
X40A Basin Creek Fa 89.12 43 IAmb IAmb 06 15 09.8
comp=Z,49nm,1.3s
X40A IAMs_20 IAMs_20 06 58 18.0
comp=Z,2µm,19.0s
M54A Oil Creek Stat 89.15 30 P P 06 13 58.3 -0.9
M54A IAMs_20 IAMs_20 06 59 11.7
comp=Z,2µm,20.0s
PKME Peaks-Kenny Pk 89.17 22 IAmb IAmb 06 14 46.6
comp=Z,27nm,1.0s
MQZ McQueen's Vall 89.18 158 IAMs_20 IAMs_20 06 45 01.7
comp=Z,3µm,18.0s
WCI Wyandotte Cave 89.21 36 P P 06 13 58.8 -0.7
WCI pmax pmax
comp=Z,169nm,2.0s
WCI Wyandotte Cave 89.21 36 P P 06 13 58.8 -0.7
ATD Arta Tunnel 89.24 285 IAMs_20 IAMs_20 06 59 43.1
comp=Z,2µm,19.0s
J59A Piesco 89.24 26 IAmb IAmb 06 14 29.2
comp=Z,39nm,1.2s
J59A IAMs_20 IAMs_20 06 58 40.7
comp=Z,3µm,20.0s
WDD Wied Dalam 89.25 320 IAMs_20 IAMs_20 06 59 58.0
comp=Z,2µm,20.0s
H62A Milan 89.27 23 P P 06 13 59.3 -0.4
H62A IAMs_20 IAMs_20 06 58 00.5
comp=Z,2µm,21.0s
LBNH Lisbon 89.35 24 IAmb IAmb 06 14 03.6
comp=Z,79nm,1.9s
LBNH IAMs_20 IAMs_20 06 57 20.5
comp=Z,3µm,22.0s
L56A Greenwood 89.37 28 IAmb IAmb 06 14 29.3
comp=Z,77nm,1.6s
L56A IAMs_20 IAMs_20 06 59 15.5
comp=Z,2µm,21.0s
N54A Moraine State 89.50 30 P P 06 13 58.8 -2.0
N54A IAMs_20 IAMs_20 06 57 45.0
comp=Z,2µm,20.0s
O52A Adamsville 89.50 32 P P 06 13 59.4 -1.4
O52A IAmb IAmb 06 14 42.6
comp=Z,50nm,1.1s
M55A Ridgway 89.52 29 IAmb IAmb 06 14 23.9
comp=Z,36nm,0.8s
P51A Williamsport 89.55 33 P P 06 13 59.8 -1.3
P51A IAmb IAmb 06 14 43.0
comp=Z,44nm,1.1s
ACCN Adirondack Com 89.58 25 P P 06 14 00.0 -1.1
ACCN IAmb IAmb 06 14 26.5
comp=Z,45nm,1.4s
O53A New Philadelph 89.64 32 P P 06 14 00.9 -0.6
O53A IAmb IAmb 06 14 43.3
comp=Z,48nm,0.9s
O53A IAMs_20 IAMs_20 06 57 56.7
comp=Z,3µm,20.0s
G65A Princeton 89.70 20 IAmb IAmb 06 14 32.0
comp=Z,32nm,1.1s
G65A IAMs_20 IAMs_20 07 01 01.5
comp=Z,2µm,19.0s
WVL Waterville 89.71 22 IAmb IAmb 06 14 31.9
comp=Z,37nm,1.3s
WVL IAMs_20 IAMs_20 06 58 59.0
comp=Z,3µm,19.0s
LMN Caledonia Moun 89.78 18 P P 06 14 01.6 -0.4
LMN IAmb IAmb 06 14 24.9
comp=Z,44nm,0.9s
P52A Corning 89.80 33 IAMs_20 IAMs_20 06 59 47.0
comp=Z,2µm,21.0s
Q51A Peebles 89.81 34 P P 06 14 01.8 -0.5
I62A Tamworth 89.86 23 IAMs_20 IAMs_20 06 57 34.0
comp=Z,3µm,22.0s
BINY Binghamton 89.87 27 P P 06 14 02.3 -0.2
BINY IAmb IAmb 06 14 31.7
comp=Z,33nm,1.2s
BINY IAMs_20 IAMs_20 07 00 13.5
comp=Z,2µm,20.0s
T47A Sharon Grove 89.87 37 P P 06 14 01.4 -1.2
I63A Otisfield 89.92 23 IAMs_20 IAMs_20 06 57 08.6
comp=Z,3µm,22.0s
O54A Avella 90.02 31 IAmb IAmb 06 14 45.3
comp=Z,41nm,0.9s
R50A Paris 90.02 35 P P 06 14 03.4 +0.1
FFD Franklin Falls 90.13 24 IAMs_20 IAMs_20 06 56 59.2
comp=Z,2µm,22.0s
EMMW East Machias 90.18 21 IAmb IAmb 06 14 28.7
comp=Z,41nm,1.2s
EMMW IAMs_20 IAMs_20 07 01 17.4
comp=Z,3µm,19.0s
L59A Walton 90.20 27 P P 06 14 03.1 -1.1
L59A IAMs_20 IAMs_20 06 59 47.1
comp=Z,3µm,21.0s
P53A Whipple 90.22 32 IAmb IAmb 06 14 32.2
comp=Z,44nm,1.2s
WVT Waverly 90.24 38 P P 06 14 05.4 +1.1
WVT pmax pmax
comp=Z,45nm,1.6s
WVT MLR MLR
comp=Z,3µm,20.0s
WVT Waverly 90.24 38 P P 06 14 05.4 +1.1
WVT IAmb IAmb 06 14 33.1
comp=Z,45nm,1.6s
WVT Waverly 90.24 38 IAMs_20 IAMs_20 06 58 25.2
comp=Z,3µm,20.0s
Q52A Bidwell 90.31 33 IAmb IAmb 06 14 33.3
comp=Z,70nm,1.6s
TBI Tubuai 90.40 121 eS S 06 24 58.7 +3.7
comp=Z,2µm,27.8s
TBI Tubuai 90.40 121 eLR LR 06 42 50.6
comp=Z,10µm,32.0s,baz=314
TBI Tubuai 90.40 121 eT T 07 53 41.0
comp=Z,40nm,0.2s
MSEY Mahe Island 90.50 264 IAMs_20 IAMs_20 06 53 53.5
comp=Z,3µm,22.0s
KSPA Keystone Colle 90.51 27 IAmb IAmb 06 15 01.7
comp=Z,32nm,1.1s
SSPA Standing Stone 90.57 29 P P 06 14 06.6 +0.8
SSPA Standing Stone 90.57 29 IAMs_20 IAMs_20 06 59 58.2
comp=Z,2µm,21.0s
O56A Blue Knob Stat 90.64 30 IAmb IAmb 06 14 32.5
comp=Z,24nm,0.8s
MCWV Mont Chateau 90.68 31 IAmb IAmb 06 14 34.2
comp=Z,31nm,1.1s
K62A Royalston 90.68 25 IAMs_20 IAMs_20 06 58 24.8
comp=Z,2µm,21.0s
OXF Oxford 90.80 40 P P 06 14 07.9 +0.9
OXF pmax pmax
comp=Z,78nm,1.3s
OXF MLR MLR
comp=Z,3µm,22.0s
OXF Oxford 90.80 40 P P 06 14 07.9 +0.9
OXF IAMs_20 IAMs_20 06 54 05.3
comp=Z,3µm,22.0s
N58A Sunbury 90.81 28 P P 06 14 07.0 +0.1
N58A IAmb IAmb 06 14 47.4
comp=Z,42nm,1.0s
U49A Red Boiling Sp 90.86 37 P P 06 14 06.7 -0.5
U49A IAmb IAmb 06 14 30.5
comp=Z,53nm,1.3s
K63A Dunstable 90.88 24 IAmb IAmb 06 14 37.9
comp=Z,35nm,1.1s
K63A IAMs_20 IAMs_20 06 58 31.0
comp=Z,2µm,21.0s
CLTN Cedars of Leba 90.96 37 IAmb IAmb 06 15 19.0
comp=Z,27nm,1.3s
V48A Smith Brothers 91.03 38 P P 06 14 08.1 +0.1
V48A IAmb IAmb 06 14 29.0
comp=Z,40nm,1.4s
HRV Adam Dziewonsk 91.03 24 P P 06 14 08.6 +0.7
HRV pmax pmax
comp=Z,68nm,1.4s
HRV MLR MLR
comp=Z,3µm,21.0s
HRV Adam Dziewonsk 91.03 24 P P 06 14 08.6 +0.7
HRV Adam Dziewonsk 91.03 24 IAMs_20 IAMs_20 06 58 35.2
comp=Z,3µm,21.0s
PLAL Pickwick Lake 91.06 39 IAmb IAmb 06 15 28.4
comp=Z,35nm,1.7s
PLAL IAMs_20 IAMs_20 06 59 01.1
comp=Z,3µm,20.0s
HKT Hockley 91.06 47⇓eP P 06 14 10.0 +1.8
HKT pmax pmax
comp=Z,10.0nm,2.0s
HKT Hockley 91.06 47 IAMs_20 IAMs_20 06 55 05.1
comp=Z,2µm,21.0s
N59A State Game Lan 91.08 28 IAMs_20 IAMs_20 07 00 51.6
comp=Z,3µm,20.0s
KSCT Kent School, K 91.13 26 P P 06 14 08.2 -0.2
KSCT IAmb IAmb 06 14 38.5
comp=Z,47nm,1.4s
WES Weston 91.22 24 IAmb IAmb 06 14 38.8
comp=Z,43nm,1.0s
WES IAMs_20 IAMs_20 06 58 51.0
comp=Z,3µm,22.0s
Y45A Yeager Farm, C 91.26 41 P P 06 14 08.0 -1.1
BCX Boston College 91.31 24 IAMs_20 IAMs_20 06 58 53.4
comp=Z,3µm,22.0s
ODNJ Ogdensburg 91.33 27 P P 06 14 08.3 -1.0
ODNJ IAmb IAmb 06 14 37.2
comp=Z,61nm,1.7s
TRNY Table Rock, Ra 91.41 27 P P 06 14 08.8 -0.9
BRYW Bryant College 91.58 24 IAMs_20 IAMs_20 06 58 40.5
comp=Z,3µm,22.0s
L63A North Scituate 91.60 24 IAMs_20 IAMs_20 06 58 42.2
comp=Z,3µm,21.0s
PAL Palisades 91.64 26 IAMs_20 IAMs_20 07 00 16.2
comp=Z,2µm,20.0s
WSPT Westport, CT 91.68 26 IAMs_20 IAMs_20 06 59 13.3
comp=Z,2µm,19.0s
KVTX Kingsville 91.73 50 IAMs_20 IAMs_20 06 52 42.5
comp=Z,2µm,21.0s
KEST Kesra 91.76 323 P P 06 14 11.8 +0.3
comp=Z,14nm,0.8s,baz=358,slow=1.4,SNR=19
KEST LR LR 07 00 16.8
comp=Z,6µm,19.8s,baz=338,slow=39
KEST Kesra 91.76 323 P P 06 14 11.2 -0.3
KEST IAmb IAmb 06 14 48.2
comp=Z,17nm,0.9s
R55A Marlinton 91.76 32 IAmb IAmb 06 14 39.5
comp=Z,22nm,1.1s
L64A Middleborough 91.77 24 IAMs_20 IAMs_20 06 57 33.7
comp=Z,3µm,22.0s
TZTN Tazewell 91.82 35 IAmb IAmb 06 14 34.9
comp=Z,36nm,1.2s
SWET Sewanee 91.87 37 P P 06 14 11.3 -0.7
SWET IAmb IAmb 06 14 32.5
comp=Z,25nm,1.2s
X48A Hartselle 91.98 39 IAmb IAmb 06 14 39.5
comp=Z,34nm,1.6s
V51A Loudon 92.09 36 IAmb IAmb 06 14 36.0
comp=Z,21nm,1.1s
VBMS Vicksburg 92.10 42 IAMs_20 IAMs_20 06 59 28.8
comp=Z,2µm,19.0s
P60A Greenville 92.11 28 IAMs_20 IAMs_20 07 02 07.8
comp=Z,2µm,20.0s
CPCT Cooper Cave 92.31 36 IAmb IAmb 06 14 35.6
comp=Z,25nm,1.3s
V52A Sevierville 92.39 36 P P 06 14 15.2 +0.8
V52A IAmb IAmb 06 14 37.0
comp=Z,33nm,1.2s
PBRG Braganca 92.40 337 eP P 06 14 15.6 +1.3
comp=Z,46nm,1.8s
BLA Blacksburg 92.56 33 IAMs_20 IAMs_20 07 00 33.2
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 92.69 338 ePP PP 06 18 01.3 +4.2
PGAV eS **S 06 25 22.4 +6.7**
PGAV eSS **SS 06 31 32.7 +5.3**
PGAV Gavieira, Arco 92.69 338 eLQ LQ 06 42 01.6
PGAV eLR LR 06 45 27.2
comp=Z,2µm,20.0s
Y49A Blount Mountai 92.77 39 P P 06 14 16.6 +0.5
MVO Moncorvo 93.07 337 eP P 06 14 18.9 +1.4
comp=Z,34nm,1.3s
MVO Moncorvo 93.07 337 ePP PP 06 18 10.0 +10
MVO eS **SKSac 06 24 55.0 +8.7**
MVO eSS SS 06 32 02.0 +29
MVO eLQ LQ 06 39 54.1
MVO eLR LR 06 45 31.0
comp=Z,3µm,20.0s
POLO Lamas de Olo 93.10 338 eP P 06 14 19.0 +1.4
comp=Z,23nm,1.7s
POLO Lamas de Olo 93.10 338 eS S 06 25 25.5 +6.1
LRAL Lakeview Retre 93.17 39 P P 06 14 18.4 +0.5
LRAL IAMs_20 IAMs_20 07 00 35.8
comp=Z,2µm,20.0s
PVRL Vila Real 93.17 338 eP P 06 14 19.4 +1.5
comp=Z,40nm,2.2s
ESBB Sonseca Array 93.49 334 P P 06 14 17.8 -1.6
ESDC Sonseca Array 93.49 334 P P 06 14 18.4 -1.0
comp=Z,10nm,0.7s,baz=18,slow=4.1,SNR=28
ESDC LR LR 07 02 00.3
comp=Z,3µm,20.0s,baz=30,slow=39
ESDC Sonseca Array 93.49 334 P P 06 14 17.9 -1.5
ES12 SONSECA Array 93.52 334 IAMs_20 IAMs_20 07 01 58.5
comp=Z,3µm,21.0s
PAB San Pablo 93.73 335 P P 06 14 21.8 +1.2
PAB pmax pmax
comp=Z,12nm,0.8s
PAB San Pablo 93.73 335 P P 06 14 21.8 +1.2
PVIS Viseu 93.74 338 eP P 06 14 22.0 +1.5
comp=Z,44nm,1.7s
MTE Manteigas 93.93 337 eP P 06 14 22.4 +1.0
comp=Z,51nm,1.9s
MTE Manteigas 93.93 337 ePP PP 06 18 15.8 +9.0
MTE eS S 06 25 12.4 -14
MTE Manteigas 93.93 337 eLQ LQ 06 41 10.0
MTE eLR LR 06 45 55.1
comp=Z,2µm,22.0s
MTE Manteigas 93.93 337 IAmb IAmb 06 14 24.4
comp=Z,17nm,0.8s
MTE IAMs_20 IAMs_20 06 59 31.4
comp=Z,3µm,22.0s
CART Cartagena 94.35 331 IAMs_20 IAMs_20 07 00 08.6
comp=Z,3µm,22.0s
COI Coimbra 94.36 338 IAMs_20 IAMs_20 07 01 11.7
comp=Z,3µm,20.0s
PCBR Castelo Branco 94.42 337 eP P 06 14 25.0 +1.4
comp=Z,20nm,2.0s
GOGA Godfrey 94.49 37 IAMs_20 IAMs_20 06 56 41.7
comp=Z,2µm,22.0s
PCAS Casmilo, Conde 94.52 338 eS SKSac 06 25 03.9 +10
BRAL Brewton 94.67 41 IAMs_20 IAMs_20 07 05 42.8
comp=Z,2µm,20.0s
PMRV Marv??o 94.78 337 eP P 06 14 28.0 +2.7
comp=Z,28nm,1.8s
PMRV Marv??o 94.78 337 ePP PP 06 18 22.1 +8.7
PMRV eS **SKSac 06 25 00.8 +5.2**

PMRV	**Marv??o**	**94.78**	**337**	*e*LQ	LQ	06 42 59.6		
PMRV				*e*LR	LR	06 46 34.3		
	comp=Z,3μm,20.0s							
PSBE	**So Bento**	**95.11**	**338**	*e*P	**P**	**06 14 28.1**	**+1.3**	
	comp=Z,37nm,1.5s							
PSBE	**So Bento**	**95.11**	**338**	*e*S	**SKSac**	**06 25 07.4**	**+10**	
CNNC	**Cliffs of the**	**95.28**	**32**	IAMs_20	IAMs_20	06 59 47.2		
	comp=Z,3μm,22.0s							
PESTR	**Estremoz**	**95.36**	**337**	*e*P	**P**	**06 14 29.4**	**+1.5**	
	comp=Z,18nm,1.3s							
PESTR	**Estremoz**	**95.36**	**337**	*e*S	**SKSac**	**06 25 06.0**	**+7.3**	
PESTR	**Estremoz**	**95.36**	**337**	IAMs_20	IAMs_20	07 02 20.2		
	comp=Z,2μm,20.0s							
PMTG	**Montargil**	**95.36**	**337**	*e*P	**P**	**06 14 31.0**	**+3.1**	
	comp=Z,27nm,2.0s							
PMTG	**Montargil**	**95.36**	**337**	*e*S	SKSac	06 25 10.1	+12	
352A	**Blakely**	**95.43**	**39**	IAmb	IAmb	06 15 33.9		
	comp=Z,27nm,1.1s							
PMAFR	**Mafra**	**95.77**	**338**	*e*S	**SKSac**	**06 25 04.6**	**+3.8**	
PBAR	**Barrancos**	**95.83**	**336**	*e*S	**SKSac**	**06 25 08.1**	**+7.0**	
LIS	**Lisbon**	**95.95**	**338**	*e*P	**P**	**06 14 30.8**	**+0.2**	
LIS				*e*PP	**PP**	**06 18 23.4**	**+1.0**	
LIS				IAMs_20	IAMs_20	07 00 56.0		
	comp=N,4μm,18.9s							
LIS	**Lisbon**	**95.95**	**338**	*e*P	**P**	**06 14 30.8**	**+0.2**	
LIS				*e*		06 18 23.4		
MESJ	**Messejana**	**96.49**	**337**	*e*P	**P**	**06 14 33.2**	**+0.1**	
MESJ				*e*PP	**PP**	**06 18 27.5**	**+0.9**	
MESJ				*e*SKSac	**SKSac**	**06 25 06.0**	**+1.4**	
MESJ				IAMs_20	IAMs_20	06 55 08.2		
	comp=E,3μm,24.8s							
MESJ	**Messejana**	**96.49**	**337**	*e*P	**P**	**06 14 33.2**	**+0.1**	
MESJ				*e*		06 18 27.5		
MESJ				*e*		06 25 06.0		
PVAQ	**Vaqueiros**	**96.75**	**336**	*e*PP	**PP**	**06 18 30.8**	**+2.2**	
PVAQ				*e*S	**SKSac**	**06 25 12.0**	**+6.1**	
PVAQ	**Vaqueiros**	**96.75**	**336**	*e*LR	LR	06 47 17.8		
	comp=E,6μm,22.0s							
PBDV	**Barranco-do-Ve**	**96.96**	**336**	*e*S	**SKSac**	**06 25 12.4**	**+5.3**	
PFVI	**Vila Bisbo**	**97.33**	**337**	*e*S	**SKSac**	**06 25 15.8**	**+6.8**	
PFVI	**Vila Bisbo**	**97.33**	**337**	IAMs_20	IAMs_20	07 02 39.4		
	comp=Z,2μm,20.0s							
RKT	**Rikitea**	**99.97**	**112**	*e*SKSac	**SKSac**	**06 25 23.5**	**+1.3**	
	comp=Z,1μm,32.0s							
RKT				*e*SS	**SS**	**06 33 13.1**	**0.0**	
	comp=Z,1μm,30.8s							
RKT	**Rikitea**	**99.97**	**112**	*e*LR	LR	06 47 35.0		
	comp=Z,9μm,29.5s							
KMBO	**Kilima Mbogo**	**101.82**	**279**	P	**Pdif**	**06 14 58.0**	**+0.4**	
	comp=Z,2.7nm,0.4s,baz=54,slow=7.5,SNR=8.7							
KMBO	**Kilima Mbogo**	**101.82**	**279**	P	**Pdif**	**06 14 58.0**	**+0.4**	
BBSR	**BB Station**	**102.46**	**23**	IAMs_20	IAMs_20	07 02 20.5		
	comp=Z,2μm,22.0s							
PMOZ	**Porto Moniz, M**	**103.61**	**342**	*e*PP	**PKiKP**	**06 19 22.5**	**-0.7**	
PMOZ	**Porto Moniz, M**	**103.61**	**342**	*e*LQ	LQ	06 43 58.0		
PMOZ				*e*LR	LR	06 50 54.8		
	comp=Z,857nm,22.0s							
MBAR	**Mbarara**	**106.26**	**284**	IAMs_20	IAMs_20	07 08 31.4		
	comp=Z,2μm,22.0s							
SNET	**Serv Nac Est T**	**107.54**	**53**	IAMs_20	IAMs_20	06 59 05.4		
	comp=Z,2μm,22.0s							
TGUH	**Tegucigalpa,Un**	**108.40**	**51**	IAMs_20	IAMs_20	07 08 18.1		
	comp=Z,2μm,22.0s							
CRIN	**San Cristobal**	**109.61**	**52**	IAMs_20	IAMs_20	07 08 47.3		
	comp=Z,2μm,22.0s							
GTBY	**Guantanamo Bay**	**109.84**	**37**	IAMs_20	IAMs_20	07 07 21.3		
	comp=Z,2μm,22.0s							
GRTK	**Grand Turk**	**110.16**	**33**	IAMs_20	IAMs_20	07 09 41.2		
	comp=Z,2μm,20.0s							
MTDJ	**Mount Denham**	**110.17**	**40**	IAMs_20	IAMs_20	07 14 30.4		
	comp=Z,1μm,20.0s							
SDDR	**Presa de Saban**	**112.35**	**34**	IAMs_20	IAMs_20	07 12 53.5		
	comp=Z,2μm,21.0s							
JTS	**Las Juntas de**	**112.76**	**51**	IAMs_20	IAMs_20	07 08 49.7		
	comp=Z,2μm,22.0s							
HDC	**Heredia**	**113.48**	**51**	IAMs_20	IAMs_20	07 09 01.8		
	comp=Z,1μm,19.0s							
TORD	**Torodi Ar. Bea**	**114.47**	**317**	PKiKP	PKPdf	06 19 44.5	+0.6	
	comp=Z,0.6nm,0.4s,baz=18,slow=1.7,SNR=7.6							
TORD				PKKP	**PKKPdf**	**06 30 43.9**	**+0.7**	
	comp=Z,1.4nm,0.7s,baz=205,slow=2.8,SNR=4.7							
SJG	**San Juan**	**115.18**	**30**	IAMs_20	IAMs_20	07 17 14.1		
	comp=Z,1μm,20.0s							
BCIP	**Isla Barro Col**	**116.59**	**48**	IAMs_20	IAMs_20	07 09 09.6		
	comp=Z,1μm,20.0s							
SEUS	**St. Eustatius**	**116.88**	**27**	IAMs_20	IAMs_20	07 14 01.9		
	comp=Z,2μm,21.0s							
ANWB	**Willy Bob**	**117.12**	**26**	IAMs_20	IAMs_20	07 12 22.0		
	comp=Z,1μm,21.0s							
LSZ	**Lusaka**	**117.79**	**274**	IAMs_20	IAMs_20	07 13 55.6		
	comp=Z,1μm,21.0s							
VNDA	**Vanda**	**119.39**	**175**	PKP	**PKiKP**	**06 19 52.2**	**+0.8**	
	comp=Z,1.4nm,0.8s,baz=314,slow=2.1,SNR=6.1							
VNDA				PKKPbc	**PKKPbc**	**06 30 05.8**	**+0.7**	
	comp=Z,0.8nm,0.8s,baz=184,slow=7.0,SNR=5.6							
VNDA	**Vanda**	**119.39**	**175**	PKPdf	**PKiKP**	**06 19 51.8**	**+0.4**	
SBA	**Scott Base**	**120.05**	**174**	PKiKP	**PKiKP**	**06 19 54.2**	**+1.5**	
SBA	**Scott Base**	**120.05**	**174**	PKPdf	**PKiKP**	**06 19 54.2**	**+1.5**	
FDF	**Fort de France**	**120.07**	**26**	IAMs_20	IAMs_20	07 13 30.2		
	comp=Z,1μm,21.0s							
SDV	**Santo Domingo**	**121.55**	**39**	IAMs_20	IAMs_20	07 13 27.9		
	comp=Z,1μm,22.0s							
SACV	**Santiago Islan**	**122.27**	**344**	IAMs_20	IAMs_20	07 20 00.8		
	comp=Z,1μm,19.0s							
GRGR	**Grenville**	**122.32**	**28**	IAMs_20	IAMs_20	07 12 43.0		
	comp=Z,1μm,22.0s							
DBIC	**Dimbokro**	**123.29**	**320**	PKP	**PKPdf**	**06 20 00.6**	**-0.3**	
	comp=Z,3.3nm,0.6s,baz=97,slow=2.2,SNR=5.3							
DBIC				PP	**PP**	**06 21 42.1**	**+1.2**	
	comp=Z,6.0nm,0.8s,baz=14,slow=8.3,SNR=3.6							
MAW	**Mawson**	**123.77**	**207**	PKP	**PKiKP**	**06 20 00.9**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=73,slow=23,SNR=2.8							
MAW				PKKPbc	**PKKPbc**	**06 29 48.6**	**+0.4**	
	comp=Z,1.2nm,0.7s,baz=70,slow=18,SNR=2.2							
MAW	**Mawson**	**123.77**	**207**		PKKPab	06 29 48.6	+4.1	
OTAV	**Otavalo**	**124.63**	**52**	IAMs_20	IAMs_20	07 12 26.7		
	comp=Z,1μm,18.0s							
LBTB	**Lobatse**	**125.54**	**267**	PKIKP	**PKPdf**	**06 20 05.0**	**+0.1**	
LBTB	**Lobatse**	**125.54**	**267**	PKPdf	**PKPdf**	**06 20 05.0**	**+0.1**	
BOSA	**Boshof**	**127.75**	**263**	PKP	**PKiKP**	**06 20 09.4**	**-0.2**	
	comp=Z,2.5nm,0.7s,baz=235,slow=0.4,SNR=6.1							
BOSA				PP	**PP**	**06 22 13.7**	**+1.8**	
	comp=Z,4.6nm,0.9s,baz=65,slow=7.9,SNR=3.1							
QSPA	**South Pole Qui**	**131.24**	**180**	PKPdf	**PKPdf**	**06 20 13.8**	**-0.6**	
SAML	**Samuel**	**140.65**	**42**	IAMs_20	IAMs_20	07 32 25.7		
	comp=Z,1μm,20.0s							
LPAZ	**La Paz**	**143.85**	**55**	PKP	PKPbc	06 20 38.6	+1.0	
	comp=Z,3.4nm,0.7s,baz=8.8,slow=4.5,SNR=13							
LPAZ	**La Paz**	**143.85**	**55**	PKPdf	PKPbc	06 20 38.6	+1.0	
PB16	**IPOC Station P**	**144.52**	**59**		**PKPdf**	**06 20 41.8**	**+1.0**	
MNMC	**Minye Minye**	**145.04**	**60**		**PKPbc**	**06 20 38.2**	**-2.6**	
SNAA	**Sanae**	**145.16**	**199**	PKPdf	**PKPdf**	**06 20 39.8**	**+0.1**	
SNAA	**Sanae**	**145.16**	**199**	PKIKP	**PKPbc**	**06 20 38.0**	**-1.4**	
SNAA	**Sanae**	**145.16**	**199**	PKPbc	**PKPbc**	**06 20 38.0**	**-1.4**	
TA01	**Diego Aracena**	**145.68**	**62**		**PKPdf**	**06 20 41.4**	**-0.7**	
PB08	**IPOC Station P**	**146.05**	**61**		**PKPbc**	**06 20 43.8**	**-0.3**	
VNA2	**Neumayer--Watz**	**146.74**	**198**	PKPdf	**PKPab**	**06 20 44.9**	**-0.6**	
	baz=112,slow=2.0							
H03N2	**Juan Fernandez**	**146.74**	**90**	T	T	09 05 40.0		
	baz=300,slow=77,SNR=47							
H03N3	**Juan Fernandez**	**146.75**	**90**	T	T	09 05 43.3		
	baz=300,slow=77,SNR=44							
H03N1	**Juan Fernandez**	**146.75**	**89**	T	T	09 05 41.8		
	baz=300,slow=77,SNR=54							
VNA3	**Neumayer Olymp**	**147.00**	**196**	PKPdf	**PKPbc**	**06 20 45.5**	**+0.6**	
VNA1	**Neumayer--Stat**	**147.14**	**198**	PKPdf	**PKPbc**	**06 20 45.6**	**+0.4**	
LVC	**Limon Verde**	**147.94**	**64**	PKP2	**PKPab**	**06 20 52.2**	**+0.1**	
LVC	**Limon Verde**	**147.94**	**64**	PKPbc	**PKPab**	**06 20 52.1**	**+0.1**	
BDFB	**Brasilia**	**152.79**	**22**	PKPbc	**PKiKP**	**06 21 01.4**	**+0.4**	
	comp=Z,6.2nm,0.7s,baz=198,slow=2.5,SNR=12							
BDFB	**Brasilia**	**152.79**	**22**	PKIKP	**PKPbc**	**06 20 59.9**	**-1.0**	
BDFB				PKP	**PKPab**	**06 21 11.5**	**-0.3**	
BDFB	**Brasilia**	**152.79**	**22**		**PKPbc**	**06 20 59.9**	**-1.0**	
BDFB				PKPab	**PKPab**	**06 21 11.5**	**-0.3**	
MT05	**Renca**	**152.86**	**83**	PKPab	**PKPab**	**06 21 12.7**	**+0.9**	
MT03	**Universidad Ad**	**153.07**	**83**		**PKPbc**	**06 21 00.1**	**-0.9**	
BO02	**Sierra Bellavi**	**153.43**	**86**		**PKPbc**	**06 21 00.7**	**-1.0**	
AQDB	**Aquidauana**	**154.19**	**41**	PKPdf	**PKPdf**	**06 20 55.4**	**0.0**	
AQDB					**PKiKP**	**06 21 04.2**	**+0.5**	
PLCA	**Paso Flores**	**155.50**	**99**	PKPab	**PKPab**	**06 21 23.6**	**+0.7**	
	comp=Z,4.3nm,1.0s,baz=288,slow=3.9,SNR=5.2							
PLCA	**Paso Flores**	**155.50**	**99**		**PKPab**	**06 21 23.6**	**+0.7**	
CPUP	**Villa Florida**	**157.99**	**53**	PKPab	**PKPab**	**06 21 33.9**	**+0.2**	
	comp=Z,2.1nm,0.8s,baz=322,slow=3.8,SNR=6.3							
CPUP	**Villa Florida**	**157.99**	**53**		**PKPab**	**06 21 33.9**	**+0.2**	

LPA	**La Plata**	**162.98**	**74**	*de*PKIKP	**PKPdf**	**06 21 05.3**	**-0.2**	
LPA				pPP		06 25 50.8		
LPA				SKIKS		06 28 07.5		
LPA				PPP	PPP	06 29 22.1		

*TUL **08** 06:18:32.3±1.4,36°21.N±0°01.×97°37.W±0°02.,h5km±7km, ML2.6,mb_Lg2.4/28(NEIC) Error ellipse: s-maj=2.1km s-min=1.6km az=82.0*

NEIC 08 06:18:32.3±1.2,36°22.N±0°01.×97°37.W±0°02.,h5km±7km, Error ellipse: s-maj=2.2km s-min=1.6km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.42**	**190**		Pg	06 18 40.4	0.0
OK029				Sg	Sg	06 18 46.3	+0.3
OK031	**S. Brethren Rd**	**0.50**	**121**		Pg	06 18 42.0	0.0
OK031				Sg	Sg	06 18 49.1	+0.7
QUOK	**Quay**	**0.54**	**95**		Pg	06 18 42.6	0.0
QUOK				Sg	Sg	06 18 50.1	+0.6
OK030	**Cody Creek RV**	**0.55**	**121**		Pg	06 18 42.9	-0.1
OK030				Sg	Sg	06 18 50.9	+0.8
BLOK	**Blackwell**	**0.56**	**13**		Pg	06 18 43.0	0.0
CROK	**Carrier**	**0.57**	**300**		Pg	06 18 43.3	0.0
CROK				Sg	Sg	06 18 51.3	+0.5
BCOK	**Bluff Creek, N**	**0.59**	**199**		Pg	06 18 43.5	-0.1
BCOK				Sg	Sg	06 18 51.8	+0.5
OK025	**Westminster Rd**	**0.63**	**178**		Pg	06 18 44.4	0.0
OK025				Sg	Sg	06 18 53.2	+0.5
GC02	**Grant County #**	**0.75**	**328**		Pg	06 18 46.5	-0.2
GC02				Sg	Sg	06 18 56.7	+0.4
KAN13	**South Haven SW**	**0.80**	**354**		Pg	06 18 47.5	-0.2
KAN13				Sg	Sg	06 18 57.8	-0.3
OKCFA	**Oklahoma City**	**0.80**	**185**		Pg	06 18 47.4	-0.3
OKCFA				Sg	Sg	06 18 58.2	+0.2
OKCSW	**OKLAHOMA CITY**	**0.81**	**184**		Pg	06 18 47.5	-0.3
OKCSW				Sg	Sg	06 18 58.8	+0.5
OK032	**Salt Plains WL**	**0.90**	**311**	Pg	Pg	06 18 49.1	-0.4
OK032				Sg	Sg	06 19 01.2	+0.1
KAN09	**Caldwell North**	**0.94**	**348**	Pg	Pg	06 18 49.9	-0.4
KAN09				Sg	Sg	06 19 02.9	+0.3
FNO	**Franklin**	**0.96**	**182**		Pg	06 18 50.0	-0.6
FNO				Sg	Sg	06 19 03.1	+0.1
T35A	**Sooner Cattle**	**0.98**	**44**		Pg	06 18 50.7	-0.4
T35A				Sg	Sg	06 19 03.8	-0.1
KAN10	**Anthony SW Sta**	**1.08**	**327**		Pg	06 18 52.4	-0.5
KAN08	**Anthony NE Sta**	**1.12**	**335**	Pg	Pg	06 18 53.2	-0.6
W35A	**Tecumseh**	**1.13**	**159**	Pg	Pg	06 18 53.0	-1.0
KAN16	**Harper SW Stat**	**1.15**	**331**	Pg	Pg	06 18 54.1	-0.3
U32A	**Winter Ranch,**	**1.33**	**278**	Pn	Pn	06 18 56.8	-0.8
X34A	**Smith Ranch, M**	**1.66**	**193**		Pn	06 19 02.3	+0.3
WMOK	**Wichita Mounta**	**1.87**	**218**	Pn	Pn	06 19 05.5	+0.6
LOOK	**Love County**	**2.22**	**176**		Pn	06 19 08.3	-1.5
X37A	**Clayton**	**2.30**	**134**	Pn	Pn	06 19 07.9	-2.9
X37A				IAmb_Lg		06 19 45.1	
	comp=Z,12nm,0.8s						
U38A	**Gravette**	**2.42**	**84**		Pb	06 19 14.7	-1.6
R32A	**Long Quarter,**	**2.45**	**334**	Pn	Pb	06 19 15.5	-1.3
HHAR	**Hobbs**	**2.77**	**88**		Pn	06 19 17.3	-0.1
Z35A	**Perchaven, San**	**2.88**	**178**	Pn	Pn	06 19 19.9	+1.1
KSU1	**Kansas State U**	**2.94**	**12**	Pn	Pn	06 19 18.4	-1.3
W39A	**Magazine**	**3.09**	**108**	IAmb_Lg		06 20 17.6	
	comp=Z,19nm,1.1s						
CBKS	**Cedar Bluff**	**3.21**	**325**	Pn	Pn	06 19 23.7	+0.4
MIAR	**Mount Ida**	**3.52**	**117**	Pn	Pn	06 19 26.8	-0.8
S39A	**Bolivar**	**3.56**	**64**	Pn	Pn	06 19 25.3	-2.8
S39A				IAmb_Lg		06 20 26.3	
	comp=Z,8.1nm,0.8s						
U40A	**Yellville**	**3.65**	**86**	Pn	Pn	06 19 30.2	+0.8
X40A	**Basin Creek Fa**	**4.09**	**114**	Pn	Pn	06 19 35.3	-0.1
X40A				IAmb_Lg		06 20 43.4	
	comp=Z,7.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.26**	**93**	IAmb_Lg		06 20 51.0	
	comp=Z,6.8nm,0.9s						
P38A	**Dawn**	**4.56**	**41**	IAmb_Lg		06 20 59.8	
	comp=Z,7.7nm,0.8s						
R40A	**Maddies Statio**	**4.56**	**61**	IAmb_Lg		06 20 57.3	
	comp=Z,13nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.02**	**305**	IAmb_Lg		06 21 21.0	
	comp=Z,7.8nm,0.8s						
LCAR	**Lake Charles**	**5.03**	**90**	IAmb_Lg		06 21 09.2	
	comp=Z,6.0nm,0.9s						
T42A	**Van Buren**	**5.11**	**79**	IAmb_Lg		06 21 26.0	
	comp=Z,5.3nm,0.7s						
CCM	**Cathedral Cave**	**5.23**	**68**	IAmb_Lg		06 21 28.2	
	comp=Z,11nm,0.9s						
PBMO	**Poplar Bluff**	**5.62**	**82**	IAmb_Lg		06 21 33.2	
	comp=Z,6.4nm,0.9s						
T25A	**Trinidad**	**5.74**	**281**	IAmb_Lg		06 21 39.4	
	comp=Z,4.1nm,0.7s						
L34A	**Svendsen Farm,**	**5.79**	**7**	IAmb_Lg		06 21 48.3	
	comp=Z,11nm,0.8s						

IDC 08 06:23:05.3±5.6,5.90S×151.05E,h79km±46km,mb3.8/3, mb1 3.9/4,mb1mx3.4/28,mbtmp4.1/4,ML1.4/1,Error ellipse: s-maj=129.6km s-min=32.0km az=131.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.19**	**228**	P	Pn	06 24 22.3	+1.8
	0.9nm,0.3s,baz=90,slow=8.1,SNR=4.0						
PMG				S	Sn	06 25 18.5	-0.6
	1.6nm,0.3s,baz=257,slow=19,SNR=2.2						
ASAR	**Alice Springs**	**24.17**	**221**	P	P	06 28 14.3	-0.1
	2.8nm,0.8s,baz=54,slow=9.1,SNR=26						
FITZ	**Fitzroy Crossi**	**27.60**	**242**	P	P	06 28 45.9	+0.5
	2.8nm,0.8s,baz=49,slow=9.3,SNR=2.3						
ILAR	**Eielson Array**	**83.83**	**22**	P	P	06 35 25.4	-0.4
	0.9nm,0.6s,baz=242,slow=5.0,SNR=12						
TORD	**Torodi Ar. Bea**	**148.95**	**286**	PKPbc	PKPbc	06 42 45.0	-0.2
	1.0nm,0.8s,baz=78,slow=2.0,SNR=5.4						

*DJA **08** 06:36:37.0±0.4,2°N±3°×12°8E±°,h114km±3km,M4.8/11, mB5.4/11,mb4.8/11,MLv4.7/11,Mw(mB)4.8/11*

*NEIC **08** 06:36:37.5±2.3,2°38N±0°09×128°18E±0°08,h140km±6km, mb4.6/43,Error ellipse: s-maj=14.0km s-min=10.2km az=218.0*

*IDC **08** 06:36:38.0±0.8,2°37N×128°30E,h153km±7km,mb4.0/18, mb1 4.2/21,mb1mx4.0/32,mbtmp4.5/21,Error ellipse: s-maj=17.0km s-min=8.3km az=72.0*

ISC 08 06:36:37.7±0.4,2°34N±0°04×128°12E±0°06,h150km,n121, σ1°24/125,mb4.6/52,16C-7D,Fault plane solution: NP1:$\phi_6$73.84017°,δ68.64442°,λ99.03310°. **NP2:** $\phi_6$230.25586°,δ23.10492°,λ68.12229°. **Principal axes:** T Plg65.2146°, Azm359.1966°; N Plg8.4082°, Azm250.5269°; P Plg23.1346°, Azm156.9061°;

Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.73**	**206**		**Pn**	**06 37 09.2**	**-0.5**
TNTI	**Ternate**	**1.73**	**206**	P	**Pn**	**06 37 09.0**	**-0.8**
TNTI				S	**Sn**	**06 37 33.2**	**-1.2**
SGSI	**Sangihe**	**2.92**	**297**	P	**Pn**	**06 37 22.5**	**-1.6**
SGSI				S	**Sn**	**06 37 56.8**	**-3.1**
LBMI	**Labuha**	**3.02**	**192**	P	**Pn**	**06 37 25.5**	**+0.1**
SWI	**Sorong**	**4.46**	**135**	P	**Pn**	**06 37 43.8**	**-0.3**
SIJI	**Sorong**	**4.47**	**135**	P	**Pn**	**06 37 44.0**	**-0.2**
	40nm,0.3s,baz=342,slow=16,SNR=4.6						
SIJI				S	**Sn**	**06 38 34.4**	**-1.6**
	10nm,0.3s,baz=151,slow=24,SNR=6.9						
KMSI	**Cibinong**	**4.50**	**247**	P	**Pn**	**06 37 43.5**	**-1.0**
SANI	**Sanana**	**4.85**	**206**	P	**Pn**	**06 37 47.8**	**-1.4**
	0.8nm4μm212nm,0.7s						
DAV	**Davao City (W)**	**5.34**	**332**	S	**Sn**	**06 38 58.8**	**+2.1**
	67nm,0.3s,baz=324,slow=14,SNR=1.6						
GTOI	**Gorontalo**	**5.38**	**252**	P	**Pn**	**06 37 56.8**	**+0.5**
	1.8nm6μm421nm,0.6s						
NLAI	**Namlea**	**5.63**	**190**	P	**Pn**	**06 38 00.2**	**+0.7**
	0.8nm6μm131nm,0.6s						
LUWI	**Luwuk**	**6.32**	**238**	Pn	**Pn**	**06 38 09.2**	**+0.6**
LUWI	**Luwuk**	**6.32**	**238**	P	**Pn**	**06 38 09.5**	**+0.8**
	1.1nm4μm187nm,0.6s						
MRSI	**Marisa**	**6.45**	**253**	P	**Pn**	**06 38 10.5**	**0.0**
	1.6nm5μm385nm,0.5s						
FAKI	**Fak Fak**	**6.65**	**142**	Pn	**Pn**	**06 38 13.8**	**+0.6**
FAKI	**Fak Fak**	**6.65**	**142**	P	**Pn**	**06 38 13.6**	**+0.4**
	0.4nm126nm,1.0s						

APSI	**Ampana**	**7.23**	**244**	P	**Pn**	**06 38 20.9**	**0.0**	
	0.7nm3μm158nm,1.0s							
TOLI2	**Tolitoli**	**7.44**	**261**	Pn	**Pn**	**06 38 22.4**	**-1.3**	
TTSI	**Tana Toraja**	**9.87**	**237**	P	**Pn**	**06 38 55.4**	**-0.7**	
	245nm,0.7s							
SPSI	**Sidrap Palu**	**10.44**	**233**	P	**Pn**	**06 39 04.7**	**+1.1**	
	2μm106nm,0.7s							
BNSI	**Bone**	**10.44**	**230**	P	**Pn**	**06 39 03.6**	**0.0**	
	2μm106nm,1.0s							
SAUI	**Saumlaki**	**10.73**	**163**	Pn	**Pn**	**06 39 06.1**	**-1.3**	
KAPI	**Kappang**	**11.10**	**229**	P	**Pn**	**06 39 14.5**	**+2.1**	
	16nm,0.3s,baz=350,slow=7.7,SNR=29							
KAPI				S	**Sn**	**06 41 12.6**	**-2.6**	
	2.2nm,0.3s,baz=211,slow=23,SNR=1.7							
KAPI	**Kappang**	**11.10**	**229**	Pn	**Pn**	**06 39 12.4**	**+0.1**	
BSSI	**Bau Bau, Buton**	**11.36**	**222**	P	**Pn**	**06 39 17.5**	**+1.8**	
	43nm,0.6s							
BATI	**Baumata**	**13.23**	**200**	P	**Pn**	**06 39 41.1**	**+1.2**	
	5.3nm,0.3s,baz=272,slow=5.2,SNR=3.8							
LQP	**Lukban**	**13.39**	**331**	⇑*e*P	**Pn**	**06 39 43.0**	**+0.8**	
PLAI	**Plampang**	**15.14**	**223**	P	**P**	**06 40 09.9**	**+4.2**	
MTN	**Manton Dam**	**15.37**	**169**	Pn	**Pn**	**06 40 06.8**	**-0.1**	
MTN				IAmb	IAmb	06 40 13.9		
	comp=Z,40nm,1.4s							
SZP	**Santa**	**16.89**	**334**	P	**P**	**06 40 24.7**	**-0.2**	
JAGI	**Jajag, Banyuwa**	**17.59**	**232**	P	**P**	**06 40 31.9**	**-0.7**	
KNRA	**Kununurra**	**17.91**	**178**	P	**P**	**06 40 36.8**	**+0.7**	
KNRA				IAmb	IAmb	06 40 37.9		
	comp=Z,21nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.45**	**187**	P	**P**	**06 41 02.6**	**-1.0**	
	comp=Z,4.7nm,0.5s,baz=16,slow=8.5,SNR=17							
FITZ	**Fitzroy Crossi**	**20.45**	**187**	P	**P**	**06 41 02.8**	**-0.8**	
DLV	**T Lat**	**21.68**	**297**	P	**P**	**06 41 17.2**	**+0.2**	
DLV				IAmb	IAmb	06 41 19.8		
	comp=Z,19nm,1.0s							
YULB	**Yu-li**	**21.95**	**343**	P	**P**	**06 41 17.1**	**-2.5**	
TPUB	**Ta-pu**	**22.07**	**341**	P	**P**	**06 41 18.5**	**-2.3**	
TPUB				IAmb	IAmb	06 41 23.2		
	comp=Z,23nm,0.9s							
SSLB	**Suanglung**	**22.43**	**343**	P	**P**	**06 41 22.6**	**-1.7**	
SSLB				IAmb	IAmb	06 41 24.7		
	comp=Z,19nm,0.9s							
CISI	**Cisompet, Garu**	**22.52**	**244**	P	**P**	**06 41 24.1**	**-1.2**	
CISI				IAmb	IAmb	06 41 31.2		
	comp=Z,34nm,1.2s							
WRAB	**Tennant Creek**	**22.96**	**165**	P	**P**	**06 41 29.2**	**-0.1**	
WRAB				IAmb	IAmb	06 41 30.6		
	comp=Z,19nm,0.5s							
WRA	**Warramunga Arr**	**22.96**	**165**	P	**P**	**06 41 29.1**	**-0.2**	
WRA				ScP	**ScP**	**06 48 38.3**	**-0.5**	
	comp=Z,0.8nm,0.8s,baz=329,slow=2.7,SNR=3.0							
YHNB	**Yeheng**	**23.14**	**344**	P	**P**	**06 41 30.7**	**-0.2**	
KNMB	**Chin-men Tao**	**23.93**	**338**	P	**P**	**06 41 39.1**	**+1.1**	
PSA00	**Pilbara Seismi**	**25

comp=Z,12nm,0.9s
SONM Songino Array 49.06 341 P **P 06 45 10.0 +0.3**
comp=Z,5.0nm,0.6s,baz=152,slow=8.2,SNR=24
SONM PcP **PcP 06 46 32.0 +0.8**
comp=Z,1.7nm,0.7s,baz=156,slow=4.0,SNR=6.6
SONM Songino Array 49.06 341 P **P 06 45 10.1 +0.3**
KOLN Koldanda 49.46 305 *e*P **P 06 45 14.6 +1.4**
comp=Z,93nm,0.8s
DANN Dangsing 49.56 306 *e*P **P 06 45 15.1 +1.1**
comp=Z,97nm,0.7s
WMQ Urumqi 54.66 325 *e*P **P 06 45 52.7 +1.5**
WMQ pmax pmax
comp=Z,32nm,0.7s
PETK Petropavlovsk- 56.21 21 P **P 06 46 02.0 0.0**
comp=Z,2.9nm,0.7s,baz=190,slow=5.4,SNR=7.8
PETK Petropavlovsk- 56.21 21 P **P 06 46 02.4 +0.4**
MK31 Makanchi Array 59.49 325 P **P 06 46 25.6 +0.5**
MK31 IAmb IAmb 06 46 26.4
comp=Z,6.9nm,0.7s
MKAR Makanchi Array 59.49 325 P **P 06 46 25.6 +0.5**
comp=Z,8.5nm,0.6s,baz=120,slow=8.3,SNR=117
MKAR PcP **PcP 06 47 11.2 +0.2**
comp=Z,3.2nm,0.6s,baz=116,slow=5.2,SNR=11
MAKZ Makanchi 59.68 325 P **P 06 46 26.9 +0.5**
KDJ Kajisay 60.31 318 P **P 06 46 31.8 +0.8**
KDJ IAmb IAmb 06 46 32.9
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 62.46 333 P **P 06 46 42.9 -2.0**
ZALV Zalesovo Beam 62.46 333 P **P 06 46 44.0 -0.8**
comp=Z,1.6nm,0.5s,baz=114,slow=7.2,SNR=8.3
ZALV pP **PcP 06 47 21.9 -0.9**
comp=Z,0.6nm,0.3s,baz=142,slow=4.9,SNR=2.5
ZALV Zalesovo Beam 62.46 333 P **P 06 46 42.8 -2.1**
BTK Batken 63.88 314 P **P 06 46 53.9 -0.8**
BTK IAmb IAmb 06 46 57.2
comp=Z,6.6nm,1.1s
GAR Garm 63.89 313 P **P 06 46 53.4 -1.4**
KK31 Karatay Array 65.19 317 P **P 06 47 03.3 +0.2**
KK31 IAmb IAmb 06 47 04.2
comp=Z,6.5nm,0.9s
KKAR Karatay Array 65.19 317 P **P 06 47 02.8 -0.3**
BRVK Borovoye 69.31 327 P **P 06 47 28.6 -0.1**
BRVK IAmb IAmb 06 47 29.7
comp=Z,13nm,0.9s
NRIK Noril'sk 72.11 346 P **P 06 47 45.5 +0.1**
comp=Z,3.1nm,0.5s,baz=136,slow=5.9,SNR=5.0
NRIK Noril'sk 72.11 346 P **P 06 47 44.7 -0.6**
NRIK IAmb IAmb 06 47 46.1
comp=Z,4.7nm,0.7s
GEYT Alibeck 72.85 309 P **P 06 47 51.6 +1.2**
comp=Z,24nm,0.9s,baz=186,slow=7.7,SNR=5.4
ABKAR Akbulak array 74.10 321 P **P 06 47 56.9 -0.6**
VNDA Vanda 81.88 173 P **P 06 48 39.0 -0.8**
comp=Z,0.2nm,0.4s,baz=288,slow=3.2,SNR=1.9
KBZ Khabaz 84.94 314 P **P 06 48 55.9 -0.2**
comp=Z,1.3nm,0.7s,baz=104,slow=8.3,SNR=2.6
ILAR Eielson Array 85.76 25 P **P 06 48 58.5 -1.3**
comp=Z,0.2nm,0.5s,baz=244,slow=5.0,SNR=2.8
KLMR Klimovskoe 87.30 331 *e*P **P 06 49 04.1 -3.2**
KLMR AMP 06 49 06.5
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 92.23 340 P **P 06 49 29.2 -1.0**
comp=Z,11nm,1.1s,baz=77,slow=6.5,SNR=12
FINES FINESS Array B 93.71 332 P **P 06 49 36.5 -0.7**
comp=Z,1.3nm,0.5s,baz=57,slow=7.0,SNR=6.7
TXAR Lajitas Array 121.33 53 PKP **PKiKP 06 55 14.3 +0.2**
comp=Z,0.3nm,0.7s,baz=318,slow=1.2,SNR=3.0
TORD Torodi Ar. Bea 124.67 288 PKP **PKPdf 06 55 20.7 +0.1**
comp=Z,0.4nm,0.6s,baz=127,slow=3.8,SNR=2.0

WEL 08 07:05:09.0±1.1, 37°S±10″×178°0E±°, h21km±16km, M3.5/40, ML3.7/40, MLv3.5/40 Error ellipse: s-maj=0.0km s-min=0.0km az=19.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.08**	**248**	P	Pb	07 05 29.0	0.0
WMGZ				S	Sn	07 05 44.4	+1.1
MXZ	**Matakaoa Point**	**1.10**	**263**	P	Pn	07 05 28.3	-1.0
MXZ				S	Sb	07 05 47.3	-1.0
PUZ	**Puketiti**	**1.30**	**240**	P	Pn	07 05 32.0	0.0
PUZ				S	Sn	07 05 48.7	-0.1
PKGZ	**Pakihiroa**	**1.35**	**250**	P	Pn	07 05 32.7	-0.1
PKGZ				S	Sn	07 05 50.3	+0.1
TWGZ	**Tauwhareparae**	**1.54**	**240**	P	Pn	07 05 35.6	+0.3
TWGZ				S	Sb	07 05 56.3	+0.3
HAZ	**Te Kaha**	**1.54**	**257**	P	Pn	07 05 35.7	+0.3
HAZ				S	Sb	07 05 56.0	0.0
CNGZ	**Carnagh Statio**	**1.57**	**227**	P	Pn	07 05 36.4	+0.7
RUGZ	**Raukumara Rang**	**1.68**	**251**	P	Pn	07 05 37.4	+0.1
RUGZ				S	Sn	07 05 58.9	+0.6
TKGZ	**Te Karaka**	**1.77**	**235**	P	Pn	07 05 38.6	+0.2
TKGZ				S	Sn	07 06 00.3	+0.1
MWZ	**Matawai**	**1.93**	**241**	P	Pn	07 05 40.4	-0.2
MWZ				S	Sn	07 06 04.9	+0.6
PRGZ	**Paritu Road**	**2.06**	**223**	P	Pn	07 05 42.6	+0.1
RAGZ	**Rawiri**	**2.08**	**239**	P	Pn	07 05 43.2	+0.3
WHRZ	**Whale Island**	**2.19**	**258**	P	Pn	07 05 45.6	+1.3
URZ	**Urewera**	**2.20**	**247**	P	Pn	07 05 44.8	+0.5
MHGZ	**Mahia Peninsul**	**2.22**	**219**	P	Pn	07 05 44.4	-0.2
KNZ	**Kokohu**	**2.24**	**224**	P	Pn	07 05 44.4	-0.6
RTZ	**Ruatahuna**	**2.44**	**240**	P	Pn	07 05 48.1	+0.3
RTZ				S	Sn	07 06 17.8	+0.8
RAHZ	**Arahi**	**2.53**	**233**	P	Pn	07 05 49.1	+0.2
RAHZ				S	Sn	07 06 20.0	+0.9
WHHZ	**Waihua**	**2.53**	**229**	P	Pn	07 05 49.2	+0.2
WHHZ				S	Sn	07 06 19.9	+0.7
TARZ	**Mount Tarawera**	**2.64**	**251**	P	Pn	07 05 51.2	+0.7
MTHZ	**Maungataniwha**	**2.65**	**237**	P	Pn	07 05 50.9	+0.2
MTHZ				S	Sn	07 06 22.6	+0.4
RRRZ	**Republican Roa**	**2.67**	**249**	P	Pn	07 05 50.4	-0.4
ARHZ	**Aropaoanui**	**2.80**	**228**	P	Pn	07 05 52.7	+0.2
ARHZ				S	Sn	07 06 26.6	+0.9
NMHZ	**Naumai**	**2.81**	**233**	P	Pn	07 05 52.9	+0.1
PRRZ	**Plateau Road**	**2.81**	**247**	P	Pn	07 05 52.5	-0.3
MRHZ	**Matea Rd**	**2.93**	**240**	P	Pn	07 05 54.5	+0.1
KMRZ	**Kaimai**	**3.00**	**261**	P	Pb	07 06 02.3	+0.5
CKHZ	**Cape Kidnapper**	**3.02**	**222**	P	Pn	07 05 55.1	-0.5
BKZ	**Black Stump Fm**	**3.05**	**234**	P	Pn	07 05 55.8	-0.3
MCHZ	**McNeill Hill**	**3.09**	**228**	P	Pn	07 05 56.5	-0.1
KAHZ	**Kahuranaki**	**3.23**	**222**	P	Pn	07 05 57.7	-0.8
KUZ	**Kuaotunu**	**3.24**	**281**	P	Pn	07 05 58.0	-0.7
KWHZ	**Kaweka Forest**	**3.24**	**231**	P	Pn	07 05 58.5	-0.2
PXZ	**Pawanui**	**3.41**	**219**	P	Pn	07 05 59.3	-1.7
KRHZ	**Kereru**	**3.41**	**229**	P	Pn	07 06 00.2	-0.9
BHHZ	**Black Hill Sta**	**3.51**	**233**	P	Pn	07 06 01.7	-0.7
TMVZ	**Te Maari**	**3.56**	**241**	P	Pn	07 06 02.8	-0.3
ETVZ	**East Tongariro**	**3.56**	**240**	P	Pn	07 06 02.9	-0.3
NTVZ	**North Tongarir**	**3.57**	**241**	P	Pn	07 06 03.1	-0.1
OTVZ	**Oturere**	**3.60**	**240**	P	Pn	07 06 03.6	-0.2
NNVZ	**North Ngauruho**	**3.62**	**241**	P	Pn	07 06 04.5	+0.4
NGZ	**Ngauruhoe**	**3.65**	**240**	P	Pn	07 06 04.5	0.0
MOVZ	**Moawhango**	**3.66**	**236**	P	Pn	07 06 04.9	+0.3
PNHZ	**Pukenui**	**3.69**	**227**	P	Pn	07 06 03.2	-1.7
MBAZ	**Motutapu North**	**3.88**	**278**	P	Pn	07 06 08.2	+0.7
TSZ	**Takapari Road**	**3.92**	**227**	P	Pn	07 06 06.2	-1.8
HIZ	**Hauiti**	**3.96**	**253**	P	Pn	07 06 09.4	+0.7
DVHZ	**Dannevirke**	**3.97**	**223**	P	Pn	07 06 07.0	-1.7
PRWZ	**Pori Road**	**4.25**	**222**	P	Pn	07 06 11.2	-1.5
WAZ	**Wanganui**	**4.35**	**236**	P	Pn	07 06 14.4	+0.4
WCZ	**Waipu Caves**	**4.54**	**288**	P	Pn	07 06 17.2	+0.7
MRZ	**Mangatainoka R**	**4.54**	**223**	P	Pn	07 06 14.3	-2.2
OUZ	**Omahuta**	**5.38**	**292**	P	Pn	07 06 28.8	+0.7
CTZ	**Chatham Island**	**6.90**	**157**	P	Pn	07 06 51.2	+2.3

IDC 08 07:12:11.5±3.8, 5°48S×151°10E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.9/22, Error ellipse: s-maj=129.2km s-min=53.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.53**	**225**	LR	LR	07 15 14.2	
	comp=Z,244nm,19.0s,baz=270,slow=33						
WRA	**Warramunga Arr**	**21.74**	**227**	P	P	07 17 05.1	+0.3
	0.7nm,0.7s,baz=53,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**24.52**	**221**	P	P	07 17 33.0	-0.1
	0.2nm,0.4s,baz=58,slow=9.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.85**	**241**	P	P	07 18 03.0	-0.1
	2.8nm,0.9s,baz=63,slow=11,SNR=2.1						
TORD	**Torodi Ar. Bea**	**148.89**	**286**	PKPbc	PKPbc	07 32 01.8	-0.6
	0.8nm,0.6s,baz=89,slow=3.3,SNR=4.2						

*AUST **08** 07:25:59.6±2.5, 30°30S×117°67E, h14km±15km, Error ellipse: s-maj=13.6km s-min=9.6km az=95.0*
CUPWA 08 07:26:00.6±1.1, 30°30S×117°67E, h2km±12km, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENC	**Bencubbin**	**0.53**	**162**	P	Pg	07 26 09.7	-1.1
BENC				S	Sg	07 26 17.7	+0.1
BENC	**Bencubbin**	**0.53**	**162**	P	Pg	07 26 09.4	-1.4
BENC				S	Sg	07 26 17.4	-0.2
KOO6	**Koorda**	**0.55**	**198**	P	Pg	07 26 09.7	-1.4
KOO6				S	Sg	07 26 18.7	+0.5
KOO6	**Koorda**	**0.55**	**198**	P	Pg	07 26 09.4	-1.7
KOO6				S	Sg	07 26 18.4	+0.2
BLDU	**Ballidu**	**0.89**	**249**	P	Pg	07 26 16.5	-1.1
	baz=0.9						
BLDU				S	Sg	07 26 28.0	-1.2
	baz=0.9						
BLDU	**Ballidu**	**0.89**	**249**	P	Pg	07 26 15.4	-2.2
BLDU				S	Sg	07 26 26.4	-2.7
KLBR	**Kellerberrin**	**1.28**	**177**	P	Pg	07 26 23.8	-1.4
	baz=1.3						
KLBR				S	Sg	07 26 40.2	-1.8
	baz=1.3						
KLBR	**Kellerberrin**	**1.28**	**177**	P	Pg	07 26 22.4	-2.8
KLBR				S	Sg	07 26 39.4	-2.5
QUAI	**Quairading**	**1.72**	**188**	P	Pn	07 26 30.7	-0.9
QUAI				S	Sn	07 26 51.7	-2.4
QUAI	**Quairading**	**1.72**	**188**	P	Pn	07 26 30.4	-1.2
QUAI				S	Sn	07 26 51.4	-2.7
MORW	**Morawa**	**1.88**	**311**	P	Pn	07 26 32.2	-1.6
	baz=1.9						
MORW				S	Sn	07 26 55.9	-2.2
	baz=1.9						
MORW	**Morawa**	**1.88**	**311**	P	Pn	07 26 31.4	-2.4
MORW				S	Sn	07 26 54.4	-3.7
MUN	**Mundaring**	**2.09**	**217**	P	Pn	07 26 35.3	-1.3
	baz=2.1						
MUN				S	Sn	07 27 00.8	-2.4
	baz=2.1						
MUN	**Mundaring**	**2.09**	**217**	P	Pn	07 26 34.4	-2.2
MUN				S	Sn	07 26 59.4	-3.8
PING	**Pingelly**	**2.27**	**195**	P	Pn	07 26 35.7	-3.5
PING				S	Sn	07 27 04.7	-3.0
PING	**Pingelly**	**2.27**	**195**	P	Pn	07 26 35.4	-3.8
PING				S	Sn	07 27 04.4	-3.3
MEEK	**Meekatharra**	**3.75**	**13**	P	Pn	07 26 57.6	-1.8
	baz=3.8						
MEEK				S	Sn	07 27 40.8	-3.4
	baz=3.8						
MEEK	**Meekatharra**	**3.75**	**13**	P	Pn	07 26 56.4	-3.1
MEEK				S	Sn	07 27 39.4	-4.8
KMBL	**Kambalda**	**3.77**	**107**	P	Pn	07 26 57.3	-2.5
	baz=3.8						

*IDC **08** 07:39:20.6±1.9, 27°76N×111°63W, h0km, mb3.6/1, mb1 3.9/8, mb1mx3.6/40, mbtmp3.6/8, ML3.4/6, Error ellipse: s-maj=25.1km s-min=13.9km az=27.0*
ISC 08 07:39:16.1±1.3, 27°2N±0.1×111°8W±0.2, h10km, n8, σ1°52/8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**3.35**	**155**	Pn	**Pg**	**07 40 20.2**	**-0.1**
	1.7nm,0.3s,baz=350,slow=12,SNR=2.1						
TXAR	**Lajitas Array**	**7.53**	**71**	Pn	**Pn**	**07 41 07.6**	**+1.5**
	1.3nm,0.3s,baz=253,slow=14,SNR=109						
TXAR				Lg	Lg	07 43 08.6	
	0.6nm,0.3s,baz=262,slow=34,SNR=5.3						
PFO	**Pinyon Flats O**	**7.56**	**329**	Pn	**Pn**	**07 41 08.7**	**+2.1**
	baz=138,slow=12,SNR=2.8						
PFO				Lg	Lg	07 43 11.1	
	0.1nm,0.3s,baz=3.0,slow=4.4,SNR=9.4						
ANMO	**Albuquerque**	**9.03**	**29**	Pn	**Pn**	**07 41 25.1**	**-1.6**
	0.1nm,0.3s,baz=194,slow=8.7,SNR=2.1						
ANMO				Lg	Lg	07 43 45.9	
	0.4nm,0.3s,baz=241,slow=6.4,SNR=3.6						
NVAR	**Mina Array Bea**	**12.47**	**336**	Pn	**Pn**	**07 42 14.2**	**+0.3**
	0.0nm,0.3s,baz=151,slow=15,SNR=6.3						
ELK	**Elko**	**13.84**	**349**	Pn	**Pn**	**07 42 32.1**	**-0.4**
	0.1nm,0.3s,baz=195,slow=10.0,SNR=7.2						
PDAR	**Pinedale Array**	**15.68**	**6**	Pn	**P**	**07 43 00.3**	**-1.1**
	0.1nm,0.3s,baz=188,slow=9.0,SNR=16						
PDAR				Lg	Lg	07 47 20.6	
	baz=176,slow=26,SNR=4.0						
NEW	**Newport**	**21.47**	**350**	P	**P**	**07 44 03.8**	**-0.9**
	2.5nm,0.7s,baz=158,slow=11,SNR=5.7						

IDC 08 07:39:48.6±3.0, 6°67S×130°24E, h61km±33km, mb3.4/2, mb1 3.8/5, mb1mx3.5/30, mbtmp4.0/5, ML4.1/3, Error ellipse: s-maj=67.4km s-min=25.1km az=97.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.85**	**10**	P	Pn	07 41 12.6	-0.3
	10.0nm,0.3s,baz=197,slow=17,SNR=36						
SIJI				S	Sn	07 42 12.2	-6.4
	2.6nm,0.3s,baz=157,slow=22,SNR=8.1						
FITZ	**Fitzroy Crossi**	**12.21**	**201**	P	Pn	07 42 40.6	+0.8
	0.7nm,0.3s,baz=31,slow=12,SNR=23						
FITZ				S	Sn	07 44 49.2	-5.2
	0.6nm,0.3s,baz=171,slow=21,SNR=7.7						
WRA	**Warramunga Arr**	**13.78**	**164**	P	Pn	07 42 57.2	-4.0
	0.7nm,0.3s,baz=338,slow=13,SNR=38						
WRA				S	Sn	07 45 22.6	-10
	0.8nm,0.3s,baz=335,slow=20,SNR=7.2						
ASAR	**Alice Springs**	**17.26**	**169**	P	Pn	07 43 44.9	-0.8
	0.6nm,0.3s,baz=344,slow=9.1,SNR=38						
ASAR				S	Sn	07 46 49.0	-8.2
	0.2nm,0.3s,baz=337,slow=12,SNR=5.3						
PETK	**Petropavlovsk-**	**63.94**	**18**	P	P	07 50 15.6	+0.4
	0.5nm,0.4s,baz=224,slow=9.8,SNR=1.8						
MKAR	**Makanchi Array**	**68.08**	**327**	P	P	07 50 41.7	-0.2
	0.2nm,0.4s,baz=115,slow=7.1,SNR=4.8						

IDC 08 07:47:29.2±6.0, 6°04S×147°08E, h0km, mb3.0/1, mb1 3.6/2, mb1mx3.3/28, mbtmp3.4/2, ML3.1/1, Error ellipse: s-maj=246.6km s-min=52.5km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.56**	**221**	P	P	07 51 46.1	-1.7
	0.1nm,0.3s,baz=42,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**21.63**	**215**	P	P	07 52 21.8	+0.5
	0.6nm,0.7s,baz=44,slow=8.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**145.18**	**284**	PKPbc	PKPbc	08 07 09.0	-0.5
	0.2nm,0.4s,baz=102,slow=3.8,SNR=1.3						

IDC 08 07:51:55.9±8.2, 43°84S×38°01E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.4/38, mbtmp3.8/2, Error ellipse: s-maj=1065.0km s-min=50.7km az=9.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**78.03**	**111**	P	P	08 03 56.5	0.0
	0.6nm,0.6s,baz=225,slow=5.4,SNR=9.4						
WRA	**Warramunga Arr**	**80.86**	**109**	P	P	08 04 12.0	+0.1
	0.7nm,0.7s,baz=221,slow=3.8,SNR=6.3						
TXAR	**Lajitas Array**	**146.31**	**257**	PKPbc	PKPdf	08 11 37.7	+0.3
	0.6nm,0.8s,baz=142,slow=4.6,SNR=7.0						

*IDC **08** 07:53:45.6±0.8, 59°49S×26°15W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/25, mbtmp4.1/9, ML4.7/1, Error ellipse: s-maj=32.3km s-min=19.4km az=67.0*
*NEIC **08** 07:53:51.3±1.8, 59°63S±0.06×26°2W±0.2, h35km±1km, mb4.5/27, Error ellipse: s-maj=15.5km s-min=7.4km az=305.0*
ISC 08 07:53:51.5±0.7, 59°6S±0.1×26°2W±0.1, h40km, n47, σ1°08/44, mb4.5/17, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.76**	**309**	Pn	**Pn**	**07 55 41.7**	**0.0**

VNA1 Neumayer--Stat 13.31 154 P **Pn 07 56 56.6 -0.9**
VNA1 S Sn 07 59 14.7 -9.2
VNA3 Neumayer Olymp 13.46 157 P **Pn 07 56 58.4 -1.2**
VNA3 S Sn 07 59 14.4 -13
VNA2 Neumayer--Watz 13.71 153 P **Pn 07 57 01.1 -1.8**
baz=310,slow=17
VNA2 S Sn 07 59 20.5 -13
SNAA Sanae 15.29 152 P **Pn 07 57 23.2 -1.0**
SNAA S Sn 07 59 58.7 -14
SNAA Sanae 15.29 152 Pn **Pn 07 57 23.1 -1.0**
3.1nm,0.3s,baz=315,slow=16,SNR=70
SNAA Sn Sn 07 59 56.6 -16
0.3nm,0.3s,baz=174,slow=22,SNR=3.1
SNAA Sanae 15.29 152 **Pn 07 57 23.4 -0.8**
SNAA IAmb IAmb 07 57 26.4
comp=Z,12nm,0.5s
MG02 Cerro Sombrero 24.52 267 P **P 07 59 05.8 -1.0**
GO09 Cerro Castillo 26.96 267 P **P 07 59 27.7 -1.2**
QSPA South Pole Qui 30.62 180 P **P 08 00 02.9 +1.4**
comp=Z,1.6nm,0.5s,baz=210,slow=9.4,SNR=22
QSPA South Pole Qui 30.62 180 P **P 08 00 02.9 +1.4**
QSPA IAmb IAmb 08 00 13.2
comp=Z,6.3nm,1.3s
PLCA Paso Flores 33.28 285 P **P 08 00 23.5 -1.5**
comp=Z,1.4nm,0.7s,baz=113,slow=6.2,SNR=5.8
PLCA Paso Flores 33.28 285 P **P 08 00 23.7 -1.2**
PLTB Pedras Altas 33.33 314 P **P 08 00 27.3 +1.9**
PLTB IAmb IAmb 08 00 44.0
comp=Z,7.4nm,1.0s
GO05 Huala 38.45 289 P **P 08 01 11.1 +1.8**
GO05 IAmb IAmb 08 01 19.8
comp=Z,12nm,1.1s
MT09 Talagante 39.01 291 P **P 08 01 14.2 +0.2**
MT09 IAmb IAmb 08 01 15.5
comp=Z,6.0nm,0.7s
MT01 Popeta 39.06 291 P **P 08 01 13.7 -0.6**
MT01 IAmb IAmb 08 01 37.5
comp=Z,13nm,1.1s
MT02 Curacav 39.51 292 P **P 08 01 18.2 +0.2**
CPUP Villa Florida 39.61 313 P **P 08 01 19.2 +0.3**
comp=Z,0.9nm,0.7s,baz=172,slow=7.1,SNR=3.0
VA03 San Esteban 39.64 293 P **P 08 01 19.4 +0.1**
VA03 IAmb IAmb 08 01 34.7
comp=Z,9.8nm,0.9s
CO02 Combarbal 41.15 293 P **P 08 01 31.1 -0.6**
CO02 IAmb IAmb 08 01 55.0
comp=Z,18nm,1.1s
CO03 El Pedregal 41.31 294 P **P 08 01 35.2 +2.2**
CO03 IAmb IAmb 08 01 35.4
comp=Z,12nm,1.3s
SBA Scott Base 42.54 184 P **P 08 01 42.9 +0.5**
VNDA Vanda 43.02 183 P **P 08 01 48.0 +1.7**
comp=Z,2.0nm,0.6s,baz=185,slow=6.6,SNR=21
VNDA Vanda 43.02 183 P **P 08 01 48.6 +2.3**
VNDA IAmb IAmb 08 01 49.0
comp=Z,7.7nm,1.4s
AC02 Maricunga 44.01 299 P **P 08 01 54.4 -1.1**
GO02 Mina Guanaco 45.66 300 P **P 08 02 08.6 +0.2**
GO02 IAmb IAmb 08 02 32.0
comp=Z,12nm,1.4s
LVC Limon Verde 47.60 302 P **P 08 02 21.9 -1.8**
PB07 IPOC Station P 48.80 301 P **P 08 02 32.7 0.0**
PB01 IPOC Station P 49.23 302 P **P 08 02 35.7 -0.2**
MNMC Minye Minye 50.97 303 P **P 08 02 49.6 +0.3**
MNMC IAmb IAmb 08 02 54.2
comp=Z,6.7nm,0.7s
PB16 IPOC Station P 51.64 304 P **P 08 02 53.6 -1.1**
H10N1 ASCENSION HYDR 52.42 15 T T 08 59 57.7
baz=194
H10N3 ASCENSION HYDR 52.43 15 T T 09 00 09.2
baz=194
H10N2 ASCENSION HYDR 52.44 15 T T 08 59 59.6
baz=194
LPAZ La Paz 52.90 306 P **P 08 03 03.9 -0.2**
comp=Z,0.5nm,0.4s,baz=186,slow=4.6,SNR=2.0
LPAZ La Paz 52.90 306 P **P 08 03 03.9 -0.2**
TORD Torodi Ar. Bea 75.94 28 P **P 08 05 33.8 -0.1**
comp=Z,1.5nm,0.7s,baz=195,slow=6.4,SNR=7.8
TORD Torodi Ar. Bea 75.94 28 P **P 08 05 33.9 0.0**
TORD IAmb IAmb 08 06 02.1
comp=Z,5.0nm,1.4s
STKA Stephens Creek 88.28 170 P **P 08 06 38.6 +0.1**
comp=Z,1.4nm,0.7s,baz=246,slow=9.4,SNR=2.9
STKA Stephens Creek 88.28 170 P **P 08 06 38.7 +0.3**
STKA IAmb IAmb 08 06 48.5
comp=Z,2.0nm,1.4s
ASAR Alice Springs 95.42 162 P **P 08 07 11.2 -0.4**
comp=Z,0.5nm,0.6s,baz=180,slow=3.8,SNR=9.9
ASAR Alice Springs 95.42 162 P **P 08 07 11.5 -0.2**
CMAR Chiang Mai Arr 123.28 112 PKP **PKPdf 08 12 43.7 0.0**
comp=Z,1.1nm,0.3s,baz=225,slow=2.4,SNR=1.7
SONM Songino Array 150.25 92 PKPbc **PKPbc 08 13 37.2 -0.1**
comp=Z,2.0nm,0.7s,baz=202,slow=2.8,SNR=12
ILAR Eielson Array 152.78 306 PKPbc **PKPbc 08 13 41.2 -1.1**
comp=Z,0.4nm,0.6s,baz=140,slow=1.6,SNR=5.3
ILAR Eielson Array 152.78 306 **PKPbc 08 13 41.4 -1.0**

IDC 08 07:59:26.7±2.5, 5°14N×127°41E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/33, mbtmp3.4/3, Error ellipse: s-maj=190.4km s-min=28.1km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.84**	**165**	P	P	08 05 00.8	+0.8
	0.5nm,0.6s,baz=345,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**29.32**	**168**	P	P	08 05 30.3	-1.0
	0.3nm,1.0s,baz=338,slow=7.0,SNR=1.0						
MKAR	**Makanchi Array**	**56.80**	**324**	P	P	08 09 12.8	-0.1
	0.3nm,0.3s,baz=113,slow=7.7,SNR=5.1						

*IDC **08** 08:21:29.3±3.9, 17°15S×175°41W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=179.3km s-min=79.9km az=153.0*
*NEIC **08** 08:22:33.4±1.7, 16°9S±0.2×177°7W±0.2, h520km±20km, mb4.1/5, Error ellipse: s-maj=35.1km s-min=22.4km az=173.0*
ISC 08 08:22:32.2±0.9, 16°9S±0.2×177°8W±0.1, h500km, n15, σ1°15/17, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.07**	**258**	P	P	08 23 55.9	+4.7
AFI	**Afiamalu**	**6.52**	**63**	P	P	08 24 12.7	-1.0
FUNA	**Funafuti**	**8.85**	**340**	P	P	08 24 38.2	+0.6
ARMA	**Armidale**	**30.96**	**239**	P	P	08 28 07.8	-0.2
ARMA					IAmb	IAmb	08 28 16.7
	comp=Z,5.0nm,1.1s						
TOO	**Toolangi**	**38.26**	**230**	P	P	08 29 08.2	-0.9
STKA	**Stephens Creek**	**39.63**	**240**	P	P	08 29 19.9	-0.3
	comp=Z,3.8nm,1.0s,baz=90,slow=9.1,SNR=5.7						
STKA	**Stephens Creek**	**39.63**	**240**	P	P	08 29 20.4	+0.2
BBOO	**Buckleboo**	**44.41**	**240**	P	P	08 29 57.5	-0.5
BBOO					IAmb	IAmb	08 30 13.7
	comp=Z,42nm,1.4s						
WRA	**Warramunga Arr**	**45.41**	**258**	P	P	08 30 05.9	0.0
	comp=Z,0.2nm,0.3s,baz=98,slow=6.8,SNR=1.5						
WRA				PcP	pP	08 31 37.4	-2.0
	comp=Z,0.7nm,1.0s,baz=115,slow=3.7,SNR=2.3						
WRA	**Warramunga Arr**	**45.41**	**258**	P	P	08 30 05.9	0.0
WRA					pP	08 31 37.4	-2.

TSZ			S	Sb	08 27 04.0	+0.8
OHWZ	**Ohakea**	**0.34**	**221**	P	Pb	08 26 59.5	+0.3
OHWZ				S	Sb	08 27 05.4	+1.2
POWZ	**Post Office Ro**	**0.46**	**164**	P	Pb	08 27 01.3	0.0
POWZ				S	Sb	08 27 08.6	+1.0
PNHZ	**Pukenui**	**0.46**	**85**	P	Pb	08 27 01.4	+0.1
PNHZ				S	Sb	08 27 08.4	+0.7
WAZ	**Wanganui**	**0.52**	**292**	P	Pb	08 27 02.9	+0.6
WAZ				S	Sn	08 27 11.1	-1.1
DVHZ	**Dannevirke**	**0.55**	**129**	P	Pb	08 27 03.2	+0.3
DVHZ				S	Sb	08 27 11.4	+0.9
MOVZ	**Moawhango**	**0.56**	**12**	P	Pb	08 27 02.8	-0.2
MOVZ				S	Sb	08 27 10.5	-0.1
MTVZ	**Mangateitei**	**0.58**	**349**	P	Pb	08 27 03.6	+0.2
MTVZ				S	Sb	08 27 12.3	+1.1
BHHZ	**Black Hill Sta**	**0.58**	**37**	P	Pb	08 27 03.3	-0.2
BHHZ				S	Sb	08 27 12.0	+0.7
WNVZ	**Wahianoa**	**0.62**	**359**	P	Pb	08 27 04.1	-0.1
WNVZ				S	Sb	08 27 13.0	+0.3
WPHZ	**Waipukurau**	**0.65**	**100**	P	Pn	08 27 05.4	-0.4
WPHZ				S	Sn	08 27 15.5	0.0
TRVZ	**Turoa**	**0.65**	**356**	P	Pb	08 27 04.8	0.0
TRVZ				S	Sb	08 27 14.1	+0.5
KRHZ	**Kereru**	**0.66**	**63**	P	Pb	08 27 04.9	0.0
KRHZ				S	Sb	08 27 14.6	+1.0
PRWZ	**Pori Road**	**0.66**	**155**	P	Pb	08 27 05.1	+0.2
WHVZ	**Whangaehu Hut**	**0.67**	**359**	P	Pb	08 27 05.0	-0.1
WHVZ				S	Sb	08 27 14.5	+0.5
DRZ	**Dome Shelter**	**0.68**	**357**	P	Pb	08 27 05.5	+0.2
DRZ				S	Sb	08 27 14.8	+0.5
TUVZ	**Tukino**	**0.68**	**3**	P	Pb	08 27 05.2	0.0
TUVZ				S	Sb	08 27 15.0	+0.7
PKVZ	**Pokaka**	**0.69**	**343**	P	Pb	08 27 05.3	0.0
PKVZ				S	Sb	08 27 14.4	-0.1
FWVZ	**Far West T-bar**	**0.70**	**357**	P	Pb	08 27 05.4	-0.1
FWVZ				S	Sb	08 27 15.0	+0.2
MRZ	**Mangatainoka R**	**0.71**	**182**	P	Pb	08 27 05.3	-0.3
MRZ				S	Sb	08 27 14.4	-0.5
SNVZ	**South Ngauruho**	**0.77**	**2**	P	Pb	08 27 06.5	-0.1
NGZ	**Ngauruhoe**	**0.78**	**360**	P	Pb	08 27 06.7	-0.1
OTVZ	**Oturere**	**0.79**	**3**	P	Pb	08 27 06.9	-0.2
ETVZ	**East Tongariro**	**0.82**	**6**	P	Pb	08 27 07.3	-0.2
NNVZ	**North Ngauruho**	**0.82**	**1**	P	Pb	08 27 07.5	0.0
KWHZ	**Kaweka Forest**	**0.82**	**50**	P	Pb	08 27 07.8	+0.3
KWHZ				S	Sn	08 27 19.5	-0.3
WTVZ	**West Tongariro**	**0.84**	**359**	P	Pb	08 27 07.7	-0.1
ANWZ	**Angora Road**	**0.84**	**128**	P	Pn	08 27 08.8	+0.4
TMVZ	**Te Maari**	**0.84**	**5**	P	Pb	08 27 07.6	-0.3
PRHZ	**Porangahau**	**0.85**	**112**	P	Pn	08 27 09.2	+0.6
TIWZ	**Tintock**	**0.85**	**166**	P	Pb	08 27 08.2	+0.2
NTVZ	**North Tongarir**	**0.85**	**4**	P	Pb	08 27 07.9	-0.2
KRVZ	**Karewarewa**	**0.86**	**2**	P	Pb	08 27 08.0	-0.1
BFZ	**Birch Farm**	**0.88**	**146**	P	Pn	08 27 08.9	-0.1
TWVZ	**Taurewa**	**0.89**	**352**	P	Pb	08 27 08.3	-0.4
OGWZ	**Otaki Gorge**	**0.93**	**201**	P	Pb	08 27 08.7	-0.5
HOWZ	**Holdsworth Sta**	**0.95**	**184**	P	Pb	08 27 09.5	-0.1
PXZ	**Pawanui**	**0.97**	**95**	P	Pn	08 27 10.7	+0.5
KATZ	**Kakaramea**	**0.98**	**4**	P	Pn	08 27 10.4	0.0
MCHZ	**McNeill Hill**	**0.98**	**59**	P	Pn	08 27 11.9	+1.6
KAHZ	**Kahuranaki**	**0.99**	**81**	P	Pn	08 27 11.7	+1.2
RITZ	**Rihia Road**	**0.99**	**11**	P	Pb	08 27 10.4	0.0
BKZ	**Black Stump Fm**	**1.04**	**41**	P	Pb	08 27 11.5	+0.2
LREZ	**Lake Rotokare**	**1.05**	**297**	P	Pb	08 27 11.7	+0.3
KIW	**Kapiti Island**	**1.05**	**210**	P	Pn	08 27 10.3	-1.1
VRZ	**Vera Road**	**1.05**	**321**	P	Pn	08 27 10.9	-0.4
CPWZ	**Castlepoint**	**1.06**	**155**	P	Pn	08 27 12.8	+1.2
RATZ	**Rangitukua**	**1.09**	**7**	P	Pb	08 27 12.2	+0.1
HATZ	**Hinemaiaia**	**1.12**	**20**	P	Pb	08 27 12.4	0.0
CKHZ	**Cape Kidnapper**	**1.17**	**76**	P	Pn	08 27 14.1	+0.6
TMWZ	**Te Maipa**	**1.17**	**169**	P	Pn	08 27 12.8	-0.3
MTW	**Mount Morrison**	**1.21**	**184**	P	Pn	08 27 13.4	0.0
CAW	**Cannon Point**	**1.23**	**199**	P	Pn	08 27 13.7	0.0
NMHZ	**Naumai**	**1.26**	**48**	P	Pb	08 27 16.3	+1.3
PREZ	**Palmer Road**	**1.27**	**298**	P	Pb	08 27 15.4	+0.2
ARHZ	**Aropaoanui**	**1.27**	**58**	P	Pb	08 27 15.7	+0.5
MRHZ	**Matea Rd**	**1.28**	**30**	P	Pb	08 27 15.2	-0.2
WHTZ	**Whakaora**	**1.31**	**12**	P	Pb	08 27 19.7	+3.8
MHEZ	**Mangahewa**	**1.32**	**311**	P	Pb	08 27 16.5	+0.4
DREZ	**Durham Road**	**1.33**	**305**	P	Pb	08 27 15.9	-0.2
NEZ	**North Egmont**	**1.35**	**300**	P	Pb	08 27 16.6	0.0
KHEZ	**Kahui Hut**	**1.39**	**298**	P	Pb	08 27 17.3	0.0
PAWZ	**Paruwai Farm**	**1.44**	**185**	P	Pb	08 27 17.8	-0.2
NMEZ	**Namu Road**	**1.44**	**291**	P	Pn	08 27 18.0	+0.1
TRWZ	**Traveller**	**1.45**	**178**	P	Pn	08 27 16.9	+0.1
MTHZ	**Maungataniwha**	**1.46**	**41**	P	Pb	08 27 18.4	0.0
PKE	**Pukeiti**	**1.46**	**301**	P	Pb	08 27 18.1	-0.3
KUTZ	**Kaahu Road**	**1.47**	**7**	P	Pb	08 27 18.1	-0.5
WEL	**Wellington**	**1.48**	**205**	P	Pn	08 27 17.4	+0.2
MSWZ	**Moikau Station**	**1.49**	**190**	P	Pn	08 27 16.8	-0.5
WPRZ	**Whakapapatarin**	**1.49**	**17**	P	Pb	08 27 19.0	0.0
ALRZ	**Allen Road**	**1.50**	**23**	P	Pb	08 27 19.2	+0.1
NBEZ	**Newall Road No**	**1.51**	**296**	P	Pb	08 27 18.6	-0.5
WHHZ	**Waihua**	**1.53**	**56**	P	Pb	08 27 19.7	+0.1
DUWZ	**D'Urville Isla**	**1.54**	**236**	P	Pn	08 27 17.8	-0.3
RAHZ	**Arahi**	**1.54**	**48**	P	Pb	08 27 19.7	-0.1
HIZ	**Hauiti**	**1.55**	**338**	P	Pn	08 27 18.5	+0.4
BHW	**Baring Head**	**1.56**	**201**	P	Pn	08 27 18.3	0.0
PRRZ	**Plateau Road**	**1.57**	**23**	P	Pn	08 27 19.3	+0.8
TCW	**Tory Channel**	**1.61**	**218**	P	Pn	08 27 19.4	+0.3
TLZ	**Tolley Road**	**1.62**	**358**	P	Pn	08 27 19.1	-0.1
PLWZ	**Palliser**	**1.64**	**189**	P	Pn	08 27 18.8	-0.6
HRRZ	**Handcock Road**	**1.65**	**19**	P	Pb	08 27 21.9	+0.4
GRRZ	**Galatos Road**	**1.65**	**14**	P	Pb	08 27 21.6	0.0
RTZ	**Ruatahuna**	**1.71**	**39**	P	Pn	08 27 21.4	+0.9
HSRZ	**Hossack Road**	**1.71**	**17**	P	Pb	08 27 22.6	-0.1
RRRZ	**Republican Roa**	**1.76**	**24**	P	Pb	08 27 22.8	-0.7
KNZ	**Kokohu**	**1.85**	**61**	P	Pn	08 27 22.5	+0.2
TARZ	**Mount Tarawera**	**1.85**	**23**	P	Pb	08 27 24.6	-0.5
NGRZ	**Ngongotaha**	**1.90**	**14**	P	Pb	08 27 30.2	+4.3
OMRZ	**Omania**	**1.94**	**18**	P	Pb	08 27 30.3	+3.7
TUWZ	**Tuamarina**	**1.94**	**220**	P	Pn	08 27 23.5	-0.1
RAGZ	**Rawiri**	**2.02**	**45**	P	Pn	08 27 29.6	+1.6
PRGZ	**Paritu Road**	**2.04**	**60**	P	Pb	08 27 26.9	-1.4
URZ	**Urewera**	**2.06**	**35**	P	Pn	08 27 25.4	+0.3
CMWZ	**Cape Campbell**	**2.08**	**210**	P	Pb	08 27 29.6	+0.7
NNZ	**Nelson**	**2.12**	**233**	P	Pn	08 27 26.5	+0.5
BSWZ	**Blackbirch Sta**	**2.20**	**216**	P	Pn	08 27 27.5	+0.4
MWZ	**Matawai**	**2.20**	**43**	P	Pn	08 27 27.8	+0.6
TOZ	**Tahuroa Road**	**2.22**	**358**	P	Pn	08 27 27.9	+0.6
OPRZ	**Ohinepanea**	**2.23**	**20**	P	Pn	08 27 28.0	+1.8
TGRZ	**Tauranga**	**2.28**	**13**	P	Pb	08 27 32.8	+0.6
TKGZ	**Te Karaka**	**2.31**	**50**	P	Pn	08 27 28.5	-0.1
QRZ	**Quartz Range**	**2.51**	**249**	P	Pn	08 27 31.3	0.0
RUGZ	**Raukumara Rang**	**2.56**	**40**	P	Pn	08 27 32.5	+0.3
TWGZ	**Tauwhareparae**	**2.56**	**47**	P	Pn	08 27 33.0	+0.9
THZ	**Tophouse**	**2.73**	**228**	P	Pn	08 27 34.2	-0.3
HAZ	**Te Kaha**	**2.77**	**38**	P	Pn	08 27 35.8	+0.9
PUZ	**Puketiti**	**2.79**	**49**	P	Pn	08 27 37.6	+2.3
PKGZ	**Pakihiroa**	**2.82**	**44**	P	Pn	08 27 36.3	+0.6
KHZ	**Kahutara**	**2.91**	**212**	P	Pn	08 27 35.7	-1.2
AWAZ	**Awhitu Peninsu**	**2.98**	**345**	P	Pn	08 27 39.8	+2.0
WMGZ	**Waiomatatini S**	**3.06**	**47**	P	Pn	08 27 38.6	-0.3
WIAZ	**Waiheke Island**	**3.18**	**353**	P	Pb	08 27 44.5	-3.1
MXZ	**Matakaoa Point**	**3.19**	**42**	P	Pn	08 27 41.6	+1.0
KUZ	**Kuaotunu**	**3.20**	**2**	P	Pn	08 27 43.7	+2.8
MBAZ	**Motutapu North**	**3.23**	**350**	P	Pb	08 27 45.7	-2.7
RVAZ	**Riverhead Bore**	**3.28**	**345**	P	Pn	08 27 44.5	+2.6
DSZ	**Dennistoun Nort**	**3.39**	**237**	P	Pn	08 27 43.2	-0.4
GVZ	**Greta Valley S**	**3.58**	**212**	P	Pn	08 27 46.7	+0.6
LTZ	**Lake Taylor**	**3.78**	**221**	P	Pn	08 27 49.3	+0.4
WCZ	**Waipu Caves**	**4.13**	**346**	P	Pn	08 27 58.6	+4.9
INZ	**Inchbonnie**	**4.18**	**227**	P	Pn	08 27 53.3	-1.0
TMZ	**Timaru**	**5.59**	**216**	P	Pn	08 28 11.6	-2.2
CTZ	**Chatham Island**	**6.93**	**126**	P	Pn	08 28 31.2	-0.9

*IDC **08** 09:14:46.2±1.3,6.2°N×126.07E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.5/37, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/52, Error ellipse: s-maj=72.8km s-min=23.2km az=76.0*

*MAN **08** 09:15:03.0,5.87°N×125.96E, h139km, MS3.3*
ISC 08 09:15:03.6±0.8,**6.01N**±0.09×**126.0E**±0.1,**h150**km,**n12**, σ1°**75**/15,**mb3.5**/6,**1C**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.26**	**292**	*e*P	**Pn**	**09 15 23.1**	**-0.8**
MATI	**Mati**	**0.98**	**18**	*e*P	**Pn**	**09 15 27.2**	**-1.0**
MATI				*e*S	**Sn**	**09 15 47.8**	**+0.7**
KCP	**Kidapawan**		**1.31**	**319**	*e*P	**Pn**	**09 15 32.2**	**+0.8**
KCP					*e*S	**Sn**	**09 15 47.4**	**-5.2**
SKMP	**Bagumbayan, Su**		**1.49**	**290**	*e*P	**Pn**	**09 15 33.7**	**+0.6**
SKMP					*e*S	**Sn**	**09 15 55.2**	**-0.4**
BUKP	**Musuan**		**2.06**	**335**	*e*P	**Pn**	**09 15 40.7**	**+1.2**
BUKP					*e*S	**Sn**	**09 16 08.7**	**+1.6**
FITZ	**Fitzroy Crossi**		**23.95**	**181**	P	**P**	**09 20 04.7**	**+0.6**
	2.4nm,0.9s,baz=354,slow=10,SNR=1.6							
WRA	**Warramunga Arr**		**27.07**	**162**	P	**P**	**09 20 31.6**	**-0.7**
	0.2nm,0.3s,baz=343,slow=10,SNR=9.9							
ASAR	**Alice Springs**		**30.50**	**166**	P	**P**	**09 21 02.5**	**-0.1**
	1.3nm,0.6s,baz=341,slow=7.0,SNR=26							
KSRS	**Korea Array**		**31.35**	**3**	LR	LR	09 31 34.4	
	comp=Z,45nm,21.6s,baz=62,slow=32							
STKA	**Stephens Creek**		**40.52**	**159**	P	**P**	**09 22 29.2**	**+1.2**
	4.9nm,1.1s,baz=334,slow=11,SNR=3.8							
MKAR	**Makanchi Array**		**55.26**	**325**	P	**P**	**09 24 20.8**	**-0.5**
	0.2nm,0.5s,baz=124,slow=8.0,SNR=2.3							
ILAR	**Eielson Array**		**83.39**	**26**	P	**P**	**09 27 13.6**	**-0.2**
	0.3nm,0.8s,baz=260,slow=5.3,SNR=2.1							

*AUST **08** 09:20:23.9±3.1, 30.33S×117.66E, h14km±17km, Error ellipse: s-maj=17.9km s-min=10.2km az=93.0*
CUPWA 08 09:20:25.2±2.1,**30.36S**×**117.64E**,**h2**km±24km,**ML2.0, Region: WESTERN AUSTRALIA**,**Western Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BENC	**Bencubbin**	**0.48**	**157**	P	Pg	09 20 32.8	-1.8
BENC				S	Sg	09 20 39.8	-1.1
BLDU	**Ballidu**	**0.84**	**252**	P	Pg	09 20 40.3	-1.1
	baz=0.9						
BLDU				S	Sg	09 20 51.8	-0.5
	baz=0.9						
BLDU	**Ballidu**	**0.84**	**252**	P	Pg	09 20 39.8	-1.6
BLDU				S	Sg	09 20 50.8	-1.5
KLBR	**Kellerberrin**	**1.23**	**175**	P	Pg	09 20 47.6	-1.2
	baz=1.3						
KLBR				S	Sg	09 21 04.0	-0.8
	baz=1.3						
KLBR	**Kellerberrin**	**1.23**	**175**	P	Pg	09 20 46.8	-2.1
KLBR				S	Sg	09 21 03.8	-1.0
MORW	**Morawa**	**1.90**	**312**	P	Pn	09 20 57.5	-1.2
	baz=1.9						
MORW				S	Sn	09 21 20.1	-3.0
	baz=1.9						
MORW	**Morawa**	**1.90**	**312**	P	Pn	09 20 56.8	-1.9
MORW				S	Sn	09 21 19.8	-3.4
MUN	**Mundaring**	**2.02**	**217**	P	Pn	09 20 59.0	-1.4
	baz=2.1						
MUN				S	Sn	09 21 24.6	-1.7
	baz=2.1						
MUN	**Mundaring**	**2.02**	**217**	P	Pn	09 20 57.8	-2.7
MUN				S	Sn	09 21 23.8	-2.6
MEEK	**Meekatharra**	**3.81**	**13**	P	Pn	09 21 22.7	-2.3
	baz=3.8						
MEEK				S	Sn	09 22 05.4	-4.9
	baz=3.8						
MEEK	**Meekatharra**	**3.81**	**13**	P	Pn	09 21 21.8	-3.2
MEEK				S	Sn	09 22 04.8	-5.6

*MAN **08** 09:21:36.8, 4.28N×126.05E, h4km, MS3.0*
*IDC **08** 09:21:39.2±1.5, 4.33N×126.09E, h143km±19km, mb3.1/4, mb1 3.4/6, mb1mx3.1/42, mbtmp3.7/6, Error ellipse: s-maj=67.4km s-min=13.6km az=69.0*
ISC 08 09:21:39.1±0.9,**4.38N**±0.09×**126.1E**±0.2,**h150**km,**n11**, σ1°**38**/17,**mb3.6**/4,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.75**	**348**	*e*P	**Pn**	**09 22 09.8**	**-1.7**
DDMP				*e*S	**Sn**	**09 22 33.4**	**-2.9**
MATI	**Mati**	**2.56**	**4**	*e*P	**Pn**	**09 22 20.7**	**-0.3**
SKMP	**Bagumbayan, Su**	**2.62**	**324**	*e*P	**Pn**	**09 22 21.3**	**-0.4**
SKMP				*e*S	**Sn**	**09 22 52.9**	**-1.8**
DAV	**Davao City (W)**	**2.72**	**349**	P	**Pn**	**09 22 23.6**	**+0.6**
	51nm,0.3s,baz=48,slow=12,SNR=1.6						
DAV				S	**Sn**	**09 22 58.4**	**+1.5**
	71nm,0.3s,baz=116,slow=20,SNR=2.4						
KCP	**Kidapawan**	**2.79**	**339**	*i*P	**Pn**	**09 22 23.9**	**-0.1**
KCP				*i*S	**Sn**	**09 22 59.7**	**+1.1**
BUKP	**Musuan**	**3.62**	**344**	*e*P	**Pn**	**09 22 33.7**	**-0.8**
BUKP				*e*S	**Sn**	**09 23 18.5**	**+1.0**
SIJI	**Sorong**	**7.35**	**135**	P	**Pn**	**09 23 22.9**	**-1.0**
	1.9nm,0.3s,baz=318,slow=14,SNR=4.7						
FITZ	**Fitzroy Crossi**	**22.34**	**181**	P	**P**	**09 26 25.1**	**+0.3**
	2.7nm,0.9s,baz=344,slow=8.0,SNR=7.3						
WRA	**Warramunga Arr**	**25.50**	**162**	P	**P**	**09 26 54.1**	**+0.5**
	1.2nm,0.7s,baz=341,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.90**	**165**	P	**P**	**09 27 24.5**	**+0.4**
	0.2nm,0.6s,baz=345,slow=7.4,SNR=4.3						
ASAR				ScP	**ScP**	**09 33 59.5**	**+2.2**
	0.6nm,0.9s,baz=346,slow=3.1,SNR=3.1						
MKAR	**Makanchi Array**	**56.66**	**325**	P	**P**	**09 31 07.2**	**+0.5**
	0.4nm,0.5s,baz=119,slow=7.7,SNR=7.3						

IDC 08 09:24:28.9±4.5,**2.20S**×**137.59E**,**h0**km,**mb3.4**/2, **mb1 3.6**/3,**mb1mx3.4**/31,**mbtmp3.5**/3,**ML3.5/1**,**Error ellipse: s-maj=191.0km s-min=30.9km az=84.0**,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.92**	**190**	P	P	09 28 40.2	-0.3
	0.2nm,0.3s,baz=13,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**21.64**	**189**	P	P	09 29 21.2	+0.2
	0.4nm,0.5s,baz=17,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**68.71**	**323**	P	P	09 35 34.3	-0.2
	0.3nm,0.3s,baz=129,slow=7.1,SNR=2.9						

*MEX **08** 09:31:34.2±1.2, 15.13N×91.67W, h198km±54km, MD3.9*
*GCG **08** 09:31:39.6±0.5, 14.32N×91.08W, h50km±9km, MD3.3*
ISC 08 09:31:36.4±4.8,**14.0N**±0.4×**91.04W**±0.09,**h73**km,**n4**, σ0°**65**/7,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.47**	**24**	*e*P	**Pn**	**09 31 49.1**	**-0.4**
FUG				*e*S	**Sn**	**09 31 58.3**	**-0.7**
PCG	**Pacaya**	**0.56**	**48**	*e*P	**Pn**	**09 31 50.1**	**-0.3**
PCG				*e*S	**Sn**	**09 32 00.5**	**-0.2**
NBG	**Las Nubes**	**0.88**	**50**	*e*P	**Pn**	**09 31 54.8**	**+0.8**
NBG				*e*S	**Sn**	**09 32 07.0**	**+0.2**
THIG		**1.48**	**307**	*e*S	**Sn**	**09 32 20.3**	**+0.4**

*IASPEI **08** 09:49:51.3±0.9, 44.87N±0.02×6.74E±0.02, h7km±6km, Error ellipse: s-maj=3.5km s-min=2.8km az=77.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*GEN **08** 09:49:51.5, 44.86N×6.73E, h3km±1km, MI1.9*
*ROM **08** 09:49:51.2±0.2, 44.865N±0.008×6.72E±0.01, h8km, ML2.1/12, Error ellipse: s-maj=0.9km s-min=0.8km az=28.0*
*LDG **08** 09:49:51.7±0.1, 44.85N×6.74E, h3km, Md2.8/2, Ml2.8/13, Error ellipse: s-maj=1.4km s-min=1.1km az=58.0*
ISC 08 09:49:51.3±0.8,**44.87N**±0.02×**6.72E**±0.02,**h10**km±5km, **n47**,σ1°**13**/73,**France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RRL	**Rocca Remolon**	**0.07**	**42**	P	**Pg**	**09 49 53.5**	**-0.3**
RRL				S	**Sg**	**09 49 54.9**	**-0.7**
RRL	**Rocca Remolon**	**0.07**	**42**	P	**Pg**	**09 49 53.5**	**-0.3**
RRL				S	**Sg**	**09 49 55.0**	**-0.6**
RRL				AML	AML		
	comp=E,3825μm,0.9s						
RRL				AML	AML		
	comp=N,3570μm,0.8s						
MBDF	**Montbardon**	**0.14**	**166**	*e*Pg	**Pg**	**09 49 54.1**	**-0.6**
MBDF				*e*Sg	**Sg**	**09 49 56.7**	**-0.3**
	comp=N,195nm,0.3s						
BNI	**Bardonecchia**	**0.19**	**350**	P	**Pg**	**09 49 55.6**	**+0.2**
BNI				S	**Sg**	**09 49 58.8**	**+0.6**
BNI				AML	AML		
	comp=E,362μm,0.7s						
BNI				AML	AML		
	comp=N,352μm,0.9s						
BNI				AML	AML		
	comp=N,287μm,0.8s						
BNI				AML	AML		
	comp=E,492μm,0.7s						
BNI				AML	AML		
	comp=E,361μm,0.7s						
BHB	**Bricherasio**	**0.39**	**94**	P	**Pg**	**09 49 59.1**	**+0.2**
BHB				S	**Sg**	**09 50 04.9**	**+0.8**
BHB	**Bricherasio**	**0.39**	**94**	P	**Pg**	**09 49 59.2**	**+0.3**
BHB				S	**Sg**	**09 50 05.3**	**+1.3**
BHB				AML	AML		
	comp=N,305μm,0.7s						
BHB				AML	AML		
	comp=E,374μm,1.5s						
BHB				AML	AML		
	comp=N,304μm,0.7s						
PZZ	**Stroppo**	**0.46**	**142**	P	**Pg**	**09 50 00.1**	**-0.2**
PZZ				S	**Sg**	**09 50 06.2**	**-0.1**
PZZ	**Stroppo**	**0.46**	**142**	P	**Pg**	**09 50 00.4**	**+0.2**
PZZ				AML	AML		
	comp=E,821μm,0.6s						
PZZ				AML	AML		
	comp=N,414μm,0.4s						
PZZ				AML	AML		
	comp=N,415μm,0.4s						
PZZ				AML	AML		
	comp=E,822μm,0.6s						
RSP	**Reno Superiore**	**0.48**	**54**	P	**Pg**	**09 50 01.2**	**+0.5**
RSP				S	**Sg**	**09 50 07.0**	**+0.1**
RSP	**Reno Superiore**	**0.48**	**54**	P	**Pg**	**09 50 00.8**	**+0.1**
RSP				AML	AML		
	comp=N,192μm,0.5s						
RSP				AML	AML		
	comp=N,192μm,0.5s						
RSP				AML	AML		
	comp=E,247μm,0.6s						
ORIF	**Oris-en-Rattie**	**0.60**	**275**	*e*Pg	**Pg**	**09 50 03.4**	**+0.4**
ORIF				*e*Sg	**Sg**	**09 50 11.4**	**+0.5**
	comp=E,179nm,0.4s						
ORIF	**Oris-en-Rattie**	**0.60**	**275**	P	**Pg**	**09 50 03.3**	**+0.2**
ORIF				S	**Sg**	**09 50 11.6**	**+0.6**
ORIF				AML	AML		
	comp=E,160μm,0.3s						
ORIF				AML	AML		
	comp=N,213μm,0.6s						
LPG	**La Plagne**	**0.63**	**2**	*e*Pg	**Pg**	**09 50 04.3**	**+0.7**
LPG				*e*Sg	**Sg**	**09 50 12.3**	**+0.3**
	comp=N,38nm,0.3s						
LPL	**La Plagne**	**0.65**	**1**	*e*Pg	**Pg**	**09 50 04.6**	**+0.6**
LPL				*e*Sg	**Sg**	**09 50 12.9**	**+0.4**
	comp=N,110nm,0.5s						
LSD	**Lago del Serru**	**0.66**	**26**	P	**Pg**	**09 50 04.2**	**0.0**
LSD				S	**Sg**	**09 50 12.8**	**-0.1**
LSD	**Lago del Serru**	**0.66**	**26**	P	**Pg**	**09 50 04.2**	**0.0**
LSD				S	**Sg**	**09 50 13.6**	**+0.7**
LSD				AML	AML		
	comp=E,324μm,0.9s						
LSD				AML	AML		
	comp=N,172μm,0.3s						
ENR	**Entracque**	**0.81**	**142**	P	**Pg**	**09 50 07.0**	**0.0**
ENR				S	**Sg**	**09 50 18.0**	**+0.4**
ENR	**Entracque**	**0.81**	**142**	P	**Pg**	**09 50 07.0**	**0.0**
ENR				S	**Sg**	**09 50 18.0**	**+0.4**
ENR				AML	AML		
	comp=E,118μm,0.6s						
ENR				AML	AML		
	comp=N,150μm,0.7s						
MONC	**Moncucco Torin**	**0.88**	**76**	P	**Pg**	**09 50 08.8**	**+0.5**
MONC				AML	AML		
	comp=E,342μm,0.5s						
MONC				AML	AML		
	comp=N,347μm,0.5s						
MRGE	**Morge**	**0.93**	**15**	P	**Pg**	**09 50 09.5**	**+0.2**
CIRO	**Champorcher**	**0.95**	**39**	P	**Pg**	**09 50 10.1**	**+0.5**
CIRO				AML	AML		
	comp=E,95μm,0.8s						
CIRO				AML	AML		
	comp=N,150μm,0.5s						
TRAV	**Traversella**	**0.97**	**48**	P	**Pg**	**09 50 10.3**	**+0.3**
TRAV				AML	AML		
	comp=E,111μm,0.3s						
TRAV				AML	AML		
	comp=N,140μm,0.3s						
GBOS	**Grotte di Boss**	**1.01**	**128**	P	**Pg**	**09 50 10.4**	**-0.5**
SBF	**Sospel**	**1.13**	**153**	*e*Pg	**Pg**	**09 50 12.9**	**-0.1**
SBF				*e*Sg	**Sg**	**09 50 27.2**	**-0.4**
	comp=N,46nm,0.3s						
SMRF	**Simiane la Rot**	**1.21**	**223**	*e*P	**Pn**	**09 50 16.5**	**+2.0**
SMRF				*e*Sg	**Sg**	**09 50 30.6**	**+0.2**
	comp=N,

YKA	**Yellowknife Ar**	**81.94**	**28**	P		**P**	**10 16 09.6**	**-0.4**
	0.4nm,0.9s,baz=284,slow=4.9,SNR=3.0							
NVAR	**Mina Array Bea**	**85.81**	**52**	P		**P**	**10 16 30.0**	**-0.6**
	0.2nm,0.6s,baz=289,slow=5.4,SNR=2.3							

IDC 08 10:06:46.4±1.5, 0.70N×122.63E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/33, mbtmp3.8/4, Error ellipse: s-maj=221.5km s-min=22.6km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**151**	P	P	10 11 59.1	+0.9
	1.2nm,0.6s,baz=329,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.58**	**156**	P	P	10 12 26.3	-0.2
	0.4nm,0.5s,baz=328,slow=9.1,SNR=9.5						
STKA	**Stephens Creek**	**37.04**	**153**	P	P	10 13 57.5	-0.8
	3.8nm,1.0s,baz=328,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**57.83**	**328**	P	P	10 16 39.8	-0.1
	1.0nm,0.5s,baz=130,slow=8.8,SNR=10						

*BJI **08** 10:11:49.2±0.0, 13°.03N×146°.37E, h18km, mB4.9/32, mb5.0/54, Ms4.2/18, Ms7 3.9/17*
*IDC **08** 10:11:49.3±0.5, 13°.09N×146°.15E, h0km, mb4.5/31, mb1 4.6/32, mb1mx4.5/45, mbtmp4.5/32, ML4.6/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/31, Error ellipse: s-maj=18.9km s-min=11.5km az=97.0*
*NEIC **08** 10:11:55.9±1.4, 13°.15N±0°.09×146°.05E±0°.09, h35km±6km, mb4.9/143, Error ellipse: s-maj=15.3km s-min=9.8km az=140.0*
*DJA **08** 10:12:05.1±0.6, 13°.N±7°×14°.5E±°, h35km±8km, M4.2/14, mB5.6/5, mb4.9/14, MLv3.5/1, Mw(mB)5.0/5*
ISC 08 10:11:56.6±0.9, 13°.13N±0°.06×146°.06E±0°.08, h50km±6km, n213, σ1°32/183, mb4.9/125, MS3.9/15, 4C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.25**	**292**	Pn	**Pn**	**10 12 16.6**	**-1.2**
ANA2	**Anatahan**	**3.22**	**354**	Pn	**Pn**	**10 12 45.6**	**+0.8**
ANA2	**Anatahan**	**3.22**	**354**	P	**Pn**	**10 12 46.0**	**+1.3**
SARN	**Sarigan**	**3.56**	**356**	P	**Pn**	**10 12 50.4**	**+0.9**
JCJ	**Chichijima**	**14.37**	**346**	Pn	**Pn**	**10 15 14.5**	**-2.8**
	2.8nm,0.3s,baz=292,slow=22,SNR=2.0						
SIJI	**Sorong**	**20.22**	**228**	P	**P**	**10 16 27.6**	**0.0**
	50nm,0.8s,baz=46,slow=9.3,SNR=31						
SWI	**Sorong**	**20.22**	**228**	P	**P**	**10 16 28.1**	**+0.5**
	974nm100nm,1.0s						
FAKI	**Fak Fak**	**21.03**	**222**	P	**P**	**10 16 36.3**	**-0.1**
	73nm,1.2s						
JOW	**Kunigami**	**21.54**	**312**	P	**P**	**10 16 40.2**	**-1.5**
	25nm,0.7s,baz=116,slow=16,SNR=5.9						
JOW	**Kunigami**	**21.54**	**312**	P	**P**	**10 16 43.7**	**+1.9**
JOW				IAmb	IAmb	10 16 47.1	
	comp=Z,36nm,0.8s						
JMN	**Monobe**	**23.32**	**334**	P	**P**	**10 17 01.5**	**+1.1**
INU	**Inuyama**	**23.59**	**341**	P	**P**	**10 17 02.5**	**-0.4**
INU				IAmb	IAmb	10 17 04.7	
	comp=Z,83nm,1.5s						
JGF	**Kuroka**	**23.72**	**342**	P	**P**	**10 17 03.9**	**-0.3**
JGF				IAmb	IAmb	10 17 12.7	
	comp=Z,39nm,1.3s						
JWT	**Wachi**	**24.07**	**338**	P	**P**	**10 17 06.7**	**-0.7**
JNU	**Nakatsue**	**24.26**	**328**	P	**P**	**10 17 10.0**	**+0.9**
JNU				IAmb	IAmb	10 17 13.7	
	comp=Z,36nm,1.2s						
MJAR	**Matsushiro Arr**	**24.36**	**345**	P	**P**	**10 17 08.1**	**-1.9**
	comp=Z,2.5nm,0.5s,baz=264,slow=8.4,SNR=9.4						
MJAR				LR	LR	10 25 52.7	
	comp=Z,304nm,19.4s,baz=165,slow=35						
MJAR	**Matsushiro Arr**	**24.36**	**345**	P	**P**	**10 17 09.3**	**-0.8**
MAJO	**Matsushiro**	**24.36**	**345**	P	**P**	**10 17 07.9**	**-2.1**
MAT	**Matsushiro**	**24.36**	**345**	P	**P**	**10 17 07.9**	**-2.1**
JHS	**Saijyo**	**24.73**	**334**	P	**P**	**10 17 13.5**	**+0.1**
JHS				IAmb	IAmb	10 17 29.4	
	comp=Z,36nm,0.8s						
SZP	**Santa**	**25.07**	**283**	P	**P**	**10 17 16.3**	**-0.4**
YULB	**Yu-li**	**25.60**	**297**	P	**P**	**10 17 21.3**	**-0.1**
JSD	**Sado**	**25.77**	**346**	P	**P**	**10 17 21.4**	**-1.3**
GTOI	**Gorontalo**	**25.99**	**243**	P	**P**	**10 17 25.3**	**+0.3**
	comp=Z,16nm,1.1s						
SSLB	**Suanglung**	**26.03**	**298**	P	**P**	**10 17 26.8**	**+1.5**
MRSI	**Marisa**	**27.00**	**244**	P	**P**	**10 17 33.9**	**-0.2**
	comp=Z,44nm,1.3s						
ERM	**Erimo**	**28.89**	**356**	P	**P**	**10 17 50.2**	**-0.5**
KSRS	**Korea Array**	**29.15**	**329**	P	**P**	**10 17 51.9**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=138,slow=9.2,SNR=14						
KSRS				PcP	**PcP**	**10 21 01.0**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=153,slow=3.2,SNR=4.2						
KSRS				LR	LR	10 29 01.5	
	comp=Z,137nm,18.7s,baz=160,slow=35						
KS19	**Wonju Array Si**	**29.21**	**329**	P	**P**	**10 17 55.4**	**+1.8**
JKA	**Kamikawa-asahi**	**31.03**	**355**	P	**P**	**10 18 07.4**	**-2.1**
ASAJ	**Asahikawa**	**31.03**	**355**	P	**P**	**10 18 07.4**	**-2.1**
	comp=Z,1.5nm,0.4s,baz=206,slow=22,SNR=2.2						
NJ2	**Nanjing**	**31.25**	**312**	*e*P	**P**	**10 18 12.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**33.24**	**341**	P	**P**	**10 18 28.4**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=143,slow=8.6,SNR=8.5						
USRK				PcP	**PcP**	**10 21 11.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=126,slow=32,SNR=2.0						
USRK				LR	LR	10 31 12.2	
	comp=Z,124nm,19.9s,baz=133,slow=35						
WHN	**Wuhan**	**33.99**	**306**	⇓P	**P**	**10 18 37.6**	**+1.9**
WHN				pmax	pmax		
	comp=Z,34nm,0.7s						
MDJ	**Mudanjiang**	**34.40**	**339**	P	**P**	**10 18 41.2**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.2s						
WRA	**Warramunga Arr**	**34.83**	**200**	P	**P**	**10 18 41.1**	**-1.9**
	comp=Z,2.7nm,0.8s,baz=21,slow=9.4,SNR=16						
WRA				PcP	**PcP**	**10 21 16.0**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=15,slow=3.4,SNR=3.9						
CN2	**Changchun**	**35.33**	**334**	*e*P	**P**	**10 18 49.6**	**+2.5**
CN2				*e*S	**S**	**10 24 16.0**	**-1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				L	L		
	comp=Z,200nm,16.0s						
CN2				L	L		
	comp=Z,100nm,16.0s						
CN2				L	L		
	comp=Z,200nm,18.0s						
FITZ	**Fitzroy Crossi**	**36.99**	**213**	P	**P**	**10 19 00.2**	**-1.4**
	comp=Z,6.1nm,0.9s,baz=41,slow=9.3						
BJI	**Beijing**	**37.53**	**321**	P	**P**	**10 19 06.2**	**+0.3**
BJI				S	**S**	**10 24 53.0**	**+1.5**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,89nm,4.0s						
BJI				L	L		
	comp=Z,110nm,19.9s						
BJI				L	L		
	comp=Z,67nm,12.2s						
ASAR	**Alice Springs**	**38.45**	**198**	P	**P**	**10 19 12.3**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=20,slow=9.4,SNR=16						
ASAR				PcP	**PcP**	**10 21 27.8**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=1.3,slow=3.1,SNR=1.4						
GYA	**Guiyang**	**39.21**	**296**	P	**P**	**10 19 22.2**	**+1.8**
GYA				pP	pP	10 19 28.8	-3.0
XAN	**Xi'an**	**39.59**	**308**	P	**P**	**10 19 24.0**	**+0.6**
XAN				pP	pP	10 19 31.2	-3.6
XAN				pmax	pmax		
	comp=Z,17nm,1.2s						
HHC	**Hu-ho-hao-te**	**40.88**	**319**	*e*P	**P**	**10 19 35.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,26nm,0.7s						
HHC				pmax	pmax		
	comp=Z,83nm,4.4s						
HHC				L	L		
	comp=Z,180nm,17.0s						
HHC				L	L		
	comp=Z,200nm,17.0s						
HHC				L	L		
	comp=Z,200nm,17.9s						
PETK	**Petropavlovsk-**	**40.95**	**11**	P	**P**	**10 19 35.0**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=176,slow=6.4,SNR=7.2						
PETK				PcP	**PcP**	**10 21 34.6**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=177,slow=5.1,SNR=3.0						
PETK				LR	LR	10 35 01.0	
	comp=Z,61nm,21.4s,baz=198,slow=34						
PETK	**Petropavlovsk-**	**40.95**	**11**	P	**P**	**10 19 34.5**	**+0.2**
SLVN	**Son La**	**40.98**	**287**	P	**P**	**10 19 36.3**	**+1.2**
KMI	**Kunming**	**42.46**	**293**	⇑P	**P**	**10 19 49.2**	**+1.9**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
CD2	**Chengdu**	**42.73**	**302**	⇑*i*P	**P**	**10 19 49.7**	**+0.5**
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
LZH	**Lanzhou**	**44.22**	**309**	⇑P	**P**	**10 20 02.9**	**+1.7**
LZH				PP	**PcP**	**10 21 51.0**	**+5.7**
LZH				pmax	pmax		
	comp=Z,52nm,1.1s						
LZH				pmax	pmax		
	comp=Z,150nm,5.4s						
LZH				L	L		
	comp=Z,610nm,14.8s						
LZH				L	L		
	comp=Z,560nm,15.0s						
LZH				L	L		
	comp=Z,270nm,16.7s						
STKA	**Stephens Creek**	**44.95**	**185**	P	**P**	**10 20 04.7**	**-2.1**
	comp=Z,2.8nm,0.8s,baz=345,slow=10,SNR=3.1						
STKA				LR	LR	10 39 45.7	
	comp=Z,136nm,18.3s,baz=20,slow=37						
MDSI	**Maura Dua**	**45.12**	**250**	P	**P**	**10 20 08.2**	**-0.3**
	comp=Z,9.3nm,1.0s						
IPM	**Ipoh**	**45.26**	**263**	P	**P**	**10 20 10.0**	**+0.3**
KULM	**Kulim**	**45.44**	**264**	P	**P**	**10 20 12.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**45.55**	**283**	P	**P**	**10 20 12.5**	**+0.6**
	comp=Z,3.7nm,0.3s,baz=86,slow=6.2,SNR=30						
CMAR				LR	LR	10 38 59.7	
	comp=Z,90nm,19.8s,baz=147,slow=36						
CMAR	**Chiang Mai Arr**	**45.55**	**283**	P	**P**	**10 20 11.4**	**-0.5**
MA2	**Magadan**	**46.50**	**3**	P	**P**	**10 20 18.5**	**-0.2**
MA2				IAmb	IAmb	10 20 20.5	
	comp=Z,14nm,0.9s						
RPSI	**Rantau Prapat**	**47.74**	**262**	P	**P**	**10 20 29.4**	**+0.3**
RPSI				IAmb	IAmb	10 20 30.0	
	comp=Z,17nm,1.2s						
SONM	**Songino Array**	**47.78**	**324**	P	**P**	**10 20 29.5**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=136,slow=7.3,SNR=4.7						
SONM				LR	LR	10 41 07.4	
	comp=Z,151nm,19.1s,baz=92,slow=37						
SONM	**Songino Array**	**47.78**	**324**	P	**P**	**10 20 29.2**	**+0.2**
GTA	**Gaotai**	**48.35**	**312**	⇑P	**P**	**10 20 35.1**	**+1.5**
GTA				pP	pP	10 20 44.4	-1.1
GTA				sP	pwP	10 20 49.6	-3.2
GTA				pmax	pmax		
	comp=Z,17nm,1.2s						
GTA				pmax	pmax		
	comp=Z,54nm,5.5s						
GTA				L	L		
	comp=Z,120nm,19.3s						
GTA				L	L		
	comp=Z,690nm,21.1s						
GTA				L	L		
	comp=Z,83nm,18.2s						
SEY	**Seymchan**	**49.94**	**4**	P	**P**	**10 20 45.4**	**+0.2**
	comp=Z,6.4nm,0.7s,baz=179,slow=5.3,SNR=21						
YAK	**Yakutsk**	**50.24**	**350**	P	**P**	**10 20 47.1**	**-0.3**
	comp=Z,9.7nm,0.5s,baz=327,slow=0.9,SNR=4.6						
TLY	**Talaya**	**51.37**	**327**	P	**P**	**10 20 56.9**	**+0.7**
	comp=Z,5.3nm,0.6s,baz=206,slow=1.9,SNR=4.3						
TLY	**Talaya**	**51.37**	**327**	P	**P**	**10 20 55.8**	**-0.4**
TLY				IAmb	IAmb	10 20 59.4	
	comp=Z,7.2nm,0.7s						
SHL	**Shillong**	**52.28**	**292**	P	**P**	**10 21 02.7**	**-0.9**
LSA	**Lhasa**	**53.24**	**297**	P	**P**	**10 21 12.0**	**+1.0**
SPIA	**Saint Paul Isl**	**55.05**	**27**	P		10 21 24.2	
	baz=235						
TAPN	**Taplejung**	**56.10**	**294**	*e*P	**P**	**10 21 32.5**	**+0.9**
	comp=Z,23nm,0.6s						
ODAN	**Odare**	**56.37**	**294**	*e*P	**P**	**10 21 34.1**	**+0.7**
BILL	**Bilibino**	**56.43**	**9**	P	**P**	**10 21 32.8**	**-0.1**
RAMN	**Ramite**	**57.07**	**294**	*e*P	**P**	**10 21 39.4**	**+1.0**
	comp=Z,15nm,0.6s						
JIRN	**Jiri**	**57.46**	**294**	*e*P	**P**	**10 21 42.3**	**+1.0**
	comp=Z,38nm,0.7s						
GUN	**Gumba**	**57.74**	**295**	*e*P	**P**	**10 21 44.3**	**+1.1**
	comp=Z,60nm,0.6s						
PKI	**Pulchoki**	**58.15**	**294**	*e*P	**P**	**10 21 46.5**	**+0.4**
	comp=Z,22nm,0.7s						
PKIN	**Phulchoki**	**58.16**	**294**	*e*P	**P**	**10 21 46.5**	**+0.4**
	comp=Z,24nm,0.7s						
KKN	**Kakani**	**58.27**	**295**	*e*P	**P**	**10 21 47.6**	**+0.8**
WMQ	**Urumqi**	**58.30**	**314**	*e*P	**P**	**10 21 48.3**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,43nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.9s						
DMN	**Daman**	**58.42**	**294**	*e*P	**P**	**10 21 48.8**	**+0.9**
GAMB	**Gambell**	**58.49**	**21**	P		10 21 48.2	
	baz=230						
GKN	**Gorkha**	**58.84**	**295**	*e*P	**P**	**10 21 51.2**	**+0.5**
	comp=Z,38nm,0.6s						
TIXI	**Tiksi**	**59.42**	**354**	P	**P**	**10 21 52.3**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=122,slow=1.0,SNR=7.3						
TIXI	**Tiksi**	**59.42**	**354**	P	**P**	**10 21 52.7**	**-1.0**
DANN	**Dangsing**	**59.62**	**295**	*e*P	**P**	**10 21 57.1**	**+0.8**
	comp=Z,96nm,0.6s						
KOLN	**Koldanda**	**59.76**	**295**	*e*P	**P**	**10 21 57.7**	**+0.6**
	comp=Z,46nm,0.7s						
ANM	**Nome**	**61.19**	**22**	P		10 22 06.6	
	baz=237						
MK31	**Makanchi Array**	**62.63**	**316**	IAmb	IAmb	10 22 18.8	
	comp=Z,9.7nm,0.8s						
MKAR	**Makanchi Array**	**62.63**	**316**	P	**P**	**10 22 17.0**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=92,slow=8.5,SNR=119						
MKAR	**Makanchi Array**	**62.63**	**316**	P	**P**	**10 22 16.9**	**+0.9**
SII	**Sitkinak Islan**	**62.64**	**33**	P		10 22 16.2	
	baz=251						
ZAA0	**Zalesovo Array**	**62.68**	**324**	P	**P**	**10 22 16.4**	**+0.3**
ZAA0				IAmb	IAmb	10 22 33.8	
	comp=Z,8.7nm,0.7s						
ZALV	**Zalesovo Beam**	**62.68**	**324**	P	**P**	**10 22 16.8**	**+0.7**
	comp=Z,4.9nm,0.6s,baz=102,slow=7.6,SNR=13						
ZALV	**Zalesovo Beam**	**62.68**	**324**	P	**P**	**10 22 16.1**	**0.0**
MAKZ	**Makanchi**	**62.84**	**316**	P	**P**	**10 22 18.6**	**+1.2**
OHAK	**Old Harbor**	**63.32**	**32**	P		10 22 20.7	
	baz=252						
KDAK	**Kodiak Island**	**63.85**	**32**	P		10 22 24.7	
	baz=252						
RDOG	**Red Dog Mine**	**63.94**	**19**	P		10 22 24.0	
	baz=238						
TTA	**Tatalina**	**64.07**	**26**	P	**P**	**10 22 25.4**	**+0.2**
TTA	**Tatalina**	**64.07**	**26**	P		10 22 25.3	
	baz=247						
SHLS	**Shalkode**	**64.09**	**312**	*e*P	**P**	**10 22 23.6**	**-2.2**
	baz=312						
UZB	**Uzynbulak**	**64.41**	**312**	*e*P	**P**	**10 22 27.4**	**-0.6**
	baz=312						
SEM	**Semipalatinsk**	**64.61**	**320**	*e*P	**P**	**10 22 28.3**	**-0.9**
	baz=320						
KPKS	**Kokpek**	**64.69**	**312**	*e*P	**P**	**10 22 30.3**	**+0.6**
	comp=Z,8.1nm,0.6s,baz=312						
PRZ	**Przheval'sk**	**64.80**	**311**	P	**P**	**10 22 30.8**	**+0.2**
SATY	**Saty**	**64.85**	**312**	*e*P	**P**	**10 22 31.5**	**+0.7**
	comp=Z,6.3nm,1.0s,baz=311						
HYB	**Hyderabad**	**64.98**	**283**	*i* P	**P**	**10 22 33.0**	**+1.0**
HYB				*es*P	**sP**	**10 22 48.0**	**-0.9**
TARG	**Taragay, Kyrgy**	**65.18**	**310**	P	**P**	**10 22 33.7**	**+0.4**
TARG				IAmb	IAmb	10 22 39.3	
	comp=Z,5.4nm,0.6s						
BRSE	**Bradley Lake S**	**65.35**	**30**	P		10 22 34.0	
	baz=253						
SKT	**Skwentna**	**65.67**	**27**	P		10 22 36.1	
	baz=251						
PPLA	**Purkeypile**	**65.68**	**26**	IAmb	IAmb	10 22 51.5	
	comp=Z,9.6nm,0.8s						
PPLA	**Purkeypile**	**65.68**	**26**	P		10 22 36.5	
	baz=250						
MDOK	**Medeo**	**65.85**	**312**	*e*P	**P**	**10 22 38.1**	**+0.8**
	baz=311						
SUA	**Susitna One**	**65.86**	**28**	P		10 22 36.9	
	baz=252						
CAST	**Castle Rocks**	**65.91**	**26**	P		10 22 37.2	
	baz=250						
CHKK	**Chushkaly**	**65.95**	**312**	*e*P	**P**	**10 22 37.9**	**+0.1**
	baz=312						
CHUM	**Lake Minchumin**	**65.97**	**25**	P		10 22 37.9	
	baz=250						
O22K	**Cooper Landing**	**66.05**	**29**	P	**P**	**10 22 38.0**	**0.0**
O22K	**Cooper Landing**	**66.05**	**29**	P		10 22 38.2	
	baz=254						
SEW	**Seward**	**66.08**	**30**	P		10 22 38.0	
	baz=254						
IMAR	**Indian Mountai**	**66.17**	**23**	P	**P**	**10 22 38.6**	**-0.1**
RC01	**Rabbit Creek A**	**66.22**	**29**	P		10 22 38.7	
	baz=254						
M22K	**Willow**	**66.24**	**28**	P		10 22 39.0	
	baz=253						
MTBS	**Maitube**	**66.30**	**311**	*e*P	**P**	**10 22 39.4**	**-0.7**
	baz=311						
CUT	**Chulitna**	**66.36**	**27**	P		10 22 40.4	
	baz=252						
H21K	**Melozitna Rive**	**66.40**	**23**	P		10 22 41.0	
	baz=249,SNR=7.9						
KTH	**Kantishna Hill**	**66.44**	**26**	P	**P**	**10 22 40.8**	**+0.2**
KTH				IAmb	IAmb	10 22 56.2	
	comp=Z,14nm,1.0s						
BPAW	**Bear Paw Mtn.**	**66.59**	**25**	IAmb	IAmb	10 23 00.6	
	comp=Z,7.2nm,0.9s						
BPAW	**Bear Paw Mtn.**	**66.59**	**25**	P		10 22 41.9	
	baz=251						
BOOM	**Boomskoye usch**	**66.62**	**311**	P	**P**	**10 22 42.3**	**+0.1**
PMR	**Palmer**	**66.64**	**28**	IAmb	IAmb	10 22 57.0	
	comp=Z,6.9nm,0.8s						
PMR	**Palmer**	**66.64**	**28**	P		10 22 41.7	
	baz=254,SNR=6.0						
TRF	**Thorofare Moun**	**66.68**	**26**	IAmb	IAmb	10 23 03.0	
	comp=Z,7.7nm,0.9s						
TRF	**Thorofare Moun**	**66.68**	**26**	P		10 22 41.4	
	baz=252						
PWL	**Port Wells**	**66.81**	**29**	P	**P**	**10 22 43.0**	**+0.1**
KNK	**Knik Glacier**	**66.90**	**28**	P		10 22 43.6	
	baz=255						
NRIK	**Noril'sk**	**66.95**	**341**	P	**P**	**10 22 43.3**	**-0.3**
	comp=Z,7.9nm,0.6s,baz=105,slow=7.4,SNR=8.5						
NRIK				LR	LR	10 52 41.3	
	comp=Z,92nm,19.1s,baz=104,slow=37						
NRIK	**Noril'sk**	**66.95**	**341**	IAmb	IAmb	10 22 59.1	
	comp=Z,11nm,0.8s						
MLY	**Manley**	**67.00**	**24**	P	**P**	**10 22 44.0**	**0.0**
MLY				IAmb	IAmb	10 23 00.1	
	comp=Z,9.9nm,1.0s						
MLY	**Manley**	**67.00**	**24**	P		10 22 44.8	
	baz=251,SNR=11						
SML	**Sawmill**	**67.07**	**28**	P		10 22 44.5	
	baz=254,SNR=6.6						
BWN	**Browne**	**67.25**	**25**	P	**P**	**10 22 46.4**	**+0.8**
WAT2	**Susitna Watana**	**67.27**	**27**	P		10 22 45.8	
	baz=254						
MCK	**McKinley**	**67.34**	**26**	P		10 22 45.7	
	baz=253						
SCM	**Sheep Creek Mo**	**67.53**	**28**	P	**P**	**10 22 48.1**	**+0.5**
NEA2	**Nenana**	**67.54**	**25**	P	**P**	**10 22 48.0**	**+0.6**
NEA2	**Nenana**	**67.54**	**25**	P		10 22 46.9	
	baz=253						
WAT6	**Susitna Watana**	**67.54**	**27**	P		10 22 47.9	
	baz=255,SNR=5.4						
I23K	**Minto, Yukon-K**	**67.59**	**24**	IAmb	IAmb	10 23 04.0	
	comp=Z,11nm,1.1s						
SGDS	**Sogindy**	**67.63**	**312**	*e*P	**P**	**10 22 48.5**	**-0.1**
	baz=312						
H23K	**Yukon River**	**67.73**	**24**	P		10 22 49.1	
	baz=252						
WRH	**Wood River Hil**	**67.91**	**25**	P	**P**	**10 22 49.6**	**-0.2**
WRH				IAmb	IAmb	10 23 04.7	
	comp=Z,14nm,1.1s						
COLD	**Coldfoot**	**67.94**	**22**	P		10 22 51.0	
	baz=251,SNR=14						
EYAK	**Cordova Ski Ar**	**67.97**	**30**	P		10 22 50.9	
	baz=257						
MDM	**Murphy Dome**	**67.99**	**25**	IAmb	IAmb	10 23 06.9	
	comp=Z,5.8nm,0.7s						
KLU	**Klutina**	**68.10**	**29**	IAmb	IAmb	10 23 07.4	
	comp=Z,10nm,1.1s						
KLU	**Klutina**	**68.10**	**29**	P		10 22 51.8	
	baz=257						
TCOL	**CIGO, UAF Yank**	**68.12**	**25**	P		10 22 51.8	
	baz=254						
COLA	**College**	**68.12**	**25**	P		10 22 51.1	
	baz=254						
M24K	**Tolsona, Glenn**	**68.13**	**28**	P		10 22 51.2	
	baz=256						
BTLS	**Baital**	**68.14**	**313**	*e*P	**P**	**10 22 52.4**	**+0.8**
	comp=Z,7.1nm,0.7s,baz=313						
HDA	**Harding Lake**	**68.37**	**25**	P	**P**	**10 22 52.6**	**-0.1**
HDA	**Harding Lake**	**68.37**	**25**	P		10 22 53.4	
	baz=255						
HDA				P		10 22 53.4	
	baz=255						
H24K	**Noodor Dome**	**68.39**	**24**	P		10 22 53.1	
	baz=253,SNR=9.6						
IL31		**68.49**	**25**	IAmb	IAmb	10 23 07.9	
	comp=Z,16nm,1.5s						
ILAR	**Eielson Array**	**68.49**	**25**	P	**P**	**10 22 52.5**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=251,slow=6.0,SNR=34						
BMRM	**Bremner River**	**68.61**	**29**	P	**P**	**10 22 55.8**	**+1.5**
BMRM				IAmb	IAmb	10 22 56.9	
	comp=Z,11nm,0.8s						
BMRM	**Bremner River**	**68.61**	**29**	P		10 22 55.1	
	baz=258						
TOLK	**Toolik Lake Re**	**68.63**	**21**	P		10 22 55.2	
	baz=251						
PAX	**Paxson**	**68.65**	**27**	P		10 22 55.0	
	baz=257						
HARP	**HAARP**	**68.66**	**28**	P		10 22 55.0	
	baz=257						
N25K	**Chitina, Valde**	**68.75**	**29**	IAmb	IAmb	10 23 11.6	
	comp=Z,18nm,1.4s						
N25K	**Chitina, Valde**	**68.75**	**29**	P		10 22 55.3	
	baz=258						
GLB	**Gilahina Butte**	**69.08**	**29**	IAmb	IAmb	10 23 12.9	
	comp=Z,9.2nm,1.0s						
CRQM	**Cirque**	**69.28**	**30**	IAmb	IAmb	10 23 14.8	
	comp=Z,16nm,0.9s						
CRQE	**Cirque**	**69.30**	**30**	P		10 22 58.8	
	baz=260						
BRZS	**Berezniki**	**69.38**	**319**	*e*P	**P**	**10 22 58.8**	**-0.5**
	baz=318						
DOT	**Dot Lake**	**69.42**	**27**	P	**P**	**10 22 58.9**	**-0.4**
DOT				IAmb	IAmb	10 23 14.9	
	comp=Z,11nm,1.0s						
MENT	**Mentasta**	**69.42**	**27**	IAmb	IAmb	10 23 24.2	
	comp=Z,6.1nm,0.7s						
MCARA	**McCarthy VSAT**	**69.44**	**29**	P	**P**	**10 23 00.7**	**+1.3**
MCARA				IAmb	IAmb	10 23 29.4	
	comp=Z,15nm,0.9s						
MCARA	**McCarthy VSAT**	**69.44**	**29**	P		10 22 59.9	
	baz=260						
SCRK	**Sand Creek**	**69.52**	**26**	P	**P**	**10 22 59.6**	**-0.4**
SCRK	**Sand Creek**	**69.52**	**26**	P		10 23 00.2	
	baz=258						
FYU	**Fort Yukon**	**69.62**	**23**	P	**P**	**10 23 00.4**	**+0.1**
FYU				IAmb	IAmb	10 23 16.9	
	comp=Z,15nm,0.9s						
MESA	**MESA**	**69.76**	**30**	P		10 23 02.0	
	baz=261

comp=Z,16nm,0.8s
KBL Kabul 72.06 302 P P 10 23 16.8 +0.7
EPYK Eagle Plains 72.94 24 P 10 23 20.9
baz=264
WHY Whitehorse 73.29 30 P P 10 23 23.7 +0.9
WHY IAmb IAmb 10 23 25.3
comp=Z,11nm,0.9s
WHY Whitehorse 73.30 30 P 10 23 23.3
baz=267
INK Inuvik 74.35 22 P P 10 23 28.5 -0.2
INK Inuvik 74.35 22 P 10 23 29.0
baz=266
ABKAR Akbulak array 77.66 318 P P 10 23 48.3 +0.4
ABKAR IAmb IAmb 10 23 49.5
comp=Z,12nm,0.9s
C36M Paulatuk 77.78 21 IAmb IAmb 10 24 03.5
comp=Z,20nm,1.4s
C36M Paulatuk 77.78 21 P 10 23 48.4
baz=275
ARU Arti 77.81 325 P P 10 23 48.3 -0.2
ARU IAmb IAmb 10 23 50.3
comp=Z,18nm,0.9s
GEYT Alibeck 80.46 307 P P 10 24 05.6 +2.0
comp=Z,8.2nm,0.7s,baz=64,slow=3.4,SNR=11
GYA0B ALIBECK ARRAY 80.46 307 IAmb IAmb 10 24 06.2
comp=Z,19nm,1.0s
I03D Drain, OR 81.48 47 P 10 24 08.7
baz=280
E04D Cinebar 81.53 44 P 10 24 09.7
baz=280
YKA Yellowknife Ar 82.73 28 P P 10 24 15.2 +0.3
comp=Z,0.7nm,0.5s,baz=344,slow=4.2,SNR=30
PINE Pine Mountain 83.18 47 P P 10 24 17.9 -0.1
B08A Colville Reser 83.34 42 P P 10 24 18.9 +0.4
B08A IAmb IAmb 10 24 20.1
comp=Z,6.3nm,0.8s
BEKR Beckworth 84.42 51 P P 10 24 25.3 +1.0
UOSS Minazif 84.44 294 P P 10 24 26.6 +2.1
CMB Columbia Colle 84.79 52 P P 10 24 26.4 +0.4
NEW Newport 84.80 42 P P 10 24 26.4 +0.4
NEW Newport 84.80 42 P 10 24 26.3
baz=284
YERR Yerington 85.46 51 IAmb IAmb 10 24 59.6
comp=Z,7.5nm,1.1s
BMO Blue Mountains 85.49 45 P P 10 24 29.7 +0.2
NVAR Mina Array Bea 86.30 52 P P 10 24 34.8 +1.0
comp=Z,1.5nm,0.6s,baz=275,slow=5.2,SNR=22
KVN Kaiserville 86.31 51 P P 10 24 33.8 0.0
KVN IAmb IAmb 10 24 58.9
comp=Z,8.2nm,1.2s
KLMR Klimovskoe 86.51 332 eP P 10 24 33.4 -0.6
KLMR AMP 10 24 36.4
comp=Z,20nm,1.4s
JTMT Jette 86.78 42 IAmb IAmb 10 24 52.2
comp=Z,6.9nm,1.2s
ISA Isabella, Lake 86.82 54 P 10 24 36.6
baz=284
MFID Camas Ranch 86.88 46 P P 10 24 36.4 0.0
MFID IAmb IAmb 10 24 38.4
comp=Z,7.5nm,1.0s
CWC Cottonwood Cre 86.95 53 P 10 24 37.1
baz=284
TPH Tonopah 87.21 52 IAmb IAmb 10 25 02.3
comp=Z,35nm,1.1s
HLID Hailey 87.84 46 P 10 24 41.7
baz=286
ARCES ARCESS Array B 87.88 342 P P 10 24 41.5 +1.0
comp=Z,2.6nm,0.8s,baz=58,slow=6.8,SNR=5.4
FURC Furnace Creek, 87.89 53 P 10 24 41.4
baz=285
ELK Elko 88.01 49 IAmb IAmb 10 24 44.1
comp=Z,7.8nm,1.1s
TPNV Topopah Spring 88.24 53 P P 10 24 44.1 +1.0
TPNV IAmb IAmb 10 24 48.1
comp=Z,8.7nm,1.4s
BCYI Bear Canyon 88.33 45 P P 10 24 43.3 -0.2
R11A Troy Canyon, C 88.39 51 IAmb IAmb 10 24 52.8
comp=Z,8.5nm,1.4s
PFO Pinyon Flats O 88.94 56 P 10 24 46.9
baz=285
PRN Pahroc Range 89.05 52 IAmb IAmb 10 24 60.0
comp=Z,5.4nm,1.0s
MONP2 Monument Peak 89.16 57 P 10 24 48.0
baz=285
SPR3 Spring Creek 3 89.16 50 IAmb IAmb 10 25 18.0
comp=Z,8.5nm,1.1s
BELC Belle Mtn. Jos 89.21 55 P 10 24 48.0
baz=285
GMRC Granite Mounta 89.27 55 P 10 24 48.4
baz=286
HVU Hansel Valley 89.50 47 IAmb IAmb 10 24 51.2
comp=Z,7.0nm,1.1s
BGU Big Grassy Mou 89.57 48 P P 10 24 48.6 -0.6
YHL Hebgen Lake 89.68 44 P P 10 24 51.3 +1.4
YHB Horse Butte 89.70 44 P P 10 24 51.1 +1.2
YHB IAmb IAmb 10 24 52.5
comp=Z,10nm,0.9s
SPUT South Promonto 89.87 48 IAmb IAmb 10 24 52.8
comp=Z,6.0nm,1.1s
YMR Madison River 89.88 44 IAmb IAmb 10 24 53.5
comp=Z,7.2nm,0.8s
DUG Dugway, Tooele 89.94 49 IAmb IAmb 10 25 09.0
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 89.94 49 P 10 24 51.7
baz=287
H17A Grant Village 90.23 44 IAmb IAmb 10 24 56.3
comp=Z,6.0nm,1.1s
FLWY Flagg Ranch 90.25 45 IAmb IAmb 10 25 19.7
comp=Z,9.5nm,1.1s
KBZ Khabaz 90.31 315 P P 10 24 54.0 +1.6
comp=Z,4.2nm,1.0s,baz=81,slow=0.8,SNR=7.5
YMP Mirror Lake Pl 90.41 44 IAmb IAmb 10 24 56.2
comp=Z,8.0nm,0.9s
HWUT Hardware Ranch 90.42 47 P P 10 24 53.2 0.0
HWUT IAmb IAmb 10 25 12.2
comp=Z,7.0nm,1.2s
NLU North Lily Min 90.55 49 P P 10 24 53.9 0.0
NLU IAmb IAmb 10 25 16.0
comp=Z,6.9nm,1.2s
JLU Jordanelle 90.81 48 IAmb IAmb 10 24 57.0
comp=Z,7.7nm,1.2s
KNB Kanab 90.86 52 IAmb IAmb 10 24 58.0
comp=Z,12nm,1.3s
RLMT Red Lodge 90.88 43 P 10 24 56.3
baz=290
PDAR Pinedale Array 91.46 46 P P 10 24 58.0 -0.1
comp=Z,0.6nm,0.7s,baz=34,slow=0.5,SNR=6.0
Q16A Castle Valley 91.53 50 IAmb IAmb 10 25 00.7
comp=Z,6.7nm,1.0s
FINES FINESS Array B 92.07 335 P P 10 24 59.3 -0.9
comp=Z,4.6nm,0.5s,baz=73,slow=4.6,SNR=34
LAO LASA Array 92.32 41 P 10 25 02.6
baz=292
PV14 Lion Creek, Pa 93.30 50 IAmb IAmb 10 25 22.5
comp=Z,6.5nm,0.9s
MNK Minsk 94.88 329 *i* P P 10 25 08.1 -5.1
comp=E,2.0nm,0.7s
MNK *i* P P 10 25 08.1 -5.1
comp=N,22nm,1.2s
MNK *i* P P 10 25 08.1 -5.1
comp=Z,6.0nm,0.8s,baz=239
MNK *i* pP pP 10 25 22.8 -2.6
MNK *i* PP PP 10 28 56.6 -5.5
MNK *i* PPP PPP 10 30 58.2
MNK *i* S SKSac 10 35 38.8 -5.9
MNK *i* sS SKKSac 10 36 05.0 -2.1
MNK *i* SS SS 10 42 42.2 -5.7
MNK *i* SSS SSS 10 46 25.2
MNK *i* LQ LQ 11 02 00.1
MNK *i* LR LR 11 08 03.6
MNK *i* LRM MLR 11 09 32.6
comp=E,37nm,21.6s
MNK *i* LRM MLR 11 09 36.5
comp=N,382nm,24.2s
MNK *i* LRM MLR 11 09 53.0
comp=Z,143nm,22.9s
AKASG Malin Array Be 96.06 325 P P 10 25 17.5 -1.3
comp=Z,3.0nm,0.4s,baz=203,slow=13,SNR=4.2
ULM Lac du Bonnet 96.96 35 P P 10 25 21.4 -1.5
comp=Z,2.2nm,0.8s,baz=298,slow=6.5,SNR=3.9
HFS Hagfors 97.66 338 P P 10 25 24.0 -1.8
comp=Z,1.3nm,0.7s,baz=79,slow=3.8,SNR=5.0
NOA NORSAR Array B 97.89 340 P P 10 25 25.7 -1.2
comp=Z,0.1nm,0.3s,baz=51,slow=4.2,SNR=4.4
J61A Chester 113.64 30 P 10 30 29.4
baz=319
G63A Kingsbury 113.64 27 P 10 30 29.6
baz=322
I63A Otisfield 114.04 28 P 10 30 31.0
baz=321
VNA2 Neumayer--Watz 119.97 190 PKPdf PKPdf 10 30 41.1 0.0
VNA3 Neumayer Olymp 120.05 189 PKPdf PKPdf 10 30 40.5 -0.7
VNA1 Neumayer--Stat 120.36 190 PKPdf PKiKP 10 30 42.1 +0.2
ESDC Sonseca Array 120.52 333 PP PP 10 32 08.8 -0.7
comp=Z,0.4nm,0.6s,baz=23,slow=4.8,SNR=4.4
TORD Torodi Ar. Bea 136.08 305 PKP PKPdf 10 31 13.4 +0.1
comp=Z,0.6nm,0.7s,baz=49,slow=2.7,SNR=2.9
TORD PP PP 10 33 53.1 +0.4
comp=Z,1.1nm,0.8s,baz=60,slow=5.9,SNR=4.6
DBIC Dimbokro 145.05 303 PKPbc PKPbc 10 31 29.1 +0.2
comp=Z,25nm,0.7s,baz=38,slow=3.5,SNR=34
KIC Kosan Boka 145.13 302 *e*PKP1 PKPdf 10 31 29.9 +0.2
comp=Z,43nm,0.8s
TIC Toumodi 145.20 303 *e*PKP1 PKPdf 10 31 30.0 +0.2
LIC Lamto 145.44 302 *e*PKP1 PKPbc 10 31 30.5 +0.3
comp=Z,108nm,1.2s
LPAZ La Paz 146.80 100 PKPbc PKPbc 10 31 34.5 -0.5
comp=Z,2.6nm,0.7s,baz=280,slow=2.2,SNR=10
LPAZ La Paz 146.80 100 PKPbc 10 31 34.3 -0.7

*IDC **08** 10:13:05.2±0.6,36°.22S×100°.58W,h0km,mb4.5/12, mb1 4.7/12,mb1mx4.4/28,mbtmp4.5/12,MS4.1/10, Ms1 4.1/10,ms1mx3.8/22,Error ellipse: s-maj=21.8km s-min=16.4km az=102.0*

*NEIC **08** 10:13:06.5±1.9,36°.2S±0°.1×100°.7W±0°.2,h10km±1km, mb4.8/119,Error ellipse: s-maj=27.7km s-min=18.7km az=281.0*

*GCMT **08** 10:13:09.5±0.3,36°.25S±0°.02×100°.30W±0°.02,h18km±1km, MW5.0/91,Moment Tensor Solution. s37,c44; s91,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.16±.17; $M_{\theta\theta}$0.89±.14; $M_{\phi\phi}$0.26±.12; $M_{r\theta}$0.14±.27; $M_{r\phi}$-3.32±.10; $M_{\theta\phi}$-0.28±.27; Best double couple: $M_0$3.34700×10^{16} NP1:$\phi_8$87.00000°,δ85.00000°,λ-179.00000°. NP2: $\phi_8$357.00000°,δ89.00000°,λ-5.00000°. Principal axes: T 3.9310, Plg3.0000°, Azm42.0000°; N -1.1680, Plg85.0000°, Azm170.0000°; P -2.7640, Plg4.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 10:13:07.3±0.5,36°.19S±0°.09×100°.6W±0°.1,h16km,n127, σ1§12/90,mb4.7/62,MS4.1/11,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	11.70	318	LR	LR	10 19 11.6	
	comp=Z,1μm,20.1s,baz=134,slow=31						
H03N2	Juan Fernandez	18.00	88	T	T	10 35 44.7	
	baz=247,slow=73,SNR=24						
H03N3	Juan Fernandez	18.00	88	T	T	10 35 56.2	
	baz=247,slow=73,SNR=24						
H03N1	Juan Fernandez	18.02	88	T	T	10 35 47.2	
	baz=247,slow=73,SNR=3.3						
PLCA	Paso Flores	23.90	110	P	P	10 18 21.2	+0.8
	4.0nm,0.9s,baz=260,slow=9.4,SNR=7.0						
PLCA				LR	LR	10 25 11.3	
	comp=Z,411nm,20.1s,baz=274,slow=30						
PLCA	Paso Flores	23.90	110	P	P	10 18 17.7	-2.6
BO02	Sierra Bellavi	24.28	96	P	P	10 18 22.1	-1.9
BO02				IAmb	IAmb	10 18 46.2	
	comp=Z,25nm,1.4s						
MT05	Renca	24.64	92	P	P	10 18 29.9	+2.7
MT03	Universidad Ad	24.80	93	P	P	10 18 30.5	+1.8
VA03	San Esteban	24.96	91	P	P	10 18 29.9	-0.2
GO04	Tololo Observa	25.59	85	P	P	10 18 37.6	+1.5
AC02	Maricunga	28.30	80	P	P	10 19 00.8	0.0
AC02				IAmb	IAmb	10 19 04.8	
	comp=Z,24nm,1.3s						
LVC	Limon Verde	30.60	73	P	P	10 19 21.8	+0.8
	comp=Z,7.8nm,1.0s,baz=218,slow=10.0,SNR=4.0						
LVC	Limon Verde	30.60	73	P	P	10 19 23.7	+2.7
LVC				IAmb	IAmb	10 19 24.8	
	comp=Z,21nm,1.3s						
PB09	IPOC Station P	30.80	71	P	P	10 19 26.1	+3.6
PB11	IPOC Station P	31.68	67	P	P	10 19 29.7	-0.6
MNMC	Minye Minye	32.11	66	P	P	10 19 34.5	+0.3
RKT	Rikitea	32.41	284	*e*LQ	LQ	10 26 47.5	
	comp=Z,550nm,28.2s						
RKT	Rikitea	32.41	284	*e*T	T	10 53 23.7	
	comp=Z,0.8nm,0.3s						
LPAZ	La Paz	34.99	64	P	P	10 20 00.0	+0.3
	comp=Z,13nm,1.1s,baz=219,slow=7.6,SNR=13						
LPAZ	La Paz	34.99	64	P	P	10 19 59.1	-0.6
LPAZ				IAmb	IAmb	10 20 11.1	
	comp=Z,19nm,1.1s						
ATAH	Atahualpa	35.34	40	P	P	10 20 02.7	+0.3
	comp=Z,10nm,0.8s,baz=280,slow=1.3,SNR=6.8						
SIV	San Ignacio	40.44	71	P	P	10 20 44.2	-1.0
	comp=Z,4.9nm,1.0s,baz=248,slow=11,SNR=13						
OTAV	Otavalo	41.69	35	P	P	10 20 56.2	+0.3
AQDB	Aquidauana	42.13	81	P	P	10 20 58.5	-0.5
MEH	Mehetia	45.56	281	*e*T	T	11 09 48.9	
	comp=Z,12nm,0.2s						
TIAR	Tiarei	46.75	280	*e*T	T	11 11 17.6	
	comp=Z,0.8nm,0.3s						
PPT2	Papeete2	46.92	280	*e*LR	LR	10 34 43.1	
	comp=Z,230nm,24.8s,baz=109						
PPT	Papeete	46.93	280	LR	LR	10 36 08.3	
	comp=Z,149nm,18.1s,baz=127,slow=30						
ROSC	El Rosal	47.66	37	LR	LR	10 38 13.1	
	comp=Z,307nm,20.0s,baz=206,slow=32						
RUSC	La Rusia	49.18	37	P	P	10 21 55.8	+0.5
RUSC				IAmb	IAmb	10 22 08.2	
	comp=Z,11nm,1.0s						
QSPA	South Pole Qui	54.02	180	P	P	10 22 30.2	-0.3
	comp=Z,13nm,1.0s,baz=130,slow=2.5,SNR=28						
QSPA	South Pole Qui	54.02	180	P	P	10 22 31.3	+0.8
VNA3	Neumayer Olymp	56.49	157	P	P	10 22 48.0	-0.1
VNDA	Vanda	56.59	195	P	P	10 22 48.7	0.0
	comp=Z,3.6nm,1.1s,baz=96,slow=5.0,SNR=5.6						
VNDA				LR	LR	10 41 11.2	
	comp=Z,166nm,21.9s,baz=101,slow=30						
VNDA	Vanda	56.59	195	P	P	10 22 49.8	+1.1
VNDA				IAmb	IAmb	10 22 51.3	
	comp=Z,11nm,1.4s						
VNA1	Neumayer--Stat	57.09	157	P	P	10 22 52.1	-0.2
VNA2	Neumayer--Watz	57.30	157	P	P	10 22 53.8	0.0
	baz=269,slow=5.9						
SNAA	Sanae	58.46	158	P	P	10 23 01.6	-0.4
SNAA	Sanae	58.46	158	P	P	10 23 00.9	-1.1
SNAA				IAmb	IAmb	10 23 05.6	
	comp=Z,9.5nm,1.3s						
ZAIG	Zacatecas	58.67	358	P	P	10 23 05.5	+1.3
ZAIG				IAmb	IAmb	10 23 06.8	
	comp=Z,9.7nm,1.1s						
SOR	Soroa	60.98	19	P	P	10 23 19.8	+0.1
BANI	BANI	61.37	33	P	P	10 23 20.6	-2.1
URZ	Urewera	63.39	241	LR	LR	10 43 50.7	
	comp=Z,71nm,19.2s,baz=121,slow=29						
TX32	Lajitas Array	65.24	357	P	P	10 23 48.9	+0.8
TXAR	Lajitas Array	65.24	357	P	P	10 23 48.8	+0.7
	comp=Z,3.3nm,0.9s,baz=180,slow=9.3,SNR=37						
TXAR				LR	LR	10 47 36.0	
	comp=Z,143nm,18.7s,baz=0.0,slow=32						
TXAR	Lajitas Array	65.24	357	P	P	10 23 48.3	+0.2
TX31	Lajitas Ar. Si	65.24	357	P	P	10 23 47.8	-0.3
HKT	Hockley	65.94	5	P	P	10 23 53.1	+0.7
HKT				IAmb	IAmb	10 23 55.0	
	comp=Z,10nm,1.4s						
JCT	Junction City	66.32	1	P	P	10 23 55.3	+0.4
MNTX	Cornudas Mount	67.68	356	P	P	10 24 02.2	-1.3
MNTX				IAmb	IAmb	10 24 04.2	
	comp=Z,4.5nm,1.0s						
319A	Douglas	67.70	352	P	P	10 24 04.9	+1.0
319A				IAmb	IAmb	10 24 05.7	
	comp=Z,6.5nm,0.9s						
214A	Organ Pipe Nat	68.75	349	IAmb	IAmb	10 24 20.8	
	comp=Z,8.5nm,1.5s						
TUC	Tucson	68.81	351	P	P	10 24 10.4	-0.3
MSTX	Muleshoe	69.83	358	IAmb	IAmb	10 24 18.1	
	comp=Z,11nm,1.1s						
MIAR	Mount Ida	70.68	6	P	P	10 24 21.1	-0.9
MIAR				IAmb	IAmb	10 24 35.1	
	comp=Z,10nm,1.4s						
X18A	Snowflake	70.89	352	IAmb	IAmb	10 24 25.8	
	comp=Z,9.4nm,1.0s						
X16A	Lo Mia Camp, P	70.97	351	P	P	10 24 24.7	+0.6
ANMO	Albuquerque	70.98	355	P	P	10 24 24.8	+0.7
W39A	Magazine	71.31	6	IAmb	IAmb	10 24 36.5	
	comp=Z,10nm,1.2s						
WHAR	Wooly Hollow	71.54	7	P	P	10 24 25.6	-1.6
SWET	Sewanee	72.34	13	IAmb	IAmb	10 24 45.7	
	comp=Z,6.7nm,1.2s						
HHAR	Hobbs	72.37	6	IAmb	IAmb	10 24 33.1	
	comp=Z,8.0nm,1.1s						
LCAR	Lake Charles	72.43	8	P	P	10 24 31.4	-1.2
LCAR				IAmb	IAmb	10 24 33.2	
	comp=Z,5.7nm,1.0s						
U38A	Gravette	72.49	5	IAmb	IAmb	10 24 33.9	
	comp=Z,9.0nm,1.1s						
U40A	Yellville	72.54	7	P	P	10 24 32.7	-0.5
U40A				IAmb	IAmb	10 24 36.5	
	comp=Z,7.3nm,1.1s						
BG3	Lake Jocassee	72.71	15	P	P	10 24 34.5	+0.2
BG3				IAmb	IAmb	10 24 38.3	
	comp=Z,12nm,1.4s						
GSC	Goldstone, Bar	72.71	346	IAmb	IAmb	10 24 38.1	
	comp=Z,9.1nm,1.4s						
U15A	North Rim	73.06	350	P	P	10 24 37.5	+0.8
MGMO	Mountain Grove	73.38	7	IAmb	IAmb	10 25 00.5	
	comp=Z,6.6nm,1.1s						
T42A	Van Buren	73.38	8	P	P	10 24 37.4	-0.9
T42A				IAmb	IAmb	10 24 41.8	
	comp=Z,12nm,1.3s						
V53A	Saluda	73.39	15	P	P	10 24 37.6	-0.7
V53A				IAmb	IAmb	10 24 39.0	
	comp=Z,12nm,1.4s						
ISA	Isabella, Lake	73.40	345	P	P	10 24 38.7	+0.3
MVCO	Mesa Verde	73.40	353	IAmb	IAmb	10 24 40.2	
	comp=Z,6.1nm,0.8s						
U49A	Red Boiling Sp	73.64	12	IAmb	IAmb	10 24 40.8	
	comp=Z,15nm,1.5s						
S39A	Bolivar	73.82	6	IAmb	IAmb	10 24 51.1	
	comp=Z,14nm,1.4s						
T47A	Sharon Grove	73.88	11	P	P	10 24 39.4	-1.8
T47A				IAmb	IAmb	10 24 41.3	
	comp=Z,7.0nm,1.0s						
PKCU	Pink Cliffs	74.06	350	P	P	10 24 43.2	+0.6
PKCU				IAmb	IAmb	10 24 45.8	
	comp=Z,14nm,1.4s						
CCUT	Cedar City	74.32	349	P	P	10 24 44.1	+0.1
CCUT				IAmb	IAmb	10 24 46.4	
	comp=Z,8.4nm,1.2s						
PV01	Paradox Valley	74.32	353	P	P	10 24 44.2	+0.2
SZCU	Shurtz Canyon	74.32	350	P	P	10 24 44.7	+0.7
CCM	Cathedral Cave	74.38	8	P	P	10 24 44.0	0.0
CCM				IAmb	IAmb	10 24 45.0	
	comp=Z,11nm,0.9s						
PV12	Saucer Basin,	74.52	353	IAmb	IAmb	10 24 57.0	
	comp=Z,14nm,1.4s						
PV14	Lion Creek, Pa	74.60	353	IAmb	IAmb	10 25 08.2	
	comp=Z,6.2nm,0.9s						
PSUT	Pine Spring	75.36	349	IAmb	IAmb	10 25 19.8	
	comp=Z,5.6nm,0.8s						
P38A	Dawn	75.72	6	IAmb	IAmb	10 24 55.4	
	comp=Z,16nm,1.4s						
MAW	Mawson	75.77	174	P	P	10 24 52.0	+0.1
	comp=Z,5.3nm,0.9s,baz=196,slow=4.1,SNR=7.3						
MAW	Mawson	75.77	174	P	P	10 24 51.9	+0.1
P17A	Butcher Ranch,	75.87	352	P	P	10 24 52.8	0.0
LHV	Little Huntoon	75.90	346	IAmb	IAmb	10 24 55.6	
	comp=Z,6.9nm,1.0s						
NVAR	Mina Array Bea	76.03	346	P	P	10 24 54.8	+1.0
	comp=Z,4.7nm,0.9s,baz=173,slow=8.2,SNR=18						
NVAR				LR	LR	10 51 40.3	
	comp=Z,74nm,18.5s,baz=186,slow=30						
RYN	Ryan	76.27	346	IAmb	IAmb	10 24 57.4	
	comp=Z,6.5nm,1.0s						
WAKR	Walker	76.34	345	IAmb	IAmb	10 24 58.1	
	comp=Z,9.7nm,1.4s						
MPU	Maple Canyon	76.51	351	IAmb	IAmb	10 25 24.3	
	comp=Z,8.3nm,1.5s						
R58B	Mineral	76.72	18	IAmb	IAmb	10 25 00.7	
	comp=Z,11nm,1.1s						
P53A	Whipple	77.36	15	P	P	10 25 00.9	-0.1
GDXM	Geysers	77.39	342	P	P	10 25 03.8	+2.5
GDXM				IAmb	IAmb	10 25 10.8	
	comp=Z,7.0nm,0.8s						
L40A	Anamosa	78.35	7	P	P	10 25 06.1	-0.3
L40A				IAmb	IAmb	10 25 07.5	
	comp=Z,10nm,0.9s						
BW06	Boulder Array	79.01	353	P	P	10 25 10.3	0.0
PDAR	Pinedale Array	79.01	353	P	P	10 25 10.6	+0.2
	comp=Z,3.4nm,0.8s,baz=162,slow=6.2,SNR=24						
PDAR	Pinedale Array	79.01	353	P	P	10 25 09.8	-0.6
WDC	Whiskeytown Da	79.01	343	IAmb	IAmb	10 25 11.6	
	comp=Z,13nm,1.2s						
N54A	Moraine State	79.08	16	IAmb	IAmb	10 25 20.2	
	comp=Z,9.0nm,0.8s						
SSPA	Standing Stone	79.25	17	P	P	10 25 09.7	-1.8
SSPA				IAmb	IAmb	10 25 14.3	
	comp=Z,16nm,1.2s						
JFWS	Jewell Farm	79.29	8	P	P	10 25 11.8	+0.2
JFWS				IAmb	IAmb	10 25 15.0	
	comp=Z,8.0nm,1.1s						
DZM	Mont Dzumac	79.58	250	*e*LR	LR	10 50 03.9	
	comp=Z,230nm,29.6s						
ECSD	EROS Data Cent	79.63	3	P	P	10 25 13.2	-0.3
ECSD				IAmb	IAmb	10 25 17.1	
	comp=Z,9.0nm,1.2s						
TPAW	Teton Pass	79.86	352	P	P	10 25 13.9	-1.2
TPAW				IAmb	IAmb	10 25 16.6	
	comp=Z,11nm,1.2s						
I37A	Lemond, Waseca	80.10	5	P	P	10 25 16.3	+0.3
I42A	Draeger Farm,	80.41	9	P	P	10 25 17.7	+0.1
YNE	Yellowstone No	81.27	353	P	P	10 25 22.3	-0.3
RLMT	Red Lodge	81.31	354	P	P	10 25 23.1	+0.3
RLMT				IAmb	IAmb	10 25 24.3	
	comp=Z,8.3nm,0.8s						
SPMN	Marine on St.	81.34	6	P	P	10 25 22.7	+0.1
SPMN				IAmb	IAmb	10 25 23.7	
	comp=Z,7.4nm,0.9s						
F36A	Milaca	81.92	5	P	P	10 25 25.5	-0.2
F36A				IAmb	IAmb	10 25 27.2	
	comp=Z,11nm,1.1s						
TRQ	Mont Tremblant	85.33	18	P	P	10 25 42.6	-0.6
ULM	Lac du Bonnet	86.17	3	P	P	10 25 47.3	+0.1
	comp=Z,2.4nm,0.7s,baz=210,slow=2.9,SNR=4.8						
SCHQ	Schefferville	95.19	19	LR	LR	11 05 13.6	
	comp=Z,145nm,20.7s,baz=224,slow=33						
YKA	Yellowknife Ar	98.99	353	LR	LR	11 07 20.0	
	comp=Z,89nm,18.2s,baz=0.0,slow=33						
GERES	GERESS Array B	131.40	53	PKP	PKiKP	10 32 20.1	+0.6
	comp=Z,0.4nm,0.5s,baz=276,slow=1.9,SNR=3.8						
BRTR	Keskin Array B	144.05	70	PKP	PKPdf	10 32 42.3	+0.2
	comp=Z,1.2nm,0.9s,baz=253,slow=3.8,SNR=3.9						
NRIK	Noril'sk	146.49	355	PKPbc	PKiKP	10 32 48.8	-0.7
	comp=Z,2.2nm,0.5s,baz=25,slow=2.9,SNR=4.3						
KBZ	Khabaz	151.21	64	PKPbc	PKiKP	10 33 01.2	+1.2
	comp=Z,6.7nm,0.9s,baz=124,slow=3.6,SNR=10						
CMAR	Chiang Mai Arr	155.31	229	PKPab	PKPab	10 33 25.9	+0.5
	comp=Z,2.4nm,0.6s,baz=163,slow=3.5,SNR=12						
CMAR	Chiang Mai Arr	155.31	229	PKPdf	PKPdf	10 32 56.4	-4.0
CMAR					PKPab	10 33 25.5	+0.1
AKTO	Aktyubinsk	159.01	41	PKPab	PKPab	10 33 39.8	-0.8
	comp=Z,1.4nm,0.9s,baz=297,slow=4.5,SNR=2.6						
LZH	Lanzhou	160.26	277	*e*PKP	PKPdf	10 33 07.7	+1.5
LZH				pPKP	sPKPdf	10 33 15.9	+4.1
LZH				sPKP		10 33 21.0	
MKAR	Makanchi Array	169.19	349	PKPab	PKPab	10 34 24.9	-0.4
	comp=Z,0.3nm,0.3s,baz=127,slow=42,SNR=2.6						

IDC 08 10:18:56.2±2.2,3°.30N×125°.93E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/52,mbtmp3.7/4,MS3.2/2,Ms1 3.2/2, ms1mx2.7/40,Error ellipse: s-maj=198.9km s-min=28.0km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	20.87	241	LR	LR	10 31 50.1	
	comp=Z,48nm,19.8s,baz=339,slow=37						
FITZ	Fitzroy Crossi	21.27	181	LR	LR	10 34 09.1	
	comp=Z,84nm,18.1s,baz=8.5,slow=43						
WRA	Warramunga Arr	24.53	161	P	P	10 24 16.8	-1.0
	1.6nm,0.8s,baz=340,slow=10,SNR=7.2						
ASAR	Alice Springs	27.91	164	P	P	10 24 48.7	+0.5
	0.2nm,0.5s,baz=342,slow=8.4,SNR=5.7						
STKA	Stephens Creek	38.02	158	P	P	10 26 17.0	+0.6
	2.2nm,0.7s,baz=332,slow=17,SNR=1.6						
MKAR	Makanchi Array	57.45	326	P	P	10 28 46.7	-0.3
	0.2nm,0.4s,baz=130,slow=8.0,SNR=2.3						

HEL 08 10:31:31.9±0.6,67°.14N×20°.51E,h0km,ML1.7,

Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**1.03**	**95**	PG	Pg	10 31 50.8	-0.7
	baz=279						
LANU	**Lannavaara**	**1.07**	**31**	PB	Pg	10 31 51.8	-0.6
KLF	**Kolari**	**1.35**	**84**	PG	Pg	10 31 56.2	-1.5
	baz=272						
HEF	**Hetta**	**1.75**	**42**	*e*P	Pn	10 32 02.4	-1.1
HEF	**Hetta**	**1.75**	**42**	PG	Pn	10 32 02.7	-0.8
HEF				MSG		10 32 24.0	
	comp=Z,4.0nm,0.2s						
HEF				SN	Sb	10 32 26.9	-0.4
TOF	**Tornio**	**1.86**	**123**	PG	Pn	10 32 05.4	+0.5
TOF				MSG		10 32 27.4	
	comp=Z,4.9nm,0.2s						
TOF				SG	Sb	10 32 30.4	0.0
KIF	**Kilpisjarvi**	**1.88**	**3**	*e*P	Pn	10 32 05.7	+0.5
KIF	**Kilpisjarvi**	**1.88**	**3**	PG	Pb	10 32 06.2	-0.8
KIF				MSG		10 32 28.9	
	comp=Z,4.8nm,0.2s						
KIF				SG	Sg	10 32 32.2	+0.1
RNF	**Rovaniemi**	**2.24**	**101**	PG	Pn	10 32 11.1	+0.9
	baz=288						
RNF				SG	Sb	10 32 40.8	-0.5
SGF	**Sodankyl**	**2.35**	**80**	PG	Pb	10 32 14.7	-0.4
SGF				SG	Sb	10 32 43.9	-0.8

*BJI **08** 10:47:12.7±0.0,3˙12S×67˙42E,h10km,mB5.1/53, mb4.9/56,Ms5.0/55,Ms7 4.7/52*

*BGR **08** 10:47:17.8±0.0,2˙94S×68˙27E,h24km±1km,mb5.2,Ms4.3*

*MOS **08** 10:47:18.3±1.3,2˙42S×67˙99E,h9km,mb5.2/67, MS4.5/10,Error ellipse: s-maj=7.2km s-min=4.6km az=86.7*

*IDC **08** 10:47:18.7±0.5,2˙46S×68˙09E,h0km,mb4.5/26, mb1 4.6/27,mb1mx4.5/34,mbtmp4.5/27,ML3.9/1,MS4.6/26, Ms1 4.6/26,ms1mx4.5/32,Error ellipse: s-maj=13.7km s-min=12.2km az=169.0*

*NEIC **08** 10:47:20.9±2.5,2˙52S±0˙08×68˙01E±0˙08,h10km±1km, mb5.1/108,Error ellipse: s-maj=13.1km s-min=12.7km az=161.0*

*GCMT **08** 10:47:21.9±0.1,2˙57S±0˙01×68˙01E±0˙01,h12km, MW5.4/139,Moment Tensor Solution. s87,c137; s139,c261; Duration: 1ś2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.06±.02; $M_{\theta\theta}$-0.44±.02; $M_{\phi\phi}$1.50±.02; $M_{r\theta}$0.50±.06; $M_{\theta\phi}$-0.38±.02; $M_{\phi r}$-0.30±.05; Best double couple: $M_0$1.48400×10^{17} NP1:χ_s196.00000°,δ43.00000°, λ-49.00000°. NP2:χ_s325.00000°,δ59.00000°, λ-122.00000°. Principal axes: T 1.6290, Plg8.0000°, Azm78.0000°; N -0.2880, Plg27.0000°, Azm343.0000°; P -1.3380, Plg62.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 10:47:21.7±0.5,2˙47S±0˙05×67˙92E±0˙04,h19km±1km, h22km:pP-P,n496,σ1ś61/500,mb5.1/179,MS4.7/55, 32C-11D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.67**	**138**	P	**Pn**	**10 48 57.8**	**-0.9**
DGAR	**Diego Garcia**	**6.67**	**138**	Pn	**Pn**	**10 48 57.8**	**-0.9**
MSEY	**Mahe Island**	**12.61**	**260**	P	**Pn**	**10 50 21.7**	**+1.5**
MSEY	**Mahe Island**	**12.61**	**260**	Pn	**Pn**	**10 50 21.7**	**+1.5**
PALK	**Pallekele**	**16.01**	**53**	Pn	**Pn**	**10 51 04.6**	**-1.5**
	0.5nm,0.3s,baz=358,slow=23,SNR=2.8						
PALK				LR	LR	10 55 54.2	
	comp=Z,6μm,21.2s,baz=334,slow=32						
PALK	**Pallekele**	**16.01**	**53**	P	**Pn**	**10 51 04.6**	**-1.5**
PALK				pmax	pmax		
	comp=Z,78nm,1.4s						
PALK	**Pallekele**	**16.01**	**53**		**Pn**	**10 51 04.6**	**-1.5**
PALK	**Pallekele**	**16.01**	**53**	IAmb	IAmb	10 51 11.8	
	comp=Z,78nm,1.4s						
POO	**Poona**	**21.67**	**15**	*e*P	**P**	**10 52 05.0**	**-6.5**
HYB	**Hyderabad**	**22.38**	**28**	*i* P	**P**	**10 52 19.0**	**0.0**
OPO	**Ambohidratompo**	**25.86**	**230**	P	**P**	**10 52 53.7**	**+1.2**
	comp=Z,6.7nm,0.9s,baz=14,slow=10,SNR=4.6						
OPO				LR	LR	11 01 01.3	
	comp=Z,3μm,18.5s,baz=196,slow=32						
OPO	**Ambohidratompo**	**25.86**	**230**	P	**P**	**10 52 53.7**	**+1.2**
VOI	**Vohitsoka**	**28.20**	**225**	P	**P**	**10 53 14.4**	**+0.9**
VOI				IAmb	IAmb	10 53 22.2	
	comp=Z,80nm,1.5s						
ATD	**Arta Tunnel**	**28.55**	**300**	P	**P**	**10 53 18.6**	**+1.9**
	comp=Z,2.6nm,0.4s,baz=60,slow=4.0,SNR=3.9						
ATD				LR	LR	11 02 17.7	
	comp=Z,2μm,21.4s,baz=112,slow=31						
ATD	**Arta Tunnel**	**28.55**	**300**	P	**P**	**10 53 18.6**	**+1.9**
ATD	**Arta Tunnel**	**28.55**	**300**	IAmb	IAmb	10 53 35.8	
	comp=Z,34nm,1.4s						
KIBK	**Kibwezi**	**29.85**	**270**	P	**P**	**10 53 29.8**	**+1.5**
KIBK				IAmb	IAmb	10 53 38.9	
	comp=Z,32nm,1.4s						
KMBO	**Kilima Mbogo**	**30.68**	**272**	P	**P**	**10 53 38.2**	**+2.4**
	comp=Z,1.8nm,0.4s,baz=95,slow=9.5,SNR=7.4						
KMBO				LR	LR	11 03 32.6	
	comp=Z,2μm,21.6s,baz=76,slow=32						
KMBO	**Kilima Mbogo**	**30.68**	**272**	P	**P**	**10 53 38.2**	**+2.4**
RPSI	**Rantau Prapat**	**31.41**	**81**	P	**P**	**10 53 43.2**	**+1.2**
RPSI				IAmb	IAmb	10 53 45.8	
	comp=Z,30nm,1.5s						
PSI	**Prapat**	**31.43**	**81**	P	**P**	**10 53 43.2**	**+0.9**
PSI				pmax	pmax		
	comp=Z,30nm,1.5s						
LODK	**Lodwar**	**33.07**	**280**	P	**P**	**10 53 59.3**	**+2.6**
BKNI	**Bangkinang**	**33.23**	**86**	P	**P**	**10 53 59.5**	**+1.6**
BKNI	**Bangkinang**	**33.23**	**86**	P	**P**	**10 53 58.8**	**+0.9**
	comp=Z,127nm,1.7s						
RAYN	**Ar Rayn**	**33.83**	**321**	P	**P**	**10 54 03.9**	**+0.8**
RAYN				pmax	pmax		
	comp=Z,17nm,1.3s						
RAYN	**Ar Rayn**	**33.83**	**321**	P	**P**	**10 54 03.9**	**+0.8**
PHET	**Kaeng Krachan**	**34.99**	**63**	P	**P**	**10 54 17.4**	**+4.1**
	comp=Z,10nm,1.2s						
SRDT	**SRDT**	**35.15**	**61**	P	P	10 54 21.0	+6.5
	comp=Z,28nm,1.4s						
UMPA	**Umpang Tak**	**35.77**	**58**	P	**P**	**10 54 23.1**	**+3.2**
	comp=Z,11nm,1.0s						
UTHA	**Uthaitani**	**35.96**	**59**	P	**P**	**10 54 24.0**	**+2.5**
	comp=Z,101nmcomp=Z,5.5nm,1.3s						
MHMT	**Maesarieng**	**35.98**	**54**	P	**P**	**10 54 24.7**	**+3.0**
	comp=Z,2μmcomp=Z,28nm,0.9s						
SHL	**Shillong**	**36.27**	**38**	P	**P**	**10 54 24.5**	**+0.2**
SHL				pmax	pmax		
	comp=Z,34nm,1.0s						
SHL	**Shillong**	**36.27**	**38**	P	**P**	**10 54 24.5**	**+0.2**
SHL				IAmb	IAmb	10 54 27.7	
	comp=Z,34nm,1.0s						
NIL	**Nilore**	**36.28**	**8**	P	**P**	**10 54 24.2**	**+0.1**
NIL				pmax	pmax		
	comp=Z,36nm,0.9s						
NIL	**Nilore**	**36.28**	**8**	P	**P**	**10 54 24.2**	**+0.1**
NIL				IAmb	IAmb	10 54 39.3	
	comp=Z,36nm,0.9s						
KBL	**Kabul**	**36.83**	**2**	P	**P**	**10 54 30.2**	**+1.2**
KBL				pmax	pmax		
	comp=Z,44nm,1.3s						
KBL	**Kabul**	**36.83**	**2**	P	**P**	**10 54 30.2**	**+1.2**
KBL				IAmb	IAmb	10 54 44.6	
	comp=Z,44nm,1.3s						
CM31	**Chiang Mai Arr**	**36.95**	**54**	P	**P**	**10 54 30.0**	**+0.1**
CM31				IAmb	IAmb	10 54 40.0	
	comp=Z,30nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.95**	**54**	P	**P**	**10 54 29.9**	**0.0**
	comp=Z,8.3nm,1.1s,baz=245,slow=9.1,SNR=27						
CMAR				PcP	**PcP**	**10 56 50.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=238,slow=5.2,SNR=2.1						
CMAR				LR	LR	11 07 55.3	
	comp=Z,1μm,21.2s,baz=272,slow=34						
CMAR	**Chiang Mai Arr**	**36.95**	**54**	*ce*P	**P**	**10 54 31.2**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**36.95**	**54**	P	**P**	**10 54 30.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**36.95**	**54**		**PcP**	**10 56 50.8**	**-0.4**
HRA	**Herat**	**37.05**	**352**	P	**P**	**10 54 31.8**	**+1.0**
CHTO	**Chiang Mai**	**37.13**	**54**	P	**P**	**10 54 31.8**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,49nm,1.3s						
CHTO	**Chiang Mai**	**37.13**	**54**	P	**P**	**10 54 31.8**	**+0.3**
CHTO				IAmb	IAmb	10 54 40.7	
	comp=Z,49nm,1.3s						
CMMT	**Chiang Mai**	**37.13**	**54**	P	**P**	**10 54 31.8**	**+0.2**
	comp=Z,754nmcomp=Z,26nm,1.4s						
MBAR	**Mbarara**	**37.21**	**272**	P	**P**	**10 54 35.1**	**+2.6**
	comp=Z,1.7nm,0.3s,baz=67,slow=8.1,SNR=20						
MBAR	**Mbarara**	**37.21**	**272**	P	**P**	**10 54 34.6**	**+2.1**
MBAR				pmax	pmax		
	comp=Z,13nm,1.2s						
MBAR	**Mbarara**	**37.21**	**272**	P	**P**	**10 54 34.6**	**+2.1**
PHIT	**Phitsanulok**	**37.54**	**57**	P	**P**	**10 54 37.1**	**+2.1**
	comp=Z,384nmcomp=Z,25nm,1.0s						
UTTA	**Uttaradit**	**37.92**	**57**	P	P	10 54 47.5	+9.3
CHAI	**Chaiyaphum**	**38.31**	**60**	P	**P**	**10 54 43.6**	**+2.1**
	comp=Z,183nmcomp=Z,18nm,1.1s						
LSA	**Lhasa**	**38.95**	**33**	P	**P**	**10 54 47.7**	**+0.4**
LSA				pmax	pmax		
	comp=Z,30nm,1.1s						
LSA	**Lhasa**	**38.95**	**33**	P	**P**	**10 54 47.7**	**+0.4**
UBPT	**Khong Chiam**	**41.13**	**63**	P	**P**	**10 55 05.5**	**+0.5**
LSZ	**Lusaka**	**41.17**	**250**	P	**P**	**10 55 06.3**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,46nm,1.0s						
LSZ	**Lusaka**	**41.17**	**250**	P	**P**	**10 55 06.3**	**+0.8**
LSZ				IAmb	IAmb	10 55 09.7	
	comp=Z,46nm,0.9s						
GEYT	**Alibeck**	**41.21**	**348**	P	**P**	**10 55 06.4**	**+1.0**
	comp=Z,47nm,0.5s,baz=274,slow=7.1,SNR=1.6						
GEYT				LR	LR	11 11 16.1	
	comp=Z,610nm,20.6s,baz=170,slow=35						
GEYT	**Alibeck**	**41.21**	**348**	P	**P**	**10 55 06.4**	**+1.0**
GEYT	**Alibeck**	**41.21**	**348**	IAmb	IAmb	10 55 09.9	
	comp=Z,152nm,1.2s						
GYA0B	**ALIBECK ARRAY**	**41.21**	**348**	P	**P**	**10 55 06.1**	**+0.7**
GAR	**Garm**	**41.33**	**3**	P	**P**	**10 55 06.8**	**+0.4**
DRK	**Karamyk**	**41.90**	**4**	P	**P**	**10 55 11.4**	**0.0**
DRK				IAmb	IAmb	10 55 27.8	
	comp=Z,50nm,1.2s						
BTK	**Batken**	**42.41**	**3**	P	**P**	**10 55 16.2**	**+1.0**
BTK				pmax	pmax		
	comp=Z,36nm,1.2s						
BTK	**Batken**	**42.41**	**3**	P	**P**	**10 55 16.1**	**+1.0**
BTK				IAmb	IAmb	10 55 29.9	
	comp=Z,36nm,1.1s						
SLVN	**Son La**	**42.42**	**54**	P	**P**	**10 55 16.1**	**+0.5**
KSH	**Kashi**	**42.44**	**9**	P	**P**	**10 55 12.1**	**-3.4**
KSH				S	**S**	**11 01 31.2**	**-5.3**
KSH				sS	sS	11 01 43.7	-1.0
KSH				SS	**SS**	**11 04 40.3**	**-5.8**
KSH				L	L		
	comp=Z,760nm,14.7s						
KSH				L	L		
	comp=Z,520nm,10.9s						
KSH				L	L		
	comp=Z,810nm,10.4s						
KMI	**Kunming**	**43.50**	**49**	⇑P	**P**	**10 55 25.2**	**+0.7**
KMI				sP	pwP	10 55 32.4	-1.3
KMI				PP	**PP**	**10 57 07.4**	**+1.6**
KMI				S	**S**	**11 01 55.4**	**+2.7**
KMI				sS	sS	11 02 07.2	+6.4
KMI				SS	**SS**	**11 05 11.2**	**+3.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KMI				pmax	pmax		
	comp=Z,200nm,6.1s						
KMI				L	L		
	comp=Z,470nm,16.5s						
KMI				L	L		
	comp=Z,890nm,13.3s						
KMI				L	L		
	comp=Z,760nm,17.3s						
SBUM	**Sibu**	**44.55**	**84**	P	**P**	**10 55 33.0**	**+0.1**
EIL	**Elat**	**44.90**	**318**	P	**P**	**10 55 37.3**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=136,slow=13,SNR=4.5						
TARG	**Taragay, Kyrgy**	**44.90**	**10**	P	**P**	**10 55 36.0**	**+0.4**
KDJ	**Kajisay**	**45.18**	**10**	P	**P**	**10 55 38.3**	**+0.6**
KDJ				pmax	pmax		
	comp=Z,31nm,1.2s						
KDJ	**Kajisay**	**45.18**	**10**	P	**P**	**10 55 38.2**	**+0.6**
KDJ				IAmb	IAmb	10 55 46.8	
	comp=Z,31nm,1.2s						
AAK	**Ala-Archa**	**45.30**	**7**	*ce*P	**P**	**10 55 40.0**	**+1.5**
AAK				pmax	pmax		
	comp=Z,49nm,1.3s						
AAK	**Ala-Archa**	**45.30**	**7**	P	**P**	**10 55 39.3**	**+0.9**
BOOM	**Boomskoye usch**	**45.34**	**8**	P	**P**	**10 55 37.9**	**-0.9**
BOOM				pmax	pmax		
	comp=Z,29nm,1.2s						
BOOM	**Boomskoye usch**	**45.34**	**8**	P	**P**	**10 55 37.9**	**-0.9**
BOOM				IAmb	IAmb	10 55 50.3	
	comp=Z,28nm,1.2s						
KK31	**Karatay Array**	**45.43**	**3**	P	**P**	**10 55 39.8**	**+0.4**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KK31	**Karatay Array**	**45.43**	**3**	P	**P**	**10 55 39.8**	**+0.4**
KKAR	**Karatay Array**	**45.43**	**3**	P	**P**	**10 55 38.5**	**-0.8**
KKAR						10 55 39.5	
KKAR	**Karatay Array**	**45.43**	**3**	P	**P**	**10 55 38.5**	**-0.8**
KKAR	**Karatay Array**	**45.43**	**3**	P	**P**	**10 55 39.5**	**+0.1**
KKAR				IAmb	IAmb	10 55 48.5	
	comp=Z,10nm,1.4s						
FRU1	**Bishkek**	**45.48**	**7**	P	**P**	**10 55 40.4**	**+0.6**
FRU1				pmax	pmax		
	comp=Z,29nm,0.6s						
FRU1	**Bishkek**	**45.48**	**7**	P	**P**	**10 55 40.4**	**+0.6**
PRZ	**Przheval'sk**	**45.74**	**11**	P	**P**	**10 55 43.9**	**+1.8**
PRZ	**Przheval'sk**	**45.74**	**11**	P	**P**	**10 55 43.9**	**+1.8**
MTBS	**Maitube**	**46.04**	**9**	*e*P	**P**	**10 55 43.6**	**-0.7**
	baz=8.7						
MTBS	**Maitube**	**46.04**	**9**	*e*P	**P**	**10 55 43.5**	**-0.7**
SGDS	**Sogindy**	**46.12**	**7**	*e*P	**P**	**10 55 44.6**	**-0.3**
	comp=Z,25nm,2.3s,baz=6.9						
SGDS	**Sogindy**	**46.12**	**7**	*e*P	**P**	**10 55 44.5**	**-0.3**
SGDS				pmax	pmax		
	comp=Z,25nm,2.3s						
MDOK	**Medeo**	**46.17**	**9**	*e*P	**P**	**10 55 43.9**	**-1.5**
	baz=9.3						
MDOK	**Medeo**	**46.17**	**9**	*e*P	**P**	**10 55 43.8**	**-1.5**
SATY	**Saty**	**46.30**	**11**	*e*P	**P**	**10 55 45.2**	**-1.2**
	comp=Z,44nm,2.3s,baz=11						
SATY	**Saty**	**46.30**	**11**	*e*P	**P**	**10 55 45.2**	**-1.2**
SATY				pmax	pmax		
	comp=Z,44nm,2.3s						
QIZ	**Qiongzhong**	**46.42**	**61**	P	**P**	**10 55 47.4**	**-0.2**
QIZ				PP	**PP**	**10 57 36.3**	**-0.5**
QIZ				S	**S**	**11 02 36.4**	**+1.6**
QIZ				SS	**SS**	**11 06 03.8**	**+2.9**
QIZ				L	L		
	comp=Z,410nm,17.9s						
QIZ				L	L		
	comp=Z,920nm,17.2s						
QIZ				L	L		
	comp=Z,1μm,18.2s						
UZB	**Uzynbulak**	**46.50**	**11**	*e*P	**P**	**10 55 47.0**	**-1.0**
	comp=Z,36nm,3.3s,baz=11						
UZB	**Uzynbulak**	**46.50**	**11**	*e*P	**P**	**10 55 47.0**	**-1.0**
UZB				pmax	pmax		
	comp=Z,36nm,3.3s						
LBTB	**Lobatse**	**46.51**	**237**	P	**P**	**10 55 48.6**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,62nm,1.5s						
LBTB	**Lobatse**	**46.51**	**237**	P	**P**	**10 55 48.5**	**+0.2**
SHLS	**Shalkode**	**46.60**	**12**	*e*P	**P**	**10 55 48.9**	**+0.2**
	comp=Z,39nm,1.9s,baz=12						
SHLS	**Shalkode**	**46.60**	**12**	*e*P	**P**	**10 55 48.9**	**+0.2**
SHLS				pmax	pmax		
	comp=Z,39nm,1.9s						
KPKS	**Kokpek**	**46.75**	**11**	*e*P	**P**	**10 55 49.7**	**-0.1**
	comp=Z,64nm,3.3s,baz=11						
KPKS	**Kokpek**	**46.75**	**11**	*e*P	**P**	**10 55 49.7**	**-0.1**
KPKS				pmax	pmax		
	comp=Z,64nm,3.3s						
CHKK	**Chushkaly**	**46.83**	**9**	*e*P	**P**	**10 55 48.5**	**-1.9**
	baz=9.1						
CHKK	**Chushkaly**	**46.83**	**9**	*e*P	**P**	**10 55 48.5**	**-1.9**
GYA	**Guiyang**	**47.19**	**50**	⇑P	**P**	**10 55 56.6**	**+3.0**
GYA				pP	sP	10 55 59.6	-0.9
GYA				PP	**PP**	**10 57 43.7**	**-1.1**
GYA				S	**S**	**11 02 50.1**	**+4.2**
GNI	**Garni**	**47.43**	**336**	*i* P	**P**	**10 55 55.9**	**+0.6**
GNI				pmax	pmax		
	comp=Z,25nm,1.2s						
AKT	**Akhty**	**47.45**	**339**	*e*P	**P**	**10 55 55.8**	**+0.4**
AKT				*e*		10 57 28.3	
AKT				*e*		10 57 46.9	
AKT				pmax	pmax		
	comp=Z,36nm,1.3s						
CD2	**Chengdu**	**47.61**	**43**	⇓*i*P	**P**	**10 55 56.8**	**+0.1**
CD2				pP	pP	10 56 00.7	-0.9
CD2				PP	**PP**	**10 57 47.5**	**-1.0**
CD2				S	**S**	**11 02 54.9**	**+3.4**
CD2				SS	**SS**	**11 06 24.5**	**+4.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				pmax	pmax		
	comp=Z,270nm,6.5s						
CD2				L	L		
	comp=Z,1μm,18.7s						
CD2				L	L		
	comp=Z,970nm,27.7s						
CD2				L	L		
	comp=Z,1μm,29.6s						
BTLS	**Baital**	**47.62**	**6**	*e*P	**P**	**10 55 55.6**	**-0.9**
	comp=Z,8.4nm,1.1s,baz=6.0						
BTLS	**Baital**	**47.62**	**6**	*e*P	**P**	**10 55 55.6**	**-0.9**
BTLS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOSA	**Boshof**	**48.21**	**233**	P	**P**	**10 56 01.7**	**+0.1**
	comp=Z,9.7nm,0.8s,baz=63,slow=8.9,SNR=15						
BOSA				LR	LR	11 12 56.4	
	comp=Z,958nm,21.3s,baz=72,slow=32						
BOSA	**Boshof**	**48.21**	**233**	P	**P**	**10 56 01.0**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,23nm,1.1s						
BOSA	**Boshof**	**48.21**	**233**	P	**P**	**10 56 00.9**	**-0.6**
BOSA				IAmb	IAmb	10 56 13.9	
	comp=Z,23nm,1.1s						
LGD	**Lagodekhi**	**48.29**	**338**	P	**P**	**10 56 05.4**	**+3.6**
GAZ	**Gaziantep**	**48.67**	**327**	P	**P**	**10 56 05.6**	**+0.7**
GAZ				IAmb	IAmb	10 56 13.7	
	comp=Z,15nm,1.0s						
MAK	**Makhachkala**	**48.83**	**340**	*e*P	P	10 55 59.2	-6.7
MAK				*e*		10 57 53.7	
MAK				*e*S	**S**	**11 03 00.0**	**-8.3**
MAK				*e*SSS	SSS	11 07 51.1	
MAK				pmax	pmax		
	comp=Z,127nm,0.9s						
MAK				MLR	MLR		
	comp=Z,292nm,15.0s						
MALT	**Malatya**	**48.88**	**329**	P	**P**	**10 56 09.2**	**+2.7**
WMQ	**Urumqi**	**49.39**	**19**	*e*P	**P**	**10 56 12.5**	**+2.3**
WMQ				pmax	pmax		
	comp=Z,40nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,470nm,3.9s						
WMQ				L	L		
	comp=Z,620nm,19.5s						
WMQ				L	L		
	comp=Z,510nm,15.9s						
WMQ				L	L		
	comp=Z,750nm,21.3s						
GROC	**Groznyy**	**49.65**	**339**	*e*P	P	10 56 06.0	-6.1
GROC				*e*		10 57 29.3	
GROC				*e*		10 58 02.8	
GROC				pmax	pmax		
	comp=Z,65nm,1.2s						
ZEI	**Tsey**	**50.00**	**337**	*e*P	**P**	**10 56 15.0**	**-0.1**
ZEI				pmax	pmax		
	comp=Z,14nm,1.4s						
MAKZ	**Makanchi**	**50.61**	**12**	P	**P**	**10 56 19.1**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,25nm,1.4s						
MAKZ	**Makanchi**	**50.61**	**12**	P	**P**	**10 56 19.1**	**-0.3**
MAKZ				IAmb	IAmb	10 56 34.4	
	comp=Z,24nm,1.4s						
MK31	**Makanchi Array**	**50.67**	**13**	P	**P**	**10 56 18.7**	**-1.1**
MK31				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MK31	**Makanchi Array**	**50.67**	**13**	P	**P**	**10 56 18.7**	**-1.1**
MKAR	**Makanchi Array**	**50.67**	**13**	P	**P**	**10 56 19.1**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=204,slow=8.0,SNR=24						
MKAR	**Makanchi Array**	**50.67**	**13**	P	**P**	**10 56 18.5**	**-1.3**
LZH	**Lanzhou**	**50.94**	**38**	*e*P	**P**	**10 56 24.5**	**+2.3**
LZH				pP	sP	10 56 29.8	+0.6
LZH				sP	pwP	10 56 33.6	+2.9
LZH				S	**S**	**11 03 38.7**	**+0.4**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
LZH				L	L		
	comp=Z,720nm,16.4s						
LZH				L	L		
	comp=Z,550nm,15.6s						
LZH				L	L		
	comp=Z,750nm,17.7s						
GTA	**Gaotai**	**50.95**	**32**	⇑P	**P**	**10 56 22.4**	**+0.2**
GTA				pP	pwP	10 56 31.9	+1.1
GTA				sP	sP	10 56 36.0	+6.7
GTA				S	**S**	**11 03 39.8**	**+1.5**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,150nm,6.3s						
GTA				L	L		
	comp=Z,790nm,22.9s						
GTA				L	L		
	comp=Z,570nm,22.9s						
GTA				L	L		
	comp=Z,1μm,23.6s						
KBZ	**Khabaz**	**51.19**	**337**	P	**P**	**10 56 24.4**	**+0.7**
	comp=Z,9.9nm,0.9s,baz=147,slow=4.6,SNR=16						
KBZ				LR	LR	11 19 24.8	
	comp=Z,196nm,19.8s,baz=170,slow=38						
ENH	**Enshi**	**51.31**	**47**	P	**P**	**10 56 24.2**	**-0.7**
ENH				IAmb	IAmb	10 56 32.5	
	comp=Z,30nm,1.1s						
KIV	**Kislovodsk**	**51.46**	**337**	*e*P	**P**	**10 56 26.7**	**+0.7**
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
KIV				MLR	MLR		
	comp=Z,558nm,17.0s						
TSUM	**Tsumeb**	**51.93**	**248**	P	**P**	**10 56 29.2**	**-0.7**
TSUM				IAmb	IAmb	10 56 33.1	
	comp=Z,36nm,1.4s						
ABKAR	**Akbulak array**	**51.98**	**353**	P	**P**	**10 56 28.9**	**-0.7**
ABKAR	**Akbulak array**	**51.98**	**353**	P	**P**	**10 56 29.0**	**-0.7**
ABKAR				IAmb	IAmb	10 56 38.1	
	comp=Z,20nm,1.3s						
SOC	**Sochi**	**52.38**	**334**	*e*P	**P**	**10 56 29.7**	**-3.0**
SOC				*e*		10 58 30.0	
SOC				*e*PPP	PPP	10 59 31.8	
SOC				*e*S	**S**	**11 03 57.9**	**+0.2**
SOC				MLR	MLR		
	comp=Z,166nm,16.0s						
BRZS	**Berezniki**	**52.41**	**4**	*e*P	**P**	**10 56 30.6**	**-2.2**
	baz=4.0						
BRZS	**Berezniki**	**52.41**	**4**	*e*P	**P**	**10 56 30.6**	**-2.2**
BRTR	**Keskin Array B**	**52.46**	**327**	P	**P**	**10 56 33.4**	**-0.1**
	comp=Z,5.9nm,1.1s,baz=150,slow=8.0,SNR=14						
BRTR				LR	LR	11 18 26.6	
	comp=Z,524nm,18.2s,baz=146,slow=36						
BRTR	**Keskin Array B**	**52.46**	**327**	P	**P**	**10 56 33.8**	**

baz=298,slow=75,SNR=20
H01W2 Cape Leeuwin H 53.65 133 T T 11 54 35.8
baz=298,slow=75,SNR=32
H01W1 Cape Leeuwin H 53.66 133 T T 11 54 43.4
baz=298,slow=75,SNR=30
SEM Semipalatinsk 53.73 10 *e*P **P 10 56 40.7 -2.1**
baz=9.8
SEM Semipalatinsk 53.73 10 *e*P **P 10 56 40.7 -2.1**
PSA00 Pilbara Seismi 53.90 115 P **P 10 56 43.3 -1.0**
PSA00 Pilbara Seismi 53.90 115 P **P 10 56 44.0 -0.4**
PSA00 IAmb IAmb 10 56 45.5
comp=Z,44nm,1.2s
MRSI Marisa 54.08 88 P **P 10 56 45.9 +0.1**
comp=Z,27nm,0.9s
ANN Anapa 54.35 334 *e*P P 10 56 40.9 -6.2
ANN *e**PP pP 10 56 46.4 -5.9
ANN *e* 10 58 46.6
ANN *e*S **S 11 04 18.0 -6.3**
ANN pmax pmax
comp=Z,20nm,0.7s
DGZ Jazzator, Alta 54.63 15⇓ *i*P **P 10 56 48.8 -0.5**
DGZ pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 55.37 2 P **P 10 56 55.8 +1.4**
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK Borovoye 55.37 2 P **P 10 56 55.8 +1.4**
TIY Taiyuan 57.39 41 *e*P **P 10 57 12.3 +3.1**
TIY pP **pwP 10 57 21.4 +2.7**
TIY S **S 11 05 09.1 +3.8**
TIY pmax pmax
comp=Z,140nm,3.6s
TIY L L
comp=Z,400nm,20.0s
TIY L L
comp=Z,280nm,13.7s
TIY L L
comp=Z,310nm,16.0s
HVS Khovu-Aksy 57.76 19 *i*P **P 10 57 12.3 +0.8**
YULB Yu-li 57.95 60 P **P 10 57 15.2 +1.9**
VRH Novokhopyorsk 57.95 341 *e*P **P 10 57 10.6 -2.1**
VRH pmax pmax
comp=Z,40nm,1.6s
ZAA0 Zalesovo Array 57.96 12 P **P 10 57 12.6 -0.2**
ZAA0 IAmb IAmb 10 57 25.1
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 57.96 12 P **P 10 57 11.9 -0.9**
comp=Z,6.9nm,0.7s,baz=216,slow=7.3,SNR=15
ZALV Zalesovo Beam 57.96 12 P **P 10 57 11.5 -1.3**
ZALV Zalesovo Beam 57.96 12 P **P 10 57 11.4 -1.3**
VORD Divnogorie 58.58 339 *e*P **P 10 57 16.3 -0.8**
VORD pmax pmax
comp=Z,40nm,1.4s
FITZ Fitzroy Crossi 58.62 110 P **P 10 57 18.1 0.0**
FITZ IAmb IAmb 10 57 26.1
comp=Z,19nm,1.1s
HHC Hu-ho-hao-te 58.63 38 *e*P **P 10 57 17.6 -0.3**
HHC S **S 11 05 21.3 -0.2**
HHC ScS **ScS 11 07 00.8 -6.3**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,190nm,4.3s
HHC L L
comp=Z,410nm,17.9s
HHC L L
comp=Z,510nm,17.0s
HHC L L
comp=Z,460nm,17.0s
AGG Agios Georgios 58.82 319 P **P 10 57 18.9 -0.3**
AGG pmax pmax
comp=Z,34nm,1.2s
AGG Agios Georgios 58.82 319 P **P 10 57 18.9 -0.3**
VSR Storozhevoye 58.83 339 *e*P **P 10 57 17.4 -1.5**
VSR pmax pmax
comp=Z,60nm,1.3s
CFR Carcaliu 59.16 328⇑P **P 10 57 21.3 0.0**
NJ2 Nanjing 59.20 50 *e*P **P 10 57 23.7 +1.9**
NJ2 sP **pwP 10 57 30.4 -0.8**
NJ2 PP **PP 10 59 38.2 +5.4**
NJ2 S **S 11 05 29.3 +0.4**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,160nm,3.5s
NJ2 L L
comp=Z,540nm,20.6s
NJ2 L L
comp=Z,710nm,20.6s
NJ2 L L
comp=Z,590nm,18.6s
ARU Arti 59.20 354 *d i*P **P 10 57 20.8 -0.6**
ARU S **S 11 05 29.5 +1.4**
ARU SS **SS 11 09 16.2 -6.6**
ARU pmax pmax
comp=Z,23nm,1.6s
ARU Arti 59.20 354 P **P 10 57 21.0 -0.4**
TNTI Ternate 59.52 88 P **P 10 57 22.8 -1.6**
TNTI Ternate 59.52 88 P **P 10 57 23.1 -1.3**
comp=Z,896nmcomp=Z,50nm,1.4s
LPSR Galich'ya Gora 60.06 340 *e*P P 10 57 14.1 -13
LPSR pmax pmax
comp=Z,60nm,1.9s
VTS Vitosha 60.30 323 P **P 10 57 30.1 +0.6**
VTS pmax pmax
comp=Z,8.0nm,1.1s
VTS Vitosha 60.30 323 P **P 10 57 30.1 +0.6**
SONM Songino Array 60.31 29 P **P 10 57 29.6 +0.2**
comp=Z,13nm,0.9s,baz=222,slow=6.8,SNR=25
SONM LR LR 11 23 55.1
comp=Z,638nm,21.3s,baz=214,slow=36
SONM Songino Array 60.31 29 P **P 10 57 29.4 0.0**
SONM pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 60.31 29 P **P 10 57 29.4 0.0**
SONM IAmb IAmb 10 57 33.0
comp=Z,19nm,1.0s
VRI Vrincioaia 60.35 328⇑P **P 10 57 30.3 +0.7**
VRI Vrincioaia 60.35 328 P **P 10 57 30.3 +0.7**
VRI pmax pmax
comp=Z,51nm,1.3s
PLOR Plostina 60.38 328⇑P **P 10 57 30.3 +0.5**
MLR Muntele Rosu 60.53 327⇑P **P 10 57 30.1 -0.8**
MLR Muntele Rosu 60.53 327 P **P 10 57 30.1 -0.8**
MLR pmax pmax
comp=Z,52nm,1.5s
MLR Muntele Rosu 60.53 327 P **P 10 57 30.1 -0.8**
SSE Sheshan 60.62 52 P **P 10 57 32.5 +0.9**
SSE S **S 11 05 48.1 +0.8**
SSE pmax pmax
comp=Z,11nm,0.6s
SSE pmax pmax
comp=Z,110nm,5.0s
SSE L L
comp=Z,200nm,21.1s
SSE L L
comp=Z,250nm,23.7s
ULN Ulaanbaatar 60.65 29*ce*P **P 10 57 32.1 +0.4**
ULN pmax pmax
comp=Z,16nm,1.7s
ULN Ulaanbaatar 60.65 29 P **P 10 57 31.9 +0.1**
ZAK Zakamensk 60.74 25 *e*P **P 10 57 31.5 -0.7**
MOY Mondy 60.80 23 *e*P **P 10 57 33.2 +0.6**
TESR Tescani 60.82 329⇑P **P 10 57 33.5 +0.8**
SORM Soroca 61.05 331⇑P **P 10 57 34.1 -0.1**
BJT Baijiatuau 61.09 41 P **P 10 57 35.3 +0.6**
BJT pmax pmax
comp=Z,20nm,1.2s
BJT Baijiatuau 61.09 41 P **P 10 57 35.3 +0.6**
BJT IAmb IAmb 10 57 43.5
comp=Z,20nm,1.2s
BJI Beijing 61.10 41 P **P 10 57 37.3 +2.6**
BJI S **S 11 05 57.5 +4.4**
BJI pmax pmax
comp=Z,14nm,1.6s
BJI pmax pmax
comp=Z,100nm,5.7s
BJI L L
comp=Z,250nm,18.8s
BJI L L
comp=Z,250nm,22.1s
DOPR Dopca 61.13 327⇑P **P 10 57 34.8 0.0**
TLY Talaya 61.87 24 *e*P **P 10 57 40.6 +0.8**
TLY *e*S **S 11 06 05.5 +3.0**
TLY pmax pmax
comp=Z,61nm,1.6s
TLY MLR MLR
TLY Talaya 61.87 24 P **P 10 57 38.5 -1.2**
TLY IAmb IAmb 10 57 56.2
comp=Z,26nm,1.4s
GZR Gura Zlata 62.22 326⇑P **P 10 57 41.9 -0.3**
BURAR Bucovina Array 62.28 329⇑P **P 10 57 43.0 +0.3**
BURAR Bucovina Array 62.28 329 P **P 10 57 42.0 -0.7**
BUR08 Bucovina Ar. S 62.31 329 P **P 10 57 42.1 -0.8**
BUR08 IAmb IAmb 10 57 56.0
comp=Z,15nm,1.3s
AKASG Malin Array Be 62.44 333 P **P 10 57 42.4 -1.1**
comp=Z,1.8nm,0.6s,baz=128,slow=5.6,SNR=9.8
AKASG LR LR 11 25 58.1
comp=Z,177nm,21.8s,baz=70,slow=37
AKASG Malin Array Be 62.44 333*ce*P **P 10 57 42.5 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 62.44 333*ce*P **P 10 57 43.1 -0.4**
AKBB Malin Array Si 62.44 333 IAmb IAmb 10 57 50.9
comp=Z,19nm,1.2s
MDVR Moldovita 62.47 325⇑P **P 10 57 43.4 -0.5**
IRK Irkutsk 62.55 24 *e*P **P 10 57 44.2 -0.1**
IRK pmax pmax
comp=Z,47nm,2.5s
TIP Timpagrande 62.61 317 P **P 10 57 44.7 -0.3**
KIRV Kirov 62.63 349*ce*P **P 10 57 44.6 0.0**
PDG Podgorica 62.63 321 P **P 10 57 43.0 -1.9**
PDG IAmb IAmb 10 58 10.2
comp=Z,13nm,1.2s
OBN Obninsk 62.93 340 *i*P **P 10 57 44.0 -2.7**
OBN *i* 10 58 27.8
OBN pmax pmax
comp=Z,30nm,1.2s
OBN MLR MLR
comp=Z,200nm,20.0s
BZS Buzias 63.01 325⇑P **P 10 57 47.1 -0.4**
MOS Moscow 63.09 341 *e*P **P 10 57 46.4 -1.4**
MOS pmax pmax
comp=Z,88nm,1.2s
DRGR 63.10 327⇑P **P 10 57 47.8 -0.3**
SIRR Siria 63.37 326⇑P **P 10 57 50.5 +0.6**
DL2 Dalian 64.24 44 *e*P **P 10 57 55.1 -0.6**
DL2 S **S 11 06 33.2 +0.6**
DL2 L L
comp=Z,380nm,17.9s
DL2 L L
comp=Z,370nm,17.3s
DL2 L L
comp=Z,740nm,23.7s
LVV L'vov 64.30 330 *e*P **P 10 57 54.8 -1.1**
CORL Corleone 64.44 314 P **P 10 57 57.3 +0.2**
UZH Uzhgorod 64.44 328 *e*P **P 10 57 53.5 -3.3**
UZH *e* 10 57 59.2
KOLS Kolonicke sedl 64.64 329 *e*P **P 10 58 00.8 +2.7**
KOLS Kolonicke sedl 64.64 329 *e*P **P 10 58 00.8 +2.7**
CRVS Cervenica-Dubn 65.04 328 *e*P **P 10 58 04.0 +3.2**
CRVS Cervenica-Dubn 65.04 328 *e*P **P 10 58 04.0 +3.2**
MAW Mawson 65.11 182 P **P 10 58 01.1 +0.3**
comp=Z,23nm,1.0s,baz=5.1,slow=7.5,SNR=32
MAW LR LR 11 19 22.3
comp=Z,371nm,21.6s,baz=19,slow=30
MAW Mawson 65.11 182 P **P 10 58 00.6 -0.2**
MAW pmax pmax
comp=Z,11nm,1.2s
MAW Mawson 65.11 182 P **P 10 58 00.6 -0.2**
PSZ Piszkesteto 65.31 327 P **P 10 58 02.3 -0.3**
PSZ pmax pmax
comp=Z,15nm,1.3s
PSZ Piszkesteto 65.31 327 P **P 10 58 02.3 -0.3**
PSZ IAmb IAmb 10 58 10.0
comp=Z,16nm,1.3s
MNK Minsk 65.71 336 *i*P P 10 57 56.7 -8.2
MNK *i*S S 11 06 40.8 -9.3
MNK *i* 11 07 53.6
MNK *i*SSS SSS 11 14 01.2
MNK pmax pmax
comp=E,2.0nm,1.2s
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=E,14nm,15.0s
MNK MLR MLR
comp=N,227nm,22.0s
MNK MLR MLR
comp=Z,172nm,22.0s
INTR Introdacqua 65.87 319 P **P 10 58 05.5 -0.9**
INTR IAmb IAmb 10 58 14.4
comp=Z,26nm,1.3s
PRGR Permogore 66.19 349 *e*P **P 10 58 08.6 +0.8**
PRGR pmax pmax
comp=Z,37nm,1.3s
VYHS Vyhne 66.22 327 *e*P **P 10 58 11.0 +2.6**
VYHS Vyhne 66.22 327 *e*P **P 10 58 11.0 +2.6**
NACGM Naroch 66.45 336 *i*P **P 10 58 07.5 -2.1**
KEST Kesra 66.49 311 P **P 10 58 11.1 +0.6**
comp=Z,1.8nm,0.6s,baz=78,slow=8.1,SNR=6.1
KEST LR LR 11 24 32.7
comp=Z,326nm,21.3s,baz=34,slow=34
KEST Kesra 66.49 311 P **P 10 58 10.6 +0.1**
KEST IAmb IAmb 10 58 19.5
comp=Z,20nm,1.4s
KLMR Klimovskoe 66.87 345 *e*P **P 10 58 10.0 -2.2**
KLMR pmax pmax
comp=Z,111nm,1.4s
KLMR Klimovskoe 66.87 345 *e*P **P 10 58 10.1 -2.2**
KLMR AMP 10 58 21.1
comp=Z,111nm,1.4s
WRA Warramunga Arr 67.01 111 P **P 10 58 13.2 -0.9**
comp=Z,22nm,1.1s,baz=283,slow=6.0,SNR=34
WRA LR LR 11 23 31.1
comp=Z,783nm,21.6s,baz=285,slow=32
WRA Warramunga Arr 67.01 111 P **P 10 58 13.2 -0.9**
WRAB Tennant Creek 67.02 111 P **P 10 58 12.3 -1.8**
WRAB pmax pmax
comp=Z,83nm,1.5s
WRAB Tennant Creek 67.02 111 P **P 10 58 12.3 -1.8**
ASAR Alice Springs 67.05 115 P **P 10 58 13.1 -1.1**
comp=Z,7.1nm,1.0s,baz=284,slow=6.3,SNR=29
ASAR LR LR 11 23 12.4
comp=Z,630nm,21.9s,baz=286,slow=32
ASAR Alice Springs 67.05 115 P **P 10 58 12.7 -1.6**
ASAR Alice Springs 67.05 115 P **P 10 58 12.7 -1.6**
AS31 Alice Springs 67.05 115 P **P 10 58 12.0 -2.3**
JAVC Velka Javorina 67.06 327 *e*P **P 10 58 14.0 +0.2**
TJN Taejon 67.38 49*ce*P **P 10 58 18.5 +2.5**
SUW Suwalki 67.41 333 *e*P **P 10 58 18.1 +2.3**
ARSA Arzberg 67.42 324 *e*P **P 10 58 15.7 -0.4**
comp=Z,15nm,1.1s
TOA0 Torodi Ar. Sit 67.50 285 P **P 10 58 17.5 +0.3**
TOA0 IAmb IAmb 10 58 26.9
comp=Z,23nm,1.4s
TORD Torodi Ar. Bea 67.50 285 P **P 10 58 18.2 +1.0**
comp=Z,7.3nm,1.2s,baz=87,slow=4.6,SNR=16
TORD LR LR 11 25 58.7
comp=Z,928nm,21.4s,baz=85,slow=34
TORD Torodi Ar. Bea 67.50 285 P **P 10 58 17.9 +0.7**
TORD IAmb IAmb 10 58 26.9
comp=Z,23nm,1.4s
CONA Conrad Observa 67.58 325 *i*P **P 10 58 16.1 -1.0**
comp=Z,31nm,1.5s,SNR=8.3
OBKA Obir 67.62 323 *e*P **P 10 58 17.6 +0.1**
comp=Z,10nm,1.1s
MORC Moravsky Berou 67.64 327 *e*P **P 10 58 16.5 -1.0**
MORC Moravsky Berou 67.64 327 P **P 10 58 16.5 -1.0**
MORC pmax pmax
comp=Z,37nm,1.5s
MORC Moravsky Berou 67.64 327 P **P 10 58 16.5 -1.0**
KRUC Moravsky 67.88 326 *e*P **P 10 58 17.9 -1.0**
VRAC Vranov 67.90 327 *e*P **P 10 58 18.0 -1.1**
PABE Paberze 68.04 335 *e*P **P 10 58 20.0 +0.3**
PABE Paberze 68.04 335 P **P 10 58 19.4 -0.3**
HIA Hailar 68.15 34 P **P 10 58 21.1 +0.4**
HIA pmax pmax
comp=Z,21nm,1.2s
HIA Hailar 68.15 34 P **P 10 58 21.1 +0.4**
HIA IAmb IAmb 10 58 23.9
comp=Z,21nm,1.2s
KSAR Wonju Array Be 68.16 48 P **P 10 58 20.7 -0.2**
KSAR Wonju Array Be 68.16 48 P **P 10 58 20.7 -0.2**
KSRS Korea Array 68.19 48 P **P 10 58 19.3 -1.8**
comp=Z,3.7nm,0.9s,baz=243,slow=7.0,SNR=14
KSRS LR LR 11 29 23.9
comp=Z,818nm,19.5s,baz=246,slow=37
KRLC Kraliky 68.22 327 *e*P P 10 58 27.1 +6.0
KRLC Kraliky 68.22 327 *e*P P 10 58 27.1 +6.0
CASP Castiglione de 68.23 318 P **P 10 58 20.3 -0.9**
MYKA Terra Mystica 68.23 323 *e*P **P 10 58 21.4 +0.1**
comp=Z,10.0nm,1.1s
MOA Molln 68.46 324 *i*P **P 10 58 21.9 -0.7**
comp=Z,19nm,0.8s,SNR=12
ZOU Zoufplan 68.60 323 P **P 10 58 22.6 -1.1**
DPC Dobruska-Polom 68.61 327 *e*P P 10 58 29.1 +5.5
DPC Dobruska-Polom 68.61 327 *e*P P 10 58 29.1 +5.5
KBA Koelnbreinsper 68.62 323 *e*P **P 10 58 23.5 -0.4**
comp=Z,15nm,1.4s
OSTC Ostas 68.78 328 *e*P P 10 58 30.9 +6.3
ZCCA Zocca 68.83 320 P **P 10 58 25.3 +0.3**
CHVC Chvalec 68.89 327 *e*P P 10 58 31.5 +6.3
ABTA Abfaltersbach 68.97 323 *e*P **P 10 58 25.4 -0.5**
comp=Z,28nm,1.1s
CN2 Changchun 68.97 41 *e*P **P 10 58 25.3 -0.6**
CN2 PcP **PcP 10 58 48.0 -2.0**
CN2 S **S 11 07 27.5 -2.2**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 L L
comp=Z,300nm,18.0s
CN2 L L
comp=Z,400nm,18.0s
CN2 L L
comp=Z,400nm,17.0s
VSU Vasula 68.98 338 *e*P **P 10 58 26.0 +0.5**
SYO Syowa Base 69.09 191⇑ *e*P **P 10 58 25.6 -0.5**
CTI Castel Tesino 69.17 322 IAmb IAmb 10 58 35.1
comp=Z,14nm,1.0s
GEC2 GERESS Array S 69.29 325 *e*pP pP 10 58 33.4 +0.2
baz=119,slow=6.2
KHC Kasperske Hory 69.50 325 *e*P P 10 58 34.7 +5.6
KHC Kasperske Hory 69.50 325 *e*P P 10 58 34.7 +5.6
WTTA Wattenberg 69.74 323 *e*P **P 10 58 30.5 -0.2**
comp=Z,21nm,1.0s
WATA Walderalm 69.81 323 *e*P **P 10 58 30.3 -0.9**
comp=Z,23nm,1.1s
WET Wettzell 69.91 325 *e*pP pP 10 58 38.5 +1.6
baz=119,slow=6.2
MOTA Moosalm 70.10 323 *i*P **P 10 58 31.9 -1.1**
comp=Z,13nm,1.1s,SNR=7.2
BRG Berggiesshubel 70.18 327 *e*P **P 10 58 32.2 -1.0**
BRG Amp 10 58 34.9
comp=Z,11nm,1.6s
BRG *ex* x 10 58 39.3
BRG Amp 10 58 41.5
comp=Z,25nm,1.5s
BRG Berggiesshubel 70.18 327 *e*P **P 10 58 33.2 0.0**
comp=Z,25nm,1.5s,baz=118,slow=6.0
BRG *e*pP **sP 10 58 40.1 +0.1**
baz=119,slow=6.2
FETA Feichten 70.18 322 *e*P **P 10 58 33.1 -0.4**
comp=Z,26nm,1.1s
CASY Casey 70.33 163 P **P 10 58 32.5 -1.3**
CASY IAmb IAmb 10 59 00.8
comp=Z,17nm,1.4s
RETA Reutte 70.37 323 *e*P **P 10 58 33.7 -0.8**
comp=Z,12nm,1.2s
FUR Furstenfeldbru 70.37 324 *e*pP pP 10 58 40.8 +1.1
baz=119,slow=6.2
FBE Freiberg 70.52 327 *e*P **P 10 58 35.7 +0.4**
comp=Z,32nm,1.2s,baz=118,slow=6.0
FBE *e*pP **sP 10 58 42.5 +0.4**
baz=119,slow=6.2
ROTZ Rotzenmuhle 70.59 325 *e*P **P 10 58 35.4 -0.4**
comp=Z,21nm,1.6s,baz=118,slow=6.0
ROTZ *e*pP **sP 10 58 42.2 -0.3**
baz=119,slow=6.2
NKC Novy Kostel 70.68 326 *e*P **P 10 58 36.1 -0.2**
NKC Novy Kostel 70.68 326 *e*P **P 10 58 36.1 -0.2**
WERN Wernitzgruen 70.75 326 *e*P **P 10 58 37.1 +0.4**
comp=Z,54nm,1.3s,baz=118,slow=6.0
WERN *e*pP **sP 10 58 44.1 +0.6**
baz=119,slow=6.2
TUE Stuetta 70.79 321 P **P 10 58 36.9 -0.4**
TUE IAmb IAmb 10 58 45.1
comp=Z,33nm,1.3s
GUNZ Gunzen 70.81 326 *e*P **P 10 58 37.4 +0.3**
comp=Z,20nm,1.2s,baz=118,slow=6.0
GUNZ *e*pP **sP 10 58 44.4 +0.5**
baz=119,slow=6.2
DAVA Damuels 70.81 322 *i*P **P 10 58 36.9 -0.4**
comp=Z,19nm,1.0s,SNR=6.7
UBR Ueberruh 70.85 323 *e*P **P 10 58 37.5 0.0**
comp=Z,85nm,1.3s,baz=118,slow=6.0
UBR *e*pP **sP 10 58 44.4 +0.1**
baz=119,slow=6.2
WERD Werda 70.87 326 *e*P **P 10 58 38.1 +0.6**
baz=118,slow=6.0
CLL Collm 70.91 327 *e*P **P 10 58 37.0 -0.6**
comp=Z,33nm,1.8s
CLL *i* 10 58 44.1
comp=Z,31nm,1.2s
CLL *e*S **S 11 07 57.0 +4.8**
CLL *e*PS **PnS 11 08 20.0 -1.2**
CLL *e*SS **SS 11 12 24.0 -1.2**
CLL *e*SSS SSS 11 16 00.0
CLL *e*SSSS 11 17 24.0
CLL Collm 70.91 327 *e*P **P 10 58 37.0 -0.6**
CLL *i* 10 58 44.1
CLL *e*S **S 11 07 57.0 +4.8**
CLL pmax pmax
comp=Z,31nm,1.2s
CLL Collm 70.91 327 P **P 10 58 37.3 -0.3**
CLL IAmb IAmb 10 58 46.1
comp=Z,32nm,1.2s
CLL Collm 70.91 327 *e*P **P 10 58 37.8 +0.2**
comp=Z,31nm,1.2s,baz=118,slow=6.0
CLL *e*pP **sP 10 58 44.9 +0.4**
baz=119,slow=6.2
RUE Ruedersdorf 71.09 328 *e*pP pP 10 58 46.0 +2.0
baz=119,slow=6.2
GRA1 Grafenberg Arr 71.12 325 P **P 10 58 38.4 -0.5**
GRF Grafenberg Arr 71.12 325 P **P 10 58 38.4 -0.5**
GRF pmax pmax
comp=Z,52nm,1.1s
GRF Grafenberg Arr 71.12 325 *e*P **P 10 58 38.7 -0.2**
comp=Z,70nm,1.3s,baz=118,slow=6.0
GRF *e*pP **sP 10 58 45.6 -0.2**
baz=119,slow=6.2
GRF *e*L L 11 32 01.7
comp=Z,174nm,19.6s
FINES FINESS Array B 71.33 340 P **P 10 58 39.2 -0.8**
comp=Z,4.2nm,1.1s,baz=188,slow=25,SNR=2.6
FINES LR LR 11 32 43.0
comp=Z,103nm,20.4s,baz=110,slow=38
MOX Moxa 71.35 326 *e*P **P 10 58 40.6 +0.3**
comp=Z,15nm,1.1s,baz=118,slow=6.0
MOX *e*pP **sP 10 58 47.4 +0.3**
baz=119,slow=6.2
MOX *e*L L 11 32 34.6
comp=Z,128nm,18.8s
NEUB Neuenburg 71.53 327 *e*pP pP 10 58 48.8 +2.1
baz=119,slow=6.2
MDJ Mudanjiang 72.03 41 P **P 10 58 44.7 +0.2**
MDJ S **S 11 08 07.3 +1.9**
MDJ pmax pmax
comp=Z,25nm,1.0s
MDJ pmax pmax
comp=Z,260nm,3.0s
MDJ L L
comp=Z,220nm,24.2s
MDJ L L
comp=Z,350nm,17.8s
MDJ L L
comp=Z,550nm,19.9s
MDJ Mudanjiang 72.03 41 IAmb IAmb 10 58 48.4
comp=Z,17nm,0.8s
SENIN Lac Senin/Sane 72.03 321 P **P 10 58 44.3 -0.4**
SENIN IAmb IAmb 10 58 52.6
comp=Z,11nm,0.8s
BFO Black Forest 72.21 323 P **P 10 58 45.9 +0.3**
BFO pmax pmax
comp=Z,25nm,1.2s
BFO Black Forest 72.21 323 P **P 10 58 45.9 +0.3**
BFO IAmb IAmb 10 58 53.8
comp=Z,25nm,1.2s
BFO Black Forest 72.21 323 *e*P **P 10 58 45.4 -0.2**
comp=Z,27nm,1.2s,baz=118,slow=6.0

BFO epP **sP** **10 58 52.5 +0.1**
baz=119,slow=6.2
MILB **Miltenberg** **72.29 325** epP pP 10 58 52.6 +1.2
baz=119,slow=6.2
UBBA **Unterbreizbach** **72.34 326** *eP* **P** **10 58 46.7 +0.6**
comp=Z,30nm,1.5s,baz=118,slow=6.0
UBBA epP **sP** **10 58 53.3 +0.4**
baz=119,slow=6.2
FLTG **Flechtingen** **72.37 327** *eP* **P** **10 58 46.2 -0.1**
comp=Z,34nm,1.6s,baz=118,slow=6.0
FLTG epP **sP** **10 58 53.1 -0.1**
baz=119,slow=6.2
ASSE **Asse, Remlinge** **72.58 327** epP pP 10 58 54.7 +1.8
baz=119,slow=6.2
CLZ **Clausthal** **72.61 327** *eP* **P** **10 58 48.4 +0.5**
comp=Z,23nm,1.2s,baz=118,slow=6.0
CLZ epP **sP** **10 58 55.2 +0.5**
baz=119,slow=6.2
GTTG **Gottingen** **72.69 326** epP pP 10 58 55.9 +2.3
baz=119,slow=6.2
NRIK **Noril'sk** **72.91 7** P **P** **10 58 49.4 +0.1**
comp=Z,1.1nm,0.5s,baz=195,slow=5.9,SNR=5.7
NRIK **Noril'sk** **72.91 7***ce*P **P** **10 58 50.6 +1.4**
NRIK **Noril'sk** **72.91 7** P **P** **10 58 48.3 -1.0**
TNS **Taunus Mts** **72.96 325** *eP* **P** **10 58 50.2 +0.2**
comp=Z,46nm,1.6s,baz=118,slow=6.0
TNS epP **sP** **10 58 57.3 +0.5**
baz=119,slow=6.2
NRDL **Niedersach Rie** **73.06 327** *eP* **P** **10 58 51.0 +0.6**
comp=Z,24nm,1.3s,baz=118,slow=6.0
NRDL epP **pwP** **10 58 58.0 -1.0**
baz=119,slow=6.2
KOWA **Kowa** **73.18 286** P **P** **10 58 53.0 +1.1**
KOWA IAmb IAmb 10 59 01.9
comp=Z,25nm,1.2s
DBIC **Dimbokro** **73.21 278** LR LR 11 28 54.8
comp=Z,433nm,21.7s,baz=79,slow=34
JWT **Wachi** **73.24 52** P **P** **10 58 51.0 -1.0**
JWT IAmb IAmb 10 58 56.8
comp=Z,32nm,1.3s
KASTN **Kahler Asten** **73.40 326** *eP* **P** **10 58 53.1 +0.5**
comp=Z,16nm,1.3s,baz=118,slow=6.0
KASTN epP **sP** **10 58 59.8 +0.4**
baz=119,slow=6.2
USRK **Ussuriysk Ar.** **73.47 42** P **P** **10 58 52.6 -0.5**
comp=Z,3.7nm,0.9s,baz=272,slow=5.8,SNR=8.7
USRK LR LR 11 35 03.0
comp=Z,271nm,18.7s,baz=234,slow=39
USRK **Ussuriysk Ar.** **73.47 42** P **P** **10 58 52.2 -0.9**
USRK **Ussuriysk Ar.** **73.47 42** P **P** **10 58 52.2 -0.9**
BSEG **Bad Segeberg** **73.62 329** *eP* **P** **10 58 53.6 -0.1**
comp=Z,18nm,1.4s,baz=118,slow=6.0
BSEG epP **sP** **10 59 00.7 +0.1**
baz=119,slow=6.2
WLF **Walferdange** **74.07 323** epP pP 10 59 03.7 +1.8
baz=119,slow=6.2
BUG **Bochum-Univer** **74.16 325** *eP* **P** **10 58 57.1 +0.2**
comp=Z,11nm,1.1s,baz=118,slow=6.0
BUG epP **sP** **10 59 04.4 +0.6**
baz=119,slow=6.2
ZEA **Zeya** **74.44 32** *eP* **P** **10 58 58.2 -0.3**
ZEA *eS* **S** **11 08 35.3 +2.9**
ZEA *e* 11 09 15.4
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA pmax pmax
comp=Z,100nm,6.4s
ZEA smax smax
comp=N,200nm,11.5s
BTNL **Ternell** **74.45 324** *bP* **P** **10 58 59.1 +0.4**
BTNL *db*P **pP** **10 59 01.7 -2.4**
MEM **Membach** **74.53 324** *bP* **P** **10 58 59.6 +0.4**
STKA **Stephens Creek** **74.84 122** LR LR 11 31 47.7
comp=N,399nm,18.0s,baz=269,slow=36
BCLA **Clavier** **74.87 324** *dP* **P** **10 59 01.5 +0.4**
BCLA *dx* x 10 59 08.2
BGES **Gesves** **74.98 324** *dP* **P** **10 59 02.7 +0.9**
HLG **Helgoland** **75.01 328** epP pP 10 59 11.1 +3.9
baz=119,slow=6.2
KLR **Kul'dur** **75.14 37***ce*P **P** **10 59 01.1 -1.6**
KLR pmax pmax
comp=Z,9.0nm,0.9s
DOU **Dourbes** **75.16 323** *dP* **P** **10 59 00.7 -2.1**
DOU *dx* x 10 59 10.0
MAT **Matsushiro** **75.76 51** P **P** **10 59 05.9 -0.7**
MAT S **S** **11 08 47.4 -0.4**
MJAR **Matsushiro Arr** **75.76 51** P **P** **10 59 06.5 -0.1**
comp=Z,3.8nm,0.9s,baz=262,slow=5.9,SNR=8.4
MJAR LR LR 11 34 08.3
comp=Z,449nm,18.9s,baz=270,slow=37
MJAR **Matsushiro Arr** **75.76 51** P **P** **10 59 05.0 -1.6**
MJAR pmax pmax
comp=Z,20nm,1.5s
MJAR **Matsushiro Arr** **75.76 51** P **P** **10 59 05.0 -1.6**
MJAR IAmb IAmb 10 59 15.3
comp=Z,20nm,1.5s
JSD **Sado** **76.17 50** P **P** **10 59 07.9 -0.9**
JSD IAmb IAmb 10 59 11.2
comp=Z,23nm,1.3s
NOA **NORSAR Array B** **76.73 335** P **P** **10 59 11.1 -0.5**
comp=Z,2.3nm,1.0s,baz=114,slow=5.9,SNR=4.3
NOA LR LR 11 36 08.5
comp=Z,107nm,18.4s,baz=120,slow=38
NOA **NORSAR Array B** **76.73 335** P **P** **10 59 11.1 -0.5**
TEY **Ternei** **76.86 43**i *eP* **P** **10 59 11.0 -1.6**
TEY pmax pmax
comp=Z,10.0nm,0.9s
ARCES **ARCESS Array B** **77.33 346** LR LR 11 36 40.4
comp=Z,116nm,18.1s,baz=140,slow=38
ESBB **Sonseca Array** **77.73 311** P **P** **10 59 18.6 +0.9**
ESBB IAmb IAmb 10 59 27.0
comp=Z,26nm,1.2s
ESDC **Sonseca Array** **77.73 311** P **P** **10 59 18.6 +0.9**
comp=Z,13nm,1.4s,baz=74,slow=5.2,SNR=14
ESDC **Sonseca Array** **77.73 311** P **P** **10 59 18.1 +0.4**
ESDC IAmb IAmb 10 59 27.0
comp=Z,27nm,1.3s
PAB **San Pablo** **77.99 311** P **P** **10 59 19.5 +0.3**
PAB pmax pmax
comp=Z,30nm,1.2s
PAB **San Pablo** **77.99 311** P **P** **10 59 19.5 +0.3**
PAB IAmb IAmb 10 59 27.9
comp=Z,30nm,1.2s
YAK **Yakutsk** **79.34 25***ce*P **P** **10 59 25.8 -0.1**
YAK pmax pmax
comp=Z,32nm,1.3s
PBAR **Barrancos** **79.75 309** *eP* **P** **10 59 29.7 +0.9**
comp=Z,37nm,1.8s
PVAQ **Vaqueiros** **80.13 308** *e*LR LR 11 25 23.7
comp=Z,168nm,20.0s
PBRG **Braganca** **80.26 313** *eP* **P** **10 59 32.6 +1.1**
comp=Z,20nm,1.4s
PMRV **Marv??o** **80.27 311** *eP* **P** **10 59 33.1 +1.5**
comp=Z,42nm,1.9s
PMRV **Marv??o** **80.27 311** *e*LR LR 11 26 43.9
comp=Z,236nm,18.0s
PESTR **Estremoz** **80.31 310** *eP* **P** **10 59 33.7 +1.9**
comp=Z,44nm,1.5s
PESTR **Estremoz** **80.31 310** P **P** **10 59 33.8 +2.0**
MVO **Moncorvo** **80.34 312** *eP* **P** **10 59 33.5 +1.5**
comp=Z,36nm,1.7s
MVO **Moncorvo** **80.34 312** *e*LR LR 11 27 00.1
comp=Z,161nm,18.0s
PBEJ **Beja** **80.36 309** A A 10 59 43.5
comp=Z,28nm,1.6s
PCBR **Castelo Branco** **80.41 311** *eP* **P** **10 59 33.9 +1.6**
comp=Z,38nm,1.5s
PCVE **Castro Verde** **80.42 309** *eP* **P** **10 59 34.1 +1.7**
comp=Z,56nm,2.0s
EVO **Evora** **80.57 310** A A 10 59 43.3
comp=Z,44nm,1.3s
MTE **Manteigas** **80.57 311** A A 10 59 43.3
comp=Z,35nm,1.3s
MTE **Manteigas** **80.57 311** *e*LR LR 11 26 22.0
comp=Z,207nm,20.0s
MESJ **Messejana** **80.60 309** *eP* **P** **10 59 34.2 +0.8**
MESJ IAmb IAmb 10 59 35.6
comp=Z,67nm,1.8s
MESJ **Messejana** **80.60 309** *eP* **P** **10 59 34.2 +0.8**
PMTG **Montargil** **80.83 310** *eP* **P** **10 59 36.3 +1.7**
comp=Z,54nm,1.5s
PVIS **Viseu** **80.90 312** *eP* **P** **10 59 37.0 +2.0**
comp=Z,60nm,1.9s
POLO **Lamas de Olo** **80.95 312** *eP* **P** **10 59 35.4 +0.1**
comp=Z,17nm,1.6s
PCAB **Cabril** **81.19 313** *eP* **P** **10 59 38.5 +2.0**
comp=Z,66nm,1.7s
PCAS **Casmilo, Conde** **81.22 311** *eP* **P** **10 59 38.9 +2.2**
comp=Z,73nm,1.6s
PGAV **Gavieira, Arco** **81.42 313** A A 11 41 29.1
comp=Z,153nm,18.0s
YSS **Yuzh-Sakhalins** **81.50 42** *eP* **P** **10 59 37.1 -0.8**
YSS *eS* **S** **11 09 48.6 -0.2**
YSS pmax pmax
comp=Z,35nm,1.0s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS **Yuzh-Sakhalins** **81.50 42** P **P** **10 59 37.7 -0.2**
PMAFR **Mafra** **81.62 310** *eP* **P** **10 59 39.2 +0.4**
SNAA **Sanae** **81.67 198** P **P** **10 59 39.1 +0.6**
SNAA **Sanae** **81.67 198** P **P** **10 59 38.4 -0.1**
SNAA pmax pmax
comp=Z,20nm,1.3s
SNAA **Sanae** **81.67 198** P **P** **10 59 38.4 -0.1**
SNAA IAmb IAmb 10 59 40.4
comp=Z,20nm,1.3s
VNA2 **Neumayer--Watz** **82.89 199** P **P** **10 59 45.6 +0.8**
baz=64,slow=5.1
VNA1 **Neumayer--Stat** **83.11 199** P **P** **10 59 47.2 +1.3**
ARMA **Armidale** **83.33 120** P **P** **10 59 47.9 -0.2**
TIXI **Tiksi** **83.51 16***ce*P **P** **10 59 46.7 -1.2**
TIXI **Tiksi** **83.51 16** P **P** **10 59 47.1 -0.8**
VNA3 **Neumayer Olymp** **83.68 199** P **P** **10 59 49.4 +0.5**
KUR **Kuril'sk** **84.67 44** *eP* **P** **10 59 54.2 -0.1**
KUR *e* 10 59 58.0
KUR S **S** **11 10 20.9 -0.1**
KUR MLR MLR
comp=Z,354nm,20.0s
PMOZ **Porto Moniz, M** **87.22 303** *e*LR LR 11 35 10.0
comp=Z,418nm,20.0s
QSPA **South Pole Qui** **87.53 180** P **P** **11 00 07.3 -0.9**
VNDA **Vanda** **88.46 167** P **P** **11 00 12.6 +0.3**
comp=Z,2.7nm,0.9s,baz=272,slow=5.2,SNR=11
VNDA LR LR 11 35 38.7
comp=Z,252nm,18.1s,baz=268,slow=33
VNDA **Vanda** **88.46 167** IAmb IAmb 11 00 38.0
comp=Z,12nm,1.4s
MA2 **Magadan** **88.49 30***ce*P **P** **11 00 10.7 -2.0**
MA2 pmax pmax
comp=Z,8.0nm,0.8s
SKR **Severo-Kuril's** **90.75 39** *eP* **P** **11 00 28.2 +4.7**
SKR *eS* **S** **11 11 20.0 +1.0**
SKR pmax pmax
comp=Z,100nm,3.1s
SKR pmax pmax
comp=Z,15nm,1.3s
SKR MLR MLR
comp=Z,200nm,18.0s
SKR MLR MLR
comp=Z,300nm,19.0s
PETK **Petropavlovsk-** **91.83 37** LR LR 11 43 21.9
comp=Z,162nm,21.6s,baz=257,slow=37
BILL **Bilibino** **95.41 22** *i* P **P** **11 00 40.4 -4.3**
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL MLR MLR
comp=Z,231nm,18.0s
DZM **Mont Dzumac** **96.97 112** *e*LR LR 11 32 17.9
comp=Z,1µm,25.3s
YKA **Yellowknife Ar** **120.09 1** PKP **PKPdf** **11 06 10.6 -0.4**
comp=Z,0.7nm,1.0s,baz=9.8,slow=2.3,SNR=4.5
YKA PP **PP** **11 07 35.9 +0.8**
comp=Z,2.5nm,1.1s,baz=359,slow=6.8,SNR=10
YKA PKKPab **PKKPab** **11 16 19.1 -2.2**
comp=Z,1.4nm,1.1s,baz=166,slow=4.5,SNR=6.9
YKA **Yellowknife Ar** **120.09 1** **PKPdf** **11 06 10.6 -0.4**
FFC **Flin Flon** **127.26 353** PKIKP **PKiKP** **11 06 25.6 +0.1**
FFC **Flin Flon** **127.26 353** PKPdf **PKiKP** **11 06 25.6 +0.1**
AC02 **Maricunga** **129.36 232** PKPdf **PKPdf** **11 06 27.9 -2.6**
DR12 **Loma Pena Alta** **135.18 294** **PKPdf** **11 06 36.8 -4.3**
TBI **Tubuai** **135.46 127** *e*SS SS 11 27 17.0 +3.3
comp=Z,158nm,35.2s
TBI **Tubuai** **135.46 127** *e*LR LR 11 50 00.0
comp=Z,331nm,26.2s
PPT2 **Papeete2** **138.00 120** *e*SS SS 11 27 42.2 -2.6
comp=Z,240nm,30.5s
PPT2 **Papeete2** **138.00 120** *e*LR LR 11 51 20.3
comp=Z,628nm,25.8s
TPAW **Teton Pass** **139.15 359** PKPdf **PKPdf** **11 06 48.8 +0.8**
REDW **Red Top Meadow** **139.27 359** **PKPdf** **11 06 45.1 -3.1**
PDAR **Pinedale Array** **139.82 357** PKP **PKPdf** **11 06 50.2 +0.9**
comp=Z,1.6nm,0.8s,baz=48,slow=2.2,SNR=6.5
PDAR **Pinedale Array** **139.82 357** PKPdf **PKPdf** **11 06 47.0 -2.3**
RDMU **Red Mountain** **142.01 357** **PKPdf** **11 06 51.7 -1.6**
DUG **Dugway, Tooele** **142.45 1** PKIKP **PKPdf** **11 06 54.0 0.0**
DUG **Dugway, Tooele** **142.45 1** **PKPdf** **11 06 54.0 0.0**
SMCO **Snowmass** **143.17 353** PKPdf PKPbc 11 06 52.5 +0.1
NVAR **Mina Array Bea** **143.76 8** PKP PKPbc 11 06 54.8 +0.8
comp=Z,1.1nm,1.0s,baz=356,slow=2.3,SNR=6.2
NVAR PP **PP** **11 10 08.7 +1.0**
comp=Z,0.3nm,0.8s,baz=347,slow=3.7,SNR=3.2
NVAR **Mina Array Bea** **143.76 8** PKPbc 11 06 54.3 +0.4
PV07 **Paradox Valley** **144.07 355** **PKPab** **11 06 54.5 +0.1**
PV04 **Paradox Valley** **144.13 356** PKPbc 11 06 55.0 0.0
PV14 **Lion Creek, Pa** **144.16 356** PKPbc 11 06 55.3 +0.2
PV20 **West Nyswonger** **144.19 356** **PKPab** **11 06 54.4 -0.1**
PV12 **Saucer Basin,** **144.20 356** **PKPab** **11 06 54.7 -0.1**
PV16 **Nyswonger Mesa** **144.22 356** PKPbc 11 06 55.6 +0.3
PV19 **Morning Glory** **144.22 356** PKPbc 11 06 56.0 +0.7
PV11 **David Mesa, Pa** **144.22 356** PKPbc 11 06 55.5 +0.2
PV17 **East Wray Mesa** **144.25 356** PKPbc 11 06 55.8 +0.4
TPH **Tonopah** **144.26 7** PKIKP PKPbc 11 06 56.0 +0.6
TPH **Tonopah** **144.26 7** PKPbc 11 06 56.0 +0.6
PV03 **Paradox Valley** **144.27 356** **PKPab** **11 06 55.0 -0.1**
PV18 **Skein Mesa, Pa** **144.28 356** **PKPab** **11 06 55.3 +0.1**
SDCO **Great Sand Dun** **144.38 351** **PKPab** **11 06 55.3 -0.3**
MDPB **Devils Postpil** **144.42 10** PKPdf **PKPab** **11 06 55.8 0.0**
MTPU **Mount Pierson** **144.60 0** PKPbc 11 06 56.9 +0.2
T25A **Trinidad** **144.79 349** PKPdf **PKPab** **11 06 56.7 -0.3**
SAO **San Andreas Ge** **144.80 13** PKIKP **PKPab** **11 06 56.6 -0.2**
SAO **San Andreas Ge** **144.80 13** PKPdf **PKPab** **11 06 56.5 -0.2**
CCUT **Cedar City** **145.07 2** **PKPbc** **11 06 57.2 -0.8**
PRN **Pahroc Range** **145.13 4** **PKPdf** **11 06 58.5 -0.2**
PKCU **Pink Cliffs** **145.20 0** **PKPab** **11 06 58.7 +0.1**
Z38A **Mt. Pleasant** **145.44 334** **PKPab** **11 06 59.5 +0.2**
WMOK **Wichita Mounta** **145.59 340** PKIKP **PKPdf** **11 06 58.9 -0.5**
WMOK **Wichita Mounta** **145.59 340** **PKPdf** **11 06 58.9 -0.5**
LOOK **Love County** **145.69 338** **PKPdf** **11 06 59.6 +0.1**
SHPR **Sheep Range** **146.02 4** **PKPab** **11 07 01.4 -0.1**
RKT **Rikitea** **146.16 140** *e*LR LR 11 54 50.6
comp=Z,388nm,28.8s
U15A **North Rim** **146.21 0** PKPdf **PKPab** **11 07 02.1 -0.3**
GSC **Goldstone, Bar** **147.04 7** PKP2 **PKPdf** **11 07 02.6 +0.6**
GSC **Goldstone, Bar** **147.04 7** **PKPdf** **11 07 02.6 +0.6**
WUAZ **Wupatki** **147.12 359** **PKPbc** **11 07 03.8 -0.5**
ANMO **Albuquerque** **147.27 351** PKP2 **PKPdf** **11 07 03.5 +1.0**
ANMO **Albuquerque** **147.27 351** **PKPdf** **11 07 03.5 +1.0**
MSTX **Muleshoe** **147.48 346** **PKPbc** **11 07 04.8 -0.4**
W13A **Hualapai Mount** **147.50 3** **PKPdf** **11 07 03.6 +0.7**
ABTX **Abilene, Hawle** **147.81 340** **PKPbc** **11 07 06.2 +0.1**
MWC **Mount Wilson** **147.92 9** PKP2 **PKPbc** **11 07 06.5 -0.1**
MWC **Mount Wilson** **147.92 9** **PKPbc** **11 07 06.5 -0.1**
X18A **Snowflake** **148.05 357** **PKPbc** **11 07 06.0 -0.9**
HKT **Hockley** **148.62 332** PKIKP **PKPdf** **11 07 05.8 +1.3**
HKT **Hockley** **148.62 332** **PKPdf** **11 07 05.8 +1.3**
PFO **Pinyon Flats O** **148.75 7** PKIKP **PKPdf** **11 07 06.2 +1.3**
PFO **Pinyon Flats O** **148.75 7** **PKPdf** **11 07 06.2 +1.3**
JCT **Junction City** **149.82 339** PKHKP PKPpre 11 07 08.1
JCT **Junction City** **149.82 339** **PKPdf** **11 07 08.1 +1.5**
121A **Cookes Peak, D** **149.83 353** **PKPdf** **11 07 08.4 +1.7**
TUC **Tucson** **150.30 358** PKIKP **PKPbc** **11 07 11.7 -0.8**
TUC **Tucson** **150.30 358** **PKPbc** **11 07 11.7 -0.8**
SFX **San Felipe** **151.47 5** **PKPbc** **11 07 13.1 -2.0**
TX31 **Lajitas Ar. Si** **152.12 344** **PKPbc** **11 07 16.2 -0.6**
TXAR **Lajitas Array** **152.12 344** PKP **PKPdf** **11 07 10.7 +0.5**
comp=Z,1.3nm,1.2s,baz=270,slow=0.1,SNR=5.9
TXAR PKPbc **PKPbc** **11 07 16.6 -0.2**
comp=Z,2.0nm,0.9s,baz=152,slow=1.1,SNR=13
TXAR PKPab **PKPab** **11 07 26.3 +0.2**
comp=Z,3.2nm,1.0s,baz=58,slow=2.4,SNR=7.1
TXAR **Lajitas Array** **152.12 344** PKIKP **PKPdf** **11 07 11.0 +0.8**
TXAR **Lajitas Array** **152.12 344** PKPdf **PKPdf** **11 07 11.0 +0.8**
TGUH **Tegucigalpa,Un** **152.93 297** PKPdf **PKPdf** **11 07 10.9 -0.8**

IDC ***08*** *11:10:23.9±1.2,23°.31S×179°.81E,h528km±13km,*
mb3.3/17,mb1 3.5/20,mb1mx3.5/30,mbtmp4.2/20,Error
ellipse: s-maj=15.9km s-min=12.2km az=115.0
NEIC ***08*** *11:10:24.1±1.3,23°.4S±0°.1×179°.9E±0°.1,h540km±7km,*
mb4.7/52,Error ellipse: s-maj=18.6km s-min=14.0km
az=114.0
ISC 08 11:10:23.7±0.4,**23°.41S**±0°.06×**179°.86E**±0°.09,**h535**km,
n106,σ0**86/**110,**mb4.4/**37,**1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.90**	**343**	P	**P**	**11 12 00.7**	**-0.2**
	3.5nm,0.3s,baz=164,slow=16,SNR=26						
MSVF	**Nonsavu**	**5.90**	**343**	P	**P**	**11 12 01.5**	**+0.5**
RAO	**Raoul Island**	**6.15**	**162**	P	**P**	**11 12 04.3**	**+1.5**
	129nm,0.3s,baz=200,slow=20,SNR=2.8						
RAO	**Raoul Island**	**6.15**	**162**	P	**P**	**11 12 03.2**	**+0.3**
NIUE	**Niue**	**10.45**	**68**	P	**P**	**11 12 45.7**	**-0.6**
AFI	**Afiamalu**	**12.33**	**41**	P	**P**	**11 13 05.2**	**-0.7**
	1.4nm,0.3s,baz=225,slow=16,SNR=2.1						
OUZ	**Omahuta**	**12.97**	**203**	P	**P**	**11 13 12.2**	**+0.1**
MXZ	**Matakaoa Point**	**14.17**	**185**	P	**P**	**11 13 24.8**	**+0.2**
URZ	**Urewera**	**14.99**	**188**	P	**P**	**11 13 33.2**	**+0.1**
	4.2nm,0.3s,baz=308,slow=20,SNR=23						
URZ				S	**S**	**11 16 05.6**	**-3.6**
	1.6nm,0.3s,baz=339,slow=22,SNR=7.4						
URZ	**Urewera**	**14.99**	**188**	P	**P**	**11 13 32.6**	**-0.5**
HIZ	**Hauiti**	**15.65**	**195**	P	**P**	**11 13 41.3**	**+1.3**
BKZ	**Black Stump Fm**	**15.96**	**190**	P	**P**	**11 13 42.3**	**-0.9**
BKZ				IAmb	IAmb	11 13 43.3	
	comp=Z,62nm,1.8s						
BFZ	**Birch Farm**	**17.49**	**189**	P	**P**	**11 13 57.0**	**-0.4**
SNZO	**South Karori**	**18.36**	**192**	P	**P**	**11 14 05.1**	**-0.3**
BHW	**Baring Head**	**18.43**	**192**	P	**P**	**11 14 06.1**	**+0.1**
QRZ	**Quartz Range**	**18.43**	**198**	P	**P**	**11 14 05.4**	**-0.7**
QRZ				IAmb	IAmb	11 14 08.8	
	comp=Z,31nm,1.0s						
PLWZ	**Palliser**	**18.51**	**191**	P	**P**	**11 14 06.1**	**-0.8**
NNZ	**Nelson**	**18.57**	**196**	P	**P**	**11 14 07.6**	**+0.3**
BSWZ	**Blackbirch Sta**	**18.93**	**194**	P	**P**	**11 14 10.7**	**+0.1**
THZ	**Tophouse**	**19.20**	**196**	P	**P**	**11 14 12.7**	**-0.4**
THZ				IAmb	IAmb	11 14 50.7	
	comp=Z,59nm,1.6s						
KHZ	**Kahutara**	**19.67**	**194**	P	**P**	**11 14 16.8**	**-0.5**
LTZ	**Lake Taylor**	**20.32**	**196**	P	**P**	**11 14 22.7**	**-0.6**
OXZ	**Oxford**	**20.89**	**196**	P	**P**	**11 14 27.4**	**-1.0**
OXZ				IAmb	IAmb	11 14 40.9	
	comp=Z,16nm,0.7s						
MQZ	**McQueen's Vall**	**21.10**	**195**	P	**P**	**11 14 30.3**	**+0.1**
RPZ	**Rata Peaks**	**21.51**	**198**	P	**P**	**11 14 33.5**	**-0.5**
RPZ				IAmb	IAmb	11 15 05.8	
	comp=Z,55nm,1.5s						
MLZ	**Mavora Lakes**	**23.90**	**201**	P	**P**	**11 14 56.2**	**+0.8**
WHZ	**Wether Hill Ro**	**24.42**	**200**	P	**P**	**11 15 00.1**	**+0.2**
EIDS	**Eidsvold**	**26.26**	**260**	P	**P**	**11 15 15.2**	**-1.3**
EIDS				IAmb	IAmb	11 15 46.2	
	comp=Z,18nm,1.3s						
CTAO	**Charters Tower**	**31.35**	**270**	P	**P**	**11 16 01.3**	**+0.5**
CTAO				IAmb	IAmb	11 16 01.5	
	comp=Z,75nm,1.9s						
MCQ	**Macquarie Isla**	**34.77**	**201**	P	**P**	**11 16 28.5**	**-0.6**
STKA	**Stephens Creek**	**34.79**	**247**	P	**P**	**11 16 30.6**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=322,slow=23,SNR=1.9						
AS31	**Alice Springs**	**41.99**	**260**	P	**P**	**11 17 28.6**	**+0.2**
ASAR	**Alice Springs**	**41.99**	**260**	P	**P**	**11 17 28.5**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=100,slow=6.7,SNR=35						
ASAR				ScP	**ScP**	**11 22 13.6**	**+3.0**
	comp=Z,0.4nm,0.5s,baz=108,slow=4.2,SNR=8.7						
ASAR	**Alice Springs**	**41.99**	**260**	P	**P**	**11 17 28.1**	**-0.2**
WRAB	**Tennant Creek**	**42.30**	**266**	P	**P**	**11 17 29.9**	**-0.9**
WRAB				IAmb	IAmb	11 18 17.7	
	comp=Z,30nm,1.8s						
WRA	**Warramunga Ar**	**42.31**	**266**	P	**P**	**11 17 30.5**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=90,slow=5.9,SNR=118						
WRA				ScP	**ScP**	**11 22 13.2**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=100,slow=4.1,SNR=1.4						
FORT	**Forrest**	**46.36**	**249**	P	**P**	**11 18 01.5**	**-0.5**
FORT				IAmb	IAmb	11 18 18.0	
	comp=Z,40nm,1.2s						
KNRA	**Kununurra**	**48.56**	**269**	P	**P**	**11 18 18.9**	**+0.2**
KNRA				IAmb	IAmb	11 19 56.6	
	comp=Z,50nm,1.6s						
HMH	**Humu'ula Sheep**	**49.06**	**31**	P	**P**	**11 18 22.5**	**0.0**
DHH	**Diamond Head**	**49.45**	**28**	P	**P**	**11 18 25.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.74**	**265**	P	**P**	**11 18 34.0**	**-0.6**
VNDA	**Vanda**	**54.85**	**185**	P	**P**	**11 19 05.3**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=318,slow=6.6,SNR=11						
VNDA	**Vanda**	**54.85**	**185**	P	**P**	**11 19 02.9**	**-0.2**
MORW	**Morawa**	**56.92**	**250**	P	**P**	**11 19 17.7**	**-0.6**
MORW				IAmb	IAmb	11 20 53.6	
	comp=Z,72nm,1.8s						
CASY	**Casey**	**60.49**	**206**	P	**P**	**11 19 41.5**	**0.0**
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**11 20 22.2**	**+1.0**
QSPA				IAmb	IAmb	11 20 24.4	
	comp=Z,36nm,1.6s						
MJAR	**Matsushiro Arr**	**71.42**	**326**	P	**P**	**11 20 50.1**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=115,slow=9.4,SNR=7.9						
JWT	**Wachi**	**71.98**	**323**	P	**P**	**11 20 52.9**	**-0.4**
JWT				IAmb	IAmb	11 23 32.9	
	comp=Z,56nm,1.8s						
JHS	**Saijyo**	**73.07**	**321**	P	**P**	**11 21 00.2**	**+0.6**
JHS				IAmb	IAmb	11 21 59.9	
	comp=Z,84nm,1.9s						
ADK	**Adak**	**75.03**	**2**	P	**P**	**11 21 10.0**	**-0.2**
ADK				IAmb	IAmb	11 21 21.6	
	comp=Z,77nm,1.3s						
NIKH	**Nikolski High**	**76.69**	**7**	P	**P**	**11 21 19.0**	**-0.4**
KSRS	**Korea Array**	**77.79**	**320**	P	**P**	**11 21 26.9**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=132,slow=5.6,SNR=9.0						
MAW	**Mawson**	**78.16**	**200**	P	**P**	**11 21 28.8**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=291,slow=13,SNR=2.5						
PEA0B	**Petropavlovsk-**	**78.60**	**347**	P	**P**	**11 21 30.1**	**+0.4**
PEA0B				IAmb	IAmb	11 24 12.9	
	comp=Z,42nm,1.7s						
PETK	**Petropavlovsk-**	**78.60**	**347**	P	**P**	**11 21 29.8**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=126,slow=5.6,SNR=7.9						
PETK	**Petropavlovsk-**	**78.60**	**347**	P	**P**	**11 21 29.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**80.29**	**327**	P	**P**	**11 21 40.0**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=159,slow=3.8,SNR=5.5						
USRK	**Ussuriysk Ar.**	**80.29**	**327**	P	**P**	**11 21 39.7**	**+0.9**
ISA	**Isabella, Lake**	**82.78**	**46**	P	**P**	**11 21 52.4**	**+0.4**
CMB	**Columbia Colle**	**82.94**	**43**	P	**P**	**11 21 53.1**	**+0.5**
KRMB	**Red Mountain**	**82.96**	**39**	P	**P**	**11 21 52.6**	**-0.2**
YBH	**Yreka Blue Hor**	**83.79**	**39**	P	**P**	**11 21 58.4**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=33,slow=16,SNR=2.9						
BEKR	**Beckworth**	**84.05**	**42**	P	**P**	**11 21 59.1**	**+0.8**
NVAR	**Mina Array Bea**	**84.49**	**44**	P	**P**	**11 22 01.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=218,slow=8.3,SNR=6.9						
NVAR	**Mina Array Bea**	**84.49**	**44**	P	**P**	**11 22 00.8**	**+0.3**
TPNV	**Topopah Spring**	**84.99**	**46**	P	**P**	**11 22 03.3**	**+0.3**
SNAA	**Sanae**	**85.15**	**179**	P	**P**	**11 22 02.7**	**-0.4**
SNAA	**Sanae**	**85.15**	**179**	P	**P**	**11 22 02.5**	**-0.6**
VNA3	**Neumayer Olymp**	**85.37**	**177**	P	**P**	**11 22 03.8**	**-0.3**
VNA2	**Neumayer--Watz**	**85.78**	**178**	P	**P**	**11 22 06.1**	**+0.1**
	baz=187,slow=4.0						
PINE	**Pine Mountain**	**86.09**	**39**	P	**P**	**11 22 07.4**	**-0.7**
PINE				IAmb	IAmb	11 23 33.5	
	comp=Z,19nm,1.6s						
I07A	**Izee**	**87.09**	**39**	P	**P**	**11 22 13.5**	**+0.7**
U15A	**North Rim**	**87.38**	**48**	P	**P**	**11 22 15.0**	**+0.6**
ELK	**Elko**	**87.75**	**44**	P	**P**	**11 22 16.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=264

comp=Z,14nm,2.0s
ILAR Eielson Array 91.59 14 P **P 11 22 32.1 -0.8**
comp=Z,0.4nm,0.7s,baz=229,slow=7.3,SNR=8.4
ILAR Eielson Array 91.59 14 P **P 11 22 32.9 -0.1**
PDAR Pinedale Array 92.43 44 P **P 11 22 38.0 +0.4**
comp=Z,0.4nm,0.6s,baz=234,slow=5.1,SNR=4.2
DAWY Dawson 92.80 17 P **P 11 22 38.7 +0.1**
DAWY IAmb IAmb 11 26 19.4
comp=Z,18nm,2.0s
EGAK Eagle 92.92 16 P **P 11 22 38.9 -0.2**
EGAK IAmb IAmb 11 24 21.7
comp=Z,11nm,1.8s
BMAR Burnt Mountain 94.36 13 P **P 11 22 46.3 +0.6**
INK Inuvik 97.59 16 P Pdif 11 22 59.7 -0.4
comp=Z,0.8nm,0.8s,baz=224,slow=5.4,SNR=3.5
MKAR Makanchi Array 111.73 313 PKiKP **PKiKP 11 27 56.9 -0.7**
comp=Z,0.1nm,0.4s,baz=158,slow=2.5,SNR=4.5
ARCES ARCESS Array B 131.38 348 PKP **PKPdf 11 28 33.9 -0.7**
comp=Z,1.8nm,0.8s,baz=28,slow=2.5,SNR=3.9
NOA NORSAR Array B 141.58 351 PKhKP PKPpre 11 28 48.5
comp=Z,1.1nm,0.6s,baz=15,slow=4.5,SNR=4.1
AKASG Malin Array Be 144.49 328 PKP PKPbc 11 28 58.2 -0.8
comp=Z,2.0nm,0.5s,baz=45,slow=4.4,SNR=9.9
AKASG Malin Array Be 144.49 328 PKPbc 11 28 57.7 -1.3
BRTR Keskin Array B 147.18 308 PKPbc **PKPbc 11 29 07.1 -0.1**
comp=Z,0.3nm,0.4s,baz=49,slow=4.4,SNR=3.6
BRTR Keskin Array B 147.18 308 PKPdf **PKPdf 11 29 01.8 -2.3**
BRTR **PKPbc 11 29 05.8 -1.4**
BRTR PKPab **PKiKP 11 29 09.9 +0.9**
CLL Collm 150.35 343 ↓*i*PKPbc **PKPbc 11 29 14.5 +0.1**
comp=Z,8.0nm,0.9s
CLL *e*PKPab **PKPab 11 29 23.0 -0.2**
GERES GERESS Array B 152.35 340 PKPbc **PKPbc 11 29 19.1 0.0**
comp=Z,0.4nm,0.2s,baz=45,slow=3.5,SNR=2.7
GERES GERESS Array B 152.35 340 PKPdf **PKPdf 11 29 10.2 -1.7**
GERES **PKPbc 11 29 18.0 -1.2**
GERES PKPab **PKPab 11 29 29.8 -2.0**
TORD Torodi Ar. Bea 169.64 190 PKPab **PKPab 11 30 48.7 +0.8**
comp=Z,0.8nm,0.9s,baz=202,slow=1.3,SNR=2.4

IDC 08 11:30:14.2±2.3, 4.78S×128.30E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=182.3km s-min=29.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.18**	**159**	Pn	Pn	11 34 01.9	-1.2
	0.1nm,0.3s,baz=341,slow=13,SNR=1.7						
WRA				Sn	Sn	11 36 48.1	-15
	0.1nm,0.3s,baz=329,slow=22,SNR=1.2						
ASAR	**Alice Springs**	**19.54**	**164**	P	P	11 34 44.0	+0.5
	0.1nm,0.3s,baz=347,slow=11,SNR=13						
MKAR	**Makanchi Array**	**65.46**	**327**	P	P	11 40 59.1	0.0
	0.3nm,0.5s,baz=115,slow=7.5,SNR=4.9						

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*IGQ **08** 11:37:53±6.6, 2°N±46°×9°2W±5°0, h22km*
*IDC **08** 11:37:57.9±0.8, 1.78N×90.73W, h0km, mb4.3/18, mb1 4.5/18, mb1mx4.4/31, mbtmp4.3/18, MS4.0/22, Ms1 4.0/22, ms1mx4.0/31, Error ellipse: s-maj=28.6km s-min=11.9km az=54.0*
*NEIC **08** 11:37:59.1±1.5, 1.54N±0.06×90.8W±0.1, h10km±1km, mb4.7/235, Error ellipse: s-maj=18.5km s-min=9.9km az=257.0*
*GCMT **08** 11:38:02.1±0.4, 1.74N±0.02×90.88W±0.02, h14km±1km, MW4.8/89, Moment Tensor Solution. s14,c14; s89,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.58±.12; Mθθ=0.03±.09; Mφφ=0.55±.12; Mrθ=-0.31±.22; Mrφ=-2.33±.10; Mθφ=-0.12±.20; Best double couple: M=2.37800×10^16 NP1:φs=3.00000°, δ=81.00000°, λ=-7.00000°. NP2: φs=94.00000°, δ=84.00000°, λ=-170.00000°. Principal axes: T 2.6380, Plg2.0000°, Azm228.0000°; N -0.5210, Plg78.0000°, Azm128.0000°; P -2.1170, Plg11.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 11:37:58.6±0.5, 1.58N±0.06×90.85W±0.08, h10km, n336, σ0=83/307, mb4.6/124, MS4.1/20, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FER1	**Fernandina1, P**	**2.13**	**196**	P	Pn	11 38 28.0	-6.3
ALCE	**Alcedo, Punta**	**2.30**	**209**	P	Pn	11 38 31.0	-5.7
PAYG	**Puerto Ayora**	**2.30**	**166**	Pn	**Pn**	**11 38 36.1**	**-0.5**
PAYG	**Puerto Ayora**	**2.30**	**166**	P	Pn	11 38 33.0	-3.7
VCH1	**Volcn Chico**	**2.35**	**186**	P	Pn	11 38 35.0	-2.5
JACO	**JACO, Garabito**	**10.12**	**37**	Pn	**Pn**	**11 40 23.6**	**-0.6**
JTS	**Las Juntas de**	**10.46**	**34**	LR	LR	11 43 29.7
	comp=Z,2μm,19.0s,baz=250,slow=32						
DRK0	**Durika**	**10.75**	**44**		**Pn**	**11 40 32.6**	**-0.3**
BOAB	**BOACO BROADBAN**	**11.96**	**25**	Pn	**Pn**	**11 40 50.1**	**+0.8**
OTAV	**Otavalo**	**12.47**	**96**		**Pn**	**11 40 56.2**	**-0.5**
OTAV	**Otavalo**	**12.47**	**96**	*e*P	**Pn**	**11 40 56.4**	**-0.3**
MTO3	**Montecristo**	**12.83**	**7**		**Pn**	**11 41 01.3**	**-0.1**
YAHU	**Yahuarcocha**	**12.83**	**95**	P	Pn	11 41 06.0	+4.4
TGUH	**Tegucigalpa,Un**	**12.90**	**16**	Pn	**Pn**	**11 41 01.4**	**-0.8**
CHL2	**Volcn Chiles**	**12.95**	**93**	P	**Pn**	**11 41 05.0**	**+1.7**
APG	**El Apazote**	**13.35**	**2**	Pn	**Pn**	**11 41 12.5**	**+4.0**
	0.3nm,0.3s,baz=205,slow=12,SNR=11						
APG				LR	LR	11 44 16.6	
	comp=Z,108nm,20.1s,baz=165,slow=29						
ATAH	**Atahualpa**	**15.14**	**125**	Pn	**P**	**11 41 36.6**	**-1.8**
	0.3nm,0.3s,baz=319,slow=15,SNR=5.4						
ATAH				LR	LR	11 46 27.5	
	comp=Z,1μm,18.3s,baz=301,slow=34						
FLOC	**Florencia**	**15.19**	**90**	Pn	**Pn**	**11 41 33.5**	**0.0**
FLOC				IAmb	IAmb	11 41 51.4	
	comp=Z,29nm,1.2s						
CMIG	**Matias Romero**	**15.92**	**346**	Pn	**Pn**	**11 41 43.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=5.9						
CMIG				LR	LR	11 46 26.5	
	comp=Z,461nm,21.6s,baz=156,slow=32						
ROSC	**El Rosal**	**16.82**	**78**	Pn	**P**	**11 41 59.0**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=281,slow=16,SNR=6.1						
ROSC				LR	LR	11 47 30.7	
	comp=Z,1μm,20.3s,baz=261,slow=34						
ROSC	**El Rosal**	**16.82**	**78**		**Pn**	**11 41 53.6**	**-1.2**
SJCC	**San Jacinto, C**	**17.64**	**61**		**P**	**11 42 05.3**	**-0.3**
RUSC	**La Rusia**	**18.23**	**76**	P	**P**	**11 42 12.7**	**0.0**
RUSC				IAmb	IAmb	11 42 31.9	
	comp=Z,61nm,1.4s						
NNA	**Nana**	**19.37**	**134**	LR	LR	11 48 24.4
	comp=Z,658nm,21.4s,baz=323,slow=32						
SDV	**Santo Domingo**	**21.39**	**69**	P	**P**	**11 42 45.8**	**-1.0**
	comp=Z,7.2nm,0.3s,baz=211,slow=12,SNR=6.6						
SDV				LR	LR	11 51 04.3	
	comp=Z,392nm,20.4s,baz=249,slow=37						
SDV	**Santo Domingo**	**21.39**	**69**	P	**P**	**11 42 45.3**	**-1.5**
SDV				IAmb	IAmb	11 42 51.6	
	comp=Z,24nm,0.9s						
SDV	**Santo Domingo**	**21.39**	**69**	*e*P	**P**	**11 42 46.8**	**-0.1**
ZAIG	**Zacatecas**	**23.95**	**332**	P	**P**	**11 43 14.0**	**+0.5**
ETMB	**Extrema**	**27.02**	**115**	*e*P	**P**	**11 43 41.7**	**+0.6**
PCRV	**Puerto La Cruz**	**27.41**	**71**	P	**P**	**11 43 44.9**	**+0.1**
	comp=Z,14nm,1.0s,baz=229,slow=4.1,SNR=3.8						
833A	**Chaparral WMA,**	**27.82**	**344**	P		11 43 49.4
	baz=162						
LPAZ	**La Paz**	**28.61**	**129**	P	**P**	**11 43 56.5**	**+0.5**
	comp=Z,4.7nm,1.1s,baz=295,slow=8.1,SNR=8.0						
LPAZ	**La Paz**	**28.61**	**129**	P	**P**	**11 43 55.3**	**-0.8**
LPAZ				IAmb	IAmb	11 44 07.2	
	comp=Z,10nm,1.1s						
PB16	**IPOC Station P**	**28.85**	**134**	P	**P**	**11 43 56.7**	**-1.5**
PB16				IAmb	IAmb	11 44 01.3	
	comp=Z,8.2nm,0.9s						
LPIG	**La Paz**	**29.26**	**321**	LR	LR	11 52 55.3
	comp=Z,215nm,20.7s,baz=188,slow=31						
PSGCX	**Pisagua**	**29.27**	**137**	P	**P**	**11 44 00.7**	**-0.6**
SJG	**San Juan**	**29.29**	**54**	LR	LR	11 54 01.1
	comp=Z,528nm,21.8s,baz=128,slow=33						
MNMC	**Minye Minye**	**29.32**	**136**	P	**P**	**11 44 01.9**	**-0.1**
MNMC				IAmb	IAmb	11 44 10.8	
	comp=Z,19nm,1.2s						
435B	**Jarrell**	**29.74**	**348**	P		11 44 06.4
	baz=166						
JCT	**Junction City**	**29.98**	**344**	P	**P**	**11 44 06.7**	**-0.8**
JCT	**Junction City**	**29.98**	**344**	P		11 44 08.2
	baz=162						
TXAR	**Lajitas Array**	**30.18**	**337**	P	**P**	**11 44 09.0**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=149,slow=11,SNR=13						
TXAR				LR	LR	11 55 15.7	
	comp=Z,514nm,18.4s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**30.18**	**337**	P	**P**	**11 44 09.5**	**+0.1**
TX31	**Lajitas Ar. Si**	**30.19**	**337**	P	**P**	**11 44 10.2**	**+0.8**
TX31				IAmb	IAmb	11 44 16.1	
	comp=Z,11nm,1.1s						
TX32	**Lajitas Array**	**30.19**	**337**	P	**P**	**11 44 09.8**	**+0.5**
BOAV	**Boa Vista**	**30.32**	**88**	*e*P	**P**	**11 44 12.0**	**+1.4**
MACA	**Manacapuru-AM**	**30.52**	**99**	*e*P	**P**	**11 44 12.0**	**-0.4**
WHTX	**Lake Whitney,**	**30.89**	**349**	P	**P**	**11 44 16.1**	**+0.7**
WHTX	**Lake Whitney,**	**30.89**	**349**	P		11 44 16.6
	baz=167						
PTGA	**Pitinga**	**30.96**	**94**	P	**P**	**11 44 16.8**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=110,slow=5.1,SNR=4.0						
PTGA	**Pitinga**	**30.96**	**94**	P	**P**	**11 44 16.3**	**0.0**
PTGA				IAmb	IAmb	11 44 25.9	
	comp=Z,11nm,1.1s						
PB09	**IPOC Station P**	**31.39**	**139**	P	**P**	**11 44 18.6**	**-1.6**
152A	**Waverly Hall**	**31.46**	**10**	P	**P**	**11 44 21.1**	**+0.6**
152A				IAmb	IAmb	11 44 22.5	
	comp=Z,16nm,1.4s						
LRAL	**Lakeview Retre**	**31.50**	**6**	P	**P**	**11 44 21.8**	**+1.0**
LRAL				IAmb	IAmb	11 44 39.0	
	comp=Z,8.9nm,1.4s						
Z41A	**Richland Creek**	**31.57**	**357**	P		11 44 22.3
	baz=176						
Z38A	**Mt. Pleasant**	**31.76**	**353**	P	**P**	**11 44 23.7**	**+0.7**
ABTX	**Abilene, Hawle**	**31.97**	**346**	P		11 44 24.9
	baz=163						
ABTX	**Abilene, Hawle**	**31.98**	**346**	P	**P**	**11 44 24.7**	**-0.3**
ABTX				IAmb	IAmb	11 44 31.4	
	comp=Z,7.1nm,0.8s						
WLAR	**White Oak Lake**	**32.02**	**356**	P	**P**	**11 44 25.6**	**+0.3**
Z51A	**Franklin**	**32.02**	**9**	P	**P**	**11 44 26.5**	**+1.2**
Z51A				IAmb	IAmb	11 44 31.1	
	comp=Z,14nm,1.4s						
Z35A	**Perchaven, San**	**32.16**	**350**	P	**P**	**11 44 26.9**	**+0.4**
LVC	**Limon Verde**	**32.18**	**140**	P	**P**	**11 44 30.0**	**+2.7**
	comp=Z,5.9nm,0.7s,baz=307,slow=4.7,SNR=5.9						
LVC	**Limon Verde**	**32.18**	**140**	P	**P**	**11 44 26.3**	**-1.0**
LVC				IAmb	IAmb	11 44 30.5	
	comp=Z,8.2nm,0.9s						
LVC	**Limon Verde**	**32.18**	**140**	*e*P	**P**	**11 44 28.5**	**+1.2**
GOGA	**Godfrey**	**32.42**	**12**	P		11 44 28.6
	baz=194						
OXF	**Oxford**	**32.80**	**2**	P		11 44 32.8
	baz=183						
X40A	**Basin Creek Fa**	**32.80**	**357**	P		11 44 32.5
	baz=176						
MIAR	**Mount Ida**	**32.90**	**356**	P		11 44 33.0
	baz=175,SNR=11						
MIAR	**Mount Ida**	**32.90**	**356**	P	**P**	**11 44 33.2**	**+0.1**
MNTX	**Cornudas Mount**	**32.96**	**337**	P	**P**	**11 44 33.3**	**-0.4**
MNTX	**Cornudas Mount**	**32.96**	**337**	P		11 44 33.5
	baz=153,SNR=6.2						
X37A	**Clayton**	**33.12**	**353**	P	**P**	**11 44 35.5**	**+0.6**
X37A				IAmb	IAmb	11 44 44.8	
	comp=Z,9.2nm,0.9s						
W41B	**Gary Mavity, V**	**33.45**	**358**	P		11 44 37.6
	baz=177						
X34A	**Smith Ranch, M**	**33.50**	**350**	P	**P**	**11 44 39.3**	**+1.0**
W39A	**Magazine**	**33.56**	**356**	P	**P**	**11 44 39.4**	**+0.6**
W39A	**Magazine**	**33.56**	**356**	P		11 44 39.0
	baz=175,SNR=6.5						
WHAR	**Wooly Hollow**	**33.57**	**358**	P	**P**	**11 44 39.8**	**+0.9**
WHAR				IAmb	IAmb	11 44 45.2	
	comp=Z,11nm,1.3s						
VILB	**Vilhena**	**33.66**	**116**	*e*P	**P**	**11 44 41.7**	**+1.7**
SWET	**Sewanee**	**33.78**	**7**	P	**P**	**11 44 40.5**	**-0.3**
SWET				IAmb	IAmb	11 44 42.5	
	comp=Z,18nm,1.3s						
WMOK	**Wichita Mounta**	**33.81**	**348**	P		11 44 41.2
	baz=166,SNR=18						
WMOK	**Wichita Mounta**	**33.81**	**348**	P	**P**	**11 44 41.2**	**+0.1**
BG3	**Lake Jocassee**	**34.06**	**12**	P	**P**	**11 44 43.5**	**+0.3**
BG3				IAmb	IAmb	11 44 45.2	
	comp=Z,7.8nm,1.1s						
FNO	**Franklin**	**34.06**	**350**	P	**P**	**11 44 40.0**	**+0.8**
MSTX	**Muleshoe**	**34.10**	**342**	P		11 44 43.5
	baz=158						
MSTX	**Muleshoe**	**34.10**	**342**	P	**P**	**11 44 44.3**	**+0.6**
PAULI	**Pauline**	**34.13**	**13**	P	**P**	**11 44 44.1**	**+0.3**
PAULI				IAmb	IAmb	11 44 45.6	
	comp=Z,19nm,1.4s						
FCAR	**Ozark Folk Cen**	**34.16**	**358**	P	**P**	**11 44 44.2**	**+0.1**
FCAR				IAmb	IAmb	11 44 46.5	
	comp=Z,13nm,1.1s						
V48A	**Smith Brothers**	**34.20**	**6**	P	**P**	**11 44 44.1**	**-0.3**
SIV	**San Ignacio**	**34.21**	**122**	P	**P**	**11 44 45.4**	**+0.7**
	comp=Z,5.6nm,1.1s,baz=321,slow=9.7,SNR=8.2						
LCAR	**Lake Charles**	**34.32**	**360**	P	**P**	**11 44 45.4**	**0.0**
LCAR				IAmb	IAmb	11 44 46.9	
	comp=Z,7.7nm,1.1s						
319A	**Douglas**	**34.38**	**331**	P	**P**	**11 44 46.2**	**+0.1**
319A				IAmb	IAmb	11 44 49.1	
	comp=Z,14nm,1.3s						
TUL1	**Leonard**	**34.47**	**353**	P		11 44 46.9
	baz=171						
WVT	**Waverly**	**34.50**	**4**	P	**P**	**11 44 46.7**	**-0.3**
WVT	**Waverly**	**34.50**	**4**	P		11 44 46.9
	baz=185						
TKL	**Tuckaleechee C**	**34.54**	**10**	P	**P**	**11 44 46.5**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=180,slow=12,SNR=6.5						
TKL	**Tuckaleechee C**	**34.54**	**10**	P	**P**	**11 44 47.3**	**-0.1**
TKL				IAmb	IAmb	11 44 56.7	
	comp=Z,17nm,1.5s						
KMSC	**Kings Mountain**	**34.55**	**14**	P		11 44 47.2
	baz=197						
KMSC	**Kings Mountain**	**34.55**	**14**	P	**P**	**11 44 46.8**	**-0.6**
KMSC				IAmb	IAmb	11 44 48.6	
	comp=Z,9.5nm,1.0s						
HHAR	**Hobbs**	**34.65**	**356**	P	**P**	**11 44 49.3**	**+1.0**
HHAR				IAmb	IAmb	11 44 51.5	
	comp=Z,11nm,1.3s						
U40A	**Yellville**	**34.66**	**357**	P		11 44 48.2
	baz=176,SNR=5.8						
U40A	**Yellville**	**34.66**	**357**	P	**P**	**11 44 48.7**	**+0.4**
U40A				IAmb	IAmb	11 44 50.9	
	comp=Z,8.5nm,1.1s						
121A	**Cookes Peak, D**	**34.67**	**334**	P	**P**	**11 44 49.7**	**+0.9**
121A				IAmb	IAmb	11 44 56.3	
	comp=Z,10nm,1.1s						
121A	**Cookes Peak, D**	**34.67**	**334**	P		11 44 48.7
	baz=149						
U38A	**Gravette**	**34.85**	**355**	P	**P**	**11 44 50.3**	**+0.4**
U38A				IAmb	IAmb	11 44 52.3	
	comp=Z,10nm,1.0s						
QUOK	**Quay**	**34.85**	**352**	P	**P**	**11 44 49.6**	**-0.4**
PBMO	**Poplar Bluff**	**35.03**	**1**	P	**P**	**11 44 52.4**	**+0.9**
PBMO				IAmb	IAmb	11 44 54.7	
	comp=Z,17nm,1.5s						
U49A	**Red Boiling Sp**	**35.08**	**7**	P	**P**	**11 44 51.4**	**-0.6**
U49A				IAmb	IAmb	11 44 53.6	
	comp=Z,6.8nm,1.0s						
AC02	**Maricunga**	**35.16**	**145**	P	**P**	**11 44 53.1**	**-0.3**
AC02				IAmb	IAmb	11 45 10.2	
	comp=Z,9.6nm,1.1s						
T42A	**Van Buren**	**35.28**	**360**	P	**P**	**11 44 53.5**	**-0.2**
CROK	**Carrier**	**35.38**	**350**	P	**P**	**11 44 55.2**	**+0.6**
T47A	**Sharon Grove**	**35.41**	**5**	P	**P**	**11 44 54.9**	**+0.1**
MGMO	**Mountain Grove**	**35.43**	**358**	P	**P**	**11 44 54.7**	**-0.3**
BLOK	**Blackwell**	**35.50**	**351**	P	**P**	**11 44 55.8**	**+0.1**
BLOK				IAmb	IAmb	11 44 57.1	
	comp=Z,16nm,1.0s						
T35A	**Sooner Cattle**	**35.55**	**352**	P	**P**	**11 44 56.0**	**-0.1**
T35A				IAmb	IAmb	11 44 58.2	
	comp=Z,9.5nm,0.8s						
ITTB	**Itaituba**	**35.58**	**100**	*e*P	**P**	**11 44 57.4**	**+0.8**
PTLB	**Pontes e Lacer**	**35.63**	**120**	*e*P	**P**	**11 44 58.9**	**+2.0**
KAN13	**South Haven SW**	**35.79**	**351**	P	**P**	**11 44 58.1**	**0.0**
TUC	**Tucson**	**35.88**	**330**	P	**P**	**11 44 60.0**	**+0.9**
TUC	**Tucson**	**35.88**	**330**	P		11 44 58.8
	baz=144						
S44A	**Carbondale**	**35.97**	**2**	P	**P**	**11 44 59.3**	**-0.3**
SIUC	**Southern Illin**	**36.00**	**2**	P	**P**	**11 44 59.9**	**+0.1**
S39A	**Bolivar**	**36.01**	**357**	P	**P**	**11 45 00.1**	**+0.2**
ANMO	**Albuquerque**	**36.25**	**338**	P		11 45 02.4
	baz=153						
ANMO	**Albuquerque**	**36.25**	**338**	P	**P**	**11 45 03.0**	**+0.8**
USIN	**University of**	**36.33**	**4**	P	**P**	**11 45 02.8**	**+0.1**
NPGB	**Novo Progresso**	**36.44**	**104**	*e*P	**P**	**11 45 04.0**	**0.0**
R40A	**Maddies Statio**	**36.56**	**358**	P	**P**	**11 45 04.4**	**-0.2**
R40A				IAmb	IAmb	11 45 11.3	
	comp=Z,27nm,1.4s						
214A	**Organ Pipe Nat**	**36.64**	**328**	P		11 45 05.0
	baz=141						
214A	**Organ Pipe Nat**	**36.64**	**328**	P	**P**	**11 45 06.3**	**+0.8**
WCI	**Wyandotte Cave**	**36.72**	**6**	P		11 45 05.6
	baz=188						
WCI	**Wyandotte Cave**	**36.72**	**6**	P	**P**	**11 45 05.0**	**-0.9**
WCI				IAmb	IAmb	11 45 07.7	
	comp=Z,19nm,1.1s						
BLA	**Blacksburg**	**36.74**	**14**	P		11 45 05.6
	baz=197						
BLA	**Blacksburg**	**36.74**	**14**	P	**P**	**11 45 06.3**	**0.0**
BLA				IAmb	IAmb	11 45 08.1	
	comp=Z,19nm,1.1s						
T57A	**Hurt**	**36.84**	**16**	P	**P**	**11 45 06.5**	**-0.5**
T57A				IAmb	IAmb	11 45 08.6	
	comp=Z,14nm,1.3s						
SLM	**Saint Louis**	**36.89**	**1**	P	**P**	**11 45 07.8**	**+0.3**
R49A	**Shelbyville**	**36.91**	**7**	P	**P**	**11 45 07.1**	**-0.6**
R49A				IAmb	IAmb	11 45 09.1	
	comp=Z,14nm,1.1s						
CLDB	**Colider**	**36.99**	**110**	*e*P	**P**	**11 45 08.3**	**-0.4**
R50A	**Paris**	**37.02**	**9**	P	**P**	**11 45 08.4**	**-0.2**
R50A				IAmb	IAmb	11 45 09.7	
	comp=Z,11nm,1.1s						
Q44A	**Meyer Farm, Va**	**37.19**	**2**	P	**P**	**11 45 09.6**	**-0.4**
X18A	**Snowflake**	**37.32**	**334**	P	**P**	**11 45 10.7**	**-0.7**
R32A	**Long Quarter,**	**37.37**	**350**	P	**P**	**11 45 11.9**	**+0.3**
T25A	**Trinidad**	**37.54**	**342**	P	**P**	**11 45 14.4**	**+1.2**
T25A				IAmb	IAmb	11 45 20.8	
	comp=Z,13nm,1.1s						
T25A	**Trinidad**	**37.54**	**342**	P		11 45 12.7
	baz=157,SNR=10						
BLO	**Bloomington**	**37.63**	**6**	P	**P**	**11 45 13.1**	**-0.6**
KSU1	**Kansas State U**	**37.72**	**353**	P		11 45 15.0
	baz=170						
KSU1	**Kansas State U**	**37.72**	**353**	P	**P**	**11 45 14.7**	**+0.2**
113A	**Mohawk Valley,**	**37.77**	**328**	P	**P**	**11 45 15.0**	**-0.1**
P40A	**Paris**	**37.79**	**358**	P	**P**	**11 45 14.8**	**-0.3**
R55A	**Marlinton**	**37.84**	**14**	P	**P**	**11 45 14.8**	**-0.8**
R55A				IAmb	IAmb	11 45 16.0	
	comp=Z,14nm,1.1s						
Q51A	**Peebles**	**37.90**	**10**	P	**P**	**11 45 15.6**	**-0.4**
P43A	**Skaggs, Pawnee**	**37.91**	**2**	P	**P**	**11 45 16.5**	**+0.4**
X16A	**Lo Mia Camp, P**	**37.91**	**332**	P	**P**	**11 45 16.8**	**+0.4**
CBKS	**Cedar Bluff**	**37.94**	**349**	P		11 45 16.6
	baz=165						
CBKS	**Cedar Bluff**	**37.95**	**349**	P	**P**	**11 45 17.2**	**+0.8**
CBKS				IAmb	IAmb	11 45 18.8	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**37.95**	**357**	P	**P**	**11 45 17.2**	**+0.8**
P38A				IAmb	IAmb	11 45 18.9	
	comp=Z,19nm,1.2s						
P46A	**Rosedale**	**38.01**	**5**	P	**P**	**11 45 16.6**	**-0.3**
Q52A	**Bidwell**	**38.03**	**11**	P	**P**	**11 45 16.7**	**-0.4**
P48A	**Milroy**	**38.03**	**7**	P	**P**	**11 45 16.4**	**-0.8**
Y14A	**Wickenburg**	**38.29**	**330**	P	**P**	**11 45 20.1**	**+0.6**
Q54A	**Coxs Mills**	**38.34**	**13**	P	**P**	**11 45 19.5**	**-0.2**
Q54A				IAmb	IAmb	11 45 28.9	
	comp=Z,11nm,1.1s						
P51A	**Williamsport**	**38.39**	**10**	P	**P**	**11 45 19.6**	**-0.6**
P51A				IAmb	IAmb	11 45 21.6	
	comp=Z,18nm,1.1s						
SDCO	**Great Sand Dun**	**38.44**	**341**	P		11 45 21.2
	baz=156,SNR=19						
SDCO	**Great Sand Dun**	**38.44**	**341**	P	**P**	**11 45 21.8**	**+0.9**
SDCO				IAmb	IAmb	11 45 28.0	
	comp=Z,11nm,1.1s						
O44A	**Mansfield**	**38.46**	**3**	P	**P**	**11 45 20.2**	**-0.5**
P53A	**Whipple**	**38.71**	**12**	P	**P**	**11 45 22.2**	**-0.6**
P53A				IAmb	IAmb	11 45 24.7	
	comp=Z,24nm,1.2s						
SFIN	**Lafayette**	**38.77**	**5**	P		11 45 22.9
	baz=186						
SFIN	**Lafayette**	**38.77**	**5**	P	**P**	**11 45 22.6**	**-0.8**
SFIN				IAmb	IAmb	11 45 24.8	
	comp=Z,21nm,1.1s						
WUAZ	**Wupatki**	**38.78**	**333**	P		11 45 24.9
	baz=146,SNR=8.4						
WUAZ	**Wupatki**	**38.79**	**333**	P	**P**	**11 45 24.9**	**+1.1**
WUAZ				IAmb	IAmb	11 45 27.8	
	comp=Z,12nm,1.0s						
HDIL	**Hopedale**	**38.83**	**2**	P	**P**	**11 45 23.7**	**-0.1**
HDIL	**Hopedale**	**38.83**	**2**	P		11 45 23.7
	baz=182						
SALV	**Santo Antonio**	**38.83**	**118**	*e*P	**P**	**11 45 24.9**	**+0.7**
S22A	**4UR Ranch, Cre**	**38.88**	**340**	P		11 45 25.6
	baz=154,SNR=12						
O49A	**Covington**	**38.89**	**8**	P	**P**	**11 45 23.8**	**-0.5**
O49A				IAmb	IAmb	11 45 25.1	
	comp=Z,10nm,0.9s						
N41A	**Harden Midland**	**38.95**	**360**	P	**P**	**11 45 24.9**	**0.0**
MVCO	**Mesa Verde**	**39.02**	**337**	P		11 45 26.1
	baz=151						
MVCO	**Mesa Verde**	**39.02**	**337**	P	**P**	**11 45 26.9**	**+1.2**
SWSC	**Sam W. Stewart**	**39.02**	**326**	P		11 45 25.9
	baz=138						
CBX	**Cerro Bola**	**39.06**	**324**	P	**P**	**11 45 26.3**	**+0.3**
N38A	**Joes South For**	**39.10**	**357**	P	**P**	**11 45 26.1**	**0.0**
O52A	**Adamsville**	**39.23**	**11**	P	**P**	**11 45 27.3**	**+0.2**
O52A				IAmb	IAmb	11 45 28.7	
	comp=Z,18nm,1.2s						
BC3	**Big Ch

baz=135
K38A Parkersburg 40.93 358 P P 11 45 40.5 -0.7
M54A Oil Creek Stat 41.01 13 P 11 45 42.7
baz=197
FMP Fort Macarthur 41.02 324 P 11 45 42.0
baz=136
AAM Ann Arbor 41.06 8 P P 11 45 41.4 -0.9
JFWS Jewell Farm 41.16 1 P 11 45 41.8
baz=181,SNR=6.2
JFWS Jewell Farm 41.16 1 P P 11 45 42.5 -0.6
JFWS IAmb IAmb 11 45 44.2
comp=Z,21nm,0.9s
SZCU Shurtz Canyon 41.28 333 P P 11 45 44.9 +0.4
GSC Goldstone, Bar 41.34 327 P 11 45 45.1
baz=139
CCUT Cedar City 41.37 333 P P 11 45 46.4 +1.1
SHPR Sheep Range 41.40 330 P P 11 45 45.3 -0.1
SRU San Rafael Swe 41.46 337 P P 11 45 46.4 +0.5
SHOC Shoshone, Teco 41.50 328 P 11 45 46.0
baz=140
O20A White River Ci 41.51 340 P 11 45 45.9
baz=153,SNR=7.4
O20A White River Ci 41.51 340 P P 11 45 47.2 +0.9
O20A IAmb IAmb 11 45 53.8
comp=Z,19nm,1.3s
SNDB Serra Nova Dou 41.53 110 eP P 11 45 47.0 +0.3
Q16A Castle Valley 41.55 336 P P 11 45 46.5 -0.2
EDW2 Edwards Air Fo 41.68 326 P 11 45 48.6
baz=137
PRPB Parauapebas 41.69 101 eP P 11 45 47.8 -0.2
P17A Butcher Ranch, 41.85 337 P P 11 45 49.4 +0.3
TMUT Trail Mountain 41.89 336 P P 11 45 49.3 -0.3
I42A Draeger Farm, 42.17 2 P P 11 45 50.6 -0.8
I42A IAmb IAmb 11 45 53.1
comp=Z,30nm,1.4s
ARAG Araguaiana, MT 42.23 116 eP P 11 45 53.4 +1.1
FURC Furnace Creek, 42.24 328 P 11 45 52.9
baz=139
ECSD EROS Data Cent 42.29 354 P 11 45 51.2
baz=171,SNR=16
ECSD EROS Data Cent 42.29 354 P P 11 45 51.8 -0.6
ECSD IAmb IAmb 11 45 53.4
comp=Z,15nm,0.9s
TPNV Topopah Spring 42.29 329 P P 11 45 53.3 +0.5
I37A Lemond, Waseca 42.32 357 P P 11 45 52.1 -0.6
I37A IAmb IAmb 11 45 54.4
comp=Z,17nm,1.1s
PSUT Pine Spring 42.39 333 P P 11 45 54.5 +0.9
RWWY Rawlins 42.57 342 P P 11 45 55.1 0.0
RWWY IAmb IAmb 11 46 11.3
comp=Z,16nm,1.4s
CPUP Villa Florida 42.62 133 P P 11 45 56.1 +0.8
comp=Z,2.2nm,0.7s,baz=301,slow=8.7,SNR=6.4
CPUP Villa Florida 42.62 133 P P 11 45 55.2 -0.2
CPUP Villa Florida 42.62 133 eP P 11 45 57.1 +1.8
L59A Walton 42.86 17 P 11 45 56.1
baz=203
SPR3 Spring Creek 3 42.99 333 P P 11 45 59.4 +0.8
R11A Troy Canyon, C 43.05 331 P P 11 45 58.8 -0.1
R11A Troy Canyon, C 43.05 331 P 11 45 59.2
baz=142
SMMC Simmler 43.14 324 P 11 45 59.5
baz=135
K22A Casper 43.24 343 P 11 46 01.5
baz=157
K22A Casper 43.24 343 P P 11 46 01.5 +1.1
CTU Camp Tracy 43.30 337 P P 11 46 01.9 +1.0
DUG Dugway, Tooele 43.31 335 P 11 46 01.9
baz=147
DUG Dugway, Tooele 43.31 335 P P 11 46 01.1 +0.2
SPMN Marine on St. 43.50 358 P P 11 46 01.6 -0.6
SPMN IAmb IAmb 11 46 02.8
comp=Z,12nm,1.1s
SPMN Marine on St. 43.50 358 P 11 46 01.4
baz=177
G40A Rib Lake 43.52 1 P P 11 46 02.6 +0.2
G40A IAmb IAmb 11 46 17.6
comp=Z,15nm,1.4s
G45A Suttons Bay 43.53 5 P P 11 46 01.2 -1.2
TPH Tonopah 43.65 329 P P 11 46 03.9 +0.1
TPH IAmb IAmb 11 46 10.9
comp=Z,14nm,1.0s
M66A Nantucket 43.71 23 P 11 46 03.8
baz=211
J57A Williamstown 43.71 16 P 11 46 03.8
baz=202
L61B Northampton 43.84 19 P 11 46 04.8
baz=207
K61A Williamstown 43.84 19 P 11 46 04.6
baz=206
J58A Remsen 43.86 16 P 11 46 04.7
baz=203
RSSD Black Hills 43.95 346 P 11 46 05.9
baz=161
RSSD Black Hills 43.95 346 P P 11 46 07.2 +1.0
HWUT Hardware Ranch 44.01 338 P P 11 46 07.8 +1.2
HWUT IAmb IAmb 11 46 26.1
comp=Z,19nm,1.5s
BGU Big Grassy Mou 44.01 336 P P 11 46 07.8 +1.2
BGU IAmb IAmb 11 46 17.2
comp=Z,8.5nm,1.2s
F36A Milaca 44.17 357 P P 11 46 07.1 -0.5
F36A IAmb IAmb 11 46 08.8
comp=Z,6.4nm,0.9s
H53A Bobcaygeon 44.17 13 P 11 46 06.9
baz=198
K62A Royalston 44.18 20 P 11 46 06.8
baz=207
J59A Piesco 44.18 17 P 11 46 06.8
baz=204
SADO Sadowa 44.24 12 P P 11 46 08.0 -0.2
I58A Old Forge 44.25 17 P 11 46 07.7
baz=203
MDPB Devils Postpil 44.29 327 P P 11 46 09.7 +0.7
BW06 Boulder Array 44.30 340 P 11 46 08.9
baz=153
BW06 Boulder Array 44.30 340 P P 11 46 10.2 +1.2
BW06 IAmb IAmb 11 46 26.3
comp=Z,16nm,1.4s
PDAR Pinedale Array 44.30 340 P P 11 46 09.3 +0.3
comp=Z,1.8nm,1.0s,baz=144,slow=8.6,SNR=12
PDAR Pinedale Array 44.30 340 P P 11 46 09.5 +0.5
J60A Lant Hill Farm 44.31 18 P 11 46 07.9
baz=205
F33A 5 Mile Ranch, 44.34 355 P P 11 46 08.0 -1.0
F33A IAmb IAmb 11 46 10.2
comp=Z,17nm,1.2s
COWI Conover 44.37 2 P P 11 46 08.9 -0.3
COWI IAmb IAmb 11 46 10.4
comp=Z,8.0nm,1.1s
PEXB Peixe 44.39 109 eP P 11 46 11.7 +1.8
NV11 Mina Array Sit 44.40 329 P P 11 46 10.3 +0.6
TRCB Terra Rica 44.42 125 eP P 11 46 10.5 +0.5
LHV Little Huntoon 44.44 329 P P 11 46 10.0 +0.2
NVAR Mina Array Bea 44.47 329 P P 11 46 11.4 +1.0
comp=Z,4.6nm,0.9s,baz=157,slow=9.0,SNR=29
NVAR PcP PcP 11 47 54.1 +0.2
comp=Z,1.8nm,1.0s,baz=135,slow=4.0,SNR=4.1
NVAR Mina Array Bea 44.47 329 P P 11 46 10.9 +0.5
HVU Hansel Valley 44.63 337 P P 11 46 12.7 +1.2
HVU IAmb IAmb 11 46 14.4
comp=Z,11nm,1.2s
I59A Olmsteadville 44.67 18 P 11 46 10.6
baz=204
J61A Chester 44.68 19 P 11 46 11.0
baz=206
RYN Ryan 44.74 329 P P 11 46 13.6 +1.2
E43A Lone Tree Farm 44.75 4 P P 11 46 11.5 -0.6
E43A IAmb IAmb 11 46 19.1
comp=Z,15nm,1.1s
ELK Elko 44.81 334 P P 11 46 14.1 +1.0
ELK IAmb IAmb 11 46 25.6
comp=Z,8.5nm,1.4s
J62A Henniker 44.82 20 P 11 46 11.7
baz=207
KVN Kaiserville 44.84 330 P P 11 46 14.5 +1.2
KVN IAmb IAmb 11 46 20.8
comp=Z,5.6nm,0.9s
H57A Richville 44.85 16 P 11 46 12.3
baz=202
E38A The Farm, Brul 44.85 359 P P 11 46 12.4 -0.6
E38A IAmb IAmb 11 46 13.7
comp=Z,13nm,0.9s
I60A Shoreham 44.89 18 P 11 46 12.9
baz=205

PLVO Plevna 44.96 14 P P 11 46 13.5 -0.4
PLVO IAmb IAmb 11 46 14.7
comp=Z,17nm,1.2s
PCMB Pacaembu 45.02 123 eP P 11 46 15.0 +0.3
G54A Lake Saint Pet 45.07 13 P 11 46 14.6
baz=198
J63A Strafford 45.12 20 P 11 46 14.6
baz=208
WAKR Walker 45.12 328 P P 11 46 16.5 +1.0
H58A Gabriels 45.15 17 P 11 46 14.7
baz=204
ECR Eagle Creek 45.19 339 P P 11 46 15.7 -0.4
REDW Red Top Meadow 45.27 339 P P 11 46 16.7 0.0
CMB Columbia Colle 45.29 327 P P 11 46 17.6 +0.9
I61A Oroboro, Fairl 45.31 19 P 11 46 16.3
baz=207
SNOW Snow King Moun 45.33 340 P P 11 46 17.4 +0.3
D41A Chassel 45.35 2 P P 11 46 16.6 -0.4
YERR Yerington 45.38 329 P P 11 46 17.4 -0.1
YERR IAmb IAmb 11 46 24.9
comp=Z,8.1nm,1.1s
LOHW Long Hollow 45.41 340 P P 11 46 18.2 +0.5
LOHW IAmb IAmb 11 46 32.8
comp=Z,15nm,1.4s
TPAW Teton Pass 45.42 339 P P 11 46 17.9 0.0
TPAW IAmb IAmb 11 46 37.4
comp=Z,10nm,1.1s
MOOW Moose Ponds 45.57 340 P P 11 46 19.4 +0.3
ALGO Algonquin Park 45.60 12 P 11 46 17.8
baz=198,SNR=6.6
E28A Huff 45.64 351 P P 11 46 19.0 -0.3
PNTR Pine Nut 45.64 328 P P 11 46 19.5 -0.2
PNTR IAmb IAmb 11 46 30.0
comp=Z,12nm,1.4s
BDFB Brasilia 45.66 114 P P 11 46 20.2 +0.2
comp=Z,2.4nm,0.8s,baz=175,slow=3.8,SNR=3.2
BDFB Brasilia 45.66 114 P P 11 46 18.4 -1.6
BDFB IAmb IAmb 11 46 28.4
comp=Z,12nm,1.4s
VCNR Virginia City 45.82 329 P P 11 46 20.3 -0.7
VCNR IAmb IAmb 11 46 28.2
comp=Z,6.6nm,1.1s
FLWY Flagg Ranch 45.85 340 P P 11 46 22.0 +0.7
FLWY IAmb IAmb 11 46 43.2
comp=Z,9.2nm,1.2s
PLCA Paso Flores 45.99 158 P P 11 46 24.1 +1.9
comp=Z,5.4nm,0.9s,baz=318,slow=9.2,SNR=7.9
PLCA LR LR 12 01 22.2
comp=Z,215nm,18.3s,baz=36,slow=30
PLCA Paso Flores 45.99 158 P P 11 46 21.2 -1.1
PLCA IAmb IAmb 11 46 32.3
comp=Z,13nm,1.1s
PLCA Paso Flores 45.99 158 eP P 11 46 24.4 +2.2
EYMN Ely 46.19 359 P 11 46 22.3
baz=179,SNR=5.4
EYMN Ely 46.19 359 P P 11 46 23.1 -0.6
EYMN IAmb IAmb 11 46 31.5
comp=Z,10nm,1.1s
IPMB Ipameri, GO 46.25 117 eP P 11 46 24.4 -0.2
AFDM Forest Hills D 46.27 327 P P 11 46 25.4 +1.0
RLMT Red Lodge 46.31 342 P 11 46 24.1
baz=154
YNE Yellowstone No 46.44 341 P P 11 46 27.0 +1.1
YMR Madison River 46.46 340 P P 11 46 27.1 +1.1
YMR IAmb IAmb 11 46 29.1
comp=Z,8.9nm,1.0s
YHH Holmes Hill 46.52 340 P P 11 46 28.1 +1.4
BEKR Beckworth 46.61 329 P P 11 46 27.8 +0.6
BEKR IAmb IAmb 11 46 34.3
comp=Z,4.9nm,1.0s
B35A Bob, Littlefor 46.67 357 P P 11 46 26.6 -0.8
B35A IAmb IAmb 11 46 28.0
comp=Z,7.9nm,0.9s
YHL Hebgen Lake 46.69 340 P P 11 46 28.6 +0.6
MDND Maddock 46.71 352 P 11 46 27.5
baz=168
MDND Maddock 46.71 352 P P 11 46 27.7 0.0
AGMN Agassiz Nation 46.74 355 P 11 46 27.4
baz=173,SNR=14
AGMN Agassiz Nation 46.74 355 P P 11 46 27.6 -0.3
HLID Hailey 46.78 336 P 11 46 28.3
baz=147,SNR=17
HLID Hailey 46.78 336 P P 11 46 28.9 +0.3
HLID IAmb IAmb 11 46 35.6
comp=Z,11nm,1.1s
LL01 San Ignacio de 46.82 161 P P 11 46 28.4 -0.1
LAO LASA Array 46.90 346 P 11 46 29.6
baz=159
ORV Oroville 46.99 327 P P 11 46 30.8 +0.8
ORV IAmb IAmb 11 46 45.5
comp=Z,9.3nm,1.2s
ITAB Concordia 47.00 130 eP P 11 46 31.6 +1.3
G62A West of Eustis 47.01 20 P 11 46 29.8
baz=208
G62A West of Eustis 47.01 20 P P 11 46 30.3 +0.2
BCYI Bear Canyon 47.02 338 P P 11 46 31.9 +1.4
GCMT Greycliff 47.04 342 P P 11 46 30.4 -0.1
BB19B Bebedouro 47.11 121 eP P 11 46 31.0 -0.4
FRTB Fartura 47.18 124 eP P 11 46 32.9 +1.1
E58A La Victoria 47.19 17 P 11 46 31.0
baz=204
D55A Sainte-Anne-du 47.20 14 P 11 46 31.0
baz=201
F60A Warwick 47.22 18 P 11 46 30.8
baz=206
MFID Camas Ranch 47.24 335 P P 11 46 33.5 +1.4
MFID IAmb IAmb 11 46 40.5
comp=Z,6.6nm,1.1s
MCMT McKenzie Canyo 47.26 339 P P 11 46 33.4 +1.1
F61A St Evariste 47.53 19 P 11 46 33.4
baz=207
DLMT Dillon 47.63 339 P P 11 46 35.2 +0.2
G64A Maxfield 47.66 21 P 11 46 34.2
baz=210
SDBA SAO DESIDERIO 47.68 108 eP P 11 46 36.6 +0.7
WVOR Wild Horse Val 47.70 332 P P 11 46 36.3 +0.6
WVOR IAmb IAmb 11 46 48.0
comp=Z,8.9nm,1.3s
D58A Chemin du LacG 47.96 16 P 11 46 36.8
baz=204
G65A Princeton 48.05 22 P 11 46 37.0
baz=212
MOD Modoc Plateau 48.09 330 P P 11 46 39.2 +0.4
MOD IAmb IAmb 11 46 45.5
comp=Z,6.6nm,1.0s
PLTB Pedras Altas 48.43 136 eP P 11 46 42.9 +1.6
E62A Clayton Lake 48.58 20 P 11 46 41.5
baz=209
ULM Lac du Bonnet 48.69 356 P P 11 46 41.3 -1.7
comp=Z,9.8nm,1.0s,baz=184,slow=5.7,SNR=11
ULM Lac du Bonnet 48.69 356 P P 11 46 42.0 -0.9
LSQQ Lebel-sur-Quev 48.78 12 P 11 46 42.8
baz=198
E63A Oxbow 48.78 21 P 11 46 42.5
baz=210
E64A Bridgewater 48.99 21 P 11 46 44.6
baz=211
D62A Allapoint, All 49.14 20 P 11 46 46.2
baz=209
VAO Valinhos 49.21 122 eP P 11 46 47.5 -0.1
MATQ Matagami 49.31 11 P 11 46 47.5
baz=197,SNR=5.9
RKT Rikitea 49.46 238 eLR LR 12 00 54.2
comp=Z,388nm,28.8s
RKT Rikitea 49.46 238 eT T 12 39 54.0
comp=Z,2.1nm,0.2s
PINE Pine Mountain 49.82 332 P P 11 46 52.0 0.0
PINE IAmb IAmb 11 46 54.9
comp=Z,13nm,1.1s
F10A Beach Ranch, E 49.90 336 P P 11 46 53.2 +0.7
F10A IAmb IAmb 11 47 00.6
comp=Z,5.2nm,0.8s
CHGQ Chibougamau 50.16 14 P 11 46 53.7
baz=202
TAOE Nuku Hiva Isla 50.21 257 eT T 12 40 50.0
comp=Z,18nm,0.2s
K02D Willamette Mer 50.37 329 P 11 46 55.9
baz=135
I05D Terrebonne, OR 50.42 332 P 11 46 56.1
baz=139
E09A Wood Farm, Sta 50.71 336 P P 11 46 59.2 +0.7
E09A IAmb IAmb 11 47 04.4
comp=Z,10.0nm,1.0s
NEW Newport 51.74 338 P 11 47 06.9
baz=146

NBPN Ponto Novo - B 51.86 105 eP P 11 47 08.1 +0.4
B08A Colville Reser 52.67 336 P P 11 47 12.9 -0.3
B08A IAmb IAmb 11 47 14.7
comp=Z,7.2nm,1.2s
NBMA Muriti-CE 52.71 100 eP P 11 47 14.8 +0.7
B05A Bryant 53.75 335 P 11 47 21.4
baz=140
FFC Flin Flon 53.76 352 P P 11 47 21.5 +0.5
FFC IAmb IAmb 11 47 22.9
comp=Z,14nm,1.5s
SCHQ Schefferville 56.59 16 P P 11 47 40.3 -1.2
comp=Z,7.5nm,1.1s,baz=211,slow=2.0,SNR=4.6
SCHQ LR LR 12 09 59.0
comp=Z,213nm,21.8s,baz=210,slow=34
SCHQ Schefferville 56.59 16 P P 11 47 40.9 -0.6
SCHQ IAmb IAmb 11 47 41.9
comp=Z,12nm,1.2s
PPT Papeete 60.87 249 LR LR 12 08 47.5
comp=Z,178nm,18.6s,baz=214,slow=30
PPT2 Papeete2 60.87 249 eLR LR 12 06 09.5
comp=Z,407nm,25.0s
TBI Tubuai 62.11 243 eLR LR 12 06 46.3
comp=Z,465nm,28.2s
TBI Tubuai 62.11 243 eT T 12 55 42.3
comp=Z,7.6nm,0.2s
YKA Yellowknife Ar 63.32 348 P P 11 48 26.8 -0.7
comp=Z,2.6nm,0.9s,baz=146,slow=7.1,SNR=20
WRAK Wrangell Islan 63.98 336 P 11 48 32.3
baz=133
CRQE Cirque 71.07 336 P 11 49 16.2
baz=123
DAWY Dawson 71.61 340 P P 11 49 19.9 -0.1
DAWY IAmb IAmb 11 49 30.3
comp=Z,5.6nm,1.2s
BCAR Beaver Creek A 71.87 338 P P 11 49 21.5 -0.2
L27K Beaver Creek, 71.88 338 P 11 49 22.4
baz=125
L27K Beaver Creek, 71.88 338 P P 11 49 22.6 +0.9
EYAK Cordova Ski Ar 72.08 335 P 11 49 23.6
baz=121
N25K Chitina, Valde 72.15 336 P 11 49 23.8
baz=122
EPYK Eagle Plains 72.21 342 P P 11 49 23.7 +0.1
EPYK Eagle Plains 72.21 342 P 11 49 23.8
baz=131
K27K Chicken 72.53 339 P 11 49 26.4
baz=125
K27K Chicken 72.53 339 P P 11 49 26.3 +0.8
K27K IAmb IAmb 11 49 32.5
comp=Z,5.7nm,1.0s
INK Inuvik 72.63 345 P P 11 49 25.7 -0.3
INK IAmb IAmb 11 49 40.8
comp=Z,8.2nm,1.2s
INK Inuvik 72.63 345 P 11 49 26.1
baz=135
KLU Klutina 72.63 336 P 11 49 25.6
baz=121
EGAK Eagle 72.65 340 P P 11 49 26.1 -0.1
EGAK IAmb IAmb 11 49 36.1
comp=Z,5.9nm,1.1s
EGAK Eagle 72.65 340 P 11 49 26.4
baz=126
DOT Dot Lake 73.05 338 P P 11 49 29.5 +0.9
DOT IAmb IAmb 11 49 31.0
comp=Z,6.9nm,1.2s
SCRK Sand Creek 73.20 338 P 11 49 29.9
baz=123
SCRK Sand Creek 73.20 338 P P 11 49 30.4 +0.8
PAX Paxson 73.22 337 P 11 49 30.0
baz=122
SEW Seward 73.47 334 P 11 49 31.4
baz=117
KNK Knik Glacier 73.65 335 P 11 49 32.5
baz=118
SML Sawmill 73.79 335 P 11 49 32.3
baz=119
WAT6 Susitna Watana 73.92 336 P 11 49 33.5
baz=119,SNR=5.5
SII Sitkinak Islan 74.27 329 P 11 49 36.0
baz=112
M22K Willow 74.51 335 P 11 49 37.8
baz=117
HDA Harding Lake 74.53 338 P P 11 49 37.5 +0.2
HDA IAmb IAmb 11 49 43.4
comp=Z,6.1nm,1.1s
HDA Harding Lake 74.53 338 P 11 49 37.2
baz=121
HDA P 11 49 37.2
baz=121
PRP Porcupine Dome 74.59 339 P 11 49 37.6
baz=122
IL31 74.69 338 P P 11 49 37.9 -0.3
IL31 IAmb IAmb 11 49 48.1
comp=Z,6.3nm,1.1s
ILAR Eielson Array 74.69 338 P P 11 49 37.8 -0.5
comp=Z,3.7nm,1.1s,baz=151,slow=4.4,SNR=21
ILAR LR LR 12 23 11.0
comp=Z,163nm,18.3s,baz=113,slow=36
ILAR Eielson Array 74.69 338 P P 11 49 38.2 0.0
FYU Fort Yukon 75.06 340 P P 11 49 40.8 +0.6
SKT Skwentna 75.21 335 P 11 49 41.2
baz=116
BMAR Burnt Mountain 75.32 341 P P 11 49 42.1 +0.3
TRF Thorofare Moun 75.36 336 P 11 49 42.1
baz=117
NEA2 Nenana 75.42 338 P P 11 49 42.9 +0.5
NEA2 IAmb IAmb 11 49 52.6
comp=Z,5.5nm,1.2s
NEA2 Nenana 75.42 338 P 11 49 42.7
baz=119
H24K Noodor Dome 75.59 339 P 11 49 43.1
baz=120,SNR=11
I23K Minto, Yukon-K 75.80 338 P P 11 49 45.5 +1.0
I23K IAmb IAmb 11 49 54.5
comp=Z,6.7nm,1.1s
PPLA Purkeypile 75.89 336 P 11 49 45.5
baz=115
BPAW Bear Paw Mtn. 75.93 337 P P 11 49 45.7 +0.3
BPAW IAmb IAmb 11 49 54.5
comp=Z,12nm,1.5s
BPAW Bear Paw Mtn. 75.93 337 P 11 49 45.2
baz=117
MLY Manley 76.26 338 P P 11 49 46.8 -0.4
MLY Manley 76.26 338 P 11 49 47.1
baz=117,SNR=6.7
CHUM Lake Minchumin 76.36 336 P 11 49 47.2
baz=115
COLD Coldfoot 77.08 340 P P 11 49 52.9 +1.1
COLD IAmb IAmb 11 50 02.7
comp=Z,7.5nm,1.1s
COLD Coldfoot 77.08 340 P 11 49 51.6
baz=118,SNR=7.4
H21K Melozitna Rive 77.31 338 P 11 49 52.1
baz=115
TOLK Toolik Lake Re 77.55 341 P P 11 49 55.0 +0.5
TOLK Toolik Lake Re 77.55 341 P 11 49 54.0
baz=119
AFI Afiamalu 81.58 256 LR LR 12 16 28.8
comp=Z,163nm,21.6s,baz=68,slow=28
DBIC Dimbokro 85.84 83 LR LR 12 26 32.1
comp=Z,58nn,19.4s,baz=239,slow=34
ESDC Sonseca Array 86.60 51 P P 11 50 42.0 -0.6
comp=Z,1.6nm,0.8s,baz=279,slow=5.8,SNR=8.1
ESDC LR LR 12 24 01.9
comp=Z,84nm,20.8s,baz=305,slow=32
VNA3 Neumayer Olymp 88.64 161 P P 11 50 52.1 +0.4
VNA2 Neumayer--Watz 89.33 161 P P 11 50 55.0 +0.1
SNAA Sanae 90.85 162 P P 11 51 02.4 +0.3
SNAA Sanae 90.85 162 P P 11 51 01.5 -0.6
QSPA South Pole Qui 91.61 180 P P 11 51 05.3 -0.4
QSPA IAmb IAmb 11 51 28.0
comp=Z,4.4nm,1.2s
TORD Torodi Ar. Bea 92.12 77 LR LR 12 29 05.3
comp=Z,74nm,21.9s,baz=290,slow=33
NOA NORSAR Array B 94.46 29 LR LR 12 31 58.9
comp=Z,21nm,19.4s,baz=50,slow=34
VNDA Vanda 95.24 192 LR LR 12 24 52.5
comp=Z,66nm,20.6s,baz=141,slow=30
KEST Kesra 97.36 54 LR LR 12 31 11.5
comp=Z,42nm,19.4s,baz=269,slow=33
ARCES ARCESS Array B 97.50 19 LR LR 12 34 13.5
comp=Z,24nm,18.3s,baz=300,slow=35
H11N3 WAKE ISLAND Hyl 100.98 290 T T 13 44 16.1
baz=86,slow=75,SNR=12
H11N2 WAKE ISLAND Hyl 101.00 290 T T 13 44 17.0
baz=86,slow=75,SNR=12
H11N1 WAKE ISLAND Hyl 101.00 290 T T 13 44 16.9

baz=86,slow=75,SNR=11
H11S2 WAKE ISLAND Hyl 01.30 289 T T 13 44 38.9
baz=86,slow=75,SNR=123
H11S1 WAKE ISLAND Hyl 01.30 289 T T 13 44 38.2
baz=86,slow=75,SNR=169
H11S3 WAKE ISLAND Hyl 01.31 289 T T 13 44 39.4
baz=86,slow=75,SNR=113
DZM Mont Dzumac 102.37 248 eLR LR 12 25 30.0
comp=Z,113nm,25.5s
SONM Songino Array 128.54 345 PKP **PKPdf** 11 57 06.4 +0.1
comp=Z,0.5nm,0.6s,baz=27,slow=1.6,SNR=2.7
LZH Lanzhou 140.10 341 ePKP PKPdf 11 57 21.2 -7.1
CMAR Chiang Mai Arr 157.88 335 PKPab **PKPab** 11 58 29.4 +0.1
comp=Z,0.7nm,0.4s,baz=352,slow=5.5,SNR=5.7
CMAR Chiang Mai Arr 157.88 335 PKPdf **PKPdf** 11 57 53.4 -3.3
CMAR **PKPab** 11 58 26.9 -2.4

*IDC **08** 11:49:36.9±1.6,5°.55S×129°.42E,h263km±17km,mb3.4/3, mb1 3.7/8,mb1mx3.2/32,mbtmp4.3/8, Error ellipse: s-maj=22.1km s-min=10.4km az=78.0*

ISC 08 11:49:35.4±0.8,5°.52S±0°.07×129°.5E±0.1,h250km,n8, σ1s54/13,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.94**	**21**	P	**Pn**	**11 50 52.0**	**+1.5**
	7.4nm,0.3s,baz=209,slow=19,SNR=46						
SIJI				S	**S**	**11 51 47.8**	**-2.6**
	17nm,0.3s,baz=94,slow=23,SNR=32						
BATI	**Baumata**	**7.43**	**231**	P	**Pn**	**11 51 22.8**	**+1.3**
	16nm,0.3s,baz=73,slow=3.6,SNR=13						
BATI				S	**S**	**11 52 46.1**	**-0.7**
	3.4nm,0.3s,baz=46,slow=19,SNR=1.5						
FITZ	**Fitzroy Crossi**	**13.06**	**196**	P	**Pn**	**11 52 32.4**	**+0.3**
	0.5nm,0.3s,baz=26,slow=12,SNR=19						
FITZ				S	**S**	**11 54 55.1**	**-2.2**
	0.6nm,0.3s,baz=75,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**15.09**	**162**	P	**Pn**	**11 52 57.2**	**+0.5**
	0.8nm,0.3s,baz=342,slow=11,SNR=50						
WRA				S	**S**	**11 55 45.5**	**+2.4**
	1.1nm,0.3s,baz=335,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**18.53**	**167**	P	**Pn**	**11 53 36.3**	**-1.0**
	1.3nm,0.3s,baz=345,slow=9.9,SNR=139						
ASAR				S	**S**	**11 56 51.1**	**-0.8**
	0.1nm,0.3s,baz=348,slow=21,SNR=7.5						
CMAR	**Chiang Mai Arr**	**38.42**	**309**	P	**P**	**11 56 33.3**	**0.0**
	1.2nm,0.5s,baz=133,slow=7.1,SNR=9.0						
MKAR	**Makanchi Array**	**66.73**	**327**	P	**P**	**11 59 59.9**	**0.0**
	1.0nm,0.5s,baz=128,slow=7.7,SNR=15						
ZALV	**Zalesovo Beam**	**70.05**	**334**	P	**P**	**12 00 20.0**	**-0.1**
	0.7nm,0.4s,baz=101,slow=4.6,SNR=2.3						

*NEIC **08** 11:56:19.5±2.0,55°.42N±0°.05×135°.2W±0°.1,h15km±7km, Error ellipse: s-maj=11.7km s-min=6.4km az=76.0*
*PGC **08** 11:56:19.4±0.0,55°.47N×135°.00W,h10km,ML3.1/6, 177km Sse of Sitka, Ak Off Coast Of Southeastern Alaska*

ISC 08 11:56:18.1±0.9,55°.45N±0°.05×134°.99W±0°.06,h10km,n56, σ1s34/73,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.06**	**88**		**Pn**	**11 56 39.0**	**0.0**
CRAG				IAML		11 57 01.7	
	comp=N,365nm,0.4s						
CRAG				IAML		11 57 01.8	
	comp=E,508nm,0.5s						
SIT	**Sitka**	**1.62**	**353**		**Pn**	**11 56 45.7**	**-0.9**
SIT				IAML		11 57 10.8	
	comp=E,184nm,0.4s						
WRAK	**Wrangell Islan**	**1.77**	**56**		**Pg**	**11 56 50.4**	**-1.7**
DIB	**Dawson Inlet,**	**2.69**	**146**	Pn	**Pn**	**11 57 02.3**	**+0.9**
DIB				Sn	**Sn**	**11 57 33.6**	**-0.4**
DIB	**Dawson Inlet,**	**2.69**	**146**	Pn	**Pn**	**11 57 02.3**	**+0.9**
DIB				IAML		11 57 46.5	
	comp=N,68nm,0.5s						
JIS	**Juneau Island**	**2.85**	**6**	Pn	**Pn**	**11 57 03.6**	**0.0**
JIS				IAML		11 57 51.0	
	comp=E,74nm,0.6s						
MOBC	**Moresby Island**	**2.91**	**141**	Pn	**Pn**	**11 57 05.3**	**+0.9**
MOBC				Sn	**Sn**	**11 57 40.6**	**+1.0**
MOBC				Sg	**Sg**	**11 57 50.6**	**-0.9**
RUBB	**Prince Rupert**	**2.96**	**110**	Pn	**Pn**	**11 57 06.0**	**+0.9**
RUBB				Sn	**Sn**	**11 57 40.4**	**-0.2**
HG1B	**Mitchell Dam**	**3.03**	**145**	Pn	**Pn**	**11 57 07.4**	**+1.4**
HG1B				Sn	**Sn**	**11 57 44.4**	**+2.0**
HG1B				Sg	**Sg**	**11 57 53.8**	**-1.5**
HG1B	**Mitchell Dam**	**3.03**	**145**	Pn	**Pn**	**11 57 07.4**	**+1.4**
HG1B				Sn	**Sn**	**11 57 44.4**	**+2.0**
BESE	**Bessie Mountai**	**3.13**	**1**	Pn	**Pn**	**11 57 06.8**	**-0.8**
BESE	**Bessie Mountai**	**3.13**	**1**	Pn	**Pn**	**11 57 07.5**	**-0.1**
BNAB	**Bonilla**	**3.21**	**126**	Pn	**Pn**	**11 57 09.4**	**+0.9**
BNAB				Sn	**Sn**	**11 57 46.3**	**-0.4**
GRNB	**Grenville Isla**	**3.34**	**117**	Pn	**Pn**	**11 57 10.9**	**+0.7**
GRNB				Sn	**Sn**	**11 57 50.9**	**+1.0**
BNB	**Barry Inlet**	**3.46**	**145**	Pn	**Pn**	**11 57 13.2**	**+1.2**
BNB				Sg	**Sg**	**11 58 06.8**	**-2.3**
BNKB	**Banks Island**	**3.66**	**123**	Pn	**Pn**	**11 57 15.0**	**+0.3**
BNKB				Sn	**Sn**	**11 57 57.2**	**-0.6**
HG4B	**Hotspring**	**3.88**	**143**	Pn	**Pn**	**11 57 19.3**	**+1.6**
KITB	**Kitimat**	**3.93**	**108**	Pn	**Pn**	**11 57 19.5**	**+1.2**
KITB				Sn	**Sn**	**11 58 04.8**	**+0.3**
BUTB	**Butedale**	**4.51**	**119**	Pn	**Pn**	**11 57 27.9**	**+1.4**
BUTB				Sn	**Sn**	**11 58 19.2**	**+0.2**
PNL	**Peninsula**	**4.85**	**332**	Pn	**Pn**	**11 57 32.0**	**+1.0**
BCPM	**Bancas Point**	**5.15**	**333**	Pn	**Pn**	**11 57 36.5**	**+1.3**
WHY	**Whitehorse**	**5.22**	**1**	Pn	**Pn**	**11 57 36.5**	**+0.2**
WHY				Sn	**Sn**	**11 58 33.1**	**-3.4**
WHY				Sg	**Sb**	**11 58 56.5**	**+4.3**
WHY	**Whitehorse**	**5.22**	**1**	Pn	**Pn**	**11 57 36.7**	**+0.5**
WHY				IAML		11 59 03.7	
	comp=E,9.0nm,2.5s						
BBB	**Bella Bella**	**5.23**	**126**	Pn	**Pn**	**11 57 37.0**	**+0.8**
BBB				Sn	**Sn**	**11 58 35.0**	**-1.4**
BBB	**Bella Bella**	**5.23**	**126**	Pn	**Pn**	**11 57 37.3**	**+1.1**
BBB				IAML		11 58 49.8	
	comp=E,28nm,2.7s						
BBB				IAML		11 59 01.3	
	comp=N,29nm,3.4s						
YUK7	**Dusty Glacier**	**5.36**	**343**	Sn	**Sn**	**11 58 39.0**	**-1.0**
PCA	**Pinnacle**	**5.44**	**331**	Pn	**Pn**	**11 57 40.2**	**+1.0**
PCA	**Pinnacle**	**5.44**	**331**	Pn	**Pn**	**11 57 40.6**	**+1.4**
SAMH	**Samovar Hills**	**5.62**	**329**	Pn	**Pn**	**11 57 43.0**	**+1.3**
YUK5	**Granite Creek**	**5.89**	**346**	Pn	**Pn**	**11 57 47.0**	**+1.5**
TABL	**Table Mountain**	**5.98**	**329**	Pn	**Pn**	**11 57 48.2**	**+1.5**
MESA	**MESA**	**6.02**	**325**	Pn	**Pn**	**11 57 46.6**	**-0.7**
YAH	**Yahtse**	**6.10**	**327**	Pn	**Pn**	**11 57 46.4**	**-1.9**
GRNC	**Granite Creek**	**6.39**	**329**	Pn	**Pn**	**11 57 54.1**	**+1.7**
GRNC	**Granite Creek**	**6.39**	**329**	Pn	**Pn**	**11 57 52.4**	**0.0**
CTGM	**Chitina Glacie**	**6.46**	**331**	Pn	**Pn**	**11 57 55.1**	**+1.8**
CTGM				Sn	**Sn**	**11 59 04.4**	**-2.7**
CTGM	**Chitina Glacie**	**6.46**	**331**		**Pn**	**11 57 54.5**	**+1.2**
BARN	**Barnard Glacie**	**6.63**	**331**		**Pn**	**11 57 57.0**	**+1.3**
BALM	**Baldy**	**6.81**	**328**	Pn	**Pn**	**11 57 59.5**	**+1.5**
CRQM	**Cirque**	**6.85**	**324**	Pn	**Pn**	**11 57 58.6**	**0.0**
HMT	**Hamilton**	**6.95**	**319**	Pn	**Pn**	**11 58 00.3**	**+0.4**
PTPK	**Patty Peak**	**6.96**	**329**	Pn	**Pn**	**11 58 02.4**	**+2.2**
MCARA	**McCarthy VSAT**	**7.29**	**328**	Pn	**Pn**	**11 58 04.9**	**+0.5**
VRDI	**Verde Repeater**	**7.30**	**326**	Pn	**Pn**	**11 58 04.9**	**+0.1**
GLB	**Gilahina Butte**	**7.58**	**326**	Pn	**Pn**	**11 58 09.3**	**+0.8**
DAWY	**Dawson**	**8.92**	**347**	Pn	**Pn**	**11 58 28.1**	**+1.2**
SCM	**Sheep Creek Mo**	**9.06**	**320**	Pn	**Pn**	**11 58 30.5**	**+1.7**
PMR	**Palmer**	**9.61**	**316**	Pn	**Pn**	**11 58 36.2**	**0.0**
GHO	**Glory Hole Cre**	**9.63**	**317**	Pn	**Pn**	**11 58 37.9**	**+1.3**
CNPM	**China Poot**	**9.64**	**302**	Pn	**Pn**	**11 58 35.9**	**-0.9**
EGAK	**Eagle**	**9.84**	**344**	Pn	**Pn**	**11 58 40.6**	**+1.2**
KDAK	**Kodiak Island**	**9.97**	**291**	Pn	**Pn**	**11 58 41.1**	**-0.1**
CUT	**Chulitna**	**10.51**	**318**	Pn	**Pn**	**11 58 49.5**	**+0.9**
RND	**Reindeer**	**10.63**	**324**	Pn	**Pn**	**11 58 51.6**	**+1.3**
TRF	**Thorofare Moun**	**11.14**	**322**	Pn	**Pn**	**11 58 57.1**	**-0.4**
PPLA	**Purkeypile**	**11.52**	**317**	Pn	**Pn**	**11 59 02.7**	**+0.1**

*NEIC **08** 12:03:58.7±0.4, 13°.83N±0°.06×146°.75E±0°.07, h20km±4km, mb4.3/8, Error ellipse: s-maj=12.6km s-min=3.7km az=46.0*
*IDC **08** 12:04:04.1±4.1, 13°.93N×146°.47E, h53km±35km, mb3.7/12, mb1 3.8/12,mb1mx3.6/41,mbtmp4.0/12, MS3.2/4, Ms1 3.3/4,ms1mx2.9/31, Error ellipse: s-maj=28.2km s-min=18.4km az=85.0*

ISC 08 12:04:01.0±0.6,13°.79N±0°.10×146°.66E±0°.08,h37km,n32, σ1s12/31,mb4.0/16,MS3.1/3,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.75**	**264**	P	**Pn**	**12 04 29.2**	**+0.4**
	75nm,0.3s,baz=93,slow=4.5,SNR=42						
GUMO				S	**Sn**	**12 04 49.6**	**-0.4**
	68nm,0.3s,baz=1.8,slow=23,SNR=6.0						
GUMO				LR	LR	12 05 24.8	
	comp=Z,640nm,21.3s,baz=134,slow=51						
PATS	**Pohnpei**	**13.38**	**120**	Pn	**Pn**	**12 07 06.3**	**-2.2**
JCJ	**Chichijima**	**13.88**	**343**	LR	LR	12 12 32.5	
	comp=Z,92nm,18.4s,baz=154,slow=37						
JOW	**Kunigami**	**21.54**	**310**	P	**P**	**12 08 48.5**	**+1.3**
	18nm,0.7s,baz=148,slow=6.1,SNR=5.5						
JOW	**Kunigami**	**21.54**	**310**	P	**P**	**12 08 46.7**	**-0.4**
DAV	**Davao City (W)**	**21.77**	**254**	LR	LR	12 17 47.3	
	comp=Z,58nm,18.6s,baz=70,slow=38						
KSRS	**Korea Array**	**28.88**	**328**	P	**P**	**12 09 54.9**	**-1.3**
	3.0nm,0.9s,baz=142,slow=9.6,SNR=8.6						
KSRS				LR	LR	12 21 08.6	
	comp=Z,76nm,18.3s,baz=146,slow=36						
KAPI	**Kappang**	**32.59**	**237**	P	**P**	**12 10 29.1**	**-0.2**
WRA	**Warramunga Arr**	**35.65**	**200**	P	**P**	**12 10 57.6**	**+1.9**
	2.3nm,0.8s,baz=21,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**39.27**	**199**	P	**P**	**12 11 28.1**	**+1.7**
	0.8nm,0.8s,baz=16,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**39.27**	**199**	P	**P**	**12 11 25.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**45.97**	**282**	P	**P**	**12 12 21.1**	**+0.2**
	1.7nm,0.8s,baz=89,slow=6.1,SNR=6.7						
CMAR				LR	LR	12 31 37.5	
	comp=Z,24nm,19.4s,baz=255,slow=36						
CMAR	**Chiang Mai Arr**	**45.97**	**282**	P	**P**	**12 12 20.6**	**-0.3**
SONM	**Songino Array**	**47.58**	**324**	P	**P**	**12 12 33.4**	**+0.1**
	0.7nm,0.6s,baz=99,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**47.58**	**324**	P	**P**	**12 12 32.6**	**-0.6**
BKZ	**Black Stump Fm**	**59.59**	**153**	P	**P**	**12 14 01.1**	**-0.1**
ZALV	**Zalesovo Beam**	**62.48**	**324**	P	**P**	**12 14 20.3**	**-0.2**
	0.9nm,0.5s,baz=91,slow=8.6,SNR=2.4						
MK31	**Makanchi Array**	**62.56**	**316**	P	**P**	**12 14 21.0**	**-0.3**
MK31				IAmb	IAmb	12 14 22.2	
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**62.56**	**316**	P	**P**	**12 14 21.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=90,slow=8.8,SNR=8.4						
MKAR	**Makanchi Array**	**62.56**	**316**	P	**P**	**12 14 20.6**	**-0.7**
MAKZ	**Makanchi**	**62.77**	**316**	P	**P**	**12 14 22.6**	**-0.1**
MAKZ				IAmb	IAmb	12 14 23.7	
	comp=Z,1.6nm,0.8s						
IMAR	**Indian Mountai**	**65.33**	**23**	P	**P**	**12 14 38.3**	**-0.8**
ILAR	**Eielson Array**	**67.64**	**25**	P	**P**	**12 14 54.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=243,slow=6.0,SNR=2.9						
KK31	**Karatay Array**	**70.63**	**311**	P	**P**	**12 15 12.4**	**-0.5**
KK31				IAmb	IAmb	12 15 13.7	
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**70.63**	**311**	P	**P**	**12 15 12.6**	**-0.3**
ABKAR	**Akbulak array**	**77.56**	**318**	P	**P**	**12 15 52.8**	**-0.4**
YKA	**Yellowknife Ar**	**81.87**	**28**	P	**P**	**12 16 17.8**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=280,slow=5.0,SNR=2.4						
EUNU	**Eureka**	**82.42**	**8**	P	**P**	**12 16 19.7**	**+0.7**
EUNU				IAmb	IAmb	12 16 25.8	
	comp=Z,6.2nm,1.4s						
NVAR	**Mina Array Bea**	**85.43**	**52**	P	**P**	**12 16 38.4**	**+3.0**
	comp=Z,0.4nm,0.8s,baz=254,slow=6.8,SNR=4.4						
FINES	**FINESS Array B**	**91.70**	**336**	P	**P**	**12 17 02.9**	**-1.5**
	comp=Z,0.9nm,1.0s,baz=78,slow=4.5,SNR=4.6						
DBIC	**Dimbokro**	**145.17**	**304**	PKP	**PKPdf**	**12 23 36.2**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=42,slow=3.9,SNR=5.8						
DBIC	**Dimbokro**	**145.17**	**304**		**PKPbc**	**12 23 33.7**	**-1.6**

*TUL **08** 12:36:13.4±1.2,36°.13N±0°.01×97°.57W±0°.02,h6km±7km, ML2.9,mb_Lg2.7/50(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=49.0*

NEIC 08 12:36:13.4±0.8,36°.134N±0°.008×97°.58W±0°.02,h5km±7km, Error ellipse: s-maj=2.7km s-min=0.6km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.35**	**163**	P	Pg	12 36 20.4	+0.1
OK029				Sg	Sg	12 36 25.2	+0.4
BCOK	**Bluff Creek, N**	**0.48**	**183**	P	Pg	12 36 22.7	+0.1
BCOK				Sg	Sg	12 36 29.2	+0.5
CROK	**Carrier**	**0.49**	**319**	P	Pg	12 36 23.3	+0.4
CROK				Sg	Sg	12 36 30.2	+0.9
OK025	**Westminster Rd**	**0.59**	**160**	P	Pg	12 36 24.7	0.0
OK025				Sg	Sg	12 36 32.9	+0.6
OK031	**S. Brethren Rd**	**0.63**	**106**	P	Pg	12 36 25.5	0.0
OK031				Sg	Sg	12 36 33.9	+0.2
OK030	**Cody Creek RV**	**0.68**	**107**	Pg	Pg	12 36 26.4	0.0
OK030				Sg	Sg	12 36 35.5	+0.2
BLOK	**Blackwell**	**0.69**	**25**	P	Pg	12 36 26.9	+0.1
BLOK				Sg	Sg	12 36 36.4	+0.7
QUOK	**Quay**	**0.71**	**87**	P	Pg	12 36 27.1	+0.1
QUOK				Sg	Sg	12 36 36.3	+0.1
OKCFA	**Oklahoma City**	**0.72**	**172**	P	Pg	12 36 27.2	-0.1
OKCFA				Sg	Sg	12 36 37.0	+0.2
OKCSW	**OKLAHOMA CITY**	**0.74**	**171**	P	Pg	12 36 27.4	-0.1
OKCSW				Sg	Sg	12 36 36.5	-0.6
GC02	**Grant County #**	**0.75**	**343**	Pg	Pg	12 36 27.9	0.0
GC02				Sg	Sg	12 36 38.0	+0.4
OK032	**Salt Plains WL**	**0.84**	**323**	Pg	Pg	12 36 29.4	-0.1
OK032				Sg	Sg	12 36 40.5	+0.1
KAN13	**South Haven SW**	**0.88**	**5**	Pg	Pg	12 36 30.3	-0.1
KAN13				Sg	Sg	12 36 42.1	+0.3
FNO	**Franklin**	**0.89**	**170**		Pg	12 36 30.2	-0.2
FNO				Sg	Sg	12 36 42.1	+0.2
KAN09	**Caldwell North**	**1.00**	**358**	Pg	Pg	12 36 32.6	0.0
KAN09				Sg	Sg	12 36 45.9	+0.3
KAN10	**Anthony SW Sta**	**1.07**	**337**		Pg	12 36 34.0	+0.1
KAN10				Sg	Sg	12 36 47.5	-0.3
KAN08	**Anthony NE Sta**	**1.14**	**344**	Pg	Pg	12 36 34.9	-0.3
KAN08				Sg	Sg	12 36 50.0	+0.1
KAN16	**Harper SW Stat**	**1.16**	**341**		Pg	12 36 35.1	-0.5
KAN16				Sg	Sg	12 36 50.5	-0.2
T35A	**Sooner Cattle**	**1.16**	**48**		Pg	12 36 35.3	-0.5
T35A				Sg	Sg	12 36 50.4	-0.4
U32A	**Winter Ranch,**	**1.17**	**282**		Pg	12 36 35.3	-0.6
U32A					Sg	12 36 50.9	-0.2
KAN12	**Harper NE Stat**	**1.21**	**344**	Pg	Pg	12 36 36.1	-0.5
KAN12				Sg	Sg	12 36 52.1	-0.2
X34A	**Smith Ranch, M**	**1.54**	**188**		Pn	12 36 41.9	+0.3
WMOK	**Wichita Mounta**	**1.70**	**215**	Pn	Pn	12 36 43.6	-0.3
LOOK	**Love County**	**2.16**	**171**		Pn	12 36 50.1	0.0
X37A	**Clayton**	**2.38**	**130**	Pn	Pn	12 36 52.5	-0.6
R32A	**Long Quarter,**	**2.46**	**339**		Pn	12 36 53.2	-1.0
R32A				IAmb_Lg		12 37 33.9	
	comp=Z,22nm,0.7s						
U38A	**Gravette**	**2.60**	**82**		Pn	12 36 56.7	+0.5
Z35A	**Perchaven, San**	**2.81**	**174**	Pn	Pn	12 36 58.2	-0.8
HHAR	**Hobbs**	**2.95**	**86**		Pn	12 37 00.6	-0.4
KSU1	**Kansas State U**	**3.06**	**14**		Pn	12 37 01.9	-0.6
KSU1				IAmb_Lg		12 37 54.2	
	comp=Z,19nm,0.8s						
CBKS	**Cedar Bluff**	**3.18**	**328**		Pn	12 37 03.1	-1.0
CBKS				IAmb_Lg		12 37 56.8	
	comp=Z,25nm,1.1s						
W39A	**Magazine**	**3.23**	**106**		Pn	12 37 04.9	+0.1
W39A				IAmb_Lg		12 38 03.8	
	comp=Z,19nm,0.9s						
Z38A	**Mt. Pleasant**	**3.58**	**143**		Pn	12 37 09.4	-0.2
Z38A				IAmb_Lg		12 38 14.9	
	comp=Z,26nm,0.8s						
MIAR	**Mount Ida**	**3.64**	**115**		Pn	12 37 10.1	-0.4
MIAR				IAmb_Lg		12 38 16.1	
	comp=Z,18nm,0.8s						
S39A	**Bolivar**	**3.75**	**64**		Pn	12 37 11.7	-0.3
S39A				IAmb_Lg		12 38 15.3	
	comp=Z,14nm,0.8s						
U40A	**Yellville**	**3.83**	**85**		Pn	12 37 13.1	+0.1
U40A				IAmb_Lg		12 38 21.3	
	comp=Z,17nm,0.8s						
ABTX	**Abilene, Hawle**	**3.89**	**207**		Pn	12 37 14.1	+0.1
ABTX				IAmb_Lg		12 38 21.5	
	comp=Z,16nm,0.8s						
X40A	**Basin Creek Fa**	**4.21**	**112**	Pn	Pn	12 37 17.8	-0.6
X40A				IAmb_Lg		12 38 27.2	
	comp=Z,23nm,0.9s						
WHAR	**Wooly Hollow**	**4.39**	**100**	Pn	Pn	12 37 20.8	+0.1
WHAR				IAmb_Lg		12 38 36.6	
	comp=Z,12nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**75**	Pn	Pn	12 37 20.9	+0.1
FCAR	**Ozark Folk Cen**	**4.43**	**92**	Pn	Pn	12 37 21.1	-0.2
N33A	**J Bar K, Exete**	**4.60**	**1**	Pn	Pn	12 37 23.2	-0.4
P38A	**Dawn**	**4.73**	**41**		Pn	12 37 24.9	-0.5
P38A				IAmb_Lg		12 38 52.6	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**4.76**	**62**	Pn	Pn	12 37 25.6	-0.2
R40A				IAmb_Lg		12 38 41.3	
	comp=Z,13nm,0.8s						
MSTX	**Muleshoe**	**4.77**	**245**	Pn	Pn	12 37 26.3	+0.1
KSCO	**Kaye Shedlock'**	**4.93**	**307**	Pn	Pn	12 37 26.3	-2.0
N35A	**Tabor**	**4.96**	**17**	Pn	Pn	12 37 27.5	-1.1
T42A	**Van Buren**	**5.30**	**78**	Pn	Pn	12 37 30.9	-2.3
T42A				IAmb_Lg		12 39 06.0	
	comp=Z,15nm,1.1s						
P40A	**Paris**	**5.54**	**51**	Pn	Pn	12 37 36.9	+0.4
P40A				IAmb_Lg		12 39 11.1	
	comp=Z,15nm,0.7s						
T25A	**Trinidad**	**5.58**	**282**	Pn	Pn	12 37 37.4	0.0
T25A				IAmb_Lg		12 39 18.3	
	comp=Z,8.4nm,0.7s						
N38A	**Joes South For**	**5.77**	**35**	Pn	Pn	12 37 38.5	-1.2
N38A				IAmb_Lg		12 39 32.2	
	comp=Z,16nm,0.8s						
PBMO	**Poplar Bluff**	**5.80**	**82**	Pn	Pn	12 37 40.5	+0.3
PBMO				IAmb_Lg		12 39 23.2	
	comp=Z,13nm,0.8s						
OGNE	**Ogallala**	**5.94**	**325**	Pn	Pn	12 37 42.8	+0.7
JCT	**Junction City**	**5.94**	**199**	Pn	Pn	12 37 40.9	-1.2
JCT				IAmb_Lg		12 39 26.7	
	comp=Z,15nm,0.8s						
LPAR	**Lepanto**	**5.94**	**93**	Pn	Pn	12 37 42.1	+0.1
FVM	**French Village**	**6.01**	**70**	Pn	Pn	12 37 41.6	-1.5
FVM				IAmb_Lg		12 39 25.1	
	comp=Z,8.2nm,0.8s						
SDCO	**Great Sand Dun**	**6.54**	**287**	Pn	Pn	12 37 50.0	-0.7
S44A	**Carbondale**	**6.85**	**74**	IAmb_Lg		12 39 49.0	
	comp=Z,12nm,0.8s						
SIUC	**Southern Illin**	**6.88**	**74**	IAmb_Lg		12 39 52.3	
	comp=Z,12nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.27**	**59**	Pn	Pn	12 38 00.3	-0.1
ISCO	**Idaho Springs**	**7.32**	**302**	Pn	Pn	12 38 00.9	-0.5
ECSD	**EROS Data Cent**	**7.63**	**5**	Pn	Pn	12 38 04.4	-0.8
L40A	**Anamosa**	**7.71**	**38**	IAmb_Lg		12 40 29.4	
	comp=Z,6.9nm,0.8s						
MNTX	**Cornudas Mount**	**7.85**	**238**	Pn	Pn	12 38 07.8	-0.5
HDIL	**Hopedale**	**7.87**	**53**	Pn	Pn	12 38 08.9	+0.4
SMCO	**Snowmass**	**8.04**	**295**	IAmb_Lg		12 40 46.4	
	comp=Z,9.2nm,0.8s						
JFWS	**Jewell Farm**	**8.83**	**38**	IAmb_Lg		12 41 02.1	
	comp=Z,6.6nm,0.8s						

DNK 08 12:37:31.0±0.4,56°.62N×15°.98E,h0km,ML1.4(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLEU	**Blekinge**	**0.33**	**196**	*i* P	Pg	12 37 36.9	-0.3
BLEU				*i* S	Sg	12 37 41.6	+0.2
BLEU	**Blekinge**	**0.33**	**196**	P	Pg	12 37 36.9	-0.3
BLEU				S	Sg	12 37 41.4	-0.1
OSKU	**Oskarshamn**	**0.58**	**7**	P	Pg	12 37 41.5	-0.6
OSKU				S	Sg	12 37 49.2	-0.5
VXJU	**Vaexsjoe**	**0.65**	**298**	P	Pg	12 37 42.9	-0.5
VXJU				S	Sg	12 37 51.5	-0.3
BYXU	**Byxelkrok**	**0.88**	**40**	P	Pg	12 37 47.1	-0.7
EKSU	**Eksjoe**	**1.03**	**339**	P	Pg	12 37 49.8	-0.9
VSTU	**Vaestervik**	**1.09**	**16**	P	Pg	12 37 50.0	-0.9
DEL	**Delary**	**1.18**	**264**	*i* P	Pg	12 37 52.7	-0.8
DEL				IAML		12 38 12.6	
	comp=Z,2.3nm,0.3s						
DEL	**Delary**	**1.18**	**264**	P	Pg	12 37 52.4	-1.1
GNOU	**Gnosjoe**	**1.39**	**300**	P	Pg	12 37 56.2	-1.4
LNKU	**Linkoeping**	**1.63**	**351**	P	Pn	12 38 00.7	-0.2
FABU	**Falkenberg**	**1.83**	**283**	*i* P	Pn	12 38 04.4	+0.7
FABU				*i* S	Sg	12 38 29.4	-0.4

JMA 08 12:41:08.5±0.2,24°.92N×123°.28E,h10km±3km,M1.4, Southwestern Ryukyu Islands

| Code | Station

ALCE Alcedo, Punta 2.12 207 P Pn 12 59 03.0 -5.5
VCH1 Volcn Chico 2.23 182 P **Pn** **12 59 08.0 -2.0**
PAYG Puerto Ayora 2.24 161 Pn **Pn** **12 59 10.2 +0.2**
PAYG Puerto Ayora 2.24 161 *eP* **Pn** **12 59 08.1 -1.9**
PAYG Puerto Ayora 2.24 161 P **Pn** **12 59 11.0 +1.0**
JTS Las Juntas de 10.63 34 Pn **Pn** **13 01 06.9 +1.5**
0.4nm,0.3s,baz=35,slow=15,SNR=1.6
JTS LR LR 13 04 03.8
comp=Z,9μm,19.2s,baz=253,slow=32
DRK0 Durika 10.94 45 Pn **Pn** **13 01 10.4 +0.7**
CVTR Volcan Turrial 11.14 40 Pn **Pn** **13 01 12.8 +0.1**
FLF1 Flavio Alfaro- 11.31 99 P **Pn** **13 01 11.0 -3.6**
BATAN Batan 11.45 41 **Pn** **13 01 15.3 -1.2**
ARNL Arenillas 12.01 114 P **Pn** **13 01 23.0 -1.2**
OTAV Otavalo 12.61 95 **Pn** **13 01 30.7 -2.1**
MTO3 Montecristo 12.96 7 Pn **Pn** **13 01 36.2 -1.1**
TGUH Tegucigalpa,Un 13.05 16 Pn **Pn** **13 01 37.6 -0.9**
APG El Apazote 13.46 2 Pn **Pn** **13 01 47.9 +3.6**
0.3nm,0.3s,baz=200,slow=13,SNR=5.9
APG LR LR 13 05 44.6
comp=Z,2μm,20.8s,baz=178,slow=33
HUEH Huehuetenango 13.78 358 Pn **Pn** **13 01 48.1 -0.4**
CCIG Comitan 14.77 356 Pn **Pn** **13 02 02.3 +0.3**
YOTC Yotoco, Valle 14.86 80 *eP* **Pn** **13 02 04.4 +1.2**
PLMC San Jos del P 15.09 77 *eP* **P** **13 02 09.1 -2.5**
MARP Paez Belalcaza 15.10 85 *eP* **Pn** **13 02 08.2 +1.5**
ATAH Atahualpa 15.21 124 Pn **Pn** **13 02 10.4 +2.2**
0.3nm,0.3s,baz=315,slow=14,SNR=6.1
ATAH LR LR 13 07 01.1
comp=Z,5μm,18.4s,baz=304,slow=34
FLOC Florencia 15.35 89 **Pn** **13 02 09.5 -0.2**
FLOC IAmb IAmb 13 02 23.5
comp=Z,61nm,1.5s
PETF Flores 15.40 4 Pn **Pn** **13 02 10.2 0.0**
PETF IAmb IAmb 13 02 25.4
comp=Z,83nm,1.3s
TOLC Tolima 15.97 78 *eP* **P** **13 02 21.5 -0.1**
CMIG Matias Romero 15.99 346 Pn **P** **13 02 23.6 +2.0**
comp=Z,0.2nm,0.3s,baz=175,slow=8.4,SNR=5.3
CMIG LR LR 13 07 08.4
comp=Z,433nm,20.8s,baz=165,slow=33
GUY2C Guyana, Caldas 16.05 76 *eP* **Pn** **13 02 18.7 -0.6**
PTLC Puerto Leguiza 16.26 94 *eP* **Pn** **13 02 20.6 -0.9**
NORC Norcasia 16.61 75 *eP* **Pn** **13 02 26.3 +0.3**
UREC San Jos de Ur 16.63 67 *eP* **Pn** **13 02 25.3 -0.9**
MOTC Monteria, Cord 16.91 64 *eP* **Pn** **13 02 29.1 -0.6**
ROSC El Rosal 16.99 78 Pn **P** **13 02 34.5 +1.4**
comp=Z,1.2nm,0.3s,baz=295,slow=12,SNR=6.3
ROSC LR LR 13 07 54.2
comp=Z,3μm,21.8s,baz=268,slow=34
ROSC El Rosal 16.99 78 **Pn** **13 02 30.0 -1.2**
SPBC San Pablo de B 17.40 76 *eP* **Pn** **13 02 34.9 -1.1**
TLIG Tlapa 17.64 336 P **P** **13 02 40.4 +0.5**
SJCC San Jacinto, C 17.83 61 P **Pn** **13 02 40.9 -0.3**
SMLC San Martn de 18.36 66 *eP* **Pn** **13 02 44.4 -3.4**
RUSC La Rusia 18.41 76 *eP* Pn 13 02 35.8 -13
NNA Nana 19.41 134 LR LR 13 09 08.3
comp=Z,2μm,19.8s,baz=312,slow=33
CZSB Cruzeiro do Su 20.41 117 *eP* **P** **13 03 09.8 -0.5**
MOIG Morelia 20.66 332 P **P** **13 03 13.2 0.0**
SDV Santo Domingo 21.57 69 P **P** **13 03 20.0 -3.0**
comp=Z,12nm,0.3s,baz=266,slow=5.7,SNR=3.6
SDV LR LR 13 11 38.9
comp=Z,1μm,20.6s,baz=252,slow=37
SDV Santo Domingo 21.57 69 P **P** **13 03 21.1 -1.9**
SDV IAmb IAmb 13 03 31.7
comp=Z,43nm,1.1s
SDV Santo Domingo 21.57 69 *eP* **P** **13 03 26.9 +3.8**
ZAIG Zacatecas 23.97 333 P **P** **13 03 47.9 0.0**
ZAIG IAmb IAmb 13 04 00.9
comp=Z,32nm,1.4s
JAKH Jacmel 24.64 46 P **P** **13 03 52.4 -1.4**
H06E1 SOCORRO T-PHAS 26.03 313 T T 13 31 10.3
SNR=14
ETMB Extrema 27.11 115 *eP* **P** **13 04 17.3 +1.1**
PCRV Puerto La Cruz 27.60 71 P **P** **13 04 24.8 +4.1**
comp=Z,23nm,1.1s,baz=294,slow=12,SNR=4.1
LPAZ La Paz 28.66 129 P **P** **13 04 30.5 -0.2**
comp=Z,5.1nm,1.1s,baz=325,slow=8.4,SNR=7.3
LPAZ LR LR 13 15 26.3
comp=Z,2μm,20.9s,baz=320,slow=36
LPAZ La Paz 28.66 129 P **P** **13 04 30.7 -0.1**
LPAZ La Paz 28.66 129 *eP* **P** **13 04 29.2 -1.5**
LPAZ La Paz 28.66 129 *eP* **P** **13 04 31.2 +0.5**
HKT Hockley 28.70 351 P **P** **13 04 29.8 -0.3**
HKT IAmb IAmb 13 04 48.7
comp=Z,18nm,1.4s
PB16 IPOC Station P 28.89 134 P **P** **13 04 32.4 -0.3**
HPIG 28.97 332 P **P** **13 04 33.4 +0.4**
441A DeRidder 29.20 356 P **P** **13 04 34.5 -0.1**
LPIG La Paz 29.25 322 LR LR 13 13 29.0
comp=Z,627nm,19.5s,baz=186,slow=31
342A Flagon Creek P 29.78 358 P **P** **13 04 38.5 -1.2**
JCT Junction City 30.04 345 P **P** **13 04 42.1 -0.1**
JCT IAmb IAmb 13 04 54.5
comp=Z,16nm,1.3s
TXAR Lajitas Array 30.23 338 P **P** **13 04 43.5 -0.4**
comp=Z,0.8nm,0.7s,baz=146,slow=10,SNR=5.7
TXAR LR LR 13 15 49.6
comp=Z,1μm,18.6s,baz=0.0,slow=34
TXAR Lajitas Array 30.23 338 P **P** **13 04 44.9 +1.0**
NATX Nacogdoches 30.33 354 P **P** **13 04 43.7 -1.0**
BOAV Boa Vista 30.48 88 *eP* **P** **13 04 49.4 +3.2**
WHTX Lake Whitney, 30.97 349 P **P** **13 04 50.5 +0.2**
PTGA Pitinga 31.11 94 P **P** **13 04 51.5 -0.3**
PTGA IAmb IAmb 13 04 57.7
comp=Z,12nm,1.1s
152A Waverly Hall 31.60 10 P **P** **13 04 56.1 +0.3**
152A IAmb IAmb 13 05 11.9
comp=Z,7.6nm,1.0s
LVC Limon Verde 32.20 139 P **P** **13 05 02.8 +1.2**
comp=Z,4.7nm,0.9s,baz=295,slow=6.4,SNR=5.0
LVC Limon Verde 32.20 139 P **P** **13 05 00.8 -0.8**
LVC IAmb IAmb 13 05 04.7
comp=Z,5.9nm,0.8s
LVC Limon Verde 32.20 139 *eP* **P** **13 05 01.3 -0.4**
MNTX Cornudas Mount 33.00 337 P **P** **13 05 08.3 +0.2**
MNTX IAmb IAmb 13 05 14.5
comp=Z,9.2nm,1.4s
MIAR Mount Ida 33.00 356 P **P** **13 05 09.5 +1.4**
MIAR IAmb IAmb 13 05 17.9
comp=Z,19nm,1.4s
X34A Smith Ranch, M 33.58 350 P **P** **13 05 13.8 +0.7**
W39A Magazine 33.66 356 P **P** **13 05 13.5 -0.4**
WMOK Wichita Mounta 33.89 348 P **P** **13 05 14.8 -1.1**
W35A Tecumseh 33.96 351 P **P** **13 05 15.7 -0.8**
MSTX Muleshoe 34.16 342 P **P** **13 05 19.1 +0.8**
SIV San Ignacio 34.28 122 P **P** **13 05 19.4 -0.2**
comp=Z,3.6nm,0.7s,baz=291,slow=1.5,SNR=13
V48A Smith Brothers 34.33 6 P **P** **13 05 19.4 -0.2**
V48A IAmb IAmb 13 05 35.6
comp=Z,11nm,1.2s
CPCT Cooper Cave 34.35 9 P **P** **13 05 18.9 -0.9**
CPCT IAmb IAmb 13 05 28.7
comp=Z,9.3nm,1.0s
319A Douglas 34.41 332 P **P** **13 05 20.4 -0.1**
319A IAmb IAmb 13 05 28.4
comp=Z,25nm,1.4s
TKL Tuckaleechee C 34.68 10 P **P** **13 05 20.5 -2.2**
comp=Z,2.4nm,0.8s,baz=171,slow=7.5,SNR=3.7
121A Cookes Peak, D 34.71 335 P **P** **13 05 24.4 +1.2**
121A IAmb IAmb 13 05 38.4
comp=Z,20nm,1.2s
U38A Gravette 34.94 355 P **P** **13 05 23.6 -1.4**
U38A IAmb IAmb 13 05 34.5
comp=Z,9.7nm,1.0s
AC02 Maricunga 35.16 145 P **P** **13 05 26.3 -1.3**
AC02 IAmb IAmb 13 05 35.0
comp=Z,16nm,1.4s
U49A Red Boiling Sp 35.21 7 P **P** **13 05 27.3 0.0**
U49A IAmb IAmb 13 05 35.8
comp=Z,7.9nm,1.0s
T42A Van Buren 35.39 360 P **P** **13 05 27.5 -1.3**
T42A IAmb IAmb 13 05 41.5
comp=Z,10.0nm,1.2s
T47A Sharon Grove 35.53 5 P **P** **13 05 29.9 -0.1**
T47A IAmb IAmb 13 05 35.3
comp=Z,10.0nm,0.8s
MGMO Mountain Grove 35.53 358 P **P** **13 05 29.9 -0.1**
PTLB Pontes e Lacer 35.71 119 *eP* **P** **13 05 31.8 0.0**
TUC Tucson 35.90 331 P **P** **13 05 35.0 +1.6**
S39A Bolivar 36.11 357 P **P** **13 05 34.2 -0.8**
ANMO Albuquerque 36.29 338 P **P** **13 05 37.8 +1.0**
ANMO IAmb IAmb 13 05 47.2
comp=Z,12nm,1.4s
NPGB Novo Progresso 36.56 104 *eP* **P** **13 05 41.5 +2.2**
214A Organ Pipe Nat 36.65 328 P **P** **13 05 40.9 +1.2**
214A IAmb IAmb 13 05 52.3
comp=Z,16nm,1.4s
R40A Maddies Statio 36.67 358 P **P** **13 05 38.7 -1.0**
T57A Hurt 36.99 16 P **P** **13 05 42.1 -0.4**
T57A IAmb IAmb 13 05 50.9
comp=Z,11nm,1.1s
Q44A Meyer Farm, Va 37.31 3 P **P** **13 05 43.9 -1.3**
X18A Snowflake 37.35 334 P **P** **13 05 45.6 -0.3**
T25A Trinidad 37.59 342 P **P** **13 05 47.9 0.0**
KSU1 Kansas State U 37.81 353 P **P** **13 05 49.5 +0.1**
P40A Paris 37.90 359 P **P** **13 05 49.4 -0.8**
X16A Lo Mia Camp, P 37.94 332 P **P** **13 05 51.0 +0.2**
Q51A Peebles 38.03 10 P **P** **13 05 49.9 -1.5**
Q51A IAmb IAmb 13 06 00.1
comp=Z,17nm,1.0s
P46A Rosedale 38.13 5 P **P** **13 05 51.0 -1.1**
Q52A Bidwell 38.17 11 P **P** **13 05 52.5 0.0**
Q52A IAmb IAmb 13 06 01.7
comp=Z,24nm,1.1s
Y14A Wickenburg 38.31 330 P **P** **13 05 53.9 0.0**
Q54A Coxs Mills 38.48 13 P **P** **13 05 55.3 +0.2**
Q54A IAmb IAmb 13 06 00.1
comp=Z,25nm,1.4s
SDCO Great Sand Dun 38.49 341 P **P** **13 05 56.0 +0.4**
SDCO IAmb IAmb 13 06 05.7
comp=Z,15nm,1.2s
O44A Mansfield 38.58 3 P **P** **13 05 54.5 -1.4**
WUAZ Wupatki 38.81 333 P **P** **13 05 59.2 +1.0**
WUAZ IAmb IAmb 13 06 09.1
comp=Z,20nm,1.2s
MVCO Mesa Verde 39.06 338 P **P** **13 06 01.8 +1.5**
N41A Harden Midland 39.06 0 P **P** **13 05 59.0 -0.9**
VA03 San Esteban 39.15 152 P **P** **13 06 00.6 -0.3**
VA03 IAmb IAmb 13 06 10.2
comp=Z,22nm,1.1s
N38A Joes South For 39.20 357 P **P** **13 06 00.8 -0.3**
N38A IAmb IAmb 13 06 10.5
comp=Z,30nm,1.2s
N47A Urbana 39.53 6 P **P** **13 06 03.2 -0.6**
W13A Hualapai Mount 39.67 330 P **P** **13 06 06.5 +1.2**
PV01 Paradox Valley 39.90 338 P **P** **13 06 08.0 +0.7**
U15A North Rim 39.98 333 P **P** **13 06 09.6 +1.5**
PV13 Radium Mtn., P 40.01 338 P **P** **13 06 09.1 +0.9**
PV02 Paradox Valley 40.03 338 P **P** **13 06 08.3 0.0**
PV02 IAmb IAmb 13 06 23.0
comp=Z,22nm,1.3s
SMCO Snowmass 40.27 341 P **P** **13 06 10.7 +0.1**
PV14 Lion Creek, Pa 40.28 338 P **P** **13 06 11.5 +1.1**
PV14 IAmb IAmb 13 06 21.0
comp=Z,16nm,1.2s
PV22 Blue Mesa, Par 40.33 338 P **P** **13 06 11.3 +0.5**
L42A Oliver, Polo 40.38 2 P **P** **13 06 11.1 +0.2**
L42A IAmb IAmb 13 06 19.6
comp=Z,37nm,1.2s
ISCO Idaho Springs 40.41 343 P **P** **13 06 11.7 +0.2**
ISCO IAmb IAmb 13 06 26.6
comp=Z,14nm,1.1s
L40A Anamosa 40.42 360 P **P** **13 06 10.4 -0.8**
L40A IAmb IAmb 13 06 20.3
comp=Z,32nm,1.2s
KNB Kanab 40.71 333 P **P** **13 06 15.4 +1.5**
PKCU Pink Cliffs 40.83 334 P **P** **13 06 16.2 +1.1**
PKCU IAmb IAmb 13 06 32.5
comp=Z,30nm,1.4s
AQDB Aquidauana 40.88 124 P **P** **13 06 13.7 -1.7**
AQDB Aquidauana 40.88 124 *eP* **P** **13 06 16.2 +0.8**
LCMT Little Creek M 40.90 332 P **P** **13 06 15.5 +0.1**
K38A Parkersburg 41.03 358 P **P** **13 06 15.2 -1.1**
MTPU Mount Pierson 41.27 334 P **P** **13 06 20.3 +1.5**
JFWS Jewell Farm 41.27 1 P **P** **13 06 17.1 -1.2**
JFWS IAmb IAmb 13 06 26.9
comp=Z,26nm,1.3s
SZCU Shurtz Canyon 41.30 333 P **P** **13 06 20.6 +1.7**
SZCU IAmb IAmb 13 06 31.7
comp=Z,16nm,1.5s
GSC Goldstone, Bar 41.34 327 pP 13 06 21.1 -0.4
CCUT Cedar City 41.39 333 P **P** **13 06 20.3 +0.6**
SHPR Sheep Range 41.41 330 pP 13 06 21.2 -1.0
SRU San Rafael Swe 41.50 337 P **P** **13 06 20.6 +0.2**
O20A White River Ci 41.56 340 P **P** **13 06 21.9 +1.0**
O20A IAmb IAmb 13 06 31.0
comp=Z,22nm,1.2s
K31A O'Neill 41.56 351 P **P** **13 06 20.2 -0.5**
Q16A Castle Valley 41.59 336 P **P** **13 06 20.4 -0.8**
Q16A IAmb IAmb 13 06 27.8
comp=Z,16nm,1.4s
SNDB Serra Nova Dou 41.65 110 *eP* **P** **13 06 23.4 +1.6**
P17A Butcher Ranch, 41.89 337 P **P** **13 06 23.8 +0.1**
P17A IAmb IAmb 13 06 33.7
comp=Z,13nm,1.2s
TMUT Trail Mountain 41.93 336 P **P** **13 06 25.6 +1.5**
PRN Pahroc Range 42.07 331 P **P** **13 06 24.9 -0.2**
I42A Draeger Farm, 42.29 2 P **P** **13 06 25.8 -0.7**
I42A IAmb IAmb 13 06 34.5
comp=Z,26nm,1.3s
TPNV Topopah Spring 42.31 329 P **P** **13 06 28.4 +1.4**
ARAG Araguaiana, MT 42.32 115 *eP* **P** **13 06 24.2 -3.0**
ECSD EROS Data Cent 42.38 354 P **P** **13 06 28.0 +0.7**
ECSD IAmb IAmb 13 06 39.7
comp=Z,15nm,1.0s
RDMU Red Mountain 42.41 339 P **P** **13 06 28.1 +0.2**
RDMU IAmb IAmb 13 06 38.6
comp=Z,23nm,1.4s
PSUT Pine Spring 42.42 333 P **P** **13 06 28.8 +0.8**
ISA Isabella, Lake 42.52 326 P **P** **13 06 29.2 +0.5**
RWWY Rawlins 42.62 342 P **P** **13 06 29.9 +0.2**
RWWY IAmb IAmb 13 06 45.3
comp=Z,34nm,1.5s
CPUP Villa Florida 42.66 133 P **P** **13 06 28.5 -1.4**
comp=Z,3.3nm,0.9s,baz=313,slow=9.7,SNR=5.5
CPUP LR LR 13 24 45.8
comp=Z,728nm,21.0s,baz=326,slow=37
CPUP Villa Florida 42.66 133 P **P** **13 06 29.1 -0.8**
CPUP Villa Florida 42.66 133 *eP* **P** **13 06 31.8 +1.9**
NLU North Lily Min 42.84 336 P **P** **13 06 29.8 -1.6**
SPR3 Spring Creek 3 43.01 333 P **P** **13 06 33.9 +0.9**
R11A Troy Canyon, C 43.07 331 P **P** **13 06 34.3 +1.1**
K22A Casper 43.30 343 P **P** **13 06 34.4 -0.6**
K22A IAmb IAmb 13 06 41.5
comp=Z,20nm,1.4s
DUG Dugway, Tooele 43.34 336 P **P** **13 06 36.1 +0.7**
G40A Rib Lake 43.63 1 P **P** **13 06 37.7 +0.3**
G40A IAmb IAmb 13 06 50.6
comp=Z,17nm,1.5s
TPH Tonopah 43.67 330 P **P** **13 06 39.9 +1.8**
TPH IAmb IAmb 13 06 48.8
comp=Z,22nm,1.2s
RSSD Black Hills 44.02 346 P **P** **13 06 42.1 +1.2**
RSSD IAmb IAmb 13 06 57.3
comp=Z,13nm,1.4s
BGU Big Grassy Mou 44.05 336 P **P** **13 06 41.4 +0.4**
BGU IAmb IAmb 13 06 51.2
comp=Z,19nm,1.3s
HWUT Hardware Ranch 44.05 338 P **P** **13 06 41.8 +0.7**
HWUT IAmb IAmb 13 06 53.6
comp=Z,26nm,1.4s
MDPB Devils Postpil 44.30 328 P **P** **13 06 45.1 +1.8**
MDPB IAmb IAmb 13 06 51.2
comp=Z,12nm,1.4s
BW06 Boulder Array 44.35 340 P **P** **13 06 43.7 +0.1**
BW06 IAmb IAmb 13 06 59.7
comp=Z,12nm,1.3s
PDAR Pinedale Array 44.35 340 P **P** **13 06 42.0 -1.6**
comp=Z,0.4nm,0.5s,baz=156,slow=8.9,SNR=1.9
PDAR Pinedale Array 44.35 340 P **P** **13 06 43.5 0.0**
SADO Sadowa 44.38 12 P **P** **13 06 42.1 -1.4**
SADO IAmb IAmb 13 06 48.6
comp=Z,21nm,1.1s
NV11 Mina Array Sit 44.41 329 P **P** **13 06 45.3 +1.3**
NV11 IAmb IAmb 13 06 52.1
comp=Z,17nm,1.4s
F33A 5 Mile Ranch, 44.44 355 P **P** **13 06 45.0 +1.1**
F33A IAmb IAmb 13 06 47.6
comp=Z,20nm,1.4s
LHV Little Huntoon 44.45 329 P **P** **13 06 44.7 +0.6**
LHV IAmb IAmb 13 06 56.6
comp=Z,8.7nm,1.2s
SMTB Santa Maria do 44.46 104 *eP* **P** **13 06 46.1 +1.5**
NVAR Mina Array Bea 44.49 329 P **P** **13 06 45.3 +0.6**
comp=Z,2.6nm,0.9s,baz=159,slow=8.5,SNR=17
NVAR PcP **PcP** **13 08 28.2 +0.1**
comp=Z,0.7nm,0.8s,baz=120,slow=5.3,SNR=2.3
NVAR LR LR 13 23 18.4
comp=Z,333nm,19.4s,baz=140,slow=34
PEXB Peixe 44.50 109 *eP* **P** **13 06 47.0 +2.1**
HVU Hansel Valley 44.67 337 P **P** **13 06 47.6 +1.6**
HVU IAmb IAmb 13 06 57.6
comp=Z,23nm,1.4s
RYN Ryan 44.75 329 P **P** **13 06 48.0 +1.2**
ELK Elko 44.84 334 P **P** **13 06 47.8 +0.3**
ELK IAmb IAmb 13 06 57.8
comp=Z,13nm,1.4s
KVN Kaiserville 44.85 330 P **P** **13 06 49.1 +1.5**
KVN IAmb IAmb 13 07 02.3
comp=Z,11nm,1.2s
E43A Lone Tree Farm 44.87 4 P **P** **13 06 47.8 +0.5**
E43A IAmb IAmb 13 06 51.0
comp=Z,15nm,1.2s
E38A The Farm, Brul 44.96 359 P **P** **13 06 47.7 -0.3**
E38A IAmb IAmb 13 06 55.8
comp=Z,16nm,1.2s
PCMB Pacaembu 45.09 123 *eP* **P** **13 06 50.6 +1.0**
ITQB Itaqui 45.13 136 *eP* **P** **13 06 50.8 +1.1**
CMB Columbia Colle 45.30 327 P **P** **13 06 51.1 +0.1**
REDW Red Top Meadow 45.32 340 P **P** **13 06 52.8 +1.5**
SNOW Snow King Moun 45.37 340 P **P** **13 06 52.9 +1.2**
YERR Yerington 45.39 329 P **P** **13 06 52.8 +1.0**
YERR IAmb IAmb 13 07 06.9
comp=Z,12nm,1.2s
LOHW Long Hollow 45.45 340 P **P** **13 06 52.4 +0.1**
LOHW IAmb IAmb 13 06 58.6
comp=Z,16nm,1.4s
D41A Chassel 45.46 2 P **P** **13 06 52.3 +0.3**
TPAW Teton Pass 45.47 340 P **P** **13 06 52.8 +0.3**
TPAW IAmb IAmb 13 07 18.9
comp=Z,22nm,1.4s
MOOW Moose Ponds 45.62 340 P **P** **13 06 54.8 +1.1**
MOOW IAmb IAmb 13 06 58.8
comp=Z,9.2nm,1.4s
PNTR Pine Nut 45.65 329 pP 13 06 55.8 -0.6
E28A Huff 45.72 351 P **P** **13 06 53.4 -0.7**
BDFB Brasilia 45.76 114 LR LR 13 26 50.6
comp=Z,958nm,19.4s,baz=296,slow=37
PLCA Paso Flores 45.95 158 P **P** **13 06 56.5 +0.4**
comp=Z,5.3nm,1.0s,baz=329,slow=12,SNR=5.0
PLCA LR LR 13 23 02.1
comp=Z,542nm,18.5s,baz=336,slow=32
PLCA Paso Flores 45.95 158 P **P** **13 06 55.3 -0.8**
PLCA IAmb IAmb 13 07 02.7
comp=Z,15nm,1.4s
PLCA Paso Flores 45.95 158 *eP* **P** **13 06 56.8 +0.7**
PAHR Pah Rah Range 46.00 329 P **P** **13 06 57.1 +0.5**
PAHR IAmb IAmb 13 07 11.6
comp=Z,14nm,1.4s
AFDM Forest Hills D 46.27 327 P **P** **13 06 59.7 +1.1**
AFDM IAmb IAmb 13 07 13.3
comp=Z,8.1nm,1.2s
YHH Holmes Hill 46.58 341 P **P** **13 07 01.1 -0.2**
YHH IAmb IAmb 13 07 28.8
comp=Z,8.0nm,1.4s
BEKR Beckworth 46.62 329 P **P** **13 07 02.6 +1.1**
BEKR IAmb IAmb 13 07 12.0
comp=Z,14nm,1.4s
YHL Hebgen Lake 46.74 340 P **P** **13 07 03.0 +0.5**
B35A Bob, Littlefor 46.77 358 P **P** **13 07 01.9 -0.4**
HLID Hailey 46.82 337 P **P** **13 07 04.0 +1.0**
HLID IAmb IAmb 13 07 12.8
comp=Z,9.5nm,1.1s
AGMN Agassiz Nation 46.84 356 P **P** **13 07 03.1 +0.2**
ORV Oroville 46.99 328 P **P** **13 07 05.2 +0.9**
ITAB Concordia 47.05 130 *eP* **P** **13 07 05.7 +0.9**
BCYI Bear Canyon 47.06 338 P **P** **13 07 05.2 +0.2**
GCMT Greycliff 47.09 342 P **P** **13 07 04.3 -0.8**
MFID Camas Ranch 47.27 335 P **P** **13 07 07.0 +0.6**
MFID IAmb IAmb 13 07 34.1
comp=Z,4.7nm,0.9s
CPSB Cacapava Do Su 47.79 135 *eP* **P** **13 07 10.9 +0.3**
MOD Modoc Plateau 48.11 331 P **P** **13 07 14.6 +1.5**
PLTB Pedras Altas 48.46 136 P **P** **13 07 15.1 -0.6**
PLTB Pedras Altas 48.46 136 *eP* **P** **13 07 16.9 +1.2**
ULM Lac du Bonnet 48.78 356 P **P** **13 07 15.4 -2.5**
comp=Z,6.1nm,0.9s,baz=173,slow=6.2,SNR=5.0
ULM LR LR 13 28 21.6
comp=Z,240nm,20.1s,baz=174,slow=37
ULM Lac du Bonnet 48.78 356 P **P** **13 07 18.1 +0.2**
K05A Summer Lake 49.02 331 P **P** **13 07 20.1 -0.1**
BMO Blue Mountains 49.06 335 P **P** **13 07 21.1 +0.9**
RKT Rikitea 49.27 238 *eS* **S** **13 14 30.0 +1.5**
comp=Z,338nm,27.8s
RKT *eLR* LR 13 21 29.2
comp=Z,1μm,27.8s
RKT Rikitea 49.27 238 *eT* T 14 00 26.6
comp=Z,1.9nm,0.2s
F10A Beach Ranch, E 49.94 336 P **P** **13 07 27.2 +0.2**
F10A IAmb IAmb 13 07 43.1
comp=Z,6.0nm,1.0s
TAOE Nuku Hiva Isla 50.03 257 *eLR* LR 13 21 56.0
comp=Z,1μm,26.1s
TAOE Nuku Hiva Isla 50.03 257 *eT* T 14 01 19.5
comp=Z,34nm,0.2s
JTMT Jette 50.32 340 P **P** **13 07 29.6 -0.3**
E09A Wood Farm, Sta 50.75 336 P **P** **13 07 33.1 +0.2**
NBPN Ponto Novo - B 51.99 105 *eP* **P** **13 07 44.7 +1.9**
B08A Colville Reser 52.71 337 P **P** **13 07 49.0 +1.4**
B08A IAmb IAmb 13 08 01.0
comp=Z,9.1nm,1.4s
FFC Flin Flon 53.84 352 P **P** **13 07 56.6 +0.8**
FFC IAmb IAmb 13 08 04.2
comp=Z,20nm,1.4s
SCHQ Schefferville 56.75 16 P **P** **13 08 14.2 -2.6**
comp=Z,3.6nm,1.0s,baz=211,slow=5.9,SNR=3.7
SCHQ LR LR 13 32 13.2
comp=Z,456nm,20.6s,baz=205,slow=36
SCHQ Schefferville 56.75 16 P **P** **13 08 16.5 -0.3**
PPT Papeete 60.68 249 LR LR 13 28 17.7
comp=Z,477nm,18.9s,baz=68,slow=29
PPT2 Papeete2 60.69 249 *eS* **S** **13 17 03.5 +1.4**
comp=Z,703nm,26.0s
PPT2 *eLQ* LQ 13 24 05.9
comp=Z,923nm,30.2s
PPT2 *eLR* LR 13 26 43.6
comp=Z,1μm,25.8s,baz=65
TBI Tubuai 61.92 243 *eS* **S** **13 17 19.7 +2.2**
comp=Z,578nm,27.8s
TBI *eLQ* LQ 13 24 42.0
comp=Z,601nm,32.0s
TBI *eLR* LR 13 27 21.5
comp=Z,2μm,27.8s,baz=70
TBI Tubuai 61.92 243 *eT* T 14 16 14.2
comp=Z,9.8nm,0.2s
YKA Yellowknife Ar 63.40 348 P **P** **13 09 00.0 -2.2**
comp=Z,1.1nm,0.8s,baz=148,slow=6.8,SNR=8.9
YKA LR LR 13 37 22.0
comp=Z,368nm,18.9s,baz=0.0,slow=37
BCAR Beaver Creek A 71.91 338 P **P** **13 09 56.6 +0.5**
K27K Chicken 72.58 339 P **P** **13 10 00.6 +0.6**
K27K IAmb IAmb 13 10 26.3
comp=Z,11nm,1.4s
INK Inuvik 72.69 345 P **P** **13 10 00.2 -0.3**
EGAK Eagle 72.70 340 P **P** **13 10 01.6 +0.9**
EGAK IAmb IAmb 13 10 09.9
comp=Z,6.7nm,1.4s
SCRK Sand Creek 73.25 338 P **P** **13 10 05.0 +1.0**
SCRK IAmb IAmb 13 10 12.7
comp=Z,6.9nm,1.3s
KDAK Kodiak Island 73.96 331 LR LR 13 37 20.7
comp=Z,82nm,21.3s,baz=72,slow=32
IL31 74.74 338 P **P** **13 10 14.0 +1.4**
ILAR Eielson Array 74.74 338 P **P** **13 10 11.5 -1.2**
comp=Z,2.4nm,0.9s,baz=139,slow=4.6,SNR=14
ILAR LR LR 13 43 53.4
comp=Z,480nm,18.4s,baz=127,slow=36
ILAR Eielson Array 74.74 338 P **P** **13 10 12.7 +0.1**
BMAR Burnt Mountain 75.37 341 P **P** **13 10 15.9 -0.4**
I23K Minto, Yukon-K 75.84 338 P **P** **13 10 20.5 +1.6**
I23K IAmb IAmb 13 10 41.7
comp=Z,8.8nm,1.4s
MLY Manley 76.30 338 P **P** **13 10 21.4 -0.3**
COLD Coldfoot 77.13 340 P **P** **13 10 26.7 +0.4**
COLD IAmb IAmb 13 10 35.6
comp=Z,9.2nm,1.3s
TOLK Toolik Lake Re 77.61 341 P **P** **13 10 29.6 +0.6**
TOLK IAmb IAmb 13 10 38.3
comp=Z,8.0nm,1.4s
IMAR Indian Mountai 77.85 338 P **P** **13 10 31.8 +1.5**
DBIC Dimbokro 86.01 83 LR LR 13 47 14.5

comp=Z,129nm,19.1s,baz=247,slow=34
ESDC Sonseca Array 86.79 51 P **P** **13 11 16.3 -1.4**
comp=Z,1.2nm,0.9s,baz=287,slow=6.6,SNR=5.9
ESDC LR LR 13 44 35.8
comp=Z,253nm,20.5s,baz=270,slow=32
QSPA South Pole Qui 91.49 180 P **P** **13 11 39.5 +0.1**
QSPA IAmb IAmb 13 11 55.7
comp=Z,6.6nm,1.2s
TORD Torodi Ar. Bea 92.30 77 P **P** **13 11 44.1 0.0**
comp=Z,0.4nm,0.9s,baz=292,slow=1.5,SNR=1.8
TORD LR LR 13 49 38.8
comp=Z,208nm,21.8s,baz=295,slow=33
NOA NORSAR Array B 94.64 29 LR LR 13 51 41.9
comp=Z,67nm,20.2s,baz=280,slow=34
VNDA Vanda 95.10 192 LR LR 13 46 09.9
comp=Z,159nm,20.9s,baz=116,slow=30
KEST Kesra 97.55 54 LR LR 13 51 23.9
comp=Z,119nm,20.4s,baz=280,slow=33
CLL Collm 97.59 38 *e*PP PP 13 15 54.0 -11
CLL *e*SKSac **SKSac** **13 22 49.0 +3.8**
CLL *e*PS **PS** **13 24 53.0 -3.4**
CLL *e*PPS PPS 13 25 32.0
CLL *e*SS **SS** **13 30 10.0 -2.0**
CLL *e*SSS SSS 13 33 48.0
CLL LmV 13 52 00.0
comp=Z,200nm,20.4s
ARCES ARCESS Array B 97.65 19 LR LR 13 54 46.8
comp=Z,104nm,18.7s,baz=300,slow=35
GERES GERESS Array B 98.55 40 LR LR 13 51 25.5
comp=Z,362nm,20.5s,baz=298,slow=32
H11N3 WAKE ISLAND Hyl 00.87 290 T T 15 04 50.1
baz=86,slow=75,SNR=11
H11N2 WAKE ISLAND Hyl 00.88 290 T T 15 04 51.3
baz=86,slow=75,SNR=8.0
H11N1 WAKE ISLAND Hyl 00.89 290 T T 15 04 50.9
baz=86,slow=75,SNR=11
H11S2 WAKE ISLAND Hyl 01.18 289 T T 15 05 12.2
baz=86,slow=75,SNR=80
H11S1 WAKE ISLAND Hyl 01.18 289 T T 15 05 12.3
baz=86,slow=75,SNR=71
H11S3 WAKE ISLAND Hyl 01.20 289 T T 15 05 13.3
baz=86,slow=75,SNR=63
DZM Mont Dzumac 102.18 248 *e*LR LR 13 46 02.8
comp=Z,222nm,23.9s
H01W1 Cape Leeuwin H 139.31 212 T T 15 53 33.4
baz=134
H01W2 Cape Leeuwin H 139.31 212 T T 15 53 33.9
baz=134
H01W3 Cape Leeuwin H 139.33 212 T T 15 53 40.7
baz=134
CMAR Chiang Mai Arr 157.92 334 PKPab **PKPab** **13 19 03.2 -0.4**
comp=Z,0.5nm,0.4s,baz=354,slow=5.4,SNR=2.0

*NEIC **08** 13:20:16.5±1.2,36.41N±0.04×98.65W±0.05,h12km±7km, Error ellipse: s-maj=6.6km s-min=4.7km az=131.0*
*TUL **08** 13:20:16±1.0,36.39N±0.04×98.66W±0.05,h4km±7km, ML3.9,mb_Lg3.5/106(NEIC), Error ellipse: s-maj=6.4km s-min=4.9km az=125.0*
*ANF **08** 13:20:16.1±0.3,36.36N×98.66W,h4km, ML4.5/17, Error ellipse: s-maj=4.3km s-min=3.9km az=63.0*

ISC 08 13:20:15.9±1.0, **36.40N**±0.03×**98.65W**±0.03, **h9**km±9km, **n132**,σ0.73/120, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.28**	**267**	Pg	**Pg**	**13 20 21.8**	**+0.2**
U32A				Sg	**Sg**	**13 20 25.8**	**+0.4**
U32A	**Winter Ranch,** baz=87,SNR=811	**0.28**	**267**	P	**Pg**	**13 20 21.8**	**+0.2**
U32A	**Winter Ranch,** baz=87,SNR=811	**0.28**	**267**	P		13 20 21.8	
OK032	**Salt Plains WL**	**0.54**	**41**	Pg	**Pg**	**13 20 26.8**	**+0.4**
CROK	**Carrier**	**0.55**	**78**	Pg	**Pg**	**13 20 27.0**	**+0.5**
CROK				Sg	**Sg**	**13 20 34.7**	**+0.9**
GC02	**Grant County #**	**0.78**	**54**	Pg	**Pg**	**13 20 31.2**	**+0.2**
GC02				Sg	**Sg**	**13 20 40.7**	**-0.6**
KAN10	**Anthony SW Sta**	**0.85**	**31**	Pg	**Pg**	**13 20 32.5**	**+0.1**
KAN16	**Harper SW Stat**	**0.95**	**29**	Pg	**Pg**	**13 20 34.3**	**0.0**
KAN08	**Anthony NE Sta**	**0.99**	**33**	Pg	**Pg**	**13 20 35.0**	**-0.1**
KAN08				Sg	**Sg**	**13 20 46.1**	**-1.9**
KAN12	**Harper NE Stat**	**1.04**	**30**	Pg	**Pg**	**13 20 35.8**	**-0.1**
KAN09	**Caldwell North**	**1.11**	**48**	Pn	**Pg**	**13 20 37.0**	**-0.2**
BCOK	**Bluff Creek, N**	**1.12**	**131**	Pn	**Pg**	**13 20 37.1**	**-0.3**
KAN13	**South Haven SW**	**1.13**	**56**	Pn	**Pg**	**13 20 37.3**	**-0.3**
OK029	**Liberty Lake**	**1.14**	**121**	Pn	**Pg**	**13 20 37.2**	**-0.6**
BLOK	**Blackwell**	**1.21**	**72**	Pn	**Pg**	**13 20 38.8**	**-0.4**
OK025	**Westminster Rd**	**1.34**	**127**	Pn	**Pn**	**13 20 40.8**	**+0.1**
OKCFA	**Oklahoma City**	**1.38**	**135**	Pn	**Pn**	**13 20 41.4**	**+0.1**
OKCFA	**Oklahoma City** baz=315,SNR=19	**1.38**	**135**	P	**Pn**	**13 20 41.6**	**+0.3**
OKCFA				S	**Sg**	**13 21 00.2**	**0.0**
OKCFA	**Oklahoma City** baz=315,SNR=19	**1.38**	**135**	P		13 20 41.6	
OKCFA				S		13 21 00.2	
OKCSW	**OKLAHOMA CITY**	**1.40**	**135**	Pn	**Pn**	**13 20 41.7**	**+0.2**
FNO	**Franklin**	**1.52**	**138**	Pn	**Pn**	**13 20 43.9**	**+0.6**
OK031	**S. Brethren Rd**	**1.53**	**106**	Pn	**Pn**	**13 20 43.8**	**+0.4**
OK030	**Cody Creek RV**	**1.58**	**107**	Pn	**Pn**	**13 20 44.6**	**+0.5**
QUOK	**Quay**	**1.59**	**98**	Pn	**Pn**	**13 20 44.8**	**+0.6**
WMOK	**Wichita Mounta**	**1.66**	**184**	Pn	**Pn**	**13 20 45.0**	**-0.1**
WMOK	**Wichita Mounta** baz=3.3,SNR=674	**1.66**	**184**	P	**Pn**	**13 20 45.2**	**+0.1**
WMOK				S	**Sn**	**13 21 07.6**	**+1.1**
WMOK	**Wichita Mounta** baz=3.3,SNR=220	**1.66**	**184**	P		13 20 45.1	
WMOK				S		13 21 07.1	
WMOK	**Wichita Mounta** baz=3.3,SNR=674	**1.66**	**184**	P		13 20 45.2	
WMOK				S		13 21 07.6	
T35A	**Sooner Cattle**	**1.80**	**73**	Pn	**Pn**	**13 20 48.4**	**+1.3**
T35B	**Sooner Cattle** baz=254,SNR=308	**1.80**	**73**	P	**Pn**	**13 20 48.2**	**+1.2**
T35B				S	**Sb**	**13 21 13.2**	**+1.6**
T35B	**Sooner Cattle** baz=254,SNR=308	**1.80**	**73**	P		13 20 48.2	
T35B				S		13 21 13.2	
X34A	**Smith Ranch, M**	**1.91**	**159**		**Pn**	**13 20 50.3**	**+1.7**
R32A	**Long Quarter,**	**2.02**	**359**	Pn	**Pn**	**13 20 51.6**	**+1.4**
R32A	**Long Quarter,** baz=179	**2.02**	**359**	P	**Pn**	**13 20 51.7**	**+1.4**
R32A	**Long Quarter,** baz=179	**2.02**	**359**	P		13 20 51.7	
TUL1	**Leonard** baz=283,SNR=65	**2.36**	**101**	P	**Pn**	**13 20 55.8**	**+1.0**
TUL1				S	**Sb**	**13 21 29.0**	**+1.1**
TUL1	**Leonard** baz=283,SNR=31	**2.37**	**101**	P		13 20 55.5	
TUL1	**Leonard** baz=283,SNR=65	**2.37**	**101**	P		13 20 55.8	
TUL1				S		13 21 29.0	
CBKS	**Cedar Bluff**	**2.56**	**341**	Pn	**Pn**	**13 20 58.3**	**+0.7**
CBKS				IAmb_Lg		13 21 38.7	
CBKS	**Cedar Bluff** baz=160	**2.56**	**341**	S	**Sb**	**13 21 35.0**	**+1.3**
CBKS	**Cedar Bluff** baz=160	**2.56**	**341**	P		13 20 58.4	
CBKS	**Cedar Bluff** baz=160	**2.56**	**341**	S		13 21 35.0	
LOOK	**Love County**	**2.68**	**153**		**Pn**	**13 20 59.9**	**+0.7**
KSU1	**Kansas State U**	**3.15**	**30**	Pn	**Pn**	**13 21 06.2**	**+0.6**
KSU1	**Kansas State U** baz=212,SNR=18	**3.15**	**30**	P	**Pn**	**13 21 07.2**	**+1.6**
KSU1	**Kansas State U** baz=212,SNR=9.5	**3.15**	**30**	P		13 21 06.8	
KSU1				Sb		13 21 54.5	
KSU1	**Kansas State U** baz=212,SNR=18	**3.15**	**30**	P		13 21 07.2	
X37A	**Clayton**	**3.23**	**123**		**Pn**	**13 21 07.2**	**+0.5**
X37A				IAmb_Lg		13 22 03.8	
X37A	**Clayton** baz=305,SNR=24	**3.23**	**123**	P	**Pn**	**13 21 07.7**	**+1.0**
X37A	**Clayton**	**3.23**	**123**	P		13 21 07.7	
Z35A	**Perchaven, San**	**3.27**	**159**	Pn	**Pn**	**13 21 08.1**	**+0.8**
Z35A	**Perchaven, San** baz=340,SNR=13	**3.27**	**159**	P	**Pn**	**13 21 08.8**	**+1.6**
Z35A	**Perchaven, San** baz=340,SNR=13	**3.27**	**159**	P		13 21 08.8	
U38A	**Gravette**	**3.44**	**88**		**Pn**	**13 21 10.7**	**+1.0**
U38A				IAmb_Lg		13 22 10.6	
U38A	**Gravette** baz=270,SNR=61	**3.44**	**88**	P	**Pn**	**13 21 10.6**	**+1.0**
U38A	**Gravette** baz=270,SNR=61	**3.44**	**88**	P		13 21 10.6	
HHAR	**Hobbs**	**3.81**	**90**		**Pn**	**13 21 13.7**	**-1.0**
ABTX	**Abilene, Hawle**	**3.85**	**193**		**Pn**	**13 21 15.6**	**+0.3**
KSCO	**Kaye Shedlock'** baz=129	**4.09**	**311**	S		13 22 06.8	
W39A	**Magazine**	**4.13**	**105**		**Pn**	**13 21 19.3**	**+0.1**
W39A				IAmb_Lg		13 22 33.2	
W39A	**Magazine** baz=288,SNR=7.8	**4.13**	**105**	P		13 21 19.7	
MSTX	**Muleshoe**	**4.15**	**236**	Pn	**Pn**	**13 21 19.4**	**-0.1**
MSTX				IAmb_Lg		13 22 35.9	
MSTX	**Muleshoe** baz=53	**4.15**	**236**	Sb		13 22 24.2	
Z38A	**Mt. Pleasant**	**4.34**	**135**	Pn	**Pn**	**13 21 22.3**	**+0.3**
Z38A				IAmb_Lg		13 22 40.6	
N33B	**J Bar K, Exete** baz=193,SNR=27	**4.44**	**12**	P	**Pn**	**13 21 23.4**	**0.0**
N33B	**J Bar K, Exete** baz=193,SNR=27	**4.44**	**12**	P		13 21 23.4	
N33A	**J Bar K, Exete**	**4.44**	**12**	Pn	**Pn**	**13 21 23.2**	**-0.2**
N33A				IAmb_Lg		13 22 44.7	
S39A	**Bolivar**	**4.46**	**72**		**Pn**	**13 21 24.2**	**+0.6**
S39A				IAmb_Lg		13 22 41.3	
S39A	**Bolivar** baz=255,SNR=31	**4.46**	**72**	P	**Pn**	**13 21 24.5**	**+0.9**
S39A	**Bolivar** baz=255,SNR=31	**4.46**	**72**	P		13 21 24.5	
WHTX	**Lake Whitney,**	**4.50**	**167**		**Pn**	**13 21 24.8**	**+0.6**
WHTX	**Lake Whitney,** baz=348,SNR=20	**4.50**	**167**	P	**Pn**	**13 21 24.8**	**+0.6**
WHTX	**Lake Whitney,** baz=348,SNR=5.8	**4.50**	**167**	P		13 21 24.9	
WHTX				Sb		13 22 34.8	
WHTX	**Lake Whitney,** baz=348,SNR=20	**4.50**	**167**	P		13 21 24.8	
MIAR	**Mount Ida**	**4.53**	**113**	Pn	**Pn**	**13 21 24.7**	**0.0**
MIAR				IAmb_Lg		13 22 47.7	
MIAR	**Mount Ida** baz=296,SNR=34	**4.53**	**113**	P	**Pn**	**13 21 24.9**	**+0.3**
MIAR	**Mount Ida** baz=296,SNR=12	**4.53**	**113**	P		13 21 24.9	
MIAR				S		13 22 17.6	
MIAR	**Mount Ida** baz=296,SNR=34	**4.53**	**113**	P		13 21 24.9	
U40A	**Yellville**	**4.68**	**89**	Pn	**Pn**	**13 21 27.1**	**+0.4**
U40A				IAmb_Lg		13 22 44.9	
U40A	**Yellville** baz=272,SNR=42	**4.68**	**89**	P	**Pn**	**13 21 27.0**	**+0.4**
U40A	**Yellville** baz=272,SNR=16	**4.68**	**89**	P		13 21 27.0	
U40A	**Yellville** baz=272,SNR=42	**4.68**	**89**	P		13 21 27.0	
U40A				P		13 21 27.0	
T25A	**Trinidad**	**4.68**	**281**		**Pn**	**13 21 27.5**	**+0.6**
T25A	**Trinidad** baz=98,SNR=17	**4.68**	**281**	P		13 21 27.7	
T25A				Sb		13 22 40.9	
237A	**Washetta, Mont**	**4.97**	**151**	Pn	**Pn**	**13 21 31.1**	**+0.3**
237A				IAmb_Lg		13 23 06.1	
BGNE	**Belgrade**	**5.02**	**4**		**Pn**	**13 21 31.3**	**-0.1**
BGNE				IAmb_Lg		13 22 55.2	
BGNE	**Belgrade** baz=185,SNR=8.5	**5.02**	**4**	P	**Pn**	**13 21 31.9**	**+0.5**
BGNE	**Belgrade** baz=185	**5.02**	**4**	P		13 21 31.9	
BGNE	**Belgrade** baz=185,SNR=8.5	**5.02**	**4**	P		13 21 31.9	
N35A	**Tabor**	**5.04**	**27**	Pn	**Pn**	**13 21 31.5**	**-0.2**
X40A	**Basin Creek Fa**	**5.12**	**110**		**Pn**	**13 21 33.0**	**+0.4**
X40A	**Basin Creek Fa** baz=294	**5.12**	**110**	P		13 21 33.3	
X40A				S		13 22 31.5	
P38A	**Dawn**	**5.17**	**50**		**Pn**	**13 21 34.0**	**+0.6**
P38A				IAmb_Lg		13 23 10.4	
MGMO	**Mountain Grove**	**5.18**	**80**		**Pn**	**13 21 34.3**	**+0.8**
MGMO				IAmb_Lg		13 23 03.4	
OGNE	**Ogallala**	**5.26**	**331**	Pn	**Pn**	**13 21 35.3**	**+0.6**
OGNE				IAmb_Lg		13 23 05.2	
OGNE	**Ogallala** baz=149	**5.26**	**331**	P		13 21 36.1	
OGNE				S		13 22 35.1	
WHAR	**Wooly Hollow**	**5.29**	**100**	Pn	**Pn**	**13 21 35.5**	**+0.5**
WHAR				IAmb_Lg		13 23 07.0	
WLAR	**White Oak Lake**	**5.29**	**119**	IAmb_Lg		13 23 13.1	
FCAR	**Ozark Folk Cen**	**5.31**	**94**		**Pn**	**13 21 35.8**	**+0.5**
FCAR				IAmb_Lg		13 23 12.5	
W41B	**Gary Mavity, V**	**5.35**	**101**	P	**Pn**	**13 21 36.7**	**+0.9**
W41B	**Gary Mavity, V** baz=285,SNR=25	**5.35**	**101**	P		13 21 36.5	
W41B	**Gary Mavity, V** baz=285,SNR=9.5	**5.35**	**101**	P		13 21 36.5	
W41B				S		13 22 36.4	
W41B	**Gary Mavity, V** baz=285,SNR=25	**5.35**	**101**	P		13 21 36.7	
R40A	**Maddies Statio**	**5.43**	**68**		**Pn**	**13 21 37.1**	**+0.1**
R40A				IAmb_Lg		13 23 10.6	
R40A	**Maddies Statio** baz=252,SNR=26	**5.43**	**68**	P	**Pn**	**13 21 37.9**	**+0.9**
R40A	**Maddies Statio** baz=252,SNR=26	**5.43**	**68**	P		13 21 37.9	
SDCO	**Great Sand Dun** baz=102,SNR=11	**5.64**	**286**	P	**Pn**	**13 21 42.1**	**+2.0**
SDCO	**Great Sand Dun** baz=102,SNR=24	**5.64**	**286**	P		13 21 41.4	
SDCO	**Great Sand Dun** baz=102,SNR=11	**5.64**	**286**	P		13 21 42.1	
435B	**Jarrell**	**5.67**	**171**	IAmb_Lg		13 23 24.1	
435B	**Jarrell** baz=351	**5.67**	**171**	P		13 21 40.8	
435B				S		13 22 46.5	
NATX	**Nacogdoches** comp=Z,47nm,0.7s	**5.69**	**143**	IAmb_Lg		13 23 28.8	
Q24A	**Divide** baz=115	**5.76**	**298**	P		13 21 42.3	
L34A	**Svendsen Farm,**	**5.84**	**17**		**Pn**	**13 21 41.7**	**-0.9**
JCT	**Junction City**	**5.98**	**190**		**Pn**	**13 21 44.5**	**0.0**
JCT				IAmb_Lg		13 23 40.1	
JCT	**Junction City** baz=8.8	**5.98**	**190**	P		13 21 45.0	
LCAR	**Lake Charles**	**6.07**	**91**		**Pn**	**13 21 46.0**	**+0.2**
LCAR				IAmb_Lg		13 23 34.3	
P40A	**Paris**	**6.08**	**57**		**Pn**	**13 21 46.1**	**+0.1**
P40A				IAmb_Lg		13 23 34.0	
N38A	**Joes South For**	**6.11**	**42**		**Pn**	**13 21 46.3**	**+0.1**
T42A	**Van Buren**	**6.11**	**82**	IAmb_Lg		13 23 35.7	
CCAR	**Cane Creek**	**6.15**	**112**	IAmb_Lg		13 23 46.4	
K31A	**O'Neill**	**6.22**	**359**	Pn	**Pn**	**13 21 48.3**	**+0.4**
K31A				IAmb_Lg		13 23 41.1	
ISCO	**Idaho Springs**	**6.46**	**304**		**Pn**	**13 21 51.5**	**+0.1**
ISCO	**Idaho Springs** baz=120	**6.46**	**304**	P		13 21 52.3	
ISCO				S		13 23 04.2	
HBAR	**Harrisburg**	**6.54**	**95**	IAmb_Lg		13 23 51.0	
PBMO	**Poplar Bluff**	**6.63**	**84**		**Pn**	**13 21 53.9**	**+0.5**
FVM	**French Village**	**6.75**	**74**	IAmb_Lg		13 24 02.1	
LPAR	**Lepanto**	**6.82**	**94**	IAmb_Lg		13 23 56.0	
143A	**Socs Landing,**	**7.02**	**120**	IAmb_Lg		13 24 15.1	
Y22D	**IRIS PASSCAL I**	**7.15**	**254**	IAmb_Lg		13 24 19.5	
PHWY	**Pilot Hill**	**7.22**	**315**	Pn	**Pn**	**13 22 00.8**	**-1.1**
PHWY				IAmb_Lg		13 24 17.0	
MNTX	**Cornudas Mount**	**7.29**	**232**		**Pn**	**13 22 02.9**	**+0.3**
MNTX				IAmb_Lg		13 24 14.4	
MNTX	**Cornudas Mount** baz=48,SNR=6.5	**7.29**	**232**	P	**Pn**	**13 22 03.1**	**+0.6**
MNTX	**Cornudas Mount** baz=48	**7.29**	**232**	P		13 22 03.3	
MNTX	**Cornudas Mount** baz=48,SNR=6.5	**7.29**	**232**	P		13 22 03.1	
LNXT	**Lenox**	**7.41**	**90**	IAmb_Lg		13 24 08.4	
N41A	**Harden Midland**	**7.47**	**52**	Pn	**Pn**	**13 22 05.2**	**+0.2**
ECSD	**EROS Data Cent**	**7.50**	**11**		**Pn**	**13 22 04.0**	**-1.3**
ECSD	**EROS Data Cent** baz=193,SNR=19	**7.50**	**11**	P	**Pn**	**13 22 04.1**	**-1.3**
ECSD	**EROS Data Cent** baz=193,SNR=18	**7.50**	**11**	P		13 22 04.2	
ECSD	**EROS Data Cent** baz=193,SNR=19	**7.50**	**11**	P		13 22 04.1	
S44A	**Carbondale**	**7.63**	**77**	Pn	**Pn**	**13 22 07.8**	**+0.7**
S44A				IAmb_Lg		13 24 25.2	
K38A	**Parkersburg**	**7.72**	**34**	IAmb_Lg		13 24 28.9	
OXF	**Oxford**	**7.77**	**101**	Pn	**Pn**	**13 22 09.0**	**-0.1**
OXF				IAmb_Lg		13 24 36.1	
OXF	**Oxford** baz=287,SNR=6.1	**7.77**	**101**	P	**Pn**	**13 22 09.2**	**+0.1**
OXF	**Oxford** baz=287	**7.77**	**101**	P		13 22 09.2	
OXF	**Oxford** baz=287,SNR=6.1	**7.77**	**101**	P		13 22 09.2	
W45A	**Hickory Valley**	**7.79**	**96**	Pn	**Pn**	**13 22 09.5**	**+0.1**
W45A				IAmb_Lg		13 24 39.3	
Y45A	**Yeager Farm, C**	**7.88**	**106**	IAmb_Lg		13 24 29.4	
P43A	**Skaggs, Pawnee**	**7.90**	**63**	Pn	**Pn**	**13 22 10.7**	**-0.2**
SUSD	**Miller**	**8.04**	**358**	IAmb_Lg		13 24 38.3	
L40A	**Anamosa**	**8.08**	**43**	Pn	**Pn**	**13 22 12.5**	**-0.8**
L40A				IAmb_Lg		13 24 36.1	
TX31	**Lajitas Ar. Si**	**8.21**	**212**		**Pn**	**13 22 14.8**	**-0.4**
TX31	**Lajitas Ar. Si** baz=30,SNR=10	**8.21**	**212**	P	**Pn**	**13 22 15.1**	**-0.1**
TX31	**Lajitas Ar. Si** baz=30,SNR=10	**8.21**	**212**	P		13 22 15.1	
TX32	**Lajitas Array**	**8.21**	**212**		**Pn**	**13 22 14.8**	**-0.5**
TXAR	**Lajitas Array**	**8.21**	**212**		**Pn**	**13 22 15.2**	**0.0**
PV12	**Saucer Basin,** comp=Z,30nm,1.2s	**8.31**	**286**	IAmb_Lg		13 24 55.0	
HDIL	**Hopedale**	**8.43**	**58**	Pn	**Pn**	**13 22 18.0**	**-0.2**
HDIL	**Hopedale** baz=243	**8.43**	**58**	P		13 22 18.0	
RWWY	**Rawlins**	**8.50**	**311**	Pn	**Pn**	**13 22 18.7**	**-0.7**
RWWY				IAmb_Lg		13 24 58.0	
I37A	**Lemond, Waseca**	**8.60**	**26**	IAmb_Lg		13 24 57.6	
K22A	**Casper**	**8.72**	**318**	Pn	**Pn**	**13 22 21.6**	**-0.6**
K22A				IAmb_Lg		13 25 12.8	
PLAL	**Pickwick Lake**	**8.72**	**96**	Pn	**Pn**	**13 22 22.6**	**+0.4**
RSSD	**Black Hills**	**8.74**	**334**		**Pn**	**13 22 23.5**	**+0.8**
RSSD				IAmb_Lg		13 24 59.6	
RSSD	**Black Hills** baz=150	**8.74**	**334**	P		13 22 23.8	
WVT	**Waverly**	**8.75**	**89**	Pn	**Pn**	**13 22 22.7**	**+0.2**
WVT	**Waverly** baz=275	**8.75**	**89**	P		13 22 22.9	
O44A	**Mansfield**	**8.84**	**62**	Pn	**Pn**	**13 22 24.6**	**+0.8**
L42A	**Oliver, Polo**	**8.94**	**48**	Pn	**Pn**	**13 22 25.4**	**+0.2**
L42A				IAmb_Lg		13 25 13.5	
JFWS	**Jewell Farm**	**9.18**	**42**	Pn	**Pn**	**13 22 28.6**	**+0.1**
JFWS				IAmb_Lg		13 25 13.0	
JFWS	**Jewell Farm** baz=228	**9.18**	**42**	P		13 22 28.7	
T47A	**Sharon Grove**	**9.29**	**83**	Pn	**Pn**	**13 22 30.6**	**+0.6**
T47A				IAmb_Lg		13 25 23.6	
F33A	**5 Mile Ranch,**	**9.60**	**10**	IAmb_Lg		13 25 33.4	
I40A	**Norwalk**	**9.69**	**37**	IAmb_Lg		13 25 35.4	
SPMN	**Marine an St.**	**9.87**	**25**	IAmb_Lg		13 25 42.7	
CLTN	**Cedars of Leba**	**9.96**	**88**	IAmb_Lg		13 25 34.7	
BLO	**Bloomington**	**9.99**	**70**		**Pn**	**13 22 39.6**	**0.0**
F36A	**Milaca**	**10.21**	**21**	Pn	**Pn**	**13 22 42.8**	**+0.2**
E28A	**Huff**	**10.29**	**352**	Pn	**Pn**	**13 22 42.7**	**-0.9**
Y49A	**Blount Mountai**	**10.34**	**101**	Pn	**Pn**	**13 22 44.2**	**-0.1**
JLU	**Jordanelle**	**10.87**	**297**	Pn	**Pn**	**13 22 50.7**	**-1.2**
P48A	**Milroy**	**10.89**	**70**	Pn	**Pn**	**13 22 51.5**	**-0.3**
G40A	**Rib Lake**	**10.93**	**33**		**Pn**	**13 22 51.2**	**-1.2**

*BJI **08** 13:24:17.7±0.0,46.25N×152.48E,h52km,mB4.8/42, mb4.7/57,Ms4.1/37,Ms7.3/35*
*SKHL **08** 13:24:19.0±0.5,45.90N×152.50E,h62km±7km,mb5.0/17*
*JMA **08** 13:24:19.1±0.6,46.15N×152.21E,h30km,M4.9*
*NIED **08** 13:24:19.2,46.15N×152.21E,h30km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.96; Mθθ3.34; Mϕϕ-5.29; Mrθ-2.71; Mθϕ-2.13; Mϕr2.97; Fault plane solution: M06.49000×10^15 NP1: ϕs334.00000°,δ77.00000°,λ42.00000°. NP2: ϕs232.00000°,δ50.00000°,λ162.00000°.*
*MOS **08** 13:24:21.4±1.1,46.21N×151.92E,h63km,mb5.0/62, MS4.3/5 Error ellipse: s-maj=5.4km s-min=4.5km az=86.7*
*IDC **08** 13:24:24.7±1.9,46.25N×151.90E,h73km±16km,mb4.2/28, mb1 4.4/35,mb1mx4.3/47,mbtmp4.5/35,MS3.6/12, Ms1 3.7/12,ms1mx3.4/46,Error ellipse: s-maj=13.4km s-min=8.4km az=142.0*
*NEIC **08** 13:24:24.4±1.2,46.33N±0.10×151.9E±0.1,h70km±5km, mb4.7/239,Error ellipse: s-maj=15.6km s-min=10.4km az=144.0*
*BGR **08** 13:24:28.1±0.0,47.32N×151.32E,h33km,mb5.1*

ISC 08 13:24:21.3±0.6, **46.05N**±0.05×**152.13E**±0.04, **h53**km±4km, **h52**km:**pP-P, n681**,σ1.33/732, **mb4.8**/254, **MS4.3**/29, **35C-27D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.10**	**256**	*c i* PN	**Pn**	**13 25 07.7**	**+0.1**
KUR				*i* S	**Sn**	**13 25 43.7**	**+0.3**
KUR	comp=E,204nm,0.6s			pmax	pmax		
KUR	comp=Z,798nm,0.6s			pmax	pmax		
KUR	comp=N,342nm,0.3s			pmax	pmax		
KUR	comp=N,2μm,0.3s			smax	smax		
KUR	comp=E,2μm,0.4s			smax	smax		
KUR	**Kuril'sk**	**3.10**	**256**	*e*P	**Pn**	**13 25 07.8**	**+0.1**

KUR AMB AMB 13 25 09.0
comp=E,800nm,0.6s
KUR eS Sn **13 25 44.8 +1.4**
KUR A A 13 25 46.7
comp=E,2µm,0.5s
KUR A A 13 25 46.7
comp=E,490nm,0.5s
YUK Yuzh-Kuril'sk 4.87 248 d iPN **Pn 13 25 32.7 +0.7**
YUK i S **Sn 13 26 27.4 +0.3**
YUK pmax pmax
comp=N,140nm,0.2s
YUK pmax pmax
comp=E,157nm,0.2s
YUK pmax pmax
comp=Z,301nm,0.2s
YUK smax smax
comp=N,974nm,0.6s
YUK smax smax
comp=E,715nm,0.8s
YUK Yuzh-Kuril'sk 4.87 248 eP **Pn 13 25 32.8 +0.7**
YUK AMB AMB 13 25 33.2
comp=E,450nm,0.9s
YUK eS **Sn 13 26 27.8 +0.7**
YUK A A 13 26 30.4
comp=E,970nm,0.7s
YUK A A 13 26 30.4
comp=E,720nm,0.7s
GRPR Tuman 4.95 248 ⇓ iPN **Pn 13 25 34.3 +1.2**
GRPR i S **Sn 13 26 30.2 +1.2**
GRPR pmax pmax
comp=E,189nm,0.3s
GRPR pmax pmax
comp=Z,242nm,0.3s
GRPR pmax pmax
comp=N,177nm,0.4s
GRPR smax smax
comp=N,607nm,0.6s
GRPR smax smax
comp=E,526nm,0.6s
GRPR Tuman 4.95 248 eP **Pn 13 25 34.5 +1.4**
GRPR AMB AMB 13 25 37.1
comp=E,240nm,0.3s
GRPR eS **Sn 13 26 30.2 +1.2**
GRPR A A 13 26 33.4
comp=E,610nm,0.6s
GRPR A A 13 26 33.4
comp=E,530nm,0.6s
GLVR Golovnino 5.23 246 ePN **Pn 13 25 37.5 +0.6**
GLVR eS **Sn 13 26 36.0 +0.1**
GLVR pmax pmax
comp=E,102nm,0.5s
GLVR pmax pmax
comp=Z,380nm,0.5s
GLVR pmax pmax
comp=N,66nm,0.4s
GLVR smax smax
comp=N,1µm,0.7s
GLVR smax smax
comp=E,1µm,0.7s
GLVR Golovnino 5.23 246 eP **Pn 13 25 38.3 +1.4**
GLVR AMB AMB 13 25 39.4
GLVR eS **Sn 13 26 36.0 +0.1**
GLVR A A 13 26 58.6
comp=E,1µm,0.7s
GLVR A A 13 26 58.6
comp=E,1µm,0.7s
RUSJ Misakicho 5.24 251 ⇑ iPN **Pn 13 25 39.8 +2.7**
RUSJ eS **Sn 13 26 38.8 +2.6**
NEM2 Nemuro 2 5.28 242 P **Pn 13 25 36.5 -1.1**
NEM2 eS **Sn 13 26 34.1 -3.0**
NMR Nemuro--Hokkai 5.29 242 ⇑ iPN **Pn 13 25 36.6 -1.1**
NMR Nemuro--Hokkai 5.29 242 eP **Pn 13 25 36.8 -0.9**
NMR eS **Sn 13 26 36.4 -0.9**
SKR Severo-Kuril's 5.35 28 ePN **Pn 13 25 39.5 +1.0**
SKR pmax pmax
comp=Z,94nm,0.6s
SKR Severo-Kuril's 5.35 28 eP **Pn 13 25 38.4 -0.1**
SKR AMB AMB 13 25 43.5
comp=Z,90nm,0.6s
SKR eS **Sn 13 26 36.8 -1.9**
SKR A A 13 26 42.5
comp=Z,280nm,0.7s
SKR A A 13 26 42.5
comp=Z,100nm,0.7s
JRA Rausu 5.40 250 P **Pn 13 25 40.7 +1.5**
JRA eS **Sn 13 26 42.0 +2.1**
JNK Nakash 5.81 248 P **Pn 13 25 45.4 +0.4**
JNK eS **Sn 13 26 50.8 +0.5**
JAK Akkeshi 6.12 243 P **Pn 13 25 48.0 -1.2**
JAK eS **Sn 13 26 54.5 -3.3**
JTKR Abashiri--Toko 6.18 253 P **Pn 13 25 51.4 +1.4**
PAU Pauzhetka 6.25 28 eP **Pn 13 25 50.3 -0.5**
PAU AMB AMB 13 25 51.8
comp=Z,70nm,0.4s
PAU eS **Sn 13 26 58.3 -2.5**
PAU A A 13 27 01.5
comp=Z,240nm,0.4s
PAU A A 13 27 01.5
comp=Z,280nm,0.4s
YSS Yuzh-Sakhalins 6.53 281 kePN **Pn 13 25 55.9 +1.1**
YSS eS **Sn 13 27 07.1 -0.8**
YSS pmax pmax
comp=Z,80nm,0.7s
YSS pmax pmax
comp=Z,200nm,3.4s
YSS Yuzh-Sakhalins 6.53 281 **Pn 13 25 55.5 +0.7**
YSS Yuzh-Sakhalins 6.53 281 eP **Pn 13 25 56.9 +2.1**
YSS AMB AMB 13 25 58.2
comp=Z,80nm,0.7s
YSS eS **Sn 13 27 11.0 +3.1**
JMP Maruseppu 6.54 255 P **Pn 13 25 56.4 +1.5**
JAR Ashorobuto 6.56 248 P **Pn 13 25 56.0 +0.8**
JAR eS **Sn 13 27 09.1 +0.5**
JOB Onbets 6.71 245 P **Pn 13 25 57.0 -0.2**
JOB eS **Sn 13 27 09.4 -2.9**
JSE Soyaes 6.79 264 P **Pn 13 26 00.1 +1.8**
JKK2 Kamakawa 2 7.00 255 P **Pn 13 26 03.0 +1.8**
JKA Kamikawa-asahi 7.01 257 **Pn 13 26 01.4 0.0**
JKA Kamikawa-asahi 7.01 257 **Sn 13 27 23.6 +3.9**
JKA Kamikawa-asahi 7.01 257 eP **Pn 13 26 03.8 +2.4**
ASAJ Asahikawa 7.02 257 P **Pn 13 26 03.8 +2.4**
comp=Z,7.5nm,0.3s,baz=79,slow=17,SNR=101
ASAJ S **Sn 13 27 23.6 +3.8**
comp=Z,0.7nm,0.3s,baz=293,slow=19,SNR=1.8
ASAJ LR LR 13 28 40.8
comp=Z,745nm,19.4s,baz=68,slow=37
ASAJ Asahikawa 7.02 257 P **Pn 13 26 03.9 +2.5**
JCH Churui 7.16 244 P **Pn 13 26 02.4 -1.0**
JCH eS **Sn 13 27 19.5 -3.8**
JWK2 Keihoku 7.20 268 P Pn 13 26 08.1 +4.2
JFR Furan 7.39 250 P **Pn 13 26 07.5 +1.0**
JSS Shosan 7.44 261 P **Pn 13 26 11.0 +3.8**
UGL Uglegorsk 7.45 298 ⇑ iPN **Pn 13 26 09.6 +2.3**
UGL S **Sn 13 27 30.9 +0.6**
UGL pmax pmax
comp=Z,164nm,0.9s
UGL smax smax
comp=N,80nm,0.8s
UGL smax smax
comp=E,117nm,0.8s
UGL Uglegorsk 7.45 298 eP **Pn 13 26 09.6 +2.3**
UGL AMB AMB 13 26 10.0
comp=E,80nm,0.9s
UGL eS **Sn 13 27 32.0 +1.7**
UGL A A 13 27 33.0
comp=E,80nm,0.8s
UGL A A 13 27 33.0
comp=E,120nm,0.8s
JAB Ashibetsu 7.49 254 P **Pn 13 26 10.2 +2.3**
ERM Erimo 7.62 241 ePN **Pn 13 26 10.4 +0.8**
ERM Erimo 7.62 241 **Pn 13 26 09.8 +0.2**
JBT2 Biratori 2 7.71 248 P **Pn 13 26 10.6 -0.4**
JNBK Urakawa-nobuka 7.72 244 P **Pn 13 26 09.7 -1.3**
JRBN Rebuntou 7.77 269 P **Pn 13 26 14.4 +2.8**
TYV Tymovskoe 7.93 311 eP **Pn 13 26 15.3 +1.5**
TYV AMB AMB 13 26 15.9
comp=E,20nm,0.5s
TYV eS **Sn 13 27 43.3 +1.3**
TYV A A 13 27 52.3
comp=E,10.0nm,0.7s
TYV A A 13 27 52.3
comp=E,10.0nm,0.7s
PEA0B Petropavlovsk- 7.94 25 cePN **Pn 13 26 14.7 +0.7**
PEA0B Petropavlovsk- 7.94 25 **Pn 13 26 13.4 -0.6**
PETK Petropavlovsk- 7.94 25 P **Pn 13 26 14.7 +0.6**
comp=E,0.9nm,0.3s,baz=177,slow=11,SNR=31
PETK S **Sn 13 27 47.1 +4.8**
comp=E,0.3nm,0.3s,baz=144,slow=50,SNR=0.8
PETK LR LR 13 29 16.3
comp=E,237nm,20.8s,baz=213,slow=37
PETK Petropavlovsk- 7.94 25 **Pn 13 26 13.5 -0.5**
PET Petropavlovsk 8.17 29 ePN **Pn 13 26 18.2 +1.1**
PET MLR MLR
comp=Z,400nm,10.0s
PET Petropavlovsk 8.17 29 **Pn 13 26 15.5 -1.6**
PET Petropavlovsk 8.17 29 eP **Pn 13 26 16.8 -0.3**
PET eS **Sn 13 27 45.4 -2.5**
JEW Eniwo 8.28 251 P **Pn 13 26 19.7 +0.9**
JEW Eniwo 8.28 251 Pn **Pn 13 26 16.2 -2.5**
JNB Noboribetsu 8.72 250 P **Pn 13 26 24.3 -0.5**
JNB eS **Sn 13 28 00.3 -1.3**
JKB Kayabe 9.01 246 P **Pn 13 26 27.5 -1.2**
JKB eS **Sn 13 28 02.6 -6.1**
JSH Shimam 9.30 253 P **Pn 13 26 33.5 +0.8**
JYM2 Yakumo 2 9.33 249 P **Pn 13 26 32.1 -0.9**
JANG Nango 9.60 238 P **Pn 13 26 33.0 -3.7**
JANG eS Sn 13 28 13.6 -9.5
JTM Tenmabayashi 9.61 241 P **Pn 13 26 35.1 -1.8**
JTM Tenmabayashi 9.61 241 **Pn 13 26 34.2 -2.6**
JTH Tanohata 9.68 235 P **Pn 13 26 34.3 -3.6**
JTH eS Sn 13 28 14.9 -10
JOSM Okushiri--Mats 9.93 251 P **Pn 13 26 40.3 -1.0**
NKL Nikolayevsk 10.28 318 eP **Pn 13 26 46.3 +0.4**
NKL AMB AMB 13 26 48.2
comp=Z,100nm,0.9s
OFUJ Ofunato 10.38 232 P **Pn 13 26 44.4 -3.1**
JRG Rokugo 10.75 236 P **Pn 13 26 50.2 -2.3**
JRG eS **Sn 13 28 43.3 -7.9**
TEY Ternei 10.94 270 ⇑ ePN Pn 13 27 01.2 +6.2
TEY pmax pmax
comp=E,40nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.8s
TEY Ternei 10.94 270 eP **Pn 13 26 57.2 +2.2**
TEY AMB AMB 13 27 01.9
comp=Z,40nm,0.8s
JIO Ouri 11.01 230 P **Pn 13 26 53.3 -2.7**
JIO eS Sn 13 28 48.1 -9.5
GRNR Gornyy 11.45 300 ⇑ iPN **Pn 13 27 03.7 +1.6**
GRNR eS **Sn 13 29 13.8 +5.4**
GRNR pmax pmax
comp=E,9.0nm,0.5s
GRNR pmax pmax
comp=Z,10.0nm,0.6s
GRNR smax smax
comp=N,1.0nm,0.6s
GRNR MLR MLR
comp=Z,320nm,15.0s
GRNR Gornyy 11.45 300 eP **Pn 13 27 03.7 +1.6**
GRNR AMB AMB 13 27 04.4
comp=Z,60nm,0.8s
JMM Marumori 11.74 230 Pn **Pn 13 27 02.5 -3.4**
JYA Atsumi 11.82 235 P **Pn 13 27 04.0 -3.1**
JSD Sado 13.04 237 Pn **Pn 13 27 20.1 -3.6**
MA2 Magadan 13.58 357 P **Pn 13 27 30.7 -0.2**
comp=Z,2.1nm,0.3s,baz=172,slow=9.9,SNR=30
MA2 LR LR 13 32 36.3
comp=Z,240nm,19.4s,baz=170,slow=37
MA2 Magadan 13.58 357 cePN **Pn 13 27 30.8 -0.2**
MA2 pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 13.58 357 Pn **Pn 13 27 29.7 -1.3**
MA2 Magadan 13.58 357 eP **Pn 13 27 30.8 -0.2**
KLR Kul'dur 14.10 290 P **Pn 13 27 39.0 +1.0**
comp=Z,0.2nm,0.3s,baz=93,slow=13,SNR=17
KLR LR LR 13 33 14.3
comp=Z,348nm,19.1s,baz=64,slow=38
KLR Kul'dur 14.10 290 ceP **Pn 13 27 39.3 +1.3**
KLR pmax pmax
comp=Z,23nm,1.1s
KLR Kul'dur 14.10 290 eP **Pn 13 27 39.3 +1.3**
MAJO Matsushiro 14.11 233 i P **Pn 13 27 35.7 -2.6**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 14.11 233 Pn **Pn 13 27 35.7 -2.6**
MAT Matsushiro 14.11 233 P **Pn 13 27 35.2 -3.1**
MAT S **Sn 13 30 13.0 -0.3**
MJAR Matsushiro Arr 14.11 233 P **Pn 13 27 35.7 -2.6**
comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=19
MJAR LR LR 13 33 35.1
comp=Z,188nm,21.7s,baz=55,slow=39
MJAR Matsushiro Arr 14.11 233 P **Pn 13 27 35.2 -3.1**
MJAR Matsushiro Arr 14.11 233 Pn **Pn 13 27 35.2 -3.1**
EKMR Ekimchan 14.27 306 eP **Pn 13 27 40.6 +0.3**
EKMR AMB AMB 13 27 49.9
comp=Z,10.0nm,0.6s
USA0B Ussuriysk Arra 14.34 270 P **Pn 13 27 40.9 -0.4**
USA0B Ussuriysk Arra 14.34 270 Pn **Pn 13 27 40.9 -0.4**
USRK Ussuriysk Ar. 14.34 270 P **Pn 13 27 41.0 -0.2**
baz=83,slow=14,SNR=38
USRK LR LR 13 33 15.9
comp=Z,320nm,18.5s,baz=59,slow=38
USRK Ussuriysk Ar. 14.34 270 Pn **Pn 13 27 40.8 -0.4**
JGF Kuroka 15.27 232 **Pn 13 27 52.4 -1.1**
INU Inuyama 15.64 232 P **P 13 28 02.4 +0.9**
SMY Shemya 15.76 57 P **Pn 13 27 59.5 0.0**
SMY pmax pmax
comp=Z,195nm,1.5s
SMY Shemya 15.76 57 Pn **Pn 13 27 59.5 0.0**
MDJ Mudanjiang 15.91 273 P **Pn 13 28 01.4 -0.2**
MDJ S **Sn 13 30 55.2 -1.6**
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ pmax pmax
comp=Z,100nm,5.6s
MDJ L L
comp=Z,120nm,14.2s
MDJ L L
comp=Z,330nm,15.7s
MDJ L L
comp=Z,500nm,21.4s
MDJ Mudanjiang 15.91 273 Pn **Pn 13 28 01.6 +0.1**
JWT Wachi 16.60 236 P **P 13 28 13.5 +1.4**
JWT IAmb IAmb 13 28 14.1
comp=Z,40nm,0.7s
SEY Seymchan 16.92 0 P **Pn 13 28 13.3 -0.8**
comp=Z,0.8nm,0.3s,baz=178,slow=10.0,SNR=14
SEY Seymchan 16.92 0 eP **Pn 13 28 13.4 -0.8**
BMKR Bomnak 17.13 309 eP **Pn 13 28 15.8 -1.0**
BMKR AMB AMB 13 28 21.7
comp=Z,10.0nm,0.8s
ZEA Zeya 17.71 305 eP **Pn 13 28 22.2 -1.8**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=Z,200nm,15.0s
ZEA Zeya 17.71 305 eP **Pn 13 28 22.2 -1.8**
ZEA AMB AMB 13 28 27.6
comp=Z,20nm,0.9s
KROS Kirovskiy 18.07 307 eP **P 13 28 29.3 +1.1**
KROS AMB AMB 13 28 33.3
comp=Z,10.0nm,0.8s
JHS Saijyo 18.14 239 P **P 13 28 29.0 -0.1**
CN2 Changchun 19.00 273 eP **P 13 28 37.9 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 L L
comp=Z,200nm,15.0s
CN2 L L
comp=Z,300nm,15.0s
CN2 L L
comp=Z,300nm,15.0s
KSRS Korea Array 19.94 253 P **P 13 28 49.1 +0.4**
comp=Z,1.0nm,0.3s,baz=56,slow=11,SNR=47
KSRS PcP **PcP 13 33 05.2 +1.7**
comp=Z,0.1nm,0.3s,baz=107,slow=1.3,SNR=5.3
KSRS LR LR 13 35 39.7
comp=Z,165nm,18.2s,baz=70,slow=34
KSRS Korea Array 19.94 253 eP **P 13 28 49.1 +0.4**
KS19 Wonju Array Si 19.95 253 P **P 13 28 49.3 +0.5**
KSAR Wonju Array Be 19.97 253 P **P 13 28 48.8 -0.3**
KSAR Wonju Array Be 19.97 253 P **P 13 28 48.8 -0.3**
YAK Yakutsk 20.56 329 P **P 13 28 55.2 0.0**
comp=Z,91nm,0.7s,baz=73,slow=0.9,SNR=43
YAK LR LR 13 36 34.9
comp=Z,195nm,20.6s,baz=89,slow=36
YAK Yakutsk 20.56 329 eP **P 13 28 54.8 -0.5**
YAK e 13 29 11.9
YAK e 13 33 02.2
YAK eSS Sn 13 33 05.5 +17
YAK eSSS SSS 13 33 22.8
YAK e 13 40 19.8
YAK pmax pmax
comp=Z,152nm,0.9s
YAK pmax pmax
comp=N,27nm,0.9s
YAK pmax pmax
comp=E,47nm,0.9s
YAK pmax pmax
comp=Z,38nm,1.1s
YAK pmax pmax
comp=N,32nm,1.0s
YAK pmax pmax
comp=E,20nm,1.0s
YAK Yakutsk 20.56 329 P **P 13 28 53.9 -1.3**
INCN Inchon 20.78 255 P **P 13 28 58.1 +0.2**
INCN pmax pmax
comp=Z,31nm,1.0s
INCN Inchon 20.78 255 P **P 13 28 58.1 +0.2**
INCN IAmb IAmb 13 29 01.2
comp=Z,32nm,0.9s
TJN Taejon 20.91 251 ceP Pn 13 29 00.7 -1.6
SNY Shenyang 20.93 269 ⇓ P **P 13 28 59.2 -0.2**
SNY S Sn 13 32 57.4 -0.6
SNY pmax pmax
comp=Z,19nm,0.9s
SNY pmax pmax
comp=Z,100nm,4.4s
SNY L L
comp=Z,120nm,16.7s
SNY L L
comp=Z,280nm,15.9s
SNY L L
comp=Z,360nm,21.5s
BILL Bilibino 23.23 13 i P **P 13 29 22.4 -1.1**
BILL i 13 29 40.7
BILL i 13 29 53.1
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,137nm,17.0s
BILL Bilibino 23.23 13 P **P 13 29 22.9 -0.7**
BILL Bilibino 23.23 13 eP **P 13 29 23.8 +0.3**
DL2 Dalian 23.50 263 P **P 13 29 26.7 +0.4**
DL2 pmax pmax
comp=Z,25nm,1.1s
BJI Beijing 26.79 270 P **P 13 30 00.5 +4.3**
BJI sS **sS 13 34 54.4 +4.8**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI L L
comp=Z,130nm,13.3s
BJI L L
comp=Z,220nm,15.7s
BJI L L
comp=Z,220nm,24.5s
GAMB Gambell 26.79 36 P 13 29 57.8
baz=246
JOW Kunigami 26.95 233 P **P 13 29 59.0 +1.1**
comp=Z,21nm,0.8s,baz=69,slow=5.1,SNR=6.6
TIXI Tiksi 27.96 345 P **P 13 30 04.7 -1.6**
comp=Z,1.0nm,0.4s,baz=135,slow=7.0,SNR=2.9
TIXI PcP **PcP 13 33 20.7 +0.6**
comp=Z,0.5nm,0.3s,baz=90,slow=3.5,SNR=6.2
TIXI Tiksi 27.96 345 i P **P 13 30 05.0 -1.3**
TIXI Tiksi 27.96 345 P **P 13 30 05.0 -1.3**
H11N2 WAKE ISLAND Hy 28.93 150 T T 14 00 46.6
baz=338
H11N1 WAKE ISLAND Hy 28.94 150 T T 14 00 50.8
baz=338
H11N3 WAKE ISLAND Hy 28.94 150 T T 14 00 49.5
baz=338
NJ2 Nanjing 29.14 253 eP **P 13 30 17.0 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
HHC Hu-ho-hao-te 29.67 275 eP **P 13 30 23.3 +1.3**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,94nm,5.2s
HHC L L
comp=Z,140nm,13.6s
HHC L L
comp=Z,230nm,12.8s
HHC L L
comp=Z,240nm,14.6s
H11S1 WAKE ISLAND Hy 30.00 151 T T 14 02 09.6
baz=339,slow=76,SNR=1791
H11S3 WAKE ISLAND Hy 30.00 152 T T 14 02 07.2
baz=339,slow=76,SNR=743
H11S2 WAKE ISLAND Hy 30.01 151 T T 14 02 06.5
baz=339,slow=76,SNR=1555
TIY Taiyuan 30.44 268 eP **P 13 30 26.8 -2.0**
TIY pmax pmax
comp=Z,150nm,6.0s
TIY L L
comp=Z,97nm,8.0s
TIY L L
comp=Z,170nm,16.0s
TIY L L
comp=Z,850nm,20.2s
ULN Ulaanbaatar 30.49 290 ceP **P 13 30 30.1 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.3s
ULN Ulaanbaatar 30.49 290 eP **P 13 30 30.1 +0.8**
SONM Songino Array 30.93 290 P **P 13 30 32.8 -0.3**
comp=Z,1.2nm,0.7s,baz=72,slow=7.4,SNR=4.8
SONM PcP **PcP 13 33 28.4 +0.1**
comp=Z,1.1nm,0.8s,baz=117,slow=2.4,SNR=5.0
SONM LR LR 13 43 49.6
comp=Z,155nm,18.6s,baz=77,slow=38
RDOG Red Dog Mine 31.77 30 P 13 30 39.9
baz=250
TLY Talaya 31.90 298 eP **P 13 30 41.6 +0.1**
TLY pmax pmax
comp=Z,9.0nm,0.6s
TLY MLR MLR
comp=Z,639nm,17.0s
TLY Talaya 31.90 298 eP **P 13 30 41.9 +0.4**
ZAK Zakamensk 32.36 296 eP **P 13 30 43.7 -1.9**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
WHN Wuhan 33.09 255 ⇓ P **P 13 30 52.4 +0.4**
TTA Tatalina 33.40 41 P 13 30 54.7
baz=265
SVW2 Sparrevohn 33.47 44 P **P 13 30 56.0 +0.9**
YULB Yu-li 33.62 238 P **P 13 30 58.4 +1.8**
YULB IAmb IAmb 13 31 11.2
comp=Z,9.0nm,0.8s
TPUB Ta-pu 34.08 239 P **P 13 31 01.1 +0.4**
IMAR Indian Mountai 34.74 36 P **P 13 31 05.8 -0.2**
IMAR **PcP 13 33 39.6 +1.2**
XAN Xi'an 34.78 265 P **P 13 31 06.6 -0.1**
XAN pP pwP 13 31 21.1 +1.1
XAN pmax pmax
comp=Z,21nm,0.9s
A21K Barrow 34.94 26 P **P 13 31 07.7 +0.1**
KDAK Kodiak Island 35.08 50 P **P 13 31 08.5 -0.5**
comp=Z,8.7nm,0.8s,baz=63,slow=5.1,SNR=4.0
KDAK PcP **PcP 13 33 41.0 +1.5**
comp=Z,8.8nm,1.0s,baz=252,slow=3.2,SNR=2.8
KDAK Kodiak Island 35.08 50 P **P 13 31 08.8 -0.1**
KDAK pmax pmax
comp=Z,17nm,1.1s
KDAK Kodiak Island 35.08 50 P **P 13 31 08.8 -0.1**
KDAK IAmb IAmb 13 31 10.1
comp=Z,17nm,1.1s
KDAK Kodiak Island 35.08 50 P 13 31 08.9
baz=275
H21K Melozitna Rive 35.08 36 P 13 31 08.7
baz=264,SNR=6.1
CHUM Lake Minchumin 35.14 39 P 13 31 09.4
baz=267
PPLA Purkeypile 35.14 41 P **P 13 31 09.8 +0.1**
PPLA IAmb IAmb 13 31 18.5
comp=Z,11nm,1.2s
PPLA Purkeypile 35.14 41 P 13 31 09.7
baz=268
SKT Skwentna 35.43 43 P **P 13 31 13.0 +1.0**
SKT Skwentna 35.43 43 P 13 31 11.9
baz=270
CNPM China Poot 35.65 47 P **P 13 31 14.6 +0.7**
BPAW Bear Paw Mtn. 35.73 39 P **P 13 31 15.3 +0.8**
BPAW Bear Paw Mtn. 35.73 39 P 13 31 14.6

baz=268
KTH Kantishna Hill 35.74 40 P **P** **13 31 15.4 +0.7**
KTH lAmb lAmb 13 31 16.8
comp=Z,12nm,0.8s
MLY Manley 35.89 37 P **P** **13 31 16.7 +0.8**
MLY **PcP** **13 33 43.0 +1.1**
MLY Manley 35.89 37 P 13 31 16.4
baz=267
TRF Thorofare Moun 36.02 40 P **P** **13 31 17.3 +0.1**
TRF lAmb lAmb 13 31 19.4
comp=Z,6.6nm,0.8s
TRF Thorofare Moun 36.02 40 P 13 31 17.6
baz=269
COLD Coldfoot 36.30 34 P **P** **13 31 19.4 +0.1**
COLD Coldfoot 36.30 34 P 13 31 19.0
baz=264
RC01 Rabbit Creek A 36.31 44 P **P** **13 31 20.0 +0.5**
RC01 lAmb lAmb 13 31 33.1
comp=Z,15nm,1.3s
RC01 Rabbit Creek A 36.31 44 P 13 31 19.6
baz=273
H23K Yukon River 36.44 36 P 13 31 20.7
baz=267,SNR=6.9
ENH Enshi 36.57 260 P **P** **13 31 20.9 -1.1**
ENH lAmb lAmb 13 31 22.8
comp=Z,13nm,1.0s
PMR Palmer 36.58 43 P **P** **13 31 22.7 +0.9**
PMR pmax pmax
comp=Z,5.0nm,0.8s
PMR Palmer 36.58 43 P **P** **13 31 22.7 +0.9**
PMR lAmb lAmb 13 31 23.3
comp=Z,5.0nm,0.8s
PMR Palmer 36.58 43 P 13 31 22.1
baz=273
MCK McKinley 36.63 40 P **P** **13 31 22.7 +0.5**
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 36.63 40 P **P** **13 31 22.7 +0.5**
MCK lAmb lAmb 13 31 23.5
comp=Z,5.0nm,0.8s
MCK McKinley 36.63 40 P 13 31 22.1
baz=270
RND Reindeer 36.67 40 P **P** **13 31 22.6 0.0**
RND pmax pmax
comp=Z,6.0nm,0.8s
RND Reindeer 36.67 40 P **P** **13 31 22.6 0.0**
RND lAmb lAmb 13 31 24.0
comp=Z,6.1nm,0.8s
GHO Glory Hole Cre 36.67 43 P **P** **13 31 23.3 +0.6**
GHO lAmb lAmb 13 31 45.0
comp=Z,10nm,1.2s
TOLK Toolik Lake Re 36.70 31 P **P** **13 31 23.2 +0.4**
TOLK Toolik Lake Re 36.70 31 P 13 31 22.4
baz=263
WAT2 Susitna Watana 36.79 41 P 13 31 23.4
baz=272
KNK Knik Glacier 36.91 44 P **P** **13 31 25.0 +0.4**
KNK lAmb lAmb 13 31 25.9
comp=Z,12nm,0.9s
KNK Knik Glacier 36.91 44 P 13 31 24.5
baz=274
SML Sawmill 36.95 43 P **P** **13 31 25.4 +0.5**
SML Sawmill 36.95 43 P 13 31 24.7
baz=273,SNR=11
MDM Murphy Dome 36.95 38 P **P** **13 31 25.4 +0.5**
MDM lAmb lAmb 13 31 26.7
comp=Z,5.1nm,0.8s
WRH Wood River Hil 37.01 38 P **P** **13 31 25.7 +0.4**
PWL Port Wells 37.01 45 P **P** **13 31 25.6 +0.1**
TCOL CIGO, UAF Yank 37.11 38 P **P** **13 31 25.8 -0.4**
TCOL lAmb lAmb 13 31 28.0
comp=Z,8.9nm,0.8s
TCOL CIGO, UAF Yank 37.11 38 P 13 31 26.2
baz=270
COLA College 37.11 38 P **P** **13 31 25.8 -0.4**
COLA pmax pmax
comp=Z,9.0nm,0.7s
COLA College 37.11 38 P **P** **13 31 25.8 -0.4**
COLA lAmb lAmb 13 31 28.0
comp=Z,8.9nm,0.7s
COLA College 37.11 38 P 13 31 26.5
baz=270
H24K Nodor Dome 37.13 36 P 13 31 26.9
baz=268
CCB Clear Creek Bu 37.13 38 P **P** **13 31 26.2 -0.2**
WAT6 Susitna Watana 37.19 42 P 13 31 27.0
baz=273
LZH Lanzhou 37.23 272 *e*P **P** **13 31 26.5 -1.3**
LZH pP pwP 13 31 42.7 +1.5
LZH sP sP 13 31 46.7 -0.7
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,72nm,4.9s
LZH L L
comp=Z,190nm,14.1s
LZH L L
comp=Z,230nm,13.7s
LZH L L
comp=Z,160nm,16.6s
POKR Poker Plat Res 37.29 37 P **P** **13 31 28.1 +0.3**
POKR lAmb lAmb 13 31 45.2
comp=Z,9.6nm,0.9s
POKR Poker Plat Res 37.29 37 P 13 31 28.4
baz=270
SCM Sheep Creek Mo 37.42 43 P **P** **13 31 29.1 0.0**
SCM pmax pmax
comp=Z,9.0nm,1.0s
SCM Sheep Creek Mo 37.42 43 P **P** **13 31 29.1 0.0**
SCM lAmb lAmb 13 31 37.3
comp=Z,9.0nm,1.0s
HDA Harding Lake 37.50 39 P **P** **13 31 29.2 -0.3**
HDA Harding Lake 37.50 39 P 13 31 29.5
baz=271,SNR=5.5
HDA P 13 31 29.5
baz=271,SNR=5.5
IL31 37.52 38 P **P** **13 31 29.8 +0.1**
ILAR Eielson Array 37.52 38 P **P** **13 31 29.9 +0.1**
comp=Z,2.9nm,1.0s,baz=275,slow=8.0,SNR=17
GLI Glacier Island 37.61 44 P **P** **13 31 31.2 +0.7**
FID Port Fidalgo 37.92 45 P **P** **13 31 33.1 -0.1**
M24K Tolsona, Glenn 37.95 42 P **P** **13 31 34.6 +1.2**
M24K lAmb lAmb 13 31 35.2
comp=Z,9.5nm,0.7s
M24K Tolsona, Glenn 37.95 42 P 13 31 33.5
baz=275
KLU Klutina 38.12 43 P 13 31 35.0
baz=276
HARP HAARP 38.40 42 P 13 31 37.3
baz=275
GTA Gaotai 38.41 279 *e*P **P** **13 31 38.6 +0.9**
GTA pP sP 13 31 54.9 -1.6
GTA PcP **PcP** **13 33 51.9 +1.8**
GTA PcS **PcS** **13 37 40.8 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,55nm,4.1s
GTA L L
comp=Z,50nm,16.0s
GTA L L
comp=Z,160nm,14.5s
GTA L L
comp=Z,120nm,14.2s
BMAR Burnt Mountain 38.48 34 P **P** **13 31 38.9 +1.1**
N25K Chitina, Valde 38.74 43 P **P** **13 31 40.7 +0.6**
N25K Chitina, Valde 38.74 43 P 13 31 40.1
baz=277
DOT Dot Lake 38.80 40 P **P** **13 31 39.8 -0.8**
BMRM Bremner River 38.81 44 P **P** **13 31 41.3 +0.6**
BMRM lAmb lAmb 13 31 43.4
comp=Z,11nm,0.9s
BMRM Bremner River 38.81 44 P 13 31 40.5
baz=278
SCRK Sand Creek 38.81 39 P **P** **13 31 39.7 -1.1**
SCRK Sand Creek 38.81 39 P 13 31 40.5
baz=274
NRIK Noril'sk 39.01 329 *i* P **P** **13 31 41.9 -0.3**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
MENT Mentasta 39.02 41 P **P** **13 31 43.8 +1.4**
CRQM Cirque 39.55 44 P **P** **13 31 47.7 +0.7**
CRQE Cirque 39.57 44 P 13 31 46.7
baz=279,SNR=6.2
L27K Beaver Creek, 39.86 40 P **P** **13 31 50.5 +1.2**
L27K lAmb lAmb 13 31 51.9
comp=Z,6.9nm,0.8s
L27K Beaver Creek, 39.86 40 P 13 31 49.5
baz=277,SNR=11
BCAR Beaver Creek A 39.88 40 P **P** **13 31 50.8 +1.2**
EGAK Eagle 39.98 38 P **P** **13 31 50.2 -0.1**
EGAK lAmb lAmb 13 31 51.2
comp=Z,7.5nm,1.0s
EGAK Eagle 39.98 38 P 13 31 49.4
baz=276,SNR=7.5
CD2 Chengdu 40.14 265 ⇑*i*P **P** **13 31 52.3 +0.2**
CD2 pP pwP 13 32 08.3 +2.8
CD2 sP sP 13 32 16.1 +4.5
CD2 S **S** **13 37 53.5 -1.3**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,150nm,5.1s
GRNC Granite Creek 40.23 44 P **P** **13 31 52.9 +0.2**
GRNC lAmb lAmb 13 31 54.9
comp=Z,9.2nm,0.8s
YAH Yahtse 40.29 45 P **P** **13 31 53.8 +0.6**
YAH lAmb lAmb 13 31 55.7
comp=Z,14nm,0.9s
CTG Chitna Glacier 40.39 44 P 13 31 54.2
baz=280
DAWY Dawson 40.82 39 P **P** **13 31 57.5 +0.2**
GYA Guiyang 40.90 257 ⇑P **P** **13 31 58.3 -0.1**
GYA pP sP 13 32 17.4 -0.7
GYA pmax pmax
comp=Z,4.0nm,1.0s
EPYK Eagle Plains 41.64 35 P **P** **13 32 04.4 +0.5**
EPYK lAmb lAmb 13 32 06.0
comp=Z,11nm,1.1s
EPYK Eagle Plains 41.64 35 P 13 32 04.3
baz=278
HYT Haines Junctio 42.25 43 P **P** **13 32 10.6 +1.5**
DGZ Jazzator, Alta 42.35 299 *i* P **P** **13 32 10.4 +0.3**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 42.47 306 P **P** **13 32 10.0 -0.8**
comp=Z,0.9nm,0.6s,baz=65,slow=8.4,SNR=3.9
ZALV PcP **PcP** **13 34 03.4 +0.6**
comp=Z,4.6nm,0.7s,baz=56,slow=3.7,SNR=14
ZALV Zalesovo Beam 42.47 306 PcP **PcP** **13 34 02.5 -0.2**
INK Inuvik 42.61 32 P **P** **13 32 12.7 +0.9**
comp=Z,6.9nm,0.9s,baz=284,slow=6.5,SNR=28
INK PcP **PcP** **13 34 03.7 +0.7**
comp=Z,1.1nm,0.7s,baz=279,slow=2.9,SNR=1.9
INK Inuvik 42.61 32 P **P** **13 32 12.3 +0.5**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 42.61 32 P **P** **13 32 12.3 +0.5**
INK Inuvik 42.61 32 P 13 32 12.4
baz=278,SNR=13
WHY Whitehorse 43.55 43 P **P** **13 32 20.1 +0.5**
WHY Whitehorse 43.55 43 P 13 32 20.3
baz=285
KMI Kunming 44.44 259 ⇑P **P** **13 32 27.8 +0.5**
KMI pP pP 13 32 36.4 -4.7
KMI pmax pmax
comp=Z,14nm,0.8s
WMQ Urumqi 44.55 291 *e*P **P** **13 32 28.0 +0.2**
ZSN Zaisan 44.79 297 *e*P **P** **13 32 28.0 -1.7**
baz=297
ZSN Zaisan 44.79 297 *e*P **P** **13 32 27.9 -1.7**
C36M Paulatuk 45.77 29 P **P** **13 32 37.3 +0.3**
C36M lAmb lAmb 13 32 38.1
comp=Z,7.4nm,0.7s
C36M Paulatuk 45.77 29 P 13 32 37.3
baz=285,SNR=9.1
SLVN Son La 46.20 254 P **P** **13 32 41.2 +0.1**
SLVN lAmb lAmb 13 32 43.1
comp=Z,9.8nm,1.0s
SEM Semipalatinsk 46.37 303 *e*P **P** **13 32 39.7 -2.6**
baz=303
SEM Semipalatinsk 46.37 303 *e*P **P** **13 32 39.6 -2.6**
MK31 Makanchi Array 46.66 298 P **P** **13 32 41.5 -2.9**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 46.66 298 P **P** **13 32 41.5 -2.9**
MK31 lAmb lAmb 13 32 45.8
comp=Z,5.8nm,0.8s
MKAR Makanchi Array 46.66 298 P **P** **13 32 42.5 -1.9**
comp=Z,5.4nm,0.8s,baz=68,slow=7.2,SNR=28
MKAR PcP **PcP** **13 34 17.9 +0.6**
comp=Z,2.9nm,0.6s,baz=50,slow=3.8,SNR=8.4
MKAR Makanchi Array 46.66 298 P **P** **13 32 42.0 -2.4**
MKAR PcP **PcP** **13 34 17.1 -0.2**
MAKZ Makanchi 46.85 298 P **P** **13 32 44.1 -1.7**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 46.85 298 P **P** **13 32 44.1 -1.7**
NONG Nongkai 49.00 252 P **P** **13 33 04.3 +1.5**
comp=Z,40nm,1.0s
LSA Lhasa 49.63 273 P **P** **13 33 08.1 +0.1**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 49.63 273 P **P** **13 33 08.1 +0.1**
EUNU Eureka 49.95 11 P **P** **13 33 08.0 -1.3**
EUNU lAmb lAmb 13 33 09.9
comp=Z,10nm,0.9s
SHLS Shalkode 50.14 294 *e*P **P** **13 33 07.5 -3.9**
baz=294
SHLS Shalkode 50.14 294 *e*P **P** **13 33 07.4 -3.9**
UZB Uzynbulak 50.42 295 *e*P **P** **13 33 11.7 -1.9**
baz=295
UZB Uzynbulak 50.42 295 *e*P **P** **13 33 11.6 -1.9**
KHON Khomkaen 50.46 251 P **P** **13 33 15.9 +2.1**
comp=Z,10.0nm,0.7s
KPKS Kokpek 50.48 295 *e*P **P** **13 33 11.2 -2.6**
baz=295
KPKS Kokpek 50.48 295 *e*P **P** **13 33 11.2 -2.6**
BRVK Borovoye 50.82 310 P **P** **13 33 15.5 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 50.82 310 P **P** **13 33 15.5 -0.6**
BRVK Borovoye 50.82 310 *e*P **P** **13 33 15.5 -0.6**
SATY Saty 50.86 295 *e*P **P** **13 33 14.7 -2.0**
baz=295
SATY Saty 50.86 295 *e*P **P** **13 33 14.7 -2.0**
BRZS Berezniki 50.92 305 *e*P **P** **13 33 15.0 -2.1**
baz=305
BRZS Berezniki 50.92 305 *e*P **P** **13 33 14.9 -2.1**
UTTA Uttaradit 50.96 254 P **P** **13 33 19.2 +1.7**
comp=Z,6.7nm,0.8s
CM35 Chiang Mai Arr 51.24 256 P **P** **13 33 21.0 +1.3**
CMMT Chiang Mai 51.29 256 P **P** **13 33 20.1 0.0**
comp=Z,27nm,1.0s
CHTO Chiang Mai 51.29 256 P **P** **13 33 20.8 +0.7**
CHTO pmax pmax
comp=Z,22nm,0.9s
CHTO Chiang Mai 51.29 256 P **P** **13 33 20.8 +0.7**
CHAI Chaiyaphum 51.33 251 P **P** **13 33 21.0 +0.6**
comp=Z,5.0nm,0.8s
CHKK Chushkaly 51.34 296 *e*P **P** **13 33 18.4 -1.9**
baz=296
CHKK Chushkaly 51.34 296 *e*P **P** **13 33 18.3 -1.9**
PHIT Phitsanulok 51.44 254 P **P** **13 33 23.2 +2.0**
comp=Z,202nmcomp=Z,18nm,0.9s
CM09 Chiang Mai Arr 51.52 256 P **P** **13 33 23.4 +1.6**
comp=Z,113nmcomp=Z,15nm,0.9s
CM31 Chiang Mai Arr 51.54 256 P **P** **13 33 23.8 +1.8**
CM31 Chiang Mai Arr 51.54 256 P **P** **13 33 22.8 +0.8**
CMAR Chiang Mai Arr 51.54 256 P **P** **13 33 23.3 +1.3**
comp=Z,9.0nm,0.8s,baz=35,slow=7.5,SNR=50
CMAR PcP **PcP** **13 34 37.5 +2.0**
comp=Z,1.1nm,0.7s,baz=21,slow=4.3,SNR=2.1
CMAR LR LR 13 58 42.6
comp=Z,58nm,19.4s,baz=132,slow=40
CMAR Chiang Mai Arr 51.54 256 P **P** **13 33 22.5 +0.5**
CM02 Chiang Mai Arr 51.55 256 P **P** **13 33 23.6 +1.5**
comp=Z,17nm,0.9s
CM01 Chiang Mai Arr 51.55 256 P **P** **13 33 23.0 +0.9**
comp=Z,118nmcomp=Z,16nm,0.9s
CM04 Chiang Mai Arr 51.55 256 P **P** **13 33 23.0 +0.9**
comp=Z,124nmcomp=Z,14nm,0.9s
CM15 Chiang Mai Arr 51.55 256 P **P** **13 33 23.9 +1.8**
comp=Z,15nm,0.9s
CM05 Chiang Mai Arr 51.58 256 P **P** **13 33 23.0 +0.7**
comp=Z,93nmcomp=Z,11nm,1.0s
CM13 Chiang Mai Arr 51.59 256 P **P** **13 33 23.9 +1.5**
comp=Z,109nmcomp=Z,14nm,0.9s
MDOK Medeo 51.66 296 *e*P **P** **13 33 21.1 -1.7**
baz=296
MDOK Medeo 51.66 296 *e*P **P** **13 33 21.1 -1.7**
SHL Shillong 51.67 268 P **P** **13 33 22.6 -0.5**
SHL pmax pmax
comp=Z,25nm,0.6s
SHL Shillong 51.67 268 P **P** **13 33 22.6 -0.5**
KUU Kurty 51.73 297 *e*P **P** **13 33 20.6 -2.6**
baz=297
KUU Kurty 51.73 297 *e*P **P** **13 33 20.5 -2.6**
YKA Yellowknife Ar 51.90 36 P **P** **13 33 25.0 +1.0**
comp=Z,5.9nm,0.8s,baz=296,slow=6.7,SNR=31
YKA PcP **PcP** **13 34 36.9 +0.8**
comp=Z,1.3nm,0.8s,baz=292,slow=3.3,SNR=5.8
KDJ Kajisay 52.11 294 P **P** **13 33 25.6 -0.6**
KDJ pmax pmax
comp=Z,4.0nm,0.7s
KDJ Kajisay 52.11 294 P **P** **13 33 25.6 -0.6**
KDJ lAmb lAmb 13 33 29.1
comp=Z,4.1nm,0.7s
MHMT Maesarieng 52.42 257 P **P** **13 33 29.0 +0.5**
comp=Z,34nm,1.0s
BOOM Boomskoye usch 52.71 295 P **P** **13 33 29.8 -0.8**
BOOM pmax pmax
comp=Z,4.0nm,0.7s
BOOM Boomskoye usch 52.71 295 P **P** **13 33 29.8 -0.8**
BOOM lAmb lAmb 13 33 31.8
comp=Z,3.5nm,0.7s
SGDS Sogindy 53.02 297 *e*P **P** **13 33 30.6 -2.1**
baz=297
SGDS Sogindy 53.02 297 *e*P **P** **13 33 30.6 -2.1**
UMPA Umpang Tak 53.18 254 P **P** **13 33 37.0 +2.8**
comp=Z,1µmcomp=Z,2.8nm,0.8s
UTHA Uthaitani 53.26 253 P **P** **13 33 36.0 +1.3**
comp=Z,61nmcomp=Z,4.8nm,0.8s
JIRN Jiri 54.32 274 *e*P **P** **13 33 43.4 +0.6**
comp=Z,66nm,0.8s
GUN Gumba 54.38 275 *e*P **P** **13 33 43.6 +0.4**
RAMN Ramite 54.48 273 *e*P **P** **13 33 44.1 +0.3**
comp=Z,24nm,0.5s
KKN Kakani 54.87 275 *e*P **P** **13 33 47.6 +1.0**
PKI Pulchoki 54.92 275 *e*P **P** **13 33 47.3 +0.2**
PKIN Phulchoki 54.92 275 *e*P **P** **13 33 47.3 +0.2**
PHET Kaeng Krachan 55.06 251 P **P** **13 33 50.2 +2.4**
comp=Z,12nm,0.8s
ARU Arti 55.07 317 *c i*P **P** **13 33 46.0 -1.3**
ARU 13 34 44.1
ARU 13 35 46.8
ARU S **S** **13 41 26.3 +0.6**
ARU SS **SS** **13 45 02.2 -7.1**
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 55.07 317 P **P** **13 33 45.2 -2.2**
ARU lAmb lAmb 13 33 48.6
comp=Z,6.9nm,0.7s
ARU Arti 55.07 317 *e*P **P** **13 33 46.1 -1.3**
DMN Daman 55.10 275 *e*P **P** **13 33 49.0 +0.6**
GKN Gorkha 55.19 276 *e*P **P** **13 33 49.3 +0.5**
DANN Dangsing 55.58 277 *e*P **P** **13 33 52.7 +0.9**
comp=Z,111nm,0.6s
KKAR Karatay Array 55.74 299 P **P** **13 33 50.7 -1.7**
KKAR Karatay Array 55.74 299 P **P** **13 33 50.7 -1.7**
KOLN Koldanda 56.05 276 *e*P **P** **13 33 55.7 +0.6**
comp=Z,108nm,0.9s
NEW Newport 58.15 52 P 13 34 09.9
baz=305
GAR Garm 58.19 295 P **P** **13 34 08.5 -1.5**
ARCES ARCESS Array B 58.29 341 P **P** **13 34 10.1 +0.1**
comp=Z,2.0nm,0.7s,baz=47,slow=7.1,SNR=9.2
ARCES PcP **PcP** **13 35 01.1 +0.5**
comp=Z,3.2nm,0.7s,baz=45,slow=5.3,SNR=5.3
ARCES ARCESS Array B 58.29 341 P **P** **13 34 09.8 -0.3**
ARCES pmax pmax
comp=Z,25nm,1.5s
ARCES ARCESS Array B 58.29 341 P **P** **13 34 09.8 -0.3**
ABKAR Akbulak array 58.35 310 P **P** **13 34 08.7 -2.0**
KRAB Krabi 58.83 247 P **P** **13 34 16.7 +2.2**
CHGR Chuyangaron 59.13 295 P **P** **13 34 15.6 -0.9**
N02D Trinity Center 59.13 62 P 13 34 17.1
baz=306
WALA Waterton Lakes 59.41 50 P **P** **13 34 19.1 +0.7**
WALA lAmb lAmb 13 34 20.8
comp=Z,5.7nm,0.9s
NIL Nilore 59.48 288 P **P** **13 34 19.0 +0.1**
NIL pmax pmax
comp=Z,30nm,1.0s
NIL Nilore 59.48 288 P **P** **13 34 19.0 +0.1**
JTMT Jette 59.99 51 P **P** **13 34 23.5 +1.1**
MOD Modoc Plateau 60.03 59 P **P** **13 34 24.0 +1.2**
O03E Paynes Creek 60.08 62 P 13 34 23.8
baz=307
KLMR Klimovskoe 60.35 329 *e*P **P** **13 34 21.0 -3.3**
KLMR pmax pmax
comp=Z,25nm,1.8s
KLMR Klimovskoe 60.35 329 *e*P **P** **13 34 21.1 -3.3**
KLMR AMP 13 34 23.3
comp=Z,25nm,1.8s
WVOR Wild Horse Val 60.71 58 P **P** **13 34 28.7 +1.4**
WVOR pmax pmax
comp=Z,3.0nm,1.0s
WVOR Wild Horse Val 60.71 58 P **P** **13 34 28.7 +1.4**
MSO Missoula 60.73 52 P **P** **13 34 28.3 +1.0**
MSO lAmb lAmb 13 34 29.9
comp=Z,10.0nm,1.1s
MSO Missoula 60.73 52 P 13 34 27.9
baz=308,SNR=5.3
BEKR Beckworth 61.22 61 P **P** **13 34 31.9 +1.0**
SUMG Summit 61.45 4 P **P** **13 34 31.7 -0.4**
SUMG pmax pmax
comp=Z,28nm,1.0s
SUMG Summit 61.45 4 P **P** **13 34 31.7 -0.4**
KBL Kabul 61.69 291 P **P** **13 34 32.7 -1.5**
KBL pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 61.69 291 P **P** **13 34 32.7 -1.5**
FFC Flin Flon 61.72 39 P **P** **13 34 34.0 +0.3**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 61.72 39 P **P** **13 34 34.0 +0.3**
FFC lAmb lAmb 13 34 35.7
comp=Z,7.7nm,1.0s
HRY Holter Researc 61.95 51 P **P** **13 34 37.1 +1.5**
PNTR Pine Nut 62.16 62 P **P** **13 34 38.7 +1.4**
PNTR lAmb lAmb 13 34 40.4
comp=Z,6.2nm,0.9s
FCC Fort Churchill 62.22 33 P **P** **13 34 36.9 -0.1**
FCC pmax pmax
comp=Z,15nm,1.1s
FCC Fort Churchill 62.22 33 P **P** **13 34 36.9 -0.1**
EGMT Eagleton 62.24 49 P **P** **13 34 38.6 +1.1**
EGMT lAmb lAmb 13 34 39.8
comp=Z,8.6nm,1.0s
EGMT Eagleton 62.24 49 P 13 34 38.0
baz=309,SNR=6.3
CMB Columbia Colle 62.33 63 P **P** **13 34 39.8 +1.6**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 62.33 63 P **P** **13 34 39.8 +1.6**
HLID Hailey 62.47 55 P 13 34 40.3
baz=309,SNR=5.0
MCMT McKenzie Canyo 62.56 53 P **P** **13 34 40.8 +0.9**
BCYI Bear Canyon 62.58 54 P **P** **13 34 41.1 +1.2**
WAKR Walker 62.62 62 P **P** **13 34 42.1 +1.7**
KVN Kaiserville 63.10 61 P **P** **13 34 45.0 +1.5**
KVN pmax pmax
comp=Z,6.0nm,1.1s
KVN Kaiserville 63.10 61 P **P** **13 34 45.0 +1.5**
KVN lAmb lAmb 13 34 46.6
comp=Z,5.5nm,1.1s
RYN Ryan 63.11 61 P **P** **13 34 44.2 +0.7**
PSI Prapat 63.16 244 P **P** **13 34 44.5 +0.5**
PSI pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 63.24 244 P **P** **13 34 44.5 +0.1**
RPSI lAmb lAmb 13 34 46.7
comp=Z,10nm,0.8s
LHV Little Huntoon 63.36 62 P **P** **13 34 46.5 +1.7**
LHV lAmb lAmb 13 34 48.7
comp=Z,8.1nm,0.9s
NVAR Mina Array Bea 63.37 61 P **P** **13 34 47.3 +2.0**
comp=Z,2.8nm,0.7s,baz=287,slow=6.8,SNR=30
NVAR Mina Array Bea 63.37 61 P **P** **13 34 47.0 +1.7**
MDPB Devils Postpil 63.39 63 P **P** **13 34 47.1 +1.7**
NV11 Mina Array Sit 63.46 61 P **P** **13 34 47.2 +1.4**
YHL Hebgen Lake 63.47 52 P **P** **13 34 47.2 +1.2**
YHL lAmb lAmb 13 34 48.9
comp=Z,5.2nm,1.0s
YHB Horse Butte 63.53 52 P **P** **13 34 47.5 +1.2**
YHB lAmb lAmb 13 34 49.2

YHH Holmes Hill 63.69 52 P P 13 34 48.7 +1.3
YHH lAmb lAmb 13 34 50.3
comp=Z,5.2nm,0.9s
GCMT Greycliff 63.70 51 P P 13 34 49.0 +1.7
ELK Elko 63.76 58 P P 13 34 49.1 +1.3
ELK pmax pmax
comp=Z,3.0nm,1.2s
ELK Elko 63.76 58 P P 13 34 49.1 +1.3
YNE Yellowstone No 64.02 51 P P 13 34 50.4 +0.9
H17A Grant Village 64.10 52 P 13 34 50.7
baz=310
TPH Tonopah 64.25 61 P P 13 34 52.4 +1.3
TPH pmax pmax
comp=Z,19nm,0.8s
TPH Tonopah 64.25 61 P P 13 34 52.4 +1.3
RLMT Red Lodge 64.34 51 P 13 34 52.7
baz=311
FIA1 FINESS Array S 64.38 334 P P 13 34 49.7 -1.6
FIA1 lAmb lAmb 13 35 10.6
comp=Z,22nm,1.4s
FINES FINESS Array B 64.38 334 P P 13 34 49.5 -1.7
comp=Z,6.2nm,0.8s,baz=38,slow=7.1,SNR=24
FINES FINESS Array B 64.38 334 P P 13 34 49.4 -1.9
TPAW Teton Pass 64.47 53 P P 13 34 53.8 +1.3
TPAW lAmb lAmb 13 34 56.1
comp=Z,11nm,0.9s
LOHW Long Hollow 64.58 53 P P 13 34 54.8 +1.6
LOHW lAmb lAmb 13 34 56.6
comp=Z,7.7nm,1.1s
REDW Red Top Meadow 64.61 53 P P 13 34 54.6 +1.2
REDW lAmb lAmb 13 34 56.7
comp=Z,9.4nm,1.0s
CWC Cottonwood Cre 64.76 63 P 13 34 55.9
baz=310
LAO LASA Array 64.94 48 P 13 34 56.3
baz=312
KNRA Kununurra 64.96 205 P P 13 34 56.8 +1.3
ISA Isabella, Lake 65.01 64 P 13 34 56.8
baz=310
SPUT South Promonto 65.02 56 P P 13 34 57.2 +1.2
R11A Troy Canyon, C 65.07 60 P P 13 34 57.2 +0.8
R11A Troy Canyon, C 65.07 60 P 13 34 57.6
baz=310,SNR=8.2
SPR3 Spring Creek 3 65.41 59 P P 13 35 00.6 +1.9
FURC Furnace Creek, 65.50 62 P 13 35 00.7
baz=310,SNR=6.6
OBN Obninsk 65.50 325 *i* P P 13 34 57.3 -1.3
OBN *i* 13 35 32.1
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,99nm,18.0s
OBN Obninsk 65.50 325 *e*P P 13 34 58.0 -0.6
OSI Osito Audit: C 65.53 65 P 13 35 00.9
baz=310
DUG Dugway, Tooele 65.53 57 P P 13 35 00.5 +1.2
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 65.53 57 P P 13 35 00.5 +1.2
DUG lAmb lAmb 13 35 02.4
comp=Z,8.9nm,1.1s
DUG Dugway, Tooele 65.53 57 P 13 35 00.7
baz=311,SNR=9.9
TPNV Topopah Spring 65.56 62 P P 13 35 01.1 +1.5
TPNV pmax pmax
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 65.56 62 P P 13 35 01.1 +1.5
TPNV Topopah Spring 65.57 62 P 13 35 01.2
baz=310,SNR=5.8
BW06 Boulder Array 65.71 53 P P 13 35 01.3 +0.7
BW06 lAmb lAmb 13 35 03.0
comp=Z,7.7nm,0.9s
PDAR Pinedale Array 65.71 53 P P 13 35 02.2 +1.7
comp=Z,5.2nm,0.8s,baz=318,slow=2.0,SNR=27
PDAR Pinedale Array 65.71 53 P P 13 35 01.5 +1.0
BW06 Boulder Array 65.72 53 P 13 35 02.0
baz=311,SNR=9.2
EDW2 Edwards Air Fo 65.81 64 P 13 35 02.9
baz=311,SNR=8.1
VRH Novokhopyorsk 66.11 320 *e*P P 13 35 00.4 -2.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
NLU North Lily Min 66.11 57 P P 13 35 03.8 +0.7
NLU lAmb lAmb 13 35 06.0
comp=Z,5.9nm,0.9s
GSC Goldstone, Bar 66.28 63 P P 13 35 05.5 +1.4
GSC Goldstone, Bar 66.28 63 P P 13 35 05.5 +1.4
GSC Goldstone, Bar 66.28 63 P 13 35 05.6
baz=311
MPU Maple Canyon 66.33 56 P P 13 35 06.3 +1.7
LPSR Galich'ya Gora 66.34 322 *e*P P 13 35 01.5 -2.6
LPSR pmax pmax
comp=Z,7.0nm,0.6s
GEYT Alibeck 66.38 301 P P 13 35 04.5 -0.2
comp=Z,48nm,0.4s,baz=250,slow=4.4,SNR=9.0
GYA0B ALIBECK ARRAY 66.38 301 P P 13 35 04.2 -0.4
GYA0B lAmb lAmb 13 35 05.6
comp=Z,11nm,0.8s
BFSC Mount Baldy Ra 66.44 65 P 13 35 06.5
baz=311
CIS Catalina Islan 66.50 66 P 13 35 07.1
baz=311
SHPR Sheep Range 66.52 61 P P 13 35 07.5 +1.8
TUQ Turquoise Moun 66.75 63 P 13 35 08.4
baz=311
HEC Hector,Ludlow 66.89 63 P 13 35 09.3
baz=311,SNR=8.2
TMUT Trail Mountain 67.05 57 P P 13 35 10.4 +1.1
MURC Murrieta 67.15 65 P 13 35 10.8
baz=311
RDMU Red Mountain 67.15 55 P P 13 35 10.9 +1.1
P17A Butcher Ranch, 67.21 56 P P 13 35 11.1 +1.0
P17A lAmb lAmb 13 35 12.9
comp=Z,12nm,1.1s
VSR Storozhevoye 67.23 321 *e*P P 13 35 06.8 -3.0
VSR pmax pmax
comp=Z,8.0nm,0.6s
MTPU Mount Pierson 67.31 58 P P 13 35 12.4 +1.5
GMRC Granite Mounta 67.33 63 P 13 35 12.4
baz=312
LCMT Little Creek M 67.35 60 P P 13 35 12.8 +1.9
LCMT lAmb lAmb 13 35 14.1
comp=Z,7.8nm,0.9s
VORD Divnogorie 67.36 321 *e*P P 13 35 08.7 -1.8
VORD pmax pmax
comp=Z,10.0nm,1.0s
K22A Casper 67.46 52 P P 13 35 12.1 +0.5
K22A lAmb lAmb 13 35 14.6
comp=Z,6.0nm,0.9s
K22A Casper 67.46 52 P 13 35 12.8
baz=313
MDND Maddock 67.46 44 P 13 35 12.0
baz=315
ULM Lac du Bonnet 67.50 40 P P 13 35 11.7 +0.2
comp=Z,5.3nm,0.8s,baz=321,slow=6.3,SNR=9.4
ULM Lac du Bonnet 67.50 40 P P 13 35 11.5 0.0
ULM pmax pmax
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 67.50 40 P P 13 35 11.5 0.0
SRU San Rafael Swe 67.57 57 P P 13 35 13.3 +0.9
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 67.57 57 P P 13 35 13.3 +0.9
SRU lAmb lAmb 13 35 15.0
comp=Z,9.7nm,0.9s
KNB Kanab 67.60 60 P P 13 35 13.8 +1.2
KNB pmax pmax
comp=Z,9.0nm,1.0s
KNB Kanab 67.60 60 P P 13 35 13.8 +1.2
KNB lAmb lAmb 13 35 16.0
comp=Z,8.8nm,1.0s
PFO Pinyon Flats O 67.60 64 P 13 35 13.8
baz=312
TPFO Pinon Flats 67.61 64 P 13 35 13.7
baz=312
WRA Warramunga Arr 67.63 198 P P 13 35 13.3 +0.8
comp=Z,2.6nm,0.8s,baz=19,slow=6.7,SNR=12
BELC Belle Mtn. Jos 67.64 64 P 13 35 13.9
baz=312
RSSD Black Hills 67.80 49 P P 13 35 14.3 +0.5
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 67.80 49 P P 13 35 14.3 +0.5
RSSD lAmb lAmb 13 35 15.7
comp=Z,9.3nm,0.8s
RSSD Black Hills 67.80 49 P 13 35 14.6
baz=314
IRM Iron Mountain 68.07 63 P 13 35 17.0
baz=312,SNR=7.1
BAR Barrett 68.08 65 P P 13 35 16.5 +1.0
BAR lAmb lAmb 13 35 17.9
comp=Z,8.1nm,1.0s
MONP2 Monument Peak 68.10 65 P 13 35 17.2
baz=312
FITZ Fitzroy Crossi 68.20 207 P P 13 35 17.9 +1.8
comp=Z,6.3nm,0.8s,baz=31,slow=4.7,SNR=6.9
FITZ Fitzroy Crossi 68.20 207 P P 13 35 17.2 +1.1
FITZ lAmb lAmb 13 35 18.8
comp=Z,9.2nm,1.0s
O20A White River Ci 68.20 54 P P 13 35 17.0 +0.7
O20A White River Ci 68.20 54 P 13 35 17.2
baz=313
BC3 Big Chuckawall 68.21 64 P 13 35 17.6
baz=312
U15A North Rim 68.31 60 P P 13 35 18.3 +1.2
U15A lAmb lAmb 13 35 20.4
comp=Z,5.6nm,0.9s
IKP In-Ko-Pah, Jac 68.46 65 P 13 35 19.0
baz=312
SWSC Sam W. Stewart 68.46 65 P 13 35 19.0
baz=312
NC405 NORSAR Array S 68.49 341 P P 13 35 16.8 -0.8
NC204 NORSAR Array S 68.56 341 P P 13 35 17.1 -1.0
PDMCI Parker Dam,Lak 68.59 63 P 13 35 19.9
baz=312
NB201 NORSAR Array S 68.64 341 P P 13 35 17.7 -0.8
NOA NORSAR Array B 68.67 341 P P 13 35 17.9 -0.8
comp=Z,3.2nm,0.5s,baz=28,slow=6.4,SNR=18
NOA LR LR 14 09 24.4
comp=Z,57nm,18.4s,baz=350,slow=40
NBO00 NORSAR Array S 68.78 341 P P 13 35 17.7 -1.6
AGMN Agassiz Nation 68.91 42 P P 13 35 20.1 -0.3
AGMN lAmb lAmb 13 35 21.4
comp=Z,6.0nm,0.8s
AGMN Agassiz Nation 68.91 42 P 13 35 20.5
NAO01 NORSAR Array S 68.92 341 P P 13 35 19.0 -1.2
PV10 Paradox Valley 68.93 56 P P 13 35 21.7 +0.8
PV10 lAmb lAmb 13 35 23.9
comp=Z,12nm,0.8s
PV14 Lion Creek, Pa 68.94 56 P P 13 35 21.4 +0.4
PV14 lAmb lAmb 13 35 23.5
comp=Z,10nm,1.1s
PV22 Blue Mesa, Par 68.97 56 P P 13 35 22.0 +0.9
PV22 lAmb lAmb 13 35 23.7
comp=Z,9.6nm,1.0s
N23A Red Feather La 68.97 53 P 13 35 22.5
baz=314
PV20 West Nyswonger 68.99 56 P P 13 35 22.0 +0.7
PV20 lAmb lAmb 13 35 23.8
comp=Z,20nm,1.4s
PV04 Paradox Valley 68.99 56 P P 13 35 22.1 +0.9
PV04 lAmb lAmb 13 35 23.4
comp=Z,6.6nm,0.9s
GLA Glamis 69.00 64 P P 13 35 22.5 +1.3
GLA pmax pmax
comp=Z,8.0nm,0.9s
GLA Glamis 69.00 64 P P 13 35 22.5 +1.3
GLA lAmb lAmb 13 35 24.1
comp=Z,7.7nm,0.8s
GLA Glamis 69.00 64 P 13 35 22.9
baz=312
PV19 Morning Glory 69.00 56 P P 13 35 22.1 +0.8
PV19 lAmb lAmb 13 35 23.9
comp=Z,13nm,1.2s
MAK Makhachkala 69.01 310 *e*P P 13 35 22.2 +1.2
MAK *e* 13 37 53.4
MAK *e*PPP PPP 13 39 32.3
MAK *e*S S 13 44 22.6 +0.9
MAK MLR MLR
comp=Z,391nm,19.0s
PV17 East Wray Mesa 69.04 56 P P 13 35 22.6 +1.1
PV17 lAmb lAmb 13 35 24.1
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 69.04 56 P P 13 35 22.6 +1.0
PV16 lAmb lAmb 13 35 24.2
comp=Z,17nm,1.3s
PV11 David Mesa, Pa 69.08 56 P P 13 35 23.0 +1.2
PV18 Skein Mesa, Pa 69.09 56 P P 13 35 22.9 +1.0
PV18 lAmb lAmb 13 35 24.5
comp=Z,14nm,1.1s
PV05 Paradox Valley 69.09 57 P P 13 35 23.3 +1.3
PV05 lAmb lAmb 13 35 24.7
comp=Z,10nm,0.8s
PV12 Saucer Basin, 69.10 56 P P 13 35 23.6 +1.6
PV12 lAmb lAmb 13 35 25.4
comp=Z,8.1nm,1.0s
PV03 Paradox Valley 69.12 56 P P 13 35 22.9 +0.8
PV03 lAmb lAmb 13 35 24.7
comp=Z,10nm,1.2s
PV13 Radium Mtn., P 69.20 56 P P 13 35 23.8 +1.1
PV13 lAmb lAmb 13 35 25.2
comp=Z,9.1nm,0.8s
MNK Minsk 69.25 329 *i* P P 13 35 22.4 +0.1
MNK *i* 13 35 45.7
MNK *i* 13 37 55.5
MNK *i* PPP PPP 13 39 36.4
MNK *i* S S 13 44 26.2 +2.0
MNK *i* *SS sS 13 44 46.6 -1.3
MNK *i* 13 45 19.8
MNK *i* SS SS 13 48 53.4 +2.9
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=Z,34nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK MLR MLR
comp=N,405nm,20.0s
MNK MLR MLR
comp=E,38nm,20.0s
MNK Minsk 69.25 329 *i* P P 13 35 22.4 +0.1
comp=E,2.0nm,1.0s
MNK *i* P P 13 35 22.4 +0.1
comp=N,17nm,1.0s
MNK *i* P P 13 35 22.4 +0.1
comp=Z,34nm,1.0s,baz=218
MNK *i* pP pP 13 35 34.4 -1.5
MNK *i* PcP PcP 13 35 45.7 0.0
MNK *i* PP PP 13 37 55.5 +0.3
MNK *i* PPP PPP 13 39 36.4
MNK *i* S S 13 44 26.3 +2.1
MNK *i* sS sS 13 44 46.6 -1.3
MNK *i* ScS ScS 13 45 19.8 +1.4
MNK *i* SS SS 13 48 53.4 +3.0
MNK *i* SSS SSS 13 52 11.9
MNK *i* LR LR 14 06 15.6
MNK *i* LRM MLR 14 08 59.0
comp=Z,286nm,30.0s
MNK *i* LRM MLR 14 09 00.9
comp=N,405nm,20.4s
MNK *i* LRM MLR 14 09 06.6
comp=E,38nm,20.4s
NACGM Naroch 69.32 330 *i* P P 13 35 22.4 -0.4
WUAZ Wupatki 69.47 60 P P 13 35 25.5 +1.3
WUAZ Wupatki 69.47 60 P 13 35 26.1
baz=313
Y14A Wickenburg 69.54 62 P P 13 35 26.1 +1.5
Y14A lAmb lAmb 13 35 27.3
comp=Z,5.9nm,0.9s
SMCO Snowmass 69.57 55 P P 13 35 25.6 +0.6
SMCO lAmb lAmb 13 35 27.4
comp=Z,5.5nm,0.8s
ISCO Idaho Springs 69.91 53 P P 13 35 28.3 +1.2
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO Idaho Springs 69.91 53 P P 13 35 28.3 +1.2
ISCO lAmb lAmb 13 35 29.9
comp=Z,7.2nm,0.9s
ISCO Idaho Springs 69.91 53 P 13 35 28.4
baz=314,SNR=6.8
AKT Akhty 69.92 309 *e*P P 13 35 27.1 +0.3
AKT *e* 13 35 49.8
AKT pmax pmax
comp=Z,16nm,0.7s
MVCO Mesa Verde 70.03 57 P P 13 35 28.4 +0.7
MVCO lAmb lAmb 13 35 30.3
comp=Z,5.4nm,0.8s
MVCO Mesa Verde 70.03 57 P 13 35 28.9
baz=313
F33A 5 Mile Ranch, 70.49 44 P P 13 35 30.4 +0.3
F33A lAmb lAmb 13 35 31.6
comp=Z,11nm,0.9s
S22A 4UR Ranch, Cre 70.63 56 P 13 35 33.2
baz=314,SNR=7.3
W18A Petrified Fore 70.72 59 P 13 35 33.4
baz=314
KIV Kislovodsk 70.80 314 *e*P P 13 35 33.4 +1.3
KIV pmax pmax
comp=Z,53nm,1.0s
KIV MLR MLR
comp=Z,153nm,18.0s
KIV Kislovodsk 70.80 314 P P 13 35 32.0 -0.1
KBZ Khabaz 70.85 314 P P 13 35 32.7 +0.4
comp=Z,15nm,0.8s,baz=71,slow=4.5,SNR=27
KBZ Khabaz 70.85 314 *e*P P 13 35 32.7 +0.4
OGNE Ogallala 71.07 50 P P 13 35 34.6 +0.8
OGNE Ogallala 71.07 50 P 13 35 34.7
baz=315
EYMN Ely 71.15 40 P P 13 35 33.6 -0.5
EYMN lAmb lAmb 13 35 35.2
comp=Z,9.4nm,1.1s
EYMN Ely 71.15 40 P 13 35 34.0
baz=319,SNR=7.0
ASAR Alice Springs 71.33 198 P P 13 35 37.1 +1.8
comp=Z,1.5nm,0.7s,baz=14,slow=5.0,SNR=24
ASAR Alice Springs 71.33 198 P P 13 35 36.9 +1.5
SDCO Great Sand Dun 71.39 55 P P 13 35 37.2 +1.2
SDCO Great Sand Dun 71.39 55 P 13 35 37.0
baz=314,SNR=5.5
AKASG Malin Array Be 71.75 326 P P 13 35 36.1 -1.5
comp=Z,11nm,0.6s,baz=35,slow=6.4,SNR=31
AKASG Malin Array Be 71.75 326 P P 13 35 36.3 -1.3
AKASG pmax pmax
comp=Z,7.0nm,1.5s
AKASG Malin Array Be 71.75 326 P P 13 35 36.3 -1.3
AKBB Malin Array Si 71.75 326 P P 13 35 36.0 -1.6
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 71.75 326 P P 13 35 36.0 -1.6
AKBB lAmb lAmb 13 35 37.6
comp=Z,12nm,0.8s
ECSD EROS Data Cent 71.86 45 P P 13 35 38.1 -0.4
ECSD lAmb lAmb 13 35 39.9
comp=Z,12nm,0.9s
ECSD EROS Data Cent 71.87 45 P 13 35 38.6
baz=317,SNR=12
TUC Tucson 72.01 62 P P 13 35 40.5 +0.9
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 72.01 62 P P 13 35 40.5 +0.9
TUC Tucson 72.01 62 P 13 35 41.1
baz=314
E38A The Farm, Brul 72.13 40 P P 13 35 39.5 -0.5
T25A Trinidad 72.43 55 P P 13 35 43.0 +0.8
T25A lAmb lAmb 13 35 44.6
comp=Z,6.6nm,0.9s
T25A Trinidad 72.44 55 P 13 35 43.6
baz=315
ANMO Albuquerque 72.79 57 *c e*P P 13 35 45.7 +1.3
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 72.79 57 P 13 35 46.3
baz=315
D41A Chassel 73.11 39 P P 13 35 45.9 +0.2
I37A Lemond, Waseca 73.22 43 P P 13 35 47.1 +0.5
PSA00 Pilbara Seismi 73.39 211 P P 13 35 48.4 +0.8
319A Douglas 73.58 62 P P 13 35 50.1 +1.1
COWI Conover 73.60 39 P P 13 35 48.1 -0.6
121A Cookes Peak, D 73.68 60 P 13 35 51.6
baz=315
SORM Soroca 74.13 325 ⇑P P 13 35 50.9 -0.9
SCHQ Schefferville 74.22 22 P P 13 35 52.3 +0.1
comp=Z,7.1nm,0.9s,baz=326,slow=7.0,SNR=6.9
SCHQ Schefferville 74.22 22 P P 13 35 52.2 0.0
SCHQ lAmb lAmb 13 35 53.0
comp=Z,8.9nm,0.9s
KWP Kalwaria Pacla 75.07 329 P P 13 35 57.3 +0.1
KWP pmax pmax
comp=Z,43nm,1.2s
KWP Kalwaria Pacla 75.07 329 P P 13 35 57.3 +0.1
MATQ Matagami 75.26 31 P 13 35 58.2
baz=327
E46A Sault Ste Mari 75.46 37 P P 13 35 59.4 -0.1
E46A lAmb lAmb 13 35 60.0
comp=Z,6.4nm,0.9s
H43A Windswept, Lux 75.47 40 P P 13 35 59.0 -0.6
H43A lAmb lAmb 13 36 00.8
comp=Z,7.4nm,0.8s
OJC Ojcow 75.60 331 P P 13 35 59.3 -0.9
OJC pmax pmax
comp=Z,17nm,1.1s
OJC Ojcow 75.60 331 P P 13 35 59.3 -0.9
OJC lAmb lAmb 13 36 01.1
comp=Z,17nm,1.1s
MSTX Muleshoe 75.62 56 P P 13 36 00.8 0.0
MSTX lAmb lAmb 13 36 03.0
comp=Z,10nm,1.1s
MSTX Muleshoe 75.62 56 P 13 36 01.8
baz=316
MNTX Cornudas Mount 75.71 59 P P 13 36 01.8 +0.6
MNTX Cornudas Mount 75.71 59 P 13 36 02.4
baz=316
N38A Joes South For 75.73 45 P P 13 36 01.1 0.0
N38A lAmb lAmb 13 36 02.3
comp=Z,8.9nm,0.7s
L40A Anamosa 75.74 43 P P 13 36 00.5 -0.7
L40A lAmb lAmb 13 36 02.0
comp=Z,8.3nm,0.9s
BUR08 Bucovina Ar. S 75.78 326 P P 13 36 00.5 -0.9
BURAR Bucovina Array 75.80 326 ⇓P P 13 36 01.1 -0.4
BURAR Bucovina Array 75.80 326 P P 13 36 00.8 -0.7
KOLS Kolonicke sedl 75.81 329 *e*P P 13 36 01.8 +0.3
KOLS Kolonicke sedl 75.81 329 *e*P P 13 36 01.8 +0.3
LSQQ Lebel-sur-Quev 76.08 31 P 13 36 02.6
baz=328
TESR Tescani 76.13 325 ⇓P P 13 36 02.7 -0.6
CRVS Cervenica-Dubn 76.13 329 *e*P P 13 36 03.3 0.0
CRVS pmax pmax
comp=Z,9.0nm,0.8s
CRVS Cervenica-Dubn 76.13 329 *e*P P 13 36 03.3 0.0
DIKM Dikmen 76.16 316 ⇑P P 13 36 04.1 +0.6
CHGQ Chibougamau 76.26 29 P 13 36 03.4
baz=329
TLCR 76.30 323 ⇓P P 13 36 03.7 -0.6
UOSS Minazif 76.37 292 P P 13 36 03.6 -1.4
UOSS lAmb lAmb 13 36 05.7
comp=Z,11nm,0.9s
FLTG Flechtingen 76.41 337 *e*P P 13 36 04.3 -0.5
comp=Z,16nm,0.9s,baz=26,slow=5.6
P38A Dawn 76.46 46 P P 13 36 05.4 +0.1
P38A lAmb lAmb 13 36 06.7
comp=Z,7.9nm,0.9s
OSTC Ostas 76.50 333 AMS AMS 13 51 10.0
comp=Z,200nm,21.9s
CHVC Chvalec 76.52 333 *e*P P 13 36 05.5 0.0
CHVC AMS AMS 13 51 00.0
comp=Z,200nm,18.9s
NRDL Niedersach Rie 76.58 337 *e*P P 13 36 05.4 -0.2
comp=Z,9.1nm,0.9s,baz=26,slow=5.6
CFR Carcaliu 76.59 323 ⇑P P 13 36 05.7 -0.2
UPC Upice 76.60 333 AMS AMS 13 51 00.0
comp=Z,200nm,19.0s
VRI Vrincioaia 76.62 324 ⇑P P 13 36 06.2 0.0
LANS Liptovska Anna 76.62 330 *e*P P 13 36 06.9 +0.8
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 76.62 330 *e*P P 13 36 06.8 +0.7
DPC Dobruska-Polom 76.64 333 *e*P P 13 36 05.4 -0.8
DPC MLR MLR
comp=Z,200nm,22.4s
DPC Dobruska-Polom 76.64 333 *e*P P 13 36 05.4 -0.8
DPC AMS AMS 13 51 10.0
comp=Z,200nm,22.4s
PLOR Plostina 76.66 324 ⇑P P 13 36 06.4 0.0
VLDQ Val d'Or 76.71 32 P P 13 36 04.9 -1.6
VLDQ lAmb lAmb 13 36 05.8
comp=Z,7.9nm,0.8s
KRLC Kraliky 76.73 332 *e*P P 13 36 06.7 0.0
KRLC MLR MLR
comp=Z,300nm,23.2s
KRLC Kraliky 76.73 332 *e*P P 13 36 06.7 0.0
KRLC AMS AMS 13 51 30.0
comp=Z,300nm,23.2s
TPGR Topolog 76.73 323 ⇓P P 13 36 06.6 -0.2

MORC Moravsky Berou 76.74 332 ⇑P P 13 36 06.8 +0.1
MORC Moravsky Berou 76.74 332 eP P 13 36 06.6 -0.2
MORC Moravsky Berou 76.74 332 P P 13 36 05.5 -1.2
MORC pmax pmax
comp=Z,11nm,0.8s
MORC Moravsky Berou 76.74 332 P P 13 36 05.5 -1.2
MORC IAmb IAmb 13 36 07.8
comp=Z,11nm,0.8s
ASSE Asse, Remlinge 76.75 337 eP P 13 36 06.5 -0.1
comp=Z,12nm,1.1s,baz=26,slow=5.6
CLL Collm 76.82 335 i P P 13 36 06.7 -0.4
comp=Z,23nm,1.2s
CLL Collm 76.82 335 i P P 13 36 06.7 -0.4
CLL pmax pmax
comp=Z,23nm,1.2s
CLL Collm 76.82 335 P P 13 36 06.1 -1.0
CLL Collm 76.82 335 eP P 13 36 06.5 -0.6
comp=Z,23nm,1.2s,baz=26,slow=5.6
ESK Eskdalemuir 76.88 346 P P 13 36 07.5 +0.1
ESK pmax pmax
comp=Z,23nm,1.3s
ESK Eskdalemuir 76.88 346 P P 13 36 07.5 +0.1
BISRR Bisoca 76.89 324 ⇓P P 13 36 08.2 +0.5
BRG Berggiesshubel 76.92 334 eP P 13 36 07.3 -0.4
BRG Amp 13 36 08.3
comp=Z,7.6nm,1.0s
BRG Berggiesshubel 76.92 334 eP P 13 36 07.3 -0.4
comp=Z,7.5nm,1.0s,baz=26,slow=5.6
T35A Sooner Cattle 76.95 50 P P 13 36 08.2 +0.1
T35A IAmb IAmb 13 36 09.6
comp=Z,9.7nm,0.9s
PVCC Panska Ves 77.03 334 AMS AMS 13 50 30.0
comp=Z,300nm,24.5s
FBE Freiberg 77.06 335 eP P 13 36 08.4 -0.1
comp=Z,12nm,0.8s,baz=26,slow=5.6
HARR Harsova 77.07 323 ⇑P P 13 36 08.8 +0.1
CLZ Clausthal 77.09 337 eP P 13 36 08.9 +0.2
comp=Z,22nm,1.2s,baz=26,slow=5.6
MALT Malatya 77.13 312 P P 13 36 10.5 +1.3
TLBR Topalu 77.14 323 ⇓P P 13 36 08.6 -0.4
MLR Muntele Rosu 77.24 324 ⇑P P 13 36 10.3 +0.5
MLR Muntele Rosu 77.24 324 P P 13 36 09.1 -0.7
MLR pmax pmax
comp=Z,12nm,0.7s
MLR Muntele Rosu 77.24 324 P P 13 36 09.1 -0.7
MLR IAmb IAmb 13 36 11.5
comp=Z,12nm,0.7s
P40A Paris 77.28 46 P P 13 36 10.0 +0.1
P40A IAmb IAmb 13 36 11.4
comp=Z,6.7nm,0.9s
ISR Istrita 77.30 324 ⇓P P 13 36 10.6 +0.6
WMOK Wichita Mounta 77.33 53 P P 13 36 10.6 +0.3
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 77.33 53 P P 13 36 10.6 +0.3
WMOK Wichita Mounta 77.33 53 P 13 36 10.9
baz=318,SNR=5.7
IBBN Ibbenburen 77.36 338 eP P 13 36 10.1 0.0
comp=Z,22nm,0.8s,baz=26,slow=5.6
VYHS Vyhne 77.40 330 eP P 13 36 10.7 +0.2
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS Vyhne 77.40 330 eP P 13 36 10.7 +0.2
DRGR 77.44 327 ⇑P P 13 36 10.7 -0.1
DRGR 77.44 327 P P 13 36 10.7 -0.1
VRAC Vranov 77.46 332 ⇓P P 13 36 11.3 +0.6
VRAC Vranov 77.46 332 eP P 13 36 10.8 +0.1
GTTG Gottingen 77.47 337 eP P 13 36 10.8 0.0
comp=Z,26nm,1.3s,baz=26,slow=5.6
JAVC Velka Javorina 77.49 331 eP P 13 36 12.0 +1.0
PRU Pruhonice 77.52 334 eP P 13 36 10.2 -0.8
PRU MLR MLR
comp=Z,500nm,21.8s
PRU Pruhonice 77.52 334 eP P 13 36 10.2 -0.8
PRU AMS AMS 13 50 40.0
comp=Z,500nm,21.8s
VOIR 77.65 325 ⇑P P 13 36 12.6 +0.6
KRUC Moravsky 77.73 332 eP P 13 36 12.2 -0.1
TANN Tannenbergstha 77.77 335 eP P 13 36 12.2 -0.3
comp=Z,4.6nm,0.8s,baz=26,slow=5.6
WERD Werda 77.79 335 eP P 13 36 12.3 -0.3
comp=Z,10nm,1.2s,baz=26,slow=5.6
PLN Plauen 77.80 335 eP P 13 36 12.4 -0.2
comp=Z,9.9nm,1.1s,baz=26,slow=5.6
MOX Moxa 77.81 336 eP P 13 36 12.5 -0.2
comp=Z,20nm,1.2s,baz=26,slow=5.6
TREC Trest 77.83 333 AMS AMS 13 52 00.0
comp=Z,500nm,21.3s
HDIL Hopedale 77.83 43 P 13 36 12.9
baz=322
GUNZ Gunzen 77.85 335 eP P 13 36 12.8 -0.1
comp=Z,9.2nm,0.8s,baz=26,slow=5.6
SMOL Smolenice 77.87 331 eP P 13 36 13.7 +0.7
SMOL pmax pmax
comp=Z,9.0nm,0.9s
SMOL Smolenice 77.87 331 eP P 13 36 13.7 +0.7
ARR Arges 77.87 325 ⇓P P 13 36 14.4 +1.2
WERN Wernitzgruen 77.91 335 eP P 13 36 13.3 0.0
comp=Z,13nm,0.9s,baz=26,slow=5.6
NKC Novy Kostel 77.94 335 eP P 13 36 13.3 -0.1
NKC MLR MLR
comp=Z,400nm,21.4s
NKC Novy Kostel 77.94 335 eP P 13 36 13.3 -0.1
NKC AMS AMS 13 49 40.0
comp=Z,400nm,21.4s
S39A Bolivar 78.04 48 P P 13 36 13.5 -0.7
S39A IAmb IAmb 13 36 15.3
comp=Z,5.7nm,0.9s
UBBA Unterbreizbach 78.11 337 eP P 13 36 14.0 -0.2
comp=Z,11nm,1.1s,baz=26,slow=5.6
R40A Maddies Statio 78.11 46 P P 13 36 14.3 -0.3
R40A IAmb IAmb 13 36 15.7
comp=Z,10nm,1.2s
KASTN Kahler Asten 78.19 338 eP P 13 36 14.9 +0.1
comp=Z,15nm,1.0s,baz=26,slow=5.6
ZST Bratislava 78.25 331 eP P 13 36 15.5 +0.4
ZST pmax pmax
comp=Z,32nm,0.9s
ZST Bratislava 78.25 331 eP P 13 36 15.5 +0.4
SIRR Siria 78.27 327 ⇓P P 13 36 15.4 0.0
BUG Bochum--Univer 78.28 338 eP P 13 36 15.1 -0.2
comp=Z,18nm,1.1s,baz=26,slow=5.6
D55A Sainte-Anne-du 78.35 31 P 13 36 15.6
baz=329
ROTZ Rotzenmuhle 78.42 335 eP P 13 36 16.0 -0.1
comp=Z,13nm,0.9s,baz=26,slow=5.6
BR131 Keskin Array S 78.43 316 P P 13 36 16.0 -0.5
BR131 pmax pmax
comp=Z,16nm,1.0s
BR131 Keskin Array S 78.43 316 P P 13 36 16.0 -0.5
BR131 IAmb IAmb 13 36 17.6
comp=Z,16nm,0.9s
BRTR Keskin Array B 78.43 316 P P 13 36 16.6 +0.1
comp=Z,8.1nm,0.8s,baz=69,slow=4.1,SNR=34
BRTR Keskin Array B 78.43 316 P P 13 36 16.1 -0.4
TX31 Lajitas Ar. Si 78.43 60 P P 13 36 17.4 +0.8
TX32 Lajitas Array 78.43 60 P P 13 36 17.4 +0.8
TX32 IAmb IAmb 13 36 19.1
comp=Z,6.3nm,1.0s
TXAR Lajitas Array 78.44 60 P P 13 36 18.1 +1.4
comp=Z,4.5nm,0.8s,baz=294,slow=4.1,SNR=48
TXAR Lajitas Array 78.44 60 P P 13 36 17.4 +0.8
KHC Kasperske Hory 78.57 334 eP P 13 36 16.2 -0.8
KHC MLR MLR
comp=Z,400nm,19.0s
KHC Kasperske Hory 78.57 334 eP P 13 36 16.2 -0.8
KHC AMS AMS 13 50 30.0
comp=Z,400nm,19.0s
D56A ZEC Mazanza, M 78.58 31 P 13 36 16.4
baz=329
GZR Gura Zlata 78.58 326 ⇑P P 13 36 16.8 -0.3
CKRC Cesky Krumlov 78.62 333 eP P 13 36 16.8 -0.4
COPA Copaceanca 78.65 324 ⇑P P 13 36 17.5 +0.1
ANTO Ankara 78.72 317 ⇓P P 13 36 16.9 -1.1
ANTO Ankara 78.72 317 P P 13 36 17.6 -0.4
ANTO pmax pmax
comp=Z,24nm,0.8s
ANTO Ankara 78.72 317 P P 13 36 17.6 -0.4
G54A Lake Saint Pet 78.75 34 P 13 36 17.5
baz=327
WET Wettzell 78.77 334 eP P 13 36 18.3 +0.2
comp=Z,20nm,1.0s,baz=26,slow=5.6
GRA1 Grafenberg Arr 78.78 335 P P 13 36 18.0 -0.1
GRF Grafenberg Arr 78.78 335 P P 13 36 18.0 -0.1
GRF pmax pmax
comp=Z,26nm,0.7s
GRF Grafenberg Arr 78.78 335 eP P 13 36 18.3 +0.2
comp=Z,30nm,0.7s,baz=26,slow=5.6
GRFO Grafenberg 78.78 335 P P 13 36 18.1 +0.1
GRFO pmax pmax
comp=Z,25nm,0.8s
GRFO Grafenberg 78.78 335 P P 13 36 18.1 +0.1
GEC2 GERESS Array S 78.78 333 P P 13 36 17.1 -1.1
GEC2 IAmb IAmb 13 36 18.8
comp=Z,7.6nm,0.9s
GEC2 GERESS Array S 78.78 333 eP P 13 36 17.9 -0.3
comp=Z,7.7nm,0.9s,baz=26,slow=5.6
GERES GERESS Array B 78.78 333 P P 13 36 17.9 -0.3
comp=Z,4.1nm,0.7s,baz=34,slow=5.2,SNR=27
GERES GERESS Array B 78.78 333 P P 13 36 17.4 -0.8
BZS Buzias 78.84 327 ⇑P P 13 36 17.7 -0.8
CONA Conrad Observa 78.90 332 i P P 13 36 19.3 +0.4
comp=Z,14nm,0.7s,SNR=11
E56A St. Veronique 78.91 31 P 13 36 18.2
baz=329
MDUB Mudurnu 79.00 318 P P 13 36 18.5 -1.0
TNS Taunus Mts 79.08 337 eP P 13 36 19.7 -0.1
comp=Z,19nm,0.9s,baz=26,slow=5.6
HERR Herculane 79.15 326 ⇑P P 13 36 19.9 -0.3
AHRW Bad Neuenahr-A 79.15 338 eP P 13 36 20.1 0.0
comp=Z,27nm,1.2s,baz=26,slow=5.6
MILB Miltenberg 79.20 337 eP P 13 36 20.2 -0.2
comp=Z,24nm,0.8s,baz=26,slow=5.6
H53A Bobcaygeon 79.24 34 P 13 36 20.2
baz=327
U40A Yellville 79.30 48 P P 13 36 20.9 -0.3
U40A IAmb IAmb 13 36 22.3
comp=Z,15nm,1.0s
U40A Yellville 79.30 48 P 13 36 21.1
baz=320,SNR=8.9
BTNL Ternell 79.35 339 dP P 13 36 20.1 -1.1
comp=Z,16nm,1.1s
BTNL dPcP PcP 13 36 28.3 -0.9
TRQ Mont Tremblant 79.36 31 P P 13 36 20.8 -0.5
MEM Membach 79.36 339 dP P 13 36 21.2 0.0
MOA Molln 79.48 333 eP P 13 36 22.0 0.0
comp=Z,9.0nm,0.8s,SNR=5.2
MDVR Moldovita 79.50 327 ⇓P P 13 36 21.5 -0.7
P46A Rosedale 79.55 42 P P 13 36 22.6 +0.2
ARSA Arzberg 79.60 332 i P P 13 36 22.2 -0.4
comp=Z,9.0nm,1.1s
E58A La Victoria 79.68 30 P 13 36 22.5
baz=330
W39A Magazine 79.69 49 P 13 36 23.9
baz=320
BCLA Clavier 79.71 339 dP P 13 36 21.8 -1.3
BGES Gesves 79.80 339 dP P 13 36 22.8 -0.7
BGES dpP pP 13 36 38.4 +1.0
SNF Seneffe 79.88 340 dP P 13 36 23.7 -0.3
FRGS Fruska Gora 79.90 328 ⇑P P 13 36 23.9 -0.4
BMRD Maredsous 79.95 339 dP P 13 36 24.1 -0.2
comp=Z,18nm,0.9s
RJOB Jochberg 80.05 333 eP P 13 36 25.5 +0.4
comp=Z,60nm,1.1s,baz=26,slow=5.6
WHTX Lake Whitney, 80.11 54 P 13 36 26.5
baz=319
FUR Furstenfeldbru 80.13 335 eP P 13 36 25.7 +0.3
comp=Z,28nm,0.6s,baz=26,slow=5.6
G57A Newington 80.16 32 P 13 36 25.2
baz=329
DOU Dourbes 80.18 339 dP P 13 36 25.3 -0.3
MIAR Mount Ida 80.30 50 P P 13 36 27.0 +0.4
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR Mount Ida 80.30 50 P P 13 36 26.9 +0.4
MIAR Mount Ida 80.30 50 P 13 36 27.1
baz=320
WHAR Wooly Hollow 80.41 48 P P 13 36 27.1 0.0
WHAR IAmb IAmb 13 36 28.0
comp=Z,9.1nm,1.1s
KBA Koelnbreinsper 80.46 333 i P P 13 36 27.4 0.0
comp=Z,19nm,0.6s,SNR=22
G58A Ormstown 80.46 31 P 13 36 26.8
baz=330
D62A Allapoint, All 80.47 27 P 13 36 26.9
baz=333
BOVS Bovan 80.47 326 ⇑P P 13 36 26.1 -1.2
W41B Gary Mavity, V 80.52 48 P 13 36 27.7
baz=321,SNR=5.5
H57A Richville 80.56 32 P 13 36 26.5
baz=329
OBKA Obir 80.57 332 i P P 13 36 27.6 -0.3
comp=Z,7.6nm,0.7s
VTS Vitosha 80.72 324 ⇑P P 13 36 28.9 +0.1
VTS Vitosha 80.72 324 P P 13 36 28.4 -0.4
VTS pmax pmax
comp=Z,29nm,0.8s
VTS Vitosha 80.72 324 P P 13 36 28.4 -0.4
ERPA Erie 80.72 37 P 13 36 28.7
baz=326
DIVS Divibare 80.74 327 P P 13 36 27.4 -1.4
DIVS IAmb IAmb 13 36 29.2
comp=Z,13nm,0.9s
MYKA Terra Mystica 80.76 332 i P P 13 36 28.2 -0.7
comp=Z,5.2nm,0.7s
P49A Miami Univ. Ec 80.78 41 P 13 36 29.0
baz=324
WATA Walderalm 80.78 334 i P P 13 36 29.4 +0.2
comp=Z,19nm,0.6s,SNR=10.0
D63A Stockholm 80.81 27 P 13 36 28.9
baz=333
WTTA Wattenberg 80.83 334 i P P 13 36 29.7 +0.3
comp=Z,30nm,0.6s,SNR=12
BFO Black Forest 80.83 336 P P 13 36 28.3 -0.9
BFO pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 80.83 336 P P 13 36 28.2 -0.9
BFO IAmb IAmb 13 36 30.1
comp=Z,17nm,1.0s
BFO Black Forest 80.83 336 eP P 13 36 29.1 -0.1
comp=Z,16nm,0.9s,baz=26,slow=5.6
RETA Reutte 80.89 335 i P P 13 36 29.7 +0.1
comp=Z,11nm,0.7s,SNR=6.3
UBR Ueberruh 80.91 335 eP P 13 36 29.4 -0.3
comp=Z,9.0nm,1.1s,baz=26,slow=5.6
MOTA Moosalm 80.92 334 i P P 13 36 30.0 +0.2
comp=Z,26nm,0.9s,SNR=13
ALN Alexandroupoli 80.97 322 P P 13 36 29.6 -0.4
ALN pmax pmax
comp=Z,20nm,1.0s
ALN Alexandroupoli 80.97 322 P P 13 36 29.6 -0.4
M53A WI Miller and 81.00 37 P 13 36 30.3
baz=326
ABTA Abfaltersbach 81.02 333 eP P 13 36 29.6 -0.7
comp=Z,8.2nm,1.0s
H58A Gabriels 81.04 32 P 13 36 29.6
baz=330
BALB Balikesir 81.18 320 P P 13 36 31.4 +0.2
F62A Pittston Farm, 81.22 28 P 13 36 31.6
baz=332
J57A Williamstown 81.23 33 P 13 36 31.1
baz=329
G61A St-Isidore-de- 81.23 30 P 13 36 31.0
baz=331
PMOR Pomariorio Ree 81.25 122 eT T 15 05 56.9
comp=Z,11nm,0.2s
E63A Oxbow 81.25 27 P 13 36 30.4
baz=333
FETA Feichten 81.32 334 eP P 13 36 32.2 +0.2
comp=Z,12nm,1.0s,SNR=6.0
DAVA Damuels 81.33 335 i P P 13 36 32.1 +0.1
comp=Z,20nm,1.0s,SNR=6.1
M54A Oil Creek Stat 81.36 37 P 13 36 32.3
baz=327
I58A Old Forge 81.38 33 P 13 36 31.3
baz=329
STAL STALIGIAL 81.39 333 P P 13 36 30.6 -1.6
STAL IAmb IAmb 13 36 32.5
comp=Z,9.3nm,0.7s
E64A Bridgewater 81.44 27 P 13 36 32.1
baz=333
H60A Morristown 81.45 31 P 13 36 31.9
baz=331
J58A Remsen 81.54 33 P 13 36 32.3
baz=329
N54A Moraine State 81.68 37 P 13 36 34.2
baz=327
L56A Greenwood 81.69 35 P 13 36 33.5
baz=328
J59A Piesco 81.74 32 P 13 36 33.8
baz=330
H61A Lyndonville 81.75 30 P 13 36 34.3
baz=331
O53A New Philadelph 81.75 38 P 13 36 34.2
baz=326
M55A Ridgway 81.77 36 P P 13 36 33.6 -0.7
M55A IAmb IAmb 13 36 35.4
comp=Z,12nm,1.0s
Q51A Peebles 81.81 40 P P 13 36 33.7 -0.8
Q51A IAmb IAmb 13 36 35.9
comp=Z,10nm,0.8s
CTI Castel Tesino 81.91 333 P P 13 36 33.6 -1.5
CTI pmax pmax
comp=Z,12nm,0.9s
CTI Castel Tesino 81.91 333 P P 13 36 33.6 -1.5
CTI IAmb IAmb 13 36 34.8
comp=Z,12nm,0.9s
H62A Milan 81.98 30 P 13 36 35.3
baz=332
WVT Waverly 82.02 45 P 13 36 36.2
baz=323
G63A Kingsbury 82.03 28 P 13 36 36.1
baz=332
G64A Maxfield 82.19 28 P 13 36 36.5
baz=333
TUE Stuetta 82.22 335 P P 13 36 36.2 -0.7
CSS Mathiatis 82.31 313 P P 13 36 36.5 -0.7
CSS IAmb IAmb 13 36 38.3
comp=Z,12nm,0.8s
PPT2 Papeete2 82.32 125 eLR LR 14 02 36.7
comp=Z,118nm,23.8s
PDG Podgorica 82.44 327 ⇑P P 13 36 37.2 -0.5
PDG Podgorica 82.44 327 P P 13 36 36.4 -1.3
L58A Harry Jones Me 82.45 34 P 13 36 37.6
baz=329
OXF Oxford 82.50 47 P 13 36 38.5
baz=322
I62A Tamworth 82.53 30 P 13 36 38.6
baz=331
H64A Troy 82.58 28 P 13 36 38.8
baz=333
L59A Walton 82.63 33 P 13 36 38.6
baz=329
CLTN Cedars of Leba 82.78 44 P P 13 36 40.2 +0.6
CLTN IAmb IAmb 13 36 41.3
comp=Z,7.3nm,0.9s
SSPA Standing Stone 82.83 36 P 13 36 39.5
baz=328
O56A Blue Knob Stat 82.86 37 P 13 36 39.7
baz=328
K61A Williamstown 82.89 32 P 13 36 39.6
baz=330
H66A Whiting 83.07 27 P 13 36 41.1
baz=334
I64A Boothbay 83.08 29 P 13 36 41.1
baz=332
K63A Dunstable 83.50 31 P 13 36 42.7
baz=331
SWET Sewanee 83.67 44 P P 13 36 44.4 +0.1
SWET IAmb IAmb 13 36 45.5
comp=Z,13nm,1.1s
VLC Villacollemand 84.00 333 P P 13 36 45.1 -0.7
MURB Monte Urbino 84.11 332 P P 13 36 45.9 -0.5
RAYN Ar Rayn 84.15 298 P P 13 36 45.9 -1.1
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 84.15 298 P P 13 36 45.9 -1.1
RAYN IAmb IAmb 13 36 47.8
comp=Z,4.5nm,0.8s
L63A North Scituate 84.19 31 P 13 36 46.8
baz=331
BNI Bardonecchia 84.29 336 P P 13 36 47.4 0.0
BNI pmax pmax
comp=Z,6.0nm,0.8s
BNI Bardonecchia 84.29 336 P P 13 36 47.4 0.0
BNI IAmb IAmb 13 36 48.9
comp=Z,6.3nm,0.8s
NRCA Norcia 84.30 331 P P 13 36 47.0 -0.4
INTR Introdacqua 84.76 330 P P 13 36 48.6 -1.1
MATE Matera 84.94 328 ⇑P P 13 36 49.9 -0.6
TIP Timpagrande 86.20 327 P P 13 36 56.0 -1.0
TBI Tubuai 86.99 128 eT T 15 13 07.0
comp=Z,7.7nm,0.3s
KEST Kesra 91.95 331 P P 13 37 24.3 +0.1
comp=Z,3.5nm,0.7s,baz=56,slow=3.6,SNR=4.3
ESDC Sonseca Array 92.01 342 P P 13 37 22.9 -1.5
comp=Z,1.4nm,1.1s,baz=20,slow=3.3,SNR=4.5
ESDC LR LR 14 25 39.1
comp=Z,29nm,18.5s,baz=200,slow=40
TORD Torodi Ar. Bea 115.34 328 PKP PKiKP 13 42 57.2 -0.1
comp=Z,0.6nm,0.6s,baz=359,slow=2.5,SNR=2.9
VNDA Vanda 123.44 177 PKP PKiKP 13 43 11.6 +0.4
comp=Z,0.5nm,0.7s,baz=321,slow=7.6,SNR=3.7
DBIC Dimbokro 123.64 332 PKP PKPdf 13 43 12.9 -0.3
comp=Z,2.2nm,0.5s,baz=114,slow=2.6,SNR=3.6
DBIC Dimbokro 123.64 332 PKIKP PKPdf 13 43 13.0 -0.3
LBTB Lobatse 132.68 277 PKP PKPdf 13 43 30.7 +0.4
comp=Z,2.5nm,0.8s,baz=353,slow=6.5,SNR=3.2
TSUM Tsumeb 134.13 290 PKP PKiKP 13 43 34.1 -0.4
comp=Z,1.7nm,0.6s,baz=114,slow=5.3,SNR=3.7
LPAZ La Paz 135.27 62 PKP PKPdf 13 43 36.4 +0.4
comp=Z,0.9nm,0.7s,baz=22,slow=5.5,SNR=3.8
BDFB Brasilia 145.31 36 PKPbc PKPdf 13 43 54.4 +0.9
comp=Z,1.5nm,0.3s,baz=100,slow=7.3,SNR=4.1
PLCA Paso Flores 148.82 96 PKPbc PKPbc 13 44 03.5 +1.0
comp=Z,2.5nm,0.8s,baz=255,slow=3.7,SNR=8.3
CPUP Villa Florida 149.41 60 PKPbc PKiKP 13 44 05.3 -0.1
comp=Z,4.5nm,0.8s,baz=334,slow=2.2,SNR=7.9
SNAA Sanae 151.69 196 PKPdf PKPbc 13 44 08.5 0.0
VNA2 Neumayer--Watz 153.15 195 PKPdf PKPbc 13 44 12.0 +0.4
baz=145,slow=0.7
VNA3 Neumayer Olymp 153.25 193 PKPdf PKPbc 13 44 11.7 -0.2
VNA1 Neumayer--Stat 153.54 195 PKPdf PKPbc 13 44 12.9 +0.4

NNC 08 13:32:39.2±0.6, 50.02N×78.72E, h0km, mb3.6, mpv3.3, 20C-4D, Error ellipse: s-maj=5.5km s-min=2.9km az=67.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.58**	**347**	⇑P	Pg	13 32 50.4	+0.1
KUR07				⇓S	Sg	13 32 59.3	+1.6
KUR06	**Kurchatov Arra**	**0.60**	**348**	⇑P	Pg	13 32 50.7	+0.1
KUR06				⇑S	Sg	13 32 59.5	+1.1
KUR14	**Kurchatov Arra**	**0.60**	**352**	⇑P	Pg	13 32 50.8	+0.1
KUR14				⇑S	Sg	13 32 59.1	+0.6
KUR15	**Kurchatov Arra**	**0.61**	**351**	⇑P	Pg	13 32 50.9	+0.1
KUR15				⇑S	Sg	13 32 59.5	+0.8
KURBB	**Kurchatov Arra** 4.8nm,0.1s	**0.62**	**349**	⇑P	Pg	13 32 51.1	+0.1
KURBB				⇑S	Sg	13 33 00.2	+1.3
	206nm,0.5s						
KUR16	**Kurchatov Arra**	**0.62**	**347**	⇑P	Pg	13 32 51.1	0.0
KUR16				⇑S	Sg	13 32 59.9	+0.6
KUR17	**Kurchatov Arra**	**0.63**	**345**	⇑P	Pg	13 32 51.2	-0.1
KUR17				⇑S	Sg	13 33 00.2	+0.7
KUR05	**Kurchatov Arra**	**0.64**	**350**	⇑P	Pg	13 32 51.3	0.0
KUR05				⇑S	Sg	13 32 59.7	+0.1
SEM	**Semipalatinsk** 5.4nm,0.2s	**1.06**	**68**	P	Pg	13 32 59.9	+0.5
SEM				S	Sb	13 33 15.5	+0.6
	43nm,0.5s						
MAKZ	**Makanchi** 1.1nm,0.3s	**3.88**	**145**	⇑Pg	Pb	13 33 48.0	-0.4
MAKZ				⇓Lg	Lg	13 34 39.7	
	8.1nm,0.5s						
BRZS	**Berezniki** 3.7nm,0.4s	**3.90**	**272**	Pg	Pg	13 33 54.1	+0.3
BRZS				Lg	Lg	13 34 44.5	
	16nm,0.5s						
MK31	**Makanchi Array** 1.6nm,0.5s,baz=332,slow=16,SNR=11	**4.01**	**142**	⇑Pg	Pb	13 33 49.3	-1.3
MK31				Lg	Lg	13 34 43.8	
	4.9nm,0.4s,baz=325,slow=23,SNR=9.7						
ARXS	**Arharly** 3.7nm,0.5s	**5.84**	**186**	Pg	Pg	13 34 29.2	-1.9
ARXS				Lg	Lg	13 35 42.9	
	14nm,0.4s						
BRVK	**Borovoye** 5.3nm,1.0s	**6.08**	**303**	⇑Pg	Pb	13 34 30.7	+4.8
BRVK				⇑Sn	Sn	13 35 23.4	+3.0
	2.6nm,0.5s						
KUU	**Kurty** 1.4nm,0.5s	**6.34**	**196**	Pg	Pg	13 34 36.9	-3.7
KUU				Lg	Lg	13 35 57.4	
	11nm,0.5s						

PDGK	**Podgornoye**	**6.71**	**175**	⇓Sn	Sn	13 35 38.3	+2.0
	1.2nm,0.4s						
PDGK				⇑Lg	Lg	13 36 14.2	
	4.0nm,0.6s						
TKM2	**Tokmak 2**	**7.42**	**198**	⇓Lg	Lg	13 36 38.0	
	1.8nm,0.6s						

*IDC **08** 13:35:52.2±2.6, 6°.05S×130°.40E, h115km±27km, mb3.7/8, mb1 3.9/12, mb1mx3.7/29, mbtmp4.2/12, Error ellipse: s-maj=32.5km s-min=14.0km az=76.0*
*NEIC **08** 13:35:55.1±1.1, 5°.99S±0°.07×130°.6E±0°.1, h142km±9km, mb4.3/11, Error ellipse: s-maj=17.8km s-min=9.7km az=94.0*

ISC 08 13:35:52.5±0.5, **6°.03S**±0°.05×**130°.66E**±0°.09, **h124**km, **n39,** σ2§**09**/41, **mb4.0**/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.04**	**162**	Pn	**Pn**	**13 36 30.1**	**+3.5**
FAKI	**Fak Fak**	**3.47**	**27**	Pn	**Pn**	**13 36 46.5**	**+1.3**
SIJI	**Sorong**	**5.17**	**7**	P	**Pn**	**13 37 08.7**	**+0.9**
	25nm,0.3s,baz=205,slow=23,SNR=120						
SIJI				S	**Sn**	**13 38 02.7**	**-3.7**
	25nm,0.3s,baz=230,slow=21,SNR=24						
MTN	**Manton Dam**	**6.78**	**176**	Pn	**Pn**	**13 37 30.5**	**+0.9**
SOEI	**Soe**	**7.33**	**239**	Pn	**Pn**	**13 37 40.2**	**+3.1**
BATI	**Baumata**	**8.07**	**239**	P	**Pn**	**13 37 50.4**	**+3.4**
	12nm,0.3s,baz=242,slow=1.3,SNR=16						
BATI				S	**Sn**	**13 39 15.3**	**-1.5**
	6.6nm,0.3s,baz=23,slow=24,SNR=6.1						
KNRA	**Kununurra**	**9.76**	**191**	Pn	**Pn**	**13 38 09.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**12.96**	**202**	P	**Pn**	**13 38 49.6**	**-2.4**
	1.5nm,0.3s,baz=34,slow=11,SNR=51						
FITZ				S	Sn	13 41 03.6	-11
	2.2nm,0.3s,baz=296,slow=19,SNR=9.5						
FITZ	**Fitzroy Crossi**	**12.96**	**202**	Pn	**Pn**	**13 38 49.4**	**-2.7**
WRAB	**Tennant Creek**	**14.28**	**166**		**Pn**	**13 39 09.6**	**+0.5**
WRA	**Warramunga Arr**	**14.28**	**166**	P	**Pn**	**13 39 08.0**	**-1.2**
	0.8nm,0.3s,baz=348,slow=14,SNR=22						
WRA				S	Sn	13 41 33.6	-13
	1.4nm,0.3s,baz=346,slow=21,SNR=7.7						
AS31	**Alice Springs**	**17.81**	**170**	P	**Pn**	**13 39 53.0**	**+0.5**
AS31				IAmb	IAmb	13 39 54.7	
	comp=Z,9.1nm,0.3s						
ASAR	**Alice Springs**	**17.81**	**170**	P	**Pn**	**13 39 53.7**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=351,slow=10,SNR=177						
ASAR				S	**S**	**13 43 01.2**	**-9.1**
	comp=Z,1.1nm,0.3s,baz=358,slow=29,SNR=7.7						
ASAR	**Alice Springs**	**17.81**	**170**	P	**Pn**	**13 39 53.6**	**+1.0**
PSA00	**Pilbara Seismi**	**18.66**	**213**		**P**	**13 40 00.8**	**-0.2**
PSA00				IAmb	IAmb	13 40 02.6	
	comp=Z,15nm,0.5s						
CTA	**Charters Tower**	**20.61**	**134**	P	Pn	13 40 25.4	-0.1
	comp=Z,10nm,1.1s,baz=308,slow=16,SNR=2.0						
FORT	**Forrest**	**24.74**	**185**	P	**P**	**13 41 03.5**	**+1.1**
STKA	**Stephens Creek**	**27.67**	**160**	P	**P**	**13 41 30.0**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=339,slow=8.0,SNR=9.6						
STKA	**Stephens Creek**	**27.67**	**160**	P	**P**	**13 41 29.8**	**+1.0**
STKA				IAmb	IAmb	13 41 58.0	
	comp=Z,3.3nm,1.5s						
CMAR	**Chiang Mai Arr**	**39.63**	**309**	P	**P**	**13 43 11.4**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=135,slow=7.0,SNR=5.3						
JWT	**Wachi**	**41.34**	**6**	P	**P**	**13 43 26.1**	**+0.1**
KSRS	**Korea Array**	**43.34**	**357**	P	**P**	**13 43 42.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=171,slow=9.2,SNR=2.6						
HHC	**Hu-ho-hao-te**	**49.84**	**341**	*eP*	**P**	**13 44 34.9**	**+1.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,7.3s						
USA0B	**Ussuriysk Arra**	**50.02**	**1**	P	**P**	**13 44 34.1**	**-0.1**
USA0B				IAmb	IAmb	13 45 02.6	
	comp=Z,8.9nm,1.5s						
USRK	**Ussuriysk Ar.**	**50.02**	**1**	P	**P**	**13 44 34.7**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=214,slow=5.6,SNR=5.2						
USRK	**Ussuriysk Ar.**	**50.02**	**1**	P	**P**	**13 44 34.0**	**-0.1**
GTA	**Gaotai**	**53.45**	**330**	*eP*	**P**	**13 45 00.4**	**+0.4**
GTA				pP	pP	13 45 31.1	+2.5
GTA				sP	sP	13 45 44.5	+2.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**57.74**	**341**	P	**P**	**13 45 30.8**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=158,slow=6.6,SNR=5.6						
SONM	**Songino Array**	**57.74**	**341**	P	**P**	**13 45 30.4**	**-0.1**
WMQ	**Urumqi**	**62.95**	**326**	*eP*	**P**	**13 46 07.5**	**+1.5**
PETK	**Petropavlovsk-**	**63.21**	**18**	P	**P**	**13 46 07.8**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=188,slow=8.7,SNR=2.5						
PETK	**Petropavlovsk-**	**63.21**	**18**	P	**P**	**13 46 08.1**	**+0.7**
MK31	**Makanchi Array**	**67.79**	**326**	P	**P**	**13 46 36.9**	**-0.1**
MK31				IAmb	IAmb	13 46 38.1	
	comp=Z,4.1nm,0.9s						
MKAR	**Makanchi Array**	**67.79**	**326**	P	**P**	**13 46 37.4**	**+0.4**
	comp=Z,4.5nm,0.4s,baz=114,slow=8.4,SNR=65						
MKAR	**Makanchi Array**	**67.79**	**326**	P	**P**	**13 46 36.9**	**-0.1**
MAKZ	**Makanchi**	**67.97**	**326**	P	**P**	**13 46 38.0**	**-0.1**
MAKZ				IAmb	IAmb	13 46 39.1	
	comp=Z,4.5nm,0.6s						
KKAR	**Karatay Array**	**73.06**	**318**	P	**P**	**13 47 08.7**	**-0.4**
VNDA	**Vanda**	**73.32**	**173**	P	**P**	**13 47 10.5**	**+0.4**
BRVK	**Borovoye**	**77.67**	**328**	P	**P**	**13 47 34.4**	**-0.8**
BRVK				IAmb	IAmb	13 47 35.7	
	comp=Z,2.7nm,0.8s						

IDC 08 13:48:21.9±1.4, **0°.85S**×**137°.59E**, **h0**km, **mb3.6**/3, **mb1 3.9**/4, **mb1mx3.4**/31, **mbtmp3.6**/4, **Error ellipse: s-maj=71.4km s-min=25.7km az=91.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.24**	**189**	P	P	13 52 47.9	0.0
	baz=11,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**22.96**	**189**	P	P	13 53 28.2	+0.1
	1.1nm,0.8s,baz=20,slow=10,SNR=10						
H11N1	**WAKE ISLAND Hy**	**35.26**	**53**	T	T	14 33 00.8	
	baz=235						
H11N2	**WAKE ISLAND Hy**	**35.27**	**53**	T	T	14 32 55.0	
	baz=235						
H11N3	**WAKE ISLAND Hy**	**35.28**	**53**	T	T	14 32 44.0	
	baz=235						
MKAR	**Makanchi Array**	**67.64**	**322**	P	P	13 59 20.8	+0.1
	1.0nm,0.8s,baz=115,slow=5.8,SNR=5.8						
ILAR	**Eielson Array**	**84.61**	**25**	P	P	14 00 57.0	-0.1
	0.6nm,0.9s,baz=251,slow=5.3,SNR=5.3						

*NEIC **08** 13:49:46.6±1.5, 18°.50N±0°.09×68°.81W±0°.06, h186km±7km, Error ellipse: s-maj=13.2km s-min=8.6km az=193.0*
*RSPR **08** 13:49:47.4, 18°.58N×68°.77W, h184km, MD4.1/16*

ISC 08 13:49:45.8±1.1, **18°.6N**±0°.1×**68°.78W**±0°.05, **h200**km, **n102,** σ1§**24**/108, **19C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.38**	**95**	⇑*eP*	**Pn**	**13 50 11.9**	**-0.6**
PCDR	**Punta Cana, DR**	**0.38**	**95**	*eS*	**Sn**	**13 50 31.4**	**-1.6**
PCDR	**Punta Cana, DR**	**0.38**	**95**		**Pn**	**13 50 11.9**	**-0.6**
PCDR					**Sn**	**13 50 31.4**	**-1.6**
DR12	**Loma Pena Alta**	**0.62**	**293**		**Pn**	**13 50 12.1**	**-1.4**
SDD	**Santo Domingo**	**1.08**	**265**	Pn	**Pn**	**13 50 14.1**	**-2.0**
SDD				IAML		13 50 34.4	
	comp=E,952nm,0.3s						
IDE	**Isla Desecheo**	**1.25**	**97**	⇑*eP*	**Pn**	**13 50 17.5**	**+0.2**
IDE	**Isla Desecheo**	**1.25**	**97**	*eS*	**Sn**	**13 50 40.8**	**-1.0**
IDE	**Isla Desecheo**	**1.25**	**97**		**Pn**	**13 50 17.5**	**+0.2**
IDE					**Sn**	**13 50 40.8**	**-1.0**
BANI	**BANI**	**1.51**	**264**		**Pn**	**13 50 18.2**	**-1.5**
AGPR	**Aguadilla, PR**	**1.58**	**93**	⇑*eP*	**Pn**	**13 50 20.9**	**+0.7**
AGPR	**Aguadilla, PR**	**1.58**	**93**	*eS*	**Sn**	**13 50 46.6**	**-0.3**
AGPR	**Aguadilla, PR**	**1.58**	**93**		**Pn**	**13 50 20.9**	**+0.7**
AGPR					**Sn**	**13 50 46.6**	**-0.3**
MPR	**Mayaguez**	**1.59**	**102**		**Pn**	**13 50 19.4**	**-0.9**
LSP	**Las Mesas**	**1.65**	**103**	⇑*eP*	**Pn**	**13 50 21.2**	**+0.3**
LSP	**Las Mesas**	**1.65**	**103**		**Pn**	**13 50 21.2**	**+0.3**
MLPR	**Magueyes Islan**	**1.74**	**109**	⇑*eP*	**Pn**	**13 50 21.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.74**	**109**	*eS*	**Sn**	**13 50 49.6**	**0.0**
MLPR	**Magueyes Islan**	**1.74**	**109**		**Pn**	**13 50 20.7**	**-1.1**
MLPR				IAML		13 50 51.5	
	comp=E,662nm,0.6s						
MLPR	**Magueyes Islan**	**1.74**	**109**		**Sn**	**13 50 49.6**	**0.0**
AOPR	**Arecibo Observ**	**1.93**	**96**	*eP*	**Pn**	**13 50 24.9**	**+1.3**
AOPR				*eS*	**Sn**	**13 50 51.5**	**-1.4**
AOPR	**Arecibo Observ**	**1.93**	**96**	⇑*eP*	**Pn**	**13 50 23.9**	**+0.3**
AOPR	**Arecibo Observ**	**1.93**	**96**	*eS*	**Sn**	**13 50 52.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.93**	**96**		**Pn**	**13 50 23.9**	**+0.3**
AOPR					**Sn**	**13 50 52.7**	**-0.3**
SC01	**Santiago de lo**	**2.04**	**296**	Pn	**Pn**	**13 50 24.9**	**+0.1**
SC01				IAML		13 50 57.3	
	comp=E,773nm,0.4s						
SC01				IAML		13 51 02.0	
	comp=N,590nm,0.4s						
OBIP	**Obispado Ponce**	**2.12**	**103**	⇑*eP*	**Pn**	**13 50 25.7**	**+0.2**
OBIP	**Obispado Ponce**	**2.12**	**103**	*eS*	**Sn**	**13 50 56.9**	**+0.5**
OBIP	**Obispado Ponce**	**2.12**	**103**		**Pn**	**13 50 25.7**	**+0.2**
OBIP					**Sn**	**13 50 56.9**	**+0.5**
OBIP	**Obispado Ponce**	**2.12**	**103**	IAML		13 50 58.2	
	comp=E,412nm,0.4s						
EMPR	**Esperanza - Ma**	**2.13**	**92**	⇑*eP*	**Pn**	**13 50 26.1**	**+0.4**
EMPR	**Esperanza - Ma**	**2.13**	**92**	*eS*	**Sn**	**13 50 56.6**	**-0.1**
EMPR	**Esperanza - Ma**	**2.13**	**92**		**Pn**	**13 50 26.1**	**+0.4**
EMPR					**Sn**	**13 50 56.6**	**-0.1**
CELP	**Cerrillos**	**2.14**	**102**	⇑*eP*	**Pn**	**13 50 25.9**	**+0.1**
CELP	**Cerrillos**	**2.14**	**102**	*eS*	**Sn**	**13 50 56.4**	**-0.4**
CELP	**Cerrillos**	**2.14**	**102**		**Pn**	**13 50 25.9**	**+0.1**
CELP					**Sn**	**13 50 56.4**	**-0.4**
ICMP	**Isla Caja de M**	**2.24**	**107**	⇑*eP*	**Pn**	**13 50 26.7**	**-0.1**
ICMP	**Isla Caja de M**	**2.24**	**107**		**Pn**	**13 50 26.7**	**-0.1**
ICMP	**Isla Caja de M**	**2.24**	**107**	IAML		13 51 00.7	
	comp=E,580nm,0.4s						
SDDR	**Presa de Saban**	**2.42**	**281**	*eP*	**Pn**	**13 50 28.5**	**-0.3**
SDDR				*eS*	**Sn**	**13 51 01.8**	**-0.6**
SDDR	**Presa de Saban**	**2.42**	**281**	⇑*iP*	**Pn**	**13 50 28.9**	**0.0**
SDDR	**Presa de Saban**	**2.42**	**281**	*eS*	**Sn**	**13 51 02.5**	**+0.1**
SDDR	**Presa de Saban**	**2.42**	**281**		**Pn**	**13 50 28.2**	**-0.6**
SDDR				IAML		13 51 06.7	
	comp=E,428nm,0.5s						
SJG	**San Juan**	**2.53**	**99**	*eP*	**Pn**	**13 50 30.7**	**+0.7**
SJG				*eS*	**Sn**	**13 51 02.2**	**-2.2**
SJG	**San Juan**	**2.53**	**99**		**Pn**	**13 50 29.7**	**-0.3**
SJG				IAML		13 51 07.1	
	comp=E,566nm,0.2s						
SJG				IAML		13 51 07.6	
	comp=E,480nm,0.4s						
GCPR	**Guaynabo City**	**2.57**	**95**	⇑*eP*	**Pn**	**13 50 30.7**	**+0.3**
GCPR	**Guaynabo City**	**2.57**	**95**		**Pn**	**13 50 29.7**	**-0.8**
IGPR	**InterUniversit**	**2.60**	**102**	⇑*iP*	**Pn**	**13 51 32.0**	**+0.4**
IGPR	**InterUniversit**	**2.60**	**102**	*eS*	**Sn**	**13 51 06.5**	**+0.6**
IGPR	**InterUniversit**	**2.60**	**102**	Pn	**Pn**	**13 50 30.9**	**+0.1**
PDPR	**Patillas Dam,**	**2.67**	**101**		**Pn**	**13 50 31.8**	**+0.2**
CBYP	**Canovanas**	**2.78**	**95**	⇑*eP*	**Pn**	**13 50 33.8**	**+0.9**
CBYP	**Canovanas**	**2.78**	**95**	*eS*	**Sn**	**13 51 10.9**	**+1.1**
CBYP	**Canovanas**	**2.78**	**95**		**Pn**	**13 50 32.6**	**-0.4**
HUMP	**Col San Antoni**	**2.81**	**98**	⇑*eP*	**Pn**	**13 50 34.4**	**+1.2**
HUMP	**Col San Antoni**	**2.81**	**98**	*eS*	**Sn**	**13 51 08.0**	**-2.1**
HUMP	**Col San Antoni**	**2.81**	**98**		**Pn**	**13 50 33.1**	**-0.1**
MTP	**Monte Pirata**	**3.09**	**98**	⇑*eP*	**Pn**	**13 50 37.3**	**+0.8**
MTP	**Monte Pirata**	**3.09**	**98**	*eS*	**Sn**	**13 51 17.1**	**+0.9**
MTP	**Monte Pirata**	**3.09**	**98**		**Pn**	**13 50 37.1**	**+0.6**
MTP				IAML		13 51 19.4	
	comp=N,332nm,0.6s						
MTP				IAML		13 51 27.0	
	comp=E,315nm,0.1s						
MTP	**Monte Pirata**	**3.09**	**98**		**Sn**	**13 51 17.1**	**+0.9**
CUPR	**Culebra, Puert**	**3.32**	**94**	⇑*eP*	**Pn**	**13 50 40.2**	**+1.0**
CUPR	**Culebra, Puert**	**3.32**	**94**	*eS*	**Sn**	**13 51 20.4**	**-0.8**
CUPR	**Culebra, Puert**	**3.32**	**94**		**Pn**	**13 50 39.3**	**0.0**
CUPR	**Culebra, Puert**	**3.32**	**94**		**Sn**	**13 51 20.4**	**-0.8**
JAKH	**Jacmel**	**3.57**	**266**	Pn	**Pn**	**13 50 41.2**	**-1.0**
JAKH				IAML		13 51 15.0	
	comp=E,148nm,0.1s						
STVI	**Saint Thomas**	**3.63**	**92**	⇑*eP*	**Pn**	**13 50 43.6**	**+0.6**
STVI	**Saint Thomas**	**3.63**	**92**	*eS*	**Sn**	**13 51 26.0**	**-1.9**
STVI	**Saint Thomas**	**3.63**	**92**		**Pn**	**13 50 42.9**	**-0.1**
STVI				IAML		13 51 27.9	
	comp=E,242nm,0.2s						
STVI	**Saint Thomas**	**3.63**	**92**		**Sn**	**13 51 26.0**	**-1.9**
LGNH	**Logne**	**3.63**	**270**		**Pn**	**13 50 42.7**	**-0.4**
GRTK	**Grand Turk**	**3.69**	**323**	Pn	**Pn**	**13 50 44.3**	**+0.6**
GRTK				IAML		13 51 29.5	
	comp=E,192nm,1.1s						
GRTK				IAML		13 51 30.7	
	comp=E,176nm,0.4s						
CDVI	**St. Croix**	**3.89**	**101**	*e*	**Pn**	**13 50 46.2**	**-0.1**
CDVI	**St. Croix**	**3.89**	**101**	⇑*eP*	**Pn**	**13 50 46.2**	**-0.1**
CDVI	**St. Croix**	**3.89**	**101**		**Pn**	**13 50 46.2**	**-0.1**
TBVI	**Tortola**	**3.95**	**91**	⇑*eP*	**Pn**	**13 50 47.2**	**+0.2**
TBVI	**Tortola**	**3.95**	**91**	*eS*	**Sn**	**13 51 33.6**	**-1.3**
TBVI	**Tortola**	**3.95**	**91**		**Pn**	**13 50 47.2**	**+0.2**
ABV	**Anegada**	**4.22**	**87**	⇑*eP*	**Pn**	**13 50 51.5**	**+1.2**
ABV	**Anegada**	**4.22**	**87**	*eS*	**Sn**	**13 51 40.5**	**-0.4**
ABVI	**Anegada Island**	**4.22**	**87**		**Pn**	**13 50 51.5**	**+1.2**
ABVI	**Anegada Island**	**4.22**	**87**	IAML		13 51 41.3	
	comp=E,138nm,1.1s						
ABVI				IAML		13 51 43.6	
	comp=N,153nm,0.9s						
SKI	**Saint Kitts**	**5.87**	**101**	*eP*	**Pn**	**13 51 12.9**	**+1.4**
SKI	**Saint Kitts**	**5.87**	**101**	Pn	**Pn**	**13 51 12.8**	**+1.4**
GTBY	**Guantanamo Bay**	**6.14**	**284**	Pn	**Pn**	**13 51 15.1**	**+0.2**
ANWB	**Willy Bob**	**6.70**	**96**	*eP*	**Pn**	**13 51 21.1**	**-1.1**
ANWB	**Willy Bob**	**6.70**	**96**	*eS*	**Sn**	**13 52 33.4**	**-5.3**
ANWB	**Willy Bob**	**6.70**	**96**	Pn	**Pn**	**13 51 21.1**	**-1.1**
BPA	**Boggy Peak**	**6.76**	**102**	*eP*	**Pn**	**13 51 23.2**	**+0.3**
BPA	**Boggy Peak**	**6.76**	**102**	*eS*	**Sn**	**13 52 35.5**	**-4.5**
ANOC	**Antigua Open C**	**6.76**	**101**	*eP*	**Pn**	**13 51 24.2**	**+1.2**
ANOC	**Antigua Open C**	**6.76**	**101**	*eS*	**Sn**	**13 52 38.0**	**-2.1**
ANDO	**Antigua, Disas**	**6.77**	**101**	*eP*	**Pn**	**13 51 24.0**	**+1.0**
ANBD	**Bethesda, Anti**	**6.84**	**102**	*eP*	**Pn**	**13 51 23.7**	**-0.3**
ANBD	**Bethesda, Anti**	**6.84**	**102**	*eS*	**Sn**	**13 52 38.1**	**-3.8**
ABD	**La Joyeuse, An**	**7.25**	**105**	*eP*	**Pn**	**13 51 30.3**	**+1.0**
ABD	**La Joyeuse, An**	**7.25**	**105**	*eS*	**Sn**	**13 52 50.8**	**-0.7**
TBG	**Guadaloupe-3**	**7.32**	**110**	*eP*	Pn	13 51 36.8	+6.5
DSLB	**Salisbury**	**7.69**	**113**	*eP*	**Pn**	**13 51 37.9**	**+2.9**
DLPL	**La Plaine**	**7.88**	**113**	*eP*	**Pn**	**13 51 34.5**	**-3.1**
DLPL	**La Plaine**	**7.88**	**113**	Pn	**Pn**	**13 51 36.3**	**-1.3**
MPOM	**Morne Pois Mar**	**8.62**	**117**	Pn	**Pn**	**13 51 48.6**	**+1.4**
ROSC	**El Rosal**	**14.66**	**202**	P	**P**	**13 53 07.1**	**+1.7**
FLOC	**Florencia**	**18.16**	**203**	P	**P**	**13 53 44.9**	**+1.4**

*IDC **08** 13:52:39.1±2.1, 6°.66S×129°.99E, h153km±23km, mb3.9/2, mb1 3.7/7, mb1mx3.3/34, mbtmp4.2/7, Error ellipse: s-maj=33.1km s-min=16.9km az=83.0*
*NEIC **08** 13:52:40.9±0.8, 6°.56S±0°.08×129°.9E±0°.1, h161km±8km, mb4.0/6, Error ellipse: s-maj=19.4km s-min=11.7km az=93.0*

ISC 08 13:52:38.5±0.8, **6°.61S**±0°.06×**129°.89E**±0°.09, **h146**km, **n18,** σ2§**14**/21, **mb4.0**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.95**	**134**	Pn	**Pn**	**13 53 17.4**	**+4.5**
FAKI	**Fak Fak**	**4.36**	**33**	Pn	**Pn**	**13 53 44.6**	**+1.2**
SIJI	**Sorong**	**5.87**	**14**	P	**Pn**	**13 54 04.7**	**+1.1**
	6.9nm,0.3s,baz=217,slow=23,SNR=45						
SIJI				S	**Sn**	**13 55 07.1**	**-2.8**
	8.5nm,0.3s,baz=216,slow=22,SNR=14						
MTN	**Manton Dam**	**6.31**	**169**		**Pn**	**13 54 10.7**	**+1.3**
SOEI	**Soe**	**6.38**	**240**	Pn	**Pn**	**13 54 12.9**	**+2.5**
BATI	**Baumata**	**7.12**	**239**	P	**Pn**	**13 54 22.5**	**+2.2**
	2.8nm,0.3s,baz=129,slow=18,SNR=1.8						
BATI				S	**Sn**	**13 55 38.9**	**-1.2**
	5.8nm,0.3s,baz=263,slow=15,SNR=4.2						
KNRA	**Kununurra**	**9.08**	**187**		**Pn**	**13 54 46.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.15**	**200**	P	**Pn**	**13 55 25.8**	**-1.1**
	0.6nm,0.3s,baz=15,slow=8.7,SNR=30						
FITZ				S	Sn	13 57 30.7	-10
	0.6nm,0.3s,baz=86,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**13.94**	**162**	P	**Pn**	**13 55 47.7**	**-2.2**
	0.4nm,0.3s,baz=347,slow=13,SNR=13						
WRA				S	Sn	13 58 11.0	-13
	0.3nm,0.3s,baz=344,slow=22,SNR=4.1						
AS31	**Alice Springs**	**17.39**	**168**	P	**Pn**	**13 56 32.8**	**+0.4**
AS31				IAmb	IAmb	13 56 35.6	
	comp=Z,2.1nm,0.6s						
ASAR	**Alice Springs**	**17.39**	**168**	P	**Pn**	**13 56 32.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=345,slow=11,SNR=55						
ASAR				S	**S**	**13 59 40.1**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=357,slow=27,SNR=5.1						
PSA00	**Pilbara Seismi**	**17.76**	**212**		**Pn**	**13 56 36.1**	**-0.7**
PSA00				IAmb	IAmb	13 56 52.5	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**27.41**	**158**	P	**P**	**13 58 09.9**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=330,slow=11,SNR=4.5						
CAN	**Canberra**	**33.54**	**151**	P	**P**	**13 59 06.2**	**+1.7**
MK31	**Makanchi Array**	**67.84**	**327**	P	**P**	**14 03 20.9**	**-0.1**
MK31				IAmb	IAmb	14 03 21.8	
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**14 03 21.3**	**+0.3**
	comp=Z,2.3nm,0.4s,baz=120,slow=8.4,SNR=30						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**14 03 20.9**	**-0.2**
MAKZ	**Makanchi**	**68.03**	**327**	P	**P**	**14 03 21.9**	**-0.3**
MAKZ				IAmb	IAmb	14 03 22.4	
	comp=Z,2.0nm,0.6s						

*IDC **08** 14:04:52.9±0.4, 13°.05N×146°.15E, h0km, mb4.6/35, mb1 4.6/36, mb1mx4.6/45, mbtmp4.6/36, ML4.7/1, MS4.3/28, Ms1 4.3/28, ms1mx4.2/41, Error ellipse: s-maj=14.0km s-min=9.9km az=85.0*
*MOS **08** 14:04:54.3±1.0, 13°.06N×146°.19E, h25km, mb5.1/53, MS4.4/8, Error ellipse: s-maj=8.9km s-min=4.8km az=117.3*
*BJI **08** 14:04:55.4±0.0, 13°.01N×146°.39E, h40km, mB5.1/50, mb4.9/67, Ms4.6/57, Ms7 4.5/56*
*NEIC **08** 14:04:57.4±1.6, 13°.02N±0°.06×146°.15E±0°.07, h32km±4km, mb5.0/181, Error ellipse: s-maj=9.4km s-min=8.8km az=125.0*
*GCMT **08** 14:05:00.4±0.2, 12°.97N±0°.02×146°.22E±0°.02, h12km, MW5.1/92, Moment Tensor Solution. s42,c52; s92,c148; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~2.67±.13; Mθθ2.24±.09; Mφφ0.43±.10; Mrθ3.86±.30; Mrφ1.91±.09; Mθφ~0.69±.33; Best double couple: M₀5.00600×10¹⁶ NP1:φ₁=32.00000°, δ29.00000°, λ-143.00000°. NP2: φ₂=268.00000°, δ73.00000°, λ-66.00000°. Principal axes: T 4.7970, Plg24.0000°, Azm340.0000°; N 0.4240, Plg23.0000°, Azm81.0000°; P -5.2150, Plg56.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **08** 14:05:10.4±0.6, 14°N±4°×14°5E±°, h61km±4km, M4.2/31, mb5.1/31, mB5.4/8, MLv3.0/1, Mw(mB)4.8/8, MwMwp5.6/1, Mwp5.7/1*

ISC 08 14:04:58.7±0.4, **13°.06N**±0°.04×**146°.12E**±0°.05, **h42**km±3km, **h42**km:**pP-P, n458,** σ1§**50**/486, **mb4.9**/177, **MS4.4**/58, **12C-3D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.32**	**294**	Pn	**Pn**	**14 05 20.0**	**-0.7**
	974nm,0.3s,baz=133,slow=8.0,SNR=502						
GUMO				Sn	**Sn**	**14 05 38.6**	**+1.5**
	2µm,0.3s,baz=36,slow=22,SNR=11						
GUMO	**Guam**	**1.32**	**294**	Pn	**Pn**	**14 05 19.7**	**-1.0**
GUMO	**Guam**	**1.32**	**294**	P	**Pn**	**14 05 20.2**	**-0.5**
ANA2	**Anatahan**	**3.29**	**353**	Pn	**Pn**	**14 05 48.0**	**+0.3**
ANA2	**Anatahan**	**3.29**	**353**	P	**Pn**	**14 05 49.4**	**+1.7**
SARN	**Sarigan**	**3.63**	**355**	P	**Pn**	**14 05 53.5**	**+1.0**
PATS	**Pohnpei**	**13.51**	**116**	Pn	Pn	14 08 01.2	-6.7
JCJ	**Chichijima**	**14.44**	**346**	Pn	**Pn**	**14 08 19.6**	**-0.8**
	3.6nm,0.3s,baz=120,slow=20,SNR=2.8						
JCJ				Sn	**Sn**	**14 10 54.3**	**-5.0**
	1.6nm,0.3s,baz=290,slow=20,SNR=1.2						
JCJ	**Chichijima**	**14.44**	**346**	Pn	**Pn**	**14 08 20.9**	**+0.5**
MANU	**Manus Island**	**15.06**	**175**	Pn	**Pn**	**14 08

	comp=Z,41nm,1.1s								
LUWI	**Luwuk**	**27.07**	**241**	P	**P**	**14**	**10**	**37.2**	**-0.3**
LUWI	**Luwuk**	**27.07**	**241**	P	**P**	**14**	**10**	**39.9**	**+2.4**
	comp=Z,100nm,0.8s								
TOLI2	**Tolitoli**	**27.76**	**247**	P	**P**	**14**	**10**	**44.2**	**+0.4**
JTM	**Tenmabayashi**	**27.97**	**352**	P	**P**	**14**	**10**	**43.4**	**-1.9**
JTM				lAmb	lAmb	14	11	11.0	
	comp=Z,31nm,1.2s								
SSE	**Sheshan**	**29.14**	**312**	P	**P**	**14**	**10**	**54.4**	**-1.4**
SSE				S	**S**	**14**	**15**	**45.9**	**+0.7**
SSE				pmax	pmax				
	comp=Z,4.0nm,0.7s								
SSE				pmax	pmax				
	comp=Z,26nm,3.5s								
SSE				L	L				
	comp=Z,220nm,22.3s								
SSE				L	L				
	comp=Z,250nm,19.8s								
KSRS	**Korea Array**	**29.23**	**329**	P	**P**	**14**	**10**	**55.5**	**-1.0**
	comp=Z,5.2nm,0.5s,baz=145,slow=9.0,SNR=21								
KSRS				PcP	**PcP**	**14**	**14**	**03.6**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=96,slow=5.0,SNR=4.1								
KSRS				LR	LR	14	22	04.8	
	comp=Z,690nm,19.1s,baz=145,slow=35								
KSRS	**Korea Array**	**29.23**	**329**	*e*P	**P**	**14**	**10**	**59.0**	**+2.5**
KSRS				pmax	pmax				
	comp=Z,5.0nm,0.5s								
KSAR	**Wonju Array Be**	**29.24**	**329**	P	**P**	**14**	**10**	**55.3**	**-1.3**
KSAR	**Wonju Array Be**	**29.24**	**329**	P	**P**	**14**	**10**	**55.3**	**-1.3**
KS19	**Wonju Array Si**	**29.29**	**329**	P	**P**	**14**	**10**	**57.2**	**0.0**
KS19				lAmb	lAmb	14	11	20.6	
	comp=Z,22nm,0.9s								
ASAJ	**Asahikawa**	**31.09**	**355**	P	**P**	**14**	**11**	**13.2**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=253,slow=3.5,SNR=6.3								
JKA	**Kamikawa-asahi**	**31.09**	**355**	P	**P**	**14**	**11**	**13.2**	**+0.2**
NJ2	**Nanjing**	**31.34**	**312**	*e*P	**P**	**14**	**11**	**14.6**	**-0.6**
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.5s								
NJ2				L	L				
	comp=Z,610nm,16.5s								
NJ2				L	L				
	comp=Z,420nm,13.5s								
NJ2				L	L				
	comp=Z,600nm,17.7s								
SOEI	**Soe**	**31.38**	**225**	P	**P**	**14**	**11**	**15.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**33.31**	**341**	P	**P**	**14**	**11**	**28.6**	**-3.8**
USA0B				pmax	pmax				
	comp=Z,9.0nm,0.8s								
USA0B	**Ussuriysk Arra**	**33.31**	**341**	P	**P**	**14**	**11**	**28.6**	**-3.8**
USRK	**Ussuriysk Ar.**	**33.31**	**341**	P	**P**	**14**	**11**	**32.0**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=142,slow=9.2,SNR=14								
USRK				PcP	**PcP**	**14**	**14**	**15.8**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=203,slow=5.5,SNR=4.2								
USRK				LR	LR	14	23	55.5	
	comp=Z,565nm,19.6s,baz=147,slow=34								
USRK	**Ussuriysk Ar.**	**33.31**	**341**	P	**P**	**14**	**11**	**29.0**	**-3.4**
KNRA	**Kununurra**	**33.32**	**212**	P	**P**	**14**	**11**	**33.1**	**+0.4**
KNRA				lAmb	lAmb	14	11	48.2	
	comp=Z,34nm,1.1s								
DL2	**Dalian**	**33.66**	**324**	P	**P**	**14**	**11**	**36.9**	**+1.4**
DL2				S	**S**	**14**	**16**	**57.9**	**+2.3**
DL2				pmax	pmax				
	comp=Z,23nm,0.6s								
DL2				L	L				
	comp=Z,330nm,19.6s								
DL2				L	L				
	comp=Z,440nm,16.5s								
DL2				L	L				
	comp=Z,730nm,20.4s								
WHN	**Wuhan**	**34.08**	**306**	⇓P	**P**	**14**	**11**	**41.0**	**+1.8**
MDJ	**Mudanjiang**	**34.48**	**339**	P	**P**	**14**	**11**	**42.9**	**+0.4**
MDJ				sP	pwP	14	11	59.2	-2.2
MDJ				S	**S**	**14**	**17**	**10.7**	**+2.6**
MDJ				sS	sS	14	17	29.7	+7.3
MDJ				pmax	pmax				
	comp=Z,10.0nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,170nm,4.8s								
MDJ				L	L				
	comp=Z,630nm,18.5s								
MDJ				L	L				
	comp=Z,340nm,22.1s								
MDJ				L	L				
	comp=Z,920nm,17.8s								
WRAB	**Tennant Creek**	**34.77**	**200**	*i* P	**P**	**14**	**11**	**44.3**	**-1.0**
WRAB				pmax	pmax				
	comp=Z,20nm,0.9s								
WRAB	**Tennant Creek**	**34.77**	**200**	P	**P**	**14**	**11**	**44.0**	**-1.4**
WRAB				lAmb	lAmb	14	12	00.1	
	comp=Z,16nm,0.8s								
WRA	**Warramunga Arr**	**34.78**	**200**	P	**P**	**14**	**11**	**44.2**	**-1.2**
	comp=Z,5.0nm,0.7s,baz=22,slow=9.4,SNR=28								
WRA				PcP	**PcP**	**14**	**14**	**19.5**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=17,slow=3.6,SNR=5.3								
WRA	**Warramunga Arr**	**34.78**	**200**	*e*P	**P**	**14**	**11**	**43.9**	**-1.6**
WRA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
SBUM	**Sibu**	**35.15**	**255**	P	**P**	**14**	**11**	**50.0**	**+1.3**
QIZ	**Qiongzhong**	**35.32**	**284**	P	**P**	**14**	**11**	**48.9**	**-1.2**
QIZ				S	**S**	**14**	**17**	**20.7**	**-1.0**
QIZ				L	L				
	comp=Z,350nm,19.8s								
QIZ				L	L				
	comp=Z,480nm,21.0s								
QIZ				L	L				
	comp=Z,620nm,22.1s								
CN2	**Changchun**	**35.41**	**334**	*e*P	**P**	**14**	**11**	**50.8**	**+0.2**
CN2				PP	**PnPn**	**14**	**13**	**10.6**	**+0.5**
CN2				S	**S**	**14**	**17**	**18.6**	**-3.9**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				L	L				
	comp=Z,400nm,17.0s								
CN2				L	L				
	comp=Z,500nm,17.0s								
CN2				L	L				
	comp=Z,600nm,18.0s								
FITZ	**Fitzroy Crossi**	**36.97**	**214**	P	**P**	**14**	**12**	**04.0**	**-0.2**
	comp=Z,5.9nm,0.7s,baz=32,slow=12,SNR=12								
FITZ	**Fitzroy Crossi**	**36.97**	**214**	P	**P**	**14**	**12**	**03.8**	**-0.3**
BJT	**Baijiatuau**	**37.60**	**321**	P	**P**	**14**	**12**	**08.6**	**-0.8**
BJT				pmax	pmax				
	comp=Z,19nm,1.4s								
BJT	**Baijiatuau**	**37.60**	**321**	P	**P**	**14**	**12**	**08.6**	**-0.8**
PBKI	**Pangkalan Bun**	**37.61**	**248**	P	**P**	**14**	**12**	**11.4**	**+1.7**
	comp=Z,116nm,1.1s								
BJI	**Beijing**	**37.61**	**321**	P	**P**	**14**	**12**	**09.2**	**-0.2**
BJI				S	**S**	**14**	**17**	**54.7**	**-1.5**
BJI				pmax	pmax				
	comp=Z,7.0nm,1.1s								
BJI				pmax	pmax				
	comp=Z,140nm,4.2s								
BJI				L	L				
	comp=Z,240nm,19.2s								
BJI				L	L				
	comp=Z,240nm,23.0s								
BJI				L	L				
	comp=Z,410nm,37.3s								
KMMI	**Kalianget**	**37.67**	**240**	P	**P**	**14**	**12**	**14.2**	**+4.0**
	comp=Z,76nm,0.7s								
ABJI	**Asem Bagus**	**37.85**	**239**	P	**P**	**14**	**12**	**14.7**	**+3.0**
	comp=Z,59nm,1.2s								
ENH	**Enshi**	**37.89**	**303**	P	**P**	**14**	**12**	**10.8**	**-1.2**
ENH				lAmb	lAmb	14	12	13.3	
	comp=Z,15nm,0.7s								
KLR	**Kul'dur**	**37.97**	**345**	P	**P**	**14**	**12**	**11.5**	**-0.8**
	comp=Z,3.1nm,0.4s,baz=166,slow=9.8,SNR=18								
KLR	**Kul'dur**	**37.97**	**345**	*ce*P	**P**	**14**	**12**	**10.6**	**-1.7**
KLR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
SKR	**Severo-Kuril's**	**38.40**	**10**	*e*P	P	14	12	10.1	-5.7
SKR				*e*S	**S**	**14**	**18**	**12.6**	**+4.9**
SKR				MLR	MLR				
	comp=Z,200nm,15.0s								
SKR				MLR	MLR				
	comp=Z,200nm,17.0s								
AS31	**Alice Springs**	**38.41**	**198**	P	**P**	**14**	**12**	**15.4**	**-0.9**
ASAR	**Alice Springs**	**38.41**	**198**	P	**P**	**14**	**12**	**15.5**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=22,slow=9.2,SNR=24								
ASAR				LR	LR	14	29	20.1	
	comp=Z,495nm,20.6s,baz=14,slow=38								
ASAR	**Alice Springs**	**38.41**	**198**	P	**P**	**14**	**12**	**14.4**	**-1.9**
GYA	**Guiyang**	**39.28**	**296**	P	**P**	**14**	**12**	**26.0**	**+2.2**
GYA				sP	pwP	14	12	41.9	-2.2
GYA				S	**S**	**14**	**18**	**22.7**	**+0.6**
GYA				SS	**SS**	**14**	**21**	**10.2**	**-6.6**
GYA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
GYA				pmax	pmax				
	comp=Z,29nm,5.3s								
GYA				L	L				
	comp=Z,58nm,20.3s								
GYA				L	L				
	comp=Z,88nm,19.6s								
GYA				L	L				
	comp=Z,110nm,19.6s								
XAN	**Xi'an**	**39.67**	**308**	P	**P**	**14**	**12**	**27.2**	**+0.3**
XAN				pP	pwP	14	12	44.1	-1.9
XAN				PP	**PP**	**14**	**13**	**58.4**	**-0.2**
XAN				S	**S**	**14**	**18**	**30.0**	**+2.4**
XAN				pmax	pmax				
	comp=Z,13nm,1.0s								
XAN				pmax	pmax				
	comp=Z,170nm,7.6s								
XAN				L	L				
	comp=Z,330nm,17.7s								
XAN				L	L				
	comp=Z,580nm,19.8s								
XAN				L	L				
	comp=Z,900nm,19.8s								
PWJI	**Pagerwojo**	**40.01**	**240**	P	**P**	**14**	**12**	**30.3**	**+0.5**
DZM	**Mont Dzumac**	**40.21**	**150**	*e*P	**P**	**14**	**12**	**33.8**	**+2.4**
	comp=Z,94nm,1.5s								
DZM	**Mont Dzumac**	**40.21**	**150**	*e*LR	LR	14	23	39.3	
	comp=Z,738nm,34.2s								
DZM	**Mont Dzumac**	**40.21**	**150**	P	**P**	**14**	**12**	**32.5**	**+1.1**
	comp=Z,19nm,1.1s,baz=299,slow=19								
DZM	**Mont Dzumac**	**40.21**	**150**	P	**P**	**14**	**12**	**32.3**	**+0.9**
DZM				lAmb	lAmb	14	12	36.5	
	comp=Z,53nm,1.4s								
ONTNC	**Ouen Toro**	**40.41**	**150**	P	**P**	**14**	**12**	**30.4**	**-2.6**
HHC	**Hu-ho-hao-te**	**40.96**	**319**	*e*P	**P**	**14**	**12**	**38.6**	**+1.1**
HHC				S	**S**	**14**	**18**	**46.5**	**-0.3**
HHC				SS	**SS**	**14**	**21**	**45.1**	**-4.7**
HHC				pmax	pmax				
	comp=Z,23nm,0.6s								
HHC				pmax	pmax				
	comp=Z,160nm,5.2s								
HHC				L	L				
	comp=Z,410nm,17.9s								
HHC				L	L				
	comp=Z,620nm,19.6s								
HHC				L	L				
	comp=Z,640nm,17.0s								
PEA0B	**Petropavlovsk-**	**41.00**	**11**	P	**P**	**14**	**12**	**37.6**	**+0.1**
PEA0B				pmax	pmax				
	comp=Z,33nm,1.2s								
PEA0B	**Petropavlovsk-**	**41.00**	**11**	P	**P**	**14**	**12**	**37.6**	**+0.1**
PEA0B				lAmb	lAmb	14	13	01.1	
	comp=Z,33nm,1.2s								
PETK	**Petropavlovsk-**	**41.00**	**11**	P	**P**	**14**	**12**	**38.1**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=179,slow=5.4,SNR=21								
PETK				PcP	**PcP**	**14**	**14**	**37.8**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=96,slow=3.0,SNR=2.4								
UGM	**Wanagama**	**41.04**	**241**	P	**P**	**14**	**12**	**37.5**	**-0.9**
UGM	**Wanagama**	**41.04**	**241**	P	**P**	**14**	**12**	**39.8**	**+1.4**
	comp=Z,174nm,1.1s								
NONG	**Nongkai**	**41.63**	**283**	P	**P**	**14**	**12**	**45.2**	**+2.0**
KPJI	**Karang Pucung**	**42.13**	**243**	P	**P**	**14**	**12**	**48.6**	**+1.3**
	comp=Z,56nm,0.7s								
KMI	**Kunming**	**42.54**	**293**	⇑P	**P**	**14**	**12**	**52.3**	**+1.5**
KMI				pP	sP	14	13	02.8	-1.0
KMI				sP	pwP	14	13	08.8	-2.2
KMI				PP	**PP**	**14**	**14**	**30.1**	**+0.2**
KMI				S	**S**	**14**	**19**	**07.1**	**-3.6**
KMI				sS	sS	14	19	29.2	+3.9
KMI				pmax	pmax				
	comp=Z,12nm,1.0s								
KMI				pmax	pmax				
	comp=Z,100nm,6.3s								
KMI				L	L				
	comp=Z,330nm,30.6s								
KMI				L	L				
	comp=Z,450nm,18.7s								
KMI				L	L				
	comp=Z,420nm,24.9s								
CHAI	**Chaiyaphum**	**42.77**	**279**	P	**P**	**14**	**12**	**53.8**	**+1.3**
CD2	**Chengdu**	**42.81**	**302**	P	**P**	**14**	**12**	**51.2**	**-1.5**
CD2				S	**S**	**14**	**19**	**13.3**	**-0.9**
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,130nm,11.2s								
CD2				L	L				
	comp=Z,340nm,18.2s								
CD2				L	L				
	comp=Z,440nm,16.1s								
CD2				L	L				
	comp=Z,550nm,16.9s								
CISI	**Cisompet, Garu**	**43.21**	**244**	P	**P**	**14**	**12**	**54.0**	**-2.2**
CISI				lAmb	lAmb	14	13	13.2	
	comp=Z,55nm,1.5s								
ZEA	**Zeya**	**43.25**	**344**	*e*P	**P**	**14**	**12**	**54.3**	**-1.5**
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.6s								
ZEA				MLR	MLR				
	comp=N,400nm,18.0s								
MYKOM	**Kota Tinggi**	**43.30**	**259**	P	**P**	**14**	**12**	**58.0**	**+1.2**
PHIT	**Phitsanulok**	**44.23**	**281**	P	**P**	**14**	**13**	**05.0**	**+0.7**
LZH	**Lanzhou**	**44.30**	**309**	⇓P	**P**	**14**	**13**	**05.7**	**+0.9**
LZH				pP	pP	14	13	14.2	0.0
LZH				sP	pwP	14	13	22.3	-1.5
LZH				S	**S**	**14**	**19**	**36.4**	**+0.3**
LZH				sS	sS	14	20	00.4	+10
LZH				pmax	pmax				
	comp=N,68nm,1.3s								
LZH				pmax	pmax				
	comp=N,210nm,5.6s								
LZH				L	L				
	comp=N,380nm,14.2s								
LZH				L	L				
	comp=N,410nm,13.6s								
LZH				L	L				
	comp=N,400nm,16.3s								
STKA	**Stephens Creek**	**44.89**	**185**	P	**P**	**14**	**13**	**08.0**	**-1.3**
	comp=N,3.0nm,0.8s,baz=330,slow=7.0,SNR=6.5								
STKA				LR	LR	14	32	50.0	
	comp=N,460nm,19.1s,baz=5.7,slow=37								
STKA	**Stephens Creek**	**44.89**	**185**	*e*P	**P**	**14**	**13**	**08.7**	**-0.5**
STKA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
STKA	**Stephens Creek**	**44.89**	**185**	P	**P**	**14**	**13**	**06.0**	**-3.2**
MDSI	**Maura Dua**	**45.15**	**250**	P	**P**	**14**	**13**	**12.7**	**+1.1**
	comp=Z,11nm,0.9s								
UTHA	**Uthaitani**	**45.23**	**279**	P	**P**	**14**	**13**	**14.0**	**+1.8**
IPM	**Ipoh**	**45.31**	**263**	P	**P**	**14**	**13**	**14.0**	**+1.1**
CM35	**Chiang Mai Arr**	**45.42**	**283**	P	**P**	**14**	**13**	**15.0**	**+1.3**
CM34	**Chiang Mai Arr**	**45.42**	**284**	P	**P**	**14**	**13**	**15.0**	**+1.2**
CM36	**Chiang Mai Arr**	**45.48**	**283**	P	**P**	**14**	**13**	**15.0**	**+0.8**
CM09	**Chiang Mai Arr**	**45.58**	**283**	P	**P**	**14**	**13**	**16.6**	**+1.6**
CM04	**Chiang Mai Arr**	**45.59**	**283**	P	**P**	**14**	**13**	**16.6**	**+1.5**
CM01	**Chiang Mai Arr**	**45.60**	**283**	P	**P**	**14**	**13**	**16.0**	**+0.8**
CMMT	**Chiang Mai**	**45.61**	**284**	P	**P**	**14**	**13**	**16.9**	**+1.6**
CM33	**Chiang Mai Arr**	**45.62**	**284**	P	**P**	**14**	**13**	**17.0**	**+1.7**
CM02	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**16.8**	**+1.5**
CHTO	**Chiang Mai**	**45.62**	**284**	P	**P**	**14**	**13**	**14.1**	**-1.2**
CHTO				pmax	pmax				
	comp=Z,5.0nm,1.0s								
CHTO	**Chiang Mai**	**45.62**	**284**	P	**P**	**14**	**13**	**14.1**	**-1.2**
CM05	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**16.8**	**+1.5**
CM31	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**16.9**	**+1.6**
CM31	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**13.9**	**-1.4**
CM31				lAmb	lAmb	14	13	34.0	
	comp=Z,10.0nm,0.8s								
CM31	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**17.2**	**+1.9**
	SNR=5.4								
CMAR	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**15.7**	**+0.3**
	comp=Z,6.3nm,0.6s,baz=87,slow=5.9,SNR=47								
CMAR				LR	LR	14	31	42.6	
	comp=Z,381nm,20.9s,baz=118,slow=35								
CMAR	**Chiang Mai Arr**	**45.62**	**283**	*i* P	**P**	**14**	**13**	**16.5**	**+1.2**
CMAR				pmax	pmax				
	comp=Z,7.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**45.62**	**283**	P	**P**	**14**	**13**	**14.3**	**-1.0**
CM15	**Chiang Mai Arr**	**45.64**	**283**	P	**P**	**14**	**13**	**17.0**	**+1.5**
CM13	**Chiang Mai Arr**	**45.66**	**283**	P	**P**	**14**	**13**	**16.9**	**+1.4**
CM32	**Chiang Mai Arr**	**45.71**	**283**	P	P	14	13	23.0	+7.0
MA2	**Magadan**	**46.56**	**3**	P	**P**	**14**	**13**	**22.0**	**-0.1**
	comp=Z,11nm,0.8s,baz=174,slow=12								
MA2	**Magadan**	**46.56**	**3**	*ce*P	**P**	**14**	**13**	**20.7**	**-1.4**
MA2				pmax	pmax				
	comp=Z,23nm,1.3s								
MA2	**Magadan**	**46.56**	**3**	P	**P**	**14**	**13**	**21.4**	**-0.7**
MA2				lAmb	lAmb	14	13	26.1	
	comp=Z,14nm,0.8s								
MHMT	**Maesarieng**	**46.59**	**283**	P	**P**	**14**	**13**	**23.0**	**+0.1**
BBOO	**Buckleboo**	**46.61**	**192**	P	**P**	**14**	**13**	**21.7**	**-1.1**
FORT	**Forrest**	**46.92**	**201**	P	**P**	**14**	**13**	**24.5**	**-0.7**
FORT				lAmb	lAmb	14	13	42.0	
	comp=Z,20nm,0.8s								
ULN	**Ulaanbaatar**	**47.51**	**325**	*ce*P	**P**	**14**	**13**	**30.5**	**+0.6**
ULN				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PSI	**Prapat**	**47.76**	**262**	P	**P**	**14**	**13**	**29.3**	**-2.9**
PSI				pmax	pmax				
	comp=Z,8.0nm,0.7s								
RPSI	**Rantau Prapat**	**47.78**	**262**	P	**P**	**14**	**13**	**29.3**	**-3.0**
RPSI				lAmb	lAmb	14	13	35.5	
	comp=Z,8.3nm,0.7s								
SONM	**Songino Array**	**47.86**	**325**	P	**P**	**14**	**13**	**33.5**	**+0.9**
	comp=Z,2.7nm,0.5s,baz=137,slow=7.4,SNR=12								
SONM				LR	LR	14	34	10.7	
	comp=Z,710nm,19.2s,baz=114,slow=37								
SONM	**Songino Array**	**47.86**	**325**	P	**P**	**14**	**13**	**30.9**	**-1.7**
SONM				pmax	pmax				
	comp=Z,15nm,1.4s								
SONM	**Songino Array**	**47.86**	**325**	P	**P**	**14**	**13**	**30.9**	**-1.7**
SONM				lAmb	lAmb	14	13	53.2	
	comp=Z,15nm,1.4s								
GTA	**Gaotai**	**48.43**	**312**	*e*P	**P**	**14**	**13**	**37.5**	**+0.4**
GTA				pP	pP	14	13	47.4	+0.7
GTA				sP	sP	14	13	52.2	+1.4
GTA				S	**S**	**14**	**20**	**35.8**	**+0.6**
GTA				sS	sS	14	20	54.3	+4.3
GTA				pmax	pmax				
	comp=Z,14nm,1.2s								
GTA				pmax	pmax				
	comp=Z,120nm,6.6s								
GTA				L	L				
	comp=Z,240nm,17.1s								
GTA				L	L				
	comp=Z,200nm,19.6s								
GTA				L	L				
	comp=Z,350nm,21.1s								
GSI	**Gunungsitoli**	**49.45**	**260**	P	**P**	**14**	**13**	**43.9**	**-1.3**
AFI	**Afiamalu**	**49.58**	**121**	LR	LR	14	31	12.1	
	comp=Z,190nm,20.1s,baz=298,slow=32								
YAK	**Yakutsk**	**50.31**	**350**	*e*P	**P**	**14**	**13**	**49.8**	**-1.1**
YAK				*e**PP	**pP**	**14**	**14**	**01.3**	**+1.3**
YAK				*e*		14	15	10.4	
YAK				*e*		14	15	47.2	
YAK				*e*PPP	PPP	14	16	42.5	
YAK				*e*S	**S**	**14**	**20**	**59.6**	**-0.8**
YAK				*e**SS	**sS**	**14**	**21**	**18.3**	**+3.1**
YAK				*e*		14	23	35.9	
YAK				*e*SS	**SS**	**14**	**24**	**35.6**	**+1.3**
YAK				*e*SSS	SSS	14	26	02.0	
YAK				pmax	pmax				
	comp=Z,24nm,0.9s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,15nm,1.5s								
YAK				pmax	pmax				
	comp=N,16nm,1.6s								
YAK				pmax	pmax				
	comp=E,11nm,1.5s								
YAK				smax	smax				
	comp=N,35nm,2.2s								
YAK				smax	smax				
	comp=E,19nm,2.2s								
YAK	**Yakutsk**	**50.31**	**350**	P	**P**	**14**	**13**	**49.5**	**-1.4**
TOO	**Toolangi**	**50.37**	**181**	P	**P**	**14**	**13**	**51.3**	**-0.3**
TOO				pmax	pmax				
	comp=Z,41nm,1.3s								
TOO	**Toolangi**	**50.37**	**181**	P	**P**	**14**	**13**	**51.3**	**-0.3**
ZAK	**Zakamensk**	**50.95**	**326**	*e*P	**P**	**14**	**13**	**54.4**	**-1.7**
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
MORW	**Morawa**	**50.97**	**214**	P	**P**	**14**	**13**	**55.2**	**-1.2**
MORW				lAmb	lAmb	14	14	20.8	
	comp=Z,10nm,0.9s								
TLY	**Talaya**	**51.45**	**327**	*e*P	**P**	**14**	**14**	**00.2**	**+0.5**
TLY				*e*S	S	14	21	35.5	+19
TLY				pmax	pmax				
	comp=Z,37nm,1.3s								
TLY				MLR	MLR				
	comp=Z,607nm,17.0s								
TLY	**Talaya**	**51.45**	**327**	P	**P**	**14**	**14**	**00.1**	**+0.4**
SHL	**Shillong**	**52.35**	**292**	P	**P**	**14**	**14**	**06.8**	**-0.3**
SHL				pmax	pmax				
	comp=Z,19nm,0.7s								
SHL	**Shillong**	**52.35**	**292**	P	**P**	**14**	**14**	**06.8**	**-0.3**
SHL				lAmb	lAmb	14	14	08.2	
	comp=Z,19nm,0.7s								
MOY	**Mondy**	**52.85**	**326**	*e*P	**P**	**14**	**14**	**12.4**	**+2.2**
MOY				pmax	pmax				
	comp=Z,20nm,1.7s								
LSA	**Lhasa**	**53.32**	**297**	P	**P**	**14**	**14**	**15.3**	**+0.8**
LSA				pmax	pmax				
	comp=Z,19nm,0.6s								
LSA	**Lhasa**	**53.32**	**297**	P	**P**	**14**	**14**	**15.3**	**+0.8**
NIKH	**Nikolski High**	**53.46**	**32**	P		14	14	13.0	
	baz=239								
RAO	**Raoul Island**	**54.54**	**141**	LR	LR	14	36	40.3	
	comp=Z,114nm,18.2s,baz=122,slow=35								
SPIA	**Saint Paul Isl**	**55.08**	**27**	P		14	14	24.7	
	baz=235								
ODAN	**Odare**	**56.44**	**294**	*e*P	**P**	**14**	**14**	**37.5**	**+0.7**
BILL	**Bilibino**	**56.48**	**9**	*ci*P	**P**	**14**	**14**	**36.1**	**-0.1**
BILL				*i*		14	14	49.5	
BILL				pmax	pmax				
	comp=Z,18nm,0.9s								
BILL				MLR	MLR				
	comp=Z,169nm,18.0s								

MK31 lAmb lAmb 14 15 22.1
comp=Z,8.6nm,0.7s
MKAR Makanchi Array 62.71 316 P **P** **14 15 20.9 +1.5**
comp=Z,13nm,0.6s,baz=89,slow=8.2,SNR=126
MKAR LR LR 14 44 28.2
comp=Z,202nm,19.1s,baz=83,slow=38
MKAR Makanchi Array 62.71 316 *i* P **P** **14 15 20.5 +1.0**
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 62.71 316 P **P** **14 15 19.7 +0.2**
ZAA0 Zalesovo Array 62.76 324 P **P** **14 15 18.9 -0.6**
ZAA0 lAmb lAmb 14 15 37.0
comp=Z,10nm,1.0s
ZALV Zalesovo Beam 62.76 324 P **P** **14 15 20.9 +1.4**
comp=Z,3.2nm,0.5s,baz=104,slow=7.0,SNR=17
ZALV LR LR 14 44 03.5
comp=Z,364nm,19.7s,baz=99,slow=37
ZALV Zalesovo Beam 62.76 324 P **P** **14 15 19.1 -0.4**
MAKZ Makanchi 62.93 316 P **P** **14 15 21.1 +0.2**
MAKZ pmax pmax
comp=Z,20nm,0.7s
MAKZ Makanchi 62.93 316 P **P** **14 15 21.1 +0.2**
OHAK Old Harbor 63.34 32 P **P** **14 15 24.1 +0.7**
OHAK Old Harbor 63.34 32 P 14 15 22.0
baz=252
SVW2 Sparrevohn 63.58 27 P **P** **14 15 23.9 -0.9**
KDAK Kodiak Island 63.88 32 P **P** **14 15 27.5 +0.6**
comp=Z,5.5nm,0.4s,baz=259,slow=3.0,SNR=18
KDAK Kodiak Island 63.88 32 P **P** **14 15 27.1 +0.2**
KDAK pmax pmax
comp=Z,17nm,1.1s
KDAK Kodiak Island 63.88 32 P **P** **14 15 27.1 +0.2**
KDAK lAmb lAmb 14 15 29.4
comp=Z,17nm,1.1s
KDAK Kodiak Island 63.88 32 P 14 15 25.6
baz=252
RDOG Red Dog Mine 63.98 19 P 14 15 26.9
baz=237
SHLS Shalkode 64.18 312 *e*P **P** **14 15 26.6 -2.7**
baz=312
SHLS Shalkode 64.18 312 *e*P **P** **14 15 26.6 -2.7**
UZB Uzynbulak 64.50 312 *e*P **P** **14 15 30.4 -1.1**
baz=312
UZB Uzynbulak 64.50 312 *e*P **P** **14 15 30.4 -1.1**
RSO Redoubt South 64.65 29 P **P** **14 15 31.9 -0.3**
SEM Semipalatinsk 64.69 320 *e*P **P** **14 15 31.5 -1.2**
baz=320
SEM Semipalatinsk 64.69 320 *e*P **P** **14 15 31.4 -1.2**
KPKS Kokpek 64.77 312 *e*P **P** **14 15 32.9 -0.4**
baz=312
KPKS Kokpek 64.77 312 *e*P **P** **14 15 32.8 -0.4**
PRZ Przheval'sk 64.89 311 P **P** **14 15 34.5 +0.4**
PRZ pmax pmax
comp=Z,37nm,0.7s
PRZ Przheval'sk 64.89 311 P **P** **14 15 34.5 +0.4**
SATY Saty 64.94 312 *e*P **P** **14 15 34.4 +0.1**
baz=312
SATY Saty 64.94 312 *e*P **P** **14 15 34.4 +0.1**
HYB Hyderabad 65.05 283 *i* P **P** **14 15 36.0 +0.7**
HYB *es*P **sP** **14 15 51.0 +2.1**
CNPM China Poot 65.08 30 P **P** **14 15 35.4 +0.6**
BRLK Bradley Lake 65.32 30 P **P** **14 15 35.7 -0.6**
BRLK lAmb lAmb 14 15 56.8
comp=Z,14nm,1.0s
CAPN Captain Cook N 65.49 29 P 14 15 35.4
baz=252
SKT Skwentna 65.70 27 P **P** **14 15 37.8 -1.0**
SKT lAmb lAmb 14 15 57.2
comp=Z,11nm,1.1s
SKT Skwentna 65.70 27 P 14 15 37.6
baz=251
PPLA Purkeypile 65.72 26 P **P** **14 15 38.5 -0.5**
PPLA lAmb lAmb 14 15 56.3
comp=Z,11nm,0.7s
PPLA Purkeypile 65.72 26 P 14 15 38.0
baz=250
KDJ Kajisay 65.76 310 P **P** **14 15 38.8 -0.9**
KDJ pmax pmax
comp=Z,17nm,0.7s
KDJ Kajisay 65.76 310 P **P** **14 15 38.8 -0.9**
KURBB Kurchatov Arra 65.81 320 P **P** **14 15 39.2 -0.4**
SUA Susitna One 65.89 28 P 14 15 39.5
baz=252
MDOK Medeo 65.94 312 *e*P **P** **14 15 40.7 -0.1**
baz=312
MDOK Medeo 65.94 312 *e*P **P** **14 15 40.7 -0.1**
CHUM Lake Minchumin 66.00 25 P 14 15 40.9
baz=250
AAA Alma-Ata 66.04 312 *e*P **P** **14 15 38.0 -3.3**
CHKK Chushkaly 66.04 312 *e*P **P** **14 15 41.3 0.0**
baz=312
CHKK Chushkaly 66.04 312 *e*P **P** **14 15 41.2 0.0**
O22K Cooper Landing 66.08 29 P **P** **14 15 40.9 -0.3**
O22K Cooper Landing 66.08 29 P 14 15 40.4
baz=254
SEW Seward 66.11 30 P 14 15 40.8
baz=254
IMAR Indian Mountai 66.20 23 P **P** **14 15 41.8 -0.1**
RC01 Rabbit Creek A 66.25 29 P **P** **14 15 41.9 -0.3**
RC01 lAmb lAmb 14 15 58.9
comp=Z,17nm,0.8s
RC01 Rabbit Creek A 66.25 29 P 14 15 41.7
baz=253
M22K Willow 66.27 28 P 14 15 41.4
baz=253
CUT Chulitna 66.40 27 P 14 15 42.0
baz=252
H21K Melozitna Rive 66.44 23 P 14 15 43.3
baz=248,SNR=10.0
KTH Kantishna Hill 66.48 26 P **P** **14 15 43.9 +0.1**
KTH lAmb lAmb 14 16 00.5
comp=Z,15nm,1.0s
KUU Kurty 66.51 312 *e*P **P** **14 15 44.3 0.0**
baz=312
KUU Kurty 66.51 312 *e*P **P** **14 15 44.2 0.0**
KSH Kashi 66.53 308 P **P** **14 15 47.4 +2.8**
KSH S **S** **14 24 30.3 -2.4**
KSH sS sS 14 25 01.7 +11
KSH pmax pmax
comp=Z,190nm,3.3s
KSH L L
comp=Z,110nm,4.8s
BPAW Bear Paw Mtn. 66.63 25 P **P** **14 15 44.5 -0.2**
BPAW lAmb lAmb 14 16 01.9
comp=Z,15nm,1.2s
BPAW Bear Paw Mtn. 66.63 25 P 14 15 44.4
baz=251,SNR=10
PMR Palmer 66.67 28 P **P** **14 15 44.8 -0.1**
PMR pmax pmax
comp=Z,12nm,0.8s
PMR Palmer 66.67 28 P **P** **14 15 44.8 -0.1**
PMR lAmb lAmb 14 16 02.9
comp=Z,12nm,0.8s
PMR Palmer 66.67 28 P 14 15 43.8
baz=254
BOOM Boomskoye usch 66.70 311 P **P** **14 15 46.2 +0.4**
BOOM pmax pmax
comp=Z,13nm,0.6s
BOOM Boomskoye usch 66.70 311 P **P** **14 15 46.2 +0.4**
TRF Thorofare Moun 66.71 26 P **P** **14 15 44.9 -0.5**
TRF lAmb lAmb 14 15 59.8
comp=Z,11nm,1.0s
TRF Thorofare Moun 66.71 26 P 14 15 44.9
baz=252
GHO Glory Hole Cre 66.82 28 P **P** **14 15 46.0 0.0**
GHO lAmb lAmb 14 16 01.3
comp=Z,16nm,1.0s
PWL Port Wells 66.84 29 P **P** **14 15 45.5 -0.6**
KNK Knik Glacier 66.93 28 P **P** **14 15 45.9 -0.8**
KNK Knik Glacier 66.93 28 P 14 15 45.8
baz=254
NRIK Noril'sk 67.03 341 P **P** **14 15 46.7 -0.3**
comp=Z,10nm,0.8s,baz=112,slow=8.6,SNR=13
NRIK LR LR 14 45 54.6
comp=Z,321nm,19.1s,baz=124,slow=37
NRIK Noril'sk 67.03 341 *ce*P **P** **14 15 46.4 -0.7**
NRIK pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 67.03 341 P **P** **14 15 45.9 -1.2**
MLY Manley 67.03 24 P **P** **14 15 46.8 -0.5**
MLY lAmb lAmb 14 16 05.0
comp=Z,8.8nm,0.8s
MLY Manley 67.03 24 P 14 15 47.6
baz=251,SNR=14
SML Sawmill 67.10 28 P **P** **14 15 47.2 -0.5**
SML Sawmill 67.10 28 P 14 15 47.0
baz=254,SNR=7.1
BWN Browne 67.28 25 P **P** **14 15 48.1 -0.7**
WAT2 Susitna Watana 67.31 27 P 14 15 48.0
baz=254,SNR=6.8
RND Reindeer 67.31 26 P **P** **14 15 48.6 -0.5**
RND pmax pmax
comp=Z,11nm,1.2s
RND Reindeer 67.31 26 P **P** **14 15 48.6 -0.5**
RND lAmb lAmb 14 16 05.4
comp=Z,11nm,1.2s
MCK McKinley 67.38 26 P 14 15 48.5
baz=253
GLI Glacier Island 67.44 29 P 14 15 48.4
baz=256
Q23K Middleton Isla 67.46 31 P 14 15 48.8
baz=257
SCM Sheep Creek Mo 67.56 28 P **P** **14 15 50.2 -0.5**
SCM pmax pmax
comp=Z,40nm,1.3s
SCM Sheep Creek Mo 67.56 28 P **P** **14 15 50.2 -0.5**
WAT6 Susitna Watana 67.57 27 P 14 15 50.4
baz=255,SNR=8.6
NEA2 Nenana 67.58 25 P **P** **14 15 49.5 -1.1**
NEA2 Nenana 67.58 25 P 14 15 49.7
baz=252
I23K Minto, Yukon-K 67.63 24 P 14 15 51.0
baz=252
SGDS Sogindy 67.72 312 *e*P **P** **14 15 51.4 -0.7**
baz=312
SGDS Sogindy 67.72 312 *e*P **P** **14 15 51.3 -0.7**
H23K Yukon River 67.77 24 P 14 15 51.4
baz=252,SNR=6.3
AAK Ala-Archa 67.78 311 P **P** **14 15 53.0 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 67.78 311 P **P** **14 15 53.0 +0.5**
AAK lAmb lAmb 14 16 21.5
comp=Z,5.1nm,0.6s
WRH Wood River Hil 67.94 25 P **P** **14 15 52.1 -0.8**
WRH lAmb lAmb 14 16 19.7
comp=Z,13nm,1.2s
COLD Coldfoot 67.97 22 P **P** **14 15 53.8 +0.7**
COLD Coldfoot 67.97 22 P 14 15 52.6
baz=250,SNR=11
EYAK Cordova Ski Ar 68.00 30 P 14 15 52.8
baz=257
MDM Murphy Dome 68.03 25 P **P** **14 15 52.7 -0.8**
CCB Clear Creek Bu 68.11 25 P **P** **14 15 53.0 -1.0**
KLU Klutina 68.13 29 P **P** **14 15 53.5 -0.8**
KLU lAmb lAmb 14 16 12.3
comp=Z,10.0nm,1.0s
KLU Klutina 68.13 29 P 14 15 54.0
baz=257
TCOL CIGO, UAF Yank 68.15 25 P **P** **14 15 53.9 -0.3**
TCOL CIGO, UAF Yank 68.15 25 P 14 15 54.2
baz=254
COLA College 68.16 25 P **P** **14 15 54.2 0.0**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 68.16 25 P **P** **14 15 54.2 0.0**
M24K Tolsona, Glenn 68.16 28 P **P** **14 15 54.1 -0.3**
M24K Tolsona, Glenn 68.16 28 P 14 15 53.7
baz=256
BTLS Baital 68.22 313 *e*P **P** **14 15 55.0 -0.1**
baz=313
BTLS Baital 68.22 313 *e*P **P** **14 15 55.0 -0.1**
HDA Harding Lake 68.40 25 P **P** **14 15 55.1 -0.8**
HDA Harding Lake 68.40 25 P 14 15 55.0
baz=255
HDA P 14 15 55.0
baz=255
H24K Noodor Dome 68.42 24 P 14 15 56.1
baz=253,SNR=8.9
IL31 68.53 25 P **P** **14 15 55.4 -1.1**
ILAR Eielson Array 68.53 25 P **P** **14 15 55.9 -0.7**
comp=Z,2.0nm,0.4s,baz=253,slow=5.8,SNR=48
ILAR Eielson Array 68.53 25 P **P** **14 15 55.4 -1.2**
BMRM Bremner River 68.64 29 P 14 15 57.2
baz=258
TOLK Toolik Lake Re 68.67 21 P **P** **14 15 58.4 +0.8**
TOLK lAmb lAmb 14 16 12.8
comp=Z,10nm,1.2s
TOLK Toolik Lake Re 68.67 21 P 14 15 58.2
baz=250,SNR=5.8
HARP HAARP 68.69 28 P 14 15 57.7
baz=257
NIL Nilore 68.70 301 P **P** **14 15 58.9 +0.6**
NIL pmax pmax
comp=Z,60nm,1.1s
NIL Nilore 68.70 301 P **P** **14 15 58.9 +0.6**
NIL Nilore 68.70 301 P **P** **14 15 59.9 +1.5**
N25K Chitina, Valde 68.78 29 P **P** **14 15 58.0 -0.4**
N25K Chitina, Valde 68.78 29 P 14 15 57.9
baz=258
GLB Gilahina Butte 69.11 29 P **P** **14 16 01.0 +0.6**
GLB lAmb lAmb 14 16 17.8
comp=Z,15nm,0.9s
CRQM Cirque 69.30 30 P **P** **14 16 02.2 +0.5**
CRQM lAmb lAmb 14 16 21.6
comp=Z,13nm,0.7s
CRQE Cirque 69.33 30 P 14 16 01.5
baz=260
POO Poona 69.36 285 *ex* x 14 16 14.0
DOT Dot Lake 69.45 27 P **P** **14 16 02.5 +0.1**
MENT Mentasta 69.46 27 P **P** **14 16 02.9 +0.4**
BRZS Berezniki 69.47 319 *e*P **P** **14 16 02.1 -0.6**
baz=319
BRZS Berezniki 69.47 319 *e*P **P** **14 16 02.1 -0.6**
MCARA McCarthy VSAT 69.47 29 P **P** **14 16 03.3 +0.7**
MCARA lAmb lAmb 14 16 20.5
comp=Z,18nm,0.9s
MCARA McCarthy VSAT 69.47 29 P 14 16 02.2
baz=259
SCRK Sand Creek 69.56 26 P **P** **14 16 03.2 +0.1**
SCRK Sand Creek 69.56 26 P 14 16 03.1
baz=256
OTUK Ortayu 69.58 317 P **P** **14 16 04.6 +1.1**
FYU Fort Yukon 69.65 23 P **P** **14 16 04.3 +0.7**
FYU lAmb lAmb 14 16 21.2
comp=Z,15nm,1.0s
MESA MESA 69.78 30 P 14 16 04.4
baz=261
YAH Yahtse 69.92 30 P **P** **14 16 05.0 -0.6**
YAH lAmb lAmb 14 16 23.4
comp=Z,13nm,0.8s
GRNC Granite Creek 69.97 30 P **P** **14 16 06.1 +0.2**
GRNC lAmb lAmb 14 16 23.0
comp=Z,13nm,0.6s
BARN Barnard Glacie 70.07 30 P **P** **14 16 06.5 +0.1**
BARN lAmb lAmb 14 16 08.7
comp=Z,9.3nm,1.0s
BMAR Burnt Mountain 70.12 23 P **P** **14 16 06.8 +0.3**
CTG Chitna Glacier 70.21 30 P 14 16 07.6
baz=261,SNR=6.1
CTGM Chitina Glacie 70.21 30 P **P** **14 16 07.9 +0.6**
CTGM lAmb lAmb 14 16 25.5
comp=Z,18nm,0.8s
TABL Table Mountain 70.22 30 P **P** **14 16 07.3 -0.1**
L27K Beaver Creek, 70.33 27 P **P** **14 16 07.4 -0.4**
L27K Beaver Creek, 70.33 27 P 14 16 07.5
baz=260,SNR=8.0
BCAR Beaver Creek A 70.35 27 P **P** **14 16 08.1 +0.1**
PPT Papeete 70.39 114 LR LR 14 40 36.0
comp=Z,189nm,21.4s,baz=268,slow=30
K27K Chicken 70.39 26 P 14 16 08.3
baz=259
PPT2 Papeete2 70.39 114 *e*S **S** **14 25 18.4 -0.7**
comp=Z,68nm,23.2s
PPT2 Papeete2 70.39 114 *e*LR LR 14 37 30.7
comp=Z,290nm,22.0s
BTK Batken 70.50 308 P **P** **14 16 09.5 +0.1**
BTK pmax pmax
comp=Z,23nm,1.5s
BTK Batken 70.50 308 P **P** **14 16 09.5 +0.1**
BTK lAmb lAmb 14 16 11.5
comp=Z,23nm,1.4s
PINM Pinnacle 70.61 31 P 14 16 09.8
baz=262
KK31 Karatay Array 70.71 311 P **P** **14 16 10.2 -0.3**
KK31 pmax pmax
comp=Z,11nm,1.0s
KK31 Karatay Array 70.71 311 P **P** **14 16 10.2 -0.3**
KK31 lAmb lAmb 14 16 15.1
comp=Z,11nm,1.0s
KKAR Karatay Array 70.71 311 P **P** **14 16 10.2 -0.3**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 70.71 311 P **P** **14 16 10.2 -0.3**
KKAR lAmb lAmb 14 16 15.1
comp=Z,11nm,1.0s
KKAR Karatay Array 70.71 311 P **P** **14 16 10.4 -0.1**
GAR Garm 70.91 307 P **P** **14 16 11.6 -0.4**
EGAK Eagle 70.92 26 P **P** **14 16 11.0 -0.3**
EGAK lAmb lAmb 14 16 31.9
comp=Z,9.9nm,1.1s
EGAK Eagle 70.92 26 P 14 16 11.7
baz=260
BRVK Borovoye 71.16 322 *i* P **P** **14 16 13.6 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 71.16 322 P **P** **14 16 13.2 +0.2**
DAWY Dawson 71.56 27 P **P** **14 16 15.5 +0.2**
DAWY lAmb lAmb 14 16 35.6
comp=Z,12nm,1.2s
CHGR Chuyangaron 71.83 307 P **P** **14 16 17.6 +0.2**
HYT Haines Junctio 72.05 30 P **P** **14 16 18.8 +0.4**
HYT lAmb lAmb 14 16 37.0
comp=Z,18nm,0.9s
KBL Kabul 72.14 302 P **P** **14 16 19.5 0.0**
KBL pmax pmax
comp=Z,47nm,1.3s
KBL Kabul 72.14 302 P **P** **14 16 19.5 0.0**
KBL Kabul 72.14 302 P **P** **14 16 20.6 +1.1**
SNR=18
TBI Tubuai 72.65 120 *e*LR LR 14 38 39.1
comp=Z,184nm,25.8s
EPYK Eagle Plains 72.98 24 P **P** **14 16 24.3 +0.6**
EPYK Eagle Plains 72.98 24 P 14 16 23.6
baz=264
WHY Whitehorse 73.32 30 P **P** **14 16 25.3 -0.6**
WHY lAmb lAmb 14 16 28.6
comp=Z,11nm,1.0s
WHY Whitehorse 73.32 30 P 14 16 26.4
baz=267
JIS Juneau Island 73.47 33 P **P** **14 16 27.6 +1.0**
JIS lAmb lAmb 14 16 29.2
comp=Z,10.0nm,0.8s
INK Inuvik 74.39 22 P **P** **14 16 32.4 +0.6**
comp=Z,8.6nm,1.0s,baz=264,slow=4.5
INK LR LR 14 50 05.9
comp=Z,80nm,19.6s,baz=284,slow=36
INK Inuvik 74.39 22 P **P** **14 16 31.6 -0.2**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 74.39 22 P **P** **14 16 31.6 -0.2**
INK lAmb lAmb 14 16 35.0
comp=Z,13nm,1.1s
INK Inuvik 74.39 22 P 14 16 31.8
baz=266
SVE Sverdlovsk 76.72 326 *e*P **P** **14 16 46.6 +1.2**
BBB Bella Bella 77.22 39 P **P** **14 16 48.2 -0.1**
HRA Herat 77.75 303 P **P** **14 16 50.5 -1.4**
AB31 Akbulak array 77.75 318 *i* P **P** **14 16 51.8 +0.5**
ABKAR Akbulak array 77.75 318 P **P** **14 16 51.2 -0.1**
ABKAR Akbulak array 77.75 318 P **P** **14 16 51.4 +0.1**
ABKAR lAmb lAmb 14 17 09.1
comp=Z,16nm,0.9s
C36M Paulatuk 77.81 21 P **P** **14 16 51.3 0.0**
C36M Paulatuk 77.81 21 P 14 16 51.9
baz=274
ARU Arti 77.89 325 *d* iP **P** **14 16 52.2 +0.2**
ARU *PP **sP** **14 17 05.1 -0.9**
ARU S **S** **14 26 46.2 +4.3**
ARU pmax pmax
comp=Z,18nm,0.9s
ARU MLR MLR
comp=Z,344nm,18.0s
ARU Arti 77.89 325 P **P** **14 16 51.9 -0.1**
ARU lAmb lAmb 14 17 09.3
comp=Z,22nm,0.9s
AKTO Aktyubinsk 78.86 319 P **P** **14 16 57.5 0.0**
GEYT Alibeck 80.54 307 P **P** **14 17 07.8 +0.9**
comp=Z,21nm,1.1s,baz=188,slow=3.0,SNR=14
GEYT LR LR 14 55 50.5
comp=Z,182nm,20.5s,baz=175,slow=38
GEYT Alibeck 80.54 307 P **P** **14 17 06.9 -0.1**
GYA0B ALIBECK ARRAY 80.54 307 P **P** **14 17 07.5 +0.6**
D03D Eldon 81.03 43 P 14 17 09.9
baz=280
E04D Cinebar 81.54 44 P 14 17 10.8
baz=280
I04A Tendick Farm, 82.14 47 P 14 17 14.5
baz=280
KIRV Kirov 82.43 328 *ce*P **P** **14 17 17.5 +1.1**
N02D Trinity Center 82.44 50 P 14 17 16.4
baz=281
J04D Umpqua Nationa 82.46 47 P 14 17 17.5
baz=281
WBK Wadi Bani Khal 82.49 291 PcP **P** **14 17 19.8 +2.3**
WSAR Wadi Sarin 82.68 292 PcP **P** **14 17 20.2 +1.8**
YKA Yellowknife Ar 82.77 28 P **P** **14 17 18.8 +0.7**
comp=Z,2.4nm,0.6s,baz=285,slow=5.0,SNR=24
YKA LR LR 14 55 10.2
comp=Z,143nm,19.4s,baz=0.0,slow=36
M04C Macdoel 82.93 49 P 14 17 19.0
baz=281
BIDO Bidbid 83.08 292 PcP **PcP** **14 17 23.1 -2.0**
SNR=7.0
EUNU Eureka 83.22 8 P **P** **14 17 19.7 -0.5**
O03E Paynes Creek 83.25 50 P 14 17 20.4
baz=281
PRGR Permogore 83.54 332 *e*P **P** **14 17 21.7 -0.4**
PRGR *e**SP **sP** **14 17 34.7 -0.8**
PRGR pmax pmax
comp=Z,83nm,1.4s
MHTO MHTO 83.72 290 PcP **P** **14 17 25.3 +1.4**
HOQ Hoqain 83.80 293 PcP **P** **14 17 25.9 +1.7**
SNR=9.9
MOD Modoc Plateau 84.03 49 P **P** **14 17 24.3 -1.0**
G08A Pilot Rock 84.26 45 P **P** **14 17 25.3 -1.0**
UOSS Minazif 84.52 294 P **P** **14 17 27.2 -0.7**
UOSS lAmb lAmb 14 17 30.5
comp=Z,10nm,0.7s
ARQ Araqi 84.56 293 PcP **PcP** **14 17 31.0 -0.7**
SNR=6.6
HATD Hatta, Dubai 84.61 294 PcP **PcP** **14 17 34.0 +2.2**
SNR=5.6
NEW Newport 84.81 42 P **P** **14 17 28.3 -0.6**
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 84.81 42 P **P** **14 17 28.3 -0.6**
NEW lAmb lAmb 14 17 32.0
comp=Z,9.3nm,1.1s
NEW Newport 84.81 42 P 14 17 29.6
baz=284
ALNE Al Ain 85.11 293 PcP **P** **14 17 32.3 +1.5**
SNR=12
WVOR Wild Horse Val 85.12 48 P **P** **14 17 29.2 -1.5**
WVOR pmax pmax
comp=Z,6.0nm,1.1s
WVOR Wild Horse Val 85.12 48 P **P** **14 17 29.2 -1.5**
RKT Rikitea 85.13 115 *e*LR LR 14 44 20.3
comp=Z,276nm,24.0s
PKM Mcpherson Peak 85.93 55 P 14 17 35.7
baz=283
RYN Ryan 86.08 51 P **P** **14 17 34.7 -0.9**
NVAR Mina Array Bea 86.30 52 P **P** **14 17 38.1 +1.3**
comp=Z,1.1nm,0.5s,baz=270,slow=5.4,SNR=13
NVAR Mina Array Bea 86.30 52 P **P** **14 17 34.7 -2.0**
KVN Kaiserville 86.31 51 P **P** **14 17 35.3 -1.5**
KVN pmax pmax
comp=Z,4.0nm,1.3s
KVN Kaiserville 86.31 51 P **P** **14 17 35.2 -1.5**
NV11 Mina Array Sit 86.41 52 P **P** **14 17 36.0 -1.2**
KLMR Klimovskoe 86.59 332 *eP* **P** **14 17 36.6 -0.8**
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 86.59 332 *eP* **P** **14 17 36.6 -0.8**
KLMR AMP 14 17 41.1
comp=Z,20nm,1.2s
WALA Waterton Lakes 86.67 40 P **P** **14 17 38.0 -0.2**
WALA lAmb lAmb 14 17 40.9
comp=Z,12nm,0.8s
JTMT Jette 86.79 42 P **P** **14 17 37.8 -1.1**
JTMT lAmb lAmb 14 17 56.0
comp=Z,8.9nm,1.2s
MFID Camas Ranch 86.89 46 P **P** **14 17 38.7 -0.7**
MFID lAmb lAmb 14 17 41.7
comp=Z,12nm,1.1s
CWC Cottonwood Cre 86.94 53 P 14 17 40.7

baz=284
EDW2 Edwards Air Fo 87.38 55 P 14 17 42.3
baz=284
MAK Makhachkala 87.40 313 *e*P **P 14 17 39.6 -2.1**
MAK *e* 14 21 04.9
MAK *e*PPP PPP 14 23 02.9
MAK *e* 14 28 04.4
MAK *e*SS SS 14 34 10.5 +6.0
MAK *e*SSS SSS 14 37 44.0
MAK MLR MLR
comp=Z,366nm,18.0s
HLID Hailey 87.84 46 P **P 14 17 42.7 -1.4**
HLID Hailey 87.84 46 P 14 17 45.4
baz=286
FURC Furnace Creek, 87.89 53 P 14 17 45.7
baz=285
ARCES ARCESS Array B 87.95 342 P **P 14 17 44.4 +0.5**
comp=Z,4.0nm,0.8s,baz=67,slow=9.3,SNR=8.6
ARCES LR LR 15 00 46.0
comp=Z,242nm,19.9s,baz=80,slow=38
ELK Elko 88.01 49 P **P 14 17 42.2 -2.8**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 88.01 49 P **P 14 17 42.2 -2.8**
ELK IAmb IAmb 14 17 47.4
comp=Z,8.9nm,1.0s
GSC Goldstone, Bar 88.22 54 P 14 17 47.3
baz=285
TPNV Topopah Spring 88.24 53 P 14 17 47.4
baz=285
BCYI Bear Canyon 88.33 45 P **P 14 17 46.0 -0.5**
R11A Troy Canyon, C 88.39 51 P 14 17 48.2
baz=285
SHOC Shoshone, Teco 88.49 54 P 14 17 48.2
baz=285
MCMT McKenzie Canyo 88.56 44 P **P 14 17 47.7 +0.1**
DLMT Dillon 88.58 44 P **P 14 17 47.3 -0.2**
DLMT IAmb IAmb 14 17 49.4
comp=Z,9.2nm,1.4s
HRY Holter Researc 88.69 42 P **P 14 17 48.4 +0.5**
HEC Hector,Ludlow 88.72 55 P 14 17 49.3
baz=285
VRH Novokhopyorsk 88.73 322 *e*P **P 14 17 46.4 -1.5**
VRH *e**SP **sP 14 18 00.4 -1.0**
TUQ Turquoise Moun 88.89 54 P 14 17 50.3
baz=285
PFO Pinyon Flats O 88.93 56 P **P 14 17 48.4 -1.0**
PFO pmax pmax
comp=Z,11nm,1.3s
PFO Pinyon Flats O 88.93 56 P **P 14 17 48.4 -1.0**
PFO IAmb IAmb 14 18 08.2
comp=Z,11nm,1.2s
PFO Pinyon Flats O 88.93 56 P 14 17 50.1
baz=285
TPFO Pinon Flats 88.94 56 P 14 17 50.3
baz=285
MONP2 Monument Peak 89.15 57 P 14 17 50.9
baz=285
SPR3 Spring Creek 3 89.16 50 P **P 14 17 50.6 0.0**
SPR3 IAmb IAmb 14 17 53.2
comp=Z,6.8nm,1.1s
BELC Belle Mtn. Jos 89.20 55 P 14 17 50.6
baz=285
GMRC Granite Mounta 89.27 55 P 14 17 51.8
baz=285
IKP In-Ko-Pah, Jac 89.46 57 P 14 17 53.1
baz=285
HVU Hansel Valley 89.50 47 P **P 14 17 51.6 -0.4**
HVU pmax pmax
comp=Z,9.0nm,1.1s
HVU Hansel Valley 89.50 47 P **P 14 17 51.6 -0.4**
HVU IAmb IAmb 14 17 54.5
comp=Z,9.3nm,1.1s
EGMT Eagleton 89.61 41 P 14 17 53.1
baz=289
SWSC Sam W. Stewart 89.64 56 P 14 17 53.2
baz=285
PSUT Pine Spring 89.64 51 P **P 14 17 52.6 -0.2**
PSUT IAmb IAmb 14 18 12.0
comp=Z,5.7nm,0.9s
YHB Horse Butte 89.71 44 P **P 14 17 50.3 -2.6**
YHB IAmb IAmb 14 18 11.7
comp=Z,10nm,1.0s
BC3 Big Chuckawall 89.73 56 P 14 17 54.2
baz=286
IRM Iron Mountain 89.84 55 P 14 17 54.9
baz=286
LPSR Galich'ya Gora 89.87 324 *e*P **P 14 17 53.0 -0.2**
LPSR *e**SP **sP 14 18 06.7 0.0**
SPUT South Promonto 89.88 48 P **P 14 17 51.2 -2.5**
SPUT IAmb IAmb 14 17 56.0
comp=Z,6.5nm,1.1s
DUG Dugway, Tooele 89.94 49 P **P 14 17 52.5 -1.5**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway, Tooele 89.94 49 P **P 14 17 52.5 -1.5**
DUG IAmb IAmb 14 18 13.9
comp=Z,10nm,1.2s
DUG Dugway, Tooele 89.94 49 P 14 17 55.4
baz=287
OBN Obninsk 90.20 327 *i* P **P 14 17 54.0 -0.6**
OBN *i* 14 18 08.4
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,137nm,20.0s
VSR Storozhevoye 90.24 323 *e*P **P 14 17 53.6 -1.3**
VSR *e**SP **sP 14 18 08.4 -0.1**
H17A Grant Village 90.24 44 P 14 17 57.9
baz=289
VORD Divnogorie 90.25 323 *e*P **P 14 17 53.0 -2.0**
FLWY Flagg Ranch 90.26 45 P **P 14 17 54.8 -0.7**
FLWY IAmb IAmb 14 18 13.8
comp=Z,8.1nm,0.9s
CCUT Cedar City 90.29 51 P **P 14 17 55.2 -0.6**
KBZ Khabaz 90.39 315 P **P 14 17 56.2 +0.4**
comp=Z,1.7nm,0.8s,baz=163,slow=4.5,SNR=3.7
KBZ LR LR 15 03 04.5
comp=Z,124nm,18.5s,baz=69,slow=39
KIV Kislovodsk 90.47 315 *e*P **P 14 17 57.3 +1.0**
KIV pmax pmax
comp=Z,27nm,1.1s
PDMCI Parker Dam,Lak 90.60 55 P 14 17 58.5
baz=286
KNB Kanab 90.86 52 P **P 14 17 56.9 -1.5**
KNB pmax pmax
comp=Z,9.0nm,1.1s
KNB Kanab 90.86 52 P **P 14 17 56.9 -1.5**
KNB IAmb IAmb 14 18 01.3
comp=Z,9.5nm,1.1s
VNDA Vanda 90.87 177 P **P 14 17 58.3 +1.1**
comp=Z,0.7nm,0.8s,baz=328,slow=2.9,SNR=3.7
VNDA Vanda 90.87 177 IAmb IAmb 14 18 05.9
comp=Z,4.7nm,1.4s
RLMT Red Lodge 90.89 43 P **P 14 17 56.8 -1.6**
RLMT IAmb IAmb 14 18 17.2
comp=Z,6.1nm,0.8s
RLMT Red Lodge 90.89 43 P 14 18 00.2
baz=290
U15A North Rim 91.44 52 P **P 14 17 58.5 -2.7**
U15A IAmb IAmb 14 18 21.6
comp=Z,9.9nm,1.3s
PDAR Pinedale Array 91.47 46 P **P 14 18 01.8 +0.6**
comp=Z,0.5nm,0.5s,baz=336,slow=3.3,SNR=3.6
BW06 Boulder Array 91.47 46 P 14 18 01.9
baz=289
FFC Flin Flon 91.60 33 P **P 14 18 00.1 -1.1**
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC Flin Flon 91.60 33 P **P 14 18 00.1 -1.1**
FFC IAmb IAmb 14 18 02.5
comp=Z,5.0nm,0.9s
FINES FINESS Array B 92.15 335 P **P 14 18 02.7 -0.8**
comp=Z,5.0nm,0.5s,baz=66,slow=5.2,SNR=44
FINES LR LR 15 02 55.1
comp=Z,145nm,18.1s,baz=78,slow=38
LAO LASA Array 92.33 41 P 14 18 06.2
baz=292
214A Organ Pipe Nat 92.34 57 P 14 18 06.7
baz=287
WUAZ Wupatki 92.42 53 P **P 14 18 04.6 -1.1**
WUAZ IAmb IAmb 14 18 08.5
comp=Z,4.7nm,0.9s
WUAZ Wupatki 92.42 53 P 14 18 06.7
baz=288
O20A White River Ci 93.28 48 P 14 18 10.0
baz=290
PV17 East Wray Mesa 93.38 50 P **P 14 18 08.9 -1.2**
PV17 IAmb IAmb 14 18 11.8
comp=Z,7.7nm,1.0s
PV16 Nyswonger Mesa 93.40 50 P **P 14 18 08.7 -1.5**
PV16 IAmb IAmb 14 18 11.9
comp=Z,3.7nm,0.8s
PV03 Paradox Valley 93.47 50 P **P 14 18 08.1 -2.4**
PV03 IAmb IAmb 14 18 12.1
comp=Z,5.1nm,0.9s
PV12 Saucer Basin, 93.48 50 P **P 14 18 09.0 -1.6**
PV12 IAmb IAmb 14 18 15.3
comp=Z,7.3nm,0.9s
K22A Casper 93.61 45 P 14 18 12.1
baz=291
MVCO Mesa Verde 94.08 51 P 14 18 14.9
baz=290
N23A Red Feather La 94.65 46 P 14 18 17.5
baz=292
RSSD Black Hills 94.73 43 P 14 18 16.4
baz=293
MNK Minsk 94.96 329 *i* P **P 14 18 18.7 +2.0**
MNK *i* 14 22 08.6
MNK *i* PPP PPP 14 24 10.5
MNK *i* S **SKSac 14 28 51.5 +2.5**
MNK *i* 14 29 32.8
MNK *i* SS **SS 14 35 58.6 +6.0**
MNK *i* SSS SSS 14 39 40.7
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK MLR MLR
comp=Z,390nm,24.0s
MNK MLR MLR
comp=N,352nm,21.0s
MNK MLR MLR
comp=E,27nm,16.0s
MNK Minsk 94.96 329 *i* P **P 14 18 18.8 +2.1**
comp=E,3.0nm,0.9s
MNK *i* P **P 14 18 18.8 +2.1**
comp=N,4.0nm,0.7s
MNK *i* P **P 14 18 18.8 +2.1**
comp=Z,8.0nm,0.9s,baz=239
MNK *i* PP **PP 14 22 08.6 +3.0**
MNK *i* PPP PPP 14 24 10.5
MNK *i* S **SKSac 14 28 51.5 +2.6**
MNK *i* SKS **ScS 14 29 32.9 +4.1**
MNK *i* SS **SS 14 35 58.6 +6.1**
MNK *i* SSS SSS 14 39 40.8
MNK *i* LQ LQ 14 55 20.0
MNK *i* LR LR 15 00 15.1
MNK *i* LRM MLR 15 03 19.1
comp=Z,390nm,24.3s
MNK *i* LRM MLR 15 03 20.3
comp=N,352nm,21.1s
MNK *i* LRM MLR 15 03 26.1
comp=E,27nm,16.0s
S22A 4UR Ranch, Cre 95.14 50 P 14 18 19.8
baz=291
AKASG Malin Array Be 96.14 325 *i* P **P 14 18 22.2 +0.1**
comp=E,0.4nm,0.4s,baz=50,slow=6.9,SNR=4.3
AKASG LR LR 15 04 22.5
comp=E,452nm,20.1s,baz=60,slow=37
AKASG Malin Array Be 96.14 325 *i* P **P 14 18 23.6 +1.5**
AKBB Malin Array Si 96.14 325 *ce*P **P 14 18 22.4 +0.3**
121A Cookes Peak, D 96.20 55 P 14 18 24.4
baz=290
ANMO Albuquerque 96.41 52 *i* P **P 14 18 22.8 -1.2**
ULM Lac du Bonnet 96.98 35 P **P 14 18 25.4 -0.6**
comp=E,0.8nm,0.3s,baz=350,slow=6.6,SNR=3.2
NOA NORSAR Array B 97.97 340 P **P 14 18 29.1 -1.1**
comp=E,1.2nm,0.8s,baz=52,slow=4.3,SNR=5.0
NOA LR LR 15 05 30.9
comp=E,180nm,20.0s,baz=45,slow=37
BRTR Keskin Array B 98.30 314 P **P 14 18 32.1 -0.2**
comp=E,0.7nm,0.9s,baz=49,slow=6.6,SNR=3.2
BRTR LR LR 15 08 55.2
comp=E,96nm,18.2s,baz=86,slow=39
MNTX Cornudas Mount 98.40 55 P 14 18 34.5
baz=291
MAW Mawson 99.41 203 LR LR 14 59 51.6
comp=E,104nm,20.9s,baz=57,slow=33
CLL Collm 104.08 332 *e*SKKSac SKKSac 14 30 16.0 -1.4
CLL *e*PS PS 14 32 30.0 +2.7
CLL *e*PPS PPS 14 33 24.0
CLL *e*SS **SS 14 37 54.0 -5.8**
CLL *e*SSS SSS 14 42 00.0
CLL Lm MLR 15 10 00.0
comp=N,100nm,18.5s
CLL Lm MLR 15 10 00.0
comp=E,100nm,19.2s
CLL Lm MLR 15 10 00.0
comp=Z,200nm,18.9s
SYO Syowa Base 108.02 201‖ *e*Pdiff **Pdif 14 19 15.0 +0.4**
SYO Syowa Base 108.02 201‖ *ep*Pdiff pPdif 14 19 22.6 -1.7
K62A Royalston 114.33 30 P 14 23 32.0
baz=318
VNA2 Neumayer--Watz 119.92 190 PKiKP **PKiKP 14 23 44.5 +0.4**
VNA3 Neumayer Olymp 120.00 189 PKiKP **PKiKP 14 23 44.4 +0.1**
VNA1 Neumayer--Stat 120.30 190 PKiKP **PKPdf 14 23 44.7 0.0**
ESDC Sonseca Array 120.60 333 PKP **PKiKP 14 23 47.5 +1.0**
comp=Z,0.4nm,0.4s,baz=340,slow=1.9,SNR=2.6
ESDC PP **PP 14 25 08.0 -4.9**
comp=Z,0.6nm,0.4s,baz=25,slow=7.6,SNR=3.7
BOSA Boshof 123.12 244 PKP **PKiKP 14 23 52.4 +0.6**
comp=Z,1.7nm,0.8s,baz=141,slow=6.5,SNR=1.9
TORD Torodi Ar. Bea 136.16 305 PKP **PKiKP 14 24 18.5 +0.3**
comp=Z,0.5nm,0.5s,baz=127,slow=2.1,SNR=4.5
TORD PP **PP 14 26 57.6 +1.5**
comp=Z,1.6nm,0.9s,baz=71,slow=5.7,SNR=5.0
DBIC Dimbokro 145.13 303 PKPbc **PKPdf 14 24 32.9 +0.2**
comp=Z,26nm,0.7s,baz=24,slow=3.9,SNR=30
DBIC Dimbokro 145.13 303 PKPbc 14 24 32.3 0.0
KIC Kosan Boka 145.21 302 *e*PKP1 **PKPdf 14 24 33.5 +0.6**
comp=Z,43nm,0.7s
TIC Toumodi 145.28 303 *e*PKP1 **PKPdf 14 24 33.6 +0.6**
LIC Lamto 145.52 302 *e*PKP1 **PKPab 14 24 34.5 +0.8**
comp=Z,83nm,1.0s
LPAZ La Paz 146.74 100 PKPbc **PKPbc 14 24 37.7 -0.1**
comp=Z,2.1nm,0.5s,baz=340,slow=2.1,SNR=7.8
CPUP Villa Florida 154.34 124 PKPab **PKPab 14 25 09.5 +0.2**
comp=Z,1.2nm,0.7s,baz=357,slow=6.4,SNR=4.0

*IDC **08** 14:10:17.9±0.8, 13°.10N×146°.20E, h0km, mb4.2/20, mb1 4.4/20, mb1mx4.2/43, mbtmp4.3/20, Error ellipse: s-maj=17.6km s-min=16.5km az=131.0*
*NEIC **08** 14:10:21.9±1.4, 13°.1N±0°.1×145°.64E±0°.06, h35km±2km, mb4.8/63, Error ellipse: s-maj=20.8km s-min=4.7km az=206.0*
ISC 08 14:10:24.0±0.6, **13°.11N**±0°.10×**146°.06E**±0°.08, **h50**km, **n122**, σ1§**80**/119, **mb4.7**/66, **MS4.5**/4, **1C, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.25**	**293**	Pn	**Pn**	**Pn**	**14 10 44.9**	**-0.2**
	263nm,0.3s,baz=158,slow=23,SNR=70							
GUMO				Sn	**Sn**	**Sn**	**14 11 03.5**	**+2.7**
	242nm,0.3s,baz=309,slow=23,SNR=5.1							
GUMO				LR	LR	LR	14 11 09.0	
	comp=Z,3μm,18.2s,baz=170,slow=37							
GUMO	**Guam**	**1.25**	**293**	Pn	Pn	Pn	14 10 39.7	-5.4
SIJI	**Sorong**	**20.20**	**228**	P	**P**	**P**	**14 14 57.0**	**+2.2**
	28nm,0.9s,baz=115,slow=21,SNR=4.9							
FAKI	**Fak Fak**	**21.01**	**222**	P	**P**	**P**	**14 14 57.9**	**-5.7**
FAKI				IAmb	IAmb	IAmb	14 15 09.5	
	comp=Z,73nm,1.3s							
BUKP	**Musuan**	**21.28**	**258**	*e*P	**P**	**P**	**14 15 08.1**	**+1.6**
JOW	**Kunigami**	**21.54**	**312**	P	**P**	**P**	**14 15 10.8**	**+1.7**
	comp=Z,22nm,0.8s,baz=106,slow=8.9,SNR=5.3							
JOW	**Kunigami**	**21.54**	**312**	P	**P**	**P**	**14 15 04.6**	**-4.5**
JOW				IAmb	IAmb	IAmb	14 15 15.8	
	comp=Z,40nm,1.0s							
CNOP	**Candoni, Negro**	**23.18**	**264**	*e*P	**P**	**P**	**14 15 26.6**	**+0.1**
LQP	**Lukban**	**23.85**	**275**‖	*e*P	**P**	**P**	**14 15 33.9**	**+0.8**
JWT	**Wachi**	**24.09**	**338**	P	**P**	**P**	**14 15 32.3**	**-2.5**
JWT				IAmb	IAmb	IAmb	14 15 58.7	
	comp=Z,36nm,1.4s							
JNU	**Nakatsue**	**24.27**	**328**	P	**P**	**P**	**14 15 32.3**	**-4.2**
JNU				IAmb	IAmb	IAmb	14 15 40.1	
	comp=Z,30nm,1.1s							

SJMP San Jose 24.33 271 *e*P **P 14 15 39.6 +2.4**
MJAR Matsushiro Arr 24.37 345 P **P 14 15 38.6 +1.1**
comp=Z,3.0nm,0.8s,baz=180,slow=11,SNR=6.0
MAT Matsushiro 24.38 345 P **P 14 15 35.9 -1.6**
KSRS Korea Array 29.16 329 P **P 14 16 21.2 +0.8**
comp=Z,3.0nm,0.8s,baz=141,slow=8.5,SNR=9.0
NJ2 Nanjing 31.26 312 *e*P **P 14 16 37.5 -1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
USRK Ussuriysk Ar. 33.25 341 P **P 14 16 56.6 +0.2**
comp=Z,2.2nm,0.8s,baz=158,slow=11,SNR=5.5
USRK Ussuriysk Ar. 33.25 341 P **P 14 16 51.9 -4.5**
MDJ Mudanjiang 34.41 339 P **P 14 17 06.4 -0.1**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,100nm,5.7s
MDJ L L
comp=Z,620nm,17.1s
MDJ L L
comp=Z,300nm,18.5s
MDJ L L
comp=Z,920nm,17.8s
WRA Warramunga Arr 34.81 200 P **P 14 17 10.3 +0.2**
comp=Z,1.5nm,0.9s,baz=16,slow=9.4,SNR=4.2
ENH Enshi 37.82 303 P **P 14 17 32.2 -3.7**
ENH IAmb IAmb 14 17 39.7
comp=Z,10nm,0.9s
ASAR Alice Springs 38.44 198 P **P 14 17 40.1 -1.0**
comp=Z,0.8nm,0.9s,baz=19,slow=9.1,SNR=3.1
HHC Hu-ho-hao-te 40.89 319 *e*P **P 14 18 00.3 -1.1**
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,89nm,6.0s
PETK Petropavlovsk- 40.97 11 P **P 14 18 02.7 +1.0**
comp=Z,1.7nm,0.9s,baz=181,slow=9.9,SNR=3.4
CHAI Chaiyaphum 42.70 279 P **P 14 18 20.0 +3.6**
comp=Z,3.0nm,0.9s
PHIT Phitsanulok 44.17 281 P **P 14 18 31.0 +2.8**
comp=Z,8.1nm,0.9s
LZH Lanzhou 44.22 309 *e*P **P 14 18 28.4 -0.2**
LZH pP pP 14 18 38.1 -2.2
LZH pmax pmax
comp=Z,31nm,1.3s
LZH pmax pmax
comp=Z,82nm,5.2s
LZH L L
comp=Z,330nm,14.0s
LZH L L
comp=Z,390nm,13.7s
LZH L L
comp=Z,340nm,16.2s
UTHA Uthaitani 45.16 279 P **P 14 18 39.4 +3.2**
comp=Z,5.2nm,0.8s
CM09 Chiang Mai Arr 45.51 283 P **P 14 18 42.0 +3.1**
comp=Z,8.2nm,0.9s
CM04 Chiang Mai Arr 45.52 283 P **P 14 18 42.2 +3.2**
comp=Z,65nmcomp=Z,9.1nm,0.9s
CM01 Chiang Mai Arr 45.54 283 P **P 14 18 42.7 +3.6**
comp=Z,65nmcomp=Z,8.2nm,0.9s
CM02 Chiang Mai Arr 45.55 283 P **P 14 18 42.0 +2.8**
comp=Z,60nmcomp=Z,8.2nm,1.0s
CM05 Chiang Mai Arr 45.55 283 P **P 14 18 42.0 +2.7**
comp=Z,48nmcomp=Z,6.2nm,1.0s
CMAR Chiang Mai Arr 45.55 283 P **P 14 18 40.9 +1.6**
comp=Z,3.7nm,0.8s,baz=85,slow=6.1,SNR=18
CM15 Chiang Mai Arr 45.57 283 P **P 14 18 42.8 +3.3**
comp=Z,84nmcomp=Z,8.1nm,0.9s
CM13 Chiang Mai Arr 45.59 283 P **P 14 18 42.4 +2.9**
comp=Z,42nmcomp=Z,5.9nm,0.9s
MA2 Magadan 46.52 3 P **P 14 18 46.2 0.0**
comp=Z,4.4nm,0.7s,baz=178,slow=5.9,SNR=7.0
SONM Songino Array 47.79 325 P **P 14 18 56.5 0.0**
comp=Z,0.5nm,0.3s,baz=146,slow=10,SNR=2.1
GTA Gaotai 48.36 312 *e*P **P 14 19 02.4 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,51nm,6.4s
GTA L L
comp=Z,250nm,17.8s
GTA L L
comp=Z,200nm,19.6s
GTA L L
comp=Z,330nm,18.9s
LSA Lhasa 53.24 297 P P 14 19 33.1 -5.2
LSA IAmb IAmb 14 19 42.2
comp=Z,10nm,1.0s
WMQ Urumqi 58.30 314 *e*P **P 14 20 13.3 -0.6**
WMQ L L
comp=Z,400nm,19.7s
WMQ L L
comp=Z,370nm,20.1s
MK31 Makanchi Array 62.64 316 P **P 14 20 42.0 -1.4**
MKAR Makanchi Array 62.64 316 P **P 14 20 45.1 +1.7**
comp=Z,6.8nm,0.8s,baz=94,slow=8.5,SNR=17
MKAR Makanchi Array 62.64 316 P **P 14 20 42.0 -1.3**
ZALV Zalesovo Beam 62.69 324 P **P 14 20 45.5 +2.0**
comp=Z,1.7nm,0.6s,baz=106,slow=6.7,SNR=6.8
ZALV Zalesovo Beam 62.69 324 P **P 14 20 42.0 -1.4**
MAKZ Makanchi 62.85 316 P **P 14 20 43.3 -1.5**
MAKZ IAmb IAmb 14 20 48.5
comp=Z,7.6nm,0.9s
CNPM China Poot 65.06 30 P **P 14 20 59.5 +0.4**
KDJ Kajisay 65.68 310 P **P 14 20 59.5 -4.2**
KDJ IAmb IAmb 14 21 20.8
comp=Z,6.2nm,0.8s
RC01 Rabbit Creek A 66.23 29 P **P 14 21 06.4 -0.1**
KSH Kashi 66.45 308 P P 14 21 14.2 +5.7
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,220nm,5.9s
KTH Kantishna Hill 66.46 26 P **P 14 21 08.9 +0.9**
KTH IAmb IAmb 14 21 37.8
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 66.61 25 P **P 14 21 09.0 +0.1**
BPAW IAmb IAmb 14 21 25.1
comp=Z,8.3nm,1.1s
GHO Glory Hole Cre 66.80 28 P **P 14 21 11.3 +1.0**
GHO IAmb IAmb 14 21 40.0
comp=Z,12nm,0.9s
KNK Knik Glacier 66.92 28 P **P 14 21 11.3 +0.3**
KNK IAmb IAmb 14 21 30.4
comp=Z,10nm,0.9s
NRIK Noril'sk 66.96 341 P **P 14 21 11.1 0.0**
comp=Z,6.0nm,0.7s,baz=124,slow=5.5,SNR=4.4
NRIK Noril'sk 66.96 341 P **P 14 21 09.3 -1.7**
NRIK IAmb IAmb 14 21 26.7
comp=Z,9.8nm,0.8s
MLY Manley 67.01 24 P **P 14 21 11.0 -0.5**
MLY IAmb IAmb 14 21 27.9
comp=Z,5.9nm,0.9s
SML Sawmill 67.08 28 P **P 14 21 12.4 +0.4**
SCM Sheep Creek Mo 67.55 28 P **P 14 21 15.9 +0.9**
WRH Wood River Hil 67.92 25 P **P 14 21 18.0 +0.8**
WRH IAmb IAmb 14 21 46.8
comp=Z,8.0nm,1.0s
CCB Clear Creek Bu 68.09 25 P **P 14 21 17.9 -0.3**
M24K Tolsona, Glenn 68.14 28 P **P 14 21 20.0 +1.3**
IL31 68.51 25 P **P 14 21 21.0 +0.2**
ILAR Eielson Array 68.51 25 P **P 14 21 20.9 0.0**
comp=Z,1.9nm,0.9s,baz=254,slow=4.3,SNR=8.1
ILAR Eielson Array 68.51 25 P **P 14 21 20.5 -0.4**
BMRM Bremner River 68.63 29 P **P 14 21 21.8 +0.1**
GLB Gilahina Butte 69.10 29 P **P 14 21 24.4 -0.3**
GLB IAmb IAmb 14 21 41.1
comp=Z,9.1nm,1.0s
CRQM Cirque 69.29 30 P **P 14 21 27.6 +1.6**
DOT Dot Lake 69.44 27 P **P 14 21 27.5 +0.8**
DOT IAmb IAmb 14 21 56.0
comp=Z,9.2nm,1.0s
MCARA McCarthy VSAT 69.46 29 P **P 14 21 28.7 +1.9**
SCRK Sand Creek 69.54 26 P **P 14 21 28.2 +0.7**
FYU Fort Yukon 69.63 23 P **P 14 21 28.8 +1.0**
FYU IAmb IAmb 14 21 57.0
comp=Z,13nm,1.1s
GRNC Granite Creek 69.96 30 P **P 14 21 31.1 +0.9**
GRNC IAmb IAmb 14 21 46.7
comp=Z,10nm,0.8s
BMAR Burnt Mountain 70.09 23 P **P 14 21 31.9 +1.2**
CTGM Chitina Glacie 70.20 30 P **P 14 21 31.7 +0.1**
TABL Table Mountain 70.21 30 P **P 14 21 32.2 +0.4**
L27K Beaver Creek, 70.31 27 P **P 14 21 32.2 +0.1**
BCAR Beaver Creek A 70.33 27 P **P 14 21 33.6 +1.4**

KKAR	**Karatay Array**	**70.64**	**311**	P		**P**	**14 21 31.7**	**-2.8**	
EGAK	**Eagle**	**70.90**	**26**	P		**P**	**14 21 36.0**	**+0.4**	
BRVK	**Borovoye**	**71.08**	**322**	P		**P**	**14 21 33.5**	**-3.4**	
BRVK				IAmb		IAmb	14 21 55.1		
	comp=Z,12nm,1.0s								
HYT	**Haines Junctio**	**72.04**	**30**	P		**P**	**14 21 44.3**	**+1.6**	
WHY	**Whitehorse**	**73.31**	**30**	P		**P**	**14 21 51.1**	**+0.8**	
WHY				IAmb		IAmb	14 22 07.3		
	comp=Z,9.1nm,0.9s								
INK	**Inuvik**	**74.36**	**22**	P		**P**	**14 21 57.2**	**+1.1**	
	comp=Z,4.9nm,1.1s,baz=263,slow=6.0,SNR=7.8								
INK	**Inuvik**	**74.36**	**22**	P		**P**	**14 21 56.8**	**+0.7**	
ABKAR	**Akbulak array**	**77.67**	**318**	P		**P**	**14 22 14.5**	**-0.8**	
C36M	**Paulatuk**	**77.79**	**21**	P		**P**	**14 22 15.7**	**+0.1**	
GEYT	**Alibeck**	**80.47**	**307**	P		**P**	**14 22 33.2**	**+2.4**	
	comp=Z,9.7nm,0.8s,baz=205,slow=6.6,SNR=6.9								
GEYT	**Alibeck**	**80.47**	**307**	P		**P**	**14 22 27.4**	**-3.5**	
YKA	**Yellowknife Ar**	**82.75**	**28**	P		**P**	**14 22 43.5**	**+1.2**	
	comp=Z,0.9nm,0.8s,baz=286,slow=5.2,SNR=7.2								
PINE	**Pine Mountain**	**83.20**	**47**	P		**P**	**14 22 45.9**	**+0.6**	
B08A	**Colville Reser**	**83.36**	**42**	P		**P**	**14 22 46.9**	**+1.0**	
B08A				IAmb		IAmb	14 23 02.1		
	comp=Z,6.8nm,0.9s								
MOD	**Modoc Plateau**	**84.04**	**49**	P		**P**	**14 22 50.4**	**+0.8**	
BEKR	**Beckworth**	**84.43**	**51**	P		**P**	**14 22 52.6**	**+0.9**	
BMO	**Blue Mountains**	**85.51**	**45**	P		**P**	**14 22 57.7**	**+0.8**	
NVAR	**Mina Array Bea**	**86.31**	**52**	P		**P**	**14 23 02.5**	**+1.3**	
	comp=Z,0.5nm,0.7s,baz=269,slow=5.4,SNR=3.8								
KVN	**Kaiserville**	**86.32**	**51**	P		**P**	**14 23 00.7**	**-0.4**	
KLMR	**Klimovskoe**	**86.52**	**332**	*e*P		**P**	**14 23 00.7**	**-0.7**	
KLMR				AMP			14 23 02.3		
	comp=Z,23nm,1.7s								
MFID	**Camas Ranch**	**86.90**	**46**	P		**P**	**14 23 04.0**	**+0.1**	
MFID				IAmb		IAmb	14 23 20.4		
	comp=Z,8.0nm,1.1s								
HLID	**Hailey**	**87.85**	**46**	P		**P**	**14 23 08.9**	**+0.4**	
ARCES	**ARCESS Array B**	**87.89**	**342**	P		**P**	**14 23 11.4**	**+3.5**	
	comp=Z,5.1nm,1.0s,baz=29,slow=4.5,SNR=2.6								
ELK	**Elko**	**88.02**	**49**	P		**P**	**14 23 09.4**	**-0.1**	
ELK				IAmb		IAmb	14 23 26.1		
	comp=Z,5.7nm,1.0s								
TPNV	**Topopah Spring**	**88.26**	**53**	P		**P**	**14 23 11.5**	**+1.0**	
BCYI	**Bear Canyon**	**88.34**	**45**	P		**P**	**14 23 11.3**	**+0.4**	
R11A	**Troy Canyon, C**	**88.40**	**51**	P		**P**	**14 23 11.1**	**-0.1**	
R11A				IAmb		IAmb	14 23 15.3		
	comp=Z,8.1nm,1.4s								
HRY	**Holter Researc**	**88.69**	**42**	P		**P**	**14 23 12.7**	**+0.4**	
SPR3	**Spring Creek 3**	**89.17**	**50**	P		**P**	**14 23 15.6**	**+0.6**	
SPR3				IAmb		IAmb	14 23 31.9		
	comp=Z,4.8nm,1.0s								
HVU	**Hansel Valley**	**89.52**	**47**	P		**P**	**14 23 16.6**	**+0.3**	
HVU				IAmb		IAmb	14 23 20.4		
	comp=Z,7.7nm,1.2s								
DUG	**Dugway, Tooele**	**89.95**	**49**	P		**P**	**14 23 18.8**	**+0.4**	
DUG				IAmb		IAmb	14 23 35.0		
	comp=Z,5.7nm,1.1s								
CCUT	**Cedar City**	**90.31**	**51**	P		**P**	**14 23 20.9**	**+0.6**	
CCUT				IAmb		IAmb	14 23 37.4		
	comp=Z,3.8nm,1.0s								
HWUT	**Hardware Ranch**	**90.43**	**47**	P		**P**	**14 23 20.9**	**+0.3**	
HWUT				IAmb		IAmb	14 23 37.6		
	comp=Z,7.4nm,1.1s								
U15A	**North Rim**	**91.46**	**52**	P		**P**	**14 23 27.1**	**+1.4**	
U15A				IAmb		IAmb	14 23 43.2		
	comp=Z,3.9nm,1.0s								
SRU	**San Rafael Swe**	**91.97**	**49**	P		**P**	**14 23 27.8**	**0.0**	
SRU				IAmb		IAmb	14 23 44.0		
	comp=Z,3.6nm,0.8s								
FINES	**FINESS Array B**	**92.08**	**335**	P		**P**	**14 23 28.5**	**+0.9**	
	comp=Z,1.5nm,0.6s,baz=54,slow=4.9,SNR=5.6								
PV12	**Saucer Basin,**	**93.50**	**50**	P		**P**	**14 23 35.2**	**+0.2**	
H06S1	**SOCORRO T**	**97.79**	**69**	T		T	16 14 15.7		
	SNR=14								
DBIC	**Dimbokro**	**145.06**	**303**	PKPbc		**PKPdf**	**14 29 58.1**	**+1.3**	
	comp=Z,8.8nm,0.8s,baz=34,slow=8.1,SNR=6.0								
KIC	**Kosan Boka**	**145.13**	**302**	*e*PKIKP		**PKPdf**	**14 29 58.4**	**+1.4**	
	comp=Z,16nm,0.8s								
TIC	**Toumodi**	**145.21**	**303**	*e*PKIKP		**PKPdf**	**14 29 58.5**	**+1.3**	
LIC	**Lamto**	**145.45**	**302**	*e*PKIKP		**PKPab**	**14 29 58.4**	**+0.6**	
	comp=Z,101nm,1.7s								
LPAZ	**La Paz**	**146.80**	**100**	PKPbc		**PKPab**	**14 30 03.6**	**-0.1**	
	comp=Z,1.6nm,0.8s,baz=48,slow=7.4,SNR=4.3								

*TAP **08** 14:37:38.1,24.69N×122.67E,h23km,ML2.7,C*
*JMA **08** 14:37:38.5±0.1,24.66N×122.64E,h18km±2km,M2.1*

ISC 08 14:37:38.4±1.2,24.67N±0.03×122.65E±0.02,h21km±4km, n65,σ0.56/106,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.35**	**129**	P		**Pb**	**14 37 45.6**	**-0.1**
JYNG				S		**Sb**	**14 37 50.7**	**0.0**
YOJ	**Yonaguni jima**	**0.39**	**122**	P		**Pb**	**14 37 46.4**	**0.0**
YOJ				S		**Sb**	**14 37 52.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.39**	**122**	⇓*i*P		**Pb**	**14 37 46.4**	**0.0**
	baz=118							
YOJ				*i* S		**Sb**	**14 37 52.2**	**+0.2**
	baz=118							
EGS		**0.68**	**285**	P		**Pb**	**14 37 51.4**	**-0.1**
	baz=283							
EGS				S		**Sb**	**14 38 00.7**	**+0.3**
	baz=283							
TWB1	**Santiao Chiao**	**0.69**	**299**	P		**Pb**	**14 37 51.4**	**-0.3**
	baz=298							
TWB1				*i* S		**Sb**	**14 38 00.5**	**-0.3**
	baz=298							
TWC	**Suao**	**0.73**	**265**	*i* P		**Pb**	**14 37 51.9**	**-0.5**
	baz=264							
TWC				*i* S		**Sb**	**14 38 01.3**	**-0.7**
	baz=264							
NTC	**Toucheng**	**0.77**	**284**	P		**Pb**	**14 37 53.0**	**0.0**
	baz=283							
NTC				*e*S		**Sb**	**14 38 03.1**	**+0.1**
	baz=283							
TIPB	**Shuangxi**	**0.81**	**292**	P		**Pb**	**14 37 53.5**	**-0.2**
	baz=304							
TIPB				S		**Sb**	**14 38 04.4**	**+0.2**
	baz=304							
EWUT	**Wuta**	**0.82**	**254**	P		**Pb**	**14 37 53.9**	**-0.1**
	baz=254							
EWUT				*e*S		**Sb**	**14 38 04.0**	**-0.7**
	baz=254							
ILA	**Ilan**	**0.82**	**277**	*e*P		**Pb**	**14 37 54.2**	**+0.2**
	baz=276							
NDS	**Dongshan**	**0.85**	**268**	P		**Pb**	**14 37 54.4**	**0.0**
	baz=267							
NDS				*e*S		**Sb**	**14 38 05.6**	**+0.2**
	baz=267							
NWF	**Wu-fen Shan**	**0.88**	**297**	P		**Pb**	**14 37 55.2**	**+0.2**
	baz=296							
NWF				S		**Sb**	**14 38 06.5**	**0.0**
	baz=296							
WFSB	**Wu-fen Shan**	**0.88**	**297**	P		**Pb**	**14 37 54.8**	**-0.2**
	baz=296							
WFSB				S		**Sb**	**14 38 06.2**	**-0.2**
	baz=296							
TWE	**Neicheng**	**0.90**	**273**	P		**Pb**	**14 37 54.8**	**-0.4**
	baz=272							
TWE				*e*S		**Sb**	**14 38 06.9**	**+0.2**
	baz=272							
TNOU	**National Taiwa**	**0.93**	**301**	*e*P		**Pb**	**14 37 55.3**	**-0.4**
	baz=300							
TNOU				*e*S		**Sb**	**14 38 07.4**	**-0.2**
	baz=300							
ENTT	**Nioudou**	**0.99**	**268**	P		**Pb**	**14 37 56.8**	**0.0**
	baz=268							
TWA	**Mucha**	**1.02**	**288**	P		**Pb**	**14 37 57.0**	**-0.3**
	baz=287							
TWA				S		**Sb**	**14 38 10.3**	**+0.1**
	baz=287							
NDT	**Datong Townshi**	**1.04**	**267**	P		**Pn**	**14 37 57.8**	**0.0**
	baz=256							
NDT				*e*S		**Sb**	**14 38 10.9**	**+0.1**
	baz=256							
IRIF	**Iriomote-Funau**	**1.04**	**108**	P		**Pn**	**14 37 58.4**	**+0.7**
IRIF				*e*S		**Sn**	**14 38 12.7**	**+1.1**
NWLT	**Wulai**	**1.05**	**276**	P		**Pb**	**14 37 57.7**	**-0.1**
	baz=276							
NWLT				S		**Sn**	**14 38 11.8**	**-0.1**
	baz=276							
NHDH	**Xindian Distri**	**1.06**	**286**	P		**Pn**	**14 37 58.1**	**+0.1**
	baz=286							
NHDH				S		**Sb**	**14 38 11.6**	**+0.1**
	baz=286							
NACB	**Ninganchiao**	**1.08**	**243**	P		**Pn**	**14 37 57.7**	**-0.6**
	baz=250							
NACB				S		**Sb**	**14 38 12.0**	**0.0**
	baz=250							
YM01	**YM01**	**1.09**	**296**	P		**Pn**	**14 37 58.1**	**-0.3**
	baz=295							
YM01				S		**Sb**	**14 38 12.0**	**-0.3**
	baz=295							
PCYT	**Pengchaiyu**	**1.09**	**331**	*e*P		**Pn**	**14 37 58.2**	**-0.3**
	baz=316							
TATO	**Taipei**	**1.10**	**286**	P		**Pn**	**14 37 58.4**	**-0.1**
	baz=286							
TATO				S		**Sb**	**14 38 12.0**	**-0.5**
	baz=286							
TWD	**Chiawan**	**1.13**	**239**	*e*P		**Pb**	**14 37 59.9**	**+0.8**
	baz=247							
TWD				*e*S		**Sn**	**14 38 13.9**	**+0.1**
	baz=247							
TWY	**Chenhua**	**1.13**	**303**	*e*P		**Pb**	**14 37 59.7**	**+0.5**
	baz=302							
ANP	**Anpu**	**1.15**	**297**	*e*P		**Pn**	**14 37 58.6**	**-0.7**
	baz=296							
YHNB	**Yeheng**	**1.16**	**270**	P		**Pn**	**14 37 59.6**	**+0.1**
	baz=270							
YHNB				S		**Sb**	**14 38 14.3**	**0.0**
	baz=270							
ETLH	**Xiulin Townshi**	**1.16**	**247**	P		**Pn**	**14 37 59.6**	**+0.1**
	baz=254							
ETLH				*e*S		**Sb**	**14 38 14.2**	**-0.2**
	baz=254							
NNSB	**Datong**	**1.18**	**258**	P		**Pb**	**14 38 00.1**	**0.0**
	baz=258							
NNSB				S		**Sb**	**14 38 14.6**	**-0.3**
	baz=258							
NNSH	**Datong**	**1.18**	**258**	P		**Pb**	**14 38 00.0**	**-0.1**
	baz=258							
NNSH				S		**Sb**	**14 38 14.8**	**-0.1**
	baz=258							
NNS	**Nan Shan**	**1.19**	**259**	*i* P		**Pb**	**14 38 00.2**	**+0.1**
	baz=259							
NNS				S		**Sb**	**14 38 15.1**	**0.0**
	baz=259							
TWS1	**Kuangyinshan**	**1.20**	**291**	*e*P		**Pb**	**14 38 02.2**	**+1.9**
	baz=291							
HATJ	**Hateruma jima**	**1.22**	**120**	*e*S		**Sn**	**14 38 17.1**	**+1.1**
TEYL	**Yanliau Villag**	**1.25**	**230**	*e*P		**Pn**	**14 37 59.5**	**-1.1**
	baz=232							
ETM	**Tongmen**	**1.27**	**237**	*e*P		**Pb**	**14 38 01.3**	**-0.2**
	baz=237							
JKRS	**Kuro-shima**	**1.31**	**109**	P		**Pn**	**14 38 01.5**	**0.0**
JKRS				*e*S		**Sb**	**14 38 19.0**	**+0.3**
FUSS	**Fushou**	**1.35**	**252**	P		**Pb**	**14 38 03.3**	**+0.2**
	baz=260							
FUSS				*e*S		**Sb**	**14 38 20.2**	**+0.3**
	baz=260							
WHF	**Hehuan Shan**	**1.37**	**248**	*e*P		**Pb**	**14 38 03.8**	**+0.3**
	baz=248							
WHF				S		**Sb**	**14 38 20.7**	**+0.1**
	baz=248							
JIJ	**Ishigaki jima**	**1.39**	**102**	P		**Pn**	**14 38 02.4**	**-0.2**
JIJ				*e*S		**Sb**	**14 38 20.8**	**-0.2**
ESL	**Shilin**	**1.40**	**233**	P		**Pn**	**14 38 02.7**	**0.0**
	baz=233							
CHGB	**Renai**	**1.48**	**246**	*e*P		**Pb**	**14 38 06.5**	**+1.3**
	baz=229							
CHGB				*e*S		**Sb**	**14 38 23.8**	**+0.2**
	baz=229							
LIOB	**Emei**	**1.49**	**269**	*e*P		**Pb**	**14 38 04.7**	**-0.6**
	baz=285							
EGFH	**Guangfu**	**1.50**	**228**	*e*P		**Pb**	**14 38 04.9**	**-0.6**
	baz=229							
NSTT	**Nanjuang**	**1.50**	**269**	*e*P		**Pb**	**14 38 05.9**	**+0.4**
	baz=269							
NSTT				*e*S		**Sb**	**14 38 25.0**	**+0.9**
	baz=269							
JISG	**Ishigakijimahi**	**1.51**	**93**	P		**Pb**	**14 38 05.1**	**-0.6**
OWD	**Renai**	**1.52**	**242**	P		**Pn**	**14 38 04.7**	**+0.2**
	baz=228							
WHP	**Taichung City**	**1.60**	**256**	*e*P		**Pb**	**14 38 08.0**	**+0.7**
	baz=262							
WHP				*e*S		**Sb**	**14 38 28.3**	**+1.2**
	baz=262							
HGSD	**Ruisui**	**1.62**	**224**	*e*P		**Pn**	**14 38 06.0**	**+0.2**
	baz=212							
EHY	**Hungye**	**1.68**	**227**	*e*P		**Pn**	**14 38 07.1**	**+0.5**
	baz=227							
EHY				*e*S		**Sn**	**14 38 27.6**	**+0.1**
	baz=227							
DPDB	**Guoxing**	**1.69**	**248**	*e*P		**Pb**	**14 38 08.3**	**-0.5**
	baz=235							
WCS	**Beigang Elemen**	**1.70**	**249**	*e*P		**Pb**	**14 38 09.5**	**+0.7**
	baz=236							
WCS				*e*S		**Sb**	**14 38 29.8**	**0.0**
	baz=236							
YULB	**Yu-li**	**1.77**	**224**	*e*P		**Pn**	**14 38 07.9**	**0.0**
	baz=241							
YULB				*e*S		**Sn**	**14 38 30.0**	**+0.2**
	baz=241							
SMLT	**Sun Moon Lake**	**1.78**	**244**	*e*P		**Pb**	**14 38 09.4**	**-0.9**
	baz=230							
SSLB	**Suanglung**	**1.78**	**241**	*e*P		**Pb**	**14 38 09.4**	**-0.9**
	baz=226							
EYUL	**Yuli**	**1.79**	**223**	*e*P		**Pn**	**14 38 08.3**	**+0.2**
	baz=212							
TWF1	**Yuli**	**1.80**	**224**	*e*P		**Pn**	**14 38 08.6**	**+0.4**
	baz=212							
JTJ	**Tarama**	**1.87**	**90**	P		**Pb**	**14 38 10.6**	**-1.2**
FULB	**Fuli**	**1.92**	**221**	*e*P		**Pn**	**14 38 10.4**	**+0.5**
	baz=221							
YUS	**Yu-Shan**	**1.95**	**233**	*e*P		**Pn**	**14 38 11.8**	**+1.2**
	baz=233							
YUS				*e*S		**Sn**	**14 38 35.4**	**+0.7**
	baz=233							
ALS	**Alishan**	**2.04**	**236**	*e*P		**Pb**	**14 38 13.8**	**-1.1**
	baz=236							
ALS				*e*S		**Sb**	**14 38 39.1**	**-0.9**
	baz=236							
EDH	**Donghe**	**2.09**	**216**	*e*P		**Pn**	**14 38 11.8**	**-0.5**
	baz=217							
EDH				*e*S		**Sn**	**14 38 36.0**	**-1.6**
	baz=217							
CHN5	**Tsauling**	**2.09**	**240**	*e*P		**Pn**	**14 38 13.9**	**+1.5**
	baz=240							
ELDTW	**Lidau**	**2.10**	**226**	*e*P		**Pn**	**14 38 12.7**	**+0.3**
	baz=226							

*IDC **08** 14:40:18.9±1.1,14.20N×145.91E,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.7/36,mbtmp3.7/7,Error ellipse: s-maj=33.2km s-min=19.0km az=118.0*
*NEIC **08** 14:40:22.1±2.0,14.21N±0.09×145.7E±0.1,h10km±2km, mb3.8/2,Error ellipse: s-maj=20.5km s-min=11.5km az=127.0*

ISC 08 14:40:20.6±1.0,14.1N±0.1×145.9E±0.1,h10km,n16, σ1.28/16,mb3.8/9,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.10**	**241**	Pn		**Pb**	**14 40 41.2**	**-0.5**
	69nm,0.3s,baz=124,slow=6.2,SNR=26							
GUMO				Sn		**Sn**	**14 40 56.3**	**-1.0**
	89nm,0.3s,baz=151,slow=22,SNR=9.6							
ANA2	**Anatahan**	**2.21**	**356**	Pn		**Pn**	**14 40 57.5**	**+0.2**
WRA	**Warramunga Arr**	**35.70**	**199**	P		**P**	**14 47 20.4**	**+0.9**
	1.2nm,1.0s,baz=25,slow=9.6,SNR=8.8							
AS31	**Alice Springs**	**39.34**	**197**	P		**P**	**14 47 51.2**	**+0.9**
ASAR	**Alice Springs**	**39.34**	**197**	P		**P**	**14 47 51.6**	**+1.4**
	0.3nm,0.6s,baz=18,slow=7.8,SNR=6.2							
CMAR	**Chiang Mai Arr**	**45.14**	**282**	P		**P**	**14 48 37.5**	**-0.2**
	0.7nm,0.6s,baz=86,slow=6.3,SNR=7.0							
SONM	**Songino Array**	**46.85**	**324**	P		P	14 48 57.0	+6.0
	0.4nm,0.3s,baz=143,slow=8.0,SNR=1.4							
SONM	**Songino Array**	**46.85**	**324**	P		**P**	**14 48 51.4**	**+0.4**
SONM				IAmb		IAmb	14 49 19.3	
	comp=Z,1.2nm,1.2s							
ZALV	**Zalesovo Beam**	**61.75**	**324**	P		**P**	**14 50 41.6**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=86,slow=7.4,SNR=2.0							
ZALV	**Zalesovo Beam**	**61.75**	**324**	P		**P**	**14 50 40.2**	**+1.0**
MKAR	**Makanchi Array**	**61.77**	**316**	P		**P**	**14 50 41.2**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=90,slow=8.8,SNR=9.4							
MKAR	**Makanchi Array**	**61.77**	**316**	P		**P**	**14 50 40.9**	**+1.4**
ILAR	**Eielson Array**	**67.67**	**25**	P		**P**	**14 51 16.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=254,slow=6.2,SNR=5.7							
ABKAR	**Akbulak array**	**76.79**	**318**	P		**P**	**14 52 12.6**	**+0.2**
YKA	**Yellowknife Ar**	**81.94**	**28**	P		**P**	**14 52 39.0**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=285,slow=5.0,SNR=4.0							
FINES	**FINESS Array B**	**91.08**	**335**	P		**P**	**14 53 23.8**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=57,slow=5.1,SNR=4.5							

*TUL **08** 14:48:03.3±0.5,36.42N±0.01×97.77W±0.02,h6km±5km, ML2.8,mb_Lg2.5/32(NEIC),Error ellipse: s-maj=1.8km s-min=1.7km az=218.0*

NEIC 08 14:48:03.2±0.5,36.42N±0.01×97.77W±0.02,h5km±7km, Error ellipse: s-maj=2.3km s-min=1.8km az=61.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CROK	**Carrier**	**0.19**	**297**			Pg	14 48 07.5	+0.5
CROK				Sg		Pg	14 48 10.2	+0.8
GC02	**Grant County #**	**0.44**	**351**			Pg	14 48 11.9	+0.3
OK032	**Salt Plains WL**	**0.52**	**318**	Pg		Pg	14 48 13.4	+0.2
OK032				Sg		Sg	14 48 20.5	+0.5
BLOK	**Blackwell**	**0.56**	**53**	Pg		Pg	14 48 14.3	+0.2
KAN13	**South Haven SW**	**0.64**	**22**			Pg	14 48 15.6	+0.1
OK029	**Liberty Lake**	**0.67**	**157**			Pg	14 48 16.2	+0.1
KAN09	**Caldwell North**	**0.72**	**10**	Pg		Pg	14 48 17.1	0.0
KAN09				Sg		Sg	14 48 25.9	-0.7
KAN10	**Anthony SW Sta**	**0.75**	**340**			Pg	14 48 17.4	-0.2
KAN10				Sg		Sg	14 48 27.1	-0.2
BCOK	**Bluff Creek, N**	**0.77**	**170**	Pg		Pg	14 48 17.9	-0.2
KAN08	**Anthony NE Sta**	**0.82**	**349**	Pg		Pg	14 48 18.9	-0.1
KAN16	**Harper SW Stat**	**0.84**	**344**			Pg	14 48 19.1	-0.2
OK031	**S. Brethren Rd**	**0.89**	**121**	Pg		Pg	14 48 20.1	-0.2
OK031				Sg		Sg	14 48 31.8	0.0
KAN12	**Harper NE Stat**	**0.89**	**348**			Pg	14 48 20.2	-0.1
KAN12				Sg		Sg	14 48 31.7	-0.3
QUOK	**Quay**	**0.90**	**106**			Pg	14 48 20.2	-0.2
OK025	**Westminster Rd**	**0.91**	**157**	Pg		Pg	14 48 20.6	-0.1
OK025				Sg		Sg	14 48 32.3	-0.1
OK030	**Cody Creek RV**	**0.94**	**121**			Pg	14 48 21.1	-0.2
OK030				Sg		Sg	14 48 33.5	0.0
U32A	**Winter Ranch,**	**0.99**	**268**			Pg	14 48 21.8	-0.4
OKCFA	**Oklahoma City**	**1.04**	**165**	Pg		Pg	14 48 23.1	+0.1
OKCSW	**OKLAHOMA CITY**	**1.05**	**165**	Pg		Pg	14 48 23.3	0.0
T35A	**Sooner Cattle**	**1.13**	**64**			Pg	14 48 24.4	-0.4
FNO	**Franklin**	**1.20**	**165**			Pg	14 48 25.6	-0.6
X34A	**Smith Ranch, M**	**1.82**	**182**			Pb	14 48 36.4	-0.5
WMOK	**Wichita Mounta**	**1.87**	**206**	Pn		Pn	14 48 36.1	+0.3
X37A	**Clayton**	**2.68**	**132**	IAmb_Lg			14 49 33.5	
	comp=Z,13nm,0.7s							
U38A	**Gravette**	**2.73**	**89**	Pn		Pn	14 48 47.4	-0.3
S39A	**Bolivar**	**3.78**	**69**	Pn		Pn	14 49 02.1	-0.1
S39A				IAmb_Lg			14 50 08.7	
	comp=Z,5.9nm,0.8s							
MIAR	**Mount Ida**	**3.90**	**117**	IAmb_Lg			14 50 08.2	
	comp=Z,8.4nm,0.8s							
U40A	**Yellville**	**3.97**	**89**	Pn		Pn	14 49 04.8	0.0
U40A				IAmb_Lg			14 50 12.6	
	comp=Z,18nm,0.9s							
WHTX	**Lake Whitney,**	**4.43**	**177**	Pn		Pn	14 49 10.4	-0.6
X40A	**Basin Creek Fa**	**4.47**	**114**	IAmb_Lg			14 50 27.5	
	comp=Z,6.4nm,0.7s							
MGMO	**Mountain Grove**	**4.48**	**79**	IAmb_Lg			14 50 33.7	
	comp=Z,5.6nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.60**	**95**	IAmb_Lg			14 50 31.0	
	comp=Z,4.8nm,0.9s							
P38A	**Dawn**	**4.63**	**45**	IAmb_Lg			14 50 42.8	
	comp=Z,8.6nm,0.8s							
R40A	**Maddies Statio**	**4.77**	**65**	IAmb_Lg			14 50 43.9	
	comp=Z,6.0nm,0.8s							
MSTX	**Muleshoe**	**4.77**	**241**	IAmb_Lg			14 50 41.9	
	comp=Z,4.8nm,0.8s							
CCM	**Cathedral Cave**	**5.46**	**71**	IAmb_Lg			14 51 03.0	
	comp=Z,11nm,1.0s							
P40A	**Paris**	**5.49**	**54**	IAmb_Lg			14 50 59.5	
	comp=Z,12nm,0.7s							
L34A	**Svendsen Farm,**	**5.64**	**11**	IAmb_Lg			14 51 12.7	
	comp=Z,10nm,0.7s							
FVM	**French Village**	**6.07**	**73**	IAmb_Lg			14 51 15.3	
	comp=Z,8.3nm,0.8s							
K31A	**O'Neill**	**6.24**	**353**	IAmb_Lg			14 51 36.0	
	comp=Z,7.0nm,0.8s							
S44A	**Carbondale**	**6.93**	**77**	IAmb_Lg			14 51 50.8	
	comp=Z,8.2nm,0.7s							

KRNET 08 14:48:17.8±0.1,43.20N×77.48E,h19km,mb1.8,6C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.43**	**162**	⇑*i*P		Pg	14 48 26.5	-0.3
	baz=62							
ANVS				⇑*i*S		Sg	14 48 32.7	-0.2
	baz=62							
KDJ	**Kajisay**	**1.09**	**192**	⇑*i*P		Pn	14 48 38.2	0.0
	baz=91							
KDJ				⇑*i*S		Sn	14 48 52.8	0.0
	baz=91							
BOOM	**Boomskoye usch**	**1.34**	**239**	⇑*i*P		Pb	14 48 42.2	-0.1
	baz=39							
BOOM				⇑*i*S		Sg	14 49 00.3	-0.8
	baz=39							
ARLS	**Aral**	**2.69**	**241**	⇓*i*P		Pn	14 49 02.1	+1.9
	baz=41							
ARLS				⇓*i*S		Sn	14 49 34.6	+2.3

DZM Mont Dzumac 17.02 261 P Pn 15 01 04.5 +3.1
NOUC Port Laguerre 17.15 261 P Pn 15 01 05.6 +2.8
URZ Urewera 19.00 198 P 15 01 20.3 -1.9
URZ IAmb IAmb 15 01 46.9
comp=Z,19nm,1.4s
KOUNC Koumac, New Ca 19.04 266 P Pn 15 01 30.4 +5.2
ARMA Armidale 31.33 245 P P 15 03 19.1 +0.5
ARMA IAmb IAmb 15 03 38.9
comp=Z,14nm,1.4s
CTA Charters Tower 35.93 264 P P 15 03 58.7 +0.4
comp=Z,4.5nm,0.4s,baz=90,slow=9.9,SNR=20
CTAO Charters Tower 35.93 264 P P 15 03 58.6 +0.2
STKA Stephens Creek 40.05 244 P P 15 04 31.7 -1.1
comp=Z,0.8nm,0.3s,baz=72,slow=6.4,SNR=1.2
AS31 Alice Springs 46.92 256 P P 15 05 26.7 -1.3
ASAR Alice Springs 46.92 256 P P 15 05 26.8 -1.2
comp=Z,1.4nm,0.9s,baz=82,slow=8.1,SNR=30
ASAR PcP **PcP 15 06 58.2 0.0**
comp=Z,0.6nm,0.6s,baz=106,slow=4.1,SNR=6.8
WRA Warramunga Arr 47.03 261 P P 15 05 27.4 -1.5
comp=Z,0.4nm,0.3s,baz=94,slow=7.7,SNR=29
MTN Manton Dam 51.60 270 P P 15 06 02.8 -0.7
KNRA Kununurra 53.10 265 P P 15 06 14.2 -0.3
KNRA IAmb IAmb 15 06 42.0
comp=Z,15nm,1.2s
FITZ Fitzroy Crossi 55.46 262 P P 15 06 31.0 -0.6
comp=Z,1.8nm,0.8s,baz=90,slow=3.0,SNR=4.2
PETK Petropavlovsk- 76.77 344 P P 15 08 47.3 +0.6
comp=Z,1.0nm,0.7s,baz=132,slow=8.6,SNR=2.2
H03S2 Juan Fernandez 84.07 124 T T 16 43 42.5
baz=242,slow=75,SNR=32
H03S1 Juan Fernandez 84.08 124 T T 16 43 43.7
baz=242,slow=75,SNR=36
H03S3 Juan Fernandez 84.08 124 T T 16 43 42.4
baz=242,slow=75,SNR=32
H03N2 Juan Fernandez 84.20 123 T T 16 43 53.4
baz=253,slow=72,SNR=17
H03N3 Juan Fernandez 84.20 123 T T 16 43 52.7
baz=253,slow=72,SNR=22
H03N1 Juan Fernandez 84.22 123 T T 16 43 54.4
baz=253,slow=72,SNR=15
ILAR Eielson Array 87.64 12 P P 15 09 42.6 -0.4
comp=Z,0.2nm,0.6s,baz=208,slow=7.2,SNR=1.8
AKASG Malin Array Be 144.01 333 PKP PKPbc 15 16 26.8 -1.1
comp=Z,0.5nm,0.4s,baz=42,slow=4.5,SNR=4.7
BRTR Keskin Array B 148.50 314 PKPbc **PKPbc 15 16 41.2 -0.3**
comp=Z,0.5nm,0.7s,baz=358,slow=8.7,SNR=2.1
GERES GERESS Array B 150.63 348 PKPbc **PKiKP 15 16 47.0 0.0**
comp=Z,0.1nm,0.3s,baz=29,slow=3.0,SNR=5.1

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*IDC **08** 15:01:02.5±0.4, 15°.26S×173°.29W, h0km, mb4.9/22, mb1 5.1/22, mb1mx5.0/32, mbtmp4.9/22, MS4.7/24, Ms1 4.7/24, ms1mx4.6/30, Error ellipse: s-maj=16.4km s-min=12.6km az=144.0*

*BJI **08** 15:01:02.0±0.0, 15°.22S×173°.11W, h6km, mB5.4/39, mb5.0/45, Ms5.0/39, Ms7 4.7/40*

*MOS **08** 15:01:02.6±1.8, 15°.03S×173°.22W, h10km, mb5.3/51, MS5.2/9, Error ellipse: s-maj=9.0km s-min=6.6km az=60.4*

*NEIC **08** 15:01:03.5±1.9, 15°.18S±0°.06×173°.00W±0°.07, h10km±1km, mb5.3/238, Error ellipse: s-maj=11.7km s-min=10.6km az=99.0*

*BGR **08** 15:01:03.5±0.0, 16°.97S×172°.29W, h33km*

*NOU **08** 15:01:07.9, 14°.93S×172°.74W, h82km, mb5.2, Samoa Islands*

*GCMT **08** 15:01:12.5±0.1, 15°.09S±0°.01×172°.76W±0°.01, h12km, MW5.5/139, Moment Tensor Solution. s62,c88; s139,c209; Duration: 1!4 Moment tensor: Scale 10^17 Nm; Mrr=0.20±.01; Mθθ=0.16±.02; Mφφ=0.04±.01; Mrθ=-2.23±.03; Mrφ=-0.37±.01; Mθφ=0.55±.04; Best double couple: Mo=2.33000×10^17 NP1:φs=350.00000°, δ=8.00000°, λ=-24.00000°. NP2:φs=104.00000°, δ=87.00000°, λ=-97.00000°. Principal axes: T 2.3910, Plg41.0000°, Azm201.0000°; N -0.1230, Plg7.0000°, Azm104.0000°; P -2.2690, Plg48.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 15:01:03.9±0.6, 15°.18S±0°.04×173°.07W±0°.04, h14km±3km, h13km:pP-P, n725, σ1s55/721, mb5.2/187, MS4.8/55, 50C-18D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.78**	**45**	Pn		**Pn**	**15 01 32.1**	**-2.3**
	2μm,0.3s,baz=6.7,slow=1.1,SNR=701							
AFI				Sn		**Sn**	**15 01 50.0**	**-6.8**
	8μm,0.3s,baz=218,slow=16,SNR=25							
AFI	**Afiamalu**	**1.78**	**45**	P		**Pn**	**15 01 31.9**	**-2.5**
AFI	**Afiamalu**	**1.78**	**45**	Pn		**Pn**	**15 01 31.9**	**-2.5**
NIUE	**Niue**	**4.90**	**143**	P		**Pn**	**15 02 16.7**	**-0.5**
	baz=4.9,SNR=108							
NIUE				S		**Sn**	**15 03 07.9**	**-5.9**
	baz=4.9							
NIUE	**Niue**	**4.90**	**143**	Pn		**Pn**	**15 02 16.4**	**-0.9**
NIUE	**Niue**	**4.90**	**143**	P		**Pn**	**15 02 18.0**	**+0.7**
MSVF	**Nonsavu**	**8.89**	**252**	Pn		Pn	15 03 20.3	+8.1
	2.2nm,0.3s,baz=92,slow=12,SNR=49							
MSVF				LR		LR	15 06 17.1	
	comp=Z,9μm,19.5s,baz=76,slow=36							
MSVF	**Nonsavu**	**8.89**	**252**			Pn	15 03 18.8	+6.6
FUNA	**Funafuti**	**10.05**	**310**	Pn		**Pn**	**15 03 28.1**	**+0.1**
KNTN	**Kanton**	**12.40**	**6**	Pn		**Pn**	**15 03 56.2**	**-4.0**
KNTN	**Kanton**	**12.40**	**6**	P		**Pn**	**15 03 56.6**	**-3.6**
RAR	**Rarotonga**	**13.98**	**117**	Pn		**Pn**	**15 04 20.7**	**-1.1**
	7.2nm,0.3s,baz=259,slow=7.7,SNR=20							
RAR				Sn		Sn	15 06 46.3	-11
	2.5nm,0.3s,baz=129,slow=19,SNR=2.0							
RAR				LR		LR	15 08 27.0	
	comp=Z,2μm,18.1s,baz=303,slow=31							
RAR	**Rarotonga**	**13.98**	**117**	P		**Pn**	**15 04 20.2**	**-1.5**
RAR	**Rarotonga**	**13.98**	**117**	Pn		**Pn**	**15 04 20.2**	**-1.5**
SANVU	**Saraoutou**	**19.03**	**267**	P		**Pn**	**15 05 29.1**	**+2.5**
LIFNC	**LIFOU**	**19.54**	**251**			**P**	**15 05 31.2**	**0.0**
LIFNC				IAmb		IAmb	15 05 46.1	
	comp=Z,239nm,1.0s							
LIFNC	**LIFOU**	**19.54**	**251**	P		**Pn**	**15 05 33.1**	**+0.6**
PINNC	**Pines Island,**	**19.85**	**245**	P		**P**	**15 05 33.6**	**-1.1**
PINNC				IAmb		IAmb	15 05 41.5	
	comp=Z,276nm,1.1s							
PINNC	**Pines Island,**	**19.85**	**245**	P		**Pn**	**15 05 36.5**	**+0.2**
OUENC	**Ouen Island, N**	**20.32**	**246**	P		**P**	**15 05 39.0**	**-0.9**
OUENC				IAmb		IAmb	15 05 48.5	
	comp=Z,274nm,1.2s							
OUENC	**Ouen Island, N**	**20.32**	**246**	P		**P**	**15 05 41.5**	**+1.6**
DZM	**Mont Dzumac**	**20.58**	**247**	*eP*		**P**	**15 05 44.0**	**+1.3**
DZM	comp=Z,471nm,1.6s			*eS*		**S**	**15 09 26.2**	**-6.5**
	comp=Z,351nm,26.5s							
DZM				*eLQ*		LQ	15 09 44.3	
	comp=Z,3μm,30.6s							
DZM				*eLR*		LR	15 10 33.2	
	comp=Z,7μm,26.3s							
DZM	**Mont Dzumac**	**20.58**	**247**	P		**P**	**15 05 43.6**	**+0.9**
	comp=Z,80nm,1.1s,baz=59,slow=22,SNR=12							
DZM				LR		LR	15 12 31.4	
	comp=Z,3μm,20.7s,baz=72,slow=34							
DZM	**Mont Dzumac**	**20.58**	**247**	P		**P**	**15 05 41.8**	**-0.9**
DZM				IAmb		IAmb	15 05 50.4	
	comp=Z,341nm,1.5s							
DZM	**Mont Dzumac**	**20.58**	**247**	P		**P**	**15 05 44.3**	**+1.6**
ONTNC	**Ouen Toro**	**20.64**	**247**	P		**P**	**15 05 41.9**	**-1.3**
ONTNC				IAmb		IAmb	15 05 50.6	
	comp=Z,137nm,0.9s							
NOUC	**Port Laguerre**	**20.71**	**248**	P		Pn	15 05 46.1	-0.3
TARA	**Tarawa**	**21.50**	**319**	P		**P**	**15 05 51.5**	**-1.0**
TARA				IAmb		IAmb	15 05 58.7	
	comp=Z,81nm,1.0s							
KOUNC	**Koumac, New Ca**	**22.20**	**253**	P		**P**	**15 06 00.9**	**+0.8**
NFK	**Norfolk Island**	**22.31**	**229**	P		**P**	**15 06 01.0**	**-0.2**
	baz=22,SNR=4.4							
NFK	**Norfolk Island**	**22.31**	**229**	P		**P**	**15 06 02.8**	**+1.5**
PPT	**Papeete**	**22.66**	**99**	P		**P**	**15 06 08.4**	**+3.4**
	comp=Z,46nm,1.0s,baz=308,slow=12,SNR=3.7							
PPT				LR		LR	15 13 50.8	
	comp=Z,314nm,18.4s,baz=268,slow=34							
PAE	**Paea**	**22.66**	**100**	*eP*		**P**	**15 06 07.8**	**+2.8**
	comp=Z,6.8nm,0.9s							
PAE	**Paea**	**22.66**	**100**	*eT*		T	15 29 23.6	
	comp=Z,6.4nm,0.3s							
PPT2	**Papeete2**	**22.66**	**99**	*eS*		**S**	**15 10 11.3**	**-1.8**
	comp=Z,213nm,22.5s							
PPT2				*eLQ*		LQ	15 10 33.9	
	comp=Z,4μm,28.2s							
PPT2				*eLR*		LR	15 11 30.6	
	comp=Z,735nm,27.0s							
PPT2	**Papeete2**	**22.66**	**99**	*eT*		T	15 29 24.2	
	comp=Z,9.1nm,0.3s							
PPTF	**Pamatai, Papee**	**22.67**	**99**	P		**P**	**15 06 03.1**	**-2.2**
PPTF				IAmb		IAmb	15 06 28.1	
	comp=Z,79nm,1.1s							
TIAR	**Tiarei**	**22.88**	**99**	*eP*		**P**	**15 06 09.8**	**+2.4**
	comp=Z,5.9nm,1.0s							
TIAR	**Tiarei**	**22.88**	**99**	*eT*		T	15 29 39.6	
	comp=Z,3.2nm,0.3s							
XMAS	**Kiritimati**	**23.06**	**43**	P		**P**	**15 06 08.7**	**-0.6**
XMAS				IAmb		IAmb	15 06 13.7	
	comp=Z,112nm,0.8s							
OUZ	**Omahuta**	**23.27**	**209**	P		**P**	**15 06 10.3**	**-0.9**
OUZ				IAmb		IAmb	15 06 15.2	
	comp=Z,168nm,1.2s							
MXZ	**Matakaoa Point**	**23.57**	**197**	P		**P**	**15 06 13.3**	**-0.8**
MXZ				IAmb		IAmb	15 06 16.6	
	comp=Z,54nm,0.7s							
TBI	**Tubuai**	**23.69**	**114**	*eS*		**S**	**15 10 29.5**	**-0.7**
	comp=Z,202nm,27.2s							
TBI				*eLQ*		LQ	15 11 02.2	
	comp=Z,3μm,31.5s							
TBI				*eLR*		LR	15 11 55.2	
	comp=Z,2μm,26.5s,baz=280							
TBI	**Tubuai**	**23.69**	**114**	*eT*		T	15 30 38.4	
	comp=Z,22nm,0.2s							
MEH	**Mehetia**	**24.11**	**100**	*eT*		T	15 31 12.6	
	comp=Z,13nm,0.2s							
PMOR	**Pomariorio Ree**	**24.30**	**93**	*eP*		**P**	**15 06 23.4**	**+2.1**
	comp=Z,187nm,1.1s							
PMOR	**Pomariorio Ree**	**24.30**	**93**	*eT*		T	15 31 25.0	
	comp=Z,7.2nm,0.2s							
OPRZ	**Ohinepanea**	**24.37**	**200**	P		**P**	**15 06 24.2**	**+2.4**
VAH	**Vaihoa**	**24.55**	**93**	*eP*		**P**	**15 06 25.6**	**+2.1**
	comp=Z,82nm,1.0s							
VAH	**Vaihoa**	**24.55**	**93**	*eT*		T	15 31 43.3	
	comp=Z,13nm,0.3s							
URZ	**Urewera**	**24.57**	**199**	P		**P**	**15 06 21.4**	**-2.1**
	comp=Z,61nm,0.5s,baz=307,slow=20,SNR=51							
URZ				LR		LR	15 14 45.5	
	comp=Z,4μm,21.0s,baz=31,slow=34							
URZ	**Urewera**	**24.57**	**199**	P		**P**	**15 06 21.6**	**-1.9**
KMRZ	**Kaimai**	**24.58**	**201**	P		**P**	**15 06 26.5**	**+2.8**
OMRZ	**Omania**	**24.67**	**200**	P		**P**	**15 06 27.3**	**+2.9**
UTU	**Utuhina**	**24.79**	**201**	P		**P**	**15 06 28.0**	**+2.5**
RRRZ	**Republican Roa**	**24.83**	**200**	P		**P**	**15 06 28.9**	**+2.9**
RTZ	**Ruatahuna**	**24.94**	**199**	P		**P**	**15 06 29.1**	**+2.2**
PRGZ	**Paritu Road**	**24.95**	**197**	P		**P**	**15 06 30.8**	**+3.8**
HRRZ	**Handcock Road**	**24.96**	**200**	P		**P**	**15 06 27.0**	**0.0**
GRRZ	**Galatos Road**	**24.98**	**200**	P		**P**	**15 06 28.4**	**+1.1**
PRRZ	**Plateau Road**	**25.02**	**200**	P		**P**	**15 06 27.4**	**-0.1**
ALRZ	**Allen Road**	**25.09**	**200**	P		**P**	**15 06 28.7**	**+0.4**
KNZ	**Kokohu**	**25.11**	**197**	P		**P**	**15 06 30.8**	**+2.4**
WPRZ	**Whakapapatarin**	**25.11**	**200**	P		**P**	**15 06 29.9**	**+1.5**
TLZ	**Tolley Road**	**25.16**	**201**	P		**P**	**15 06 30.2**	**+1.3**
MHGZ	**Mahia Peninsul**	**25.16**	**197**	P		**P**	**15 06 31.3**	**+2.5**
RAHZ	**Arahi**	**25.18**	**198**	P		**P**	**15 06 31.1**	**+2.0**
MTHZ	**Maungataniwha**	**25.20**	**199**	P		**P**	**15 06 29.9**	**+0.7**
WHHZ	**Waihua**	**25.29**	**198**	P		**P**	**15 06 34.1**	**+4.1**
MRHZ	**Matea Rd**	**25.32**	**199**	P		**P**	**15 06 30.3**	**0.0**
NMHZ	**Naumai**	**25.43**	**199**	P		**P**	**15 06 33.2**	**+1.7**
ARHZ	**Aropaoanui**	**25.53**	**198**	P		**P**	**15 06 35.2**	**+3.0**
RATZ	**Rangitukua**	**25.56**	**201**	P		**P**	**15 06 32.0**	**-0.5**
HIZ	**Hauiti**	**25.57**	**202**	P		**P**	**15 06 31.3**	**-1.2**
HIZ	**Hauiti**	**25.57**	**202**	P		**P**	**15 06 34.2**	**+1.7**
BKZ	**Black Stump Fm**	**25.59**	**199**	P		**P**	**15 06 30.5**	**-2.3**
RITZ	**Rihia Road**	**25.63**	**200**	P		**P**	**15 06 32.8**	**-0.3**
MCHZ	**McNeill Hill**	**25.79**	**198**	P		P	15 06 27.3	-7.3
NTVZ	**North Tongarir**	**25.80**	**200**	P		**P**	**15 06 36.9**	**+2.1**
TMVZ	**Te Maari**	**25.80**	**200**	P		**P**	**15 06 34.2**	**-0.7**
ETVZ	**East Tongariro**	**25.82**	**200**	P		**P**	**15 06 34.5**	**-0.5**
WTVZ	**West Tongariro**	**25.84**	**201**	P		**P**	**15 06 36.2**	**+1.0**
NNVZ	**North Ngauruho**	**25.85**	**200**	P		**P**	**15 06 37.6**	**+2.3**
TWVZ	**Taurewa**	**25.86**	**201**	P		**P**	**15 06 35.4**	**+0.1**
NGZ	**Ngauruhoe**	**25.89**	**200**	P		**P**	**15 06 36.4**	**+0.7**
TUVZ	**Tukino**	**25.96**	**200**	P		**P**	**15 06 36.7**	**+0.4**
BHHZ	**Black Hill Sta**	**26.03**	**199**	P		**P**	**15 06 36.2**	**-0.5**
MOVZ	**Moawhango**	**26.05**	**200**	P		**P**	**15 06 36.4**	**-0.6**
KAHZ	**Kahuranaki**	**26.05**	**198**	P		**P**	**15 06 40.0**	**+3.0**
KRHZ	**Kereru**	**26.07**	**199**	P		**P**	**15 06 38.6**	**+1.5**
PKVZ	**Pokaka**	**26.08**	**201**	P		**P**	**15 06 36.7**	**-0.6**
VRZ	**Vera Road**	**26.14**	**202**	P		**P**	**15 06 40.8**	**+3.0**
PXZ	**Pawanui**	**26.28**	**198**	P		**P**	**15 06 39.7**	**+0.7**
PNHZ	**Pukenui**	**26.37**	**199**	P		**P**	**15 06 42.0**	**+2.2**
PKE	**Pukeiti**	**26.49**	**203**	P		**P**	**15 06 44.3**	**+3.4**
NEZ	**North Egmont**	**26.51**	**203**	P		**P**	**15 06 44.8**	**+3.5**
KHEZ	**Kahui Hut**	**26.57**	**203**	P		**P**	**15 06 43.9**	**+2.2**
LREZ	**Lake Rotokare**	**26.57**	**202**	P		**P**	**15 06 44.1**	**+2.5**
TSZ	**Takapari Road**	**26.58**	**199**	P		**P**	**15 06 41.6**	**-0.2**
NBEZ	**Newall Road No**	**26.60**	**203**	P		**P**	**15 06 45.4**	**+3.5**
DVHZ	**Dannevirke**	**26.73**	**199**	P		**P**	**15 06 45.5**	**+2.4**
HNR	**Honiara**	**26.96**	**279**	LR		LR	15 15 59.0	
	comp=Z,517nm,18.8s,baz=114,slow=34							
HNR	**Honiara**	**26.96**	**279**	P		**P**	**15 06 44.7**	**-0.7**
HNR				pmax		pmax		
	comp=Z,194nm,1.0s							
HNR	**Honiara**	**26.96**	**279**	P		**P**	**15 06 44.7**	**-0.7**
BFZ	**Birch Farm**	**27.06**	**198**	P		**P**	**15 06 44.2**	**-1.8**
BFZ	**Birch Farm**	**27.06**	**198**	P		**P**	**15 06 46.6**	**+0.6**
SNZO	**South Karori**	**28.11**	**200**	P		**P**	**15 06 54.3**	**-1.1**
SNZO				IAmb		IAmb	15 07 07.7	
	comp=Z,64nm,0.9s							
BHW	**Baring Head**	**28.15**	**199**	P		**P**	**15 06 54.3**	**-1.5**
PLWZ	**Palliser**	**28.17**	**199**	P		**P**	**15 06 54.8**	**-1.3**
QRZ	**Quartz Range**	**28.46**	**203**	P		**P**	**15 06 58.0**	**-0.6**
TUWZ	**Tuamarina**	**28.47**	**201**	P		**P**	**15 06 57.6**	**-1.1**
BSWZ	**Blackbirch Sta**	**28.75**	**201**	P		**P**	**15 06 60.0**	**-1.2**
THZ	**Tophouse**	**29.13**	**202**	P		**P**	**15 07 02.7**	**-1.9**
THZ				IAmb		IAmb	15 07 19.9	
	comp=Z,26nm,0.7s							
KHZ	**Kahutara**	**29.49**	**200**	P		**P**	**15 07 06.0**	**-1.6**
KHZ				IAmb		IAmb	15 07 18.5	
	comp=Z,30nm,0.7s							
LTZ	**Lake Taylor**	**30.25**	**202**	P		**P**	**15 07 11.9**	**-2.6**
OXZ	**Oxford**	**30.81**	**201**	P		**P**	**15 07 16.7**	**-2.6**
RPZ	**Rata Peaks**	**31.50**	**202**	P		**P**	**15 07 23.9**	**-1.6**
RPZ				IAmb		IAmb	15 07 37.8	
	comp=Z,81nm,1.3s							
FOZ	**Fox Glacier**	**31.82**	**204**	P		**P**	**15 07 26.2**	**-2.0**
LBZ	**Lake Benmore**	**32.40**	**203**	P		**P**	**15 07 30.9**	**-2.4**
LBZ				IAmb		IAmb	15 07 40.8	
	comp=Z,31nm,1.0s							
TAOE	**Nuku Hiva Isla**	**32.78**	**83**	*eT*		T	15 41 58.0	
	comp=Z,98nm,0.2s							
ODZ	**Otahua Downs**	**32.80**	**202**	P		**P**	**15 07 35.1**	**-1.7**
ODZ				IAmb		IAmb	15 07 40.6	
	comp=Z,32nm,1.1s							
WKZ	**Wanaka**	**33.22**	**204**	P		**P**	**15 07 38.8**	**-1.7**
MLZ	**Mavora Lakes**	**34.02**	**204**	P		**P**	**15 07 46.0**	**-1.5**
MLZ				IAmb		IAmb	15 07 48.8	
	comp=Z,58nm,1.0s							
WHZ	**Wether Hill Ro**	**34.52**	**204**	P		**P**	**15 07 50.2**	**-1.6**
EIDS	**Eidsvold**	**35.03**	**247**	P		**P**	**15 07 55.4**	**-1.0**
	baz=35,SNR=3.6							
ARMA	**Armidale**	**35.73**	**239**	P		**P**	**15 08 00.9**	**-1.7**
	baz=36,SNR=18							
ARMA	**Armidale**	**35.73**	**239**	P		**P**	**15 08 00.6**	**-2.0**
RABL	**Rabaul**	**35.91**	**284**	P		**P**	**15 08 02.4**	**-1.8**
RKT	**Rikitea**	**36.76**	**108**	*eS*		**S**	**15 13 57.0**	**+2.0**
RKT	comp=Z,417nm,28.8s			*eLQ*		LQ	15 16 36.7	
	comp=Z,687nm,26.8s							
RKT				*eLR*		LR	15 17 48.4	
	comp=Z,696nm,27.5s							
RKT	**Rikitea**	**36.76**	**108**	*eT*		T	15 47 01.4	
	comp=Z,29nm,0.3s							
MGCD	**Mangrove Creek**	**37.04**	**235**	P		**P**	**15 08 12.3**	**-1.3**
	baz=37,SNR=4.4							
RMQ	**Roma**	**37.28**	**246**	P		**P**	**15 08 14.0**	**-1.8**
	baz=37,SNR=7.5							
KHU	**Kahuku**	**38.28**	**27**	P		**P**	**15 08 24.2**	**-0.3**
KHU				pmax		pmax		
	comp=Z,98nm,0.9s							
KHU	**Kahuku**	**38.28**	**27**	P		**P**	**15 08 24.1**	**-0.3**
SBLHI	**Steaming Bluff**	**38.59**	**28**	P		**P**	**15 08 25.4**	**-1.6**
POHA	**Pohakuloa**	**38.77**	**27**	P		**P**	**15 08 29.3**	**+0.8**
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T		T	15 49 08.1	
	baz=146,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**38.96**	**329**	T		T	15 49 10.1	
	baz=146,slow=76,SNR=35							
H11S1	**WAKE ISLAND Hy**	**38.96**	**329**	T		T	15 49 12.0	
	baz=146,slow=76,SNR=19							
CTA	**Charters Tower**	**39.01**	**257**	P		**P**	**15 08 27.8**	**-2.5**
	comp=Z,3.0nm,0.4s,baz=77,slow=9.6,SNR=13							
CTAO	**Charters Tower**	**39.01**	**257**	P		**P**	**15 08 27.4**	**-3.0**
CTAO				pmax		pmax		
	comp=Z,33nm,1.4s							
CTAO	**Charters Tower**	**39.01**	**257**	P		**P**	**15 08 27.4**	**-3.0**
HON	**Honolulu**	**39.18**	**23**	P		**P**	**15 08 30.4**	**-1.2**
HON				pmax		pmax		
	comp=Z,178nm,0.8s							
HON	**Honolulu**	**39.18**	**23**	P		**P**	**15 08 30.4**	**-1.2**
KIP	**Kipapa**	**39.26**	**22**	*i* P		**P**	**15 08 34.3**	**+1.9**
KIP				pmax		pmax		
	comp=Z,74nm,0.6s							
KIP	**Kipapa**	**39.26**	**22**	P		**P**	**15 08 31.7**	**-0.6**
HLK	**Haleakala**	**39.35**	**25**	P		**P**	**15 08 31.4**	**-2.1**
CAN	**Canberra**	**39.42**	**232**	P		**P**	**15 08 31.8**	**-1.9**
CAN				pmax		pmax		
	comp=Z,22nm,0.8s							
CAN	**Canberra**	**39.42**	**232**	P		**P**	**15 08 31.8**	**-1.9**
WAKE	**Wake Island**	**39.64**	**329**	P		**P**	**15 08 34.5**	**-1.1**
H11N3	**WAKE ISLAND Hy**	**39.88**	**330**	T		T	15 50 19.7	
	baz=146,slow=76,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**39.89**	**330**	T		T	15 50 14.1	
	baz=146,slow=76,SNR=30							
H11N2	**WAKE ISLAND Hy**	**39.90**	**330**	T		T	15 50 38.6	
	baz=146,slow=76,SNR=36							
MTSU	**Mount Surprise**	**40.87**	**260**	P		**P**	**15 08 44.5**	**-1.4**
	baz=41,SNR=16							
CMSA	**Cobar Meteorol**	**40.94**	**239**	P		**P**	**15 08 44.4**	**-1.9**
	baz=41,SNR=15							
TOO	**Toolangi**	**42.85**	**231**	P		**P**	**15 09 00.2**	**-1.7**
	baz=43,SNR=5.5							
TOO	**Toolangi**	**42.85**	**231**	P		**P**	**15 08 59.5**	**-2.4**
TOO				pmax		pmax		
	comp=Z,115nm,1.5s							
TOO	**Toolangi**	**42.85**	**231**	P		**P**	**15 08 59.5**	**-2.4**
TOO				IAmb		IAmb	15 09 02.9	
	comp=Z,115nm,1.5s							
STKA	**Stephens Creek**	**44.42**	**240**	P		**P**	**15 09 13.2**	**-1.4**
	comp=Z,24nm,0.7s,baz=93,slow=10,SNR=34							
STKA				LR		LR	15 25 19.1	
	comp=Z,950nm,21.9s,baz=79,slow=33							
STKA	**Stephens Creek**	**44.42**	**240**	P		**P**	**15 09 12.3**	**-2.4**
STKA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
STKA	**Stephens Creek**	**44.42**	**240**	P		**P**	**15 09 12.2**	**-2.4**
QIS	**Mount Isa**	**45.24**	**256**	P		**P**	**15 09 19.3**	**-2.1**
	baz=45,SNR=9.1							
HTT	**Hallett**	**46.93**	**238**	P		**P**	**15 09 33.6**	**-0.9**
	baz=47,SNR=13							
GENI	**Geneym**	**47.75**	**280**	P		**P**	**15 09 39.9**	**-1.1**
	comp=Z,29nm,0.9s							
BBOO	**Buckleboo**	**49.20**	**240**	P		**P**	**15 09 50.0**	**-2.0**
	baz=49,SNR=10							
BBOO	**Buckleboo**	**49.20**	**240**	P		**P**	**15 09 49.4**	**-2.6**
BBOO				IAmb		IAmb	15 09 51.4	
	comp=Z,34nm,0.9s							
WRAB	**Tennant Creek**	**50.20**	**257**	P		**P**	**15 09 57.1**	**-2.7**
WRAB				pmax		pmax		
	comp=Z,30nm,1.2s							
WRAB	**Tennant Creek**	**50.20**	**257**	P		**P**	**15 09 57.1**	**-2.7**
WRAB				IAmb		IAmb	15 09 59.4	
	comp=Z,30nm,1.1s							
WRA	**Warramunga Arr**	**50.21**	**257**	P		**P**	**15 09 57.7**	**-2.2**
	comp=Z,8.2nm,0.4s,baz=92,slow=6.9,SNR=331							
WRA				PcP		**PcP**	**15 11 19.0**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=86,slow=3.7,SNR=3.6							
WRA				LR		LR	15 30 02.4	
	comp=Z,569nm,21.6s,baz=125,slow=35							
AS31	**Alice Springs**	**50.48**	**252**	P		**P**	**15 09 59.4**	**-2.6**
ASAR	**Alice Springs**	**50.48**	**252**	P		**P**	**15 09 59.8**	**-2.2**
	comp=Z,15nm,0.4s,baz=89,slow=7.8,SNR=569							
ASAR				LR		LR	15 29 46.9	
	comp=Z,2μm,21.8s,baz=97,slow=34							
ASAR	**Alice Springs**	**50.48**	**252**	P		**P**	**15 09 59.1**	**-2.9**
SRPI	**Serui, Papua**	**51.70**	**280**	P		**P**	**15 10 10.5**	**-0.7**
	comp=Z,52nm,0.7s							
KDU	**Kakadu**	**52.81**	**265**	P		**P**	**15 10 17.9**	**-1.5**
	baz=53,SNR=8.9							
MTN	**Manton Dam**	**54.07**	**265**	P		**P**	**15 10 27.2**	**-1.5**
	baz=54,SNR=3.1							
SAUI	**Saumlaki**	**54.85**	**271**	P		**P**	**15

CASY IAmb IAmb 15 12 21.1
comp=Z,37nm,1.0s
SKR **Severo-Kuril's** **70.93 340** *e*P **P** **15 12 20.2 -0.4**
SKR *e*S **S** **15 21 36.3 +0.6**
SKR *e* 15 22 19.8
SKR pmax pmax
comp=Z,100nm,3.4s
SKR pmax pmax
comp=Z,200nm,3.5s
SKR pmax pmax
comp=Z,19nm,0.9s
SKR MLR MLR
comp=Z,300nm,17.0s
SKR MLR MLR
comp=Z,200nm,19.0s
CIS **Catalina Islan** **71.05 46** P 15 12 24.0
baz=236
SDPT **Sand Point** **71.06 8** P 15 12 21.6
baz=193
SDPT **Sand Point** **71.06 8** P **P** **15 12 21.1 -0.2**
JHS **Saijyo** **71.38 316** P **P** **15 12 22.0 -1.8**
KMRM **Mail Ridge** **71.69 38** P **P** **15 12 25.8 +0.1**
KMRM IAmb IAmb 15 12 31.8
comp=Z,30nm,0.8s
BFSC **Mount Baldy Ra** **72.04 46** P 15 12 29.4
baz=236
SPIA **Saint Paul Isl** **72.12 2** P 15 12 29.8
baz=183
EDW2 **Edwards Air Fo** **72.16 45** P 15 12 29.6
baz=236,SNR=11
PET **Petropavlovsk** **72.17 343** P **P** **15 12 26.8 -1.3**
PET pmax pmax
comp=Z,2.0nm,0.3s
MONP2 **Monument Peak** **72.18 48** P 15 12 30.4
baz=238,SNR=7.8
O02D **Mt. Diablo Mer** **72.21 38** P 15 12 30.6
baz=231
ISA **Isabella, Lake** **72.27 44** P 15 12 31.0
baz=236
IKP **In-Ko-Pah, Jac** **72.28 48** P 15 12 30.7
baz=238
KRMB **Red Mountain** **72.41 37** P **P** **15 12 30.1 +0.1**
KRMB IAmb IAmb 15 12 51.0
comp=Z,28nm,1.1s
PEA0B **Petropavlovsk-** **72.52 342** P **P** **15 12 30.8 +0.6**
PEA0B pmax pmax
comp=Z,38nm,0.9s
PEA0B **Petropavlovsk-** **72.52 342** P **P** **15 12 30.8 +0.6**
PEA0B IAmb IAmb 15 12 34.6
comp=Z,38nm,0.9s
PETK **Petropavlovsk-** **72.52 342** P **P** **15 12 31.4 +1.1**
comp=Z,24nm,0.8s,baz=128,slow=8.3,SNR=43
PETK LR LR 15 40 03.5
comp=Z,350nm,20.8s,baz=160,slow=32
PETK **Petropavlovsk-** **72.52 342** P **P** **15 12 31.0 +0.7**
PFO **Pinyon Flats O** **72.54 47** P **P** **15 12 32.4 +1.5**
comp=Z,4.0nm,0.8s,baz=239,slow=4.0,SNR=6.1
PFO **Pinyon Flats O** **72.54 47** P **P** **15 12 29.3 -1.6**
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO **Pinyon Flats O** **72.54 47** P **P** **15 12 29.3 -1.6**
PFO **Pinyon Flats O** **72.54 47** P 15 12 32.3
baz=238
TPFO **Pinon Flats** **72.54 47** P 15 12 32.5
baz=238
ORV **Oroville** **72.61 39** P **P** **15 12 29.9 -1.2**
ORV pmax pmax
comp=Z,22nm,1.5s
ORV **Oroville** **72.61 39** P **P** **15 12 29.9 -1.2**
ORV IAmb IAmb 15 12 59.0
comp=Z,22nm,1.4s
SWSC **Sam W. Stewart** **72.65 48** P 15 12 33.2
baz=238
LRMC **Laurel Mtn Rad** **72.70 45** P 15 12 32.8
baz=236
N02D **Trinity Center** **72.76 38** P 15 12 33.9
baz=231
O03E **Paynes Creek** **72.87 39** P 15 12 33.7
baz=232
M02C **Callahan** **72.93 37** P 15 12 34.3
baz=231
CWC **Cottonwood Cre** **72.97 44** P 15 12 34.4
baz=236
BELC **Belle Mtn. Jos** **73.07 47** P 15 12 35.7
baz=238
SII **Sitkinak Islan** **73.19 11** P 15 12 35.7
baz=199
SII **Sitkinak Islan** **73.20 11** P **P** **15 12 33.6 -0.5**
TIN **Tinemaha, Big** **73.22 43** P 15 12 36.7
baz=235
YBH **Yreka Blue Hor** **73.23 37** P **P** **15 12 36.8 +2.0**
YBH pmax pmax
comp=Z,14nm,0.9s
YBH **Yreka Blue Hor** **73.23 37** P **P** **15 12 36.8 +2.0**
YBH IAmb IAmb 15 12 55.6
comp=Z,14nm,0.9s
WAKR **Walker** **73.27 41** P **P** **15 12 36.5 +1.3**
BC3 **Big Chuckawall** **73.27 47** P 15 12 36.5
baz=238,SNR=5.8
HEC **Hector,Ludlow** **73.28 46** P 15 12 36.4
baz=237,SNR=5.9
K02D **Willamette Mer** **73.30 36** P 15 12 37.3
baz=230
GLA **Glamis** **73.41 48** P 15 12 37.6
baz=239
J01E **Myrtle Point** **73.45 35** P 15 12 36.6
baz=230
YSS **Yuzh-Sakhalins** **73.45 330** *e*P **P** **15 12 37.7 +1.8**
YSS *e**SP **pwP** **15 12 46.8 +4.0**
YSS *e*S **S** **15 22 06.1 +1.2**
YSS *e* 15 22 45.2
YSS *e*SS **SS** **15 26 50.9 +3.0**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,4.1s
YSS smax smax
comp=E,200nm,5.9s
YSS **Yuzh-Sakhalins** **73.45 330** P **P** **15 12 34.9 -1.0**
YSS IAmb IAmb 15 12 40.0
comp=Z,25nm,0.9s
BEKR **Beckworth** **73.50 40** P **P** **15 12 35.6 -1.0**
YERR **Yerington** **73.67 41** P **P** **15 12 36.0 -1.6**
GMRC **Granite Mounta** **73.72 46** P 15 12 38.3
baz=238,SNR=5.4
IRM **Iron Mountain** **73.75 47** P 15 12 39.1
baz=238,SNR=7.1
GRAC **Grapevine Rang** **73.76 44** P 15 12 39.2
baz=236
L04D **Klamath Falls** **73.77 37** P 15 12 39.6
baz=231
M04C **Macdoel** **73.77 37** P 15 12 39.4
baz=232
FURC **Furnace Creek,** **73.80 44** P 15 12 39.6
baz=236
TUQ **Turquoise Moun** **73.88 46** P 15 12 40.3
baz=237
RYN **Ryan** **73.92 42** P **P** **15 12 38.6 -0.5**
NVAR **Mina Array Bea** **73.95 42** P **P** **15 12 41.0 +1.7**
comp=Z,14nm,1.0s,baz=228,slow=9.7,SNR=38
NVAR LR LR 15 38 02.3
comp=Z,1μm,20.9s,baz=242,slow=30
NVAR **Mina Array Bea** **73.95 42** P **P** **15 12 38.8 -0.5**
OHAK **Old Harbor** **73.99 11** P 15 12 39.7
baz=200
NV11 **Mina Array Sit** **74.05 42** P **P** **15 12 38.4 -1.4**
I02D **Swisshome** **74.11 35** P 15 12 40.4
baz=229
I03D **Drain, OR** **74.12 35** P 15 12 39.9
baz=230
214A **Organ Pipe Nat** **74.33 50** P **P** **15 12 41.5 +0.1**
214A **Organ Pipe Nat** **74.33 50** P 15 12 43.0
baz=240
K04D **Chiloquin, OR** **74.34 37** P 15 12 42.8
baz=231
KVN **Kaiserville** **74.44 41** P **P** **15 12 43.2 +1.1**
KVN pmax pmax
comp=Z,11nm,0.9s
KVN **Kaiserville** **74.44 41** P **P** **15 12 43.2 +1.1**
TPH **Tonopah** **74.45 43** P **P** **15 12 42.5 +0.3**
TPH pmax pmax
comp=Z,78nm,0.8s
TPH **Tonopah** **74.45 43** P **P** **15 12 42.5 +0.3**
TPNV **Topopah Spring** **74.48 44** P 15 12 43.4
baz=237,SNR=8.6
TPNV **Topopah Spring** **74.48 44** P **P** **15 12 41.7 -0.6**
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV **Topopah Spring** **74.48 44** P **P** **15 12 41.7 -0.6**
J04D **Umpqua Nationa** **74.53 36** P 15 12 44.0
baz=231
PDMCI **Parker Dam,Lak** **74.54 47** P 15 12 43.2
baz=239
KDAK **Kodiak Island** **74.64 11** P 15 12 43.1
baz=200
KDAK **Kodiak Island** **74.65 11** P **P** **15 12 43.0 +0.4**
KDAK pmax pmax
comp=Z,33nm,0.8s
KDAK **Kodiak Island** **74.65 11** P **P** **15 12 43.0 +0.4**
KDAK IAmb IAmb 15 12 45.1
comp=Z,33nm,0.8s
I04A **Tendick Farm,** **74.70 35** P 15 12 44.3
baz=231
MOD **Modoc Plateau** **74.75 38** P **P** **15 12 42.2 -1.6**
MOD IAmb IAmb 15 12 47.1
comp=Z,24nm,1.1s
H04D **Lebanon** **74.98 35** P 15 12 46.5
baz=230
G03D **McMinnville, O** **75.14 34** P 15 12 46.8
baz=230
Y14A **Wickenburg** **75.17 48** P **P** **15 12 46.7 +0.4**
TPUB **Ta-pu** **75.26 299** P **P** **15 12 46.1 -0.8**
TPUB IAmb IAmb 15 13 14.4
comp=Z,25nm,1.0s
H04A **Detroit Lake** **75.39 35** P **P** **15 12 47.9 +0.6**
H04A IAmb IAmb 15 12 50.0
comp=Z,23nm,0.9s
PRN **Pahroc Range** **75.53 44** P **P** **15 12 47.3 -1.1**
I05D **Terrebonne, OR** **75.65 36** P 15 12 50.1
baz=231
R11A **Troy Canyon, C** **75.68 43** P 15 12 49.5
baz=237
TUC **Tucson** **76.00 51** P 15 12 49.9
baz=242
TUC **Tucson** **76.00 51** P **P** **15 12 50.8 -0.3**
TUC pmax pmax
comp=Z,18nm,0.9s
TUC **Tucson** **76.00 51** P **P** **15 12 50.8 -0.3**
TUC IAmb IAmb 15 13 12.0
comp=Z,18nm,0.9s
WVOR **Wild Horse Val** **76.06 38** P **P** **15 12 50.9 -0.4**
WVOR pmax pmax
comp=Z,19nm,1.1s
WVOR **Wild Horse Val** **76.06 38** P **P** **15 12 50.9 -0.4**
WVOR IAmb IAmb 15 12 54.6
comp=Z,19nm,1.1s
G05D **Wamic, OR** **76.22 35** P 15 12 52.8
baz=231
KSRS **Korea Array** **76.23 315** P **P** **15 12 54.2 +2.1**
comp=Z,5.1nm,0.9s,baz=129,slow=6.5,SNR=20
KSRS LR LR 15 40 29.1
comp=Z,313nm,21.9s,baz=108,slow=31
KSAR **Wonju Array Be** **76.25 315** P **P** **15 12 53.2 +0.9**
KSAR **Wonju Array Be** **76.25 315** P **P** **15 12 53.2 +0.9**
TYV **Tymovskoe** **76.30 333** *e*P P 15 13 02.2 +10
TYV pmax pmax
comp=Z,200nm,3.6s
TYV pmax pmax
comp=Z,13nm,1.3s
E04D **Cinebar** **76.38 33** P 15 12 54.5
baz=230
CNPM **China Poot** **76.53 11** P **P** **15 12 54.1 +0.7**
CNPM IAmb IAmb 15 12 55.8
comp=Z,35nm,0.9s
I07A **Izee** **76.53 37** P **P** **15 12 55.0 +1.1**
I07A IAmb IAmb 15 12 57.3
comp=Z,24nm,1.1s
F05D **White Salmon** **76.55 34** P 15 12 55.2
baz=231
LCMT **Little Creek M** **76.56 45** P **P** **15 12 53.7 -0.5**
D03D **Eldon** **76.74 32** P 15 12 55.3
baz=229
BRLK **Bradley Lake** **76.82 11** P **P** **15 12 55.5 +0.5**
BRLK IAmb IAmb 15 12 58.0
comp=Z,42nm,1.1s
BRSE **Bradley Lake S** **76.82 11** P 15 12 55.5
baz=202,SNR=8.5
PSUT **Pine Spring** **76.93 44** P **P** **15 12 55.9 -0.5**
WUAZ **Wupatki** **77.11 47** P 15 12 58.9
baz=240
RSO **Redoubt South** **77.14 10** P **P** **15 12 56.8 -0.2**
ELK **Elko** **77.21 41** P **P** **15 12 57.3 -0.6**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK **Elko** **77.21 41** P **P** **15 12 57.3 -0.6**
SVW2 **Sparrevohn** **77.30 9** P **P** **15 12 57.8 +0.2**
SVW2 IAmb IAmb 15 12 59.6
comp=Z,13nm,0.8s
USA0B **Ussuriysk Arra** **77.40 323** P **P** **15 12 58.1 -0.5**
USA0B pmax pmax
comp=Z,8.0nm,1.1s
USA0B **Ussuriysk Arra** **77.40 323** P **P** **15 12 58.1 -0.5**
USRK **Ussuriysk Ar.** **77.40 323** P **P** **15 13 00.9 +2.3**
comp=Z,3.1nm,0.9s,baz=91,slow=7.2,SNR=8.0
USRK LR LR 15 40 32.7
comp=Z,776nm,21.8s,baz=118,slow=31
SEW **Seward** **77.41 12** P 15 12 59.8
baz=203
SEW **Seward** **77.41 12** P **P** **15 12 57.9 -0.3**
SEW IAmb IAmb 15 13 04.2
comp=Z,32nm,1.1s
PKCU **Pink Cliffs** **77.42 45** P **P** **15 12 58.4 -0.9**
PKCU IAmb IAmb 15 13 16.7
comp=Z,20nm,1.0s
Q23K **Middleton Isla** **77.46 14** P 15 12 58.4
baz=206
G08A **Pilot Rock** **77.57 36** P **P** **15 12 58.9 -0.8**
G08A IAmb IAmb 15 13 03.9
comp=Z,22nm,1.0s
A04D **Lummi Island** **77.70 31** P 15 12 59.3
baz=229
O22K **Cooper Landing** **77.70 12** P 15 13 01.0
baz=203
O22K **Cooper Landing** **77.71 12** P **P** **15 13 00.7 +0.7**
B05A **Bryant** **77.72 32** P 15 13 01.8
baz=230
LTY **Liberty** **77.83 34** P **P** **15 13 00.7 -0.4**
LTY IAmb IAmb 15 13 21.1
comp=Z,28nm,1.4s
TCRU **Three Creeks R** **77.91 44** P **P** **15 13 02.1 +0.1**
TCRU IAmb IAmb 15 13 30.1
comp=Z,12nm,0.5s
HAWA **Hanford** **77.92 35** P **P** **15 13 01.1 -0.3**
HAWA IAmb IAmb 15 13 21.8
comp=Z,25nm,1.2s
SPCR **Spurr Chakacha** **77.92 10** P 15 13 01.2
baz=201
CRAG **Craig** **78.02 22** P 15 13 03.0
baz=219
W18A **Petrified Fore** **78.10 48** P 15 13 03.6
baz=242
BMO **Blue Mountains** **78.26 37** P **P** **15 13 03.8 +0.3**
BMO pmax pmax
comp=Z,15nm,1.0s
BMO **Blue Mountains** **78.26 37** P **P** **15 13 03.8 +0.3**
RC01 **Rabbit Creek A** **78.26 11** P 15 13 03.4
baz=203,SNR=12
RC01 **Rabbit Creek A** **78.27 11** P **P** **15 13 03.6 +0.5**
RC01 IAmb IAmb 15 13 05.3
comp=Z,32nm,1.0s
MFID **Camas Ranch** **78.32 39** P **P** **15 13 04.5 +0.6**
MFID IAmb IAmb 15 13 06.9
comp=Z,15nm,0.9s
PWL **Port Wells** **78.33 12** P **P** **15 13 04.2 +0.8**
PWL IAmb IAmb 15 13 05.4
comp=Z,34nm,1.1s
121A **Cookes Peak, D** **78.36 52** P 15 13 04.9
baz=243
SUA **Susitna One** **78.42 11** P 15 13 04.4
baz=202
SUA **Susitna One** **78.43 11** P **P** **15 13 03.7 -0.4**
SUA IAmb IAmb 15 13 07.7
comp=Z,36nm,0.9s
DUG **Dugway, Tooele** **78.48 43** P 15 13 04.2
baz=239,SNR=10
DUG **Dugway, Tooele** **78.48 43** P **P** **15 13 02.7 -2.2**
DUG pmax pmax
comp=Z,20nm,1.4s
DUG **Dugway, Tooele** **78.48 43** P **P** **15 13 02.7 -2.2**
SIT **Sitka** **78.51 20** P 15 13 03.9
baz=217
EYAK **Cordova Ski Ar** **78.60 13** P 15 13 03.9
baz=207
EYAK **Cordova Ski Ar** **78.60 13** P **P** **15 13 03.9 -0.9**
EYAK IAmb IAmb 15 13 10.9
comp=Z,19nm,1.0s
GLI **Glacier Island** **78.60 13** P 15 13 04.8
baz=206,SNR=5.8
GLI **Glacier Island** **78.60 13** P **P** **15 13 05.0 +0.1**
GLI IAmb IAmb 15 13 06.9
comp=Z,36nm,0.8s
D08A **Wollman Farm,** **78.65 34** P **P** **15 13 05.5 0.0**
D08A IAmb IAmb 15 13 08.6
comp=Z,25nm,1.1s
GAMB **Gambell** **78.71 1** P 15 13 05.4
baz=181
BGU **Big Grassy Mou** **78.72 42** P **P** **15 13 04.8 -1.5**
HMT **Hamilton** **78.75 14** P **P** **15 13 06.5 +0.7**
HMT IAmb IAmb 15 13 09.9
comp=Z,51nm,1.3s
E09A **Wood Farm, Sta** **78.75 35** P **P** **15 13 05.9 -0.2**
SKT **Skwentna** **78.77 10** P 15 13 05.4
baz=201,SNR=15
SKT **Skwentna** **78.77 10** P **P** **15 13 05.2 -0.7**
SKT IAmb IAmb 15 13 07.1
comp=Z,19nm,1.0s
M22K **Willow** **78.81 11** P 15 13 06.5
baz=202
KNK **Knik Glacier** **78.81 12** P 15 13 05.3
baz=204,SNR=10.0
KNK **Knik Glacier** **78.81 12** P **P** **15 13 06.2 +0.1**
KNK IAmb IAmb 15 13 08.3
comp=Z,30nm,0.9s
PMR **Palmer** **78.84 11** P 15 13 06.5
baz=204,SNR=7.0
PMR **Palmer** **78.84 11** P **P** **15 13 05.8 -0.4**
PMR pmax pmax
comp=Z,36nm,1.0s
PMR **Palmer** **78.84 11** P **P** **15 13 05.8 -0.4**
PMR IAmb IAmb 15 13 09.0
comp=Z,36nm,1.0s
F10A **Beach Ranch, E** **78.95 36** P **P** **15 13 06.4 -1.0**
F10A IAmb IAmb 15 13 09.9
comp=Z,30nm,1.1s
TTA **Tatalina** **78.99 8** P 15 13 08.5
baz=197,SNR=21
TTA **Tatalina** **79.00 8** P **P** **15 13 06.8 -0.3**
TTA pmax pmax
comp=Z,52nm,1.1s
TTA **Tatalina** **79.00 8** P **P** **15 13 06.8 -0.3**
TTA IAmb IAmb 15 13 12.0
comp=Z,52nm,1.1s
WRAK **Wrangell Islan** **79.03 22** P 15 13 08.0
baz=220
GHO **Glory Hole Cre** **79.05 11** P **P** **15 13 08.0 +0.5**
MDJ **Mudanjiang** **79.05 322** P **P** **15 13 09.7 +1.9**
MDJ pP pwP 15 13 15.8 +1.0
MDJ S **S** **15 23 08.8 +2.3**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,300nm,6.7s
MDJ L L
comp=Z,430nm,22.1s
MDJ L L
comp=Z,580nm,20.6s
MDJ L L
comp=Z,1μm,24.2s
GRNR **Gornyy** **79.11 330**⇑ *i*P **P** **15 13 07.9 -0.1**
GRNR MLR MLR
comp=E,50nm,13.0s
GRNR MLR MLR
comp=Z,100nm,16.0s
MPU **Maple Canyon** **79.17 43** P **P** **15 13 08.2 -0.6**
MESA **MESA** **79.18 15** P 15 13 09.5
baz=210
MESA **MESA** **79.18 15** P **P** **15 13 08.9 +0.5**
SML **Sawmill** **79.19 12** P 15 13 08.4
baz=204,SNR=5.9
SML **Sawmill** **79.20 12** P **P** **15 13 08.2 -0.1**
B08A **Colville Reser** **79.22 33** P **P** **15 13 08.8 +0.1**
BMRM **Bremner River** **79.23 14** P 15 13 08.7
baz=208,SNR=15
BMRM **Bremner River** **79.23 14** P **P** **15 13 08.8 +0.3**
HLID **Hailey** **79.25 39** P 15 13 10.8
baz=237,SNR=49
HLID **Hailey** **79.26 39** P **P** **15 13 10.3 +1.2**
HLID IAmb IAmb 15 13 13.1
comp=Z,24nm,0.9s
SPUT **South Promonto** **79.30 42** P **P** **15 13 09.8 +0.4**
CUT **Chulitna** **79.39 11** P 15 13 09.8
baz=202
CUT **Chulitna** **79.39 11** P **P** **15 13 09.5 +0.4**
CRQM **Cirque** **79.39 14** P **P** **15 13 08.3 -1.1**
YAH **Yahtse** **79.39 15** P **P** **15 13 10.6 +1.0**
YAH IAmb IAmb 15 13 12.3
comp=Z,39nm,0.8s
CRQE **Cirque** **79.39 14** P 15 13 10.0
baz=209,SNR=11
KLU **Klutina** **79.40 13** P 15 13 08.3
baz=207,SNR=16
KLU **Klutina** **79.41 13** P **P** **15 13 08.8 -0.6**
KLU IAmb IAmb 15 13 13.3
comp=Z,30nm,1.0s
SCM **Sheep Creek Mo** **79.42 12** P **P** **15 13 09.7 +0.2**
SCM pmax pmax
comp=Z,49nm,0.8s
SCM **Sheep Creek Mo** **79.42 12** P **P** **15 13 09.7 +0.2**
TGL **Tana Glacier** **79.46 15** P **P** **15 13 08.9 -0.9**
SRU **San Rafael Swe** **79.46 45** P **P** **15 13 09.1 -1.3**
SRU pmax pmax
comp=Z,14nm,1.0s
SRU **San Rafael Swe** **79.46 45** P **P** **15 13 09.1 -1.3**
PPLA **Purkeypile** **79.52 10** P 15 13 08.9
baz=200,SNR=7.3
PPLA **Purkeypile** **79.52 10** P **P** **15 13 09.4 -0.7**
PINM **Pinnacle** **79.55 16** P 15 13 09.2
baz=212
PCA **Pinnacle** **79.55 16** P **P** **15 13 09.7 -0.5**
PCA IAmb IAmb 15 13 12.7
comp=Z,22nm,1.0s
BCPM **Bancas Point** **79.59 16** P **P** **15 13 08.7 -1.7**
BCPM IAmb IAmb 15 13 13.0
comp=Z,32nm,0.9s
TABL **Table Mountain** **79.61 15** P **P** **15 13 10.9 +0.2**
TABL IAmb IAmb 15 13 13.2
comp=Z,30nm,0.8s
GRNC **Granite Creek** **79.71 15** P **P** **15 13 11.3 0.0**
GRNC IAmb IAmb 15 13 13.7
comp=Z,34nm,1.0s
ANM **Nome** **79.72 3** P 15 13 11.9
baz=188
VRDI **Verde Repeater** **79.73 14** P **P** **15 13 11.8 +0.5**
VRDI IAmb IAmb 15 13 14.8
comp=Z,33nm,1.0s
JIS **Juneau Island** **79.79 20** P **P** **15 13 10.6 -0.8**
JIS IAmb IAmb 15 13 14.6
comp=Z,29nm,1.4s
N25K **Chitina, Valde** **79.80 13** P 15 13 11.0
baz=208
N25K **Chitina, Valde** **79.80 13** P **P** **15 13 11.6 0.0**
N25K IAmb IAmb 15 13 14.0
comp=Z,35nm,0.9s
GLB **Gilahina Butte** **79.83 14** P **P** **15 13 11.9 +0.2**
GLB IAmb IAmb 15 13 14.7
comp=Z,54nm,1.3s
MNTX **Cornudas Mount** **79.84 53** P 15 13 13.2
baz=245
BESE **Bessie Mountai** **79.88 19** P **P** **15 13 11.0 -1.1**
BESE IAmb IAmb 15 13 32.1
comp=Z,25nm,1.1s
M24K **Tolsona, Glenn** **79.90 12** P 15 13 12.2
baz=206
M24K **Tolsona, Glenn** **79.90 12** P **P** **15 13 12.0 -0.1**
MVCO **Mesa Verde** **79.96 47** P 15 13 11.9
baz=242
MCARA **McCarthy VSAT** **79.96 14** P 15 13 11.9
baz=209,SNR=9.6
MCARA **McCarthy VSAT** **79.96 14** P **P** **15 13 12.3 0.0**
MCARA IAmb IAmb 15 13 15.4
comp=Z,34nm,1.0s
CTG **Chitna Glacier** **80.01 15** P 15 13 12.9
baz=211,SNR=14
BARN **Barnard Glacie** **80.01 15** P **P** **15 13 12.7 -0.2**
BARN IAmb IAmb 15 13 17.1
comp=Z,46nm,1.0s
CTGM **Chitina Glacie** **80.01 15** P **P** **15 13 13.2 +0.4**
CTGM IAmb IAmb 15 13 15.3

WAT6 **Susitna Watana** 80.02 12 P 15 13 12.8
baz=205,SNR=28
HWUT **Hardware Ranch** 80.02 42 P **P** **15 13 13.6 +0.2**
MA2 **Magadan** 80.06 342 *ce*P **P** **15 13 13.3 +0.4**
MA2 pmax pmax
comp=Z,15nm,0.8s
MA2 **Magadan** 80.06 342 P **P** **15 13 12.8 -0.1**
PV19 **Morning Glory** 80.14 46 P **P** **15 13 12.3 -1.8**
PV19 IAmb IAmb 15 13 36.1
comp=Z,28nm,1.2s
PV14 **Lion Creek, Pa** 80.14 46 P **P** **15 13 13.9 -0.2**
PV14 IAmb IAmb 15 13 36.2
comp=Z,24nm,1.0s
PV18 **Skein Mesa, Pa** 80.16 46 P **P** **15 13 13.9 -0.3**
PV20 **West Nyswonger** 80.16 46 P **P** **15 13 13.2 -1.1**
PV20 IAmb IAmb 15 13 18.5
comp=Z,21nm,1.0s
PV13 **Radium Mtn., P** 80.18 46 P **P** **15 13 12.6 -1.7**
WAT2 **Susitna Watana** 80.20 11 P 15 13 13.5
baz=204,SNR=21
TX31 **Lajitas Ar. Si** 80.22 56 P **P** **15 13 13.4 -1.2**
TX32 **Lajitas Array** 80.22 56 P **P** **15 13 13.5 -1.2**
TX32 IAmb IAmb 15 13 36.4
comp=Z,28nm,1.4s
TXAR **Lajitas Array** 80.22 56 P **P** **15 13 17.3 +2.6**
comp=Z,7.5nm,1.0s,baz=240,slow=4.2,SNR=19
TXAR LR LR 15 41 46.6
comp=Z,599nm,20.0s,baz=0.0,slow=30
TXAR **Lajitas Array** 80.22 56 P **P** **15 13 12.8 -1.8**
PV04 **Paradox Valley** 80.23 46 P **P** **15 13 14.1 -0.5**
PV12 **Saucer Basin,** 80.26 46 P **P** **15 13 13.8 -1.1**
PV12 IAmb IAmb 15 13 19.3
comp=Z,29nm,1.2s
BCYI **Bear Canyon** 80.27 39 P **P** **15 13 13.8 -0.9**
NJ2 **Nanjing** 80.29 307 *e*P **P** **15 13 14.7 -0.1**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
KTH **Kantishna Hill** 80.34 10 P **P** **15 13 14.0 -0.4**
KTH IAmb IAmb 15 13 17.2
comp=Z,25nm,0.9s
NEW **Newport** 80.35 34 P **P** **15 13 13.3 -1.5**
NEW pmax pmax
comp=Z,15nm,1.4s
NEW **Newport** 80.35 34 P **P** **15 13 13.2 -1.5**
NEW **Newport** 80.35 34 P 15 13 13.4
baz=234
TRF **Thorofare Moun** 80.35 10 P 15 13 14.3
baz=202,SNR=40
TRF **Thorofare Moun** 80.35 10 P **P** **15 13 13.9 -0.7**
HARP **HAARP** 80.38 13 P 15 13 14.9
baz=207
ANMO **Albuquerque** 80.42 50 P 15 13 17.0
baz=244
ANMO **Albuquerque** 80.42 50 *i* P **P** **15 13 17.7 +2.0**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
PV07 **Paradox Valley** 80.43 46 P **P** **15 13 14.6 -1.1**
CHUM **Lake Minchumin** 80.43 9 P 15 13 14.2
baz=200,SNR=20
PV15 **Paradox Valley** 80.50 46 P **P** **15 13 15.8 -0.3**
KLR **Kul'dur** 80.51 327 *i* P **P** **15 13 14.2 -1.4**
KLR pmax pmax
comp=Z,10.0nm,2.0s
RND **Reindeer** 80.56 11 P **P** **15 13 15.4 -0.3**
RND pmax pmax
comp=Z,46nm,0.8s
RND **Reindeer** 80.56 11 P **P** **15 13 15.3 -0.3**
TNA **Tin City** 80.59 2 P 15 13 15.5
baz=185
PAX **Paxson** 80.82 12 P 15 13 15.3
baz=207,SNR=8.1
PAX **Paxson** 80.83 12 P **P** **15 13 15.2 -1.9**
PAX pmax pmax
comp=Z,13nm,0.8s
PAX **Paxson** 80.83 12 P **P** **15 13 15.2 -1.9**
BPAW **Bear Paw Mtn.** 80.84 10 P 15 13 15.4
baz=202,SNR=14
BPAW **Bear Paw Mtn.** 80.84 10 P **P** **15 13 15.9 -1.1**
MCK **McKinley** 80.85 11 P 15 13 17.0
baz=204,SNR=41
MCK **McKinley** 80.85 11 P **P** **15 13 16.7 -0.4**
MCK pmax pmax
comp=Z,86nm,0.9s
MCK **McKinley** 80.85 11 P **P** **15 13 16.7 -0.4**
MCMT **McKenzie Canyo** 80.88 39 P **P** **15 13 19.1 +1.0**
AHID **Auburn Hatcher** 80.90 41 P **P** **15 13 18.6 +0.5**
HYT **Haines Junctio** 80.91 17 P **P** **15 13 18.7 +1.0**
HYT IAmb IAmb 15 13 22.4
comp=Z,40nm,1.2s
CN2 **Changchun** 81.13 320 *e*P **P** **15 13 20.1 +1.1**
CN2 S **S** **15 23 29.2 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 L L
comp=Z,200nm,19.0s
CN2 L L
comp=Z,300nm,19.0s
CN2 L L
comp=Z,400nm,21.0s
BWN **Browne** 81.16 10 P **P** **15 13 18.6 -0.1**
DL2 **Dalian** 81.26 314 P **P** **15 13 19.3 -0.5**
DL2 S **S** **15 23 27.9 -2.1**
DL2 SKS **SKSac** **15 23 33.1 -5.7**
DL2 pmax pmax
comp=Z,19nm,1.2s
DL2 pmax pmax
comp=Z,84nm,6.3s
DL2 L L
comp=Z,260nm,26.7s
DL2 L L
comp=Z,370nm,24.9s
MSO **Missoula** 81.31 37 P 15 13 19.0
baz=237,SNR=24
MSO **Missoula** 81.31 37 P **P** **15 13 19.5 -0.6**
MSO IAmb IAmb 15 13 23.0
comp=Z,24nm,1.1s
DLMT **Dillon** 81.32 38 P **P** **15 13 20.6 +0.4**
DLMT IAmb IAmb 15 13 23.4
comp=Z,18nm,0.9s
SNY **Shenyang** 81.33 317 ⇓P **P** **15 13 22.4 +2.3**
SNY SKS **S** **15 23 34.6 +4.0**
SNY pmax pmax
comp=Z,200nm,2.5s
SNY pmax pmax
comp=Z,200nm,4.0s
SNY L L
comp=Z,140nm,18.9s
SNY L L
comp=Z,150nm,20.7s
SNY L L
comp=Z,350nm,21.8s
REDW **Red Top Meadow** 81.36 41 P **P** **15 13 20.6 0.0**
REDW IAmb IAmb 15 13 23.8
comp=Z,24nm,1.2s
TPAW **Teton Pass** 81.36 41 P **P** **15 13 20.5 -0.2**
TPAW IAmb IAmb 15 13 23.9
comp=Z,24nm,0.9s
S22A **4UR Ranch, Cre** 81.39 47 P 15 13 21.6
baz=243
SNOW **Snow King Moun** 81.47 41 P **P** **15 13 20.6 -0.6**
SNOW IAmb IAmb 15 13 24.5
comp=Z,28nm,0.9s
O20A **White River Ci** 81.50 45 P 15 13 19.4
baz=242
WHY **Whitehorse** 81.53 18 P 15 13 21.5
baz=217,SNR=7.5
WHY **Whitehorse** 81.53 18 P **P** **15 13 21.6 +0.7**
NEA2 **Nenana** 81.62 10 P 15 13 20.8
baz=203,SNR=38
NEA2 **Nenana** 81.62 10 P **P** **15 13 20.5 -0.7**
NEA2 IAmb IAmb 15 13 23.8
comp=Z,28nm,0.9s
MOOW **Moose Ponds** 81.62 40 P **P** **15 13 21.0 -0.9**
JTMT **Jette** 81.62 36 P **P** **15 13 21.2 -0.6**
WRH **Wood River Hil** 81.68 11 P **P** **15 13 21.6 +0.2**
L27K **Beaver Creek,** 81.70 14 P 15 13 22.5
baz=210
L27K **Beaver Creek,** 81.70 14 P **P** **15 13 22.3 +0.6**
BCAR **Beaver Creek A** 81.72 14 P **P** **15 13 21.8 +0.1**
DOT **Dot Lake** 81.72 13 P **P** **15 13 22.1 +0.3**
DOT IAmb IAmb 15 13 24.2
comp=Z,33nm,0.9s

MLY **Manley** 81.75 9 P 15 13 21.8
baz=202,SNR=54
MLY **Manley** 81.75 9 P **P** **15 13 21.7 -0.2**
MLY IAmb IAmb 15 13 25.3
comp=Z,36nm,1.0s
FLWY **Flagg Ranch** 81.82 40 P **P** **15 13 23.6 +0.6**
FLWY IAmb IAmb 15 13 26.6
comp=Z,29nm,0.8s
HDA **Harding Lake** 81.83 11 P 15 13 20.3
baz=205,SNR=35
HDA P 15 13 20.3
baz=205,SNR=35
HDA **Harding Lake** 81.83 11 P **P** **15 13 21.9 -0.3**
BW06 **Boulder Array** 81.89 42 P 15 13 24.2
baz=241,SNR=14
BW06 **Boulder Array** 81.89 42 P **P** **15 13 24.0 +0.6**
PDAR **Pinedale Array** 81.89 42 P **P** **15 13 25.3 +1.9**
comp=Z,7.2nm,0.7s,baz=213,slow=3.2,SNR=50
PDAR **Pinedale Array** 81.89 42 P **P** **15 13 23.6 +0.3**
CCB **Clear Creek Bu** 81.89 11 P **P** **15 13 22.4 -0.1**
YHL **Hebgen Lake** 81.91 39 P **P** **15 13 25.0 +1.4**
SCRK **Sand Creek** 82.03 13 P 15 13 23.8
baz=208,SNR=44
SCRK **Sand Creek** 82.03 13 P **P** **15 13 23.7 +0.2**
SCRK IAmb IAmb 15 13 26.0
comp=Z,27nm,0.9s
H21K **Melozitna Rive** 82.03 8 P 15 13 24.7
baz=200
H17A **Grant Village** 82.05 40 P 15 13 24.2
baz=240
YHH **Holmes Hill** 82.08 39 P **P** **15 13 23.7 -0.7**
TCOL **CIGO, UAF Yank** 82.09 11 P 15 13 23.9
baz=204
TCOL **CIGO, UAF Yank** 82.09 11 P **P** **15 13 23.5 -0.1**
COLA **College** 82.09 11 P 15 13 24.3
baz=204
COLA **College** 82.09 11 P **P** **15 13 23.5 -0.1**
COLA pmax pmax
comp=Z,94nm,0.9s
COLA **College** 82.09 11 P **P** **15 13 23.5 -0.1**
MDM **Murphy Dome** 82.10 10 P **P** **15 13 23.4 -0.3**
MDM IAmb IAmb 15 13 26.4
comp=Z,41nm,1.0s
IL31 82.17 11 P **P** **15 13 23.8 -0.2**
IL31 IAmb IAmb 15 13 26.1
comp=Z,21nm,0.9s
ILAR **Eielson Array** 82.17 11 P **P** **15 13 24.1 +0.1**
comp=Z,9.8nm,0.7s,baz=220,slow=5.3,SNR=96
ILAR LR LR 15 43 17.6
comp=Z,454nm,21.7s,baz=214,slow=31
ILAR **Eielson Array** 82.17 11 P **P** **15 13 23.7 -0.4**
IMAR **Indian Mountai** 82.21 8 P **P** **15 13 24.6 +0.3**
SDCO **Great Sand Dun** 82.33 48 P 15 13 25.9
baz=244,SNR=11
POKR **Poker Plat Res** 82.39 11 P **P** **15 13 25.2 +0.1**
POKR **Poker Plat Res** 82.39 11 P 15 13 25.9
baz=205
HRY **Holter Researc** 82.48 37 P **P** **15 13 27.0 +0.8**
K27K **Chicken** 82.49 13 P **P** **15 13 26.9 +1.2**
K27K IAmb IAmb 15 13 29.6
comp=Z,22nm,1.1s
WALA **Waterton Lakes** 82.55 35 P **P** **15 13 26.2 -0.4**
WALA IAmb IAmb 15 13 29.1
comp=Z,14nm,0.8s
H23K **Yukon River** 82.68 10 P 15 13 27.2
baz=203
MSTX **Muleshoe** 82.77 52 P 15 13 29.3
baz=246
T25A **Trinidad** 82.85 49 P 15 13 29.6
baz=245
RWWY **Rawlins** 82.91 44 P **P** **15 13 27.7 -1.1**
RWWY IAmb IAmb 15 13 31.3
comp=Z,36nm,1.1s
H24K **Noodor Dome** 82.96 10 P 15 13 27.5
baz=204
PRP **Porcupine Dome** 83.10 11 P 15 13 30.0
baz=207,SNR=47
PRP **Porcupine Dome** 83.10 11 P **P** **15 13 28.3 -0.8**
Q24A **Divide** 83.11 47 P 15 13 30.3
baz=244
QIZ **Qiongzhong** 83.12 292 P **P** **15 13 28.8 -1.2**
QIZ S **S** **15 23 48.5 -1.5**
QIZ L L
comp=Z,170nm,9.1s
QIZ L L
comp=Z,270nm,12.0s
QIZ L L
comp=Z,300nm,25.7s
ISCO **Idaho Springs** 83.15 46 P 15 13 30.8
baz=244
RLMT **Red Lodge** 83.22 40 P 15 13 31.5
baz=241,SNR=16
GCMT **Freycliff** 83.31 39 P **P** **15 13 30.5 -0.1**
833A **Chaparral WMA,** 83.31 58 P 15 13 30.5
baz=249
TIA **Tai'an** 83.31 310 P **P** **15 13 32.2 +1.5**
TIA pP **pwP** **15 13 42.3 +4.5**
TIA S **S** **15 23 54.8 +3.5**
TIA pmax pmax
comp=Z,6.0nm,0.7s
TIA pmax pmax
comp=Z,110nm,3.5s
TIA L L
comp=Z,150nm,17.8s
TIA L L
comp=Z,250nm,19.9s
TIA L L
comp=Z,370nm,19.2s
RDOG **Red Dog Mine** 83.33 4 P 15 13 30.6
baz=190
RDOG **Red Dog Mine** 83.33 4 P **P** **15 13 30.1 0.0**
RDOG IAmb IAmb 15 13 35.5
comp=Z,14nm,0.8s
EGAK **Eagle** 83.33 13 P 15 13 31.0
baz=211,SNR=18
N23A **Red Feather La** 83.41 45 P 15 13 32.5
baz=243
JCT **Junction City** 83.76 56 P 15 13 32.3
baz=248
K22A **Casper** 83.81 43 P 15 13 33.8
baz=243
COLD **Coldfoot** 83.88 9 P 15 13 34.4
baz=202,SNR=64
COLD **Coldfoot** 83.88 9 P **P** **15 13 33.0 +0.2**
COLD IAmb IAmb 15 13 36.9
comp=Z,31nm,1.0s
PHWY **Pilot Hill** 83.92 44 P **P** **15 13 34.0 0.0**
PHWY IAmb IAmb 15 13 36.7
comp=Z,10nm,0.9s
BILL **Bilibino** 84.34 352 *c* iP **P** **15 13 35.5 +0.3**
BILL pmax pmax
comp=Z,12nm,1.0s
BILL **Bilibino** 84.34 352 P **P** **15 13 35.4 +0.3**
BILL IAmb IAmb 15 13 37.5
comp=Z,14nm,0.9s
EGMT **Eagleton** 84.36 37 P 15 13 36.6
baz=240,SNR=19
EGMT **Eagleton** 84.36 37 P **P** **15 13 35.5 -0.4**
EGMT IAmb IAmb 15 13 38.6
comp=Z,24nm,0.9s
ABTX **Abilene, Hawle** 84.67 54 P 15 13 39.0
baz=248
BMAR **Burnt Mountain** 84.98 11 P **P** **15 13 39.5 +1.0**
TOLK **Toolik Lake Re** 85.28 8 P 15 13 41.2
baz=203
TOLK **Toolik Lake Re** 85.28 8 P **P** **15 13 40.2 +0.2**
TOLK IAmb IAmb 15 13 43.0
comp=Z,22nm,0.9s
ZEA **Zeya** 85.40 329 *e*P **P** **15 13 38.2 -2.6**
ZEA *e*S **S** **15 24 06.6 -4.8**
ZEA pmax pmax
comp=Z,100nm,5.3s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA smax smax
comp=E,200nm,11.0s
BJI **Beijing** 85.55 313 P **P** **15 13 44.4 +2.5**
BJI S **S** **15 24 16.2 +2.8**
BJI pmax pmax
comp=E,16nm,1.8s
BJI pmax pmax
comp=E,180nm,3.9s
BJI L L
comp=E,170nm,22.4s

BJI L L
comp=E,140nm,20.1s
BJI L L
comp=E,260nm,30.3s
EPYK **Eagle Plains** 85.68 14 P 15 13 42.7
baz=215
EPYK **Eagle Plains** 85.68 14 P **P** **15 13 42.0 0.0**
EPYK IAmb IAmb 15 13 44.6
comp=Z,29nm,1.0s
LAO **LASA Array** 85.83 39 P 15 13 44.8
baz=243,SNR=17
RSSD **Black Hills** 86.08 42 P 15 13 44.5
baz=244
WHTX **Lake Whitney,** 86.18 56 P 15 13 45.4
baz=250
HKT **Hockley** 86.80 58 P **P** **15 13 47.2 -1.0**
HKT pmax pmax
comp=Z,22nm,1.5s
HKT **Hockley** 86.80 58 P **P** **15 13 47.2 -1.0**
HKT IAmb IAmb 15 13 54.5
comp=Z,22nm,1.4s
TIY **Taiyuan** 87.36 310 *e*P **P** **15 13 51.3 +0.4**
TIY L L
comp=Z,82nm,8.5s
TIY L L
comp=Z,160nm,12.9s
TIY L L
comp=Z,260nm,15.5s
INK **Inuvik** 87.98 14 P 15 13 52.1
baz=218
INK **Inuvik** 87.98 14 P **P** **15 13 51.8 -1.3**
INK pmax pmax
comp=Z,13nm,0.9s
INK **Inuvik** 87.98 14 P **P** **15 13 51.8 -1.3**
INK IAmb IAmb 15 13 55.4
comp=Z,13nm,0.9s
MAW **Mawson** 88.10 199 P **P** **15 13 54.7 +0.9**
comp=Z,14nm,0.7s,baz=136,slow=5.0,SNR=42
MAW LR LR 15 49 13.2
comp=Z,993nm,21.9s,baz=88,slow=33
MAW **Mawson** 88.10 199 P **P** **15 13 54.8 +0.9**
baz=88,SNR=31
MAW **Mawson** 88.10 199 P **P** **15 13 53.9 0.0**
MAW pmax pmax
comp=Z,8.0nm,1.1s
MAW **Mawson** 88.10 199 P **P** **15 13 53.9 0.0**
GYA **Guiyang** 88.23 298 P **P** **15 13 57.5 +2.1**
XAN **Xi'an** 88.77 306 P **P** **15 13 59.3 +1.6**
XAN pmax pmax
comp=Z,15nm,1.7s
YAK **Yakutsk** 89.04 337 *e*P **P** **15 13 57.4 -0.8**
YAK *e* 15 17 24.0
YAK pmax pmax
comp=Z,12nm,1.5s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.5s
HHC **Hu-ho-hao-te** 89.11 313 *e*P **P** **15 14 01.3 +2.0**
HHC S **S** **15 24 51.8 +3.8**
HHC SS **SS** **15 30 39.8 -2.2**
HHC pmax pmax
comp=E,29nm,1.1s
HHC pmax pmax
comp=E,130nm,4.6s
HHC L L
comp=E,150nm,14.5s
HHC L L
comp=E,180nm,15.3s
HHC L L
comp=E,200nm,16.2s
KSU1 **Kansas State U** 89.28 49 P 15 13 58.5
baz=250
PLCA **Paso Flores** 89.42 132 P **P** **15 14 03.2 +2.4**
comp=E,5.5nm,1.1s,baz=247,slow=6.6,SNR=5.4
PLCA LR LR 15 45 17.9
comp=E,400nm,21.1s,baz=247,slow=30
YKA **Yellowknife Ar** 89.77 23 P **P** **15 14 02.6 +1.0**
comp=E,8.5nm,0.9s,baz=230,slow=4.3,SNR=48
YKA LR LR 15 47 33.6
comp=E,934nm,20.7s,baz=0.0,slow=31
W39A **Magazine** 90.13 54 P 15 14 04.6
baz=251
Z41A **Richland Creek** 90.30 56 P 15 14 04.9
baz=252
MDND **Maddock** 90.41 40 P 15 14 05.1
baz=248
ECSD **EROS Data Cent** 90.88 45 P 15 14 06.3
baz=250
ECSD **EROS Data Cent** 90.88 45 P **P** **15 14 07.2 -0.1**
C36M **Paulatuk** 91.06 16 P 15 14 07.7
baz=227
C36M **Paulatuk** 91.06 16 P **P** **15 14 07.7 +0.2**
C36M IAmb IAmb 15 14 09.6
comp=Z,11nm,1.1s
MT01 **Popeta** 91.16 125 P **P** **15 14 09.0 0.0**
KMI **Kunming** 91.22 296 ⇑P **P** **15 14 10.7 +1.1**
KMI S **S** **15 25 05.3 -3.0**
KMI SS **SS** **15 31 15.6 +2.2**
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI pmax pmax
comp=Z,100nm,4.1s
KMI L L
comp=Z,100nm,20.9s
KMI L L
comp=Z,230nm,30.7s
KMI L L
comp=Z,280nm,31.6s
P38A **Dawn** 91.71 49 P **P** **15 14 10.7 -0.6**
P38A IAmb IAmb 15 14 13.4
comp=Z,7.4nm,0.7s
FFC **Flin Flon** 91.75 33 P **P** **15 14 11.2 +0.2**
FFC pmax pmax
comp=Z,9.0nm,1.3s
FFC **Flin Flon** 91.75 33 P **P** **15 14 11.2 +0.2**
CD2 **Chengdu** 91.97 301 P **P** **15 14 12.8 +0.1**
CD2 SKS **SKSac** **15 24 45.1 -0.7**
CD2 S **ScS** **15 25 17.8 +0.8**
CD2 pmax pmax
comp=Z,120nm,7.5s
CD2 L L
comp=Z,450nm,20.6s
CD2 L L
comp=Z,360nm,22.2s
CD2 L L
comp=Z,320nm,16.7s
GO04 **Tololo Observa** 92.72 122 P **P** **15 14 13.4 -3.1**
T42A **Van Buren** 92.76 52 P **P** **15 14 15.1 -1.0**
T42A IAmb IAmb 15 14 19.2
comp=Z,10.0nm,1.0s
CMAR **Chiang Mai Arr** 92.85 288 P **P** **15 14 17.5 +0.5**
comp=Z,2.2nm,0.8s,baz=88,slow=2.6,SNR=16
CMAR PKiKP **PKiKP** **15 19 05.5 +0.5**
comp=Z,1.1nm,0.8s,baz=154,slow=0.1,SNR=9.1
CMAR LR LR 15 50 24.6
comp=Z,112nm,21.4s,baz=153,slow=32
CMAR **Chiang Mai Arr** 92.85 288 *ce*P **P** **15 14 20.1 +3.1**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
SYO **Syowa Base** 92.87 191 ⇑*e*P **P** **15 14 16.0 -0.1**
AGMN **Agassiz Nation** 92.92 41 P **P** **15 14 16.5 -0.1**
AGMN IAmb IAmb 15 14 18.6
comp=Z,18nm,1.5s
AGMN **Agassiz Nation** 92.92 41 P 15 14 17.2
baz=250
VNA3 **Neumayer Olymp** 93.04 175 P **P** **15 14 17.8 +0.9**
SNAA **Sanae** 93.11 177 P **P** **15 14 19.2 +1.9**
SNAA **Sanae** 93.11 177 *ce*P **P** **15 14 18.1 +0.8**
SNAA pmax pmax
comp=Z,25nm,1.3s
SNAA **Sanae** 93.11 177 P **P** **15 14 17.0 -0.3**
I37A **Lemond, Waseca** 93.17 45 P **P** **15 14 17.6 -0.3**
I37A IAmb IAmb 15 14 21.3
comp=Z,15nm,1.0s
K38A **Parkersburg** 93.19 47 P **P** **15 14 17.6 -0.4**
K38A IAmb IAmb 15 14 21.7
comp=Z,11nm,0.8s
LZH **Lanzhou** 93.36 306 *e*P **P** **15 14 21.5 +2.4**
LZH pP pwP 15 14 26.8 +0.6
LZH sP sP 15 14 31.1 +7.2
LZH SKS **SKSac** **15 24 52.7 -0.8**
LZH S **ScS** **15 25 29.4 +0.8**
LZH sS sS 15 25 38.6 +5.6
LZH SS **SS** **15 31 44.2 +0.7**
LZH pmax pmax

comp=Z,25nm,1.4s
LZH pmax pmax
comp=Z,140nm,9.3s
LZH L L
comp=Z,210nm,17.1s
LZH L L
comp=Z,260nm,17.0s
LZH L L
comp=Z,230nm,19.3s
FVM French Village 93.54 52 P **P** **15 14 19.0 -0.8**
FVM pmax pmax
comp=Z,12nm,1.1s
FVM French Village 93.54 52 P **P** **15 14 19.0 -0.8**
FVM IAmb IAmb 15 14 23.1
comp=Z,12nm,1.1s
VNA2 Neumayer--Watz 93.54 175 P **P** **15 14 20.1 +0.9**
baz=169,slow=3.0
ULM Lac du Bonnet 93.56 39 P **P** **15 14 19.4 -0.2**
comp=Z,6.4nm,0.9s,baz=243,slow=5.3,SNR=9.5
ULM LR LR 15 51 10.9
comp=Z,1µm,19.7s,baz=255,slow=32
ULM Lac du Bonnet 93.56 39 P **P** **15 14 18.9 -0.6**
ULM pmax pmax
comp=Z,12nm,1.2s
ULM Lac du Bonnet 93.56 39 P **P** **15 14 18.9 -0.6**
ULM IAmb IAmb 15 14 21.6
comp=Z,12nm,1.1s
F36A Milaca 93.65 44 P **P** **15 14 19.3 -0.7**
VNA1 Neumayer--Stat 93.74 175 P **P** **15 14 21.7 +1.6**
N41A Harden Midland 93.99 49 P **P** **15 14 22.1 +0.3**
N41A IAmb IAmb 15 14 24.9
comp=Z,17nm,0.8s
L40A Anamosa 94.11 48 P **P** **15 14 21.6 -0.7**
ULN Ulaanbaatar 94.48 318 *ce*P **P** **15 14 25.3 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 94.88 344 *ce*P **P** **15 14 25.7 +0.6**
SONM Songino Array 94.90 318 P **P** **15 14 26.2 +0.3**
comp=Z,1.2nm,0.9s,baz=92,slow=4.2,SNR=4.6
SONM LR LR 15 52 22.4
comp=Z,227nm,22.0s,baz=94,slow=32
SONM Songino Array 94.90 318 P **P** **15 14 25.5 -0.4**
SONM pmax pmax
comp=Z,7.0nm,1.4s
SONM Songino Array 94.90 318 P **P** **15 14 25.5 -0.4**
LRAL Lakeview Retre 94.91 57 P 15 14 26.3
baz=255
WVT Waverly 95.04 54 P **P** **15 14 24.6 -2.1**
WVT pmax pmax
comp=Z,10.0nm,1.0s
WVT Waverly 95.04 54 P **P** **15 14 24.6 -2.1**
WVT IAmb IAmb 15 14 47.9
comp=Z,10nm,1.0s
WVT Waverly 95.04 54 P 15 14 25.9
baz=255
JFWS Jewell Farm 95.04 47 P 15 14 26.0
baz=254
JFWS Jewell Farm 95.04 47 P **P** **15 14 25.9 -0.6**
JFWS pmax pmax
comp=Z,17nm,0.9s
JFWS Jewell Farm 95.04 47 P **P** **15 14 25.9 -0.6**
I40A Norwalk 95.05 46 P **P** **15 14 25.8 -0.8**
I40A IAmb IAmb 15 14 28.8
comp=Z,15nm,0.9s
HDIL Hopedale 95.09 50 P 15 14 27.2
baz=254
L42A Oliver, Polo 95.21 48 P **P** **15 14 27.2 -0.1**
L42A IAmb IAmb 15 14 30.0
comp=Z,17nm,0.9s
EYMN Ely 95.59 42 P **P** **15 14 28.3 -0.6**
EYMN IAmb IAmb 15 14 32.8
comp=Z,14nm,1.3s
EYMN Ely 95.59 42 P 15 14 29.4
baz=254
V48A Smith Brothers 95.73 55 P **P** **15 14 28.7 -1.2**
K43A Burlington 96.35 48 P **P** **15 14 31.8 -0.7**
COWI Conover 96.65 44 P **P** **15 14 33.1 -0.7**
D41A Chassel 97.28 43 P **P** **15 14 36.4 -0.2**
GTA Gaotai 97.29 309 *eP* Pdif 15 14 38.1 +1.0
GTA SKS **SKSac** **15 25 12.2 -2.1**
GTA S **ScS** **15 26 03.4 +2.2**
GTA SS **SS** **15 32 37.6 -1.7**
GTA pmax pmax
comp=Z,4.0nm,1.6s
GTA pmax pmax
comp=Z,67nm,4.7s
GTA L L
comp=Z,83nm,17.8s
GTA L L
comp=Z,270nm,20.4s
GTA L L
comp=Z,390nm,21.4s
P49A Miami Univ. Ec 98.25 51 P 15 14 40.5
baz=257
TZTN Tazewell 98.50 55 P 15 14 42.8
baz=257
ROSC El Rosal 99.68 88 LR LR 15 50 28.0
comp=Z,144nm,22.0s,baz=250,slow=30
P52A Corning 100.22 52 P 15 14 50.7
baz=259
BLA Blacksburg 101.09 54 P 15 14 51.8
baz=259
M53A Wt Miller and 101.65 50 P 15 14 56.0
baz=260
N54A Moraine State 102.08 51 P 15 14 58.1
baz=260
O56A Blue Knob Stat 103.03 52 P 15 15 00.7
baz=261
SSPA Standing Stone 103.60 51 P 15 15 03.4
baz=262
H53A Bobcaygeon 103.65 47 P 15 15 04.7
baz=262
L56A Greenwood 104.06 50 P 15 15 05.4
baz=262
G54A Lake Saint Pet 104.10 46 P 15 15 05.7
baz=263
K56A Middlesex 104.30 49 P 15 15 07.3
baz=262
MATQ Matagami 104.91 42 P 15 19 24.1
baz=264
BINY Binghamton 105.22 50 P 15 19 25.5
baz=263
N59A State Game Lan 105.23 51 P 15 19 25.3
baz=263
J57A Williamstown 105.36 49 P 15 19 25.4
baz=264
J58A Remsen 105.87 49 P 15 19 24.5
baz=264
H57A Richville 105.90 48 P 15 19 24.5
baz=264
L59A Walton 105.92 50 P 15 19 27.4
baz=264
D55A Sainte-Anne-du 106.09 45 P 15 19 26.9
baz=265
G57A Newington 106.25 47 P 15 19 27.0
baz=265
E56A St. Veronique 106.34 45 P 15 19 26.4
baz=265
H58A Gabriels 106.76 48 P 15 19 26.7
baz=265
I59A Olmsteadville 106.93 48 P 15 19 27.2
baz=265
H59A Cadyville 107.13 47 P 15 19 27.8
baz=265
J60A Lant Hill Farm 107.21 49 P 15 19 28.4
baz=265
I60A Shoreham 107.35 48 P 15 19 26.4
baz=265
L61B Northampton 107.69 50 P 15 19 28.6
baz=265
D58A Chemin du LacG 107.86 45 P 15 19 30.2
baz=267
D60A Saint Jean D'O 109.19 45 P 15 19 29.8
baz=268
ZALV Zalesovo Beam 109.25 322 PKiKP **PKiKP** **15 19 33.8 +0.3**
comp=Z,0.7nm,0.4s,baz=140,slow=9.2,SNR=2.4
I63A Otisfield 109.32 48 P 15 19 31.5
baz=267
G63A Kingsbury 110.05 47 P 15 19 33.5
baz=268
E62A Clayton Lake 110.14 46 P 15 19 31.6
baz=269
MKAR Makanchi Array 110.90 315 PKiKP **PKiKP** **15 19 36.3 -0.6**
comp=Z,1.3nm,0.7s,baz=68,slow=0.8,SNR=13
BOOM Boomskoye usch 115.53 310 PKiKP **PKPdf** **15 19 45.6 -0.5**
BOOM Boomskoye usch 115.53 310 **PKPdf** **15 19 45.6 -0.5**
KSH Kashi 115.60 307 PKP **PKiKP** **15 19 49.4 +3.2**

KSH PP PP 15 20 58.5 +10
KSH SS SS 15 36 54.9 +6.4
KSH PPMZ
comp=Z,170nm,4.5s
KSH L L
comp=Z,140nm,5.1s
BRVK Borovoye 117.96 322 *c* iPKiKP **PKiKP** **15 19 52.0 +1.8**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BRVK Borovoye 117.96 322 PKPdf 15 19 49.3 -0.9
KKAR Karatay Array 119.46 311 PKiKP **PKPdf** **15 19 52.1 -1.3**
KKAR Karatay Array 119.46 311 PKPdf 15 19 52.1 -1.3
KBL Kabul 121.31 301 PKiKP **PKPdf** **15 19 56.8 -0.7**
KBL Kabul 121.31 301 PKPdf 15 19 56.8 -0.7
ARU Arti 123.32 329 *i* PKiKP **PKiKP** **15 20 01.7 +1.1**
ARU 15 21 44.0
ARU 15 27 13.3
ARU Arti 123.32 329 PKPdf 15 20 00.4 0.0
ARCES ARCESS Array B 124.44 352 PKP **PKPdf** **15 20 02.4 +0.2**
comp=Z,5.4nm,0.8s,baz=343,slow=1.9,SNR=8.2
ABKAR Akbulak array 125.26 320 PKPdf **PKPdf** **15 20 04.5 +0.2**
KIRV Kirov 126.49 334 *c* iPKiKP **PKiKP** **15 20 08.4 +1.6**
KLMR Klimovskoe 128.70 340 *e*PKiKP **PKPdf** **15 20 10.2 -0.2**
KLMR pmax pmax
comp=Z,32nm,1.7s
KLMR Klimovskoe 128.70 340 *e*PKPdf **PKPdf** **15 20 10.3 -0.2**
KLMR AMP 15 20 22.3
comp=Z,32nm,1.7s
GEYT Alibeck 129.63 307 PKP **PKiKP** **15 20 14.9 +1.0**
comp=Z,4.1nm,0.8s,baz=318,slow=4.0,SNR=5.7
FINES FINESS Array B 131.80 348 PKP **PKPdf** **15 20 16.5 +0.2**
comp=Z,2.6nm,0.7s,baz=77,slow=7.3,SNR=7.3
BOSA Boshof 132.99 202 PKP **PKiKP** **15 20 20.9 -0.2**
comp=Z,7.0nm,1.0s,baz=222,slow=2.4,SNR=7.9
OBN Obninsk 134.04 337 *i* PKiKP **PKiKP** **15 20 25.4 +3.3**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,380nm,21.0s
NOA NORSAR Array B 134.10 357 PKP **PKiKP** **15 20 22.3 +0.1**
comp=Z,0.8nm,0.7s,baz=13,slow=4.1,SNR=3.3
MNK Minsk 137.50 342 *i* PKiKP **PKiKP** **15 20 31.5 +2.3**
MNK *i* 15 23 17.2
MNK *i* PPP PPP 15 26 16.4
MNK *i* SP SP 15 33 42.1 +5.1
MNK *i* SS **SS** **15 41 25.8 +6.3**
MNK *i* SSS SSS 15 46 33.2
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,27nm,0.9s
MNK MLR MLR
comp=Z,730nm,17.0s
MNK MLR MLR
comp=N,222nm,13.0s
MNK MLR MLR
comp=E,10.0nm,12.0s
MNK Minsk 137.50 342 *i* PKP **PKiKP** **15 20 31.6 +2.4**
comp=E,4.0nm,0.9s
MNK *i* PKP **PKiKP** **15 20 31.6 +2.4**
comp=N,27nm,0.9s
MNK *i* PKP **PKiKP** **15 20 31.6 +2.4**
comp=Z,10.0nm,0.7s,baz=211
MNK *i* PP **PP** **15 23 17.3 +4.8**
MNK *i* SKP 15 24 06.5
MNK *i* PKS **PKSdf** **15 24 07.8 +4.6**
MNK *i* PPP PPP 15 26 16.4
MNK *i* SKS **SKSdf** **15 27 43.9 +6.3**
MNK *i* SP **SP** **15 33 42.2 +5.2**
MNK *i* SKKS **SKKSdf** **15 37 18.4 +2.6**
MNK *i* SKKS **SKKSdf** **15 37 18.4 +2.6**
MNK *i* SS **SS** **15 41 25.8 +6.4**
MNK *i* SSS SSS 15 46 33.3
MNK *i* LQ LQ 16 13 14.6
MNK *i* LR LR 16 17 30.1
MNK *i* LRM MLR 16 20 16.2
comp=Z,730nm,16.6s
MNK *i* LRM MLR 16 20 26.7
comp=E,10.0nm,11.5s
MNK *i* LRM MLR 16 20 26.7
comp=N,222nm,13.4s
KIV Kislovodsk 138.24 321 *i* PKiKP **PKiKP** **15 20 31.9 +0.7**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,880nm,24.0s
AKASG Malin Array Be 140.26 338 PKhKP PKPpre 15 20 26.2
comp=Z,1.7nm,0.7s,baz=39,slow=4.1,SNR=8.5
AKASG Malin Array Be 140.26 338 *i* PKiKP **PKiKP** **15 20 39.7 +4.8**
AKBB Malin Array Si 140.26 338 *c* iPKiKP **PKiKP** **15 20 36.5 +1.6**
LVV L'vov 142.75 342 *e*PKHKP PKPpre 15 20 32.4
RAYN Ar Rayn 142.77 289 PKiKP **PKPdf** **15 20 35.5 -2.4**
RAYN Ar Rayn 142.77 289 PKPdf **PKPdf** **15 20 35.5 -2.4**
CLL Collm 143.63 354 ⇓ *i* PKPdf PKPbc 15 20 36.8 +1.0
comp=Z,11nm,0.7s
CLL *i* (PKiKP) 15 20 39.7
comp=Z,9.0nm,0.8s
CLL *i* 15 20 58.4
CLL *e*SS SS 15 42 30.0 -0.8
CLL *e* 15 48 18.0
CLL *e*SSS SSS 15 47 54.0
CLL *e*SSSS 15 51 48.0
CLL LmV 16 27 00.0
comp=Z,200nm,20.2s
CLL Collm 143.63 354 ⇓ *i* PKiKP PKPbc 15 20 36.8 +1.0
CLL *i* 15 20 39.7
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 143.63 354 PKPdf PKPbc 15 20 36.7 +0.9
CLL Collm 143.63 354 *e*PKPbc PKPbc 15 20 37.0 +1.2
baz=14,slow=3.0
CHVC Chvalec 143.92 350 AMS AMS 16 19 20.0
comp=Z,500nm,22.8s
OSTC Ostas 143.93 350 AMS AMS 16 23 00.0
comp=Z,500nm,23.2s
BRG Berggiesshubel 143.95 352 *e*PKP **PKPdf** **15 20 38.5 -0.6**
BRG Amp 15 20 40.9
comp=Z,3.8nm,0.8s
BRG *ex* x 15 20 59.5
BRG Amp 15 21 00.3
comp=Z,4.7nm,0.8s
UPC Upice 144.01 350 AMS AMS 16 19 20.0
comp=Z,500nm,22.1s
KOLS Kolonicke sedl 144.06 343 *e*PKiKP **PKPdf** **15 20 39.3 0.0**
KOLS Kolonicke sedl 144.06 343 *e*PKP **PKPdf** **15 20 39.3 0.0**
DPC Dobruska-Polom 144.11 350 *e*PKiKP **PKPdf** **15 20 38.9 -0.5**
DPC MLR MLR
comp=Z,500nm,24.4s
DPC Dobruska-Polom 144.11 350 *e*PKP **PKPdf** **15 20 38.9 -0.5**
DPC AMS AMS 16 20 10.0
comp=Z,500nm,24.4s
PVCC Panska Ves 144.21 352 AMS AMS 16 22 40.0
comp=Z,400nm,22.6s
OKC Ostrava-Krasne 144.25 348 AMS AMS 16 19 10.0
comp=Z,500nm,23.5s
TSUM Tsumeb 144.26 197 **PKPab** **15 20 38.6 +0.1**
BUR08 Bucovina Ar. S 144.26 339 PKPdf PKPbc 15 20 38.6 +0.5
BURAR Bucovina Array 144.28 339 ⇑P **PKPdf** **15 20 39.8 -0.1**
BURAR Bucovina Array 144.28 339 ⇑PKiKP **PKPdf** **15 20 39.8 -0.1**
BURAR Bucovina Array 144.28 339 PKPbc 15 20 38.8 +0.7
KRLC Kraliky 144.29 349 *e*PKiKP **PKPdf** **15 20 39.3 -0.4**
KRLC MLR MLR
comp=Z,500nm,21.9s
KRLC Kraliky 144.29 349 *e*PKP **PKPdf** **15 20 39.3 -0.4**
KRLC AMS AMS 16 21 00.0
comp=Z,500nm,21.9s
CRVS Cervenica-Dubn 144.32 344 *e*PKiKP **PKPdf** **15 20 39.6 -0.2**
CRVS Cervenica-Dubn 144.32 344 *e*PKP **PKPdf** **15 20 39.6 -0.2**
UZH Uzhgorod 144.33 342 *e*PKiKP **PKPab** **15 20 37.0 -0.7**
MOX Moxa 144.43 355 *e*PKPbc **PKPdf** **15 20 40.0 +0.1**
baz=14,slow=3.0
MORC Moravsky Berou 144.43 348 *e*PKP **PKPdf** **15 20 40.9 +0.9**
MORC Moravsky Berou 144.43 348 PKiKP PKPbc 15 20 39.1 +0.7
MORC Moravsky Berou 144.43 348 PKPdf PKPbc 15 20 39.1 +0.8
BIZ Bicaz 144.53 337 ⇑P **PKPdf** **15 20 40.8 +0.7**
PLN Plauen 144.53 354 *e*PKPbc **PKPdf** **15 20 40.5 +0.5**
baz=14,slow=3.0
KIBK Kibwezi 144.63 243 **PKPab** **15 20 39.5 -0.5**
GUNZ Gunzen 144.64 354 *e*PKPbc **PKPdf** **15 20 41.6 +1.3**
baz=14,slow=3.0
MEM Membach 144.66 1 *d*PKPdf **PKPdf** **15 20 39.9 -0.4**
MEM *d*PKiKP **pPKPdf** **15 20 43.2 -0.7**

BSTI Sart Tilman 144.67 2 *d*PKPdf **PKPdf** **15 20 40.2 -0.1**
SNF Seneffe 144.70 3 *d*PKPdf **PKPdf** **15 20 40.3 0.0**
PRU Pruhonice 144.74 351 *e*PKiKP **PKPdf** **15 20 41.4 +1.0**
PRU MLR MLR
comp=Z,500nm,23.3s
PRU Pruhonice 144.74 351 *e*PKP **PKPdf** **15 20 41.4 +1.0**
PRU AMS AMS 16 23 20.0
comp=Z,500nm,23.3s
NKC Novy Kostel 144.75 354 *e*PKiKP **PKPdf** **15 20 40.4 -0.1**
NKC MLR MLR
comp=Z,300nm,17.4s
NKC Novy Kostel 144.75 354 *e*PKP **PKPdf** **15 20 40.4 -0.1**
NKC AMS AMS 16 19 20.0
comp=Z,300nm,17.4s
BGES Gesves 144.86 2 *d*PKP **PKPdf** **15 20 40.4 -0.2**
BGES *dp*PKPdf **PKiKP** **15 20 46.7 +2.3**
BMRD Maredsous 144.93 2 *d*PKPdf **PKPdf** **15 20 40.7 0.0**
KECS Kecovo 144.97 344 *e*PKiKP **PKPdf** **15 20 41.2 +0.3**
KECS Kecovo 144.97 344 *e*PKP **PKPdf** **15 20 41.2 +0.3**
TNS Taunus Mts 145.03 358 *e*PKPbc **PKPdf** **15 20 41.2 +0.2**
baz=14,slow=3.0
ARCR ARCALIA 145.04 339 ⇑P **PKPdf** **15 20 41.9 +0.9**
VRAC Vranov 145.06 349 *e*PKP **PKPdf** **15 20 41.6 +0.6**
PBCC Pribram 145.11 352 *e*PKP **PKPdf** **15 20 42.7 +1.6**
DOU Dourbes 145.13 3 *d*PKP **PKPdf** **15 20 41.4 +0.4**
DOU *d*PKiKP sPKPab 15 20 43.5 -1.8
DOU *dp*PKiKP **pPKiKP** **15 20 51.1 +2.5**
ODBI Odobesti 145.13 335 ⇑P **PKPdf** **15 20 41.6 +0.3**
CFR Carcaliu 145.15 333 ⇑P **PKPdf** **15 20 42.6 +1.4**
CFR Carcaliu 145.15 333 ⇑PKiKP **PKPdf** **15 20 42.6 +1.4**
VRI Vrincioaia 145.18 336 ⇑P **PKPdf** **15 20 42.0 +0.6**
VRI Vrincioaia 145.18 336 ⇑PKiKP **PKPdf** **15 20 42.0 +0.6**
PLOR Plostina 145.23 336 ⇑P **PKPdf** **15 20 42.1 +0.7**
PLOR Plostina 145.23 336 ⇑PKiKP **PKPdf** **15 20 42.1 +0.7**
ROTZ Rotzenmuhle 145.24 354 *e*PKPbc **PKPdf** **15 20 42.2 +0.9**
baz=14,slow=3.0
TREC Trest 145.27 350 *e*PKiKP **PKPdf** **15 20 42.3 +0.9**
TREC MLR MLR
comp=Z,600nm,24.1s
TREC Trest 145.27 350 *e*PKP **PKPdf** **15 20 42.3 +0.9**
TREC AMS AMS 16 22 50.0
comp=Z,600nm,24.1s
JAVC Velka Javorina 145.28 348 *e*PKP **PKPdf** **15 20 42.8 +1.3**
TPGR Topolog 145.28 333 ⇑P **PKPdf** **15 20 42.9 +1.3**
KRUC Moravsky 145.33 349 *e*PKP **PKPdf** **15 20 41.9 +0.4**
GAZ Gaziantep 145.35 315 **PKPbc** **15 20 40.7 -1.1**
VYHS Vyhne 145.36 346 *e*PKiKP **PKPdf** **15 20 42.4 +0.8**
VYHS Vyhne 145.36 346 *e*PKP **PKPdf** **15 20 42.3 +0.7**
KOLL Kolacno 145.38 347 *e*PKP **PKPab** **15 20 42.4 +0.8**
MILB Miltenberg 145.39 357 *e*PKPbc **PKPab** **15 20 42.6 +1.0**
baz=14,slow=3.0
GRA1 Grafenberg Arr 145.41 355 **PKPbc** **15 20 41.3 -0.2**
GRF Grafenberg Arr 145.41 355 PKiKP **PKPbc** **15 20 41.3 -0.2**
GRF Grafenberg Arr 145.41 355 *e*PKPbc **PKPab** **15 20 42.7 +1.1**
baz=14,slow=3.0
GRER 145.48 335 ⇑P **PKPab** **15 20 44.0 +2.0**
TIRR Tirgusor 145.59 332 ⇑P **PKPab** **15 20 43.0 +0.5**
TIRR Tirgusor 145.59 332 PKiKP **PKPdf** **15 20 41.1 -0.9**
TIRR Tirgusor 145.59 332 PKPdf **PKPdf** **15 20 41.1 -0.9**
WLF Walferdange 145.60 1 *d*PKP **PKPab** **15 20 43.1 +0.8**
WLF Walferdange 145.60 1 *e*PKPbc **PKPab** **15 20 43.6 +1.3**
baz=14,slow=3.0
DOPR Dopca 145.62 337 ⇑P **PKPab** **15 20 44.3 +1.7**
HARR Harsova 145.63 333 ⇑P **PKPab** **15 20 43.7 +1.1**
HARR Harsova 145.63 333 ⇑PKiKP **PKPab** **15 20 43.7 +1.1**
SMOL Smolenice 145.66 348 *e*PKiKP **PKPab** **15 20 44.1 +1.5**
SMOL Smolenice 145.66 348 *e*PKP **PKPab** **15 20 44.1 +1.5**
TLBR Topalu 145.69 333 ⇑P **PKPab** **15 20 44.8 +1.9**
KHC Kasperske Hory 145.71 352 *e*PKiKP **PKPab** **15 20 43.2 +0.4**
KHC MLR MLR
comp=Z,500nm,24.1s
KHC Kasperske Hory 145.71 352 *e*PKP **PKPab** **15 20 43.2 +0.4**
KHC *ex* x 15 20 53.2
KHC AMS AMS 16 20 20.0
comp=Z,500nm,24.1s
NEHR Nehoiu 145.72 336 ⇓P **PKPab** **15 20 44.7 +1.8**
MLR Muntele Rosu 145.80 336 ⇑P **PKPab** **15 20 44.5 +1.1**
MLR Muntele Rosu 145.80 336 PKiKP **PKPbc** **15 20 43.2 +0.1**
MLR Muntele Rosu 145.80 336 **PKPbc** **15 20 43.2 +0.1**
MFTR Murfatlar 145.81 332 ⇓P **PKPab** **15 20 44.7 +1.4**
DRGR 145.84 341 ⇑P **PKPab** **15 20 44.0 +0.6**
DRGR 145.84 341 ⇑PKiKP **PKPab** **15 20 44.0 +0.6**
ISR Istrita 145.87 335 ⇑P **PKPab** **15 20 44.5 +0.9**
ISR Istrita 145.87 335 ⇑PKiKP **PKPab** **15 20 44.5 +0.9**
CKRC Cesky Krumlov 145.91 351 *e*PKP **PKPab** **15 20 43.8 +0.2**
KMBO Kilima Mbogo 145.92 244 PKPbc **PKPdf** **15 20 44.2 +0.4**
comp=Z,17nm,1.1s,baz=119,slow=4.0,SNR=18
GEC2 GERESS Array S 145.97 352 PKPdf **PKPdf** **15 20 42.2 -0.5**
GEC2 GERESS Array S 145.97 352 *e*PKPbc **PKPab** **15 20 44.3 +0.4**
baz=14,slow=3.0
GERES GERESS Array B 145.97 352 PKPbc **PKPab** **15 20 44.1 +0.2**
comp=Z,19nm,0.7s,baz=28,slow=3.2,SNR=77
GERES GERESS Array B 145.97 352 PKIKP **PKPdf** **15 20 41.8 -0.9**
GERES 15 20 43.5
GERES GERESS Array B 145.97 352 **PKPdf** **15 20 41.8 -0.9**
GERES PKPbc **PKPbc** **15 20 43.5 0.0**
ZST Bratislava 146.03 348 *e*PKP2 **PKiKP** **15 20 45.9 -0.9**
ZST Bratislava 146.03 348 *e*PKP **PKiKP** **15 20 45.9 -0.9**
BR131 Keskin Array S 146.19 321 PKP2 **PKPbc** **15 20 44.3 -0.2**
BR131 Keskin Array S 146.19 321 **PKPbc** **15 20 44.2 -0.2**
BRTR Keskin Array B 146.19 321 PKPbc **PKPbc** **15 20 44.8 +0.4**
comp=Z,35nm,0.9s,baz=116,slow=1.9,SNR=103
BRTR Keskin Array B 146.19 321 PKP2 **PKPdf** **15 20 43.9 +0.5**
BRTR Keskin Array B 146.19 321 PKPbc **PKPdf** **15 20 43.9 +0.5**
VOIR 146.19 337 ⇑P **PKPab** **15 20 46.0 +1.2**
VOIR 146.19 337 ⇑PKP2 **PKPab** **15 20 46.0 +1.2**
ARR Arges 146.41 337 ⇑P **PKiKP** **15 20 47.1 -0.8**
CONA Conrad Observa 146.52 349 *e*P **PKPab** **15 20 46.4 +0.4**
comp=Z,17nm,0.8s,SNR=13
SIRR Siria 146.64 341 ⇑P **PKPbc** **15 20 45.8 +0.5**
MOA Molln 146.87 351 *i* P **PKPab** **15 20 47.0 -0.3**
comp=Z,14nm,0.8s,SNR=10
BFO Black Forest 146.93 358 PKP2 **PKPbc** **15 20 46.2 +0.1**
BFO Black Forest 146.93 358 **PKPbc** **15 20 46.2 +0.1**
BFO Black Forest 146.93 358 *e*PKPbc **PKPab** **15 20 47.1 -0.4**
baz=14,slow=3.0
CLF Chambon-Foret 147.02 6 PKPdf **PKPdf** **15 20 44.0 -0.3**
GZR Gura Zlata 147.05 339 ⇑P **PKPbc** **15 20 47.6 +0.9**
GZR Gura Zlata 147.05 339 ⇑PKP2 **PKPbc** **15 20 47.6 +0.9**
MDUB Mudurnu 147.12 325 PKPbc **PKPbc** **15 20 46.9 -0.2**
RJOB Jochberg 147.18 353 *e*PKPbc **PKPbc** **15 20 47.9 +1.0**
baz=14,slow=3.0
ARSA Arzberg 147.24 349 *e*P **PKPbc** **15 20 48.0 +1.0**
comp=Z,30nm,1.5s
BZS Buzias 147.24 341 ⇑P **PKPbc** **15 20 47.2 +0.1**
BZS Buzias 147.24 341 ⇑PKP2 **PKPbc** **15 20 47.2 +0.1**
HERR Herculane 147.62 339 ⇓P **PKiKP** **15 20 49.7 -0.5**
RETA Reutte 147.63 355 *i* P **PKPbc** **15 20 49.4 +1.2**
comp=Z,11nm,0.9s,SNR=5.9
WATA Walderalm 147.71 354 *e*P **PKPbc** **15 20 48.8 +0.3**
comp=Z,15nm,0.9s,SNR=5.1
MOTA Moosalm 147.75 355 *i* P **PKPbc** **15 20 49.6 +1.0**
comp=Z,15nm,0.9s,SNR=8.3
KBA Koelnbreinsper 147.75 352 *e*P **PKPbc** **15 20 49.3 +0.6**
comp=Z,8.2nm,0.7s,SNR=8.4
WTTA Wattenberg 147.77 354 *e*P **PKPbc** **15 20 49.9 +1.1**
comp=Z,18nm,0.7s,SNR=8.2
DAVA Damuels 147.90 356 *i* P **PKiKP** **15 20 50.4 -0.6**
comp=Z,25nm,0.9s,SNR=9.2
PERS Pernice 147.90 349 *i* PKPbc **PKPbc** **15 20 49.6 +0.7**
MDVR Moldovita 147.95 340 ⇓P **PKiKP** **15 20 50.3 -0.7**
FETA Feichten 148.10 355 *e*P **PKiKP** **15 20 51.8 +0.4**
comp=Z,9.7nm,0.9s
OBKA Obir 148.12 350 *i* P **PKPbc** **15 20 50.2 +0.6**
comp=Z,13nm,0.7s,SNR=7.9
MYKA Terra Mystica 148.15 351 *i* P **PKPbc** **15 20 50.0 +0.4**
comp=Z,12nm,0.6s,SNR=7.4
ABTA Abfaltersbach 148.19 353 *i* P **PKPbc** **15 20 50.5 +0.8**
comp=Z,19nm,0.8s,SNR=6.4
FRGS Fruska Gora 148.20 343 ⇑P **PKiKP** **15 20 51.0 -0.5**
ZOU Zoufplan 148.31 352 **PKPbc** **15 20 49.4 -0.8**
LJU Ljubljana 148.58 350 *i* PKPbc **PKPbc** **15 20 51.6 +0.9**
STAL STALIGIAL 148.64 352 **PKPbc** **15 20 50.3 -0.6**
TUE Stuetta 148.74 357 **PKPbc** **15 20 51.6 +0.2**
CEY Cerknica 148.89 350 *i* PKPbc **PKiKP** **15 20 52.5 -0.4**
BOVS Bovan 148.96 339 ⇑P **PKPbc** **15 20 51.6 -0.1**
CTI Castel Tesino 148.97 354 PKP2 **PKPbc** **15 20 51.5 -0.3**
CTI Castel Tesino 148.97 354 **PKPbc** **15 20 51.5 -0.3**
CSS Mathiatis 149.18 315 PKPdf **PKPdf** **15 20 47.1 -1.3**
VTS Vitosha 149.28 336 ⇑P **PKiKP** **15 20 54.3 +0.4**
VTS Vitosha 149.28 336 PKP2 **PKPbc** **15 20 52.5 -0.2**
VTS Vitosha 149.28 336 **PKPbc** **15 20 52.5 -0.2**
LEF Lefka 149.40 315 ⇑P **PKPbc** **15 20 53.1 +0.1**

SALO	Salr	149.51	355			PKPbc	15 20 52.2	-0.9
LODK	Lodwar	149.66	250		PKPbc	PKPdf	15 20 51.9	+2.1
BNI	Bardonecchia	150.22	0		PKIKP	PKPbc	15 20 53.2	-1.8
BNI	Bardonecchia	150.22	0			PKPbc	15 20 53.2	-1.8
PGAV	Gavieira, Arco	150.26	23	*e*PKPdf		PKiKP	15 20 56.4	+0.5
PGAV	Gavieira, Arco comp=Z,608nm,20.0s	150.26	23	*e*LR		LR	16 11 46.9	
PDG	Podgorica	150.85	341	⇑P		PKiKP	15 20 57.2	+0.2
MSSA	Maissana	150.88	356			PKPbc	15 20 56.2	-0.3
POLO	Lamas de Olo	150.95	23	*e*PKPdf		PKiKP	15 20 58.1	+0.7
POLO	Lamas de Olo	150.95	23	*i* PKPab		PKPab	15 21 17.8	+14
PBRG	Braganca	150.96	21	*e*PKPdf		PKiKP	15 20 58.1	+0.8
PBRG	Braganca	150.96	21	*i* PKPab		PKPab	15 21 17.3	+13
PVRL	Vila Real	151.06	23	*e*PKPdf		PKiKP	15 20 58.4	+0.9
PVRL	Vila Real	151.06	23	*i* PKPab		PKPab	15 21 17.9	+13
MVO	Moncorvo	151.41	22	*e*PKPdf		PKiKP	15 20 58.5	+0.2
MVO	Moncorvo	151.41	22	*i* PKPab		PKPab	15 21 19.9	+14
MVO	Moncorvo comp=Z,454nm,22.0s	151.41	22	*e*LR		LR	16 12 10.6	
OSSC	Osservatorio P	151.51	353	PKPdf		PKPdf	15 20 51.2	-0.5
MURB	Monte Urbino	151.61	351			PKPbc	15 20 57.6	-0.6
LIT	Litokhoron	151.70	334	PKIKP		PKPbc	15 20 57.8	-0.6
LIT	Litokhoron	151.70	334			PKPbc	15 20 57.8	-0.6
MBAR	Mbarara	151.72	238	*c* /PKIKP		PKiKP	15 21 01.6	+1.7
MBAR comp=Z,22nm,1.3s				pmax		pmax		
PCAS	Casmilo, Conde	151.79	26	*e*PKPdf		PKiKP	15 20 59.6	+0.6
PCAS	Casmilo, Conde	151.79	26	*i* PKPab		PKPab	15 21 19.4	+12
MTE	Manteigas	151.88	24	*e*PKPdf		PKPdf	15 20 51.9	-0.6
MTE	Manteigas	151.88	24	*i* PKPab		PKPab	15 21 19.9	+12
MTE	Manteigas comp=Z,560nm,22.0s	151.88	24	*e*LR		LR	16 12 01.3	
PMOZ	Porto Moniz, M comp=Z,362nm,20.0s	151.93	47	*e*LR		LR	16 13 06.2	
PSBE	So Bento	152.11	27	*i* PKPab		PKPab	15 21 20.5	+12
CASP	Castiglione de	152.28	354			PKPbc	15 20 59.0	-0.6
PCBR	Castelo Branco	152.39	24	*e*PKPdf		PKiKP	15 21 01.1	+0.9
PCBR	Castelo Branco	152.39	24	*i* PKPab		PKPab	15 21 20.8	+11
PMPST	Porto Santo, M	152.39	46	*i* PKPab		PKPab	15 21 23.1	+13
INTR	Introdacqua	152.59	349	PKPdf		PKPdf	15 20 52.6	-0.9
INTR						PKPbc	15 21 00.6	+0.1
INTR						PKPab	15 21 10.9	+0.1
AGG	Agios Georgios	152.66	333	PKIKP		PKPbc	15 21 00.7	0.0
AGG	Agios Georgios	152.66	333			PKPbc	15 21 00.7	0.0
PMTG	Montargil	152.73	26	*e*PKPdf		PKPdf	15 20 53.1	-0.6
PMTG	Montargil	152.73	26	*i* PKPab		PKPab	15 21 21.1	+10
PMRV	Marv??o	152.77	25	*e*PKPdf		PKPbc	15 21 01.1	+0.2
PMRV	Marv??o	152.77	25	*i* PKPab		PKPab	15 21 21.1	+9.5
PMRV	Marv??o	152.77	25	*e*LQ		LQ	16 03 39.0	
PMRV comp=Z,465nm,22.0s				*e*LR		LR	16 11 50.6	
PESTR	Estremoz	153.16	26	*i* PKPab		PKPab	15 21 15.4	+2.1
ESDC	Sonseca Array	153.80	19	PKPbc		PKiKP	15 21 03.6	+0.4
ESDC comp=Z,1.5nm,0.8s,baz=324,slow=3.4,SNR=9.6				PKPab		pPKPab	15 21 17.3	-1.5
PBAR	Barrancos comp=Z,4.8nm,0.8s,baz=337,slow=2.9,SNR=4.1	153.98	26	*e*PKPdf		PKiKP	15 21 04.8	+1.2
PBAR	Barrancos	153.98	26	*i* PKPab		PKPab	15 21 48.6	+32
PVAQ	Vaqueiros	154.33	28	*i* PKPab		PKPab	15 21 18.4	+0.2
PVAQ	Vaqueiros comp=Z,335nm,20.0s	154.33	28	*e*LR		LR	16 13 05.3	
KEST	Kesra comp=Z,5.2nm,1.0s,baz=269,slow=3.0,SNR=3.6	159.42	354	PKPab		PKPab	15 21 41.5	+1.3
LIC	Lamto comp=Z,55nm,1.5s	165.26	126	*e*P		PKPab	15 22 07.2	+0.8
TIC	Toumodi	165.53	125	*e*P		PKPab	15 22 08.6	+1.0
KIC	Kosan Boka comp=Z,20nm,1.0s	165.57	126	*e*P		PKPab	15 22 08.5	+0.7
DBIC	Dimbokro comp=Z,7.8nm,0.9s,baz=177,slow=7.3,SNR=4.1	165.67	125	PKPab		PKPab	15 22 09.5	+1.3
TORD	Torodi Ar. Bea comp=Z,3.2nm,1.0s,baz=322,slow=1.3,SNR=8.8	174.53	111	PKP		PKPdf	15 21 13.5	-0.9
TORD comp=Z,3.5nm,0.8s,baz=266,slow=3.7,SNR=9.7				PKPab		PKPab	15 22 47.9	+0.3
TORD comp=Z,0.6nm,0.8s,baz=200,slow=4.4,SNR=2.4				PP		PP	15 26 44.9	+4.9
TORD	Torodi Ar. Bea	174.53	111			PKPdf	15 21 13.4	-1.0
TORD				PKPab		PKPab	15 22 46.8	-0.8

*TUL **08** 15:08:27.2±0.5,36°.42N±0°.01×97°.77W±0°.01,h6km±6km, ML2.5,mb_Lg2.7/51(NEIC),Error ellipse: s-maj=1.7km s-min=0.7km az=147.0*

NEIC 08 15:08:27±0.4,36°.42N±0°.01×97°.763W±0°.008,h6km±7km, Error ellipse: s-maj=1.8km s-min=0.8km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.20	296	Pg	Pg	15 08 31.0	+0.1
CROK				Sg	Sg	15 08 33.9	+0.4
GC02	Grant County #	0.44	350	Pg	Pg	15 08 35.6	+0.1
OK032	Salt Plains WL	0.53	317	Pg	Pg	15 08 37.3	+0.1
OK032				Sg	Sg	15 08 43.6	-0.4
BLOK	Blackwell	0.56	52	Sg	Sg	15 08 45.0	0.0
KAN13	South Haven SW	0.64	21	Pg	Pg	15 08 39.4	+0.2
OK029	Liberty Lake	0.67	158		Pg	15 08 40.3	+0.4
OK029				Sg	Sg	15 08 48.5	-0.1
KAN09	Caldwell North	0.73	9	Pg	Pg	15 08 41.0	0.0
KAN10	Anthony SW Sta	0.75	339	Pg	Pg	15 08 41.5	+0.1
BCOK	Bluff Creek, N	0.77	171		Pg	15 08 41.8	0.0
BCOK				Sg	Sg	15 08 52.1	+0.3
KAN08	Anthony NE Sta	0.82	348	Pg	Pg	15 08 42.6	-0.2
KAN16	Harper SW Stat	0.84	343	Pg	Pg	15 08 43.1	-0.1
OK031	S. Brethren Rd	0.88	122		Pg	15 08 43.8	-0.1
QUOK	Quay	0.89	106	Pg	Pg	15 08 44.1	+0.1
KAN12	Harper NE Stat	0.90	348	Pg	Pg	15 08 44.1	-0.2
OK025	Westminster Rd	0.90	157	Pg	Pg	15 08 44.7	+0.3
OK030	Cody Creek RV	0.93	121	Pg	Pg	15 08 44.9	0.0
U32A	Winter Ranch,	1.00	268	Pg	Pg	15 08 45.7	-0.5
T35A	Sooner Cattle	1.12	63	Pg	Pg	15 08 48.3	-0.2
FNO	Franklin	1.20	166		Pg	15 08 49.4	-0.5
WMOK	Wichita Mounta	1.87	207	Pn	Pn	15 08 59.6	0.0
X37A	Clayton comp=Z,12nm,0.8s	2.67	132	IAmb_Lg		15 09 54.6	
U38A	Gravette comp=Z,15nm,0.8s	2.72	89	IAmb_Lg		15 09 54.3	
KSU1	Kansas State U	2.83	19	Pn	Pn	15 09 12.7	-0.1
CBKS	Cedar Bluff comp=Z,14nm,0.8s	2.86	327	IAmb_Lg		15 10 04.9	
Z38A	Mt. Pleasant comp=Z,21nm,0.9s	3.89	143	IAmb_Lg		15 10 37.4	
MIAR	Mount Ida comp=Z,8.0nm,0.9s	3.89	117	IAmb_Lg		15 10 34.2	
U40A	Yellville comp=Z,8.8nm,0.7s	3.96	89	IAmb_Lg		15 10 33.0	
X40A	Basin Creek Fa comp=Z,8.1nm,0.8s	4.46	114	IAmb_Lg		15 10 53.0	
P38A	Dawn comp=Z,8.6nm,0.7s	4.63	45	IAmb_Lg		15 10 54.4	
R40A	Maddies Statio comp=Z,6.0nm,0.7s	4.76	65	IAmb_Lg		15 11 08.0	
P40A	Paris comp=Z,12nm,0.8s	5.48	54	IAmb_Lg		15 11 27.4	
N38A	Joes South For comp=Z,12nm,0.8s	5.63	38	IAmb_Lg		15 11 37.8	
L34A	Svendsen Farm, comp=Z,9.3nm,0.8s	5.64	11	IAmb_Lg		15 11 37.9	
PBMO	Poplar Bluff comp=Z,13nm,0.8s	5.91	84	IAmb_Lg		15 11 36.0	
FVM	French Village comp=Z,9.9nm,0.7s	6.06	73	IAmb_Lg		15 11 39.2	
SCIA	State Center comp=Z,10nm,1.0s	6.52	31	IAmb_Lg		15 11 51.6	
S44A	Carbondale comp=Z,8.3nm,0.8s	6.92	77	IAmb_Lg		15 12 15.0	
SIUC	Southern Illin comp=Z,13nm,0.9s	6.95	77	IAmb_Lg		15 12 06.4	
P43A	Skaggs, Pawnee comp=Z,12nm,0.7s	7.26	61	IAmb_Lg		15 12 24.7	
HDIL	Hopedale comp=Z,13nm,0.8s	7.82	56	IAmb_Lg		15 12 57.9	
PV01	Paradox Valley comp=Z,15nm,1.2s	8.78	284	IAmb_Lg		15 13 22.0	
PV07	Paradox Valley comp=Z,6.8nm,0.9s	8.89	286	IAmb_Lg		15 13 19.3	
PV03	Paradox Valley comp=Z,8.5nm,1.1s	9.02	285	IAmb_Lg		15 13 27.5	
RWWY	Rawlins comp=Z,15nm,0.9s	9.04	308	IAmb_Lg		15 13 34.7	
PV18	Skein Mesa, Pa comp=Z,12nm,1.0s	9.06	285	IAmb_Lg		15 13 18.0	
PV16	Nyswonger Mesa comp=Z,11nm,1.1s	9.08	285	IAmb_Lg		15 13 23.2	
PV04	Paradox Valley comp=Z,15nm,0.9s	9.08	286	IAmb_Lg		15 13 18.5	
PV20	West Nyswonger comp=Z,14nm,0.9s	9.12	285	IAmb_Lg		15 13 37.8	
PV19	Morning Glory comp=Z,21nm,1.3s	9.13	285	IAmb_Lg		15 13 18.4	
PV14	Lion Creek, Pa comp=Z,22nm,1.0s	9.17	286	IAmb_Lg		15 13 18.4	
PV10	Paradox Valley comp=Z,13nm,0.8s	9.18	286	IAmb_Lg		15 13 37.4	
W18A	Petrified Fore comp=Z,4.7nm,1.0s	9.82	266	IAmb_Lg		15 13 47.8	

*IDC **08** 15:09:54.1±1.9,24°.11S×179°.98W,h515km±19km,mb3.2/5, mb1 3.5/7,mb1mx3.1/25,mbtmp4.1/7,Error ellipse: s-maj=25.6km s-min=18.4km az=150.0*
*NEIC **08** 15:09:56.5±1.2,24°.2S±0°.1×180°.0E±0°.2,h536km±9km, mb4.7/19,Error ellipse: s-maj=21.3km s-min=15.0km az=98.0*

ISC 08 15:09:54.9±0.6,24°.09S±0°.07×180°.0W±0°.1,h518km,n51, σ1§68/50,mb3.9/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.46	161	P	P	15 11 30.4	+3.6
MSVF	Nonsavu 1.6nm,0.3s,baz=217,slow=18,SNR=14	6.58	343	P	P	15 11 37.5	-0.3
MSVF	Nonsavu	6.58	343	P	P	15 11 37.6	-0.2
LIFNC	LIFOU	12.27	283	P	P	15 12 37.3	+1.1
KUZ	Kuaotunu	13.15	195	P	P	15 12 46.8	+1.6
WIAZ	Waiheke Island	13.34	197	P	P	15 12 55.9	+8.6
MXZ	Matakaoa Point	13.51	186	P	P	15 12 50.8	+1.7
MXZ	Matakaoa Point	13.51	186	P	P	15 12 51.1	+2.1
ETAZ	East Tamaki Re	13.55	198	P	P	15 12 59.0	+10
WMGZ	Waiomatatini S	13.76	185	P	P	15 12 54.7	+3.1
HAZ	Te Kaha	13.76	187	P	P	15 12 52.0	+0.4
RUGZ	Raukumara Rang	13.98	188	P	P	15 12 56.0	+1.9
PUZ	Puketiti	14.02	186	P	P	15 12 57.1	+2.6
URZ	Urewera 1.5nm,0.3s,baz=121,slow=23,SNR=8.8	14.35	189	P	P	15 12 56.3	-1.5
URZ 0.5nm,0.3s,baz=299,slow=23,SNR=2.5				S	S	15 15 27.8	-0.8
URZ	Urewera	14.35	189	P	P	15 12 58.3	+0.5
TLZ	Tolley Road	14.70	194	P	P	15 13 06.5	+4.9
HIZ	Hauiti	15.04	196	P	P	15 13 11.2	+6.2
BKZ	Black Stump Fm	15.33	190	P	P	15 13 07.8	-0.3
BKZ comp=Z,13nm,1.1s				IAmb	IAmb	15 13 27.7	
BKZ	Black Stump Fm	15.33	190	P	P	15 13 08.9	+0.8
NTVZ	North Tongarir	15.41	193	P	P	15 13 11.6	+2.5
TMVZ	Te Maari	15.43	193	P	P	15 13 10.7	+1.5
ETVZ	East Tongariro	15.44	193	P	P	15 13 10.8	+1.4
FUNA	Funafuti	15.49	357	P	P	15 13 11.7	+1.6
BHW	Baring Head	17.80	193	P	P	15 13 32.1	-0.2
QRZ	Quartz Range	17.84	199	P	P	15 13 32.9	+0.2
QRZ comp=Z,36nm,1.2s				IAmb	IAmb	15 13 39.1	
NNZ	Nelson	17.96	196	P	P	15 13 32.6	-1.2
NNZ comp=Z,45nm,1.1s				IAmb	IAmb	15 13 58.7	
THZ	Tophouse	18.60	197	P	P	15 13 39.2	-0.4
THZ comp=Z,31nm,1.4s				IAmb	IAmb	15 13 54.1	
KHZ	Kahutara	19.05	195	P	P	15 13 43.6	-0.1
KHZ comp=Z,44nm,1.4s				IAmb	IAmb	15 14 01.1	
LTZ	Lake Taylor	19.72	197	P	P	15 13 49.7	-0.2
LTZ comp=Z,37nm,1.3s				IAmb	IAmb	15 13 50.2	
OXZ	Oxford	20.29	197	P	P	15 13 54.3	-0.7
OXZ comp=Z,35nm,1.4s				IAmb	IAmb	15 13 59.1	
HNR	Honiara	24.07	304	P	P	15 14 32.2	+3.0
ARMA	Armidale	25.98	250	P	P	15 14 46.9	+0.8
EIDS	Eidsvold	26.30	261	P	P	15 14 48.6	-0.3
EIDS comp=Z,21nm,1.4s				IAmb	IAmb	15 14 55.2	
CTA	Charters Tower baz=94,slow=12	31.50	271	P	P	15 15 33.9	-0.3
CTAO	Charters Tower	31.50	271	P	P	15 15 34.0	-0.2
CTAO comp=Z,22nm,1.4s				IAmb	IAmb	15 15 52.0	
MCQ	Macquarie Isla	34.20	202	P	P	15 15 55.5	-1.0
AS31	Alice Springs	42.02	261	P	P	15 16 59.5	-1.4
ASAR	Alice Springs comp=Z,0.8nm,0.5s,baz=97,slow=7.6,SNR=14	42.02	261	P	P	15 17 00.2	-0.6
ASAR				ScP	ScP	15 21 45.7	+0.6
WRA	comp=Z,0.9nm,0.7s,baz=106,slow=4.6,SNR=10 Warramunga Arr	42.41	266	P	P	15 17 03.0	-1.0
FORT	comp=Z,2.1nm,0.5s,baz=102,slow=8.5,SNR=44 Forrest	46.27	250	P	P	15 17 32.5	-1.1
FORT comp=Z,24nm,1.0s				IAmb	IAmb	15 17 45.8	
KNRA	Kununurra	48.71	270	P	P	15 17 51.3	-0.8
KNRA comp=Z,26nm,1.4s				IAmb	IAmb	15 17 56.0	
QSPA	South Pole Qui	66.00	180	P	P	15 19 49.9	+0.3
SMY	Shemya	76.66	356	P	P	15 20 52.5	+0.7
MAW	Mawson	77.58	200	P	P	15 20 57.3	+0.5
MAW	Mawson	77.58	200	P	P	15 20 56.4	-0.4
NVAR	Mina Array Bea comp=Z,0.4nm,0.6s,baz=220,slow=6.8,SNR=4.2	84.87	44	P	P	15 21 34.8	-0.3
TXAR	Lajitas Array comp=Z,0.7nm,0.7s,baz=209,slow=6.7,SNR=9.2	90.51	58	P	P	15 22 01.8	+0.1
ARCES	ARCESS Array B	132.07	349	PKP	PKPdf	15 28 06.7	-2.0
AKASG	comp=Z,8.0nm,1.2s,baz=62,slow=4.2,SNR=4.4 Malin Array Be	145.14	327	PKPbc	PKPdf	15 28 30.8	-2.1
CLL	comp=Z,1.2nm,0.5s,baz=46,slow=3.7,SNR=3.0 Collm	151.04	343	*i* PKPbc	PKPbc	15 28 47.6	-1.2
CLL comp=Z,4.0nm,0.8s				LmV		17 04 00.0	
CLL comp=Z,100nm,19.7s							
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.6s,baz=149,slow=6.7,SNR=3.6	169.00	189	PKPab	PKPab	15 30 15.9	-1.9

NEIC 08 15:12:23.9±1.1,35°.757N±0°.007×97°.52W±0°.02,h5km±1km, mb_Lg2.7/51,Error ellipse: s-maj=2.9km s-min=2.4km az=94.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.07	53		Pg	15 12 25.8	+0.3
OK029				Sg	Sg	15 12 27.2	+0.7
BCOK	Bluff Creek, N	0.12	217	Pg	Pg	15 12 26.4	0.0
OK009	Oakdale Elemen	0.19	156	Pg	Pg	15 12 27.6	0.0
OK025	Westminster Rd	0.23	140	Pg	Pg	15 12 28.3	0.0
OK025				Sg	Sg	15 12 31.7	+0.4
OKCFA	Oklahoma City	0.34	171	Pg	Pg	15 12 30.3	-0.2
OKCFA				Sg	Sg	15 12 35.4	+0.3
OKCSW	OKLAHOMA CITY	0.36	169		Pg	15 12 30.7	0.0
OKCSW				Sg	Sg	15 12 36.0	+0.6
FNO	Franklin	0.51	169	Pg	Pg	15 12 33.4	-0.2
FNO					Sg	15 12 40.7	+0.5
OK031	S. Brethren Rd	0.58	70	Pg	Pg	15 12 35.0	-0.1
OK031					Sg	15 12 43.4	+0.7
OK030	Cody Creek RV	0.62	74	Pg	Pg	15 12 35.6	-0.2
OK030				Sg	Sg	15 12 44.5	+0.6
QUOK	Quay	0.78	58	Pg	Pg	15 12 38.6	-0.2
QUOK				Sg	Sg	15 12 49.3	+0.5
CROK	Carrier	0.84	333	Pg	Pg	15 12 40.1	0.0
CROK				Sg	Sb	15 12 51.7	-0.8
BLOK	Blackwell	1.03	14	Pg	Pg	15 12 43.2	-0.4
BLOK				Sg	Sg	15 12 57.4	+0.3
GC02	Grant County #	1.13	346	Pg	Pg	15 12 45.1	-0.4
X34A	Smith Ranch, M	1.18	193	Pg	Pg	15 12 46.0	-0.5
OK032	Salt Plains WL	1.19	332	Pg	Pg	15 12 46.0	-0.6
KAN13	South Haven SW	1.25	1	Pn	Pg	15 12 47.1	-0.8
T35A	Sooner Cattle	1.41	35	Pn	Pn	15 12 49.8	-0.5
KAN10	Anthony SW Sta	1.44	341	Pn	Pn	15 12 50.2	-0.4
WMOK	Wichita Mounta	1.45	226	Pn	Pn	15 12 50.3	-0.4
KAN08	Anthony NE Sta	1.51	346	Pn	Pn	15 12 51.9	+0.3
LOOK	Love County	1.78	171	Pn	Pn	15 12 55.6	+0.3
X37A	Clayton comp=Z,26nm,0.8s	2.11	123	IAmb_Lg		15 13 30.5	
R32A	Long Quarter, comp=Z,18nm,1.1s	2.83	341	IAmb_Lg		15 13 54.7	
W39A	Magazine comp=Z,27nm,0.9s	3.10	99	IAmb_Lg		15 14 07.9	
Z38A	Mt. Pleasant comp=Z,18nm,0.8s	3.25	139	IAmb_Lg		15 14 10.6	
KSU1	Kansas State U comp=Z,16nm,1.0s	3.42	12	IAmb_Lg		15 14 19.6	
CBKS	Cedar Bluff comp=Z,15nm,0.9s	3.53	331	IAmb_Lg		15 14 18.1	
ABTX	Abilene, Hawle comp=Z,21nm,1.2s	3.59	210	IAmb_Lg		15 14 21.6	
U40A	Yellville comp=Z,16nm,0.8s	3.83	80	IAmb_Lg		15 14 26.7	
S39A	Bolivar comp=Z,26nm,1.1s	3.88	59	IAmb_Lg		15 14 27.5	
X40A	Basin Creek Fa comp=Z,29nm,0.8s	4.04	107	IAmb_Lg		15 14 37.2	
WHAR	Wooly Hollow	4.29	95	Pn	Pn	15 13 30.4	+0.6
WHAR comp=Z,19nm,1.0s				IAmb_Lg		15 14 39.9	
FCAR	Ozark Folk Cen comp=Z,14nm,0.8s	4.38	87	IAmb_Lg		15 14 42.4	
R40A	Maddies Statio comp=Z,12nm,0.8s	4.90	57	IAmb_Lg		15 15 12.3	
435B	Jarrell comp=Z,24nm,1.1s	4.96	181	IAmb_Lg		15 15 04.6	
P38A	Dawn comp=Z,12nm,0.7s	4.99	38	IAmb_Lg		15 15 03.3	
KSCO	Kaye Shedlock' comp=Z,16nm,0.7s	5.21	310	IAmb_Lg		15 15 21.8	
T42A	Van Buren comp=Z,8.9nm,0.7s	5.34	74	IAmb_Lg		15 15 17.6	
CCM	Cathedral Cave comp=Z,12nm,0.8s	5.53	64	IAmb_Lg		15 15 23.1	
P40A	Paris comp=Z,16nm,0.7s	5.75	47	IAmb_Lg		15 15 27.0	
PBMO	Poplar Bluff comp=Z,18nm,0.8s	5.82	78	IAmb_Lg		15 15 32.3	
143A	Socs Landing, comp=Z,16nm,0.8s	5.91	119	IAmb_Lg		15 15 30.5	
FVM	French Village comp=Z,18nm,1.2s	6.10	67	IAmb_Lg		15 15 39.3	
S44A	Carbondale comp=Z,12nm,0.8s	6.91	71	IAmb_Lg		15 16 04.4	
SIUC	Southern Illin comp=Z,13nm,0.7s	6.95	71	IAmb_Lg		15 16 07.2	
SCIA	State Center comp=Z,15nm,0.8s	7.00	27	IAmb_Lg		15 16 17.6	
WVT	Waverly comp=Z,6.6nm,1.3s	7.87	84	IAmb_Lg		15 16 34.2	
L40A	Anamosa comp=Z,10nm,0.9s	7.98	36	IAmb_Lg		15 16 41.2	

VIE 08 15:18:18.3±0.2,49°.06N×15°.88E,h0km,mb1.3/4,ml1.8/4, Error ellipse: s-maj=2.0km s-min=1.4km az=162.0 27 km NE of Vratenin Suspected Mining explosion.,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUC	Moravsky	0.34	90	*e*PG	Pg	15 18 25.2	+0.4
KRUC				*e*SG	Sg	15 18 29.3	+0.1
VRAC	Vranov	0.53	62	*e*PG	Pg	15 18 28.5	+0.1
VRAC				*e*SG	Sg	15 18 34.7	-0.6
CONA	Conrad Observa 1.0nm,0.2s	1.14	181	*e*Pg	Pb	15 18 40.7	-0.1
CONA 1.1nm,0.1s				*e*Sg	Sb	15 18 55.9	-0.3
MORC	Moravsky Berou	1.30	56	*e*PG	Pg	15 18 43.1	-0.1
MOA	Molln 0.7nm,0.1s	1.62	222	*e*Pg	Pb	15 18 49.1	0.0
MOA 1.3nm,0.2s				*e*Sg	Sg	15 19 11.2	+0.9

*IDC **08** 15:21:08.9±0.7,6°.63N×92°.01E,h0km,mb4.2/10, mb1 4.3/13,mb1mx4.0/39,mbtmp4.2/13,ML4.1/3,MS3.3/2, Ms1 3.4/2,ms1mx3.0/35,Error ellipse: s-maj=27.1km s-min=16.1km az=52.0*
*NEIC **08** 15:21:14.8±1.2,6°.67N±0°.09×91°.97E±0°.02,h35km±4km, mb4.5/22,Error ellipse: s-maj=13.7km s-min=2.0km az=189.0*

ISC 08 15:21:13.8±0.5,6°.67N±0°.06×92°.06E±0°.06,h35km,n61, σ1§66/67,mb4.3/20,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	CAMPBELL BAY	1.88	79	*e*P	Pn	15 21 42.9	-0.6
CMBY				*e*S	Sn	15 22 04.6	-1.4
CMBY comp=E,5μm,0.6s				IAML		15 22 08.3	
CMBY comp=N,3μm,0.5s				IAML		15 22 11.4	
PBA	Port Blair	5.00	8	*e*P	Pn	15 22 29.3	+3.0
PBA				*e*S	Sn	15 23 17.7	-5.3
PBA comp=E,175nm,0.3s				IAML		15 23 24.9	
PBA comp=N,192nm,0.3s				IAML		15 23 25.6	
PBA	Port Blair	5.00	8	Pn	Pn	15 22 24.6	-1.8
LHMI	Lhok Sumawe	5.07	106	Pn	Pn	15 22 27.3	0.0
DGPR	DIGLIPUR	6.53	7	*e*P	Pn	15 22 46.8	-0.5
DGPR				*e*S	Sn	15 23 52.4	-8.2
DGPR comp=N,76nm,0.4s				IAML		15 23 58.0	
GSI	Gunungsitoli	7.66	134		Pn	15 23 00.1	-2.8
PSI	Prapat comp=N,1.7nm,0.3s,baz=181,slow=16,SNR=3.3	7.84	119	Pn	Pn	15 23 06.2	+0.7
PSI comp=N,2.3nm,0.3s,baz=0.6,slow=4.6,SNR=2.9				Sn	Sn	15 24 28.9	-4.3
RPSI	Rantau Prapat	7.90	120	Pn	Pn	15 23 06.5	+0.3
PALK	Pallekele comp=N,2.8nm,0.3s,baz=196,slow=14,SNR=16	11.29	274	Pn	Pn	15 23 51.9	-0.9
PALK comp=N,2.1nm,0.3s,baz=117,slow=21,SNR=2.9				Sn	Sn	15 25 43.2	-15
PALK comp=N,154nm,21.7s,baz=196,slow=34				LR	LR	15 27 35.2	
PALK	Pallekele	11.29	274		Pn	15 23 50.2	-2.6
CM31	Chiang Mai Arr	13.50	29		Pn	15 24 24.8	+1.9
CMAR	Chiang Mai Arr comp=N,0.3nm,0.3s,baz=231,slow=14,SNR=41	13.50	29	Pn	Pn	15 24 22.8	-0.2
CMA

SONM	**Songino Array**	**42.81**	**14**	P		**P**	**15 29 09.4**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=195,slow=10,SNR=7.1							
SONM	**Songino Array**	**42.81**	**14**	P		**P**	**15 29 09.0**	**+0.7**
SONM				pP		**pP**	**15 29 18.3**	**+1.0**
SONM				IAmb		IAmb	15 29 19.4	
	comp=Z,4.2nm,0.9s							
MTN	**Manton Dam**	**43.39**	**117**	P		**P**	**15 29 12.9**	**-0.4**
MTN				IAmb		IAmb	15 29 24.7	
	comp=Z,24nm,1.2s							
JSU	**Suzuyama**	**43.53**	**50**	P		**P**	**15 29 16.0**	**+1.7**
GEYT	**Alibeck**	**43.76**	**320**	P		**P**	**15 29 16.9**	**+0.8**
	comp=Z,16nm,0.4s,baz=224,slow=8.1,SNR=2.4							
GEYT	**Alibeck**	**43.76**	**320**	P		**P**	**15 29 16.1**	**+0.1**
ZAA0	**Zalesovo Array**	**47.51**	**354**	P		**P**	**15 29 45.4**	**+0.1**
ZAA0				IAmb		IAmb	15 29 56.7	
	comp=Z,4.9nm,0.7s							
ZALV	**Zalesovo Beam**	**47.51**	**354**	P		**P**	**15 29 46.0**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=169,slow=8.9,SNR=6.5							
ZALV	**Zalesovo Beam**	**47.51**	**354**	P		**P**	**15 29 45.3**	**0.0**
WRA	**Warramunga Arr**	**49.28**	**123**	P		**P**	**15 30 00.1**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=301,slow=9.0,SNR=26							
WRA				PcP		**PcP**	**15 31 21.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=308,slow=2.7,SNR=5.5							
WRAB	**Tennant Creek**	**49.29**	**123**	P		**P**	**15 29 59.9**	**+0.3**
WRAB				IAmb		IAmb	15 30 01.1	
	comp=Z,7.9nm,0.8s							
ABKAR	**Akbulak array**	**50.33**	**333**	P		**P**	**15 30 07.4**	**+0.3**
ABKAR				pP		**pP**	**15 30 16.7**	**+0.4**
AS31	**Alice Springs**	**50.77**	**128**	P		**P**	**15 30 11.4**	**+0.5**
ASAR	**Alice Springs**	**50.77**	**128**	P		**P**	**15 30 11.3**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=303,slow=7.4,SNR=22							
ASAR	**Alice Springs**			P		**P**	**15 30 12.3**	**+1.4**
STKA	**Stephens Creek**	**60.80**	**132**	P		**P**	**15 31 23.2**	**+0.6**
SANT	**Santorini**	**67.26**	**307**	P		**P**	**15 32 03.6**	**-1.5**
IDI	**Anoyia**	**67.57**	**305**	P		**P**	**15 32 05.3**	**-1.8**
TIXI	**Tiksi**	**68.82**	**12**	P		**P**	**15 32 14.0**	**-0.1**
TIXI				pP		**pP**	**15 32 23.6**	**+0.1**
FINES	**FINESS Array B**	**72.82**	**333**	P		**P**	**15 32 38.6**	**0.0**
	comp=Z,2.5nm,1.0s,baz=119,slow=1.7,SNR=2.2							
BOSA	**Boshof**	**73.20**	**238**	P		**P**	**15 32 42.3**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=14,slow=13,SNR=2.1							
GEC2	**GERESS Array S**	**77.35**	**318**	P		**P**	**15 33 05.7**	**+0.6**
GEC2				IAmb		IAmb	15 33 16.1	
	comp=Z,4.5nm,1.2s							
GERES	**GERESS Array B**	**77.35**	**318**	P		**P**	**15 33 05.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=90,slow=6.9,SNR=4.0							
NVAR	**Mina Array Bea**	**126.99**	**30**	PKP		**PKiKP**	**15 40 16.5**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=270,slow=1.8,SNR=4.0							
NVAR	**Mina Array Bea**	**126.99**	**30**			**PKPdf**	**15 40 14.3**	**-0.6**
PDAR	**Pinedale Array**	**127.01**	**20**	PKP		**PKiKP**	**15 40 15.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=259,slow=1.5,SNR=2.6							
TXAR	**Lajitas Array**	**141.14**	**22**	PKP		**PKPdf**	**15 40 42.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=270,slow=0.9,SNR=4.3							
TXAR	**Lajitas Array**	**141.14**	**22**			**PKPdf**	**15 40 40.6**	**-0.9**
CPUP	**Villa Florida**	**144.90**	**233**	PKP		**PKPdf**	**15 40 47.9**	**0.0**
	comp=Z,3.4nm,0.9s,baz=113,slow=5.2,SNR=7.2							

*SOME **08** 15:22:04.9,39.53N×82.18E,h10km*
*NNC **08** 15:22:07.8±2.1,39.66N×82.12E,h0km,mb4.0,mpv3.5, Error ellipse: s-maj=30.5km s-min=13.6km az=62.0*
ISC 08 15:22:11.7±4.8,39.2N±0.3×83.0E±0.3,h35km,n9, σ2s22/13,1C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**4.71**	**336**	*eP*	**Pn**	**15 23 20.8**	**+0.4**
	1.7nm,0.0s						
KTMS				*eS*	**Sn**	**15 24 15.6**	**+1.7**
	3.9nm,0.1s						
KTMS	**Ketmen**	**4.71**	**336**	Pg	**Pn**	**15 23 21.2**	**+0.8**
	4.9nm,0.5s						
KTMS				Lg	Lg	15 24 16.0	
	9.4nm,0.6s						
SHLS	**Shalkode**	**4.79**	**328**	*eP*	**Pn**	**15 23 18.5**	**-2.9**
	5.3nm,0.6s						
SHLS				*eS*	**Sn**	**15 24 11.3**	**-4.4**
	26nm,1.0s						
SHLS	**Shalkode**	**4.79**	**328**	Pg	**Pn**	**15 23 18.5**	**-2.9**
	11nm,0.3s						
SHLS				Lg	Lg	15 24 10.4	
	23nm,0.7s						
PDGK	**Podgornoye**	**4.92**	**329**	⇓Pg	**Pn**	**15 23 23.5**	**+0.3**
	3.3nm,0.6s						
PDGK				⇑Lg	Lg	15 24 20.5	
	16nm,0.8s						
UZB	**Uzynbulak**	**4.97**	**325**	*eP*	**Pn**	**15 23 25.1**	**+1.1**
	4.4nm,0.7s						
UZB				*eS*	**Sn**	**15 24 22.5**	**+2.3**
	8.2nm,0.9s						
UZB	**Uzynbulak**	**4.97**	**325**	Pg	**Pn**	**15 23 25.2**	**+1.3**
	5.1nm,0.6s						
UZB				Lg	Lg	15 24 22.5	
	6.8nm,0.6s						
SATY	**Saty**	**5.20**	**320**	*eP*	**Pn**	**15 23 27.3**	**+0.3**
	1.8nm,0.3s						
SATY				*eS*	**Sn**	**15 24 26.6**	**+0.8**
	3.8nm,0.2s						
SATY	**Saty**	**5.20**	**320**	Pg	**Pn**	**15 23 27.4**	**+0.4**
	4.1nm,0.3s						
SATY				Lg	Lg	15 24 26.6	
	8.0nm,0.5s						

*ANF **08** 15:28:32.0±0.1,36.12N×117.86W,h12km±1km,ML3.0/22, Error ellipse: s-maj=0.9km s-min=0.7km az=78.0, Hypocentre not reviewed by the ISC*
*SCEDC **08** 15:28:32.4,36.13N×117.86W,h3km,Hypocentre not reviewed by the ISC*
*PAS **08** 15:28:32.4±1.4,36.13N±0.01×117.86W±0.01,h3km±6km, ML2.9/24,ML2.7/56(NEIC),Error ellipse: s-maj=1.6km s-min=1.6km az=217.0*
NEIC 08 15:28:32.3±1.2,36.138N±0.010×117.86W±0.01, h3km±6km,Error ellipse: s-maj=1.6km s-min=0.8km az=218.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRVM	**Rose V. Centra**	**0.13**	**189**		Pg	15 28 35.1	+0.1
WCSM	**Coso Springs S**	**0.14**	**145**		Pg	15 28 35.3	+0.2
WVPM	**Volcano Peak E**	**0.19**	**169**		Pg	15 28 36.2	+0.1
WNMM	**Nine Mile Cany**	**0.30**	**187**		Pg	15 28 38.0	0.0
WCHM	**Chimney Peak**	**0.31**	**214**		Pg	15 28 38.4	+0.1
CWC	**Cottonwood Cre**	**0.35**	**330**		Pg	15 28 39.4	+0.3
CWC	**Cottonwood Cre**	**0.35**	**330**	P		15 28 39.4	
	baz=150						
CWC				S		15 28 44.4	
	baz=150						
WLHM	**Little Horse**	**0.36**	**272**		Pg	15 28 39.6	+0.2
WLHM					Sg	15 28 45.0	+0.8
CGO	**Cerro Gordo**	**0.41**	**7**		Pg	15 28 40.5	+0.1
CGO					Sg	15 28 47.3	+1.5
SRTC	**Snort**	**0.46**	**168**		Pg	15 28 41.6	+0.5
SRTC					Sb	15 28 48.7	-1.4
WHFM	**Hanning Flat**	**0.59**	**222**		Pg	15 28 43.7	0.0
WBSM	**Bird Springs**	**0.64**	**201**		Pg	15 28 44.5	-0.1
WBSM					Sg	15 28 53.5	+0.6
LRMC	**Laurel Mtn Rad**	**0.67**	**167**		Pg	15 28 45.3	+0.1
LRMC	**Laurel Mtn Rad**	**0.67**	**167**	P		15 28 45.0	
	baz=348,SNR=36						
LRMC				S		15 28 54.1	
	baz=348						
ISA	**Isabella, Lake**	**0.69**	**226**		Pg	15 28 45.3	-0.2
ISA				IAML		15 28 56.4	
	comp=E,386nm,0.2s						
ISA	**Isabella, Lake**	**0.69**	**226**		Sg	15 28 53.6	-0.8
ISA	**Isabella, Lake**	**0.69**	**226**	P		15 28 45.4	
	baz=47,SNR=141						
ISA				S		15 28 54.6	
	baz=47						
WASM	**Alta Sierra Ca**	**0.69**	**235**		Pg	15 28 45.6	+0.1
WASM					Sg	15 28 55.1	+0.6
MCA	**Marble Canyon**	**0.69**	**43**		Pg	15 28 45.3	-0.3
SPG2	**Springville 2**	**0.73**	**275**		Sg	15 28 56.2	+0.3
CCCA	**Chr Cany lake**	**0.73**	**146**		Pb	15 28 47.5	-0.2
QSM	**Queen of Sheba**	**0.82**	**102**		Pg	15 28 47.9	-0.2
DTP	**Desert Tortois**	**0.87**	**179**		Pg	15 28 48.6	-0.4
FURC	**Furnace Creek,**	**0.87**	**68**	P		15 28 49.3	
	baz=248,SNR=131						
FURC				S		15 29 01.0	
	baz=248						
WOFM	**Oak Flat**	**0.92**	**229**		Pg	15 28 49.7	-0.2
GRAC	**Grapevine Rang**	**0.94**	**25**		Pg	15 28 50.5	0.0
GRAC	**Grapevine Rang**	**0.94**	**25**	P		15 28 50.4	
	baz=205,SNR=76						
GRAC				S		15 29 03.6	
	baz=205						
GVN	**Grapevine**	**0.96**	**26**		Pg	15 28 50.6	-0.1
TIN	**Tinemaha, Big**	**0.96**	**342**		Sb	15 29 04.6	-0.3
TIN	**Tinemaha, Big**	**0.96**	**342**	P		15 28 50.9	
	baz=162,SNR=8.7						
TIN				S		15 29 04.4	
	baz=162						
CCAC	**Calif City Air**	**0.99**	**187**		Pg	15 28 50.9	-0.4
VES	**Vestal, Richgr**	**1.03**	**254**		Pg	15 28 52.1	0.0
VES					Sb	15 29 06.2	-0.6
VES	**Vestal, Richgr**	**1.03**	**254**	P		15 28 52.0	
	baz=73,SNR=21						
VES				S		15 29 06.1	
	baz=73						
HELL	**Mitchell Peak,**	**1.08**	**300**		Pg	15 28 52.6	-0.4
HELL					Sg	15 29 06.9	-0.2
LCH	**Last Change Ra**	**1.11**	**9**		Pg	15 28 53.0	-0.6
LCH					Sg	15 29 08.2	+0.3
TEJ	**El Tejon**	**1.13**	**217**		Pg	15 28 53.2	-0.7
GSC	**Goldstone, Bar**	**1.20**	**134**	Pg	Pg	15 28 54.2	-1.1
GSC				IAML		15 29 16.7	
	comp=N,145nm,0.6s						
GSC	**Goldstone, Bar**	**1.20**	**134**		Sg	15 29 10.8	-0.1
GSC	**Goldstone, Bar**	**1.20**	**134**	P		15 28 54.6	
	baz=314,SNR=106						
GSC				S		15 29 10.8	
	baz=314						
VOG	**Valley Oaks Go**	**1.24**	**279**	S		15 29 12.2	
	baz=98						
EDW2	**Edwards Air Fo**	**1.26**	**185**	P		15 28 55.4	
	baz=5.1,SNR=170						
EDW2				S		15 29 12.2	
	baz=5.1						
ARVC	**Arvin**	**1.28**	**218**		Pg	15 28 56.4	-0.5
ARVC	**Arvin**	**1.28**	**218**	Pg		15 28 56.4	
	baz=38,SNR=41						
ARVC				S		15 29 13.5	
	baz=38						
TPO	**Tropico Hills**	**1.29**	**193**		Pg	15 28 56.3	-0.8
HYS	**Haystack Butte**	**1.29**	**169**		Pg	15 28 57.0	-0.2
SHOC	**Shoshone, Teco**	**1.31**	**100**		Pg	15 28 57.4	0.0
SHOC	**Shoshone, Teco**	**1.31**	**100**	P		15 28 55.9	
	baz=281,SNR=118						
SHOC				S		15 29 14.4	
	baz=281						
AMDNV	**Amargosa**	**1.32**	**76**		Pn	15 28 56.6	-1.0
TJR	**Tejon Ranch**	**1.32**	**213**		Pg	15 28 56.7	-0.9
MTUM	**Tungsten Hills**	**1.34**	**335**		Pg	15 28 57.7	-0.2
SCHCA	**Scheelite**	**1.39**	**332**		Pn	15 28 58.5	-0.3
RRX	**Edison Barstow**	**1.45**	**150**	Pg		15 28 59.8	
	baz=331						
TPNV	**Topopah Spring**	**1.53**	**58**		Pn	15 29 00.3	-0.4
TPNV				IAML		15 29 23.9	
	comp=N,157nm,0.7s						
TPNV	**Topopah Spring**	**1.53**	**58**	Pb		15 29 00.3	
	baz=238,SNR=76						
TPNV				Sb		15 29 21.6	
	baz=238						
OSI	**Osito Audit: C**	**1.68**	**205**		Pn	15 29 02.5	-0.1
OSI				IAML		15 29 33.7	
	comp=E,111nm,0.7s						
OSI				IAML		15 29 35.6	
	comp=N,93nm,0.6s						
OSI	**Osito Audit: C**	**1.68**	**205**	Pg		15 29 04.1	
	baz=25						
MLAC	**Mammoth, Mammo**	**1.68**	**333**		Pb	15 29 04.0	0.0
MLAC	**Mammoth, Mammo**	**1.68**	**333**	Pb		15 29 03.8	
	baz=152						
MLAC				Sb		15 29 26.8	
	baz=152						
TUQ	**Turquoise Moun**	**1.73**	**113**		Pb	15 29 04.4	-0.4
TUQ	**Turquoise Moun**	**1.73**	**113**	P		15 29 02.1	
	baz=294,SNR=47						
TUQ				S		15 29 24.5	
	baz=294						
MCSM	**Casa Diablo Ho**	**1.73**	**331**		Pb	15 29 04.9	0.0
MDPB	**Devils Postpil**	**1.78**	**327**		Pn	15 29 04.0	-0.2
MDPB				IAML		15 29 30.7	
	comp=E,117nm,0.3s						
CHFC	**Chilao Flat St**	**1.81**	**184**		Pb	15 29 06.3	+0.2
HEC	**Hector,Ludlow**	**1.81**	**136**	Pb		15 29 05.3	
	baz=317						
HEC				Sb		15 29 29.5	
	baz=317						
CARC	**Carrizo Plain**	**1.81**	**243**		Pb	15 29 06.2	+0.1
MHDM	**Hidden Dam**	**1.90**	**301**		Pb	15 29 06.8	-0.9
MWC	**Mount Wilson**	**1.92**	**185**		Pn	15 29 05.0	-1.0
MWC				IAML		15 29 34.5	
	comp=N,54nm,0.3s						
MWC				IAML		15 29 34.6	
	comp=E,48nm,0.7s						
SMMC	**Simmler**	**1.92**	**245**	Sb		15 29 32.7	
	baz=64						
SSK	**Sunset Peak**	**1.93**	**176**		Pg	15 29 08.8	-0.5
MMIM	**Miami Mountain**	**1.98**	**311**		Pb	15 29 08.7	-0.4
PAGB	**Antelope Grade**	**1.98**	**259**	Pn	Pn	15 29 07.3	+0.6
PASC	**Pasadena Art C**	**1.98**	**188**	Pn	Pn	15 29 05.8	-0.9
PASC				IAML		15 29 38.0	
	comp=E,39nm,0.9s						
TPH	**Tonopah**	**2.00**	**15**		Pn	15 29 07.2	0.0
TPH	**Tonopah**	**2.00**	**15**	IAML		15 29 40.2	
	comp=N,40nm,0.7s						
TPH				IAML		15 29 40.7	
	comp=E,44nm,0.5s						
PARM	**Anticline Ridg**	**2.01**	**274**		Pb	15 29 09.0	-0.5
PKM	**Mcpherson Peak**	**2.02**	**232**	Pb		15 29 08.9	
	baz=52						
PKM				Sb		15 29 35.6	
	baz=52						
LHV	**Little Huntoon**	**2.17**	**347**	Pn	Pn	15 29 09.1	-0.2
LHV				IAML		15 29 47.9	
	comp=E,46nm,0.9s						
LHV				IAML		15 29 49.1	
	comp=N,36nm,0.6s						
SHPR	**Sheep Range**	**2.21**	**80**		Pn	15 29 09.2	-0.8
GMRC	**Granite Mounta**	**2.25**	**126**	P		15 29 09.0	
	baz=308,SNR=6.0						
MBUM	**Mount Bullion**	**2.27**	**309**		Pb	15 29 13.3	-0.7
NV11	**Mina Array Sit**	**2.30**	**354**	Pn	Pn	15 29 11.5	+0.2
PRN	**Pahroc Range**	**2.59**	**60**		Pn	15 29 14.3	-0.9
BELC	**Belle Mtn. Jos**	**2.62**	**144**	P		15 29 14.8	
	baz=325						
CMB	**Columbia Colle**	**2.77**	**314**		Pn	15 29 17.8	+0.2
CMB				IAML		15 29 59.3	
	comp=N,37nm,0.4s						
CMB				IAML		15 30 01.4	
	comp=E,35nm,0.5s						
PFO	**Pinyon Flats O**	**2.77**	**155**		Pn	15 29 16.9	-0.8
PFO				IAML		15 30 05.3	
	comp=E,20nm,5.0s						
SAO	**San Andreas Ge**	**2.96**	**283**		Pn	15 29 20.6	+0.5
IRM	**Iron Mountain**	**2.98**	**131**	P		15 29 19.0	
	baz=312						
YERR	**Yerington**	**3.04**	**339**	Pn	Pn	15 29 20.8	-0.7
YERR				IAML		15 30 11.5	
	comp=E,19nm,0.5s						
PNTR	**Pine Nut**	**3.25**	**335**	Pn	Pn	15 29 25.0	+0.6
PNTR				IAML		15 30 25.3	
	comp=N,14nm,1.3s						
PNTR				IAML		15 30 50.2	
	comp=E,19nm,3.2s						
W13A	**Hualapai Mount**	**3.40**	**107**	Pn	Pn	15 29 24.9	-1.6
VCNR	**Virginia City**	**3.46**	**336**	Pn	Pn	15 29 26.2	-1.0
VCNR				IAML		15 30 35.1	
	comp=E,15nm,0.6s						
VCNR				IAML		15 31 02.4	
	comp=N,12nm,0.8s						
LCMT	**Little Creek M**	**3.82**	**75**	Pn	Pn	15 29 31.9	-0.3
CCUT	**Cedar City**	**3.88**	**67**	Pn	Pn	15 29 33.0	0.0
CBX	**Cerro Bola**	**3.94**	**165**	Pn	Pn	15 29 33.9	+0.1
CBX				IAML		15 30 36.2	
	comp=E,11nm,0.7s						
PSUT	**Pine Spring**	**3.99**	**52**	Pn	Pn	15 29 34.6	0.0
PSUT				IAML		15 30 42.6	
	comp=N,15nm,0.9s						
SPR3	**Spring Creek 3**	**4.00**	**43**	Pn	Pn	15 29 34.5	-0.4
SPR3				IAML		15 30 37.5	
	comp=E,12nm,0.8s						
SPR3				IAML		15 30 40.1	
	comp=N,12nm,0.6s						
TCRU	**Three Creeks R**	**4.97**	**59**	Pn	Pn	15 29 47.2	-0.8

*IDC **08** 15:52:55.1±2.5,3.12N×96.80E,h0km,mb3.6/4,mb1 3.6/5, mb1mx3.3/45,mbtmp3.5/5,ML2.5/1,Error ellipse: s-maj=88.6km s-min=22.3km az=49.0*
ISC 08 15:53:00.4±2.1,3.0N±0.2×96.8E±0.3,h37km,n12,σ1s66/6, mb3.5/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.11**	**96**	Pn	**Pn**	**15 53 32.5**	**-0.7**
	1.6nm,0.3s,baz=360,slow=6.6,SNR=5.9						
CMAR	**Chiang Mai Arr**	**15.48**	**8**	Pn	**P**	**15 56 41.2**	**+1.1**
	0.1nm,0.3s,baz=197,slow=9.3,SNR=6.4						
H08S2	**Diego Garcia H**	**26.48**	**246**	T	T	16 24 49.9	
	baz=68,slow=76,SNR=141						
H08S3	**Diego Garcia H**	**26.48**	**246**	T	T	16 24 45.8	
	baz=68,slow=76,SNR=128						
H08S1	**Diego Garcia H**	**26.50**	**246**	T	T	16 24 47.0	
	baz=68,slow=76,SNR=179						
H01W3	**Cape Leeuwin H**	**41.06**	**158**	T	T	16 43 24.8	
	baz=333,slow=76,SNR=35						
H01W2	**Cape Leeuwin H**	**41.08**	**158**	T	T	16 43 24.6	
	baz=333,slow=76,SNR=37						
H01W1	**Cape Leeuwin H**	**41.08**	**158**	T	T	16 43 25.7	
	baz=333,slow=76,SNR=38						
WRA	**Warramunga Arr**	**43.33**	**123**	P	**P**	**16 01 01.4**	**+2.2**
	0.5nm,0.9s,baz=304,slow=9.0,SNR=2.0						
ASAR	**Alice Springs**	**44.80**	**128**	P	**P**	**16 01 10.1**	**-0.9**
	0.2nm,0.7s,baz=299,slow=8.3,SNR=1.4						
MKAR	**Makanchi Array**	**45.40**	**346**	P	**P**	**16 01 14.6**	**-0.8**
	0.7nm,0.7s,baz=160,slow=7.5,SNR=10						
ZALV	**Zalesovo Beam**	**51.71**	**351**	P	**P**	**16 02 03.1**	**-0.6**
	1.6nm,0.6s,baz=180,slow=6.9,SNR=8.0						

*NEIC **08** 16:03:21.7±1.6,15.4S±0.1×175.0W±0.1,h295km±13km, mb4.1/3,Error ellipse: s-maj=25.1km s-min=12.4km az=48.0*
*IDC **08** 16:03:22.0±1.1,15.44S×174.80W,h301km±13km,mb3.3/6, mb1 3.5/8,mb1mx3.2/38,mbtmp3.9/8, Error ellipse: s-maj=37.5km s-min=14.3km az=141.0*
ISC 08 16:03:21.9±0.7,15.4S±0.1×174.9W±0.1,h300km,n16, σ1s03/16,mb3.6/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.30**	**65**	P	**Pn**	**16 04 20.7**	**-0.2**
	4.9nm,0.3s,baz=170,slow=3.9,SNR=12						
AFI				S	**S**	**16 05 08.3**	**+0.5**
	4.6nm,0.3s,baz=355,slow=21,SNR=2.1						
NIUE	**Niue**	**5.99**	**129**	Pn	**Pn**	**16 04 51.5**	**+0.4**
MSVF	**Nonsavu**	**7.21**	**250**	P	**Pn**	**16 05 07.4**	**+1.5**
	0.3nm,0.3s,baz=108,slow=9.9,SNR=4.3						
URZ	**Urewera**	**23.90**	**196**	P	**P**	**16 08 08.3**	**-0.8**
	2.5nm,0.6s,baz=121,slow=24,SNR=1.5						
URZ	**Urewera**	**23.90**	**196**	IAmb	IAmb	16 08 25.3	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**48.49**	**257**	P	**P**	**16 11 35.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=95,slow=8.0,SNR=11						
AS31	**Alice Springs**	**48.80**	**252**	P	**P**	**16 11 35.6**	**-2.1**
AS31				IAmb	IAmb	16 11 40.3	
	comp=Z,1.4nm,1.1s						
ASAR	**Alice Springs**	**48.80**	**252**	P	**P**	**16 11 37.5**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=89,slow=7.9,SNR=63						
ASAR	**Alice Springs**	**48.80**	**252**	P	**P**	**16 11 35.6**	**-2.1**
PEA0B	**Petropavlovsk-**	**72.16**	**343**	P	**P**	**16 14 14.2**	**+0.2**
PEA0B				IAmb	IAmb	16 14 15.7	
	comp=Z,13nm,1.2s						
PETK	**Petropavlovsk-**	**72.16**	**343**	P	**P**	**16 14 14.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=120,slow=8.5,SNR=2.6						
PETK	**Petropavlovsk-**	**72.16**	**343**	P	**P**	**16 14 14.6**	**+0.5**
ILAR	**Eielson Array**	**82.67**	**12**	P	**P**	**16 15 11.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=219,slow=5.7,SNR=7.9						
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**16 15 14.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=266,slow=3.6,SNR=3.7						
BRTR	**Keskin Array B**	**145.22**	**320**	PKPbc	**PKPab**	**16 22 26.0**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=54,slow=5.4,SNR=2.1						
GERES	**GERESS Array B**	**145.86**	**350**	PKPbc	**PKPab**	**16 22 27.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=343,slow=3.1,SNR=2.5						

*KRNET **08** 16:21:34.1±0.1,41.17N×71.84E,h13km,mb2.6*
*ISU **08** 16:21:37,41.09N×71.68E,h10km*
*NNC **08** 16:21:37.4±3.2,41.31N×71.95E,h0km,mb3.3,mpv2.8, Error ellipse: s-maj=27.4km s-min=10.9km az=5.0*
ISC 08 16:21:34.6±1.2,41.17N±0.03×71.85E±0.02,h3km±12km, n18,σ1s15/32,18C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.65**	**304**	⇑*eP*	**Pg**	**16 21 45.3**	**-1.7**
	baz=1.0						
TRKS				⇑*eS*	**Sg**	**16 21 53.7**	**-1.7**
	baz=1.0						
ARSB	**Arslanbob**	**0.87**	**79**	⇑*iP*	**Pg**	**16 21 51.1**	**-0.1**
	baz=80						
ARSB				⇑*iS*	**Sg**	**16 22 03.4**	**+1.0**
	baz=80						
ARSB	**Arslanbob**	**0.87**	**79**	*iP*	**Pn**	**16 21 56.0**	**+2.1**
ARSB				*iS*	**Sg**	**16 22 01.0**	**-1.4**
OHH	**Osh**	**0.96**	**132**	⇓*iP*	**Pg**	**16 21 52.8**	**-0.2**
	baz=32						
OHH				⇓*iS*	**Sb**	**16 22 06.1**	**-0.9**
	baz=32						
BTK	**Batken**	**1.36**	**216**	⇓*iP*	**Pb**	**16 21 59.9**	**-0.9**
	baz=15						
BTK				⇓*iS*	**Sn**	**16 22 18.8**	**-0.4**
	baz=15						
BTK	**Batken**	**1.36**	**216**	*iP*	**Pg**	**16 22 01.0**	**+0.3**
BTK				*iS*	**Sn**	**16 22 18.0**	**-1.2**
MNAS	**Manas**	**1.40**	**20**	⇓*iP*	**Pb**	**16 22 01.0**	**-0.6**
	baz=21						
MNAS				⇓*iS*	**Sg**	**16 22 20.6**	**+0.9**
	baz=21						
CHMG	**Chimgan**	**1.44**	**286**	*iP*	**Pg**	**16 22 02.0**	**-0.2**
CHMG				*iS*	**Sg**	**16 22 24.0**	**+3.2**
CHRV	**Charvak**	**1.50**	**289**	*iP*	**Pg**	**16 22 04.0**	**+0.5**
C

K22A			IAML		16 35 07.1	
	comp=E,274nm,0.4s					
K22A			IAML		16 35 08.2	
	comp=N,265nm,0.5s					
PHWY	**Pilot Hill**	**2.73 184**	Pn	**Pn**	**16 34 58.9**	**+1.0**
LAO	**LASA Array**	**2.76 345**	Pn	**Pn**	**16 34 59.7**	**+1.5**
RWWY	**Rawlins**	**2.77 213**	Pn	**Pn**	**16 34 58.7**	**+0.2**
RWWY			IAML		16 35 38.6	
	comp=N,110nm,0.6s					
RLMT	**Red Lodge**	**3.12 292**	Pn	**Pn**	**16 35 04.2**	**+0.9**
RLMT			IAML		16 35 58.7	
	comp=N,35nm,0.6s					
RLMT			IAML		16 35 59.5	
	comp=N,41nm,0.5s					
BW06	**Boulder Array**	**3.43 250**	Pn	**Pn**	**16 35 08.8**	**+1.2**
BW06			IAML		16 35 58.5	
	comp=N,50nm,0.6s					
BW06			IAML		16 36 02.3	
	comp=N,46nm,0.6s					
PDAR	**Pinedale Array**	**3.43 250**	Pn	**Pn**	**16 35 08.6**	**+1.0**
	comp=N,2.7nm,0.3s,baz=71,slow=16,SNR=28					
PDAR			Pg	**Pb**	**16 35 12.7**	**-1.7**
	comp=N,3.2nm,0.3s,baz=67,slow=19,SNR=29					
PDAR			Lg	Lg	16 35 54.6	
	comp=N,8.9nm,0.3s,baz=68,slow=34,SNR=30					
PDAR	**Pinedale Array**	**3.43 250**	Pn	**Pn**	**16 35 09.9**	**+2.4**
YNE	**Yellowstone No**	**3.59 288**	Pn	**Pn**	**16 35 09.5**	**-0.3**
YNE			IAML		16 36 08.2	
	comp=N,42nm,0.7s					
YNE			IAML		16 36 11.7	
	comp=E,37nm,0.5s					
YMP	**Mirror Lake Pl**	**3.64 283**		**Pn**	**16 35 10.9**	**+0.4**
YMP			IAML		16 36 07.6	
	comp=E,51nm,0.8s					
YMP			IAML		16 36 10.8	
	comp=N,56nm,0.6s					
GCMT	**Greycliff**	**3.65 301**		**Pn**	**16 35 11.2**	**+0.8**
OGNE	**Ogallala**	**3.86 142**	Pn	**Pn**	**16 35 15.4**	**+2.2**
OGNE			IAML		16 36 31.2	
	comp=N,41nm,0.6s					
LOHW	**Long Hollow**	**3.95 266**	Pn	**Pn**	**16 35 14.9**	**+0.3**
LOHW			IAML		16 36 18.9	
	comp=N,15nm,0.6s					
FLWY	**Flagg Ranch**	**3.98 273**		**Pn**	**16 35 16.1**	**+1.0**
FLWY			IAML		16 36 23.6	
	comp=N,36nm,1.9s					
FLWY			IAML		16 36 26.1	
	comp=N,38nm,1.9s					
MOOW	**Moose Ponds**	**4.04 268**	Pn	**Pn**	**16 35 16.6**	**+0.7**
YHH	**Holmes Hill**	**4.14 283**	Pn	**Pn**	**16 35 18.1**	**+0.8**
YHH			IAML		16 36 39.7	
	comp=N,12nm,0.6s					
ISCO	**Idaho Springs**	**4.24 185**		**Pn**	**16 35 19.3**	**+0.7**
YHB	**Horse Butte**	**4.38 282**	Pn	**Pn**	**16 35 20.8**	**+0.3**
YHB			IAML		16 36 40.4	
	comp=N,10nm,0.7s					
YHL	**Hebgen Lake**	**4.38 283**	Pn	**Pn**	**16 35 20.8**	**+0.1**
YHL			IAML		16 36 34.4	
	comp=E,20nm,0.7s					
YHL			IAML		16 36 40.9	
	comp=N,16nm,0.6s					
O20A	**White River Ci**	**4.51 211**		**Pn**	**16 35 23.5**	**+1.2**
O20A			IAML		16 36 41.3	
	comp=N,29nm,0.7s					
ECR	**Eagle Creek**	**4.61 260**	Pn	**Pn**	**16 35 24.1**	**+0.4**
EGMT	**Eagleton**	**5.11 323**		**Pn**	**16 35 31.3**	**+0.8**
KSCO	**Kaye Shedlock'**	**5.36 158**	Pn	**Pn**	**16 35 35.0**	**+1.0**
HRY	**Holter Researc**	**5.40 302**	Pn	**Pn**	**16 35 35.1**	**+0.6**
PV22	**Blue Mesa, Par**	**6.12 208**		**Pn**	**16 35 45.8**	**+1.3**
P17A	**Butcher Ranch,**	**6.16 224**	Pn	**Pn**	**16 35 45.0**	**0.0**
PV07	**Paradox Valley**	**6.16 206**		**Pn**	**16 35 46.9**	**+1.9**
PV04	**Paradox Valley**	**6.29 208**	Pn	**Pn**	**16 35 47.9**	**+1.1**
SRU	**San Rafael Swe**	**6.34 221**	Pn	**Pn**	**16 35 47.5**	**+0.1**
PV14	**Lion Creek, Pa**	**6.35 208**		**Pn**	**16 35 48.2**	**+0.6**
PV10	**Paradox Valley**	**6.35 209**	Pn	**Pn**	**16 35 49.2**	**+1.5**
PV20	**West Nyswonger**	**6.36 208**	Pn	**Pn**	**16 35 48.5**	**+0.8**
PV11	**David Mesa, Pa**	**6.36 207**		**Pn**	**16 35 49.0**	**+1.2**
PV16	**Nyswonger Mesa**	**6.37 208**		**Pn**	**16 35 49.0**	**+1.1**
PV03	**Paradox Valley**	**6.40 207**		**Pn**	**16 35 48.7**	**+0.4**
PV02	**Paradox Valley**	**6.40 206**	Pn	**Pn**	**16 35 49.6**	**+1.2**
PV17	**East Wray Mesa**	**6.41 208**	Pn	**Pn**	**16 35 50.0**	**+1.5**
PV01	**Paradox Valley**	**6.42 205**	Pn	**Pn**	**16 35 49.7**	**+1.1**
PV18	**Skein Mesa, Pa**	**6.42 207**	Pn	**Pn**	**16 35 49.5**	**+0.9**
PV13	**Radium Mtn., P**	**6.47 206**	Pn	**Pn**	**16 35 50.3**	**+1.0**
TMUT	**Trail Mountain**	**6.53 226**		**Pn**	**16 35 50.4**	**+0.1**
MSO	**Missoula**	**6.77 298**	Pn	**Pn**	**16 35 54.5**	**+1.2**
JTMT	**Jette**	**7.36 304**	Pn	**Pn**	**16 36 02.6**	**+1.2**
MTPU	**Mount Pierson**	**7.98 224**	Pn	**Pn**	**16 36 09.7**	**-0.5**
ULM	**Lac du Bonnet**	**8.88 42**	Pn	**Pn**	**16 36 21.5**	**-0.6**
	comp=N,0.8nm,0.3s,baz=232,slow=12,SNR=5.2					
ULM			Pg	Pg	16 36 51.2	-11
	comp=N,0.2nm,0.3s,baz=252,slow=16,SNR=1.5					
ULM			Lg	Lg	16 38 53.0	
	baz=304,slow=21,SNR=2.9					
I56US	**NEWPORT INFRAS**	**9.31 301**	*i*		17 29 30.0	
	baz=116,slow=311,SNR=3.2					
TXAR	**Lajitas Array**	**14.71 175**	Pn	**P**	**16 37 49.3**	**+0.9**
	comp=N,0.0nm,0.3s,baz=0.8,slow=13,SNR=2.4					
TXAR			Pg		16 38 45.8	
	comp=N,0.0nm,0.3s,baz=359,slow=13,SNR=2.0					

*IDC **08** 16:36:45.7±1.4, 15°.42S×173°.05W, h0km, mb4.2/4, mb1 4.2/5, mb1mx3.7/47, mbtmp4.1/5, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=56.2km s-min=22.8km az=137.0*

*NEIC **08** 16:36:46.7±1.1, 15°.24S±0°.09×173°.06W±0°.09, h10km±1km, mb4.3/5, Error ellipse: s-maj=20.5km s-min=6.3km az=137.0*

*NOU **08** 16:37:02.2, 14°.01S×172°.13W, h96km, MLv3.1, Samoa Islands*

ISC 08 16:36:48.4±0.8, 15°.24S±0°.08×173°.0W±0°.1, h29km, n17, σ0§87/17, mb4.2/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.79**	**43**	Pn	**Pn**	**16 37 18.0**	**+0.5**
	51nm,0.3s,baz=225,slow=13,SNR=58						
AFI				Sn	**Sn**	**16 37 38.0**	**-1.3**
	98nm,0.3s,baz=229,slow=20,SNR=6.8						
AFI				LR	LR	16 38 08.5	
	comp=Z,138nm,18.1s,baz=148,slow=43						
AFI	**Afiamalu**	**1.79**	**43**		**Pn**	**16 37 17.9**	**+0.4**
AFI	**Afiamalu**	**1.79**	**43**	P	**Pn**	**16 37 17.9**	**+0.4**
NIUE	**Niue**	**4.83**	**143**	Pn	**Pn**	**16 37 59.1**	**-0.1**
MSVF	**Nonsavu**	**8.91**	**253**	Pn	**Pn**	**16 38 54.2**	**-1.2**
	0.1nm,0.3s,baz=246,slow=20,SNR=1.8						
MSVF				LR	LR	16 41 46.6	
	comp=Z,183nm,19.0s,baz=55,slow=34						
KNTN	**Kanton**	**12.45**	**6**	Pn	**Pn**	**16 39 43.3**	**-0.5**
DZM	**Mont Dzumac**	**20.59**	**248**	P	**P**	**16 41 25.1**	**-0.3**
DZM				IAmb	IAmb	16 41 50.0	
	comp=Z,22nm,1.1s						
URZ	**Urewera**	**24.53**	**199**	P	**P**	**16 42 05.2**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=122,slow=23,SNR=1.8						
URZ	**Urewera**	**24.53**	**199**	IAmb	IAmb	16 42 30.4	
	comp=Z,18nm,1.5s						
STKA	**Stephens Creek**	**44.43**	**240**	P	**P**	**16 44 57.0**	**0.0**
	comp=Z,2.1nm,0.7s,baz=90,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**44.43**	**240**	IAmb	IAmb	16 44 57.7	
	comp=Z,2.7nm,1.4s						
WRA	**Warramunga Arr**	**50.23**	**257**	P	**P**	**16 45 42.8**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=91,slow=6.9,SNR=39						
AS31	**Alice Springs**	**50.50**	**252**	P	**P**	**16 45 44.7**	**+0.3**
AS31				IAmb	IAmb	16 45 46.7	
	comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**50.50**	**252**	P	**P**	**16 45 45.1**	**+0.8**
	comp=Z,4.7nm,0.7s,baz=90,slow=7.5,SNR=87						
ASAR				PcP	**PcP**	**16 47 04.3**	**+2.1**
	comp=Z,0.4nm,0.9s,baz=95,slow=4.6,SNR=0.9						
ASAR	**Alice Springs**	**50.50**	**252**	P	**P**	**16 45 44.2**	**-0.1**
FORT	**Forrest**	**55.81**	**243**	P	**P**	**16 46 23.9**	**+0.7**
BRTR	**Keskin Array B**	**146.26**	**321**	PKPbc	**PKiKP**	**16 56 30.6**	**+0.8**
	comp=Z,3.1nm,1.0s,baz=101,slow=2.3,SNR=11						

*NEIC **08** 16:40:46.4±1.4, 14°.5S±0°.1×177°.8W±0°.1, h347km±8km, mb4.3/23, Error ellipse: s-maj=22.3km s-min=13.2km az=148.0*

*IDC **08** 16:40:48.6±1.4, 14°.84S×177°.68W, h380km±15km, mb3.4/9, mb1 3.6/10, mb1mx3.2/41, mbtmp4.1/10, Error ellipse: s-maj=53.9km s-min=12.0km az=147.0*

ISC 08 16:40:45.8±0.5, 14°.5S±0°.1×177°.72W±0°.10, h350km, n47, σ1§35/50, mb4.2/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.20**	**231**	P	**Pn**	**16 42 09.7**	**+1.9**
	1.4nm,0.3s,baz=216,slow=21,SNR=9.5						
MSVF				S	**S**	**16 43 16.1**	**+2.2**
	baz=80,slow=20,SNR=6.2						
MSVF	**Nonsavu**	**5.20**	**231**		**Pn**	**16 42 09.5**	**+1.8**
AFI	**Afiamalu**	**5.79**	**85**	Pn	**Pn**	**16 42 12.1**	**-2.3**
PLWZ	**Palliser**	**27.68**	**191**	P	**P**	**16 46 03.1**	**+0.3**
LTZ	**Lake Taylor**	**29.50**	**195**	P	**P**	**16 46 19.2**	**+0.4**
PMG	**Port Moresby**	**34.70**	**274**	P	**P**	**16 47 02.7**	**-1.4**
WRA	**Warramunga Arr**	**46.00**	**256**	P	**P**	**16 48 35.1**	**-0.8**
	0.9nm,0.8s,baz=88,slow=5.9,SNR=12						
WRA				PcP	**PcP**	**16 50 05.7**	**-0.2**
	0.6nm,0.8s,baz=96,slow=3.3,SNR=2.2						
AS31	**Alice Springs**	**46.44**	**251**	P	**P**	**16 48 38.7**	**-0.5**
ASAR	**Alice Springs**	**46.44**	**251**	P	**P**	**16 48 38.9**	**-0.4**
	5.3nm,0.6s,baz=85,slow=8.5,SNR=63						
ASAR				PcP	**PcP**	**16 50 07.0**	**-0.6**
	0.3nm,0.5s,baz=94,slow=3.8,SNR=4.2						
ASAR				S	**S**	**16 54 57.1**	**-3.3**
	0.5nm,0.8s,baz=86,slow=15,SNR=6.1						
ASAR	**Alice Springs**	**46.44**	**251**	P	**P**	**16 48 38.0**	**-1.2**
KNRA	**Kununurra**	**51.58**	**261**	P	**P**	**16 49 18.6**	**+0.8**
KNRA				IAmb	IAmb	16 49 40.1	
	comp=Z,24nm,1.4s						
FORT	**Forrest**	**52.13**	**242**	P	**P**	**16 49 19.9**	**-1.8**
FORT				IAmb	IAmb	16 49 30.5	
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.31**	**258**	P	**P**	**16 49 38.1**	**+0.5**
JTU	**Tsushima**	**69.97**	**316**	P	**P**	**16 51 20.6**	**+0.3**
WDC	**Whiskeytown Da**	**74.91**	**40**	P	**P**	**16 51 51.3**	**+2.1**
WDC				IAmb	IAmb	16 52 09.7	
	comp=Z,8.8nm,1.4s						
KDAK	**Kodiak Island**	**74.93**	**14**	P	**P**	**16 51 50.8**	**+2.0**
	comp=Z,4.7nm,0.8s,baz=351,slow=22,SNR=2.0						
YBH	**Yreka Blue Hor**	**75.46**	**39**	P	**P**	**16 51 53.4**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=350,slow=5.1,SNR=4.0						
YBH	**Yreka Blue Hor**	**75.46**	**39**	IAmb	IAmb	16 51 55.4	
	comp=Z,3.0nm,0.9s						
QSPA	**South Pole Qui**	**75.56**	**180**	P	**P**	**16 51 52.4**	**-0.2**
MDJ	**Mudanjiang**	**75.79**	**324**	P	**P**	**16 51 52.0**	**-2.0**
MDJ				IAmb	IAmb	16 52 15.3	
	comp=Z,12nm,1.3s						
NVAR	**Mina Array Bea**	**76.50**	**44**	P	**P**	**16 51 59.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=228,slow=8.0,SNR=6.5						
NVAR	**Mina Array Bea**	**76.50**	**44**	P	**P**	**16 51 58.8**	**+0.4**
RSO	**Redoubt South**	**77.33**	**12**	P	**P**	**16 52 03.7**	**+1.3**
SVW2	**Sparrevohn**	**77.36**	**11**	P	**P**	**16 52 03.4**	**+1.1**
SVW2				IAmb	IAmb	16 52 24.8	
	comp=Z,9.3nm,1.4s						
ELK	**Elko**	**79.71**	**43**	P	**P**	**16 52 17.2**	**+1.3**
SCM	**Sheep Creek Mo**	**79.75**	**14**	P	**P**	**16 52 16.5**	**+1.1**
SEY	**Seymchan**	**80.60**	**347**	P	**P**	**16 52 21.8**	**+2.1**
	comp=Z,1.7nm,0.5s,baz=176,slow=4.1,SNR=9.1						
MLY	**Manley**	**81.86**	**11**	P	**P**	**16 52 27.0**	**+0.6**
WRH	**Wood River Hil**	**81.89**	**12**	P	**P**	**16 52 26.4**	**-0.1**
WRH				IAmb	IAmb	16 52 28.7	
	comp=Z,4.7nm,1.0s						
HDA	**Harding Lake**	**82.08**	**13**	P	**P**	**16 52 28.1**	**+0.7**
HDA				IAmb	IAmb	16 52 29.4	
	comp=Z,3.5nm,0.9s						
CCB	**Clear Creek Bu**	**82.11**	**13**	P	**P**	**16 52 28.4**	**+0.9**
CCB				IAmb	IAmb	16 52 29.4	
	comp=Z,4.9nm,0.7s						
MDM	**Murphy Dome**	**82.29**	**12**	P	**P**	**16 52 29.3**	**+0.8**
MDM				IAmb	IAmb	16 52 30.4	
	comp=Z,5.5nm,1.2s						
SCRK	**Sand Creek**	**82.39**	**14**	P	**P**	**16 52 29.9**	**+0.7**
SCRK				IAmb	IAmb	16 52 31.6	
	comp=Z,3.7nm,1.1s						
ILAR	**Eielson Array**	**82.41**	**13**	P	**P**	**16 52 30.2**	**+1.1**
	comp=Z,2.5nm,0.9s,baz=230,slow=6.4,SNR=14						
ILAR	**Eielson Array**	**82.41**	**13**	P	**P**	**16 52 29.8**	**+0.7**
TXAR	**Lajitas Array**	**83.61**	**58**	P	**P**	**16 52 37.1**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=237,slow=8.4,SNR=4.5						
TXAR	**Lajitas Array**	**83.61**	**58**	P	**P**	**16 52 36.6**	**+0.4**
EGAK	**Eagle**	**83.74**	**15**	P	**P**	**16 52 37.5**	**+1.6**
EGAK				IAmb	IAmb	16 52 38.8	
	comp=Z,9.9nm,1.4s						
YHL	**Hebgen Lake**	**84.27**	**41**	P	**P**	**16 52 40.8**	**+1.4**
YHL				IAmb	IAmb	16 52 42.1	
	comp=Z,3.1nm,0.8s						
PDAR	**Pinedale Array**	**84.42**	**43**	P	**P**	**16 52 40.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=252,slow=1.8,SNR=4.2						
BR131	**Keskin Array S**	**142.75**	**318**		**PKPdf**	**16 59 36.2**	**-2.1**
BRTR	**Keskin Array B**	**142.75**	**318**	PKP	**PKPdf**	**16 59 36.5**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=32,slow=2.2,SNR=12						
BRTR	**Keskin Array B**	**142.75**	**318**		**PKPdf**	**16 59 35.9**	**-2.4**
KHC	**Kasperske Hory**	**144.21**	**347**	*e*PKP	**PKPdf**	**16 59 41.0**	**+0.5**
CKRC	**Cesky Krumlov**	**144.34**	**346**	*e*PKP	**PKPdf**	**16 59 41.0**	**+0.3**
GERES	**GERESS Array B**	**144.46**	**347**	PKP	**PKPdf**	**16 59 41.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=7.1,slow=2.4,SNR=7.2						
GERES	**GERESS Array B**	**144.46**	**347**		**PKPab**	**16 59 40.4**	**0.0**

*IDC **08** 16:47:47.2±3.1, 13°.19N×146°.19E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/42, mbtmp3.7/6, Error ellipse: s-maj=69.1km s-min=31.3km az=173.0*

ISC 08 16:47:54.4±2.5, 13°.2N±0°.4×146°.1E±0°.1, h50km, n7, σ1§31/8, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.22**	**289**	Pn	**Pn**	**16 48 13.5**	**-1.6**
	46nm,0.3s,baz=32,slow=2.0,SNR=86						
GUMO				LR	LR	16 48 18.2	
	comp=Z,15nm,19.5s,baz=152,slow=23						
GUMO				Sn	**Sn**	**16 48 30.9**	**+0.4**
	50nm,0.3s,baz=339,slow=22,SNR=7.1						
KSRS	**Korea Array**	**29.08**	**329**	P	**P**	**16 53 51.1**	**+0.9**
	1.4nm,1.1s,baz=142,slow=9.7,SNR=2.8						
USRK	**Ussuriysk Ar.**	**33.16**	**341**	P	**P**	**16 54 25.1**	**-1.0**
	0.5nm,0.7s,baz=299,slow=2.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**45.53**	**283**	P	**P**	**16 56 10.2**	**+0.7**
	0.8nm,0.7s,baz=89,slow=5.8,SNR=8.5						
SONM	**Songino Array**	**47.72**	**324**	P	**P**	**16 56 27.2**	**+0.8**
	0.3nm,0.4s,baz=116,slow=6.6,SNR=1.9						
MKAR	**Makanchi Array**	**62.57**	**316**	P	**P**	**16 58 14.5**	**+1.2**
	0.2nm,0.4s,baz=93,slow=7.4,SNR=5.9						
FINES	**FINESS Array B**	**92.00**	**335**	P	**P**	**17 00 56.4**	**-1.3**
	0.5nm,0.5s,baz=54,slow=7.1,SNR=5.0						

OMAN 08 17:08:05.3±0.1, 24°.71N×62°.45E, h25km, mb4.7/9, ml3.2/8, Error ellipse: s-maj=3.0km s-min=2.3km az=319.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JLN	**Jalan Bani Buh**	**3.78**	**228**	P	Pn	17 09 01.7	-0.4
	SNR=64						
JLN				S	Sn	17 09 47.1	+1.3
WSAR	**Wadi Sarin**	**3.79**	**248**	P	Pn	17 09 02.7	+0.5
WSAR				S	Sn	17 09 45.6	-0.4
WBK	**Wadi Bani Khal**	**3.82**	**237**	P	Pn	17 09 02.5	-0.1
	SNR=81						
WBK				S	Sn	17 09 47.6	+0.9
BIDO	**Bidbid**	**4.13**	**254**	P	Pn	17 09 07.9	+1.1
	SNR=6.8						
BIDO				S	Sn	17 09 55.0	+0.8
SMDO	**Samad**	**4.35**	**249**	P	Pn	17 09 10.5	+0.5
	SNR=10						
SMDO				S	Sn	17 10 01.1	+1.1
JMDO	**Jabal Madar**	**4.62**	**241**	P	Pn	17 09 15.0	+1.4
JMDO				S	Sn	17 10 09.0	+2.5
HOQ	**Hoqain**	**4.83**	**258**	P	Pn	17 09 16.1	-0.3
BSY	**Bisya**	**5.20**	**249**	P	Pn	17 09 22.9	+1.4
SOHO	**SOHO**	**5.42**	**265**	P	Pn	17 09 23.9	-0.8
MHTO	**MHTO**	**5.55**	**229**	P	Pn	17 09 26.9	+0.5
MHTO				S	Sn	17 10 29.7	+0.3
ARQ	**Araqi**	**5.59**	**257**	P	Pn	17 09 29.0	+2.0
	SNR=13						
UOSS	**Minazif**	**5.68**	**274**	P	Pn	17 09 26.7	-1.4
BANOM	**Banah**	**5.70**	**284**	P	Pn	17 09 27.4	-1.0
MASF	**Masafi**	**5.75**	**278**	P	Pn	17 09 29.3	+0.3
ASHO	**Ashiyiah**	**5.81**	**271**	P	Pn	17 09 30.5	+0.4
SHME	**Shamm**	**5.86**	**284**	P	Pn	17 09 31.5	+0.9
FAQ	**Al Faqa, Dubai**	**6.24**	**272**	P	Pn	17 09 37.5	+1.7

*JMA **08** 17:18:41.5±0.3, 44°.72N×140°.91E, h277km±3km, M3.3*
*IDC **08** 17:18:42.0±0.6, 44°.78N×140°.83E, h267km±6km, mb3.3/13, mb1 3.5/18, mb1mx3.3/38, mbtmp3.9/18, Error ellipse: s-maj=12.0km s-min=11.2km az=91.0*

ISC 08 17:18:42.0±0.7, 44°.67N±0°.06×140°.94E±0°.06, h272km±5km, n40, σ1§15/51, mb3.5/13, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.42**	**125**	P	**Pn**	**17 19 17.6**	**+0.5**
JRR	**Rishiri**	**0.54**	**29**	P	**Pn**	**17 19 17.9**	**+0.6**
JRR				*e*S	**S**	**17 19 46.5**	**+1.2**
JSS	**Shosan**	**0.71**	**112**	P	**Pn**	**17 19 18.9**	**+0.9**
JSS				*e*S	**S**	**17 19 47.7**	**+1.3**
JRBN	**Rebuntou**	**0.76**	**7**	P	**Pn**	**17 19 17.9**	**-0.2**
JRBN				*e*S	**S**	**17 19 45.4**	**-1.3**
JWK2	**Keihoku**	**0.94**	**46**	P	**Pn**	**17 19 19.1**	**+0.2**
JWK2				*e*S	**S**	**17 19 47.3**	**-0.8**
JHR	**Hokuryu**	**1.08**	**148**	P	**Pn**	**17 19 20.8**	**+1.0**
JSE	**Soyaes**	**1.21**	**76**	P	**Pn**	**17 19 20.1**	**-0.2**
JSE				*e*S	**S**	**17 19 49.1**	**-1.6**
ASAJ	**Asahikawa**	**1.31**	**114**	P	**Pn**	**17 19 21.4**	**+0.3**
	21nm,0.3s,baz=275,slow=9.4,SNR=370						
ASAJ				S	**S**	**17 19 52.6**	**+0.6**
	1.5nm,0.3s,baz=60,slow=27,SNR=1.0						
ASAJ	**Asahikawa**	**1.31**	**114**	P	**Pn**	**17 19 21.3**	**+0.2**
JSK	**Shakotan**	**1.36**	**194**	P	**Pn**	**17 19 21.8**	**+0.4**
JKK2	**Kamakawa 2**	**1.52**	**121**	P	**Pn**	**17 19 23.0**	**+0.5**
JEW	**Eniwo**	**1.87**	**168**	P	**Pn**	**17 19 26.1**	**+0.9**
JTKR	**Abashiri--Toko**	**2.24**	**107**	P	**Pn**	**17 19 29.4**	**+1.1**
JTKR				*e*S	**S**	**17 20 06.5**	**+1.4**
JAR	**Ashorobuto**	**2.46**	**123**	P	**Pn**	**17 19 31.4**	**+1.0**
JAR				*e*S	**S**	**17 20 09.9**	**+1.0**
JCH	**Churui**	**2.71**	**139**	P	**Pn**	**17 19 32.0**	**-0.8**
JCH				*e*S	**S**	**17 20 09.9**	**-3.3**
JNBK	**Urakawa-nobuka**	**2.73**	**150**	P	**Pn**	**17 19 34.1**	**+1.0**
JKB	**Kayabe**	**2.78**	**179**	P	**Pn**	**17 19 33.3**	**-0.3**
JOSM	**Okushiri--Mats**	**2.80**	**203**	P	**Pn**	**17 19 33.8**	**0.0**
JAK	**Akkeshi**	**3.19**	**120**	P	**Pn**	**17 19 37.0**	**-0.8**
JAK				*e*S	**S**	**17 20 19.9**	**-2.3**
JOMM	**Oshimamatsumae**	**3.22**	**193**	P	**Pn**	**17 19 38.1**	**0.0**
JOT	**Ohata**	**3.29**	**179**	P	**Pn**	**17 19 38.4**	**-0.5**
NEM2	**Nemuro 2**	**3.70**	**109**	P	**Pn**	**17 19 42.7**	**-0.6**
NEM2				*e*S	**S**	**17 20 29.1**	**-3.2**
USRK	**Ussuriysk Ar.**	**6.43**	**269**	P	**Pn**	**17 20 15.0**	**-0.7**
	baz=88,slow=12,SNR=9.6						
KLR	**Kul'dur**	**7.77**	**309**	P	**Pn**	**17 20 31.6**	**-0.7**
	0.5nm,0.3s,baz=117,slow=12,SNR=22						
MA2	**Magadan**	**16.07**	**18**	P	**P**	**17 22 11.7**	**-0.3**
	0.5nm,0.3s,baz=217,slow=10,SNR=8.5						
YAK	**Yakutsk**	**18.59**	**343**	P	**P**	**17 22 37.4**	**-1.8**
	0.1nm,0.3s,baz=126,slow=5.1,SNR=11						
SEY	**Seymchan**	**19.45**	**16**	P	**P**	**17 22 47.8**	**-0.5**
	0.6nm,0.3s,baz=187,slow=8.0,SNR=23						
SONM	**Songino Array**	**23.98**	**290**	P	**P**	**17 23 32.5**	**+0.4**
	1.2nm,0.6s,baz=84,slow=8.4,SNR=6.9						
MKAR	**Makanchi Array**	**40.17**	**295**	P	**P**	**17 25 51.6**	**-0.3**
	0.9nm,0.6s,baz=83,slow=8.9,SNR=13						
ILAR	**Eielson Array**	**43.40**	**36**	P	**P**	**17 26 17.4**	**-0.1**
	1.6nm,0.7s,baz=283,slow=9.2,SNR=17						
YKA	**Yellowknife Ar**	**57.46**	**32**	P	**P**	**17 28 02.4**	**+0.1**
	1.0nm,0.6s,baz=305,slow=5.9,SNR=7.4						
FINES	**FINESS Array B**	**61.95**	**330**	P	**P**	**17 28 31.9**	**-0.8**
	1.2nm,0.4s,baz=52,slow=7.9,SNR=13						
WRA	**Warramunga Arr**	**64.58**	**187**	P	**P**	**17 28 50.8**	**+0.4**
	0.8nm,0.7s,baz=2.3,slow=7.0,SNR=12						
NOA	**NORSAR Array B**	**67.04**	**336**	P	**P**	**17 29 04.8**	**-0.9**
	0.5nm,0.5s,baz=41,slow=6.5,SNR=4.6						
AKASG	**Malin Array Be**	**68.11**	**320**	P	**P**	**17 29 11.9**	**-0.5**
	1.2nm,0.5s,baz=41,slow=6.2,SNR=10						
ASAR	**Alice Springs**	**68.31**	**187**	P	**P**	**17 29 15.5**	**+1.6**
	0.8nm,0.7s,baz=2.3,slow=5.1,SNR=13						
NVAR	**Mina Array Bea**	**70.79**	**55**	P	**P**	**17 29 30.7**	**+1.5**
	0.5nm,0.7s,baz=301,slow=5.8,SNR=3.6						
PDAR	**Pinedale Array**	**72.63**	**47**	P	**P**	**17 29 41.5**	**+1

NNSB	**Datong**	**0.38**	**230**	⇓P	**Pn**	**17 22 46.7**	**-0.8**
	baz=237						
NNSB				S	**Sn**	**17 22 53.2**	**-1.2**
	baz=237						
NNSH	**Datong**	**0.38**	**230**	⇓*i*P	**Pn**	**17 22 46.7**	**-0.8**
	baz=238						
NNSH				*i* S	**Sn**	**17 22 53.5**	**-0.9**
	baz=238						
BACT	**New Taipei Cit**	**0.40**	**325**	⇓P	**Pn**	**17 22 46.9**	**-0.7**
	baz=333						
BACT				*e*S	**Sn**	**17 22 54.3**	**-0.4**
	baz=333						
NWF	**Wu-fen Shan**	**0.41**	**11**	⇑*i*P	**Pn**	**17 22 47.0**	**-0.7**
	baz=2.0						
NWF				*i* S	**Sn**	**17 22 54.2**	**-0.8**
	baz=2.0						
TAP	**Taipei**	**0.41**	**335**	P	**Pn**	**17 22 46.8**	**-0.9**
	baz=337						
TAP				*i* S	**Sn**	**17 22 54.2**	**-0.7**
	baz=337						
WFSB	**Wu-fen Shan**	**0.41**	**11**	⇑P	**Pn**	**17 22 47.1**	**-0.6**
	baz=2.0						
WFSB				S	**Sn**	**17 22 54.3**	**-0.6**
	baz=2.0						
TWB1	**Santiao Chiao**	**0.43**	**38**	⇑P	**Pn**	**17 22 47.2**	**-0.7**
	baz=29						
TWB1				S	**Sn**	**17 22 54.3**	**-1.0**
	baz=29						
TNOU	**National Taiwa**	**0.48**	**8**	⇑P	**Pn**	**17 22 47.6**	**-1.0**
	baz=358						
TNOU				S	**Sn**	**17 22 55.2**	**-1.2**
	baz=358						
YM01	**YM01**	**0.49**	**346**	⇑P	**Pn**	**17 22 47.6**	**-1.1**
	baz=339						
YM01				S	**Sn**	**17 22 55.4**	**-1.2**
	baz=339						
NTY	**Taoyuan**	**0.49**	**312**	⇓P	**Pn**	**17 22 47.9**	**-0.7**
	baz=317						
NTY				S	**Sn**	**17 22 56.4**	**-0.1**
	baz=317						
TWS1	**Kuangyinshan**	**0.50**	**329**	⇓*e*P	**Pn**	**17 22 48.0**	**-0.7**
	baz=331						
TWS1				*i* S	**Sn**	**17 22 56.4**	**-0.3**
	baz=331						
ETLH	**Xiulin Townshi**	**0.50**	**203**	⇑P	**Pn**	**17 22 47.6**	**-1.3**
	baz=196						
ETLH				*e*S	**Sn**	**17 22 55.9**	**-1.0**
	baz=196						
NACB	**Ninganchiao**	**0.50**	**191**	⇑P	**Pn**	**17 22 46.8**	**-2.0**
	baz=197						
NACB				S	**Sn**	**17 22 55.1**	**-1.7**
	baz=197						
YM08	**YM08**	**0.52**	**349**	⇑P	**Pn**	**17 22 47.8**	**-1.3**
	baz=342						
YM08				*e*S	**Sn**	**17 22 55.7**	**-1.6**
	baz=342						
ANP	**Anpu**	**0.54**	**343**	⇑*e*P	**Pn**	**17 22 48.0**	**-1.3**
	baz=343						
ANP				S	**Sn**	**17 22 56.4**	**-1.3**
	baz=343						
NTST	**Danshui**	**0.54**	**335**	P	**Pn**	**17 22 48.6**	**-0.7**
	baz=345						
NTST				*i* S	**Sn**	**17 22 57.5**	**-0.1**
	baz=345						
NCU	**National Centr**	**0.55**	**303**	⇓*i*P	**Pn**	**17 22 48.6**	**-0.8**
	baz=304						
NCU				*i* S	**Sn**	**17 22 57.7**	**-0.2**
	baz=304						
NCUH	**Zhongli**	**0.55**	**303**	⇓*i*P	**Pn**	**17 22 48.6**	**-0.7**
	baz=304						
NCUH				*i* S	**Sn**	**17 22 57.6**	**-0.3**
	baz=304						
NJD	**Zhudong**	**0.56**	**277**	*e*P	**Pn**	**17 22 48.9**	**-0.5**
	baz=279						
NJD				S	**Sn**	**17 22 57.6**	**-0.4**
	baz=279						
FUSS	**Fushou**	**0.59**	**225**	⇓P	**Pn**	**17 22 49.6**	**-0.5**
	baz=224						
FUSS				*i* S	**Sn**	**17 22 58.5**	**-0.6**
	baz=224						
TWD	**Chiawan**	**0.59**	**189**	⇑*i*P	**Pn**	**17 22 48.0**	**-2.0**
	baz=188						
TWY	**Chenhua**	**0.61**	**352**	P	**Pn**	**17 22 49.5**	**-0.6**
	baz=342						
TWY				S	**Sn**	**17 22 58.6**	**-0.5**
	baz=342						
LIOB	**Emei**	**0.62**	**268**	⇓*i*P	**Pn**	**17 22 49.5**	**-0.8**
	baz=270						
LIOB				S	**Sn**	**17 22 59.1**	**-0.3**
	baz=270						
TWT	**Tachien**	**0.63**	**229**	⇓*i*P	**Pn**	**17 22 50.3**	**-0.3**
	baz=232						
TWT				S	**Sn**	**17 22 60.0**	**+0.1**
	baz=232						
NSTT	**Nanjuang**	**0.64**	**267**	⇓*i*P	**Pn**	**17 22 49.5**	**-0.9**
	baz=269						
NSTT				*i* S	**Sn**	**17 22 59.0**	**-0.7**
	baz=269						
TDCB	**Techi**	**0.64**	**230**	⇓P	**Pn**	**17 22 50.3**	**-0.4**
	baz=232						
TDCB				S	**Sn**	**17 22 59.3**	**-0.8**
	baz=232						
WHF	**Hehuan Shan**	**0.66**	**217**	⇑*i*P	**Pn**	**17 22 50.1**	**-1.0**
	baz=212						
WHF				S	**Sn**	**17 23 00.1**	**-0.7**
	baz=212						
SBCB	**Hsinchu**	**0.66**	**281**	⇓P	**Pn**	**17 22 50.0**	**-0.8**
	baz=292						
SBCB				S	**Sn**	**17 22 59.8**	**-0.5**
	baz=292						
HWA	**Hwalien**	**0.70**	**187**	⇑*i*P	**Pn**	**17 22 49.7**	**-1.5**
	baz=195						
ETM	**Tongmen**	**0.73**	**195**	⇑P	**Pn**	**17 22 49.5**	**-2.1**
	baz=196						
NJN	**Zhunan**	**0.75**	**271**	P	**Pn**	**17 22 51.2**	**-0.8**
	baz=280						
NJN				S	**Sn**	**17 23 02.0**	**-0.4**
	baz=280						
CHGB	**Renai**	**0.77**	**218**	⇑P	**Pn**	**17 22 51.9**	**-0.5**
	baz=213						
CHGB				S	**Sn**	**17 23 02.4**	**-0.8**
	baz=213						
WHP	**Taichung City**	**0.79**	**240**	⇓*i*P	**Pn**	**17 22 52.7**	**+0.2**
	baz=253						
WHP				S	**Sn**	**17 23 03.9**	**+0.5**
	baz=253						
TEYL	**Yanliau Villag**	**0.80**	**187**	P	**Pn**	**17 22 50.7**	**-1.9**
	baz=198						
NMLH	**Miaoli**	**0.84**	**261**	⇓P	**Pn**	**17 22 52.6**	**-0.5**
	baz=272						
NMLH				S	**Sn**	**17 23 04.5**	**+0.1**
	baz=272						
OWD	**Renai**	**0.86**	**214**	*e*P	**Pn**	**17 22 52.6**	**-0.8**
	baz=205						
ESL	**Shilin**	**0.89**	**196**	⇑*i*P	**Pn**	**17 22 51.3**	**-2.5**
	baz=186						
NSY	**Sanyi**	**0.89**	**254**	P	**Pn**	**17 22 53.4**	**-0.4**
	baz=267						
NSY				S	**Sn**	**17 23 06.0**	**+0.3**
	baz=267						
WPL	**Puli Township**	**0.94**	**226**	P	**Pn**	**17 22 54.7**	**+0.2**
	baz=228						
WPL				S	**Sn**	**17 23 07.2**	**+0.3**
	baz=228						
WCS	**Beigang Elemen**	**0.94**	**230**	*e*P	**Pn**	**17 22 54.6**	**+0.1**
	baz=243						
WCS				*e*S	**Sn**	**17 23 07.1**	**+0.3**
	baz=243						
DPDB	**Guoxing**	**0.95**	**228**	P	**Pn**	**17 22 55.1**	**+0.5**
	baz=242						
TEGC	**Jichi Village**	**0.97**	**189**	*e*P	**Pn**	**17 22 53.0**	**-1.9**
	baz=198						
PCYT	**Pengchaiyu**	**1.01**	**19**	⇑P	**Pn**	**17 22 54.6**	**-0.9**
	baz=18						
PCYT				S	**Sn**	**17 23 08.3**	**-0.3**
	baz=18						
WDJ	**Dajia District**	**1.01**	**252**	⇓P	**Pn**	**17 22 55.1**	**-0.4**
	baz=253						
WDJ				S	**Sn**	**17 23 08.7**	**0.0**
	baz=253						
EGFH	**Guangfu**	**1.03**	**194**	*e*P	**Pn**	**17 22 53.0**	**-2.6**
	baz=195						
TCU	**Taichung**	**1.07**	**241**	*e*P	**Pn**	**17 22 56.0**	**-0.2**
	baz=242						
SMLT	**Sun Moon Lake**	**1.07**	**223**	⇓P	**Pn**	**17 22 56.3**	**0.0**
	baz=217						
SMLT				*e*S	**Sn**	**17 23 10.6**	**+0.5**
	baz=217						

TYC	**Yuchr**	**1.08**	**225**	⇓*i*P	**Pn**	**17 22 56.3**	**-0.1**
	baz=236						
TYC				S	**Sn**	**17 23 10.3**	**+0.1**
	baz=236						
WWF	**Wufeng**	**1.10**	**236**	P	**Pn**	**17 22 56.5**	**-0.2**
	baz=237						
SSLB	**Suanglung**	**1.11**	**218**	⇑P	**Pn**	**17 22 56.4**	**-0.5**
	baz=220						
JYNG	**Yonaguni jima**	**1.16**	**101**	P	**Pn**	**17 22 56.5**	**-0.9**
JYNG				S	**Sn**	**17 23 11.1**	**-1.0**
WCHH	**Zhanghua**	**1.19**	**241**	*e*P	**Pn**	**17 22 57.0**	**-0.9**
	baz=252						
HGSD	**Ruisui**	**1.20**	**192**	*e*P	**Pn**	**17 22 56.4**	**-1.6**
	baz=194						
WNT1	**Nantou City**	**1.20**	**231**	*e*P	**Pn**	**17 22 58.0**	**0.0**
	baz=244						
EHY	**Hungye**	**1.21**	**197**	*e*P	**Pn**	**17 22 55.1**	**-3.0**
	baz=189						
YOJ	**Yonaguni jima**	**1.21**	**100**	P	**Pn**	**17 22 57.3**	**-0.9**
YOJ				S	**Sn**	**17 23 12.7**	**-0.8**
YOJ	**Yonaguni jima**	**1.21**	**100**	⇓P	**Pn**	**17 22 57.3**	**-0.9**
	baz=98						
YOJ				S	**Sn**	**17 23 12.6**	**-0.9**
	baz=98						
WNT	**Mingjian**	**1.22**	**230**	⇓P	**Pn**	**17 22 58.0**	**-0.1**
	baz=242						
WJS	**Zhushan**	**1.22**	**227**	*e*P	**Pn**	**17 22 58.6**	**+0.3**
	baz=240						
WHYT	**Xinyi Township**	**1.24**	**219**	*e*P	**Pn**	**17 22 59.4**	**+0.8**
	baz=221						
YULB	**Yu-li**	**1.32**	**196**	*e*P	**Pn**	**17 22 56.6**	**-3.1**
	baz=190						
YUS	**Yu-Shan**	**1.36**	**210**	⇑P	**Pn**	**17 22 60.0**	**-0.6**
	baz=202						
EYUL	**Yuli**	**1.36**	**195**	*e*P	**Pn**	**17 22 59.1**	**-1.1**
	baz=197						
TWF1	**Yuli**	**1.36**	**196**	*e*P	**Pn**	**17 22 57.3**	**-2.9**
	baz=197						
ALS	**Alishan**	**1.41**	**215**	⇓*i*P	**Pn**	**17 23 01.3**	**+0.2**
	baz=228						
ALS				*e*S	**Sn**	**17 23 20.1**	**+1.3**
	baz=228						
CHN5	**Tsauling**	**1.42**	**221**	⇓P	**Pn**	**17 23 00.8**	**-0.3**
	baz=224						
CHN5				S	**Sn**	**17 23 19.9**	**+1.3**
	baz=224						
WGK	**Gukeng**	**1.43**	**227**	*e*P	**Pn**	**17 23 00.6**	**-0.5**
	baz=239						
WRL	**Guolierlin Hig**	**1.43**	**238**	*e*P	**Pn**	**17 23 00.2**	**-0.9**
	baz=250						
WRL				S	**Sn**	**17 23 18.5**	**-0.2**
	baz=250						
WDLH	**Douliu**	**1.44**	**228**	*e*P	**Pn**	**17 23 01.2**	**0.0**
	baz=240						
FULB	**Fuli**	**1.51**	**194**	*e*P	**Pn**	**17 23 00.1**	**-2.1**
	baz=197						
WTCT	**Ta-ch'eng**	**1.52**	**238**	*e*P	**Pn**	**17 23 01.6**	**-0.8**
	baz=249						
WTCT				*e*S	**Sn**	**17 23 20.1**	**-0.9**
	baz=249						
WTK	**Tuku**	**1.54**	**231**	*e*P	**Pn**	**17 23 02.3**	**-0.3**
	baz=233						
WTK				S	**Sn**	**17 23 22.1**	**+0.6**
	baz=233						
CHKT	**Chengkung**	**1.59**	**191**	*e*P	**Pn**	**17 23 01.7**	**-1.6**
	baz=193						
ELDTW	**Lidau**	**1.60**	**203**	*e*P	**Pn**	**17 23 01.6**	**-1.9**
	baz=196						
ECS	**Chishang**	**1.63**	**196**	*e*P	**Pn**	**17 23 01.9**	**-1.9**
	baz=198						
CHY	**Chiayi**	**1.65**	**225**	*e*P	**Pn**	**17 23 04.0**	**-0.1**
	baz=236						
CHN4	**Tsaushan**	**1.66**	**218**	*e*P	**Pn**	**17 23 04.4**	**+0.2**
	baz=221						
CHN4				*e*S	**Sn**	**17 23 26.6**	**+2.2**
	baz=221						
TPUB	**Ta-pu**	**1.68**	**216**	*e*P	**Pn**	**17 23 04.7**	**+0.2**
	baz=219						
TPUB				*e*S	**Sn**	**17 23 26.1**	**+1.2**
	baz=219						
WSF	**Szhu**	**1.69**	**233**	*e*P	**Pn**	**17 23 03.8**	**-0.9**
	baz=244						
WSF				*e*S	**Sn**	**17 23 24.8**	**-0.4**
	baz=244						
STYH	**Taoyuan**	**1.71**	**210**	*e*P	**Pn**	**17 23 05.3**	**+0.3**
	baz=201						
EDH	**Donghe**	**1.73**	**192**	*e*P	**Pn**	**17 23 02.7**	**-2.5**
	baz=194						
STYT	**Tauyuan**	**1.73**	**210**	*e*P	**Pn**	**17 23 05.3**	**0.0**
	baz=224						
STYT				*e*S	**Sn**	**17 23 27.5**	**+1.3**
	baz=224						
WTP	**Ta-pu**	**1.73**	**215**	*e*P	**Pn**	**17 23 05.6**	**+0.3**
	baz=228						
TWK	**Hsinying**	**1.78**	**219**	*e*P	**Pn**	**17 23 06.1**	**+0.1**
	baz=222						
TWK				*e*S	**Sn**	**17 23 29.4**	**+1.9**
	baz=222						
SNST	**Tainan City**	**1.81**	**217**	*e*P	**Pn**	**17 23 07.0**	**+0.6**
	baz=220						
CHN1	**Nanshi**	**1.82**	**216**	*e*P	**Pn**	**17 23 06.7**	**+0.2**
	baz=219						
LONT	**Longtian**	**1.83**	**197**	*e*P	**Pn**	**17 23 04.2**	**-2.4**
	baz=190						
ICHU	**Yijhu**	**1.84**	**225**	*e*P	**Pn**	**17 23 06.7**	**0.0**
	baz=227						
IRIF	**Iriomote-Funau**	**1.88**	**100**	P	**Pn**	**17 23 06.2**	**-1.1**
IRIF				S	**Sn**	**17 23 28.5**	**-1.3**
SGST	**Jiashian**	**1.88**	**213**	*e*P	**Pn**	**17 23 07.4**	**0.0**
	baz=227						
SGST				*e*S	**Sn**	**17 23 31.4**	**+1.6**
	baz=227						
CHN8	**Yiju**	**1.89**	**226**	*e*P	**Pn**	**17 23 07.0**	**-0.4**
	baz=239						
CHN8				*e*S	**Sn**	**17 23 30.4**	**+0.2**
	baz=239						
SLGT	**Liugui**	**1.93**	**210**	*e*P	**Pn**	**17 23 08.9**	**+1.0**
	baz=213						
TWG	**Pinlang**	**1.93**	**197**	*e*P	**Pn**	**17 23 06.2**	**-1.7**
	baz=190						
TWGBT	**Beinan**	**1.93**	**197**	*e*P	**Pn**	**17 23 05.7**	**-2.3**
	baz=190						
LDUT	**Ludao**	**2.00**	**186**	*e*P	**Pn**	**17 23 06.4**	**-2.5**
	baz=189						
HATJ	**Hateruma jima**	**2.02**	**107**	P	**Pn**	**17 23 08.5**	**-0.6**
HATJ				*e*S	**Sn**	**17 23 32.7**	**-0.4**
SCLT	**Jiali**	**2.03**	**223**	*e*P	**Pn**	**17 23 09.0**	**-0.3**
	baz=225						
VWUC	**VWUC**	**2.07**	**279**	⇓*e*P	**Pn**	**17 23 08.1**	**-1.7**
	baz=278						
SCST	**Cishan**	**2.09**	**212**	*e*P	**Pn**	**17 23 11.0**	**+0.9**
	baz=227						
JKRS	**Kuro-shima**	**2.15**	**101**	P	**Pn**	**17 23 10.3**	**-0.6**
JKRS				S	**Sn**	**17 23 35.7**	**-0.7**
SSD	**Sandimen**	**2.15**	**207**	*e*P	**Pn**	**17 23 11.7**	**+0.7**
	baz=223						
SSD				*e*S	**Sn**	**17 23 37.8**	**+1.4**
	baz=223						
MATB	**Ma-tsu**	**2.16**	**313**	⇓*e*P	**Pn**	**17 23 09.4**	**-1.8**
	baz=311						
ECL	**Taimali**	**2.17**	**198**	*e*P	**Pn**	**17 23 09.8**	**-1.5**
	baz=192						
TWM1	**Shoushan**	**2.18**	**213**	*e*P	**Pn**	**17 23 12.9**	**+1.5**
	baz=216						
TSMG	**Majia**	**2.18**	**206**	*e*P	**Pn**	**17 23 12.1**	**+0.7**
	baz=222						
MSUT	**Lienchiang**	**2.19**	**313**	*e*P	**Pn**	**17 23 09.7**	**-1.8**
	baz=311						
SGLT	**Jiouru**	**2.23**	**210**	*e*P	**Pn**	**17 23 14.0**	**+2.0**
	baz=225						
PNG	**Penghu**	**2.25**	**241**	⇓*e*P	**Pn**	**17 23 10.6**	**-1.7**
	baz=242						
PNG				*e*S	**Sn**	**17 23 36.4**	**-2.4**
	baz=242						
JIJ	**Ishigaki jima**	**2.25**	**97**	P	**Pn**	**17 23 11.3**	**-1.0**
JIJ				S	**Sn**	**17 23 37.3**	**-1.5**
PHUB	**P'eng-hu**	**2.26**	**240**	⇓P	**Pn**	**17 23 10.7**	**-1.7**
	baz=240						
PHUB				*e*S	**Sn**	**17 23 35.2**	**-3.9**
	baz=240						
MASBT	**Mashibuluo**	**2.27**	**206**	⇑*e*P	**Pn**	**17 23 12.8**	**+0.2**
	baz=223						
MASBT				*e*S	**Sn**	**17 23 39.5**	**+0.1**
	baz=223						
TSPT	**Pingtung City**	**2.27**	**209**	*e*P	**Pn**	**17 23 12.7**	**+0.1**
	baz=225						
WDGT	**Dungji**	**2.33**	**233**	⇑P	**Pn**	**17 23 12.1**	**-1.4**
	baz=235						
WDGT				*e*S	**Sn**	**17 23 38.0**	**-2.9**
	baz=235						
PTMZ	**Houxiangcun**	**2.37**	**279**	⇓*e*P	**Pn**	**17 23 12.2**	**-1.7**
	baz=278						
JISG	**Ishigakijimahi**	**2.38**	**91**	P	**Pn**	**17 23 13.2**	**-0.9**
JISG				*e*S	**Sn**	**17 23 41.7**	**-0.4**
EAST	**Anshuo**	**2.41**	**199**	*e*P	**Pn**	**17 23 14.8**	**+0.3**
	baz=193						
SSPT	**Xinbi**	**2.41**	**206**	*e*P	**Pn**	**17 23 14.3**	**-0.2**
	baz=222						
SCZT	**Fangliau**	**2.49**	**204**	*e*P	**Pn**	**17 23 16.4**	**+0.7**
	baz=207						
VCHM	**Qimei**	**2.54**	**235**	⇓*e*P	**Pn**	**17 23 14.7**	**-1.6**
	baz=236						
VCHM				*e*S	**Sn**	**17 23 43.1**	**-2.8**
	baz=236						
LYJJ	**Jianjiangzhen**	**2.56**	**317**	*e*P	**Pn**	**17 23 14.7**	**-1.9**
	baz=315						
SLIU	**Shizi**	**2.58**	**199**	*e*P	**Pn**	**17 23 16.6**	**-0.3**
	baz=193						
WLCH	**Liuqiu**	**2.61**	**208**	*e*P	**Pn**	**17 23 20.1**	**+2.8**
	baz=223						
LAY	**Lan-yu**	**2.62**	**183**	*e*P	**Pn**	**17 23 15.0**	**-2.5**
	baz=187						
XPSS	**Dashiqiu**	**2.63**	**329**	⇑*e*P	**Pn**	**17 23 15.9**	**-1.6**
	baz=326						
JTJ	**Tarama**	**2.73**	**90**	P	**Pn**	**17 23 18.9**	**0.0**
JTJ				S	**Sn**	**17 23 51.2**	**+0.4**
HEN	**Hengchun**	**2.80**	**199**	*e*P	**Pn**	**17 23 20.0**	**+0.2**
	baz=193						
MHZQ	**Yeshan**	**2.80**	**301**	*e*P	**Pn**	**17 23 17.9**	**-1.9**
	baz=299						
QZH	**Quanzhou**	**2.83**	**276**	⇑*i*Pn	**Pn**	**17 23 18.5**	**-1.8**
QZH				Sn	**Sn**	**17 23 48.5**	**-4.8**
QZH				SMN			
	120nm,0.1s						
QZH				SME			
	73nm,0.1s						
TWK1	**Hengchun**	**2.84**	**197**	*e*P	**Pn**	**17 23 20.9**	**+0.6**
	baz=192						
TWKBT	**Hengchun**	**2.84**	**197**	*e*P	**Pn**	**17 23 20.6**	**+0.2**
	baz=192						
KNM	**Kinmen**	**2.98**	**266**	*e*P	**Pn**	**17 23 22.6**	**+0.2**
	baz=264						
KNMB	**Chin-men Tao**	**3.02**	**267**	⇓*e*P	**Pn**	**17 23 21.1**	**-1.8**
	baz=265						
JIRB	**Irabujima**	**3.16**	**86**	P	**Pn**	**17 23 25.0**	**+0.2**
JIRB				*e*S	**Sn**	**17 24 01.9**	**+0.5**
JIKM	**Ikemajima**	**3.24**	**85**	P	**Pn**	**17 23 26.7**	**+0.9**
JIKM				*e*S	**Sn**	**17 24 04.3**	**+1.2**
JMJ	**Miyako jima 2**	**3.27**	**87**	*e*P	**Pn**	**17 23 27.4**	**+1.1**
	baz=88						
JMJ2	**Miyako jima3**	**3.30**	**88**	P	**Pn**	**17 23 27.4**	**+0.6**
JOGS	**Gusukube**	**3.37**	**88**	P	**Pn**	**17 23 28.4**	**+0.7**
AXDP	**Jialang**	**3.40**	**275**	⇓*e*P	**Pn**	**17 23 26.7**	**-1.3**
	baz=273						
ZPLA	**Ao Xicun**	**3.68**	**259**	⇓*e*P	**Pn**	**17 23 30.4**	**-1.5**
	baz=257						
JOW	**Kunigami**	**6.31**	**69**	Pn	**Pn**	**17 24 07.8**	**-0.2**
	2.8nm,0.3s,baz=120,slow=24,SNR=14						
JOW				Sn	**Sn**	**17 25 19.7**	**+0.9**
	1.3nm,0.3s,baz=108,slow=24,SNR=1.6						
JOW	**Kunigami**	**6.31**	**69**	*e*P	**Pn**	**17 24 08.2**	**+0.2**
	baz=69						
NJ2	**Nanjing**	**7.77**	**342**	⇑*i*P	**Pn**	**17 24 26.3**	**-1.7**
NJ2				S	**Sn**	**17 25 50.2**	**-4.4**
NJ2				SMN			
	35nm,0.9s						
NJ2				SME			
	47nm,1.1s						
KSRS	**Korea Array**	**13.81**	**21**	Pn	**Pn**	**17 25 51.4**	**+0.8**
	0.1nm,0.3s,baz=204,slow=12,SNR=2.6						
XAN	**Xi'an**	**14.52**	**313**	P	**P**	**17 26 10.3**	**+4.6**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**21.22**	**21**	P	**P**	**17 27 19.9**	**+0.7**
	1.0nm,0.6s,baz=207,slow=10,SNR=8.8						
CMAR	**Chiang Mai Arr**	**22.03**	**258**	LR	LR	17 36 10.1	
	comp=Z,21nm,19.1s,baz=235,slow=38						
KLR	**Kul'dur**	**25.75**	**15**	P	**P**	**17 28 04.2**	**+0.7**
	1.1nm,0.5s,baz=191,slow=5.4,SNR=5.9						
SONM	**Songino Array**	**26.11**	**336**	P	**P**	**17 28 06.3**	**-0.7**
	0.4nm,0.5s,baz=151,slow=3.3,SNR=5.1						
WMQ	**Urumqi**	**33.66**	**313**	*e*P	**P**	**17 29 16.8**	**+3.0**
MKAR	**Makanchi Array**	**38.32**	**315**	P	**P**	**17 29 52.6**	**-1.0**
	0.3nm,0.5s,baz=100,slow=8.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.09**	**327**	P	**P**	**17 30 08.9**	**+0.7**
	0.3nm,0.3s,baz=123,slow=7.1,SNR=2.1						
WRA	**Warramunga Arr**	**46.02**	**163**	P	**P**	**17 30 53.8**	**-2.6**
	0.2nm,0.5s,baz=347,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**49.49**	**165**	P	**P**	**17 31 21.6**	**-1.6**
	0.5nm,1.1s,baz=349,slow=7.0,SNR=1.3						
FINES	**FINESS Array B**	**71.26**	**330**	P	**P**	**17 33 49.9**	**-1.6**
	0.8nm,0.4s,baz=55,slow=5.8,SNR=11						

*SNET **08** 17:29:31.6±1.2, 13°.37N×90°.56W, h18km±5km, ML2.8*
*GCG **08** 17:29:35.1±0.6, 13°.97N×90°.96W, h127km±11km, MD3.7*

ISC 08 17:29:30.3±3.9, 13°.2N±0°.1×90°.55W±0°.07, h13km±27km, n15,σ1°13/20, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.10**	**55**	*e*P	**Pb**	**17 29 51.1**	**-0.3**
RTR	**El Retiro**	**1.12**	**52**	*e*P	**Pn**	**17 29 50.8**	**-1.0**
SNJE	**San Jose**	**1.13**	**54**	*e*P	**Pn**	**17 29 51.7**	**-0.3**
SNJE				*e*S	**Sb**	**17 30 05.9**	**-0.7**
PCG	**Pacaya**	**1.18**	**357**	⇓*e*P	**Pn**	**17 29 53.3**	**+0.6**
FUG	**Fuego 3**	**1.27**	**347**	⇑*e*P	**Pn**	**17 29 54.4**	**+0.6**
BOQS	**Boqueron**	**1.34**	**67**	*e*P	**Pn**	**17 29 54.2**	**-0.8**
NBG	**Las Nubes**	**1.39**	**8**	*e*P	**Pn**	**17 29 57.3**	**+1.7**
NBG				*e*S	**Sn**	**17 30 15.2**	**+1.2**
LFIJ	**La Fuente**	**1.50**	**69**	*e*S	**Sn**	**17 30 16.6**	**+0.2**
LFRS	**El Faro**	**1.51**	**74**	*e*P	**Pn**	**17 29 57.1**	**0.0**
LBRS	**Las Brisas**	**1.56**	**70**	*e*P	**Pn**	**17 29 57.8**	**0.0**
MTO3	**Montecristo**	**1.66**	**44**	*e*P	**Pn**	**17 29 59.2**	**-0.1**
MTO3				*e*S	**Sn**	**17 30 19.6**	**-0.9**
MTO3				IAML		17 30 22.8	
	comp=Z,123nm,0.4s						
RTAL	**Retalhuleu**	**1.72**	**320**	*e*S	**Sn**	**17 30 19.5**	**-2.1**
ESQI	**Esquipulas**	**1.79**	**41**	*e*S	**Sn**	**17 30 23.1**	**-0.4**
MRL	**Marmol**	**2.04**	**24**	*e*P	**Pn**	**17 30 06.2**	**+1.6**
MRL				*e*S	**Sn**	**17 30 29.7**	**-0.4**
PACA	**Pacayal**	**2.19**	**83**	*e*P	**Pn**	**17 30 07.7**	**+1.2**
PACA				*e*S	**Sn**	**17 30 35.2**	**+1.8**

*IDC **08** 17:41:34.4±2.9, 5°.52S×148°.19E, h142km±42km, mb3.5/5, mb1 3.6/7, mb1mx3.3/33, mbtmp3.9/7, Error ellipse: s-maj=95.7km s-min=22.3km az=

*IDC **08** 17:50:24.3±5.2, 4.°35N×127.°49E, h68km±54km, mb3.2/5, mb1 3.4/6, mb1mx3.1/48, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=77.4km s-min=25.9km az=68.0*

ISC 08 17:50:27.4±1.6, 4.°4N±0.°3×127.°7E±0.°4, h104km, n6, σ1§36/7, mb3.4/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.30**	**145**	P	**Pn**	**17 51 56.3**	**-1.5**
	1.0nm,0.3s,baz=266,slow=23,SNR=7.9						
SIJI				S	**Sn**	**17 53 08.9**	**+0.5**
	0.5nm,0.3s,baz=30,slow=22,SNR=1.2						
FITZ	**Fitzroy Crossi**	**22.40**	**185**	P	**P**	**17 55 16.1**	**-1.3**
	1.6nm,0.8s,baz=0.7,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**25.01**	**165**	P	**P**	**17 55 42.2**	**+0.4**
	0.4nm,0.4s,baz=346,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**28.50**	**168**	P	**P**	**17 56 13.9**	**+0.8**
	0.2nm,0.6s,baz=354,slow=7.7,SNR=4.8						
STKA	**Stephens Creek**	**38.39**	**161**	P	**P**	**17 57 40.1**	**+1.5**
	1.1nm,0.4s,baz=328,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**18 00 06.2**	**-0.2**
	0.2nm,0.5s,baz=129,slow=6.6,SNR=4.1						

*IDC **08** 18:10:58.1±5.2, 18.°25S×167.°87E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/22, mbtmp3.7/4, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=104.8km s-min=44.3km az=90.0*

*NOU **08** 18:11:31.8, 20.°82S×167.°56E, h0km, MLv2.9, Loyalty Islands*

ISC 08 18:10:59.5±2.6, 18.°5S±0.°1×168.°0E±0.°3, h10km, n11, σ1§62/11, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.37**	**197**	P	**Pn**	**18 11 37.7**	**-0.7**
YATNC	**Mamie plateau,**	**3.69**	**196**	P	**Pn**	**18 11 57.5**	**+1.0**
DZM	**Mont Dzumac**	**3.83**	**202**	Pn	**Pn**	**18 12 00.0**	**+1.4**
	2.8nm,0.3s,baz=154,slow=18,SNR=38						
DZM				Sn	**Sn**	**18 12 42.2**	**-1.7**
	6.4nm,0.3s,baz=332,slow=22,SNR=10						
DZM	**Mont Dzumac**	**3.83**	**202**	P	**Pn**	**18 12 00.6**	**+1.9**
NOUC	**Port Laguerre**	**3.92**	**204**	P	**Pn**	**18 12 02.3**	**+2.6**
OUENC	**Ouen Island, N**	**4.04**	**195**	P	**Pn**	**18 12 02.9**	**+1.5**
PINNC	**Pines Island,**	**4.12**	**187**	P	**Pn**	**18 12 03.3**	**+0.8**
AFI	**Afiamalu**	**19.96**		LR	LR	18 22 28.4	
	comp=Z,47nm,18.8s,baz=218,slow=34						
WRA	**Warramunga Arr**	**31.77**	**262**	P	**P**	**18 17 23.3**	**-0.9**
	0.3nm,0.8s,baz=85,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**32.16**	**255**	P	**P**	**18 17 27.9**	**+0.3**
	1.2nm,0.4s,baz=84,slow=8.5,SNR=63						
CMAR	**Chiang Mai Arr**	**77.12**	**295**	P	**P**	**18 22 53.4**	**-0.3**
	0.5nm,0.7s,baz=131,slow=5.1,SNR=5.4						

*IDC **08** 18:21:17.1±5.9, 7.°37S×154.°40E, h75km±48km, mb3.7/10, mb1 3.9/11, mb1mx3.7/29, mbtmp4.0/11, ML1.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=39.1km s-min=25.2km az=113.0*

ISC 08 18:21:11.4±1.3, 7.°3S±0.°2×154.°6E±0.°2, h27km, n12, σ1§27/13, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.67**	**254**	P	**Pn**	**18 23 03.4**	**+1.9**
	1.1nm,0.3s,baz=191,slow=4.7,SNR=2.8						
PMG				S	**Sn**	**18 24 28.1**	**+0.5**
	1.2nm,0.3s,baz=202,slow=21,SNR=2.9						
PMG				LR	LR	18 26 08.2	
	comp=Z,52nm,18.8s,baz=71,slow=39						
WRA	**Warramunga Arr**	**23.34**	**235**	P	**P**	**18 26 15.9**	**-1.9**
	2.6nm,0.9s,baz=58,slow=10.0,SNR=9.3						
ASAR	**Alice Springs**	**25.70**	**228**	P	**P**	**18 26 38.5**	**-1.0**
	2.1nm,0.9s,baz=66,slow=8.3,SNR=10.0						
FITZ	**Fitzroy Crossi**	**30.19**	**246**	P	**P**	**18 27 18.4**	**-1.3**
	1.6nm,0.8s,baz=71,slow=12,SNR=2.0						
KSRS	**Korea Array**	**51.02**	**333**	P	**P**	**18 30 10.6**	**-0.5**
	1.7nm,0.9s,baz=152,slow=8.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**60.57**	**296**	P	**P**	**18 31 19.5**	**-0.5**
	0.5nm,0.7s,baz=123,slow=5.3,SNR=4.1						
SONM	**Songino Array**	**69.38**	**328**	P	**P**	**18 32 17.5**	**+0.6**
	2.6nm,0.8s,baz=132,slow=5.6,SNR=14						
MKAR	**Makanchi Array**	**83.38**	**319**	P	**P**	**18 33 35.8**	**-0.5**
	1.3nm,0.7s,baz=106,slow=6.1,SNR=15						
ILAR	**Eielson Array**	**83.78**	**22**	P	**P**	**18 33 37.8**	**-0.1**
	0.7nm,0.8s,baz=321,slow=4.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**84.21**	**326**	P	**P**	**18 33 39.3**	**-1.0**
	2.1nm,0.6s,baz=120,slow=4.3,SNR=11						
NVAR	**Mina Array Bea**	**92.19**	**52**	P	**P**	**18 34 21.2**	**+1.9**
	1.4nm,0.9s,baz=248,slow=4.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**152.74**	**285**	PKPbc	**PKPbc**	**18 41 06.6**	**-0.3**
	1.1nm,0.9s,baz=84,slow=2.0,SNR=4.4						

*TUL **08** 18:23:24.8±1.0, 35.°67N±0.°02×97.°396W±0.°009, h7km±5km, ML2.8, mb_Lg2.6/37(NEIC), Error ellipse: s-maj=2.3km s-min=0.9km az=183.0*

NEIC 08 18:23:24.8±0.9, 35.°68N±0.°02×97.°39W±0.°02, h9km±6km, Error ellipse: s-maj=3.5km s-min=2.4km az=140.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.10**	**194**		Pg	18 23 27.0	-0.2
OK009				Sg	Sg	18 23 29.1	0.0
OK025	**Westminster Rd**	**0.11**	**155**		Pg	18 23 27.2	-0.2
OK025				Sg	Sg	18 23 29.4	+0.2
OK029	**Liberty Lake**	**0.13**	**337**		Pg	18 23 27.9	+0.2
BCOK	**Bluff Creek, N**	**0.18**	**262**	Pg	Pg	18 23 28.4	-0.1
BCOK				Sg	Sg	18 23 31.5	+0.5
OKCFA	**Oklahoma City**	**0.27**	**190**		Pg	18 23 30.1	-0.1
OKCFA				Sg	Sg	18 23 34.3	+0.5
OKCSW	**OKLAHOMA CITY**	**0.28**	**188**		Pg	18 23 30.2	-0.1
OKCSW				Sg	Sg	18 23 34.4	+0.4
FNO	**Franklin**	**0.42**	**181**		Pg	18 23 32.8	-0.2
FNO				Sg	Sg	18 23 39.2	+0.6
OK031	**S. Brethren Rd**	**0.53**	**59**	Pg	Pg	18 23 35.0	0.0
OK030	**Cody Creek RV**	**0.55**	**63**	Pg	Pg	18 23 35.4	-0.1
OK030				Sg	Sg	18 23 43.2	+0.3
QUOK	**Quay**	**0.74**	**48**		Pg	18 23 39.1	0.0
CROK	**Carrier**	**0.95**	**330**		Pg	18 23 42.8	-0.3
BLOK	**Blackwell**	**1.09**	**8**		Pg	18 23 45.5	-0.2
GC02	**Grant County #**	**1.23**	**342**		Pn	18 23 47.7	-0.5
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	18 23 48.8	-0.5
KAN13	**South Haven SW**	**1.33**	**357**		Pn	18 23 49.5	-0.1
T35A	**Sooner Cattle**	**1.42**	**30**		Pn	18 23 50.9	0.0
KAN09	**Caldwell North**	**1.46**	**353**		Pn	18 23 51.8	+0.3
WMOK	**Wichita Mounta**	**1.48**	**231**	Pn	Pn	18 23 51.4	-0.2
U32A	**Winter Ranch,**	**1.48**	**299**	Pn	Pn	18 23 50.3	-1.4
KAN10	**Anthony SW Sta**	**1.55**	**339**		Pn	18 23 52.6	0.0
KAN08	**Anthony NE Sta**	**1.61**	**343**		Pn	18 23 53.8	+0.2
KAN08				IAmb_Lg		18 24 20.1	
	comp=Z,25nm,0.8s						
KAN16	**Harper SW Stat**	**1.63**	**341**		Pn	18 23 54.1	+0.2
KAN12	**Harper NE Stat**	**1.69**	**343**		Pn	18 23 54.6	+0.1
X37A	**Clayton**	**1.98**	**123**		Pn	18 23 56.5	-2.1
U38A	**Gravette**	**2.55**	**72**		Pn	18 24 06.9	+0.5
W39A	**Magazine**	**2.99**	**98**		Pn	18 24 11.5	-0.9
W39A				IAmb_Lg		18 25 04.6	
	comp=Z,19nm,0.8s						
MIAR	**Mount Ida**	**3.33**	**109**	IAmb_Lg		18 25 13.7	
	comp=Z,12nm,0.7s						
KSU1	**Kansas State U**	**3.47**	**10**	IAmb_Lg		18 25 22.6	
	comp=Z,16nm,0.8s						
ABTX	**Abilene, Hawle**	**3.57**	**212**	IAmb_Lg		18 25 21.2	
	comp=Z,16nm,0.9s						
CBKS	**Cedar Bluff**	**3.64**	**330**	IAmb_Lg		18 25 24.8	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**3.74**	**78**	Pn	Pn	18 24 22.7	-0.1
U40A				IAmb_Lg		18 25 30.4	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**3.84**	**57**		Pb	18 24 34.0	+1.2
X40A	**Basin Creek Fa**	**3.92**	**106**		Pn	18 24 23.8	-1.5
X40A				IAmb_Lg		18 25 31.9	
	comp=Z,31nm,0.9s						
WHAR	**Wooly Hollow**	**4.18**	**94**	IAmb_Lg		18 25 45.6	
	comp=Z,9.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.29**	**86**	IAmb_Lg		18 25 41.5	
	comp=Z,13nm,0.9s						
MSTX	**Muleshoe**	**4.74**	**250**		Pn	18 24 34.7	-1.9
R40A	**Maddies Statio**	**4.86**	**56**	Pn	Pn	18 24 37.4	-0.7
R40A				IAmb_Lg		18 26 04.9	
	comp=Z,13nm,1.3s						
P38A	**Dawn**	**4.99**	**37**		Pn	18 24 40.0	+0.1
P38A				IAmb_Lg		18 26 15.4	
	comp=Z,7.7nm,0.8s						
LCAR	**Lake Charles**	**5.08**	**84**	IAmb_Lg		18 26 09.5	
	comp=Z,9.9nm,1.1s						
T42A	**Van Buren**	**5.26**	**73**	IAmb_Lg		18 26 24.5	
	comp=Z,8.1nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		18 26 20.2	
	comp=Z,12nm,0.7s						
CCM	**Cathedral Cave**	**5.47**	**63**	IAmb_Lg		18 26 23.1	
	comp=Z,11nm,1.1s						
PBMO	**Poplar Bluff**	**5.74**	**77**	IAmb_Lg		18 26 30.2	
	comp=Z,12nm,0.8s						
BGNE	**Belgrade**	**5.75**	**354**	IAmb_Lg		18 26 25.1	
	comp=Z,10.0nm,0.7s						
JFWS	**Jewell Farm**	**9.10**	**35**	IAmb_Lg		18 28 38.1	
	comp=Z,6.4nm,0.7s						

*NEIC **08** 18:56:46.3±1.1, 10.°8S±0.°1×165.°9E±0.°1, h40km±12km, mb4.5/4, Error ellipse: s-maj=23.6km s-min=11.9km az=136.0*

*IDC **08** 18:56:57.8±9.8, 11.°52S×166.°17E, h166km±102km, mb3.4/6, mb1 3.6/7, mb1mx3.4/33, mbtmp3.9/7, Error ellipse: s-maj=72.8km s-min=27.7km az=160.0*

ISC 08 18:56:47.6±0.9, 11.°03S±0.°08×166.°0E±0.°2, h61km, n15, σ1§49/16, mb3.8/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.54**	**165**		**Pn**	**18 57 54.9**	**+1.1**
DZM	**Mont Dzumac**	**10.98**	**178**	P	**Pn**	**18 59 24.8**	**+2.6**
	0.9nm,0.3s,baz=146,slow=20,SNR=9.2						
DZM				S	**Sn**	**19 01 20.3**	**-3.2**
	1.1nm,0.3s,baz=177,slow=21,SNR=6.7						
PINNC	**Pines Island,**	**11.60**	**173**	Pn	**Pn**	**18 59 31.8**	**+1.4**
EIDS	**Eidsvold**	**20.07**	**223**		**Pn**	**19 01 18.3**	**-0.1**
EIDS				IAmb	IAmb	19 01 19.4	
	comp=Z,25nm,0.8s						
ARMA	**Armidale**	**23.46**	**213**	P	**P**	**19 01 53.1**	**+1.1**
ARMA				IAmb	IAmb	19 01 54.8	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**31.72**	**250**	P	**P**	**19 03 05.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=82,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**33.02**	**243**	P	**P**	**19 03 16.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=72,slow=9.2,SNR=7.7						
CMAR	**Chiang Mai Arr**	**72.33**	**293**	P	**P**	**19 08 08.4**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=120,slow=5.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**72.33**	**293**	P	**P**	**19 08 06.1**	**-1.3**
YAK	**Yakutsk**	**78.15**	**343**	P	**P**	**19 08 39.1**	**-0.8**
SONM	**Songino Array**	**78.80**	**324**	P	**P**	**19 08 44.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=153,slow=4.5,SNR=2.9						
IL31		**83.42**	**18**	P	**P**	**19 09 08.6**	**+0.6**
IL31				IAmb	IAmb	19 09 09.7	
	comp=Z,8.2nm,1.5s						
ILAR	**Eielson Array**	**83.42**	**18**	P	**P**	**19 09 08.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=246,slow=4.8,SNR=12						
MKAR	**Makanchi Array**	**93.68**	**317**	P	**P**	**19 09 57.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=90,slow=6.3,SNR=11						
ARCES	**ARCESS Array B**	**116.38**	**346**	PKP	**PKPdf**	**19 15 22.2**	**-1.7**
	comp=Z,5.9nm,1.2s,baz=29,slow=2.8,SNR=4.9						

*IDC **08** 19:09:39.0±1.1, 10.°06N×127.°10E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.8/39, mbtmp4.0/12, Error ellipse: s-maj=90.2km s-min=15.1km az=74.0*

*NEIC **08** 19:09:41.2±1.2, 10.°00N±0.°09×126.°9E±0.°2, h10km±1km, mb4.4/12, Error ellipse: s-maj=36.8km s-min=14.2km az=85.0*

*MAN **08** 19:09:47.0, 9.°90N×126.°62E, h11km, MS3.5*

ISC 08 19:09:39.3±2.2, 9.°92N±0.°05×126.°95E±0.°06, h1km±13km, n37, σ1§28/42, mb4.1/15, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLSP	**General Luna,**	**0.82**	**261**	*e*P	**Pn**	**19 09 57.1**	**-0.9**
GLSP				*e*S	**Sb**	**19 10 07.5**	**-0.4**
SCPH	**Surigao**	**1.45**	**265**	*e*P	**Pb**	**19 10 07.0**	**0.0**
SCPH				*e*S	**Sn**	**19 10 24.2**	**-2.0**
BUTP	**Butuan**	**1.61**	**234**	*e*P	**Pg**	**19 10 10.6**	**+0.3**
BUTP				*e*S	**Sn**	**19 10 29.3**	**-1.1**
MSLP	**Maasin**	**2.07**	**276**	*e*P	**Pb**	**19 10 17.4**	**-0.3**
MSLP				*e*S	**Sn**	**19 10 42.0**	**+0.4**
OCLP	**Ormoc**	**2.56**	**296**	*e*P	**Pn**	**19 10 23.9**	**+1.9**
CGP	**Cagayan de Oro**	**2.66**	**237**	*e*P	**Pb**	**19 10 25.9**	**-1.9**
CGP				*e*S	**Sn**	**19 10 56.1**	**0.0**
BUKP	**Musuan**	**2.75**	**223**	*e*P	**Pb**	**19 10 29.3**	**-0.1**
BUKP				*e*S	**Sb**	**19 11 04.3**	**+0.7**
MATI	**Mati**	**3.03**	**193**	*e*P	**Pb**	**19 10 31.8**	**-2.3**
MATI				*e*S	**Sn**	**19 11 05.8**	**+0.5**
KCP	**Kidapawan**	**3.42**	**213**	*e*P	**Pb**	**19 10 39.2**	**-1.7**
SNPH	**Sibulan**	**3.71**	**261**	*e*P	**Pn**	**19 10 41.2**	**+3.5**
SNPH				*e*S	**Sb**	**19 11 29.2**	**-1.9**
CNOP	**Candoni, Negro**	**4.25**	**269**	*e*P	**Pn**	**19 10 47.6**	**+2.5**
CNOP				*e*S	**Sn**	**19 11 35.8**	**+0.4**
TNTI	**Ternate**	**9.09**	**177**	Pn	**Pn**	**19 11 52.0**	**+0.2**
BATI	**Baumata**	**20.26**	**189**	P	Pn	19 14 19.1	+0.8
	18nm,0.5s,baz=343,slow=1.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**27.86**	**183**	P	**P**	**19 15 31.3**	**+0.6**
	2.2nm,0.8s,baz=1.0,slow=8.9,SNR=2.0						
FITZ	**Fitzroy Crossi**	**27.86**	**183**	IAmb	IAmb	19 16 00.3	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**30.55**	**166**	P	**P**	**19 15 54.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=344,slow=9.4,SNR=5.0						
AS31	**Alice Springs**	**34.06**	**169**	P	**P**	**19 16 25.1**	**-0.3**
ASAR	**Alice Springs**	**34.06**	**169**	P	**P**	**19 16 25.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=352,slow=7.0,SNR=20						
MDJ	**Mudanjiang**	**34.65**	**3**	P	**P**	**19 16 28.3**	**-1.9**
MDJ				IAmb	IAmb	19 16 43.0	
	comp=Z,6.7nm,1.1s						
MORW	**Morawa**	**40.16**	**195**	P	**P**	**19 17 17.4**	**+0.3**
MORW				IAmb	IAmb	19 17 18.4	
	comp=Z,16nm,1.4s						
FORT	**Forrest**	**40.48**	**179**	P	**P**	**19 17 20.6**	**+1.0**
SONM	**Songino Array**	**41.58**	**339**	P	**P**	**19 17 28.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=145,slow=8.8,SNR=2.5						
BBOO	**Buckleboo**	**43.37**	**169**	P	**P**	**19 17 44.1**	**+0.8**
STKA	**Stephens Creek**	**43.86**	**162**	P	**P**	**19 17 48.1**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=326,slow=3.6,SNR=4.4						
STKA	**Stephens Creek**	**43.86**	**162**	IAmb	IAmb	19 17 48.1	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**52.71**	**323**	P	**P**	**19 18 55.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=118,slow=7.9,SNR=6.6						
MKAR	**Makanchi Array**	**52.71**	**323**	P	**P**	**19 18 54.0**	**-1.6**
ZALV	**Zalesovo Beam**	**55.26**	**331**	P	**P**	**19 19 13.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=103,slow=12,SNR=4.1						
BKZ	**Black Stump Fm**	**67.08**	**140**	P	**P**	**19 20 34.2**	**-0.4**
CMWZ	**Cape Campbell**	**67.24**	**143**	P	**P**	**19 20 36.0**	**+0.5**
SKT	**Skwentna**	**77.33**	**29**	P	**P**	**19 21 35.1**	**-0.4**
SKT				IAmb	IAmb	19 21 45.2	
	comp=Z,4.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**77.68**	**26**	P	**P**	**19 21 39.4**	**+2.0**
BPAW				IAmb	IAmb	19 21 44.7	
	comp=Z,2.6nm,1.2s						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**19 22 15.0**	**0.0**
	comp=Z,2.0nm,0.8s,baz=226,slow=33,SNR=1.4						
FINES	**FINESS Array B**	**86.52**	**332**	P	**P**	**19 22 23.4**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=61,slow=3.4,SNR=14						
AKASG	**Malin Array Be**	**87.26**	**321**	P	**P**	**19 22 26.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=60,slow=4.4,SNR=4.2						
AKASG	**Malin Array Be**	**87.26**	**321**	IAmb	IAmb	19 22 34.3	
	comp=Z,1.5nm,1.3s						
VNDA	**Vanda**	**89.50**	**173**	P	**P**	**19 22 39.0**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=336,slow=5.9,SNR=1.8						

*IDC **08** 19:14:15.8±2.0, 12.°90N×146.°19E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/38, mbtmp3.6/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=53.6km s-min=24.8km az=73.0*

ISC 08 19:14:23.1±1.5, 12.°9N±0.°2×146.°0E±0.°2, h50km, n8, σ1§58/8, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.27**	**302**	Pn	**Pn**	**19 14 42.6**	**-1.9**
	160nm,0.3s,baz=129,slow=8.1,SNR=100						
GUMO				Sn	**Sn**	**19 15 01.0**	**+0.6**
	108nm,0.3s,baz=346,slow=22,SNR=8.8						
GUMO				LR	LR	19 15 26.5	
	comp=Z,157nm,18.8s,baz=136,slow=49						
MJAR	**Matsushiro Arr**	**24.55**	**345**	LR	LR	19 28 46.6	
	comp=Z,34nm,19.6s,baz=190,slow=35						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.59**	**200**	P	**P**	**19 21 07.2**	**-0.2**
	0.2nm,0.7s,baz=25,slow=9.9,SNR=1.5						
ASAR	**Alice Springs**	**38.22**	**198**	P	**P**	**19 21 38.0**	**-0.3**
	0.3nm,0.8s,baz=20,slow=11,SNR=1.3						
CMAR	**Chiang Mai Arr**	**45.52**	**283**	P	**P**	**19 22 39.5**	**+1.4**
	0.5nm,0.9s,baz=96,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**62.72**	**316**	P	**P**	**19 24 44.3**	**+1.2**
	0.3nm,0.4s,baz=93,slow=8.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**62.80**	**324**	P	**P**	**19 24 45.1**	**+1.7**
	0.5nm,0.5s,baz=97,slow=7.4,SNR=1.9						
FINES	**FINESS Array B**	**92.23**	**335**	P	**P**	**19 27 26.0**	**-1.4**
	1.4nm,0.8s,baz=168,slow=9.8,SNR=1.8						

IDC 08 19:46:11.3±7.6, 17.°33S×176.°29W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/38, mbtmp4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/28, Error ellipse: s-maj=313.8km s-min=68.3km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.72**	**259**	P	P	19 54 42.1	-0.4
	0.5nm,0.5s,baz=96,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**46.89**	**254**	P	P	19 54 44.0	+0.2
	2.1nm,0.6s,baz=87,slow=8.6,SNR=34						
SIJI	**Sorong**	**54.08**	**282**	LR	LR	20 19 23.6	
	comp=Z,39nm,18.1s,baz=95,slow=37						
BRTR	**Keskin Array B**	**145.77**	**317**	PKPbc	PKPdf	20 05 51.9	-0.5
	0.3nm,0.5s,baz=37,slow=3.6,SNR=2.3						

*IDC **08** 19:55:34.8±1.2, 14.°12N×145.°90E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/40, mbtmp3.8/7, Error ellipse: s-maj=30.6km s-min=18.0km az=123.0*

*NEIC **08** 19:55:45.0±1.2, 13.°9N±0.°2×145.°4E±0.°2, h49km±8km, mb4.1/4, Error ellipse: s-maj=27.2km s-min=18.5km az=141.0*

ISC 08 19:55:41.6±1.2, 14.°0N±0.°2×145.°9E±0.°2, h50km, n14, σ1§63/15, mb4.0/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.04**	**246**	Pn	**Pn**	**19 55 57.2**	**-2.7**
	47nm,0.3s,baz=119,slow=4.5,SNR=35						
GUMO				Sn	**Sn**	**19 56 14.7**	**+1.2**
	140nm,0.3s,baz=322,slow=16,SNR=24						
WRA	**Warramunga Arr**	**35.60**	**199**	P	**P**	**20 02 35.0**	**+0.4**
	0.9nm,0.7s,baz=25,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**39.23**	**197**	P	**P**	**20 03 07.2**	**+1.8**
	0.3nm,0.6s,baz=21,slow=10,SNR=5.0						
CMAR	**Chiang Mai Arr**	**45.16**	**282**	P	**P**	**20 03 52.8**	**-1.0**
	0.7nm,0.7s,baz=86,slow=5.9,SNR=8.9						
LSA	**Lhasa**	**52.65**	**297**	P	**P**	**20 04 53.4**	**+1.7**
LSA				IAmb	IAmb	20 04 54.1	
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.83**	**324**	P	**P**	**20 05 56.4**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=107,slow=5.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.83**	**324**	P	**P**	**20 05 56.9**	**+1.4**
MK31	**Makanchi Array**	**61.84**	**316**	P	**P**	**20 05 57.4**	**+1.7**
MK31				IAmb	IAmb	20 06 14.3	
	comp=Z,1.8nm,1.2s						
MKAR	**Makanchi Array**	**61.84**	**316**	P	**P**	**20 05 57.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=92,slow=8.3,SNR=12						
ILAR	**Eielson Array**	**67.78**	**25**	P	**P**	**20 06 32.6**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=249,slow=6.0,SNR=5.2						
BRVK	**Borovoye**	**70.25**	**322**	P	**P**	**20 06 51.3**	**+1.8**
ABKAR	**Akbulak array**	**76.86**	**318**	P	**P**	**20 07 28.7**	**+0.3**
ABKAR	**Akbulak array**	**76.86**	**318**	P	**P**	**20 07 28.4**	**-0.1**
ABKAR				IAmb	IAmb	20 07 29.4	
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**91.17**	**335**	P	**P**	**20 08 39.5**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=66,slow=4.8,SNR=6.7						

*IDC **08** 20:03:14.2±3.8, 6.°18S×10.°80W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/26, mbtmp3.8/4, MS3.8/22, Ms1 3.8/22, ms1mx3.8/25, Error ellipse: s-maj=108.2km s-min=36.3km az=77.0*

*NEIC **08** 20:03:14.1±1.5, 6.°0S±0.°2×11.°2W±0.°2, h10km±2km, mb4.5/6, Error ellipse: s-maj=35.4km s-min=25.7km az=156.0*

*GCMT **08** 20:03:15.1±0.3, 6.°65S±0.°05×11.°27W±0.°02, h21

ULM	**Lac du Bonnet**	**91.54**	**320**	LR	LR	20 51 02.2
	comp=Z,46nm,20.8s,baz=106,slow=31					
TXAR	**Lajitas Array**	**95.54**	**299**	LR	LR	20 56 31.2
	comp=Z,18nm,19.2s,baz=0.0,slow=34					
MKAR	**Makanchi Array**	**96.38**	**44**	LR	LR	21 03 24.8
	comp=Z,31nm,20.4s,baz=281,slow=37					
NRIK	**Noril'sk**	**98.52**	**21**	LR	LR	21 05 43.9
	comp=Z,40nm,19.4s,baz=2.5,slow=38					

*IDC **08** 20:03:31.1±1.3, 13.°60N×146.°16E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, Error ellipse: s-maj=27.5km s-min=23.5km az=156.0*

ISC 08 20:03:37.0±1.1, 13.°6N±0.°2×146.°1E±0.°1, h43km, n7, σ0.99/8, mb3.5/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.20**	**271**	Pn		**Pn**	**20 03 56.2**	**-1.2**
	51nm,0.3s,baz=127,slow=7.3,SNR=26							
GUMO				Sn		**Sn**	**20 04 13.6**	**+1.1**
	67nm,0.3s,baz=327,slow=23,SNR=7.2							
WRA	**Warramunga Arr**	**35.26**	**199**	P		**P**	**20 10 28.2**	**+0.4**
	0.4nm,0.9s,baz=29,slow=9.6,SNR=2.7							
ASAR	**Alice Springs**	**38.89**	**198**	P		**P**	**20 10 58.7**	**+0.2**
	0.2nm,0.8s,baz=15,slow=7.7,SNR=1.5							
CMAR	**Chiang Mai Arr**	**45.49**	**283**	P		**P**	**20 11 52.2**	**-0.4**
	0.6nm,0.8s,baz=88,slow=6.4,SNR=7.8							
MKAR	**Makanchi Array**	**62.34**	**316**	P		**P**	**20 13 56.5**	**+1.3**
	0.6nm,0.6s,baz=86,slow=9.0,SNR=8.7							
ILAR	**Eielson Array**	**68.07**	**25**	P		**P**	**20 14 32.0**	**0.0**
	0.4nm,0.8s,baz=260,slow=5.8,SNR=2.4							
FINES	**FINESS Array B**	**91.68**	**335**	P		**P**	**20 16 39.0**	**-0.6**
	2.0nm,1.0s,baz=211,slow=11,SNR=3.5							

*JMA **08** 20:21:01.8±0.2, 24.°83N×122.°99E, h129km±3km, M2.2*
*TAP **08** 20:21:01.9, 24.°77N×122.°99E, h131km, ML2.9, B*

ISC 08 20:21:02.5±1.5, 24.°77N±0.°05×122.°99E±0.°03, h125km±9km, n78, σ0.961/140, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**176**	P		**Pn**	**20 21 20.3**	**+0.2**
YOJ				S		**Sn**	**20 21 34.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.31**	**176**	*i* P		**Pn**	**20 21 20.2**	**+0.2**
	baz=177							
YOJ				*i* S		**Sn**	**20 21 33.6**	**+0.3**
	baz=177							
JYNG	**Yonagunijimaku**	**0.32**	**187**	P		**Pn**	**20 21 20.3**	**+0.1**
JYNG				*e*S		**Sn**	**20 21 34.3**	**+0.9**
IRIF	**Iriomote-Funau**	**0.80**	**122**	P		**Pn**	**20 21 23.2**	**0.0**
IRIF				S		**Sn**	**20 21 39.2**	**+0.4**
TWB1	**Santiao Chiao**	**0.94**	**285**	*e*P		**Pn**	**20 21 24.4**	**0.0**
	baz=284							
EGS		**0.96**	**275**	*e*P		**Pn**	**20 21 24.6**	**0.0**
	baz=274							
HATJ	**Hateruma jima**	**1.03**	**133**	P		**Pn**	**20 21 25.9**	**+0.7**
HATJ				*e*S		**Sn**	**20 21 43.2**	**+0.8**
TWC	**Suao**	**1.05**	**262**	*i* P		**Pn**	**20 21 25.0**	**-0.4**
	baz=261							
TWC				S		**Sn**	**20 21 42.1**	**-0.7**
	baz=261							
JKRS	**Kuro-shima**	**1.07**	**119**	P		**Pn**	**20 21 26.2**	**+0.6**
JKRS				S		**Sn**	**20 21 43.5**	**+0.4**
TIPB	**Shuangxi**	**1.08**	**281**	*i* P		**Pn**	**20 21 26.0**	**+0.2**
	baz=280							
TIPB				S		**Sn**	**20 21 42.7**	**-0.7**
	baz=280							
JIJ	**Ishigaki jima**	**1.12**	**111**	P		**Pn**	**20 21 26.0**	**-0.2**
JIJ				S		**Sn**	**20 21 43.3**	**-0.8**
NDS	**Dongshan**	**1.17**	**264**	P		**Pn**	**20 21 26.5**	**-0.1**
	baz=263							
NDS				S		**Sn**	**20 21 44.7**	**-0.2**
	baz=263							
PCYT	**Pengchaiyu**	**1.20**	**316**	*e*P		**Pn**	**20 21 27.4**	**+0.5**
	baz=315							
TWE	**Neicheng**	**1.20**	**268**	*i* P		**Pn**	**20 21 27.2**	**+0.2**
	baz=267							
TWE				S		**Sn**	**20 21 45.0**	**-0.6**
	baz=267							
JISG	**Ishigakijimahi**	**1.22**	**98**	P		**Pn**	**20 21 26.8**	**-0.3**
JISG				S		**Sn**	**20 21 45.0**	**-0.8**
TWA	**Mucha**	**1.29**	**280**	*e*P		**Pn**	**20 21 27.6**	**-0.4**
	baz=279							
YM01	**YM01**	**1.34**	**287**	P		**Pn**	**20 21 28.4**	**-0.1**
	baz=286							
YM01				S		**Sn**	**20 21 48.5**	**+0.1**
	baz=286							
NHDH	**Xindian Distri**	**1.34**	**279**	*e*P		**Pn**	**20 21 28.2**	**-0.3**
	baz=278							
NWLT	**Wulai**	**1.35**	**271**	*e*P		**Pn**	**20 21 28.9**	**+0.3**
	baz=270							
NWLT				*e*S		**Sn**	**20 21 49.0**	**+0.5**
	baz=270							
NDT	**Datong Townshi**	**1.35**	**263**	*e*P		**Pn**	**20 21 29.0**	**+0.3**
	baz=262							
NDT				*e*S		**Sn**	**20 21 48.9**	**+0.4**
	baz=262							
TWY	**Chenhua**	**1.36**	**292**	*e*P		**Pn**	**20 21 27.9**	**-0.7**
	baz=291							
TAP	**Taipei**	**1.38**	**282**	*e*P		**Pn**	**20 21 28.5**	**-0.3**
	baz=281							
NACB	**Ninganchiao**	**1.40**	**245**	P		**Pn**	**20 21 28.7**	**-0.4**
	baz=244							
NACB				*e*S		**Sn**	**20 21 48.6**	**-0.8**
	baz=244							
TWD	**Chiawan**	**1.44**	**242**	P		**Pn**	**20 21 29.2**	**-0.4**
	baz=241							
TWD				*e*S		**Sn**	**20 21 49.9**	**-0.4**
	baz=241							
YHNB	**Yeheng**	**1.47**	**267**	P		**Pn**	**20 21 30.3**	**+0.3**
	baz=266							
YHNB				S		**Sn**	**20 21 50.3**	**-0.7**
	baz=266							
ETLH	**Xiulin Townshi**	**1.48**	**248**	P		**Pn**	**20 21 30.0**	**-0.2**
	baz=247							
ETLH				*e*S		**Sn**	**20 21 50.8**	**-0.5**
	baz=247							
NSK	**Sanguang**	**1.49**	**267**	P		**Pn**	**20 21 30.2**	**+0.1**
	baz=266							
NSK				S		**Sn**	**20 21 51.0**	**-0.2**
	baz=266							
NNSB	**Datong**	**1.50**	**257**	P		**Pn**	**20 21 30.5**	**+0.1**
	baz=256							
NNSB				*e*S		**Sn**	**20 21 51.3**	**-0.3**
	baz=256							
NNSH	**Datong**	**1.50**	**257**	P		**Pn**	**20 21 30.4**	**0.0**
	baz=256							
NNSH				*e*S		**Sn**	**20 21 50.9**	**-0.8**
	baz=256							
NNS	**Nan Shan**	**1.51**	**258**	P		**Pn**	**20 21 30.6**	**+0.1**
	baz=257							
NNS				*e*S		**Sn**	**20 21 50.3**	**-1.5**
	baz=257							
TEYL	**Yanliau Villag**	**1.56**	**235**	P		**Pn**	**20 21 30.4**	**-0.5**
	baz=235							
TEYL				*e*S		**Sn**	**20 21 52.1**	**-0.4**
	baz=235							
JTJ	**Tarama**	**1.56**	**94**	P		**Pn**	**20 21 30.8**	**-0.1**
JTJ				S		**Sn**	**20 21 52.6**	**0.0**
ETM	**Tongmen**	**1.58**	**240**	P		**Pn**	**20 21 30.8**	**-0.4**
	baz=239							
ETM				S		**Sn**	**20 21 52.3**	**-0.8**
	baz=239							
FUSS	**Fushou**	**1.67**	**252**	P		**Pn**	**20 21 32.8**	**+0.3**
	baz=251							
FUSS				S		**Sn**	**20 21 54.9**	**-0.5**
	baz=251							
WHF	**Hehuan Shan**	**1.69**	**249**	P		**Pn**	**20 21 32.8**	**-0.1**
	baz=248							
WHF				S		**Sn**	**20 21 55.5**	**-0.6**
	baz=248							
TEGC	**Jichi Village**	**1.69**	**232**	*e*P		**Pn**	**20 21 32.5**	**0.0**
	baz=231							
TEGC				*e*S		**Sn**	**20 21 55.6**	**+0.3**
	baz=231							
ESL	**Shilin**	**1.71**	**237**	*e*P		**Pn**	**20 21 32.7**	**0.0**
	baz=235							
TWT	**Tachien**	**1.73**	**253**	*e*P		**Pn**	**20 21 33.7**	**+0.6**
	baz=252							
TWT				S		**Sn**	**20 21 56.3**	**-0.1**
	baz=252							
TDCB	**Techi**	**1.75**	**253**	*e*P		**Pn**	**20 21 33.4**	**+0.1**
	baz=252							
TDCB				*e*S		**Sn**	**20 21 56.2**	**-0.5**
	baz=252							
EGFH	**Guangfu**	**1.80**	**233**	P		**Pn**	**20 21 33.6**	**-0.2**
	baz=232							
EGFH				*e*S		**Sn**	**20 21 57.3**	**-0.3**
	baz=232							
CHGB	**Renai**	**1.80**	**247**	P		**Pn**	**20 21 34.3**	**+0.3**
	baz=246							
CHGB				S		**Sn**	**20 21 57.9**	**-0.1**
	baz=246							
LIOB	**Emei**	**1.80**	**267**	*e*P		**Pn**	**20 21 33.9**	**+0.1**
	baz=266							
LIOB				S		**Sn**	**20 21 57.4**	**-0.3**
	baz=266							
NSTT	**Nanjuang**	**1.81**	**266**	*e*P		**Pn**	**20 21 34.1**	**+0.1**
	baz=265							
NSTT				S		**Sn**	**20 21 57.4**	**-0.6**
	baz=265							
OWD	**Renai**	**1.84**	**244**	P		**Pn**	**20 21 34.4**	**0.0**
	baz=243							
OWD				*e*S		**Sn**	**20 21 58.8**	**0.0**
	baz=243							
HGSD	**Ruisui**	**1.91**	**229**	*e*P		**Pn**	**20 21 35.1**	**-0.1**
	baz=228							
HGSD				*e*S		**Sn**	**20 22 00.1**	**0.0**
	baz=228							
WHP	**Taichung City**	**1.93**	**256**	*e*P		**Pn**	**20 21 36.3**	**+0.9**
	baz=255							
WHP				*e*S		**Sn**	**20 22 01.1**	**+0.6**
	baz=255							
EHY	**Hungye**	**1.98**	**231**	P		**Pn**	**20 21 35.4**	**-0.5**
	baz=230							
EHY				S		**Sn**	**20 22 00.6**	**-0.9**
	baz=230							
JIRB	**Irabujima**	**1.98**	**88**	P		**Pn**	**20 21 35.6**	**-0.4**
JIRB				S		**Sn**	**20 22 02.2**	**+0.6**
WPL	**Puli Township**	**2.00**	**248**	*e*P		**Pn**	**20 21 37.0**	**+0.7**
	baz=247							
WPL				*e*S		**Sn**	**20 22 02.0**	**0.0**
	baz=247							
DPDB	**Guoxing**	**2.02**	**249**	*e*P		**Pn**	**20 21 37.0**	**+0.5**
	baz=248							
DPDB				*e*S		**Sn**	**20 22 03.0**	**+0.5**
	baz=248							
WCS	**Beigang Elemen**	**2.02**	**250**	*e*P		**Pn**	**20 21 37.5**	**+1.0**
	baz=249							
WCS				*e*S		**Sn**	**20 22 03.5**	**+1.0**
	baz=249							
YULB	**Yu-li**	**2.07**	**229**	*e*P		**Pn**	**20 21 36.8**	**-0.3**
	baz=228							
YULB				*e*S		**Sn**	**20 22 02.4**	**-1.1**
	baz=228							
EYUL	**Yuli**	**2.08**	**228**	*e*P		**Pn**	**20 21 37.9**	**+0.7**
	baz=227							
EYUL				*e*S		**Sn**	**20 22 05.2**	**+1.4**
	baz=227							
JMJ	**Miyako jima 2**	**2.09**	**88**	*e*P		**Pn**	**20 21 37.3**	**0.0**
	baz=88							
JMJ				S		**Sn**	**20 22 02.9**	**-1.1**
	baz=88							
TWF1	**Yuli**	**2.09**	**228**	*e*P		**Pn**	**20 21 37.0**	**-0.4**
	baz=227							
TWF1				*e*S		**Sn**	**20 22 03.3**	**-0.8**
	baz=227							
SSLB	**Suanglung**	**2.10**	**243**	*e*P		**Pn**	**20 21 38.5**	**+1.0**
	baz=242							
SSLB				*e*S		**Sn**	**20 22 04.2**	**-0.1**
	baz=242							
SMLT	**Sun Moon Lake**	**2.10**	**246**	*e*P		**Pn**	**20 21 38.4**	**+0.9**
	baz=244							
SMLT				*e*S		**Sn**	**20 22 04.6**	**+0.2**
	baz=244							
JMJ2	**Miyako jima3**	**2.12**	**90**	P		**Pn**	**20 21 38.0**	**+0.3**
TYC	**Yuchr**	**2.13**	**247**	*e*P		**Pn**	**20 21 38.6**	**+0.8**
	baz=245							
TYC				*e*S		**Sn**	**20 22 05.5**	**+0.7**
	baz=245							
JOGS	**Gusukube**	**2.20**	**90**	P		**Pn**	**20 21 38.9**	**+0.3**
FULB	**Fuli**	**2.20**	**225**	P		**Pn**	**20 21 38.5**	**-0.2**
	baz=224							
FULB				*e*S		**Sn**	**20 22 07.0**	**+0.4**
	baz=224							
CHKT	**Chengkung**	**2.23**	**222**	*e*P		**Pn**	**20 21 38.4**	**-0.7**
	baz=221							
CHKT				*e*S		**Sn**	**20 22 06.1**	**-1.0**
	baz=221							
YUS	**Yu-Shan**	**2.26**	**236**	*e*P		**Pn**	**20 21 40.3**	**+0.4**
	baz=235							
YUS				*e*S		**Sn**	**20 22 08.0**	**-0.5**
	baz=235							
WNT	**Mingjian**	**2.28**	**248**	*e*P		**Pn**	**20 21 40.5**	**+0.7**
	baz=246							
WNT				*e*S		**Sn**	**20 22 08.4**	**+0.2**
	baz=246							
ALS	**Alishan**	**2.36**	**238**	*e*P		**Pn**	**20 21 41.8**	**+0.8**
	baz=237							
EDH	**Donghe**	**2.36**	**221**	*e*P		**Pn**	**20 21 40.5**	**-0.2**
	baz=220							
EDH				*e*S		**Sn**	**20 22 09.5**	**-0.6**
	baz=220							
ELDTW	**Lidau**	**2.39**	**229**	*e*P		**Pn**	**20 21 40.8**	**-0.5**
	baz=228							
ELDTW				*e*S		**Sn**	**20 22 10.2**	**-0.8**
	baz=228							
CHN5	**Tsauling**	**2.41**	**242**	*e*P		**Pn**	**20 21 41.6**	**+0.2**
	baz=241							
CHN5				*e*S		**Sn**	**20 22 12.5**	**+1.1**
	baz=241							
LDUT	**Ludao**	**2.51**	**214**	*e*P		**Pn**	**20 21 41.6**	**-1.0**
	baz=213							
LDUT				*e*S		**Sn**	**20 22 12.5**	**-0.9**
	baz=213							
STYH	**Taoyuan**	**2.58**	**232**	*e*P		**Pn**	**20 21 44.1**	**+0.6**
	baz=231							
STYT	**Tauyuan**	**2.59**	**232**	*e*P		**Pn**	**20 21 44.5**	**+0.7**
	baz=231							
CHN4	**Tsaushan**	**2.61**	**238**	*e*P		**Pn**	**20 21 44.8**	**+0.9**
	baz=237							
CHN4				*e*S		**Sn**	**20 22 16.8**	**+1.1**
	baz=237							
TPUB	**Ta-pu**	**2.61**	**236**	*e*P		**Pn**	**20 21 43.8**	**-0.1**
	baz=235							
TPUB				*e*S		**Sn**	**20 22 17.6**	**+1.9**
	baz=235							
WTK	**Tuku**	**2.61**	**246**	*e*P		**Pn**	**20 21 43.2**	**-0.6**
	baz=245							
WTK				*e*S		**Sn**	**20 22 15.6**	**-0.1**
	baz=245							
TWGBT	**Beinan**	**2.61**	**222**	*e*P		**Pn**	**20 21 43.6**	**-0.3**
	baz=221							
WTP	**Ta-pu**	**2.65**	**236**	*e*P		**Pn**	**20 21 44.6**	**+0.2**
	baz=234							
WTP				*e*S		**Sn**	**20 22 18.1**	**+1.4**
	baz=234							
TWK	**Hsinying**	**2.73**	**237**	*e*P		**Pn**	**20 21 45.1**	**-0.5**
	baz=236							
CHN1	**Nanshi**	**2.75**	**236**	*e*P		**Pn**	**20 21 47.2**	**+1.5**
	baz=234							

IDC 08 20:35:40.1±5.0, 16.°29S×173.°27W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/40, mbtmp4.0/4, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=212.2km s-min=28.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**32**	Pn		Pn	20 36 24.2	-1.6
	7.6nm,0.3s,baz=29,slow=4.1,SNR=6.3							
AFI				Sn		Sn	20 36 52.8	-7.2
	52nm,0.3s,baz=64,slow=21,SNR=13							
AFI				LR		LR	20 37 02.0	
	comp=Z,58nm,22.0s,baz=282,slow=30							
STKA	**Stephens Creek**	**43.71**	**241**	P		P	20 43 46.7	-0.5
	3.0nm,0.9s,baz=63,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**49.77**	**257**	P		P	20 44 34.5	-0.4
	0.7nm,0.6s,baz=96,slow=7.6,SNR=9.4							
ASAR	**Alice Springs**	**49.96**	**253**	P		P	20 44 36.0	-0.3
	2.8nm,0.6s,baz=89,slow=7.8,SNR=37							
FITZ	**Fitzroy Crossi**	**58.15**	**259**	LR		LR	21 10 21.2	
	comp=Z,87nm,21.2s,baz=196,slow=36							
BRTR	**Keskin Array B**	**146.92**	**320**	PKPbc		PKPab	20 55 26.0	-0.4
	0.7nm,0.7s,baz=126,slow=2.0,SNR=4.1							

*MOS **08** 20:44:04.7±1.0, 36.°28N×140.°10E, h51km, mb4.7/9, Error ellipse: s-maj=7.7km s-min=5.2km az=103.5*
*NIED **08** 20:44:07.6, 36.°18N×140.°01E, h51km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.53; Mθθ-2.25; Mφφ-0.28; Mrθ1.69; Mrφ-0.96; Mθφ1.79; Fault plane solution: M0 3.57000×10^15 NP1: φs52.00000°, δ67.00000°, λ77.00000°. NP2: φs263.00000°, δ26.00000°, λ119.00000°.*
*NEIC **08** 20:44:07.6±2.0, 36.°24N±0.°05×140.°04E±0.°07, h54km±2km, mb4.5/69 Error ellipse: s-maj=9.5km s-min=7.0km az=127.0*
*JMA **08** 20:44:07.5±0.1, 36.°18N×140.°01E, h51km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs230.00000°, δ38.00000°, λ84.00000°. NP2: φs59.00000°, δ52.00000°, λ95.00000°. Principal axes: T Plg82.0000°, Azm355.0000°; N Plg4.0000°, Azm235.0000°; P Plg7.0000°, Azm145.0000°;*
JMA Felt IV J1.
*IDC **08** 20:44:07.5±1.7, 36.°22N×139.°91E, h58km±14km, mb3.9/28, mb1 4.1/31, mb1mx4.0/40, mbtmp4.2/31, MS3.2/13, Ms1 3.2/13, ms1mx3.0/51 Error ellipse: s-maj=14.1km s-min=11.1km az=104.0*
*BJI **08** 20:44:08.0±0.0, 36.°30N×139.°90E, h60km, mB4.7/25, mb4.5/41, Ms3.8/2, Ms7 3.5/2*

ISC 08 20:44:07.0±0.5, 36.°25N±0.°04×140.°05E±0.°04, h59km±3km, h58km:pP-P, n221, σ1.948/241, mb4.4/72, MS3.4/12, 8C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.12**	**98**	⇑P		**Pn**	**20 44 15.8**	**-0.1**
JYT				S		**Sn**	**20 44 21.5**	**-0.8**
JYT	**Yasato**	**0.12**	**98**	Pn		**Pn**	**20 44 15.8**	**-0.1**
JYT				Sn		**Sn**	**20 44 21.8**	**-0.5**
JAG	**Ashikaga**	**0.51**	**291**	⇓P		**Pn**	**20 44 19.2**	**+0.2**
JAG				*e*S		**Sn**	**20 44 27.1**	**-0.6**
JKT	**Katashina**	**0.83**	**309**	⇓P		**Pn**	**20 44 23.2**	**+0.3**
JKT				*e*S		**Sn**	**20 44 34.6**	**+0.1**
JRY	**Ryogami san**	**0.95**	**257**	⇓P		**Pn**	**20 44 24.3**	**-0.1**
JRY				*e*S		**Sn**	**20 44 36.4**	**-0.9**
JFY	**Yanaizu**	**1.19**	**347**	⇓P		**Pn**	**20 44 28.9**	**+1.3**
JFY				*e*S		**Sn**	**20 44 44.9**	**+2.0**
JOD2	**Odawara 2**	**1.25**	**219**	P		**Pn**	**20 44 28.1**	**-0.3**
JOD2				*e*S		**Sn**	**20 44 42.9**	**-1.4**
MJAR	**Matsushiro Arr**	**1.51**	**282**	P		**Pn**	**20 44 31.1**	**-0.7**
	52nm,0.3s,baz=117,slow=8.0,SNR=1570							
MJAR				S		**Sn**	**20 44 45.0**	**-5.5**
	38nm,0.3s,baz=94,slow=16,SNR=12							
MJAR				LR		LR	20 45 19.3	
	comp=Z,490nm,19.4s,baz=130,slow=52							
MJAR	**Matsushiro Arr**	**1.51**	**282**	P		**Pn**	**20 44 32.5**	**+0.6**
MJAR	**Matsushiro Arr**	**1.51**	**282**	Pn		**Pn**	**20 44 32.5**	**+0.6**
MAJO	**Matsushiro**	**1.52**	**282**	*d* P		**Pn**	**20 44 32.9**	**+1.0**
MAJO	**Matsushiro**	**1.52**	**282**	Pn		**Pn**	**20 44 32.8**	**+0.9**
MAT	**Matsushiro**	**1.52**	**282**	P		**Pn**	**20 44 31.8**	**-0.1**
MAT				*e*S		**Sn**	**20 44 51.6**	**+1.0**
MJB9	**Matsu-Tunnel**	**1.52**	**282**			**Pn**	**20 44 32.9**	**+1.0**
JMM	**Marumori**	**1.72**	**20**			**Pn**	**20 44 36.0**	**+1.3**
JSG	**Sagara**	**2.18**	**225**			**Pn**	**20 44 42.2**	**+1.3**
JGF	**Kuroka**	**2.28**	**254**			**Pn**	**20 44 44.1**	**+1.8**
JSD	**Sado**	**2.29**	**322**	Pn		**Pn**	**20 44 43.4**	**+1.0**
INU	**Inuyama**	**2.62**	**251**			**Pn**	**20 44 47.9**	**+1.0**
JHJ	**Hachijo jima 2**	**3.13**	**184**	P		**Pn**	**20 44 52.7**	**-1.1**
	455nm,0.3s,baz=320,slow=16,SNR=90							
JHJ				S		**Sn**	**20 45 26.1**	**-3.9**
	273nm,0.3s,baz=243,slow=22,SNR=6.0							
JHJ2	**Mitsune**	**3.13**	**184**	Pn		**Pn**	**20 44 52.9**	**-1.0**
JWT	**Wachi**	**3.90**	**257**	Pn		**Pn**	**20 45 06.0**	**+1.7**
JTM	**Tenmabayashi**	**4.61**	**10**	Pn		**Pn**	**20 45 15.8**	**+1.8**
JMN	**Monobe**	**5.65**	**245**	Pn		**Pn**	**20 45 29.3**	**+0.8**
JHS	**Saijyo**	**5.78**	**260**	Pn		**Pn**	**20 45 31.8**	**+1.6**
ERM	**Erimo**	**6.25**	**22**	*i* P		**Pn**	**20 45 37.2**	**+0.7**
ERM	**Erimo**	**6.25**	**22**	Pn		**Pn**	**20 45 37.4**	**+0.9**
ASAJ	**Asahikawa**	**8.10**	**13**	P		**Pn**	**20 46 02.5**	**+0.6**
	3.0nm,0.3s,baz=212,slow=7.9,SNR=23							
ASAJ				LR		LR	20 49 36.1	
	comp=Z,67nm,21.5s,baz=154,slow=40							
JKA	**Kamikawa-asahi**	**8.10**	**13**	Pn		**Pn**	**20 46 03.3**	**+1.4**
NMR	**Nemuro--Hokkai**	**8.35**	**30**	*e*P		**Pn**	**20 46 03.4**	**-1.9**
NMR				*e*S		**Sn**	**20 47 32.7**	**-5.3**
RUSJ	**Misakicho**	**8.80**	**25**	P		**Pn**	**20 46 10.1**	**-1.3**
RUSJ				S		**Sn**	**20 47 45.6**	**-3.4**
GRPR	**Tuman**	**8.89**	**28**	*e*P		**Pn**	**20 46 10.6**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**8.96**	**28**	*e*P		**Pn**	**20 46 11.3**	**-2.3**
YUK				*e*S		**Sn**	**20 47 48.7**	**-4.3**
YUK				pmax		pmax		
	comp=Z,50nm,0.5s							
TEY	**Ternei**	**9.16**	**344**	*e*P		**Pn**	**20 46 18.3**	**+1.9**
JCJ	**Chichijima**	**9.30**	**168**	P		Pn	20 46 13.9	-4.5
	comp=Z,17nm,0.3s,baz=350,slow=20,SNR=39							
JCJ				S		Sn	20 47 51.1	-10
	comp=Z,10nm,0.3s,baz=263,slow=22,SNR=2.4							
JCJ	**Chichijima**	**9.30**	**168**			Pn	20 46 13.5	-4.9
KSRS	**Korea Array**	**9.79**	**281**	P		**Pn**	**20 46 27.5**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=93,slow=14,SNR=25							
KSRS				LR		LR	20 50 05.9	
	comp=Z,117nm,19.8s,baz=86,slow=37							
KSAR	**Wonju Array Be**	**9.82**	**281**	P		**Pn**	**20 46 25.8**	**+0.3**
KSAR	**Wonju Array Be**	**9.82**	**281**	Pn		**Pn**	**20 46 25.8**	**+0.3**
USA0B	**Ussuriysk Arra**	**10.05**	**325**	P		**Pn**	**20 46 29.6**	**+1.1**
USA0B	**Ussuriysk Arra**	**10.05**	**325**	Pn		**Pn**	**20 46 29.6**	**+1.1**
USRK	**Ussuriysk Ar.**	**10.05**	**325**	P		**Pn**	**20 46 29.2**	**+0.7**
	baz=144,slow=14,SNR=3.9							
USRK				LR		LR	20 50 06.5	
	comp=Z,98nm,18.7s,baz=170,slow=36							
USRK	**Ussuriysk Ar.**	**10.05**	**325**	P		**Pn**	**20 46 29.6**	**+1.1**
USRK	**Ussuriysk Ar.**	**10.05**	**325**	Pn		**Pn**	**20 46 29.6**	**+1.1**
KUR	**Kuril'sk**	**10.76**	**31**	*e*P		**Pn**	**20 46 36.7**	**-1.4**
KUR				*e*S		**Sn**	**20 48 32.6**	**-4.3**
YSS	**Yuzh-Sakhalins**	**10.89**	**10**	*e*P		**Pn**	**20 46 42.7**	**+2.7**
YSS				pmax		pmax		
	comp=Z,20nm,0.5s							
YSS				MLR		MLR		
	comp=Z,100nm,17.0s							
YSS	**Yuzh-Sakhalins**	**10.89**	**10**	Pn		**Pn**	**20 46 41.1**	**+1.1**
MDJ	**Mudanjiang**	**11.54**	**320**	Pn		**Pn**	**20 46 52.0**	**+3.1**
CN2	**Changchun**	**13.48**	**308**	*e*P		**P**	**20 47 22.5**	**-0.2**

MA2					pmax	pmax			
	comp=Z,14nm,0.7s								
MA2	**Magadan**	**24.36**	**13**	P	**P**	**20 49 19.8**	**+0.6**		
MA2				IAmb	IAmb	20 49 22.7			
	comp=Z,16nm,0.6s								
ENH	**Enshi**	**26.18**	**266**	P	**P**	**20 49 34.5**	**-1.5**		
ENH				IAmb	IAmb	20 49 35.5			
	comp=Z,7.3nm,0.7s								
YAK	**Yakutsk**	**26.62**	**349**	P	**P**	**20 49 39.7**	**+0.1**		
	comp=Z,3.3nm,0.4s,baz=312,slow=1.8,SNR=4.9								
YAK				LR	LR	21 00 03.0			
	comp=Z,56nm,21.6s,baz=89,slow=36								
YAK	**Yakutsk**	**26.62**	**349**	*e*P	**P**	**20 49 38.6**	**-1.0**		
YAK				pmax	pmax				
	comp=Z,9.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,2.0nm,1.5s								
YAK	**Yakutsk**	**26.62**	**349**	P	**P**	**20 49 39.0**	**-0.6**		
YAK				IAmb	IAmb	20 49 47.1			
	comp=Z,9.2nm,0.7s								
ULN	**Ulaanbaatar**	**26.91**	**306**	P	**P**	**20 49 42.0**	**-0.6**		
ULN				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ULN	**Ulaanbaatar**	**26.91**	**306**	P	**P**	**20 49 42.0**	**-0.6**		
SONM	**Songino Array**	**27.33**	**306**	P	**P**	**20 49 46.0**	**-0.3**		
	comp=Z,3.1nm,0.7s,baz=104,slow=8.4,SNR=18								
SONM				LR	LR	21 01 10.0			
	comp=Z,56nm,18.8s,baz=136,slow=38								
SONM	**Songino Array**	**27.33**	**306**	P	**P**	**20 49 46.1**	**-0.3**		
SONM				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**	**27.33**	**306**	P	**P**	**20 49 46.0**	**-0.3**		
SEY	**Seymchan**	**27.78**	**12**	P	**P**	**20 49 51.0**	**+1.0**		
	comp=Z,3.4nm,0.7s,baz=236,slow=7.3,SNR=5.7								
SEY				LR	LR	21 02 55.5			
	comp=Z,367nm,20.8s,baz=331,slow=40								
H11N2	**WAKE ISLAND Hy**	**28.72**	**118**	T	T	21 20 08.0			
	baz=312,slow=75,SNR=53								
H11N1	**WAKE ISLAND Hy**	**28.73**	**118**	T	T	21 20 08.5			
	baz=312,slow=75,SNR=56								
H11N3	**WAKE ISLAND Hy**	**28.74**	**118**	T	T	21 20 09.3			
	baz=312,slow=75,SNR=55								
LZH	**Lanzhou**	**29.12**	**281**	⇓P	**P**	**20 50 02.6**	**+0.1**		
LZH				pP	pP	20 50 14.6	-2.4		
LZH				sP	sP	20 50 21.0	-3.0		
LZH				pmax	pmax				
	comp=Z,17nm,1.0s								
H11S1	**WAKE ISLAND Hy**	**29.39**	**120**	T	T	21 20 56.6			
	baz=314,slow=76,SNR=114								
H11S3	**WAKE ISLAND Hy**	**29.39**	**120**	T	T	21 20 57.6			
	baz=314,slow=76,SNR=111								
H11S2	**WAKE ISLAND Hy**	**29.40**	**120**	T	T	21 20 59.8			
	baz=314,slow=76,SNR=92								
GYA	**Guiyang**	**30.01**	**261**	P	**P**	**20 50 09.5**	**-0.8**		
GYA				pP	pP	20 50 24.5	-0.4		
TLY	**Talaya**	**30.03**	**312**	LR	LR	21 02 32.8			
	comp=Z,37nm,19.5s,baz=92,slow=37								
TLY	**Talaya**	**30.03**	**312**	*ce*P	**P**	**20 50 11.8**	**+1.6**		
TLY				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GTA	**Gaotai**	**31.75**	**288**	*e*P	**P**	**20 50 25.9**	**+0.3**		
GTA				pP	pP	20 50 40.2	-0.1		
GTA				sP	sP	20 50 47.8	+0.6		
GTA				PcP	**PcP**	**20 53 19.6**	**+3.8**		
GTA				pmax	pmax				
	comp=Z,2.0nm,1.3s								
GTA				pmax	pmax				
	comp=Z,34nm,5.2s								
KMI	**Kunming**	**33.76**	**261**	⇓P	**P**	**20 50 42.4**	**-1.0**		
KMI				pP	pP	20 50 59.0	+1.0		
KMI				sP	sP	20 51 07.4	+2.5		
KMI				pmax	pmax				
	comp=Z,5.0nm,1.1s								
TIXI	**Tiksi**	**35.95**	**354**	P	**P**	**20 51 01.1**	**-0.3**		
	comp=Z,1.2nm,0.4s,baz=139,slow=7.1,SNR=6.5								
TIXI	**Tiksi**	**35.95**	**354**	*ce*P	**P**	**20 51 00.8**	**-0.6**		
TIXI	**Tiksi**	**35.95**	**354**	P	**P**	**20 51 01.1**	**-0.3**		
DGZ	**Jazzator, Alta**	**39.97**	**307**	*i* P	**P**	**20 51 35.9**	**+0.1**		
DGZ				pmax	pmax				
	comp=Z,8.0nm,0.7s								
WMQ	**Urumqi**	**40.22**	**297**	*e*P	**P**	**20 51 40.0**	**+2.1**		
CMAR	**Chiang Mai Arr**	**40.23**	**255**	P	**P**	**20 51 37.0**	**-1.2**		
	comp=Z,0.3nm,0.5s,baz=48,slow=11,SNR=3.3								
CMAR				PcP	**PcP**	**20 53 42.0**	**+0.8**		
	comp=Z,0.4nm,0.6s,baz=8,9,slow=2.0,SNR=5.3								
LSA	**Lhasa**	**41.19**	**275**	P	**P**	**20 51 45.5**	**-1.0**		
LSA				pmax	pmax				
	comp=Z,5.0nm,0.9s								
LSA	**Lhasa**	**41.19**	**275**	P	**P**	**20 51 45.5**	**-1.0**		
LSA				IAmb	IAmb	20 51 48.4			
	comp=Z,5.3nm,0.9s								
ZAA0	**Zalesovo Array**	**41.64**	**313**	P	**P**	**20 51 49.1**	**-0.1**		
ZAA0				IAmb	IAmb	20 51 50.8			
	comp=Z,5.8nm,0.7s								
ZALV	**Zalesovo Beam**	**41.64**	**313**	P	**P**	**20 51 49.6**	**+0.3**		
	comp=Z,6.3nm,0.6s,baz=92,slow=7.0,SNR=24								
ZALV				PcP	**PcP**	**20 53 44.9**	**-0.2**		
	comp=Z,4.0nm,0.6s,baz=108,slow=2.8,SNR=11								
ZALV	**Zalesovo Beam**	**41.64**	**313**	P	**P**	**20 51 48.9**	**-0.4**		
NRIK	**Noril'sk**	**43.53**	**336**	P	**P**	**20 52 04.1**	**-0.3**		
NRIK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
NRIK	**Noril'sk**	**43.53**	**336**	P	**P**	**20 52 04.1**	**-0.3**		
NRIK				IAmb	IAmb	20 52 07.1			
	comp=Z,7.9nm,1.2s								
MK31	**Makanchi Array**	**43.61**	**303**	P	**P**	**20 52 05.7**	**+0.3**		
MK31				pmax	pmax				
	comp=Z,5.0nm,0.9s								
MK31	**Makanchi Array**	**43.61**	**303**	P	**P**	**20 52 05.7**	**+0.3**		
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**20 52 06.1**	**+0.7**		
	comp=Z,4.2nm,0.7s,baz=91,slow=10.0,SNR=49								
MKAR				PcP	**PcP**	**20 53 51.8**	**-0.1**		
	comp=Z,1.1nm,0.7s,baz=72,slow=5.2,SNR=4.1								
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**20 52 05.3**	**-0.2**		
MAKZ	**Makanchi**	**43.82**	**303**	P	**P**	**20 52 07.5**	**+0.4**		
MAKZ				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MAKZ	**Makanchi**	**43.82**	**303**	P	**P**	**20 52 07.5**	**+0.4**		
MAKZ				IAmb	IAmb	20 52 08.7			
	comp=Z,7.0nm,0.8s								
KDAK	**Kodiak Island**	**48.42**	**41**	P	**P**	**20 52 46.0**	**+3.1**		
	comp=Z,3.9nm,0.6s,baz=252,slow=6.4,SNR=4.0								
MLY	**Manley**	**49.10**	**32**	P	**P**	**20 52 50.7**	**+2.5**		
MLY				IAmb	IAmb	20 52 52.6			
	comp=Z,3.1nm,0.8s								
HNR	**Honiara**	**49.15**	**154**	LR	LR	21 10 37.1			
	comp=Z,51nm,21.1s,baz=284,slow=32								
BWN	**Browne**	**49.65**	**33**	P	**P**	**20 52 54.1**	**+1.8**		
FRU1	**Bishkek**	**49.76**	**299**	P	**P**	**20 52 54.4**	**+0.9**		
FRU1				pmax	pmax				
	comp=Z,7.0nm,1.1s								
FRU1	**Bishkek**	**49.76**	**299**	P	**P**	**20 52 54.4**	**+0.9**		
FRU1				IAmb	IAmb	20 53 05.1			
	comp=Z,7.2nm,1.1s								
NEA2	**Nenana**	**49.81**	**32**	P	**P**	**20 52 55.1**	**+1.5**		
NEA2				IAmb	IAmb	20 53 16.6			
	comp=Z,11nm,1.3s								
MDM	**Murphy Dome**	**50.16**	**32**	P	**P**	**20 52 58.4**	**+2.1**		
MDM				IAmb	IAmb	20 52 59.5			
	comp=Z,4.8nm,0.7s								
WRH	**Wood River Hil**	**50.24**	**32**	P	**P**	**20 52 58.7**	**+1.9**		
BRVK	**Borovoye**	**50.35**	**313**	*ce*P	**P**	**20 52 58.8**	**+1.0**		
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRVK	**Borovoye**	**50.35**	**313**		**P**	**20 52 58.8**	**+1.0**		
BRVK				IAmb	IAmb	20 53 01.4			
	comp=Z,3.4nm,0.9s								
HDA	**Harding Lake**	**50.74**	**32**	P	**P**	**20 53 01.2**	**+0.7**		
HDA				IAmb	IAmb	20 53 23.9			
	comp=Z,3.9nm,0.8s								
IL31		**50.74**	**32**	P	**P**	**20 53 00.7**	**+0.2**		
IL31				IAmb	IAmb	20 53 22.0			
	comp=Z,4.0nm,0.9s								
ILAR	**Eielson Array**	**50.74**	**32**	P	**P**	**20 53 01.4**	**+0.8**		
	comp=Z,2.3nm,0.7s,baz=270,slow=6.1,SNR=20								
ILAR	**Eielson Array**	**50.74**	**32**	P	**P**	**20 53 01.3**	**+0.7**		
BMAR	**Burnt Mountain**	**51.55**	**28**	P	**P**	**20 53 08.1**	**+1.5**		
SCRK	**Sand Creek**	**52.07**	**33**	P	**P**	**20 53 11.8**	**+1.1**		
SCRK				IAmb	IAmb	20 53 13.1			
	comp=Z,3.3nm,0.8s								
DOT	**Dot Lake**	**52.07**	**33**	P	**P**	**20 53 11.4**	**+0.9**		
DOT				IAmb	IAmb	20 53 28.5			
	comp=Z,3.7nm,0.7s								
GSI	**Gunungsitoli**	**52.45**	**238**	P	**P**	**20 53 13.4**	**-0.6**		
KK31	**Karatay Array**	**52.57**	**300**	P	**P**	**20 53 13.4**	**-1.2**		
KK31				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KK31	**Karatay Array**	**52.57**	**300**		**P**	**20 53 13.4**	**-1.2**		
KK31				IAmb	IAmb	20 53 18.7			
	comp=Z,7.2nm,1.0s								
KKAR	**Karatay Array**	**52.57**	**300**	P	**P**	**20 53 14.1**	**-0.5**		
KKAR	**Karatay Array**	**52.57**	**300**		**P**	**20 53 14.1**	**-0.5**		
KKAR	**Karatay Array**	**52.57**	**300**	P	**P**	**20 53 14.1**	**-0.5**		
KKAR				IAmb	IAmb	20 53 18.7			
	comp=Z,7.2nm,1.0s								
DRK	**Karamyk**	**52.80**	**296**	P	**P**	**20 53 15.9**	**-0.7**		
L27K	**Beaver Creek,**	**53.14**	**34**	P	**P**	**20 53 19.5**	**+1.0**		
L27K				IAmb	IAmb	20 53 41.4			
	comp=Z,4.7nm,1.1s								
BCAR	**Beaver Creek A**	**53.16**	**34**	P	**P**	**20 53 20.4**	**+1.7**		
BTK	**Batken**	**53.32**	**297**	P	**P**	**20 53 19.8**	**-0.4**		
BTK				pmax	pmax				
	comp=Z,9.0nm,1.5s								
BTK	**Batken**	**53.32**	**297**	P	**P**	**20 53 19.8**	**-0.4**		
BTK				IAmb	IAmb	20 53 25.4			
	comp=Z,8.9nm,1.4s								
YAH	**Yahtse**	**53.64**	**37**		**P**	**20 53 20.8**	**-1.6**		
CTGM	**Chitina Glacie**	**53.72**	**36**	P	**P**	**20 53 24.5**	**+1.5**		
CTGM				IAmb	IAmb	20 53 52.2			
	comp=Z,7.2nm,1.2s								
NIL	**Nilore**	**53.82**	**288**	P	**P**	**20 53 23.8**	**-0.1**		
NIL				pmax	pmax				
	comp=Z,5.0nm,0.8s								
NIL	**Nilore**	**53.82**	**288**	P	**P**	**20 53 23.8**	**-0.1**		
NIL				IAmb	IAmb	20 53 28.0			
	comp=Z,4.5nm,0.8s								
GAR	**Garm**	**54.04**	**295**	P	**P**	**20 53 26.3**	**+0.7**		
EPYK	**Eagle Plains**	**54.75**	**29**	P	**P**	**20 53 32.1**	**+1.9**		
CHGR	**Chuyangaron**	**55.01**	**295**	P	**P**	**20 53 33.3**	**+0.8**		
HYT	**Haines Junctio**	**55.58**	**36**	P	**P**	**20 53 37.5**	**+1.2**		
HYT				IAmb	IAmb	20 53 59.9			
	comp=Z,5.7nm,1.0s								
INK	**Inuvik**	**55.59**	**27**	P	**P**	**20 53 37.3**	**+1.3**		
	comp=Z,2.0nm,0.6s,baz=293,slow=8.0,SNR=13								
INK	**Inuvik**	**55.59**	**27**	P	**P**	**20 53 37.4**	**+1.3**		
INK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
INK	**Inuvik**	**55.59**	**27**	P	**P**	**20 53 37.4**	**+1.3**		
INK				IAmb	IAmb	20 53 58.0			
	comp=Z,2.5nm,0.8s								
FITZ	**Fitzroy Crossi**	**55.74**	**197**	P	**P**	**20 53 38.2**	**+0.5**		
WRA	**Warramunga Arr**	**56.14**	**186**	P	**P**	**20 53 40.2**	**-0.4**		
	comp=Z,3.8nm,0.5s,baz=0.9,slow=7.5,SNR=64								
ARU	**Arti**	**56.22**	**319**	*c i*P	**P**	**20 53 41.0**	**+0.2**		
ARU						20 55 43.9			
ARU				S	**S**	**21 01 23.7**	**-2.2**		
ARU				pmax	pmax				
	comp=Z,8.0nm,0.6s								
ARU	**Arti**	**56.22**	**319**	P	**P**	**20 53 40.4**	**-0.4**		
ABKAR	**Akbulak array**	**57.61**	**310**	P	**P**	**20 53 50.2**	**-0.6**		
ABKAR				IAmb	IAmb	20 53 52.0			
	comp=Z,5.1nm,1.2s								
ABKAR	**Akbulak array**	**57.61**	**310**	P	**P**	**20 53 50.0**	**-0.7**		
AS31	**Alice Springs**	**59.87**	**187**	P	**P**	**20 54 08.9**	**+2.3**		
ASAR	**Alice Springs**	**59.87**	**187**	P	**P**	**20 54 07.4**	**+0.7**		
	comp=Z,1.4nm,0.6s,baz=22,slow=12,SNR=17								
ARCES	**ARCESS Array B**	**64.34**	**339**	P	**P**	**20 54 36.6**	**+0.5**		
	comp=Z,8.2nm,1.1s,baz=64,slow=8.2,SNR=6.4								
ARCES	**ARCESS Array B**	**64.34**	**339**	IAmb	IAmb	20 54 38.1			
	comp=Z,21nm,1.3s								
YKA	**Yellowknife Ar**	**65.04**	**30**	P	**P**	**20 54 41.5**	**+0.8**		
	comp=Z,1.2nm,0.9s,baz=301,slow=7.2,SNR=3.8								
STKA	**Stephens Creek**	**67.78**	**179**	P	**P**	**20 54 58.9**	**+0.5**		
	comp=Z,1.7nm,0.8s,baz=350,slow=6.7,SNR=3.0								
OBN	**Obninsk**	**68.07**	**323**	*i* P	**P**	**20 54 59.8**	**-0.3**		
OBN				*i*		20 55 26.5			
OBN				pmax	pmax				
	comp=Z,6.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,32nm,20.0s								
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**20 55 05.8**	**0.0**		
	comp=Z,2.8nm,0.8s,baz=56,slow=6.7,SNR=9.9								
FINES				LR	LR	21 28 50.9			
	comp=Z,18nm,19.1s,baz=48,slow=39								
KBZ	**Khabaz**	**70.58**	**310**	P	**P**	**20 55 16.6**	**+0.7**		
	comp=Z,2.5nm,0.8s,baz=348,slow=1.4,SNR=5.1								
KIV	**Kislovodsk**	**70.59**	**311**	*e*P	**P**	**20 55 15.5**	**-0.6**		
KIV				pmax	pmax				
	comp=Z,23nm,1.0s								
SUMG	**Summit**	**71.47**	**360**	P	**P**	**20 55 22.7**	**+1.4**		
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**71.47**	**360**	P	**P**	**20 55 22.6**	**+1.4**		
SUMG				IAmb	IAmb	20 55 23.8			
	comp=Z,5.0nm,0.8s								
PINE	**Pine Mountain**	**71.68**	**49**	P	**P**	**20 55 24.4**	**+1.5**		
MNK	**Minsk**	**72.53**	**326**	*i* P	**P**	**20 55 24.7**	**-2.7**		
MNK				*i*		20 55 42.4			
MNK				*i* *PP	**pP**	**20 55 43.4**	**-0.2**		
MNK				*i*		20 58 05.4			
MNK				*i* PPP	PPP	20 59 49.5			
MNK				*i* S	**S**	**21 04 41.8**	**-5.2**		
MNK				*i* *SS	**sS**	**21 05 14.2**	**-0.5**		
MNK				*i*		21 05 24.3			
MNK				*i* SS	**SS**	**21 09 23.6**	**-2.2**		
MNK				*i* SSS	SSS	21 12 41.0			
MNK				pmax	pmax				
	comp=E,1.0nm,1.4s								
MNK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MNK				pmax	pmax				
	comp=N,10.0nm,1.0s								
MNK				MLR	MLR				
	comp=N,16nm,12.0s								
MNK				MLR	MLR				
	comp=E,3.0nm,14.0s								
MNK				MLR	MLR				
	comp=Z,71nm,18.0s								
MNK	**Minsk**	**72.53**	**326**	*i* P	**P**	**20 55 24.7**	**-2.7**		
	comp=E,1.0nm,1.4s								
MNK				*i* P	**P**	**20 55 24.7**	**-2.7**		
	comp=N,10.0nm,1.0s								
MNK				*i* P	**P**	**20 55 24.7**	**-2.7**		
	comp=Z,8.0nm,1.0s,baz=232								
MNK				*i* PcP	**pP**	**20 55 42.5**	**-1.1**		
MNK				*i* pP	**PcP**	**20 55 43.4**	**-1.4**		
MNK				*i* PP	**PP**	**20 58 05.4**	**-3.3**		
MNK				*i* PPP	PPP	20 59 49.5			
MNK				*i* S	**S**	**21 04 41.9**	**-5.2**		
MNK				*i* sS	**sS**	**21 05 14.2**	**-0.4**		
MNK				*i* ScS	**SKSac**	**21 05 24.4**	**-2.7**		
MNK				*i* SS	**SS**	**21 09 23.6**	**-2.2**		
MNK				*i* SSS	SSS	21 12 41.1			
MNK				*i* LQ	LQ	21 22 18.9			
MNK				*i* LR	LR	21 27 48.4			
MNK				*i* LRM	MLR	21 29 43.7			
	comp=E,3.0nm,14.1s								
MNK				*i* LRM	MLR	21 29 43.7			
	comp=N,16nm,11.5s								
MNK				*i* LRM	MLR	21 30 03.1			
	comp=Z,71nm,17.9s								
BMO	**Blue Mountains**	**73.27**	**46**	P	**P**	**20 55 33.1**	**+1.0**		
BMO				pmax	pmax				
	comp=Z,6.0nm,1.5s								
BMO	**Blue Mountains**	**73.27**	**46**	P	**P**	**20 55 33.1**	**+1.0**		
BMO				IAmb	IAmb	20 55 57.6			
	comp=Z,5.9nm,1.5s								
WVOR	**Wild Horse Val**	**73.84**	**49**	P	**P**	**20 55 33.7**	**-1.9**		
WVOR				pmax	pmax				
	comp=Z,9.0nm,1.4s								
WVOR	**Wild Horse Val**	**73.84**	**49**	P	**P**	**20 55 33.7**	**-1.9**		
WVOR				IAmb	IAmb	20 55 41.3			
	comp=Z,8.5nm,1.4s								
BEKR	**Beckworth**	**74.21**	**52**	P	**P**	**20 55 39.2**	**+1.4**		
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**20 55 37.1**	**-0.4**		
	comp=Z,1.8nm,0.6s,baz=47,slow=6.2,SNR=11								
AKBB	**Malin Array Si**	**74.24**	**322**	P	**P**	**20 55 37.2**	**-0.3**		
AKBB				pmax	pmax				
	comp=Z,4.0nm,0.8s								
AKBB	**Malin Array Si**	**74.24**	**322**	P	**P**	**20 55 37.2**	**-0.3**		
AKBB				IAmb	IAmb	20 55 41.0			
	comp=Z,4.1nm,0.8s								
NC405	**NORSAR Array S**	**74.27**	**337**	P	**P**	**20 55 37.5**	**0.0**		
NC204	**NORSAR Array S**	**74.45**	**337**	P	**P**	**20 55 39.1**	**+0.5**		
NOA	**NORSAR Array B**	**74.48**	**337**	P	**P**	**20 55 39.2**	**+0.4**		
	comp=Z,2.4nm,0.7s,baz=40,slow=5.9,SNR=12								
NOA				LR	LR	21 31 32.5			
	comp=Z,31nm,19.2s,baz=55,slow=38								
NBO00	**NORSAR Array S**	**74.63**	**337**	P	**P**	**20 55 40.6**	**+0.9**		
HRY	**Holter Researc**	**75.28**	**43**	P	**P**	**20 55 45.9**	**+2.1**		
WAKR	**Walker**	**75.57**	**53**	P	**P**	**20 55 47.0**	**+1.3**		
EGMT	**Eagleton**	**75.58**	**41**	P	**P**	**20 55 46.5**	**+1.0**		
EGMT				IAmb	IAmb	20 56 01.7			
	comp=Z,4.5nm,0.9s								
DLMT	**Dillon**	**75.67**	**44**	P	**P**	**20 55 46.5**	**+0.4**		
DLMT				IAmb	IAmb	20 55 48.7			
	comp=Z,3.9nm,0.6s								
LHV	**Little Huntoon**	**76.31**	**53**	P	**P**	**20 55 51.5**	**+1.9**		
LHV				IAmb	IAmb	20 56 03.7			
	comp=Z,4.0nm,0.7s								
NVAR	**Mina Array Bea**	**76.34**	**52**	P	**P**	**20 55 51.6**	**+1.5**		
	comp=Z,0.9nm,0.4s,baz=273,slow=7.1,SNR=6.1								
NVAR	**Mina Array Bea**	**76.34**	**52**	P	**P**	**20 55 48.9**	**-1.2**		
NV11	**Mina Array Sit**	**76.43**	**52**	P	**P**	**20 55 49.9**	**-0.7**		
LVV	**L'vov**	**77.36**	**323**	*e*P	**P**	**20 55 56.3**	**+0.9**		
KWP	**Kalwaria Pacla**	**78.12**	**324**	P	**P**	**20 56 00.1**	**+0.5**		
KWP	**Kalwaria Pacla**	**78.12**	**324**	P	**P**	**20 56 00.1**	**+0.5**		
BUR08	**Bucovina Ar. S**	**78.23**	**321**	P	**P**	**20 56 00.8**	**+0.4**		
BURAR	**Bucovina Array**	**78.24**	**321**	P	**P**	**20 56 00.6**	**+0.2**		
TPNV	**Topopah Spring**	**78.53**	**53**	P	**P**	**20 56 03.6**	**+1.3**		
TPNV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TPNV	**Topopah Spring**	**78.53**	**53**	P	**P**	**20 56 03.6**	**+1.3**		
BRTR	**Keskin Array B**	**78.55**	**311**	P	**P**	**20 56 02.6**	**+0.3**		
	comp=Z,1.3nm,0.8s,baz=93,slow=2.7,SNR=6.8								
PDAR	**Pinedale Array**	**79.00**	**45**	P	**P**	**20 56 05.9**	**+1.0**		
	comp=Z,0.6nm,0.5s,baz=140,slow=0.1,SNR=7.0								
PDAR	**Pinedale Array**	**79.00**	**45**	P	**P**	**20 56 05.2**	**+0.3**		
RAYN	**Ar Rayn**	**79.93**	**292**	P	**P**	**20 56 10.1**	**+0.1**		
RAYN				pmax	pmax				
	comp=Z,2.0nm,0.7s								
RAYN	**Ar Rayn**	**79.93**	**292**	P	**P**	**20 56 10.1**	**+0.1**		
SRU	**San Rafael Swe**	**80.76**	**48**	P	**P**	**20 56 15.3**	**+0.9**		
SRU				pmax	pmax				
	comp=Z,3.0nm,0.6s								
SRU	**San Rafael Swe**	**80.76**	**48**	P	**P**	**20 56 15.3**	**+0.9**		
SRU				IAmb	IAmb	20 56 16.8			
	comp=Z,2.3nm,0.6s								
ULM	**Lac du Bonnet**	**80.76**	**33**	P	**P**	**20 56 14.5**	**+0.5**		
	comp=Z,1.2nm,0.5s,baz=288,slow=3.2,SNR=2.3								
ULM	**Lac du Bonnet**	**80.76**	**33**	IAmb	IAmb	20 56 15.0			
	comp=Z,1.6nm,0.8s								
JAVC	**Velka Javorina**	**81.02**	**326**	*e*P	**P**	**20 56 17.0**	**+1.6**		
VRAC	**Vranov**	**81.18**	**326**	*e*P	**P**	**20 56 18.0**	**+1.8**		
CLL	**Collm**	**81.22**	**330**	*e*P	**P**	**20 56 16.0**	**-0.4**		
CLL				egP	**pP**	**20 56 34.0**	**+1.2**		
CLL				*e*PP	**PP**	**20 59 21.0**	**-0.7**		
CLL	**Collm**	**81.22**	**330**	*e*P	**P**	**20 56 16.0**	**-0.4**		
CLL				*e**PP	**pP**	**20 56 34.0**	**+1.2**		
KRUC	**Moravsky**	**81.45**	**326**	*e*P	**P**	**20 56 18.1**	**+0.5**		
GERES	**GERESS Array B**	**82.79**	**328**	P	**P**	**20 56 25.3**	**+0.5**		
	comp=Z,0.8nm,0.7s,baz=354,slow=5.4,SNR=4.1								
PDG	**Podgorica**	**84.88**	**320**	P	**P**	**20 56 35.8**	**+0.4**		
ANMO	**Albuquerque**	**85.93**	**49**	*ce*P	**P**	**20 56 44.3**	**+3.2**		
ANMO				pmax	pmax				
	comp=Z,4.0nm,2.5s								
SCHQ	**Schefferville**	**86.39**	**15**	P	**P**	**20 56 43.6**	**+0.9**		
	comp=Z,1.7nm,0.6s,baz=323,slow=5.4,SNR=4.9								
ITM	**Ithomi**	**87.14**	**315**	P	**P**	**20 56 46.1**	**-0.6**		
TXAR	**Lajitas Array**	**91.47**	**52**	P	**P**	**20 57 08.9**	**+1.7**		
	comp=Z,0.7nm,0.6s,baz=291,slow=2.6,SNR=7.7								
TXAR	**Lajitas Array**	**91.47**	**52**	P	**P**	**20 57 09.0**	**+1.7**		
H03N2	**Juan Fernandez**	**148.03**	**97**	T	T	23 49 09.3			
	baz=291,slow=76,SNR=77								
LPAZ	**La Paz**	**148.04**	**59**	PKPbc	**PKPbc**	**21 03 48.0**	**+0.8**		
	comp=Z,1.5nm,0.7s,baz=307,slow=1.8,SNR=8.2								
LPAZ	**La Paz**	**148.04**	**59**	PKP2	**PKPbc**	**21 03 48.0**	**+0.8**		
H03N3	**Juan Fernandez**	**148.04**	**97**	T	T	23 49 06.1			
	baz=291,slow=76,SNR=57								
H03N1	**Juan Fernandez**	**148.05**	**97**	T	T	23 49 08.8			
	baz=291,sl

MTVZ	**Mangateitei**	**0.98 304**	P	Pn	20 52 42.2	+1.4
TRVZ	**Turoa**	**0.98 310**	P	Pn	20 52 42.2	+1.2
DRZ	**Dome Shelter**	**0.99 311**	P	Pn	20 52 42.5	+1.3
FWVZ	**Far West T-bar**	**1.01 312**	P	Pn	20 52 42.3	+1.0
SNVZ	**South Ngauruho**	**1.01 317**	P	Pn	20 52 42.3	+1.0
ETVZ	**East Tongariro**	**1.01 322**	P	Pn	20 52 42.3	+1.0
OTVZ	**Oturere**	**1.01 319**	P	Pn	20 52 42.4	+1.0
WHHZ	**Waihua**	**1.02 33**	P	Pn	20 52 41.2	-0.1
MRZ	**Mangatainoka R**	**1.02 224**	P	Pn	20 52 41.0	-0.3
TMVZ	**Te Maari**	**1.03 322**	P	Pn	20 52 42.5	+0.9
NGZ	**Ngauruhoe**	**1.04 317**	P	Pn	20 52 42.7	+1.0
NTVZ	**North Tongariro**	**1.06 322**	P	Pn	20 52 42.8	+0.9
NNVZ	**North Ngauruho**	**1.06 319**	P	Pn	20 52 43.0	+0.9
KRVZ	**Karewarewa**	**1.08 321**	P	Pn	20 52 43.2	+1.0
RITZ	**Rihia Road**	**1.08 332**	P	Pn	20 52 43.3	+1.1
WTVZ	**West Tongariro**	**1.09 318**	P	Pn	20 52 43.2	+0.9
HATZ	**Hinemaiaia**	**1.09 342**	P	Pn	20 52 42.8	+0.4
MRHZ	**Matea Rd**	**1.10 356**	P	Pn	20 52 43.0	+0.5
RAHZ	**Arahi**	**1.11 24**	P	Pn	20 52 42.3	-0.2
MTHZ	**Maungataniwha**	**1.11 13**	P	Pn	20 52 42.3	-0.3
PKVZ	**Pokaka**	**1.11 305**	P	Pn	20 52 43.6	+1.0
KATZ	**Kakaramea**	**1.15 326**	P	Pn	20 52 44.9	+1.7
WAZ	**Wanganui**	**1.20 278**	P	Pn	20 52 45.4	+1.7
TWVZ	**Taurewa**	**1.20 315**	P	Pn	20 52 44.5	+0.6
RATZ	**Rangitukua**	**1.21 331**	P	Pn	20 52 45.9	+2.0
HOWZ	**Holdsworth Sta**	**1.23 218**	P	Pn	20 52 43.5	-0.7
TMWZ	**Te Maipa**	**1.27 202**	P	Pn	20 52 43.9	-0.8
KNZ	**Kokohu**	**1.27 45**	P	Pn	20 52 43.9	-0.8
SNGZ	**Shannon Statio**	**1.31 29**	P	Pn	20 52 44.8	-0.5
MHGZ	**Mahia Peninsul**	**1.33 54**	P	Pn	20 52 44.8	-0.7
WHTZ	**Whakaora**	**1.34 341**	P	Pn	20 52 46.6	+0.8
OGWZ	**Otaki Gorge**	**1.36 229**	P	Pn	20 52 45.3	-0.6
RTZ	**Ruatahuna**	**1.36 15**	P	Pn	20 52 46.7	-0.4
ALRZ	**Allen Road**	**1.38 354**	P	Pn	20 52 46.1	-0.1
PRRZ	**Plateau Road**	**1.44 356**	P	Pn	20 52 47.0	0.0
WPRZ	**Whakapapatarin**	**1.44 349**	P	Pn	20 52 47.1	0.0
MTW	**Mount Morrison**	**1.45 212**	P	Pn	20 52 45.7	-1.4
PRGZ	**Paritu Road**	**1.46 47**	P	Pn	20 52 46.5	-0.8
KIW	**Kapiti Island**	**1.54 232**	P	Pn	20 52 48.0	-0.4
KUTZ	**Kaahu Road**	**1.54 339**	P	Pn	20 52 48.6	+0.2
HRRZ	**Handcock Road**	**1.55 353**	P	Pn	20 52 48.7	+0.1
VRZ	**Vera Road**	**1.58 300**	P	Pn	20 52 49.8	+0.8
TRWZ	**Traveller**	**1.59 203**	P	Pn	20 52 47.4	-1.8
RAGZ	**Rawiri**	**1.59 26**	P	Pn	20 52 48.5	-0.8
CAW	**Cannon Point**	**1.61 223**	P	Pn	20 52 48.4	-1.0
HSRZ	**Hossack Road**	**1.63 352**	P	Pn	20 52 49.7	0.0
PAWZ	**Paruwai Farm**	**1.67 210**	P	Pn	20 52 49.1	-1.1
TARZ	**Mount Tarawera**	**1.69 360**	P	Pn	20 52 50.5	-0.1
LREZ	**Lake Rotokare**	**1.70 285**	P	Pn	20 52 52.4	+1.8
URZ	**Urewera**	**1.73 16**	P	Pn	20 52 49.3	-1.8
MSWZ	**Moikau Station**	**1.77 213**	P	Pn	20 52 49.9	-1.6
TLZ	**Tolley Road**	**1.77 334**	P	Pn	20 52 51.6	-0.1
MWZ	**Matawai**	**1.78 26**	P	Pn	20 52 50.6	-1.2
PLWZ	**Palliser**	**1.90 210**	P	Pn	20 52 51.9	-1.4
PREZ	**Palmer Road**	**1.92 287**	P	Pn	20 52 55.9	+2.3
HIZ	**Hauiti**	**1.92 317**	P	Pn	20 52 54.0	+0.4
NEZ	**North Egmont**	**1.99 289**	P	Pn	20 52 56.1	+1.5
KHEZ	**Kahui Hut**	**2.04 287**	P	Pn	20 52 57.8	+2.5
TWGZ	**Tauwhareparae**	**2.09 33**	P	Pn	20 52 55.7	-0.4
PKE	**Pukeiti**	**2.09 290**	P	Pn	20 52 58.4	+2.4
NMEZ	**Namu Road**	**2.10 283**	P	Pn	20 52 58.3	+2.2
WHRZ	**Whale Island**	**2.10 10**	P	Pn	20 52 55.4	-0.8
TCW	**Tory Channel**	**2.13 233**	P	Pn	20 52 55.1	-1.4
NBEZ	**Newall Road No**	**2.15 287**	P	Pn	20 53 02.2	+5.3
RUGZ	**Raukumara Rang**	**2.16 25**	P	Pn	20 52 56.0	-1.0
DUWZ	**D'Urville Isla**	**2.17 246**	P	Pn	20 52 56.1	-0.9
PUZ	**Puketiti**	**2.30 27**	P	Pn	20 52 57.7	-1.0
TOZ	**Tahuroa Road**	**2.34 340**	P	Pn	20 52 59.3	0.0
PKGZ	**Pakihiroa**	**2.38 31**	P	Pn	20 52 59.2	-0.7
HAZ	**Te Kaha**	**2.39 25**	P	Pn	20 52 58.2	-1.8
TUWZ	**Tuamarina**	**2.46 232**	P	Pn	20 52 59.1	-1.9
WMGZ	**Waiomatatini S**	**2.58 36**	P	Pn	20 53 01.1	-1.5
NNZ	**Nelson**	**2.71 241**	P	Pn	20 53 03.4	-1.1
MXZ	**Matakaoa Point**	**2.75 31**	P	Pn	20 53 04.2	-0.8
QRZ	**Quartz Range**	**3.18 252**	P	Pn	20 53 09.8	-1.1
THZ	**Tophouse**	**3.29 235**	P	Pn	20 53 10.6	-1.9
KHZ	**Kahutara**	**3.35 221**	P	Pn	20 53 12.1	-1.1
GVZ	**Greta Valley S**	**4.01 220**	P	Pn	20 53 21.2	-1.1
OKCZ	**Okains Bay**	**4.58 213**	P	Pn	20 53 27.9	-2.3
MQZ	**McQueen's Vall**	**4.75 216**	P	Pn	20 53 29.9	-2.5
AKCZ	**Akaroa Harbour**	**4.77 213**	P	Pn	20 53 30.6	-2.2
TMZ	**Timaru**	**6.05 221**	P	Pn	20 53 47.7	-2.6
CTZ	**Chatham Island**	**6.38 129**	P	Pn	20 53 53.4	-1.4
ODZ	**Otahua Downs**	**6.70 218**	P	Pn	20 53 56.4	-2.8

IDC ***08*** *21:00:46.9±1.9, 7°.84S×120°.88E, h207^{km}±16^{km}, mb3.2/4, mb1 3.2/7, mb1mx3.0/39, mbtmp3.7/7, Error ellipse: s-maj=61.7km s-min=14.6km az=51.0*

DJA ***08*** *21:00:47.7±0.6, 8°S±3'×12°0E±°, h106^{km}±12^{km}, M3.6/12, mb3.4/1, MLv3.7/12*

ISC 08 21:00:43.8±0.8, 8°32S±0'.06×120°14E±0'.04, h172^{km}, n16, σ2^{s} 49/26, mb3.3/3, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.51**	**209**	P	**Pn**	**21 01 15.6**	**+0.4**
WBSI				S	**Sn**	**21 01 40.5**	**+0.9**
BASI	**Baing, Sumba**	**1.94**	**167**	P	**Pn**	**21 01 20.4**	**+0.8**
BASI				S	**Sn**	**21 01 47.2**	**-0.2**
MMRI	**Maumere**	**2.10**	**99**	P	**Pn**	**21 01 22.7**	**+1.4**
MMRI				S	**Sn**	**21 01 50.1**	**-0.3**
PLAI	**Plampang**	**2.40**	**258**	P	**Pn**	**21 01 26.3**	**+1.3**
PLAI				S	**Sn**	**21 01 55.0**	**-1.6**
TWSI	**Taliwang, Sumb**	**3.25**	**262**	P	**Pn**	**21 01 36.9**	**+1.7**
TWSI				S	**Sn**	**21 02 16.7**	**+1.5**
BNSI	**Bone**	**3.89**	**359**	P	**Pn**	**21 01 44.1**	**+0.8**
BATI	**Baumata** 2.5nm,0.3s,baz=261,slow=4.9,SNR=5.4	**3.95**	**119**	P	**Pn**	**21 01 45.4**	**+1.4**
BATI	4.9nm,0.3s,baz=317,slow=17,SNR=2.1			S	**Sn**	**21 02 28.0**	**-3.1**
BATI	**Baumata**	**3.95**	**119**	P	**Pn**	**21 01 47.6**	**+3.6**
BATI				S	**Sn**	**21 02 35.1**	**+4.0**
SOEI	**Soe**	**4.32**	**110**	P	**Pn**	**21 01 51.5**	**+2.7**
TTSI	**Tana Toraja**	**5.25**	**356**	P	**Pn**	**21 02 01.7**	**+0.8**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=108,slow=19,SNR=1.3	**11.09**	**152**	P	**Pn**	**21 03 21.6**	**+3.9**
FITZ	0.1nm,0.3s,baz=36,slow=6.9,SNR=3.1			S	**Sn**	**21 05 18.8**	**-2.1**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=304,slow=10,SNR=16	**17.95**	**132**	P	**P**	**21 04 40.4**	**-0.7**
WRA	0.1nm,0.3s,baz=300,slow=24,SNR=3.6			S	**S**	**21 07 52.1**	**-6.3**
ASAR	**Alice Springs** 2.6nm,0.4s,baz=318,slow=8.8,SNR=44	**20.17**	**141**	P	**P**	**21 05 05.8**	**+0.7**
ASAR	0.3nm,0.5s,baz=295,slow=17,SNR=1.7			S	**S**	**21 08 38.8**	**-3.4**
STKA	**Stephens Creek** 1.8nm,0.4s,baz=322,slow=7.9,SNR=9.1	**30.78**	**143**	P	**P**	**21 06 44.1**	**+0.9**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=152,slow=7.8,SNR=4.2	**64.38**	**332**	P	**P**	**21 10 58.9**	**-2.5**
VNDA	**Vanda** 0.3nm,0.5s,baz=326,slow=4.6,SNR=1.8	**72.48**	**171**	P	**P**	**21 11 52.5**	**+1.4**

IDC ***08*** *21:36:58.7±0.7, 36°.35N×97°.49W, h0^{km}, mb3.9/7, mb1 4.1/15, mb1mx3.8/57, mbtmp3.9/15, ML3.3/7, MS3.1/14, Ms1 3.1/14, ms1mx3.0/58, Error ellipse: s-maj=13.9km s-min=9.5km az=150.0*

ANF ***08*** *21:36:58.5±0.1, 36°.30N×97°.54W, h3^{km}, ML5.0/21, Error ellipse: s-maj=1.9km s-min=1.6km az=142.0*

NEIC ***08*** *21:36:58.8±3.0, 36°.30N±0°.02×97°.44W±0°.05, h3^{km}±1^{km}, Error ellipse: s-maj=8.0km s-min=2.9km az=247.0*

TUL ***08*** *21:36:58.5±2.3, 36°.29N±0°.02×97°.52W±0°.06, h3^{km}±5^{km}, ML4.0, mb4.1/33(NEIC), mb_Lg4.2/160(NEIC), Mwr3.9/58(NEIC), Error ellipse: s-maj=6.9km s-min=1.9km az=64.0*

NEIC ***08*** *21:36:58.8, 36°.28N×97°.54W, h3^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14} Nm; M_{rr}=4.37; $M_{\theta\theta}$=9.15; $M_{\phi\phi}$=4.78; $M_{r\theta}$=0.48; $M_{r\phi}$=-0.45; $M_{\theta\phi}$=3.53; Fault plane solution: M_o=8.70000×10^{14} NP1:ϕ_s=307.71000°, δ=63.12000°, λ=-35.50000°. NP2:ϕ_s=55.58000°, δ=58.80000°, λ=-148.09000°. Principal axes: T 9.1883, Plg3.0000°, Azm3.0000°; N -1.0832, Plg47.0000°, Azm95.0000°; P -8.1052, Plg43.0000°, Azm270.0000°;*

ISC 08 21:36:58.4±1.1, 36°.30N±0°.02×97°.50W±0°.03, h4^{km}±8^{km}, n299, σ1^{s} 39/278, mb3.9/6, MS3.0/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**298**		**Pg**	**21 37 07.3**	**+0.5**
CROK				Sg	**Sg**	**21 37 13.6**	**+1.0**
OK029	**Liberty Lake**	**0.50**	**176**		**Pg**	**21 37 08.2**	**+0.2**
OK029				Sg	**Sg**	**21 37 15.3**	**+0.7**
BLOK	**Blackwell**	**0.52**	**27**	Pg	**Pg**	**21 37 09.2**	**+0.9**
BLOK	comp=Z,2μm,0.7s			IAmb_Lg		21 37 15.9	
BLOK				Sg	**Sb**	**21 37 16.9**	**-1.1**
GC02	**Grant County #**	**0.62**	**333**		**Pg**	**21 37 10.7**	**+0.4**
OK031	**S. Brethren Rd**	**0.64**	**122**		**Pg**	**21 37 11.2**	**+0.5**
BCOK	**Bluff Creek, N**	**0.65**	**188**		**Pg**	**21 37 10.7**	**-0.1**
QUOK	**Quay**	**0.66**	**101**	Pg	**Pg**	**21 37 11.5**	**+0.5**
OK005	**Luther M Schoo**	**0.69**	**158**		**Pg**	**21 37 11.8**	**+0.1**
OK030	**Cody Creek RV**	**0.69**	**122**	Pg	**Pg**	**21 37 12.0**	**+0.4**
KAN13	**South Haven SW**	**0.71**	**2**		**Pg**	**21 37 12.8**	**+0.7**
OK009	**Oakdale Elemen**	**0.72**	**175**	Pg	**Pg**	**21 37 12.5**	**+0.3**
OK025	**Westminster Rd**	**0.73**	**169**		**Pg**	**21 37 12.5**	**+0.2**
OK032	**Salt Plains WL**	**0.76**	**312**		**Pg**	**21 37 13.1**	**+0.1**
KAN09	**Caldwell North**	**0.84**	**354**		**Pg**	**21 37 15.0**	**+0.4**
OKCFA	**Oklahoma City**	**0.88**	**177**		**Pg**	**21 37 15.2**	**-0.1**
OKCFA	comp=Z,3μm,1.0s			IAmb_Lg		21 37 26.9	
OKCFA	**Oklahoma City** baz=356,SNR=56	**0.88**	**177**	P	**Pg**	**21 37 15.3**	**0.0**
OKCFA	**Oklahoma City** baz=356,SNR=56	**0.88**	**177**	P		21 37 15.3	
OKCSW	**OKLAHOMA CITY**	**0.89**	**177**		**Pg**	**21 37 15.5**	**0.0**
KAN10	**Anthony SW Sta**	**0.95**	**330**		**Pg**	**21 37 16.8**	**+0.1**
KAN08	**Anthony NE Sta**	**1.00**	**338**		**Pg**	**21 37 17.6**	**0.0**
T35A	**Sooner Cattle**	**1.01**	**52**	Pg	**Pb**	**21 37 18.6**	**+0.1**
T35B	**Sooner Cattle** baz=232,SNR=532	**1.01**	**52**	P	**Pb**	**21 37 18.3**	**-0.1**
T35B	baz=232			S	**Sb**	**21 37 31.8**	**-0.3**
T35B	**Sooner Cattle** baz=232,SNR=532	**1.01**	**52**	P		21 37 18.3	
T35B	baz=232			S		21 37 31.8	
KAN16	**Harper SW Stat**	**1.03**	**334**		**Pg**	**21 37 18.2**	**+0.1**
FNO	**Franklin**	**1.04**	**175**	Pg	**Pg**	**21 37 18.0**	**-0.4**
OK011	**Prague**	**1.05**	**140**		**Pg**	**21 37 18.5**	**0.0**
KAN12	**Harper NE Stat**	**1.07**	**338**		**Pg**	**21 37 19.0**	**0.0**
U32A	**Winter Ranch,**	**1.21**	**274**	Pg	**Pg**	**21 37 21.2**	**-0.4**
U32A	**Winter Ranch,** baz=94,SNR=144	**1.21**	**274**	P	**Pg**	**21 37 21.1**	**-0.6**
U32A	baz=94			S	**Sg**	**21 37 37.5**	**+0.2**
U32A	**Winter Ranch,** baz=94,SNR=144	**1.21**	**274**	P		21 37 21.1	
U32A	baz=94			S		21 37 37.5	
TUL1	**Leonard** baz=286,SNR=491	**1.44**	**105**	P	**Pn**	**21 37 24.8**	**-0.4**
TUL1	**Leonard** baz=286,SNR=721	**1.44**	**105**	P		21 37 24.9	
TUL1	baz=286			S		21 37 44.9	
TUL1	**Leonard** baz=286,SNR=491	**1.44**	**105**	P		21 37 24.8	
X34A	**Smith Ranch, M** comp=Z,1μm,0.9s	**1.71**	**189**	IAmb_Lg		21 37 52.3	
WMOK	**Wichita Mounta**	**1.87**	**214**		**Pn**	**21 37 31.6**	**+0.3**
WMOK	comp=Z,682nm,0.8s			IAmb_Lg		21 37 57.8	
WMOK	**Wichita Mounta** baz=33,SNR=1000	**1.87**	**214**	P	**Pn**	**21 37 31.6**	**+0.3**
WMOK	baz=33			S	**Sn**	**21 37 56.5**	**+1.1**
WMOK	**Wichita Mounta** baz=33,SNR=952	**1.87**	**214**	P		21 37 31.7	
WMOK	baz=33			S		21 37 56.3	
WMOK	**Wichita Mounta** baz=33,SNR=1000	**1.87**	**214**	P		21 37 31.6	
WMOK	baz=33			S		21 37 56.5	
LOOK	**Love County**	**2.32**	**173**		**Pn**	**21 37 38.0**	**+0.7**
LOOK	comp=Z,930nm,0.9s			IAmb_Lg		21 38 14.3	
R32A	**Long Quarter,**	**2.33**	**336**	Pn	**Pn**	**21 37 38.3**	**+0.7**
R32A	**Long Quarter,** baz=156,SNR=34	**2.33**	**336**	P	**Pn**	**21 37 38.4**	**+0.8**
R32A	baz=156			S	**Sn**	**21 38 07.5**	**+0.8**
R32A	**Long Quarter,** baz=156,SNR=34	**2.33**	**336**	P		21 37 38.4	
R32A	baz=156			S		21 38 07.5	
X37A	**Clayton**	**2.44**	**134**		**Pn**	**21 37 40.0**	**+1.0**
X37A	comp=Z,1μm,0.8s			IAmb_Lg		21 38 18.9	
X37A	**Clayton** baz=315,SNR=71	**2.44**	**134**	P	**Pn**	**21 37 39.8**	**+0.8**
X37A	**Clayton** baz=315,SNR=71	**2.44**	**134**	P		21 37 39.8	
U38A	**Gravette**	**2.52**	**86**		**Pn**	**21 37 41.3**	**+1.2**
U38A	comp=Z,802nm,1.0s			IAmb_Lg		21 38 18.7	
U38A	**Gravette** baz=267,SNR=346	**2.52**	**86**	P	**Pn**	**21 37 41.3**	**+1.2**
U38A	**Gravette** baz=267,SNR=346	**2.52**	**86**	P		21 37 41.3	
HHAR	**Hobbs**	**2.88**	**89**		**Pn**	**21 37 46.0**	**+0.9**
HHAR	comp=Z,467nm,0.7s			IAmb_Lg		21 38 30.4	
KSU1	**Kansas State U**	**2.89**	**14**		**Pn**	**21 37 46.0**	**+0.8**
KSU1	comp=Z,584nm,0.8s			IAmb_Lg		21 38 38.2	
KSU1	**Kansas State U**	**2.89**	**14**	Pn	**Pn**	**21 37 45.9**	**+0.7**
KSU1	**Kansas State U** baz=195	**2.89**	**14**	P	**Pn**	**21 37 46.6**	**+1.4**
KSU1	**Kansas State U** baz=195	**2.89**	**14**	P		21 37 45.7	
KSU1	**Kansas State U** baz=195	**2.89**	**14**	P		21 37 46.6	
Z35A	**Perchaven, San**	**2.97**	**176**		**Pn**	**21 37 46.7**	**+0.4**
Z35A	**Perchaven, San** baz=356	**2.97**	**176**	P	**Pn**	**21 37 47.2**	**+0.9**
Z35A	baz=356			S	**Sn**	**21 38 24.1**	**+1.7**
Z35A	**Perchaven, San** baz=356	**2.97**	**176**	P		21 37 47.2	
Z35A	baz=356			S		21 38 24.1	
CBKS	**Cedar Bluff**	**3.08**	**325**	Pn	**Pn**	**21 37 48.3**	**+0.5**
CBKS	comp=Z,677nm,1.1s			IAmb_Lg		21 38 44.1	
CBKS	**Cedar Bluff** baz=144	**3.08**	**325**	Pg		21 37 55.8	
W39A	**Magazine**	**3.22**	**109**		**Pn**	**21 37 50.7**	**+0.9**
W39A	**Magazine** baz=291,SNR=42	**3.22**	**109**	P	**Pn**	**21 37 50.8**	**+1.1**
W39A	**Magazine** baz=291,SNR=64	**3.22**	**109**	P		21 37 50.3	
W39A				S		21 38 30.5	
W39A	**Magazine** baz=291,SNR=42	**3.22**	**109**	P		21 37 50.8	
S39A	**Bolivar**	**3.62**	**66**		**Pn**	**21 37 56.6**	**+1.3**
S39A	comp=Z,644nm,0.8s			IAmb_Lg		21 39 01.9	
S39A	**Bolivar** baz=248,SNR=133	**3.62**	**66**	P	**Pn**	**21 37 56.3**	**+1.0**
S39A	**Bolivar** baz=248,SNR=133	**3.62**	**66**	P		21 37 56.3	
MIAR	**Mount Ida**	**3.65**	**117**	Pn	**Pn**	**21 37 56.9**	**+1.2**
MIAR	comp=Z,640nm,0.9s			IAmb_Lg		21 39 03.0	
MIAR	**Mount Ida** baz=300,SNR=278	**3.65**	**117**	P	**Pn**	**21 37 56.9**	**+1.2**
MIAR	baz=300			S	**Sn**	**21 38 41.6**	**+2.3**
MIAR	**Mount Ida** baz=300,SNR=238	**3.65**	**117**	P		21 37 56.6	
MIAR	baz=300			S		21 38 40.9	
MIAR	**Mount Ida** baz=300,SNR=278	**3.65**	**117**	P		21 37 56.9	
MIAR	baz=300			S		21 38 41.6	
Z38A	**Mt. Pleasant**	**3.67**	**145**	Pn	**Pn**	**21 37 56.4**	**+0.4**
Z38A	comp=Z,1μm,0.8s			IAmb_Lg		21 39 01.3	
U40A	**Yellville**	**3.75**	**88**	Pn	**Pn**	**21 37 57.5**	**+0.4**
U40A	comp=Z,963nm,0.9s			IAmb_Lg		21 39 00.0	
U40A	**Yellville** baz=270,SNR=64	**3.75**	**88**	P	**Pn**	**21 37 57.5**	**+0.4**
U40A	**Yellville** baz=270,SNR=52	**3.75**	**88**	P		21 37 57.6	
U40A	**Yellville** baz=270,SNR=64	**3.75**	**88**	P		21 37 57.5	
U40A	baz=270,SNR=64			P		21 37 57.5	
ABTX	**Abilene, Hawle**	**4.07**	**206**	Pn	**Pn**	**21 38 01.7**	**+0.2**
ABTX	comp=Z,941nm,0.9s			IAmb_Lg		21 39 09.9	
ABTX	**Abilene, Hawle** baz=25	**4.07**	**206**	Pb		21 38 11.0	
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	**Pn**	**21 38 05.0**	**+1.5**
X40A	comp=Z,670nm,0.8s			IAmb_Lg		21 39 14.4	
X40A	**Basin Creek Fa** baz=296	**4.22**	**114**	Pb		21 38 13.9	
MGMO	**Mountain Grove**	**4.29**	**77**		**Pn**	**21 38 05.6**	**+1.1**
WHTX	**Lake Whitney,** baz=359,SNR=18	**4.30**	**179**	P		21 38 04.8	
WHTX	baz=359			S		21 38 55.8	
WHTX	**Lake Whitney,** baz=359,SNR=17	**4.30**	**179**	P		21 38 05.0	
WHTX	**Lake Whitney,**	**4.30**	**179**		**Pn**	**21 38 04.9**	**+0.3**
WHTX	**Lake Whitney,** baz=359,SNR=17	**4.30**	**179**	P	**Pn**	**21 38 05.0**	**+0.5**
WHAR	**Wooly Hollow**	**4.36**	**102**	Pn	**Pn**	**21 38 06.4**	**+1.0**
FCAR	**Ozark Folk Cen**	**4.38**	**94**		**Pn**	**21 38 06.7**	**+1.1**
FCAR	comp=Z,366nm,0.8s			IAmb_Lg		21 39 15.5	
W41B	**Gary Mavity, V** baz=286,SNR=42	**4.42**	**103**	P	**Pn**	**21 38 07.0**	**+0.8**
W41B	baz=286			S	**Sn**	**21 39 00.6**	**+2.5**
W41B	**Gary Mavity, V** baz=286,SNR=56	**4.42**	**103**	P		21 38 06.4	
W41B	**Gary Mavity, V** baz=286,SNR=42	**4.42**	**103**	P		21 38 07.0	
W41B	baz=286			S		21 39 00.6	
N33A	**J Bar K, Exete**	**4.43**	**1**		**Pn**	**21 38 06.8**	**+0.4**
N33A	comp=Z,439nm,0.8s			IAmb_Lg		21 39 26.2	
WLAR	**White Oak Lake**	**4.45**	**125**	Pn	**Pn**	**21 38 07.6**	**+1.0**
WLAR	comp=Z,638nm,0.8s			IAmb_Lg		21 39 25.9	
237A	**Washetta, Mont**	**4.51**	**161**		**Pn**	**21 38 07.3**	**-0.2**
237A	comp=Z,325nm,0.9s			IAmb_Lg		21 39 22.2	
237A	**Washetta, Mont** baz=342,SNR=17	**4.51**	**161**	P	**Pn**	**21 38 07.3**	**-0.2**
237A	baz=342			S	**Sn**	**21 39 02.0**	**+1.6**
237A	**Washetta, Mont** baz=342,SNR=17	**4.51**	**161**	P		21 38 07.3	
237A	baz=342			S		21 39 02.0	
P38A	**Dawn**	**4.57**	**42**	Pn	**Pn**	**21 38 09.4**	**+1.1**
P38A	comp=Z,612nm,0.9s			IAmb_Lg		21 39 28.5	
P38A	**Dawn** baz=224,SNR=16	**4.57**	**42**	P	**Pn**	**21 38 09.3**	**+1.1**
P38A	**Dawn** baz=224,SNR=16	**4.57**	**42**	P		21 38 09.3	
R40A	**Maddies Statio**	**4.62**	**63**	Pn	**Pn**	**21 38 09.8**	**+0.8**
R40A	**Maddies Statio** baz=246,SNR=86	**4.62**	**63**	P	**Pn**	**21 38 09.9**	**+0.8**
R40A	**Maddies Statio** baz=246,SNR=86	**4.62**	**63**	P		21 38 09.9	
N35A	**Tabor**	**4.78**	**17**		**Pn**	**21 38 12.1**	**+0.8**
KSCO	**Kaye Shedlock'**	**4.88**	**305**	Pn	**Pn**	**21 38 13.7**	**+0.9**
KSCO	comp=Z,847nm,1.0s			IAmb_Lg		21 39 44.6	
MSTX	**Muleshoe**	**4.90**	**243**	Pn	**Pn**	**21 38 12.9**	**-0.1**
MSTX	comp=Z,318nm,1.0s			IAmb_Lg		21 39 43.2	
MSTX	**Muleshoe** baz=60,SNR=16	**4.90**	**243**	P	**Pn**	**21 38 13.0**	**-0.1**
MSTX	**Muleshoe** baz=60,SNR=7.7	**4.90**	**243**	P		21 38 12.7	
MSTX	**Muleshoe** baz=60,SNR=16	**4.90**	**243**	P		21 38 13.0	
Z41A	**Richland Creek** baz=309,SNR=20	**4.92**	**127**	P	**Pn**	**21 38 13.6**	**+0.5**
Z41A	**Richland Creek** baz=309,SNR=24	**4.92**	**127**	P		21 38 13.3	
Z41A	baz=309			S		21 39 10.9	
Z41A	**Richland Creek** baz=309,SNR=20	**4.92**	**127**	P		21 38 13.6	
Z41A	baz=309,SNR=20			P		21 38 13.6	
NATX	**Nacogdoches** comp=Z,314nm,0.9s	**5.11**	**152**	IAmb_Lg		21 39 49.8	
BGNE	**Belgrade**	**5.13**	**355**	Pn	**Pn**	**21 38 16.1**	**0.0**
BGNE	comp=Z,604nm,1.0s			IAmb_Lg		21 39 54.1	
BGNE	**Belgrade** baz=174,SNR=12	**5.13**	**355**	P	**Pn**	**21 38 16.6**	**+0.5**
BGNE	**Belgrade** baz=174,SNR=9.7	**5.13**	**355**	P		21 38 15.6	
BGNE	baz=174			S		21 39 16.2	
BGNE	**Belgrade** baz=174,SNR=12	**5.13**	**355**	P		21 38 16.6	
LCAR	**Lake Charles**	**5.14**	**91**		**Pn**	**21 38 16.4**	**+0.3**
LCAR	comp=Z,319nm,1.1s			IAmb_Lg		21 39 39.3	
T42A	**Van Buren**	**5.21**	**80**		**Pn**	**21 38 17.3**	**+0.2**
T42A	comp=Z,446nm,0.9s			IAmb_Lg		21 39 53.0	
T42A	**Van Buren** baz=264,SNR=59	**5.21**	**80**	P	**Pn**	**21 38 17.8**	**+0.7**
T42A	**Van Buren** baz=264,SNR=59	**5.21**	**80**	P		21 38 17.8	
CCAR	**Cane Creek**	**5.26**	**115**	Pn	**Pn**	**21 38 18.8**	**+1.0**
CCAR	comp=Z,622nm,1.0s			IAmb_Lg		21 39 56.2	
CCAR	**Cane Creek** baz=298,SNR=10	**5.26**	**115**	P	**Pn**	**21 38 18.9**	**+1.0**
CCAR	**Cane Creek** baz=298,SNR=10	**5.26**	**115**	P		21 38 18.9	
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		21 39 55.2	
	comp=Z,541nm,1.0s						
P40A	**Paris**	**5.38**	**52**	Pn	**Pn**	**21 38 20.9**	**+1.3**
435B	**Jarrell**	**5.50**	**181**		**Pn**	**21 38 21.1**	**-0.1**
435B	comp=Z,310nm,0.8s			IAmb_Lg		21 40 01.5	
435B	**Jarr

SLM	**Saint Louis**	**6.23**	**66**	Pn	**Pn**	**21 38 32.4**	**+1.2**		
MET	**Memphis--Engin**	**6.27**	**99**	IAmb_Lg		21 40 25.7			
	comp=Z,371nm,0.8s								
K31A	**O'Neill**	**6.39**	**352**	Pn	**Pn**	**21 38 33.7**	**+0.4**		
LNXT	**Lenox**	**6.48**	**89**	IAmb_Lg		21 40 42.0			
	comp=Z,658nm,0.9s								
HENM	**Henderson Moun**	**6.48**	**84**	IAmb_Lg		21 40 34.6			
	comp=Z,656nm,0.8s								
HKT	**Hockley**	**6.48**	**167**	Pn	**Pn**	**21 38 34.7**	**+0.1**		
SCIA	**State Center**	**6.52**	**29**	Pn	**Pn**	**21 38 35.6**	**+0.5**		
SCIA	**State Center**	**6.52**	**29**	P		21 38 35.2			
	baz=212								
SCIA				S		21 39 50.0			
	baz=212								
SDCO	**Great Sand Dun**	**6.56**	**285**		**Pn**	**21 38 36.3**	**+0.3**		
SDCO	**Great Sand Dun**	**6.56**	**285**	P		21 38 36.1			
	baz=100								
441A	**DeRidder**	**6.60**	**146**	Pn	**Pn**	**21 38 36.3**	**+0.1**		
441A				IAmb_Lg		21 40 38.3			
	comp=Z,188nm,1.1s								
HALT	**Halls**	**6.62**	**91**	IAmb_Lg		21 40 46.5			
	comp=Z,520nm,1.1s								
Q24A	**Divide**	**6.62**	**296**	P		21 38 36.3			
	baz=112,SNR=6.0								
HICK	**Hickman**	**6.68**	**85**	Pn	**Pn**	**21 38 38.1**	**+0.9**		
S44A	**Carbondale**	**6.75**	**76**		**Pn**	**21 38 38.4**	**+0.2**		
S44A	**Carbondale**	**6.75**	**76**	P	**Pn**	**21 38 39.1**	**+0.9**		
	baz=260,SNR=18								
S44A	**Carbondale**	**6.75**	**76**	P		21 38 39.1			
	baz=260,SNR=18								
SIUC	**Southern Illin**	**6.78**	**76**		**Pn**	**21 38 38.6**	**-0.1**		
SIUC				IAmb_Lg		21 40 39.4			
	comp=Z,570nm,0.9s								
N41A	**Harden Midland**	**6.82**	**48**	Pn	**Pn**	**21 38 40.6**	**+1.3**		
OXF	**Oxford**	**6.84**	**103**	Pn	**Pn**	**21 38 39.6**	**0.0**		
OXF				IAmb_Lg		21 40 39.2			
	comp=Z,314nm,0.8s								
W45A	**Hickory Valley**	**6.86**	**97**	Pn	**Pn**	**21 38 41.9**	**+2.1**		
W45A				IAmb_Lg		21 40 49.9			
	comp=Z,407nm,0.8s								
Y45A	**Yeager Farm, C**	**6.96**	**108**	Pn	**Pn**	**21 38 42.1**	**+0.9**		
Y45A				IAmb_Lg		21 40 47.1			
	comp=Z,207nm,0.8s								
VBMS	**Vicksburg**	**7.07**	**123**	IAmb_Lg		21 41 00.7			
	comp=Z,193nm,1.0s								
P43A	**Skaggs, Pawnee**	**7.13**	**60**		**Pn**	**21 38 44.0**	**+0.5**		
P43A	**Skaggs, Pawnee**	**7.13**	**60**	P	**Pn**	**21 38 44.3**	**+0.8**		
	baz=244,SNR=13								
P43A	**Skaggs, Pawnee**	**7.13**	**60**	P		21 38 44.3			
	baz=244,SNR=13								
T45A	**Paducah**	**7.16**	**82**	Pn	**Pn**	**21 38 44.9**	**+1.0**		
Q44A	**Meyer Farm, Va**	**7.22**	**66**		**Pn**	**21 38 45.0**	**+0.3**		
Q44A	**Meyer Farm, Va**	**7.22**	**66**	P	**Pn**	**21 38 45.5**	**+0.8**		
	baz=251,SNR=14								
Q44A	**Meyer Farm, Va**	**7.22**	**66**	P		21 38 45.5			
	baz=251,SNR=14								
ISCO	**Idaho Springs**	**7.29**	**301**	Pn	**Pn**	**21 38 47.5**	**+1.5**		
ISCO				IAmb_Lg		21 40 51.5			
	comp=Z,202nm,0.9s								
ISCO	**Idaho Springs**	**7.29**	**301**	P		21 38 45.8			
	baz=116,SNR=7.1								
K38A	**Parkersburg**	**7.32**	**29**	Pn	**Pn**	**21 38 46.4**	**+0.4**		
ANMO	**Albuquerque**	**7.42**	**262**	Pn	**Pn**	**21 38 47.5**	**-0.1**		
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=7.4								
ANMO				Pg	Pb	21 39 13.6	+5.9		
	comp=Z,2.4nm,0.3s,baz=83,slow=17,SNR=6.0								
ANMO				Lg	Lg	21 40 49.6			
	comp=Z,6.8nm,0.3s,baz=336,slow=13,SNR=3.2								
ANMO				LR	LR	21 41 59.2			
	comp=Z,257nm,21.3s,baz=88,slow=40								
ANMO	**Albuquerque**	**7.42**	**262**	P		21 38 47.7			
	baz=77								
344A	**Westbrook Farm**	**7.42**	**129**	Pn	**Pn**	**21 38 47.3**	**-0.1**		
735A	**Kenedy**	**7.43**	**182**	Pn	**Pn**	**21 38 49.0**	**+1.4**		
735A				IAmb_Lg		21 41 09.3			
	comp=Z,292nm,1.1s								
ECSD	**EROS Data Cent**	**7.46**	**5**		**Pn**	**21 38 47.1**	**-0.9**		
ECSD	**EROS Data Cent**	**7.46**	**5**	P	**Pn**	**21 38 47.3**	**-0.6**		
	baz=186,SNR=32								
ECSD	**EROS Data Cent**	**7.46**	**5**	P		21 38 47.1			
	baz=186,SNR=32								
ECSD	**EROS Data Cent**	**7.46**	**5**	P		21 38 47.3			
	baz=186,SNR=32								
L40A	**Anamosa**	**7.54**	**38**	Pn	**Pn**	**21 38 48.4**	**-0.7**		
L40A				IAmb_Lg		21 41 01.3			
	comp=Z,430nm,0.8s								
HDIL	**Hopedale**	**7.72**	**54**	Pn	**Pn**	**21 38 52.2**	**+0.7**		
HDIL	**Hopedale**	**7.72**	**54**	P		21 38 51.2			
	baz=239								
BNM	**Barren Site**	**7.77**	**257**	Pn	**Pn**	**21 38 52.2**	**-0.3**		
PLAL	**Pickwick Lake**	**7.79**	**97**	Pn	**Pn**	**21 38 53.9**	**+1.4**		
PLAL				IAmb_Lg		21 41 13.8			
	comp=Z,288nm,1.1s								
WVT	**Waverly**	**7.82**	**88**	Pn	**Pn**	**21 38 52.3**	**-0.7**		
WVT	**Waverly**	**7.82**	**88**	P		21 38 52.8			
	baz=274								
OLIL	**Olney**	**7.86**	**69**	Pn	**Pn**	**21 38 54.3**	**+0.8**		
146A	**Union**	**7.87**	**115**	Pn	**Pn**	**21 38 54.4**	**+0.7**		
PHWY	**Pilot Hill**	**7.97**	**311**	IAmb_Lg		21 41 21.9			
	comp=Z,461nm,1.1s								
MNTX	**Cornudas Mount**	**7.99**	**237**		**Pn**	**21 38 54.4**	**-0.9**		
MNTX				IAmb_Lg		21 41 20.2			
	comp=Z,288nm,1.2s								
MNTX	**Cornudas Mount**	**7.99**	**237**	P		21 38 54.0			
	baz=53,SNR=23								
Y22D	**IRIS PASSCAL I**	**8.02**	**257**	IAmb_Lg		21 41 30.9			
	comp=Z,433nm,0.8s								
USIN	**University of**	**8.03**	**75**	Pn	**Pn**	**21 38 57.2**	**+1.3**		
O44A	**Mansfield**	**8.08**	**59**	Pn	**Pn**	**21 38 57.8**	**+1.2**		
O44A				IAmb_Lg		21 41 20.0			
	comp=Z,457nm,0.8s								
833A	**Chaparral WMA,**	**8.11**	**192**	P		21 38 57.6			
	baz=11								
SUSD	**Miller**	**8.21**	**353**	Pn	**Pn**	**21 38 58.0**	**-0.3**		
SUSD				IAmb_Lg		21 41 33.2			
	comp=Z,380nm,1.2s								
I37A	**Lemond, Waseca**	**8.32**	**21**	IAmb_Lg		21 41 35.2			
	comp=Z,408nm,1.1s								
L42A	**Oliver, Polo**	**8.34**	**45**	Pn	**Pn**	**21 38 59.3**	**-0.7**		
Z47A	**Carrollton**	**8.36**	**109**	Pn	**Pn**	**21 39 00.7**	**+0.4**		
T47A	**Sharon Grove**	**8.39**	**82**		**Pn**	**21 39 01.1**	**+0.3**		
T47A	**Sharon Grove**	**8.39**	**82**	P	**Pn**	**21 39 01.3**	**+0.6**		
	baz=268,SNR=12								
T47A	**Sharon Grove**	**8.39**	**82**	P		21 39 01.3			
	baz=268,SNR=12								
JFWS	**Jewell Farm**	**8.66**	**38**		**Pn**	**21 39 03.8**	**-0.6**		
JFWS				IAmb_Lg		21 41 34.1			
	comp=Z,456nm,0.8s								
JFWS	**Jewell Farm**	**8.66**	**38**	P	**Pn**	**21 39 04.1**	**-0.4**		
	baz=223,SNR=7.4								
JFWS	**Jewell Farm**	**8.66**	**38**	P		21 39 03.4			
	baz=223,SNR=10								
JFWS	**Jewell Farm**	**8.66**	**38**	P		21 39 04.1			
	baz=223,SNR=7.4								
TX31	**Lajitas Ar. Si**	**8.67**	**218**		**Pn**	**21 39 04.2**	**-0.5**		
TX31	**Lajitas Ar. Si**	**8.67**	**218**	P	**Pn**	**21 39 04.4**	**-0.3**		
	baz=35,SNR=20								
TX31	**Lajitas Ar. Si**	**8.67**	**218**	P		21 39 04.4			
	baz=35,SNR=20								
TX32	**Lajitas Array**	**8.67**	**218**		**Pn**	**21 39 03.6**	**-1.1**		
TXAR	**Lajitas Array**	**8.67**	**218**	Pn	**Pn**	**21 39 04.3**	**-0.4**		
	comp=Z,1.8nm,0.3s,baz=41,slow=11,SNR=59								
TXAR				Pg	Pg	21 39 34.1	-10		
	comp=Z,5.5nm,0.3s,baz=46,slow=15,SNR=8.4								
TXAR				Lg	Lg	21 41 28.3			
	comp=Z,5.8nm,0.3s,baz=45,slow=23,SNR=4.9								
TXAR				LR	LR	21 42 37.9			
	comp=Z,92nm,20.6s,baz=0.0,slow=39								
TXAR	**Lajitas Array**	**8.67**	**218**	Pn	**Pn**	**21 39 04.0**	**-0.7**		
KVTX	**Kingsville**	**8.73**	**182**	Pn	**Pn**	**21 39 05.2**	**-0.2**		
P46A	**Rosedale**	**8.78**	**65**	Pn	**Pn**	**21 39 08.2**	**+2.0**		
M44A	**Midewin, Midew**	**8.96**	**53**	Pn	**Pn**	**21 39 08.9**	**+0.4**		
CLTN	**Cedars of Leba**	**9.03**	**88**	Pn	**Pn**	**21 39 11.4**	**+1.8**		
CLTN				IAmb_Lg		21 41 52.2			
	comp=Z,115nm,0.8s								
SFIN	**Lafayette**	**9.13**	**60**		**Pn**	**21 39 10.8**	**-0.2**		
SFIN				IAmb_Lg		21 41 55.2			
	comp=Z,370nm,0.8s								
SFIN	**Lafayette**	**9.13**	**60**	P		21 39 10.9			
	baz=247,SNR=20								
WCI	**Wyandotte Cave**	**9.14**	**74**	Pn	**Pn**	**21 39 12.1**	**+1.0**		
WCI				IAmb_Lg		21 41 48.6			
	comp=Z,237nm,0.8s								
WCI	**Wyandotte Cave**	**9.14**	**74**	P		21 39 11.0			
	baz=261								
PV02	**Paradox Valley**	**9.16**	**285**	IAmb_Lg		21 42 03.5			
	comp=Z,124nm,1.1s								
BLO	**Bloomington**	**9.16**	**68**	Pn	**Pn**	**21 39 11.8**	**+0.5**		
PV13	**Radium Mtn., P**	**9.22**	**285**	IAmb_Lg		21 42 04.1			
	comp=Z,176nm,1.1s								
I40A	**Norwalk**	**9.23**	**33**		**Pn**	**21 39 11.3**	**-1.1**		
I40A				IAmb_Lg		21 42 10.4			
	comp=Z,199nm,0.8s								
LRAL	**Lakeview Retre**	**9.24**	**108**	Pn	**Pn**	**21 39 13.2**	**+0.6**		
LRAL	**Lakeview Retre**	**9.24**	**108**	P		21 39 12.7			
	baz=294								
PV03	**Paradox Valley**	**9.25**	**286**	IAmb_Lg		21 42 01.8			
	comp=Z,129nm,1.3s								
RSSD	**Black Hills**	**9.27**	**329**	Pn	**Pn**	**21 39 13.3**	**+0.2**		
RSSD				IAmb_Lg		21 42 05.5			
	comp=Z,145nm,0.9s								
RSSD	**Black Hills**	**9.27**	**329**	P		21 39 12.2			
	baz=145								
RWWY	**Rawlins**	**9.28**	**308**	Pn	**Pn**	**21 39 12.8**	**-0.3**		
RWWY				IAmb_Lg		21 42 03.3			
	comp=Z,300nm,1.1s								
O20A	**White River Ci**	**9.28**	**298**	IAmb_Lg		21 42 07.5			
	comp=Z,132nm,1.2s								
PV11	**David Mesa, Pa**	**9.28**	**286**	IAmb_Lg		21 42 06.1			
	comp=Z,138nm,0.9s								
121A	**Cookes Peak, D**	**9.29**	**249**	IAmb_Lg		21 42 07.1			
	comp=Z,127nm,0.9s								
PV16	**Nyswonger Mesa**	**9.31**	**286**	IAmb_Lg		21 42 12.2			
	comp=Z,160nm,1.3s								
PV04	**Paradox Valley**	**9.32**	**286**	IAmb_Lg		21 42 07.0			
	comp=Z,170nm,1.1s								
PV17	**East Wray Mesa**	**9.34**	**286**	IAmb_Lg		21 42 05.3			
	comp=Z,107nm,1.1s								
PV20	**West Nyswonger**	**9.36**	**286**	IAmb_Lg		21 42 16.5			
	comp=Z,123nm,1.1s								
Y49A	**Blount Mountai**	**9.41**	**102**	Pn	**Pn**	**21 39 16.3**	**+1.5**		
Y49A				IAmb_Lg		21 42 00.5			
	comp=Z,106nm,0.8s								
K22A	**Casper**	**9.42**	**315**	Pn	**Pn**	**21 39 15.8**	**+0.7**		
U49A	**Red Boiling Sp**	**9.45**	**85**	Pn	**Pn**	**21 39 17.6**	**+2.2**		
U49A				IAmb_Lg		21 42 08.1			
	comp=Z,202nm,1.3s								
SWET	**Sewanee**	**9.47**	**93**	Pn	**Pn**	**21 39 16.7**	**+1.1**		
L44A	**Lake County Fo**	**9.47**	**49**	Pn	**Pn**	**21 39 15.7**	**+0.1**		
K43A	**Burlington**	**9.54**	**45**	Pn	**Pn**	**21 39 15.9**	**-0.7**		
F33A	**5 Mile Ranch,**	**9.58**	**5**	Pn	**Pn**	**21 39 15.5**	**-1.5**		
F33A				IAmb_Lg		21 42 07.7			
	comp=Z,154nm,1.1s								
SPMN	**Marine on St.**	**9.60**	**20**	Pn	**Pn**	**21 39 15.8**	**-1.6**		
SPMN				IAmb_Lg		21 42 28.9			
	comp=Z,147nm,0.8s								
SPMN	**Marine on St.**	**9.60**	**20**	P		21 39 16.0			
	baz=203,SNR=6.4								
FPAL	**Fort Paine**	**9.86**	**97**	Pn	**Pn**	**21 39 23.6**	**+2.6**		
W50A	**Signal Mountai**	**9.97**	**93**	IAmb_Lg		21 42 22.9			
	comp=Z,158nm,0.8s								
F36A	**Milaca**	**10.01**	**16**	Pn	**Pn**	**21 39 20.3**	**-2.7**		
R49A	**Shelbyville**	**10.03**	**75**	Pn	**Pn**	**21 39 23.7**	**+0.5**		
R49A	**Shelbyville**	**10.03**	**75**	P	**Pn**	**21 39 23.9**	**+0.7**		
	baz=262,SNR=11								
R49A	**Shelbyville**	**10.03**	**75**	P		21 39 23.9			
	baz=262,SNR=11								
R49A				P		21 39 23.9			
	baz=262,SNR=11								
I42A	**Draeger Farm,**	**10.04**	**38**	Pn	**Pn**	**21 39 22.0**	**-1.3**		
P48A	**Milroy**	**10.05**	**68**	Pn	**Pn**	**21 39 23.1**	**-0.5**		
P48A	**Milroy**	**10.05**	**68**	P	**Pn**	**21 39 23.5**	**-0.1**		
	baz=255,SNR=6.4								
P48A	**Milroy**	**10.05**	**68**	P		21 39 23.5			
	baz=255,SNR=6.4								
P48A				P		21 39 23.5			
	baz=255,SNR=6.4								
T50A	**Nancy**	**10.20**	**82**	Pn	**Pn**	**21 39 26.1**	**+0.5**		
250A	**Grady**	**10.26**	**112**	Pn	**Pn**	**21 39 26.1**	**-0.3**		
N47A	**Urbana**	**10.31**	**60**	Pn	**Pn**	**21 39 26.5**	**-0.6**		
G40A	**Rib Lake**	**10.53**	**29**	Pn	**Pn**	**21 39 29.2**	**-0.9**		
CPCT	**Cooper Cave**	**10.57**	**91**	Pn	**Pn**	**21 39 31.4**	**+0.7**		
P49A	**Miami Univ. Ec**	**10.61**	**68**	Pn	**Pn**	**21 39 30.0**	**-1.2**		
P49A	**Miami Univ. Ec**	**10.61**	**68**	P	**Pn**	**21 39 30.2**	**-0.9**		
	baz=256,SNR=9.5								
P49A	**Miami Univ. Ec**	**10.61**	**68**	P		21 39 30.0			
	baz=256,SNR=9.8								
P49A	**Miami Univ. Ec**	**10.61**	**68**	P		21 39 30.2			
	baz=256,SNR=9.5								
V51A	**Loudon**	**10.66**	**89**	Pn	**Pn**	**21 39 33.6**	**+1.7**		
R50A	**Paris**	**10.68**	**75**	Pn	**Pn**	**21 39 32.8**	**+0.6**		
R50A	**Paris**	**10.68**	**75**	P	**Pn**	**21 39 33.1**	**+0.9**		
	baz=263,SNR=11								
R50A	**Paris**	**10.68**	**75**	P		21 39 33.1			
	baz=263,SNR=11								
R50A				P		21 39 33.1			
	baz=263,SNR=11								
H43A	**Windswept, Lux**	**11.02**	**39**	Pn	**Pn**	**21 39 35.0**	**-1.8**		
O49A	**Covington**	**11.06**	**65**	Pn	**Pn**	**21 39 35.9**	**-1.4**		
O49A	**Covington**	**11.06**	**65**	P	**Pn**	**21 39 36.9**	**-0.4**		
	baz=254,SNR=6.8								
O49A	**Covington**	**11.06**	**65**	P		21 39 36.9			
	baz=254,SNR=6.8								
O49A				P		21 39 36.9			
	baz=254,SNR=6.8								
TKL	**Tuckaleechee C**	**11.14**	**89**	Pn	**Pn**	**21 39 38.9**	**+0.4**		
	comp=Z,1.0nm,0.3s,baz=231,slow=7.4,SNR=12								
TKL				Sn	**Sn**	**21 41 38.1**	**-5.5**		
	comp=Z,1.1nm,0.3s,baz=104,slow=24,SNR=2.1								
TKL				Lg	Lg	21 42 43.6			
	comp=Z,1.5nm,0.3s,baz=163,slow=16,SNR=4.1								
TKL				LR	LR	21 43 56.0			
	comp=Z,175nm,19.8s,baz=292,slow=38								
TKL	**Tuckaleechee C**	**11.14**	**89**	Pn	**Pn**	**21 39 40.5**	**+1.9**		
S51A	**Beattyville**	**11.21**	**79**	Pn	**Pn**	**21 39 39.5**	**0.0**		
V52A	**Sevierville**	**11.27**	**88**	Pn	**Pn**	**21 39 42.2**	**+2.0**		
PDAR	**Pinedale Array**	**11.32**	**308**	Pg	Pn	21 40 26.6	+45		
	comp=Z,0.7nm,0.3s,baz=118,slow=19,SNR=6.2								
PDAR				Lg	Lg	21 42 53.3			
	comp=Z,1.9nm,0.3s,baz=109,slow=34,SNR=9.6								
PDAR				LR	LR	21 44 24.9			
	comp=Z,44nm,21.3s,baz=262,slow=40								
N49A	**Columbus Grove**	**11.40**	**62**	Pn	**Pn**	**21 39 40.4**	**-1.6**		
Q51A	**Peebles**	**11.55**	**72**	Pn	**Pn**	**21 39 42.7**	**-1.3**		
L48A	**N Adams**	**11.61**	**57**	Pn	**Pn**	**21 39 43.6**	**-1.3**		
COWI	**Conover**	**11.64**	**30**	Pn	**Pn**	**21 39 42.8**	**-2.4**		
P51A	**Williamsport**	**11.85**	**70**	Pn	**Pn**	**21 39 47.6**	**-0.5**		
AGMN	**Agassiz Nation**	**12.05**	**5**	P		21 39 48.2			
	baz=186								
AAM	**Ann Arbor**	**12.28**	**57**	P		21 39 52.8			
	baz=245								
M50A	**Fremont**	**12.37**	**61**	Pn	**Pn**	**21 39 54.2**	**-1.0**		
Q52A	**Bidwell**	**12.37**	**73**	Pn	**Pn**	**21 39 54.4**	**-0.9**		
B35A	**Bob, Littlefor**	**12.37**	**12**	Pn	**Pn**	**21 39 52.0**	**-3.2**		
EYMN	**Ely**	**12.46**	**19**	P		21 39 53.1			
	baz=203								
EYMN	**Ely**	**12.46**	**19**	Pn	**Pn**	**21 39 53.2**	**-3.2**		
R53A	**Hurricane**	**12.55**	**76**	Pn	**Pn**	**21 39 57.5**	**-0.2**		
P52A	**Corning**	**12.58**	**70**	Pn	**Pn**	**21 39 57.2**	**-0.9**		
P52A	**Corning**	**12.58**	**70**	P		21 39 57.0			
	baz=259,SNR=17								
U54A	**Nelsons Funny**	**12.64**	**84**	Pn	**Pn**	**21 39 59.3**	**+0.2**		
D41A	**Chassel**	**12.65**	**29**	Pn	**Pn**	**21 39 56.0**	**-3.1**		
N51A	**Ashland**	**12.70**	**64**	Pn	**Pn**	**21 39 59.0**	**-0.7**		
FLWY	**Flagg Ranch**	**12.73**	**312**	Pn	**Pn**	**21 39 59.5**	**-0.8**		
E43A	**Lone Tree Farm**	**12.78**	**35**	Pn	**Pn**	**21 39 56.4**	**-4.4**		
O52A	**Adamsville**	**12.90**	**68**	Pn	**Pn**	**21 40 00.8**	**-1.7**		
GLMI	**Grayling**	**12.97**	**45**	P		21 40 01.4			
	baz=233								
S54A	**Dingess, Beckl**	**13.02**	**79**	Pn	**Pn**	**21 40 02.6**	**-1.7**		
P53A	**Whipple**	**13.12**	**71**	Pn	**Pn**	**21 40 04.4**	**-1.2**		
DGMT	**Dagmar**	**13.12**	**340**	Pn	**Pn**	**21 40 04.1**	**-1.4**		
V55A	**Taylorsville**	**13.19**	**87**	Pn	**Pn**	**21 40 08.3**	**+1.8**		
O53A	**New Philadelph**	**13.39**	**68**	Pn	**Pn**	**21 40 06.7**	**-2.5**		
O53A	**New Philadelph**	**13.39**	**68**	P		21 40 07.2			
	baz=258,SNR=5.8								
Q54A	**Coxs Mills**	**13.48**	**74**	Pn	**Pn**	**21 40 08.7**	**-1.7**		
I49A	**Point Hope**	**13.57**	**51**	Pn	**Pn**	**21 40 08.1**	**-3.5**		
M52A	**Chesterland**	**13.61**	**62**	Pn	**Pn**	**21 40 10.0**	**-2.3**		
BLA	**Blacksburg**	**13.73**	**81**	Pn	**Pn**	**21 40 13.0**	**-1.0**		
BLA	**Blacksburg**	**13.73**	**81**	P		21 40 12.7			
	baz=271								
N53A	**Lisbon**	**13.79**	**66**	Pn	**Pn**	**21 40 11.9**	**-2.8**		
R55A	**Marlinton**	**13.98**	**77**	Pn	**Pn**	**21 40 16.1**	**-1.3**		
ULM	**Lac du Bonnet**	**13.99**	**4**	Pn	Pn	21 40 12.4	-5.0		
	comp=Z,0.7nm,0.3s,baz=188,slow=11,SNR=6.2								
ULM				Sn	Sn	21 42 36.8	-16		
	comp=Z,0.5nm,0.3s,baz=85,slow=19,SNR=2.7								
ULM				Lg	Lg	21 44 10.4			
	comp=Z,0.4nm,0.3s,baz=279,slow=14,SNR=4.5								
ULM				LR	LR	21 45 52.6			
	comp=Z,189nm,18.1s,baz=142,slow=38								
M53A	**WI Miller and**	**14.07**	**64**	Pn	**Pn**	**21 40 16.1**	**-2.4**		
M53A	**WI Miller and**	**14.07**	**64**	P		21 40 16.6			
	baz=254								
E46A	**Sault Ste Mari**	**14.10**	**40**	Pn	**Pn**	**21 40 15.8**	**-3.1**		
SHPR	**Sheep Range**	**14.23**	**276**	P	**P**	**21 40 30.6**	**+2.2**		
N54A	**Moraine State**	**14.46**	**66**	Pn	**Pn**	**21 40 20.9**	**-2.8**		
N54A	**Moraine State**	**14.46**	**66**	P		21 40 20.8			
	baz=257,SNR=6.4								
ELK	**Elko**	**14.57**	**293**	Pn	**Pn**	**21 40 26.5**	**+0.9**		
	comp=Z,0.1nm,0.3s,baz=99,slow=13,SNR=2.0								
ELK				LR	LR	21 46 24.0			
	comp=Z,124nm,18.5s,baz=96,slow=39								
T57A	**Hurt**	**14.67**	**82**	Pn	**Pn**	**21 40 26.1**	**-0.7**		
Q56A	**Snyder Ridge,**	**14.76**	**74**	Pn	**Pn**	**21 40 25.6**	**-2.4**		
M54A	**Oil Creek Stat**	**14.82**	**64**	Pn	**Pn**	**21 40 25.5**	**-3.4**		
M54A	**Oil Creek Stat**	**14.82**	**64**	P		21 40 26.1			
	baz=255								
V58A	**Windy Hill, Pi**	**14.89**	**87**	Pn	**Pn**	**21 40 27.8**	**-1.9**		
S57A	**Dark Hollow, R**	**14.89**	**79**	Pn	**Pn**	**21 40 28.4**	**-1.3**		
O56A	**Blue Knob Stat**	**15.39**	**69**	Pn	**Pn**	**21 40 34.2**	**-2.2**		
O56A				IAmb	IAmb	21 40 35.0			
	comp=Z,8.1nm,0.7s								
O56A	**Blue Knob Stat**	**15.39**	**69**	P		21 40 34.1			
	baz=261								
M55A	**Ridgway**	**15.47**	**65**	Pn	**Pn**	**21 40 34.9**	**-2.6**		
R58B	**Mineral**	**15.74**	**78**	Pn	**Pn**	**21 40 39.9**	**-1.0**		
R58B				IAmb	IAmb	21 40 49.5			
	comp=Z,13nm,1.3s								
PFO	**Pinyon Flats O**	**15.77**	**266**	LR	LR	21 47 13.4			
	comp=Z,74nm,19.0s,baz=68,slow=39								
WVNY	**West Valley, N**	**15.83**	**62**	Pn	**Pn**	**21 40 39.1**	**-3.0**		
SSPA	**Standing Stone**	**15.96**	**68**		**Pn**	**21 40 41.1**	**-2.7**		
SSPA				IAmb	IAmb	21 40 41.9			
	comp=Z,13nm,1.1s								
SSPA	**Standing Stone**	**15.96**	**68**	P		21 40 41.3			
	baz=260								
T59A	**Double "B" Far**	**16.03**	**82**	Pn	**Pn**	**21 40 43.3**	**-1.4**		
T59A				IAmb	IAmb	21 40 50.0			
	comp=Z,23nm,1.5s								
SADO	**Sadowa**	**16.30**	**53**	Pn	**Pn**	**21 40 44.9**	**-3.2**		
	comp=Z,0.6nm,0.3s,baz=284,slow=7.8,SNR=2.3								
SADO	**Sadowa**	**16.30**	**53**	Pn	**Pn**	**21 40 44.3**	**-3.8**		
L56A	**Greenwood**	**16.50**	**63**	Pn	**Pn**	**21 40 47.9**	**-2.9**		
L56A				IAmb	IAmb	21 40 56.8			
	comp=Z,9.5nm,0.6s								
L56A	**Greenwood**	**16.51**	**63**	P		21 40 48.4			
	baz=256								
KVN	**Kaiserville**	**16.54**	**286**	P	**P**	**21 40 54.2**	**+0.2**		
NV11	**Mina Array Sit**	**16.56**	**284**	P	**P**	**21 40 53.6**	**-0.6**		
H53A	**Bobcaygeon**	**16.58**	**54**	P		21 40 47.8			
	baz=246								
J55A	**Hilton**	**16.64**	**59**	Pn	**Pn**	**21 40 50.4**	**-2.0**		
M57A

BATI	**Baumata**	**5.21**	**241**	P		**Pn**	**21 57 00.8**	**-0.3**
	81nm,0.3s,baz=143,slow=3.0,SNR=66							
BATI				S		**Sn**	**21 57 59.0**	**-1.7**
	102nm,0.3s,baz=200,slow=5.3,SNR=11							
MTN	**Manton Dam**	**5.88**	**152**	Pn		**Pn**	**21 57 08.7**	**-1.2**
MMRI	**Maumere**	**6.05**	**260**	Pn		**Pn**	**21 57 11.4**	**-0.8**
FAKI	**Fak Fak**	**6.15**	**40**	Pn		**Pn**	**21 57 10.2**	**-3.4**
SIJI	**Sorong**	**7.37**	**24**	P		**Pn**	**21 57 28.6**	**-1.3**
	5.7nm,0.3s,baz=213,slow=8.9,SNR=8.8							
KNRA	**Kununurra**		**7.39 177**	P		**Pn**	**21 57 36.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**10.69**	**194**	P		**Pn**	**21 58 10.2**	**-3.9**
	4.9nm,0.3s,baz=7.8,slow=11,SNR=76							
FITZ				S		Sn	22 00 02.7	-10
	6.3nm,0.3s,baz=80,slow=18,SNR=7.5							
FITZ	**Fitzroy Crossi**	**10.69**	**194**			**Pn**	**21 58 10.3**	**-3.7**
WRA	**Warramunga Arr**	**13.56**	**155**	P		**Pn**	**21 58 47.2**	**-4.0**
	1.4nm,0.3s,baz=328,slow=12,SNR=53							
WRA				S		Sn	22 01 09.9	-12
	5.0nm,0.3s,baz=328,slow=23,SNR=13							
PSA00	**Pilbara Seismi**	**16.05**	**210**	Pn		**Pn**	**21 59 21.0**	**-1.2**
PSA00				IAmb		IAmb	21 59 25.9	
	comp=Z,8.5nm,1.1s							
AS31	**Alice Springs**	**16.82**	**162**	P		**P**	**21 59 30.4**	**-0.8**
ASAR	**Alice Springs**	**16.82**	**162**	P		**P**	**21 59 30.8**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=335,slow=9.6,SNR=67							
ASAR				S		S	22 02 28.4	-10
	comp=Z,1.5nm,0.3s,baz=319,slow=18,SNR=7.0							
ASAR	**Alice Springs**	**16.82**	**162**	P		**P**	**21 59 31.2**	**+0.1**
GIRL	**Giralia**	**20.11**	**221**	P		Pn	22 00 10.0	-0.4
MORW	**Morawa**	**24.22**	**207**	P		**P**	**22 00 49.2**	**+1.5**
STKA	**Stephens Creek**	**27.11**	**155**	P		**P**	**22 01 15.4**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=134,slow=9.3,SNR=5.6							
STKA	**Stephens Creek**	**27.11**	**155**	P		**P**	**22 01 15.0**	**+1.3**
PSI	**Prapat**	**31.07**	**288**	P		**P**	**22 01 49.0**	**0.0**
	comp=Z,5.4nm,0.8s,baz=180,slow=6.7,SNR=5.0							
CMAR	**Chiang Mai Arr**	**38.86**	**312**	P		**P**	**22 02 56.2**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=138,slow=6.8,SNR=8.3							
JWT	**Wachi**	**43.23**	**9**	P		**P**	**22 03 31.2**	**+0.1**
JWT				IAmb		IAmb	22 03 31.9	
	comp=Z,11nm,1.1s							
KSRS	**Korea Array**	**44.87**	**360**	P		**P**	**22 03 44.1**	**0.0**
	comp=Z,2.2nm,0.5s,baz=179,slow=10.0,SNR=8.8							
MJAR	**Matsushiro Arr**	**44.94**	**11**	P		**P**	**22 03 43.7**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=180,slow=11,SNR=4.5							
MJAR	**Matsushiro Arr**	**44.94**	**11**	P		**P**	**22 03 44.2**	**-0.6**
JSD	**Sado**	**46.40**	**11**	P		**P**	**22 03 55.7**	**-0.5**
JSD				IAmb		IAmb	22 04 03.7	
	comp=Z,13nm,1.0s							
JMM	**Marumori**	**46.77**	**14**	P		**P**	**22 04 00.2**	**+1.2**
MSVF	**Nonsavu**	**49.45**	**107**	LR		LR	22 24 16.7	
	comp=Z,70nm,19.5s,baz=168,slow=35							
USRK	**Ussuriysk Ar.**	**51.72**	**3**	P		**P**	**22 04 36.0**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=185,slow=7.0,SNR=19							
USRK	**Ussuriysk Ar.**	**51.72**	**3**	P		**P**	**22 04 36.3**	**-0.2**
USA0B	**Ussuriysk Arra**	**51.72**	**3**	P		**P**	**22 04 35.9**	**-0.7**
USA0B				IAmb		IAmb	22 04 48.4	
	comp=Z,7.8nm,1.2s							
KHZ	**Kahutara**	**52.74**	**139**	P		**P**	**22 04 46.2**	**+2.1**
ASAJ	**Asahikawa**	**53.13**	**13**	LR		LR	22 29 25.2	
	comp=Z,11nm,19.0s,baz=25,slow=38							
KLR	**Kul'dur**	**56.72**	**3**	LR		LR	22 30 05.3	
	comp=Z,22nm,18.9s,baz=26,slow=36							
SONM	**Songino Array**	**58.53**	**343**	P		**P**	**22 05 25.6**	**0.0**
	comp=Z,1.9nm,0.8s,baz=166,slow=9.0,SNR=9.8							
SONM	**Songino Array**	**58.53**	**343**	P		**P**	**22 05 26.4**	**+0.9**
SONM				IAmb		IAmb	22 05 27.7	
	comp=Z,1.7nm,0.8s							
PETK	**Petropavlovsk-**	**65.48**	**19**	P		**P**	**22 06 11.3**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=184,slow=7.1,SNR=5.3							
PETK	**Petropavlovsk-**	**65.48**	**19**	P		**P**	**22 06 10.9**	**-0.7**
MK31	**Makanchi Array**	**67.84**	**328**	P		**P**	**22 06 28.0**	**+1.3**
MK31				IAmb		IAmb	22 06 32.5	
	comp=Z,3.7nm,1.5s							
MKAR	**Makanchi Array**	**67.84**	**328**	P		**P**	**22 06 26.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=114,slow=8.5,SNR=17							
MKAR	**Makanchi Array**	**67.84**	**328**	P		**P**	**22 06 27.1**	**+0.3**
YAK	**Yakutsk**	**69.48**	**1**	P		**P**	**22 06 37.0**	**+0.5**
	comp=Z,5.3nm,0.4s,baz=177,slow=1.8,SNR=2.7							
YAK	**Yakutsk**	**69.48**	**1**	P		**P**	**22 06 37.5**	**+1.0**
ZAA0	**Zalesovo Array**	**71.42**	**335**	P		**P**	**22 06 48.2**	**-0.2**
ZAA0				IAmb		IAmb	22 06 48.6	
	comp=Z,2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**71.42**	**335**	P		**P**	**22 06 48.1**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=115,slow=4.6,SNR=9.6							
ZALV	**Zalesovo Beam**	**71.42**	**335**	P		**P**	**22 06 48.4**	**-0.1**
VNDA	**Vanda**	**72.02**	**173**	P		**P**	**22 06 53.4**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=308,slow=6.0,SNR=8.6							
VNDA	**Vanda**	**72.02**	**173**	P		**P**	**22 06 53.7**	**+2.0**
KURBB	**Kurchatov Arra**	**72.18**	**329**	P		**P**	**22 06 53.5**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=132,slow=5.0,SNR=31							
KURK	**Kurchatov**	**72.19**	**329**	P		**P**	**22 06 53.5**	**+0.4**
KKAR	**Karatay Array**	**72.71**	**320**	P		**P**	**22 06 56.9**	**+0.5**
TIXI	**Tiksi**	**79.14**	**0**	P		**P**	**22 07 31.7**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=164,slow=5.8,SNR=8.9							
TIXI	**Tiksi**	**79.14**	**0**	P		**P**	**22 07 31.8**	**-0.4**
TIXI				IAmb		IAmb	22 07 32.1	
	comp=Z,2.3nm,0.5s							
NRIK	**Noril'sk**	**81.78**	**346**	P		**P**	**22 07 46.9**	**+0.6**
NRIK				IAmb		IAmb	22 07 48.3	
	comp=Z,6.9nm,1.4s							
ABKAR	**Akbulak array**	**81.96**	**322**	P		**P**	**22 07 47.7**	**0.0**
QSPA	**South Pole Qui**	**82.33**	**180**	P		**P**	**22 07 51.0**	**+1.5**
QSPA				IAmb		IAmb	22 07 55.1	
	comp=Z,5.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**127.25**	**281**	PKP		**PKPdf**	**22 14 31.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=39,slow=1.6,SNR=2.3							
TORD	**Torodi Ar. Bea**	**127.25**	**281**			**PKPdf**	**22 14 32.5**	**0.0**
LPAZ	**La Paz**	**151.20**	**146**	PKPbc		**PKiKP**	**22 15 23.7**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=26,slow=6.6,SNR=10							
LPAZ	**La Paz**	**151.20**	**146**			**PKiKP**	**22 15 23.0**	**+0.4**

IDC 08 22:06:42.9±1.7, 67.56N×63.72E, h0km, mb2.7/1, mb1 3.5/5, mb1mx3.1/49, mbtmp3.5/5, ML2.8/4, Error ellipse: s-maj=25.0km s-min=17.4km az=64.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRIK	**Noril'sk**	**8.92**	**68**	Pn	Pn	22 08 53.4	+0.5
	0.6nm,0.3s,baz=254,slow=7.4,SNR=2.7						
NRIK				Sn	Sn	22 10 28.5	-5.4
	0.4nm,0.3s,baz=203,slow=18,SNR=4.1						
ARU	**Arti**	**11.43**	**195**	Pn	Pn	22 09 25.1	-2.1
	0.0nm,0.3s,baz=335,slow=15,SNR=2.9						
ARU				Sn	Sn	22 11 27.3	-8.1
	0.0nm,0.3s,baz=114,slow=20,SNR=1.6						
ARCES	**ARCESS Array B**	**13.96**	**296**	Pn	Pn	22 09 56.7	-5.0
	baz=74,slow=13,SNR=16						
FINES	**FINESS Array B**	**17.09**	**267**	Pn	Pn	22 10 38.0	-4.8
	0.1nm,0.3s,baz=60,slow=11,SNR=1.3						
MKAR	**Makanchi Array**	**22.94**	**146**	P	P	22 11 47.9	-0.4
	0.6nm,0.9s,baz=350,slow=10,SNR=3.3						

*IDC **08** 22:20:29.9±1.3, 12.82N×146.29E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/49, mbtmp3.8/9, MS3.2/4, Ms1 3.2/4, ms1mx2.8/32, Error ellipse: s-maj=38.0km s-min=20.6km az=84.0*

ISC 08 22:20:35.5±1.1, 12.8N±0.1×146.1E±0.2, h35km, n14, σ1°12/11, mb3.7/9, MS3.0/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.42**	**302**	Pn	**Pn**	**22 20 58.2**	**-0.6**
	87nm,0.3s,baz=139,slow=12,SNR=29						
GUMO				Sn	**Sn**	**22 21 15.7**	**-0.5**
	410nm,0.3s,baz=44,slow=22,SNR=14						
JOW	**Kunigami**	**21.76**	**112**	LR	LR	22 33 09.7	
	comp=Z,60nm,20.1s,baz=151,slow=35						
MJAR	**Matsushiro Arr**	**24.65**	**345**	LR	LR	22 34 32.9	
	comp=Z,52nm,18.6s,baz=240,slow=34						
HNR	**Honiara**	**26.04**	**147**	LR	LR	22 36 10.8	
	comp=Z,81nm,18.7s,baz=158,slow=36						
KSRS	**Korea Array**	**29.42**	**330**	P	**P**	**22 26 36.3**	**+0.7**
	0.6nm,0.5s,baz=136,slow=9.9,SNR=1.6						
USRK	**Ussuriysk Ar.**	**33.53**	**341**	P	**P**	**22 27 12.8**	**+1.0**
	1.0nm,0.8s,baz=115,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**34.56**	**200**	P	**P**	**22 27 20.6**	**-0.4**
	0.6nm,0.6s,baz=24,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**38.18**	**198**	P	**P**	**22 27 52.3**	**+0.4**
	0.3nm,0.6s,baz=22,slow=10.0,SNR=2.4						
CMAR	**Chiang Mai Arr**	**45.66**	**283**	LR	LR	22 47 51.0	
	comp=Z,12nm,19.5s,baz=285,slow=36						
SONM	**Songino Array**	**48.04**	**325**	P	**P**	**22 29 11.1**	**-0.4**
	0.2nm,0.3s,baz=120,slow=5.7,SNR=2.0						
MKAR	**Makanchi Array**	**62.87**	**316**	P	**P**	**22 30 59.6**	**+1.6**
	1.1nm,0.6s,baz=93,slow=7.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**62.94**	**324**	P	**P**	**22 30 59.9**	**+1.6**
	1.2nm,0.8s,baz=107,slow=5.0,SNR=2.1						
ILAR	**Eielson Array**	**68.74**	**25**	P	**P**	**22 31 34.4**	**-1.1**
	0.4nm,0.6s,baz=261,slow=5.4,SNR=3.2						
FINES	**FINESS Array B**	**92.35**	**335**	P	**P**	**22 33 41.0**	**-1.0**
	1.9nm,0.8s,baz=77,slow=6.1,SNR=4.1						

*ATH **08** 22:20:39.0, 34.05N×26.40E, h9km±6km, ML4.0/9, Error ellipse: s-maj=6.8km s-min=2.7km az=134.0*
*IDC **08** 22:20:39.7±0.5, 34.29N×26.30E, h0km, mb4.5/31, mb1 4.6/44, mb1mx4.5/58, mbtmp4.5/44, ML4.2/11, MS3.6/26, Ms1 3.6/26, ms1mx3.5/42, Error ellipse: s-maj=12.7km s-min=9.8km az=169.0*
*HLW **08** 22:20:40.4, 34.37N×26.42E, h11km±12km, Md4.6, Ml4.5*
*MOS **08** 22:20:41.6±1.1, 34.28N×26.20E, h23km, mb4.9/21, Error ellipse: s-maj=4.7km s-min=2.8km az=88.6*
*NEIC **08** 22:20:41.8±2.0, 34.24N±0.07×26.23E±0.06, h10km±1km, mb4.7/99, ML4.0(ATH), ML3.9(THE), Error ellipse: s-maj=13.4km s-min=7.1km az=205.0*
*ISK **08** 22:20:43.2, 34.33N×26.34E, h20km, ML4.2/21*
*THE **08** 22:20:43.2, 34.30N×26.33E, h0km±4km, ML3.9/3, Error ellipse: s-maj=10.6km s-min=1.5km az=135.0*
*NIC **08** 22:20:44.6±0.0, 34.33N×26.57E, h23km±2km, Ml4.8/4*
*MED_RC **08** 22:20:45.0±0.4, 34.25N×26.25E, h44km±3km, MW4.5/8, Moment Tensor Solution.Mantle waves: s8,c12; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.68±.10; Mθθ-0.98±.06; Mφφ0.30±.06; Mrθ0.08±.05; Mrφ-0.11±.11; Mθφ0.11±.05; Best double couple: M0.85000×10^16 NP1:φ280.00000°, δ50.00000°, λ71.00000°. NP2: φ71.00000°, δ50.00000°, λ71.00000°. Principal axes: T 0.7100, Plg75.0000°, Azm277.0000°; N 0.2900, Plg15.0000°, Azm84.0000°; P -0.9900, Plg3.0000°, Azm175.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*DDA **08** 22:20:59.3, 35.36N×26.91E, h39km±5km, MW4.4*

ISC 08 22:20:43.1±0.6, 34.20N±0.03×26.31E±0.03, h25km±3km, h26km:pP-P, n653, σ1°48/704, mb4.7/127, MS3.6/22, 40C-31D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.92**	**355**	P	**Pb**	**22 20 59.1**	**-1.3**
ZKR				AML	AML	22 21 22.0	
	comp=E,21374μm,0.7s						
ZKR				AML	AML	22 21 23.4	
	comp=N,11122μm,0.7s						
ZKR	**Zakros**	**0.92**	**355**	P	**Pb**	**22 20 59.1**	**-1.3**
ZKR				S	**Sn**	**22 21 13.0**	**+0.1**
	comp=N,8μm,0.5s						
ZKR	**Zakros**	**0.92**	**355**	PG	**Pb**	**22 20 59.2**	**-1.2**
ZKR	**Zakros**	**0.92**	**355**	P	**Pb**	**22 20 59.2**	**-1.2**
ZKR				S	**Sn**	**22 21 12.9**	**+0.1**
ZKR				AML	AML	22 21 17.0	
	comp=N,24nm,0.6s						
ZKR				AML	AML	22 21 17.0	
	comp=N,24nm,0.6s						
ZKR				AML	AML	22 21 21.8	
	comp=N,11nm,0.7s						
ZKR				AML	AML	22 21 21.8	
	comp=N,11nm,0.7s						
FRMA	**Ierapetra Chan**	**0.95**	**330**	P	**Pn**	**22 20 59.0**	**-1.8**
STIA	**Sitia Lasithi**	**1.02**	**350**	P	**Pn**	**22 21 00.8**	**-1.0**
STIA				S	**Sb**	**22 21 14.8**	**-0.3**
LAST	**Lasithi**	**1.18**	**325**	P	**Pn**	**22 21 04.0**	**-0.1**
LAST				AML	AML	22 21 34.7	
	comp=E,7108μm,0.6s						
LAST				AML	AML	22 21 35.0	
	comp=N,8787μm,1.0s						
LAST	**Lasithi**	**1.18**	**325**	P	**Pn**	**22 21 03.3**	**-0.8**
LAST				S	**Sb**	**22 21 21.9**	**+2.0**
	comp=N,5μm,0.9s						
NPS	**Neapolis**	**1.21**	**332**	P	**Pn**	**22 21 03.9**	**-0.6**
NPS				S	**Sb**	**22 21 22.4**	**+1.7**
NPS				AML	AML	22 21 31.5	
	comp=E,14955μm,0.7s						
NPS				AML	AML	22 21 38.7	
	comp=N,12749μm,0.9s						
NPS	**Neapolis**	**1.21**	**332**	P	**Pn**	**22 21 03.9**	**-0.6**
NPS	**Neapolis**	**1.21**	**332**	P	**Pn**	**22 21 03.8**	**-0.6**
NPS				S	**Sb**	**22 21 22.3**	**+1.7**
SIVA	**Sivas**	**1.49**	**304**	P	**Pn**	**22 21 08.8**	**+0.6**
SIVA				AML	AML	22 21 50.8	
	comp=N,13066μm,1.0s						
SIVA				AML	AML	22 21 55.6	
	comp=E,13133μm,0.8s						
SIVA	**Sivas**	**1.49**	**304**	P	**Pn**	**22 21 08.8**	**+0.6**
HRKL	**Herakleio**	**1.50**	**319**	P	**Pb**	**22 21 09.7**	**-0.5**
KSTL	**Kastelli Herak**	**1.51**	**318**	P	**Pn**	**22 21 06.0**	**-2.5**
TMBK	**Timbaki Herakl**	**1.55**	**305**	P	**Pb**	**22 21 10.9**	**-0.1**
IDI	**Anoyia**	**1.60**	**313**	P	**Pn**	**22 21 11.0**	**+1.1**
IDI				S	**Sb**	**22 21 34.8**	**+3.0**
IDI				AML	AML	22 21 55.7	
	comp=N,3829μm,0.9s						
IDI				AML	AML	22 21 59.0	
	comp=E,3446μm,1.4s						
IDI	**Anoyia**	**1.60**	**313**	Pn	**Pn**	**22 21 10.3**	**+0.5**
	comp=E,45nm,0.3s,baz=142,slow=8.2,SNR=512						
IDI				Sn	**Sn**	**22 21 26.8**	**-2.9**
	comp=E,65nm,0.3s,baz=357,slow=17,SNR=8.4						
IDI	**Anoyia**	**1.60**	**313**	P	**Pn**	**22 21 10.3**	**+0.5**
IDI				S	**Sb**	**22 21 34.8**	**+3.0**
IDI	**Anoyia**	**1.60**	**313**	↑P	**Pb**	**22 21 11.3**	**-0.7**
IDI				↓S	**Sn**	**22 21 30.3**	**+0.6**
IDI	**Anoyia**	**1.60**	**313**	PN	**Pn**	**22 21 10.0**	**+0.2**
GVD	**Gavdhos**	**1.95**	**290**	P	**Pn**	**22 21 15.8**	**+1.3**
GVD				AML	AML	22 22 01.8	
	comp=N,4338μm,0.5s						
GVD				AML	AML	22 22 11.8	
	comp=E,4989μm,0.5s						
GVD	**Gavdhos**	**1.95**	**290**	P	**Pn**	**22 21 15.8**	**+1.3**
GVD	**Gavdhos**	**1.95**	**290**	PN	**Pn**	**22 21 16.0**	**+1.5**
GVD				SN	**Sn**	**22 21 39.6**	**+1.4**
GVDS	**Gavdos**	**1.95**	**290**	P	**Pn**	**22 21 16.0**	**+1.5**
GVDS	**Gavdos**	**1.95**	**290**	PN	**Pn**	**22 21 16.1**	**+1.5**
VAM	**Vamos**	**2.12**	**305**	P	**Pn**	**22 21 18.9**	**+2.0**
VAM				AML	AML	22 22 10.0	
	comp=N,3586μm,0.6s						
VAM				AML	AML	22 22 11.2	
	comp=E,4979μm,1.2s						
VAM	**Vamos**	**2.12**	**305**	P	**Pn**	**22 21 18.7**	**+1.8**
VAM	**Vamos**	**2.12**	**305**	P	**Pn**	**22 21 18.9**	**+2.0**
SANT	**Santorini**	**2.28**	**342**	↑P	**Pn**	**22 21 19.4**	**+0.2**
SANT				↑S	**Sn**	**22 21 47.5**	**+1.1**
SANT	**Santorini**	**2.28**	**342**	PN	**Pn**	**22 21 19.3**	**+0.2**
SANT	**Santorini**	**2.28**	**342**	Pn	**Pn**	**22 21 19.3**	**+0.2**
IMMV	**Iera Moni Meta**	**2.30**	**304**	P	**Pn**	**22 21 21.8**	**+2.5**
IMMV				AML	AML	22 22 15.5	
	comp=E,4350μm,0.8s						
IMMV				AML	AML	22 22 41.5	
	comp=N,4136μm,1.0s						
IMMV	**Iera Moni Meta**	**2.30**	**304**	P	**Pn**	**22 21 21.3**	**+2.0**
THT2	**Imerovigli**	**2.35**	**342**	PN	**Pn**	**22 21 20.4**	**+0.3**
KNDR	**Palaiochora Ch**	**2.40**	**296**	P	**Pn**	**22 21 22.6**	**+1.9**
KNDR	**Palaiochora Ch**	**2.40**	**296**	PN	**Pn**	**22 21 22.6**	**+1.9**
KNDR				SN	**Sn**	**22 21 51.7**	**+2.4**
ARG	**Arkhangelos**	**2.50**	**36**	P	**Pn**	**22 21 24.6**	**+2.4**
ARG				AML	AML	22 22 26.6	
	comp=N,2382μm,1.5s						
ARG				AML	AML	22 22 28.8	
	comp=E,2525μm,1.0s						
ARG	**Arkhangelos**	**2.50**	**36**	P	**Pn**	**22 21 24.6**	**+2.4**
ARG	**Arkhangelos**	**2.50**	**36**	P	**Pn**	**22 21 24.5**	**+2.4**
ARG	**Arkhangelos**	**2.50**	**36**	S	**Sn**	**22 21 48.8**	**-3.1**
KOSK	**Kos Island**	**2.61**	**12**	PN	**Pn**	**22 21 23.8**	**+0.2**
DAT	**Datca**	**2.73**	**22**	PN	**Pn**	**22 21 25.7**	**+0.3**
DATC	**Datca-Mugla**	**2.79**	**23**	PN	**Pn**	**22 21 25.8**	**-0.2**
SLUM	**Salum**	**2.85**	**199**	P	**Pn**	**22 21 27.6**	**+0.6**
SLUM				S	**Sn**	**22 22 00.9**	**+0.4**
	baz=200						
APE	**Apeiranthos**	**2.94**	**348**	↓P	**Pn**	**22 21 28.9**	**+0.7**
APE				↑S	**Sn**	**22 22 04.3**	**+1.6**
APE	**Apeiranthos**	**2.94**	**348**	P	**Pn**	**22 21 28.9**	**+0.7**
APE				S	**Sn**	**22 22 04.2**	**+1.6**
APE	**Apeiranthos**	**2.94**	**348**	PN	**Pn**	**22 21 28.6**	**+0.4**
APE	**Apeiranthos**	**2.94**	**348**	↑P	**Pn**	**22 21 28.6**	**+0.4**
APE				S	**Sn**	**22 22 04.4**	**+1.6**

MATC	**Matruh**	**2.94**	**165**	P		**Pn**	**22 21 28.8**	**+0.6**
	baz=167							
MRSB	**Marmaris-Mugla**	**2.95**	**31**	PN		**Pn**	**22 21 28.5**	**+0.2**
BODT	**Bodrum**	**2.97**	**16**	PN		**Pn**	**22 21 28.5**	**-0.2**
BDRM	**Kayabasi**	**3.01**	**18**	*i* P		**Pn**	**22 21 30.1**	**+0.9**
BDRM				*i* S		Sn	22 21 54.7	-10
TURN	**Turunc**	**3.02**	**31**	*i* P		**Pn**	**22 21 30.0**	**+0.7**
TURN				*i* S		**Sn**	**22 22 01.0**	**-3.6**
TURN	**Turunc**	**3.02**	**31**	PN		**Pn**	**22 21 29.3**	**0.0**
DALY	**Dalyan (Mula)**	**3.24**	**35**	*i* P		**Pn**	**22 21 34.2**	**+1.9**
DALY				*i* S		Sn	22 21 58.4	-12
MLSB	**Milas**	**3.31**	**21**	PN		**Pn**	**22 21 33.8**	**+0.4**
FETY	**Fethiye**	**3.32**	**42**	PN		**Pn**	**22 21 33.4**	**+0.1**
DDIM	**Aydin, Didim**	**3.34**	**13**	*i* P		**Pn**	**22 21 35.4**	**+1.7**
DDIM				*i* S		**Sb**	**22 22 28.4**	**+6.6**
YER	**Yerkesik**	**3.34**	**28**	PN		**Pn**	**22 21 34.5**	**+0.7**
AKAS	**Kas**	**3.38**	**52**	*i* P		**Pn**	**22 21 34.7**	**+0.4**
AKAS				*i* S		Sn	22 22 00.6	-13
AKAS	**Kas**	**3.38**	**52**	PN		**Pn**	**22 21 34.7**	**+0.4**
AKAS	**Kas**	**3.38**	**52**	Pn		**Pn**	**22 21 34.5**	**+0.1**
KTHR	**Kythira**	**3.40**	**308**	P		**Pn**	**22 21 35.5**	**+0.9**
MULA	**Mugla, Merkez-**	**3.46**	**28**	*i* P		**Pn**	**22 21 37.8**	**+2.3**
MULA				*i* S		Sn	22 22 03.3	-12
GCAM	**G?zelcaml?**	**3.58**	**12**	*i* P		**Pn**	**22 21 38.4**	**+1.5**
GCAM				*i* S		Sn	22 22 04.2	-14
GCAM	**G?zelcaml?**	**3.58**	**12**	PN		**Pn**	**22 21 37.9**	**+1.0**
CAME	**Cameli-Denizli**	**3.67**	**41**	PN		**Pn**	**22 21 39.3**	**+0.9**
AYDN	**Tasoluk**	**3.69**	**20**	*i* P		**Pn**	**22 21 40.0**	**+1.5**
AYDN				*i* S		**Sn**	**22 22 24.1**	**+2.9**
VLI	**Veliai**	**3.73**	**313**	P		**Pn**	**22 21 39.0**	**-0.1**
CAEL	**Denizli, Camel**	**3.81**	**39**	*i* P		**Pn**	**22 21 42.1**	**+1.8**
CAEL				*i* S		**Sn**	**22 22 24.9**	**+0.5**
DGB	**zmir**	**3.88**	**7**	*i* P		**Pn**	**22 21 41.7**	**+0.7**
DGB				*i* S		Sn	22 22 15.6	-10
ELL	**Elmali**	**3.89**	**48**	P		**Pn**	**22 21 43.0**	**+1.7**
ELL	**Elmali**	**3.89**	**48**	PN		**Pn**	**22 21 42.5**	**+1.2**
ELL	**Elmali**	**3.89**	**48**	Pn		**Pn**	**22 21 43.0**	**+1.7**
TAVA	**DENIZLI_Tavas**	**3.89**	**32**	*i* P		**Pn**	**22 21 42.5**	**+1.2**
TAVA				*i* S		Sn	22 22 15.7	-10
AKUM	**Antalya-Kumluc**	**3.92**	**56**	*i* P		**Pn**	**22 21 42.8**	**+1.2**
AKUM				*i* S		Sn	22 22 17.6	-9.3
AYDB	**Zeytinkoy-Aydi**	**3.96**	**18**	PN		**Pn**	**22 21 42.6**	**+0.3**
GOLH	**Golhisar**	**4.03**	**40**	*i* P		**Pn**	**22 21 45.3**	**+2.1**
GOLH				*i* S		Sn	22 22 08.2	-21
ZEYE	**Izmir, Urla-Ze**	**4.04**	**2**	*i* P		**Pn**	**22 21 42.7**	**-0.5**
URLA	**Izmir**	**4.16**	**3**	*i* P		**Pn**	**22 21 44.0**	**-1.1**
URLA	**Izmir**	**4.16**	**3**	PN		**Pn**	**22 21 45.1**	**+0.1**
CHOS	**Chios island**	**4.19**	**357**	PN		**Pn**	**22 21 45.9**	**+0.5**
OSC1	**CSNet OBS 1**	**4.19**	**98**	P		**Pn**	**22 21 45.3**	**0.0**
OSC1				S		**Sn**	**22 22 31.7**	**-1.8**
KEMT	**Kemer-ANTALYA**	**4.22**	**54**	PN		**Pn**	**22 21 47.3**	**+1.6**
KORT	**Korkueli**	**4.32**	**48**	PN		**Pn**	**22 21 48.5**	**+1.2**
ANTB	**Antalya**	**4.45**	**51**	PN		**Pn**	**22 21 50.2**	**+1.3**
BRDR	**BURDUR-Merkez**	**4.63**	**40**	*i* P		**Pn**	**22 21 52.8**	**+1.3**
BRDR				*i* S		**Sn**	**22 22 47.2**	**+2.7**
ITM	**Ithomi**	**4.65**	**311**	Pn		**Pn**	**22 21 51.7**	**0.0**
MANT	**Manisa**	**4.65**	**22**	*i* P		**Pn**	**22 21 52.3**	**+0.3**
MANT				*i* S		Sn	22 22 23.2	-22
MANT	**Manisa**	**4.65**	**22**	Pn		**Pn**	**22 21 52.3**	**+0.3**
BUCA	**Burdur

MMAI Sn **Sn** **22 23 51.9 -7.6**
comp=E,14nm,0.3s,baz=245,slow=17,SNR=3.7
ARMN Kirklareli, Me 7.71 6 *i* P **Pn** **22 22 34.8 +1.2**
DQRL Deir Qamar 7.71 91 *e*P **Pn** **22 22 33.6 -0.2**
NIDE Nigde/Merkez-G 7.83 59 *i* P **Pn** **22 22 37.5 +1.9**
RCY Rachaya 7.95 92 *e*P **Pn** **22 22 36.1 -1.2**
CMDR Camlidere-ANKA 7.97 36 *i* P **Pn** **22 22 38.6 +1.2**
BCAM Yenicaga 8.03 33 *i* P **Pn** **22 22 38.0 -0.3**
YURE YUREGİR 8.04 68 *i* P **Pn** **22 22 38.5 +0.2**
BR131 Keskin Array S 8.05 45 P **Pn** **22 22 39.3 +0.8**
BR131 Keskin Array S 8.05 45 Pn **Pn** **22 22 39.3 +0.8**
BRTR Keskin Array B 8.05 45 Pn **Pn** **22 22 38.7 +0.2**
comp=E,0.7nm,0.3s,baz=221,slow=12,SNR=34
BRTR Sn **Sn** **22 24 08.2 -0.7**
comp=E,0.7nm,0.3s,baz=214,slow=26,SNR=6.6
BRTR Keskin Array B 8.05 45 Pn **Pn** **22 22 39.7 +1.1**
HRDS Abu Rudays 8.09 131 P **Pn** **22 22 37.0 -2.0**
baz=132
AKO Adana 8.10 64 *i* P **Pn** **22 22 39.9 +0.8**
STIP Stip 8.16 338 *i* Pn **Pn** **22 22 40.6 +0.6**
YAHY KAYSERI_Yahyal 8.29 59 *i* P **Pn** **22 22 42.8 +1.0**
GHAJ Ghor Haditha 8.31 108 **Pn** **22 22 41.9 -0.1**
SCTE Santa Cesarea 8.58 315 **Pn** **22 22 43.7 -1.9**
TR2 Tor 2 8.59 130 P **Pn** **22 22 44.3 -1.5**
baz=131
EIL Elat 8.62 119 Pn **Pn** **22 22 46.4 +0.2**
comp=E,5.8nm,0.3s,baz=244,slow=6.6,SNR=34
EIL Sn **Sn** **22 24 17.0 -5.5**
comp=E,12nm,0.3s,baz=178,slow=1.8,SNR=10
HBST Basata 8.72 122 P **Pn** **22 22 46.8 -0.9**
baz=123
VTS Vitosha 8.75 345 ⇑P **Pn** **22 22 49.5 +1.4**
VTS Vitosha 8.75 345 P **Pn** **22 22 50.6 +2.5**
VTS Vitosha 8.75 345 Pn **Pn** **22 22 50.6 +2.5**
TIR Tirane 8.77 326 ⇑P **Pn** **22 22 49.1 +0.8**
TIR Tirane 8.77 326 P **Pn** **22 22 48.9 +0.6**
TIR Tirane 8.77 326 Pn **Pn** **22 22 48.9 +0.6**
KAMA Osmaniye 8.94 68 *i* P **Pn** **22 22 49.6 -1.1**
TR1 Tor 1 8.99 131 P **Pn** **22 22 49.6 -1.8**
baz=132
ILGA Ilgaz 9.02 38 Pn **Pn** **22 22 52.6 +0.8**
TIP Timpagrande 9.14 306 ⇑P **Pn** **22 22 51.9 -1.5**
TIP Timpagrande 9.14 306 **Pn** **22 22 51.6 -1.8**
KUZU Kuzuini 9.15 71 *i* P **Pn** **22 22 54.5 +1.0**
HCB Kahramanmara 9.16 67 *i* P **Pn** **22 22 53.3 -0.4**
CEL Celeste 9.34 299 **Pn** **22 22 55.4 -0.8**
GAZ Gaziantep 9.35 68 **Pn** **22 22 55.9 -0.4**
DRME Dracevica, Mon 9.75 327 *e*Pn **Pn** **22 22 59.3 -2.4**
WDD Wied Dalam 9.81 283 **Pn** **22 23 01.2 -1.3**
PDG Podgorica 9.91 328 *e*Pn **Pn** **22 23 02.1 -1.8**
PDG Podgorica 9.91 328 **Pn** **22 23 06.6 -3.3**
COPA Copaceanca 9.96 355 ⇓P **Pn** **22 23 05.1 +0.5**
MATE Matera 9.99 313 ⇑P **Pn** **22 23 03.4 -1.6**
BOVS Bovan 10.08 341 ⇑P **Pn** **22 23 07.0 +0.8**
RAFF Raffo Rosso 10.18 291 **Pn** **22 23 06.7 -0.9**
VAE Valguarnera 10.20 292 Pn **Pn** **22 23 08.4 +0.5**
comp=E,5.5nm,0.3s,baz=157,slow=15,SNR=47
VAE Sn Sn 22 24 51.9 -10
comp=E,6.6nm,0.3s,baz=161,slow=5.4,SNR=4.8
VAE LR LR 22 28 23.9
comp=E,278nm,19.0s,baz=90,slow=46
HCY Herceg Novi 10.27 326 *e*Pn **Pn** **22 23 05.1 -3.7**
TIRR Tirgusor 10.38 8 ⇑P **Pn** **22 23 10.8 +0.6**
TIRR Tirgusor 10.38 8 ⇑P **Pn** **22 23 10.8 +0.6**
TIRR Tirgusor 10.38 8 P **Pn** **22 23 12.5 +2.3**
TIRR Tirgusor 10.38 8 Pn **Pn** **22 23 12.5 +2.3**
TREB Trebinje 10.55 326 *e*Pn **Pn** **22 23 09.1 -3.5**
BRY Bratogost 10.61 327 *e*Pn **Pn** **22 23 10.4 -3.1**
MALT Malatya 10.61 64 P **Pn** **22 23 14.4 +0.8**
UPM Unac-Piva 10.69 329 *e*Pn **Pn** **22 23 11.9 -2.8**
TPGR Topolog 10.77 8 ⇓P **Pn** **22 23 17.8 +2.2**
RUDO Rudo 10.85 332 *e*Pn Pn 22 23 11.6 -5.1
STON Ston 10.97 325 *e*Pn Pn 22 23 13.0 -5.4
DIVS Divibare 11.04 336 *e*Pn **Pn** **22 23 16.6 -2.7**
DIVS Divibare 11.04 336 Pn **Pn** **22 23 18.9 -0.5**
BBLS Lazići 11.04 333 *e*Pn **Pn** **22 23 16.8 -2.7**
CFR Carcaliu 11.06 7 ⇑P **Pn** **22 23 19.7 +0.1**
HERR Herculane 11.09 345 ⇑P **Pn** **22 23 20.5 +0.6**
CLTB Caltabellotta 11.15 291 **Pn** **22 23 20.4 -0.5**
MDVR Moldovita 11.15 343 ⇑P **Pn** **22 23 21.9 +1.0**
CORL Corleone 11.16 293 P **Pn** **22 23 21.1 +0.1**
NEHR Nehoiu 11.22 360 ⇓P **Pn** **22 23 23.1 +1.3**
SGRT San Giovanni R 11.24 315 Pn **Pn** **22 23 18.9 -3.2**
VOIR 11.27 355 ⇓P **Pn** **22 23 22.9 +0.4**
VOIR 11.27 355 P **Pn** **22 23 23.0 +0.4**
MLR Muntele Rosu 11.29 359 Pn **Pn** **22 23 23.3 +0.5**
comp=E,0.2nm,0.3s,baz=148,slow=3.7,SNR=16
MLR LR LR 22 28 32.1
comp=E,522nm,20.8s,baz=164,slow=42
MLR Muntele Rosu 11.29 359 ⇑P **Pn** **22 23 23.6 +0.7**
MLR Muntele Rosu 11.29 359 **Pn** **22 23 23.2 +0.4**
HAPS Han Pijesak,BI 11.40 332 *e*Pn **Pn** **22 23 20.5 -3.9**
LOT Lotru 11.41 351 ⇓P **Pn** **22 23 25.7 +1.2**
GZT Gura Zlata 11.51 347 ⇑P **Pn** **22 23 25.1 -0.4**
PAOL Paolisi 11.54 310 **Pn** **22 23 25.6 -0.6**
PLOR Plostina 11.64 1 ⇓P **Pn** **22 23 28.4 +0.7**
VRI Vrincioaia 11.66 1 ⇓P **Pn** **22 23 28.3 +0.4**
VRI Vrincioaia 11.66 1 P **Pn** **22 23 28.8 +1.0**
BZS Buzias 11.96 344 ⇑P **Pn** **22 23 31.6 -0.3**
FRGS Fruska Gora 12.03 337 *e*Pn **Pn** **22 23 34.6 +1.7**
MARD Mardin 12.16 71 Pn **Pn** **22 23 36.3 +1.6**
MGRS Mrkonjic Grad 12.45 328 *e*Pn **Pn** **22 23 36.2 -2.4**
INTR Introdacqua 12.50 312 Pn **Pn** **22 23 38.8 -0.5**
SIRR Siria 12.57 345 ⇑P **Pn** **22 23 40.6 +0.4**
BLY Banja Luka 12.67 329 *e*Pn **Pn** **22 23 38.9 -2.7**
KOPT Kop Dagi 12.72 59 **Pn** **22 23 43.7 +1.1**
BIZ Bicaz 12.73 359 ⇓P **Pn** **22 23 42.7 +0.2**
DRGR 12.88 349 P **Pn** **22 23 45.4 +0.9**
AQU L'Aquila 13.00 313 P **Pn** **22 23 46.1 0.0**
AQU L'Aquila 13.00 313 Pn **Pn** **22 23 46.1 0.0**
MRAK Mrakovica 13.00 329 *e*Pn **Pn** **22 23 42.5 -3.7**
MORH Mrgy, Hungar 13.35 336 *e*Pn **Pn** **22 23 47.7 -3.2**
BURAR Bucovina Array 13.43 357 ⇓P **Pn** **22 23 53.1 +1.0**
BURAR Bucovina Array 13.43 357 P **Pn** **22 23 53.0 +0.9**
BURAR Bucovina Array 13.43 357 Pn **Pn** **22 23 51.9 -0.2**
NRCA Norcia 13.45 314 **Pn** **22 23 51.8 -0.5**
BUR08 Bucovina Ar. S 13.46 357 **Pn** **22 23 53.0 +0.5**
SIRT Sirnak 13.49 71 Pn **Pn** **22 23 53.9 +0.9**
ANN Anapa 13.62 36 *e*P **Pn** **22 23 51.8 -2.7**
ANN *e*S **Sn** **22 26 21.0 -3.9**
ANN pmax pmax
comp=Z,22nm,0.9s
KEST Kesra 14.00 281 Pn **Pn** **22 23 59.2 -0.7**
comp=Z,0.1nm,0.3s,baz=148,slow=5.0,SNR=4.4
KEST Sn **Sn** **22 26 28.8 -5.7**
comp=Z,0.2nm,0.3s,baz=271,slow=22,SNR=6.4
KEST LR LR 22 31 09.0
comp=Z,117nm,19.0s,baz=340,slow=45
KEST Kesra 14.00 281 **Pn** **22 23 59.6 -0.3**
SORM Soroca 14.01 6 ⇑P **Pn** **22 23 59.0 -0.8**
SOC Sochi 14.01 44 *e*P **Pn** **22 23 59.5 -0.5**
SOC *e* 22 26 35.4
SOC MLR MLR
comp=Z,339nm,14.0s
MURB Monte Urbino 14.05 314 Pn **Pn** **22 23 59.2 -1.3**
GEVA Gevas 14.12 68 **Pn** **22 24 02.0 +0.4**
CRES Cresnjev 14.27 328 *e*Pn Pn 22 23 58.1 -5.4
PSZ Piszkesteto 14.53 343 P **Pn** **22 24 04.4 -2.7**
PSZ Piszkesteto 14.53 343 Pn **Pn** **22 24 04.4 -2.7**
CEY Cerknica 14.68 325 *e*Pn **Pn** **22 24 05.3 -3.7**
UZH Uzhgorod 14.73 349 *e*P **Pn** **22 24 12.4 +2.7**
KOLS Kolonicke sedl 15.03 350 *e*P **Pn** **22 24 14.7 +1.0**
KOLS Kolonicke sedl 15.03 350 *e*PN **Pn** **22 24 14.7 +1.0**
KWP Kalwaria Pacla 15.65 351 P **Pn** **22 24 22.7 +0.8**
KWP pmax pmax
comp=Z,129nm,1.0s
KWP Kalwaria Pacla 15.65 351 P **Pn** **22 24 22.7 +0.8**
STHS Stebnicka Huta 15.67 348 *e*P **Pn** **22 24 23.0 +0.9**
STHS Stebnicka Huta 15.67 348 *e*PN **Pn** **22 24 23.0 +0.9**
MYKA Terra Mystica 15.70 326 Pn **Pn** **22 24 22.3 -0.3**
comp=Z,1.1nm,0.3s
LVV L'vov 15.70 355 *e*P **Pn** **22 24 22.4 -0.1**
LVV *e*S **Sn** **22 27 13.3 -2.4**
LVV pmax pmax
comp=Z,420nm,1.4s
LVV MLR MLR
comp=N,600nm,12.0s
LVV MLR MLR
comp=E,300nm,12.0s
LVV MLR MLR
comp=Z,700nm,12.0s
SMOL Smolenice 15.77 338 *e*P **Pn** **22 24 23.0 -0.4**
SMOL Smolenice 15.77 338 *e*PN **Pn** **22 24 23.0 -0.4**
CONA Conrad Observa 15.80 333 *e*Pn **Pn** **22 24 22.3 -1.5**
comp=Z,2.4nm,0.9s
TEOL Teolo 15.82 319 P **Pn** **22 24 22.3 -1.7**
ONI Oni 15.82 53 P **Pn** **22 24 24.8 +0.7**
ONI pmax pmax
comp=Z,48nm,1.3s
ONI Oni 15.82 53 **Pn** **22 24 24.8 +0.7**
ONI IAmb IAmb 22 24 28.6
comp=Z,48nm,1.3s
GNI Garni 15.84 63 Pn **Pn** **22 24 25.3 +0.9**
comp=Z,0.4nm,0.3s,baz=153,slow=19,SNR=5.1
GNI LR LR 22 32 17.1
comp=Z,402nm,19.1s,baz=268,slow=44
GNI Garni 15.84 63 Pn **P** **22 24 26.2 -1.9**
NIE Niedzica 15.85 345 *e*P **P** **22 24 27.8 -0.2**
STAL STALIGIAL 15.88 323 **Pn** **22 24 25.1 +0.2**
ZOU Zoufplan 15.96 325 **Pn** **22 24 25.1 -1.0**
KIV Kislovodsk 15.99 48 *e*P **Pn** **22 24 27.7 +1.3**
KIV pmax pmax
comp=Z,208nm,1.1s
KIV MLR MLR
comp=Z,358nm,13.0s
KIV Kislovodsk 15.99 48 **Pn** **22 24 26.8 +0.4**
KIV IAmb IAmb 22 24 33.1
comp=Z,73nm,1.1s
JAVC Velka Javorina 16.00 339 *e*PN **Pn** **22 24 25.1 -1.3**
KVAR Kislovodsk Arr 16.00 48 Pn **P** **22 24 28.4 -1.4**
baz=270,slow=20,SNR=5.4
KBZ Khabaz 16.01 49 Pn **Pn** **22 24 27.3 +0.9**
comp=Z,0.2nm,0.3s,baz=242,slow=8.2,SNR=21
NAX Nakhchivan 16.16 67 P **P** **22 24 30.7 -0.9**
KBA Koelnbreinsper 16.17 327 *e*Pn **Pn** **22 24 27.3 -1.5**
comp=Z,4.9nm,0.5s
ZEI Tsey 16.20 53 *e*P **Pn** **22 24 30.0 +0.8**
ZEI pmax pmax
comp=Z,22nm,1.0s
CTI Castel Tesino 16.27 321 P **Pn** **22 24 28.1 -1.9**
CTI pmax pmax
comp=Z,47nm,1.3s
CTI Castel Tesino 16.27 321 **Pn** **22 24 28.1 -1.9**
PYA1 Pyatigorsk 16.30 48 ⇑ *i*P **P** **22 24 32.6 -0.5**
ABTA Abfalfersbach 16.32 324 *i* Pn **Pn** **22 24 29.6 -0.9**
comp=Z,9.1nm,0.6s,SNR=8.0
NCK Nalchik 16.33 50 *d*iP **P** **22 24 33.5 +0.1**
MOA Molln 16.36 330 *e*Pn **Pn** **22 24 30.6 -0.4**
comp=Z,2.7nm,0.5s
KRUC Moravsky 16.58 337 *e*PN **Pn** **22 24 31.7 -2.0**
SALO Salr 16.61 318 P **Pn** **22 24 34.4 +0.3**
AKASG Malin Array Be 16.63 6 Pn **Pn** **22 24 32.2 -2.1**
comp=Z,4.6nm,0.3s,baz=196,slow=11,SNR=50
AKASG Sn **Sn** **22 27 42.0 +3.8**
baz=189,slow=22,SNR=18
AKASG LR LR 22 31 42.2
comp=Z,354nm,18.1s,baz=170,slow=40
AKASG Malin Array Be 16.63 6 *c*eP **Pn** **22 24 32.5 -1.9**
AKASG pmax pmax
comp=Z,49nm,0.9s
AKASG Malin Array Be 16.63 6 **Pn** **22 24 32.8 -1.6**
AKASG IAmb IAmb 22 24 37.2
comp=Z,74nm,1.1s
AKBB Malin Array Si 16.63 6 *c*eP **Pn** **22 24 32.9 -1.5**
AKBB Malin Array Si 16.63 6 Pn **Pn** **22 24 32.8 -1.5**
AKBB IAmb IAmb 22 24 37.3
comp=Z,99nm,1.3s
OJC Ojcow 16.71 345 *e*P **Pn** **22 24 34.0 -1.4**
OJC Ojcow 16.71 345 P **Pn** **22 24 33.1 -2.3**
OJC pmax pmax
comp=Z,15nm,1.1s
OJC Ojcow 16.71 345 **Pn** **22 24 33.1 -2.3**
VRAC Vranov 16.73 337 Pn **Pn** **22 24 34.0 -1.6**
comp=Z,0.5nm,0.3s,baz=152,slow=12,SNR=8.8
VRAC LR LR 22 32 14.4
comp=Z,173nm,20.4s,baz=164,slow=42
VRAC Vranov 16.73 337 ⇑P **Pn** **22 24 34.4 -1.2**
VRAC Vranov 16.73 337 *e*PN **Pn** **22 24 33.6 -2.0**
GOF Gofitskoye 16.81 45 ⇑ *e*P **P** **22 24 37.9 -0.8**
GOF pmax pmax
comp=Z,94nm,1.1s
MORC Moravsky Berou 16.86 340 ⇓P **Pn** **22 24 36.0 -1.3**
MORC Moravsky Berou 16.86 340 *e*PN **Pn** **22 24 35.0 -2.4**
MORC Moravsky Berou 16.86 340 P **Pn** **22 24 34.9 -2.4**
MORC pmax pmax
comp=Z,16nm,0.9s
MORC Moravsky Berou 16.86 340 **Pn** **22 24 34.9 -2.4**
TREC Trest 17.09 335 *e*P **Pn** **22 24 40.6 +0.5**
TREC MLR MLR
comp=Z,300nm,20.7s
TREC Trest 17.09 335 *e*P **Pn** **22 24 40.6 +0.5**
TREC AMS AMS 22 33 10.0
comp=Z,300nm,20.7s
WTTA Wattenberg 17.11 324 *i* Pn **Pn** **22 24 40.3 -0.3**
comp=Z,5.4nm,0.6s,SNR=11
CKRC Cesky Krumlov 17.12 332 *e*P **Pn** **22 24 38.5 -2.1**
GANJ Ganja 17.13 62 P **P** **22 24 43.4 +1.1**
WATA Walderalm 17.19 324 *e*Pn **Pn** **22 24 40.2 -1.4**
comp=Z,7.8nm,0.7s,SNR=12
DDFL Dedoflistskaro 17.22 59 P **P** **22 24 47.3 +4.0**
KRLC Kraliky 17.35 339 *e*P **Pn** **22 24 42.0 -1.4**
KRLC MLR MLR
comp=Z,200nm,12.2s
KRLC Kraliky 17.35 339 *e*P **Pn** **22 24 42.0 -1.4**
KRLC AMS AMS 22 32 50.0
comp=Z,200nm,12.2s
GEC2 GERESS Array S 17.38 331 **Pn** **22 24 42.4 -1.5**
GEC2 GERESS Array S 17.38 331 *e*P **P** **22 24 44.9 -0.2**
comp=Z,13nm,1.1s,baz=139,slow=11
GERES GERESS Array B 17.38 331 P **Pn** **22 24 42.4 -1.5**
comp=Z,0.9nm,0.3s,baz=141,slow=12,SNR=26
GERES LR LR 22 33 11.9
comp=Z,321nm,18.0s,baz=140,slow=44
GERES GERESS Array B 17.38 331 P **Pn** **22 24 42.5 -1.4**
GERES GERESS Array B 17.38 331 P **Pn** **22 24 42.5 -1.4**
FETA Feichten 17.40 322 *i* Pn **P** **22 24 45.1 -0.2**
comp=Z,11nm,0.7s,SNR=15
MOTA Moosalm 17.43 323 *e*Pn **Pn** **22 24 44.0 -0.5**
comp=Z,12nm,1.0s,SNR=5.6
LGD Lagodekhi 17.43 58 P **P** **22 24 47.1 +1.5**
GROC Groznyy 17.64 54 *e*P **Pn** **22 24 44.2 -2.8**
GROC *e*S **Sn** **22 28 00.5 -2.1**
GROC pmax pmax
comp=Z,24nm,1.4s
ZKTA Zakatala 17.64 59 P **P** **22 24 48.7 +0.8**
KHC Kasperske Hory 17.66 331 *e*P **Pn** **22 24 46.1 -1.2**
KHC MLR MLR
comp=Z,400nm,16.7s
KHC Kasperske Hory 17.66 331 *e*P **Pn** **22 24 46.1 -1.2**
KHC *ex* x 22 24 55.0
KHC *e*S S 22 28 23.5 +13
KHC AMS AMS 22 33 10.0
comp=Z,400nm,16.7s
DAVOX Davos/Dischmat 17.68 320 P **Pn** **22 24 47.1 -0.7**
comp=Z,0.7nm,0.3s,baz=132,slow=9.8,SNR=15
DAVOX LR LR 22 33 17.1
comp=Z,463nm,18.9s,baz=100,slow=43
RETA Reutte 17.70 323 *i* Pn **Pn** **22 24 46.9 -0.8**
comp=Z,3.7nm,0.5s
MNGR Mingechevir, A 17.73 62 P **P** **22 24 50.8 +2.0**
DPC Dobruska-Polom 17.73 339 *e*P **Pn** **22 24 46.0 -2.1**
DPC MLR MLR
comp=Z,400nm,12.9s
DPC Dobruska-Polom 17.73 339 *e*P **Pn** **22 24 46.0 -2.1**
DPC AMS AMS 22 32 50.0
comp=Z,400nm,12.9s
TUE Stuetta 17.78 319 **Pn** **22 24 47.6 -1.3**
FUR Furstenfeldbru 17.92 326 *e*P **Pn** **22 24 50.5 0.0**
comp=Z,92nm,1.8s,baz=139,slow=11
OSTC Ostas 17.94 339 *e*P **Pn** **22 24 49.3 -1.4**
OSTC AMS AMS 22 33 10.0
comp=Z,400nm,15.5s
WET Wettzell 17.95 330 *e*P **Pn** **22 24 50.6 -0.3**
comp=Z,15nm,1.2s,baz=139,slow=11
UPC Upice 17.96 338 *e*P **Pn** **22 24 49.7 -1.2**
UPC MLR MLR
comp=Z,400nm,14.1s
UPC Upice 17.96 338 *e*P **Pn** **22 24 49.7 -1.2**
UPC AMS AMS 22 33 00.0
comp=Z,400nm,14.1s
PRU Pruhonice 18.00 335 *e*P **Pn** **22 24 49.3 -2.1**
PRU MLR MLR
comp=Z,300nm,13.3s
PRU Pruhonice 18.00 335 *e*P **Pn** **22 24 49.3 -2.1**
PRU AMS AMS 22 33 40.0
comp=Z,300nm,13.3s
DAVA Damuels 18.01 321 *i* Pn **Pn** **22 24 51.9 +0.2**
comp=Z,7.0nm,0.5s,SNR=9.9
CHVC Chvalec 18.02 338 *e*P **Pn** **22 24 50.5 -1.2**
CHVC AMS AMS 22 33 00.0
comp=Z,400nm,10.2s
UBR Ueberruh 18.15 323 *e*P **Pn** **22 24 53.0 -0.3**
comp=Z,36nm,1.0s,baz=139,slow=11
KSP Ksiaz 18.17 339 *e*P **Pn** **22 24 52.2 -1.3**
AKT Akhty 18.39 60 *e*P **Pn** **22 24 58.9 +2.6**
AKT pmax pmax
comp=Z,4.0nm,0.5s
PVCC Panska Ves 18.45 336 *e*P **P** **22 24 55.6 -1.1**
PVCC MLR MLR
comp=Z,300nm,11.2s
PVCC Panska Ves 18.45 336 *e*P **P** **22 24 55.6 -1.1**
PVCC AMS AMS 22 34 00.0
comp=Z,300nm,11.2s
BNI Bardonecchia 18.56 312 P **P** **22 24 53.1 -5.0**
BNI pmax pmax
comp=Z,11nm,1.2s
BNI Bardonecchia 18.56 312 P **P** **22 24 53.1 -5.0**
MAK Makhachkala 18.70 56 *e*P **P** **22 24 58.6 -0.9**
MAK *e*S **S** **22 28 32.3 +1.4**
MAK pmax pmax
comp=Z,190nm,1.0s
MAK MLR MLR
comp=Z,105nm,14.0s
LPL La Plagne 18.76 313 *e*P **Pn** **22 25 01.5 +0.6**
SENIN Lac Senin/Sane 18.87 316 P **P** **22 25 00.6 -1.0**
BRG Berggiesshubel 18.95 335 *e*P **Pn** **22 25 03.1 +0.2**
BRG Amp 22 25 08.4
comp=Z,16nm,1.4s
BRG *ex* x 22 25 26.0
BRG Amp 22 25 31.5
comp=Z,13nm,1.4s
BRG Berggiesshubel 18.95 335 *e*P **P** **22 25 01.9 -0.3**
comp=Z,16nm,1.4s,baz=139,slow=11
NKC Novy Kostel 18.98 332 *e*P **P** **22 25 02.8 +0.2**
NKC MLR MLR
comp=Z,500nm,14.5s
NKC Novy Kostel 18.98 332 *e*P **P** **22 25 02.8 +0.2**
NKC AMS AMS 22 34 00.0
comp=Z,500nm,14.5s
WERN Wernitzgruen 19.05 332 *e*P **Pn** **22 25 03.9 -0.3**
comp=Z,23nm,1.3s,baz=139,slow=11
GRFO Grafenberg 19.07 329 P **P** **22 25 03.1 -0.4**
GRFO pmax pmax
comp=Z,36nm,1.3s
GRFO Grafenberg 19.07 329 P **P** **22 25 03.1 -0.4**
GRA1 Grafenberg Arr 19.07 329 P **P** **22 25 03.9 +0.4**
GRA1 IAmb IAmb 22 25 06.8
comp=Z,47nm,1.4s
GRF Grafenberg Arr 19.07 329 P **P** **22 25 03.9 +0.4**
GRF pmax pmax
comp=Z,47nm,1.4s
GRF Grafenberg Arr 19.07 329 *e*P **P** **22 25 03.7 +0.2**
comp=Z,42nm,1.3s,baz=139,slow=11
TANN Tannenbergstha 19.12 332 *e*P **P** **22 25 04.6 +0.5**
comp=Z,26nm,1.1s,baz=139,slow=11
FBE Freiberg 19.20 334 *e*P **P** **22 25 05.3 +0.4**
comp=Z,15nm,0.8s,baz=139,slow=11
PLN Plauen 19.30 332 *e*P **P** **22 25 05.5 -0.5**
comp=Z,10nm,0.8s,baz=139,slow=11
VSR Storozhevoye 19.41 25 *e*P **P** **22 25 07.4 +0.2**
VSR pmax pmax
comp=Z,70nm,1.5s
BFO Black Forest 19.48 322 P **P** **22 25 07.2 -0.9**
BFO pmax pmax
comp=Z,15nm,0.9s
BFO Black Forest 19.48 322 P **P** **22 25 07.2 -0.9**
BFO Black Forest 19.48 322 *e*P **P** **22 25 07.9 -0.1**
comp=Z,32nm,1.4s,baz=139,slow=11
MOX Moxa 19.64 331 P **P** **22 25 10.4 +0.7**
CLL Collm 19.64 335 *i* P **P** **22 25 09.2 -0.6**
comp=Z,9.0nm,0.7s
CLL *i* sP **pP** **22 25 14.6 -1.0**
CLL *e*PP **pwP** **22 25 22.0 +1.5**
CLL *e*pPP 22 25 27.0
CLL *e*S **S** **22 28 47.0 -2.9**
CLL *e*SS **SnSn** **22 29 12.0 +6.6**
CLL Collm 19.64 335 *i* P **P** **22 25 09.2 -0.6**
CLL *e*S **S** **22 28 47.0 -2.9**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 19.64 335 P **P** **22 25 08.7 -1.1**
CLL Collm 19.64 335 *e*P **P** **22 25 09.2 -0.6**
comp=Z,19nm,1.2s,baz=139,slow=11
VORR Voronezh 19.80 24 *e*P **P** **22 25 12.0 +0.5**
VORR pmax pmax
comp=Z,300nm,1.0s
RAYN Ar Rayn 19.86 117 P **Pn** **22 25 14.5 +0.4**
RAYN pmax pmax
comp=Z,13nm,1.1s
RAYN Ar Rayn 19.86 117 P **Pn** **22 25 14.5 +0.4**
SUW Suwalki 19.94 355 *e*P **P** **22 25 11.9 -1.0**
SUW Suwalki 19.94 355 *e*P **P** **22 25 11.5 -1.5**
SUW Suwalki 19.94 355 *e*P **P** **22 25 11.4 -1.5**
SUW Suwalki 19.94 355 P **P** **22 25 12.0 -0.9**
SUW pmax pmax
comp=Z,112nm,1.0s
SUW Suwalki 19.94 355 P **P** **22 25 12.0 -0.9**
NEUB Neuenburg 20.02 333 *e*P **P** **22 25 13.6 -0.3**
comp=Z,38nm,1.2s,baz=139,slow=11
ECH Echery 20.02 320 P **P** **22 25 13.3 -0.6**
ECH pmax pmax
comp=Z,18nm,1.2s
ECH Echery 20.02 320 P **P** **22 25 13.3 -0.6**
GKP Gorka Klasztor 20.13 344 *e*P **P** **22 25 13.8 -1.2**
GKP Gorka Klasztor 20.13 344 *e*P **P** **22 25 13.9 -1.1**
GKP Gorka Klasztor 20.13 344 *e*P **P** **22 25 13.7 -1.3**
MNK Minsk 20.33 3 *i* P **P** **22 25 14.8 -2.4**
MNK *i* 22 25 32.1
MNK *i* S **S** **22 28 59.4 -4.4**
MNK *i* 22 29 28.3
MNK *i* SSS SSS 22 29 32.3
MNK pmax pmax
comp=N,36nm,1.3s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=Z,902nm,10.0s
MNK MLR MLR
comp=E,28nm,20.0s
MNK MLR MLR
comp=N,306nm,15.0s
MNK Minsk 20.33 3 *i* P **P** **22 25 14.9 -2.3**
comp=E,1.0nm,0.9s
MNK *i* P **P** **22 25 14.9 -2.3**
comp=N,36nm,1.3s
MNK *i* P **P** **22 25 14.9 -2.3**
comp=Z,29nm,0.9s,baz=184
MNK *i* PP **PnPn** **22 25 32.1 -2.3**
MNK *i* S **S** **22 28 59.5 -4.3**
MNK *i* SS **SnSn** **22 29 19.5 -2.8**
MNK *i* PcP **PcP** **22 29 28.3 -1.3**
MNK *i* SSS SSS 22 29 32.4
MNK *i* LQ LQ 22 31 24.0
MNK *i* LR LR 22 32 46.6
MNK *i* LRM MLR 22 33 44.5
comp=Z,902nm,9.9s
MNK *i* LRM MLR 22 33 48.0
comp=E,28nm,20.1s
MNK *i* LRM MLR 22 33 51.2
comp=N,306nm,14.7s
VRH Novokhopyorsk 20.35 29 *e*P **P** **22 25 18.3 +0.9**
VRH pmax pmax
comp=Z,170nm,1.2s
RUE Ruedersdorf 20.37 338 *e*P **P** **22 25 18.4 +0.8**
comp=Z,52nm,1.4s,baz=139,slow=11
LPSR Galich'ya Gora 20.50 22 *e*P **P** **22 25 18.8 -0.2**
LPSR pmax pmax
comp=Z,140nm,1.2s
TNS Taunus Mts 20.69 326 *e*P **P** **22 25 21.2 0.0**
comp=E,65nm,1.5s,baz=139,slow=11
NACGM Naroch 20.71 1 *i* P **P** **22 25 18.1 -3.1**
baz=292
GTTG Gottingen 20.99 331 *e*P **P** **22 25 24.3 -0.1**
comp=Z,42nm,0.9s,baz=139,slow=11
CLZ Clausthal 21.06 332 *e*P **P** **22 25 24.3 -0.9**
comp=Z,12nm,1.1s,baz=139,slow=11
FLTG Flechtingen 21.11 334 *e*P **P** **22 25 24.2 -1.5**
comp=Z,24nm,1.2s,baz=139,slow=11
IDID Didziasalis 21.12 1 *e*P **P** **22 25 24.9 -0.8**
IDID Didziasalis 21.12 1 P 22 25 18.2 -7.5
IIGN Ignalina 21.15 360 *e*P **P** **22 25 25.1 -1.0**
IIGN Ignalina 21.15 360 *e*P **P** **22 25 24.9 -1.2**

IIGN IAmb IAmb 22 25 29.5
comp=Z,46nm,1.3s
PABE Paberze 21.37 356 *e*P **P** **22 25 26.9 -1.5**
PABE Paberze 21.37 356 *e*P **P** **22 25 26.3 -2.0**
PABE Paberze 21.37 356 P **P** **22 25 26.7 -1.7**
ISAL Salakas 21.38 360 *e*P **P** **22 25 28.0 -0.5**
ISAL Salakas 21.38 360 *e*P **P** **22 25 27.6 -0.9**
ISAL IAmb IAmb 22 25 30.7
comp=Z,16nm,1.1s
KASTN Kahler Asten 21.40 328 *e*P **P** **22 25 28.4 -0.3**
comp=Z,41nm,1.8s,baz=139,slow=11
WLF Walferdange 21.44 322 *d*P **P** **22 25 28.9 -0.3**
WLF *d*sP **pP** **22 25 35.3 -0.1**
WLF Walferdange 21.44 322 P **P** **22 25 28.3 -0.9**
WLF pmax pmax
comp=Z,28nm,0.9s
WLF Walferdange 21.44 322 P **P** **22 25 28.3 -0.9**
WLF IAmb IAmb 22 25 36.9
comp=Z,28nm,0.9s
WLF Walferdange 21.44 322 *e*P **P** **22 25 29.4 +0.2**
comp=Z,31nm,0.9s,baz=139,slow=11
CAF Calviac 21.47 307 *e*P **P** **22 25 28.5 -1.1**
CAF pmax pmax
comp=Z,18nm,1.4s
AHRW Bad Neuenahr-A 21.55 325 *e*P **P** **22 25 30.3 -0.1**
comp=Z,27nm,0.9s,baz=139,slow=11
NRDL Niedersach Rie 21.67 332 *e*P **P** **22 25 30.7 -0.9**
comp=Z,38nm,1.2s,baz=139,slow=11
BTNL Ternell 22.03 324 *d*P **P** **22 25 35.1 -0.5**
comp=Z,26nm,1.6s
PBUR Paburge 22.04 353 *e*P **P** **22 25 35.1 -0.5**
BUG Bochum--Univer 22.07 327 *e*P **P** **22 25 35.6 -0.4**
comp=Z,33nm,1.1s,baz=139,slow=11
OBN Obninsk 22.11 16 P **P** **22 25 34.9 -1.4**
comp=Z,6.0nm,0.7s,baz=111,slow=24,SNR=9.2
OBN Obninsk 22.11 16⇓ *i*P **P** **22 25 34.9 -1.4**
OBN *i* 22 25 38.6
OBN *i* 22 25 55.2
OBN *i* 22 29 32.6
OBN pmax pmax
comp=Z,62nm,1.0s
OBN MLR MLR
comp=Z,293nm,15.0s
OBN Obninsk 22.11 16 P **P** **22 25 34.7 -1.6**
MEM Membach 22.11 324 *d*P **P** **22 25 36.6 +0.3**
MEM *d*pP **pP** **22 25 41.2 -1.4**
BSTI Sart Tilman 22.31 323 *d*P **P** **22 25 39.0 +0.4**
BSTI *d*sP **sP** **22 25 46.2 -1.4**
LFF La Frestale 22.36 306 *e*P **P** **22 25 38.4 -0.7**
LFF pmax pmax
comp=Z,8.0nm,0.8s
BGES Gesves 22.42 323 *d*P **P** **22 25 40.8 +1.0**
BGES *d*PnPn **PnPn** **22 26 00.7 -2.4**
IBBN Ibbenburen 22.48 329 *e*P **P** **22 25 39.7 -0.6**
comp=Z,98nm,1.9s,baz=139,slow=11
DOU Dourbes 22.50 321 *d*P **P** **22 25 40.2 -0.3**
DOU *d*PnPn **PnPn** **22 26 03.8 -0.3**
BMRD Maredsous 22.53 322 *d*P **P** **22 25 41.4 +0.5**
BMRD *d*pP **pP** **22 25 45.3 -1.8**
BMRD *d*sP **sP** **22 25 48.8 -1.2**
BSEG Bad Segeberg 22.74 335 *e*P **P** **22 25 42.4 -0.6**
comp=Z,58nm,1.7s,baz=139,slow=11
MOS Moscow 22.92 17 *e*P **P** **22 25 43.3 -1.6**
MOS *e* 22 26 06.8
MOS *e*S **S** **22 29 47.8 -5.4**
MOS pmax pmax
comp=Z,99nm,1.2s
BLEU Blekinge 23.26 345 *i*P **P** **22 25 44.4 -3.9**
MFF Saint Martin d 23.53 310 *e*P **P** **22 25 51.3 +0.1**
MFF pmax pmax
comp=Z,16nm,1.0s
BELG Belogornoye 23.75 34 P **P** **22 25 52.7 -0.5**
comp=Z,26nm,0.7s,baz=261,slow=2.0,SNR=15
BELG LR LR 22 36 54.1
comp=Z,85nm,19.4s,baz=157,slow=41
DEL Delary 23.86 343 *i*P **P** **22 25 51.1 -3.0**
VSU Vasula 24.28 1 *e*P **P** **22 25 57.1 -0.9**
VSU Vasula 24.28 1 *e*P **P** **22 25 57.0 -1.0**
VSU Vasula 24.28 1⇓ *i*P **P** **22 25 56.5 -1.5**
VSU pmax pmax
comp=Z,113nm,1.1s
FABU Falkenberg 24.62 342 *i*P **P** **22 26 01.5 +0.3**
ESDC Sonseca Array 24.74 292 P **P** **22 26 02.7 +0.1**
comp=Z,6.7nm,0.7s,baz=80,slow=9.2,SNR=110
ESDC LR LR 22 36 15.7
comp=Z,115nm,21.5s,baz=95,slow=38
PAB San Pablo 25.03 291 P **P** **22 26 04.5 -0.7**
PAB pmax pmax
comp=Z,19nm,1.4s
PAB San Pablo 25.03 291 P **P** **22 26 04.5 -0.7**
PAB IAmb IAmb 22 26 07.3
comp=Z,19nm,1.4s
BORU Boraas 25.17 343 *i*P **P** **22 26 04.9 -1.2**
ONAU Onsala 25.18 342 *i*P **P** **22 26 04.9 -1.2**
PUL Pulkovo 25.73 5⇑ *i*P **P** **22 26 09.2 -1.9**
MDT Midelt 25.77 276 P **P** **22 26 12.1 +0.1**
comp=Z,1.7nm,0.8s,baz=72,slow=13,SNR=4.2
GEYT Alibeck 25.91 72 P **P** **22 26 13.1 -0.1**
comp=Z,89nm,0.5s,baz=258,slow=13,SNR=21
GEYT LR LR 22 38 43.0
comp=Z,62nm,21.4s,baz=200,slow=42
GYA0B ALIBECK ARRAY 25.91 72 P **P** **22 26 15.6 +2.4**
MEF Metsahovi 26.07 358 *e*P **P** **22 26 13.1 -1.2**
MEF Metsahovi 26.07 358 *e*P **P** **22 26 13.0 -1.2**
UPP Uppsala 26.30 350 *e*P **P** **22 26 15.4 -1.0**
UPP Uppsala 26.30 350 *e*P **P** **22 26 14.8 -1.5**
AAL Aland 26.32 353 *e*P **P** **22 26 15.4 -1.2**
AAL Aland 26.32 353 *e*P **P** **22 26 15.2 -1.3**
STRU Stroemstad 26.80 343 *i*P **P** **22 26 18.5 -2.4**
RAF Rauma 27.00 355 *e*P **P** **22 26 22.5 -0.2**
RAF Rauma 27.00 355 *e*P **P** **22 26 22.3 -0.4**
PBRG Braganca 27.01 296 *e*P **P** **22 26 23.4 +0.3**
comp=Z,36nm,1.8s
PBAR Barrancos 27.12 288 *e*P **P** **22 26 24.1 0.0**
comp=Z,18nm,1.4s
HFS Hagfors 27.23 346 P **P** **22 26 23.4 -1.4**
comp=Z,7.3nm,0.8s,baz=144,slow=8.8,SNR=20
HFS LR LR 22 38 53.8
comp=Z,167nm,20.2s,baz=160,slow=40
FINES FINESS Array B 27.27 360 P **P** **22 26 23.6 -1.4**
comp=Z,8.7nm,0.7s,baz=156,slow=9.1,SNR=16
FINES LR LR 22 39 00.3
comp=Z,137nm,18.6s,baz=170,slow=40
FINES FINESS Array B 27.27 360 P **P** **22 26 22.6 -2.4**
PMRV Marv??o 27.38 291 *e*P **P** **22 26 26.3 -0.1**
comp=Z,24nm,1.5s
PESTR Estremoz 27.54 290 *e*P **P** **22 26 27.9 +0.1**
comp=Z,14nm,1.0s
PESTR Estremoz 27.54 290 P **P** **22 26 27.3 -0.5**
PVAQ Vaqueiros 27.70 287 *e*P **P** **22 26 29.2 0.0**
comp=Z,31nm,1.9s
PVIS Viseu 27.80 294 *e*P **P** **22 26 30.6 +0.4**
comp=Z,25nm,1.5s
EVO Evora 27.88 289 *e*P **P** **22 26 31.1 +0.3**
comp=Z,14nm,1.5s
PBDV Barranco-do-Ve 27.88 286 *e*P **P** **22 26 31.5 +0.6**
comp=Z,57nm,1.7s
KLMR Klimovskoe 28.01 14 *e*P **P** **22 26 28.5 -3.2**
KLMR pmax pmax
comp=Z,53nm,1.0s
KLMR Klimovskoe 28.01 14 *e*P **P** **22 26 28.6 -3.2**
KLMR AMP 22 26 31.7
comp=Z,53nm,1.0s
AKTO Aktyubinsk 28.23 45 P **P** **22 26 34.1 +0.2**
comp=Z,6.7nm,0.9s,baz=252,slow=8.9,SNR=18
NC602 NORSAR Array S 28.23 345 P **P** **22 26 33.8 +0.1**
NAO01 NORSAR Array S 28.47 344 P **P** **22 26 34.1 -1.7**
NOA NORSAR Array B 28.57 345 P **P** **22 26 35.4 -1.4**
comp=Z,3.9nm,0.9s,baz=148,slow=11,SNR=8.9
NOA LR LR 22 39 12.7
comp=Z,87nm,22.0s,baz=155,slow=39
NBO00 NORSAR Array S 28.66 344 P **P** **22 26 36.5 -1.1**
KIRV Kirov 28.85 25 P **P** **22 26 38.3 -0.9**
comp=Z,7.2nm,0.5s,baz=62,slow=15,SNR=3.7
KIRV LR LR 22 40 34.5
comp=Z,122nm,18.5s,baz=241,slow=42
KIRV Kirov 28.85 25*c**e*P **P** **22 26 37.6 -1.6**
ABKAR Akbulak array 28.98 49 P **P** **22 26 41.0 +0.5**
ABKAR Akbulak array 28.98 49 P **P** **22 26 40.5 0.0**
ABKAR IAmb IAmb 22 26 42.2
comp=Z,8.9nm,1.1s
EKA Eskdalemuir Ar 29.37 325 P **P** **22 26 43.5 -0.4**
comp=Z,8.0nm,0.7s,baz=124,slow=9.7,SNR=31
ESK Eskdalemuir 29.39 325 P **P** **22 26 43.7 -0.3**
ESK pmax pmax
comp=Z,17nm,1.1s
ESK Eskdalemuir 29.39 325 P **P** **22 26 43.7 -0.3**
ESK IAmb IAmb 22 26 44.3
comp=Z,17nm,1.1s
PRGR Permogore 30.11 18 *e*P **P** **22 26 48.0 -2.3**
TOA0 Torodi Ar. Sit 30.63 233 P **P** **22 26 55.1 -0.3**
TORD Torodi Ar. Bea 30.63 233 P **P** **22 26 56.1 +0.7**
comp=Z,13nm,0.7s,baz=40,slow=9.3,SNR=46
TORD Torodi Ar. Bea 30.63 233 P **P** **22 26 55.1 -0.3**
TORD IAmb IAmb 22 26 56.9
comp=Z,8.1nm,0.8s
ARU Arti 31.28 35*c**i*P **P** **22 27 00.3 -0.5**
ARU *PP **pwP** **22 27 12.4 +1.1**
ARU 22 29 57.0
ARU S **S** **22 32 04.7 -1.1**
ARU SS **SnSn** **22 33 48.6 -0.9**
ARU pmax pmax
comp=Z,11nm,1.4s
ARU Arti 31.28 35 P **P** **22 27 00.2 -0.6**
ARU IAmb IAmb 22 27 17.7
comp=Z,8.1nm,1.0s
CHGR Chuyangaron 34.53 70 P **P** **22 27 30.8 +1.3**
CHGR IAmb IAmb 22 27 32.7
comp=Z,9.5nm,0.8s
MBAR Mbarara 34.86 172*ce*P **P** **22 27 35.1 +2.5**
MBAR pmax pmax
comp=Z,7.0nm,2.5s
KBL Kabul 35.08 77 P **P** **22 27 34.7 +0.3**
KBL pmax pmax
comp=Z,5.0nm,1.2s
KBL Kabul 35.08 77 P **P** **22 27 34.6 +0.3**
KK31 Karatay Array 35.30 62 P **P** **22 27 36.9 +0.9**
KK31 pmax pmax
comp=Z,13nm,1.2s
KK31 Karatay Array 35.30 62 P **P** **22 27 36.9 +0.9**
KK31 IAmb IAmb 22 27 38.2
comp=Z,12nm,1.1s
KKAR Karatay Array 35.30 62 P **P** **22 27 36.9 +0.9**
KKAR pmax pmax
comp=Z,13nm,1.2s
KKAR Karatay Array 35.30 62 P **P** **22 27 36.9 +0.9**
KKAR IAmb IAmb 22 27 38.2
comp=Z,12nm,1.1s
KKAR Karatay Array 35.30 62 P **P** **22 27 36.6 +0.6**
GAR Garm 35.39 69 P **P** **22 27 38.2 +1.3**
GAR IAmb IAmb 22 27 39.8
comp=Z,7.1nm,0.7s
ARCES ARCESS Array B 35.40 360 P **P** **22 27 35.3 -1.1**
comp=Z,9.5nm,0.8s,baz=185,slow=8.2,SNR=14
ARCES LR LR 22 44 37.1
comp=Z,61nm,18.3s,baz=205,slow=41
BRVK Borovoye 36.28 45*ce*P **P** **22 27 45.2 +0.9**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 36.28 45 P **P** **22 27 44.6 +0.3**
DRK Karamyk 36.49 68 P **P** **22 27 44.4 -2.2**
DRK IAmb IAmb 22 27 46.3
comp=Z,12nm,0.7s
AAK Ala-Archa 38.24 63 P **P** **22 28 02.7 +1.5**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 38.24 63 P **P** **22 28 02.7 +1.5**
FRU1 Bishkek 38.33 62 P **P** **22 28 03.4 +1.5**
FRU1 pmax pmax
comp=Z,9.0nm,0.9s
FRU1 Bishkek 38.33 62 P **P** **22 28 03.4 +1.5**
FRU1 IAmb IAmb 22 28 10.9
comp=Z,9.3nm,0.9s
NIL Nilore 38.68 77 P **P** **22 28 06.1 +1.2**
NIL pmax pmax
comp=Z,21nm,1.2s
NIL Nilore 38.68 77 P **P** **22 28 06.1 +1.2**
NIL IAmb IAmb 22 28 08.2
comp=Z,21nm,1.2s
DBIC Dimbokro 39.73 234 P **P** **22 28 13.9 +0.2**
comp=Z,5.3nm,0.6s,baz=27,slow=10,SNR=8.8
DBIC LR LR 22 48 30.8
comp=Z,222nm,19.5s,baz=23,slow=42
TIC Toumodi 39.86 234 *e*P **P** **22 28 15.5 +0.7**
KIC Kosan Boka 39.88 233 *e*P **P** **22 28 15.2 +0.2**
comp=Z,25nm,0.7s
LIC Lamto 40.17 233 *e*P **P** **22 28 17.6 +0.2**
comp=Z,41nm,0.8s
TARG Taragay, Kyrgy 40.78 64 P **P** **22 28 24.4 +1.8**
PRZ Przheval'sk 41.13 63 P **P** **22 28 27.0 +1.7**
PRZ pmax pmax
comp=Z,8.0nm,0.8s
PRZ Przheval'sk 41.13 63 P **P** **22 28 27.0 +1.7**
PRZ IAmb IAmb 22 28 29.5
comp=Z,7.6nm,0.8s
MAKZ Makanchi 43.31 56 P **P** **22 28 43.7 +0.9**
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 43.31 56 P **P** **22 28 43.7 +0.9**
MAKZ IAmb IAmb 22 28 45.0
comp=Z,8.9nm,0.9s
MK31 Makanchi Array 43.52 56 P **P** **22 28 45.4 +0.9**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 43.52 56 P **P** **22 28 45.4 +0.9**
MK31 IAmb IAmb 22 28 47.2
comp=Z,9.3nm,0.8s
MKAR Makanchi Array 43.52 56 P **P** **22 28 45.6 +1.1**
comp=Z,11nm,0.7s,baz=270,slow=7.2,SNR=73
MKAR PcP **PcP** **22 30 33.2 +1.1**
comp=Z,0.8nm,0.6s,baz=281,slow=2.9,SNR=1.6
MKAR LR LR 22 49 56.9
comp=Z,75nm,20.7s,baz=265,slow=40
MKAR Makanchi Array 43.52 56*ce*P **P** **22 28 45.7 +1.2**
MKAR pmax pmax
comp=Z,11nm,0.7s
SCO Scoresbysund 44.58 339 P **P** **22 28 53.3 +0.8**
SCO pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 44.58 339 P **P** **22 28 53.3 +0.8**
SCO IAmb IAmb 22 28 54.5
comp=Z,9.9nm,0.9s
ZAA0 Zalesovo Array 44.99 45 P **P** **22 28 56.8 +0.6**
ZALV Zalesovo Beam 44.99 45 P **P** **22 28 56.7 +0.6**
comp=Z,13nm,0.4s,baz=265,slow=8.6,SNR=81
ZALV LR LR 22 51 47.9
comp=Z,53nm,21.3s,baz=244,slow=42
DBG Daneborg 46.09 344 *i*P **P** **22 29 04.2 -0.3**
DBG IAmb IAmb 22 29 06.0
comp=Z,2.9nm,0.9s
DGZ Jazzator, Alta 46.73 51⇑ *i*P **P** **22 29 11.5 +1.4**
DGZ pmax pmax
comp=Z,31nm,2.1s
DAG Danmarks Havn 47.20 347 *i*P **P** **22 29 11.8 -1.4**
DAG IAmb IAmb 22 29 14.5
comp=Z,2.7nm,0.7s
DAG Danmarks Havn 47.20 347 *i*P **P** **22 29 11.8 -1.4**
DAG pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 47.67 59 *e*P **P** **22 29 20.2 +2.8**
WMQ pP pP 22 29 24.6 +0.3
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,150nm,5.1s
NRIK Noril'sk 48.35 25 P **P** **22 29 22.0 -0.2**
comp=Z,2.2nm,0.5s,baz=255,slow=8.9,SNR=5.0
NRIK Noril'sk 48.35 25*ce*P **P** **22 29 22.3 +0.1**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 48.35 25 P **P** **22 29 22.6 +0.4**
NRIK IAmb IAmb 22 29 29.1
comp=Z,6.0nm,1.1s
DANN Dangsing 48.90 80 *e*P **P** **22 29 29.1 +1.7**
comp=Z,84nm,0.5s
KOLN Koldanda 48.99 81 *e*P **P** **22 29 29.3 +1.3**
comp=Z,14nm,0.5s
GKN Gorkha 49.75 80 *e*P **P** **22 29 34.7 +1.0**
comp=Z,34nm,0.7s
NOR Nord 50.02 352 *i*P **P** **22 29 32.8 -2.0**
NOR IAmb IAmb 22 29 35.0
comp=Z,4.0nm,1.1s
NOR Nord 50.02 352 *i*P **P** **22 29 32.8 -2.0**
NOR pmax pmax
comp=Z,4.0nm,1.1s
SUMG Summit 50.22 339 P **P** **22 29 36.7 -0.2**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 50.22 339 P **P** **22 29 36.7 -0.2**
SUMG IAmb IAmb 22 29 50.4
comp=Z,8.4nm,0.9s
DMN Daman 50.28 81 *e*P **P** **22 29 39.1 +1.2**
comp=Z,18nm,0.4s
KKN Kakani 50.35 80 *e*P **P** **22 29 39.5 +1.1**
comp=Z,32nm,0.6s
PKIN Phulchoki 50.53 81 *e*P **P** **22 29 40.8 +1.0**
comp=Z,15nm,0.5s
PKI Pulchoki 50.55 81 *e*P **P** **22 29 40.8 +0.8**
GUN Gumba 50.80 80 *e*P **P** **22 29 42.8 +0.9**
comp=Z,41nm,0.5s
JIRN Jiri 51.15 80 *e*P **P** **22 29 45.4 +0.8**
RAMN Ramite 51.76 81 *e*P **P** **22 29 49.8 +0.8**
comp=Z,12nm,0.5s
TAPN Taplejung 52.51 80 *e*P **P** **22 29 55.1 +0.5**
comp=Z,10nm,0.4s
NEEM North Greenlan 54.16 345 *i*P **P** **22 30 05.2 -0.8**
NEEM IAmb IAmb 22 30 11.4
comp=Z,5.7nm,0.8s
MOY Mondy 54.97 47 *e*P **P** **22 30 13.9 +1.9**
MOY pmax pmax
comp=Z,20nm,1.6s
TLY Talaya 56.57 47 *e*P **P** **22 30 26.1 +2.7**
TLY pmax pmax
comp=Z,37nm,1.5s
TLY MLR MLR
comp=Z,59nm,7.0s
TLY Talaya 56.57 47 P **P** **22 30 24.5 +1.1**
TLY IAmb IAmb 22 30 26.6
comp=Z,7.8nm,0.9s
ZAK Zakamensk 56.67 48 *e*P **P** **22 30 25.3 +1.0**
ZAK *e* 22 30 34.8
ZAK pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 57.58 62 *e*P **P** **22 30 32.9 +2.0**
GTA pP pP 22 30 38.6 +0.6
GTA sP pwP 22 30 41.2 0.0
GTA pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 59.36 50 P **P** **22 30 44.2 +1.0**
comp=Z,2.1nm,0.6s,baz=282,slow=8.8,SNR=16
SONM Songino Array 59.36 50 P **P** **22 30 44.3 +1.0**
SONM IAmb IAmb 22 30 45.6
comp=Z,3.8nm,0.9s
ULN Ulaanbaatar 59.77 50*ce*P **P** **22 30 46.9 +0.8**
ULN pmax pmax
comp=Z,3.0nm,0.5s
ULN Ulaanbaatar 59.77 50 P **P** **22 30 46.9 +0.8**
ULN IAmb IAmb 22 30 48.4
comp=Z,5.5nm,0.9s
EUNU Eureka 60.31 349 P **P** **22 30 49.5 +0.4**
EUNU IAmb IAmb 22 30 50.4
comp=Z,12nm,1.4s
TIXI Tiksi 61.73 21*ce*P **P** **22 30 58.1 -0.7**
TIXI Tiksi 61.73 21 P **P** **22 30 58.6 -0.2**
TIXI IAmb IAmb 22 30 59.6
comp=Z,7.6nm,1.1s
LZH Lanzhou 61.77 64 *e*P **P** **22 31 01.3 +1.4**
LZH pP sP 22 31 08.0 -1.7
LZH sP pwP 22 31 10.5 +0.3
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,78nm,7.2s
BOSA Boshof 62.48 181 P **P** **22 31 05.3 +0.9**
comp=Z,1.6nm,0.7s,baz=161,slow=5.8,SNR=3.1
CD2 Chengdu 63.84 69 P **P** **22 31 14.9 +1.3**
CD2 pmax pmax
comp=Z,20nm,0.7s
SCHQ Schefferville 64.53 320 P **P** **22 31 17.8 +0.1**
comp=Z,6.8nm,0.4s,baz=67,slow=4.1,SNR=33
SCHQ LR LR 22 58 29.4
comp=Z,53nm,20.8s,baz=79,slow=35
SCHQ Schefferville 64.53 320 P **P** **22 31 17.1 -0.6**
HHC Hu-ho-hao-te 65.38 56 *e*P **P** **22 31 25.0 +1.4**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.2s
CMAR Chiang Mai Arr 65.74 84 P **P** **22 31 26.6 +0.6**
comp=Z,1.2nm,0.3s,baz=296,slow=7.4,SNR=9.4
CMAR Chiang Mai Arr 65.74 84 P **P** **22 31 27.2 +1.2**
CMAR Chiang Mai Arr 65.74 84 P **P** **22 31 27.2 +1.2**
HIA Hailar 67.03 45 P **P** **22 31 34.8 +0.9**
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 67.03 45 P **P** **22 31 34.8 +0.9**
ZEA Zeya 69.11 39 *e*P **P** **22 31 40.6 -6.2**
D62A Allapoint, All 69.18 313 P **P** **22 31 47.9 +0.5**
CN2 Changchun 73.11 48 *e*P **P** **22 32 12.9 +1.7**
VLDQ Val d'Or 73.56 317 P **P** **22 32 15.2 +1.4**
VLDQ IAmb IAmb 22 32 16.5
comp=Z,11nm,1.1s
BILL Bilibino 73.76 15*c**i*P **P** **22 32 14.5 -0.1**
BILL *i* 22 32 23.6
BILL *i* 22 32 32.9
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL MLR MLR
comp=Z,34nm,18.0s
BILL Bilibino 73.76 15 P **P** **22 32 14.8 +0.2**
KLR Kul'dur 73.87 41 P **P** **22 32 16.4 +0.8**
comp=Z,2.4nm,0.8s,baz=295,slow=7.0,SNR=8.1
KLR Kul'dur 73.87 41*ce*P **P** **22 32 15.4 -0.2**
KLR pmax pmax
comp=Z,2.0nm,0.8s
C36M Paulatuk 74.49 350 P **P** **22 32 18.2 -0.6**
C36M IAmb IAmb 22 32 19.9
comp=Z,8.3nm,1.2s
NJ2 Nanjing 74.68 62 *e*P **P** **22 32 21.0 +0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 75.94 26*ce*P **P** **22 32 27.6 +0.2**
MA2 pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 75.94 26 P **P** **22 32 28.5 +1.1**
SADO Sadowa 76.39 315 P **P** **22 32 31.1 +0.8**
comp=Z,3.5nm,0.6s,baz=68,slow=5.4,SNR=3.7
SADO Sadowa 76.39 315 IAmb IAmb 22 32 32.2
comp=Z,12nm,1.1s
USA0B Ussuriysk Arra 76.84 45 P **P** **22 32 32.7 -0.1**
USA0B pmax pmax
comp=Z,8.0nm,0.9s
USA0B Ussuriysk Arra 76.84 45 P **P** **22 32 32.7 -0.1**
USA0B IAmb IAmb 22 32 34.2
comp=Z,8.1nm,0.9s
USRK Ussuriysk Ar. 76.85 45 P **P** **22 32 33.3 +0.5**
comp=Z,3.8nm,0.6s,baz=288,slow=4.8,SNR=16
USRK Ussuriysk Ar. 76.85 45 P **P** **22 32 33.6 +0.8**
USRK Ussuriysk Ar. 76.85 45 P **P** **22 32 33.6 +0.8**
KSAR Wonju Array Be 78.09 53 P **P** **22 32 40.7 +0.8**
KSAR Wonju Array Be 78.09 53 P **P** **22 32 40.7 +0.8**
KSRS Korea Array 78.11 53 P **P** **22 32 40.6 +0.6**
comp=Z,1.9nm,0.8s,baz=297,slow=5.0,SNR=10
KSRS LR LR 23 12 44.8
comp=Z,53nm,18.8s,baz=301,slow=40
BMAR Burnt Mountain 78.46 356 P **P** **22 32 42.7 +1.2**
YKA Yellowknife Ar 78.65 343 P **P** **22 32 42.8 +0.2**
comp=Z,2.1nm,0.8s,baz=41,slow=5.7,SNR=9.7
IMAR Indian Mountai 80.14 0 P **P** **22 32 50.8 +0.2**
FFC Flin Flon 80.92 333 P **P** **22 32 54.9 -0.1**
FFC pmax pmax
comp=Z,8.0nm,1.1s
FFC Flin Flon 80.92 333 P **P** **22 32 54.9 -0.1**
FFC IAmb IAmb 22 32 56.9
comp=Z,7.6nm,1.1s
MLY Manley 81.07 359 P **P** **22 32 55.9 +0.2**
MDM Murphy Dome 81.08 358 P **P** **22 32 55.8 +0.1**
MDM IAmb IAmb 22 32 57.3
comp=Z,9.2nm,1.1s
ILAR Eielson Array 81.22 357 P **P** **22 32 57.0 +0.6**
comp=Z,1.4nm,1.0s,baz=350,slow=4.5,SNR=7.8
ILAR LR LR 23 11 35.8
comp=Z,18nm,18.5s,baz=322,slow=38
ILAR Eielson Array 81.22 357 P **P** **22 32 56.7 +0.3**
CCB Clear Creek Bu 81.38 357 P **P** **22 32 56.7 -0.5**
DAWY Dawson 81.42 354 P **P** **22 32 57.9 +0.3**
DAWY IAmb IAmb 22 32 59.1
comp=Z,6.9nm,1.3s
WRH Wood River Hil 81.56 358 P **P** **22 32 58.2 0.0**
WRH IAmb IAmb 22 32 59.3
comp=Z,8.1nm,1.0s
HDA Harding Lake 81.58 357 P **P** **22 32 58.3 0.0**
HDA IAmb IAmb 22 32 59.3
comp=Z,7.3nm,1.0s
ULM Lac du Bonnet 81.64 327 P **P** **22 32 58.2 -0.7**

comp=Z,3.9nm,1.0s,baz=82,slow=3.0,SNR=4.2
ULM LR LR 23 09 29.9

comp=Z,37nm,19.6s,baz=26,slow=36
ULM Lac du Bonnet 81.64 327 P **P 22 32 58.3 -0.5**
ULM pmax pmax

comp=Z,6.0nm,1.1s
ULM Lac du Bonnet 81.64 327 P **P 22 32 58.3 -0.5**
ULM IAmb IAmb 22 33 00.3

comp=Z,5.5nm,1.1s
K27K Chicken 81.67 355 P **P 22 32 59.1 +0.3**
K27K IAmb IAmb 22 33 00.9

comp=Z,6.7nm,1.2s
SCRK Sand Creek 81.86 356 P **P 22 33 00.6 +0.7**
SCRK IAmb IAmb 22 33 01.9

comp=Z,6.8nm,1.2s
DOT Dot Lake 82.19 356 P **P 22 33 01.6 +0.1**
DOT IAmb IAmb 22 33 03.5

comp=Z,6.7nm,1.2s
BCAR Beaver Creek A 82.61 355 P **P 22 33 04.4 +0.7**
L27K Beaver Creek, 82.61 355 P **P 22 33 04.8 +1.0**
L27K IAmb IAmb 22 33 05.8

comp=Z,4.9nm,1.1s
PETK Petropavlovsk- 83.34 27 P **P 22 33 07.9 +0.2**
comp=Z,1.5nm,0.9s,baz=37,slow=3.0,SNR=4.1
PETK LR LR 23 14 34.5

comp=Z,32nm,18.5s,baz=304,slow=39
PETK Petropavlovsk- 83.34 27 P **P 22 33 07.0 -0.7**
R49A Shelbyville 83.89 313 P **P 22 33 11.5 +0.6**
R49A IAmb IAmb 22 33 13.2

comp=Z,6.9nm,0.9s
BLO Bloomington 84.15 314 P **P 22 33 13.2 +1.1**
BLO pmax pmax

comp=Z,7.0nm,0.7s
BLO Bloomington 84.15 314 P **P 22 33 13.2 +1.1**
HYT Haines Junctio 84.40 352 P **P 22 33 14.7 +1.6**
HYT IAmb IAmb 22 33 15.9

comp=Z,10nm,1.3s
T50A Nancy 84.49 311 P **P 22 33 15.0 +1.2**
T50A IAmb IAmb 22 33 16.0

comp=Z,6.9nm,1.1s
WCI Wyandotte Cave 84.62 313 P **P 22 33 15.4 +0.9**
WCI pmax pmax

comp=Z,7.0nm,0.8s
WCI Wyandotte Cave 84.62 313 P **P 22 33 15.4 +0.9**
WCI IAmb IAmb 22 33 16.5

comp=Z,6.5nm,0.8s
I37A Lemond, Waseca 84.78 321 P **P 22 33 15.7 +0.5**
L40A Anamosa 84.95 318 P **P 22 33 16.7 +0.6**
MJAR Matsushiro Arr 85.26 49 P **P 22 33 18.1 +0.4**
comp=Z,3.6nm,0.7s,baz=304,slow=4.7,SNR=6.8
MJAR LR LR 23 16 00.4

comp=Z,31nm,19.0s,baz=195,slow=39
U49A Red Boiling Sp 85.40 312 P **P 22 33 19.1 +0.7**
T47A Sharon Grove 85.91 313 P **P 22 33 20.9 -0.1**
W50A Signal Mountai 85.94 310 P **P 22 33 21.2 0.0**
W50A IAmb IAmb 22 33 23.5

comp=Z,9.6nm,1.1s
CLTN Cedars of Leba 86.01 311 P **P 22 33 21.4 -0.1**
CLTN IAmb IAmb 22 33 24.1

comp=Z,7.6nm,1.2s
BDFB Brasilia 86.22 248 P **P 22 33 23.8 +1.0**
comp=Z,1.8nm,0.6s,baz=82,slow=7.1,SNR=4.0
R40A Maddies Statio 88.10 316 P **P 22 33 32.2 +0.7**
T42A Van Buren 88.27 315 P **P 22 33 32.8 +0.4**
LRAL Lakeview Retre 88.39 309 P **P 22 33 34.0 +1.0**
LRAL IAmb IAmb 22 33 50.2

comp=Z,6.1nm,1.1s
NEW Newport 91.64 337 P **P 22 33 48.3 +0.3**
comp=Z,2.2nm,0.7s,baz=0.0,slow=7.1,SNR=3.9
PDAR Pinedale Array 93.42 329 LR LR 23 17 37.2
comp=Z,40nm,20.0s,baz=360,slow=37
WRA Warramunga Arr 115.53 98 PKP **PKPdf 22 39 23.2 -0.1**
comp=Z,0.3nm,0.5s,baz=228,slow=2.3,SNR=5.2
ASAR Alice Springs 116.94 101 PKP **PKiKP 22 39 26.0 +0.1**
comp=Z,0.3nm,0.5s,baz=262,slow=0.8,SNR=4.4
VNDA Vanda 132.43 168 PKhKP PKPpre 22 39 50.9
comp=Z,0.3nm,0.6s,baz=113,slow=8.6,SNR=1.4

KRSC 08 22:35:45.5±1.8, 54.81N×165.59E, h29km±12km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.45**	**29**	*e*P	Pb	22 35 54.3	-0.8
BKI				*e*S	Sb	22 35 59.3	-2.4
KBTR	**Krutoberegovo**	**2.11**	**313**	*e*P	Pn	22 36 20.0	+1.2
MKZ	**Mys Kozlova**	**2.26**	**265**	*e*P	Pb	22 36 24.9	-0.7
MKZ				*e*S	Sb	22 36 51.5	-1.5
SMKR	**Semkarok**	**2.93**	**309**	*e*P	Pb	22 36 34.4	-2.7
SMKR				*e*S	Sn	22 37 07.4	+3.0
TUMD	**Tumrok D**	**3.02**	**280**	*e*S	Sn	22 37 10.0	+3.6
BDR	**Baidarnaya**	**3.04**	**307**	*e*P	Pb	22 36 36.8	-2.2
BDR				*e*S	Sb	22 37 12.1	-3.6
KZV	**Kizimen**	**3.07**	**278**	*e*P	Pb	22 36 36.3	-3.2
KZV				*e*S	Sn	22 37 10.7	+2.8
SRKR	**Sorokina**	**3.11**	**308**	*e*P	Pb	22 36 36.4	-3.7
TUMR	**Tumrok**	**3.17**	**281**	*e*P	Pb	22 36 38.0	-3.2
TUMR				*e*S	Sn	22 37 13.8	+3.5
KMNR	**Kamenistaya**	**3.21**	**289**	*e*P	Pb	22 36 38.4	-3.4
SRDR	**Sredinnyy**	**3.66**	**297**	*e*P	Pb	22 36 45.1	-4.4
KII	**Karymskiy**	**3.67**	**260**	*e*S	Sn	22 37 27.1	+4.4
SPN	**Mys Shipunski**	**3.71**	**245**	*e*P	Pn	22 36 45.0	+4.2
SPN				*e*S	Sn	22 37 26.2	+2.7
NLC	**Nalytchevo**	**4.04**	**249**	*e*P	Pn	22 36 49.6	+4.3
NLC				*e*S	Sn	22 37 35.3	+3.8
SDLR	**Sedlovina**	**4.24**	**252**	*e*P	Pn	22 36 53.7	+5.5
SDLR				*e*S	Sn	22 37 41.0	+4.2
SMAR	**Somma**	**4.29**	**252**	*e*P	Pb	22 36 54.8	-5.6
SMAR				*e*S	Sn	22 37 42.7	+4.5
UGLR	**Uglovaya**	**4.30**	**251**	*e*P	Pb	22 36 54.9	-5.6
KRER	**Koryakskii**	**4.31**	**252**	*e*P	Pn	22 36 54.4	+5.2
AVH	**Avacha**	**4.33**	**252**	*e*P	Pb	22 36 55.3	-5.6
KRX	**Arik**	**4.34**	**253**	*e*P	Pn	22 36 54.9	+5.3
KRX				*e*S	Sn	22 37 43.0	+3.8
KOK	**Koryaka**	**4.37**	**252**	*e*P	Pn	22 36 55.1	+5.1
GNL	**Ganaly**	**4.62**	**259**	*e*P	Pn	22 36 58.6	+5.1
GNL				*e*S	Sn	22 37 49.5	+3.3
RUS	**Russkaya**	**4.84**	**243**	*e*P	Pn	22 37 01.0	+4.7
RUS				*e*S	Sn	22 37 54.4	+3.1
MTVR	**Mutnovka**	**4.99**	**245**	*e*P	Pn	22 37 03.7	+5.2
MTVR				*e*S	Sn	22 37 58.1	+3.0
GRL	**Gorelyy**	**5.01**	**246**	*e*P	Pn	22 37 04.0	+5.2
KDTR	**Khodutka, Kamc**	**5.42**	**239**	*e*P	Pn	22 37 08.4	+4.2
KDTR				*e*S	Sn	22 38 07.0	+1.5

*UPP **08** 23:47:09.1±0.0, 67.84N×20.21E, h0km, ML2.2, Explosion*
HEL 08 23:47:09.5±0.0, 67.84N×20.21E, h0km, ML1.9, ML2.2(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATU	**Laukkuluspa**	**0.23**	**266**	P	Pg	23 47 13.7	-0.3
RATU				S	Sg	23 47 16.9	-0.1
RATU	**Laukkuluspa**	**0.23**	**266**	*i* P	Pg	23 47 13.7	-0.3
RATU				*i* S	Sg	23 47 16.9	-0.1
KOVU	**Salmi**	**0.38**	**357**	P	Pg	23 47 16.2	-0.6
KOVU				S	Sg	23 47 21.5	-0.3
KOVU	**Salmi**	**0.38**	**357**	*i* P	Pg	23 47 16.2	-0.6
KOVU				*i* S	Sg	23 47 21.5	-0.3
NIKU	**Nikkaluokta**	**0.45**	**274**	P	Pg	23 47 17.5	-0.5
NIKU	**Nikkaluokta**	**0.45**	**274**	*i* P	Pg	23 47 17.5	-0.5
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	23 47 22.4	-0.5
LANU	**Lannavaara**	**0.70**	**72**	*e*P	Pg	23 47 22.3	-0.7
	baz=247						
LANU				*e*S	Sg	23 47 31.9	-0.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23 47 22.9	-0.7
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	23 47 22.9	-0.7
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23 47 24.0	-0.5
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23 47 24.0	-0.5
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	23 47 31.9	-0.3
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	Pg	23 47 31.8	-0.4
KIF				MSG		23 47 47.2	
	comp=Z,10nm,0.2s						
KIF				*e*S	Sg	23 47 47.4	-0.3
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23 47 34.6	-1.4
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23 47 34.4	-1.6
PAJU				*e*SB	Sg	23 47 53.3	-0.7
HEF	**Hetta**	**1.41**	**65**	*e*P	Pn	23 47 35.1	-1.3
HEF	**Hetta**	**1.41**	**65**	*e*PG	Pn	23 47 34.9	-1.5
HEF				MSG		23 47 52.4	
	comp=Z,7.7nm,0.2s						
HEF				*e*SB	Sg	23 47 53.5	-1.4
KLF	**Kolari**	**1.57**	**111**	*e*PN	Pn	23 47 38.1	-0.5
KLF				*e*SN	Sn	23 47 59.5	0.0
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23 47 51.0	+1.0
TOF				MSG		23 48 19.3	
	comp=Z,7.3nm,0.2s						
TOF				*e*SG	Sb	23 48 23.3	-0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pn	23 47 51.7	+1.1
	baz=279						
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 47 54.0	+1.6
RNF				*e*SG	Sb	23 48 27.8	-0.8
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	23 47 53.2	+0.8
KEV	**Kevo**	**3.13**	**49**	*e*S	Sn	23 48 38.4	+0.4
KEV				MSG		23 48 41.8	
	comp=Z,2.8nm,0.2s						
BURU	**Burvik**	**3.31**	**171**	*e*P	Pn	23 48 04.1	+1.7
OUL	**Oulu**	**3.59**	**138**	*e*SB	Sb	23 48 57.7	0.0
KU6	**Riekki**	**4.22**	**111**	*e*PG	Pb	23 48 25.0	+0.5
	baz=298						

*JMA **08** 23:49:05.5±0.6, 44.61N×148.15E, h98km, M3.7*
*SKHL **08** 23:49:06.2±0.8, 44.30N×148.40E, h40km±4km, mb4.3/2*
ISC 08 23:49:01.7±3.4, 44.6N±0.1×148.4E±0.2, h124km±20km, n16, σ2s24/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.73**	**332**	*i* P	**Pn**	**23 49 22.7**	**+1.0**
KUR				AMB	AMB	23 49 22.8	
	70nm,0.2s						
KUR				*i* S	**Sn**	**23 49 34.6**	**-2.3**
KUR				A	A	23 49 35.0	
	1μm,0.4s						
KUR				A	A	23 49 35.0	
	960nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.88**	**254**	*e*P	**Pn**	**23 49 34.6**	**+0.8**
YUK				AMB	AMB	23 49 35.8	
	210nm,0.4s						
YUK				*e*S	**Sn**	**23 49 56.8**	**-1.6**
YUK				A	A	23 49 58.8	
	430nm,0.3s						
YUK				A	A	23 49 58.8	
	320nm,0.3s						
NEM2	**Nemuro 2**	**2.25**	**238**	P	**Pn**	**23 49 40.3**	**+1.8**
NEM2				*e*S	**Sn**	**23 50 06.7**	**0.0**
NMR	**Nemuro--Hokkai**	**2.26**	**238**	*i* P	**Pn**	**23 49 40.3**	**+1.7**
NMR				*e*S	**Sn**	**23 50 04.7**	**-2.1**
JKHN	**Kushirohamanak**	**2.76**	**238**	P	**Pn**	**23 49 47.1**	**+2.1**
JNK	**Nakash**	**2.81**	**250**	P	**Pn**	**23 49 47.8**	**+2.2**
JNK				*e*S	**Sn**	**23 50 20.5**	**+1.1**
AKK	**Akkeshi**	**2.99**	**240**	*e*P	**Pn**	**23 49 50.1**	**+2.1**
AKK				*e*S	**Sn**	**23 50 22.9**	**-0.8**
JAK	**Akkeshi**	**3.09**	**240**	P	**Pn**	**23 49 51.2**	**+1.9**
JAK				*e*S	**Sn**	**23 50 25.4**	**-0.6**
JAR	**Ashorobuto**	**3.56**	**250**	P	**Pn**	**23 49 58.3**	**+2.9**
JAR				*e*S	**Sn**	**23 50 38.6**	**+1.6**
JKK2	**Kamakawa 2**	**4.10**	**262**	P	**Pn**	**23 50 03.9**	**+1.3**
JCH	**Churui**	**4.13**	**243**	P	**Pn**	**23 50 04.7**	**+1.6**
JCH				*e*S	**Sn**	**23 50 50.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**4.69**	**242**	P	**Pn**	**23 50 11.8**	**+1.3**
JNBK				*e*S	**Sn**	**23 51 01.9**	**-2.1**
JKB	**Kayabe**	**5.99**	**246**	P	**Pn**	**23 50 29.0**	**+1.0**
JKB				*e*S	**Sn**	**23 51 31.0**	**-4.4**
JOT	**Ohata**	**6.25**	**242**	P	**Pn**	**23 50 32.3**	**+0.9**
JANG	**Nango**	**6.58**	**233**	*e*S	**Sn**	**23 51 44.0**	**-5.7**
JOSM	**Okushiri--Mats**	**6.95**	**252**	P	**Pn**	**23 50 42.0**	**+1.1**

*JMA **09** 00:05:57.0±0.1, 24.50N×122.27E, h80km±2km, M2.6*
*TAP **09** 00:05:58.0, 24.64N×122.24E, h71km, ML3.3, D*
ISC 09 00:05:57.3±1.2, 24.64N±0.03×122.28E±0.02, h78km±6km, n90, σ0s88/172, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.37**	**303**	*i* P	**Pn**	**00 06 09.9**	**+0.2**
	baz=306						
EGS				*i* S	**Sn**	**00 06 18.6**	**-0.4**
	baz=306						
TWC	**Suao**	**0.39**	**265**	P	**Pn**	**00 06 09.7**	**-0.2**
	baz=264						
TWC				S	**Sn**	**00 06 18.4**	**-0.9**
	baz=264						
TWB1	**Santiao Chiao**	**0.45**	**324**	*e*P	**Pn**	**00 06 10.8**	**+0.4**
	baz=328						
TWB1				*e*S	**Sn**	**00 06 19.9**	**-0.1**
	baz=328						
NTC	**Toucheng**	**0.46**	**298**	*e*P	**Pn**	**00 06 10.8**	**+0.4**
	baz=299						
NTC				*e*S	**Sn**	**00 06 20.3**	**+0.1**
	baz=299						
EWUT	**Wuta**	**0.49**	**247**	P	**Pn**	**00 06 11.0**	**+0.2**
	baz=245						
EWUT				S	**Sn**	**00 06 20.8**	**+0.1**
	baz=245						
ILA	**Ilan**	**0.50**	**284**	*e*P	**Pn**	**00 06 10.1**	**-0.7**
	baz=285						
ILA				*e*S	**Sn**	**00 06 21.2**	**+0.4**
	baz=285						
NDS	**Dongshan**	**0.51**	**269**	P	**Pn**	**00 06 11.3**	**+0.4**
	baz=269						
NDS				S	**Sn**	**00 06 20.5**	**-0.5**
	baz=269						
TIPB	**Shuangxi**	**0.53**	**309**	*e*P	**Pn**	**00 06 11.4**	**+0.3**
	baz=311						
TIPB				*e*S	**Sn**	**00 06 21.2**	**-0.1**
	baz=311						
TWE	**Neicheng**	**0.56**	**278**	P	**Pn**	**00 06 11.7**	**+0.4**
	baz=278						
TWE				S	**Sn**	**00 06 21.8**	**+0.1**
	baz=278						
NWF	**Wu-fen Shan**	**0.62**	**314**	*e*P	**Pn**	**00 06 12.5**	**+0.5**
	baz=315						
NWF				*e*S	**Sn**	**00 06 22.4**	**-0.6**
	baz=315						
WFSB	**Wu-fen Shan**	**0.62**	**314**	*e*P	**Pn**	**00 06 12.4**	**+0.5**
	baz=315						
WFSB				*e*S	**Sn**	**00 06 22.6**	**-0.3**
	baz=315						
JYNG	**Yonaguni jima**	**0.64**	**107**	P	**Pn**	**00 06 11.9**	**-0.2**
JYNG				S	**Sn**	**00 06 23.0**	**-0.1**
ENTT	**Nioudou**	**0.65**	**270**	*e*P	**Pn**	**00 06 12.7**	**+0.5**
	baz=269						
ENTT				*e*S	**Sn**	**00 06 23.1**	**-0.3**
	baz=269						
TNOU	**National Taiwa**	**0.68**	**318**	*e*P	**Pn**	**00 06 12.5**	**-0.1**
	baz=319						
TNOU				*e*S	**Sn**	**00 06 24.1**	**+0.2**
	baz=319						
YOJ	**Yonaguni jima**	**0.69**	**105**	P	**Pn**	**00 06 12.7**	**0.0**
YOJ				*e*S	**Sn**	**00 06 23.7**	**-0.4**
NDT	**Datong Townshi**	**0.70**	**267**	*e*P	**Pn**	**00 06 13.5**	**+0.8**
	baz=266						
NDT				*e*S	**Sn**	**00 06 25.0**	**+0.8**
	baz=266						
TWA	**Mucha**	**0.71**	**298**	*e*P	**Pn**	**00 06 12.8**	**-0.1**
	baz=299						
TWA				*e*S	**Sn**	**00 06 24.4**	**-0.2**
	baz=299						
NWLT	**Wulai**	**0.72**	**281**	*e*P	**Pn**	**00 06 13.5**	**+0.5**
	baz=281						
NWLT				*e*S	**Sn**	**00 06 24.9**	**+0.2**
	baz=281						
NHDH	**Xindian Distri**	**0.75**	**295**	*e*P	**Pn**	**00 06 14.0**	**+0.7**
	baz=296						
NHDH				*e*S	**Sn**	**00 06 25.2**	**-0.1**
	baz=296						
NACB	**Ninganchiao**	**0.78**	**233**	*e*P	**Pn**	**00 06 13.1**	**-0.5**
	baz=231						
NACB				*e*S	**Sn**	**00 06 25.6**	**-0.1**
	baz=231						
TATO	**Taipei**	**0.79**	**295**	*e*P	**Pn**	**00 06 13.4**	**-0.4**
	baz=296						
TATO				*e*S	**Sn**	**00 06 25.3**	**-0.7**
	baz=296						
YM01	**YM01**	**0.81**	**308**	*e*P	**Pn**	**00 06 14.3**	**+0.2**
	baz=309						
YM01				*e*S	**Sn**	**00 06 26.6**	**+0.1**
	baz=309						
YHNB	**Yeheng**	**0.82**	**272**	*e*P	**Pn**	**00 06 14.7**	**+0.6**
	baz=272						
YHNB				*e*S	**Sn**	**00 06 27.0**	**+0.3**
	baz=272						
YM08	**YM08**	**0.83**	**311**	*e*S	**Sn**	**00 06 26.3**	**-0.5**
	baz=312						
TWD	**Chiawan**	**0.84**	**228**	*e*P	**Pn**	**00 06 13.7**	**-0.5**
	baz=226						
TWD				*e*S	**Sn**	**00 06 26.7**	**-0.2**
	baz=226						
NNSB	**Datong**	**0.84**	**256**	*e*P	**Pn**	**00 06 14.5**	**+0.1**
	baz=254						
NNSB				*e*S	**Sn**	**00 06 26.7**	**-0.5**
	baz=254						
NNSH	**Datong**	**0.84**	**256**	*e*P	**Pn**	**00 06 14.6**	**+0.1**
	baz=254						
NNSH				*e*S	**Sn**	**00 06 27.3**	**+0.1**
	baz=254						
ETLH	**Xiulin Townshi**	**0.84**	**239**	*e*P	**Pn**	**00 06 14.0**	**-0.4**
	baz=237						
ETLH				*e*S	**Sn**	**00 06 26.9**	**-0.4**
	baz=237						
NNS	**Nan Shan**	**0.85**	**256**	*e*P	**Pn**	**00 06 14.8**	**+0.3**
	baz=255						
NNS				*e*S	**Sn**	**00 06 27.0**	**-0.4**
	baz=255						
HWA	**Hwalien**	**0.90**	**223**	*e*S	**Sn**	**00 06 28.9**	**+0.7**
	baz=220						
TWS1	**Kuangyinshan**	**0.90**	**301**	*e*P	**Pn**	**00 06 15.3**	**+0.3**
	baz=301						
TWS1				*e*S	**Sn**	**00 06 28.6**	**+0.3**
	baz=301						
TEYL	**Yanliau Villag**	**0.99**	**219**	*e*P	**Pn**	**00 06 15.5**	**-0.6**
	baz=218						
PCYT	**Pengchaiyu**	**1.00**	**349**	*e*P	**Pn**	**00 06 17.2**	**+1.0**
	baz=351						
PCYT				*e*S	**Sn**	**00 06 31.2**	**+0.8**
	baz=351						
FUSS	**Fushou**	**1.02**	**248**	*e*P	**Pn**	**00 06 17.0**	**+0.3**
	baz=246						
FUSS				*e*S	**Sn**	**00 06 31.2**	**0.0**
	baz=246						
NCUH	**Zhongli**	**1.04**	**288**	*e*P	**Pn**	**00 06 16.8**	**+0.1**
	baz=288						
NCUH				*e*S	**Sn**	**00 06 32.4**	**+1.2**
	baz=288						
WHF	**Hehuan Shan**	**1.05**	**242**	*e*P	**Pn**	**00 06 17.1**	**-0.1**
	baz=240						
WHF				*e*S	**Sn**	**00 06 31.1**	**-0.9**
	baz=240						
TWT	**Tachien**	**1.08**	**249**	*e*P	**Pn**	**00 06 18.1**	**+0.8**
	baz=248						
TWT				*e*S	**Sn**	**00 06 32.5**	**+0.3**
	baz=248						
TDCB	**Techi**	**1.09**	**249**	*e*P	**Pn**	**00 06 17.9**	**+0.5**
	baz=248						
TDCB				*e*S	**Sn**	**00 06 32.3**	**-0.2**
	baz=248						
ESL	**Shilin**	**1.13**	**223**	*e*P	**Pn**	**00 06 18.0**	**+0.2**
	baz=221						
ESL				*e*S	**Sn**	**00 06 32.8**	**-0.4**
	baz=221						
LIOB	**Emei**	**1.15**	**270**	*e*P	**Pn**	**00 06 18.7**	**+0.7**
	baz=270						
LIOB				*e*S	**Sn**	**00 06 33.6**	**0.0**
	baz=270						
CHGB	**Renai**	**1.16**	**240**	*e*P	**Pn**	**00 06 18.5**	**+0.1**
	baz=239						
CHGB				*e*S	**Sn**	**00 06 33.6**	**-0.6**
	baz=239						
NSTT	**Nanjuang**	**1.16**	**270**	*e*P	**Pn**	**00 06 18.8**	**+0.6**
	baz=269						
NSTT				*e*S	**Sn**	**00 06 34.3**	**+0.4**
	baz=269						
EGFH	**Guangfu**	**1.24**	**219**	*e*P	**Pn**	**00 06 19.1**	**-0.1**
	baz=217						
WHP	**Taichung City**	**1.27**	**254**	*e*P	**Pn**	**00 06 20.8**	**+1.2**
	baz=252						
WHP				*e*S	**Sn**	**00 06 37.4**	**+1.1**
	baz=252						
IRIF	**Iriomote-Funau**	**1.36**	**103**	P	**Pn**	**00 06 20.3**	**-0.3**
IRIF				*e*S	**Sn**	**00 06 37.9**	**-0.4**
WCS	**Beigang Elemen**	**1.38**	**245**	*e*P	**Pn**	**00 06 22.6**	**+1.7**
	baz=244						
WCS				*e*S	**Sn**	**00 06 39.5**	**+0.9**
	baz=244						
HGSD	**Ruisui**	**1.39**	**214**	*e*P	**Pn**	**00 06 21.6**	**+0.5**
	baz=213						
HGSD				*e*S	**Sn**	**00 06 39.3**	**+0.4**
	baz=213						
NSY	**Sanyi**	**1.40**	**261**	*e*S	**Sn**	**00 06 38.5**	**-0.7**
	baz=260						
EHY	**Hungye**	**1.43**	**218**	*e*P	**Pn**	**00 06 20.3**	**-1.3**
	baz=216						
EHY				*e*S	**Sn**	**00 06 37.3**	**-2.6**
	baz=216						
SMLT	**Sun Moon Lake**	**1.47**	**239**	*e*P	**Pn**	**00 06 23.4**	**+1.2**
	baz=238						
SMLT				*e*S	**Sn**	**00 06 41.3**	**+0.3**
	baz=238						
SSLB	**Suanglung**	**1.48**	**235**	*e*P	**Pn**	**00 06 22.7**	**+0.5**
	baz=234						
SSLB				*e*S	**Sn**	**00 06 41.7**	**+0.6**
	baz=234						
TYC	**Yuchr**	**1.49**	**241**	*e*P	**Pn**	**00 06 23.2**	**+0.9**
	baz=239						
TYC				*e*S	**Sn**	**00 06 42.4**	**+1.1**
	baz=239						
HATJ	**Hateruma jima**	**1.51**	**112**	P	**Pn**	**00 06 22.8**	**+0.2**
HATJ				*e*S	**Sn**	**00 06 42.0**	**+0.2**
YULB	**Yu-li**	**1.53**	**216**	*e*P	**Pn**	**00 06 21.6**	**-1.4**
	baz=214						
YULB				*e*S	**Sn**	**00 06 40.0**	**-2.4**
	baz=214						
TCU	**Taichung**	**1.54**	**252**	*e*P	**Pn**	**00 06 22.8**	**-0.2**
	baz=250						
TCU				*e*S	**Sn**	**00 06 43.2**	**+0.7**
	baz=250						
EYUL	**Yuli**	**1.56**	**214**	*e*P	**Pn**	**00 06 24.4**	**+1.1**
	baz=213						
EYUL				*e*S	**Sn**	**00 06 43.2**	**+0.2**
	baz=213						
TWF1	**Yuli**	**1.57**	**215**	*e*P	**Pn**	**00 06 21.9**	**-1.5**
	baz=213						
TWF1				*e*S	**Sn**	**00 06 43.8**	**+0.6**
	baz=213						
JKRS	**Kuro-shima**	**1.63**	**104**	P	**Pn**	**00 06 24.3**	**+0.1**
JKRS				S	**Sn**	**00 06 44.5**	**-0.1**
WJS	**Zhushan**	**1.63**	**240**	*e*P	**Pn**	**00 06 25.8**	**+1.5**
	baz=239						
WJS				*e*S	**Sn**	**00 06 45.2**	**+0.6**
	baz=239						
WNT	**Mingjian**	**1.64**	**243**	*e*P	**Pn**	**00 06 25.5**	**+1.2**
	baz=241						
WNT				*e*S	**Sn**	**00 06 45.2**	**+0.4**
	baz=241						
FULB	**Fuli**	**1.69**	**212**	*e*P	**Pn**	**00 06 25.3**	**+0.2**
	baz=211						
FULB				*e*S	**Sn**	**00 06 47.0**	**+0.8**
	baz=211						
JIJ	**Ishigaki jima**	**1.72**	**99**	P	**Pn**	**00 06 25.3**	**-0.1**
JIJ				S	**Sn**	**00 06 45.8**	**-1.0**
CHKT	**Chengkung**	**1.75**	**209**	*e*P	**Pn**	**00 06 24.4**	**-1.3**
	baz=207						
CHKT				*e*S	**Sn**	**00 06 47.0**	**-0.3**
	baz=207						
ALS	**Alishan**	**1.75**	**230**	*e*P	**Pn**	**00 06 26.8**	**+0.7**
	baz=229						
ALS				*e*S	**Sn**	**00 06 48.3**	**+0.3**
	baz=229						
CHN5	**Tsauling**	**1.79**	**235**	*e*P	**Pn**	**00 06 27.5**	**+1.1**
	baz=233						
CHN5				*e*S	**Sn**	**00 06 49.8**	**+1.2**
	baz=233						
ELDTW	**Lidau**	**1.85**	**219**	*e*P	**Pn**	**00 06 26.3**	**-0.9**
	baz=217						
ELDTW				*e*S	**Sn**	**00 06 49.6**	**-0.3**
	baz=217						
WDLH	**Douliu**	**1.85**	**239**	*e*P

STYH				*e*S		**Sn**	**00 06 54.7**	**+1.1**
	baz=222								
TPUB	**Ta-pu**	**2.01**	**229**	*e*P		**Pn**	**00 06 29.9**	**+0.5**
	baz=227								
TPUB				*e*S		**Sn**	**00 06 55.2**	**+1.5**
	baz=227								
LONT	**Longtian**	**2.02**	**212**	*e*P		**Pn**	**00 06 27.9**	**-1.5**
	baz=210								
LONT				*e*S		**Sn**	**00 06 54.5**	**+0.6**
	baz=210								
WTP	**Ta-pu**	**2.06**	**228**	*e*P		**Pn**	**00 06 30.6**	**+0.6**
	baz=226								
WTP				*e*S		**Sn**	**00 06 55.4**	**+0.5**
	baz=226								
TWG	**Pinlang**	**2.12**	**212**	*e*P		**Pn**	**00 06 30.1**	**-0.7**
	baz=210								
TWG				*e*S		**Sn**	**00 06 55.1**	**-1.2**
	baz=210								
TWK	**Hsinying**	**2.13**	**230**	*e*P		**Pn**	**00 06 32.5**	**+1.5**
	baz=229								
TWK				*e*S		**Sn**	**00 06 57.4**	**+0.7**
	baz=229								
CHN1	**Nanshi**	**2.16**	**228**	*e*P		**Pn**	**00 06 33.2**	**+1.9**
	baz=227								
CHN1				*e*S		**Sn**	**00 06 58.3**	**+1.1**
	baz=227								
JTJ	**Tarama**	**2.21**	**90**	P		**Pn**	**00 06 32.7**	**+0.9**
JTJ				S		**Sn**	**00 06 59.1**	**+0.8**
SSD	**Sandimen**	**2.42**	**219**	*e*P		**Pn**	**00 06 36.0**	**+1.3**
	baz=217								
SSD				*e*S		**Sn**	**00 07 03.6**	**+0.3**
	baz=217								
MASBT	**Mashibuluo**	**2.52**	**217**	*e*P		**Pn**	**00 06 36.6**	**+0.5**
	baz=216								
MASBT				*e*S		**Sn**	**00 07 05.7**	**-0.3**
	baz=216								
MATB	**Ma-tsu**	**2.59**	**306**	*e*P		**Pn**	**00 06 37.1**	**+0.1**
	baz=305								
MATB				*e*S		**Sn**	**00 07 06.4**	**-1.1**
	baz=305								
VWUC	**VWUC**	**2.59**	**278**	*e*P		**Pn**	**00 06 36.7**	**-0.3**
	baz=277								
VWUC				*e*S		**Sn**	**00 07 06.5**	**-1.1**
	baz=277								
PNG	**Penghu**	**2.71**	**247**	*e*S		**Sn**	**00 07 09.5**	**-0.9**
	baz=246								
SCZT	**Fangliau**	**2.72**	**214**	*e*P		**Pn**	**00 06 40.2**	**+1.3**
	baz=213								
SCZT				*e*S		**Sn**	**00 07 10.3**	**-0.5**
	baz=213								
WDGT	**Dungji**	**2.76**	**241**	*e*P		**Pn**	**00 06 40.1**	**+0.8**
	baz=239								
WDGT				*e*S		**Sn**	**00 07 10.8**	**-0.9**
	baz=239								
PTMZ	**Houxiangcun**	**2.90**	**279**	*e*P		**Pn**	**00 06 40.7**	**-0.4**
	baz=277								
PTMZ				*e*S		**Sn**	**00 07 12.9**	**-2.0**
	baz=277								
VCHM	**Qimei**	**2.97**	**242**	*e*P		**Pn**	**00 06 43.6**	**+1.4**
	baz=240								
VCHM				*e*S		**Sn**	**00 07 15.7**	**-1.1**
	baz=240								
KNM	**Kinmen**	**3.51**	**267**	*e*S		**Sn**	**00 07 29.4**	**-0.4**
	baz=266								
KNMB	**Chin-men Tao**	**3.54**	**268**	*e*S		**Sn**	**00 07 26.9**	**-3.9**
	baz=267								
AXDP	**Jialang**	**3.92**	**275**	*e*P		**Pn**	**00 06 55.1**	**0.0**
	baz=273								
AXDP				*e*S		**Sn**	**00 07 37.2**	**-2.7**
	baz=273								

DNK ***09*** *00:12:53.9±2.0,51°.38N×16°.36E,h15km±183km,ML1.9*
IPEC ***09*** *00:12:55.4±0.3,51°.51N×16°.23E,h0km,ML2.5/3,Error ellipse: s-maj=3.1km s-min=1.7km az=69.0*
IDC ***09*** *00:12:56.4±0.8,51°.46N×16°.04E,h0km,mb1 3.4/6, mb1mx3.2/45,mbtmp3.3/6,ML2.6/6,Error ellipse: s-maj=17.0km s-min=6.6km az=100.0*
VIE ***09*** *00:12:56.9±1.1,51°.40N×16°.03E,h0km,mb2.3/5,ml2.9/5, Error ellipse: s-maj=12.0km s-min=4.8km az=32.0 77 km WNW of Wroclaw Suspected Mining induced.*
PRU ***09*** *00:12:56.8±0.0,51°.45N×16°.09E,h0km*
ISC 09 00:12:54.2±0.7,**51°.55N**±0°.03×**16°.10E**±0°.02,**h0km**,**n50,** σ1**s35**/97,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**170**	*i* Pg	**Pg**	**00 13 08.6**	**+0.6**
KSP				*e*Sg	**Sg**	**00 13 17.1**	**-0.3**
CHVC	**Chvalec**	**0.97**	**182**	*e*PG	**Pg**	**00 13 13.2**	**+0.5**
CHVC				*e*SG	**Sg**	**00 13 24.9**	**-0.4**
	comp=Z,40nm,0.6s						
OSTC	**Ostas**	**1.00**	**176**	*e*PG	**Pg**	**00 13 13.9**	**+0.5**
OSTC				*e*SG	**Sg**	**00 13 25.8**	**-0.6**
	comp=Z,33nm,0.4s						
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pg**	**00 13 14.7**	**+0.4**
UPC				*e*SG	**Sg**	**00 13 27.3**	**-0.6**
	comp=Z,79nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**00 13 17.4**	**-0.1**
DPC				*e*SG	**Sg**	**00 13 31.9**	**-1.3**
	comp=Z,36nm,0.5s						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pn**	**00 13 21.8**	**+0.6**
PVCC				*e*SG	**Sb**	**00 13 40.5**	**+0.6**
	comp=Z,146nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**244**	Pn	**Pn**	**00 13 23.0**	**+0.4**
BRG				Pg	**Pg**	**00 13 24.3**	**+1.0**
BRG				Sg	**Sn**	**00 13 44.7**	**+1.6**
BRG				Amp		00 13 45.1	
	comp=Z,42nm,0.6s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**00 13 23.0**	**0.0**
KRLC				*e*SG	**Sg**	**00 13 41.7**	**-2.0**
	comp=Z,58nm,0.5s						
PRA	**Prague**	**1.82**	**216**	*e*PG	**Pn**	**00 13 27.3**	**+0.5**
PRA				*e*SG	**Sb**	**00 13 52.1**	**+0.3**
	comp=Z,21nm,0.5s						
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pn**	**00 13 27.6**	**+0.3**
PRU				*e*SG	**Sb**	**00 13 53.0**	**+0.3**
	comp=Z,34nm,0.4s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**00 13 29.0**	**+0.4**
CLL				*e*Pg	**Pb**	**00 13 32.0**	**+1.3**
CLL				*i*		00 13 36.2	
CLL				*e*		00 13 47.0	
CLL				*e*Sg	**Sg**	**00 13 58.0**	**+1.0**
	comp=Z,15nm,0.6s						
MORC	**Moravsky Berou**	**2.00**	**152**	*e*PN	**Pn**	**00 13 29.3**	**0.0**
MORC				*e*SG	**Sn**	**00 13 55.6**	**+0.5**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**00 13 29.3**	**0.0**
	baz=335						
MORC				*e*Sg	**Sn**	**00 13 55.6**	**+0.5**
	comp=Z,23nm,0.3s,baz=335						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**00 13 34.6**	**+0.5**
OKC				*e*SG	**Sb**	**00 14 01.4**	**+0.1**
	comp=Z,47nm,0.6s						
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**00 13 33.7**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=345,slow=17,SNR=14						
VRAC				Lg	Lg	00 14 04.5	
	comp=Z,1.8nm,0.3s,baz=73,slow=19,SNR=3.6						
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**00 13 33.4**	**+0.4**
VRAC				*e*SG	**Sb**	**00 14 05.0**	**+0.3**
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**00 13 33.4**	**+0.4**
	baz=354						
VRAC				*e*Sg	**Sb**	**00 14 05.0**	**+0.3**
	comp=Z,28nm,0.6s,baz=354						
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**00 13 34.2**	**+0.8**
TREC				*e*PG	**Pb**	**00 13 37.2**	**+0.7**
TREC				*e*SG	**Sb**	**00 14 05.7**	**+0.3**
	comp=Z,26nm,0.8s						
PBCC	**Pribram**	**2.30**	**216**	*e*SG	**Sb**	**00 14 07.1**	**+1.5**
KRUC	**Moravsky**	**2.50**	**176**	*e*PN	**Pn**	**00 13 36.7**	**+0.5**
KRUC				*e*SG	**Sb**	**00 14 12.2**	**+0.9**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**00 13 36.7**	**+0.5**
	baz=358						
KRUC				*e*Sg	**Sb**	**00 14 12.1**	**+0.8**
	comp=Z,24nm,0.6s,baz=358						
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**00 13 39.6**	**+1.2**
NKC				*e*SG	**Sg**	**00 14 20.3**	**+0.5**
	comp=Z,32nm,0.3s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**00 13 39.4**	**+0.6**
OJC				*e*Pg	**Pg**	**00 13 48.0**	**+2.1**
OJC				*e*Sg	**Sg**	**00 14 22.2**	**+1.4**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*PN	**Pn**	**00 13 41.8**	**+0.3**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Pn	**Pn**	**00 13 41.7**	**+0.3**
	baz=341						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**00 13 42.5**	**+0.6**
KHC				*e*PG	**Pb**	**00 13 48.3**	**+1.2**
KHC				*e*SN	**Sn**	**00 14 16.5**	**-1.1**
KHC				*e*SG	**Sg**	**00 14 26.9**	**-0.9**
	comp=Z,15nm,0.4s						
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN	**Pn**	**00 13 43.8**	**+1.2**
CKRC				*e*PG	**Pb**	**00 13 49.3**	**+1.3**
CKRC				*e*SG	**Sg**	**00 14 28.3**	**-1.3**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**00 13 45.4**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=23						
GERES				Pg	**Pb**	**00 13 51.9**	**+1.2**
	comp=Z,2.8nm,0.3s,baz=31,slow=17,SNR=43						
GERES				Lg	Lg	00 14 30.0	
	comp=Z,2.4nm,0.3s,baz=29,slow=27,SNR=1.4						
SMOL	**Smolenice**	**3.16**	**164**	*e*PG	**Pg**	**00 13 55.3**	**+0.5**
SMOL				*e*SG	**Sg**	**00 14 34.9**	**-0.8**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**00 13 56.5**	**+0.4**
LANS				*e*SG	**Sg**	**00 14 37.0**	**-0.9**
KOLL	**Kolacno**	**3.33**	**153**	*e*PN	**Pn**	**00 13 48.9**	**+1.4**
KOLL				*e*PG	**Pg**	**00 13 57.8**	**-0.2**
KOLL				*e*SG	**Sg**	**00 14 39.2**	**-1.8**
ZST	**Bratislava**	**3.42**	**169**	*e*SG	**Sg**	**00 14 42.9**	**-1.2**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**00 13 59.5**	**-0.4**
NIE				*e*S	**Sg**	**00 14 43.8**	**-0.5**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**00 14 01.2**	**-0.7**
VYHS				*e*SG	**Sg**	**00 14 45.2**	**-2.5**
CONA	**Conrad Observa**	**3.63**	**183**	*i* Pn	**Pn**	**00 13 52.9**	**+1.2**
	comp=Z,1.0nm,0.2s						
CONA				*e*Sg	**Sg**	**00 14 49.2**	**-1.7**
	comp=Z,13nm,0.5s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* S	**Sn**	**00 14 36.4**	**+1.1**
MOA	**Molln**	**3.90**	**199**	*i* Pn	**Pn**	**00 13 56.3**	**+1.0**
	comp=Z,0.8nm,0.2s						
MOA				*e*Sg	**Sg**	**00 14 58.2**	**-1.1**
	comp=Z,7.8nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**00 13 57.0**	**+1.3**
STHS				*e*PG	**Pg**	**00 14 11.5**	**+2.2**
ARSA	**Arzberg**	**4.32**	**185**	*e*Pn	**Pn**	**00 14 02.2**	**+1.0**
	comp=Z,0.8nm,0.2s						
ARSA				Sg	**Sg**	**00 15 13.6**	**+0.5**
	comp=Z,7.4nm,0.5s						
LUNU	**Lund**	**4.38**	**340**	*i* P	**Pn**	**00 14 02.9**	**+0.9**
LUNU				*i* S	**Sn**	**00 14 54.0**	**+0.3**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PN	**Pn**	**00 14 08.0**	**+0.9**
KOLS				*e*PG	**Pg**	**00 14 27.3**	**+2.1**
KOLS				*e*SN	**Sn**	**00 15 02.3**	**-0.5**
KOLS				*e*SG	**Sg**	**00 15 31.7**	**+5.0**
BLEU	**Blekinge**	**4.76**	**358**	*e*	**Pn**	**00 14 07.5**	**+0.3**
	baz=168,slow=12						
BLEU				*i* P	Pb	00 14 09.1	-9.4
BLEU				*i* S	**Sn**	**00 15 02.2**	**-0.8**
BLEU				IAML		00 15 06.5	
	comp=Z,0.4nm,0.4s						
KBA	**Koelnbreinsper**	**4.83**	**203**	Sg	**Sg**	**00 15 28.9**	**-0.4**
	comp=Z,3.6nm,0.4s						
DEL	**Delary**	**5.10**	**346**	*i* P	**Pn**	**00 14 13.1**	**+1.3**
DEL				*i*		00 15 06.1	
DEL				IAML		00 15 12.8	
	comp=Z,0.9nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Lg	Lg	00 16 13.6	
	comp=Z,0.3nm,0.3s,baz=201,slow=20,SNR=1.4						
HFS	**Hagfors**	**8.71**	**352**	Pn	**Pn**	**00 15 02.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=4.3						
HFS				Sn	**Sn**	**00 16 38.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=182,slow=33,SNR=1.8						
NOA	**NORSAR Array B**	**9.89**	**346**	Pn	**Pn**	**00 15 16.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=160,slow=12,SNR=1.8						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	**00 15 37.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=6.1						
FINES				Sn	**Sn**	**00 17 37.3**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=209,slow=25,SNR=2.0						
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	**00 15 45.5**	**-2.0**
	baz=107,slow=13,SNR=2.0						
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn	**P**	**00 17 10.2**	**-2.3**
	baz=198,slow=12,SNR=6.6						

NEIC ***09*** *00:16:44.5,56°.44S×143°.09W,h25km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.36; Mθθ2.66; Mϕϕ-2.30; Mrθ0.35; Mθϕ1.88; Mϕr0.25; Fault plane solution: M₀3.14000×10¹⁷ NP1:φs26.00000°, δ87.00000°,λ174.00000°. NP2:φs117.00000°,δ84.00000°, λ3.00000°. Principal axes: T 3.3384, Plg6.0000°, Azm341.0000°; N -0.4019, Plg83.0000°, Azm185.0000°; P -2.9366, Plg3.0000°, Azm72.0000°;*
IDC ***09*** *00:16:44.3±0.7,56°.17S×144°.01W,h0km,mb4.3/9, mb1 4.4/9,mb1mx4.2/28,mbtmp4.3/9,MS4.7/12, Ms1 4.7/12,ms1mx4.5/19 Error ellipse: s-maj=28.3km s-min=18.9km az=179.0*
NEIC ***09*** *00:16:44.6±1.6,56°.05S±0°.2×143°.8W±0°.2,h10km±1km, mb5.0/22,Ms_20 5.0/120,Mwc5.6/10(GCMT),Error ellipse: s-maj=29.8km s-min=19.4km az=5.0*
GCMT ***09*** *00:16:50.6±0.1,56°.45S±0°.01×143°.13W±0°.01,h24km, MW5.6/141,Moment Tensor Solution. s109,c178; s141,c251; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.45±.04; Mθθ2.57±.04; Mϕϕ-2.13±.04; Mrθ0.01±.10; Mθϕ1.83±.04; Mϕr-0.10±.09; Best double couple: M₀2.98100×10¹⁷ NP1:φs296.00000°,δ88.00000°, λ-1.00000°. NP2:φs26.00000°,δ89.00000°,λ-178.00000°. Principal axes: T 3.1990, Plg0.0000°, Azm161.0000°; N -0.4420, Plg88.0000°, Azm64.0000°; P -2.7630, Plg2.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 00:16:44.8±0.5,**56°.07S**±0°.10×**143°.88W**±0°.09,**h10**km, **n143,** σ1**s24**/51,**mb4.8**/16,**MS5.0**/75,**1C-1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.44**	**202**	P	**P**	**00 22 39.5**	**+0.4**
	1.2nm,0.9s,baz=62,slow=5.1,SNR=3.1						
VNDA				LR	LR	00 30 12.1	
	comp=Z,811nm,20.9s,baz=76,slow=28						
VNDA	**Vanda**	**28.44**	**202**	P	**P**	**00 22 39.0**	**-0.1**
BHW	**Baring Head**	**30.38**	**281**	P	**P**	**00 22 53.9**	**-2.8**
LBZ	**Lake Benmore**	**31.04**	**272**	IAMs_20	IAMs_20	00 31 45.1	
	comp=Z,3μm,20.0s						
TBI	**Tubuai**	**32.94**	**351**	*e*S	**S**	**00 28 37.0**	**0.0**
	comp=Z,600nm,28.2s						
TBI				*e*LR	LR	00 31 53.5	
	comp=Z,5μm,30.0s,baz=175						
TBI	**Tubuai**	**32.94**	**351**	*e*T	T	00 57 43.2	
	comp=Z,170nm,0.3s						
RKT	**Rikitea**	**33.56**	**15**	*e*T	T	00 58 24.8	
	comp=Z,28nm,0.2s						
QSPA	**South Pole Qui**	**34.09**	**180**	P	**P**	**00 23 29.5**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=80,slow=2.4,SNR=30						
QSPA	**South Pole Qui**	**34.09**	**180**	P	**P**	**00 23 29.8**	**+0.7**
QSPA				IAmb	IAmb	00 23 46.6	
	comp=Z,18nm,1.1s						
QSPA	**South Pole Qui**	**34.09**	**180**	IAMs_20	IAMs_20	00 34 04.1	
	comp=Z,3μm,21.0s						
MEH	**Mehetia**	**38.26**	**354**	*e*T	T	01 04 30.1	
	comp=Z,41nm,0.2s						
PAE	**Paea**	**38.58**	**351**	*e*T	T	01 04 48.3	
	comp=Z,8.8nm,0.3s						
PPT2	**Papeete2**	**38.65**	**351**	*e*S	**S**	**00 30 03.8**	**-1.0**
	comp=Z,824nm,26.5s						
PPT2				*e*LR	LR	00 34 28.7	
	comp=Z,6μm,29.2s,baz=183						
PPT2	**Papeete2**	**38.65**	**351**	*e*T	T	01 04 51.6	
	comp=Z,17nm,0.3s						
TIAR	**Tiarei**	**38.66**	**352**	*e*T	T	01 04 48.9	
	comp=Z,4.4nm,0.3s						
PPT	**Papeete**	**38.67**	**351**	LR	LR	00 35 36.3	
	comp=Z,1μm,18.2s,baz=186,slow=29						
VAH	**Vaihoa**	**40.85**	**354**	*e*T	T	01 07 43.2	
	comp=Z,121nm,0.2s						
PMOR	**Pomariorio Ree**	**41.10**	**354**	*e*T	T	01 08 03.0	
	comp=Z,18nm,0.3s						
CASY	**Casey**	**45.88**	**213**	P	**P**	**00 25 08.2**	**+1.6**
CASY	**Casey**	**45.88**	**213**	IAMs_20	IAMs_20	00 41 13.4	
	comp=Z,2μm,20.0s						
LL02	**Futaleuf**	**46.28**	**106**	P	**P**	**00 25 09.5**	**-0.6**
TAOE	**Nuku Hiva Isla**	**47.18**	**5**	*e*LR	LR	00 38 33.8	
	comp=Z,4μm,28.5s,baz=196						
PLCA	**Paso Flores**	**48.67**	**104**	P	**P**	**00 25 30.0**	**+1.2**
	comp=Z,4.0nm,1.1s,baz=210,slow=12,SNR=4.0						
PLCA	**Paso Flores**	**48.67**	**104**	IAmb	IAmb	00 25 49.7	
	comp=Z,17nm,1.5s						
VNA3	**Neumayer Olymp**	**48.94**	**162**	P	**P**	**00 25 29.0**	**-1.5**
H03S2	**Juan Fernandez**	**48.97**	**91**	T	T	01 17 55.0	
	baz=220,slow=74,SNR=171						
H03S1	**Juan Fernandez**	**48.97**	**91**	T	T	01 17 41.7	
	baz=220,slow=74,SNR=175						
H03S3	**Juan Fernandez**	**48.98**	**91**	T	T	01 17 40.9	
	baz=220,slow=74,SNR=139						
H03N3	**Juan Fernandez**	**49.25**	**91**	T	T	01 17 47.8	
	baz=223,slow=72,SNR=1632						
H03N2	**Juan Fernandez**	**49.25**	**91**	T	T	01 17 41.7	
	baz=223,slow=72,SNR=1324						
H03N1	**Juan Fernandez**	**49.27**	**91**	T	T	01 17 46.7	
	baz=223,slow=72,SNR=2288						
SNAA	**Sanae**	**49.65**	**165**	P	**P**	**00 25 34.3**	**-1.7**
SNAA	**Sanae**	**49.65**	**165**	P	**P**	**00 25 33.1**	**-2.8**
SNAA				IAmb	IAmb	00 25 35.3	
	comp=Z,28nm,1.4s						
VNA1	**Neumayer--Stat**	**49.68**	**162**	P	**P**	**00 25 34.5**	**-1.6**
DZM	**Mont Dzumac**	**49.77**	**292**	*e*S	**S**	**00 32 47.0**	**+0.4**
	comp=Z,190nm,27.5s						
DZM				*e*LQ	LQ	00 37 40.8	
	comp=Z,3μm,27.2s						
DZM				*e*LR	LR	00 39 44.1	
	comp=Z,2μm,24.4s						
BO02	**Sierra Bellavi**	**52.81**	**99**	P	**P**	**00 25 59.0**	**-1.1**
BO02				IAmb	IAmb	00 26 06.7	
	comp=Z,45nm,1.8s						
MT01	**Popeta**	**53.23**	**98**	P	**P**	**00 26 02.0**	**-1.2**
VA03	**San Esteban**	**54.44**	**97**	P	**P**	**00 26 11.4**	**-0.7**
VA03				IAmb	IAmb	00 26 25.8	
	comp=Z,32nm,1.6s						
MAW	**Mawson**	**55.05**	**192**	P	**P**	**00 26 15.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=199,slow=11,SNR=4.3						
MAW				LR	LR	00 46 41.5	
	comp=Z,1μm,21.8s,baz=158,slow=33						
SYO	**Syowa Base**	**55.21**	**182**	*e*P	**P**	**00 26 16.8**	**-0.2**
SYO	**Syowa Base**	**55.21**	**182**	*e*sP	sP	00 26 22.0	+1.9
EIDS	**Eidsvold**	**55.47**	**275**	P	**P**	**00 26 19.3**	**-0.2**
STKA	**Stephens Creek**	**55.78**	**263**	LR	LR	00 46 13.4	
	comp=Z,614nm,19.8s,baz=138,slow=32						
ZON	**Zonda**	**56.40**	**98**	P	**P**	**00 26 26.5**	**+0.3**
AC02	**Maricunga**	**59.76**	**94**	P	**P**	**00 26 49.5**	**-0.8**
AC02				IAmb	IAmb	00 27 01.7	
	comp=Z,44nm,2.0s						
GO02	**Mina Guanaco**	**60.81**	**92**	P	**P**	**00 26 57.1**	**-0.2**
GO02				IAmb	IAmb	00 27 13.2	
	comp=Z,31nm,1.8s						
PB10	**IPOC Station P**	**61.56**	**90**	P	**P**	**00 27 00.4**	**-1.7**
LVC	**Limon Verde**	**63.20**	**91**	P	**P**	**00 27 12.6**	**-0.9**
PLTB	**Pedras Altas**	**64.44**	**109**	P	**P**	**00 27 20.2**	**-1.0**
ITQB	**Itaqui**	**64.46**	**106**	P	**P**	**00 27 20.6**	**-0.7**
MNMC	**Minye Minye**	**65.58**	**88**	P	**P**	**00 27 29.0**	**0.0**
MNMC				IAmb	IAmb	00 27 42.2	
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**66.42**	**262**	P	**P**	**00 27 34.1**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=138,slow=6.3,SNR=19						
ASAR	**Alice Springs**	**66.42**	**262**	P	**P**	**00 27 32.9**	**-1.1**
CPUP	**Villa Florida**	**66.70**	**103**	P	**P**	**00 27 36.1**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=239,slow=6.8,SNR=5.2						
CPUP				LR	LR	00 52 14.2	
	comp=Z,407nm,18.4s,baz=220,slow=32						
CPUP	**Villa Florida**	**66.70**	**103**	IAmb	IAmb	00 27 37.2	
	comp=Z,14nm,1.5s						
H01W1	**Cape Leeuwin H**	**67.92**	**240**	T	T	01 42 42.0	
	baz=144,slow=75,SNR=1102						
H01W2	**Cape Leeuwin H**	**67.93**	**240**	T	T	01 42 42.4	
	baz=144,slow=75,SNR=1031						
H01W3	**Cape Leeuwin H**	**67.94**	**240**	T	T	01 42 43.2	
	baz=144,slow=75,SNR=952						
LPAZ	**La Paz**	**68.69**	**88**	P	**P**	**00 27 51.0**	**+1.9**
	comp=Z,7.5nm,1.2s,baz=202,slow=3.6,SNR=9.5						
LPAZ	**La Paz**	**68.69**	**88**	P	**P**	**00 27 48.1**	**-1.1**
LPAZ				IAmb	IAmb	00 27 57.0	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**69.14**	**265**	P	**P**	**00 27 50.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=146,slow=5.7,SNR=6.8						
WRA				LR	LR	00 56 13.3	
	comp=Z,241nm,18.4s,baz=145,slow=34						
FITZ	**Fitzroy Crossi**	**75.45**	**259**	P	**P**	**00 28 29.7**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=190,slow=6.1,SNR=4.0						
FITZ	**Fitzroy Crossi**	**75.45**	**259**	P	**P**	**00 28 29.8**	**+0.9**
FITZ				IAmb	IAmb	00 28 55.6	
	comp=Z,20nm,1.6s						
PSA00	**Pilbara Seismi**	**75.78**	**253**	P	**P**	**00 28 30.5**	**-0.3**
PSA00				IAmb	IAmb	00 28 41.9	
	comp=Z,25nm,1.9s						
BDFB	**Brasilia**	**80.41**	**104**	LR	LR	01 00 48.4	
	comp=Z,911nm,18.8s,baz=208,slow=33						
ROSC	**El Rosal**	**82.77**	**70**	LR	LR	00 59 49.4	
	comp=Z,640nm,19.6s,baz=218,slow=31						
APG	**El Apazote**	**83.68**	**51**	LR	LR	00 58 16.0	
	comp=Z,503nm,21.6s,baz=145,slow=30						
TGUH	**Tegucigalpa,Un**	**84.28**	**55**	IAMs_20	IAMs_20	00 57 50.4	
	comp=Z,708nm,19.0s						
TXAR	**Lajitas Array**	**91.69**	**34**	LR	LR	01 03 14.6	
	comp=Z,130nm,19.4s,baz=0.0,slow=30						
BOSA	**Boshof**	**95.15**	**170**	LR	LR	01 10 59.4	
	comp=Z,441nm,18.1s,baz=192,slow=34						
NVAR	**Mina Array

SKT	**Skwentna**	**117.86**	**356**	IAMs_20	IAMs_20	01 16 45.2		
	comp=Z,485nm,20.0s							
CUT	**Chulitna**	**118.24**	**357**	IAMs_20	IAMs_20	01 13 54.3		
	comp=Z,486nm,22.0s							
PET	**Petropavlovsk**	**118.53**	**325**	IAMs_20	IAMs_20	01 14 55.5		
	comp=Z,474nm,22.0s							
L27K	**Beaver Creek,**	**118.80**	**1**	IAMs_20	IAMs_20	01 17 50.1		
	comp=Z,330nm,19.0s							
RND	**Reindeer**	**119.20**	**357**	IAMs_20	IAMs_20	01 17 20.7		
	comp=Z,456nm,21.0s							
TRF	**Thorofare Moun**	**119.29**	**357**	IAMs_20	IAMs_20	01 16 16.9		
	comp=Z,414nm,20.0s							
KTH	**Kantishna Hill**	**119.41**	**356**	IAMs_20	IAMs_20	01 15 09.2		
	comp=Z,559nm,22.0s							
MCK	**McKinley**	**119.53**	**357**	IAMs_20	IAMs_20	01 18 57.4		
	comp=Z,375nm,20.0s							
NJ2	**Nanjing**	**119.83**	**284**	*e*PKP	**PKiKP**	**00 35 35.0**	**+0.3**	
BPAW	**Bear Paw Mtn.**	**119.96**	**356**	IAMs_20	IAMs_20	01 15 22.8		
	comp=Z,423nm,22.0s							
BWN	**Browne**	**119.98**	**357**	IAMs_20	IAMs_20	01 16 15.3		
	comp=Z,490nm,22.0s							
HDA	**Harding Lake**	**120.17**	**358**	IAMs_20	IAMs_20	01 15 27.3		
	comp=Z,434nm,21.0s							
WRH	**Wood River Hil**	**120.25**	**358**	IAMs_20	IAMs_20	01 16 43.5		
	comp=Z,329nm,20.0s							
NEA2	**Nenana**	**120.40**	**357**	IAMs_20	IAMs_20	01 20 02.3		
	comp=Z,320nm,19.0s							
CCB	**Clear Creek Bu**	**120.42**	**358**	IAMs_20	IAMs_20	01 16 17.9		
	comp=Z,373nm,21.0s							
ILAR	**Eielson Array**	**120.53**	**359**	PKP	**PKiKP**	**00 35 36.7**	**+1.6**	
	comp=Z,1.9nm,0.9s,baz=231,slow=2.2,SNR=5.1							
COLA	**College**	**120.65**	**358**	IAMs_20	IAMs_20	01 16 25.0		
	comp=Z,369nm,22.0s							
TCOL	**CIGO, UAF Yank**	**120.65**	**358**	IAMs_20	IAMs_20	01 23 58.7		
	comp=Z,490nm,21.0s							
MDM	**Murphy Dome**	**120.74**	**358**	IAMs_20	IAMs_20	01 18 28.5		
	comp=Z,286nm,20.0s							
MLY	**Manley**	**120.88**	**357**	IAMs_20	IAMs_20	01 15 52.2		
	comp=Z,352nm,22.0s							
POKR	**Poker Plat Res**	**120.89**	**358**	IAMs_20	IAMs_20	01 18 15.2		
	comp=Z,368nm,20.0s							
I23K	**Minto, Yukon-K**	**120.96**	**357**	IAMs_20	IAMs_20	01 20 37.2		
	comp=Z,294nm,20.0s							
ANM	**Nome**	**121.43**	**349**	IAMs_20	IAMs_20	01 16 44.6		
	comp=Z,351nm,22.0s							
EPYK	**Eagle Plains**	**122.23**	**3**	IAMs_20	IAMs_20	01 17 05.8		
	comp=Z,563nm,22.0s							
TOLK	**Toolik Lake Re**	**124.47**	**357**	IAMs_20	IAMs_20	01 23 39.9		
	comp=Z,379nm,19.0s							
C36M	**Paulatuk**	**125.94**	**9**	IAMs_20	IAMs_20	01 21 58.6		
	comp=Z,334nm,20.0s							
MA2	**Magadan**	**126.42**	**325**	IAMs_20	IAMs_20	01 22 49.0		
	comp=Z,328nm,20.0s							
HHC	**Hu-ho-hao-te**	**130.27**	**286**	*e*PKP	**PKPdf**	**00 35 54.3**	**-0.2**	
LZH	**Lanzhou**	**131.13**	**276**	*e*PKP	**PKPdf**	**00 35 55.8**	**-0.6**	
WMQ	**Urumqi**	**145.44**	**271**	*e*PKPbc	**PKPab**	**00 36 22.4**	**0.0**	
WMQ				L	L			
	comp=Z,2μm,16.3s							
WMQ				L	L			
	comp=Z,1μm,15.7s							
WMQ				L	L			
	comp=Z,2μm,20.5s							
SUMG	**Summit**	**146.55**	**32**	*i* P	**PKiKP**	**00 36 31.4**	**+3.5**	
SUMG				IAmb	IAmb	00 36 34.0		
	comp=Z,4.6nm,0.9s							
ESDC	**Sonseca Array**	**149.05**	**105**	PKPbc	**PKiKP**	**00 36 33.5**	**-0.2**	
	comp=Z,1.6nm,0.9s,baz=209,slow=1.2,SNR=7.2							
MKAR	**Makanchi Array**	**150.28**	**272**	PKPbc	**PKiKP**	**00 36 36.7**	**+0.7**	
	comp=Z,3.9nm,0.9s,baz=131,slow=3.7,SNR=12							
MKAR	**Makanchi Array**	**150.28**	**272**		**PKiKP**	**00 36 38.0**	**+2.1**	
ZALV	**Zalesovo Beam**	**152.45**	**286**	PKPbc	**PKiKP**	**00 36 41.3**	**+1.2**	
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=1.2							
KURBB	**Kurchatov Arra**	**154.42**	**276**	PKPbc	**PKiKP**	**00 36 46.2**	**+1.9**	
	comp=Z,0.5nm,0.7s,baz=124,slow=2.7,SNR=1.9							
BRTR	**Keskin Array B**	**163.57**	**173**	PKPab	**PKPab**	**00 37 40.2**	**+1.4**	
	comp=Z,0.4nm,0.6s,baz=180,slow=3.6,SNR=1.6							
AKASG	**Malin Array Be**	**173.23**	**140**	PKPab	**PKPab**	**00 38 21.0**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=213,slow=4.3,SNR=1.4							

*IDC **09** 00:24:22.4±0.8,26°.08N×125°.41E,h0km,mb3.7/11, mb1 3.8/14,mb1mx3.7/39,mbtmp3.7/14,ML3.2/3,MS3.2/8, Ms1 3.2/8,ms1mx3.1/43,Error ellipse: s-maj=23.0km s-min=16.8km az=75.0*

*JMA **09** 00:24:22.0±0.4,26°.19N×125°.47E,h7km±5km,MS3.*

*NIED **09** 00:24:22.1,26°.19N×125°.47E,h7km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr=1.20; Mθθ1.34; Mφφ-0.14; Mrθ-0.09; Mθφ0.51; Mφr0.78; Fault plane solution: M0 1.58000×10^{15} NP1: φs226.00000°,δ55.00000°,λ-127.00000°. NP2: φs99.00000°,δ49.00000°,λ-49.00000°.*

ISC 09 00:24:23.5±2.2,26°.09N±0°.06×125°.55E±0°.07,h8km±15km, n31,σ0°.94/33,mb3.8/11,MS3.2/6,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.13**	**78**	P	**Pb**	**00 24 44.2**	**-1.2**
JIKM	**Ikemajima**	**1.19**	**193**	P	**Pb**	**00 24 45.9**	**-0.4**
JIKM				eS	Sn	00 25 02.4	-0.4
JIRB	**Irabujima**	**1.30**	**195**	P	**Pn**	**00 24 47.2**	**-0.7**
JIRB				eS	Sn	00 25 05.2	-0.2
JOGS	**Gusukube**	**1.33**	**186**	P	**Pn**	**00 24 48.3**	**0.0**
JOGS				eS	**Sg**	**00 25 07.0**	**+0.8**
JMJ2	**Miyako jima3**	**1.35**	**189**	P	**Pn**	**00 24 48.7**	**0.0**
JMJ2				eS	**Sg**	**00 25 07.5**	**+0.4**
JAGN	**Aguni-jima**	**1.60**	**71**	P	**Pn**	**00 24 51.4**	**-0.6**
JTJ	**Tarama**	**1.63**	**208**	P	**Pn**	**00 24 52.4**	**-0.1**
JISG	**Ishigakijimahi**	**1.87**	**217**	S	**Sn**	**00 25 20.0**	**+0.5**
JIJ	**Ishigaki jima**	**2.14**	**217**	P	**Pn**	**00 24 59.5**	**0.0**
JNTH	**Nagotoyohara**	**2.26**	**78**	P	**Pn**	**00 25 01.3**	**+0.2**
JIH	**Iheya**	**2.36**	**66**	P	**Pn**	**00 25 03.5**	**+1.0**
JOW	**Kunigami**	**2.55**	**72**	Pn	**Pn**	**00 25 06.2**	**+1.0**
	14nm,0.3s,baz=268,slow=7.3,SNR=16						
JOW				Sn	**Sb**	**00 25 40.4**	**-0.6**
	11nm,0.3s,baz=131,slow=20,SNR=7.0						
JOW	**Kunigami**	**2.55**	**72**	P	**Pn**	**00 25 06.0**	**+0.8**
JYRO	**Yoronjima**	**2.76**	**70**	P	**Pn**	**00 25 08.2**	**+0.2**
KSRS	**Korea Array**	**11.51**	**9**	Pn	**Pn**	**00 27 08.7**	**+0.5**
	0.3nm,0.3s,baz=195,slow=13,SNR=1.4						
KSRS				LR	LR	00 31 45.3	
	comp=Z,138nm,18.7s,baz=194,slow=38						
MJAR	**Matsushiro Arr**	**15.01**	**43**	LR	LR	00 34 07.6	
	comp=Z,66nm,19.2s,baz=260,slow=39						
USRK	**Ussuriysk Ar.**	**18.81**	**14**	P	**Pn**	**00 28 45.2**	**+1.2**
	baz=209,slow=8.0,SNR=4.7						
GUMO	**Guam**	**21.98**	**121**	LR	LR	00 35 55.3	
	comp=Z,44nm,20.4s,baz=83,slow=31						
ASAJ	**Asahikawa**	**22.68**	**33**	LR	LR	00 39 17.3	
	comp=Z,32nm,18.6s,baz=153,slow=39						
KLR	**Kul'dur**	**23.60**	**10**	P	**P**	**00 29 34.8**	**+0.1**
	1.4nm,0.9s,baz=193,slow=14,SNR=3.0						
KLR				LR	LR	00 38 28.2	
	comp=Z,67nm,19.8s,baz=195,slow=36						
SONM	**Songino Array**	**26.43**	**330**	P	**P**	**00 30 01.2**	**+0.4**
	0.3nm,0.3s,baz=128,slow=9.5,SNR=2.4						
SONM				LR	LR	00 41 42.2	
	comp=Z,74nm,19.9s,baz=123,slow=39						
MKAR	**Makanchi Array**	**39.85**	**313**	P	**P**	**00 31 56.1**	**-1.3**
	1.0nm,0.8s,baz=97,slow=9.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**40.93**	**324**	P	**P**	**00 32 04.4**	**-1.8**
	0.8nm,0.5s,baz=120,slow=5.8,SNR=2.4						
ZALV				LR	LR	00 48 48.2	
	comp=Z,34nm,18.8s,baz=186,slow=36						
KURBB	**Kurchatov Arra**	**43.31**	**317**	P	**P**	**00 32 24.2**	**-1.5**
	1.1nm,0.6s,baz=108,slow=9.2,SNR=4.9						
FITZ	**Fitzroy Crossi**	**43.92**	**180**	P	**P**	**00 32 31.2**	**+0.3**
	2.7nm,0.8s,baz=17,slow=6.9,SNR=2.4						
WRA	**Warramunga Ar**	**46.54**	**169**	P	**P**	**00 32 50.0**	**-1.7**
	1.1nm,0.9s,baz=351,slow=8.5,SNR=3.8						
NRIK	**Noril'sk**	**48.67**	**343**	P	**P**	**00 33 07.2**	**-0.6**
	1.0nm,0.6s,baz=138,slow=12,SNR=1.9						
NRIK				LR	LR	00 54 59.8	
	comp=Z,48nm,19.8s,baz=142,slow=38						
ASAR	**Alice Springs**	**50.12**	**170**	P	**P**	**00 33 20.7**	**+1.4**
	0.6nm,0.6s,baz=355,slow=7.1,SNR=3.5						
AKASG	**Malin Array Be**	**74.07**	**319**	P	**P**	**00 36 00.6**	**+0.6**
	0.5nm,0.5s,baz=59,slow=5.5,SNR=1.5						
YKA	**Yellowknife Ar**	**79.66**	**24**	P	**P**	**00 36 31.4**	**+0.2**
	1.0nm,0.7s,baz=293,slow=4.6,SNR=1.8						
DBIC	**Dimbokro**	**121.91**	**297**	PKP	**PKiKP**	**00 43 21.2**	**+1.9**
	5.1nm,0.8s,baz=112,slow=5.4,SNR=3.9						

*TUL **09** 00:46:45.8±1.2,36°.76N±0°.01×97°.64W±0°.02,h6km±1km, ML2.8,mb_Lg2.7/53(NEIC),Error ellipse: s-maj=1.8km s-min=1.6km az=74.0*

NEIC 09 00:46:46.1±0.7,36°.739N±0°.007×97°.63W±0°.01,h4km±7km, Error ellipse: s-maj=1.8km s-min=0.9km az=66.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.22**	**301**	Pg	Pg	00 46 50.2	-0.1
GC02				Sg	Sg	00 46 53.3	+0.1
KAN13	**South Haven SW**	**0.30**	**24**	Pg	Pg	00 46 51.8	-0.1
KAN13				Sg	Sg	00 46 55.9	+0.1
BLOK	**Blackwell**	**0.33**	**86**		Pg	00 46 52.8	+0.3
BLOK				Sg	Sg	00 46 57.4	+0.5
CROK	**Carrier**	**0.37**	**231**		Pg	00 46 53.4	+0.2
CROK				Sg	Sg	00 46 58.8	+0.8
KAN09	**Caldwell North**	**0.40**	**1**	Pg	Pg	00 46 53.6	-0.2
KAN09				Sg	Sg	00 46 59.0	0.0
OK032	**Salt Plains WL**	**0.47**	**278**		Pg	00 46 55.0	-0.2
OK032				Sg	Sg	00 47 01.6	+0.3
KAN10	**Anthony SW Sta**	**0.54**	**316**	Pg	Pg	00 46 56.1	-0.3
KAN10				Sg	Sg	00 47 03.4	+0.1
KAN08	**Anthony NE Sta**	**0.56**	**331**	Pg	Pg	00 46 56.5	-0.3
KAN08				Sg	Sg	00 47 04.2	+0.2
KAN16	**Harper SW Stat**	**0.60**	**324**		Pg	00 46 57.1	-0.5
KAN16				Sg	Sg	00 47 05.3	0.0
KAN12	**Harper NE Stat**	**0.63**	**332**	Pg	Pg	00 46 57.7	-0.5
KAN12				Sg	Sg	00 47 06.5	+0.1
T35A	**Sooner Cattle**	**0.91**	**79**		Pg	00 47 03.3	-0.3
T35A				Sg	Sg	00 47 15.3	-0.1
QUOK	**Quay**	**0.93**	**127**		Pg	00 47 03.9	-0.1
QUOK				Sg	Sg	00 47 16.4	+0.3
OK029	**Liberty Lake**	**0.95**	**171**		Pg	00 47 04.2	-0.1
OK029				Sg	Sg	00 47 17.1	+0.5
OK031	**S. Brethren Rd**	**1.01**	**141**		Pg	00 47 05.3	-0.1
OK031				Sg	Sg	00 47 18.7	+0.1
OK030	**Cody Creek RV**	**1.06**	**140**		Pg	00 47 06.2	-0.1
BCOK	**Bluff Creek, N**	**1.08**	**179**		Pg	00 47 06.5	-0.3
U32A	**Winter Ranch,**	**1.16**	**252**		Pg	00 47 22.8	-0.7
OK025	**Westminster Rd**	**1.18**	**168**		Pg	00 47 08.6	-0.1
OKCFA	**Oklahoma City**	**1.33**	**174**		Pn	00 47 10.7	-0.8
OKCSW	**OKLAHOMA CITY**	**1.34**	**173**		Pn	00 47 11.1	-0.5
FNO	**Franklin**	**1.49**	**173**		Pn	00 47 13.7	0.0
R32A	**Long Quarter,**	**1.89**	**333**		Pn	00 47 19.9	+0.7
X34A	**Smith Ranch, M**	**2.14**	**185**	Pn	Pn	00 47 23.1	+0.5
WMOK	**Wichita Mounta**	**2.21**	**205**		Pn	00 47 23.9	+0.3
KSU1	**Kansas State U**	**2.49**	**19**		Pn	00 47 27.2	-0.2
U38A	**Gravette**	**2.63**	**96**		Pn	00 47 29.9	+0.6
CBKS	**Cedar Bluff**	**2.66**	**322**	Pn	Pn	00 47 30.5	+0.7
LOOK	**Love County**	**2.77**	**172**		Pn	00 47 30.8	-0.4
X37A	**Clayton**	**2.83**	**139**	IAmb_Lg		00 48 21.3	
	comp=Z,17nm,0.7s						
HHAR	**Hobbs**	**3.01**	**98**		Pn	00 47 34.5	0.0
Z35A	**Perchaven, San**	**3.42**	**175**	Pn	Pn	00 47 40.3	+0.2
W39A	**Magazine**	**3.48**	**115**	IAmb_Lg		00 48 41.5	
	comp=Z,24nm,0.7s						
S39A	**Bolivar**	**3.57**	**73**	IAmb_Lg		00 48 42.0	
	comp=Z,26nm,1.1s						
MIAR	**Mount Ida**	**3.96**	**122**	IAmb_Lg		00 49 02.6	
	comp=Z,18nm,0.9s						
MGMO	**Mountain Grove**	**4.31**	**83**	IAmb_Lg		00 49 04.6	
	comp=Z,14nm,0.7s						
P38A	**Dawn**	**4.33**	**47**	IAmb_Lg		00 49 05.2	
	comp=Z,20nm,0.8s						
N35A	**Tabor**	**4.40**	**20**	IAmb_Lg		00 49 08.6	
	comp=Z,28nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.53**	**99**	IAmb_Lg		00 49 07.1	
	comp=Z,10nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.56**	**301**	IAmb_Lg		00 49 20.7	
	comp=Z,21nm,0.8s						
WHAR	**Wooly Hollow**	**4.56**	**107**	IAmb_Lg		00 49 16.1	
	comp=Z,13nm,1.0s						
WLAR	**White Oak Lake**	**4.79**	**128**	IAmb_Lg		00 49 23.7	
	comp=Z,11nm,0.7s						
P40A	**Paris**	**5.21**	**56**	IAmb_Lg		00 49 33.0	
	comp=Z,12nm,0.8s						
LCAR	**Lake Charles**	**5.26**	**95**	IAmb_Lg		00 49 36.1	
	comp=Z,13nm,1.2s						
L34A	**Svendsen Farm,**	**5.31**	**10**	IAmb_Lg		00 49 44.4	
	comp=Z,16nm,0.8s						
OGNE	**Ogallala**	**5.43**	**322**	IAmb_Lg		00 49 44.8	
	comp=Z,17nm,0.8s						
PBMO	**Poplar Bluff**	**5.78**	**87**	IAmb_Lg		00 49 52.8	
	comp=Z,10nm,0.7s						
FVM	**French Village**	**5.87**	**76**	IAmb_Lg		00 49 55.9	
	comp=Z,12nm,0.7s						
435B	**Jarrell**	**5.94**	**180**	IAmb_Lg		00 49 58.4	
	comp=Z,8.2nm,0.7s						
JCT	**Junction City**	**6.50**	**197**	IAmb_Lg		00 50 28.5	
	comp=Z,8.7nm,0.8s						
S44A	**Carbondale**	**6.75**	**79**	IAmb_Lg		00 50 23.5	
	comp=Z,12nm,0.7s						
L40A	**Anamosa**	**7.27**	**41**	IAmb_Lg		00 50 36.9	
	comp=Z,10nm,0.9s						
USIN	**University of**	**8.03**	**78**	IAmb_Lg		00 51 04.9	
	comp=Z,13nm,0.7s						
JFWS	**Jewell Farm**	**8.38**	**40**	IAmb_Lg		00 51 34.2	
	comp=Z,11nm,1.1s						
T47A	**Sharon Grove**	**8.44**	**85**	IAmb_Lg		00 51 26.8	
	comp=Z,7.4nm,1.0s						
RSSD	**Black Hills**	**8.84**	**328**	IAmb_Lg		00 51 30.9	
	comp=Z,7.5nm,1.2s						
SFIN	**Lafayette**	**9.01**	**63**	IAmb_Lg		00 51 34.9	
	comp=Z,10nm,0.9s						
K22A	**Casper**	**9.04**	**313**	IAmb_Lg		00 51 47.7	
	comp=Z,7.2nm,0.8s						

*IGQ **09** 00:50:41±3.4,3°.N±20°×9°.2W±2°.4,h27km*

*NEIC **09** 00:50:52.0±2.3,1°.90N±0°.08×91°.6W±0°.1,h10km±1km, mb4.4/24,Error ellipse: s-maj=19.1km s-min=13.3km az=257.0*

*IDC **09** 00:50:56.9±1.6,1°.20N×91°.22W,h0km,mb3.6/5,mb1 4.0/8, mb1mx3.8/30,mbtmp3.8/8,ML3.1/3,MS3.8/5,Ms1 3.8/5, ms1mx3.5/29,Error ellipse: s-maj=69.7km s-min=22.2km az=47.0*

ISC 09 00:50:51.5±0.7,1°.90N±0°.08×91°.61W±0°.09,h10km,n77, σ1s79/57,mb4.1/11,MS3.8/5,Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALCE	**Alcedo, Punta**	**2.35**	**189**	P	**Pn**	**00 51 28.0**	**-2.3**
FER1	**Fernandina1, P**	**2.38**	**176**	P	Pn	00 51 27.0	-3.6
VCH1	**Volcn Chico**	**2.72**	**169**	P	**Pn**	**00 51 35.0**	**-0.4**
PAYG	**Puerto Ayora**	**2.88**	**153**	Pn	**Pn**	**00 51 35.9**	**-1.6**
PAYG	**Puerto Ayora**	**2.88**	**153**	*e*P	**Pn**	**00 51 35.7**	**-1.8**
CVTR	**Volcan Turrial**	**11.22**	**44**	Pn	**Pn**	**00 53 31.3**	**-1.2**
COVE	**Coope Vega, Sa**	**11.31**	**39**	Pn	**Pn**	**00 53 33.4**	**+0.1**
MGAN	**Managua**	**11.48**	**27**	Pn	**Pn**	**00 53 33.6**	**-2.0**
CNGN	**Cerro Negro**	**11.60**	**25**	Pn	**Pn**	**00 53 35.0**	**-2.2**
FLF1	**Flavio Alfaro-**	**11.98**	**101**	P	**Pn**	**00 53 47.0**	**+4.5**
MATN	**Matagalpa**	**12.32**	**27**	Pn	**Pn**	**00 53 47.1**	**-0.1**
BV15	**Puerto Quito-O**	**12.51**	**98**	P	**Pn**	**00 53 49.0**	**-0.7**
ARNL	**Arenillas**	**12.74**	**115**	P	**Pn**	**00 53 52.0**	**-0.9**
PAC1	**Pacto, Paraso**	**12.92**	**97**	P	**Pn**	**00 53 54.0**	**-1.4**
COHC	**Cochancay**	**13.09**	**109**	P	**Pn**	**00 53 58.0**	**+0.3**
CHSH	**Refugio Sur-Vo**	**13.18**	**105**	P	**Pn**	**00 53 59.0**	**-0.4**
MCRA	**Macar, Loja**	**13.21**	**118**	P	**Pn**	**00 53 59.0**	**-0.3**
OTAV	**Otavalo**	**13.26**	**97**	Pn	**Pn**	**00 53 58.6**	**-1.8**
TAMH	**Tambohuasha Ch**	**13.28**	**105**	P	**Pn**	**00 53 59.0**	**-1.6**
LNGL	**El Angel-Carch**	**13.65**	**95**	P	Pn	00 54 01.0	-4.8
CHL2	**Volcɲn Chiles**	**13.73**	**94**	P	**Pn**	**00 54 04.0**	**-2.9**
TULM	**Tulcn-Chalpat**	**13.87**	**95**	P	**Pn**	**00 54 06.0**	**-2.7**
BOSC	**San Juan Bosco**	**14.04**	**111**	P	**Pn**	**00 54 14.0**	**+3.2**
CMIG	**Matias Romero**	**15.43**	**348**	Pn	P	00 54 47.1	+13
	0.1nm,0.3s,baz=168,slow=9.3,SNR=1.8						
ATAH	**Atahualpa**	**15.95**	**124**	Pn	**Pn**	**00 54 35.1**	**-1.5**
	0.2nm,0.3s,baz=320,slow=9.7,SNR=2.9						
FLOC	**Florencia**	**15.95**	**91**		**Pn**	**00 54 34.7**	**-1.6**
FLOC	**Florencia**	**15.95**	**91**	*e*P	**Pn**	**00 54 33.8**	**-2.4**
CBOC	**Ciudad Bolivar**	**16.05**	**75**	*e*P	**Pn**	**00 54 35.9**	**+1.9**
ORTC	**Ortega, Tolima**	**16.46**	**83**	*e*P	**Pn**	**00 54 44.3**	**+1.5**
GUY2C	**Guyana, Caldas**	**16.55**	**78**	*e*P	**Pn**	**00 54 47.1**	**+0.3**
PTLC	**Puerto Leguiza**	**16.90**	**96**	P	Pn	00 54 42.0	-6.3
NORC	**Norcasia**	**17.09**	**77**	*e*P	**P**	**00 54 53.8**	**+1.3**
MOTC	**Monteria, Cord**	**17.28**	**66**	*e*P	**Pn**	**00 54 53.8**	**+0.8**
ROSC	**El Rosal**	**17.50**	**80**	P	**P**	**00 54 58.7**	**+1.2**
	0.4nm,0.3s,baz=284,slow=4.2,SNR=5.1						
ROSC	**El Rosal**	**17.50**	**80**	Pn	**Pn**	**00 54 55.5**	**-0.8**
VILC	**Villavicencio,**	**18.03**	**83**	*e*P	**P**	**00 55 04.7**	**+1.7**
SMLC	**San Martn de**	**18.75**	**68**	*e*P	**P**	**00 55 08.7**	**-2.1**
RUSC	**La Rusia**	**18.90**	**77**	P	**P**	**00 55 12.4**	**-0.6**
RUSC				IAmb	IAmb	00 55 20.5	
	comp=Z,16nm,1.1s						
RUSC	**La Rusia**	**18.90**	**77**	*e*P	**P**	**00 55 12.4**	**-0.6**
GUVC	**San Jose del G**	**18.98**	**88**	*e*P	**P**	**00 55 10.7**	**-2.7**
PTGC	**Puerto Gaitan,**	**19.58**	**83**	*e*P	**P**	**00 55 20.0**	**+0.1**
PAMC	**Pamplona, Colo**	**19.60**	**73**	*e*P	**Pn**	**00 55 23.3**	**+1.4**
NNA	**Nana**	**20.14**	**134**	LR	LR	01 01 23.1	
	comp=Z,302nm,20.4s,baz=301,slow=32						
SOCV	**Socops**	**21.61**	**72**	*e*P	**P**	**00 55 43.8**	**+1.9**
SDV	**Santo Domingo**	**22.00**	**71**	P	**P**	**00 55 47.5**	**+1.3**
SDV				IAmb	IAmb	00 56 07.0	
	comp=Z,18nm,0.6s						
TBTG	**Tabatinga, AM**	**22.52**	**106**	*e*P	**P**	**00 55 50.2**	**-1.4**
H06E1	**SOCORRO T-PHAS**	**25.29**	**313**	T	T	01 23 41.3	
	SNR=14						
SDDR	**Presa de Saban**	**26.16**	**48**	P	**P**	**00 56 26.0**	**-0.3**
SDDR				IAmb	IAmb	00 56 36.8	
	comp=Z,7.1nm,1.1s						
KVTX	**Kingsville**	**26.20**	**347**	P	**P**	**00 56 24.8**	**-1.6**
LPIG	**La Paz**	**28.54**	**322**	LR	LR	01 05 38.0	
	comp=Z,110nm,21.1s,baz=180,slow=30						
AOPR	**Arecibo Observ**	**29.35**	**55**	P	**P**	**00 56 53.5**	**-1.4**
LPAZ	**La Paz**	**29.40**	**129**	P	**P**	**00 56 56.7**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=297,slow=5.2,SNR=7.6						
LPAZ				LR	LR	01 07 52.4	
	comp=Z,282nm,21.2s,baz=322,slow=35						
LPAZ	**La Paz**	**29.40**	**129**	P	**P**	**00 56 55.6**	**-0.4**
LPAZ				IAmb	IAmb	00 56 58.7	
	comp=Z,4.8nm,1.1s						
JCT	**Junction City**	**29.46**	**346**	P	**P**	**00 56 55.9**	**+0.2**
JCT				IAmb	IAmb	00 57 08.2	
	comp=Z,2.9nm,0.7s						
PB16	**IPOC Station P**	**29.63**	**134**	P	**P**	**00 56 58.1**	**+0.2**
PB16				IAmb	IAmb	00 57 01.4	
	comp=Z,2.5nm,0.7s						
MTP	**Monte Pirata**	**30.21**	**56**	P	**P**	**00 57 03.8**	**+1.3**
Y45A	**Yeager Farm, C**	**31.86**	**3**	P	**P**	**00 57 16.4**	**-0.4**
Y45A				IAmb	IAmb	00 57 17.2	
	comp=Z,12nm,0.8s						
ANWB	**Willy Bob**	**33.22**	**60**	P	**P**	**00 57 27.1**	**-1.8**
FNO	**Franklin**	**33.62**	**351**	P	**P**	**00 57 32.1**	**-0.1**
AQDB	**Aquidauana**	**41.63**	**124**	P	**P**	**00 58 41.0**	**+0.8**
CPUP	**Villa Florida**	**43.40**	**133**	LR	LR	01 17 21.6	
	comp=Z,167nm,19.5s,baz=298,slow=37						
PDAR	**Pinedale Array**	**43.74**	**341**	P	P	00 59 10.1	+13
	comp=Z,0.1nm,0.3s,baz=154,slow=6.9,SNR=1.8						
NVAR	**Mina Array Bea**	**43.80**	**329**	P	P	00 59 10.7	+13
	comp=Z,0.5nm,0.9s,baz=157,slow=9.6,SNR=2.7						
E07A	**Sunnyside**	**50.85**	**335**	P	**P**	**00 59 53.2**	**+0.8**
E07A				IAmb	IAmb	00 59 55.5	
	comp=Z,8.1nm,1.0s						
BBB	**Bella Bella**	**58.63**	**335**	P	**P**	**01 00 49.0**	**+0.4**
PPTF	**Pamatai, Papee**	**60.27**	**249**	P	**P**	**01 01 00.3**	**-0.5**
PPT	**Papeete**	**60.27**	**249**	LR	LR	01 21 46.8	
	comp=Z,65nm,18.7s,baz=4.5,slow=31						
YKA	**Yellowknife Ar**	**62.85**	**348**	P	P	01 01 31.0	+14
	comp=Z,0.5nm,0.7s,baz=143,slow=7.3,SNR=2.1						
ILAR	**Eielson

plane solution: M≎9.87000×10¹⁶ NP1:φ≎227.00000°, δ81.00000°,λ-175.00000°. NP2:φ≎136.00000°, δ86.00000°,λ-9.00000°. Principal axes: T 10.3893, Plg3.0000°, Azm182.0000°; N -1.1476, Plg80.0000°, Azm291.0000°; P -9.2417, Plg9.0000°, Azm91.0000°;
ISC 09 01:09:02.8±0.6,**38°64N**±0°02-**23°37E**±0°02,**h11**km±3km,
n1032,σ1≎**84**/1144,**mb5.0**/242,**MS4.8**/79,**127C-313D**,
Fault plane solution: NP1:φ≎325.98947°,δ65.17238°,
λ-11.39466°. **NP2:**φ≎60.82653°,δ79.67066°,
λ-154.73492°. **Principal axes:** T Plg9.7947°, Azm191.2872°; N Plg62.8339°, Azm81.6295°; P Plg25.0681°, Azm285.9189°; **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.27**	**332**	P	**Pb**	**01 09 09.3**	**-0.4**
SMIA				S	**Sb**	**01 09 13.4**	**-0.8**
SMIA	**Simia**	**0.27**	**332**	P	**Pb**	**01 09 09.3**	**-0.4**
ATAL	**Atalanti**	**0.28**	**280**	P	**Pg**	**01 09 08.8**	**+0.4**
ATAL				S	**Sb**	**01 09 13.5**	**-1.0**
ATAL	**Atalanti**	**0.28**	**280**	P	**Pg**	**01 09 08.8**	**+0.4**
ATAL				S	**Sb**	**01 09 13.9**	**-0.6**
	234µm,1.0s						
LKR	**Lokris**	**0.29**	**271**	P	**Pg**	**01 09 08.9**	**+0.2**
LKR				S	**Sb**	**01 09 15.3**	**+0.5**
	205µm,0.3s						
VIL2	**Platees**	**0.44**	**190**	P	**Pg**	**01 09 11.9**	**+0.4**
VIL2				AML	AML	01 09 20.8	
VIL2				AML	AML	01 09 20.9	
VILL	**Villia**	**0.48**	**185**	P	**Pg**	**01 09 12.0**	**-0.2**
EREA	**Eretria**	**0.49**	**117**	P	**Pg**	**01 09 12.1**	**-0.3**
EREA				AML	AML	01 09 21.0	
EREA				AML	AML	01 09 24.4	
EREA	**Eretria**	**0.49**	**117**	P	**Pg**	**01 09 12.6**	**+0.1**
EREA				S	**Sb**	**01 09 20.0**	**-0.8**
	656µm,0.5s						
KYMI	**Kymi, Euboea I**	**0.57**	**91**	P	**Pg**	**01 09 13.3**	**-0.6**
KYMI				AML	AML	01 09 27.5	
KYMI				AML	AML	01 09 27.6	
KYMI	**Kymi, Euboea I**	**0.57**	**91**	P	**Pg**	**01 09 13.6**	**-0.3**
KYMI				S	**Sb**	**01 09 22.6**	**-0.4**
	187µm,1.1s						
NEO	**Neokhori**	**0.67**	**350**	P	**Pb**	**01 09 16.4**	**-0.2**
NEO	**Neokhori**	**0.67**	**350**	P	**Pb**	**01 09 16.5**	**-0.1**
NEO				S	**Sn**	**01 09 28.0**	**-0.8**
	479µm,0.4s						
DLFA	**Delphi**	**0.70**	**257**	P	**Pg**	**01 09 16.0**	**-0.4**
DLFA				AML	AML	01 09 31.2	
DLFA				AML	AML	01 09 31.3	
PTL	**Penteli**	**0.71**	**147**	P	**Pg**	**01 09 16.5**	**0.0**
DION	**Dionisos Attik**	**0.72**	**142**	P	**Pg**	**01 09 16.3**	**-0.4**
DION				S	**Sg**	**01 09 25.3**	**-0.8**
DION				AML	AML	01 09 29.3	
DION				AML	AML	01 09 29.4	
DION	**Dionisos Attik**	**0.72**	**142**	P	**Pg**	**01 09 16.7**	**0.0**
DION				S	**Sb**	**01 09 27.1**	**-0.1**
ATH	**Athens Observa**	**0.72**	**158**	P	**Pg**	**01 09 16.4**	**-0.4**
ATH				S	**Sg**	**01 09 26.4**	**+0.1**
ATH				AML	AML	01 09 29.0	
ATH				AML	AML	01 09 30.4	
ATH	**Athens Observa**	**0.72**	**158**	P	**Pg**	**01 09 16.8**	**0.0**
ATH				S	**Sn**	**01 09 29.6**	**-0.4**
	532µm,0.5s						
ATH	**Athens Observa**	**0.72**	**158**	P	**Pg**	**01 09 16.8**	**0.0**
ATH				S	**Sn**	**01 09 29.6**	**-0.4**
LOUT	**Loutraki**	**0.72**	**205**	P	**Pg**	**01 09 16.4**	**-0.4**
XOR	**Xorichti**	**0.73**	**349**	P	**Pb**	**01 09 17.6**	**0.0**
XOR				S	**Sb**	**01 09 28.6**	**+0.9**
	209µm,1.0s						
ATHU	**Athens Univers**	**0.75**	**154**	P	**Pg**	**01 09 16.7**	**-0.6**
ATHU	**Athens Univers**	**0.75**	**154**	P	**Pg**	**01 09 17.0**	**-0.3**
VLY	**Voula,Athens**	**0.86**	**157**	P	**Pg**	**01 09 18.8**	**-0.5**
VLY				S	**Sg**	**01 09 30.1**	**-0.4**
	338µm,0.7s						
AGG	**Agios Georgios**	**0.90**	**295**	P	**Pg**	**01 09 19.9**	**-0.2**
AGG				AML	AML	01 09 38.4	
AGG				AML	AML	01 09 39.2	
AGG	**Agios Georgios**	**0.90**	**295**	P	**Pb**	**01 09 20.4**	**0.0**
AGG	**Agios Georgios**	**0.90**	**295**	P	**Pg**	**01 09 19.9**	**-0.2**
AGG						01 09 33.7	
AGG	**Agios Georgios**	**0.90**	**295**	PG	**Pg**	**01 09 20.0**	**0.0**
AGG				SG	**Sn**	**01 09 33.9**	**-0.4**
AGG	**Agios Georgios**	**0.90**	**295**	Pg	**Pg**	**01 09 19.9**	**-0.2**
AGG				Sg	**Sn**	**01 09 33.7**	**-0.7**
SKY	**Skiros Island**	**0.95**	**75**	P	**Pg**	**01 09 20.6**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.03**	**291**	P	**Pn**	**01 09 23.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.13**	**238**	P	**Pb**	**01 09 24.0**	**-0.4**
KLV	**Kalavryta, Ach**	**1.13**	**238**	P	**Pn**	**01 09 25.4**	**+0.8**
KLV				S	**Sn**	**01 09 42.1**	**+1.9**
	71µm,0.7s						
EVR	**Evrytania**	**1.25**	**283**	P	**Pn**	**01 09 26.2**	**-0.1**
EVR	**Evrytania**	**1.25**	**283**	P	**Pg**	**01 09 27.6**	**+0.8**
EVR				S	**Sn**	**01 09 44.1**	**+0.9**
	26µm,0.8s						
KRND	**KRANIDI**	**1.27**	**188**	P	**Pb**	**01 09 26.7**	**0.0**
KRND				S	**Sg**	**01 09 45.8**	**+2.1**
	184µm,0.7s						
PAIG	**Paliouri**	**1.30**	**11**	P	**Pn**	**01 09 27.0**	**+0.1**
THL	**Klokotos Trika**	**1.40**	**312**	P	**Pb**	**01 09 29.0**	**+0.1**
PVO	**Paravola**	**1.44**	**269**	P	**Pb**	**01 09 29.9**	**+0.2**
LIT	**Litokhoron**	**1.61**	**335**	P	**Pn**	**01 09 31.6**	**+0.5**
LIT	**Litokhoron**	**1.61**	**335**	P	**Pn**	**01 09 31.4**	**+0.3**
LIT						01 09 52.0	
LIT	**Litokhoron**	**1.61**	**335**		**Pn**	**01 09 31.4**	**+0.3**
LIT				Sn	**Sn**	**01 09 52.0**	**+0.1**
RLS	**Riolos of Patr**	**1.61**	**249**	P	**Pb**	**01 09 32.8**	**+0.4**
OUR	**Ouranopolis**	**1.75**	**15**	P	**Pn**	**01 09 32.6**	**-0.5**
OUR	**Ouranopolis**	**1.75**	**15**	PN	**Pn**	**01 09 33.3**	**+0.2**
OUR				SN	**Sn**	**01 09 54.8**	**-0.6**
ITM	**Ithomi**	**1.85**	**218**	P	**Pb**	**01 09 36.2**	**-0.5**
ITM	**Ithomi**	**1.85**	**218**	P	**Pb**	**01 09 36.8**	**+0.1**
ITM	**Ithomi**	**1.85**	**218**	PN	**Pb**	**01 09 35.9**	**-0.8**
ITM	**Ithomi**	**1.85**	**218**		**Pn**	**01 09 35.5**	**+1.0**
ITM				Sn	**Sb**	**01 09 59.4**	**-0.5**
LIA	**Limnos Island**	**1.88**	**48**	P	**Pn**	**01 09 34.5**	**-0.4**
VLI	**Veliai**	**1.95**	**190**	P	**Pn**	**01 09 36.1**	**+0.2**
HORT	**Hortiatis**	**1.96**	**354**	P	**Pn**	**01 09 36.8**	**+0.7**
HORT				S	**Sn**	**01 10 01.4**	**+0.7**
	38µm,0.5s						
HORT	**Hortiatis**	**1.96**	**354**	PN	**Pn**	**01 09 36.1**	**0.0**
THE	**Thessaloniki**	**2.01**	**351**	P	**Pn**	**01 09 36.9**	**+0.3**
THE	**Thessaloniki**	**2.01**	**351**	P	**Pn**	**01 09 36.6**	**0.0**
	baz=343						
THE				S	**Sn**	**01 10 01.1**	**-0.6**
	baz=343						
SIGR	**SIGRI**	**2.02**	**73**	P	**Pn**	**01 09 36.7**	**-0.1**
SIGR	**SIGRI**	**2.02**	**73**	PN	**Pn**	**01 09 36.1**	**-0.7**
MHLO	**Agia Marina, M**	**2.12**	**157**	P	**Pn**	**01 09 38.5**	**+0.4**
CHOS	**Chios island**	**2.12**	**96**	P	**Pn**	**01 09 38.6**	**+0.3**
CHOS				S	**Sn**	**01 10 05.5**	**+0.8**
	27µm,0.8s						
CHOS	**Chios island**	**2.12**	**96**	PN	**Pn**	**01 09 38.1**	**-0.2**
LKD2	**Lefkada island**	**2.13**	**275**	P	**Pb**	**01 09 41.1**	**-0.3**
	baz=274						
LKD2				S	**Sg**	**01 10 10.7**	**-0.4**
	baz=274						
SOH	**Sokhos**	**2.17**	**360**	P	**Pn**	**01 09 39.8**	**+0.8**
KOCA	**Canakkale, Ayv**	**2.32**	**67**	*i* P	**Pn**	**01 09 40.5**	**-0.4**
KOCA				*i* S	**Sn**	**01 10 07.7**	**-1.7**
CESE	**eme**	**2.32**	**97**	PN	**Pn**	**01 09 40.4**	**-0.5**
APE	**Apeiranthos**	**2.32**	**132**	P	**Pn**	**01 09 41.0**	**0.0**
APE	**Apeiranthos**	**2.32**	**132**	⇑P	**Pn**	**01 09 40.8**	**-0.2**
APE				⇓S	**Sn**	**01 10 07.1**	**-2.5**
APE	**Apeiranthos**	**2.32**	**132**	P	**Pn**	**01 09 41.0**	**0.0**
APE				S	**Sn**	**01 10 07.1**	**-2.5**
APE	**Apeiranthos**	**2.32**	**132**	PN	**Pn**	**01 09 40.9**	**0.0**
KYTH	**Kythira Island**	**2.40**	**186**	PN	**Pn**	**01 09 41.9**	**-0.1**
BOZC	**Bozcaada**	**2.40**	**59**	*i* P	**Pn**	**01 09 41.8**	**-0.3**
BOZC				*i* S	**Sn**	**01 10 09.2**	**-2.3**
BOZC	**Bozcaada**	**2.40**	**59**	PN	**Pn**	**01 09 41.6**	**-0.4**
GRG	**Griva**	**2.43**	**342**	PN	**Pn**	**01 09 42.6**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**2.49**	**98**	*i* P	**Pn**	**01 09 43.5**	**+0.2**
ZEYE				*i* S	**Sn**	**01 10 08.6**	**-5.1**
GADA	**Gvkgeada**	**2.50**	**51**	PN	**Pn**	**01 09 42.7**	**-0.6**
KRBN	**Karaburun**	**2.50**	**90**	PN	**Pn**	**01 09 42.2**	**-1.1**
GOKA	**anakkale-Gk**	**2.50**	**51**	*i* P	**Pn**	**01 09 43.2**	**-0.2**
KAVA	**Kavala**	**2.51**	**20**	P	**Pn**	**01 09 43.2**	**-0.3**
IGT	**Igoumenitsa**	**2.52**	**292**	P	**Pb**	**01 09 46.7**	**-1.4**
	baz=289						
IGT				S	**Sb**	**01 10 19.8**	**+0.6**
	baz=289						
KNT	**Kendrikon**	**2.54**	**352**	PN	**Pn**	**01 09 45.0**	**+1.0**
URLA	**Izmir**	**2.55**	**95**	*i* P	**Pn**	**01 09 43.3**	**-0.7**
URLA				*i* S	**Sn**	**01 10 15.3**	**+0.2**
URLA	**Izmir**	**2.55**	**95**	PN	**Pn**	**01 09 43.4**	**-0.7**
EZN	**Ezine**	**2.58**	**62**	P	**Pn**	**01 09 43.8**	**-0.7**
EZN	**Ezine**	**2.58**	**62**	PN	**Pn**	**01 09 43.0**	**-1.5**
LSK	**Leskovik**	**2.62**	**306**	P	**Pn**	**01 09 47.3**	**+2.2**
	baz=302						
LSK				S	**Sb**	**01 10 22.1**	**+0.1**
	baz=302						
LSK				AMP			
	comp=E,60nm,0.7s,baz=302						
FOCM	**Foa**	**2.63**	**87**	PN	**Pn**	**01 09 44.9**	**-0.3**
AYVA	**Ayvalik**	**2.67**	**75**	*i* P	**Pn**	**01 09 45.7**	**0.0**
AYVA				*i* S	**Sn**	**01 10 17.9**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**2.70**	**65**	*i* P	**Pn**	**01 09 45.8**	**-0.3**
BAYC				*i* S	**Sn**	**01 10 12.1**	**-6.8**
CAND	**Candarli**	**2.70**	**82**	PN	**Pn**	**01 09 45.2**	**-0.9**
THT2	**Imerovigli**	**2.74**	**143**	PN	**Pn**	**01 09 46.8**	**+0.1**
DKL	**Dikili**	**2.79**	**80**	PN	**Pn**	**01 09 47.2**	**-0.2**
KBN	**Korca**	**2.81**	**316**	P	**Pn**	**01 09 49.3**	**+1.6**
KBN				S	**Sb**	**01 10 25.8**	**-1.6**
KBN	**Korca**	**2.81**	**316**	P	**Pn**	**01 09 49.3**	**+1.6**
	baz=311						
KBN				S	**Sb**	**01 10 25.9**	**-1.6**
	baz=311						
KBN				AMP			
	comp=N,63nm,1.3s,baz=311						
SANT	**Santorini**	**2.81**	**143**	⇑P	**Pn**	**01 09 47.7**	**0.0**
SANT	**Santorini**	**2.81**	**143**	PN	**Pn**	**01 09 47.9**	**+0.2**
SANT	**Santorini**	**2.81**	**143**	Pn	**Pn**	**01 09 48.0**	**+0.3**
SANT				Sn	**Sn**	**01 10 23.5**	**+1.9**
DGB	**zmir**	**2.83**	**101**	*i* P	**Pn**	**01 09 48.1**	**+0.3**
SRN	**Sarande**	**2.89**	**296**	P	**Pb**	**01 09 51.7**	**-2.7**
	baz=294						
SRN				S	**Sb**	**01 10 30.1**	**+0.4**
	baz=294						
SRN				AMP			
	comp=N,19nm,0.7s,baz=294						
ZEDA	**zmir-Bergama**	**2.92**	**83**	*i* P	**Pn**	**01 09 49.3**	**+0.2**
ZEDA				*i* S	**Sb**	**01 10 27.7**	**-2.7**
GELI	**Tayfur-Gelibol**	**2.97**	**53**	PN	**Pn**	**01 09 49.9**	**0.0**
CAVK	**Edirne/Enez-Ca**	**2.97**	**46**	*i* P	**Pn**	**01 09 49.2**	**-0.7**
CAVK				*i* S	**Sn**	**01 10 27.1**	**+1.6**
ENEZ	**Enez**	**3.00**	**45**	PN	**Pn**	**01 09 49.6**	**-0.6**
RDO	**Rodhopi**	**3.00**	**33**	PN	**Pn**	**01 09 49.5**	**-0.8**
BUHA	**Balikesir, Bur**	**3.01**	**72**	*i* P	**Pn**	**01 09 50.5**	**+0.1**
BUHA				*i* S	**Sn**	**01 10 25.7**	**-0.8**
ALN	**Alexandroupoli**	**3.05**	**42**	P	**Pn**	**01 09 49.4**	**-1.6**
ALN	**Alexandroupoli**	**3.05**	**42**	PN	**Pn**	**01 09 50.2**	**-0.8**
ALN	**Alexandroupoli**	**3.05**	**42**		**Pn**	**01 09 49.4**	**-1.6**
LPK	**Lapseki**	**3.14**	**56**	PN	**Pn**	**01 09 51.7**	**-1.5**
ERIK	**Erikli-Kesan**	**3.16**	**49**	PN	**Pn**	**01 09 51.7**	**-0.7**
OHR	**Ohrid**	**3.16**	**322**	*i* Pn	**Pn**	**01 09 54.4**	**+1.9**
STIP	**Stip**	**3.18**	**344**	*i* Pn	**Pn**	**01 09 53.7**	**+0.9**
GCAM	**G?zelcaml?**	**3.19**	**106**	PN	**Pn**	**01 09 53.2**	**+0.4**
RZN	**Rozhen**	**3.21**	**18**	P	**Pn**	**01 09 51.4**	**-1.9**
RZN				S	**Sn**	**01 10 31.5**	**-0.2**
IMMV	**Iera Moni Meta**	**3.21**	**171**	PN	**Pn**	**01 09 53.3**	**+0.1**
DDIM	**Aydin, Didim**	**3.28**	**110**	*i* P	**Pn**	**01 09 55.0**	**+0.9**
DIDI	**Didim-Aydin**	**3.31**	**111**	PN	**Pn**	**01 09 54.5**	**0.0**
KESN	**Edirne-Kesan**	**3.36**	**48**	*i* P	**Pn**	**01 09 54.3**	**-1.2**
KESN				*i* S	**Sn**	**01 10 32.6**	**-2.9**
KDZ	**Kurdzhali**	**3.39**	**27**	PN	**Pn**	**01 09 54.8**	**-0.8**
KNDR	**Palaiochora Ch**	**3.41**	**176**	PN	**Pn**	**01 09 56.2**	**+0.3**
KOSK	**Kos Island**	**3.43**	**122**	PN	**Pn**	**01 09 56.2**	**+0.1**
STEP	**BALIKESIR_Sava**	**3.47**	**76**	*i* P	**Pn**	**01 09 57.3**	**+0.6**
STEP				*i* S	**Sn**	**01 10 38.8**	**+1.1**
BALY	**Balya**	**3.48**	**70**	*i* P	**Pn**	**01 09 56.2**	**-0.7**
BALY				*i* S	**Sn**	**01 10 37.6**	**-0.5**
AKHS	**Akhisar**	**3.48**	**85**	*i* P	**Pn**	**01 09 57.5**	**+0.6**
BODT	**Bodrum**	**3.50**	**116**	PN	**Pn**	**01 09 56.9**	**-0.2**
KRBG	**Karabiga-Canak**	**3.50**	**59**	PN	**Pn**	**01 09 57.2**	**0.0**
VLO	**Vlora**	**3.50**	**303**	P	**Pn**	**01 10 00.5**	**+3.4**
	baz=300						
VLO				S	**Sb**	**01 10 45.4**	**-2.0**
	baz=300						
VLO				AMP			
	comp=N,35nm,1.5s,baz=300						
GOMA	**Golmarmara-Man**	**3.56**	**88**	PN	**Pn**	**01 09 58.1**	**+0.2**
IDI	**Anoyia**	**3.56**	**160**	Pn	**Pn**	**01 09 58.0**	**-0.1**
	comp=N,84nm,0.3s,baz=309,slow=9.7,SNR=405						
IDI				Sn	**Sn**	**01 10 38.0**	**-2.2**
	comp=N,127nm,0.3s,baz=288,slow=20,SNR=7.1						
IDI				LR	LR	01 11 18.1	
	comp=N,10µm,21.6s,baz=324,slow=37						
IDI	**Anoyia**	**3.56**	**160**	⇑P	**Pn**	**01 09 57.8**	**-0.3**
IDI				⇓S	**Sn**	**01 10 38.9**	**-1.3**
IDI	**Anoyia**	**3.56**	**160**	PN	**Pn**	**01 09 58.1**	**-0.1**
IDI	**Anoyia**	**3.56**	**160**	Pn	**Pn**	**01 09 57.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**3.58**	**54**	PN	**Pn**	**01 09 58.1**	**-0.2**
SART	**Tekirdag**	**3.58**	**54**	*i* P	**Pn**	**01 09 57.7**	**-1.2**
SART				*i* S	**Sn**	**01 10 39.1**	**-1.5**
BDRM	**Kayabasi**	**3.59**	**115**	*i* P	**Pn**	**01 09 59.1**	**+0.7**
HRKL	**Herakleio**	**3.60**	**157**	PN	**Pn**	**01 09 59.0**	**+0.4**
KNL	**Balıkesir**	**3.60**	**62**	*i* P	**Pn**	**01 09 58.9**	**+0.4**
KNL				*i* S	**Sn**	**01 10 42.1**	**+1.0**
PLD	**Plovdiv**	**3.60**	**16**	PN	**Pn**	**01 09 59.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**3.62**	**100**	PN	**Pn**	**01 09 59.3**	**+0.3**
SKO	**Skopje**	**3.64**	**337**	*i* Pn	**Pn**	**01 10 00.7**	**+1.6**
MAR6	**Marsite Statio**	**3.64**	**54**	PN	**Pn**	**01 09 59.5**	**+0.4**
BALB	**Balikesir**	**3.65**	**73**	PN	**Pn**	**01 09 59.4**	**+0.3**
BALB	**Balikesir**	**3.65**	**73**	Pn	**Pn**	**01 09 59.8**	**+0.7**
NIS1	**Nisyros Isl.**	**3.65**	**123**	PN	**Pn**	**01 09 59.9**	**+0.7**
MAR2	**Marsite Statio**	**3.68**	**55**	PN	**Pn**	**01 09 59.8**	**+0.2**
MAR3	**Marsite Statio**	**3.68**	**54**	PN	**Pn**	**01 09 59.5**	**-0.1**
AYDN	**Tasoluk**	**3.69**	**104**	*i* P	**Pn**	**01 10 00.9**	**+1.1**
GZKV	**Gazikoy-Tekird**	**3.71**	**54**	PN	**Pn**	**01 10 00.2**	**+0.3**
MAR4	**Marsite Statio**	**3.71**	**54**	PN	**Pn**	**01 10 00.2**	**+0.1**
MLSB	**Milas**	**3.73**	**110**	PN	**Pn**	**01 10 00.6**	**+0.2**
MRMT	**Marmara Adasi**	**3.81**	**58**	PN	**Pn**	**01 10 01.4**	**0.0**
TIR	**Tirane**	**3.81**	**316**	⇓P	**Pn**	**01 10 04.5**	**+3.0**
TIR	**Tirane**	**3.81**	**316**	P	**Pn**	**01 10 03.6**	**+2.2**
TIR	**Tirane**	**3.81**	**316**		**Pn**	**01 10 03.6**	**+2.2**
TIR	**Tirane**	**3.81**	**316**	P	**Pn**	**01 10 04.5**	**+3.0**
	baz=313						
TIR				AMP			
	comp=E,7.4nm,1.1s,baz=313						
GVDS	**Gavdos**	**3.84**	**171**	PN	**Pn**	**01 10 02.9**	**+1.1**
GVD	**Gavdhos**	**3.84**	**171**	PN	**Pn**	**01 10 03.0**	**+1.2**
EDC	**Edincik**	**3.87**	**63**	PN	**Pn**	**01 10 02.5**	**+0.3**
DATC	**Datca-Mugla**	**3.89**	**118**	PN	**Pn**	**01 10 02.9**	**+0.4**
VTS	**Vitosha**	**3.97**	**359**	⇓P	**Pn**	**01 10 05.2**	**+1.4**
VTS	**Vitosha**	**3.97**	**359**	P	**Pn**	**01 10 04.2**	**+0.3**
VTS				S	**Sn**	**01 10 50.7**	**+0.3**
VTS	**Vitosha**	**3.97**	**359**	Pn	**Pn**	**01 10 04.0**	**+0.3**
TKR	**Tekirdag**	**3.97**	**53**	PN	**Pn**	**01 10 03.8**	**+0.2**
SCTE	**Santa Cesarea**	**4.06**	**292**		**Pn**	**01 10 06.3**	**+1.5**
MANT	**Manisa**	**4.07**	**91**	*i* P	**Pn**	**01 10 06.0**	**+0.9**
MANT	**Manisa**	**4.07**	**91**	Pn	**Pn**	**01 10 05.8**	**+0.6**
DURS	**Dursunbey**	**4.08**	**75**	*i* P	**Pn**	**01 10 05.8**	**+0.6**
MULA	**Mugla, Merkez-**	**4.15**	**108**	*i* P	**Pn**	**01 10 07.7**	**+1.5**
CRLT	**Corlu**	**4.18**	**52**	PN	**Pn**	**01 10 06.6**	**+0.2**
KCTX	**Karacabey (Bur**	**4.19**	**66**	PN	**Pn**	**01 10 06.7**	**+0.1**
DEMI	**Demirci**	**4.19**	**83**	*i* P	**Pn**	**01 10 07.7**	**+0.9**
DST	**Dursunbey**	**4.19**	**75**	PN	**Pn**	**01 10 07.1**	**+0.4**
KIRK	**Kırklareli**	**4.24**	**41**	*i* P	**Pn**	**01 10 06.7**	**-0.6**
PUK	**Puka**	**4.31**	**323**	P	**Pn**	**01 10 10.7**	**+2.3**
	baz=320						
PUK				AMP			
	comp=N,10.0nm,1.8s,baz=320						
USAK	**Uak-Merkez**	**4.42**	**87**	*i* P	**Pn**	**01 10 11.3**	**+1.4**
BCI	**Bajram Curri**	**4.49**	**327**	P	**Pn**	**01 10 13.3**	**+2.6**
	baz=324						
BCI				AMP			
	comp=N,8.6nm,1.1s,baz=324						
VIZE	**Kirklareli, Vi**	**4.51**	**48**	*i* P	**Pn**	**01 10 11.0**	**0.0**
TAVA	**DENIZLI_Tavas**	**4.53**	**103**	*i* P	**Pn**	**01 10 13.0**	**+1.6**
DALY	**Dalyan (Mula)**	**4.57**	**112**	*i* P	**Pn**	**01 10 13.3**	**+1.5**
ULC	**Ulcinj**	**4.58**	**318**	⇑*i*Pn	**Pn**	**01 10 13.0**	**+1.1**
ULC				*i* Sn	**Sn**	**01 11 05.1**	**0.0**
ELBA	**Catalca**	**4.63**	**56**	*i* P	**Pn**	**01 10 12.5**	**-0.1**
ULDT	**Uludag**	**4.71**	**70**	*i* P	**Pn**	**01 10 14.8**	**+0.8**
PVY	**Plav**	**4.72**	**328**	⇓*i*Pn	**Pn**	**01 10 16.1**	**+2.0**
PVY				*i* Sn	**Sn**	**01 11 09.4**	**+0.5**
DRME	**Dracevica, Mon**	**4.77**	**319**	⇓*i*Pn	**Pn**	**01 10 16.6**	**+2.1**
DRME	**Dracevica, Mon**	**4.77**	**319**	⇓*i*Pn	**Pn**	**01 10 15.8**	**+1.3**
DRME				*i* Sn	**Sn**	**01 11 10.7**	**+0.9**
GDZ	**Gediz**	**4.79**	**83**	*i* P	**Pn**	**01 10 15.1**	**+0.1**
IGD	**Bursa**	**4.79**	**68**	*i* P	**Pn**	**01 10 15.6**	**+0.7**
PDG	**Podgorica**	**4.91**	**322**	⇑P	**Pn**	**01 10 19.1**	**+2.6**
PDG	**Podgorica**	**4.91**	**322**	⇓*i*Pn	**Pn**	**01 10 18.4**	**+1.9**
PDG	**Podgorica**	**4.91**	**322**	Pn	**Pn**	**01 10 17.9**	**+1.4**
TTG	**Podgorica**	**4.91**	**322**	⇓*i*Pn	**Pn**	**01 10 18.0**	**+1.4**
TTG				*i* Sn	**Sn**	**01 11 14.2**	**+0.9**
CAEL	**Denizli, Camel**	**4.95**	**106**	*i* P	**Pn**	**01 10 19.2**	**+2.0**
BUY	**Buyukada**	**4.95**	**62**	*i* P	**Pn**	**01 10 14.8**	**-2.3**
IVA	**Berane**	**4.98**	**329**	⇓*i*Pn	**Pn**	**01 10 19.5**	**+1.9**
IVA				*i* Sn	**Sn**	**01 11 15.3**	**+0.1**
BUM	**Brajici-Budva**	**5.00**	**318**	⇓*i*Pn	**Pn**	**01 10 19.5**	**+1.7**
BUM				*i* Sn	**Sn**	**01 11 16.0**	**+0.4**
GOLH	**Golhisar**	**5.09**	**104**	*i* P	**Pn**	**01 10 21.9**	**+2.8**
KOME	**Kolasin**	**5.12**	**326**	*e*Pn	**Pn**	**01 10 20.9**	**+1.4**
KOME				*e*Sn	**Sn**	**01 11 18.9**	**+0.3**
BOVS	**Bovan**	**5.14**	**346**	⇑P	**Pn**	**01 10 20.8**	**+1.1**
ANDZ	**Kutahya, Merke**	**5.15**	**78**	*i* P	**Pn**	**01 10 21.4**	**+1.4**
CEME	**Cevo**	**5.16**	**320**	⇓*i*Pn	**Pn**	**01 10 21.6**	**+1.5**
CEME				*i* Sn	**Sn**	**01 11 20.2**	**+0.5**
TIP	**Timpagrande**	**5.18**	**278**	⇑P	**Pn**	**01 10 22.3**	**+1.9**
TIP	**Timpagrande**	**5.18**	**278**	Pn	**Pn**	**01 10 20.3**	**0.0**
BILE	**Bilecik/Merkez**	**5.26**	**71**	*i* P	**Pn**	**01 10 22.1**	**+0.7**
HCY	**Herceg Novi**	**5.31**	**317**	*e*Pn	**Pn**	**01 10 23.4**	**+1.4**
HCY	**Herceg Novi**	**5.31**	**317**	⇓*i*Pn	**Pn**	**01 10 23.2**	**+1.2**
HCY				*i* Sn	**Sn**	**01 11 23.8**	**+0.6**
NKME	**Niksic**	**5.31**	**322**	⇑*i*Pn	**Pn**	**01 10 23.3**	**+1.2**
NKME				*i* Sn	**Sn**	**01 11 23.6**	**+0.3**
AUBOZ	**BOZOYUK**	**5.32**	**74**	*i* P	**Pn**	**01 10 22.4**	**+0.1**
NKY	**Niksic**	**5.33**	**323**	⇓*i*Pn	**Pn**	**01 10 23.2**	**+0.8**
NKY				*i* Sn	**Sn**	**01 11 23.8**	**0.0**
KZIL	**AFYON_Kizioren**	**5.33**	**92**	*i* P	**Pn**	**01 10 24.4**	**+1.9**
BRDR	**BURDUR-Merkez**	**5.36**	**98**	*i* P	**Pn**	**01 10 24.7**	**+2.0**
BAIL	**Bailesti**	**5.37**	**360**	⇑P	**Pn**	**01 10 23.5**	**+0.7**
VLAD	**Vladila**	**5.41**	**8**	⇓P	**Pn**	**01 10 24.2**	**+0.9**
AFYO	**Afyonkarahisar**	**5.42**	**86**	*i* P	**Pn**	**01 10 25.6**	**+2.0**
MATE	**Matera**	**5.52**	**293**	⇓P	**Pn**	**01 10 25.9**	**+1.1**
PLE	**Pljevlja**	**5.57**	**329**	⇑*i*Pn	**Pn**	**01 10 26.8**	**+1.2**
PLE				*i* Sn	**Sn**	**01 11 29.9**	**+0.3**
TREB	**Trebinje**	**5.58**	**318**	*e*Pn	**Pn**	**01 10 26.7**	**+1.0**
BRY	**Bratogost**	**5.62**	**321**	⇓*i*Pn	**Pn**	**01 10 27.5**	**+1.2**
BRY	**Bratogost**	**5.62**	**321**	⇓*i*Pn	**Pn**

AQU L'Aquila 8.45 299 *e*Pn **Pn** **01 11 06.2 +1.1**
BIZ Bicaz 8.53 13 ⇓P **Pn** **01 11 07.9 +1.7**
GIRR Girov 8.62 14 ⇑P **Pn** **01 11 08.6 +1.2**
VASR Vaslui 8.63 21 ⇓P **Pn** **01 11 09.2 +1.7**
CSS Mathiatis 8.79 112 Pn **Pn** **01 11 09.6 -0.2**
PRAR RASCA 8.96 13 ⇑P **Pn** **01 11 12.7 +0.6**
BURAR Bucovina Array 9.07 8 ⇓P **Pn** **01 11 15.0 +1.4**
BURAR Bucovina Array 9.07 8 P **Pn** **01 11 15.0 +1.4**
BUR08 Bucovina Ar. S 9.09 8 Pn **Pn** **01 11 14.2 +0.1**
BOJS Bojanci 9.13 321 *i* Pn **Pn** **01 11 14.4 0.0**
GCIS Gornji Cirnik 9.22 324 *i* Pn **Pn** **01 11 15.4 -0.2**
KIS Kishinev 9.26 24 *e*P **Pn** **01 11 17.7 +1.6**
KIS Kishinev 9.26 24 *e*PP Pn 01 11 27.5 +11
KIS *e*S **Sn** **01 13 00.0 -0.2**
KIS eLi 01 13 33.5
KIS *e*Lq LQ 01 13 42.0
KIS LQM 01 14 32.6
comp=N,6µm,15.0s
KIS LRM MLR 01 14 50.0
comp=N,4µm,14.0s
KIS Kishinev 9.26 24 *e*P **Pn** **01 11 17.7 +1.6**
KIS *e*S **Sn** **01 13 00.0 -0.2**
KIS MLR MLR
comp=N,2µm,15.0s
CRES Cresnjev 9.27 323 *i* Pn **Pn** **01 11 16.2 -0.1**
CRES Cresnjev 9.27 323 ⇓*i* Pn **Pn** **01 11 16.1 -0.2**
SWA2 9.54 169 P **Pn** **01 11 17.7 -2.3**
baz=171
SWA2 S **Sn** **01 12 58.5 -8.7**
baz=171
SWA2 AMP 01 13 00.0
baz=171
VISS Visnje 9.54 321 *i* Pn **Pn** **01 11 19.9 -0.3**
CEY Cerknica 9.71 320 ⇓*i* Pn **Pn** **01 11 22.0 -0.3**
SRO2 Moca 9.81 340 *e*P Pn 01 11 29.3 +5.6
SRO2 Moca 9.81 340 *e*PN Pn 01 11 29.3 +5.6
LJU Ljubljana 9.87 321 *i* Pn **Pn** **01 11 24.0 -0.5**
LJU *e*Sn **Sn** **01 13 08.5 -6.8**
LJU IAML 01 15 39.4
comp=Z,8µm,6.2s
UZH Uzhgorod 10.01 356 ⇓*i* P **Pn** **01 11 30.6 +4.1**
UZH *e*S **Sn** **01 13 24.3 +5.5**
UZH MLR MLR
comp=Z,2µm,13.0s
SORM Soroca 10.15 19 ⇑P **Pn** **01 11 28.0 -0.3**
OBKA Obir 10.20 323 *i* Pn **Pn** **01 11 29.0 -0.2**
comp=Z,34nm,0.7s,SNR=25
OBKA *e*Sn **Sn** **01 13 26.9 +3.5**
comp=Z,86nm,0.6s
SIM Simferopol' 10.20 48 *ce*P **Pn** **01 11 28.1 -0.9**
SIM *e*S **Sn** **01 13 21.0 -2.3**
SIM pmax pmax
comp=Z,21nm,1.1s
SIM MLR MLR
comp=Z,3µm,20.0s
KOLS Kolonicke sedl 10.32 356 *e*P **Pn** **01 11 31.2 +0.5**
KOLS Kolonicke sedl 10.32 356 *e*PN **Pn** **01 11 31.2 +0.5**
ARSA Arzberg 10.34 329 *i* Pn **Pn** **01 11 31.3 +0.3**
comp=Z,36nm,0.5s,SNR=24
CRVS Cervenica-Dubn 10.35 353 *e*P **Pn** **01 11 34.7 +3.6**
CRVS Cervenica-Dubn 10.35 353 *e*PN **Pn** **01 11 34.7 +3.6**
CASP Castiglione de 10.35 298 Pn **Pn** **01 11 36.6 +0.3**
VYHS Vyhne 10.38 343 *e*P **Pn** **01 11 33.9 +2.4**
VYHS *e* 01 13 30.5
VYHS Vyhne 10.38 343 *e*PN **Pn** **01 11 33.9 +2.4**
VYHS *e*SN **Sn** **01 13 30.5 +2.7**
ZST Bratislava 10.57 337 *e*P **Pn** **01 11 34.9 +0.7**
ZST *e* 01 13 32.8
ZST Bratislava 10.57 337 *e*PN **Pn** **01 11 34.9 +0.7**
ZST *e*SN **Sn** **01 13 32.8 +0.2**
MYKA Terra Mystica 10.72 321 *i* Pn **Pn** **01 11 36.0 -0.2**
comp=Z,4.4nm,0.3s,SNR=7.4
MYKA *e*Sn **Sn** **01 13 37.0 +0.8**
comp=Z,14nm,0.7s
HMYD Mayadein 10.75 143 P **Pn** **01 11 35.1 -1.6**
baz=145
SMOL Smolenice 10.76 338 *e*P **Pn** **01 11 38.2 +1.4**
SMOL *e* 01 13 40.4
SMOL Smolenice 10.76 338 *e*PN **Pn** **01 11 38.2 +1.4**
SMOL Smolenice 10.76 338 *e*SN **Sn** **01 13 40.4 +3.3**
CONA Conrad Observa 10.77 332 *i* Pn **Pn** **01 11 37.3 +0.4**
comp=Z,18nm,0.8s,SNR=10.0
LANS Liptovska Anna 10.87 346 *e*P Pn 01 11 47.6 +9.3
LANS Liptovska Anna 10.87 346 *e* Pn 01 11 47.6 +9.3
STHS Stebnicka Huta 10.88 353 *e*P **Pn** **01 11 42.6 +4.2**
STHS Stebnicka Huta 10.88 353 *e*PN **Pn** **01 11 42.6 +4.2**
VSL Villasalto 10.91 279 Pn **Pn** **01 11 38.8 0.0**
NIE Niedzica 10.99 349 *e*P **Pn** **01 11 43.0 +3.1**
KWP Kalwaria Pacla 10.99 358 *e*P **Pn** **01 11 44.3 +4.4**
JAVC Velka Javorina 11.01 340 *e*PN **Pn** **01 11 42.4 +2.2**
GAZ Gaziantep 11.04 93 Pn **Pn** **01 11 40.0 -0.6**
RYAN Fayoum 11.13 147 P **Pn** **01 11 39.4 -2.5**
baz=149
KBA Koelnbreinsper 11.18 322 *e*Pn **Pn** **01 11 42.1 -0.6**
comp=Z,10nm,0.5s,SNR=23
KBA *e*Sn **Sn** **01 13 48.8 +1.1**
comp=Z,23nm,0.8s
LVV L'vov 11.18 2 *e*P **Pn** **01 11 46.6 +4.1**
LVV *e*S **Sn** **01 13 52.4 +5.0**
LVV pmax pmax
comp=Z,430nm,2.8s
LVV MLR MLR
comp=E,5µm,10.4s
LVV MLR MLR
comp=N,8µm,11.2s
LVV MLR MLR
comp=Z,10µm,11.9s
MMAI Mount Meron Ar 11.26 116 Pn **Pn** **01 11 42.9 -0.8**
comp=Z,2.1nm,0.3s,baz=297,slow=11,SNR=19
MMAI Sn **Sn** **01 13 43.3 -6.3**
comp=Z,2.1nm,0.3s,baz=310,slow=20,SNR=3.7
HSAF As Saff 11.27 141 P **Pn** **01 11 39.5 -4.2**
baz=142
HHAG Hagoal 11.28 138 P **Pn** **01 11 41.0 -2.8**
baz=139
MOA Molln 11.34 327 *i* Pn **Pn** **01 11 45.0 +0.3**
comp=Z,41nm,0.7s,SNR=50
MOA *e*Sn **Sn** **01 13 52.5 +1.2**
comp=Z,9.1nm,0.5s
ABTA Abfaltersbach 11.37 319 *i* Pn **Pn** **01 11 44.4 -0.7**
comp=Z,20nm,0.4s,SNR=28
ABTA Sn **Sn** **01 13 50.2 -1.9**
comp=Z,61nm,1.0s
GLL Jalalah 11.38 140 P Pn 01 11 40.1 -5.2
baz=142
I48TN KESRA INFRASON 11.55 260 *i* 02 10 10.0
baz=69,slow=316,SNR=0.8
KEST Kesra 11.56 260 Pn **Pn** **01 11 48.8 +1.1**
comp=Z,1.4nm,0.3s,baz=352,slow=2.2,SNR=65
KEST Sn **Sn** **01 13 51.4 -5.5**
comp=Z,0.1nm,0.3s,baz=53,slow=19,SNR=1.0
KEST LR LR 01 17 48.3
comp=Z,2µm,19.2s,baz=16,slow=45
KEST Kesra 11.56 260 Pn **Pn** **01 11 47.6 -0.2**
KRUC Moravsky 11.56 337 *e*PN **Pn** **01 11 48.4 +0.7**
VRAC Vranov 11.72 338 Pn **Pn** **01 11 50.9 +1.1**
comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=19
VRAC Sn **Sn** **01 13 55.7 -4.9**
comp=Z,0.2nm,0.3s,baz=159,slow=20,SNR=1.6
VRAC LR LR 01 16 17.9
comp=Z,2µm,21.5s,baz=175,slow=37
VRAC Vranov 11.72 338 ⇓P **Pn** **01 11 51.5 +1.7**
VRAC Vranov 11.72 338 *e*PN **Pn** **01 11 51.0 +1.1**
SUZ Suez 11.76 135 P **Pn** **01 11 49.9 -0.5**
baz=137
OKC Ostrava-Krasne 11.80 343 *e*P **Pn** **01 11 53.4 +2.5**
OKC MLR MLR
comp=Z,8µm,11.1s
OKC Ostrava-Krasne 11.80 343 *e*P **Pn** **01 11 53.4 +2.5**
OKC *ex* x 01 11 56.3
OKC AMS AMS 01 17 00.0
comp=Z,8µm,11.1s
OJC Ojcow 11.85 349 *e*P **Pn** **01 11 54.3 +2.7**
OJC Ojcow 11.85 349 P **Pn** **01 11 51.7 +0.1**
OJC Ojcow 11.85 349 Pn **Pn** **01 11 51.7 +0.1**
MORC Moravsky Berou 11.88 341 *e*PN **Pn** **01 11 54.1 +2.0**
MORC Moravsky Berou 11.88 341 P **Pn** **01 11 52.4 +0.2**
MORC Moravsky Berou 11.88 341 Pn **Pn** **01 11 52.4 +0.2**
RJOB Jochberg 11.91 323 *e*Pn **Pn** **01 11 53.0 +0.5**
baz=138,slow=13
NBNS Bani Suef 11.97 144 P **Pn** **01 11 50.7 -2.7**
baz=146
TREC Trest 12.06 335 AMS AMS 01 17 10.0
comp=Z,10µm,8.9s
CKRC Cesky Krumlov 12.09 330 *e*P **Pn** **01 11 55.3 +0.4**
CKRC *ex* x 01 12 11.5
WTTA Wattenberg 12.16 319 *i* Pn **Pn** **01 11 56.5 +0.5**
comp=Z,26nm,0.5s,SNR=22
WTTA *e*Sn **Sn** **01 14 08.4 -3.2**
comp=Z,55nm,0.7s
ANN Anapa 12.17 55 *e*P **Pn** **01 11 56.9 +0.9**
ANN *e*S **Sn** **01 14 15.7 +4.1**
ANN pmax pmax
comp=Z,22nm,1.0s
ANN MLR MLR
comp=Z,2µm,11.0s
WATA Walderalm 12.23 319 *e*Pn **Pn** **01 11 57.1 0.0**
comp=Z,21nm,0.5s,SNR=30
WATA Sn **Sn** **01 14 09.9 -3.6**
comp=Z,88nm,1.2s
GEC2 GERESS Array S 12.35 329 *e*Pn **Pn** **01 11 59.4 +0.8**
baz=138,slow=13
GERES GERESS Array B 12.35 329 Pn **Pn** **01 11 58.1 -0.5**
comp=Z,0.6nm,0.3s,baz=146,slow=13,SNR=43
GERES LR LR 01 17 29.5
comp=Z,3µm,18.8s,baz=150,slow=41
GERES ScP **ScP** **01 21 09.9 -2.6**
comp=Z,0.1nm,0.3s,baz=173,slow=1.7,SNR=5.2
KRLC Kraliky 12.36 340 *e*P **Pn** **01 12 01.0 +2.4**
KRLC MLR MLR
comp=Z,5µm,11.8s
KRLC Kraliky 12.36 340 *e*P **Pn** **01 12 01.0 +2.4**
KRLC AMS AMS 01 17 20.0
comp=Z,5µm,11.8s
GHAJ Ghor Haditha 12.39 123 Pn **Pn** **01 11 58.4 -0.6**
FETA Feichten 12.48 316 *e*Pn **Pn** **01 12 00.1 -0.3**
comp=Z,17nm,0.5s,SNR=12
FETA Sn **Sn** **01 14 16.2 -3.4**
comp=Z,30nm,1.0s
MOTA Moosalm 12.49 318 *i* Pn **Pn** **01 12 00.5 +0.1**
comp=Z,30nm,0.8s,SNR=22
MOTA *e*Sn **Sn** **01 14 14.6 -5.0**
comp=Z,70nm,0.9s
KHC Kasperske Hory 12.63 329 *e*P **Pn** **01 12 01.9 -0.4**
KHC MLR MLR
comp=Z,6µm,10.9s
KHC Kasperske Hory 12.63 329 *e*P **Pn** **01 12 01.9 -0.4**
KHC *ex* x 01 12 14.0
KHC AMS AMS 01 18 10.0
comp=Z,6µm,10.9s
DPC Dobruska-Polom 12.73 339 *e*P **Pn** **01 12 04.5 +0.8**
DPC MLR MLR
comp=Z,7µm,10.1s
DPC Dobruska-Polom 12.73 339 *e*P **Pn** **01 12 04.5 +0.8**
DPC AMS AMS 01 19 50.0
comp=Z,7µm,10.1s
AKASG Malin Array Be 12.75 17 Pn **Pn** **01 12 02.4 -1.5**
comp=Z,2.1nm,0.3s,baz=206,slow=12,SNR=14
AKASG Sn **Sn** **01 14 19.4 -6.3**
comp=Z,1.7nm,0.3s,baz=201,slow=21,SNR=3.1
AKASG LR LR 01 16 59.2
comp=Z,3µm,22.0s,baz=195,slow=37
AKASG ScP **ScP** **01 21 11.4 -1.6**
comp=Z,0.3nm,0.3s,baz=246,slow=1.8,SNR=8.8
AKASG Malin Array Be 12.75 17 *e*P **Pn** **01 12 03.8 -0.1**
AKBB Malin Array Si 12.75 17 *ce*P **Pn** **01 12 03.4 -0.5**
AKBB Malin Array Si 12.75 17 Pn **Pn** **01 12 02.8 -1.1**
RETA Reutte 12.76 318 *e*Pn **Pn** **01 12 03.7 -0.4**
comp=Z,11nm,0.5s,SNR=6.7
RETA *e*Sn **Sn** **01 14 24.4 -1.6**
comp=Z,17nm,0.5s
CMAH Djebel Manchou 12.80 266 P **Pn** **01 12 06.1 +1.3**
DAVOX Davos/Dischmat 12.81 314 Pn **Pn** **01 12 04.4 -0.6**
comp=Z,0.6nm,0.3s,baz=134,slow=15,SNR=14
DAVOX Sn **Sn** **01 14 19.2 -8.4**
comp=Z,0.5nm,0.3s,baz=144,slow=14,SNR=1.4
DAVOX LR LR 01 17 33.4
comp=Z,5µm,20.8s,baz=119,slow=40
PBCC Pribram 12.91 332 *e*P **Pn** **01 12 09.8 +3.6**
WET Wettzell 12.92 328 *e*Pn **Pn** **01 12 05.4 -1.0**
baz=138,slow=13
FUR Furstenfeldbru 12.94 321 *e*Pn **Pn** **01 12 05.5 -1.0**
baz=138,slow=13
OSTC Ostas 12.95 339 *e*P **Pn** **01 12 07.3 +0.7**
OSTC *ex* x 01 12 12.0
OSTC AMS AMS 01 20 00.0
comp=Z,6µm,10.1s
TUE Stuetta 12.95 312 Pn **Pn** **01 12 06.8 0.0**
UPC Upice 12.96 339 *e*P **Pn** **01 12 11.3 +4.5**
UPC MLR MLR
comp=Z,5µm,12.3s
UPC Upice 12.96 339 *e*P **Pn** **01 12 11.3 +4.5**
UPC AMS AMS 01 20 10.0
comp=Z,5µm,12.3s
PRU Pruhonice 12.97 334 *e*P **Pn** **01 12 07.0 +0.1**
PRU MLR MLR
comp=Z,8µm,9.1s
PRU Pruhonice 12.97 334 *e*P **Pn** **01 12 07.0 +0.1**
PRU *ex* x 01 12 11.2
PRU AMS AMS 01 17 40.0
comp=Z,8µm,9.1s
CHVC Chvalec 13.02 339 *e*P **Pn** **01 12 08.7 +1.1**
CHVC *ex* x 01 12 21.2
CHVC AMS AMS 01 20 00.0
comp=Z,6µm,10.7s
PRA Prague 13.08 334 *e*P **Pn** **01 12 12.6 +4.2**
PRA Prague 13.08 334 *e*P **Pn** **01 12 12.6 +4.2**
PRA *ex* x 01 12 18.2
DAVA Damuels 13.11 316 *e*Pn **Pn** **01 12 09.6 +0.6**
comp=Z,13nm,0.6s,SNR=8.2
DAVA *e*Sn **Sn** **01 14 28.7 -6.0**
comp=Z,38nm,1.0s
EIL Elat 13.11 130 Pn **Pn** **01 12 06.2 -2.8**
comp=Z,1.2nm,0.3s,baz=302,slow=4.0,SNR=19
EIL Sn Sn 01 14 22.5 -12
comp=Z,2.0nm,0.3s,baz=222,slow=20,SNR=1.3
KSP Ksiaz 13.18 340 *e*P **Pn** **01 12 10.5 +0.7**
UBR Ueberruh 13.22 317 *e*Pn **Pn** **01 12 09.9 -0.6**
baz=138,slow=13
SOC Sochi 13.27 63 *e*P **Pn** **01 12 11.7 +0.6**
SOC *e* 01 14 40.9
SOC pmax pmax
comp=Z,39nm,1.0s
SOC MLR MLR
comp=Z,1µm,9.0s
HBST Basata 13.31 132 P **Pn** **01 12 11.5 -0.2**
baz=133
BEL Belsk 13.31 353 *e*P **Pn** **01 12 15.5 +3.9**
BEL *e*S **S** **01 14 59.6 -4.3**
CKFL Kef-Lekhel 13.41 266 P **Pn** **01 12 17.3 +4.2**
PVCC Panska Ves 13.42 335 *e*P **P** **01 12 23.6 +1.0**
PVCC MLR MLR
comp=Z,6µm,9.1s
PVCC Panska Ves 13.42 335 *e*P **P** **01 12 23.6 +1.0**
PVCC AMS AMS 01 18 00.0
comp=Z,6µm,9.1s
ROTZ Rotzenmuhle 13.68 328 *e*Pn **Pn** **01 12 16.2 -0.5**
baz=138,slow=13
CTEI Djebel Teioual 13.74 264 P **Pn** **01 12 20.5 +2.9**
BRG Berggiesshubel 13.93 334 *e*P **Pn** **01 12 20.4 +0.5**
BRG Amp 01 12 24.0
comp=Z,13nm,1.1s
BRG *ex* x 01 12 29.7
BRG Amp 01 12 31.7
comp=Z,15nm,0.7s
BRG Berggiesshubel 13.93 334 S **S** **01 15 11.0 -5.4**
BRG Amp 01 18 40.0
comp=E,8.2nm,11.8s
BRG Amp 01 18 45.0
comp=N,6.6nm,13.5s
BRG Amp 01 18 48.0
comp=Z,6.5nm,9.8s
NKC Novy Kostel 13.95 330 *e*P **Pn** **01 12 20.9 +0.6**
NKC MLR MLR
comp=Z,5µm,9.1s
NKC Novy Kostel 13.95 330 *e*P **Pn** **01 12 20.9 +0.6**
NKC AMS AMS 01 18 10.0
comp=Z,5µm,9.1s
DFRA Djebel Bou Aff 14.03 267 P **Pn** **01 12 24.1 +2.5**
GRF Grafenberg Arr 14.05 326 *e*Pn **Pn** **01 12 20.2 -1.5**
baz=138,slow=13
GRF *e*P **P** **01 12 31.3 +1.8**
baz=138,slow=11
GRFO Grafenberg 14.05 326 P **P** **01 12 29.7 +0.1**
GRFO Grafenberg 14.05 326 P **P** **01 12 29.6 +0.1**
TANN Tannenbergstha 14.09 330 *e*Pn **Pn** **01 12 22.5 +0.3**
baz=138,slow=13
GUNZ Gunzen 14.10 330 *e*P **P** **01 12 32.2 +2.1**
baz=138,slow=11
FBE Freiberg 14.17 333 *e*Pn **Pn** **01 12 23.7 +0.4**
baz=138,slow=13
PLN Plauen 14.26 330 *e*P **P** **01 12 33.7 +1.8**
baz=138,slow=11
STU Stuttgart 14.38 319 *e*Pn **Pn** **01 12 25.7 -0.6**
baz=138,slow=13
SET Setif 14.49 266 P **P** **01 12 34.0 -0.6**
BFO Black Forest 14.57 316 P **Pn** **01 12 26.7 -2.1**
BFO Black Forest 14.57 316 Pn **Pn** **01 12 26.7 -2.1**
BFO Black Forest 14.57 316 *e*Pn **Pn** **01 12 27.1 -1.7**
baz=138,slow=13
MOX Moxa 14.60 329 *e*Pn **Pn** **01 12 29.4 +0.2**
baz=138,slow=13
CLL Collm 14.61 333 *e*P **Pn** **01 12 32.0 +2.6**
CLL *i* sP **P** **01 12 36.7 +0.9**
comp=Z,44nm,0.9s
CLL *e*PP **PnPn** **01 12 41.0 +3.7**
CLL *i* 01 13 26.3
CLL *e*S **Sn** **01 15 08.0 -3.2**
CLL *e*SS **S** **01 15 29.0 -1.5**
CLL Lm MLR 01 18 00.0
comp=N,5µm,18.8s
CLL Lm MLR 01 18 00.0
comp=E,8µm,21.0s
CLL Lmax 01 20 00.0
CLL Collm 14.61 333 *e*P **Pn** **01 12 32.0 +2.6**
CLL *e*S **Sn** **01 15 04.0 -7.2**
CLL Collm 14.61 333 **Pn** **01 12 30.0 +0.7**
CLL Collm 14.61 333 *e*P **P** **01 12 37.1 +1.3**
baz=138,slow=11
MAHO Mahon 14.85 281 P Pn 01 12 21.9 -11
MAHO S **Sn** **01 15 14.2 -2.9**
NEUB Neuenburg 14.98 331 *e*P **P** **01 12 41.7 +1.9**
baz=138,slow=11
MILB Miltenberg 15.03 323 *e*Pn **Pn** **01 12 33.3 -1.7**
baz=138,slow=13
MILB *e*P **P** **01 12 41.7 +1.2**
baz=138,slow=11
SIRT Sirnak 15.07 88 Pn **Pn** **01 12 35.4 -0.3**
GKP Gorka Klasztor 15.23 346 *e*P **P** **01 12 44.0 +1.5**
GKP *e*S **S** **01 15 44.0 +1.0**
GKP Gorka Klasztor 15.23 346 *e*P **P** **01 12 42.9 +0.4**
KARS Kars 15.32 76 P **Pn** **01 12 38.6 -0.4**
KARS pmax pmax
comp=Z,108nm,1.1s
KARS Kars 15.32 76 Pn **Pn** **01 12 38.5 -0.4**
KARS IAmb IAmb 01 12 56.9
comp=Z,108nm,1.1s
SUW Suwalki 15.37 360 *e*P **P** **01 12 45.4 +1.2**
SUW Suwalki 15.37 360 *e*P **P** **01 12 45.0 +0.8**
GEVA Gevas 15.43 85 Pn **Pn** **01 12 40.3 -0.2**
GEVA IAmb IAmb 01 12 55.9
comp=Z,126nm,1.1s
KIV Kislovodsk 15.45 64 *e*P **P** **01 12 44.2 -1.0**
KIV *e*S **Sn** **01 15 36.5 +4.7**
KIV pmax pmax
comp=Z,150nm,1.0s
KIV MLR MLR
comp=Z,2µm,13.0s
KIV Kislovodsk 15.45 64 Pn **Pn** **01 12 40.3 -0.4**
KBZ Khabaz 15.55 65 Pn **P** **01 12 44.2 -1.9**
comp=Z,0.1nm,0.3s,baz=298,slow=12,SNR=4.2
TNS Taunus Mts 15.70 322 *e*Pn **Pn** **01 12 42.6 -1.2**
baz=138,slow=13
TNS *e*P **pP** **01 12 49.7 -1.3**
comp=Z,105nm,1.6s,baz=138,slow=11
ONI Oni 15.75 69 P **Pn** **01 12 44.1 -0.4**
ONI pmax pmax
comp=Z,30nm,1.0s
ONI Oni 15.75 69 Pn **Pn** **01 12 44.1 -0.4**
GTTG Gottingen 15.96 328 *e*P **P** **01 12 52.7 +2.0**
comp=Z,72nm,1.1s,baz=138,slow=11
GOF Gofitskoye 15.98 60 ⇑*e*P **P** **01 12 53.4 +2.4**
GOF pmax pmax
comp=Z,145nm,1.5s
NCK Nalchik 16.00 66 ⇑*i* P **Pn** **01 12 48.1 +0.4**
NCK pmax pmax
comp=Z,87nm,1.7s
CLZ Clausthal 16.02 330 *e*P **P** **01 12 52.6 +1.1**
comp=Z,79nm,1.8s,baz=138,slow=11
FLTG Flechtingen 16.08 332 *e*P **P** **01 12 53.0 +1.0**
comp=Z,46nm,1.1s,baz=138,slow=11
ZEI Tsey 16.10 69 *e*P **P** **01 12 54.4 +1.8**
ZEI pmax pmax
comp=Z,48nm,1.2s
MNK Minsk 16.16 9 *i* P Pn 01 12 42.5 -7.2
MNK *i* S **Sn** **01 15 40.1 -8.6**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,40nm,1.0s
MNK pmax pmax
comp=Z,39nm,0.9s
MNK MLR MLR
comp=N,1µm,13.0s
MNK MLR MLR
comp=Z,2µm,14.0s
MNK MLR MLR
comp=E,181nm,14.0s
MNK Minsk 16.16 9 *i* P Pn 01 12 42.5 -7.2
comp=E,2.0nm,0.8s
MNK *i* P Pn 01 12 42.5 -7.2
comp=N,40nm,1.0s
MNK *i* P Pn 01 12 42.5 -7.2
comp=Z,39nm,0.9s,baz=193
MNK *i* PPP PPP 01 12 58.7
MNK *i* S **Sn** **01 15 40.1 -8.6**
MNK *i* SS **SnSn** **01 15 54.3 -7.4**
MNK *i* SSS SSS 01 16 06.9
MNK *i* LQ LQ 01 17 19.6
MNK *i* PcP **PcP** **01 17 40.0 -4.5**
MNK *i* LR LR 01 18 33.5
MNK *i* LRM MLR 01 19 33.6
comp=N,1µm,12.9s
MNK *i* LRM MLR 01 19 37.0
comp=Z,2µm,13.8s
MNK *i* LRM MLR 01 19 39.7
comp=E,181nm,13.8s
NACGM Naroch 16.43 7 *i* P **Pn** **01 12 52.4 -0.7**
baz=277
GUDG Gudauri 16.48 70 P **P** **01 12 57.3 +0.5**
WLF Walferdange 16.51 317 *d*Pn **Pn** **01 12 54.7 +0.5**
WLF *dx* x 01 12 58.9
AHRW Bad Neuenahr-A 16.57 321 *e*P **P** **01 12 58.7 +1.2**
comp=E,60nm,1.5s,baz=138,slow=11
GNI Garni 16.59 78 Pn **P** **01 12 59.4 +1.5**
comp=E,0.3nm,0.3s,baz=279,slow=5.0,SNR=12
GNI LR LR 01 19 19.2
comp=E,3µm,18.5s,baz=286,slow=37
GNI Garni 16.59 78 *ce*P **P** **01 12 57.0 -1.0**
GNI pmax pmax
comp=Z,77nm,2.5s
GNI Garni 16.59 78 Pn **Pn** **01 12 55.8 +0.3**
VORD Divnogorie 16.67 37 *e*P **Pn** **01 12 55.4 -0.8**
VORD *e*S **S** **01 16 09.6 -2.9**
VORD pmax pmax
comp=Z,70nm,1.2s
VORD smax smax
comp=N,50nm,4.1s
VORD MLR MLR
comp=Z,510nm,8.0s
VSR Storozhevoye 16.78 36 *e*P **Pn** **01 12 56.7 -0.9**
VSR *e*S **Sn** **01 16 06.8 +3.0**
VSR pmax pmax
comp=Z,80nm,1.6s
VSR smax smax
comp=N,190nm,5.2s
VSR MLR MLR
comp=Z,5µm,13.0s
IDID Didziasalis 16.83 7 *e*P **Pn** **01 12 57.0 -1.3**
IDID IAmb IAmb 01 13 49.5
comp=Z,14nm,0.9s
PABE Paberze 16.87 1 *e*P **P** **01 13 01.3 +0.5**
PABE Paberze 16.87 1 Pn **Pn** **01 12 59.1 +0.4**
ISAL Salakas 17.04 5 *e*P **P** **01 13 02.8 +0.2**
ISAL IAmb IAmb 01 13 39.2
comp=Z,19nm,1.1s
BUG Bochum--Univer 17.07 324 *e*P **P** **01 13 04.5 +1.5**
comp=Z,130nm,1.6s,baz=138,slow=11
BTNL Ternell 17.07 320 *d*P **P** **01 13 04.3 +1.2**
BTNL *dx* x 01 13 08.2
VORR Voronezh 17.11 35 *e*P **Pn** **01 13 02.0 +0.3**
VORR pmax pmax
comp=Z,250nm,1.0s
MEM Membach 17.15 320 *d*Pn **P** **01 13 03.3 -0.6**
MEM *d*PnPn **PnPn** **01 13 10.5 -1.5**

MEM dx x 01 13 13.8
BSTI Sart Tilman 17.36 319 dP **P** **01 13 06.3 +0.1**
BSTI dx x 01 13 22.4
BSTI dx x 01 13 51.5
BCLA Clavier 17.40 318 dP **Pn** **01 13 05.5 +0.1**
BCLA dPnPn **PnPn** **01 13 17.4 +2.0**
BCLA dPgPg **PgPg** **01 14 33.5 -2.2**
PBUR Paburge 17.41 357 eP **Pn** **01 13 05.6 +0.1**
BSD Bornholm Skovb 17.44 344 eP **Pn** **01 13 04.6 -1.2**
BSD Bornholm Skovb 17.44 344 iP **P** **01 13 07.1 +0.1**
BSD IAmb IAmb 01 13 08.3
comp=Z,9.9nm,0.7s
BSD IAMs_20 IAMs_20 01 21 31.6
comp=Z,5µm,14.3s
BSD Bornholm Skovb 17.44 344 *i* P **P** **01 13 07.1 +0.1**
BSD pmax pmax
comp=Z,10.0nm,0.7s
BSD MLR MLR
comp=Z,5µm,14.0s
BGES Gesves 17.49 318 dP **P** **01 13 07.4 -0.2**
BGES dx x 01 13 23.6
BGES dPgPg **PgPg** **01 14 35.6 -1.9**
EBNR Beni Rached 17.49 269 P **P** **01 13 07.3 -0.6**
GROC Groznyy 17.54 68 eP **P** **01 13 10.1 +1.9**
GROC eS **Sn** **01 16 25.1 +2.8**
GROC pmax pmax
comp=Z,37nm,1.1s
GROC MLR MLR
comp=Z,862nm,9.0s
DOU Dourbes 17.59 317 dP **P** **01 13 08.4 -0.3**
DOU dPnPn **PnPn** **01 13 19.8 +1.8**
DOU dx x 01 13 54.6
BMRD Maredsous 17.61 317 dx x 01 13 20.8
LPSR Galich'ya Gora 17.64 33 eP **Pn** **01 13 08.1 -0.3**
LPSR eS **Sn** **01 16 25.8 +1.1**
LPSR pmax pmax
comp=Z,130nm,1.1s
LPSR smax smax
comp=E,80nm,4.1s
LPSR MLR MLR
comp=Z,4µm,13.0s
ECHA Ech Chlef 17.66 269 P **P** **01 13 10.8 +1.2**
ETRT Tiaret 17.91 266 P **P** **01 13 14.3 +1.7**
EANR 'Ain N'Sour 17.92 268 P **P** **01 13 12.5 -0.1**
VRH Novokhopyorsk 18.01 40 eP **P** **01 13 16.1 +2.8**
VRH eS **S** **01 16 38.6 -1.1**
VRH pmax pmax
comp=Z,110nm,1.4s
VRH smax smax
comp=N,150nm,5.7s
VRH MLR MLR
comp=Z,2µm,11.0s
UCC Uccle 18.11 318 dP **P** **01 13 14.6 +0.1**
LUNU Lund 18.25 342 iP **P** **01 13 16.5 +0.5**
OJGS Djebel Guires 18.31 267 P P 01 13 25.0 +8.0
BLEU Blekinge 18.37 347 iP **P** **01 13 17.4 +0.1**
COP Copenhagen 18.56 340 iP **Pn** **01 13 22.1 +2.5**
COP IAmb IAmb 01 13 25.1
comp=Z,18nm,0.8s
COP IAMs_20 IAMs_20 01 22 03.6
comp=Z,2µm,11.2s
COP Copenhagen 18.56 340 *i* P **Pn** **01 13 22.0 +2.5**
COP pmax pmax
comp=Z,19nm,0.8s
COP MLR MLR
comp=Z,2µm,11.0s
OBN Obninsk 18.73 24 P **P** **01 13 20.3 -1.0**
comp=Z,0.9nm,0.3s,baz=208,slow=5.9,SNR=16
OBN LR LR 01 20 25.2
comp=Z,820nm,18.4s,baz=206,slow=36
OBN Obninsk 18.73 24⇓*i*P **P** **01 13 19.6 -1.6**
OBN eS **S** **01 16 53.7 -0.5**
OBN pmax pmax
comp=Z,246nm,2.8s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 18.73 24 **Pn** **01 13 21.9 +0.3**
OBN IAmb IAmb 01 13 35.5
comp=Z,133nm,1.2s
MAK Makhachkala 18.75 69 eP **P** **01 13 17.7 -3.9**
MAK eS **Sn** **01 16 48.8 -2.9**
MAK pmax pmax
comp=Z,406nm,1.7s
MAK MLR MLR
comp=Z,2µm,10.0s
AKT Akhty 18.85 74 eP **Pn** **01 13 26.1 +2.8**
AKT pmax pmax
comp=Z,12nm,0.7s
DEL Delary 18.92 344 *i* P **Pn** **01 13 24.2 +0.2**
SLIT Slitere, Latvi 19.01 358 eP **Pn** **01 13 24.7 -0.4**
ODJA Bouhanifia 19.07 267 P **Pn** **01 13 28.0 +2.0**
CART Cartagena 19.20 274 P **P** **01 13 24.8 -1.7**
CART S Sn 01 16 35.5 -27
CART Cartagena 19.20 274 P **P** **01 13 26.3 -0.2**
USTO Oran 19.27 269 P **Pn** **01 13 30.0 +1.7**
MOS Moscow 19.59 25 eP **Pn** **01 13 32.0 0.0**
MOS pmax pmax
comp=N,64nm,1.1s
MOS pmax pmax
comp=E,59nm,1.1s
MOS pmax pmax
comp=Z,110nm,1.1s
MOS MLR MLR
comp=E,3µm,11.0s
MOS MLR MLR
comp=Z,3µm,11.0s
FABU Falkenberg 19.67 343 *i* P **Pn** **01 13 33.2 +0.3**
VSU Vasula 19.95 5 eP **Pn** **01 13 36.0 -0.3**
VSU Vasula 19.95 5⇓*i*P **Pn** **01 13 36.1 -0.2**
MUD Monsted U'grnd 20.16 337 *i* P **P** **01 13 37.6 +0.7**
MUD IAmb IAmb 01 13 39.5
comp=Z,39nm,0.8s
MUD IAMs_20 IAMs_20 01 23 09.1
comp=Z,5µm,10.4s
MUD Monsted U'grnd 20.16 337 *i* P **P** **01 13 37.5 +0.7**
MUD pmax pmax
comp=Z,39nm,0.8s
MUD MLR MLR
comp=Z,5µm,10.0s
ONAU Onsala 20.21 342 *i* P Pn 01 13 39.3 -0.1
ONAU *i* 01 17 26.6
BORU Boraas 20.23 343 *i* P **P** **01 13 38.3 +0.7**
UCM Universidad Co 20.59 283 P **P** **01 13 36.8 -5.0**
UCM S **S** **01 17 27.5 -4.3**
GOET G??ttrup 20.63 338⇓*i*P Pn 01 13 43.6 -0.6
GOET IAmb IAmb 01 13 44.9
comp=Z,179nm,0.8s
GOET IAMs_20 IAMs_20 01 25 25.2
comp=Z,5µm,10.8s
TJOU Tjoern 20.85 342 *i* P **P** **01 13 45.4 +1.0**
TAF Taforalt 20.99 267 P 01 13 49.0
FIGM Figuig 21.07 260 P 01 13 51.1
JSA Saint Aubin 21.11 308 eP **P** **01 13 46.5 -0.7**
JSA IAmb IAmb 01 13 48.5
comp=Z,103nm,1.2s
JSA IAMs_20 IAMs_20 01 21 51.0
comp=Z,3µm,12.0s
ESDC Sonseca Array 21.19 281 P **P** **01 13 48.5 +0.2**
comp=Z,75nm,0.9s,baz=74,slow=11,SNR=248
MELI Melilla 21.26 269 P **P** **01 13 47.8 -1.1**
MELI S Sn 01 17 53.9 +1.8
JBK JBK 21.26 266 P 01 13 52.0
GOG Mont Gurugu 21.32 269 P 01 13 51.2
PAB San Pablo 21.50 281 P **P** **01 13 51.4 -0.3**
PAB pmax pmax
comp=Z,140nm,1.0s
PAB San Pablo 21.50 281 P **P** **01 13 51.4 -0.3**
PAB San Pablo 21.50 281 P 01 13 52.0
UPP Uppsala 21.55 352 eP **P** **01 13 51.8 0.0**
MEF Metsahovi 21.60 1 eP **P** **01 13 52.0 -0.4**
PUL Pulkovo 21.61 10 *i* P **P** **01 13 53.1 +0.6**
PUL pmax pmax
comp=Z,163nm,0.9s
MIB Mutribah 21.65 107 eP **P** **01 13 53.0 -0.1**
AAL Aland 21.66 355 eP **P** **01 13 52.3 -0.8**
BELG Belogornoye 21.72 43 P **P** **01 13 54.5 +0.8**
comp=Z,88nm,1.0s,baz=143,slow=20,SNR=22
BELG LR LR 01 23 22.0
comp=Z,2µm,18.7s,baz=251,slow=40
STRU Stroemstad 21.86 343 *i* P **P** **01 13 55.0 -0.2**
HOMB Homborsund 21.88 339 *i* P **P** **01 13 56.6 +1.2**
HOMB Homborsund 21.88 339 eP **P** **01 13 55.9 +0.5**
EMAL Malaga-Limoner 22.05 274 P **P** **01 14 02.1 +4.7**
EMAL S **S** **01 17 58.9 -1.5**

UMR Umm Al-Rimmam 22.06 107 eP **P** **01 13 57.2 -0.3**
PALE Palemas 22.07 270 P 01 13 60.0
CWF Charnwood Fore 22.12 318 eP **P** **01 13 56.8 -1.3**
CWF IAMs_20 IAMs_20 01 22 04.3
comp=Z,2µm,13.4s
RDF Al-Radifah 22.26 109 eP **P** **01 13 59.0 -0.7**
SNART Snartemo 22.32 337 *i* P **P** **01 14 03.0 +2.9**
SNART Snartemo 22.32 337 eP **P** **01 14 01.3 +1.2**
PVLZ Peæn de 22.36 270 P **P** **01 13 57.8 -3.0**
PVLZ S **S** **01 18 07.4 +1.0**
HFS Hagfors 22.36 347 P **P** **01 13 59.9 -0.8**
comp=Z,31nm,0.7s,baz=146,slow=11,SNR=38
HFS LR LR 01 23 17.7
comp=Z,2µm,19.7s,baz=166,slow=38
RAF Rauma 22.43 358 eP **P** **01 14 00.2 -1.1**
LBWR Ladybower, Pea 22.67 319 eP **P** **01 14 03.4 -0.6**
LBWR IAmb IAmb 01 14 03.7
comp=Z,157nm,1.9s
LBWR IAMs_20 IAMs_20 01 24 12.8
comp=Z,3µm,14.1s
MCH1 Michaelchurch 22.69 315 eP **P** **01 14 03.1 -1.1**
MCH1 IAmb IAmb 01 14 04.4
comp=Z,388nm,1.9s
MCH1 IAMs_20 IAMs_20 01 23 39.1
comp=Z,3µm,10.5s
GDLE Glaisdale, N Y 22.76 322 eP **P** **01 14 04.7 -0.2**
STNC Stoke 22.77 318 eP **P** **01 14 05.0 +0.1**
STNC IAMs_20 IAMs_20 01 23 43.4
comp=Z,3µm,14.5s
LIJA Lijar 22.77 275 P **P** **01 14 03.0 -2.3**
OSL Oslo 22.77 343 eP **P** **01 14 05.3 +0.4**
KONO Kongsberg 22.78 342 P **P** **01 14 04.3 -0.7**
KONO pmax pmax
comp=Z,53nm,0.9s
KONO Kongsberg 22.78 342 eP **P** **01 14 05.3 +0.3**
KONO Kongsberg 22.78 342 P **P** **01 14 04.3 -0.7**
KONO IAmb IAmb 01 14 12.7
comp=Z,53nm,0.8s
HLM1 Long Mynd 22.86 316 eP **P** **01 14 05.6 -0.3**
HLM1 IAmb IAmb 01 14 05.9
comp=Z,33nm,0.9s
HLM1 IAMs_20 IAMs_20 01 24 29.1
comp=Z,4µm,12.7s
FINES FINESS Array B 22.89 3 P **P** **01 14 05.5 -0.6**
comp=Z,39nm,0.8s,baz=156,slow=9.6,SNR=30
FINES PcP **PcP** **01 17 56.7 +0.3**
comp=Z,1.3nm,0.5s,baz=194,slow=2.9,SNR=3.9
FINES ScP **ScP** **01 21 33.0 -1.1**
comp=Z,3.2nm,0.8s,baz=207,slow=3.1,SNR=5.8
FINES LR LR 01 24 20.2
comp=Z,2µm,21.3s,baz=188,slow=40
FINES FINESS Array B 22.89 3 *i* P **P** **01 14 07.5 +1.4**
FINES pmax pmax
comp=Z,39nm,0.8s
FINES FINESS Array B 22.89 3 P **P** **01 14 06.2 +0.1**
FINES PcP **PcP** **01 17 55.6 -0.8**
FINES **ScP** **01 21 32.8 -1.3**
FIA1 FINESS Array S 22.89 3 P **P** **01 14 06.2 0.0**
FIA1 IAmb IAmb 01 14 11.0
comp=Z,57nm,0.9s
FIA1 PcP **PcP** **01 17 51.9 -4.5**
HPK Haverah Park 22.91 320 eP **P** **01 14 05.9 -0.6**
HPK IAMs_20 IAMs_20 01 23 48.5
comp=Z,4µm,17.6s
CEU Ceuta 23.00 272 P **P** **01 14 05.0 -2.6**
CEU S S 01 18 02.7 -15
SMIR Smir Dam 23.06 272 P 01 14 10.0
PBRG Braganca 23.15 287 eP **P** **01 14 08.6 -0.5**
comp=Z,124nm,2.1s
CHEFC Chefchaouen 23.19 270 P 01 14 11.0
FOEL Foel Wylfa 23.20 317 eP **P** **01 14 08.0 -1.5**
FOEL IAMs_20 IAMs_20 01 24 37.3
comp=Z,3µm,16.1s
LCRM LCR 23.27 266 P 01 14 14.0
NC602 NORSAR Array S 23.33 345 eP **P** **01 14 10.1 -0.5**
NC602 NORSAR Array S 23.33 345 P **P** **01 14 10.6 -0.1**
MDT Midelt 23.39 264 P **P** **01 14 12.2 +0.5**
comp=Z,41nm,0.9s,baz=86,slow=11,SNR=63
MDT LR LR 01 23 55.5
comp=Z,484nm,18.8s,baz=72,slow=38
MVO Moncorvo 23.40 286 eP **P** **01 14 11.0 -0.7**
comp=Z,102nm,1.1s
MVO eS **S** **01 18 27.3 +2.6**
MVO eLR LR 01 23 22.4
comp=Z,1µm,18.0s
BLS5 Blasjo 23.43 338 eP **P** **01 14 11.1 -0.7**
SFS San Fernando 23.50 274 P **P** **01 14 18.4 +5.8**
SFS S **S** **01 18 23.6 -2.6**
IFR Ifrane 23.54 266 P **P** **01 14 13.9 +0.7**
IFR S **S** **01 18 27.2 -0.2**
NAO01 NORSAR Array S 23.56 345 P **P** **01 14 13.2 +0.2**
KMY Karmoy 23.63 336 eP **P** **01 14 14.3 +0.7**
NC405 NORSAR Array S 23.64 346 P **P** **01 14 13.7 -0.1**
CZD Col de Zad 23.65 265 P 01 14 17.0
NB201 NORSAR Array S 23.66 345 P **P** **01 14 14.1 0.0**
NB2 NORSAR Subarra 23.67 345 P **P** **01 14 13.6 -0.5**
baz=159,slow=11
NOA NORSAR Array B 23.67 345 P **P** **01 14 13.3 -0.8**
comp=Z,21nm,0.7s,baz=148,slow=9.9,SNR=51
NOA LR LR 01 23 54.3
comp=Z,991nm,20.1s,baz=160,slow=38
NB000 NORSAR Array S 23.75 345 P **P** **01 14 15.3 +0.5**
ARNO Arenosillo 23.77 276 P **P** **01 14 20.2 +5.0**
ARNO S **S** **01 18 24.2 -6.3**
PBAR Barrancos 23.79 278 eP **P** **01 14 14.8 -0.6**
comp=Z,56nm,1.2s
PBAR eS **S** **01 18 32.4 +1.6**
ODD1 Odda 23.79 339 eP **P** **01 14 15.7 +0.4**
NC303 NORSAR Array S 23.81 346 P **P** **01 14 14.9 -0.5**
MTE Manteigas 23.85 284 eP **P** **01 14 15.4 -0.7**
comp=Z,100nm,1.1s
MTE eS **S** **01 18 34.1 +2.1**
MTE eLQ LQ 01 22 06.5
MTE eLR LR 01 23 31.6
comp=Z,2µm,16.0s
MTE Manteigas 23.85 284 P **P** **01 14 15.2 -0.9**
PMRV Marv??o 23.85 282 eP **P** **01 14 15.7 -0.4**
comp=Z,76nm,1.6s
PMRV eS **S** **01 18 34.8 +2.9**
PMRV eLQ LQ 01 22 11.3
PMRV eLR LR 01 23 33.3
comp=Z,1µm,16.0s
PCBR Castelo Branco 23.87 283 eP **P** **01 14 15.9 -0.2**
comp=Z,97nm,1.2s
POLO Lamas de Olo 23.96 286 eP **P** **01 14 18.5 +1.3**
comp=Z,33nm,1.2s
NC204 NORSAR Array S 23.98 345 P **P** **01 14 16.9 -0.1**
SKAR Skarslia 24.00 342 eP **P** **01 14 17.9 +0.6**
PVIS Viseu 24.09 285 eP **P** **01 14 18.0 -0.3**
comp=Z,121nm,1.4s
PESTR Estremoz 24.09 280 eP **P** **01 14 17.4 -0.9**
comp=Z,77nm,1.7s
PESTR eS S 01 18 16.3 -19
PESTR eLQ LQ 01 22 07.8
PESTR Estremoz 24.09 280 P **P** **01 14 17.0 -1.3**
PESTR Estremoz 24.09 280 P 01 14 17.6
PCAB Cabril 24.11 287 eP **P** **01 14 18.6 +0.1**
comp=Z,123nm,1.5s
RAYN Ar Rayn 24.13 122 P **P** **01 14 18.8 0.0**
RAYN pmax pmax
comp=Z,61nm,1.4s
RAYN Ar Rayn 24.13 122 P **P** **01 14 18.8 0.0**
RAYN IAmb IAmb 01 14 26.9
comp=Z,61nm,1.4s
PGAV Gavieira, Arco 24.28 288 eP **P** **01 14 20.8 +0.6**
comp=Z,107nm,2.0s
PGAV eS **S** **01 18 42.2 +3.3**
PGAV eLR LR 01 24 25.7
comp=Z,2µm,20.0s
EKA Eskdalemuir Ar 24.39 322 P **P** **01 14 20.7 -0.2**
comp=Z,28nm,0.8s,baz=119,slow=11,SNR=79
EKA PcP **PcP** **01 18 01.1 +1.4**
comp=Z,0.8nm,0.6s,baz=91,slow=3.0,SNR=2.6
EKA ScP **ScP** **01 21 37.6 -0.7**
comp=Z,6.3nm,1.1s,baz=131,slow=2.1,SNR=7.2
EKA LR LR 01 24 51.0
comp=Z,2µm,20.5s,baz=115,slow=39
ESK Eskdalemuir 24.41 322 eP **P** **01 14 21.1 0.0**
ESK IAmb IAmb 01 14 22.4
comp=Z,135nm,1.3s
ESK IAMs_20 IAMs_20 01 25 46.5
comp=Z,3µm,13.1s
ESK Eskdalemuir 24.41 322 P **P** **01 14 20.9 -0.1**
ESK pmax pmax
comp=Z,146nm,1.4s

ESK Eskdalemuir 24.41 322 P **P** **01 14 20.9 -0.1**
KLMR Klimovskoe 24.42 19 eP **P** **01 14 21.5 +0.5**
KLMR S **S** **01 18 45.1 +4.6**
KLMR pmax pmax
comp=Z,88nm,0.9s
KLMR MLR MLR
comp=Z,2µm,11.0s
KLMR Klimovskoe 24.42 19 eP **P** **01 14 21.6 +0.5**
KLMR eP **P** **01 14 21.6 +0.5**
KLMR eP **P** **01 14 21.6 +0.5**
KLMR AMP 01 14 26.5
comp=Z,88nm,0.9s
KLMR S **S** **01 18 45.2 +4.7**
KLMR S **S** **01 18 45.2 +4.7**
KLMR LQ LQ 01 21 29.2
KLMR LQ LQ 01 21 29.2
KLMR LR LR 01 21 41.0
KLMR AMP 01 24 38.0
comp=Z,2µm,10.7s
ESY Stoneypath 24.45 323 eP **P** **01 14 20.4 -1.1**
PBEJ Beja 24.45 278 eP **P** **01 14 21.6 0.0**
comp=Z,51nm,1.6s
PVAQ Vaqueiros 24.47 277 eP **P** **01 14 21.8 +0.1**
comp=Z,112nm,1.1s
PVAQ eS **S** **01 18 44.4 +2.7**
PVAQ eLQ LQ 01 24 00.9
PVAQ eLR LR 01 25 47.3
comp=Z,660nm,20.0s
PVAQ Vaqueiros 24.47 277 P **P** **01 14 21.0 -0.7**
PVAQ Vaqueiros 24.47 277 P 01 14 21.7
EVO Evora 24.47 280 P **P** **01 14 21.7 -0.1**
EVO S **S** **01 18 34.0 -7.8**
EVO Evora 24.47 280 eP **P** **01 14 21.7 -0.1**
comp=Z,49nm,1.3s
COI Coimbra 24.54 284 P **P** **01 14 22.1 -0.2**
COI pmax pmax
comp=Z,96nm,1.0s
COI Coimbra 24.54 284 eP **P** **01 14 23.1 +0.8**
comp=Z,107nm,1.0s
COI Coimbra 24.54 284 P **P** **01 14 22.1 -0.2**
BER Bergen 24.55 338 eP **P** **01 14 22.8 +0.6**
PMTG Montargil 24.55 281 eP **P** **01 14 22.1 -0.4**
comp=Z,89nm,0.9s
IOMK Kirk Michael 24.56 319 eP **P** **01 14 21.4 -1.0**
IOMK IAmb IAmb 01 14 24.4
comp=Z,497nm,1.9s
IOMK IAMs_20 IAMs_20 01 24 50.3
comp=Z,5µm,13.3s
EBL Broad Law 24.58 323 eP **P** **01 14 21.6 -0.9**
PCAS Casmilo, Conde 24.62 283 eP **P** **01 14 23.5 +0.4**
comp=Z,73nm,1.1s
PCAS eS **S** **01 18 44.7 +0.5**
PBDV Barranco-do-Ve 24.67 277 eP **P** **01 14 24.0 +0.4**
comp=Z,183nm,1.0s
PBDV eS **S** **01 18 34.6 -10**
PCVE Castro Verde 24.67 278 eP **P** **01 14 23.3 -0.3**
comp=Z,84nm,2.0s
ASK Askoy 24.67 338 eP **P** **01 14 23.9 +0.6**
EDI Edinburgh 24.73 323 eP **P** **01 14 23.6 -0.2**
EDI IAMs_20 IAMs_20 01 26 07.6
comp=Z,4µm,13.1s
ZHG ZHG 24.75 267 P 01 14 27.0
MESJ Messejana 24.77 278 eP **P** **01 14 24.2 -0.2**
MESJ IAmb IAmb 01 14 25.6
comp=Z,51nm,1.1s
MESJ eS **S** **01 18 47.9 +1.4**
MESJ Messejana 24.77 278 eP **P** **01 14 24.2 -0.2**
MESJ eS **S** **01 18 47.9 +1.4**
NEWG New Galloway 24.81 321 eP **P** **01 14 24.0 -0.7**
NEWG IAmb IAmb 01 14 26.0
comp=Z,296nm,2.3s
PSBE So Bento 24.92 282 eP **P** **01 14 26.5 +0.7**
comp=Z,94nm,1.2s
PSBE eS **S** **01 18 45.9 -3.1**
PNCL Nicolau / Gran 24.95 279 eP **P** **01 14 26.6 +0.5**
comp=Z,124nm,1.4s
PNCL eS **S** **01 18 40.6 -8.9**
HYA Hoyanger 24.96 340 eP **P** **01 14 26.8 +0.9**
TZRR Tazzarine 24.97 261 P 01 14 30.0
DOMB Dombas 25.02 344 eP **P** **01 14 27.0 +0.4**
PTEO Sao Teotonio 25.22 278 eP **P** **01 14 29.1 +0.6**
comp=Z,177nm,1.5s
SUE Sulen 25.26 339 eP **P** **01 14 28.1 -0.5**
LIS Lisbon 25.32 280 eP **P** **01 14 29.4 0.0**
LIS IAmb IAmb 01 14 34.9
comp=Z,177nm,1.3s
LIS eS **S** **01 18 56.9 +1.6**
LIS Lisbon 25.32 280 eP **P** **01 14 29.4 0.0**
LIS eS **S** **01 18 56.9 +1.6**
PMST Lisbon--Monsan 25.34 281 eP **P** **01 14 31.0 +1.4**
comp=Z,136nm,1.3s
PMAFR Mafra 25.38 281 eP **P** **01 14 31.0 +1.0**
comp=Z,96nm,1.7s
PFVI Vila Bisbo 25.39 277 eP **P** **01 14 30.8 +0.7**
comp=Z,126nm,1.5s
PFVI eS **S** **01 18 54.8 -1.7**
PFVI Vila Bisbo 25.39 277 P **P** **01 14 29.9 -0.2**
INVG Invergeldie, C 25.40 323 eP **P** **01 14 29.7 -0.3**
INVG IAmb IAmb 01 14 34.6
comp=Z,47nm,1.1s
INVG IAMs_20 IAMs_20 01 26 31.3
comp=Z,3µm,12.5s
AVE Averroes 25.41 267 P **P** **01 14 27.9 -2.3**
AVE S **S** **01 19 03.2 +6.3**
AKN Aaknes 25.61 342 eP **P** **01 14 33.4 +1.5**
FOO Floro 25.62 340 eP **P** **01 14 30.6 -1.3**
CLGH Cloghs, Cushen 25.74 319 eP **P** **01 14 33.4 +0.3**
MOL Molde 25.83 343 eP **P** **01 14 33.7 0.0**
LAWE Loch Awe, Argy 25.96 322 eP **P** **01 14 34.4 -0.6**
LAWE IAmb IAmb 01 14 39.9
comp=Z,22nm,0.9s
LAWE IAMs_20 IAMs_20 01 26 44.0
comp=Z,2µm,14.7s
KIRV Kirov 26.07 32 P **P** **01 14 37.0 +1.0**
comp=Z,51nm,0.7s,baz=210,slow=4.0,SNR=19
KIRV LR LR 01 25 03.7
comp=Z,2µm,18.9s,baz=230,slow=37
KIRV Kirov 26.07 32*c*eP **P** **01 14 36.7 +0.7**
OUK Oukaimeden 26.57 263 P 01 14 43.0
PRGR Permogore 26.81 24 eP **P** **01 14 46.5 +3.8**
AKTO Aktyubinsk 27.11 53 P **P** **01 14 46.3 +0.7**
comp=Z,6.1nm,0.9s,baz=255,slow=10,SNR=14
AKTO LR LR 01 27 55.3
comp=Z,821nm,18.7s,baz=260,slow=42
GEYT Alibeck 27.19 81 P **P** **01 14 47.3 +0.8**
comp=Z,5.0nm,0.6s,baz=252,slow=18,SNR=11
GEYT LR LR 01 28 24.6
comp=Z,680nm,19.0s,baz=0.0,slow=43
GEYT Alibeck 27.19 81 P **P** **01 14 45.9 -0.5**
GYA0B ALIBECK ARRAY 27.19 81 P **P** **01 14 45.7 -0.8**
GYA0B IAmb IAmb 01 15 05.0
comp=Z,49nm,1.2s
AB31 Akbulak array 28.13 56 *i* P **P** **01 14 55.9 +1.2**
ABKAR Akbulak array 28.13 56 P **P** **01 14 54.5 -0.2**
ABKAR Akbulak array 28.13 56 P **P** **01 14 54.6 0.0**
ARU Arti 29.23 41 P **P** **01 15 05.7 +1.3**
comp=Z,5.4nm,0.5s,baz=246,slow=10,SNR=11
ARU LR LR 01 26 24.2
comp=Z,981nm,21.2s,baz=242,slow=36
ARU Arti 29.23 41*d*iP **P** **01 15 05.6 +1.2**
ARU 01 15 58.1
ARU 01 18 13.4
ARU S **S** **01 20 00.8 +4.1**
ARU SS **SnSn** **01 21 26.2 +4.6**
ARU pmax pmax
comp=Z,50nm,1.1s
ARU MLR MLR
comp=Z,2µm,15.0s
ARU Arti 29.23 41 P **P** **01 15 04.3 0.0**
APA Apatity 29.52 8⇓*i*P **P** **01 15 06.2 -0.6**
APA *i* S **S** **01 19 59.0 -1.9**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,4µm,13.0s
SVE Sverdlovsk 30.45 41 eP **P** **01 15 16.9 +1.8**
SVE eS **S** **01 20 17.7 +1.9**
SVE pmax pmax
comp=Z,90nm,1.3s
SVE MLR MLR
comp=Z,1µm,10.0s
ARCES ARCESS Array B 30.97 1 P **P** **01 15 21.0 +1.3**
comp=Z,5.6nm,0.8s,baz=183,slow=9.9,SNR=11
ARCES PcP **PcP** **01 18 15.3 -0.1**

comp=Z,4.5nm,1.0s,baz=184,slow=2.6,SNR=1.4
ARCES ScP **ScP** **01 21 56.6 -1.5**
comp=Z,2.2nm,0.8s,baz=184,slow=2.4,SNR=5.1
ARCES LR LR 01 28 31.0
comp=Z,3µm,18.3s,baz=190,slow=38
ARCES ARCESS Array B 30.97 1 P **P** **01 15 19.1 -0.6**
ARCES 01 18 15.7
ARCES pmax pmax
comp=Z,14nm,1.0s
ARCES ARCESS Array B 30.97 1 P **P** **01 15 19.1 -0.6**
ARCES **PcP** **01 18 15.7 +0.3**
HRA Herat 31.37 86 P **P** **01 15 22.9 -0.9**
ATD Arta Tunnel 32.10 142 P **P** **01 15 29.5 -0.7**
ATD IAmb IAmb 01 15 38.6
comp=Z,38nm,1.3s
KOWA Kowa 34.09 233 P **P** **01 15 47.2 -0.2**
KOWA IAmb IAmb 01 16 00.7
comp=Z,36nm,1.5s
MACI Morro de la Ar 34.61 265 P **P** **01 15 51.8 -0.4**
BRVK Borovoye 35.04 50 *ceP* **P** **01 15 56.0 +0.6**
BRVK pmax pmax
comp=Z,40nm,1.7s
BRVK Borovoye 35.04 50 P **P** **01 15 55.1 -0.2**
BRVK IAmb IAmb 01 16 07.9
comp=Z,30nm,1.1s
CHGR Chuyangaron 35.47 75 P **P** **01 15 58.5 -0.8**
KK31 Karatay Array 35.56 67 P **P** **01 15 59.6 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KK31 Karatay Array 35.56 67 P **P** **01 15 59.6 -0.3**
KKAR Karatay Array 35.56 67 P **P** **01 15 59.6 -0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 35.56 67 P **P** **01 15 59.6 -0.3**
KKAR Karatay Array 35.56 67 P **P** **01 15 59.4 -0.5**
DZA Taraz 36.18 68 *eP* **P** **01 16 08.6 +3.3**
baz=68
DZA Taraz 36.18 68 *eP* **P** **01 16 08.6 +3.3**
GAR Garm 36.26 74 P **P** **01 16 05.6 -0.6**
OTUK Ortayu 36.27 58 P **P** **01 16 06.0 0.0**
BTK Batken 36.38 72 P **P** **01 16 06.5 -0.6**
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 36.38 72 P **P** **01 16 06.5 -0.6**
BRZS Berezniki 36.43 56 *eP* **P** **01 16 08.0 +0.6**
baz=56
BRZS *eS* **S** **01 21 53.3 +4.5**
baz=56
BRZS Berezniki 36.43 56 *eP* **P** **01 16 07.9 +0.6**
BRZS *eS* **S** **01 21 53.2 +4.5**
KBL Kabul 36.61 82 P **P** **01 16 08.4 -0.9**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 36.61 82 P **P** **01 16 08.4 -0.9**
LODK Lodwar 36.73 160 P **P** **01 16 09.5 -0.7**
LODK IAmb IAmb 01 16 18.2
comp=Z,22nm,1.0s
BTLS Baital 37.78 64 *eP* **P** **01 16 18.9 0.0**
baz=64
BTLS *eS* **S** **01 22 04.5 -4.7**
baz=64
BTLS Baital 37.78 64 *eP* **P** **01 16 18.8 0.0**
BTLS *eS* **S** **01 22 04.5 -4.7**
SGDS Sogindy 38.46 66 *eP* **P** **01 16 24.7 0.0**
baz=66
SGDS Sogindy 38.46 66 *eP* **P** **01 16 24.7 0.0**
AAK Ala-Archa 38.52 67 P **P** **01 16 24.9 -0.4**
AAK pmax pmax
comp=Z,20nm,1.1s
AAK Ala-Archa 38.52 67 P **P** **01 16 24.9 -0.4**
FRU1 Bishkek 38.58 67 P **P** **01 16 25.6 -0.1**
FRU1 pmax pmax
comp=Z,45nm,0.5s
FRU1 Bishkek 38.58 67 P **P** **01 16 25.6 -0.1**
SCO Scoresbysund 39.57 338 ⇓*iP* **P** **01 16 35.4 +1.8**
SCO IAmb IAmb 01 16 36.1
comp=Z,19nm,0.7s
SCO IAMs_20 IAMs_20 01 35 05.4
comp=Z,926nm,17.8s
SCO Scoresbysund 39.57 338 ⇓*iP* **P** **01 16 35.3 +1.8**
SCO pmax pmax
comp=Z,19nm,0.7s
SCO MLR MLR
comp=Z,940nm,18.0s
SCO Scoresbysund 39.57 338 IAmb IAmb 01 16 43.9
comp=Z,41nm,1.1s
KUU Kurty 39.59 65 *eP* **P** **01 16 34.5 +0.4**
baz=65
KUU *eS* **S** **01 22 44.6 +7.8**
baz=65
KUU Kurty 39.59 65 *eP* **P** **01 16 34.4 +0.4**
KUU *eS* **S** **01 22 44.5 +7.8**
MBAR Mbarara 39.64 168 *ceP* **P** **01 16 35.9 +1.1**
MBAR pmax pmax
comp=Z,30nm,2.5s
MBAR Mbarara 39.64 168 P **P** **01 16 34.0 -0.8**
CHKK Chushkaly 40.06 65 *eP* **P** **01 16 38.0 0.0**
baz=65
CHKK Chushkaly 40.06 65 *eP* **P** **01 16 38.0 0.0**
KURBB Kurchatov Arra 40.15 54 P **P** **01 16 38.5 -0.1**
NIL Nilore 40.19 81 P **P** **01 16 38.5 -0.7**
NIL pmax pmax
comp=Z,67nm,1.1s
NIL Nilore 40.19 81 P **P** **01 16 38.5 -0.7**
MDOK Medeo 40.24 66 *eS* **S** **01 22 52.5 +5.7**
baz=66
KSH Kashi 40.36 72 P **P** **01 16 42.6 +2.0**
KSH S **S** **01 22 46.1 -2.4**
KSH sS pS 01 22 52.5 0.0
KSH pmax pmax
comp=Z,8.0nm,0.5s
KSH L L
comp=Z,1µm,12.1s
KSH L L
comp=Z,450nm,7.3s
KSH L L
comp=Z,560nm,13.0s
DBIC Dimbokro 40.79 226 P **P** **01 16 44.9 +0.6**
comp=Z,19nm,0.6s,baz=16,slow=9.8,SNR=51
DBIC LR LR 01 34 44.1
comp=Z,1µm,18.5s,baz=8.5,slow=38
DBIC Dimbokro 40.79 226 P **P** **01 16 43.5 -0.7**
DBIC pmax pmax
comp=Z,81nm,1.4s
DBIC Dimbokro 40.79 226 P **P** **01 16 43.5 -0.7**
TIC Toumodi 40.90 226 *eP* **P** **01 16 45.7 +0.5**
KIC Kosan Boka 40.98 226 *eP* **P** **01 16 46.4 +0.6**
comp=Z,45nm,0.6s
DBG Daneborg 41.16 343 *iP* **P** **01 16 48.0 +1.3**
DBG IAmb IAmb 01 16 51.7
comp=Z,4.9nm,0.9s
DBG IAMs_20 IAMs_20 01 37 02.8
comp=Z,1µm,14.3s
SATY Saty 41.24 66 *eP* **P** **01 16 47.9 0.0**
baz=66
SATY *eS* **S** **01 23 08.3 +6.7**
baz=66
SATY Saty 41.24 66 *eP* **P** **01 16 47.9 0.0**
SATY *eS* **S** **01 23 08.2 +6.7**
LIC Lamto 41.25 226 *eP* **P** **01 16 48.7 +0.7**
comp=Z,118nm,0.5s
SEM Semipalatinsk 41.26 54 *eP* **P** **01 16 47.9 -0.2**
baz=54
SEM Semipalatinsk 41.26 54 *eP* **P** **01 16 47.8 -0.2**
KPKS Kokpek 41.34 65 *eP* **P** **01 16 48.8 +0.1**
baz=65
KPKS Kokpek 41.34 65 *eP* **P** **01 16 48.7 +0.1**
UZB Uzynbulak 41.66 65 *eP* **P** **01 16 49.5 -1.9**
baz=65
UZB *eS* **S** **01 23 12.6 +4.7**
baz=65
UZB Uzynbulak 41.66 65 *eP* **P** **01 16 49.4 -1.9**
UZB *eS* **S** **01 23 12.5 +4.7**
SHLS Shalkode 41.97 65 *eP* **P** **01 16 56.8 +2.9**
baz=65
SHLS *eS* S 01 23 24.1 +12
baz=65
SHLS Shalkode 41.97 65 *eP* **P** **01 16 56.7 +2.9**
SHLS *eS* S 01 23 24.0 +12
DAG Danmarks Havn 42.34 347 *iP* **P** **01 16 57.7 +1.4**
DAG IAmb IAmb 01 16 58.0
comp=Z,5.5nm,0.8s
DAG IAMs_20 IAMs_20 01 34 23.5
comp=Z,852nm,20.4s
DAG Danmarks Havn 42.34 347 *iP* **P** **01 16 57.6 +1.4**
DAG MLR MLR
comp=Z,860nm,20.0s
MK31 Makanchi Array 43.15 59 *iP* **P** **01 17 04.0 +0.8**
MK31 pmax pmax
comp=Z,13nm,0.6s
MK31 Makanchi Array 43.15 59 P **P** **01 17 02.9 -0.4**
MKAR Makanchi Array 43.15 59 P **P** **01 17 04.2 +0.9**
comp=Z,12nm,0.5s,baz=271,slow=7.6,SNR=96
MKAR LR LR 01 37 31.9
comp=Z,864nm,19.0s,baz=277,slow=40
MKAR Makanchi Array 43.15 59 P **P** **01 17 02.8 -0.4**
ZAA0 Zalesovo Array 43.71 49 P **P** **01 17 07.5 -0.2**
ZALV Zalesovo Beam 43.71 49 P **P** **01 17 08.3 +0.7**
comp=Z,42nm,0.7s,baz=274,slow=8.7,SNR=55
ZALV LR LR 01 37 34.9
comp=Z,718nm,18.1s,baz=275,slow=39
ZALV Zalesovo Beam 43.71 49 P **P** **01 17 07.5 -0.2**
ISOG Isortoq, Green 44.21 328 *iP* P 01 17 16.4 +5.0
ISOG IAmb IAmb 01 17 18.1
comp=Z,26nm,0.9s
ZSN Zaisan 44.73 58 *eP* **P** **01 17 16.3 +0.3**
baz=58
ZSN *eS* **S** **01 23 56.6 +4.0**
baz=58
ZSN Zaisan 44.73 58 *eP* **P** **01 17 16.2 +0.3**
ZSN *eS* **S** **01 23 56.5 +4.0**
ICESG Greenland Ices 44.93 333 *iP* **P** **01 17 18.8 +1.2**
ICESG IAmb IAmb 01 17 25.3
comp=Z,28nm,0.9s
SUMG Summit 45.22 338 ⇓*iP* **P** **01 17 20.9 +1.0**
SUMG IAmb IAmb 01 17 21.8
comp=Z,13nm,0.8s
SUMG Summit 45.22 338 ⇓*iP* **P** **01 17 20.9 +1.0**
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 45.22 338 P **P** **01 17 19.8 -0.1**
SUMG IAmb IAmb 01 17 24.8
comp=Z,26nm,1.1s
NOR Nord 45.31 352 *iP* **P** **01 17 20.5 +0.4**
NOR IAmb IAmb 01 17 24.1
comp=Z,13nm,0.9s
NOR IAMs_20 IAMs_20 01 37 27.6
comp=Z,768nm,19.5s
NOR Nord 45.31 352 *iP* **P** **01 17 20.4 +0.4**
NOR pmax pmax
comp=Z,13nm,0.9s
NOR MLR MLR
comp=Z,780nm,20.0s
NRIK Noril'sk 45.38 27 P **P** **01 17 23.4 +2.6**
comp=Z,9.4nm,0.8s,baz=253,slow=4.0,SNR=14
NRIK LR LR 01 37 48.9
comp=Z,2µm,19.4s,baz=262,slow=38
NRIK Noril'sk 45.38 27 ⇓*iP* **P** **01 17 23.2 +2.5**
NRIK pmax pmax
comp=Z,20nm,1.1s
NRIK Noril'sk 45.38 27 P **P** **01 17 21.3 +0.5**
NRIK IAmb IAmb 01 17 27.2
comp=Z,19nm,1.1s
DGZ Jazzator, Alta 45.94 54 ⇓*iP* **P** **01 17 26.8 +1.1**
DGZ pmax pmax
comp=Z,15nm,0.6s
DY2G Dye2 47.23 329 *iP* **P** **01 17 36.4 +0.7**
DY2G IAMs_20 IAMs_20 01 36 54.1
comp=Z,2µm,22.6s
WMQ Urumqi 47.57 62 *eP* **P** **01 17 39.8 +1.4**
WMQ pP sP 01 17 42.9 -0.3
WMQ S **S** **01 24 36.5 +3.0**
WMQ pmax pmax
comp=Z,43nm,1.3s
WMQ pmax pmax
comp=Z,210nm,4.3s
WMQ L L
comp=Z,2µm,17.1s
WMQ L L
comp=Z,1µm,18.1s
WMQ L L
comp=Z,2µm,20.9s
SFJD Kangerlussuaq 48.95 330 LR LR 01 38 56.2
comp=Z,1µm,20.1s,baz=86,slow=37
NEEM North Greenlan 49.24 344 *iP* **P** **01 17 51.1 0.0**
NEEM IAmb IAmb 01 17 55.3
comp=Z,18nm,0.9s
NEEM IAMs_20 IAMs_20 01 39 50.9
comp=Z,671nm,18.3s
NUUG Nuugaatsiaq 49.65 336 *iP* **P** **01 17 54.9 +1.0**
NUUG IAmb IAmb 01 17 57.9
comp=Z,9.6nm,1.0s
UPNV Upernavik 50.49 338 *iP* **P** **01 18 00.9 +0.6**
UPNV IAmb IAmb 01 18 01.8
comp=Z,11nm,0.9s
DANN Dangsing 50.59 83 *eP* **P** **01 18 02.1 0.0**
comp=Z,131nm,0.9s
KOLN Koldanda 50.74 83 *eP* **P** **01 18 03.1 0.0**
GKN Gorkha 51.44 83 *eP* **P** **01 18 07.9 -0.4**
DMN Daman 51.99 83 *eP* **P** **01 18 12.6 +0.1**
KKN Kakani 52.04 82 *eP* **P** **01 18 12.7 -0.1**
PKIN Phulchoki 52.23 83 *eP* **P** **01 18 14.0 -0.3**
PKI Pulchoki 52.25 83 *eP* **P** **01 18 14.0 -0.5**
GUN Gumba 52.45 82 *eP* **P** **01 18 16.1 +0.1**
TULEG Thule 53.30 343 *iP* **P** **01 18 22.1 +0.9**
TULEG IAmb IAmb 01 18 25.5
comp=Z,18nm,0.8s
TULEG Thule 53.30 343 P **P** **01 18 21.8 +0.6**
TULEG IAmb IAmb 01 18 25.8
comp=Z,19nm,0.8s
RAMN Ramite 53.47 83 *eP* **P** **01 18 22.8 -0.7**
comp=Z,48nm,0.9s
MOY Mondy 53.76 49 *eP* **P** **01 18 26.6 +1.5**
MOY pmax pmax
comp=Z,23nm,1.7s
LSZ Lusaka 53.83 174 P **P** **01 18 25.3 -0.5**
LSZ pmax pmax
comp=Z,15nm,1.3s
LSZ Lusaka 53.83 174 P **P** **01 18 25.2 -0.5**
ODAN Odare 54.13 82 *eP* **P** **01 18 27.5 -0.8**
TAPN Taplejung 54.14 82 *eP* **P** **01 18 28.3 -0.1**
TLY Talaya 55.32 48 *eP* **P** **01 18 39.6 +3.3**
TLY *eS* **S** **01 26 21.2 +1.2**
TLY *e*SSS SSS 01 32 07.0
TLY pmax pmax
comp=Z,56nm,1.4s
TLY MLR MLR
comp=Z,2µm,18.0s
EUNU Eureka 55.50 349 P **P** **01 18 37.8 +0.5**
EUNU IAmb IAmb 01 18 54.6
comp=Z,11nm,0.9s
ZAK Zakamensk 55.56 50 *eP* **P** **01 18 39.0 +0.9**
ZAK pmax pmax
comp=Z,12nm,1.2s
LSA Lhasa 55.65 77 P **P** **01 18 40.0 +0.5**
LSA Lhasa 55.65 77 P **P** **01 18 38.1 -1.4**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 55.65 77 P **P** **01 18 38.1 -1.4**
LSA IAmb IAmb 01 18 47.4
comp=Z,19nm,0.9s
DRLN Deer Lake 56.55 309 P **P** **01 18 45.0 -0.1**
DRLN IAmb IAmb 01 18 50.3
comp=Z,20nm,0.9s
FRB Frobisher Bay 56.95 328 LR LR 01 44 33.9
comp=Z,1µm,18.8s,baz=70,slow=37
GTA Gaotai 57.63 63 *eP* **P** **01 18 53.5 +0.5**
GTA pP sP 01 19 04.7 +6.8
GTA S **S** **01 26 54.7 +3.5**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,56nm,5.5s
GTA L L
comp=Z,370nm,16.4s
GTA L L
comp=Z,650nm,18.9s
GTA L L
comp=Z,710nm,20.7s
TSUM Tsumeb 57.80 186 P **P** **01 18 53.4 -0.8**
TSUM IAmb IAmb 01 19 00.8
comp=Z,16nm,1.2s
SONM Songino Array 58.42 52 P **P** **01 18 59.2 +0.7**
comp=Z,9.2nm,0.8s,baz=283,slow=7.5,SNR=17
SONM LR LR 01 46 48.8
comp=Z,706nm,18.1s,baz=299,slow=39
SONM Songino Array 58.42 52 P **P** **01 18 57.6 -0.9**
SONM pmax pmax
comp=Z,16nm,1.0s
SONM Songino Array 58.42 52 P **P** **01 18 57.6 -0.9**
SONM IAmb IAmb 01 19 04.6
comp=Z,16nm,1.0s
TIXI Tiksi 58.42 21 *ceP* **P** **01 18 58.7 +0.8**
ULN Ulaanbaatar 58.81 51 P **P** **01 19 00.7 -0.6**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 58.81 51 P **P** **01 19 00.7 -0.6**
ULN IAmb IAmb 01 19 07.4
comp=Z,14nm,1.0s
SCHQ Schefferville 59.62 318 P **P** **01 19 06.7 +0.1**
comp=Z,14nm,0.7s,baz=61,slow=5.8,SNR=26
SCHQ LR LR 01 42 32.1
comp=Z,330nm,21.4s,baz=63,slow=34
SCHQ Schefferville 59.62 318 P **P** **01 19 06.6 +0.1**
LZH Lanzhou 61.99 65 *eP* **P** **01 19 21.6 -1.5**
LZH S **S** **01 27 53.0 +5.4**
LZH sS sS 01 28 04.4 +11
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,140nm,6.2s
LZH L L
comp=Z,710nm,16.8s
LZH L L
comp=Z,760nm,15.7s
LZH L L
comp=Z,770nm,17.9s
HAL Halifax 62.28 306 P **P** **01 19 24.7 0.0**
HAL pmax pmax
comp=Z,26nm,0.8s
HAL Halifax 62.28 306 P **P** **01 19 24.7 0.0**
LBTB Lobatse 63.36 178 P **P** **01 19 31.4 -0.7**
LBTB pmax pmax
comp=Z,16nm,0.7s
LBTB Lobatse 63.36 178 P **P** **01 19 31.4 -0.7**
YAK Yakutsk 63.59 30 *eP* **P** **01 19 36.0 +2.9**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.4s
D62A Allapoint, All 64.44 311 P **P** **01 19 39.1 +0.1**
D62A IAmb IAmb 01 19 55.5
comp=Z,14nm,0.9s
CD2 Chengdu 64.52 70 P **P** **01 19 40.2 +0.4**
CD2 S **S** **01 28 18.1 -0.9**
CD2 SS **SS** **01 32 29.2 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,100nm,4.6s
CD2 L L
comp=Z,400nm,17.5s
CD2 L L
comp=Z,620nm,25.9s
CD2 L L
comp=Z,550nm,20.6s
HHC Hu-ho-hao-te 64.92 57 *eP* P 01 19 52.8 +10
HHC S **S** **01 28 25.6 +1.8**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,78nm,6.4s
HHC L L
comp=Z,820nm,14.5s
HHC L L
comp=Z,980nm,15.3s
HHC L L
comp=Z,1µm,15.3s
XAN Xi'an 66.61 64 P **P** **01 19 54.2 +0.9**
XAN pP sP 01 20 03.7 +5.5
XAN S **S** **01 28 46.4 +1.8**
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN pmax pmax
comp=Z,110nm,3.6s
XAN L L
comp=Z,580nm,20.6s
XAN L L
comp=Z,530nm,20.7s
XAN L L
comp=Z,600nm,18.6s
KMI Kunming 66.83 76 ⇑P **P** **01 19 55.2 +0.2**
KMI S **S** **01 28 45.6 -2.2**
KMI SKS **SKSac** **01 29 51.9 -0.5**
KMI SS **SS** **01 33 05.9 +0.4**
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI pmax pmax
comp=Z,170nm,7.4s
KMI L L
comp=Z,260nm,23.3s
KMI L L
comp=Z,320nm,26.0s
KMI L L
comp=Z,650nm,24.0s
BOSA Boshof 66.93 178 P **P** **01 19 55.9 +0.6**
comp=Z,13nm,0.7s,baz=356,slow=7.0,SNR=54
BOSA LR LR 01 51 39.1
comp=Z,860nm,18.2s,baz=360,slow=38
BOSA Boshof 66.93 178 P **P** **01 19 54.9 -0.4**
BOSA pmax pmax
comp=Z,16nm,0.8s
BOSA Boshof 66.93 178 P **P** **01 19 54.9 -0.4**
ZEA Zeya 67.13 39 *eP* P 01 20 01.7 +5.5
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,400nm,10.0s
ZEA MLR MLR
comp=N,500nm,13.0s
ZEA MLR MLR
comp=Z,600nm,13.0s
CMAR Chiang Mai Arr 67.61 84 P **P** **01 19 59.2 -0.6**
comp=Z,1.5nm,0.5s,baz=304,slow=8.4,SNR=8.3
CMAR LR LR 01 54 23.3
comp=Z,244nm,19.1s,baz=340,slow=40
CMAR Chiang Mai Arr 67.61 84 *ceP* **P** **01 20 02.2 +2.4**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
TRQ Mont Tremblant 68.12 312 P **P** **01 20 02.7 -0.1**
FRNY Flat Rock 68.31 311 P **P** **01 20 03.7 -0.2**
FRNY IAmb IAmb 01 20 05.8
comp=Z,7.3nm,0.7s
BJI Beijing 68.34 56 P **P** **01 20 06.6 +2.5**
BJI S **S** **01 29 06.0 +1.0**
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI L L
comp=Z,630nm,14.3s
BJI L L
comp=Z,390nm,12.4s
BJI L L
comp=Z,540nm,24.7s
VLDQ Val d'Or 68.71 315 P **P** **01 20 06.9 +0.6**
VLDQ IAmb IAmb 01 20 24.5
comp=Z,11nm,0.9s
GYA Guiyang 69.05 72 *eP* **P** **01 20 13.2 +4.3**
GYA PP **PP** **01 22 46.2 +5.0**
GYA S **S** **01 29 15.8 +1.7**
GYA L L
comp=Z,46nm,22.4s
GYA L L
comp=Z,47nm,17.1s
GYA L L
comp=Z,50nm,17.0s
C36M Paulatuk 69.68 348 P **P** **01 20 11.9 0.0**
C36M IAmb IAmb 01 20 28.3
comp=Z,16nm,1.3s
FCC Fort Churchill 69.96 331 P **P** **01 20 13.7 -0.1**
FCC pmax pmax
comp=Z,14nm,0.8s
FCC Fort Churchill 69.96 331 P **P** **01 20 13.7 -0.1**
FCC IAmb IAmb 01 20 19.6
comp=Z,14nm,0.8s
BILL Bilibino 70.04 14 *deP* **P** **01 20 14.8 +0.6**
BILL *e* 01 20 37.1
BILL *eS* **S** **01 29 17.8 -6.5**
BILL pmax pmax
comp=Z,13nm,1.7s
BILL MLR MLR
comp=Z,487nm,20.0s
BILL Bilibino 70.04 14 P **P** **01 20 14.3 +0.1**
PLVO Plevna 70.25 312 P **P** **01 20 15.6 -0.2**
L59A Walton 70.67 309 P **P** **01 20 18.1 -0.5**
L59A IAmb IAmb 01 20 21.2
comp=Z,14nm,0.8s

TIA	**Tai'an**	**71.08**	**59**	P	**P**	**01 20 16.5**	**-4.5**
TIA				S	**S**	**01 29 43.2**	**+5.8**
TIA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TIA				L	L		
	comp=Z,430nm,19.1s						
TIA				L	L		
	comp=Z,460nm,16.7s						
TIA				L	L		
	comp=Z,450nm,28.4s						
J56A	**Wolcott**	**71.14**	**311**	IAmb	IAmb	01 20 37.9	
	comp=Z,16nm,0.9s						
BINY	**Binghamton**	**71.24**	**309**	IAmb	IAmb	01 20 29.5	
	comp=Z,11nm,0.8s						
KSPA	**Keystone Colle**	**71.48**	**309**	P	**P**	**01 20 23.0**	**-0.4**
SADO	**Sadowa**	**71.60**	**313**	IAmb	IAmb	01 20 25.8	
	comp=Z,10nm,0.8s						
CN2	**Changchun**	**71.92**	**48**	*e*P	**P**	**01 20 25.5**	**-0.5**
CN2				sP	sP	01 20 32.8	+1.9
CN2				S	**S**	**01 29 43.2**	**-3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				L	L		
	comp=Z,790nm,15.0s						
CN2				L	L		
	comp=Z,680nm,15.0s						
CN2				L	L		
	comp=Z,680nm,15.0s						
INK	**Inuvik**	**71.97**	**351**	LR	LR	01 53 28.1	
	comp=Z,513nm,22.0s,baz=18,slow=37						
KLR	**Kul'dur**	**72.08**	**41**	*c*eP	**P**	**01 20 26.6**	**-0.2**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
M57A	**Sunshine Farm,**	**72.44**	**309**	P	**P**	**01 20 28.8**	**-0.4**
DL2	**Dalian**	**72.47**	**54**	P	P	01 20 37.4	+8.1
DL2				*e*S	**SKiKP**	**01 30 06.5**	**+2.1**
DL2	**Dalian**	**72.47**	**54**	SS	SS	01 34 31.8	+0.7
DL2				pmax	pmax		
	comp=Z,22nm,1.2s						
DL2				pmax	pmax		
	comp=Z,100nm,3.5s						
DL2				L	L		
	comp=Z,440nm,16.6s						
DL2				L	L		
	comp=Z,470nm,15.4s						
DL2				L	L		
	comp=Z,640nm,28.0s						
N58A	**Sunbury**	**72.48**	**308**	P	**P**	**01 20 29.1**	**-0.2**
N58A				IAmb	IAmb	01 20 33.4	
	comp=Z,26nm,1.2s						
WVNY	**West Valley, N**	**72.69**	**311**	P	**P**	**01 20 30.2**	**-0.4**
WVNY				IAmb	IAmb	01 20 32.5	
	comp=Z,14nm,0.8s						
MA2	**Magadan**	**72.94**	**25**	*i* P	**P**	**01 20 33.3**	**+1.5**
MA2				pmax	pmax		
	comp=Z,19nm,0.9s						
SSPA	**Standing Stone**	**73.31**	**309**	P	**P**	**01 20 33.7**	**-0.6**
SSPA				IAmb	IAmb	01 20 42.5	
	comp=Z,24nm,1.1s						
M55A	**Ridgway**	**73.35**	**310**	IAmb	IAmb	01 20 36.5	
	comp=Z,14nm,0.7s						
NBMA	**Muriti-CE**	**73.51**	**246**	*e*P	**P**	**01 20 39.1**	**+3.2**
YKA	**Yellowknife Ar**	**73.70**	**341**	P	**P**	**01 20 36.7**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=33,slow=5.2,SNR=12						
YKA				LR	LR	01 53 56.8	
	comp=Z,369nm,20.1s,baz=0.0,slow=37						
BMAR	**Burnt Mountain**	**73.85**	**355**	P	**P**	**01 20 37.5**	**+0.4**
M54A	**Oil Creek Stat**	**73.86**	**310**	P	**P**	**01 20 37.2**	**-0.4**
M54A				IAmb	IAmb	01 20 39.5	
	comp=Z,12nm,0.8s						
O56A	**Blue Knob Stat**	**73.95**	**309**	P	**P**	**01 20 37.8**	**-0.4**
O56A				IAmb	IAmb	01 20 40.1	
	comp=Z,13nm,0.8s						
P57A	**Homestead Farm**	**74.08**	**308**	P	**P**	**01 20 38.8**	**-0.1**
EPYK	**Eagle Plains**	**74.19**	**352**	P	**P**	**01 20 39.3**	**+0.2**
N54A	**Moraine State**	**74.39**	**310**	IAmb	IAmb	01 20 43.1	
	comp=Z,19nm,0.9s						
NJ2	**Nanjing**	**74.64**	**61**	*e*P	**P**	**01 20 43.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				L	L		
	comp=Z,430nm,16.2s						
NJ2				L	L		
	comp=Z,490nm,14.2s						
NJ2				L	L		
	comp=Z,400nm,18.6s						
R58B	**Mineral**	**74.92**	**307**	IAmb	IAmb	01 20 51.0	
	comp=Z,10nm,0.9s						
E43A	**Lone Tree Farm**	**74.92**	**318**	IAmb	IAmb	01 21 02.2	
	comp=Z,9.0nm,0.8s						
N53A	**Lisbon**	**74.99**	**310**	P	**P**	**01 20 44.3**	**+0.1**
Q56A	**Snyder Ridge,**	**75.07**	**308**	P	**P**	**01 20 44.3**	**-0.4**
JSRW	**J. Sargeant Re**	**75.08**	**306**	P	**P**	**01 20 44.5**	**-0.1**
MCWV	**Mont Chateau**	**75.10**	**309**	P	**P**	**01 20 44.1**	**-0.7**
MCWV				IAmb	IAmb	01 20 46.9	
	comp=Z,20nm,0.9s						
O54A	**Avella**	**75.10**	**310**	P	**P**	**01 20 44.5**	**-0.3**
D41A	**Chassel**	**75.29**	**319**	P	**P**	**01 20 45.7**	**0.0**
D41A				IAmb	IAmb	01 20 47.1	
	comp=Z,9.7nm,0.8s						
TPTI		**75.34**	**98**	P	**P**	**01 20 49.1**	**+2.6**
USA0B	**Ussuriysk Arra**	**75.39**	**45**	P	**P**	**01 20 45.7**	**-0.6**
USA0B				pmax	pmax		
	comp=Z,8.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**75.39**	**45**	P	**P**	**01 20 45.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**75.39**	**45**	P	**P**	**01 20 46.1**	**-0.3**
	comp=Z,8.0nm,0.7s,baz=295,slow=5.2,SNR=19						
USRK	**Ussuriysk Ar.**	**75.39**	**45**	P	**P**	**01 20 45.4**	**-0.9**
O53A	**New Philadelph**	**75.56**	**310**	P	**P**	**01 20 47.0**	**-0.4**
O53A				IAmb	IAmb	01 20 54.8	
	comp=Z,13nm,1.0s						
IMAR	**Indian Mountai**	**75.68**	**359**	P	**P**	**01 20 47.7**	**+0.1**
QIZ	**Qiongzhong**	**75.69**	**77**	P	**P**	**01 20 47.7**	**-0.8**
QIZ				S	**S**	**01 30 30.8**	**+0.7**
QIZ				SS	**SS**	**01 35 24.2**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,17nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,170nm,3.1s						
QIZ				L	L		
	comp=Z,290nm,11.4s						
QIZ				L	L		
	comp=Z,270nm,15.3s						
QIZ				L	L		
	comp=Z,290nm,14.2s						
U59A	**Littleton**	**75.84**	**305**	P	**P**	**01 20 48.7**	**-0.4**
U59A				IAmb	IAmb	01 20 51.0	
	comp=Z,10nm,0.8s						
FFC	**Flin Flon**	**75.89**	**331**	P	**P**	**01 20 48.9**	**-0.1**
FFC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FFC	**Flin Flon**	**75.89**	**331**	P	**P**	**01 20 48.9**	**-0.1**
R55A	**Marlinton**	**76.12**	**308**	P	**P**	**01 20 50.2**	**-0.5**
R55A				IAmb	IAmb	01 21 02.5	
	comp=Z,16nm,0.9s						
Q54A	**Coxs Mills**	**76.12**	**309**	P	**P**	**01 20 50.3**	**-0.3**
Q54A				IAmb	IAmb	01 20 58.3	
	comp=Z,12nm,1.1s						
P53A	**Whipple**	**76.14**	**310**	P	**P**	**01 20 50.5**	**-0.3**
P53A				IAmb	IAmb	01 20 52.7	
	comp=Z,14nm,0.8s						
EYMN	**Ely**	**76.17**	**321**	P	**P**	**01 20 50.6**	**-0.2**
EGAK	**Eagle**	**76.20**	**353**	P	**P**	**01 20 50.4**	**-0.2**
COWI	**Conover**	**76.22**	**319**	P	**P**	**01 20 50.6**	**-0.5**
COWI				IAmb	IAmb	01 20 58.6	
	comp=Z,18nm,1.3s						
T57A	**Hurt**	**76.37**	**306**	P	**P**	**01 20 51.9**	**-0.2**
T57A				IAmb	IAmb	01 20 53.9	
	comp=Z,9.1nm,0.8s						
MDM	**Murphy Dome**	**76.52**	**356**	P	**P**	**01 20 52.7**	**+0.2**
MDM				IAmb	IAmb	01 21 01.4	
	comp=Z,16nm,1.4s						
ULM	**Lac du Bonnet**	**76.63**	**325**	P	**P**	**01 20 53.4**	**0.0**
	comp=Z,5.0nm,0.6s,baz=40,slow=6.3,SNR=11						
ULM				LR	LR	01 55 43.8	
	comp=Z,1μm,18.8s,baz=48,slow=36						
ULM	**Lac du Bonnet**	**76.63**	**325**	P	**P**	**01 20 53.2**	**-0.1**
ULM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULM	**Lac du Bonnet**	**76.63**	**325**	P	**P**	**01 20 53.2**	**-0.1**
ILAR	**Eielson Array**	**76.64**	**356**	P	**P**	**01 20 54.1**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=344,slow=3.2,SNR=6.1						
ILAR				LR	LR	01 58 07.8	
	comp=Z,184nm,18.5s,baz=6.5,slow=38						
ILAR	**Eielson Array**	**76.64**	**356**	P	**P**	**01 20 53.2**	**+0.1**
NBPN	**Ponto Novo - B**	**76.93**	**245**	*e*P	**P**	**01 20 58.6**	**+3.1**
PSI	**Prapat**	**76.98**	**97**	LR	LR	02 01 04.7	
	comp=Z,216nm,18.1s,baz=271,slow=40						
Q52A	**Bidwell**	**77.00**	**310**	IAmb	IAmb	01 20 57.5	
	comp=Z,15nm,1.0s						
K27K	**Chicken**	**77.02**	**353**	IAmb	IAmb	01 21 09.7	
	comp=Z,12nm,0.9s						
R53A	**Hurricane**	**77.21**	**309**	IAmb	IAmb	01 20 58.4	
	comp=Z,14nm,0.8s						
KS19	**Wonju Array Si**	**77.23**	**52**	P	**P**	**01 20 55.6**	**-1.4**
KS19				IAmb	IAmb	01 21 14.5	
	comp=Z,11nm,0.8s						
SCRK	**Sand Creek**	**77.23**	**354**	P	**P**	**01 20 56.4**	**-0.2**
KSAR	**Wonju Array Be**	**77.27**	**52**	P	**P**	**01 20 56.7**	**-0.5**
KSAR	**Wonju Array Be**	**77.27**	**52**	P	**P**	**01 20 56.7**	**-0.5**
KSRS	**Korea Array**	**77.29**	**52**	P	**P**	**01 20 57.0**	**-0.2**
	comp=Z,6.5nm,0.7s,baz=311,slow=5.0,SNR=25						
KSRS				LR	LR	01 59 39.7	
	comp=Z,527nm,18.3s,baz=314,slow=39						
U56A	**King**	**77.48**	**307**	IAmb	IAmb	01 21 18.6	
	comp=Z,17nm,1.0s						
Q51A	**Peebles**	**77.61**	**310**	IAmb	IAmb	01 21 07.8	
	comp=Z,11nm,0.8s						
U54A	**Nelsons Funny**	**78.27**	**307**	IAmb	IAmb	01 21 22.8	
	comp=Z,25nm,1.1s						
V55A	**Taylorsville**	**78.32**	**307**	P	**P**	**01 21 02.6**	**-0.5**
V55A				IAmb	IAmb	01 21 05.5	
	comp=Z,16nm,1.2s						
PDPR	**Patillas Dam,**	**78.52**	**284**	P	**P**	**01 21 03.4**	**-0.9**
BIRD	**Birdtown, Kers**	**78.60**	**305**	IAmb	IAmb	01 21 24.7	
	comp=Z,14nm,1.2s						
KMSC	**Kings Mountain**	**78.84**	**306**	IAmb	IAmb	01 21 26.1	
	comp=Z,12nm,1.0s						
YSS	**Yuzh-Sakhalins**	**79.06**	**37**	*e*P	**P**	**01 21 07.9**	**+1.0**
YSS				*e*S	**S**	**01 31 08.6**	**+2.8**
YSS				*e*SS	**SS**	**01 36 09.5**	**-0.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,200nm,3.0s						
YSS				MLR	MLR		
	comp=Z,900nm,13.0s						
L42A	**Oliver, Polo**	**79.27**	**316**	IAmb	IAmb	01 21 14.6	
	comp=Z,14nm,1.1s						
PAULI	**Pauline**	**79.35**	**306**	P	**P**	**01 21 08.2**	**-0.6**
PAULI				IAmb	IAmb	01 21 16.6	
	comp=Z,28nm,1.4s						
GHO	**Glory Hole Cre**	**79.74**	**356**	P	**P**	**01 21 10.0**	**-0.4**
GHO				IAmb	IAmb	01 21 17.2	
	comp=Z,15nm,0.8s						
I37A	**Lemond, Waseca**	**79.85**	**319**	IAmb	IAmb	01 21 19.2	
	comp=Z,22nm,1.1s						
WCI	**Wyandotte Cave**	**79.88**	**311**	P	**P**	**01 21 11.3**	**-0.2**
WCI				pmax	pmax		
	comp=Z,11nm,0.9s						
WCI	**Wyandotte Cave**	**79.88**	**311**	P	**P**	**01 21 11.3**	**-0.2**
WCI				IAmb	IAmb	01 21 12.9	
	comp=Z,11nm,0.9s						
TKL	**Tuckaleechee C**	**80.04**	**308**	IAmb	IAmb	01 21 32.3	
	comp=Z,15nm,1.1s						
L40A	**Anamosa**	**80.07**	**317**	IAmb	IAmb	01 21 13.2	
	comp=Z,9.7nm,0.8s						
V51A	**Loudon**	**80.30**	**308**	IAmb	IAmb	01 21 16.4	
	comp=Z,14nm,1.1s						
PETK	**Petropavlovsk-**	**80.43**	**26**	P	**P**	**01 21 14.3**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=359,slow=6.4,SNR=4.8						
PETK				LR	LR	02 02 50.7	
	comp=Z,493nm,18.3s,baz=315,slow=40						
PETK	**Petropavlovsk-**	**80.43**	**26**	P	**P**	**01 21 13.9**	**-0.4**
CPCT	**Cooper Cave**	**80.64**	**308**	P	**P**	**01 21 15.3**	**-0.4**
CPCT				IAmb	IAmb	01 21 23.7	
	comp=Z,17nm,1.1s						
U49A	**Red Boiling Sp**	**80.71**	**310**	P	**P**	**01 21 15.5**	**-0.5**
U49A				IAmb	IAmb	01 21 18.1	
	comp=Z,34nm,1.4s						
P43A	**Skaggs, Pawnee**	**80.79**	**314**	IAmb	IAmb	01 21 26.7	
	comp=Z,13nm,0.8s						
T47A	**Sharon Grove**	**81.19**	**311**	IAmb	IAmb	01 21 19.7	
	comp=Z,14nm,0.8s						
W50A	**Signal Mountai**	**81.29**	**308**	IAmb	IAmb	01 21 39.4	
	comp=Z,19nm,0.9s						
GOGA	**Godfrey**	**81.31**	**306**	IAmb	IAmb	01 21 39.3	
	comp=Z,10nm,0.9s						
CLTN	**Cedars of Leba**	**81.32**	**310**	IAmb	IAmb	01 21 39.2	
	comp=Z,16nm,1.2s						
Y52A	**Lilburn**	**81.39**	**307**	IAmb	IAmb	01 21 39.9	
	comp=Z,16nm,0.9s						
V48A	**Smith Brothers**	**81.85**	**310**	P	**P**	**01 21 21.7**	**-0.4**
V48A				IAmb	IAmb	01 21 29.3	
	comp=Z,13nm,1.2s						
SDDR	**Presa de Saban**	**81.90**	**288**	P	**P**	**01 21 21.9**	**-0.8**
SDDR	**Presa de Saban**	**81.90**	**288**	*e*P	**P**	**01 21 25.2**	**+2.5**
SIUC	**Southern Illin**	**81.93**	**312**	IAmb	IAmb	01 21 30.4	
	comp=Z,11nm,0.8s						
WVT	**Waverly**	**82.19**	**310**	P	**P**	**01 21 23.5**	**-0.4**
WVT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WVT	**Waverly**	**82.19**	**310**	P	**P**	**01 21 23.5**	**-0.4**
FVM	**French Village**	**82.44**	**313**	IAmb	IAmb	01 21 26.4	
	comp=Z,11nm,0.9s						
152A	**Waverly Hall**	**82.59**	**306**	IAmb	IAmb	01 21 46.4	
	comp=Z,11nm,1.0s						
X48A	**Hartselle**	**82.85**	**309**	IAmb	IAmb	01 21 34.8	
	comp=Z,13nm,0.8s						
Y49A	**Blount Mountai**	**82.86**	**308**	P	**P**	**01 21 27.1**	**-0.3**
Y49A				IAmb	IAmb	01 21 35.1	
	comp=Z,13nm,1.1s						
CCM	**Cathedral Cave**	**82.86**	**314**	P	**P**	**01 21 27.1**	**-0.3**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CCM	**Cathedral Cave**	**82.86**	**314**	P	**P**	**01 21 27.1**	**-0.3**
CCM				IAmb	IAmb	01 21 28.4	
	comp=Z,7.4nm,0.7s						
P38A	**Dawn**	**83.03**	**316**	IAmb	IAmb	01 21 29.7	
	comp=Z,7.4nm,0.7s						
PLAL	**Pickwick Lake**	**83.12**	**310**	IAmb	IAmb	01 21 35.6	
	comp=Z,9.3nm,0.9s						
R40A	**Maddies Statio**	**83.27**	**314**	IAmb	IAmb	01 21 30.8	
	comp=Z,10.0nm,0.8s						
PBMO	**Poplar Bluff**	**83.28**	**312**	IAmb	IAmb	01 21 37.0	
	comp=Z,12nm,1.1s						
T42A	**Van Buren**	**83.49**	**313**	IAmb	IAmb	01 21 41.1	
	comp=Z,12nm,0.9s						
LAO	**LASA Array**	**83.83**	**328**	P	**P**	**01 21 32.0**	**-0.3**
250A	**Grady**	**84.02**	**306**	P	**P**	**01 21 33.0**	**-0.4**
MJAR	**Matsushiro Arr**	**84.04**	**47**	P	**P**	**01 21 35.5**	**+2.0**
	comp=Z,5.6nm,0.9s,baz=309,slow=4.3,SNR=6.0						
MJAR				LR	LR	02 02 09.1	
	comp=Z,361nm,18.4s,baz=305,slow=38						
MJAR	**Matsushiro Arr**	**84.04**	**47**	P	**P**	**01 21 33.0**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,13nm,1.3s						
MJAR	**Matsushiro Arr**	**84.04**	**47**	P	**P**	**01 21 33.0**	**-0.5**
MJAR				IAmb	IAmb	01 21 38.8	
	comp=Z,13nm,1.3s						
LCAR	**Lake Charles**	**84.19**	**312**	IAmb	IAmb	01 21 42.0	
	comp=Z,7.7nm,0.8s						
S39A	**Bolivar**	**84.28**	**315**	IAmb	IAmb	01 21 42.3	
	comp=Z,14nm,1.1s						
JOW	**Kunigami**	**84.31**	**60**	P	**P**	**01 21 34.0**	**-1.0**
WALA	**Waterton Lakes**	**84.84**	**333**	IAmb	IAmb	01 21 42.2	
	comp=Z,6.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**84.88**	**313**	IAmb	IAmb	01 21 39.0	
	comp=Z,9.4nm,0.9s						
RSSD	**Black Hills**	**84.90**	**325**	P	**P**	**01 21 37.4**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RSSD	**Black Hills**	**84.90**	**325**	P	**P**	**01 21 37.4**	**-0.6**
U40A	**Yellville**	**84.97**	**313**	P	**P**	**01 21 37.7**	**-0.4**
U40A				IAmb	IAmb	01 21 50.1	
	comp=Z,11nm,1.1s						
PTGA	**Pitinga**	**85.24**	**265**	P	**P**	**01 21 39.0**	**-0.8**
PTGA				IAmb	IAmb	01 21 50.0	
	comp=Z,9.0nm,0.9s						
WHAR	**Wooly Hollow**	**85.39**	**312**	IAmb	IAmb	01 21 41.6	
	comp=Z,15nm,1.0s						
HHAR	**Hobbs**	**85.63**	**314**	IAmb	IAmb	01 21 49.5	
	comp=Z,11nm,1.0s						
BDFB	**Brasilia**	**85.74**	**246**	P	**P**	**01 21 43.7**	**+1.4**
	comp=Z,5.0nm,0.8s,baz=84,slow=5.0,SNR=8.4						
BDFB				LR	LR	02 02 37.9	
	comp=Z,466nm,18.5s,baz=47,slow=38						
BDFB	**Brasilia**	**85.74**	**246**	P	**P**	**01 21 41.7**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,13nm,1.1s						
BDFB	**Brasilia**	**85.74**	**246**	P	**P**	**01 21 41.7**	**-0.6**
BDFB				IAmb	IAmb	01 21 52.9	
	comp=Z,13nm,1.1s						
U38A	**Gravette**	**85.77**	**314**	IAmb	IAmb	01 21 43.3	
	comp=Z,11nm,0.8s						
JTMT	**Jette**	**86.08**	**333**	P	**P**	**01 21 43.3**	**-0.4**
X40A	**Basin Creek Fa**	**86.28**	**312**	P	**P**	**01 21 44.0**	**-0.7**
X40A				IAmb	IAmb	01 21 52.8	
	comp=Z,16nm,1.3s						
W39A	**Magazine**	**86.32**	**313**	IAmb	IAmb	01 21 52.0	
	comp=Z,3.8nm,0.5s						
RLMT	**Red Lodge**	**86.35**	**329**	IAmb	IAmb	01 22 04.0	
	comp=Z,8.8nm,0.9s						
NEW	**Newport**	**86.62**	**335**	IAmb	IAmb	01 21 56.2	
	comp=Z,10nm,1.0s						
MSO	**Missoula**	**86.74**	**332**	IAmb	IAmb	01 21 57.1	
	comp=Z,11nm,1.1s						
YNE	**Yellowstone No**	**86.74**	**329**	IAmb	IAmb	01 22 07.9	
	comp=Z,16nm,1.0s						
LRM	**Limekiln Ridge**	**87.03**	**331**	P	**P**	**01 21 47.9**	**-0.6**
K22A	**Casper**	**87.17**	**325**	P	**P**	**01 21 48.4**	**-0.8**
K22A				IAmb	IAmb	01 21 49.4	
	comp=Z,7.9nm,0.8s						
PHWY	**Pilot Hill**	**87.76**	**324**	IAmb	IAmb	01 22 00.1	
	comp=Z,9.3nm,0.9s						
PDAR	**Pinedale Array**	**88.39**	**327**	P	**P**	**01 21 54.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=50,slow=5.1,SNR=7.4						
PDAR				LR	LR	02 02 33.1	
	comp=Z,867nm,19.3s,baz=33,slow=36						
PDAR	**Pinedale Array**	**88.39**	**327**	P	**P**	**01 21 54.4**	**-0.7**
F10A	**Beach Ranch, E**	**88.64**	**334**	P	**P**	**01 21 55.6**	**-0.4**
ISCO	**Idaho Springs**	**89.03**	**323**	IAmb	IAmb	01 22 09.2	
	comp=Z,8.2nm,1.1s						
HAWA	**Hanford**	**89.05**	**335**	IAmb	IAmb	01 22 06.2	
	comp=Z,8.3nm,1.1s						
WMOK	**Wichita Mounta**	**89.45**	**316**	IAmb	IAmb	01 22 01.2	
	comp=Z,5.8nm,0.8s						
O20A	**White River Ci**	**89.96**	**325**	IAmb	IAmb	01 22 11.6	
	comp=Z,11nm,1.1s						
PAMC	**Pamplona, Colo**	**90.18**	**279**	*e*P	**P**	**01 22 06.9**	**+2.7**
RDMU	**Red Mountain**	**90.20**	**326**	P	**P**	**01 22 02.8**	**-0.8**
RDMU				IAmb	IAmb	01 22 10.9	
	comp=Z,10.0nm,0.9s						
SMLC	**San Martn de**	**90.33**	**281**	*e*P	**P**	**01 22 05.2**	**+0.9**
MFID	**Camas Ranch**	**90.34**	**332**	P	**P**	**01 22 03.6**	**-0.5**
HKT	**Hockley**	**91.30**	**311**	P	**P**	**01 22 08.1**	**-0.4**
HKT				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HKT	**Hockley**	**91.30**	**311**	P	**P**	**01 22 08.1**	**-0.4**
HKT				IAmb	IAmb	01 22 20.1	
	comp=Z,6.6nm,1.2s						
PV22	**Blue Mesa, Par**	**91.51**	**324**	IAmb	IAmb	01 22 17.2	
	comp=Z,12nm,1.1s						
PV07	**Paradox Valley**	**91.52**	**324**	P	**P**	**01 22 08.8**	**-1.0**
PV07				IAmb	IAmb	01 22 15.1	
	comp=Z,7.7nm,0.8s						
PV15	**Paradox Valley**	**91.53**	**324**	P	**P**	**01 22 09.1**	**-0.8**
MOTC	**Monteria, Cord**	**91.56**	**282**	*e*P	**P**	**01 22 10.0**	**0.0**
PV01	**Paradox Valley**	**91.73**	**324**	IAmb	IAmb	01 22 18.4	
	comp=Z,9.2nm,1.0s						
PV20	**West Nyswnger**	**91.75**	**324**	IAmb	IAmb	01 22 16.3	
	comp=Z,7.1nm,0.8s						
PV03	**Paradox Valley**	**91.76**	**324**	P	**P**	**01 22 10.2**	**-0.7**
PV03				IAmb	IAmb	01 22 18.5	
	comp=Z,8.7nm,1.0s						
PV19	**Morning Glory**	**91.78**	**324**	P	**P**	**01 22 10.1**	**-0.9**
PV17	**East Wray Mesa**	**91.80**	**324**	IAmb	IAmb	01 22 18.6	
	comp=Z,9.9nm,1.0s						
PV18	**Skein Mesa, Pa**	**91.80**	**324**	IAmb	IAmb	01 22 25.5	
	comp=Z,11nm,1.2s						
SRU	**San Rafael Swe**	**91.81**	**326**	IAmb	IAmb	01 22 24.3	
	comp=Z,4.5nm,0.8s						
PV13	**Radium Mtn., P**	**91.83**	**324**	IAmb	IAmb	01 22 18.8	
	comp=Z,5.7nm,0.9s						
PV05	**Paradox Valley**	**92.02**	**324**	IAmb	IAmb	01 22 18.6	
	comp=Z,5.6nm,0.8s						
SPBC	**San Pablo de B**	**92.30**	**279**	*e*P	**P**	**01 22 13.8**	**+0.3**
MVCO	**Mesa Verde**	**92.45**	**323**	IAmb	IAmb	01 22 28.0	
	comp=Z,7.3nm,1.1s						
VILC	**Villavicencio,**	**92.97**	**278**	*e*P	P	01 22 08.4	-8.3
NORC	**Norcasia**	**92.97**	**279**	*e*P	**P**	**01 22 14.8**	**-1.9**
ROSC	**El Rosal**	**93.00**	**279**	P	**P**	**01 22 18.9**	**+1.7**
	comp=Z,7.1nm,0.9s,baz=18,slow=13,SNR=4.4						
ROSC				LR	LR	02 02 26.2	
	comp=Z,288nm,19.4s,baz=45,slow=34						
GUVC	**San Jose del G**	**93.11**	**276**	*e*P	**P**	**01 22 17.1**	**-0.1**
MTPU	**Mount Pierson**	**93.43**	**326**	P	**P**	**01 22 17.7**	**-1.1**
GUY2C	**Guyana, Caldas**	**93.56**	**280**	*e*P	**P**	**01 22 19.5**	**-0.4**
CBOC	**Ciudad Bolivar**	**93.66**	**280**	*e*P	**P**	**01 22 20.2**	**+0.2**
PSUT	**Pine Spring**	**93.72**	**328**	P	**P**	**01 22 19.2**	**-0.8**
TOLC	**Tolima**	**93.93**	**279**	*e*P	**P**	**01 22 23.3**	**+1.9**
PKCU	**Pink Cliffs**	**93.98**	**326**	IAmb	IAmb	01 22 26.4	
	comp=Z,5.4nm,0.7s						
PRAC	**Prado**	**94.14**	**278**	*e*P	**P**	**01 22 20.5**	**-1.5**
ORTC	**Ortega, Tolima**	**94.30**	**278**	*e*P	**P**	**01 22 23.3**	**+0.6**
YOTC	**Yotoco, Valle**	**95.10**	**279**	*e*P	**P**	**01 22 22.4**	**-4.1**
NVAR	**Mina Array Bea**	**95.60**	**331**	P	**P**	**01 22 29.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=45,slow=3.7,SNR=7.7						
NVAR				LR	LR	02 06 07.6	
	comp=Z,844nm,21.6s,baz=29,slow=36						
TX31	**Lajitas Ar. Si**	**96.24**	**315**	P	**P**	**01 22 30.9**	**-0.6**
TXAR	**Lajitas Array**	**96.24**	**315**	P	**P**	**01 22 32.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=66,slow=4.4,SNR=6.4						
TXAR	**Lajitas Array**

comp=E,684µm,0.3s
ARG AML AML 01 25 59.4

comp=N,639µm,0.7s
ARG Arkhangelos 1.09 9 P **Pg** **01 25 31.5 -1.3**
ARG S **Sb** **01 25 50.6 +3.3**

comp=N,412nm,0.9s
ARG Arkhangelos 1.09 9 PN **Pg** **01 25 31.6 -1.3**
ARG SN **Sg** **01 25 48.2 +1.2**
ARG Arkhangelos 1.09 9 P **Pg** **01 25 31.2 -1.6**
ARG S **Sg** **01 25 49.3 +2.4**
ZKR Zakros 1.40 270 P Pn 01 25 34.6 -3.0
ZKR S Sb 01 25 49.8 -6.3
ZKR AML AML 01 26 08.1

comp=E,681µm,0.9s
ZKR AML AML 01 26 10.4

comp=N,364µm,0.6s
ZKR Zakros 1.40 270 P **Pn** **01 25 36.2 -1.4**
ZKR S **Sg** **01 26 00.9 +4.0**

comp=N,248nm,0.8s
ZKR Zakros 1.40 270 PN Pn 01 25 33.8 -3.8
ZKR Zakros 1.40 270 P Pn 01 25 32.5 -5.2
ZKR S **Sb** **01 25 52.0 -4.2**
ZKR AML AML 01 26 06.9

comp=N,0.7nm,1.0s
ZKR AML AML 01 26 06.9

comp=N,0.7nm,1.0s
STIA Sitia Lasithi 1.50 273 P **Pn** **01 25 39.2 +0.1**
NIS1 Nisyros Isl. 1.58 338 P **Pn** **01 25 39.5 -0.7**
NIS1 S **Sg** **01 26 07.2 +4.5**

comp=N,465nm,0.5s
NIS1 Nisyros Isl. 1.58 338 PN **Pn** **01 25 38.9 -1.3**
MRSB Marmaris-Mugla 1.59 8 PN Pn 01 25 38.8 -1.5
DAT Datca 1.61 350 PN Pn 01 25 39.1 -1.6
DATC Datca-Mugla 1.63 353 PN Pn 01 25 39.3 -1.5
TURN Turunc 1.65 9 *i* P **Pn** **01 25 40.1 -1.0**
TURN *i* S **Sn** **01 26 01.7 -0.8**
TURN Turunc 1.65 9 PN **Pn** **01 25 40.1 -1.0**
AKAS Kas 1.75 51 *i* P **Pn** **01 25 41.4 -1.3**
AKAS Kas 1.75 51 PN Pn 01 25 41.1 -1.5
FETY Fethiye 1.77 32 *i* P Pn 01 25 40.4 -2.4
FETY *i* S **Sn** **01 26 05.2 -0.2**
FETY Fethiye 1.77 32 PN Pn 01 25 41.2 -1.6
DALY Dalyan (Mula) 1.78 19 *i* P **Pn** **01 25 41.9 -1.0**
DALY *i* S **Sn** **01 26 07.5 +1.9**
DALY Dalyan (Mula) 1.78 19 PN **Pn** **01 25 41.5 -1.3**
KOSK Kos Island 1.78 335 PN Pn 01 25 40.9 -2.0
NPS Neapolis 1.90 274 P **Pn** **01 25 42.9 -1.6**
NPS S **Sn** **01 26 03.5 -5.0**
NPS AML AML 01 26 27.1

comp=E,509µm,0.9s
NPS AML AML 01 26 29.5

comp=N,414µm,0.7s
NPS Neapolis 1.90 274 P **Pn** **01 25 43.5 -1.0**
NPS S **Sb** **01 26 13.1 +2.6**

comp=N,250nm,1.1s
BDRM Kayabasi 1.96 349 *i* P **Pn** **01 25 44.2 -1.2**
BDRM *i* S Sn 01 26 03.9 -6.3
BODT Bodrum 1.98 346 PN Pn 01 25 43.9 -1.8
LAST Lasithi 2.00 271 P **Pn** **01 25 44.9 -1.2**
LAST S **Sn** **01 26 07.0 -4.3**
LAST AML AML 01 26 29.4

comp=E,226µm,1.5s
LAST AML AML 01 26 40.0

comp=N,300µm,1.1s
LAST Lasithi 2.00 271 P **Pn** **01 25 45.1 -0.9**
LAST S **Sn** **01 26 15.5 +4.2**

comp=N,160nm,1.4s
YER Yerkesik 2.01 8 PN Pn 01 25 44.7 -1.5
CAME Cameli-Denizli 2.12 31 PN **Pn** **01 25 46.6 -1.1**
MULA Mugla, Merkez- 2.14 9 *i* P **Pn** **01 25 51.8 +3.9**
MULA *i* S **Sn** **01 26 15.7 +1.0**
MLSB Milas 2.16 357 PN **Pn** **01 25 47.1 -1.0**
ELL Elmali 2.28 45 PN **Pn** **01 25 48.6 -1.2**
ELL Elmali 2.28 45 P **Pn** **01 25 49.3 -0.6**
CAEL Denizli, Camel 2.28 29 *i* P **Pn** **01 25 49.6 -0.3**
CAEL *i* S **Sn** **01 26 21.6 +3.4**
CAEL IAML 01 26 53.0

comp=N,80nm,1.0s
CAEL IAML 01 26 56.0

comp=E,100nm,0.7s
HRKL Herakleio 2.31 275 P **Pn** **01 25 49.8 -0.4**
HRKL Herakleio 2.31 275 PN Pn 01 25 47.6 -2.6
KSTL Kastelli Herak 2.34 275 P Pn 01 25 48.2 -2.4
KSTL S **Sn** **01 26 16.3 -3.2**
SANT Santorini 2.35 302 PN Pn 01 25 48.8 -2.0
DDIM Aydin, Didim 2.38 347 *i* P **Pn** **01 25 51.1 0.0**
DDIM *i* S **Sn** **01 26 19.0 -1.4**
DDIM IAML 01 26 46.0

comp=N,61nm,1.0s
DDIM IAML 01 26 54.0

comp=E,81nm,1.3s
THT2 Imerovigli 2.41 303 PN Pn 01 25 49.8 -1.8
SNT5 Nea Kammeni, S 2.41 302 P Pn 01 25 49.4 -2.2
TAVA DENIZLI_Tavas 2.46 19 *i* P **Pn** **01 25 51.6 -0.7**
TAVA *i* S **Sn** **01 26 23.7 +1.1**
GOLH Golhisar 2.48 32 *i* P **Pn** **01 25 52.4 -0.2**
GOLH *i* S **Sn** **01 26 24.9 +1.8**
IDI Anoyia 2.49 274 P **Pn** **01 25 52.4 -0.3**
IDI Anoyia 2.49 274 P **Pn** **01 25 51.8 -0.9**
IDI S **Sn** **01 26 26.6 +3.4**

comp=E,52nm,1.3s
IDI Anoyia 2.49 274 PN Pn 01 25 49.6 -3.1
AYDN Tasoluk 2.52 359 *i* P **Pn** **01 25 52.1 -1.0**
AYDN *i* S **Sn** **01 26 19.3 -4.7**
SIVA Sivas 2.56 268 P **Pn** **01 25 54.7 +1.2**
SIVA Sivas 2.56 268 P **Pn** **01 25 53.0 -0.5**
SIVA S **Sn** **01 26 28.8 +4.0**

comp=E,158nm,0.8s
GCAM G?zelcaml? 2.62 348 PN **Pn** **01 25 53.1 -1.3**
KORT Korkueli 2.71 46 PN **Pn** **01 25 54.5 -1.3**
SMG Samos 2.71 341 P **Pn** **01 25 54.8 -0.9**
APE Apeiranthos 2.73 316 PN Pn 01 25 53.7 -2.3
APE Apeiranthos 2.73 316 P Pn 01 25 54.0 -2.0
AYDB Zeytinkoy-Aydi 2.80 359 PN Pn 01 25 55.5 -1.6
VAM Vamos 3.06 276 P **Pn** **01 26 00.7 +0.2**
VAM Vamos 3.06 276 P **Pn** **01 25 59.7 -0.8**
GVDS Gavdos 3.16 266 P Pn 01 26 00.2 -1.7
GVDS Gavdos 3.16 266 PN Pn 01 25 59.5 -2.4
GVD Gavdhos 3.16 266 PN Pn 01 25 59.6 -2.3
IMMV Iera Moni Meta 3.24 277 P **Pn** **01 26 03.1 +0.1**
IMMV Iera Moni Meta 3.24 277 PN Pn 01 26 01.2 -1.8
URLA Izmir 3.39 342 PN **Pn** **01 26 04.2 -0.8**
KULA Kula-Manisa 3.42 10 PN **Pn** **01 26 04.6 -1.0**
KNDR Palaiochora Ch 3.47 273 P **Pn** **01 26 06.2 +0.1**
KNDR Palaiochora Ch 3.47 273 PN Pn 01 26 04.5 -1.6
AKMS Akamas 3.62 91 P Pn 01 26 06.8 -1.5
AKMS S **Sn** **01 26 52.7 +1.5**
AKMS AML AML 01 26 53.3

comp=E,0.2nm,0.6s
AKMS AML AML 01 26 53.3

comp=E,0.2nm,0.6s
AKMS AML AML 01 26 58.3

comp=E,0.2nm,1.0s
AKMS AML AML 01 26 58.3

comp=E,0.2nm,1.0s
USAK Uak-Merkez 3.67 14 *i* P **Pn** **01 26 08.0 -1.0**
USAK IAML 01 26 51.0

comp=N,20nm,1.3s
USAK IAML 01 26 51.0

comp=E,30nm,1.1s
GAZI Gazipasa 3.74 72 PN **Pn** **01 26 08.6 -1.3**
ALFC Alefka 3.83 88 P Pn 01 26 09.2 -1.9
SZAC Souni 4.09 94 P Pn 01 26 13.1 -1.7
ASGA Asgata 4.39 93 P **Pn** **01 26 17.9 -0.9**

IDC 09 01:26:17.9±2.1,6°61S×129°44E,**h0**km,**mb3.7**/1,
mb1 3.5/3,**mb1mx3.3**/33,**mbtmp3.3**/3,**ML3.3**/2,**Error ellipse: s-maj=116.5km s-min=32.5km az=68.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**161**	Pn	Pn	01 29 38.6	-0.2
	0.2nm,0.3s,baz=340,slow=13,SNR=1.4						
WRA				Sn	Sn	01 31 59.2	-17
	0.2nm,0.3s,baz=334,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**17.49**	**166**	P	Pn	01 30 23.6	+0.2
	0.1nm,0.3s,baz=345,slow=9.6,SNR=1.3						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	01 37 16.5	0.0
	0.3nm,0.4s,baz=123,slow=7.6,SNR=7.2						

*IDC **09** 01:26:51.0±0.7,36°.39N×97°.54W,h0km,mb4.1/5, mb1 4.1/13,mb1mx3.8/53,mbtmp4.0/13,ML3.7/8,MS3.5/1, Ms1 3.5/1,ms1mx2.6/41,Error ellipse: s-maj=11.5km s-min=8.7km az=148.0*

*ANF **09** 01:26:50.8±0.4,36°.31N×97°.53W,h2km±3km,ML4.8/23, Error ellipse: s-maj=2.2km s-min=1.8km az=121.0*

*TUL **09** 01:26:51.4±0.7,36°.29N±0°.02×97°.53W±0°.04,h6km±6km, ML4.0,mb_Lg4.0/155(NEIC),Mwr3.7/47(NEIC),Error ellipse: s-maj=5.3km s-min=1.6km az=60.0*

*NEIC **09** 01:26:51.5,36°.29N×97°.52W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=2.43; Mθθ=4.95; Mφφ=-2.52; Mrθ=0.45; Mθφ=-0.08; Mφr=-2.47; Fault plane solution: M0=4.97000×10^14^ NP1:φs306.08000°, δ63.52000°,λ-37.63000°. NP2:φs55.05000°,δ56.87000°, λ-147.83000°. Principal axes: T 4.9807, Plg4.0000°, Azm2.0000°; N -0.0287, Plg45.0000°, Azm96.0000°; P -4.9520, Plg45.0000°, Azm268.0000°;*

*NEIC **09** 01:26:51.2±0.7,36°.30N±0°.02×97°.51W±0°.04,h5km±2km Error ellipse: s-maj=6.4km s-min=3.0km az=240.0*

ISC 09 01:26:51.1±1.0,**36°.30N**±0°.02×**97°.52W**±0°.02,**h8**km±8km, **n187,**σ0**91**/173,**mb4.0**/4,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**298**		**Pg**	**01 26 59.8**	**+0.5**
CROK				Sg	**Sg**	**01 27 06.1**	**+1.2**
OK029	**Liberty Lake**	**0.51**	**174**		**Pg**	**01 27 01.1**	**+0.2**
OK029				Sg	**Sg**	**01 27 08.0**	**+0.4**
BLOK	**Blackwell**	**0.52**	**28**		**Pg**	**01 27 01.9**	**+0.7**
BLOK				Sg	**Sb**	**01 27 09.4**	**-0.9**
GC02	**Grant County #**	**0.61**	**334**		**Pg**	**01 27 03.3**	**+0.4**
GC02				Sg	**Sb**	**01 27 12.1**	**-0.8**
BCOK	**Bluff Creek, N**	**0.65**	**186**		**Pg**	**01 27 03.7**	**+0.1**
BCOK				Sg	**Sg**	**01 27 12.5**	**+0.4**
BCOK				IAmb_Lg		01 27 13.0	
	comp=Z,4µm,0.8s						
OK031	**S. Brethren Rd**	**0.66**	**122**		**Pg**	**01 27 04.0**	**+0.3**
OK031				Sg	**Sg**	**01 27 12.7**	**+0.4**
QUOK	**Quay**	**0.67**	**101**	Pg	**Pg**	**01 27 04.4**	**+0.4**
QUOK				Sg	**Sg**	**01 27 13.3**	**+0.5**
OK005	**Luther M Schoo**	**0.70**	**157**		**Pg**	**01 27 04.7**	**0.0**
OK030	**Cody Creek RV**	**0.71**	**122**		**Pg**	**01 27 04.9**	**+0.2**
OK030				Sg	**Sg**	**01 27 14.5**	**+0.6**
KAN13	**South Haven SW**	**0.71**	**3**		**Pg**	**01 27 05.2**	**+0.5**
OK009	**Oakdale Elemen**	**0.73**	**174**		**Pg**	**01 27 05.0**	**0.0**
OK025	**Westminster Rd**	**0.74**	**168**		**Pg**	**01 27 05.2**	**-0.1**
OK032	**Salt Plains WL**	**0.74**	**312**		**Pg**	**01 27 05.8**	**+0.3**
KAN09	**Caldwell North**	**0.83**	**355**		**Pg**	**01 27 07.6**	**+0.5**
OKCFA	**Oklahoma City**	**0.89**	**176**		**Pg**	**01 27 08.0**	**-0.2**
OKCFA				IAmb_Lg		01 27 20.1	
	comp=Z,2µm,0.8s						
OKCFA	**Oklahoma City**	**0.89**	**176**	P	**Pg**	**01 27 08.0**	**-0.2**
	baz=356,SNR=80						
OKCFA				S	**Sg**	**01 27 20.0**	**+0.3**
	baz=356						
OKCFA	**Oklahoma City**	**0.89**	**176**	P		01 27 08.0	
	baz=356,SNR=80						
OKCFA				S		01 27 20.0	
	baz=356						
OKCSW	**OKLAHOMA CITY**	**0.90**	**176**		**Pg**	**01 27 08.2**	**-0.2**
KAN10	**Anthony SW Sta**	**0.94**	**331**		**Pg**	**01 27 09.4**	**+0.2**
KAN08	**Anthony NE Sta**	**0.99**	**339**		**Pb**	**01 27 10.4**	**-0.1**
T35A	**Sooner Cattle**	**1.02**	**53**		**Pb**	**01 27 11.0**	**0.0**
T35B	**Sooner Cattle**	**1.02**	**53**	P	**Pg**	**01 27 10.9**	**+0.2**
	baz=233,SNR=123						
T35B				S	**Sg**	**01 27 24.2**	**+0.4**
	baz=233						
T35B	**Sooner Cattle**	**1.02**	**53**	P		01 27 10.9	
	baz=233,SNR=123						
T35B				S		01 27 24.2	
	baz=233						
KAN16	**Harper SW Stat**	**1.02**	**335**		**Pb**	**01 27 11.0**	**0.0**
FNO	**Franklin**	**1.05**	**175**		**Pg**	**01 27 11.0**	**-0.2**
FNO				IAmb_Lg		01 27 24.6	
	comp=Z,2µm,0.9s						
U32A	**Winter Ranch,**	**1.20**	**274**		**Pb**	**01 27 13.6**	**-0.4**
U32A	**Winter Ranch,**	**1.20**	**274**	P	**Pb**	**01 27 13.5**	**-0.6**
	baz=94,SNR=234						
U32A				S	**Sb**	**01 27 29.9**	**+0.2**
	baz=94						
U32A	**Winter Ranch,**	**1.20**	**274**	P		01 27 13.5	
	baz=94,SNR=234						
U32A				S		01 27 29.9	
	baz=94						
TUL1	**Leonard**	**1.46**	**105**	P	**Pn**	**01 27 17.7**	**0.0**
	baz=286,SNR=181						
TUL1				S	**Sb**	**01 27 37.6**	**+0.5**
	baz=286						
TUL1	**Leonard**	**1.46**	**105**	P		01 27 17.7	
	baz=286,SNR=436						
TUL1				S		01 27 37.5	
	baz=286						
TUL1	**Leonard**	**1.46**	**105**	P		01 27 17.7	
	baz=286,SNR=181						
TUL1				S		01 27 37.6	
	baz=286						
X34A	**Smith Ranch, M**	**1.72**	**189**		**Pn**	**01 27 21.4**	**0.0**
X34A				IAmb_Lg		01 27 44.6	
	comp=Z,729nm,1.2s						
WMOK	**Wichita Mounta**	**1.87**	**214**		**Pn**	**01 27 23.4**	**-0.1**
WMOK				IAmb_Lg		01 27 49.6	
	comp=Z,609nm,1.0s						
WMOK	**Wichita Mounta**	**1.87**	**214**	P	**Pn**	**01 27 24.2**	**+0.7**
	baz=33,SNR=128						
WMOK				S	**Sb**	**01 27 49.0**	**-0.1**
	baz=33						
WMOK	**Wichita Mounta**	**1.87**	**214**	P		01 27 24.2	
	baz=33,SNR=257						
WMOK				S		01 27 49.0	
	baz=33						
WMOK	**Wichita Mounta**	**1.87**	**214**	P		01 27 24.2	
	baz=33,SNR=128						
WMOK				S		01 27 49.0	
	baz=33						
R32A	**Long Quarter,**	**2.32**	**336**	Pn	**Pn**	**01 27 30.4**	**+0.8**
R32A				IAmb_Lg		01 28 09.3	
	comp=Z,514nm,0.8s						
R32A	**Long Quarter,**	**2.32**	**336**	P	**Pn**	**01 27 30.8**	**+1.2**
	baz=156,SNR=38						
R32A				S	**Sn**	**01 28 00.1**	**+1.7**
	baz=156						
R32A	**Long Quarter,**	**2.32**	**336**	P		01 27 30.8	
	baz=156,SNR=38						
R32A				S		01 28 00.1	
	baz=156						
LOOK	**Love County**	**2.32**	**173**		**Pn**	**01 27 30.9**	**+1.2**
LOOK				IAmb_Lg		01 28 07.1	
	comp=Z,623nm,0.9s						
X37A	**Clayton**	**2.45**	**134**		**Pn**	**01 27 31.6**	**+0.1**
X37A				IAmb_Lg		01 28 13.6	
	comp=Z,737nm,0.8s						
X37A	**Clayton**	**2.45**	**134**	P	**Pn**	**01 27 32.8**	**+1.3**
	baz=315,SNR=36						
X37A				Sb	**Sb**	**01 28 07.8**	**+2.0**
	baz=315						
X37A	**Clayton**	**2.45**	**134**	P		01 27 32.8	
	baz=315,SNR=36						
X37A				Sb		01 28 07.8	
	baz=315						
U38A	**Gravette**	**2.54**	**86**		**Pn**	**01 27 33.7**	**+1.1**
U38A				IAmb_Lg		01 28 12.4	
	comp=Z,589nm,0.7s						
KSU1	**Kansas State U**	**2.88**	**14**	Pn	**Pn**	**01 27 37.9**	**+0.4**
KSU1				IAmb_Lg		01 28 26.2	
	comp=Z,395nm,0.8s						
KSU1	**Kansas State U**	**2.88**	**14**	P	**Pn**	**01 27 38.2**	**+0.8**
	baz=195,SNR=21						
KSU1	**Kansas State U**	**2.88**	**14**	P		01 27 37.6	
	baz=195,SNR=26						
KSU1				Sb		01 28 19.7	
	baz=195						
KSU1	**Kansas State U**	**2.88**	**14**	P		01 27 38.2	
	baz=195,SNR=21						
HHAR	**Hobbs**	**2.89**	**89**		**Pn**	**01 27 38.2**	**+0.6**
HHAR				IAmb_Lg		01 28 23.0	
	comp=Z,372nm,0.7s						
Z35A	**Perchaven, San**	**2.97**	**176**		**Pn**	**01 27 38.6**	**-0.1**
Z35A	**Perchaven, San**	**2.97**	**176**	P	**Pn**	**01 27 40.0**	**+1.3**
	baz=356						
Z35A				S	**Sn**	**01 28 16.7**	**+2.2**
	baz=356						
Z35A	**Perchaven, San**	**2.97**	**176**	P		01 27 40.0	
	baz=356						
Z35A				S		01 28 16.7	
CBKS	**Cedar Bluff**	**3.06**	**326**	Pn	**Pn**	**01 27 40.3**	**+0.4**
CBKS				IAmb_Lg		01 28 34.9	
	comp=Z,430nm,0.7s						
CBKS	**Cedar Bluff**	**3.06**	**326**	P	**Pn**	**01 27 40.6**	**+0.7**
	baz=145,SNR=17						
CBKS	**Cedar Bluff**	**3.06**	**326**	P		01 27 40.7	
	baz=145,SNR=31						
CBKS				Sb		01 28 26.2	
	baz=145						
CBKS	**Cedar Bluff**	**3.06**	**326**	P		01 27 40.6	
	baz=145,SNR=17						
W39A	**Magazine**	**3.24**	**109**		**Pn**	**01 27 42.5**	**+0.3**
W39A	**Magazine**	**3.24**	**109**	P	**Pn**	**01 27 43.5**	**+1.3**
	baz=291,SNR=11						
W39A	**Magazine**	**3.24**	**109**	P		01 27 42.9	
	baz=291,SNR=32						
W39A	**Magazine**	**3.24**	**109**	P		01 27 43.5	
	baz=291,SNR=11						
S39A	**Bolivar**	**3.64**	**66**		**Pn**	**01 27 48.3**	**+0.5**
S39A				IAmb_Lg		01 28 54.2	
	comp=Z,346nm,0.7s						
S39A	**Bolivar**	**3.64**	**66**	P	**Pn**	**01 27 48.6**	**+0.9**
	baz=249,SNR=43						
S39A	**Bolivar**	**3.64**	**66**	P		01 27 48.6	
	baz=249,SNR=43						
MIAR	**Mount Ida**	**3.67**	**117**	P	**Pn**	**01 27 49.6**	**+1.4**
	baz=300,SNR=122						
MIAR	**Mount Ida**	**3.67**	**117**	P		01 27 49.6	
	baz=300,SNR=119						
MIAR				S		01 28 33.4	
	baz=300						
MIAR	**Mount Ida**	**3.67**	**117**	P		01 27 49.6	
	baz=300,SNR=122						
Z38A	**Mt. Pleasant**	**3.69**	**145**	Pn	**Pn**	**01 27 48.7**	**+0.3**
Z38A				IAmb_Lg		01 28 52.8	
	comp=Z,673nm,0.7s						
U40A	**Yellville**	**3.77**	**88**	Pn	**Pn**	**01 27 50.0**	**+0.4**
U40A				IAmb_Lg		01 28 56.7	
	comp=Z,557nm,0.9s						
U40A	**Yellville**	**3.77**	**88**	P	**Pn**	**01 27 50.3**	**+0.7**
	baz=270,SNR=110						
U40A	**Yellville**	**3.77**	**88**	P		01 27 50.0	
	baz=270,SNR=326						
U40A				Sb		01 28 46.4	
	baz=270						
U40A	**Yellville**	**3.77**	**88**	P		01 27 50.3	
	baz=270,SNR=110						
U40A				P		01 27 50.3	
	baz=270,SNR=110						
ABTX	**Abilene, Hawle**	**4.07**	**206**	Pn	**Pn**	**01 27 53.7**	**0.0**
ABTX				IAmb_Lg		01 29 01.5	
	comp=Z,495nm,1.0s						
ABTX	**Abilene, Hawle**	**4.07**	**206**	P		01 27 54.3	
	baz=25,SNR=9.1						
X40A	**Basin Creek Fa**	**4.24**	**114**		**Pn**	**01 27 56.0**	**0.0**
X40A				IAmb_Lg		01 29 07.1	
	comp=Z,398nm,0.8s						
X40A	**Basin Creek Fa**	**4.24**	**114**	P		01 27 57.2	
	baz=296,SNR=31						
WHTX	**Lake Whitney,**	**4.30**	**179**	Pn	**Pn**	**01 27 57.0**	**+0.1**
WHTX				IAmb_Lg		01 29 15.0	
	comp=Z,240nm,1.3s						
WHTX	**Lake Whitney,**	**4.30**	**179**	P	**Pn**	**01 27 57.4**	**+0.5**
	baz=359,SNR=27						
WHTX				S	**Sn**	**01 28 48.1**	**+0.8**
	baz=359						
WHTX	**Lake Whitney,**	**4.30**	**179**	P		01 27 57.5	
	baz=359,SNR=6.6						
WHTX				S		01 28 48.2	
	baz=359						
WHTX	**Lake Whitney,**	**4.30**	**179**	P		01 27 57.4	
	baz=359,SNR=27						
WHTX				S		01 28 48.1	
	baz=359						
MGMO	**Mountain Grove**	**4.30**	**77**		**Pn**	**01 27 57.4**	**+0.4**
MGMO				IAmb_Lg		01 29 14.2	
	comp=Z,477nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**102**	Pn	**Pn**	**01 27 58.2**	**+0.3**
WHAR				IAmb_Lg		01 29 12.9	
	comp=Z,575nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.39**	**94**		**Pn**	**01 27 58.4**	**+0.3**
FCAR				IAmb_Lg		01 29 08.8	
	comp=Z,217nm,0.8s						
N33B	**J Bar K, Exete**	**4.43**	**1**	P	**Pn**	**01 27 59.0**	**+0.4**
	baz=181						
N33B	**J Bar K, Exete**	**4.43**	**1**	P		01 27 59.0	
	baz=181						
N33A	**J Bar K, Exete**	**4.43**	**1**		**Pn**	**01 27 59.1**	**+0.5**
N33A				IAmb_Lg		01 29 21.7	
	comp=Z,288nm,0.8s						
W41B	**Gary Mavity, V**	**4.44**	**103**	P	**Pn**	**01 27 59.3**	**+0.6**
	baz=286,SNR=37						
W41B	**Gary Mavity, V**	**4.44**	**103**	P		01 27 59.2	
	baz=286,SNR=34						
W41B				Sb		01 29 07.4	
	baz=286						
W41B	**Gary Mavity, V**	**4.44**	**103**	P		01 27 59.3	
	baz=286,SNR=37						
WLAR	**White Oak Lake**	**4.46**	**125**	Pn	**Pn**	**01 27 59.5**	**+0.4**
WLAR				IAmb_Lg		01 29 19.2	
	comp=Z,428nm,0.9s						
237A	**Washetta, Mont**	**4.52**	**161**	Pn	**Pn**	**01 28 00.0**	**+0.1**
237A				IAmb_Lg		01 29 27.1	
	comp=Z,236nm,1.0s						
237A	**Washetta, Mont**	**4.52**	**161**	P	**Pn**	**01 28 00.2**	**+0.2**
	baz=342,SNR=9.8						
237A	**Washetta, Mont**	**4.52**	**161**	P		01 28 00.2	
	baz=342,SNR=9.8						
P38A	**Dawn**	**4.58**	**42**	Pn	**Pn**	**01 28 00.5**	**-0.2**
P38A				IAmb_Lg		01 29 20.2	
	comp=Z,360nm,0.8s						
P38A	**Dawn**	**4.58**	**42**	P	**Pn**	**01 28 01.6**	**+1.0**
	baz=225						
P38A	**Dawn**	**4.58**	**42**	P		01 28 01.6	
	baz=225						
R40A	**Maddies Statio**	**4.63**	**63**		**Pn**	**01 28 01.7**	**+0.2**
R40A	**Maddies Statio**	**4.63**	**63**	P	**Pn**	**01 28 02.5**	**+1.0**
	baz=246,SNR=32						
R40A	**Maddies Statio**	**4.63**	**63**	P		01 28 02.5	
	baz=246,SNR=32						
N35A	**Tabor**	**4.78**	**17**		**Pn**	**01 28 03.8**	**+0.3**
N35A	**Tabor**	**4.78**	**17**	P	**Pn**	**01 28 04.4**	**+0.9**
	baz=198						
N35A	**Tabor**	**4.78**	**17**	P		01 28 04.4	
	baz=198						
KSCO	**Kaye Shedlock'**	**4.87**	**305**	Pn	**Pn**	**01 28 05.6**	**+0.7**
KSCO				IAmb_Lg		01 29 36.4	
	comp=Z,511nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.87**	**305**	P		01 28 05.4	
	baz=122						
MSTX	**Muleshoe**	**4.89**	**243**	Pn	**Pn**	**01 28 05.7**	**+0.5**
MSTX				IAmb_Lg		01 29 33.7	
	comp=Z,225nm,1.1s						
MSTX	**Muleshoe**	**4.89**	**243**	P	**Pn**	**01 28 05.4**	**+0.3**
	baz=60,SNR=12						
MSTX	**Muleshoe**	**4.89**	**243**	P		01 28 05.2	
	baz=60,SNR=11						
MSTX				Sb		01 29 20.6	
	baz=60						
MSTX	**Muleshoe**	**4.89**	**243**	P		01 28 05.4	
	baz=60,SNR=12						
Z41A	**Richland Creek**	**4.93**	**127**	P	**Pn**	**01 28 06.3**	**+0.7**
	baz=309,SNR=17						
Z41A	**Richland Creek**	**4.93**	**127**	P		01 28 06.1	
	baz=309,SNR=20						
Z41A				S		01 29 02.7	
	baz=309						
Z41A	**Richland Creek**	**4.93**	**127**	P		01 28 06.3	
	baz=309,SNR=17						
Z41A				P		01 28 06.3	
	baz=309,SNR=17						
NATX	**Nacogdoches**	**5.12**	**152**	S		01 28 06.9	
	baz=333						
BGNE	**Belgrade**	**5.12**	**355**		**Pn**	**01 28 08.5**	**+0.3**
BGNE				IAmb_Lg		01 29 48.7	
	comp=Z,488nm,0.8s						
BGNE	**Belgrade**	**5.12**	**355**	P		01 28 08.3	
	baz=174						
BGNE				S		01 29 06.2	
	baz=174						
LCAR	**Lake Charles**	**5.16**	**91**	Pn	**Pn**	**01 28 08.8**	**+0.2**
LCAR				IAmb_Lg		01 29 36.8	
	comp=Z,189nm,0.8s						
T42A	**Van Buren**	**5.22**	**80**	Pn	**Pn**	**01 28 09.7**	**+0.1**
T42A				IAmb_Lg		01 29 45.4	

	comp=Z,605nm,1.3s								
T42A	**Van Buren**	**5.22**	**80**	P		**Pn**	**01 28 10.4**	**+0.9**	
	baz=264,SNR=25								
T42A	**Van Buren**	**5.22**	**80**	P			01 28 10.4		
	baz=264,SNR=25								
CCAR	**Cane Creek**	**5.28**	**115**			**Pn**	**01 28 10.4**	**+0.1**	
CCAR				IAmb_Lg			01 29 51.2		
	comp=Z,381nm,0.9s								
CCM	**Cathedral Cave**	**5.31**	**69**			**Pn**	**01 28 10.8**	**+0.1**	
CCM				IAmb_Lg			01 29 39.3		
	comp=Z,338nm,0.7s								
P40A	**Paris**	**5.39**	**52**	Pn		**Pn**	**01 28 12.0**	**+0.1**	
P40A				IAmb_Lg			01 29 48.1		
	comp=Z,376nm,0.7s								
435B	**Jarrell**	**5.51**	**181**	Pn		**Pn**	**01 28 13.3**	**-0.2**	
435B				IAmb_Lg			01 29 45.9		
	comp=Z,200nm,0.9s								
435B	**Jarrell**	**5.51**	**181**	P		**Pn**	**01 28 14.1**	**+0.6**	
	baz=0.5,SNR=6.9								
435B	**Jarrell**	**5.51**	**181**	P			01 28 13.9		
	baz=0.5,SNR=6.0								
435B				S			01 29 16.1		
	baz=0.5								
435B	**Jarrell**	**5.51**	**181**	P			01 28 14.1		
	baz=0.5,SNR=6.9								
T25A	**Trinidad**	**5.60**	**281**	Pn		**Pn**	**01 28 15.6**	**+0.7**	
T25A				IAmb_Lg			01 29 53.2		
	comp=Z,199nm,0.7s								
T25A	**Trinidad**	**5.60**	**281**	P			01 28 15.0		
	baz=97,SNR=20								
N38A	**Joes South For**	**5.60**	**36**			**Pn**	**01 28 14.8**	**0.0**	
L34A	**Svendsen Farm,**	**5.72**	**9**			**Pn**	**01 28 16.9**	**+0.4**	
PBMO	**Poplar Bluff**	**5.73**	**83**			**Pn**	**01 28 16.6**	**+0.1**	
OGNE	**Ogallala**	**5.83**	**324**	IAmb_Lg			01 30 03.5		
	comp=Z,523nm,0.8s								
OGNE	**Ogallala**	**5.83**	**324**	P			01 28 18.2		
	baz=142								
OGNE				S			01 29 23.3		
	baz=142								
FVM	**French Village**	**5.91**	**71**			**Pn**	**01 28 19.2**	**+0.1**	
FVM	**French Village**	**5.91**	**71**	P		**Pn**	**01 28 19.9**	**+0.8**	
	baz=256,SNR=12								
FVM	**French Village**	**5.91**	**71**	P			01 28 19.9		
	baz=256,SNR=12								
JCT	**Junction City**	**6.11**	**199**	Pn		**Pn**	**01 28 22.4**	**+0.6**	
JCT	**Junction City**	**6.11**	**199**	P			01 28 22.5		
	baz=18								
PEBM	**Pemiscott Bayo**	**6.20**	**90**	IAmb_Lg			01 30 15.5		
	comp=Z,449nm,0.8s								
143A	**Socs Landing,**	**6.20**	**124**	IAmb_Lg			01 30 23.9		
	comp=Z,258nm,0.8s								
SLM	**Saint Louis**	**6.25**	**66**			**Pn**	**01 28 23.4**	**-0.2**	
MET	**Memphis--Engin**	**6.29**	**99**	IAmb_Lg			01 30 18.4		
	comp=Z,308nm,0.8s								
K31A	**O'Neill**	**6.38**	**352**			**Pn**	**01 28 26.1**	**+0.6**	
SCIA	**State Center**	**6.52**	**30**			**Pn**	**01 28 27.5**	**+0.1**	
SCIA	**State Center**	**6.52**	**30**	P			01 28 26.8		
	baz=212								
SCIA				S			01 29 41.3		
	baz=212								
SDCO	**Great Sand Dun**	**6.54**	**285**			**Pn**	**01 28 28.5**	**+0.5**	
SDCO	**Great Sand Dun**	**6.54**	**285**	P			01 28 28.6		
	baz=100,SNR=65								
Q24A	**Divide**	**6.61**	**296**	P			01 28 28.5		
	baz=112								
441A	**DeRidder**	**6.62**	**146**	IAmb_Lg			01 30 33.1		
	comp=Z,123nm,1.2s								
HALT	**Halls**	**6.64**	**91**	IAmb_Lg			01 30 34.4		
	comp=Z,314nm,0.9s								
HICK	**Hickman**	**6.69**	**86**	IAmb_Lg			01 30 29.8		
	comp=Z,441nm,0.8s								
S44A	**Carbondale**	**6.76**	**76**			**Pn**	**01 28 30.7**	**0.0**	
S44A	**Carbondale**	**6.76**	**76**	P		**Pn**	**01 28 31.1**	**+0.4**	
	baz=260,SNR=16								
S44A	**Carbondale**	**6.76**	**76**	P			01 28 31.1		
	baz=260,SNR=16								
SIUC	**Southern Illin**	**6.79**	**76**			**Pn**	**01 28 30.9**	**-0.2**	
N41A	**Harden Midland**	**6.83**	**48**	Pn		**Pn**	**01 28 31.3**	**-0.3**	
N41A	**Harden Midland**	**6.83**	**48**	P		**Pn**	**01 28 32.5**	**+0.9**	
	baz=232,SNR=8.2								
N41A	**Harden Midland**	**6.83**	**48**	P			01 28 32.5		
	baz=232,SNR=8.2								
OXF	**Oxford**	**6.86**	**103**	Pn		**Pn**	**01 28 32.1**	**0.0**	
OXF				IAmb_Lg			01 30 39.4		
	comp=Z,183nm,0.7s								
OXF	**Oxford**	**6.86**	**103**	P			01 28 31.8		
	baz=287								
W45A	**Hickory Valley**	**6.88**	**97**	IAmb_Lg			01 30 43.1		
	comp=Z,311nm,0.7s								
Y45A	**Yeager Farm, C**	**6.98**	**108**	Pn		**Pn**	**01 28 33.7**	**0.0**	
Y45A				IAmb_Lg			01 30 45.0		
	comp=Z,191nm,0.8s								
VBMS	**Vicksburg**	**7.09**	**123**	IAmb_Lg			01 30 53.5		
	comp=Z,140nm,1.0s								
P43A	**Skaggs, Pawnee**	**7.14**	**60**	Pn		**Pn**	**01 28 36.0**	**+0.1**	
P43A	**Skaggs, Pawnee**	**7.14**	**60**	P		**Pn**	**01 28 36.6**	**+0.7**	
	baz=244,SNR=10								
P43A	**Skaggs, Pawnee**	**7.14**	**60**	P			01 28 36.6		
	baz=244,SNR=10								
Q44A	**Meyer Farm, Va**	**7.23**	**66**	Pn		**Pn**	**01 28 37.1**	**0.0**	
ISCO	**Idaho Springs**	**7.27**	**301**	Pn		**Pn**	**01 28 38.5**	**+0.5**	
ISCO				IAmb_Lg			01 30 44.3		
	comp=Z,106nm,0.8s								
ISCO	**Idaho Springs**	**7.28**	**301**	P			01 28 38.4		
	baz=116								
ANMO	**Albuquerque**	**7.40**	**262**	Pn		**Pn**	**01 28 40.6**	**+0.9**	
	comp=Z,0.3nm,0.3s,baz=81,slow=17,SNR=10								
ANMO				Pg		Pg	01 29 06.6	-6.2	
	comp=Z,3.7nm,0.3s,baz=84,slow=16,SNR=22								
ANMO				Lg		Lg	01 30 43.7		
	comp=Z,5.2nm,0.3s,baz=359,slow=21,SNR=8.3								
ANMO	**Albuquerque**	**7.40**	**262**	Pn		**Pn**	**01 28 40.5**	**+0.8**	
ANMO	**Albuquerque**	**7.40**	**262**	P			01 28 39.6		
	baz=77								
735A	**Kenedy**	**7.43**	**182**			**Pn**	**01 28 40.5**	**+0.6**	
735A				IAmb_Lg			01 31 01.0		
	comp=Z,129nm,0.9s								
344A	**Westbrook Farm**	**7.43**	**129**	IAmb_Lg			01 31 07.6		
	comp=Z,106nm,1.2s								
ECSD	**EROS Data Cent**	**7.45**	**5**	Pn		**Pn**	**01 28 40.0**	**-0.2**	
ECSD				IAmb_Lg			01 30 56.4		
	comp=Z,106nm,1.0s								
ECSD	**EROS Data Cent**	**7.45**	**5**	P		**Pn**	**01 28 39.8**	**-0.4**	
	baz=186,SNR=58								
ECSD	**EROS Data Cent**	**7.45**	**5**	P			01 28 39.6		
	baz=186,SNR=40								
ECSD				S			01 30 02.3		
	baz=186								
ECSD	**EROS Data Cent**	**7.45**	**5**	P			01 28 39.8		
	baz=186,SNR=58								
L40A	**Anamosa**	**7.55**	**38**			**Pn**	**01 28 41.1**	**-0.4**	
L40A				IAmb_Lg			01 30 53.9		
	comp=Z,285nm,0.7s								
HDIL	**Hopedale**	**7.73**	**54**	Pn		**Pn**	**01 28 44.0**	**+0.1**	
HDIL	**Hopedale**	**7.73**	**54**	P			01 28 43.2		
	baz=239,SNR=25								
PLAL	**Pickwick Lake**	**7.80**	**97**	IAmb_Lg			01 31 07.5		
	comp=Z,122nm,0.7s								
WVT	**Waverly**	**7.84**	**88**	Pn		**Pn**	**01 28 45.7**	**+0.3**	
WVT				IAmb_Lg			01 31 09.7		
	comp=Z,93nm,0.7s								
WVT	**Waverly**	**7.84**	**88**	P			01 28 46.0		
	baz=274								
PHWY	**Pilot Hill**	**7.95**	**311**	IAmb_Lg			01 31 14.9		
	comp=Z,202nm,0.9s								
MNTX	**Cornudas Mount**	**7.98**	**237**	Pn		**Pn**	**01 28 47.5**	**+0.1**	
MNTX	**Cornudas Mount**	**7.98**	**237**	P		**Pn**	**01 28 47.5**	**+0.1**	
	baz=53,SNR=11								
MNTX	**Cornudas Mount**	**7.98**	**237**	P			01 28 46.8		
	baz=53,SNR=19								
MNTX	**Cornudas Mount**	**7.98**	**237**	P			01 28 47.5		
	baz=53,SNR=11								
Y22D	**IRIS PASSCAL I**	**8.01**	**257**	IAmb_Lg			01 31 13.5		
	comp=Z,245nm,0.9s								
N23A	**Red Feather La**	**8.03**	**307**	P			01 28 48.7		
	baz=122								
O44A	**Mansfield**	**8.10**	**59**	IAmb_Lg			01 31 09.9		
	comp=Z,309nm,0.7s								
SUSD	**Miller**	**8.20**	**353**	IAmb_Lg			01 31 16.3		
	comp=Z,156nm,0.8s								
SUSD	**Miller**	**8.20**	**353**	P			01 28 49.6		
	baz=172								
L42A	**Oliver, Polo**	**8.34**	**45**	IAmb_Lg			01 31 23.9		
	comp=Z,335nm,0.8s								
Z47A	**Carrollton**	**8.37**	**109**			**Pn**	**01 28 52.9**	**+0.1**	
Z47A				IAmb_Lg			01 31 40.7		
	comp=Z,91nm,1.1s								
T47A	**Sharon Grove**	**8.40**	**82**			**Pn**	**01 28 52.8**	**-0.4**	
TX31	**Lajitas Ar. Si**	**8.66**	**218**	P		**Pn**	**01 28 56.3**	**-0.6**	
	baz=35,SNR=12								
TX31	**Lajitas Ar. Si**	**8.66**	**218**	P			01 28 56.3		
	baz=35,SNR=12								
TXAR	**Lajitas Array**	**8.66**	**218**	Pn		**Pn**	**01 28 56.3**	**-0.6**	
	comp=Z,1.6nm,0.3s,baz=42,slow=11,SNR=19								
TXAR				Lg		Lg	01 31 21.8		
	comp=Z,9.1nm,0.3s,baz=33,slow=27,SNR=9.7								
JFWS	**Jewell Farm**	**8.66**	**38**	P			01 28 55.8		
	baz=223,SNR=15								
X48A	**Hartselle**	**8.75**	**99**	IAmb_Lg			01 31 37.7		
	comp=Z,105nm,0.9s								
CLTN	**Cedars of Leba**	**9.05**	**88**	IAmb_Lg			01 31 44.9		
	comp=Z,80nm,0.8s								
SFIN	**Lafayette**	**9.14**	**60**	IAmb_Lg			01 31 51.6		
	comp=Z,251nm,0.9s								
SFIN	**Lafayette**	**9.14**	**60**	P			01 29 03.2		
	baz=247,SNR=13								
WCI	**Wyandotte Cave**	**9.16**	**75**	Pn		**Pn**	**01 29 03.7**	**+0.1**	
WCI				IAmb_Lg			01 31 41.3		
	comp=Z,170nm,0.7s								
WCI	**Wyandotte Cave**	**9.16**	**75**	P			01 29 04.1		
	baz=261								
I40A	**Norwalk**	**9.24**	**33**	IAmb_Lg			01 31 59.6		
	comp=Z,143nm,0.8s								
RSSD	**Black Hills**	**9.26**	**329**	Pn		**Pn**	**01 29 05.5**	**+0.3**	
RSSD				IAmb_Lg			01 31 51.0		
	comp=Z,157nm,1.1s								
RSSD	**Black Hills**	**9.26**	**329**	P			01 29 05.3		
	baz=146								
RWWY	**Rawlins**	**9.26**	**308**	IAmb_Lg			01 31 55.7		
	comp=Z,149nm,1.1s								
LRAL	**Lakeview Retre**	**9.26**	**108**	P			01 29 05.6		
	baz=294								
121A	**Cookes Peak, D**	**9.27**	**249**	IAmb_Lg			01 32 01.2		
	comp=Z,88nm,1.1s								
PV04	**Paradox Valley**	**9.30**	**286**	IAmb_Lg			01 31 59.9		
	comp=Z,91nm,1.2s								
K22A	**Casper**	**9.41**	**315**	IAmb_Lg			01 32 07.3		
	comp=Z,260nm,0.9s								
Y49A	**Blount Mountai**	**9.43**	**102**	IAmb_Lg			01 32 00.7		
	comp=Z,72nm,0.8s								
SWET	**Sewanee**	**9.48**	**93**	IAmb_Lg			01 31 51.5		
	comp=Z,76nm,0.8s								
K43A	**Burlington**	**9.55**	**45**	IAmb_Lg			01 32 13.0		
	comp=Z,246nm,0.8s								
F33A	**5 Mile Ranch,**	**9.57**	**5**	IAmb_Lg			01 31 58.6		
	comp=Z,69nm,0.9s								
SPMN	**Marine on St.**	**9.60**	**20**	IAmb_Lg			01 32 00.8		
	comp=Z,88nm,0.8s								
SPMN	**Marine on St.**	**9.60**	**20**	P			01 29 07.6		
	baz=203,SNR=14								
W50A	**Signal Mountai**	**9.99**	**93**	IAmb_Lg			01 32 16.5		
	comp=Z,93nm,0.7s								
F36A	**Milaca**	**10.01**	**16**	Pn		**Pn**	**01 29 13.4**	**-1.9**	
I42A	**Draeger Farm,**	**10.04**	**38**	P		**Pn**	**01 29 15.0**	**-0.7**	
	baz=224,SNR=7.1								
I42A	**Draeger Farm,**	**10.04**	**38**	P			01 29 15.0		
	baz=224,SNR=7.1								
T50A	**Nancy**	**10.22**	**82**			**Pn**	**01 29 18.2**	**+0.1**	
G40A	**Rib Lake**	**10.53**	**30**			**Pn**	**01 29 22.3**	**-0.1**	
CPCT	**Cooper Cave**	**10.59**	**91**			**Pn**	**01 29 22.5**	**-0.6**	
P49A	**Miami Univ. Ec**	**10.62**	**68**	P			01 29 23.0		
	baz=256								
H43A	**Windswept, Lux**	**11.03**	**39**	P		**Pn**	**01 29 27.8**	**-1.4**	
	baz=226,SNR=12								
H43A	**Windswept, Lux**	**11.03**	**39**	P			01 29 27.8		
	baz=226,SNR=12								
O49A	**Covington**	**11.07**	**66**	P		**Pn**	**01 29 29.5**	**-0.3**	
	baz=254,SNR=5.6								
O49A	**Covington**	**11.07**	**66**	P			01 29 29.5		
	baz=254,SNR=5.6								
O49A				P			01 29 29.5		
	baz=254,SNR=5.6								
TKL	**Tuckaleechee C**	**11.16**	**89**	Pn		**Pn**	**01 29 31.4**	**+0.4**	
	comp=Z,0.6nm,0.3s,baz=236,slow=9.0,SNR=7.8								
TKL				Lg		Lg	01 32 36.8		
	comp=Z,1.2nm,0.3s,baz=186,slow=17,SNR=4.3								
PDAR	**Pinedale Array**	**11.31**	**308**	Pn		**Pn**	**01 29 32.6**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=120,slow=14,SNR=4.8								
PDAR				Lg		Lg	01 32 40.5		
	comp=Z,0.9nm,0.3s,baz=120,slow=29,SNR=3.8								
L48A	**N Adams**	**11.62**	**57**	P		**Pn**	**01 29 36.3**	**-0.9**	
	baz=245,SNR=8.3								
L48A	**N Adams**	**11.62**	**57**	P			01 29 36.3		
	baz=245,SNR=8.3								
L48A				P			01 29 36.3		
	baz=245,SNR=8.3								
U15A	**North Rim**	**11.91**	**275**	Pn		**Pn**	**01 29 41.8**	**+0.3**	
AGMN	**Agassiz Nation**	**12.05**	**5**	P			01 29 40.0		
	baz=186,SNR=6.2								
Q52A	**Bidwell**	**12.38**	**73**	P		**Pn**	**01 29 47.8**	**+0.1**	
	baz=262,SNR=7.0								
Q52A	**Bidwell**	**12.38**	**73**	P			01 29 47.8		
	baz=262,SNR=7.0								
Q52A				P			01 29 47.8		
	baz=262,SNR=7.0								
EYMN	**Ely**	**12.46**	**19**			**Pn**	**01 29 46.1**	**-2.6**	
EYMN	**Ely**	**12.46**	**19**	P			01 29 45.2		
	baz=203,SNR=9.1								
G45A	**Suttons Bay**	**12.53**	**42**	Pn		**Pn**	**01 29 47.3**	**-2.4**	
P52A	**Corning**	**12.59**	**70**	P			01 29 49.1		
	baz=259,SNR=6.5								
O53A	**New Philadelph**	**13.40**	**68**	P			01 30 00.9		
	baz=258								
M52A	**Chesterland**	**13.62**	**63**	Pn		**Pn**	**01 30 03.7**	**-0.9**	
BLA	**Blacksburg**	**13.75**	**81**	P			01 30 06.1		
	baz=271								
ULM	**Lac du Bonnet**	**13.99**	**4**	Pn		**Pn**	**01 30 05.5**	**-4.1**	
	comp=Z,0.8nm,0.3s,baz=186,slow=12,SNR=7.8								
ULM				Sn		Sn	01 32 32.8	-12	
	comp=Z,1.2nm,0.3s,baz=264,slow=23,SNR=4.0								
ULM				Lg		Lg	01 33 59.8		
	comp=Z,0.3nm,0.3s,baz=135,slow=20,SNR=3.1								
ULM	**Lac du Bonnet**	**13.99**	**4**	Pn		**Pn**	**01 30 05.6**	**-4.0**	
R55A	**Marlinton**	**14.00**	**77**			**Pn**	**01 30 09.7**	**-0.2**	
R55A	**Marlinton**	**14.00**	**77**	P		**Pn**	**01 30 09.5**	**-0.4**	
	baz=267,SNR=7.1								
R55A	**Marlinton**	**14.00**	**77**	P			01 30 09.5		
	baz=267,SNR=7.1								
R55A				P			01 30 09.5		
	baz=267,SNR=7.1								
O54A	**Avella**	**14.02**	**69**			**Pn**	**01 30 09.3**	**-0.8**	
N54A	**Moraine State**	**14.47**	**66**			**Pn**	**01 30 13.8**	**-2.4**	
N54A	**Moraine State**	**14.47**	**66**	P			01 30 13.6		
	baz=257								
T57A	**Hurt**	**14.69**	**82**			**Pn**	**01 30 18.9**	**-0.3**	
Q56A	**Snyder Ridge,**	**14.78**	**74**			**Pn**	**01 30 18.6**	**-1.9**	
M54A	**Oil Creek Stat**	**14.84**	**64**	P			01 30 19.5		
	baz=255								
SADO	**Sadowa**	**16.31**	**53**	Pn		**Pn**	**01 30 36.2**	**-4.2**	
	comp=Z,0.3nm,0.3s,baz=249,slow=14,SNR=1.7								
SADO				Sn		Sn	01 33 29.6	-12	
	comp=Z,0.4nm,0.3s,baz=241,slow=19,SNR=2.9								
SADO				Lg		Lg	01 35 14.7		
	comp=Z,1.0nm,0.3s,baz=337,slow=20,SNR=7.2								
L56A	**Greenwood**	**16.52**	**63**	P			01 30 41.7		
	baz=256								
NVAR	**Mina Array Bea**	**16.66**	**284**	Pn		**P**	**01 30 47.8**	**+0.1**	
	comp=Z,0.2nm,0.3s,baz=95,slow=11,SNR=17								
BEKR	**Beckworth**	**18.32**	**288**	P		**Pn**	**01 31 05.4**	**-0.3**	
CMIG	**Matias Romero**	**19.28**	**172**	P		**Pn**	**01 31 19.6**	**+2.3**	
	comp=Z,0.1nm,0.3s,baz=351,slow=13,SNR=2.2								
WDC	**Whiskeytown Da**	**20.03**	**290**	P		**P**	**01 31 24.7**	**+0.2**	
YBH	**Yreka Blue Hor**	**20.27**	**293**	P		**P**	**01 31 27.4**	**+0.2**	
	comp=Z,9.8nm,1.0s,baz=118,slow=6.2,SNR=10								
BBB	**Bella Bella**	**26.79**	**316**	LR		LR	01 45 21.4		
	comp=Z,94nm,18.1s,baz=348,slow=42								
SCHQ	**Schefferville**	**28.03**	**39**	P		**P**	**01 32 42.1**	**-0.5**	
	comp=Z,2.5nm,0.7s,baz=229,slow=8.2,SNR=7.2								
SCHQ	**Schefferville**	**28.03**	**39**	P		**P**	**01 32 42.3**	**-0.3**	
ILAR	**Eielson Array**	**40.71**	**330**	P		**P**	**01 34 32.8**	**+0.9**	
	comp=Z,1.6nm,0.8s,baz=107,slow=7.3,SNR=17								
ILAR	**Eielson Array**	**40.71**	**330**	P		**P**	**01 34 32.4**	**+0.5**	
ARCES	**ARCESS Array B**	**66.61**	**19**	P		**P**	**01 37 41.9**	**+0.3**	
	comp=Z,4.7nm,1.0s,baz=303,slow=5.0,SNR=4.2								
FINES	**FINESS Array B**	**72.41**	**25**	P		**P**	**01 38 18.5**	**+1.0**	
	comp=Z,0.6nm,0.6s,baz=296,slow=4.5,SNR=4.8								
MAW	**Mawson**	**146.73**	**166**	PKPbc		**PKPbc**	**01 46 33.2**	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=173,slow=3.4,SNR=2.2								

*IDC **09** 01:30:52.6±1.7, 18°.40S×177°.89W, h640km±21km, mb3.0/6, mb1 3.3/7, mb1mx2.9/40, mbtmp3.9/7, Error ellipse: s-maj=36.4km s-min=24.7km az=131.0*

ISC 09 01:30:53.4±0.9, 18°.4S±0°.2×178°.0W±0°.2, h650km, n10, σ1s00/10, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.81**	**279**	P	**P**	**01 32 20.8**	**-0.6**
	6.4nm,0.3s,baz=132,slow=4.7,SNR=37						
URZ	**Urewera**	**20.27**	**191**	P	**P**	**01 34 46.4**	**-0.7**
	1.7nm,0.3s,baz=308,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**01 38 14.4**	**+1.1**
	0.6nm,0.9s,baz=97,slow=7.4,SNR=2.0						
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**	**01 41 50.7**	**+0.4**
	0.8nm,0.5s,baz=198,slow=3.2,SNR=1.9						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**01 41 54.7**	**-0.3**
	0.6nm,0.7s,baz=204,slow=6.4,SNR=6.5						
TXAR	**Lajitas Array**	**85.92**	**57**	P	**P**	**01 42 28.3**	**+1.3**
	1.8nm,0.9s,baz=224,slow=5.0,SNR=6.1						
ILAR	**Eielson Array**	**86.25**	**13**	P	**P**	**01 42 26.1**	**-1.5**
	0.4nm,0.4s,baz=221,slow=4.6,SNR=8.9						
ARCES	**ARCESS Array B**	**126.84**	**350**	PKP	**PKPdf**	**01 48 43.8**	**-0.6**
	1.5nm,0.6s,baz=347,slow=3.7,SNR=3.6						
BRTR	**Keskin Array B**	**145.38**	**315**	PKPbc	**PKPbc**	**01 49 21.4**	**+0.4**
	0.6nm,0.8s,baz=84,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**148.16**	**345**	PKPbc	**PKPbc**	**01 49 28.3**	**+0.3**
	0.6nm,0.6s,baz=15,slow=4.1,SNR=6.0						

*MDD **09** 01:50:00.5±0.9, 35°.62N×0°.19W, h0km, mb3.7/5, Error ellipse: s-maj=9.2km s-min=5.8km az=74.0, PRXIMO*
*CRAAG **09** 01:50:02.6, 35°.51N×0°.12W, Ml2.5*

ISC 09 01:50:02.1±1.2, 35°.53N±0°.06×0°.14W±0°.07, h16km, n14, σ1s35/22, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.20**	**183**	P	**Pg**	**01 50 06.5**	**-0.3**
ODJA	**Bouhanifia**	**0.20**	**183**	P	**Pg**	**01 50 06.5**	**-0.3**
OTSS	**Djebel Tessala**	**0.59**	**246**	P	**Pn**	**01 50 17.0**	**+1.1**
OTSS	**Djebel Tessala**	**0.59**	**246**	P	**Pn**	**01 50 17.0**	**+1.1**
ENIJ	**Nijar**	**2.21**	**311**	P	**Pn**	**01 50 38.1**	**0.0**
	1.7nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**01 51 03.3**	**-1.8**
	4.0nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.48**	**339**	P	**Pn**	**01 50 43.4**	**+1.6**
	0.4nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**01 51 11.5**	**-0.2**
	3.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.61**	**302**	P	**Pn**	**01 50 44.4**	**+0.6**
	1.2nm,0.1s,SNR=11						
EBER				S	**Sn**	**01 51 15.6**	**+0.2**
	6.4nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**3.12**	**296**	P	**Pn**	**01 50 50.0**	**-0.7**
	1.8nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**01 51 26.5**	**-1.3**
	7.3nm,0.9s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.15**	**359**	S	**Sn**	**01 51 28.0**	**-0.2**
	2.5nm,0.6s,SNR=7.9						
SESP	**Santiago Espad**	**3.23**	**324**	⇑P	**Pn**	**01 50 54.6**	**+2.3**
	5.0nm,0.2s,SNR=18						
SESP				S	**Sn**	**01 51 30.3**	**-0.2**
	3.8nm,0.6s,SNR=7.9						
EQES	**Quesada**	**3.28**	**315**	P	**Pn**	**01 50 55.2**	**+2.3**
	1.7nm,0.1s,SNR=19						
EQES				S	**Sn**	**01 51 31.0**	**-0.5**
	15nm,0.9s,SNR=7.9						
ETOB	**Tobarra**	**3.31**	**341**	P	**Pn**	**01 50 55.0**	**+1.7**
	0.5nm,0.2s,SNR=6.1						
ETOB				S	**Sn**	**01 51 29.4**	**-3.0**
	3.4nm,0.6s,SNR=7.9						
EGOR	**Sierra Gorda,**	**3.58**	**297**	P	**Pn**	**01 50 57.5**	**+0.5**
	0.6nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.69**	**18**	P	**Pn**	**01 50 58.4**	**0.0**
	0.9nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**01 51 40.8**	**-0.8**
	1.1nm,0.5s,SNR=7.9						

*IDC **09** 02:08:02.3±0.5, 27°.84S×74°.09E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.4/41, mbtmp4.4/20, MS3.9/5, Ms1 3.9/5, ms1mx3.4/32, Error ellipse: s-maj=16.5km s-min=13.8km az=139.0*
*NEIC **09** 02:08:05.0

AS31	**Alice Springs**	**53.61**	**100**	P		**P**	**02 17 25.5**	**-0.2**
NONG	**Nongkai**	**53.64**	**35**	P		P	02 17 32.0	+6.3
WRA	**Warramunga Arr**	**55.21**	**96**	P		**P**	**02 17 37.2**	**-0.1**
	comp=Z,10nm,0.9s,baz=251,slow=7.7,SNR=42							
WRAB	**Tennant Creek**	**55.22**	**96**	P		**P**	**02 17 36.8**	**-0.6**
WRAB				IAmb		IAmb	02 17 44.3	
	comp=Z,17nm,0.9s							
SNAA	**Sanae**	**59.70**	**201**	P		**P**	**02 18 08.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=91,slow=12,SNR=6.9							
SNAA	**Sanae**	**59.70**	**201**	P		**P**	**02 18 08.8**	**+0.5**
SNAA				IAmb		IAmb	02 18 14.5	
	comp=Z,10nm,1.5s							
SIJI	**Sorong**	**60.89**	**74**	P		**P**	**02 18 17.3**	**+0.1**
	comp=Z,4.8nm,0.4s,baz=209,slow=19,SNR=4.5							
SIJI				LR		LR	02 42 15.5	
	comp=Z,49nm,20.6s,baz=59,slow=34							
QSPA	**South Pole Qui**	**62.27**	**180**	P		**P**	**02 18 25.8**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=287,slow=1.8,SNR=24							
QSPA	**South Pole Qui**	**62.27**	**180**	P		**P**	**02 18 26.3**	**+0.4**
QSPA				IAmb		IAmb	02 18 28.0	
	comp=Z,9.2nm,1.1s							
VNDA	**Vanda**	**62.54**	**166**	P		**P**	**02 18 27.1**	**-0.3**
	comp=Z,2.8nm,1.1s,baz=269,slow=7.7,SNR=5.4							
VNDA	**Vanda**	**62.54**	**166**	P		**P**	**02 18 28.0**	**+0.6**
VNDA				IAmb		IAmb	02 18 29.1	
	comp=Z,5.8nm,1.2s							
KK31	**Karatay Array**	**70.69**	**357**	P		**P**	**02 19 20.3**	**+0.6**
KK31				IAmb		IAmb	02 19 26.4	
	comp=Z,6.4nm,0.8s							
KKAR	**Karatay Array**	**70.69**	**357**	P		**P**	**02 19 20.0**	**+0.3**
KKAR	**Karatay Array**	**70.69**	**357**	P		**P**	**02 19 20.4**	**+0.7**
KKAR				IAmb		IAmb	02 19 26.4	
	comp=Z,6.4nm,0.8s							
MKAR	**Makanchi Array**	**74.68**	**6**	P		**P**	**02 19 42.5**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=188,slow=7.3,SNR=7.6							
MKAR	**Makanchi Array**	**74.68**	**6**	P		**P**	**02 19 42.4**	**-1.0**
BR131	**Keskin Array S**	**77.06**	**329**	P		**P**	**02 19 56.6**	**-0.7**
BRTR	**Keskin Array B**	**77.06**	**329**	P		**P**	**02 19 57.2**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=154,slow=6.7,SNR=9.5							
BRTR	**Keskin Array B**	**77.06**	**329**	P		**P**	**02 19 57.1**	**-0.2**
ABKAR	**Akbulak array**	**77.80**	**351**	P		**P**	**02 20 00.8**	**-0.2**
ABKAR	**Akbulak array**	**77.80**	**351**	P		**P**	**02 20 01.0**	**+0.1**
ABKAR				IAmb		IAmb	02 20 01.8	
	comp=Z,8.7nm,1.2s							
BRVK	**Borovoye**	**80.64**	**358**	P		**P**	**02 20 16.9**	**+0.4**
SONM	**Songino Array**	**80.76**	**21**	P		**P**	**02 20 17.7**	**+0.3**
	comp=Z,2.1nm,1.1s,baz=192,slow=5.6,SNR=8.8							
SONM	**Songino Array**	**80.76**	**21**	P		**P**	**02 20 17.7**	**+0.3**
ZAA0	**Zalesovo Array**	**82.00**	**6**	P		**P**	**02 20 23.2**	**-0.4**
ZALV	**Zalesovo Beam**	**82.00**	**6**	P		**P**	**02 20 22.7**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=204,slow=3.3,SNR=6.5							
ZALV	**Zalesovo Beam**	**82.00**	**6**	P		**P**	**02 20 22.4**	**-1.3**
KSAR	**Wonju Array Be**	**82.27**	**40**	P		**P**	**02 20 25.7**	**+0.3**
KSRS	**Korea Array**	**82.30**	**40**	P		**P**	**02 20 25.7**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=228,slow=5.4,SNR=18							
LIT	**Litokhoron**	**82.89**	**323**	P		**P**	**02 20 28.3**	**-0.4**
VTS	**Vitosha**	**84.31**	**325**	P		**P**	**02 20 36.3**	**+0.3**
VTS				IAmb		IAmb	02 20 36.6	
	comp=Z,5.0nm,1.2s							
ARU	**Arti**	**84.98**	**351**	P		**P**	**02 20 37.7**	**-1.2**
MLR	**Muntele Rosu**	**85.10**	**328**	⇑P		**P**	**02 20 40.9**	**+0.9**
MLR	**Muntele Rosu**	**85.10**	**328**	P		**P**	**02 20 40.8**	**+0.9**
CORL	**Corleone**	**86.68**	**316**	P		**P**	**02 20 48.2**	**+0.3**
CORL				IAmb		IAmb	02 20 49.6	
	comp=Z,17nm,1.4s							
DIVS	**Divibare**	**87.02**	**324**	P		**P**	**02 20 49.6**	**+0.2**
AKASG	**Malin Array Be**	**87.68**	**333**	P		**P**	**02 20 52.3**	**0.0**
	comp=Z,2.8nm,0.7s,baz=134,slow=4.1,SNR=16							
AKASG	**Malin Array Be**	**87.68**	**333**	P		**P**	**02 20 52.1**	**-0.2**
AKBB	**Malin Array Si**	**87.68**	**333**	P		**P**	**02 20 52.5**	**+0.2**
AKBB				IAmb		IAmb	02 20 58.5	
	comp=Z,6.3nm,0.7s							
KEST	**Kesra**	**87.86**	**313**	P		**P**	**02 20 54.5**	**+0.8**
	comp=Z,9.0nm,1.0s,baz=104,slow=0.9,SNR=8.4							
KEST	**Kesra**	**87.86**	**313**	P		**P**	**02 20 53.9**	**+0.2**
MJAR	**Matsushiro Arr**	**87.98**	**46**	P		**P**	**02 20 53.9**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=212,slow=6.8,SNR=5.6							
MJAR	**Matsushiro Arr**	**87.98**	**46**	P		**P**	**02 20 54.0**	**-0.1**
MJAR				IAmb		IAmb	02 20 54.8	
	comp=Z,15nm,1.5s							
NRCA	**Norcia**	**89.92**	**320**	P		**P**	**02 21 03.2**	**0.0**
NRCA				IAmb		IAmb	02 21 04.5	
	comp=Z,15nm,1.5s							
MNK	**Minsk**	**91.15**	**335**	*i* P		**P**	**02 21 07.3**	**-1.2**
	comp=E,1.0nm,1.0s							
MNK				*i* P		**P**	**02 21 07.3**	**-1.2**
	comp=N,8.0nm,1.0s							
MNK				*i* P		**P**	**02 21 07.3**	**-1.2**
	comp=Z,4.0nm,0.9s,baz=320							
MNK				*i* S		**SKSac**	**02 31 39.7**	**-0.4**
MNK				*i* LQ		LQ	02 54 04.3	
MNK				*i* LR		LR	02 59 22.3	
MNK				*i* LRM		MLR	03 03 16.8	
	comp=Z,71nm,21.0s							
MNK				*i* LRM		MLR	03 03 19.0	
	comp=N,56nm,19.5s							
KLMR	**Klimovskoe**	**92.77**	**344**	*e*P		**P**	**02 21 14.2**	**-1.7**
KLMR				AMP			02 21 18.1	
	comp=Z,28nm,1.7s							
ILAR	**Eielson Array**	**134.96**	**23**	PKP		**PKPdf**	**02 27 22.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=305,slow=3.1,SNR=6.8							
ILAR	**Eielson Array**	**134.96**	**23**			**PKPdf**	**02 27 21.5**	**-1.0**
YKA	**Yellowknife Ar**	**144.90**	**7**	PKP		**PKPab**	**02 27 39.0**	**-0.7**
	comp=Z,4.9nm,1.1s,baz=338,slow=3.5,SNR=10							
PDAR	**Pinedale Array**	**164.84**	**10**	PKP		**PKPdf**	**02 28 07.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=90,slow=1.6,SNR=5.8							
PDAR				PKPab		**PKPab**	**02 29 02.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=75,slow=3.8,SNR=1.6							
PDAR	**Pinedale Array**	**164.84**	**10**			**PKPdf**	**02 28 07.8**	**-0.6**
NVAR	**Mina Array Bea**	**165.24**	**41**	PKP		**PKPdf**	**02 28 10.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=251,slow=2.8,SNR=4.5							
NVAR				PKPab		**PKPab**	**02 29 06.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=306,slow=4.2,SNR=5.3							
TXAR	**Lajitas Array**	**177.52**	**307**	PKP		**PKPdf**	**02 28 14.5**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=152,slow=4.1,SNR=4.2							
TXAR				PKPab		PKPab	02 29 58.8	-2.0
	comp=Z,0.3nm,0.7s,baz=39,slow=5.8,SNR=2.7							
TXAR	**Lajitas Array**	**177.52**	**307**			**PKPdf**	**02 28 14.8**	**-0.3**

IDC 09 02:09:53.3±1.5, 27°98S×74°09E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/47, mbtmp4.0/5, Error ellipse: s-maj=42.4km s-min=34.8km az=66.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.28**	**355**	T		T	02 35 16.7	
	baz=177							
H08S1	**Diego Garcia H**	**20.28**	**355**	T		T	02 35 16.5	
	baz=177							
H08S3	**Diego Garcia H**	**20.30**	**355**	T		T	02 35 15.3	
	baz=177							
CMAR	**Chiang Mai Arr**	**52.06**	**30**	P		P	02 19 05.0	0.0
	1.1nm,0.4s,baz=215,slow=7.6,SNR=1.7							
ASAR	**Alice Springs**	**53.56**	**100**	P		P	02 19 16.2	0.0
	2.2nm,0.7s,baz=252,slow=6.4,SNR=4.3							
WRA	**Warramunga Arr**	**55.17**	**96**	P		P	02 19 27.9	-0.2
	2.3nm,1.0s,baz=251,slow=7.4,SNR=4.4							
QSPA	**South Pole Qui**	**62.16**	**180**	P		P	02 20 16.2	+0.1
	2.9nm,1.1s,baz=315,slow=4.3,SNR=2.5							
BRTR	**Keskin Array B**	**77.17**	**329**	P		P	02 21 49.0	0.0
	0.3nm,0.6s,baz=133,slow=4.6,SNR=2.3							

IDC 09 02:19:07.4±5.3, 12°01S×166°62E, h184km±47km, mb3.4/4, mb1 3.6/5, mb1mx3.3/29, mbtmp4.0/5, Error ellipse: s-maj=33.9km s-min=30.8km az=82.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.01**	**181**	P		Pn	02 21 28.9	+1.8
	1.8nm,0.3s,baz=3.6,slow=16,SNR=15							
DZM				S		Sn	02 23 14.2	-4.5
	0.2nm,0.3s,baz=163,slow=19,SNR=1.7							
URZ	**Urewera**	**27.77**	**162**	P		P	02 24 39.2	+0.1
	2.6nm,0.5s,baz=307,slow=20,SNR=2.2							
ASAR	**Alice Springs**	**33.15**	**245**	P		P	02 25 26.5	-0.1
	0.9nm,0.7s,baz=71,slow=10,SNR=8.2							
VNDA	**Vanda**	**65.55**	**181**	P		P	02 29 31.0	+0.2
	0.6nm,0.8s,baz=352,slow=6.2,SNR=7.1							
ILAR	**Eielson Array**	**84.15**	**18**	P		P	02 31 17.1	-0.4
	0.5nm,0.6s,baz=240,slow=5.1,SNR=7.4							

*IDC **09** 02:21:42.2±1.5, 6°21S×128°86E, h256km±15km, mb3.6/9,*

mb1 3.9/13, mb1mx3.6/43, mbtmp4.5/13, Error ellipse: s-maj=21.8km s-min=11.3km az=78.0

*NEIC **09** 02:21:42.5±1.6, 6°23S×128°92E±0°07, h259km±9km, mb4.2/10, Error ellipse: s-maj=10.7km s-min=8.9km az=118.0*

*DJA **09** 02:21:43.5±0.2, 6°S±3°×12°9E±°, h243km±6km, M5.0/12, mB5.4/9, mb4.8/12, MLv5.2/10, Mw(mB)4.8/9*

ISC 09 02:21:41.3±0.5, 6°27S±0°04×128°95E±0°05, h250km, n51, σ1°75/66, mb4.0/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.89**	**126**	Pn		**Pn**	**02 22 35.0**	**+2.3**
SAUI				Sn		**S**	**02 23 15.5**	**+2.3**
MSAI	**Masohi**	**2.91**	**360**	P		**Pn**	**02 22 35.7**	**+2.8**
MSAI				S		**S**	**02 23 16.2**	**+2.5**
NLAI	**Namlea**	**3.53**	**328**	P		**Pn**	**02 22 43.7**	**+4.0**
FAKI	**Fak Fak**	**4.68**	**45**			**Pn**	**02 22 54.5**	**+1.2**
FAKI				Sn		**S**	**02 23 48.9**	**-1.8**
FAKI	**Fak Fak**	**4.68**	**45**	P		**Pn**	**02 22 54.9**	**+1.6**
FAKI				S		**S**	**02 23 48.5**	**-2.1**
SANI	**Sanana**	**5.13**	**325**	P		**Pn**	**02 23 00.6**	**+1.9**
	1.1nm3μm297nm,0.6s							
SANI				S		**S**	**02 24 01.9**	**+1.4**
	1.1nm3μm297nm,0.6s							
SOEI	**Soe**	**5.78**	**233**			**Pn**	**02 23 08.5**	**+1.5**
SOEI				Sn		**S**	**02 24 14.7**	**-0.6**
SOEI	**Soe**	**5.78**	**233**	P		**Pn**	**02 23 08.3**	**+1.3**
	2.4nm2μm121nm,0.8s							
SIJI	**Sorong**	**5.84**	**23**	P		**Pn**	**02 23 07.8**	**+0.2**
	55nm,0.3s,baz=192,slow=23,SNR=264							
SIJI				S		**S**	**02 24 12.6**	**-4.0**
	75nm,0.3s,baz=122,slow=23,SNR=30							
SWI	**Sorong**	**5.85**	**23**	P		**Pn**	**02 23 08.1**	**+0.5**
	2.8nm17μm216nm,0.5s							
BATI	**Baumata**	**6.53**	**233**	P		**Pn**	**02 23 17.4**	**+1.2**
	29nm,0.3s,baz=105,slow=1.8,SNR=11							
BATI				S		**S**	**02 24 29.1**	**-3.0**
	88nm,0.3s,baz=301,slow=17,SNR=30							
BATI	**Baumata**	**6.53**	**233**	P		**Pn**	**02 23 17.5**	**+1.3**
	1.8nm1μm72nm,0.5s							
MTN	**Manton Dam**	**6.88**	**162**			**Pn**	**02 23 22.2**	**+1.6**
MTN				Sn		**S**	**02 24 38.9**	**-1.2**
TNTI	**Ternate**	**7.17**	**347**			**Pn**	**02 23 25.2**	**+0.9**
TNTI	**Ternate**	**7.17**	**347**	P		**Pn**	**02 23 26.2**	**+1.9**
	0.4nm90nm,0.9s							
KNRA	**Kununurra**	**9.35**	**181**			**Pn**	**02 23 51.9**	**+0.1**
MRSI	**Marisa**	**9.69**	**314**	P		**Pn**	**02 23 58.6**	**+2.5**
	2μm54nm,1.1s							
SGSI	**Sangihe**	**10.46**	**341**	P		**Pn**	**02 24 06.6**	**+0.8**
	7μm158nm,0.6s							
TOLI2	**Tolitoli**	**10.96**	**312**	P		**Pn**	**02 24 13.8**	**+1.7**
GENI	**Genyem**	**11.77**	**72**	P		**P**	**02 24 24.3**	**-1.2**
	2μm122nm,1.0s							
FITZ	**Fitzroy Crossi**	**12.19**	**195**	P		**Pn**	**02 24 26.8**	**-0.6**
	9.1nm,0.3s,baz=25,slow=11,SNR=73							
FITZ				S		**S**	**02 26 38.0**	**-5.2**
	3.6nm,0.3s,baz=347,slow=15,SNR=2.3							
FITZ	**Fitzroy Crossi**	**12.19**	**195**	Pn		**Pn**	**02 24 27.0**	**-0.4**
WRAB	**Tennant Creek**	**14.56**	**159**	P		**P**	**02 24 56.7**	**+0.3**
WRA	**Warramunga Arr**	**14.57**	**159**	P		**Pn**	**02 24 56.4**	**-0.1**
	8.7nm,0.3s,baz=338,slow=12,SNR=254							
WRA				S		**S**	**02 27 34.5**	**-3.2**
	2.1nm,0.3s,baz=339,slow=21,SNR=8.2							
JAGI	**Jajag, Banyuwa**	**14.83**	**261**	P		**P**	**02 24 58.6**	**-0.9**
PSA00	**Pilbara Seismi**	**17.58**	**209**	P		**P**	**02 25 29.2**	**-0.3**
PSA00				IAmb		IAmb	02 25 31.0	
	comp=Z,5.9nm,0.8s							
PSA00	**Pilbara Seismi**	**17.58**	**209**	P		**P**	**02 25 29.5**	**+0.1**
PSA00				IAmb		IAmb	02 25 31.1	
	comp=Z,17nm,0.9s							
PSA00				Sn		**S**	**02 28 43.3**	**+4.3**
AS31	**Alice Springs**	**17.94**	**165**	P		**Pn**	**02 25 35.7**	**-0.7**
ASAR	**Alice Springs**	**17.94**	**165**	P		**Pn**	**02 25 35.7**	**-0.7**
	comp=Z,30nm,0.3s,baz=345,slow=11,SNR=1570							
ASAR				S		**S**	**02 28 45.0**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=343,slow=19,SNR=45							
ASAR				ScP		**ScP**	**02 33 06.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=345,slow=2.0,SNR=2.7							
ASAR	**Alice Springs**	**17.94**	**165**	P		**Pn**	**02 25 35.4**	**-0.9**
ASAR						**S**	**02 28 45.9**	**-0.4**
PMG	**Port Moresby**	**18.31**	**101**	P		**Pn**	**02 25 43.1**	**+2.4**
	comp=Z,2.9nm,0.3s,baz=320,slow=3.2,SNR=5.3							
CTA	**Charters Tower**	**21.71**	**131**	P		**P**	**02 26 14.4**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=272,slow=11,SNR=2.0							
CTAO	**Charters Tower**	**21.71**	**131**	P		**P**	**02 26 13.3**	**+0.5**
CTAO				IAmb		IAmb	02 26 15.7	
	comp=Z,5.0nm,0.8s							
FORT	**Forrest**	**24.40**	**182**	P		**P**	**02 26 37.8**	**+0.7**
MORW	**Morawa**	**25.75**	**207**	P		**P**	**02 26 49.5**	**+0.1**
MORW				IAmb		IAmb	02 26 52.4	
	comp=Z,8.8nm,1.1s							
BBOO	**Buckleboo**	**27.23**	**167**	P		**P**	**02 27 02.8**	**+0.4**
BBOO				IAmb		IAmb	02 27 03.9	
	comp=Z,11nm,0.7s							
STKA	**Stephens Creek**	**28.09**	**157**	P		**P**	**02 27 11.3**	**+1.1**
	comp=Z,2.9nm,0.5s,baz=335,slow=12,SNR=8.3							
STKA	**Stephens Creek**	**28.09**	**157**	P		**P**	**02 27 11.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**38.46**	**310**	P		**P**	**02 28 38.8**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=142,slow=6.1,SNR=1.6							
JWT	**Wachi**	**41.77**	**8**	P		**P**	**02 29 06.0**	**-0.5**
JWT				IAmb		IAmb	02 29 14.1	
	comp=Z,6.2nm,1.0s							
MJAR	**Matsushiro Arr**	**43.46**	**11**	P		**P**	**02 29 18.9**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=189,slow=9.2,SNR=4.4							
USA0B	**Ussuriysk Arra**	**50.31**	**3**	P		**P**	**02 30 12.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**50.31**	**3**	P		**P**	**02 30 12.9**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=183,slow=7.0,SNR=14							
USRK	**Ussuriysk Ar.**	**50.31**	**3**	P		**P**	**02 30 12.1**	**-0.6**
SONM	**Songino Array**	**57.43**	**342**	P		**P**	**02 31 03.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=160,slow=6.7,SNR=4.3							
PETK	**Petropavlovsk-**	**63.97**	**19**	P		**P**	**02 31 48.9**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=182,slow=3.9,SNR=3.0							
MKAR	**Makanchi Array**	**67.05**	**327**	P		**P**	**02 32 07.7**	**-0.1**
	comp=Z,4.9nm,0.5s,baz=132,slow=7.5,SNR=26							
MKAR	**Makanchi Array**	**67.05**	**327**	P		**P**	**02 32 07.4**	**-0.4**
ZALV	**Zalesovo Beam**	**70.47**	**334**	P		**P**	**02 32 27.9**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=143,slow=6.3,SNR=4.4							
ZALV	**Zalesovo Beam**	**70.47**	**334**	P		**P**	**02 32 27.7**	**-0.9**
LPAZ	**La Paz**	**151.93**	**143**	PKPbc		**PKiKP**	**02 41 09.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=180,slow=4.7,SNR=2.8							

*BGR **09** 02:22:41.4±0.0, 15°62N×39°51E, h12km, mb4.6*

*IDC **09** 02:22:51.9±0.5, 16°88N×38°94E, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.4/39, mbtmp4.4/26, ML3.7/2, MS3.7/9, Ms1 3.7/9, ms1mx3.3/30, Error ellipse: s-maj=15.4km s-min=11.7km az=120.0*

*GCMT **09** 02:22:52.3±0.4, 16°87N±0°04×38°84E±0°03, h23km±1km, MW4.8/72, Moment Tensor Solution. s16,c17; s72,c91; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.68±.20; Mθθ0.70±.10; Mφφ1.98±.12; Mrθ0.03±.16; Mrφ-0.40±.06; Mθφ-0.18±.14; Best double couple: M=2.39500×10¹⁶ NP1:φs164.00000°,δ43.00000°,λ-91.00000°. NP2: φs344.00000°,δ47.00000°,λ-89.00000°. Principal axes: T 2.1020, Plg2.0000°, Azm74.0000°; N 0.5840, Plg0.0000°, Azm164.0000°; P -2.6870, Plg88.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **09** 02:22:55.3±1.1, 16°92N±0°07×38°9E±0°1, h14km±4km, mb4.6/60 Error ellipse: s-maj=14.3km s-min=9.5km az=107.0*

ISC 09 02:22:54.2±0.7, 16°91N±0°04×38°87E±0°06, h13km±4km, n235, σ0°95/269, mb4.6/100, MS3.8/10, 12C-19D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TEND	**Ethiopian Broa**	**5.49**	**158**	*e*P		**Pn**	**02 24 18.4**	**+2.6**
TEND				*e*S		**Sb**	**02 25 39.0**	**+3.1**
DESE	**Dese**	**5.81**	**173**	*e*P		**Pn**	**02 24 19.7**	**-0.7**
DESE				*e*S		**Sb**	**02 25 40.9**	**-4.4**
DESE	**Dese**	**5.81**	**173**	*e*P		**Pn**	**02 24 20.4**	**0.0**
DESE				*e*S		**Sb**	**02 25 49.0**	**+3.7**
ATD	**Arta Tunnel**	**6.59**	**144**	Pn		**Pn**	**02 24 33.6**	**+2.7**
	2.7nm,0.3s,baz=277,slow=14,SNR=8.5							
ATD				Sn		**Sn**	**02 25 47.6**	**+1.5**
	baz=240,slow=16,SNR=1.4							
ATD				LR		LR	02 26 38.6	
	comp=Z,446nm,18.5s,baz=65,slow=35							
ATD	**Arta Tunnel**	**6.59**	**144**			**Pn**	**02 24 31.6**	**+0.6**
ATD				Sn		**Sn**	**02 25 45.2**	**-0.9**

ANKE	**Ethiopia-Afar**	**7.33**	**173**	*e*P		**Pn**	**02 24 42.4**	**+1.1**
ANKE				*e*S		Sb	02 26 38.3	+9.4
AAE	**Adis Abeba**	**7.84**	**181**	*e*P		**Pn**	**02 24 48.7**	**+0.4**
AAE				*e*S		Sb	02 26 32.1	-11
AAE	**Adis Abeba**	**7.84**	**181**	*e*P		**Pn**	**02 24 48.6**	**+0.4**
AAE				*e*S		Sb	02 26 53.7	+10
FURI	**Furi**	**7.97**	**181**			**Pn**	**02 24 50.9**	**+0.8**
FURI					Sn	**Sn**	**02 26 21.7**	**+1.4**
FURI	**Furi**	**7.97**	**181**	*e*P		**Pn**	**02 24 51.1**	**+1.0**
FURI				*e*S		**Sb**	**02 26 45.6**	**-1.9**
RAYN	**Ar Rayn**	**9.05**	**42**	Pn		Pn	**02 25 04.6**	**-0.2**
EIL	**Elat**	**13.20**	**345**	Lg		Lg	02 29 47.2	
	0.2nm,0.3s,baz=127,slow=12,SNR=2.1							
LODK	**Lodwar**	**13.84**	**195**	Pn		**Pn**	**02 26 10.5**	**+0.2**
MMAI	**Mount Meron Ar**	**16.34**	**350**	Pn		**P**	**02 26 46.7**	**+0.4**
	1.2nm,0.3s,baz=179,slow=12,SNR=5.1							
UOSS	**Minazif**	**18.04**	**61**			**Pn**	**02 27 03.6**	**-1.2**
CSS	**Mathiatis**	**18.64**	**346**	P		**Pn**	**02 27 13.7**	**+1.6**
MBAR	**Mbarara**	**19.16**	**206**	P		**Pn**	**02 27 18.8**	**+0.2**
	0.1nm,0.3s,baz=19,slow=11,SNR=5.2							
MBAR	**Mbarara**	**19.16**	**206**	P		**P**	**02 27 17.2**	**-0.5**
WSAR	**Wadi Sarin**	**19.59**	**68**	P		**Pn**	**02 27 22.6**	**-0.9**
	0.4nm,0.3s,baz=275,slow=4.9,SNR=4.7							
GAZ	**Gaziantep**	**20.23**	**356**	P		Pn	02 27 30.3	-0.8
MARD	**Mardin**	**20.39**	**4**	P		Pn	02 27 31.9	-1.2
AKAS	**Kas**	**20.93**	**339**	P		**P**	**02 27 37.0**	**+0.2**
AKAS				IAmb		IAmb	02 27 41.1	
	comp=Z,25nm,1.1s							
ELL	**Elmali**	**21.29**	**340**	P		**P**	**02 27 41.9**	**+1.2**
IDI	**Anoyia**	**22.15**	**328**	P		**P**	**02 27 51.6**	**+1.8**
	comp=Z,12nm,0.9s,baz=176,slow=11,SNR=5.1							
IDI	**Anoyia**	**22.15**	**328**	P		**P**	**02 27 50.8**	**+1.0**
IDI				IAmb		IAmb	02 27 56.3	
	comp=Z,21nm,1.0s							
BR131	**Keskin Array S**	**23.18**	**350**	P		**P**	**02 28 00.9**	**+0.2**
BR131				IAmb		IAmb	02 28 03.1	
	comp=Z,12nm,0.9s							
BRTR	**Keskin Array B**	**23.18**	**350**	P		**P**	**02 28 02.3**	**+1.5**
	comp=Z,4.3nm,0.7s,baz=171,slow=12,SNR=38							
BRTR				PcP		**PcP**	**02 31 48.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=144,slow=4.9,SNR=5.0							
BRTR	**Keskin Array B**	**23.18**	**350**	P		**P**	**02 28 01.7**	**+0.9**
BRTR						**PcP**	**02 31 49.0**	**0.0**
MANT	**Manisa**	**23.32**	**339**	P		**P**	**02 28 03.0**	**+0.7**
MANT				IAmb		IAmb	02 28 06.6	
	comp=Z,36nm,1.1s							
ANTO	**Ankara**	**23.48**	**348**	P		**P**	**02 28 04.5**	**+0.9**
ANTO				IAmb		IAmb	02 28 10.7	
	comp=Z,17nm,1.1s							
GNI	**Garni**	**23.71**	**11**	P		**P**	**02 28 08.5**	**+2.5**
	comp=Z,6.6nm,0.7s,baz=180,slow=1.8,SNR=4.4							
GNI				LR		LR	02 37 35.6	
	comp=Z,78nm,20.6s,baz=192,slow=37							
GNI	**Garni**	**23.71**	**11**	P		**P**	**02 28 07.2**	**+1.2**
GNI				IAmb		IAmb	02 28 10.6	
	comp=Z,9.8nm,0.8s							
ILGA	**Ilgaz**	**24.46**	**351**	P		**P**	**02 28 15.1**	**+2.0**
ILGA				IAmb		IAmb	02 28 18.8	
	comp=

KK31 Karatay Array 37.46 39 P **P** 02 30 07.8 +0.4
KK31 IAmb IAmb 02 30 10.0
comp=Z,6.0nm,0.6s
KKAR Karatay Array 37.46 39 P **P** 02 30 07.7 +0.3
KKAR IAmb IAmb 02 30 10.0
comp=Z,6.0nm,0.6s
KKAR Karatay Array 37.46 39 P **P** 02 30 07.8 +0.3
CKRC Cesky Krumlov 37.59 333 *eP* **P** 02 30 09.2 +0.8
WTTA Wattenberg 37.68 329 *eP* **P** 02 30 10.0 +0.6
comp=Z,7.4nm,1.1s
WTTA *eP* **PcP** 02 32 26.1 -0.5
comp=Z,4.7nm,1.0s
WATA Walderalm 37.76 329 *i* P **P** 02 30 10.4 +0.3
comp=Z,13nm,1.7s
WATA *i* P **PcP** 02 32 26.4 -0.4
comp=Z,2.1nm,0.6s
GEC2 GERESS Array S 37.87 333 P **P** 02 30 11.7 +0.8
GEC2 IAmb IAmb 02 30 15.4
comp=Z,12nm,1.0s
GEC2 GERESS Array S 37.87 333 *eP* **P** 02 30 11.5 +0.6
comp=Z,29nm,1.5s,baz=136,slow=8.2
GERES GERESS Array B 37.87 333 P **P** 02 30 11.2 +0.3
comp=Z,6.0nm,0.7s,baz=134,slow=7.7,SNR=56
GERES PcP **PcP** 02 32 26.4 -0.7
comp=Z,1.8nm,0.8s,baz=131,slow=3.9,SNR=5.7
GERES GERESS Array B 37.87 333 P **P** 02 30 11.5 +0.6
GERES PcP **PcP** 02 32 26.6 -0.5
DPC Dobruska-Polom 37.96 336 *eP* **P** 02 30 11.1 -0.5
FETA Feichten 37.96 328 *i* P **P** 02 30 12.8 +1.1
comp=Z,11nm,1.2s
FETA *eP* **PcP** 02 32 27.5 0.0
comp=Z,4.1nm,0.9s
MOTA Moosalm 38.00 329 *eP* **P** 02 30 12.3 +0.2
comp=Z,6.3nm,0.9s
MOTA *eP* **PcP** 02 32 27.4 -0.1
comp=Z,5.0nm,0.7s
KHC Kasperske Hory 38.14 333 *eP* **P** 02 30 12.3 -0.8
OSTC Ostas 38.17 337 *eP* **P** 02 30 13.4 +0.1
UPC Upice 38.21 336 *eP* **P** 02 30 14.2 +0.6
CHVC Chvalec 38.26 336 *eP* **P** 02 30 14.2 +0.2
RETA Reutte 38.27 329 *i* P **P** 02 30 14.3 +0.1
comp=Z,2.5nm,0.6s
RETA *i* P **PcP** 02 32 28.2 -0.1
comp=Z,2.6nm,0.8s
KSP Ksiaz 38.37 337 *eP* **P** 02 30 15.5 +0.6
WET Wettzell 38.45 332 *eP* **P** 02 30 15.6 -0.2
comp=Z,18nm,1.6s,baz=136,slow=8.2
MNK Minsk 38.47 350 *i* P **P** 02 30 13.9 -1.8
comp=E,2.0nm,0.9s
MNK *i* P **P** 02 30 13.9 -1.8
comp=N,7.0nm,0.9s
MNK *i* P **P** 02 30 13.9 -1.8
comp=Z,12nm,0.9s,baz=163
MNK *i* PP **PP** 02 31 41.2 -2.5
MNK *i* PPP PPP 02 32 01.1
MNK *i* PcP **PcP** 02 32 27.0 -1.6
MNK *i* S **S** 02 36 11.5 +0.9
MNK *i* SS **SnSn** 02 38 56.8 -0.3
MNK *i* SSS SSS 02 39 13.9
MNK *i* ScS **ScS** 02 40 25.1 -1.2
MNK *i* LQ LQ 02 43 12.8
MNK *i* LR LR 02 45 39.5
MNK *i* LRM MLR 02 47 46.6
comp=E,7.0nm,18.4s
MNK *i* LRM MLR 02 47 46.6
comp=N,40nm,20.6s
MNK *i* LRM MLR 02 47 54.4
comp=Z,54nm,16.3s
MATP Matopo 38.48 196 P **P** 02 30 15.5 -0.8
comp=Z,2.7nm,0.8s,baz=15,slow=13,SNR=6.0
DAVA Damuels 38.57 328 *i* P **P** 02 30 17.2 +0.3
comp=Z,9.2nm,0.7s
PVCC Panska Ves 38.79 335 *eP* **P** 02 30 18.8 +0.3
SUW Suwalki 38.98 345 *eP* **P** 02 30 19.9 -0.1
SUW Suwalki 38.98 345 P **P** 02 30 20.4 +0.4
BRG Berggiesshubel 39.31 335 *eP* **P** 02 30 23.0 +0.2
BRG Amp 02 30 24.1
comp=Z,16nm,1.1s
BRG *ex* x 02 30 26.0
BRG Amp 02 30 27.6
comp=Z,15nm,1.2s
BRG Berggiesshubel 39.31 335 *eP* **P** 02 30 23.0 +0.2
comp=Z,16nm,1.1s,baz=136,slow=8.2
SENIN Lac Senin/Sane 39.34 325 P **P** 02 30 23.6 +0.1
NKC Novy Kostel 39.45 333 *eP* **P** 02 30 23.1 -0.9
TANN Tannenbergstha 39.58 333 *eP* **P** 02 30 25.2 0.0
comp=Z,20nm,1.4s,baz=136,slow=8.2
FBE Freiberg 39.59 335 *eP* **P** 02 30 25.3 +0.2
comp=Z,11nm,1.2s,baz=136,slow=8.2
GRF Grafenberg Arr 39.60 332 *eP* **P** 02 30 24.9 -0.4
comp=Z,26nm,1.7s,baz=136,slow=8.2
GRF *ep*P **pP** 02 30 28.2 -1.2
GUNZ Gunzen 39.60 333 *eP* **P** 02 30 25.5 +0.2
comp=Z,25nm,1.7s,baz=136,slow=8.2
WERD Werda 39.67 333 *eP* **P** 02 30 26.0 +0.2
comp=Z,19nm,1.1s,baz=136,slow=8.2
PLN Plauen 39.76 333 *eP* **P** 02 30 26.9 +0.2
comp=Z,28nm,1.5s,baz=136,slow=8.2
CLL Collm 40.03 335 ||*i* P **P** 02 30 28.5 -0.3
comp=Z,9.0nm,0.9s
CLL *i* pP **pP** 02 30 31.5 -1.4
comp=Z,14nm,1.3s
CLL *e*PP **PnPn** 02 32 05.0 +0.8
CLL Collm 40.03 335 P **P** 02 30 28.9 +0.1
CLL IAmb IAmb 02 30 29.6
comp=Z,9.2nm,1.0s
CLL Collm 40.03 335 *eP* **P** 02 30 28.7 -0.1
comp=Z,8.7nm,0.9s,baz=136,slow=8.2
BFO Black Forest 40.05 328 P **P** 02 30 29.4 +0.3
MOX Moxa 40.11 333 *eP* **P** 02 30 29.4 -0.1
comp=Z,9.0nm,1.0s,baz=136,slow=8.2
PABE Paberze 40.17 347 P **P** 02 30 30.1 +0.2
PABE IAmb IAmb 02 30 30.9
comp=Z,16nm,0.8s
MILB Miltenberg 40.58 331 *eP* **P** 02 30 33.3 -0.1
comp=Z,15nm,0.8s,baz=136,slow=8.2
RUE Ruedersdorf 40.62 337 *eP* **P** 02 30 33.5 -0.2
comp=Z,18nm,0.9s,baz=136,slow=8.2
KOWA Kowa 41.30 273 P **P** 02 30 39.6 -0.2
comp=Z,2.4nm,0.6s,baz=72,slow=8.3,SNR=11
GTTG Gottingen 41.48 333 *eP* **P** 02 30 40.6 -0.2
comp=Z,9.1nm,0.8s,baz=136,slow=8.2
FLTG Flechtingen 41.52 335 *eP* **P** 02 30 40.4 -0.6
comp=Z,8.3nm,0.9s,baz=136,slow=8.2
TSUM Tsumeb 41.55 211 P **P** 02 30 41.6 -0.3
comp=Z,3.3nm,0.8s,baz=36,slow=9.8,SNR=7.9
TSUM Tsumeb 41.55 211 P **P** 02 30 41.5 -0.3
ASSE Asse, Remlinge 41.60 334 *eP* **P** 02 30 41.4 -0.3
comp=Z,9.1nm,0.9s,baz=136,slow=8.2
PALK Pallekele 41.93 98 LR LR 02 45 55.5
comp=Z,100nm,18.6s,baz=24,slow=33
WLF Walferdange 42.00 328 *dP* **P** 02 30 45.5 +0.4
WLF *d*PP **PP** 02 32 22.3 0.0
WLF *d*PcP **PcP** 02 32 37.7 -2.5
NRDL Niedersach Rie 42.11 334 *eP* **P** 02 30 45.8 0.0
comp=Z,13nm,1.1s,baz=136,slow=8.2
AHRW Bad Neuenahr-A 42.12 330 *eP* **P** 02 30 46.8 +0.8
comp=Z,36nm,1.5s,baz=136,slow=8.2
ARU Arti 42.17 16 P **P** 02 30 46.7 +0.3
ARU IAmb IAmb 02 30 47.7
comp=Z,7.5nm,0.6s
MEM Membach 42.68 329 *dP* **P** 02 30 51.1 +0.5
MEM *dx* x 02 31 18.9
BGES Gesves 42.99 329 *dP* **P** 02 30 53.8 +0.7
BGES *dx* x 02 31 13.8
BGES *d*PP **PP** 02 32 33.7 +0.8
DOU Dourbes 43.06 328 *dP* **P** 02 30 53.6 -0.1
DOU *d*pP **pP** 02 30 58.3 +0.5
DOU *d*sP **sP** 02 30 59.9 +0.4
DOU *dx* x 02 31 11.3
BSEG Bad Segeberg 43.08 336 *eP* **P** 02 30 53.8 0.0
comp=Z,27nm,1.5s,baz=136,slow=8.2
BMRD Maredsous 43.10 328 *dP* **P** 02 30 54.2 +0.2
BMRD *d*PP **PP** 02 32 35.5 +1.4
ESDC Sonseca Array 43.48 310 P **P** 02 30 57.7 +0.4
comp=Z,4.7nm,0.9s,baz=96,slow=6.6,SNR=22
ESDC PcP **PcP** 02 32 44.8 -0.6
comp=Z,0.7nm,0.7s,baz=104,slow=3.1,SNR=5.2
ESDC LR LR 02 49 34.2
comp=Z,41nm,20.4s,baz=170,slow=37
LBTB Lobatse 43.64 198 P **P** 02 30 58.8 +0.1
comp=Z,2.3nm,0.7s,baz=33,slow=12,SNR=4.3
LBTB Lobatse 43.64 198 P **P** 02 30 59.2 +0.5
PAB San Pablo 43.72 310 P **P** 02 30 59.5 +0.3
PAB IAmb IAmb 02 31 01.4
comp=Z,9.9nm,1.1s
KLMR Klimovskoe 43.89 0 *eP* **P** 02 30 58.7 -1.5
KLMR AMP 02 31 01.0
comp=Z,40nm,1.4s
DBIC Dimbokro 43.90 262 P **P** 02 30 00.8 -0.2
comp=Z,20nm,0.7s,baz=54,slow=7.5,SNR=18
DBIC LR LR 02 50 32.9
comp=Z,133nm,18.9s,baz=72,slow=38
DBIC Dimbokro 43.90 262 P **P** 02 31 01.3 +0.3
MUD Monsted U'grnd 45.40 337 *i* P **P** 02 31 12.5 +0.2
MUD IAmb IAmb 02 31 17.2
comp=Z,46nm,1.3s
FINES FINESS Array B 45.40 351 P **P** 02 31 11.9 -0.4
comp=Z,2.4nm,0.5s,baz=159,slow=9.8,SNR=19
FINES PcP **PcP** 02 32 50.8 -0.6
comp=Z,2.2nm,0.8s,baz=134,slow=4.0,SNR=2.6
FINES FINESS Array B 45.40 351 P **P** 02 31 12.3 0.0
PVAQ Vaqueiros 45.67 306 *eP* **P** 02 31 15.1 +0.3
comp=Z,19nm,1.0s
PBDV Barranco-do-Ve 45.80 306 *eP* **P** 02 31 16.6 +0.7
comp=Z,39nm,1.8s
GOET G??ttrup 45.82 338 *i* P **P** 02 31 16.4 +0.8
PBEJ Beja 45.93 307 *eP* **P** 02 31 16.9 0.0
comp=Z,14nm,1.3s
PESTR Estremoz 45.93 308 *eP* **P** 02 31 16.9 0.0
comp=Z,22nm,1.6s
PMRV Marv??o 45.93 309 *eP* **P** 02 31 17.1 +0.2
comp=Z,22nm,1.6s
PCVE Castro Verde 45.97 306 *eP* **P** 02 31 17.4 +0.2
comp=Z,20nm,1.9s
PCBR Castelo Branco 46.11 309 *eP* **P** 02 31 16.9 -1.3
comp=Z,22nm,1.4s
MESJ Messejana 46.16 306 *eP* **P** 02 31 18.9 +0.2
MESJ IAmb IAmb 02 31 19.5
comp=Z,6.4nm,0.6s
EVO Evora 46.17 307 *eP* **P** 02 31 19.2 +0.5
comp=Z,32nm,1.5s
PNCL Nicolau / Gran 46.46 307 *eP* **P** 02 31 21.4 +0.4
comp=Z,23nm,1.8s
PMTG Montargil 46.46 308 *eP* **P** 02 31 21.5 +0.5
comp=Z,18nm,1.7s
PFVI Vila Bisbo 46.47 305 *eP* **P** 02 31 21.3 +0.2
comp=Z,63nm,1.6s
MK31 Makanchi Array 46.54 41 P **P** 02 31 21.8 +0.2
MK31 IAmb IAmb 02 31 30.5
comp=Z,5.2nm,0.9s
MKAR Makanchi Array 46.54 41 P **P** 02 31 21.8 +0.3
comp=Z,4.9nm,0.7s,baz=231,slow=8.8,SNR=20
PSBE So Bento 47.01 309 *eP* **P** 02 31 26.3 +1.0
comp=Z,25nm,1.9s
BOSA Boshof 47.14 196 P **P** 02 31 26.1 -0.3
comp=Z,2.1nm,1.0s,baz=4.4,slow=13,SNR=1.8
BOSA LR LR 02 51 02.5
comp=Z,141nm,18.3s,baz=14,slow=36
BOSA Boshof 47.14 196 P **P** 02 31 26.5 +0.1
BOSA IAmb IAmb 02 31 32.4
comp=Z,4.4nm,1.1s
OSL Oslo 47.56 341 *eP* **P** 02 31 28.7 -0.5
NC602 NORSAR Array S 47.96 342 *eP* **P** 02 31 32.5 +0.2
NC602 NORSAR Array S 47.96 342 P **P** 02 31 32.1 -0.2
NAO01 NORSAR Array S 48.24 342 *eP* **P** 02 31 34.7 +0.3
NAO01 NORSAR Array S 48.24 342 P **P** 02 31 34.8 +0.3
NB201 NORSAR Array S 48.28 342 P **P** 02 31 35.0 +0.2
NB2 NORSAR Subarra 48.30 342 P **P** 02 31 34.3 -0.7
baz=143,slow=7.9
NOA NORSAR Array B 48.30 342 P **P** 02 31 34.4 -0.6
comp=Z,4.5nm,0.7s,baz=140,slow=7.7,SNR=22
NB000 NORSAR Array S 48.42 342 P **P** 02 31 35.7 -0.2
BLS5 Blasjo 48.58 339 *eP* **P** 02 31 37.5 +0.3
NC204 NORSAR Array S 48.62 342 P **P** 02 31 37.3 -0.2
SKAR Skarslia 48.90 341 *eP* **P** 02 31 39.9 +0.3
WMQ Urumqi 49.03 46 *eP* **P** 02 31 43.0 +2.0
BER Bergen 49.66 339 *eP* **P** 02 31 45.8 +0.4
DOMB Dombas 49.72 342 *eP* **P** 02 31 46.5 +0.6
AKN Aaknes 50.45 341 *eP* **P** 02 31 52.0 +0.6
NSS Namsos 50.96 345 *eP* **P** 02 31 55.0 -0.2
ZAA0 Zalesovo Array 51.20 33 P **P** 02 31 57.2 +0.1
ZAA0 IAmb IAmb 02 31 57.5
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 51.20 33 P **P** 02 31 56.8 -0.3
comp=Z,10nm,0.8s,baz=248,slow=7.8,SNR=21
MOR8 Moi Rana 51.81 348 *eP* **P** 02 32 02.5 +0.9
KONS Konsvik 52.37 347 *eP* **P** 02 32 05.9 +0.3
FAUS Fauske 52.70 349 *eP* **P** 02 32 07.7 -0.4
KTK1 Kautokeino 53.00 353 *eP* **P** 02 32 10.2 -0.1
STEI Steigen 53.19 349 *eP* **P** 02 32 11.7 0.0
ARCES ARCESS Array B 53.26 354 P **P** 02 32 11.8 -0.4
comp=Z,3.6nm,0.6s,baz=150,slow=5.1,SNR=17
LOF Lofoten 53.68 349 *eP* **P** 02 32 14.1 -1.2
JETT Jettan, Norway 53.86 352 *eP* **P** 02 32 16.4 -0.2
TRO Tromso 54.13 352 *eP* **P** 02 32 18.3 -0.3
CMAR Chiang Mai Arr 57.02 79 P **P** 02 32 39.5 -0.7
comp=Z,1.9nm,0.3s,baz=291,slow=7.9,SNR=5.3
GTA Gaotai 57.11 54 ||P **P** 02 32 40.9 +0.2
GTA pP pP 02 32 44.1 -0.9
GTA sP sP 02 32 46.9 +0.3
GTA pmax pmax
comp=Z,12nm,0.7s
GTA pmax pmax
comp=Z,83nm,5.3s
GTA L L
comp=Z,94nm,21.4s
GTA L L
comp=Z,260nm,21.8s
GTA L L
comp=Z,120nm,16.7s
HOPEN Hopen 60.05 356 *eP* **P** 02 33 00.7 +0.3
NRIK Noril'sk 60.36 18 P **P** 02 33 02.0 -0.6
comp=Z,6.6nm,0.9s,baz=234,slow=4.6,SNR=8.0
NRIK Noril'sk 60.36 18 P **P** 02 33 03.2 +0.6
SPA0 Spitsbergen Ar 62.27 355 *eP* **P** 02 33 16.0 +0.5
SONM Songino Array 62.60 45 P **P** 02 33 18.2 -0.1
comp=Z,2.4nm,0.7s,baz=263,slow=7.4,SNR=12
SONM LR LR 03 03 24.7
comp=Z,109nm,20.4s,baz=262,slow=39
SONM Songino Array 62.60 45 P **P** 02 33 18.4 +0.1
SONM IAmb IAmb 02 33 19.0
comp=Z,3.2nm,0.9s
DBG Daneborg 65.67 345 *i* P **P** 02 33 37.2 -0.6
DBG IAmb IAmb 02 33 39.7
comp=Z,9.4nm,1.1s
HHC Hu-ho-hao-te 66.14 52 *eP* **P** 02 33 41.5 -0.2
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.7s
DAG Danmarks Havn 66.44 348 *i* P **P** 02 33 42.4 -0.3
DAG IAmb IAmb 02 33 43.0
comp=Z,3.2nm,0.8s
NOR Nord 68.56 353 *i* P **P** 02 33 55.4 -0.7
NOR IAmb IAmb 02 33 56.5
comp=Z,8.8nm,0.8s
SUMG Summit 70.19 342 *i* P **P** 02 34 05.9 -0.9
SUMG IAmb IAmb 02 34 10.2
comp=Z,8.3nm,0.9s
SUMG Summit 70.19 342 P **P** 02 34 06.8 0.0
ICESG Greenland Ices 70.23 338 *i* P **P** 02 34 06.2 -0.8
ICESG IAmb IAmb 02 34 07.4
comp=Z,8.8nm,0.9s
DY2G Dye2 72.70 335 *i* P **P** 02 34 21.6 -0.2
NJ2 Nanjing 72.90 61 *eP* **P** 02 34 23.0 -0.4
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NEEM North Greenlan 73.60 347 *i* P **P** 02 34 26.2 -0.9
NEEM IAmb IAmb 02 34 30.4
comp=Z,6.4nm,0.9s
KSRS Korea Array 79.18 54 P **P** 02 34 58.5 -0.7
comp=Z,1.0nm,0.4s,baz=276,slow=5.4,SNR=7.3
USRK Ussuriysk Ar. 80.59 47 P **P** 02 35 05.1 -1.5
comp=Z,1.7nm,0.7s,baz=254,slow=3.9,SNR=9.9
SCHQ Schefferville 85.07 326 P **P** 02 35 29.7 0.0
comp=Z,6.5nm,1.1s,baz=70,slow=11,SNR=3.6
NVAR Mina Array Bea 120.93 339 PKP **PKiKP** 02 41 47.3 +0.1
comp=Z,0.6nm,0.8s,baz=72,slow=1.4,SNR=6.1
NVAR Mina Array Bea 120.93 339 PKPdf **PKPdf** 02 41 46.5 -0.6
TXAR Lajitas Array 121.50 321 PKP **PKPdf** 02 41 47.9 -0.3
comp=Z,0.8nm,0.8s,baz=72,slow=4.1,SNR=5.4
TXAR Lajitas Array 121.50 321 PKPdf **PKPdf** 02 41 47.8 -0.5

*IDC **09** 02:31:27.0ₛ1.6,38°.62N×23°.38E,h0km,mb3.5/2,*
mb1 3.6/5,mb1mx3.4/37,mbtmp3.5/5,ML3.1/3,Error
ellipse: s-maj=32.0km s-min=23.3km az=7.0
*ISK **09** 02:31:26.5,38°.66N×23°.50E,h7km,ML3.3/29*

*ATH **09** 02:31:28.0,38°.63N×23°.40E,h16km±1km,ML3.5/25,Error*
ellipse: s-maj=1.1km s-min=0.5km az=14.0
*THE **09** 02:31:28.2,38°.62N×23°.40E,h8km±1km,ML3.5/15,Error*
ellipse: s-maj=1.1km s-min=0.4km az=156.0

ISC 09 02:31:28.3±0.8,**38°.63N**±0°.02×**23°.39E**±0°.01,**h13**km±6km,
n177,s0°88/222,10C-4D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.29**	**331**	P	**Pg**	**02 31 34.4**	**0.0**
SMIA				S	**Sg**	**02 31 38.6**	**+0.2**
SMIA				AML	AML	02 31 42.1	
	comp=E,75714μm,0.4s						
SMIA				AML	AML	02 31 42.5	
	comp=N,63576μm,0.4s						
SMIA	**Simia**	**0.29**	**331**	P	**Pg**	**02 31 34.3**	**0.0**
SMIA				S	**Sg**	**02 31 38.7**	**+0.3**
	comp=N,35μm,0.4s						
ATAL	**Atalanti**	**0.30**	**283**	P	**Pg**	**02 31 33.9**	**-0.5**
ATAL				S	**Sg**	**02 31 38.4**	**-0.2**
ATAL	**Atalanti**	**0.30**	**283**	P	**Pg**	**02 31 33.9**	**-0.5**
ATAL				S	**Sg**	**02 31 38.6**	**0.0**
	comp=N,8μm,0.4s						
LKR	**Lokris**	**0.31**	**275**	P	**Pg**	**02 31 34.0**	**-0.6**
LKR				S	**Sg**	**02 31 38.8**	**-0.1**
LKR				AML	AML	02 31 39.7	
	comp=N,16634μm,0.2s						
LKR				AML	AML	02 31 40.7	
	comp=E,13793μm,0.3s						
LKR	**Lokris**	**0.31**	**275**	P	**Pg**	**02 31 34.0**	**-0.6**
LKR				S	**Sg**	**02 31 39.2**	**+0.3**
	comp=E,8μm,0.2s						
VIL2	**Platees**	**0.42**	**193**	P	**Pg**	**02 31 37.0**	**+0.3**
VIL2				S	**Sb**	**02 31 44.6**	**+0.7**
VIL2				AML	AML	02 31 45.1	
	comp=N,16690μm,0.4s						
VIL2				AML	AML	02 31 46.8	
	comp=E,37317μm,0.5s						
VILL	**Villia**	**0.47**	**188**	P	**Pg**	**02 31 37.0**	**-0.5**
VILL				S	**Sg**	**02 31 44.3**	**+0.6**
	comp=E,15μm,0.4s						
EREA	**Eretria**	**0.47**	**116**	P	**Pg**	**02 31 37.3**	**-0.3**
EREA				S	**Sg**	**02 31 44.3**	**+0.3**
EREA				AML	AML	02 31 45.9	
	comp=E,16134μm,0.3s						
EREA				AML	AML	02 31 48.8	
	comp=N,12944μm,0.3s						
EREA	**Eretria**	**0.47**	**116**	P	**Pg**	**02 31 37.2**	**-0.3**
EREA				S	**Sg**	**02 31 44.2**	**+0.3**
	comp=N,8μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.56**	**89**	P	**Pg**	**02 31 38.4**	**-0.8**
KYMI				S	**Sg**	**02 31 46.8**	**+0.2**
KYMI				AML	AML	02 31 49.2	
	comp=E,7204μm,0.4s						
KYMI				AML	AML	02 31 49.6	
	comp=N,4343μm,0.4s						
KYMI	**Kymi, Euboea I**	**0.56**	**89**	P	**Pg**	**02 31 38.2**	**-1.0**
KYMI				S	**Sb**	**02 31 47.2**	**-0.5**
	comp=N,3μm,0.6s						
ALNA	**Alonissos**	**0.64**	**35**	P	**Pg**	**02 31 40.5**	**-0.2**
ALNA				S	**Sg**	**02 31 48.6**	**-0.6**
ALNA				AML	AML	02 31 50.0	
	comp=E,4354μm,0.5s						
ALNA				AML	AML	02 31 53.3	
	comp=N,5054μm,0.4s						
PTL	**Penteli**	**0.69**	**147**	P	**Pg**	**02 31 41.1**	**-0.5**
PTL				S	**Sg**	**02 31 49.9**	**-0.8**
PTL				AML	AML	02 31 52.1	
	comp=E,3819μm,0.4s						
PTL				AML	AML	02 31 53.4	
	comp=N,6186μm,0.8s						
PTL	**Penteli**	**0.69**	**147**	P	**Pg**	**02 31 41.0**	**-0.6**
LTK	**Loutraki**	**0.69**	**209**	P	**Pg**	**02 31 41.2**	**-0.4**
LTK				S	**Sb**	**02 31 51.6**	**+0.1**
LTK				AML	AML	02 31 52.4	
	comp=E,12154μm,0.5s						
LTK				AML	AML	02 31 55.6	
	comp=N,10312μm,0.6s						
LTK	**Loutraki**	**0.69**	**209**	P	**Pg**	**02 31 41.1**	**-0.6**
NEO	**Neokhori**	**0.69**	**349**	P	**Pg**	**02 31 41.4**	**-0.4**
NEO				S	**Sb**	**02 31 51.1**	**-0.6**
NEO				AML	AML	02 31 54.2	
	comp=E,27696μm,0.4s						
NEO				AML	AML	02 31 54.9	
	comp=N,39048μm,0.3s						
NEO	**Neokhori**	**0.69**	**349**	P	**Pg**	**02 31 41.4**	**-0.4**
DION	**Dionisos Attik**	**0.69**	**142**	P	**Pg**	**02 31 41.3**	**-0.5**
DION				S	**Sg**	**02 31 50.7**	**-0.3**
DION				AML	AML	02 31 51.7	
	comp=E,10172μm,0.3s						
DION				AML	AML	02 31 53.9	
	comp=N,15353μm,0.5s						
DION	**Dionisos Attik**	**0.69**	**142**	P	**Pg**	**02 31 41.1**	**-0.7**
DION				S	**Sg**	**02 31 50.8**	**-0.1**
	comp=N,10μm,0.6s						
ATH	**Athens Observa**	**0.70**	**158**	P	**Pg**	**02 31 41.5**	**-0.4**
ATH				S	**Sg**	**02 31 51.2**	**+0.1**
ATH				AML	AML	02 31 55.5	
	comp=N,14109μm,0.5s						
ATH				AML	AML	02 31 55.6	
	comp=E,12956μm,0.4s						
ATH	**Athens Observa**	**0.70**	**158**	P	**Pg**	**02 31 41.3**	**-0.6**
ATH				S	**Sg**	**02 31 51.0**	**-0.1**
	comp=E,7μm,0.5s						
DLFA	**Delphi**	**0.72**	**258**	P	**Pg**	**02 31 40.9**	**-1.3**
DLFA				S	**Sb**	**02 31 52.2**	**-0.1**
DLFA				AML	AML	02 31 55.2	
	comp=E,7570μm,0.8s						
DLFA				AML	AML	02 31 55.3	
	comp=N,4242μm,0.6s						
LOUT	**Loutraki**	**0.72**	**207**	P	**Pg**	**02 31 41.4**	**-0.8**
LOUT				S	**Sg**	**02 31 51.6**	**0.0**
LOUT	**Loutraki**	**0.72**	**207**	P	**Pg**	**02 31 41.4**	**-0.8**
LOUT				S	**Sg**	**02 31 51.6**	**0.0**
	comp=N,7μm,0.5s						
ATHU	**Athens Univers**	**0.73**	**155**	P	**Pg**	**02 31 41.9**	**-0.6**
ATHU				S	**Sg**	**02 31 51.8**	**-0.1**
ATHU				AML	AML	02 31 55.6	
	comp=N,4956μm,0.4s						
ATHU				AML	AML	02 31 55.7	
	comp=E,1910μm,0.5s						
ATHU	**Athens Univers**	**0.73**	**155**	P	**Pg**	**02 31 41.7**	**-0.7**
ATHU				S	**Sg**	**02 31 51.4**	**-0.6**
	comp=E,2μm,0.5s						
XOR	**Xorichti**	**0.76**	**348**	P	**Pg**	**02 31 42.4**	**-0.5**
XOR				S	**Sg**	**02 31 53.0**	**+0.1**
XOR				AML	AML	02 31 56.0	
	comp=E,12636μm,0.4s						
XOR				AML	AML	02 31 56.0	
	comp=N,11146μm,0.3s						
XOR	**Xorichti**	**0.76**	**348**	P	**Pg**	**02 31 42.4**	**-0.5**
THAL	**Thalero**	**0.82**	**224**	P	**Pg**	**02 31 43.7**	**-0.5**
THAL				S	**Sb**	**02 31 55.5**	**+0.3**
THAL				AML	AML	02 31 58.4	
	comp=N,19615μm,0.4s						
THAL				AML	AML	02 31 59.2	
	comp=E,21452μm,0.4s						
THAL	**Thalero**	**0.82**	**224**	P	**Pg**	**02 31 43.7**	**-0.5**
VLY	**Voula,Athens**	**0.84**	**158**	P	**Pg**	**02 31 43.7**	**-0.7**
VLY				S	**Sg**	**02 31 54.6**	**-0.7**
VLY				AML	AML	02 31 55.3	
	comp=N,5957μm,0.5s						
VLY				AML	AML	02 31 58.6	
	comp=E,6500μm,0.5s						
VLY	**Voula,Athens**	**0.84**	**158**	P	**Pg**	**02 31 43.7**	**-0.7**
AGG	**Agios Georgios**	**0.92**	**296**	P	**Pg**	**02 31 45.2**	**-0.9**
AGG				S	**Sg**	**02 31 57.9**	**-0.1**
AGG				AML	AML	02 32 03.0	
	comp=E,3253μm,0.8s						
AGG				AML	AML	02 32 03.8	
	comp=N,3251μm,0.6s						
AGG	**Agios Georgios**	**0.92**	**296**	P	**Pg**	**02 31 44.9**	**-1.1**
AGG				S	**Sb**	**02 31 58.7**	**+0.6**
	comp=N,2μm,0.7s						
AGG	**Agios Georgios**	**0.92**	**296**	PG	**Pb**	**02 31 46.1**	**+0.1**
AGG				SG	**Sb**	**02 31 59.4**	**+1.3**
SKY	**Skiros Island**	**0.94**	**74**	P	**Pg**	**02 31 45.6**	**-0.8**
SKY				AML	AML	02 32 02.6	
	comp=N,11559μm,0.3s						
SKY				AML	AML	02 32 03.1	
	comp=E,9055μm,0.2s						
SKY	**Skiros Island**	**0.94**	**74**	P	**Pg**	**02 31 45.6**	**-0.8**
SKY				S	**Sn**	**02 32 00.5**	**+0.1**
	comp=E,5μm,0.4s						
KARY	**Karystos**	**1.01**	**125**	P	**Pg**	**02 31 46.9**	**-0.9**

KARY S Sg 02 32 00.0 -1.0
KARY AML AML 02 32 02.7
comp=N,2507µm,0.5s
KARY AML AML 02 32 03.7
comp=E,2807µm,0.6s
KARY Karystos 1.01 125 P Pg **02 31 46.9 -0.9**
KARY S Sg **02 32 00.5 -0.6**
comp=E,2µm,0.9s
MAKR Makrakomi, Fth 1.06 292 P Pg **02 31 47.9 -0.8**
MAKR S Sg **02 32 01.8 -0.7**
MAKR AML AML 02 32 03.8
comp=N,3913µm,0.5s
MAKR AML AML 02 32 05.7
comp=E,2728µm,0.3s
MAKR Makrakomi, Fth 1.06 292 P Pg **02 31 48.1 -0.6**
TRIZ Trizonia 1.07 256 P Pg **02 31 46.9 -1.9**
TRIZ Trizonia 1.07 256 P Pg **02 31 46.7 -2.1**
SERG Sergoula 1.07 259 P Pg **02 31 47.0 -1.9**
SERG Sergoula 1.07 259 P Pg **02 31 46.7 -2.2**
KLV Kalavryta, Ach 1.14 240 P Pg **02 31 48.9 -1.2**
KLV Kalavryta, Ach 1.14 240 P Pg **02 31 49.8 -0.4**
ANX Ano Chora 1.15 269 P Pg **02 31 48.8 -1.7**
ANX AML AML 02 32 09.6
comp=N,3022µm,0.7s
ANX AML AML 02 32 12.1
comp=E,3420µm,0.8s
ANX Ano Chora 1.15 269 P Pg **02 31 48.8 -1.7**
ANX S Sn **02 32 07.2 +1.4**
comp=E,2µm,0.6s
LAKA Lakka 1.18 251 P Pg **02 31 49.5 -1.4**
LAKA AML AML 02 32 11.1
comp=N,1383µm,0.7s
LAKA AML AML 02 32 11.7
comp=E,1171µm,0.4s
LAKA Lakka 1.18 251 P Pg **02 31 49.5 -1.4**
EFP Efpalio 1.18 261 P Pg **02 31 48.6 -2.5**
EFP Efpalio 1.18 261 P Pg **02 31 48.5 -2.5**
KRND KRANIDI 1.26 189 P Pn **02 31 51.6 +0.1**
KRND AML AML 02 32 10.7
comp=E,9050µm,0.5s
KRND AML AML 02 32 12.2
comp=N,3540µm,0.5s
KRND KRANIDI 1.26 189 P Pn **02 31 51.4 0.0**
EVR Evrytania 1.27 284 P Pn **02 31 52.0 +0.3**
EVR Evrytania 1.27 284 P Pg **02 31 52.4 -0.3**
YDRA Hydra 1.28 177 P Pn **02 31 51.8 +0.1**
LRSO Larissa Observ 1.30 324 P Pn **02 31 52.5 +0.4**
PAIG Paliouri 1.32 10 P Pn **02 31 51.9 -0.4**
PAIG S Sb **02 32 08.8 -0.9**
PAIG AML AML 02 32 13.2
comp=E,866µm,0.7s
PAIG AML AML 02 32 15.4
comp=N,1095µm,0.5s
PAIG Paliouri 1.32 10 P Pn **02 31 51.9 -0.4**
THL Klokotos Trika 1.42 312 P Pn **02 31 54.1 +0.3**
THL Klokotos Trika 1.42 312 P Pn **02 31 53.8 0.0**
PVO Paravola 1.46 270 P Pn **02 31 54.7 +0.5**
PVO Paravola 1.46 270 P Pn **02 31 54.6 +0.3**
DRO Drossia 1.48 244 P Pn **02 31 55.2 +0.6**
DRO AML AML 02 32 21.6
comp=N,3502µm,0.8s
DRO AML AML 02 32 21.6
comp=E,5678µm,0.9s
DRO Drossia 1.48 244 P Pn **02 31 55.1 +0.5**
EFSA Agios Efstrati 1.54 53 P Pn **02 31 55.2 -0.2**
RLS Riolos of Patr 1.62 250 P Pn **02 31 57.4 +1.0**
LIT Litokhoron 1.63 335 P Pn **02 31 56.6 -0.1**
LIT Litokhoron 1.63 335 P Pn **02 31 56.5 -0.1**
LIT S Sn **02 32 17.4 -0.1**
comp=E,575nm,0.4s
PSRA Peara 1.71 92 P Pb **02 31 59.3 -0.1**
PDO Prodromos 1.73 270 P Pb **02 31 60.0 +0.1**
PLG Polygyros 1.75 1 P Pn **02 31 58.1 -0.1**
PLG Polygyros 1.75 1 P Pn **02 31 58.1 -0.1**
OUR Ouranopolis 1.77 15 P Pn **02 31 58.5 0.0**
OUR Ouranopolis 1.77 15 P Pn **02 31 58.4 0.0**
OUR Ouranopolis 1.77 15 PN Pn **02 31 58.4 0.0**
OUR SN Sn **02 32 20.2 -0.6**
TNSA Tinos 1.77 127 P Pn **02 31 58.5 0.0**
ITM Ithomi 1.85 219 P Pb **02 32 01.4 -0.5**
ITM Ithomi 1.85 219 PN Pn **02 32 00.9 +1.2**
ITM SN Sb **02 32 25.7 +0.7**
LIA Limnos Island 1.88 47 P Pn **02 31 59.6 -0.4**
LIA Limnos Island 1.88 47 P Pn **02 31 59.4 -0.7**
VLI Veliai 1.94 191 P Pn **02 32 00.8 0.0**
VLI Veliai 1.94 191 P Pn **02 32 00.8 0.0**
HORT Hortiatis 1.98 354 P Pn **02 32 01.6 0.0**
HORT Hortiatis 1.98 354 P Pn **02 32 01.8 +0.3**
HORT Hortiatis 1.98 354 PN Pn **02 32 00.9 -0.6**
HORT SN Sn **02 32 26.3 +0.1**
SIGR SIGRI 2.01 72 P Pn **02 32 02.3 +0.5**
SIGR SIGRI 2.01 72 PN Pn **02 32 01.1 -0.7**
THE Thessaloniki 2.03 351 P Pn **02 32 02.9 +0.8**
KPRO Kipourio 2.06 311 P Pn **02 32 03.1 +0.5**
KPRO Kipourio 2.06 311 P Pn **02 32 03.4 +0.8**
KZN Kozani 2.10 324 P Pn **02 32 04.0 +0.9**
KZN Kozani 2.10 324 P Pn **02 32 04.0 +0.9**
CHOS Chios island 2.10 96 P Pn **02 32 03.4 +0.3**
CHOS Chios island 2.10 96 PN Pn **02 32 02.2 -1.0**
EVGI Lefkada island 2.14 271 P Pb **02 32 06.4 -0.5**
SOH Sokhos 2.19 359 P Pn **02 32 04.8 +0.4**
PSDA Pessada-Kefalo 2.27 258 P Pb **02 32 07.7 -1.3**
APE Apeiranthos 2.30 132 PN Pn **02 32 05.7 -0.2**
PRK Paraskevi 2.33 74 P Pn **02 32 07.4 +1.2**
PENT Pentalofos 2.34 313 P Pn **02 32 07.9 +1.4**
KTHA Kythira Island 2.38 186 PN Pn **02 32 07.1 +0.2**
BOZC Bozcaada 2.40 59 PN Pn **02 32 06.2 -0.9**
GRG Griva 2.45 342 PN Pn **02 32 08.0 +0.1**
GADA Gvkgeada 2.49 50 PN Pn **02 32 07.9 -0.6**
URLA Izmir 2.53 95 PN Pn **02 32 07.9 -1.1**
KNT Kendrikon 2.56 352 PN Pn **02 32 09.1 -0.3**
EZN Ezine 2.57 61 PN Pn **02 32 08.9 -0.7**
DKL Dikili 2.78 80 PN Pn **02 32 11.6 -0.8**
SANT Santorini 2.79 143 ⇓P Pb **02 32 17.6 -0.3**
SANT ⇓S Sb **02 32 52.8 +0.9**
SANT Santorini 2.79 143 PN Pn **02 32 12.2 -0.4**
GELI Tayfur-Gelibol 2.97 52 PN Pn **02 32 14.7 -0.3**
ENEZ Enez 3.00 44 PN Pn **02 32 15.1 -0.3**
RDO Rodhopi 3.01 33 PN Pn **02 32 14.7 -0.9**
ALN Alexandroupoli 3.05 41 PN Pn **02 32 15.3 -0.9**
LPK Lapseki 3.14 55 PN Pn **02 32 17.1 -0.2**
ERIK Erikli-Kesan 3.16 49 PN Pn **02 32 16.8 -0.8**
GCAM G?zelcami? 3.17 106 PN Pn **02 32 17.7 0.0**
IMNM Iera Moni Meta 3.19 177 PN Pn **02 32 18.5 +0.4**
STIP Stip 3.20 344 *i* Pn Pn **02 32 19.1 +0.8**
KNDR Palaiochora Ch 3.39 176 PN Pn **02 32 21.6 +0.8**
KDZ Kurdzhali 3.40 27 PN Pn **02 32 19.8 -1.1**
BODT Bodrum 3.47 116 PN Pn **02 32 21.8 -0.2**
KRBG Karabiga-Canak 3.50 58 PN Pn **02 32 21.8 -0.5**
IDI Anoyia 3.54 160 Pn Pn **02 32 23.7 +0.8**
comp=E,12nm,0.3s,baz=344,slow=9.9,SNR=56
IDI Sn Sn **02 33 05.1 +0.4**
comp=E,0.4nm,0.3s,baz=273,slow=23,SNR=1.7
IDI Anoyia 3.54 160 PN Pn **02 32 22.9 -0.1**
RKY Sarkoy-Tekirda 3.58 54 PN Pn **02 32 23.1 -0.3**
HRKL Herakleio 3.58 157 PN Pn **02 32 23.5 +0.1**
AYDB Zeytinkoy-Aydi 3.60 99 PN Pn **02 32 23.4 -0.5**
PLD Plovdiv 3.62 16 PN Pn **02 32 23.8 -0.1**
BALB Balikesir 3.63 72 PN Pn **02 32 23.2 -1.0**
MAR6 Marsite Statio 3.64 54 PN Pn **02 32 23.6 -0.6**
MAR3 Marsite Statio 3.68 54 PN Pn **02 32 24.4 -0.4**
GZKV Gazikoy-Tekird 3.70 54 PN Pn **02 32 24.7 -0.4**
MAR4 Marsite Statio 3.71 53 PN Pn **02 32 24.3 -1.0**
MLSB Milas 3.71 110 PN Pn **02 32 24.9 -0.4**
MRMT Marmara Adasi 3.80 57 PN Pn **02 32 25.8 -0.7**
GVDS Gavdos 3.82 171 PN Pn **02 32 27.6 +0.9**
GVD Gavdhos 3.82 171 PN Pn **02 32 28.1 +1.4**
EDC Edincik 3.86 62 PN Pn **02 32 26.5 -0.8**
VTS Vitosha 3.99 358 ⇑P Pn **02 32 30.9 +1.7**
VTS ⇑S Sn **02 33 16.8 +1.0**
EDRB Edirne 4.12 38 PN Pn **02 32 29.9 -0.9**
DRME Dracevica, Mon 4.79 319 *e*Pn Pn **02 32 42.0 +1.9**
PDG Podgorica 4.94 322 ⇑P Pn **02 32 42.8 +0.7**
PDG Podgorica 4.94 322 *e*Pn Pn **02 32 43.8 +1.8**
BLKB Belogradchik 5.02 354 ⇑S Sn **02 33 40.8 -0.3**
TIP Timpagrande 5.20 278 ⇑P Pn **02 32 47.2 +1.4**
HCY Herceg Novi 5.34 317 *e*Pn Pn **02 32 48.1 +0.5**
MATE Matera 5.54 293 ⇑P Pn **02 32 50.9 +0.6**
TREB Trebinje 5.60 318 *e*Pn Pn **02 32 52.1 +0.9**
BRY Bratogost 5.64 321 *e*Pn Pn **02 32 53.4 +1.6**
UPM Unac-Piva 5.70 325 *e*Pn Pn **02 32 54.8 +2.1**

RUDO Rudo 5.84 330 *e*Pn Pn **02 32 55.5 +1.1**
BBLS Lazići 6.03 331 *e*Pn Pn **02 32 57.3 +0.1**
DIVS Divibare 6.04 336 *e*Pn Pn **02 32 59.6 +2.4**
STON Ston 6.05 316 *e*Pn Pn **02 32 56.1 -1.3**
MDVR Moldovita 6.28 349 ⇑P Pn **02 33 00.9 +0.4**
HERR Herculane 6.29 354 ⇑P Pn **02 33 00.9 +0.2**
HAPS Han Pijesak,BI 6.39 330 *e*Pn Pn **02 33 02.3 +0.1**
ARR Arges 6.80 7 ⇓P Pn **02 33 08.2 +0.5**
VOIR 6.92 10 ⇑P Pn **02 33 10.8 +1.5**
MLR Muntele Rosu 7.12 15 ⇑P Pn **02 33 12.3 +0.2**
VAE Valguarnera 7.18 264 Pn Pn **02 33 14.7 +1.8**
comp=E,0.7nm,0.3s,baz=123,slow=16,SNR=2.7
VAE Sn Sn **02 34 32.1 -2.2**
comp=E,0.4nm,0.3s,baz=199,slow=9.8,SNR=1.3
MGRS Mrkonjic Grad 7.47 323 *e*Pn Pn **02 33 19.4 +2.5**
PLOR Plostina 7.61 17 ⇓P Pn **02 33 19.0 +0.1**
BLY Banja Luka 7.68 325 *e*Pn Pn **02 33 21.1 +1.4**
MRAK Mrakovica 8.01 325 *e*Pn Pn **02 33 26.7 +2.4**
BRTR Keskin Array B 8.04 79 Pn Pn **02 33 27.2 +2.4**
comp=E,0.1nm,0.3s,baz=251,slow=14,SNR=2.8
MORH Mrgy, Hungar 8.36 337 *e*Pn Pn **02 33 30.2 +1.3**
CRES Cresnjev 9.29 323 *e*Pn Pn **02 33 42.1 +0.3**
CEY Cerknica 9.73 320 *e*Pn Pn **02 33 46.9 -0.9**
ESDC Sonseca Array 21.21 281 P P **02 36 13.8 +0.1**
comp=E,1.5nm,0.8s,baz=75,slow=11,SNR=16
MKAR Makanchi Array 43.14 59 P P **02 39 29.1 +0.8**
comp=E,0.6nm,0.7s,baz=277,slow=8.2,SNR=1.7

*TUL **09** 02:44:56.9±0.7, 36°.29N±0°.01×97°.53W±0°.02, h6km±7km, ML2.6, mb_Lg2.4/32(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=63.0*
NEIC 09 02:44:57.0±0.8, **36°.283N**±0°.006×**97°.54W**±0°.02, **h5**km±7km, **Error ellipse: s-maj=2.5km s-min=0.3km az=69.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**302**	Pg		Pg	02 45 05.2	+0.2
CROK				Sg		Sg	02 45 11.3	+0.7
OK029	**Liberty Lake**	**0.49**	**172**	Pg		Pg	02 45 06.6	+0.2
OK029				Sg		Sg	02 45 13.2	+0.4
BLOK	**Blackwell**	**0.55**	**29**	Pg		Pg	02 45 07.4	-0.1
BLOK				Sg		Sb	02 45 16.5	-0.8
GC02	**Grant County #**	**0.62**	**336**	Pg		Pg	02 45 08.5	-0.4
GC02				Sg		Sg	02 45 17.2	+0.2
BCOK	**Bluff Creek, N**	**0.63**	**185**			Pg	02 45 09.1	0.0
BCOK				Sg		Sg	02 45 17.7	+0.6
BCOK				IAmb_Lg			02 45 17.8	
comp=Z,60nm,0.9s								
OK031	**S. Brethren Rd**	**0.66**	**120**	Pg		Pg	02 45 09.5	-0.2
QUOK	**Quay**	**0.69**	**99**			Pg	02 45 09.9	-0.2
QUOK				Sg		Sg	02 45 18.8	-0.2
OK030	**Cody Creek RV**	**0.71**	**120**			Pg	02 45 10.5	-0.1
OK030				Sg		Sg	02 45 20.0	+0.2
OK025	**Westminster Rd**	**0.72**	**167**			Pg	02 45 10.7	-0.1
OK025				Sg		Sg	02 45 20.4	+0.3
KAN13	**South Haven SW**	**0.73**	**4**	Pg		Pg	02 45 10.7	-0.3
KAN13				Sg		Sg	02 45 20.8	+0.3
OK032	**Salt Plains WL**	**0.75**	**314**	Pg		Pg	02 45 11.1	-0.2
OK032				Sg		Sg	02 45 21.3	+0.3
KAN09	**Caldwell North**	**0.85**	**356**	Pg		Pg	02 45 13.0	-0.4
KAN09				Sg		Sg	02 45 24.4	0.0
OKCFA	**Oklahoma City**	**0.87**	**175**			Pg	02 45 13.5	-0.2
OKCFA				Sg		Sg	02 45 25.5	+0.6
OKCSW	**OKLAHOMA CITY**	**0.88**	**174**			Pg	02 45 13.7	-0.2
OKCSW				Sg		Sg	02 45 25.4	+0.1
KAN10	**Anthony SW Sta**	**0.95**	**332**	Pg		Pg	02 45 14.8	-0.4
KAN10				Sg		Sg	02 45 27.5	0.0
KAN08	**Anthony NE Sta**	**1.00**	**340**	Pg		Pg	02 45 15.5	-0.7
FNO	**Franklin**	**1.03**	**173**			Pg	02 45 16.4	-0.4
X34A	**Smith Ranch, M**	**1.69**	**188**			Pn	02 45 27.0	-0.2
WMOK	**Wichita Mounta**	**1.84**	**214**			Pn	02 45 29.1	-0.3
X37A	**Clayton**	**2.45**	**133**	Pn		Pn	02 45 37.3	-0.4
U38A	**Gravette**	**2.55**	**86**			Pn	02 45 40.3	+1.2
KSU1	**Kansas State U**	**2.91**	**14**	Pn		Pn	02 45 43.3	-0.6
HHAR	**Hobbs**	**2.91**	**89**	Pn		Pn	02 45 44.9	+0.8
S39A	**Bolivar**	**3.66**	**66**	Pn		Pn	02 45 54.7	+0.4
S39A				IAmb_Lg			02 46 59.4	
comp=Z,7.1nm,0.9s								
Z38A	**Mt. Pleasant**	**3.68**	**144**	IAmb_Lg			02 46 58.6	
comp=Z,12nm,0.8s								
U40A	**Yellville**	**3.79**	**88**	Pn		Pn	02 45 56.9	+0.8
U40A				IAmb_Lg			02 47 01.7	
comp=Z,8.8nm,0.9s								
X40A	**Basin Creek Fa**	**4.24**	**114**	IAmb_Lg			02 47 19.7	
comp=Z,6.4nm,0.7s								
MGMO	**Mountain Grove**	**4.33**	**77**	IAmb_Lg			02 47 19.5	
comp=Z,7.0nm,0.9s								
WHAR	**Wooly Hollow**	**4.38**	**102**	IAmb_Lg			02 47 21.6	
comp=Z,11nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.41**	**94**	IAmb_Lg			02 47 19.6	
comp=Z,4.7nm,0.9s								
WLAR	**White Oak Lake**	**4.46**	**124**	IAmb_Lg			02 47 28.8	
comp=Z,9.8nm,1.0s								
P38A	**Dawn**	**4.60**	**42**	IAmb_Lg			02 47 25.5	
comp=Z,6.0nm,0.8s								
R40A	**Maddies Statio**	**4.66**	**63**	IAmb_Lg			02 47 21.7	
comp=Z,10nm,0.7s								
T42A	**Van Buren**	**5.24**	**80**	IAmb_Lg			02 47 52.4	
comp=Z,5.6nm,1.1s								
P40A	**Paris**	**5.42**	**52**	IAmb_Lg			02 47 56.9	
comp=Z,4.5nm,0.8s								
L34A	**Svendsen Farm,**	**5.75**	**9**	IAmb_Lg			02 48 10.2	
comp=Z,8.2nm,0.8s								
PBMO	**Poplar Bluff**	**5.75**	**83**	IAmb_Lg			02 48 05.7	
comp=Z,8.1nm,0.7s								

*ISK **09** 03:04:39.4, 38°.65N×23°.51E, h5km, ML3.4/26*
*IDC **09** 03:04:41.3±3.0, 38°.60N×23°.65E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML2.7/1, Error ellipse: s-maj=74.8km s-min=26.1km az=3.0*
*ATH **09** 03:04:41.3, 38°.63N×23°.42E, h15km±1km, ML3.5/23, Error ellipse: s-maj=1.3km s-min=0.6km az=85.0*
*THE **09** 03:04:41.4, 38°.62N×23°.41E, h4km±1km, ML3.5/16, Error ellipse: s-maj=1.1km s-min=0.3km az=189.0*
ISC 09 03:04:41.0±1.0, **38°.61N**±0°.01×**23°.45E**±0°.02, **h7**km±8km, **n155,** σ0s**93**/200, **mb3.6**/4, **13C-5D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.33**	**324**	P		**Pg**	**03 04 47.9**	**+0.5**
SMIA				S		**Sg**	**03 04 52.1**	**+0.3**
SMIA				AML	AML		03 04 53.1	
comp=E,63073µm,0.4s								
SMIA				AML	AML		03 04 54.1	
comp=N,74393µm,0.4s								
SMIA	**Simia**	**0.33**	**324**	P		**Pg**	**03 04 47.9**	**+0.5**
SMIA				S		**Sg**	**03 04 52.2**	**+0.5**
comp=N,34µm,0.4s								
ATAL	**Atalanti**	**0.35**	**283**	P		**Pg**	**03 04 47.5**	**-0.3**
ATAL				S		**Sg**	**03 04 52.3**	**0.0**
ATAL				AML	AML		03 04 52.7	
comp=N,14463µm,0.3s								
ATAL				AML	AML		03 04 54.4	
comp=E,11830µm,0.2s								
ATAL	**Atalanti**	**0.35**	**283**	P		**Pg**	**03 04 47.5**	**-0.3**
ATAL				S		**Sg**	**03 04 52.5**	**+0.1**
comp=E,7µm,0.3s								
LKR	**Lokris**	**0.36**	**276**	P		**Pg**	**03 04 47.6**	**-0.3**
LKR				S		**Sg**	**03 04 52.5**	**-0.2**
LKR				AML	AML		03 04 53.2	
comp=N,34320µm,0.2s								
LKR				AML	AML		03 04 53.4	
comp=E,43979µm,0.1s								
LKR	**Lokris**	**0.36**	**276**	P		**Pg**	**03 04 47.6**	**-0.3**
LKR				S		**Sg**	**03 04 52.3**	**-0.4**
comp=E,20µm,0.1s								
EREA	**Eretria**	**0.42**	**117**	P		**Pb**	**03 04 50.3**	**-0.5**
EREA				S		**Sb**	**03 04 56.0**	**-1.4**
EREA				AML	AML		03 04 58.7	
comp=E,9399µm,0.3s								
EREA				AML	AML		03 04 60.0	
comp=N,5929µm,0.4s								
EREA	**Eretria**	**0.42**	**117**	P		**Pb**	**03 04 50.2**	**-0.5**
EREA				S		**Sb**	**03 04 56.2**	**-1.2**
comp=N,4µm,0.4s								
VIL2	**Platees**	**0.43**	**200**	P		**Pg**	**03 04 50.2**	**+0.9**
VIL2				S		**Sb**	**03 04 57.4**	**-0.1**
VIL2				AML	AML		03 04 58.2	
comp=E,21854µm,0.5s								
VIL2				AML	AML		03 05 00.4	
comp=N,18506µm,0.4s								
VILL	**Villia**	**0.46**	**194**	P		**Pg**	**03 04 50.0**	**+0.1**
VILL				S		**Sg**	**03 04 57.1**	**+1.1**
comp=N,11µm,0.4s								
KYMI	**Kymi, Euboea I**	**0.51**	**88**	P		**Pb**	**03 04 51.6**	**-0.6**
KYMI				S		**Sb**	**03 04 59.3**	**-0.5**
KYMI				AML	AML		03 05 02.4	
comp=N,3451µm,0.6s								
KYMI				AML	AML		03 05 04.3	
comp=E,6901µm,0.4s								
KYMI	**Kymi, Euboea I**	**0.51**	**88**	P		**Pb**	**03 04 51.4**	**-0.8**
KYMI				S		**Sb**	**03 04 59.7**	**-0.1**
comp=E,3µm,0.5s								
ALNA	**Alonissos**	**0.62**	**31**	P		**Pb**	**03 04 53.6**	**-0.6**
ALNA				S		**Sb**	**03 05 02.6**	**-0.5**
ALNA				AML	AML		03 05 06.7	
comp=N,10375µm,0.4s								
ALNA				AML	AML		03 05 09.4	
comp=E,9580µm,0.6s								
DION	**Dionisos Attik**	**0.66**	**145**	P		**Pb**	**03 04 54.2**	**-0.6**
DION				S		**Sb**	**03 05 03.6**	**-0.4**
DION				AML	AML		03 05 07.1	
comp=N,27386µm,0.6s								
DION				AML	AML		03 05 07.8	
comp=E,21605µm,0.4s								
DION	**Dionisos Attik**	**0.66**	**145**	P		**Pb**	**03 04 54.0**	**-0.7**
DION				S		**Sn**	**03 05 04.5**	**-2.8**
comp=E,19µm,0.5s								
ATH	**Athens Observa**	**0.67**	**162**	P		**Pb**	**03 04 54.9**	**-0.2**
ATH				S		**Sb**	**03 05 03.8**	**-0.7**
ATH				AML	AML		03 05 08.1	
comp=N,32398µm,0.5s								
ATH				AML	AML		03 05 08.3	
comp=E,21158µm,0.4s								
ATH	**Athens Observa**	**0.67**	**162**	P		**Pb**	**03 04 54.8**	**-0.2**
ATH				S		**Sb**	**03 05 04.7**	**+0.2**
comp=E,13µm,0.4s								
ATHU	**Athens Univers**	**0.70**	**158**	P		**Pb**	**03 04 55.1**	**-0.3**
ATHU				S		**Sb**	**03 05 04.9**	**-0.4**
ATHU				AML	AML		03 05 08.3	
comp=E,4415µm,0.7s								
ATHU				AML	AML		03 05 08.5	
comp=N,13175µm,0.5s								
ATHU	**Athens Univers**	**0.70**	**158**	P		**Pb**	**03 04 55.2**	**-0.3**
ATHU				S		**Sb**	**03 05 05.5**	**+0.2**
comp=N,4µm,0.6s								
LTK	**Loutraki**	**0.70**	**213**	P		**Pg**	**03 04 54.2**	**-0.3**
LTK				S		**Sg**	**03 05 04.7**	**+1.1**
LTK				AML	AML		03 05 05.7	
comp=E,8802µm,0.5s								
LTK				AML	AML		03 05 10.1	
comp=N,12462µm,0.4s								
LTK	**Loutraki**	**0.70**	**213**	P		**Pg**	**03 04 54.2**	**-0.3**
NEO	**Neokhori**	**0.71**	**345**	P		**Pg**	**03 04 55.0**	**+0.2**
NEO				AML	AML		03 05 07.9	
comp=E,21208µm,0.3s								
NEO				AML	AML		03 05 08.9	
comp=N,19793µm,0.3s								
NEO	**Neokhori**	**0.71**	**345**	P		**Pg**	**03 04 55.0**	**+0.2**
NEO				S		**Sb**	**03 05 05.2**	**-0.6**
comp=N,10µm,0.3s								
LOUT	**Loutraki**	**0.73**	**211**	P		**Pg**	**03 04 54.8**	**-0.2**
LOUT				S		**Sg**	**03 05 04.6**	**+0.1**
LOUT	**Loutraki**	**0.73**	**211**	P		**Pg**	**03 04 54.7**	**-0.3**
DLFA	**Delphi**	**0.76**	**260**	P		**Pg**	**03 04 54.8**	**-0.9**
DLFA				S		**Sg**	**03 05 06.0**	**+0.5**
DLFA				AML	AML		03 05 07.3	
comp=E,5404µm,0.4s								
DLFA				AML	AML		03 05 10.2	
comp=N,4030µm,0.4s								
XOR	**Xorichti**	**0.78**	**345**	P		**Pg**	**03 04 56.0**	**0.0**
XOR				S		**Sg**	**03 05 06.7**	**+0.6**
XOR				AML	AML		03 05 09.7	
comp=E,9135µm,0.5s								
XOR				AML	AML		03 05 09.8	
comp=N,13609µm,0.5s								
XOR	**Xorichti**	**0.78**	**345**	P		**Pg**	**03 04 56.0**	**0.0**
XOR				S		**Sb**	**03 05 07.0**	**-0.7**
comp=N,6µm,0.5s								
VLY	**Voula,Athens**	**0.81**	**160**	P		**Pb**	**03 04 57.1**	**-0.3**
VLY				S		**Sb**	**03 05 07.7**	**-0.7**
VLY				AML	AML		03 05 11.4	
comp=E,19905µm,0.3s								
VLY				AML	AML		03 05 12.2	
comp=N,13413µm,0.4s								
VLY	**Voula,Athens**	**0.81**	**160**	P		**Pb**	**03 04 56.7**	**-0.6**
THAL	**Thalero**	**0.85**	**227**	P		**Pg**	**03 04 57.1**	**-0.2**
THAL				S		**Sg**	**03 05 08.9**	**+0.6**
THAL				AML	AML		03 05 12.1	
comp=E,19805µm,0.5s								
THAL				AML	AML		03 05 12.2	
comp=N,21506µm,0.3s								
THAL	**Thalero**	**0.85**	**227**	P		**Pg**	**03 04 57.0**	**-0.2**
SKY	**Skiros Island**	**0.90**	**73**	P		**Pn**	**03 04 58.5**	**-1.5**
SKY				AML	AML		03 05 14.0	
comp=N,10733µm,0.5s								
SKY				AML	AML		03 05 15.4	
comp=E,11873µm,0.4s								
SKY	**Skiros Island**	**0.90**	**73**	P		**Pn**	**03 04 58.7**	**-1.3**
SKY				S		**Sn**	**03 05 12.8**	**-0.4**
comp=E,6µm,0.4s								
KARY	**Karystos**	**0.97**	**127**	P		**Pn**	**03 04 60.0**	**-1.0**
KARY				AML	AML		03 05 15.5	
comp=E,2524µm,0.5s								
KARY				AML	AML		03 05 15.7	
comp=N,4145µm,0.4s								
KARY	**Karystos**	**0.97**	**127**	P		**Pn**	**03 04 59.9**	**-1.0**
KARY				S		**Sn**	**03 05 14.4**	**-0.5**
comp=N,2µm,0.4s								
AGG	**Agios Georgios**	**0.97**	**295**	P		**Pg**	**03 04 58.8**	**-0.7**
AGG				S		**Sg**	**03 05 11.9**	**-0.2**
AGG				AML	AML		03 05 13.6	
comp=N,1883µm,0.3s								
AGG				AML	AML		03 05 17.1	
comp=E,1995µm,0.5s								
AGG	**Agios Georgios**	**0.97**	**295**	P		**Pg**	**03 04 58.7**	**-0.9**
AGG				S		**Sg**	**03 05 12.2**	**+0.1**
comp=E,1µm,0.5s								
AGG	**Agios Georgios**	**0.97**	**295**	PG		**Pg**	**03 04 58.9**	**-0.7**
AGG				SG		**Sg**	**03 05 12.8**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.11**	**291**	P		**Pb**	**03 05 01.5**	**-0.9**
MAKR				S		**Sb**	**03 05 15.2**	**-1.9**
MAKR				AML	AML		03 05 18.0	
comp=N,3195µm,0.6s								
MAKR				AML	AML		03 05 20.9	
comp=E,2739µm,0.3s								
MAKR	**Makrakomi, Fth**	**1.11**	**291**	P		**Pb**	**03 05 01.7**	**-0.8**
MAKR				S		**Sb**	**03 05 16.8**	**-0.3**
comp=E,1µm,0.4s								
ALIK	**Aliki, Aigiali**	**1.11**	**252**	P		**Pb**	**03 05 01.2**	**-1.3**
TRIZ	**Trizonia**	**1.11**	**258**	P		**Pb**	**03 05 00.5**	**-2.0**
TRIZ	**Trizonia**	**1.11**	**258**	P		**Pb**	**03 05 00.4**	**-2.1**
SERG	**Sergoula**	**1.11**	**260**	P		**Pb**	**03 05 00.6**	**-2.0**
SERG				S		**Sb**	**03 05 15.8**	**-1.5**
SERG				AML	AML		03 05 19.8	
comp=N,3840µm,0.4s								
SERG				AML	AML		03 05 21.5	
comp=E,3694µ

PAIG	**Paliouri**	**1.32**	**8**	P		**Pn**	**03 05 05.2**	**-0.7**
THL	**Klokotos Trika**	**1.47**	**311**	P		**Pn**	**03 05 07.5**	**-0.3**
THL	**Klokotos Trika**	**1.47**	**311**	P		**Pn**	**03 05 07.3**	**-0.5**
THL				S		**Sn**	**03 05 27.0**	**-0.3**
	comp=E,278nm,0.7s							
VLX	**Vlachokerasia**	**1.50**	**215**	P		**Pn**	**03 05 08.5**	**+0.1**
EFSA	**Agios Efstrati**	**1.51**	**52**	P		**Pb**	**03 05 08.2**	**-1.1**
PVO	**Paravola**	**1.51**	**271**	P		**Pn**	**03 05 08.8**	**+0.4**
DRO	**Drossia**	**1.52**	**245**	P		**Pn**	**03 05 08.7**	**+0.1**
DRO	**Drossia**	**1.52**	**245**	P		**Pn**	**03 05 08.7**	**+0.1**
RLS	**Riolos of Patr**	**1.66**	**251**	P		**Pn**	**03 05 11.0**	**+0.5**
LIT	**Litokhoron**	**1.66**	**334**	P		**Pn**	**03 05 10.0**	**-0.5**
LIT	**Litokhoron**	**1.66**	**334**	P		**Pn**	**03 05 10.1**	**-0.5**
TNSA	**Tinos**	**1.72**	**128**	P		**Pb**	**03 05 11.5**	**-1.4**
AMT	**Artemida-Makis**	**1.75**	**232**	P		**Pn**	**03 05 12.5**	**+0.7**
PLG	**Polygyros**	**1.76**	**360**	P		**Pn**	**03 05 11.3**	**-0.5**
OUR	**Ouranopolis**	**1.77**	**13**	P		**Pn**	**03 05 11.8**	**-0.1**
OUR	**Ouranopolis**	**1.77**	**13**	P		**Pn**	**03 05 11.7**	**-0.2**
OUR	**Ouranopolis**	**1.77**	**13**	PN		**Pn**	**03 05 11.7**	**-0.2**
OUR				SN		**Sn**	**03 05 33.6**	**-1.0**
PDO	**Prodromos**	**1.78**	**270**	P		**Pb**	**03 05 13.7**	**-0.2**
LIA	**Limnos Island**	**1.86**	**46**	P		**Pn**	**03 05 12.7**	**-0.5**
ITM	**Ithomi**	**1.87**	**221**	P		**Pb**	**03 05 14.8**	**-0.8**
ITM	**Ithomi**	**1.87**	**221**	P		**Pn**	**03 05 14.3**	**+0.8**
ITM	**Ithomi**	**1.87**	**221**	PN		**Pn**	**03 05 14.1**	**+0.6**
VLI	**Veliai**	**1.94**	**192**	P		**Pn**	**03 05 14.2**	**-0.1**
SIGR	**SIGRI**	**1.97**	**72**	P		**Pb**	**03 05 15.2**	**-1.9**
SIGR	**SIGRI**	**1.97**	**72**	PN		**Pn**	**03 05 13.7**	**-1.0**
HORT	**Hortiatis**	**2.00**	**352**	P		**Pn**	**03 05 14.9**	**-0.3**
HORT	**Hortiatis**	**2.00**	**352**	P		**Pn**	**03 05 15.2**	**-0.1**
HORT	**Hortiatis**	**2.00**	**352**	PN		**Pn**	**03 05 14.7**	**-0.6**
HORT				SN		**Sn**	**03 05 39.9**	**-0.7**
CHOS	**Chios island**	**2.05**	**96**	P		**Pb**	**03 05 16.5**	**-2.1**
CHOS	**Chios island**	**2.05**	**96**	P		**Pb**	**03 05 16.3**	**-2.3**
CHOS	**Chios island**	**2.05**	**96**	PN		**Pn**	**03 05 15.3**	**-0.7**
KTI	**Kastanea**	**2.06**	**330**	P		**Pn**	**03 05 16.3**	**+0.2**
KZN	**Kozani**	**2.13**	**323**	P		**Pn**	**03 05 17.5**	**+0.4**
EVGI	**Lefkada island**	**2.19**	**271**	P		**Pb**	**03 05 20.2**	**-0.7**
APE	**Apeiranthos**	**2.25**	**133**	P		**Pn**	**03 05 18.9**	**+0.2**
APE	**Apeiranthos**	**2.25**	**133**	⇑P		**Pn**	**03 05 18.8**	**+0.1**
APE				⇓S		**Sn**	**03 05 44.8**	**-2.0**
APE	**Apeiranthos**	**2.25**	**133**	PN		**Pn**	**03 05 18.2**	**-0.5**
BOZC	**Bozcaada**	**2.36**	**58**	PN		**Pn**	**03 05 18.8**	**-1.3**
KTHA	**Kythira Island**	**2.37**	**188**	P		**Pn**	**03 05 20.4**	**+0.1**
KTHA	**Kythira Island**	**2.37**	**188**	PN		**Pn**	**03 05 20.3**	**0.0**
GADA	**Gvkgeada**	**2.46**	**49**	PN		**Pn**	**03 05 20.6**	**-0.9**
GRG	**Griva**	**2.48**	**341**	PN		**Pn**	**03 05 21.3**	**-0.5**
URLA	**Izmir**	**2.48**	**95**	PN		**Pn**	**03 05 20.9**	**-0.9**
KAVA	**Kavala**	**2.52**	**19**	P		**Pn**	**03 05 21.5**	**-0.8**
EZN	**Ezine**	**2.54**	**61**	PN		**Pn**	**03 05 21.5**	**-1.0**
KNT	**Kendrikon**	**2.58**	**351**	PN		**Pn**	**03 05 22.8**	**-0.4**
DKL	**Dikili**	**2.73**	**79**	PN		**Pn**	**03 05 24.3**	**-0.9**
ANKY	**Antikythira Is**	**2.75**	**183**	P		**Pn**	**03 05 25.8**	**+0.4**
SANT	**Santorini**	**2.75**	**144**	⇓P		**Pn**	**03 05 25.1**	**-0.4**
SANT	**Santorini**	**2.75**	**144**	PN		**Pn**	**03 05 25.5**	**0.0**
GELI	**Tayfur-Gelibol**	**2.94**	**52**	PN		**Pn**	**03 05 27.1**	**-1.0**
ENEZ	**Enez**	**2.97**	**44**	PN		**Pn**	**03 05 27.9**	**-0.6**
RDO	**Rodhopi**	**2.99**	**32**	PN		**Pn**	**03 05 27.9**	**-0.9**
ALN	**Alexandroupoli**	**3.03**	**40**	PN		**Pn**	**03 05 28.1**	**-1.2**
LPK	**Lapseki**	**3.10**	**54**	PN		**Pn**	**03 05 28.7**	**-1.6**
ERIK	**Erikli-Kesan**	**3.13**	**48**	PN		**Pn**	**03 05 29.7**	**-1.0**
IMMV	**Iera Moni Meta**	**3.18**	**172**	P		**Pn**	**03 05 32.0**	**+0.7**
IMMV	**Iera Moni Meta**	**3.18**	**172**	PN		**Pn**	**03 05 31.7**	**+0.4**
STIP	**Stip**	**3.23**	**343**	*i* Pn		**Pn**	**03 05 32.4**	**+0.3**
KNDR	**Palaiochora Ch**	**3.38**	**177**	PN		**Pn**	**03 05 34.7**	**+0.6**
KDZ	**Kurdzhali**	**3.38**	**26**	PN		**Pn**	**03 05 34.4**	**-0.8**
BODT	**Bodrum**	**3.42**	**116**	PN		**Pn**	**03 05 34.5**	**-0.3**
KRBG	**Karabiga-Canak**	**3.46**	**58**	PN		**Pn**	**03 05 34.2**	**-1.1**
IDI	**Anoyia**	**3.51**	**160**	⇑P		**Pn**	**03 05 36.2**	**+0.1**
IDI				⇑S		**Sn**	**03 06 17.6**	**-0.3**
IDI	**Anoyia**	**3.51**	**160**	PN		**Pn**	**03 05 36.5**	**+0.5**
RKY	**Sarkoy-Tekirda**	**3.54**	**53**	PN		**Pn**	**03 05 35.9**	**-0.5**
HRKL	**Herakleio**	**3.55**	**158**	PN		**Pn**	**03 05 37.0**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**3.55**	**99**	PN		**Pn**	**03 05 36.4**	**-0.3**
BALB	**Balikesir**	**3.59**	**72**	PN		**Pn**	**03 05 36.3**	**-0.7**
MAR6	**Marsite Statio**	**3.61**	**53**	PN		**Pn**	**03 05 36.8**	**-0.5**
PLD	**Plovdiv**	**3.62**	**15**	PN		**Pn**	**03 05 37.1**	**-0.3**
MAR2	**Marsite Statio**	**3.64**	**54**	PN		**Pn**	**03 05 37.3**	**-0.4**
MAR3	**Marsite Statio**	**3.65**	**53**	PN		**Pn**	**03 05 37.5**	**-0.3**
GZKV	**Gazikoy-Tekird**	**3.67**	**53**	PN		**Pn**	**03 05 37.7**	**-0.4**
MAR4	**Marsite Statio**	**3.68**	**53**	PN		**Pn**	**03 05 37.9**	**-0.4**
MRMT	**Marmara Adasi**	**3.77**	**57**	PN		**Pn**	**03 05 39.1**	**-0.4**
GVDS	**Gavdos**	**3.80**	**172**	PN		**Pn**	**03 05 40.6**	**+0.7**
GVD	**Gavdhos**	**3.80**	**172**	PN		**Pn**	**03 05 40.6**	**+0.7**
TIR	**Tirane**	**3.88**	**316**	⇑P		**Pn**	**03 05 42.2**	**+1.2**
VTS	**Vitosha**	**4.00**	**358**	⇑P		**Pn**	**03 05 43.9**	**+1.0**
VTS				⇑S		**Sn**	**03 06 30.3**	**+0.2**
EDRB	**Edirne**	**4.09**	**37**	PN		**Pn**	**03 05 43.5**	**-0.5**
PDG	**Podgorica**	**4.98**	**321**	⇓P		**Pn**	**03 05 57.9**	**+1.9**
PDG				⇓S		**Sn**	**03 06 55.6**	**+1.8**
BLKB	**Belogradchik**	**5.04**	**354**	⇑S		**Sn**	**03 06 54.6**	**-0.9**
TIP	**Timpagrande**	**5.25**	**278**	⇓P		**Pn**	**03 06 01.2**	**+1.2**
MATE	**Matera**	**5.59**	**293**	⇑P		**Pn**	**03 06 04.9**	**+0.4**
MDVR	**Moldovita**	**6.30**	**349**	⇑P		**Pn**	**03 06 14.3**	**0.0**
VOIR		**6.92**	**9**	⇑P		**Pn**	**03 06 23.8**	**+0.9**
MLR	**Muntele Rosu**	**7.12**	**14**	⇑P		**Pn**	**03 06 25.8**	**+0.2**
PLOR	**Plostina**	**7.61**	**17**	⇑P		**Pn**	**03 06 31.9**	**-0.3**
VRI	**Vrincioaia**	**7.64**	**17**	⇓P		**Pn**	**03 06 33.0**	**+0.3**
BRTR	**Keskin Array B**	**7.99**	**79**	Pn		**Pn**	**03 06 39.2**	**+1.6**
	comp=E,0.1nm,0.3s,baz=258,slow=12,SNR=6.3							
ESDC	**Sonseca Array**	**21.26**	**282**	P		**P**	**03 09 31.0**	**+3.2**
	comp=E,0.5nm,0.7s,baz=78,slow=10,SNR=4.1							
NOA	**NORSAR Array B**	**23.72**	**345**	P		**P**	**03 09 55.2**	**+1.9**
	comp=E,0.9nm,0.8s,baz=157,slow=9.9,SNR=3.9							
MKAR	**Makanchi Array**	**43.10**	**59**	P		**P**	**03 12 41.9**	**+0.2**
	comp=E,1.4nm,0.7s,baz=269,slow=7.0,SNR=6.5							
ZALV	**Zalesovo Beam**	**43.68**	**49**	P		**P**	**03 12 46.4**	**+0.2**
	comp=E,0.9nm,0.5s,baz=289,slow=9.0,SNR=4.8							

*IDC **09** 03:20:47.1±1.1,51.40N×178.20W,h0km, mb3.6/9, mb1 3.9/10,mb1mx3.6/38,mbtmp3.7/10, ML4.2/1, MS3.4/2, Ms1 3.4/2,ms1mx2.6/43, Error ellipse: s-maj=40.4km s-min=18.7km az=164.0*

*AEIC **09** 03:20:52.8±1.4,51.24N±0.07×177.98W±0.04,h24km±8km, Error ellipse: s-maj=10.0km s-min=3.9km az=177.0*

*NEIC **09** 03:20:54.1±2.2,51.35N±0.07×178.02W±0.04, h28km±13km, ML3.7/31(AEIC), Error ellipse: s-maj=9.8km s-min=3.3km az=186.0*

ISC 09 03:20:51.7±1.5,**51.27N**±0.09×**178.08W**±0.03, **h32**km±10km,**n46,σ1s79**/44,**mb3.8**/9,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASE	**Tanaga Southea**	**0.56**	**3**		**Pn**	**03 21 05.1**	**+1.5**
TAFP	**Tanaga Falls P**	**0.63**	**6**		**Pn**	**03 21 05.9**	**+1.4**
TAFP					**Sn**	**03 21 15.2**	**+1.7**
GALAA	**Gareloi Lava P**	**0.65**	**319**		**Pn**	**03 21 06.8**	**+2.0**
GAEA	**Gareloi East**	**0.66**	**321**		**Pn**	**03 21 06.8**	**+2.0**
KIMD	**Kanaga Island**	**0.72**	**47**		**Pn**	**03 21 06.0**	**+0.3**
KIMD					**Sn**	**03 21 16.8**	**+1.2**
KIWB	**Kanaga Island**	**0.82**	**45**		**Pn**	**03 21 07.8**	**+0.7**
KIWB					**Sn**	**03 21 19.4**	**+1.2**
KIKV	**Kanaga Island**	**0.83**	**43**		**Pn**	**03 21 07.9**	**+0.7**
KIKV					**Sn**	**03 21 20.2**	**+1.8**
KICM	**Kanaga Island**	**0.85**	**40**		**Pn**	**03 21 08.4**	**+0.9**
ADK	**Adak**	**1.07**	**54**		**Pn**	**03 21 10.7**	**-0.9**
GSTD	**Great Sitkin T**	**1.44**	**56**		**Pn**	**03 21 16.4**	**+0.8**
GSTD					**Sn**	**03 21 34.6**	**+1.1**
GSMY	**Great Sitkin M**	**1.48**	**58**		**Pn**	**03 21 17.0**	**+0.9**
GSTR	**Great Sitkin T**	**1.50**	**56**		**Pb**	**03 21 18.0**	**-1.0**
CERAA	**Semis' Rag'd T**	**1.53**	**295**		**Pb**	**03 21 19.2**	**-0.3**
CERAA					**Sb**	**03 21 40.9**	**+2.4**
CESW	**Semis' Southwe**	**1.60**	**294**		**Pb**	**03 21 20.1**	**-0.5**
CEAP	**Semis' Anvil P**	**1.63**	**298**		**Pb**	**03 21 21.0**	**-0.2**
AMKA	**Amchitka**	**1.65**	**275**		**Pb**	**03 21 19.7**	**-1.7**
LSPA	**Little Sitkin**	**2.19**	**290**		**Pb**	**03 21 29.0**	**-1.7**
LSPA					**Sb**	**03 21 57.0**	**-0.6**
ATKA	**Atka Island**	**2.59**	**67**		**Pn**	**03 21 33.3**	**+1.9**
ATKA					**Sn**	**03 22 04.0**	**+2.4**
KOKL	**Mount Kliuchef**	**2.63**	**65**		**Pn**	**03 21 34.4**	**+2.4**
KOFP	**Korovin Flat P**	**2.67**	**66**		**Pn**	**03 21 35.4**	**+2.9**
MAPS	**Pakushin South**	**7.25**	**65**		**Pn**	**03 22 38.2**	**+2.8**
MGOD	**Makushin Gods**	**7.29**	**65**		**Pn**	**03 22 38.8**	**+2.8**
MREP	**Makushin Rep't**	**7.37**	**65**		**Pn**	**03 22 40.1**	**+3.1**
KDAK	**Kodiak Island**	**16.11**	**56**	Pn	**Pn**	**03 24 31.7**	**-3.7**
	1.0nm,0.3s,baz=278,slow=8.2,SNR=20						
KDAK					**Sn**	**03 27 29.0**	**-3.9**
	0.2nm,0.3s,baz=307,slow=21,SNR=1.1						
ILAR	**Eielson Array**	**21.05**	**38**	P	**P**	**03 25 31.8**	**-0.9**
	0.4nm,0.6s,baz=240,slow=9.3,SNR=6.5						
INK	**Inuvik**	**27.29**	**35**	LR	LR	03 38 38.5	
	comp=Z,49nm,20.6s,baz=150,slow=39						
H11N2	**WAKE ISLAND Hy**	**33.63**	**206**	T	T	04 03 49.9	
	baz=17,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**33.64**	**206**	T	T	04 03 45.6	
	baz=17,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**33.65**	**206**	T	T	04 03 46.7	
	baz=17,slow=76,SNR=10						
USRK	**Ussuriysk Ar.**	**33.76**	**278**	P	**P**	**03 27 30.4**	**+0.2**
	0.9nm,0.6s,baz=59,slow=11,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**34.85**	**206**	T	T	04 04 52.9	
	baz=18,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**34.86**	**206**	T	T	04 04 54.4	
	baz=18,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**34.86**	**206**	T	T	04 05 15.9	
	baz=18,slow=76,SNR=7.5						
PDAR	**Pinedale Array**	**45.91**	**73**	P	**P**	**03 29 11.7**	**+0.3**
	0.5nm,0.4s,baz=320,slow=3.9,SNR=6.1						
TXAR	**Lajitas Array**	**58.22**	**82**	P	**P**	**03 30 45.3**	**+2.4**
	0.1nm,0.3s,baz=325,slow=4.5,SNR=2.2						
MKAR	**Makanchi Array**	**60.45**	**309**	P	**P**	**03 30 57.8**	**-0.2**
	0.2nm,0.4s,baz=47,slow=6.8,SNR=1.4						
PPT	**Papeete**	**72.95**	**152**	LR	LR	03 59 21.4	
	comp=Z,33nm,19.5s,baz=39,slow=32						
AKASG	**Malin Array Be**	**75.79**	**342**	P	**P**	**03 32 33.7**	**-0.3**
	0.3nm,0.3s,baz=20,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**82.25**	**224**	P	**P**	**03 33 09.0**	**-0.7**
	0.5nm,1.0s,baz=27,slow=5.9,SNR=1.4						
BRTR	**Keskin Array B**	**85.23**	**336**	P	**P**	**03 33 24.7**	**-0.3**
	0.5nm,0.6s,baz=42,slow=3.8,SNR=5.3						
ESDC	**Sonseca Array**	**89.28**	**5**	P	**P**	**03 33 42.9**	**-1.6**
	0.4nm,0.7s,baz=351,slow=4.7,SNR=4.4						
H03N2	**Juan Fernandez**	**120.68**	**106**	T	T	05 52 10.0	
	baz=312,slow=77,SNR=5.0						
H03N1	**Juan Fernandez**	**120.70**	**106**	T	T	05 51 59.3	
	baz=317,slow=77,SNR=3.1						
H03N3	**Juan Fernandez**	**120.70**	**106**	T	T	05 52 13.7	
	baz=317,slow=77,SNR=5.6						
LBTB	**Lobatse**	**148.12**	**316**	PKPbc	**PKPbc**	**03 40 34.2**	**+0.1**
	1.8nm,0.7s,baz=347,slow=4.3,SNR=2.8						
BOSA	**Boshof**	**151.38**	**313**	PKPbc	**PKPbc**	**03 40 42.1**	**+0.1**
	1.3nm,0.6s,baz=0.0,slow=1.0,SNR=6.8						

*IDC **09** 03:40:36.8±2.5,7.66N×126.80E,h116km±21km, mb3.5/9, mb1 3.6/9,mb1mx3.4/43,mbtmp3.8/9, Error ellipse: s-maj=37.5km s-min=16.3km az=75.0*

*NEIC **09** 03:40:36.9±1.0,7.7N±0.1×126.80E±0.07,h109km±10km, mb4.2/10, Error ellipse: s-maj=21.1km s-min=8.4km az=160.0*

ISC 09 03:40:38.0±0.9,**7.58N**±0.05×**126.61E**±0.09,**h127**km±7km, **n33,σ1s02**/40,**mb3.8**/11,**1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.72**	**209**	*e*P	**Pn**	**03 40 58.2**	**-0.1**
MATI				*e*S	**Sn**	**03 41 13.3**	**-0.3**
DAV	**Davao City (W)**	**1.14**	**244**	P	**Pn**	**03 41 02.7**	**+0.6**
	143nm,0.3s,baz=351,slow=2.5,SNR=7.9						
DAV				S	**Sn**	**03 41 21.3**	**+1.0**
	117nm,0.3s,baz=168,slow=21,SNR=8.9						
DAV	**Davao City (W)**	**1.14**	**244**	Pn	**Pn**	**03 41 01.8**	**-0.2**
DAV				Sn	**Sn**	**03 41 21.2**	**+0.9**
BUKP	**Musuan**	**1.56**	**281**	*e*P	**Pn**	**03 41 06.6**	**-0.1**
BUKP				*e*S	**Sn**	**03 41 27.8**	**-0.8**
KCP	**Kidapawan**	**1.61**	**250**	⇓*i*P	**Pn**	**03 41 07.1**	**-0.2**
KCP				*i* S	**Sn**	**03 41 29.1**	**-0.4**
DDMP	**Don Marcelino,**	**1.71**	**211**	*e*P	**Pn**	**03 41 08.2**	**-0.2**
DDMP				*e*S	**Sn**	**03 41 29.2**	**-2.4**
CGP	**Cagayan de Oro**	**2.09**	**295**	⇑*e*P	**Pn**	**03 41 13.7**	**+0.7**
CGP				*i* S	**Sn**	**03 41 39.5**	**-0.1**
GLSP	**General Luna,**	**2.24**	**348**	*e*P	**Pn**	**03 41 14.9**	**0.0**
GLSP				*e*S	**Sn**	**03 41 40.9**	**-2.3**
SKMP	**Bagumbayan, Su**	**2.31**	**243**	*e*P	**Pn**	**03 41 13.5**	**-2.1**
SKMP				*e*S	Sn	03 41 34.8	-10
PAGZ	**Pagadian**	**3.21**	**275**	⇓*e*P	**Pn**	**03 41 26.6**	**-0.7**
TOLI2	**Tolitoli**	**8.66**	**222**	Pn	**Pn**	**03 42 39.0**	**-1.4**
QIZ	**Qiongzhong**	**19.87**	**307**	P	**P**	**03 45 00.0**	**+0.6**
QIZ				IAmb	IAmb	03 45 10.6	
	comp=Z,22nm,1.3s						
FITZ	**Fitzroy Crossi**	**25.53**	**182**	P	**P**	**03 45 56.3**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=21,slow=8.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**25.53**	**182**	P	**P**	**03 45 56.1**	**+1.2**
FITZ				IAmb	IAmb	03 46 00.1	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**28.39**	**165**	P	**P**	**03 46 19.7**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=346,slow=10,SNR=1.5						
MJAR	**Matsushiro Arr**	**30.71**	**18**	P	**P**	**03 46 39.0**	**-2.0**
	comp=Z,2.1nm,0.7s,baz=204,slow=9.8,SNR=4.9						
MJAR	**Matsushiro Arr**	**30.71**	**18**	IAmb	IAmb	03 46 57.3	
	comp=Z,4.1nm,1.4s						
ASAR	**Alice Springs**	**31.86**	**167**	P	**P**	**03 46 51.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=357,slow=8.4,SNR=2.2						
JMM	**Marumori**	**32.78**	**21**	P	**P**	**03 46 60.0**	**+1.0**
SONM	**Songino Array**	**43.65**	**340**	P	**P**	**03 48 30.7**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=170,slow=9.0,SNR=4.1						
SONM	**Songino Array**	**43.65**	**340**	P	**P**	**03 48 28.9**	**-1.1**
MK31	**Makanchi Array**	**54.37**	**324**	P	**P**	**03 49 52.2**	**+0.6**
MK31				IAmb	IAmb	03 49 53.2	
	comp=Z,3.6nm,0.8s						
MKAR	**Makanchi Array**	**54.37**	**324**	P	**P**	**03 49 52.7**	**+1.1**
	comp=Z,2.9nm,0.5s,baz=120,slow=8.0,SNR=34						
MKAR	**Makanchi Array**	**54.37**	**324**	P	**P**	**03 49 52.5**	**+0.8**
MAKZ	**Makanchi**	**54.56**	**324**	P	**P**	**03 49 53.4**	**+0.4**
MAKZ				IAmb	IAmb	03 49 59.4	
	comp=Z,8.4nm,1.1s						
GAR	**Garm**	**59.28**	**311**	P	**P**	**03 50 26.9**	**+0.4**
KKAR	**Karatay Array**	**60.38**	**316**	P	**P**	**03 50 34.5**	**+0.6**
ABKAR	**Akbulak array**	**69.13**	**320**	P	**P**	**03 51 30.6**	**+0.2**
ABKAR	**Akbulak array**	**69.13**	**320**	P	**P**	**03 51 30.8**	**+0.3**
BRTR	**Keskin Array B**	**87.49**	**310**	P	**P**	**03 53 10.8**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=115,slow=5.8,SNR=3.7						
FINES	**FINESS Array B**	**88.41**	**332**	P	**P**	**03 53 15.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=72,slow=6.0,SNR=7.1						
AKASG	**Malin Array Be**	**88.85**	**321**	P	**P**	**03 53 17.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=62,slow=4.9,SNR=1.9						
AKASG	**Malin Array Be**	**88.85**	**321**	P	**P**	**03 53 17.3**	**-0.5**
AKASG				IAmb	IAmb	03 53 21.1	
	comp=Z,1.8nm,1.3s						

JMA 09 03:51:22.8±0.1,**35.98N**×**140.23E**,**h40**km±1km,**M2.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.25**	**353**	P	Pn	03 51 30.6	+0.1
JYT				S	Sn	03 51 36.0	+0.1
JHO	**Hitachi**	**0.69**	**23**	P	Pn	03 51 35.4	-0.7
JAG	**Ashikaga**	**0.77**	**305**	P	Pn	03 51 37.0	-0.2
MAT	**Matsushiro**	**1.73**	**290**	P	Pn	03 51 51.2	+0.8
MAT				*e*S	Sn	03 52 11.5	+0.3

*THE **09** 03:54:42.4,33.97N×27.04E,h17km±39km, ML3.4/7, Error ellipse: s-maj=49.8km s-min=2.6km az=133.0*

*ATH **09** 03:54:43.9,34.11N×26.56E,h48km±19km, ML3.3/7, Error ellipse: s-maj=21.4km s-min=3.0km az=345.0*

*IDC **09** 03:54:45.1±1.4,34.14N×26.27E,h0km, mb4.1/11, mb1 4.0/19,mb1mx3.8/55,mbtmp4.0/19, ML3.7/8, Error ellipse: s-maj=29.1km s-min=13.9km az=15.0*

*NIC **09** 03:54:47.5±0.0,34.21N×26.40E,h14km±1km, MI3.8/3*

*ISK **09** 03:54:48.0,34.28N×26.37E,h16km, ML3.5/23*

*HLW **09** 03:54:48.3,34.14N×26.56E,h11km±16km, Md3.6, MI3.7*

*DDA **09** 03:55:03.5,35.17N×27.29E,h19km±4km, ML3.2*

ISC 09 03:54:46.8±1.4,**34.18N**±0.04×**26.52E**±0.03,**h12**km±9km, **n114,σ2s34**/137,**mb4.0**/11,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.96**	**345**	P	**Pg**	**03 55 03.8**	**-1.6**
ZKR				S	**Sg**	**03 55 17.4**	**-0.5**
ZKR				AML	AML	03 55 18.9	
	comp=N,2183μm,0.3s						
ZKR				AML	AML	03 55 25.8	
	comp=E,5090μm,0.6s						
ZKR	**Zakros**	**0.96**	**345**	P	**Pg**	**03 55 04.7**	**-0.7**
ZKR				S	**Sn**	**03 55 22.1**	**+2.2**
	comp=E,2μm,0.4s						
ZKR	**Zakros**	**0.96**	**345**	PG	**Pg**	**03 55 04.7**	**-0.7**
ZKR				SG	**Sg**	**03 55 17.2**	**-0.8**
ZKR	**Zakros**	**0.96**	**345**	P	**Pg**	**03 55 04.5**	**-0.9**
ZKR				AML	AML	03 55 17.7	
	comp=E,2.0nm,0.3s						
ZKR				AML	AML	03 55 17.7	
	comp=E,2.0nm,0.3s						
ZKR				S	**Sb**	**03 55 18.5**	**+0.3**
ZKR				AML	AML	03 55 24.6	
	comp=E,4.9nm,0.5s						
ZKR				AML	AML	03 55 24.6	
	comp=E,4.9nm,0.5s						
FRMA	**Ierapetra Chan**	**1.05**	**322**	P	**Pg**	**03 55 05.0**	**-2.1**
FRMA				S	**Sn**	**03 55 23.6**	**+1.6**
	comp=E,822nm,0.6s						
STIA	**Sitia Lasithi**	**1.08**	**341**	P	**Pg**	**03 55 06.5**	**-1.0**
STIA				S	**Sn**	**03 55 25.0**	**+2.4**
LAST	**Lasithi**	**1.30**	**319**	P	**Pn**	**03 55 09.1**	**-1.8**
LAST				S	**Sn**	**03 55 27.7**	**-0.5**
LAST				AML	AML	03 55 34.0	
	comp=E,1834μm,0.7s						
LAST				AML	AML	03 55 38.1	
	comp=N,1652μm,0.5s						
LAST	**Lasithi**	**1.30**	**319**	P	**Pn**	**03 55 09.2**	**-1.7**
LAST				S	**Sn**	**03 55 33.0**	**+4.8**
	comp=N,872nm,0.6s						
NPS	**Neapolis**	**1.31**	**326**	P	**Pn**	**03 55 09.8**	**-1.2**
NPS				AML	AML	03 55 37.8	
	comp=E,2592μm,0.7s						
NPS				AML	AML	03 55 40.0	
	comp=N,1546μm,0.8s						
NPS	**Neapolis**	**1.31**	**326**	P	**Pn**	**03 55 09.8**	**-1.2**
NPS				S	**Sn**	**03 55 31.2**	**+2.8**
	comp=N,1μm,0.7s						
HRKL	**Herakleio**	**1.62**	**314**	PN	**Pn**	**03 55 14.5**	**-0.7**
KSTL	**Kastelli Herak**	**1.63**	**314**	P	**Pn**	**03 55 11.8**	**-3.6**
IACM	**Heraklion**	**1.64**	**314**	P	**Pb**	**03 55 16.4**	**-0.5**
SIVA	**Sivas**	**1.64**	**301**	P	**Pn**	**03 55 14.7**	**-0.7**
SIVA				AML	AML	03 55 54.7	
	comp=N,1721μm,0.6s						
SIVA				AML	AML	03 55 59.1	
	comp=E,2005μm,0.8s						
SIVA	**Sivas**	**1.64**	**301**	P	**Pn**	**03 55 15.4**	**0.0**
SIVA				S	**Sg**	**03 55 41.0**	**+1.6**
	comp=E,955nm,0.7s						
IDI	**Anoyia**	**1.73**	**310**	P	**Pn**	**03 55 16.1**	**-0.8**
IDI				AML	AML	03 55 55.1	
	comp=E,710μm,0.6s						
IDI				AML	AML	03 56 07.2	
	comp=N,377μm,1.1s						
IDI	**Anoyia**	**

ALFC	**Alefka**	**5.11**	**77**	P	**Pn**	**03 56 05.5**	**+2.3**
ALFC				AML	AML	03 57 01.7	
	comp=E,0.2nm,0.4s						
ALFC				AML	AML	03 57 03.1	
	comp=E,0.2nm,0.3s						
GAZI	**Gazipasa**	**5.17**	**65**	*i* P	**Pn**	**03 56 06.2**	**+2.1**
GAZI				*i* S	Sn	03 56 50.3	-13
GAZI				IAML		03 57 08.0	
	comp=N,62nm,0.4s						
GAZI				IAML		03 57 10.0	
	comp=E,34nm,0.4s						
SZAC	**Souni**	**5.29**	**82**	P	**Pn**	**03 56 08.2**	**+2.5**
ASGA	**Asgata**	**5.59**	**82**	P	**Pn**	**03 56 12.5**	**+2.7**
CSS	**Mathiatis**	**5.68**	**80**	P	**Pn**	**03 56 13.4**	**+2.4**
ERMK	**Ermenek**	**5.77**	**63**	*i* P	**Pn**	**03 56 15.9**	**+3.5**
ERMK				IAML		03 57 29.0	
	comp=N,47nm,0.5s						
ERMK				IAML		03 57 31.0	
	comp=E,32nm,0.3s						
KKBE	**Karaman, Kazim**	**6.04**	**58**	*i* P	**Pn**	**03 56 20.7**	**+4.6**
KKBE				IAML		03 57 33.0	
	comp=N,16nm,0.7s						
KONT	**Konya--Tatoy**	**6.04**	**50**	*i* P	**Pn**	**03 56 20.4**	**+4.4**
GULN	**MERSIN_Gulnar**	**6.09**	**69**	*i* P	**Pn**	**03 56 20.0**	**+3.3**
GULN				IAML		03 57 30.0	
	comp=N,21nm,0.4s						
GULN				IAML		03 57 33.0	
	comp=E,24nm,0.4s						
GLL	**Jalalah**	**6.37**	**135**	P	**Pn**	**03 56 22.4**	**+1.8**
	baz=134						
KERG	**Konya-Eregli**	**6.97**	**60**	*i* P	**Pn**	**03 56 31.5**	**+2.5**
KERG				IAML		03 57 54.0	
	comp=N,9.5nm,0.4s						
HFRF	**Wahat Farafira**	**7.18**	**167**	P	**Pn**	**03 56 32.8**	**+1.2**
	baz=167						
MMAI	**Mount Meron Ar**	**7.51**	**96**	Pn	**Pn**	**03 56 37.2**	**+1.0**
	comp=N,2.5nm,0.3s,baz=284,slow=11,SNR=5.9						
MMAI				Sn	**Sn**	**03 57 58.7**	**-2.6**
	comp=N,1.4nm,0.3s,baz=276,slow=23,SNR=1.7						
BRTR	**Keskin Array B**	**7.94**	**44**	Pn	**Pn**	**03 56 45.7**	**+3.5**
	comp=N,0.2nm,0.3s,baz=223,slow=14,SNR=7.8						
BRTR				Sn	**Sn**	**03 58 12.1**	**-0.1**
	comp=N,0.2nm,0.3s,baz=209,slow=27,SNR=5.6						
GRB	**Gharib**	**7.97**	**136**	P	**Pn**	**03 56 44.5**	**+1.9**
	baz=136						
TR2	**Tor 2**	**8.45**	**131**	P	**Pn**	**03 56 50.0**	**+0.9**
	baz=131						
EIL	**Elat**	**8.46**	**120**	Pn	**Pn**	**03 56 51.8**	**+2.5**
	comp=N,1.1nm,0.3s,baz=239,slow=2.3,SNR=15						
EIL				Sn	Sn	03 58 17.7	-7.1
	comp=N,0.6nm,0.3s,baz=112,slow=19,SNR=1.5						
NUB	**Nuweibaa**	**8.63**	**124**	P	**Pn**	**03 56 53.0**	**+1.4**
	baz=124						
VAE	**Valguarnera**	**10.36**	**292**	Pn	**Pn**	**03 57 15.2**	**-0.1**
	comp=N,2.4nm,0.3s,baz=72,slow=3.2,SNR=7.3						
VAE				Sn	Sn	03 58 58.4	-13
	comp=N,0.6nm,0.3s,baz=193,slow=15,SNR=1.3						
MLR	**Muntele Rosu**	**11.30**	**358**	Pn	**Pn**	**03 57 31.4**	**+3.1**
	comp=N,0.1nm,0.3s,baz=184,slow=9.3,SNR=3.4						
KBZ	**Khabaz**	**15.89**	**48**	Pn	**P**	**03 58 37.2**	**+3.4**
	comp=N,0.1nm,0.3s,baz=166,slow=8.3,SNR=4.2						
AKASG	**Malin Array Be**	**16.63**	**6**	Pn	**Pn**	**03 58 40.4**	**+0.8**
	comp=N,1.9nm,0.3s,baz=197,slow=11,SNR=17						
GERES	**GERESS Array B**	**17.48**	**331**	Pn	**Pn**	**03 58 50.0**	**-0.4**
	comp=N,0.2nm,0.3s,baz=137,slow=12,SNR=6.4						
ESDC	**Sonseca Array**	**24.90**	**292**	P	**P**	**04 00 08.3**	**-1.4**
	comp=N,1.8nm,0.5s,baz=81,slow=9.8,SNR=20						
FINES	**FINESS Array B**	**27.28**	**360**	P	**P**	**04 00 31.4**	**+0.5**
	comp=N,1.4nm,0.6s,baz=170,slow=11,SNR=6.3						
HFS	**Hagfors**	**27.29**	**346**	P	**P**	**04 00 30.2**	**-0.8**
	comp=N,0.7nm,0.5s,baz=119,slow=12,SNR=6.3						
NOA	**NORSAR Array B**	**28.63**	**344**	P	**P**	**04 00 42.2**	**-0.8**
	comp=N,0.4nm,0.7s,baz=152,slow=7.6,SNR=1.9						
EKA	**Eskdalemuir Ar**	**29.48**	**325**	P	**P**	**04 00 49.2**	**-1.4**
	comp=N,2.2nm,0.9s,baz=130,slow=9.8,SNR=6.6						
ARCES	**ARCESS Array B**	**35.41**	**359**	P	**P**	**04 01 40.7**	**-1.6**
	comp=N,0.7nm,0.5s,baz=167,slow=8.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**40.88**	**50**	P	**P**	**04 02 30.7**	**+2.1**
	comp=N,3.0nm,0.5s,baz=276,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**43.39**	**56**	P	**P**	**04 02 51.2**	**+2.1**
	comp=N,2.5nm,0.7s,baz=275,slow=6.9,SNR=8.9						
ZALV	**Zalesovo Beam**	**44.88**	**45**	P	**P**	**04 03 02.4**	**+1.4**
	comp=N,3.4nm,0.3s,baz=273,slow=8.2,SNR=11						
SONM	**Songino Array**	**59.24**	**51**	P	**P**	**04 04 49.7**	**+1.5**
	comp=N,0.3nm,0.3s,baz=264,slow=5.2,SNR=2.1						
SCHQ	**Schefferville**	**64.65**	**320**	P	**P**	**04 05 23.6**	**-0.7**
	comp=N,2.1nm,0.5s,baz=72,slow=5.4,SNR=12						

*IDC **09** 03:56:00.5±2.6, 8.°12S×128.°46E, h46km±25km, mb3.4/4, mb1 3.7/7, mb1mx3.5/33, mbtmp3.8/7, ML4.1/3, Error ellipse: s-maj=45.0km s-min=16.7km az=89.0*

ISC 09 03:55:59.5±0.8, 8.°26S±0.°06×128.°7E±0.°1, h35km, n10, σ2s05/15, mb3.7/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**7.77**	**19**	P	**Pn**	**03 57 51.9**	**+1.6**
	4.2nm,0.3s,baz=261,slow=14,SNR=6.9						
SIJI				S	**Sn**	**03 59 16.6**	**-0.5**
	1.5nm,0.3s,baz=204,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	**10.22**	**197**	P	**Pn**	**03 58 25.8**	**+2.0**
	1.3nm,0.3s,baz=18,slow=9.6,SNR=44						
FITZ				S	**Sn**	**04 00 16.3**	**-1.0**
	4.2nm,0.3s,baz=283,slow=18,SNR=11						
WRA	**Warramunga Arr**	**12.82**	**155**	P	**Pn**	**03 59 00.5**	**+1.1**
	0.6nm,0.3s,baz=325,slow=14,SNR=26						
WRA				S	**Sn**	**04 01 18.8**	**-2.1**
	2.7nm,0.3s,baz=332,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.10**	**163**	P	**Pn**	**03 59 44.8**	**+1.4**
	0.3nm,0.3s,baz=331,slow=9.6,SNR=13						
ASAR				S	**Sn**	**04 02 36.5**	**-4.4**
	0.4nm,0.3s,baz=353,slow=29,SNR=2.8						
STKA	**Stephens Creek**	**26.37**	**155**	P	**P**	**04 01 34.5**	**+1.9**
	0.9nm,0.5s,baz=333,slow=12,SNR=3.8						
SONM	**Songino Array**	**59.25**	**343**	P	**P**	**04 05 55.5**	**-2.1**
	0.3nm,0.4s,baz=165,slow=26.0,SNR=2.0						
MKAR	**Makanchi Array**	**68.60**	**328**	P	**P**	**04 06 57.0**	**-2.0**
	0.5nm,0.5s,baz=118,slow=7.0,SNR=4.2						
VNDA	**Vanda**	**71.36**	**173**	P	**P**	**04 07 16.4**	**+1.0**
	0.3nm,0.5s,baz=329,slow=9.3,SNR=1.9						
CPUP	**Villa Florida**	**145.11**	**170**	PKPbc	**PKPbc**	**04 15 33.1**	**-0.4**
	0.6nm,0.4s,baz=194,slow=2.6,SNR=4.3						
LPAZ	**La Paz**	**150.45**	**146**	PKPbc	**PKPbc**	**04 15 49.1**	**-0.1**
	0.2nm,0.3s,baz=191,slow=5.2,SNR=2.1						
LPAZ				PKPab	**pPKPdf**	**04 15 56.4**	**+1.4**
	0.5nm,0.5s,baz=171,slow=3.1,SNR=3.6						

*IDC **09** 04:06:39.2±1.6, 30.°28N×138.°88E, h448km±23km, mb1 2.9/6, mb1mx2.6/43, mbtmp3.9/6, Error ellipse: s-maj=63.6km s-min=15.5km az=68.0*

*JMA **09** 04:06:39.7±0.3, 30.°50N×139.°22E, h469km, M3.6*

ISC 09 04:06:39.9±1.3, 30.°35N±0.°10×139.°0E±0.°2, h450km, n17, σ0s83/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.84**	**14**	P	**P**	**04 07 46.7**	**+1.1**
JHJ	**Hachijo jima 2**	**2.84**	**13**	P	**P**	**04 07 46.7**	**+1.0**
	25nm,0.3s,baz=246,slow=20,SNR=9.0						
JHJ				S	**S**	**04 08 39.6**	**+0.4**
	9.4nm,0.3s,baz=234,slow=23,SNR=1.6						
CBIJ	**Chichi jima**	**4.28**	**138**	*eS*	**S**	**04 09 00.2**	**-0.6**
JCJ	**Chichijima**	**4.28**	**138**	P	**P**	**04 07 57.8**	**+0.2**
	6.4nm,0.3s,baz=294,slow=20,SNR=2.5						
JCJ				S	**S**	**04 09 00.1**	**-0.7**
	19nm,0.3s,baz=309,slow=20,SNR=11						
JIE	**Ise**	**4.47**	**335**	P	**P**	**04 08 00.5**	**+1.4**
BSO1	**Boso 1**	**4.61**	**21**	P	**P**	**04 08 00.8**	**+1.0**
BSO3	**Boso 3**	**4.62**	**16**	P	**P**	**04 08 00.7**	**+0.5**
BSO3				S	**S**	**04 09 05.2**	**-0.6**
BSO4	**Boso 4**	**4.77**	**13**	P	**P**	**04 08 02.6**	**+0.9**
JNY	**Yasuok**	**5.09**	**350**	P	**P**	**04 08 06.1**	**+1.1**
JHU	**Hanno**	**5.50**	**2**	P	**P**	**04 08 08.9**	**0.0**
JRY	**Ryogami san**	**5.66**	**359**	P	**P**	**04 08 10.8**	**+0.2**
JYT	**Yasato**	**5.95**	**9**	P	**P**	**04 08 13.6**	**+0.1**
JAG	**Ashikaga**	**6.07**	**4**	P	**P**	**04 08 14.0**	**-0.8**
MJAR	**Matsushiro Arr**	**6.21**	**354**	P	**P**	**04 08 15.3**	**-1.0**
	0.1nm,0.3s,baz=175,slow=11,SNR=10						
KSRS	**Korea Array**	**11.61**	**311**	P	**P**	**04 09 13.2**	**-1.1**
	0.5nm,0.3s,baz=124,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**14.90**	**340**	P	**P**	**04 09 49.4**	**-0.3**
	baz=138,slow=12,SNR=6.8						
KLR	**Kul'dur**	**19.65**	**346**	P	**P**	**04 10 37.7**	**0.0**
	0.1nm,0.3s,baz=160,slow=13,SNR=4.5						

*NEIC **09** 04:06:56.7±1.6, 8.°46S±0.°06×128.°51E±0.°05, h20km±5km, mb4.3/7, Error ellipse: s-maj=9.2km s-min=7.0km az=171.0*

*IDC **09** 04:07:00.8±2.3, 8.°30S×128.°26E, h56km±21km, mb4.0/12, mb1 4.1/14, mb1mx3.9/35, mbtmp4.3/14, ML4.0/2, MS3.4/13, Ms1 3.5/13, ms1mx3.2/41, Error ellipse: s-maj=17.4km s-min=12.8km az=111.0*

*DJA **09** 04:07:00.6±0.2, 9.°S±2.°×12.°8E±.°, h115km±11km, M4.6/12, mB5.0/6, mb4.6/12, MLv4.8/7, Mw(mB)4.4/6*

ISC 09 04:06:57.6±0.5, 8.°61S±0.°04×128.°52E±0.°04, h35km, n72, σ2s45/77, mb4.2/12, MS3.4/9, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.83**	**77**	Pn	**Pn**	**04 07 39.9**	**-0.4**
SAUI				Sn	**Sn**	**04 08 12.5**	**-0.6**
SOEI	**Soe**	**4.35**	**255**	Pn	**Pn**	**04 08 02.3**	**+0.9**
SOEI	**Soe**	**4.35**	**255**	P	**Pn**	**04 08 03.0**	**+1.7**
SOEI				S	**Sn**	**04 08 53.3**	**+2.4**
MTN	**Manton Dam**	**4.93**	**149**	P	**Pn**	**04 08 12.7**	**+3.5**
	baz=5.0,SNR=36						
MTN				S	**Sn**	**04 09 11.2**	**+6.1**
	baz=5.0						
MTN	**Manton Dam**	**4.93**	**149**		**Pn**	**04 08 11.3**	**+2.1**
MTN				Sn	**Sn**	**04 09 08.6**	**+3.6**
BATI	**Baumata**	**5.04**	**251**	P	**Pn**	**04 08 11.9**	**+1.0**
	14nm,0.3s,baz=15,slow=2.7,SNR=4.0						
BATI				S	**Sn**	**04 09 09.1**	**+1.1**
	23nm,0.3s,baz=134,slow=21,SNR=2.0						
BATI	**Baumata**	**5.04**	**251**	P	**Pn**	**04 08 13.1**	**+2.2**
NLAI	**Namlea**	**5.52**	**345**	P	**Pn**	**04 08 19.3**	**+1.9**
	0.2nm3µm50nm,0.9s						
KDU	**Kakadu**	**5.61**	**136**	P	**Pn**	**04 08 22.5**	**+3.8**
	baz=5.7,SNR=77						
KDU				S	**Sn**	**04 09 24.7**	**+2.8**
	baz=5.7						
MMRI	**Maumere**	**6.21**	**269**	Pn	**Pn**	**04 08 27.4**	**+0.5**
MMRI	**Maumere**	**6.21**	**269**	P	**Pn**	**04 08 28.2**	**+1.3**
	0.6nm4µm131nm,1.1s						
FAKI	**Fak Fak**	**6.77**	**33**	Pn	**Pn**	**04 08 33.7**	**-0.8**
FAKI	**Fak Fak**	**6.77**	**33**	P	**Pn**	**04 08 36.3**	**+1.8**
	0.3nm1µm92nm,0.5s						
KNRA	**Kununurra**	**7.03**	**178**	P	**Pn**	**04 08 40.2**	**+2.1**
	baz=7.1,SNR=62						
KNRA				S	**Sn**	**04 09 59.0**	**+2.3**
	baz=7.1						
KNRA	**Kununurra**	**7.03**	**178**	Pn	**Pn**	**04 08 40.4**	**+2.4**
KNRA				Sn	**Sn**	**04 09 59.6**	**+2.9**
SIJI	**Sorong**	**8.17**	**20**	P	**Pn**	**04 08 55.3**	**+1.5**
	0.7nm,0.3s,baz=211,slow=23,SNR=2.5						
SIJI				S	**Sn**	**04 10 26.9**	**+2.0**
	1.8nm,0.3s,baz=240,slow=22,SNR=1.8						
SIJI				LR	LR	04 12 36.3	
	comp=Z,302nm,19.3s,baz=235,slow=42						
SWI	**Sorong**	**8.17**	**20**	P	**Pn**	**04 08 55.6**	**+1.8**
	57nm,0.7s						
BNSI	**Bone**	**9.34**	**296**	P	**Pn**	**04 09 08.3**	**-1.6**
	54nm,0.7s						
TNTI	**Ternate**	**9.39**	**353**	P	**Pn**	**04 09 12.9**	**+2.3**
	30nm1.2s						
KAPI	**Kappang**	**9.41**	**292**	P	**Pn**	**04 09 13.6**	**+2.8**
	0.6nm,0.3s,baz=135,slow=12,SNR=6.8						
KAPI	**Kappang**	**9.41**	**292**		**Pn**	**04 09 10.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**9.83**	**196**	P	**Pn**	**04 09 16.1**	**-0.5**
	3.0nm,0.3s,baz=23,slow=11,SNR=82						
FITZ				S	**Sn**	**04 11 02.9**	**-3.0**
	6.6nm,0.3s,baz=95,slow=14,SNR=7.4						
FITZ				LR	LR	04 14 16.1	
	comp=Z,264nm,19.7s,baz=19,slow=43						
FITZ	**Fitzroy Crossi**	**9.83**	**196**	P	**Pn**	**04 09 16.5**	**-0.1**
	baz=9.9,SNR=72						
FITZ				S	**Sn**	**04 11 01.4**	**-4.5**
	baz=9.9						
FITZ	**Fitzroy Crossi**	**9.83**	**196**	Pn	**Pn**	**04 09 18.1**	**+1.5**
TTSI	**Tana Toraja**	**10.27**	**302**	P	**Pn**	**04 09 22.8**	**+0.2**
	23nm,0.9s						
BAKI	**Biak**	**10.56**	**46**	P	Pn	04 09 31.0	+4.4
TOLI2	**Tolitoli**	**12.36**	**321**	Pn	**Pn**	**04 09 50.1**	**-1.2**
WRAB	**Tennant Creek**	**12.59**	**154**		**Pn**	**04 09 54.4**	**+0.1**
WRA	**Warramunga Arr**	**12.59**	**154**	P	**Pn**	**04 09 52.1**	**-2.4**
	8.1nm,0.3s,baz=248,slow=10,SNR=155						
WRA				S	**Sn**	**04 12 08.2**	**-5.3**
	4.5nm,0.3s,baz=327,slow=23,SNR=11						
PSA00	**Pilbara Seismi**	**15.36**	**212**	Pn	**Pn**	**04 10 30.6**	**-1.2**
PSA00				IAmb	IAmb	04 10 46.2	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**15.36**	**212**	Pn	**Pn**	**04 10 29.7**	**-2.2**
PSA00				IAmb	IAmb	04 10 44.9	
	comp=Z,24nm,0.9s						
AS31	**Alice Springs**	**15.83**	**162**	Pn	**Pn**	**04 10 37.6**	**-0.5**
AS31				IAmb	IAmb	04 10 47.4	
	comp=Z,14nm,0.7s						
ASAR	**Alice Springs**	**15.83**	**162**	P	**Pn**	**04 10 36.6**	**-1.4**
	comp=Z,4.1nm,0.3s,baz=331,slow=11,SNR=112						
ASAR				S	**Sn**	**04 13 26.9**	**-5.7**
	comp=Z,2.1nm,0.3s,baz=329,slow=24,SNR=5.4						
ASAR				LR	LR	04 17 35.9	
	comp=Z,301nm,20.3s,baz=332,slow=39						
ASAR	**Alice Springs**	**15.83**	**162**	Pn	**Pn**	**04 10 37.7**	**-0.3**
QIS	**Mount Isa**	**15.99**	**139**	P	**Pn**	**04 10 39.9**	**-0.2**
	baz=16,SNR=9.2						
QIS				S	**Sn**	**04 13 28.1**	**-8.3**
	baz=16						
WRKA	**Warakurna**	**16.34**	**181**	P	**Pn**	**04 10 43.7**	**-0.7**
	baz=16,SNR=76						
MTSU	**Mount Surprise**	**18.04**	**123**	P	**P**	**04 11 07.2**	**+1.3**
	baz=18,SNR=13						
PMG	**Port Moresby**	**18.43**	**94**	LR	LR	04 20 16.3	
	comp=Z,141nm,19.6s,baz=263,slow=42						
MEEK	**Meekatharra**	**20.24**	**206**	P	**P**	**04 11 32.4**	**+2.5**
	baz=20,SNR=6.6						
CTA	**Charters Tower**	**20.60**	**126**	P	Pn	04 11 37.9	+1.6
	comp=Z,4.7nm,0.7s,baz=286,slow=16,SNR=1.6						
LEM	**Lembang**	**20.79**	**273**	LR	LR	04 20 12.8	
	comp=Z,219nm,20.4s,baz=125,slow=39						
FORT	**Forrest**	**22.06**	**181**	P	**P**	**04 11 51.5**	**+2.0**
	baz=22,SNR=11						
FORT	**Forrest**	**22.06**	**181**	P	**P**	**04 11 51.8**	**+2.4**
FORT				IAmb	IAmb	04 11 53.6	
	comp=Z,32nm,0.8s						
KMBL	**Kambalda**	**23.47**	**194**	P	**P**	**04 12 05.6**	**+1.5**
	baz=24,SNR=5.2						
MORW	**Morawa**	**23.49**	**208**	P	**P**	**04 12 06.1**	**+1.8**
	baz=24,SNR=3.6						
BLDU	**Ballidu**	**24.51**	**205**	P	**P**	**04 12 16.3**	**+2.4**
	baz=25,SNR=5.5						
BBOO	**Buckleboo**	**25.07**	**165**	P	**P**	**04 12 20.9**	**+1.9**
STKA	**Stephens Creek**	**26.15**	**154**	P	**P**	**04 12 32.0**	**+3.3**
	comp=Z,4.6nm,0.5s,baz=317,slow=8.4,SNR=9.4						
STKA	**Stephens Creek**	**26.15**	**154**	P	**P**	**04 12 30.6**	**+1.9**
STKA				IAmb	IAmb	04 12 48.0	
	comp=Z,2.4nm,1.0s						
EIDS	**Eidsvold**	**27.19**	**131**	P	**P**	**04 12 38.8**	**+0.7**
	baz=27,SNR=7.9						
PSI	**Prapat**	**31.61**	**290**	P	**P**	**04 13 14.9**	**-2.7**
	comp=Z,5.3nm,0.7s,baz=176,slow=0.8,SNR=6.7						
PSI				LR	LR	04 28 32.7	
	comp=Z,215nm,18.2s,baz=90,slow=41						
CMAR	**Chiang Mai Arr**	**39.69**	**313**	LR	LR	04 31 42.2	
	comp=Z,75nm,21.2s,baz=194,slow=38						
KSRS	**Korea Array**	**45.83**	**359**	P	**P**	**04 15 13.8**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=178,slow=9.7,SNR=4.7						
KSRS				LR	LR	04 32 57.4	
	comp=Z,21nm,21.6s,baz=186,slow=34						
MJAR	**Matsushiro Arr**	**45.83**	**11**	P	**P**	**04 15 13.8**	**-2.5**
	comp=Z,0.7nm,0.4s,baz=308,slow=42,SNR=1.8						
USRK	**Ussuriysk Ar.**	**52.66**	**3**	P	**P**	**04 16 06.8**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=122,slow=20,SNR=11						
USRK	**Ussuriysk Ar.**	**52.66**	**3**	P	**P**	**04 16 07.2**	**-1.2**
SONM	**Songino Array**	**59.52**	**343**	P	**P**	**04 16 56.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=152,slow=6.5,SNR=2.5						
PETK	**Petropavlovsk-**	**66.31**	**19**	P	**P**	**04 17 42.4**	**0.0**
	comp=Z,2.8nm,0.6s,baz=178,slow=7.4,SNR=8.4						
PETK	**Petropavlovsk-**	**66.31**	**19**	P	**P**	**04 17 42.7**	**+0.3**
MKAR	**Makanchi Array**	**68.78**	**328**	P	**P**	**04 17 56.4**	**-1.8**
	comp=Z,3.2nm,0.7s,baz=117,slow=8.4,SNR=18						
MKAR				LR	LR	04 49 59.6	
	comp=Z,8.2nm,18.6s,baz=155,slow=38						
VNDA	**Vanda**	**71.04**	**173**	LR	LR	04 50 47.3	
	comp=Z,28nm,18.0s,baz=334,slow=37						
ZALV	**Zalesovo Beam**	**72.39**	**335**	P	**P**	**04 18 17.6**	**-2.4**
	comp=Z,5.2nm,0.6s,baz=133,slow=4.7,SNR=18						
MAW	**Mawson**	**72.92**	**201**	P	**P**	**04 18 25.9**	**+3.0**
	comp=Z,1.3nm,0.5s,baz=76,slow=11,SNR=2.1						
MAW	**Mawson**	**72.92**	**201**	P	**P**	**04 18 24.9**	**+1.9**
AKTO	**Aktyubinsk**	**84.45**	**323**	LR	LR	05 00 54.8	
	comp=Z,15nm,19.4s,baz=114,slow=38						
GNI	**Garni**	**90.77**	**310**	LR	LR	05 06 23.3	
	comp=Z,15nm,21.1s,baz=115,slow=39						
KVAR	**Kislovodsk Ar**	**92.92**	**314**	LR	LR	05 07 29.9	
	comp=Z,15nm,21.9s,baz=258,slow=39						
ILAR	**Eielson Array**	**95.42**	**25**	P	**P**	**04 20 16.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=245,slow=4.9,SNR=5.8						
PDAR	**Pinedale Array**	**119.06**	**46**	PKP	**PKiKP**	**04 25 44.0**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=126,slow=30,SNR=1.6						
CPUP	**Villa Florida**	**144.80**	**171**	PKPbc	**PKPdf**	**04 26 33.0**	**+1.3**
	comp=Z,5.7nm,0.8s,baz=175,slow=2.5,SNR=16						
CPUP	**Villa Florida**	**144.80**	**171**	PKPdf	**PKPdf**	**04 26 32.1**	**+0.4**
LPAZ	**La Paz**	**150.27**	**146**	PKPbc	**PKiKP**	**04 26 50.0**	**+2.3**
	comp=Z,1.4nm,0.7s,baz=46,slow=2.5,SNR=9.0						

*IDC **09** 04:19:31.9±0.6, 13.°90N×120.°56E, h94km±5km, mb3.8/22, mb1 3.9/24, mb1mx3.8/47, mbtmp4.2/24, Error ellipse: s-maj=19.0km s-min=8.8km az=77.0*

*MAN **09** 04:19:31.3, 13.°87N×120.°28E, h61km, MS3.6*

*NEIC **09** 04:19:35.9±1.2, 13.°92N±0.°07×120.°6E±0.°2, h126km±8km, mb4.4/23, Error ellipse: s-maj=25.3km s-min=9.6km az=89.0*

ISC 09 04:19:31.8±0.5, 13.°87N±0.°03×120.°34E±0.°05, h93km±4km, n83, σ1s34/107, mb4.3/33, 3C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.16**	**214**	*eP*	**Pn**	**04 19 45.0**	**-0.1**
LUBP				*i* S	**Sn**	**04 19 54.2**	**-0.6**
MACP	**Maragondon, Ca**	**0.54**	**43**	*eP*	**Pn**	**04 19 46.5**	**-0.7**
MACP				*eS*	**Sn**	**04 19 57.2**	**-1.4**
TGY	**Tagaytay City**	**0.62**	**68**	P	**Pn**	**04 19 48.4**	**+0.5**
TGY				S	**Sn**	**04 20 00.4**	**+0.4**
PGP	**Puerto Galera**	**0.70**	**121**	*eP*	**Pn**	**04 19 47.9**	**-0.7**
PGP				*i* S	**Sn**	**04 19 59.6**	**-1.5**
QVP	**Quezon City--P**	**0.99**	**41**	*eP*	**Pn**	**04 19 51.7**	**+0.1**
QVP				*eS*	**Sn**	**04 20 06.8**	**+0.5**
LQP	**Lukban**	**1.19**	**78**	*eP*	**Pn**	**04 19 54.0**	**-0.1**
LQP				*i* S	**Sn**	**04 20 10.1**	**-0.8**
BOAC	**Boac**	**1.52**	**105**	*eP*	**Pn**	**04 19 57.9**	**0.0**
BOAC				*eS*	**Sn**	**04 20 17.1**	**-0.7**
SJMP	**San Jose**	**1.59**	**151**	*eP*	**Pn**	**04 19 59.3**	**+0.4**
SJMP				*eS*	**Sn**	**04 20 18.4**	**-1.0**
PCPH	**Palayan**	**1.83**	**23**	*eP*	**Pn**	**04 20 01.2**	**-0.8**
PCPH				*eS*	**Sn**	**04 20 23.4**	**-1.5**
BUSP	**Coron**	**1.86**	**184**	*eP*	**Pn**	**04 20 02.5**	**+0.1**
BUSP				*eS*	**Sn**	**04 20 24.9**	**-0.7**
GQP	**Guinayangan**	**2.05**	**89**	*eP*	**Pn**	**04 20 06.0**	**+1.2**
GQP				*eS*	**Sn**	**04 20 31.9**	**+2.1**
SMPP	**San Manuel, Pa**	**2.29**	**8**	*eP*	**Pn**	**04 20 07.7**	**-0.3**
SMPP				*eS*	**Sn**	**04 20 34.8**	**-0.9**
JCNP	**Jose Panganiba**	**2.33**	**79**	*eP*	**Pn**	**04 20 08.2**	**-0.3**
AUQP	**San Andres**	**2.33**	**103**	*eP*	**Pn**	**04 20 09.8**	**+1.3**
BOLP	**Bolinao**	**2.53**	**351**	*eP*	**Pn**	**04 20 11.0**	**-0.2**
BOLP				*eS*	**Sn**	**04 20 40.3**	**-1.0**
ENPP	**El Nido**	**2.79**	**199**	*eP*	**Pn**	**04 20 14.2**	**-0.7**
ENPP				*eS*	**Sn**	**04 20 43.1**	**-4.5**
SAMP	**Sagada Mountai**	**3.24**	**10**	*eP*	**Pn**	**04 20 19.8**	**-0.8**
SAMP				*eS*	**Sn**	**04 20 54.8**	**-3.5**
CAUP	**Cauayan**	**3.37**	**25**	*eP*	**Pn**	**04 20 23.6**	**+1.1**
CAUP				*e

	comp=Z,6.6nm,1.1s						
BPAW	**Bear Paw Mtn.**	**77.06**	**27**	P	**P**	**04 31 14.5**	**-0.2**
BPAW				IAmb	IAmb	04 31 15.6	
	comp=Z,4.8nm,0.6s						
MLY	**Manley**	**77.09**	**26**	P	**P**	**04 31 14.7**	**-0.2**
MLY				IAmb	IAmb	04 31 15.8	
	comp=Z,3.4nm,0.6s						
ILAR	**Eielson Array**	**78.75**	**26**	P	**P**	**04 31 22.4**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=256,slow=4.4,SNR=7.3						
BRTR	**Keskin Array B**	**78.77**	**308**	P	**P**	**04 31 25.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=100,slow=5.1,SNR=4.0						
ARCES	**ARCESS Array B**	**78.80**	**339**	P	**P**	**04 31 24.6**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=75,slow=6.4,SNR=7.2						
FINES	**FINESS Array B**	**79.97**	**331**	P	**P**	**04 31 30.4**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=53,slow=6.1,SNR=8.8						
FINES				pP	**pP**	**04 31 54.3**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=127,slow=3.7,SNR=2.5						
EPYK	**Eagle Plains**	**82.51**	**23**	P	**P**	**04 31 42.8**	**-1.3**
EPYK				IAmb	IAmb	04 31 44.5	
	comp=Z,3.6nm,0.7s						
BUR08	**Bucovina Ar. S**	**83.30**	**317**	P	**P**	**04 31 49.4**	**+0.8**
BUR08				IAmb	IAmb	04 31 50.3	
	comp=Z,2.5nm,0.6s						
C36M	**Paulatuk**	**85.76**	**19**	P	**P**	**04 31 59.9**	**-0.5**
C36M				IAmb	IAmb	04 32 00.6	
	comp=Z,4.4nm,0.6s						
NOA	**NORSAR Array B**	**86.95**	**333**	P	**P**	**04 32 05.8**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=68,slow=4.6,SNR=7.0						
GERES	**GERESS Array B**	**90.28**	**321**	P	**P**	**04 32 23.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=84,slow=5.5,SNR=4.0						
GERES	**GERESS Array B**	**90.28**	**321**	P	**P**	**04 32 22.2**	**-0.3**
YKA	**Yellowknife Ar**	**92.75**	**22**	P	**P**	**04 32 33.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=304,slow=4.5,SNR=3.3						

*IDC **09** 04:24:57.2±5.1,3.97S×152.28E,h172km±50km,mb3.4/5, mb1 3.6/6,mb1mx3.2/38,mbtmp3.9/6,MS3.2/1,Ms1 3.2/1, ms1mx2.6/21,Error ellipse: s-maj=32.9km s-min=29.0km az=96.0*

ISC 09 04:24:55.0±1.2,**3.9S**±0.2×**152.4E**±0.2,**h150**km,**n6,** σ1**8**,**33/6,mb3.5/5,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.53**	**223**	P	**Pn**	**04 26 43.0**	**+0.7**
	1.4nm,0.3s,baz=0.0,slow=14,SNR=4.6						
PMG				LR	LR	04 29 12.4	
	comp=Z,167nm,19.1s,baz=360,slow=34						
DZM	**Mont Dzumac**	**22.66**	**144**	P	**P**	**04 29 43.7**	**-0.2**
	7.1nm,0.7s,baz=327,slow=17,SNR=1.9						
WRA	**Warramunga Arr**	**23.74**	**226**	P	**P**	**04 29 51.5**	**-2.1**
	1.4nm,0.8s,baz=51,slow=9.7,SNR=5.2						
ASAR	**Alice Springs**	**26.54**	**221**	P	**P**	**04 30 19.4**	**+0.4**
	0.7nm,0.6s,baz=55,slow=8.7,SNR=3.9						
SONM	**Songino Array**	**65.32**	**328**	P	**P**	**04 35 21.1**	**-0.1**
	0.7nm,0.6s,baz=140,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**81.48**	**22**	P	**P**	**04 36 55.5**	**+0.3**
	0.7nm,0.7s,baz=249,slow=5.6,SNR=6.5						

*IDC **09** 04:27:05.5±3.6,4.69N×125.84E,h92km±62km,mb3.8/5, mb1 4.0/6,mb1mx3.4/39,mbtmp4.2/6,ML4.1/1,Error ellipse: s-maj=66.3km s-min=19.6km az=49.0*
*MAN **09** 04:27:08.7,5.61N×125.59E,h196km,MS3.9*

ISC 09 04:27:09.5±1.0,**5.05N**±0.09×**125.8E**±0.1,**h150**km,**n10,** σ2**9**,**79/14,mb4.0/5,1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.05**	**358**	*e*P	**Pn**	**04 27 37.1**	**+2.4**
DDMP				*e*S	**Sn**	**04 27 57.9**	**+3.8**
SKMP	**Bagumbayan, Su**	**1.89**	**321**	*e*P	**Pn**	**04 27 41.2**	**-2.1**
SKMP				*e*S	**Sn**	**04 28 07.1**	**-2.3**
MATI	**Mati**	**1.95**	**15**	*e*P	**Pn**	**04 27 41.9**	**-2.2**
DAV	**Davao City (W)**	**2.02**	**355**	P	**Pn**	**04 27 44.2**	**-0.6**
	49nm,0.3s,baz=70,slow=2.3,SNR=6.7						
DAV				S	**Sn**	**04 28 11.7**	**-0.3**
	102nm,0.3s,baz=275,slow=21,SNR=7.0						
KCP	**Kidapawan**	**2.05**	**342**	*i*P	**Pn**	**04 27 43.5**	**-1.8**
KCP				*i* S	**Sn**	**04 28 09.3**	**-3.6**
FITZ	**Fitzroy Crossi**	**23.00**	**180**	P	**P**	**04 31 59.8**	**-1.5**
	2.2nm,0.4s,baz=5.2,slow=10,SNR=19						
WRA	**Warramunga Arr**	**26.23**	**161**	P	**P**	**04 32 28.2**	**-2.5**
	0.2nm,0.3s,baz=330,slow=11,SNR=8.9						
PSI	**Prapat**	**26.85**	**266**	P	**P**	**04 32 39.1**	**+2.6**
	3.3nm,0.3s,baz=180,slow=13,SNR=8.2						
CMAR	**Chiang Mai Arr**	**29.37**	**299**	P	**P**	**04 33 02.3**	**+3.6**
	1.8nm,0.3s,baz=120,slow=10,SNR=1.7						
ASAR	**Alice Springs**	**29.63**	**165**	P	**P**	**04 32 58.6**	**-2.3**
	0.6nm,0.5s,baz=341,slow=7.0,SNR=12						

ATH 09 04:55:45.8,38.61N×23.43E,h9km±4km,ML1.7/8,Error ellipse: s-maj=4.5km s-min=0.7km az=13.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.32**	**328**	P	Pg	04 55 52.6	+0.4
SMIA				S	Sg	04 55 57.1	+0.6
SMIA				AML	AML	04 55 58.1	
	comp=N,500μm,0.3s						
SMIA				AML	AML	04 55 60.0	
	comp=E,458μm,0.4s						
ATAL	**Atalanti**	**0.33**	**285**	P	Pg	04 55 51.6	-0.8
ATAL				S	Sg	04 55 56.2	-0.5
ATAL				AML	AML	04 55 58.3	
	comp=E,152μm,0.2s						
ATAL				AML	AML	04 55 58.5	
	comp=N,159μm,0.1s						
LKR	**Lokris**	**0.34**	**278**	P	Pg	04 55 51.9	-0.6
LKR				S	Sg	04 55 56.9	0.0
LKR				AML	AML	04 55 57.6	
	comp=N,259μm,0.1s						
LKR				AML	AML	04 55 58.3	
	comp=E,279μm,0.1s						
VIL2	**Platees**	**0.41**	**197**	P	Pg	04 55 54.2	+0.3
VIL2				S	Sb	04 56 01.3	-0.3
VIL2				AML	AML	04 56 02.7	
	comp=N,141μm,0.3s						
VIL2				AML	AML	04 56 05.4	
	comp=E,129μm,0.5s						
EREA	**Eretria**	**0.44**	**115**	P	Pg	04 55 54.2	-0.2
EREA				S	Sg	04 56 00.3	+0.1
EREA				AML	AML	04 56 01.9	
	comp=E,190μm,0.3s						
EREA				AML	AML	04 56 02.6	
	comp=N,245μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.53**	**87**	P	Pg	04 55 55.7	-0.4
KYMI				S	Sg	04 56 03.4	+0.3
DION	**Dionisos Attik**	**0.66**	**143**	P	Pg	04 55 58.3	-0.3
DION				S	Sg	04 56 07.0	-0.3
DION				AML	AML	04 56 10.5	
	comp=N,281μm,0.4s						
DION				AML	AML	04 56 11.0	
	comp=E,356μm,0.4s						
LTK	**Loutraki**	**0.68**	**212**	P	Pg	04 55 58.6	-0.5
LTK				S	Sb	04 56 08.7	-0.7
ATHU	**Athens Univers**	**0.70**	**156**	P	Pg	04 55 58.1	-1.2
LOUT	**Loutraki**	**0.71**	**210**	P	Pb	04 56 00.1	-0.3
LOUT				S	Sg	04 56 09.4	+0.6
NEO	**Neokhori**	**0.72**	**347**	P	Pg	04 55 59.5	-0.2
NEO				S	Sg	04 56 09.0	0.0
NEO				AML	AML	04 56 12.7	
	comp=E,193μm,0.2s						
NEO				AML	AML	04 56 12.9	
	comp=N,170μm,0.3s						
XOR	**Xorichti**	**0.78**	**347**	P	Pg	04 56 00.4	-0.5
XOR				S	Sg	04 56 11.1	+0.1
VLY	**Voula,Athens**	**0.81**	**159**	P	Pg	04 56 01.5	+0.2
VLY				S	Sg	04 56 11.5	-0.4
VLY				AML	AML	04 56 14.8	
	comp=E,300μm,0.3s						
VLY				AML	AML	04 56 15.6	
	comp=N,180μm,0.3s						
SKY	**Skiros Island**	**0.92**	**73**	P	Pg	04 56 03.7	+0.2
SKY				S	Sg	04 56 15.8	+0.3
KARY	**Karystos**	**0.98**	**125**	P	Pg	04 56 04.3	-0.3
TRIZ	**Trizonia**	**1.09**	**258**	P	Pg	04 56 06.0	-0.7
KLV	**Kalavryta, Ach**	**1.15**	**241**	P	Pb	04 56 07.4	-0.4

*SIGU **09** 04:57:24.5,45.56N×26.34E,h147km,mb3.5*
*IDC **09** 04:57:25.4±1.1,45.65N×26.48E,h132km±10km,mb3.2/1, mb1 3.0/7,mb1mx2.8/49,mbtmp3.4/7,Error ellipse:*
s-maj=24.9km s-min=18.1km az=93.0
*BUC **09** 04:57:25.4±0.3,45.55N×26.34E,h140km±2km,ml4.1/41, Error ellipse: s-maj=2.0km s-min=1.5km az=159.0*
*SOF **09** 04:57:26.3,45.54N×26.32E,h100km,MD3.5*

ISC 09 04:57:25.0±0.9,**45.56N**±0.03×**26.35E**±0.03,**h148**km±5km, **n130,**σ0**8**4/205,**121C-63D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.14**	**196**	↑P	**Pn**	**04 57 44.9**	**-0.1**
NEHR				↑S	**Sn**	**04 57 59.6**	**-0.6**
NEHR	**Nehoiu**	**0.14**	**196**	↑P	**Pn**	**04 57 44.9**	**-0.1**
NEHR				↑S	**Sn**	**04 57 59.6**	**-0.6**
BISRR	**Bisoca**	**0.25**	**93**	↑P	**Pn**	**04 57 45.5**	**+0.2**
BISRR				↑S	**Sn**	**04 57 59.5**	**-1.2**
BISRR	**Bisoca**	**0.25**	**93**	↑P	**Pn**	**04 57 45.5**	**+0.2**
BISRR				↑S	**Sn**	**04 57 59.5**	**-1.2**
MLR	**Muntele Rosu**	**0.29**	**256**	↑P	**Pn**	**04 57 45.2**	**-0.3**
MLR				↑S	**Sn**	**04 57 59.7**	**-1.3**
MLR	**Muntele Rosu**	**0.29**	**256**	P	**Pn**	**04 57 44.8**	**-0.7**
	23nm,0.3s,baz=360,slow=19,SNR=168						
MLR				S	**Sn**	**04 58 00.3**	**-0.8**
	123nm,0.3s,baz=342,slow=20,SNR=57						
MLR	**Muntele Rosu**	**0.29**	**256**	↑P	**Pn**	**04 57 45.2**	**-0.3**
MLR				↑S	**Sn**	**04 57 59.7**	**-1.3**
PLOR	**Plostina**	**0.36**	**36**	↑P	**Pn**	**04 57 45.1**	**-0.5**
PLOR				↓S	**Sn**	**04 58 00.4**	**-0.9**
PLOR	**Plostina**	**0.36**	**36**	↑P	**Pn**	**04 57 45.1**	**-0.5**
PLOR				↓S	**Sn**	**04 58 00.4**	**-0.9**
VRI	**Vrincioaia**	**0.40**	**41**	↓P	**Pn**	**04 57 45.5**	**-0.3**
VRI				↓S	**Sn**	**04 58 00.6**	**-0.9**
VRI	**Vrincioaia**	**0.40**	**41**	↓P	**Pn**	**04 57 45.5**	**-0.3**
VRI				↓S	**Sn**	**04 58 00.6**	**-0.9**
ISR	**Istrita**	**0.46**	**163**	↑P	**Pn**	**04 57 46.1**	**+0.1**
ISR				↑S	**Sn**	**04 58 01.6**	**-0.4**
ISR	**Istrita**	**0.46**	**163**	↑S	**Sn**	**04 58 01.6**	**-0.4**
ISR	**Istrita**	**0.46**	**163**	↑P	**Pn**	**04 57 46.1**	**+0.1**
GRER		**0.47**	**112**	↑P	**Pn**	**04 57 47.0**	**+1.0**
GRER				↑S	**Sn**	**04 58 01.0**	**-1.0**
GRER		**0.47**	**112**	↑P	**Pn**	**04 57 47.0**	**+1.0**
GRER				↓S	**Sn**	**04 58 01.0**	**-1.0**
ODBI	**Odobesti**	**0.54**	**67**	↑P	**Pn**	**04 57 47.1**	**+0.8**
ODBI				↑S	**Sn**	**04 58 02.0**	**-0.5**
ODBI	**Odobesti**	**0.54**	**67**	↑P	**Pn**	**04 57 47.1**	**+0.8**
ODBI				↑S	**Sn**	**04 58 02.0**	**-0.5**
SECR		**0.56**	**201**	↓P	**Pn**	**04 57 46.6**	**+0.1**
SECR				↑S	**Sn**	**04 58 02.8**	**0.0**
SECR		**0.56**	**201**	↓P	**Pn**	**04 57 46.6**	**+0.1**
SECR				↑S	**Sn**	**04 58 02.8**	**0.0**
PETR	**Petresti**	**0.64**	**75**	↑P	**Pn**	**04 57 47.3**	**+0.4**
PETR				↑S	**Sn**	**04 58 03.8**	**+0.2**
PETR	**Petresti**	**0.64**	**75**	↑P	**Pn**	**04 57 47.3**	**+0.4**
PETR				↑S	**Sn**	**04 58 03.8**	**+0.2**
OZUR		**0.67**	**324**	↑P	**Pn**	**04 57 46.6**	**-0.6**
OZUR				↑S	**Sn**	**04 58 02.9**	**-1.2**
OZUR		**0.67**	**324**	↑P	**Pn**	**04 57 46.6**	**-0.6**
OZUR				↑S	**Sn**	**04 58 02.9**	**-1.2**
PLAR	**PLOIESTI**	**0.69**	**200**	↑P	**Pn**	**04 57 47.4**	**+0.1**
PLAR				↑S	**Sn**	**04 58 02.5**	**-1.6**
PLAR	**PLOIESTI**	**0.69**	**200**	↓P	**Pn**	**04 57 47.4**	**+0.1**
PLAR				↑S	**Sn**	**04 58 02.5**	**-1.6**
DOPR	**Dopca**	**0.79**	**302**	↓P	**Pn**	**04 57 47.5**	**-0.5**
DOPR	**Dopca**	**0.79**	**302**	↓P	**Pn**	**04 57 47.5**	**-0.5**
PGOR	**Pogoanele**	**0.79**	**145**	↓P	**Pn**	**04 57 48.0**	**+0.1**
PGOR				↑S	**Sn**	**04 58 04.8**	**-0.6**
PGOR	**Pogoanele**	**0.79**	**145**	↓P	**Pn**	**04 57 48.0**	**+0.1**
PGOR				↑S	**Sn**	**04 58 04.8**	**-0.6**
SULR		**0.89**	**184**	↑P	**Pn**	**04 57 48.7**	**0.0**
SULR				↑S	**Sn**	**04 58 06.4**	**-0.2**
SULR		**0.89**	**184**	↑S	**Sn**	**04 58 06.4**	**-0.2**
SULR		**0.89**	**184**	↑P	**Pn**	**04 57 48.7**	**0.0**
GHRR		**0.89**	**56**	↓P	**Pn**	**04 57 48.9**	**+0.2**
GHRR		**0.89**	**56**	↓P	**Pn**	**04 57 48.9**	**+0.2**
VOIR		**0.92**	**263**	↑P	**Pn**	**04 57 48.3**	**-0.8**
VOIR				↑S	**Sn**	**04 58 06.3**	**-1.1**
VOIR		**0.92**	**263**	↑P	**Pn**	**04 57 48.3**	**-0.8**
VOIR				↑S	**Sn**	**04 58 06.3**	**-1.1**
TUDR		**0.93**	**87**	↓P	**Pn**	**04 57 48.5**	**-0.5**
TUDR				↑S	**Sn**	**04 58 06.0**	**-1.2**
TUDR		**0.93**	**87**	↓P	**Pn**	**04 57 48.5**	**-0.5**
TUDR				↑S	**Sn**	**04 58 06.0**	**-1.2**
MTUR	**Matau**	**0.97**	**250**	↑P	**Pn**	**04 57 49.1**	**-0.3**
MTUR	**Matau**	**0.97**	**250**	↑P	**Pn**	**04 57 49.1**	**-0.3**
TESR	**Tescani**	**0.97**	**12**	↑P	**Pn**	**04 57 49.1**	**-0.3**
TESR				↑S	**Sn**	**04 58 06.3**	**-1.8**
TESR	**Tescani**	**0.97**	**12**	↑P	**Pn**	**04 57 49.1**	**-0.3**
TESR				↑S	**Sn**	**04 58 06.3**	**-1.8**
SCHL	**Schela**	**1.04**	**93**	↓P	**Pn**	**04 57 49.4**	**-0.5**
SCHL				↑S	**Sn**	**04 58 07.4**	**-1.6**
SCHL	**Schela**	**1.04**	**93**	↓P	**Pn**	**04 57 49.4**	**-0.5**
SCHL				↑S	**Sn**	**04 58 07.4**	**-1.6**
VARL	**Varlezi**	**1.10**	**72**	↑P	**Pn**	**04 57 50.4**	**0.0**
VARL				↑S	**Sn**	**04 58 09.1**	**-0.8**
VARL	**Varlezi**	**1.10**	**72**	↑P	**Pn**	**04 57 50.4**	**0.0**
VARL				↓S	**Sn**	**04 58 09.1**	**-0.8**
LEHL	**Lehliu**	**1.14**	**163**	↓P	**Pn**	**04 57 50.7**	**-0.1**
LEHL				↑S	**Sn**	**04 58 11.0**	**+0.5**
LEHL	**Lehliu**	**1.14**	**163**	↓P	**Pn**	**04 57 50.7**	**-0.1**
LEHL				↑S	**Sn**	**04 58 11.0**	**+0.5**
BIR	**Birlad**	**1.14**	**51**	↑P	**Pn**	**04 57 50.9**	**+0.1**
BIR				↓S	**Sn**	**04 58 10.3**	**-0.2**
BIR	**Birlad**	**1.14**	**51**	↑P	**Pn**	**04 57 50.9**	**+0.1**
BIR				↓S	**Sn**	**04 58 10.3**	**-0.2**
AMRR	**Amara**	**1.18**	**143**	↑P	**Pn**	**04 57 51.1**	**-0.1**
AMRR	**Amara**	**1.18**	**143**	↑P	**Pn**	**04 57 51.1**	**-0.1**
GISR	**Galati**	**1.20**	**95**	↑S	**Sn**	**04 58 11.1**	**-0.4**
GISR	**Galati**	**1.20**	**95**	↑S	**Sn**	**04 58 11.1**	**-0.4**
STFAR	**Stefanesti-Arg**	**1.21**	**235**	↑P	**Pn**	**04 57 51.7**	**+0.2**
STFAR				↑S	**Sn**	**04 58 11.8**	**+0.1**
STFAR	**Stefanesti-Arg**	**1.21**	**235**	↑P	**Pn**	**04 57 51.7**	**+0.2**
STFAR				↑S	**Sn**	**04 58 11.8**	**+0.1**
ARR	**Arges**	**1.22**	**262**	↑P	**Pn**	**04 57 51.3**	**-0.4**
ARR	**Arges**	**1.22**	**262**	↑P	**Pn**	**04 57 51.3**	**-0.4**
BUC1	**Bucharest**	**1.23**	**191**	↓P	**Pn**	**04 57 51.6**	**-0.1**
BUC1				↑S	**Sn**	**04 58 11.1**	**-1.0**
BUC1	**Bucharest**	**1.23**	**191**	↓P	**Pn**	**04 57 51.6**	**-0.1**
BUC1				↑S	**Sn**	**04 58 11.1**	**-1.0**
GIUM	**Giurgiulesti**	**1.31**	**93**	↑P	**Pn**	**04 57 52.6**	**+0.1**
GIUM				↑S	**Sn**	**04 58 13.2**	**-0.2**
GIUM	**Giurgiulesti**	**1.31**	**93**	↑P	**Pn**	**04 57 52.6**	**+0.1**
GIUM				↑S	**Sn**	**04 58 13.2**	**-0.2**
CFR	**Carcaliu**	**1.32**	**106**	↓P	**Pn**	**04 57 51.9**	**-0.6**
CFR				↑S	**Sn**	**04 58 12.5**	**-1.0**
CFR	**Carcaliu**	**1.32**	**106**	↓P	**Pn**	**04 57 51.9**	**-0.6**
CFR				↑S	**Sn**	**04 58 12.5**	**-1.0**
SGRR	**Singureni**	**1.36**	**191**	↑P	**Pn**	**04 57 52.6**	**-0.5**
SGRR				↑S	**Sn**	**04 58 12.7**	**-1.7**
SGRR	**Singureni**	**1.36**	**191**	↑P	**Pn**	**04 57 52.6**	**-0.5**
SGRR				↑S	**Sn**	**04 58 12.7**	**-1.7**
BIZ	**Bicaz**	**1.39**	**353**	↑P	**Pn**	**04 57 54.1**	**+0.8**
BIZ	**Bicaz**	**1.39**	**353**	↑P	**Pn**	**04 57 54.1**	**+0.8**
GIRR	**Girov**	**1.40**	**4**	↑P	**Pn**	**04 57 53.8**	**+0.4**
GIRR	**Girov**	**1.40**	**4**	↑P	**Pn**	**04 57 53.8**	**+0.4**
HUMR	**Humele**	**1.42**	**224**	↑P	**Pn**	**04 57 53.0**	**-0.6**
HUMR				↑S	**Sn**	**04 58 14.0**	**-1.3**
HUMR	**Humele**	**1.42**	**224**	↑P	**Pn**	**04 57 53.0**	**-0.6**
HUMR				↑S	**Sn**	**04 58 14.0**	**-1.3**
HARR	**Harsova**	**1.42**	**127**	↓P	**Pn**	**04 57 53.2**	**-0.3**
HARR	**Harsova**	**1.42**	**127**	↓P	**Pn**	**04 57 53.2**	**-0.3**
RASA	**Rasa**	**1.46**	**157**	↓P	**Pn**	**04 57 53.6**	**-0.4**
RASA				↑S	**Sn**	**04 58 14.9**	**-1.3**
RASA	**Rasa**	**1.46**	**157**	↓P	**Pn**	**04 57 53.6**	**-0.4**
RASA				↑S	**Sn**	**04 58 14.9**	**-1.3**
VASR	**Vaslui**	**1.47**	**42**	↑P	**Pn**	**04 57 54.1**	**0.0**
VASR				↑S	**Sn**	**04 58 15.3**	**-1.2**
VASR	**Vaslui**	**1.47**	**42**	↑P	**Pn**	**04 57 54.1**	**0.0**
VASR				↑S	**Sn**	**04 58 15.3**	**-1.2**
MDB	**Medias**	**1.49**	**294**	↓P	**Pn**	**04 57 54.8**	**+0.5**
MDB	**Medias**	**1.49**	**294**	↓P	**Pn**	**04 57 54.8**	**+0.5**
TLBR	**Topalu**	**1.57**	**130**	↓P	**Pn**	**04 57 54.9**	**-0.3**
TLBR	**Topalu**	**1.57**	**130**	↓P	**Pn**	**04 57 54.9**	**-0.3**
TPGR	**Topolog**	**1.62**	**115**	↓P	**Pn**	**04 57 55.1**	**-0.6**
TPGR				↑S	**Sn**	**04 58 18.4**	**-0.9**
TPGR	**Topolog**	**1.62**	**115**	↓P	**Pn**	**04 57 55.1**	**-0.6**
TPGR				↑S	**Sn**	**04 58 18.4**	**-0.9**
COPA	**Copaceanca**	**1.64**	**210**	↑P	**Pn**	**04 57 55.3**	**-0.6**
COPA				↑S	**Sn**	**04 58 18.8**	**-0.8**
COPA	**Copaceanca**	**1.64**	**210**	↑P	**Pn**	**04 57 55.3**	**-0.6**
COPA				↑S	**Sn**	**04 58 18.8**	**-0.8**
CVDA	**Cernavoda**	**1.71**	**135**	↓P	**Pn**	**04 57 56.6**	**-0.2**
CVDA				↓S	**Sn**	**04 58 20.0**	**-1.1**
CVDA	**Cernavoda**	**1.71**	**135**	↓P	**Pn**	**04 57 56.6**	**-0.2**
CVDA				↓S	**Sn**	**04 58 20.0**	**-1.1**
TLCR		**1.78**	**101**	↑P	**Pn**	**04 57 57.1**	**-0.3**
TLCR				↓S	**Sn**	**04 58 21.9**	**-0.4**
TLCR		**1.78**	**101**	↑P	**Pn**	**04 57 57.1**	**-0.3**
TLCR				↓S	**Sn**	**04 58 21.9**	**-0.4**
LOT	**Lotru**	**1.82**	**267**	↑S	**Sn**	**04 58 22.9**	**-0.5**
LOT	**Lotru**	**1.82**	**267**	↑S	**Sn**	**04 58 22.9**	**-0.5**
TIRR	**Tirgusor**	**1.83**	**126**	↓P	**Pn**	**04 57 57.8**	**-0.3**
TIRR	**Tirgusor**	**1.83**	**126**	↓P	**Pn**	**04 57 57.8**	**-0.3**
JURR	**Jurilovca**	**1.96**	**113**	↑P	**Pn**	**04 57 59.5**	**0.0**
JURR	**Jurilovca**	**1.96**	**113**	↑P	**Pn**	**04 57 59.5**	**0.0**
TSCT	**Constanta Port**	**2.16**	**130**	↑P	**Pn**	**04 58 01.6**	**-0.3**
TSCT	**Constanta Port**	**2.16**	**130**	↑P	**Pn**	**04 58 01.6**	**-0.3**
BURAR	**Bucovina Array**	**2.20**	**340**	↑P	**Pn**	**04 58 03.7**	**+1.3**
BURAR	**Bucovina Array**	**2.20**	**340**	↑P	**Pn**	**04 58 03.7**	**+1.3**
KIS	**Kishinev**	**2.23**	**49**	↓*i*P	**Pn**	**04 58 02.8**	**+0.1**
	3μm,0.1s						
KIS				*e*S	**Sn**	**04 58 27.7**	**-4.2**
	12μm,0.4s						
KIS	**Kishinev**	**2.23**	**49**	↓P	**Pn**	**04 58 02.8**	**+0.1**
KIS				↑S	**Sn**	**04 58 30.5**	**-1.3**
KIS	**Kishinev**	**2.23**	**49**	↓P	**Pn**	**04 58 02.8**	**+0.1**
KIS				↑S	**Sn**	**04 58 30.5**	**-1.3**
KIS	**Kishinev**	**2.23**	**49**	↑*i*P	**Pn**	**04 58 02.8**	**+0.1**
KIS				Pm		04 58 03.0	
KIS				*e*S	**Sn**	**04 58 28.3**	**-3.5**
KIS				Sm		04 58 28.5	
KIS				m		04 58 32.0	
SZH	**Strazhica**	**2.31**	**188**	*i* P	**Pn**	**04 58 03.2**	**-0.6**
SRE	**Strehaia**	**2.40**	**249**	↓S	**Sn**	**04 58 33.5**	**-1.9**
SRE	**Strehaia**	**2.40**	**249**	↓S	**Sn**	**04 58 33.5**	**-1.9**
PRD	**Provadia**	**2.48**	**162**	*i* P	**Pn**	**04 58 05.8**	**+0.1**
GZR	**Gura Zlata**	**2.52**	**267**	↑P	**Pn**	**04 58 06.2**	**-0.2**
GZR				↑S	**Sn**	**04 58 38.0**	**-0.2**
GZR	**Gura Zlata**	**2.52**	**267**	↑P	**Pn**	**04 58 06.2**	**-0.2**
GZR				↑S	**Sn**	**04 58 38.0**	**-0.2**
ROIA	**ROIAK**	**2.58**	**163**	*i* P	**Pn**	**04 58 06.9**	**-0.1**
DRGR		**2.81**	**297**	↓P	**Pn**	**04 58 09.4**	**-0.5**
DRGR		**2.81**	**297**	↓P	**Pn**	**04 58 09.4**	**-0.5**
RAKU	**Rahkiv**	**2.89**	**329**	*e*P	**Pn**	**04 58 10.7**	**-0.1**
RAKU				*i* S	**Sn**	**04 58 46.1**	**-0.2**
KSV	**Kosov**	**2.89**	**343**	↑*i*P	**Pn**	**04 58 11.5**	**+0.6**
SORM	**Soroca**	**2.92**	**27**	↑P	**Pn**	**04 58 10.7**	**-0.5**
SORM	**Soroca**	**2.92**	**27**	↑P	**Pn**	**04 58 10.7**	**-0.5**
NDNU	**Novodnistrovsk**	**3.11**	**13**	*i* P	**Pn**	**04 58 13.5**	**-0.2**
NDNU				*e*S	**Sn**	**04 58 51.5**	**+0.1**
MDVR	**Moldovita**	**3.37**	**258**	↓P	**Pn**	**04 58 16.7**	**-0.4**
MDVR	**Moldovita**	**3.37**	**258**	↓P	**Pn**	**04 58 16.7**	**-0.4**
HORU	**Horodok**	**3.66**	**1**	↑*i*P	**Pn**	**04 58 20.7**	**0.0**
HORU				Pm		04 58 20.8	
HORU				*i* S	**Sn**	**04 59 04.3**	**+0.4**
HORU				Sm		04 59 05.8	
KOLS	**Kolonicke sedl**	**4.37**	**322**	*e*P	**Pn**	**04 58 30.6**	**+0.6**
AKASG	**Malin Array Be**	**5.49**	**19**	P	**Pn**	**04 58 43.9**	**-0.9**
	2.1nm,0.3s,baz=204,slow=12,SNR=13						
AKASG				S	**Sn**	**04 59 44.3**	**-2.8**
	1.8nm,0.3s,baz=201,slow=21,SNR=5.1						
**B

comp=Z,152nm,18.7s,baz=95,slow=36
FITZ Fitzroy Crossi 51.28 275 P **P** **05 21 18.6 -0.6**
2.8nm,0.9s,baz=144,slow=8.7,SNR=2.9
FITZ LR LR 05 43 19.1
comp=Z,85nm,18.4s,baz=139,slow=36
H03N3 Juan Fernandez 78.62 123 T T 06 51 10.9
baz=236,slow=72,SNR=5.3
H03N2 Juan Fernandez 78.63 123 T T 06 51 08.3
baz=236,slow=72,SNR=3.7
H03N1 Juan Fernandez 78.64 123 T T 06 51 02.9
baz=236,slow=72,SNR=4.3
PETK Petropavlovsk- 91.09 347 P **P** **05 25 20.1 +1.4**
1.2nm,0.5s,baz=142,slow=7.4,SNR=3.6
CMAR Chiang Mai Arr 94.06 290 LR LR 06 11 27.0
comp=Z,27nm,18.1s,baz=180,slow=38
MKAR Makanchi Array 120.36 308 PKP **PKiKP** **05 31 06.6 +1.2**
0.2nm,0.5s,baz=50,slow=2.3,SNR=1.1
FINES FINESS Array B 149.98 335 PKPbc **PKiKP** **05 32 05.3 +0.4**
1.3nm,0.5s,baz=29,slow=4.4,SNR=8.2
BRTR Keskin Array B 153.64 288 PKPbc **PKiKP** **05 32 14.0 +0.6**
1.3nm,0.7s,baz=149,slow=4.1,SNR=6.7
BRTR PKPab **sPKPdf** **05 32 24.8 +0.9**
0.6nm,0.5s,baz=137,slow=5.0,SNR=3.7
AKASG Malin Array Be 154.74 314 PKPbc **PKiKP** **05 32 15.3 +0.3**
0.2nm,0.3s,baz=59,slow=2.7,SNR=1.0

*IDC **09** 05:17:30.6±2.1,1˝.88N×127˝.00E,h0km,mb3.9/3,*
mb1 4.2/3,mb1mx3.5/41,mbtmp4.0/3,MS2.8/1,Ms1 2.8/1,
ms1mx2.3/33,Error ellipse: s-maj=176.9km s-min=24.4km az=66.0
*DJA **09** 05:17:37.0±0.7,2˚N±3˝×12˚7E±˚,h54km±17km,M3.7/7,*
MLv3.7/7
ISC 09 05:17:37.1±1.1,1˚.71N±0˝.06×126˚.62E±0˝.07,h47km,n11,
σ1§24/12,mb3.9/3,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.19**	**141**	P	**Pn**	**05 17 56.8**	**-0.6**
TNTI				S	**Sn**	**05 18 13.6**	**+1.1**
SGSI	**Sangihe**	**2.25**	**331**	P	**Pn**	**05 18 11.1**	**-0.8**
SGSI				S	**Sn**	**05 18 39.0**	**+0.6**
LBMI	**Labuha**	**2.49**	**159**	P	**Pn**	**05 18 15.4**	**+0.2**
LBMI				S	**Sn**	**05 18 44.4**	**0.0**
KMSI	**Cibinong**	**2.87**	**247**	P	**Pn**	**05 18 19.5**	**-0.8**
KMSI				S	**Sn**	**05 18 55.1**	**+1.5**
GTOI	**Gorontalo**	**3.76**	**254**	P	Pn	05 18 34.7	+2.1
SANI	**Sanana**	**3.78**	**190**	P	**Pn**	**05 18 31.9**	**-1.1**
MRSI	**Marisa**	**4.83**	**255**	P	Pn	05 18 47.4	0.0
KAPI	**Kappang**	**9.57**	**226**	LR	LR	05 24 28.0	
	comp=Z,53nm,21.2s,baz=77,slow=42						
WRA	**Warramunga Arr**	**22.81**	**161**	P	**P**	**05 22 34.0**	**-2.2**
	4.1nm,0.8s,baz=340,slow=11,SNR=13						
ASAR	**Alice Springs**	**26.20**	**165**	P	**P**	**05 23 09.2**	**+1.5**
	2.3nm,0.8s,baz=350,slow=13,SNR=12						
MKAR	**Makanchi Array**	**59.15**	**326**	P	**P**	**05 27 33.6**	**+0.5**
	1.1nm,0.8s,baz=124,slow=6.8,SNR=7.9						

*IDC **09** 05:36:55.0±1.7,5˚.40S×151˚.82E,h0km,mb4.2/7,*
mb1 4.4/8,mb1mx4.1/31,mbtmp4.2/8,ML2.2/1,MS3.0/4,
Ms1 3.0/4,ms1mx2.6/33,Error ellipse: s-maj=61.3km
s-min=18.8km az=121.0
*NEIC **09** 05:36:59.4±1.1,5˚.58S±0˝.09×152˚.08E±0˝.08,h35km±2km,*
mb4.3/6,Error ellipse: s-maj=19.3km s-min=4.8km
az=139.0
ISC 09 05:37:00.4±1.1,5˚.6S±0˝.1×152˚.0E±0˝.2,h45km,n19,
σ1§16/17,mb4.2/9,MS3.0/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.35**	**7**		**Pn**	**05 37 21.8**	**-1.1**
MANU	**Manus Island**	**5.79**	**307**	Pn	**Pn**	**05 38 23.7**	**-0.1**
PMG	**Port Moresby**	**6.15**	**231**	Pn	**Pn**	**05 38 27.6**	**-1.1**
	3.7nm,0.3s,baz=324,slow=11,SNR=2.0						
PMG				Sn	**Sn**	**05 39 38.3**	**+0.5**
	3.0nm,0.3s,baz=147,slow=21,SNR=1.8						
PMG				LR	LR	05 40 06.0	
	comp=Z,48nm,18.4s,baz=59,slow=31						
DZM	**Mont Dzumac**	**21.56**	**141**	LR	LR	05 48 37.4	
	comp=Z,89nm,18.3s,baz=240,slow=32						
MTN	**Manton Dam**	**21.83**	**249**	P	**P**	**05 41 48.9**	**-0.2**
WRAB	**Tennant Creek**	**22.35**	**229**	P	**P**	**05 41 53.9**	**-0.7**
WRAB				IAmb	IAmb	05 42 10.0	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**22.36**	**229**	P	**P**	**05 41 54.2**	**-0.6**
	comp=Z,8.8nm,0.6s,baz=52,slow=10.0,SNR=51						
WRA				PcP	**PcP**	**05 45 52.3**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=51,slow=1.7,SNR=1.5						
KNRA	**Kununurra**	**24.93**	**244**	P	**P**	**05 42 18.9**	**-0.7**
AS31	**Alice Springs**	**25.07**	**222**	P	**P**	**05 42 20.7**	**-0.1**
AS31				IAmb	IAmb	05 42 24.0	
	comp=Z,6.3nm,0.8s						
ASAR	**Alice Springs**	**25.07**	**222**	P	**P**	**05 42 20.9**	**+0.1**
	comp=Z,16nm,0.7s,baz=55,slow=9.1,SNR=104						
FITZ	**Fitzroy Crossi**	**28.61**	**242**	P	**P**	**05 42 51.8**	**-0.9**
	comp=Z,8.9nm,0.7s,baz=57,slow=8.0,SNR=28						
FORT	**Forrest**	**33.71**	**219**	P	**P**	**05 43 37.0**	**-0.5**
MJAR	**Matsushiro Arr**	**43.81**	**344**	LR	LR	06 02 27.1	
	comp=Z,14nm,18.6s,baz=175,slow=35						
USRK	**Ussuriysk Ar.**	**52.70**	**342**	P	**P**	**05 46 09.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=119,slow=9.0,SNR=2.0						
PETK	**Petropavlovsk-**	**58.63**	**4**	LR	LR	06 10 48.5	
	comp=Z,12nm,18.8s,baz=74,slow=35						
SONM	**Songino Array**	**66.53**	**328**	P	**P**	**05 47 45.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=148,slow=6.5,SNR=3.5						
SONM	**Songino Array**	**66.53**	**328**	IAmb	IAmb	05 47 47.7	
	comp=Z,3.1nm,1.4s						
MKAR	**Makanchi Array**	**80.37**	**319**	P	**P**	**05 49 08.5**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=95,slow=7.1,SNR=1.9						
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**05 49 21.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=248,slow=5.0,SNR=11						

*ISK **09** 05:48:58.9,38˚.74N×40˚.20E,h11km,ML2.4/8*
*DDA **09** 05:49:00.3,38˚.70N×40˚.27E,h7km±3km,ML2.5*
ISC 09 05:48:59.6±1.1,38˚.73N±0˝.03×40˚.22E±0˝.03,h10km±11km,
n17,σ0§48/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.32**	**266**	*i* P	**Pb**	**05 49 07.3**	**-0.2**
KOVA				*i* S	**Sb**	**05 49 13.8**	**+1.0**
BNGB	**Bingl**	**0.44**	**54**	PG	**Pg**	**05 49 08.3**	**0.0**
BNGB				SG	**Sg**	**05 49 15.1**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.66**	**306**	*i* P	**Pg**	**05 49 12.1**	**-0.2**
TNCL				*i* S	**Sg**	**05 49 21.8**	**+0.8**
SLHN	**Bingol, Solhan**	**0.67**	**70**	*i* P	**Pg**	**05 49 12.8**	**+0.2**
SLHN				*i* S	**Sb**	**05 49 22.5**	**-0.2**
SLHN				IAML		05 49 23.0	
	comp=E,204nm,0.6s						
YEDI	**Yedisu-Bingol**	**0.75**	**19**	PG	**Pg**	**05 49 13.8**	**-0.3**
DYBB	**Diyarbakir**	**0.78**	**185**	PG	**Pg**	**05 49 14.6**	**0.0**
DYBB				SG	**Sb**	**05 49 26.1**	**+0.3**
ERZN	**Erzincan**	**0.94**	**336**	PG	**Pg**	**05 49 16.8**	**-0.9**
ERZN				SG	**Sg**	**05 49 30.2**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.96**	**127**	*i* P	**Pg**	**05 49 17.2**	**-0.8**
SVAN				*i* S	**Sb**	**05 49 31.0**	**-0.1**
SVAN	**Silvan-Diyarba**	**0.96**	**127**	PG	**Pg**	**05 49 17.9**	**-0.2**
MUSM	**Mu-Merkez**	**1.01**	**90**	*i* P	**Pg**	**05 49 18.8**	**-0.2**
MUSM				*i* S	**Sb**	**05 49 32.5**	**-0.1**
BTMN	**Batman**	**1.17**	**135**	*i* P	**Pb**	**05 49 21.7**	**-0.3**
BTMN				*i* S	**Sn**	**05 49 38.2**	**0.0**
BTMN				IAML		05 49 39.0	
	comp=N,185nm,0.3s						
MAZI	**Mazidag**	**1.28**	**172**	PN	**Pn**	**05 49 23.3**	**-0.3**
MAZI				SN	**Sn**	**05 49 41.5**	**+0.6**
MALT	**Malatya**	**1.47**	**254**	PN	**Pn**	**05 49 26.0**	**-0.2**
MARD	**Mardin**	**1.48**	**163**	*i* P	**Pn**	**05 49 26.4**	**0.0**
MARD				*i* S	**Sb**	**05 49 46.3**	**+0.2**
MARD				IAML		05 49 48.0	
	comp=N,211nm,0.4s						
SRTM	**Siirt_Merkez**	**1.52**	**118**	*i* P	**Pn**	**05 49 27.2**	**+0.2**
SRTM				*i* S	**Sg**	**05 49 48.2**	**-0.5**
SRTM				IAML		05 49 50.0	
	comp=E,61nm,0.3s						
MIDY	**Mardin/Midyat-**	**1.61**	**145**	*i* P	**Pn**	**05 49 28.4**	**+0.3**
MIDY				*i* S	**Sb**	**05 49 50.3**	**+0.3**
MIDY				IAML		05 49 51.0	
	comp=N,81nm,0.2s						
URFA	**Urfa**	**1.70**	**221**	PN	**Pn**	**05 49 28.8**	**-0.5**

*ISK **09** 05:53:31.5,39˚.03N×44˚.21E,h1km,ML2.7/6*
*DDA **09** 05:53:32.0,39˚.05N×44˚.19E,h7km±3km,ML2.5*
ISC 09 05:53:31.7±1.2,39˚.02N±0˝.02×44˚.23E±0˝.05,h9km±9km,
n17,σ0§79/33,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.27**	**297**	*i* P	**Pg**	**05 53 37.1**	**-0.2**
CLDR				*i* S	**Sg**	**05 53 40.8**	**-0.2**
CLDR				IAML		05 53 43.0	
	comp=N,1μm,0.2s						
CLDR				IAML		05 53 43.0	
	comp=E,2μm,0.3s						
CLDR	**Caldiran**	**0.27**	**297**	PG	**Pg**	**05 53 37.1**	**-0.2**
CLDR				SG	**Sg**	**05 53 41.9**	**+0.9**
OZAP	**Van, Ozalp-Mer**	**0.40**	**207**	*i* P	**Pg**	**05 53 40.4**	**+0.7**
OZAP				*i* S	**Sg**	**05 53 43.9**	**-1.1**
OZAP				IAML		05 53 52.0	
	comp=N,433nm,0.8s						
OZAP				IAML		05 53 52.0	
	comp=E,392nm,1.0s						
VMUR	**Van-Muradiye**	**0.51**	**267**	*i* P	**Pb**	**05 53 42.2**	**-0.8**
VMUR				*i* S	**Sg**	**05 53 49.0**	**+0.5**
VMUR				IAML		05 53 53.0	
	comp=E,312nm,0.3s						
VMUR				IAML		05 53 54.0	
	comp=N,304nm,0.8s						
DYDN	**Diyadin**	**0.67**	**321**	*i* P	**Pb**	**05 53 45.5**	**-0.3**
DYDN				*i* S	**Sg**	**05 53 53.2**	**-0.3**
DYDN				IAML		05 53 56.0	
	comp=E,251nm,0.3s						
DYDN				IAML		05 53 57.0	
	comp=N,227nm,0.5s						
VANB	**Van**	**0.78**	**237**	PG	**Pb**	**05 53 48.3**	**+0.7**
VANB				SG	**Sn**	**05 54 00.6**	**-0.4**
TVAN	**Van**	**0.81**	**233**	*i* P	**Pb**	**05 53 48.5**	**+0.4**
TVAN				*i* S	**Sb**	**05 53 59.8**	**+0.5**
TVAN				IAML		05 54 03.0	
	comp=N,325nm,0.6s						
TVAN				IAML		05 54 10.0	
	comp=E,245nm,0.5s						
IGDI	**IGDIR**	**0.85**	**352**	*i* P	**Pn**	**05 53 49.6**	**-0.5**
IGDI				*i* S	**Sb**	**05 54 00.0**	**-0.4**
BASK	**Baskale_VAN**	**0.98**	**190**	*i* P	**Pg**	**05 53 50.8**	**+0.2**
BASK				*i* S	**Sg**	**05 54 02.9**	**-0.4**
BASK				IAML		05 54 07.0	
	comp=N,150nm,0.6s						
BASK				IAML		05 54 08.0	
	comp=E,170nm,0.3s						
AGRB	**Hanur-Agry**	**1.11**	**300**	PN	**Pn**	**05 53 53.9**	**+0.2**
AGRB				SN	**Sn**	**05 54 09.6**	**+0.4**
KOTA	**Agri, Merkez-K**	**1.11**	**315**	*i* P	**Pn**	**05 53 53.9**	**+0.1**
KOTA				*i* S	**Sb**	**05 54 07.5**	**-0.5**
ADCV	**BITLIS_Adilcev**	**1.19**	**260**	*i* P	**Pb**	**05 53 54.7**	**+0.1**
ADCV				*i* S	**Sg**	**05 54 09.3**	**-0.8**
GNI	**Garni**	**1.20**	**19**	PN	**Pn**	**05 53 55.5**	**+0.7**
GNI				SN	**Sn**	**05 54 12.4**	**+1.1**
AKDM	**Akdamar-Van**	**1.20**	**235**	PN	**Pb**	**05 53 55.0**	**+0.3**
AKDM				SN	**Sn**	**05 54 12.7**	**+1.3**
YOVA	**Hakkari_Yksek**	**1.43**	**178**	*i* P	**Pn**	**05 53 58.9**	**+0.8**
YOVA				*i* S	**Sb**	**05 54 14.9**	**-2.2**
HAKT	**HAKKARI**	**1.52**	**196**	*i* P	**Pb**	**05 54 00.5**	**+0.4**
HAKT				*i* S	**Sn**	**05 54 17.9**	**-1.5**
CUKT	**Cukurca**	**1.84**	**196**	PN	**Pb**	**05 54 05.6**	**0.0**

IDC 09 05:59:59.8±14.0,7˚.63S×128˚.06E,h128km±153km,
mb3.3/3,mb1 3.4/5,mb1mx3.2/36,mbtmp3.6/5,ML3.4/2,
Error ellipse: s-maj=122.0km s-min=56.5km az=47.0,
Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.67**	**154**	P	Pn	06 03 06.5	-1.9
	0.1nm,0.3s,baz=329,slow=13,SNR=2.6						
WRA				S	Sn	06 05 30.5	-9.0
	0.9nm,0.3s,baz=319,slow=24,SNR=13						
ASAR	**Alice Springs**	**16.90**	**161**	P	Pn	06 03 50.0	+1.3
	0.2nm,0.3s,baz=335,slow=9.8,SNR=20						
ASAR				S	Sn	06 06 50.9	-6.4
	0.2nm,0.3s,baz=342,slow=26,SNR=8.2						
SONM	**Songino Array**	**58.45**	**343**	P	P	06 09 42.9	+0.6
	0.3nm,0.4s,baz=165,slow=6.0,SNR=1.8						
MKAR	**Makanchi Array**	**67.71**	**328**	P	P	06 10 43.0	-0.4
	0.3nm,0.7s,baz=127,slow=6.4,SNR=4.0						
ILAR	**Eielson Array**	**94.73**	**25**	P	P	06 13 05.8	-0.5
	0.4nm,0.9s,baz=236,slow=6.4,SNR=4.1						

IDC 09 06:08:07.9±1.6,2˚.03N×124˚.46E,h0km,mb3.7/5,
mb1 3.8/5,mb1mx3.5/44,mbtmp3.7/5,Error ellipse:
s-maj=131.0km s-min=26.1km az=73.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.04**	**177**	P	P	06 12 43.0	+0.4
	2.5nm,1.1s,baz=331,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**23.89**	**157**	P	P	06 13 23.9	+0.4
	0.4nm,0.8s,baz=333,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**27.15**	**161**	P	P	06 13 54.0	+0.9
	0.2nm,0.3s,baz=341,slow=7.0,SNR=6.7						
STKA	**Stephens Creek**	**37.44**	**156**	P	P	06 15 21.5	-1.6
	2.8nm,0.8s,baz=338,slow=7.6,SNR=3.0						
TLY	**Talaya**	**52.47**	**344**	P	P	06 17 22.3	-0.2
	2.9nm,0.6s,baz=82,slow=7.1,SNR=1.7						

WEL 09 06:13:39.1,45˚S±6˚×16˚9E±1˚0,h7km±7km,M3.9/16,
ML4.0/16,MLv3.9/16,Error ellipse: s-maj=0.0km
s-min=0.0km az=78.8,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WKZ	**Wanaka**	**0.28**	**159**	P	Pb	06 13 46.6	+0.1
WKZ				S	Sb	06 13 51.1	-0.4
JCZ	**Jackson Bay**	**0.49**	**352**	P	Pg	06 13 49.0	+0.3
EAZ	**Earnscleugh**	**0.73**	**156**	P	Pb	06 13 54.0	+0.4
LBZ	**Lake Benmore**	**0.95**	**80**	P	Pn	06 13 58.8	-0.1
MLZ	**Mavora Lakes**	**0.97**	**214**	P	Pb	06 13 58.0	-0.2
FOZ	**Fox Glacier**	**1.23**	**34**	P	Pb	06 14 02.4	-0.3
ODZ	**Otahua Downs**	**1.35**	**112**	P	Pg	06 14 05.0	0.0
WHZ	**Wether Hill Ro**	**1.48**	**206**	P	Pb	06 14 07.0	0.0
TUZ	**Tuapeka**	**1.49**	**159**	P	Pg	06 14 08.1	+0.4
TMZ	**Timaru**	**1.54**	**84**	P	Pb	06 14 07.6	-0.3
GCSZ	**Gaunt Creek Bo**	**1.63**	**41**	P	Pb	06 14 09.3	-0.1
ARCZ	**Arundel**	**1.76**	**70**	P	Pn	06 14 10.7	+0.7
RPZ	**Rata Peaks**	**1.78**	**62**	P	Pb	06 14 11.2	-0.9
HHSZ	**Highcliff Hill**	**1.80**	**138**	P	Pb	06 14 12.5	+0.2
SYZ	**Scrubby Hill**	**1.98**	**175**	P	Pn	06 14 14.2	+1.2
WVZ	**Waitaha Valley**	**2.01**	**43**	P	Pb	06 14 15.4	-0.5
MHCZ	**Mount Hutt**	**2.20**	**63**	P	Pn	06 14 17.3	+1.2
WACZ	**Wakanui South**	**2.22**	**75**	P	Pn	06 14 17.2	+1.0
APZ	**The Paps**	**2.35**	**195**	P	Pn	06 14 19.3	+1.2
RACZ	**Rakaia**	**2.49**	**72**	P	Pb	06 14 24.6	+0.4
OXZ	**Oxford**	**2.60**	**63**	P	Pn	06 14 21.3	-0.2
MQZ	**McQueen's Vall**	**2.85**	**74**	P	Pn	06 14 25.1	+0.1
LTZ	**Lake Taylor**	**3.04**	**55**	P	Pn	06 14 30.2	+2.6
DSZ	**Dennistoun Nort**	**3.54**	**38**	P	Pn	06 14 35.1	+0.6
KHZ	**Kahutara**	**4.01**	**59**	P	Pb	06 14 46.9	-3.2
THZ	**Tophouse**	**4.06**	**48**	P	Pn	06 14 41.3	-0.4
QRZ	**Quartz Range**	**4.60**	**37**	P	Pn	06 14 49.5	+0.4
BSWZ	**Blackbirch Sta**	**4.63**	**54**	P	Pb	06 14 56.4	-4.3
NNZ	**Nelson**	**4.70**	**46**	P	Pn	06 14 52.7	+2.2
TUWZ	**Tuamarina**	**4.86**	**52**	P	Pn	06 14 56.9	+4.3
TCW	**Tory Channel**	**5.19**	**52**	P	Pn	06 15 01.6	+4.5
KHEZ	**Kahui Hut**	**6.51**	**38**	P	Pn	06 15 17.3	+2.0
PKE	**Pukeiti**	**6.58**	**37**	P	Pn	06 15 20.4	+4.2
VRZ	**Vera Road**	**6.99**	**41**	P	Pn	06 15 23.1	+1.3
NNVZ	**North Ngauruho**	**7.40**	**45**	P	Pn	06 15 32.2	+4.6
WTVZ	**West Tongariro**	**7.40**	**45**	P	Pn	06 15 30.9	+3.4
HIZ	**Hauiti**	**7.52**	**39**	P	Pn	06 15 30.7	+1.5
TOZ	**Tahuroa Road**	**8.46**	**38**	P	Pn	06 15 43.5	+1.6
WCZ	**Waipu Caves**	**9.57**	**28**	P	Pn	06 15 58.3	+1.0
OUZ	**Omahuta**	**10.01**	**23**	P	Pn	06 16 04.4	+1.2

IDC 09 06:29:43.5±2.4,54˚.13N×86˚.49E,h0km,mb1 3.5/2,
mb1mx3.2/40,mbtmp3.5/2,ML3.3/2,Error ellipse:
s-maj=19.4km s-min=12.3km az=57.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**260**	*i*		06 36 20.0	
	baz=78,slow=313,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.00**	**260**	Pg	Pg	06 30 01.4	-1.3
	3.3nm,0.3s,baz=77,slow=17,SNR=10.0						
ZALV				Lg	Lg	06 30 17.0	
	3.5nm,0.3s,baz=77,slow=30,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	06 31 14.5	+1.0
	0.3nm,0.3s,baz=54,slow=13,SNR=13						
KURBB				Sn	Sn	06 32 21.9	-1.0
	0.0nm,0.3s,baz=58,slow=30,SNR=1.1						
KURBB				Lg	Lg	06 32 55.2	
	0.1nm,0.3s,baz=57,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	06 31 39.7	+1.3
	0.8nm,0.3s,baz=25,slow=13,SNR=27						
MKAR				Sn	Sn	06 33 05.7	-1.8
	0.2nm,0.3s,baz=22,slow=28,SNR=2.1						
MKAR				Lg	Lg	06 33 51.7	
	0.0nm,0.3s,baz=25,slow=31,SNR=1.9						

*INET **09** 06:37:41.8,12˚.46N×86˚.87W,h207km,MW4.1*
*IDC **09** 06:37:50.4±0.5,12˚.55N×86˚.62W,h173km±5km,mb3.7/16,*
mb1 3.9/21,mb1mx3.8/54,mbtmp4.2/21,MS3.3/1,
Ms1 3.3/1,ms1mx2.5/33,Error ellipse: s-maj=19.6km
s-min=6.7km az=53.0
*UCR **09** 06:37:50.1±1.6,12˚.40N×86˚.95W,h171km,ML3.9,MW4.4,*
mb4.6(NEIC)
*NEIC **09** 06:37:51.7±1.7,12˚.54N±0˝.07×86˚.76W±0˝.08,h171km±6km,*
mb4.6/232,Error ellipse: s-maj=12.7km s-min=8.3km
az=223.0
*SNET **09** 06:37:52.0±0.9,12˚.47N×87˚.04W,h167km±7km,ML4.1*
*UPA **09** 06:37:53.1±0.8,11˚.53N×87˚.44W,h29km±999km,MW4.9*
ISC 09 06:37:50.7±0.4,12˚.53N±0˝.04×86˚.78W±0˝.04,h174km±4km,
h175km:pP-P,n339,σ1§22/308,mb4.6/119,4C-2D,
Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.09**	**109**	*eP*	**Pn**	**06 38 12.9**	**-0.9**
CNGN	**Cerro Negro**	**0.09**	**109**		**Pn**	**06 38 13.1**	**-0.6**
CRIN	**San Cristobal**	**0.31**	**303**		**Pn**	**06 38 13.7**	**-0.5**
MASN	**Masaya**	**0.82**	**131**		**Pn**	**06 38 15.8**	**-0.8**
MATN	**Matagalpa**	**0.93**	**64**		**Pn**	**06 38 17.9**	**+0.6**
BOAB	**BOACO BROADBAN**	**1.09**	**94**		**Pn**	**06 38 18.6**	**+0.1**
CNCH	**Conchagua**	**1.26**	**306**	*eP*	**Pn**	**06 38 19.5**	**-0.6**
CNCH	**Conchagua**	**1.26**	**306**	*eP*	**Pn**	**06 38 19.5**	**-0.6**
LCND	**La Caada**	**1.33**	**306**	*eP*	**Pn**	**06 38 19.9**	**-0.6**
LCND				IAML		06 38 25.4	
	comp=Z,853nm,0.4s						
LCND				*eS*	**Sn**	**06 38 42.7**	**-0.9**
LCND	**La Caada**	**1.33**	**306**	*eP*	**Pn**	**06 38 19.9**	**-0.6**
LCND				IAML		06 38 25.4	
	comp=Z,853nm,0.4s						
LCND				*eS*	**Sn**	**06 38 42.7**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.59**	**343**	*eP*	**Pn**	**06 38 23.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.59**	**343**	*eP*	**Pn**	**06 38 23.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.59**	**343**		**Pn**	**06 38 23.8**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.59**	**343**	‖ *i* P		**06 38 23.8**	**+0.5**
TGUH				*eS*	**Sn**	**06 38 47.5**	**-1.0**
ACON	**Acoyapa**	**1.67**	**109**	*eP*	**Pn**	**06 38 24.1**	**+0.2**
ACON	**Acoyapa**	**1.67**	**109**		**Pn**	**06 38 23.9**	**+0.1**
LCY	**Lacayo**	**1.72**	**301**	*eP*	**Pn**	**06 38 24.1**	**-0.3**
LCY				*eS*	**Sn**	**06 38 49.4**	**-1.3**
LCY	**Lacayo**	**1.72**	**301**	*eP*	**Pn**	**06 38 24.1**	**-0.3**
LCY				*eS*	**Sn**	**06 38 49.4**	**-1.3**
PACA	**Pacayal**	**1.77**	**302**	*eP*	**Pn**	**06 38 25.1**	**+0.1**
PACA				*eS*	**Sn**	**06 38 50.7**	**-0.8**
PACA	**Pacayal**	**1.77**	**302**	*eP*	**Pn**	**06 38 25.1**	**+0.1**
PACA				*eS*	**Sn**	**06 38 50.7**	**-0.8**
TECA	**Tecapa**	**1.93**	**300**	*eP*	**Pn**	**06 38 26.3**	**-0.5**
TECA				*eS*	**Sn**	**06 38 53.5**	**-1.2**
TECA	**Tecapa**	**1.93**	**300**	*eP*	**Pn**	**06 38 26.3**	**-0.5**
TECA				*eS*	**Sn**	**06 38 53.5**	**-1.2**
COEB	**Comit de Eme**	**1.96**	**300**	*eP*	**Pn**	**06 38 26.6**	**-0.4**
COEB				*eS*	**Sn**	**06 38 54.1**	**-1.0**
COEB				IAML		06 38 58.9	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**1.96**	**300**	*eP*	**Pn**	**06 38 26.6**	**-0.4**
COEB				*eS*	**Sn**	**06 38 54.1**	**-1.0**
COEB				IAML		06 38 58.9	
	comp=Z,1μm,0.4s						
PQSS	**Presa 15 de Se**	**2.04**	**302**	*eP*	**Pn**	**06 38 27.5**	**-0.3**
PQSS				*eS*	**Sn**	**06 38 54.9**	**-1.8**
HZTE	**Horizontes, Gu**	**2.15**	**147**	*eP*	**Pn**	**06 38 29.7**	**+0.7**
HZTE	**Horizontes, Gu**	**2.15**	**147**		**Pn**	**06 38 29.5**	**+0.5**
GB1A	**Borinquen Arri**	**2.18**	**141**	*i* P	**Pn**	**06 38 29.3**	**-0.1**
GB1A				*i* S	**Sn**	**06 38 58.4**	**-1.1**
BUEV	**Buena Vista**	**2.19**	**142**	*i* P	**Pn**	**06 38

CEDA San Andres 2.84 297 eP Pn **06 38 35.9 -1.2**
CEDA eS Sn **06 39 11.7 -1.6**
JTS Las Juntas de 2.86 141 P Pn **06 38 37.7 +0.3**
comp=Z,28nm,0.3s,baz=18,slow=14,SNR=182
JTS S Sn **06 39 10.2 -3.6**
comp=Z,75nm,0.3s,baz=229,slow=20,SNR=8.2
JTS Las Juntas de 2.86 141 eP Pn **06 38 37.7 +0.3**
JTS Las Juntas de 2.86 141 eP Pn **06 38 36.9 -0.5**
JTS eS Sn **06 39 07.7 -6.1**
CEDE Laguna Cedeo 2.88 135 eP Pn **06 38 38.0 +0.4**
TACO Tacachico 2.88 300 eP Pn **06 38 37.5 -0.2**
TACO Tacachico 2.88 300 eP Pn **06 38 37.5 -0.2**
ARE1 Arenal 1 2.88 135 eP Pn **06 38 38.1 +0.4**
COVE Coope Vega, Sa 2.95 127 eP Pn **06 38 38.9 +0.4**
COVE Coope Vega, Sa 2.95 127 Pn **06 38 38.9 +0.4**
SBLS San Blas 3.06 296 eP Pn **06 38 40.1 +0.1**
SBLS eS Sn **06 39 17.6 -0.8**
SBLS San Blas 3.06 296 eP Pn **06 38 40.1 +0.1**
SBLS eS Sn **06 39 17.6 -0.8**
RTR El Retiro 3.10 296 eP Pn **06 38 40.6 +0.1**
RTR El Retiro 3.10 296 eP Pn **06 38 40.6 +0.1**
MTO3 Montecristo 3.12 307 eP Pn **06 38 41.2 +0.4**
MTO3 eS Sn **06 39 20.1 +0.3**
MTO3 Montecristo 3.12 307 eP Pn **06 38 41.2 +0.4**
MTO3 eS Sn **06 39 20.1 +0.3**
MTO3 Montecristo 3.12 307 Pn Pn **06 38 41.2 +0.4**
CAO2 Cobano, Puntar 3.27 150 Pn **06 38 42.5 0.0**
LAFE Finca La Fe, P 3.27 146 eP Pn **06 38 41.9 -0.5**
SRA1 San Ramn 3.32 137 eP Pn **06 38 44.4 +1.2**
JACO JACO, Garabito 3.53 144 eP Pn **06 38 45.9 +0.2**
JACO JACO, Garabito 3.53 144 Pn Pn **06 38 46.3 +0.6**
HDC Heredia 3.63 134 eP Pn **06 38 48.1 +1.1**
OCM Ochomogo 3.81 133 eP Pn **06 38 49.6 +0.2**
CVTR Volcan Turrial 3.88 130 eP Pn **06 38 50.9 +0.5**
CVTR Volcan Turrial 3.88 130 Pn **06 38 51.4 +0.9**
LCR2 La Lucha 2 3.89 135 eP Pn **06 38 50.9 +0.5**
RIMA Rio Macho 3.97 133 eP Pn **06 38 52.4 +0.9**
RIMA Rio Macho 3.97 133 Pn **06 38 52.6 +1.2**
BATAN Batan 4.12 126 eP Pn **06 38 55.6 +2.4**
BATAN Batan 4.12 126 Pn **06 38 54.5 +1.3**
CDM Cerro de Muert 4.19 135 eP Pn **06 38 55.3 +0.8**
MRVA Moravia de Chi 4.24 129 eP Pn **06 38 56.8 +1.9**
APG El Apazote 4.34 305 P Pn **06 38 57.5 +1.3**
comp=Z,1.6nm,0.3s,baz=130,slow=12,SNR=18
APG S Sn **06 39 46.6 -0.8**
comp=Z,1.3nm,0.3s,baz=180,slow=20,SNR=8.3
PEZE Perez Zeledon, 4.37 135 eP Pn **06 38 57.5 +1.0**
EDLM Las Mercedes 4.50 136 eP Pn **06 38 59.5 +1.3**
SRBA San Rafael, Bu 4.70 134 Pn Pn **06 39 01.8 +1.1**
DRK0 Durika 4.76 133 eP Pn **06 39 02.2 +0.6**
EDBA Buenos Aires 4.80 134 eP Pn **06 39 03.0 +1.0**
EDPN Palmar Norte 4.82 137 eP Pn **06 39 03.7 +1.4**
RIOS Rincon, Osa 4.98 139 eP Pn **06 39 04.6 +0.2**
LPLA Las Palmas La 5.08 133 eP Pn **06 39 07.0 +1.1**
RTAL Retalhuleu 5.17 293 Pn Pn **06 39 08.2 +1.5**
PRVC Isla de Provid 5.35 80 Pn Pn **06 39 07.8 -1.4**
PRVC Isla de Provid 5.35 80 eP Pn **06 39 08.4 -0.7**
HUEH Huehuetenango 5.35 302 Pn **06 39 10.1 +0.7**
BRU2 Volcan 5.47 132⟦ eP Pn **06 39 12.2 +1.3**
BRU2 eS Sn **06 40 12.7 -1.2**
CDITO Canoas 5.50 135 Pn **06 39 11.7 +0.6**
BC3P Paso Ancho 5.52 132 eP Pn **06 39 12.8 +1.2**
CCOL Caracol de Cor 5.55 137 eP Pn **06 39 12.5 +0.8**
BCO2 Palmira 5.64 132 eP Pn **06 39 14.4 +1.2**
BCO2 eS Sn **06 40 16.0 -1.9**
LNBQ3 Los Naranjos, 5.66 131 eP Pn **06 39 15.0 +1.7**
LNBQ3 eS Sn **06 40 17.6 -0.7**
LESP3 La Esperanza, 5.68 136 eP Pn **06 39 13.6 +0.1**
SBAR3 San Bartolo, C 5.68 137 eP Pn **06 39 13.4 0.0**
PTAR3 Potrerillos Ar 5.68 132 eP Pn **06 39 15.5 +1.9**
PSOM3 Paja de Sombre 5.82 131 eP Pn **06 39 16.8 +1.5**
PSOM3 eS Sn **06 40 20.7 -1.1**
CCIG Comitan 6.39 306 Pn **06 39 23.6 +0.7**
CMIG Matias Romero 9.05 301 P Pn **06 39 57.8 -0.1**
comp=Z,0.7nm,0.3s,baz=155,slow=12,SNR=13
CMIG S Sn 06 41 28.1 -11
comp=Z,0.5nm,0.3s,baz=23,slow=19,SNR=2.1
MOTC Monteria, Cord 11.55 108 eP P **06 40 37.9 +0.9**
SJCC San Jacinto, C 11.68 102 Pn Pn **06 40 32.6 +0.2**
SJCC San Jacinto, C 11.68 102 eP P **06 40 39.2 +0.6**
UREC San Jos de Ur 12.05 112 eP P **06 40 41.7 -0.9**
SMRC Santa Marta, M 12.37 95 eP P **06 40 48.8 +2.6**
TLIG Tlapa 12.43 295 Pn **06 40 43.0 +1.0**
CBOC Ciudad Bolivar 12.52 121 eP P **06 40 49.1 +1.1**
ARGC Ariguani, Magd 12.58 101⟦ eP P **06 40 50.7 +2.2**
HELC Santa Helena 12.76 119 eP P **06 40 52.0 +1.1**
ZARC Zaragoza, Cauc 12.77 112 eP P **06 40 52.0 +1.4**
PLMC San Jos del P 12.85 125 eP P **06 40 52.4 +0.8**
SMLC San Martn de 13.03 105 eP P **06 40 52.6 -0.9**
GTBY Guantanamo Bay 13.40 55 P P **06 40 57.2 -0.4**
GTBY Guantanamo Bay 13.40 55 eP P **06 40 59.8 +2.2**
GUY2C Guyana, Caldas 13.41 122 eP P **06 40 57.7 -0.6**
RREF El Recreo 13.61 123 eP P **06 40 59.7 -0.9**
NORC Norcasia 13.65 119 eP P **06 41 01.6 +1.2**
TOLC Tolima 13.81 124 eP P **06 41 04.8 +2.3**
OCAC Ocana 13.91 107 eP Pn **06 41 00.7 -0.1**
BBAC Balboa, Cauca 14.08 137 eP P **06 41 07.7 +2.3**
ORTC Ortega, Tolima 14.27 126 eP P **06 41 07.4 +0.1**
SPBC San Pablo de B 14.29 117 eP Pn **06 41 06.1 +0.7**
MARP Paez Belalcaza 14.41 131 eP P **06 41 11.4 +2.3**
PCON Cinco Dias 14.44 134 eP P **06 41 12.8 +3.0**
ROSC El Rosal 14.49 121 P Pn **06 41 08.2 0.0**
comp=Z,0.1nm,0.3s,baz=285,slow=20,SNR=3.0
CRUC La Cruz 14.61 137 eP Pn **06 41 09.9 +0.1**
GCUF Volcan Galeras 14.62 139 eP P **06 41 15.2 +3.5**
BARC Barichara 14.65 112 eP P **06 41 12.9 +1.1**
PRAC Prado 14.67 126 eP Pn **06 41 10.6 +0.5**
OTAV Otavalo 14.75 145 P P **06 41 15.2 +2.1**
OTAV Otavalo 14.75 145 eP P **06 41 17.1 +4.1**
PAMC Pamplona, Colo 14.80 109 eP Pn **06 41 12.5 +0.4**
RUSC La Rusia 15.04 115 P P **06 41 17.2 +0.8**
RUSC IAmb IAmb 06 41 30.0
comp=Z,26nm,1.3s
RUSC La Rusia 15.04 115 eP Pn **06 41 15.7 +0.5**
CHIC Chingaza 15.10 120⟦ eP P **06 41 18.1 +1.2**
GARC Garzon, Huila 15.19 132 eP Pn **06 41 16.5 -0.2**
VILC Villavicencio, 15.41 122 eP P **06 41 20.4 +0.4**
FLOC Florencia 15.49 134 P P **06 41 22.6 +1.7**
FLOC Florencia 15.49 134 eP P **06 41 22.6 +1.7**
SOCV Socops 16.22 104 eP Pn **06 41 30.4 +1.3**
SDV Santo Domingo 16.28 101 P Pn **06 41 29.5 -0.4**
comp=Z,3.3nm,0.3s,baz=240,slow=8.1,SNR=9.3
SDV Santo Domingo 16.28 101 P Pn **06 41 29.9 0.0**
SDV IAmb IAmb 06 41 33.9
comp=Z,52nm,1.1s
DWPF Disney Wildern 16.29 17 P 06 41 29.9
baz=199
MACC Macarena, Meta 16.45 128 eP Pn **06 41 33.2 +1.3**
PTGC Puerto Gaitan, 16.68 119 eP P **06 41 33.0 -1.0**
BANI BANI 16.87 68 P Pn **06 41 36.1 -0.9**
SC01 Santiago de lo 16.89 64 P Pn **06 41 37.2 +0.2**
ELOV Elorza 17.91 106 eP Pn **06 41 48.3 -0.9**
BRAL Brewton 18.55 359 P 06 41 56.2
baz=179
PCDR Punta Cana, DR 18.70 69 P Pn **06 41 57.9 -0.5**
352A Blakely 18.94 5 P Pn **06 41 59.7 -1.4**
TIGA Tifton 19.05 8 P Pn **06 42 01.3 -1.1**
TIGA IAmb IAmb 06 42 02.8
comp=Z,40nm,0.8s
TIGA Tifton 19.05 8 P 06 42 01.6
baz=190,SNR=6.5
344A Westbrook Farm 19.18 350 P Pn **06 42 01.8 -2.2**
344A IAmb IAmb 06 42 07.6
comp=Z,22nm,0.8s
HKT Hockley 19.26 336 P **06 42 02.1 +0.3**
250A Grady 19.36 1 P Pn **06 42 04.0 -2.1**
250A IAmb IAmb 06 42 07.0
comp=Z,29nm,1.1s
833A Chaparral WMA, 19.63 325 P 06 42 09.1
baz=141
MLPR Magueyes Islan 19.79 72 Pn **06 42 09.4 -2.0**
AOPR Arecibo Observ 20.15 71 P **06 42 12.5 +0.9**
OBIP Obispado Ponce 20.21 72 P P **06 42 13.0 +0.6**
ICMP Isla Caja de M 20.25 72 P Pn 06 42 14.6 -2.3
154A Montrose 20.27 9 P P **06 42 13.8 +1.0**
LRAL Lakeview Retre 20.41 359 P **06 42 15.3 +1.0**
LRAL IAmb IAmb 06 42 18.9
comp=Z,23nm,1.0s
LRAL Lakeview Retre 20.41 359 P 06 42 16.1
baz=179,SNR=17
NATX Nacogdoches 20.47 340 P 06 42 16.0
baz=158
Z47A Carrollton 20.61 357 IAmb IAmb 06 42 21.1
comp=Z,15nm,0.9s
SJG San Juan 20.65 72 P Pn 06 42 18.6 -3.3
comp=Z,56nm,0.6s,baz=296,slow=9.2,SNR=35
SJG San Juan 20.65 72 P P **06 42 18.5 +1.5**
435B Jarrell 20.73 333 P P **06 42 18.0 +0.3**
435B IAmb IAmb 06 42 21.6
comp=Z,25nm,1.0s
435B Jarrell 20.73 333 P 06 42 17.7
baz=149
Z51A Franklin 20.75 4 P P **06 42 18.9 +1.1**
Z51A IAmb IAmb 06 42 22.1
comp=Z,41nm,0.9s
PDPR Patillas Dam, 20.75 72 P P **06 42 19.4 +1.3**
GCPR Guaynabo City 20.76 71 P P **06 42 19.3 +1.2**
HUMP Col San Antoni 20.94 72 P P **06 42 21.4 +1.3**
CBYP Canovanas 20.96 72 P P **06 42 20.8 +0.4**
GOGA Godfrey 21.01 8 P 06 42 21.8
baz=189,SNR=27
MTP Monte Pirata 21.20 72 P P **06 42 24.1 +1.2**
Y49A Blount Mountai 21.23 1 IAmb IAmb 06 42 25.2
comp=Z,23nm,0.6s
ATAH Atahualpa 21.24 156 P P **06 42 26.6 +2.9**
comp=Z,6.2nm,0.8s,baz=14,slow=7.8,SNR=4.6
ATAH LR LR 06 49 34.8
comp=Z,82nm,19.3s,baz=319,slow=33
NHSC New Hope 21.36 15 P 06 42 26.1
baz=198
Y52A Lillbus 21.38 6 P P **06 42 26.1 +1.5**
CUPR Culebra, Puert 21.50 72 P P **06 42 27.1 +1.1**
CUPR IAmb IAmb 06 42 46.8
comp=Z,28nm,1.1s
JCT Junction City 21.55 328 P 06 42 27.3
baz=143,SNR=6.2
WHTX Lake Whitney, 21.71 335 IAmb IAmb 06 42 29.9
comp=Z,12nm,0.7s
WHTX Lake Whitney, 21.71 335 P 06 42 28.5
baz=151
PCRV Puerto La Cruz 21.84 94 P P **06 42 32.1 +2.5**
comp=Z,33nm,0.5s,baz=228,slow=4.3,SNR=23
CDVI St. Croix 21.87 74 P P **06 42 30.4 +0.5**
FPAL Fort Paine 21.94 3 P P **06 42 31.4 +1.0**
FPAL IAmb IAmb 06 42 32.2
comp=Z,16nm,0.7s
HODGE Hodges 21.99 10 P P **06 42 31.4 +0.5**
HODGE IAmb IAmb 06 42 33.5
comp=Z,31nm,1.1s
X51A Calhoun 22.01 4 IAmb IAmb 06 42 33.3
comp=Z,19nm,0.8s
OXF Oxford 22.01 354 IAmb IAmb 06 42 32.8
comp=Z,41nm,1.0s
OXF Oxford 22.01 354 P 06 42 31.2
baz=173
Y57A Sumter 22.17 14 P P **06 42 33.5 +0.9**
Y57A IAmb IAmb 06 42 35.7
comp=Z,28nm,0.9s
JSC Jenkinsville 22.23 12 P P **06 42 33.5 +0.3**
JSC IAmb IAmb 06 42 35.8
comp=Z,15nm,0.7s
PLAL Pickwick Lake 22.39 357 P P **06 42 35.5 +0.8**
PLAL IAmb IAmb 06 42 36.3
comp=Z,19nm,0.9s
ABVI Anegada Island 22.47 71 P P **06 42 36.0 +0.4**
X40A Basin Creek Fa 22.54 347 P 06 42 35.4
baz=164
SWET Sewanee 22.60 2 IAmb IAmb 06 42 39.5
comp=Z,17nm,0.8s
W50A Signal Mountai 22.61 3 IAmb IAmb 06 42 39.3
comp=Z,21nm,0.6s
W52A Murphy 22.61 6 P P **06 42 37.8 +1.0**
W52A IAmb IAmb 06 42 39.4
comp=Z,34nm,1.1s
W45A Hickory Valley 22.63 355 IAmb IAmb 06 42 38.3
comp=Z,32nm,1.1s
BG3 Lake Jocassee 22.64 8 P P **06 42 38.3 +1.3**
BG3 IAmb IAmb 06 42 39.6
comp=Z,25nm,0.7s
MIAR Mount Ida 22.77 345 P 06 42 38.3
baz=163,SNR=13
MIAR Mount Ida 22.77 345 IAmb IAmb 06 42 40.1
comp=Z,19nm,1.1s
CPCT Cooper Cave 22.91 5 P P **06 42 41.0 +1.5**
TX31 Lajitas Ar. Si 22.93 319 P P **06 42 39.9 0.0**
TX31 IAmb IAmb 06 42 41.9
comp=Z,23nm,0.7s
TX32 Lajitas Array 22.93 319 P P **06 42 40.3 +0.4**
TXAR Lajitas Array 22.93 319 P P **06 42 40.4 +0.6**
comp=Z,6.8nm,0.7s,baz=139,slow=9.8,SNR=96
TXAR pP **pP** **06 43 13.6 +1.5**
comp=Z,2.4nm,0.9s,baz=143,slow=11,SNR=3.6
TXAR PcP **PcP** **06 46 24.4 -0.3**
comp=Z,0.5nm,0.8s,baz=164,slow=5.9,SNR=4.4
TXAR Lajitas Array 22.93 319 P P **06 42 40.0 +0.1**
TXAR pP **06 43 13.9 +1.8**
KMSC Kings Mountain 23.05 11 P 06 42 42.1
baz=194,SNR=16
KMSC Kings Mountain 23.05 11 IAmb IAmb 06 42 43.6
comp=Z,30nm,0.8s
W41B Gary Mavity, V 23.08 349 P 06 42 40.9
baz=166,SNR=6.0
V48A Smith Brothers 23.11 360 IAmb IAmb 06 42 45.1
comp=Z,12nm,0.8s
TKL Tuckaleechee C 23.19 6 P P **06 42 42.8 +0.8**
comp=Z,24nm,0.9s,baz=176,slow=12,SNR=21
TKL Tuckaleechee C 23.19 6 P P **06 42 42.5 +0.5**
WHAR Wooly Hollow 23.20 349 P P **06 42 41.8 -0.3**
ABTX Abilene, Hawle 23.22 332 IAmb IAmb 06 42 43.8
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 23.22 332 P 06 42 42.3
baz=147,SNR=11
V51A Loudon 23.28 5 IAmb IAmb 06 42 45.2
comp=Z,18nm,0.8s
V53A Saluda 23.32 8 IAmb IAmb 06 42 47.1
comp=Z,29nm,0.9s
W57A Gilead 23.35 14 IAmb IAmb 06 42 45.4
comp=Z,29nm,0.8s
V52A Sevierville 23.39 7 IAmb IAmb 06 42 46.9
comp=Z,13nm,0.9s
W39A Magazine 23.44 345 P 06 42 43.4
baz=163
WVT Waverly 23.52 358 P 06 42 44.5
baz=178
WVT Waverly 23.52 358 P P **06 42 44.1 -0.9**
V55A Taylorsville 23.76 11 IAmb IAmb 06 42 49.7
comp=Z,18nm,1.0s
U49A Red Boiling Sp 23.90 2 IAmb IAmb 06 42 52.0
comp=Z,20nm,1.0s
CNNC Cliffs of the 24.00 18 P 06 42 49.3
baz=202
TZTN Tazewell 24.09 6 P 06 42 50.0
baz=188
TZTN Tazewell 24.09 6 IAmb IAmb 06 42 54.4
comp=Z,14nm,0.8s
X34A Smith Ranch, M 24.16 337 IAmb IAmb 06 42 52.4
comp=Z,12nm,0.7s
U40A Yellville 24.35 348 P 06 42 52.3
baz=166,SNR=8.3
U40A Yellville 24.35 348 pP pP 06 43 29.7 +2.5
T47A Sharon Grove 24.36 359 IAmb IAmb 06 42 56.0
comp=Z,12nm,0.7s
PBMO Poplar Bluff 24.37 353 P P **06 42 52.0 -0.7**
PBMO pP **06 43 31.3 +3.9**
U56A King 24.41 13 P P **06 42 53.5 +0.5**
U56A IAmb IAmb 06 42 57.8
comp=Z,28nm,0.9s
WMOK Wichita Mounta 24.65 336 P 06 42 57.0
baz=151,SNR=24
WMOK Wichita Mounta 24.65 336 P P **06 42 54.7 -0.6**
WMOK IAmb IAmb 06 42 58.9
comp=Z,31nm,1.2s
WMOK pP **06 43 32.9 +2.4**
TUL1 Leonard 24.66 342 P 06 42 54.7
baz=159,SNR=5.6
OK030 Cody Creek RV 24.98 341 IAmb IAmb 06 42 58.3
comp=Z,24nm,0.8s
U59A Littleton 25.07 17 IAmb IAmb 06 43 01.2
comp=Z,18nm,0.9s
OK029 Liberty Lake 25.09 339 IAmb IAmb 06 42 59.3
comp=Z,22nm,0.7s
S51A Beattyville 25.17 6 IAmb IAmb 06 43 01.7
comp=Z,11nm,0.7s
BLA Blacksburg 25.23 12 IAmb IAmb 06 43 03.1
comp=Z,28nm,1.2s
BLA Blacksburg 25.23 12 P 06 43 00.9
baz=195
T57A Hurt 25.29 14 IAmb IAmb 06 43 03.3
comp=Z,13nm,0.8s
WCI Wyandotte Cave 25.60 1 P 06 43 03.6
baz=181
MNTX Cornudas Mount 25.63 321 P 06 43 04.0
baz=134
T59A Double "B" Far 25.71 17 IAmb IAmb 06 43 07.1
comp=Z,13nm,0.8s
S39A Bolivar 25.73 348 IAmb IAmb 06 43 05.5
comp=Z,7.6nm,0.8s
R50A Paris 25.74 4 IAmb IAmb 06 43 06.8
comp=Z,6.5nm,0.7s
T35A Sooner Cattle 25.81 342 IAmb IAmb 06 43 05.7
comp=Z,13nm,1.2s
MSTX Muleshoe 25.84 328 P 06 43 06.9
baz=142,SNR=5.9
R53A Hurricane 26.05 9 IAmb IAmb 06 43 09.7
comp=Z,14nm,0.8s
S57A Dark Hollow, R 26.08 14 P P **06 43 08.2 0.0**
S57A IAmb IAmb 06 43 11.5
comp=Z,8.2nm,0.9s
S57A pP **06 43 43.2 -1.0**
OK032 Salt Plains WL 26.26 339 IAmb IAmb 06 43 10.4
comp=Z,17nm,1.3s
R55A Marlinton 26.33 12 IAmb IAmb 06 43 12.9
comp=Z,15nm,0.7s
Q52A Bidwell 26.63 8 IAmb IAmb 06 43 14.9
comp=Z,17nm,0.7s
CBN Corbin Frederi 26.91 17 P 06 43 15.6
baz=201
P49A Miami Univ. Ec 26.96 4 P 06 43 15.7
baz=184
Q56A Snyder Ridge, 27.25 13 IAmb IAmb 06 43 21.5
comp=Z,14nm,0.7s
P52A Corning 27.31 8 P 06 43 19.7
baz=190,SNR=7.3
O49A Covington 27.64 4 IAmb IAmb 06 43 23.1
comp=Z,7.4nm,0.7s
P38A Dawn 27.64 349 IAmb IAmb 06 43 22.3
comp=Z,8.7nm,0.9s
121A Cookes Peak, D 27.70 319 P 06 43 23.4
baz=131
MCWV Mont Chateau 27.71 12 P 06 43 23.4
baz=195
MCWV Mont Chateau 27.71 12 IAmb IAmb 06 43 24.6
comp=Z,14nm,0.6s
SFIN Lafayette 27.74 359 P 06 43 22.3
baz=179
KSU1 Kansas State U 27.86 343 P 06 43 23.5
baz=159
KSU1 Kansas State U 27.86 343 IAmb IAmb 06 43 24.6
comp=Z,13nm,0.9s
R32A Long Quarter, 27.89 340 IAmb IAmb 06 43 24.9
comp=Z,8.8nm,0.7s
P57A Homestead Farm 27.95 15 IAmb IAmb 06 43 27.6
comp=Z,13nm,0.8s
HDIL Hopedale 28.00 356 IAmb IAmb 06 43 26.6
comp=Z,10.0nm,0.8s
HDIL Hopedale 28.00 356 P 06 43 24.6
baz=175
O53A New Philadelph 28.05 9 P 06 43 26.4
baz=192,SNR=9.1
O54A Avella 28.12 10 IAmb IAmb 06 43 27.8
comp=Z,8.2nm,0.7s
N49A Columbus Grove 28.38 4 IAmb IAmb 06 43 29.7
comp=Z,14nm,0.8s
O56A Blue Knob Stat 28.56 13 P 06 43 31.3
baz=197
ANMO Albuquerque 28.57 325 P 06 43 31.3
baz=137
ANMO Albuquerque 28.57 325 P P **06 43 31.9 +1.3**
comp=Z,2.5nm,0.8s,baz=128,slow=9.0,SNR=7.9
ANMO Albuquerque 28.57 325 P P **06 43 31.4 +0.8**
MVL Millersville 28.87 17 IAmb IAmb 06 43 35.7
comp=Z,8.3nm,0.8s
P60A Greenville 28.90 18 P 06 43 34.3
baz=203
N54A Moraine State 28.94 11 P 06 43 34.3
baz=194
N54A Moraine State 28.95 11 IAmb IAmb 06 43 34.8
comp=Z,5.6nm,0.7s
SSPA Standing Stone 29.07 14 P P **06 43 36.0 +1.3**
SSPA IAmb IAmb 06 43 36.8
comp=Z,14nm,0.6s
SSPA Standing Stone 29.07 14 P 06 43 34.8
baz=198
M53A WI Miller and 29.29 9 P 06 43 37.2
baz=192,SNR=6.2
L42A Oliver, Polo 29.47 356 IAmb IAmb 06 43 38.7
comp=Z,13nm,1.0s
M54A Oil Creek Stat 29.53 11 IAmb IAmb 06 43 40.3
comp=Z,11nm,0.6s
M54A Oil Creek Stat 29.53 11 P 06 43 39.2
baz=194
TUC Tucson 29.54 316 P 06 43 39.2
baz=126
L40A Anamosa 29.68 353 IAmb IAmb 06 43 40.5
comp=Z,8.6nm,1.0s
PTGA Pitinga 29.70 114 P P **06 43 39.4 -1.2**
comp=Z,1.9nm,0.3s,baz=289,slow=9.3,SNR=4.9
SCIA State Center 29.80 350 P 06 43 41.1
baz=167
N59A State Game Lan 29.89 17 P 06 43 43.6
baz=202,SNR=5.6
N59A State Game Lan 29.89 17 IAmb IAmb 06 43 44.5
comp=Z,17nm,0.8s
KSCO Kaye Shedlock' 29.89 335 P 06 43 42.4
baz=148
ERPA Erie 30.07 10 P 06 43 44.0
baz=193,SNR=5.2
SDCO Great Sand Dun 30.17 330 P 06 43 45.7
baz=142,SNR=9.2
JFWS Jewell Farm 30.42 355 P 06 43 45.8
baz=173
BGNE Belgrade 30.44 343 P 06 43 46.7
baz=158
K38A Parkersburg 30.45 351 IAmb IAmb 06 43 47.2
comp=Z,7.0nm,0.7s
L56A Greenwood 30.57 14 P 06 43 49.0
baz=198
S22A 4UR Ranch, Cre 30.84 328 P 06 43 52.1
baz=139
L58A Harry Jones Me 30.91 16 P 06 43 52.3
baz=201
BINY Binghamton 31.02 16 P 06 43 53.1
baz=201,SNR=5.4
BINY Binghamton 31.02 16 IAmb IAmb 06 43 54.2
comp=Z,21nm,1.1s
K56A Middlesex 31.16 14 P 06 43 53.7
baz=198,SNR=7.6
L59A Walton 31.27 17 P 06 43 55.2
baz=202
I42A Draeger Farm, 31.30 357 IAmb IAmb 06 43 55.6
comp=Z,14nm,1.1s
OGNE Ogallala 31.31 337 P 06 43 55.5
baz=150
MVCO Mesa Verde 31.34 325 P 06 43 55.7
baz=136
J56A Wolcott 31.82 14 P 06 43 59.2
baz=199,SNR=17
I37A Lemond, Waseca 31.89 351 IAmb IAmb 06 43 59.7
comp=Z,12nm,0.7s
WUAZ Wupatki 31.89 320 P 06 44 01.2
baz=130
J57A Williamstown 32.15 15 P 06 44 02.1
baz=200,SNR=7.8
ECSD EROS Data Cent 32.23 347 IAmb IAmb 06 44 02.3
comp=Z,11nm,1.2s
ECSD EROS Data Cent 32.23 347 P 06 44 01.3
baz=162,SNR=11
L61B Northampton 32.23 20 P 06 44 02.8
baz=206
K61A Williamstown 32.24 19 P 06 44 04.3
baz=205
J58A Remsen 32.29 16 P 06 44 03.5
baz=201,SNR=6.3
PV05 Paradox Valley 32.30 326 IAmb IAmb 06 44 04.8
comp=Z,5.2nm,0.7s
PV12 Saucer Basin, 32.31 327 IAmb IAmb 06 44 05.5
comp=Z,8.2nm,0.7s
PV18 Skein Mesa, Pa 32.31 326 IAmb IAmb 06 44 05.2
comp=Z,7.6nm,0.6s
PV11 David Mesa, Pa 32.33 326 IAmb IAmb 06 44 05.4
comp=Z,6.7nm,0.7s
PV17 East Wray Mesa 32.37 326 IAmb IAmb 06 44 05.6
comp=Z,9.9nm,0.7s
PECO Prince Edward 32.41 13 IAmb IAmb 06 44 05.2
comp=Z,26nm,1.4s
G45A Suttons Bay 32.41 1 IAmb IAmb 06 44 04.3

comp=Z,26nm,1.2s
K62A Royalston 32.57 20 P 06 44 05.9
baz=207
J59A Piesco 32.60 17 lAmb lAmb 06 44 07.8
comp=Z,15nm,0.9s
J59A Piesco 32.60 17 P 06 44 06.2
baz=203,SNR=5.8
I58A Old Forge 32.68 16 P 06 44 07.0
baz=202,SNR=5.9
H53A Bobcaygeon 32.70 11 P 06 44 06.7
baz=195,SNR=7.1
J60A Lant Hill Farm 32.71 18 P 06 44 07.8
baz=205
I57A Carthage 32.73 15 P 06 44 07.0
baz=200
SADO Sadowa 32.79 10 lAmb lAmb 06 44 08.3
comp=Z,28nm,1.4s
DELO Deloro Mine 32.83 12 lAmb lAmb 06 44 08.8
comp=Z,11nm,1.1s
K63A Dunstable 32.84 21 P 06 44 09.0
baz=208
SPMN Marine on St. 32.99 352 P 06 44 07.8
baz=169,SNR=8.0
J61A Chester 33.08 19 P 06 44 10.4
baz=206
I59A Olmsteadville 33.08 17 P 06 44 10.3
baz=204,SNR=7.1
J62A Henniker 33.21 20 P 06 44 12.5
baz=207
H57A Richville 33.29 15 P 06 44 11.6
baz=200
I60A Shoreham 33.30 18 P 06 44 12.8
baz=204
O20A White River Ci 33.37 329 P 06 44 13.5
baz=140
PLVO Plevna 33.45 13 lAmb lAmb 06 44 14.2
comp=Z,10nm,0.9s
SUSD Miller 33.47 344 P 06 44 12.0
baz=158
BC3 Big Chuckawall 33.54 314 P 06 44 14.7
baz=122
H58A Gabriels 33.57 16 P 06 44 14.2
baz=203,SNR=6.8
G54A Lake Saint Pet 33.59 11 P 06 44 14.1
baz=195,SNR=10
F36A Milaca 33.71 352 lAmb lAmb 06 44 14.9
comp=Z,6.9nm,0.8s
I61A Oroboro, Fairl 33.71 19 P 06 44 16.6
baz=206
E43A Lone Tree Farm 33.74 360 lAmb lAmb 06 44 15.8
comp=Z,7.5nm,0.8s
H59A Cadyville 33.91 17 P 06 44 17.3
baz=203
I62A Tamworth 33.95 20 P 06 44 18.8
baz=208
G57A Newington 33.99 15 P 06 44 18.3
baz=201
LPAZ La Paz 34.06 147 P **P** **06 44 18.8 -0.5**
comp=Z,2.9nm,0.7s,baz=344,slow=4.7,SNR=20
LPAZ La Paz 34.06 147 P **P** **06 44 18.6 -0.8**
LPAZ La Paz 34.06 147 *eP* **P** **06 44 17.8 -1.5**
LBNH Lisbon 34.08 19 P 06 44 19.6
baz=206
BELC Belle Mtn. Jos 34.10 314 P 06 44 19.7
baz=122
FRNY Flat Rock 34.12 17 lAmb lAmb 06 44 20.4
comp=Z,16nm,1.1s
H60A Morristown 34.13 18 P 06 44 19.2
baz=205
ALGO Algonquin Park 34.13 11 P 06 44 18.8
baz=195,SNR=8.8
E38A The Farm, Brul 34.20 354 lAmb lAmb 06 44 19.5
comp=Z,19nm,1.2s
G58A Ormstown 34.28 16 P 06 44 20.5
baz=202
H61A Lyndonville 34.34 19 P 06 44 21.5
baz=206
I63A Otisfield 34.36 21 P 06 44 21.8
baz=209
D41A Chassel 34.45 358 lAmb lAmb 06 44 22.6
comp=Z,17nm,1.4s
G60A Masonville 34.72 18 P 06 44 24.5
baz=205
F57A Harrington 34.73 15 P 06 44 24.3
baz=201
MURC Murrieta 34.75 312 P 06 44 24.6
baz=120
RSSD Black Hills 34.80 338 P 06 44 25.2
baz=150
F58A St-Lin Laurent 35.00 16 P 06 44 26.3
baz=202
E55A Montcerf-Lytto 35.01 13 P 06 44 26.7
baz=198
H63A New Sharon 35.09 21 P 06 44 28.5
baz=209
PB16 IPOC Station P 35.09 151 lAmb lAmb 06 44 31.6
comp=Z,13nm,0.6s
G61A St-Isidore-de- 35.14 19 P 06 44 28.3
baz=206
F59A Saint Guilaume 35.27 17 P 06 44 29.5
baz=204
E56A St. Veronique 35.33 14 P 06 44 29.3
baz=200
H64A Troy 35.36 22 P 06 44 30.3
baz=210
G62A West of Eustis 35.41 20 P 06 44 30.9
baz=208,SNR=6.3
E58A La Victoria 35.62 16 P 06 44 31.8
baz=203,SNR=6.6
F60A Warwick 35.63 18 P 06 44 31.7
baz=205,SNR=5.1
D55A Sainte-Anne-du 35.67 13 P 06 44 32.1
baz=199,SNR=16
MNMC Minye Minye 35.73 151 lAmb lAmb 06 44 35.8
comp=Z,18nm,0.8s
D56A ZEC Mazanza, M 35.87 14 P 06 44 33.6
baz=200
PKME Peaks-Kenny Pk 35.87 21 P 06 44 34.9
baz=210
TPNV Topopah Spring 35.89 318 P 06 44 34.6
baz=125
E28A Huff 35.91 344 lAmb lAmb 06 44 34.5
comp=Z,10nm,0.8s
EDW2 Edwards Air Fo 35.97 314 P 06 44 35.4
baz=121
BW06 Boulder Array 36.02 331 P 06 44 35.2
baz=140
PDAR Pinedale Array 36.02 331 P **P** **06 44 35.2 -0.1**
comp=Z,1.1nm,0.7s,baz=126,slow=11,SNR=9.7
FURC Furnace Creek, 36.03 317 P 06 44 36.1
baz=124
E60A Ste Agathe de 36.14 18 P 06 44 36.7
baz=206
F62A Pittston Farm, 36.19 20 P 06 44 37.3
baz=208
F63A Nahmakanta, Br 36.32 21 P 06 44 38.2
baz=210
VLDQ Val d'Or 36.32 11 lAmb lAmb 06 44 38.6
comp=Z,13nm,1.3s
D58A Chemin du LacG 36.39 16 P 06 44 38.4
baz=203,SNR=9.8
AGMN Agassiz Nation 36.45 350 P 06 44 37.8
baz=165
E61A Lac Etchemin 36.49 19 P 06 44 40.0
baz=207
LATQ La Tuque 36.68 16 P 06 44 40.9
baz=203,SNR=10.0
LATQ La Tuque 36.68 16 lAmb lAmb 06 44 42.0
comp=Z,9.6nm,0.8s
F64A Sherman 36.72 22 P 06 44 42.2
baz=211
F64A Sherman 36.72 22 lAmb lAmb 06 44 43.0
comp=Z,16nm,0.8s
D60A Saint Jean D'O 36.79 18 P 06 44 42.0
baz=206,SNR=5.4
MDND Maddock 36.81 346 P 06 44 41.3
baz=159
E62A Clayton Lake 36.97 20 lAmb lAmb 06 44 44.6
comp=Z,13nm,0.9s
E62A Clayton Lake 36.97 20 P 06 44 43.6
baz=209
E63A Oxbow 37.18 21 P 06 44 46.0
baz=210
E63A Oxbow 37.18 21 lAmb lAmb 06 44 46.4
comp=Z,16nm,0.8s
D61A St Aubert, Com 37.27 19 P 06 44 46.4
baz=207,SNR=7.5
LSQQ Lebel-sur-Quev 37.31 11 P 06 44 45.6
baz=196
E64A Bridgewater 37.39 22 P 06 44 47.5
baz=211
D62A Allapoint, All 37.53 20 P 06 44 48.6
baz=209,SNR=7.6
D62A Allapoint, All 37.53 20 lAmb lAmb 06 44 49.6
comp=Z,20nm,0.8s
ELK Elko 37.59 324 P **P** **06 44 49.3 +0.6**
comp=Z,1.9nm,0.8s,baz=220,slow=7.9,SNR=5.7
RLMT Red Lodge 37.72 334 P 06 44 49.5
baz=142
D63A Stockholm 37.82 21 P 06 44 51.0
baz=211
MATQ Matagami 37.88 10 P 06 44 50.2
baz=195,SNR=9.5
NVAR Mina Array Bea 38.08 318 P **P** **06 44 53.8 +1.0**
comp=Z,1.1nm,0.7s,baz=127,slow=7.6,SNR=10
NVAR pP **pP** **06 45 31.6 +1.6**
comp=Z,0.9nm,0.9s,baz=133,slow=8.2,SNR=3.2
NVAR PcP **PcP** **06 47 04.1 -0.3**
comp=Z,0.1nm,0.4s,baz=136,slow=3.3,SNR=2.8
SIV San Ignacio 38.08 137 P **P** **06 44 50.8 -2.0**
comp=Z,2.2nm,0.6s,baz=307,slow=9.1,SNR=5.9
SIV pP **pP** **06 45 29.9 -0.1**
comp=Z,1.4nm,0.7s,baz=327,slow=7.8,SNR=2.5
LMN Caledonia Moun 38.09 25 P **P** **06 44 53.3 +0.8**
PB09 IPOC Station P 38.21 153 lAmb lAmb 06 44 56.8
comp=Z,22nm,1.0s
ULM Lac du Bonnet 38.35 351 P **P** **06 44 53.0 -1.6**
comp=Z,5.2nm,0.6s,baz=178,slow=8.5,SNR=15
ULM Lac du Bonnet 38.35 351 lAmb lAmb 06 44 54.0
comp=Z,16nm,1.2s
CHGQ Chibougamau 38.65 13 P 06 44 56.6
baz=200
BATG Bathurst New B 38.76 23 lAmb lAmb 06 45 02.1
comp=Z,19nm,1.1s
HLID Hailey 39.02 328 P 06 45 01.2
baz=134
LVC Limon Verde 39.07 153 P **P** **06 45 02.2 +0.9**
comp=Z,5.7nm,0.7s,baz=294,slow=5.5,SNR=4.3
LVC Limon Verde 39.07 153 P **P** **06 45 02.5 +1.1**
WVOR Wild Horse Val 40.63 323 P **P** **06 45 14.1 +0.3**
MSO Missoula 41.12 332 P 06 45 17.4
baz=137
AC02 Maricunga 42.72 156 P **P** **06 45 32.8 +1.4**
NEW Newport 43.66 331 P 06 45 37.4
baz=134
FFC Flin Flon 43.76 347 P **P** **06 45 38.8 0.0**
DRLN Deer Lake 43.87 28 P **P** **06 45 39.6 -0.1**
DRLN lAmb lAmb 06 45 40.5
comp=Z,19nm,1.1s
H04A Detroit Lake 44.04 324 P **P** **06 45 40.9 -0.3**
H04A lAmb lAmb 06 45 57.3
comp=Z,16nm,1.5s
SCHQ Schefferville 45.02 16 P **P** **06 45 47.9 -0.9**
comp=Z,15nm,1.0s,baz=232,slow=6.1,SNR=11
SCHQ Schefferville 45.02 16 P **P** **06 45 47.6 -1.1**
SCHQ lAmb lAmb 06 45 49.0
comp=Z,16nm,1.0s
BDFB Brasilia 47.49 125 P **P** **06 46 05.7 -2.9**
comp=Z,1.6nm,0.6s,baz=342,slow=9.6,SNR=3.2
VA03 San Esteban 47.63 161 lAmb lAmb 06 46 11.3
comp=Z,13nm,0.8s
BO01 Tunca 48.99 163 P **P** **06 46 19.2 -0.5**
BO01 lAmb lAmb 06 46 21.3
comp=Z,28nm,1.4s
BO02 Sierra Bellavi 49.45 163 P **P** **06 46 23.7 +0.4**
BO02 lAmb lAmb 06 46 25.8
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 53.71 344 P **P** **06 46 53.5 -0.9**
comp=Z,1.6nm,0.8s,baz=138,slow=7.9,SNR=9.1
YKA pP **pP** **06 47 33.5 -0.6**
comp=Z,1.8nm,0.8s,baz=136,slow=8.3,SNR=5.9
PLCA Paso Flores 55.09 165 P **P** **06 47 04.5 -0.2**
PLCA lAmb lAmb 06 47 33.6
comp=Z,11nm,0.9s
EPYK Eagle Plains 63.22 340 P 06 48 00.0
baz=123
MCARA McCarthy VSAT 63.24 333 P 06 47 59.8
baz=115
INK Inuvik 63.33 342 P 06 47 59.8
baz=127
L27K Beaver Creek, 63.47 335 P 06 48 01.5
baz=117
ILAR Eielson Array 66.21 336 P **P** **06 48 17.9 -1.6**
comp=Z,0.8nm,0.9s,baz=125,slow=5.3,SNR=6.5
ILAR pP **pP** **06 48 59.5 -1.2**
comp=Z,1.0nm,1.0s,baz=117,slow=4.6,SNR=3.7
MLY Manley 67.84 336 P 06 48 28.5
baz=109
ESDC Sonseca Array 76.63 52 P **P** **06 49 21.8 -0.7**
comp=Z,1.5nm,0.8s,baz=288,slow=5.4,SNR=7.9
ESDC pP **pP** **06 50 04.4 -0.6**
comp=Z,2.5nm,1.0s,baz=291,slow=6.7,SNR=5.5
CTA Charters Tower 128.72 254 PKP **PKPdf** **06 56 38.2 +0.1**
comp=Z,8.6nm,0.9s,baz=96,slow=10,SNR=2.9
LZH Lanzhou 130.62 349 ∥PKP **PKiKP** **06 56 44.7 +2.2**
LZH pPKP pPKPdf 06 57 28.3 +1.1
LZH sPKP 06 57 46.0
STKA Stephens Creek 131.69 238 PKP **PKPdf** **06 56 43.8 +0.3**
comp=Z,3.5nm,0.6s,baz=106,slow=3.5,SNR=11
ASAR Alice Springs 139.90 248 PKhKP PKPpre 06 56 50.5
comp=Z,1.4nm,0.6s,baz=113,slow=3.4,SNR=13
ASAR PKP **PKPdf** **06 56 59.2 +0.2**
comp=Z,3.6nm,0.7s,baz=103,slow=2.0,SNR=19
WRA Warramunga Arr 139.92 254 PKhKP PKPpre 06 56 50.7
comp=Z,1.7nm,0.8s,baz=93,slow=3.4,SNR=11
WRA PKP **PKPdf** **06 56 59.4 +0.3**
comp=Z,0.6nm,0.5s,baz=92,slow=2.6,SNR=4.7

IDC 09 06:40:02.8±3.1, 53.79N×88.08E, h0km, mb1 3.1/2, mb1mx3.0/51, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=26.5km s-min=18.0km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**276**	*i*		06 52 24.2	
	baz=91,slow=303,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.94**	**276**	Pg	Pn	06 40 37.9	+0.9
	1.9nm,0.3s,baz=93,slow=13,SNR=22						
ZALV				Lg	Lg	06 41 04.4	
	4.9nm,0.3s,baz=97,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**6.67**	**245**	Pn	Pn	06 41 42.7	+0.8
	0.2nm,0.3s,baz=61,slow=14,SNR=9.6						
KURBB				Sn	Sn	06 42 57.8	-0.9
	0.0nm,0.3s,baz=53,slow=35,SNR=1.3						
KURBB				Lg	Lg	06 43 35.5	
	0.1nm,0.3s,baz=64,slow=33,SNR=1.1						
MKAR	**Makanchi Array**	**7.92**	**210**	Pn	Pn	06 42 00.1	+0.9
	0.1nm,0.3s,baz=33,slow=16,SNR=5.3						
MKAR				Lg	Lg	06 44 13.4	
	0.1nm,0.3s,baz=21,slow=20,SNR=1.2						

*IDC **09** 06:41:36.6±0.4, 35.40S×105.89W, h0km, mb4.7/29, mb1 4.8/30, mb1mx4.7/45, mbtmp4.7/30, ML4.6/1, MS4.7/23, Ms1 4.6/23, ms1mx4.5/31, Error ellipse: s-maj=13.7km s-min=11.8km az=109.0*

*NEIC **09** 06:41:38.7±2.2, 35.37S±0.09×105.8W±0.1, h10km±1km, mb5.0/302, Mwb5.4/25, Mwc5.5(GCMT), Error ellipse: s-maj=17.7km s-min=15.3km az=265.0*

*NEIC **09** 06:41:38.9, 35.36S×105.78W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.03; $M_{\theta\theta}$=0.46; $M_{\phi\phi}$=0.48; $M_{r\theta}$=0.44; $M_{\theta\phi}$=-1.20; $M_{\phi r}$=0.26; Fault plane solution: $M_0$1.38000×10^{17} NP1:ϕ_s100.01000°, δ84.79000°, λ160.24000°. NP2:ϕ_s191.88000°, δ70.32000°, λ5.54000°. Principal axes: T 1.4450, Plg18.0000°, Azm54.0000°; N -0.1361, Plg70.0000°, Azm266.0000°; P -1.3089, Plg10.0000°, Azm147.0000°;*

*NEIC **09** 06:41:42.35.41S×105.77W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.28; $M_{\theta\theta}$=0.47; $M_{\phi\phi}$=0.74; $M_{r\theta}$=0.18; $M_{\theta\phi}$=-1.92; $M_{\phi r}$=0.36; Fault plane solution: $M_0$2.07000×10^{17} NP1:ϕ_s98.00000°, δ82.00000°, λ175.00000°. NP2:ϕ_s189.00000°, δ85.00000°, λ8.00000°. Principal axes: T 2.2140, Plg9.0000°, Azm54.0000°; N -0.3357, Plg81.0000°, Azm218.0000°; P -1.8783, Plg2.0000°, Azm324.0000°;*

*GCMT **09** 06:41:42.7±0.1, 35.34S±0.01×105.76W±0.01, h15km, MW5.4/151, Moment Tensor Solution. s126,c229; s151,c290; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.24±.02; $M_{\theta\theta}$-0.35±.02; $M_{\phi\phi}$0.59±.02; $M_{r\theta}$0.23±.06; $M_{\theta\phi}$-1.59±.02; $M_{\phi r}$-0.59±.07; Best double couple: $M_0$1.75400×10^{17} NP1:ϕ_s97.00000°, δ73.00000°, λ174.00000°. NP2:ϕ_s189.00000°, δ85.00000°, λ17.00000°. Principal axes: T 1.9480, Plg16.0000°, Azm54.0000°; N -0.3890, Plg72.0000°, Azm206.0000°; P -1.5590, Plg8.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 06:41:38.9±0.3, 35.32S±0.07×105.84W±0.07, h15km, n357, σ1.5 27/203, mb4.9/170, MS4.6/26, 2C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.70**	**339**	Pn	**Pn**	**06 43 45.8**	**+1.7**
	6.8nm,0.3s,baz=184,slow=11,SNR=5.7						
RPN				LR	LR	06 46 13.1	
	comp=Z,7μm,20.8s,baz=146,slow=32						
H03S2	**Juan Fernandez**	**22.19**	**94**	T	T	07 09 42.0	
	baz=258,slow=76,SNR=40						
H03S1	**Juan Fernandez**	**22.21**	**94**	T	T	07 09 40.0	
	baz=258,slow=76,SNR=68						
H03S3	**Juan Fernandez**	**22.21**	**94**	T	T	07 09 36.3	
	baz=258,slow=76,SNR=74						
H03N2	**Juan Fernandez**	**22.27**	**93**	T	T	07 09 44.1	
	baz=247,slow=72,SNR=17						
H03N3	**Juan Fernandez**	**22.27**	**93**	T	T	07 09 44.3	
	baz=247,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**22.28**	**93**	T	T	07 09 41.0	
	baz=247,slow=72,SNR=9.5						
GO05	**Huala**	**27.65**	**99**	P	**P**	**06 47 26.9**	**+0.9**
GO05				lAmb	lAmb	06 47 38.2	
	comp=Z,23nm,0.9s						
RKT	**Rikitea**	**28.07**	**288**	*e*LQ	LQ	06 53 12.8	
	comp=Z,2μm,28.8s						
RKT	**Rikitea**	**28.07**	**288**	*e*T	T	07 16 35.3	
	comp=Z,1.6nm,0.3s						
VA05	**Santo Domingo**	**28.18**	**97**	P	**P**	**06 47 31.6**	**+0.8**
VA05				lAmb	lAmb	06 47 32.3	
	comp=Z,24nm,1.0s						
PLCA	**Paso Flores**	**28.19**	**112**	P	**P**	**06 47 32.5**	**+1.5**
	comp=Z,12nm,0.8s,baz=267,slow=9.4,SNR=14						
PLCA				LR	LR	06 55 31.4	
	comp=Z,933nm,20.2s,baz=282,slow=30						
PLCA	**Paso Flores**	**28.19**	**112**	P	**P**	**06 47 31.8**	**+0.8**
PLCA	**Paso Flores**	**28.19**	**112**	*e*P	**P**	**06 47 32.7**	**+1.8**
BO01	**Tunca**	**28.45**	**98**	P	**P**	**06 47 34.2**	**+1.0**
BO01				lAmb	lAmb	06 47 38.0	
	comp=Z,28nm,1.3s						
BO02	**Sierra Bellavi**	**28.62**	**99**	P	**P**	**06 47 35.1**	**+0.4**
MT09	**Talagante**	**28.66**	**97**	P	**P**	**06 47 34.6**	**-0.6**
MT09				lAmb	lAmb	06 47 37.1	
	comp=Z,22nm,1.1s						
GO09	**Cerro Castillo**	**28.81**	**134**	P	**P**	**06 47 38.0**	**+1.7**
MT03	**Universidad Ad**	**29.12**	**97**	P	**P**	**06 47 39.4**	**+0.2**
MT03				lAmb	lAmb	06 47 43.8	
	comp=Z,28nm,1.1s						
VA03	**San Esteban**	**29.26**	**95**	P	**P**	**06 47 41.1**	**+0.6**
VA03				lAmb	lAmb	06 48 11.6	
	comp=Z,27nm,1.2s						
CO02	**Combarbal**	**29.33**	**92**	P	**P**	**06 47 41.2**	**0.0**
CO02				lAmb	lAmb	06 47 43.9	
	comp=Z,26nm,1.0s						
CO03	**El Pedregal**	**29.70**	**91**	P	**P**	**06 47 46.0**	**+1.6**
CO03				lAmb	lAmb	06 48 15.3	
	comp=Z,45nm,1.7s						
GO04	**Tololo Observa**	**29.82**	**90**	P	**P**	**06 47 45.9**	**+0.3**
LCO	**Las Campanas**	**30.30**	**88**	P	**P**	**06 47 51.7**	**+1.8**
ZON	**Zonda**	**31.12**	**94**	P	**P**	**06 47 57.6**	**+0.7**
USHA	**Ushuaia**	**32.30**	**139**	LR	LR	06 58 12.6	
	comp=Z,4μm,19.9s,baz=332,slow=31						
AC02	**Maricunga**	**32.41**	**85**	P	**P**	**06 48 07.8**	**-1.1**
GO02	**Mina Guanaco**	**32.76**	**82**	P	**P**	**06 48 11.8**	**+0.2**
GO02				lAmb	lAmb	06 48 25.8	
	comp=Z,19nm,1.0s						
LVC	**Limon Verde**	**34.51**	**79**	P	**P**	**06 48 27.1**	**0.0**
	comp=Z,16nm,0.9s,baz=252,slow=7.7,SNR=9.2						
LVC				LR	LR	06 58 40.1	
	comp=Z,2μm,21.8s,baz=253,slow=30						
LVC	**Limon Verde**	**34.51**	**79**	P	**P**	**06 48 27.0**	**0.0**
LVC				lAmb	lAmb	06 48 31.2	
	comp=Z,20nm,0.9s						
LVC	**Limon Verde**	**34.51**	**79**	*e*P	**P**	**06 48 27.2**	**+0.2**
PB01	**IPOC Station P**	**34.85**	**76**	P	**P**	**06 48 30.5**	**+0.9**
PB01				lAmb	lAmb	06 48 32.5	
	comp=Z,22nm,1.0s						
NNA	**Nana**	**35.05**	**56**	P	**P**	**06 48 31.2**	**-0.1**
	comp=Z,9.0nm,0.6s,baz=233,slow=11,SNR=5.2						
NNA				LR	LR	06 59 10.0	
	comp=Z,4μm,19.9s,baz=244,slow=30						
NNA	**Nana**	**35.05**	**56**	lAmb	lAmb	06 48 32.3	
	comp=Z,19nm,1.0s						
PB11	**IPOC Station P**	**35.41**	**74**	P	**P**	**06 48 35.6**	**+1.0**
PB11				lAmb	lAmb	06 48 37.2	
	comp=Z,28nm,1.1s						
PB08	**IPOC Station P**	**35.59**	**75**	lAmb	lAmb	06 48 39.0	
	comp=Z,24nm,1.0s						
MNMC	**Minye Minye**	**35.80**	**73**	lAmb	lAmb	06 48 40.3	
	comp=Z,31nm,1.1s						
ATAH	**Atahualpa**	**37.70**	**48**	P	**P**	**06 48 55.9**	**+1.4**
	comp=Z,12nm,0.8s,baz=251,slow=6.6,SNR=8.1						
LPAZ	**La Paz**	**38.58**	**70**	P	**P**	**06 49 03.0**	**+0.9**
	comp=Z,20nm,1.2s,baz=237,slow=6.6,SNR=22						
LPAZ				LR	LR	07 01 40.5	
	comp=Z,819nm,20.9s,baz=242,slow=31						
LPAZ	**La Paz**	**38.58**	**70**	P	**P**	**06 49 02.0**	**-0.1**
LPAZ	**La Paz**	**38.58**	**70**	*e*P	**P**	**06 49 02.7**	**+0.6**
LPAZ	**La Paz**	**38.58**	**70**	*e*P	**P**	**06 49 01.5**	**-0.6**
PMSA	**Palmer Station**	**38.62**	**153**	LR	LR	07 00 57.9	
	comp=Z,2μm,19.0s,baz=296,slow=30						
TBI	**Tubuai**	**39.56**	**275**	*e*S	S	06 54 57.1	-15
	comp=Z,584nm,27.5s						
TBI				*e*LQ	LQ	06 58 00.0	
	comp=Z,4μm,34.5s						
TBI				*e*LR	LR	06 59 37.8	
	comp=Z,1μm,27.0s						
TBI	**Tubuai**	**39.56**	**275**	*e*T	T	07 30 53.6	
	comp=Z,9.0nm,0.3s						
TAOE	**Nuku Hiva Isla**	**40.92**	**302**	*e*LR	LR	07 00 27.5	
	comp=Z,2μm,27.0s						
TAOE	**Nuku Hiva Isla**	**40.92**	**302**	*e*T	T	07 32 42.4	
	comp=Z,54nm,0.2s						
CZSB	**Cruzeiro do Su**	**40.93**	**56**	*e*P	**P**	**06 49 20.4**	**-0.5**
MEH	**Mehetia**	**41.21**	**284**	*e*T	T	07 32 59.2	
	comp=Z,25nm,0.3s						
ITQB	**Itaqui**	**41.55**	**97**	P	**P**	**06 49 26.3**	**+0.4**
ITQB				lAmb	lAmb	06 49 35.1	
	comp=Z,36nm,0.9s						
ITQB	**Itaqui**	**41.55**	**97**	*e*P	**P**	**06 49 25.4**	**-0.5**
CPUP	**Villa Florida**	**42.26**	**92**	P	**P**	**06 49 31.2**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=284,slow=5.0,SNR=9.2						
CPUP				LR	LR	07 04 05.5	
	comp=Z,587nm,21.8s,baz=252,slow=32						
CPUP	**Villa Florida**	**42.26**	**92**	*e*P	**P**	**06 49 30.8**	**-1.0**
TIAR	**Tiarei**	**42.40**	**283**	*e*T	T	07 34 28.6	
	comp=Z,1.7nm,0.3s						
PPT2	**Papeete2**	**42.57**	**283**	*e*S	S	06 55 43.0	-14
	comp=Z,176nm,26.0s						
PPT2				*e*LQ	LQ	06 59 17.6	
	comp=Z,6μm,28.5s						
PPT2				*e*LR	LR	07 01 03.4	
	comp=Z,592nm,26.0s						
PPT	**Papeete**	**42.58**	**283**	P	**P**	**06 49 35.1**	**+0.7**
	comp=Z,30nm,0.8s,baz=94,slow=13,SNR=3.1						
PLTB	**Pedras Altas**	**43.27**	**101**	P	**P**	**06 49 38.4**	**-1.6**
PLTB				lAmb	lAmb	06 49 57.4	
	comp=Z,16nm,0.9s						
PLTB	**Pedras Altas**	**43.27**	**101**	*e*P	**P**	**06 49 40.0**	**+0.1**
OTAV	**Otavalo**	**43.64**	**42**	P	**P**	**06 49 40.9**	**-2.6**
OTAV	**Otavalo**	**43.64**	**42**	*e*P	**P**	**06 49 40.4**	**-3.1**
OTAV	**Otavalo**	**43.64**	**42**	*e*P	**P**	**06 49 41.3**	**-2.2**
CPSB	**Cacapava Do Su**	**43.87**	**99**	*e*P	**P**	**06 49 44.9**	**+0.1**
ETMB	**Extrema**	**44.09**	**65**	*e*P	**P**	**06 49 45.7**	**-0.9**
SIV	**San Ignacio**	**44.28**	**76**	P	**P**	**06 49 48.1**	**-0.1**
	comp=Z,37nm,1.1s,baz=254,slow=12,SNR=72						
PTLC	**Puerto Leguiza**	**45.66**	**46**	*e*P	**P**	**06 49 56.0**	**-3.1**
PTLB	**Pontes e Lacer**	**46.12**	**77**	*e*P	**P**	**06 50 02.2**	**-0.5**
ITAB	**Concordia**	**46.14**	**95**	*e*P	**P**	**06 50 02.9**	**+0.1**
SOTA	**Rioblanco**	**46.23**	**43**	*e*P	**P**	**06 50 04.5**	**+0.3**
AQDB	**Aquidauana**	**46.25**	**85**	P	**P**	**06 50 02.5**	**-1.2**
AQDB	**Aquidauana**	**46.25**	**85**	*e*P	**P**	**06 50 03.4**	**-0.4**
FLOC	**Florencia**	**46.31**	**44**	lAmb	lAmb	06 50 05.9	
	comp=Z,30nm,1.5s						
FLOC	**Florencia**	**46.31**	**44**	*e*P	**P**	**06 50 04.5**	**+0.2**

PCON **Cinco Dias** 46.50 43 *e*P P **06 50 06.2 -0.2**
POPC **Popayan, Colom** 46.53 42 *e*P P 06 50 00.0 -6.1
VILB **Vilhena** 46.72 73 *e*P P **06 50 07.5 -0.1**
MARP **Paez Belalcaza** 47.17 43 *e*P P 06 50 00.0 -11
PTGB **Pitanga** 47.25 92 *e*P P **06 50 11.6 -0.1**
YOTC **Yotoco, Valle** 47.91 41 *e*P P **06 50 17.4 +0.6**
TER01 **Tubaro-SC** 48.06 99 *e*P P **06 50 19.9 +2.1**
PP1B **Ponte de Pedra** 48.38 82 *e*P P **06 50 20.6 +0.2**
ORTC **Ortega, Tolima** 48.45 43 *e*P P **06 50 19.9 -1.0**
SALV **Santo Antonio** 48.63 80 *e*P P **06 50 21.7 -0.6**
PLMC **San Jos del P** 48.71 41 *e*P P **06 50 18.4 -4.6**
TOLC **Tolima** 48.97 42 *e*P P **06 50 25.6 +0.4**
RAR **Rarotonga** 48.98 272 P P 06 50 30.5 +5.5
comp=Z,24nm,0.7s,baz=166,slow=12,SNR=5.0
RAR LR LR 07 03 25.9
comp=Z,144nm,21.6s,baz=347,slow=27
SRBA **San Rafael, Bu** 49.14 30 IAmb IAmb 06 50 28.1
comp=Z,23nm,1.2s
RREF **El Recreo** 49.21 42 *e*P P **06 50 25.8 -1.7**
PCMB **Pacaembu** 49.33 89 *e*P P **06 50 27.8 +0.2**
GUY2C **Guyana, Caldas** 49.47 42 *e*P P **06 50 29.2 0.0**
JTS **Las Juntas de** 49.48 27 P P **06 50 29.6 +0.8**
comp=Z,19nm,1.1s,baz=256,slow=5.2,SNR=5.3
JTS **Las Juntas de** 49.48 27 IAmb IAmb 06 50 31.0
comp=Z,41nm,1.2s
CBOC **Ciudad Bolivar** 49.66 40 *e*P P **06 50 31.4 +1.1**
ROSC **El Rosal** 49.73 43 P P **06 50 32.9 +1.7**
comp=Z,22nm,0.8s,baz=289,slow=9.0,SNR=16
ROSC LR LR 07 07 34.9
comp=Z,2µm,21.6s,baz=228,slow=31
FRTB **Fartura** 49.91 92 *e*P P **06 50 32.1 0.0**
HELC **Santa Helena** 50.19 41 *e*P P **06 50 35.1 +0.4**
SPBC **San Pablo de B** 50.54 43 *e*P P **06 50 35.6 -1.3**
ITRB **Iturama** 50.99 88 *e*P P **06 50 40.6 +0.3**
RUSC **La Rusia** 51.29 44 IAmb IAmb 06 50 48.5
comp=Z,31nm,1.2s
RUSC **La Rusia** 51.29 44 *e*P P **06 50 43.0 -0.1**
PET01 **Itanhaem-SP** 51.35 94 *e*P P **06 50 43.6 +0.7**
CLDB **Colider** 51.41 74 *e*P P **06 50 42.6 -0.9**
UREC **San Jos de Ur** 51.50 40 *e*P P **06 50 42.9 -1.1**
SPB **Sao Paulo** 51.53 94 IAmb IAmb 06 51 02.4
comp=Z,21nm,1.2s
SPB **Sao Paulo** 51.53 94 *e*P P **06 50 46.5 +2.2**
ZARC **Zaragoza, Cauc** 51.64 41 *e*P P **06 50 44.8 -0.3**
BB19B **Bebedouro** 51.82 90 *e*P P **06 50 47.0 +0.4**
MTO3 **Montecristo** 51.86 20 P P **06 50 47.2 +0.3**
MTO3 IAmb IAmb 06 50 49.1
comp=Z,18nm,1.1s
ARAG **Araguaiana, MT** 51.87 82 *e*P P **06 50 46.6 -0.3**
APG **El Apazote** 52.13 19 P P **06 50 48.9 -0.1**
comp=Z,8.6nm,1.0s,baz=172,slow=6.7,SNR=6.2
TGUH **Tegucigalpa,Un** 52.17 23 P P **06 50 48.9 -0.2**
TGUH **Tegucigalpa,Un** 52.17 23 *e*P P **06 50 49.0 -0.1**
VAO **Valinhos** 52.19 93 *e*P P **06 50 50.2 +0.9**
MOTC **Monteria, Cord** 52.30 39 *e*P P **06 50 49.5 -0.5**
PAMC **Pamplona, Colo** 52.69 43 *e*P P 06 50 47.8 -5.6
TLIG **Tlapa** 53.04 9 IAmb IAmb 06 50 57.9
comp=Z,12nm,0.9s
OCAC **Ocana** 53.09 42 *e*P P **06 50 51.5 -4.5**
PARB **Paraibuna** 53.13 94 *e*P P **06 50 57.8 +1.5**
CMIG **Matias Romero** 53.15 13 P P **06 50 56.3 +0.2**
comp=Z,4.9nm,1.0s,baz=182,slow=6.1,SNR=4.0
CMIG LR LR 07 06 51.6
comp=Z,416nm,18.3s,baz=302,slow=28
SMLC **San Martn de** 53.16 41 *e*P P **06 50 52.7 -3.6**
SJCC **San Jacinto, C** 53.50 39 P P **06 50 58.8 -0.1**
SJCC **San Jacinto, C** 53.50 39 *e*P P **06 50 57.6 -1.3**
IPMB **Ipameri, GO** 53.61 87 *e*P P **06 50 59.2 -0.6**
NPGB **Novo Progresso** 54.09 71 *e*P P **06 51 01.4 -1.8**
ESAR **Angra dos Reis** 54.24 95 *e*P P **06 51 06.0 +1.7**
SNDB **Serra Nova Dou** 54.35 79 *e*P P **06 51 04.7 -0.5**
PTGA **Pitinga** 54.79 61 P P **06 51 06.3 -2.1**
comp=Z,4.8nm,0.5s,baz=212,slow=7.0,SNR=11
PTGA **Pitinga** 54.79 61 P P **06 51 06.2 -2.1**
PTGA IAmb IAmb 06 51 08.2
comp=Z,17nm,1.2s
QSPA **South Pole Qui** 54.88 180 P P **06 51 09.0 +0.4**
comp=Z,17nm,1.0s,baz=133,slow=5.6,SNR=26
QSPA **South Pole Qui** 54.88 180 P P **06 51 08.8 +0.3**
QSPA IAmb IAmb 06 51 12.2
comp=Z,13nm,0.8s
BDFB **Brasilia** 54.99 85 P P **06 51 09.4 -0.6**
comp=Z,9.9nm,0.9s,baz=240,slow=6.0,SNR=15
BDFB LR LR 07 13 08.0
comp=Z,997nm,18.4s,baz=248,slow=34
BDFB **Brasilia** 54.99 85 P P **06 51 09.9 -0.1**
BDFB IAmb IAmb 06 51 11.8
comp=Z,17nm,1.1s
ITTB **Itaituba** 55.49 68 *e*P P **06 51 11.8 -1.6**
VNDA **Vanda** 56.31 195 P P **06 51 19.8 +1.3**
comp=Z,1.1nm,0.8s,baz=100,slow=6.6,SNR=6.1
VNDA LR LR 07 11 24.1
comp=Z,327nm,18.1s,baz=96,slow=32
VNDA **Vanda** 56.31 195 P P **06 51 20.3 +1.9**
DUB01 **Friburgo-RJ** 56.36 95 *e*P P **06 51 21.6 +2.0**
BOAV **Boa Vista** 56.59 58 *e*P P **06 51 19.9 -1.3**
PEXB **Peixe** 56.69 81 *e*P P **06 51 22.1 0.0**
CAM01 **Campos-RJ** 57.07 95 *e*P P **06 51 26.6 +2.0**
MC01 **Montes Claros** 57.75 88 *e*P P **06 51 30.3 +0.7**
ZAIG **Zacatecas** 57.86 4 IAmb IAmb 06 51 33.0
comp=Z,9.0nm,0.9s
MALB **Monte Alegre** 58.24 67 *e*P P **06 51 31.9 -1.0**
JANB **Januaria** 58.32 86 *e*P P **06 51 34.5 +0.9**
ALF01 **Guarapari-ES** 58.41 94 *e*P P **06 51 35.7 +1.6**
VNA3 **Neumayer Olymp** 58.92 158 P P **06 51 36.5 -0.5**
PRPB **Paraiapebas** 58.95 74 *e*P P **06 51 37.1 -0.8**
SJMB **Sao Joao De Ma** 58.99 92 *e*P P **06 51 38.7 +0.6**
BSFB **Barra de Sao F** 59.20 92 *e*P P **06 51 40.0 +0.4**
SDBA **SAO DESIDERIO** 59.27 83 *e*P P **06 51 40.7 +0.5**
RIB01 **Linhares ES** 59.33 93 *e*P P **06 51 40.9 +0.4**
VNA1 **Neumayer--Stat** 59.55 157 P P **06 51 41.1 -0.2**
URZ **Urewera** 60.05 242 P P **06 51 44.4 -0.8**
comp=Z,9.9nm,0.8s,baz=128,slow=20,SNR=6.1
URZ LR LR 07 11 12.4
comp=Z,900nm,21.5s,baz=134,slow=30
URZ **Urewera** 60.05 242 IAmb IAmb 06 51 59.0
comp=Z,18nm,1.1s
NAN01 **Guarapari, ES** 60.29 92 *e*P P **06 51 47.8 +0.7**
SNAA **Sanae** 60.80 159 P P **06 51 49.1 -0.8**
SNAA **Sanae** 60.80 159 P P **06 51 49.2 -0.8**
comp=Z,14nm,0.8s,baz=260,slow=4.7,SNR=23
SNAA **Sanae** 60.80 159 P P **06 51 49.0 -0.9**
MCPB **Macapa, AP** 60.88 67 *e*P P **06 51 50.5 -0.6**
GUA01 **Guaratinga, BA** 61.20 91 *e*P P **06 51 53.6 +0.3**
HPIG **** 61.92 0 IAmb IAmb 06 52 02.7
comp=Z,14nm,1.3s
CMC01 **Camacan, BA** 62.07 89 *e*P P **06 52 01.3 +2.1**
TMAB **Tom-Au,PA,Br** 62.63 72 *e*P P **06 52 02.9 -0.1**
GDU01 **Guandu, BA** 62.90 88 *e*P P **06 52 07.4 +2.6**
OUZ **Omahuta** 63.88 244 P P **06 52 11.0 0.0**
NBPN **Ponto Novo - B** 63.97 85 *e*P P **06 52 13.7 +1.8**
TX32 **Lajitas Array** 64.34 2 IAmb IAmb 06 52 18.2
comp=Z,8.3nm,1.1s
TXAR **Lajitas Array** 64.34 2 P P **06 52 14.2 +0.2**
comp=Z,4.9nm,1.0s,baz=183,slow=6.8,SNR=30
TXAR LR LR 07 15 47.8
comp=Z,226nm,18.5s,baz=0.0,slow=32
PDPR **Patillas Dam,** 65.12 42 P P **06 52 16.8 -2.4**
ROSB **Rosrio** 65.43 75 *e*P P **06 52 21.4 0.0**
NBLA **Lagarto - SE** 65.85 86 *e*P P **06 52 24.4 +0.3**
319A **Douglas** 66.42 357 IAmb IAmb 06 52 35.7
comp=Z,9.5nm,0.8s
MNTX **Cornudas Mount** 66.67 0 IAmb IAmb 06 52 32.6
comp=Z,12nm,1.4s
NBMA **Muriti-CE** 67.09 83 *e*P P **06 52 32.6 +0.5**
DWPF **Disney Wildern** 67.17 23 P P **06 52 31.1 -1.0**
TUC **Tucson** 67.44 355 P P **06 52 34.9 +1.1**
TUC IAmb IAmb 06 52 44.3
comp=Z,6.7nm,0.8s
NBPB **Pedra_Branca-C** 67.48 81 *e*P P **06 52 34.6 0.0**
121A **Cookes Peak, D** 67.52 358 P P **06 52 35.5 +1.0**
121A IAmb IAmb 06 52 39.5
comp=Z,9.9nm,1.1s
NBAN **Anadia - AL** 67.82 86 *e*P P **06 52 36.7 +0.1**
ABTX **Abilene, Hawle** 67.84 6 IAmb IAmb 06 52 38.3
comp=Z,8.1nm,1.1s
NBMO **Morrinhos-CE** 68.43 78 *e*P P **06 52 40.3 -0.2**
MSVF **Nonsavu** 68.82 263 LR LR 07 15 39.8
comp=Z,271nm,21.6s,baz=128,slow=30
MSTX **Muleshoe** 68.99 3 IAmb IAmb 06 52 47.5
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 69.29 351 P P **06 52 47.8 +2.3**
comp=Z,1.4nm,0.8s,baz=170,slow=9.0,SNR=2.2
NBCL **Cascavel-CE** 69.30 80 *e*P P **06 52 46.4 +0.5**

NBRF **Rio Formoso -** 69.31 86 *e*P P **06 52 47.5 +1.6**
NBPA **Parau_RN** 69.36 82 *e*P P **06 52 45.4 -0.9**
LOOK **Love County** 69.43 8 IAmb IAmb 06 53 00.2
comp=Z,17nm,1.1s
X18A **Snowflake** 69.60 356 IAmb IAmb 06 52 56.7
comp=Z,8.2nm,0.9s
WLAR **White Oak Lake** 69.68 11 IAmb IAmb 06 52 55.5
comp=Z,12nm,0.8s
ANMO **Albuquerque** 69.91 359 P P **06 52 51.6 +2.2**
comp=Z,17nm,1.0s,baz=190,slow=10.0,SNR=4.9
ANMO **Albuquerque** 69.91 359 P P **06 52 51.0 +1.6**
X34A **Smith Ranch, M** 69.96 7 IAmb IAmb 06 52 51.4
comp=Z,18nm,1.1s
Z47A **Carrollton** 70.17 16 IAmb IAmb 06 52 54.6
comp=Z,16nm,1.0s
LRAL **Lakeview Retre** 70.26 17 IAmb IAmb 06 52 55.2
comp=Z,12nm,1.2s
OK025 **Westminster Rd** 70.98 7 IAmb IAmb 06 52 56.9
comp=Z,16nm,1.0s
W39A **Magazine** 71.05 10 IAmb IAmb 06 52 59.9
comp=Z,15nm,1.1s
OK029 **Liberty Lake** 71.19 7 IAmb IAmb 06 52 58.2
comp=Z,16nm,0.9s
WHAR **Wooly Hollow** 71.38 12 IAmb IAmb 06 52 59.7
comp=Z,9.3nm,1.0s
OK030 **Cody Creek RV** 71.39 8 IAmb IAmb 06 52 59.1
comp=Z,11nm,1.0s
OK031 **S. Brethren Rd** 71.41 8 IAmb IAmb 06 52 59.3
comp=Z,13nm,1.0s
GOGA **Godfrey** 71.52 20 IAmb IAmb 06 53 03.2
comp=Z,11nm,1.1s
ISA **Isabella, Lake** 71.60 349 IAmb IAmb 06 53 10.0
comp=Z,12nm,1.3s
PAGB **Antelope Grade** 71.95 348 IAmb IAmb 06 53 20.4
comp=Z,8.9nm,0.9s
FPAL **Fort Paine** 72.03 17 IAmb IAmb 06 53 24.0
comp=Z,9.1nm,1.0s
HHAR **Hobbs** 72.10 10 IAmb IAmb 06 53 03.6
comp=Z,17nm,1.0s
U38A **Gravette** 72.19 10 IAmb IAmb 06 53 04.3
comp=Z,17nm,0.9s
MVCO **Mesa Verde** 72.21 358 IAmb IAmb 06 53 12.1
comp=Z,11nm,0.8s
U40A **Yellville** 72.33 11 IAmb IAmb 06 53 05.1
comp=Z,9.7nm,0.9s
T35A **Sooner Cattle** 72.39 8 IAmb IAmb 06 53 08.4
comp=Z,9.0nm,0.9s
HODGE **Hodges** 72.62 20 IAmb IAmb 06 53 07.4
comp=Z,23nm,1.3s
W50A **Signal Mountai** 72.73 18 IAmb IAmb 06 53 10.4
comp=Z,25nm,1.4s
PRN **Pahroc Range** 72.87 352 IAmb IAmb 06 53 24.4
comp=Z,13nm,1.5s
SYO **Syowa Base** 72.89 168 *e*P P **06 53 04.2 -2.6**
SYO **Syowa Base** 72.89 168 *e*sP sP 06 53 10.0 -2.0
SYO **Syowa Base** 72.89 168 *e*PcP PcP **06 53 25.8 +2.0**
WVT **Wendy** 73.04 15 P P **06 53 07.9 -0.1**
PV01 **Paradox Valley** 73.13 358 IAmb IAmb 06 53 13.5
comp=Z,17nm,1.6s
PBMO **Poplar Bluff** 73.15 13 IAmb IAmb 06 53 12.6
comp=Z,14nm,1.2s
CPCT **Cooper Cave** 73.17 18 IAmb IAmb 06 53 12.6
comp=Z,22nm,1.2s
PV13 **Radium Mtn., P** 73.17 358 IAmb IAmb 06 53 13.4
comp=Z,18nm,1.7s
MGMO **Mountain Grove** 73.20 11 IAmb IAmb 06 53 10.4
comp=Z,11nm,1.1s
PV18 **Skein Mesa, Pa** 73.25 357 IAmb IAmb 06 53 13.9
comp=Z,11nm,1.3s
PV03 **Paradox Valley** 73.26 358 IAmb IAmb 06 53 33.3
comp=Z,25nm,1.8s
T42A **Van Buren** 73.28 12 IAmb IAmb 06 53 11.0
comp=Z,10nm,0.9s
PV16 **Nyswonger Mesa** 73.32 357 IAmb IAmb 06 53 14.3
comp=Z,13nm,1.4s
PV12 **Sauer Basin,** 73.32 358 IAmb IAmb 06 53 15.2
comp=Z,8.5nm,0.9s
PV15 **Paradox Valley** 73.34 358 IAmb IAmb 06 53 20.0
comp=Z,10nm,0.8s
PV14 **Lion Creek, Pa** 73.39 357 IAmb IAmb 06 53 26.6
comp=Z,9.7nm,1.0s
PV04 **Paradox Valley** 73.40 357 IAmb IAmb 06 53 35.2
comp=Z,18nm,1.1s
TKL **Tuckaleechee C** 73.55 19 P P **06 53 11.1 0.0**
comp=Z,18nm,1.0s,baz=181,slow=10,SNR=10
TKL **Tuckaleechee C** 73.55 19 IAmb IAmb 06 53 18.3
comp=Z,13nm,0.8s
R32A **Long Quarter,** 73.67 6 IAmb IAmb 06 53 13.9
comp=Z,17nm,1.3s
KMSC **Kings Mountain** 73.74 21 IAmb IAmb 06 53 13.9
comp=Z,15nm,1.1s
V52A **Sevierville** 73.78 19 IAmb IAmb 06 53 22.2
comp=Z,14nm,1.1s
TCRU **Three Creeks R** 73.82 355 IAmb IAmb 06 55 46.6
comp=Z,9.9nm,0.5s
U49A **Red Boiling Sp** 73.87 17 IAmb IAmb 06 53 16.4
comp=Z,9.5nm,1.0s
CBKS **Cedar Bluff** 73.98 5 IAmb IAmb 06 53 18.3
comp=Z,20nm,1.1s
KSCO **Kaye Shedlock'** 74.02 3 IAmb IAmb 06 53 19.8
comp=Z,19nm,1.0s
SMCO **Snowmass** 74.14 359 IAmb IAmb 06 53 26.8
comp=Z,20nm,1.6s
LHV **Little Huntoon** 74.14 350 IAmb IAmb 06 53 45.3
comp=Z,9.8nm,0.9s
W57A **Gilead** 74.15 22 IAmb IAmb 06 53 23.3
comp=Z,14nm,0.9s
CMB **Columbia Colle** 74.22 348 IAmb IAmb 06 53 25.2
comp=Z,36nm,1.9s
S44A **Carbondale** 74.26 14 IAmb IAmb 06 53 22.8
comp=Z,9.7nm,0.8s
NV11 **Mina Array Sit** 74.27 350 IAmb IAmb 06 53 40.9
comp=Z,18nm,1.1s
NVAR **Mina Array Bea** 74.28 350 P P **06 53 17.4 +1.9**
comp=Z,6.5nm,0.8s,baz=182,slow=7.1,SNR=21
NVAR LR LR 07 19 27.3
comp=Z,288nm,18.3s,baz=176,slow=30
SIUC **Southern Illin** 74.29 14 IAmb IAmb 06 53 19.3
comp=Z,13nm,1.0s
SPR3 **Spring Creek 3** 74.37 353 IAmb IAmb 06 53 32.1
comp=Z,16nm,1.5s
V55A **Taylorsville** 74.44 21 IAmb IAmb 06 53 17.8
comp=Z,11nm,1.0s
WAKR **Walker** 74.53 349 IAmb IAmb 06 53 32.4
comp=Z,21nm,1.7s
KSU1 **Kansas State U** 74.54 7 IAmb IAmb 06 53 25.3
comp=Z,11nm,0.8s
T50A **Nancy** 74.58 17 IAmb IAmb 06 53 21.3
comp=Z,20nm,1.3s
KVN **Kaiserville** 74.87 350 IAmb IAmb 06 53 44.3
comp=Z,12nm,1.1s
U54A **Nelsons Funny** 74.89 20 IAmb IAmb 06 53 36.3
comp=Z,12nm,1.1s
CASY **Casey** 74.93 194 P P **06 53 18.1 -0.7**
O20A **White River Ci** 75.12 358 IAmb IAmb 06 53 37.1
comp=Z,13nm,1.4s
PNTR **Pine Nut** 75.13 349 IAmb IAmb 06 53 50.8
comp=Z,10nm,0.8s
R49A **Shelbyville** 75.71 17 IAmb IAmb 06 53 27.3
comp=Z,22nm,1.4s
DZM **Mont Dzumac** 75.80 253 *e*S SKiKP **07 02 48.5 +3.4**
comp=Z,364nm,27.4s
DZM **Mont Dzumac** 75.80 253 *e*LR LR 07 16 17.5
comp=Z,1µm,32.2s
ORV **Oroville** 75.90 348 P P **06 53 27.3 +2.8**
R50A **Paris** 75.90 17 IAmb IAmb 06 53 28.4
comp=Z,13nm,1.1s
U59A **Littleton** 75.94 23 IAmb IAmb 06 53 26.0
comp=Z,16nm,1.1s
BEKR **Bekworth** 76.01 349 IAmb IAmb 06 53 39.9
comp=Z,7.9nm,0.9s
BGU **Big Grassy Mou** 76.16 354 IAmb IAmb 06 53 30.7
comp=Z,24nm,2.0s
ELK **Elko** 76.19 353 P P **06 53 27.6 +1.2**
comp=Z,1.7nm,0.6s,baz=174,slow=7.3,SNR=4.6
SPUT **South Promonto** 76.50 355 IAmb IAmb 06 53 47.4
comp=Z,18nm,1.8s
P46A **Rosedale** 76.53 15 IAmb IAmb 06 53 35.5
comp=Z,9.3nm,0.8s
T59A **Double "B" Far** 76.58 23 IAmb IAmb 06 53 35.6
comp=Z,13nm,1.1s
RWWY **Rawlins** 76.65 359 P P **06 53 29.2 +0.1**
RWWY IAmb IAmb 06 53 52.7
comp=Z,9.8nm,1.1s
P49A **Miami Univ. Ec** 77.00 17 IAmb IAmb 06 53 34.5
comp=Z,18nm,1.1s
MAW **Mawson** 77.03 176 P P **06 53 31.0 +0.2**
comp=Z,5.0nm,1.0s,baz=196,slow=8.2,SNR=7.5

MAW LR LR 07 27 20.8
comp=Z,331nm,18.1s,baz=195,slow=36
MAW **Mawson** 77.03 176 P P **06 53 31.1 +0.4**
WDC **Whiskeytown Da** 77.08 347 IAmb IAmb 06 53 45.5
comp=Z,9.7nm,1.0s
R58B **Mineral** 77.39 22 IAmb IAmb 06 53 37.2
comp=Z,16nm,1.1s
L34A **Svendsen Farm,** 77.40 7 IAmb IAmb 06 53 37.3
comp=Z,9.8nm,0.8s
O49A **Covington** 77.71 17 IAmb IAmb 06 53 38.8
comp=Z,20nm,1.2s
P53A **Whipple** 77.79 19 IAmb IAmb 06 53 37.5
comp=Z,19nm,1.3s
BW06 **Boulder Array** 77.79 357 IAmb IAmb 06 53 50.4
comp=Z,9.7nm,0.8s
PD31 **Pinedale Array** 77.79 357 P P **06 53 35.8 +0.3**
PD31 IAmb IAmb 06 53 50.4
comp=Z,8.8nm,0.8s
PDAR **Pinedale Array** 77.79 357 P P **06 53 35.5 +0.1**
comp=Z,5.8nm,0.8s,baz=151,slow=6.4,SNR=24
PDAR **Pinedale Array** 77.79 357 P P **06 53 34.5 -1.0**
K31A **O'Neill** 77.84 5 P P **06 53 36.2 +0.8**
MOD **Modoc Plateau** 77.99 349 IAmb IAmb 06 53 54.3
comp=Z,9.7nm,0.8s
L40A **Anamosa** 78.17 11 IAmb IAmb 06 53 41.6
comp=Z,13nm,1.1s
YBH **Yreka Blue Hor** 78.23 347 P P **06 53 38.9 +1.2**
comp=Z,1.5nm,0.8s,baz=212,slow=9.6,SNR=2.9
WVOR **Wild Horse Val** 78.26 350 IAmb IAmb 06 53 48.4
comp=Z,25nm,1.6s
L42A **Oliver, Polo** 78.37 12 IAmb IAmb 06 53 42.1
comp=Z,9.9nm,1.0s
N49A **Columbus Grove** 78.44 17 IAmb IAmb 06 53 43.2
comp=Z,17nm,1.0s
REDW **Red Top Meadow** 78.44 356 IAmb IAmb 06 53 56.0
comp=Z,13nm,1.2s
SNOW **Snow King Moun** 78.54 356 IAmb IAmb 06 53 59.1
comp=Z,9.1nm,1.0s
TPAW **Teton Pass** 78.58 356 IAmb IAmb 06 53 55.2
comp=Z,12nm,0.9s
HLID **Hailey** 78.90 354 IAmb IAmb 06 53 56.9
comp=Z,18nm,0.9s
L46A **Eue Claire** 79.02 15 IAmb IAmb 06 53 49.6
comp=Z,14nm,0.7s
RSSD **Black Hills** 79.09 1 P P **06 53 43.3 +0.7**
ECSD **EROS Data Cent** 79.13 7 IAmb IAmb 06 53 46.8
comp=Z,15nm,1.1s
J08A **Circle Bar Ran** 79.15 351 IAmb IAmb 06 53 52.7
comp=Z,9.6nm,0.9s
FLWY **Flagg Ranch** 79.15 356 IAmb IAmb 06 54 08.0
comp=Z,14nm,0.9s
N54A **Moraine State** 79.55 20 IAmb IAmb 06 53 49.6
comp=Z,24nm,1.4s
I37A **Lemond, Waseca** 79.77 9 IAmb IAmb 06 53 54.8
comp=Z,21nm,0.9s
M53A **WI Miller and** 79.81 19 IAmb IAmb 06 53 50.9
comp=Z,9nm,1.2s
PINE **Pine Mountain** 79.93 349 IAmb IAmb 06 53 57.0
comp=Z,19nm,1.0s
I07A **Izee** 80.00 350 IAmb IAmb 06 53 57.9
comp=Z,16nm,1.0s
J47A **Sunmer** 80.50 15 IAmb IAmb 06 54 02.6
comp=Z,20nm,1.0s
SPMN **Marine on St.** 81.04 9 IAmb IAmb 06 53 58.8
comp=Z,9.8nm,0.8s
H43A **Windswept, Lux** 81.10 13 IAmb IAmb 06 54 03.2
comp=Z,12nm,0.8s
WVNY **West Valley, N** 81.27 20 IAmb IAmb 06 54 03.9
comp=Z,11nm,0.8s
G40A **Rib Lake** 81.46 11 IAmb IAmb 06 54 01.5
comp=Z,10nm,0.9s
F10A **Beach Ranch, E** 81.57 352 IAmb IAmb 06 54 21.6
comp=Z,9.9nm,0.9s
F36A **Milaca** 81.57 9 IAmb IAmb 06 54 05.6
comp=Z,10nm,0.8s
LAO **LASA Array** 81.64 360 IAmb IAmb 06 54 11.9
comp=Z,8.6nm,0.8s
E38A **The Farm, Brul** 82.56 10 IAmb IAmb 06 54 05.1
comp=Z,16nm,1.4s
JTMT **Jette** 83.04 354 IAmb IAmb 06 54 13.5
comp=Z,12nm,0.9s
E43A **Lone Tree Farm** 83.08 13 IAmb IAmb 06 54 08.9
comp=Z,15nm,1.1s
C09A **Chrisman Ranch** 83.50 352 IAmb IAmb 06 54 24.1
comp=Z,9.4nm,1.1s
AGMN **Agassiz Nation** 83.72 7 IAmb IAmb 06 54 11.4
comp=Z,20nm,1.8s
EYMN **Ely** 83.88 10 IAmb IAmb 06 54 36.2
comp=Z,8.2nm,1.1s
B35A **Bob, Littlefor** 84.01 8 IAmb IAmb 06 54 19.6
comp=Z,8.0nm,0.8s
ULM **Lac du Bonnet** 85.66 6 P P **06 54 15.8 -0.6**
comp=Z,12nm,1.1s,baz=212,slow=5.5,SNR=9.4
ULM LR LR 07 27 47.4
comp=Z,117nm,21.1s,baz=198,slow=32
STKA **Stephens Creek** 87.96 232 P P **06 54 27.6 -0.8**
comp=Z,3.0nm,0.8s,baz=148,slow=8.1,SNR=4.5
STKA LR LR 07 26 39.7
comp=Z,815nm,19.6s,baz=169,slow=31
FFC **Flin Flon** 89.75 2 P P 06 54 41.2 +5.2
SCHQ **Schefferville** 95.84 21 LR LR 07 32 06.5
comp=Z,198nm,21.6s,baz=213,slow=32
YKA **Yellowknife Ar** 97.73 356 LR LR 07 34 09.0
comp=Z,179nm,20.0s,baz=0.0,slow=32
ASAR **Alice Springs** 98.51 233 P P **06 55 15.2 -2.0**
comp=Z,0.6nm,0.7s,baz=138,slow=4.4,SNR=5.7
ASAR LR LR 07 35 25.1
comp=Z,862nm,18.1s,baz=144,slow=33
H01W1 **Cape Leeuwin H** 100.79 213 T T 08 48 22.5
baz=146,slow=75,SNR=28
H01W2 **Cape Leeuwin H** 100.79 213 T T 08 48 46.8
baz=146,slow=75,SNR=32
WRA **Warramunga Arr** 100.80 236 P Pdif **06 55 25.9 -1.5**
comp=Z,1.4nm,1.1s,baz=137,slow=4.4,SNR=2.9
H01W3 **Cape Leeuwin H** 100.81 213 T T 08 48 23.7
baz=146,slow=75,SNR=26
ESDC **Sonseca Array** 119.73 60 PKP PKPdf **07 00 27.4 -0.8**
comp=Z,0.4nm,0.4s,baz=310,slow=2.1,SNR=1.9
EKA **Eskdalemuir Ar** 125.10 43 PKP PKPdf **07 00 36.8 -1.1**
comp=Z,0.8nm,0.6s,baz=245,slow=3.0,SNR=2.1
NOA **NORSAR Array B** 133.15 36 PKP PKPdf **07 00 52.8 -0.4**
comp=Z,0.3nm,0.6s,baz=281,slow=2.3,SNR=2.0
TIXI **Tiksi** 134.07 339 PKP PKPdf **07 00 53.3 -1.2**
comp=Z,0.5nm,0.4s,baz=22,slow=3.0,SNR=3.1
CLL **Collm** 134.08 50 *e*PKPdf PKiKP **07 00 57.0 +0.5**
CLL *e*PKSdf PKSdf **07 04 30.0 -1.3**
CLL *e*SP SP 07 13 42.0 -1.7
CLL *e*PPS PPS 07 15 30.0
CLL *e*SSS SSS 07 26 00.0
CLL *e*SSSS 07 29 42.0
GERES **GERESS Array B** 134.31 53 PKP PKPdf **07 00 54.6 -1.1**
comp=Z,0.3nm,0.3s,baz=205,slow=2.1,SNR=4.7
HFS **Hagfors** 134.43 38 PKP PKPdf **07 00 54.7 -0.8**
comp=Z,3nm,0.9s,baz=282,slow=6.8,SNR=2.4
VRAC **Vranov** 136.24 53 PKP PKPdf **07 00 58.7 -0.5**
comp=Z,3.2nm,0.4s,baz=254,slow=7.4,SNR=2.9
KSRS **Korea Array** 137.16 289 PKP PKPdf **07 01 01.2 -0.1**
comp=Z,0.4nm,0.3s,baz=58,slow=2.1,SNR=2.1
FINES **FINESS Array B** 140.11 34 PKP PKPdf **07 01 05.0 -1.0**
comp=Z,1.2nm,0.8s,baz=242,slow=3.0,SNR=1.6
MLR **Muntele Rosu** 142.41 59 PKP PKPdf **07 01 09.9 -0.9**
comp=Z,1.5nm,0.6s,baz=188,slow=7.1,SNR=3.6
NJ2 **Nanjing** 142.90 278 *e*P PKPdf **07 01 12.2 +0.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
AKASG **Malin Array Be** 144.32 50 PKP PKPab **07 01 11.5 -0.4**
comp=Z,0.6nm,0.5s,baz=280,slow=3.9,SNR=11
NRIK **Noril'sk** 145.13 352 PKPbc PKPbc **07 01 13.6 -0.6**
baz=64,slow=2.1,SNR=3.9
NRIK **Noril'sk** 145.13 352 PKPbc **07 01 13.2 -1.0**
KLMR **Klimovskoe** 146.23 30 *e* PKPdf **07 01 16.6 -0.1**
KLMR AMP 07 01 20.2
comp=Z,43nm,1.2s
EIL **Elat** 146.61 88 PKPbc PKPbc **07 01 19.7 -0.3**
comp=Z,19nm,0.9s,baz=182,slow=3.8,SNR=12
BJI **Beijing** 146.64 291 PKPbc PKPdf **07 01 18.4 +0.3**
BJI pmax pmax
comp=Z,8.0nm,0.8s
OBN **Obninsk** 147.50 41 PKPbc PKPab **07 01 23.2 -0.5**
comp=Z,5.1nm,0.3s,baz=207,slow=9.0,SNR=10
BRTR **Keskin Array B** 147.76 70 PKPbc PKPbc **07 01 23.1 0.0**
comp=Z,8.8nm,1.0s,baz=198,slow=3.6,SNR=18
BRTR **Keskin Array B** 147.76 70 PKPdf **07 01 21.6 +1.4**
MMAI **Mount Meron Ar** 147.99 83 PKPbc PKPbc **07 01 24.9 +1.0**
comp=Z,4.2nm,0.5s,baz=222,slow=1.0,SNR=6.9
HHC **Hu-ho-hao-te** 150.20 292 *e*P PKPdf **07 01 25.9 +1.8**
HHC pmax pmax

comp=Z,21nm,0.8s

HHC					pmax	pmax		
	comp=Z,97nm,5.0s							
XAN	**Xi'an**	**151.47**	**278**	P	**PKPab**	**07 01 39.5**	**-1.3**
XAN				pP	sPKPab	07 01 48.8	+3.0
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**152.35**	**239**	PKPbc	**PKPbc**	**07 01 33.7**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=193,slow=2.1,SNR=8.2						
CMAR	**Chiang Mai Arr**	**152.35**	**239**		**PKPbc**	**07 01 32.9**	**-1.8**
SONM	**Songino Array**	**153.04**	**308**	PKPbc	**PKPbc**	**07 01 34.3**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=125,slow=1.8,SNR=14						
BELG	**Belogornoye**	**154.58**	**40**	PKPbc	**PKiKP**	**07 01 39.0**	**+0.5**
	comp=Z,5.5nm,0.7s,baz=19,slow=3.0,SNR=2.3						
KBZ	**Khabaz**	**154.58**	**61**	PKP	**PKPdf**	**07 01 33.9**	**+3.6**
	comp=Z,3.5nm,0.9s,baz=185,slow=3.0,SNR=3.9						
KBZ				PKPbc	**pPKPbc**	**07 01 43.5**	**+1.0**
	comp=Z,5.5nm,0.9s,baz=311,slow=2.1,SNR=7.1						
GTA	**Gaotai**	**159.23**	**289**	*e*P	**PKPab**	**07 02 12.5**	**-1.4**
GTA				pP	pPKPab	07 02 16.5	-1.1
GTA				sP	sPKPab	07 02 20.0	+1.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMQ	**Urumqi**	**166.56**	**313**	*e*P	**PKPdf**	**07 01 44.4**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,62nm,5.5s						

IDC 09 06:46:25.0±2.9,15°29S×175°07W,h260km±100km, mb3.1/3,mb1 3.4/4,mb1mx3.0/44,mbtmp3.7/4,Error ellipse: s-maj=342.1km s-min=28.3km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.47**	**67**	P	Pn	06 47 24.3	+0.9
	3.1nm,0.3s,baz=255,slow=16,SNR=5.5						
AFI				S	S	06 48 09.6	-0.1
	2.8nm,0.3s,baz=325,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**48.30**	**257**	P	P	06 54 40.7	-0.1
	0.4nm,0.6s,baz=92,slow=7.4,SNR=6.7						
ASAR	**Alice Springs**	**48.61**	**252**	P	P	06 54 42.9	-0.2
	2.6nm,0.5s,baz=86,slow=7.9,SNR=42						
ILAR	**Eielson Array**	**82.65**	**12**	P	P	06 58 19.1	+0.1
	0.1nm,0.4s,baz=213,slow=5.1,SNR=1.8						

*IDC **09** 06:49:52.3±0.8, 18°.29S×174°.68W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.2/32, mbtmp4.2/11, MS3.5/4, Ms1 3.5/4, ms1mx3.0/34, Error ellipse: s-maj=34.6km s-min=18.0km az=144.0*

*NEIC **09** 06:49:58.5±1.3, 18°.3S±0°.1×174°.7W±0°.1, h42km±3km, mb4.6/26, Error ellipse: s-maj=23.3km s-min=13.8km az=151.0*

ISC 09 06:49:57.6±0.5, 18°.4S±0°.1×174°.63W±0°.09, h35km, n54, σ0s79/51, mb4.5/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.24**	**32**	Pn	**Pn**	**06 51 14.0**	**+0.5**
	2.4nm,0.3s,baz=222,slow=21,SNR=1.3						
AFI				LR	LR	06 52 57.4	
	comp=Z,74nm,21.7s,baz=144,slow=36						
MSVF	**Nonsavu**	**7.00**	**274**	Pn	**Pn**	**06 51 38.8**	**+1.1**
	0.4nm,0.3s,baz=55,slow=12,SNR=2.1						
MSVF				LR	LR	06 53 54.1	
	comp=Z,184nm,19.6s,baz=165,slow=35						
RAR	**Rarotonga**	**14.26**	**104**	Pn	**P**	**06 53 23.9**	**+0.1**
	1.6nm,0.3s,baz=204,slow=12,SNR=3.6						
CTA	**Charters Tower**	**36.92**	**261**	P	**P**	**06 57 02.7**	**-0.7**
	11nm,1.1s,baz=134,slow=8.0,SNR=2.5						
STKA	**Stephens Creek**	**41.57**	**243**	P	**P**	**06 57 42.3**	**+0.2**
	2.8nm,0.9s,baz=56,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**48.08**	**259**	P	**P**	**06 58 32.8**	**-1.4**
	2.8nm,0.7s,baz=97,slow=8.9,SNR=9.6						
AS31	**Alice Springs**	**48.12**	**254**	P	**P**	**06 58 32.7**	**-1.7**
ASAR	**Alice Springs**	**48.12**	**254**	P	**P**	**06 58 33.8**	**-0.7**
	5.4nm,0.9s,baz=82,slow=8.8,SNR=22						
ASAR	**Alice Springs**	**48.12**	**254**	P	**P**	**06 58 32.2**	**-2.3**
FORT	**Forrest**	**53.05**	**245**	P	**P**	**06 59 11.8**	**+0.3**
VNDA	**Vanda**	**60.29**	**186**	P	**P**	**07 00 03.2**	**+1.1**
	1.9nm,0.9s,baz=13,slow=7.0,SNR=7.9						
QSPA	**South Pole Qui**	**71.66**	**180**	P	**P**	**07 01 16.1**	**+0.5**
QSPA				IAmb	IAmb	07 01 19.1	
	comp=Z,12nm,1.1s						
ISA	**Isabella, Lake**	**75.61**	**44**	P	**P**	**07 01 38.5**	**-0.6**
BEKR	**Beckworth**	**76.91**	**40**	P	**P**	**07 01 45.8**	**-0.8**
NVAR	**Mina Array Bea**	**77.33**	**42**	P	**P**	**07 01 48.7**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=229,slow=9.3,SNR=14						
NVAR	**Mina Array Bea**	**77.33**	**42**	P	**P**	**07 01 47.5**	**-1.5**
NV11	**Mina Array Sit**	**77.43**	**42**	P	**P**	**07 01 48.7**	**-0.8**
NV11				IAmb	IAmb	07 01 50.9	
	comp=Z,6.6nm,1.2s						
KSRS	**Korea Array**	**77.49**	**317**	P	**P**	**07 01 50.1**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=141,slow=6.6,SNR=9.5						
KSAR	**Wonju Array Be**	**77.51**	**317**	P	**P**	**07 01 49.8**	**+0.1**
TPH	**Tonopah**	**77.82**	**43**	P	**P**	**07 01 52.0**	**+0.2**
KVN	**Kaiserville**	**77.82**	**42**	P	**P**	**07 01 51.7**	**0.0**
SHPR	**Sheep Range**	**78.30**	**45**	P	**P**	**07 01 54.5**	**+0.1**
SHPR				IAmb	IAmb	07 01 56.1	
	comp=Z,6.3nm,1.3s						
J08A	**Circle Bar Ran**	**80.15**	**38**	P	**P**	**07 02 04.1**	**-0.1**
J08A				IAmb	IAmb	07 02 05.5	
	comp=Z,9.5nm,1.5s						
KNB	**Kanab**	**80.15**	**46**	P	**P**	**07 02 03.2**	**-1.4**
KNB				IAmb	IAmb	07 02 06.4	
	comp=Z,12nm,1.5s						
ELK	**Elko**	**80.60**	**42**	LR	LR	07 31 40.1	
	comp=Z,56nm,18.9s,baz=113,slow=31						
ELK	**Elko**	**80.60**	**42**	P	**P**	**07 02 06.8**	**-0.1**
G08A	**Pilot Rock**	**81.04**	**36**	P	**P**	**07 02 07.8**	**-1.2**
G08A				IAmb	IAmb	07 02 11.3	
	comp=Z,5.3nm,1.1s						
MFID	**Camas Ranch**	**81.74**	**39**	P	**P**	**07 02 12.4**	**-0.4**
F10A	**Beach Ranch, E**	**82.42**	**36**	P	**P**	**07 02 15.9**	**-0.3**
F10A				IAmb	IAmb	07 02 17.0	
	comp=Z,6.1nm,1.1s						
HLID	**Hailey**	**82.68**	**39**	P	**P**	**07 02 17.0**	**-0.7**
HLID				IAmb	IAmb	07 02 19.3	
	comp=Z,5.0nm,1.2s						
TXAR	**Lajitas Array**	**83.25**	**56**	P	**P**	**07 02 20.8**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=226,slow=6.5,SNR=6.1						
TXAR	**Lajitas Array**	**83.25**	**56**	P	**P**	**07 02 19.8**	**-1.1**
MCMT	**McKenzie Canyo**	**84.31**	**39**	P	**P**	**07 02 26.5**	**+0.3**
REDW	**Red Top Meadow**	**84.76**	**41**	P	**P**	**07 02 28.0**	**-0.5**
REDW				IAmb	IAmb	07 02 30.3	
	comp=Z,9.0nm,1.2s						
TPAW	**Teton Pass**	**84.76**	**41**	P	**P**	**07 02 28.0**	**-0.6**
TPAW				IAmb	IAmb	07 02 30.5	
	comp=Z,5.1nm,1.1s						
WRH	**Wood River Hil**	**85.10**	**11**	P	**P**	**07 02 29.2**	**-0.2**
FLWY	**Flagg Ranch**	**85.22**	**41**	IAmb	IAmb	07 02 33.1	
	comp=Z,7.6nm,1.3s						
PDAR	**Pinedale Array**	**85.27**	**42**	P	**P**	**07 02 31.3**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=220,slow=3.7,SNR=7.6						
PDAR	**Pinedale Array**	**85.27**	**42**	P	**P**	**07 02 30.8**	**-0.3**
YHL	**Hebgen Lake**	**85.33**	**40**	P	**P**	**07 02 32.3**	**+0.9**
MDM	**Murphy Dome**	**85.52**	**11**	P	**P**	**07 02 31.0**	**-0.5**
MDM				IAmb	IAmb	07 02 32.9	
	comp=Z,5.1nm,1.2s						
ILAR	**Eielson Array**	**85.60**	**12**	P	**P**	**07 02 30.9**	**-1.0**
	comp=Z,2.3nm,1.1s,baz=220,slow=5.9,SNR=8.9						
ILAR				LR	LR	07 33 31.9	
	comp=Z,112nm,21.4s,baz=115,slow=31						
K27K	**Chicken**	**85.94**	**14**	P	**P**	**07 02 34.4**	**+0.8**
DAWY	**Dawson**	**86.60**	**15**	P	**P**	**07 02 37.0**	**0.0**
DAWY				IAmb	IAmb	07 02 38.7	
	comp=Z,6.4nm,1.1s						
ABTX	**Abilene, Hawle**	**87.75**	**55**	P	**P**	**07 02 43.3**	**+0.1**
SNAA	**Sanae**	**89.98**	**177**	P	**P**	**07 02 52.9**	**-0.2**
VNA3	**Neumayer Olymp**	**89.99**	**175**	P	**P**	**07 02 53.0**	**-0.1**
VNA1	**Neumayer--Stat**	**90.67**	**175**	P	**P**	**07 02 55.3**	**-0.9**
INK	**Inuvik**	**91.44**	**14**	P	**P**	**07 02 59.0**	**-0.6**
	comp=Z,1.8nm,1.1s,baz=163,slow=4.4,SNR=3.3						
MGMO	**Mountain Grove**	**95.04**	**53**	IAmb	IAmb	07 03 19.2	
	comp=Z,3.6nm,0.9s						
CLL	**Collm**	**146.61**	**351**	*e*PKPbc	**PKPbc**	**07 09 36.0**	**+0.7**
BRTR	**Keskin Array B**	**147.64**	**317**	PKPbc	**PKPbc**	**07 09 39.4**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=108,slow=4.0,SNR=5.6						
BRTR	**Keskin Array B**	**147.64**	**317**		**PKPdf**	**07 09 36.4**	**+0.3**
GERES	**GERESS Array B**	**148.89**	**349**	PKPbc	**PKPbc**	**07 09 42.3**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=52,slow=2.2,SNR=5.1						

*ATH **09** 06:51:04.4, 38°.60N×23°.44E, h15km±1km, ML3.5/26, Error ellipse: s-maj=1.2km s-min=0.5km az=121.0*

*ISK **09** 06:51:04.1, 38°.64N×23°.45E, h14km, ML3.4/15*

*THE **09** 06:51:04.4, 38°.60N×23°.43E, h8km, ML3.6/25, Error ellipse: s-maj=0.9km s-min=0.4km az=136.0*

ISC 09 06:51:04.4±0.9, 38°.60N±0°.01×23°.44E±0°.01, h15km±7km, n133, σ0s67/182, 11C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.33**	**327**	P	**Pg**	**06 51 11.5**	**+0.3**
SMIA				S	**Sb**	**06 51 16.6**	**-0.6**
SMIA				AML	AML	06 51 17.6	
	comp=E,91528μm,0.4s						
SMIA				AML	AML	06 51 22.2	
	comp=N,68568μm,0.5s						
SMIA	**Simia**	**0.33**	**327**	P	**Pg**	**06 51 11.5**	**+0.3**
SMIA				S	**Sg**	**06 51 16.3**	**+0.5**
	comp=N,40μm,0.5s						
ATAL	**Atalanti**	**0.34**	**286**	P	**Pg**	**06 51 11.0**	**-0.3**
ATAL				S	**Sg**	**06 51 16.2**	**+0.1**
ATAL				AML	AML	06 51 16.9	
	comp=N,18622μm,0.3s						
ATAL				AML	AML	06 51 17.8	
	comp=E,25785μm,0.2s						
ATAL	**Atalanti**	**0.34**	**286**	P	**Pg**	**06 51 11.0**	**-0.3**
ATAL				S	**Sg**	**06 51 16.1**	**+0.1**
	comp=E,13μm,0.4s						
LKR	**Lokris**	**0.35**	**278**	P	**Pg**	**06 51 11.0**	**-0.4**
LKR				S	**Sg**	**06 51 16.3**	**0.0**
LKR				AML	AML	06 51 17.9	
	comp=N,28699μm,0.2s						
LKR				AML	AML	06 51 18.5	
	comp=E,30548μm,0.2s						
LKR	**Lokris**	**0.35**	**278**	P	**Pg**	**06 51 11.0**	**-0.4**
LKR				S	**Sg**	**06 51 16.3**	**0.0**
	comp=E,15μm,0.2s						
VIL2	**Platees**	**0.41**	**199**	P	**Pg**	**06 51 12.9**	**+0.3**
VIL2				S	**Sb**	**06 51 20.2**	**+0.8**
VIL2				AML	AML	06 51 20.8	
	comp=E,50926μm,0.7s						
VIL2				AML	AML	06 51 21.8	
	comp=N,17708μm,0.2s						
EREA	**Eretria**	**0.43**	**115**	P	**Pg**	**06 51 12.8**	**-0.2**
EREA				S	**Sg**	**06 51 19.3**	**+0.5**
EREA				AML	AML	06 51 21.2	
	comp=E,12622μm,0.2s						
EREA				AML	AML	06 51 22.8	
	comp=N,11368μm,0.2s						
EREA	**Eretria**	**0.43**	**115**	P	**Pg**	**06 51 12.8**	**-0.2**
EREA				S	**Sb**	**06 51 19.7**	**-0.3**
	comp=N,7μm,0.9s						
VILL	**Villia**	**0.45**	**193**	P	**Pg**	**06 51 12.9**	**-0.4**
KYMI	**Kymi, Euboea I**	**0.52**	**86**	P	**Pg**	**06 51 14.0**	**-0.7**
KYMI				S	**Sg**	**06 51 21.7**	**+0.1**
KYMI				AML	AML	06 51 26.9	
	comp=E,4372μm,0.2s						
KYMI				AML	AML	06 51 30.6	
	comp=N,5382μm,0.7s						
KYMI	**Kymi, Euboea I**	**0.52**	**86**	P	**Pg**	**06 51 14.0**	**-0.7**
KYMI				S	**Sb**	**06 51 22.3**	**-0.3**
	comp=N,3μm,0.5s						
ALNA	**Alonissos**	**0.64**	**32**	P	**Pg**	**06 51 16.6**	**-0.3**
ALNA				S	**Sg**	**06 51 24.9**	**-0.5**
ALNA				AML	AML	06 51 29.9	
	comp=E,13931μm,0.9s						
ALNA				AML	AML	06 51 30.3	
	comp=N,12138μm,0.6s						
PTL	**Penteli**	**0.65**	**148**	P	**Pg**	**06 51 16.8**	**-0.3**
PTL				S	**Sb**	**06 51 26.5**	**+0.2**
PTL	**Penteli**	**0.65**	**148**	P	**Pg**	**06 51 16.6**	**-0.4**
DION	**Dionisos Attik**	**0.65**	**143**	P	**Pg**	**06 51 16.8**	**-0.4**
DION				S	**Sb**	**06 51 26.3**	**-0.1**
DION				AML	AML	06 51 29.6	
	comp=N,17892μm,0.4s						
DION				AML	AML	06 51 29.8	
	comp=E,10222μm,0.2s						
DION	**Dionisos Attik**	**0.65**	**143**	P	**Pg**	**06 51 16.8**	**-0.4**
DION				S	**Sg**	**06 51 25.7**	**-0.1**
	comp=E,11μm,0.3s						
ATH	**Athens Observa**	**0.67**	**161**	P	**Pg**	**06 51 17.2**	**-0.2**
ATH				S	**Sg**	**06 51 26.1**	**-0.1**
ATH				AML	AML	06 51 30.3	
	comp=E,23251μm,0.3s						
ATH				AML	AML	06 51 30.9	
	comp=N,19607μm,0.3s						
ATH	**Athens Observa**	**0.67**	**161**	P	**Pg**	**06 51 17.2**	**-0.2**
ATH				S	**Sb**	**06 51 27.3**	**+0.6**
	comp=N,11μm,0.3s						
LTK	**Loutraki**	**0.69**	**213**	P	**Pg**	**06 51 17.3**	**-0.4**
LTK				S	**Sb**	**06 51 28.0**	**+0.7**
LTK				AML	AML	06 51 29.8	
	comp=E,13825μm,0.5s						
LTK				AML	AML	06 51 32.7	
	comp=N,12980μm,0.4s						
LTK	**Loutraki**	**0.69**	**213**	P	**Pg**	**06 51 17.2**	**-0.6**
LTK				S	**Sb**	**06 51 27.2**	**-0.2**
	comp=N,6μm,0.6s						
ATHU	**Athens Univers**	**0.69**	**157**	P	**Pg**	**06 51 17.5**	**-0.3**
ATHU				S	**Sb**	**06 51 27.5**	**0.0**
ATHU				AML	AML	06 51 30.8	
	comp=N,6962μm,0.4s						
ATHU				AML	AML	06 51 30.9	
	comp=E,2973μm,0.3s						
ATHU	**Athens Univers**	**0.69**	**157**	P	**Pg**	**06 51 17.4**	**-0.4**
ATHU				S	**Sb**	**06 51 27.3**	**-0.2**
	comp=E,2μm,0.3s						
LOUT	**Loutraki**	**0.71**	**211**	P	**Pg**	**06 51 17.8**	**-0.5**
LOUT				S	**Sb**	**06 51 28.5**	**+0.4**
LOUT				AML	AML	06 51 32.2	
	comp=E,3481μm,0.3s						
LOUT				AML	AML	06 51 33.4	
	comp=N,3554μm,0.6s						
LOUT	**Loutraki**	**0.71**	**211**	P	**Pg**	**06 51 17.6**	**-0.7**
LOUT				S	**Sb**	**06 51 28.5**	**+0.4**
	comp=N,10μm,0.5s						
NEO	**Neokhori**	**0.72**	**347**	P	**Pg**	**06 51 18.4**	**-0.1**
NEO				S	**Sb**	**06 51 28.5**	**0.0**
NEO				AML	AML	06 51 31.5	
	comp=N,24114μm,0.4s						
NEO				AML	AML	06 51 32.8	
	comp=E,15730μm,0.3s						
NEO	**Neokhori**	**0.72**	**347**	P	**Pg**	**06 51 18.4**	**-0.1**
NEO				S	**Sb**	**06 51 29.1**	**+0.6**
	comp=E,10μm,0.3s						
DLFA	**Delphi**	**0.75**	**261**	P	**Pg**	**06 51 17.8**	**-1.1**
DLFA				S	**Sb**	**06 51 29.4**	**+0.2**
DLFA				AML	AML	06 51 32.3	
	comp=E,5497μm,0.3s						
DLFA				AML	AML	06 51 33.0	
	comp=N,7682μm,0.7s						
XOR	**Xorichti**	**0.79**	**346**	P	**Pg**	**06 51 19.5**	**-0.2**
XOR				S	**Sb**	**06 51 30.6**	**+0.3**
XOR				AML	AML	06 51 33.3	
	comp=N,16051μm,0.6s						
XOR				AML	AML	06 51 34.9	
	comp=E,7891μm,0.8s						
XOR	**Xorichti**	**0.79**	**346**	P	**Pg**	**06 51 19.5**	**-0.2**
VLY	**Voula,Athens**	**0.80**	**159**	P	**Pg**	**06 51 19.4**	**-0.5**
VLY				S	**Sg**	**06 51 30.2**	**-0.2**
VLY				AML	AML	06 51 33.5	
	comp=E,16638μm,0.2s						
VLY				AML	AML	06 51 34.2	
	comp=N,9118μm,0.2s						
VLY	**Voula,Athens**	**0.80**	**159**	P	**Pg**	**06 51 19.4**	**-0.5**
THAL	**Thalero**	**0.83**	**227**	P	**Pg**	**06 51 20.2**	**-0.2**
THAL				AML	AML	06 51 34.1	
	comp=N,19494μm,0.8s						
THAL				AML	AML	06 51 36.8	
	comp=Z,10748μm,0.6s						
THAL	**Thalero**	**0.83**	**227**	P	**Pg**	**06 51 20.3**	**-0.2**
THAL				S	**Sb**	**06 51 32.5**	**+1.0**
	comp=Z,13μm,0.7s						
SKY	**Skiros Island**	**0.91**	**72**	P	**Pb**	**06 51 21.4**	**-0.5**
SKY				AML	AML	06 51 37.8	
	comp=N,9838μm,0.3s						
SKY				AML	AML	06 51 39.8	
	comp=E,8681μm,0.3s						
SKY	**Skiros Island**	**0.91**	**72**	P	**Pb**	**06 51 21.3**	**-0.6**
SKY				S	**Sn**	**06 51 35.0**	**-0.6**
	comp=E,7μm,0.8s						
AGG	**Agios Georgios**	**0.96**	**296**	P	**Pb**	**06 51 22.3**	**-0.5**
AGG				S	**Sg**	**06 51 36.1**	**+0.6**
AGG				AML	AML	06 51 41.4	
	comp=E,6799μm,0.8s						
AGG				AML	AML	06 51 41.5	
	comp=N,4220μm,0.6s						
AGG	**Agios Georgios**	**0.96**	**296**	P	**Pb**	**06 51 22.3**	**-0.5**
AGG				S	**Sg**	**06 51 35.5**	**0.0**
	comp=N,3μm,0.7s						
AGG	**Agios Georgios**	**0.96**	**296**	PG	**Pb**	**06 51 22.5**	**-0.3**
AGG				SG	**Sn**	**06 51 36.6**	**-0.2**
KARY	**Karystos**	**0.97**	**126**	P	**Pb**	**06 51 22.4**	**-0.5**
KARY				S	**Sb**	**06 51 35.1**	**-0.4**
KARY				AML	AML	06 51 37.2	
	comp=E,2197μm,0.4s						
KARY				AML	AML	06 51 37.4	
	comp=N,3687μm,0.7s						
KARY	**Karystos**	**0.97**	**126**	P	**Pb**	**06 51 22.4**	**-0.5**
KARY				S	**Sg**	**06 51 35.8**	**0.0**
	comp=N,1μm,0.6s						
TRIZ	**Trizonia**	**1.10**	**258**	P	**Pb**	**06 51 23.8**	**-1.2**
TRIZ	**Trizonia**	**1.10**	**258**	P	**Pb**	**06 51 23.8**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.10**	**292**	P	**Pb**	**06 51 25.0**	**-0.1**
MAKR				S	**Sg**	**06 51 40.0**	**0.0**
MAKR				AML	AML	06 51 43.3	
	comp=E,3178μm,0.4s						
MAKR				AML	AML	06 51 44.4	
	comp=N,8024μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.10**	**292**	P	**Pb**	**06 51 24.8**	**-0.3**
MAKR				S	**Sn**	**06 51 40.3**	**+0.1**
	comp=N,3μm,1.0s						
SERG	**Sergoula**	**1.10**	**261**	P	**Pb**	**06 51 23.8**	**-1.4**
SERG				S	**Sb**	**06 51 38.5**	**-0.7**
SERG				AML	AML	06 51 43.2	
	comp=E,4052μm,0.5s						
SERG				AML	AML	06 51 46.1	
	comp=N,5563μm,0.3s						
SERG	**Sergoula**	**1.10**	**261**	P	**Pb**	**06 51 23.7**	**-1.4**
KLV	**Kalavryta, Ach**	**1.16**	**242**	P	**Pb**	**06 51 25.4**	**-0.7**
KLV	**Kalavryta, Ach**	**1.16**	**242**	P	**Pb**	**06 51 25.3**	**-0.7**
KLV				S	**Sg**	**06 51 42.9**	**+1.2**
	comp=N,1μm,0.7s						
ANX	**Ano Chora**	**1.19**	**270**	P	**Pn**	**06 51 25.7**	**-0.9**
ANX				AML	AML	06 51 50.3	
	comp=E,3598μm,0.5s						
ANX				AML	AML	06 51 52.1	
	comp=N,8217μm,0.6s						
ANX	**Ano Chora**	**1.19**	**270**	P	**Pn**	**06 51 25.4**	**-1.2**
ANX				S	**Sg**	**06 51 44.0**	**+1.2**
	comp=N,3μm,0.5s						
LAKA	**Lakka**	**1.20**	**253**	P	**Pn**	**06 51 26.5**	**-0.2**
LAKA				AML	AML	06 51 54.5	
	comp=N,1306μm,0.8s						
LAKA				AML	AML	06 51 55.8	
	comp=E,1333μm,0.6s						
LAKA	**Lakka**	**1.20**	**253**	P	**Pn**	**06 51 26.4**	**-0.2**
EFP	**Efpalio**	**1.21**	**262**	P	**Pn**	**06 51 25.9**	**-1.0**
EFP				AML	AML	06 51 50.4	
	comp=N,2363μm,0.6s						
EFP				AML	AML	06 51 54.9	
	comp=E,2150μm,0.8s						
EFP	**Efpalio**	**1.21**	**262**	P	**Pn**	**06 51 25.8**	**-1.0**
KRND	**KRANIDI**	**1.24**	**191**	P	**Pn**	**06 51 27.3**	**+0.2**
KRND	**KRANIDI**	**1.24**	**191**	P	**Pn**	**06 51 27.4**	**+0.2**
KRND				S	**Sg**	**06 51 44.8**	**+0.5**
	comp=E,4μm,0.6s						
EVR	**Evrytania**	**1.31**	**284**	P	**Pb**	**06 51 28.6**	**-0.1**
EVR	**Evrytania**	**1.31**	**284**	P	**Pg**	**06 51 29.4**	**-0.2**
EVR				S	**Sn**	**06 51 45.7**	**+0.1**
	comp=E,485nm,0.5s						
PAIG	**Paliouri**	**1.34**	**8**	P	**Pn**	**06 51 28.3**	**-0.2**
PAIG	**Paliouri**	**1.34**	**8**	P	**Pn**	**06 51 28.3**	**-0.2**
THL	**Klokotos Trika**	**1.47**	**311**	P	**Pb**	**06 51 31.2**	**-0.2**
THL				AML	AML	06 51 57.0	
	comp=E,644μm,0.7s						
THL				AML	AML	06 51 57.3	
	comp=N,578μm,0.8s						
THL	**Klokotos Trika**	**1.47**	**311**	P	**Pb**	**06 51 31.0**	**-0.3**
VLX	**Vlachokerasia**	**1.49**	**215**	P	**Pb**	**06 51 31.5**	**-0.2**
VLX	**Vlachokerasia**	**1.49**	**215**	P	**Pb**	**06 51 31.5**	**-0.2**
PVO	**Paravola**	**1.50**	**271**	P	**Pb**	**06 51 31.5**	**-0.3**
DRO	**Drossia**	**1.50**	**245**	P	**Pb**	**06 51 31.8**	**-0.3**
DRO	**Drossia**	**1.50**	**245**	P	**Pb**	**06 51 31.7**	**-0.3**
DRO				S	**Sb**	**06 51 51.1**	**+0.1**
	comp=N,2μm,0.7s						
RLS	**Riolos of Patr**	**1.64**	**251**	P	**Pn**	**06 51 32.7**	**-0.1**
RLS	**Riolos of Patr**	**1.64**	**251**	P	**Pn**	**06 51 32.6**	**-0.1**
LIT	**Litokhoron**	**1.67**	**334**	P	**Pn**	**06 51 33.4**	**+0.2**
LIT	**Litokhoron**	**1.67**	**334**	P	**Pn**	**06 51 33.3**	**+0.2**
TNSA	**Tinos**	**1.73**	**127**	P	**Pn**	**06 51 34.0**	**+0.1**
AMT	**Artemida-Makis**	**1.73**	**232**	P	**Pb**	**06 51 35.8**	**-0.2**
AMT	**Artemida-Makis**	**1.73**	**232**	P	**Pb**	**06 51 35.7**	**-0.2**
PDO	**Prodromos**	**1.77**	**271**	P	**Pb**	**06 51 36.8**	**+0.4**
PLG	**Polygyros**	**1.77**	**0**	P	**Pn**	**06 51 34.5**	**0.0**
PLG	**Polygyros**	**1.77**	**0**	P	**Pn**	**06 51 34.5**	**0.0**
PLG				S	**Sn**	**06 51 56.5**	**-0.3**
	comp=N,365nm,0.9s						
OUR	**Ouranopolis**	**1.78**	**14**	P	**Pn**	**06 51 34.7**	**+0.1**
OUR				S	**Sn**	**06 51 57.3**	**+0.3**
	comp=N,702nm,0.8s						
OUR	**Ouranopolis**	**1.78**	**14**	PN	**Pn**	**06 51 34.8**	**+0.1**
OUR				SN	**Sn**	**06 51 56.6**	**-0.4**
ITM	**Ithomi**	**1.85**	**221**	P	**Pb**	**06 51 37.7**	**-0.3**
ITM	**Ithomi**	**1.85**	**221**	P	**Pb**	**06 51 37.7**	**-0.3**
ITM	**Ithomi**	**1.85**	**221**	PN	**Pb**	**06 51 36.9**	**-1.1**
LIA	**Limnos Island**	**1.88**	**46**	P	**Pn**	**06 51 35.8**	**-0.1**
LIA				S	**Sb**	**06

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.18**	**30**	P	Pn	07 11 43.9	+0.9
	SNR=10						
KK31	**Karatay Array**	**6.32**	**6**	⇑P	Pn	07 11 45.5	+1.0
	0.3nm,0.2s,baz=181,slow=13,SNR=11						
KK31				⇑S	Sn	07 12 57.8	+0.4
	10.0nm,0.6s,baz=188,slow=21,SNR=18						
AAK	**Ala-Archa**	**6.93**	**32**	P	Pn	07 11 54.4	+1.4
	SNR=5.3						
AAK	**Ala-Archa**	**6.93**	**32**	⇑P	Pn	07 11 53.4	+0.4
	6.1nm,0.5s						
AAK				⇓S	Sn	07 13 14.7	+2.0
	8.7nm,0.6s						
KBK	**Karagaybulak**	**7.14**	**34**	P	Pn	07 11 56.6	+0.7
	SNR=8.1						
CHMS	**Chumysh**	**7.34**	**31**	P	Pn	07 11 58.8	+0.3
	SNR=6.2						
TKM2	**Tokmak 2**	**7.65**	**35**	P	Pn	07 12 03.0	+0.1
	SNR=10.0						
TKM2	**Tokmak 2**	**7.65**	**35**	⇑P	Pn	07 12 01.1	-1.7
	10nm,0.7s						
TKM2				⇑S	Sn	07 13 31.7	+1.4
	2.4nm,0.6s						

IDC ***09*** *07:11:04.0±0.4,4, 18°.37S×168°.66E,h98km±42km,mb3.8/10, mb1 4.1/11,mb1mx3.9/24,mbtmp4.2/11,Error ellipse: s-maj=35.3km s-min=22.2km az=170.0*

NEIC ***09*** *07:11:05.0±1.1, 18°.36S±0°.07×168°.7E±0°.1,h102km±7km, mb4.5/24,Error ellipse: s-maj=19.2km s-min=10.3km az=91.0*

ISC 09 07:11:04.2±0.6, 18°.36S±0°.06×168°.7E±0°.1, h100km, n54, σ0$64/51, mb4.3/21, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.75**	**209**		**Pn**	**07 11 45.7**	**-0.9**
SANVU	**Saraoutou**	**3.21**	**334**	Pn	**Pn**	**07 11 53.8**	**+1.0**
DZM	**Mont Dzumac**	**4.24**	**209**	P	**Pn**	**07 12 07.0**	**+0.3**
	19nm,0.3s,baz=57,slow=9.4,SNR=544						
DZM				S	**Sn**	**07 12 54.4**	**-0.8**
	226nm,0.3s,baz=135,slow=22,SNR=32						
OUENC	**Ouen Island, N**	**4.38**	**202**		**Pn**	**07 12 09.7**	**+1.1**
PINNC	**Pines Island,**	**4.38**	**195**		**Pn**	**07 12 09.2**	**+0.6**
ONTNC	**Ouen Toro**	**4.44**	**207**		**Pn**	**07 12 10.2**	**+0.8**
OUZ	**Omahuta**	**17.36**	**166**	P	**P**	**07 15 00.1**	**0.0**
URZ	**Urewera**	**21.16**	**161**	P	**P**	**07 15 42.3**	**+1.0**
	3.7nm,0.7s,baz=127,slow=20,SNR=2.1						
URZ	**Urewera**	**21.16**	**161**	P	**P**	**07 15 42.0**	**+0.6**
URZ				IAmb	IAmb	07 16 08.8	
	comp=Z,24nm,1.5s						
BKZ	**Black Stump Fm**	**21.82**	**163**	P	**P**	**07 15 49.0**	**+0.6**
TUWZ	**Tuamarina**	**23.44**	**170**	P	**P**	**07 16 04.7**	**+0.2**
THZ	**Tophouse**	**23.61**	**172**	P	**P**	**07 16 07.2**	**+1.0**
THZ				IAmb	IAmb	07 16 26.5	
	comp=Z,44nm,1.4s						
MSWZ	**Moikau Station**	**23.67**	**168**	P	**P**	**07 16 06.6**	**-0.1**
KHZ	**Kahutara**	**24.34**	**171**	P	**P**	**07 16 12.5**	**-0.1**
STKA	**Stephens Creek**	**27.86**	**236**	P	**P**	**07 16 44.9**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=74,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**27.86**	**236**	P	**P**	**07 16 45.5**	**+0.9**
WRA	**Warramunga Arr**	**32.42**	**262**	P	**P**	**07 17 24.7**	**-0.3**
	comp=Z,2.0nm,1.1s,baz=83,slow=8.1,SNR=7.6						
BBOO	**Buckleboo**	**32.58**	**237**	P	**P**	**07 17 26.6**	**+0.4**
AS31	**Alice Springs**	**32.81**	**255**	P	**P**	**07 17 28.6**	**+0.2**
ASAR	**Alice Springs**	**32.81**	**255**	P	**P**	**07 17 28.5**	**+0.1**
	comp=Z,4.3nm,0.5s,baz=83,slow=8.6,SNR=56						
ASAR	**Alice Springs**	**32.81**	**255**	P	**P**	**07 17 28.2**	**-0.1**
FORT	**Forrest**	**38.73**	**244**	P	**P**	**07 18 19.1**	**+0.3**
FAKI	**Fak Fak**	**38.80**	**289**	P	**P**	**07 18 18.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**40.78**	**263**	P	**P**	**07 18 36.8**	**+0.8**
FITZ				IAmb	IAmb	07 18 38.1	
	comp=Z,6.7nm,0.8s						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**07 22 16.1**	**+0.9**
QSPA				IAmb	IAmb	07 22 20.9	
	comp=Z,6.5nm,1.4s						
PETK	**Petropavlovsk-**	**71.80**	**353**	P	**P**	**07 22 16.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=147,slow=7.4,SNR=1.9						
PETK	**Petropavlovsk-**	**71.80**	**353**	P	**P**	**07 22 15.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**77.63**	**294**	P	**P**	**07 22 50.8**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=128,slow=4.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	**77.63**	**294**	P	**P**	**07 22 49.5**	**-0.7**
KHMM	**Horse Mountain**	**85.98**	**45**	P	**P**	**07 23 33.2**	**-0.5**
SONM	**Songino Array**	**86.18**	**323**	P	**P**	**07 23 34.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=135,slow=3.1,SNR=6.0						
SONM	**Songino Array**	**86.18**	**323**	P	**P**	**07 23 34.3**	**-0.2**
AFDM	**Forest Hills D**	**86.98**	**47**	P	**P**	**07 23 37.9**	**-0.5**
AFDM				IAmb	IAmb	07 23 39.3	
	comp=Z,3.2nm,0.9s						
CMB	**Columbia Colle**	**86.99**	**48**	P	**P**	**07 23 38.0**	**-0.6**
CMB				IAmb	IAmb	07 23 39.3	
	comp=Z,2.6nm,0.8s						
MDPB	**Devils Postpil**	**87.75**	**49**	P	**P**	**07 23 41.6**	**-0.9**
NVAR	**Mina Array Bea**	**88.64**	**49**	P	**P**	**07 23 46.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=228,slow=8.4,SNR=8.4						
NVAR	**Mina Array Bea**	**88.64**	**49**	P	**P**	**07 23 45.8**	**-0.8**
TPNV	**Topopah Spring**	**89.53**	**51**	P	**P**	**07 23 50.4**	**-0.3**
TPNV				IAmb	IAmb	07 23 51.8	
	comp=Z,2.3nm,0.9s						
ILAR	**Eielson Array**	**89.56**	**17**	P	**P**	**07 23 49.2**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=229,slow=4.4,SNR=6.3						
SNAA	**Sanae**	**90.01**	**183**	P	**P**	**07 23 52.4**	**+0.1**
SNAA				IAmb	IAmb	07 24 07.6	
	comp=Z,6.9nm,1.5s						
I07A	**Izee**	**90.22**	**43**	P	**P**	**07 23 54.0**	**+0.3**
J08A	**Circle Bar Ran**	**90.58**	**44**	P	**P**	**07 23 55.8**	**+0.3**
J08A				IAmb	IAmb	07 23 56.5	
	comp=Z,3.3nm,0.8s						
PRN	**Pahroc Range**	**90.59**	**51**	P	**P**	**07 23 55.8**	**+0.2**
PRN				IAmb	IAmb	07 23 57.5	
	comp=Z,4.5nm,1.0s						
X16A	**Lo Mia Camp, P**	**92.21**	**55**	P	**P**	**07 24 03.4**	**0.0**
X16A				IAmb	IAmb	07 24 04.7	
	comp=Z,2.7nm,1.0s						
U15A	**North Rim**	**92.28**	**52**	P	**P**	**07 24 03.9**	**+0.2**
U15A				IAmb	IAmb	07 24 05.0	
	comp=Z,1.9nm,0.7s						
TXAR	**Lajitas Array**	**96.84**	**61**	P	**P**	**07 24 24.3**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=242,slow=3.8,SNR=2.8						
H03S2	**Juan Fernandez**	**97.36**	**129**	T	T	09 12 54.8	
	baz=242,slow=74,SNR=7.9						
H03S1	**Juan Fernandez**	**97.37**	**129**	T	T	09 12 55.8	
	baz=242,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**97.38**	**129**	T	T	09 12 54.6	
	baz=242,slow=74,SNR=8.2						
MKAR	**Makanchi Array**	**100.72**	**316**	P	**Pdif**	**07 24 41.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=99,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**124.08**	**345**	PKP	**PKPdf**	**07 29 48.8**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=29,slow=2.1,SNR=6.3						
FINES	**FINESS Array B**	**129.56**	**338**	PKP	**PKPdf**	**07 30 00.7**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=32,slow=7.5,SNR=1.6						
GERES	**GERESS Array B**	**143.45**	**332**	PKP	PKPbc	07 30 24.4	-0.3
	comp=Z,0.4nm,0.4s,baz=8.5,slow=2.7,SNR=4.0						
GERES	**GERESS Array B**	**143.45**	**332**		**PKPdf**	**07 30 25.8**	**-1.4**

IDC ***09*** *07:25:26.4±0.4, 17°.11N×94°.83W,h107km±4km,mb3.5/12, mb1 3.7/15,mb1mx3.6/43,mbtmp3.9/15,Error ellipse: s-maj=18.2km s-min=9.2km az=45.0*

NEIC ***09*** *07:25:27.8±1.3, 17°.14N±0°.10×94°.92W±0°.03,h121km±8km, Error ellipse: s-maj=14.0km s-min=3.6km az=188.0*

MEX ***09*** *07:25:27.1±1.5, 16°.97N×95°.13W,h106km±10km,MD4.4*

ISC 09 07:25:25.6±0.5, 17°.01N±0°.04×95°.11W±0°.03, h113km±4km, n181, σ1$52/212, mb4.2/43, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.23**	**69**	P	**Pn**	**07 25 41.4**	**-0.1**
	1µm,0.3s,baz=220,slow=6.5						
CMIG				LR	LR	07 25 48.3	
	comp=Z,99nm,20.8s,baz=261,slow=433						
CMIG				S	**Sn**	**07 25 52.6**	**-0.8**
	421nm,0.3s,baz=198,slow=18,SNR=5.0						
CMIG	**Matias Romero**	**0.23**	**69**	*i* P	**Pn**	**07 25 41.4**	**-0.1**
CMIG				*e*S	**Sn**	**07 25 52.0**	**-1.4**
TUIG	**Tuzandepetl**	**1.21**	**33**	*e*P	**Pn**	**07 25 49.3**	**0.0**
TUIG				*i* S	**Sn**	**07 26 06.5**	**-0.8**
OXBJ	**Oaxaca**	**1.55**	**272**	*e*P	**Pn**	**07 25 54.2**	**+0.8**
OXBJ				*i* S	**Sn**	**07 26 15.1**	**+0.6**
VHO	**Vista Hermosa**	**1.56**	**273**	*e*P	**Pn**	**07 25 54.3**	**+0.8**
VHO				*e*S	**Sn**	**07 26 15.0**	**+0.3**
HUIG	**Huatulco**	**1.56**	**218**	*i* P	**Pn**	**07 25 51.7**	**-1.7**
HUIG				*e*S	**Sn**	**07 26 12.7**	**-1.8**
TGIG		**1.92**	**97**	*e*P	**Pn**	**07 25 58.0**	**+0.3**
TGIG				*i* S	**Sn**	**07 26 21.3**	**-0.9**
TOIG	**Toxpalan**	**2.16**	**300**	*e*P	**Pn**	**07 26 01.5**	**+0.7**
TOIG				*i* S	**Sn**	**07 26 27.8**	**-0.1**
PEIG	**Puerto Escondi**	**2.20**	**243**	*e*P	**Pn**	**07 25 59.4**	**-1.9**
PEIG				*e*S	**Sn**	**07 26 27.0**	**-1.6**
PCIG		**2.23**	**125**	*e*P	**Pn**	**07 26 02.4**	**+0.7**
PCIG				*e*S	**Sn**	**07 26 26.8**	**-2.5**
YOIG	**Yosondua**	**2.34**	**267**	*e*P	**Pn**	**07 26 03.2**	**-0.2**
YOIG				*e*S	**Sn**	**07 26 29.1**	**-3.2**
TPIG	**Tehuac#an**	**2.57**	**304**	*e*P	**Pn**	**07 26 07.3**	**+1.1**
TPIG				*e*S	**Sn**	**07 26 37.6**	**+0.3**
HLIG	**Huajuapan de L**	**2.70**	**288**	*e*P	**Pn**	**07 26 09.1**	**+1.1**
HLIG				*e*S	**Sn**	**07 26 38.8**	**-1.7**
CCIG	**Comitan**	**2.94**	**104**	*e*P	**Pn**	**07 26 12.1**	**+1.0**
CCIG	**Comitan**	**2.94**	**104**	Pn	**Pn**	**07 26 12.0**	**+0.9**
PNIG	**Pinotepa**	**2.96**	**259**	*e*P	**Pn**	**07 26 09.7**	**-1.5**
PNIG				*e*S	**Sn**	**07 26 41.2**	**-5.1**
LVIG	**Laguna Verde**	**2.98**	**335**	*e*P	**Pn**	**07 26 09.7**	**-1.7**
LVIG				*e*S	**Sn**	**07 26 41.5**	**-5.2**
FTIG	**Fresnillo de T**	**3.02**	**288**	*e*P	**Pn**	**07 26 13.5**	**+1.3**
FTIG				*e*S	**Sn**	**07 26 45.8**	**-2.2**
HMTT	**Tlapaneco**	**3.39**	**284**	*e*P	**Pn**	**07 26 17.7**	**+0.7**
HMTT				*e*S	Sn	07 26 48.2	-8.4
THIG		**3.44**	**127**	*i* P	**Pn**	**07 26 20.6**	**+3.1**
THIG				*i* S	**Sn**	**07 26 60.0**	**+2.3**
HUEH	**Huehuetenango**	**3.85**	**115**	Pn	**Pn**	**07 26 23.8**	**+0.5**
YAIG	**Yautepec**	**4.20**	**297**	*e*P	**Pn**	**07 26 30.1**	**+2.2**
YAIG				*e*S	Sn	07 27 07.8	-8.3
SCIG	**Sabancuy**	**4.21**	**62**	*e*P	**Pn**	**07 26 26.7**	**-1.2**
SCIG				*e*S	**Sn**	**07 27 09.6**	**-6.6**
DAIG	**Los Arroyos**	**4.35**	**271**	*e*P	**Pn**	**07 26 29.1**	**-0.6**
DAIG				*e*S	**Sn**	**07 27 15.9**	**-5.6**
MEIG	**Mezcala**	**4.40**	**283**	*e*P	**Pn**	**07 26 31.7**	**+1.2**
MEIG				*e*S	**Sn**	**07 27 15.3**	**-5.6**
UNM	**Universidad Na**	**4.51**	**301**	Pn	**Pn**	**07 26 34.6**	**+2.5**
CVM	**Colonia del Va**	**4.53**	**302**	*i* P	**Pn**	**07 26 33.1**	**+0.9**
CVM				*e*S	**Sn**	**07 27 21.7**	**-2.2**
ACP2	**Acapulco**	**4.58**	**269**	*e*P	**Pn**	**07 26 32.2**	**-0.6**
ACP2				*i* S	**Sn**	**07 27 23.5**	**-1.5**
MAVM	**Malinalco, Edo**	**4.60**	**296**	*e*P	**Pn**	**07 26 36.1**	**+2.7**
MAVM				*e*S	**Sn**	**07 27 22.3**	**-3.7**
APG	**El Apazote**	**4.89**	**113**	P	**Pn**	**07 26 36.4**	**-0.9**
	4.4nm,0.3s,baz=306,slow=10.0,SNR=55						
APG				S	**Sn**	**07 27 28.8**	**-4.1**
	16nm,0.3s,baz=62,slow=21,SNR=9.3						
CAIG	**El Cayaco**	**4.94**	**271**	*e*P	**Pn**	**07 26 36.9**	**-0.7**
CAIG				*e*S	**Sn**	**07 27 28.9**	**-4.7**
PETF	**Flores**	**5.02**	**90**	Pn	**Pn**	**07 26 37.8**	**-0.9**
MTO3	**Montecristo**	**6.11**	**114**		**Pn**	**07 26 54.0**	**+0.2**
MOIG	**Morelia**	**6.36**	**296**		**Pn**	**07 27 00.1**	**+3.0**
TGUH	**Tegucigalpa,Un**	**8.10**	**110**	Pn	**Pn**	**07 27 22.1**	**+1.5**
ORTG	**Ortega, Santa**	**11.46**	**124**	Pn	**Pn**	**07 28 07.5**	**+1.4**
JTS	**Las Juntas de**	**11.91**	**123**	P	**Pn**	**07 28 12.5**	**+0.5**
	0.9nm,0.3s,baz=18,slow=16,SNR=9.1						
JTS				S	**Sn**	**07 30 21.2**	**-1.9**
	0.2nm,0.3s,baz=173,slow=19,SNR=1.7						
JTS	**Las Juntas de**	**11.91**	**123**		**Pn**	**07 28 12.1**	**+0.2**
833A	**Chaparral WMA,**	**11.94**	**341**	P		07 28 17.5	
	baz=159						
SOR	**Soroa**	**12.75**	**61**	Pn	**Pn**	**07 28 20.4**	**-2.5**
RIMA	**Rio Macho**	**13.09**	**122**	Pn	**Pn**	**07 28 28.1**	**+0.6**
SRBA	**San Rafael, Bu**	**13.80**	**123**	Pn	**Pn**	**07 28 36.1**	**-0.6**
DRK0	**Durika**	**13.88**	**122**	Pn	**Pn**	**07 28 38.6**	**+0.9**
435B	**Jarrell**	**13.90**	**351**		**Pn**	**07 28 38.9**	**+1.1**
435B	**Jarrell**	**13.90**	**351**	P		07 28 42.3	
	baz=170						
435B				S		07 31 04.6	
	baz=170						
JCT	**Junction City**	**14.08**	**343**	P		07 28 44.4	
	baz=161						
JCT	**Junction City**	**14.08**	**343**		**Pn**	**07 28 41.0**	**+0.9**
TXAR	**Lajitas Array**	**14.57**	**329**	P	**P**	**07 28 48.7**	**-1.0**
	0.1nm,0.3s,baz=151,slow=13,SNR=5.4						
237A	**Washetta, Mont**	**14.94**	**358**	Pn	**Pn**	**07 28 49.9**	**-1.1**
WHTX	**Lake Whitney,**	**15.07**	**352**		**Pn**	**07 28 52.6**	**0.0**
WHTX	**Lake Whitney,**	**15.07**	**352**	P		07 28 56.1	
	baz=171,SNR=7.9						
WHTX				S		07 31 32.2	
	baz=171						
BRAL	**Brewton**	**15.89**	**26**	P		07 29 04.2	
	baz=209						
ABTX	**Abilene, Hawle**	**16.08**	**346**	P		07 29 06.5	
	baz=164,SNR=7.5						
ABTX				S		07 31 56.3	
	baz=164						
ABTX	**Abilene, Hawle**	**16.08**	**346**		**Pn**	**07 29 04.7**	**-0.5**
ABTX				IAmb	IAmb	07 29 10.0	
	comp=Z,8.6nm,0.5s						
Z41A	**Richland Creek**	**16.32**	**7**	P		07 29 08.6	
	baz=187,SNR=8.3						
Z41A				S		07 31 59.4	
	baz=187						
553A	**Crawfordville**	**16.35**	**35**	P	**Pn**	**07 29 08.2**	**-0.3**
553A				IAmb	IAmb	07 29 11.1	
	comp=Z,28nm,0.9s						
WLAR	**White Oak Lake**	**16.71**	**6**		**Pn**	**07 29 12.0**	**-0.9**
WLAR				IAmb	IAmb	07 29 20.3	
	comp=Z,19nm,1.1s						
250A	**Grady**	**16.93**	**27**		**P**	**07 29 13.5**	**-2.2**
LOOK	**Love County**	**17.02**	**354**	P	**P**	**07 29 15.7**	**-1.0**
LOOK				IAmb	IAmb	07 29 43.0	
	comp=Z,13nm,0.6s						
352A	**Blakely**	**17.12**	**31**	P	**P**	**07 29 16.6**	**-1.3**
352A				IAmb	IAmb	07 29 27.6	
	comp=Z,16nm,0.7s						
Z47A	**Carrollton**	**17.33**	**20**	P	**P**	**07 29 19.1**	**-1.0**
Z47A				IAmb	IAmb	07 29 27.2	
	comp=Z,26nm,0.8s						
MNTX	**Cornudas Mount**	**17.35**	**329**	P		07 29 24.0	
	baz=145						
X37A	**Clayton**	**17.51**	**359**	P	**P**	**07 29 21.2**	**-0.9**
X37A				IAmb	IAmb	07 29 49.4	
	comp=Z,17nm,0.7s						
MIAR	**Mount Ida**	**17.52**	**4**	P		07 29 22.6	
	baz=184,SNR=16						
MIAR				S		07 32 24.2	
	baz=184						
MIAR	**Mount Ida**	**17.52**	**4**	P	**P**	**07 29 22.3**	**+0.1**
MIAR				IAmb	IAmb	07 29 24.9	
	comp=Z,11nm,0.8s						
X40A	**Basin Creek Fa**	**17.53**	**6**	P		07 29 22.8	
	baz=187						
LRAL	**Lakeview Retre**	**17.56**	**23**	P		07 29 23.0	
	baz=206,SNR=8.1						
LRAL				S		07 32 24.1	
	baz=206						
LRAL	**Lakeview Retre**	**17.56**	**23**		**P**	**07 29 21.1**	**-1.6**
LRAL				IAmb	IAmb	07 29 29.2	
	comp=Z,11nm,0.6s						
X34A	**Smith Ranch, M**	**17.69**	**353**		**Pn**	**07 29 24.6**	**-0.3**
X34A				IAmb	IAmb	07 29 52.7	
	comp=Z,20nm,0.7s						
TIGA	**Tifton**	**17.78**	**34**	P		07 29 25.7	
	baz=218						
WMOK	**Wichita Mounta**	**17.96**	**350**	P	**Pn**	**07 29 27.8**	**-0.3**
WMOK	**Wichita Mounta**	**17.96**	**350**	P		07 29 28.0	
	baz=168,SNR=6.0						
W39A	**Magazine**	**18.15**	**3**	P	**P**	**07 29 28.2**	**-1.0**
W39A	**Magazine**	**18.15**	**3**	P		07 29 30.0	
	baz=184,SNR=14						
152A	**Waverly Hall**	**18.20**	**29**	P	**P**	**07 29 29.2**	**-0.6**
152A				IAmb	IAmb	07 29 40.0	
	comp=Z,12nm,0.7s						
MSTX	**Muleshoe**	**18.24**	**339**	P		07 29 32.5	
	baz=156						
W41B	**Gary Mavity, V**	**18.27**	**7**	P		07 29 31.4	
	baz=188						
FNO	**Franklin**	**18.29**	**354**	P	**P**	**07 29 30.5**	**-0.2**
WHAR	**Wooly Hollow**	**18.38**	**7**	P	**P**	**07 29 31.0**	**-0.7**
WHAR				IAmb	IAmb	07 29 42.9	
	comp=Z,11nm,0.5s						
OK025	**Westminster Rd**	**18.61**	**354**	P	**P**	**07 29 33.9**	**-0.3**
BCOK	**Bluff Creek, N**	**18.71**	**354**	P	**Pn**	**07 29 36.1**	**-0.9**
255A	**Hazlehurst**	**18.76**	**35**		**P**	**07 29 33.4**	**-2.4**
OK029	**Liberty Lake**	**18.83**	**354**	P	**P**	**07 29 37.3**	**+0.7**
OK029				IAmb	IAmb	07 29 39.5	
	comp=Z,9.7nm,0.5s						
TUL1	**Leonard**	**18.84**	**358**	P		07 29 36.8	
	baz=178,SNR=7.4						
OK030	**Cody Creek RV**	**18.91**	**356**	P	**P**	**07 29 37.9**	**+0.4**
PLAL	**Pickwick Lake**	**18.97**	**18**	P	**P**	**07 29 36.9**	**-1.2**
FCAR	**Ozark Folk Cen**	**19.00**	**7**	P	**P**	**07 29 38.4**	**0.0**
FCAR				IAmb	IAmb	07 29 39.9	
	comp=Z,11nm,0.7s						
QUOK	**Quay**	**19.14**	**356**	P	**P**	**07 29 40.6**	**+0.6**
HHAR	**Hobbs**	**19.23**	**3**	P	**P**	**07 29 41.4**	**+0.4**
HHAR				IAmb	IAmb	07 29 44.3	
	comp=Z,7.5nm,0.5s						
121A	**Cookes Peak, D**	**19.25**	**326**	P	**Pn**	**07 29 42.9**	**-0.6**
121A	**Cookes Peak, D**	**19.25**	**326**	P		07 29 44.7	
	baz=140						
LCAR	**Lake Charles**	**19.31**	**10**	P	**P**	**07 29 41.9**	**+0.1**
LCAR				IAmb	IAmb	07 29 42.8	
	comp=Z,8.3nm,0.7s						
U40A	**Yellville**	**19.38**	**5**	P	**P**	**07 29 42.7**	**+0.1**
U40A	**Yellville**	**19.38**	**5**	P		07 29 43.4	
	baz=186,SNR=33						
GOGA	**Godfrey**	**19.41**	**31**		**P**	**07 29 43.0**	**+0.1**
GOGA				IAmb	IAmb	07 29 55.5	
	comp=Z,11nm,0.5s						
FPAL	**Fort Paine**	**19.42**	**24**	P	**P**	**07 29 42.8**	**-0.3**
FPAL				IAmb	IAmb	07 30 05.9	
	comp=Z,12nm,1.2s						
Y52A	**Lilburn**	**19.50**	**29**	P	**P**	**07 29 42.6**	**-1.3**
CROK	**Carrier**	**19.59**	**353**	P	**P**	**07 29 44.5**	**-0.3**
X51A	**Calhoun**	**19.75**	**26**	P	**P**	**07 29 45.7**	**-0.9**
X51A				IAmb	IAmb	07 30 01.9	
	comp=Z,11nm,0.8s						
BLOK	**Blackwell**	**19.77**	**355**	P	**P**	**07 29 46.5**	**-0.3**
T35A	**Sooner Cattle**	**19.87**	**357**	P	**P**	**07 29 48.1**	**+0.2**
SWET	**Sewanee**	**19.90**	**23**	P	**P**	**07 29 46.0**	**-2.2**
GC02	**Grant County #**	**19.92**	**354**	P	**P**	**07 29 48.2**	**-0.2**
KAN13	**South Haven SW**	**20.04**	**354**	P	**P**	**07 29 49.8**	**+0.1**
KAN13				IAmb	IAmb	07 29 50.9	
	comp=Z,15nm,0.6s						
WVT	**Waverly**	**20.11**	**17**	P		07 29 51.0	
	baz=200						
WVT	**Waverly**	**20.11**	**17**	P	**P**	**07 29 50.7**	**+0.2**
WVT				IAmb	IAmb	07 29 53.3	
	comp=Z,5.3nm,0.6s						
W50A	**Signal Mountai**	**20.12**	**24**	P	**P**	**07 29 49.0**	**-1.6**
W50A				IAmb	IAmb	07 30 13.9	
	comp=Z,8.9nm,0.8s						
PBMO	**Poplar Bluff**	**20.13**	**11**	P	**P**	**07 29 49.8**	**-0.8**
PBMO				IAmb	IAmb	07 29 51.0	
	comp=Z,9.2nm,0.6s						
MGMO	**Mountain Grove**	**20.23**	**7**	P	**P**	**07 29 52.3**	**+0.5**
MGMO				IAmb	IAmb	07 30 20.7	
	comp=Z,10nm,0.8s						
T42A	**Van Buren**	**20.26**	**9**	P	**P**	**07 29 52.0**	**0.0**
T42A				IAmb	IAmb	07 29 53.3	
	comp=Z,8.9nm,0.8s						
KAN12	**Harper NE Stat**	**20.37**	**353**	P	**P**	**07 29 53.5**	**+0.2**
ANMO	**Albuquerque**	**20.54**	**333**	P		07 29 57.9	
	baz=147						
ANMO	**Albuquerque**	**20.54**	**333**	P	Pn	07 29 57.4	-1.2
	comp=Z,0.8nm,0.5s,baz=141,slow=13,SNR=4.5						
ANMO	**Albuquerque**	**20.54**	**333**	P	**P**	**07 29 56.1**	**+0.8**
CLTN	**Cedars of Leba**	**20.55**	**21**	P	**P**	**07 29 53.5**	**-1.6**
CPCT	**Cooper Cave**	**20.65**	**25**	P	**P**	**07 29 55.0**	**-1.3**
HODGE	**Hodges**	**20.66**	**31**	P	**P**	**07 29 55.3**	**-1.1**
S39A	**Bolivar**	**20.67**	**4**	P	**P**	**07 29 56.1**	**-0.3**
T45A	**Paducah**	**20.74**	**15**	P	**P**	**07 29 56.6**	**-0.5**
TUC	**Tucson**	**20.82**	**320**	P	**P**	**07 30 00.3**	**+2.1**
TUC	**Tucson**	**20.82**	**320**	P		07 30 03.5	
	baz=133						
BG3	**Lake Jocassee**	**20.96**	**29**	P	**P**	**07 29 59.1**	**-0.5**
BG3				IAmb	IAmb	07 30 16.0	
	comp=Z,34nm,1.3s						
V51A	**Loudon**	**21.03**	**25**	P	**P**	**07 29 58.6**	**-1.7**
V51A				IAmb	IAmb	07 30 17.6	
	comp=Z,9.6nm,0.8s						
U49A	**Red Boiling Sp**	**21.12**	**21**	P	**P**	**07 29 59.6**	**-1.7**
T47A	**Sharon Grove**	**21.12**	**18**	P	**P**	**07 30 01.1**	**-0.3**
T47A				IAmb	IAmb	07 30 03.2	
	comp=Z,13nm,0.6s						
TKL	**Tuckaleechee C**	**21.14**	**26**	P	**P**	**07 30 00.8**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=210,slow=9.3,SNR=9.6						
TKL	**Tuckaleechee C**	**21.14**	**26**	P	**P**	**07 29 59.4**	**-2.2**
TKL				IAmb	IAmb	07 30 18.9	
	comp=Z,15nm,

NEE2	**Needles Airpor** baz=130	**24.84**	**319**	P			07 30 38.5	
SCIA	**State Center** baz=184	**24.87**	**3**	P			07 30 37.8	
SCIA	**State Center**	**24.87**	**3**	P	**P**		**07 30 37.5**	**-0.1**
L34A	**Svendsen Farm,**	**24.90**	**358**	P	**P**		**07 30 38.8**	**+0.9**
L34A	comp=Z,8.4nm,0.7s			IAmb	IAmb		07 30 41.1	
O49A	**Covington**	**24.92**	**20**	P	**P**		**07 30 37.0**	**-1.2**
R55A	**Marlinton**	**24.94**	**29**	P	**P**		**07 30 37.4**	**-1.1**
N47A	**Urbana**	**25.14**	**17**	P	**P**		**07 30 38.3**	**-1.8**
L40A	**Anamosa**	**25.19**	**7**	P	**P**		**07 30 40.0**	**-0.6**
L40A	comp=Z,6.2nm,0.5s			IAmb	IAmb		07 30 41.9	
P52A	**Corning** baz=210	**25.22**	**24**	P			07 30 39.7	
L42A	**Oliver, Polo**	**25.35**	**10**	P	**P**		**07 30 41.5**	**-0.5**
L42A	comp=Z,8.2nm,0.7s			IAmb	IAmb		07 30 42.6	
N23A	**Red Feather La** baz=155	**25.58**	**341**	P			07 30 43.6	
K38A	**Parkersburg**	**25.63**	**4**	P	**P**		**07 30 44.2**	**-0.4**
O53A	**New Philadelph** baz=211	**26.11**	**25**	P			07 30 47.4	
JFWS	**Jewell Farm**	**26.15**	**8**	P	**P**		**07 30 49.2**	**-0.1**
JFWS	**Jewell Farm** baz=190,SNR=9.3	**26.15**	**8**	P			07 30 48.6	
ECSD	**EROS Data Cent**	**26.67**	**358**	P	**P**		**07 30 53.8**	**-0.1**
ECSD	**EROS Data Cent** baz=176	**26.67**	**358**	P			07 30 52.2	
M53A	**WI Miller and** baz=211	**27.33**	**24**	P			07 30 58.1	
SPMN	**Marine on St.** baz=184,SNR=7.7	**28.20**	**3**	P			07 31 07.0	
SPMN	**Marine on St.**	**28.20**	**3**	P	**P**		**07 31 07.8**	**+0.2**
WVNY	**West Valley, N**	**28.98**	**26**	P	**P**		**07 31 13.7**	**-0.9**
WVNY	comp=Z,11nm,1.4s			IAmb	IAmb		07 31 16.4	
G45A	**Suttons Bay**	**29.05**	**14**	P	**P**		**07 31 15.0**	**-0.1**
G45A	comp=Z,4.6nm,0.7s			IAmb	IAmb		07 31 18.8	
N59A	**State Game Lan** baz=220	**29.09**	**31**	P			07 31 13.7	
GLMI	**Grayling** baz=201	**29.10**	**15**	P			07 31 14.5	
COWI	**Conover**	**29.43**	**8**	P	**P**		**07 31 17.8**	**-0.7**
NVAR	**Mina Array Bea** comp=Z,1.4nm,0.7s,baz=134,slow=9.4,SNR=16	**29.46**	**321**	P	**P**		**07 31 22.1**	**+3.0**
NVAR	comp=Z,0.5nm,0.8s,baz=138,slow=9.6,SNR=2.6			pP		**pP**	**07 31 45.5**	**+1.5**
NVAR	comp=Z,0.2nm,0.3s,baz=90,slow=3.6,SNR=4.9			PcP		**PcP**	**07 34 23.7**	**+1.6**
NVAR	**Mina Array Bea**	**29.46**	**321**	P	**P**		**07 31 19.8**	**+0.7**
SNOW	**Snow King Moun**	**29.53**	**337**	P	**P**		**07 31 20.7**	**+1.0**
E43A	**Lone Tree Farm**	**30.05**	**11**	P	**P**		**07 31 23.0**	**-0.9**
E43A	comp=Z,3.5nm,0.6s			IAmb	IAmb		07 31 24.0	
D41A	**Chassel**	**30.45**	**9**	P	**P**		**07 31 26.9**	**-0.6**
D41A	comp=Z,4.8nm,0.8s			IAmb	IAmb		07 31 27.6	
H53A	**Bobcaygeon** baz=212,SNR=5.1	**30.80**	**23**	P			07 31 28.6	
EYMN	**Ely**	**31.00**	**5**	P	**P**		**07 31 31.9**	**-0.4**
EYMN	comp=Z,2.4nm,0.6s			IAmb	IAmb		07 31 32.1	
EYMN	**Ely** baz=186	**31.00**	**5**	P			07 31 31.7	
HLID	**Hailey** baz=142	**31.12**	**332**	P			07 31 34.6	
AGMN	**Agassiz Nation** baz=178,SNR=6.8	**31.21**	**359**	P			07 31 34.1	
AGMN	**Agassiz Nation**	**31.21**	**359**	P	**P**		**07 31 34.0**	**-0.1**
AGMN	comp=Z,3.8nm,0.8s			IAmb	IAmb		07 31 35.2	
B35A	**Bob, Littlefor**	**31.29**	**2**	P	**P**		**07 31 34.5**	**-0.3**
B35A	comp=Z,9.9nm,1.4s			IAmb	IAmb		07 31 40.9	
G54A	**Lake Saint Pet** baz=212	**31.69**	**23**	P			07 31 36.8	
M64A	**Tiverton** baz=227	**31.93**	**35**	P			07 31 40.7	
ALGO	**Algonquin Park** baz=212	**32.18**	**23**	P			07 31 41.0	
J08A	**Circle Bar Ran**	**32.91**	**328**	P	**P**		**07 31 49.5**	**+0.3**
ULM	**Lac du Bonnet** comp=Z,1.3nm,0.4s,baz=192,slow=7.8,SNR=3.0	**33.17**	**359**	P	**P**		**07 31 51.5**	**+0.3**
ULM	**Lac du Bonnet**	**33.17**	**359**	P	**P**		**07 31 50.6**	**-0.6**
D55A	**Sainte-Anne-du** baz=215	**34.05**	**24**	P			07 31 57.4	
D56A	**ZEC Mazanza, M** baz=216	**34.35**	**25**	P			07 31 59.6	
D58A	**Chemin du LacG** baz=219	**35.17**	**27**	P			07 32 07.2	
LSQQ	**Lebel-sur-Quev** baz=211	**35.20**	**21**	P			07 32 07.5	
MATQ	**Matagami** baz=209	**35.59**	**20**	P			07 32 10.5	
D61A	**St Aubert, Com** baz=222	**36.46**	**29**	P			07 32 18.2	
CHGQ	**Chibougamau** baz=214	**36.84**	**22**	P			07 32 20.9	
LPAZ	**La Paz** comp=Z,1.5nm,0.7s,baz=335,slow=7.3,SNR=8.0	**42.45**	**140**	P	**P**		**07 33 11.0**	**+0.7**
LPAZ	**La Paz**	**42.45**	**140**	P	**P**		**07 33 10.3**	**0.0**
SCHQ	**Schefferville** comp=Z,1.2nm,0.5s,baz=238,slow=8.4,SNR=6.0	**43.56**	**23**	P	**P**		**07 33 16.7**	**-1.5**
SIV	**San Ignacio** comp=Z,1.8nm,0.7s,baz=308,slow=8.5,SNR=6.8	**46.92**	**133**	P	**P**		**07 33 45.1**	**0.0**
SIV	comp=Z,1.2nm,0.8s,baz=316,slow=8.0,SNR=3.8			pP		**pP**	**07 34 10.8**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.8s,baz=158,slow=7.4,SNR=4.4	**47.45**	**348**	P	**P**		**07 33 49.4**	**+0.8**
YKA	comp=Z,0.7nm,0.6s,baz=149,slow=7.8,SNR=3.9			pP		**pP**	**07 34 14.8**	**-0.2**
AC02	**Maricunga**	**50.35**	**149**	P	**P**		**07 34 11.9**	**+0.1**
AC02	comp=Z,6.5nm,1.2s			IAmb	IAmb		07 34 17.1	
BCAR	**Beaver Creek A**	**56.10**	**336**	P	**P**		**07 34 53.5**	**+0.6**
L27K	**Beaver Creek,**	**56.11**	**336**	P	**P**		**07 34 53.7**	**+0.7**
L27K	comp=Z,3.2nm,1.4s			IAmb	IAmb		07 35 20.6	
INK	**Inuvik**	**56.73**	**344**	P	**P**		**07 34 58.1**	**+0.9**
INK	**Inuvik** baz=134	**56.73**	**344**	P			07 34 57.9	
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=130,slow=5.0,SNR=6.4	**58.91**	**337**	P	**P**		**07 35 13.8**	**+1.2**
ILAR	comp=Z,0.3nm,0.7s,baz=133,slow=5.4,SNR=2.4			pP		**pP**	**07 35 40.1**	**+0.1**
BMAR	**Burnt Mountain**	**59.46**	**340**	P	**P**		**07 35 16.6**	**+0.2**
TRF	**Thorofare Moun**	**59.66**	**335**	P	**P**		**07 35 18.9**	**+1.0**
TRF	comp=Z,3.3nm,1.0s			IAmb	IAmb		07 35 43.5	
MLY	**Manley**	**60.50**	**336**	P	**P**		**07 35 24.6**	**+1.2**
MLY	**Manley** baz=115	**60.50**	**336**	P			07 35 23.8	
PLCA	**Paso Flores** comp=Z,1.7nm,0.6s,baz=311,slow=2.7,SNR=5.5	**61.81**	**159**	P	**P**		**07 35 33.6**	**+1.0**
PLCA	**Paso Flores**	**61.81**	**159**	P	**P**		**07 35 33.9**	**+1.2**
PLTB	**Pedras Altas**	**62.73**	**141**	P	**P**		**07 35 38.8**	**-0.1**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.2s,baz=309,slow=4.7,SNR=4.4	**80.21**	**52**	P	**P**		**07 37 24.4**	**+0.5**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.6s,baz=9.1,slow=3.1,SNR=4.9	**84.22**	**18**	P	**P**		**07 37 44.5**	**+0.3**
ARCES	**ARCESS Array B**	**84.22**	**18**	P	**P**		**07 37 44.9**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=81,slow=3.1,SNR=5.3	**133.14**	**258**	PKP	**PKiKP**		**07 44 29.8**	**-0.2**
WRA	comp=Z,0.9nm,1.1s,baz=321,slow=1.2,SNR=2.6			pPKP		**pPKPdf**	**07 44 59.3**	**-0.4**

MAN 09 07:58:09.9, 10.88N×126.39E, h1 km, MS3.7, Philippine Islands region

*SOME **09** 08:51:55.3, 48.48N×86.22E, h30 km*
*NNC **09** 08:51:55.1±6.1, 49.07N×86.53E, h0 km, mb3.3, mpv2.9, Error ellipse: s-maj=46.2km s-min=36.2km az=88.0*

ISC 09 08:51:57.9±2.8, 48.65N±0.06×85.9E±0.2, h10 km, n5, σ1ᵎ50/9, 4C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan** 17nm,0.3s	**1.38**	**210**	*eP*		**Pn**	**08 52 22.9**	**-0.4**
ZSN				*eS*		**Sg**	**08 52 42.7**	**+0.3**
	12nm,0.3s							
MK31	**Makanchi Array** 0.6nm,0.2s,baz=47,slow=14,SNR=25	**3.06**	**234**	⇑Pn		**Pb**	**08 52 52.9**	**+0.5**
MK31	1.2nm,0.3s,baz=47,slow=26,SNR=9.9			⇓Sn		**Sg**	**08 53 36.6**	**+0.6**
MAKZ	**Makanchi** 3.0nm,0.8s	**3.22**	**237**	⇑Pn		**Pb**	**08 52 53.7**	**-1.5**
MAKZ	2.0nm,0.4s			⇑Sn		**Sg**	**08 53 42.7**	**+1.5**
SEM	**Semipalatinsk** 1.9nm,0.0s	**4.07**	**298**	*eP*		**Pb**	**08 53 11.8**	**+2.0**
SEM	7.0nm,0.1s			*eS*		**Sg**	**08 54 06.6**	**-2.0**
KURBB	**Kurchatov Arra** 1.4nm,0.9s	**5.17**	**295**	⇓Pg		**Pg**	**08 53 36.6**	**-0.3**
KURBB	4.9nm,0.5s			⇑Lg		Lg	08 54 47.9	

*NEIC **09** 09:01:57.1±2.5, 23.84S±0.08×177.0W±0.1, h102 km±7 km, mb4.8/14, Error ellipse: s-maj=19.9km s-min=10.7km az=96.0*
*IDC **09** 09:01:59.3±3.9, 23.83S×176.99W, h130 km±34 km, mb3.8/5, mb1 4.0/7, mb1mx3.7/23, mbtmp4.4/7, Error ellipse: s-maj=55.6km s-min=19.8km az=134.0*

ISC 09 09:01:58.1±0.6, 23.90S±0.08×176.89W±0.10, h120 km, n40, σ1ᵎ57/41, mb4.5/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.41**	**190**	Pn		**Pn**	**09 03 15.8**	**-0.8**
MSVF	**Nonsavu** 1.5nm,0.3s,baz=127,slow=16,SNR=8.2	**7.74**	**321**	P		Pn	09 03 55.3	+7.1
MSVF	**Nonsavu**	**7.74**	**321**			Pn	09 03 55.1	+6.8
NIUE	**Niue**	**8.07**	**55**	Pn		**Pn**	**09 03 50.3**	**-2.2**
AFI	**Afiamalu** 18nm,0.3s,baz=344,slow=0.9,SNR=29	**11.05**	**27**	P		**Pn**	**09 04 33.9**	**+1.0**
AFI	5.5nm,0.3s,baz=53,slow=20,SNR=2.8			S		Sn	09 06 24.9	-10
AFI	**Afiamalu**	**11.05**	**27**			**Pn**	**09 04 33.7**	**+0.8**
LIFNC	**LIFOU**	**15.01**	**279**			**P**	**09 05 26.6**	**+0.1**
URZ	**Urewera** 0.3nm,0.3s,baz=128,slow=20,SNR=1.2	**15.20**	**198**	P		**Pn**	**09 05 26.6**	**+0.2**
URZ	1.1nm,0.3s,baz=303,slow=24,SNR=3.6			S		**Sn**	**09 08 10.8**	**-3.8**
URZ	**Urewera**	**15.20**	**198**	Pn		**Pn**	**09 05 26.5**	**+0.1**
DZM	**Mont Dzumac** 0.8nm,0.3s,baz=174,slow=19,SNR=6.9	**15.45**	**273**	P		**P**	**09 05 35.3**	**+3.7**
SANVU	**Saraoutou**	**17.16**	**296**	P		**P**	**09 05 49.3**	**-1.1**
SANVU	comp=Z,58nm,0.7s			IAmb		IAmb	09 05 55.3	
EIDS	**Eidsvold**	**29.11**	**260**	P		**P**	**09 07 49.2**	**+1.4**
EIDS	comp=Z,25nm,1.4s			IAmb		IAmb	09 08 03.1	
CTAO	**Charters Tower**	**34.32**	**269**	P		**P**	**09 08 33.9**	**+0.5**
PMG	**Port Moresby**	**37.20**	**287**	P		**P**	**09 08 58.3**	**+0.3**
STKA	**Stephens Creek** comp=Z,1.3nm,0.5s,baz=81,slow=9.0,SNR=7.6	**37.36**	**248**	P		**P**	**09 08 59.8**	**+0.6**
STKA	**Stephens Creek**	**37.36**	**248**	P		**P**	**09 08 59.8**	**+0.6**
BBOO	**Buckleboo**	**42.06**	**247**	P		**P**	**09 09 37.4**	**-0.8**
BBOO	comp=Z,30nm,1.2s			IAmb		IAmb	09 09 58.0	
AS31	**Alice Springs**	**44.84**	**260**	P		**P**	**09 09 59.4**	**-1.2**
ASAR	**Alice Springs** comp=Z,2.3nm,0.7s,baz=91,slow=8.8,SNR=35	**44.84**	**260**	P		**P**	**09 09 60.0**	**-0.6**
WRA	**Warramunga Arr** comp=Z,2.5nm,0.4s,baz=91,slow=6.2,SNR=94	**45.24**	**265**	P		**P**	**09 10 02.6**	**-1.2**
FORT	**Forest**	**48.97**	**249**	P		**P**	**09 10 31.6**	**-1.0**
MTN	**Manton Dam**	**50.29**	**273**	P		**P**	**09 10 41.1**	**-1.7**
MTN	comp=Z,13nm,1.2s			IAmb		IAmb	09 10 58.4	
KNRA	**Kununurra** comp=Z,23nm,1.4s	**51.53**	**269**	P		**P**	**09 10 51.3**	**-0.8**
KNRA				IAmb		IAmb	09 11 10.4	
PSA00	**Pilbara Seismi**	**57.96**	**259**	P		**P**	**09 11 36.6**	**-1.7**
PSA00	comp=Z,9.5nm,1.4s			IAmb		IAmb	09 12 01.0	
QSPA	**South Pole Qui**	**66.19**	**180**	P		**P**	**09 12 36.8**	**+4.1**
QSPA	comp=Z,5.1nm,0.8s			IAmb		IAmb	09 12 37.3	
PETK	**Petropavlovsk-** comp=Z,2.0nm,0.6s,baz=133,slow=8.3,SNR=4.3	**79.80**	**345**	P		**P**	**09 13 51.7**	**-1.0**
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.7s,baz=163,slow=4.9,SNR=4.2	**82.33**	**326**	P		**P**	**09 14 06.5**	**+0.2**
SNAA	**Sanae**	**84.60**	**178**	P		**P**	**09 14 19.9**	**+2.1**
VNA3	**Neumayer Olymp**	**84.70**	**176**	P		**P**	**09 14 20.0**	**+1.7**
VNA1	**Neumayer--Stat**	**85.37**	**176**	P		**P**	**09 14 24.0**	**+2.5**
TRF	**Thorofare Moun**	**89.55**	**12**	P		**P**	**09 14 42.0**	**+0.3**
TRF	comp=Z,6.3nm,0.9s			IAmb		IAmb	09 14 43.6	
ARCES	**ARCESS Array B** comp=Z,4.8nm,1.1s,baz=23,slow=1.2,SNR=1.4	**132.43**	**350**	PKP		**PKPdf**	**09 20 56.5**	**-1.0**
FINES	**FINESS Array B** comp=Z,2.7nm,1.0s,baz=64,slow=3.2,SNR=2.1	**139.31**	**343**	PKhKP		PKPpre	09 21 01.3	
FINES	comp=Z,0.7nm,0.3s,baz=48,slow=2.8,SNR=7.6			PKP		**PKPdf**	**09 21 11.3**	**+0.8**
AKASG	**Malin Array Be** comp=Z,6.9nm,0.4s,baz=42,slow=4.4,SNR=51	**146.46**	**330**	PKPbc		**PKPdf**	**09 21 24.0**	**+0.6**
AKASG	**Malin Array Be**	**146.46**	**330**			**PKPdf**	**09 21 24.1**	**+0.7**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.5s,baz=25,slow=4.8,SNR=1.9	**149.82**	**309**	PKPbc		**PKPbc**	**09 21 33.0**	**-1.4**
CLL	**Collm**	**151.59**	**347**	*i* PKPbc		**PKiKP**	**09 21 38.6**	**+0.2**
CLL	comp=Z,6.0nm,0.5s			*i* PKPab		**PKPab**	**09 21 45.6**	**-1.3**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=35,slow=2.4,SNR=1.4	**153.73**	**344**	PKPbc		**PKPbc**	**09 21 43.0**	**0.0**
ITM	**Ithomi**	**159.12**	**314**			**PKPdf**	**09 21 42.2**	**-0.1**
TIP	**Timpagrande**	**160.87**	**326**	PKPdf		**PKPdf**	**09 21 42.0**	**-2.2**
TIP						**sPKPdf**	**09 22 28.3**	**+0.1**

NOU 09 09:12:37.7, 32.74S×116.37E, h0 km, MLv3.5, Western Australia, Western Australia

*MOS **09** 09:26:16.0±0.8, 56.97N×157.03W, h42 km, mb4.7/16, Error ellipse: s-maj=20.1km s-min=9.9km az=97.3*
*IDC **09** 09:26:18.7±1.8, 56.88N×156.69W, h56 km±15 km, mb4.1/29, mb1 4.3/32, mb1mx4.2/53, mbtmp4.4/32, MS2.8/4, Ms1 2.8/4, ms1mx2.6/39, Error ellipse: s-maj=17.0km s-min=9.0km az=8.0*
*AEIC **09** 09:26:19±2.5, 56.65N±0.07×156.46W±0.08, h71 km±6 km, ML4.1, mb4.3/92(NEIC), ML4.3/20(NEIC), Error ellipse: s-maj=10.7km s-min=5.7km az=162.0*
*NEIC **09** 09:26:19.5±2.2, 56.69N±0.06×156.52W±0.07, h68 km±7 km, Error ellipse: s-maj=9.6km s-min=5.6km az=166.0*
*ANF **09** 09:26:20.2±0.4, 56.74N×156.36W, h69 km±3 km, ML4.5/10, Error ellipse: s-maj=4.4km s-min=4.0km az=40.0, Hypocentre not reviewed by the ISC*

ISC 09 09:26:19.1±0.8, 56.78N±0.06×156.61W±0.04, h66 km±7 km, n304, σ1ᵎ08/314, mb4.4/88, 11C-2D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.36**	**98**			**Pn**	**09 26 41.2**	**-0.8**
SII				Sn		**Sn**	**09 26 57.3**	**-1.8**
SII	comp=E,9μm,0.5s			IAML			09 27 00.3	
SII	**Sitkinak Islan** baz=275,SNR=32	**1.36**	**98**	P			09 26 41.2	
SII	baz=275			S			09 26 57.3	
VNHG	**Veniaminof 1**	**1.52**	**250**			**Pn**	**09 26 45.3**	**+1.1**
VNSG	**Veniaminof 6**	**1.52**	**246**			**Pn**	**09 26 44.8**	**+0.6**
VNFG	**Fog Glacier, M**	**1.70**	**254**			**Pn**	**09 26 47.8**	**+1.1**
OHAK	**Old Harbor**	**1.87**	**75**	Pn		**Pn**	**09 26 48.7**	**-0.1**
OHAK				Sn		**Sn**	**09 27 10.2**	**-1.2**
OHAK	**Old Harbor** baz=253,SNR=175	**1.87**	**75**	P			09 26 48.8	
OHAK	baz=253			S			09 27 10.0	
KDAK	**Kodiak Island** comp=E,206nm,0.3s,baz=190,slow=4.4,SNR=3513	**2.41**	**64**	P		**Pn**	**09 26 56.4**	**+0.3**
KDAK	comp=E,96nm,0.3s,baz=163,slow=19,SNR=5.8			S		**Sn**	**09 27 23.7**	**-0.7**
KDAK	comp=E,97nm,18.4s,baz=274,slow=37			LR		LR	09 27 48.6	
KDAK	**Kodiak Island**	**2.41**	**64**	*i* P		**Pn**	**09 26 56.0**	**-0.1**
KDAK	**Kodiak Island**	**2.41**	**64**	Pn		**Pn**	**09 26 56.4**	**+0.3**
KDAK				Sn		**Sn**	**09 27 24.6**	**+0.1**
KDAK	comp=E,1μm,0.4s			IAML			09 27 24.8	
KDAK	**Kodiak Island** baz=243	**2.41**	**64**	P			09 26 56.4	
KDAK	baz=243			S			09 27 23.2	
SDPT	**Sand Point**	**2.60**	**238**	Pn		**Pn**	**09 26 58.5**	**-0.1**
SDPT				Sn		**Sn**	**09 27 29.1**	**+0.1**
SDPT	comp=N,986nm,0.5s			IAML			09 27 33.9	
SDPT	comp=E,1μm,0.5s			IAML			09 27 34.1	
SDPT	**Sand Point** baz=58,SNR=26	**2.60**	**238**	P			09 26 58.5	
SDPT	baz=58			S			09 27 29.0	
AUH	**Augustine H**	**3.09**	**32**			**Pn**	**09 27 06.9**	**+1.4**
PVV	**Pavlof Volcano**	**3.23**	**246**			**Pn**	**09 27 08.1**	**+0.9**
PS4A	**Pavlof South-4**	**3.27**	**246**			**Pn**	**09 27 08.4**	**+0.6**
PS4A						**Sn**	**09 27 46.3**	**+0.8**
HAG	**Hague Volcano**	**3.31**	**246**			**Pn**	**09 27 09.2**	**+0.8**
DT1	**Dutton Round H**	**3.60**	**245**			**Pn**	**09 27 12.6**	**+0.2**
HOM	**Homer**	**3.91**	**40**	Pn		**Pn**	**09 27 18.6**	**+2.1**
HOM	comp=E,754nm,0.5s			IAML			09 28 04.6	
HOM	comp=N,589nm,0.6s			IAML			09 28 05.5	
HOM	**Homer**	**3.91**	**40**			**Sn**	**09 28 02.8**	**+1.8**
HOM	**Homer** baz=222	**3.91**	**40**	P			09 27 18.2	
HOM	baz=222			S			09 28 01.5	
CNPM	**China Poot**	**3.96**	**44**			**Pn**	**09 27 18.3**	**+1.0**
CNPM	comp=N,218nm,0.6s			IAML			09 28 04.1	
CNPM	comp=E,218nm,0.5s			IAML			09 28 07.3	
CNPM	**China Poot**	**3.96**	**44**			**Sn**	**09 28 02.3**	**-0.2**
RED	**Redoubt Volcan**	**4.17**	**27**			**Pn**	**09 27 21.7**	**+1.5**
RSO	**Redoubt South**	**4.21**	**27**			**Pn**	**09 27 23.3**	**+2.4**
BRLK	**Bradley Lake**	**4.26**	**43**	Pn		**Pn**	**09 27 21.9**	**+0.6**
BRLK						**Sn**	**09 28 07.6**	**-2.0**
BRLK	comp=E,297nm,0.5s			IAML			09 28 09.8	
BRLK	comp=N,238nm,0.6s			IAML			09 28 09.9	
NCT	**North Crescent**	**4.26**	**25**			**Pn**	**09 27 22.1**	**+0.7**
FALS	**False Pass**	**4.29**	**246**			**Pn**	**09 27 22.2**	**+0.4**
FALS	**False Pass** baz=63,SNR=5.2	**4.29**	**246**	P			09 27 22.0	
BRSE	**Bradley Lake S**	**4.30**	**44**			**Pn**	**09 27 22.6**	**+0.8**
BRSE						**Sn**	**09 28 08.7**	**-1.9**
BRSE	**Bradley Lake S** baz=227,SNR=14	**4.30**	**44**	P			09 27 22.6	
BRSE	baz=227			S			09 28 08.6	
DFR	**Drift River**	**4.34**	**26**			**Pn**	**09 27 24.0**	**+1.4**
SVW2	**Sparrevohn**	**4.37**	**7**	Pn		**Pn**	**09 27 25.4**	**+2.6**
SSLN	**Shishaldin Nor**	**4.61**	**248**			**Pn**	**09 27 26.0**	**-0.2**
CAPN	**Captain Cook N**	**4.91**	**33**	Pn		**Pn**	**09 27 30.7**	**+0.5**
SPCR	**Spurr Chakacha** baz=208	**4.99**	**25**	P			09 27 32.8	
SPBG	**Spurr Blockage**	**5.00**	**24**			**Pn**	**09 27 32.1**	**+0.6**
SLKM	**Skilak Lake**	**5.01**	**39**			**Pn**	**09 27 32.4**	**+0.7**
SEW	**Seward**	**5.03**	**45**	Pn		**Pn**	**09 27 31.8**	**0.0**
SEW	**Seward** baz=230	**5.03**	**45**	P			09 27 32.0	
SEW	baz=230			S			09 28 24.6	
SPCP	**Crater Peak Br**	**5.06**	**25**			**Pn**	**09 27 33.2**	**+0.8**
SPCG	**Spurr Capps Gl**	**5.11**	**26**			**Pn**	**09 27 34.3**	**+1.2**
WESP	**Westdahl Peak**	**5.13**	**247**			**Pn**	**09 27 33.5**	**+0.1**
O22K	**Cooper Landing**	**5.17**	**41**	Pn		**Pn**	**09 27 34.6**	**+0.8**
O22K	**Cooper Landing** baz=225	**5.17**	**41**	P			09 27 34.9	
STLK	**Strandline Lak**	**5.34**	**25**			**Pn**	**09 27 36.7**	**+0.6**
SUA	**Susitna One**	**5.59**	**30**			**Pn**	**09 27 40.0**	**+0.4**
SUA	**Susitna One** baz=214	**5.59**	**30**	P			09 27 40.2	
RC01	**Rabbit Creek A**	**5.60**	**37**			**Pn**	**09 27 41.2**	**+1.5**
RC01	**Rabbit Creek A** baz=221,SNR=6.4	**5.60**	**37**	P			09 27 41.0	
RC01	baz=221			S			09 28 40.5	
AKSA	**Akutan Strait**	**5.81**	**247**			**Pn**	**09 27 42.8**	**+0.3**
SKT	**Skwentna**	**5.83**	**24**	Pn		**Pn**	**09 27 44.8**	**+2.0**
AKUT	**Akutan**	**5.84**	**247**	Pn		**Pn**	**09 27 42.9**	**-0.1**
PWL	**Port Wells**	**5.94**	**43**			**Pn**	**09 27 44.4**	**+0.2**
M22K	**Willow**	**6.00**	**31**			**Pn**	**09 27 45.9**	**+0.9**
M22K	**Willow** baz=215,SNR=5.5	**6.00**	**31**	P			09 27 46.1	
M22K	baz=215			S			09 28 51.3	
Q23K	**Middleton Isla**	**6.05**	**60**	Pn		**Pn**	**09 27 46.2**	**+0.3**
Q23K	**Middleton Isla** baz=247	**6.05**	**60**	P			09 27 46.3	
MID	**Middleton Isla**	**6.06**	**60**	Pn		**Pn**	**09 27 46.3**	**+0.4**
TT01	**Tatalina**	**6.16**	**3**			**Pn**	**09 27 48.8**	**+1.5**
PMR	**Palmer**	**6.17**	**35**			**Pn**	**09 27 47.6**	**+0.2**
PMR	**Palmer** baz=220	**6.17**	**35**	P			09 27 48.1	
PMR	baz=220			S			09 28 52.9	
TTA	**Tatalina**	**6.18**	**3**	Pn		**Pn**	**09 27 50.1**	**+2.5**
TTA	**Tatalina** baz=182,SNR=40	**6.18**	**3**	P			09 27 49.9	
KNK	**Knik Glacier**	**6.26**	**39**	Pn		**Pn**	**09 27 49.4**	**+0.7**
KNK	**Knik Glacier** baz=224	**6.26**	**39**	P			09 27 49.1	
KNK	baz=224			S			09 28 54.9	
GHO	**Glory Hole Cre**	**6.37**	**35**	Pn		**Pn**	**09 27 51.5**	**+1.2**
MTBL	**Makushin Table**	**6.39**	**248**			**Pn**	**09 27 50.4**	**-0.2**
HIN	**Hinchinbrook I**	**6.41**	**51**			**Pn**	**09 27 51.0**	**+0.2**
GLI	**Glacier Island**	**6.43**	**46**	Pn		**Pn**	**09 27 50.3**	**-0.6**
GLI	**Glacier Island** baz=233	**6.43**	**46**	P			09 27 50.6	
GLI	baz=233			S			09 28 58.4	
MNAT	**Makushin Natee**	**6.44**	**247**			**Pn**	**09 27 50.7**	**-0.4**
MSW	**Makushin Switc**	**6.47**	**248**			**Pn**	**09 27 51.0**	**-0.6**
CUT	**Chulitna**	**6.50**	**27**	Pn		**Pn**	**09 27 50.9**	**-0.9**
CUT	**Chulitna** baz=211	**6.50**	**27**	P			09 27 53.8	
CUT	baz=211			S			09 29 02.9	
PPLA	**Purkeypile**	**6.53**	**18**	Pn		**Pn**	**09 27 51.3**	**-1.2**
SML	**Sawmill**	**6.59**	**37**	Pn		**Pn**	**09 27 54.4**	**+1.2**
SML	**Sawmill** baz=222	**6.59**	**37**	P			09 27 53.8	
SML	baz=222			S			09 29 03.4	
FID	**Port Fidalgo**	**6.60**	**49**	Pn		**Pn**	**09 27 52.9**	**-0.5**
JPK	**Jack Peak**	**6.73**	**46**			**Pn**	**09 27 55.3**	**+0.2**
EYAK	**Cordova Ski Ar**	**6.81**	**52**	Pn		**Pn**	**09 27 55.3**	**-0.

SUCK Suckling Hills 7.50 59 Pn 09 28 07.0 +1.4
BMRM Bremner River 7.50 51 Pn 09 28 05.3 -0.4
BMRM Bremner River 7.50 51 P 09 28 05.4
baz=240,SNR=7.5
BMRM S 09 29 23.6
baz=240
M24K Tolsona, Glenn 7.54 41 Pn 09 28 06.5 +0.3
M24K Tolsona, Glenn 7.54 41 P 09 28 06.8
baz=228,SNR=5.8
GRIN Grindle Hills 7.79 58 Pn 09 28 09.1 -0.5
N25K Chitina, Valde 7.84 47 Pn 09 28 10.0 -0.3
N25K Chitina, Valde 7.84 47 P 09 28 10.3
baz=236,SNR=7.0
BPAW Bear Paw Mtn. 7.85 18 Pn Pn 09 28 12.2 +1.8
BPAW Bear Paw Mtn. 7.85 18 P 09 28 11.6
baz=202,SNR=9.0
MCK McKinley 7.95 25 Pn 09 28 10.5 -1.3
MCK McKinley 7.95 25 P 09 28 12.0
baz=211
CRQM Cirque 8.05 55 Pn 09 28 13.3 0.0
GLB Gilahina Butte 8.07 49 Pn Pn 09 28 13.7 +0.2
CRQE Cirque 8.07 55 P 09 28 13.3
baz=245,SNR=17
HARP HAARP 8.09 41 P 09 28 14.6
baz=230,SNR=16
VRDI Verde Repeater 8.12 51 Pn 09 28 14.3 0.0
TGL Tana Glacier 8.19 55 Pn 09 28 15.1 -0.1
PAX Paxson 8.36 37 Pn 09 28 17.7 +0.3
PAX Paxson 8.36 37 P 09 28 17.8
baz=226,SNR=8.5
MCARA McCarthy VSAT 8.38 51 Pn 09 28 18.3 +0.7
MCARA McCarthy VSAT 8.38 51 P 09 28 17.9
baz=242
MESA MESA 8.40 60 Pn 09 28 18.9 +0.8
MESA MESA 8.40 60 P 09 28 18.0
baz=251,SNR=6.9
YAH Yahtse 8.56 59 Pn 09 28 20.3 +0.1
NEA2 Nenana 8.66 22 Pn 09 28 21.3 -0.2
NEA2 Nenana 8.66 22 P 09 28 21.8
baz=208,SNR=5.5
GRNC Granite Creek 8.68 57 Pn 09 28 22.0 +0.2
MLY Manley 8.76 17 Pn 09 28 24.8 +1.9
MLY Manley 8.76 17 P 09 28 23.3
baz=201,SNR=7.4
WRH Wood River Hil 8.78 25 Pn 09 28 23.9 +0.9
BARN Barnard Glacie 8.84 55 Pn 09 28 24.2 +0.1
TABL Table Mountain 8.86 59 Pn 09 28 24.5 0.0
ANM Nome 8.91 335 Pn Pn 09 28 28.8 +4.0
ANM Nome 8.91 335 P 09 28 27.1
baz=147
MENT Mentasta 8.95 41 Pn Pn 09 28 25.3 -0.1
CTG Chitna Glacier 8.95 56 P 09 28 25.3
baz=248,SNR=17
CTGM Chitina Glacie 8.95 56 Pn 09 28 25.8 +0.2
CCB Clear Creek Bu 8.99 25 Pn 09 28 26.1 +0.2
HDA Harding Lake 9.00 28 Pn Pn 09 28 26.2 +0.1
HDA Harding Lake 9.00 28 P 09 28 26.5
baz=215,SNR=18
HDA P 09 28 26.5
baz=215,SNR=18
H21K Melozitna Rive 9.10 10 P 09 28 29.8
baz=193,SNR=20
I23K Minto, Yukon-K 9.10 20 Pn 09 28 28.7 +1.3
I23K Minto, Yukon-K 9.10 20 P 09 28 28.0
baz=205,SNR=15
MDM Murphy Dome 9.16 23 Pn 09 28 28.6 +0.3
TCOL CIGO, UAF Yank 9.17 24 Pn 09 28 28.2 -0.2
TCOL CIGO, UAF Yank 9.17 24 P 09 28 29.0
baz=211
TCOL S 09 30 06.1
baz=211
COLA College 9.17 24 *i* P Pn 09 28 27.3 -1.1
COLA College 9.17 24 Pn Pn 09 28 29.0 +0.6
COLA College 9.17 24 P 09 28 28.5
baz=211
PCA Pinnacle 9.20 62 Pn 09 28 28.9 +0.1
PINM Pinnacle 9.20 62 P 09 28 28.6
baz=255,SNR=14
PINM S 09 30 05.6
baz=255
DOT Dot Lake 9.29 37 Pn Pn 09 28 33.8 +3.8
IL31 9.31 27 Pn 09 28 29.2 -1.1
ILAR Eielson Array 9.31 27 P Pn 09 28 29.8 -0.5
comp=N,1.2nm,0.3s,baz=218,slow=13,SNR=71
ILAR S Sn 09 30 07.7 -5.6
comp=N,3.4nm,0.3s,baz=247,slow=18,SNR=13
ILAR Eielson Array 9.31 27 Pn Pn 09 28 29.9 -0.4
IMAR Indian Mountai 9.34 7 Pn Pn 09 28 33.2 +2.4
BCPM Bancas Point 9.47 63 Pn 09 28 32.3 -0.1
POKR Poker Plat Res 9.47 24 Pn 09 28 33.0 +0.4
POKR Poker Plat Res 9.47 24 P 09 28 32.6
baz=211,SNR=10
SCRK Sand Creek 9.54 36 Pn Pn 09 28 33.7 +0.2
SCRK Sand Creek 9.54 36 P 09 28 33.2
baz=226
H23K Yukon River 9.69 18 P 09 28 35.2
baz=203
L27K Beaver Creek, 9.72 43 Pn Pn 09 28 36.9 +1.0
L27K Beaver Creek, 9.72 44 P 09 28 35.6
baz=235,SNR=11
H24K Noodor Dome 10.00 21 P 09 28 39.1
baz=208,SNR=5.1
K27K Chicken 10.20 39 Pn 09 28 43.6 +1.1
K27K Chicken 10.20 39 P 09 28 42.6
baz=230
PRP Porcupine Dome 10.26 27 P 09 28 43.5
baz=216
HYT Haines Junctio 10.70 60 Pn Pn 09 28 49.3 -0.1
COLD Coldfoot 10.90 13 Pn Pn 09 28 52.5 +0.4
COLD Coldfoot 10.90 13 P 09 28 52.2
baz=198
EGAK Eagle 10.99 37 Pn Pn 09 28 53.8 +0.6
EGAK Eagle 10.99 37 P 09 28 53.0
baz=230
DAWY Dawson 11.18 42 Pn 09 28 57.0 +1.1
SIT Sitka 11.63 80 Pn Pn 09 29 00.0 -1.9
SIT Sitka 11.63 80 P 09 29 00.1
baz=277
RDOG Red Dog Mine 11.68 348 Pn 09 29 04.8 +2.1
BESE Bessie Mountai 11.77 72 Pn 09 29 04.2 +0.3
WHY Whitehorse 11.92 62 Pn Pn 09 29 06.3 +0.2
WHY Whitehorse 11.92 62 P 09 29 05.8
baz=260,SNR=13
JIS Juneau Island 12.03 74 Pn 09 29 07.0 -0.4
BMAR Burnt Mountain 12.05 23 Pn Pn 09 29 06.0 -1.7
KIWB Kanaga Island 12.94 256 Pn Pn 09 29 20.0 +0.1
CRAG Craig 13.15 86 Pn Pn 09 29 21.6 -1.1
CRAG Craig 13.15 86 P 09 29 21.0
baz=285
WRAK Wrangell Islan 13.36 81 Pn 09 29 24.8 -0.6
WRAK Wrangell Islan 13.36 81 P 09 29 23.9
baz=281
EPYK Eagle Plains 13.43 36 Pn 09 29 28.1 +1.8
EPYK Eagle Plains 13.43 36 P 09 29 26.2
baz=233
A21K Barrow 14.61 360 Pn Pn 09 29 40.8 -1.0
A21K Barrow 14.61 360 P 09 29 41.6
baz=180,SNR=13
INK Inuvik 15.58 33 P Pn 09 29 53.8 -0.4
comp=N,1.6nm,0.3s,baz=235,slow=17,SNR=29
INK Inuvik 15.58 33 Pn 09 29 54.1 -0.1
INK Inuvik 15.58 33 P 09 29 53.6
baz=233,SNR=7.6
C36M Paulatuk 19.06 36 P P 09 30 35.8 +0.2
C36M IAmb IAmb 09 30 39.1
comp=Z,11nm,0.8s
C36M Paulatuk 19.06 36 P 09 30 35.2
baz=245,SNR=7.0
BILL Bilibino 20.18 319 *je* P P 09 30 45.8 -2.0
BILL pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 20.18 319 P P 09 30 48.2 +0.4
BILL IAmb IAmb 09 30 49.3
comp=Z,8.4nm,0.8s
YKA Yellowknife Ar 21.67 57 P P 09 31 04.3 +0.5
comp=Z,5.1nm,0.7s,baz=276,slow=9.3,SNR=60
YKA ScP ScP 09 38 32.9 -0.5
comp=Z,0.3nm,0.7s,baz=266,slow=2.2,SNR=3.8
YKA Yellowknife Ar 21.67 57 *ce* P P 09 31 04.0 +0.2
YKA pmax pmax
comp=Z,7.0nm,0.7s
B08A Colville Reser 23.91 95 P P 09 31 26.0 -0.6
B08A IAmb IAmb 09 31 29.3
comp=Z,7.0nm,0.8s
C09A Chrisman Ranch 24.81 95 P P 09 31 35.5 +0.7

D08A Wollman Farm, 24.90 97 P P 09 31 36.4 +0.9
F07A Phinny Hill Vi 25.06 100 P P 09 31 36.3 -0.7
NEW Newport 25.18 93 P P 09 31 39.2 +1.1
comp=Z,5.1nm,0.8s,baz=318,slow=7.3,SNR=14
NEW Newport 25.18 93 P P 09 31 39.5 +1.4
NEW Newport 25.18 93 P 09 31 36.4
baz=304,SNR=7.3
PET Petropavlovsk 25.64 281 *ce* P P 09 31 40.6 -1.5
PET pmax pmax
comp=Z,39nm,1.7s
E09A Wood Farm, Sta 25.65 97 P P 09 31 43.2 +0.9
E09A IAmb IAmb 09 31 44.2
comp=Z,9.3nm,1.0s
SEY Seymchan 25.73 305 P P 09 31 42.3 -0.6
comp=Z,5.5nm,0.7s,baz=104,slow=9.3,SNR=10
G08A Pilot Rock 25.97 100 P P 09 31 45.7 +0.3
PEA0B Petropavlovsk- 26.12 281 *i* P P 09 31 45.1 -1.4
PEA0B Petropavlovsk- 26.12 281 P P 09 31 46.2 -0.3
PEA0B IAmb IAmb 09 31 46.8
comp=Z,18nm,1.1s
PETK Petropavlovsk- 26.12 281 P P 09 31 46.2 -0.3
comp=Z,5.5nm,0.5s,baz=72,slow=13,SNR=28
PETK LR LR 09 42 58.5
comp=Z,11nm,18.0s,baz=88,slow=38
PETK Petropavlovsk- 26.12 281 P P 09 31 45.8 -0.7
YBH Yreka Blue Hor 26.41 110 P P 09 31 51.1 +1.7
comp=Z,1.7nm,0.7s,baz=353,slow=3.8,SNR=6.0
F10A Beach Ranch, E 26.48 97 P P 09 31 50.7 +0.7
F10A IAmb IAmb 09 31 51.9
comp=Z,6.0nm,0.8s
N02D Trinity Center 26.97 111 P 09 31 52.2
baz=317
JTMT Jette 27.04 91 P P 09 31 55.8 +0.8
JTMT IAmb IAmb 09 31 56.7
comp=Z,5.6nm,0.9s
O02D Mt. Diablo Mer 27.52 113 P 09 31 57.3
baz=318
O03E Paynes Creek 27.93 111 P 09 32 01.2
baz=318
ORV Oroville 28.64 112 P P 09 32 10.1 +0.9
MFID Camas Ranch 28.90 100 P P 09 32 12.9 +1.3
HRY Holter Researc 29.00 91 P P 09 32 13.4 +1.0
RES Resolute Bay 29.06 29 P P 09 32 12.7 +0.2
comp=Z,2.2nm,0.7s,baz=257,slow=9.0,SNR=5.5
RES Resolute Bay 29.06 29 P P 09 32 12.9 +0.4
RES IAmb IAmb 09 32 31.9
comp=Z,6.1nm,1.2s
LRM Limekiln Ridge 29.20 93 P P 09 32 13.2 -1.2
HLID Hailey 29.57 98 P P 09 32 18.5 +0.9
HLID Hailey 29.57 98 P 09 32 15.8
baz=311
MCMT McKenzie Canyo 29.60 95 P P 09 32 18.7 +0.7
PAHR Pah Rah Range 29.61 109 P P 09 32 19.3 +1.3
BCYI Bear Canyon 29.63 96 P P 09 32 18.9 +0.7
VCNR Virginia City 29.78 110 P P 09 32 19.1 -0.4
VCNR IAmb IAmb 09 32 22.1
comp=Z,5.3nm,0.9s
PNTR Pine Nut 29.96 110 P P 09 32 23.5 +2.3
PNTR IAmb IAmb 09 32 23.8
comp=Z,7.0nm,0.8s
YERR Yerington 30.23 110 P P 09 32 24.6 +1.1
YERR IAmb IAmb 09 32 25.8
comp=Z,4.4nm,0.9s
WAKR Walker 30.48 111 P P 09 32 27.2 +1.5
WAKR IAmb IAmb 09 32 28.4
comp=Z,9.1nm,1.4s
YHL Hebgen Lake 30.50 93 P P 09 32 27.3 +1.4
YHL IAmb IAmb 09 32 28.1
comp=Z,4.5nm,0.9s
YHH Holmes Hill 30.73 93 P P 09 32 28.8 +0.8
YHH IAmb IAmb 09 32 30.0
comp=Z,5.5nm,0.7s
YMR Madison River 30.74 93 P P 09 32 29.3 +1.3
RYN Ryan 30.86 110 P P 09 32 30.8 +1.7
YNE Yellowstone No 31.05 92 P P 09 32 32.0 +1.3
YNE IAmb IAmb 09 32 33.1
comp=Z,4.3nm,0.9s
ELK Elko 31.05 103 P P 09 32 32.6 +1.8
NVAR Mina Array Bea 31.13 110 P P 09 32 32.9 +1.4
comp=Z,2.6nm,0.6s,baz=309,slow=8.7,SNR=34
H17A Grant Village 31.13 94 P 09 32 28.9
baz=310,SNR=5.9
LHV Little Huntoon 31.16 110 P P 09 32 33.4 +2.0
NV11 Mina Array Sit 31.20 109 P P 09 32 31.5 -0.5
FLWY Flagg Ranch 31.26 94 P P 09 32 33.3 +0.8
FLWY IAmb IAmb 09 32 35.3
comp=Z,6.6nm,0.8s
TPH Tonopah 31.95 109 P P 09 32 40.3 +1.7
LAO LASA Array 32.10 86 P P 09 32 40.8 +1.1
LAO IAmb IAmb 09 32 41.8
comp=Z,3.3nm,1.0s
LAO LASA Array 32.10 86 P 09 32 39.2
baz=307
BGU Big Grassy Mou 32.12 101 P P 09 32 41.2 +1.2
HWUT Hardware Ranch 32.44 98 P P 09 32 44.0 +1.1
HWUT IAmb IAmb 09 32 45.2
comp=Z,4.7nm,1.1s
R11A Troy Canyon, C 32.61 107 P P 09 32 45.5 +1.1
R11A Troy Canyon, C 32.61 107 P 09 32 43.5
baz=318
SMMC Simmler 32.67 115 P 09 32 44.8
baz=322
BW06 Boulder Array 32.75 95 P P 09 32 46.1 +0.4
BW06 IAmb IAmb 09 32 47.1
comp=Z,3.0nm,0.7s
BW06 Boulder Array 32.75 95 P 09 32 44.0
baz=312,SNR=5.2
PDAR Pinedale Array 32.75 95 P P 09 32 46.6 +0.9
comp=Z,2.8nm,0.7s,baz=314,slow=5.0,SNR=22
PDAR Pinedale Array 32.75 95 P P 09 32 46.1 +0.4
CWC Cottonwood Cre 32.76 112 P 09 32 44.0
baz=321
SPR3 Spring Creek 3 32.80 105 P P 09 32 47.5 +1.3
SPR3 IAmb IAmb 09 32 49.3
comp=Z,4.0nm,1.1s
TIXI Tiksi 33.03 326 P P 09 32 47.1 -0.4
comp=Z,1.9nm,0.4s,baz=81,slow=6.8,SNR=8.2
TIXI PcP PcP 09 35 29.3 -0.1
comp=Z,1.8nm,0.5s,baz=12,slow=4.4,SNR=5.2
TIXI Tiksi 33.03 326 *ce* P P 09 32 46.9 -0.6
TIXI Tiksi 33.03 326 P P 09 32 46.8 -0.7
TIXI IAmb IAmb 09 32 48.3
comp=Z,5.5nm,0.8s
ISA Isabella, Lake 33.16 113 P P 09 32 49.5 +0.5
ISA IAmb IAmb 09 32 50.7
comp=Z,2.8nm,0.8s
ISA Isabella, Lake 33.16 113 P 09 32 47.3
baz=322
JLU Jordanelle 33.20 100 P P 09 32 50.5 +0.9
TPNV Topopah Spring 33.31 109 P P 09 32 51.1 +0.6
TPNV IAmb IAmb 09 32 53.0
comp=Z,5.5nm,0.8s
TPNV Topopah Spring 33.31 109 P 09 32 50.0
baz=320,SNR=8.6
NLU North Lily Min 33.32 101 P P 09 32 50.9 +0.2
FURC Furnace Creek, 33.36 110 P 09 32 49.8
baz=320
MPU Maple Canyon 33.51 101 P P 09 32 53.4 +1.1
PRN Pahroc Range 33.59 107 P P 09 32 54.3 +1.4
PRN IAmb IAmb 09 32 55.5
comp=Z,6.0nm,1.1s
LRMC Laurel Mtn Rad 33.70 112 P 09 32 53.9
baz=321,SNR=6.0
EDW2 Edwards Air Fo 34.02 113 P 09 32 55.4
baz=322
TCRU Three Creeks R 34.09 103 P P 09 32 58.0 +0.7
TCRU IAmb IAmb 09 33 00.1
comp=Z,4.5nm,0.9s
SHOC Shoshone, Teco 34.10 110 P 09 32 57.1
baz=320
RDMU Red Mountain 34.24 98 P P 09 33 00.0 +1.4
RDMU IAmb IAmb 09 33 00.6
comp=Z,2.6nm,0.9s
TMUT Trail Mountain 34.26 101 P P 09 32 60.0 +1.1
GSC Goldstone, Bar 34.29 112 P 09 32 58.3
baz=321
Q16A Castle Valley 34.55 101 P P 09 33 02.9 +1.6
Q16A IAmb IAmb 09 33 03.8
comp=Z,3.7nm,0.7s
TUQ Turquoise Moun 34.64 111 P 09 33 02.0
baz=321
BFSC Mount Baldy Ra 34.69 114 P 09 33 02.2
baz=322
SRU San Rafael Swe 34.76 101 P P 09 33 04.9 +1.9
LCMT Little Creek M 34.84 106 P P 09 33 05.0 +1.2

RSSD Black Hills 34.90 88 P P 09 33 03.8 -0.5
RSSD IAmb IAmb 09 33 05.8
comp=Z,4.0nm,0.7s
RSSD Black Hills 34.90 88 P 09 33 04.3
baz=310
O20A White River Ci 35.27 97 P P 09 33 08.0 +0.5
O20A White River Ci 35.27 97 P 09 33 07.2
baz=314,SNR=5.6
GMRC Granite Mounta 35.28 111 P 09 33 06.5
baz=321
ULM Lac du Bonnet 35.62 74 P P 09 33 10.6 +0.4
comp=Z,2.2nm,0.5s,baz=314,slow=8.7,SNR=6.5
BELC Belle Mtn. Jos 35.72 112 P 09 33 10.7
baz=322
PFO Pinyon Flats O 35.79 113 P 09 33 11.5
baz=323
W13A Hualapai Mount 35.96 109 P P 09 33 15.1 +1.7
W13A IAmb IAmb 09 33 15.7
comp=Z,6.3nm,1.3s
IRM Iron Mountain 36.03 111 P 09 33 14.0
baz=322
PV14 Lion Creek, Pa 36.10 100 P P 09 33 15.2 +0.5
PV14 IAmb IAmb 09 33 34.7
comp=Z,3.3nm,1.0s
PV11 David Mesa, Pa 36.24 100 P P 09 33 16.5 +0.7
AGMN Agassiz Nation 36.77 77 P P 09 33 20.0 +0.1
AGMN IAmb IAmb 09 33 20.3
comp=Z,3.3nm,0.8s
MVCO Mesa Verde 37.23 101 P 09 33 23.6
baz=317
X16A Lo Mia Camp, P 37.76 107 P P 09 33 30.1 +1.4
X16A IAmb IAmb 09 33 31.4
comp=Z,4.5nm,1.0s
B35A Bob, Littlefor 37.87 75 P P 09 33 29.6 +0.3
B35A IAmb IAmb 09 33 29.6
comp=Z,2.7nm,0.7s
X18A Snowflake 38.47 105 P P 09 33 35.9 +1.3
X18A IAmb IAmb 09 33 37.0
comp=Z,3.1nm,0.8s
SDCO Great Sand Dun 38.47 97 P P 09 33 36.0 +1.2
SDCO Great Sand Dun 38.47 97 P 09 33 32.0
baz=316
214A Organ Pipe Nat 38.97 111 P 09 33 36.4
baz=323
ECSD EROS Data Cent 39.23 83 P 09 33 38.3
baz=311
EYMN Ely 39.31 74 P P 09 33 41.2 -0.1
EYMN IAmb IAmb 09 33 42.2
comp=Z,5.2nm,0.8s
EYMN Ely 39.31 74 P 09 33 40.3
baz=308,SNR=6.5
JKA Kamikawa-asahi 39.41 278 P P 09 33 42.5 +0.3
ASAJ Asahikawa 39.41 278 P P 09 33 42.5 +0.3
comp=Z,8.3nm,0.7s,baz=48,slow=7.9,SNR=4.9
SPMN Marine on St. 40.33 78 P 09 33 49.7
baz=310
121A Cookes Peak, D 41.15 105 P 09 33 56.2
baz=321
N35A Tabor 41.69 86 P P 09 34 01.7 +0.7
G40A Rib Lake 41.70 77 P P 09 34 00.9 -0.1
G40A IAmb IAmb 09 34 01.3
comp=Z,2.8nm,0.5s
COWI Conover 41.73 75 P P 09 34 00.4 -0.8
COWI IAmb IAmb 09 34 02.8
comp=Z,5.0nm,1.4s
KLR Kul'dur 41.92 291 P P 09 34 02.4 -0.4
comp=Z,4.3nm,0.6s,baz=73,slow=6.2,SNR=19
KLR Kul'dur 41.92 291 *ce* P P 09 34 01.8 -1.0
KLR pmax pmax
comp=Z,7.0nm,0.9s
I40A Norwalk 42.38 78 P P 09 34 06.5 -0.1
E43A Lone Tree Farm 42.68 73 P P 09 34 09.2 +0.2
E43A IAmb IAmb 09 34 09.9
comp=Z,4.5nm,0.7s
MSTX Muleshoe 42.75 99 P P 09 34 10.1 +0.3
MSTX IAmb IAmb 09 34 11.3
comp=Z,4.1nm,1.1s
MNTX Cornudas Mount 43.08 103 P 09 34 10.5
baz=321
JFWS Jewell Farm 43.24 79 P 09 34 12.2
baz=312
P38A Dawn 43.71 85 P P 09 34 17.1 -0.3
SUMG Summit 44.13 22 P P 09 34 21.2 +0.4
SUMG IAmb IAmb 09 34 22.2
comp=Z,5.4nm,0.9s
WMOK Wichita Mounta 44.36 94 P P 09 34 22.8 +0.2
WMOK IAmb IAmb 09 34 23.6
comp=Z,2.3nm,0.7s
WMOK Wichita Mounta 44.36 94 P 09 34 21.3
baz=318
USRK Ussuriysk Ar. 45.07 286 P P 09 34 26.9 -1.2
comp=Z,0.6nm,0.4s,baz=42,slow=7.1,SNR=3.0
MATQ Matagami 45.27 64 P 09 34 28.9
baz=310
HDIL Hopedale 45.38 81 P P 09 34 29.9 -0.7
HDIL Hopedale 45.38 81 P 09 34 29.0
baz=314
ABTX Abilene, Hawle 45.48 97 P P 09 34 31.4 -0.2
ABTX IAmb IAmb 09 34 32.3
comp=Z,3.7nm,0.6s
ABTX Abilene, Hawle 45.48 97 P 09 34 29.9
baz=320
TX31 Lajitas Ar. Si 45.85 104 P P 09 34 34.9 +0.3
TX32 Lajitas Array 45.85 104 P P 09 34 35.1 +0.5
TX32 IAmb IAmb 09 34 36.2
comp=Z,3.6nm,1.0s
TXAR Lajitas Array 45.85 104 P P 09 34 35.5 +0.9
comp=Z,1.5nm,0.8s,baz=310,slow=6.0,SNR=21
TXAR LR LR 09 51 37.7
comp=Z,15nm,18.0s,baz=0.0,slow=33
TXAR Lajitas Array 45.85 104 P P 09 34 34.7 +0.1
P43A Skaggs, Pawnee 45.90 82 P P 09 34 33.1 -1.6
NRIK Noril'sk 45.95 334 P P 09 34 34.5 -0.2
comp=Z,14nm,0.7s,baz=50,slow=6.4,SNR=15
NRIK Noril'sk 45.95 334 *ce* P P 09 34 34.4 -0.3
NRIK pmax pmax
comp=Z,12nm,0.9s
NRIK Noril'sk 45.95 334 P P 09 34 34.8 0.0
LSQQ Lebel-sur-Quev 46.06 64 P 09 34 34.4
baz=311
U40A Yellville 46.43 88 P 09 34 38.2
baz=317
SFIN Lafayette 46.69 80 P 09 34 39.9
baz=315
W39A Magazine 46.77 90 P 09 34 40.7
baz=318
JCT Junction City 47.04 99 P 09 34 42.6
baz=321
MJAR Matsushiro Arr 47.08 273 P P 09 34 44.1 0.0
comp=Z,1.2nm,0.5s,baz=317,slow=8.3,SNR=4.9
MJAR Matsushiro Arr 47.08 273 IAmb IAmb 09 34 44.6
comp=Z,4.0nm,1.3s
OLIL Olney 47.32 82 P P 09 34 45.5 -0.3
MIAR Mount Ida 47.37 90 P 09 34 45.0
baz=318
ALGO Algonquin Park 47.60 68 P 09 34 47.0
baz=313
G54A Lake Saint Pet 47.96 68 P 09 34 49.4
baz=313
D55A Sainte-Anne-du 48.17 65 P 09 34 51.4
baz=313
D56A ZEC Mazanza, M 48.51 65 P 09 34 53.6
baz=313
WVT Waverly 49.35 84 P P 09 35 01.4 -0.1
WVT Waverly 49.35 84 P 09 35 00.5
baz=317
PLAL Pickwick Lake 50.07 85 P P 09 35 06.8 -0.2
G58A Ormstown 50.18 66 P 09 35 06.5
baz=315
I57A Carthage 50.22 68 P 09 35 07.1
baz=315
D61A St Aubert, Com 50.65 62 P 09 35 10.1
baz=315
J58A Remsen 50.83 68 P 09 35 11.8
baz=315
KSRS Korea Array 52.01 282 P P 09 35 21.9 +0.3
comp=Z,3.4nm,0.7s,baz=42,slow=7.1,SNR=16
KSRS LR LR 09 58 06.2
comp=Z,28nm,18.2s,baz=254,slow=37
TJN Taejon 53.11 282 *ce* P P 09 35 29.0 -0.6
TLY Talaya 53.47 310 *i* P P 09 35 31.5 -0.6
TLY pmax pmax
comp=Z,4.0nm,1.2s
ARCES ARCESS Array B 53.98 359 P P 09 35 35.1 -0.4
comp=Z,4.4nm,0.6s,baz=11,slow=7.7,SNR=28
ARCES ARCESS Array B 53.98 359 IAmb IAmb 09 35 35.4

comp=Z,12nm,1.1s
ULN **Ulaanbaatar** **54.81** **305** *ce* P **P** **09 35 40.8** **-1.3**
ULN pmax pmax
comp=Z,2.0nm,0.5s
SONM **Songino Array** **55.13** **305** P **P** **09 35 44.7** **+0.4**
comp=Z,5.3nm,0.5s,baz=47,slow=6.2,SNR=21
SONM PcP **PcP** **09 36 45.4** **+0.5**
comp=Z,1.9nm,0.5s,baz=96,slow=1.4,SNR=6.0
SONM **Songino Array** **55.13** **305** P **P** **09 35 44.5** **+0.1**
HHC **Hu-ho-hao-te** **57.95** **297** *eP* **P** **09 36 01.6** **-2.9**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,82nm,4.5s
ZALV **Zalesovo Beam** **58.82** **323** P **P** **09 36 10.1** **0.0**
comp=Z,2.7nm,0.6s,baz=43,slow=7.6,SNR=7.0
ZALV **Zalesovo Beam** **58.82** **323** *i* P **P** **09 36 10.3** **+0.2**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
DGZ **Jazzator, Alta** **61.42** **318** *i* P **P** **09 36 26.6** **-1.6**
DGZ pmax pmax
comp=Z,8.0nm,1.8s
NC204 **NORSAR Array S** **61.87** **7** P **P** **09 36 31.0** **+0.1**
KLMR **Klimovskoe** **62.03** **351** *eP* P 09 36 26.1 -5.8
KLMR pmax pmax
comp=Z,17nm,1.8s
KLMR **Klimovskoe** **62.03** **351** *eP* P 09 36 26.2 -5.7
KLMR AMP 09 36 28.2
comp=Z,17nm,1.8s
FINES **FINESS Array B** **62.10** **359** P **P** **09 36 32.2** **-0.1**
comp=Z,6.1nm,0.8s,baz=0.1,slow=8.2,SNR=15
NOA **NORSAR Array B** **62.14** **7** P **P** **09 36 32.9** **+0.2**
comp=Z,2.7nm,0.6s,baz=353,slow=6.8,SNR=15
ARU **Arti** **63.63** **339** *c i* P **P** **09 36 41.4** **-1.2**
ARU S **S** **09 45 11.0** **-0.1**
ARU SS **SS** **09 49 17.6** **-0.9**
ARU pmax pmax
comp=Z,25nm,3.3s
BRVK **Borovoye** **63.99** **331** *ce* P **P** **09 36 44.4** **-0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
GTA **Gaotai** **64.67** **304** *eP* **P** **09 36 49.8** **-0.1**
GTA pP pP 09 37 10.1 +2.7
GTA sP PcP 09 37 21.6 -1.6
GTA pmax pmax
comp=Z,9.0nm,1.1s
MK31 **Makanchi Array** **65.72** **320** *eP* **P** **09 36 54.2** **-2.2**
MKAR **Makanchi Array** **65.72** **320** P **P** **09 36 55.9** **-0.5**
comp=Z,1.0nm,0.5s,baz=44,slow=7.2,SNR=8.6
WMQ **Urumqi** **66.22** **315** *eP* **P** **09 37 02.2** **+2.5**
OBN **Obninsk** **67.95** **352** ⇓ *eP* **P** **09 37 09.5** **-0.9**
OBN *e* 09 39 36.1
OBN *e*S SKiKP 09 46 47.4 -12
OBN *e*SS **SS** **09 50 24.6** **-0.8**
OBN pmax pmax
comp=Z,13nm,1.3s
CD2 **Chengdu** **69.66** **295** P **P** **09 37 21.4** **-0.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
CLL **Collm** **71.94** **7** *i* P **P** **09 37 35.2** **+0.3**
CLL pmax pmax
comp=Z,5.0nm,0.8s
AKASG **Malin Array Be** **72.78** **356** P **P** **09 37 39.5** **-0.4**
comp=Z,2.5nm,0.4s,baz=9.7,slow=5.9,SNR=6.5
AKASG **Malin Array Be** **72.78** **356** IAmb IAmb 09 37 41.2
comp=Z,0.7nm,0.7s
AKBB **Malin Array Si** **72.78** **356** *ce* P **P** **09 37 38.9** **-1.0**
KK31 **Karatay Array** **72.90** **326** P **P** **09 37 41.0** **+0.2**
KKAR **Karatay Array** **72.90** **326** P **P** **09 37 40.7** **-0.1**
DPC **Dobruska-Polom** **73.08** **5** *eP* **P** **09 37 42.3** **+0.5**
DPC **Dobruska-Polom** **73.08** **5** *eP* **P** **09 37 42.3** **+0.5**
KRLC **Kraliky** **73.38** **4** *eP* **P** **09 37 43.9** **+0.4**
KRLC **Kraliky** **73.38** **4** *eP* **P** **09 37 43.9** **+0.4**
ARSB **Arslanbob** **73.72** **323** P **P** **09 37 46.6** **+0.8**
KHC **Kasperske Hory** **74.15** **7** *eP* **P** **09 37 48.9** **+0.9**
KHC **Kasperske Hory** **74.15** **7** *eP* **P** **09 37 48.9** **+0.9**
STHS **Stebnicka Huta** **74.16** **1** *eP* **P** **09 37 49.6** **+1.5**
STHS **Stebnicka Huta** **74.16** **1** *eP* **P** **09 37 49.6** **+1.5**
LANS **Liptovska Anna** **74.39** **3** *eP* **P** **09 37 51.2** **+1.7**
LANS **Liptovska Anna** **74.39** **3** *eP* **P** **09 37 51.2** **+1.7**
GEC2 **GERESS Array S** **74.44** **7** P **P** **09 37 50.5** **+0.7**
GEC2 IAmb IAmb 09 37 51.2
comp=Z,3.7nm,0.8s
GERES **GERESS Array B** **74.44** **7** P **P** **09 37 50.2** **+0.4**
comp=Z,3.4nm,0.8s,baz=353,slow=4.6,SNR=22
GERES **GERESS Array B** **74.44** **7** P **P** **09 37 50.5** **+0.7**
CKRC **Cesky Krumlov** **74.50** **6** *eP* **P** **09 37 50.5** **+0.4**
VYHS **Vyhne** **75.03** **3** *eP* **P** **09 37 52.9** **-0.2**
VYHS **Vyhne** **75.03** **3** *eP* **P** **09 37 52.9** **-0.2**
CONA **Conrad Observa** **75.48** **5** *i* P **P** **09 37 56.8** **+1.0**
comp=Z,3.9nm,0.7s
DAVA **Damuels** **75.69** **9** *i* P **P** **09 37 59.1** **+2.0**
comp=Z,2.9nm,0.7s
MOTA **Moosalm** **75.74** **9** *eP* **P** **09 37 58.9** **+1.5**
comp=Z,3.6nm,0.9s
WTTA **Wattenberg** **75.87** **8** *i* P **P** **09 37 59.1** **+0.9**
comp=Z,4.2nm,0.5s
FETA **Feichten** **76.03** **9** *i* P **P** **09 38 00.7** **+1.7**
comp=Z,3.5nm,0.6s
KBA **Koelnbreinsper** **76.17** **7** *i* P **P** **09 38 01.2** **+1.3**
comp=Z,6.4nm,0.5s
SOKA **Soboth** **76.68** **6** *i* P **P** **09 38 03.4** **+0.8**
comp=Z,2.4nm,0.6s
OBKA **Obir** **76.82** **6** *i* P **P** **09 38 04.0** **+0.6**
comp=Z,12nm,0.5s
KBZ **Khabaz** **78.53** **346** P **P** **09 38 13.5** **+0.7**
comp=Z,3.8nm,0.9s,baz=4.2,slow=5.5,SNR=4.8
ESDC **Sonseca Array** **81.17** **21** P **P** **09 38 28.5** **+1.2**
comp=Z,1.9nm,0.6s,baz=342,slow=5.5,SNR=8.9
GEYT **Allbeck** **81.19** **333** P **P** **09 38 28.1** **+0.8**
comp=Z,68nm,1.1s,baz=340,slow=7.9,SNR=3.7
CMAR **Chiang Mai Arr** **82.39** **292** P **P** **09 38 33.6** **-0.3**
comp=Z,6.8nm,0.7s,baz=9.1,slow=5.5,SNR=28
CMAR **Chiang Mai Arr** **82.39** **292** *ce* P **P** **09 38 33.9** **-0.1**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
BRTR **Keskin Array B** **83.48** **352** P **P** **09 38 39.9** **+0.5**
comp=Z,2.7nm,0.8s,baz=27,slow=1.7,SNR=15
BOSA **Boshof** **151.82** **357** PKPbc **PKPbc** **09 46 05.8** **-0.2**
comp=Z,1.9nm,0.5s,baz=14,slow=2.4,SNR=8.9

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*DNK **09** 09:35:14.9±0.6, 57.7°N×18.2°E, h0km, ML1.7(UPP), Explosion*
UPP 09 09:35:14.8±0.4, **57.72N×18.77E**, **h0**km, **ML1.7, Explosion, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GOTU	**Gotland**	**0.11**	**252**	P		P	09 35 17.2	+0.3
GOTU				S		Sg	09 35 18.9	+0.6
GOTU	**Gotland**	**0.11**	**252**	P		Pg	09 35 17.2	+0.3
GOTU				S		Sg	09 35 18.9	+0.6
BYXU	**Byxelkrok**	**1.04**	**246**	P		Pg	09 35 34.4	-0.4
BYXU				S		Sb	09 35 49.3	-0.5
BYXU	**Byxelkrok**	**1.04**	**246**	P		Pg	09 35 34.4	-0.4
BYXU				S		Sb	09 35 49.3	-0.5
VSTU	**Vaestervik**	**1.20**	**268**	P		Pg	09 35 37.4	-0.4
VSTU	**Vaestervik**	**1.20**	**268**	P		Pg	09 35 37.4	-0.4
VIKU	**Vikbolandet**	**1.35**	**306**	P		Pg	09 35 39.9	-0.7
VIKU				S		Sg	09 35 58.1	0.0
VIKU	**Vikbolandet**	**1.35**	**306**	P		Pg	09 35 39.9	-0.7
VIKU				S		Sg	09 35 58.1	0.0
NYNU	**Nynaeshamn**	**1.35**	**343**	P		Pg	09 35 39.8	-0.9
NYNU	**Nynaeshamn**	**1.35**	**343**	P		Pg	09 35 39.8	-0.9
OSKU	**Oskarshamn**	**1.53**	**251**	P		Pn	09 35 43.0	-0.4
OSKU	**Oskarshamn**	**1.53**	**251**	P		Pn	09 35 43.0	-0.4
LNKU	**Linkoeping**	**1.81**	**288**	P		Pn	09 35 47.7	+0.6
LNKU	**Linkoeping**	**1.81**	**288**	P		Pn	09 35 47.7	+0.6

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*IDC **09** 09:38:19.3±7.1, 33.4°S×179.5°W, h510km±100km, mb2.5/2, mb1 2.9/3, mb1mx2.7/22, mbtmp3.6/3, Error ellipse: s-maj=155.3km s-min=50.0km az=180.0*
*WEL **09** 09:39:42.2, 38.5°S×17.7°E±1.2, h60km±23km, M2.6/22, ML2.1/8, MLv2.6/22, Error ellipse: s-maj=0.0km s-min=0.0km az=160.2*
ISC 09 09:38:22.1±2.3, **33.4S**±0.2×**179.6W**±0.3, **h550**km, **n33, σ2s17/34, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RUGZ	**Raukumara Rang**	**5.06**	**206**	P		**P**	**09 39 51.2**	**-1.2**
TWGZ	**Tauwhareparae**	**5.15**	**202**	P		**P**	**09 39 54.5**	**+1.4**
OPRZ	**Ohinepanea**	**5.43**	**215**	P		**P**	**09 39 55.3**	**-0.2**
TKGZ	**Te Karaka**	**5.43**	**202**	P		**P**	**09 39 54.5**	**-0.9**
MWZ	**Matawai**	**5.44**	**205**	P		**P**	**09 39 55.1**	**-0.5**
URZ	**Urewera**	**5.53**	**208**	P		**P**	**09 39 54.0**	**-2.3**
	3.2nm,0.3s,baz=251,slow=3.8,SNR=46							
URZ				S		**S**	**09 41 09.1**	**-4.5**
	2.8nm,0.3s,baz=245,slow=23,SNR=6.3							
URZ	**Urewera**	**5.53**	**208**	P		**P**	**09 39 54.0**	**-2.3**
LIRZ	**Lichensteins R**	**5.64**	**215**	P		**P**	**09 39 57.8**	**+0.5**
HRRZ	**Handcock Road**	**6.00**	**213**	P		**P**	**09 40 00.8**	**+0.2**
KNZ	**Kohohu**	**6.02**	**201**	P		**P**	**09 40 01.6**	**+1.0**
PRRZ	**Plateau Road**	**6.04**	**212**	P		**P**	**09 40 01.0**	**+0.1**
WHHZ	**Waihua**	**6.21**	**204**	P		**P**	**09 40 03.8**	**+1.3**
MRHZ	**Matea Rd**	**6.30**	**210**	P		**P**	**09 40 03.7**	**+0.3**
NMHZ	**Naumai**	**6.38**	**206**	P		**P**	**09 40 06.1**	**+1.9**
ARHZ	**Aropaoanui**	**6.46**	**204**	P		**P**	**09 40 06.5**	**+1.8**
BKZ	**Black Stump Fm**	**6.56**	**208**	P		**P**	**09 40 06.4**	**+0.6**
MCHZ	**McNeill Hill**	**6.72**	**206**	P		**P**	**09 40 09.5**	**+2.2**
CKHZ	**Cape Kidnapper**	**6.79**	**203**	P		**P**	**09 40 11.0**	**+3.2**
HIZ	**Hauiti**	**6.80**	**220**	P		**P**	**09 40 10.7**	**+2.6**
KWHZ	**Kaweka Forest**	**6.81**	**207**	P		**P**	**09 40 09.7**	**+1.5**
TWVZ	**Taurewa**	**6.94**	**214**	P		**P**	**09 40 08.9**	**-0.5**
KAHZ	**Kahuranaki**	**6.97**	**203**	P		**P**	**09 40 12.7**	**+3.0**
BHHZ	**Black Hill Sta**	**7.01**	**209**	P		**P**	**09 40 10.8**	**+0.8**
KRHZ	**Kereru**	**7.02**	**207**	P		**P**	**09 40 11.2**	**+1.0**
MTVZ	**Mangateitei**	**7.17**	**213**	P		**P**	**09 40 08.0**	**-3.7**
PXZ	**Pawanui**	**7.19**	**202**	P		**P**	**09 40 14.3**	**+2.6**
PNHZ	**Pukenui**	**7.32**	**207**	P		**P**	**09 40 12.5**	**-0.5**
WPHZ	**Waipukurau**	**7.37**	**205**	P		**P**	**09 40 15.9**	**+2.5**
TSZ	**Takapari Road**	**7.54**	**207**	P		**P**	**09 40 16.8**	**+1.6**
BFZ	**Birch Farm**	**7.98**	**204**	P		**P**	**09 40 22.7**	**+3.2**
ASAR	**Alice Springs**	**41.73**	**271**	P		**P**	**09 45 26.5**	**+2.9**
	0.2nm,0.3s,baz=108,slow=7.7,SNR=7.2							
WRA	**Warramunga Arr**	**42.99**	**276**	P		**P**	**09 45 35.6**	**+2.0**
	0.3nm,0.4s,baz=115,slow=7.4,SNR=13							
FINES	**FINESS Array B**	**147.47**	**337**	PKPbc		**PKPab**	**09 57 04.2**	**-3.5**
	0.6nm,0.5s,baz=337,slow=6.4,SNR=1.8							

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*SOME **09** 10:33:37.7, 40.4°N×73.3°E, h5km*
*ISU **09** 10:33:41, 40.7°N×72.7°E, h5km*
*KRNET **09** 10:33:42.4±0.1, 40.4°E×46N×72.5°E, h10km, mb2.2*
*NNC **09** 10:33:42.1±5.0, 40.6°E×62N×73.3°E, h16km±17km, mb2.9, mpv2.6, Error ellipse: s-maj=42.9km s-min=24.9km az=158.0*
ISC 09 10:33:43.0±0.9, **40.50N**±0.04×**72.70E**±0.05, **h15**km±5km, **n13, σ1s90/22, 14C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHH	**Osh**	**0.07**	**73**	⇑ *i* P		**Pg**	**10 33 45.9**	**-0.1**
	baz=69							
OHH				⇑ *i* S		**Sg**	**10 33 49.0**	**+0.9**
	baz=69							
OHH	**Osh**	**0.07**	**73**	*eP*		**Pg**	**10 33 45.0**	**-1.0**
OHH				*eS*		**Sg**	**10 33 48.0**	**-0.1**
SFK	**Sufi-Kurgan**	**0.79**	**128**	⇑ *i* P		**Pb**	**10 33 58.9**	**+0.4**
	baz=21							
SFK				⇑ *i* S		**Sn**	**10 34 11.0**	**-0.4**
	baz=21							
SFK	**Sufi-Kurgan**	**0.79**	**128**	*eP*		**Pb**	**10 33 59.0**	**+0.4**
SFK				*eS*		**Sn**	**10 34 11.0**	**-0.4**
ARSB	**Arslanbob**	**0.85**	**15**	⇓ *i* P		**Pn**	**10 34 00.5**	**0.0**
	baz=20							
ARSB				⇓ *i* S		**Sn**	**10 34 13.4**	**+0.6**
	baz=20							
BTK	**Batken**	**1.51**	**253**	*eP*		**Pn**	**10 34 10.0**	**+0.4**
BTK				*eS*		**Sb**	**10 34 30.0**	**+0.3**
AML	**Almayashu**	**1.79**	**24**	⇑ *i* P		**Pg**	**10 34 17.6**	**+0.2**
	baz=27							
AML				⇑ *i* S		**Sg**	**10 34 43.4**	**+2.7**
	baz=27							
MNAS	**Manas**	**1.99**	**356**	⇑ *i* P		**Pg**	**10 34 20.1**	**-1.0**
	baz=59							
MNAS				⇑ *i* S		**Sg**	**10 34 47.1**	**+0.2**
	baz=59							
MRKS	**Merke**	**2.27**	**10**	*eP*		**Pb**	**10 34 24.0**	**+0.2**
	5.7nm,0.4s							
MRKS				*eS*		**Sg**	**10 34 56.7**	**+0.6**
	5.3nm,0.3s							
EKS2	**Erkin-Say**	**2.30**	**20**	⇑ *eP*		**Pb**	**10 34 25.2**	**+0.9**
	baz=22							
EKS2				⇑ *i* S		**Sg**	**10 34 55.8**	**-1.2**
	baz=22							
AAK	**Ala-Archa**	**2.52**	**32**	⇓ Pg		**Pn**	**10 34 22.1**	**-1.5**
	2.1nm,0.4s							
AAK				⇑ Lg		Lg	10 34 53.8	
	4.0nm,0.7s							
KK31	**Karatay Array**	**3.07**	**329**	⇑ Pg		**Pg**	**10 34 40.6**	**-1.2**
	0.6nm,0.6s,baz=134,slow=18							
KK31				⇑ Lg		Lg	10 35 26.0	
	0.9nm,0.5s,baz=130,slow=29,SNR=4.1							
TKM2	**Tokmak 2**	**3.25**	**41**	⇑ Pn		Pn	10 34 27.5	-6.1
	3.1nm,0.8s							
TKM2				⇓ Sn		Sn	10 35 02.3	-10
	0.4nm,0.2s							

KRSC 09 10:42:42.4±1.9, **49.68N×156.84E**, **h39**km±25km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.11**	**336**	*eP*		Pn	10 43 01.7	+0.3
SKR				*eS*		Sn	10 43 16.2	+0.8
ALID	**Alaid**	**1.45**	**326**	*eP*		Pn	10 43 07.1	+0.8
ALID				*eS*		Sn	10 43 25.7	+1.6
PAU	**Pauzhetka**	**1.79**	**360**	*eP*		Pn	10 43 13.3	+2.5
PAU				*eS*		Sn	10 43 36.0	+3.7
KDTR	**Khodutka, Kamc**	**2.27**	**20**	*eP*		Pn	10 43 20.6	+3.2
MTVR	**Mutnovka**	**2.93**	**16**	*eP*		Pn	10 43 29.7	+3.1
MTVR				*eS*		Sn	10 44 04.5	+3.8
RUS	**Russkaya**	**2.95**	**20**	*eP*		Pn	10 43 29.3	+2.5
RUS				*eS*		Sn	10 44 04.2	+3.3
GRL	**Gorelyy**	**2.98**	**15**	*eP*		Pn	10 43 30.7	+3.4
UGLR	**Uglovaya**	**3.75**	**19**	*eP*		Pn	10 43 42.9	+5.1
AVH	**Avacha**	**3.78**	**18**	*eP*		Pn	10 43 43.5	+5.3
KOK	**Koryaka**	**3.79**	**17**	*eP*		Pn	10 43 43.6	+5.3
SMAR	**Somma**	**3.79**	**18**	*eP*		Pn	10 43 44.1	+5.6
SDLR	**Sedlovina**	**3.83**	**19**	*eP*		Pn	10 43 42.4	+3.6
KRX	**Arik**	**3.86**	**16**	*eP*		Pn	10 43 44.4	+5.1
SPN	**Mys Shipunski**	**3.96**	**29**	*eP*		Pn	10 43 44.4	+3.8
MKZ	**Mys Kozlova**	**5.74**	**30**	*eP*		Pn	10 44 07.7	+2.7

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*IDC **09** 10:43:28.4±1.4, 5.7°S×152.1°E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/37, mbtmp3.9/7, ML2.0/1, Error ellipse: s-maj=77.8km s-min=19.8km az=133.0*
ISC 09 10:43:33.3±1.3, **5.9S**±0.4×**152.2E**±0.3, **h35**km, **n9, σ1s04/10, mb4.0/6, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.15**	**235**	Pn		**Pn**	**10 45 00.6**	**-1.2**
	2.1nm,0.3s,baz=255,slow=21,SNR=3.7							
PMG				Sn		**Sn**	**10 46 13.0**	**+2.1**
	2.5nm,0.3s,baz=5.4,slow=19,SNR=1.8							
WRA	**Warramunga Arr**	**22.34**	**230**	P		**P**	**10 48 28.2**	**-0.1**
	0.4nm,0.5s,baz=55,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**25.00**	**223**	P		**P**	**10 48 54.2**	**0.0**
	1.8nm,0.7s,baz=58,slow=9.4,SNR=12							
FITZ	**Fitzroy Crossi**	**28.67**	**243**	P		**P**	**10 49 26.4**	**-0.7**
	1.8nm,0.5s,baz=59,slow=7.7,SNR=15							
ZALV	**Zalesovo Beam**	**81.71**	**327**	P		**P**	**10 55 48.3**	**+0.2**
	0.6nm,0.4s,baz=122,slow=5.4,SNR=1.9							
ILAR	**Eielson Array**	**83.33**	**22**	P		**P**	**10 55 56.5**	**+0.2**
	1.1nm,0.9s,baz=253,slow=5.2,SNR=9.0							
NVAR	**Mina Array Bea**	**93.17**	**52**	P		**P**	**10 56 45.4**	**+0.9**
	0.7nm,1.1s,baz=270,slow=3.6,SNR=3.6							
KEST	**Kesra**	**134.78**	**316**	PKP		**PKiKP**	**11 02 49.9**	**-0.6**
	3.6nm,0.4s,baz=11,slow=3.2,SNR=5.5							
TORD	**Torodi Ar. Bea**	**150.08**	**286**	PKPbc		**PKPbc**	**11 03 21.2**	**-0.2**
	1.9nm,0.7s,baz=66,slow=2.1,SNR=7.5							

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*IDC **09** 10:43:58.8±0.9, 45.2°N×27.3°E, h0km, mb3.6/2, mb1 3.5/6, mb1mx3.3/51, mbtmp3.5/6, ML3.0/4, Error ellipse: s-maj=11.4km s-min=9.1km az=100.0*
*SIGU **09** 10:44:03.1, 45.7°N×27.6°E, h16km, mb3.4*
*BUC **09** 10:44:03.4±0.1, 45.7°N×27.6°E, h22km±1km, ml3.4/40, Error ellipse: s-maj=1.2km s-min=1.0km az=47.0*
*CFUSG **09** 10:44:04.4, 45.8°N×27.6°E, h33km, mb3.0/3, MD3.1/2, Romania Magtype MSH 3.3 from 3 stations*

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*SOF **09** 10:44:04.7, 45.5°N×27.6°E, h20km, MD3.5*
ISC 09 10:44:02.5±0.7, **45.77N**±0.01×**27.62E**±0.01, **h30**km±4km, **n129, σ1s82/222, 127C-49D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TUDR		**0.18**	**170**	⇓ P		**Pb**	**10 44 08.0**	**-0.5**
TUDR				⇑ S		**Sb**	**10 44 12.7**	**+0.1**
TUDR		**0.18**	**170**	⇓ P		**Pb**	**10 44 08.0**	**-0.5**
TUDR				⇑ S		**Sb**	**10 44 12.7**	**+0.1**
VARL	**Varlezi**	**0.20**	**51**	⇑ P		**Pb**	**10 44 08.7**	**-0.1**
VARL				⇑ S		**Sb**	**10 44 13.0**	**0.0**
VARL	**Varlezi**	**0.20**	**51**	⇑ P		**Pb**	**10 44 08.7**	**-0.1**
VARL				⇑ S		**Sb**	**10 44 13.0**	**0.0**
SCHL	**Schela**	**0.31**	**152**	⇑ P		**Pb**	**10 44 09.6**	**-0.4**
SCHL				⇑ S		**Sb**	**10 44 15.0**	**-0.1**
SCHL	**Schela**	**0.31**	**152**	⇑ P		**Pb**	**10 44 09.6**	**-0.4**
SCHL				⇑ S		**Sb**	**10 44 15.0**	**-0.1**
GHRR		**0.33**	**333**	⇑ P		**Pb**	**10 44 10.4**	**0.0**
GHRR				⇑ S		**Sb**	**10 44 16.7**	**+1.1**
GHRR		**0.33**	**333**	⇑ P		**Pb**	**10 44 10.4**	**0.0**
GHRR				⇑ S		**Sb**	**10 44 16.7**	**+1.1**
ODBI	**Odobesti**	**0.40**	**269**	⇑ P		**Pb**	**10 44 12.1**	**+0.8**
ODBI				⇑ S		**Sn**	**10 44 18.8**	**+0.1**
ODBI	**Odobesti**	**0.40**	**269**	⇑ P		**Pb**	**10 44 12.1**	**+0.8**
ODBI				⇑ S		**Sn**	**10 44 18.8**	**+0.1**
GISR	**Galati**	**0.45**	**137**	⇑ P		**Pb**	**10 44 12.2**	**+0.1**
GISR				⇑ S		**Sb**	**10 44 19.0**	**+0.4**
GISR	**Galati**	**0.45**	**137**	⇑ P		**Pb**	**10 44 12.2**	**+0.1**
GISR				⇑ S		**Sb**	**10 44 19.0**	**+0.4**
BIR	**Birlad**	**0.49**	**0**	⇓ P		**Pb**	**10 44 12.9**	**0.0**
BIR				⇑ S		**Sb**	**10 44 20.6**	**+0.7**
BIR	**Birlad**	**0.49**	**0**	⇓ P		**Pb**	**10 44 12.9**	**0.0**
BIR				⇑ S		**Sb**	**10 44 20.6**	**+0.7**
GIUM	**Giurgiulesti**	**0.50**	**125**	⇑ P		**Pb**	**10 44 13.2**	**+0.3**
GIUM				⇑ S		**Sb**	**10 44 20.9**	**+0.8**
GIUM	**Giurgiulesti**	**0.50**	**125**	⇑ P		**Pb**	**10 44 13.2**	**+0.3**
GIUM				⇑ S		**Sb**	**10 44 20.9**	**+0.8**
GIUM	**Giurgiulesti**	**0.50**	**125**	P		**Pb**	**10 44 13.1**	**+0.3**
GIUM				S		**Sb**	**10 44 20.8**	**+0.8**
GRER		**0.60**	**230**	⇓ P		**Pn**	**10 44 16.0**	**+1.1**
GRER				⇑ S		**Sb**	**10 44 22.8**	**0.0**
GRER		**0.60**	**230**	⇓ P		**Pn**	**10 44 16.0**	**+1.1**
GRER				⇑ S		**Sb**	**10 44 22.8**	**0.0**
VRI	**Vrincioaia**	**0.63**	**279**	⇑ P		**Pb**	**10 44 15.4**	**+0.3**
VRI				⇑ S		**Sb**	**10 44 24.7**	**+1.0**
VRI	**Vrincioaia**	**0.63**	**279**	⇑ P		**Pb**	**10 44 15.4**	**+0.3**
VRI				⇑ S		**Sb**	**10 44 24.7**	**+1.0**
BISRR	**Bisoca**	**0.68**	**251**	⇑ P		**Pn**	**10 44 17.3**	**+1.2**
BISRR				⇑ S		**Sn**	**10 44 27.1**	**+1.5**
BISRR	**Bisoca**	**0.68**	**251**	⇑ P		**Pn**	**10 44 17.3**	**+1.2**
BISRR				⇑ S		**Sn**	**10 44 27.1**	**+1.5**
PLOR	**Plostina**	**0.69**	**277**	⇓ P		**Pb**	**10 44 16.4**	**+0.4**
PLOR				⇑ S		**Sn**	**10 44 26.6**	**+0.8**
PLOR	**Plostina**	**0.69**	**277**	⇓ P		**Pb**	**10 44 16.4**	**+0.4**
PLOR				⇑ S		**Sn**	**10 44 26.6**	**+0.8**
CFR	**Carcaliu**	**0.69**	**149**	⇑ P		**Pb**	**10 44 15.5**	**-0.5**
CFR				⇑ S		**Sb**	**10 44 24.9**	**-0.4**
CFR	**Carcaliu**	**0.69**	**149**	⇑ P		**Pb**	**10 44 15.5**	**-0.5**
CFR				⇑ S		**Sb**	**10 44 24.9**	**-0.4**
VASR	**Vaslui**	**0.88**	**8**	⇑ P		**Pn**	**10 44 19.9**	**+1.1**
VASR				⇑ S		**Sn**	**10 44 31.7**	**+1.2**
VASR	**Vaslui**	**0.88**	**8**	⇑ P		**Pn**	**10 44 19.9**	**+1.1**
VASR				⇑ S		**Sn**	**10 44 31.7**	**+1.2**
PGOR	**Pogoanele**	**0.97**	**208**	⇑ S		**Sn**	**10 44 35.1**	**+2.3**
PGOR	**Pogoanele**	**0.97**	**208**	⇑ S		**Sn**	**10 44 35.1**	**+2.3**
NEHR	**Nehoiu**	**0.99**	**250**	⇑ P		**Pb**	**10 44 22.4**	**+1.2**
NEHR	**Nehoiu**	**0.99**	**250**	⇑ P		**Pb**	**10 44 22.4**	**+1.2**
ISR	**Istrita**	**1.00**	**230**	⇓ P		**Pb**	**10 44 22.4**	**+1.1**
ISR				⇑ S		**Sn**	**10 44 36.4**	**+2.7**
ISR	**Istrita**	**1.00**	**230**	⇓ P		**Pb**	**10 44 22.4**	**+1.1**
ISR				⇑ S		**Sn**	**10 44 36.4**	**+2.7**
TESR	**Tescani**	**1.00**	**318**	⇓ P		**Pb**	**10 44 21.7**	**+0.4**
TESR				⇑ S		**Sn**	**10 44 35.6**	**+2.0**
TESR	**Tescani**	**1.00**	**318**	⇓ P		**Pb**	**10 44 21.7**	**+0.4**
TESR				⇑ S		**Sn**	**10 44 35.6**	**+2.0**
TLCR		**1.02**	**125**	⇑ P		**Pb**	**10 44 22.3**	**+0.7**
TLCR				⇑ S		**Sn**	**10 44 36.1**	**+2.1**
TLCR		**1.02**	**125**	⇑ P		**Pb**	**10 44 22.3**	**+0.7**
TLCR				⇑ S		**Sn**	**10 44 36.1**	**+2.1**
TPGR	**Topolog**	**1.07**	**148**	⇓ P		**Pn**	**10 44 22.4**	**+0.9**
TPGR				⇑ S		**Sb**	**10 44 36.5**	**+0.4**
TPGR	**Topolog**	**1.07**	**148**	⇓ P		**Pn**	**10 44

VOIR				⇑S		Sn	10 44 56.8	+2.5			
VOIR			**1.84 260**	⇑P		**Pn**	**10 44 33.3**	**+1.3**			
VOIR				⇑S		Sn	10 44 56.8	+2.5			
MTUR	**Matau**		**1.88 254**	⇓P		**Pn**	**10 44 33.7**	**+1.0**			
MTUR	**Matau**		**1.88 254**	⇓P		**Pn**	**10 44 33.7**	**+1.0**			
SGRR	**Singureni**		**1.94 218**	⇑P		**Pn**	**10 44 34.3**	**+0.9**			
SGRR				⇑S		Sn	10 44 59.1	+2.4			
SGRR	**Singureni**		**1.94 218**	⇑P		**Pn**	**10 44 34.3**	**+0.9**			
SGRR				⇑S		Sn	10 44 59.1	+2.4			
STFAR	**Stefanesti-Arg**		**2.09 245**	⇑P		**Pn**	**10 44 37.0**	**+1.6**			
STFAR				⇑S		Sb	10 45 04.0	-1.1			
STFAR	**Stefanesti-Arg**		**2.09 245**	⇑P		**Pn**	**10 44 37.0**	**+1.6**			
STFAR				⇑S		Sb	10 45 04.0	-1.1			
PSN	**Preselentsi**		**2.13 169**	*i* P		**Pn**	**10 44 38.4**	**+2.5**			
ARR	**Arges**		**2.14 260**	⇓P		**Pn**	**10 44 38.3**	**+2.1**			
ARR	**Arges**		**2.14 260**	⇓P		**Pn**	**10 44 38.3**	**+2.1**			
HUMR	**Humele**		**2.25 237**	⇑P		**Pn**	**10 44 38.7**	**+1.1**			
HUMR	**Humele**		**2.25 237**	⇑P		**Pn**	**10 44 38.7**	**+1.1**			
SORM	**Soroca**		**2.42 12**	⇑P		**Pn**	**10 44 41.4**	**+1.5**			
SORM				⇑S		Sn	10 45 10.9	+2.4			
SORM	**Soroca**		**2.42 12**	⇑P		**Pn**	**10 44 41.4**	**+1.5**			
SORM				⇑S		Sn	10 45 10.9	+2.4			
KALB	**Balgarevo**		**2.43 166**	⇑P		**Pn**	**10 44 42.2**	**+2.1**			
KALB				⇑S		Sn	10 45 12.0	+3.2			
KALB	**Balgarevo**		**2.43 166**	⇑P		**Pn**	**10 44 42.2**	**+2.1**			
KALB				⇑S		Sn	10 45 12.0	+3.2			
PRD	**Provadia**		**2.58 184**	*i* P		**Pn**	**10 44 44.4**	**+2.3**			
ROIA	**ROIAK**		**2.68 184**	*i* P		**Pn**	**10 44 46.4**	**+2.8**			
LOT	**Lotru**		**2.72 265**	⇑P		**Pn**	**10 44 45.4**	**+1.2**			
LOT	**Lotru**		**2.72 265**	⇑P		**Pn**	**10 44 45.4**	**+1.2**			
SZH	**Strazhica**		**2.78 206**	*i* P		**Pb**	**10 44 51.2**	**-0.3**			
CHRU	**Chernivtsi**		**2.78 336**	*e*P		**Pn**	**10 44 48.1**	**+3.2**			
CHRU							10 44 49.5				
CHRU				*i* S		**Sb**	**10 45 22.1**	**-3.0**			
CHRU							10 45 36.1				
NDNU	**Novodnistrovsk**		**2.83 357**	*e*P		**Pn**	**10 44 48.9**	**+3.3**			
NDNU				Pm			10 44 49.3				
NDNU				*i* S		**Sb**	**10 45 23.4**	**-3.1**			
NDNU				Sm			10 45 24.3				
KSV	**Kosov**		**3.09 326**	*e*P		**Pn**	**10 44 52.4**	**+3.2**			
KSV				Pm			10 44 52.7				
KSV				*e*S		**Sn**	**10 45 29.8**	**+4.8**			
KSV				Sm			10 45 37.6				
GZR	**Gura Zlata**		**3.42 265**	⇑P		**Pn**	**10 44 55.7**	**+1.8**			
GZR				⇓S		Sn	**10 45 36.7**	**+3.2**			
GZR	**Gura Zlata**		**3.42 265**	⇑P		**Pn**	**10 44 55.7**	**+1.8**			
GZR				⇓S		Sn	**10 45 36.7**	**+3.2**			
HORU	**Horodok**		**3.54 347**	*e*P		**Pn**	**10 44 59.3**	**+4.0**			
HORU				Pm			10 44 59.5				
HORU				*e*S		**Sn**	**10 45 42.1**	**+6.0**			
HORU				Sm			10 45 51.3				
STNU	**Starunia**		**3.63 325**	*e*P		**Pn**	**10 45 00.4**	**+3.8**			
STNU				*e*S		**Sn**	**10 45 43.9**	**+5.5**			
HERR	**Herculane**		**3.78 258**	⇑P		**Pn**	**10 45 00.6**	**+2.0**			
HERR	**Herculane**		**3.78 258**	⇑P		**Pn**	**10 45 00.6**	**+2.0**			
MORS	**Morshin**		**4.21 324**	*e*P		**Pn**	**10 45 08.8**	**+4.3**			
MORS				*e*S		**Sn**	**10 45 58.5**	**+5.9**			
SEV	**Sevastopol'**		**4.45 104**	*e*P		**Pn**	**10 45 09.9**	**+2.1**			
SEV				Pm			10 45 11.0				
	comp=Z,9.0nm,0.3s										
SEV				*e*S		**Sn**	**10 45 59.9**	**+1.4**			
SEV				Sm			10 46 04.3				
	comp=N,27nm,0.4s										
SEV				Sm			10 46 04.3				
	comp=E,16nm,0.3s										
SEV	**Sevastopol'**		**4.45 104**	*e*P		**Pn**	**10 45 09.9**	**+2.1**			
SEV				Pm			10 45 11.0				
SEV				*e*S		**Sn**	**10 45 59.9**	**+1.4**			
SEV				Sm			10 46 04.3				
VTS	**Vitosha**		**4.46 227**	⇑P		**Pn**	**10 45 09.1**	**+1.0**			
VTS	**Vitosha**		**4.46 227**	⇑P		**Pn**	**10 45 09.1**	**+1.0**			
VTS	**Vitosha**		**4.46 227**	*i* P		**Pn**	**10 45 09.7**	**+1.5**			
RZN	**Rozhen**		**4.59 208**	*i* P		**Pn**	**10 45 10.7**	**+0.7**			
YAL	**Yalta**		**4.80 103**	*e*P		**Pn**	**10 45 16.3**	**+3.7**			
YAL				Pm			10 45 16.5				
	comp=Z,11nm,0.2s										
YAL				*e*S		**Sn**	**10 46 09.9**	**+2.8**			
YAL				Sm			10 46 10.3				
	comp=N,24nm,0.3s										
YAL				Sm			10 46 10.3				
	comp=E,32nm,0.3s										
YAL	**Yalta**		**4.80 103**	*e*P		**Pn**	**10 45 16.3**	**+3.7**			
YAL				Pm			10 45 16.5				
YAL				*e*S		**Sn**	**10 46 09.9**	**+2.8**			
YAL				Sm			10 46 10.3				
AKASG	**Malin Array Be**		**5.05 12**	Pn		**Pn**	**10 45 16.7**	**+0.7**			
	comp=E,2.7nm,0.3s,baz=196,slow=11,SNR=6.4										
AKASG				Pg		**Pb**	**10 45 32.0**	**+2.0**			
	comp=E,6.2nm,0.3s,baz=193,slow=17,SNR=9.2										
AKASG				Sn		**Sn**	**10 46 12.0**	**-1.3**			
	comp=E,16nm,0.3s,baz=192,slow=21,SNR=13										
AKASG				Lg		Lg	10 46 36.5				
	comp=E,34nm,0.3s,baz=251,slow=40,SNR=4.5										
SUDU	**Sudak**		**5.28 97**	*e*P		**Pn**	**10 45 21.3**	**+2.1**			
SUDU				Pm			10 45 31.3				
	comp=Z,19nm,0.4s										
SUDU				*e*S		**Sn**	**10 46 22.0**	**+3.1**			
SUDU				Sm			10 46 27.3				
	comp=N,10.0nm,0.5s										
SUDU				Sm			10 46 27.3				
	comp=E,40nm,0.4s										
SUDU	**Sudak**		**5.28 97**	*e*P		**Pn**	**10 45 21.3**	**+2.1**			
SUDU				Pm			10 45 31.3				
SUDU				*e*S		**Sn**	**10 46 22.0**	**+3.1**			
SUDU				Sm			10 46 27.3				
STIP	**Stip**		**5.67 226**	*i* Pn		**Pn**	**10 45 22.7**	**-1.9**			
BRTR	**Keskin Array B**		**7.49 142**	Pn		**Pn**	**10 45 50.2**	**+0.4**			
	comp=E,0.1nm,0.3s,baz=331,slow=12,SNR=2.7										
BRTR				Sn		**Sn**	**10 47 12.6**	**-1.1**			
	comp=E,0.1nm,0.3s,baz=316,slow=23,SNR=2.2										
FINES	**FINESS Array B**		**15.73 357**	Pn		**Pn**	**10 47 35.8**	**-5.8**			
	comp=E,0.2nm,0.3s,baz=185,slow=14,SNR=1.6										
FINES				Sn		Sn	10 50 22.3	-12			
	comp=E,0.5nm,0.3s,baz=172,slow=21,SNR=2.3										
HFS	**Hagfors**		**16.60 335**	Pn		**Pn**	**10 47 49.1**	**-3.6**			
	comp=E,0.2nm,0.3s,baz=132,slow=12,SNR=4.3										
HFS				Sn		**Sn**	**10 50 47.2**	**-8.6**			
	comp=E,0.2nm,0.3s,baz=129,slow=23,SNR=2.6										
ARCES	**ARCESS Array B**		**23.85 358**	P		**P**	**10 49 12.9**	**+0.2**			
	comp=E,2.2nm,0.8s,baz=184,slow=9.9,SNR=2.0										
TORD	**Torodi Ar. Beo**		**39.23 222**	P		**P**	**10 51 27.4**	**-0.7**			
	comp=E,0.3nm,0.4s,baz=26,slow=9.0,SNR=2.1										

*JMA **09** 11:08:46.7±0.1,41.˚52N×142.˚02E,h65km±2km,M3.9 Broadband fault plane solution: P waves. NP1: ϕs209.00000°,δ19.00000°,λ98.00000°. NP2:ϕs20.00000°, δ71.00000°,λ87.00000°. Principal axes: T Plg64.0000°, Azm285.0000°; N Plg3.0000°, Azm21.0000°; P Plg26.0000°, Azm112.0000°;*

JMA Felt I J1.

*MOS **09** 11:08:46.7±0.9,41.˚52N×142.˚16E,h78km,mb4.3/8 Error ellipse: s-maj=11.9km s-min=7.3km az=63.2*

*NIED **09** 11:08:46.8,41.˚47N×142.˚02E,h65km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr4.24; Mϕϕ-0.40; Mθθ-3.84; Mrθ0.68; Mθϕ-1.44; Mϕr3.15; Fault plane solution: M0 5.38000×10 14 NP1:ϕs15.00000°, δ63.00000°,λ86.00000°. NP2:ϕs205.00000°,δ27.00000°, λ99.00000°.*

*NEIC **09** 11:08:47.4±1.6,41.˚44N±0.˚06×142.˚02E±0.˚07,h62km±8km, mb4.3/20 Error ellipse: s-maj=9.7km s-min=6.0km az=141.0*

*IDC **09** 11:08:48.9±1.7,41.˚46N×142.˚01E,h79km±14km,mb3.7/11, mb1 3.8/15,mb1mx3.5/55,mbtmp4.0/15,MS2.6/5, Ms1 2.6/5,ms1mx2.4/39,Error ellipse: s-maj=20.2km s-min=11.7km az=114.0*

ISC 09 11:08:47.4±0.8,41.˚45N±0.˚04×142.˚06E±0.˚03,h66km±7km, n100,σ1s31/110,mb4.2/25,7C-13D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.58**	**251**	⇓P	**Pn**	**11 08 59.9**	**-0.7**
JAHD				S	**Sn**	**11 09 09.4**	**-0.9**
JARK	**Aomorirokkasho**	**0.69**	**230**	⇓P	**Pn**	**11 09 00.9**	**-1.0**
JARK				*e*S	**Sn**	**11 09 11.1**	**-1.4**
JOT	**Ohata**	**0.77**	**265**	⇓P	**Pn**	**11 09 01.7**	**-1.1**
JOT				S	**Sn**	**11 09 12.8**	**-1.3**
JKB	**Kayabe**	**0.89**	**300**	⇓P	**Pn**	**11 09 02.8**	**-1.4**
JNBK	**Urakawa-nobuka**	**0.97**	**32**	⇑P	**Pn**	**11 09 04.2**	**-1.2**
ERM	**Erimo**	**0.99**	**55**	P	**Pn**	**11 09 05.2**	**-0.4**
ERM	**Erimo**	**0.99**	**55**	⇑P	**Pn**	**11 09 05.2**	**-0.4**
JEM	**Erimo**	**0.99**	**55**	⇑P	**Pn**	**11 09 05.0**	**-0.6**
JEM				S	**Sn**	**11 09 19.6**	**+0.5**
JTM	**Tenmabayashi**	**1.00**	**229**	⇓P	**Pn**	**11 09 05.3**	**-0.5**
JTM				S	**Sn**	**11 09 18.3**	**-1.0**
JTM	**Tenmabayashi**	**1.00**	**229**		**Pn**	**11 09 05.3**	**-0.5**
JANG	**Nango**	**1.16**	**201**	P	**Pn**	**11 09 07.0**	**-0.7**
JANG				S	**Sn**	**11 09 21.9**	**-1.0**
JIAM	**Iburiatsuma**	**1.17**	**355**	⇓P	**Pn**	**11 09 07.8**	**-0.1**
JIAM				*e*S	**Sn**	**11 09 23.9**	**+0.7**
JSR	**Shiriuchi**	**1.24**	**274**	⇓P	**Pn**	**11 09 07.9**	**-0.9**
JSR				*e*S	**Sn**	**11 09 24.2**	**-0.5**
JNB	**Noboribetsu**	**1.27**	**323**	⇓P	**Pn**	**11 09 07.6**	**-1.6**
JNB				S	**Sn**	**11 09 23.3**	**-2.2**
JBT2	**Biratori 2**	**1.34**	**10**	⇓P	**Pn**	**11 09 09.7**	**-0.5**
JBT2				*e*S	**Sn**	**11 09 28.1**	**+0.9**
JYM2	**Yakumo 2**	**1.43**	**298**	⇓P	**Pn**	**11 09 10.8**	**-0.5**
JEW	**Eniwo**	**1.46**	**342**	⇓P	**Pn**	**11 09 11.1**	**-0.6**
JEW				S	**Sn**	**11 09 29.1**	**-0.9**
JEW	**Eniwo**	**1.46**	**342**		**Pn**	**11 09 11.4**	**-0.3**
JCH	**Churui**	**1.51**	**39**	P	**Pn**	**11 09 12.5**	**+0.1**
JOMM	**Oshimamatsumae**	**1.54**	**273**	⇓P	**Pn**	**11 09 11.9**	**-0.9**
JOMM				*e*S	**Sn**	**11 09 30.6**	**-1.4**
JFR	**Furan**	**1.75**	**13**	P	**Pn**	**11 09 15.1**	**-0.6**
JFR				*e*S	**Sn**	**11 09 38.2**	**+1.1**
JOSM	**Okushiri--Mats**	**2.03**	**289**	⇓P	**Pn**	**11 09 18.1**	**-1.3**
JOSM				S	**Sn**	**11 09 42.2**	**-1.6**
ASAJ	**Asahikawa**	**2.69**	**8**	P	**Pn**	**11 09 29.1**	**+0.7**
	16nm,0.3s,baz=210,slow=9.9,SNR=98						
ASAJ				S	**Sn**	**11 10 02.1**	**+2.3**
	15nm,0.3s,baz=108,slow=31,SNR=8.4						
ASAJ				LR	LR	11 10 51.4	
	comp=Z,68nm,21.3s,baz=196,slow=46						
JKA	**Kamikawa-asahi**	**2.69**	**8**		**Pn**	**11 09 28.5**	**+0.2**
NMR	**Nemuro--Hokkai**	**3.32**	**54**	⇑*i*P	**Pn**	**11 09 34.8**	**-2.1**
NMR				*i* S	**Sn**	**11 10 10.6**	**-4.6**
GLVR	**Golovnino**	**3.42**	**47**	*e*P	**Pn**	**11 09 37.6**	**-0.7**
GLVR				*e*S	**Sn**	**11 10 14.9**	**-2.8**
GLVR				pmax	pmax		
	comp=N,52nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,138nm,0.2s						
GLVR				pmax	pmax		
	comp=E,135nm,0.3s						
GLVR				smax	smax		
	comp=E,540nm,0.2s						
GLVR				smax	smax		
	comp=N,661nm,0.3s						
RUSJ	**Misakicho**	**3.54**	**40**	*e*P	**Pn**	**11 09 39.8**	**-0.1**
RUSJ				*e*S	**Sn**	**11 10 19.5**	**-1.0**
JMM	**Marumori**	**3.71**	**196**		**Pn**	**11 09 43.6**	**+1.3**
GRPR	**Tuman**	**3.73**	**46**	*e*P	**Pn**	**11 09 41.5**	**-1.0**
GRPR				*e*S	**Sn**	**11 10 22.4**	**-2.8**
GRPR				pmax	pmax		
	comp=N,106nm,0.2s						
GRPR				pmax	pmax		
	comp=E,94nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,138nm,0.3s						
GRPR				smax	smax		
	comp=E,474nm,0.4s						
GRPR				smax	smax		
	comp=N,256nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.81**	**46**	*e*P	**Pn**	**11 09 42.1**	**-1.4**
YUK				*e*S	**Sn**	**11 10 23.9**	**-3.1**
YUK				pmax	pmax		
	comp=N,62nm,0.2s						
YUK				pmax	pmax		
	comp=Z,171nm,0.2s						
YUK				pmax	pmax		
	comp=E,56nm,0.3s						
YUK				smax	smax		
	comp=N,274nm,0.4s						
YUK				smax	smax		
	comp=E,514nm,0.4s						
JSD	**Sado**	**4.50**	**222**	Pn	**Pn**	**11 09 54.1**	**+1.1**
JYT	**Yasato**	**5.42**	**196**	Pn	**Pn**	**11 10 05.3**	**-0.3**
YSS	**Yuzh-Sakhalins**	**5.52**	**5**	Pn	**Pn**	**11 10 05.2**	**-1.7**
KUR	**Kuril'sk**	**5.67**	**46**	⇑*i*P	**Pn**	**11 10 09.8**	**+0.8**
KUR				*e*S	**Sn**	**11 11 11.4**	**-1.4**
KUR				pmax	pmax		
	comp=N,22nm,0.1s						
KUR				pmax	pmax		
	comp=E,22nm,0.1s						
KUR				pmax	pmax		
	comp=Z,30nm,0.1s						
KUR				smax	smax		
	comp=E,35nm,0.4s						
KUR				smax	smax		
	comp=N,34nm,0.2s						
MAJO	**Matsushiro**	**5.75**	**213**	*i* P	**Pn**	**11 10 14.4**	**+4.2**
MAJO	**Matsushiro**	**5.75**	**213**	Pn	**Pn**	**11 10 12.5**	**+2.3**
MJAR	**Matsushiro Arr**	**5.75**	**213**	P	**Pn**	**11 10 12.3**	**+2.1**
	comp=N,0.1nm,0.3s,baz=22,slow=14,SNR=6.6						
MJAR				LR	LR	11 12 48.0	
	comp=N,27nm,18.4s,baz=245,slow=42						
MJAR	**Matsushiro Arr**	**5.75**	**213**		**Pn**	**11 10 10.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**7.90**	**294**	P	**Pn**	**11 10 40.0**	**+0.6**
	baz=96,slow=14,SNR=11						
USRK	**Ussuriysk Ar.**	**7.90**	**294**		**Pn**	**11 10 37.7**	**-1.8**
KLR	**Kul'dur**	**10.63**	**320**	LR	LR	11 15 13.9	
	comp=N,46nm,21.6s,baz=151,slow=36						
KSRS	**Korea Array**	**11.63**	**255**	P	**Pn**	**11 11 33.8**	**+3.2**
	comp=N,0.5nm,0.3s,baz=63,slow=14,SNR=20						
KSRS				LR	LR	11 15 22.0	
	comp=N,24nm,19.6s,baz=187,slow=34						
ULN	**Ulaanbaatar**	**25.56**	**296**	*ce*P	**P**	**11 14 09.2**	**-0.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**26.00**	**296**	P	**P**	**11 14 13.2**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=91,slow=8.8,SNR=5.6						
SONM	**Songino Array**	**26.00**	**296**	P	**P**	**11 14 14.5**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**26.00**	**296**	P	**P**	**11 14 14.5**	**+0.4**
TLY	**Talaya**	**28.02**	**305**	LR	LR	11 27 33.2	
	comp=Z,19nm,18.3s,baz=72,slow=40						
H11N2	**WAKE ISLAND Hy**	**30.24**	**128**	T	T	11 47 22.7	
	baz=321,slow=75,SNR=111						
H11N1	**WAKE ISLAND Hy**	**30.25**	**128**	T	T	11 47 23.4	
	baz=321,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hy**	**30.25**	**128**	T	T	11 47 24.0	
	baz=321,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**31.08**	**130**	T	T	11 48 22.5	
	baz=323,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**31.08**	**130**	T	T	11 48 29.4	
	baz=323,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**31.10**	**130**	T	T	11 48 28.6	
	baz=323,slow=76,SNR=45						
DGZ	**Jazzator, Alta**	**38.36**	**301**	*i* P	**P**	**11 16 02.4**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAA0	**Zalesovo Array**	**39.43**	**308**	P	**P**	**11 16 10.6**	**-0.1**
ZAA0				IAmb	IAmb	11 16 11.2	
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**39.43**	**308**	P	**P**	**11 16 10.5**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=92,slow=8.2,SNR=7.2						
A21K	**Barrow**	**42.22**	**25**	P	**P**	**11 16 33.5**	**+0.1**
A21K				IAmb	IAmb	11 16 35.0	
	comp=Z,4.5nm,1.1s						
MK31	**Makanchi Array**	**42.34**	**298**	P	**P**	**11 16 34.8**	**+0.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MK31	**Makanchi Array**	**42.34**	**298**	P	**P**	**11 16 34.8**	**+0.1**
MKAR	**Makanchi Array**	**42.34**	**298**	P	**P**	**11 16 34.4**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=83,slow=11,SNR=11						
MKAR				PcP	**PcP**	**11 18 26.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=81,slow=3.7,SNR=2.2						
IMAR	**Indian Mountai**	**42.63**	**33**	P	**P**	**11 16 37.7**	**+0.9**
TOLK	**Toolik Lake Re**	**44.34**	**29**	P	**P**	**11 16 52.0**	**+1.4**
TOLK				IAmb	IAmb	11 17 01.7	
	comp=Z,6.1nm,1.5s						
RC01	**Rabbit Creek A**	**44.60**	**40**	P	**P**	**11 16 52.6**	**-0.1**
COLA	**College**	**45.12**	**35**	*i* P	**P**	**11 16 56.2**	**-0.5**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**45.53**	**35**	P	**P**	**11 17 00.6**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=275,slow=7.5,SNR=14						
SCRK	**Sand Creek**	**46.88**	**36**	P	**P**	**11 17 11.4**	**+0.6**
K27K	**Chicken**	**47.70**	**35**	P	**P**	**11 17 18.9**	**+1.9**
K27K				IAmb	IAmb	11 17 31.6	
	comp=Z,4.0nm,1.4s						
L27K	**Beaver Creek,**	**47.99**	**37**	P	**P**	**11 17 21.3**	**+2.0**
BCAR	**Beaver Creek A**	**48.00**	**37**	P	**P**	**11 17 21.8**	**+2.3**
EPYK	**Eagle Plains**	**49.47**	**32**	P	**P**	**11 17 32.4**	**+1.8**
EPYK				IAmb	IAmb	11 17 32.8	
	comp=Z,5.4nm,0.9s						
INK	**Inuvik**	**50.25**	**29**	P	**P**	**11 17 37.0**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=285,slow=6.8,SNR=18						
INK	**Inuvik**	**50.25**	**29**	P	**P**	**11 17 37.0**	**+0.6**
INK	**Inuvik**	**50.25**	**29**	P	**P**	**11 17 37.0**	**+0.6**
INK				IAmb	IAmb	11 17 37.9	
	comp=Z,2.1nm,0.6s						
HYT	**Haines Junctio**	**50.50**	**39**	P	**P**	**11 17 39.0**	**+0.5**
HYT				IAmb	IAmb	11 18 00.1	
	comp=Z,2.7nm,0.9s						
KKAR	**Karatay Array**	**51.45**	**297**	P	**P**	**11 17 45.4**	**-0.4**
KKAR	**Karatay Array**	**51.45**	**297**	P	**P**	**11 17 45.4**	**-0.4**
C36M	**Paulatuk**	**53.23**	**26**	P	**P**	**11 17 59.3**	**+0.8**
ABKAR	**Akbulak array**	**55.55**	**308**	P	**P**	**11 18 15.9**	**+0.2**
ABKAR				IAmb	IAmb	11 18 16.3	
	comp=Z,2.3nm,0.7s						
EUNU	**Eureka**	**55.75**	**9**	P	**P**	**11 18 16.5**	**-0.3**
EUNU				IAmb	IAmb	11 18 17.6	
	comp=Z,2.9nm,0.7s						
RES	**Resolute Bay**	**58.20**	**15**	P	**P**	**11 18 34.3**	**+0.2**
RES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
RES	**Resolute Bay**	**58.20**	**15**	P	**P**	**11 18 34.3**	**+0.2**
ARCES	**ARCESS Array B**	**60.05**	**339**	P	**P**	**11 18 46.8**	**-0.2**
	comp=Z,4.3nm,1.0s,baz=53,slow=8.0,SNR=2.3						
ARCES	**ARCESS Array B**	**60.05**	**339**	IAmb	IAmb	11 18 59.6	
	comp=Z,2.3nm,0.9s						
TULEG	**Thule**	**60.66**	**8**	P	**P**	**11 18 53.4**	**+2.4**
WRA	**Warramunga Arr**	**61.50**	**188**	P	**P**	**11 18 56.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=5.8,slow=6.9,SNR=11						
FIA1	**FINESS Array S**	**65.16**	**332**	P	**P**	**11 19 20.2**	**-0.8**
FINES	**FINESS Array B**	**65.16**	**332**	P	**P**	**11 19 20.9**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=59,slow=7.1,SNR=8.9						
FINES	**FINESS Array B**	**65.16**	**332**	*i* P	**P**	**11 19 20.5**	**-0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**65.23**	**188**	P	**P**	**11 19 21.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=9.9,slow=7.5,SNR=1.6						
SHA1	**Shidzhatmaz**	**68.57**	**310**	*i* P	**P**	**11 19 41.9**	**-1.5**
NC405	**NORSAR Array S**	**70.11**	**337**	P	**P**	**11 19 52.0**	**-0.2**
HFS	**Hagfors**	**70.28**	**335**	P	**P**	**11 19 53.2**	**-0.1**
	comp=Z,20nm,0.6s,baz=30,slow=6.8,SNR=6.5						
AKASG	**Malin Array Be**	**71.13**	**322**	P	**P**	**11 19 58.4**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=43,slow=6.8,SNR=4.0						
AKASG	**Malin Array Be**	**71.13**	**322**	*ce*P	**P**	**11 19 57.0**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**76.31**	**311**	P	**P**	**11 20 29.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.3,SNR=3.5						
BRTR	**Keskin Array B**	**76.31**	**311**	*ce*P	**P**	**11 20 29.8**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**76.31**	**311**	P	**P**	**11 20 28.6**	**-0.8**
H03N2	**Juan Fernandez**	**146.74**	**90**	T	T	14 13 18.4	
	baz=300,slow=77,SNR=8.7						
H03N3	**Juan Fernandez**	**146.75**	**90**	T	T	14 13 11.1	
	baz=300,slow=77,SNR=6.7						
H03N1	**Juan Fernandez**	**146.75**	**90**	T	T	14 13 18.3	
	baz=300,slow=77,SNR=6.2						

MEX 09 12:12:37.5±0.9,14.˚97N×93.˚18W,h59km±15km,MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.73**	**357**	*e*P	Pn	12 12 50.5	-1.6
PCIG				*e*S	Sn	12 13 00.8	-1.9
THIG		**0.89**	**94**	*e*P	Pn	12 12 52.4	-1.6
THIG				*e*S	Sn	12 13 04.0	-2.2
CCIG	**Comitan**	**1.64**	**38**	*e*P	Pn	12 13 02.5	-1.9
CCIG				*e*S	Sn	12 13 21.6	-2.9
TGIG		**1.80**	**2**	*e*P	Pn	12 13 04.6	-1.7
TGIG				*e*S	Sn

comp=N,28µm,0.5s
MNMC Minye Minye 1.59 48 Pn Pn 12 39 19.4 +0.6
MNMCX Minye Minye 1.59 48 eP Pn 12 39 19.4 +0.5
MNMCX eP **Pb 12 39 19.6 -1.3**
MNMCX IAML 12 39 52.4
comp=Z,12µm,0.5s
PB08 IPOC Station P 1.60 88⇑ iP Pb 12 39 19.7 -1.4
PB08 iS **Sb 12 39 41.6 +0.5**
PB08 IPOC Station P 1.60 88 Pb 12 39 19.7 -1.4
PB08 IPOC Station P 1.60 88 eP Pb 12 39 19.8 -1.4
PB08 IAML 12 39 47.9
comp=Z,5µm,0.6s
PB07 IPOC Station P 1.77 149⇑ iP Pn 12 39 21.0 -0.3
PB07 IPOC Station P 1.77 149 Pn 12 39 21.0 -0.3
PB07 IPOC Station P 1.77 149 eP Pn 12 39 21.2 -0.1
PB07 eS **Sb 12 39 45.7 -0.2**
PB07 IAML 12 40 06.0
comp=Z,4µm,1.1s
AP01 Chacalluta 1.88 15 Pn 12 39 23.8 +1.2
PB09 IPOC Station P 2.19 137⇑ iP Pn 12 39 28.0 +1.0
PB09 IAML 12 40 08.4
comp=E,5µm,0.4s
PB09 IPOC Station P 2.19 137 Pn 12 39 28.4 +1.3
PB09 IPOC Station P 2.19 137 eP Pn 12 39 28.2 +1.2
PB09 eS **Sn 12 39 54.5 +0.9**
PB09 IAML 12 40 04.0
comp=Z,4µm,1.0s
PB04 IPOC Station P 2.23 163⇑ iP Pn 12 39 26.8 -0.8
PB04 IAML 12 40 11.0
comp=N,3µm,0.7s
PB04 IPOC Station P 2.23 163 Pn 12 39 26.7 -0.8
PB04 IPOC Station P 2.23 163 eP Pn 12 39 26.9 -0.8
PB04 eS **Sn 12 39 52.6 -1.8**
PB04 IAML 12 40 06.3
comp=Z,5µm,0.9s
PB16 IPOC Station P 2.25 35 Pn 12 39 28.9 +0.8
PB05 IPOC Station P 2.71 167⇑ iP Pn 12 39 33.0 -1.2
PB05 IPOC Station P 2.71 167 eP Pn 12 39 33.6 -0.6
PB05 eS **Sn 12 40 07.4 +1.1**
PB05 IAML 12 40 28.2
comp=Z,1µm,1.2s
PB06 IPOC Station P 2.77 155⇑ iP Pn 12 39 34.4 -0.6
PB06 IAML 12 40 27.3
comp=N,1µm,0.3s
PB06 IPOC Station P 2.77 155 Pn 12 39 34.4 -0.6
PB06 IPOC Station P 2.77 155 eP Pn 12 39 34.8 -0.2
PB06 eS **Sb 12 40 19.8 +5.3**
PB06 IAML 12 40 23.7
comp=Z,3µm,1.4s
LVC Limon Verde 3.01 143 Pn Pn 12 39 39.5 +1.0
comp=Z,16nm,0.3s,baz=312,slow=9.8,SNR=185
LVC LR LR 12 40 11.8
comp=Z,538nm,20.9s,baz=316,slow=28
LVC Sn **Sn 12 40 13.3 -0.7**
comp=Z,39nm,0.3s,baz=345,slow=8.6,SNR=4.2
LVC Lg Lg 12 40 21.6
comp=Z,74nm,0.3s,baz=183,slow=1.5,SNR=9.3
LVC Limon Verde 3.01 143 eP Pn 12 39 39.4 +0.9
LVC iS **Sn 12 40 15.1 +1.1**
LVC Limon Verde 3.01 143 Pn 12 39 39.9 +1.4
LVC Limon Verde 3.01 143 eP Pn 12 39 40.0 +1.6
LVC Limon Verde 3.01 143 eP Pn 12 39 39.9 +1.4
LVC IAML 12 40 28.4
comp=Z,1µm,1.7s
PB15 IPOC Station P 3.26 157⇑ iP Pn 12 39 41.4 -0.5
PB15 IPOC Station P 3.26 157 Pn 12 39 41.1 -0.7
PB15 IPOC Station P 3.26 157 eP Pn 12 39 41.8 0.0
PB15 eS **Sn 12 40 20.9 +0.9**
PB15 IAML 12 40 39.2
comp=Z,3µm,0.9s
PB10 IPOC Station P 3.31 175⇑ iP Pn 12 39 40.9 -1.4
PB10 IPOC Station P 3.31 175 Pn 12 39 40.9 -1.4
PB10 IPOC Station P 3.31 175 eP Pn 12 39 41.4 -0.9
PB10 eS **Sn 12 40 20.0 -0.9**
PB10 IAML 12 40 56.8
comp=Z,507nm,0.9s
PB14 IPOC Station P 4.43 175 Pn 12 39 56.1 -1.8
PB14 IPOC Station P 4.43 175 eP Pn 12 39 57.3 -0.7
PB14 eS **Sn 12 40 45.8 -3.1**
PB14 IAML 12 41 30.1
comp=Z,382nm,0.9s
LPAZ La Paz 4.67 34 Pn Pn 12 40 06.3 +4.8
comp=Z,4.4nm,0.3s,baz=211,slow=1.0,SNR=71
LPAZ Lg Lg 12 41 18.4
comp=Z,1.6nm,0.3s,baz=348,slow=3.0,SNR=1.6
LPAZ La Paz 4.67 34 Pn 12 40 05.1 +3.5
LPAZ La Paz 4.67 34 eP Pb 12 40 08.2 -5.4
GO02 Mina Guanaco 5.08 167⇑ iP Pn 12 40 06.2 -0.7
GO02 eS **Sn 12 41 05.0 0.0**
GO02 Mina Guanaco 5.08 167 Pn 12 40 06.3 -0.6
AC01 Pan de Azucar 5.93 178 Pn Pn 12 40 16.0 -2.3
AC02 Maricunga 6.80 167 Pn 12 40 30.6 -0.1
GO03 Copiap 7.39 176 Pn Pn 12 40 36.9 -1.4
GO03 Copiap 7.39 176 eS Sn 12 42 13.7 +12
AC04 Llanos de Chal 7.98 181 Pn Pn 12 40 43.5 -2.9
GO04 Tololo Observa 9.94 180 Pn Pn 12 41 13.3 -0.1
NNA Nana 9.98 324 Pn Pn 12 41 19.8 +5.8
comp=Z,1.2nm,0.3s,baz=302,slow=12,SNR=1.6
NNA Sn **Sn 12 42 57.2 -8.1**
comp=Z,0.7nm,0.3s,baz=269,slow=22,SNR=1.6
NNA LR LR 12 44 53.9
comp=Z,345nm,19.8s,baz=154,slow=36
NNA Nana 9.98 324 Pn Pn 12 41 14.4 +0.4
AROD Rodeo 10.01 173 eP Pn 12 41 15.4 +0.9
SIV San Ignacio 10.20 67 Pn Pn 12 41 15.9 -1.0
comp=Z,1.7nm,0.3s,baz=263,slow=11,SNR=17
CO03 El Pedregal 10.60 179 Pn Pn 12 41 24.8 +2.4
CO02 Combarbal 10.96 181 Pn Pn 12 41 29.1 +1.7
ETMB Extrema 11.25 24 eP Pn 12 41 30.0 -0.7
ACHE Chepes 11.55 162 eP Pn 12 41 33.0 -2.6
PTLB Pontes e Lacer 12.12 69 eP Pn 12 41 41.5 -1.6
CZSB Cruzeiro do Su 12.52 352 eP Pn 12 41 48.5 -0.3
SAML Samuel 13.42 35 Pn Pn 12 41 60.0 -1.0
CPUP Villa Florida 13.85 119 Pn Pn 12 42 09.9 +3.1
comp=Z,0.2nm,0.3s,baz=301,slow=12,SNR=8.3
CPUP Sn **S 12 44 55.4 -6.0**
comp=Z,0.2nm,0.3s,baz=351,slow=16,SNR=0.9
CPUP LR LR 12 48 06.4
comp=Z,625nm,19.5s,baz=298,slow=41
CPUP Villa Florida 13.85 119 Pn Pn 12 42 07.5 +0.8
CPUP Villa Florida 13.85 119 eP Pn 12 42 06.2 -0.5
AQDB Aquidauana 14.22 94 Pn Pn 12 42 13.3 -0.6
AQDB Aquidauana 14.22 94 eP Pn 12 42 10.4 -1.5
BO02 Sierra Bellavi 14.54 180 Pn Pn 12 42 16.5 +0.2
GO05 Huala 14.79 183 Pn Pn 12 42 18.7 -0.9
ATAH Atahualpa 14.90 330 Pn P 12 42 25.1 -1.9
comp=Z,0.1nm,0.3s,baz=100,slow=12,SNR=1.2
H03N1 Juan Fernandez 15.02 207 Pn Pn 12 42 18.3 -4.1
baz=115,slow=74,SNR=7.5
H03N1 T T 12 57 43.7
baz=33,slow=72,SNR=196
H03N2 Juan Fernandez 15.02 207 Pn Pn 12 42 20.1 -2.4
H03N2 T T 12 57 45.4
baz=33,slow=72,SNR=212
H03N3 Juan Fernandez 15.03 207 Pn Pn 12 42 17.7 -5.0
baz=274,slow=74,SNR=8.3
H03N3 T T 12 57 47.9
baz=33,slow=72,SNR=192
SALV Santo Antonio 15.04 76 eP Pn 12 42 20.2 -2.8
PP1B Ponte de Pedra 15.34 83 eP Pn 12 42 25.1 -1.8
H03S3 Juan Fernandez 15.35 206 Pn Pn 12 42 23.0 -3.7
SNR=4.3
H03S1 Juan Fernandez 15.36 206 Pn Pn 12 42 22.2 -4.7
H03S2 Juan Fernandez 15.36 206 Pn Pn 12 42 22.8 -4.2
ITQB Itaqui 15.97 129 Pn Pn 12 42 33.7 -1.4
ITQB Itaqui 15.97 129 eP Pn 12 42 36.3 +1.2
CLDB Colider 17.20 60 eP Pn 12 42 50.0 -0.9
PTGB Pitanga 17.94 108 eP Pn 12 42 59.1 -0.8
PCMB Pacaembu 18.36 98 eP P 12 43 03.5 -1.5
ITAB Concordia 18.51 116 P Pn 12 43 06.9 0.0
ITAB Concordia 18.51 116 eP P 12 43 05.9 -0.7
ARAG Araguaiana, MT 18.66 79 eP P 12 43 07.6 -0.7
CPSB Cacapava Do Su 18.72 126 eP Pn 12 43 09.0 -0.3
ITRB Iturama 19.28 92 eP P 12 43 13.6 -1.5
PLTB Pedras Altas 19.29 130 eP Pn 12 43 15.8 -0.5
NPGB Novo Progresso 19.92 51 eP P 12 43 20.3 -1.7
FRTB Fartura 20.02 103 eP P 12 43 23.0 -0.1
PLCA Paso Flores 20.47 179 P Pn 12 43 29.3 -1.0
comp=Z,13nm,0.9s,baz=351,slow=8.6,SNR=13
PLCA LR LR 12 51 47.9
comp=Z,283nm,18.7s,baz=356,slow=38
PLCA Paso Flores 20.47 179 P Pn 12 43 30.3 +0.1
PLCA Paso Flores 20.47 179 eP Pn 12 43 29.4 -0.8

SNDB Serra Nova Dou 20.48 69 eP P 12 43 26.1 -2.1
PTLC Puerto Leguiza 20.61 349 eP P 12 43 24.5 -5.0
TIJ01 Guaruva-PR 20.78 108 eP P 12 43 31.7 +0.2
BB19B Bebedouro 20.91 96 eP P 12 43 31.8 -1.1
TER01 Tubaro-SC 21.44 117 eP P 12 43 39.1 +0.7
IPMB Ipameri, GO 21.51 88 eP P 12 43 38.2 -1.1
ITTB Itaituba 21.55 45 eP P 12 43 37.6 -2.1
OTAV Otavalo 21.63 339 P P 12 43 43.9 +2.9
OTAV IAmb IAmb 12 44 09.3
comp=Z,52nm,1.4s
OTAV Otavalo 21.63 339 eP P 12 43 52.2 +11
OTAV Otavalo 21.63 339 eP P 12 43 43.2 +2.2
RCLB Rio Claro- Sao 21.84 100 eP P 12 43 41.7 -1.2
SPB Sao Paulo 21.99 103 P P 12 43 43.2 -1.2
SPB Sao Paulo 21.99 103 eP P 12 43 43.5 -0.9
PTGA Pitinga 22.09 30 P P 12 43 44.5 -0.9
comp=Z,14nm,0.7s,baz=220,slow=11,SNR=19
PTGA LR LR 12 52 43.3
comp=Z,455nm,19.7s,baz=219,slow=38
PTGA Pitinga 22.09 30 P P 12 43 44.6 -0.9
PTGA IAmb IAmb 12 43 47.8
comp=Z,32nm,1.0s
FLOC Florencia 22.15 347 P P 12 43 47.6 +1.4
FLOC IAmb IAmb 12 44 01.6
comp=Z,83nm,1.5s
FLOC Florencia 22.15 347 eP P 12 43 40.9 -5.3
BDFB Brasilia 22.19 82 P P 12 43 46.4 -0.4
comp=Z,3.7nm,0.4s,baz=268,slow=9.2,SNR=7.6
BDFB LR LR 12 53 52.7
comp=Z,916nm,21.5s,baz=275,slow=41
BDFB Brasilia 22.19 82 P P 12 43 46.0 -0.8
PET01 Itanhaem-SP 22.20 105 eP P 12 43 46.6 0.0
GCUF Volcan Galeras 22.22 343 eP P 12 43 54.4 +7.0
VAO Valinhos 22.38 101 eP P 12 43 47.9 -0.8
GARC Garzon, Huila 22.70 348 eP P 12 43 52.9 +0.6
SOTA Rioblanco 22.90 345 eP P 12 43 57.7 +3.1
BBJA Balboa, Cauca 22.95 343 eP P 12 43 58.0 +3.1
PCON Cinco Dias 23.03 346 eP P 12 44 02.3 +6.2
PEXB Peixe 23.09 73 eP P 12 43 54.7 -1.5
POPC Popayan, Colom 23.30 345 eP P 12 43 56.8 -1.7
PARB Paraibuna 23.63 102 eP P 12 44 00.8 -0.8
PRAC Prado 24.09 350 eP P 12 44 05.0 -0.7
MALB Monte Alegre 24.39 44 eP P 12 44 08.7 +0.1
YOTC Yotoco, Valle 24.63 347 eP P 12 44 11.0 +0.2
BOAV Boa Vista 24.63 25 eP P 12 44 11.4 +0.6
PRPB Parauapebas 24.73 59 eP P 12 44 11.0 -0.6
TOLC Tolima 25.01 349 eP P 12 44 16.4 +1.9
ROSC El Rosal 25.11 352 LR LR 12 55 26.1
comp=Z,737nm,18.4s,baz=209,slow=40
SMTB Santa Maria do 25.14 67 eP P 12 44 15.1 -0.3
RREF El Recreo 25.33 349 eP P 12 44 21.2 +3.5
PLMC San Jos del P 25.51 347 eP P 12 44 20.2 +1.5
VAS01 Vassouras-RJ 25.62 100 eP P 12 44 20.0 +0.2
GUY2C Guyana, Caldas 25.65 350 eP P 12 44 21.2 +0.7
MC01 Montes Claros 25.75 87 eP P 12 44 20.5 -0.5
JANB Januaria 25.79 83 eP P 12 44 20.3 -1.0
SPBC San Pablo de B 25.88 353 eP P 12 44 23.0 +0.9
NORC Norcasia 25.90 351 eP P 12 44 21.6 -0.6
RUSC La Rusia 26.02 355 P P 12 44 24.5 +0.7
SDBA SAO DESIDERIO 26.06 77 eP P 12 44 23.2 -0.6
DUB01 Friburgo-RJ 26.62 99 eP P 12 44 29.1 +0.3
BARC Barichara 26.72 355 eP P 12 44 28.6 -1.2
MCPB Macapa, AP 26.96 45 eP P 12 44 31.8 -0.1
ZARC Zaragoza, Cauc 27.79 351 eP P 12 44 37.6 -1.7
SJMB Sao Joao De Ma 28.00 92 eP P 12 44 40.3 -0.9
SMLC San Martn de 28.99 353 eP P 12 44 46.0 -3.9
GUA01 Guaratinga, BA 29.66 88 eP P 12 44 55.9 0.0
SJCC San Jacinto, C 30.20 352 P P 12 45 00.6 -0.2
SJCC San Jacinto, C 30.20 352 eP P 12 45 01.7 +0.9
NBIT Itapeh - BA 30.38 85 eP P 12 45 01.8 -0.5
GDU01 Guandu, BA 30.57 83 eP P 12 45 03.5 -0.5
MDP Montagnes des 30.86 37 P P 12 45 06.2 -0.3
comp=Z,8.5nm,0.6s,baz=212,slow=9.6,SNR=6.1
NBPN Ponto Novo - B 30.92 77 eP P 12 45 07.5 +0.4
ROSB Rosrio 31.23 60 eP P 12 45 09.8 -0.1
NBPS Pedro II - PI 32.65 65 eP P 12 45 21.6 -0.8
NBLA Lagarto - SE 33.08 79 eP P 12 45 23.7 -2.4
NBMA Muriti-CE 33.59 72 eP P 12 45 30.4 -0.3
NBPB Pedra_Branca-C 33.69 69 eP P 12 45 30.8 -0.6
NBMO Morrinhos-CE 34.41 65 eP P 12 45 36.7 -0.9
NBAN Anadia - AL 34.94 78 eP P 12 45 42.2 -0.1
NBCL Cascavel-CE 35.45 68 eP P 12 45 45.9 -0.7
NBPA Parau_RN 35.78 71 eP P 12 45 49.1 -0.3
MLPR Magueyes Islan 38.11 6 P P 12 46 08.8 -0.3
PDPR Patillas Dam, 38.27 7 P P 12 46 09.6 -0.9
PDPR IAmb IAmb 12 46 10.1
comp=Z,24nm,0.8s
SJG San Juan 38.35 7 P P 12 46 09.7 -1.4
comp=Z,11nm,0.2s,baz=124,slow=1.4,SNR=6.2
SJG San Juan 38.35 7 P P 12 46 10.0 -1.1
SJG IAmb IAmb 12 46 10.8
comp=Z,26nm,0.9s
CBYP Canovanas 38.54 8 P P 12 46 12.0 -0.8
CBYP IAmb IAmb 12 46 12.3
comp=Z,23nm,0.8s
NHSC New Hope 53.74 350 P 12 48 14.6
baz=169
152A Waverly Hall 54.21 346 P P 12 48 16.1 +0.5
152A IAmb IAmb 12 48 16.9
comp=Z,9.2nm,1.1s
BIRD Birdtown, Kers 55.30 350 P P 12 48 24.5 +1.1
BIRD IAmb IAmb 12 48 25.4
comp=Z,10.0nm,0.8s
833A Chaparral WMA, 55.56 329 P 12 48 26.7
baz=147
KMSC Kings Mountain 55.92 350 P 12 48 28.6
baz=168
X48A Hartselle 56.49 344 P P 12 48 32.6 +0.7
X48A IAmb IAmb 12 48 33.2
comp=Z,8.3nm,0.9s
V55A Taylorsville 56.60 350 P P 12 48 34.0 +1.2
V55A IAmb IAmb 12 48 34.9
comp=Z,9.7nm,0.9s
U59A Littleton 56.62 353 P P 12 48 33.7 +0.8
W50A Signal Mountai 56.77 346 P P 12 48 34.3 +0.2
W50A IAmb IAmb 12 48 35.4
comp=Z,15nm,1.1s
CPCT Cooper Cave 56.84 347 P P 12 48 34.8 +0.4
CPCT IAmb IAmb 12 48 36.0
comp=Z,14nm,1.2s
TKL Tuckaleechee C 56.88 347 P P 12 48 35.1 +0.4
TKL IAmb IAmb 12 48 36.5
comp=Z,17nm,1.2s
SWET Sewanee 56.94 345 P P 12 48 35.3 0.0
SWET IAmb IAmb 12 48 45.6
comp=Z,14nm,1.3s
V52A Sevierville 57.02 348 P P 12 48 36.1 +0.4
V52A IAmb IAmb 12 48 37.1
comp=Z,15nm,1.1s
OXF Oxford 57.20 342 P 12 48 37.8
baz=159
OXF Oxford 57.20 342 P P 12 48 37.7 +0.7
T59A Double "B" Far 57.21 354 P P 12 48 38.3 +1.2
PLAL Pickwick Lake 57.26 343 P P 12 48 37.3 -0.2
PLAL IAmb IAmb 12 48 38.7
comp=Z,9.9nm,1.2s
T57A Hurt 57.43 352 IAmb IAmb 12 48 57.9
comp=Z,14nm,1.1s
V48A Smith Brothers 57.65 345 P P 12 48 40.2 0.0
V48A IAmb IAmb 12 48 41.5
comp=Z,14nm,1.1s
TZTN Tazewell 57.69 348 P 12 48 40.9
baz=166
CLTN Cedars of Leba 57.87 345 P P 12 48 42.1 +0.4
CLTN IAmb IAmb 12 48 43.5
comp=Z,9.8nm,1.1s
U49A Red Boiling Sp 58.14 346 P P 12 48 43.8 +0.2
U49A IAmb IAmb 12 48 45.8
comp=Z,13nm,1.4s
S57A Dark Hollow, R 58.15 352 P P 12 48 45.1 +1.5
WVT Waverly 58.28 344 P 12 48 44.3
baz=161
WVT Waverly 58.28 344 P P 12 48 44.6 0.0
WVT IAmb IAmb 12 48 45.7
comp=Z,13nm,1.2s
TXAR Lajitas Array 58.53 326 P P 12 48 48.2 +1.5
comp=Z,2.5nm,1.0s,baz=143,slow=7.7,SNR=15
TXAR LR LR 13 12 55.1
comp=Z,60nm,19.3s,baz=0.0,slow=35
TXAR Lajitas Array 58.53 326 P P 12 48 47.8 +1.1
TX31 Lajitas Ar. Si 58.53 326 P P 12 48 47.8 +1.1
TX31 IAmb IAmb 12 48 49.6
comp=Z,13nm,1.1s

MIAR Mount Ida 58.57 338 P 12 48 47.6
baz=155,SNR=9.5
MIAR Mount Ida 58.57 338 P P 12 48 47.7 +1.0
MIAR IAmb IAmb 12 48 49.3
comp=Z,8.8nm,0.8s
W41B Gary Mavity, V 58.69 340 P 12 48 48.2
baz=156
WHAR Wooly Hollow 58.81 340 P P 12 48 48.8 +0.5
WHAR IAmb IAmb 12 48 50.0
comp=Z,6.5nm,0.9s
T47A Sharon Grove 58.91 345 P P 12 48 49.2 +0.2
W39A Magazine 59.23 338 P 12 48 52.5
baz=155,SNR=6.1
W39A Magazine 59.23 338 IAmb IAmb 12 48 54.9
comp=Z,11nm,0.9s
RKT Rikitea 59.24 255 eS **S 12 56 51.1 -7.4**
comp=Z,300nm,28.2s
RKT eLR LR 13 05 59.8
comp=Z,250nm,29.8s
ABTX Abilene, Hawle 59.30 332 P 12 48 52.7
baz=148
U40A Yellville 59.97 340 P 12 48 56.7
baz=156,SNR=7.4
U40A Yellville 59.97 340 P P 12 48 57.2 +0.9
U40A IAmb IAmb 12 48 59.0
comp=Z,7.7nm,0.9s
T42A Van Buren 60.03 341 P P 12 48 57.0 +0.2
O56A Blue Knob Stat 60.58 353 P 12 49 01.9
baz=172
TUL1 Leonard 60.59 337 P 12 49 01.7
baz=153
SSPA Standing Stone 60.87 354 P 12 49 03.8
baz=172
SSPA Standing Stone 60.87 354 P P 12 49 03.5 +1.1
SSPA IAmb IAmb 12 49 15.1
comp=Z,11nm,1.1s
N59A State Game Lan 60.97 356 P 12 49 04.4
baz=175
MNTX Cornudas Mount 61.30 327 P 12 49 06.3
baz=143,SNR=11
MNTX Cornudas Mount 61.30 327 IAmb IAmb 12 49 08.4
comp=Z,5.8nm,0.9s
N54A Moraine State 61.43 352 P 12 49 07.4
baz=170
R40A Maddies Statio 61.55 341 IAmb IAmb 12 49 09.0
comp=Z,7.8nm,0.8s
L63A North Scituate 61.75 359 P 12 49 09.5
baz=179
M55A Ridgway 61.79 353 P P 12 49 09.4 +0.8
MSTX Muleshoe 61.85 330 P P 12 49 10.2
baz=146
MSTX Muleshoe 61.85 330 P P 12 49 10.1 +0.8
MSTX IAmb IAmb 12 49 11.8
comp=Z,9.4nm,1.0s
VNA3 Neumayer Olymp 61.89 161 P P 12 49 10.6 +1.6
M54A Oil Creek Stat 61.93 353 P 12 49 10.5
baz=171
L58A Harry Jones Me 62.09 356 P 12 49 12.0
baz=175
VNA1 Neumayer--Stat 62.12 160 P P 12 49 12.5 +2.0
L59A Walton 62.19 356 P P 12 49 12.8
baz=176
BINY Binghamton 62.26 356 P 12 49 13.0
baz=175
BINY Binghamton 62.26 356 P P 12 49 13.2 +1.5
L56A Greenwood 62.32 354 P 12 49 13.2
baz=173
L61B Northampton 62.35 358 P 12 49 13.6
baz=178
K61A Williamstown 62.59 358 P 12 49 15.8
baz=178
P40A Paris 62.63 342 IAmb IAmb 12 49 15.6
comp=Z,9.3nm,0.9s
HDIL Hopedale 62.83 344 P 12 49 16.4
baz=161
K56A Middlesex 62.86 355 P 12 49 17.6
baz=173
P38A Dawn 63.17 341 P P 12 49 18.1 +0.3
P38A IAmb IAmb 12 49 18.7
comp=Z,9.3nm,1.1s
121A Cookes Peak, D 63.22 325 P 12 49 21.1
baz=141
J58A Remsen 63.37 356 P 12 49 20.2
baz=175
J56A Wolcott 63.40 355 P 12 49 20.0
baz=174
J56A Wolcott 63.40 355 P P 12 49 20.3 +1.0
J59A Piesco 63.43 357 P 12 49 20.8
baz=176,SNR=5.4
J57A Williamstown 63.46 356 P 12 49 21.1
baz=175
I58A Old Forge 63.68 357 P 12 49 22.3
baz=176
I59A Olmsteadville 63.73 358 P 12 49 22.8
baz=177
I60A Shoreham 63.76 358 P 12 49 23.5
baz=178
I61A Oroboro, Fairl 63.82 359 P 12 49 23.6
baz=179
I57A Carthage 63.97 356 P 12 49 23.9
baz=175
PECO Prince Edward 64.06 355 P P 12 49 24.6 +1.0
SNAA Sanae 64.10 161 P P 12 49 25.2 +1.5
SNAA Sanae 64.10 161 P P 12 49 25.4 +1.7
H58A Gabriels 64.37 357 P 12 49 26.7
baz=177
H61A Lyndonville 64.42 359 P 12 49 27.5
baz=179
ANMO Albuquerque 64.42 328 P 12 49 27.7
baz=143
ANMO Albuquerque 64.42 328 P P 12 49 27.8 +1.4
comp=Z,1.2nm,0.6s,baz=145,slow=5.0,SNR=4.2
ANMO Albuquerque 64.42 328 P P 12 49 26.9 +0.4
H57A Richville 64.47 356 P 12 49 27.5
baz=175
H59A Cadyville 64.58 358 P 12 49 28.5
baz=177
H53A Bobcaygeon 64.84 354 P 12 49 29.2
baz=172,SNR=5.0
G63A Kingsbury 65.00 1 P 12 49 31.7
baz=181
G57A Newington 65.09 357 P 12 49 31.6
baz=176
SADO Sadowa 65.09 354 P P 12 49 31.3 +0.9
G58A Ormstown 65.09 358 P 12 49 31.6
baz=177
G62A West of Eustis 65.10 0 P 12 49 32.2
baz=180
G61A St-Isidore-de- 65.16 359 P 12 49 32.8
baz=179
T25A Trinidad 65.22 331 P 12 49 33.4
baz=145
T25A Trinidad 65.22 331 IAmb IAmb 12 49 34.6
comp=Z,8.2nm,1.2s
G54A Lake Saint Pet 65.61 354 P 12 49 34.7
baz=173
F59A Saint Guilaume 65.75 359 P 12 49 35.7
baz=178
F60A Warwick 65.85 359 P 12 49 36.3
baz=179
ALGO Algonquin Park 66.16 355 P 12 49 38.0
baz=173
SDCO Great Sand Dun 66.21 330 P 12 49 39.9
baz=144,SNR=14
SDCO Great Sand Dun 66.21 330 P P 12 49 40.0 +1.9
SDCO IAmb IAmb 12 49 41.8
comp=Z,6.2nm,1.1s
E58A La Victoria 66.29 358 P 12 49 39.9
baz=178
BGNE Belgrade 66.31 338 P 12 49 39.9
baz=152
E62A Clayton Lake 66.51 1 P 12 49 41.1
baz=181
E56A St. Veronique 66.53 357 P 12 49 40.8
baz=176
X16A Lo Mia Camp, P 66.63 324 IAmb IAmb 12 49 45.2
comp=Z,6.3nm,1.1s
D60A Saint Jean D'O 66.79 360 P 12 49 44.2
baz=180
D63A Stockholm 66.96 2 P 12 49 43.4
baz=183
D62A Allapoint, All 66.98 1 P 12 49 44.3
baz=182
D58A Chemin du LacG 67.00 358 P 12 49 43.8
baz=178
D56A ZEC Mazanza, M 67.02 357 P 12 49 43.6
baz=176

D55A	**Sainte-Anne-du**	**67.03**	**357**	P		12 49 43.7
	baz=175					
D61A	**St Aubert, Com**	**67.08**	**0**	P		12 49 45.6
	baz=181					
MVCO	**Mesa Verde**	**67.22**	**328**	P		12 49 46.1
	baz=142					
MVCO	**Mesa Verde**	**67.22**	**328**	IAmb	IAmb	12 49 47.8
	comp=Z,11nm,1.4s					
OGNE	**Ogallala**	**67.37**	**335**	P		12 49 46.9
	baz=148					
WUAZ	**Wupatki**	**67.42**	**325**	P		12 49 48.3
	baz=139,SNR=6.4					
WUAZ	**Wupatki**	**67.42**	**325**	P	**P**	**12 49 48.2 +2.4**
WUAZ				IAmb	IAmb	12 49 50.6
	comp=Z,11nm,1.1s					
GLA	**Glamis**	**67.58**	**321**	P		12 49 48.2
	baz=135					
ECSD	**EROS Data Cent**	**67.86**	**340**	P		12 49 48.6
	baz=154,SNR=7.1					
ECSD	**EROS Data Cent**	**67.86**	**340**	P	**P**	**12 49 49.2 +1.0**
ECSD				IAmb	IAmb	12 49 50.0
	comp=Z,15nm,1.3s					
ISCO	**Idaho Springs**	**67.93**	**332**	P		12 49 49.6
	baz=145					
PV01	**Paradox Valley**	**67.98**	**329**	IAmb	IAmb	12 49 52.8
	comp=Z,8.7nm,1.2s					
SMCO	**Snowmass**	**68.05**	**330**	P	**P**	**12 49 52.1 +2.2**
PDMCI	**Parker Dam,Lak**	**68.07**	**322**	P		12 49 51.7
	baz=136					
PV15	**Paradox Valley**	**68.10**	**329**	IAmb	IAmb	12 49 53.7
	comp=Z,10nm,0.9s					
PV13	**Radium Mtn., P**	**68.12**	**328**	P	**P**	**12 49 52.1 +1.9**
PV13				IAmb	IAmb	12 49 53.4
	comp=Z,9.7nm,1.3s					
PV05	**Paradox Valley**	**68.20**	**328**	IAmb	IAmb	12 49 53.7
	comp=Z,6.1nm,1.1s					
PV03	**Paradox Valley**	**68.21**	**329**	IAmb	IAmb	12 49 59.0
	comp=Z,8.8nm,1.4s					
BC3	**Big Chuckawall**	**68.37**	**321**	P		12 49 54.7
	baz=135					
PV14	**Lion Creek, Pa**	**68.39**	**329**	IAmb	IAmb	12 49 55.0
	comp=Z,10nm,1.3s					
MONP2	**Monument Peak**	**68.42**	**320**	P		12 49 54.5
	baz=134					
IRM	**Iron Mountain**	**68.55**	**322**	P		12 49 55.3
	baz=135					
U15A	**North Rim**	**68.59**	**325**	IAmb	IAmb	12 49 57.3
	comp=Z,7.8nm,1.0s					
F36A	**Milaca**	**68.89**	**343**	IAmb	IAmb	12 49 56.3
	comp=Z,6.5nm,0.9s					
TPFO	**Pinon Flats**	**68.94**	**320**	P		12 49 57.8
	baz=134					
BELC	**Belle Mtn. Jos**	**68.94**	**321**	P		12 49 56.2
	baz=135					
PFO	**Pinyon Flats O**	**68.94**	**320**	P		12 49 57.8
	baz=134					
N23A	**Red Feather La**	**68.97**	**332**	P		12 49 57.5
	baz=145					
LSQQ	**Lebel-sur-Quev**	**69.15**	**356**	P		12 49 57.1
	baz=174					
GMRC	**Granite Mounta**	**69.29**	**322**	P		12 49 60.0
	baz=135,SNR=11					
KNB	**Kanab**	**69.31**	**325**	IAmb	IAmb	12 50 02.5
	comp=Z,13nm,1.1s					
O20A	**White River Ci**	**69.40**	**330**	P		12 50 00.3
	baz=143					
O20A	**White River Ci**	**69.40**	**330**	IAmb	IAmb	12 50 01.3
	comp=Z,9.0nm,1.2s					
LCMT	**Little Creek M**	**69.54**	**325**	P	**P**	**12 50 01.5 +2.6**
LCMT				IAmb	IAmb	12 50 03.4
	comp=Z,7.0nm,1.2s					
SRU	**San Rafael Swe**	**69.70**	**328**	IAmb	IAmb	12 50 03.1
	comp=Z,7.1nm,0.9s					
HEC	**Hector,Ludlow**	**69.72**	**321**	P		12 50 02.0
	baz=135					
CHGQ	**Chibougamau**	**69.86**	**358**	P		12 50 02.0
	baz=176					
Q16A	**Castle Valley**	**69.88**	**327**	IAmb	IAmb	12 50 14.6
	comp=Z,7.3nm,1.0s					
SZCU	**Shurtz Canyon**	**69.88**	**325**	IAmb	IAmb	12 50 05.3
	comp=Z,8.5nm,1.3s					
TUQ	**Turquoise Moun**	**69.90**	**322**	P		12 50 03.6
	baz=135					
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**12 50 03.9 +2.6**
QSPA				IAmb	IAmb	12 50 04.2
	comp=Z,7.6nm,0.9s					
CCUT	**Cedar City**	**70.00**	**325**	P	**P**	**12 50 03.9 +2.0**
CCUT				IAmb	IAmb	12 50 07.4
	comp=Z,12nm,1.0s					
P17A	**Butcher Ranch,**	**70.09**	**328**	P	**P**	**12 50 04.0 +1.7**
BFSC	**Mount Baldy Ra**	**70.09**	**320**	P		12 50 05.0
	baz=133					
DBIC	**Dimbokro**	**70.13**	**75**	P	**P**	**12 50 02.0 -0.8**
	comp=Z,14nm,1.1s,baz=177,slow=8.5,SNR=3.2					
DBIC				LR	LR	13 19 35.1
	comp=Z,255nm,19.4s,baz=226,slow=35					
DBIC	**Dimbokro**	**70.13**	**75**	IAmb	IAmb	12 50 03.2
	comp=Z,26nm,1.2s					
TMUT	**Trail Mountain**	**70.19**	**328**	P	**P**	**12 50 04.3 +1.3**
TCRU	**Three Creeks R**	**70.30**	**326**	IAmb	IAmb	12 50 07.6
	comp=Z,6.3nm,1.0s					
EYMN	**Ely**	**70.31**	**345**	P		12 50 04.0
	baz=160					
EYMN	**Ely**	**70.31**	**345**	P	**P**	**12 50 03.8 +0.5**
GSC	**Goldstone, Bar**	**70.32**	**321**	P		12 50 06.1
	baz=134					
RDMU	**Red Mountain**	**70.37**	**330**	P	**P**	**12 50 06.0 +1.9**
K22A	**Casper**	**70.65**	**333**	P		12 50 07.7
	baz=145					
K22A	**Casper**	**70.65**	**333**	IAmb	IAmb	12 50 08.6
	comp=Z,7.3nm,1.1s					
EDW2	**Edwards Air Fo**	**70.74**	**320**	P		12 50 08.2
	baz=133					
PRN	**Pahroc Range**	**70.81**	**324**	IAmb	IAmb	12 50 10.9
	comp=Z,11nm,1.3s					
RSSD	**Black Hills**	**70.85**	**335**	P		12 50 08.6
	baz=147					
RSSD	**Black Hills**	**70.85**	**335**	P	**P**	**12 50 08.6 +1.7**
MPU	**Maple Canyon**	**70.95**	**328**	IAmb	IAmb	12 50 11.1
	comp=Z,10.0nm,1.2s					
LRMC	**Laurel Mtn Rad**	**70.96**	**321**	P		12 50 10.3
	baz=134,SNR=5.9					
PSUT	**Pine Spring**	**70.98**	**326**	P	**P**	**12 50 10.8 +3.0**
PSUT				IAmb	IAmb	12 50 12.7
	comp=Z,5.9nm,0.8s					
TPNV	**Topopah Spring**	**71.16**	**323**	P		12 50 12.0
	baz=135,SNR=11					
TPNV	**Topopah Spring**	**71.16**	**323**	IAmb	IAmb	12 50 18.1
	comp=Z,8.7nm,1.1s					
FURC	**Furnace Creek,**	**71.17**	**322**	P		12 50 11.9
	baz=135,SNR=9.8					
B35A	**Bob, Littlefor**	**71.25**	**344**	IAmb	IAmb	12 50 10.6
	comp=Z,9.1nm,1.2s					
JLU	**Jordanelle**	**71.30**	**328**	IAmb	IAmb	12 50 13.2
	comp=Z,9.1nm,1.1s					
ISA	**Isabella, Lake**	**71.56**	**321**	P	**P**	**12 50 13.9 +2.8**
ISA				IAmb	IAmb	12 50 15.8
	comp=Z,7.3nm,1.1s					
ISA	**Isabella, Lake**	**71.56**	**321**	P		12 50 13.9
	baz=133,SNR=6.9					
SPR3	**Spring Creek 3**	**71.58**	**326**	P	**P**	**12 50 13.1 +1.5**
DUG	**Dugway, Tooele**	**71.67**	**327**	P		12 50 14.5
	baz=139,SNR=6.3					
DUG	**Dugway, Tooele**	**71.67**	**327**	IAmb	IAmb	12 50 15.6
	comp=Z,13nm,1.2s					
AGMN	**Agassiz Nation**	**71.76**	**343**	IAmb	IAmb	12 50 13.5
	comp=Z,8.5nm,1.1s					
R11A	**Troy Canyon, C**	**71.78**	**324**	P		12 50 15.5
	baz=136,SNR=5.6					
PKM	**Mcpherson Peak**	**71.84**	**319**	P		12 50 15.8
	baz=132,SNR=5.0					
CWC	**Cottonwood Cre**	**71.85**	**321**	P		12 50 15.1
	baz=134					
BW06	**Boulder Array**	**72.08**	**331**	P		12 50 16.4
	baz=142					
BW06	**Boulder Array**	**72.08**	**331**	P	**P**	**12 50 15.8 +1.4**
PD31	**Pinedale Array**	**72.08**	**331**	P	**P**	**12 50 15.8 +1.5**
PDAR	**Pinedale Array**	**72.08**	**331**	P	**P**	**12 50 15.9 +1.5**
	comp=Z,0.8nm,0.5s,baz=150,slow=6.3,SNR=8.7					
PDAR	**Pinedale Array**	**72.08**	**331**	P	**P**	**12 50 15.5 +1.1**
HWUT	**Hardware Ranch**	**72.13**	**329**	IAmb	IAmb	12 50 18.5
	comp=Z,6.0nm,0.8s					
TBI	**Tubuai**	**72.19**	**251**	eLR	LR	13 12 03.9
	comp=Z,185nm,26.8s					
SMMC	**Simmler**	**72.24**	**319**	P		12 50 18.1
	baz=132					
SPUT	**South Promonto**	**72.33**	**328**	IAmb	IAmb	12 50 19.0
	comp=Z,12nm,1.3s					
BGU	**Big Grassy Mou**	**72.33**	**328**	P	**P**	**12 50 18.0 +2.2**
REDW	**Red Top Meadow**	**73.14**	**331**	IAmb	IAmb	12 50 38.5
	comp=Z,12nm,1.4s					
NV11	**Mina Array Sit**	**73.27**	**323**	P	**P**	**12 50 23.7 +2.3**
TPAW	**Teton Pass**	**73.29**	**331**	P	**P**	**12 50 22.7 +1.1**
ELK	**Elko**	**73.33**	**326**	P	**P**	**12 50 24.1 +2.3**
	comp=Z,2.8nm,1.0s,baz=77,slow=5.4,SNR=8.3					
ELK	**Elko**	**73.33**	**326**	P	**P**	**12 50 23.2 +1.4**
LHV	**Little Huntoon**	**73.34**	**323**	IAmb	IAmb	12 50 31.0
	comp=Z,8.4nm,1.0s					
NVAR	**Mina Array Bea**	**73.35**	**323**	P	**P**	**12 50 24.5 +2.5**
	comp=Z,3.0nm,0.9s,baz=140,slow=5.9,SNR=20					
ULM	**Lac du Bonnet**	**73.54**	**344**	P	**P**	**12 50 22.6 0.0**
	comp=Z,2.5nm,0.6s,baz=148,slow=6.3,SNR=3.1					
ULM				LR	LR	13 25 16.9
	comp=Z,85nm,18.5s,baz=108,slow=38					
ULM	**Lac du Bonnet**	**73.54**	**344**	IAmb	IAmb	12 50 32.8
	comp=Z,10nm,1.4s					
FLWY	**Flagg Ranch**	**73.63**	**331**	P	**P**	**12 50 24.4 +0.9**
FLWY				IAmb	IAmb	12 50 27.7
	comp=Z,18nm,1.2s					
RLMT	**Red Lodge**	**73.82**	**333**	P		12 50 26.8
	baz=143,SNR=5.6					
RLMT	**Red Lodge**	**73.82**	**333**	P	**P**	**12 50 26.1 +1.5**
RLMT				IAmb	IAmb	12 50 28.4
	comp=Z,6.7nm,0.8s					
PPT2	**Papeete2**	**73.84**	**257**	eLR	LR	13 12 51.1
	comp=Z,166nm,24.0s					
YMR	**Madison River**	**74.21**	**331**	IAmb	IAmb	12 50 30.9
	comp=Z,16nm,1.1s					
YHH	**Holmes Hill**	**74.25**	**332**	P	**P**	**12 50 29.7 +2.4**
YHH				IAmb	IAmb	12 50 31.8
	comp=Z,13nm,1.2s					
CMB	**Columbia Colle**	**74.29**	**321**	P	**P**	**12 50 27.8 +0.5**
YHB	**Horse Butte**	**74.38**	**331**	P	**P**	**12 50 28.0 +0.1**
YHB				IAmb	IAmb	12 50 38.7
	comp=Z,6.6nm,0.8s					
YHL	**Hebgen Lake**	**74.45**	**331**	IAmb	IAmb	12 50 33.6
	comp=Z,17nm,1.4s					
GCMT	**Greycliff**	**74.52**	**333**	P	**P**	**12 50 30.5 +1.9**
PNTR	**Pine Nut**	**74.54**	**323**	P	**P**	**12 50 32.1 +3.1**
PNTR				IAmb	IAmb	12 50 33.6
	comp=Z,18nm,1.5s					
DGMT	**Dagmar**	**74.57**	**338**	P	**P**	**12 50 31.3 +2.6**
PAHR	**Pah Rah Range**	**74.84**	**323**	P	**P**	**12 50 32.2 +1.6**
PAHR				IAmb	IAmb	12 50 34.6
	comp=Z,9.5nm,0.9s					
HLID	**Hailey**	**74.98**	**329**	P		12 50 33.9
	baz=138,SNR=15					
HLID	**Hailey**	**74.98**	**329**	P	**P**	**12 50 32.9 +1.5**
MCMT	**McKenzie Canyo**	**75.19**	**330**	P	**P**	**12 50 35.2 +2.5**
AFDM	**Forest Hills D**	**75.24**	**322**	P	**P**	**12 50 35.4 +2.7**
BEKR	**Beckworth**	**75.50**	**323**	P	**P**	**12 50 36.8 +2.4**
MFID	**Camas Ranch**	**75.57**	**328**	P	**P**	**12 50 35.6 +0.9**
MFID				IAmb	IAmb	12 50 39.0
	comp=Z,9.6nm,1.3s					
ORV	**Oroville**	**75.95**	**322**	P	**P**	**12 50 37.7 +1.0**
ORV				IAmb	IAmb	12 50 41.2
	comp=Z,8.4nm,1.1s					
EGMT	**Eagleton**	**76.33**	**334**	P		12 50 40.5
	baz=143,SNR=5.8					
EGMT	**Eagleton**	**76.33**	**334**	P	**P**	**12 50 40.4 +1.6**
EGMT				IAmb	IAmb	12 50 42.1
	comp=Z,11nm,1.0s					
O02D	**Mt. Diablo Mer**	**77.10**	**322**	P		12 50 45.8
	baz=131					
MSO	**Missoula**	**77.20**	**331**	P		12 50 46.3
	baz=139					
N02D	**Trinity Center**	**77.57**	**322**	P		12 50 47.6
	baz=131					
M04C	**Macdoel**	**77.62**	**323**	P		12 50 48.1
	baz=132					
VNDA	**Vanda**	**77.81**	**190**	P	**P**	**12 50 47.0 +0.3**
	comp=Z,1.8nm,1.0s,baz=123,slow=3.7,SNR=6.2					
YBH	**Yreka Blue Hor**	**78.07**	**323**	P	**P**	**12 50 49.5 +0.7**
	comp=Z,2.6nm,0.9s,baz=236,slow=2.6,SNR=4.2					
YBH	**Yreka Blue Hor**	**78.07**	**323**	P	**P**	**12 50 49.3 +0.5**
L04D	**Klamath Falls**	**78.17**	**324**	P		12 50 50.9
	baz=132					
TOA0	**Torodi Ar. Sit**	**78.65**	**71**	P	**P**	**12 50 52.1 -0.4**
TORD	**Torodi Ar. Bea**	**78.65**	**71**	P	**P**	**12 50 52.2 -0.2**
	comp=Z,25nm,1.0s,baz=258,slow=4.6,SNR=50					
TORD				LR	LR	13 24 40.6
	comp=Z,247nm,18.8s,baz=245,slow=35					
TORD	**Torodi Ar. Bea**	**78.65**	**71**	P	**P**	**12 50 52.2 -0.2**
I05D	**Terrebonne, OR**	**79.06**	**326**	P		12 50 55.4
	baz=133					
K02D	**Willamette Mer**	**79.24**	**323**	P		12 50 56.5
	baz=130					
LTY	**Liberty**	**80.70**	**328**	P	**P**	**12 51 05.1 +2.1**
B05A	**Bryant**	**82.09**	**328**	P		12 51 11.6
	baz=132					
D03D	**Eldon**	**82.10**	**327**	P		12 51 12.5
	baz=132					
TSUM	**Tsumeb**	**82.16**	**108**	P	**P**	**12 51 11.7 +0.2**
TSUM				IAmb	IAmb	12 51 13.8
	comp=Z,9.7nm,0.9s					
BOSA	**Boshof**	**85.67**	**119**	LR	LR	13 26 42.3
	comp=Z,137nm,18.6s,baz=228,slow=34					
MAW	**Mawson**	**86.09**	**164**	P	**P**	**12 51 31.2 +0.9**
	comp=Z,2.0nm,0.7s,baz=197,slow=6.7,SNR=4.0					
ESDC	**Sonseca Array**	**86.20**	**45**	P	**P**	**12 51 32.1 +0.7**
	comp=Z,3.4nm,1.1s,baz=238,slow=5.4,SNR=13					
ESDC				LR	LR	13 26 10.3
	comp=Z,62nm,21.4s,baz=250,slow=33					
YKA	**Yellowknife Ar**	**89.37**	**341**	P	**P**	**12 51 47.1 +1.2**
	comp=Z,9.3nm,1.0s,baz=136,slow=5.2,SNR=42					
KEST	**Kesra**	**93.98**	**53**	LR	LR	13 34 59.1
	comp=Z,164nm,19.7s,baz=256,slow=36					
INK	**Inuvik**	**99.11**	**340**	P	**Pdif**	**12 52 32.0 +1.6**
	comp=Z,1.4nm,0.9s,baz=47,slow=19,SNR=2.9					
Q23K	**Middleton Isla**	**100.06**	**330**	P		12 52 35.7
	baz=113					
KNK	**Knik Glacier**	**101.76**	**331**	P		12 52 43.4
	baz=110					
SML	**Sawmill**	**101.85**	**332**	P		12 52 43.8
	baz=110					
PMR	**Palmer**	**102.13**	**331**	P		12 52 44.5
	baz=110					
ILAR	**Eielson Array**	**102.29**	**335**	PP	**PP**	**12 57 02.1 +4.7**
	comp=Z,0.6nm,1.0s,baz=88,slow=4.5,SNR=4.3					
MLY	**Manley**	**103.93**	**334**	P		12 52 53.6
	baz=108					
COLD	**Coldfoot**	**104.39**	**337**	P		12 52 55.3
	baz=108					
DZM	**Mont Dzumac**	**110.03**	**236**	eLR	LR	13 29 38.4
	comp=Z,108nm,26.2s					
NIKH	**Nikolski High**	**110.63**	**320**	P		12 57 23.4
	baz=96					
H11S2	**WAKE ISLAND Hyl**	**125.90**	**279**	T	T	15 17 16.6
	baz=101,slow=74,SNR=23					
H11S1	**WAKE ISLAND Hyl**	**125.90**	**279**	T	T	15 17 15.5
	baz=101,slow=74,SNR=20					
H11S3	**WAKE ISLAND Hyl**	**125.91**	**279**	T	T	15 17 17.7
	baz=101,slow=74,SNR=21					
H11N3	**WAKE ISLAND Hyl**	**125.95**	**280**	T	T	15 17 19.7
	baz=102,slow=74,SNR=11					
H11N2	**WAKE ISLAND Hyl**	**125.96**	**280**	T	T	15 17 19.8
	baz=102,slow=74,SNR=12					
H11N1	**WAKE ISLAND Hyl**	**125.97**	**280**	T	T	15 17 23.0
	baz=102,slow=74,SNR=8.1					
SEY	**Seymchan**	**128.19**	**337**	PKP	**PKiKP**	**12 57 56.2 0.0**
	comp=Z,4.2nm,1.1s,baz=21,slow=8.7,SNR=3.6					
ASAR	**Alice Springs**	**130.17**	**210**	PKP	**PKiKP**	**12 58 01.7 +0.1**
	comp=Z,1.6nm,0.9s,baz=139,slow=2.6,SNR=8.8					
WRA	**Warramunga Arr**	**133.09**	**213**	PKP	**PKiKP**	**12 58 07.5 0.0**
	comp=Z,0.7nm,0.7s,baz=146,slow=1.7,SNR=4.0					
BVAR	**Bovoye Array**	**135.72**	**33**	PKP	**PKiKP**	**12 58 11.2 -0.5**
	comp=Z,0.5nm,0.6s,baz=260,slow=18,SNR=3.6					
ZALV	**Zalesovo Beam**	**141.51**	**23**	PKhKP	PKPpre	12 58 15.8
	comp=Z,0.6nm,0.5s,baz=333,slow=5.2,SNR=1.8					
ZALV				PKP	**PKPdf**	**12 58 21.3 +0.6**
	comp=Z,2.4nm,0.8s,baz=298,slow=3.2,SNR=8.5					
ZALV	**Zalesovo Beam**	**141.51**	**23**		**PKPdf**	**12 58 22.1 +1.4**
MKAR	**Makanchi Array**	**145.60**	**33**	PKPbc	**PKPab**	**12 58 29.5 +0.8**
	comp=Z,18nm,1.0s,baz=321,slow=3.1,SNR=51					
USRK	**Ussuriysk Ar.**	**149.43**	**327**	PKPbc	**PKPbc**	**12 58 39.5 +0.5**
	comp=Z,4.6nm,0.8s,baz=136,slow=1.9,SNR=17					
MJAR	**Matsushiro Arr**	**149.84**	**309**	PKPbc	**PKiKP**	**12 58 41.9 +0.6**
	comp=Z,7.4nm,1.0s,baz=183,slow=1.8,SNR=12					
MJAR	**Matsushiro Arr**	**149.84**	**309**		**PKiKP**	**12 58 42.1 +0.8**
SIJI	**Sorong**	**149.87**	**229**	PKPbc	**PKiKP**	**12 58 42.9 +0.9**
	comp=Z,7.3nm,0.7s,baz=36,slow=12,SNR=4.2					
SONM	**Songino Array**	**152.34**	**4**	PKPbc	**PKiKP**	**12 58 47.6 +1.4**
	comp=Z,2.2nm,0.8s,baz=333,slow=2.5,SNR=9.3					
SONM	**Songino Array**	**152.34**	**4**		**PKiKP**	**12 58 47.4 +1.2**
KSRS	**Korea Array**	**156.28**	**320**	PKP	**PKPdf**	**12 58 46.1 +1.4**
	comp=Z,0.5nm,0.7s,baz=122,slow=1.6,SNR=5.9					
KSRS				PKPab	**PKPab**	**12 59 15.2 +2.4**
	comp=Z,1.2nm,1.0s,baz=63,slow=3.1,SNR=4.6					
CMAR	**Chiang Mai Arr**	**170.22**	**98**	PKPab	**PKPab**	**13 00 14.6 0.0**
	comp=Z,1.2nm,0.4s,baz=248,slow=4.8,SNR=4.2					

*IDC **09** 12:45:13.3±1.0,55.01N×154.70W,h0km,mb4.0/18, mb1 4.2/18,mb1mx3.9/70,mbtmp4.0/18,MS3.0/7, Ms1 3.0/7,ms1mx2.7/63 Error ellipse: s-maj=34.1km s-min=15.5km az=24.0*

*ANF **09** 12:45:19.6±0.5,55.06N×154.67W,h58km±13km,ML4.2/7, Error ellipse: s-maj=6.2km s-min=2.7km az=155.0, Hypocentre not reviewed by the ISC*

*AEIC **09** 12:45:19±2.2,54.87N±0.07×154.4W±0.1,h10km±1km, Error ellipse: s-maj=11.4km s-min=9.9km az=163.0*

*NEIC **09** 12:45:20.2±1.9,55.04N±0.03×154.5W±0.1,h48km±8km, mb4.1/19,ML4.1/14,ML4.1(AEIC), Error ellipse: s-maj=10.8km s-min=0.5km az=113.0*

ISC 09 12:45:19.2±0.6,**55.03N**±0.07×**154.45W**±0.06,**h35km, n167,σ1836**/174,**mb4.0**/27,**MS2.9**/3,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.54**	**5**		**Pn**	**12 45 44.9**	**+0.8**
SII				Sn	**Sn**	**12 46 04.8**	**+2.0**
SII				IAML		12 46 05.8	
	comp=E,1μm,0.8s						
SII	**Sitkinak Islan**	**1.54**	**5**	P		12 45 44.9	
	baz=190,SNR=24						
SII				S		12 46 05.0	
	baz=190						
OHAK	**Old Harbor**	**2.29**	**16**		**Pn**	**12 45 55.4**	**+1.0**
OHAK				Sn	**Sn**	**12 46 22.6**	**+1.2**
OHAK				IAML		12 46 23.5	
	comp=N,667nm,0.9s						
OHAK				IAML		12 46 24.3	
	comp=E,709nm,0.3s						
OHAK	**Old Harbor**	**2.29**	**16**	P		12 45 55.2	
	baz=200,SNR=39						
OHAK				S		12 46 22.6	
	baz=200						
VNSG	**Veniaminof 6**	**2.85**	**294**		**Pn**	**12 46 01.7**	**-0.5**
KDAK	**Kodiak Island**	**2.94**	**20**	Pn	**Pn**	**12 46 04.4**	**+0.9**
	comp=E,60nm,0.3s,baz=234,slow=3.5,SNR=2882						
KDAK				Sn	**Sn**	**12 46 37.7**	**+0.2**
	comp=E,59nm,0.3s,baz=61,slow=22,SNR=24						
KDAK				LR	LR	12 47 09.1	
	comp=E,83nm,21.1s,baz=209,slow=38						
KDAK	**Kodiak Island**	**2.94**	**20**	Pn	**Pn**	**12 46 04.3**	**+0.9**
KDAK				Sn	**Sn**	**12 46 37.7**	**+0.2**
KDAK				IAML		12 46 38.8	
	comp=E,478nm,0.4s						
KDAK				IAML		12 46 39.6	
	comp=E,438nm,0.4s						
KDAK	**Kodiak Island**	**2.94**	**20**	P		12 46 04.1	
	baz=203						
KDAK				S		12 46 37.6	
	baz=203						
VNFG	**Fog Glacier, M**	**3.15**	**296**		**Pn**	**12 46 06.2**	**-0.2**
SDPT	**Sand Point**	**3.47**	**278**	Pn	**Pn**	**12 46 08.7**	**-1.9**
SDPT	**Sand Point**	**3.47**	**278**	P		12 46 08.5	
	baz=93						
SDPT				S		12 46 46.0	
	baz=93						
AUCH	**Augustine Cone**	**4.38**	**7**		**Pn**	**12 46 24.1**	**+0.9**
AUCH					**Sn**	**12 47 14.8**	**+1.9**
AUW	**Augustine West**	**4.38**	**7**		**Pn**	**12 46 24.2**	**+1.0**
AU22	**Augustine Moun**	**4.39**	**7**		**Pn**	**12 46 23.9**	**+0.7**
DT1	**Dutton Round H**	**4.50**	**274**		**Pn**	**12 46 23.3**	**-1.6**
OPT	**Oil Point**	**4.68**	**8**		**Pn**	**12 46 28.7**	**+1.4**
CNPM	**China Poot**	**4.83**	**20**	Pn	**Pn**	**12 46 30.7**	**+1.4**
CNPM					**Sn**	**12 47 24.2**	**+0.2**
CNPM				IAML		12 47 30.6	
	comp=N,136nm,0.6s						
HOM	**Homer**	**4.88**	**17**		**Pn**	**12 46 31.9**	**+1.9**
HOM	**Homer**	**4.88**	**17**	P		12 46 30.5	
	baz=201						
HOM				S		12 47 26.9	
	baz=201						
ILS	**Iliamna Low So**	**4.99**	**8**		**Pn**	**12 46 32.4**	**+0.8**
BRLK	**Bradley Lake**	**5.12**	**21**	Pn	**Pn**	**12 46 33.8**	**+0.5**
BRLK					**Sn**	**12 47 30.9**	**-0.3**
BRLK				IAML		12 47 34.2	
	comp=N,192nm,0.2s						
BRLK				IAML		12 47 35.5	
	comp=E,195nm,0.3s						
BRSE	**Bradley Lake S**	**5.13**	**21**		**Pn**	**12 46 34.0**	**+0.5**
BRSE					**Sn**	**12 47 29.6**	**-1.8**
BRSE	**Bradley Lake S**	**5.13**	**21**	P		12 46 33.9	
	baz=206,SNR=12						
FALS	**False Pass**	**5.17**	**272**	Pn	**Pn**	**12 46 33.0**	**-1.0**
FALS	**False Pass**	**5.17**	**272**	P		12 46 32.9	
	baz=85						
FALS				S		12 47 27.8	
	baz=85						
RED	**Redoubt Volcan**	**5.47**	**9**		**Pn**	**12 46 39.6**	**+1.3**
RSO	**Redoubt South**	**5.52**	**9**		**Pn**	**12 46 40.4**	**+1.5**
NCT	**North Crescent**	**5.60**	**8**		**Pn**	**12 46 41.5**	**+1.5**
NCT					**Sn**	**12 47 32.1**	**-1.0**
DFR	**Drift River**	**5.65**	**9**		**Pn**	**12 46 42.1**	**+1.4**
DFR					**Sn**	**12 47 46.1**	**+1.8**
SEW	**Seward**	**5.75**	**26**	Pn	**Pn**	**12 46 41.9**	**0.0**
SEW	**Seward**	**5.75**	**26**	P		12 46 41.6	
	baz=211,SNR=12						
SEW				S		12 47 42.5	
	baz=211						
SLKM	**Skilak Lake**	**5.94**	**21**		**Pn**	**12 46 45.0**	**+0.5**
SLKM					**Sn**	**12 47 50.4**	**-0.9**
CAPN	**Captain Cook N**	**6.01**	**16**	Pn	**Pn**	**12 46 48.7**	**+3.2**
CAPN	**Captain Cook N**	**6.01**	**16**	P		12 46 45.8	
	baz=199						
O22K	**Cooper Landing**	**6.02**	**23**	

SML	**Sawmill**	**7.51**	**23**	Pn		**Pn**	**12 47 06.8**	**+0.7**
SML	**Sawmill**	**7.51**	**23**	P			12 47 06.3	
	baz=209,SNR=9.9							
HMT	**Hamilton**	**7.62**	**42**	Pn		**Pn**	**12 47 09.2**	**+1.6**
SUCK	**Suckling Hills**	**7.64**	**44**	Pn		**Pn**	**12 47 09.5**	**+1.6**
DIV	**Divide**	**7.64**	**33**			**Pn**	**12 47 08.3**	**+0.3**
DIV						**Sn**	**12 48 30.9**	**-2.4**
CUT	**Chulitna**	**7.71**	**15**	P			12 47 09.2	
	baz=199							
SCM	**Sheep Creek Mo**	**7.77**	**26**			**Pn**	**12 47 10.3**	**+0.6**
KLU	**Klutina**	**7.88**	**31**			**Pn**	**12 47 11.1**	**-0.1**
KLU	**Klutina**	**7.88**	**31**	P			12 47 11.6	
	baz=219,SNR=19							
BMRM	**Bremner River**	**7.91**	**37**			**Pn**	**12 47 12.3**	**+0.6**
BMRM	**Bremner River**	**7.91**	**37**	P			12 47 12.2	
	baz=226,SNR=16							
TT01	**Tatalina**	**7.94**	**355**			**Pn**	**12 47 13.2**	**+1.3**
GRIN	**Grindle Hills**	**7.95**	**44**			**Pn**	**12 47 12.1**	**-0.1**
TTA	**Tatalina**	**7.96**	**355**	Pn		**Pn**	**12 47 13.5**	**+1.1**
TTA	**Tatalina**	**7.96**	**355**	P			12 47 12.5	
	baz=174							
PPLA	**Purkeypile**	**7.97**	**7**	Pn		**Pn**	**12 47 12.4**	**-0.2**
PPLA	**Purkeypile**	**7.97**	**7**	P			12 47 12.1	
	baz=190							
KHIT	**Khitrov Hills**	**8.07**	**43**			**Pn**	**12 47 14.4**	**+0.5**
KULT	**Kultieth River**	**8.17**	**45**			**Pn**	**12 47 15.5**	**+0.3**
M24K	**Tolsona, Glenn**	**8.30**	**28**			**Pn**	**12 47 18.5**	**+1.5**
M24K	**Tolsona, Glenn**	**8.30**	**28**	P			12 47 17.7	
	baz=216,SNR=34							
CRQM	**Cirque**	**8.31**	**42**			**Pn**	**12 47 18.7**	**+1.5**
CRQE	**Cirque**	**8.33**	**42**	P			12 47 18.0	
	baz=232,SNR=9.6							
WAT6	**Susitna Watana**	**8.33**	**22**			**Pn**	**12 47 17.7**	**+0.3**
WAT6	**Susitna Watana**	**8.33**	**22**	P			12 47 17.7	
	baz=208,SNR=18							
HUR	**Hurricane**	**8.34**	**15**			**Pn**	**12 47 19.2**	**+1.7**
N25K	**Chitina, Valde**	**8.38**	**34**			**Pn**	**12 47 19.2**	**+1.2**
N25K	**Chitina, Valde**	**8.38**	**34**	P			12 47 18.8	
	baz=223,SNR=15							
WAT1	**Susitna Watana**	**8.39**	**19**			**Pn**	**12 47 19.3**	**+1.2**
TGL	**Tana Glacier**	**8.43**	**42**			**Pn**	**12 47 20.4**	**+1.6**
MESA	**MESA**	**8.46**	**47**			**Pn**	**12 47 21.3**	**+2.1**
MESA	**MESA**	**8.46**	**47**	P			12 47 20.1	
	baz=238,SNR=5.1							
VRDI	**Verde Repeater**	**8.50**	**39**			**Pn**	**12 47 20.6**	**+0.7**
WAT2	**Susitna Watana**	**8.51**	**18**			**Pn**	**12 47 20.6**	**+0.7**
WAT2	**Susitna Watana**	**8.51**	**18**	P			12 47 20.4	
	baz=204,SNR=18							
GLB	**Gilahina Butte**	**8.52**	**37**			**Pn**	**12 47 20.5**	**+0.5**
YAH	**Yahtse**	**8.64**	**47**			**Pn**	**12 47 23.3**	**+1.5**
TRF	**Thorofare Moun**	**8.71**	**12**	Pn		**Pn**	**12 47 23.0**	**+0.4**
TRF	**Thorofare Moun**	**8.71**	**12**	P			12 47 23.0	
	baz=197							
KTH	**Kantishna Hill**	**8.73**	**10**			**Pn**	**12 47 24.5**	**+1.6**
MCARA	**McCarthy VSAT**	**8.76**	**39**			**Pn**	**12 47 25.5**	**+2.3**
MCARA	**McCarthy VSAT**	**8.76**	**39**	P			12 47 24.7	
	baz=229,SNR=6.6							
HARP	**HAARP**	**8.82**	**29**	P			12 47 24.9	
	baz=218,SNR=9.9							
GRNC	**Granite Creek**	**8.84**	**45**			**Pn**	**12 47 26.4**	**+1.9**
RND	**Reindeer**	**8.87**	**17**			**Pn**	**12 47 26.3**	**+1.6**
TABL	**Table Mountain**	**8.94**	**47**			**Pn**	**12 47 27.6**	**+1.8**
CHUM	**Lake Minchumin**	**8.94**	**6**	P			12 47 25.9	
	baz=189,SNR=6.8							
BARN	**Barnard Glacie**	**9.07**	**43**			**Pn**	**12 47 29.1**	**+1.5**
CTG	**Chitna Glacier**	**9.14**	**44**	P			12 47 29.6	
	baz=236,SNR=7.5							
CTGM	**Chitina Glacie**	**9.14**	**44**			**Pn**	**12 47 30.8**	**+2.1**
PCA	**Pinnacle**	**9.15**	**51**			**Pn**	**12 47 30.6**	**+1.9**
PINM	**Pinnacle**	**9.15**	**51**	P			12 47 30.0	
	baz=243,SNR=24							
MCK	**McKinley**	**9.16**	**16**			**Pn**	**12 47 29.1**	**+0.3**
MCK	**McKinley**	**9.16**	**16**	P			12 47 29.2	
	baz=201,SNR=7.0							
YKU2	**Yakutat**	**9.17**	**55**	Pn		**Pn**	**12 47 31.6**	**+2.9**
PAX	**Paxson**	**9.20**	**26**	Pn		**Pn**	**12 47 31.9**	**+2.6**
PAX	**Paxson**	**9.20**	**26**	P			12 47 29.1	
	baz=215							
BPAW	**Bear Paw Mtn.**	**9.26**	**9**	Pn		**Pn**	**12 47 31.1**	**+1.0**
BPAW	**Bear Paw Mtn.**	**9.26**	**9**	P			12 47 30.5	
	baz=193,SNR=10							
BCPM	**Bancas Point**	**9.37**	**52**			**Pn**	**12 47 33.7**	**+2.2**
BWN	**Browne**	**9.51**	**13**	Pn		**Pn**	**12 47 33.9**	**+0.5**
NEA2	**Nenana**	**9.96**	**14**			**Pn**	**12 47 39.8**	**+0.2**
NEA2	**Nenana**	**9.96**	**14**	P			12 47 39.7	
	baz=199,SNR=10							
WRH	**Wood River Hil**	**9.99**	**16**			**Pn**	**12 47 39.9**	**-0.1**
DOT	**Dot Lake**	**10.12**	**27**	Pn		**Pn**	**12 47 45.1**	**+3.2**
HDA	**Harding Lake**	**10.13**	**19**	P			12 47 42.7	
	baz=206,SNR=27							
HDA				P			12 47 42.7	
	baz=206,SNR=27							
MLY	**Manley**	**10.20**	**9**			**Pn**	**12 47 43.2**	**+0.3**
MLY	**Manley**	**10.20**	**9**	P			12 47 43.1	
	baz=193,SNR=8.0							
CCB	**Clear Creek Bu**	**10.20**	**16**			**Pn**	**12 47 42.9**	**0.0**
L27K	**Beaver Creek,**	**10.33**	**34**			**Pn**	**12 47 45.7**	**+1.0**
L27K	**Beaver Creek,**	**10.33**	**34**	P			12 47 45.2	
	baz=225							
BCAR	**Beaver Creek A**	**10.34**	**34**	Pn		**Pn**	**12 47 45.8**	**+0.9**
TCOL	**CIGO, UAF Yank**	**10.40**	**16**			**Pn**	**12 47 46.3**	**+0.6**
TCOL	**CIGO, UAF Yank**	**10.40**	**16**	P			12 47 45.9	
	baz=202,SNR=7.7							
COLA	**College**	**10.40**	**16**			**Pn**	**12 47 46.0**	**+0.4**
COLA	**College**	**10.40**	**16**	P			12 47 45.7	
	baz=202							
SCRK	**Sand Creek**	**10.41**	**26**	Pn		**Pn**	**12 47 46.8**	**+0.9**
SCRK	**Sand Creek**	**10.41**	**26**	P			12 47 46.4	
	baz=216,SNR=12							
MDM	**Murphy Dome**	**10.43**	**15**			**Pn**	**12 47 46.5**	**+0.5**
I23K	**Minto, Yukon-K**	**10.46**	**12**			**Pn**	**12 47 46.1**	**-0.2**
I23K	**Minto, Yukon-K**	**10.46**	**12**	P			12 47 46.3	
	baz=197,SNR=17							
IL31		**10.47**	**18**			**Pn**	**12 47 46.8**	**+0.3**
ILAR	**Eielson Array**	**10.47**	**18**	Pn		**Pn**	**12 47 46.8**	**+0.2**
	comp=E,4.6nm,0.3s,baz=211,slow=13,SNR=139							
ILAR				Sn		**Sn**	**12 49 36.6**	**-5.8**
	comp=E,1.2nm,0.3s,baz=205,slow=23,SNR=11							
ILAR				LR		LR	12 52 16.4	
	comp=E,86nm,18.2s,baz=246,slow=40							
H21K	**Melozitna Rive**	**10.69**	**4**	P			12 47 49.6	
	baz=186,SNR=13							
POKR	**Poker Plat Res**	**10.70**	**16**			**Pn**	**12 47 50.7**	**+1.0**
POKR	**Poker Plat Res**	**10.70**	**16**	P			12 47 49.7	
	baz=203							
HYT	**Haines Junctio**	**10.70**	**50**			**Pn**	**12 47 51.6**	**+1.8**
K27K	**Chicken**	**10.97**	**30**			**Pn**	**12 47 55.7**	**+2.3**
K27K	**Chicken**	**10.97**	**30**	P			12 47 54.2	
	baz=221							
IMAR	**Indian Mountai**	**10.99**	**2**	Pn		**Pn**	**12 47 53.8**	**+0.1**
H23K	**Yukon River**	**11.09**	**11**	P			12 47 55.1	
	baz=195,SNR=8.1							
H24K	**Noodor Dome**	**11.30**	**14**	P			12 47 58.2	
	baz=200							
PRP	**Porcupine Dome**	**11.39**	**19**	Pn		**Pn**	**12 48 01.5**	**+2.2**
JIS	**Juneau Island**	**11.50**	**65**			**Pn**	**12 47 58.7**	**-1.9**
EGAK	**Eagle**	**11.80**	**29**			**Pn**	**12 48 07.5**	**+2.7**
EGAK	**Eagle**	**11.80**	**29**	P			12 48 04.8	
	baz=221,SNR=11							
DAWY	**Dawson**	**11.81**	**34**	Pn		**Pn**	**12 48 06.8**	**+1.9**
WHY	**Whitehorse**	**11.82**	**54**			**Pn**	**12 48 07.4**	**+2.1**
WHY	**Whitehorse**	**11.82**	**54**	P			12 48 06.2	
	baz=250,SNR=6.7							
FYU	**Fort Yukon**	**12.39**	**17**	Pn		**Pn**	**12 48 13.7**	**+0.8**
COLD	**Coldfoot**	**12.40**	**8**	Pn		**Pn**	**12 48 11.8**	**-1.1**
COLD	**Coldfoot**	**12.40**	**8**	P			12 48 11.3	
	baz=192							
H02S1	**DAWSON INLET T**	**13.01**	**89**	Pn		**Pn**	**12 48 19.9**	**-1.3**
	SNR=4.2							
H02S1				Sn		Sn	12 50 33.5	-11
H02S1				T		T	13 01 35.0	
BMAR	**Burnt Mountain**	**13.29**	**17**			**Pn**	**12 48 25.3**	**+0.2**
TOLK	**Toolik Lake Re**	**13.84**	**7**	Pn		**Pn**	**12 48 34.5**	**+1.8**
EPYK	**Eagle Plains**	**14.23**	**30**			**Pn**	**12 48 40.2**	**+2.4**
BBB	**Bella Bella**	**15.85**	**89**	LR		LR	12 53 42.7	
	comp=E,61nm,18.7s,baz=310,slow=32							
A21K	**Barrow**	**16.38**	**358**	P			12 49 04.7	
	baz=176,SNR=5.9							
INK	**Inuvik**	**16.47**	**28**	Pn		**P**	**12 49 10.3**	**+0.8**
	comp=E,0.2nm,0.3s,baz=215,slow=13,SNR=11							
INK				LR		LR	12 55 16.1	
	comp=E,50nm,18.3s,baz=171,slow=36							
INK	**Inuvik**	**16.47**	**28**	P		**P**	**12 49 10.8**	**+1.3**
INK				IAmb		IAmb	12 49 19.8	
	comp=Z,8.4nm,0.8s							
C36M	**Paulatuk**	**19.83**	**32**			**Pn**	**12 49 48.2**	**-0.1**
C36M				IAmb		IAmb	12 50 05.3	
	comp=Z,10.0nm,0.8s							
YKA	**Yellowknife Ar**	**21.66**	**54**	P		**P**	**12 50 07.6**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=262,slow=9.6,SNR=23							
NEW	**Newport**	**23.90**	**91**	P		**P**	**12 50 29.6**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=288,slow=7.7,SNR=4.4							
NEW	**Newport**	**23.90**	**91**	IAmb		IAmb	12 50 31.9	
	comp=Z,2.9nm,1.0s							
YBH	**Yreka Blue Hor**	**24.67**	**109**	LR		LR	12 57 43.0	
	comp=Z,40nm,20.6s,baz=278,slow=30							
I07A	**Izee**	**24.91**	**101**	P		**P**	**12 50 40.9**	**+2.1**
WDC	**Whiskeytown Da**	**25.57**	**111**	P		**P**	**12 50 44.8**	**+0.2**
WDC				IAmb		IAmb	12 51 03.8	
	comp=Z,9.7nm,1.4s							
BMO	**Blue Mountains**	**25.69**	**98**	P		**P**	**12 50 47.2**	**+1.4**
BMO				IAmb		IAmb	12 50 47.8	
	comp=Z,3.7nm,0.9s							
JTMT	**Jette**	**25.80**	**90**	P		**P**	**12 50 47.6**	**+0.8**
MOD	**Modoc Plateau**	**25.88**	**106**	P		**P**	**12 50 44.9**	**-2.7**
MOD				IAmb		IAmb	12 50 58.2	
	comp=Z,3.9nm,0.8s							
J08A	**Circle Bar Ran**	**25.95**	**102**	P		**P**	**12 50 45.1**	**-3.1**
J08A				IAmb		IAmb	12 50 50.2	
	comp=Z,6.6nm,1.4s							
PETK	**Petropavlovsk-**	**27.72**	**286**	P		**P**	**12 51 02.6**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=93,slow=14,SNR=1.4							
NVAR	**Mina Array Bea**	**29.40**	**109**	P		**P**	**12 51 20.0**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=302,slow=10,SNR=2.5							
NVAR				PcP		**PcP**	**12 54 23.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=291,slow=2.5,SNR=2.7							
PDAR	**Pinedale Array**	**31.40**	**94**	P		**P**	**12 51 37.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=1.6							
ULM	**Lac du Bonnet**	**34.95**	**73**	P		**P**	**12 52 07.0**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=295,slow=8.1,SNR=3.0							
ULM	**Lac du Bonnet**	**34.95**	**73**	IAmb		IAmb	12 52 09.0	
	comp=Z,4.7nm,1.0s							
EYMN	**Ely**	**38.62**	**74**	P		**P**	**12 52 39.4**	**+0.6**
P38A	**Dawn**	**42.65**	**85**	P		**P**	**12 53 11.4**	**-0.6**
P38A				IAmb		IAmb	12 53 12.7	
	comp=Z,5.8nm,0.8s							
WMOK	**Wichita Mounta**	**43.01**	**94**	P		**P**	**12 53 15.8**	**+0.7**
WMOK				IAmb		IAmb	12 53 16.2	
	comp=Z,2.4nm,0.8s							
P40A	**Paris**	**43.56**	**84**	P		**P**	**12 53 18.5**	**-0.9**
P40A				IAmb		IAmb	12 53 19.9	
	comp=Z,5.7nm,0.7s							
TX31	**Lajitas Ar. Si**	**44.24**	**104**	P		**P**	**12 53 25.1**	**0.0**
TX31				IAmb		IAmb	12 53 26.8	
	comp=Z,6.5nm,1.1s							
TX32	**Lajitas Array**	**44.24**	**104**	P		**P**	**12 53 25.4**	**+0.3**
TXAR	**Lajitas Array**	**44.24**	**104**	P		**P**	**12 53 25.9**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=307,slow=5.3,SNR=10							
TXAR				PcP		**PP**	**12 55 08.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=323,slow=1.4,SNR=4.5							
MGMO	**Mountain Grove**	**45.06**	**87**	P		**P**	**12 53 32.5**	**+1.1**
JCT	**Junction City**	**45.55**	**100**	P		**P**	**12 53 35.5**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**45.74**	**235**	T		T	13 43 08.4	
	baz=29,slow=76,SNR=13							
H11N3	**WAKE ISLAND Hy**	**45.75**	**235**	T		T	13 43 08.6	
	baz=29,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**45.76**	**235**	T		T	13 43 05.5	
	baz=29,slow=76,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**46.89**	**235**	T		T	13 44 35.6	
	baz=28,slow=76,SNR=21							
H11S2	**WAKE ISLAND Hy**	**46.90**	**235**	T		T	13 44 37.3	
	baz=28,slow=76,SNR=21							
H11S3	**WAKE ISLAND Hy**	**46.91**	**235**	T		T	13 44 40.7	
	baz=28,slow=76,SNR=8.8							
MJAR	**Matsushiro Arr**	**48.45**	**277**	LR		LR	13 17 38.4	
	comp=Z,7.1nm,18.9s,baz=120,slow=40							
HHC	**Hu-ho-hao-te**	**59.84**	**299**	*eP*		**P**	**12 55 21.3**	**+0.3**
HHC				pmax		pmax		
	comp=Z,16nm,0.9s							
HHC				pmax		pmax		
	comp=Z,56nm,6.1s							
ZALV	**Zalesovo Beam**	**60.95**	**324**	P		**P**	**12 55 28.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=46,slow=4.3,SNR=4.6							
NOA	**NORSAR Array B**	**63.72**	**8**	P		**P**	**12 55 46.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=348,slow=6.5,SNR=3.6							
FINES	**FINESS Array B**	**63.87**	**360**	P		**P**	**12 55 46.3**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=332,slow=2.4,SNR=2.3							
ARU	**Arti**	**65.69**	**341**	P		**P**	**12 55 58.4**	**-1.1**
	comp=Z,2.0nm,0.2s,baz=25,slow=8.6,SNR=3.1							
ARU	**Arti**	**65.69**	**341**	IAmb		IAmb	12 56 06.7	
	comp=Z,9.7nm,1.4s							
BVAR	**Borovoye Array**	**66.11**	**332**	P		**P**	**12 56 00.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=316,slow=6.2,SNR=4.6							
WMQ	**Urumqi**	**68.32**	**316**	*eP*		**P**	**12 56 17.0**	**+0.5**
AKTO	**Aktyubinsk**	**71.46**	**339**	P		**P**	**12 56 34.9**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=8.2,slow=8.8,SNR=4.5							
AKASG	**Malin Array Be**	**74.59**	**358**	P		**P**	**12 56 53.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=6.3,slow=5.6,SNR=2.0							
DAVOX	**Davos/Dischmat**	**77.70**	**11**	LR		LR	13 35 30.5	
	comp=Z,44nm,18.3s,baz=243,slow=39							
KBZ	**Khabaz**	**80.51**	**347**	P		**P**	**12 57 27.4**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=340,slow=3.9,SNR=4.1							
ESDC	**Sonseca Array**	**82.34**	**23**	P		**P**	**12 57 37.1**	**0.0**
	comp=Z,1.7nm,0.9s,baz=339,slow=5.5,SNR=7.5							
CMAR	**Chiang Mai Arr**	**84.20**	**294**	P		**P**	**12 57 45.8**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=15,slow=5.2,SNR=8.8							
BRTR	**Keskin Array B**	**85.36**	**354**	P		**P**	**12 57 53.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=0.2,slow=4.2,SNR=2.8							

*IDC **09** 13:09:45.3± 1.7, 20.2 8S× 70.98W, h0km, mb3.9/2, mb1 3.8/5, mb1mx3.6/31, mbtmp3.7/5, ML3.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/30, Error ellipse: s-maj=30.0km s-min=17.0km az=75.0*

*NEIC **09** 13:09:47.7± 2.0, 20.27S± 0.03× 70.85W± 0.04, h10km± 1km, mb4.5/6, ML3.8(GUC), Error ellipse: s-maj=6.4km s-min=5.5km az=118.0*

*GUC **09** 13:09:49.0± 0.7, 20.20S× 70.94W, h18km± 6km, ML3.7*

ISC 09 13:09:45.8±1.6, 20°20S±0.03× 70°89W±0.05, h2km±10km, n49, σ0.995/60, mb4.5/4, 5C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TA02	**Huaiquique**	**0.71**	**96**	⇓*iP*		**Pn**	**13 10 01.9**	**-1.0**
TA02				*i* S		**Sb**	**13 10 12.0**	**+0.7**
TA02	**Huaiquique**	**0.71**	**96**			**Pn**	**13 10 01.8**	**-1.2**
TA02						**Sb**	**13 10 11.5**	**+0.2**
TA01	**Diego Aracena**	**0.76**	**119**	⇓*iP*		**Pn**	**13 10 02.6**	**-1.0**
TA01				*i* S		**Sb**	**13 10 13.1**	**+0.6**
TA01				IAML			13 10 14.8	
	comp=N,6μm,0.4s							
TA01	**Diego Aracena**	**0.76**	**119**			**Pn**	**13 10 02.5**	**-1.0**
PATCX	**Punta Patache**	**0.93**	**132**	⇓*iP*		**Pn**	**13 10 05.3**	**-0.6**
PATCX				*i* S		**Sb**	**13 10 18.2**	**+0.8**
PATCX	**Punta Patache**	**0.93**	**132**			**Pn**	**13 10 05.3**	**-0.6**
PSGC	**Pisagua**	**0.94**	**50**	⇓*iP*		**Pn**	**13 10 05.6**	**-0.5**
PSGC				*eS*		**Sn**	**13 10 18.1**	**-2.1**
PSGCX	**Pisagua**	**0.94**	**50**			**Pn**	**13 10 05.3**	**-0.8**
PSGCX						**Sb**	**13 10 17.5**	**-0.3**
HMBC	**Humberstone**	**0.94**	**95**	⇓*iP*		**Pn**	**13 10 06.5**	**+0.3**
HMBC				*i* S		**Sn**	**13 10 18.8**	**-1.5**
HMBC				IAML			13 10 27.5	
	comp=E,3μm,0.4s							
PB11	**IPOC Station P**	**1.24**	**70**	⇓*iP*		**Pg**	**13 10 10.4**	**+0.9**
PB11				*i* S		**Sn**	**13 10 27.2**	**-0.5**
PB11				IAML			13 10 32.3	
	comp=N,2μm,0.6s							
PB11	**IPOC Station P**	**1.24**	**70**			**Pg**	**13 10 10.3**	**+0.7**
PB01	**IPOC Station P**	**1.56**	**123**	⇑*iP*		**Pb**	**13 10 15.4**	**0.0**
PB01				*i* S		**Sb**	**13 10 35.5**	**-0.1**
PB01				IAML			13 10 41.8	
	comp=N,3μm,0.4s							
PB01	**IPOC Station P**	**1.56**	**123**			**Pb**	**13 10 15.2**	**-0.2**
MNMC	**Minye Minye**	**1.62**	**49**	⇑*iP*		**Pg**	**13 10 16.5**	**-0.3**
MNMC				*i* S		**Sg**	**13 10 38.4**	**+0.6**
MNMC	**Minye Minye**	**1.62**	**49**			**Pg**	**13 10 16.4**	**-0.3**
PB08	**IPOC Station P**	**1.63**	**88**	⇑*iP*		**Pb**	**13 10 16.8**	**-0.1**
PB08				*i* S		**Sg**	**13 10 38.8**	**+0.5**
PB08				IAML			13 10 41.8	
	comp=N,803nm,0.7s							
PB08	**IPOC Station P**	**1.63**	**88**			**Pb**	**13 10 16.7**	**-0.1**
PB07	**IPOC Station P**	**1.79**	**149**	⇑*iP*		**Pn**	**13 10 18.0**	**+0.1**
PB07				*i* S		**Sb**	**13 10 41.7**	**-0.6**
PB07				IAML			13 10 51.1	
	comp=E,1μm,0.3s							
PB07	**IPOC Station P**	**1.79**	**149**			**Pn**	**13 10 17.8**	**-0.1**
AP01	**Chacalluta**	**1.89**	**16**	Pn		**Pg**	**13 10 21.6**	**-0.4**
PB09	**IPOC Station P**	**2.21**	**136**	⇑*iP*		**Pb**	**13 10 25.4**	**-1.3**
PB09				*i* S		**Sb**	**13 10 54.3**	**-0.3**
PB09				IAML			13 11 05.2	
	comp=E,1μm,0.5s							
PB09	**IPOC Station P**	**2.21**	**136**			**Pb**	**13 10 25.0**	**-1.6**
PB04	**IPOC Station P**	**2.23**	**162**			**Pn**	**13 10 23.6**	**-0.4**
PB16	**IPOC Station P**	**2.27**	**35**			**Pb**	**13 10 27.2**	**-0.7**
PB06	**IPOC Station P**	**2.78**	**154**			**Pn**	**13 10 31.2**	**-0.3**
LVC	**Limon Verde**	**3.02**	**143**	Pn		**Pn**	**13 10 36.0**	**+1.0**
	comp=E,4.8nm,0.3s,baz=328,slow=11,SNR=29							
LVC				Sn		**Sn**	**13 11 12.2**	**+0.1**
	comp=E,13nm,0.3s,baz=230,slow=2.9,SNR=6.2							
LVC				Lg		Lg	13 11 21.7	
	comp=E,34nm,0.3s,baz=201,slow=2.4,SNR=7.1							
LVC	**Limon Verde**	**3.02**	**143**			**Pn**	**13 10 36.5**	**+1.5**
PB15	**IPOC Station P**	**3.27**	**156**	*eP*		**Pn**	**13 10 38.1**	**-0.2**
PB15	**IPOC Station P**	**3.27**	**156**			**Pn**	**13 10 37.9**	**-0.5**
PB10	**IPOC Station P**	**3.31**	**175**	Pn		**Pn**	**13 10 37.6**	**-1.1**
PB14	**IPOC Station P**	**4.43**	**174**			**Pn**	**13 10 54.2**	**-0.2**
LPAZ	**La Paz**	**4.69**	**34**	Pn		**Pn**	**13 11 01.3**	**+3.1**
	comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=1.8							
LPAZ				Pg		**Pg**	**13 11 14.9**	**-0.8**
	comp=E,1.9nm,0.3s,baz=223,slow=13,SNR=13							
LPAZ				Lg		Lg	13 12 18.1	
	comp=E,0.2nm,0.3s,baz=184,slow=9.6,SNR=1.2							
LPAZ	**La Paz**	**4.69**	**34**			**Pn**	**13 10 60.0**	**+1.7**
GO02	**Mina Guanaco**	**5.08**	**167**			**Pn**	**13 11 02.8**	**-0.5**
AC01	**Pan de Azucar**	**5.93**	**177**	Pn		**Pn**	**13 11 14.4**	**-0.3**
AC02	**Maricunga**	**6.80**	**167**	Pn		**Pn**	**13 11 26.5**	**-0.6**
SIV	**San Ignacio**	**10.23**	**67**	Pn		**Pn**	**13 12 13.1**	**-0.7**
	comp=E,0.5nm,0.3s,baz=283,slow=8.4,SNR=7.6							
SIV				LR		LR	13 17 03.1	
	comp=E,119nm,19.3s,baz=285,slow=42							
H03N1	**Juan Fernandez**	**15.00**	**207**	T		T	13 28 44.3	
	baz=33,slow=72,SNR=63							
H03N2	**Juan Fernandez**	**15.01**	**207**	T		T	13 28 38.4	
	baz=33,slow=72,SNR=68							
H03N3	**Juan Fernandez**	**15.02**	**207**	T		T	13 29 02.2	
	baz=33,slow=72,SNR=77							
PTGA	**Pitinga**	**22.10**	**30**	P		**P**	**13 14 43.6**	**+0.9**
LL07	**Hotel Espejo d**	**22.67**	**185**	P		**P**	**13 14 49.4**	**+1.0**
GCMT	**Greycliff**	**74.51**	**333**	P		**P**	**13 21 27.9**	**+1.9**
RUBR	**Rubicon Trail**	**74.82**	**322**	P		**P**	**13 21 29.1**	**+1.0**
RUBR				IAmb		IAmb	13 21 31.6	
	comp=Z,11nm,1.4s							
TOA0	**Torodi Ar. Sit**	**78.68**	**71**	P		**P**	**13 21 48.9**	**-1.2**
TOA0				IAmb		IAmb	13 22 08.4	
	comp=Z,11nm,1.5s							
TORD	**Torodi Ar. Bea**	**78.68**	**71**	P		**P**	**13 21 49.1**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=251,slow=4.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**78.68**	**71**	IAmb		IAmb	13 21 49.5	
	comp=Z,3.9nm,1.1s							
YKA	**Yellowknife Ar**	**89

TAOE **Nuku Hiva Isla** 35.62 305 *e*LR LR 13 33 57.0
comp=Z,5µm,26.1s,baz=152
ZON **Zonda** 35.85 100 P **P** **13 24 21.3 -0.2**
ZON pmax pmax
comp=Z,43nm,1.3s
ZON **Zonda** 35.85 100 P **P** **13 24 21.3 -0.2**
ZON IAmb IAmb 13 24 49.0
comp=Z,43nm,1.3s
MEH **Mehetia** 36.23 284 *e*T T 14 02 25.4
comp=Z,25nm,0.2s
PB14 **IPOC Station P** 36.43 88 P **P** **13 24 27.2 +0.3**
AC02 **Maricunga** 36.75 93 P **P** **13 24 28.4 -1.3**
AC02 IAmb IAmb 13 24 36.8
comp=Z,36nm,1.3s
GO02 **Mina Guanaco** 36.92 90 P **P** **13 24 30.1 -0.9**
GO02 IAmb IAmb 13 24 38.6
comp=Z,72nm,1.4s
PAYG **Puerto Ayora** 37.12 36 P **P** **13 24 31.4 -1.0**
NNA **Nana** 37.40 65 P **P** **13 24 35.1 +0.2**
NNA pmax pmax
comp=Z,63nm,1.4s
NNA **Nana** 37.40 65 P **P** **13 24 35.1 +0.2**
NNA IAmb IAmb 13 24 42.7
comp=Z,63nm,1.4s
TIAR **Tiarei** 37.44 284 *e*T T 14 03 56.0
comp=Z,1.7nm,0.2s
PB04 **IPOC Station P** 37.53 85 P **P** **13 24 35.3 -0.8**
PB04 IAmb IAmb 13 24 43.0
comp=Z,50nm,1.3s
PPT2 **Papeete2** 37.62 284 *e*S **S** **13 30 23.1 -3.4**
comp=Z,362nm,25.2s
PPT2 *e*LQ LQ 13 33 02.3
comp=Z,823nm,23.5s
PPT2 *e*LR LR 13 34 35.0
comp=Z,3µm,25.0s,baz=121
PPT **Papeete** 37.63 284 LR LR 13 35 54.1
comp=Z,2µm,18.8s,baz=110,slow=30
PB15 **IPOC Station P** 37.75 87 P **P** **13 24 37.7 -0.3**
PB15 IAmb IAmb 13 24 45.6
comp=Z,30nm,1.0s
PB06 **IPOC Station P** 37.87 86 P **P** **13 24 39.6 +0.6**
PB07 **IPOC Station P** 38.01 84 P **P** **13 24 38.7 -1.5**
PB07 IAmb IAmb 13 24 47.5
comp=Z,48nm,1.4s
PATCX **Punta Patache** 38.17 83 P **P** **13 24 39.8 -1.6**
LVC **Limon Verde** 38.47 86 P **P** **13 24 46.4 +2.1**
comp=Z,13nm,1.0s,baz=222,slow=7.7,SNR=7.8
LVC LR LR 13 36 19.5
comp=Z,1µm,21.1s,baz=249,slow=30
LVC **Limon Verde** 38.47 86 P **P** **13 24 44.0 -0.2**
LVC pmax pmax
comp=Z,54nm,1.4s
LVC **Limon Verde** 38.47 86 P **P** **13 24 44.0 -0.2**
LVC IAmb IAmb 13 24 52.3
comp=Z,54nm,1.4s
PB09 **IPOC Station P** 38.52 85 P **P** **13 24 44.9 +0.4**
PB09 IAmb IAmb 13 25 12.4
comp=Z,66nm,1.2s
PB01 **IPOC Station P** 38.63 84 P **P** **13 24 44.9 -0.4**
PSGCX **Pisagua** 38.75 81 P **P** **13 24 47.0 +0.7**
PSGCX IAmb IAmb 13 24 49.5
comp=Z,55nm,1.5s
PB11 **IPOC Station P** 39.06 82 P **P** **13 24 49.2 +0.2**
PB08 **IPOC Station P** 39.31 83 P **P** **13 24 51.4 +0.1**
MNMC **Minye Minye** 39.40 81 P **P** **13 24 52.4 +0.4**
ATAH **Atahualpa** 39.42 58 P **P** **13 24 54.4 +2.1**
comp=Z,7.8nm,0.8s,baz=208,slow=3.6,SNR=5.0
ATAH LR LR 13 36 53.0
comp=Z,1µm,21.6s,baz=226,slow=30
PB16 **IPOC Station P** 39.85 80 P **P** **13 24 54.7 -1.4**
LPAZ **La Paz** 42.00 78 P **P** **13 25 15.6 +1.7**
comp=Z,6.8nm,1.0s,baz=230,slow=5.4,SNR=14
LPAZ LR LR 13 39 21.8
comp=Z,461nm,18.4s,baz=242,slow=32
LPAZ **La Paz** 42.00 78 P **P** **13 25 12.4 -1.4**
LPAZ pmax pmax
comp=Z,13nm,1.1s
LPAZ **La Paz** 42.00 78 P **P** **13 25 12.4 -1.4**
LPAZ **La Paz** 42.00 78 *e*P **P** **13 25 14.0 +0.1**
EFI **East Falkland** 42.83 133 *i* P **P** **13 25 18.4 -1.1**
EFI pmax pmax
comp=Z,52nm,1.2s
PMSA **Palmer Station** 43.28 153 LR LR 13 38 50.9
comp=Z,1µm,18.5s,baz=281,slow=30
RAR **Rarotonga** 44.50 272 LR LR 13 39 18.7
comp=Z,1µm,18.3s,baz=116,slow=30
OTAV **Otavalo** 44.72 50 P **P** **13 25 35.6 -0.1**
OTAV pmax pmax
comp=Z,20nm,1.1s
OTAV **Otavalo** 44.72 50 P **P** **13 25 35.6 -0.1**
GCUF **Volcan Galeras** 46.19 50 *e*P **P** **13 25 51.8 +4.5**
ITQB **Itaqui** 46.36 102 P **P** **13 25 47.1 -0.8**
BBAC **Balboa, Cauca** 46.85 50 *e*P **P** **13 25 53.3 +1.1**
CPUP **Villa Florida** 46.87 97 P **P** **13 25 51.6 -0.4**
comp=Z,3.0nm,0.9s,baz=266,slow=8.6,SNR=4.9
CPUP LR LR 13 41 57.7
comp=Z,1µm,20.9s,baz=254,slow=32
CPUP **Villa Florida** 46.87 97 P **P** **13 25 51.3 -0.7**
CPUP pmax pmax
comp=Z,17nm,1.5s
CPUP **Villa Florida** 46.87 97 P **P** **13 25 51.3 -0.7**
PTLC **Puerto Leguiza** 47.11 54 *e*P **P** **13 25 53.9 -0.1**
SOTA **Rioblanco** 47.35 50 *e*P **P** **13 25 54.8 -1.6**
FLOC **Florencia** 47.57 52 *e*P **P** **13 25 59.3 +1.7**
POPC **Popayan, Colom** 47.62 50 *e*P **P** **13 25 55.8 -2.4**
TBTG **Tabatinga, AM** 47.63 63 *e*P **P** **13 25 56.3 -1.7**
GARC **Garzon, Huila** 48.12 51 *e*P **P** **13 26 05.9 +3.8**
PLTB **Pedras Altas** 48.22 106 P **P** **13 26 02.1 -0.4**
PLTB IAmb IAmb 13 26 30.8
comp=Z,24nm,1.1s
YOTC **Yotoco, Valle** 48.92 49 *e*P **P** **13 26 04.9 -3.3**
MACC **Macarena, Meta** 49.20 53 *e*P P 13 26 15.0 +4.9
JTS **Las Juntas de** 49.21 35 *i* P **P** **13 26 13.1 +3.0**
JTS pmax pmax
comp=Z,16nm,1.2s
ORTC **Ortega, Tolima** 49.58 50 *e*P **P** **13 26 14.1 +1.0**
PRAC **Prado** 49.66 51 *e*P **P** **13 26 12.7 -1.1**
PLMC **San Jos del P** 49.67 48 *e*P **P** **13 26 13.6 -0.2**
ANIL **Santa Ana** 49.91 50 *e*P **P** **13 26 17.9 +2.0**
TOLC **Tolima** 50.04 50 *e*P **P** **13 26 14.4 -2.5**
RRFE **El Recreo** 50.26 49 *e*P **P** **13 26 21.1 +2.2**
GUY2C **Guyana, Caldas** 50.50 49 *e*P **P** **13 26 23.4 +2.9**
AQDB **Aquidauana** 50.53 91 P **P** **13 26 20.1 -0.1**
AQDB IAmb IAmb 13 26 21.3
comp=Z,18nm,1.0s
CBOC **Ciudad Bolivar** 50.58 48 *e*P **P** **13 26 22.2 +1.4**
ROSC **El Rosal** 50.88 50 P **P** **13 26 25.9 +2.6**
comp=Z,13nm,0.5s,baz=64,slow=0.8,SNR=9.5
ROSC LR LR 13 44 38.9
comp=Z,988nm,18.0s,baz=227,slow=32
MTO3 **Montecristo** 50.92 28 P **P** **13 26 23.0 -0.3**
TLIG **Tlapa** 51.05 15 P **P** **13 26 24.7 +0.6**
TLIG IAmb IAmb 13 26 39.9
comp=Z,39nm,1.2s
NORC **Norcasia** 51.07 49 *e*P **P** **13 26 23.9 -0.5**
CHIC **Chingaza** 51.11 51 *e*P **P** **13 26 27.3 +2.2**
HELC **Santa Helena** 51.13 48 *e*P **P** **13 26 25.8 +0.6**
SPBC **San Pablo de B** 51.65 50 *e*P **P** **13 26 31.4 +2.7**
RUSC **La Rusia** 52.48 51 *e*P P 13 26 40.8 +5.4
ZARC **Zaragoza, Cauc** 52.56 48 *e*P **P** **13 26 34.4 -1.0**
BARC **Barichara** 52.94 50 *e*P **P** **13 26 41.8 +3.3**
MOTC **Monteria, Cord** 53.06 46 *e*P **P** **13 26 43.2 +4.1**
SMLC **San Martn de** 54.06 47 *e*P **P** **13 26 48.3 +1.9**
SJCC **San Jacinto, C** 54.23 45 P **P** **13 26 47.6 -0.1**
SJCC **San Jacinto, C** 54.23 45 *e*P **P** **13 26 49.3 +1.5**
SBA **Scott Base** 56.99 194 P **P** **13 27 05.2 -1.6**
SBA pmax pmax
comp=Z,35nm,1.3s
SBA **Scott Base** 56.99 194 P **P** **13 27 05.2 -1.6**
SBA IAmb IAmb 13 27 19.7
comp=Z,35nm,1.3s
PTGA **Pitinga** 57.47 67 P **P** **13 27 10.5 -0.5**
comp=Z,7.1nm,0.8s,baz=243,slow=6.6,SNR=8.2
PTGA **Pitinga** 57.47 67 P **P** **13 27 08.5 -2.5**
PTGA IAmb IAmb 13 27 18.4
comp=Z,30nm,1.4s
URZ **Urewera** 57.55 242 LR LR 13 45 51.0
comp=Z,1µm,20.9s,baz=211,slow=30
QSPA **South Pole Qui** 57.86 180 P **P** **13 27 13.6 +0.4**
comp=Z,5.6nm,1.1s,baz=106,slow=3.1,SNR=7.5
AFI **Afiamalu** 58.00 273 LR LR 13 45 15.6
comp=Z,722nm,19.7s,baz=112,slow=29
VNDA **Vanda** 58.06 195 P **P** **13 27 15.3 +1.1**
comp=Z,1.1nm,0.8s,baz=74,slow=5.3,SNR=7.0
VNDA LR LR 13 47 14.2
comp=Z,632nm,18.2s,baz=93,slow=31
VNDA **Vanda** 58.06 195 P **P** **13 27 14.1 -0.2**
VNDA pmax pmax
comp=Z,25nm,1.5s
VNDA **Vanda** 58.06 195 P **P** **13 27 14.1 -0.2**
VNDA IAmb IAmb 13 27 22.0
comp=Z,25nm,1.4s
BHW **Baring Head** 58.26 238 P **P** **13 27 14.8 -1.5**
CMWZ **Cape Campbell** 58.63 238 P **P** **13 27 18.9 0.0**
BDFB **Brasilia** 59.23 90 P **P** **13 27 24.0 +0.5**
comp=Z,9.5nm,0.9s,baz=230,slow=7.7,SNR=9.6
BDFB LR LR 13 50 38.7
comp=Z,748nm,18.3s,baz=251,slow=34
BDFB **Brasilia** 59.23 90 P **P** **13 27 22.9 -0.6**
BDFB pmax pmax
comp=Z,21nm,1.1s
BDFB **Brasilia** 59.23 90 P **P** **13 27 22.9 -0.6**
BDFB IAmb IAmb 13 27 25.5
comp=Z,21nm,1.1s
TX31 **Lajitas Ar. Si** 61.74 7 P **P** **13 27 39.9 -0.2**
TX32 **Lajitas Array** 61.74 7 P **P** **13 27 39.9 -0.2**
TX32 IAmb IAmb 13 27 57.5
comp=Z,14nm,1.2s
TXAR **Lajitas Array** 61.74 7 P **P** **13 27 41.5 +1.4**
comp=Z,2.5nm,0.9s,baz=187,slow=8.8,SNR=14
TXAR LR LR 13 50 13.5
comp=Z,367nm,19.4s,baz=0.0,slow=32
TXAR **Lajitas Array** 61.74 7 P **P** **13 27 39.7 -0.5**
SFX **San Felipe** 63.13 356 P **P** **13 27 48.5 -0.7**
SPX **San Pedro Mart** 63.16 356 P **P** **13 27 48.5 -1.4**
SPX IAmb IAmb 13 27 54.9
comp=Z,22nm,1.2s
VNA3 **Neumayer Olymp** 63.30 159 P **P** **13 27 48.6 -1.5**
JCT **Junction City** 63.38 11 P 13 27 53.6
baz=191
JCT **Junction City** 63.38 11 P **P** **13 27 50.6 -0.5**
JCT pmax pmax
comp=Z,24nm,1.1s
JCT **Junction City** 63.38 11 P **P** **13 27 50.5 -0.5**
319A **Douglas** 63.39 2 P **P** **13 27 51.7 +0.5**
HKT **Hockley** 63.62 15 *i* P **P** **13 27 54.2 +1.7**
HKT pmax pmax
comp=Z,29nm,1.5s
HKT **Hockley** 63.62 15 P **P** **13 27 53.2 +0.7**
HKT IAmb IAmb 13 28 14.3
comp=Z,19nm,1.2s
MNTX **Cornudas Mount** 63.92 5 P 13 27 56.7
baz=185
MNTX **Cornudas Mount** 63.92 5 P **P** **13 27 54.3 -0.2**
MNTX IAmb IAmb 13 28 01.8
comp=Z,12nm,1.0s
VNA1 **Neumayer--Stat** 63.95 159 P **P** **13 27 53.7 -0.6**
214A **Organ Pipe Nat** 63.96 358 P 13 27 57.9
baz=178
TUC **Tucson** 64.30 0 P 13 27 59.1
baz=180
TUC **Tucson** 64.30 0 P **P** **13 27 56.5 -0.6**
TUC pmax pmax
comp=Z,12nm,1.0s
TUC **Tucson** 64.30 0 P **P** **13 27 56.5 -0.6**
TUC IAmb IAmb 13 28 05.2
comp=Z,12nm,1.0s
CBX **Cerro Bola** 64.51 355 P **P** **13 27 58.9 +0.3**
121A **Cookes Peak, D** 64.59 3 P 13 28 00.8
baz=183
121A **Cookes Peak, D** 64.59 3 P **P** **13 27 59.9 +0.7**
121A IAmb IAmb 13 28 07.2
comp=Z,15nm,1.1s
MSVF **Nonsavu** 64.79 264 LR LR 13 49 19.4
comp=Z,332nm,21.4s,baz=143,slow=30
113A **Mohawk Valley,** 64.80 358 P **P** **13 28 01.2 +0.9**
113A IAmb IAmb 13 28 08.5
comp=Z,25nm,1.2s
BAR **Barrett** 64.88 355 P **P** **13 28 01.1 +0.3**
TOSP **Speyside** 64.93 57 P **P** **13 28 01.5 0.0**
MONP2 **Monument Peak** 65.07 355 P 13 28 05.0
baz=175,SNR=7.5
SWSC **Sam W. Stewart** 65.08 356 P 13 28 05.5
baz=176
SNAA **Sanae** 65.10 161 P **P** **13 28 00.7 -1.3**
SNAA **Sanae** 65.10 161 P **P** **13 28 00.6 -1.4**
SNAA pmax pmax
comp=Z,18nm,1.0s
SNAA **Sanae** 65.10 161 P **P** **13 28 00.6 -1.4**
SNAA IAmb IAmb 13 28 08.6
comp=Z,18nm,1.0s
GLA **Glamis** 65.13 357 P 13 28 05.3
baz=176
GLA **Glamis** 65.13 357 P **P** **13 28 02.4 -0.1**
GLA pmax pmax
comp=Z,47nm,1.5s
GLA **Glamis** 65.13 357 P **P** **13 28 02.4 -0.1**
WHTX **Lake Whitney,** 65.27 13 P 13 28 05.4
baz=193
WHTX **Lake Whitney,** 65.27 13 P **P** **13 28 03.1 -0.2**
SCI2 **San Clemente I** 65.34 353 P 13 28 06.7
baz=173
ABTX **Abilene, Hawle** 65.51 11 P 13 28 07.1
baz=191
ABTX **Abilene, Hawle** 65.51 11 P **P** **13 28 06.0 +1.1**
237A **Washetta, Mont** 65.60 14 P **P** **13 28 05.5 0.0**
NATX **Nacogdoches** 65.62 15 P 13 28 08.4
baz=195
CIS **Catalina Islan** 65.75 353 P 13 28 09.5
baz=173
BC3 **Big Chuckawall** 65.76 356 P 13 28 09.1
baz=176,SNR=9.8
TPFO **Pinon Flats** 65.78 355 P 13 28 09.8
baz=175
PFO **Pinyon Flats O** 65.79 355 P 13 28 08.4
baz=175,SNR=5.8
PFO **Pinyon Flats O** 65.79 355 P **P** **13 28 06.9 +0.1**
PFO pmax pmax
comp=Z,23nm,1.3s
PFO **Pinyon Flats O** 65.79 355 P **P** **13 28 06.9 +0.1**
PFO IAmb IAmb 13 28 16.5
comp=Z,22nm,1.3s
MURC **Murrieta** 65.83 354 P 13 28 09.9
baz=174
FMP **Fort Macarthur** 66.04 353 P 13 28 11.0
baz=173
PDPR **Patillas Dam,** 66.10 47 P **P** **13 28 07.4 -1.6**
BELC **Belle Mtn. Jos** 66.14 356 P 13 28 12.8
baz=176,SNR=9.8
IRM **Iron Mountain** 66.25 356 P 13 28 12.6
baz=176
LENM **Lemitar** 66.26 4 P **P** **13 28 10.4 +0.5**
PDMCI **Parker Dam,Lak** 66.34 357 P 13 28 13.2
baz=177
X16A **Lo Mia Camp, P** 66.40 360 P **P** **13 28 11.9 +1.1**
X16A IAmb IAmb 13 28 19.0
comp=Z,15nm,1.1s
DWPF **Disney Wildern** 66.41 29 P 13 28 11.9
baz=207
MSTX **Muleshoe** 66.42 8 P 13 28 13.0
baz=188,SNR=5.5
MSTX **Muleshoe** 66.42 8 P **P** **13 28 11.0 +0.1**
BFSC **Mount Baldy Ra** 66.50 354 P 13 28 13.5
baz=174
X18A **Snowflake** 66.52 1 P **P** **13 28 12.3 +0.7**
MWC **Mount Wilson** 66.53 354 P **P** **13 28 11.2 -0.4**
MWC pmax pmax
comp=Z,29nm,1.4s
MWC **Mount Wilson** 66.53 354 P **P** **13 28 11.2 -0.4**
MWC IAmb IAmb 13 28 21.0
comp=Z,28nm,1.4s
DECC **Green Verdugo** 66.58 353 P 13 28 14.6
baz=173
NEE2 **Needles Airpor** 66.83 357 P 13 28 16.6
baz=177
GMRC **Granite Mounta** 66.90 356 P 13 28 16.2
baz=176,SNR=12
OSI **Osito Audit: C** 66.98 353 P 13 28 17.1
baz=173
HEC **Hector,Ludlow** 66.99 355 P 13 28 18.1
baz=175
ANMO **Albuquerque** 67.07 4 P 13 28 17.0
baz=184
ANMO **Albuquerque** 67.07 4 *i* P **P** **13 28 15.8 +0.7**
ANMO pmax pmax
comp=Z,21nm,2.5s
ANMO **Albuquerque** 67.07 4 P **P** **13 28 15.7 +0.7**
W18A **Petrified Fore** 67.11 1 P 13 28 18.1
baz=181
W18A **Petrified Fore** 67.11 1 P **P** **13 28 15.7 +0.4**
W18A IAmb IAmb 13 28 42.6
comp=Z,14nm,0.9s
W13A **Hualapai Mount** 67.13 358 P **P** **13 28 16.2 +0.7**
553A **Crawfordville** 67.13 25 P **P** **13 28 15.1 -0.2**
BRAL **Brewton** 67.14 22 P 13 28 16.5
baz=202
BRAL **Brewton** 67.14 22 P **P** **13 28 14.9 -0.4**
EDW2 **Edwards Air Fo** 67.17 354 P 13 28 17.4
baz=174,SNR=5.6
PKM **Mcpherson Peak** 67.36 352 P 13 28 18.8
baz=172
GSC **Goldstone, Bar** 67.49 355 P 13 28 19.2
baz=175,SNR=14
GSC **Goldstone, Bar** 67.49 355 P **P** **13 28 18.4 +0.7**
GSC pmax pmax
comp=Z,40nm,1.2s
GSC **Goldstone, Bar** 67.49 355 P **P** **13 28 18.4 +0.7**
WUAZ **Wupatki** 67.49 360 P 13 28 19.7
baz=180
WUAZ **Wupatki** 67.50 360 P **P** **13 28 18.2 +0.5**
WUAZ IAmb IAmb 13 28 35.4
comp=Z,19nm,1.1s
TUQ **Turquoise Moun** 67.56 356 P 13 28 20.3
baz=176,SNR=9.1
WMOK **Wichita Mounta** 67.72 11 P 13 28 21.0
baz=191
WMOK **Wichita Mounta** 67.72 11 P **P** **13 28 18.5 -0.5**
WMOK pmax pmax
comp=Z,4.0nm,1.2s
WMOK **Wichita Mounta** 67.72 11 P **P** **13 28 18.5 -0.5**
LRMC **Laurel Mtn Rad** 67.74 354 P 13 28 21.2
baz=174
SMMC **Simmler** 67.81 352 P 13 28 22.0
baz=172
ISA **Isabella, Lake** 67.99 354 P 13 28 23.2
baz=173,SNR=8.8
ISA **Isabella, Lake** 67.99 354 P **P** **13 28 21.4 +0.6**
ISA pmax pmax
comp=Z,24nm,1.3s
ISA **Isabella, Lake** 67.99 354 P **P** **13 28 21.4 +0.6**
ISA IAmb IAmb 13 28 30.4
comp=Z,24nm,1.3s
SHOC **Shoshone, Teco** 68.05 355 P 13 28 23.6
baz=175,SNR=7.1
250A **Grady** 68.14 23 P **P** **13 28 22.0 +0.3**
VES **Vestal, Richgr** 68.23 353 P 13 28 25.1
baz=173
PAGB **Antelope Grade** 68.25 352 P **P** **13 28 22.7 +0.4**
U15A **North Rim** 68.41 359 P **P** **13 28 24.4 +0.8**
MIAR **Mount Ida** 68.54 15 P 13 28 26.3
baz=196
TIGA **Tifton** 68.56 25 P 13 28 26.1
baz=205
SHPR **Sheep Range** 68.59 356 P **P** **13 28 24.9 +0.3**
FURC **Furnace Creek,** 68.65 355 P 13 28 26.7
baz=175,SNR=10
X40A **Basin Creek Fa** 68.65 16 P 13 28 27.3
baz=196
CWC **Cottonwood Cre** 68.72 354 P 13 28 28.3
baz=174
LRAL **Lakeview Retre** 68.88 22 P 13 28 28.1
baz=202
LRAL **Lakeview Retre** 68.88 22 P **P** **13 28 26.5 +0.2**
LRAL IAmb IAmb 13 28 29.9
comp=Z,15nm,1.2s
KNB **Kanab** 69.01 359 P **P** **13 28 27.1 -0.2**
KNB pmax pmax
comp=Z,31nm,1.4s
KNB **Kanab** 69.01 359 P **P** **13 28 27.1 -0.2**
LCMT **Little Creek M** 69.02 358 P **P** **13 28 27.6 +0.3**
TPNV **Topopah Spring** 69.09 356 P 13 28 29.6
baz=175,SNR=27
TPNV **Topopah Spring** 69.09 356 P **P** **13 28 29.3 +1.6**
TPNV pmax pmax
comp=Z,36nm,1.2s
TPNV **Topopah Spring** 69.09 356 P **P** **13 28 29.3 +1.6**
W39A **Magazine** 69.12 15 P 13 28 29.9
baz=196
GRAC **Grapevine Rang** 69.22 355 P 13 28 31.6
baz=174
MVCO **Mesa Verde** 69.23 2 P 13 28 31.1
baz=182
MVCO **Mesa Verde** 69.23 2 P **P** **13 28 28.9 +0.3**
152A **Waverly Hall** 69.29 24 P **P** **13 28 28.2 -0.6**
152A IAmb IAmb 13 28 36.4
comp=Z,17nm,1.0s
TIN **Tinemaha, Big** 69.35 354 P 13 28 32.1
baz=174
TUL1 **Leonard** 69.39 13 P 13 28 31.5
baz=194
T25A **Trinidad** 69.40 6 P 13 28 32.4
baz=186
T25A **Trinidad** 69.40 6 P **P** **13 28 30.1 +0.4**
T25A IAmb IAmb 13 28 34.3
comp=Z,30nm,1.5s
SAO **San Andreas Ge** 69.42 351 P **P** **13 28 30.2 +0.7**
SAO pmax pmax
comp=Z,27nm,1.4s
SAO **San Andreas Ge** 69.42 351 P **P** **13 28 30.2 +0.7**
SAO IAmb IAmb 13 28 38.9
comp=Z,27nm,1.4s
PKCU **Pink Cliffs** 69.43 359 P **P** **13 28 30.3 +0.3**
W41B **Gary Mavity, V** 69.45 16 P 13 28 31.8
baz=197
PRN **Pahroc Range** 69.48 357 P **P** **13 28 31.1 +1.0**
PRN IAmb IAmb 13 28 44.5
comp=Z,23nm,1.2s
WHAR **Wooly Hollow** 69.55 16 P **P** **13 28 31.2 +0.8**
WHAR IAmb IAmb 13 28 56.6
comp=Z,18nm,1.3s
OXF **Oxford** 69.55 19 P 13 28 32.9
baz=199
CCUT **Cedar City** 69.56 358 P **P** **13 28 31.5 +0.8**
SZCU **Shurtz Canyon** 69.59 358 P **P** **13 28 30.3 -0.6**
Y49A **Blount Mountai** 69.83 22 P **P** **13 28 32.3 +0.1**
S22A **4UR Ranch, Cre** 69.83 4 P 13 28 34.6
baz=184
SDCO **Great Sand Dun** 69.92 5 P 13 28 35.1
baz=185
SDCO **Great Sand Dun** 69.92 5 P **P** **13 28 33.9 +0.9**
SDCO IAmb IAmb 13 28 42.1
comp=Z,15nm,1.1s
MLAC **Mammoth, Mammo** 69.98 353 P 13 28 35.9
baz=173
MDPB **Devils Postpil** 70.00 353 P **P** **13 28 33.8 +0.4**
MTPU **Mount Pierson** 70.02 359 P **P** **13 28 34.0 +0.3**
PV05 **Paradox Valley** 70.08 2 P **P** **13 28 35.1 +1.2**
PV05 IAmb IAmb 13 28 37.7
comp=Z,16nm,1.3s
HHAR **Hobbs** 70.13 15 P **P** **13 28 34.1 +0.1**
PV01 **Paradox Valley** 70.15 2 P **P** **13 28 34.1 -0.2**
PV01 IAmb IAmb 13 28 38.5
comp=Z,16nm,1.3s
KAN13 **South Haven SW** 70.16 12 P **P** **13 28 34.8 +0.7**
KAN13 IAmb IAmb 13 28 44.0
comp=Z,23nm,1.1s
FCAR **Ozark Folk Cen** 70.16 16 P **P** **13 28 35.2 +1.1**
PV13 **Radium Mtn., P** 70.17 2 P **P** **13 28 34.7 +0.3**
PV02 **Paradox Valley** 70.22 2 P **P** **13 28 35.5 +0.8**
PV02 IAmb IAmb 13 28 54.1
comp=Z,15nm,1.1s
PV18 **Skein Mesa, Pa** 70.25 2 P **P** **13 28 35.7 +0.8**
PV18 IAmb IAmb 13 28 43.7
comp=Z,16nm,1.2s
PV03 **Paradox Valley** 70.26 2 P **P** **13 28 35.7 +0.7**
PV03 IAmb IAmb 13 28 55.5
comp=Z,15nm,1.2s
TPH **Tonopah** 70.28 355 P **P** **13 28 36.1 +1.0**
TPH pmax pmax
comp=Z,232nm,1.5s
TPH **Tonopah** 70.28 355 P **P** **13 28 36.0 +1.0**
PV17 **East Wray Mesa** 70.28 2 P **P** **13 28 35.9 +0.7**
PV17 IAmb IAmb 13 28 43.8
comp=Z,22nm,1.2s
PV11 **David Mesa, Pa** 70.30 2 P **P** **13 28 36.0 +0.8**
PV11 IAmb IAmb 13 28 44.8
comp=Z,19nm,1.1s
PV19 **Morning Glory** 70.31 2 P **P** **13 28 35.8 +0.5**
PV19 IAmb IAmb 13 28 52.1
comp=Z,15nm,1.2s
PV16 **Nyswonger Mesa** 70.31 2 P **P** **13 28 36.1 +0.8**
PV16 IAmb IAmb 13 28 52.1
comp=Z,12nm,0.9s
PV12 **Saucer Basin,** 70.32 2 P **P** **13 28 35.9 +0.5**
PV12 IAmb IAmb 13 28 42.8
comp=Z,22nm,0.9s

PV20 West Nyswonger 70.34 2 P P 13 28 35.9 +0.4
PV15 Paradox Valley 70.36 2 P P 13 28 36.2 +0.5
PLAL Pickwick Lake 70.37 20 P P 13 28 35.8 +0.3
PV14 Lion Creek, Pa 70.37 2 P P 13 28 36.5 +0.8
PV14 IAmb IAmb 13 28 43.2
comp=Z,21nm,1.0s
GOGA Godfrey 70.39 24 P 13 28 37.9
baz=204
GOGA Godfrey 70.39 24 P P 13 28 36.1 +0.5
GOGA pmax pmax
comp=Z,14nm,1.2s
GOGA Godfrey 70.39 24 P P 13 28 36.1 +0.5
GOGA IAmb IAmb 13 28 39.6
comp=Z,14nm,1.1s
PV04 Paradox Valley 70.40 2 P P 13 28 36.6 +0.9
U40A Yellville 70.44 16 P 13 28 38.4
baz=196
U40A Yellville 70.44 16 P P 13 28 36.0 +0.2
R11A Troy Canyon, C 70.44 356 P 13 28 39.6
baz=176,SNR=24
R11A Troy Canyon, C 70.45 356 P P 13 28 37.4 +1.3
R11A IAmb IAmb 13 28 46.1
comp=Z,28nm,1.5s
PV07 Paradox Valley 70.45 2 P P 13 28 36.6 +0.5
PV07 IAmb IAmb 13 28 43.4
comp=Z,12nm,0.9s
CMB Columbia Colle 70.54 352 P P 13 28 36.6 +0.1
CMB pmax pmax
comp=Z,16nm,1.2s
CMB Columbia Colle 70.54 352 P P 13 28 36.6 +0.1
CMB IAmb IAmb 13 28 46.0
comp=Z,16nm,1.1s
PV22 Blue Mesa, Par 70.54 2 P P 13 28 36.6 0.0
PV22 IAmb IAmb 13 28 44.0
comp=Z,15nm,0.9s
PSUT Pine Spring 70.55 358 P P 13 28 37.3 +0.5
PSUT IAmb IAmb 13 28 46.3
comp=Z,22nm,1.2s
LHV Little Huntoon 70.56 354 P P 13 28 37.6 +1.1
LCAR Lake Charles 70.57 17 P P 13 28 35.6 -1.0
TCRU Three Creeks R 70.59 359 P P 13 28 37.7 +0.7
TCRU IAmb IAmb 13 28 42.1
comp=Z,18nm,1.0s
Y52A Lilburn 70.60 24 P P 13 28 37.1 +0.2
Y52A IAmb IAmb 13 28 44.3
comp=Z,17nm,1.0s
NV11 Mina Array Sit 70.71 354 P P 13 28 39.1 +1.4
FPAL Fort Paine 70.71 22 P P 13 28 37.7 +0.1
FPAL IAmb IAmb 13 28 44.4
comp=Z,14nm,1.0s
NVAR Mina Array Bea 70.72 354 P P 13 28 40.1 +2.4
comp=Z,18nm,1.0s,baz=184,slow=7.5,SNR=56
NVAR LR LR 13 53 42.6
comp=Z,345nm,18.1s,baz=178,slow=31
NVAR Mina Array Bea 70.72 354 P P 13 28 39.3 +1.5
Q16A Castle Valley 70.89 360 P P 13 28 39.3 +0.5
WAKR Walker 70.90 353 P P 13 28 40.0 +1.1
WAKR IAmb IAmb 13 28 48.9
comp=Z,31nm,1.5s
RYN Ryan 70.94 354 P P 13 28 40.0 +1.0
RYN IAmb IAmb 13 28 46.3
comp=Z,25nm,1.3s
X51A Calhoun 70.98 23 P P 13 28 39.7 +0.6
X51A IAmb IAmb 13 28 42.9
comp=Z,28nm,1.2s
SPR3 Spring Creek 3 71.03 357 P P 13 28 39.4 -0.4
SRU San Rafael Swe 71.08 0 P P 13 28 39.7 -0.3
SRU pmax pmax
comp=Z,23nm,1.2s
SRU San Rafael Swe 71.08 0 P P 13 28 39.7 -0.3
SRU IAmb IAmb 13 28 43.9
comp=Z,23nm,1.2s
Q24A Divide 71.15 5 P 13 28 43.2
baz=185
SWET Sewanee 71.23 22 P P 13 28 40.3 -0.4
SWET IAmb IAmb 13 28 44.3
comp=Z,22nm,1.1s
SMCO Snowmass 71.25 3 P P 13 28 40.6 -0.6
TMUT Trail Mountain 71.27 360 P P 13 28 39.8 -1.4
TMUT IAmb IAmb 13 28 50.4
comp=Z,22nm,1.2s
KVN Kaiserville 71.32 354 P P 13 28 42.0 +0.6
KVN pmax pmax
comp=Z,46nm,1.2s
KVN Kaiserville 71.32 354 P P 13 28 42.0 +0.6
NHSC New Hope 71.33 27 P 13 28 42.6
baz=207
MGMO Mountain Grove 71.34 16 P P 13 28 41.4 +0.1
MGMO IAmb IAmb 13 29 07.1
comp=Z,21nm,1.3s
YERR Yerington 71.36 353 P P 13 28 41.9 +0.3
YERR IAmb IAmb 13 28 46.2
comp=Z,20nm,1.2s
W50A Signal Mountai 71.41 22 P P 13 28 41.7 -0.1
W50A IAmb IAmb 13 28 55.0
comp=Z,22nm,1.4s
KSCO Kaye Shedlock' 71.42 7 P 13 28 44.4
baz=188
P17A Butcher Ranch, 71.44 0 P P 13 28 42.9 +0.8
V48A Smith Brothers 71.45 21 P P 13 28 42.5 +0.5
V48A IAmb IAmb 13 28 59.5
comp=Z,21nm,1.3s
PNTR Pine Nut 71.50 353 P P 13 28 43.2 +0.7
PNTR IAmb IAmb 13 28 56.4
comp=Z,19nm,1.0s
T42A Van Buren 71.50 17 P P 13 28 42.3 0.0
AFDM Forest Hills D 71.51 352 P P 13 28 42.8 +0.5
AFDM IAmb IAmb 13 28 51.6
comp=Z,21nm,1.2s
WVT Waverly 71.51 20 P 13 28 44.3
baz=200
WVT Waverly 71.51 20 P P 13 28 42.5 +0.2
WVT pmax pmax
comp=Z,13nm,1.3s
WVT Waverly 71.51 20 P P 13 28 42.5 +0.2
RUBR Rubicon Trail 71.52 353 P P 13 28 42.9 +0.3
CBKS Cedar Bluff 71.57 9 P 13 28 45.0
baz=190
CBKS Cedar Bluff 71.57 9 P P 13 28 43.7 +1.0
CBKS pmax pmax
comp=Z,24nm,1.1s
CBKS Cedar Bluff 71.57 9 P P 13 28 43.7 +1.0
CBKS IAmb IAmb 13 28 52.6
comp=Z,24nm,1.1s
S39A Bolivar 71.61 15 P P 13 28 43.1 +0.1
W52A Murphy 71.77 23 P P 13 28 43.8 -0.2
W52A IAmb IAmb 13 28 48.1
comp=Z,23nm,1.2s
HOPS Hopland Field 71.83 350 P P 13 28 45.8 +1.5
NLU North Lily Min 71.93 359 P P 13 28 45.4 +0.4
NLU IAmb IAmb 13 28 49.9
comp=Z,25nm,1.2s
ISCO Idaho Springs 71.95 4 P 13 28 47.6
baz=185
ISCO Idaho Springs 71.95 4 P P 13 28 45.6 +0.3
ISCO pmax pmax
comp=Z,21nm,1.5s
ISCO Idaho Springs 71.95 4 P P 13 28 45.6 +0.3
ISCO IAmb IAmb 13 28 53.3
comp=Z,22nm,1.5s
JSC Jenkinsville 71.97 26 P P 13 28 46.1 +0.9
JSC pmax pmax
comp=Z,20nm,0.9s
JSC Jenkinsville 71.97 26 P P 13 28 46.1 +0.9
JSC IAmb IAmb 13 28 55.6
comp=Z,20nm,0.9s
MPU Maple Canyon 71.99 360 P P 13 28 44.7 -0.7
BG3 Lake Jocassee 72.01 24 P P 13 28 45.5 +0.1
PAHR Pah Rah Range 72.09 353 P P 13 28 46.6 +0.7
O20A White River Ci 72.15 2 P 13 28 49.5
baz=182
O20A White River Ci 72.16 2 P P 13 28 47.0 +0.6
ORV Oroville 72.17 352 P P 13 28 48.1 +1.8
ORV pmax pmax
comp=Z,10.0nm,1.1s
ORV Oroville 72.17 352 P P 13 28 48.1 +1.8
DUG Dugway, Tooele 72.18 359 P 13 28 49.0
baz=178,SNR=7.0
DUG Dugway, Tooele 72.18 359 P P 13 28 47.4 +0.9
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway, Tooele 72.18 359 P P 13 28 47.4 +0.9
V51A Loudon 72.28 23 P P 13 28 47.5 +0.6
V51A IAmb IAmb 13 28 50.8
comp=Z,25nm,1.4s

KSU1 Kansas State U 72.34 12 P 13 28 50.0
baz=193
BEKR Beckworth 72.35 353 P P 13 28 48.5 +1.0
DZM Mont Dzumac 72.42 255 eLR LR 13 50 55.8
comp=Z,433nm,27.8s
R40A Maddies Statio 72.42 15 P P 13 28 47.6 -0.1
U49A Red Boiling Sp 72.48 21 P P 13 28 48.8 +0.6
T47A Sharon Grove 72.52 20 P P 13 28 49.1 +0.7
T47A IAmb IAmb 13 28 55.5
comp=Z,21nm,0.9s
RDMU Red Mountain 72.56 1 P P 13 28 49.4 +0.6
FVM French Village 72.57 17 P P 13 28 49.4 +0.8
FVM pmax pmax
comp=Z,12nm,1.2s
FVM French Village 72.57 17 P P 13 28 49.4 +0.8
JLU Jordanelle 72.57 360 P P 13 28 49.9 +0.9
S44A Carbondale 72.59 18 P P 13 28 49.2 +0.4
S44A IAmb IAmb 13 29 06.8
comp=Z,13nm,0.8s
SIUC Southern Illin 72.62 18 P P 13 28 49.5 +0.6
SIUC IAmb IAmb 13 28 56.2
comp=Z,14nm,0.8s
CTU Camp Tracy 72.67 359 P P 13 28 50.6 +1.2
CTU IAmb IAmb 13 28 53.7
comp=Z,16nm,1.1s
KMSC Kings Mountain 72.71 25 P 13 28 51.9
baz=206
ELK Elko 72.81 357 P P 13 28 51.2 +0.8
ELK pmax pmax
comp=Z,13nm,1.3s
ELK Elko 72.81 357 P P 13 28 51.2 +0.8
BGU Big Grassy Mou 72.92 358 P P 13 28 51.8 +0.9
O03E Paynes Creek 72.94 351 P 13 28 53.2
baz=171
N23A Red Feather La 73.02 4 P 13 28 54.4
baz=184
KMRM Mail Ridge 73.13 350 P P 13 28 53.2 +1.1
KMRM IAmb IAmb 13 29 12.6
comp=Z,30nm,1.3s
TZTN Tazewell 73.21 23 P 13 28 55.2
baz=204
T50A Nancy 73.23 22 P P 13 28 53.4 +0.8
SPUT South Promonto 73.29 359 P P 13 28 52.5 -0.6
SPUT IAmb IAmb 13 28 57.2
comp=Z,21nm,1.4s
WDC Whiskeytown Da 73.32 351 P P 13 28 52.6 -0.4
WDC Whiskeytown Da 73.32 351 P P 13 28 52.6 -0.4
WDC IAmb IAmb 13 29 02.5
comp=Z,20nm,1.0s
OGNE Ogallala 73.39 7 P 13 28 56.8
baz=188
OGNE Ogallala 73.40 7 P P 13 28 54.4 +0.8
OGNE IAmb IAmb 13 29 04.6
comp=Z,30nm,1.1s
P38A Dawn 73.43 14 P P 13 28 53.3 -0.4
P38A IAmb IAmb 13 29 15.3
comp=Z,26nm,1.4s
HWUT Hardware Ranch 73.58 360 P P 13 28 55.6 +0.8
N02D Trinity Center 73.72 351 P 13 28 58.7
baz=170
RWWY Rawlins 73.75 3 P P 13 28 55.7 -0.2
RWWY IAmb IAmb 13 29 03.3
comp=Z,18nm,1.1s
HVU Hansel Valley 73.77 359 P P 13 28 56.7 +0.8
HVU pmax pmax
comp=Z,13nm,1.5s
HVU Hansel Valley 73.77 359 P P 13 28 56.6 +0.8
KHMM Horse Mountain 73.77 350 P P 13 28 57.0 +1.1
Q44A Meyer Farm, Va 73.79 18 P P 13 28 56.3 +0.4
Q44A IAmb IAmb 13 29 03.4
comp=Z,22nm,0.8s
WCI Wyandotte Cave 73.91 20 P 13 28 58.7
baz=202
M02C Callahan 74.16 351 P 13 29 01.2
baz=170
S51A Beattyville 74.20 22 P P 13 28 58.7 +0.4
S51A IAmb IAmb 13 29 01.5
comp=Z,28nm,1.4s
R49A Shelbyville 74.30 21 P P 13 28 58.6 -0.2
BGNE Belgrade 74.34 10 P 13 29 01.3
baz=191
MOD Modoc Plateau 74.36 353 P P 13 28 59.8 +0.5
MOD IAmb IAmb 13 29 09.5
comp=Z,30nm,1.1s
M04C Macdoel 74.41 352 P 13 29 02.6
baz=171
YBH Yreka Blue Hor 74.47 351 P P 13 29 00.5 +0.6
YBH pmax pmax
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 74.47 351 P P 13 29 00.5 +0.6
WVOR Wild Horse Val 74.72 354 P P 13 29 01.9 +0.5
WVOR pmax pmax
comp=Z,30nm,1.2s
WVOR Wild Horse Val 74.72 354 P P 13 29 01.9 +0.5
WVOR IAmb IAmb 13 29 11.2
comp=Z,30nm,1.2s
K22A Casper 74.74 4 P 13 29 04.4
baz=184
K22A Casper 74.74 4 P P 13 29 02.0 +0.5
BW06 Boulder Array 74.75 1 P 13 29 03.6
baz=181
BW06 Boulder Array 74.75 1 P P 13 29 01.5 -0.1
BW06 IAmb IAmb 13 29 05.2
comp=Z,26nm,1.3s
PD31 Pinedale Array 74.75 1 P P 13 29 01.9 +0.2
PD31 IAmb IAmb 13 29 05.3
comp=Z,24nm,1.3s
PDAR Pinedale Array 74.75 1 P P 13 29 03.8 +2.1
comp=Z,9.3nm,1.1s,baz=160,slow=4.7,SNR=34
PDAR LR LR 13 56 24.9
comp=Z,312nm,19.5s,baz=180,slow=31
PDAR Pinedale Array 74.75 1 P P 13 29 01.7 0.0
BLA Blacksburg 74.89 25 P 13 29 04.2
baz=206
BLA Blacksburg 74.89 25 P P 13 29 02.2 -0.2
BLA pmax pmax
comp=Z,28nm,1.2s
BLA Blacksburg 74.89 25 P P 13 29 02.2 -0.2
BLA IAmb IAmb 13 29 21.4
comp=Z,28nm,1.2s
L04D Klamath Falls 74.90 351 P 13 29 04.3
baz=170
L02E Cave Junction 75.01 350 P 13 29 05.6
baz=169
ECR Eagle Creek 75.02 360 P P 13 29 03.6 +0.4
U59A Littleton 75.11 27 P P 13 29 04.1 +0.6
U59A IAmb IAmb 13 29 22.1
comp=Z,30nm,1.2s
K05A Summer Lake 75.23 353 P P 13 29 05.5 +1.1
HDIL Hopedale 75.28 17 P 13 29 06.6
baz=199
REDW Red Top Meadow 75.33 0 P P 13 29 05.3 +0.3
HUMO Hull Mountain 75.36 351 P P 13 29 06.4 +1.5
HUMO IAmb IAmb 13 29 14.4
comp=Z,35nm,1.4s
SNOW Snow King Moun 75.43 0 P P 13 29 06.1 +0.5
SNOW IAmb IAmb 13 29 13.0
comp=Z,32nm,1.4s
TPAW Teton Pass 75.46 0 P P 13 29 06.7 +0.9
TPAW IAmb IAmb 13 29 13.0
comp=Z,17nm,0.9s
MFID Camas Ranch 75.51 356 P P 13 29 06.5 +0.6
Q51A Peebles 75.54 22 P P 13 29 06.8 +0.7
Q51A IAmb IAmb 13 29 24.7
comp=Z,23nm,1.2s
K02D Willamette Mer 75.55 350 P 13 29 08.1
baz=169
LOHW Long Hollow 75.58 0 P P 13 29 07.2 +0.7
LOHW IAmb IAmb 13 29 10.4
comp=Z,26nm,1.4s
P49A Miami Univ. Ec 75.58 21 P 13 29 07.5
baz=203
HLID Hailey 75.59 358 P 13 29 09.1
baz=177,SNR=38
HLID Hailey 75.59 358 P P 13 29 07.5 +1.1
J08A Circle Bar Ran 75.63 354 P P 13 29 07.5 +0.9
J08A IAmb IAmb 13 29 16.5
comp=Z,29nm,1.3s
SFIN Lafayette 75.69 19 P 13 29 09.1
baz=201
MOOW Moose Ponds 75.72 0 P P 13 29 08.4 +1.2
J04D Umpqua Nationa 75.88 352 P 13 29 10.9
baz=170
J01E Myrtle Point 76.04 350 P 13 29 11.5
baz=169

FLWY Flagg Ranch 76.05 0 P P 13 29 09.9 +0.8
FLWY IAmb IAmb 13 29 13.4
comp=Z,25nm,1.1s
YPP Pitchstone Pla 76.24 0 P P 13 29 10.0 -0.2
L40A Anamosa 76.26 15 P P 13 29 10.0 0.0
L40A IAmb IAmb 13 29 17.4
comp=Z,21nm,0.9s
PINE Pine Mountain 76.29 353 P P 13 29 11.2 +0.8
BCYI Bear Canyon 76.31 358 P P 13 29 10.2 -0.4
RSSD Black Hills 76.36 5 P 13 29 13.4
baz=186
RSSD Black Hills 76.36 5 P P 13 29 10.8 -0.1
RSSD pmax pmax
comp=Z,22nm,1.4s
RSSD Black Hills 76.36 5 P P 13 29 10.8 -0.1
RSSD IAmb IAmb 13 29 15.1
comp=Z,22nm,1.4s
I07A Izee 76.44 354 P P 13 29 12.1 +0.9
I07A IAmb IAmb 13 29 21.0
comp=Z,23nm,1.1s
I04A Tendick Farm, 76.46 352 P 13 29 13.3
baz=170
P52A Corning 76.48 23 P 13 29 13.7
baz=205
N47A Urbana 76.54 20 P P 13 29 11.9 +0.2
N47A IAmb IAmb 13 29 15.0
comp=Z,32nm,1.4s
CASY Casey 76.65 196 P P 13 29 12.4 +0.3
CASY IAmb IAmb 13 29 18.6
comp=Z,34nm,1.4s
SYO Syowa Base 76.67 170 ⇑ eP P 13 29 10.6 -1.6
SYO Syowa Base 76.67 170 ⇑ epP pP 13 29 17.6 +3.2
YHB Horse Butte 76.72 360 P P 13 29 13.5 +0.6
YHH Holmes Hill 76.76 0 P P 13 29 13.0 -0.2
YHH IAmb IAmb 13 29 17.9
comp=Z,26nm,1.3s
QLMT Earthquake Lak 76.80 360 P P 13 29 13.6 +0.3
MCMT McKenzie Canyo 76.81 359 P P 13 29 13.0 -0.4
ECSD EROS Data Cent 76.85 11 P 13 29 14.6
baz=192
ECSD EROS Data Cent 76.85 11 P P 13 29 12.0 -1.4
I05D Terrebonne, OR 76.87 352 P 13 29 16.6
baz=171
I02D Swisshome 76.96 351 P 13 29 16.7
baz=169
Q56A Snyder Ridge, 76.96 25 P P 13 29 14.0 -0.1
Q56A IAmb IAmb 13 29 19.0
comp=Z,25nm,1.1s
YNE Yellowstone No 76.98 1 P P 13 29 14.0 -0.4
O52A Adamsville 77.02 23 P P 13 29 14.8 +0.5
BMO Blue Mountains 77.03 355 P P 13 29 14.7 +0.2
BMO pmax pmax
comp=Z,16nm,1.3s
BMO Blue Mountains 77.03 355 P P 13 29 14.7 +0.2
RLMT Red Lodge 77.11 1 P 13 29 17.3
baz=182
H04D Lebanon 77.22 351 P 13 29 18.2
baz=170
MCWV Mont Chateau 77.28 24 P 13 29 18.5
baz=207
O53A New Philadelph 77.34 23 P 13 29 18.0
baz=206
DLMT Dillon 77.34 359 P P 13 29 15.4 -0.8
G08A Pilot Rock 77.59 354 P P 13 29 19.0 +1.4
G08A IAmb IAmb 13 29 27.4
comp=Z,24nm,1.2s
G05D Wamic, OR 77.76 353 P 13 29 21.4
baz=171
LRM Limekiln Ridge 77.80 359 P P 13 29 18.6 -0.4
N53A Lisbon 77.97 23 P P 13 29 18.7 -1.0
F10A Beach Ranch, E 78.14 356 P P 13 29 19.8 -0.9
F10A IAmb IAmb 13 29 30.2
comp=Z,24nm,1.1s
O56A Blue Knob Stat 78.27 25 P 13 29 23.8
baz=208
N54A Moraine State 78.39 24 P 13 29 24.4
baz=206
F05D White Salmon 78.42 353 P 13 29 25.3
baz=171
I42A Draeger Farm, 78.53 16 P P 13 29 22.0 -0.7
I42A IAmb IAmb 13 29 45.0
comp=Z,28nm,1.4s
M53A WI Miller and 78.59 23 P 13 29 26.2
baz=206
HRY Holter Researc 78.68 359 P P 13 29 24.0 +0.3
HAWA Hanford 78.73 354 P P 13 29 24.5 +0.8
LAO LASA Array 78.78 3 P 13 29 26.8
baz=184
E08A Dider Farm, El 78.79 354 P P 13 29 24.2 +0.1
E08A IAmb IAmb 13 29 28.2
comp=Z,30nm,1.5s
SSPA Standing Stone 78.83 25 P 13 29 27.3
baz=208
MSO Missoula 78.84 358 P 13 29 26.0
baz=178
MSO Missoula 78.84 358 P P 13 29 25.3 +0.8
F33A 5 Mile Ranch, 78.96 10 P P 13 29 25.9 +0.9
F33A IAmb IAmb 13 29 46.8
comp=Z,25nm,1.5s
SPMN Marine on St. 78.96 13 P 13 29 27.3
baz=196
M54A Oil Creek Stat 78.99 24 P 13 29 26.9
baz=207
M54A Oil Creek Stat 78.99 24 P P 13 29 25.8 +0.5
M54A IAmb IAmb 13 29 34.4
comp=Z,18nm,1.0s
E04D Cinebar 79.20 352 P 13 29 28.9
baz=170
E03A Lebam 79.32 351 P P 13 29 27.6 +0.7
D08A Wollman Farm, 79.34 355 P P 13 29 27.1 0.0
H43A Windswept, Lux 79.34 17 P P 13 29 27.3 +0.1
H43A IAmb IAmb 13 29 34.7
comp=Z,18nm,0.8s
F36A Milaca 79.45 12 P P 13 29 27.6 -0.1
F36A IAmb IAmb 13 29 35.3
comp=Z,21nm,0.8s
LTY Liberty 79.69 353 P P 13 29 28.9 -0.2
JTMT Jette 79.77 358 P P 13 29 29.2 -0.4
JTMT IAmb IAmb 13 29 34.2
comp=Z,34nm,1.3s
D04E Lakebay 79.84 352 P 13 29 32.0
baz=170
N59A State Game Lan 79.86 26 P 13 29 31.4
baz=210
EGMT Eagleton 80.00 1 P 13 29 33.3
baz=181,SNR=8.4
C09A Chrisman Ranch 80.03 355 P P 13 29 31.3 +0.4
C09A IAmb IAmb 13 29 35.8
comp=Z,44nm,1.4s
D03D Eldon 80.23 352 P 13 29 34.3
baz=170
MAW Mawson 80.27 178 P P 13 29 32.6 +0.5
comp=Z,4.5nm,0.8s,baz=210,slow=7.1,SNR=9.4
MAW LR LR 14 03 15.1
comp=Z,303nm,18.1s,baz=209,slow=34
MAW Mawson 80.27 178 P P 13 29 31.6 -0.4
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 80.27 178 P P 13 29 31.6 -0.4
L56A Greenwood 80.27 25 P 13 29 34.6
baz=208
L56A Greenwood 80.27 25 P P 13 29 31.2 -1.1
NEW Newport 80.41 356 P 13 29 35.2
baz=175
NEW Newport 80.41 356 P P 13 29 33.6 +0.6
NEW pmax pmax
comp=Z,49nm,1.4s
NEW Newport 80.41 356 P P 13 29 33.6 +0.6
MDND Maddock 80.48 8 P 13 29 35.5
baz=190
PAL Palisades 80.65 28 P 13 29 35.4
baz=211
B08A Colville Reser 80.67 354 P P 13 29 35.0 +0.7
MMNY Mt. Morris Dam 80.68 24 P P 13 29 34.3 -0.1
L58A Harry Jones Me 80.81 26 P 13 29 35.9
baz=210
B05A Bryant 80.83 353 P 13 29 37.3
baz=171
K56A Middlesex 80.85 25 P 13 29 36.9
baz=208
L59A Walton 81.23 26 P 13 29 39.2
baz=210
E43A Lone Tree Farm 81.32 17 P P 13 29 38.9 +1.1
E43A IAmb IAmb 13 30 00.3
comp=Z,24nm,1.1s
A04D Lummi Island 81.35 352 P 13 29 40.3

baz=170
AGMN **Agassiz Nation** 81.42 10 P 13 29 40.1
baz=193
AGMN **Agassiz Nation** 81.42 10 P **P** **13 29 39.1 +0.8**
J56A **Wolcott** 81.52 25 P 13 29 41.4
baz=209,SNR=5.5
D41A **Chassel** 81.60 15 P **P** **13 29 40.4 +1.2**
D41A IAmb IAmb 13 29 45.0
comp=Z,34nm,1.4s
B35A **Bob, Littlefor** 81.83 12 P **P** **13 29 41.2 +0.8**
EYMN **Ely** 81.83 13 P 13 29 41.9
baz=197
EYMN **Ely** 81.83 13 P **P** **13 29 39.9 -0.6**
J57A **Williamstown** 81.94 25 P 13 29 43.1
baz=209
E46A **Sault Ste Mari** 82.00 18 P **P** **13 29 40.7 -0.6**
PECO **Prince Edward** 82.05 24 P **P** **13 29 41.7 0.0**
H53A **Bobcaygeon** 82.08 23 P 13 29 44.2
baz=207
J58A **Remsen** 82.16 26 P 13 29 44.7
baz=210
M64A **Tiverton** 82.20 29 P 13 29 44.2
baz=213
K61A **Williamstown** 82.32 27 P 13 29 45.0
baz=211
L61B **Northampton** 82.36 28 P 13 29 45.5
baz=212
I57A **Carthage** 82.52 25 P 13 29 46.8
baz=210,SNR=6.7
J59A **Piesco** 82.53 26 P 13 29 46.6
baz=210
I58A **Old Forge** 82.56 26 P 13 29 46.7
baz=210
J60A **Lant Hill Farm** 82.75 27 P 13 29 47.9
baz=211
G54A **Lake Saint Pet** 82.97 23 P 13 29 49.4
baz=208
PLVO **Plevna** 82.99 24 P **P** **13 29 46.4 -0.2**
K63A **Dunstable** 83.02 28 P 13 29 48.8
baz=213
I59A **Olmsteadville** 83.05 26 P 13 29 48.8
baz=211
H57A **Richville** 83.07 25 P 13 29 49.8
baz=210,SNR=8.4
J61A **Chester** 83.17 27 P 13 29 49.9
baz=212
I60A **Shoreham** 83.31 27 P 13 29 50.9
baz=211
ULM **Lac du Bonnet** 83.32 10 P **P** **13 29 50.4 +2.2**
comp=Z,6.2nm,0.7s,baz=206,slow=4.9,SNR=7.9
ULM LR LR 14 03 18.8
comp=Z,455nm,19.4s,baz=179,slow=33
ULM **Lac du Bonnet** 83.32 10 P **P** **13 29 45.6 -2.5**
ULM pmax pmax
comp=Z,22nm,1.4s
ULM **Lac du Bonnet** 83.32 10 P **P** **13 29 45.6 -2.5**
ULM IAmb IAmb 13 30 05.8
comp=Z,22nm,1.4s
J62A **Henniker** 83.36 28 P 13 29 50.9
baz=212
H58A **Gabriels** 83.47 26 P 13 29 51.0
baz=211,SNR=8.2
ALGO **Algonquin Park** 83.47 23 P 13 29 51.0
baz=208
J63A **Strafford** 83.70 28 P 13 29 51.6
baz=213
G57A **Newington** 83.77 25 P 13 29 51.9
baz=210,SNR=12
I61A **Oroboro, Fairl** 83.80 27 P 13 29 52.3
baz=212
H59A **Cadyville** 83.85 26 P 13 29 52.8
baz=211,SNR=5.8
I62A **Tamworth** 84.09 28 P 13 29 53.1
baz=213
G58A **Ormstown** 84.15 25 P 13 29 54.1
baz=211,SNR=7.2
H60A **Morristown** 84.15 27 P 13 29 54.0
baz=212
LBNH **Lisbon** 84.17 27 P 13 29 55.2
baz=212
G59A **Clarenceville** 84.41 26 P 13 29 55.9
baz=211
H61A **Lyndonville** 84.42 27 P 13 29 56.5
baz=212
F57A **Harrington** 84.49 25 P 13 29 57.3
baz=210
I63A **Otisfield** 84.54 28 P 13 29 57.0
baz=213
E55A **Montcerf-Lytto** 84.57 24 P 13 29 56.4
baz=209,SNR=5.9
H62A **Milan** 84.75 27 P 13 29 57.8
baz=213
I64A **Boothbay** 84.81 29 P 13 29 58.1
baz=214
TRQ **Mont Tremblant** 84.89 25 P **P** **13 29 55.8 -0.5**
MOQ **Mont Orford** 84.95 26 P **P** **13 29 57.1 +0.4**
E56A **St. Veronique** 85.00 24 P 13 29 59.2
baz=210,SNR=11
G61A **St-Isidore-de-** 85.20 27 P 13 29 59.4
baz=213
D55A **Sainte-Anne-du** 85.26 24 P 13 30 00.5
baz=210,SNR=15
H63A **New Sharon** 85.26 28 P 13 30 00.5
baz=214
E58A **La Victoria** 85.47 25 P 13 30 01.4
baz=211,SNR=8.0
G62A **West of Eustis** 85.53 27 P 13 30 02.0
baz=213
D56A **ZEC Mazanza, M** 85.53 24 P 13 30 01.6
baz=210,SNR=11
H64A **Troy** 85.58 29 P 13 30 01.7
baz=214
F60A **Warwick** 85.62 26 P 13 30 02.0
baz=212
G63A **Kingsbury** 85.81 28 P 13 30 03.0
baz=214
D58A **Chemin du LacG** 86.23 25 P 13 30 05.6
baz=212
STKA **Stephens Creek** 86.24 234 P **P** **13 30 05.6 +2.1**
comp=Z,6.1nm,0.9s,baz=110,slow=3.2,SNR=6.8
STKA LR LR 14 01 53.5
comp=Z,164nm,19.9s,baz=125,slow=31
F63A **Nahmakanta, Br** 86.50 28 P 13 30 06.6
baz=214
LSQQ **Lebel-sur-Quev** 86.56 22 P 13 30 06.2
baz=208
G65A **Princeton** 86.71 29 P 13 30 06.9
baz=216
MATQ **Matagami** 86.97 21 P 13 30 08.7
baz=208
FFC **Flin Flon** 87.06 5 P **P** **13 30 02.2 -4.6**
FFC pmax pmax
comp=Z,15nm,1.0s
FFC **Flin Flon** 87.06 5 P **P** **13 30 02.2 -4.6**
FFC IAmb IAmb 13 30 13.9
comp=Z,15nm,1.0s
D62A **Allapoint, All** 87.65 27 P 13 30 11.7
baz=214
CHGQ **Chibougamau** 88.14 23 P 13 30 14.2
baz=210,SNR=5.3
YKA **Yellowknife Ar** 94.54 358 P **P** **13 30 42.3 +0.8**
comp=Z,2.2nm,0.9s,baz=169,slow=4.9,SNR=18
YKA PKKP **PKKPdf** **13 47 44.3 +1.6**
comp=Z,0.7nm,0.8s,baz=359,slow=3.3,SNR=5.4
WHY **Whitehorse** 94.69 349 P 13 30 44.3
baz=160
ASAR **Alice Springs** 96.63 237 P **P** **13 30 54.0 +1.8**
comp=Z,1.8nm,1.1s,baz=123,slow=4.7,SNR=8.3
ASAR LR LR 14 13 39.0
comp=Z,177nm,18.4s,baz=138,slow=35
BMRM **Bremner River** 96.91 344 P 13 30 54.7
baz=152
WRA **Warramunga Arr** 98.65 240 P Pdif 13 31 01.6 +0.2
comp=Z,0.5nm,0.8s,baz=127,slow=4.3,SNR=1.8
WRA LR LR 14 09 43.5
comp=Z,321nm,21.9s,baz=145,slow=32
WAT6 **Susitna Watana** 99.05 344 P 13 31 03.8
baz=149
MCK **McKinley** 100.32 344 P 13 31 09.3
baz=148
PPLA **Purkeypile** 100.42 342 P 13 31 09.3
baz=146
HDA **Harding Lake** 100.45 345 P 13 31 09.8
baz=150
HDA P 13 31 09.8
baz=150
H01W1 **Cape Leeuwin H** 100.76 216 T T 15 23 48.5
baz=139,slow=75
H01W2 **Cape Leeuwin H** 100.76 216 T T 15 23 49.7
baz=139,slow=75
H01W3 **Cape Leeuwin H** 100.78 216 T T 15 23 49.2
baz=139,slow=75
BPAW **Bear Paw Mtn.** 101.12 343 P 13 31 12.6
baz=146
BPAW **Bear Paw Mtn.** 101.12 343 Pdif **Pdif** **13 31 12.3 +1.1**
TORD **Torodi Ar. Bea** 116.10 91 PKP **PKPdf** **13 36 04.2 -1.3**
comp=Z,1.1nm,0.8s,baz=275,slow=2.2,SNR=3.8
MDT **Midelt** 119.31 68 PKP **PKPdf** **13 36 10.1 -1.2**
comp=Z,0.6nm,0.4s,baz=217,slow=3.0,SNR=2.2
ESDC **Sonseca Array** 122.08 61 PKP **PKPdf** **13 36 16.2 -0.1**
comp=Z,1.8nm,1.0s,baz=327,slow=1.3,SNR=7.2
TIXI **Tiksi** 129.72 339 *i* PKIKP **PKPdf** **13 36 30.1 +0.2**
USRK **Ussuriysk Ar.** 130.19 303 PKP **PKiKP** **13 36 33.0 +0.6**
comp=Z,1.6nm,0.8s,baz=80,slow=12,SNR=4.9
KLR **Kul'dur** 130.93 309 *i* PKIKP **PKPdf** **13 36 30.0 -2.8**
KSRS **Korea Array** 131.99 293 PKP **PKPdf** **13 36 35.7 +0.5**
comp=Z,1.2nm,0.9s,baz=105,slow=2.9,SNR=5.3
KSAR **Wonju Array Be** 132.01 293 PKIKP **PKPdf** **13 36 35.2 -0.1**
KSAR **Wonju Array Be** 132.01 293 PKPdf **PKPdf** **13 36 35.2 -0.1**
NOA **NORSAR Array B** 133.26 34 PKP **PKiKP** **13 36 38.1 0.0**
comp=Z,0.5nm,0.6s,baz=288,slow=2.0,SNR=2.5
CLL **Collm** 135.43 48 *e*SS SS 13 57 22.0 +7.2
KHC **Kasperske Hory** 135.88 51 *e*PKIKP **PKPdf** **13 36 42.2 0.0**
KHC **Kasperske Hory** 135.88 51 *e*PKPDF **PKPdf** **13 36 42.2 0.0**
GERES **GERESS Array B** 135.96 51 PKP **PKPdf** **13 36 42.5 0.0**
comp=Z,0.8nm,0.6s,baz=144,slow=4.8,SNR=7.8
GERES **GERESS Array B** 135.96 51 **PKPdf** **13 36 40.5 -2.0**
NJ2 **Nanjing** 138.03 284 *e*PKP **PKPdf** **13 36 47.1 +0.4**
MODS **Modra-Piesok** 138.35 52 *e*PKIKP **PKiKP** **13 36 48.8 -0.1**
MODS **Modra-Piesok** 138.35 52 *e*PKP **PKiKP** **13 36 48.8 -0.1**
DIVS **Divibare** 140.36 58 PKPdf **PKPdf** **13 36 48.3 -2.4**
CRVS **Cervenica-Dubn** 141.07 51 *e*PKIKP **PKPdf** **13 36 52.0 +0.3**
CRVS **Cervenica-Dubn** 141.07 51 *e*PKP **PKPdf** **13 36 52.0 +0.3**
SIRR **Siria** 141.46 55 ⇑P **PKiKP** **13 36 54.4 -0.9**
NRIK **Noril'sk** 141.47 349 PKP **PKiKP** **13 36 53.5 -1.1**
comp=Z,1.2nm,0.3s,baz=78,slow=2.7,SNR=1.4
NRIK **Noril'sk** 141.47 349 *i* PKIKP **PKPdf** **13 36 52.8 +1.0**
BZS **Buzias** 141.47 56 ⇓P **PKPdf** **13 36 48.4 -4.1**
BZS **Buzias** 141.47 56 ⇓PKIKP **PKPdf** **13 36 48.4 -4.1**
MDVR **Moldovita** 141.58 57 ⇓P **PKiKP** **13 36 54.8 -0.9**
GZR **Gura Zlata** 142.30 56 ⇑P **PKiKP** **13 36 56.2 -1.0**
NACGM **Naroch** 142.87 40 *i* PKP **PKiKP** **13 36 57.3 -0.6**
IDI **Anoyia** 143.54 73 PKP PKPbc 13 36 54.7 +0.7
comp=Z,16nm,0.8s,baz=317,slow=2.8,SNR=6.9
IDI **Anoyia** 143.54 73 ⇑P PKPbc 13 36 54.7 +0.7
ARR **Arges** 143.61 56 ⇓P **PKPdf** **13 36 55.6 -0.9**
MNK **Minsk** 143.61 40 *i* PKIKP **PKiKP** **13 36 58.1 -1.3**
MNK *i* 13 40 11.6
MNK *i* PPP PPP 13 43 21.9
MNK *i* 13 44 07.7
MNK *i* SS SS 13 58 43.1 -7.4
MNK *i* SSS SSS 14 04 19.1
MNK MLR MLR
comp=E,20nm,19.0s
MNK MLR MLR
comp=Z,888nm,27.0s
MNK **Minsk** 143.61 40 *i* PKP **PKiKP** **13 36 58.1 -1.3**
MNK *i* PKP **PKiKP** **13 36 58.1 -1.3**
MNK *i* PKP **PKiKP** **13 36 58.1 -1.3**
baz=111
MNK *i* PP **PP** **13 40 11.7 +3.1**
MNK *i* SKP 13 40 32.5
MNK *i* PKS **PKSdf** **13 40 33.8 +2.4**
MNK *i* PPP PPP 13 43 21.9
MNK *i* SKS **SKSdf** **13 44 07.7 +2.3**
MNK *i* SKKS **SKKSdf** **13 53 21.1 0.0**
MNK *i* SS **SS** **13 58 43.1 -7.3**
MNK *i* SSS SSS 14 04 19.1
MNK *i* LQ LQ 14 33 32.0
MNK *i* LR LR 14 38 09.2
MNK *i* LRM MLR 14 41 16.2
comp=N,657nm,30.6s
MNK *i* LRM MLR 14 41 17.5
comp=E,20nm,19.1s
MNK *i* LRM MLR 14 42 44.0
comp=Z,888nm,26.7s
BUR08 **Bucovina Ar. S** 143.72 52 PKPpre PKPpre 13 36 52.0
BURAR **Bucovina Array** 143.73 52 ⇓P PKPbc 13 36 54.9 +0.7
BURAR **Bucovina Array** 143.73 52 ⇓PKIKP PKPbc 13 36 54.9 +0.7
BURAR **Bucovina Array** 143.73 52 PKPpre PKPpre 13 36 54.1
VOIR 143.89 56 ⇓P PKPbc 13 36 55.5 +0.8
VOIR 143.89 56 ⇓PKIKP PKPbc 13 36 55.5 +0.8
DOPR **Dopca** 144.07 55 ⇓P PKPbc 13 36 56.1 +0.9
BIZ **Bicaz** 144.43 53 ⇑P **PKPdf** **13 36 57.1 -0.6**
MLR **Muntele Rosu** 144.51 56 PKP PKPbc 13 36 56.8 +0.1
comp=Z,30nm,1.0s,baz=245,slow=1.4,SNR=17
MLR **Muntele Rosu** 144.51 56 ⇓P PKPbc 13 36 56.8 +0.1
MLR **Muntele Rosu** 144.51 56 PKIKP **PKPab** **13 36 56.0 -0.5**
MLR **Muntele Rosu** 144.51 56 PKPdf **PKPab** **13 36 56.0 -0.5**
ALN **Alexandroupoli** 144.85 64 PKIKP **PKPab** **13 36 57.2 -0.5**
ALN **Alexandroupoli** 144.85 64 PKPdf **PKPab** **13 36 57.2 -0.5**
TESR **Tescani** 144.87 54 ⇑P **PKPab** **13 36 57.6 0.0**
PLOR **Plostina** 144.96 55 ⇑P **PKiKP** **13 37 03.3 +0.7**
PLOR **Plostina** 144.96 55 ⇑PKIKP **PKiKP** **13 37 03.3 +0.7**
HHC **Hu-ho-hao-te** 144.98 296 *e*PKP **PKiKP** **13 37 03.4 +0.6**
HHC L L
comp=Z,150nm,17.0s
HHC L L
comp=Z,230nm,16.2s
HHC L L
comp=Z,290nm,18.7s
VRI **Vrincioaia** 145.01 55 ⇓P **PKPab** **13 36 58.5 +0.3**
VRI **Vrincioaia** 145.01 55 ⇓PKIKP **PKPab** **13 36 58.5 +0.3**
BISRR **Bisoca** 145.04 55 ⇑P **PKPbc** **13 36 57.4 -0.9**
ENH **Enshi** 145.39 278 **PKPbc** **13 36 59.6 -0.3**
AKASG **Malin Array Be** 145.61 46 PKPbc **PKPdf** **13 36 59.5 -0.1**
comp=Z,9.5nm,0.8s,baz=276,slow=3.8,SNR=12
AKASG **Malin Array Be** 145.61 46 **PKPdf** **13 36 58.7 -0.9**
KLMR **Klimovskoe** 145.62 25 *e*PKIKP **PKPdf** **13 36 58.8 -0.5**
KLMR pmax pmax
comp=Z,47nm,0.9s
KLMR **Klimovskoe** 145.62 25 *e*PKPdf **PKPdf** **13 36 58.8 -0.5**
KLMR AMP 13 37 05.9
comp=Z,47nm,0.9s
SORM **Soroca** 145.71 51 ⇑P **PKPbc** **13 37 00.4 +0.1**
SORM **Soroca** 145.71 51 ⇑PKIKP **PKPbc** **13 37 00.4 +0.1**
BTO **Baotou** 146.16 296 *e*PKPbc **PKPbc** **13 37 02.2 +0.1**
TPGR **Topolog** 146.33 56 ⇓P **PKPbc** **13 37 02.2 -0.2**
TIRR **Tirgusor** 146.38 57 ⇑P **PKPbc** **13 37 02.6 +0.2**
TIRR **Tirgusor** 146.38 57 PKP2 **PKPdf** **13 37 01.4 +0.3**
TIRR **Tirgusor** 146.38 57 PKPdf **PKPdf** **13 37 01.4 +0.3**
XAN **Xi'an** 146.60 284 PKPbc **PKPbc** **13 37 02.9 -0.6**
XAN pPKP sPKPab 13 37 08.8 +0.6
XAN L L
comp=Z,370nm,25.0s
XAN L L
comp=Z,440nm,25.0s
XAN L L
comp=Z,300nm,19.8s
JURR **Jurilovca** 146.66 56 ⇑P **PKPab** **13 37 03.9 -0.5**
GYA **Guiyang** 146.69 270 PKPbc **PKPab** **13 37 05.9 +0.7**
GYA pPKP sPKPab 13 37 09.4 +1.1
GYA PPMZ
comp=Z,18nm,6.5s
PRGR **Permogore** 147.04 20 *e*PKP2 **PKPbc** **13 37 03.3 -0.5**
PRGR pmax pmax
comp=Z,32nm,0.6s
SRDT **SRDT** 147.14 244 P **PKiKP** **13 37 08.0 +0.2**
comp=Z,4μmcomp=Z,20nm,1.4s
ULN **Ulaanbaatar** 147.32 310 *i* PKIKP **PKPdf** **13 37 02.9 +0.1**
ULN **Ulaanbaatar** 147.32 310 PKPdf **PKPdf** **13 37 03.1 +0.2**
IRK **Irkutsk** 147.58 318 *e*PKP2 **PKPbc** **13 37 05.4 -0.2**
IRK pmax pmax
comp=Z,73nm,2.2s
UTHA **Uthaitani** 147.62 246 P **PKPab** **13 37 12.6 +3.7**
comp=Z,76nmcomp=Z,6.2nm,1.2s
ELL **Elmali** 147.74 71 PKP2 **PKPbc** **13 37 07.0 +0.3**
ELL **Elmali** 147.74 71 **PKPbc** **13 37 07.0 +0.3**
SONM **Songino Array** 147.76 310 PKPbc **PKPbc** **13 37 05.2 -1.2**
comp=Z,16nm,0.9s,baz=106,slow=2.0,SNR=16
SONM **Songino Array** 147.76 310 PKPdf **PKPdf** **13 37 04.5 +1.0**
OBN **Obninsk** 147.85 35 PKPbc **PKPdf** **13 37 04.4 +1.2**
comp=Z,4.5nm,0.4s,baz=37,slow=15,SNR=7.1
OBN **Obninsk** 147.85 35⇑ *e*PKIKP **PKPdf** **13 37 03.0 -0.2**
OBN *e* 13 40 29.8
OBN *e*PPP PPP 13 44 00.1
OBN pmax pmax
comp=Z,118nm,1.5s
OBN MLR MLR
comp=Z,116nm,18.0s
MOS **Moscow** 148.02 34 *e*PKP2 **PKPab** **13 37 11.8 +2.5**
MOS pmax pmax
comp=Z,75nm,1.1s
TLY **Talaya** 148.17 318 *e*PKP2 **PKPbc** **13 37 08.0 +0.8**
TLY pmax pmax
comp=Z,89nm,1.3s
TLY **Talaya** 148.17 318 **PKPbc** **13 37 07.0 -0.3**
UMPA **Umpang Tak** 148.45 247 P **PKPab** **13 37 14.7 +2.4**
comp=Z,172nmcomp=Z,7.1nm,1.2s
ZAK **Zakamensk** 148.89 316 *e*PKP2 **PKPbc** **13 37 08.6 -0.6**
ZAK pmax pmax
comp=Z,15nm,1.1s
KMI **Kunming** 149.55 265 ⇑PKPbc **PKPdf** **13 37 08.9 +1.6**
KMI pPKP pPKPbc 13 37 14.0 -0.1
KMI sPKP 13 37 17.3
CM36 **Chiang Mai Arr** 149.57 250 P **PKiKP** **13 37 13.0 +0.2**
CM04 **Chiang Mai Arr** 149.60 250 P **PKiKP** **13 37 14.7 +1.8**
comp=Z,206nmcomp=Z,26nm,1.1s
CM09 **Chiang Mai Arr** 149.61 250 P **PKab** **13 37 15.4 -1.5**
comp=Z,208nmcomp=Z,23nm,1.2s
CM01 **Chiang Mai Arr** 149.62 250 P **PKiKP** **13 37 14.0 +1.1**
comp=Z,196nmcomp=Z,22nm,1.2s
CM05 **Chiang Mai Arr** 149.63 250 P **PKiKP** **13 37 13.4 +0.5**
comp=Z,160nmcomp=Z,17nm,1.1s
CM02 **Chiang Mai Arr** 149.64 250 P **PKiKP** **13 37 14.1 +1.1**
comp=Z,198nmcomp=Z,18nm,1.1s
CM31 **Chiang Mai Arr** 149.66 250 P **PKab** **13 37 18.3 +1.2**
comp=Z,6μmcomp=Z,271nm,0.8s
CM31 **Chiang Mai Arr** 149.66 250 PKPbc **PKPbc** **13 37 12.1 +0.1**
CMAR **Chiang Mai Arr** 149.66 250 PKPbc **PKPbc** **13 37 11.8 -0.2**
comp=Z,4.3nm,1.1s,baz=176,slow=1.1,SNR=19
CMAR **Chiang Mai Arr** 149.66 250 **PKPbc** **13 37 11.1 -0.8**
MOY **Mondy** 149.66 319 *e*PKP2 **PKPbc** **13 37 11.1 0.0**
MOY pmax pmax
comp=Z,37nm,2.1s
CM13 **Chiang Mai Arr** 149.67 250 P **PKiKP** **13 37 14.1 +1.0**
comp=Z,136nmcomp=Z,15nm,1.1s
CM15 **Chiang Mai Arr** 149.67 250 P **PKiKP** **13 37 14.0 +1.0**
comp=Z,252nmcomp=Z,16nm,1.1s
CM34 **Chiang Mai Arr** 149.70 251 P **PKiKP** **13 37 13.0 -0.1**
CMMT **Chiang Mai** 149.84 251 P **PKPbc** **13 37 12.0 -0.4**
comp=Z,531nmcomp=Z,29nm,1.2s
CHTO **Chiang Mai** 149.85 251 PKIKP **PKPbc** **13 37 11.7 -0.7**
CHTO **Chiang Mai** 149.85 251 **PKPbc** **13 37 11.7 -0.7**
ANTO **Ankara** 150.03 65 PKP2 **PKPbc** **13 37 12.0 -0.4**
ANTO **Ankara** 150.03 65 **PKPbc** **13 37 12.0 -0.4**
CD2 **Chengdu** 150.35 277 PKPbc **PKPdf** **13 37 08.7 +0.6**
CD2 PP **PP** **13 40 55.0 +5.6**
CD2 SKS **SKSdf** **13 44 14.3 -1.9**
CD2 PPMZ
comp=Z,130nm,8.6s
CD2 L L
comp=Z,190nm,19.8s
CD2 L L
comp=Z,250nm,18.6s
CD2 L L
comp=Z,340nm,21.4s
LPSR **Galich'ya Gora** 150.36 38 *e*PKIKP **PKPbc** **13 37 12.1 -0.5**
LPSR pmax pmax
comp=Z,70nm,1.4s
CSS **Mathiatis** 150.38 75 **PKPbc** **13 37 12.9 -0.4**
KIRV **Kirov** 150.63 21 PKPbc **PKPbc** **13 37 12.9 -0.1**
comp=Z,15nm,0.9s,baz=98,slow=5.2,SNR=6.8
BR131 **Keskin Array S** 150.69 65 PKIKP **PKPbc** **13 37 13.2 -0.8**
BR131 **Keskin Array S** 150.69 65 **PKPbc** **13 37 13.2 -0.8**
BRTR **Keskin Array B** 150.69 65 PKPbc **PKPbc** **13 37 13.6 -0.5**
comp=Z,11nm,1.1s,baz=209,slow=2.3,SNR=18
BRTR **Keskin Array B** 150.69 65 PKPdf **PKPdf** **13 37 08.7 +0.1**
EIL **Elat** 150.86 86 PKPbc **PKPbc** **13 37 14.8 +0.3**
comp=Z,16nm,0.9s,baz=183,slow=4.9,SNR=8.5
VSR **Storozhevoye** 151.19 40 *e*PKIKP **PKPbc** **13 37 13.6 -1.0**
VSR pmax pmax
comp=Z,20nm,0.8s
VORD **Divnogorie** 151.38 41 *e*PKIKP **PKPbc** **13 37 14.2 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
MMAI **Mount Meron Ar** 151.87 79 PKPbc **PKiKP** **13 37 17.1 -0.2**
comp=Z,5.3nm,0.7s,baz=328,slow=3.0,SNR=6.2
VRH **Novokhopyorsk** 152.57 39 *e*PKIKP **PKPbc** **13 37 16.1 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
GTA **Gaotai** 154.05 295 *e*PKPbc **PKPdf** **13 37 15.4 +1.9**
GTA sPKP 13 37 27.0
GTA PKPab **sPKPab** **13 37 40.9 +2.2**
GTA L L
comp=Z,77nm,20.7s
GTA L L
comp=Z,260nm,23.6s
GTA L L
comp=Z,230nm,21.1s
ARU **Arti** 154.86 14 PKP **PKPdf** **13 37 13.8 -0.1**
comp=Z,0.6nm,0.3s,baz=101,slow=21,SNR=1.3
ZAA0 **Zalesovo Array** 155.58 337 PKPdf **PKPdf** **13 37 13.8 -1.1**
ZALV **Zalesovo Beam** 155.58 337 PKP **PKPdf** **13 37 16.7 +1.8**
comp=Z,0.4nm,0.3s,baz=318,slow=2.0,SNR=6.4
ZALV **Zalesovo Beam** 155.58 337 PKPdf **PKPdf** **13 37 13.2 -1.7**
KIV **Kislovodsk** 156.45 53 *e*PKIKP **PKPdf** **13 37 19.5 +2.9**
KIV pmax pmax
comp=Z,16nm,1.1s
KBZ **Khabaz** 156.68 53 PKP **PKPdf** **13 37 18.7 +2.0**
comp=Z,0.8nm,0.3s,baz=248,slow=7.3,SNR=1.9
AKTO **Aktyubinsk** 160.20 21 PKP **PKPdf** **13 37 21.4 +0.7**
comp=Z,1.5nm,0.9s,baz=188,slow=1.8,SNR=2.8
WMQ **Urumqi** 161.32 313 *e*PKP **PKPdf** **13 37 21.8 -0.5**
ABKAR **Akbulak array** 161.81 19 PKPdf **PKPdf** **13 37 21.1 -1.4**
ABKAR **Akbulak array** 161.81 19 PKPdf **PKPdf** **13 37 22.1 -0.4**
MKAR **Makanchi Array** 162.28 328 PKP **PKPdf** **13 37 23.9 +0.7**
comp=Z,0.7nm,0.8s,baz=27,slow=4.2,SNR=4.5
MKAR PKPab **pPKPab** **13 38 12.5 -0.4**
comp=Z,1.9nm,1.0s,baz=46,slow=4.2,SNR=4.0
MKAR **Makanchi Array** 162.28 328 PKPdf **PKPdf** **13 37 21.4 -1.7**

*IDC **09** 13:24:03.6±1.6,20.17S×178.34W,h586km±19km, mb3.1/6, mb1 3.2/8, mb1mx3.0/34, mbtmp4.0/8, Error ellipse: s-maj=25.5km s-min=19.0km az=135.0*
*NEIC **09** 13:24:03.4±1.9,20.3S±0.1×178.3W±0.2,h578km±10km, mb4.6/16, Error ellipse: s-maj=20.6km s-min=17.7km az=90.0*

ISC 09 13:24:03.6±0.6,20.24S±0.09×178.4W±0.1,h600km,n33,
σ1872/31,mb3.9/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.20**	**306**	P	**P**		**13 25 30.5**		**-0.2**
	1.8nm,0.3s,baz=233,slow=21,SNR=9.3								
MSVF	**Nonsavu**	**4.20**	**306**	P	**P**		**13 25 30.2**		**-0.5**
NIUE	**Niue**	**8.05**	**83**	P	**P**		**13 26 02.3**		**-1.2**
AFI	**Afiamalu**	**8.91**	**46**	P	**P**		**13 26 09.0**		**-2.9**
	2.7nm,0.3s,baz=211,slow=12,SNR=5.8								
RAO	**Raoul Island**	**8.98**	**177**	P	**P**		**13 26 09.3**		**-2.9**
FUNA	**Funafuti**	**11.88**	**348**	P	**P**		13 26 35.8		-5.5
LIFNC	**LIFOU**	**13.48**	**265**	P	**P**		**13 26 53.9**		**-3.5**
URZ	**Urewera**	**18.38**	**191**	P	**P**		**13 27 40.4**		**-2.1**
URZ				IAmb	IAmb		13 27 43.5		
	comp=Z,37nm,1.5s								
BKZ	**Black Stump Fm**	**19.37**	**192**	P	**P**		**13 27 49.0**		**-2.6**
BKZ				IAmb	IAmb		13 28 14.5		
	comp=Z,29nm,1.4s								
QRZ	**Quartz Range**	**21.94**	**199**	P	**P**		**13 28 12.8**		**-1.8**
THZ	**Tophouse**	**22.69**	**197**	P	**P**		**13 28 20.2**		**-1.1**
THZ				IAmb	IAmb		13 28 33.2		
	comp=Z,40nm,1.1s								
MLZ	**Mavora Lakes**	**27.43**	**201**	P	**P**		**13 29 03.7**		**+0.7**
WHZ	**Wether Hill Ro**	**27.95**	**201**	P	**P**		**13 29 08.2**		**+0.8**
RABL	**Rabaul**	**32.81**	**295**	P	**P**		**13 29 49.5**		**0.0**
PMG	**Port Moresby**	**34.93**	**283**	P	**P**		**13 30 06.0**		**-1.2**
PMG				IAmb	IAmb		13 30 08.8		
	comp=Z,16nm,1.0s								
STKA	**Stephens Creek**	**37.58**	**244**	P	**P**		**13 30 29.6**		**+0.9**
	comp=Z,1.9nm,0.6s,baz=100,slow=12,SNR=1.5								
STKA	**Stephens Creek**	**37.58**	**244**	P	**P**		**13 30 29.6**		**+0.9**
STKA				IAmb	IAmb		13 30 48.0		
	comp=Z,5.5nm,1.5s								
BBOO	**Buckleboo**	**42.34**	**243**	P	**P**		**13 31 07.5**		**+0.9**
BBOO				IAmb	IAmb		13 31 33.0		
	comp=Z,41nm,1.4s								
AS31	**Alice Springs**	**44.23**	**257**	P	**P**		**13 31 22.3**		**+0.9**
ASAR	**Alice Springs**	**44.23**	**257**	P	**P**		**13 31 22.5**		**+1.1**
	comp=Z,1.2nm,0.6s,baz=88,slow=7.9,SNR=25								
WRA	**Warramunga Arr**	**44.28**	**262**	P	**P**		**13 31 22.6**		**+0.8**
	comp=Z,0.4nm,0.3s,baz=97,slow=7.5,SNR=6.0								
FORT	**Forrest**	**49.07**	**246**	P	**P**		**13 31 58.2**		**+0.7**
FORT				IAmb	IAmb		13 32 13.4		
	comp=Z,22nm,1.0s								

VNDA	**Vanda**	**58.14**	**185**	P	**P**	**13 33 03.1**	**+2.5**
CASY	**Casey**	**64.05**	**205**	P	**P**	**13 33 40.1**	**+0.8**
BKB	**Balikpapan**	**65.90**	**278**	P	**P**	**13 33 52.1**	**+0.2**
QSPA	**South Pole Qui**	**69.83**	**180**	P	**P**	**13 34 16.8**	**+1.9**
	comp=Z,2.4nm,0.7s,baz=290,slow=0.8,SNR=16						
QSPA	**South Pole Qui**	**69.83**	**180**	P	**P**	**13 34 16.8**	**+1.9**
PEA0B	**Petropavlovsk-**	**75.93**	**345**	P	**P**	**13 34 51.4**	**+1.8**
PEA0B				IAmb	IAmb	13 34 55.7	
	comp=Z,13nm,1.3s						
PETK	**Petropavlovsk-**	**75.93**	**345**	P	**P**	**13 34 51.4**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=124,slow=9.2,SNR=3.5						
ILAR	**Eielson Array**	**88.14**	**13**	P	**P**	**13 35 52.5**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=217,slow=5.7,SNR=8.5						
ABKAR	**Akbulak array**	**125.65**	**317**		**PKiKP**	**13 41 59.5**	**+1.4**
AKASG	**Malin Array Be**	**142.61**	**331**	PKP	**PKPdf**	**13 42 27.4**	**-1.7**
	comp=Z,1.3nm,0.4s,baz=42,slow=4.2,SNR=6.5						
AKASG	**Malin Array Be**	**142.61**	**331**	PKPpre	PKPpre	13 42 26.7	

*IDC **09** 13:27:17.9±0.9, 32°.47S×111°.05W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/31, mbtmp3.8/6, MS3.9/3, Ms1 3.9/3, ms1mx3.5/26, Error ellipse: s-maj=42.2km s-min=28.9km az=90.0*

*NEIC **09** 13:27:22.1±1.3, 32°.3S±0°.2×110°.7W±0°.2, h15km±4km, mb4.5/19, Error ellipse: s-maj=26.4km s-min=22.9km az=124.0*

ISC 09 13:27:20.4±0.8, **32°.3S**±0°.2×**110°.7W**±0°.2, **h10**km, **n52, σ0§66/31, mb4.5**/16, **MS3.9/8, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**23.37**	**287**	*e*LR	LR	13 37 46.0	
	comp=Z,391nm,27.0s						
RKT	**Rikitea**	**23.37**	**287**	*e*T	T	13 55 41.2	
	1.4nm,0.3s						
H03S2	**Juan Fernandez**	**26.57**	**102**	T	T	14 01 18.5	
	baz=262,slow=75						
H03S3	**Juan Fernandez**	**26.58**	**102**	T	T	14 01 18.2	
	baz=262,slow=75						
H03S1	**Juan Fernandez**	**26.59**	**102**	T	T	14 01 16.9	
	baz=262,slow=75						
H03N2	**Juan Fernandez**	**26.61**	**101**	T	T	14 01 12.2	
	baz=269,slow=74						
H03N3	**Juan Fernandez**	**26.61**	**101**	T	T	14 01 15.4	
	baz=269,slow=74						
H03N1	**Juan Fernandez**	**26.62**	**101**	T	T	14 01 11.7	
	baz=269,slow=74						
PLCA	**Paso Flores**	**33.06**	**116**	LR	LR	13 44 20.8	
	comp=Z,239nm,18.0s,baz=308,slow=31						
TBI	**Tubuai**	**35.31**	**275**	*e*LR	LR	13 43 19.4	
	comp=Z,241nm,26.5s						
TAOE	**Nuku Hiva Isla**	**35.95**	**304**	*e*LR	LR	13 43 55.2	
	comp=Z,523nm,25.1s						
TIAR	**Tiarei**	**37.83**	**283**	*e*T	T	14 13 44.5	
	1.1nm,0.3s						
PPT2	**Papeete2**	**38.00**	**283**	*e*LR	LR	13 44 31.2	
	comp=Z,390nm,24.8s,baz=128						
PPT	**Papeete**	**38.01**	**283**	LR	LR	13 45 52.1	
	comp=Z,158nm,21.7s,baz=142,slow=30						
LPAZ	**La Paz**	**41.62**	**78**	P	**P**	**13 35 10.5**	**+0.9**
	1.1nm,0.8s,baz=243,slow=11,SNR=3.7						
LPAZ	**La Paz**	**41.62**	**78**	IAmb	IAmb	13 35 17.8	
	comp=Z,5.5nm,1.5s						
NIUE	**Niue**	**54.41**	**269**	P	**P**	**13 36 48.4**	**+0.5**
QSPA	**South Pole Qui**	**57.85**	**180**	P	**P**	**13 37 11.9**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=135,slow=4.3,SNR=3.5						
QSPA	**South Pole Qui**	**57.85**	**180**	IAmb	IAmb	13 37 21.7	
	comp=Z,8.7nm,1.4s						
AFI	**Afiamalu**	**58.39**	**273**	LR	LR	13 55 46.3	
	comp=Z,107nm,21.1s,baz=148,slow=29						
TXAR	**Lajitas Array**	**61.70**	**7**	P	**P**	**13 37 39.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=193,slow=33,SNR=1.9						
U15A	**North Rim**	**68.43**	**359**	P	**P**	**13 38 23.6**	**+0.9**
U15A				IAmb	IAmb	13 38 36.5	
	comp=Z,3.5nm,1.1s						
TPNV	**Topopah Spring**	**69.13**	**355**	P	**P**	**13 38 27.2**	**+0.3**
TPNV				IAmb	IAmb	13 38 34.9	
	comp=Z,4.5nm,1.2s						
MVCO	**Mesa Verde**	**69.22**	**2**	P	**P**	**13 38 26.4**	**-1.1**
MVCO				IAmb	IAmb	13 38 33.3	
	comp=Z,4.5nm,1.0s						
CCUT	**Cedar City**	**69.58**	**358**	P	**P**	**13 38 29.9**	**+0.1**
CCUT				IAmb	IAmb	13 38 37.7	
	comp=Z,3.3nm,1.1s						
PV14	**Lion Creek, Pa**	**70.37**	**1**	P	**P**	**13 38 34.8**	**+0.2**
PV07	**Paradox Valley**	**70.44**	**2**	P	**P**	**13 38 35.1**	**+0.2**
LHV	**Little Huntoon**	**70.61**	**353**	P	**P**	**13 38 37.1**	**+1.4**
LHV				IAmb	IAmb	13 38 42.5	
	comp=Z,5.1nm,1.0s						
NV11	**Mina Array Sit**	**70.76**	**354**	P	**P**	**13 38 36.8**	**-0.1**
NV11				IAmb	IAmb	13 38 43.1	
	comp=Z,4.6nm,1.0s						
NVAR	**Mina Array Bea**	**70.77**	**354**	P	**P**	**13 38 37.8**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=190,slow=7.6,SNR=11						
NVAR	**Mina Array Bea**	**70.77**	**354**	P	**P**	**13 38 36.7**	**-0.3**
SPR3	**Spring Creek 3**	**71.06**	**357**	P	**P**	**13 38 38.7**	**-0.2**
SPR3				IAmb	IAmb	13 38 44.9	
	comp=Z,6.9nm,1.4s						
SRU	**San Rafael Swe**	**71.09**	**0**	P	**P**	**13 38 39.4**	**+0.6**
PNTR	**Pine Nut**	**71.56**	**353**	P	**P**	**13 38 42.1**	**+0.4**
PNTR				IAmb	IAmb	13 38 48.9	
	comp=Z,7.3nm,1.3s						
RDMU	**Red Mountain**	**72.56**	**1**	P	**P**	**13 38 47.2**	**-0.5**
DZM	**Mont Dzumac**	**72.79**	**255**	*e*LR	LR	14 00 52.3	
	comp=Z,100nm,34.0s						
SPUT	**South Promonto**	**73.31**	**359**	P	**P**	**13 38 52.5**	**+0.4**
PDAR	**Pinedale Array**	**74.75**	**1**	P	**P**	**13 39 00.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=234,slow=25,SNR=4.3						
HLID	**Hailey**	**75.62**	**357**	P	**P**	**13 39 06.0**	**+0.5**
HLID				IAmb	IAmb	13 39 11.5	
	comp=Z,7.0nm,1.2s						
MCMT	**McKenzie Canyo**	**76.83**	**358**	P	**P**	**13 39 12.8**	**+0.3**
F36A	**Milaca**	**79.37**	**12**	P	**P**	**13 39 26.3**	**+0.1**
F36A				IAmb	IAmb	13 39 28.4	
	comp=Z,5.0nm,0.9s						
YKA	**Yellowknife Ar**	**94.56**	**358**	P	**P**	**13 40 39.9**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=121,slow=11,SNR=2.6						
H01W1	**Cape Leeuwin H**	**100.98**	**216**	T	T	15 33 59.5	
	baz=141,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**100.99**	**216**	T	T	15 33 53.3	
	baz=141,slow=76,SNR=5.9						
H01W3	**Cape Leeuwin H**	**101.00**	**216**	T	T	15 33 47.5	
	baz=141,slow=76,SNR=6.1						
AKASG	**Malin Array Be**	**145.34**	**46**	PKPbc	**PKPbc**	**13 46 56.5**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=282,slow=3.6,SNR=4.9						
AKASG	**Malin Array Be**	**145.34**	**46**		**PKPdf**	**13 46 58.2**	**+0.2**
SONM	**Songino Array**	**148.06**	**310**	PKPbc	**PKPdf**	**13 47 02.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=64,slow=3.4,SNR=3.6						
SONM	**Songino Array**	**148.06**	**310**		**PKPdf**	**13 47 01.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**150.02**	**250**	PKPbc	**PKPdf**	**13 47 07.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=202,slow=3.9,SNR=4.5						
BRTR	**Keskin Array B**	**150.34**	**65**	PKPbc	**PKiKP**	**13 47 12.4**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=300,slow=1.2,SNR=5.9						
BRTR	**Keskin Array B**	**150.34**	**65**		**PKPbc**	**13 47 11.9**	**-0.2**

*ECX **09** 13:31:12.2±0.4, 32°.20N×115°.22W, h18km±4km, MD2.2, ML2.4*

*MEX **09** 13:31:12.4±0.6, 32°.38N×115°.01W, h46km±4km, MD3.6*

ISC 09 13:31:12.6±1.0, **32°.24N**±0°.04×**115°.16W**±0°.05, **h32**km±7km, **n20, σ0§66/33, 5C-3D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVIX	**Guadalupe Vict**	**0.09**	**47**	*e*P	**Pb**	**13 31 17.8**	**-0.3**
GUVIX				*e*S	**Sb**	**13 31 21.8**	**-0.1**
MBIG	**Mexicali**	**0.17**	**348**	*e*P	**Pn**	**13 31 18.6**	**-0.4**
MBIG				*e*S	**Sb**	**13 31 23.4**	**+0.5**
MBIG	**Mexicali**	**0.17**	**348**	⇑*i*P	**Pn**	**13 31 18.6**	**-0.4**
MBIG				*e*S	**Sb**	**13 31 23.4**	**+0.5**
CPBX	**Cerro Prieto**	**0.22**	**325**	IAML		13 31 25.2	
	comp=N,2μm,0.1s						
CPBX				*e*		13 31 25.2	
CPBX				⇓*e*		13 31 29.1	
CPBX				IAML		13 31 29.1	
	comp=E,2μm,0.2s						
CTLX	**Tlaxcala, TLX**	**0.23**	**2**	⇑*i*P	**Pn**	**13 31 19.5**	**-0.4**
EMSC	**East Mesa**	**0.52**	**16**	*e*P	**Pn**	**13 31 24.5**	**+0.7**
YUH2	**Yuha Desert**	**0.77**	**302**	⇓*i*P	**Pn**	**13 31 26.9**	**-0.3**
YUH2				*e*S	**Sb**	**13 31 37.0**	**-0.6**
ECBX	**El Chinero**	**0.77**	**173**	*e*P	**Pn**	**13 31 26.7**	**-0.5**
ECBX				⇑*e*P	**Pn**	**13 31 26.7**	**-0.5**
ECBX				*e*S	**Sn**	**13 31 37.1**	**-0.6**
ECBX				*e*S	**Sn**	**13 31 37.1**	**-0.6**
RMX	**La Rumorosa**	**0.86**	**295**	*e*P	**Pn**	**13 31 27.5**	**-1.1**
SPIG	**San Pedro Mart**	**1.22**	**193**	*e*P	**Pn**	**13 31 34.0**	**+0.3**
SPIG				*e*S	**Sn**	**13 31 50.7**	**+1.4**
SPIG	**San Pedro Mart**	**1.22**	**193**	*e*P	**Pn**	**13 31 34.1**	**+0.3**
SPX	**San Pedro Mart**	**1.23**	**192**	*e*P	**Pn**	**13 31 34.1**	**+0.2**
CBX	**Cerro Bola**	**1.28**	**274**	*e*P	**Pn**	**13 31 33.5**	**-0.9**
CBX				*e*S	**Sn**	**13 31 50.6**	**+0.1**
CBX	**Cerro Bola**	**1.28**	**274**	*e*P	**Pn**	**13 31 34.6**	**+0.2**
CBX				*e*S	**Sn**	**13 31 51.3**	**+0.8**
TJIG	**Tijuana**	**1.30**	**279**	*e*P	**Pn**	**13 31 34.8**	**+0.2**
TJIG				*e*S	**Sn**	**13 31 51.4**	**+0.5**
TJIG	**Tijuana**	**1.30**	**279**	⇑*e*P	**Pn**	**13 31 34.9**	**+0.3**
TJIG				*e*S	**Sn**	**13 31 51.0**	**+0.1**
SLH	**Sleepy Hollow**	**1.33**	**316**	*e*P	**Pb**	**13 31 36.9**	**0.0**
CCX	**Cicese**	**1.33**	**254**	*e*P	**Pb**	**13 31 36.9**	**-0.1**
CCX				*e*S	**Sn**	**13 31 53.4**	**+1.8**
BAR	**Barrett**	**1.35**	**289**	⇑*e*P	**Pb**	**13 31 36.9**	**-0.5**
BAR				*e*S	**Sb**	**13 31 53.7**	**-0.7**
BAR				⇓*e*		13 31 54.5	
BAR				IAML		13 31 54.5	
	comp=N,41nm,0.3s						
MATG	**Mataguay Scout**	**1.58**	**308**	*e*P	**Pb**	**13 31 41.5**	**+0.2**

*NEIC **09** 13:37:19.2±1.8, 18°.2S±0°.1×177°.8W±0°.1, h576km±8km, mb4.7/38, Error ellipse: s-maj=17.7km s-min=15.5km az=114.0*

*IDC **09** 13:37:20.3±1.5, 18°.37S×177°.99W, h583km±15km, mb3.6/6, mb1 3.9/8, mb1mx3.2/36, mbtmp4.6/8, Error ellipse: s-maj=28.0km s-min=17.4km az=152.0*

ISC 09 13:37:20.1±0.5, **18°.12S**±0°.08×**177°.93W**±0°.09, **h590**km, **n59, σ1§08/63, mb4.7/22, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.85**	**275**	P	**P**	**13 38 43.5**	**-0.4**
	12nm,0.3s,baz=131,slow=5.6,SNR=83						
AFI	**Afiamalu**	**7.24**	**56**	P	**P**	**13 39 08.8**	**-3.3**
	18nm,0.3s,baz=184,slow=1.3,SNR=27						
NIUE	**Niue**	**7.64**	**98**	P	**P**	**13 39 14.7**	**-1.0**
FUNA	**Funafuti**	**9.93**	**343**	P	**P**	**13 39 38.0**	**-0.1**
PINNC	**Pines Island,**	**14.43**	**249**	P	**P**	**13 40 22.1**	**-1.1**
SANVU	**Saraoutou**	**14.49**	**278**	P	**P**	**13 40 23.7**	**-0.1**
OUENC	**Ouen Island, N**	**14.92**	**251**	P	**P**	**13 40 26.9**	**-1.0**
DZM	**Mont Dzumac**	**15.20**	**252**	P	**P**	**13 40 29.7**	**-0.9**
	1.2nm,0.3s,baz=123,slow=20,SNR=10						
DZM	**Mont Dzumac**	**15.20**	**252**	P	**P**	**13 40 30.2**	**-0.4**
DZM				IAmb	IAmb	13 40 44.8	
	comp=Z,36nm,1.5s						
ONTNC	**Ouen Toro**	**15.24**	**252**	P	**P**	**13 40 31.3**	**+0.5**
OUZ	**Omahuta**	**18.63**	**202**	P	**P**	**13 41 03.4**	**+1.7**
OUZ				IAmb	IAmb	13 41 05.9	
	comp=Z,24nm,1.5s						
URZ	**Urewera**	**20.54**	**191**	P	**P**	**13 41 16.3**	**-2.6**
	comp=Z,3.7nm,0.4s,baz=120,slow=23,SNR=6.4						
URZ	**Urewera**	**20.54**	**191**	P	**P**	**13 41 16.4**	**-2.5**
URZ				IAmb	IAmb	13 41 23.4	
	comp=Z,10nm,1.0s						
QRZ	**Quartz Range**	**24.08**	**198**	P	**P**	**13 41 50.5**	**0.0**
NNZ	**Nelson**	**24.20**	**196**	P	**P**	**13 41 50.6**	**-0.9**
THZ	**Tophouse**	**24.84**	**196**	P	**P**	**13 41 55.4**	**-1.9**
THZ				IAmb	IAmb	13 42 02.0	
	comp=Z,46nm,1.3s						
KHZ	**Kahutara**	**25.29**	**195**	P	**P**	**13 41 58.9**	**-2.2**
EIDS	**Eidsvold**	**29.63**	**250**	P	**P**	**13 42 38.8**	**-0.5**
EIDS				IAmb	IAmb	13 42 39.5	
	comp=Z,10nm,0.8s						
WHZ	**Wether Hill Ro**	**30.08**	**200**	P	**P**	**13 42 42.8**	**0.0**
ARMA	**Armidale**	**30.24**	**240**	P	**P**	**13 42 45.0**	**+0.4**
ARMA				IAmb	IAmb	13 42 45.9	
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**33.87**	**261**	P	**P**	**13 43 14.8**	**-0.5**
CTAO				IAmb	IAmb	13 43 15.7	
	comp=Z,14nm,0.8s						
CAN	**Canberra**	**33.95**	**233**	P	**P**	**13 43 16.1**	**+0.3**
CAN				IAmb	IAmb	13 43 16.9	
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**34.95**	**280**	P	**P**	**13 43 25.1**	**+0.8**
PMG				IAmb	IAmb	13 43 25.5	
	comp=Z,22nm,0.8s						
TOO	**Toolangi**	**37.40**	**231**	P	**P**	**13 43 44.5**	**+0.3**
TOO				IAmb	IAmb	13 43 45.9	
	comp=Z,32nm,1.2s						
STKA	**Stephens Creek**	**38.94**	**242**	P	**P**	**13 43 57.0**	**+0.2**
	comp=Z,11nm,0.5s,baz=89,slow=9.9,SNR=33						
STKA	**Stephens Creek**	**38.94**	**242**	P	**P**	**13 43 57.1**	**+0.4**
BBOO	**Buckleboo**	**43.71**	**241**	P	**P**	**13 44 34.1**	**-0.2**
BBOO				IAmb	IAmb	13 44 34.7	
	comp=Z,18nm,0.6s						
WRAB	**Tennant Creek**	**45.04**	**260**	P	**P**	**13 44 44.1**	**-0.6**
WRAB				IAmb	IAmb	13 44 44.6	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**45.05**	**260**	P	**P**	**13 44 43.8**	**-1.0**
	comp=Z,5.3nm,0.3s,baz=94,slow=7.1,SNR=233						
WRA				PcP	**PcP**	**13 46 12.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=102,slow=3.6,SNR=1.4						
AS31	**Alice Springs**	**45.18**	**254**	P	**P**	**13 44 45.3**	**-0.5**
AS31				IAmb	IAmb	13 44 46.6	
	comp=Z,12nm,0.5s						
ASAR	**Alice Springs**	**45.18**	**254**	P	**P**	**13 44 45.5**	**-0.3**
	comp=Z,30nm,0.6s,baz=90,slow=8.1,SNR=726						
ASAR				PcP	**PcP**	**13 46 13.4**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=104,slow=3.9,SNR=5.7						
ASAR				ScP	**ScP**	**13 49 12.9**	**+2.6**
	comp=Z,0.5nm,0.9s,baz=87,slow=4.7,SNR=3.2						
ASAR				S	**S**	**13 50 42.2**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=84,slow=14,SNR=5.4						
ASAR	**Alice Springs**	**45.18**	**254**	P	**P**	**13 44 45.4**	**-0.4**
MTN	**Manton Dam**	**49.25**	**268**	P	**P**	**13 45 15.6**	**-0.7**
MTN				IAmb	IAmb	13 45 16.0	
	comp=Z,21nm,0.9s						
FORT	**Forrest**	**50.34**	**245**	P	**P**	**13 45 23.3**	**-0.7**
FORT				IAmb	IAmb	13 45 24.0	
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**50.93**	**264**	P	**P**	**13 45 27.8**	**-0.7**
KNRA				IAmb	IAmb	13 45 28.7	
	comp=Z,13nm,0.8s						
FAKI	**Fak Fak**	**51.07**	**281**	P	**P**	**13 45 29.4**	**-0.2**
FAKI				IAmb	IAmb	13 45 39.5	
	comp=Z,61nm,1.3s						
SOEI	**Soe**	**56.53**	**270**	P	**P**	**13 46 08.8**	**+0.7**
SOEI				IAmb	IAmb	13 46 09.8	
	comp=Z,23nm,0.7s						
PSA00	**Pilbara Seismi**	**58.30**	**255**	P	**P**	**13 46 19.0**	**-0.9**
PSA00				IAmb	IAmb	13 46 46.9	
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.52**	**242**	P	**P**	**13 46 27.7**	**-0.1**
VNDA	**Vanda**	**60.28**	**185**	P	**P**	**13 46 33.3**	**+1.2**
MORW	**Morawa**	**60.82**	**246**	P	**P**	**13 46 35.9**	**-0.6**
TOLI2	**Tolitoli**	**63.21**	**281**	P	**P**	**13 46 52.9**	**+0.7**
GIRL	**Giralia**	**63.28**	**253**	P	**P**	**13 46 53.0**	**+0.5**
BKB	**Balikpapan**	**66.05**	**277**	P	**P**	**13 47 09.9**	**-0.1**
CASY	**Casey**	**66.14**	**205**	P	**P**	**13 47 09.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**66.50**	**268**	P	**P**	**13 47 11.6**	**-1.3**
JAGI				IAmb	IAmb	13 47 29.5	
	comp=Z,45nm,1.1s						
UGM	**Wanagama**	**70.10**	**268**	P	**P**	**13 47 34.5**	**-0.2**
JHS	**Saijyo**	**70.35**	**319**	P	**P**	**13 47 36.2**	**+0.5**
JEW	**Eniwo**	**71.24**	**330**	P	**P**	**13 47 41.2**	**+0.6**
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**13 47 45.2**	**+0.7**
PETK	**Petropavlovsk-**	**74.00**	**345**	P	**P**	**13 47 56.0**	**-0.2**
SDPT	**Sand Point**	**74.66**	**10**	P	**P**	**13 47 59.2**	**-0.6**
TXAR	**Lajitas Array**	**85.72**	**57**	P	**P**	**13 49 00.1**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=220,slow=6.7,SNR=7.4						
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**13 49 16.6**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=94,slow=2.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**13 49 15.8**	**+0.5**
BRTR	**Keskin Array B**	**145.25**	**315**	PKPbc	**PKPdf**	**13 55 53.0**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=113,slow=2.7,SNR=8.4						
BRTR	**Keskin Array B**	**145.25**	**315**	PKPdf	**PKPdf**	**13 55 52.5**	**+0.6**
CLL	**Collm**	**145.76**	**348**	*i* PKPbc	**PKPbc**	**13 55 54.2**	**+0.3**
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	**PKPbc**	**13 56 00.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=72,slow=4.3,SNR=5.0						

*VAO **09** 13:59:54.6±1.0, 20°.06S×70°.85W, h10km, mb4.4*

*IDC **09** 13:59:54.2±0.7, 20°.12S×70°.64W, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.2/29, mbtmp4.2/11, ML4.3/2, MS3.6/4, Ms1 3.6/4, ms1mx3.3/23, Error ellipse: s-maj=24.0km s-min=14.1km az=59.0*

*NEIC **09** 13:59:55.8±1.9, 20°.24S±0°.04×70°.85W±0°.05, h13km±2km, mb4.5/24, Mwr4.3/46, ML4.4(GUC), Error ellipse: s-maj=6.8km s-min=5.6km az=223.0*

*NEIC **09** 13:59:55.5, 20°.25S×70°.91W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.66; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-3.39; $M_{r\theta}$-0.22; $M_{r\phi}$1.01; $M_{\theta\phi}$-1.68; Fault plane solution: $M_0$4.05000×10^{15} NP1:φ±173.16000°, δ57.16000°, λ100.56000°. NP2:φ±334.18000°, δ34.31000°, λ74.14000°. Principal axes: T 4.0881, Plg75.0000°, Azm114.0000°; N -0.0851, Plg9.0000°, Azm347.0000°; P -4.0030, Plg12.0000°, Azm256.0000°;*

*GUC **09** 13:59:56.9±0.7, 20°.22S×70°.93W, h35km±2km, ML4.4*

ISC 09 13:59:53.7±1.7, **20°.19S**±0°.03×**70°.94W**±0°.05, **h6**km±10km, **n119, σ1§23/119, mb4.4/18, 5C-5D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.77**	**96**	⇓*i*P	**Pb**	**14 00 09.6**	**+0.2**
TA02				*i* S	**Sg**	**14 00 19.0**	**+0.7**
TA02				IAML		14 00 19.7	
	comp=E,72μm,0.3s						
TA02	**Huaiquique**	**0.77**	**96**		**Pb**	**14 00 09.5**	**+0.2**
TA01	**Diego Aracena**	**0.81**	**118**	⇓*i*P	**Pb**	**14 00 10.2**	**+0.1**
TA01				*i* S	**Sb**	**14 00 21.0**	**-0.2**
TA01				IAML		14 00 22.0	
	comp=N,32μm,0.1s						
TA01	**Diego Aracena**	**0.81**	**118**	Pg	**Pb**	**14 00 10.2**	**+0.1**
PATCX	**Punta Patache**	**0.97**	**130**	⇓*i*P	**Pg**	**14 00 13.0**	**+0.6**
PATCX				*i* S	**Sb**	**14 00 25.6**	**-0.5**
PATCX				IAML		14 00 26.6	
	comp=E,12μm,0.3s						
PATCX	**Punta Patache**	**0.97**	**130**		**Pg**	**14 00 12.9**	**+0.6**
PSGC	**Pisagua**	**0.97**	**53**	⇓*i*P	**Pg**	**14 00 13.2**	**+0.8**
PSGC				*i* S	**Sb**	**14 00 26.2**	**+0.2**
PSGCX	**Pisagua**	**0.97**	**53**	Pg	**Pg**	**14 00 13.2**	**+0.8**
PB11	**IPOC Station P**	**1.28**	**71**	⇓*i*P	**Pn**	**14 00 18.1**	**-0.3**
PB11				*i* S	**Sb**	**14 00 34.9**	**-0.3**
PB11				IAML		14 00 39.2	
	comp=N,10μm,0.3s						
PB11	**IPOC Station P**	**1.28**	**71**	Pn	**Pn**	**14 00 18.0**	**-0.3**
PB01	**IPOC Station P**	**1.60**	**122**	⇑*i*P	**Pn**	**14 00 23.0**	**+0.3**
PB01				*i* S	**Sn**	**14 00 42.6**	**-1.2**
PB01				IAML		14 00 49.8	
	comp=E,11μm,0.3s						
PB01	**IPOC Station P**	**1.60**	**122**		**Pn**	**14 00 22.9**	**+0.3**
MNMC	**Minye Minye**	**1.65**	**51**	*e*P	**Pn**	**14 00 24.2**	**+0.7**
MNMC				*e*S	**Sb**	**14 00 45.8**	**0.0**
MNMC	**Minye Minye**	**1.65**	**51**		**Pn**	**14 00 24.1**	**+0.7**
PB08	**IPOC Station P**	**1.68**	**89**	⇑*i*P	**Pn**	**14 00 24.3**	**+0.3**
PB08				*i* S	**Sn**	**14 00 45.8**	**-0.2**
PB08				IAML		14 00 52.1	
	comp=N,3μm,0.7s						
PB08	**IPOC Station P**	**1.68**	**89**		**Pn**	**14 00 24.2**	**+0.3**
PB07	**IPOC Station P**	**1.82**	**147**	⇑*i*P	**Pn**	**14 00 25.6**	**-0.1**
PB07				IAML		14 01 00.2	
	comp=E,5μm,0.4s						
PB07	**IPOC Station P**	**1.82**	**147**	Pn	**Pn**	**14 00 25.7**	**0.0**
AP01	**Chacalluta**	**1.90**	**17**	*e*P	**Pn**	**14 00 27.8**	**+1.3**
AP01				*e*S	**Sb**	**14 00 53.0**	**+0.3**
AP01				IAML		14 01 05.0	
	comp=N,12μm,0.4s						
AP01	**Chacalluta**	**1.90**	**17**		**Pb**	**14 00 28.7**	**0.0**
PB09	**IPOC Station P**	**2.25**	**135**	⇑*i*P	**Pn**	**14 00 33.0**	**+1.3**
PB09	**IPOC Station P**	**2.25**	**135**		**Pn**	**14 00 32.9**	**+1.2**
PB04	**IPOC Station P**	**2.26**	**161**	*e*P	**Pn**	**14 00 31.6**	**-0.1**
PB04				IAML		14 01 17.2	
	comp=N,4μm,0.6s						
PB04	**IPOC Station P**	**2.26**	**161**		**Pn**	**14 00 31.2**	**-0.5**
PB05	**IPOC Station P**	**2.74**	**166**	*e*P	**Pn**	**14 00 37.8**	**-0.5**
PB05				IAML		14 01 34.5	
	comp=E,1μm,0.6s						
PB06	**IPOC Station P**	**2.81**	**153**	⇑*i*P	**Pn**	**14 00 39.2**	**-0.1**
PB06				IAML		14 01 26.8	
	comp=E,2μ

S39A	**Bolivar**	**61.31**	**340**	P	**P**	**14 10 08.6**	**-1.4**
WVNY	**West Valley, N**	**62.68**	**354**	P	**P**	**14 10 20.3**	**+1.1**
SADO	**Sadowa**	**65.08**	**354**	P	**P**	**14 10 35.0**	**+0.2**
ECSD	**EROS Data Cent**	**67.83**	**340**	P	**P**	**14 10 53.1**	**+0.5**
ECSD				IAmb	IAmb	14 10 55.3	
	comp=Z,6.5nm,1.2s						
CCUT	**Cedar City**	**69.95**	**325**	P	**P**	**14 11 07.2**	**+1.0**
CCUT				IAmb	IAmb	14 11 11.0	
	comp=Z,3.5nm,0.9s						
PSUT	**Pine Spring**	**70.93**	**326**	P	**P**	**14 11 13.5**	**+1.3**
PSUT				IAmb	IAmb	14 11 24.9	
	comp=Z,2.4nm,0.9s						
PDAR	**Pinedale Array**	**72.04**	**331**	P	**P**	**14 11 21.4**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=139,slow=5.7,SNR=4.4						
PDAR	**Pinedale Array**	**72.04**	**331**	P	**P**	**14 11 20.9**	**+2.1**
SPUT	**South Promonto**	**72.28**	**328**	P	**P**	**14 11 21.5**	**+1.4**
SPUT				IAmb	IAmb	14 11 23.1	
	comp=Z,3.5nm,0.8s						
MDPB	**Devils Postpil**	**73.20**	**322**	P	**P**	**14 11 27.5**	**+1.6**
LHV	**Little Huntoon**	**73.29**	**323**	P	**P**	**14 11 28.2**	**+2.2**
LHV				IAmb	IAmb	14 11 30.6	
	comp=Z,2.8nm,0.9s						
NVAR	**Mina Array Bea**	**73.30**	**323**	P	**P**	**14 11 29.7**	**+3.3**
	comp=Z,1.5nm,0.9s,baz=147,slow=6.0,SNR=7.3						
NVAR	**Mina Array Bea**	**73.30**	**323**	P	**P**	**14 11 28.8**	**+2.4**
KVN	**Kaiserville**	**73.62**	**323**	P	**P**	**14 11 29.9**	**+1.7**
YNE	**Yellowstone No**	**74.01**	**332**	P	**P**	**14 11 31.6**	**+1.2**
YNE				IAmb	IAmb	14 11 34.9	
	comp=Z,5.8nm,0.9s						
PAHR	**Pah Rah Range**	**74.79**	**323**	P	**P**	**14 11 35.9**	**+0.9**
PAHR				IAmb	IAmb	14 11 39.7	
	comp=Z,9.6nm,1.5s						
HLID	**Hailey**	**74.94**	**329**	P	**P**	**14 11 36.9**	**+1.2**
HLID				IAmb	IAmb	14 11 39.8	
	comp=Z,2.9nm,1.0s						
BCYI	**Bear Canyon**	**75.01**	**330**	P	**P**	**14 11 38.3**	**+2.0**
TOA0	**Torodi Ar. Sit**	**78.72**	**71**		**P**	**14 11 56.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**78.72**	**71**	P	**P**	**14 11 56.7**	**-0.8**
	comp=Z,8.3nm,0.8s,baz=255,slow=5.1,SNR=25						
TORD				LR	LR	14 45 26.7	
	comp=Z,80nm,18.8s,baz=255,slow=35						
TORD	**Torodi Ar. Bea**	**78.72**	**71**		**P**	**14 11 56.4**	**-1.1**
ESDC	**Sonseca Array**	**86.25**	**45**	P	**P**	**14 12 37.0**	**+0.6**
	comp=Z,1.4nm,1.1s,baz=264,slow=6.9,SNR=5.9						
YKA	**Yellowknife Ar**	**89.33**	**341**	P	**P**	**14 12 51.9**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=137,slow=5.2,SNR=19						
H11S2	**WAKE ISLAND Hyl**	**25.82**	**279**	T	T	16 38 21.1	
	baz=101,slow=74,SNR=42						
H11S1	**WAKE ISLAND Hyl**	**25.82**	**279**	T	T	16 38 22.2	
	baz=101,slow=74,SNR=19						
H11S3	**WAKE ISLAND Hyl**	**25.83**	**279**	T	T	16 38 22.4	
	baz=101,slow=74,SNR=26						
H11N3	**WAKE ISLAND Hyl**	**25.87**	**280**	T	T	16 38 17.2	
	baz=102,slow=74,SNR=7.3						
H11N2	**WAKE ISLAND Hyl**	**25.88**	**280**	T	T	16 38 22.5	
	baz=102,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**25.89**	**280**	T	T	16 38 25.0	
	baz=102,slow=74,SNR=3.9						
ASAR	**Alice Springs**	**130.13**	**210**	PKP	**PKiKP**	**14 19 06.5**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=115,slow=1.8,SNR=5.8						
ASAR	**Alice Springs**	**130.13**	**210**		**PKiKP**	**14 19 06.1**	**-0.2**
WRA	**Warramunga Arr**	**133.06**	**213**	PKP	**PKiKP**	**14 19 11.8**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=149,slow=1.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**141.54**	**23**	PKhKP	PKPpre	14 19 21.9	
	comp=Z,0.3nm,0.3s,baz=287,slow=2.4,SNR=1.9						
ZALV				PKP	**PKPdf**	**14 19 26.5**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=295,slow=2.5,SNR=5.0						
MKAR	**Makanchi Array**	**145.64**	**33**	PKPbc	**PKPab**	**14 19 34.2**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=327,slow=3.5,SNR=36						
MKAR	**Makanchi Array**	**145.64**	**33**		**PKPab**	**14 19 33.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**149.38**	**327**	PKPbc	**PKiKP**	**14 19 45.4**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=12,slow=2.1,SNR=8.9						
SONM	**Songino Array**	**152.34**	**4**	PKPbc	**PKiKP**	**14 19 51.7**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=262,slow=2.2,SNR=5.4						

*NEIC **09** 14:16:00.8±2.6, 3.91S±0.06×128.86E±0.07, h137km±9km, mb4.4/12, Error ellipse: s-maj=12.8km s-min=5.4km az=50.0*

*DJA **09** 14:16:01.5±0.4, 4.4S±3.1×12.9E±.1, h120km±3km, M4.2/13, mb4.3/5, mB5.0/1, MLv4.2/13, Mw(mB)4.3/1*

*IDC **09** 14:16:02.4±1.9, 3.85S×129.13E, h163km±20km, mb3.9/3, mb1 4.1/6, mb1mx3.4/39, mbtmp4.4/6, Error ellipse: s-maj=26.6km s-min=11.6km az=76.0*

ISC 09 14:16:01.0±0.6, 3.85S±0.05×128.75E±0.05, h150km, n40, σ1s81/48, mb4.1/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.53**	**20**	P	**Pn**	**14 16 20.5**	**-2.0**
MSAI				S	**Sn**	**14 16 34.3**	**-4.6**
BNDI	**Bandanaira**	**1.33**	**120**	P	**Pn**	**14 16 28.8**	**0.0**
BNDI				S	**Sn**	**14 16 49.6**	**-0.5**
NLAI	**Namlea**	**1.75**	**290**	P	**Pn**	**14 16 32.0**	**-1.3**
NLAI				S	**Sn**	**14 16 55.4**	**-2.7**
SANI	**Sanana**	**3.29**	**303**	P	**Pn**	**14 16 50.1**	**-1.9**
SANI				S	**Sn**	**14 17 27.3**	**-4.2**
FAKI	**Fak Fak**	**3.61**	**75**		**Pn**	**14 16 55.9**	**-0.3**
FAKI	**Fak Fak**	**3.61**	**75**	P	**Pn**	**14 16 56.0**	**-0.3**
FAKI				S	**Sn**	**14 17 37.7**	**-1.4**
SIJI	**Sorong**	**3.88**	**40**	P	**Pn**	**14 16 59.0**	**-0.8**
	44nm,0.3s,baz=270,slow=6.1,SNR=176						
SIJI				S	**Sn**	**14 17 42.4**	**-3.1**
	37nm,0.3s,baz=170,slow=23,SNR=16						
SWI	**Sorong**	**3.88**	**40**	P	**Pn**	**14 16 59.0**	**-0.8**
SWI				S	**Sn**	**14 17 42.7**	**-2.7**
TNTI	**Ternate**	**4.79**	**343**	Pn	**Pn**	**14 17 11.4**	**-0.3**
TNTI	**Ternate**	**4.79**	**343**	P	**Pn**	**14 17 10.8**	**-0.9**
SAUI	**Saumlaki**	**4.83**	**148**	Pn	Pn	14 17 07.2	-4.9
KMPI	**Kaimana, Papua**	**4.95**	**88**	P	**Pn**	**14 17 10.8**	**-3.0**
KMSI	**Cibinong**	**6.48**	**313**	P	**Pn**	**14 17 31.2**	**-3.0**
	0.2nm35nm,0.5s						
LUWI	**Luwuk**	**6.59**	**295**	P	**Pn**	**14 17 33.6**	**-2.0**
	0.3nm2µm33nm,0.8s						
GTOI	**Gorontalo**	**7.26**	**308**	P	**Pn**	**14 17 45.6**	**+1.0**
	0.0nm8.4nm,0.9s						
APSI	**Ampana**	**7.67**	**292**	P	**Pn**	**14 17 50.1**	**0.0**
MTN	**Manton Dam**	**9.24**	**165**	Pn	**Pn**	**14 18 10.2**	**-0.8**
TOLI2	**Tolitoli**	**9.36**	**302**	Pn	**Pn**	**14 18 14.1**	**+1.4**
KNRA	**Kununurra**	**11.76**	**180**	Pn	**Pn**	**14 18 42.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**14.49**	**192**	P	**P**	**14 19 22.7**	**+1.1**
	0.2nm,0.3s,baz=32,slow=9.5,SNR=14						
JAGI	**Jajag, Banyuwa**	**15.22**	**252**		**P**	**14 19 30.3**	**+0.5**
JAGI				IAmb	IAmb	14 19 30.9	
	comp=Z,35nm,1.2s						
WRAB	**Tennant Creek**	**16.89**	**162**	P	**P**	**14 19 47.9**	**-0.3**
WRA	**Warramunga Arr**	**16.90**	**162**	P	**P**	**14 19 47.3**	**-1.0**
	comp=Z,4.1nm,0.3s,baz=340,slow=12,SNR=182						
PSA00	**Pilbara Seismi**	**19.63**	**205**	P	**P**	**14 20 17.8**	**-0.3**
PSA00				IAmb	IAmb	14 20 43.9	
	comp=Z,18nm,1.4s						
PSA00	**Pilbara Seismi**	**19.63**	**205**	P	**P**	**14 20 17.7**	**-0.3**
PSA00				IAmb	IAmb	14 20 26.6	
	comp=Z,5.3nm,1.3s						
AS31	**Alice Springs**	**20.32**	**166**	P	**P**	**14 20 26.4**	**+0.9**
AS31				IAmb	IAmb	14 20 27.6	
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**20.32**	**166**	P	**P**	**14 20 26.8**	**+1.3**
	comp=Z,22nm,0.4s,baz=348,slow=12,SNR=652						
ASAR				S	**S**	**14 24 02.2**	**-3.1**
	comp=Z,1.5nm,0.6s,baz=349,slow=23,SNR=7.3						
ASAR				ScP	**ScP**	**14 27 55.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=346,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**20.32**	**166**	P	**P**	**14 20 26.5**	**+1.0**
CTA	**Charters Tower**	**23.49**	**135**	P	**P**	**14 20 59.3**	**+1.9**
	comp=Z,4.0nm,0.7s,baz=297,slow=6.8,SNR=2.5						
BBOO	**Buckleboo**	**29.61**	**167**	P	**P**	**14 21 52.6**	**+0.4**
STKA	**Stephens Creek**	**30.38**	**158**	P	**P**	**14 22 00.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**36.79**	**308**	P	**P**	**14 22 56.9**	**+2.3**
	comp=Z,1.8nm,0.5s,baz=134,slow=7.3,SNR=9.7						
CHTO	**Chiang Mai**	**36.99**	**309**	P	**P**	**14 22 58.5**	**+2.2**
CHTO				IAmb	IAmb	14 22 58.8	
	comp=Z,9.2nm,1.4s						
ENH	**Enshi**	**38.61**	**333**	P	**P**	**14 23 11.7**	**+2.0**
ENH				IAmb	IAmb	14 23 14.0	
	comp=Z,12nm,1.4s						
LHI	**Lord Howe Isla**	**39.62**	**137**	P	**P**	**14 23 16.2**	**-1.9**
MK31	**Makanchi Array**	**64.92**	**327**	P	**P**	**14 26 25.1**	**+0.6**
MKAR	**Makanchi Array**	**64.92**	**327**	P	**P**	**14 26 25.7**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=115,slow=6.8,SNR=19						
MKAR	**Makanchi Array**	**64.92**	**327**	P	**P**	**14 26 25.0**	**+0.5**
MAKZ	**Makanchi**	**65.11**	**327**	P	**P**	**14 26 26.5**	**+0.9**
MAKZ				IAmb	IAmb	14 26 27.5	
	comp=Z,4.7nm,1.4s						
ABKAR	**Akbulak array**	**79.28**	**322**	P	**P**	**14 27 50.8**	**+1.0**

JMA 09 14:18:17.1, 37.78N×140.00E, h8km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAR	**Yonezawaarcadi**	**0.17**	**41**	P	Pg	14 18 20.8	+0.1
JYAR				S	Sg	14 18 23.6	+0.4
JFT	**Otama**	**0.37**	**134**	P	Pg	14 18 24.6	+0.2
JFT				S	Sg	14 18 29.5	+0.2
JFY	**Yanaizu**	**0.44**	**212**	P	Pg	14 18 25.8	+0.1
JFY				S	Sg	14 18 31.7	+0.3
JYS	**Shirataka**	**0.44**	**7**	P	Pg	14 18 25.9	+0.2
JYS				S	Sg	14 18 32.2	+0.6
JNS	**Sasagawa**	**0.54**	**274**	P	Pg	14 18 27.6	0.0
JNS				S	Sg	14 18 34.6	-0.1
JMM	**Marumori**	**0.63**	**82**	P	Pg	14 18 29.3	0.0
JMM				eS	Sg	14 18 37.6	0.0
JOU	**Okura**	**0.79**	**42**	P	Pg	14 18 32.2	0.0
JOU				S	Sg	14 18 42.5	+0.1
JFK	**Kawauchi**	**0.81**	**120**	P	Pg	14 18 32.5	-0.1
JFK				S	Sg	14 18 43.3	+0.1
JYA	**Atsumi**	**0.84**	**345**	P	Pg	14 18 33.2	-0.1
JYA				S	Sg	14 18 44.2	-0.1
JAW	**Awa shima**	**0.90**	**319**	P	Pg	14 18 34.5	+0.1
JAW				eS	Sb	14 18 47.4	+0.3
MAT	**Matsushiro**	**1.89**	**230**	P	Pn	14 18 49.9	+0.2
MAT				S	Sb	14 19 15.3	-0.4

*BJI **09** 14:29:08.2±0.0, 36.83N×121.68E, h8km, ML3.7/13*

*KMA **09** 14:29:46.8±0.3, 35.53N×124.52E, h49km±17km, Error ellipse: s-maj=7.3km s-min=1.8km az=271.0*

ISC 09 14:29:08.4±0.8, 37.01N±0.05×121.82E±0.05, h10km, n10, σ1s06/15, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.90**	**355**	P	**Pb**	**14 29 42.7**	**-0.4**
DL2				Pg	**Pg**	**14 29 44.6**	**-0.2**
DL2				Sg	**Sg**	**14 30 10.6**	**+1.2**
DL2				SMN			
	740nm,0.5s						
DL2				SME			
	730nm,0.8s						
HUK2	**Heuksan-myeon**	**3.75**	**127**	P	**Pn**	**14 30 06.7**	**+0.4**
	SNR=19						
TIA	**Tai'an**	**3.86**	**259**	Pg	**Pb**	**14 30 15.0**	**-1.6**
TIA				Sg	**Sb**	**14 31 03.4**	**0.0**
TIA				SMN			
	140nm,0.6s						
TIA				SME			
	110nm,0.7s						
HAWB	**Hwaseong-si**	**3.96**	**87**	P	**Pg**	**14 30 23.3**	**-1.0**
	SNR=7.8						
GOCB	**Gochang-gun**	**4.21**	**112**	P	**Pn**	**14 30 14.0**	**+1.4**
	SNR=18						
KSKWJ	**Gwangju**	**4.58**	**112**	P	**Pn**	**14 30 18.4**	**+0.8**
	SNR=11						
SNY	**Shenyang**	**5.00**	**15**	Pg	Pg	14 31 18.6	+34
SNY				Sg	**Sg**	**14 31 47.6**	**-1.3**
SNY				SMN			
	160nm,0.8s						
SNY				SME			
	150nm,0.7s						
KOHB	**KOHEUNG**	**5.03**	**117**	P	**Pn**	**14 30 24.0**	**0.0**
	SNR=8.6						
BJI	**Beijing**	**5.36**	**306**	Pn	**Pn**	**14 30 29.1**	**+0.7**
BJI				Sn	**Sn**	**14 31 30.1**	**-0.1**
BJI				SMN			
	42nm,0.9s						
BJI				SME			
	30nm,0.8s						
NJ2	**Nanjing**	**5.52**	**207**	ePg	**Pb**	**14 30 44.1**	**-0.8**
NJ2				Sg	**Sb**	**14 31 52.8**	**+1.7**
NJ2				SMN			
	85nm,0.4s						
NJ2				SME			
	59nm,0.4s						

IDC 09 14:42:45.8±4.5, 3.01S×140.09E, h209km±64km, mb3.1/3, mb1 3.2/4, mb1mx2.8/43, mbtmp3.7/4, MS3.6/1, Ms1 3.8/1, ms1mx2.8/15, Error ellipse: s-maj=117.6km s-min=36.7km az=3.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.74**	**198**	P	P	14 46 37.9	-0.4
	0.4nm,0.3s,baz=23,slow=12,SNR=17						
WRA				S	S	14 49 41.6	-10
	0.2nm,0.3s,baz=20,slow=21,SNR=5.4						
FITZ	**Fitzroy Crossi**	**20.62**	**222**	P	P	14 47 09.7	+0.4
	1.8nm,0.5s,baz=39,slow=8.8,SNR=8.0						
FITZ				S	S	14 50 47.8	-0.2
	2.0nm,0.8s,baz=316,slow=23,SNR=2.2						
ASAR	**Alice Springs**	**21.39**	**196**	P	P	14 47 17.6	+0.3
	0.3nm,0.3s,baz=23,slow=11,SNR=22						
ASAR				S	S	14 51 03.2	+1.9
	0.2nm,0.7s,baz=16,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**28.75**	**177**	P	P	14 48 23.2	-0.7
	0.7nm,0.2s,baz=16,slow=7.4,SNR=1.4						
CMAR	**Chiang Mai Arr**	**45.79**	**299**	LR	LR	15 09 58.2	
	comp=Z,72nm,20.5s,baz=7.5,slow=36						

*IDC **09** 14:46:27.0±0.9, 32.96N×98.84E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/55, mbtmp3.8/12, ML3.7/3, MS3.3/2, Ms1 3.4/2, ms1mx2.9/42, Error ellipse: s-maj=32.0km s-min=16.2km az=60.0*

*NEIC **09** 14:46:29.9±1.6, 33.07N±0.08×99.0E±0.1, h15km±3km, mb4.7/23, Error ellipse: s-maj=15.6km s-min=9.9km az=61.0*

*BJI **09** 14:46:29.7±0.0, 32.99N×98.89E, h5km, mb4.2/3, ML3.9/16, Ms3.7/10, Ms7 3.7/9*

ISC 09 14:46:28.6±0.4, 33.03N±0.04×98.86E±0.05, h10km, n58, σ1s49/63, mb4.1/20, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.67**	**116**	Pn	**Pn**	**14 47 41.7**	**+2.5**
CD2				Pg	**Pg**	**14 47 56.3**	**-1.8**
CD2				Sg	**Sg**	**14 48 57.7**	**-0.9**
CD2				SMN			
	230nm,1.0s						
CD2				SME			
	190nm,1.1s						
LZH	**Lanzhou**	**5.13**	**52**	ePg	**Pg**	**14 48 05.1**	**-1.7**
LZH				Sg	**Sg**	**14 49 12.4**	**-0.8**
LZH				SMN			
	140nm,1.2s						
LZH				SME			
	100nm,1.2s						
LZH				L	L		
	comp=E,2µm,6.8s						
LZH				L	L		
	comp=Z,510nm,7.3s						
GTA	**Gaotai**	**6.42**	**7**	ePn	Pn	14 48 08.7	+5.4
GTA				L	L		
	comp=N,470nm,8.5s						
GTA				L	L		
	comp=E,300nm,9.1s						
GTA				L	L		
	comp=Z,510nm,9.8s						
MOKO	**MOKOCHONG**	**7.67**	**211**	eP	**Pn**	**14 48 23.3**	**+2.7**
MOKO				eS	**Sn**	**14 49 49.1**	**+1.4**
MOKO				IAML		14 49 57.1	
	comp=E,60nm,0.6s						
MOKO				IAML		14 49 57.2	
	comp=N,56nm,0.6s						
KOHI	**KOHIMA**	**8.37**	**211**	eP	**Pn**	**14 48 33.6**	**+3.4**
KOHI				eS	**Sn**	**14 50 01.9**	**-2.9**
KOHI				IAML		14 50 18.5	
	comp=E,46nm,1.0s						
KOHI				IAML		14 50 18.9	
	comp=N,45nm,0.7s						
GUWA	**GUWAHATI**	**9.23**	**224**	eS	**Sn**	**14 50 20.7**	**-5.0**
SHL	**Shillong**	**9.60**	**221**	eP	**Pn**	**14 48 48.6**	**+1.6**
SHL				eP	**Pn**	**14 48 50.0**	**+2.9**
SHL				eS	**Sn**	**14 50 34.0**	**-1.1**
SHL	**Shillong**	**9.60**	**221**	Pn	**Pn**	**14 48 49.8**	**+2.8**
TAPN	**Taplejung**	**11.18**	**243**	eP	**Pn**	**14 49 09.9**	**+1.2**
	comp=N,7.6nm,0.3s						
ODAN	**Odare**	**11.68**	**241**	eP	**Pn**	**14 49 17.5**	**+1.9**
	comp=N,20nm,0.4s						
RAMN	**Ramite**	**12.22**	**244**	eP	**Pn**	**14 49 25.0**	**+2.0**
	comp=N,22nm,0.5s						
GUN	**Gumba**	**12.30**	**249**	eP	**Pn**	**14 49 24.8**	**+0.7**
	comp=N,12nm,0.3s						
PKI	**Pulchoki**	**12.82**	**248**	eP	**Pn**	**14 49 31.1**	**-0.2**
	comp=N,16nm,0.6s						
PKIN	**Phulchoki**	**12.83**	**248**	eP	**Pn**	**14 49 31.1**	**-0.2**
	comp=N,15nm,0.5s						
DANN	**Dangsing**	**13.80**	**254**	eP	**Pn**	**14 49 44.1**	**-0.4**
WMQ	**Urumqi**	**13.87**	**324**	eP	**P**	**14 49 50.6**	**-3.0**
CHTO	**Chiang Mai**	**14.15**	**180**	P	**P**	**14 49 56.7**	**-0.1**
KOLN	**Koldanda**	**14.16**	**252**	eP	**Pn**	**14 49 48.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**14.51**	**180**	Pn	**Pn**	**14 49 54.2**	**+0.2**
	comp=N,0.1nm,0.3s,baz=355,slow=12,SNR=15						
CMAR				LR	LR	14 55 45.0	
	comp=N,86nm,21.4s,baz=10.0,slow=39						
SONM	**Songino Array**	**15.85**	**19**	Pn	**Pn**	**14 50 12.3**	**+0.4**
	comp=N,0.5nm,0.3s,baz=128,slow=45,SNR=3.4						
ULN	**Ulaanbaatar**	**16.07**	**20**	P	**P**	**14 50 18.3**	**+0.2**
UBPT	**Khong Chiam**	**18.66**	**160**	P	**Pn**	**14 50 46.5**	**-0.5**
MK31	**Makanchi Array**	**18.67**	**322**	P	**P**	**14 50 45.6**	**-1.1**
MKAR	**Makanchi Array**	**18.67**	**322**	P	**Pn**	**14 50 47.6**	**+0.6**
	comp=N,0.3nm,0.3s,baz=135,slow=13,SNR=16						
MKAR	**Makanchi Array**	**18.67**	**322**	P	**P**	**14 50 46.2**	**-0.5**
MAKZ	**Makanchi**	**18.84**	**322**	P	**P**	**14 50 48.7**	**+0.2**
NIL	**Nilore**	**21.39**	**279**	P	**P**	**14 51 14.7**	**-1.7**
NIL				IAmb	IAmb	14 51 27.2	
	comp=Z,9.2nm,0.7s						
KURBB	**Kurchatov Array**	**23.08**	**326**	P	**P**	**14 51 34.6**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=128,slow=12,SNR=8.6						
KURK	**Kurchatov**	**23.10**	**326**	P	**P**	**14 51 34.6**	**+0.2**
ZAA0	**Zalesovo Array**	**23.18**	**339**	P	**P**	**14 51 35.2**	**0.0**
ZAA0				IAmb	IAmb	14 51 38.2	
	comp=Z,4.5nm,0.7s						
ZALV	**Zalesovo Beam**	**23.18**	**339**	P	**P**	**14 51 36.7**	**+1.5**
	comp=Z,4.3nm,0.8s,baz=144,slow=10,SNR=15						
ZALV	**Zalesovo Beam**	**23.18**	**339**	P	**P**	**14 51 35.2**	**0.0**
KSAR	**Wonju Array Be**	**24.07**	**71**	P	**P**	**14 51 42.7**	**-1.4**
KSRS	**Korea Array**	**24.10**	**71**	P	**P**	**14 51 45.3**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=260,slow=8.4,SNR=11						
SRIT	**Nakonsritamara**	**24.32**	**178**	P	**P**	**14 51 46.6**	**+0.1**
KKAR	**Karatay Array**	**24.38**	**303**	P	**P**	**14 51 48.5**	**+1.6**
CHGR	**Chuyangaron**	**24.66**	**292**	P	**P**	**14 51 51.0**	**+1.4**
CHGR				IAmb	IAmb	14 52 14.2	
	comp=Z,25nm,1.3s						
NRIK	**Noril'sk**	**36.92**	**353**	LR	LR	15 10 13.3	
	comp=Z,79nm,21.5s,baz=211,slow=39						
BKB	**Balikpapan**	**38.12**	**150**	P	**P**	**14 53 46.6**	**-1.3**
TIXI	**Tiksi**	**41.85**	**14**	P	**P**	**14 54 18.4**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=200,slow=4.2,SNR=6.9						
TIXI	**Tiksi**	**41.85**	**14**	P	**P**	**14 54 18.2**	**-0.1**
MMRI	**Maumere**	**47.03**	**148**	P	**P**	**14 55 01.2**	**+0.8**
FINES	**FINESS Array B**	**53.47**	**325**	P	**P**	**14 55 49.2**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=134,slow=5.5,SNR=4.2						
ARCES	**ARCESS Array B**	**53.67**	**335**	P	**P**	**14 55 50.9**	**+0.9**
ARCES				IAmb	IAmb	14 55 57.7	
	comp=Z,26nm,1.4s						
NB201	**NORSAR Array S**	**60.57**	**326**	P	**P**	**14 56 38.4**	**-0.6**
NOA	**NORSAR Array B**	**60.61**	**326**	P	**P**	**14 56 38.7**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=77,slow=6.5,SNR=2.7						
GAMB	**Gambell**	**60.69**	**31**	P	**P**	**14 56 38.5**	**-1.2**
GAMB				IAmb	IAmb	14 56 38.7	
	comp=Z,23nm,1.3s						
WRA	**Warramunga Arr**	**62.64**	**142**	P	**P**	**14 56 53.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=316,slow=9.3,SNR=6.8						
GRA1	**Grafenberg Arr**	**64.21**	**314**	P	**P**	**14 57 03.5**	**0.0**
GRA1				IAmb	IAmb	14 57 05.6	
	comp=Z,9.8nm,0.6s						
GRFO	**Grafenberg**	**64.22**	**314**	P	**P**	**14 57 03.9**	**+0.3**
GRFO				IAmb	IAmb	14 57 05.5	
	comp=Z,9.5nm,0.7s						
AS31	**Alice Springs**	**65.54**	**145**	P	**P**	**14 57 11.7**	**-0.7**
AS31				IAmb	IAmb	14 57 31.1	
	comp=Z,1.1nm,1.1s						
ASAR	**Alice Springs**	**65.54**	**145**	P	**P**	**14 57 11.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=328,slow=6.5,SNR=9.4						
VLC	**Villacollemand**	**66.87**	**309**	P	**P**	**14 57 21.2**	**+0.3**
VLC				IAmb	IAmb	14 57 24.5	
	comp=Z,12nm,1.2s						
BMAR	**Burnt Mountain**	**69.18**	**22**	P	**P**	**14 57 36.0**	**+0.9**
ILAR	**Eielson Array**	**69.99**	**25**	P	**P**	**14 57 39.2**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=283,slow=5.3,SNR=2.5						
CLF	**Chambon-Foret**	**70.19**	**315**	P	**P**	**14 57 43.5**	**+1.5**
CLF				IAmb	IAmb	14 58 07.0	
	comp=Z,25nm,1.3s						
TULEG	**Thule**	**70.42**	**357**	P	**P**	**14 57 43.3**	**+0.9**
SFJD	**Kangerlussuaq**	**77.62**	**348**	P	**P**	**14 58 24.9**	**+0.3**
SFJD				IAmb	IAmb	14 58 53.0	
	comp=Z,5.8nm,1.1s						

*MAN **09** 15:02:33.3, 5.66N×126.49E, h68km, MS3.2*

*NEIC **09** 15:02:35.7±2.0, 5.81N±0.07×126.43E±0.09, h101km±6km, mb4.4/26, Error ellipse: s-maj=13.7km

CMAR	Chiang Mai Arr	29.60	298	P		P		15 08 29.6	-1.4
AS31	Alice Springs	30.15	166	P		P		15 08 35.2	-0.6
ASAR	Alice Springs	30.15	166	P		P		15 08 35.9	0.0
	comp=Z,0.9nm,0.4s,baz=341,slow=7.3,SNR=34								
ASAR				PcP		PcP		15 11 35.6	+0.5
	comp=Z,0.4nm,0.6s,baz=351,slow=2.7,SNR=5.8								
GIRL	Giralia	30.62	202	P		P		15 08 40.0	+0.1
FORT	Forrest	36.36	178	P		P		15 09 30.1	+0.4
BBOO	Buckleboo	39.44	167	P		P		15 09 56.1	+0.6
BBOO				IAmb		IAmb		15 10 14.1	
	comp=Z,22nm,1.2s								
NWAO	Narrogin (SRO)	39.44	192	P		P		15 09 56.2	+0.7
STKA	Stephens Creek	40.13	160	P		P		15 10 00.8	-0.5
	comp=Z,1.8nm,0.4s,baz=351,slow=7.5,SNR=11								
ARMA	Armidale	43.34	148	P		P		15 10 27.6	0.0
ARMA				IAmb		IAmb		15 10 56.0	
	comp=Z,11nm,1.4s								
ULN	Ulaanbaatar	45.10	342	P		P		15 10 41.5	-0.1
SONM	Songino Array	45.28	341	P		P		15 10 43.0	0.0
	comp=Z,0.3nm,0.4s,baz=151,slow=6.3,SNR=1.9								
DZM	Mont Dzumac	47.99	127	P		P		15 11 04.7	+0.3
MK31	Makanchi Array	55.71	325	P		P		15 12 00.3	-1.0
MK31				IAmb		IAmb		15 12 01.2	
	comp=Z,1.4nm,0.5s								
MKAR	Makanchi Array	55.71	325	P		P		15 12 00.6	-0.7
	comp=Z,2.0nm,0.5s,baz=119,slow=7.6,SNR=30								
MKAR	Makanchi Array	55.71	325	P		P		15 12 00.2	-1.1
MAKZ	Makanchi	55.90	325	P		P		15 12 01.7	-1.0
MAKZ				IAmb		IAmb		15 12 24.1	
	comp=Z,2.5nm,1.1s								
NIL	Nilore	56.44	307	P		P		15 12 06.0	-0.7
NIL				IAmb		IAmb		15 12 21.9	
	comp=Z,8.7nm,1.1s								
ZALV	Zalesovo Beam	58.64	333	P		P		15 12 23.0	+1.2
	comp=Z,2.4nm,0.8s,baz=130,slow=8.5,SNR=6.2								
KKAR	Karatay Array	61.53	316	P		P		15 12 40.6	-1.2
BRVK	Borovoye	65.52	327	P		P		15 13 06.7	-1.2
BRVK				IAmb		IAmb		15 13 17.0	
	comp=Z,1.8nm,0.7s								
TIXI	Tiksi	65.84	1	P		P		15 13 09.7	+0.2
TIXI				IAmb		IAmb		15 13 14.4	
	comp=Z,3.6nm,1.4s								
NRIK	Noril'sk	68.40	346	P		P		15 13 25.9	+0.1
	comp=Z,2.9nm,0.6s,baz=113,slow=2.1,SNR=4.1								
NRIK	Noril'sk	68.40	346	P		P		15 13 26.4	+0.7
NRIK				IAmb		IAmb		15 13 26.8	
	comp=Z,4.1nm,0.8s								
NIKH	Nikolski High	70.37	36	P		P		15 13 37.0	-1.3
ABKAR	Akbulak array	70.38	320	P		P		15 13 37.0	-1.3
CASY	Casey	72.77	187	P		P		15 13 52.8	+0.5
VNDA	Vanda	85.46	173	P		P		15 15 01.7	+0.4
	comp=Z,0.7nm,0.9s,baz=310,slow=7.7,SNR=2.4								
ARCES	ARCESS Array B	88.44	340	P		P		15 15 15.2	-0.7
	comp=Z,1.1nm,0.4s,baz=73,slow=5.2,SNR=11								
BRTR	Keskin Array B	88.47	310	P		P		15 15 14.9	-2.0
	comp=Z,0.4nm,0.5s,baz=66,slow=3.5,SNR=2.2								
FINES	FINESS Array B	89.90	332	P		P		15 15 22.2	-0.6
	comp=Z,1.7nm,0.9s,baz=64,slow=4.8,SNR=1.9								
TORD	Torodi Ar. Bea	121.95	289	PKP		PKPdf		15 21 18.3	-0.6
	comp=Z,0.3nm,0.4s,baz=129,slow=2.0,SNR=2.4								

*SJA **09** 15:04:05.6±0.6,20°.20S×71°.03W,h18km±3km, ML3.9, MW4.0*

*NEIC **09** 15:04:06.7,20°.19S×71°.12W,h20km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.67; $M_{\theta\theta}$=0.15; $M_{\phi\phi}$=-0.82; $M_{r\theta}$=-0.04; $M_{\theta\phi}$=0.31; $M_{r\phi}$=0.89; Fault plane solution: M_0=1.21000×10^{15} NP1:ϕ=355.76000°, δ=69.71000°, λ=101.21000°. NP2:ϕ=146.02000°, δ=23.06000°, λ=62.27000°. Principal axes: T 1.0947, Plg64.0000°, Azm284.0000°; N 0.1993, Plg10.0000°, Azm172.0000°; P -1.2940, Plg24.0000°, Azm77.0000°;*

*IDC **09** 15:04:07.2±3.5,20°.97S×70°.17W,h0km,mb4.3/1, mb1 4.0/2,mb1mx3.6/29,mbtmp4.0/2,ML3.5/1,MS3.0/1, Ms1 3.2/1,ms1mx2.7/27 Error ellipse: s-maj=125.3km s-min=43.1km az=101.0*

*NEIC **09** 15:04:07.7±1.3,20°.22S±0°.04×70°.95W±0°.04,h13km±4km, mb4.3/2,Mwr4.0/44,ML4.0(GUC),Error ellipse: s-maj=5.8km s-min=5.2km az=95.0*

*GUC **09** 15:04:10.8±0.9,20°.21S×70°.88W,h32km±3km, ML3.7*

ISC 09 15:04:04.7±1.5,20°.14S±0°.02×71°.05W±0°.06,h6km±9km, n66,σ1°18/90,7C-6D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TA02	Huaiquique	0.87	99	⇓*iP*		Pn	15 04 22.8			-0.6
TA02				*i* S		Sg	15 04 32.6			-0.1
TA02	Huaiquique	0.87	99	Pg		Pb	15 04 22.7			+0.5
TA02				Sg		Sg	15 04 32.4			-0.3
TA01	Diego Aracena	0.91	118	⇓*iP*		Pb	15 04 23.5			+0.5
TA01				*i* S		Sg	15 04 33.8			-0.4
TA01				IAML			15 04 35.1			
	comp=N,6μm,0.3s									
TA01	Diego Aracena	0.91	118	Pg		Pb	15 04 23.4			+0.5
PSGC	Pisagua	1.02	58	⇓*iP*		Pn	15 04 26.6			+0.9
PSGC				*i* S		Sn	15 04 39.3			-1.1
PSGCX	Pisagua	1.02	58			Pn	15 04 26.4			+0.8
PSGCX				Sg		Sn	15 04 39.7			-0.7
PSGCX	Pisagua	1.02	58	*eP*		Pg	15 04 23.1			-1.3
PSGCX				*eP*		Pb	15 04 23.4			-1.5
PSGCX				*eP*		Pb	15 04 23.4			-1.5
PSGCX				*eP*		Pn	15 04 26.6			+1.0
PSGCX				IAML			15 04 41.6			
	comp=Z,1μm,0.2s									
PATCX	Punta Patache	1.07	129	⇓*iP*		Pn	15 04 26.2			-0.1
PATCX				*i* S		Sg	15 04 38.5			-0.8
PATCX	Punta Patache	1.07	129			Pn	15 04 26.3			-0.1
PATCX				Sg		Sg	15 04 38.8			-0.6
PATCX	Punta Patache	1.07	129	*eP*		Pn	15 04 26.2			-0.1
PATCX				*eP*		Pn	15 04 26.2			-0.1
PATCX				*eP*		Pg	15 04 26.6			+1.2
PATCX				*eP*		Pg	15 04 26.6			+1.2
PATCX				IAML			15 04 44.4			
	comp=Z,2μm,0.3s									
HMBC	Humberstone	1.10	97	⇓*iP*		Pn	15 04 26.6			-0.1
HMBC				*i* S		Sg	15 04 38.8			-1.2
PB11	IPOC Station P	1.36	74	⇓*iP*		Pg	15 04 31.4			+0.6
PB11				*i* S		Sn	15 04 47.8			-1.0
PB11	IPOC Station P	1.36	74			Pg	15 04 31.1			+0.2
PB11	IPOC Station P	1.36	74	*eP*		Pg	15 04 31.5			+0.6
PB11				*eS*		Sg	15 04 49.2			+0.7
PB11				IAML			15 04 51.8			
	comp=Z,2μm,0.3s									
MNMC	Minye Minye	1.70	54	*eP*		Pg	15 04 37.6			+0.3
MNMC				*i* S		Sg	15 04 59.2			-0.1
MNMC	Minye Minye	1.70	54			Pg	15 04 37.5			+0.2
MNMCX	Minye Minye	1.70	54	*eP*		Pg	15 04 38.0			+0.7
MNMCX				*eS*		Sg	15 05 00.4			+1.1
MNMCX				IAML			15 05 03.4			
	comp=Z,3μm,0.3s									
PB01	IPOC Station P	1.71	122	⇑*iP*		Pb	15 04 36.4			-0.3
PB01				*i* S		Sn	15 04 56.2			-1.2
PB01				IAML			15 05 00.8			
	comp=N,4μm,0.4s									
PB01	IPOC Station P	1.71	122			Pb	15 04 36.3			-0.3
PB01	IPOC Station P	1.71	122	*eP*		Pb	15 04 36.4			-0.3
PB01				*eS*		Sg	15 04 58.7			-1.1
PB01				IAML			15 05 03.0			
	comp=Z,2μm,0.2s									
PB08	IPOC Station P	1.78	90	⇑*iP*		Pb	15 04 37.8			-0.1
PB08				*i* S		Sn	15 04 58.7			-0.7
PB08				IAML			15 05 03.5			
	comp=N,1μm,0.3s									
PB08	IPOC Station P	1.78	90			Pb	15 04 37.5			-0.4
PB08	IPOC Station P	1.78	90	*eP*		Pb	15 04 37.9			0.0
PB08				*eS*		Sb	15 04 59.9			-0.7
PB08				IAML			15 05 01.0			
	comp=Z,880nm,0.7s									
AP01	Chacalluta	1.88	21	Pn		Pb	15 04 39.3			-0.2
PB07	IPOC Station P	1.91	146	⇑*iP*		Pn	15 04 39.0			+1.0
PB07	IPOC Station P	1.91	146			Pn	15 04 38.7			+0.8
PB07	IPOC Station P	1.91	146	*eP*		Pn	15 04 39.0			+1.0
PB07				*eP*		Pb	15 04 39.1			-1.0
PB07				*eS*		Sb	15 05 03.9			-0.4
PB07				IAML			15 05 11.7			
	comp=Z,792nm,0.3s									
PB04	IPOC Station P	2.33	159	⇑*iP*		Pn	15 04 44.6			+0.9
PB04				*i* S		Sn	15 05 09.7			-3.1
PB04				IAML			15 05 27.1			
	comp=E,624nm,0.4s									
PB04	IPOC Station P	2.33	159			Pn	15 04 44.5			+0.7
PB04	IPOC Station P	2.33	159	*eP*		Pn	15 04 44.8			+1.0
PB04				*eS*		Sn	15 05 10.3			-2.6
PB04				IAML			15 05 23.9			
	comp=Z,511nm,0.3s									
PB09	IPOC Station P	2.36	135	⇑*iP*		Pb	15 04 46.3			-1.4
PB09				*eS*		Sn	15 05 13.4			0.0
PB09	IPOC Station P	2.36	135			Pb	15 04 46.0			-1.6
PB09	IPOC Station P	2.36	135	*eP*		Pn	15 04 45.1			+1.1
PB09				*eS*		Sg	15 05 18.9			-1.6
PB09				IAML			15 05 30.4			
	comp=Z,806nm,0.4s									
PB05	IPOC Station P	2.81	164	⇑*iP*		Pn	15 04 50.9			+0.6
PB05				IAML			15 05 46.4			
	comp=N,239nm,0.5s									
PB05	IPOC Station P	2.81	164	*eP*		Pn	15 04 51.4			+1.1
PB05				*eS*		Sn	15 05 22.6			-1.9
PB05				IAML			15 05 48.8			
	comp=Z,218nm,0.6s									
PB06	IPOC Station P	2.90	152			Pn	15 04 51.9			+0.4
PB06	IPOC Station P	2.90	152	*eP*		Pn	15 04 52.6			+1.1
PB06				*eS*		Sn	15 05 25.9			-0.8
PB06				IAML			15 05 41.3			
	comp=Z,487nm,0.9s									
LVC	Limon Verde	3.16	141	⇑*iP*		Pn	15 04 57.8			+2.5
LVC	Limon Verde	3.16	141			Pn	15 04 55.2			-0.1
LVC	Limon Verde	3.16	141	*eP*		Pn	15 04 57.8			+2.5
LVC				*eS*		Sg	15 05 44.4			-1.9
LVC				IAML			15 05 45.7			
	comp=Z,170nm,2.4s									
PB15	IPOC Station P	3.38	155			Pn	15 04 58.8			+0.6
PB15	IPOC Station P	3.38	155	*eP*		Pn	15 04 59.6			+1.3
PB15				*eS*		Sg	15 05 52.8			-0.7
PB15				IAML			15 05 56.7			
	comp=Z,557nm,0.6s									
PB10	IPOC Station P	3.39	172			Pn	15 04 57.5			-0.6
PB10	IPOC Station P	3.39	172	*eP*		Pn	15 04 59.5			+1.4
PB10				*eS*		Sn	15 05 40.0			+1.4
PB14	IPOC Station P	4.50	173			Pn	15 05 13.3			-0.4
LPAZ	La Paz	4.73	36	Pn		Pb	15 05 26.2			-2.2
	comp=Z,1.1nm,0.3s,baz=273,slow=2.3,SNR=19									
LPAZ				Pg		Pg	15 05 37.6			+2.2
	comp=Z,1.7nm,0.3s,baz=208,slow=18,SNR=11									
LPAZ				Lg		Lg	15 06 41.9			
	comp=Z,1.1nm,0.3s,baz=0.4,slow=21,SNR=1.4									
LPAZ				LR		LR	15 07 36.5			
	comp=Z,181nm,21.1s,baz=262,slow=42									
LPAZ	La Paz	4.73	36	Pn		Pb	15 05 24.9			-3.5
LPAZ	La Paz	4.73	36	*eP*		Pb	15 05 26.0			-2.4
GO02	Mina Guanaco	5.17	165			Pn	15 05 23.9			+0.9
AC01	Pan de Azucar	5.99	176	Pn		Pn	15 05 34.5			+0.6
AC02	Maricunga	6.89	166			Pn	15 05 47.8			+1.0
CO03	El Pedregal	10.66	178	Pn		Pn	15 06 37.8			-0.2
H03N1	Juan Fernandez	14.98	206	T		T	15 23 28.7			
	baz=33,slow=72,SNR=84									
H03N2	Juan Fernandez	14.99	206	T		T	15 23 13.7			
	baz=33,slow=72,SNR=74									
H03N3	Juan Fernandez	15.00	206	T		T	15 23 04.1			
	baz=33,slow=72,SNR=88									
YCA	YACYRETA	15.02	122	*eP*		Pn	15 07 38.7			+1.1
TORD	Torodi Ar. Bea	78.80	71	P		P	15 16 09.7			+0.7
	comp=Z,1.4nm,0.5s,baz=242,slow=4.4,SNR=7.6									
TORD	Torodi Ar. Bea	78.80	71	IAmb		IAmb	15 16 10.9			
	comp=Z,3.2nm,1.1s									
H11S2	WAKE ISLAND Hyl	25.71	279	T		T	17 41 49.2			
	baz=101									
H11S1	WAKE ISLAND Hyl	25.72	279	T		T	17 41 50.3			
	baz=101									
H11S3	WAKE ISLAND Hyl	25.73	279	T		T	17 41 50.1			
	baz=101									
H11N3	WAKE ISLAND Hyl	25.77	280	T		T	17 41 52.0			
	baz=98									
H11N2	WAKE ISLAND Hyl	25.78	280	T		T	17 41 53.1			
	baz=98									
H11N1	WAKE ISLAND Hyl	25.78	280	T		T	17 41 52.7			
	baz=98									
MKAR	Makanchi Array	145.65	33	PKPbc		PKiKP	15 23 47.6			-0.5
	comp=Z,1.5nm,0.8s,baz=321,slow=2.9,SNR=9.0									
MKAR	Makanchi Array	145.65	33	PKPbc		PKPab	15 23 45.9			+1.3

IDC 09 15:07:08.7±15.0,5°.60S×151°.16E,h157km±132km, mb3.3/3,mb1 3.5/3,mb1mx3.0/31,mbtmp3.7/3,Error ellipse: s-maj=103.7km s-min=65.6km az=135.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	Warramunga Arr	21.70	227	P		P	15 11 47.6			+0.1
	1.1nm,0.6s,baz=53,slow=10,SNR=7.3									
ASAR	Alice Springs	24.48	221	P		P	15 12 13.3			-0.1
	0.6nm,0.6s,baz=59,slow=8.6,SNR=9.8									
FITZ	Fitzroy Crossi	27.85	241	P		P	15 12 43.4			-0.3
	4.5nm,1.1s,baz=54,slow=9.5,SNR=3.1									
TORD	Torodi Ar. Bea	148.98	286	PKPbc		PKPbc	15 26 38.9			-0.3
	0.3nm,0.5s,baz=69,slow=2.8,SNR=2.0									

*ISN **09** 15:13:59.3±0.5,33°.06N×45°.87E,h2km±3km, ML3.1*

*TEH **09** 15:14:01.6,33°.09N×45°.96E,h14km, ML3.1*

ISC 09 15:14:00.3±1.1,33°.08N±0°.04×45°.93E±0°.04,h2km±9km, n18,σ1°18/22,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
IBDR	Badra	0.03	5	*ePg*		Pg	15 14 01.0			0.0
IBDR				*eSg*		Sg	15 14 02.0			+0.5
IBDR				AML		AML	15 14 07.5			
	comp=E,10μm,0.4s									
IBDR				AML		AML	15 14 07.5			
	comp=N,12μm,0.2s									
DHL1	Dehloran	1.21	109	*ePg*		Pg	15 14 24.0			+0.6
BHD	Baghdad	1.31	279	*ePn*		Pg	15 14 26.0			+0.6
BHD				*eSn*		Sn	15 14 45.0			+1.4
IGHG	Ghaleghazi	1.36	23	*ePg*		Pg	15 14 27.7			+1.4
IGHG				*e*			15 14 51.1			
	comp=Z,8μm,0.7s									
KER	Kermanshah	1.65	37	*ePg*		Pg	15 14 31.9			+0.1
IDHR	Dehrash	1.66	13	*ePg*		Pb	15 14 31.7			0.0
IDHR				*e*			15 14 32.7			
	comp=Z,5μm,0.2s									
IKFM	Kafar-mosalman	1.67	74	*ePg*		Pg	15 14 32.2			-0.1
IKFM				*e*			15 14 57.6			
	comp=Z,3μm,0.6s									
IDOB	Doab	2.01	69	*ePn*		Pn	15 14 36.2			+0.8
ILIN	Lien	2.03	25	*ePn*		Pb	15 14 37.4			-0.6
ILIN				*e*			15 14 38.7			
	comp=Z,807nm,0.2s									
NSR	Nassriya	2.07	175	*ePn*		Pb	15 14 37.0			-1.6
NSR				*eSn*		Sb	15 15 04.0			-0.7
IBZA	Bozab	2.12	49	*ePn*		Pb	15 14 38.6			-1.1
IBZA				*e*			15 14 44.2			
	comp=Z,703nm,0.4s									
BMDN	Meydan	2.50	76	*ePn*		Pn	15 14 43.2			+1.1
BMDN				*e*			15 15 35.5			
	comp=Z,396nm,1.0s									
HSAM	Samen	2.50	62	*ePn*		Pn	15 14 41.8			-0.4
HSAM				*e*			15 14 50.2			
	comp=Z,343nm,0.4s									
IKRK	Kirkuk	2.66	331	*ePn*		Pn	15 14 45.0			+0.8
IKRK				*eSn*		Sb	15 15 19.0			-2.8
IKRK				AML		AML	15 15 29.7			
	comp=E,52nm,0.6s									
IKRK				AML		AML	15 15 30.7			
	comp=N,84nm,0.6s									
QABG	Abgarm-Qazvin	4.00	48	*ePn*		Pn	15 15 02.2			-0.6
IPIR	Pirpir	4.20	94	*ePn*		Pn	15 15 07.4			+1.8
IPIR				*e*			15 16 06.8			
	comp=Z,179nm,0.4s									
QAMS	Qamsar	4.62	80	*ePn*		Pn	15 15 12.4			+1.0
KRSH	Karshahi	5.26	79	*ePn*		Pn	15 15 20.7			+0.6

*IDC **09** 15:21:31.7±0.8,14°.00N×146°.59E,h0km,mb4.0/14, mb1 4.2/14,mb1mx4.0/46,mbtmp4.0/14,MS3.3/3, Ms1 3.4/3,ms1mx3.0/27,Error ellipse: s-maj=22.8km s-min=19.0km az=91.0*

*NEIC **09** 15:21:37.4±1.8,14°.01N±0°.04×146°.5E±0°.1,h35km±1km, mb4.5/14,Error ellipse: s-maj=19.4km s-min=6.8km az=100.0*

ISC 09 15:21:37.2±0.6,14°.0N±0°.1×146°.5E±0°.1,h37km,n41, σ0°.88/36,mb4.2/19,MS3.3/3,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PATS	Pohnpei	13.63	120	Pn		Pn	15 24 40.5			-7.6
JOW	Kunigami	21.27	310	P		P	15 26 22.5			+2.0
	14nm,0.7s,baz=154,slow=14,SNR=5.6									
JOW	Kunigami	21.27	310	IAmb		IAmb	15 26 28.0			
	comp=Z,51nm,1.3s									
FAKI	Fak Fak	21.96	221	P		P	15 26 27.2			-0.7
FAKI				IAmb		IAmb	15 26 47.9			
	comp=Z,32nm,1.0s									
MJAR	Matsushiro Arr	23.63	343	LR		LR	15 35 23.4			
	comp=Z,108nm,18.1s,baz=205,slow=35									
JNU	Nakatsue	23.75	326	P		P	15 26 45.6			-0.6
JNU				IAmb		IAmb	15 26 48.2			
	comp=Z,22nm,1.2s									
JHS	Saijyo	24.13	332	P		P	15 26 50.0			+0.2
JHS				IAmb		IAmb	15 26 54.9			
	comp=Z,10nm,1.1s									
KSRS	Korea Array	28.61	328	P		P	15 27 30.0			0.0
	comp=Z,6.8nm,1.1s,baz=148,slow=8.6,SNR=11									
KSRS				LR		LR	15 38 34.6			
	comp=Z,71nm,18.4s,baz=115,slow=36									
KSAR	Wonju Array Be	28.62	328	P		P	15 27 28.3			-1.8
KS19	Wonju Array Si	28.68	328	P		P	15 27 28.5			-2.1
WRA	Warramunga Arr	35.79	200	P		P	15 28 32.8			-0.3
	comp=Z,1.5nm,0.7s,baz=22,slow=9.7,SNR=9.5									
AS31	Alice Springs	39.41	198	P		P	15 29 03.0			-0.7
ASAR	Alice Springs	39.41	198	P		P	15 29 03.2			-0.5
	comp=Z,0.5nm,0.7s,baz=18,slow=7.8,SNR=6.9									
CMAR	Chiang Mai Arr	45.76	282	P		P	15 29 56.0			+0.5
	comp=Z,1.0nm,0.6s,baz=84,slow=6.5,SNR=11									
CMAR				LR		LR	15 48 42.2			
	comp=Z,22nm,20.1s,baz=235,slow=36									
CMAR	Chiang Mai Arr	45.76	282	P		P	15 29 55.2			-0.3
SONM	Songino Array	47.31	324	P		P	15 30 08.5			+1.2
	comp=Z,1.5nm,0.8s,baz=129,slow=6.7,SNR=5.1									
SONM	Songino Array	47.31	324	IAmb		IAmb	15 30 10.4			
	comp=Z,5.3nm,1.4s									
BILL	Bilibino	55.50	9	P		P	15 31 08.3			+0.2
BILL				IAmb		IAmb	15 31 10.5			
	comp=Z,7.8nm,1.2s									
LTZ	Lake Taylor	61.27	159	P		P	15 31 50.2			+1.5
ZALV	Zalesovo Beam	62.21	324	P		P	15 31 55.4			+0.5
	comp=Z,0.9nm,0.5s,baz=106,slow=9.9,SNR=4.7									
ZALV	Zalesovo Beam	62.21	324	P		P	15 31 54.4			-0.6
MK31	Makanchi Array	62.29	316	P		P	15 31 55.8			+0.1
MKAR	Makanchi Array	62.29	316	P		P	15 31 56.5			+0.8
	comp=Z,0.4nm,0.3s,baz=92,slow=8.3,SNR=12									
MKAR	Makanchi Array	62.29	316	P		P	15 31 55.4			-0.3
I23K	Minto, Yukon-K	66.62	24	P		P	15 32 23.6			0.0
ILAR	Eielson Array	67.52	25	P		P	15 32 28.4			-0.9
	comp=Z,0.3nm,0.5s,baz=256,slow=5.7,SNR=4.6									
KKAR	Karatay Array	70.36	311	P		P	15 32 47.5			+0.1
KKAR	Karatay Array	70.36	311	P		P	15 32 47.7			+0.3
KKAR				IAmb		IAmb	15 32 48.9			
	comp=Z,3.8nm,1.1s									
INK	Inuvik	73.38	22	P		P	15 33 03.6			-1.4
	comp=Z,0.7nm,0.3s,baz=215,slow=4.3,SNR=3.7									
INK	Inuvik	73.38	22	IAmb		IAmb	15 33 29.2			
	comp=Z,5.2nm,1.4s									
ABKAR	Akbulak array	77.29	318	P		P	15 33 27.5			-0.4
YKA	Yellowknife Ar	81.77	28	P		P	15 33 52.2			+0.3
	comp=Z,0.5nm,0.8s,baz=285,slow=4.2,SNR=3.8									
NVAR	Mina Array Bea	85.43	52	P		P	15 34 12.5			+1.0
	comp=Z,0.9nm,0.7s,baz=261,slow=5.4,SNR=5.6									
NVAR	Mina Array Bea	85.43	52	P		P	15 34 11.8			+0.2
ELK	Elko	87.12	49	P		P	15 34 20.7			+0.9
	comp=Z,1.6nm,0.8s,baz=284,slow=6.3,SNR=3.7									
ELK	Elko	87.12	49	P		P	15 34 19.7			-0.1
ELK				IAmb		IAmb	15 34 22.1			
	comp=Z,3.7nm,1.2s									
FINES	FINESS Array B	91.44	336	P		P	15 34 38.6			-0.8
	comp=Z,1.5nm,0.7s,baz=57,slow=7.0,SNR=8.2									
FINES	FINESS Array B	91.44	336	P		P	15 34 38.1			-1.2
DBIC	Dimbokro	144.92	304	PKPbc		PKPdf	15 41 11.1			-0.3
	comp=Z,8.9nm,0.9s,baz=69,slow=3.4,SNR=6.0									
LPAZ	La Paz	146.53	98	PKPbc		PKPab	15 41 17.2			-0.2
	comp=Z,

SHPR **Sheep Range** 17.90 344 P 15 31 25.9 +0.7
LCMT **Little Creek M** 17.95 349 P Pn 15 31 25.3 +0.2
T25A **Trinidad** 18.12 12 Pn 15 31 27.4 +0.1
T25A IAmb IAmb 15 31 31.5
comp=Z,22nm,1.4s
ISA **Isabella, Lake** 18.26 335 P 15 31 30.0 +1.0
SZCU **Shurtz Canyon** 18.49 350 P P 15 31 31.7 -0.1
SZCU IAmb IAmb 15 32 00.1
comp=Z,15nm,1.4s
CCUT **Cedar City** 18.50 349 P 15 31 32.4 +0.5
CCUT IAmb IAmb 15 31 44.7
comp=Z,14nm,1.2s
SDCO **Great Sand Dun** 18.53 9 P P 15 31 32.0 -0.2
SDCO IAmb IAmb 15 31 37.4
comp=Z,15nm,1.4s
TPNV **Topopah Spring** 18.62 341 Pn 15 31 34.4 +1.0
TPNV IAmb IAmb 15 31 54.5
comp=Z,15nm,1.2s
PV13 **Radium Mtn., P** 18.70 0 P P 15 31 34.1 +0.1
PRN **Pahroc Range** 18.72 345 P P 15 31 34.2 0.0
PRN IAmb IAmb 15 31 46.5
comp=Z,15nm,1.4s
PV02 **Paradox Valley** 18.75 1 P P 15 31 34.7 +0.1
PV18 **Skein Mesa, Pa** 18.79 0 P P 15 31 34.6 -0.4
PV18 IAmb IAmb 15 31 48.9
comp=Z,15nm,1.3s
MTPU **Mount Pierson** 18.79 352 P P 15 31 35.5 +0.2
PV03 **Paradox Valley** 18.79 0 P P 15 31 34.5 -0.6
PV19 **Morning Glory** 18.85 360 P P 15 31 35.8 +0.2
PV19 IAmb IAmb 15 32 01.2
comp=Z,13nm,1.3s
PV16 **Nyswonger Mesa** 18.85 0 P P 15 31 35.7 0.0
PV12 **Saucer Basin,** 18.86 0 P P 15 31 36.4 +0.6
PV12 IAmb IAmb 15 31 44.9
comp=Z,10nm,0.9s
PV14 **Lion Creek, Pa** 18.91 360 P P 15 31 36.5 +0.1
PV22 **Blue Mesa, Par** 19.07 0 P P 15 31 38.4 +0.3
PV22 IAmb IAmb 15 31 42.6
comp=Z,15nm,1.1s
TCRU **Three Creeks R** 19.39 352 P P 15 31 41.6 0.0
TCRU IAmb IAmb 15 31 46.2
comp=Z,17nm,1.4s
PSUT **Pine Spring** 19.54 348 P P 15 31 44.2 +0.9
SRU **San Rafael Swe** 19.70 356 P P 15 31 45.0 +0.1
R11A **Troy Canyon, C** 19.75 344 P P 15 31 46.8 +1.3
SMCO **Snowmass** 19.79 5 P P 15 31 46.9 +0.7
SMCO IAmb IAmb 15 31 51.8
comp=Z,19nm,1.3s
TMUT **Trail Mountain** 19.93 355 P P 15 31 48.0 +0.5
TMUT IAmb IAmb 15 32 08.9
comp=Z,10nm,1.3s
TPH **Tonopah** 19.96 341 P P 15 31 47.7 -0.1
P17A **Butcher Ranch,** 20.07 356 P P 15 31 50.4 +1.4
P17A IAmb IAmb 15 31 54.3
comp=Z,7.6nm,1.0s
MDPB **Devils Postpil** 20.21 336 P P 15 31 51.1 +0.5
MDPB IAmb IAmb 15 32 09.0
comp=Z,13nm,1.1s
ISCO **Idaho Springs** 20.54 7 P P 15 31 54.0 -0.2
LHV **Little Huntoon** 20.55 338 P P 15 31 55.6 +1.7
NV11 **Mina Array Sit** 20.59 339 P P 15 31 55.8 +1.2
NV11 IAmb IAmb 15 32 09.6
comp=Z,11nm,1.1s
NVAR **Mina Array Bea** 20.64 339 P P 15 31 57.0 +1.8
comp=Z,4.1nm,1.0s,baz=156,slow=12,SNR=16
NVAR **Mina Array Bea** 20.64 339 P P 15 31 56.2 +1.0
NLU **North Lily Min** 20.67 353 P P 15 31 56.5 +1.0
NLU IAmb IAmb 15 32 01.2
comp=Z,10nm,1.4s
O20A **White River Ci** 20.68 2 P P 15 31 56.0 +0.4
MPU **Maple Canyon** 20.68 354 P P 15 31 56.5 +0.8
MPU IAmb IAmb 15 32 00.7
comp=Z,7.5nm,1.1s
RYN **Ryan** 20.89 339 P P 15 31 59.1 +1.3
RYN IAmb IAmb 15 32 07.0
comp=Z,11nm,1.3s
DUG **Dugway, Tooele** 21.00 352 P P 15 31 58.0 -0.9
DUG IAmb IAmb 15 32 05.6
comp=Z,11nm,1.1s
CMB **Columbia Colle** 21.08 334 P P 15 32 00.4 +0.6
WAKR **Walker** 21.11 337 P P 15 32 00.8 +0.5
WAKR IAmb IAmb 15 32 19.7
comp=Z,15nm,1.2s
RDMU **Red Mountain** 21.11 359 P P 15 31 59.2 -1.1
KVN **Kaiserville** 21.13 340 P P 15 32 01.1 +0.7
KVN IAmb IAmb 15 32 19.6
comp=Z,13nm,1.2s
JLU **Jordanelle** 21.25 355 P P 15 32 03.1 +1.4
JLU IAmb IAmb 15 32 07.4
comp=Z,17nm,1.4s
YERR **Yerington** 21.46 338 P P 15 32 03.7 -0.3
WHAR **Wooly Hollow** 21.62 40 P P 15 32 03.6 -2.0
BGU **Big Grassy Mou** 21.74 352 P P 15 32 06.9 -0.1
ELK **Elko** 21.95 347 P P 15 32 10.2 +0.8
comp=Z,0.9nm,0.4s,baz=160,slow=7.3,SNR=8.4
ELK LR LR 15 40 17.6
comp=Z,138nm,18.4s,baz=166,slow=36
ELK **Elko** 21.95 347 P P 15 32 09.8 +0.5
ELK IAmb IAmb 15 32 21.8
comp=Z,7.4nm,1.1s
PHWY **Pilot Hill** 22.04 7 P P 15 32 10.5 +0.2
PHWY IAmb IAmb 15 32 13.3
comp=Z,7.2nm,0.9s
SPUT **South Promonto** 22.05 353 P P 15 32 10.9 +0.6
SPUT IAmb IAmb 15 32 22.2
comp=Z,11nm,1.0s
PAHR **Pah Rah Range** 22.15 338 P P 15 32 12.2 +0.8
PAHR IAmb IAmb 15 32 24.1
comp=Z,9.5nm,1.2s
RWWY **Rawlins** 22.27 3 P P 15 32 12.7 -0.1
RWWY IAmb IAmb 15 32 16.1
comp=Z,14nm,1.4s
HVU **Hansel Valley** 22.55 353 P P 15 32 16.5 +0.8
HVU IAmb IAmb 15 32 27.2
comp=Z,7.3nm,1.1s
S39A **Bolivar** 22.76 34 P P 15 32 17.4 -0.3
ORV **Oroville** 22.82 334 P P 15 32 18.9 +0.5
ORV IAmb IAmb 15 32 38.3
comp=Z,13nm,1.3s
K22A **Casper** 23.27 5 P P 15 32 23.1 -0.2
BW06 **Boulder Array** 23.31 359 P P 15 32 24.3 +0.7
PD31 **Pinedale Array** 23.31 359 P P 15 32 23.9 +0.3
PDAR **Pinedale Array** 23.31 359 P P 15 32 23.4 -0.3
comp=Z,1.2nm,0.6s,baz=164,slow=9.5,SNR=7.9
PDAR LR LR 15 41 23.2
comp=Z,116nm,18.4s,baz=178,slow=37
PDAR **Pinedale Array** 23.31 359 P P 15 32 23.1 -0.6
T42A **Van Buren** 23.51 38 P P 15 32 26.6 +1.1
ECR **Eagle Creek** 23.68 356 P P 15 32 27.4 +0.1
REDW **Red Top Meadow** 23.95 357 P P 15 32 28.2 -1.7
REDW IAmb IAmb 15 32 54.7
comp=Z,8.6nm,1.2s
PLAL **Pickwick Lake** 24.13 46 P P 15 32 29.0 -2.4
PLAL IAmb IAmb 15 32 33.3
comp=Z,5.9nm,0.9s
LOHW **Long Hollow** 24.19 357 P P 15 32 31.4 -0.6
LOHW IAmb IAmb 15 32 34.9
comp=Z,6.9nm,0.9s
MOOW **Moose Ponds** 24.33 357 P P 15 32 32.9 -0.6
MOOW IAmb IAmb 15 32 43.4
comp=Z,6.2nm,1.1s
MOD **Modoc Plateau** 24.43 339 P P 15 32 33.7 -0.5
FLWY **Flagg Ranch** 24.66 357 P P 15 32 35.8 -0.6
JTS **Las Juntas de** 24.87 108 LR LR 15 40 59.0
comp=Z,64nm,19.0s,baz=15,slow=33
BCYI **Bear Canyon** 25.12 352 P P 15 32 41.8 +1.2
YBH **Yreka Blue Hor** 25.16 335 LR LR 15 42 24.2
comp=Z,65nm,18.1s,baz=161,slow=36
J08A **Circle Bar Ran** 25.20 344 P P 15 32 41.7 +0.5
J08A IAmb IAmb 15 32 52.0
comp=Z,6.2nm,1.0s
YHB **Horse Butte** 25.35 356 P P 15 32 42.5 -0.2
YHH **Holmes Hill** 25.37 357 P P 15 32 42.6 -0.3
YHL **Hebgen Lake** 25.45 356 P P 15 32 42.6 -1.0
YHL IAmb IAmb 15 32 56.2
comp=Z,7.8nm,1.2s
YNE **Yellowstone No** 25.56 358 P P 15 32 45.5 +0.9
YNE IAmb IAmb 15 32 52.5
comp=Z,5.2nm,1.0s
MCMT **McKenzie Canyo** 25.57 354 P P 15 32 45.6 +0.9
HRY **Holter Researc** 27.35 356 P P 15 33 00.3 -0.2
TKL **Tuckaleechee C** 27.47 49 LR LR 15 44 50.0
comp=Z,40nm,18.1s,baz=322,slow=39
ULM **Lac du Bonnet** 32.50 16 LR LR 15 47 12.1
comp=Z,231nm,18.2s,baz=204,slow=37
OTAV **Otavalo** 35.44 119 P P 15 34 14.4 +1.9
BANI **BANI** 36.47 85 P P 15 34 22.4 +1.4
YKA **Yellowknife Ar** 43.24 356 P P 15 35 15.8 -0.7
comp=Z,0.4nm,0.7s,baz=153,slow=8.5,SNR=4.2
INK **Inuvik** 51.27 349 P P 15 36 19.6 +0.6
comp=Z,1.8nm,0.9s,baz=125,slow=9.6,SNR=5.6
INK **Inuvik** 51.27 349 P P 15 36 19.2 +0.2
RSO **Redoubt South** 51.37 334 P P 15 36 21.2 +1.0
MCK **McKinley** 51.87 339 P P 15 36 25.1 +1.5
IL31 51.88 340 P P 15 36 24.4 +0.9
ILAR **Eielson Array** 51.88 340 P P 15 36 24.1 +0.4
comp=Z,1.0nm,0.6s,baz=143,slow=7.3,SNR=12
ILAR **Eielson Array** 51.88 340 P P 15 36 23.6 -0.1
BWN **Browne** 52.33 339 P P 15 36 28.2 +1.2
BMAR **Burnt Mountain** 53.08 344 P P 15 36 33.3 +0.7
LPAZ **La Paz** 53.55 129 P P 15 36 39.7 +2.3
comp=Z,0.7nm,0.6s,baz=331,slow=2.1,SNR=3.9
LPAZ **La Paz** 53.55 129 IAmb IAmb 15 36 47.7
comp=Z,2.7nm,0.9s
IMAR **Indian Mountai** 54.88 339 P P 15 36 45.6 0.0
CPUP **Villa Florida** 67.64 130 P P 15 38 14.9 +2.2
comp=Z,2.4nm,0.8s,baz=282,slow=9.3,SNR=4.9
CPUP **Villa Florida** 67.64 130 IAmb IAmb 15 38 23.3
comp=Z,5.9nm,1.2s
PLCA **Paso Flores** 69.66 150 LR LR 16 01 45.2
comp=Z,155nm,18.1s,baz=326,slow=30
TIXI **Tiksi** 81.15 344 P P 15 39 29.8 -0.8
comp=Z,0.3nm,0.3s,baz=11,slow=4.8,SNR=1.6
TIXI **Tiksi** 81.15 344 IAmb IAmb 15 39 39.2
comp=Z,3.0nm,1.1s
ARCES **ARCESS Array B** 85.61 15 P P 15 39 53.8 +0.1
comp=Z,1.6nm,0.8s,baz=324,slow=4.5,SNR=4.1
ARCES LR LR 16 18 08.8
comp=Z,74nm,19.9s,baz=240,slow=36
ARCES **ARCESS Array B** 85.61 15 IAmb IAmb 15 39 54.8
comp=Z,9.3nm,1.5s
FINES **FINESS Array B** 91.80 20 LR LR 16 20 34.1
comp=Z,39nm,20.8s,baz=6.0,slow=35
WRA **Warramunga Arr** 120.74 259 PKP PKiKP 15 46 09.9 +1.5
comp=Z,0.7nm,1.0s,baz=75,slow=2.9,SNR=2.0
ASAR **Alice Springs** 121.78 254 PKP PKiKP 15 46 11.4 +0.9
comp=Z,0.4nm,0.9s,baz=77,slow=2.1,SNR=2.0

ISN ***09*** *15:31:09.8±0.7,33.˚17N×45.˚95E, h6km±2km, ML3.1*
TEH ***09*** *15:31:13.2,33.˚27N×46.˚22E, h25km, ML3.1*
ISC 09 15:31:09.9±1.0, 33.˚16N±0.˚04×45.˚99E±0.˚04, h6km±9km, n22, σ1s04/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	0.07	225	*e*Pg	**Pg**	15 31 11.4	-0.2
IBDR				*e*Sg	**Sg**	15 31 12.9	+0.1
IBDR				AML	AML	15 31 14.4	
	comp=E,17μm,0.4s						
IBDR				AML	AML	15 31 15.2	
	comp=N,12μm,0.6s						
DHL1	**Dehloran**	1.19	113	*e*Pg	**Pg**	15 31 33.6	+0.9
IGHG	**Ghaleghazi**	1.26	22	*e*Pg	**Pg**	15 31 34.7	+0.5
IGHG				*e*		15 31 58.0	
	comp=Z,9μm,0.6s						
BHD	**Baghdad**	1.35	275	*e*Pn	**Pg**	15 31 36.0	+0.2
BHD				*e*Sn	**Sg**	15 31 56.0	+2.6
KER	**Kermanshah**	1.55	38	*e*Pg	**Pn**	15 31 38.3	+0.1
IDHR	**Dehrash**	1.57	12	*e*Pg	**Pb**	15 31 39.2	-0.3
IDHR				*e*		15 31 40.2	
	comp=Z,4μm,0.2s						
IKFM	**Kafar-mosalman**	1.60	76	*e*Pg	**Pn**	15 31 38.9	+0.2
IKFM				*e*		15 32 04.5	
	comp=Z,4μm,0.6s						
ILIN	**Lien**	1.93	24	*e*Pn	**Pn**	15 31 43.9	+0.4
ILIN				*e*		15 31 45.5	
	comp=Z,610nm,0.2s						
IDOB	**Doab**	1.93	70	*e*Pn	**Pn**	15 31 43.5	0.0
IBZA	**Bozab**	2.03	49	*e*Pg	**Pn**	15 31 45.5	+0.6
NSR	**Nassriya**	2.15	177	*e*Pn	**Pb**	15 31 48.0	-1.1
NSR				*e*Sn	**Sb**	15 32 16.0	0.0
SNGE	**Sanandaj**	2.23	30	*e*Pn	**Pn**	15 31 47.6	0.0
HSAM	**Samen**	2.42	64	*e*Pn	**Pn**	15 31 50.3	+0.1
BMDN	**Meydan**	2.43	77	*e*Pn	**Pn**	15 31 51.4	+1.1
IALM	**Almabolaq**	2.48	46	*e*Pn	**Pn**	15 31 51.9	+0.8
SHGR	**Shooshtar-Gavs**	2.59	113	*e*Pn	**Pn**	15 31 52.6	+0.2
IKRK	**Kirkuk**	2.62	329	*e*Pn	**Pn**	15 31 54.0	+1.3
IKRK				*e*Sn	**Sb**	15 32 27.0	-2.7
IKRK				AML	AML	15 32 27.2	
	comp=E,51nm,0.5s						
IKRK				AML	AML	15 32 28.7	
	comp=N,52nm,0.3s						
KHMZ	**Khomeyn**	3.37	79	*e*Pn	**Pn**	15 32 03.4	+0.1
ASAO	**Ashtian**	3.63	66	*e*Pn	**Pn**	15 32 07.3	+0.4
QABG	**Abgarm-Qazvin**	3.91	48	*e*Pn	**Pn**	15 32 09.1	-1.6
IPIR	**Pirpir**	4.15	95	*e*Pn	**Pn**	15 32 14.5	+0.4
KRSH	**Karshahi**	5.20	79	*e*Pn	**Pn**	15 32 28.0	-0.3

DJA 09 15:38:50.5±0.4, 8.˚S±4.˚×10.˚7E±.˚, h68km±11km, M4.0/8, mb4.3/2, MLv3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	1.23	70	P	Pn	15 39 10.8	-1.1
CISI				S	Sn	15 39 26.7	-1.3
LEM	**Lembang**	1.50	40	P	Pn	15 39 16.8	+1.2
LEM				S	Sn	15 39 36.1	+1.6
KPJI	**Karang Pucung**	2.35	74	P	Pn	15 39 28.8	+1.9
KPJI				S	Sn	15 39 57.3	+2.5
KASI	**Kota Agung**	3.25	319	P	Pn	15 39 41.0	+1.8
KASI				S	Sn	15 40 14.9	-1.8
UGM	**Wanagama**	3.84	89	P	Pn	15 39 48.8	+1.6
UGM				S	Sn	15 40 30.9	-0.2
PWJI	**Pagerwojo**	5.10	91	P	Pn	15 40 05.3	+0.8
PWJI				S	Sn	15 41 02.5	+0.4

IDC ***09*** *15:40:10.9±0.8, 86.˚85N×55.˚35E, h0km, mb3.7/11, mb1 4.0/13, mb1mx3.8/38, mbtmp3.8/13, ML3.6/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/29, Error ellipse: s-maj=28.7km s-min=15.1km az=102.0*
NEIC ***09*** *15:40:13.3±1.9, 86.˚85N±0.˚10×5.˚3E±.˚, h15km±5km, mb4.4/41, Error ellipse: s-maj=19.2km s-min=12.8km az=110.0*
ISC 09 15:40:12.4±0.6, 86.˚83N±0.˚07×51.˚67E±0.˚10, h10km, n63, σ0s99/62, mb4.3/32, MS3.4/4, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	8.93	233	Pn	**Pn**	15 42 22.1	+1.0
SPITS	**Spitsbergen Ar**	9.47	226	Pn	**Pn**	15 42 29.9	+1.3
	baz=27,slow=16,SNR=2.9						
SPITS				Sn	**Sn**	15 44 12.2	-2.7
	baz=46,slow=17,SNR=1.6						
EUNU	**Eureka**	12.57	328	Pn	**Pn**	15 43 08.8	-2.2
ARCES	**ARCESS Array B**	17.78	211	Pn	**Pn**	15 44 19.9	+0.4
	baz=332,slow=11,SNR=1.9						
ARCES				LR	LR	15 50 53.8	
	comp=Z,42nm,19.0s,baz=245,slow=36						
SUMG	**Summit**	17.82	280	Pn	**Pn**	15 44 20.1	-0.3
NRIK	**Noril'sk**	18.29	138	LR	LR	15 51 58.3	
	comp=Z,60nm,20.5s,baz=314,slow=39						
A21K	**Barrow**	21.66	24	P	**P**	15 45 04.0	+1.6
A21K				IAmb	IAmb	15 45 09.4	
	comp=Z,24nm,1.5s						
RDOG	**Red Dog Mine**	24.77	31	P	**P**	15 45 33.4	-0.3
RDOG				IAmb	IAmb	15 45 39.2	
	comp=Z,21nm,1.4s						
INK	**Inuvik**	25.01	5	P	**P**	15 45 33.6	-2.1
	comp=Z,1.7nm,0.8s,baz=5.1,slow=16,SNR=4.0						
BMAR	**Burnt Mountain**	25.79	14	P	**P**	15 45 42.0	-0.9
FINES	**FINESS Array B**	25.87	208	LR	LR	15 55 53.0	
	comp=Z,29nm,18.1s,baz=70,slow=36						
COLD	**Coldfoot**	25.90	19	P	**P**	15 45 43.0	-0.9
NOA	**NORSAR Array B**	26.77	225	P	**P**	15 45 53.4	+1.5
	comp=Z,1.3nm,0.8s,baz=6.0,slow=8.6,SNR=3.5						
IMAR	**Indian Mountai**	27.07	23	P	**P**	15 45 52.8	-1.7
TNA	**Tin City**	27.12	36	P	**P**	15 45 52.7	-2.1
TNA				IAmb	IAmb	15 46 11.9	
	comp=Z,111nm,1.1s						
MLY	**Manley**	28.09	20	P	**P**	15 46 03.9	+0.2
MLY				IAmb	IAmb	15 46 06.3	
	comp=Z,5.8nm,1.5s						
IL31		28.42	17	P	**P**	15 46 07.3	+0.8
IL31				IAmb	IAmb	15 46 20.6	
	comp=Z,5.9nm,1.4s						
ILAR	**Eielson Array**	28.42	17	P	**P**	15 46 06.8	+0.2
	comp=Z,1.0nm,0.9s,baz=351,slow=8.6,SNR=8.2						
BPAW	**Bear Paw Mtn.**	29.02	20	P	**P**	15 46 12.2	+0.3
BPAW				IAmb	IAmb	15 46 15.6	
	comp=Z,7.7nm,1.5s						
TTA	**Tatalina**	30.09	25	P	**P**	15 46 21.4	0.0
BCAR	**Beaver Creek A**	30.20	12	P	**P**	15 46 22.6	+0.2
PPLA	**Purkeypile**	30.20	22	P	**P**	15 46 22.8	+0.3
L27K	**Beaver Creek,**	30.21	12	P	**P**	15 46 22.6	+0.2
YKA	**Yellowknife Ar**	30.77	348	P	**P**	15 46 27.1	-0.2
	comp=Z,0.4nm,0.7s,baz=0.8,slow=9.3,SNR=3.2						
M24K	**Tolsona, Glenn**	31.11	16	P	**P**	15 46 31.4	+1.1
N25K	**Chitina, Valde**	31.63	15	P	**P**	15 46 34.8	-0.2
N25K				IAmb	IAmb	15 46 35.0	
	comp=Z,8.5nm,1.1s						
BMRM	**Bremner River**	32.27	15	P	**P**	15 46 39.6	-1.0
CTGM	**Chitina Glacie**	32.32	12	P	**P**	15 46 39.2	-1.9
PWL	**Port Wells**	32.32	18	P	**P**	15 46 40.6	-0.4
HYT	**Haines Junctio**	32.49	8	P	**P**	15 46 43.0	+0.4
HYT				IAmb	IAmb	15 46 44.0	
	comp=Z,2.5nm,0.9s						
SPIA	**Saint Paul Isl**	35.43	39	P	**P**	15 47 07.6	-0.3
OHAK	**Old Harbor**	35.87	23	P	**P**	15 47 11.5	-0.2
GRA1	**Grafenberg Arr**	38.12	223	P	**P**	15 47 29.9	-1.1
GRA1				IAmb	IAmb	15 47 51.9	
	comp=Z,7.2nm,0.7s						
GRFO	**Grafenberg**	38.12	223	P	**P**	15 47 29.9	-1.1
GRFO				IAmb	IAmb	15 47 51.9	
	comp=Z,6.7nm,0.7s						
GERES	**GERESS Array B**	38.87	220	P	**P**	15 47 37.9	+0.5
	comp=Z,0.5nm,0.6s,baz=12,slow=6.8,SNR=3.7						
MAKZ	**Makanchi**	40.65	148	P	**P**	15 47 51.5	-0.7
MK31	**Makanchi Array**	40.68	148	P	**P**	15 47 51.7	-0.7
MKAR	**Makanchi Array**	40.68	148	P	**P**	15 47 51.8	-0.6
	comp=Z,1.0nm,0.9s,baz=15,slow=6.5,SNR=5.7						
MKAR				LR	LR	16 05 23.2	
	comp=Z,29nm,20.0s,baz=164,slow=37						
B08A	**Colville Reser**	44.99	352	P	**P**	15 48 28.0	+0.7
B08A				IAmb	IAmb	15 48 29.2	
	comp=Z,4.0nm,0.8s						
E43A	**Lone Tree Farm**	46.25	321	P	**P**	15 48 38.2	+1.0
E43A				IAmb	IAmb	15 48 51.7	
	comp=Z,6.5nm,1.5s						
MSO	**Missoula**	46.46	346	P	**P**	15 48 39.9	+0.9
MSO				IAmb	IAmb	15 48 41.2	
	comp=Z,2.9nm,0.8s						
LRM	**Limekiln Ridge**	47.45	345	P	**P**	15 48 46.7	-0.2
RSSD	**Black Hills**	48.99	337	P	**P**	15 48 58.8	-0.1
RSSD				IAmb	IAmb	15 49 00.6	
	comp=Z,3.2nm,0.7s						
FLWY	**Flagg Ranch**	49.16	343	P	**P**	15 49 00.9	+0.8
FLWY				IAmb	IAmb	15 49 19.3	
	comp=Z,8.5nm,1.4s						
ECSD	**EROS Data Cent**	49.20	330	P	**P**	15 49 00.0	-0.1
ECSD				IAmb	IAmb	15 49 01.4	
	comp=Z,3.5nm,0.9s						
BW06	**Boulder Array**	50.45	342	P	**P**	15 49 10.5	+0.6
BW06				IAmb	IAmb	15 49 23.4	
	comp=Z,4.2nm,1.5s						
PDAR	**Pinedale Array**	50.45	342	P	**P**	15 49 10.6	+0.6
	comp=Z,0.8nm,0.8s,baz=1.9,slow=4.5,SNR=6.0						
PDAR	**Pinedale Array**	50.45	342	P	**P**	15 49 10.4	+0.4
SPUT	**South Promonto**	51.96	345	P	**P**	15 49 21.3	+0.1
SPUT				IAmb	IAmb	15 49 36.7	
	comp=Z,4.1nm,1.2s						
PAHR	**Pah Rah Range**	53.64	351	P	**P**	15 49 34.3	+0.7
PV15	**Paradox Valley**	54.85	341	P	**P**	15 49 43.2	+0.6
PV15				IAmb	IAmb	15 49 43.6	
	comp=Z,3.2nm,0.9s						
NVAR	**Mina Array Bea**	54.90	350	P	**P**	15 49 43.8	+0.9
	comp=Z,0.8nm,0.8s,baz=3.3,slow=5.1,SNR=6.8						
R11A	**Troy Canyon, C**	54.95	348	P	**P**	15 49 43.7	+0.5
PV13	**Radium Mtn., P**	55.04	341	P	**P**	15 49 44.8	+0.9
PV13				IAmb	IAmb	15 49 55.4	
	comp=Z,2.4nm,0.8s						
T50A	**Nancy**	55.51	318	P	**P**	15 49 48.4	+1.3
LCMT	**Little Creek M**	56.26	345	P	**P**	15 49 53.4	+0.8
Y58A	**Scranton**	58.41	313	P	**P**	15 50 07.9	+0.4
TX31	**Lajitas Ar. Si**	63.74	336	P	**P**	15 50 43.5	-0.5
TX32	**Lajitas Array**	63.74	336	P	**P**	15 50 43.4	-0.5
TX32				IAmb	IAmb	15 50 46.0	
	comp=Z,2.6nm,1.0s						
TXAR	**Lajitas Array**	63.74	336	P	**P**	15 50 44.2	+0.3
	comp=Z,1.1nm,0.8s,baz=0.8,slow=2.5,SNR=13						
TXAR				LR	LR	16 19 36.4	
	comp=Z,56nm,18.2s,baz=0.0,slow=37						
TXAR	**Lajitas Array**	63.74	336	P	**P**	15 50 43.7	-0.2
CMAR	**Chiang Mai Arr**	69.51	132	P	**P**	15 51 19.6	-1.2
	comp=Z,0.4nm,0.3s,baz=348,slow=7.4,SNR=2.4						
CMAR				LR	LR	16 23 08.7	
	comp=Z,44nm,18.5s,baz=202,slow=37						
TORD	**Torodi Ar. Bea**	74.90	231	P	**P**	15 51 54.5	+1.5
	comp=Z,0.6nm,0.7s,baz=347,slow=8.2,SNR=2.8						

INMG ***09*** *16:02:46.9±1.2,37.˚11N×13.˚49W, h10km, ML2.4, Error ellipse: s-maj=7.4km s-min=6.5km az=99.0*
CNRM ***09*** *16:02:47.8,37.˚26N×12.˚93W, h112km, Hypocentre not reviewed by the ISC*
MDD ***09*** *16:02:47.8±2.3,37.˚40N×12.˚73W, h0km, mb3.9/3, Error ellipse: s-maj=16.3km s-min=13.1km az=36.0, PRXIMO*
ISC 09 16:02:45.3±3.7, 37.˚32N±0.˚10×13.˚1W±0.˚2, h10km, n40, σ1s31/77, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	3.38	92	P	**Pn**	16 03 38.5	+0.5
	2.0nm,0.1s,SNR=6.0						
PFVI				S	**Sn**	16 04 16.9	-1.2
	9.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	3.38	92	*e*Pn	**Pn**	16 03 38.8	+0.7
PFVI				*e*Sn	**Sn**	16 04 17.2	-1.0
PFVI				A	A	16 04 25.1	
	3.7nm,0.9s						
PFVI	**Vila Bisbo**	3.38	92	P		16 03 35.9	
PFVI				S		16 04 17.1	
PMAFR	**Mafra**	3.39	60	P	**Pn**	16 03 38.6	+0.3
	2.1nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	16 04 19.5	+1.0
	13nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	3.39	60	*e*Pn	**Pn**	16 03 39.4	+1.1
PMAFR				*e*Sn	**Sn**	16 04 19.5	+1.0
PMAFR				A	A	16 04 23.8	
	17nm,0.7s						
PTEO	**Sao Teotonio**	3.45	85	P	**Pn**	16 03 38.7	-0.4
PTEO				S	**Sn**	16 04 18.1	-1.9
	2.7nm,0.5s						
PTEO	**Sao Teotonio**	3.45	85	*e*Pn	**Pn**	16 03 38.7	-0.4
PTEO				*e*Sn	**Sn**	16 04 18.1	-1.9
PTEO				A	A	16 04 19.4	
	5.4nm,0.5s						
PNCL	**Nicolau / Gran**	3.67	76	P	**Pn**	16 03 43.3	+1.2
PNCL				S	**Sn**	16 04 24.7	-0.7
	6.0nm,1.0s						
PNCL	**Nicolau / Gran**	3.67	76	*e*Pn	**Pn**	16 03 43.3	+1.2
PNCL				*e*Sn	**Sn**	16 04 24.7	-0.7
PNCL				A	A	16 04 32.4	
	6.0nm,1.0s						
PSBE	**So Bento**	4.00	55	*e*Pn	**Pn**	16 03 48.1	+1.5
PSBE				*e*Sn	**Sn**	16 04 36.3	+2.8
PSBE				A	A	16 04 44.1	
	13nm,0.6s						
PCVE	**Castro Verde**	4.00	84	P	**Pn**	16 03 47.5	+0.9
PCVE				S	**Sn**	16 04 32.0	-1.5
	2.0nm,0.3s						
PCVE	**Castro Verde**	4.00	84	*e*Pn	**Pn**	16 03 47.5	+0.9
PCVE				*e*Sn	**Sn**	16 04 32.0	-1.5
PCVE				A	A	16 04 45.4	
	2.0nm,0.3s						
PBDV	**

PMTG					S		Sn	16 04 38.1	0.0
	2.5nm,0.3s								
PMTG	**Montargil**	**4.18**	**64**	*e*Pn		**Pn**		**16 03 49.6**	**+0.5**
PMTG				*e*Sn		**Sn**		**16 04 38.1**	**0.0**
PMTG				A		A		16 04 44.7	
	2.5nm,0.3s								
PVAQ	**Vaqueiros**	**4.25**	**87**	P		**Pn**		**16 03 50.9**	**+0.8**
PVAQ				S		**Sn**		**16 04 38.1**	**-1.6**
	3.8nm,0.3s								
PVAQ	**Vaqueiros**	**4.25**	**87**	*e*Pn		**Pn**		**16 03 50.9**	**+0.8**
PVAQ				*e*Sn		**Sn**		**16 04 38.1**	**-1.6**
PVAQ				A		A		16 04 43.1	
	3.8nm,0.3s								
PVAQ	**Vaqueiros**	**4.25**	**87**	P				16 03 50.9	
PVAQ				S				16 04 36.4	
EGRO	**El Granado**	**4.44**	**86**	P		**Pn**		**16 03 53.8**	**+1.2**
	1.6nm,0.1s,SNR=7.9								
EGRO				S		**Sn**		**16 04 44.1**	**-0.2**
	3.7nm,0.2s,SNR=7.9								
PCAS	**Casmilo, Conde**	**4.49**	**51**	P		**Pn**		**16 03 54.3**	**+1.0**
PCAS				S		**Sn**		**16 04 46.2**	**+0.6**
	3.6nm,0.5s								
PCAS	**Casmilo, Conde**	**4.49**	**51**	*e*Pn		**Pn**		**16 03 54.3**	**+1.0**
PCAS				*e*Sn		**Sn**		**16 04 46.2**	**+0.6**
PCAS				A		A		16 04 48.4	
	3.6nm,0.5s								
PESTR	**Estremoz**	**4.58**	**69**	*e*Pn		**Pn**		**16 03 55.9**	**+1.3**
PESTR				*e*Sn		**Sn**		**16 04 47.1**	**-0.7**
PESTR				A		A		16 05 00.4	
	2.8nm,0.5s								
PESTR	**Estremoz**	**4.58**	**69**	P				16 03 53.8	
PESTR				S				16 04 46.0	
PBAR	**Barrancos**	**4.84**	**78**	P		**Pn**		**16 03 59.8**	**+1.6**
PBAR				S		**Sn**		**16 04 54.1**	**-0.2**
	2.0nm,0.6s								
PBAR	**Barrancos**	**4.84**	**78**	*e*Pn		**Pn**		**16 03 59.8**	**+1.6**
PBAR				*e*Sn		**Sn**		**16 04 54.1**	**-0.2**
PBAR				A		A		16 04 57.8	
	2.0nm,0.6s								
PMRV	**Marv??o**	**4.92**	**63**	P		**Pn**		**16 04 00.0**	**+0.7**
PMRV				S		**Sn**		**16 04 56.1**	**-0.2**
	4.6nm,0.3s								
PMRV	**Marv??o**	**4.92**	**63**	*e*Pn		**Pn**		**16 04 00.0**	**+0.7**
PMRV				*e*Sn		**Sn**		**16 04 56.1**	**-0.2**
PMRV				A		A		16 05 02.9	
	4.6nm,0.3s								
PCBR	**Castelo Branco**	**5.04**	**58**	P		**Pn**		**16 04 01.9**	**+1.0**
PCBR				S		**Sn**		**16 04 59.0**	**-0.2**
PCBR	**Castelo Branco**	**5.04**	**58**	*e*Pn		**Pn**		**16 04 01.9**	**+1.0**
PCBR				*e*Sn		**Sn**		**16 04 59.0**	**-0.2**
EMIN	**Mina Concepcio**	**5.09**	**83**	P		**Pn**		**16 04 02.1**	**+0.5**
	0.6nm,0.1s,SNR=7.9								
EMIN				S		**Sn**		**16 04 59.1**	**-1.3**
	1.1nm,0.2s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.93**	**37**	P		**Pn**		**16 04 13.5**	**+0.3**
PGAV				S		**Sn**		**16 05 18.6**	**-2.6**
	4.4nm,0.6s								
PGAV	**Gavieira, Arco**	**5.93**	**37**	*e*Pn		**Pn**		**16 04 13.5**	**+0.3**
PGAV				*e*Sn		**Sn**		**16 05 18.6**	**-2.6**
PGAV				A		A		16 05 26.3	
	4.4nm,0.6s								
ELOB	**Lobios**	**5.95**	**39**	P		**Pn**		**16 04 13.3**	**-0.2**
	0.4nm,0.1s,SNR=7.9								
ELOB				S		**Sn**		**16 05 19.8**	**-2.1**
	1.4nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**6.05**	**49**	*e*Sn		**Sn**		**16 05 22.6**	**-1.5**
ECAB	**El Cabril**	**6.10**	**81**	P		**Pn**		**16 04 16.1**	**+0.6**
	0.1nm,0.1s,SNR=7.9								
ECAB				S		**Sn**		**16 05 23.4**	**-2.0**
	1.2nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**6.10**	**61**	P		**Pn**		**16 04 16.4**	**+0.8**
	0.9nm,0.2s,SNR=7.9								
EPLA				S		**Sn**		**16 05 24.6**	**-0.8**
	1.2nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.71**	**45**	S		**Sn**		**16 05 39.3**	**-1.1**
	SNR=7.9								
EADA	**Adamuz**	**6.77**	**80**	P		**Pn**		**16 04 25.5**	**+0.8**
	0.4nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**16 05 40.2**	**-1.6**
	0.8nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**7.18**	**69**	P		**Pn**		**16 04 31.6**	**+1.2**
	0.2nm,0.1s,SNR=7.9								
PAB				S		**Sn**		**16 05 49.6**	**-2.5**
	0.4nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**7.50**	**69**	P		**Pn**		**16 04 35.9**	**+1.1**
	0.8nm,0.3s,baz=255,slow=13,SNR=7.9								

NOU 09 16:37:48.7,15.77S×168.01E,h0km,MLv4.6,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.84**	**292**	P	Pg	16 38 04.9	+0.1
LIFNC	**LIFOU**	**5.03**	**188**	P	Pn	16 39 05.1	-0.4
KOUNC	**Koumac, New Ca**	**5.93**	**216**	P	Pn	16 39 17.6	-0.2
YATNC	**Mamie plateau,**	**6.34**	**189**	P	Pn	16 39 22.1	-1.4
DZM	**Mont Dzumac**	**6.44**	**193**	P	Pn	16 39 24.6	-0.3
NOUC	**Port Laguerre**	**6.50**	**194**	P	Pn	16 39 25.9	+0.2
ONTNC	**Ouen Toro**	**6.67**	**193**	P	Pn	16 39 28.3	+0.3
OUENC	**Ouen Island, N**	**6.71**	**189**	P	Pn	16 39 28.4	-0.1
PINNC	**Pines Island,**	**6.83**	**184**	P	Pn	16 39 30.6	+0.4

SJA ***09*** *16:44:43.6±0.5,23.99S×66.78W,h217km±3km, ML4.4, MW4.1*

NEIC ***09*** *16:44:43.4±1.5,23.91S±0.06×66.62W±0.08,h194km±5km, mb4.6/217, Error ellipse: s-maj=10.6km s-min=9.0km az=74.0*

VAO ***09*** *16:44:44.7±0.2,23.90S×66.62W,h210km, mb4.4*

GUC ***09*** *16:44:44.4±0.6,23.99S×66.81W,h214km±6km, ML5.3*

IDC ***09*** *16:44:44.4±0.8,23.84S×66.62W,h200km±7km, mb4.1/15, mb1 4.2/22, mb1mx4.2/31, mbtmp4.6/22, MS2.6/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=11.0km s-min=9.4km az=43.0*

ISC 09 16:44:43.8±0.6,23.96S±0.03×66.76W±0.04,h203km±5km, n414,σ1ᵎ09/456,mb4.6/115,35C-26D,Fault plane solution: NP1:ϕs0.08731°,δ63.68056°,λ-92.12180°. **NP2:**ϕs184.86397°,δ26.39875°,λ-85.71949°. **Principal axes:** T Plg18.6543°, Azm91.6707°; N Plg1.9018°, Azm1.0284°; P Plg71.2419°, Azm265.4176°; **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.38**	**124**	⇓*i*P	**Pn**	**16 45 18.6**	**+1.8**
SLA				*i* S	**S**	**16 45 43.9**	**+1.7**
SLA	**San Lorenzo**	**1.38**	**124**	*e*P	**Pn**	**16 45 18.6**	**+1.8**
SLA				*e*S	**S**	**16 45 44.5**	**+2.3**
SLA				IAML		16 45 46.6	
	comp=Z,973nm,0.9s						
YJA	**Yavi**	**2.12**	**33**	*e*P	**Pn**	**16 45 26.2**	**+2.0**
YJA				*e*S	**S**	**16 45 57.8**	**+2.8**
FSA	**Cafayete**	**2.25**	**162**	*e*P	**Pn**	**16 45 26.8**	**+1.5**
FSA				*e*S	**S**	**16 45 58.2**	**+0.9**
LVC	**Limon Verde**	**2.39**	**304**	P	**Pn**	**16 45 28.5**	**+1.5**
	comp=Z,194nm,0.3s,baz=133,slow=6.4,SNR=1121						
LVC				LR	LR	16 45 52.5	
	comp=Z,119nm,19.9s,baz=180,slow=28						
LVC				S	**S**	**16 46 01.8**	**+1.8**
	baz=262,slow=19						
LVC	**Limon Verde**	**2.39**	**304**	*e*P	**Pn**	**16 45 28.4**	**+1.3**
LVC				*i* S	**S**	**16 46 01.5**	**+1.5**
LVC	**Limon Verde**	**2.39**	**304**	*e*P	**Pn**	**16 45 28.8**	**+1.8**
LVC	**Limon Verde**	**2.39**	**304**	*e*P	**Pn**	**16 45 28.6**	**+1.5**
LVC				*e*S	**S**	**16 46 02.1**	**+2.1**
LVC				IAML		16 46 06.0	
	comp=Z,1μm,0.8s						
PB15	**IPOC Station P**	**2.59**	**286**		**Pn**	**16 45 30.5**	**+1.4**
PB15	**IPOC Station P**	**2.59**	**286**	*e*P	**Pn**	**16 45 30.4**	**+1.2**
GO02	**Mina Guanaco**	**2.84**	**245**	⇑*i*P	**Pn**	**16 45 33.2**	**+1.2**
GO02				*i* S	**S**	**16 46 10.3**	**+1.3**
GO02	**Mina Guanaco**	**2.84**	**245**		**Pn**	**16 45 33.2**	**+1.2**
PB06	**IPOC Station P**	**2.87**	**295**	⇑*i*P	**Pn**	**16 45 33.4**	**+1.2**
PB06				*i* S	**S**	**16 46 09.5**	**+0.2**
PB06	**IPOC Station P**	**2.87**	**295**		**Pn**	**16 45 33.5**	**+1.3**
PB06	**IPOC Station P**	**2.87**	**295**	*e*P	**Pn**	**16 45 33.4**	**+1.2**
PB06				*e*S	**S**	**16 46 10.2**	**+0.9**
PB09	**IPOC Station P**	**3.14**	**313**	⇑*i*P	**Pn**	**16 45 36.9**	**+1.5**
PB09				*i* S	**S**	**16 46 16.5**	**+1.3**
PB09				IAML		16 46 19.7	
	comp=N,2μm,0.6s						
PB09	**IPOC Station P**	**3.14**	**313**		**Pn**	**16 45 36.9**	**+1.5**
PB09	**IPOC Station P**	**3.14**	**313**	*e*P	**Pn**	**16 45 37.0**	**+1.5**
PB09				*e*S	**S**	**16 46 15.9**	**+0.8**
PB09				IAML		16 46 18.9	
	comp=Z,2μm,0.5s						
PB05	**IPOC Station P**	**3.35**	**289**	⇑*i*P	**Pn**	**16 45 38.4**	**+0.6**
PB05				IAML		16 46 23.1	
	comp=E,2μm,0.6s						
PB05	**IPOC Station P**	**3.35**	**289**	*e*P	**Pn**	**16 45 38.7**	**+0.9**
PB05				*e*S	**S**	**16 46 19.3**	**-0.1**
PB05				IAML		16 46 25.1	
	comp=Z,1μm,0.5s						
PB14	**IPOC Station P**	**3.39**	**258**	⇑*i*P	**Pn**	**16 45 39.2**	**+0.7**
PB14				*i* S	**S**	**16 46 19.9**	**-0.7**
PB14				IAML		16 46 22.5	
	comp=E,2μm,0.5s						
PB14	**IPOC Station P**	**3.39**	**258**		**Pn**	**16 45 39.0**	**+0.6**
PB14	**IPOC Station P**	**3.39**	**258**	*e*P	**Pn**	**16 45 39.3**	**+0.8**
PB14				*e*S	**S**	**16 46 20.6**	**0.0**
PB10	**IPOC Station P**	**3.50**	**277**	⇑*i*P	**Pn**	**16 45 40.5**	**+0.9**
PB10				*e*S	**S**	**16 46 22.9**	**+0.3**
PB10				IAML		16 46 24.9	
	comp=E,2μm,0.4s						
PB10	**IPOC Station P**	**3.50**	**277**		**Pn**	**16 45 40.2**	**+0.7**
PB10	**IPOC Station P**	**3.50**	**277**	*e*P	**Pn**	**16 45 40.4**	**+0.9**
PB10				*e*S	**S**	**16 46 22.6**	**0.0**
PB10				IAML		16 46 24.3	
	comp=Z,1μm,0.6s						
PB04	**IPOC Station P**	**3.51**	**297**	⇑*i*P	**Pn**	**16 45 40.5**	**+0.6**
PB04				*i* S	**S**	**16 46 22.3**	**-0.9**
PB04	**IPOC Station P**	**3.51**	**297**		**Pn**	**16 45 40.4**	**+0.6**
PB04	**IPOC Station P**	**3.51**	**297**	*e*P	**Pn**	**16 45 40.8**	**+0.9**
PB04				*e*S	**S**	**16 46 22.6**	**-0.5**
AC02	**Maricunga**	**3.57**	**216**	⇑*i*P	**Pn**	**16 45 42.2**	**+1.4**
AC02	**Maricunga**	**3.57**	**216**		**Pn**	**16 45 42.0**	**+1.2**
PB07	**IPOC Station P**	**3.64**	**307**	⇑*i*P	**Pn**	**16 45 42.0**	**+0.5**
PB07				*i* S	**S**	**16 46 24.7**	**-1.3**
PB01	**IPOC Station P**	**3.64**	**307**		**Pn**	**16 45 41.6**	**+0.2**
PB01	**IPOC Station P**	**3.84**	**319**		**Pn**	**16 45 44.0**	**+0.2**
AC01	**Pan de Azucar**	**4.10**	**237**		**Pn**	**16 45 46.5**	**-0.5**
PB08	**IPOC Station P**	**4.40**	**329**		**Pn**	**16 45 51.9**	**+0.8**
PATCX	**Punta Patache**	**4.43**	**314**		**Pn**	**16 45 50.3**	**-0.8**
CYA	**Choya**	**4.54**	**169**	*e*P	**Pn**	**16 45 54.2**	**+1.7**
CYA				*e*S	**S**	**16 46 45.7**	**-0.5**
TA01	**Diego Aracena**	**4.63**	**316**	Pn	**Pn**	**16 45 53.1**	**-0.5**
GO03	**Copiap**	**4.78**	**220**		**Pn**	**16 45 54.8**	**-0.7**
GO03	**Copiap**	**4.78**	**220**	*e*P	**Pn**	**16 45 55.7**	**+0.2**
GO03				*e*S	**S**	**16 46 49.4**	**-2.2**
TA02	**Huaiquique**	**4.82**	**319**		**Pn**	**16 45 55.4**	**-0.6**
VCA	**Vinchina**	**4.93**	**195**	*e*P	**Pn**	**16 45 59.8**	**+2.4**
VCA				*e*S	**S**	**16 46 59.8**	**+4.6**
PB11	**IPOC Station P**	**4.97**	**327**	Pn	**Pn**	**16 45 57.1**	**-0.9**
PSGCX	**Pisagua**	**5.35**	**324**	Pn	**Pn**	**16 46 00.6**	**-2.2**
ACLC	**CERRO LA CRUZ**	**5.44**	**182**	*e*P	**Pn**	**16 46 04.6**	**+0.5**
ACLC				*e*S	**S**	**16 47 07.7**	**+0.5**
MNMC	**Minye Minye**	**5.48**	**331**		**Pn**	**16 46 04.1**	**-0.7**
AGUA	**GUANDACOL**	**5.72**	**195**	*e*P	**Pn**	**16 46 08.6**	**+1.1**
AGUA				*e*S	**S**	**16 47 13.9**	**+0.5**
AGUA				IAML		16 47 15.5	
	comp=Z,54nm,0.3s						
AC04	**Llanos de Chal**	**5.73**	**222**	Pn	**Pn**	**16 46 06.3**	**-1.3**
PB16	**IPOC Station P**	**6.16**	**335**	Pn	**Pn**	**16 46 13.3**	**-0.4**
AP01	**Chacalluta**	**6.49**	**328**	Pn	**Pn**	**16 46 16.4**	**-1.1**
ACDV	**Cuesta del Vie**	**6.53**	**198**	*e*P	**Pn**	**16 46 19.9**	**+1.9**
AVFE	**Valle Fertil**	**6.70**	**185**	*e*P	**Pn**	**16 46 19.6**	**-0.6**
AVFE				*e*S	**S**	**16 47 32.1**	**-4.4**
AVFE				IAML		16 47 35.7	
	comp=Z,45nm,0.4s						
ACCO	**Cerro Coronel**	**6.91**	**197**	*e*P	**Pn**	**16 46 23.9**	**+0.8**
ACCO				*e*S	**S**	**16 47 41.7**	**-0.1**
ACCO				IAML		16 47 51.3	
	comp=Z,29nm,0.6s						
GO04	**Tololo Observa**	**7.16**	**209**	Pn	**Pn**	**16 46 24.4**	**-1.9**
GO04	**Tololo Observa**	**7.16**	**209**	*e*P	**Pn**	**16 46 25.2**	**-1.0**
GO04				*e*S	**S**	**16 47 44.5**	**-3.0**
ACHE	**Chepes**	**7.17**	**179**	*e*P	**Pn**	**16 46 25.8**	**-0.6**
ACHE				*e*S	**S**	**16 47 43.5**	**-4.3**
CO03	**El Pedregal**	**7.69**	**206**	Pn	**Pn**	**16 46 31.6**	**-1.4**
LPAZ	**La Paz**	**7.74**	**350**	P	**Pn**	**16 46 34.7**	**+0.4**
	comp=Z,4.7nm,0.3s,baz=158,slow=6.0,SNR=82						
LPAZ				S	**S**	**16 48 00.2**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=279,slow=16,SNR=5.3						
LPAZ	**La Paz**	**7.74**	**350**	Pn	**Pn**	**16 46 34.3**	**0.0**
LPAZ	**La Paz**	**7.74**	**350**	*e*P	**Pn**	**16 46 34.8**	**+0.5**
ZON	**Zonda**	**7.74**	**192**	Pn	**Pn**	**16 46 33.7**	**0.0**
ZON	**Zonda**	**7.74**	**192**	*e*S	**S**	**16 47 56.6**	**-4.6**
ZON				IAML		16 47 58.2	
	comp=Z,28nm,0.7s						
RTCV	**Cerro Valdivia**	**8.03**	**191**	*e*P	**Pn**	**16 46 37.0**	**-0.4**
RTLS	**Leoncito**	**8.12**	**195**	*e*P	**Pn**	**16 46 39.9**	**+1.0**
RTLS				IAML		16 48 16.1	
	comp=Z,17nm,0.5s						
ACAN	**Cantantal**	**8.29**	**182**	*e*P	**Pn**	**16 46 40.2**	**-0.6**
ACAN				IAML		16 48 15.0	
	comp=Z,16nm,0.3s						
AUSP	**Uspallata**	**8.55**	**195**	*e*P	**Pn**	**16 46 44.6**	**+0.2**
ASAL	**Salagasta**	**8.79**	**192**	*e*P	**Pn**	**16 46 47.4**	**+0.1**
ASAL				*e*S	**S**	**16 48 22.6**	**-3.5**
ASAL				IAML		16 48 24.5	
	comp=Z,17nm,0.7s						
CPUP	**Villa Florida**	**8.87**	**107**	P	**Pn**	**16 46 47.4**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=287,slow=11,SNR=125						
CPUP	**Villa Florida**	**8.87**	**107**	Pn	**Pn**	**16 46 46.7**	**-1.6**
CPUP	**Villa Florida**	**8.87**	**107**	*e*P	**Pn**	**16 46 47.6**	**-0.7**
ARCO	**CERRO ARCO**	**9.05**	**192**	*e*P	**Pn**	**16 46 51.0**	**+0.2**
ARCO				*e*S	**S**	**16 48 30.3**	**-2.2**
ARCO				IAML		16 49 13.8	
	comp=Z,31nm,0.1s						
VA03	**San Esteban**	**9.38**	**200**	Pn	**Pn**	**16 46 54.4**	**-0.6**
SIV	**San Ignacio**	**9.56**	**35**	P	**Pn**	**16 46 55.9**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=227,slow=13,SNR=32						
SIV				S	**S**	**16 48 43.0**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=283,slow=12,SNR=1.8						
VA01	**Torpederas**	**9.99**	**204**	Pn	**Pn**	**16 47 02.4**	**-0.5**
MT05	**Renca**	**10.02**	**199**	Pn	**Pn**	**16 47 03.0**	**-0.2**
MT02	**Curacav**	**10.03**	**202**	Pn	**Pn**	**16 47 02.1**	**-1.2**
MT03	**Universidad Ad**	**10.05**	**198**	Pn	**Pn**	**16 47 03.3**	**-0.4**
MT09	**Talagante**	**10.46**	**200**	Pn	**Pn**	**16 47 08.6**	**-0.3**
VA05	**Santo Domingo**	**10.55**	**203**	Pn	**Pn**	**16 47 09.0**	**-1.1**
MT01	**Popeta**	**10.62**	**201**	Pn	**Pn**	**16 47 09.2**	**-1.7**
ITQB	**Itaqui**	**10.69**	**124**	Pn	**Pn**	**16 47 10.6**	**-1.3**
ITQB	**Itaqui**	**10.69**	**124**	*e*P	**Pn**	**16 47 11.0**	**-0.8**
AQDB	**Aquidauana**	**10.82**	**73**	Pn	**Pn**	**16 47 10.6**	**-3.0**
AQDB	**Aquidauana**	**10.82**	**73**	*e*P	**Pn**	**16 47 12.1**	**-1.5**
BO01	**Tunca**	**11.05**	**199**	Pn	**Pn**	**16 47 16.6**	**+0.1**
PTLB	**Pontes e Lacer**	**11.10**	**42**	*e*P	**Pn**	**16 47 15.9**	**-1.4**
LAMA	**Las Malvinas**	**11.14**	**190**	*e*P	**Pn**	**16 47 16.6**	**-1.0**
BO02	**Sierra Bellavi**	**11.35**	**197**		**Pn**	**16 47 20.6**	**+0.3**
GO05	**Huala**	**11.89**	**201**	Pn	**Pn**	**16 47 26.6**	**-0.6**
VILB	**Vilhena**	**12.59**	**31**	*e*P	**Pn**	**16 47 35.9**	**-0.3**
PP1B	**Ponte de Pedra**	**12.79**	**63**	*e*P	**Pn**	**16 47 36.9**	**-1.8**
TRCB	**Terra Rica**	**13.03**	**88**	Pn	**Pn**	**16 47 40.5**	**-1.2**
SALV	**Santo Antonio**	**13.13**	**54**	*e*P	**Pn**	**16 47 42.0**	**-1.0**
PTGB	**Pitanga**	**13.42**	**96**	*e*P	**Pn**	**16 47 46.3**	**-0.3**
CPSB	**Cacapava Do Su**	**13.48**	**121**	*e*P	**Pn**	**16 47 46.0**	**-1.2**
ITAB	**Concordia**	**13.60**	**107**	Pn	**Pn**	**16 47 47.5**	**-1.1**
ITAB	**Concordia**	**13.60**	**107**	*e*P	**Pn**	**16 47 48.1**	**-0.5**
PLTB	**Pedras Altas**	**13.99**	**127**	Pn	**Pn**	**16 47 52.1**	**-1.3**
PLTB	**Pedras Altas**	**13.99**	**127**	*e*P	**Pn**	**16 47 52.1**	**-1.3**
ETMB	**Extrema**	**14.08**	**2**	*e*P	**Pn**	**16 47 54.3**	**-0.3**
PCMB	**Pacaembu**	**14.49**	**84**	*e*P	**Pn**	**16 47 58.6**	**-1.1**
NNA	**Nana**	**15.28**	**319**	P	**P**	**16 48 10.1**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=196,slow=11,SNR=7.2						
NNA	**Nana**	**15.28**	**319**	Pn	**Pn**	**16 48 07.8**	**-1.6**
NNA				IAmb	IAmb	16 48 12.0	
	comp=Z,48nm,1.2s						
FRTB	**Fartura**	**15.77**	**91**	*e*P	**P**	**16 48 14.6**	**-0.6**
ITRB	**Iturama**	**15.81**	**78**	*e*P	**P**	**16 48 14.6**	**-1.0**
TIJ01	**Guaruva-PR**	**16.20**	**98**	*e*P	**P**	**16 48 19.3**	**-0.6**
ARAG	**Araguaiana, MT**	**16.28**	**62**	*e*P	**P**	**16 48 20.7**	**0.0**
TER01	**Tubaro-SC**	**16.46**	**110**	*e*P	**P**	**16 48 21.9**	**-0.7**
CLDB	**Colider**	**16.69**	**41**	*e*P	**P**	**16 48 24.7**	**-0.5**
PLCA	**Paso Flores**	**17.02**	**190**	P	**Pn**	**16 48 29.9**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=14,slow=11,SNR=20						
PLCA				PcP	**PcP**	**16 53 04.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=42,slow=2.8,SNR=6.6						
PLCA	**Paso Flores**	**17.02**	**190**	P	**Pn**	**16 48 29.6**	**-0.6**
PLCA				IAmb	IAmb	16 48 37.3	
	comp=Z,24nm,0.8s						
PLCA	**Paso Flores**	**17.02**	**190**	*e*P	**Pn**	**16 48 30.1**	**-0.1**
BB19B	**Bebedouro**	**17.09**	**84**	*e*P	**P**	**16 48 29.7**	**0.0**
CZSB	**Cruzeiro do Su**	**17.12**	**340**	*e*P	**P**	**16 48 29.3**	**-0.6**
SPB	**Sao Paulo**	**17.70**	**93**	P	**P**	**16 48 34.6**	**-1.6**
SPB				IAmb	IAmb	16 48 39.6	
	comp=Z,23nm,0.8s						
SPB	**Sao Paulo**	**17.70**	**93**	*e*P	**P**	**16 48 34.8**	**-1.4**
RCLB	**Rio Claro- Sao**	**17.75**	**89**	*e*P	**P**	**16 48 36.3**	**-0.5**
LL03	**Petrohue**	**17.77**	**194**	P	**P**	**16 48 37.3**	**+0.5**
PET01	**Itanhaem-SP**	**17.79**	**95**	*e*P	**P**	**16 48 37.2**	**0.0**
VAO	**Valinhos**	**18.19**	**91**	*e*P	**P**	**16 48 40.5**	**-1.1**
LL05	**Los Muermos**	**18.28**	**196**	P	**P**	**16 48 42.3**	**0.0**
IPMB	**Ipameri, GO**	**18.31**	**75**	*e*P	**P**	**16 48 42.5**	**-0.4**
SNDB	**Serra Nova Dou**	**18.92**	**54**	*e*P	**P**	**16 48 48.8**	**-0.7**
LL01	**San Ignacio de**	**18.96**	**193**	P	**P**	**16 48 49.0**	**-0.6**
PARB	**Paraibuna**	**19.38**	**92**	*e*P	**P**	**16 48 53.7**	**-0.8**
BDFB	**Brasilia**	**19.47**	**68**	P	**P**	**16 48 55.3**	**-0.3**
	comp=Z,3.2nm,0.3s,baz=242,slow=10,SNR=47						
BDFB	**Brasilia**	**19.47**	**68**	P	**P**	**16 48 54.1**	**-1.5**
LL02	**Futaleuf**	**19.63**	**191**	P	**P**	**16 48 57.1**	**+0.2**
GO07	**Milladeo Hill,**	**19.93**	**195**	P	**P**	**16 48 59.3**	**-0.8**
NPGB	**Novo Progresso**	**20.07**	**35**	*e*P	**P**	**16 48 59.5**	**-2.4**
ESAR	**Angra dos Reis**	**20.50**	**92**	*e*P	**P**	**16 49 05.4**	**-0.9**
PEXB	**Peixe**	**21.12**	**59**	*e*P	**P**	**16 49 11.4**	**-1.6**
VAS01	**Vassouras-RJ**	**21.51**	**90**	*e*P	**P**	**16 49 16.9**	**-0.2**
ITTB	**Itaituba**	**22.20**	**30**	*e*P	**P**	**16 49 21.9**	**-1.9**
DUB01	**Friburgo-RJ**	**22.52**	**90**	*e*P	**P**	**16 49 25.9**	**-0.9**
MC01	**Montes Claros**	**22.57**	**76**	*e*P	**P**	**16 49 25.7**	**-1.5**
JANB	**Januaria**	**22.92**	**71**	*e*P	**P**	**16 49 28.9**	**-1.5**
CAM01	**Campos-RJ**	**23.22**	**90**	*e*P	**P**	**16 49 32.3**	**-0.7**
SMTB	**Santa Maria do**	**23.70**	**54**	*e*P	**P**	**16 49 36.6**	**-0.8**
SDBA	**SAO DESIDERIO**	**23.70**	**65**	*e*P	**P**	**16 49 36.6**	**-0.9**
PTGA	**Pitinga**	**24.02**	**17**	P	**P**	**16 49 38.8**	**-1.4**
	comp=Z,4.5nm,0.3s,baz=204,slow=13,SNR=18						
PRPB	**Parauapebas**	**24.05**	**45**	*e*P	**P**	**16 49 37.4**	**-3.2**
ALF01	**Guarapari-ES**	**24.31**	**87**	*e*P	**P**	**16 49 42.8**	**-0.1**
SJMB	**Sao Joao De Ma**	**24.38**	**83**	*e*P	**P**	**16 49 43.2**	**-0.4**
RIB01	**Linhares ES**	**24.93**	**84**	*e*P	**P**	**16 49 47.6**	**-0.9**
GUA01	**Guaratinga, BA**	**26.30**	**79**	*e*P	**P**	**16 50 00.0**	**-0.9**
FLOC	**Florencia**	**26.82**	**340**	P	**P**	**16 50 05.1**	**-0.4**
FLOC				IAmb	IAmb	16 50 07.8	
	comp=Z,14nm,0.8s						
BOAV	**Boa Vista**	**26.89**	**14**	*e*P	**P**	**16 50 05.9**	**-0.3**
CMC01	**Camacan, BA**	**27.01**	**77**	*e*P	**P**	**16 50 05.9**	**-1.3**
NBIT	**Itapeh - BA**	**27.25**	**76**	*e*P	**P**	**16 50 08.4**	**-0.9**
MCPB	**Macapa, AP**	**27.46**	**33**	*e*P	**P**	**16 50 11.0**	**-0.2**
GO09	**Cerro Castillo**	**27.60**	**188**	P	**P**	**16 50 12.7**	**+0.6**
GO09				IAmb	IAmb	16 50 27.6	
	comp=Z,17nm,1.1s						
GDU01	**Guandu, BA**	**27.62**	**73**	*e*P	**P**	**16 50 10.9**	**-1.8**
NBPN	**Ponto Novo - B**	**28.44**	**67**	*e*P	**P**	**16 50 19.3

JCT Junction City 62.73 328 P 16 54 48.2
baz=146
JCT Junction City 62.73 328 P P 16 54 47.9 +0.5
U49A Red Boiling Sp 62.77 343 P P 16 54 47.1 -0.4
U49A IAmb IAmb 16 55 01.9
comp=Z,12nm,1.4s
WHTX Lake Whitney, 62.90 331 P 16 54 49.2
baz=148
WHTX Lake Whitney, 62.90 331 P P 16 54 49.0 +0.6
WHTX IAmb IAmb 16 54 50.0
comp=Z,7.8nm,0.7s
S54A Dingess, Beckl 62.94 347 P P 16 54 48.7 0.0
S54A IAmb IAmb 16 54 49.7
comp=Z,6.2nm,0.8s
WVT Waverly 63.00 341 P 16 54 48.5
baz=158
WVT Waverly 63.00 341 P P 16 54 48.2 -0.9
T50A Nancy 63.00 344 P P 16 54 48.3 -0.8
MIAR Mount Ida 63.51 335 P 16 54 52.8
baz=152,SNR=5.9
MIAR Mount Ida 63.51 335 P P 16 54 52.2 -0.2
MIAR IAmb IAmb 16 54 53.7
comp=Z,7.7nm,0.8s
W41B Gary Mavity, V 63.58 337 P 16 54 52.9
baz=154
T47A Sharon Grove 63.59 342 P P 16 54 52.1 -0.8
T47A IAmb IAmb 16 54 53.7
comp=Z,15nm,1.0s
WHAR Wooly Hollow 63.70 337 P P 16 54 53.5 -0.2
WHAR IAmb IAmb 16 54 54.5
comp=Z,6.3nm,0.8s
TXAR Lajitas Array 63.77 324 P P 16 54 55.4 +1.0
comp=Z,1.8nm,0.7s,baz=153,slow=7.9,SNR=31
TXAR PcP PcP 16 55 29.0 +0.5
comp=Z,0.5nm,0.7s,baz=149,slow=5.3,SNR=3.9
TXAR Lajitas Array 63.77 324 P P 16 54 54.9 +0.5
TX31 Lajitas Ar. Si 63.77 324 P P 16 54 54.8 +0.4
TX31 IAmb IAmb 16 54 55.9
comp=Z,6.7nm,0.8s
TX32 Lajitas Array 63.77 324 P P 16 54 55.1 +0.7
LCAR Lake Charles 64.00 338 P P 16 54 55.0 -0.6
LCAR IAmb IAmb 16 54 56.2
comp=Z,7.3nm,1.1s
W39A Magazine 64.17 336 P 16 54 57.5
baz=152,SNR=11
W39A Magazine 64.17 336 P P 16 54 57.3 +0.6
FCAR Ozark Folk Cen 64.18 337 P P 16 54 56.5 -0.2
FCAR IAmb IAmb 16 54 56.9
comp=Z,7.4nm,0.5s
X37A Clayton 64.25 334 P P 16 54 58.1 +0.8
X37A IAmb IAmb 16 54 59.2
comp=Z,11nm,0.8s
Q52A Bidwell 64.26 347 P P 16 54 56.8 -0.4
Q52A IAmb IAmb 16 55 23.5
comp=Z,24nm,1.5s
PBMO Poplar Bluff 64.41 339 P P 16 54 58.0 -0.2
ABTX Abilene, Hawle 64.43 329 P 16 54 59.1
baz=147
LOOK Love County 64.49 332 P P 16 54 58.8 0.0
LOOK IAmb IAmb 16 55 01.1
comp=Z,10.0nm,0.7s
WCI Wyandotte Cave 64.52 343 P 16 54 58.0
baz=160
WCI Wyandotte Cave 64.52 343 P P 16 54 58.1 -0.8
T42A Van Buren 64.86 339 P P 16 55 00.3 -0.8
U40A Yellville 64.86 337 P 16 55 01.2
baz=154,SNR=6.2
U40A Yellville 64.86 337 P 16 55 01.2 0.0
U40A IAmb IAmb 16 55 02.1
comp=Z,7.9nm,0.6s
S44A Carbondale 64.87 340 P P 16 55 00.5 -0.7
S44A IAmb IAmb 16 55 03.0
comp=Z,8.7nm,0.8s
HHAR Hobbs 65.19 336 P P 16 55 03.4 0.0
HHAR IAmb IAmb 16 55 04.5
comp=Z,12nm,0.8s
P49A Miami Univ. Ec 65.36 345 P 16 55 03.4
baz=162
MGMO Mountain Grove 65.37 338 P P 16 55 04.4 -0.1
MGMO IAmb IAmb 16 55 05.5
comp=Z,11nm,0.8s
U38A Gravette 65.49 336 P P 16 55 04.6 -0.7
U38A IAmb IAmb 16 55 06.4
comp=Z,7.5nm,0.8s
FVM French Village 65.51 340 P P 16 55 04.7 -0.6
FVM IAmb IAmb 16 55 06.0
comp=Z,14nm,0.8s
TUL1 Leonard 65.57 334 P 16 55 06.0
baz=151
L63A North Scituate 65.64 356 P 16 55 05.9
baz=175
N54A Moraine State 65.75 349 P 16 55 07.2
baz=167
WMOK Wichita Mounta 65.81 331 P 16 55 07.2
baz=148
WMOK Wichita Mounta 65.81 331 P P 16 55 07.2 -0.2
OK030 Cody Creek RV 65.99 334 P P 16 55 09.1 +0.7
OK031 S. Brethren Rd 66.03 334 P P 16 55 09.0 +0.3
L58A Harry Jones Me 66.21 353 P 16 55 10.4
baz=171
S39A Bolivar 66.22 337 P P 16 55 09.9 +0.1
M54A Oil Creek Stat 66.23 349 P 16 55 09.7
baz=167
L59A Walton 66.26 353 P 16 55 10.9
baz=172
L59A Walton 66.26 353 P P 16 55 10.4 +0.3
L59A IAmb IAmb 16 55 12.5
comp=Z,14nm,0.8s
HRV Adam Dziewonsk 66.28 356 P 16 55 10.5
baz=175
L61B Northampton 66.30 355 P 16 55 09.9
baz=174
BINY Binghamton 66.38 353 P 16 55 10.6
baz=171
R40A Maddies Statio 66.39 338 P P 16 55 10.8 -0.1
R40A IAmb IAmb 16 55 11.7
comp=Z,9.7nm,0.7s
K63A Dunstable 66.46 356 P 16 55 10.6
baz=175
L56A Greenwood 66.52 351 P 16 55 11.3
baz=169
L56A Greenwood 66.52 351 P P 16 55 11.0 -0.7
L56A IAmb IAmb 16 55 13.3
comp=Z,16nm,1.3s
MNTX Cornudas Mount 66.54 325 P 16 55 12.4
baz=142,SNR=10
MNTX Cornudas Mount 66.54 325 P P 16 55 11.9 -0.1
N49A Columbus Grove 66.55 346 P P 16 55 11.0 -0.9
N49A IAmb IAmb 16 55 12.5
comp=Z,8.9nm,1.0s
K61A Williamstown 66.57 355 P 16 55 11.9
baz=173
T35A Sooner Cattle 66.73 334 P P 16 55 13.1 -0.1
T35A IAmb IAmb 16 55 15.3
comp=Z,12nm,1.1s
P43A Skaggs, Pawnee 66.75 341 P P 16 55 12.1 -1.1
P43A IAmb IAmb 16 55 12.8
comp=Z,9.8nm,0.7s
SFIN Lafayette 66.75 343 P 16 55 11.9
baz=160
SFIN Lafayette 66.75 343 P P 16 55 12.0 -1.2
SFIN IAmb IAmb 16 55 13.0
comp=Z,7.6nm,0.9s
BLOK Blackwell 66.88 334 P P 16 55 14.7 +0.6
J62A Henniker 67.01 356 P 16 55 14.8
baz=175
MSTX Muleshoe 67.02 328 P 16 55 15.7
baz=144
MSTX Muleshoe 67.02 328 P P 16 55 15.5 +0.3
MSTX IAmb IAmb 16 55 16.7
comp=Z,16nm,0.9s
K56A Middlesex 67.04 352 P 16 55 14.9
baz=169
J60A Lant Hill Farm 67.15 355 P 16 55 15.5
baz=173
P40A Paris 67.44 339 P P 16 55 17.0 -0.5
P40A IAmb IAmb 16 55 18.3
comp=Z,17nm,0.9s
J58A Remsen 67.44 353 P 16 55 17.7
baz=172
J59A Piesco 67.47 354 P 16 55 17.5
baz=172
J59A Piesco 67.47 354 P P 16 55 17.3 -0.3
J59A IAmb IAmb 16 55 19.5
comp=Z,14nm,0.9s
HDIL Hopedale 67.53 342 P 16 55 18.1
baz=158
J56A Wolcott 67.55 352 P 16 55 18.0
baz=170
J56A Wolcott 67.55 352 P P 16 55 18.6 +0.6
J56A IAmb IAmb 16 55 19.1
comp=Z,8.7nm,0.6s
J57A Williamstown 67.57 353 P 16 55 18.4
baz=171
DBIC Dimbokro 67.58 71 P P 16 55 18.1 -0.9
comp=Z,3.9nm,0.6s,baz=218,slow=8.8,SNR=5.8
DBIC Dimbokro 67.58 71 P P 16 55 17.7 -1.3
I64A Boothbay 67.60 358 P 16 55 18.3
baz=177
I62A Tamworth 67.63 356 P 16 55 18.7
baz=175
I60A Shoreham 67.74 355 P 16 55 19.6
baz=173
I59A Olmsteadville 67.74 354 P 16 55 19.6
baz=173
I58A Old Forge 67.74 354 P 16 55 19.6
baz=172
I61A Oroboro, Fairl 67.74 356 P 16 55 19.3
baz=174
I63A Otisfield 67.77 357 P 16 55 19.8
baz=176
I63A Otisfield 67.77 357 P P 16 55 20.5 +1.1
I63A IAmb IAmb 16 55 22.1
comp=Z,12nm,0.8s
P38A Dawn 68.02 338 P P 16 55 21.2 +0.1
LBNH Lisbon 68.03 356 P 16 55 21.4
baz=175
I57A Carthage 68.06 353 P 16 55 21.2
baz=171
N41A Harden Midland 68.13 340 P P 16 55 20.5 -1.3
PECO Prince Edward 68.21 352 P P 16 55 21.3 -0.9
PECO IAmb IAmb 16 55 23.0
comp=Z,12nm,0.9s
H64A Troy 68.30 358 P 16 55 22.9
baz=178
H62A Milan 68.32 357 P 16 55 23.4
baz=176
H61A Lyndonville 68.32 356 P 16 55 22.5
baz=175
H65A Eastbrook 68.33 359 P 16 55 23.0
baz=178
H58A Gabriels 68.38 354 P 16 55 23.3
baz=173
H66A Whiting 68.41 360 P 16 55 23.5
baz=179
319A Douglas 68.44 322 P P 16 55 23.6 -0.4
319A IAmb IAmb 16 55 26.9
comp=Z,10nm,0.6s
121A Cookes Peak, D 68.48 323 P 16 55 25.9
baz=140,SNR=5.8
H57A Richville 68.55 353 P 16 55 24.2
baz=171
H59A Cadyville 68.56 355 P 16 55 24.0
baz=173
KSU1 Kansas State U 68.67 335 P 16 55 25.1
baz=151
G63A Kingsbury 68.79 358 P 16 55 25.4
baz=177
G65A Princeton 68.83 359 P 16 55 25.4
baz=179
G64A Maxfield 68.90 358 P 16 55 26.4
baz=178
G60A Masonville 68.91 356 P 16 55 27.3
baz=174
PKME Peaks-Kenny Pk 68.93 358 P 16 55 26.5
baz=177
G62A West of Eustis 68.93 357 P 16 55 26.5
baz=176
PKME Peaks-Kenny Pk 68.93 358 P P 16 55 26.6 0.0
PKME IAmb IAmb 16 55 28.1
comp=Z,14nm,0.9s
G62A West of Eustis 68.93 357 P P 16 55 26.5 -0.2
G62A IAmb IAmb 16 55 28.5
comp=Z,10nm,0.8s
H53A Bobcaygeon 69.05 351 P 16 55 27.2
baz=168
G58A Ormstown 69.10 354 P 16 55 27.1
baz=173
BNM Barren Site 69.11 325 P P 16 55 29.7 +1.4
Y22D IRIS PASSCAL I 69.20 325 P 16 55 29.5
baz=141
K43A Burlington 69.25 343 P P 16 55 28.2 -0.5
K43A IAmb IAmb 16 55 29.3
comp=Z,13nm,0.9s
F63A Nahmakanta, Br 69.36 358 P 16 55 29.2
baz=178
L40A Anamosa 69.48 341 P P 16 55 29.9 -0.2
LMN Caledonia Moun 69.50 1 P P 16 55 30.1 0.0
F64A Sherman 69.50 359 P 16 55 30.3
baz=178
F64A Sherman 69.50 359 P P 16 55 30.7 +0.5
F62A Pittston Farm, 69.58 358 P 16 55 30.7
baz=177
ANMO Albuquerque 69.64 326 P 16 55 33.1
baz=141
ANMO Albuquerque 69.64 326 P 16 55 32.7 +1.2
CBKS Cedar Bluff 69.67 333 P 16 55 32.3
baz=148
CBKS Cedar Bluff 69.67 333 P P 16 55 32.4 +1.0
F61A St Evariste 69.71 357 P 16 55 30.1
baz=176
G54A Lake Saint Pet 69.79 352 P 16 55 31.9
baz=169
N35A Tabor 69.86 337 P P 16 55 32.5 0.0
SCIA State Center 69.96 339 P 16 55 32.9
baz=154
SCIA State Center 69.96 339 P P 16 55 32.9 -0.1
SCIA IAmb IAmb 16 55 34.0
comp=Z,15nm,0.8s
JFWS Jewell Farm 69.97 342 P 16 55 33.0
baz=157
JFWS Jewell Farm 69.98 342 P P 16 55 32.5 -0.5
TUC Tucson 69.99 321 P 16 55 35.0
baz=137
TUC Tucson 69.99 321 P P 16 55 34.0 +0.5
E64A Bridgewater 70.05 359 P 16 55 33.5
baz=179
E63A Oxbow 70.06 359 P 16 55 33.7
baz=178
E63A Oxbow 70.06 359 P P 16 55 33.7 +0.2
E63A IAmb IAmb 16 55 35.0
comp=Z,10nm,0.8s
TRQ Mont Tremblant 70.21 354 P P 16 55 34.0 -0.5
E62A Clayton Lake 70.29 358 P 16 55 35.2
baz=177
E62A Clayton Lake 70.29 358 P P 16 55 35.5 +0.6
E62A IAmb IAmb 16 55 36.7
comp=Z,12nm,0.8s
PQI Presque Isle 70.31 359 P P 16 55 35.4 +0.4
ALGO Algonquin Park 70.33 352 P 16 55 34.8
baz=169
T25A Trinidad 70.36 329 P 16 55 37.5
baz=144,SNR=5.3
T25A Trinidad 70.36 329 P P 16 55 36.8 +0.9
K38A Parkersburg 70.49 340 P P 16 55 35.7 -0.5
K38A IAmb IAmb 16 55 36.9
comp=Z,16nm,1.1s
I42A Draeger Farm, 70.51 343 P P 16 55 36.0 -0.3
I42A IAmb IAmb 16 55 37.3
comp=Z,19nm,1.2s
E56A St. Veronique 70.57 354 P 16 55 36.6
baz=172
D63A Stockholm 70.67 359 P 16 55 37.6
baz=179
D62A Allapoint, All 70.74 358 P 16 55 38.0
baz=178
D62A Allapoint, All 70.74 358 P P 16 55 38.1 +0.5
D62A IAmb IAmb 16 55 38.7
comp=Z,10nm,0.7s
BATG Bathurst New B 70.91 1 P P 16 55 38.5 -0.1
BATG IAmb IAmb 16 55 40.0
comp=Z,12nm,0.8s
214A Organ Pipe Nat 70.91 320 P 16 55 40.9
baz=136
D58A Chemin du LacG 70.94 356 P 16 55 39.2
baz=174
D56A ZEC Mazanza, M 71.04 354 P 16 55 39.3
baz=172
D55A Sainte-Anne-du 71.08 354 P 16 55 39.6
baz=172
L34A Svendsen Farm, 71.09 337 P P 16 55 39.5 -0.4
BGNE Belgrade 71.25 336 P 16 55 41.6
baz=150,SNR=6.6
BGNE Belgrade 71.26 336 P P 16 55 41.6 +0.7
SDCO Great Sand Dun 71.37 328 P 16 55 43.6
baz=143,SNR=8.5
SDCO Great Sand Dun 71.37 328 P P 16 55 43.6 +1.6
E46A Sault Ste Mari 71.78 347 P P 16 55 43.5 -0.3
E46A IAmb IAmb 16 55 44.5
comp=Z,10nm,0.8s
SPX San Pedro Mart 71.88 317 P P 16 55 46.6 +1.4
I37A Lemond, Waseca 71.92 340 P P 16 55 44.6 -0.2
S22A 4UR Ranch, Cre 72.01 328 P 16 55 47.2
baz=142
Q24A Divide 72.17 329 P 16 55 48.0
baz=143
KOWA Kowa 72.22 65 P P 16 55 45.9 -1.3
E43A Lone Tree Farm 72.37 345 P P 16 55 47.4 0.0
MVCO Mesa Verde 72.43 326 P 16 55 50.2
baz=140
WUAZ Wupatki 72.68 323 P 16 55 51.7
baz=138,SNR=5.0
ECSD EROS Data Cent 72.72 338 P 16 55 49.7
baz=152,SNR=6.2
ECSD EROS Data Cent 72.73 338 P P 16 55 49.4 -0.1
ECSD IAmb IAmb 16 55 50.8
comp=Z,22nm,1.2s
SPMN Marine on St. 72.83 341 P 16 55 50.0
baz=155
GLA Glamis 72.89 319 P 16 55 52.9
baz=135
ISCO Idaho Springs 73.06 330 P 16 55 53.4
baz=143
ISCO Idaho Springs 73.06 330 P P 16 55 52.7 +0.7
PV01 Paradox Valley 73.18 327 P P 16 55 50.8 -1.9
SMCO Snowmass 73.21 328 P P 16 55 54.7 +1.7
LSQQ Lebel-sur-Quev 73.26 353 P 16 55 52.5
baz=170
DRLN Deer Lake 73.35 6 P P 16 55 53.1 +0.1
DRLN IAmb IAmb 16 55 54.5
comp=Z,16nm,0.8s
D41A Chassel 73.38 345 P P 16 55 53.6 +0.3
IKP In-Ko-Pah, Jac 73.38 318 P 16 55 55.7
baz=134
PV05 Paradox Valley 73.40 326 P P 16 55 54.0 0.0
PV22 Blue Mesa, Par 73.60 327 P P 16 55 55.2 +0.1
F36A Milaca 73.62 341 P P 16 55 54.2 -0.5
F36A IAmb IAmb 16 55 55.5
comp=Z,13nm,0.8s
BC3 Big Chuckawall 73.68 319 P 16 55 57.6
baz=134
MONP2 Monument Peak 73.74 318 P 16 55 57.8
baz=133
IRM Iron Mountain 73.85 320 P 16 55 58.4
baz=135
U15A North Rim 73.85 323 P P 16 55 57.6 +0.9
N23A Red Feather La 74.08 330 P 16 55 59.6
baz=143
BELC Belle Mtn. Jos 74.25 319 P 16 56 00.6
baz=134
TPFO Pinon Flats 74.25 319 P 16 56 00.7
baz=134
PFO Pinyon Flats O 74.26 319 P 16 56 00.7
baz=134
F33A 5 Mile Ranch, 74.47 339 P P 16 55 59.5 -0.2
F33A IAmb IAmb 16 56 00.5
comp=Z,7.7nm,0.8s
O20A White River Ci 74.56 328 P 16 56 02.4
baz=141,SNR=5.1
KNB Kanab 74.57 323 P P 16 56 02.5 +1.8
KNB IAmb IAmb 16 56 04.3
comp=Z,15nm,1.0s
GMRC Granite Mounta 74.59 320 P 16 56 03.0
baz=134,SNR=9.0
VNDA Vanda 74.77 190 P P 16 56 02.7 +1.7
comp=Z,2.4nm,0.9s,baz=141,slow=4.2,SNR=12
VNDA Vanda 74.77 190 P P 16 56 02.2 +1.1
LCMT Little Creek M 74.80 323 P P 16 56 03.5 +1.6
SRU San Rafael Swe 74.91 326 P P 16 56 03.6 +1.1
SRU IAmb IAmb 16 56 05.1
comp=Z,6.6nm,0.7s
EYMN Ely 74.95 343 P 16 56 02.1
baz=157
EYMN Ely 74.95 343 P P 16 56 01.8 -0.6
MTPU Mount Pierson 74.98 324 P P 16 56 03.8 +0.6
HEC Hector,Ludlow 75.02 320 P 16 56 05.2
baz=134
RWWY Rawlins 75.30 330 P P 16 56 04.7 -0.1
RWWY IAmb IAmb 16 56 06.5
comp=Z,9.9nm,0.9s
BFSC Mount Baldy Ra 75.41 318 P 16 56 07.0
baz=133
RDMU Red Mountain 75.55 328 P P 16 56 07.4 +1.2
RDMU IAmb IAmb 16 56 08.3
comp=Z,6.5nm,0.7s
K22A Casper 75.75 331 P 16 56 08.6
baz=143
RSSD Black Hills 75.87 333 P 16 56 08.8
baz=145
RSSD Black Hills 75.87 333 P P 16 56 07.9 -0.1
RSSD IAmb IAmb 16 56 10.2
comp=Z,8.1nm,0.8s
B35A Bob, Littlefor 75.94 342 P P 16 56 07.4 -0.6
B35A IAmb IAmb 16 56 09.0
comp=Z,15nm,0.8s
EDW2 Edwards Air Fo 76.05 319 P 16 56 10.7
baz=133
PSUT Pine Spring 76.24 324 P P 16 56 10.0 -0.2
LRMC Laurel Mtn Rad 76.27 319 P 16 56 11.6
baz=133
TOA0 Torodi Ar. Sit 76.35 69 P P 16 56 10.2 -0.8
TOA0 IAmb IAmb 16 56 12.8
comp=Z,7.5nm,0.7s
TORD Torodi Ar. Bea 76.35 69 P P 16 56 10.4 -0.6
comp=Z,5.5nm,0.6s,baz=257,slow=4.9,SNR=40
TORD Torodi Ar. Bea 76.35 69 P P 16 56 10.1 -0.9
TPNV Topopah Spring 76.44 321 P 16 56 13.8
baz=134,SNR=7.1
TPNV Topopah Spring 76.44 321 P P 16 56 11.2 -0.1
FURC Furnace Creek, 76.46 320 P 16 56 13.5
baz=134
SCZ2 Santa Cruz Isl 76.47 317 P 16 56 13.7
baz=131
AGMN Agassiz Nation 76.52 340 P 16 56 11.4
baz=153
AGMN Agassiz Nation 76.52 340 P P 16 56 11.5 +0.3
AGMN IAmb IAmb 16 56 12.4
comp=Z,12nm,0.8s
ISA Isabella, Lake 76.87 319 P 16 56 15.6
baz=132
R11A Troy Canyon, C 77.05 323 P 16 56 16.6
baz=135,SNR=8.1
CWC Cottonwood Cre 77.16 320 P 16 56 17.4
baz=133
PKM Mcpherson Peak 77.17 318 P 16 56 17.3
baz=131
BW06 Boulder Array 77.22 329 P 16 56 16.6
baz=140
BW06 Boulder Array 77.23 329 P P 16 56 16.3 +0.6
PD31 Pinedale Array 77.23 329 P P 16 56 16.4 +0.8
PDAR Pinedale Array 77.23 329 P P 16 56 16.8 +1.2
comp=Z,1.3nm,0.5s,baz=136,slow=7.8,SNR=11
PDAR S S 17 05 48.8 +0.4
comp=Z,0.4nm,0.4s,baz=128,slow=12,SNR=3.6
PDAR Pinedale Array 77.23 329 P P 16 56 16.0 +0.4
HWUT Hardware Ranch 77.31 327 P P 16 56 17.0 +0.9
MDND Maddock 77.33 338 P 16 56 16.8
baz=149
MDND Maddock 77.34 338 P P 16 56 17.1 +1.2
SPUT South Promonto 77.53 326 P P 16 56 18.6 +1.4
SPUT IAmb IAmb 16 56 19.4
comp=Z,6.3nm,0.7s
BGU Big Grassy Mou 77.55 326 P P 16 56 18.1 +0.8
BGU IAmb IAmb 16 56 20.0
comp=Z,12nm,1.5s
SMMC Simmler 77.56 318 P 16 56 19.6
baz=131
TPH Tonopah 77.78 321 P P 16 56 19.8 +1.0
AHID Auburn Hatcher 77.96 328 P P 16 56 20.7 +1.1
AHID IAmb IAmb 16 56 22.0
comp=Z,14nm,0.9s
HVU Hansel Valley 78.05 327 P P 16 56 21.2 +1.1
ULM Lac du Bonnet 78.26 341 P P 16 56 21.1 +0.2
comp=Z,10nm,0.6s,baz=154,slow=5.9,SNR=12
ULM Lac du Bonnet 78.26 341 P P 16 56 20.6 -0.2
ULM IAmb IAmb 16 56 21.9
comp=Z,11nm,0.7s
REDW Red Top Meadow 78.29 329 P P 16 56 22.7 +1.3
REDW IAmb IAmb 16 56 24.1

comp=Z,7.5nm,0.9s
MLAC Mammoth, Mammo 78.41 320 P 16 56 23.9
baz=133
TPAW Teton Pass 78.44 329 P **P** **16 56 23.3 +1.0**
SCHQ Schefferville 78.47 360 P **P** **16 56 21.8 -0.1**
comp=Z,5.3nm,0.6s,baz=179,slow=3.2,SNR=12
SCHQ Schefferville 78.47 360 P **P** **16 56 22.0 +0.1**
SCHQ IAmb IAmb 16 56 22.9
comp=Z,6.9nm,0.7s
MOOW Moose Ponds 78.53 329 P **P** **16 56 24.1 +1.3**
MDPB Devils Postpil 78.55 320 P **P** **16 56 24.3 +1.2**
ELK Elko 78.57 325 P **P** **16 56 23.1 0.0**
LHV Little Huntoon 78.64 321 P **P** **16 56 24.3 +1.1**
NVAR Mina Array Bea 78.64 321 P **P** **16 56 23.7 +0.2**
comp=Z,1.2nm,0.6s,baz=156,slow=6.1,SNR=9.6
NVAR Mina Array Bea 78.64 321 P **P** **16 56 24.4 +0.9**
FLWY Flagg Ranch 78.77 329 P **P** **16 56 25.0 +0.9**
FLWY IAmb IAmb 16 56 27.1
comp=Z,11nm,0.9s
LAO LASA Array 78.85 334 P 16 56 25.3
baz=144
LAO LASA Array 78.86 334 P **P** **16 56 25.0 +0.8**
LAO IAmb IAmb 16 56 26.4
comp=Z,12nm,0.8s
RLMT Red Lodge 78.91 331 P 16 56 26.4
baz=141,SNR=5.9
RLMT Red Lodge 78.92 331 P **P** **16 56 25.6 +0.8**
RLMT IAmb IAmb 16 56 27.3
comp=Z,9.0nm,0.6s
H17A Grant Village 78.95 330 P 16 56 26.6
baz=140
KVN Kaiserville 78.95 322 P **P** **16 56 25.3 +0.2**
KVN IAmb IAmb 16 56 27.6
comp=Z,7.3nm,0.8s
YMP Mirror Lake Pl 79.02 330 P **P** **16 56 26.1 +0.6**
YMP IAmb IAmb 16 56 43.0
comp=Z,6.3nm,0.8s
YNE Yellowstone No 79.16 330 P **P** **16 56 26.9 +0.7**
YNE IAmb IAmb 16 56 28.7
comp=Z,13nm,0.9s
WAKR Walker 79.35 321 P **P** **16 56 27.1 -0.2**
YHB Horse Butte 79.51 330 P **P** **16 56 29.6 +1.6**
YHB IAmb IAmb 16 56 31.1
comp=Z,10nm,0.8s
YERR Yerington 79.56 321 P **P** **16 56 30.1 +1.6**
YERR IAmb IAmb 16 56 31.4
comp=Z,15nm,1.4s
YHL Hebgen Lake 79.58 330 P **P** **16 56 30.4 +1.8**
YHL IAmb IAmb 16 56 31.7
comp=Z,6.9nm,0.7s
GCMT Greycliff 79.61 331 P **P** **16 56 29.6 +1.1**
PNTR Pine Nut 79.84 321 P **P** **16 56 31.0 +1.1**
PNTR IAmb IAmb 16 56 33.0
comp=Z,9.6nm,0.8s
PAHR Pah Rah Range 80.13 322 P **P** **16 56 32.2 +0.8**
PAHR IAmb IAmb 16 56 34.5
comp=Z,10nm,0.8s
HLID Hailey 80.17 327 P 16 56 33.8
baz=137,SNR=18
HLID Hailey 80.17 327 P **P** **16 56 32.8 +1.2**
HLID IAmb IAmb 16 56 34.8
comp=Z,12nm,0.8s
BCYI Bear Canyon 80.23 328 P **P** **16 56 32.9 +1.0**
MCMT McKenzie Canyo 80.34 329 P **P** **16 56 33.8 +1.3**
BOSA Boshof 80.56 117 P **P** **16 56 34.7 +0.6**
comp=Z,1.7nm,0.7s,baz=261,slow=4.4,SNR=7.7
DLMT Dillon 80.62 329 P **P** **16 56 35.1 +1.2**
DLMT IAmb IAmb 16 56 36.7
comp=Z,13nm,1.2s
MFID Camas Ranch 80.78 326 P **P** **16 56 35.9 +1.2**
BEKR Beckworth 80.79 321 P **P** **16 56 36.0 +1.0**
LRM Limekiln Ridge 80.90 330 P **P** **16 56 36.7 +1.2**
ORV Oroville 81.25 320 P **P** **16 56 38.1 +1.0**
HRY Holter Researc 81.28 330 P **P** **16 56 38.4 +1.1**
EGMT Eagleton 81.38 332 P 16 56 38.4
baz=141
MAW Mawson 81.41 163 P **P** **16 56 39.2 +1.6**
comp=Z,14nm,0.8s,baz=214,slow=5.3,SNR=22
MAW Mawson 81.41 163 P **P** **16 56 38.7 +1.1**
O03E Paynes Creek 81.91 321 P 16 56 41.0
baz=131
J08A Circle Bar Ran 82.12 325 P **P** **16 56 42.7 +0.9**
J08A IAmb IAmb 16 56 44.5
comp=Z,22nm,1.3s
MOD Modoc Plateau 82.12 323 P **P** **16 56 43.2 +1.3**
MSO Missoula 82.34 329 P 16 56 43.9
baz=157
BMO Blue Mountains 82.55 326 P **P** **16 56 44.9 +1.0**
N02D Trinity Center 82.87 321 P 16 56 47.0
baz=130
M04C Macdoel 82.90 322 P 16 56 46.5
baz=131
JTMT Jette 83.17 330 P **P** **16 56 47.8 +0.7**
JTMT IAmb IAmb 16 56 49.4
comp=Z,8.4nm,0.9s
F10A Beach Ranch, E 83.30 327 P **P** **16 56 48.8 +1.1**
F10A IAmb IAmb 16 56 50.9
comp=Z,7.9nm,0.7s
YBH Yreka Blue Hor 83.36 321 P **P** **16 56 48.6 +0.4**
comp=Z,2.9nm,0.7s,baz=56,slow=4.5,SNR=5.8
YBH Yreka Blue Hor 83.36 321 IAmb IAmb 16 56 49.1
comp=Z,4.4nm,0.9s
L04D Klamath Falls 83.44 322 P 16 56 49.7
baz=131
L02E Cave Junction 84.14 321 P 16 56 53.4
baz=130
I05D Terrebonne, OR 84.31 324 P 16 56 54.3
baz=132
K02D Willamette Mer 84.52 322 P 16 56 55.6
baz=130
NEW Newport 84.86 329 P **P** **16 56 55.2 -0.4**
G05D Wamic, OR 84.89 325 P 16 56 57.3
baz=132
D08A Wollman Farm, 84.89 327 P **P** **16 56 56.6 +1.0**
J01E Myrtle Point 84.97 322 P 16 56 57.8
baz=130
C09A Chrisman Ranch 85.09 328 P **P** **16 56 57.7 +1.0**
LTY Liberty 85.91 327 P **P** **16 57 01.2 +0.5**
B08A Colville Reser 85.99 328 P **P** **16 57 01.5 +0.4**
ESDC Sonseca Array 86.22 43 P **P** **16 57 03.5 +1.0**
comp=Z,2.8nm,0.8s,baz=238,slow=4.7,SNR=14
B05A Bryant 87.29 327 P 16 57 07.8
baz=131
D03D Eldon 87.32 326 P 16 57 08.4
baz=130
CASY Casey 90.02 179 P **P** **16 57 21.2 +1.2**
KEST Kesra 93.22 52 P **P** **16 57 35.4 +0.1**
comp=Z,2.1nm,0.7s,baz=210,slow=8.1,SNR=2.7
YKA Yellowknife Ar 94.16 340 P **P** **16 57 39.3 +0.4**
comp=Z,3.3nm,0.6s,baz=130,slow=4.9,SNR=38
BYL Byron's Ledge 96.36 288 P **P** **16 57 49.5 -0.6**
C36M Paulatuk 101.67 342 Pdiff 16 58 12.1
baz=128
L27K Beaver Creek, 104.60 333 Pdiff 16 58 26.6
baz=114
K27K Chicken 105.10 334 Pdiff 16 58 29.0
baz=114
BPAW Bear Paw Mtn. 108.81 333 PKiKP 17 02 51.5
baz=106
MNK Minsk 111.79 39 *i* P Pdif 16 59 18.7 +21
comp=E,1.0nm,0.7s
MNK *i* P Pdif 16 59 18.7 +21
comp=N,12nm,0.8s
MNK *i* P Pdif 16 59 18.7 +21
comp=Z,10.0nm,0.7s,baz=81
MNK *i* PP **PP** **17 03 37.9 -2.4**
MNK *i* PPP PPP 17 06 00.6
MNK *i* SKS **SKSdf** **17 09 45.0 -1.6**
MNK *i* SS **SS** **17 19 00.1 -0.5**
MNK *i* SSS SSS 17 23 11.8
MNK *i* LRM MLR 17 50 28.2
comp=N,131nm,25.6s
MNK *i* LRM MLR 17 50 46.1
comp=Z,225nm,24.3s
MNK *i* LRM MLR 17 50 48.7
comp=E,9.0nm,21.7s
ARCES ARCESS Array B 113.00 22 PKKPbc PKKPbc 17 13 44.4 -1.2
comp=E,4.9nm,1.1s,baz=2.9,slow=2.4,SNR=3.6
ANM Nome 115.05 332 PKiKP 17 03 03.3
baz=93
CTA Charters Tower 125.67 219 PKP **PKiKP** **17 03 23.1 +0.8**
comp=E,3.1nm,0.8s,baz=279,slow=14,SNR=1.4
ASAR Alice Springs 128.58 204 PKP **PKPdf** **17 03 27.6 +0.3**
ASAR PKKP **PKKPdf** **17 13 34.8 +0.3**
comp=E,0.1nm,0.3s,baz=5.2,slow=1.6,SNR=4.4
ASAR Alice Springs 128.58 204 PKPdf **PKPdf** **17 03 27.1 -0.3**
WRA Warramunga Arr 131.76 207 PKP **PKiKP** **17 03 34.2 -0.3**
comp=E,2.4nm,0.4s,baz=162,slow=1.8,SNR=37
SEY Seymchan 133.13 337 PKP **PKiKP** **17 03 36.2 +0.4**
comp=E,3.5nm,0.7s,baz=92,slow=4.5,SNR=10
PETK Petropavlovsk- 135.71 323 PKhKP PKPpre 17 03 32.3
comp=E,1.6nm,1.0s,baz=39,slow=4.6,SNR=5.5
PETK PKP **PKiKP** **17 03 41.0 -0.4**
comp=E,2.7nm,0.7s,baz=92,slow=1.9,SNR=15
FITZ Fitzroy Crossi 136.48 197 PKP **PKPdf** **17 03 43.1 +0.9**
comp=E,1.7nm,0.6s,baz=237,slow=2.2,SNR=7.8
ZALV Zalesovo Beam 143.26 28 PKP PKPbc 17 03 51.5 +0.4
comp=E,8.9nm,0.6s,baz=296,slow=4.2,SNR=42
BATI Baumata 144.54 198 PKP **PKPdf** **17 03 57.5 +0.5**
comp=E,32nm,0.6s,baz=261,slow=2.9,SNR=5.8
KSH Kashi 145.00 55 PKP PKPbc 17 03 56.8 -0.1
KSH PP **PP** **17 07 17.9 +0.3**
KSH PPMZ
comp=E,200nm,5.9s
MKAR Makanchi Array 146.36 40 PKPbc **PKPbc** **17 04 00.1 -0.6**
comp=E,15nm,0.6s,baz=320,slow=2.4,SNR=100
MKAR Makanchi Array 146.36 40 PKPdf **PKPdf** **17 03 59.8 +0.7**
JKA Kamikawa-asahi 148.69 317 **PKPbc** **17 04 07.4 +0.5**
ASAJ Asahikawa 148.70 317 PKPbc **PKPbc** **17 04 07.4 +0.4**
comp=E,4.6nm,0.6s,baz=69,slow=8.6,SNR=1.5
SIJI Sorong 149.74 218 PKPbc **PKiKP** **17 04 11.4 0.0**
comp=E,30nm,0.7s,baz=47,slow=3.5,SNR=18
KLR Kul'dur 150.88 335 PKPbc **PKiKP** **17 04 12.6 0.0**
comp=E,11nm,0.7s,baz=39,slow=2.9,SNR=24
TLY Taiya 151.36 13 PKP **PKPdf** **17 04 06.0 -0.9**
comp=E,6.3nm,0.7s,baz=277,slow=7.6,SNR=3.0
TLY PKPbc **PKiKP** **17 04 14.7 +1.1**
comp=E,3.7nm,0.4s,baz=148,slow=16,SNR=1.8
TLY PKPab **PKPab** **17 04 22.4 +0.4**
comp=E,12nm,0.8s,baz=255,slow=11,SNR=3.4
USRK Ussuriysk Ar. 154.64 327 PKP **PKPdf** **17 04 13.1 +1.2**
comp=E,0.7nm,0.7s,baz=99,slow=4.9,SNR=1.8
USRK PKPbc **PKiKP** **17 04 21.4 +0.8**
comp=E,1.9nm,0.7s,baz=67,slow=3.7,SNR=5.0
MJAR Matsushiro Arr 155.13 306 PKPbc PKPbc 17 04 22.7
comp=E,1.2nm,0.4s,baz=89,slow=1.5,SNR=2.4
MJAR PKPab **PKPab** **17 04 39.9 +1.3**
comp=E,0.8nm,0.5s,baz=63,slow=3.4,SNR=4.2
SONM Songino Array 155.56 11 PKP **PKPdf** **17 04 14.2 +1.0**
comp=E,0.6nm,0.4s,baz=191,slow=1.5,SNR=5.1
SONM PKPab **PKPab** **17 04 41.0 +0.9**
comp=E,2.2nm,0.7s,baz=320,slow=4.5,SNR=8.4
KSRS Korea Array 161.59 320 PKP **PKPdf** **17 04 21.8 +1.3**
comp=E,0.9nm,1.0s,baz=116,slow=2.9,SNR=5.1
KSRS PKPab **PKPab** **17 05 07.4 +1.0**
comp=E,0.3nm,0.4s,baz=31,slow=2.9,SNR=5.3
CMAR Chiang Mai Arr 165.59 110 PKP **PKPdf** **17 04 25.9 +1.2**
comp=E,0.7nm,0.6s,baz=240,slow=2.4,SNR=7.9
CMAR PKPab **PKPab** **17 05 23.9 -0.8**
comp=E,1.3nm,0.7s,baz=262,slow=4.9,SNR=9.3
CMAR Chiang Mai Arr 165.59 110 **PKPdf** **17 04 25.0 +0.2**

IDC 09 16:47:16.8±2.5, 5°.65N×125°.57E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/41, mbtmp3.4/3, 1D Error ellipse: s-maj=226.9km s-min=28.6km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.44**	**341**	*i*P		Pb	16 47 56.7	+12
WRA	**Warramunga Arr**	**26.85**	**161**	P		P	16 53 00.3	+1.0
	0.7nm,0.9s,baz=341,slow=10,SNR=1.9							
ASAR	**Alice Springs**	**30.25**	**165**	P		P	16 53 28.6	-1.0
	0.3nm,0.8s,baz=341,slow=7.6,SNR=2.3							
MKAR	**Makanchi Array**	**55.33**	**325**	P		P	16 56 52.4	-0.1
	0.3nm,0.5s,baz=127,slow=7.4,SNR=5.2							

IDC 09 16:51:16.9±2.0, 4°.90S×151°.22E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.6/39, mbtmp3.9/5, ML1.6/1, Error ellipse: s-maj=104.0km s-min=26.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.02**	**222**	Pn		Pn	16 52 49.2	+2.0
	1.0nm,0.3s,baz=55,slow=12,SNR=2.5							
PMG				Sn		Sn	16 53 52.9	-4.1
	1.9nm,0.3s,baz=158,slow=16,SNR=1.5							
WRA	**Warramunga Arr**	**22.22**	**226**	P		P	16 56 14.6	-0.6
	1.3nm,0.6s,baz=52,slow=10,SNR=10.0							
ASAR	**Alice Springs**	**25.03**	**220**	P		P	16 56 42.0	-0.9
	2.4nm,0.8s,baz=52,slow=9.2,SNR=22							
FITZ	**Fitzroy Crossi**	**28.23**	**240**	P		P	16 57 12.3	+0.4
	1.3nm,0.3s,baz=60,slow=8.1,SNR=14							
ILAR	**Eielson Array**	**82.85**	**22**	P		P	17 03 43.0	0.0
	0.6nm,0.7s,baz=260,slow=5.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	**148.84**	**287**	PKPbc		PKPbc	17 11 07.5	-0.1
	1.7nm,0.7s,baz=61,slow=2.8,SNR=6.7							

*JMA **09** 17:00:20.7±0.1, 41°.48N×142°.03E, h65km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs174.00000°, δ17.00000°, λ69.00000°. NP2: φs16.00000°, δ74.00000°, λ96.00000°. Principal axes: T Plg60.0000°, Azm295.0000°; N Plg6.0000°, Azm194.0000°; P Plg29.0000°, Azm101.0000°;*

JMA Felt I J1.

*NIED **09** 17:00:20.8, 41°.48N×142°.03E, h65km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.68; Mθθ0.30; Mφφ-4.97; Mrθ1.75; Mφθ-1.27; Mφr3.85; Fault plane solution: M0 6.53000×10¹⁴ NP1: φs21.00000°, δ65.00000°, λ97.00000°. NP2: φs184.00000°, δ26.00000°, λ74.00000°.*

*NEIC **09** 17:00:21.0±2.5, 41°.47N±0°.01×141°.95E±0°.05, h54km±8km, mb4.3/16 Error ellipse: s-maj=5.9km s-min=2.0km az=96.0*

*IDC **09** 17:00:22.2±1.4, 41°.49N×142°.09E, h74km±12km, mb3.7/14, mb1 3.8/20, mb1mx3.6/48, mbtmp4.0/20, MS2.8/5, Ms1 2.8/5, ms1mx2.5/61, Error ellipse: s-maj=18.9km s-min=10.2km az=105.0*

ISC 09 17:00:21.3±0.8, 41°.47N±0°.03×142°.07E±0°.04, h63km±7km, n100, σ1s45/107, mb4.2/25, 1C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.59**	**250**	ǁP		Pn	17 00 34.0	-0.4
JAHD				S		Sn	17 00 43.7	-0.4
JARK	**Aomorirokkasho**	**0.70**	**229**	ǁP		Pn	17 00 35.0	-0.8
JARK				eS		Sn	17 00 45.3	-1.1
JOT	**Ohata**	**0.77**	**264**	ǁP		Pn	17 00 35.8	-0.8
JOT				S		Sn	17 00 46.9	-0.9
JKB	**Kayabe**	**0.88**	**299**	ǁP		Pn	17 00 36.9	-1.0
JKB				eS		Sn	17 00 49.1	-1.1
JNBK	**Urakawa-nobuka**	**0.96**	**32**	P		Pn	17 00 38.1	-0.8
ERM	**Erimo**	**0.98**	**56**			Pn	17 00 38.8	-0.4
ERM				Sn		Sn	17 00 52.2	-0.3
JEM	**Erimo**	**0.98**	**56**	P		Pn	17 00 38.8	-0.4
JEM				eS		Sn	17 00 52.3	-0.2
JEM	**Erimo**	**0.98**	**56**			Pn	17 00 38.8	-0.4
JTM	**Tenmabayashi**	**1.02**	**228**	ǁP		Pn	17 00 39.3	-0.4
JTM				S		Sn	17 00 52.7	-0.7
JTM	**Tenmabayashi**	**1.02**	**228**			Pn	17 00 39.4	-0.4
JTM				Sn		Sn	17 00 52.7	-0.7
JIAM	**Iburiatsuma**	**1.16**	**355**	ǁP		Pn	17 00 41.8	+0.3
JANG	**Nango**	**1.18**	**201**	P		Pn	17 00 41.0	-0.8
JANG				eS		Sn	17 00 55.8	-1.2
JSR	**Shiriuchi**	**1.24**	**273**	ǁP		Pn	17 00 42.0	-0.6
JSR				eS		Sn	17 00 58.3	-0.2
JNB	**Noboribetsu**	**1.26**	**323**	ǁP		Pn	17 00 41.7	-1.1
JNB				S		Sn	17 00 57.5	-1.4
JBT2	**Biratori 2**	**1.32**	**10**	P		Pn	17 00 43.8	+0.1
JBT2				eS		Sn	17 01 01.8	+1.3
JYM2	**Yakumo 2**	**1.42**	**297**	ǁP		Pn	17 00 44.9	-0.1
JEW	**Eniwo**	**1.44**	**342**	ǁP		Pn	17 00 45.1	-0.2
JEW				S		Sn	17 01 03.2	-0.1
JEW	**Eniwo**	**1.44**	**342**			Pn	17 00 45.2	-0.2
JEW				Sn		Sn	17 01 02.5	-0.8
JCH	**Churui**	**1.49**	**40**	ǁP		Pn	17 00 46.3	+0.3
JOMM	**Oshimamatsumae**	**1.55**	**273**	ǁP		Pn	17 00 46.0	-0.7
JOMM				eS		Sn	17 01 04.8	-1.0
JFR	**Furan**	**1.73**	**13**	P		Pn	17 00 49.2	0.0
JOSM	**Okushiri--Mats**	**2.03**	**288**	P		Pn	17 00 52.2	-1.0
JOM	**Ohasama**	**2.08**	**197**	P		Pn	17 00 54.1	+0.1
ASAJ	**Asahikawa**	**2.67**	**8**	P		Pn	17 01 03.0	+1.1
	13nm,0.3s,baz=218,slow=10,SNR=104							
ASAJ				S		Sn	17 01 34.3	+1.2
	10nm,0.3s,baz=0.2,slow=33,SNR=8.3							
JKA	**Kamikawa-asahi**	**2.67**	**8**	Pn		Pn	17 01 02.2	+0.2
JKA				Sn		Sn	17 01 34.1	+1.0
JMM	**Marumori**	**3.73**	**196**			Pn	17 01 17.1	+0.7
JSD	**Sado**	**4.51**	**222**	Pn		Pn	17 01 28.1	+0.9
JYT	**Yasato**	**5.44**	**196**	Pn		Pn	17 01 38.6	-1.1
YSS	**Yuzh-Sakhalins**	**5.50**	**5**	Pn		Pn	17 01 39.7	-0.9
MAJO	**Matsushiro**	**5.77**	**213**			Pn	17 01 44.6	+0.3
MJAR	**Matsushiro Arr**	**5.77**	**213**	P		Pn	17 01 46.1	+1.8
	0.2nm,0.3s,baz=26,slow=17,SNR=5.8							
MJAR				LR		LR	17 03 45.8	
	comp=Z,19nm,21.9s,baz=0.0,slow=35							
MJAR	**Matsushiro Arr**	**5.77**	**213**	Pn		Pn	17 01 45.8	+1.4
JGF	**Kuroka**	**6.93**	**214**	Pn		Pn	17 02 02.9	+2.7
INU	**Inuyama**	**7.29**	**215**	Pn		Pn	17 02 08.5	+3.4
JSG	**Sagara**	**7.44**	**206**	Pn		Pn	17 02 06.2	-1.0
USA0B	**Ussuriysk Arra**	**7.89**	**294**	Pn		Pn	17 02 13.7	+0.4
USRK	**Ussuriysk Ar.**	**7.89**	**294**	P		Pn	17 02 13.5	+0.2
	baz=96,slow=15,SNR=11							
JWT	**Wachi**	**8.10**	**222**	Pn		Pn	17 02 17.6	+1.4
JHJ	**Hachijo jima 2**	**8.53**	**193**	P		Pn	17 02 22.6	+0.4
	3.8nm,0.3s,baz=240,slow=20,SNR=1.2							
JHJ2	**Mitsune**	**8.54**	**193**	Pn		Pn	17 02 21.1	-1.0
JHS	**Saijyo**	**9.55**	**230**	Pn		Pn	17 02 31.8	-4.3
KLR	**Kul'dur**	**10.62**	**320**	P		Pn	17 02 52.6	+2.1
	0.1nm,0.3s,baz=124,slow=14,SNR=5.7							
KLR				LR		LR	17 06 55.9	
	comp=Z,29nm,21.2s,baz=200,slow=37							
KSRS	**Korea Array**	**11.64**	**254**	P		Pn	17 03 07.1	+2.5
	0.6nm,0.3s,baz=63,slow=14,SNR=33							
KSRS				S		Sn	17 05 20.6	+7.7
	0.3nm,0.3s,baz=69,slow=24,SNR=7.2							
KSRS				LR		LR	17 06 42.1	
	comp=Z,48nm,19.7s,baz=202,slow=32							
KS19	**Wonju Array Si**	**11.66**	**255**			Pn	17 03 01.3	-3.6
KSAR	**Wonju Array Be**	**11.68**	**254**	Pn		Pn	17 03 05.4	+0.3
YAK	**Yakutsk**	**21.89**	**344**	P		P	17 05 05.3	-3.4
	1.8nm,0.3s,baz=347,slow=4.3,SNR=4.2							
YAK	**Yakutsk**	**21.89**	**344**	P		P	17 05 04.6	-4.2
YAK				IAmb	IAmb		17 05 11.9	
	comp=Z,5.9nm,0.6s							
HHC	**Hu-ho-hao-te**	**22.92**	**279**	*e*P		P	17 05 18.9	-1.1
HHC				pmax	pmax			
	comp=Z,21nm,0.7s							
HHC				pmax	pmax			
	comp=Z,53nm,5.9s							
HHC				pmax	pmax			
	comp=Z,18nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,6.2s							
SONM	**Songino Array**	**25.99**	**296**	P		P	17 05 48.6	+0.4
	comp=Z,1.3nm,0.4s,baz=27,slow=40,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**30.25**	**128**	T		T	17 39 01.3	
	baz=321,slow=76,SNR=48							
H11N1	**WAKE ISLAND Hy**	**30.26**	**128**	T		T	17 38 53.2	
	baz=321,slow=76,SNR=86							
H11N3	**WAKE ISLAND Hy**	**30.26**	**128**	T		T	17 38 53.7	
	baz=321,slow=76,SNR=68							
H11S1	**WAKE ISLAND Hy**	**31.09**	**130**	T		T	17 39 58.6	
	baz=323,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**31.09**	**130**	T		T	17 40 02.9	
	baz=323,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**31.11**	**130**	T		T	17 40 04.5	
	baz=323,slow=76,SNR=19							
GTA	**Gaotai**	**31.99**	**281**	*e*P		P	17 06 44.3	+2.7
GTA				pP		pP	17 06 59.3	+2.3
GTA				sP		sP	17 07 04.8	+0.4
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KMI	**Kunming**	**36.34**	**256**	⇑P		P	17 07 17.5	-1.9
KMI				pP		pP	17 07 24.3	-11
KMI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ZAA0	**Zalesovo Array**	**39.42**	**308**	P		P	17 07 44.3	-0.5
ZAA0				IAmb	IAmb		17 07 46.9	
	comp=Z,3.2nm,0.7s							
ZALV	**Zalesovo Beam**	**39.42**	**308**	P		P	17 07 44.6	-0.2
	comp=Z,2.5nm,0.5s,baz=89,slow=8.5,SNR=9.2							
ZALV	**Zalesovo Beam**	**39.42**	**308**	P		P	17 07 43.5	-1.3
WMQ	**Urumqi**	**39.46**	**292**	*e*P		P	17 07 46.0	+0.7
NRIK	**Noril'sk**	**39.50**	**333**	LR		LR	17 25 55.2	
	comp=Z,31nm,18.3s,baz=332,slow=39							
MK31	**Makanchi Array**	**42.33**	**298**	P		P	17 08 08.0	-0.8
MKAR	**Makanchi Array**	**42.33**	**298**	P		P	17 08 08.3	-0.5
	comp=Z,1.6nm,0.6s,baz=82,slow=12,SNR=12							
MKAR				PcP		PcP	17 10 01.4	+0.1
	comp=Z,0.2nm,0.3s,baz=72,slow=4.7,SNR=3.0							
MKAR	**Makanchi Array**	**42.33**	**298**	P		P	17 08 07.9	-1.0
MAKZ	**Makanchi**	**42.53**	**298**	P		P	17 08 09.2	-1.3
IMAR	**Indian Mountai**	**42.62**	**33**	P		P	17 08 11.5	+0.6
CMAR	**Chiang Mai Arr**	**43.26**	**251**	P		P	17 08 16.6	0.0
	comp=Z,0.4nm,0.6s,baz=41,slow=8.4,SNR=2.9							
SIJI	**Sorong**	**43.27**	**196**	P		P	17 08 17.1	+0.4
	comp=Z,3.7nm,0.6s,baz=129,slow=10,SNR=2.7							
ILAR	**Eielson Array**	**45.52**	**35**	P		P	17 08 34.2	+0.1
	comp=Z,1.5nm,0.9s,baz=277,slow=8.4,SNR=9.3							
SCRK	**Sand Creek**	**46.86**	**36**	P		P	17 08 45.2	+0.4
K27K	**Chicken**	**47.69**	**35**	P		P	17 08 51.2	+0.2
K27K				IAmb	IAmb		17 09 28.9	
	comp=Z,8.4nm,1.6s							
BCAR	**Beaver Creek A**	**47.99**	**37**	P		P	17 08 54.8	+1.3
INK	**Inuvik**	**50.23**	**29**	P		P	17 09 10.4	+0.1
	comp=Z,0.7nm,0.3s,baz=295,slow=7.6,SNR=4.0							
INK	**Inuvik**	**50.23**	**29**	IAmb	IAmb		17 09 11.8	
	comp=Z,2.3nm,0.7s							
ARSB	**Arslanbob**	**50.50**	**294**	P		P	17 09 13.4	+0.3
KK31	**Karatay Array**	**51.44**	**297**	P		P	17 09 19.5	-0.4
KK31				IAmb	IAmb		17 09 20.1	
	comp=Z,1.3nm,0.6s							
KKAR	**Karatay Array**	**51.44**	**297**	P		P	17 09 19.6	-0.3
KKAR				IAmb	IAmb		17 09 20.2	
	comp=Z,1.3nm,0.6s							
KKAR	**Karatay Array**	**51.44**	**297**	P		P	17 09 19.4	-0.5
ABKAR	**Akbulak array**	**55.54**	**308**	P		P	17 09 49.9	+0.1
ABKAR				IAmb	IAmb		17 09 58.7	
	comp=Z,4.5nm,1.2s							
ABKAR	**Akbulak array**	**55.54**	**308**	P		P	17 09 49.8	0.0
EUNU	**Eureka**	**55.73**	**9**	P		P	17 09 50.8	-0.1
EUNU				IAmb	IAmb		17 09 51.6	
	comp=Z,3.4nm,0.8s							
RES	**Resolute Bay**	**58.19**	**15**	P		P	17 10 07.7	-0.5
RES				IAmb	IAmb		17 10 08.6	
	comp=Z,5.6nm,1.0s							
ARCES	**ARCESS Array B**	**60.04**	**339**	P		P	17 10 22.7	+1.7
WRA	**Warramunga Arr**	**61.52**	**188**	P		P	17 10 30.8	-0.9
	comp=Z,0.5nm,0.4s,baz=6.7,slow=7.2,SNR=12							
FIA1	**FINESS Array S**	**65.14**	**332**	P		P	17 10 54.0	-1.1
FINES	**FINESS Array B**	**65.14**	**332**	P		P	17 10 54.6	-0.5
	comp=Z,2.6nm,0.7s,baz=52,slow=7.2,SNR=13							
FINES	**FINESS Array B**	**65.14**	**332**	P		P	17 10 54.9	-0.2
ASAR	**Alice Springs**	**65.25**	**188**	P		P	17 10 56.0	-0.2
	comp=Z,0.3nm,0.7s,baz=14,slow=13,SNR=6.4							
ASAR	**Alice Springs**	**65.25**	**188**	P		P	17 10 56.5	+0.3
KVAR	**Kislovodsk Arr**	**68.41**	**310**	LR		LR	17 42 22.8	
	comp=Z,18nm,18.6s,baz=246,slow=37							
KBZ	**Khabaz**	**68.43**	**310**	P		P	17 11 16.4	+0.1
	comp=Z,1.9nm,0.8s,baz=10,slow=14,SNR=3.9							
NC405	**NORSAR Array S**	**70.09**	**337**	P		P	17 11 26.0	-0.3
NC204	**NORSAR Array S**	**70.24**	**337**	P		P	17 11 27.2

JHJ2	**Mitsune**	**2.57**	**350**	P		**Pn**	**17 22 13.4**	**+0.5**
JHJ2	**Mitsune**	**2.57**	**350**	Pn		**Pn**	**17 22 11.0**	**-1.9**
JHJ	**Hachijo jima 2**	**2.58**	**349**	P		**Pn**	**17 22 13.8**	**+0.7**
	6.6nm,0.3s,baz=55,slow=20,SNR=7.0							
JHJ				S		**Sn**	**17 22 43.8**	**-1.8**
	23nm,0.3s,baz=242,slow=23,SNR=6.9							
CBIJ	**Chichi jima**	**3.82**	**155**	P		**Pn**	**17 22 27.5**	**-1.4**
CBIJ				S		**Sn**	**17 23 12.3**	**-1.6**
JCJ	**Chichijima**	**3.82**	**155**	P		**Pn**	**17 22 27.5**	**-1.4**
	12nm,0.3s,baz=1.2,slow=19,SNR=57							
JCJ				S		**Sn**	**17 23 10.3**	**-3.6**
	42nm,0.3s,baz=296,slow=20,SNR=11							
BSO3	**Boso 3**	**4.22**	**2**	P		**Pn**	**17 22 33.6**	**-0.1**
BSO3				*e*S		**Sn**	**17 23 19.1**	**-3.6**
JOD2	**Odawara 2**	**4.79**	**348**	P		**Pn**	**17 22 41.4**	**-0.2**
JOD2				*e*S		**Sn**	**17 23 34.6**	**-2.1**
JKN2	**Miekihoku**	**5.02**	**318**	P		**Pn**	**17 22 45.0**	**+0.4**
JTNC	**Tanabenakahech**	**5.15**	**310**	P		**Pn**	**17 22 46.8**	**+0.4**
JHU	**Hanno**	**5.34**	**351**	P		**Pn**	**17 22 48.1**	**-0.7**
JAO	**Obara**	**5.35**	**332**	P		**Pn**	**17 22 50.1**	**+1.1**
INU	**Inuyama**	**5.52**	**330**	Pn		**Pn**	**17 22 49.2**	**-2.0**
MJAR	**Matsushiro Arr**	**6.21**	**344**	P		**Pn**	**17 22 59.6**	**-0.8**
	0.1nm,0.3s,baz=159,slow=11,SNR=7.8							
MJAR				S		Sn	17 23 59.8	-11
	0.0nm,0.3s,baz=138,slow=15,SNR=2.1							
MJAR	**Matsushiro Arr**	**6.21**	**344**			**Pn**	**17 22 56.1**	**-4.3**
MAJO	**Matsushiro**	**6.21**	**344**			**Pn**	**17 22 56.5**	**-3.9**
JWT	**Wachi**	**6.27**	**320**			**Pn**	**17 23 02.4**	**+1.2**
JMN	**Monobe**	**6.32**	**302**	Pn		**Pn**	**17 23 03.0**	**+1.1**
JMM	**Marumori**	**7.28**	**3**	Pn		**Pn**	**17 23 12.6**	**-2.0**
JHS	**Saijyo**	**7.52**	**308**	P		**Pn**	**17 23 18.9**	**+1.0**
JHS	**Saijyo**	**7.52**	**308**	Pn		**Pn**	**17 23 18.8**	**+0.9**
JTU	**Tsushima**	**10.04**	**296**	Pn		**Pn**	**17 23 52.0**	**+0.6**
JTM	**Tenmabayashi**	**10.21**	**3**	Pn		**Pn**	**17 23 51.8**	**-1.8**
KSRS	**Korea Array**	**12.37**	**307**	P		**P**	**17 24 28.2**	**+0.4**
	0.1nm,0.3s,baz=117,slow=12,SNR=8.9							
ASAJ	**Asahikawa**	**13.63**	**7**	P		**Pn**	**17 24 34.9**	**-3.2**
	0.2nm,0.3s,baz=244,slow=11,SNR=1.7							
USRK	**Ussuriysk Ar.**	**15.12**	**336**	P		**Pn**	**17 24 55.0**	**-1.8**
	baz=143,slow=10.0,SNR=5.4							
YULB	**Yu-li**	**18.41**	**252**	P		**P**	**17 25 33.8**	**-0.9**
YULB				IAmb		IAmb	17 26 03.0	
	comp=Z,24nm,1.5s							
SSLB	**Suanglung**	**18.52**	**253**	P		**P**	**17 25 35.1**	**-0.8**
TPUB	**Ta-pu**	**19.00**	**252**	P		**P**	**17 25 41.0**	**-0.2**
TPUB				IAmb		IAmb	17 25 42.9	
	comp=Z,8.8nm,0.7s							
KLR	**Kul'dur**	**19.74**	**343**	P		**P**	**17 25 48.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=155,slow=13,SNR=10.0							
H11N2	**WAKE ISLAND Hy**	**26.28**	**108**	T		T	17 54 54.6	
	baz=302							
H11N1	**WAKE ISLAND Hy**	**26.29**	**108**	T		T	17 54 52.5	
	baz=302							
H11N3	**WAKE ISLAND Hy**	**26.30**	**108**	T		T	17 54 52.1	
	baz=302							
CMAR	**Chiang Mai Arr**	**39.35**	**262**	P		**P**	**17 28 44.5**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=52,slow=8.4,SNR=1.6							
MKAR	**Makanchi Array**	**47.06**	**307**	P		**P**	**17 29 46.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=98,slow=8.9,SNR=3.1							
NRIK	**Noril'sk**	**48.83**	**338**	P		**P**	**17 30 03.8**	**+3.2**
	comp=Z,2.5nm,0.7s,baz=122,slow=7.2,SNR=2.6							
WRA	**Warramunga Arr**	**50.56**	**187**	P		**P**	**17 30 13.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=5.9,slow=7.7,SNR=32							
KDAK	**Kodiak Island**	**52.60**	**38**	P		**P**	**17 30 30.6**	**+1.6**
	comp=Z,7.8nm,1.0s,baz=301,slow=2.5,SNR=5.6							
KDAK	**Kodiak Island**	**52.60**	**38**	IAmb		IAmb	17 30 32.7	
	comp=Z,41nm,1.5s							
IMAR	**Indian Mountai**	**52.71**	**28**	P		**P**	**17 30 31.8**	**+2.2**
PPLA	**Purkeypile**	**53.04**	**32**	P		**P**	**17 30 35.0**	**+2.7**
SKT	**Skwentna**	**53.28**	**33**	P		**P**	**17 30 35.4**	**+1.4**
ASAR	**Alice Springs**	**54.28**	**187**	P		**P**	**17 30 40.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=358,slow=4.8,SNR=18							
MDM	**Murphy Dome**	**54.91**	**30**	P		**P**	**17 30 46.1**	**+0.5**
MDM				IAmb		IAmb	17 30 55.7	
	comp=Z,3.1nm,1.1s							
BMAR	**Burnt Mountain**	**56.45**	**27**	P		**P**	**17 30 59.7**	**+3.0**
ARU	**Arti**	**60.70**	**321**	P		**P**	**17 31 25.4**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=160,slow=3.1,SNR=3.1							
ARU	**Arti**	**60.70**	**321**	IAmb		IAmb	17 31 36.3	
	comp=Z,3.2nm,1.1s							
ABKAR	**Akbulak array**	**61.54**	**313**	P		**P**	**17 31 30.7**	**-1.2**
ABKAR				IAmb		IAmb	17 31 31.1	
	comp=Z,5.1nm,1.6s							
ABKAR	**Akbulak array**	**61.54**	**313**	P		**P**	**17 31 31.0**	**-0.9**
FORT	**Forrest**	**62.12**	**192**	P		**P**	**17 31 36.4**	**+0.5**
FIA1	**FINESS Array S**	**74.12**	**333**	P		**P**	**17 32 50.6**	**+0.2**
FIA1				IAmb		IAmb	17 33 11.9	
	comp=Z,9.2nm,1.1s							
FINES	**FINESS Array B**	**74.12**	**333**	P		**P**	**17 32 50.4**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=76,slow=5.0,SNR=10							
AKASG	**Malin Array Be**	**78.87**	**323**	P		**P**	**17 33 16.9**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=52,slow=5.4,SNR=8.3							
AKASG	**Malin Array Be**	**78.87**	**323**	IAmb		IAmb	17 33 17.4	
	comp=Z,0.7nm,0.7s							
AKBB	**Malin Array Si**	**78.87**	**323**	P		**P**	**17 33 17.0**	**-0.4**
HFS	**Hagfors**	**79.60**	**336**	P		**P**	**17 33 21.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=64,slow=6.6,SNR=0.7							
NVAR	**Mina Array Bea**	**79.63**	**52**	P		**P**	**17 33 24.6**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=300,slow=6.1,SNR=7.0							
TPNV	**Topopah Spring**	**81.79**	**52**	P		**P**	**17 33 35.0**	**+1.6**
BRTR	**Keskin Array B**	**82.47**	**312**	P		**P**	**17 33 37.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=101,slow=6.0,SNR=2.7							
TXAR	**Lajitas Array**	**94.78**	**52**	P		**P**	**17 34 39.2**	**+3.3**
	comp=Z,0.1nm,0.5s,baz=266,slow=3.6,SNR=2.1							

*IEPN **09** 17:28:05.0, 74.4′49N×4.4′64E, h10km*
*MOS **09** 17:28:07.7±1.4, 74.4′63N×8.4′43E, h10km, mb4.8/14, Error ellipse: s-maj=23.5km s-min=4.6km az=95.3*
*IDC **09** 17:28:08.4±0.5, 74.4′57N×8.4′60E, h0km, mb3.9/27, mb1 4.1/32, mb1mx4.0/54, mbtmp4.0/32, ML3.2/4, MS3.5/29, Ms1 3.6/29, ms1mx3.4/47, Error ellipse: s-maj=13.2km s-min=9.1km az=69.0*
*DNK **09** 17:28:08.2±3.9, 74.4′82N×7.4′84E, h0km±230km, mb3.7*
*NEIC **09** 17:28:09.1±1.5, 74.4′64N±0.05×8.4′8E±0.2, h10km±1km, mb4.5/74, Error ellipse: s-maj=12.2km s-min=6.1km az=62.0*
*BER **09** 17:28:09.5±3.8, 74.4′56N×9.4′07E, h15km±34km, ML2.5, ML3.9(NAO), Confirmed Earthquake*
*NAO **09** 17:28:12.0±4.2, 74.4′65N×10.4′26E, h19km±28km, ML3.9*
*BGR **09** 17:28:27.6±0.0, 72.4′90N×10.4′55E, h10km, mb4.6*

ISC 09 17:28:09.1±0.3, 74.4′67N±0.04×8.4′75E±0.4′04, h10km, n308, s212/304, mb4.5/98, MS3.5/26, 12C-6D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.74**	**89**	Pn		**Pn**	**17 28 48.8**		**-4.3**
BJO1				Pg		**Pb**	**17 28 54.6**		**-3.6**
BJO1				Sn		Sn	17 29 16.8		-9.4
BJO1	**Bjornoya**	**2.74**	**89**	*e*P		**Pn**	**17 28 49.8**		**-3.3**
BJO1				*e*S		Sn	17 29 17.3		-8.9
BJO1				IAML			17 29 21.5		
	comp=Z,49nm,0.4s								
HSPB	**Hornsund (broa**	**2.88**	**32**	*e*P		**Pn**	**17 28 53.3**		**-1.6**
HSPB	**Hornsund (broa**	**2.88**	**32**	Pn		**Pn**	**17 28 53.3**		**-1.6**
HSPB	**Hornsund (broa**	**2.88**	**32**	Pn		**Pn**	**17 28 53.3**		**-1.6**
BRBA	**Barentsburg A**	**3.64**	**18**	Pn		**Pn**	**17 29 04.5**		**-1.0**
BRBA	**Barentsburg A**	**3.64**	**18**	Pn		**Pn**	**17 29 04.5**		**-1.0**
BRBB	**Barentsburg B**	**3.67**	**18**	Pn		**Pn**	**17 29 04.9**		**-1.0**
BRBB	**Barentsburg B**	**3.67**	**18**	Pn		**Pn**	**17 29 04.9**		**-1.0**
SPA0	**Spitsbergen Ar**	**3.95**	**23**	Pn		**Pn**	**17 29 09.2**		**-0.6**
	baz=201,slow=12								
SPA0	**Spitsbergen Ar**	**3.95**	**23**	Pn		**Pn**	**17 29 09.2**		**-0.6**
	baz=201,slow=12								
SPA0				*e*P		Pb	17 29 09.4		-9.4
SPITS	**Spitsbergen Ar**	**3.95**	**23**	Pn		**Pn**	**17 29 09.7**		**0.0**
	baz=218,slow=11,SNR=213								
SPITS				Sn		**Sn**	**17 29 52.7**		**-3.4**
	baz=215,slow=12,SNR=0.4								
KBS	**Kingsbay**	**4.34**	**8**	*i* P		**Pn**	**17 29 13.5**		**-1.6**
KBS	**Kingsbay**	**4.34**	**8**	*ce*P		**Pn**	**17 29 13.2**		**-1.8**
KBS				pmax		pmax			
	comp=Z,82nm,1.0s								
KBS	**Kingsbay**	**4.34**	**8**	Pn		**Pn**	**17 29 13.4**		**-1.6**
KBS	**Kingsbay**	**4.34**	**8**	*e*P		**Pn**	**17 29 13.5**		**-1.6**
KBS				*i* P		**Pn**	**17 29 13.5**		**-1.6**
KBS				*e*S		**Sn**	**17 30 02.5**		**-3.1**
KBS	**Kingsbay**	**4.34**	**8**	Pn		**Pn**	**17 29 13.2**		**-1.8**
KBS	**Kingsbay**	**4.34**	**8**	‖ *i*P		**Pn**	**17 29 13.2**		**-1.8**
KBS				*e*S		**Sn**	**17 30 02.2**		**-3.3**
HOPEN	**Hopen**	**4.45**	**58**	Pn		**Pn**	**17 29 14.9**		**-1.6**
HOPEN				Sn		**Sn**	**17 30 02.5**		**-5.9**
HOPEN	**Hopen**	**4.45**	**58**	*e*P		**Pn**	**17 29 15.0**		**-1.6**
HOPEN				*e*S		**Sn**	**17 30 02.9**		**-5.4**
HOPEN				IAML			17 30 07.0		
	comp=Z,20nm,0.2s								
HAMF	**Hammerfest**	**6.01**	**125**	Pn		**Pn**	**17 29 34.0**		**-3.8**
HAMF				Sn		Sn	17 30 35.3		-11
HAMF	**Hammerfest**	**6.01**	**125**	*e*P		**Pn**	**17 29 34.1**		**-3.8**
JMIC	**Jan Mayen**	**6.29**	**243**	Pn		**Pn**	**17 29 38.4**		**-3.3**
	baz=62,slow=8.4,SNR=1.8								
JMIC				LR		LR	17 31 18.6		
	comp=Z,297nm,19.2s,baz=74,slow=31								
KIF	**Kilpisjarvi**	**6.81**	**141**	Pn		**Pn**	**17 29 48.1**		**-0.8**
KIF	**Kilpisjarvi**	**6.81**	**141**	*e*P		**Pn**	**17 29 45.5**		**-3.3**
DAG	**Danmarks Havn**	**7.05**	**300**	P		**Pn**	**17 29 54.4**		**+2.3**
ARA0	**ARCESS Array S**	**7.27**	**127**	Pn		**Pn**	**17 29 51.9**		**-3.3**
	baz=329,slow=12								
ARA0				Sn		Sn	17 31 05.1		-12
	baz=348,slow=18								
ARA0	**ARCESS Array S**	**7.27**	**127**	Pn		**Pn**	**17 29 51.9**		**-3.3**
	baz=329,slow=12								
ARA0				Sn		Sn	17 31 05.1		-12
	baz=348,slow=18								
ARCES	**ARCESS Array B**	**7.27**	**127**	Pn		**Pn**	**17 29 54.4**		**-0.8**
	baz=4.1,slow=1.7,SNR=30								
ARCES				Sn		Sn	17 31 04.2		-13
	baz=336,slow=20,SNR=6.0								
ARCES				LR		LR	17 33 02.8		
	comp=Z,398nm,18.9s,baz=320,slow=41								
ARCES	**ARCESS Array B**	**7.27**	**127**			**Pn**	**17 29 52.3**		**-2.9**
KEV	**Kevo**	**7.42**	**122**	P		**Pn**	**17 29 54.2**		**-3.1**
KEV	**Kevo**	**7.42**	**122**	*e*P		Pn	17 29 52.5		-4.8
KEV				*e*S		Sn	17 31 09.4		-12
KEV	**Kevo**	**7.42**	**122**	Pn		**Pn**	**17 29 54.2**		**-3.1**
DBG	**Daneborg**	**7.73**	**281**	*e*P		**Pn**	**17 29 57.3**		**-4.2**
NOR	**Nord**	**8.58**	**335**	*i* P		**Pn**	**17 30 10.7**		**-2.4**
NOR	**Nord**	**8.58**	**335**	*i* P		**Pn**	**17 30 10.7**		**-2.4**
NOR	**Nord**	**8.58**	**335**	*i* P		**Pn**	**17 30 10.7**		**-2.4**
SCO	**Scoresbysund**	**10.01**	**261**	*i* P		**Pn**	**17 30 29.0**		**-3.7**
SCO				*i* P		**Pn**	**17 30 29.0**		**-3.7**
SCO				*i* P		**Pn**	**17 30 29.2**		**-3.5**
SCO				*e*			17 32 09.1		
SCO	**Scoresbysund**	**10.01**	**261**	*i* P		**Pn**	**17 30 29.0**		**-3.7**
SCO	**Scoresbysund**	**10.01**	**261**	*i* P		**Pn**	**17 30 29.0**		**-3.7**
SCO				*i* P		**Pn**	**17 30 29.0**		**-3.7**
SCO				*i* P		**Pn**	**17 30 29.2**		**-3.5**
SCO				*e*			17 32 09.1		
SCO	**Scoresbysund**	**10.01**	**261**	Pn		**Pn**	**17 30 29.0**		**-3.7**
ZFI	**Zemlya Franca-**	**10.03**	**35**	*e*P		**Pn**	**17 30 31.9**		**-1.1**
ZFI				*e*S		**Sn**	**17 32 20.6**		**-4.7**
ZFI2	**Zemlya Franca-**	**10.03**	**35**	*e*P		**Pn**	**17 30 31.7**		**-1.3**
ZFI2				*e*S		**Sn**	**17 32 20.0**		**-5.4**
APA0	**Apatity Array**	**10.47**	**120**	Pn		**Pn**	**17 30 35.4**		**-3.7**
	baz=327,slow=8.6								
APA0	**Apatity Array**	**10.47**	**120**	Pn		**Pn**	**17 30 35.4**		**-3.7**
	baz=327,slow=8.6								
APA	**Apatity**	**10.60**	**119**	⇑ *i*P		Pn	17 30 46.0		+5.2
APA				*i* S		Sn	17 32 51.0		+12
APA				pmax		pmax			
	comp=Z,40nm,0.8s								
APA				MLR		MLR			
	comp=Z,500nm,16.0s								
LVZ	**Lovozero**	**10.63**	**116**	P		**Pn**	**17 30 39.8**		**-1.5**
LVZ	**Lovozero**	**10.63**	**116**	Pn		**Pn**	**17 30 39.8**		**-1.5**
MSF	**Maaselka**	**11.06**	**132**	P		**Pn**	**17 30 50.1**		**+3.1**
VAF	**Ylistaro**	**12.65**	**150**	P		**Pn**	**17 31 10.0**		**+1.2**
SUMG	**Summit**	**13.19**	**284**	*i* P		**Pn**	**17 31 13.3**		**-3.2**
SUMG	**Summit**	**13.19**	**284**	P		**Pn**	**17 31 19.0**		**+2.6**
SUMG	**Summit**	**13.19**	**284**	*i* P		**Pn**	**17 31 13.3**		**-3.2**
SUMG	**Summit**	**13.19**	**284**	Pn		**Pn**	**17 31 19.0**		**+2.6**
SLVR	**Solovky**	**13.23**	**123**	P		**Pn**	**17 31 15.8**		**-0.9**
	comp=Z,13nm,0.4s								
SUF	**Sumiainen**	**13.47**	**144**	P		**Pn**	**17 31 22.9**		**+3.0**
NOA	**NORSAR Array B**	**13.72**	**175**	Pn		**P**	**17 31 28.0**		**-4.3**
	comp=Z,0.0nm,0.3s,baz=359,slow=12,SNR=2.2								
NOA				LR		LR	17 36 17.3		
	comp=Z,85nm,18.2s,baz=0.0,slow=36								
NOA	**NORSAR Array B**	**13.72**	**175**	P		**P**	**17 31 28.0**		**-4.3**
NEEM	**North Greenlan**	**14.10**	**309**	*e*P		**Pn**	**17 31 25.2**		**-3.6**
BORG	**Borgarnes**	**14.18**	**241**	LR		LR	17 35 21.6		
	comp=Z,216nm,19.9s,baz=352,slow=31								
FIA1	**FINESS Array S**	**14.66**	**146**	Pn		**Pn**	**17 31 35.5**		**-0.8**
FIA0	**FINESS Array S**	**14.67**	**146**	P		**Pn**	**17 31 33.5**		**-2.8**
FIA0	**FINESS Array S**	**14.67**	**146**	P		**Pn**	**17 31 33.5**		**-2.8**
FINES	**FINESS Array B**	**14.67**	**146**	Pn		**Pn**	**17 31 34.0**		**-2.3**
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=7.2								
FINES	**FINESS Array B**	**14.67**	**146**	P		**Pn**	**17 31 34.8**		**-1.5**
FINES	**FINESS Array B**	**14.67**	**146**	Pn		**Pn**	**17 31 34.8**		**-1.5**
HFS	**Hagfors**	**14.72**	**170**	Pn		**Pn**	**17 31 37.5**		**+0.5**
	comp=Z,0.1nm,0.3s,baz=15,slow=6.1,SNR=2.9								
HFS				LR		LR	17 36 40.3		
	comp=Z,114nm,20.5s,baz=344,slow=35								
HFS	**Hagfors**	**14.72**	**170**	P		**Pn**	**17 31 37.0**		**0.0**
	slow=7.9								
HFS	**Hagfors**	**14.72**	**170**	P		**Pn**	**17 31 37.0**		**0.0**
	slow=7.9								
LSH	**Leshukonskoye**	**15.75**	**109**	*e*P		**Pn**	**17 31 51.9**		**+1.3**
AMDE	**Amderma**	**16.36**	**80**	P		**P**	**17 32 03.9**		**+2.6**
	comp=Z,54nm,1.0s								
VSU	**Vasula**	**17.62**	**148**	*e*P		**P**	**17 32 15.8**		**+0.4**
VSU	**Vasula**	**17.62**	**148**	*i* P		**P**	**17 32 15.7**		**+0.4**
KLMR	**Klimovskoe**	**17.74**	**125**	*e*P		**Pn**	**17 32 16.0**		**+0.3**
	comp=Z,52nm,1.4s								
PRGR	**Permogore**	**18.46**	**115**	*e*P		**P**	**17 32 24.5**		**0.0**
	comp=Z,128nm,1.1s								
DY2G	**Dye2**	**19.24**	**274**	*i* P		**P**	**17 32 33.1**		**-0.3**
DY2G				IAmb		IAmb	17 32 36.4		
	comp=Z,4.9nm,1.0s								
EKA	**Eskdalemuir Ar**	**19.98**	**200**	P		**P**	**17 32 40.1**		**-1.0**
	baz=29,slow=9.0,SNR=4.2								
SFJD	**Kangerlussuaq**	**20.00**	**279**	P		Pn	17 32 45.1		+2.0
	comp=Z,0.2nm,0.3s,baz=44,slow=8.9,SNR=4.7								
SFJD				LR		LR	17 39 27.4		
	comp=Z,240nm,19.1s,baz=39,slow=34								
SFJD	**Kangerlussuaq**	**20.00**	**279**	P		**P**	**17 32 40.5**		**-0.9**
SFJD				pmax		pmax			
	comp=Z,31nm,1.5s								
SFJD	**Kangerlussuaq**	**20.00**	**279**	P		**P**	**17 32 40.5**		**-0.9**
SFJD				IAmb		IAmb	17 33 01.0		
	comp=Z,31nm,1.4s								
PABE	**Paberze**	**20.15**	**154**	*e*P		**P**	**17 32 43.2**		**+0.2**
PABE	**Paberze**	**20.15**	**154**			**P**	**17 32 43.1**		**+0.1**
PABE				IAmb		IAmb	17 33 02.8		
	comp=Z,43nm,1.1s								
ISAL	**Salakas**	**20.35**	**151**	IAmb		IAmb	17 33 05.2		
	comp=Z,8.5nm,1.0s								
IDID	**Didziasalis**	**20.68**	**150**	*e*P		**P**	**17 32 48.8**		**0.0**
IDID				IAmb		IAmb	17 33 04.9		
	comp=Z,6.8nm,0.9s								
BSEG	**Bad Segeberg**	**20.83**	**177**	*e*P		Pn	17 32 52.2		-0.6
	comp=Z,47nm,1.5s,baz=360,slow=10								
NACGM	**Naroch**	**21.09**	**150**	*i* P		**P**	**17 32 52.1**		**-1.1**
SUW	**Suwalki**	**21.53**	**156**	*e*P		**P**	**17 32 58.2**		**+0.3**
KIRV	**Kirov**	**22.05**	**115**	P		**P**	**17 33 02.8**		**-0.7**
	comp=Z,24nm,0.7s,baz=337,slow=12,SNR=5.8								
KIRV				LR		LR	17 41 51.1		
	comp=Z,164nm,21.1s,baz=333,slow=37								
KIRV	**Kirov**	**22.05**	**115**	*i* P		**P**	**17 33 06.1**		**+2.6**
MOS	**Moscow**	**22.07**	**133**	*e*P		**P**	**17 33 06.9**		**+3.2**
MOS				pmax		pmax			
	comp=Z,72nm,1.1s								
NRDL	**Niedersach Rie**	**22.27**	**178**	*e*P		**P**	**17 33 05.4**		**-0.4**
	comp=Z,44nm,1.3s,baz=360,slow=10								
FLTG	**Flechtingen**	**22.45**	**176**	*e*P		**P**	**17 33 07.1**		**-0.7**
	comp=Z,57nm,1.5s,baz=360,slow=10								
OBN	**Obninsk**	**22.46**	**135**	P		**P**	**17 33 09.3**		**+1.5**
	comp=Z,3.5nm,0.4s,baz=286,slow=4.0,SNR=5.2								
OBN				LR		LR	17 42 35.3		
	comp=Z,53nm,18.3s,baz=356,slow=39								
OBN	**Obninsk**	**22.46**	**135**	⇑ *e*P		**P**	**17 33 07.9**		**0.0**
OBN				*e*			17 33 35.5		
OBN				*e*S		S	17 37 00.6		-13
OBN				pmax		pmax			
	comp=Z,116nm,1.9s								
OBN				MLR		MLR			
	comp=Z,165nm,19.0s								
OBN	**Obninsk**	**22.46**	**135**	P		**P**	**17 33 07.4**		**-0.5**
NRIK	**Noril'sk**	**23.14**	**62**	P		**P**	**17 33 17.6**		**+2.7**
	comp=Z,9.8nm,1.0s,baz=350,slow=6.4,SNR=6.3								
NRIK				LR		LR	17 43 59.6		
	comp=Z,59nm,19.6s,baz=343,slow=41								
NRIK	**Noril'sk**	**23.14**	**62**	P		**P**	**17 33 14.4**		**-0.6**
NRIK				IAmb		IAmb	17 33 46.4		
	comp=Z,18nm,1.1s								
CLL	**Collm**	**23.52**	**173**	*i* P		**P**	**17 33 18.4**		**-0.4**
	comp=Z,28nm,1.9s								
CLL				*i*			17 33 23.6		
CLL				*i*			17 33 30.3		
CLL				*e*PP		**PnPn**	**17 33 41.0**		**-4.2**
CLL				*e*PPP		PPP	17 33 54.0		
CLL	**Collm**	**23.52**	**173**	*i* P		**P**	**17 33 18.4**		**-0.4**
CLL				*i*			17 33 23.6		
CLL				pmax		pmax			
	comp=Z,28nm,1.9s								
CLL	**Collm**	**23.52**	**173**	P		**P**	**17 33 17.9**		**-0.9**
CLL	**Collm**	**23.52**	**173**	*e*P		**P**	**17 33 18.5**		**-0.4**
	comp=Z,28nm,1.9s,baz=360,slow=10								
KASTN	**Kahler Asten**	**23.56**	**181**	*e*P		**P**	**17 33 19.1**		**-0.2**
	comp=Z,42nm,1.4s,baz=360,slow=10								
NEUB	**Neuenburg**	**23.59**	**175**	*e*P		**P**	**17 33 20.0**		**+0.4**
	comp=Z,50nm,1.3s,baz=360,slow=10								
FBE	**Freiberg**	**23.92**	**173**	*e*P		**P**	**17 33 22.3**		**-0.4**
	comp=Z,33nm,1.3s,baz=360,slow=10								
UBBA	**Unterbreizbach**	**23.95**	**178**	*e*P		**P**	**17 33 22.5**		**-0.4**
	comp=Z,37nm,1.8s,baz=360,slow=10								
BRG	**Berggiesshubel**	**23.98**	**172**	*e*P		**P**	**17 33 28.8**		**+5.5**
BRG				Amp			17 33 30.1		
	comp=Z,57nm,2.2s								
BRG	**Berggiesshubel**	**23.98**	**172**	*e*P		**P**	**17 33 22.6**		**-0.8**
	comp=Z,32nm,1.8s,baz=360,slow=10								
MOX	**Moxa**	**24.14**	**176**	P		**P**	**17 33 25.0**		**+0.1**
MOX				pmax		pmax			
	comp=Z,21nm,1.3s								
MOX	**Moxa**	**24.14**	**176**	*e*P		**P**	**17 33 25.0**		**+0.1**
	comp=Z,48nm,1.6s,baz=360,slow=10								
BTNL	**Ternell**	**24.20**	**184**	*d*P		**P**	**17 33 25.2**		**-0.2**
BTNL				*ds*P		**pwP**	**17 33 35.1**		**+3.6**
BTNL				*dx*		x	17 34 54.8		
PLN	**Plauen**	**24.32**	**175**	*e*P		**P**	**17 33 26.6**		**+0.1**
	comp=Z,30nm,1.4s,baz=360,slow=10								
WERD	**Werda**	**24.36**	**174**	*e*P		**P**	**17 33 26.9**		**0.0**
	comp=Z,22nm,1.2s,baz=360,slow=10								
TANN	**Tannenbergstha**	**24.39**	**174**	*e*P		**P**	**17 33 27.6**		**+0.3**
	comp=Z,19nm,1.3s,baz=360,slow=10								
GUNZ	**Gunzen**	**24.44**	**174**	*e*P		**P**	**17 33 28.0**		**+0.3**
	comp=Z,24nm,1.3s,baz=360,slow=10								
WERN	**Wernitzgrun**	**24.52**	**174**	*e*P		**P**	**17 33 28.7**		**+0.4**
	comp=Z,48nm

comp=Z,214nm,21.3s,baz=310,slow=36
DAVOX **Davos/Dischmat** 27.99 178 LR LR 17 46 28.3
comp=Z,69nm,18.4s,baz=360,slow=39
BUR08 **Bucovina Ar. S** 28.03 156 P P 17 33 59.5 -0.6
BUR08 IAmb IAmb 17 34 27.0
comp=Z,20nm,1.6s
BURAR **Bucovina Array** 28.06 156 P P 17 33 59.4 -1.0
BURAR **Bucovina Array** 28.06 156 P P 17 33 59.4 -1.0
ZOU **Zoufplan** 28.27 174 P P 17 34 01.7 -0.6
ZOU IAmb IAmb 17 34 13.9
comp=Z,15nm,1.2s
TUE **Stuetta** 28.29 179 P P 17 34 00.7 -1.9
TUE IAmb IAmb 17 34 09.2
comp=Z,7.1nm,0.9s
SENIN **Lac Senin/Sane** 28.41 182 P P 17 34 03.9 +0.3
SENIN IAmb IAmb 17 34 13.8
comp=Z,7.2nm,0.9s
CTI **Castel Tesino** 28.74 176 P P 17 34 06.2 -0.3
CTI pmax pmax
comp=Z,9.0nm,1.0s
CTI **Castel Tesino** 28.74 176 P P 17 34 06.2 -0.3
CTI IAmb IAmb 17 34 13.0
comp=Z,8.7nm,1.0s
TIXI **Tiksi** 29.30 34 P P 17 34 13.3 +2.3
comp=Z,2.1nm,0.8s,baz=335,slow=5.7,SNR=6.9
TIXI **Tiksi** 29.30 34 *ce*P P 17 34 12.1 +1.1
TIXI **Tiksi** 29.30 34 P P 17 34 10.9 -0.2
TIXI IAmb IAmb 17 34 19.5
comp=Z,7.4nm,1.1s
MLR **Muntele Rosu** 30.24 156 LR LR 17 47 01.5
comp=Z,86nm,18.3s,baz=307,slow=38
ZCCA **Zocca** 30.43 177 P P 17 34 22.2 +0.9
MSSA **Maissana** 30.45 179 P P 17 34 20.2 -1.3
MSSA IAmb IAmb 17 34 50.0
comp=Z,9.8nm,1.2s
VLC **Villacollemand** 30.61 178 P P 17 34 21.1 -1.8
VLC IAmb IAmb 17 34 29.2
comp=Z,12nm,1.1s
DIVS **Divibare** 31.08 164 P P 17 34 25.7 -1.4
OSSC **Osservatorio P** 31.26 176 P P 17 34 28.8 +0.2
MURB **Monte Urbino** 31.55 175 P P 17 34 30.2 -1.0
AKTO **Aktyubinsk** 31.56 112 P P 17 34 31.5 +0.3
comp=Z,4.9nm,0.8s,baz=313,slow=10,SNR=3.8
NRCA **Norcia** 31.99 174 P P 17 34 34.9 -0.2
BRVK **Borovoye** 32.32 97 *i*P P 17 34 42.1 +4.3
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK **Borovoye** 32.32 97 P P 17 34 36.4 -1.4
BRVK IAmb IAmb 17 34 44.4
comp=Z,5.7nm,0.9s
BVAR **Borovoye Array** 32.38 97 P P 17 34 39.2 +0.9
comp=Z,0.6nm,0.6s,baz=272,slow=14,SNR=2.5
PDG **Podgorica** 32.69 166 P P 17 34 41.0 0.0
PDG IAmb IAmb 17 35 04.4
comp=Z,9.6nm,1.3s
VTS **Vitosha** 32.81 160 P P 17 34 41.4 -1.0
VTS pmax pmax
comp=Z,4.0nm,1.2s
VTS **Vitosha** 32.81 160 P P 17 34 41.4 -1.0
ABKAR **Akbulak array** 33.13 111 P P 17 34 45.1 +0.2
ABKAR IAmb IAmb 17 34 50.8
comp=Z,5.6nm,0.9s
ABKAR **Akbulak array** 33.13 111 P P 17 34 44.4 -0.5
SCHQ **Schefferville** 34.45 278 LR LR 17 48 16.9
comp=Z,162nm,19.4s,baz=154,slow=35
KBZ **Khabaz** 34.55 134 P P 17 35 00.1 +2.8
comp=Z,2.6nm,0.9s,baz=323,slow=5.1,SNR=4.2
KBZ LR LR 17 49 27.3
comp=Z,138nm,21.2s,baz=348,slow=37
INK **Inuvik** 35.25 337 P P 17 35 04.6 +1.5
comp=Z,1.8nm,0.8s,baz=305,slow=5.7,SNR=4.3
INK LR LR 17 51 04.0
comp=Z,46nm,18.0s,baz=5.0,slow=39
INK **Inuvik** 35.25 337 P P 17 35 03.6 +0.5
INK pmax pmax
comp=Z,9.0nm,1.4s
INK **Inuvik** 35.25 337 P P 17 35 03.6 +0.5
INK IAmb IAmb 17 35 10.2
comp=Z,8.5nm,1.4s
ZAA0 **Zalesovo Array** 35.38 82 P P 17 35 03.6 -0.7
ZALV **Zalesovo Beam** 35.38 82 P P 17 35 05.1 +0.8
comp=Z,2.2nm,0.8s,baz=327,slow=10,SNR=2.5
ZALV LR LR 17 53 50.4
comp=Z,73nm,18.1s,baz=280,slow=44
ZALV **Zalesovo Beam** 35.38 82 P P 17 35 03.9 -0.4
ESDC **Sonseca Array** 35.59 197 P P 17 35 05.8 -0.6
comp=Z,1.1nm,0.9s,baz=349,slow=14,SNR=4.3
PAB **San Pablo** 35.74 197 P P 17 35 07.2 -0.5
PAB pmax pmax
comp=Z,7.0nm,1.1s
PAB **San Pablo** 35.74 197 P P 17 35 07.2 -0.5
PAB IAmb IAmb 17 35 14.2
comp=Z,6.5nm,1.1s
TOLK **Toolik Lake Re** 36.26 347 P P 17 35 11.8 0.0
TOLK IAmb IAmb 17 35 41.8
comp=Z,9.4nm,1.6s
CEL **Celeste** 36.66 171 P P 17 35 15.3 -0.2
BILL **Bilibino** 36.80 14 *eP* P 17 35 11.9 -4.5
BILL *eS* S 17 41 04.6 +4.7
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,38nm,15.0s
BR131 **Keskin Array S** 36.90 147 P P 17 35 16.8 -0.9
BR131 pmax pmax
comp=Z,5.0nm,1.2s
BR131 **Keskin Array S** 36.90 147 P P 17 35 16.8 -0.9
BRTR **Keskin Array B** 36.90 147 P P 17 35 17.8 +0.2
comp=Z,0.8nm,0.8s,baz=338,slow=6.4,SNR=4.9
BRTR **Keskin Array B** 36.90 147 P P 17 35 16.6 -1.0
CORL **Corleone** 36.93 174 P P 17 35 18.2 +0.4
BMAR **Burnt Mountain** 37.11 343 P P 17 35 20.4 +1.4
FCC **Fort Churchill** 37.63 304 P P 17 35 22.8 -0.7
FCC pmax pmax
comp=Z,12nm,1.1s
FCC **Fort Churchill** 37.63 304 P P 17 35 22.8 -0.7
FCC IAmb IAmb 17 35 59.8
comp=Z,12nm,1.1s
YKA **Yellowknife Ar** 38.20 321 P P 17 35 27.6 -0.7
comp=Z,1.2nm,1.1s,baz=19,slow=8.0,SNR=3.4
YKA PcP PcP 17 37 47.6 +5.3
comp=Z,0.9nm,0.9s,baz=14,slow=2.3,SNR=4.7
YKA LR LR 17 52 00.6
comp=Z,71nm,18.0s,baz=0.0,slow=37
GNI **Garni** 38.36 133 P P 17 35 29.4 -0.7
comp=Z,5.1nm,0.5s,baz=319,slow=19,SNR=2.5
KEST **Kesra** 39.02 179 P P 17 35 36.2 +0.7
comp=Z,3.7nm,1.0s,baz=57,slow=9.6,SNR=2.7
KEST **Kesra** 39.02 179 IAmb IAmb 17 35 39.3
comp=Z,11nm,1.4s
EGAK **Eagle** 39.43 340 P P 17 35 39.0 +0.5
EGAK IAmb IAmb 17 35 50.1
comp=Z,14nm,1.6s
I23K **Minto, Yukon-K** 39.71 346 P P 17 35 41.9 +1.1
IL31 39.91 344 P P 17 35 43.4 +0.9
ILAR **Eielson Array** 39.91 344 P P 17 35 44.6 +2.1
comp=Z,3.1nm,1.0s,baz=0.9,slow=6.8,SNR=20
ILAR **Eielson Array** 39.91 344 P P 17 35 43.4 +0.9
DGZ **Jazzator, Alta** 39.91 83 *i*P P 17 35 45.6 +2.7
DGZ pmax pmax
comp=Z,5.0nm,1.6s
CCB **Clear Creek Bu** 40.10 345 P P 17 35 44.1 0.0
K27K **Chicken** 40.25 341 P P 17 35 45.5 +0.1
K27K IAmb IAmb 17 35 54.1
comp=Z,17nm,1.3s
HDA **Harding Lake** 40.27 344 P P 17 35 45.3 -0.3
WRH **Wood River Hil** 40.29 345 P P 17 35 46.0 +0.3
WRH IAmb IAmb 17 35 48.5
comp=Z,13nm,1.4s
MCK **McKinley** 41.08 345 P P 17 35 52.8 +0.5
MCK pmax pmax
comp=Z,26nm,1.7s
MCK **McKinley** 41.08 345 P P 17 35 52.8 +0.5
MCK IAmb IAmb 17 36 27.2
comp=Z,26nm,1.7s
MAKZ **Makanchi** 41.12 90 P P 17 35 52.1 -0.7
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ **Makanchi** 41.12 90 P P 17 35 52.1 -0.7
BCAR **Beaver Creek A** 41.17 340 P P 17 35 53.3 +0.2
L27K **Beaver Creek,** 41.18 340 P P 17 35 54.8 +1.7
MK31 **Makanchi Array** 41.22 90 P P 17 35 53.4 -0.2
MK31 pmax pmax
comp=Z,9.0nm,1.2s
MK31 **Makanchi Array** 41.22 90 P P 17 35 53.4 -0.2
comp=Z,8.9nm,1.2s
MK31 IAmb IAmb 17 36 00.6
MKAR **Makanchi Array** 41.22 90 P P 17 35 54.3 +0.7
comp=Z,0.7nm,0.6s,baz=8.7,slow=6.0,SNR=7.9
MKAR PP PP 17 37 28.9 +0.5
comp=Z,0.9nm,0.8s,baz=349,slow=12,SNR=1.9
MKAR LR LR 17 56 24.4
comp=Z,56nm,18.8s,baz=322,slow=41
MKAR **Makanchi Array** 41.22 90 *ce*P P 17 35 59.7 +6.1
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR **Makanchi Array** 41.22 90 P P 17 35 54.0 +0.4
KK31 **Karatay Array** 41.54 103 P P 17 35 56.3 0.0
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KK31 **Karatay Array** 41.54 103 P P 17 35 56.3 0.0
KKAR **Karatay Array** 41.54 103 P P 17 35 56.0 -0.2
KKAR pmax pmax
comp=Z,7.0nm,0.9s
KKAR **Karatay Array** 41.54 103 P P 17 35 56.0 -0.2
KKAR **Karatay Array** 41.54 103 P P 17 35 56.8 +0.6
MOY **Mondy** 41.61 70 *e*P P 17 35 59.5 +2.6
MOY pmax pmax
comp=Z,25nm,2.4s
PQI **Presque Isle** 42.19 273 P P 17 36 01.5 0.0
SKT **Skwentna** 42.99 346 P P 17 36 08.4 +0.5
AAK **Ala-Archa** 43.01 100 *ce*P P 17 36 15.7 +7.3
AAK pmax pmax
comp=Z,15nm,1.7s
GEYT **Alibeck** 43.36 119 P P 17 36 12.1 +0.9
comp=Z,1.7nm,0.6s,baz=347,slow=12,SNR=1.9
GEYT LR LR 17 56 22.8
comp=Z,123nm,20.1s,baz=250,slow=39
BTK **Batken** 44.47 105 P P 17 36 21.3 +1.2
BTK pmax pmax
comp=Z,7.0nm,1.1s
BTK **Batken** 44.47 105 P P 17 36 21.3 +1.2
BTK IAmb IAmb 17 36 30.0
comp=Z,7.4nm,1.1s
Q23K **Middleton Isla** 45.16 342 P P 17 36 25.2 0.0
MID **Middleton Isla** 45.16 342 P P 17 36 26.6 +1.4
MID **Middleton Isla** 45.16 342 P P 17 36 26.6 +1.4
DRK **Karamyk** 45.27 104 P P 17 36 27.7 +0.9
WMQ **Urumgi** 45.41 86 *e*P P 17 36 29.9 +2.4
ULM **Lac du Bonnet** 45.90 300 LR LR 17 56 03.3
comp=Z,118nm,18.1s,baz=287,slow=36
SONM **Songino Array** 46.49 67 P P 17 36 37.3 +1.2
comp=Z,0.7nm,0.9s,baz=350,slow=7.6,SNR=3.0
SONM **Songino Array** 46.49 67 IAmb IAmb 17 36 43.4
comp=Z,2.7nm,1.0s
ULN **Ulaanbaatar** 46.62 66 *ce*P P 17 36 44.0 +6.9
ULN pmax pmax
comp=Z,13nm,2.5s
ULN **Ulaanbaatar** 46.62 66 P P 17 36 38.2 +1.1
ULN IAmb IAmb 17 36 44.8
comp=Z,4.1nm,0.9s
G40A **Rib Lake** 49.21 293 P P 17 36 56.9 -0.1
G40A IAmb IAmb 17 37 08.2
comp=Z,8.5nm,1.4s
I42A **Draeger Farm,** 50.18 291 P P 17 37 05.9 +1.5
I42A IAmb IAmb 17 37 18.8
comp=Z,5.1nm,0.9s
KLR **Kul'dur** 50.73 45 P P 17 37 10.5 +2.0
comp=Z,0.5nm,0.3s,baz=312,slow=12,SNR=2.8
KLR **Kul'dur** 50.73 45 *ce*P P 17 37 15.2 +6.7
GTA **Gaotai** 52.72 77 P P 17 37 24.7 +1.1
GTA pP pwP 17 37 29.6 +0.1
GTA sP sP 17 37 32.9 +6.1
GTA pmax pmax
comp=Z,3.0nm,1.9s
GTA pmax pmax
comp=Z,33nm,5.2s
GTA L L
comp=Z,80nm,16.7s
GTA L L
comp=Z,110nm,17.4s
GTA L L
comp=Z,110nm,16.7s
MSO **Missoula** 52.98 314 P P 17 37 25.3 -0.1
MSO IAmb IAmb 17 37 46.7
comp=Z,9.0nm,1.2s
HHC **Hu-ho-hao-te** 54.32 66 *e*P P 17 37 37.4 +2.1
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,72nm,4.5s
YHL **Hebgen Lake** 54.33 311 P P 17 37 36.9 +1.3
YHL IAmb IAmb 17 37 47.0
comp=Z,6.6nm,1.3s
P43A **Skaggs, Pawnee** 54.34 290 P P 17 37 35.7 +0.4
RAYN **Ar Rayn** 54.68 138 P P 17 37 37.6 -0.4
RAYN pmax pmax
comp=Z,6.0nm,1.2s
RAYN **Ar Rayn** 54.68 138 P P 17 37 37.6 -0.4
RAYN IAmb IAmb 17 37 44.7
comp=Z,5.8nm,1.2s
PDAR **Pinedale Array** 55.99 309 P P 17 37 49.1 +1.6
comp=Z,0.2nm,0.4s,baz=353,slow=6.4,SNR=1.2
PDAR LR LR 18 02 07.7
comp=Z,63nm,20.0s,baz=68,slow=36
MGMO **Mountain Grove** 57.38 291 P P 17 37 56.5 -0.7
MIAR **Mount Ida** 60.18 292 P P 17 38 16.5 -0.2
MIAR pmax pmax
comp=Z,7.0nm,1.2s
MIAR **Mount Ida** 60.18 292 P P 17 38 16.4 -0.2
MIAR IAmb IAmb 17 38 20.3
comp=Z,7.0nm,1.1s
KSRS **Korea Array** 61.28 52 LR LR 18 08 57.5
comp=Z,34nm,19.0s,baz=320,slow=40
TORD **Torodi Ar. Bea** 61.64 188 P P 17 38 26.2 -0.5
comp=Z,1.5nm,0.8s,baz=351,slow=6.9,SNR=5.9
TORD **Torodi Ar. Bea** 61.64 188 IAmb IAmb 17 38 31.9
comp=Z,3.3nm,1.1s
CD2 **Chengdu** 61.79 76 P P 17 38 26.0 +1.0
CD2 **Chengdu** 61.79 76 L L
comp=Z,220nm,17.8s
CD2 **Chengdu** 61.79 76 L L
comp=Z,150nm,15.3s
CD2 **Chengdu** 61.79 76 L L
comp=Z,220nm,19.2s
NVAR **Mina Array Bea** 61.91 315 P P 17 38 30.3 +1.6
comp=Z,0.2nm,0.5s,baz=47,slow=5.3,SNR=2.1
NVAR LR LR 18 05 05.1
comp=Z,86nm,19.0s,baz=17,slow=36
TJN **Taejon** 62.20 53 *ce*P P 17 38 37.1 +6.8
MJAR **Matsushiro Arr** 64.20 44 P P 17 38 44.7 +1.1
comp=Z,3.6nm,1.0s,baz=336,slow=5.7,SNR=2.1
MJAR **Matsushiro Arr** 64.20 44 P P 17 38 43.9 +0.3
MJAR pmax pmax
comp=Z,5.0nm,1.1s
MJAR **Matsushiro Arr** 64.20 44 P P 17 38 43.9 +0.3
MJAR IAmb IAmb 17 38 50.5
comp=Z,4.8nm,1.1s
NJ2 **Nanjing** 64.44 62 *e*P P 17 38 46.3 +1.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TXAR **Lajitas Array** 67.59 299 P P 17 39 05.7 +0.1
comp=Z,0.3nm,0.7s,baz=70,slow=4.4,SNR=4.3
TXAR LR LR 18 09 05.3
comp=Z,105nm,18.4s,baz=0.0,slow=36
CMAR **Chiang Mai Arr** 72.39 85 P P 17 39 34.9 -0.2
comp=Z,0.2nm,0.6s,baz=321,slow=7.0,SNR=1.9
CMAR LR LR 18 16 02.3
comp=Z,30nm,21.2s,baz=335,slow=40
AFI **Afiamalu** 119.25 1 PKP PKiKP 17 47 00.3 +2.2
comp=Z,8.8nm,0.3s,baz=1.5,slow=2.8,SNR=4.2
ASAR **Alice Springs** 121.68 62 PKP PKiKP 17 47 04.5 +1.9
comp=Z,0.5nm,0.8s,baz=324,slow=4.6,SNR=3.4
ASAR PP PP 17 48 36.9 +1.6
comp=Z,0.5nm,0.9s,baz=353,slow=6.8,SNR=3.1

IDC 09 17:31:35.8±2.2, 4°31N×127°09E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/56, mbtmp3.4/4, Error ellipse: s-maj=126.3km s-min=27.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.31**	**184**	P	P	17 36 35.5	+0.4
	1.9nm,0.9s,baz=2.4,slow=9.8,SNR=1.6						
WRA	**Warramunga Arr**	**25.13**	**164**	P	P	17 37 02.5	-0.2
	0.3nm,0.3s,baz=343,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**28.59**	**167**	P	P	17 37 34.0	0.0
	0.3nm,0.8s,baz=346,slow=7.5,SNR=6.0						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	17 41 25.4	-0.1
	0.1nm,0.4s,baz=111,slow=7.4,SNR=1.8						

*MDD **09** 17:45:37.9±2.9, 32°39N×5°89W, h0km, mb4.1/2, Error ellipse: s-maj=33.7km s-min=21.1km az=45.0, PRXIMO*
*CNRM **09** 17:45:38.6, 32°24N×6°37W, h8km, ml2.9, Hypocentre not reviewed by the ISC*
*INMG **09** 17:45:41.2±1.1, 32°58N×6°18W, h0km, ML2.3, Error ellipse: s-maj=7.2km s-min=4.5km az=33.0*
*SFS **09** 17:45:48.7, 32°57N×6°18W, ML2.3, RABAT (MARRUECOS)*

ISC 09 17:45:42.3±2.7, 32°6N±0°1×6°36W±0°06, h10km, n20, σ1°07/37, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHG	**ZHG**	**0.86**	**344**	P		17 46 00.2	
ZHG				S		17 46 16.6	
AVE	**Averroes**	**1.11**	**308**	P	**Pb**	**17 46 02.2**	**-1.4**
AVE				S	**Sn**	**17 46 22.0**	**+2.7**
CZD	**Col de Zad**	**1.19**	**69**	P		17 46 03.3	
CZD				S		17 46 22.4	
SRHM	**Skhour des Reh**	**1.31**	**264**	P		17 46 02.9	
SRHM				S		17 46 21.5	
IFR	**Ifrane**	**1.37**	**49**	P	**Pn**	**17 46 07.0**	**-0.6**
IFR				S	**Sg**	**17 46 29.5**	**+3.1**
MD31	**MD31**	**1.37**	**79**	P		17 46 04.9	
MD31				S		17 46 26.7	
MDT	**Midelt**	**1.49**	**82**	P		17 46 06.3	
MDT				S		17 46 28.6	
OUK	**Oukaimeden**	**1.90**	**223**	P		17 46 08.2	
OUK				S		17 46 30.8	
TZRR	**Tazzarine**	**1.95**	**160**	P		17 46 07.9	
TZRR				S		17 46 29.4	
TTIG	**Tnine Tigouga,**	**2.72**	**221**	P		17 46 18.9	
TTIG				S		17 46 49.5	
EAH	**EAH**	**2.90**	**251**	P		17 46 24.8	
EAH				S		17 47 01.9	
PVLZ	**Peæn de**	**3.07**	**33**	P	**Pn**	**17 46 30.6**	**-0.2**
JBK	**JBK**	**3.60**	**61**	P		17 46 37.3	
JBK				S		17 47 22.4	
MELI	**Melilla**	**3.90**	**46**	P	Pn	17 46 34.5	-7.7
	20nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.79**	**345**	P	**Pn**	**17 46 56.5**	**+2.0**
PBDV				S	**Sn**	**17 47 50.0**	**0.0**
PBDV	**Barranco-do-Ve**	**4.79**	**345**	*e*Pn	**Pn**	**17 46 56.5**	**+2.0**
PBDV				*e*Sn	**Sn**	**17 47 50.0**	**0.0**
PVAQ	**Vaqueiros**	**4.90**	**347**	P	**Pn**	**17 46 56.4**	**+0.4**
PVAQ				S	**Sn**	**17 47 52.0**	**-0.7**
	2.9nm,0.8s						
PVAQ	**Vaqueiros**	**4.90**	**347**	*e*Pn	**Pn**	**17 46 56.4**	**+0.4**
PVAQ				*e*Sn	**Sn**	**17 47 52.0**	**-0.7**
PVAQ				A	A	17 47 55.0	
	2.9nm,0.8s						
PFVI	**Vila Bisbo**	**4.94**	**336**	P	**Pn**	**17 46 56.1**	**-0.4**
	0.6nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**17 47 54.1**	**+0.4**
	0.9nm,0.0s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.94**	**336**	*e*Pn	**Pn**	**17 46 57.4**	**+0.9**
PFVI				*e*Sn	**Sn**	**17 47 53.8**	**+0.2**
EGRO	**El Granado**	**4.99**	**350**	P	**Pn**	**17 46 56.9**	**-0.2**
	4.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**17 47 54.8**	**-0.1**
	1.8nm,0.2s,SNR=4.5						
EMIN	**Mina Concepcio**	**5.14**	**357**	P	**Pn**	**17 46 58.7**	**-0.6**
	1.5nm,0.2s,SNR=9.0						
EMIN				S	**Sn**	**17 47 58.6**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.18**	**345**	P	**Pn**	**17 46 59.9**	**0.0**
PCVE				S	**Sn**	**17 47 59.5**	**-0.3**
	2.8nm,0.4s						
PCVE	**Castro Verde**	**5.18**	**345**	*e*Pn	**Pn**	**17 46 59.9**	**0.0**
PCVE				*e*Sn	**Sn**	**17 47 59.5**	**-0.3**
PCVE				A	A	17 48 05.4	
	2.8nm,0.4s						
ECAB	**El Cabril**	**5.50**	**8**	P	**Pn**	**17 47 04.3**	**+0.1**
	0.0nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**17 48 06.8**	**-0.7**
	0.8nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**5.57**	**354**	P	**Pn**	**17 47 05.0**	**-0.2**
PBAR				S	**Sn**	**17 48 09.0**	**-0.2**
	1.8nm,0.4s						
PBAR	**Barrancos**	**5.57**	**354**	*e*Pn	**Pn**	**17 47 05.0**	**-0.2**
PBAR				*e*Sn	**Sn**	**17 48 09.0**	**-0.2**
PBAR				A	A	17 48 16.8	
	1.8nm,0.4s						
PNCL	**Nicolau / Gran**	**5.76**	**343**	P	**Pn**	**17 47 07.3**	**-0.4**
PNCL				S	**Sn**	**17 48 12.2**	**-1.7**
PNCL	**Nicolau / Gran**	**5.76**	**343**	*e*Pn	**Pn**	**17 47 07.3**	**-0.4**
PNCL				*e*Sn	**Sn**	**17 48 12.2**	**-1.7**
EBAD	**Badajoz**	**6.14**	**355**	P	**Pn**	**17 47 13.1**	**0.0**
	0.9nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**17 48 22.1**	**-1.3**
	0.2nm,0.0s,SNR=7.9						

IDC 09 17:54:08.4±5.6, 12°36N×145°90E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/38, mbtmp3.7/5, Error ellipse: s-maj=143.8km s-min=49.7km az=3.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**20.93**	**70**	T	T	18 20 40.3	
	baz=261,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**20.95**	**70**	T	T	18 21 01.0	
	baz=261,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**20.95**	**71**	T	T	18 21 01.2	
	baz=261,slow=75,SNR=6.5						
KSRS	**Korea Array**	**29.72**	**330**	P	P	18 00 16.9	+0.5
	0.4nm,0.6s,baz=138,slow=9.7,SNR=2.7						
SONM	**Songino Array**	**48.31**	**325**	P	P	18 02 50.3	-1.4
	0.4nm,0.4s,baz=132,slow=8.3,SNR=1.8						
MKAR	**Makanchi Array**	**63.07**	**316**	P	P	18 04 38.5	+0.8
	0.2nm,0.4s,baz=91,slow=8.4,SNR=6.5						
ILAR	**Eielson Array**	**69.24**	**25**	P	P	18 05 17.1	+0.2
	0.4nm,0.4s,baz=250,slow=5.7,SNR=9.3						
FINES	**FINESS Array B**	**92.69**	**335**	P	P	18 07 21.4	-0.7
	0.8nm,0.6s,baz=57,slow=7.0,SNR=5.8						

*IDC **09** 18:01:33.4±1.3, 7°11S×120°99E, h403km±15km, mb3.1/3, mb1 3.2/7, mb1mx2.9/39, mbtmp3.9/7, Error ellipse: s-maj=132.6km s-min=14.8km az=56.0*

ISC 09 18:01:33.3±1.1, 7°2S±0°3×120°9E±0°4, h400km, n7, σ0°70/8, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.49**	**332**	P	**Pn**	**18 02 33.1**	**+0.5**
	3.3nm,0.3s,baz=172,slow=5.9,SNR=13						
BATI	**Baumata**	**4.01**	**138**	P	**Pn**	**18 02 45.5**	**0.0**
	11nm,0.3s,baz=21,slow=0.3,SNR=25						
BATI				S	**S**	**18 03 43.5**	**-0.6**
	18nm,0.3s,baz=316,slow=19,SNR=15						
FITZ	**Fitzroy Crossi**	**11.74**	**157**	P	**P**	**18 04 09.9**	**-0.2**
	0.1nm,0.3s,baz=0.0,slow=8.1,SNR=1.5						
FITZ				S	S	18 06 31.5	+12
	0.1nm,0.3s,baz=104,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**18.14**	**135**	P	**P**	**18 05 19.8**	**+0.4**
	0.6nm,0.3s,baz=320,slow=11,SNR=20						
ASAR	**Alice Springs**	**20.55**	**144**	P	**P**	**18 05 43.9**	**+1.0**
	2.2nm,0.5s,baz=339,slow=14,SNR=30						
STKA	**Stephens Creek**	**31.19**	**145**	P	**P**	**18 07 17.8**	**+0.4**
	1.4nm,0.4s,baz=316,slow=8.7,SNR=7.7						
MKAR	**Makanchi Array**	**63.79**	**331**	P	**P**	**18 11 23.5**	**-0.8**
	0.3nm,0.5s,baz=140,slow=7.8,SNR=6.9						

IDC 09 18:09:37.0±3.7, 10°81S×118°81E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=272.9km s-min=31.6km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.50**	**123**	P	Pn	18 13 42.3	-0.4
	0.1nm,0.3s,baz=297,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**19.25**	**134**	P	P	18 14 03.4	+0.3
	0.1nm,0.3s,baz=310,slow=10,SNR=6.2						
H08S2	**Diego Garcia H**	**45.79**	**270**	T	T	19 07 31.1	
	baz=96						
H08S3	**Diego Garcia H**	**45.81**	**270**	T	T	19 07 28.1	
	baz=96						
H08S1	**Diego Garcia H**	**45.81**	**270**	T	T	19 07 32.8	
	baz=96						

MKAR **Makanchi Array** **65.98 333** P P 18 20 25.1 0.0
0.2nm,0.6s,baz=141,slow=5.5,SNR=1.7

*NEIC **09** 18:09:54.9±2.2,23.0S±0.1×176.2W±0.1, h35km±2km, mb5.0/23, Error ellipse: s-maj=23.0km s-min=13.2km az=129.0*
*IDC **09** 18:10:03.9±4.2,23.1S×176.38W, h120km±33km, mb3.7/7, mb1 4.0/9, mb1mx3.7/23, mbtmp4.2/9, MS3.7/3, Ms1 3.7/3, ms1mx3.0/28, Error ellipse: s-maj=37.6km s-min=21.0km az=139.0*
ISC 09 18:09:55.8±0.8,**23.0S**±0.1×**176.3W**±0.1, **h50km, n44,** σ1§**19**/34, **mb4.8**/18, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.35**	**193**	Pn		Pn	**Pn**	**18 11 24.2**	**-2.6**
NIUE	**Niue**	**7.13**	**57**	Pn		Pn	Pn	18 11 33.5	-4.0
MSVF	**Nonsavu**	**7.50**	**314**	P		Pn	Pn	18 11 51.0	+8.2
	7.1nm,0.3s,baz=138,slow=10,SNR=28								
MSVF				LR		LR		18 14 11.4	
	comp=Z,85nm,21.1s,baz=181,slow=33								
MSVF	**Nonsavu**	**7.50**	**314**				Pn	18 11 50.6	+7.9
URZ	**Urewera**	**16.18**	**199**	P			**Pn**	**18 13 43.4**	**+1.2**
	1.5nm,0.3s,baz=303,slow=23,SNR=8.4								
URZ	**Urewera**	**16.18**	**199**	P			**P**	**18 13 42.7**	**+0.5**
BKZ	**Black Stump Fm**	**17.20**	**199**	P			**Pn**	**18 13 52.3**	**-0.3**
KHZ	**Kahutara**	**21.09**	**201**	P			**P**	**18 14 35.5**	**-0.4**
KHZ				IAmb		IAmb		18 15 14.5	
	comp=Z,121nm,1.7s								
LTZ	**Lake Taylor**	**21.86**	**203**	P			**P**	**18 14 44.9**	**+0.6**
LTZ				IAmb		IAmb		18 14 47.0	
	comp=Z,184nm,1.9s								
ARMA	**Armidale**	**29.52**	**249**	P			**P**	**18 15 57.6**	**+1.9**
ARMA				IAmb		IAmb		18 16 07.6	
	comp=Z,31nm,1.6s								
EIDS	**Eidsvold**	**29.82**	**259**	P			**P**	**18 15 59.7**	**+1.4**
CAN	**Canberra**	**32.52**	**240**	P			**P**	**18 16 23.4**	**+1.3**
CTAO	**Charters Tower**	**34.91**	**268**	P			**P**	**18 16 44.0**	**+1.1**
TOO	**Toolangi**	**35.78**	**237**	P			**P**	**18 16 52.9**	**+2.7**
PMG	**Port Moresby**	**37.51**	**285**	P			**P**	**18 17 05.7**	**+0.5**
PMG				IAmb		IAmb		18 17 31.6	
	comp=Z,32nm,1.1s								
STKA	**Stephens Creek**	**38.20**	**247**	P			**P**	**18 17 11.2**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=100,slow=13,SNR=8.7								
BBOO	**Buckleboo**	**42.91**	**246**	P			**P**	**18 17 48.9**	**-0.9**
AS31	**Alice Springs**	**45.55**	**259**	P			**P**	**18 18 10.8**	**-0.1**
ASAR	**Alice Springs**	**45.55**	**259**	P			**P**	**18 18 10.7**	**-0.3**
	comp=Z,2.5nm,0.4s,baz=96,slow=6.1,SNR=54								
ASAR				PcP			**PcP**	**18 19 49.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=110,slow=3.9,SNR=4.9								
WRA	**Warramunga Arr**	**45.88**	**264**	P			**P**	**18 18 12.8**	**-0.8**
	comp=Z,3.3nm,0.4s,baz=96,slow=8.4,SNR=109								
FORT	**Forrest**	**49.80**	**248**	P			**P**	**18 18 42.9**	**-0.9**
KNRA	**Kununurra**	**52.12**	**268**	P			**P**	**18 19 00.9**	**-0.5**
KNRA				IAmb		IAmb		18 19 07.5	
	comp=Z,24nm,1.1s								
PSA00	**Pilbara Seismi**	**58.68**	**258**	P			**P**	**18 19 47.6**	**-0.9**
PSA00				IAmb		IAmb		18 20 34.8	
	comp=Z,33nm,2.0s								
MORW	**Morawa**	**60.37**	**249**	P			**P**	**18 19 59.6**	**-0.5**
CASY	**Casey**	**62.36**	**206**	P			**P**	**18 20 14.7**	**+1.8**
CASY				IAmb		IAmb		18 22 13.8	
	comp=Z,17nm,1.6s								
GIRL	**Giralia**	**63.44**	**255**	P			**P**	**18 20 21.4**	**+0.6**
TOLI2	**Tolitoli**	**65.70**	**282**	P			**P**	**18 20 35.2**	**-0.5**
TOLI2				IAmb		IAmb		18 22 03.2	
	comp=Z,8.5nm,1.1s								
QSPA	**South Pole Qui**	**67.03**	**180**	P			**P**	**18 20 44.5**	**+1.0**
QSPA				IAmb		IAmb		18 22 13.2	
	comp=Z,22nm,2.0s								
TPUB	**Ta-pu**	**76.70**	**303**	P			**P**	**18 21 39.9**	**-2.1**
TPUB				IAmb		IAmb		18 24 17.3	
	comp=Z,18nm,1.1s								
SSLB	**Suanglung**	**76.71**	**303**	P			**P**	**18 21 39.8**	**-2.2**
SSLB				IAmb		IAmb		18 22 15.5	
	comp=Z,14nm,1.2s								
ASAJ	**Asahikawa**	**76.72**	**331**	LR		LR		18 47 51.4	
	comp=Z,423nm,20.7s,baz=192,slow=30								
PETK	**Petropavlovsk-**	**79.14**	**344**	P			**P**	**18 21 55.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=127,slow=6.5,SNR=2.2								
NVAR	**Mina Array Bea**	**81.80**	**42**	P			**P**	**18 22 10.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=225,slow=7.5,SNR=2.1								
KDAK	**Kodiak Island**	**82.93**	**13**	LR			LR	18 54 37.9	
	comp=Z,32nm,18.7s,baz=210,slow=32								
H03S2	**Juan Fernandez**	**83.24**	**124**	T			T	19 54 20.8	
	baz=245,slow=75,SNR=47								
H03S1	**Juan Fernandez**	**83.25**	**124**	T			T	19 54 03.1	
	baz=245,slow=75,SNR=54								
H03S3	**Juan Fernandez**	**83.26**	**124**	T			T	19 54 01.9	
	baz=245,slow=75,SNR=52								
H03N2	**Juan Fernandez**	**83.39**	**123**	T			T	19 54 17.3	
	baz=250,slow=72,SNR=48								
H03N3	**Juan Fernandez**	**83.39**	**123**	T			T	19 54 12.5	
	baz=250,slow=72,SNR=43								
H03N1	**Juan Fernandez**	**83.41**	**123**	T			T	19 54 18.2	
	baz=250,slow=72,SNR=66								
TXAR	**Lajitas Array**	**87.10**	**57**	P			**P**	**18 22 36.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=223,slow=8.6,SNR=6.4								
CMAR	**Chiang Mai Arr**	**92.46**	**289**	P			**P**	**18 23 02.5**	**+0.6**
	comp=Z,1.1nm,1.0s,baz=112,slow=2.9,SNR=7.0								
AKASG	**Malin Array Be**	**146.01**	**331**	PKPbc			**PKPdf**	**18 29 28.3**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=42,slow=4.5,SNR=17								
BRTR	**Keskin Array B**	**149.72**	**310**	PKPbc			**PKPbc**	**18 29 39.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=98,slow=2.0,SNR=3.3								

*BER **09** 18:34:30.9±2.6,74.5S×9.4E, h15km±28km, ML1.7, Confirmed Earthquake*
*IEPN **09** 18:34:30.0,74.1S×10.3E, h10km*
*IDC **09** 18:34:31.8±1.4,74.7S×9.92E, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.3/56, mbtmp3.6/7, ML2.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/50, Error ellipse: s-maj=30.8km s-min=11.3km az=88.0*
*NAO **09** 18:34:32.4±2.6,74.7S×10.9E, ML2.6*
ISC 09 18:34:32.0±1.0, **74.7S**±0.5×**10.4E**±0.8, **h10km, n28,** σ1§**91**/45, **mb3.3**/3, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.29**	**91**	P		Pn	**Pn**	**18 35 08.3**	**-1.4**
BJO1				Sn		Sn		18 35 39.2	+1.3
BJO1	**Bjornoya**	**2.29**	**91**	*e*P		Pn	**Pn**	**18 35 08.3**	**-1.4**
BJO1				*e*S		Sn	**Sn**	**18 35 39.2**	**+1.3**
BJO1				IAML				18 35 43.1	
	comp=Z,14nm,0.9s								
BJO1	**Bjornoya**	**2.29**	**91**	*e*P			**Pb**	**18 35 11.3**	**-2.0**
BJO1				*e*S			**Sn**	**18 35 39.1**	**+1.2**
HSPB	**Hornsund (broa**	**2.62**	**26**	Pn		Pn	**Pn**	**18 35 14.3**	**0.0**
HSPB	**Hornsund (broa**	**2.62**	**26**	*e*P		Pn	**Pn**	**18 35 14.3**	**0.0**
HSPB				*e*S		Sn	**Sn**	**18 35 45.4**	**-0.7**
HSPB				IAML				18 36 01.8	
	comp=Z,4.3nm,0.5s								
BRBA	**Barentsburg A**	**3.49**	**13**	Pn			**Pn**	**18 35 25.7**	**-0.4**
BRBA				Sn			**Sn**	**18 36 07.3**	**-0.1**
BRBA	**Barentsburg A**	**3.49**	**13**	Pn			**Pn**	**18 35 25.7**	**-0.4**
BRBA				Sn			**Sn**	**18 36 07.3**	**-0.1**
BRBB	**Barentsburg B**	**3.52**	**13**	Pn			**Pn**	**18 35 26.1**	**-0.5**
BRBB				Sn			**Sn**	**18 36 07.7**	**-0.5**
BRBB	**Barentsburg B**	**3.52**	**13**	Pn			**Pn**	**18 35 26.1**	**-0.5**
BRBB				Sn			**Sn**	**18 36 07.7**	**-0.5**
SPA0	**Spitsbergen Ar**	**3.75**	**19**	Pn			**Pn**	**18 35 30.4**	**+0.5**
	baz=199,slow=14								
SPA0	**Spitsbergen Ar**	**3.75**	**19**	Pn			**Pn**	**18 35 30.4**	**+0.5**
	baz=199,slow=14								
SPITS	**Spitsbergen Ar**	**3.75**	**19**	Pn			**Pn**	**18 35 30.7**	**+0.8**
	baz=202,slow=13,SNR=28								
SPITS				Sn			**Sn**	**18 36 13.2**	**-0.9**
	baz=209,slow=24,SNR=0.6								
HOPEN	**Hopen**	**4.05**	**57**	Pn			**Pn**	**18 35 35.7**	**+1.8**
HOPEN				Sn			**Sn**	**18 36 23.2**	**+1.9**
HOPEN	**Hopen**	**4.05**	**57**	*e*P			**Pn**	**18 35 35.9**	**+2.0**
HOPEN				*e*S			**Sn**	**18 36 23.1**	**+1.9**
HOPEN				IAML				18 36 26.8	
	comp=Z,2.9nm,0.1s								
HOPEN	**Hopen**	**4.05**	**57**	*e*P			**Pn**	**18 35 35.5**	**+1.6**
HOPEN				*e*S			**Sn**	**18 36 21.8**	**+0.6**
KBS	**Kingsbay**	**4.26**	**4**	Pn			**Pn**	**18 35 34.7**	**-2.1**
KBS	**Kingsbay**	**4.26**	**4**	*e*P			**Pn**	**18 35 34.7**	**-2.1**
KBS				*e*S			**Sn**	**18 36 21.9**	**-4.5**
KBS				IAML				18 36 25.2	
	comp=Z,2.8nm,0.7s								
KBS	**Kingsbay**	**4.26**	**4**	*e*P			**Pn**	**18 35 34.5**	**-2.3**
KBS				*i* S			**Sn**	**18 36 25.7**	**-0.7**
JMIC	**Jan Mayen**	**6.71**	**246**	LR		LR		18 37 52.2	
	comp=Z,51nm,21.6s,baz=43,slow=30								
ARA0	**ARCESS Array S**	**6.93**	**131**	Pn			**Pn**	**18 36 13.2**	**-0.3**
	baz=332,slow=16								
ARA0				Sn			**Sn**	**18 37 27.2**	**-5.1**
	baz=328,slow=22								
ARA0	**ARCESS Array S**	**6.93**	**131**	Pn			**Pn**	**18 36 13.2**	**-0.3**
	baz=332,slow=16								
ARA0				Sn			**Sn**	**18 37 27.2**	**-5.1**
	baz=328,slow=22								
ARCES	**ARCESS Array B**	**6.93**	**131**	Pn			**Pn**	**18 36 13.3**	**-0.1**
	baz=320,slow=17,SNR=1.1								
ARCES				Sn			**Sn**	**18 37 28.5**	**-3.8**
	baz=307,slow=18,SNR=5.2								
ZFI2	**Zemlya Franca-**	**9.74**	**35**	*e*P			**Pn**	**18 36 52.5**	**+0.6**
ZFI2				S			**Sn**	**18 38 38.1**	**-2.9**
FINES	**FINESS Array B**	**14.45**	**149**	Pn			**Pn**	**18 37 56.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=315,slow=16,SNR=3.0								
HFS	**Hagfors**	**14.69**	**174**	Pn			**Pn**	**18 38 00.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.0								
GERES	**GERESS Array B**	**25.99**	**175**	P			**P**	**18 40 06.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=16,slow=12,SNR=3.6								
ILAR	**Eielson Array**	**39.99**	**345**	P			**P**	**18 42 05.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=12,slow=7.2,SNR=5.0								
MKAR	**Makanchi Array**	**40.76**	**91**	P			**P**	**18 42 15.4**	**+2.7**
	comp=Z,0.4nm,0.7s,baz=342,slow=3.5,SNR=3.4								

*NEIC **09** 18:43:18.4±2.4,23.9S±0.1×176.1W±0.1, h10km±1km, mb5.0/27, Error ellipse: s-maj=22.3km s-min=15.7km az=124.0*
*IDC **09** 18:43:27.4±4.6,23.9S×176.37W, h77km±38km, mb3.8/12, mb1 4.0/13, mb1mx3.9/32, mbtmp4.1/13, ML6.1/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/47, Error ellipse: s-maj=28.6km s-min=19.9km az=125.0*
ISC 09 18:43:27.0±0.5, **24.0S**±0.08×**176.32W**±0.10, **h82km, n71,** σ2§**09**/52, **mb4.4**/22, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.72**	**52**	Pn		Pn	Pn	18 45 02.7	-14
MSVF	**Nonsavu**	**8.18**	**319**	P		Pn	**Pn**	**18 45 23.9**	**+0.9**
	7.6nm,0.3s,baz=148,slow=11,SNR=38								
MSVF				LR		LR		18 48 19.5	
	comp=Z,425nm,20.0s,baz=152,slow=36								
MSVF	**Nonsavu**	**8.18**	**319**				**Pn**	**18 45 24.5**	**+1.4**
AFI	**Afiamalu**	**10.94**	**24**	Pn		Pn	Pn	18 45 48.0	-13
PINNC	**Pines Island,**	**14.98**	**272**	Pn		Pn	**Pn**	**18 46 50.0**	**-4.4**
URZ	**Urewera**	**15.25**	**200**	Pn		Pn	**Pn**	**18 46 52.4**	**-5.3**
RAR	**Rarotonga**	**15.53**	**83**	LR		LR	LR	18 51 27.1	
	comp=Z,133nm,20.2s,baz=246,slow=31								
RAR	**Rarotonga**	**15.53**	**83**				Pn	18 46 49.9	-12
RAR				IAmb		IAmb	IAmb	18 46 51.3	
	comp=Z,62nm,0.7s								
DZM	**Mont Dzumac**	**15.98**	**274**	*e*LR		LR	LR	18 50 43.7	
	comp=Z,183nm,23.4s								
DZM	**Mont Dzumac**	**15.98**	**274**	LR		LR	LR	18 52 22.4	
	comp=Z,155nm,18.7s,baz=234,slow=34								
KHZ	**Kahutara**	**20.18**	**202**				**P**	**18 47 50.0**	**-4.8**
KHZ				IAmb		IAmb	IAmb	18 48 38.8	
	comp=Z,172nm,1.8s								
KNTN	**Kanton**	**21.59**	**13**	P		P	**P**	**18 48 07.2**	**-3.1**
KNTN				IAmb		IAmb	IAmb	18 48 11.7	
	comp=Z,94nm,1.3s								
TBI	**Tubuai**	**24.59**	**94**	*e*LR		LR	LR	18 54 50.2	
	comp=Z,188nm,25.5s,baz=274								
TBI	**Tubuai**	**24.59**	**94**	*e*T		T	T	19 13 36.8	
	comp=Z,10.0nm,0.3s								
PAE	**Paea**	**25.75**	**81**	*e*T		T	T	19 14 59.2	
	comp=Z,8.3nm,0.3s								
PPT2	**Papeete2**	**25.78**	**81**	*e*LR		LR	LR	18 55 05.6	
	comp=Z,205nm,26.8s,baz=253								
PPT	**Papeete**	**25.79**	**81**	LR		LR	LR	18 59 56.0	
	comp=Z,63nm,18.1s,baz=184,slow=38								
HNR	**Honiara**	**26.90**	**299**	LR		LR	LR	18 58 19.6	
	comp=Z,98nm,19.4s,baz=93,slow=33								
MEH	**Mehetia**	**27.06**	**82**	*e*T		T	T	19 16 37.1	
	comp=Z,28nm,0.2s								
ARMA	**Armidale**	**29.14**	**250**	P		P	**P**	**18 49 22.2**	**+1.7**
ARMA				IAmb		IAmb	IAmb	18 50 18.4	
	comp=Z,42nm,1.9s								
CTAO	**Charters Tower**	**34.84**	**269**	P		P	**P**	**18 50 11.1**	**+0.7**
PMG	**Port Moresby**	**37.74**	**286**				**P**	**18 50 34.8**	**-0.3**
PMG				IAmb		IAmb	IAmb	18 50 38.0	
	comp=Z,21nm,0.8s								
STKA	**Stephens Creek**	**37.80**	**248**	P		P	**P**	**18 50 36.6**	**+1.1**
	comp=Z,6.2nm,1.3s,baz=100,slow=13,SNR=4.4								
STKA				LR		LR	LR	19 03 14.7	
	comp=Z,109nm,19.4s,baz=31,slow=31								
RKT	**Rikitea**	**37.81**	**97**	*e*T		T	T	19 30 08.2	
	comp=Z,5.2nm,0.3s								
JOHN	**Johnston Islan**	**41.05**	**10**	P		P	**P**	**18 51 00.7**	**-1.8**
AS31	**Alice Springs**	**45.33**	**260**	P		P	**P**	**18 51 37.4**	**+0.2**
ASAR	**Alice Springs**	**45.33**	**260**	P		P	**P**	**18 51 36.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=94,slow=6.5,SNR=36								
ASAR				PcP			**PcP**	**18 53 16.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=105,slow=3.3,SNR=1.8								
ASAR				LR		LR		19 09 30.8	
	comp=Z,132nm,18.8s,baz=112,slow=34								
WRA	**Warramunga Arr**	**45.75**	**265**	P		P	**P**	**18 51 39.8**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=103,slow=8.4,SNR=30								
WRA				PcP			**PcP**	**18 53 18.6**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=88,slow=3.9,SNR=2.4								
FORT	**Forrest**	**49.42**	**249**	P		P	**P**	**18 52 08.9**	**+0.1**
FORT				IAmb		IAmb		18 54 00.5	
	comp=Z,27nm,1.1s								
MTN	**Manton Dam**	**50.82**	**273**	P		P	**P**	**18 52 19.2**	**-0.4**
MIDW	**Midway**	**51.95**	**359**	P		P	**P**	**18 52 24.5**	**-3.1**
KNRA	**Kununurra**	**52.05**	**268**	P		P	**P**	**18 52 28.0**	**-0.8**
KNRA				IAmb		IAmb	IAmb	18 54 25.2	
	comp=Z,35nm,1.4s								
FITZ	**Fitzroy Crossi**	**54.17**	**264**	LR		LR		19 13 31.7	
	comp=Z,28nm,20.1s,baz=156,slow=33								
VNDA	**Vanda**	**54.56**	**186**	P		P	**P**	**18 52 47.9**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=37,slow=7.3,SNR=4.1								
VNDA				LR		LR		19 14 06.1	
	comp=Z,23nm,19.6s,baz=4.5,slow=34								
VNDA	**Vanda**	**54.56**	**186**	P		P	**P**	**18 52 46.6**	**+0.3**
SOEI	**Soe**	**58.21**	**273**	P		P	**P**	**18 53 14.3**	**+1.1**
MORW	**Morawa**	**59.98**	**249**	P		P	**P**	**18 53 25.2**	**-0.1**
GIRL	**Giralia**	**63.16**	**256**	P		P	**P**	**18 53 48.4**	**+1.7**
TOLI2	**Tolitoli**	**65.88**	**283**	P		P	**P**	**18 54 05.8**	**+1.3**
QSPA	**South Pole Qui**	**66.06**	**180**	P		P	**P**	**18 54 06.7**	**+1.7**
QSPA				IAmb		IAmb	IAmb	18 55 55.7	
	comp=Z,20nm,1.8s								
MJAR	**Matsushiro Arr**	**73.96**	**323**	LR		LR	LR	19 22 07.6	
	comp=Z,22nm,21.9s,baz=80,slow=31								
MJB9	**Matsu-Tunnel**	**73.96**	**323**	P		P	**P**	**18 54 53.2**	**-0.4**
JHS	**Saijyo**	**75.78**	**319**	P		P	**P**	**18 55 04.2**	**+0.1**
JHS				IAmb		IAmb	IAmb	18 57 15.4	
	comp=Z,41nm,1.9s								
PEA0B	**Petropavlovsk-**	**80.07**	**344**	P		P	**P**	**18 55 27.1**	**-0.3**
PEA0B				IAmb		IAmb	IAmb	18 57 14.7	
	comp=Z,32nm,1.6s								
PETK	**Petropavlovsk-**	**80.07**	**344**	P		P	**P**	**18 55 27.4**	**0.0**
	comp=Z,1.7nm,0.6s,baz=110,slow=7.4,SNR=5.8								
NVAR	**Mina Array Bea**	**82.54**	**42**	P		P	**P**	**18 55 41.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=232,slow=7.3,SNR=5.1								
H03S2	**Juan Fernandez**	**82.73**	**124**	T		T	T	20 26 51.9	
	baz=245,slow=75,SNR=72								
USRK	**Ussuriysk Ar.**	**82.74**	**325**	P		P	**P**	**18 55 43.1**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=116,slow=3.4,SNR=3.2								
H03S1	**Juan Fernandez**	**82.75**	**124**	T		T	T	20 26 52.9	
	baz=244,slow=75,SNR=86								
H03S3	**Juan Fernandez**	**82.75**	**124**	T		T	T	20 26 56.4	
	baz=244,slow=75,SNR=86								
H03N2	**Juan Fernandez**	**82.89**	**123**	T		T	T	20 26 57.1	
	baz=250,slow=72,SNR=74								
H03N3	**Juan Fernandez**	**82.89**	**123**	T		T	T	20 26 56.4	
	baz=250,slow=72,SNR=113								
H03N1	**Juan Fernandez**	**82.91**	**123**	T		T	T	20 27 03.8	
	baz=250,slow=72,SNR=58								
PRN	**Pahroc Range**	**83.97**	**45**	P		P	**P**	**18 55 49.4**	**+1.0**
PRN				IAmb		IAmb	IAmb	18 56 42.6	
	comp=Z,15nm,1.9s								
SNAA	**Sanae**	**84.45**	**178**	P		P	**P**	**18 55 51.8**	**+1.4**
U15A	**North Rim**	**85.21**	**47**	P		P	**P**	**18 55 55.1**	**+0.3**
U15A				IAmb		IAmb	IAmb	18 55 56.9	
	comp=Z,11nm,1.7s								
KLR	**Kul'dur**	**86.34**	**329**	P		P	**P**	**18 56 00.4**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=84,slow=1.7,SNR=4.2								
TXAR	**Lajitas Array**	**87.67**	**57**	P		P	**P**	**18 56 07.2**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=218,slow=7.9,SNR=4.7								
SEY	**Seymchan**	**90.15**	**346**	P		P	**P**	**18 56 18.1**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=160,slow=5.2,SNR=7.8								
ILAR	**Eielson Array**	**91.41**	**12**	P		P	**P**	**18 56 22.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=220,slow=4.1,SNR=3.4								
CMAR	**Chiang Mai Arr**	**92.74**	**289**	P		P	**P**	**18 56 33.1**	**+2.5**
	comp=Z,1.6nm,1.1s,baz=123,slow=3.6,SNR=5.2								
CMAR	**Chiang Mai Arr**	**92.74**	**289**	P		P	**P**	**18 56 32.6**	**+2.0**
ARCES	**ARCESS Array B**	**132.65**	**350**	PKP			**PKPdf**	**19 02 30.9**	**-0.6**
	comp=Z,6.3nm,1.2s,baz=20,slow=3.9,SNR=4.0								
FINES	**FINESS Array B**	**139.58**	**344**	PKP			**PKPdf**	**19 02 44.4**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=49,slow=5.8,SNR=3.3								
AKASG	**Malin Array Be**	**146.84**	**330**	PKPbc			**PKPbc**	**19 02 58.7**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=43,slow=4.0,SNR=12								
AKASG	**Malin Array Be**	**146.84**	**330**				**PKPbc**	**19 02 59.0**	**-0.6**
BRTR	**Keskin Array B**	**150.31**	**309**	PKPbc			**PKiKP**	**19 03 10.2**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=140,slow=3.3,SNR=6.2								
BRTR				PKPab			**PKPab**	**19 03 17.0**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=137,slow=1.5,SNR=9.4								
DPC	**Dobruska-Polom**	**151.94**	**343**	*e*PKP			**PKPab**	**19 03 26.6**	**+4.7**
KRLC	**Kraliky**	**152.06**	**342**	*e*PKP			**PKPab**	**19 03 23.0**	**+0.6**
KHC	**Kasperske Hory**	**153.76**	**345**	*e*PKP			**PKPab**	**19 03 22.7**	**-6.9**
TORD	**Torodi Ar. Bea**	**169.02**	**170**	PKPab			**PKPab**	**19 04 39.3**	**+2.6**
	comp=Z,1.9nm,1.0s,baz=175,slow=2.7,SNR=3.6								

*IDC **09** 18:44:48.1±0.6,41.0S×142.83E, h0km, mb4.5/27, mb1 4.6/29, mb1mx4.5/41, mbtmp4.5/29, ML5.0/2, MS3.6/17, Ms1 3.6/17, ms1mx3.4/60, Error ellipse: s-maj=15.5km s-min=13.1km az=139.0*
*BJI **09** 18:44:48.4±0.0,40.98N×143.07E, h25km, mB4.9/37, mb4.6/58, Ms3.9/26, Ms7 3.7/26*
*JMA **09** 18:44:51.3±0.2,40.97N×142.88E, h15km±4km, M4.4*
JMA Felt I J1.
*NIED **09** 18:44:51.4,40.97N×142.88E, h15km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr2.44; Mθθ0.35; Mϕϕ -2.79; Mrθ1.76; Mθϕ -0.20; Mϕr1.68; Fault plane solution: Mo3.58000×10^15^ NP1:φs29.00000°, δ67.00000°, λ113.00000°. NP2:φs161.00000°, δ32.00000°, λ47.00000°.*
*MOS **09** 18:44:52.3±0.9,41.06N×142.81E, h41km, mb5.0/25 Error ellipse: s-maj=6.0km s-min=4.1km az=108.9*
*NEIC **09** 18:44:52.7±2.1,41.05N±0.04×142.91E±0.05, h27km±3km, mb4.7/114, Error ellipse: s-maj=6.2km s-min=4.8km az=143.0*
*BGR **09** 18:45:00.9±0.0,41.56N×141.06E, h33km, mb4.8*
ISC 09 18:44:53.1±0.5, **41.00N**±0.04×**142.97E**±0.04, **h40km**±4km, **h40**km:**pP-P, n431**, σ1§**65**/465, **mb4.6**/122, **MS3.8**/22, **62C-34D, Fault plane solution: NP1:**φs138.16744°, δ36.73209°, λ-2.02606°. **NP2:**φs229.79144°, δ88.78843°, λ-126.71492°. **Principal axes:** T Plg33.4874°, Azm350.2469°; N Plg36.7054°, Azm230.6949°; P Plg35.5671°, Azm108.4801°; **Fault plane solution: NP1:**φs127.57179°, δ47.94856°, λ40.39916°. **NP2:** φs7.88754°, δ61.23298°, λ130.17304°. **Principal axes:** T Plg54.4800°, Azm329.6207°; N Plg34.4358°, Azm165.7757°; P Plg7.6617°, Azm70.4835°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.02**	**8**	P			**Pn**	**18 45 11.4**	**+0.4**
ERM								18 45 24.5	
ERM	**Erimo**	**1.02**	**8**				**Pn**	**18 45 11.4**	**+0.4**
ERM				Sn			Sn	18 45 24.5	+0.3
JEM	**Erimo**	**1.02**	**8**	P			**Pn**	**18 45 11.2**	**+0.2**
JEM				S			**Sn**	**18 45 25.4**	**+1.2**
JEM	**Erimo**	**1.02**	**8**	Pn			Pn	**18 45 11.4**	**+0.4**
JARK	**Aomorirokkasho**	**1.22**	**271**	⇓P			**Pn**	**18 45 12.2**	**-1.4**
JKEN	**Kujiedanarisaw**	**1

MJAR LR LR 18 48 52.7
comp=E,488nm,19.7s,baz=35,slow=42
MJAR Matsushiro Arr 5.80 221 P **Pn** **18 46 18.2 +1.5**
MJAR Matsushiro Arr 5.80 221 Pn **Pn** **18 46 18.1 +1.5**
MJB9 Matsu-Tunnel 5.80 221 Pn **Pn** **18 46 16.6 -0.1**
YSS Yuzh-Sakhalins 5.96 359 *e*P **Pn** **18 46 20.0 +1.3**
YSS *e*S **Sn** **18 47 22.9 -2.7**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax smax
comp=N,50nm,1.1s
YSS MLR MLR
comp=Z,600nm,13.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS Yuzh-Sakhalins 5.96 359 Pn **Pn** **18 46 19.8 +1.1**
TEY Ternei 6.17 313 *e*P **Pn** **18 46 24.8 +3.2**
JGF Kuroka 6.97 221 **Pn** **18 46 34.1 +1.5**
INU Inuyama 7.33 222 Pn **Pn** **18 46 40.0 +2.4**
JSG Sagara 7.36 212 Pn **Pn** **18 46 40.9 +2.9**
JWT Wachi 8.25 229 Pn **Pn** **18 46 51.7 +1.4**
JHJ2 Mitsune 8.27 199 Pn **Pn** **18 46 49.9 -0.5**
JHJ Hachijo jima 2 8.27 199 Pn **Pn** **18 46 49.9 -0.6**
comp=N,9.3nm,0.3s,baz=45,slow=20,SNR=1.7
JHJ Sn **Sn** **18 48 15.0 -7.5**
comp=N,1.9nm,0.3s,baz=239,slow=22,SNR=2.1
VLA Vladivostok 8.52 288 *i*P **Pn** **18 46 55.7 +1.9**
USA0B Ussuriysk Arra 8.71 295 P **Pn** **18 46 57.9 +1.5**
USA0B Ussuriysk Arra 8.71 295 Pn **Pn** **18 46 57.9 +1.5**
USRK Ussuriysk Ar. 8.71 295 Pn **Pn** **18 46 58.2 +1.7**
baz=105,slow=11,SNR=41
USRK LR LR 18 50 23.5
comp=N,418nm,18.4s,baz=102,slow=39
USRK Ussuriysk Ar. 8.71 295 P **Pn** **18 46 57.7 +1.2**
USRK Ussuriysk Ar. 8.71 295 Pn **Pn** **18 46 57.7 +1.2**
MSHR Mys Shultsa 8.97 284*ce*P **Pn** **18 47 00.6 +0.6**
MSHR pmax pmax
comp=Z,19nm,1.0s
JHS Saijyo 9.81 236 Pn **Pn** **18 47 12.8 +1.1**
TYV Tymovskoe 9.87 359 *e*P **Pn** **18 47 14.0 +1.7**
TYV *e*S **Sn** **18 49 05.1 +3.4**
TYV pmax pmax
comp=Z,16nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.9s
TYV smax smax
comp=N,6.0nm,1.0s
JMN Monobe 10.24 228 Pn **Pn** **18 47 19.7 +2.1**
MDJ Mudanjiang 10.47 295 P **Pn** **18 47 24.8 +4.2**
MDJ sP 18 47 34.5
MDJ S **Sn** **18 49 16.8 +0.2**
MDJ pmax pmax
comp=N,40nm,1.0s
MDJ L L
comp=N,220nm,18.5s
MDJ L L
comp=N,430nm,18.5s
MDJ L L
comp=N,560nm,17.1s
MDJ Mudanjiang 10.47 295 Pn **Pn** **18 47 22.2 +1.6**
GRNR Gornyy 10.78 337⇑ *i*P **Pn** **18 47 25.0 +0.2**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
GRNR MLR MLR
comp=E,140nm,17.0s
GRNR MLR MLR
comp=N,190nm,16.0s
GRNR MLR MLR
comp=Z,220nm,12.0s
KLR Kul'dur 11.42 320 Pn **Pn** **18 47 34.6 +1.1**
comp=Z,0.2nm,0.3s,baz=122,slow=13,SNR=8.3
KLR LR LR 18 52 05.2
comp=Z,213nm,19.6s,baz=136,slow=39
KLR Kul'dur 11.42 320*ce*P **Pn** **18 47 34.1 +0.6**
KSRS Korea Array 12.20 258 Pn **Pn** **18 47 47.4 +3.2**
comp=Z,0.9nm,0.3s,baz=67,slow=14,SNR=19
KSRS Sn **Sn** **18 50 07.1 +8.4**
comp=Z,0.5nm,0.3s,baz=66,slow=24,SNR=6.3
KS19 Wonju Array Si 12.22 258 **Pn** **18 47 41.7 -2.8**
KSAR Wonju Array Be 12.23 258 P **Pn** **18 47 44.3 -0.4**
KSAR Wonju Array Be 12.23 258 **Pn** **18 47 44.3 -0.4**
JNU Nakatsue 12.45 235 Pn **Pn** **18 47 47.5 -0.2**
TJN Taejon 13.04 254 *i*P **P** **18 48 00.6 -4.7**
SKR Severo-Kuril's 13.31 39 *e*P **Pn** **18 48 02.1 +2.8**
SKR *e*S **Sn** **18 50 24.3 -1.5**
SKR pmax pmax
comp=Z,100nm,3.2s
SKR MLR MLR
comp=Z,200nm,15.0s
SKR MLR MLR
comp=Z,200nm,14.0s
JCJ Chichijima 13.88 183 Pn Pn 18 48 01.1 -6.2
comp=Z,2.6nm,0.3s,baz=276,slow=18,SNR=1.5
JCJ Chichijima 13.88 183 Pn Pn 18 48 00.5 -6.8
PEA0B Petropavlovsk- 15.69 35 P **Pn** **18 48 26.7 -4.4**
PEA0B pmax pmax
comp=Z,30nm,1.6s
PEA0B Petropavlovsk- 15.69 35 Pn **Pn** **18 48 26.7 -4.4**
PETK Petropavlovsk- 15.69 35 Pn **Pn** **18 48 26.8 -4.3**
comp=Z,0.1nm,0.3s,baz=205,slow=6.6,SNR=5.4
PETK LR LR 18 55 04.4
comp=Z,166nm,18.8s,baz=223,slow=39
ZEA Zeya 16.56 326 *e*P **Pn** **18 48 39.9 -2.2**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,100nm,19.0s
HIA Hailar 18.30 305 P **P** **18 49 00.8 -2.8**
HIA pmax pmax
comp=Z,13nm,1.1s
HIA Hailar 18.30 305 **P** **18 49 00.8 -2.8**
MA2 Magadan 19.23 12 P **P** **18 49 11.6 -2.0**
comp=Z,1.0nm,0.3s,baz=231,slow=8.1,SNR=7.5
MA2 LR LR 18 57 36.5
comp=Z,94nm,18.1s,baz=166,slow=40
MA2 Magadan 19.23 12 P **P** **18 49 11.6 -2.0**
BJT Baijiatuau 20.38 276 P **P** **18 49 23.4 -2.9**
BJT pmax pmax
comp=Z,6.0nm,0.8s
BJT Baijiatuau 20.38 276 P **P** **18 49 23.4 -2.9**
TIA Tai'an 20.73 265 P **P** **18 49 29.4 -0.7**
TIA pmax pmax
comp=Z,13nm,0.9s
TIA L L
comp=Z,120nm,6.1s
TIA L L
comp=Z,110nm,12.8s
NJ2 Nanjing 21.29 253⇓ *i*P **P** **18 49 36.6 +0.5**
NJ2 pP **pP** **18 49 42.0 -3.8**
NJ2 S **S** **18 53 33.9 +3.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,100nm,3.5s
NJ2 L L
comp=Z,320nm,17.6s
NJ2 L L
comp=Z,310nm,16.2s
NJ2 L L
comp=Z,260nm,16.7s
YAK Yakutsk 22.54 344 P **P** **18 49 45.7 -3.6**
comp=Z,15nm,0.6s,baz=353,slow=1.5,SNR=22
YAK LR LR 18 58 50.6
comp=Z,148nm,21.3s,baz=98,slow=38
YAK Yakutsk 22.54 344 *e*P **P** **18 49 45.2 -4.1**
YAK *e**PP **pP** **18 49 53.9 -5.0**
YAK *e*S **S** **18 53 47.4 -6.1**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax smax
comp=E,47nm,3.2s
YAK smax smax
comp=N,28nm,1.6s
YAK Yakutsk 22.54 344 P **P** **18 49 45.1 -4.2**
YAK IAmb IAmb 18 49 47.5
comp=Z,28nm,0.7s
SEY Seymchan 22.67 11 P **P** **18 49 48.0 -2.7**
comp=Z,11nm,0.6s,baz=179,slow=7.5,SNR=35
HHC Hu-ho-hao-te 23.67 280 *e*P **P** **18 50 01.1 +0.1**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,73nm,6.7s
HHC L L
comp=Z,77nm,13.6s
HHC L L
comp=Z,190nm,13.6s
HHC L L
comp=Z,250nm,13.6s
YHNB Yeheng 24.28 235 P **P** **18 50 04.6 -2.1**
YHNB IAmb IAmb 18 50 22.8
comp=Z,20nm,0.9s
SSLB Suanglung 25.19 234 P **P** **18 50 14.1 -0.8**
YULB Yu-li 25.28 233 P **P** **18 50 14.7 -1.0**
TPUB Ta-pu 25.75 234 P **P** **18 50 18.1 -2.0**
TPUB IAmb IAmb 18 50 34.2
comp=Z,32nm,1.6s
ULN Ulaanbaatar 26.37 297*ce*P **P** **18 50 24.8 -0.9**
ULN pmax pmax
comp=Z,16nm,1.3s
ULN Ulaanbaatar 26.37 297 P **P** **18 50 24.7 -0.9**
ULN IAmb IAmb 18 50 27.3
comp=Z,8.4nm,0.6s
SONM Songino Array 26.82 297 P **P** **18 50 30.1 +0.6**
comp=Z,6.2nm,0.5s,baz=80,slow=8.7,SNR=29
SONM LR LR 19 01 42.1
comp=Z,188nm,19.8s,baz=83,slow=38
SONM Songino Array 26.82 297 P **P** **18 50 28.7 -0.9**
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 26.82 297 P **P** **18 50 28.7 -0.9**
XAN Xi'an 27.76 267 P **P** **18 50 38.3 +0.2**
XAN pP pP 18 50 41.9 -6.7
XAN pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 28.84 305 LR LR 19 02 56.6
comp=Z,126nm,20.3s,baz=94,slow=38
TLY Talaya 28.84 305 *i*P **P** **18 50 48.3 +0.8**
TLY pmax pmax
comp=Z,8.0nm,0.9s
ZAK Zakamensk 28.96 302 *e*P **P** **18 50 48.3 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ENH Enshi 29.08 259 P **P** **18 50 49.1 -0.8**
H11N2 WAKE ISLAND Hy 29.42 129 T T 19 22 28.9
baz=323,slow=75,SNR=427
H11N1 WAKE ISLAND Hy 29.43 129 T T 19 22 23.0
baz=323,slow=75,SNR=298
H11N3 WAKE ISLAND Hy 29.43 129 T T 19 22 29.4
baz=323,slow=75,SNR=369
BILL Bilibino 29.89 17*ce*P **P** **18 50 55.9 -0.6**
BILL *e* 18 51 55.2
BILL pmax pmax
comp=Z,9.0nm,0.7s
BILL MLR MLR
comp=Z,71nm,20.0s
BILL Bilibino 29.89 17 P **P** **18 50 56.0 -0.6**
BILL IAmb IAmb 18 50 58.6
comp=Z,14nm,1.1s
GSTR Great Sitkin T 29.90 54 P **P** **18 50 55.7 -1.2**
H11S1 WAKE ISLAND Hy 30.26 131 T T 19 23 35.3
baz=324,slow=76,SNR=338
H11S3 WAKE ISLAND Hy 30.27 131 T T 19 23 35.9
baz=324,slow=76,SNR=195
H11S2 WAKE ISLAND Hy 30.28 131 T T 19 23 31.3
baz=324,slow=76,SNR=185
TIXI Tiksi 31.53 352 P **P** **18 51 08.2 -2.8**
comp=Z,0.6nm,0.4s,baz=351,slow=2.9,SNR=3.2
TIXI LR LR 19 05 13.3
comp=Z,64nm,20.9s,baz=156,slow=39
TIXI Tiksi 31.53 352 P **P** **18 51 10.3 -0.6**
GTA Gaotai 32.76 282 *e*P **P** **18 51 22.2 -0.1**
GTA pP pP 18 51 29.9 -2.9
GTA sP pwP 18 51 34.1 -1.0
GTA PcP **PcP** **18 54 07.1 +0.2**
GTA pmax pmax
comp=Z,1.0nm,1.0s
GTA pmax pmax
comp=Z,47nm,5.8s
GTA L L
comp=Z,89nm,16.0s
GTA L L
comp=Z,180nm,18.2s
GTA L L
comp=Z,190nm,17.8s
CD2 Chengdu 33.06 265 P **P** **18 51 24.3 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
GYA Guiyang 33.24 256 P **P** **18 51 26.3 -0.3**
GYA pmax pmax
comp=Z,3.0nm,0.8s
DGZ Jazzator, Alta 39.19 302*c i*P **P** **18 52 17.4 +0.2**
DGZ pmax pmax
comp=Z,10.0nm,0.6s
NRIK Noril'sk 40.23 333 P **P** **18 52 24.6 -0.8**
comp=Z,4.0nm,0.5s,baz=100,slow=8.3,SNR=4.7
NRIK LR LR 19 10 34.6
comp=Z,212nm,19.3s,baz=126,slow=38
NRIK Noril'sk 40.23 333 *i*P **P** **18 52 24.3 -1.1**
NRIK pmax pmax
comp=Z,12nm,1.4s
NRIK Noril'sk 40.23 333 P **P** **18 52 24.7 -0.7**
NRIK IAmb IAmb 18 52 26.1
comp=Z,16nm,1.4s
ZAA0 Zalesovo Array 40.25 309 P **P** **18 52 24.8 -1.0**
ZAA0 IAmb IAmb 18 52 30.3
comp=Z,9.6nm,0.8s
ZAA0 PcP **PcP** **18 54 29.5 +0.6**
ZALV Zalesovo Beam 40.25 309 P **P** **18 52 25.9 +0.1**
comp=Z,7.0nm,0.5s,baz=86,slow=8.3,SNR=24
ZALV PcP **PcP** **18 54 29.8 +0.9**
comp=Z,1.8nm,0.4s,baz=103,slow=3.8,SNR=6.2
ZALV LR LR 19 10 06.8
comp=Z,143nm,18.8s,baz=92,slow=38
ZALV Zalesovo Beam 40.25 309 P **P** **18 52 25.0 -0.7**
ZALV **PcP** **18 54 28.6 -0.3**
WMQ Urumqi 40.27 293 *e*P **P** **18 52 26.6 +0.4**
WMQ pP pP 18 52 33.8 -3.1
WMQ sP sP 18 52 41.6 +0.1
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.3s
ZSN Zaisan 41.29 299 *e*P **P** **18 52 33.7 -0.8**
baz=299
ZSN Zaisan 41.29 299 *e*P **P** **18 52 33.6 -0.8**
A21K Barrow 42.34 25 P **P** **18 52 43.1 +0.4**
A21K IAmb IAmb 18 52 57.7
comp=Z,10.0nm,0.7s
IMAR Indian Mountai 42.64 33 P **P** **18 52 46.9 +1.7**
SIJI Sorong 43.01 197 LR LR 19 07 18.3
comp=Z,52nm,21.9s,baz=37,slow=31
RSO Redoubt South 43.08 41 P **P** **18 52 49.1 +0.1**
MK31 Makanchi Array 43.16 299 P **P** **18 52 49.1 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 43.16 299 P **P** **18 52 49.0 -0.6**
MKAR Makanchi Array 43.16 299 P **P** **18 52 49.6 -0.1**
comp=Z,2.8nm,0.5s,baz=84,slow=11,SNR=43
MKAR PcP **PcP** **18 54 39.2 +0.6**
comp=Z,1.1nm,0.6s,baz=48,slow=0.7,SNR=4.3
MKAR LR LR 19 11 57.9
comp=Z,115nm,19.3s,baz=72,slow=38
MKAR Makanchi Array 43.16 299 P **P** **18 52 48.8 -0.9**
LSA Lhasa 43.18 272 P **P** **18 52 49.6 -1.0**
LSA pmax pmax
comp=Z,13nm,1.2s
LSA Lhasa 43.18 272 P **P** **18 52 49.6 -1.0**
LSA IAmb IAmb 18 53 06.9
comp=Z,12nm,1.2s
MAKZ Makanchi 43.36 299 P **P** **18 52 50.7 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 43.36 299 P **P** **18 52 50.7 -0.6**
MAKZ IAmb IAmb 18 52 56.0
comp=Z,8.1nm,0.7s
KDAK Kodiak Island 43.38 45 P **P** **18 52 52.7 +1.4**
comp=Z,8.2nm,0.7s,baz=286,slow=2.9,SNR=7.2
KDAK Kodiak Island 43.38 45 IAmb IAmb 18 52 59.7
comp=Z,50nm,1.4s
CHTO Chiang Mai 43.53 253 P **P** **18 52 53.3 +0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CHTO Chiang Mai 43.53 253 P **P** **18 52 53.3 +0.3**
CHTO IAmb IAmb 18 52 54.5
comp=Z,6.2nm,0.6s
SEM Semipalatinsk 43.60 304 *e*P **P** **18 52 50.1 -3.3**
baz=304
SEM Semipalatinsk 43.60 304 *e*P **P** **18 52 50.9 -2.5**
HOM Homer 43.69 42 P **P** **18 52 55.2 +1.4**
CM31 Chiang Mai Arr 43.76 253 P **P** **18 52 54.4 -0.4**
CMAR Chiang Mai Arr 43.76 253 P **P** **18 52 55.9 +1.0**
comp=Z,1.8nm,0.6s,baz=44,slow=7.9,SNR=20
CMAR LR LR 19 12 13.4
comp=Z,48nm,19.1s,baz=60,slow=38
CMAR Chiang Mai Arr 43.76 253 P **P** **18 52 54.8 0.0**
BPAW Bear Paw Mtn. 43.77 35 P **P** **18 52 56.2 +1.8**
BPAW IAmb IAmb 18 53 10.3
comp=Z,15nm,1.3s
KTH Kantishna Hill 43.81 36 P **P** **18 52 56.0 +1.2**
CAPN Captain Cook N 43.84 40 P **P** **18 52 57.5 +2.6**
MLY Manley 43.87 34 P **P** **18 52 57.1 +1.9**
TRF Thorofare Moun 44.10 36 P **P** **18 52 58.4 +1.2**
TRF IAmb IAmb 18 53 28.5
comp=Z,23nm,1.6s
COLD Coldfoot 44.12 31 P **P** **18 52 57.5 +0.5**
TOLK Toolik Lake Re 44.41 29 P **P** **18 53 01.8 +2.3**
I23K Minto, Yukon-K 44.45 34 P **P** **18 53 01.2 +1.5**
I23K IAmb IAmb 18 53 18.6
comp=Z,11nm,1.2s
NEA2 Nenana 44.59 35 P **P** **18 53 02.8 +1.8**
NEA2 IAmb IAmb 18 53 18.3
comp=Z,11nm,1.0s
GHO Glory Hole Cre 44.83 39 P **P** **18 53 04.2 +1.2**
MDM Murphy Dome 44.94 34 P **P** **18 53 05.8 +2.1**
MDM IAmb IAmb 18 53 21.0
comp=Z,9.0nm,1.0s
COLA College 45.10 34 *i*P **P** **18 53 05.7 +0.8**
COLA pmax pmax
comp=Z,20nm,2.6s
SML Sawmill 45.11 39 P **P** **18 53 07.1 +1.9**
SML IAmb IAmb 18 53 12.6
comp=Z,13nm,1.0s
CCB Clear Creek Bu 45.13 35 P **P** **18 53 06.9 +1.7**
CCB IAmb IAmb 18 53 24.5
comp=Z,11nm,1.6s
PWL Port Wells 45.21 40 P **P** **18 53 07.2 +1.3**
POKR Poker Plat Res 45.27 34 P **P** **18 53 07.0 +0.7**
POKR IAmb IAmb 18 53 23.1
comp=Z,9.8nm,0.8s
HDA Harding Lake 45.52 35 P **P** **18 53 09.6 +1.3**
HDA IAmb IAmb 18 53 18.0
comp=Z,15nm,1.6s
IL31 45.52 34 P **P** **18 53 09.0 +0.8**
IL31 IAmb IAmb 18 53 24.0
comp=Z,5.6nm,0.8s
ILAR Eielson Array 45.52 34 P **P** **18 53 09.8 +1.5**
comp=Z,2.9nm,0.8s,baz=263,slow=6.0,SNR=22
ILAR Eielson Array 45.52 34 P **P** **18 53 08.6 +0.3**
SCM Sheep Creek Mo 45.58 39 P **P** **18 53 10.0 +1.1**
SCM pmax pmax
comp=Z,42nm,1.3s
SCM Sheep Creek Mo 45.58 39 P **P** **18 53 10.0 +1.1**
FYU Fort Yukon 46.09 32 P **P** **18 53 14.7 +2.0**
PDGK Podgornoye 46.10 295 P **P** **18 53 12.8 -0.5**
SHLS Shalkode 46.17 295 *e*P **P** **18 53 10.1 -3.8**
baz=294
SHLS Shalkode 46.17 295 *e*P **P** **18 53 10.1 -3.8**
TDK Taldyqorghan 46.27 298 *e*P **P** **18 53 13.4 -1.1**
baz=297
TDK Taldyqorghan 46.27 298 *e*P **P** **18 53 13.4 -1.1**
KLU Klutina 46.29 39 P **P** **18 53 15.8 +1.3**
BMAR Burnt Mountain 46.29 31 P **P** **18 53 16.6 +2.2**
UZB Uzynbulak 46.48 295 *e*P **P** **18 53 14.5 -1.8**
baz=295
UZB Uzynbulak 46.48 295 *e*P **P** **18 53 14.5 -1.8**
KPKS Kokpek 46.60 295 *e*P **P** **18 53 16.0 -1.2**
baz=295
KPKS Kokpek 46.60 295 *e*P **P** **18 53 16.0 -1.2**
SCRK Sand Creek 46.85 35 P **P** **18 53 19.8 +0.9**
SCRK IAmb IAmb 18 53 21.0
comp=Z,7.3nm,0.9s
DOT Dot Lake 46.86 36 P **P** **18 53 19.7 +0.8**
DOT IAmb IAmb 18 53 25.0
comp=Z,5.6nm,1.0s
SATY Saty 46.93 295 *e*P **P** **18 53 18.2 -1.7**
baz=295
SATY Saty 46.93 295 *e*P **P** **18 53 18.2 -1.7**
GLB Gilahina Butte 47.30 39 P **P** **18 53 23.6 +1.2**
GLB IAmb IAmb 18 53 54.2
comp=Z,7.9nm,1.2s
CHKK Chushkaly 47.62 297 *e*P **P** **18 53 23.6 -1.5**
baz=296
CHKK Chushkaly 47.62 297 *e*P **P** **18 53 23.6 -1.5**
K27K Chicken 47.68 35 P **P** **18 53 26.9 +1.7**
K27K IAmb IAmb 18 53 41.2
comp=Z,5.9nm,0.9s
MDOK Medeo 47.83 296 *e*P **P** **18 53 26.2 -0.6**
baz=296
MDOK Medeo 47.83 296 *e*P **P** **18 53 26.1 -0.7**
L27K Beaver Creek, 47.94 36 P **P** **18 53 29.6 +2.3**
L27K IAmb IAmb 18 53 43.7
comp=Z,6.3nm,0.9s
BCAR Beaver Creek A 47.96 36 P **P** **18 53 30.1 +2.6**
KUU Kurty 48.04 297 *e*P **P** **18 53 26.1 -2.2**
baz=297
KUU Kurty 48.04 297 *e*P **P** **18 53 26.1 -2.2**
MTBS Maitube 48.26 296 *e*P **P** **18 53 29.0 -1.2**
baz=296
MTBS Maitube 48.26 296 *e*P **P** **18 53 28.9 -1.2**
BARN Barnard Glacie 48.39 39 P **P** **18 53 33.4 +2.4**
BARN IAmb IAmb 18 54 12.5
comp=Z,11nm,1.1s
BRZS Berezniki 48.40 306 *e*P **P** **18 53 29.9 -1.1**
baz=306
BRZS Berezniki 48.40 306 *e*P **P** **18 53 29.8 -1.2**
GRNC Granite Creek 48.41 39 P **P** **18 53 32.2 +2.0**
CTGM Chitina Glacie 48.57 39 P **P** **18 53 33.1 +0.9**
BOOM Boomskoye usch 48.83 295 P **P** **18 53 34.8 +0.2**
BOOM IAmb IAmb 18 54 01.2
comp=Z,9.3nm,0.9s
BOOM PcP **PcP** **18 54 59.9 +1.1**
BVAR Borovoye Array 48.88 310 P **P** **18 53 34.0 -0.6**
comp=Z,2.4nm,0.4s,baz=130,slow=7.3,SNR=37
BVAR Borovoye Array 48.88 310 P **P** **18 53 34.0 -0.6**
TKM2 Tokmak 2 48.90 296 P **P** **18 53 35.0 -0.2**
BRVK Borovoye 48.93 310 P **P** **18 53 34.4 -0.6**
BRVK pmax pmax
comp=Z,17nm,1.5s
BRVK Borovoye 48.93 310 P **P** **18 53 34.4 -0.6**
BTLS Baital 49.17 299 *e*P **P** **18 53 35.5 -1.4**
baz=299
BTLS Baital 49.17 299 *e*P **P** **18 53 35.5 -1.4**
SGDS Sogindy 49.36 297 *e*P **P** **18 53 37.0 -1.6**
baz=297
SGDS Sogindy 49.36 297 *e*P **P** **18 53 36.9 -1.6**
EPYK Eagle Plains 49.50 32 P **P** **18 53 40.2 +1.0**
AAK Ala-Archa 49.76 296*ce*P **P** **18 53 41.4 -0.3**
AAK pmax pmax
comp=Z,9.0nm,0.5s
AAK Ala-Archa 49.76 296 P **P** **18 53 42.4 +0.7**
INK Inuvik 50.32 29 P **P** **18 53 47.3 +2.0**
comp=Z,5.8nm,0.5s,baz=297,slow=6.8,SNR=24
INK LR LR 19 17 19.2
comp=Z,89nm,18.8s,baz=273,slow=39
INK Inuvik 50.32 29 P **P** **18 53 47.1 +1.8**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 50.32 29 P **P** **18 53 47.1 +1.8**
INK IAmb IAmb 18 54 01.7
comp=Z,9.0nm,0.8s
HYT Haines Junctio 50.42 39 P **P** **18 53 49.2 +2.8**
KAPI Kappang 50.49 211 P **P** **18 53 47.5 +0.3**
KAPI pmax pmax
comp=Z,18nm,1.3s
KAPI Kappang 50.49 211 P **P** **18 53 47.5 +0.3**
ARSB Arslanbob 51.32 295 P **P** **18 53 53.3 -0.1**
ARSB pmax pmax
comp=Z,11nm,0.8s
ARSB Arslanbob 51.32 295 P **P** **18 53 53.3 -0.1**
ARSB IAmb IAmb 18 54 09.8
comp=Z,11nm,0.8s
WHY Whitehorse 51.70 38 P **P** **18 53 57.4 +1.4**
DZA Taraz 51.80 297 *e*P **P** **18 53 55.5 -1.5**
baz=297
DZA Taraz 51.80 297 *e*P **P** **18 53 55.4 -1.5**
KK31 Karatay Array 52.26 298 P **P** **18 53 59.4 -0.9**
KK31 pmax pmax
comp=Z,4.0nm,0.7s

KK31 Karatay Array 52.26 298 P **P** **18 53 59.4 -0.9**
KKAR Karatay Array 52.26 298 P **P** **18 53 59.7 -0.6**
KKAR 18 55 11.1
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 52.26 298 P **P** **18 53 59.7 -0.6**
KKAR Karatay Array 52.26 298 P **P** **18 53 59.4 -0.9**
KKAR PcP **PcP** **18 55 11.1 -0.1**
HNR Honiara 52.56 159 LR LR 19 13 40.4
comp=Z,62nm,21.0s,baz=42,slow=33
SVE Sverdlovsk 53.03 317 *eP* P 18 54 12.3 +6.6
SVE pmax pmax
comp=Z,13nm,0.8s
C36M Paulatuk 53.33 26 P **P** **18 54 09.4 +1.7**
C36M PcP **PcP** **18 55 15.4 +0.7**
BTK Batken 53.35 294 P **P** **18 54 09.2 +0.8**
BTK pmax pmax
comp=Z,3.0nm,0.7s
BTK Batken 53.35 294 P **P** **18 54 09.2 +0.8**
GAR Garm 54.17 293 P **P** **18 54 15.1 +0.6**
GAR IAmb IAmb 18 54 47.8
comp=Z,5.5nm,0.6s
ARU Arti 54.24 317 *d iP* **P** **18 54 14.4 -0.2**
ARU 18 55 16.3
ARU 18 56 15.0
ARU S **S** **19 01 50.9 +2.0**
ARU SS **SS** **19 05 27.1 -3.4**
ARU pmax pmax
comp=Z,9.0nm,1.4s
ARU MLR MLR
comp=Z,159nm,16.0s
ARU Arti 54.24 317 P **P** **18 54 14.9 +0.3**
ARU IAmb IAmb 18 54 23.9
comp=Z,14nm,1.3s
CHGR Chuyangaron 55.13 294 P **P** **18 54 22.0 +0.6**
EUNU Eureka 56.09 9 P **P** **18 54 28.6 +0.9**
EUNU PcP **PcP** **18 55 29.4 +4.1**
AB31 Akbulak array 56.37 309 *i* P **P** **18 54 30.0 0.0**
ABKAR Akbulak array 56.37 309 P **P** **18 54 29.9 0.0**
ABKAR Akbulak array 56.37 309 P **P** **18 54 29.4 -0.6**
ABKAR IAmb IAmb 18 54 40.0
comp=Z,6.4nm,0.7s
HLP Hilina Pali 56.40 93 P **P** **18 54 32.4 +1.7**
GSI Gunungsitoli 56.90 238 P **P** **18 54 35.4 +1.2**
AKTO Aktyubinsk 56.98 311 P **P** **18 54 34.2 -0.1**
NOR Nord 57.17 357 *i* P **P** **18 54 35.4 +0.1**
NOR IAmb IAmb 18 54 36.0
comp=Z,3.0nm,0.7s
KIRV Kirov 57.85 322 *i* P **P** **18 54 39.8 -0.5**
PRGR Permogore 58.13 326 *eP* **P** **18 54 40.0 -2.2**
RES Resolute Bay 58.46 15 P **P** **18 54 44.6 +0.2**
comp=Z,4.9nm,0.5s,baz=304,slow=5.4,SNR=7.7
RES Resolute Bay 58.46 15 P **P** **18 54 45.3 +1.0**
RES pmax pmax
comp=Z,9.0nm,1.1s
RES Resolute Bay 58.46 15 P **P** **18 54 45.3 +1.0**
RES IAmb IAmb 18 54 45.9
comp=Z,9.4nm,1.1s
YKA Yellowknife Ar 59.79 32 P **P** **18 54 54.8 +1.1**
comp=Z,0.9nm,0.6s,baz=301,slow=6.8,SNR=6.1
KEV Kevo 60.18 339 P **P** **18 54 56.7 +0.4**
KEV pmax pmax
comp=Z,48nm,1.3s
KEV Kevo 60.18 339 P **P** **18 54 56.7 +0.4**
ARCES ARCESS Array B 60.73 339 P **P** **18 55 00.3 +0.2**
comp=Z,1.4nm,0.5s,baz=49,slow=7.9,SNR=17
ARCES ARCESS Array B 60.73 339 P **P** **18 55 00.4 +0.4**
ARCES pmax pmax
comp=Z,18nm,1.4s
ARCES ARCESS Array B 60.73 339 P **P** **18 55 00.4 +0.4**
TULEG Thule 61.01 8 P **P** **18 55 02.3 +0.4**
KLMR Klimovskoe 61.08 327 *eP* **P** **18 54 59.0 -3.5**
KLMR pmax pmax
comp=Z,31nm,2.1s
KLMR Klimovskoe 61.08 327 *eP* **P** **18 54 59.1 -3.5**
KLMR AMP 18 55 02.2
comp=Z,31nm,2.1s
WRA Warramunga Arr 61.16 189 P **P** **18 55 03.8 +0.3**
comp=Z,2.3nm,0.5s,baz=7.4,slow=6.8,SNR=25
NEEM North Greenlan 61.51 3 *i* P **P** **18 55 05.6 0.0**
NEEM IAmb IAmb 18 55 06.5
comp=Z,7.1nm,0.8s
DAG Danmarks Havn 61.93 355 ⇑*i* P **P** **18 55 08.4 +0.3**
DAG IAmb IAmb 18 55 09.1
comp=Z,6.1nm,0.8s
DAG Danmarks Havn 61.93 355 ⇑*i* P **P** **18 55 08.4 +0.3**
DAG pmax pmax
comp=Z,6.0nm,0.8s
GEYT Alibeck 63.02 298 P **P** **18 55 15.3 -0.7**
comp=Z,1.4nm,0.3s,baz=264,slow=1.3,SNR=5.6
AS31 Alice Springs 64.88 189 P **P** **18 55 28.8 +0.6**
ASAR Alice Springs 64.88 189 P **P** **18 55 29.1 +0.9**
comp=Z,1.8nm,0.6s,baz=360,slow=5.6,SNR=26
SUF Sumiainen 65.00 333 P **P** **18 55 29.0 +0.5**
SUF pmax pmax
comp=Z,26nm,0.9s
VRH Novokhoyorsk 65.47 317 *eP* **P** **18 55 31.3 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 65.66 323 ⇑*eP* **P** **18 55 31.9 -1.0**
OBN *e* 18 56 09.1
OBN *e* 18 57 56.7
OBN *eS* S 19 04 41.8 +26
OBN pmax pmax
comp=Z,33nm,2.5s
OBN MLR MLR
comp=Z,63nm,16.0s
FIA1 FINESS Array S 65.88 332 P **P** **18 55 34.5 +0.3**
FINES FINESS Array B 65.88 332 P **P** **18 55 34.3 +0.1**
comp=Z,19nm,0.5s,baz=48,slow=7.3,SNR=139
LPSR Galich'ya Gora 66.05 320 *eP* **P** **18 55 34.5 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 66.72 0 *i* P **P** **18 55 41.0 +1.1**
SUMG IAmb IAmb 18 55 42.1
comp=Z,15nm,0.7s
SUMG Summit 66.72 0 P **P** **18 55 41.1 +1.1**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 66.72 0 P **P** **18 55 41.1 +1.1**
VSR Storozhevoye 66.77 318 *eP* **P** **18 55 39.4 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.5s
PINE Pine Mountain 66.89 52 P **P** **18 55 43.4 +2.1**
MEF Metsahovi 67.32 332 *eP* **P** **18 55 42.8 -0.6**
VSU Vasula 67.66 329 *eP* **P** **18 55 45.0 -0.6**
VSU Vasula 67.66 329 *c iP* **P** **18 55 46.4 +0.8**
VSU pmax pmax
comp=Z,50nm,0.9s
RAF Rauma 67.68 333 *eP* **P** **18 55 45.0 -0.6**
AAL Aland 68.89 333 *eP* **P** **18 55 53.1 -0.1**
NCK Nalchik 68.99 310 *i* P **P** **18 55 55.4 +1.1**
NCK pmax pmax
comp=Z,6.0nm,0.8s
ZEI Tsey 69.24 309 *eP* **P** **18 55 55.8 -0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.5s
KIV Kislovodsk 69.24 311 ⇓P **P** **18 55 57.5 +1.6**
KIV Kislovodsk 69.24 311 *eP* **P** **18 55 56.4 +0.5**
KIV pmax pmax
comp=Z,61nm,1.0s
KIV Kislovodsk 69.24 311 P **P** **18 55 56.3 +0.5**
KBZ Khabaz 69.26 310 P **P** **18 55 57.2 +1.4**
comp=Z,5.9nm,0.7s,baz=52,slow=3.7,SNR=14
KBZ Khabaz 69.26 310 *ceP* **P** **18 55 57.5 +1.7**
SHA1 Shidzhatmaz 69.39 310 *i* P **P** **18 55 56.9 -0.1**
ONI Oni 69.62 309 P **P** **18 55 58.0 -0.2**
ONI pmax pmax
comp=Z,5.0nm,0.9s
ONI Oni 69.62 309 P **P** **18 55 58.0 -0.2**
ONI IAmb IAmb 18 56 01.6
comp=Z,4.6nm,0.9s
FFC Flin Flon 69.73 34 P **P** **18 55 59.3 +0.7**
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 69.73 34 P **P** **18 55 59.3 +0.7**
FFC IAmb IAmb 18 56 00.6
comp=Z,4.7nm,0.8s
IDID Didziasalis 69.82 327 *eP* **P** **18 55 59.6 +0.5**
ISAL Salakas 69.89 327 *eP* **P** **18 56 00.9 +1.3**
MNK Minsk 69.90 326 *i* P **P** **18 56 00.9 +1.3**
MNK *i* *PP **sP** **18 56 15.1 -0.2**
MNK *i* 18 56 23.1
MNK *i* 18 58 35.4
MNK *i* PPP PPP 19 00 17.2
MNK *i* S **S** **19 05 05.8 -0.5**
MNK *i* *SS **sS** **19 05 31.1 +5.8**
MNK *i* 19 05 58.2
MNK *i* SS **SS** **19 09 36.8 +2.1**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=N,187nm,17.0s
MNK MLR MLR
comp=E,11nm,17.0s
MNK MLR MLR
comp=Z,261nm,17.0s
MNK Minsk 69.90 326 *i* P **P** **18 56 00.9 +1.3**
comp=E,3.0nm,1.0s
MNK *i* P **P** **18 56 00.9 +1.3**
comp=N,11nm,0.8s
MNK *i* P **P** **18 56 00.9 +1.3**
comp=Z,24nm,0.9s,baz=46
MNK *i* pP **sP** **18 56 15.1 -0.2**
MNK *i* PcP **PcP** **18 56 23.2 +1.3**
MNK *i* PP **PP** **18 58 35.4 +1.5**
MNK *i* PPP 19 00 17.2
MNK *i* S **S** **19 05 05.8 -0.5**
MNK *i* sS **sS** **19 05 31.1 +5.8**
MNK *i* ScS **ScS** **19 05 58.2 0.0**
MNK *i* SS **SS** **19 09 36.8 +2.1**
MNK *i* SSS SSS 19 12 54.8
MNK *i* LQ LQ 19 21 52.0
MNK *i* LR LR 19 25 33.4
MNK *i* LRM MLR 19 29 11.3
comp=N,187nm,16.9s
MNK *i* LRM MLR 19 29 17.7
comp=E,11nm,17.0s
MNK *i* LRM MLR 19 29 17.7
comp=Z,261nm,17.0s
NACGM Naroch 70.09 327 *i* P **P** **18 56 01.3 +0.5**
ICESG Greenland Ices 70.21 1 ⇑*i* P **P** **18 56 02.9 +1.1**
ICESG IAmb IAmb 18 56 04.1
comp=Z,9.6nm,0.9s
PAHR Pah Rah Range 70.23 54 P **P** **18 56 03.0 +0.9**
PAHR IAmb IAmb 18 56 23.9
comp=Z,7.3nm,1.4s
GNI Garni 70.33 306 P **P** **18 56 02.5 -0.2**
GNI pmax pmax
comp=Z,6.0nm,0.8s
GNI Garni 70.33 306 P **P** **18 56 02.5 -0.2**
GNI IAmb IAmb 18 56 34.5
comp=Z,5.8nm,0.8s
DLMT Dillon 70.70 46 P **P** **18 56 06.5 +1.6**
DLMT IAmb IAmb 18 56 07.7
comp=Z,3.3nm,0.8s
NC405 NORSAR Array S 70.79 337 P **P** **18 56 05.6 +0.6**
PABE Paberze 70.81 328 *eP* **P** **18 56 04.9 -0.2**
NC204 NORSAR Array S 70.94 338 P **P** **18 56 06.3 +0.4**
NB201 NORSAR Array S 70.97 337 P **P** **18 56 06.4 +0.3**
NOA NORSAR Array B 71.00 337 P **P** **18 56 05.1 -1.2**
comp=Z,4.3nm,0.8s,baz=37,slow=6.1,SNR=14
NBO00 NORSAR Array S 71.13 338 P **P** **18 56 07.7 +0.6**
KVN Kaiserville 71.42 54 P **P** **18 56 11.6 +2.1**
KVN pmax pmax
comp=Z,5.0nm,0.9s
KVN Kaiserville 71.42 54 P **P** **18 56 11.6 +2.1**
KVN IAmb IAmb 18 56 12.6
comp=Z,4.6nm,0.9s
NVAR Mina Array Bea 71.68 55 P **P** **18 56 13.4 +2.4**
comp=Z,1.5nm,0.8s,baz=278,slow=5.5,SNR=7.6
NVAR Mina Array Bea 71.68 55 P **P** **18 56 13.2 +2.2**
YHL Hebgen Lake 71.80 46 P **P** **18 56 12.2 +0.5**
YHB Horse Butte 71.86 46 P **P** **18 56 13.6 +1.6**
YHB IAmb IAmb 18 56 38.6
comp=Z,6.5nm,1.2s
AKASG Malin Array Be 71.91 322 P **P** **18 56 11.9 +0.1**
comp=Z,9.0nm,0.4s,baz=44,slow=6.4,SNR=65
AKASG Malin Array Be 71.91 322 P **P** **18 56 11.3 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 71.91 322 P **P** **18 56 11.3 -0.6**
AKBB Malin Array Si 71.91 322 P **P** **18 56 11.4 -0.5**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 71.91 322 P **P** **18 56 11.4 -0.5**
GCMT Greycliff 72.01 45 P **P** **18 56 14.5 +1.7**
YHH Holmes Hill 72.02 46 P **P** **18 56 13.9 +0.9**
YNE Yellowstone No 72.33 45 P **P** **18 56 15.7 +0.8**
YPP Pitchstone Pla 72.38 46 P **P** **18 56 16.4 +1.4**
STKA Stephens Creek 72.53 181 LR LR 19 35 49.4
comp=Z,43nm,18.0s,baz=19,slow=42
STKA Stephens Creek 72.53 181 P **P** **18 56 17.3 +1.7**
STKA pmax pmax
comp=Z,5.0nm,1.6s
STKA Stephens Creek 72.53 181 P **P** **18 56 17.3 +1.7**
DY2G Dye2 72.62 4 *i* P **P** **18 56 16.6 +0.5**
DY2G IAmb IAmb 18 56 17.8
comp=Z,11nm,0.8s
PDAR Pinedale Array 74.05 47 P **P** **18 56 25.8 +0.8**
comp=Z,1.3nm,0.6s,baz=270,slow=1.8,SNR=9.2
SORM Soroca 74.10 321 ⇓P **P** **18 56 25.2 +0.3**
MALT Malatya 75.29 308 P **P** **18 56 35.1 +3.0**
ULM Lac du Bonnet 75.54 35 P **P** **18 56 34.0 +0.8**
comp=Z,2.7nm,0.6s,baz=316,slow=4.5,SNR=3.6
ULM Lac du Bonnet 75.54 35 IAmb IAmb 18 56 45.2
comp=Z,14nm,1.6s
KWP Kalwaria Pacla 75.61 325 *eP* **P** **18 56 35.1 +1.4**
BUR08 Bucovina Ar. S 75.94 322 P **P** **18 56 36.5 +0.8**
BUR08 IAmb IAmb 18 56 37.3
comp=Z,7.7nm,0.7s
BURAR Bucovina Array 75.95 322 ⇑P **P** **18 56 36.4 +0.7**
BURAR Bucovina Array 75.95 322 P **P** **18 56 36.3 +0.6**
BURAR pmax pmax
comp=Z,7.0nm,0.7s
BURAR Bucovina Array 75.95 322 P **P** **18 56 36.3 +0.6**
BURAR IAmb IAmb 18 56 37.6
comp=Z,7.0nm,0.7s
BIZ Bicaz 76.02 321 ⇑P **P** **18 56 37.1 +1.1**
TESR Tescani 76.06 320 ⇑P **P** **18 56 36.9 +0.6**
KOLS Kolonicke sedl 76.32 324 *eP* **P** **18 56 38.7 +1.0**
KOLS Kolonicke sedl 76.32 324 *eP* **P** **18 56 38.7 +1.0**
TPGR Topolog 76.37 318 ⇑P **P** **18 56 38.9 +0.8**
VRI Vrincioaia 76.49 320 ⇓P **P** **18 56 39.9 +1.2**
CRVS Cervenica-Dubn 76.70 325 *eP* **P** **18 56 40.7 +0.8**
CRVS pmax pmax
comp=Z,6.0nm,0.7s
CRVS Cervenica-Dubn 76.70 325 *eP* **P** **18 56 40.7 +0.8**
HARR Harsova 76.73 318 ⇑P **P** **18 56 40.4 +0.3**
OZUR 76.78 321 ⇓P **P** **18 56 42.2 +1.8**
NIE Niedzica 76.81 326 *eP* **P** **18 56 42.2 +1.7**
DOPR Dopca 77.06 321 ⇑P **P** **18 56 42.1 +0.2**
ISR Istrita 77.11 319 ⇑P **P** **18 56 43.4 +1.1**
BR131 Keskin Array S 77.13 312 P **P** **18 56 42.9 +0.3**
BR131 pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 77.13 312 P **P** **18 56 42.9 +0.3**
BRTR Keskin Array B 77.13 312 P **P** **18 56 43.4 +0.8**
comp=Z,1.5nm,0.6s,baz=78,slow=3.5,SNR=12
KSP Ksiaz 77.36 329 *eP* **P** **18 56 45.1 +1.6**
LANS Liptovska Anna 77.37 326 *eP* **P** **18 56 45.4 +1.7**
LANS pmax pmax
comp=Z,9.0nm,1.6s
LANS Liptovska Anna 77.37 326 *eP* **P** **18 56 45.4 +1.7**
VOIR 77.61 320 ⇑P **P** **18 56 46.1 +1.0**
CHVC Chvalec 77.66 329 *eP* **P** **18 56 45.9 +0.7**
MORC Moravsky Berou 77.69 327 ⇑P **P** **18 56 46.6 +1.2**
MORC Moravsky Berou 77.69 327 *eP* **P** **18 56 46.4 +1.0**
MORC Moravsky Berou 77.69 327 P **P** **18 56 46.0 +0.6**
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 77.69 327 P **P** **18 56 46.0 +0.6**
MORC IAmb IAmb 18 56 47.5
comp=Z,7.7nm,0.8s
DPC Dobruska-Polom 77.74 328 *eP* **P** **18 56 46.5 +0.8**
DPC Dobruska-Polom 77.74 328 *eP* **P** **18 56 46.5 +0.8**
KRLC Kraliky 77.77 328 *eP* **P** **18 56 46.5 +0.6**
KRLC Kraliky 77.77 328 *eP* **P** **18 56 46.5 +0.6**
PSZ Piszkesteto 78.13 325 ⇑P **P** **18 56 49.4 +1.4**
PSZ Piszkesteto 78.13 325 P **P** **18 56 48.9 +0.9**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 78.13 325 P **P** **18 56 48.9 +0.9**
PSZ IAmb IAmb 18 56 50.2
comp=Z,7.1nm,0.9s
VYHS Vyhne 78.14 326 *eP* **P** **18 56 49.2 +1.3**
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 78.14 326 *eP* **P** **18 56 49.2 +1.3**
BRG Berggiesshubel 78.25 330 *e*(P) **P** **18 56 49.4 +0.9**
BRG Amp 18 56 50.2
comp=Z,5.0nm,1.2s
CLL Collm 78.25 331 *i* P **P** **18 56 48.5 +0.1**
comp=Z,8.0nm,0.8s
CLL Collm 78.25 331 *i* P **P** **18 56 48.5 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 78.25 331 P **P** **18 56 48.8 +0.4**
CLL IAmb IAmb 18 56 49.8
comp=Z,6.7nm,0.8s
JAVC Velka Javorina 78.35 327 *eP* **P** **18 56 51.2 +2.1**
VRAC Vranov 78.45 327 ⇓P **P** **18 56 51.1 +1.6**
VRAC Vranov 78.45 327 *eP* **P** **18 56 50.7 +1.1**
KRUC Moravsky 78.72 327 *eP* **P** **18 56 52.1 +1.0**
GZR Gura Zlata 78.73 322 ⇓P **P** **18 56 52.1 +0.8**
PRU Pruhonice 78.73 329 *eP* **P** **18 56 51.9 +0.8**
PRU Pruhonice 78.73 329 *eP* **P** **18 56 51.9 +0.8**
MODS Modra-Piesok 78.89 327 *eP* **P** **18 56 53.1 +1.0**
MODS Modra-Piesok 78.89 327 *eP* **P** **18 56 53.1 +1.0**
BZS Buzias 79.10 322 ⇑P **P** **18 56 54.2 +1.0**
EYMN Ely 79.16 34 P **P** **18 56 54.2 +0.7**
EYMN IAmb IAmb 18 56 54.9
comp=Z,4.7nm,0.8s
HERR Herculane 79.28 321 ⇓P **P** **18 56 54.8 +0.6**
MDVR Moldovita 79.68 322 ⇓P **P** **18 56 57.0 +0.5**
CKRC Cesky Krumlov 79.75 328 *eP* **P** **18 56 57.5 +0.8**
KHC Kasperske Hory 79.79 329 *eP* **P** **18 56 57.3 +0.3**
KHC Kasperske Hory 79.79 329 *eP* **P** **18 56 57.3 +0.3**
GERES GERESS Array B 79.97 329 P **P** **18 56 58.5 +0.5**
comp=Z,1.4nm,0.7s,baz=38,slow=6.8,SNR=11
MORH Mrgy, Hungar 79.98 324 ⇓P **P** **18 56 58.2 +0.2**
GRF Grafenberg Arr 80.23 331 *eP* **P** **18 57 00.3 +1.0**
comp=Z,8.7nm,0.9s,baz=33,slow=4.6
RAYN Ar Rayn 80.27 293 P **P** **18 57 00.2 +0.2**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 80.27 293 P **P** **18 57 00.2 +0.2**
FRGS Fruska Gora 80.28 323 ⇑P **P** **18 57 00.9 +1.3**
BOVS Bovan 80.55 321 ⇑P **P** **18 57 01.4 +0.3**
VTS Vitosha 80.57 319 ⇑P **P** **18 57 02.7 +1.3**
VTS Vitosha 80.57 319 P **P** **18 57 02.3 +0.8**
VTS pmax pmax
comp=Z,7.0nm,0.8s
VTS Vitosha 80.57 319 P **P** **18 57 02.3 +0.8**
VTS IAmb IAmb 18 57 03.7
comp=Z,6.8nm,0.8s
DIVS Divibare 81.00 322 P **P** **18 57 03.9 +0.3**
DIVS IAmb IAmb 18 57 05.0
comp=Z,5.9nm,1.1s
SCHQ Schefferville 81.19 17 P **P** **18 57 05.1 +0.8**
comp=Z,2.2nm,0.6s,baz=293,slow=6.8,SNR=3.7
STAL STALIGIAL 82.46 328 P **P** **18 57 10.7 -0.5**
STAL IAmb IAmb 18 57 11.4
comp=Z,6.5nm,0.7s
PDG Podgorica 82.63 322 ⇑P **P** **18 57 13.2 +1.1**
PDG Podgorica 82.63 322 P **P** **18 57 12.3 +0.2**
PDG IAmb IAmb 18 57 13.5
comp=Z,7.9nm,0.8s
PMOR Pomariorio Ree 84.70 115 *e*T T 20 30 45.2
comp=Z,4.5nm,0.2s
NRCA Norcia 85.07 325 P **P** **18 57 25.0 +0.3**
MATE Matera 85.22 322 ⇑P **P** **18 57 26.1 +0.8**
PPT2 Papeete2 85.38 118 *e*LR LR 19 24 26.7
comp=Z,75nm,21.0s
TXAR Lajitas Array 86.76 53 P **P** **18 57 34.9 +1.6**
comp=Z,0.6nm,0.7s,baz=302,slow=3.6,SNR=6.2
TBI Tubuai 89.55 122 *e*T T 20 37 04.5
comp=Z,4.6nm,0.3s
ESDC Sonseca Array 94.24 335 P **P** **18 58 08.3 +0.3**
comp=Z,0.5nm,0.7s,baz=15,slow=5.3,SNR=3.0
KMBO Kilima Mbogo 102.58 280 *i* P **Pdif** **18 58 41.5 -4.7**
KMBO pmax pmax
comp=Z,10μm,0.3s
TORD Torodi Ar. Bea 115.31 318 PKP **PKiKP** **19 03 30.7 0.0**
comp=Z,1.4nm,1.1s,baz=32,slow=2.1,SNR=5.4
SNAA Sanae 144.89 198 PKPdf **PKPdf** **19 04 24.3 -0.3**
H03N2 Juan Fernandez 146.05 91 T T 21 47 50.8
baz=300,slow=77,SNR=13
H03N3 Juan Fernandez 146.06 91 T T 21 47 52.8
baz=300,slow=77,SNR=8.2
H03N1 Juan Fernandez 146.06 91 T T 21 47 52.1
baz=300,slow=77,SNR=9.7
VNA3 Neumayer Olymp 146.71 196 PKPdf **PKPbc** **19 04 29.6 +0.2**
VNA1 Neumayer--Stat 146.86 197 PKPdf **PKPab** **19 04 31.4 +0.2**

TAP 09 18:50:42.1, 23.69N×120.89E, h3km, ML1.0, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WHYT	**Xinyi Township**	**0.04**	**287**	*i* P		Pg	18 50 43.6	+0.6
WHYT	baz=286			*i* S		Sg	18 50 44.4	+0.7
SSLB	**Suanglung**	**0.12**	**30**	P		Pg	18 50 45.5	+1.0
SSLB	baz=30			S		Sg	18 50 47.6	+1.5
ALS	**Alishan**	**0.19**	**204**	⇑*i* P		Pg	18 50 47.0	+1.1
ALS	baz=201			*i* S		Sg	18 50 50.4	+1.9
SMLT	**Sun Moon Lake**	**0.20**	**3**	*i* P		Pg	18 50 47.1	+1.1
SMLT	baz=4.0			*i* S		Sg	18 50 50.8	+2.2
WJS	**Zhushan**	**0.20**	**312**	*eP*		Pg	18 50 47.1	+1.1
WJS	baz=312			*eS*		Sg	18 50 50.9	+2.2
YUS	**Yu-Shan**	**0.20**	**164**	*eP*		Pg	18 50 47.7	+1.5
YUS	baz=164			S		Sg	18 50 51.5	+2.5
CHN5	**Tsauling**	**0.21**	**246**	*i* P		Pg	18 50 47.2	+1.0
CHN5	baz=245			*i* S		Sg	18 50 50.9	+1.8
TYC	**Yuchr**	**0.22**	**352**	P		Pg	18 50 47.5	+1.1
TYC	baz=355			*i* S		Sg	18 50 51.2	+1.9
WNT	**Mingjian**	**0.27**	**315**	*i* P		Pb	18 50 49.1	-0.5
WNT	baz=316			S		Sb	18 50 53.4	-1.3
WGK	**Gukeng**	**0.30**	**270**	*eP*		Pb	18 50 49.1	-1.1
WGK	baz=269			*eS*		Sb	18 50 54.1	-1.4
WDLH	**Douliu**	**0.32**	**271**	*eP*		Pb	18 50 49.6	-1.0
WDLH	baz=270			*eS*		Sb	18 50 55.3	-0.9
WCS	**Beigang Elemen**	**0.37**	**3**	*eP*		Pb	18 50 51.1	-0.3
WCS	baz=3.0			*eS*		Sb	18 50 56.9	-0.7
WWF	**Wufeng**	**0.40**	**334**	*eS*		Sb	18 50 57.8	-0.5
CHN2	baz=333 **Minshiung**	**0.41**	**248**	*eS*		Sb	18 50 59.0	+0.3
CHN4	baz=248 **Tsaushan**	**0.43**	**219**	P		Pb	18 50 52.0	-0.3
CHN4	baz=219			S		Sb	18 50 59.5	+0.3
EHY	**Hungye**	**0.43**	**114**	P		Pb	18 50 51.8	-0.7
EHY	baz=114			S		Sb	18 51 00.0	+0.6
TPUB	**Ta-pu**	**0.45**	**212**	P		Pb	18 50 52.1	-0.6
TPUB	baz=211			S		Sb	18 51 00.3	+0.4
CHGB	**Renai**	**0.45**	**35**	*eP*		Pb	18 50 52.5	-0.4
CHGB	baz=34			*eS*		Sb	18 51 00.1	-0.1
WTK	**Tuku**	**0.46**	**270**	*eP*		Pb	18 50 52.3	-0.5

baz=270
YULB Yu-li 0.47 128 eP Pg 18 50 52.0 +0.8
baz=128
YULB eS Sb 18 51 00.3 -0.3
baz=128
EGFH Guangfu 0.49 92 eP Pb 18 50 53.1 -0.4
baz=92
WCHH Zhanghua 0.50 322 eS Sb 18 51 01.7 +0.6
baz=322
TWF1 Yuli 0.50 132 eP Pb 18 50 53.3 -0.3
baz=131
TWF1 eS Sb 18 51 02.2 +0.9
baz=131
WTP Ta-pu 0.51 210 eP Pb 18 50 52.9 -0.8
baz=209
WTP eS Sb 18 51 02.1 +0.6
baz=209
ELDTW Lidau 0.51 167 eP Pb 18 50 53.3 -0.5
baz=166
ELDTW eS Sb 18 51 02.1 +0.5
baz=166
STYH Taoyuan 0.52 192 eS Sb 18 51 02.5 +0.5
baz=191
STYT Tauyuan 0.54 193 eP Pb 18 50 53.8 -0.4
baz=192
STYT eS Sb 18 51 03.0 +0.6
baz=192
TWK Hsinying 0.56 222 eP Pb 18 50 54.1 -0.4
baz=220
TWK eS Sb 18 51 03.7 +0.7
baz=220
WHF Hehuan Shan 0.57 37 eP Pb 18 50 55.2 +0.1
baz=37
WHF eS Sb 18 51 04.1 +0.3
baz=37

IDC 09 18:53:18.2±19.0, 18°.01S×173°.92W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/38, mbtmp4.0/5, Error ellipse: s-maj=368.4km s-min=161.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.65	260	P	P	19 00 36.6	+1.3
	2.7nm,0.5s,baz=94,slow=9.0,SNR=2.1						
STKA	Stephens Creek	42.35	242	P	P	19 01 14.4	+0.1
	1.0nm,0.5s,baz=103,slow=14,SNR=2.2						
WRA	Warramunga Arr	48.81	259	P	P	19 02 05.0	-0.7
	0.6nm,0.4s,baz=98,slow=7.8,SNR=14						
ASAR	Alice Springs	48.88	254	P	P	19 02 05.7	-0.5
	0.9nm,0.5s,baz=85,slow=8.1,SNR=23						
FITZ	Fitzroy Crossi	57.22	260	P	P	19 03 07.9	+0.1
	2.4nm,1.0s,baz=135,slow=2.9,SNR=1.7						

KRSC 09 19:13:12.7±2.1, 48°.92N×157°.15E, h17km±35km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.89	340	eP	Pn	19 13 44.2	+0.1
SKR				eS	Sn	19 14 08.2	+0.8
ALID	Alaid	2.21	333	eP	Pn	19 13 48.9	+0.2
PAU	Pauzhetka	2.56	355	eS	Sb	19 14 27.3	-1.9
KDTR	Khodutka, Kamc	2.95	11	eP	Pb	19 14 01.8	-2.9
KDTR				eS	Sb	19 14 38.0	-2.5
RUS	Russkaya	3.62	13	eP	Pn	19 14 10.8	+2.9
RUS				eS	Sn	19 14 53.3	+3.1
MTVR	Mutnovka	3.62	10	eP	Pn	19 14 11.8	+3.7
MTVR				eS	Sb	19 14 55.4	-4.6
GRL	Gorelyy	3.68	9	eP	Pn	19 14 12.5	+3.6
DALK	Dalny	4.24	13	eP	Pn	19 14 20.5	+4.1
UGLR	Uglovaya	4.42	13	eP	Pn	19 14 24.2	+5.2
AVH	Avacha	4.46	12	eP	Pn	19 14 24.4	+4.9
SMAR	Somma	4.47	13	eP	Pn	19 14 23.0	+3.2
KOK	Koryaka	4.47	11	eP	Pn	19 14 24.8	+5.1
SDLR	Sedlovina	4.50	13	eP	Pn	19 14 23.7	+3.6
KRER	Koryakskii	4.50	12	eP	Pn	19 14 25.1	+4.9
KRX	Arik	4.54	11	eP	Pn	19 14 26.2	+5.5
SPN	Mys Shipunski	4.56	22	eP	Pn	19 14 25.6	+4.8
SPN				eS	Sn	19 15 17.7	+4.4
GNL	Ganaly	4.80	6	eP	Pn	19 14 30.1	+5.8
MKZ	Mys Kozlova	6.32	25	eP	Pn	19 14 49.0	+4.1
KZV	Kizimen	6.50	16	eP	Pn	19 14 53.2	+5.7
TUMR	Tumrok	6.63	15	eP	Pn	19 14 54.2	+4.8

NNC 09 19:13:41.4±4.6, 36°.98N×71°.10E, h0km, mb3.7, mpv3.4, 3C-3D, Error ellipse: s-maj=36.7km s-min=34.2km az=132.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.13	356	⇓P	Pn	19 15 14.1	+0.8
	0.9nm,0.4s,baz=184,slow=12,SNR=36						
KK31				⇑S	Sn	19 16 24.8	+0.7
	2.1nm,0.4s,baz=182,slow=22,SNR=9.7						
AAK	Ala-Archa	6.22	24	⇑P	Pn	19 15 14.1	-0.6
	1.9nm,0.3s						
AAK				⇓S	Sn	19 16 29.3	+2.7
	3.0nm,0.5s						
TKM2	Tokmak 2	6.86	29	⇑P	Pn	19 15 23.3	-0.2
	1.2nm,0.5s						
TKM2				⇓S	Sn	19 16 42.2	-0.2
	1.7nm,0.7s						

MEX 09 19:14:04.4±0.5, 14°.83N×93°.26W, h16km±999km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		0.87	3	*i* P	Pb	19 14 18.1	-3.0
PCIG				*i* S	Sb	19 14 28.7	-3.8
CCIG	Comitan	1.80	37	*i* P	Pn	19 14 32.4	-2.6
CCIG				*i* S	Sn	19 14 53.3	-4.4

IDC 09 19:19:27.9±3.2, 19°.53S×177°.44W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/37, mbtmp3.5/3, Error ellipse: s-maj=356.6km s-min=35.3km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	45.26	256	P	P	19 27 47.6	0.0
	0.4nm,0.6s,baz=94,slow=8.0,SNR=10						
WRA	Warramunga Arr	45.26	261	P	P	19 27 47.3	-0.3
	0.4nm,0.9s,baz=97,slow=7.4,SNR=1.1						
TXAR	Lajitas Array	86.09	57	P	P	19 32 11.2	0.0
	0.2nm,0.5s,baz=240,slow=7.2,SNR=3.9						

*NAO **09** 19:23:52.5±1.2, 74°.57N×8°.62E, ML4.5*
*BJI **09** 19:23:53.0±0.0, 74°.60N×8°.40E, h10km, mB5.1/50, mb4.7/61, Ms5.0/53, Ms7 4.8/52*
*IDC **09** 19:23:54.0±0.3, 74°.56N×8°.64E, h0km, mb4.3/43, mb1 4.4/51, mb1mx4.4/60, mbtmp4.3/51, ML3.3/6, MS4.5/52, Ms1 4.5/52, ms1mx4.4/59, Error ellipse: s-maj=8.6km s-min=7.0km az=66.0*
*MOS **09** 19:23:54.0±1.3, 74°.58N×8°.30E, h10km, mb5.1/39, MS4.3/27, Error ellipse: s-maj=14.4km s-min=3.3km az=95.4*
*BER **09** 19:23:55.9±2.7, 74°.60N×8°.90E, h17km, ML2.5, MS4.2, ML4.5(NAO), Confirmed Earthquake*
*NEIC **09** 19:23:55.2±1.6, 74°.57N±0°.06×8°.4E±0°.2, h7km±3km, mb5.0/239, Error ellipse: s-maj=8.4km s-min=8.1km az=115.0*
*GCMT **09** 19:23:56.2±0.1, 74°.61N±0°.01×8°.53E±0°.03, h12km, MW5.1/133, Moment Tensor Solution. s50,c68; s133,c260; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.79±.08; Mθθ 0.70±.08; Mϕϕ 5.08±.08; Mrθ-0.60±.32; Mθϕ 1.61±.07; Mϕr-0.92±.23; Best double couple: M=5.80400×10^16 NP1:ϕ1=196.00000°, δ40.00000°, λ-94.00000°. NP2:ϕ2=21.00000°, δ50.00000°, λ-87.00000°. Principal axes: T 5.7070, Plg5.0000°, Azm108.0000°; N 0.1870, Plg3.0000°, Azm199.0000°; P -5.9010, Plg84.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IEPN **09** 19:23:56.0, 74°.64N×7°.10E, h10km*
*DNK **09** 19:23:59.6±4.6, 74°.62N×7°.18E, h35km±44km, ML2.9*

*BGR **09** 19:24:10.1±0.0, 73°.25N×10°.11E, h10km, mb5.4, Ms4.2*
ISC 09 19:23:55.3±0.6, 74°.64N±0°.02×8°.56E±0°.03, h8km±3km, n825, σ1=80/848, mb4.9/280, MS4.5/92, 30C-42D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	Bjornoya	2.79	88	Pn	Pn	19 24 36.3	-4.0
BJO1				Sn	Sn	19 25 04.4	-10
BJO1	Bjornoya	2.79	88	eP	Pn	19 24 35.3	-4.9
BJO1				eS	Sn	19 25 04.5	-10
BJO1				IVMs_BB	IVMs_BB	19 26 04.4	
	comp=Z,11μm,4.9s						
BJO1				*e*		19 26 53.6	
BJO1	Bjornoya	2.79	88	eP	Pn	19 24 34.9	-5.3
BJO1				eS	Sn	19 25 04.1	-10
HSPB	Hornsund (broa	2.93	32	eP	Pn	19 24 39.9	-2.3
HSPB	Hornsund (broa	2.93	32	Pn	Pn	19 24 40.0	-2.2
HSPB	Hornsund (broa	2.93	32	eP	Pn	19 24 40.0	-2.2
HSPB				*e*		19 27 14.8	
BRBA	Barentsburg A	3.69	19	Pn	Pn	19 24 51.2	-1.4
BRBA	Barentsburg A	3.69	19	Pn	Pn	19 24 51.2	-1.4
BRBB	Barentsburg B	3.72	18	Pn	Pn	19 24 51.7	-1.4
BRBB	Barentsburg B	3.72	18	Pn	Pn	19 24 51.7	-1.4
SPA0	Spitsbergen Ar	4.01	24	Pn	Pn	19 24 55.9	-1.0
	baz=200,slow=11						
SPA0	Spitsbergen Ar	4.01	24	Pn	Pn	19 24 55.9	-1.0
	baz=200,slow=11						
SPITS	Spitsbergen Ar	4.01	24	Pn	Pn	19 24 56.3	-0.6
	baz=202,slow=13,SNR=515						
SPITS				Sn	Sn	19 25 41.9	-2.1
	baz=192,slow=19,SNR=0.7						
SPITS				LR	LR	19 26 30.3	
	comp=Z,μm,21.2s,baz=145,slow=38						
SPITS	Spitsbergen Ar	4.01	24	P	Pn	19 24 56.3	-0.6
SPITS						19 25 41.9	
SPITS	Spitsbergen Ar	4.01	24		Pn	19 24 56.4	-0.6
SPITS					Sn	19 25 41.9	-2.1
KBS	Kingsbay	4.38	9	P	Pn	19 24 59.9	-2.2
KBS						19 25 49.1	
KBS	Kingsbay	4.38	9	Pn	Pn	19 25 00.2	-1.9
KBS	Kingsbay	4.38	9	⇓*i*P	Pn	19 25 00.1	-2.0
KBS				eS	Sn	19 25 49.2	-4.1
KBS	Kingsbay	4.38	9	Pn	Pn	19 24 59.9	-2.2
KBS				Sn	Sn	19 25 49.1	-4.1
KBS	Kingsbay	4.38	9	⇓*i*P	Pn	19 24 59.9	-2.2
KBS				*i* S	Sn	19 25 48.5	-4.8
HOPEN	Hopen	4.51	58	Pn	Pn	19 25 01.7	-2.2
HOPEN				Sn	Sn	19 25 50.7	-5.8
HOPEN	Hopen	4.51	58	eP	Pn	19 25 01.7	-2.2
HOPEN				eS	Sn	19 25 49.4	-7.1
HOPEN				IVMs_BB	IVMs_BB	19 26 29.2	
	comp=Z,4μm,6.2s						
HOPEN	Hopen	4.51	58	⇑*i*P	Pn	19 25 01.7	-2.2
HOPEN				eS	Sn	19 25 49.3	-7.1
TRO	Tromso	5.94	143	eP	Pn	19 25 22.0	-1.5
TRO				eS	Sn	19 26 22.8	-8.8
HAMF	Hammerfest	6.03	124	Pn	Pn	19 25 20.5	-4.2
HAMF				Sn	Sn	19 26 23.3	-10
HAMF	Hammerfest	6.03	124	eP	Pn	19 25 21.3	-3.4
HAMF				eS	Sn	19 26 22.9	-11
JNE	Jan Mayen East	6.17	242	eP	Pn	19 25 25.2	-1.5
JNW	Jan Mayen West	6.18	243	eP	Pn	19 25 24.8	-1.9
JMIC	Jan Mayen	6.23	243	Pn	Pn	19 25 24.8	-2.6
	baz=26,slow=4.1,SNR=9.6						
JMIC				LR	LR	19 27 05.9	
	comp=Z,4μm,19.5s,baz=63,slow=31						
JMIC	Jan Mayen	6.23	243	Pn	Pn	19 25 25.6	-1.7
JMIC	Jan Mayen	6.23	243	Pn	Pn	19 25 25.6	-1.7
JMIC	Jan Mayen	6.23	243		Pn	19 25 24.8	-2.6
JETT	Jettan, Norway	6.26	139	Pn	Pn	19 25 27.0	-0.9
JMI	Jan Mayen	6.32	243	eP	Pn	19 25 27.4	-1.2
LOF	Lofoten	6.72	164	eP	Pn	19 25 31.5	-2.8
KIF	Kilpisjarvi	6.81	140	Pn	Pn	19 25 34.3	-1.1
KIF	Kilpisjarvi	6.81	140	eP	Pn	19 25 34.2	-1.2
DAG	Danmarks Havn	7.02	301	*i* P	Pn	19 25 37.0	-1.3
DAG				IAML		19 26 54.7	
	comp=Z,8.3nm,0.4s						
DAG	Danmarks Havn	7.02	301	*i* P	Pn	19 25 35.6	-2.6
DAG	Danmarks Havn	7.02	301	*i* P	Pn	19 25 35.7	-2.6
DAG				*i* S	Sn	19 26 48.6	-10
DAG				IAML		19 26 54.7	
	comp=Z,8.3nm,0.4s						
STEI	Steigen	7.07	159	eP	Pn	19 25 39.0	+0.2
KTK1	Kautokeino	7.25	134	eP	Pn	19 25 41.0	-0.4
ARA0	ARCESS Array S	7.29	126	Pn	Pn	19 25 38.5	-3.4
	baz=331,slow=12						
ARA0				Sn	Sn	19 26 51.5	-13
	baz=319,slow=18						
ARA0	ARCESS Array S	7.29	126	Pn	Pn	19 25 38.5	-3.4
	baz=331,slow=12						
ARA0				Sn	Sn	19 26 51.5	-13
	baz=319,slow=18						
ARCES	ARCESS Array B	7.29	126	Pn	Pn	19 25 38.4	-3.4
	baz=327,slow=11,SNR=27						
ARCES				Sn	Sn	19 26 54.3	-10
	baz=333,slow=17,SNR=9.5						
ARCES				LR	LR	19 28 50.4	
	comp=Z,4μm,19.3s,baz=325,slow=41						
ARCES	ARCESS Array B	7.29	126	P	Pn	19 25 38.5	-3.4
ARCES	ARCESS Array B	7.29	126		Pn	19 25 38.5	-3.4
ARCES	ARCESS Array B	7.29	126		Sn	19 26 54.3	-10
KEV	Kevo	7.45	122	P	Pn	19 25 40.3	-3.8
KEV	Kevo	7.45	122	Pn	Pn	19 25 40.9	-3.2
KEV				Sn	Sn	19 26 57.9	-11
KEV	Kevo	7.45	122	eP	Pn	19 25 41.4	-2.7
KEV	Kevo	7.45	122		Pn	19 25 40.3	-3.8
FAUS	Fauske	7.61	160	eP	Pn	19 25 46.5	+0.3
DBG	Daneborg	7.69	281	*i* P	Pn	19 25 43.5	-3.8
DBG				eS	Sn	19 27 01.3	-13
DBG				IAML		19 27 10.3	
	comp=Z,5.1nm,0.4s						
DBG	Daneborg	7.69	281	Pn	Pn	19 25 42.8	-4.5
DBG	Daneborg	7.69	281	*i* P	Pn	19 25 43.5	-3.8
DBG				*i* S	Sn	19 27 02.9	-12
DBG				IAML		19 27 10.3	
	comp=Z,5.1nm,0.4s						
HEF	Hetta	7.85	135	eP	Pn	19 25 43.5	-6.1
NOR	Nord	8.59	335	eP	Pn	19 25 57.8	-2.0
NOR				*i* P	Pn	19 25 57.8	-2.0
NOR	Nord	8.59	335	eP	Pn	19 25 57.7	-2.0
NOR	Nord	8.59	335	Pn	Pn	19 25 58.2	-1.5
NOR	Nord	8.59	335	*i* P	Pn	19 25 57.8	-2.0
MOR8	Moi Rana	8.72	164	eP	Pn	19 26 00.9	-0.8
SCO	Scoresbysund	9.96	261	*i* P	Pn	19 26 16.2	-2.2
SCO				*i* S	Sn	19 27 58.7	-11
SCO				IAML		19 28 16.3	
	comp=Z,2.0nm,0.4s						
SCO	Scoresbysund	9.96	261	*i* P	Pn	19 26 16.2	-2.2
SCO	Scoresbysund	9.96	261	*i* P	Pn	19 26 16.2	-2.2
SCO				*i* S	Sn	19 27 58.7	-11
SCO				IAML		19 28 16.3	
	comp=Z,2.0nm,0.4s						
SCO	Scoresbysund	9.96	261		Pn	19 26 15.6	-2.9
SCO				Sn	Sn	19 27 59.9	-10
ZFI	Zemlya Franca-	10.09	35	eP	Pn	19 26 19.0	-1.3
ZFI				eS	Sn	19 28 04.6	-8.8
ZFI2	Zemlya Franca-	10.09	35	eP	Pn	19 26 18.2	-2.1
ZFI2				eS	Sn	19 28 03.5	-10
APA0	Apatity Array	10.50	120	Pn	Pn	19 26 21.4	-4.4
	baz=325,slow=14						
APA0				Sn	Sn	19 28 08.6	-15
	baz=316,slow=28						
APA0	Apatity Array	10.50	120	Pn	Pn	19 26 21.4	-4.4
	baz=325,slow=14						
APA0				Sn	Sn	19 28 08.6	-15
	baz=316,slow=28						
APA	Apatity	10.62	119	⇑*i*P	Pn	19 26 26.5	-1.1
APA				*i* S	Sn	19 28 26.0	-0.6
APA				pmax	pmax		
	comp=Z,25nm,0.9s						
APA				MLR	MLR		
	comp=Z,4μm,18.0s						
LVZ	Lovozero	10.66	116	*i* P	Pn	19 26 29.8	+1.7
LVZ	Lovozero	10.66	116		Pn	19 26 24.7	-3.4
VAF	Ylistaro	12.65	150	P	Pn	19 26 55.4	+0.2
DOMB	Dombas	12.65	179	eP	Pn	19 26 54.2	-1.2
SUMG	Summit	13.15	284	P	Pn	19 26 59.4	-3.0
SUMG	Summit	13.15	284		Pn	19 26 59.4	-3.0
SLVR	Solovky	13.25	122	P	Pn	19 27 01.4	-2.0
	comp=Z,7.8nm,0.4s						
SLVR				S	Sn	19 29 18.8	-12
NC204	NORSAR Array S	13.45	175		Pn	19 27 04.9	-1.3
SUF	Sumiainen	13.47	143	P	Pn	19 27 04.7	-1.7
NC303	NORSAR Array S	13.51	174	Pn	Pn	19 27 05.8	-1.2
NC405	NORSAR Array S	13.63	173		Pn	19 27 07.0	-1.7
NB201	NORSAR Array S	13.69	174	Pn	Pn	19 27 08.3	-1.2
NBO00	NORSAR Array S	13.69	175	Pn	Pn	19 27 08.3	-1.2
NB2	NORSAR Subarra	13.69	175	P	Pn	19 27 08.8	-0.8
NB2	NORSAR Subarra	13.69	175	P	Pn	19 27 08.8	-0.8
NOA	NORSAR Array B	13.69	175	Pn	Pn	19 27 08.1	-1.4
	comp=Z,0.0nm,0.3s,baz=355,slow=12,SNR=4.0						
NOA				LR	LR	19 31 55.4	
	comp=Z,967nm,19.8s,baz=355,slow=35						
NOA	NORSAR Array B	13.69	175	P	Pn	19 27 08.1	-1.4
NAO01	NORSAR Array S	13.88	175		Pn	19 27 13.7	+1.6
NC602	NORSAR Array S	14.01	174		Pn	19 27 11.9	-1.9
NEEM	North Greenlan	14.08	309	*i* P	Pn	19 27 11.7	-3.3
BORG	Borgarnes	14.12	241	LR	LR	19 30 58.6	
	comp=Z,2μm,19.9s,baz=23,slow=30						
FIA1	FINESS Array S	14.66	145		Pn	19 27 20.0	-2.8
FIA0	FINESS Array S	14.66	145	P	Pn	19 27 20.0	-2.8
	baz=351,slow=16						
FIA0	FINESS Array S	14.66	145	P	Pn	19 27 20.0	-2.8
	baz=351,slow=16						
FINES	FINESS Array B	14.66	145	Pn	Pn	19 27 19.9	-2.8
	comp=Z,0.4nm,0.3s,baz=356,slow=9.9,SNR=17						
FINES	FINESS Array B	14.66	145	P	Pn	19 27 20.0	-2.8
FINES	FINESS Array B	14.66	145		Pn	19 27 19.9	-2.8
HFS	Hagfors	14.69	170	Pn	Pn	19 27 22.2	-1.0
	comp=Z,0.3nm,0.3s,baz=355,slow=11,SNR=8.4						
HFS				LR	LR	19 32 27.6	
	comp=Z,1μm,20.4s,baz=355,slow=35						
HFS	Hagfors	14.69	170	P	Pn	19 27 22.2	-1.0
HFS	Hagfors	14.69	170	P	Pn	19 27 21.5	-1.6
	baz=359,slow=16						
HFS	Hagfors	14.69	170	P	Pn	19 27 21.5	-1.6
	baz=359,slow=16						
KONO	Kongsberg	15.06	178	eP	Pn	19 27 29.3	+1.2
KONO	Kongsberg	15.06	178	P	P	19 27 31.4	-2.1
AAL	Aland	15.12	158	eP	Pn	19 27 27.0	-1.8
ICESG	Greenland Ices	15.56	274	*i* P	Pn	19 27 33.8	-1.3
ICESG	Greenland Ices	15.56	274	*i* P	P	19 27 40.5	+1.1
MEF	Metsahovi	15.60	150	eP	Pn	19 27 35.6	+0.4
STRU	Stroemstad	15.70	175	*i* P	P	19 27 40.5	-0.1
STRU	Stroemstad	15.70	175	*i* P	P	19 27 40.5	-0.1
LSH	Leshukonskoye	15.79	109	eP	Pn	19 27 32.4	-5.2
	comp=Z,118nm,1.1s						
LSH				eS	Sn	19 30 11.8	-21
SNART	Snartemo	16.38	183	eP	P	19 27 49.5	+1.4
SNART	Snartemo	16.38	183	eP	P	19 27 49.5	+1.4
AMDE	Amderma	16.41	80	eP	P	19 27 45.4	-3.0
	comp=Z,179nm,1.0s						
AMDE				eS	Sn	19 30 31.8	-16
HOMB	Homborsund	16.44	180	*i* P	P	19 27 48.2	-0.6
KULLO	Kullorsuaq	16.68	302	*i* P	Pn	19 27 45.6	-3.4
KULLO	Kullorsuaq	16.68	302	*i* P	Pn	19 27 42.2	-6.8
KULLO	Kullorsuaq	16.68	302	*i* P	Pn	19 27 42.3	-6.7
TJOU	Tjoern	16.72	174	*i* P	P	19 27 50.9	-0.9
TJOU	Tjoern	16.72	174	*i* P	P	19 27 50.9	-0.9
PUL	Pulkovo	16.94	140	*i* P	P	19 27 54.7	+0.4
PUL				pmax	pmax		
	comp=Z,129nm,0.8s						
BORU	Boraas	17.15	172	*i* P	P	19 27 56.1	-0.5
BORU	Boraas	17.15	172	*i* P	P	19 27 56.1	-0.5
ONAU	Onsala	17.36	174	*i* P	P	19 27 59.4	+0.4
ONAU	Onsala	17.36	174	*i* P	P	19 27 58.6	-0.4
UPNV	Upernavik	17.45	296	*i* P	Pn	19 27 53.7	-4.9
UPNV	Upernavik	17.45	296	*i* P	Pn	19 27 56.1	-2.5
NUUG	Nuugaatsiaq	17.49	291	*i* P	Pn	19 27 55.0	-4.1
NUUG	Nuugaatsiaq	17.49	291	*i* P	P	19 28 01.9	+1.6
ANGG	Ammassalik, Gr	17.55	263	*i* P	P	19 28 03.0	+2.0
VSU	Vasula	17.62	147	eP	Pn	19 27 59.1	-1.7
VSU	Vasula	17.62	147	*i* P	P	19 28 01.1	-0.7
VSU				pmax	pmax		
	comp=Z,166nm,1.2s						
KLMR	Klimovskoe	17.76	124	eP	Pn	19 28 01.0	-1.4
KLMR				*e*		19 31 26.7	
KLMR				pmax	pmax		
	comp=Z,162nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,1μm,16.0s						
KLMR	Klimovskoe	17.76	124	eP	Pn	19 27 59.2	-3.3
	comp=Z,137nm,1.2s						
KLMR	Klimovskoe	17.76	124	ePn	Pn	19 28 01.1	-1.4
KLMR				ePn	Pn	19 28 01.1	-1.4
KLMR				ePn	Pn	19 28 01.1	-1.4
KLMR				AMP		19 28 14.1	
	comp=Z,162nm,1.3s						
KLMR				eSn	S	19 31 26.7	-0.7
KLMR				eSn	S	19 31 26.7	-0.7
KLMR				LQ	LQ	19 33 24.8	
KLMR				LQ	LQ	19 33 24.8	
KLMR				LR	LR	19 33 36.0	
KLMR				AMP		19 34 44.6	
	comp=Z,1μm,15.5s						
ISOG	Isortoq, Green	17.96	265	*i* P	Pn	19 28 04.1	-0.9
TULEG	Thule	18.08	313	*i* P	Pn	19 28 06.2	-0.2
TULEG	Thule	18.08	313	*i* P	Pn	19 28 06.2	-0.2
TULEG	Thule	18.08	313	P	Pn	19 28 02.9	-3.5
DEL	Delary	18.36	171	*i* P	P	19 28 09.0	-1.0
DEL	Delary	18.36	171	*i* P	P	19 28 09.0	-1.0
PRGR	Permogore	18.48	115	⇓*i*P	Pn	19 28 11.4	0.0
PRGR	Permogore	18.48	115	eP	Pn	19 28 11.2	-0.3
	comp=Z,924nm,1.6s						
ILULI	Ilulissat	18.49	284	*i* P	P	19 28 10.7	-0.7
ILULI	Ilulissat	18.49	284	*i* P	Pn	19 28 12.5	+1.1
ILULI	Ilulissat	18.49	284	*i* P	Pn	19 28 12.6	+1.1
ILULI	Ilulissat	18.49	284	P	P	19 28 10.0	-1.4
ILULI				IAmb	IAmb	19 28 34.9	
	comp=Z,184nm,2.0s						
BLEU	Blekinge	18.62	167	*i* P	Pn	19 28 14.2	+1.1
BLEU	Blekinge	18.62	167	*i* P	Pn	19 28 14.2	+1.1
EUNU	Eureka	19.07	328	P	P	19 28 16.7	-1.0
EUNU				IAmb	IAmb	19 28 22.6	
	comp=Z,68nm,1.0s						
COP	Copenhagen	19.09	173	*i* P	Pn	19 28 18.6	-0.1
COP	Copenhagen	19.09	173	*i* P	P	19 28 16.1	-1.9
COP	Copenhagen	19.09	173	*i* P	P	19 28 16.1	-1.9
LUNU	Lund	19.18	172	*i* P	Pn	19 28 19.0	-0.9
LUNU	Lund	19.18	172	*i* P	Pn	19 28 19.0	-0.9
DY2G	Dye2	19.20	274	*i* P	P	19 28 18.0	-1.4
PBUR	Paburge	19.40	157	eP	Pn	19 28 22.7	+0.2
BSD	Bornholm Skovb	19.76	169	*i* P	Pn	19 28 26.9	0.0
BSD	Bornholm Skovb	19.76	169	*i* P	Pn	19 28 26.8	0.0
BSD	Bornholm Skovb	19.76	169	*i* P	Pn	19 28 26.9	0.0
EKA	Eskdalemuir Ar	19.92	200	P	P	19 28 25.9	-1.2
	baz=5.7,slow=7.8,SNR=3.3						
EKA	Eskdalemuir Ar	19.92	200	P	P	19

MNK pmax pmax
comp=Z,83nm,0.8s
MNK pmax pmax
comp=N,160nm,1.1s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=E,38nm,15.0s
MNK MLR MLR
comp=Z,849nm,16.0s
MNK MLR MLR
comp=N,576nm,14.0s
MNK Minsk 21.62 148 *i* P **P** 19 28 45.3 -0.2
comp=E,10.0nm,0.9s
MNK *i* P **P** 19 28 45.3 -0.2
comp=N,160nm,1.1s
MNK *i* P **P** 19 28 45.3 -0.2
comp=Z,83nm,0.8s,baz=166
MNK *i* PP **PnPn** 19 29 06.1 +0.4
MNK *i* PPP PPP 19 29 13.9
MNK *i* S **S** 19 32 45.0 +0.3
MNK *i* SS **SnSn** 19 33 11.5 +3.4
MNK *i* SSS SSS 19 33 24.7
MNK *i* LQ LQ 19 34 44.0
MNK *i* LR LR 19 35 48.1
MNK *i* LRM MLR 19 38 24.3
comp=E,38nm,15.3s
MNK *i* LRM MLR 19 38 25.6
comp=Z,849nm,15.7s
MNK *i* LRM MLR 19 38 30.7
comp=N,576nm,14.4s
MNK *i* ScS **ScS** 19 40 06.8 -0.6
MOS Moscow 22.08 133 *e*P **P** 19 28 49.6 -0.8
MOS *e* 19 29 12.0
MOS *e*S Sn 19 32 57.0 -7.3
MOS pmax pmax
comp=Z,65nm,1.1s
MOS MLR MLR
comp=Z,2µm,19.0s
KIRV Kirov 22.08 114 P **P** 19 28 47.9 -2.5
comp=Z,31nm,0.8s,baz=354,slow=16,SNR=17
KIRV LR LR 19 37 38.9
comp=Z,2µm,21.4s,baz=333,slow=38
KIRV Kirov 22.08 114 *i* P **P** 19 28 49.4 -0.9
NRDL Niedersach Rie 22.24 178 *e*P **P** 19 28 52.8 +0.8
comp=Z,844nm,2.4s,baz=359,slow=9.8
DSB Dublin 22.31 204 P **P** 19 28 51.9 -0.9
DSB IAmb IAmb 19 29 09.1
comp=Z,63nm,1.3s
RUE Ruedersdorf 22.34 172 *e*P **P** 19 28 53.7 +0.5
comp=Z,624nm,2.4s,baz=359,slow=9.8
IBBN Ibbenburen 22.42 181 *e*P **P** 19 28 55.0 +1.0
comp=Z,129nm,1.5s,baz=359,slow=9.8
FLTG Flechtingen 22.42 176 *e*P **P** 19 28 54.0 0.0
comp=Z,254nm,1.9s,baz=359,slow=9.8
NUUK Nuuk 22.43 275 *e*P **P** 19 28 51.9 -2.1
OBN Obninsk 22.47 135 P **P** 19 28 51.9 -2.6
comp=Z,11nm,0.9s,baz=334,slow=13,SNR=6.9
OBN LR LR 19 38 13.5
comp=Z,533nm,18.8s,baz=350,slow=38
OBN Obninsk 22.47 135*c i*P **P** 19 28 53.7 -0.8
OBN *e* 19 29 19.9
OBN *e*S **S** 19 32 59.0 -1.9
OBN pmax pmax
comp=Z,177nm,1.1s
OBN MLR MLR
comp=Z,2µm,17.0s
OBN Obninsk 22.47 135 P **P** 19 28 53.8 -0.8
ASSE Asse, Remlinge 22.61 177 *e*P **P** 19 28 56.4 +0.4
comp=Z,149nm,1.6s,baz=359,slow=9.8
CLZ Clausthal 22.89 177 *e*P **P** 19 28 59.9 +0.8
comp=Z,98nm,1.5s,baz=359,slow=9.8
GTTG Gottingen 23.19 178 *e*P **P** 19 29 02.8 +0.7
comp=Z,229nm,2.1s,baz=359,slow=9.8
NRIK Noril'sk 23.20 62 P **P** 19 29 03.0 +0.9
comp=Z,12nm,0.9s,baz=328,slow=7.4,SNR=16
NRIK LR LR 19 39 47.7
comp=Z,641nm,20.8s,baz=326,slow=41
NRIK Noril'sk 23.20 62*ce*P **P** 19 29 02.8 +0.7
NRIK pmax pmax
comp=Z,94nm,1.1s
NRIK Noril'sk 23.20 62 P **P** 19 29 03.4 +1.3
NRS Narsarsuaq 23.23 264 P **P** 19 29 02.0 -0.4
NRS pmax pmax
comp=Z,86nm,1.3s
NRS Narsarsuaq 23.23 264 P **P** 19 29 02.0 -0.4
BUG Bochum--Univer 23.29 182 *e*P **P** 19 29 03.5 +0.4
comp=Z,136nm,1.5s,baz=359,slow=9.8
BEL Belsk 23.43 161 *e*P **P** 19 29 05.8 +1.2
CLL Collm 23.49 173 *e*P **P** 19 29 05.0 -0.1
comp=Z,211nm,2.3s
CLL *i* 19 29 16.0
CLL *e* 19 29 25.0
CLL *i* PP **PnPn** 19 29 34.1 +2.8
CLL *e*PPP PPP 19 29 39.0
CLL *e*S **S** 19 33 22.0 +3.3
CLL Lm MLR 19 39 00.0
comp=N,700nm,18.5s
CLL Lm MLR 19 39 00.0
comp=E,500nm,18.9s
CLL Lm MLR 19 39 00.0
comp=Z,1µm,18.6s
CLL Collm 23.49 173 P **P** 19 29 04.7 -0.4
CLL Collm 23.49 173 *e*P **P** 19 29 05.5 +0.4
comp=Z,211nm,2.2s,baz=359,slow=9.8
KASTN Kahler Asten 23.52 180 *e*P **P** 19 29 06.2 +0.7
comp=Z,725nm,2.7s,baz=359,slow=9.8
NEUB Neuenburg 23.55 175 *e*P **P** 19 29 06.7 +1.0
comp=Z,152nm,1.4s,baz=359,slow=9.8
FBE Freiberg 23.89 172 *e*P **P** 19 29 09.6 +0.6
comp=Z,730nm,2.6s,baz=359,slow=9.8
UBBA Unterbreizbach 23.91 178 *e*P **P** 19 29 10.3 +1.1
comp=Z,466nm,2.5s,baz=359,slow=9.8
BRG Berggiesshubel 23.96 172 *e*P **P** 19 29 11.0 +1.3
BRG Amp 19 29 18.8
comp=Z,374nm,2.4s
BRG Berggiesshubel 23.96 172 S **S** 19 33 30.0 +3.9
BRG Berggiesshubel 23.96 172 *e*P **P** 19 29 09.9 +0.2
comp=Z,374nm,2.4s,baz=359,slow=9.8
UCC Uccle 23.99 187 *d*P **P** 19 29 10.7 +0.8
UCC *d*PnPn **PnPn** 19 29 35.1 -3.1
UCC Uccle 23.99 187 P **P** 19 29 09.2 -0.7
UCC pmax pmax
comp=Z,248nm,1.9s
UCC Uccle 23.99 187 P **P** 19 29 09.2 -0.7
KSP Ksiaz 24.10 168 *e*P **P** 19 29 11.4 +0.4
MOX Moxa 24.11 175 *e*P **P** 19 29 12.0 +0.8
comp=Z,568nm,2.3s,baz=359,slow=9.8
MOX *e*L L 19 40 15.5
comp=Z,771nm,18.2s
RES Resolute Bay 24.13 321 P **P** 19 29 11.2 +0.2
comp=Z,2.9nm,0.8s,baz=80,slow=7.6,SNR=1.7
RES LR LR 19 38 16.5
comp=Z,700nm,19.4s,baz=56,slow=36
RES Resolute Bay 24.13 321 P **P** 19 29 10.1 -1.0
RES pmax pmax
comp=Z,15nm,1.0s
RES Resolute Bay 24.13 321 P **P** 19 29 10.1 -1.0
MEM Membach 24.14 184 *d*P **P** 19 29 11.8 +0.4
MEM *d*PnPn **PnPn** 19 29 39.3 -0.9
BTNL Ternell 24.16 184 *d*P **P** 19 29 12.6 +1.0
comp=Z,44nm,2.2s
BSTI Sart Tilman 24.17 185 *d*P **P** 19 29 12.7 +1.0
comp=Z,18nm,2.3s
BSTI *d*PnPn **PnPn** 19 29 42.6 +1.9
AHRW Bad Neuenahr-A 24.19 182 *e*P **P** 19 29 12.8 +1.0
comp=Z,587nm,2.3s,baz=359,slow=9.8
SNF Seneffe 24.28 187 *d*P **P** 19 29 13.5 +0.8
comp=Z,52nm,2.7s
PLN Plauen 24.29 174 *e*P **P** 19 29 13.8 +1.1
comp=Z,705nm,2.9s,baz=359,slow=9.8
PVCC Panska Ves 24.33 171 AMS AMS 19 41 00.0
comp=Z,600nm,11.8s
WERD Werda 24.33 174 *e*P **P** 19 29 14.4 +1.2
comp=Z,710nm,2.9s,baz=359,slow=9.8
CHVC Chvalec 24.34 168 *e*P **P** 19 29 14.4 +1.1
CHVC AMS AMS 19 37 10.0
comp=Z,700nm,25.0s
BCLA Clavier 24.34 185 *d*P **P** 19 29 14.2 +0.9
comp=Z,57nm,2.3s

BCLA *d*PnPn **PnPn** 19 29 41.9 -1.1
TANN Tannenbergstha 24.36 174 *e*P **P** 19 29 14.6 +1.0
comp=Z,518nm,2.5s,baz=359,slow=9.8
OSTC Ostas 24.38 168 *e*P **P** 19 29 14.9 +1.3
OSTC *e*S S 19 33 46.9 +14
OSTC AMS AMS 19 38 10.0
comp=Z,600nm,17.6s
BGES Gesves 24.38 185 *d*P **P** 19 29 15.1 +1.5
comp=Z,34nm,2.2s
BGES *d*PnPn **PnPn** 19 29 46.3 +2.7
BHOU Houvegnez 24.39 184 *d*P **P** 19 29 14.7 +0.9
comp=Z,80nm,2.4s
GUNZ Gunzen 24.41 174 *e*P **P** 19 29 14.8 +0.9
comp=Z,452nm,2.2s,baz=359,slow=9.8
UPC Upice 24.42 168 *e*P **P** 19 29 16.3 +2.4
UPC *e*S **S** 19 33 32.0 -1.6
UPC MLR MLR
comp=Z,700nm,22.6s
UPC Upice 24.42 168 *e*P **P** 19 29 16.3 +2.4
UPC *e*S **S** 19 33 32.0 -1.6
UPC AMS AMS 19 37 30.0
comp=Z,700nm,22.6s
BMRD Maredsous 24.48 186 *d*P **P** 19 29 15.1 +0.7
comp=Z,52nm,2.2s
WERN Wernitzgruen 24.49 174 *e*P **P** 19 29 15.9 +1.2
comp=Z,453nm,2.2s,baz=359,slow=9.8
TNS Taunus Mts 24.50 180 *e*P **P** 19 29 15.8 +1.0
comp=Z,174nm,1.9s,baz=359,slow=9.8
NKC Novy Kostel 24.55 174 *e*P **P** 19 29 16.0 +0.9
NKC MLR MLR
comp=Z,1µm,17.0s
NKC Novy Kostel 24.55 174 *e*P **P** 19 29 16.0 +0.9
NKC *e*S S 19 33 47.4 +12
NKC AMS AMS 19 39 30.0
comp=Z,1µm,17.0s
DPC Dobruska-Polom 24.59 168 *e*P **P** 19 29 16.7 +1.1
DPC MLR MLR
comp=Z,700nm,24.3s
DPC Dobruska-Polom 24.59 168 *e*P **P** 19 29 16.7 +1.1
DPC AMS AMS 19 37 20.0
comp=Z,700nm,24.3s
DOU Dourbes 24.69 186 *d*P **P** 19 29 18.2 +1.8
DOU *d*PnPn **PnPn** 19 29 47.7 0.0
PRU Pruhonice 24.86 171 *e*P **P** 19 29 18.9 +0.9
PRU *e*S **S** 19 33 43.2 +2.4
PRU MLR MLR
comp=Z,600nm,21.7s
PRU Pruhonice 24.86 171 *e*P **P** 19 29 18.9 +0.9
PRU *e*S **S** 19 33 43.2 +2.4
PRU AMS AMS 19 37 20.0
comp=Z,600nm,21.7s
KRLC Kraliky 24.89 167 *e*P **P** 19 29 15.7 -2.6
KRLC MLR MLR
comp=Z,500nm,21.8s
KRLC Kraliky 24.89 167 *e*P **P** 19 29 15.7 -2.6
KRLC *e*S S 19 33 49.6 +8.3
KRLC AMS AMS 19 38 00.0
comp=Z,500nm,21.8s
ROTZ Rotzenmuhle 25.01 174 *e*P **P** 19 29 20.4 +1.1
comp=Z,112nm,1.8s,baz=359,slow=9.8
GRA1 Grafenberg Arr 25.06 176 P **P** 19 29 18.5 -1.2
GRF Grafenberg Arr 25.06 176 P **P** 19 29 18.5 -1.2
GRF pmax pmax
comp=Z,82nm,1.3s
GRF Grafenberg Arr 25.06 176 *e*P **P** 19 29 20.9 +1.2
comp=Z,398nm,2.3s,baz=359,slow=9.8
GRF *e*L L 19 40 54.6
comp=Z,783nm,18.6s
GRFO Grafenberg 25.06 176 P **P** 19 29 18.0 -1.8
GRFO pmax pmax
comp=Z,70nm,1.2s
GRFO Grafenberg 25.06 176 P **P** 19 29 18.0 -1.8
WLF Walferdange 25.08 184 *d*P **P** 19 29 23.2 +3.3
comp=Z,42nm,2.3s
WLF Walferdange 25.08 184 P **P** 19 29 18.7 -1.2
WLF pmax pmax
comp=Z,48nm,1.1s
WLF Walferdange 25.08 184 P **P** 19 29 18.7 -1.2
WLF IAmb IAmb 19 29 29.5
comp=Z,48nm,1.1s
OKC Ostrava-Krasne 25.21 165 *e*P **P** 19 29 24.4 +3.3
OKC MLR MLR
comp=Z,800nm,20.9s
OKC Ostrava-Krasne 25.21 165 *e*P **P** 19 29 24.4 +3.3
OKC AMS AMS 19 38 30.0
comp=Z,800nm,20.9s
MORC Moravsky Berou 25.23 166 ⇓P **P** 19 29 23.5 +2.1
MORC Moravsky Berou 25.23 166 *e*P **P** 19 29 23.5 +2.1
MORC Moravsky Berou 25.23 166 P **P** 19 29 20.9 -0.5
MORC pmax pmax
comp=Z,34nm,1.2s
MORC Moravsky Berou 25.23 166 P **P** 19 29 20.9 -0.5
MORC IAmb IAmb 19 29 54.0
comp=Z,34nm,1.2s
LPSR Galich'ya Gora 25.30 134 *e*P **P** 19 29 24.6 +2.8
LPSR pmax pmax
comp=Z,100nm,1.1s
LPSR MLR MLR
comp=Z,2µm,22.0s
AKASG Malin Array Be 25.52 149 P **P** 19 29 22.1 -1.7
comp=Z,6.9nm,0.6s,baz=347,slow=9.5,SNR=26
AKASG LR LR 19 39 15.2
comp=Z,878nm,21.8s,baz=335,slow=36
AKASG Malin Array Be 25.52 149 P **P** 19 29 21.9 -1.9
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 25.52 149 P **P** 19 29 21.9 -1.9
AKBB Malin Array Si 25.52 149 P **P** 19 29 22.6 -1.2
AKBB pmax pmax
comp=Z,63nm,1.3s
AKBB Malin Array Si 25.52 149 P **P** 19 29 22.6 -1.2
TREC Trest 25.60 169 *e*P **P** 19 29 34.7 +10
TREC MLR MLR
comp=Z,700nm,20.1s
TREC Trest 25.60 169 AMS AMS 19 39 00.0
comp=Z,700nm,20.1s
VRAC Vranov 25.65 168 P **P** 19 29 25.4 +0.3
comp=Z,7.1nm,0.8s,baz=14,slow=9.0,SNR=11
VRAC LR LR 19 39 46.2
comp=Z,521nm,19.2s,baz=354,slow=37
VRAC Vranov 25.65 168 ⇓P **P** 19 29 26.9 +1.9
VRAC Vranov 25.65 168 *e*P **P** 19 29 25.3 +0.3
VRAC Vranov 25.65 168 ⇓P **P** 19 29 26.9 +1.9
WET Wettzell 25.65 173 *e*P **P** 19 29 27.0 +1.9
comp=Z,112nm,2.0s,baz=359,slow=9.8
KHC Kasperske Hory 25.68 172 *e*P **P** 19 29 26.6 +1.1
KHC *e*S **S** 19 33 59.3 +5.4
KHC MLR MLR
comp=Z,900nm,20.5s
KHC Kasperske Hory 25.68 172 *e*P **P** 19 29 26.6 +1.1
KHC *e*S **S** 19 33 59.3 +5.4
KHC AMS AMS 19 40 10.0
comp=Z,900nm,20.5s
LVV L'vov 25.75 157 *e*P **P** 19 29 30.8 +4.9
LVV *e* 19 30 16.2
LVV *e*S **S** 19 33 55.3 +0.5
LVV *e*SS SnSn 19 35 19.4 +30
LVV MLR MLR
comp=N,1µm,10.0s
LVV MLR MLR
comp=E,500nm,10.0s
LVV MLR MLR
comp=Z,900nm,10.0s
NIE Niedzica 25.79 162 *e*P **P** 19 29 29.8 +3.4
KRUC Moravsky 25.88 168 *e*P **P** 19 29 27.6 +0.4
STU Stuttgart 25.96 179 P **P** 19 29 25.6 -2.3
STU pmax pmax
comp=Z,45nm,1.1s
STU Stuttgart 25.96 179 P **P** 19 29 25.6 -2.3
STU IAmb IAmb 19 29 38.8
comp=Z,45nm,1.1s
STU Stuttgart 25.96 179 *e*P **P** 19 29 29.2 +1.3
comp=Z,246nm,2.1s,baz=359,slow=9.8
GEC2 GERESS Array S 25.97 172 P **P** 19 29 27.9 -0.2
GEC2 IAmb IAmb 19 29 37.1
comp=Z,51nm,1.4s
GEC2 GERESS Array S 25.97 172 *e*P **P** 19 29 29.7 +1.6
comp=Z,193nm,2.3s,baz=359,slow=9.8
GERES GERESS Array B 25.97 172 P **P** 19 29 28.8 +0.6
comp=Z,7.0nm,0.8s,baz=10,slow=8.1,SNR=27
GERES LR LR 19 40 56.8
comp=Z,658nm,18.4s,baz=360,slow=40
GERES GERESS Array B 25.97 172 P **P** 19 29 28.8 +0.6
GERES GERESS Array B 25.97 172 P **P** 19 29 28.2 0.0
LANS Liptovska Anna 25.99 164 *e*P **P** 19 29 30.1 +1.8

LANS Liptovska Anna 25.99 164 *e*PN P 19 29 40.8 +13
CKRC Cesky Krumlov 26.02 171 *e*P **P** 19 29 29.0 +0.5
CKRC *e*S **S** 19 34 06.2 +7.0
JAVC Velka Javorina 26.16 166 *e*P **P** 19 29 30.7 +0.9
VORR Voronezh 26.24 134 *e*P **P** 19 29 30.0 -0.4
VORR pmax pmax
comp=Z,250nm,2.0s
ARU Arti 26.29 106 P **P** 19 29 30.5 -0.3
comp=Z,3.7nm,0.7s,baz=335,slow=5.3,SNR=21
ARU LR LR 19 40 32.2
comp=Z,1µm,19.9s,baz=332,slow=38
ARU Arti 26.29 106*c i*P **P** 19 29 31.3 +0.5
ARU 19 30 07.6
ARU 19 32 55.1
ARU S **S** 19 34 04.3 +1.1
ARU pmax pmax
comp=Z,54nm,1.8s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 26.29 106 P **P** 19 29 30.7 -0.1
BFO Black Forest 26.40 180 P **P** 19 29 31.9 0.0
BFO pmax pmax
comp=Z,42nm,0.8s
BFO Black Forest 26.40 180 P **P** 19 29 31.9 0.0
BFO Black Forest 26.40 180 *e*P **P** 19 29 33.7 +1.8
comp=Z,64nm,1.0s,baz=359,slow=9.8
CRVS Cervenica-Dubn 26.40 161 *e*P **P** 19 29 34.8 +2.9
CRVS Cervenica-Dubn 26.40 161 *e*P **P** 19 29 34.8 +2.9
KOLS Kolonicke sedl 26.45 159 *e*P **P** 19 29 34.8 +2.5
KOLS Kolonicke sedl 26.45 159 *e*P **P** 19 29 34.8 +2.5
SVE Sverdlovsk 26.47 103 *e*P **P** 19 29 34.0 +1.6
SVE pmax pmax
comp=Z,48nm,1.3s
SVE MLR MLR
comp=Z,1µm,18.0s
ECH Echery 26.52 182 P **P** 19 29 33.3 +0.3
ECH pmax pmax
comp=Z,28nm,1.0s
ECH Echery 26.52 182 P **P** 19 29 33.3 +0.3
ECH IAmb IAmb 19 29 41.8
comp=Z,28nm,1.0s
VYHS Vyhne 26.60 165 *e*P **P** 19 29 36.8 +3.1
VYHS Vyhne 26.60 165 *e*P **P** 19 29 36.8 +3.1
MODS Modra-Piesok 26.62 167 *e*P **P** 19 29 35.8 +1.9
MODS Modra-Piesok 26.62 167 *e*P **P** 19 29 35.8 +1.9
VSR Storozhevoye 26.66 134 *e*P **P** 19 29 36.4 +2.2
VSR pmax pmax
comp=Z,40nm,1.0s
VSR MLR MLR
comp=Z,2µm,18.0s
UZH Uzhgorod 26.75 160 *e*P **P** 19 29 37.0 +2.0
UZH *e* 19 30 16.8
UZH *i* S **S** 19 34 11.0 +0.5
UZH MLR MLR
comp=Z,100nm,18.0s
ZST Bratislava 26.78 167 *e*P **P** 19 29 39.2 +3.9
ZST Bratislava 26.78 167 *e*P **P** 19 29 39.2 +3.9
CLF Chambon-Foret 26.84 189 P **P** 19 29 36.6 +0.8
VORD Divnogorie 26.93 134 *e*P **P** 19 29 38.2 +1.6
VORD pmax pmax
comp=Z,20nm,1.0s
CONA Conrad Observa 26.98 169 *e*P **P** 19 29 38.3 +1.0
comp=Z,3.5nm,0.7s,SNR=15
MOA Molln 26.99 172 *e*P **P** 19 29 37.9 +0.7
comp=Z,7.4nm,1.1s
RJOB Jochberg 27.05 174 *e*P **P** 19 29 39.1 +1.2
comp=Z,1µm,2.5s,baz=359,slow=9.8
UBR Ueberruh 27.05 178 *e*P **P** 19 29 39.3 +1.4
comp=Z,165nm,2.1s,baz=359,slow=9.8
FRB Frobisher Bay 27.16 288 P **P** 19 29 40.2 +1.6
comp=Z,1.7nm,0.4s,baz=71,slow=4.5,SNR=3.2
FRB LR LR 19 39 38.3
comp=Z,1µm,21.6s,baz=20,slow=35
FRB Frobisher Bay 27.16 288 P **P** 19 29 40.2 +1.6
VRH Novokhopyorsk 27.18 131 *e*P **P** 19 29 37.5 -1.3
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,1µm,19.0s
PSZ Piszkesteto 27.25 163 ⇑P **P** 19 29 41.7 +2.1
PSZ Piszkesteto 27.25 163 P **P** 19 29 39.1 -0.5
PSZ pmax pmax
comp=Z,144nm,1.8s
PSZ Piszkesteto 27.25 163 P **P** 19 29 39.1 -0.5
RETA Reutte 27.26 177 *e*P **P** 19 29 40.8 +1.0
comp=Z,7.0nm,0.9s
BELG Belogornoye 27.32 123 P **P** 19 29 39.7 -0.3
comp=Z,30nm,0.9s,baz=331,slow=8.1,SNR=5.0
BELG LR LR 19 40 38.8
comp=Z,2µm,19.8s,baz=328,slow=37
BELG Belogornoye 27.32 123 P **P** 19 29 39.7 -0.3
MOTA Moosalm 27.41 176 *e*P **P** 19 29 42.2 +1.1
comp=Z,18nm,1.2s
WATA Walderalm 27.42 176 *e*P **P** 19 29 42.6 +1.3
comp=Z,9.4nm,0.8s
DAVA Damuels 27.45 178 *e*P **P** 19 29 42.2 +0.7
comp=Z,7.5nm,0.9s
WTTA Wattenberg 27.50 175 *e*P **P** 19 29 43.4 +1.4
comp=Z,12nm,0.9s
ARSA Arzberg 27.64 170 *e*P **P** 19 29 43.5 +0.4
FETA Feichten 27.72 177 *e*P **P** 19 29 45.5 +1.6
comp=Z,6.8nm,1.1s
KBA Koelnbreinsper 27.73 173 *e*P **P** 19 29 45.2 +1.1
comp=Z,7.6nm,0.9s
SORM Soroca 27.91 151 ⇓P **P** 19 29 45.6 +0.2
SORM Soroca 27.91 151 ⇓P **P** 19 29 45.6 +0.2
DAVOX Davos/Dischmat 27.95 178 P **P** 19 29 44.2 -1.9
comp=Z,0.9nm,0.4s,baz=79,slow=16,SNR=1.8
DAVOX LR LR 19 42 16.0
comp=Z,694nm,18.9s,baz=356,slow=40
DAVOX Davos/Dischmat 27.95 178 P **P** 19 29 44.2 -1.9
BUR08 Bucovina Ar. S 28.02 156 P **P** 19 29 46.0 -0.5
BUR08 IAmb IAmb 19 30 11.2
comp=Z,34nm,1.1s
ABTA Abfaltersbach 28.03 174 *e*P **P** 19 29 47.9 +1.3
comp=Z,13nm,1.2s
BURAR Bucovina Array 28.05 156 ⇓P **P** 19 29 48.7 +1.9
BURAR Bucovina Array 28.05 156 ⇓P **P** 19 29 48.7 +1.9
BURAR Bucovina Array 28.05 156 P **P** 19 29 47.0 +0.2
BURAR IAmb IAmb 19 30 05.7
comp=Z,14nm,0.8s
MYKA Terra Mystica 28.19 173 *e*P **P** 19 29 49.6 +1.6
comp=Z,42nm,1.7s
SOKA Soboth 28.19 171 *e*P **P** 19 29 49.3 +1.2
comp=Z,20nm,2.0s
ZOU Zoufplan 28.24 174 P **P** 19 29 48.2 -0.5
TUE Stuetta 28.26 179 P **P** 19 29 48.0 -0.8
TUE IAmb IAmb 19 29 57.3
comp=Z,26nm,0.9s
OBKA Obir 28.34 171 *e*P **P** 19 29 51.1 +1.7
comp=Z,9.2nm,0.8s
SENIN Lac Senin/Sane 28.37 182 P **P** 19 29 49.3 -0.5
SENIN IAmb IAmb 19 30 00.2
comp=Z,28nm,1.0s
PRAR RASCA 28.41 154 ⇓P **P** 19 29 52.3 +2.3
STAL STALIGIAL 28.53 174 P **P** 19 29 49.8 -1.2
STAL IAmb IAmb 19 30 26.3
comp=Z,34nm,1.4s
CADS Cadrg 28.59 172 *e*P **P** 19 29 52.7 +1.1
CTI Castel Tesino 28.71 176 P **P** 19 29 52.0 -0.8
CTI pmax pmax
comp=Z,20nm,1.0s
CTI Castel Tesino 28.71 176 P **P** 19 29 52.0 -0.8
CTI IAmb IAmb 19 30 00.6
comp=Z,20nm,1.0s
LJU Ljubljana 28.80 171 *e*P **P** 19 29 55.1 +1.7
BIZ Bicaz 28.82 155 ⇓P **P** 19 29 55.0 +1.5
MORH Mrgy, Hungar 28.86 165 ⇓P **P** 19 29 55.3 +1.5
TRI Trieste 29.11 172 P **P** 19 29 55.8 -0.3
TRI pmax pmax
comp=Z,11nm,0.7s
TRI Trieste 29.11 172 P **P** 19 29 55.8 -0.3
SALO Salr 29.12 177 P **P** 19 29 55.5 -0.7
TIXI Tiksi 29.36 34 P **P** 19 29 59.3 +1.2
comp=Z,13nm,1.0s,baz=327,slow=7.3,SNR=33
TIXI LR LR 19 42 17.1
comp=Z,187nm,19.5s,baz=326,slow=38
TIXI Tiksi 29.36 34 P **P** 19 29 58.3 +0.2
TIXI pmax pmax
comp=Z,25nm,1.1s
TIXI Tiksi 29.36 34 P **P** 19 29 58.3 +0.2
TIXI IAmb IAmb 19 30 03.1
comp=Z,25nm,1.1s
TEOL Teolo 29.40 176 P **P** 19 29 59.0 +0.3

BZS Buzias 29.68 161 ⇑P **P 19 30 03.2 +2.1**
BZS Buzias 29.68 161 ⇑P **P 19 30 03.2 +2.1**
BNI Bardonecchia 29.69 183 P **P 19 30 02.2 +0.8**
BNI pmax pmax
comp=Z,33nm,1.4s
BNI Bardonecchia 29.69 183 P **P 19 30 02.2 +0.8**
BNI IAmb IAmb 19 30 12.2
comp=Z,33nm,1.4s
GHRR 29.84 153 ⇑P **P 19 30 04.7 +2.1**
VRI Vrincioaia 29.95 154 ⇑P **P 19 30 05.6 +2.0**
VRI Vrincioaia 29.95 154 ⇑P **P 19 30 05.6 +2.0**
PLOR Plostina 29.95 154 ⇓P **P 19 30 05.6 +2.0**
PLOR Plostina 29.95 154 ⇓P **P 19 30 05.6 +2.0**
PRMA PARMA 29.98 178 ? P **P 19 30 04.9 +1.2**
FRGS Fruska Gora 29.99 164 ⇑P **P 19 30 05.8 +1.8**
GZR Gura Zlata 30.00 160 ⇑P **P 19 30 06.1 +2.0**
GZR Gura Zlata 30.00 160 ⇑P **P 19 30 06.1 +2.0**
VOIR 30.18 157 ⇑P **P 19 30 07.8 +2.1**
VOIR 30.18 157 ⇑P **P 19 30 07.8 +2.1**
MLR Muntele Rosu 30.23 155 P **P 19 30 09.4 +3.2**
comp=Z,3.2nm,0.8s,baz=328,slow=6.9,SNR=7.0
MLR LR LR 19 42 48.3
comp=Z,957nm,18.1s,baz=356,slow=38
MLR Muntele Rosu 30.23 155 ⇓P **P 19 30 08.3 +2.1**
MLR Muntele Rosu 30.23 155 P **P 19 30 06.6 +0.4**
MLR pmax pmax
comp=Z,33nm,1.4s
MLR Muntele Rosu 30.23 155 P **P 19 30 06.6 +0.4**
MLR IAmb IAmb 19 30 47.5
comp=Z,33nm,1.4s
ZCCA Zocca 30.40 177 P **P 19 30 06.0 -1.6**
ZCCA IAmb IAmb 19 30 25.4
comp=Z,23nm,0.8s
MSSA Maissana 30.41 179 P **P 19 30 06.7 -1.1**
MSSA IAmb IAmb 19 30 33.3
comp=Z,23nm,1.1s
HERR Herculane 30.48 160 ⇓P **P 19 30 09.8 +1.5**
MDVR Moldovita 30.51 161 ⇓P **P 19 30 10.6 +2.0**
VLC Villacollemand 30.58 177 P **P 19 30 10.3 +1.1**
DIVS Divibare 31.06 164 P **P 19 30 13.6 +0.1**
TPGR Topolog 31.14 152 ⇑P **P 19 30 16.0 +1.9**
OSSC Osservatorio P 31.23 176 P **P 19 30 15.8 +1.0**
HARR Harsova 31.25 153 ⇓P **P 19 30 16.8 +1.8**
HARR Harsova 31.25 153 ⇓P **P 19 30 16.8 +1.8**
MURB Monte Urbino 31.52 174 P **P 19 30 17.4 0.0**
TIRR Tirgusor 31.54 152 ⇑P **P 19 30 19.1 +1.6**
TIRR Tirgusor 31.54 152 P **P 19 30 17.8 +0.2**
TIRR pmax pmax
comp=Z,182nm,1.9s
TIRR Tirgusor 31.54 152 P **P 19 30 17.8 +0.2**
AKTO Aktyubinsk 31.59 112 P **P 19 30 18.1 +0.1**
comp=Z,7.3nm,0.8s,baz=323,slow=9.8,SNR=24
AKTO LR LR 19 43 41.0
comp=Z,1μm,19.9s,baz=349,slow=38
AKTO Aktyubinsk 31.59 112 P **P 19 30 18.1 +0.1**
BOVS Bovan 31.65 162 ⇑P **P 19 30 20.5 +2.0**
CASP Castiglione de 31.95 177 P **P 19 30 21.5 +0.2**
CASP IAmb IAmb 19 30 28.5
comp=Z,16nm,1.1s
NRCA Norcia 31.96 174 P **P 19 30 21.4 0.0**
BRVK Borovoye 32.36 97 *ce* P **P 19 30 24.8 +0.1**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 32.36 97 P **P 19 30 24.0 -0.7**
BRVK IAmb IAmb 19 30 31.8
comp=Z,16nm,0.9s
BVAR Borovoye Array 32.42 97 P **P 19 30 25.4 +0.1**
comp=Z,6.3nm,0.9s,baz=274,slow=9.8,SNR=13
BVAR PcP **PcP 19 33 12.9 +0.7**
comp=Z,1.6nm,0.7s,baz=55,slow=5.5,SNR=2.0
BVAR Borovoye Array 32.42 97 P **P 19 30 25.4 +0.1**
BVAR 19 33 12.9
AQU L'Aquila 32.45 173 P **P 19 30 25.8 +0.1**
AQU pmax pmax
comp=Z,122nm,2.0s
AQU L'Aquila 32.45 173 P **P 19 30 25.8 +0.1**
ANN Anapa 32.54 140 *eP* **P 19 30 27.9 +1.6**
ANN *e* 19 31 31.0
ANN *eS* **S 19 35 45.9 +4.6**
ANN pmax pmax
comp=Z,53nm,2.1s
PDG Podgorica 32.66 165 ⇑P **P 19 30 28.4 +1.0**
PDG Podgorica 32.66 165 P **P 19 30 26.9 -0.6**
PDG IAmb IAmb 19 30 34.6
comp=Z,39nm,1.9s
VTS Vitosha 32.80 160 ⇑P **P 19 30 30.2 +1.4**
VTS Vitosha 32.80 160 P **P 19 30 27.6 -1.2**
VTS pmax pmax
comp=Z,7.0nm,0.7s
VTS Vitosha 32.80 160 P **P 19 30 27.6 -1.2**
INTR Introdacqua 32.81 173 P **P 19 30 27.9 -0.9**
INTR IAmb IAmb 19 31 03.2
comp=Z,24nm,1.3s
SGRT San Giovanni R 33.14 170 P **P 19 30 30.4 -1.3**
SGRT IAmb IAmb 19 30 37.0
comp=Z,9.8nm,0.8s
AB31 Akbulak array 33.16 111 *eP* **P 19 30 32.0 +0.2**
ABKAR Akbulak array 33.16 111 P **P 19 30 31.7 -0.1**
ABKAR IAmb IAmb 19 30 47.6
comp=Z,20nm,1.1s
ABKAR Akbulak array 33.16 111 P **P 19 30 31.1 -0.6**
C36M Paulatuk 33.17 332 P **P 19 30 32.5 +0.9**
C36M IAmb IAmb 19 30 40.3
comp=Z,27nm,1.3s
C36M Paulatuk 33.17 332 P 19 30 31.2
baz=21
GOF Gofitskoye 33.31 133 ⇑ *eP* **P 19 30 34.1 +1.0**
GOF pmax pmax
comp=Z,25nm,0.6s
PGAV Gavieira, Arco 33.65 203 *eS* S 19 36 08.4 +9.4
PGAV *eLR* LR 19 40 00.5
comp=Z,229nm,20.0s
TIR Tirane 33.78 165 P **P 19 30 37.4 +0.1**
TIR pmax pmax
comp=Z,16nm,0.6s
TIR Tirane 33.78 165 P **P 19 30 37.4 +0.1**
TIR IAmb IAmb 19 30 53.9
comp=Z,16nm,0.6s
PAOL Paolisi 33.81 172 P **P 19 30 37.3 -0.3**
A21K Barrow 33.97 352 P **P 19 30 38.1 -0.4**
A21K Barrow 33.97 352 P 19 30 38.3
baz=7.1
SOC Sochi 34.11 138 *eP* **P 19 30 37.9 -2.2**
SOC *e* 19 31 51.6
SOC *eS* **S 19 36 04.0 -1.9**
SOC *eSS* **SnSn 19 38 14.9 +2.0**
SOC *eSSS* SSS 19 38 38.3
SOC MLR MLR
comp=Z,1μm,15.0s
POLO Lamas de Olo 34.19 202 *eP* **P 19 30 42.1 +1.2**
comp=Z,21nm,1.6s
MATE Matera 34.28 169 ⇓P **P 19 30 42.3 +0.7**
KIV Kislovodsk 34.30 134 *eP* **P 19 30 40.4 -1.5**
KIV *eS* **S 19 36 08.4 -0.6**
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 34.30 134 P **P 19 30 40.1 -1.7**
KIV IAmb IAmb 19 31 43.7
comp=Z,12nm,0.8s
KVAR Kislovodsk Arr 34.31 134 LR LR 19 45 10.3
comp=Z,1μm,19.9s,baz=263,slow=37
MVO Moncorvo 34.32 201 *eS* S 19 36 25.3 +16
MVO *eLQ* LQ 19 37 29.8
MVO *eLR* LR 19 40 24.0
comp=Z,204nm,16.0s
SCHQ Schefferville 34.41 278 LR LR 19 43 46.4
comp=Z,2μm,18.4s,baz=50,slow=35
SCHQ Schefferville 34.41 278 P **P 19 30 40.7 -1.9**
SHA1 Shidzhatmaz 34.51 134 *i* P **P 19 30 42.1 -1.7**
KBZ Khabaz 34.56 134 P **P 19 30 42.3 -1.7**
comp=Z,4.7nm,0.8s,baz=341,slow=14,SNR=11
KBZ LR LR 19 45 25.1
comp=Z,2μm,20.5s,baz=338,slow=37
KBZ Khabaz 34.56 134 *ce* P **P 19 30 46.8 +2.8**
ALN Alexandroupoli 34.78 156 P **P 19 30 44.7 -1.2**
ALN Alexandroupoli 34.78 156 P **P 19 30 44.7 -1.2**
PVIS Viseu 34.85 202 *eP* **P 19 30 46.5 -0.1**
comp=Z,38nm,1.5s
NCK Nalchik 34.92 133 *i* P **P 19 30 47.6 +0.5**
NCK pmax pmax
comp=Z,7.0nm,0.8s
SCTE Santa Cesarea 34.96 167 P **P 19 30 46.1 -1.3**
SCTE IAmb IAmb 19 31 01.9
comp=Z,24nm,0.9s
MTE Manteigas 35.13 202 *eS* S 19 36 36.9 +15
MTE *eLR* LR 19 40 48.1
comp=Z,148nm,20.0s
MTE Manteigas 35.13 202 P **P 19 30 46.7 -2.3**
MTE IAmb IAmb 19 31 15.2
comp=Z,37nm,1.4s
LIT Litokhoron 35.23 161 P **P 19 30 48.8 -1.0**
LIT Litokhoron 35.23 161 P **P 19 30 48.8 -1.0**
VSL Villasalto 35.23 179 P **P 19 30 48.4 -1.4**
INK Inuvik 35.26 337 P **P 19 30 49.5 -0.3**
comp=Z,4.3nm,0.8s,baz=7.8,slow=10,SNR=7.7
INK Inuvik 35.26 337 P **P 19 30 48.5 -1.3**
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 35.26 337 P **P 19 30 48.5 -1.3**
INK Inuvik 35.27 337 P 19 30 48.8
baz=17
ZAA0 Zalesovo Array 35.43 82 P **P 19 30 50.6 -0.8**
ZALV Zalesovo Beam 35.43 82 P **P 19 30 50.5 -0.9**
comp=Z,10nm,0.8s,baz=330,slow=8.8,SNR=17
ZALV LR LR 19 48 28.5
comp=Z,669nm,18.0s,baz=318,slow=42
ZALV Zalesovo Beam 35.43 82 P **P 19 30 50.7 -0.6**
ZALV Zalesovo Beam 35.43 82 P **P 19 30 50.7 -0.6**
ESBB Sonseca Array 35.53 197 P **P 19 30 50.3 -2.1**
ESDC Sonseca Array 35.54 197 P **P 19 30 52.5 0.0**
comp=Z,2.0nm,0.8s,baz=360,slow=9.0,SNR=12
ESDC Sonseca Array 35.54 197 P **P 19 30 51.5 -1.0**
ESDC IAmb IAmb 19 31 34.0
comp=Z,42nm,1.9s
PCAS Casmilo, Conde 35.57 203 *eP* **P 19 30 52.4 -0.3**
comp=Z,40nm,1.9s
PCAS *eS* **S 19 36 21.2 -7.2**
GROC Groznyy 35.64 131 *eP* **P 19 30 52.9 -0.4**
GROC *e* 19 32 12.3
GROC *e* 19 33 19.0
GROC *eS* **S 19 36 28.0 -1.4**
GROC *e* 19 41 08.2
GROC pmax pmax
comp=Z,44nm,1.1s
PCBR Castelo Branco 35.68 201 *eP* **P 19 30 57.0 +3.4**
comp=Z,27nm,2.1s
PAB San Pablo 35.69 197 P **P 19 30 51.7 -2.2**
PAB pmax pmax
comp=Z,16nm,1.2s
PAB San Pablo 35.69 197 P **P 19 30 51.7 -2.2**
TIP Timpagrande 35.75 169 ⇑P **P 19 30 54.8 +0.4**
TIP Timpagrande 35.75 169 P **P 19 30 52.4 -2.0**
ONI Oni 35.77 134 P **P 19 30 54.3 -0.2**
ONI pmax pmax
comp=Z,9.0nm,1.0s
ONI Oni 35.77 134 P **P 19 30 54.3 -0.2**
BRZS Berezniki 35.79 97 *eP* **P 19 30 54.0 -0.5**
comp=Z,51nm,3.0s,baz=96
BRZS Berezniki 35.79 97 *eP* **P 19 30 54.0 -0.5**
BRZS pmax pmax
comp=Z,51nm,3.0s
PMRV Marv??o 36.08 201 *eP* **P 19 30 57.6 +0.5**
comp=Z,23nm,1.5s
PMRV *eS* S 19 36 50.7 +14
PMRV *eLR* LR 19 41 09.1
comp=Z,123nm,18.0s
MAK Makhachkala 36.23 129 *eP* P 19 30 53.5 -4.8
MAK *eS* **S 19 36 32.0 -6.3**
MAK *eSS* **SS 19 39 09.4 -6.5**
MAK pmax pmax
comp=Z,212nm,1.3s
MAK MLR MLR
comp=Z,645nm,15.0s
TOLK Toolik Lake Re 36.28 347 P **P 19 30 59.5 +0.9**
TOLK Toolik Lake Re 36.28 347 P 19 30 57.4
baz=9.8
AGG Agios Georgios 36.28 162 P **P 19 30 58.4 -0.5**
AGG pmax pmax
comp=Z,39nm,1.3s
AGG Agios Georgios 36.28 162 P **P 19 30 58.4 -0.5**
AGG IAmb IAmb 19 31 23.5
comp=Z,39nm,1.3s
PMTG Montargil 36.52 202 *eP* **P 19 31 02.2 +1.4**
comp=Z,27nm,1.5s
PMTG *eS* S 19 36 58.1 +15
CEL Celeste 36.63 170 P **P 19 31 01.2 -0.6**
CEL IAmb IAmb 19 31 12.6
comp=Z,18nm,0.8s
ANTO Ankara 36.63 148 P **P 19 31 02.3 +0.4**
ANTO pmax pmax
comp=Z,9.0nm,0.7s
ANTO Ankara 36.63 148 P **P 19 31 02.3 +0.4**
PESTR Estremoz 36.65 201 *eP* **P 19 31 02.5 +0.5**
comp=Z,41nm,1.9s
PESTR *eS* S 19 36 57.9 +13
PESTR Estremoz 36.65 201 P **P 19 31 00.1 -1.9**
BR231 Keskin MP Arra 36.65 148 P **P 19 31 01.5 -0.6**
BR231 IAmb IAmb 19 31 30.9
comp=Z,48nm,1.7s
KURK Kurchatov 36.70 90 P **P 19 31 03.2 +1.0**
KURK Kurchatov 36.70 90 P **P 19 31 03.2 +1.0**
KURBB Kurchatov Arra 36.76 90 P **P 19 31 03.2 +0.5**
comp=Z,5.0nm,0.8s,baz=332,slow=7.6,SNR=27
KURBB PP **PP 19 32 27.1 +0.9**
comp=Z,7.7nm,1.0s,baz=345,slow=10,SNR=6.9
KURBB Kurchatov Arra 36.76 90 P **P 19 31 03.3 +0.5**
BILL Bilibino 36.85 14 ⇑ *eP* **P 19 31 05.2 +1.8**
BILL *e* 19 32 26.0
BILL pmax pmax
comp=Z,21nm,2.5s
BILL MLR MLR
comp=Z,228nm,16.0s
BILL Bilibino 36.85 14 P **P 19 31 02.3 -1.1**
BILL IAmb IAmb 19 31 21.1
comp=Z,26nm,1.4s
BR131 Keskin Array S 36.89 147 P **P 19 31 02.0 -2.2**
BR131 pmax pmax
comp=Z,13nm,1.0s
BR131 Keskin Array S 36.89 147 P **P 19 31 02.0 -2.2**
BRTR Keskin Array B 36.89 147 P **P 19 31 03.4 -0.8**
comp=Z,2.9nm,0.7s,baz=334,slow=5.4,SNR=19
BRTR Keskin Array B 36.89 147 P **P 19 31 03.4 -0.8**
BRTR Keskin Array B 36.89 147 P **P 19 31 02.5 -1.6**
CORL Corleone 36.90 174 P **P 19 31 03.2 -0.9**
CORL IAmb IAmb 19 31 50.8
comp=Z,39nm,1.1s
BMAR Burnt Mountain 37.13 343 P **P 19 31 07.0 +1.2**
CLTB Caltabellotta 37.21 174 P **P 19 31 05.9 -1.0**
CLTB IAmb IAmb 19 31 34.9
comp=Z,54nm,1.9s
PBAR Barrancos 37.29 200 *eP* **P 19 31 07.8 +0.4**
comp=Z,26nm,1.9s
PBAR *eS* S 19 37 04.5 +10
SEM Semipalatinsk 37.41 89 *eP* **P 19 31 08.8 +0.2**
baz=89
SEM Semipalatinsk 37.41 89 *eP* **P 19 31 08.8 +0.2**
CART Cartagena 37.41 193 P **P 19 31 07.3 -1.1**
RDOG Red Dog Mine 37.44 355 P **P 19 31 09.4 +1.0**
RDOG IAmb IAmb 19 31 23.4
comp=Z,14nm,0.8s
RDOG Red Dog Mine 37.44 355 P 19 31 07.2
baz=3.8
EPYK Eagle Plains 37.47 338 P **P 19 31 09.6 +0.9**
EPYK IAmb IAmb 19 31 12.8
comp=Z,39nm,1.4s
EPYK Eagle Plains 37.47 338 P 19 31 07.9
baz=15,SNR=5.3
PNCL Nicolau / Gran 37.49 202 *eS* S 19 37 05.6 +7.9
PBEJ Beja 37.51 202 *eP* **P 19 31 10.0 +0.7**
comp=Z,21nm,2.1s
KARS Kars 37.59 135 P **P 19 31 09.3 -0.8**
KARS pmax pmax
comp=Z,271nm,1.7s
KARS Kars 37.59 135 P **P 19 31 09.3 -0.8**
RAFF Raffo Rosso 37.60 172 P **P 19 31 08.9 -1.1**
RAFF IAmb IAmb 19 31 44.5
comp=Z,31nm,1.2s
FCC Fort Churchill 37.61 304 P **P 19 31 09.9 0.0**
FCC Fort Churchill 37.61 304 P **P 19 31 09.9 0.0**
AKT Akhty 37.69 129 *eP* **P 19 31 12.5 +1.6**
AKT *e* 19 32 42.3
AKT *e* 19 33 31.6
AKT pmax pmax
comp=Z,31nm,1.2s
COLD Coldfoot 37.72 347 P **P 19 31 12.0 +1.3**
COLD Coldfoot 37.72 347 P 19 31 11.1
baz=9.2,SNR=7.3
FYU Fort Yukon 38.03 343 P **P 19 31 15.2 +1.8**
ITM Ithomi 38.08 163 P **P 19 31 12.5 -1.6**
ITM IAmb IAmb 19 31 48.7
comp=Z,45nm,1.4s
PVAQ Vaqueiros 38.12 201 *eP* **P 19 31 15.6 +1.2**
comp=Z,12nm,1.6s
PVAQ *eS* S 19 37 17.4 +10
PVAQ *eLR* LR 19 42 15.6
comp=Z,223nm,18.0s
PVAQ Vaqueiros 38.12 201 P **P 19 31 13.4 -1.0**
YKA Yellowknife Ar 38.20 321 P **P 19 31 14.6 -0.2**
comp=Z,2.2nm,0.9s,baz=15,slow=8.2,SNR=8.6
YKA PP **PnPn 19 32 46.1 +2.8**
comp=Z,0.8nm,0.9s,baz=23,slow=11,SNR=2.3
YKA PcP **PcP 19 33 29.3 +0.4**
comp=Z,1.9nm,0.8s,baz=23,slow=2.6,SNR=6.1
YKA LR LR 19 47 40.5
comp=Z,513nm,18.3s,baz=0.0,slow=37
YKA Yellowknife Ar 38.20 321 P **P 19 31 14.6 -0.2**
YKA 19 33 29.3
YKA Yellowknife Ar 38.20 321 P **P 19 31 14.6 -0.2**
YAK Yakutsk 38.28 41 P **P 19 31 15.6 +0.1**
comp=Z,3.5nm,0.6s,baz=330,slow=14,SNR=8.0
YAK Yakutsk 38.28 41 *eP* **P 19 31 16.1 +0.6**
YAK *e* PPP PPP 19 33 03.9
YAK *e* 19 33 29.2
YAK *eS* **S 19 37 10.5 +1.3**
YAK *e* 19 41 29.4
YAK pmax pmax
comp=Z,14nm,1.3s
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK smax smax
comp=E,97nm,4.8s
YAK smax smax
comp=N,69nm,4.8s
YAK MLR MLR
comp=Z,492nm,26.0s
YAK MLR MLR
comp=N,166nm,18.0s
YAK MLR MLR
comp=E,163nm,18.0s
YAK Yakutsk 38.28 41 P **P 19 31 15.3 -0.1**
PBDV Barranco-do-Ve 38.30 201 *eP* **P 19 31 15.9 0.0**
comp=E,46nm,1.5s
PBDV *eS* **S 19 37 12.1 +2.1**
GNI Garni 38.38 133 *i* P **P 19 31 16.0 -0.7**
GNI pmax pmax
comp=Z,8.0nm,1.1s
GNI Garni 38.38 133 P **P 19 31 16.1 -0.7**
H24K Noodor Dome 38.95 345 P 19 31 21.4
baz=9.9,SNR=10
KEST Kesra 38.99 179 P **P 19 31 20.7 -1.1**
comp=Z,7.1nm,0.9s,baz=5.0,slow=9.9,SNR=7.3
KEST LR LR 19 49 28.9
comp=Z,275nm,19.4s,baz=307,slow=39
KEST Kesra 38.99 179 P **P 19 31 21.5 -0.3**
H23K Yukon River 39.07 346 P 19 31 21.7
baz=9.2,SNR=9.8
PRP Porcupine Dome 39.09 343 P **P 19 31 22.4 0.0**
PRP Porcupine Dome 39.09 343 P 19 31 22.8
baz=11
IMAR Indian Mountai 39.16 349 P **P 19 31 23.6 +0.7**
H21K Melozitna Rive 39.43 348 P 19 31 25.0
baz=7.8
EGAK Eagle 39.45 340 P **P 19 31 26.0 +0.7**
EGAK IAmb IAmb 19 31 30.0
comp=Z,27nm,1.2s
EGAK Eagle 39.45 340 P 19 31 24.5
baz=12,SNR=6.8
POKR Poker Plat Res 39.63 344 P **P 19 31 26.9 +0.1**
POKR IAmb IAmb 19 31 32.6
comp=Z,36nm,1.2s
POKR Poker Plat Res 39.63 344 P 19 31 26.5
baz=9.9
I23K Minto, Yukon-K 39.73 346 P **P 19 31 28.6 +1.0**
I23K IAmb IAmb 19 31 33.3
comp=Z,32nm,1.2s
I23K Minto, Yukon-K 39.73 346 P 19 31 27.8
baz=9.1,SNR=8.4
MDM Murphy Dome 39.84 345 P **P 19 31 28.4 -0.2**
MDM IAmb IAmb 19 31 34.1
comp=Z,47nm,1.5s
COLA College 39.90 345 *i* P **P 19 31 30.1 +1.1**
COLA pmax pmax
comp=Z,22nm,1.3s
IL31 39.93 344 P **P 19 31 30.2 +1.0**
ILAR Eielson Array 39.93 344 P **P 19 31 30.6 +1.3**
comp=Z,15nm,0.9s,baz=2.5,slow=6.8,SNR=72
ILAR LR LR 19 48 48.2
comp=Z,151nm,20.3s,baz=20,slow=37
ILAR Eielson Array 39.93 344 P **P 19 31 30.6 +1.3**
ILAR Eielson Array 39.93 344 P **P 19 31 30.2 +1.0**
MLY Manley 39.93 346 P **P 19 31 31.8 +2.4**
MLY Manley 39.93 346 P 19 31 30.1
baz=8.5,SNR=5.2
DGZ Jazzator, Alta 39.97 83 *i* P **P 19 31 31.7 +1.7**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
DAWY Dawson 39.98 339 P **P 19 31 30.4 +0.6**
TNA Tin City 40.03 358 P 19 31 30.5
baz=1.5
CCB Clear Creek Bu 40.12 344 P **P 19 31 32.4 +1.6**
NEA2 Nenana 40.26 345 P 19 31 32.1
baz=9.1
HDA Harding Lake 40.29 344 P **P 19 31 33.5 +1.2**
HDA Harding Lake 40.29 344 P 19 31 33.0
baz=9.9,SNR=12
HDA P 19 31 33.0
baz=9.9,SNR=12
WRH Wood River Hil 40.31 345 P **P 19 31 33.7 +1.3**
WRH IAmb IAmb 19 31 37.5
comp=Z,22nm,1.0s
SCRK Sand Creek 40.48 342 P **P 19 31 34.9 +0.8**
SCRK Sand Creek 40.48 342 P 19 31 33.2
baz=11,SNR=5.7
SEY Seymchan 40.66 24 P **P 19 31 35.7 +0.4**
comp=Z,6.5nm,0.7s,baz=322,slow=6.1,SNR=8.2
SEY Seymchan 40.66 24 P **P 19 31 35.7 +0.4**
SEY Seymchan 40.66 24 P **P 19 31 35.7 +0.4**
BTLS Baital 40.70 98 *eP* **P 19 31 35.7 -0.2**
comp=Z,37nm,3.3s,baz=98
BTLS Baital 40.70 98 *eP* **P 19 31 35.6 -0.2**
BTLS pmax pmax
comp=Z,37nm,3.3s
DOT Dot Lake 40.81 342 P **P 19 31 36.8 +0.1**
DOT IAmb IAmb 19 31 42.0
comp=Z,39nm,1.2s
CHGQ Chibougamau 40.85 281 P 19 31 35.8
baz=24
BPAW Bear Paw Mtn. 40.87 346 P **P 19 31 38.4 +1.2**
BPAW Bear Paw Mtn. 40.88 346 P 19 31 36.0
baz=8.3,SNR=8.1
MCK McKinley 41.10 345 P 19 31 38.7
baz=9.0
MAKZ Makanchi 41.17 90 P **P 19 31 40.0 +0.2**
MAKZ pmax pmax
comp=Z,46nm,1.8s
MAKZ Makanchi 41.17 90 P **P 19 31 40.0 +0.2**
MAKZ IAmb IAmb 19 31 54.8
comp=Z,46nm,1.8s
BCAR Beaver Creek A 41.19 340 P **P 19 31 40.6 +0.9**
L27K Beaver Creek, 41.20 340 P **P 19 31 41.8 +2.0**
L27K IAmb IAmb 19 31 45.4
comp=Z,25nm,1.1s
L27K Beaver Creek, 41.20 340 P 19 31 40.1
baz=12,SNR=15
MK31 Makanchi Array 41.27 89 P **P 19 31 40.5 -0.1**
MK31 pmax pmax
comp=Z,11nm,0.9s
MK31 Makanchi Array 41.27 89 P **P 19 31 40.5 -0.1**
MKAR Makanchi Array 41.27 89 P **P 19 31 39.9 -0.7**
comp=Z,10nm,1.0s,baz=9.6,slow=6.1,SNR=47
MKAR PP **PnPn 19 33 16.7 -3.3**
comp=Z,5.8nm,0.9s,baz=348,slow=9.1,SNR=3.7
MKAR LR LR 19 52 11.9
comp=Z,707nm,19.1s,baz=330,slow=41
MKAR Makanchi Array 41.27 89 P **P 19 31 40.6 0.0**
MKAR Makanchi Array 41.27 89 P **P 19 31 40.6 0.0**
ZSN Zaisan 41.35 86 *eP* **P 19 31 41.7 +0.5**
comp=Z,33nm,2.3s,baz=86
ZSN Zaisan 41.35 86 *eP* **P 19 31 41.7 +0.5**
ZSN pmax pmax
comp=Z,33nm,2.3s

KTH	**Kantishna Hill**	**41.41**	**346**		P		**P**	**19 31 43.4**	**+1.7**
KTH					lAmb		lAmb	19 31 46.5	
	comp=Z,23nm,1.1s								
TRF	**Thorofare Moun**	**41.48**	**346**		P			19 31 42.4	
	baz=8.4								
KK31	**Karatay Array**	**41.58**	**103**	*i*	P		**P**	**19 31 44.2**	**+1.1**
KK31	**Karatay Array**	**41.58**	**103**		P		**P**	**19 31 42.8**	**-0.3**
KKAR	**Karatay Array**	**41.58**	**103**		P		**P**	**19 31 43.7**	**+0.5**
KKAR					pmax		pmax		
	comp=Z,16nm,0.9s								
KKAR	**Karatay Array**	**41.58**	**103**		P		**P**	**19 31 43.9**	**+0.8**
KKAR	**Karatay Array**	**41.58**	**103**		P		**P**	**19 31 43.6**	**+0.5**
KKAR					lAmb		lAmb	19 31 50.7	
	comp=Z,16nm,0.8s								
MOY	**Mondy**	**41.67**	**69**	*e*	P		**P**	**19 31 46.6**	**+2.7**
MOY					pmax		pmax		
	comp=Z,63nm,2.0s								
D63A	**Stockholm**	**41.83**	**274**		P			19 31 44.3	
	baz=23								
MATQ	**Matagami**	**41.83**	**284**		P			19 31 44.3	
	baz=24								
GAMB	**Gambell**	**41.84**	**0**		P			19 31 44.7	
	baz=360								
WAT2	**Susitna Watana**	**41.84**	**345**		P			19 31 45.4	
	baz=9.0,SNR=7.4								
TDK	**Taldyqorghan**	**41.89**	**94**	*e*	P		**P**	**19 31 45.8**	**0.0**
	comp=Z,81nm,1.9s,baz=94								
TDK	**Taldyqorghan**	**41.89**	**94**	*e*	P		**P**	**19 31 45.7**	**0.0**
TDK					pmax		pmax		
	comp=Z,81nm,1.9s								
IRK	**Irkutsk**	**41.95**	**66**	*e*	P		**P**	**19 31 48.0**	**+1.9**
IRK				*e*				19 33 25.8	
IRK					pmax		pmax		
	comp=Z,41nm,2.3s								
D62A	**Allapoint, All**	**42.04**	**275**		P			19 31 46.0	
	baz=23								
HARP	**HAARP**	**42.14**	**342**		P			19 31 47.3	
	baz=10								
PPLA	**Purkeypile**	**42.15**	**347**		P			19 31 47.5	
	baz=7.6								
WAT6	**Susitna Watana**	**42.16**	**344**		P			19 31 47.8	
	baz=9.3								
D61A	**St Aubert, Com**	**42.23**	**276**		P			19 31 47.2	
	baz=23								
TLY	**Talaya**	**42.31**	**67**		P		**P**	**19 31 49.8**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=304,slow=15,SNR=1.4								
TLY	**Talaya**	**42.31**	**67**	*e*	P		**P**	**19 31 52.2**	**+3.2**
TLY				*e*				19 33 35.6	
TLY				*e*	S		S	19 38 18.9	+9.2
TLY				*e*	SS		**SS**	**19 41 15.7**	**-1.8**
TLY				*e*	SSS		SSS	19 42 03.2	
TLY					pmax		pmax		
	comp=Z,13nm,0.9s								
TLY					MLR		MLR		
	comp=Z,2µm,17.0s								
TTA	**Tatalina**	**42.32**	**350**		P		**P**	**19 31 50.2**	**+1.2**
TTA					pmax		pmax		
	comp=Z,28nm,1.8s								
TTA	**Tatalina**	**42.32**	**350**		P		**P**	**19 31 50.2**	**+1.2**
TTA	**Tatalina**	**42.32**	**350**		P			19 31 49.1	
	baz=6.1								
SGDS	**Sogindy**	**42.33**	**99**	*e*	P		**P**	**19 31 49.1**	**-0.2**
	comp=Z,29nm,2.5s,baz=98								
SGDS	**Sogindy**	**42.33**	**99**	*e*	P		**P**	**19 31 49.1**	**-0.2**
SGDS					pmax		pmax		
	comp=Z,29nm,2.5s								
KUU	**Kurty**	**42.37**	**97**	*e*	P		**P**	**19 31 49.1**	**-0.5**
	comp=Z,50nm,1.8s,baz=96								
KUU	**Kurty**	**42.37**	**97**	*e*	P		**P**	**19 31 49.1**	**-0.5**
KUU					pmax		pmax		
	comp=Z,50nm,1.8s								
MDT	**Midelt**	**42.40**	**197**		P		**P**	**19 31 50.0**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=20,slow=8.9,SNR=6.2								
MDT					PcP		**PcP**	**19 33 43.8**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=62,slow=3.8,SNR=3.9								
MDT	**Midelt**	**42.40**	**197**		P		**P**	**19 31 50.0**	**-0.1**
ARXS	**Arharly**	**42.47**	**95**	*e*	P		**P**	**19 31 51.7**	**+1.2**
CHKK	**Chushkaly**	**42.58**	**96**	*e*	P		**P**	**19 31 50.8**	**-0.5**
	baz=96								
CHKK	**Chushkaly**	**42.58**	**96**	*e*	P		**P**	**19 31 50.8**	**-0.5**
LATQ	**La Tuque**	**42.75**	**278**		P		**P**	**19 31 52.4**	**-0.2**
WHY	**Whitehorse**	**42.83**	**334**		P		**P**	**19 31 54.0**	**+0.7**
WHY	**Whitehorse**	**42.84**	**334**		P			19 31 52.0	
	baz=14								
SCM	**Sheep Creek Mo**	**42.87**	**343**		P		**P**	**19 31 54.9**	**+1.4**
SCM					pmax		pmax		
	comp=Z,40nm,0.9s								
SCM	**Sheep Creek Mo**	**42.87**	**343**		P		**P**	**19 31 54.9**	**+1.4**
N25K	**Chitina, Valde**	**42.88**	**342**		P			19 31 52.3	
	baz=10								
MCARA	**McCarthy VSAT**	**42.96**	**340**		P			19 31 54.2	
	baz=11								
HYT	**Haines Junctio**	**42.96**	**336**		P		**P**	**19 31 55.4**	**+1.0**
SML	**Sawmill**	**42.97**	**344**		P		**P**	**19 31 55.8**	**+1.4**
SML					lAmb		lAmb	19 32 03.2	
	comp=Z,44nm,1.1s								
SML	**Sawmill**	**42.97**	**344**		P			19 31 53.8	
	baz=8.9								
F64A	**Sherman**	**42.98**	**273**		P			19 31 53.0	
	baz=22								
SKT	**Skwentna**	**43.02**	**346**		P		**P**	**19 31 55.3**	**+0.7**
SKT					lAmb		lAmb	19 31 58.5	
	comp=Z,41nm,1.2s								
SKT	**Skwentna**	**43.02**	**346**		P			19 31 54.4	
	baz=7.7								
E61A	**Lac Etchemin**	**43.02**	**276**		P			19 31 53.5	
	baz=23								
FFC	**Flin Flon**	**43.05**	**307**		P		**P**	**19 31 54.4**	**-0.5**
FFC					pmax		pmax		
	comp=Z,12nm,1.0s								
FFC	**Flin Flon**	**43.05**	**307**		P		**P**	**19 31 54.4**	**-0.5**
GHO	**Glory Hole Cre**	**43.05**	**345**		P		**P**	**19 31 56.1**	**+1.2**
GHO					lAmb		lAmb	19 32 02.8	
	comp=Z,26nm,1.1s								
AAK	**Ala-Archa**	**43.05**	**99**	*ce*	P		**P**	**19 31 57.8**	**+2.5**
AAK					pmax		pmax		
	comp=Z,28nm,1.3s								
AAK	**Ala-Archa**	**43.05**	**99**		P		**P**	**19 31 56.3**	**+0.9**
TKM2	**Tokmak 2**	**43.08**	**98**		P		**P**	**19 31 56.8**	**+1.2**
MTBS	**Maitube**	**43.11**	**97**	*e*	P		**P**	**19 31 55.8**	**+0.1**
	baz=97								
MTBS	**Maitube**	**43.11**	**97**	*e*	P		**P**	**19 31 55.8**	**+0.1**
CTG	**Chitna Glacier**	**43.22**	**339**		P			19 31 56.3	
	baz=11								
MDOK	**Medeo**	**43.24**	**96**	*e*	P		**P**	**19 31 57.7**	**+0.9**
	baz=96								
MDOK	**Medeo**	**43.24**	**96**	*e*	P		**P**	**19 31 57.7**	**+0.9**
KNK	**Knik Glacier**	**43.37**	**344**		P			19 31 56.9	
	baz=8.8								
F62A	**Pittston Farm,**	**43.38**	**275**		P			19 31 56.2	
	baz=22								
GEYT	**Alibeck**	**43.39**	**119**		P		**P**	**19 31 58.4**	**+0.5**
	comp=Z,227nm,1.4s,baz=307,slow=8.7,SNR=12								
GEYT					PP		**PcP**	**19 33 40.9**	**-5.3**
	comp=Z,1.4nm,0.5s,baz=322,slow=11,SNR=1.9								
GEYT					LR		LR	19 52 00.2	
	comp=Z,1µm,20.2s,baz=0.0,slow=39								
KPKS	**Kokpek**	**43.39**	**95**	*e*	P		**P**	**19 31 58.3**	**+0.3**
	comp=Z,55nm,2.6s,baz=94								
KPKS	**Kokpek**	**43.39**	**95**	*e*	P		**P**	**19 31 58.2**	**+0.3**
KPKS					pmax		pmax		
	comp=Z,55nm,2.6s								
ZAK	**Zakamensk**	**43.42**	**68**	*e*	P		**P**	**19 32 00.0**	**+1.9**
ZAK				*e*				19 33 42.5	
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.2s								
SUA	**Susitna One**	**43.48**	**346**		P		**P**	**19 31 58.8**	**+0.3**
SUA	**Susitna One**	**43.48**	**346**		P			19 31 58.1	
	baz=8.0								
BMRM	**Bremner River**	**43.51**	**341**		P			19 31 58.0	
	baz=10								
BOOM	**Boomskoye usch**	**43.57**	**98**		P		**P**	**19 32 00.8**	**+1.2**
BOOM					pmax		pmax		
	comp=Z,18nm,0.8s								
BOOM	**Boomskoye usch**	**43.57**	**98**		P		**P**	**19 32 00.8**	**+1.2**
BOOM					lAmb		lAmb	19 32 07.4	
	comp=Z,18nm,0.8s								
D56A	**ZEC Mazanza, M**	**43.58**	**280**		P			19 31 58.5	
	baz=23								
G64A	**Maxfield**	**43.65**	**273**		P			19 31 59.6	
	baz=22								
SATY	**Saty**	**43.70**	**95**	*e*	P		**P**	**19 32 01.0**	**+0.5**
	comp=Z,20nm,1.5s,baz=95								
SATY	**Saty**	**43.70**	**95**	*e*	P		**P**	**19 32 01.0**	**+0.5**
SATY					pmax		pmax		
	comp=Z,20nm,1.5s								
H66A	**Whiting**	**43.70**	**272**		P			19 31 59.7	
	baz=22								
PMOZ	**Porto Moniz, M**	**43.77**	**212**		A		A	19 46 25.3	
	comp=Z,178nm,22.0s								
UZB	**Uzynbulak**	**43.78**	**94**	*e*	P		**P**	**19 32 01.9**	**+0.8**
	baz=94								
UZB	**Uzynbulak**	**43.78**	**94**	*e*	P		**P**	**19 32 01.9**	**+0.8**
PKME	**Peaks-Kenny Pk**	**43.78**	**274**		P			19 32 00.4	
	baz=22								
D55A	**Sainte-Anne-du**	**43.79**	**280**		P			19 32 00.2	
	baz=23								
E58A	**La Victoria**	**43.81**	**278**		P			19 31 59.8	
	baz=22								
SHLS	**Shalkode**	**43.89**	**94**	*e*	P		**P**	**19 32 04.8**	**+2.7**
	baz=93								
SHLS	**Shalkode**	**43.89**	**94**	*e*	P		**P**	**19 32 04.7**	**+2.7**
ARSB	**Arslanbob**	**43.89**	**101**		P		**P**	**19 32 02.7**	**+0.6**
ARSB					pmax		pmax		
	comp=Z,26nm,1.5s								
ARSB	**Arslanbob**	**43.89**	**101**		P		**P**	**19 32 02.7**	**+0.6**
ARSB					lAmb		lAmb	19 32 34.3	
	comp=Z,26nm,1.4s								
E56A	**St. Veronique**	**44.12**	**280**		P			19 32 02.6	
	baz=22								
SVW2	**Sparrevohn**	**44.13**	**349**		P		**P**	**19 32 04.5**	**+0.9**
SVW2					lAmb		lAmb	19 32 09.7	
	comp=Z,35nm,1.3s								
BTK	**Batken**	**44.51**	**104**		P		**P**	**19 32 08.0**	**+1.0**
BTK					pmax		pmax		
	comp=Z,27nm,1.2s								
BTK	**Batken**	**44.51**	**104**		P		**P**	**19 32 08.0**	**+1.0**
BTK					lAmb		lAmb	19 32 16.4	
	comp=Z,27nm,1.2s								
BESE	**Bessie Mountai**	**44.86**	**334**		P		**P**	**19 32 11.8**	**+2.3**
BESE					lAmb		lAmb	19 32 19.3	
	comp=Z,22nm,1.2s								
JIS	**Juneau Island**	**45.10**	**333**		P		**P**	**19 32 13.1**	**+1.7**
JIS					lAmb		lAmb	19 32 21.0	
	comp=Z,22nm,1.0s								
DRK	**Karamyk**	**45.31**	**104**		P		**P**	**19 32 14.6**	**+1.0**
GAR	**Garm**	**45.38**	**105**		P		**P**	**19 32 13.8**	**-0.2**
GAR					lAmb		lAmb	19 33 04.5	
	comp=Z,24nm,1.0s								
WMQ	**Urumqi**	**45.46**	**86**	*e*	P		P	19 32 17.8	+3.3
WMQ					pP		pwP	19 32 21.7	+2.0
WMQ					PP		**PP**	**19 34 01.9**	**+1.4**
WMQ					S		**S**	**19 39 01.6**	**+5.7**
WMQ					pmax		pmax		
	comp=Z,46nm,1.1s								
WMQ					pmax		pmax		
	comp=Z,340nm,4.7s								
WMQ					L		L		
	comp=Z,2µm,17.3s								
WMQ					L		L		
	comp=Z,2µm,17.5s								
WMQ					L		L		
	comp=Z,4µm,19.7s								
ZEA	**Zeya**	**45.63**	**47**	*e*	P		**P**	**19 32 17.1**	**+1.5**
ZEA					pmax		pmax		
	comp=Z,20nm,1.3s								
ZEA					MLR		MLR		
	comp=Z,200nm,10.0s								
ULM	**Lac du Bonnet**	**45.87**	**300**		P		**P**	**19 32 18.2**	**+0.7**
	comp=Z,6.1nm,0.9s,baz=53,slow=8.5,SNR=4.1								
ULM					LR		LR	19 51 42.1	
	comp=Z,1µm,18.7s,baz=354,slow=36								
ULM	**Lac du Bonnet**	**45.87**	**300**		P		**P**	**19 32 18.2**	**+0.7**
ULM	**Lac du Bonnet**	**45.87**	**300**		lAmb		lAmb	19 32 35.0	
	comp=Z,15nm,1.1s								
KSH	**Kashi**	**46.37**	**99**		P		P	19 32 27.0	+5.3
KSH					S		**S**	**19 39 10.6**	**+1.5**
KSH					sS		sS	19 39 20.3	+8.8
KSH					pmax		pmax		
	comp=Z,8.0nm,1.0s								
KSH					pmax		pmax		
	comp=Z,210nm,5.0s								
KSH					L		L		
	comp=Z,810nm,7.3s								
KSH					L		L		
	comp=Z,590nm,12.6s								
KSH					L		L		
	comp=Z,790nm,11.0s								
SONM	**Songino Array**	**46.55**	**67**		P		**P**	**19 32 22.5**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=330,slow=7.0,SNR=14								
SONM					PP		**PP**	**19 34 14.2**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=335,slow=6.4,SNR=2.2								
SONM					LR		LR	19 55 16.6	
	comp=Z,161nm,19.7s,baz=338,slow=40								
SONM	**Songino Array**	**46.55**	**67**		P		**P**	**19 32 23.6**	**+0.5**
SONM								19 34 14.2	
SONM					pmax		pmax		
	comp=Z,8.0nm,1.1s								
SONM	**Songino Array**	**46.55**	**67**		P		**P**	**19 32 23.6**	**+0.5**
E46A	**Sault Ste Mari**	**46.68**	**288**		P		**P**	**19 32 24.1**	**+0.2**
E46A					lAmb		lAmb	19 32 31.9	
	comp=Z,14nm,1.0s								
ULN	**Ulaanbaatar**	**46.68**	**66**	*ce*	P		**P**	**19 32 25.9**	**+1.7**
ULN					pmax		pmax		
	comp=Z,16nm,1.3s								
SADO	**Sadowa**	**46.84**	**283**		P		**P**	**19 32 28.6**	**+3.4**
	comp=Z,2.6nm,0.6s,baz=25,slow=8.8,SNR=3.3								
SADO					LR		LR	19 51 24.9	
	comp=Z,677nm,18.0s,baz=14,slow=35								
SADO	**Sadowa**	**46.84**	**283**		lAmb		lAmb	19 32 31.8	
	comp=Z,23nm,1.4s								
EYMN	**Ely**	**46.99**	**295**		P		**P**	**19 32 26.7**	**+0.3**
EYMN					lAmb		lAmb	19 32 32.7	
	comp=Z,9.7nm,1.1s								
EYMN	**Ely**	**46.99**	**295**		P			19 32 25.6	
	baz=21								
E43A	**Lone Tree Farm**	**47.35**	**290**		P		**P**	**19 32 28.9**	**-0.3**
E43A					lAmb		lAmb	19 32 35.5	
	comp=Z,10nm,1.0s								
E38A	**The Farm, Brul**	**48.26**	**295**		P		**P**	**19 32 35.7**	**-0.5**
H43A	**Windswept, Lux**	**49.32**	**290**		P		**P**	**19 32 44.6**	**+0.2**
H43A					lAmb		lAmb	19 33 00.2	
	comp=Z,14nm,1.1s								
SPMN	**Marine on St.**	**49.85**	**295**		P		**P**	**19 32 48.8**	**+0.3**
SPMN					lAmb		lAmb	19 32 57.6	
	comp=Z,13nm,0.9s								
M54A	**Oil Creek Stat**	**50.02**	**282**		P			19 32 48.6	
	baz=20								
I42A	**Draeger Farm,**	**50.15**	**291**		P		**P**	**19 32 51.0**	**+0.2**
I42A					lAmb		lAmb	19 32 59.9	
	comp=Z,16nm,0.9s								
BBB	**Bella Bella**	**50.20**	**327**		LR		LR	19 54 18.3	
	comp=Z,368nm,21.4s,baz=16,slow=36								
M53A	**WI Miller and**	**50.35**	**282**		P			19 32 50.7	
	baz=20								
KLR	**Kul'dur**	**50.79**	**45**		P		**P**	**19 32 54.5**	**-0.9**
	comp=Z,4.1nm,1.0s,baz=342,slow=7.7,SNR=8.2								
KLR					LR		LR	19 56 28.7	
	comp=Z,498nm,20.0s,baz=338,slow=38								
KLR	**Kul'dur**	**50.79**	**45**	*i*	P		**P**	**19 32 51.8**	**-3.7**
KLR					pmax		pmax		
	comp=Z,5.0nm,1.0s								
WALA	**Waterton Lakes**	**50.82**	**314**		P		**P**	**19 32 56.9**	**+1.0**
WALA					lAmb		lAmb	19 34 23.5	
	comp=Z,17nm,1.2s								
WALA					ScP		**ScP**	**19 38 06.2**	**-2.3**
PEA0B	**Petropavlovsk-**	**50.88**	**23**	*ce*	P		**P**	**19 32 57.2**	**+1.1**
PETK	**Petropavlovsk-**	**50.88**	**23**		P		**P**	**19 32 56.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=261,slow=5.7,SNR=1.5								
PETK					LR		LR	19 56 09.9	
	comp=Z,112nm,18.2s,baz=337,slow=38								
PETK	**Petropavlovsk-**	**50.88**	**23**		P		**P**	**19 32 56.2**	**+0.1**
PET	**Petropavlovsk**	**51.06**	**23**	*e*	P		**P**	**19 32 57.8**	**+0.4**
PET				*e*	S		**S**	**19 40 11.1**	**-3.5**
PET					pmax		pmax		
	comp=Z,100nm,9.6s								
PET					MLR		MLR		
	comp=Z,300nm,19.0s								
PET					MLR		MLR		
	comp=Z,300nm,18.0s								
I37A	**Lemond, Waseca**	**51.13**	**295**		P		**P**	**19 32 58.5**	**+0.3**
I37A					lAmb		lAmb	19 33 33.6	
	comp=Z,14nm,0.7s								
LAO	**LASA Array**	**51.53**	**307**		P		**P**	**19 33 01.1**	**0.0**
LAO					lAmb		lAmb	19 33 19.2	
	comp=Z,30nm,1.5s								
JTMT	**Jette**	**52.15**	**314**		P		**P**	**19 33 05.0**	**-0.8**
JTMT					ScP		ScP	19 38 24.9	+11
ECSD	**EROS Data Cent**	**52.17**	**298**		P		**P**	**19 33 06.5**	**+0.6**
N47A	**Urbana**	**52.17**	**287**		P		**P**	**19 33 05.8**	**-0.1**
N47A					lAmb		lAmb	19 33 09.0	
	comp=Z,16nm,1.0s								
ECSD	**EROS Data Cent**	**52.17**	**298**		P			19 33 05.1	
	baz=19								
NEW	**Newport**	**52.18**	**317**		P		**P**	**19 33 04.7**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=113,slow=9.4,SNR=4.5								
NEW					LR		LR	19 55 17.6	
	comp=Z,958nm,20.9s,baz=18,slow=36								
NEW	**Newport**	**52.18**	**317**		P		**P**	**19 33 04.7**	**-1.3**
NEW	**Newport**	**52.18**	**317**		ScP		**ScP**	**19 38 21.8**	**+7.5**
L40A	**Anamosa**	**52.44**	**292**		P		**P**	**19 33 07.6**	**-0.3**
L40A					lAmb		lAmb	19 33 16.6	
	comp=Z,32nm,1.2s								
Q54A	**Coxs Mills**	**52.70**	**282**		P		**P**	**19 33 09.6**	**-0.2**
Q54A					lAmb		lAmb	19 33 17.9	
	comp=Z,37nm,1.5s								
GTA	**Gaotai**	**52.78**	**77**	⇓	P		**P**	**19 33 13.6**	**+3.0**
GTA					pP		pwP	19 33 20.7	+4.6
GTA					sP		sP	19 33 25.6	+13
GTA					S		**S**	**19 40 43.0**	**+4.2**
GTA					pmax		pmax		
	comp=Z,8.0nm,1.5s								
GTA					pmax		pmax		
	comp=Z,180nm,5.8s								
GTA					L		L		
	comp=Z,700nm,18.9s								
GTA					L		L		
	comp=Z,820nm,17.5s								
GTA					L		L		
	comp=Z,1µm,16.0s								
MSO	**Missoula**	**52.96**	**313**		P		**P**	**19 33 11.2**	**-0.7**
MSO					lAmb		lAmb	19 33 28.9	
	comp=Z,22nm,1.2s								
MSO	**Missoula**	**52.96**	**313**		P			19 33 11.2	
	baz=16								
SFIN	**Lafayette**	**53.00**	**288**		P		**P**	**19 33 11.4**	**-0.6**
SFIN					lAmb		lAmb	19 33 15.3	
	comp=Z,12nm,0.9s								
SFIN	**Lafayette**	**53.00**	**288**		P			19 33 11.7	
	baz=19								
GCMT	**Greycliff**	**53.10**	**310**		P		**P**	**19 33 12.5**	**-0.5**
P48A	**Milroy**	**53.44**	**286**		P		**P**	**19 33 14.9**	**-0.4**
RSSD	**Black Hills**	**53.50**	**304**		P			19 33 15.7	
	baz=18								
LRM	**Limekiln Ridge**	**53.64**	**312**		P		**P**	**19 33 16.9**	**-0.1**
RLMT	**Red Lodge**	**53.66**	**309**		P		**P**	**19 33 16.6**	**-0.6**
RLMT					lAmb		lAmb	19 33 25.9	
	comp=Z,16nm,1.5s								
RLMT	**Red Lodge**	**53.66**	**309**		P			19 33 17.3	
	baz=17								
YNE	**Yellowstone No**	**53.92**	**310**		P		**P**	**19 33 18.1**	**-1.1**
D03D	**Eldon**	**53.94**	**321**		P			19 33 18.9	
	baz=14								
YMP	**Mirror Lake Pl**	**54.21**	**310**		P		**P**	**19 33 22.1**	**+0.8**
YMP					lAmb		lAmb	19 33 33.0	
	comp=Z,13nm,1.1s								
BLA	**Blacksburg**	**54.26**	**280**		P			19 33 20.9	
	baz=19								
P43A	**Skaggs, Pawnee**	**54.30**	**290**		P		**P**	**19 33 21.6**	**-0.1**
YHH	**Holmes Hill**	**54.31**	**310**		P		**P**	**19 33 21.8**	**-0.2**
YHL	**Hebgen Lake**	**54.31**	**311**		P		**P**	**19 33 22.4**	**+0.4**
YHL					lAmb		lAmb	19 33 32.2	
	comp=Z,9.8nm,1.0s								
HHC	**Hu-ho-hao-te**	**54.38**	**65**	*e*	P		**P**	**19 33 22.7**	**+0.4**
HHC					S		**S**	**19 40 59.6**	**-0.8**
HHC					ScS		**ScS**	**19 43 05.5**	**-6.0**
HHC					pmax		pmax		
	comp=Z,15nm,0.6s								
HHC					pmax		pmax		
	comp=Z,120nm,4.3s								
HHC					L		L		
	comp=Z,420nm,14.5s								
HHC					L		L		
	comp=Z,450nm,14.5s								
HHC					L		L		
	comp=Z,620nm,15.6s								
H17A	**Grant Village**	**54.63**	**310**		P			19 33 24.0	
	baz=17								
RAYN	**Ar Rayn**	**54.68**	**137**		P		**P**	**19 33 24.3**	**-0.3**
RAYN					pmax		pmax		
	comp=Z,7.0nm,0.8s								
RAYN	**Ar Rayn**	**54.68**	**137**		P		**P**	**19 33 24.3**	**-0.3**
CN2	**Changchun**	**54.73**	**52**	*e*	P		**P**	**19 33 24.0**	**-0.6**
CN2					PP		**PP**	**19 35 26.2**	**-0.6**
CN2					S		**S**	**19 41 01.4**	**-3.4**
CN2					SS		**SS**	**19 44 43.5**	**-3.4**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.9s								
CN2					L		L		
	comp=Z,460nm,16.0s								
CN2					L		L		
	comp=Z,250nm,16.0s								
CN2					L		L		
	comp=Z,620nm,17.0s								
YPP	**Pitchstone Pla**	**54.79**	**310**		P		**P**	**19 33 26.7**	**+1.2**
MDJ	**Mudanjiang**	**54.80**	**48**		P		**P**	**19 33 27.2**	**+2.1**
MDJ					S		**S**	**19 41 06.4**	**+0.7**
MDJ					ScS		**ScS**	**19 43 16.6**	**+2.5**
MDJ					SS		**SS**	**19 44 50.5**	**+2.5**
MDJ					pmax		pmax		
	comp=Z,13nm,1.2s								
MDJ					pmax		pmax		
	comp=Z,150nm,4.1s								
MDJ					L		L		
	comp=Z,660nm,15.7s								
MDJ					L		L		
	comp=Z,270nm,15.7s								
MDJ					L		L		
	comp=Z,640nm,15.7s								
Q44A	**Meyer Farm, Va**	**54.88**	**289**		P		**P**	**19 33 24.3**	**-1.4**
YSS	**Yuzh-Sakhalins**	**54.91**	**37**	*e*	P		**P**	**19 33 28.4**	**+2.5**
YSS				*e*	S		**S**	**19 41 10.4**	**+3.2**
YSS					pmax		pmax		
	comp=Z,20nm,1.4s								
YSS					MLR		MLR		
	comp=Z,300nm,17.0s								
YSS					MLR		MLR		
	comp=N,200nm,15.0s								
BCYI	**Bear Canyon**	**55.28**	**312**		P		**P**	**19 33 28.1**	**-0.9**
MOOW	**Moose Ponds**	**55.28**	**310**		P		**P**	**19 33 29.2**	**+0.2**
G08A	**Pilot Rock**	**55.39**	**317**		P		**P**	**19 33 30.5**	**+

VLA	**Vladivostok**	**56.69**	**47**	*i* P		**P**		**19 33 40.2**	**+1.5**	
VLA					pmax	pmax				
	comp=Z,27nm,1.8s									
LZH	**Lanzhou**	**56.95**	**74**	*e*P		**P**		**19 33 40.5**	**-0.4**	
LZH				pP		pwP		19 33 47.1	+0.7	
LZH				sP		sP		19 33 52.6	+10	
LZH				**PP**		**PP**		**19 35 47.2**	**+0.2**	
LZH				S		S		19 41 42.5	+7.5	
LZH				sS		sS		19 41 50.6	+13	
LZH				SS		**SS**		**19 45 29.0**	**+6.4**	
LZH				pmax		pmax				
	comp=Z,25nm,1.3s									
LZH				pmax		pmax				
	comp=Z,120nm,6.2s									
LZH				L		L				
	comp=Z,730nm,16.0s									
LZH				L		L				
	comp=Z,600nm,15.4s									
LZH				L		L				
	comp=Z,660nm,18.0s									
T42A	**Van Buren**	**57.17**	**290**	IAmb		IAmb		19 33 49.9		
	comp=Z,12nm,1.0s									
MGMO	**Mountain Grove**	**57.34**	**291**	P		**P**		**19 33 43.4**	**-0.1**	
MGMO				IAmb		IAmb		19 33 51.4		
	comp=Z,19nm,0.9s									
TIY	**Taiyuan**	**57.56**	**66**	*e*P		P		19 33 49.7	+4.6	
TIY				PP		PP		19 36 00.4	+8.1	
TIY				S		S		19 41 50.1	+7.3	
TIY				pmax		pmax				
	comp=Z,120nm,4.5s									
TIY				L		L				
	comp=Z,740nm,15.8s									
TIY				L		L				
	comp=Z,340nm,13.0s									
TIY				L		L				
	comp=Z,550nm,18.5s									
ASAJ	**Asahikawa**	**57.65**	**38**	LR		LR		19 59 14.6		
	comp=Z,80nm,20.5s,baz=351,slow=37									
ISCO	**Idaho Springs**	**57.97**	**304**	P				19 33 47.8		
	baz=17									
LCAR	**Lake Charles**	**58.10**	**290**	P		**P**		**19 33 48.4**	**-0.3**	
O20A	**White River Ci**	**58.22**	**306**	IAmb		IAmb		19 34 14.3		
	comp=Z,15nm,0.8s									
O20A	**White River Ci**	**58.22**	**306**	P				19 33 48.3		
	baz=16									
U40A	**Yellville**	**58.25**	**291**	P				19 33 49.2		
	baz=18									
FCAR	**Ozark Folk Cen**	**58.51**	**291**	P		**P**		**19 33 50.2**	**-1.4**	
FCAR				IAmb		IAmb		19 33 59.5		
	comp=Z,10nm,0.9s									
U38A	**Gravette**	**58.55**	**293**	IAmb		IAmb		19 33 58.9		
	comp=Z,11nm,0.9s									
GOGA	**Godfrey**	**58.65**	**282**	P				19 33 52.1		
	baz=18									
ELK	**Elko**	**59.07**	**313**	LR		LR		19 59 58.2		
	comp=Z,891nm,18.9s,baz=18,slow=37									
ELK	**Elko**	**59.07**	**313**	P		**P**		**19 33 55.7**	**-0.1**	
ELK				pmax		pmax				
	comp=Z,6.0nm,1.2s									
ELK	**Elko**	**59.07**	**313**	P		**P**		**19 33 55.7**	**-0.1**	
WHAR	**Wooly Hollow**	**59.12**	**291**	IAmb		IAmb		19 33 58.6		
	comp=Z,12nm,1.1s									
W41B	**Gary Mavity, V**	**59.22**	**291**	P				19 33 56.2		
	baz=18									
YBH	**Yreka Blue Hor**	**59.50**	**319**	P		**P**		**19 33 58.7**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=76,slow=8.3,SNR=1.9									
YBH				LR		LR		19 59 10.6		
	comp=Z,442nm,21.9s,baz=12,slow=36									
YBH	**Yreka Blue Hor**	**59.50**	**319**	P		**P**		**19 33 58.7**	**+0.1**	
TMUT	**Trail Mountain**	**59.65**	**309**	IAmb		IAmb		19 34 32.6		
	comp=Z,12nm,1.0s									
SRU	**San Rafael Swe**	**59.69**	**308**	P		**P**		**19 33 59.9**	**-0.1**	
SRU				pmax		pmax				
	comp=Z,7.0nm,1.0s									
SRU	**San Rafael Swe**	**59.69**	**308**	P		**P**		**19 33 59.9**	**-0.1**	
M02C	**Callahan**	**59.86**	**319**	P				19 34 01.4		
	baz=13									
PV22	**Blue Mesa, Par**	**59.87**	**306**	P		**P**		**19 34 01.6**	**+0.3**	
SDCO	**Great Sand Dun**	**59.91**	**303**	P				19 34 01.4		
	baz=16									
Q16A	**Castle Valley**	**60.01**	**309**	IAmb		IAmb		19 34 23.4		
	comp=Z,14nm,0.9s									
PV04	**Paradox Valley**	**60.03**	**306**	P		**P**		**19 34 02.0**	**-0.4**	
PV04				IAmb		IAmb		19 34 38.2		
	comp=Z,22nm,1.5s									
PV14	**Lion Creek, Pa**	**60.08**	**307**	IAmb		IAmb		19 34 20.2		
	comp=Z,11nm,1.1s									
PV12	**Saucer Basin,**	**60.09**	**306**	IAmb		IAmb		19 34 31.9		
	comp=Z,11nm,1.1s									
PV16	**Nyswonger Mesa**	**60.12**	**306**	P		**P**		**19 34 02.6**	**-0.4**	
PV16				IAmb		IAmb		19 35 18.1		
	comp=Z,11nm,1.3s									
PV11	**David Mesa, Pa**	**60.12**	**306**	IAmb		IAmb		19 34 14.8		
	comp=Z,20nm,1.4s									
MIAR	**Mount Ida**	**60.15**	**291**	P		**P**		**19 34 02.4**	**-0.6**	
MIAR				pmax		pmax				
	comp=Z,42nm,1.6s									
MIAR	**Mount Ida**	**60.15**	**291**	P		**P**		**19 34 02.4**	**-0.6**	
MIAR	**Mount Ida**	**60.15**	**291**	P				19 34 03.1		
	baz=18									
PV03	**Paradox Valley**	**60.16**	**306**	IAmb		IAmb		19 34 35.5		
	comp=Z,9.6nm,1.3s									
XAN	**Xi'an**	**60.19**	**70**	P		**P**		**19 34 05.6**	**+2.3**	
XAN				pP		pwP		19 34 09.2	+0.4	
XAN				pmax		pmax				
	comp=Z,13nm,1.0s									
XAN				pmax		pmax				
	comp=Z,54nm,3.6s									
XAN				L		L				
	comp=Z,930nm,16.9s									
XAN				L		L				
	comp=Z,680nm,15.6s									
XAN				L		L				
	comp=Z,1μm,17.4s									
S22A	**4UR Ranch, Cre**	**60.21**	**304**	P				19 34 03.2		
	baz=16									
PV01	**Paradox Valley**	**60.21**	**306**	P		**P**		**19 34 03.2**	**-0.5**	
PV01				IAmb		IAmb		19 34 17.3		
	comp=Z,8.7nm,0.8s									
N02D	**Trinity Center**	**60.24**	**319**	P				19 34 03.7		
	baz=13									
PV13	**Radium Mtn., P**	**60.24**	**306**	IAmb		IAmb		19 34 16.4		
	comp=Z,25nm,1.5s									
O03E	**Paynes Creek**	**60.74**	**318**	P				19 34 06.2		
	baz=14									
PSUT	**Pine Spring**	**60.93**	**311**	P		**P**		**19 34 08.5**	**-0.1**	
MTPU	**Mount Pierson**	**61.06**	**309**	IAmb		IAmb		19 34 23.3		
	comp=Z,14nm,1.2s									
MVCO	**Mesa Verde**	**61.08**	**306**	P		**P**		**19 34 09.7**	**+0.1**	
WMOK	**Wichita Mounta**	**61.23**	**296**	IAmb		IAmb		19 34 18.7		
	comp=Z,10nm,1.1s									
WMOK	**Wichita Mounta**	**61.23**	**296**	P				19 34 10.2		
	baz=17									
KVN	**Kaiserville**	**61.26**	**315**			pwP		19 34 15.1	-1.2	
KSRS	**Korea Array**	**61.34**	**52**	P		**P**		**19 34 10.2**	**-0.9**	
	comp=Z,1.4nm,0.8s,baz=356,slow=6.4,SNR=9.7									
KSRS				PP		**PP**		**19 36 24.3**	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=342,slow=9.7,SNR=4.2									
KSRS				LR		LR		20 04 56.1		
	comp=Z,511nm,18.1s,baz=342,slow=40									
KSRS	**Korea Array**	**61.34**	**52**	P		**P**		**19 34 10.2**	**-0.9**	
KSAR	**Wonju Array Be**	**61.34**	**52**	P		**P**		**19 34 11.6**	**+0.5**	
KSAR	**Wonju Array Be**	**61.34**	**52**	P		**P**		**19 34 11.6**	**+0.5**	
R11A	**Troy Canyon, C**	**61.46**	**312**	P				19 34 11.7		
	baz=15									
TOA0	**Torodi Ar. Sit**	**61.59**	**188**	P		**P**		**19 34 12.8**	**-0.2**	
TORD	**Torodi Ar. Bea**	**61.59**	**188**	P		**P**		**19 34 10.7**	**-2.3**	
	comp=Z,5.5nm,0.8s,baz=354,slow=7.4,SNR=20									
TORD				LR		LR		20 02 42.5		
	comp=Z,153nm,18.2s,baz=325,slow=38									
TORD	**Torodi Ar. Bea**	**61.59**	**188**	IAmb		IAmb		19 34 37.2		
	comp=Z,17nm,1.2s									
CCUT	**Cedar City**	**61.78**	**310**	IAmb		IAmb		19 34 48.1		
	comp=Z,11nm,1.2s									
CD2	**Chengdu**	**61.84**	**76**	P		**P**		**19 34 13.6**	**-1.0**	
CD2				S		**S**		**19 42 36.9**	**-1.1**	
CD2				pmax		pmax				
	comp=Z,20nm,0.5s									
CD2				pmax		pmax				
	comp=Z,140nm,8.1s									
CD2				L		L				
	comp=Z,2μm,19.5s									
CD2				L		L				
	comp=Z,610nm,14.2s									
CD2				L		L				
	comp=Z,2μm,20.2s									
NVAR	**Mina Array Bea**	**61.90**	**315**	P		**P**		**19 34 15.6**	**+0.4**	
	comp=Z,0.1nm,0.4s,baz=19,slow=5.9,SNR=3.7									
NVAR				LR		LR		20 02 45.0		
	comp=Z,1μm,18.1s,baz=18,slow=38									
KNB	**Kanab**	**62.19**	**309**	IAmb		IAmb		19 34 34.7		
	comp=Z,15nm,1.3s									
LCMT	**Little Creek M**	**62.28**	**310**	P		**P**		**19 34 17.5**	**0.0**	
LCMT				IAmb		IAmb		19 34 30.2		
	comp=Z,8.7nm,0.9s									
U15A	**North Rim**	**62.64**	**309**	IAmb		IAmb		19 34 51.9		
	comp=Z,7.7nm,1.1s									
ANMO	**Albuquerque**	**62.81**	**303**	*i* P		**P**		**19 34 19.7**	**-1.5**	
ANMO				pmax		pmax				
	comp=Z,9.0nm,2.0s									
MSTX	**Muleshoe**	**62.91**	**300**	P		**P**		**19 34 22.4**	**+0.7**	
MSTX				IAmb		IAmb		19 34 30.0		
	comp=Z,13nm,1.1s									
MSTX	**Muleshoe**	**62.91**	**300**	P				19 34 21.6		
	baz=16									
TPNV	**Topopah Spring**	**62.94**	**312**	P		**P**		**19 34 22.5**	**+0.5**	
TPNV				pmax		pmax				
	comp=Z,14nm,1.3s									
TPNV	**Topopah Spring**	**62.94**	**312**	P		**P**		**19 34 22.5**	**+0.5**	
TPNV				IAmb		IAmb		19 34 38.8		
	comp=Z,14nm,1.2s									
TPNV	**Topopah Spring**	**62.94**	**312**	P				19 34 21.4		
	baz=14									
SHPR	**Sheep Range**	**63.15**	**311**			**P**		**19 34 27.2**	**+3.8**	
WUAZ	**Wupatki**	**63.33**	**308**	IAmb		IAmb		19 34 37.1		
	comp=Z,10nm,1.1s									
WUAZ	**Wupatki**	**63.33**	**308**	P				19 34 24.7		
	baz=15									
W18A	**Petrified Fore**	**63.37**	**306**	P				19 34 24.2		
	baz=15									
ABTX	**Abilene, Hawle**	**63.46**	**296**	P				19 34 25.2		
	baz=16									
WHTX	**Lake Whitney,**	**63.54**	**294**	P				19 34 26.6		
	baz=17									
MAT	**Matsushiro**	**64.25**	**44**	P		**P**		**19 34 30.4**	**-0.1**	
MAT				*e*S		**S**		**19 43 09.8**	**+1.8**	
MJAR	**Matsushiro Arr**	**64.26**	**44**	P		**P**		**19 34 30.6**	**+0.1**	
	comp=Z,9.9nm,1.0s,baz=346,slow=7.0,SNR=14									
MJAR				LR		LR		20 04 22.6		
	comp=Z,190nm,20.2s,baz=345,slow=38									
MJAR	**Matsushiro Arr**	**64.26**	**44**	P		**P**		**19 34 30.6**	**+0.1**	
MJAR	**Matsushiro Arr**	**64.26**	**44**	IAmb		IAmb		19 34 37.5		
	comp=Z,6.8nm,0.9s									
NJ2	**Nanjing**	**64.50**	**62**	*e*P		**P**		**19 34 33.3**	**+1.2**	
NJ2				pmax		pmax				
	comp=Z,5.0nm,0.5s									
NJ2				L		L				
	comp=Z,260nm,18.1s									
NJ2				L		L				
	comp=Z,480nm,17.7s									
NJ2				L		L				
	comp=Z,390nm,19.6s									
ISA	**Isabella, Lake**	**64.62**	**314**	P		**P**		**19 34 33.7**	**+0.7**	
ISA				pmax		pmax				
	comp=Z,8.0nm,1.1s									
ISA	**Isabella, Lake**	**64.62**	**314**	P		**P**		**19 34 33.7**	**+0.7**	
ISA				IAmb		IAmb		19 34 54.0		
	comp=Z,8.3nm,1.1s									
ISA	**Isabella, Lake**	**64.62**	**314**	P				19 34 32.6		
	baz=14									
GMRC	**Granite Mounta**	**64.92**	**311**	P				19 34 35.1		
	baz=14									
JWT	**Wachi**	**64.95**	**46**	P		**P**		**19 34 35.6**	**+0.6**	
PDMCI	**Parker Dam,Lak**	**65.08**	**310**	P				19 34 36.1		
	baz=14									
121A	**Cookes Peak, D**	**65.43**	**304**	P				19 34 38.4		
	baz=15									
JCT	**Junction City**	**65.55**	**296**	P				19 34 39.6		
	baz=16									
MNTX	**Cornudas Mount**	**65.69**	**301**	P		**P**		**19 34 39.6**	**-0.3**	
MNTX	**Cornudas Mount**	**65.69**	**301**	P				19 34 40.1		
	baz=16									
BFSC	**Mount Baldy Ra**	**65.84**	**313**	P				19 34 40.8		
	baz=14									
BC3	**Big Chuckawall**	**65.97**	**311**	P				19 34 41.9		
	baz=14									
SBC	**Santa Barbara**	**66.04**	**315**	P				19 34 42.0		
	baz=13									
TUC	**Tucson**	**66.30**	**306**	P		**P**		**19 34 43.3**	**-0.6**	
TUC				pmax		pmax				
	comp=Z,21nm,1.6s									
TUC	**Tucson**	**66.30**	**306**	P		**P**		**19 34 43.3**	**-0.6**	
TUC				IAmb		IAmb		19 34 56.5		
	comp=Z,21nm,1.6s									
MURC	**Murrieta**	**66.37**	**312**	P				19 34 44.2		
	baz=14									
GLA	**Glamis**	**66.43**	**310**	P				19 34 44.9		
	baz=14									
GYA	**Guiyang**	**66.83**	**75**	⇓P		**P**		**19 34 49.6**	**+2.2**	
GYA				pP		pwP		19 34 56.7	+3.7	
GYA				S		**S**		**19 43 43.8**	**+3.8**	
GYA				pmax		pmax				
	comp=Z,2.0nm,1.2s									
GYA				pmax		pmax				
	comp=Z,20nm,3.5s									
GYA				L		L				
	comp=Z,70nm,16.5s									
GYA				L		L				
	comp=Z,66nm,14.7s									
GYA				L		L				
	comp=Z,110nm,12.1s									
IKP	**In-Ko-Pah, Jac**	**67.08**	**311**	P				19 34 48.9		
	baz=14									
KMI	**Kunming**	**67.09**	**79**	⇓P		**P**		**19 34 50.8**	**+1.6**	
KMI				pP		pwP		19 34 55.7	+1.0	
KMI				sP		sP		19 34 58.4	+7.2	
KMI				S		**S**		**19 43 44.8**	**+1.5**	
KMI				sS		sS		19 43 50.4	+4.8	
KMI				SS		**SS**		**19 48 05.8**	**+4.4**	
KMI				pmax		pmax				
	comp=Z,9.0nm,0.8s									
KMI				pmax		pmax				
	comp=Z,100nm,4.9s									
KMI				L		L				
	comp=Z,630nm,17.6s									
KMI				L		L				
	comp=Z,340nm,16.0s									
KMI				L		L				
	comp=Z,880nm,19.6s									
833A	**Chaparral WMA,**	**67.52**	**295**	P				19 34 51.7		
	baz=16									
TX32	**Lajitas Array**	**67.56**	**299**	P		**P**		**19 34 50.7**	**-1.3**	
TX32				IAmb		IAmb		19 35 28.4		
	comp=Z,28nm,1.9s									
TXAR	**Lajitas Array**	**67.56**	**299**	P		**P**		**19 34 51.2**	**-0.8**	
	comp=Z,2.6nm,0.8s,baz=62,slow=5.0,SNR=19									
TXAR				LR		LR		20 05 01.5		
	comp=Z,1μm,18.3s,baz=0.0,slow=36									
TXAR	**Lajitas Array**	**67.56**	**299**	P		**P**		**19 34 51.2**	**-0.8**	
HYB	**Hyderabad**	**68.05**	**105**	*i* P		**P**		**19 34 57.0**	**+1.9**	
DBIC	**Dimbokro**	**68.36**	**194**	LR		LR		20 05 45.4		
	comp=Z,116nm,18.5s,baz=356,slow=37									
CHTO	**Chiang Mai**	**72.11**	**84**	P		**P**		**19 35 20.3**	**+0.4**	
CHTO				pmax		pmax				
	comp=Z,17nm,1.5s									
CHTO	**Chiang Mai**	**72.11**	**84**	P		**P**		**19 35 20.3**	**+0.4**	
CHTO				IAmb		IAmb		19 35 43.4		
	comp=Z,17nm,1.5s									
CMAR	**Chiang Mai Arr**	**72.44**	**85**	P		**P**		**19 35 22.6**	**+0.6**	
	comp=Z,1.2nm,0.8s,baz=329,slow=7.2,SNR=8.7									
CMAR				LR		LR		20 12 00.1		
	comp=Z,338nm,20.7s,baz=1.0,slow=40									
CMAR	**Chiang Mai Arr**	**72.44**	**85**	P		**P**		**19 35 22.6**	**+0.6**	
LODK	**Lodwar**	**72.86**	**152**	P		**P**		**19 35 23.9**	**-0.6**	
LODK				IAmb		IAmb		19 36 53.0		
	comp=Z,8.0nm,0.6s									
QIZ	**Qiongzhong**	**74.75**	**74**	P		**P**		**19 35 35.1**	**-0.4**	
QIZ				pP		**pP**		**19 35 39.6**	**+2.6**	
QIZ				S		**S**		**19 45 12.3**	**+0.4**	
QIZ				sS		**sS**		**19 45 19.3**	**+5.0**	
QIZ				L		L				
	comp=Z,340nm,12.5s									
QIZ				L		L				
	comp=Z,300nm,13.2s									
QIZ				L		L				
	comp=Z,430nm,16.5s									
PETF	**Flores**	**76.04**	**283**	IAmb		IAmb		19 35 46.5		
	comp=Z,14nm,1.0s									
MBAR	**Mbarara**	**76.30**	**157**	P		**P**		**19 35 44.6**	**0.0**	
MBAR				pmax		pmax				
	comp=Z,11nm,1.1s									
MBAR	**Mbarara**	**76.30**	**157**	P		**P**		**19 35 44.6**	**0.0**	
MBAR				IAmb		IAmb		19 35 48.4		
	comp=Z,10nm,1.1s									
MOTC	**Monteria, Cord**	**80.06**	**267**	*e*P		**P**		**19 36 05.8**	**+0.6**	
SPBC	**San Pablo de B**	**82.63**	**264**	*e*P		**P**		**19 36 21.1**	**+2.1**	
NORC	**Norcasia**	**82.92**	**265**	*e*P		**P**		**19 36 21.4**	**+0.9**	
CBOC	**Ciudad Bolivar**	**82.94**	**266**	*e*P		**P**		**19 36 20.2**	**-0.6**	
GUY2C	**Guyana, Caldas**	**83.38**	**266**	*e*P		**P**		**19 36 24.6**	**+1.3**	
ROSC	**El Rosal**	**83.47**	**264**	LR		LR		20 12 05.4		
	comp=Z,101nm,20.0s,baz=36,slow=35									
RREF	**El Recreo**	**83.69**	**265**	*e*P		P		19 36 30.6	+5.5	
PLMC	**San Jos del P**	**83.93**	**266**	*e*P		**P**		**19 36 28.2**	**+2.5**	
TOLC	**Tolima**	**83.98**	**265**	*e*P		**P**		**19 36 25.9**	**-0.4**	
SOTA	**Rioblanco**	**86.67**	**266**	*e*P		**P**		**19 36 39.2**	**-0.7**	
BDFB	**Brasilia**	**96.70**	**234**	LR		LR		20 13 27.5		
	comp=Z,218nm,20.6s,baz=345,slow=31									
WRA	**Warramunga Arr**	**118.26**	**60**	PKP		**PKiKP**		**19 42 41.9**	**-0.7**	
	comp=Z,0.8nm,0.9s,baz=333,slow=2.6,SNR=3.0									
WRA	**Warramunga Arr**	**118.26**	**60**	PKIKP		**PKiKP**		**19 42 41.9**	**-0.7**	
PPT2	**Papeete2**	**121.70**	**335**	*e*LR		LR		20 20 17.8		
	comp=Z,146nm,23.8s									
ASAR	**Alice Springs**	**121.74**	**62**	PKP		**PKiKP**		**19 42 48.3**	**-1.0**	
	comp=Z,1.8nm,0.8s,baz=341,slow=2.1,SNR=15									
ASAR	**Alice Springs**	**121.74**	**62**	PKIKP		**PKiKP**		**19 42 48.3**	**-1.0**	
ASAR	**Alice Springs**	**121.74**	**62**			**PKiKP**		**19 42 48.3**	**-1.0**	
PLCA	**Paso Flores**	**126.03**	**247**	PKP		**PKiKP**		**19 42 56.6**	**-0.7**	
	comp=Z,3.0nm,0.8s,baz=32,slow=2.0,SNR=5.9									
PLCA	**Paso Flores**	**126.03**	**247**	PKIKP		**PKiKP**		**19 42 56.6**	**-0.7**	
PLCA	**Paso Flores**	**126.03**	**247**			**PKiKP**		**19 42 56.6**	**-0.7**	
DZM	**Mont Dzumac**	**126.10**	**26**	*e*LR		LR		20 22 29.0		
	comp=Z,175nm,24.1s									
TBI	**Tubuai**	**127.38**	**334**	*e*LR		LR		20 23 07.8		
	comp=Z,197nm,39.0s									
SYO	**Syowa Base**	**144.76**	**161⇑**	*e*PKPbc		**PKPdf**		**19 43 31.1**	**+0.6**	
SYO	**Syowa Base**	**144.76**	**161⇓**	*e*PKPdf		**PKiKP**		**19 43 32.4**	**-1.9**	
VNA1	**Neumayer--Stat**	**145.45**	**190**	PKPdf		**PKPab**		**19 43 32.6**	**+0.6**	
	baz=75,slow=8.4									
VNA3	**Neumayer Olymp**	**146.10**	**190**	PKPdf		**PKPab**		**19 43 34.0**	**-0.5**	
	baz=75,slow=8.4									
MAW	**Mawson**	**146.16**	**146**	PKPbc		**PKiKP**		**19 43 34.8**	**-2.4**	
	comp=Z,3.6nm,0.9s,baz=314,slow=9.5,SNR=5.5									
MAW	**Mawson**	**146.16**	**146**	PKP2		**PKiKP**		**19 43 34.8**	**-2.4**	
MAW	**Mawson**	**146.16**	**146**			**PKiKP**		**19 43 34.8**	**-2.4**	
SNAA	**Sanae**	**146.26**	**186**	PKPdf		**PKPab**		**19 43 34.3**	**-0.9**	
	baz=75,slow=8.4									
SNAA	**Sanae**	**146.26**	**186**	PKPbc		**PKPdf**		**19 43 34.1**	**-1.1**	
	comp=Z,8.0nm,0.9s,baz=318,slow=1.8,SNR=17									
SNAA	**Sanae**	**146.26**	**186**	PKP2		**PKPab**		**19 43 34.1**	**-1.1**	

*TUL **09** 19:44:30.8±1.7,35°.80N±0°.01×97°.44W±0°.02,h5km±6km, ML2.6,mb_Lg2.5/40(NEIC),Error ellipse: s-maj=1.8km s-min=1.7km az=135.0*

NEIC 09 19:44:30.8±1.1,35°.813N±0°.008×97°.46W±0°.02,h6km±6km, Error ellipse: s-maj=2.1km s-min=1.2km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.02**	**163**		Pg	19 44 31.9	0.0
OK029				Sg	Sg	19 44 32.8	+0.1
BCOK	**Bluff Creek, N**	**0.20**	**218**	Pg	Pg	19 44 34.9	+0.2
BCOK				Sg	Sg	19 44 37.8	+0.5
OK025	**Westminster Rd**	**0.25**	**157**		Pg	19 44 35.8	0.0
OK025				Sg	Sg	19 44 39.5	+0.4
OK005	**Luther M Schoo**	**0.27**	**126**	Pg	Pg	19 44 35.7	-0.4
OK005				Sg	Sg	19 44 40.1	+0.4
OKCFA	**Oklahoma City**	**0.40**	**179**		Pg	19 44 38.4	-0.1
OKCFA				Sg	Sg	19 44 44.3	+0.6
OKCSW	**OKLAHOMA CITY**	**0.41**	**177**	Pg	Pg	19 44 38.7	0.0
OKCSW				Sg	Sg	19 44 44.7	+0.7
OK031	**S. Brethren Rd**	**0.52**	**74**		Pg	19 44 41.0	+0.1
OK031				Sg	Sg	19 44 48.4	+0.7
FNO	**Franklin**	**0.56**	**175**		Pg	19 44 41.3	-0.2
FNO				Sg	Sg	19 44 49.2	+0.5
OK030	**Cody Creek RV**	**0.56**	**78**		Pg	19 44 41.6	-0.1
OK030				Sg	Sg	19 44 49.3	+0.3
QUOK	**Quay**	**0.71**	**59**		Pg	19 44 44.4	0.0
QUOK				Sg	Sg	19 44 54.0	+0.4
CROK	**Carrier**	**0.81**	**329**		Pg	19 44 46.5	+0.1
CROK				Sg	Sb	19 44 58.0	-0.5
BLOK	**Blackwell**	**0.97**	**12**		Pg	19 44 49.2	-0.1
GC02	**Grant County #**	**1.08**	**343**		Pg	19 44 51.4	-0.3
GC02				Sg	Sb	19 45 07.2	+0.7
OK032	**Salt Plains WL**	**1.16**	**329**		Pg	19 44 52.7	-0.3
OK032				Sg	Sb	19 45 08.5	-0.1
KAN13	**South Haven SW**	**1.20**	**359**		Pg	19 44 53.4	-0.4
KAN13				Sg	Sn	19 45 10.2	-0.5
X34A	**Smith Ranch, M**	**1.25**	**194**		Pg	19 44 54.1	-0.6
X34A				Sg	Sb	19 45 11.3	+0.2
KAN09	**Caldwell North**	**1.33**	**355**		Pn	19 44 55.7	-0.2
KAN05	**Bluff City Nor**	**1.33**	**346**		Pn	19 44 56.0	-0.1
T35A	**Sooner Cattle**	**1.34**	**35**		Pn	19 44 55.5	-0.6
U32A	**Win

*ANF **09** 19:47:57.0±0.7, 36.73N×98.22W, h7km±5km, ML3.8/12, Error ellipse: s-maj=3.9km s-min=2.9km az=56.0*
*NEIC **09** 19:47:57.0±1.1, 36.726N±0.008×98.21W±0.02, h8km±6km, Error ellipse: s-maj=2.8km s-min=1.2km az=93.0*
ISC 09 19:47:56.9±1.0, 36.73N±0.02×98.20W±0.02, h6km±7km, n108, σ0ᵒ73/98, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.08**	**355**	Op		**Pg**	**19 47 58.6**	**-0.2**
OK032				Sg		**Sg**	**19 47 59.9**	**-0.2**
CROK	**Carrier**	**0.28**	**142**			**Pg**	**19 48 03.0**	**+0.5**
CROK				Sg		**Sg**	**19 48 07.2**	**+1.0**
GC02	**Grant County #**	**0.30**	**66**			**Pg**	**19 48 03.0**	**+0.2**
GC02				Sg		**Sg**	**19 48 07.5**	**+0.7**
KAN10	**Anthony SW Sta**	**0.41**	**12**			**Pg**	**19 48 04.7**	**-0.1**
KAN10				Sg		**Sg**	**19 48 10.4**	**+0.3**
KAN05	**Bluff City Nor**	**0.46**	**35**			**Pg**	**19 48 05.9**	**0.0**
KAN05				Sg		**Sg**	**19 48 12.1**	**+0.2**
KAN16	**Harper SW Stat**	**0.51**	**12**			**Pg**	**19 48 06.6**	**-0.2**
KAN16				Sg		**Sg**	**19 48 13.7**	**+0.2**
KAN08	**Anthony NE Sta**	**0.53**	**20**			**Pg**	**19 48 07.0**	**-0.2**
KAN08				Sg		**Sg**	**19 48 14.4**	**+0.2**
KAN12	**Harper NE Stat**	**0.59**	**16**			**Pg**	**19 48 08.2**	**-0.2**
KAN12				Sg		**Sg**	**19 48 16.3**	**+0.2**
KAN09	**Caldwell North**	**0.62**	**49**	Pg		**Pg**	**19 48 08.7**	**-0.2**
KAN09				Sg		**Sg**	**19 48 17.2**	**+0.2**
KAN13	**South Haven SW**	**0.65**	**64**			**Pg**	**19 48 09.2**	**-0.1**
KAN13				Sg		**Sg**	**19 48 18.2**	**+0.4**
U32A	**Winter Ranch,**	**0.73**	**242**			**Pg**	**19 48 10.6**	**-0.5**
U32A				Sg		**Sg**	**19 48 20.6**	**+0.1**
U32A	**Winter Ranch,** baz=60	**0.73**	**242**	P		**Pg**	**19 48 10.5**	**-0.5**
U32A				S		**Sg**	**19 48 20.6**	**+0.1**
U32A	**Winter Ranch,** baz=60	**0.73**	**242**	P			19 48 10.5	
U32A				S			19 48 20.6	
BLOK	**Blackwell**	**0.79**	**87**			**Pg**	**19 48 12.0**	**-0.2**
BLOK				Sg		**Sg**	**19 48 23.2**	**+0.8**
OK029	**Liberty Lake**	**1.11**	**147**			**Pg**	**19 48 17.7**	**-0.4**
OK029				Sg		**Sg**	**19 48 32.9**	**+0.4**
BCOK	**Bluff Creek, N**	**1.17**	**156**			**Pg**	**19 48 18.4**	**-1.0**
BCOK						**Sg**	**19 48 34.8**	**+0.2**
QUOK	**Quay**	**1.33**	**114**			**Pn**	**19 48 21.7**	**-0.3**
QUOK						**Sb**	**19 48 39.9**	**+0.4**
OK025	**Westminster Rd**	**1.34**	**148**			**Pn**	**19 48 21.7**	**-0.5**
OK025						**Sn**	**19 48 40.4**	**+0.1**
OK031	**S. Brethren Rd**	**1.34**	**125**			**Pn**	**19 48 21.9**	**-0.3**
T35A	**Sooner Cattle**	**1.37**	**82**			**Pn**	**19 48 22.2**	**-0.4**
T35A				Sn		**Sb**	**19 48 40.5**	**-0.2**
T35B	**Sooner Cattle** baz=263,SNR=70	**1.37**	**82**	P		**Pn**	**19 48 22.2**	**-0.4**
T35B				S		**Sb**	**19 48 40.9**	**+0.2**
T35B	**Sooner Cattle** baz=263	**1.37**	**82**	P			19 48 22.2	
T35B				S			19 48 40.9	
OK030	**Cody Creek RV**	**1.40**	**124**			**Pn**	**19 48 22.6**	**-0.4**
OK030				Sn		**Sg**	**19 48 42.2**	**+0.4**
OKCFA	**Oklahoma City**	**1.44**	**155**			**Pn**	**19 48 22.4**	**-1.2**
OKCFA						**Sb**	**19 48 43.2**	**+0.4**
OKCFA	**Oklahoma City** baz=335	**1.44**	**155**	S		**Sg**	**19 48 43.4**	**+0.1**
OKCFA	**Oklahoma City** baz=335	**1.44**	**155**	S			19 48 43.4	
OKCSW	**OKLAHOMA CITY**	**1.46**	**155**	Pn		**Pn**	**19 48 23.5**	**-0.3**
OKCSW				Sn		**Sg**	**19 48 43.7**	**0.0**
FNO	**Franklin**	**1.60**	**156**	Pn		**Pn**	**19 48 26.2**	**+0.4**
FNO				Sn		**Sg**	**19 48 48.2**	**-0.2**
R32A	**Long Quarter,**	**1.74**	**347**			**Pn**	**19 48 28.3**	**+0.6**
R32A	**Long Quarter,** baz=167,SNR=24	**1.74**	**347**	P		**Pn**	**19 48 28.3**	**+0.6**
R32A				S		**Sb**	**19 48 51.4**	**-0.1**
R32A	**Long Quarter,** baz=167,SNR=24	**1.74**	**347**	P			19 48 28.3	
R32A				S			19 48 51.4	
WMOK	**Wichita Mounta**	**2.04**	**194**			**Pn**	**19 48 32.3**	**+0.4**
WMOK	**Wichita Mounta** baz=13	**2.04**	**194**	P		**Pn**	**19 48 32.0**	**+0.1**
WMOK	**Wichita Mounta** baz=13	**2.04**	**194**	P			19 48 32.0	
TUL1	**Leonard** baz=294,SNR=22	**2.11**	**112**	P		**Pn**	**19 48 34.1**	**+1.4**
TUL1	**Leonard** baz=294,SNR=22	**2.11**	**112**	P			19 48 34.1	
X34A	**Smith Ranch, M**	**2.14**	**172**			**Pn**	**19 48 34.4**	**+1.1**
CBKS	**Cedar Bluff**	**2.41**	**330**	Pn		**Pn**	**19 48 36.8**	**-0.2**
CBKS	**Cedar Bluff** baz=150	**2.41**	**330**	S		**Sn**	**19 49 07.6**	**+0.7**
CBKS	**Cedar Bluff** baz=150	**2.41**	**330**	S			19 49 07.6	
KSU1	**Kansas State U**	**2.68**	**28**			**Pn**	**19 48 40.5**	**-0.2**
KSU1				IAmb_Lg			19 49 27.6	
LOOK	**Love County** comp=Z,41nm,0.7s	**2.85**	**163**	Pn		**Pn**	**19 48 43.3**	**+0.3**
U38A	**Gravette**	**3.08**	**94**			**Pn**	**19 48 45.4**	**-0.8**
U38A	comp=Z,48nm,0.7s			IAmb_Lg			19 49 42.5	
U38A	**Gravette** baz=277,SNR=7.9	**3.08**	**94**	P		**Pn**	**19 48 47.0**	**+0.8**
U38A	**Gravette** baz=277,SNR=7.9	**3.08**	**94**	P			19 48 47.0	
X37A	**Clayton**	**3.14**	**132**			**Pn**	**19 48 46.6**	**-0.3**
X37A	comp=Z,40nm,0.9s			IAmb_Lg			19 49 41.6	
HHAR	**Hobbs**	**3.46**	**96**			**Pn**	**19 48 51.6**	**+0.2**
Z35A	**Perchaven, San**	**3.48**	**167**	Pn		**Pn**	**19 48 50.1**	**-1.4**
W39A	**Magazine**	**3.90**	**112**			**Pn**	**19 48 58.1**	**+0.8**
S39A	**Bolivar**	**4.01**	**75**	Pn		**Pn**	**19 48 58.6**	**-0.3**
S39A	**Bolivar** baz=258,SNR=12	**4.01**	**75**	P		**Pn**	**19 48 58.9**	**0.0**
S39A	**Bolivar** baz=258,SNR=12	**4.01**	**75**	P			19 48 58.9	
N33B	**J Bar K, Exete** baz=189,SNR=6.5	**4.05**	**8**	P		**Pn**	**19 48 58.8**	**-0.6**
N33B	**J Bar K, Exete** baz=189,SNR=6.5	**4.05**	**8**	P			19 48 58.8	
N33A	**J Bar K, Exete**	**4.05**	**8**	Pn		**Pn**	**19 48 59.2**	**-0.2**
KSCO	**Kaye Shedlock'**	**4.18**	**304**			**Pn**	**19 49 02.4**	**+1.0**
ABTX	**Abilene, Hawle**	**4.26**	**197**	Pn		**Pn**	**19 49 02.6**	**+0.2**
ABTX	**Abilene, Hawle** baz=15	**4.26**	**197**	P		**Pn**	**19 49 02.5**	**+0.1**
ABTX	**Abilene, Hawle** baz=15	**4.26**	**197**	P			19 49 02.5	
U40A	**Yellville**	**4.32**	**93**	Pn		**Pn**	**19 49 02.6**	**-0.6**
MIAR	**Mount Ida**	**4.35**	**119**	Pn		**Pn**	**19 49 02.3**	**-1.3**
MIAR	**Mount Ida** baz=302,SNR=8.0	**4.35**	**119**	P		**Pn**	**19 49 04.6**	**+1.0**
MIAR	**Mount Ida** baz=302,SNR=8.0	**4.35**	**119**	P			19 49 04.6	
Z38A	**Mt. Pleasant** comp=Z,30nm,0.7s	**4.35**	**142**	Pn		**Pn**	**19 49 01.3**	**-2.3**
Z38A				IAmb_Lg			19 50 19.8	
MSTX	**Muleshoe**	**4.64**	**235**	Pn		**Pn**	**19 49 07.6**	**0.0**
BGNE	**Belgrade**	**4.67**	**0**	Pn		**Pn**	**19 49 08.1**	**+0.1**
BGNE	comp=Z,30nm,0.7s			IAmb_Lg			19 50 28.8	
BGNE	**Belgrade** baz=181,SNR=6.5	**4.67**	**0**	P		**Pn**	**19 49 08.0**	**-0.1**
BGNE	**Belgrade** baz=181,SNR=6.5	**4.67**	**0**	P			19 49 08.0	
P38A	**Dawn** comp=Z,24nm,0.7s	**4.68**	**50**	Pn		**Pn**	**19 49 07.2**	**-0.9**
P38A				IAmb_Lg			19 50 24.4	
WHTX	**Lake Whitney,**	**4.76**	**172**	Pn		**Pn**	**19 49 08.7**	**-0.6**
MGMO	**Mountain Grove** comp=Z,41nm,0.8s	**4.77**	**83**	Pn		**Pn**	**19 49 08.9**	**-0.5**
MGMO				IAmb_Lg			19 50 30.8	
X40A	**Basin Creek Fa**	**4.91**	**115**	Pn		**Pn**	**19 49 11.6**	**+0.3**
R40A	**Maddies Statio** comp=Z,23nm,0.8s	**4.97**	**70**	Pn		**Pn**	**19 49 11.2**	**-0.9**
R40A				IAmb_Lg			19 50 38.5	
FCAR	**Ozark Folk Cen** comp=Z,21nm,0.7s	**4.98**	**98**	Pn		**Pn**	**19 49 12.5**	**+0.3**
FCAR				IAmb_Lg			19 50 37.5	
T25A	**Trinidad** comp=Z,27nm,0.8s	**4.99**	**277**	Pn		**Pn**	**19 49 13.8**	**+1.2**
T25A				IAmb_Lg			19 50 36.9	
WHAR	**Wooly Hollow**	**5.00**	**105**	Pn		**Pn**	**19 49 10.7**	**-1.9**
237A	**Washetta, Mont** comp=Z,36nm,1.1s	**5.11**	**157**	IAmb_Lg			19 50 46.1	
WLAR	**White Oak Lake**	**5.15**	**125**	Pn		**Pn**	**19 49 13.8**	**-0.9**
OGNE	**Ogallala**	**5.17**	**326**	Pn		**Pn**	**19 49 17.2**	**+2.3**
OGNE	comp=Z,28nm,0.8s			IAmb_Lg			19 50 38.1	
L34A	**Svendsen Farm,** comp=Z,32nm,0.8s	**5.42**	**15**	IAmb_Lg			19 51 02.3	
P40A	**Paris**	**5.60**	**58**	Pn		**Pn**	**19 49 20.9**	**+0.1**
N38A	**Joes South For**	**5.62**	**42**	Pn		**Pn**	**19 49 20.7**	**-0.3**
N38A	comp=Z,27nm,0.8s			IAmb_Lg			19 51 07.3	
CCM	**Cathedral Cave** comp=Z,26nm,0.8s	**5.70**	**74**	IAmb_Lg			19 50 59.0	
T42A	**Van Buren** comp=Z,19nm,0.8s	**5.71**	**85**	Pn		**Pn**	**19 49 23.2**	**+1.0**
T42A				IAmb_Lg			19 51 06.8	
LCAR	**Lake Charles** comp=Z,24nm,0.9s	**5.72**	**94**	IAmb_Lg			19 51 03.4	
435B	**Jarrell** comp=Z,26nm,0.8s	**5.95**	**175**	IAmb_Lg			19 51 13.7	
PBMO	**Poplar Bluff** comp=Z,18nm,0.7s	**6.24**	**87**	IAmb_Lg			19 51 27.9	
JCT	**Junction City** comp=Z,18nm,0.8s	**6.37**	**193**	IAmb_Lg			19 51 29.5	
SCIA	**State Center** comp=Z,23nm,0.8s	**6.46**	**35**	IAmb_Lg			19 51 26.7	
SLM	**Saint Louis** comp=Z,29nm,0.8s	**6.60**	**71**	IAmb_Lg			19 51 27.7	
N41A	**Hamden Midland**	**6.98**	**53**	Pn		**Pn**	**19 49 39.1**	**-0.7**
ECSD	**EROS Data Cent**	**7.10**	**9**	Pn		**Pn**	**19 49 39.9**	**-1.5**
K38A	**Parkersburg** comp=Z,24nm,0.8s	**7.24**	**34**	IAmb_Lg			19 51 53.9	
SMCO	**Snowmass** comp=Z,16nm,1.2s	**7.35**	**292**	Pn		**Pn**	**19 49 44.1**	**-1.1**
SMCO				IAmb_Lg			19 52 02.8	
P43A	**Skaggs, Pawnee**	**7.43**	**64**	Pn		**Pn**	**19 49 44.2**	**-1.7**
W45A	**Hickory Valley** comp=Z,23nm,0.9s	**7.48**	**99**	IAmb_Lg			19 51 53.1	
OXF	**Oxford** comp=Z,12nm,0.7s	**7.49**	**105**	IAmb_Lg			19 52 01.2	
L40A	**Anamosa** comp=Z,15nm,0.7s	**7.59**	**43**			**Pn**	**19 49 47.2**	**-0.8**
L40A				IAmb_Lg			19 52 01.7	
MNTX	**Cornudas Mount**	**7.78**	**232**	Pn		**Pn**	**19 49 52.0**	**+1.3**
I37A	**Lemond, Waseca** comp=Z,12nm,1.0s	**8.15**	**25**	IAmb_Lg			19 52 30.5	
MVCO	**Mesa Verde** comp=Z,14nm,1.1s	**8.26**	**276**	IAmb_Lg			19 52 40.6	
PV01	**Paradox Valley** comp=Z,14nm,1.2s	**8.37**	**283**	IAmb_Lg			19 52 16.6	
O44A	**Mansfield** comp=Z,18nm,0.7s	**8.37**	**63**	IAmb_Lg			19 52 20.6	
WVT	**Waverly** comp=Z,11nm,0.8s	**8.38**	**91**	IAmb_Lg			19 52 28.1	
L42A	**Oliver, Polo** comp=Z,10nm,0.8s	**8.45**	**49**	IAmb_Lg			19 52 33.1	
PV07	**Paradox Valley** comp=Z,10nm,1.2s	**8.47**	**285**	IAmb_Lg			19 52 37.7	
PV02	**Paradox Valley** comp=Z,14nm,1.1s	**8.51**	**283**	IAmb_Lg			19 52 25.4	
RWWY	**Rawlins** comp=Z,12nm,1.2s	**8.57**	**308**	IAmb_Lg			19 52 36.4	
O20A	**White River Ci** comp=Z,12nm,1.0s	**8.58**	**296**	IAmb_Lg			19 52 36.2	
PV03	**Paradox Valley** comp=Z,15nm,1.2s	**8.60**	**283**	IAmb_Lg			19 52 35.6	
PV18	**Skein Mesa, Pa** comp=Z,15nm,1.2s	**8.65**	**283**	IAmb_Lg			19 52 27.7	
PV16	**Nyswonger Mesa** comp=Z,20nm,1.2s	**8.66**	**284**	IAmb_Lg			19 52 33.0	
JFWS	**Jewell Farm** comp=Z,16nm,0.9s	**8.69**	**42**	IAmb_Lg			19 52 45.3	
PV20	**West Nyswonger** comp=Z,12nm,1.0s	**8.70**	**284**	IAmb_Lg			19 52 26.9	
PV19	**Morning Glory** comp=Z,16nm,1.2s	**8.71**	**284**	IAmb_Lg			19 52 39.2	
PV10	**Paradox Valley** comp=Z,18nm,1.2s	**8.76**	**284**	IAmb_Lg			19 52 36.5	
V48A	**Smith Brothers** comp=Z,9.2nm,0.9s	**9.25**	**93**	IAmb_Lg			19 53 00.1	
X48A	**Hartselle** comp=Z,11nm,1.1s	**9.37**	**101**	IAmb_Lg			19 52 53.0	
SFIN	**Lafayette** comp=Z,17nm,0.8s	**9.43**	**64**	IAmb_Lg			19 52 56.7	
WCI	**Wyandotte Cave** comp=Z,12nm,0.8s	**9.59**	**77**	IAmb_Lg			19 53 03.6	
K43A	**Burlington** comp=Z,17nm,0.9s	**9.66**	**49**	IAmb_Lg			19 53 04.9	

*SOME **09** 19:56:42.9, 41.72N×72.57E, h5km*
*KRNET **09** 19:56:43.5±0.1, 41.72N×72.61E, h16km, mb2.2*
*NNC **09** 19:56:44.8±2.8, 41.68N×72.61E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=25.7km s-min=11.1km az=178.0*
ISC 09 19:56:43.2±1.1, 41.72N±0.02×72.63E±0.03, h15km±10km, n22, σ0ᵒ96/40, 20C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob** baz=45	**0.47**	**146**	⇓*i*	P	**Pb**	**19 56 53.3**	**0.0**
ARSB				⇓*i*	S	**Sb**	**19 57 00.3**	**+0.1**
MNAS	**Manas** baz=54	**0.78**	**353**	⇓*i*	P	**Pb**	**19 56 58.5**	**-0.1**
MNAS				⇓*i*	S	**Sb**	**19 57 08.9**	**-0.1**
AML	**Almayashu** baz=63	**0.90**	**62**	⇑*i*	P	**Pb**	**19 57 00.5**	**-0.2**
AML				⇑*i*	S	**Sb**	**19 57 12.6**	**-0.1**
MRKS	**Merke** 0.5nm,0.1s	**1.12**	**23**	*e*	P	**Pg**	**19 57 05.1**	**+0.2**
MRKS	7.8nm,0.3s			*e*	S	**Sn**	**19 57 20.1**	**+0.4**
MRKS	**Merke** 0.5nm,0.1s	**1.12**	**23**	P		**Pg**	**19 57 05.1**	**+0.2**
MRKS	7.8nm,0.3s			S		**Sn**	**19 57 20.1**	**+0.4**
TRKS	**Terek-Say** baz=57	**1.13**	**261**	⇑*i*	P	**Pb**	**19 57 04.4**	**-0.3**
TRKS	baz=57			⇑*i*	S	**Sg**	**19 57 19.7**	**-0.2**
OHH	**Osh** baz=74	**1.20**	**174**	⇑*i*	P	**Pg**	**19 57 06.0**	**-0.3**
OHH	baz=74			⇑*i*	S	**Sn**	**19 57 22.6**	**+1.0**
EKS2	**Erkin-Say** baz=43	**1.27**	**42**	⇑*i*	P	**Pg**	**19 57 07.4**	**-0.3**
EKS2	baz=43			⇑*i*	S	**Sg**	**19 57 24.5**	**+0.2**
ARLS	**Aral** baz=84	**1.27**	**83**	⇑*i*	P	**Pg**	**19 57 08.1**	**+0.3**
ARLS	baz=84			⇑*i*	S	**Sg**	**19 57 25.7**	**+1.3**
AAK	**Ala-Archa** 1.2nm,0.5s	**1.66**	**56**	⇓	Pn	**Pg**	**19 57 15.2**	**0.0**
AAK	1.8nm,0.6s			⇑	Sn	**Sg**	**19 57 40.7**	**+3.9**
SFK	**Sufi-Kurgan** baz=58	**1.82**	**158**	⇑*i*	P	**Pg**	**19 57 17.7**	**-0.6**
SFK	baz=58			⇑*i*	S	**Sg**	**19 57 42.5**	**+0.5**
KBK	**Karagaybulak** baz=61	**1.96**	**61**	⇓*i*	P	**Pg**	**19 57 19.5**	**-1.4**
KBK	baz=61			⇓*i*	S	**Sg**	**19 57 45.9**	**-0.4**
USP	**Ospenovka** baz=42	**2.08**	**41**	⇑*i*	P	**Pb**	**19 57 21.4**	**+0.7**
USP	baz=42			⇑*i*	S	**Sg**	**19 57 48.7**	**-1.3**
KK31	**Karatay Array** 0.6nm,0.3s,baz=134,slow=14,SNR=10	**2.10**	**312**	⇑	Pn	**Pb**	**19 57 21.8**	**+0.8**
KK31	1.1nm,0.3s,baz=142,slow=29,SNR=10			⇓	Sn	**Sg**	**19 57 50.2**	**-0.4**
SGDS	**Sogindy** 1.1nm,0.2s	**2.28**	**40**	Pg		**Pg**	**19 57 25.8**	**-1.1**
SGDS	2.5nm,0.4s			Lg		Lg	19 57 56.1	
TKM2	**Tokmak 2** 0.6nm,0.4s	**2.51**	**60**	⇓	Pn	**Pb**	**19 57 28.5**	**+0.4**
TKM2	3.0nm,0.7s			⇓	Lg	Lg	19 58 04.2	
BOOM	**Boomskoye usch** baz=72	**2.58**	**71**	⇑*e*	P	**Pb**	**19 57 28.5**	**-0.8**
BOOM				⇑*e*	S	**Sb**	**19 58 01.0**	**+0.1**
ULHL	**Ulahol** baz=78	**2.74**	**78**	⇑*i*	P	**Pb**	**19 57 31.0**	**-1.1**
ULHL	baz=78			⇑*i*	S	**Sb**	**19 58 05.1**	**-0.6**
DGS	**Degeres** 1.1nm,0.3s	**2.78**	**56**	*e*	P	**Pg**	**19 57 35.3**	**-1.2**
DGS	2.1nm,0.4s			*e*	S	**Sg**	**19 58 12.6**	**+0.1**
DGS	**Degeres** 1.1nm,0.3s	**2.78**	**56**	Pg		**Pg**	**19 57 35.3**	**-1.2**
DGS	2.1nm,0.4s			Lg		Lg	19 58 12.6	
KST	**Kastek** 0.8nm,0.1s	**2.80**	**61**	*e*	P	**Pg**	**19 57 36.0**	**-1.0**
KST	7.1nm,0.5s			*e*	S	**Sg**	**19 58 13.4**	**+0.2**
KST	**Kastek** 0.8nm,0.1s	**2.80**	**61**	Pg		**Pg**	**19 57 36.0**	**-1.0**
KST	7.1nm,0.5s			Lg		Lg	19 58 13.4	

*ATH **09** 20:11:16.0, 38.62N×23.39E, h14km±1km, ML3.3/18, Error ellipse: s-maj=1.8km s-min=0.7km az=272.0*
*ISK **09** 20:11:15.2, 38.67N×23.46E, h8km, ML3.0/15*
*IDC **09** 20:11:15.1±1.5, 38.47N×23.51E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.4/29, mbtmp3.6/5, ML2.3/1, Error ellipse: s-maj=110.4km s-min=21.3km az=144.0*
*THE **09** 20:11:15.9, 38.62N×23.39E, h15km±1km, ML3.4/12, Error ellipse: s-maj=1.0km s-min=0.4km az=224.0*
*NEIC **09** 20:11:18.2±1.1, 38.66N±0.05×23.40E±0.07, h18km±7km, Error ellipse: s-maj=7.6km s-min=6.6km az=76.0*
*DDA **09** 20:11:18.0, 38.72N×23.42E, h4km±6km, ML2.7*
ISC 09 20:11:15.8±1.0, 38.65N±0.02×23.45E±0.02, h10km±7km, n116, σ1ᵒ32/152, mb3.8/4, 10C-6D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.30**	**321**	P		**Pg**	**20 11 22.4**	**+0.5**
SMIA				S		**Sg**	**20 11 26.7**	**+0.9**
SMIA	comp=E,37742μm,0.5s			AML		AML	20 11 27.2	
SMIA	comp=N,33732μm,0.4s			AML		AML	20 11 27.9	
ATAL	**Atalanti**	**0.34**	**278**	P		**Pg**	**20 11 22.0**	**-0.6**
ATAL				S		**Sg**	**20 11 26.6**	**-0.5**
ATAL	comp=E,6618μm,0.2s			AML		AML	20 11 28.1	
ATAL	comp=N,8115μm,0.3s			AML		AML	20 11 29.1	
LKR	**Lokris**	**0.35**	**270**	P		**Pg**	**20 11 22.1**	**-0.8**
LKR				S		**Sg**	**20 11 26.9**	**-0.6**
LKR	comp=E,12590μm,0.1s			AML		AML	20 11 31.0	
LKR	comp=N,12662μm,0.2s			AML		AML	20 11 31.7	
LKR	**Lokris**	**0.35**	**270**	P		**Pg**	**20 11 22.0**	**-0.8**
LKR	comp=N,7μm,0.2s			S		**Sg**	**20 11 27.1**	**-0.4**
EREA	**Eretria**	**0.44**	**121**	P		**Pb**	**20 11 25.1**	**-0.7**
EREA				S		**Sb**	**20 11 31.5**	**-0.8**
EREA	comp=E,5891μm,0.5s			AML		AML	20 11 33.7	
EREA	comp=N,7254μm,0.4s			AML		AML	20 11 35.3	
EREA	**Eretria**	**0.44**	**121**	P		**Pb**	**20 11 25.0**	**-0.7**
EREA	comp=N,3μm,0.4s			S		**Sb**	**20 11 32.4**	**0.0**
VIL2	**Platees**	**0.46**	**198**	P		**Pg**	**20 11 25.0**	**+0.2**
VIL2				S		**Sg**	**20 11 31.7**	**+0.9**
VIL2	comp=N,21347μm,0.3s			AML		AML	20 11 32.9	
VIL2	comp=E,14672μm,0.4s			AML		AML	20 11 34.9	
KYMI	**Kymi, Euboea I**	**0.51**	**92**	P		**Pb**	**20 11 26.4**	**-0.4**
KYMI				S		**Sb**	**20 11 34.3**	**0.0**
KYMI	comp=N,3519μm,0.5s			AML		AML	20 11 35.4	
KYMI	comp=E,3203μm,0.3s			AML		AML	20 11 35.7	
KYMI	**Kymi, Euboea I**	**0.51**	**92**	P		**Pb**	**20 11 26.3**	**-0.5**
KYMI	comp=E,2μm,0.3s			S		**Sb**	**20 11 34.6**	**+0.3**
ALNA	**Alonissos**	**0.59**	**33**	P		**Pb**	**20 11 28.3**	**0.0**
ALNA	comp=N,6640μm,0.3s			AML		AML	20 11 41.2	
ALNA	comp=E,5871μm,0.3s			AML		AML	20 11 41.4	
NEO	**Neokhori**	**0.68**	**345**	P		**Pg**	**20 11 29.4**	**+0.4**
NEO	comp=N,11578μm,0.3s			AML		AML	20 11 43.3	
NEO	comp=E,7209μm,0.3s			AML		AML	20 11 43.4	
NEO	**Neokhori**	**0.68**	**345**	P		**Pg**	**20 11 29.4**	**+0.4**
NEO				S		**Sb**	**20 11 39.2**	**-0.1**
PTL	**Penteli**	**0.68**	**151**	P		**Pg**	**20 11 29.1**	**+0.1**
PTL	comp=E,5μm,0.3s			AML		AML	20 11 42.5	
PTL	comp=N,4169μm,0.4s			AML		AML	20 11 42.8	
PTL	**Penteli**	**0.68**	**151**	P		**Pg**	**20 11 28.9**	**-0.1**
PTL	comp=E,2μm,0.5s			S		**Sb**	**20 11 39.3**	**0.0**
DION	**Dionisos Attik**	**0.69**	**146**	P		**Pg**	**20 11 29.1**	**+0.1**
DION	comp=N,11155μm,0.5s			AML		AML	20 11 42.1	
DION	comp=E,10903μm,0.6s			AML		AML	20 11 42.8	
DION	**Dionisos Attik**	**0.69**	**146**	P		**Pg**	**20 11 29.0**	**0.0**
DION				S		**Sb**	**20 11 39.4**	**0.0**
ATH	**Athens Observa** comp=E,8μm,0.5s	**0.71**	**163**	P		**Pg**	**20 11 29.6**	**+0.1**
ATH	comp=E,18580μm,0.2s			AML		AML	20 11 43.0	
ATH	comp=N,22036μm,0.3s			AML		AML	20 11 43.0	
ATH	**Athens Observa** comp=N,10μm,0.3s	**0.71**	**163**	P		**Pg**	**20 11 29.5**	**+0.1**
ATH				S		**Sb**	**20 11 39.4**	**-0.6**
ATHU	**Athens Univers** comp=E,2655μm,0.4s	**0.73**	**159**	P		**Pg**	**20 11 29.7**	**-0.2**
ATHU				AML		AML	20 11 43.1	
ATHU	comp=N,7440μm,0.5s			AML		AML	20 11 43.4	
ATHU	**Athens Univers** comp=N,3μm,0.4s	**0.73**	**159**	P		**Pg**	**20 11 29.5**	**-0.4**
ATHU				S		**Sb**	**20 11 40.6**	**0.0**
LTK	**Loutraki** comp=N,4634μm,0.2s	**0.73**	**211**	P		**Pg**	**20 11 28.9**	**-1.1**
LTK				AML		AML	20 11 44.1	
LTK	comp=E,4666μm,0.4s			AML		AML	20 11 47.6	
LTK	**Loutraki**	**0.73**	**211**	P		**Pg**	**20 11 28.8**	**-1.1**
LTK	comp=E,2μm,0.4s			S		**Sg**	**20 11 39.3**	**-0.2**
XOR	**Xorichti** comp=N,2587μm,0.2s	**0.74**	**344**	P		**Pg**	**20 11 30.4**	**+0.2**
XOR				AML		AML	20 11 44.6	
XOR	comp=E,2604μm,0.3s			AML		AML	20 11 44.7	
XOR	**Xorichti** comp=E,1μm,0.3s	**0.74**	**344**	P		**Pg**	**20 11 30.4**	**+0.2**
XOR				S		**Sb**	**20 11 41.8**	**+0.7**
LOUT	**Loutraki** comp=N,946μm,0.5s	**0.76**	**210**	P		**Pg**	**20 11 29.4**	**-1.0**
LOUT				S		**Sg**	**20 11 38.9**	**-1.4**
LOUT	comp=E,1030μm,0.2s			AML		AML	20 11 43.5	
LOUT				AML		AML	20 11 43.9	
DLFA	**Delphi** comp=N,2379μm,0.4s	**0.77**	**257**	P		**Pg**	**20 11 29.5**	**-1.1**
DLFA				AML		AML	20 11 44.4	
DLFA	comp=E,2876μm,0.4s			AML		AML	20 11 45.5	
VLY	**Voula,Athens** comp=E,13889μm,0.3s	**0.84**	**161**	P		**Pg**	**20 11 31.7**	**-0.3**
VLY				AML		AML	20 11 46.4	
VLY	comp=N,7662μm,0.3s			AML		AML	20 11 47.1	
VLY	**Voula,Athens** comp=N,5μm,0.3s	**0.84**	**161**	P		**Pg**	**20 11 31.6**	**-0.4**
VLY				S		**Sg**	**20 11 42.8**	**

SKY	**Skiros Island**	**0.89**	**75**	P		**Pb**	**20 11 33.4**	**0.0**
SKY	**Skiros Island**	**0.89**	**75**	P		**Pb**	**20 11 33.3**	**0.0**
SKY				S		**Sn**	**20 11 47.4**	**+0.1**
	comp=N,5µm,0.3s							
AGG	**Agios Georgios**	**0.95**	**293**	*i* P		**Pg**	**20 11 33.9**	**-0.2**
AGG				*i* S		**Sg**	**20 11 46.5**	**0.0**
AGG				IAML			20 11 51.0	
	comp=E,229nm,0.5s							
AGG				IAML			20 11 57.0	
	comp=N,154nm,1.0s							
AGG	**Agios Georgios**	**0.95**	**293**	PG		**Pg**	**20 11 33.9**	**-0.2**
AGG				SG		**Sg**	**20 11 47.4**	**+0.9**
AGG	**Agios Georgios**	**0.95**	**293**			**Pg**	**20 11 33.2**	**-0.9**
KARY	**Karystos**	**0.99**	**128**	P		**Pb**	**20 11 34.8**	**-0.2**
KARY				AML	AML		20 11 50.6	
	comp=E,1942µm,0.4s							
KARY				AML	AML		20 11 50.7	
	comp=N,1847µm,0.3s							
MAKR	**Makrakomi, Fth**	**1.09**	**290**	P		**Pg**	**20 11 35.7**	**-1.1**
TRIZ	**Trizonia**	**1.12**	**256**	P		**Pg**	**20 11 35.6**	**-1.6**
LAKA	**Lakka**	**1.23**	**251**	P		**Pg**	**20 11 37.6**	**-1.7**
PAIG	**Paliouri**	**1.29**	**8**	P		**Pn**	**20 11 39.8**	**-0.1**
LIT	**Litokhoron**	**1.63**	**333**	*i* P		**Pn**	**20 11 44.4**	**-0.2**
LIT				*i* S		**Sn**	**20 12 01.5**	**-4.1**
LIT				IAML			20 12 11.0	
	comp=N,128nm,0.8s							
LIT				IAML			20 12 13.0	
	comp=E,90nm,0.6s							
LIT	**Litokhoron**	**1.63**	**333**			**Pn**	**20 11 44.8**	**+0.2**
OUR	**Ouranopolis**	**1.73**	**14**	PN		**Pn**	**20 11 46.3**	**+0.4**
OUR				SN		**Sn**	**20 12 08.2**	**+0.1**
ITM	**Ithomi**	**1.90**	**220**	PN		**Pn**	**20 11 49.2**	**+0.9**
ITM				SN		**Sn**	**20 12 14.1**	**+1.9**
ITM	**Ithomi**	**1.90**	**220**			**Pn**	**20 11 49.1**	**+0.9**
SIGR	**SIGRI**	**1.96**	**73**	PN		**Pb**	**20 11 50.4**	**-1.1**
HORT	**Hortiatis**	**1.96**	**352**	PN		**Pn**	**20 11 49.3**	**+0.1**
HORT				SN		**Sn**	**20 12 14.2**	**+0.2**
CHOS	**Chios island**	**2.06**	**96**	PN		**Pn**	**20 11 51.2**	**+0.7**
CHOS				SN		**Sn**	**20 12 17.2**	**+0.9**
KOCA	**Canakkale, Ayv**	**2.26**	**67**	*i* P		**Pn**	**20 11 54.2**	**+1.0**
KOCA				*i* S		**Sn**	**20 12 19.4**	**-1.7**
KOCA				IAML			20 12 34.0	
	comp=N,50nm,0.6s							
APE	**Apeiranthos**	**2.28**	**133**	⇓P		**Pn**	**20 11 53.7**	**+0.2**
APE				⇑S		**Sn**	**20 12 21.1**	**-0.6**
APE	**Apeiranthos**	**2.28**	**133**	*i* P		**Pn**	**20 11 53.0**	**-0.5**
APE	**Apeiranthos**	**2.28**	**133**	PN		**Pn**	**20 11 53.9**	**+0.4**
BOZC	**Bozcaada**	**2.35**	**59**	*i* P		**Pn**	**20 11 54.9**	**+0.5**
BOZC				*i* S		**Sn**	**20 12 19.4**	**-3.8**
BOZC				IAML			20 12 37.0	
	comp=N,32nm,0.6s							
BOZC	**Bozcaada**	**2.35**	**59**	PN		**Pn**	**20 11 55.0**	**+0.6**
KTHA	**Kythira Island**	**2.41**	**187**	PN		**Pn**	**20 11 55.5**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**2.43**	**99**	*i* P		**Pn**	**20 11 56.1**	**+0.6**
ZEYE				*i* S		**Sn**	**20 12 22.9**	**-2.4**
GRG	**Griva**	**2.44**	**341**	PN		**Pn**	**20 11 56.1**	**+0.3**
GADA	**Gvkgeada**	**2.44**	**50**	PN		**Pn**	**20 11 56.1**	**+0.4**
GOKA	**anakkale-Gk**	**2.45**	**50**	*i* P		**Pn**	**20 11 54.5**	**-1.3**
URLA	**Izmir**	**2.48**	**96**	*i* P		**Pn**	**20 11 55.7**	**-0.6**
URLA	**Izmir**	**2.48**	**96**	PN		**Pn**	**20 11 56.3**	**0.0**
EZN	**Ezine**	**2.52**	**61**	PN		**Pn**	**20 11 57.5**	**+0.7**
KNT	**Kendrikon**	**2.55**	**351**	PN		**Pn**	**20 11 57.5**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**2.64**	**65**	*i* P		**Pn**	**20 11 58.7**	**+0.2**
BAYC				*i* S		**Sn**	**20 12 26.6**	**-4.0**
DKL	**Dikili**	**2.73**	**80**	PN		**Pn**	**20 12 00.2**	**+0.6**
VAY	**Valandovo**	**2.75**	**346**	*i* Pn		**Pn**	**20 12 02.2**	**+2.3**
VAY				*i* Sg		**Sn**	**20 12 05.3**	**+1.7**
DGB	**zmir**	**2.76**	**101**	*i* P		**Pn**	**20 12 00.7**	**+0.6**
DGB				*i* S		**Sn**	**20 12 26.2**	**-7.3**
SANT	**Santorini**	**2.78**	**144**	⇑P		**Pn**	**20 12 00.9**	**+0.5**
SANT				⇑S		**Sn**	**20 12 35.5**	**+1.5**
SANT	**Santorini**	**2.78**	**144**	*i* P		**Pg**	**20 12 10.8**	**+1.7**
SANT	**Santorini**	**2.78**	**144**	Pn		**Pn**	**20 12 02.7**	**+2.3**
ZEDA	**zmir-Bergama**	**2.85**	**82**	*i* P		**Pn**	**20 12 01.4**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.92**	**52**	PN		**Pn**	**20 12 02.9**	**+0.6**
CAVK	**Edirne/Enez-Ca**	**2.93**	**45**	*i* P		**Pn**	**20 12 03.0**	**+0.7**
CAVK				IAML			20 12 55.0	
	comp=N,35nm,0.8s							
CAVK				IAML			20 12 56.0	
	comp=E,26nm,0.8s							
BUHA	**Balikesir, Bur**	**2.95**	**72**	*i* P		**Pn**	**20 12 05.1**	**+2.4**
BUHA				IAML			20 12 41.0	
	comp=E,21nm,0.4s							
RDO	**Rodhopi**	**2.97**	**32**	PN		**Pn**	**20 12 03.2**	**+0.3**
ALN	**Alexandroupoli**	**3.01**	**41**	*i* P		**Pn**	**20 12 03.2**	**-0.2**
ALN				*i* S		**Sn**	**20 12 35.5**	**-4.1**
ALN	**Alexandroupoli**	**3.01**	**41**	PN		**Pn**	**20 12 04.3**	**+0.8**
ALN	**Alexandroupoli**	**3.01**	**41**			**Pn**	**20 12 02.9**	**-0.5**
ERIK	**Erikli-Kesan**	**3.11**	**49**	PN		**Pn**	**20 12 05.8**	**+0.9**
STIP	**Stip**	**3.19**	**343**	*i* Pn		**Pn**	**20 12 07.0**	**+0.9**
IMMV	**Iera Moni Meta**	**3.21**	**172**	PN		**Pn**	**20 12 07.8**	**+1.5**
STEP	**BALIKESIR_Sava**	**3.40**	**76**	*i* P		**Pn**	**20 12 10.9**	**+1.9**
STEP				IAML			20 13 14.0	
	comp=E,17nm,0.5s							
STEP				IAML			20 13 22.0	
	comp=N,26nm,0.9s							
KNDR	**Palaiochora Ch**	**3.41**	**177**	PN		**Pn**	**20 12 10.8**	**+1.8**
KRBG	**Karabiga-Canak**	**3.45**	**58**	PN		**Pn**	**20 12 10.6**	**+1.1**
IDI	**Anoyia**	**3.55**	**161**	⇓P		**Pn**	**20 12 11.7**	**+0.7**
IDI				⇓S		**Sn**	**20 12 53.9**	**+0.9**
IDI	**Anoyia**	**3.55**	**161**	PN		**Pn**	**20 12 12.9**	**+1.9**
IDI	**Anoyia**	**3.55**	**161**			**Pn**	**20 12 11.5**	**+0.5**
KNL	**Balıkesir**	**3.55**	**62**	*i* P		**Pb**	**20 12 16.8**	**-1.8**
KNL				IAML			20 13 18.0	
	comp=N,22nm,1.0s							
KNL				IAML			20 13 21.0	
	comp=E,19nm,1.1s							
PLD	**Plovdiv**	**3.58**	**15**	PN		**Pn**	**20 12 12.4**	**+1.0**
VTS	**Vitosha**	**3.97**	**358**	⇓P		**Pn**	**20 12 17.7**	**+0.9**
VTS	**Vitosha**	**3.97**	**358**			**Pn**	**20 12 17.6**	**+0.7**
DURS	**Dursunbey**	**4.02**	**75**	*i* P		**Pn**	**20 12 17.5**	**0.0**
DURS				*i* S		**Sn**	**20 13 01.2**	**-3.5**
SCTE	**Santa Cesarea**	**4.12**	**292**	Pn		**Pn**	**20 12 19.8**	**+1.1**
PDG	**Podgorica**	**4.95**	**321**	⇑P		**Pn**	**20 12 31.6**	**+1.5**
PDG	**Podgorica**	**4.95**	**321**	Pn		**Pn**	**20 12 31.7**	**+1.5**
TIP	**Timpagrande**	**5.25**	**278**	⇑P		**Pn**	**20 12 34.7**	**+0.3**
TIP	**Timpagrande**	**5.25**	**278**	Pn		**Pn**	**20 12 35.5**	**+1.2**
HERR	**Herculane**	**6.28**	**353**	⇑P		**Pn**	**20 12 48.7**	**+0.4**
SGRT	**San Giovanni R**	**6.66**	**300**	Pn		**Pn**	**20 12 54.7**	**+0.9**
GZR	**Gura Zlata**	**6.76**	**356**	⇑P		**Pn**	**20 12 55.3**	**+0.2**
ARR	**Arges**	**6.77**	**7**	⇑P		**Pn**	**20 12 56.6**	**+1.3**
VOIR		**6.89**	**9**	⇑P		**Pn**	**20 12 58.3**	**+1.5**
MLR	**Muntele Rosu**	**7.08**	**14**	⇓P		**Pn**	**20 12 60.0**	**+0.4**
MLR	**Muntele Rosu**	**7.08**	**14**			**Pn**	**20 13 01.7**	**+2.1**
RAFF	**Raffo Rosso**	**7.32**	**262**	Pn		**Pn**	**20 13 03.2**	**+0.4**
DOPR	**Dopca**	**7.45**	**10**	⇑P		**Pn**	**20 13 04.8**	**+0.2**
VRI	**Vrincioaia**	**7.61**	**18**	⇓P		**Pn**	**20 13 06.4**	**-0.3**
BRTR	**Keskin Array B**	**7.99**	**79**	Pn		**Pn**	**20 13 14.3**	**+2.3**
	comp=E,0.0nm,0.3s,baz=262,slow=14,SNR=1.4							
INTR	**Introdacqua**	**8.03**	**298**	Pn		**Pn**	**20 13 13.6**	**+1.1**
NRCA	**Norcia**	**8.89**	**301**	Pn		**Pn**	**20 13 24.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**9.08**	**8**	Pn		**Pn**	**20 13 28.3**	**+1.4**
TORD	**Torodi Ar. Bea**	**31.89**	**223**	P		**P**	**20 17 41.5**	**+0.1**
	comp=E,0.9nm,0.8s,baz=34,slow=8.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**31.89**	**223**	IAmb		IAmb	20 18 02.3	
	comp=Z,2.9nm,1.6s							
DBIC	**Dimbokro**	**40.84**	**226**	P		**P**	**20 18 57.8**	**0.0**
	comp=Z,4.5nm,1.0s,baz=25,slow=19,SNR=3.2							
MKAR	**Makanchi Array**	**43.09**	**59**	P		**P**	**20 19 17.1**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=270,slow=7.1,SNR=7.6							
MKAR	**Makanchi Array**	**43.09**	**59**	P		**P**	**20 19 16.8**	**+0.9**
ZALV	**Zalesovo Beam**	**43.66**	**49**	P		**P**	**20 19 21.6**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=282,slow=10,SNR=2.6							

*IDC **09** 20:28:36.4±4.4, 17°.36S×178°.76W, h549km±53km, mb3.1/7, mb1 3.3/7, mb1mx3.1/22, mbtmp4.0/7, Error ellipse: s-maj=34.1km s-min=17.4km az=167.0*

*NEIC **09** 20:28:39.3±1.2, 17°.59S±0°.08×178°.7W±0°.1, h577km±10km, mb4.6/11, Error ellipse: s-maj=19.0km s-min=7.3km az=57.0*

ISC 09 20:28:36.0±0.7,**17°.4S**±0°.2×**178°.7W**±0°.1,**h547**km,**n21,**
σ0**58**/22,**mb4.2**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNZO	**South Karori**	**24.51**	**192**	P	**P**	**20 33 12.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**25.07**	**193**	P	**P**	**20 33 16.0**	**-1.4**
PPT	**Papeete**	**27.80**	**95**	P	**P**	**20 33 42.2**	**+0.5**
	33nm,0.6s,baz=248,slow=19,SNR=2.4						
ARMA	**Armidale**	**29.94**	**239**	P	**P**	**20 34 01.1**	**+0.8**
ARMA				IAmb	IAmb	20 34 53.8	
	comp=Z,60nm,2.0s						
STKA	**Stephens Creek**	**38.62**	**240**	P	**P**	**20 35 13.3**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=91,slow=10,SNR=8.5						
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**20 35 58.3**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=96,slow=7.1,SNR=12						
AS31	**Alice Springs**	**44.63**	**254**	P	**P**	**20 36 00.6**	**+0.1**
AS31				IAmb	IAmb	20 36 01.1	
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**20 36 00.5**	**+0.1**
	comp=Z,7.2nm,0.4s,baz=88,slow=8.0,SNR=159						
ASAR				PcP	**PcP**	**20 37 31.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=111,slow=3.5,SNR=2.9						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**20 36 00.2**	**-0.3**
FORT	**Forrest**	**49.95**	**244**	P	**P**	**20 36 39.5**	**-0.7**
FORT				IAmb	IAmb	20 37 25.2	
	comp=Z,128nm,1.9s						
KNRA	**Kununurra**	**50.23**	**264**	P	**P**	**20 36 42.9**	**+0.5**
KNRA				IAmb	IAmb	20 38 33.3	
	comp=Z,67nm,1.6s						
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	**P**	**20 37 34.7**	**-0.6**
PSA00				IAmb	IAmb	20 39 42.5	
	comp=Z,42nm,1.4s						
MORW	**Morawa**	**60.41**	**246**	P	**P**	**20 37 53.1**	**0.0**
MORW				IAmb	IAmb	20 38 40.8	
	comp=Z,43nm,1.6s						
VNDA	**Vanda**	**60.95**	**185**	P	**P**	**20 37 55.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=323,slow=5.1,SNR=1.8						
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**20 38 09.3**	**+0.9**
QSPA	**South Pole Qui**	**72.68**	**180**	P	**P**	**20 39 08.4**	**+0.1**
QSPA				IAmb	IAmb	20 39 09.1	
	comp=Z,9.7nm,1.2s						
MAW	**Mawson**	**84.25**	**200**	P	**P**	**20 40 09.9**	**0.0**
	comp=Z,1.4nm,0.6s,baz=127,slow=5.1,SNR=2.0						
ILAR	**Eielson Array**	**85.44**	**13**	P	**P**	**20 40 14.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=223,slow=4.9,SNR=3.0						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**20 40 19.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=250,slow=6.4,SNR=5.1						
CLL	**Collm**	**144.88**	**347**	*i* PKPbc	**PKPdf**	**20 47 10.9**	**+0.1**
GERES	**GERESS Array B**	**147.02**	**345**	PKPbc	**PKPbc**	**20 47 17.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=3.1,SNR=4.3						

NNC 09 20:34:35.7±10.0,**37°.40N**×**70°.93E**,**h0**km,**mb4.1**,**mpv3.7,**
4C-2D,Error ellipse: s-maj=79.4km s-min=65.0km
az=173.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.70**	**357**	⇓P	Pn	20 36 04.3	+2.6
	4.4nm,0.3s,baz=180,slow=13,SNR=59						
KK31				⇑S	Sn	20 37 09.7	+1.8
	1.9nm,0.4s,baz=182,slow=22						
AAK	**Ala-Archa**	**5.90**	**27**	⇑P	Pn	20 36 03.7	-0.8
	5.4nm,0.7s						
AAK				⇑S	Sn	20 37 11.3	-1.6
	1.6nm,0.5s						
TKM2	**Tokmak 2**	**6.57**	**32**	⇑P	Pn	20 36 12.3	-1.5
	2.8nm,0.6s						
TKM2				⇓S	Sn	20 37 32.4	+3.0
	0.6nm,0.6s						

IDC 09 20:36:09.9±2.9,**18°.99S**×**178°.25W**,**h0**km,**mb3.5**/3,
mb1 3.9/3,**mb1mx3.6**/20,**mbtmp3.5**/3,**Error ellipse:**
s-maj=309.4km s-min=36.0km az=160.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.59**	**261**	P	P	20 44 24.1	-0.2
	0.3nm,0.3s,baz=97,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**44.65**	**255**	P	P	20 44 24.6	-0.1
	0.3nm,0.4s,baz=88,slow=7.6,SNR=17						
TXAR	**Lajitas Array**	**86.44**	**57**	P	P	20 48 54.9	0.0
	0.1nm,0.4s,baz=219,slow=5.3,SNR=2.3						

*NEIC **09** 20:45:15.9±2.1, 12°.1S±0°.2×166°.7E±0°.7, h73km±57km, mb4.2/7, Error ellipse: s-maj=103.4km s-min=21.3km az=85.0*

*IDC **09** 20:45:20.5±14.0, 12°.77S×165°.04E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/26, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=239.5km s-min=38.4km az=53.0*

ISC 09 20:45:14.4±3.0,**12°.1S**±0°.2×**166°.2E**±0°.3,**h30**km,**n16,**
σ1**9**05/**17**,**mb4.0**/3,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.49**	**163**		**Pn**	**20 46 06.5**	**-0.1**
LIFNC	**LIFOU**	**8.70**	**173**	Pn	**Pn**	**20 47 19.4**	**+1.1**
DZM	**Mont Dzumac**	**9.93**	**179**	Pn	**Pn**	**20 47 36.0**	**+0.8**
	1.0nm,0.3s,baz=18,slow=20,SNR=10						
DZM				Sn	**Sn**	**20 49 24.3**	**-1.5**
	0.2nm,0.3s,baz=342,slow=20,SNR=1.2						
OUENC	**Ouen Island, N**	**10.29**	**177**	Pn	**Pn**	**20 47 41.6**	**+1.5**
PINNC	**Pines Island,**	**10.54**	**174**	Pn	**Pn**	**20 47 44.8**	**+1.4**
EIDS	**Eidsvold**	**19.43**	**225**		**Pn**	**20 49 41.4**	**+1.6**
EIDS				IAmb	IAmb	20 49 44.8	
	comp=Z,44nm,1.8s						
STKA	**Stephens Creek**	**29.99**	**225**	P	**P**	**20 51 20.2**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=57,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**29.99**	**225**	P	**P**	**20 51 19.5**	**-1.0**
STKA				IAmb	IAmb	20 51 22.7	
	comp=Z,4.9nm,1.8s						
WRA	**Warramunga Arr**	**31.53**	**252**	P	**P**	**20 51 33.6**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=86,slow=9.3,SNR=2.3						
AS31	**Alice Springs**	**32.71**	**245**	P	**P**	**20 51 43.8**	**-0.8**
ASAR	**Alice Springs**	**32.71**	**245**	P	**P**	**20 51 43.5**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=69,slow=9.5,SNR=21						
BBOO	**Buckleboo**	**34.44**	**228**	P	**P**	**20 51 58.7**	**-0.7**
KNRA	**Kununurra**	**36.45**	**260**	P	**P**	**20 52 17.5**	**+0.5**
FORT	**Forrest**	**39.80**	**236**	P	**P**	**20 52 44.5**	**-0.5**
PSA00	**Pilbara Seismi**	**45.19**	**252**	P	**P**	**20 53 29.2**	**+0.3**
MBWA	**Marble Bar**	**45.26**	**252**	P	**P**	**20 53 28.9**	**-0.7**

IDC 09 21:05:03.3±3.4,**27°.72N**×**85°.57E**,**h0**km,**mb3.7**/3,
mb1 3.8/4,**mb1mx3.4**/45,**mbtmp3.6**/4,**ML3.7**/1,**MS2.3**/1,
Ms1 2.3/1,**ms1mx2.1**/38,**Error ellipse: s-maj=106.9km**
s-min=31.9km az=71.0,Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**17.40**	**332**	LR	LR	21 15 49.2	
	comp=Z,9.9nm,20.6s,baz=184,slow=37						
MKAR	**Makanchi Array**	**19.22**	**353**	P	P	21 09 28.0	-0.9
	0.2nm,0.3s,baz=178,slow=11,SNR=13						
SONM	**Songino Array**	**25.82**	**33**	P	P	21 10 36.3	0.0
	0.6nm,0.4s,baz=215,slow=12,SNR=3.6						
ZALV	**Zalesovo Beam**	**26.21**	**359**	P	P	21 10 40.4	+0.7
	0.3nm,0.3s,baz=172,slow=13,SNR=2.0						
WRA	**Warramunga Arr**	**66.86**	**130**	P	P	21 15 57.3	-0.1
	1.2nm,1.2s,baz=322,slow=6.6,SNR=1.2						

*IDC **09** 21:08:33.5±1.6, 5°.72N×126°.21E, h111km±17km, mb3.2/5, mb1 3.5/5, mb1mx3.1/37, mbtmp3.6/5, Error ellipse: s-maj=69.3km s-min=17.9km az=75.0*

ISC 09 21:08:33.9±1.0,**5°.7N**±0°.1×**126°.0E**±0°.3,**h116**km,**n7,**
σ0**°79**/**9**,**mb3.5**/5,**1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.40**	**342**	P	**Pn**	**21 08 59.1**	**-0.9**
	58nm,0.3s,baz=49,slow=4.3,SNR=2.6						
DAV				S	**Sn**	**21 09 20.4**	**+0.7**
	66nm,0.3s,baz=66,slow=24,SNR=10.0						
KCP	**Kidapawan**	**1.57**	**324**	⇓*i* P	**Pn**	**21 09 01.7**	**-0.3**
KCP				*e*S	**Sn**	**21 09 22.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.68**	**181**	P	**P**	**21 13 35.6**	**+0.5**
	1.4nm,0.5s,baz=10,slow=8.0,SNR=8.3						
WRA	**Warramunga Arr**	**26.80**	**162**	P	**P**	**21 14 02.1**	**-1.3**
	0.2nm,0.4s,baz=349,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**30.22**	**166**	P	**P**	**21 14 33.5**	**-0.2**
	0.6nm,0.6s,baz=345,slow=7.1,SNR=9.0						
MKAR	**Makanchi Array**	**55.52**	**325**	P	**P**	**21 17 57.4**	**+0.4**
	0.2nm,0.4s,baz=117,slow=8.0,SNR=4.7						
ILAR	**Eielson Array**	**83.61**	**26**	P	**P**	**21 20 49.6**	**+0.4**
	0.5nm,0.7s,baz=254,slow=6.5,SNR=3.0						

*IDC **09** 21:08:36.3±0.9, 43°.74N×105°.44W, h0km, mb4.2/3, mb1 3.9/8, mb1mx3.7/40, mbtmp3.7/8, ML3.6/5, Error ellipse: s-maj=23.9km s-min=8.5km az=147.0*

*NEIC **09** 21:08:37.4±1.2, 43°.80N±0°.05×105°.29W±0°.06, h0km±2km, ML3.4/56, Error ellipse: s-maj=9.4km s-min=6.2km az=153.0*

ISC 09 21:08:36.6±0.8,**43°.82N**±0°.06×**105°.29W**±0°.07,**h0**km,**n65,**
σ0**88**/65,**mb4.1**/3,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.96**	**71**		**Pg**	**21 08 55.6**	**+0.7**
K22A	**Casper**	**1.47**	**218**	Pn	**Pn**	**21 09 02.9**	**-1.6**
K22A				IAML		21 09 26.7	
	comp=N,524nm,0.5s						
K22A				IAML		21 09 30.8	
	comp=E,386nm,0.8s						
PHWY	**Pilot Hill**	**2.51**	**183**		**Pn**	**21 09 19.0**	**0.0**
RWWY	**Rawlins**	**2.55**	**214**	Pn	**Pn**	**21 09 19.1**	**-0.3**
RWWY				IAML		21 09 55.0	
	comp=E,244nm,0.8s						
LAO	**LASA Array**	**2.95**	**347**		**Pn**	**21 09 25.2**	**+0.5**
RLMT	**Red Lodge**	**3.13**	**296**	Pn	**Pn**	**21 09 27.9**	**+0.5**
RLMT				IAML		21 10 21.4	
	comp=E,85nm,0.6s						
RLMT				IAML		21 10 29.8	
	comp=E,74nm,0.6s						
BW06	**Boulder Array**	**3.29**	**253**		**Pn**	**21 09 29.6**	**+0.1**
BW06				IAML		21 10 18.2	
	comp=E,57nm,0.5s						
BW06				IAML		21 10 19.6	
	comp=E,63nm,0.6s						
PD31	**Pinedale Array**	**3.29**	**253**		**Pn**	**21 09 28.4**	**-1.1**
PDAR	**Pinedale Array**	**3.29**	**253**	Pn	**Pn**	**21 09 30.0**	**+0.5**
	comp=E,7.6nm,0.3s,baz=67,slow=16,SNR=62						
PDAR				Lg	Lg	21 10 16.4	
	comp=E,16nm,0.3s,baz=73,slow=35,SNR=4.1						
PDAR	**Pinedale Array**	**3.29**	**253**	Pn	**Pn**	**21 09 29.5**	**0.0**
YNE	**Yellowstone No**	**3.58**	**291**		**Pn**	**21 09 34.2**	**+0.6**
YNE				IAML		21 10 33.5	
	comp=E,77nm,0.5s						
YNE				IAML		21 10 34.9	
	comp=N,96nm,0.7s						
YMP	**Mirror Lake Pl**	**3.61**	**287**		**Pn**	**21 09 35.0**	**+0.9**
GCMT	**Greycliff**	**3.69**	**304**		**Pn**	**21 09 36.4**	**+1.5**
OGNE	**Ogallala**	**3.75**	**139**	Pn	**Pn**	**21 09 36.3**	**+0.6**
H17A	**Grant Village**	**3.85**	**280**		**Pn**	**21 09 38.4**	**+1.1**
H17A				IAML		21 10 40.8	
	comp=N,56nm,0.6s						
LOHW	**Long Hollow**	**3.86**	**269**		**Pn**	**21 09 38.5**	**+1.1**
LOHW				IAML		21 10 38.0	
	comp=N,36nm,0.6s						
FLWY	**Flagg Ranch**	**3.91**	**276**		**Pn**	**21 09 39.0**	**+0.9**
FLWY				IAML		21 10 48.2	
	comp=N,62nm,1.9s						
FLWY				IAML		21 11 16.1	
	comp=N,48nm,1.1s						
MOOW	**Moose Ponds**	**3.95**	**271**	Pn	**Pn**	**21 09 39.7**	**+1.1**
YPP	**Pitchstone Pla**	**4.00**	**278**		**Pn**	**21 09 40.2**	**+0.8**
ISCO	**Idaho Springs**	**4.02**	**184**	Pn	**Pn**	**21 09 40.3**	**+0.6**
REDW	**Red Top Meadow**	**4.07**	**266**	Pn	**Pn**	**21 09 41.5**	**+1.3**
REDW				IAML		21 10 48.3	
	comp=N,72nm,0.8s						
REDW				IAML		21 11 01.8	
	comp=N,60nm,1.1s						
YHH	**Holmes Hill**	**4.11**	**286**	Pn	**Pn**	**21 09 40.7**	**-0.1**
YHH				IAML		21 10 54.1	
	comp=N,36nm,1.0s						
TPAW	**Teton Pass**	**4.12**	**267**		**Pn**	**21 09 41.8**	**+0.8**
TPAW				IAML		21 10 57.6	
	comp=N,60nm,0.9s						
TPAW				IAML		21 10 58.0	
	comp=N,36nm,0.9s						
YMR	**Madison River**	**4.17**	**284**		**Pn**	**21 09 43.2**	**+1.6**
YMR				IAML		21 11 12.0	
	comp=N,66nm,1.1s						
**E

OK029	**Liberty Lake**	**1.16**	**141**	Pg	Pb	21 46 20.9	-0.5
OK029				Sg	Sg	21 46 36.6	+0.1
BCOK	**Bluff Creek, N**	**1.21**	**150**	Pg	Pb	21 46 21.7	-0.5
BCOK				Sg	Sn	21 46 38.7	+0.1
OK025	**Westminster Rd**	**1.39**	**144**	Pn	Pn	21 46 24.9	+0.1
QUOK	**Quay**	**1.43**	**111**	Pn	Pn	21 46 25.3	0.0
OK031	**S. Brethren Rd**	**1.44**	**121**	Pn	Pn	21 46 25.6	+0.3
OK030	**Cody Creek RV**	**1.49**	**121**	Pn	Pb	21 46 26.6	-0.3
T35A	**Sooner Cattle**	**1.49**	**81**		Pn	21 46 26.1	+0.1
FNO	**Franklin**	**1.64**	**152**	Pn	Pn	21 46 28.6	+0.5
R32A	**Long Quarter,**	**1.73**	**351**		Pb	21 46 30.8	-0.4
WMOK	**Wichita Mounta**	**2.00**	**190**	Pn	Pn	21 46 34.3	+1.2
CBKS	**Cedar Bluff**	**2.37**	**333**	Pn	Pn	21 46 38.4	+0.2
LOOK	**Love County**	**2.87**	**160**	Pn	Pn	21 46 46.2	+1.1
U38A	**Gravette**	**3.20**	**94**		Pn	21 46 50.7	+1.1
X37A	**Clayton**	**3.22**	**130**	IAmb_Lg		21 47 47.1	
	comp=Z,8.4nm,0.8s						
U40A	**Yellville**	**4.44**	**93**	IAmb_Lg		21 48 21.4	
	comp=Z,5.7nm,0.8s						
T25A	**Trinidad**	**4.87**	**277**	IAmb_Lg		21 48 36.8	
	comp=Z,9.6nm,1.1s						
X40A	**Basin Creek Fa**	**5.01**	**115**	IAmb_Lg		21 48 40.9	
	comp=Z,4.3nm,0.7s						
L34A	**Svendsen Farm,**	**5.47**	**16**	IAmb_Lg		21 49 05.9	
	comp=Z,14nm,1.0s						
RWWY	**Rawlins**	**8.48**	**309**	IAmb_Lg		21 50 34.4	
	comp=Z,4.8nm,0.8s						

HLW ***09*** *21:49:41.2,35˚.43N×26˚.80E,h17km±16km,Md5.3,Ml5.6*
NIC ***09*** *21:49:45.0±0.0,34˚.86N×26˚.78E,h5km±1km,Ml5.5/4*
BJI ***09*** *21:49:45.1±0.0,35˚.27N×26˚.54E,h10km,mB5.2/65, mb5.0/75,Ms5.2/85,Ms7 4.9/80*
NEIC ***09*** *21:49:46.5±1.8,35˚.08N±0˚.05×26˚.75E±0˚.04,h9km±1km, Error ellipse: s-maj=7.6km s-min=4.2km az=181.0*
MOS ***09*** *21:49:46.4±1.2,35˚.04N×26˚.68E,h24km,mb5.4/46, MS5.0/65,Error ellipse: s-maj=3.8km s-min=2.3km az=90.2*
ATH ***09*** *21:49:46.7,35˚.04N×26˚.79E,h16km±3km,ML5.4/11,Error ellipse: s-maj=3.9km s-min=1.3km az=333.0*
PDG ***09*** *21:49:47.0±0.7,35˚.04N×26˚.78E,h10km±11km,MD5.4/1, ML5.4/12,Error ellipse: s-maj=2.0km s-min=1.1km az=90.0*
ISK ***09*** *21:49:47.1,35˚.10N×26˚.76E,h8km,ML5.3/22*
NEIC ***09*** *21:49:47,34˚.99N×26˚.70E,h24km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.94; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$ 1.26; $M_{r\theta}$0.21; $M_{\theta\phi}$0.53; $M_{\phi r}$-0.70; Fault plane solution: M_o1.45000×10^{17} NP1:ϕ_s224.00000°, δ38.00000°,λ-46.00000°. NP2:ϕ_s354.00000°,δ63.00000°, λ-118.00000°. Principal axes: T 1.5724, Plg14.0000°, Azm104.0000°; N -0.2935, Plg25.0000°, Azm7.0000°; P -1.2789, Plg61.0000°, Azm221.0000°;*
MED_RC ***09*** *21:49:48.0±0.3,34˚.90N×26˚.65E,h27km,MW5.4/22, Moment Tensor Solution.Mantle waves: s22,c50; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.91±.11; $M_{\theta\theta}$-0.95±.06; $M_{\phi\phi}$1.86±.07; $M_{r\theta}$-0.61±.11; $M_{\theta\phi}$0.63±.05; $M_{\phi r}$-0.09±.08; Best double couple: M_o1.80000×10^{17} NP1:ϕ_s154.00000°,δ59.00000°, λ-151.00000°. NP2:ϕ_s48.00000°, δ66.00000°, λ-35.00000°. Principal axes: T 2.0100, Plg4.0000°, Azm103.0000°; N -0.4300, Plg48.0000°, Azm198.0000°; P -1.5800, Plg41.0000°, Azm9.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GCMT ***09*** *21:49:48.7±0.1,34˚.95N±0˚.01×26˚.60E±0˚.01,h27km, MW5.4/151,Moment Tensor Solution. s113,c193; s151,c286; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.90±.02; $M_{\theta\theta}$-0.76±.02; $M_{\phi\phi}$1.66±.02; $M_{r\theta}$-0.55±.04; $M_{\theta\phi}$0.70±.02; $M_{\phi r}$-0.25±.03; Best double couple: M_o1.65800×10^{17} NP1:ϕ_s158.00000°,δ53.00000°, λ-150.00000°. NP2:ϕ_s49.00000°,δ67.00000°, λ-41.00000°. Principal axes: T 1.9020, Plg8.0000°, Azm106.0000°; N -0.4840, Plg44.0000°, Azm204.0000°; P -1.4130, Plg45.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
THE ***09*** *21:49:48.0,35˚.05N×26˚.71E,h15km,Mw5.2, Fault plane solution: NP1:ϕ_s152.00000°,δ64.00000°,λ.165.00000°. NP2:ϕ_s249.00000°,δ77.00000°,λ.27.00000°., Stations used: IDI,SIVA,NISR,NIS1,ARG,SANT*
IDC ***09*** *21:49:48.4±1.9,35˚.21N×26˚.67E,h22km±12km,mb4.8/47, mb1 4.8/56,mb1mx4.8/72,mbtmp4.9/56,ML4.4/6,MS4.9/40, Ms1 4.9/40,ms1mx4.8/55,Error ellipse: s-maj=9.6km s-min=7.8km az=152.0*
DDA ***09*** *21:49:50.4,35˚.18N×26˚.82E,h13km±4km,MW5.1*

ISC 09 21:49:47.4±0.4,35˚.10N±0˚.02×26˚.78E±0˚.01,h16km±2km, h17km:pP-P,n1572,σ1ᵴ96/1717,mb5.3/291,MS5.0/221, 122C-131D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.46**	**272**	P	**Pg**	**21 49 55.9**	**-0.7**
ZKR				S	**Sg**	**21 50 03.2**	**+0.3**
ZKR				AML	AML	21 50 05.0	
ZKR				AML	AML	21 50 05.1	
ZKR	**Zakros**	**0.46**	**272**	P	**Pg**	**21 49 56.0**	**-0.7**
ZKR				S	**Sb**	**21 50 03.5**	**-0.2**
	790μm,0.6s						
ZKR	**Zakros**	**0.46**	**272**	PG	**Pg**	**21 49 56.1**	**-0.6**
ZKR				SG	**Sg**	**21 50 02.9**	**0.0**
ZKR	**Zakros**	**0.46**	**272**		**Pg**	**21 49 56.0**	**-0.7**
ZKR					**Sb**	**21 50 03.5**	**-0.2**
ZKR	**Zakros**	**0.46**	**272**	P	**Pg**	**21 49 55.9**	**-0.7**
ZKR				AML	AML	21 50 03.6	
	1μm,0.6s						
ZKR				AML	AML	21 50 03.6	
	1μm,0.6s						
ZKR				AML	AML	21 50 03.6	
	2μm,0.6s						
ZKR				AML	AML	21 50 03.6	
	2μm,0.6s						
ZKR				S	**Sb**	**21 50 04.1**	**+0.4**
STIA	**Sitia Lasithi**	**0.57**	**281**	P	**Pg**	**21 49 58.0**	**-0.7**
STIA				S	**Sb**	**21 50 08.1**	**+1.2**
STIA	**Sitia Lasithi**	**0.57**	**281**		**Pg**	**21 49 58.0**	**-0.7**
STIA					**Sb**	**21 50 08.1**	**+1.2**
FRMA	**Ierapetra Chan**	**0.86**	**265**	P	**Pb**	**21 50 00.6**	**-3.3**
FRMA				S	**Sb**	**21 50 13.5**	**-1.7**
	105μm,0.7s						
FRMA	**Ierapetra Chan**	**0.86**	**265**		**Pb**	**21 50 00.6**	**-3.3**
FRMA					**Sb**	**21 50 13.5**	**-1.7**
NPS	**Neapolis**	**0.97**	**280**	P	**Pb**	**21 50 05.2**	**-0.6**
NPS				AML	AML	21 50 27.1	
NPS				AML	AML	21 50 28.9	
NPS	**Neapolis**	**0.97**	**280**	P	**Pb**	**21 50 05.2**	**-0.6**
NPS				S	**Sn**	**21 50 20.7**	**+1.0**
	304μm,0.8s						
NPS	**Neapolis**	**0.97**	**280**	P	**Pb**	**21 50 05.2**	**-0.6**
NPS						21 50 20.7	
NPS	**Neapolis**	**0.97**	**280**		**Pb**	**21 50 05.2**	**-0.6**
NPS					**Sn**	**21 50 20.7**	**+1.0**
LAST	**Lasithi**	**1.07**	**274**	P	**Pb**	**21 50 06.2**	**-1.3**
LAST				S	**Sg**	**21 50 21.8**	**-0.2**
LAST	**Lasithi**	**1.07**	**274**	P	**Pb**	**21 50 06.5**	**-1.0**
LAST				S	**Sn**	**21 50 23.7**	**+1.5**
	162μm,0.9s						
LAST	**Lasithi**	**1.07**	**274**		**Pb**	**21 50 06.5**	**-1.0**
LAST					**Sn**	**21 50 23.7**	**+1.5**
HRKL	**Herakleio**	**1.39**	**279**	P	**Pg**	**21 50 13.8**	**-0.4**
HRKL	**Herakleio**	**1.39**	**279**	PN	**Pb**	**21 50 13.1**	**+0.2**
HRKL	**Herakleio**	**1.39**	**279**		**Pg**	**21 50 13.8**	**-0.4**
IACM	**Heraklion**	**1.41**	**279**	P	**Pb**	**21 50 13.0**	**-0.3**
IACM	**Heraklion**	**1.41**	**279**	P	**Pb**	**21 50 13.2**	**-0.1**
IACM	**Heraklion**	**1.41**	**279**		**Pb**	**21 50 13.2**	**-0.1**
KSTL	**Kastelli Herak**	**1.41**	**279**	P	**Pn**	**21 50 10.0**	**-2.4**
KSTL	**Kastelli Herak**	**1.41**	**279**		**Pn**	**21 50 10.0**	**-2.4**
NIS1	**Nisyros Isl.**	**1.54**	**12**	P	**Pb**	**21 50 15.5**	**0.0**
NIS1				AML	AML	21 50 49.1	
NIS1				AML	AML	21 50 51.7	
NIS1	**Nisyros Isl.**	**1.54**	**12**	P	**Pg**	**21 50 16.5**	**-0.5**
NIS1	**Nisyros Isl.**	**1.54**	**12**	PN	**Pb**	**21 50 16.2**	**+0.7**
NISR	**Nisiros**	**1.54**	**11**	P	**Pb**	**21 50 15.9**	**+0.4**
NISR	**Nisiros**	**1.54**	**11**	P	**Pb**	**21 50 15.5**	**0.0**
IDI	**Anoyia**	**1.56**	**278**	P	**Pn**	**21 50 14.9**	**+0.4**
IDI				S	**Sb**	**21 50 35.8**	**+0.4**
IDI				AML	AML	21 50 46.8	
IDI					AML	AML	21 50 47.5	
IDI	**Anoyia**	**1.56**	**278**	Pg	**Pb**	**21 50 16.4**	**+0.6**
	2μm,0.3s,baz=113,slow=15,SNR=2159						
IDI					LR	LR	21 50 32.7	
	comp=Z,14μm,18.2s,baz=32,slow=30						
IDI					Lg	Lg	21 50 40.3	
	3μm,0.3s,baz=340,slow=10,SNR=10						
IDI	**Anoyia**	**1.56**	**278**	P	**Pb**	**21 50 15.9**	**0.0**
IDI				S	**Sg**	**21 50 38.8**	**+1.1**
IDI	**Anoyia**	**1.56**	**278**	⇑P	**Pg**	**21 50 16.8**	**-0.6**
IDI	**Anoyia**	**1.56**	**278**	PN	**Pb**	**21 50 16.2**	**+0.3**
IDI	**Anoyia**	**1.56**	**278**		**Pn**	**21 50 14.4**	**-0.1**
IDI				Sn	**Sb**	**21 50 36.1**	**+0.8**
IDI	**Anoyia**	**1.56**	**278**	⇑P	**Pn**	**21 50 14.3**	**-0.1**
ARG	**Arkhangelos**	**1.57**	**44**	P	**Pb**	**21 50 16.0**	**+0.1**
ARG				S	**Sb**	**21 50 35.5**	**0.0**
ARG				AML	AML	21 50 49.6	
	comp=E,83783μm,0.8s						
ARG				AML	AML	21 50 50.0	
	comp=N,71820μm,0.9s						
ARG	**Arkhangelos**	**1.57**	**44**	P	**Pg**	**21 50 17.3**	**-0.2**
ARG	**Arkhangelos**	**1.57**	**44**	PN	**Pb**	**21 50 15.9**	**-0.1**
ARG	**Arkhangelos**	**1.57**	**44**	⇑P	**Pb**	**21 50 16.5**	**+0.5**
ARG				S	**Sg**	**21 50 39.7**	**+1.8**
ARG	**Arkhangelos**	**1.57**	**44**	⇓P	**Pg**	**21 50 17.8**	**+0.2**
SIVA	**Sivas**	**1.62**	**268**	P	**Pn**	**21 50 15.9**	**+0.7**
SIVA				AML	AML	21 50 51.6	
SIVA				AML	AML	21 51 03.5	
SIVA	**Sivas**	**1.62**	**268**	P	**Pb**	**21 50 16.4**	**-0.4**
TMBK	**Timbaki Herakl**	**1.65**	**270**	P	**Pb**	**21 50 17.1**	**-0.3**
KOSK	**Kos Island**	**1.66**	**6**	PN	**Pb**	**21 50 17.3**	**-0.2**
SANT	**Santorini**	**1.66**	**320**	P	**Pb**	**21 50 17.1**	**-0.6**
SANT				AML	AML	21 50 52.2	
	comp=N,61648μm,0.9s						
SANT				AML	AML	21 50 53.0	
SANT	**Santorini**	**1.66**	**320**	P	**Pb**	**21 50 16.9**	**-0.8**
SANT	**Santorini**	**1.66**	**320**	⇓P	**Pb**	**21 50 17.6**	**0.0**
SANT	**Santorini**	**1.66**	**320**	PN	**Pb**	**21 50 16.9**	**-0.8**
SANT	**Santorini**	**1.66**	**320**		**Pn**	**21 50 16.7**	**+0.8**
SANT					**Sb**	**21 50 39.1**	**+0.7**
SANT	**Santorini**	**1.66**	**320**	⇑P	**Pb**	**21 50 16.8**	**-0.8**
THR8	**Santorini-Mono**	**1.68**	**321**	P	**Pb**	**21 50 17.3**	**-0.6**
THR6	**Thira Island,**	**1.69**	**319**	P	**Pb**	**21 50 17.4**	**-0.6**
THR9	**Santorini-Faro**	**1.71**	**318**	P	**Pb**	**21 50 17.7**	**-0.6**
SNT1	**Gialos, Santor**	**1.71**	**321**	P	**Pb**	**21 50 17.8**	**-0.6**
THR7	**Fira-Santorini**	**1.72**	**321**	P	**Pb**	**21 50 18.0**	**-0.6**
SNT5	**Nea Kammeni, S**	**1.72**	**320**	P	**Pb**	**21 50 18.0**	**-0.6**
THR3	**Thira Island,**	**1.72**	**320**	P	**Pb**	**21 50 18.1**	**-0.5**
THT2	**Imerovigli**	**1.73**	**321**	P	**Pb**	**21 50 18.5**	**-0.3**
THT2	**Imerovigli**	**1.73**	**321**	PN	**Pb**	**21 50 18.1**	**-0.7**
DAT	**Datca**	**1.75**	**22**	PN	**Pb**	**21 50 18.6**	**-0.6**
THR5	**Thira Island,**	**1.76**	**319**	P	**Pb**	**21 50 18.4**	**-0.8**
CMBO	**Columbo, Santo**	**1.77**	**321**	P	**Pn**	**21 50 18.0**	**+0.7**
CMBO				AML	AML	21 50 51.5	
CMBO				AML	AML	21 51 01.6	
SAP4	**Santorini-Oia**	**1.79**	**321**	P	**Pb**	**21 50 19.5**	**-0.3**
DATC	**Datca-Mugla**	**1.81**	**23**	PN	**Pb**	**21 50 19.3**	**-0.8**
MRSB	**Marmaris-Mugla**	**1.98**	**35**	PN	**Pb**	**21 50 21.8**	**-1.3**
BODT	**Bodrum**	**2.01**	**12**	PN	**Pn**	**21 50 21.6**	**+1.0**
BDRM	**Kayabasi**	**2.04**	**15**	*i* P	**Pb**	**21 50 23.3**	**-0.7**
BDRM				*i* S	**Sn**	**21 50 42.0**	**-4.1**
TURN	**Turunc**	**2.05**	**35**	*i* P	**Pb**	**21 50 24.0**	**-0.3**
TURN				*i* S	**Sg**	**21 50 51.8**	**-1.7**
TURN	**Turunc**	**2.05**	**35**	PN	**Pb**	**21 50 23.3**	**-1.0**
VAM	**Vamos**	**2.13**	**279**	P	**Pb**	**21 50 24.1**	**-1.6**
VAM				AML	AML	21 51 12.2	
VAM				AML	AML	21 51 13.2	
VAM	**Vamos**	**2.13**	**279**	P	**Pb**	**21 50 24.3**	**-1.3**
VAM				S	**Sb**	**21 50 51.5**	**-0.3**
	comp=N,56μm,1.1s						
VAM	**Vamos**	**2.13**	**279**	P	**Pb**	**21 50 24.3**	**-1.3**
VAM				S	**Sb**	**21 50 51.5**	**-0.3**
APE	**Apeiranthos**	**2.21**	**333**	P	**Pn**	**21 50 25.1**	**+1.1**
APE				S	**Sb**	**21 50 53.7**	**-0.5**
	comp=N,16μm,0.6s						
APE	**Apeiranthos**	**2.21**	**333**	⇓P	**Pb**	**21 50 25.4**	**-1.6**
APE	**Apeiranthos**	**2.21**	**333**	P	**Pn**	**21 50 25.1**	**+1.7**
APE				S	**Sb**	**21 50 53.7**	**-0.5**
APE	**Apeiranthos**	**2.21**	**333**	PN	**Pn**	**21 50 24.8**	**+1.4**
APE	**Apeiranthos**	**2.21**	**333**	⇑P	**Pn**	**21 50 25.2**	**+1.8**
APE	**Apeiranthos**	**2.21**	**333**	⇓P	**Pn**	**21 50 24.5**	**+1.1**
GVDS	**Gavdos**	**2.22**	**264**	PN	**Pn**	**21 50 25.1**	**+1.6**
GVD	**Gavdhos**	**2.22**	**264**	P	**Pn**	**21 50 24.9**	**+1.3**
GVD				AML	AML	21 51 23.2	
	comp=N,89023μm,0.9s						
GVD				AML	AML	21 51 37.1	
GVD	**Gavdhos**	**2.22**	**264**	P	**Pn**	**21 50 25.0**	**+1.5**
GVD	**Gavdhos**	**2.22**	**264**	PN	**Pn**	**21 50 25.1**	**+1.5**
DALY	**Dalyan (Mula)**	**2.29**	**41**	*i* P	**Pb**	**21 50 27.6**	**-0.7**
DALY				*i* S	**Sn**	**21 50 51.8**	**-0.6**
DALY	**Dalyan (Mula)**	**2.29**	**41**	PN	**Pb**	**21 50 26.5**	**-1.9**
IMMV	**Iera Moni Meta**	**2.32**	**280**	P	**Pb**	**21 50 27.4**	**-1.4**
IMMV				AML	AML	21 51 13.8	
IMMV				AML	AML	21 51 16.2	
IMMV	**Iera Moni Meta**	**2.32**	**280**	P	**Pb**	**21 50 27.5**	**-1.3**
IMMV	**Iera Moni Meta**	**2.32**	**280**	PN	**Pn**	**21 50 26.1**	**+1.3**
MLSB	**Milas**	**2.34**	**20**	PN	**Pn**	**21 50 26.8**	**+1.6**
YER	**Yerkesik**	**2.37**	**31**	P	**Pb**	**21 50 28.4**	**-1.3**
YER	**Yerkesik**	**2.37**	**31**	PN	**Pn**	**21 50 27.6**	**+2.0**
DDIM	**Aydin, Didim**	**2.38**	**9**	*i* P	**Pb**	**21 50 28.4**	**-1.5**
DDIM				*i* S	**Sn**	**21 50 52.9**	**-1.7**
FETY	**Fethiye**	**2.42**	**50**	*i* P	**Pn**	**21 50 27.4**	**+1.2**
FETY				*i* S	**Sn**	**21 50 56.0**	**+0.4**
FETY	**Fethiye**	**2.42**	**50**	PN	**Pn**	**21 50 27.5**	**+1.2**
MULA	**Mugla, Merkez-**	**2.49**	**30**	*i* P	**Pb**	**21 50 30.3**	**-1.0**
MULA				*i* S	**Sn**	**21 50 54.5**	**-2.9**
MHLO	**Agia Marina, M**	**2.50**	**310**	P	**Pb**	**21 50 29.9**	**-2.0**
MHLO	**Agia Marina, M**	**2.50**	**310**	P	**Pb**	**21 50 30.5**	**-1.4**
KNDR	**Palaiochora Ch**	**2.54**	**274**	PN	**Pb**	**21 50 30.2**	**-2.3**
AKAS	**Kas**	**2.57**	**63**	*i* P	**Pn**	**21 50 29.5**	**+1.1**
AKAS	**Kas**	**2.57**	**63**	PN	**Pn**	**21 50 29.5**	**+1.1**
SMG	**Samos**	**2.61**	**1**	P	**Pn**	**21 50 30.5**	**+1.7**
GCAM	**G?zelcaml?**	**2.62**	**8**	*i* P	**Pn**	**21 50 31.4**	**+2.4**
GCAM				*i* S	**Sn**	**21 51 01.0**	**+0.5**
GCAM	**G?zelcaml?**	**2.62**	**8**	PN	**Pn**	**21 50 31.3**	**+2.3**
AYDN	**Tasoluk**	**2.71**	**19**	*i* P	**Pb**	**21 50 33.3**	**-2.2**
CAME	**Cameli-Denizli**	**2.75**	**47**	PN	**Pn**	**21 50 33.4**	**+2.4**
CAEL	**Denizli, Camel**	**2.88**	**45**	*i* P	**Pn**	**21 50 35.6**	**+2.8**
CAEL				*i* S	**Sb**	**21 51 16.3**	**+2.6**
TAVA	**DENIZLI_Tavas**	**2.93**	**36**	*i* P	**Pn**	**21 50 36.2**	**+2.9**
TAVA				*i* S	**Sb**	**21 51 14.1**	**-0.7**
ANKY	**Antikythira Is**	**2.94**	**286**	P	**Pn**	**21 50 35.3**	**+1.9**
DGB	**zmir**	**2.95**	**2**	*i* P	**Pn**	**21 50 35.4**	**+1.9**
DGB				*i* S	**Sn**	**21 51 11.4**	**+2.8**
AYDB	**Zeytinkoy-Aydi**	**2.98**	**17**	PN	**Pn**	**21 50 35.7**	**+1.6**
ELL	**Elmali**	**3.03**	**56**	PN	**Pn**	**21 50 37.2**	**+2.5**
GOLH	**Golhisar**	**3.10**	**46**	*i* P	**Pn**	**21 50 38.9**	**+3.1**
GOLH				*i* S	**Sn**	**21 51 15.2**	**+2.6**
ZEYE	**Izmir, Urla-Ze**	**3.14**	**356**	*i* P	**Pn**	**21 50 37.6**	**+1.4**
ZEYE				*i* S	**Sg**	**21 51 26.0**	**-2.3**
AKUM	**Antalya-Kumluc**	**3.15**	**66**	*i* P	**Pn**	**21 50 38.5**	**+2.3**
KTHA	**Kythira Island**	**3.24**	**292**	PN	**Pn**	**21 50 38.7**	**+1.2**
URLA	**Izmir**	**3.26**	**357**	*i* P	**Pn**	**21 50 38.5**	**+0.7**
URLA				*i* S	**Sg**	**21 51 29.3**	**-2.8**
KTHR	**Kythira**	**3.28**	**292**	P	**Pn**	**21 50 39.6**	**+1.4**
CHOS	**Chios island**	**3.33**	**350**	PN	**Pn**	**21 50 40.8**	**+1.9**
KORT	**Korkueli**	**3.46**	**56**	*i* P	**Pn**	**21 50 44.1**	**+3.4**
KORT	**Korkueli**	**3.46**	**56**	PN	**Pn**	**21 50 43.4**	**+2.7**
ANTB	**Antalya**	**3.62**	**59**	PN	**Pn**	**21 50 45.7**	**+2.9**
MANT	**Manisa**	**3.68**	**22**	*i* P	**Pn**	**21 50 46.3**	**+2.6**
MANT				*i* S	**Sb**	**21 51 38.5**	**+2.1**
BRDR	**BURDUR-Merkez**	**3.71**	**45**	*i* P	**Pn**	**21 50 46.5**	**+2.4**
BRDR				*i* S	**Sb**	**21 51 36.4**	**-0.9**
KULA	**Kula-Manisa**	**3.73**	**23**	PN	**Pn**	**21 50 46.9**	**+2.5**
MATC	**Matruh**	**3.76**	**174**	P	**Pn**	**21 50 43.3**	**-1.4**
	baz=174						
ATH	**Athens Observa**	**3.78**	**320**	P	**Pn**	**21 50 48.0**	**+3.0**
BUCA	**Burdur, Bucak-**	**3.78**	**53**	*i* P	**Pn**	**21 50 48.3**	**+3.2**
SLUM	**Salum**	**3.83**	**200**	P	**Pn**	**21 50 44.1**	**-1.5**
	baz=200						
SLUM				AMP		21 51 00.0	
	baz=200						
SLUM				S	**Sn**	**21 51 28.1**	**-2.1**
	baz=200						
BASM	**Basmaki-Afyon**	**3.86**	**42**	PN	**Pn**	**21 50 48.3**	**+2.2**
AKHS	**Akhisar**	**3.86**	**12**	*i* P	**Pn**	**21 50 48.7**	**+2.5**
AKHS				*i* S	**Sn**	**21 51 32.6**	**+1.4**
ZEDA	**zmir-Bergama**	**3.87**	**3**	*i* P	**Pn**	**21 50 48.4**	**+2.2**
ZEDA				*i* S	**Sg**	**21 51 49.4**	**-2.2**
BCK	**Bucak**	**3.88**	**51**	PN	**Pn**	**21 50 49.2**	**+2.8**
DKL	**Dikili**	**3.97**	**1**	PN	**Pn**	**21 50 49.9**	**+2.4**
USAK	**Uak-Merkez**	**4.03**	**26**	*i* P	**Pn**	**21 50 50.9**	**+2.4**
OSC1	**CSNet OBS 1**	**4.05**	**112**	P	**Pn**	**21 50 46.7**	**-2.0**
OSC1				S	**Sn**	**21 51 34.0**	**-1.7**
ISP	**Isparta**	**4.06**	**47**	P	**Pn**	**21 50 50.9**	**+2.0**
ISP	**Isparta**	**4.06**	**47**	PN	**Pn**	**21 50 51.4**	**+2.5**
ISP	**Isparta**	**4.06**	**47**	Pn	**Pn**	**21 50 50.9**	**+2.0**
KZIL	**AFYON_Kizioren**	**4.15**	**40**	*i* P	**Pn**	**21 50 52.3**	**+2.0**
SIGR	**SIGRI**	**4.17**	**350**	PN	**Pn**	**21 50 52.4**	**+2.1**
AYVA	**Ayvalik**	**4.20**	**359**	*i* P	**Pn**	**21 50 52.7**	**+1.9**
DEMI	**Demirci**	**4.23**	**21**	*i* P	**Pn**	**21 50 53.9**	**+2.6**
KEPZ	**Antalya-Kepez**	**4.31**	**64**	*i* P	**Pn**	**21 50 54.8**	**+2.5**
KEPZ				*i* S	**Sn**	**21 51 43.4**	**+1.2**
STEP	**BALIKESIR_Sava**	**4.34**	**10**	*i* P	**Pn**	**21 50 55.1**	**+2.5**
BUHA	**Balikesir, Bur**	**4.40**	**3**	*i* P	**Pn**	**21 50 56.0**	**+2.5**
KOKA	**Canakkale, Ayv**	**4.43**	**354**	*i* P	**Pn**	**21 50 55.7**	**+1.9**
ITM	**Ithomi**	**4.44**	**299**	PN	**Pn**	**21 50 56.4**	**+2.3**
ITM	**Ithomi**	**4.44**	**299**	Pn	**Pn**	**21 50 55.5**	**+1.4**
ITM	**Ithomi**	**4.44**	**299**	⇑P	**Pn**	**21 50 54.5**	**+0.5**
GDZ	**Gediz**	**4.53**	**28**	*i* P	**Pn**	**21 50 56.8**	**+1.3**
AKMS	**Akamas**	**4.56**	**89**	P	**Pn**	**21 50 55.3**	**-0.4**
AKMS				AML	AML	21 51 47.9	
	comp=N,19nm,0.9s						
AKMS				AML	AML	21 51 48.3	
	comp=N,15nm,0.5s						
AFYO	**Afyonkarahisar**	**4.64**	**36**	*i* P	**Pn**	**21 50 59.6**	**+2.7**
BAYC	**CANAKKALE_Bayr**	**4.64**	**358**	*i* P	**Pn**	**21 50 58.6**	**+1.8**
GAZI	**Gazipasa**	**4.65**	**74**	*i* P	**Pn**	**21 50 57.2**	**+0.3**
GAZI				*i* S	**Sn**	**21 51 41.8**	**-8.8**
SEDI	**Konya, Seydise**	**4.66**	**58**	*i* P	**Pn**	**21 50 00.4**	**+3.3**
SEDI				*i* S	**Sn**	**21 51 52.7**	**+1.8**
BALY	**Balya**	**4.68**	**8**	*i* P	**Pn**	**21 50 59.1**	**+1.7**
DURS	**Dursunbey**	**4.69**	**16**	*i* P	**Pn**	**21 51 00.1**	**+2.5**
NATA	**Nata**	**4.77**	**92**	P	**Pn**	**21 50 58.5**	**-0.1**
NATA				S	**Sn**	**21 51 55.0**	**+1.5**
ALFC	**Alefka**	**4.77**	**88**	⇑P	**Pn**	**21 50 58.2**	**-0.5**
ALFC				AML	AML	21 51 52.6	
	comp=N,15nm,1.4s						
ALFC				AML	AML	21 51 53.3	
	comp=N,57nm,0.8s						
BOZC	**Bozcaada**	**4.77**	**353**	*i* P	**Pn**	**21 51 00.2**	**+1.6**
DOGA	**KONYA_Doganhis**	**4.95**	**51**	*i* P	**Pn**	**21 51 04.0**	**+2.8**
ECEA	**Canakkale, Ece**	**4.96**	**355**	*i* P	**Pn**	**21 51 03.5**	**+2.3**
OSC2	**CSNet OBS 4**	**4.98**	**112**	P	**Pn**	**21 50 00.1**	**-1.4**
OSC2				S	**Sn**	**21 51 58.3**	**-0.4**
LEF	**Lefka**	**5.01**	**88**	*i* P	**Pb**	**21 51 10.3**	**-4.4**
LEF				*i* S	**Sn**	**21 51 54.3**	**-5.1**
SZAC	**Souni**	**5.03**	**92**	⇑P	**Pn**	**21 51 01.3**	**-0.9**
SZAC				AML	AML	21 51 59.2	
	comp=N,6.6nm,0.9s						
SZAC				AML	AML	21 51 59.6	
	comp=N,7.7nm,1.7s						
ANDZ	**Kutahya, Merke**	**5.06**	**29**	*i* P	**Pn**	**21 51 05.2**	**+2.5**
GOKA	**anakkale-Gk**	**5.13**	**353**	*i* P	**Pn**	**21 51 05.6**	**+2.1**
AUKIR	**Kırka- Seyitga**	**5.14**	**35**	*i* P	**Pn**	**21 51 05.4**	**+1.7**
AUKIR				*i* S	**Sb**	**21 52 13.9**	**-4.5**
**KN

BR131 Keskin Array S 7.15 48 P Pn 21 51 33.8 +2.4
SNR=89
BRTR Keskin Array B 7.15 48 Pn Pn 21 51 33.5 +2.1
comp=N,2.8nm,0.3s,baz=228,slow=13,SNR=64
BRTR LR LR 21 55 15.3
comp=N,21µm,18.6s,baz=234,slow=46
BRTR ScP **ScP** 22 01 49.6 -0.2
comp=N,0.0nm,0.3s,baz=323,slow=2.2,SNR=2.3
BRTR Keskin Array B 7.15 48 *i* P Pn 21 51 33.5 +2.1
BRTR pmax pmax
comp=Z,21nm,0.8s
BRTR Keskin Array B 7.15 48 Pn Pn 21 51 32.5 +1.0
KEK Kerkira 7.21 312 ⇑P Pn 21 51 31.4 -0.7
DEVR Zonguldak/Devr 7.29 33 *i* P Pn 21 51 32.3 -0.9
DEVR *i* S Sg 21 53 32.1 -9.1
SUZ Suez 7.32 134 P Pn 21 51 31.7 -1.9
baz=135
YURE YUREGIR 7.38 74 *i* P Pn 21 51 34.8 +0.2
AKO Adana 7.39 69 *i* P Pn 21 51 34.8 +0.2
AKO *i* S Sn 21 52 55.4 -2.6
DQRL Deir Qamar 7.40 98 *e*P Pn 21 51 34.5 -0.3
BHL Bhannes 7.42 97 *e*P Pn 21 51 34.0 -1.2
ASUZ Hatay-Arsuz 7.42 78 *i* P Pn 21 51 34.7 -0.3
ASUZ *i* S Sn 21 52 55.7 -3.2
MMAI Mount Meron Ar 7.45 104 Pn Pn 21 51 33.6 -1.9
comp=Z,23nm,0.3s,baz=287,slow=12,SNR=149
MMAI Sn Sn 21 52 57.5 -2.2
comp=Z,94nm,0.3s,baz=305,slow=26,SNR=9.7
STIP Stip 7.51 333 *i* Pn Pn 21 51 40.5 +4.3
NBNS Bani Suef 7.51 148 P Pn 21 51 34.3 -2.0
baz=149
YAHY KAYSERI_Yahyal 7.53 64 *i* P Pn 21 51 34.8 -1.8
OHR Ohrid 7.63 324 *i* Pn Pn 21 51 44.0 +6.1
OHR *e*Sn Sn 21 53 12.3 +8.2
OHR *e*Lg Lg 21 53 59.3
comp=N,3µm,2.0s
OHR *e*Lg Lg 21 53 59.6
comp=Z,2µm,1.6s
RCY Rachaya 7.66 99 *e*P Pn 21 51 37.1 -1.4
ZNM Zenema 7.69 136 P Pn 21 51 36.9 -1.8
baz=137
SIRC Yozgat 7.90 55 *i* P Pn 21 51 44.5 +2.8
SIRC *i* S Sb 21 53 56.6 +19
VTS Vitosha 8.00 341 ⇑P Pn 21 51 46.8 +3.7
VTS Vitosha 8.00 341 P Pn 21 51 45.6 +2.5
VTS Vitosha 8.00 341 Pn 21 51 45.5 +2.5
VTS Vitosha 8.00 341 ⇓P Pn 21 51 46.1 +3.0
GUNE Kayseri 8.03 59 *i* P Pn 21 51 47.0 +3.5
HFRF Wahat Farafira 8.03 170 P Pn 21 51 41.5 -1.9
baz=170
SKO Skopje 8.04 330 *i* Pn Pn 21 51 48.7 +5.3
SKO *e*Sn Sb 21 53 30.3 -11
PELI Kastamonı-Ara 8.05 38 *i* P Pn 21 51 44.5 +0.9
PELI *i* S Sb 21 54 08.8 +27
ILGA Ilgaz 8.08 41 *i* P Pn 21 51 42.9 -1.3
ILGA *i* S Sb 21 54 08.8 +26
TAMRE El Minia 8.19 153 P Pn 21 51 42.8 -2.8
baz=154
SCTE Santa Cesarea 8.26 309 Pn Pn 21 51 45.4 -1.0
TIR Tirane 8.28 321 ⇑P Pn 21 51 51.0 +4.3
TIR Tirane 8.28 321 P Pn 21 51 47.3 +0.6
TIR Tirane 8.28 321 Pn Pn 21 51 47.3 +0.6
TIR Tirane 8.28 321 ⇑P Pn 21 51 49.9 +3.2
GHAJ Ghor Haditha 8.28 115 Pn Pn 21 51 45.2 -1.5
CIDE Kastamonu/Cide 8.32 34 *i* P Pn 21 51 49.4 +2.1
CIDE *i* S Sb 21 54 07.2 +17
HRDS Abu Rudays 8.44 137 P Pn 21 51 45.5 -3.5
baz=138
GRB Gharib 8.51 141 P Pn 21 51 47.4 -2.6
baz=142
GAZ Gaziantep 8.69 73 Pn Pn 21 51 52.5 +0.1
EIL Elat 8.78 126 Pn Pn 21 51 52.1 -1.5
comp=Z,20nm,0.3s,baz=217,slow=2.7,SNR=108
EIL Sn Sn 21 53 25.1 -7.1
comp=Z,39nm,0.3s,baz=221,slow=13,SNR=6.9
EIL Elat 8.78 126 ⇓P Pn 21 51 51.3 -2.3
TR2 Tor 2 8.93 137 P Pn 21 51 51.7 -4.0
baz=138
HBST Basata 8.93 129 P Pn 21 51 53.6 -2.1
baz=130
TIP Timpagrande 8.98 300 ⇓P Pn 21 51 56.0 -0.4
TIP Timpagrande 8.98 300 Pn Pn 21 51 55.3 -1.1
TIP Timpagrande 8.98 300 ⇑P Pn 21 51 54.9 -1.5
HKAT Jabal Katrina 8.98 135 P Pn 21 51 53.7 -2.9
baz=136
NUB Nuweibaa 9.01 130 P Pn 21 51 54.6 -2.2
baz=131
ICOR Ion Corvin 9.04 5 ⇓P Pn 21 52 00.6 +3.4
ULC Ulcinj 9.04 322 ⇓*i*Pn Pn 21 51 56.8 -0.4
ULC *i* Sn Sn 21 53 34.5 -4.2
VLAD Vladila 9.08 349 ⇑P Pn 21 52 00.6 +3.0
EFOR EFORIE 9.08 8 ⇓P Pn 21 52 06.4 +8.7
COPA Copaceanca 9.11 353 ⇓P Pn 21 52 01.4 +3.4
RASA Rasa 9.11 2 ⇓P Pn 21 52 02.5 +4.4
SGRR Singureni 9.13 356 ⇑P Pn 21 52 06.8 +8.3
MFTR Murfatlar 9.16 7 ⇑P Pn 21 52 03.5 +4.7
TSCT Constanta Port 9.17 9 ⇓P Pn 21 52 01.9 +2.6
PVY Plav 9.18 327 ⇓*i*Pn Pn 21 51 59.5 +0.3
PVY *i* Sn Sn 21 53 37.9 -4.3
HDHB Dhahab 9.21 131 P Pn 21 51 57.6 -1.9
baz=133
DRME Dracevica, Mon 9.24 322 *e*Pn Pn 21 51 58.9 -1.0
DRME Dracevica, Mon 9.24 322 ⇑*i*Pn Pn 21 51 59.4 -0.5
DRME *i* Sn Sn 21 53 38.9 -4.5
CVDA Cernavoda 9.28 6 ⇑P Pn 21 52 07.4 +7.1
CEL Celeste 9.29 293 Pn Pn 21 52 00.0 -0.7
CEL Celeste 9.29 293 ⇑P Pn 21 52 00.5 -0.3
TR1 Tor 1 9.35 137 P Pn 21 51 58.4 -3.1
baz=138
LEHL Lehliu 9.37 0 ⇑P Pn 21 52 06.5 +4.9
PDG Podgorica 9.38 324 ⇓P Pn 21 52 02.9 +1.1
PDG Podgorica 9.38 324 *e*Pn Pn 21 52 00.6 -1.2
PDG Podgorica 9.38 324 Pn Pn 21 52 00.8 -1.0
PDG Podgorica 9.38 324 ⇓P Pn 21 52 00.8 -1.0
TTG Podgorica 9.38 324 ⇑*i*Pn Pn 21 52 01.0 -0.8
TTG *i* Sn Sn 21 53 42.7 -4.3
BOVS Bovan 9.38 337 ⇓P Pn 21 52 06.6 +4.7
IVA Berane 9.43 327 ⇑*i*Pn Pn 21 52 02.7 +0.1
IVA *e*Sn Sn 21 53 44.6 -3.7
TIRR Tirgusor 9.43 7 ⇓P Pn 21 52 06.0 +3.5
TIRR Tirgusor 9.43 7 ⇓P Pn 21 52 06.0 +3.5
TIRR Tirgusor 9.43 7 P Pn 21 52 03.8 +1.3
TIRR Tirgusor 9.43 7 Pn Pn 21 52 03.8 +1.3
TIRR Tirgusor 9.43 7 ⇑P Pn 21 52 04.0 +1.5
BUM Brajici-Budva 9.47 322 ⇑*i*Pn Pn 21 52 02.0 -1.1
BUM *e*Sn Sn 21 53 43.9 -5.3
TLBR Topalu 9.49 6 ⇓P Pn 21 52 07.6 +4.4
AMRR Amara 9.51 2 ⇑P Pn 21 52 10.0 +6.4
AMRR Amara 9.51 2 P Pn 21 52 10.0 +6.4
HUMR Humele 9.52 352 ⇑P Pn 21 52 06.0 +2.3
SULR 9.58 358 ⇑P Pn 21 52 10.0 +5.5
KOME Kolasin 9.58 326 *e*Pn Pn 21 52 05.0 +0.3
KOME *e*Sn Sn 21 53 46.7 -5.3
HARR Harsova 9.62 5 ⇑P Pn 21 52 09.3 +4.2
HARR Harsova 9.62 5 ⇑P Pn 21 52 09.3 +4.2
PUNG Punghina 9.63 343 ⇓P Pn 21 52 09.4 +4.2
CEME Cevo 9.64 323 ⇓*i*Pn Pn 21 52 03.6 -1.8
CEME *i* Sn Sn 21 53 48.6 -4.7
MATE Matera 9.70 308 ⇑P Pn 21 52 06.2 0.0
MATE Matera 9.70 308 ⇑P Pn 21 52 04.2 -1.9
HCY Herceg Novi 9.78 321 *e*Pn Pn 21 52 05.9 -1.4
HCY Herceg Novi 9.78 321 ⇓*i*Pn Pn 21 52 07.1 -0.2
HCY *i* Sn Sn 21 53 51.3 -5.4
NKME Niksic 9.78 324 ⇓*i*Pn Pn 21 52 07.1 -0.3
NKME *i* Sn Sn 21 53 51.7 -5.2
HDK1 Dakhla 9.79 166 P Pn 21 52 06.5 -1.0
baz=166
JURR Jurilovca 9.79 9 ⇑P Pn 21 52 12.1 +4.7
NKY Niksic 9.80 324 ⇑*i*Pn Pn 21 52 07.6 -0.1
NKY *i* Sn Sn 21 53 52.4 -5.0
PGOR Pogoanele 9.80 1 ⇑P Pn 21 52 09.8 +2.3
TPGR Topolog 9.83 7 ⇓P Pn 21 52 12.1 +4.1
MALT Malatya 9.89 68 P Pn 21 52 10.5 +1.6
SRE Strehaia 9.94 345 ⇑P Pn 21 52 13.5 +4.0
SRE Strehaia 9.94 345 ⇑P Pn 21 52 13.5 +4.0
SECR 9.94 357 ⇓P Pn 21 52 13.8 +4.2
ISR Istrita 10.01 359 ⇓P Pn 21 52 14.6 +4.1
ISR Istrita 10.01 359 ⇓P Pn 21 52 14.6 +4.1
PLE Pljevlja 10.02 327 ⇓*i*Pn Pn 21 52 10.7 0.0
PLE *i* Sn Sn 21 53 58.0 -4.7
WDD Wied Dalam 10.02 278 Pn Pn 21 52 08.4 -2.2
WDD Wied Dalam 10.02 278 ⇓P Pn 21 52 08.8 -1.9

TREB Trebinje 10.04 322 *e*Pn Pn 21 52 08.4 -2.5
BRY Bratogost 10.09 323 *e*Pn Pn 21 52 11.6 0.0
BRY Bratogost 10.09 323 ⇓*i*Pn Pn 21 52 10.5 -1.1
BRY *e*Sn Sn 21 53 58.7 -5.8
UPM Unac-Piva 10.14 325 *e*Pn Pn 21 52 11.0 -1.4
UPM Unac-Piva 10.14 325 *e*Pn Pn 21 52 11.4 -1.0
UPM *i* Sn Sn 21 53 59.6 -6.2
TLCR 10.20 8 ⇑P Pn 21 52 17.8 +4.8
TLCR 10.20 8 ⇑P Pn 21 52 17.8 +4.8
MTUR Matau 10.20 353 ⇑P Pn 21 52 16.8 +3.6
MTUR Matau 10.20 353 ⇑P Pn 21 52 16.8 +3.6
RAFF Raffo Rosso 10.26 286 Pn Pn 21 52 12.8 -1.1
VAE Valguarnera 10.26 287 Pn Pn 21 52 15.0 +1.0
comp=Z,7.2nm,0.3s,baz=193,slow=3.1,SNR=30
VAE Sn Sn 21 54 05.4 -3.3
comp=Z,22nm,0.3s,baz=197,slow=8.8,SNR=2.7
GRER 10.27 1 ⇓P Pn 21 52 20.1 +6.1
NEHR Nehoiu 10.32 358 ⇑P Pn 21 52 19.1 +4.3
HERR Herculane 10.33 342 ⇓P Pn 21 52 17.3 +2.5
ARR Arges 10.39 352 ⇓P Pn 21 52 20.2 +4.5
DIVS Divibare 10.40 332 *e*Pn Pn 21 52 20.9 +5.1
DIVS Divibare 10.40 332 Pn 21 52 16.6 +0.7
DIVS Divibare 10.40 332 ⇑P Pn 21 52 17.8 +1.9
MLR Muntele Rosu 10.40 357 ⇓P Pn 21 52 20.2 +4.3
MLR Muntele Rosu 10.40 357 P Pn 21 52 16.4 +0.5
MLR Muntele Rosu 10.40 357 Pn Pn 21 52 16.4 +0.5
VOIR 10.41 353 ⇓P Pn 21 52 18.8 +2.8
VOIR 10.41 353 ⇓P Pn 21 52 18.8 +2.8
MDVR Moldovita 10.42 340 ⇓P Pn 21 52 19.8 +3.7
SCHL Schela 10.42 4 ⇑P Pn 21 52 20.2 +4.1
GIUM Giurgiulesti 10.43 6 ⇓P Pn 21 52 22.0 +5.8
BISRR Bisoca 10.44 360 ⇑P Pn 21 52 22.5 +6.1
BBLS Lazići 10.44 329 *e*Pn Pn 21 52 15.6 -0.8
STON Ston 10.49 320 *e*Pn Pn 21 52 13.5 -3.5
TUDR 10.51 3 ⇑P Pn 21 52 23.3 +6.0
LOT Lotru 10.59 348 ⇑P Pn 21 52 21.3 +2.8
ODBI Odobesti 10.66 1 ⇓P Pn 21 52 24.3 +5.0
GZR Gura Zlata 10.73 345 ⇓P Pn 21 52 23.0 +2.7
GZR Gura Zlata 10.73 345 ⇓P Pn 21 52 23.0 +2.7
PLOR Plostina 10.74 360 ⇓P Pn 21 52 24.8 +4.3
PLOR Plostina 10.74 360 ⇓P Pn 21 52 24.8 +4.3
VRI Vrincioaia 10.76 360 ⇓P Pn 21 52 24.8 +4.1
VRI Vrincioaia 10.76 360 ⇓P Pn 21 52 24.8 +4.1
HAPS Han Pijesak,BI 10.81 328 *e*Pn Pn 21 52 20.4 -1.2
VARL Varlezi 10.82 4 ⇑P Pn 21 52 25.8 +4.2
SGRT San Giovanni R 10.91 311 Pn Pn 21 52 20.0 -2.9
DOPR Dopca 10.91 355 ⇑P Pn 21 52 27.3 +4.5
TEKS Tekeris 10.96 332 *e*Pn Pn 21 52 23.0 -0.4
GHRR 10.96 2 ⇓P Pn 21 52 28.6 +5.1
BANR Banloc 11.14 339 ⇑P Pn 21 52 30.4 +4.6
DEV Deva 11.17 346 ⇑P Pn 21 52 30.4 +4.1
DEV Deva 11.17 346 ⇑P Pn 21 52 30.4 +4.1
BIR Birlad 11.18 3 ⇑P Pn 21 52 29.8 +3.4
BIR Birlad 11.18 3 ⇑P Pn 21 52 29.8 +3.4
CORL Corleone 11.20 288 Pn 21 52 26.4 -0.4
CLTB Caltabellotta 11.22 287 Pn Pn 21 52 27.3 +0.3
CLTB Caltabellotta 11.22 287 ⇑P Pn 21 52 27.0 -0.1
BZS Buzias 11.22 341 ⇑P Pn 21 52 29.2 +2.2
BZS Buzias 11.22 341 ⇑P Pn 21 52 29.2 +2.2
PAOL Paolisi 11.30 305 Pn Pn 21 52 26.7 -1.4
FRGS Fruska Gora 11.37 334 ⇓P Pn 21 52 33.0 +3.9
FRGS Fruska Gora 11.37 334 *e*Pn Pn 21 52 31.5 +2.4
TESR Tescani 11.40 360 ⇑P Pn 21 52 33.6 +4.0
VASR Vaslui 11.56 3 ⇑P Pn 21 52 37.1 +5.5
SIRR Siria 11.81 342 ⇑P Pn 21 52 38.4 +3.3
BIZ Bicaz 11.84 358 ⇓P Pn 21 52 38.5 +3.0
MGRS Mrkonjic Grad 11.92 324 *e*Pn Pn 21 52 38.6 +2.0
KIS Kishinev 11.99 7 ⇑*i*P Pn 21 52 41.0 +3.5
KIS *e*S Sn 21 55 04.0 +13
KIS LQM 21 56 44.5
comp=Z,2µm,20.0s
KIS LRM MLR 21 58 03.0
comp=Z,4µm,15.0s
KIS Kishinev 11.99 7 ⇓P Pn 21 52 43.6 +6.2
KIS Kishinev 11.99 7 *c i*P Pn 21 52 41.0 +3.5
KIS *e*S Sn 21 55 04.0 +13
KIS MLR MLR
comp=Z,4µm,15.0s
KIS MLR MLR
comp=N,4µm,13.0s
DRGR 12.08 347 ⇓P Pn 21 52 41.6 +2.8
DRGR 12.08 347 ⇓P Pn 21 52 41.6 +2.8
ARCR ARCALIA 12.12 352 ⇓P Pn 21 52 42.7 +3.4
BLY Banja Luka 12.12 326 *e*Pn Pn 21 52 41.3 +2.0
BLY Banja Luka 12.12 326 ⇑P Pn 21 52 40.9 +1.5
AMBH Ambrzfalva 12.14 340 ⇓P Pn 21 52 43.2 +3.7
INTR Introdacqua 12.21 308 Pn Pn 21 52 39.6 -1.0
PRAR RASCA 12.26 358 ⇓P Pn 21 52 46.7 +5.5
MRAK Mrakovica 12.45 326 *e*Pn Pn 21 52 43.0 -0.9
PRIJ Prijedor 12.51 325 *e*Pn Pn 21 52 46.9 +2.3
BURAR Bucovina Array 12.56 355 P Pn 21 52 49.1 +3.7
BURAR Bucovina Array 12.56 355 Pn Pn 21 52 46.9 +1.5
BUR08 Bucovina Ar. S 12.59 355 Pn Pn 21 52 46.3 +0.4
ANN Anapa 12.67 37 *e*P Pn 21 52 46.7 -0.1
ANN *e*S Sn 21 55 10.0 +2.6
ANN pmax pmax
comp=Z,52nm,1.3s
ANN MLR MLR
comp=Z,2µm,18.0s
MORH Mrgy, Hungar 12.70 333 ⇑P Pn 21 52 50.7 +3.5
MORH Mrgy, Hungar 12.70 333 *e*Pn Pn 21 52 46.9 -0.3
AQU L'Aquila 12.70 309 P Pn 21 52 48.8 +1.5
AQU L'Aquila 12.70 309 *e*Pn Pn 21 52 51.7 +4.4
AQU L'Aquila 12.70 309 Pn Pn 21 52 48.8 +1.5
AQU L'Aquila 12.70 309 ⇑P Pn 21 52 50.9 +3.6
LTVH Ltavrtes, Hu 12.81 345 ⇑P Pn 21 52 52.5 +3.8
SORM Soroca 13.08 5 ⇑P Pn 21 52 55.1 +2.7
SORM Soroca 13.08 5 ⇑P Pn 21 52 55.1 +2.7
SOC Sochi 13.11 46 *e*P Pn 21 52 53.5 +0.7
SOC *e* 21 55 22.7
SOC pmax pmax
comp=Z,13nm,0.7s
SOC MLR MLR
comp=Z,4µm,14.0s
NRCA Norcia 13.13 310 Pn 21 52 52.2 -1.0
BEHE Becsehely 13.64 329 *e*Pn Pn 21 53 02.8 +2.7
MURB Monte Urbino 13.72 311 Pn 21 53 01.2 -0.1
CRES Cresnjev 13.74 325 *e*Pn Pn 21 52 58.7 -2.7
TATN Tataouine 13.74 264 ⇓P Pn 21 52 02.7 +1.2
PSZ Piszkesteto 13.80 340 ⇓P Pn 21 53 04.5 +2.1
PSZ Piszkesteto 13.80 340 P Pn 21 53 03.2 +0.9
PSZ Piszkesteto 13.80 340 Pn Pn 21 53 03.2 +0.9
PSZ Piszkesteto 13.80 340 ⇓P Pn 21 53 03.6 +1.3
MGAB Montegabbione 13.80 309 ⇑P Pn 21 53 04.3 +2.0
UZH Uzhgorod 13.93 348 *e*P Pn 21 53 07.0 +3.1
UZH *e*S Sn 21 55 44.0 +5.9
UZH MLR MLR
comp=Z,2µm,12.0s
KARS Kars 14.01 62 P Pn 21 53 06.6 +1.4
KARS Kars 14.01 62 Pn Pn 21 53 06.6 +1.4
KECS Kecovo 14.17 343 *e*P P 21 53 13.6 -1.1
KECS Kecovo 14.17 343 *e*PN P 21 53 13.6 -1.1
CEY Cerknica 14.18 322 *e*Pn Pn 21 53 04.0 -3.4
KOLS Kolonicke sedl 14.22 348 *e*P Pn 21 53 10.2 +2.2
KOLS Kolonicke sedl 14.22 348 *e*PN Pn 21 53 10.2 +2.2
KEST Kesra 14.23 278 Pn Pn 21 53 08.3 0.0
comp=Z,0.2nm,0.3s,baz=48,slow=7.0,SNR=5.6
KEST Kesra 14.23 278 Pn Pn 21 53 07.9 -0.4
KEST Kesra 14.23 278 P Pn 21 53 09.2 +0.8
SNR=49
KEST P Pn 21 53 09.2 +0.8
SNR=49
KEST P Pn 21 53 09.2 +0.8
SNR=49
LJU Ljubljana 14.34 323 *e*Pn Pn 21 53 08.7 -1.0
LJU *e*Sn Sn 21 55 58.1 +10
LJU IAML 21 59 48.5
comp=Z,0.8nm,0.2s
CRVS Cervenica-Dubn 14.34 346 *e*P Pn 21 53 12.9 +3.2
CRVS Cervenica-Dubn 14.34 346 *e*PN Pn 21 53 12.9 +3.2
TRI Trieste 14.49 321 P Pn 21 53 12.8 +1.1
TRI Trieste 14.49 321 Pn Pn 21 53 12.8 +1.1
TRI Trieste 14.49 321 ⇑P P 21 53 16.0 -2.3
VSL Villasalto 14.53 293 Pn Pn 21 53 10.8 -1.5
VSL Villasalto 14.53 293 ⇓P Pn 21 53 14.5 +2.3
AKH Akhalkalaki 14.56 59 ⇑P P 21 53 18.2 -1.1
AKH Akhalkalaki 14.56 59 P P 21 53 17.8 -1.5
CASP Castiglione de 14.56 307 Pn Pn 21 53 12.2 -0.5
SOKA Soboth 14.56 326 *e*Pn Pn 21 53 14.4 +1.6
comp=Z,20nm,1.2s,SNR=6.5
VYHS Vyhne 14.62 339 *e*P Pn 21 53 16.5 +3.0

VYHS Vyhne 14.62 339 *e*PN Pn 21 53 16.5 +3.0
OSSC Osservatorio P 14.66 310 Pn 21 53 13.9 -0.2
OBKA Obir 14.67 325 *e*Pn Pn 21 53 15.5 +1.3
comp=Z,35nm,1.2s,SNR=11
ARSA Arzberg 14.79 329 *e*Pn Pn 21 53 16.4 +0.7
comp=Z,120nm,1.5s,SNR=25
NEY Neytrino 14.79 52 *i* P P 21 53 22.0 +0.1
KWP Kalwaria Pacla 14.83 350 *e*P P 21 53 20.9 -1.2
KWP *e*S S 21 56 23.5 +5.2
KWP *e*L L 22 00 47.4
comp=Z,11µm,15.7s
KOLL Kolacno 14.83 338 *e*PN Pn 21 53 19.0 +2.7
LVV L'vov 14.85 353 *e*P Pn 21 53 18.0 +1.4
LVV *e*S Sn 21 56 04.6 +4.0
LVV pmax pmax
comp=Z,770nm,3.3s
LVV MLR MLR
comp=E,11µm,11.0s
LVV MLR MLR
comp=N,15µm,12.0s
LVV MLR MLR
comp=Z,14µm,11.0s
ZST Bratislava 14.94 334 *e*P P 21 53 23.0 -0.2
ZST Bratislava 14.94 334 *e*PN P 21 53 23.0 -0.2
ONI Oni 14.98 55 P P 21 53 21.9 -2.0
ONI pmax pmax
comp=Z,156nm,0.8s
ONI Oni 14.98 55 P P 21 53 21.9 -2.0
ONI IAmb IAmb 21 53 51.2
comp=Z,156nm,0.8s
SHA1 Shidzhatmaz 14.98 50 *i* P P 21 53 21.6 -2.5
MODS Modra-Piesok 15.02 335 *e*P Pn 21 53 20.2 +1.3
MODS Modra-Piesok 15.02 335 *e*PN Pn 21 53 20.2 +1.3
LANS Liptovska Anna 15.04 341 *e*P P 21 53 23.8 -0.7
LANS Liptovska Anna 15.04 341 *e*PN P 21 53 23.8 -0.7
NIE Niedzica 15.08 344 *e*P P 21 53 26.1 +1.2
NIE *e*L L 22 00 01.9
comp=Z,4µm,17.0s
SMOL Smolenice 15.09 335 *e*P P 21 53 27.5 +2.5
SMOL Smolenice 15.09 335 *e*PN P 21 53 27.5 +2.5
GNI Garni 15.10 65 Pn P 21 53 24.4 -0.8
comp=Z,1.4nm,0.3s,baz=21,slow=6.3,SNR=9.4
GNI Garni 15.10 65 P P 21 53 24.5 -0.8
GNI Garni 15.10 65 *c*eP P 21 53 24.3 -1.0
GNI pmax pmax
comp=Z,71nm,1.7s
GNI Garni 15.10 65 Pn Pn 21 53 21.1 +1.0
GNI Garni 15.10 65 P P 21 53 24.8 -0.5
GNI P P 21 53 24.8 -0.5
GNI Garni 15.10 65 ⇓P P 21 53 23.4 -1.9
KIV Kislovodsk 15.11 49 ⇑P P 21 53 24.9 -0.4
KIV Kislovodsk 15.11 49 *i* P P 21 53 26.3 +0.9
SNR=46
KIV Kislovodsk 15.11 49 *e*P P 21 53 22.8 -2.5
KIV *e*S Sn 21 56 12.9 +5.7
KIV pmax pmax
comp=Z,442nm,1.1s
KIV MLR MLR
comp=Z,4µm,13.0s
KIV Kislovodsk 15.11 49 Pn Pn 21 53 21.0 +0.8
KIV IAmb IAmb 21 53 41.7
comp=Z,160nm,0.9s
KIV Kislovodsk 15.11 49 P P 21 53 23.2 -2.2
KIV P P 21 53 23.2 -2.2
KIV Kislovodsk 15.11 49 ⇓P Pn 21 53 21.9 +1.7
KBZ Khabaz 15.13 50 Pn Pn 21 53 22.6 +2.2
comp=Z,0.1nm,0.3s,baz=266,slow=9.0,SNR=9.6
PTCC Patocco-Chiusa 15.18 322 ⇑P Pn 21 53 20.4 -0.7
CONA Conrad Observa 15.18 331 *e*Pn Pn 21 53 21.6 +0.5
comp=Z,52nm,1.7s,SNR=27
MYKA Terra Mystica 15.19 323 *e*Pn Pn 21 53 21.5 +0.3
comp=Z,17nm,1.0s
KZRT Kazreti 15.19 60 P P 21 53 26.0 -0.2
ZCCA Zocca 15.25 312 Pn 21 53 23.3 +1.3
JAVC Velka Javorina 15.31 337 *e*P Pn 21 53 24.5 +1.7
ZEI Tsey 15.36 55 *e*P P 21 53 27.2 -1.1
ZEI pmax pmax
comp=Z,153nm,1.1s
TEOL Teolo 15.41 316 Pn Pn 21 53 23.2 -0.8
TEOL IAmb IAmb 21 53 50.6
comp=Z,233nm,1.0s
PYA1 Pyatigorsk 15.42 50 *i* P Pn 21 53 26.2 +2.0
NCK Nalchik 15.47 52 *i* P Pn 21 53 25.6 +0.8
ZOU Zoufplan 15.47 322 Pn Pn 21 53 24.2 -0.9
VLC Villacollemand 15.51 311 Pn 21 53 25.5 +0.1
VLC Villacollemand 15.51 311 ⇓P P 21 53 27.9 -1.9
KBA Koelnbreinsper 15.65 324 *e*Pn Pn 21 53 27.7 +0.3
comp=Z,75nm,1.0s,SNR=12
AKASG Malin Array Be 15.70 6 Pn Pn 21 53 27.1 -0.6
comp=Z,12nm,0.3s,baz=193,slow=10,SNR=49
AKASG LR LR 22 00 31.7
comp=Z,4µm,18.4s,baz=180,slow=41
AKASG Malin Array Be 15.70 6 P Pn 21 53 27.2 -0.5
AKASG pmax pmax
comp=Z,88nm,0.8s
AKASG Malin Array Be 15.70 6 Pn Pn 21 53 27.2 -0.5
AKBB Malin Array Si 15.70 6 P Pn 21 53 27.0 -0.7
AKBB pmax pmax
comp=Z,126nm,1.1s
AKBB Malin Array Si 15.70 6 Pn 21 53 27.0 -0.7
PGF Pioggiola 15.71 304 P Pn 21 53 28.6 +0.6
CMAH Djebel Manchou 15.77 281 P Pn 21 53 29.9 +1.1
MOA Molln 15.79 328 *e*Pn Pn 21 53 30.0 +1.0
comp=Z,58nm,1.3s,SNR=28
ABTA Abfaltersbach 15.84 322 *e*Pn Pn 21 53 29.2 -0.4
comp=Z,9.9nm,0.6s,SNR=13
CTI Castel Tesino 15.84 318 P Pn 21 53 29.0 -0.7
CTI pmax pmax
comp=Z,94nm,0.7s
CTI Castel Tesino 15.84 318 Pn Pn 21 53 29.0 -0.7
PRMA PARMA 15.87 312 Pn 21 53 30.2 +0.3
GOF Gofitskoye 15.91 46 *e*P P 21 53 34.8 +0.7
GOF pmax pmax
comp=Z,229nm,0.9s
KRUC Moravsky 15.92 334 *e*P Pn 21 53 30.6 0.0
OKC Ostrava-Krasne 16.03 339 *e*P Pn 21 53 33.1 +1.1
OKC MLR MLR
comp=Z,8µm,12.4s
OKC Ostrava-Krasne 16.03 339 *e*P Pn 21 53 33.1 +1.1
OKC *e*S S 21 56 40.4 -2.5
OKC AMS AMS 22 00 40.0
comp=Z,8µm,12.4s
VRAC Vranov 16.06 335 Pn Pn 21 53 32.5 +0.1
comp=Z,1.1nm,0.3s,baz=148,slow=10.0,SNR=29
VRAC LR LR 22 01 00.6
comp=Z,4µm,18.9s,baz=158,slow=42
VRAC Vranov 16.06 335 ⇑P Pn 21 53 33.2 +0.9
VRAC Vranov 16.06 335 *e*P Pn 21 53 32.7 +0.3
MSSA Maissana 16.14 310 Pn Pn 21 53 33.2 +0.2
MORC Moravsky Berou 16.16 338 ⇑P P 21 53 35.3 -1.6
MORC Moravsky Berou 16.16 338 *e*P Pn 21 53 34.6 +0.9
MORC Moravsky Berou 16.16 338 P Pn 21 53 33.4 -0.3
MORC pmax pmax
comp=Z,69nm,1.0s
MORC Moravsky Berou 16.16 338 Pn Pn 21 53 33.4 -0.3
MORC Moravsky Berou 16.16 338 ⇓P Pn 21 53 34.1 +0.4
SALO Salr 16.21 315 Pn 21 53 34.8 +0.4
SALO IAmb IAmb 21 53 55.0
comp=Z,240nm,1.0s
SALO Salr 16.21 315 ⇑P P 21 53 37.0 -0.5
CKFL Kef-Lekhel 16.34 280 P Pn 21 53 37.4 +1.2
RJOB Jochberg 16.38 325 *e*P Pn 21 53 36.5 -0.1
baz=136,slow=11
BOB Bobbio (Coli) 16.40 311 ⇑P Pn 21 53 36.7 -0.1
TREC Trest 16.44 333 *e*P P 21 53 38.7 -1.3
TREC MLR MLR
comp=Z,6µm,12.4s
TREC Trest 16.44 333 *e*P P 21 53 38.7 -1.3
TREC *e*S S 21 56 49.4 -2.0
TREC AMS AMS 22 01 20.0
comp=Z,6µm,12.4s
DDFL Dedoflistskaro 16.44 62 P P 21 53 44.9 +4.8
CKRC Cesky Krumlov 16.52 330 *e*P Pn 21 53 38.1 -0.2
CKRC *e*S S 21 56 49.4 -3.6
CASM Ain Smara 16.53 280 P P 21 53 45.7 +4.6
CTEI Djebel Teioual 16.60 279 P P 21 53 47.1 +5.1
WTTA Wattenberg 16.63 322 *i* P Pn 21 53 40.9 +1.1
comp=Z,140nm,1.0s,SNR=32
LGD Lagodekhi 16.65 60 P P 21 53 44.5 +2.2
KRLC Kraliky 16.66 337 *e*P P 21 53 42.6 +0.2
KRLC *e*S S 21 56 51.7 -4.1
KRLC MLR MLR
comp=Z,5µm,12.4s
KRLC Kraliky 16.66 337 *e*P P 21 53 42.6 +0.2

KRLC eS S 21 56 51.7 -4.1
KRLC AMS AMS 22 02 20.0
comp=Z,5µm,12.4s
WATA Walderalm 16.70 322 eP Pn **21 53 41.7 +0.9**
comp=Z,136nm,0.9s,SNR=44
GEC2 GERESS Array S 16.79 329 Pn Pn **21 53 41.9 0.0**
GEC2 GERESS Array S 16.79 329 eP Pn **21 53 41.6 -0.3**
baz=136,slow=11
GERES GERESS Array B 16.79 329 Pn Pn **21 53 41.0 -0.8**
comp=Z,1.6nm,0.3s,baz=137,slow=10,SNR=47
GERES LR LR 22 01 52.5
comp=Z,6µm,18.8s,baz=148,slow=44
GERES GERESS Array B 16.79 329 Pn Pn **21 53 41.6 -0.3**
GROC Groznyy 16.80 56 eP Pn **21 53 42.5 +0.6**
GROC eS S **21 56 54.4 -4.3**
GROC pmax pmax
comp=Z,83nm,1.0s
GROC MLR MLR
comp=Z,902nm,11.0s
FETA Feichten 16.94 320 eP P **21 53 46.2 +0.5**
comp=Z,100nm,1.5s,SNR=28
MOTA Moosalm 16.95 321 eP P **21 53 45.2 -0.6**
comp=Z,99nm,1.2s,SNR=23
MQOL MQOL 16.99 145 *i* P 21 53 43.0
MQOL *i* 21 53 43.1
baz=164,slow=9.3
MQOL *i* S 21 56 53.0
DFRA Djebel Bou Aff 17.01 281 P P **21 53 49.6 +3.1**
DPC Dobruska-Polom 17.04 337 eP Pn **21 53 44.9 0.0**
DPC eS S **21 56 59.8 -3.8**
DPC MLR MLR
comp=Z,7µm,13.4s
DPC Dobruska-Polom 17.04 337 eP Pn **21 53 44.9 0.0**
DPC eS S **21 56 59.8 -3.8**
DPC AMS AMS 22 01 30.0
comp=Z,7µm,13.4s
KHC Kasperske Hory 17.07 329 eP Pn **21 53 45.9 +0.7**
KHC eS S **21 57 00.9 -3.2**
KHC MLR MLR
comp=Z,10µm,15.2s
KHC Kasperske Hory 17.07 329 eP Pn **21 53 45.9 +0.7**
KHC ex x 21 53 54.0
KHC ex x 21 54 20.0
KHC eS S **21 57 00.9 -3.2**
KHC AMS AMS 22 01 20.0
comp=Z,10µm,15.2s
KHC Kasperske Hory 17.07 329 ⇓P Pn **21 53 45.2 0.0**
RETA Reutte 17.22 321 eP Pn **21 53 47.2 0.0**
comp=Z,51nm,0.8s,SNR=18
OSTC Ostas 17.25 337 eP Pn **21 53 48.1 +0.6**
OSTC eS S **21 57 07.0 -0.9**
OSTC AMS AMS 22 01 40.0
comp=Z,7µm,13.5s
DAVOX Davos/Dischmat 17.26 318 P Pn **21 53 46.9 -0.8**
comp=Z,1.8nm,0.3s,baz=115,slow=15,SNR=20
DAVOX LR LR 22 01 37.4
comp=Z,7µm,18.8s,baz=118,slow=41
BEL Belsk 17.28 347 eP P **21 53 50.4 +1.2**
BEL eS S **21 57 12.9 +4.6**
BEL eL L 22 02 07.5
comp=Z,8µm,15.2s
UPC Upice 17.28 336 eP Pn **21 53 48.0 +0.2**
UPC eS Sn **21 57 03.2 +3.6**
UPC MLR MLR
comp=Z,7µm,14.7s
UPC Upice 17.28 336 eP Pn **21 53 48.0 +0.2**
UPC eS Sn **21 57 03.2 +3.6**
UPC AMS AMS 22 01 40.0
comp=Z,7µm,14.7s
CKHR Kef el Ahmar 17.33 279 P P **21 53 57.0 +7.0**
PBCC Pribram 17.33 331 eP Pn **21 53 49.0 +0.5**
CHVC Chvalec 17.33 337 eP Pn **21 53 48.2 -0.3**
CHVC AMS AMS 22 01 40.0
comp=Z,7µm,14.0s
PRU Pruhonice 17.36 333 eP Pn **21 53 48.7 -0.2**
PRU eS S **21 57 07.5 -2.6**
PRU MLR MLR
comp=Z,7µm,11.6s
PRU Pruhonice 17.36 333 eP Pn **21 53 48.7 -0.2**
PRU eS S **21 57 07.5 -2.6**
PRU AMS AMS 22 02 00.0
comp=Z,7µm,11.6s
TUE Stuetta 17.37 316 P Pn **21 53 49.6 +0.4**
TUE Stuetta 17.37 316 ⇓P Pn **21 53 49.1 -0.1**
WET Wettzell 17.38 328 eP Pn **21 53 48.8 -0.3**
baz=136,slow=11
SET Setif 17.41 280 P P **21 53 55.0 +4.1**
FUR Furstenfeldbru 17.41 323 eP Pn **21 53 49.5 0.0**
comp=Z,174nm,1.0s,baz=136,slow=11
PRA Prague 17.47 333 eP Pn **21 53 50.7 +0.5**
PRA MLR MLR
comp=Z,6µm,11.2s
PRA Prague 17.47 333 eP Pn **21 53 50.7 +0.5**
PRA eS S **21 57 12.7 +0.4**
PRA AMS AMS 22 02 00.0
comp=Z,6µm,11.2s
KSP Ksiaz 17.48 337 eP P **21 53 50.9 -0.5**
KSP eS S **21 57 14.5 +2.1**
KSP eL L 22 00 37.0
comp=Z,4µm,21.1s
MONC Moncucco Torin 17.49 310 ⇓P Pn **21 53 50.3 -0.2**
DAVA Damuels 17.56 319 eP P **21 53 52.3 -0.2**
comp=Z,26nm,0.5s,SNR=13
UBR Ueberruh 17.69 320 eP Pn **21 53 53.2 +0.3**
comp=Z,108nm,0.8s,baz=136,slow=11
PVCC Panska Ves 17.80 334 eP Pn **21 53 53.8 -0.4**
PVCC eS S **21 57 17.9 -1.0**
PVCC MLR MLR
comp=Z,6µm,11.7s
PVCC Panska Ves 17.80 334 eP Pn **21 53 53.8 -0.4**
PVCC eS S **21 57 17.9 -1.0**
PVCC AMS AMS 22 02 20.0
comp=Z,6µm,11.7s
MAK Makhachkala 17.89 58 *d* iP P **21 53 59.9 +3.9**
MAK pmax pmax
comp=Z,592nm,1.0s
MAK MLR MLR
comp=Z,2µm,11.0s
RST Umm Al-Ruwaisa 17.97 102 eP Pn **21 53 55.2 -1.3**
MIB Mutribah 18.13 101 eP Pn **21 53 58.1 -0.4**
ROTZ Rotzenmuhle 18.13 328 eP Pn **21 53 57.7 -0.7**
comp=Z,36nm,0.8s,baz=136,slow=11
VORD Divnogorie 18.27 26 eP P **21 54 01.3 +1.2**
VORD pmax pmax
comp=Z,100nm,0.9s
BNI Bardonecchia 18.27 309 P Pn **21 53 59.7 -0.6**
BNI pmax pmax
comp=Z,107nm,0.9s
BNI Bardonecchia 18.27 309 P Pn **21 53 59.7 -0.6**
BNI Bardonecchia 18.27 309 ⇑P Pn **21 53 60.0 -0.3**
BRG Berggiesshubel 18.31 333 *i* P Pn **21 54 00.3 -0.2**
BRG Amp 21 54 04.1
comp=Z,59nm,0.9s
BRG PP **sP** **21 54 09.2 +2.3**
BRG Amp 21 54 12.0
comp=Z,83nm,0.8s
BRG Berggiesshubel 18.31 333 S Sn **21 57 20.0 -4.5**
BRG Amp 22 03 25.0
comp=N,6.1nm,12.5s
BRG Amp 22 03 28.0
comp=E,5.8nm,13.8s
BRG Amp 22 03 30.0
comp=Z,4.8nm,13.2s
BRG ex x 22 11 03.7
BRG Amp 22 11 05.7
comp=Z,6.9nm,1.3s
BRG Berggiesshubel 18.31 333 eP Pn **21 54 00.2 -0.3**
comp=Z,83nm,0.8s,baz=136,slow=11
NKC Novy Kostel 18.38 330 eP P **21 53 59.8 -1.6**
NKC MLR MLR
comp=Z,9µm,14.6s
NKC Novy Kostel 18.38 330 eP P **21 53 59.8 -1.6**
NKC AMS AMS 22 02 20.0
comp=Z,9µm,14.6s
VSR Storozhevoye 18.43 25 eP P **21 54 01.8 -0.1**
VSR eS Sn **21 57 26.2 -1.2**
VSR pmax pmax
comp=Z,70nm,0.5s
VSR smax smax
comp=N,450nm,13.7s
VSR MLR MLR
comp=Z,3µm,14.0s
LPL La Plagne 18.45 310 eP P **21 54 02.2 -0.2**
WERN Wernitzgruen 18.45 330 eP P **21 54 02.2 -0.1**
comp=Z,57nm,0.8s,baz=136,slow=11

MAHO Mahon 18.48 292 P Pn **21 54 03.0 +0.4**
MAHO S Sn **21 57 27.3 -1.5**
MAHO Mahon 18.48 292 ⇓P Pn **21 54 03.0 +0.4**
GRA1 Grafenberg Arr 18.51 327 P P **21 54 02.2 -0.6**
GRF Grafenberg Arr 18.51 327 P P **21 54 02.2 -0.6**
GRF pmax pmax
comp=Z,194nm,1.1s
GRF Grafenberg Arr 18.51 327 eP P **21 54 02.3 -0.6**
comp=Z,213nm,1.2s,baz=136,slow=11
GRF eL L 22 02 17.6
comp=Z,6µm,19.1s
GRFO Grafenberg 18.51 327 P P **21 54 02.1 -0.7**
GRFO pmax pmax
comp=Z,197nm,1.1s
GRFO Grafenberg 18.51 327 P P **21 54 02.1 -0.7**
SENIN Lac Senin/Sane 18.51 313 P P **21 54 02.2 -0.9**
SENIN IAmb IAmb 21 54 21.3
comp=Z,155nm,0.8s
TANN Tannenbergstha 18.52 330 eP P **21 54 02.1 -0.8**
comp=Z,150nm,1.3s,baz=136,slow=11
UMR Umm Al-Rimmam 18.53 102 eP P **21 54 02.8 -0.4**
GUNZ Gunzen 18.53 330 eP P **21 54 02.9 -0.2**
comp=Z,173nm,1.5s,baz=136,slow=11
FBE Freiberg 18.57 333 eP Pn **21 54 04.0 +0.3**
comp=Z,131nm,0.7s,baz=136,slow=11
WERD Werda 18.61 330 eP P **21 54 03.0 -0.9**
comp=Z,121nm,1.1s,baz=136,slow=11
RDF Al-Radifah 18.65 103 eP P **21 54 03.6 -0.9**
PLN Plauen 18.70 330 eP P **21 54 04.1 -0.8**
comp=Z,123nm,1.0s,baz=136,slow=11
VORR Voronezh 18.82 25 eP Pn **21 54 07.0 +0.2**
VORR pmax pmax
comp=Z,250nm,1.0s
STU Stuttgart 18.85 322 P P **21 54 06.0 -0.6**
STU pmax pmax
comp=Z,115nm,0.8s
STU Stuttgart 18.85 322 P P **21 54 06.0 -0.6**
STU Stuttgart 18.85 322 eP Pn **21 54 07.8 +0.6**
comp=Z,118nm,0.8s,baz=136,slow=11
STU Stuttgart 18.85 322 ⇓P P **21 54 05.4 -1.2**
CLL Collm 19.01 333 eP P **21 54 07.0 -1.2**
comp=Z,42nm,0.9s
CLL eSP **sP** **21 54 15.0 +0.3**
CLL *i* 21 54 18.8
comp=Z,72nm,0.7s
CLL *i* 21 54 28.3
CLL eS Sn **21 57 40.0 -1.4**
CLL *e* 22 02 26.0
CLL Lmax 22 03 00.0
CLL Collm 19.01 333 eP P **21 54 07.0 -1.2**
CLL eS Sn **21 57 40.0 -1.4**
CLL pmax pmax
comp=Z,42nm,0.9s
CLL Collm 19.01 333 P P **21 54 07.3 -1.0**
CLL Collm 19.01 333 eP P **21 54 07.4 -0.8**
comp=Z,72nm,0.7s,baz=136,slow=11
QRN Al-Qurain 19.01 104 eP P **21 54 07.4 -1.1**
BFO Black Forest 19.03 320 P P **21 54 07.7 -0.8**
BFO pmax pmax
comp=Z,78nm,0.9s
BFO Black Forest 19.03 320 P P **21 54 07.7 -0.8**
BFO Black Forest 19.03 320 eP P **21 54 08.0 -0.5**
comp=Z,102nm,1.0s,baz=136,slow=11
BFO Black Forest 19.03 320 P P **21 54 07.9 -0.6**
MOX Moxa 19.04 329 P P **21 54 08.8 +0.1**
MOX Moxa 19.04 329 eP P **21 54 08.9 +0.3**
comp=Z,92nm,1.4s,baz=136,slow=11
MOX eL L 22 03 01.6
comp=Z,9µm,18.2s
SUW Suwalki 19.08 353 eP Pn **21 54 09.4 -0.4**
SUW eS S **21 57 45.7 +1.0**
SUW eL L 22 02 54.9
comp=Z,8µm,17.1s
SUW Suwalki 19.08 353 eP P **21 54 09.2 +0.3**
SUW Suwalki 19.08 353 P P **21 54 08.2 -0.8**
SUW pmax pmax
comp=Z,377nm,0.8s
SUW Suwalki 19.08 353 P P **21 54 08.2 -0.8**
VRH Novokhopyorsk 19.38 29 eP Pn **21 54 13.3 -0.1**
VRH eS Sn **21 57 43.3 -7.0**
VRH pmax pmax
comp=Z,270nm,0.9s
VRH smax smax
comp=E,1µm,13.6s
VRH MLR MLR
comp=Z,3µm,11.0s
NEUB Neuenburg 19.41 331 eP P **21 54 12.3 -0.3**
comp=Z,147nm,1.1s,baz=136,slow=11
MNK Minsk 19.42 2 *i* P P **21 54 10.7 -2.0**
MNK *i* S Sn **21 57 49.2 -2.0**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,59nm,1.0s
MNK pmax pmax
comp=N,45nm,0.9s
MNK MLR MLR
comp=E,270nm,15.0s
MNK MLR MLR
comp=N,2µm,15.0s
MNK MLR MLR
comp=Z,2µm,15.0s
MNK Minsk 19.42 2 *i* P P **21 54 10.7 -2.0**
comp=E,2.0nm,0.9s
MNK *i* P P **21 54 10.7 -2.0**
comp=N,45nm,0.9s
MNK *i* P P **21 54 10.7 -2.0**
comp=Z,59nm,1.0s,baz=183
MNK *i* PP **PnPn** **21 54 24.9 -2.3**
MNK *i* PPP PPP 21 54 32.6
MNK *i* S Sn **21 57 49.3 -2.0**
MNK *i* SS **SnSn** **21 58 05.5 +0.1**
MNK *i* SSS SSS 21 58 18.5
MNK *i* LQ LQ 22 00 00.1
MNK *i* LR LR 22 00 45.8
MNK *i* PcS **PcS** **22 02 13.7 +3.2**
MNK *i* LRM MLR 22 02 35.0
comp=E,270nm,15.2s
MNK *i* LRM MLR 22 02 44.5
comp=N,2µm,14.8s
MNK *i* LRM MLR 22 02 46.3
comp=Z,2µm,15.2s
MILB Miltenberg 19.50 324 eP P **21 54 13.9 +0.2**
comp=Z,132nm,0.8s,baz=136,slow=11
LPSR Galich'ya Gora 19.52 23 eP Pn **21 54 15.0 -0.1**
LPSR eS Sn **21 57 55.7 +2.0**
LPSR pmax pmax
comp=Z,190nm,1.0s
LPSR smax smax
comp=N,920nm,9.5s
LPSR MLR MLR
comp=Z,2µm,11.0s
ECH Echery 19.59 318 P P **21 54 14.2 -0.5**
ECH pmax pmax
comp=Z,125nm,1.2s
ECH Echery 19.59 318 P P **21 54 14.2 -0.5**
ECH Echery 19.59 318 ⇑P P **21 54 14.7 -0.1**
RUE Ruedersdorf 19.69 336 eP P **21 54 15.1 -0.6**
comp=Z,169nm,1.0s,baz=136,slow=11
NACGM Naroch 19.81 0 *i* P P **21 54 15.8 -1.1**
UBBA Unterbreizbach 19.87 327 eP P **21 54 16.8 -0.7**
comp=Z,171nm,1.8s,baz=136,slow=11
RAYN Ar Rayn 19.95 120 *i* P Pn **21 54 20.4 -0.2**
SNR=79
RAYN Ar Rayn 19.95 120 P P **21 54 19.4 +0.5**
RAYN pmax pmax
comp=Z,171nm,1.4s
RAYN Ar Rayn 19.95 120 P P **21 54 19.4 +0.5**
TNS Taunus Mts 20.17 324 eP P **21 54 20.2 -0.8**
comp=Z,112nm,1.0s,baz=136,slow=11
GTTG Gottingen 20.41 329 eP P **21 54 22.7 -0.9**
comp=Z,255nm,1.3s,baz=136,slow=11
CLZ Clausthal 20.46 330 eP P **21 54 22.7 -1.4**
comp=Z,98nm,1.0s,baz=136,slow=11
ISAL Salakas 20.48 359 eP P **21 54 25.0 +0.7**
ISAL IAmb IAmb 21 54 49.1
comp=Z,40nm,0.7s
FLTG Flechtingen 20.49 332 eP P **21 54 21.6 -2.7**
comp=Z,86nm,0.8s,baz=136,slow=11
FLTG Flechtingen 20.49 332 P P **21 54 22.8 -1.6**
PABE Paberze 20.50 355 eP P **21 54 23.8 -0.7**
PABE Paberze 20.50 355 P P **21 54 22.7 -1.8**
EBNR Beni Rached 20.53 281 P P **21 54 25.0 0.0**
ASSE Asse, Remlinge 20.56 331 eP P **21 54 24.0 -1.1**
comp=Z,60nm,1.0s,baz=136,slow=11

ECHA Ech Chlef 20.67 280 P Pn 21 54 28.5 -0.3
ETRT Tiaret 20.80 278 P Pn 21 54 32.0 +1.5
KASTN Kahler Asten 20.85 326 eP P **21 54 27.1 -1.2**
comp=Z,81nm,1.1s,baz=136,slow=11
CFF Clermont-Ferra 20.86 308 P P **21 54 25.0 -3.4**
CFF pmax pmax
comp=Z,321nm,1.3s
EANR 'Ain N'Sour 20.90 280 P P **21 54 30.0 +0.9**
WLF Walferdange 20.97 320 dP P **21 54 29.0 -0.7**
WLF dx x 21 54 36.6
WLF Walferdange 20.97 320 P P **21 54 28.0 -1.7**
WLF pmax pmax
comp=Z,107nm,0.8s
WLF MLR MLR
comp=Z,3µm,22.0s
WLF Walferdange 20.97 320 P P **21 54 28.0 -1.7**
WLF IAmb IAmb 21 54 44.0
comp=Z,107nm,0.8s
WLF Walferdange 20.97 320 eP P **21 54 29.0 -0.7**
comp=Z,209nm,1.3s,baz=136,slow=11
WLF Walferdange 20.97 320 ⇑P P **21 54 28.9 -0.7**
AHRW Bad Neuenahr-A 21.04 323 eP P **21 54 29.6 -0.8**
comp=Z,201nm,1.2s,baz=136,slow=11
NRDL Niedersach Rie 21.06 331 eP P **21 54 29.0 -1.5**
comp=Z,56nm,1.1s,baz=136,slow=11
OBN Obninsk 21.14 16 P P **21 54 30.6 -0.7**
comp=Z,9.8nm,0.5s,baz=215,slow=3.8,SNR=18
OBN LR LR 22 03 59.9
comp=Z,752nm,19.3s,baz=198,slow=40
OBN Obninsk 21.14 16 *c* eP P **21 54 30.6 -0.7**
OBN eS Sn 21 58 29.9 -2.6
OBN pmax pmax
comp=Z,228nm,1.2s
OBN MLR MLR
comp=Z,3µm,16.0s
OBN Obninsk 21.14 16 P P **21 54 30.2 -1.1**
OBN IAmb IAmb 21 54 40.8
comp=Z,243nm,1.2s
OBN IAMs_20 IAMs_20 22 03 46.3
comp=Z,5µm,20.0s
OBN Obninsk 21.14 16 ⇓P P **21 54 32.5 +1.2**
PBUR Paburge 21.19 352 eP P **21 54 32.5 +0.6**
PBUR IAmb IAmb 21 55 05.8
comp=Z,263nm,0.7s
OJGS Djebel Guires 21.23 279 P P **21 54 36.0 +3.3**
CAF Calviac 21.25 305 eP P **21 54 31.5 -1.2**
CAF pmax pmax
comp=Z,27nm,0.9s
BHOU Houvegnez 21.46 322 dP P **21 54 34.8 -0.1**
BHOU dx x 21 54 44.3
BUG Bochum--Univer 21.54 325 eP P **21 54 35.2 -0.5**
comp=Z,147nm,1.0s,baz=136,slow=11
BTNL Ternell 21.54 322 dP P **21 54 35.3 -0.5**
comp=Z,183nm,1.1s
BTNL dx x 21 54 44.4
OJBR Djebel Berber 21.55 279 P P **21 54 38.0 +1.9**
MEM Membach 21.62 322 dP P **21 54 36.2 -0.4**
comp=Z,205nm,0.9s
BSD Bornholm Skovb 21.64 341 eP P **21 54 35.8 -1.0**
BSD IAMs_20 IAMs_20 22 04 12.7
comp=Z,6µm,15.9s
BSD Bornholm Skovb 21.64 341 eP P **21 54 35.7 -1.0**
BSD MLR MLR
comp=Z,6µm,16.0s
RCHB Rochefort 21.75 320 dP P **21 54 37.5 -0.4**
BSTI Sart Tilman 21.83 322 dP P **21 54 38.3 -0.5**
BSTI dx x 21 54 45.9
BCLA Clavier 21.86 321 dP P **21 54 37.9 -1.3**
comp=Z,98nm,0.7s
BCLA dx x 21 54 42.0
BCLA dx x 21 54 47.8
BCLA dPnPn **PnPn** **21 55 00.9 +0.3**
BEBN Eben Emael 21.90 322 dP P **21 54 39.8 +0.2**
BEBN dx x 21 54 48.8
IBBN Ibbenburen 21.91 328 eP P **21 54 39.3 -0.4**
comp=Z,93nm,0.9s,baz=136,slow=11
IBBN Ibbenburen 21.91 328 ⇑p P **21 54 46.5 +6.8**
MOS Moscow 21.95 17 eP P **21 54 39.1 -1.0**
MOS *e* 21 55 01.8
MOS eS S **21 58 41.8 +0.1**
MOS pmax pmax
comp=Z,136nm,1.2s
MOS MLR MLR
comp=Z,3µm,16.0s
MOS MLR MLR
comp=N,2µm,17.0s
BGES Gesves 21.95 321 dP P **21 54 40.4 +0.2**
BGES dpP **pP** **21 54 42.6 -2.0**
BGES dx x 21 54 49.6
DDJA Bouhanifia 21.98 278 P P **21 54 45.0 +4.3**
DOU Dourbes 22.05 320 dP P **21 54 39.3 -1.9**
DOU dx x 21 54 41.1
DOU dsP **sP** **21 54 47.2 0.0**
DOU dx x 21 54 55.1
DOU dPnPn **PnPn** **21 55 02.1 -1.0**
BMRD Maredsous 22.07 320 dP P **21 54 40.0 -1.5**
comp=Z,67nm,1.0s
BMRD dx x 21 54 49.3
BMRD dPnPn **PnPn** **21 55 02.1 -1.4**
BSEG Bad Segeberg 22.09 334 eP P **21 54 40.5 -1.1**
comp=Z,99nm,1.1s,baz=136,slow=11
LFF La Frestale 22.15 304 eP P **21 54 41.3 -1.0**
LFF pmax pmax
comp=Z,202nm,1.6s
USTO Oran 22.26 280 P P 21 54 53.0 +9.4
CLF Chambon-Foret 22.32 313 P P **21 54 43.2 -0.9**
CLF IAMs_20 IAMs_20 22 04 52.7
comp=Z,6µm,20.0s
CLF Chambon-Foret 22.32 313 ⇓P P **21 54 43.5 -0.6**
SNF Seneffe 22.45 320 dP P **21 54 44.6 -0.9**
SNF dx x 21 54 52.9
SNF dPnPn **PnPn** **21 55 07.4 -1.1**
CART Cartagena 22.48 284 P P **21 54 46.7 +0.8**
CART S S **21 58 48.0 -4.1**
CART Cartagena 22.48 284 P P **21 54 44.2 -1.8**
CART IAmb IAmb 21 54 53.8
comp=Z,74nm,0.8s
CART Cartagena 22.48 284 ⇑P P **21 54 46.9 +0.9**
BLEU Blekinge 22.49 344 eP P **21 54 42.4 -3.5**
LUNU Lund 22.49 340 *i* P P **21 54 43.4 -2.5**
UCC Uccle 22.57 321 dP P **21 54 46.4 -0.3**
UCC dx x 21 54 55.6
UCC dPnPn **PnPn** **21 55 13.4 +3.1**
UCC Uccle 22.57 321 P P **21 54 45.6 -1.2**
UCC pmax pmax
comp=Z,257nm,1.1s
UCC Uccle 22.57 321 P P **21 54 45.6 -1.2**
SLIT Slitere, Latvi 22.74 354 eP P **21 54 48.4 -0.1**
SLIT Slitere, Latvi 22.74 354 ⇑P P **21 54 47.5 -1.0**
SHMA Al-Shehemyia 22.74 107 P P **21 54 49.5 +0.7**
BELG Belogornoye 22.79 34 P P **21 54 49.0 -0.1**
comp=Z,184nm,1.0s,baz=212,slow=1.6,SNR=38
COP Copenhagen 22.83 339 eP P **21 54 49.9 +0.5**
COP IAMs_20 IAMs_20 22 06 40.8
comp=Z,3µm,12.6s
COP Copenhagen 22.83 339 eP P **21 54 49.9 +0.5**
COP MLR MLR
comp=Z,3µm,13.0s
DEL Delary 23.12 342 *i* P P **21 54 49.2 -3.2**
MFF Saint Martin d 23.27 308 eP P **21 54 52.5 -1.6**
MFF pmax pmax
comp=Z,66nm,0.6s
VSU Vasula 23.37 360 eP P **21 54 55.6 +0.7**
VSU Vasula 23.37 360 *i* P P **21 54 53.6 -1.4**
VSU pmax pmax
comp=Z,182nm,1.4s
VSU MLR MLR
comp=Z,6µm,16.0s
TRNA Turayna 23.51 109 P P **21 54 58.7 +2.1**
FABU Falkenberg 23.89 341 *i* P P **21 54 58.7 -1.2**
SLWR Sila 24.23 110 P P **21 55 03.5 0.0**
MELI Melilla 24.24 279 P P **21 55 07.8 +4.2**
UCM Universidad Co 24.25 291 P P **21 55 00.8 -2.9**
UCM S S **21 59 17.6 -4.0**
BORU Boraas 24.43 342 *i* P P **21 55 04.2 -0.7**
ONAU Onsala 24.45 340 *i* P P **21 55 03.8 -1.4**
MUD Monsted U'grnd 24.50 336 *i* P P **21 55 04.2 -1.3**
MUD *i* P P **21 55 05.1 -0.5**
MUD IAMs_20 IAMs_20 22 07 32.3
comp=Z,6µm,12.7s
MUD Monsted U'grnd 24.50 336 *i* P P **21 55 05.1 -0.5**
MUD MLR MLR
comp=Z,6µm,13.0s
MUD Monsted U'grnd 24.50 336 ⇓P P **21 55 05.1 -0.5**

JRN Qarnain Island 24.68 107 P **P** **21 55 10.9 +3.4**
SNR=15
JRN P **P** **21 55 10.9 +3.4**
SNR=15
ESBB Sonseca Array 24.78 290 P **P** **21 55 07.5 -1.0**
ESBB IAmb IAmb 21 55 17.1
comp=Z,80nm,0.8s
ESDC Sonseca Array 24.78 290 P **P** **21 55 07.4 -1.1**
comp=Z,8.2nm,0.4s,baz=82,slow=9.7,SNR=144
ESDC Sonseca Array 24.78 290 P **P** **21 55 07.6 -0.9**
ESDC IAmb IAmb 21 55 17.0
comp=Z,80nm,0.9s
PUL Pulkovo 24.80 4*ce*eP **P** **21 55 06.7 -1.6**
PUL pmax pmax
comp=Z,147nm,0.9s
GOET G??ttrup 24.95 337 *e*P **P** **21 55 11.3 +1.7**
GOET IAMs_20 IAMs_20 22 08 11.9
comp=Z,6µm,13.2s
TJOU Tjoern 25.08 341 *e*P **P** **21 55 10.0 -0.8**
PAB San Pablo 25.08 289 P **P** **21 55 10.6 -0.6**
PAB pmax pmax
comp=Z,105nm,1.2s
PAB San Pablo 25.08 289 P **P** **21 55 10.6 -0.6**
PAB IAmb IAmb 21 55 20.7
comp=Z,104nm,1.1s
PAB San Pablo 25.08 289 ⇓P **P** **21 55 10.9 -0.3**
MEF Metsahovi 25.18 357 *e*P **P** **21 55 11.0 -0.8**
GHWR Ruwais 25.20 109 P **P** **21 55 13.1 +0.8**
GHWR P **P** **21 55 13.1 +0.8**
EMAL Malaga-Limoner 25.27 283 P **P** **21 55 11.4 -1.4**
EMAL S **S** **21 59 34.1 -3.8**
GEYT Alibeck 25.29 74 P **P** **21 55 14.2 +1.1**
comp=Z,9.3nm,0.5s,baz=280,slow=8.6,SNR=24
GYA0 ALIBECK ARRAY 25.29 74 P **P** **21 55 15.5 +2.5**
GYA0B ALIBECK ARRAY 25.29 74 P **P** **21 55 14.2 +1.2**
PVLZ Peæn de 25.37 279 P **P** **21 55 18.9 +5.2**
PVLZ S **S** **21 59 38.8 -0.7**
AAL Aland 25.48 352 *e*P **P** **21 55 13.4 -1.0**
JSA Saint Aubin 25.48 312 *e*P **P** **21 55 12.8 -1.8**
JSA IAmb IAmb 21 55 20.4
comp=Z,61nm,0.9s
JSA Saint Aubin 25.48 312 ⇑P **P** **21 55 13.6 -1.0**
ASHT Ashkhabad 25.50 74 P **P** **21 55 16.3 +1.4**
ASHT pmax pmax
comp=Z,316nm,1.2s
ASHT Ashkhabad 25.50 74 P **P** **21 55 16.3 +1.4**
JVM Valle D.L. Mar 25.51 312 *e*P **P** **21 55 13.8 -1.1**
WOL Wolverton 25.84 317 *e*P **P** **21 55 15.6 -2.3**
LIJA Lijar 26.04 283 P **P** **21 55 17.0 -2.9**
MDT Midelt 26.08 274 P **P** **21 55 20.0 -0.3**
comp=Z,19nm,0.7s,baz=82,slow=12,SNR=25
MDT LR LR 22 08 38.8
comp=Z,3µm,18.3s,baz=74,slow=44
CEU Ceuta 26.13 281 P **P** **21 55 22.2 +1.6**
CEU S S 22 00 09.5 +18
RAF Rauma 26.14 354 *e*P **P** **21 55 18.4 -2.0**
IFR Ifrane 26.35 276 P **P** **21 55 26.8 +3.9**
IFR S S 22 00 07.9 +13
FINES FINESS Array B 26.37 359 P **P** **21 55 21.0 -1.5**
comp=Z,8.2nm,0.4s,baz=160,slow=10,SNR=61
FINES PcP **PcP** **21 58 50.8 +3.0**
comp=Z,10nm,0.9s,baz=153,slow=4.4,SNR=2.1
FINES FINESS Array B 26.37 359 P **P** **21 55 20.8 -1.7**
FINES FINESS Array B 26.37 359 P **P** **21 55 20.8 -1.7**
FIA1 FINESS Array S 26.37 359 P **P** **21 55 21.0 -1.6**
HFS Hagfors 26.45 345 P **P** **21 55 21.2 -2.1**
comp=Z,8.8nm,0.5s,baz=139,slow=9.8,SNR=56
HFS LR LR 22 07 32.7
comp=Z,4µm,19.2s,baz=158,slow=40
AJN Ajban 26.55 106 *i*P **P** **21 55 27.5 +3.1**
SNR=6.0
AJN Ajban 26.55 106 P **P** **21 55 28.2 +3.7**
SNR=9.3
AJN P **P** **21 55 28.2 +3.7**
SNR=9.3
STRD Stroud 26.58 318 *e*P **P** **21 55 23.1 -1.4**
STRD IAMs_20 IAMs_20 22 09 03.0
comp=Z,4µm,13.7s
SNART Snartemo 26.64 337 *i*P **P** **21 55 23.8 -1.2**
SFS San Fernando 26.72 283 P **P** **21 55 23.0 -3.0**
SFS S S 22 00 14.6 +14
SHME Shamm 26.76 102 P **P** **21 55 27.9 +1.4**
SHME P **P** **21 55 27.9 +1.4**
SHME P **P** **21 55 27.9 +1.4**
ASUD Al Ashush, Dub 26.79 105 P **P** **21 55 28.6 +2.0**
ASUD Al Ashush, Dub 26.79 105 P **P** **21 55 28.6 +2.0**
SNR=5.9
NAZ Nazwa, Dubai 26.87 104 *i*P **P** **21 55 28.3 +0.8**
SNR=31
NAZ Nazwa, Dubai 26.87 104 P **P** **21 55 30.0 +2.5**
SNR=18
NAZ P **P** **21 55 30.0 +2.5**
SNR=18
FAQ Al Faqa, Dubai 26.94 105 *i*P **P** **21 55 29.1 +1.0**
SNR=13
FAQ Al Faqa, Dubai 26.94 105 P **P** **21 55 29.0 +1.0**
FAQ P **P** **21 55 29.0 +1.0**
BANOM Banah 26.95 102 P **P** **21 55 29.0 +0.8**
BANOM Banah 26.95 102 P **P** **21 55 28.7 +0.6**
BANOM P **P** **21 55 28.7 +0.6**
BANOM P **P** **21 55 28.7 +0.6**
PBRG Braganca 26.97 294 *e*P **P** **21 55 27.5 -0.8**
comp=Z,148nm,1.3s
PBRG *e*S **S** **22 00 12.7 +7.8**
KONO Kongsberg 27.01 341 P **P** **21 55 26.7 -1.6**
KONO pmax pmax
comp=Z,33nm,1.1s
KONO MLR MLR
comp=Z,3µm,19.0s
KONO Kongsberg 27.01 341 *e*P **P** **21 55 26.8 -1.6**
KONO Kongsberg 27.01 341 P **P** **21 55 26.7 -1.6**
KONO Kongsberg 27.01 341 IAMs_20 IAMs_20 22 07 46.9
comp=Z,3µm,19.0s
KONO Kongsberg 27.01 341 ⇑P **P** **21 55 27.4 -0.9**
KLMR Klimovskoe 27.05 14*c i*P **P** **21 55 27.4 -1.1**
KLMR S **S** **22 00 08.2 +2.8**
KLMR pmax pmax
comp=Z,94nm,1.4s
KLMR MLR MLR
comp=Z,4µm,16.0s
KLMR Klimovskoe 27.05 14⇑*i*P **P** **21 55 27.5 -1.1**
KLMR ⇑*i*P **P** **21 55 27.5 -1.1**
KLMR *e*P **P** **21 55 27.5 -1.1**
KLMR AMP 21 55 29.1
comp=Z,94nm,1.4s
KLMR S **S** **22 00 08.3 +2.8**
KLMR S **S** **22 00 08.3 +2.8**
KLMR LQ LQ 22 04 03.6
KLMR LQ LQ 22 04 03.6
KLMR LR LR 22 06 09.5
KLMR AMP 22 07 27.0
comp=Z,4µm,16.4s
MASF Masafi 27.09 103 P **P** **21 55 30.1 +0.7**
MASF P **P** **21 55 30.1 +0.7**
MCH1 Michaelchurch 27.14 318 *e*P **P** **21 55 28.4 -1.2**
MCH1 IAMs_20 IAMs_20 22 09 21.1
comp=Z,4µm,15.8s
MCH1 Michaelchurch 27.14 318 ⇓P **P** **21 55 28.3 -1.2**
MVO Moncorvo 27.16 293 *e*P **P** **21 55 29.7 -0.3**
comp=Z,234nm,0.8s
MVO *e*S **S** **22 00 06.7 -1.2**
MVO *e*LR LR 22 06 02.7
comp=Z,2µm,20.0s
PBAR Barrancos 27.22 286 *e*P **P** **21 55 29.9 -0.6**
comp=Z,213nm,1.4s
PBAR *e*S **S** **22 00 11.8 +3.0**
GDLE Glaisdale, N Y 27.23 324 *e*P **P** **21 55 29.3 -1.1**
MDH Madha 27.23 103 P **P** **21 55 31.1 +0.4**
MDH P **P** **21 55 31.1 +0.4**
HLM1 Long Mynd 27.31 319 *e*P **P** **21 55 29.5 -1.6**
HLM1 IAmb IAmb 21 55 31.0
comp=Z,26nm,0.8s
HLM1 IAMs_20 IAMs_20 22 09 36.1
comp=Z,5µm,17.0s
HATD Hatta, Dubai 27.32 104 *i*P **P** **21 55 32.7 +1.2**
SNR=13
HATD Hatta, Dubai 27.32 104 P **P** **21 55 33.0 +1.4**
HATD P **P** **21 55 33.0 +1.4**
UOSS Minazif 27.33 104 P **P** **21 55 32.2 +0.7**
UOSS Minazif 27.33 104 P **P** **21 55 31.4 -0.2**
UOSS IAmb IAmb 21 56 00.2
comp=Z,57nm,0.8s
UOSS Minazif 27.33 104 P **P** **21 55 32.2 +0.7**
UOSS P **P** **21 55 32.2 +0.7**
UOSS Minazif 27.33 104 ⇓P **P** **21 55 32.2 +0.7**
AKTO Aktyubinsk 27.33 46 P **P** **21 55 31.7 +0.4**
comp=Z,38nm,0.7s,baz=250,slow=9.3,SNR=89
AKTO LR LR 22 09 07.1
comp=Z,997nm,19.4s,baz=239,slow=42
ASHO Ashiyiah 27.34 104 *i*P **P** **21 55 32.7 +1.0**
SNR=13
ASHO Ashiyiah 27.34 104 P **P** **21 55 33.0 +1.3**
ASHO P **P** **21 55 33.0 +1.3**
HPK Haverah Park 27.38 322 *e*P **P** **21 55 30.5 -1.2**
HPK IAMs_20 IAMs_20 22 06 59.1
comp=Z,5µm,17.6s
ALNE Al Ain 27.40 106 P **P** **21 55 32.9 +0.6**
ALNE Al Ain 27.40 106 P **P** **21 55 36.2 +3.9**
SNR=5.8
PMRV Marv??o 27.44 289 *e*P **P** **21 55 31.7 -0.7**
comp=Z,174nm,1.0s
PMRV *e*S **S** **22 00 14.6 +2.4**
PMRV *e*LR LR 22 06 22.9
comp=Z,1µm,18.0s
PCBR Castelo Branco 27.49 290 *e*P **P** **21 55 32.2 -0.7**
comp=Z,102nm,1.0s
MTE Manteigas 27.54 291 *e*P **P** **21 55 34.1 +0.7**
comp=Z,95nm,1.7s
MTE *e*pP **pwP** **21 55 42.3 +2.0**
MTE *e*S **S** **22 00 15.6 +1.7**
MTE *e*LR LR 22 05 28.9
MTE Manteigas 27.54 291 P **P** **21 55 32.5 -0.9**
MTE IAmb IAmb 21 55 43.0
comp=Z,72nm,1.1s
PESTR Estremoz 27.61 288 *e*P **P** **21 55 33.2 -0.8**
comp=Z,171nm,1.1s
PESTR *e*S **S** **22 00 12.8 -2.2**
PESTR Estremoz 27.61 288 P **P** **21 55 33.0 -1.0**
PESTR IAmb IAmb 21 55 44.2
comp=Z,62nm,0.9s
PESTR Estremoz 27.61 288 ⇓P **P** **21 55 33.1 -1.0**
ATD Arta Tunnel 27.63 144 P **P** **21 55 37.6 +3.3**
comp=Z,12nm,0.9s,baz=308,slow=5.7,SNR=8.7
ATD LR LR 22 07 13.5
comp=Z,1µm,18.5s,baz=335,slow=38
ATD Arta Tunnel 27.63 144 P **P** **21 55 34.3 -0.1**
ATD Arta Tunnel 27.63 144 P **P** **21 55 38.1 +3.7**
SNR=5.3
UMZA Um Al Zommool 27.64 109 P **P** **21 55 36.3 +2.0**
UMZA P **P** **21 55 36.3 +2.0**
FOEL Foel Wylfa 27.66 319 *e*P **P** **21 55 33.0 -1.3**
FOEL IAMs_20 IAMs_20 22 09 46.2
comp=Z,4µm,17.5s
PVRL Vila Real 27.68 293 *e*P **P** **21 55 36.5 +1.9**
comp=Z,95nm,1.7s
NAO01 NORSAR Array S 27.72 343 P **P** **21 55 33.1 -1.6**
NAO01 IAmb IAmb 21 55 56.7
comp=Z,102nm,1.0s
POLO Lamas de Olo 27.74 293 *e*P **P** **21 55 35.0 -0.2**
comp=Z,50nm,1.2s
POLO *e*S S 22 00 55.8 +39
BLS5 Blasjo 27.74 338 *e*P **P** **21 55 32.1 -2.9**
PVIS Viseu 27.81 292 *e*P **P** **21 55 35.4 -0.4**
comp=Z,106nm,1.4s
NB2 NORSAR Subarra 27.81 344 P **P** **21 55 32.3 -3.3**
baz=156,slow=9.3
NOA NORSAR Array B 27.81 344 P **P** **21 55 32.9 -2.7**
comp=Z,3.2nm,0.5s,baz=146,slow=9.2,SNR=24
NOA LR LR 22 07 16.6
comp=Z,2µm,19.2s,baz=155,slow=38
PVAQ Vaqueiros 27.82 285 *e*P **P** **21 55 35.1 -0.8**
comp=Z,163nm,1.0s
PVAQ *e*S **S** **22 00 09.6 -8.7**
PVAQ A A 22 10 59.1
comp=Z,844nm,18.0s
PVAQ Vaqueiros 27.82 285 P **P** **21 55 34.4 -1.5**
KIRV Kirov 27.87 26 P **P** **21 55 35.0 -1.0**
comp=Z,20nm,0.4s,baz=222,slow=2.8,SNR=15
KIRV Kirov 27.87 26*ce*eP **P** **21 55 34.5 -1.5**
PBEJ Beja 27.89 286 *e*P **P** **21 55 36.1 -0.3**
comp=Z,95nm,0.9s
PCAB Cabril 27.93 294 *e*P **P** **21 55 36.5 -0.3**
comp=Z,88nm,1.1s
EVO Evora 27.96 287 P **P** **21 55 36.5 -0.6**
EVO S S 22 00 35.6 +15
EVO Evora 27.96 287 *e*P **P** **21 55 37.4 +0.3**
comp=Z,98nm,1.0s
SOHO SOHO 27.98 105 *i*P **P** **21 55 38.2 +0.8**
SNR=24
SOHO SOHO 27.98 105 P **P** **21 55 38.5 +1.1**
SOHO P **P** **21 55 38.5 +1.1**
PBDV Barranco-do-Ve 28.01 285 *e*P **P** **21 55 36.9 -0.7**
comp=Z,216nm,1.6s
PBDV *e*S **S** **22 00 12.8 -8.5**
EDMD Edmundbyers 28.02 324 *e*P **P** **21 55 35.9 -1.5**
EDMD IAMs_20 IAMs_20 22 07 28.7
comp=Z,4µm,20.3s
PCVE Castro Verde 28.06 285 *e*P **P** **21 55 38.4 +0.4**
comp=Z,118nm,1.4s
PCVE *e*S S 22 00 40.5 +19
PMTG Montargil 28.10 289 *e*P **P** **21 55 39.0 +0.7**
comp=Z,57nm,2.0s
PMTG *e*S **S** **22 00 26.5 +4.0**
AB31 Akbulak array 28.10 50 *e*P **P** **21 55 38.6 +0.4**
AB31 pmax pmax
comp=Z,23nm,0.6s
ABKAR Akbulak array 28.10 50 P **P** **21 55 38.3 +0.1**
ABKAR Akbulak array 28.10 50 P **P** **21 55 38.3 +0.1**
ABKAR IAmb IAmb 21 56 07.5
comp=Z,45nm,0.9s
ABKAR Akbulak array 28.10 50 ⇑P **P** **21 55 38.9 +0.7**
PGAV Gaviera, Arco 28.12 295 *e*P **P** **21 55 39.7 +1.1**
comp=Z,65nm,1.8s
PGAV *e*S **S** **22 00 25.1 +2.0**
PGAV *e*LR LR 22 05 16.3
comp=Z,2µm,18.0s
MESJ Messejana 28.18 286 *e*P **P** **21 55 38.6 -0.5**
MESJ IAmb IAmb 21 55 47.4
comp=Z,222nm,1.6s
MESJ Messejana 28.18 286 *e*P **P** **21 55 38.6 -0.5**
COI Coimbra 28.20 291 P **P** **21 55 38.8 -0.4**
COI pmax pmax
comp=Z,88nm,0.8s
COI Coimbra 28.20 291 *e*P **P** **21 55 41.8 +2.6**
comp=Z,97nm,1.1s
COI Coimbra 28.20 291 P **P** **21 55 38.8 -0.4**
COI IAmb IAmb 21 55 51.0
comp=Z,88nm,0.8s
AVE Averroes 28.26 276 P P 21 55 48.0 +8.2
AVE S S 21 59 54.8 -30
AVE S S 22 00 47.6 +22
FURI Furi 28.26 155 P **P** **21 55 40.0 -0.2**
FURI IAmb IAmb 21 55 55.6
comp=Z,62nm,1.1s
FURI Furi 28.26 155 IAMs_20 IAMs_20 22 08 43.0
comp=Z,4µm,19.0s
PCAS Casmilo, Conde 28.27 291 *e*P **P** **21 55 40.8 +0.9**
comp=Z,65nm,1.1s
PCAS *e*S S 22 00 44.3 +19
ARQ Araqi 28.38 106 P **P** **21 55 42.0 +1.1**
ARQ P **P** **21 55 42.0 +1.1**
PNCL Nicolau / Gran 28.40 287 *e*P **P** **21 55 42.6 +1.6**
comp=Z,153nm,1.5s
PNCL *e*S **S** **22 00 28.0 +0.7**
WME Myndd Eilian 28.48 320 *e*P **P** **21 55 40.9 -0.7**
PSBE So Bento 28.52 290 *e*P P 21 55 49.2 +7.1
comp=Z,67nm,1.4s
PSBE *e*S **S** **22 00 33.8 +4.6**
PTEO Sao Teotonio 28.61 285 *e*P **P** **21 55 42.4 -0.4**
comp=Z,155nm,1.5s
PFVI Vila Bisbo 28.73 285 *e*P **P** **21 55 42.4 -1.6**
comp=Z,106nm,1.7s
PFVI *e*S **S** **22 00 37.4 +4.8**
PFVI Vila Bisbo 28.73 285 P **P** **21 55 43.0 -1.0**
PFVI IAmb IAmb 21 55 52.1
comp=Z,43nm,0.8s
LIS Lisbon 28.84 288 *e*P **P** **21 55 44.5 -0.4**
LIS IAmb IAmb 21 55 55.6
comp=Z,107nm,0.8s
LIS *e*S **S** **22 00 33.7 -0.5**
LIS Lisbon 28.84 288 *e*P **P** **21 55 44.5 -0.4**
LIS *e*S **S** **22 00 33.7 -0.5**
PMST Lisbon--Monsan 28.86 288 *e*P **P** **21 55 45.1 0.0**
EKA Eskdalemuir Ar 28.86 324 P **P** **21 55 43.3 -1.6**
comp=Z,4.3nm,0.3s,baz=132,slow=11,SNR=56
EKA PcP **PcP** **21 58 54.2 +0.2**
comp=Z,2.6nm,0.7s,baz=119,slow=4.2,SNR=2.2
EKA ScP **ScP** **22 02 33.9 -0.8**
comp=Z,0.7nm,0.7s,baz=122,slow=6.0,SNR=1.9
HOQ Hoqain 28.87 105 P **P** **21 55 46.1 +0.7**
HOQ P **P** **21 55 46.1 +0.7**
ESK Eskdalemuir 28.88 324 *e*P **P** **21 55 43.4 -1.7**
ESK IAmb IAmb 21 55 44.9
comp=Z,38nm,1.1s
ESK IAMs_20 IAMs_20 22 07 55.9
comp=Z,4µm,17.7s
ESK Eskdalemuir 28.88 324 P **P** **21 55 43.7 -1.4**
ESK pmax pmax
comp=Z,133nm,1.3s
ESK MLR MLR
comp=Z,4µm,20.0s
ESK Eskdalemuir 28.88 324 P **P** **21 55 43.7 -1.4**
ESK IAmb IAmb 21 56 02.4
comp=Z,133nm,1.2s
ESK Eskdalemuir 28.88 324 IAMs_20 IAMs_20 22 07 59.2
comp=Z,4µm,20.0s
ESK Eskdalemuir 28.88 324 ⇓P **P** **21 55 43.7 -1.4**
PMAFR Mafra 28.93 288 *e*P P 21 55 54.0 +8.3
PMAFR *e*S **S** **22 00 42.3 +6.7**
ASK Askoy 28.97 338 *e*P **P** **21 55 44.6 -1.2**
IOMK Kirk Michael 29.03 321 *e*P **P** **21 55 44.7 -1.7**
IOMK IAmb IAmb 21 55 46.5
comp=Z,64nm,0.9s
IOMK IAMs_20 IAMs_20 22 08 07.4
comp=Z,6µm,17.9s
WIM Isle of Man 29.03 321 *e*P **P** **21 55 45.0 -1.5**
HRA Herat 29.06 81 P **P** **21 55 47.7 +0.5**
PRGR Permogore 29.14 18 *e*P **P** **21 55 45.1 -2.1**
DOK Doka 29.27 117 P **P** **21 55 49.5 +0.6**
NEWG New Galloway 29.28 323 *e*P **P** **21 55 47.0 -1.5**
NEWG IAMs_20 IAMs_20 22 08 05.8
comp=Z,5µm,21.1s
GAL1 Galloway 29.39 322 *e*P **P** **21 55 48.0 -1.6**
GAL1 IAmb IAmb 21 55 50.1
comp=Z,29nm,0.8s
GAL1 IAMs_20 IAMs_20 22 10 48.3
comp=Z,3µm,15.5s
WHFO Wadi Hawf 29.46 119 P **P** **21 55 51.2 +0.5**
ABTO Aybut 29.49 120 P **P** **21 55 52.4 +1.4**
ABTO P **P** **21 55 52.4 +1.4**
DSB Dublin 29.54 318 P **P** **21 55 49.8 -1.1**
DSB Dublin 29.54 318 ⇓P **P** **21 55 50.9 0.0**
BIDO Bidbid 29.55 104 P **P** **21 55 52.5 +1.2**
BIDO P **P** **21 55 52.5 +1.2**
SMDO Samad 29.72 105 P **P** **21 55 53.9 +0.9**
SMDO P **P** **21 55 53.9 +0.9**
AKN Aaknes 29.83 341 *e*P **P** **21 55 51.6 -1.8**
INVG Invergeldie, C 29.87 325 *e*P **P** **21 55 51.9 -2.0**
EAB Aberfoyle 29.88 325 *e*P **P** **21 55 52.1 -1.8**
RBK Rabkut 30.04 119 P **P** **21 55 56.5 +0.7**
RBK P **P** **21 55 56.5 +0.7**
WSAR Wadi Sarin 30.09 104 LR LR 22 12 23.4
comp=Z,4µm,21.7s,baz=326,slow=45
JMDO Jabal Madar 30.12 106 P **P** **21 55 56.9 +0.5**
JMDO P **P** **21 55 56.9 +0.5**
CLGH Cloghs, Cushen 30.21 322 *e*P **P** **21 55 55.1 -1.8**
ARU Arti 30.33 35 P **P** **21 55 58.0 +0.1**
comp=Z,3.1nm,0.3s,baz=223,slow=9.2,SNR=22
ARU LR LR 22 10 55.9
comp=Z,1µm,19.6s,baz=232,slow=42
ARU Arti 30.33 35*d i*P **P** **21 55 57.3 -0.6**
ARU PPP PPP 21 57 02.9
ARU S **S** **22 00 59.3 +2.1**
ARU SS **SnSn** **22 02 31.3 -0.7**
ARU SSS SSS 22 02 57.0
ARU pmax pmax
comp=Z,70nm,1.7s
ARU MLR MLR
comp=Z,1µm,15.0s
ARU Arti 30.33 35 P **P** **21 55 57.7 -0.2**
ARU Arti 30.33 35 ⇑P **P** **21 55 57.9 0.0**
DMTO DMTO 30.44 117 P **P** **21 55 59.4 +0.1**
WBK Wadi Bani Khal 30.68 105 P **P** **21 56 03.3 +1.9**
MHTO MHTO 30.76 109 P **P** **21 56 03.6 +1.5**
MHTO P **P** **21 56 03.6 +1.5**
DQM DQM 31.03 111 P **P** **21 56 05.9 +1.4**
DQM P **P** **21 56 05.9 +1.4**
JLN Jalan Bani Buh 31.27 106 P **P** **21 56 07.8 +1.3**
JLN P **P** **21 56 07.8 +1.3**
TOA0 Torodi Ar. Sit 31.48 232 P **P** **21 56 07.6 -0.9**
TOA0 Torodi Ar. Sit 31.48 232 P **P** **21 56 09.1 +0.7**
SNR=13
TOA0 P **P** **21 56 09.1 +0.7**
SNR=13
TORD Torodi Ar. Bea 31.48 232 P **P** **21 56 07.6 -0.9**
comp=Z,9.8nm,0.4s,baz=32,slow=8.8,SNR=55
TORD LR LR 22 12 01.0
comp=Z,4µm,19.3s,baz=25,slow=42
TORD Torodi Ar. Bea 31.48 232 P **P** **21 56 07.6 -0.9**
SVE Sverdlovsk 31.52 36*ce*eP **P** **21 56 08.7 +0.3**
SVE *e*S **S** **22 01 13.9 -2.0**
SVE pmax pmax
comp=Z,49nm,0.7s
SVE MLR MLR
comp=Z,2µm,15.0s
MOR8 Moi Rana 31.95 351 *e*P **P** **21 56 10.7 -1.5**
KONS Konsvik 32.45 350 *e*P **P** **21 56 15.0 -1.4**
LODK Lodwar 32.51 164 P **P** **21 56 17.5 0.0**
LODK Lodwar 32.51 164 P **P** **21 56 19.4 +1.8**
SNR=7.9
APA Apatity 32.74 5⇓*i*P **P** **21 56 17.4 -1.6**
APA *i*S **S** **22 01 27.0 -7.6**
APA *i*SS **SnSn** **22 03 36.0 +5.7**
APA pmax pmax
comp=Z,30nm,1.0s
APA MLR MLR
comp=Z,4µm,12.0s
FAUS Fauske 33.00 352 *e*P **P** **21 56 19.8 -1.5**
LVZ Lovozero 33.16 5 *i*P **P** **21 56 20.8 -1.9**
LVZ pmax pmax
comp=Z,32nm,1.0s
LVZ Lovozero 33.16 5 P **P** **21 56 21.6 -1.0**
LVZ IAmb IAmb 21 56 32.4
comp=Z,104nm,1.4s
LVZ Lovozero 33.16 5 ⇑P **P** **21 56 22.1 -0.6**
N2IH Innhavet 33.49 353 *e*P **P** **21 56 23.9 -1.6**
STEI Steigen 33.53 352 *e*P **P** **21 56 24.1 -1.7**
SOCY Socotra 33.58 126 P **P** **21 56 23.9 -3.1**
SOCY Socotra 33.58 126 P **P** **21 56 26.4 -0.6**
CHGR Chuyangaron 33.87 71 P **P** **21 56 29.7 +0.4**
CHM Chimkent 33.90 65 *e*S **S** **22 01 52.5 -0.9**
baz=65
KTK1 Kautokeino 34.02 358 *e*P **P** **21 56 28.3 -1.9**
KOWA Kowa 34.45 241 P **P** **21 56 33.6 -0.8**
comp=Z,4.8nm,0.6s,baz=57,slow=11,SNR=16
KOWA Kowa 34.45 241 P **P** **21 56 34.4 0.0**
KOWA IAmb IAmb 21 56 42.7
comp=Z,36nm,0.8s
ARA0 ARCESS Array S 34.50 359 *e*P **P** **21 56 32.5 -1.8**
ARCES ARCESS Array B 34.50 359 P **P** **21 56 32.4 -1.9**
comp=Z,6.7nm,0.4s,baz=179,slow=9.3,SNR=89
ARCES LR LR 22 11 42.5
comp=Z,3µm,18.6s,baz=200,slow=38
ARCES ARCESS Array B 34.50 359 P **P** **21 56 32.1 -2.2**
ARCES pmax pmax
comp=Z,40nm,0.9s
ARCES ARCESS Array B 34.50 359 P **P** **21 56 32.1 -2.2**
ARCES IAmb IAmb 21 56 55.5
comp=Z,40nm,0.9s
KBL Kabul 34.51 78 P **P** **21 56 35.7 +0.6**
KBL pmax pmax
comp=Z,15nm,0.9s
KBL Kabul 34.51 78 P **P** **21 56 35.7 +0.6**
KK31 Karatay Array 34.55 63 P **P** **21 56 36.2 +1.1**
KK31 pmax pmax
comp=Z,67nm,1.0s
KK31 Karatay Array 34.55 63 P **P** **21 56 36.2 +1.1**
KK31 IAmb IAmb 21 56 59.0
comp=Z,67nm,0.9s
KKAR Karatay Array 34.55 63 P **P** **21 56 35.8 +0.7**
KKAR Karatay Array 34.55 63 P **P** **21 56 35.8 +0.7**
KKAR Karatay Array 34.55 63 ⇓P **P** **21 56 36.0 +0.9**
JETT Jettan, Norway 34.69 356 *e*P **P** **21 56 34.0 -1.9**
KEV Kevo 34.71 0 P **P** **21 56 35.0 -1.1**
KEV pmax pmax
comp=Z,45nm,1.1s
KEV MLR MLR
comp=Z,3µm,18.0s
KEV Kevo 34.71 0 P **P** **21 56 35.0 -1.1**
KEV IAmb IAmb 21 56 50.4
comp=Z,45nm,1.1s
KEV IAMs_20 IAMs_20 22 11 20.4
comp=Z,3µm,18.0s

KEV **Kevo** 34.71 0 ⇑P P 21 56 35.3 -0.8
GAR **Garm** 34.72 70 P P 21 56 38.4 +1.7
GAR IAmb IAmb 21 56 52.1
comp=Z,58nm,0.8s
TRO **Tromso** 34.86 355 *eP* P 21 56 35.0 -2.4
BTK **Batken** 34.98 69 P P 21 56 39.8 +0.9
BTK pmax pmax
comp=Z,78nm,1.3s
BTK **Batken** 34.98 69 P P 21 56 39.8 +0.9
BTK IAmb IAmb 21 57 01.4
comp=Z,78nm,1.2s
DZA **Taraz** 35.16 64 *eP* P 21 56 41.0 +0.6
comp=Z,31nm,0.9s,baz=64
DZA *eS* S 22 02 12.6 -0.2
baz=64
DZA **Taraz** 35.16 64 *eP* P 21 56 40.9 +0.6
DZA *eS* S 22 02 12.5 -0.2
DZA pmax pmax
comp=Z,31nm,0.9s
BRVK **Borovoye** 35.38 46 P P 21 56 42.9 +0.8
BRVK pmax pmax
comp=Z,67nm,1.2s
BRVK MLR MLR
comp=Z,1μm,21.0s
BRVK **Borovoye** 35.38 46 P P 21 56 42.9 +0.8
BRVK IAmb IAmb 21 56 45.3
comp=Z,67nm,1.1s
BRVK **Borovoye** 35.38 46 ⇓P P 21 56 42.6 +0.6
BVAR **Borovoye Array** 35.43 46 P P 21 56 42.5 0.0
comp=Z,14nm,0.6s,baz=176,slow=28,SNR=90
PMPST **Porto Santo, M** 35.56 279 *eP* P 21 56 49.0 +5.1
MBAR **Mbarara** 35.71 173 P P 21 56 45.3 0.0
comp=Z,4.1nm,0.6s,baz=343,slow=6.4,SNR=10.0
MBAR LR LR 22 11 58.3
comp=Z,2μm,20.4s,baz=344,slow=37
MBAR **Mbarara** 35.71 173 P P 21 56 45.4 0.0
MBAR pmax pmax
comp=Z,40nm,1.5s
MBAR MLR MLR
comp=Z,2μm,19.0s
MBAR **Mbarara** 35.71 173 P P 21 56 45.4 0.0
MBAR **Mbarara** 35.71 173 ⇑P P 21 56 46.4 +1.0
OTUK **Ortayu** 35.95 54 *i* P P 21 56 47.8 +0.7
OTUK pmax pmax
comp=Z,85nm,0.9s
PMAR **Madeira** 36.12 279 *eP* P 21 56 49.5 +0.6
comp=Z,140nm,0.9s
PMOZ **Porto Moniz, M** 36.33 279 *eP* P 21 56 52.6 +2.0
comp=Z,150nm,2.1s
PMOZ *eS* S 22 02 36.3 +5.3
PMOZ A A 22 16 41.5
comp=Z,366nm,18.0s
PMOZ **Porto Moniz, M** 36.33 279 P P 21 56 51.0 +0.4
BRZS **Berezniki** 36.34 51 *eP* P 21 56 50.6 +0.2
comp=Z,50nm,2.3s,baz=52
BRZS *eS* S 22 02 29.6 -1.1
baz=52
BRZS **Berezniki** 36.34 51 *eP* P 21 56 50.6 +0.2
BRZS *eS* S 22 02 29.5 -1.1
BRZS pmax pmax
comp=Z,50nm,2.3s
ARSB **Arslanbob** 36.49 66 P P 21 56 53.5 +1.5
ARSB pmax pmax
comp=Z,138nm,1.1s
ARSB **Arslanbob** 36.49 66 P P 21 56 53.5 +1.5
EKS2 **Erkin-Say** 36.97 64 P P 21 56 58.4 +2.4
SNR=23
BTLS **Baital** 37.05 60 *eP* P 21 56 56.9 +0.5
comp=Z,25nm,1.4s,baz=60
BTLS *eS* S 22 02 41.2 -0.3
baz=60
BTLS **Baital** 37.05 60 *eP* P 21 56 56.9 +0.5
BTLS *eS* S 22 02 41.2 -0.3
BTLS pmax pmax
comp=Z,25nm,1.4s
MACI **Morro de la Ar** 37.24 272 P P 21 56 57.5 -1.0
KMBO **Kilima Mbogo** 37.35 163 *i* P P 21 56 57.7 -1.8
USP **Ospenovka** 37.45 63 P P 21 57 00.8 +0.8
SNR=17
AAK **Ala-Archa** 37.50 64 P P 21 57 00.3 -0.2
comp=Z,5.3nm,0.4s,baz=260,slow=9.9,SNR=23
AAK LR LR 22 13 14.6
comp=Z,731nm,21.4s,baz=289,slow=38
AAK **Ala-Archa** 37.50 64 P P 21 57 02.6 +2.1
SNR=17
AAK **Ala-Archa** 37.50 64 *i* P P 21 57 02.1 +1.5
SNR=20
AAK **Ala-Archa** 37.50 64 *i* P P 21 57 02.0 +1.5
AAK pmax pmax
comp=Z,169nm,1.0s
AAK **Ala-Archa** 37.50 64 P P 21 57 01.5 +1.0
AAK IAmb IAmb 21 57 14.5
comp=Z,55nm,0.8s
AAK **Ala-Archa** 37.50 64 P P 21 57 02.0 +1.5
AAK P P 21 57 02.0 +1.5
AAK **Ala-Archa** 37.50 64 ⇓P P 21 57 01.8 +1.3
SGDS **Sogindy** 37.53 62 *eP* P 21 57 00.5 -0.2
comp=Z,22nm,2.2s,baz=62
SGDS **Sogindy** 37.53 62 *eP* P 21 57 00.5 -0.2
SGDS pmax pmax
comp=Z,22nm,2.2s
FRU1 **Bishkek** 37.58 63 P P 21 57 02.0 +0.9
FRU1 pmax pmax
comp=Z,95nm,1.1s
FRU1 **Bishkek** 37.58 63 P P 21 57 02.0 +0.9
FRU1 IAmb IAmb 21 57 19.1
comp=Z,95nm,1.1s
CHMS **Chumysh** 37.66 63 P P 21 57 03.5 +1.8
SNR=16
KBK **Karagaybulak** 37.83 64 P P 21 57 04.6 +1.3
SNR=14
NIL **Nilore** 38.12 78 P P 21 57 07.0 +1.3
NIL pmax pmax
comp=Z,86nm,1.0s
NIL MLR MLR
comp=Z,600nm,18.0s
NIL **Nilore** 38.12 78 P P 21 57 07.0 +1.3
NIL IAmb IAmb 21 57 36.6
comp=Z,86nm,0.9s
TKM2 **Tokmak 2** 38.28 63 P P 21 57 08.8 +1.7
SNR=15
TKM2 **Tokmak 2** 38.28 63 *i* P P 21 57 08.1 +0.9
TKM2 pmax pmax
comp=Z,41nm,0.9s
BOOM **Boomskoye usch** 38.57 64 P P 21 57 10.6 +1.0
BOOM pmax pmax
comp=Z,68nm,1.1s
BOOM **Boomskoye usch** 38.57 64 P P 21 57 10.6 +1.0
BOOM IAmb IAmb 21 57 39.2
comp=Z,68nm,1.1s
KIBK **Kibwezi** 38.71 162 P P 21 57 11.3 +0.5
KUU **Kurty** 38.74 62 *eP* P 21 57 11.8 +0.9
comp=Z,161nm,2.3s,baz=62
KUU *i* S S 22 03 08.4 +1.2
comp=Z,155nm,5.4s,baz=62
KUU **Kurty** 38.74 62 *eP* P 21 57 11.7 +0.9
KUU *i* S S 22 03 08.4 +1.2
KUU pmax pmax
comp=Z,161nm,2.3s
KUU smax smax
comp=N,155nm,5.4s
ULHL **Ulahol** 38.82 64 P P 21 57 14.1 +2.4
SNR=8.4
MTBS **Maitube** 38.87 63 *eP* P 21 57 13.4 +1.4
baz=63
MTBS *eS* S 22 03 10.3 +0.9
baz=63
MTBS **Maitube** 38.87 63 *eP* P 21 57 13.4 +1.4
MTBS *eS* S 22 03 10.2 +0.9
KSH **Kashi** 38.99 69 P P 21 57 12.6 -0.5
KSH S S 22 03 04.7 -6.6
KSH sS sS 22 03 24.1 +5.6
KSH pmax pmax
comp=N,9.0nm,0.4s
KSH L L
comp=N,1μm,13.3s
KSH L L
comp=N,900nm,11.8s
KSH L L
comp=N,1μm,13.7s
CHKK **Chushkaly** 39.21 62 *eP* P 21 57 15.6 +0.9
baz=62
CHKK **Chushkaly** 39.21 62 *eP* P 21 57 15.6 +0.9
AAA **Alma-Ata** 39.22 63 *eP* P 21 57 15.7 +0.9
MDOK **Medeo** 39.32 63 *eP* P 21 57 16.1 +0.2
baz=63
MDOK *eS* S 22 03 13.6 -2.7
baz=63
MDOK **Medeo** 39.32 63 *eP* P 21 57 16.0 +0.2
MDOK *eS* S 22 03 13.5 -2.7
KDJ **Kajisay** 39.53 64 P P 21 57 18.8 +1.2
KDJ pmax pmax
comp=Z,43nm,0.8s
KDJ **Kajisay** 39.53 64 P P 21 57 18.8 +1.2
ARXS **Arharly** 39.79 61 *eP* P 21 57 20.9 +1.3
TARG **Taragay, Kyrgy** 40.04 65 P P 21 57 23.7 +1.6
KURBB **Kurchatov Arra** 40.13 51 P P 21 57 23.2 +1.0
comp=Z,49nm,0.8s,baz=276,slow=8.9,SNR=118
TDK **Taldyqorghan** 40.14 60 *eP* P 21 57 22.7 +0.3
comp=Z,84nm,1.7s,baz=60
TDK *eS* S 22 03 27.9 -0.4
baz=60
TDK **Taldyqorghan** 40.14 60 *eP* P 21 57 22.7 +0.3
TDK *eS* S 22 03 27.8 -0.4
TDK pmax pmax
comp=Z,84nm,1.7s
KURK **Kurchatov** 40.19 51 P P 21 57 23.3 +0.5
KURK **Kurchatov** 40.19 51 P P 21 57 23.2 +0.5
SATY **Saty** 40.32 63 *eP* P 21 57 25.6 +1.5
comp=Z,61nm,2.0s,baz=63
SATY *eS* S 22 03 32.6 +1.4
baz=63
SATY **Saty** 40.32 63 *eP* P 21 57 25.6 +1.5
SATY *eS* S 22 03 32.6 +1.4
SATY pmax pmax
comp=Z,61nm,2.0s
PRZ **Przheval'sk** 40.38 64 P P 21 57 26.9 +2.2
PRZ pmax pmax
comp=Z,62nm,1.1s
PRZ **Przheval'sk** 40.38 64 P P 21 57 26.9 +2.2
PRZ IAmb IAmb 21 57 37.7
comp=Z,62nm,1.1s
KPKS **Kokpek** 40.48 62 *eP* P 21 57 26.1 +0.8
comp=Z,47nm,1.9s,baz=62
KPKS *eS* S 22 03 34.0 +0.6
baz=62
KPKS **Kokpek** 40.48 62 *eP* P 21 57 26.1 +0.8
KPKS *eS* S 22 03 34.0 +0.6
KPKS pmax pmax
comp=Z,47nm,1.9s
DBIC **Dimbokro** 40.58 233 P P 21 57 25.1 -1.1
comp=Z,11nm,0.6s,baz=25,slow=9.1,SNR=12
DBIC LR LR 22 17 24.1
comp=Z,2μm,18.3s,baz=24,slow=41
DBIC **Dimbokro** 40.58 233 P P 21 57 25.2 -1.1
DBIC pmax pmax
comp=Z,47nm,0.8s
DBIC **Dimbokro** 40.58 233 IAmb IAmb 21 57 40.9
comp=Z,47nm,0.8s
DBIC **Dimbokro** 40.58 233 ⇑P P 21 57 25.4 -0.9
TIC **Toumodi** 40.70 233 *eP* P 21 57 27.4 0.0
KIC **Kosan Boka** 40.73 233 *eP* P 21 57 26.8 -0.8
comp=Z,83nm,0.6s
UZB **Uzynbulak** 40.76 62 *eP* P 21 57 28.1 +0.3
comp=Z,27nm,2.0s,baz=62
UZB **Uzynbulak** 40.76 62 *eP* P 21 57 28.0 +0.3
UZB pmax pmax
comp=Z,27nm,2.0s
DHRM **DHARAMSHALA** 40.98 79 *eP* P 21 57 29.6 -0.1
DHRM IAmb IAmb 21 57 45.1
comp=Z,73nm,0.6s
LIC **Lamto** 41.02 233 *eP* P 21 57 30.2 +0.2
comp=Z,140nm,0.8s
PDGK **Podgornoye** 41.07 62 *i* P P 21 57 31.2 +0.9
PDGK pmax pmax
comp=Z,69nm,1.3s
SHLS **Shalkode** 41.07 62 *eP* P 21 57 33.5 +3.2
baz=62
SHLS **Shalkode** 41.07 62 *eP* P 21 57 33.5 +3.2
SEM **Semipalatinsk** 41.22 51 *eP* P 21 57 32.1 +0.5
comp=Z,56nm,1.6s,baz=51
SEM **Semipalatinsk** 41.22 51 *eP* P 21 57 32.0 +0.5
SEM pmax pmax
comp=Z,56nm,1.6s
BORG **Borgarnes** 41.24 331 P P 21 57 32.2 +1.0
BORG pmax pmax
comp=Z,107nm,1.3s
BORG MLR MLR
comp=Z,3μm,20.0s
BORG **Borgarnes** 41.24 331 P P 21 57 32.2 +1.0
BORG IAmb IAmb 21 57 43.3
comp=Z,107nm,1.2s
BORG **Borgarnes** 41.24 331 IAMs_20 IAMs_20 22 17 37.1
comp=Z,3μm,20.0s
HOPEN **Hopen** 41.51 359 *eP* P 21 57 32.0 -1.3
SMLA **Simla** 42.03 81 *eP* P 21 57 39.0 +0.9
SMLA IAmb IAmb 21 57 57.2
comp=Z,107nm,0.9s
MAKZ **Makanchi** 42.49 57 P P 21 57 42.5 +0.8
MAKZ pmax pmax
comp=Z,27nm,0.7s
MAKZ MLR MLR
comp=Z,1μm,21.0s
MAKZ **Makanchi** 42.49 57 P P 21 57 42.5 +0.8
MAKZ **Makanchi** 42.49 57 ⇑P P 21 57 42.5 +0.8
MK31 **Makanchi Array** 42.70 57 P P 21 57 44.3 +0.8
MK31 pmax pmax
comp=Z,40nm,0.6s
MK31 **Makanchi Array** 42.70 57 P P 21 57 44.3 +0.8
MK31 IAmb IAmb 21 58 00.9
comp=Z,40nm,0.6s
MKAR **Makanchi Array** 42.70 57 P P 21 57 44.0 +0.6
comp=Z,25nm,0.6s,baz=269,slow=8.5,SNR=303
MKAR LR LR 22 17 47.9
comp=Z,1μm,20.8s,baz=272,slow=39
DDI **Dehra Dun** 43.02 81 *eP* P 21 57 46.5 +0.2
SPA0 **Spitsbergen Ar** 43.42 357 *eP* P 21 57 47.2 -1.6
SCO **Scoresbysund** 43.87 339 *i* P P 21 57 53.0 +0.4
SCO IAmb IAmb 21 57 54.7
comp=Z,24nm,1.0s
SCO IAMs_20 IAMs_20 22 15 07.9
comp=Z,1μm,19.1s
SCO **Scoresbysund** 43.87 339 *i* P P 21 57 52.9 +0.4
SCO pmax pmax
comp=Z,24nm,1.0s
SCO MLR MLR
comp=Z,1μm,19.0s
SCO **Scoresbysund** 43.87 339 P P 21 57 52.0 -0.5
SCO **Scoresbysund** 43.87 339 ⇑P P 21 57 52.1 -0.4
ZAA0 **Zalesovo Array** 44.09 46 P P 21 57 54.6 +0.1
ZAA0 IAmb IAmb 21 58 05.7
comp=Z,46nm,0.5s
ZALV **Zalesovo Beam** 44.09 46 P P 21 57 54.5 0.0
comp=Z,35nm,0.3s,baz=266,slow=9.0,SNR=205
ZALV LR LR 22 21 30.7
comp=Z,781nm,18.7s,baz=266,slow=43
ZALV **Zalesovo Beam** 44.09 46 P P 21 57 54.3 -0.2
KBS **Kingsbay** 44.37 356 *i* P P 21 57 55.1 -1.3
KBS IAmb IAmb 21 57 56.7
comp=Z,126nm,1.1s
KBS IAMs_20 IAMs_20 22 15 08.8
comp=Z,5μm,18.7s
KBS **Kingsbay** 44.37 356 P P 21 57 55.5 -0.9
KBS pmax pmax
comp=Z,63nm,1.0s
KBS MLR MLR
comp=Z,2μm,21.0s
KBS **Kingsbay** 44.37 356 *eP* P 21 57 55.6 -0.9
KBS **Kingsbay** 44.37 356 P P 21 57 55.5 -0.9
KBS IAmb IAmb 21 58 18.7
comp=Z,63nm,1.0s
KBS **Kingsbay** 44.37 356 IAMs_20 IAMs_20 22 15 15.3
comp=Z,2μm,21.0s
KBS **Kingsbay** 44.37 356 ⇓P P 21 57 55.7 -0.8
ZSN **Zaisan** 44.39 55 *eP* P 21 57 57.9 +0.8
comp=Z,53nm,2.5s,baz=56
ZSN *eS* S 22 04 32.6 +1.6
baz=56
ZSN **Zaisan** 44.39 55 *eP* P 21 57 57.9 +0.8
ZSN *eS* S 22 04 32.5 +1.6
ZSN pmax pmax
comp=Z,53nm,2.5s
DBG **Daneborg** 45.33 344 *i* P P 21 58 03.3 -0.9
DBG IAMs_20 IAMs_20 22 19 11.0
comp=Z,2μm,13.9s
DBG **Daneborg** 45.33 344 ⇓P P 21 58 04.5 +0.3
BHPL **Bhopal** 45.34 91 *eP* P 21 58 04.5 -0.4
BHPL IAmb IAmb 21 58 22.9
comp=Z,58nm,0.8s
DGZ **Jazzator, Alta** 45.87 52 *i* P P 21 58 09.5 +0.5
DGZ pmax pmax
comp=Z,64nm,0.9s
DAG **Danmarks Havn** 46.41 347 *i* P P 21 58 10.5 -2.1
DAG IAmb IAmb 21 58 12.6
comp=Z,12nm,0.8s
DAG IAMs_20 IAMs_20 22 20 37.4
comp=Z,1μm,16.4s
DAG **Danmarks Havn** 46.41 347 *i* P P 21 58 10.4 -2.1
DAG pmax pmax
comp=Z,12nm,0.8s
DAG MLR MLR
comp=Z,1μm,16.0s
DAG **Danmarks Havn** 46.41 347 ⇑P P 21 58 10.7 -1.9
WMQ **Urumqi** 46.89 60 *eP* P 21 58 19.3 +2.4
WMQ pP sP 21 58 22.6 -0.6
WMQ sP pwP 21 58 28.0 +3.7
WMQ S S 22 05 10.0 +2.9
WMQ pmax pmax
comp=Z,74nm,1.3s
WMQ pmax pmax
comp=Z,320nm,3.9s
WMQ L L
comp=Z,2μm,19.9s
WMQ L L
comp=Z,1μm,20.7s
WMQ L L
comp=Z,3μm,23.9s
NRIK **Noril'sk** 47.38 25 P P 21 58 20.4 +0.2
comp=Z,8.5nm,0.3s,baz=247,slow=5.0,SNR=23
NRIK **Noril'sk** 47.38 25 *eP* P 21 58 20.1 -0.1
NRIK pmax pmax
comp=Z,50nm,1.3s
NRIK **Noril'sk** 47.38 25 P P 21 58 20.8 +0.6
NRIK IAmb IAmb 21 58 34.2
comp=Z,37nm,0.9s
PYUN **Piuthan** 47.85 82 *eP* P 21 58 26.0 +1.2
comp=Z,296nm,0.6s
ANGG **Ammassalik, Gr** 48.11 330 *eP* P 21 58 25.9 0.0
ANGG IAMs_20 IAMs_20 22 18 17.7
comp=Z,2μm,19.2s
ANGG **Ammassalik, Gr** 48.11 330 IAMs_20 IAMs_20 22 18 22.5
comp=Z,2μm,21.0s
DANN **Dangsing** 48.38 81 *eP* P 21 58 30.5 +1.5
comp=Z,435nm,0.7s
KOLN **Koldanda** 48.48 82 *eP* P 21 58 30.5 +0.9
comp=Z,78nm,0.8s
ISOG **Isortoq, Green** 48.65 330 *i* P P 21 58 29.1 -1.0
ISOG IAmb IAmb 21 58 31.5
comp=Z,67nm,0.7s
ISOG IAMs_20 IAMs_20 22 18 31.1
comp=Z,2μm,23.7s
ISOG **Isortoq, Green** 48.65 330 ⇓P P 21 58 29.5 -0.6
HYB **Hyderabad** 49.10 97 *i* P P 21 58 35.0 +0.7
comp=Z,38nm,0.8s
HYB **Hyderabad** 49.10 97 *eP* P 21 58 33.7 -0.6
HYB IAmb IAmb 21 58 50.3
comp=Z,44nm,0.9s
NOR **Nord** 49.18 352 *i* P P 21 58 32.1 -1.9
NOR IAmb IAmb 21 58 34.2
comp=Z,17nm,0.7s
NOR IAMs_20 IAMs_20 22 17 05.8
comp=Z,1μm,22.0s
NOR **Nord** 49.18 352 *i* P P 21 58 32.1 -1.9
NOR pmax pmax
comp=Z,17nm,0.7s
NOR MLR MLR
comp=Z,1μm,22.0s
NOR **Nord** 49.18 352 ⇑P P 21 58 32.0 -1.9
NOR ⇑P pP 21 58 32.2 -6.2
GKN **Gorkha** 49.23 81 *eP* P 21 58 36.0 +0.7
comp=Z,75nm,0.7s
ICESG **Greenland Ices** 49.31 334 *i* P P 21 58 34.5 -1.1
ICESG IAMs_20 IAMs_20 22 21 00.4
comp=Z,2μm,21.0s
ICESG **Greenland Ices** 49.31 334 ⇑P P 21 58 34.3 -1.3
ICESG ⇑P P 21 58 34.5 -1.1
SUMG **Summit** 49.51 339 *i* P P 21 58 35.8 -1.4
SUMG IAMs_20 IAMs_20 22 20 00.2
comp=Z,1μm,19.3s
SUMG **Summit** 49.51 339 P P 21 58 35.9 -1.2
SUMG pmax pmax
comp=Z,30nm,0.7s
SUMG MLR MLR
comp=Z,1μm,20.0s
SUMG **Summit** 49.51 339 P P 21 58 35.9 -1.2
SUMG IAmb IAmb 21 58 47.0
comp=Z,30nm,0.7s
SUMG **Summit** 49.51 339 ⇓P P 21 58 35.0 -2.1
DMN **Daman** 49.77 82 *eP* P 21 58 40.2 +0.7
KKN **Kakani** 49.83 81 *eP* P 21 58 40.6 +0.6
comp=Z,63nm,0.6s
PKIN **Phulchoki** 50.01 82 *eP* P 21 58 41.9 +0.4
comp=Z,101nm,0.8s
PKI **Pulchoki** 50.03 82 *eP* P 21 58 42.1 +0.5
comp=Z,79nm,0.7s
LSZ **Lusaka** 50.11 178 P P 21 58 42.9 +0.9
comp=Z,6.8nm,0.7s,baz=6.5,slow=8.0,SNR=18
LSZ **Lusaka** 50.11 178 P P 21 58 42.6 +0.6
LSZ pmax pmax
comp=Z,37nm,1.3s
LSZ MLR MLR
comp=Z,2μm,18.0s
LSZ **Lusaka** 50.11 178 P P 21 58 42.6 +0.6
LSZ IAmb IAmb 21 58 52.9
comp=Z,37nm,1.2s
GUN **Gumba** 50.27 81 *eP* P 21 58 44.4 +0.9
comp=Z,176nm,0.9s
JIRN **Jiri** 50.62 81 *eP* P 21 58 46.8 +0.6
RAMN **Ramite** 51.25 82 *eP* P 21 58 50.7 0.0
comp=Z,51nm,0.5s
NRS **Narsarsuaq** 51.53 324 IAMs_20 IAMs_20 22 19 52.0
comp=Z,2μm,21.5s
NRS **Narsarsuaq** 51.53 324 P P 21 58 51.6 -0.4
NRS pmax pmax
comp=Z,26nm,0.8s
NRS MLR MLR
comp=Z,2μm,20.0s
NRS **Narsarsuaq** 51.53 324 P P 21 58 51.6 -0.4
NRS IAmb IAmb 21 59 02.6
comp=Z,26nm,0.8s
NRS IAMs_20 IAMs_20 22 20 09.0
comp=Z,2μm,20.0s
DY2G **Dye2** 51.67 331 *i* P P 21 58 52.5 -0.8
DY2G IAmb IAmb 21 58 56.0
comp=Z,103nm,0.7s
DY2G IAMs_20 IAMs_20 22 21 32.8
comp=Z,2μm,20.5s
DY2G **Dye2** 51.67 331 ⇑P P 21 58 52.0 -1.3
DY2G ⇑P pP 21 58 52.4 -5.6
ODAN **Odare** 51.92 81 *eP* P 21 58 56.0 +0.2
TAPN **Taplejung** 51.98 81 *eP* P 21 58 56.3 0.0
BOK **Bokaro** 52.03 86 *eP* P 21 58 55.7 -0.6
BOK IAmb IAmb 21 59 07.0
comp=Z,32nm,0.9s
SFJD **Kangerlussuaq** 53.37 331 *i* P P 21 59 04.7 -0.9
SFJD IAMs_20 IAMs_20 22 22 54.2
comp=Z,1μm,18.4s
SFJD **Kangerlussuaq** 53.37 331 P P 21 59 04.6 -1.0
SFJD pmax pmax
comp=Z,35nm,0.7s
SFJD MLR MLR
comp=Z,2μm,20.0s
SFJD **Kangerlussuaq** 53.37 331 P P 21 59 04.6 -1.0
SFJD IAmb IAmb 21 59 13.8
comp=Z,35nm,0.7s
SFJD **Kangerlussuaq** 53.37 331 IAMs_20 IAMs_20 22 22 59.6
comp=Z,2μm,20.0s
NEEM **North Greenlan** 53.40 345 *i* P P 21 59 04.8 -1.3
NEEM IAMs_20 IAMs_20 22 23 13.4
comp=Z,1μm,17.9s
ILULI **Ilulissat** 53.41 334 *i* P P 21 59 03.4 -2.5
ILULI IAMs_20 IAMs_20 22 21 23.4
comp=Z,2μm,20.1s
ILULI **Ilulissat** 53.41 334 P P 21 59 04.2 -1.6
ILULI pmax pmax
comp=Z,52nm,1.0s
ILULI MLR MLR
comp=Z,2μm,21.0s
ILULI **Ilulissat** 53.41 334 P P 21 59 04.2 -1.6
ILULI IAmb IAmb 21 59 25.0
comp=Z,52nm,1.0s
ILULI IAMs_20 IAMs_20 22 21 31.5
comp=Z,2μm,21.0s
LSA **Lhasa** 53.79 76 P P 21 59 11.0 +1.2
LSA pP pwP 21 59 20.0 +2.9
LSA S S 22 06 40.0 -4.3
LSA pmax pmax

	comp=Z,7,0nm,1.3s									
LSA					L	L				
	comp=Z,2μm,24.2s									
LSA					L	L				
	comp=Z,2μm,21.4s									
LSA					L	L				
	comp=Z,4μm,25.6s									
LSA	**Lhasa**	**53.79**	**76**	*i*	P	**P**	**21 59 11.2**	**+1.4**		
	SNR=8.8									
LSA	**Lhasa**	**53.79**	**76**		P	**P**	**21 59 09.9**	**+0.1**		
LSA					pmax	pmax				
	comp=Z,26nm,0.9s									
LSA					MLR	MLR				
	comp=Z,300nm,19.0s									
LSA	**Lhasa**	**53.79**	**76**		P	**P**	**21 59 09.9**	**+0.1**		
LSA					IAmb	IAmb	21 59 36.5			
	comp=Z,26nm,0.9s									
NUUG	**Nuugaatsiaq**	**53.98**	**337**	*i*	P	**P**	**21 59 08.0**	**-2.1**		
NUUG					IAMs_20	IAMs_20	22 23 55.9			
	comp=Z,2μm,20.1s									
MOY	**Mondy**	**54.07**	**48**	*e*	P	**P**	**21 59 13.0**	**+1.8**		
MOY					pmax	pmax				
	comp=Z,70nm,2.2s									
NUUK	**Nuuk**	**54.12**	**328**	*i*	P	**P**	**21 59 09.5**	**-1.6**		
NUUK					IAMs_20	IAMs_20	22 21 06.7			
	comp=Z,2μm,20.7s									
TSUM	**Tsumeb**	**54.70**	**191**		P	**P**	**21 59 15.8**	**-0.2**		
TSUM					IAmb	IAmb	21 59 25.6			
	comp=Z,49nm,0.9s									
TSUM	**Tsumeb**	**54.70**	**191**	⇑	P	**P**	**21 59 16.5**	**+0.5**		
UPNV	**Upernavik**	**54.79**	**339**	*i*	P	**P**	**21 59 15.0**	**-0.9**		
UPNV					IAmb	IAmb	21 59 17.1			
	comp=Z,20nm,0.7s									
KULLO	**Kullorsuaq**	**54.94**	**341**	*i*	P	**P**	**21 59 15.7**	**-1.3**		
KULLO					IAmb	IAmb	21 59 17.3			
	comp=Z,16nm,1.1s									
KULLO					IAMs_20	IAMs_20	22 24 22.4			
	comp=Z,1μm,17.9s									
KULLO	**Kullorsuaq**	**54.94**	**341**	*i*	P	**P**	**21 59 15.6**	**-1.3**		
KULLO					pmax	pmax				
	comp=Z,16nm,1.1s									
KULLO					MLR	MLR				
	comp=Z,1μm,18.0s									
TLY	**Talaya**	**55.67**	**47**		LR	LR	22 28 05.0			
	comp=Z,1μm,19.9s,baz=297,slow=41									
TLY	**Talaya**	**55.67**	**47**	*d*	*i* P	**P**	**21 59 23.7**	**+1.1**		
TLY					*e* S	**S**	**22 07 10.5**	**+2.4**		
TLY					pmax	pmax				
	comp=Z,61nm,0.9s									
TLY					MLR	MLR				
	comp=Z,2μm,17.0s									
TLY	**Talaya**	**55.67**	**47**		P	**P**	**21 59 23.4**	**+0.8**		
TLY					IAmb	IAmb	21 59 52.0			
	comp=Z,36nm,1.2s									
TLY					IAMs_20	IAMs_20	22 27 41.4			
	comp=Z,1μm,21.0s									
MALK	**Mahakanadarawa**	**55.76**	**105**	⇑	P	**P**	**21 59 24.5**	**+0.8**		
ZAK	**Zakamensk**	**55.79**	**49**	*e*	P	**P**	**21 59 24.7**	**+1.1**		
ZAK					pmax	pmax				
	comp=Z,46nm,1.0s									
IRK	**Irkutsk**	**55.90**	**46**	*e*	P	**P**	**21 59 24.6**	**+0.3**		
IRK					pmax	pmax				
	comp=Z,83nm,2.1s									
SHL	**Shillong**	**56.12**	**81**		P	**P**	**21 59 26.2**	**-0.2**		
SHL					pmax	pmax				
	comp=Z,33nm,0.9s									
SHL	**Shillong**	**56.12**	**81**		P	**P**	**21 59 26.2**	**-0.2**		
SHL					IAmb	IAmb	21 59 37.7			
	comp=Z,33nm,0.9s									
PALK	**Pallekele**	**56.56**	**106**		P	**P**	**21 59 30.2**	**+0.8**		
	comp=Z,12nm,0.7s,baz=72,slow=7.0,SNR=6.7									
PALK	**Pallekele**	**56.56**	**106**		P	**P**	**21 59 30.3**	**+0.8**		
PALK					pmax	pmax				
	comp=Z,58nm,1.4s									
PALK					MLR	MLR				
	comp=Z,2μm,20.0s									
PALK	**Pallekele**	**56.56**	**106**		P	**P**	**21 59 30.2**	**+0.8**		
PALK					IAmb	IAmb	21 59 56.9			
	comp=Z,58nm,1.4s									
GTA	**Gaotai**	**56.82**	**62**	⇓	P	**P**	**21 59 32.5**	**+1.4**		
GTA					pP	sP	21 59 37.8	+0.3		
GTA					sP	pwP	21 59 41.0	+2.5		
GTA					S	**S**	**22 07 23.0**	**-0.9**		
GTA					pmax	pmax				
	comp=Z,14nm,1.5s									
GTA					pmax	pmax				
	comp=Z,190nm,5.6s									
GTA					L	L				
	comp=Z,440nm,18.5s									
GTA					L	L				
	comp=Z,690nm,20.0s									
GTA					L	L				
	comp=Z,1μm,20.4s									
ABPO	**Ambohimpanom**	**57.22**	**157**		P	**P**	**21 59 34.9**	**+0.9**		
ABPO					pmax	pmax				
	comp=Z,20nm,0.9s									
ABPO	**Ambohimpanom**	**57.22**	**157**		P	**P**	**21 59 34.9**	**+0.9**		
HALK	**Hakmana**	**57.27**	**107**	⇓	P	**P**	**21 59 36.0**	**+1.6**		
TULEG	**Thule**	**57.47**	**344**	*i*	P	**P**	**21 59 33.7**	**-1.3**		
TULEG					IAMs_20	IAMs_20	22 26 33.2			
	comp=Z,2μm,15.6s									
TULEG	**Thule**	**57.47**	**344**		P	**P**	**21 59 35.2**	**+0.2**		
TULEG					IAmb	IAmb	21 59 53.7			
	comp=Z,43nm,0.9s									
TULEG					IAMs_20	IAMs_20	22 24 13.8			
	comp=Z,1μm,20.0s									
SONM	**Songino Array**	**58.50**	**51**		P	**P**	**21 59 43.8**	**+1.0**		
	comp=Z,9.1nm,0.5s,baz=281,slow=8.1,SNR=30									
SONM					LR	LR	22 29 06.0			
	comp=Z,2μm,21.9s,baz=291,slow=40									
SONM	**Songino Array**	**58.50**	**51**		P	**P**	**21 59 43.6**	**+0.8**		
SONM					pmax	pmax				
	comp=Z,33nm,1.0s									
SONM	**Songino Array**	**58.50**	**51**		P	**P**	**21 59 43.6**	**+0.8**		
SONM					IAmb	IAmb	22 00 06.9			
	comp=Z,33nm,1.0s									
ULN	**Ulaanbaatar**	**58.91**	**51**		P	**P**	**21 59 46.6**	**+0.9**		
ULN					pmax	pmax				
	comp=Z,54nm,1.1s									
ULN					MLR	MLR				
	comp=Z,2μm,22.0s									
ULN	**Ulaanbaatar**	**58.91**	**51**		P	**P**	**21 59 46.6**	**+0.9**		
ULN					IAmb	IAmb	22 00 09.7			
	comp=Z,54nm,1.1s									
ULN	**Ulaanbaatar**	**58.91**	**51**		IAMs_20	IAMs_20	22 28 04.0			
	comp=Z,2μm,22.0s									
ULN	**Ulaanbaatar**	**58.91**	**51**		P	**P**	**21 59 46.8**	**+1.1**		
ULN					P	**P**	**21 59 46.8**	**+1.1**		
ULN					P	**P**	**21 59 46.8**	**+1.1**		
ULN	**Ulaanbaatar**	**58.91**	**51**	⇓	P	**P**	**21 59 46.4**	**+0.7**		
ULN				⇑	P	**P**	**21 59 46.8**	**+1.1**		
EUNU	**Eureka**	**59.50**	**349**		P	**P**	**21 59 48.5**	**-0.7**		
BOD	**Bodaibo**	**59.69**	**38**	*e*	P	**P**	**21 59 53.5**	**+2.8**		
BOD					pmax	pmax				
	comp=Z,50nm,1.0s									
VOI	**Vohitsoka**	**59.79**	**158**		P	**P**	**21 59 52.6**	**+0.7**		
VOI					IAmb	IAmb	22 00 05.3			
	comp=Z,32nm,1.0s									
LBTB	**Lobatse**	**59.79**	**181**		P	**P**	**21 59 52.5**	**+0.6**		
LBTB					pmax	pmax				
	comp=Z,61nm,1.2s									
LBTB	**Lobatse**	**59.79**	**181**		P	**P**	**21 59 52.5**	**+0.6**		
TIXI	**Tiksi**	**60.76**	**21**		P	**P**	**21 59 57.0**	**-0.8**		
TIXI					pmax	pmax				
	comp=Z,33nm,0.9s									
TIXI					MLR	MLR				
	comp=Z,3μm,18.0s									
TIXI	**Tiksi**	**60.76**	**21**		P	**P**	**21 59 57.0**	**-0.8**		
TIXI					IAmb	IAmb	22 00 16.2			
	comp=Z,33nm,0.9s									
DRLN	**Deer Lake**	**60.93**	**312**		P	**P**	**21 59 58.1**	**-1.2**		
LZH	**Lanzhou**	**61.03**	**64**	⇓	P	**P**	**22 00 02.0**	**+1.5**		
LZH					pP	pP	22 00 04.3	-0.8		
LZH					sP	sP	22 00 06.3	-0.6		
LZH					PP	**PP**	**22 02 22.5**	**+7.8**		
LZH					S	**S**	**22 08 17.2**	**-1.5**		
LZH					SS	**SS**	**22 12 19.4**	**+1.4**		
LZH					pmax	pmax				
	comp=Z,30nm,1.2s									
LZH					pmax	pmax				
	comp=Z,240nm,6.2s									
LZH					L	L				
	comp=Z,1μm,16.3s									
LZH					L	L				
	comp=Z,830nm,16.4s									
LZH					L	L				
	comp=Z,850nm,18.1s									
CD2	**Chengdu**	**63.17**	**70**	⇓	*i* P	**P**	**22 00 16.0**	**+1.2**		
CD2					pP	pP	22 00 18.7	-0.7		
CD2					S	**S**	**22 08 45.9**	**+0.3**		
CD2					pmax	pmax				
	comp=Z,50nm,0.8s									
CD2					pmax	pmax				
	comp=Z,270nm,7.5s									
CD2					L	L				
	comp=Z,1μm,24.7s									
CD2					L	L				
	comp=Z,850nm,24.7s									
CD2					L	L				
	comp=Z,1μm,28.0s									
BOSA	**Boshof**	**63.38**	**181**		P	**P**	**22 00 16.6**	**+0.6**		
	comp=Z,12nm,0.8s,baz=3.6,slow=8.3,SNR=13									
BOSA					LR	LR	22 30 15.9			
	comp=Z,1μm,18.5s,baz=360,slow=38									
BOSA	**Boshof**	**63.38**	**181**		P	**P**	**22 00 15.9**	**-0.1**		
BOSA					pmax	pmax				
	comp=Z,59nm,1.1s									
BOSA	**Boshof**	**63.38**	**181**		P	**P**	**22 00 15.9**	**-0.1**		
BTO	**Baotou**	**63.61**	**58**	*e*	P	**P**	**22 00 17.6**	**0.0**		
BTO					S	**S**	**22 08 47.2**	**-3.7**		
BTO					L	L				
	comp=Z,4μm,21.4s									
BTO					L	L				
	comp=Z,3μm,23.9s									
PBA	**Port Blair**	**63.76**	**94**		P	P	22 00 18.2	-0.6		
RES	**Resolute Bay**	**64.06**	**345**		P	**P**	**22 00 19.7**	**-0.2**		
RES					pmax	pmax				
	comp=Z,21nm,0.9s									
RES	**Resolute Bay**	**64.06**	**345**		P	**P**	**22 00 19.7**	**-0.2**		
RES					IAmb	IAmb	22 00 37.3			
	comp=Z,21nm,0.9s									
SCHQ	**Schefferville**	**64.09**	**320**		P	**P**	**22 00 19.7**	**-0.7**		
	comp=Z,19nm,0.5s,baz=60,slow=4.9,SNR=31									
SCHQ					LR	LR	22 27 20.0			
	comp=Z,508nm,20.2s,baz=64,slow=35									
SCHQ	**Schefferville**	**64.09**	**320**		P	**P**	**22 00 19.5**	**-0.9**		
HHC	**Hu-ho-hao-te**	**64.57**	**57**	*e*	P	**P**	**22 00 25.5**	**+1.6**		
HHC					S	**S**	**22 09 03.2**	**+0.4**		
HHC					SS	**SS**	**22 13 17.7**	**+4.8**		
HHC					pmax	pmax				
	comp=Z,45nm,1.2s									
HHC					pmax	pmax				
	comp=Z,250nm,4.8s									
HHC					L	L				
	comp=Z,810nm,20.4s									
HHC					L	L				
	comp=Z,850nm,20.0s									
HHC					L	L				
	comp=Z,770nm,21.3s									
MHMT	**Maesarieng**	**64.58**	**85**		P	**P**	**22 00 24.2**	**+0.1**		
	comp=Z,895nmcomp=Z,79nm,0.8s									
GBN	**Guysborough**	**64.94**	**309**		P	**P**	**22 00 25.5**	**-0.6**		
KMI	**Kunming**	**65.04**	**76**	⇓	P	**P**	**22 00 27.7**	**+0.3**		
KMI					pP	sP	22 00 33.3	-0.5		
KMI					sP	pwP	22 00 35.7	+1.0		
KMI					S	**S**	**22 09 02.5**	**-6.8**		
KMI					SKS	**SKSac**	**22 10 17.8**	**-4.3**		
KMI					pmax	pmax				
	comp=Z,12nm,1.4s									
KMI					pmax	pmax				
	comp=Z,130nm,3.7s									
KMI					L	L				
	comp=Z,470nm,28.2s									
KMI					L	L				
	comp=Z,270nm,22.7s									
KMI					L	L				
	comp=Z,570nm,27.2s									
CHTO	**Chiang Mai**	**65.08**	**84**		P	**P**	**22 00 27.2**	**-0.2**		
CHTO					pmax	pmax				
	comp=Z,22nm,0.9s									
CHTO					MLR	MLR				
	comp=Z,300nm,22.0s									
CHTO	**Chiang Mai**	**65.08**	**84**		P	**P**	**22 00 27.2**	**-0.2**		
CHTO					IAmb	IAmb	22 00 34.8			
	comp=Z,22nm,0.9s									
CHTO	**Chiang Mai**	**65.08**	**84**		P	**P**	**22 00 28.1**	**+0.7**		
CM15	**Chiang Mai Arr**	**65.25**	**84**		P	**P**	**22 00 29.5**	**+1.0**		
	comp=Z,24nm,0.9s									
CM13	**Chiang Mai Arr**	**65.25**	**84**		P	**P**	**22 00 29.1**	**+0.6**		
	comp=Z,158nmcomp=Z,19nm,0.9s									
CM31	**Chiang Mai Arr**	**65.26**	**84**		P	**P**	**22 00 29.6**	**+1.0**		
	comp=Z,694nm,0.8s									
CM31	**Chiang Mai Arr**	**65.26**	**84**		P	**P**	**22 00 28.6**	**0.0**		
CM31					IAmb	IAmb	22 00 35.9			
	comp=Z,57nm,1.2s									
CMAR	**Chiang Mai Arr**	**65.26**	**84**		P	**P**	**22 00 28.8**	**+0.2**		
	comp=Z,17nm,1.0s,baz=300,slow=7.8,SNR=55									
CMAR					LR	LR	22 35 47.6			
	comp=Z,270nm,20.1s,baz=326,slow=42									
YAK	**Yakutsk**	**65.26**	**30**	*e*	P	**P**	**22 00 26.8**	**-1.1**		
YAK					*e* *PP	**pP**	**22 00 32.9**	**+0.5**		
YAK					*e*		22 01 02.6			
YAK					*e*		22 02 50.0			
YAK					*e* S	**S**	**22 09 11.0**	**+0.6**		
YAK					*e*		22 10 13.6			
YAK					pmax	pmax				
	comp=Z,12nm,1.0s									
YAK					pmax	pmax				
	comp=N,3.0nm,1.4s									
YAK					pmax	pmax				
	comp=E,12nm,1.4s									
YAK					pmax	pmax				
	comp=Z,119nm,4.1s									
YAK					pmax	pmax				
	comp=N,41nm,3.8s									
YAK					pmax	pmax				
	comp=E,47nm,2.3s									
YAK					smax	smax				
	comp=E,43nm,3.0s									
YAK					smax	smax				
	comp=N,60nm,4.1s									
YAK					MLR	MLR				
	comp=Z,845nm,19.0s									
YAK					MLR	MLR				
	comp=N,677nm,19.0s									
YAK					MLR	MLR				
	comp=E,931nm,19.0s									
YAK	**Yakutsk**	**65.26**	**30**		P	**P**	**22 00 27.4**	**-0.4**		
YAK					IAMs_20	IAMs_20	22 34 21.7			
	comp=Z,903nm,19.0s									
CM02	**Chiang Mai Arr**	**65.28**	**84**		P	**P**	**22 00 29.4**	**+0.7**		
	comp=Z,241nmcomp=Z,34nm,0.8s									
CM05	**Chiang Mai Arr**	**65.29**	**84**		P	**P**	**22 00 29.4**	**+0.6**		
	comp=Z,153nmcomp=Z,21nm,0.9s									
CM09	**Chiang Mai Arr**	**65.31**	**84**		P	**P**	**22 00 29.6**	**+0.7**		
	comp=Z,212nmcomp=Z,25nm,1.0s									
CM04	**Chiang Mai Arr**	**65.32**	**84**		P	**P**	**22 00 29.7**	**+0.7**		
	comp=Z,220nmcomp=Z,23nm,0.9s									
XAN	**Xi'an**	**65.67**	**65**		P	**P**	**22 00 32.1**	**+1.0**		
XAN					pP	sP	22 00 37.4	-0.1		
XAN					PP	**PP**	**22 03 02.4**	**+7.0**		
XAN					S	**S**	**22 09 15.4**	**-1.0**		
XAN					pmax	pmax				
	comp=Z,22nm,1.2s									
XAN					pmax	pmax				
	comp=Z,260nm,3.6s									
XAN					L	L				
	comp=Z,960nm,22.7s									
XAN					L	L				
	comp=Z,830nm,25.0s									
XAN					L	L				
	comp=Z,1μm,23.9s									
HIA	**Hailar**	**66.13**	**46**		P	**P**	**22 00 34.2**	**+0.4**		
HIA					pmax	pmax				
	comp=Z,37nm,1.1s									
HIA					MLR	MLR				
	comp=Z,1μm,19.0s									
HIA	**Hailar**	**66.13**	**46**		P	**P**	**22 00 34.1**	**+0.4**		
HIA					IAmb	IAmb	22 00 55.0			
	comp=Z,37nm,1.1s									
HIA	**Hailar**	**66.13**	**46**		IAMs_20	IAMs_20	22 34 04.9			
	comp=Z,951nm,19.0s									
TIY	**Taiyuan**	**66.55**	**60**	*e*	P	**P**	**22 00 36.4**	**-0.3**		
TIY					S	**S**	**22 09 27.1**	**0.0**		
TIY					L	L				
	comp=Z,300nm,12.6s									
TIY					L	L				
	comp=Z,220nm,9.6s									
TIY					L	L				
	comp=Z,560nm,21.6s									
HAL	**Halifax**	**66.61**	**309**		P	**P**	**22 00 36.5**	**-0.3**		
HAL					pmax	pmax				
	comp=Z,72nm,1.1s									
HAL	**Halifax**	**66.61**	**309**		P	**P**	**22 00 36.5**	**-0.3**		
UTTA	**Uttaradit**	**66.94**	**84**		P	**P**	**22 00 39.9**	**+0.5**		
	comp=Z,86nmcomp=Z,10nm,0.9s									
PHIT	**Phitsanulok**	**67.11**	**85**		P	**P**	**22 00 41.0**	**+0.5**		
	comp=Z,424nmcomp=Z,52nm,1.0s									
SUR	**Sutherland**	**67.36**	**185**		P	**P**	**22 00 42.9**	**+1.1**		
SUR					IAmb	IAmb	22 00 54.9			
	comp=Z,37nm,0.9s									
GYA	**Guiyang**	**67.50**	**73**	⇑	P	**P**	**22 00 43.9**	**+0.9**		
GYA					sP	sP	22 00 49.3	-0.1		
GYA					S	**S**	**22 09 38.8**	**-0.1**		
GYA					SS	**SS**	**22 13 56.8**	**-2.2**		
GYA					pmax	pmax				
	comp=Z,40nm,4.1s									
LOEI	**Loei**	**67.64**	**84**		P	**P**	**22 00 46.7**	**+2.9**		
	comp=Z,25nm,1.1s									
SLVN	**Son La**	**67.83**	**79**		P	**P**	**22 00 45.3**	**+0.2**		
ENH	**Enshi**	**67.84**	**68**		P	**P**	**22 00 45.1**	**+0.1**		
ENH					IAmb	IAmb	22 01 12.8			
	comp=Z,31nm,0.8s									
BJT	**Baijiatuau**	**68.08**	**56**		P	**P**	**22 00 46.7**	**+0.4**		
BJT					pmax	pmax				
	comp=Z,20nm,0.9s									
BJT					MLR	MLR				
	comp=Z,1μm,20.0s									
BJT	**Baijiatuau**	**68.08**	**56**		P	**P**	**22 00 46.7**	**+0.4**		
BJT					IAmb	IAmb	22 01 12.1			
	comp=Z,20nm,0.9s									
BJT	**Baijiatuau**	**68.08**	**56**		IAMs_20	IAMs_20	22 35 40.9			
	comp=Z,973nm,20.0s									
ZEA	**Zeya**	**68.17**	**39**	*e*	P	**P**	**22 00 48.4**	**+1.8**		
ZEA					pmax	pmax				
	comp=Z,10.0nm,0.9s									
D63A	**Stockholm**	**68.30**	**313**		P		22 00 46.2			
	baz=62									
PQI	**Presque Isle**	**68.42**	**312**		IAMs_20	IAMs_20	22 32 24.0			
	comp=Z,898nm,19.0s									
E64A	**Bridgewater**	**68.42**	**312**		P		22 00 46.9			
	baz=62									
E63A	**Oxbow**	**68.78**	**312**		P	**P**	**22 00 50.2**	**-0.3**		
E63A					IAmb	IAmb	22 01 03.3			
	comp=Z,29nm,0.8s									
E63A					IAMs_20	IAMs_20	22 31 29.6			
	comp=Z,745nm,18.0s									
E63A	**Oxbow**	**68.78**	**312**		P		22 00 49.3			
	baz=61									
D62A	**Allapoint, All**	**68.84**	**313**		P	**P**	**22 00 50.8**	**-0.1**		
D62A					IAMs_20	IAMs_20	22 35 40.1			
	comp=Z,774nm,19.0s									
D62A	**Allapoint, All**	**68.84**	**313**		P		22 00 49.7			
	baz=61,SNR=8.7									
G65A	**Princeton**	**68.84**	**311**		IAMs_20	IAMs_20	22 30 58.3			
	comp=Z,730nm,20.0s									
G65A	**Princeton**	**68.84**	**311**		P		22 00 49.7			
	baz=61									
NONG	**Nongkai**	**68.88**	**82**		P	**P**	**22 00 51.6**	**0.0**		
H66A	**Whiting**	**68.89**	**310**		P		22 00 50.4			
	baz=61									
F64A	**Sherman**	**69.01**	**312**		P	**P**	**22 00 51.8**	**-0.1**		
F64A					IAmb	IAmb	22 01 16.8			
	comp=Z,45nm,1.3s									
F64A	**Sherman**	**69.01**	**312**		P		22 00 50.4			
	baz=61									
EMMW	**East Machias**	**69.02**	**310**		IAMs_20	IAMs_20	22 31 21.9			
	comp=Z,884nm,19.0s									
CHAI	**Chaiyaphum**	**69.07**	**85**		P	**P**	**22 00 53.2**	**+0.4**		
	comp=Z,122nmcomp=Z,16nm,0.9s									
E62A	**Clayton Lake**	**69.35**	**313**		P	**P**	**22 00 53.7**	**-0.4**		
E62A					IAMs_20	IAMs_20	22 30 37.6			
	comp=Z,820nm,20.0s									
E62A	**Clayton Lake**	**69.35**	**313**		P		22 00 52.4			
	baz=61									
D61A	**St Aubert, Com**	**69.46**	**314**		P		22 00 53.1			
	baz=60									
H65A	**Eastbrook**	**69.51**	**311**		P		22 00 53.5			
	baz=61									
KHON	**Khomkaen**	**69.52**	**84**		P	**P**	**22 00 56.1**	**+0.5**		
	comp=Z,18nm,0.7s									
F63A	**Nahmakanta, Br**	**69.55**	**312**		IAMs_20	IAMs_20	22 37 20.8			
	comp=Z,668nm,18.0s									
F63A	**Nahmakanta, Br**	**69.55**	**312**		P		22 00 53.3			
	baz=61									
G64A	**Maxfield**	**69.56**	**311**		P		22 00 54.5			
	baz=61									
PKME	**Peaks-Kenny Pk**	**69.88**	**312**		P		22 00 56.1			
	baz=60									
F62A	**Pittston Farm,**	**69.97**	**312**		P	**P**	**22 00 58.2**	**+0.2**		
F62A					IAmb	IAmb	22 01 16.8			
	comp=Z,32nm,1.1s									
F62A					IAMs_20	IAMs_20	22 33 11.2			
	comp=Z,974nm,18.0s									
F62A	**Pittston Farm,**	**69.98**	**312**		P		22 00 56.3			
	baz=60									
E61A	**Lac Etchemin**	**70.02**	**313**		P		22 00 57.6			
	baz=60									
G63A	**Kingsbury**	**70.15**	**312**		P		22 00 57.6			
	baz=60									
WVL	**Waterville**	**70.45**	**311**		IAMs_20	IAMs_20	22 31 54.9			
	comp=Z,860nm,20.0s									
CHGQ	**Chibougamau**	**70.48**	**318**		P		22 00 59.8			
	baz=59									
F61A	**St Evariste**	**70.56**	**313**		P		22 01 01.2			
	baz=60									
TIA	**Tai'an**	**70.57**	**59**		P	**P**	**22 01 02.6**	**+0.8**		
TIA					S	**S**	**22 10 11.8**	**-3.0**		
TIA					pmax	pmax				
	comp=Z,16nm,1.3s									
TIA					pmax	pmax				
	comp=Z,160nm,7.5s									
TIA					L	L				
	comp=Z,430nm,27.9s									
TIA					L	L				
	comp=Z,430nm,27.9s									
TIA					L	L				
	comp=Z,600nm,31.9s									
E60A	**Ste Agathe de**	**70.63**	**313**		P		22 01 01.0			
	baz=59									
H63A	**New Sharon**	**70.64**	**311**		P		22 01 00.9			
	baz=60									
G62A	**West of Eustis**	**70.66**	**312**		IAMs_20	IAMs_20	22 32 02.3			
	comp=Z,764nm,20.0s									
G62A	**West of Eustis**	**70.66**	**312**		P		22 01 00.9			
	baz=60									
LHMI	**Lhok Sumawe**	**70.80**	**97**		IAMs_20	IAMs_20	22 35 17.8			
	comp=Z,886nm,22.0s									
LATQ	**La Tuque**	**70.89**	**315**		P		22 01 02.5			
	baz=59									
D58A	**Chemin du LacG**	**71.10**	**315**		P		22 01 03.9			
	baz=59									
F60A

SNY S **S** **22 10 24.0 -8.0**
SNY pmax pmax
comp=Z,13nm,1.5s
SNY pmax pmax
comp=Z,190nm,4.2s
SNY L L
comp=Z,650nm,19.9s
SNY L L
comp=Z,660nm,22.4s
SNY L L
comp=Z,1µm,21.1s
D56A ZEC Mazanza, M 72.21 315 P 22 01 11.3
baz=58,SNR=11
CN2 Changchun 72.22 49 *e*P **P** **22 01 12.4 +0.8**
CN2 S **S** **22 10 30.9 -2.7**
CN2 SS **SS** **22 15 13.3 +2.7**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 L L
comp=Z,450nm,17.0s
CN2 L L
comp=Z,850nm,17.0s
CN2 L L
comp=Z,780nm,18.0s
UBPT Khong Chiam 72.24 84 P **P** **22 01 12.4 +0.4**
UBPT Khong Chiam 72.24 84 P **P** **22 01 11.9 -0.2**
FFD Franklin Falls 72.25 311 IAMs_20 IAMs_20 22 32 49.4
comp=Z,636nm,19.0s
DL2 Dalian 72.31 55 P **P** **22 01 14.0 +1.8**
DL2 S **S** **22 10 33.0 -1.7**
DL2 pmax pmax
comp=Z,36nm,1.3s
DL2 pmax pmax
comp=Z,200nm,8.9s
DL2 L L
comp=Z,470nm,19.0s
DL2 L L
comp=Z,550nm,23.2s
DL2 L L
comp=Z,430nm,23.5s
H60A Morristown 72.32 312 P 22 01 11.4
baz=58
MATQ Matagami 72.34 319 P 22 01 12.2
baz=56
NBCL Cascavel-CE 72.37 252 *e*P **P** **22 01 14.9 +2.0**
LSQQ Lebel-sur-Quev 72.37 318 P 22 01 11.8
baz=57
NBPA Parau_RN 72.42 250 *e*P **P** **22 01 13.9 +0.8**
VT1 Waterbury 72.47 312 IAMs_20 IAMs_20 22 37 54.4
comp=Z,646nm,19.0s
TRQ Mont Tremblant 72.54 314 P **P** **22 01 13.2 -0.3**
L64A Middleborough 72.54 309 IAMs_20 IAMs_20 22 34 50.2
comp=Z,1µm,18.0s
BCX Boston College 72.54 310 IAMs_20 IAMs_20 22 35 21.2
comp=Z,1µm,20.0s
L64A Middleborough 72.54 309 P 22 01 13.6
baz=58
K63A Dunstable 72.58 310 IAMs_20 IAMs_20 22 34 54.3
comp=Z,912nm,18.0s
WES Weston 72.61 310 P **P** **22 01 14.2 +0.3**
WES pmax pmax
comp=Z,37nm,0.8s
WES MLR MLR
comp=Z,800nm,20.0s
WES Weston 72.61 310 P **P** **22 01 14.2 +0.3**
WES IAmb IAmb 22 01 26.6
comp=Z,37nm,0.8s
WES IAMs_20 IAMs_20 22 33 00.1
comp=Z,805nm,20.0s
D55A Sainte-Anne-du 72.64 316 P 22 01 13.3
baz=57,SNR=10
E56A St. Veronique 72.64 315 P 22 01 14.3
baz=57,SNR=5.5
HRV Adam Dziewonsk 72.70 310 IAMs_20 IAMs_20 22 33 13.3
comp=Z,809nm,19.0s
HRV Adam Dziewonsk 72.70 310 P 22 01 13.6
baz=58
FRNY Flat Rock 72.71 313 P **P** **22 01 14.4 -0.1**
FRNY IAmb IAmb 22 01 27.4
comp=Z,24nm,0.8s
NBRF Rio Formoso - 72.78 246 *e*P **P** **22 01 17.2 +1.9**
BILL Bilibino 72.79 15 *ce*P **P** **22 01 13.5 -1.1**
BILL *e* 22 01 32.4
BILL *e* 22 03 53.7
BILL *e*S SKiKP 22 11 07.7 +20
BILL pmax pmax
comp=Z,23nm,1.3s
BILL MLR MLR
comp=Z,362nm,19.0s
BILL Bilibino 72.79 15 P **P** **22 01 14.4 -0.1**
BILL IAmb IAmb 22 01 43.1
comp=Z,54nm,1.3s
G58A Ormstown 72.82 313 P 22 01 14.8
baz=58
F57A Harrington 72.84 314 P 22 01 14.1
baz=57
H59A Cadyville 72.87 313 P 22 01 14.9
baz=58,SNR=6.1
J61A Chester 72.87 311 P 22 01 14.5
baz=58
KLR Kul'dur 72.94 41 P **P** **22 01 16.2 +0.4**
comp=Z,7.2nm,0.9s,baz=305,slow=6.5,SNR=14
KLR Kul'dur 72.94 41 *ce*P **P** **22 01 15.5 -0.3**
KLR pmax pmax
comp=Z,22nm,0.9s
M64A Tiverton 72.98 309 P 22 01 14.3
baz=58
BRYW Bryant College 73.00 309 IAMs_20 IAMs_20 22 34 45.2
comp=Z,873nm,19.0s
K62A Royalston 73.04 310 IAMs_20 IAMs_20 22 35 09.3
comp=Z,795nm,18.0s
K62A Royalston 73.04 310 P 22 01 16.6
baz=58
I60A Shoreham 73.06 312 P 22 01 16.5
baz=58
L63A North Scituate 73.07 309 IAMs_20 IAMs_20 22 34 30.2
comp=Z,834nm,20.0s
L63A North Scituate 73.07 309 P 22 01 16.5
baz=58
VLDQ Val d'Or 73.16 317 P **P** **22 01 17.8 +0.8**
VLDQ IAmb IAmb 22 01 29.3
comp=Z,32nm,0.7s
NBMO Morrinhos-CE 73.18 253 *e*P **P** **22 01 18.5 +0.9**
E55A Montcerf-Lytto 73.29 315 P 22 01 17.4
baz=57
H58A Gabriels 73.29 313 P 22 01 18.3
baz=57
G57A Newington 73.40 314 P 22 01 18.7
baz=57
L61B Northampton 73.43 310 P 22 01 18.8
baz=58
I59A Olmsteadville 73.44 312 P 22 01 19.0
baz=57
J60A Lant Hill Farm 73.46 311 P 22 01 19.3
baz=57
GSI Gunungsitoli 73.59 100 P **P** **22 01 20.3 +0.2**
GSI IAmb IAmb 22 01 39.2
comp=Z,30nm,0.9s
C36M Paulatuk 73.67 350 P **P** **22 01 18.8 -0.9**
C36M IAmb IAmb 22 01 30.7
comp=Z,77nm,1.2s
C36M IAMs_20 IAMs_20 22 37 14.8
comp=Z,1µm,20.0s
C36M Paulatuk 73.68 350 P 22 01 18.6
baz=25
K61A Williamstown 73.68 311 P 22 01 19.0
baz=57
KULM Kulim 73.78 95 P **P** **22 01 22.0 +0.7**
QIZ Qiongzhong 73.79 78 P **P** **22 01 20.1 -1.2**
QIZ S **S** **22 10 53.6 +1.4**
QIZ L L
comp=Z,380nm,18.8s
QIZ L L
comp=Z,410nm,19.8s
QIZ L L
comp=Z,410nm,23.5s
QIZ Qiongzhong 73.79 78 P **P** **22 01 20.8 -0.4**
QIZ IAmb IAmb 22 01 27.4
comp=Z,31nm,1.0s
PSI Prapat 73.81 98 P **P** **22 01 21.6 +0.1**
comp=Z,8.6nm,0.6s,baz=359,slow=1.9,SNR=20
PSI Prapat 73.81 98 P **P** **22 01 21.4 -0.2**
PSI pmax pmax
comp=Z,22nm,0.8s
A21K Barrow 73.85 1 P **P** **22 01 20.8 +0.1**
A21K Barrow 73.85 1 P 22 01 19.9
baz=357,SNR=9.9

RPSI Rantau Prapat 73.87 98 P **P** **22 01 21.4 -0.3**
RPSI IAmb IAmb 22 01 31.7
comp=Z,22nm,0.8s
TRY Troy 73.89 311 IAMs_20 IAMs_20 22 34 00.9
comp=Z,769nm,20.0s
NJ2 Nanjing 73.92 62 *e*P **P** **22 01 20.4 -1.4**
NJ2 pP **pP** **22 01 25.1 -1.4**
NJ2 S **S** **22 10 55.0 +1.8**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,210nm,3.5s
NJ2 L L
comp=Z,490nm,18.0s
NJ2 L L
comp=Z,690nm,16.1s
NJ2 L L
comp=Z,760nm,17.7s
H57A Richville 73.99 313 P 22 01 21.5
baz=56
J59A Piesco 74.00 312 IAMs_20 IAMs_20 22 33 54.8
comp=Z,771nm,20.0s
J59A Piesco 74.01 312 P 22 01 21.8
baz=57
I58A Old Forge 74.17 312 P 22 01 22.8
baz=57
NBPB Pedra_Branca-C 74.20 251 *e*P **P** **22 01 25.6 +1.9**
NBAN Anadia - AL 74.28 246 *e*P **P** **22 01 24.4 +0.3**
MDJ Mudanjiang 74.29 46 P **P** **22 01 24.3 +0.5**
MDJ S **S** **22 10 55.9 -1.1**
MDJ ScS **ScS** **22 11 34.0 +0.1**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,170nm,8.2s
MDJ L L
comp=Z,840nm,18.5s
MDJ L L
comp=Z,860nm,14.2s
MDJ L L
comp=Z,810nm,24.5s
MDJ Mudanjiang 74.29 46 P **P** **22 01 23.3 -0.5**
MDJ IAMs_20 IAMs_20 22 39 22.9
comp=Z,756nm,19.0s
FCC Fort Churchill 74.38 332 P **P** **22 01 24.0 0.0**
FCC pmax pmax
comp=Z,20nm,0.9s
FCC Fort Churchill 74.38 332 P **P** **22 01 24.0 0.0**
I57A Carthage 74.44 313 P 22 01 24.1
baz=56
WSPT Westport, CT 74.53 310 IAMs_20 IAMs_20 22 34 34.8
comp=Z,930nm,19.0s
J58A Remsen 74.54 312 IAMs_20 IAMs_20 22 34 09.9
comp=Z,709nm,21.0s
J58A Remsen 74.54 312 P 22 01 24.3
baz=56
IPM Ipoh 74.55 95 P **P** **22 01 26.0 +0.2**
NBMA Muriti-CE 74.70 249 *e*P **P** **22 01 28.7 +2.0**
ALGO Algonquin Park 74.71 316 P 22 01 25.3
baz=55,SNR=8.7
J57A Williamstown 74.94 313 IAMs_20 IAMs_20 22 33 49.6
comp=Z,949nm,21.0s
J57A Williamstown 74.94 313 P 22 01 27.0
baz=56
NBPS Pedro II - PI 74.94 254 *e*P **P** **22 01 29.0 +0.9**
MA2 Magadan 74.97 26 *i*P **P** **22 01 26.1 -1.3**
MA2 pmax pmax
comp=Z,24nm,1.0s
MA2 Magadan 74.97 26 P **P** **22 01 28.0 +0.6**
MA2 IAmb IAmb 22 01 39.2
comp=Z,33nm,1.0s
MA2 IAMs_20 IAMs_20 22 39 58.1
comp=Z,1µm,19.0s
PAL Palisades 74.99 310 IAMs_20 IAMs_20 22 34 57.9
comp=Z,840nm,19.0s
L59A Walton 75.04 311 IAMs_20 IAMs_20 22 36 52.2
comp=Z,713nm,18.0s
L59A Walton 75.04 311 P 22 01 28.6
baz=56
G54A Lake Saint Pet 75.05 315 P 22 01 27.5
baz=55,SNR=13
PECO Prince Edward 75.24 313 P **P** **22 01 30.2 +0.9**
PECO IAmb IAmb 22 01 45.8
comp=Z,30nm,1.1s
J56A Wolcott 75.53 313 IAMs_20 IAMs_20 22 33 18.3
comp=Z,702nm,21.0s
J56A Wolcott 75.54 313 P 22 01 30.8
baz=55
BINY Binghamton 75.61 312 P **P** **22 01 32.1 +0.6**
BINY IAmb IAmb 22 01 44.9
comp=Z,45nm,0.9s
BINY IAMs_20 IAMs_20 22 36 37.4
comp=Z,718nm,19.0s
BINY Binghamton 75.61 312 P 22 01 31.3
baz=56
L58A Harry Jones Me 75.62 311 P 22 01 31.3
baz=56
K57A Scipio Center 75.64 312 P **P** **22 01 32.4 +0.8**
K57A IAmb IAmb 22 01 44.6
comp=Z,82nm,1.4s
H53A Bobcaygeon 75.81 315 P 22 01 32.5
baz=55
INK Inuvik 75.86 353 P **P** **22 01 30.9 -1.5**
comp=Z,12nm,0.9s,baz=9.5,slow=7.7,SNR=16
INK Inuvik 75.86 353 P **P** **22 01 31.1 -1.3**
INK pmax pmax
comp=Z,21nm,0.9s
INK Inuvik 75.86 353 P **P** **22 01 31.1 -1.3**
INK Inuvik 75.86 353 P 22 01 30.5
baz=17
USA0B Ussuriysk Arra 75.94 46 P **P** **22 01 32.5 -0.8**
USA0B pmax pmax
comp=Z,40nm,0.8s
USA0B Ussuriysk Arra 75.94 46 P **P** **22 01 32.5 -0.8**
USA0B IAmb IAmb 22 01 53.3
comp=Z,40nm,0.8s
USRK Ussuriysk Ar. 75.94 46 P **P** **22 01 33.1 -0.2**
comp=Z,17nm,0.7s,baz=292,slow=4.3,SNR=41
USRK LR LR 22 39 14.2
comp=Z,598nm,19.5s,baz=302,slow=39
USRK Ussuriysk Ar. 75.94 46 P **P** **22 01 33.0 -0.3**
SADO Sadowa 76.02 315 P **P** **22 01 33.1 -0.7**
comp=Z,6.0nm,0.7s,baz=68,slow=3.8,SNR=7.0
SADO LR LR 22 35 18.6
comp=Z,701nm,18.6s,baz=24,slow=36
SADO Sadowa 76.02 315 P **P** **22 01 33.8 0.0**
SADO IAmb IAmb 22 01 46.1
comp=Z,43nm,1.2s
SSE Sheshan 76.11 62 P **P** **22 01 31.7 -2.8**
SSE S **S** **22 11 11.3 -6.3**
SSE pmax pmax
comp=Z,60nm,3.5s
SSE L L
comp=Z,160nm,23.9s
SSE L L
comp=Z,170nm,21.4s
K56A Middlesex 76.15 313 P 22 01 34.2
baz=55
ROSB Rosrio 76.16 256 *e*P **P** **22 01 36.3 +1.3**
N59A State Game Lan 76.20 310 IAMs_20 IAMs_20 22 35 30.1
comp=Z,719nm,19.0s
N59A State Game Lan 76.21 310 P 22 01 32.9
baz=56
NBLA Lagarto - SE 76.27 246 *e*P **P** **22 01 37.4 +1.8**
INCN Inchon 76.40 54 P **P** **22 01 36.1 0.0**
INCN pmax pmax
comp=Z,18nm,0.7s
INCN MLR MLR
comp=Z,800nm,19.0s
INCN Inchon 76.40 54 P **P** **22 01 36.1 0.0**
INCN IAmb IAmb 22 01 50.2
comp=Z,18nm,0.7s
INCN Inchon 76.40 54 IAMs_20 IAMs_20 22 41 00.9
comp=Z,767nm,19.0s
VLA Vladivostok 76.51 47 *i*P **P** **22 01 36.4 -0.1**
VLA pmax pmax
comp=Z,30nm,0.9s
TOLK Toolik Lake Re 76.54 359 P **P** **22 01 36.5 +0.2**
TOLK Toolik Lake Re 76.54 359 P 22 01 35.6
baz=3.1,SNR=8.2
L56A Greenwood 76.61 312 P **P** **22 01 37.3 0.0**
L56A IAMs_20 IAMs_20 22 37 28.8
comp=Z,811nm,18.0s
L56A Greenwood 76.61 312 P 22 01 36.6
baz=55
P60A Greenville 76.75 309 P **P** **22 01 38.2 +0.3**

P60A IAmb IAmb 22 01 47.7
comp=Z,31nm,1.1s
P60A IAMs_20 IAMs_20 22 36 29.5
comp=Z,602nm,20.0s
P60A Greenville 76.75 309 P 22 01 37.3
baz=55
N58A Sunbury 76.84 311 P **P** **22 01 39.0 +0.5**
RDOG Red Dog Mine 76.91 4 P **P** **22 01 38.4 0.0**
RDOG IAmb IAmb 22 01 47.9
comp=Z,22nm,0.9s
RDOG IAMs_20 IAMs_20 22 34 34.1
comp=Z,817nm,22.0s
RDOG Red Dog Mine 76.91 4 P 22 01 37.1
baz=352
BKNI Bangkinang 76.96 99 P **P** **22 01 38.6 -1.0**
Q61A Milford 77.08 308 P 22 01 38.7
baz=55
KS19 Wonju Array Si 77.20 53 P **P** **22 01 40.9 +0.4**
KS19 IAmb IAmb 22 01 57.7
comp=Z,23nm,0.8s
KSAR Wonju Array Be 77.25 53 P **P** **22 01 41.1 +0.3**
KSAR Wonju Array Be 77.25 53 P **P** **22 01 41.1 +0.3**
KSRS Korea Array 77.26 53 P **P** **22 01 41.2 +0.4**
comp=Z,14nm,0.9s,baz=304,slow=5.2,SNR=29
KSRS LR LR 22 39 57.5
comp=Z,663nm,21.5s,baz=314,slow=39
QZH Quanzhou 77.50 68 *e*P **P** **22 01 42.0 -0.4**
QZH S **S** **22 11 31.2 -1.8**
QZH L L
comp=Z,470nm,20.8s
QZH L L
comp=Z,310nm,19.4s
QZH L L
comp=Z,510nm,23.7s
TJN Taejon 77.50 54 *ce*P **P** **22 01 42.2 -0.1**
BMAR Burnt Mountain 77.58 357 P **P** **22 01 42.1 -0.1**
SSPA Standing Stone 77.68 311 P **P** **22 01 43.2 0.0**
SSPA IAmb IAmb 22 01 56.6
comp=Z,53nm,1.2s
SSPA Standing Stone 77.68 311 IAMs_20 IAMs_20 22 39 54.2
comp=Z,792nm,18.0s
SSPA Standing Stone 77.68 311 P 22 01 42.1
baz=54
YKA Yellowknife Ar 77.91 343 P **P** **22 01 42.9 -1.1**
comp=Z,11nm,0.7s,baz=36,slow=5.6,SNR=85
YKA LR LR 22 38 28.1
comp=Z,764nm,18.7s,baz=0.0,slow=38
COLD Coldfoot 77.97 359 P **P** **22 01 44.2 -0.2**
COLD Coldfoot 77.97 359 P 22 01 43.7
baz=2.6,SNR=21
EPYK Eagle Plains 78.06 353 P 22 01 43.6
baz=14
ERPA Erie 78.08 313 P **P** **22 01 45.6 +0.2**
ERPA IAMs_20 IAMs_20 22 37 30.7
comp=Z,892nm,19.0s
ERPA Erie 78.09 313 P 22 01 43.8
baz=53
TEY Ternei 78.09 43 *e*P P 22 01 54.1 +8.8
M54A Oil Creek Stat 78.25 313 P **P** **22 01 46.2 -0.2**
M54A IAmb IAmb 22 01 59.1
comp=Z,44nm,1.0s
M54A IAMs_20 IAMs_20 22 34 51.2
comp=Z,702nm,20.0s
M54A Oil Creek Stat 78.25 313 P 22 01 44.2
baz=54
O56A Blue Knob Stat 78.32 311 IAMs_20 IAMs_20 22 40 13.0
comp=Z,758nm,18.0s
O56A Blue Knob Stat 78.32 311 P 22 01 44.9
baz=54
MYKOM Kota Tinggi 78.40 96 P **P** **22 01 48.0 +0.5**
MDP Montagnes des 78.43 268 P **P** **22 01 48.9 +1.2**
comp=Z,6.1nm,0.9s,baz=169,slow=5.2,SNR=1.6
N54A Moraine State 78.78 312 IAMs_20 IAMs_20 22 35 58.1
comp=Z,739nm,21.0s
N54A Moraine State 78.78 312 P 22 01 47.8
baz=53
CBN Corbin Frederi 78.78 309 P **P** **22 01 50.2 +0.9**
CBN IAMs_20 IAMs_20 22 38 28.3
comp=Z,831nm,18.0s
M53A WI Miller and 78.90 313 P **P** **22 01 50.5 +0.5**
M53A IAMs_20 IAMs_20 22 35 11.4
comp=Z,1µm,21.0s
M53A WI Miller and 78.90 313 P 22 01 49.6
baz=53
TNA Tin City 79.02 6 P 22 01 49.2
baz=348
TMAB Tom-Au,PA,Br 79.03 259 *e*P **P** **22 01 53.8 +2.8**
GLMI Grayling 79.09 318 IAMs_20 IAMs_20 22 33 40.1
comp=Z,937nm,21.0s
IMAR Indian Mountai 79.24 0 P **P** **22 01 51.2 -0.1**
H24K Noodor Dome 79.31 358 P 22 01 51.3
baz=4.5,SNR=8.1
GDU01 Guandu, BA 79.35 245 *e*P **P** **22 01 53.8 +1.1**
H23K Yukon River 79.36 358 P 22 01 52.1
baz=3.1,SNR=18
JSRW J. Sargeant Re 79.40 309 P **P** **22 01 52.8 +0.1**
MCWV Mont Chateau 79.47 311 P **P** **22 01 53.5 +0.4**
MCWV IAmb IAmb 22 02 02.7
comp=Z,34nm,0.8s
MCWV IAMs_20 IAMs_20 22 37 24.5
comp=Z,888nm,20.0s
MCWV Mont Chateau 79.47 311 P 22 01 52.0
baz=53
G45A Suttons Bay 79.53 318 P **P** **22 01 53.5 +0.2**
PRP Porcupine Dome 79.53 357 IAMs_20 IAMs_20 22 43 27.5
comp=Z,594nm,21.0s
H21K Melozitna Rive 79.57 360 P 22 01 51.6
baz=0.4,SNR=18
O53A New Philadelph 79.95 312 IAMs_20 IAMs_20 22 36 33.1
comp=Z,818nm,20.0s
O53A New Philadelph 79.95 312 P 22 01 55.3
baz=52
TPUB Ta-pu 79.95 69 P **P** **22 01 56.3 +0.3**
EGAK Eagle 80.00 355 P **P** **22 01 55.0 -0.5**
EGAK Eagle 80.00 355 P 22 01 55.4
baz=10
POKR Poker Plat Res 80.01 358 P 22 01 55.5
baz=4.9,SNR=5.2
FDF Fort de France 80.02 281 P **P** **22 01 57.1 +0.6**
FDF pmax pmax
comp=Z,90nm,1.2s
FDF Fort de France 80.02 281 P **P** **22 01 57.1 +0.6**
NBIT Itapeh - BA 80.03 244 *e*P **P** **22 01 58.1 +1.8**
I23K Minto, Yukon-K 80.04 358 P **P** **22 01 55.9 +0.2**
I23K Minto, Yukon-K 80.04 358 P 22 01 55.4
baz=3.3,SNR=8.3
BIM Bigot 80.07 281 P **P** **22 01 57.6 +0.8**
AAM Ann Arbor 80.13 315 IAMs_20 IAMs_20 22 37 33.8
comp=Z,815nm,20.0s
YSS Yuzh-Sakhalins 80.16 39 *e*P **P** **22 01 57.3 +0.7**
YSS *e* 22 04 57.9
YSS *e*S **S** **22 11 56.2 -4.5**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 80.16 39 P **P** **22 01 57.0 +0.4**
YSS IAmb IAmb 22 02 07.6
comp=Z,46nm,1.0s
MLY Manley 80.18 359 P **P** **22 01 56.4 -0.1**
MLY IAMs_20 IAMs_20 22 41 53.7
comp=Z,687nm,21.0s
MLY Manley 80.18 359 P 22 01 55.5
baz=2.1,SNR=19
MDM Murphy Dome 80.20 358 P **P** **22 01 56.4 -0.2**
MDM IAmb IAmb 22 02 08.5
comp=Z,36nm,0.9s
ANM Nome 80.21 5 P 22 01 55.3
baz=350
COLA College 80.27 358 *i*P **P** **22 01 56.2 -0.7**
COLA pmax pmax
comp=Z,35nm,1.5s
FFC Flin Flon 80.30 333 P **P** **22 01 56.5 -0.8**
FFC pmax pmax
comp=Z,50nm,1.1s
FFC MLR MLR
comp=Z,1µm,20.0s
FFC Flin Flon 80.30 333 P **P** **22 01 56.5 -0.8**
FFC IAmb IAmb 22 02 08.8
comp=Z,50nm,1.1s
IL31 80.34 357 P **P** **22 01 57.2 0.0**
ILAR Eielson Array 80.34 357 P **P** **22 01 57.2 -0.1**
comp=Z,4.0nm,0.7s,baz=355,slow=4.0,SNR=35
ILAR PKKPbc **PKKPbc** **22 20 39.0 -0.7**
comp=Z,0.6nm,0.7s,baz=225,slow=3.4,SNR=4.1
ILAR PKPPKP **P'P'df** **22 28 51.6 +1.7**
comp=Z,0.5nm,0.7s,baz=224,slow=2.3,SNR=4.5
ILAR LR LR 22 37 40.4

comp=Z,224nm,19.8s,baz=18,slow=36
ILAR Eielson Array 80.34 357 P P 22 01 57.0 -0.3
ILAR Eielson Array 80.34 357 P P 22 01 57.0 -0.3
CMC01 Camacan, BA 80.37 244 eP P 22 01 59.2 +1.1
GAMB Gambell 80.37 8 IAMs_20 IAMs_20 22 42 21.7
comp=Z,568nm,20.0s
GAMB Gambell 80.37 8 P 22 01 56.7
baz=345
O52A Adamsville 80.41 313 P **P 22 01 57.9 -0.3**
O52A IAmb IAmb 22 02 07.4
comp=Z,37nm,0.7s
YULB Yu-li 80.41 68 P P 22 01 58.6 +0.2
CCB Clear Creek Bu 80.49 358 P P 22 01 57.7 -0.5
TWG Pinlang 80.56 69 P P 22 01 59.2 0.0
TWG IAmb IAmb 22 02 21.1
comp=Z,38nm,1.1s
DAWY Dawson 80.56 354 P P 22 01 58.2 -0.4
DAWY IAmb IAmb 22 02 10.4
comp=Z,60nm,1.1s
NEA2 Nenana 80.59 358 P 22 01 57.4
baz=3.5
EYMN Ely 80.64 323 P 22 01 57.7
baz=47
COWI Conover 80.69 321 P P 22 01 58.9 -0.7
COWI IAmb IAmb 22 02 10.7
comp=Z,32nm,0.7s
COWI IAMs_20 IAMs_20 22 37 34.4
comp=Z,595nm,21.0s
HDA Harding Lake 80.70 357 P P 22 01 58.4 -0.9
HDA IAmb IAmb 22 02 00.3
comp=Z,36nm,1.0s
HDA Harding Lake 80.70 357 P 22 01 58.1
baz=5.3,SNR=17
HDA P 22 01 58.1
baz=5.3,SNR=17
P52A Corning 80.88 312 P P 22 02 00.2 -0.5
P52A IAmb IAmb 22 02 13.4
comp=Z,67nm,1.3s
P52A IAMs_20 IAMs_20 22 36 25.9
comp=Z,776nm,21.0s
P52A Corning 80.89 312 P 22 01 59.4
baz=52
SCRK Sand Creek 80.99 356 IAMs_20 IAMs_20 22 41 56.0
comp=Z,595nm,19.0s
SCRK Sand Creek 80.99 356 P 22 02 00.1
baz=7.7,SNR=19
H43A Windswept, Lux 81.04 319 P P 22 02 01.1 -0.4
H43A IAmb IAmb 22 02 11.2
comp=Z,30nm,0.9s
MCPB Macapa, AP 81.07 263 eP P 22 02 03.4 +1.3
ULM Lac du Bonnet 81.09 327 P P 22 02 00.8 -0.8
comp=Z,11nm,0.6s,baz=40,slow=6.2,SNR=11
ULM LR LR 22 37 29.0
comp=Z,1μm,21.3s,baz=50,slow=35
ULM Lac du Bonnet 81.09 327 P P 22 02 00.5 -1.1
ULM pmax pmax
comp=Z,22nm,0.8s
ULM Lac du Bonnet 81.09 327 P P 22 02 00.5 -1.1
ULM IAmb IAmb 22 02 10.0
comp=Z,22nm,0.8s
BPAW Bear Paw Mtn. 81.12 359 P P 22 02 00.4 -1.2
BPAW Bear Paw Mtn. 81.12 359 P 22 01 59.7
baz=1.9,SNR=11
CDVI St. Croix 81.23 285 P P 22 02 02.2 -0.7
BLA Blacksburg 81.31 310 IAMs_20 IAMs_20 22 40 05.3
comp=Z,736nm,20.0s
BLA Blacksburg 81.31 310 P 22 02 00.9
baz=52
DOT Dot Lake 81.32 356 P P 22 02 02.4 -0.2
DOT IAmb IAmb 22 02 14.0
comp=Z,40nm,1.0s
CHUM Lake Minchumin 81.35 360 P 22 02 02.2
baz=0.8,SNR=15
GUA01 Guaratinga, BA 81.36 243 eP P 22 02 05.7 +2.2
MCK McKinley 81.45 358 P 22 02 02.0
baz=3.6,SNR=7.8
MTP Monte Pirata 81.66 286 P P 22 02 04.7 -0.5
MTP IAmb IAmb 22 02 22.3
comp=Z,47nm,1.1s
KTH Kantishna Hill 81.67 359 P P 22 02 04.0 -0.5
KTH IAmb IAmb 22 02 06.2
comp=Z,35nm,1.1s
BCAR Beaver Creek A 81.74 355 P P 22 02 05.1 +0.2
L27K Beaver Creek, 81.75 355 P P 22 02 04.7 -0.2
L27K IAmb IAmb 22 02 16.5
comp=Z,27nm,1.0s
L27K Beaver Creek, 81.75 355 P 22 02 03.2
baz=9.5,SNR=16
TRF Thorofare Moun 81.76 359 IAMs_20 IAMs_20 22 41 42.4
comp=Z,603nm,21.0s
TRF Thorofare Moun 81.76 359 P 22 02 03.1
baz=2.5,SNR=5.9
G40A Rib Lake 81.80 321 P P 22 02 05.0 -0.6
CBYP Canovanas 81.80 286 P P 22 02 05.5 -0.5
CBYP IAmb IAmb 22 02 16.7
comp=Z,33nm,1.0s
U56A King 81.81 309 P P 22 02 05.8 0.0
O49A Covington 81.86 314 P P 22 02 05.3 -0.6
PMBI Palembang 81.88 99 IAMs_20 IAMs_20 22 44 09.4
comp=Z,822nm,21.0s
ASAJ Asahikawa 81.96 41 P P 22 02 07.1 +0.8
ASAJ pmax pmax
comp=Z,31nm,1.1s
JKA Kamikawa-asahi 81.96 41 P P 22 02 07.1 +0.7
JKA IAmb IAmb 22 02 26.9
comp=Z,31nm,1.1s
WAT2 Susitna Watana 82.21 358 P 22 02 05.3
baz=3.9
TTA Tatalina 82.28 1 P P 22 02 07.4 -0.4
TTA pmax pmax
comp=Z,17nm,1.0s
TTA Tatalina 82.28 1 P P 22 02 07.4 -0.4
TTA Tatalina 82.28 1 P 22 02 06.5
baz=358
PPLA Purkeypile 82.34 360 P 22 02 06.9
baz=0.9,SNR=5.2
PEA0B Petropavlovsk- 82.37 27 P P 22 02 07.7 -0.6
PEA0B pmax pmax
comp=Z,22nm,1.2s
PEA0B Petropavlovsk- 82.37 27 P P 22 02 07.7 -0.6
PETK Petropavlovsk- 82.37 27 P P 22 02 06.4 -1.9
comp=Z,7.3nm,1.1s,baz=2.6,slow=3.3,SNR=9.1
PETK PP PP **22 05 19.9 +3.5**
comp=Z,2.6nm,0.6s,baz=21,slow=4.9,SNR=5.5
PETK LR LR 22 43 18.2
comp=Z,790nm,19.7s,baz=318,slow=39
PETK Petropavlovsk- 82.37 27 P P 22 02 07.2 -1.1
NAN01 Guarapari, ES 82.41 242 eP P 22 02 09.7 +0.7
SMTB Santa Maria do 82.49 254 eP P 22 02 11.5 +2.0
AGMN Agassiz Nation 82.49 325 IAMs_20 IAMs_20 22 40 38.6
comp=Z,757nm,19.0s
AGMN Agassiz Nation 82.49 325 P 22 02 07.5
baz=44
P49A Miami Univ. Ec 82.50 313 IAMs_20 IAMs_20 22 40 16.6
comp=Z,895nm,18.0s
P49A Miami Univ. Ec 82.50 313 P 22 02 07.8
baz=50
SDBA SAO DESIDERIO 82.56 249 eP P 22 02 11.7 +1.8
WAT6 Susitna Watana 82.56 357 P 22 02 07.5
baz=4.6,SNR=15
HARP HAARP 82.63 356 P 22 02 09.5
baz=6.7
L44A Lake County Fo 82.63 317 IAMs_20 IAMs_20 22 35 24.8
comp=Z,930nm,22.0s
L44A Lake County Fo 82.63 317 P 22 02 09.4
baz=49
PRPB Parauapebas 82.65 257 eP P 22 02 11.4 +1.0
PET Petropavlovsk 82.79 27 eP P 22 02 09.3 -1.2
PET *e* 22 05 21.0
PET *eS* **S 22 12 22.6 -5.1**
PET *ePS* **PnS 22 13 13.5 -4.6**
PET *eSS* **SS 22 17 52.0 +3.0**
PET pmax pmax
comp=Z,200nm,13.6s
PET Petropavlovsk 82.79 27 IAMs_20 IAMs_20 22 46 06.0
comp=Z,932nm,19.0s
CUT Chulitna 82.81 359 P 22 02 09.8
baz=2.5
HQIL Hanson Quary C 82.84 317 IAMs_20 IAMs_20 22 36 06.5
comp=Z,817nm,21.0s
P48A Milroy 82.97 314 P P 22 02 11.3 -0.4
P48A IAmb IAmb 22 02 20.3
comp=Z,45nm,1.1s
M24K Tolsona, Glenn 82.97 357 P 22 02 11.3
baz=5.9
SZP Santa 83.03 74 P P 22 02 11.3 -1.0

KMSC Kings Mountain 83.16 308 P 22 02 12.0
baz=52
SPMN Marine on St. 83.17 322 P 22 02 11.6
baz=46,SNR=5.8
SKT Skwentna 83.25 359 IAMs_20 IAMs_20 22 43 51.9
comp=Z,573nm,20.0s
SKT Skwentna 83.25 359 P 22 02 11.4
baz=1.5
SCM Sheep Creek Mo 83.29 357 P P 22 02 13.5 +0.5
SCM pmax pmax
comp=Z,97nm,1.3s
SCM Sheep Creek Mo 83.29 357 P P 22 02 13.5 +0.5
SFIN Lafayette 83.35 315 P 22 02 12.1
baz=49,SNR=5.1
SML Sawmill 83.36 358 P 22 02 12.7
baz=4.1,SNR=6.0
N25K Chitina, Valde 83.38 356 P 22 02 13.0
baz=7.2
JWT Wachi 83.40 51 P P 22 02 14.2 +0.2
JWT IAmb IAmb 22 02 29.7
comp=Z,19nm,0.8s
WHY Whitehorse 83.41 351 P 22 02 12.0
baz=15,SNR=8.0
GHO Glory Hole Cre 83.41 358 P P 22 02 13.2 -0.4
JFWS Jewell Farm 83.42 319 IAMs_20 IAMs_20 22 36 34.6
comp=Z,1μm,22.0s
JFWS Jewell Farm 83.42 319 P 22 02 12.8
baz=47
M22K Willow 83.46 359 P 22 02 13.3
baz=2.6
MCARA McCarthy VSAT 83.50 355 IAMs_20 IAMs_20 22 43 53.5
comp=Z,722nm,20.0s
KLU Klutina 83.57 356 P P 22 02 14.2 -0.3
KLU IAmb IAmb 22 02 15.9
comp=Z,21nm,1.1s
KLU Klutina 83.57 356 P 22 02 13.6
baz=6.1
PMR Palmer 83.59 358 P P 22 02 14.2 -0.2
PMR pmax pmax
comp=Z,92nm,1.4s
PMR Palmer 83.59 358 P P 22 02 14.2 -0.2
PMR Palmer 83.60 358 P 22 02 13.1
baz=3.4,SNR=6.4
TZTN Tazewell 83.69 311 IAMs_20 IAMs_20 22 39 10.2
comp=Z,661nm,19.0s
VRDI Verde Repeater 83.69 355 IAMs_20 IAMs_20 22 44 02.4
comp=Z,540nm,21.0s
TZTN Tazewell 83.69 311 P 22 02 13.6
baz=51
BARN Barnard Glacie 83.72 354 IAMs_20 IAMs_20 22 43 57.3
comp=Z,780nm,18.0s
MALB Monte Alegre 83.73 263 eP P 22 02 18.6 +2.7
SJMB Sao Joao De Ma 83.73 242 eP P 22 02 16.4 +0.6
JANB Januaria 83.74 247 eP P 22 02 16.8 +0.8
KNK Knik Glacier 83.75 358 P P 22 02 15.4 +0.1
KNK Knik Glacier 83.75 358 P 22 02 14.7
baz=4.0
SUA Susitna One 83.76 359 P 22 02 15.0
baz=2.1
CTG Chitna Glacier 83.79 354 P 22 02 14.5
baz=9.8
KSM Kuching 83.86 93 P P 22 02 18.0 +1.4
BMRM Bremner River 84.02 356 P 22 02 15.9
baz=7.2,SNR=5.5
SPCR Spurr Chakacha 84.04 360 P 22 02 16.1
baz=0.9
RC01 Rabbit Creek A 84.11 358 P P 22 02 16.6 -0.5
RC01 Rabbit Creek A 84.12 358 P 22 02 16.3
baz=2.9
CRQE Crique 84.14 355 P 22 02 16.6
baz=8.4
WCI Wyandotte Cave 84.28 313 P P 22 02 18.2 -0.3
WCI pmax pmax
comp=Z,42nm,0.8s
WCI MLR MLR
comp=Z,900nm,19.0s
WCI Wyandotte Cave 84.28 313 P P 22 02 18.2 -0.3
WCI Wyandotte Cave 84.28 313 P 22 02 16.6
baz=49
TABL Table Mountain 84.29 354 IAMs_20 IAMs_20 22 44 23.4
comp=Z,715nm,19.0s
MAJO Matsushiro 84.37 49 P P 22 02 19.2 +0.2
MAJO pmax pmax
comp=Z,23nm,1.0s
MAJO MLR MLR
comp=Z,900nm,22.0s
MAJO Matsushiro 84.37 49 P P 22 02 19.2 +0.2
MAJO IAmb IAmb 22 02 34.9
comp=Z,23nm,0.9s
MAJO Matsushiro 84.37 49 IAMs_20 IAMs_20 22 42 47.8
comp=Z,879nm,22.0s
MAT Matsushiro 84.37 49 P P 22 02 19.2 +0.2
MAT S **S 22 12 42.6 -1.8**
MJAR Matsushiro Arr 84.37 49 P P 22 02 19.7 +0.7
comp=Z,12nm,0.9s,baz=310,slow=4.8,SNR=15
MJAR LR LR 22 44 17.7
comp=Z,559nm,19.5s,baz=315,slow=39
MJAR Matsushiro Arr 84.37 49 P P 22 02 19.2 +0.2
MJAR pmax pmax
comp=Z,23nm,0.9s
MJAR Matsushiro Arr 84.37 49 P P 22 02 19.2 +0.2
MJAR IAmb IAmb 22 02 46.3
comp=Z,23nm,0.9s
INU Inuyama 84.39 50 IAMs_20 IAMs_20 22 45 54.6
comp=Z,826nm,21.0s
TKL Tuckaleechee C 84.39 310 P P 22 02 18.7 -0.3
comp=Z,19nm,1.2s,baz=137,slow=5.5,SNR=7.4
TKL LR LR 22 41 08.1
comp=Z,801nm,18.5s,baz=85,slow=37
CAPN Captain Cook N 84.47 359 P 22 02 18.6
baz=1.8
HDIL Hopedale 84.48 317 IAMs_20 IAMs_20 22 42 08.9
comp=Z,716nm,19.0s
HDIL Hopedale 84.48 317 P 22 02 18.2
baz=48
MC01 Montes Claros 84.50 245 eP P 22 02 19.8 0.0
EYAK Cordova Ski Ar 84.50 356 P 22 02 18.5
baz=6.2
MDND Maddock 84.52 327 P 22 02 18.5
baz=42
PINM Pinnacle 84.55 354 P 22 02 18.7
baz=11
MESA MESA 84.62 354 P 22 02 18.8
baz=9.3
ALF01 Guarapari-ES 84.63 240 eP P 22 02 21.4 +1.1
BGLC Bering Glacier 84.78 355 P 22 02 19.5
baz=8.2
SBUM Sibu 84.87 91 P P 22 02 24.0 +2.2
PEXB Peixe 85.00 252 eP P 22 02 22.9 +0.5
OLIL Olney 85.02 315 P P 22 02 21.4 -0.8
SEW Seward 85.10 358 P 22 02 20.8
baz=3.2
BANI BANI 85.25 289 P P 22 02 23.6 -0.2
BESE Bessie Mountai 85.42 350 P P 22 02 24.5 +0.7
BESE IAmb IAmb 22 02 35.7
comp=Z,27nm,0.9s
GOGA Godfrey 85.62 308 P P 22 02 25.1 -0.2
GOGA pmax pmax
comp=Z,24nm,0.9s
GOGA MLR MLR
comp=Z,600nm,22.0s
GOGA Godfrey 85.62 308 P P 22 02 25.1 -0.2
GOGA IAmb IAmb 22 02 34.9
comp=Z,24nm,0.8s
GOGA Godfrey 85.62 308 IAMs_20 IAMs_20 22 39 07.5
comp=Z,648nm,22.0s
GOGA Godfrey 85.62 308 P 22 02 23.0
baz=50
SDDR Presa de Saban 85.63 290 P P 22 02 25.7 +0.1
SDDR IAMs_20 IAMs_20 22 38 12.7
comp=Z,615nm,20.0s
JIS Juneau Island 85.65 350 P P 22 02 25.4 +0.5
JIS IAmb IAmb 22 02 36.8
comp=Z,24nm,0.8s
SCIA State Center 85.70 320 P P 22 02 25.0 -0.5
SCIA IAMs_20 IAMs_20 22 38 08.1
comp=Z,948nm,21.0s
SCIA State Center 85.70 320 P 22 02 24.4
baz=45
SWET Sewanee 86.02 311 P P 22 02 27.0 -0.3
SWET IAmb IAmb 22 02 36.2
comp=Z,24nm,1.0s
CAM01 Campos-RJ 86.07 240 eP P 22 02 29.1 +1.6
ECSD EROS Data Cent 86.15 323 P P 22 02 27.2 -0.6
ECSD IAmb IAmb 22 02 36.6
comp=Z,21nm,0.9s

ECSD EROS Data Cent 86.15 323 P 22 02 26.2
baz=43,SNR=14
SIUC Southern Illin 86.35 314 P P 22 02 28.2 -0.5
ITTB Itaituba 86.37 262 eP P 22 02 30.2 +0.9
BOAV Boa Vista 86.42 270 eP P 22 02 31.4 +1.9
WVT Waverly 86.58 312 P P 22 02 29.1 -0.9
WVT pmax pmax
comp=Z,32nm,0.7s
WVT MLR MLR
comp=Z,900nm,19.0s
WVT Waverly 86.58 312 P P 22 02 29.1 -0.9
WVT Waverly 86.58 312 P 22 02 28.5
baz=48
DUB01 Friburgo-RJ 86.75 240 eP P 22 02 31.6 +0.7
SUSD Miller 86.77 324 P 22 02 29.8
baz=42
BDFB Brasilia 86.91 249 LR LR 22 43 55.0
comp=Z,912nm,18.7s,baz=60,slow=37
BDFB Brasilia 86.91 249 P P 22 02 32.1 +0.2
BDFB pmax pmax
comp=Z,17nm,0.7s
BDFB Brasilia 86.91 249 P P 22 02 32.0 +0.2
BDFB IAmb IAmb 22 02 47.3
comp=Z,17nm,0.7s
TIGA Tifton 86.95 307 P 22 02 29.8
baz=50
SIT Sitka 86.96 350 P 22 02 29.8
baz=15
SPIA Saint Paul Isl 86.96 9 P 22 02 29.7
baz=346
SPMM Sapulut 87.07 86 P P 22 02 34.0 +1.3
WRAK Wrangell Islan 87.13 349 P P 22 02 32.6 +0.4
WRAK Wrangell Islan 87.13 349 IAMs_20 IAMs_20 22 46 41.5
comp=Z,577nm,20.0s
WRAK Wrangell Islan 87.13 349 P 22 02 31.4
baz=17,SNR=7.5
SNDB Serra Nova Dou 87.26 253 eP P 22 02 34.8 +1.3
CCM Cathedral Cave 87.29 316 P P 22 02 32.9 -0.5
CCM pmax pmax
comp=Z,53nm,0.7s
CCM MLR MLR
comp=Z,800nm,19.0s
CCM Cathedral Cave 87.29 316 P P 22 02 32.9 -0.5
CCM Cathedral Cave 87.29 316 IAMs_20 IAMs_20 22 41 44.3
comp=Z,819nm,19.0s
L34A Svendsen Farm, 87.31 321 P P 22 02 32.4 -1.1
KDAK Kodiak Island 87.47 360 P P 22 02 34.9 +1.0
comp=Z,37nm,1.3s,baz=163,slow=2.3,SNR=6.1
KDAK Kodiak Island 87.47 360 P 22 02 34.1
baz=0.6
PLAL Pickwick Lake 87.50 312 P P 22 02 33.2 -1.2
PLAL IAMs_20 IAMs_20 22 42 14.9
comp=Z,711nm,19.0s
NPGB Novo Progresso 87.61 260 eP P 22 02 35.4 +0.1
VAS01 Vassouras-RJ 87.64 241 eP P 22 02 37.4 +2.2
PTGA Pitinga 87.75 268 P P 22 02 37.2 +1.3
comp=Z,7.9nm,0.9s,baz=48,slow=4.6,SNR=10
PTGA Pitinga 87.75 268 P P 22 02 35.1 -0.8
PTGA IAMs_20 IAMs_20 22 40 38.4
comp=Z,475nm,20.0s
OHAK Old Harbor 88.04 0 P 22 02 34.9
baz=0.0
LRAL Lakeview Retre 88.12 310 P P 22 02 36.7 -0.7
LRAL Lakeview Retre 88.12 310 P 22 02 36.9
baz=49
CRAG Craig 88.17 349 P 22 02 36.3
baz=16
LAO LASA Array 88.27 330 P P 22 02 37.9 -0.2
LAO LASA Array 88.27 330 P 22 02 37.1
baz=37,SNR=14
250A Grady 88.35 309 P P 22 02 38.7 +0.2
IPMB Ipameri, GO 88.48 247 eP P 22 02 41.6 +2.3
EGMT Eagleton 88.58 332 P P 22 02 39.2 -0.3
EGMT Eagleton 88.58 332 P 22 02 38.7
baz=34,SNR=16
LCAR Lake Charles 88.61 314 P P 22 02 39.6 -0.1
LCAR IAmb IAmb 22 02 58.4
comp=Z,36nm,1.3s
BGNE Belgrade 88.63 322 P 22 02 38.6
baz=42
SII Sitkinak Islan 88.70 1 P 22 02 39.5
baz=359
ESAR Angra dos Reis 88.82 241 eP P 22 02 42.3 +1.6
FCAR Ozark Folk Cen 89.30 315 P P 22 02 42.0 -0.9
FCAR IAmb IAmb 22 03 02.7
comp=Z,14nm,0.9s
RSSD Black Hills 89.36 327 P P 22 02 43.0 -0.4
RSSD pmax pmax
comp=Z,32nm,1.1s
RSSD MLR MLR
comp=Z,1μm,22.0s
RSSD Black Hills 89.36 327 P P 22 02 43.0 -0.4
RSSD IAmb IAmb 22 02 53.2
comp=Z,32nm,1.1s
RSSD Black Hills 89.36 327 P 22 02 42.4
baz=38
BRAL Brewton 89.38 308 IAMs_20 IAMs_20 22 42 03.0
comp=Z,471nm,19.0s
BRAL Brewton 89.38 308 P 22 02 42.4
baz=49
U40A Yellville 89.40 315 P 22 02 42.3
baz=46
KSU1 Kansas State U 89.52 319 IAMs_20 IAMs_20 22 41 25.0
comp=Z,753nm,21.0s
KSU1 Kansas State U 89.52 319 P 22 02 41.7
baz=43
SDPT Sand Point 89.70 4 P 22 02 43.3
baz=354
MACA Manacapuru-AM 89.72 266 eP P 22 02 46.5 +1.3
PARB Paraibuna 89.86 241 eP P 22 02 47.2 +1.5
W41B Gary Mavity, V 89.87 314 P 22 02 44.0
baz=46
ARAG Araguaiana, MT 89.87 251 eP P 22 02 46.8 +1.0
CLDB Colider 90.18 257 eP P 22 02 48.5 +1.1
BBB Bella Bella 90.35 345 LR LR 22 47 57.0
comp=Z,448nm,18.5s,baz=30,slow=39
GCMT Greycliff 90.39 331 P P 22 02 48.1 +0.1
JTMT Jette 90.46 335 P P 22 02 48.1 -0.3
BB19B Bebedouro 90.59 245 eP P 22 02 51.6 +2.5
X40A Basin Creek Fa 90.69 314 IAMs_20 IAMs_20 22 42 54.4
comp=Z,731nm,19.0s
X40A Basin Creek Fa 90.69 314 P 22 02 48.2
baz=46
W39A Magazine 90.75 315 P 22 02 48.7
baz=45
RLMT Red Lodge 90.78 331 P P 22 02 50.5 +0.5
RLMT Red Lodge 90.78 331 P 22 02 49.4
baz=35,SNR=5.6
VBMS Vicksburg 90.86 311 IAMs_20 IAMs_20 22 42 38.1
comp=Z,612nm,20.0s
OGNE Ogallala 90.90 324 P 22 02 48.0
baz=40
SDV Santo Domingo 90.95 281 P P 22 02 49.8 -1.4
SDV Santo Domingo 90.95 281 eP P 22 02 52.8 +1.5
NEW Newport 90.97 337 P P 22 02 50.5 0.0
comp=Z,14nm,1.0s,baz=26,slow=3.9,SNR=18
NEW LR LR 22 46 46.4
comp=Z,1μm,18.6s,baz=28,slow=38
NEW Newport 90.97 337 P P 22 02 50.2 -0.3
NEW pmax pmax
comp=Z,38nm,1.2s
NEW MLR MLR
comp=Z,1μm,21.0s
NEW Newport 90.97 337 P P 22 02 50.2 -0.3
NEW Newport 90.97 337 P 22 02 49.3
baz=29,SNR=12
MIAR Mount Ida 91.09 315 IAMs_20 IAMs_20 22 44 04.8
comp=Z,706nm,19.0s
MIAR Mount Ida 91.09 315 P 22 02 49.4
baz=45
MSO Missoula 91.13 334 P P 22 02 50.5 -0.9
MSO IAmb IAmb 22 03 00.4
comp=Z,11nm,0.7s
MSO Missoula 91.13 334 P 22 02 50.2
baz=31,SNR=8.8
CBKS Cedar Bluff 91.37 321 P 22 02 51.6
baz=41
TUL1 Leonard 91.38 317 P 22 02 51.4
baz=44
YMP Mirror Lake Pl 91.45 331 P P 22 02 53.1 -0.2
K22A Casper 91.63 328 P P 22 02 52.7 -1.2
K22A Casper 91.64 328 P 22 02 52.8
baz=37
QUOK Quay 91.70 318 P P 22 02 54.2 +0.1
C09A Chrisman Ranch 91.74 337 P P 22 02 53.8 -0.3
C09A IAmb IAmb 22 03 05.2

	comp=Z,19nm,0.8s						
DLMT	**Dillon**	**91.88**	**333**	P	**P**	**22 02 54.8**	**-0.2**
H17A	**Grant Village**	**91.91**	**331**	P		22 02 55.0	
	baz=34						
OK030	**Cody Creek RV**	**91.92**	**317**	IAMs_20	IAMs_20	22 43 58.8	
	comp=Z,635nm,20.0s						
X37A	**Clayton**	**92.09**	**316**	IAMs_20	IAMs_20	22 44 45.4	
	comp=Z,757nm,19.0s						
PHWY	**Pilot Hill**	**92.23**	**326**	IAMs_20	IAMs_20	22 49 29.4	
	comp=Z,624nm,19.0s						
B05A	**Bryant**	**92.48**	**340**	P		22 02 56.2	
	baz=25						
KSCO	**Kaye Shedlock'**	**92.68**	**323**	P	**P**	**22 02 58.9**	**+0.1**
KSCO				IAmb	IAmb	22 03 17.3	
	comp=Z,21nm,1.0s						
KSCO	**Kaye Shedlock'**	**92.68**	**323**	P		22 02 58.6	
	baz=39						
FRTB	**Fartura**	**92.72**	**243**	*e*P	**P**	**22 03 01.6**	**+2.6**
N23A	**Red Feather La**	**92.78**	**326**	P		22 02 56.9	
	baz=37						
PD31	**Pinedale Array**	**92.84**	**329**	P	**P**	**22 02 58.7**	**-0.9**
PDAR	**Pinedale Array**	**92.84**	**329**	P	**P**	**22 02 58.1**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=65,slow=3.9,SNR=11						
PDAR				LR	LR	22 46 49.0	
	comp=Z,1μm,18.4s,baz=38,slow=37						
PDAR	**Pinedale Array**	**92.84**	**329**	P	**P**	**22 02 58.0**	**-1.6**
BW06	**Boulder Array**	**92.84**	**329**	P		22 02 57.7	
	baz=34						
PCMB	**Pacaembu**	**92.95**	**246**	*e*P	**P**	**22 03 01.4**	**+1.4**
SALV	**Santo Antonio**	**93.01**	**253**	*e*P	**P**	**22 03 02.5**	**+2.1**
BCYI	**Bear Canyon**	**93.08**	**333**	P	**P**	**22 03 00.6**	**-0.1**
PP1B	**Ponte de Pedra**	**93.36**	**251**	*e*P	**P**	**22 03 02.7**	**+0.7**
HAWA	**Hanford**	**93.39**	**337**	P	**P**	**22 03 01.8**	**0.0**
HAWA				IAmb	IAmb	22 03 11.3	
	comp=Z,17nm,0.9s						
D03D	**Eldon**	**93.42**	**340**	P		22 03 01.1	
	baz=24						
ISCO	**Idaho Springs**	**93.50**	**325**	P	**P**	**22 03 01.8**	**-1.0**
ISCO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ISCO				MLR	MLR		
	comp=Z,800nm,22.0s						
ISCO	**Idaho Springs**	**93.50**	**325**	P	**P**	**22 03 01.8**	**-1.0**
ISCO				IAMs_20	IAMs_20	22 44 33.9	
	comp=Z,785nm,22.0s						
ISCO	**Idaho Springs**	**93.50**	**325**	P		22 03 01.4	
	baz=37						
WMOK	**Wichita Mounta**	**93.90**	**318**	IAMs_20	IAMs_20	22 45 23.1	
	comp=Z,762nm,19.0s						
WMOK	**Wichita Mounta**	**93.90**	**318**	P		22 03 03.4	
	baz=42						
Q24A	**Divide**	**93.94**	**324**	P		22 03 01.7	
	baz=38						
BMO	**Blue Mountains**	**94.02**	**335**	P	**P**	**22 03 03.5**	**-1.3**
BMO				pmax	pmax		
	comp=Z,11nm,0.9s						
BMO				MLR	MLR		
	comp=Z,1μm,22.0s						
BMO	**Blue Mountains**	**94.02**	**335**	P	**P**	**22 03 03.5**	**-1.3**
BMO				IAmb	IAmb	22 03 12.9	
	comp=Z,11nm,0.9s						
HLID	**Hailey**	**94.10**	**333**	P		22 03 04.3	
	baz=31						
E04D	**Cinebar**	**94.16**	**339**	P		22 03 04.2	
	baz=25						
O20A	**White River Ci**	**94.43**	**327**	P		22 03 04.8	
	baz=36						
F05D	**White Salmon**	**94.44**	**338**	P		22 03 05.8	
	baz=26						
SMCO	**Snowmass**	**94.62**	**326**	IAMs_20	IAMs_20	22 48 33.8	
	comp=Z,776nm,20.0s						
F04D	**Rainier, OR**	**94.72**	**339**	P		22 03 05.1	
	baz=24						
VILB	**Vilhena**	**94.89**	**258**	*e*P	**P**	**22 03 10.6**	**+1.5**
G05D	**Wamic, OR**	**94.97**	**338**	P		22 03 06.9	
	baz=26						
T25A	**Trinidad**	**95.02**	**323**	P	**P**	**22 03 08.5**	**-1.2**
T25A				IAmb	IAmb	22 03 18.5	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**95.02**	**323**	P		22 03 06.9	
	baz=38						
SAML	**Samuel**	**95.04**	**263**	P	**P**	**22 03 09.3**	**-0.5**
SAML				pmax	pmax		
	comp=Z,13nm,1.3s						
SAML				MLR	MLR		
	comp=Z,600nm,22.0s						
SAML	**Samuel**	**95.04**	**263**	P	**P**	**22 03 09.3**	**-0.5**
SAML				IAmb	IAmb	22 03 28.4	
	comp=Z,13nm,1.2s						
SAML	**Samuel**	**95.04**	**263**	IAMs_20	IAMs_20	22 44 36.8	
	comp=Z,613nm,22.0s						
SDCO	**Great Sand Dun**	**95.07**	**324**	P	**P**	**22 03 09.2**	**-0.8**
SDCO	**Great Sand Dun**	**95.07**	**324**	P		22 03 08.4	
	baz=38						
KAPI	**Kappang**	**95.28**	**92**	IAMs_20	IAMs_20	22 51 23.6	
	comp=Z,476nm,21.0s						
PTGB	**Pitanga**	**95.38**	**244**	*e*P	**P**	**22 03 13.5**	**+2.3**
PTLB	**Pontes e Lacer**	**95.46**	**255**	*e*P	**P**	**22 03 13.9**	**+2.3**
LUWI	**Luwuk**	**95.51**	**87**	IAMs_20	IAMs_20	22 53 50.4	
	comp=Z,434nm,20.0s						
HKT	**Hockley**	**95.69**	**313**	IAMs_20	IAMs_20	22 45 22.8	
	comp=Z,860nm,22.0s						
S22A	**4UR Ranch, Cre**	**95.71**	**325**	P		22 03 11.7	
	baz=37						
H04D	**Lebanon**	**96.06**	**339**	P		22 03 12.3	
	baz=25						
435B	**Jarrell**	**96.13**	**314**	IAMs_20	IAMs_20	22 46 12.5	
	comp=Z,847nm,22.0s						
ROSC	**El Rosal**	**96.28**	**280**	LR	LR	22 44 55.4	
	comp=Z,301nm,21.2s,baz=70,slow=34						
DUG	**Dugway, Tooele**	**96.33**	**330**	P		22 03 13.5	
	baz=32						
I04A	**Tendick Farm,**	**96.62**	**338**	P		22 03 15.2	
	baz=25						
JCT	**Junction City**	**97.64**	**316**	IAMs_20	IAMs_20	22 48 08.3	
	comp=Z,665nm,20.0s						
K02D	**Willamette Mer**	**98.00**	**338**	P		22 03 20.3	
	baz=24						
L04D	**Klamath Falls**	**98.01**	**337**	P		22 03 20.6	
	baz=25						
N02D	**Trinity Center**	**99.27**	**337**	P		22 03 27.9	
	baz=25						
MMRI	**Maumere**	**99.35**	**94**	IAMs_20	IAMs_20	22 51 38.5	
	comp=Z,636nm,22.0s						
NVAR	**Mina Array Bea**	**100.01**	**333**	PKKPbc	PKKPbc	22 19 50.2	-0.3
	comp=Z,0.6nm,0.7s,baz=213,slow=6.5,SNR=2.6						
NVAR				LR	LR	22 52 54.2	
	comp=Z,885nm,18.7s,baz=28,slow=38						
TXAR	**Lajitas Array**	**100.69**	**317**	PP	**PP**	**22 07 45.5**	**+3.7**
	comp=Z,0.9nm,0.8s,baz=46,slow=8.9,SNR=3.9						
CMB	**Columbia Colle**	**101.12**	**334**	IAMs_20	IAMs_20	22 52 54.2	
	comp=Z,691nm,20.0s						
JTS	**Las Juntas de**	**101.37**	**291**	IAMs_20	IAMs_20	22 49 25.7	
	comp=Z,387nm,18.0s						
CRIN	**San Cristobal**	**101.43**	**294**	IAMs_20	IAMs_20	22 43 45.3	
	comp=Z,570nm,21.0s						
LPAZ	**La Paz**	**103.12**	**259**	PP	**PKiKP**	**22 08 06.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=57,slow=13,SNR=3.8						
PB08	**IPOC Station P**	**105.99**	**256**	IAMs_20	IAMs_20	22 49 48.0	
	comp=Z,623nm,21.0s						
WRA	**Warramunga Arr**	**115.27**	**97**	PKP	**PKPdf**	**22 08 28.2**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=304,slow=1.3,SNR=1.1						
ASAR	**Alice Springs**	**116.73**	**101**	PKP	**PKPdf**	**22 08 30.0**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=304,slow=1.5,SNR=10						
ASAR				PKKPbc	**PKKPab**	**22 19 08.1**	**+6.9**
	comp=Z,0.6nm,0.6s,baz=122,slow=3.7,SNR=5.5						
ASAR	**Alice Springs**	**116.73**	**101**	PKIKP	**PKPdf**	**22 08 29.9**	**-1.3**
ASAR	**Alice Springs**	**116.73**	**101**		**PKPdf**	**22 08 29.9**	**-1.3**
QSPA	**South Pole Qui**	**124.95**	**180**		**PKPdf**	**22 08 45.4**	**-0.3**
VNDA	**Vanda**	**133.23**	**168**	PKP	**PKPdf**	**22 09 01.6**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=243,slow=2.3,SNR=2.6						
VNDA	**Vanda**	**133.23**	**168**		**PKiKP**	**22 09 02.0**	**-0.4**
DZM	**Mont Dzumac**	**142.53**	**81**	*e*LR	LR	22 55 47.5	
	comp=Z,591nm,22.9s						
TAOE	**Nuku Hiva Isla**	**151.27**	**332**	*e*LR	LR	22 59 56.9	
	comp=Z,308nm,23.0s						
PPT2	**Papeete2**	**162.26**	**349**	*e*LR	LR	23 05 02.0	
	comp=Z,649nm,24.0s						
TBI	**Tubuai**	**167.84**	**343**	*e*LR	LR	23 07 27.9	
	comp=Z,682nm,25.5s						

*IDC **09** 21:51:13.2±2.7,21°.39S×169°.89E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/47,mbtmp3.9/4,ML4.0/1,MS3.5/1, Ms1 3.5/1,ms1mx2.9/33,Error ellipse: s-maj=115.0km s-min=30.8km az=152.0*

ISC 09 21:51:16.8±2.0,21°.3S×170°.0E±0°.3,h36km,n8, σ0°.84/9,mb3.8/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.41**	**256**	*e*Pn	**Pn**	**21 52 06.8**	**-0.7**
	64nm,0.2s						
DZM				*e*Sn	**Sn**	**21 52 47.0**	**+0.3**
	97nm,0.2s						
DZM	**Mont Dzumac**	**3.41**	**256**	Pn	**Pn**	**21 52 07.0**	**-0.5**
	16nm,0.3s,baz=113,slow=12,SNR=368						
DZM				Sn	**Sn**	**21 52 47.7**	**+0.9**
	15nm,0.3s,baz=317,slow=19,SNR=10						
URZ	**Urewera**	**17.99**	**162**	LR	LR	22 00 33.9	
	comp=Z,150nm,20.2s,baz=31,slow=31						
STKA	**Stephens Creek**	**27.44**	**241**	P	**P**	**21 56 59.5**	**+0.2**
	1.6nm,0.7s,baz=90,slow=6.1,SNR=1.8						
WRA	**Warramunga Arr**	**33.37**	**266**	P	**P**	**21 57 51.0**	**-1.0**
	1.6nm,1.1s,baz=98,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**33.40**	**259**	P	**P**	**21 57 52.5**	**+0.4**
	0.9nm,0.6s,baz=87,slow=9.5,SNR=10						
EKA	**Eskdalemuir Ar**	**145.62**	**353**	PKPbc	**PKPab**	**22 10 52.6**	**+1.1**
	0.3nm,0.5s,baz=5.9,slow=3.0,SNR=4.0						
GERES	**GERESS Array B**	**146.63**	**331**	PKPbc	**PKiKP**	**22 10 57.0**	**-0.4**
	0.9nm,0.8s,baz=72,slow=1.7,SNR=3.7						

*ATH **09** 21:53:30.9,34°.91N×26°.66E,h16km±2km,ML3.7/3,Error ellipse: s-maj=5.4km s-min=1.9km az=355.0*
*DDA **09** 21:53:35.5,35°.07N×27°.11E,h12km±5km,ML3.1*

ISC 09 21:53:24.7±2.0,34°.8N±0°.1×26°.89E±0°.04,h7km±15km,n20, σ1s18/23,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.62**	**297**	P	**Pn**	**21 53 38.7**	**-1.2**
ZKR				S	**Sb**	**21 53 45.4**	**-1.4**
ZKR				AML	AML	21 53 47.8	
	comp=N,16169μm,0.4s						
ZKR				AML	AML	21 53 48.0	
	comp=E,31485μm,0.4s						
NPS	**Neapolis**	**1.13**	**293**	P	**Pn**	**21 53 48.3**	**+1.3**
NPS				S	**Sg**	**21 54 00.5**	**-0.6**
NPS				AML	AML	21 54 05.6	
	comp=N,9504μm,0.7s						
NPS				AML	AML	21 54 05.8	
	comp=E,14069μm,0.4s						
LAST	**Lasithi**	**1.21**	**286**	P	**Pn**	**21 53 49.3**	**+1.3**
LAST				AML	AML	21 54 11.4	
	comp=N,7583μm,0.8s						
LAST				AML	AML	21 54 13.3	
	comp=E,6303μm,0.6s						
IDI	**Anoyia**	**1.70**	**286**	P	**Pg**	**21 53 58.0**	**+0.6**
ARG	**Arkhangelos**	**1.71**	**36**	P	Pg	21 54 02.2	+4.7
SIVA	**Sivas**	**1.72**	**277**	P	**Pg**	**21 53 58.3**	**+0.6**
TURN	**Turunc**	**2.23**	**29**	*i* P	**Pg**	**21 54 08.3**	**+0.9**
TURN				*i* S	**Sg**	**21 54 35.5**	**-0.9**
TURN				IAML		21 54 50.0	
	comp=N,283nm,1.0s						
BDRM	**Kayabasi**	**2.27**	**11**	*i* P	**Pg**	**21 54 07.8**	**-0.5**
BDRM				IAML		21 54 40.0	
	comp=N,177nm,1.2s						
BDRM				IAML		21 54 50.0	
	comp=E,112nm,0.9s						
VAM	**Vamos**	**2.28**	**285**	P	**Pg**	**21 54 07.4**	**-1.0**
DALY	**Dalyan (Mula)**	**2.44**	**35**	*i* P	**Pg**	**21 54 11.4**	**-0.1**
DALY				*i* S	**Sg**	**21 54 45.2**	**+2.0**
IMMV	**Iera Moni Meta**	**2.46**	**286**	P	**Pg**	**21 54 10.5**	**-1.4**
FETY	**Fethiye**	**2.53**	**44**	*i* P	**Pb**	**21 54 11.0**	**+0.5**
FETY				*i* S	**Sb**	**21 54 40.5**	**-1.4**
FETY				IAML		21 54 51.0	
	comp=E,117nm,1.6s						
FETY				IAML		21 54 55.0	
	comp=N,162nm,1.9s						
AKAS	**Kas**	**2.62**	**57**	*i* P	**Pg**	**21 54 13.4**	**-1.5**
AKAS				IAML		21 54 50.0	
	comp=N,124nm,0.9s						
AKAS				IAML		21 54 51.0	
	comp=E,152nm,1.0s						
DDIM	**Aydin, Didim**	**2.63**	**6**	*i* P	Pg	21 54 23.0	+7.8
MULA	**Mugla, Merkez-**	**2.68**	**25**	*i* P	**Pg**	**21 54 16.6**	**+0.5**
GCAM	**G?zelcaml?**	**2.88**	**5**	*i* P	**Pb**	**21 54 17.4**	**+1.1**
AYDN	**Tasoluk**	**2.93**	**16**	*i* P	**Pg**	**21 54 19.4**	**-1.6**
AYDN				IAML		21 54 56.0	
	comp=E,150nm,2.0s						
AYDN				IAML		21 55 04.0	
	comp=N,139nm,2.5s						
TAVA	**DENIZLI_Tavas**	**3.10**	**31**	*i* P	**Pb**	**21 54 21.0**	**+0.8**
TAVA				IAML		21 55 17.0	
	comp=E,59nm,1.1s						
DGB	**zmir**	**3.21**	**360**	*i* P	**Pb**	**21 54 22.9**	**+0.8**
GOLH	**Golhisar**	**3.23**	**41**	*i* P	**Pb**	**21 54 22.8**	**+0.3**
GOLH				IAML		21 54 59.0	
	comp=E,56nm,2.6s						
GOLH				IAML		21 55 06.0	
	comp=N,110nm,0.4s						

*IDC **09** 21:58:39.5±0.9,33°.70N×115°.65W,h0km,mb1 3.6/4, mb1mx3.4/59,mbtmp3.2/4,ML3.9/3,Error ellipse: s-maj=11.9km s-min=7.2km az=164.0*
*ANF **09** 21:58:40.4±0.2,33°.76N×115°.72W,h18km±1km,ML3.8/28, Error ellipse: s-maj=1.3km s-min=1.2km az=158.0, Hypocentre not reviewed by the ISC*
*SCEDC **09** 21:58:41.5,33°.78N×115°.70W,h10km,Hypocentre not reviewed by the ISC*
*NEIC **09** 21:58:41.4±2.5,33°.81N±0°.02×115°.69W±0°.02,h12km±8km, Error ellipse: s-maj=3.9km s-min=0.6km az=214.0*
*PAS **09** 21:58:41.5±1.8,33°.78N±0°.02×115°.70W±0°.03,h10km±7km, ML3.8/121,ML3.6/82(NEIC),Error ellipse: s-maj=4.3km s-min=1.7km az=59.0*

ISC 09 21:58:40.4±1.1,33°.74N±0°.03×115°.82W±0°.03,h16km±9km, n69,σ1s28/69,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAY	**Hayfield**	**0.12**	**104**		**Pg**	**21 58 44.1**	**0.0**
BELC	**Belle Mtn. Jos**	**0.30**	**331**	P		21 58 47.7	
	baz=132,SNR=1000						
BELC				S		21 58 52.6	
	baz=132						
BC3	**Big Chuckawall**	**0.32**	**105**		**Pg**	**21 58 46.7**	**-0.5**
BC3	**Big Chuckawall**	**0.32**	**105**	P		21 58 46.4	
	baz=301,SNR=1000						
BC3				S		21 58 50.3	
	baz=301						
FRK	**Frink**	**0.37**	**155**		**Pb**	**21 58 49.0**	**+0.5**
PFO	**Pinyon Flats O**	**0.55**	**257**	Pg	**Pn**	**21 58 53.3**	**-0.3**
	385nm,0.3s,baz=68,slow=15,SNR=3298						
PFO				Lg	Lg	21 59 01.9	
	3μm,0.3s,baz=345,slow=20,SNR=86						
PFO	**Pinyon Flats O**	**0.55**	**257**	Pg	**Pn**	**21 58 53.4**	**-0.3**
PFO	**Pinyon Flats O**	**0.55**	**257**	P		21 58 53.4	
	baz=75,SNR=960						
PFO				S		21 59 02.0	
	baz=75						
ERRC	**Elmore Ranch**	**0.62**	**180**		**Pn**	**21 58 54.5**	**0.0**
IRM	**Iron Mountain**	**0.70**	**53**	P		21 58 52.5	
	baz=231,SNR=1000						
IRM				S		21 59 00.8	
	baz=231						
GVDA	**Garner Valley**	**0.71**	**265**		**Sn**	**21 59 07.0**	**+0.4**
GVDA	**Garner Valley**	**0.71**	**265**		**Pn**	**21 58 56.4**	**+0.4**
SUP	**Superstition M**	**0.78**	**180**		**Pn**	**21 58 56.5**	**-0.3**
SWSC	**Sam W. Stewart**	**0.79**	**179**	P		21 58 56.6	
	baz=5.7,SNR=139						
SWSC				S		21 59 07.8	
	baz=5.7						
DANC	**Danby, Needles**	**0.97**	**22**		**Pb**	**21 58 58.5**	**-0.4**
MONP2	**Monument Peak**	**0.98**	**211**	P		21 59 00.3	
	baz=34,SNR=86						
MONP2				S		21 59 13.8	
	baz=34						
RUN	**Ruthven**	**1.04**	**137**		**Pn**	**21 59 00.5**	**+0.1**
COA	**Coachella**	**1.05**	**146**		**Pg**	**21 58 60.0**	**-0.8**
BBRC	**Big Bear Solar**	**1.05**	**300**	P		21 59 01.6	
	baz=115,SNR=52						
GMRC	**Granite Mounta**	**1.05**	**7**		**Pb**	**21 58 60.0**	**-0.4**
GMRC	**Granite Mounta**	**1.05**	**7**	P		21 58 59.9	
	baz=182,SNR=595						
GMRC				S		21 59 13.4	
	baz=182						
GLA	**Glamis**	**1.08**	**129**		**Pb**	**21 59 00.3**	**-0.5**
GLA	**Glamis**	**1.08**	**129**	P		21 59 00.2	
	baz=315,SNR=582						
GLA				S		21 59 14.1	
	baz=315						
BLYC	**Blythe**	**1.08**	**89**		**Pb**	**21 58 59.1**	**-1.7**
IKP	**In-Ko-Pah, Jac**	**1.11**	**193**	P		21 59 01.6	
	baz=17,SNR=42						
IKP				S		21 59 16.5	
	baz=17						
RMX	**La Rumorosa**	**1.15**	**191**		**Pn**	**21 59 03.0**	**+1.0**
MURC	**Murrieta**	**1.15**	**264**	P		21 59 03.2	
	baz=81,SNR=142						
MURC				S		21 59 19.9	
	baz=81						
HEC	**Hector,Ludlow**	**1.17**	**339**	P		21 59 02.2	
	baz=153,SNR=170						
BAR	**Barrett**	**1.27**	**214**		**Pg**	**21 59 04.6**	**-0.3**
BAR				IAML		21 59 22.1	
	comp=E,1μm,0.3s						
TKX	**Tecate**	**1.34**	**210**		**Pg**	**21 59 05.6**	**-0.6**
TKX				IAML		21 59 26.5	
	comp=N,892nm,0.4s						
109C	**Camp Elliot, M**	**1.37**	**232**		**Pg**	**21 59 06.2**	**-0.6**
109C	**Camp Elliot, M**	**1.37**	**232**	P		21 59 06.0	
	baz=52,SNR=30						
109C				S		21 59 24.1	
	baz=52						
CPBX	**Cerro Prieto**	**1.38**	**162**		**Pg**	**21 59 06.0**	**-1.0**
CPBX				IAML		21 59 49.4	
	comp=N,966nm,0.5s						
NEE2	**Needles Airpor**	**1.43**	**44**		**Pn**	**21 59 04.9**	**-0.9**
NEE2	**Needles Airpor**	**1.43**	**44**	P		21 59 04.5	
	baz=222,SNR=154						
RRX	**Edison Barstow**	**1.49**	**320**	P		21 59 07.1	
	baz=135						
PDMCI	**Parker Dam,Lak**	**1.51**	**68**	P		21 59 05.2	
	baz=248,SNR=291						
CBX	**Cerro Bola**	**1.59**	**207**		**Pg**	**21 59 09.5**	**-1.5**
CBX				IAML		21 59 34.3	
	comp=E,867nm,0.5s						
CBX				IAML		21 59 35.1	
	comp=N,428nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.60**	**289**	P		21 59 09.4	
	baz=105,SNR=245						
TUQ	**Turquoise Moun**	**1.70**	**357**	P		21 59 09.2	
	baz=174						
TUQ				Sb		21 59 34.0	
	baz=174						
GSC	**Goldstone, Bar**	**1.76**	**333**	Pn	**Pn**	**21 59 10.6**	**+0.3**
GSC				IAML		21 59 46.1	
	comp=N,442nm,0.6s						
GSC	**Goldstone, Bar**	**1.76**	**333**	P		21 59 10.5	
	baz=149						
MWC	**Mount Wilson**	**1.92**	**285**		**Pb**	**21 59 14.3**	**-0.8**
MWC				IAML		21 59 47.9	
	comp=N,514nm,0.7s						
MWC				IAML		21 59 50.8	
	comp=E,476nm,0.5s						
113A	**Mohawk Valley,**	**1.98**	**119**	Pn	**Pn**	**21 59 11.5**	**-1.7**
113A				IAML		21 59 45.0	
	comp=E,491nm,0.3s						
113A				IAML		21 59 47.8	
	comp=N,527nm,0.8s						
CCX	**Cicese**	**1.99**	**201**		**Pb**	**21 59 15.4**	**-0.9**
CCX				IAML		21 59 47.5	
	comp=N,265nm,0.5s						
PASC	**Pasadena Art C**	**2.01**	**283**		**Pg**	**21 59 18.5**	**-0.5**
W13A	**Hualapai Mount**	**2.10**	**49**	Pn	**Pn**	**21 59 13.8**	**-1.3**
W13A				IAML		21 59 46.0	
	comp=E,737nm,0.5s						
W13A				IAML		21 59 50.9	
	comp=N,744nm,0.4s						
EDW2	**Edwards Air Fo**	**2.13**	**303**	P		21 59 16.1	
	baz=120,SNR=320						
EDW2				Sb		21 59 49.4	
	baz=120						
DECC	**Green Verdugo**	**2.15**	**285**	Pb		21 59 20.8	
	baz=102						
DECC				Sb		21 59 50.3	
	baz=102						
CIS	**Catalina Islan**	**2.19**	**262**	Pb		21 59 21.5	
	baz=80						
SHOC	**Shoshone, Teco**	**2.19**	**350**	Sb		21 59 49.2	
	baz=167						
Y14A	**Wickenburg**	**2.35**	**84**	Pn	**Pn**	**21 59 17.7**	**-0.8**
Y14A				IAML		21 59 55.9	
	comp=E,564nm,0.3s						
OSI	**Osito Audit: C**	**2.56**	**291**		**Pb**	**21 59 23.4**	**-2.6**
OSI				IAML		22 00 11.4	
	comp=E,178nm,1.1s						
OSI				IAML		22 00 15.8	
	comp=N,261nm,0.8s						
SPX	**San Pedro Mart**	**2.71**	**173**		**Pn**	**21 59 24.7**	**+1.0**
SHPR	**Sheep Range**	**2.81**	**11**	Pn	**Pn**	**21 59 25.4**	**+0.5**
ISA	**Isabella, Lake**	**2.91**	**312**	Pn	**Pn**	**21 59 27.3**	**+1.2**
ISA	**Isabella, Lake**	**2.91**	**312**	P		21 59 27.0	
	baz=129						
214A	**Organ Pipe Nat**	**3.10**	**124**	Pn	**Pn**	**21 59 27.7**	**-1.0**
214A				IAML		22 00 24.0	
	comp=N,249nm,0.6s						
214A				IAML		22 00 24.5	
	comp=E,276nm,0.7s						
214A	**Organ Pipe Nat**	**3.10**	**124**	P		21 59 28.0	
	baz=308						
TPNV	**Topopah Spring**	**3.22**	**354**	Pn	**Pn**	**21 59 31.5**	**+1.0**
TPNV				IAML		22 00 27.3	
	comp=E,117nm,0.5s						
TPNV				IAML		22 00 35.6	
	comp=E,142nm,0.7s						
TPNV	**Topopah Spring**	**3.22**	**354**	P		21 59 31.0	
	baz=172						
X16A	**Lo Mia Camp, P**	**3.70**	**78**	Pn	**Pn**	**21 59 36.6**	**-0.5**
X16A				IAML		22 00 39.7	
	comp=E,85nm,0.9s						
X16A				IAML		22 00 49.8	
	comp=N,93nm,1.1s						
PRN	**Pahroc Range**	**3.71**	**10**		**Pn**	**21 59 38.1**	**+0.9**
LCMT	**Little Creek M**	**3.89**	**32**		**Pn**	**21 59 40.2**	**+0.5**
LCMT				IAML		22 00 45.5	
	comp=E,74nm,0.4s						
LCMT				IAML		22 00 49.1	
	comp=N,59nm,0.5s						
U15A	**North Rim**	**3.95**	**46**	Pn	**Pn**	**21 59 41.0**	**+0.3**
U15A				IAML		22 00 45.1	
	comp=E,135nm,1.0s						
U15A				IAML		22 00 54.9	
	comp=N,121nm,0.7s						
WUAZ	**Wupatki**	**4.08**	**63**		**Pn**	**21 59 42.2**	**-0.1**
WUAZ				IAML		22 00 47.6	
	comp=N,116nm,0.5s						
WUAZ				IAML		22 01 02.7	
	comp=N,94nm,0.8s						
KNB	**Kanab**	**4.09**	**36**	Pn	**Pn**	**21 59 43.2**	**+0.7**
KNB				IAML		22 00 51.7	
	comp=E,112nm,1.2s						
CCUT	**Cedar City**	**4.30**	**27**	Pn	**Pn**	**21 59 46.1**	**+0.7**
SZCU	**Shurtz Canyon**	**4.45**	**29**		**Pn**	**21 59 48.2**	**+0.8**
SZCU

comp=E,1.4nm,0.3s,baz=159,slow=15,SNR=17
NVAR Pg Pg 22 00 15.2 -2.8
comp=E,1.4nm,0.3s,baz=161,slow=18,SNR=7.5
NVAR Lg Lg 22 01 23.4
comp=E,1.2nm,0.3s,baz=151,slow=32,SNR=3.6
NVAR Mina Array Bea 5.09 338 Pn Pn 21 59 58.8 +2.5
MTPU Mount Pierson 5.21 33 Pn Pn 21 59 59.9 +1.8
MTPU IAML 22 01 26.6
comp=E,54nm,1.3s
MTPU IAML 22 01 30.1
comp=N,42nm,1.2s
W18A Petrified Fore 5.22 73 Pn Pn 21 59 58.6 +0.7
RYN Ryan 5.35 337 Pn 22 00 03.1 +3.3
KVN Kaiserville 5.61 342 Pn Pn 22 00 05.9 +2.5
319A Douglas 6.00 111 Pn Pn 22 00 09.0 +0.3
121A Cookes Peak, D 6.85 98 Pn Pn 22 00 20.3 -0.1
121A Cookes Peak, D 6.85 98 P 22 00 20.0
baz=283
SRU San Rafael Swe 6.86 37 Pn 22 00 20.6 +0.1
ELK Elko 7.01 4 Pn Pn 22 00 25.3 +2.6
comp=N,0.1nm,0.3s,baz=204,slow=17,SNR=1.9
ELK Lg Lg 22 02 21.0
comp=N,0.6nm,0.3s,baz=216,slow=11,SNR=6.0
ELK Elko 7.01 4 Pn 22 00 23.8 +1.2
PV14 Lion Creek, Pa 7.19 48 Pn 22 00 25.3 +0.2
PV07 Paradox Valley 7.46 49 Pn Pn 22 00 30.3 +1.4
BNM Barren Site 7.65 84 Pn Pn 22 00 33.2 +1.8
ANMO Albuquerque 7.84 79 Pg Pb 22 00 58.7 +2.7
comp=N,0.2nm,0.3s,baz=273,slow=14,SNR=4.0
ANMO Lg Lg 22 02 41.9
comp=N,0.1nm,0.3s,baz=170,slow=21,SNR=2.2
MNTX Cormudas Mount 9.03 100 P 22 00 49.9
baz=286
PDAR Pinedale Array 10.27 27 Pn Pn 22 01 13.3 +6.0
comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=4.6
TX31 Lajitas Ar. Si 11.26 110 Pn 22 01 22.0 +1.2
TX32 Lajitas Array 11.26 110 Pn 22 01 22.1 +1.3
TXAR Lajitas Array 11.26 110 Pn Pn 22 01 21.1 +0.3
comp=N,0.6nm,0.3s,baz=290,slow=14,SNR=14

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*JMA **09** 21:58:58.4,25°.93N×143°.49E,h71km±3km,M4.3*
*IDC **09** 21:59:02.8±2.5,25°.93N×143°.04E,h61km±21km,mb3.7/15, mb1 3.9/16,mb1mx3.6/73,mbtmp4.0/16,ML2.8/1,MS3.3/2, Ms1 3.3/2,ms1mx2.8/47, Error ellipse: s-maj=28.5km s-min=14.1km az=87.0*
ISC 09 21:59:01.0±0.7,25°.91N±0°.09×143°.3E±0°.1,h50km,n29, σ1s13/24,mb4.1/15,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.23**	**306**	P	**Pn**	**21 59 22.1**	**+0.2**
JHH2				*e*S	**Sn**	**21 59 39.6**	**+2.1**
CBIJ	**Chichi jima**	**1.54**	**320**	P	**Pn**	**21 59 25.9**	**-0.2**
CBIJ				S	**Sn**	**21 59 46.4**	**+1.4**
JCJ	**Chichijima**	**1.54**	**320**	P	**Pn**	**21 59 25.9**	**-0.2**
	124nm,0.3s,baz=302,slow=23,SNR=128						
JCJ				S	**Sn**	**21 59 46.5**	**+1.4**
	470nm,0.3s,baz=108,slow=23,SNR=41						
MJAR	**Matsushiro Arr**	**11.46**	**339**	P	**Pn**	**22 01 41.8**	**-0.1**
	0.1nm,0.3s,baz=137,slow=16,SNR=2.3						
JOW	**Kunigami**	**13.49**	**277**	LR	LR	22 06 49.3	
	comp=Z,78nm,19.7s,baz=270,slow=35						
KSRS	**Korea Array**	**17.40**	**315**	LR	LR	22 09 28.7	
	comp=Z,141nm,19.0s,baz=112,slow=36						
H11N2	**WAKE ISLAND Hy**	**22.59**	**101**	T	T	22 27 20.4	
	baz=290,slow=74,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**22.60**	**101**	T	T	22 27 17.3	
	baz=290,slow=74,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**22.61**	**101**	T	T	22 27 18.9	
	baz=290,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**22.86**	**104**	T	T	22 27 12.4	
	baz=292,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**22.87**	**104**	T	T	22 27 05.6	
	baz=292						
H11S2	**WAKE ISLAND Hy**	**22.88**	**104**	T	T	22 27 13.9	
	baz=292						
SONM	**Songino Array**	**36.25**	**317**	P	**P**	**22 05 58.0**	**-1.5**
	2.1nm,0.9s,baz=109,slow=8.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**41.57**	**269**	P	**P**	**22 06 42.5**	**-1.7**
	0.9nm,0.3s,baz=51,slow=7.2,SNR=4.5						
WRA	**Warramunga Ar**	**46.40**	**192**	P	**P**	**22 07 22.8**	**+0.1**
	2.8nm,0.4s,baz=9.8,slow=8.5,SNR=59						
FITZ	**Fitzroy Crossi**	**46.99**	**203**	P	**P**	**22 07 27.5**	**+0.2**
	4.3nm,0.7s,baz=18,slow=8.7,SNR=7.9						
ASAR	**Alice Springs**	**50.11**	**191**	P	**P**	**22 07 50.6**	**-0.7**
	0.4nm,0.7s,baz=17,slow=10,SNR=5.8						
ZALV	**Zalesovo Beam**	**51.03**	**320**	P	**P**	**22 07 57.2**	**-0.7**
	0.9nm,0.6s,baz=120,slow=5.8,SNR=2.8						
NRIK	**Noril'sk**	**54.11**	**339**	P	**P**	**22 08 21.4**	**+0.9**
	1.5nm,0.5s,baz=139,slow=7.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**54.58**	**315**	P	**P**	**22 08 23.5**	**-0.6**
	1.1nm,0.4s,baz=94,slow=7.3,SNR=5.3						
STKA	**Stephens Creek**	**57.48**	**182**	P	**P**	**22 08 46.9**	**+1.9**
	3.1nm,0.8s,baz=333,slow=9.0,SNR=3.3						
STKA	**Stephens Creek**	**57.48**	**182**	PKIKP	**P**	**22 08 46.9**	**+1.9**
ILAR	**Eielson Array**	**58.28**	**28**	P	**P**	**22 08 50.6**	**+0.3**
	0.6nm,0.9s,baz=232,slow=4.4,SNR=2.2						
BVAR	**Borovoye Array**	**59.59**	**318**	P	**P**	**22 08 58.8**	**-0.7**
	0.9nm,0.5s,baz=128,slow=6.4,SNR=7.0						
YKA	**Yellowknife Ar**	**72.71**	**28**	P	**P**	**22 10 24.0**	**+0.6**
	0.6nm,0.8s,baz=286,slow=5.0,SNR=3.7						
FINES	**FINESS Array B**	**79.44**	**334**	P	**P**	**22 11 02.6**	**+0.9**
	1.5nm,0.4s,baz=74,slow=5.0,SNR=17						
HFS	**Hagfors**	**84.90**	**337**	P	**P**	**22 11 29.1**	**-1.2**
	0.7nm,0.4s,baz=74,slow=6.9,SNR=5.4						
BRTR	**Keskin Array B**	**87.53**	**313**	P	**P**	**22 11 43.1**	**-0.8**
	0.4nm,0.7s,baz=64,slow=3.4,SNR=2.4						
LPAZ	**La Paz**	**149.23**	**78**	PKPbc	**PKiKP**	**22 18 46.6**	**-0.1**
	0.3nm,0.3s,baz=254,slow=2.1,SNR=5.5						

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*DDA **09** 22:01:19.5,34°.82N×26°.68E,h7km±5km,ML3.2*
*THE **09** 22:01:25.7,34°.95N×26°.69E,h5km±1km,ML3.5/5, Error ellipse: s-maj=1.9km s-min=0.6km az=183.0*
*ISK **09** 22:01:26.2,35°.15N×26°.70E,h5km,ML3.4/10*
*ATH **09** 22:01:26.3,35°.10N×26°.71E,h10km±4km,ML3.5/4, Error ellipse: s-maj=5.1km s-min=1.5km az=192.0*
*IDC **09** 22:01:27.2±2.1,35°.12N×26°.71E,h35km±19km,mb3.7/13, mb1 3.7/17,mb1mx3.5/63,mbtmp3.8/17,ML3.8/3, Error ellipse: s-maj=23.4km s-min=13.7km az=5.0*
ISC 09 22:01:24.8±1.1,35°.05N±0°.04×26°.79E±0°.02,h17km±7km, n76,σ1s46/99,mb3.8/13,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.48**	**278**	P	**Pg**	**22 01 34.0**	**-0.4**
ZKR				S	**Sg**	**22 01 40.2**	**-0.7**
ZKR				AML	AML	22 01 42.2	
	comp=E,24835µm,0.3s						
ZKR				AML	AML	22 01 44.6	
	comp=N,10391µm,0.3s						
ZKR	**Zakros**	**0.48**	**278**	P	**Pg**	**22 01 34.0**	**-0.4**
ZKR				S	**Sg**	**22 01 41.1**	**+0.2**
	comp=N,9µm,0.2s						
ZKR	**Zakros**	**0.48**	**278**	PG	**Pg**	**22 01 34.2**	**-0.2**
ZKR				SG	**Sb**	**22 01 41.5**	**0.0**
STIA	**Sitia Lasithi**	**0.59**	**285**	P	**Pg**	**22 01 36.2**	**-0.4**
STIA				S	**Sb**	**22 01 45.1**	**+0.3**
NPS	**Neapolis**	**0.99**	**283**	P	**Pb**	**22 01 43.7**	**+0.2**
NPS				S	**Sg**	**22 01 55.7**	**-1.3**
NPS				AML	AML	22 02 03.7	
	comp=N,12651µm,0.9s						
NPS				AML	AML	22 02 04.1	
	comp=E,10801µm,0.6s						
NPS	**Neapolis**	**0.99**	**283**	P	**Pg**	**22 01 43.5**	**-0.5**
NPS				S	**Sb**	**22 01 57.2**	**+0.9**
	comp=E,6µm,0.7s						
LAST	**Lasithi**	**1.08**	**276**	P	**Pg**	**22 01 44.8**	**-1.0**
LAST				AML	AML	22 02 10.7	
	comp=N,4885µm,0.8s						
LAST				AML	AML	22 02 11.2	
	comp=E,4817µm,1.1s						
LAST	**Lasithi**	**1.08**	**276**	P	**Pg**	**22 01 44.9**	**-0.9**
LAST				S	**Sg**	**22 01 59.4**	**-0.6**
	comp=E,2µm,0.9s						
HRKL	**Herakleio**	**1.41**	**281**	PN	**Pg**	**22 01 52.8**	**+0.8**
HRKL				SN	**Sn**	**22 02 11.5**	**+3.7**
IDI	**Anoyia**	**1.58**	**279**	Pg	**Pg**	**22 01 54.7**	**-0.5**
	comp=E,36nm,0.3s,baz=132,slow=4.4,SNR=7.0						
IDI				Lg	Lg	22 02 18.3	
	comp=E,68nm,0.3s,baz=262,slow=19,SNR=6.9						
IDI	**Anoyia**	**1.58**	**279**	PN	**Pg**	**22 01 54.9**	**-0.3**
IDI				SN	**Sg**	**22 02 15.9**	**+0.2**
NIS1	**Nisyros Isl.**	**1.58**	**11**	PN	**Pg**	**22 01 55.1**	**-0.1**
NIS1				SN	**Sg**	**22 02 16.5**	**+0.7**
NISR	**Nisiros**	**1.58**	**10**	P	**Pg**	**22 01 54.8**	**-0.4**
NISR				S	**Sg**	**22 02 16.9**	**+1.1**
	comp=E,1µm,0.6s						
ARG	**Arkhangelos**	**1.59**	**43**	P	**Pg**	**22 01 55.3**	**-0.1**
ARG				AML	AML	22 02 30.2	
	comp=N,1178µm,0.9s						
ARG				AML	AML	22 02 35.6	
	comp=E,2287µm,0.7s						
ARG	**Arkhangelos**	**1.59**	**43**	P	**Pg**	**22 01 55.0**	**-0.4**
ARG				S	**Sg**	**22 02 17.3**	**+1.2**
	comp=E,872nm,0.8s						
ARG	**Arkhangelos**	**1.59**	**43**	PN	**Pg**	**22 01 56.5**	**+1.1**
SIVA	**Sivas**	**1.63**	**269**	P	**Pn**	**22 01 54.4**	**+1.8**
KOSK	**Kos Island**	**1.70**	**5**	PN	**Pg**	**22 01 56.9**	**-0.7**
SANT	**Santorini**	**1.71**	**321**	P	**Pb**	**22 01 55.6**	**-0.2**
SANT	**Santorini**	**1.71**	**321**	PN	**Pb**	**22 01 56.0**	**+0.3**
SANT				SN	**Sg**	**22 02 18.3**	**-1.5**
THR8	**Santorini-Mono**	**1.72**	**322**	P	**Pb**	**22 01 55.6**	**-0.4**
THT2	**Imerovigli**	**1.77**	**321**	PN	**Pb**	**22 01 57.4**	**+0.5**
DAT	**Datca**	**1.79**	**21**	PN	**Pg**	**22 01 58.6**	**-0.7**
CMBO	**Columbo, Santo**	**1.81**	**322**	P	**Pb**	**22 01 57.4**	**0.0**
DATC	**Datca-Mugla**	**1.84**	**22**	PN	**Pg**	**22 01 59.4**	**-0.8**
BODT	**Bodrum**	**2.05**	**12**	PN	**Pb**	**22 02 02.1**	**+0.5**
BDRM	**Kayabasi**	**2.08**	**15**	*i* P	**Pb**	**22 02 01.9**	**-0.2**
BDRM				*i* S	**Sn**	**22 02 26.4**	**+2.1**
BDRM				IAML		22 02 40.0	
	comp=N,125nm,0.6s						
TURN	**Turunc**	**2.08**	**34**	*i* P	**Pg**	**22 02 03.4**	**-1.4**
TURN				*i* S	**Sg**	**22 02 32.9**	**+1.0**
TURN				IAML		22 02 42.0	
	comp=E,145nm,0.7s						
TURN				IAML		22 02 45.0	
	comp=N,126nm,0.8s						
TURN	**Turunc**	**2.08**	**34**	PN	**Pg**	**22 02 03.3**	**-1.5**
VAM	**Vamos**	**2.15**	**280**	P	**Pb**	**22 02 03.5**	**+0.1**
GVDS	**Gavdos**	**2.23**	**265**	PN	**Pb**	**22 02 05.1**	**+0.5**
GVD	**Gavdhos**	**2.23**	**265**	PN	**Pb**	**22 02 04.7**	**0.0**
APE	**Apeiranthos**	**2.26**	**333**	PN	**Pb**	**22 02 04.2**	**-0.9**
DALY	**Dalyan (Mula)**	**2.32**	**40**	*i* P	**Pb**	**22 02 05.4**	**-0.7**
DALY				*i* S	**Sg**	**22 02 37.2**	**-2.2**
DALY				IAML		22 02 47.0	
	comp=N,88nm,0.4s						
DALY				IAML		22 02 49.0	
	comp=E,137nm,0.8s						
DALY	**Dalyan (Mula)**	**2.32**	**40**	PN	**Pb**	**22 02 06.5**	**+0.4**
IMMV	**Iera Moni Meta**	**2.34**	**281**	P	**Pb**	**22 02 06.4**	**0.0**
IMMV	**Iera Moni Meta**	**2.34**	**281**	PN	**Pb**	**22 02 05.9**	**-0.6**
MLSB	**Milas**	**2.38**	**19**	PN	**Pb**	**22 02 06.4**	**-0.7**
YER	**Yerkesik**	**2.40**	**30**	PN	**Pb**	**22 02 07.5**	**-0.1**
DDIM	**Aydin, Didim**	**2.43**	**8**	*i* P	**Pg**	**22 02 10.0**	**-1.4**
FETY	**Fethiye**	**2.44**	**49**	*i* P	**Pn**	**22 02 05.7**	**+1.8**
MULA	**Mugla, Merkez-**	**2.52**	**29**	*i* P	**Pb**	**22 02 08.3**	**-1.4**
MULA				*i* S	**Sg**	**22 02 43.4**	**-2.5**
MULA				IAML		22 02 55.0	
	comp=E,85nm,1.2s						
KNDR	**Palaiochora Ch**	**2.55**	**275**	PN	**Pb**	**22 02 09.8**	**-0.3**
AKAS	**Kas**	**2.58**	**62**	*i* P	**Pn**	**22 02 06.3**	**+0.5**
AKAS				*i* S	**Sn**	**22 02 35.4**	**-1.4**
AKAS				IAML		22 02 43.0	
	comp=N,90nm,0.4s						
GCAM	**G?zelcaml?**	**2.67**	**8**	*i* P	**Pn**	**22 02 09.5**	**+2.5**
AYDN	**Tasoluk**	**2.75**	**18**	*i* P	**Pn**	**22 02 10.3**	**+2.2**
CAEL	**Denizli, Camel**	**2.91**	**44**	*i* P	**Pn**	**22 02 13.6**	**+3.2**
CAEL				IAML		22 02 58.0	
	comp=N,129nm,0.6s						
CAEL				IAML		22 03 03.0	
	comp=E,116nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.96**	**35**	*i* P	**Pn**	**22 02 12.4**	**+1.4**
TAVA				*i* S	**Sb**	**22 02 52.0**	**-0.9**
TAVA				IAML		22 03 06.0	
	comp=E,63nm,0.7s						
TAVA				IAML		22 03 06.0	
	comp=N,66nm,0.7s						
GOLH	**Golhisar**	**3.13**	**45**	*i* P	**Pn**	**22 02 15.5**	**+2.1**
GOLH				IAML		22 03 22.0	
	comp=N,112nm,0.9s						
AKUM	**Antalya-Kumluc**	**3.15**	**65**	*i* P	**Pn**	**22 02 15.2**	**+1.5**
AKUM				*i* S	**Sn**	**22 02 52.3**	**+1.5**
AKUM				IAML		22 03 02.0	
	comp=N,66nm,1.5s						
ZEYE	**Izmir, Urla-Ze**	**3.19**	**356**	*i* P	**Pn**	**22 02 12.7**	**-1.4**
URLA	**Izmir**	**3.31**	**357**	*i* P	**Pn**	**22 02 16.6**	**+0.8**
KORT	**Korkueli**	**3.48**	**55**	*i* P	**Pn**	**22 02 20.1**	**+1.9**
KORT				*i* S	**Sn**	**22 03 01.3**	**+2.3**
KORT				IAML		22 03 11.0	
	comp=E,60nm,0.8s						
KORT				IAML		22 03 11.0	
	comp=N,51nm,0.7s						
MANT	**Manisa**	**3.71**	**22**	*i* P	**Pn**	**22 02 23.2**	**+1.6**
BRDR	**BURDUR-Merkez**	**3.73**	**44**	*i* P	**Pn**	**22 02 25.6**	**+3.9**
USAK	**Uak-Merkez**	**4.07**	**25**	*i* P	**Pn**	**22 02 27.0**	**+0.7**
USAK				IAML		22 03 26.0	
	comp=E,29nm,1.1s						
USAK				IAML		22 03 26.0	
	comp=N,42nm,1.6s						
KZIL	**AFYON_Kizioren**	**4.18**	**39**	*i* P	**Pn**	**22 02 29.2**	**+1.3**
KZIL				IAML		22 03 54.0	
	comp=N,29nm,1.0s						
BRTR	**Keskin Array B**	**7.17**	**47**	Pn	**Pn**	**22 03 12.6**	**+3.6**
	comp=N,0.0nm,0.3s,baz=218,slow=13,SNR=2.3						
MMAI	**Mount Meron Ar**	**7.43**	**103**	Pn	**Pn**	**22 03 13.4**	**+0.9**
	comp=N,1.1nm,0.3s,baz=286,slow=12,SNR=3.0						
MMAI				Sn	**Sn**	**22 04 36.5**	**+0.2**
	comp=N,5.2nm,0.3s,baz=190,slow=13,SNR=6.6						
EIL	**Elat**	**8.74**	**126**	Pn	**Pn**	**22 03 31.5**	**+1.1**
	comp=N,0.6nm,0.3s,baz=220,slow=3.5,SNR=6.4						
EIL				Sn	**Sn**	**22 05 05.1**	**-3.4**
	comp=N,1.3nm,0.3s,baz=90,slow=23,SNR=4.1						
VAE	**Valguarnera**	**10.29**	**287**	Sn	**Sn**	**22 05 42.7**	**-3.8**
	comp=N,0.8nm,0.3s,baz=312,slow=13,SNR=2.5						
AKASG	**Malin Array Be**	**15.74**	**6**	Pn	**Pn**	**22 05 07.7**	**+2.2**
	comp=N,1.0nm,0.3s,baz=194,slow=11,SNR=5.8						
GERES	**GERESS Array B**	**16.84**	**329**	Pn	**Pn**	**22 05 21.7**	**+2.0**
	comp=N,0.2nm,0.3s,baz=138,slow=11,SNR=5.2						
ESDC	**Sonseca Array**	**24.81**	**290**	P	**P**	**22 06 45.0**	**-1.0**
	comp=N,0.5nm,0.5s,baz=82,slow=9.5,SNR=8.8						
FINES	**FINESS Array B**	**26.41**	**359**	P	**P**	**22 06 58.4**	**-1.8**
	comp=N,1.5nm,0.7s,baz=162,slow=13,SNR=2.2						
HFS	**Hagfors**	**26.50**	**345**	P	**P**	**22 06 59.3**	**-1.7**
	comp=N,1.0nm,0.6s,baz=102,slow=14,SNR=1.6						
AKTO	**Aktyubinsk**	**27.35**	**46**	P	**P**	**22 07 08.2**	**-0.6**
	comp=N,2.3nm,0.7s,baz=252,slow=7.6,SNR=4.1						
EKA	**Eskdalemuir Ar**	**28.91**	**324**	P	**P**	**22 07 20.6**	**-2.0**
	comp=N,0.4nm,0.4s,baz=123,slow=10,SNR=5.4						
TORD	**Torodi Ar. Bea**	**31.46**	**232**	P	**P**	**22 07 45.2**	**-0.3**
	comp=N,0.4nm,0.6s,baz=34,slow=8.6,SNR=1.7						
ARCES	**ARCESS Array B**	**34.54**	**359**	P	**P**	**22 08 10.0**	**-1.9**
	comp=N,0.5nm,0.4s,baz=170,slow=7.4,SNR=5.7						
BVAR	**Borovoye Array**	**35.46**	**46**	P	**P**	**22 08 21.5**	**+1.5**
	comp=N,0.5nm,0.7s,baz=207,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**42.72**	**57**	P	**P**	**22 09 22.2**	**+1.4**
	comp=N,0.9nm,0.4s,baz=272,slow=8.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**44.11**	**46**	P	**P**	**22 09 32.5**	**+0.6**
	comp=N,2.2nm,0.4s,baz=268,slow=9.1,SNR=9.2						
SONM	**Songino Array**	**58.52**	**51**	P	**P**	**22 11 20.9**	**+0.7**
	comp=N,0.7nm,0.6s,baz=280,slow=8.1,SNR=2.3						
CMAR	**Chiang Mai Arr**	**65.25**	**84**	P	**P**	**22 12 05.6**	**-0.2**
	comp=N,1.1nm,0.3s,baz=295,slow=6.9,SNR=4.6						
USRK	**Ussuriysk Ar.**	**75.96**	**46**	P	**P**	**22 13 10.8**	**+0.1**
	comp=N,0.7nm,0.7s,baz=355,slow=4.6,SNR=4.5						

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*IDC **09** 22:04:01.9±1.3,30°.93N×68°.80E,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.4/70,mbtmp3.7/7,ML3.9/1, Error ellipse: s-maj=32.8km s-min=25.7km az=93.0*
ISC 09 22:04:06.2±1.1,30°.8N±0°.1×68°.87E±0°.09,h35km,n18, σ2s72/21,mb3.7/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**6.50**	**76**	*e*P	**Pn**	**22 05 37.7**	**-1.9**
DHRM				*e*S	**Sn**	**22 06 58.5**	**+5.9**
DHRM				IAML		22 07 00.8	
	comp=N,68nm,0.8s						
SMLA	**Simla**	**7.13**	**86**	*e*P	**Pn**	**22 05 48.3**	**+0.2**
SMLA				*e*S	**Sn**	**22 07 07.0**	**-0.9**
SMLA				IAML		22 07 11.4	
	comp=E,50nm,0.8s						
PYUN	**Piuthan**	**12.61**	**99**	*e*P	**Pn**	**22 07 01.9**	**-1.4**
	comp=E,26nm,0.6s						
AAK	**Ala-Archa**	**12.61**	**19**	Pn	**Pn**	**22 07 03.9**	**+0.7**
	comp=E,0.7nm,0.3s,baz=193,slow=6.5,SNR=4.4						
AAK				Sn	**Sn**	**22 09 20.1**	**-2.3**
	comp=E,0.5nm,0.3s,baz=319,slow=11,SNR=1.7						
DANN	**Dangsing**	**13.20**	**97**	*e*P	**Pn**	**22 07 09.3**	**-2.1**
	comp=E,34nm,0.8s						
KOLN	**Koldanda**	**13.22**	**100**	*e*P	**Pn**	**22 07 09.7**	**-1.9**
GKN	**Gorkha**	**14.03**	**98**	*e*P	**Pn**	**22 07 19.4**	**-3.3**
	comp=E,16nm,0.5s						
KKN	**Kakani**	**14.64**	**98**	*e*P	**Pn**	**22 07 27.6**	**-3.4**
	comp=E,23nm,0.6s						
PKIN	**Phulchoki**	**14.80**	**99**	*e*P	**Pn**	**22 07 29.7**	**-3.5**
PKI	**Pulchoki**	**14.81**	**99**	*e*P	**Pn**	**22 07 29.9**	**-3.5**
GUN	**Gumba**	**15.12**	**97**	*e*P	**Pn**	**22 07 34.2**	**-3.3**
JIRN	**Jiri**	**15.45**	**97**	*e*P	**Pn**	**22 07 38.5**	**-3.4**
	comp=E,17nm,0.5s						
KURBB	**Kurchatov Arra**	**21.04**	**17**	P	**P**	**22 08 45.8**	**-1.1**
	comp=E,1.1nm,0.6s,baz=208,slow=11,SNR=2.5						
AKTO	**Aktyubinsk**	**21.20**	**341**	P	**P**	**22 08 47.9**	**-0.7**
	comp=E,1.0nm,0.5s,baz=159,slow=14,SNR=1.7						
SONM	**Songino Array**	**33.23**	**49**	P	**P**	**22 10 40.7**	**+0.7**
	comp=E,1.0nm,1.0s,baz=265,slow=8.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**63.87**	**270**	P	**P**	**22 14 36.4**	**+0.7**
	comp=E,0.5nm,0.6s,baz=59,slow=7.0,SNR=2.6						
WRA	**Warramunga Arr**	**80.62**	**120**	P	**P**	**22 16 17.6**	**+2.0**
	comp=E,0.7nm,0.8s,baz=324,slow=5.1,SNR=3.0						
ASAR	**Alice Springs**	**82.58**	**123**	P	**P**	**22 16 27.3**	**+1.4**
	comp=E,0.6nm,0.6s,baz=309,slow=5.4,SNR=6.6						

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*IDC **09** 22:05:22.5±2.4,9°.66S×113°.93E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.5/49,mbtmp3.7/6, Error ellipse: s-maj=102.2km s-min=21.8km az=49.0*
*DJA **09** 22:05:28.9±0.5,10°S±8°×11°4E±°,h70km±23km,M3.9/13, mb4.1/2,MLv3.8/13*
ISC 09 22:05:26.0±0.9,10°.05S±0°.08×113°.70E±0°.05,h35km,n18, σ1s60/22,mb3.9/6,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.64**	**16**	P	**Pn**	**22 05 51.6**	**-0.7**
JAGI				S	**Sn**	**22 06 11.3**	**-0.8**
DNP	**Denpasar**	**2.02**	**48**	P	**Pn**	**22 06 00.1**	**+2.4**
DNP				S	**Sn**	**22 06 22.9**	**+1.1**
ABJI	**Asem Bagus**	**2.31**	**13**	P	**Pn**	**22 06 04.1**	**+2.6**
SRBI	**Singaraja**	**2.46**	**38**	P	**Pn**	**22 06 05.4**	**+1.7**
SRBI				S	**Sn**	**22 06 31.7**	**-0.9**
PWJI	**Pagerwojo**	**2.75**	**317**	P	**Pn**	**22 06 08.6**	**+1.0**
PWJI				S	**Sn**	**22 06 39.7**	**+0.1**
KMMI	**Kalianget**	**3.00**	**5**	P	**Pn**	**22 06 12.7**	**+1.7**
TWSI	**Taliwang, Sumb**	**3.41**	**68**	P	**Pn**	**22 06 17.5**	**+0.8**
UGM	**Wanagama**	**3.79**	**304**	P	**Pn**	**22 06 23.6**	**+1.7**
PLAI	**Plampang**	**4.21**	**74**	P	**Pn**	**22 06 28.3**	**+0.6**
WBSI	**Waikabubak, Su**	**5.63**	**86**	P	**Pn**	**22 06 49.2**	**+1.9**
	0.2nm36nm,1.9s						
CISI	**Cisompet, Garu**	**6.32**	**293**	P	**Pn**	**22 06 58.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**14.07**	**126**	Pn	**Pn**	**22 08 40.9**	**-2.1**
	0.1nm,0.3s,baz=336,slow=10.0,SNR=2.2						
FITZ				Sn	Sn	22 11 06.2	-12
	0.1nm,0.3s,baz=246,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**22.21**	**119**	P	**P**	**22 10 21.2**	**+1.6**
	0.8nm,0.5s,baz=294,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**23.56**	**128**	P	**P**	**22 10 35.2**	**+1.7**
	0.4nm,0.4s,baz=305,slow=9.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**31.85**	**333**	P	**P**	**22 11 48.8**	**+0.9**
	0.5nm,0.3s,baz=168,slow=7.3,SNR=4.2						
USRK	**Ussuriysk Ar.**	**56.49**	**16**	P	**P**	**22 15 02.9**	**-1.6**
	0.8nm,0.7s,baz=187,slow=10,SNR=2.6						
SONM	**Songino Array**	**57.99**	**354**	P	**P**	**22 15 14.4**	**-0.8**
	0.4nm,0.4s,baz=176,slow=6.6,SNR=3.0						
MKAR	**Makanchi Array**	**63.16**	**336**	P	**P**	**22 15 49.6**	**-0.8**
	0.6nm,0.5s,baz=152,slow=7.1,SNR=9.6						

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*IDC **09** 22:10:41.4±1.6,34°.77N×27°.02E,h0km,mb3.7/4, mb1 3.6/5,mb1mx3.3/50,mbtmp3.6/5,ML4.0/1,Error ellipse: s-maj=68.3km s-min=27.4km az=137.0*
*ISK **09** 22:10:43.9,35°.15N×26°.70E,h5km,ML3.0/7*
*ATH **09** 22:10:43.7,34°.99N×26°.75E,h10km±3km,ML3.2/8, Error ellipse: s-maj=5.9km s-min=1.7km az=349.0*
*THE **09** 22:10:44.1,34°.

VAM					AML	AML	22 11 59.3		
	comp=E,770µm,0.5s								
VAM					AML	AML	22 12 00.2		
	comp=N,732µm,0.6s								
GVD	**Gavdhos**	**2.21**	**266**		PN	**Pb**	**22 11 22.5**	**-0.9**	
APE	**Apeiranthos**	**2.29**	**334**		P	**Pn**	**22 11 21.2**	**+0.1**	
APE					S	**Sn**	**22 11 50.4**	**+1.1**	
	comp=N,260nm,0.8s								
IMMV	**Iera Moni Meta**	**2.33**	**282**		PN	**Pn**	**22 11 23.6**	**+2.0**	
DALY	**Dalyan (Mula)**	**2.36**	**40**	*i*	P	**Pn**	**22 11 23.2**	**+1.1**	
DALY				*i*	S	**Sg**	**22 11 59.2**	**-0.2**	
MLSB	**Milas**	**2.42**	**19**		PN	**Pn**	**22 11 24.4**	**+1.4**	
YER	**Yerkesik**	**2.45**	**30**		PN	**Pn**	**22 11 25.0**	**+1.6**	
DDIM	**Aydin, Didim**	**2.47**	**9**	*i*	P	**Pb**	**22 11 26.5**	**-1.3**	
DDIM					IAML		22 12 17.0		
	comp=E,71nm,1.1s								
DDIM					IAML		22 12 24.0		
	comp=N,49nm,1.1s								
FETY	**Fethiye**	**2.48**	**49**	*i*	P	**Pn**	**22 11 23.9**	**+0.1**	
KNDR	**Palaiochora Ch**	**2.54**	**276**		PN	**Pb**	**22 11 27.7**	**-1.3**	
MULA	**Mugla, Merkez-**	**2.57**	**29**	*i*	P	**Pb**	**22 11 28.2**	**-1.3**	
AKAS	**Kas**	**2.61**	**61**	*i*	P	**Pn**	**22 11 25.7**	**0.0**	
AKAS					S	**Sn**	**22 11 52.6**	**-4.9**	
AKAS					IAML		22 12 00.0		
	comp=E,45nm,0.5s								
AKAS					IAML		22 12 04.0		
	comp=N,52nm,0.6s								
GCAM	**G?zelcaml?**	**2.71**	**8**	*i*	P	**Pn**	**22 11 28.0**	**+1.1**	
AYDN	**Tasoluk**	**2.79**	**18**	*i*	P	**Pn**	**22 11 29.0**	**+0.9**	
AYDN				*i*	S	**Sn**	**22 12 05.0**	**+3.2**	
CAEL	**Denizli, Camel**	**2.95**	**44**	*i*	P	**Pn**	**22 11 33.6**	**+3.3**	
CAEL				*i*	S	**Sb**	**22 12 09.7**	**-2.5**	
CAEL					IAML		22 12 19.0		
	comp=E,56nm,1.0s								
CAEL					IAML		22 12 26.0		
	comp=N,81nm,0.7s								
TAVA	**DENIZLI_Tavas**	**3.00**	**35**	*i*	P	**Pn**	**22 11 32.3**	**+1.3**	
TAVA				*i*	S	**Sn**	**22 12 08.4**	**+1.5**	
GOLH	**Golhisar**	**3.17**	**45**	*i*	P	**Pn**	**22 11 35.2**	**+1.9**	
ZEYE	**Izmir, Urla-Ze**	**3.23**	**356**	*i*	P	**Pn**	**22 11 33.6**	**-0.4**	
KORT	**Korkueli**	**3.52**	**55**	*i*	P	**Pn**	**22 11 40.5**	**+2.3**	
KORT				*i*	S	**Sn**	**22 12 20.0**	**+0.2**	
KORT					IAML		22 12 30.0		
	comp=E,36nm,0.6s								
KORT					IAML		22 12 34.0		
	comp=N,23nm,1.0s								
BRDR	**BURDUR-Merkez**	**3.77**	**44**	*i*	P	**Pn**	**22 11 42.9**	**+1.3**	
BRDR				*i*	S	**Sn**	**22 12 31.2**	**+5.1**	
USAK	**Uak-Merkez**	**4.11**	**25**	*i*	P	**Pn**	**22 11 46.8**	**+0.6**	
USAK				*i*	S	**Sn**	**22 12 29.6**	**-4.7**	
USAK					IAML		22 12 35.0		
	comp=E,45nm,0.3s								
USAK					IAML		22 12 35.0		
	comp=N,43nm,1.3s								
BRTR	**Keskin Array B**	**7.21**	**47**		Pn	Pn	22 12 34.5	+5.5	
	comp=N,0.1nm,0.3s,baz=250,slow=10,SNR=2.5								
AKASG	**Malin Array Be**	**15.78**	**6**		Pn	**Pn**	**22 14 27.0**	**+1.5**	
	comp=N,0.5nm,0.3s,baz=194,slow=11,SNR=3.6								
TORD	**Torodi Ar. Bea**	**31.43**	**232**		P	**P**	**22 17 04.6**	**-0.2**	
	comp=N,1.2nm,1.2s,baz=36,slow=9.3,SNR=2.2								
KURBB	**Kurchatov Arra**	**40.19**	**51**		P	**P**	**22 18 19.2**	**-0.4**	
	comp=N,0.5nm,0.4s,baz=276,slow=9.4,SNR=2.1								
MKAR	**Makanchi Array**	**42.75**	**57**		P	**P**	**22 18 40.6**	**-0.1**	
	comp=N,0.2nm,0.4s,baz=275,slow=8.1,SNR=7.7								
ZALV	**Zalesovo Beam**	**44.15**	**46**		P	**P**	**22 18 50.5**	**-1.4**	
	comp=N,0.8nm,0.3s,baz=276,slow=7.0,SNR=3.9								

DJA 09 22:15:38.5±1.9,3°S±6″×13°7E±°,h20km±23km,M3.7/4, mb3.2/1,MLv3.9/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.39**	**344**	P	Pn	22 16 00.9	-1.9
SRPI				S	Sb	22 16 21.3	0.0
GENI	**Genyem**	**3.60**	**80**	P	Pn	22 16 31.6	-1.6
FAKI	**Fak Fak**	**4.38**	**274**	P	Pn	22 16 45.4	+1.5
FAKI				S	Sn	22 17 34.4	+0.1

ISK 09 22:16:20.5,35°17N×26°64E,h5km,ML3.0/10,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.35**	**262**	PG	Pg	22 16 27.7	+0.3
ZKR				SG	Sg	22 16 33.4	+1.4
HRKL	**Herakleio**	**1.27**	**277**	PN	Pb	22 16 45.5	+0.6
IDI	**Anoyia**	**1.44**	**275**	PN	Pn	22 16 47.6	+0.3
IDI				SN	Sg	22 17 08.0	+1.2
NIS1	**Nisyros Isl.**	**1.50**	**17**	PN	Pb	22 16 48.7	-0.1
SANT	**Santorini**	**1.54**	**322**	PN	Pb	22 16 49.2	-0.4
ARG	**Arkhangelos**	**1.60**	**49**	PN	Pb	22 16 50.2	-0.3
KOSK	**Kos Island**	**1.60**	**10**	PN	Pb	22 16 50.3	-0.3
KOSK				SN	Sg	22 17 11.8	-0.3
DAT	**Datca**	**1.73**	**26**	PN	Pb	22 16 52.4	-0.5
BODT	**Bodrum**	**1.97**	**16**	PN	Pn	22 16 55.4	+0.9
TURN	**Turunc**	**2.06**	**39**	PN	Pn	22 16 56.6	+0.8
APE	**Apeiranthos**	**2.10**	**335**	PN	Pn	22 16 57.6	+1.2
GVDS	**Gavdos**	**2.12**	**262**	PN	Pb	22 16 58.2	-1.2
IMMV	**Iera Moni Meta**	**2.20**	**278**	PN	Pn	22 16 59.1	+1.4
DALY	**Dalyan (Mula)**	**2.32**	**44**	PN	Pb	22 17 00.3	+1.0
YER	**Yerkesik**	**2.37**	**34**	PN	Pn	22 17 00.9	+0.8
KNDR	**Palaiochora Ch**	**2.42**	**272**	PN	Pb	22 17 03.1	-1.5

*IDC **09** 22:16:34.8±1.2,35°18N×26°65E,h0km,mb3.6/6, mb1 3.6/8,mb1mx3.4/40,mbtmp3.5/8,ML3.4/2,Error ellipse: s-maj=28.8km s-min=22.3km az=176.0*
*DDA **09** 22:16:34.1,34°99N×26°62E,h8km±6km,ML2.7*
ISC 09 22:16:35.6±0.9,35°01N±0°05×26°80E±0°06,h10km,n24, σ1°51/31,mb3.5/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**2.11**	**14**	*i* P	**Pg**	**22 17 15.2**	**-0.9**
BDRM				*i* S	**Sg**	**22 17 42.3**	**-1.2**
TURN	**Turunc**	**2.11**	**33**	*i* P	**Pb**	**22 17 14.4**	**+0.4**
TURN				IAML		22 17 57.0	
	comp=E,86nm,0.4s						
TURN				IAML		22 18 01.0	
	comp=N,58nm,0.8s						
DALY	**Dalyan (Mula)**	**2.35**	**39**	*i* P	**Pb**	**22 17 17.9**	**-0.1**
DALY				*i* S	**Sg**	**22 17 53.8**	**+2.8**
FETY	**Fethiye**	**2.46**	**48**	*i* P	**Pn**	**22 17 18.0**	**+2.2**
FETY				IAML		22 18 17.0	
	comp=N,35nm,0.8s						
DDIM	**Aydin, Didim**	**2.46**	**8**	*i* P	**Pb**	**22 17 19.6**	**-0.4**
DDIM				IAML		22 18 11.0	
	comp=E,51nm,0.9s						
DDIM				IAML		22 18 14.0	
	comp=N,70nm,1.0s						
MULA	**Mugla, Merkez-**	**2.56**	**28**	*i* P	**Pb**	**22 17 21.5**	**-0.1**
MULA				IAML		22 18 11.0	
	comp=E,32nm,0.4s						
MULA				IAML		22 18 12.0	
	comp=N,41nm,1.0s						
AKAS	**Kas**	**2.59**	**61**	*i* P	**Pn**	**22 17 19.5**	**+1.8**
AKAS				*i* S	**Sn**	**22 17 49.6**	**+0.2**
GCAM	**G?zelcaml?**	**2.70**	**7**	*i* P	**Pn**	**22 17 20.6**	**+1.5**
AYDN	**Tasoluk**	**2.78**	**18**	*i* P	**Pn**	**22 17 21.0**	**+0.7**
CAEL	**Denizli, Camel**	**2.93**	**43**	*i* P	**Pb**	**22 17 26.6**	**-1.5**
TAVA	**DENIZLI_Tavas**	**2.98**	**34**	*i* P	**Pn**	**22 17 25.1**	**+1.9**
TAVA				*i* S	**Sb**	**22 18 04.8**	**-0.7**
TAVA				IAML		22 18 24.0	
	comp=N,32nm,0.5s						
DGB	**zmir**	**3.03**	**1**	*i* P	**Pn**	**22 17 25.4**	**+1.7**
DGB				*i* S	**Sn**	**22 18 00.7**	**+0.7**
GOLH	**Golhisar**	**3.15**	**44**	*i* P	**Pb**	**22 17 29.6**	**-2.2**
GOLH				IAML		22 18 21.0	
	comp=E,26nm,0.5s						
GOLH				IAML		22 18 30.0	
	comp=N,27nm,0.8s						
ZEYE	**Izmir, Urla-Ze**	**3.23**	**356**	*i* P	**Pn**	**22 17 27.4**	**+1.0**
ZEYE				IAML		22 18 28.0	
	comp=E,21nm,0.7s						
URLA	**Izmir**	**3.34**	**357**	*i* P	**Pn**	**22 17 29.8**	**+1.8**
URLA				IAML		22 18 34.0	
	comp=N,15nm,0.6s						
MMAI	**Mount Meron Ar**	**7.42**	**103**		Pn	**Pn**	**22 18 25.7**	**+1.7**
	comp=N,0.6nm,0.3s,baz=266,slow=14,SNR=1.8							
MMAI					Sn	**Sn**	**22 19 46.8**	**-1.4**
	comp=N,1.9nm,0.3s,baz=312,slow=28,SNR=2.4							
EIL	**Elat**	**8.71**	**125**		Pn	**Pn**	**22 18 42.8**	**+1.1**
	comp=N,0.4nm,0.3s,baz=134,slow=19,SNR=1.5							
EIL					Sn	**Sn**	**22 20 17.9**	**-2.1**
	comp=N,1.6nm,0.3s,baz=120,slow=8.2,SNR=6.6							
AKASG	**Malin Array Be**	**15.78**	**6**		Pn	**P**	**22 20 20.2**	**-1.5**
	comp=N,0.5nm,0.3s,baz=194,slow=11,SNR=3.3							
ESDC	**Sonseca Array**	**24.83**	**290**		P	**P**	**22 21 57.2**	**-0.9**
	comp=N,0.4nm,0.6s,baz=82,slow=10,SNR=8.1							
FINES	**FINESS Array B**	**26.45**	**359**		P	**P**	**22 22 11.1**	**-1.3**
	comp=N,0.6nm,0.7s,baz=162,slow=12,SNR=0.7							
TORD	**Torodi Ar. Bea**	**31.44**	**232**		P	**P**	**22 22 58.6**	**+1.3**
	comp=N,0.9nm,1.0s,baz=37,slow=8.7,SNR=2.4							
ARCES	**ARCESS Array B**	**34.58**	**359**		P	**P**	**22 23 22.6**	**-1.6**
	comp=N,0.7nm,0.7s,baz=167,slow=6.0,SNR=4.8							
MKAR	**Makanchi Array**	**42.73**	**57**		P	**P**	**22 24 34.8**	**+1.8**
	comp=N,0.3nm,0.4s,baz=269,slow=8.9,SNR=8.2							
ZALV	**Zalesovo Beam**	**44.14**	**46**		P	**P**	**22 24 45.0**	**+0.9**
	comp=N,0.8nm,0.3s,baz=269,slow=9.2,SNR=3.1							

*DDA **09** 22:43:08.2,35°11N×26°58E,h10km±4km,ML3.0*
*IDC **09** 22:43:09.9±1.0,35°13N×26°85E,h0km,mb3.8/11, mb1 3.9/15,mb1mx3.7/44,mbtmp3.8/15,ML3.9/4,Error ellipse: s-maj=22.6km s-min=11.1km az=180.0*
*NIC **09** 22:43:10.0±0.0,34°77N×26°51E,h28km±2km,MI4.2/2*
*ATH **09** 22:43:12.3,35°07N×26°78E,h12km±3km,ML3.5/8,Error ellipse: s-maj=7.0km s-min=1.7km az=163.0*
*HLW **09** 22:43:12.3,35°06N×26°93E,h22km±15km,Md3.4,MI3.7*
*ISK **09** 22:43:12.8,35°26N×26°72E,h8km,ML3.3/11*
*THE **09** 22:43:13.0,35°18N×26°63E,h0km±1km,ML3.4/4,Error ellipse: s-maj=6.1km s-min=1.0km az=158.0*
ISC 09 22:43:12.1±0.9,35°12N±0°04×26°72E±0°02,h19km±3km, n92,σ1°36/117,mb3.8/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.41**	**269**	P	**Pb**	**22 43 21.6**	**+0.7**
ZKR				S	**Sb**	**22 43 27.2**	**+0.3**
ZKR				AML	AML	22 43 29.4	
	comp=E,22372µm,0.3s						
ZKR				AML	AML	22 43 29.5	
	comp=N,12362µm,0.2s						
ZKR	**Zakros**	**0.41**	**269**	P	**Pg**	**22 43 19.7**	**-1.0**
ZKR				S	**Sg**	**22 43 26.1**	**-0.4**
	comp=N,9µm,0.2s						
ZKR	**Zakros**	**0.41**	**269**	PG	**Pb**	**22 43 21.5**	**+0.6**
ZKR				SG	**Sn**	**22 43 28.7**	**-1.5**
ZKR	**Zakros**	**0.41**	**269**	P	**Pg**	**22 43 18.9**	**-1.8**
ZKR				S	**Sb**	**22 43 26.7**	**-0.1**
NPS	**Neapolis**	**0.92**	**279**	P	**Pn**	**22 43 31.0**	**+1.0**
NPS				S	**Sn**	**22 43 44.3**	**+1.6**
NPS				AML	AML	22 43 51.5	
	comp=N,10567µm,0.7s						
NPS				AML	AML	22 43 51.9	
	comp=E,13193µm,0.6s						
NPS	**Neapolis**	**0.92**	**279**	P	**Pb**	**22 43 29.1**	**-0.3**
NPS				S	**Sn**	**22 43 43.0**	**+0.3**
	comp=E,6µm,0.6s						
LAST	**Lasithi**	**1.02**	**272**	P	**Pn**	**22 43 31.7**	**+0.2**
LAST				S	**Sn**	**22 43 47.0**	**+1.7**
LAST				AML	AML	22 43 53.5	
	comp=E,3116µm,0.5s						
LAST				AML	AML	22 43 54.2	
	comp=N,4258µm,0.5s						
LAST	**Lasithi**	**1.02**	**272**	P	**Pb**	**22 43 31.3**	**+0.1**
LAST				S	**Sn**	**22 43 45.7**	**+0.4**
	comp=N,2µm,0.5s						
HRKL	**Herakleio**	**1.34**	**278**	PN	**Pg**	**22 43 37.7**	**-0.2**
HRKL				SN	**Sg**	**22 43 56.9**	**+1.4**
IDI	**Anoyia**	**1.51**	**277**	P	**Pb**	**22 43 39.9**	**+0.4**
IDI				AML	AML	22 44 10.1	
	comp=E,1488µm,0.7s						
IDI				AML	AML	22 44 11.7	
	comp=N,1670µm,0.5s						
IDI	**Anoyia**	**1.51**	**277**	Pg	**Pg**	**22 43 40.4**	**-0.7**
	comp=N,14nm,0.3s,baz=55,slow=2.9,SNR=29						
IDI				Lg	Lg	22 44 03.6	
	comp=N,50nm,0.3s,baz=322,slow=18,SNR=7.4						
IDI	**Anoyia**	**1.51**	**277**	P	**Pb**	**22 43 39.5**	**0.0**
IDI	**Anoyia**	**1.51**	**277**	PN	**Pg**	**22 43 40.3**	**-0.9**
IDI				SN	**Sg**	**22 44 01.3**	**+0.4**
NIS1	**Nisyros Isl.**	**1.52**	**14**	P	**Pb**	**22 43 40.1**	**+0.4**
NIS1				AML	AML	22 44 14.2	
	comp=E,2773µm,0.6s						
NIS1				AML	AML	22 44 20.2	
	comp=N,2903µm,0.4s						
NIS1	**Nisyros Isl.**	**1.52**	**14**	P	**Pb**	**22 43 39.4**	**-0.3**
NIS1	**Nisyros Isl.**	**1.52**	**14**	PN	**Pb**	**22 43 39.2**	**-0.5**
SIVA	**Sivas**	**1.57**	**267**	P	**Pb**	**22 43 41.4**	**+0.9**
SIVA				AML	AML	22 44 18.2	
	comp=E,2918µm,0.6s						
SIVA				AML	AML	22 44 20.7	
	comp=N,2944µm,0.6s						
SIVA	**Sivas**	**1.57**	**267**	P	**Pb**	**22 43 40.6**	**+0.1**
ARG	**Arkhangelos**	**1.58**	**46**	P	**Pb**	**22 43 41.0**	**+0.4**
ARG				AML	AML	22 44 13.4	
	comp=E,1664µm,0.4s						
ARG				AML	AML	22 44 16.2	
	comp=N,1080µm,0.7s						
ARG	**Arkhangelos**	**1.58**	**46**	P	**Pb**	**22 43 41.2**	**+0.6**
ARG				S	**Sg**	**22 44 02.8**	**-0.3**
	comp=N,489µm,0.5s						
ARG	**Arkhangelos**	**1.58**	**46**	PN	**Pb**	**22 43 40.4**	**-0.2**
ARG	**Arkhangelos**	**1.58**	**46**	P	**Pb**	**22 43 41.1**	**+0.4**
SANT	**Santorini**	**1.61**	**321**	PN	**Pb**	**22 43 40.8**	**-0.5**
KOSK	**Kos Island**	**1.64**	**7**	PN	**Pb**	**22 43 40.8**	**-0.8**
THT2	**Imerovigli**	**1.68**	**321**	PN	**Pb**	**22 43 41.4**	**-1.0**
DAT	**Datca**	**1.75**	**23**	*i* P	**Pn**	**22 43 42.1**	**+0.7**
DAT				*i* S	**Sg**	**22 44 06.5**	**-1.9**
DAT	**Datca**	**1.75**	**23**	PN	**Pb**	**22 43 42.5**	**-1.1**
BODT	**Bodrum**	**1.99**	**14**	PN	**Pb**	**22 43 46.1**	**-1.6**
BDRM	**Kayabasi**	**2.02**	**17**	*i* P	**Pb**	**22 43 46.6**	**-1.6**
BDRM				IAML		22 44 30.0	
	comp=N,67nm,0.8s						
TURN	**Turunc**	**2.06**	**36**	*i* P	**Pb**	**22 43 47.8**	**-1.0**
TURN				*i* S	**Sg**	**22 44 16.7**	**-1.7**
TURN				IAML		22 44 30.0	
	comp=E,118nm,0.5s						
TURN				IAML		22 44 32.0	
	comp=N,172nm,0.5s						
TURN	**Turunc**	**2.06**	**36**	PN	**Pn**	**22 43 47.3**	**+1.7**
VAM	**Vamos**	**2.08**	**278**	P	**Pb**	**22 43 49.5**	**+0.3**
VAM				AML	AML	22 44 27.0	
	comp=N,1417µm,0.5s						
VAM				AML	AML	22 44 27.9	
	comp=E,904µm,0.8s						
APE	**Apeiranthos**	**2.17**	**334**	PN	**Pn**	**22 43 47.9**	**+0.7**
APE	**Apeiranthos**	**2.17**	**334**	P	**Pn**	**22 43 48.0**	**+0.9**
GVDS	**Gavdos**	**2.18**	**263**	PN	**Pb**	**22 43 50.6**	**-0.3**
GVD	**Gavdhos**	**2.18**	**263**	PN	**Pb**	**22 43 50.6**	**-0.3**
IMMV	**Iera Moni Meta**	**2.27**	**279**	PN	**Pb**	**22 43 51.2**	**-1.2**
DALY	**Dalyan (Mula)**	**2.30**	**42**	*i* P	**Pb**	**22 43 53.1**	**+0.1**
DALY				*i* S	**Sb**	**22 44 23.1**	**+2.0**
DALY	**Dalyan (Mula)**	**2.30**	**42**	PN	**Pn**	**22 43 50.6**	**+1.6**
MLSB	**Milas**	**2.33**	**21**	PN	**Pn**	**22 43 50.8**	**+1.4**
DDIM	**Aydin, Didim**	**2.37**	**10**	*i* P	**Pb**	**22 43 55.3**	**+1.3**
YER	**Yerkesik**	**2.37**	**32**	PN	**Pn**	**22 43 51.7**	**+1.7**
FETY	**Fethiye**	**2.44**	**51**	*i* P	**Pn**	**22 43 50.2**	**-0.7**
MULA	**Mugla, Merkez-**	**2.49**	**31**	*i* P	**Pb**	**22 43 55.3**	**-0.9**
MULA				*i* S	**Sb**	**22 44 25.2**	**-1.4**
KNDR	**Palaiochora Ch**	**2.49**	**273**	PN	**Pb**	**22 43 55.3**	**-0.8**
AKAS	**Kas**	**2.59**	**64**	*i* P	**Pn**	**22 43 51.7**	**-1.4**
AKAS				*i* S	**Sn**	**22 44 23.7**	**-0.5**
AKAS				IAML		22 44 30.0	
	comp=N,126nm,0.4s						
AKAS				IAML		22 44 30.0	
	comp=E,55nm,0.4s						
GCAM	**G?zelcaml?**	**2.60**	**9**	*i* P	**Pb**	**22 43 57.2**	**-0.9**
AYDN	**Tasoluk**	**2.70**	**20**	*i* P	**Pn**	**22 43 55.3**	**+0.9**
AYDN				*i* S	**Sb**	**22 44 30.7**	**-1.8**
CAEL	**Denizli, Camel**	**2.90**	**46**	*i* P	**Pn**	**22 43 57.8**	**+0.5**
CAEL				IAML		22 44 46.0	
	comp=E,179nm,0.8s						
CAEL				IAML		22 44 50.0	
	comp=N,89nm,0.7s						
DGB	**zmir**	**2.92**	**2**	*i* P	**Pn**	**22 43 58.3**	**+0.8**
DGB				*i* S	**Sb**	**22 44 35.4**	**-3.6**
TAVA	**DENIZLI_Tavas**	**2.93**	**37**	*i* P	**Pn**	**22 43 59.2**	**+1.5**
TAVA				*i* S	**Sb**	**22 44 38.8**	**-0.5**
TAVA				IAML		22 44 50.0	
	comp=N,39nm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**3.11**	**357**	*i* P	**Pn**	**22 43 59.9**	**-0.2**
ZEYE				IAML		22 44 45.0	
	comp=N,31nm,0.6s						
GOLH	**Golhisar**	**3.12**	**47**	*i* P	**Pn**	**22 44 01.6**	**+1.3**
GOLH				*i* S	**Sn**	**22 44 33.7**	**-3.3**
GOLH				IAML		22 44 48.0	
	comp=N,55nm,0.6s						
GOLH				IAML		22 44 49.0	
	comp=E,63nm,0.9s						
AKUM	**Antalya-Kumluc**	**3.18**	**67**	*i* P	**Pn**	**22 44 01.0**	**0.0**
AKUM				*i* S	**Sn**	**22 44 38.4**	**0.0**
AKUM				IAML		22 44 48.0	
	comp=N,33nm,0.9s						
AKUM				IAML		22 44 49.0	
	comp=E,35nm,0.5s						
URLA	**Izmir**	**3.23**	**358**	*i* P	**Pn**	**22 44 00.6**	**-1.2**
KORT	**Korkueli**	**3.48**	**56**	*i* P	**Pn**	**22 44 07.2**	**+1.8**
KORT				*i* S	**Sn**	**22 44 47.8**	**+1.6**
KORT				IAML		22 44 55.0	
	comp=N,41nm,0.6s						
KORT				IAML		22 44 57.0	
	comp=E,47nm,0.6s						
MANT	**Manisa**	**3.67**	**23**	*i* P	**Pn**	**22 44 10.3**	**+2.3**
BRDR	**BURDUR-Merkez**	**3.72**	**45**	*i* P	**Pn**	**22 44 10.2**	**+1.6**
SLUM	**Salum**	**3.84**	**200**	P	**Pn**	**22 44 09.9**	**-0.2**
	baz=203						
SLUM				S	**Sn**	**22 44 51.3**	**-3.3**
	baz=203						
SLUM				AMP		22 45 00.0	
	baz=203						
ZEDA	**zmir-Bergama**	**3.84**	**4**	*i* P	**Pn**	**22 44 10.1**	**-0.1**
OSC1	**CSNet OBS 1**	**4.10**	**112**	S	**Sn**	**22 45 00.7**	**-0.5**
AKMS	**Akamas**	**4.61**	**90**	P	**Pn**	**22 44 20.8**	**+0.1**
AKMS				AML	AML	22 45 15.6	
	comp=E,0.8nm,0.3s						
AKMS				AML	AML	22 45 16.6	
	comp=E,1.1nm,0.7s						
NATA	**Nata**	**4.81**	**92**	P	**Pn**	**22 44 24.4**	**+0.8**
ALFC	**Alefka**	**4.82**	**88**	P	**Pn**	**22 44 23.9**	**+0.3**
SZAC	**Souni**	**5.07**	**92**	P	**Pn**	**22 44 27.9**	**+0.8**
SZAC				AML	AML	22 45 25.3	
	comp=E,0.3nm,0.3s						
SZAC				AML	AML	22 45 26.9	
	comp=E,0.3nm,0.7s						
ASGA	**Asgata**	**5.37**	**92**	P	**Pn**	**22 44 31.7**	**+0.5**
CSS	**Mathiatis**	**5.42**	**90**	P	**Pn**	**22 44 32.3**	**+0.3**
MVOU	**Mavrovouni**	**5.67**	**89**	P	**Pn**	**22 44 36.2**	**+1.0**
SWA2		**5.96**	**191**	P	**Pn**	**22 44 36.5**	**-2.8**
	baz=193						
SWA2				S	**Sn**	**22 45 42.9**	**-4.2**
	baz=193						
RYAN	**Fayoum**	**6.74**	**152**	P	**Pn**	**22 44 49.0**	**-1.0**
	baz=153						
GLL	**Jalalah**	**6.96**	**141**	P	**Pn**	**22 44 50.9**	**-2.1**
	baz=142						
BRTR	**Keskin Array B**	**7.17**	**48**		Pn	**Pn**	**22 45 00.6**	**+4.7**
	comp=E,0.1nm,0.3s,baz=221,slow=19,SNR=2.0							
SUZ	**Suez**	**7.37**	**134**		P	**Pn**	**22 44 57.1**	**-1.6**
	baz=134							
MMAI	**Mount Meron Ar**	**7.50**	**104**		Pn	**Pn**	**22 44 59.8**	**-0.7**
	comp=E,1.2nm,0.3s,baz=279,slow=11,SNR=9.2							
MMAI					Sn	**Sn**	**22 46 24.4**	**-0.8**
	comp=E,4.1nm,0.3s,baz=307,slow=17,SNR=9.0							
HFRF	**Wahat Farafira**	**8.07**	**170**		P	**Pn**	**22 45 05.7**	**-2.5**
	baz=171							
EIL	**Elat**	**8.83**	**126**		Pn	**Pn**	**22 45 18.6**	**-0.1**
	comp=E,0.7nm,0.3s,baz=204,slow=2.2,SNR=15							
EIL					Sn	Sn	22 46 50.4	-7.2
	comp=E,2.4nm,0.3s,baz=168,slow=3.2,SNR=8.8							
HBST	**Basata**	**8.99**	**129**		P	**Pn**	**22 45 19.1**	**-1.7**
	baz=129							
VAE	**Valguarnera**	**10.21**	**287**		Sn	**Sn**	**22 47 28.9**	**-2.7**
	comp=E,0.6nm,0.3s,baz=43,slow=6.8,SNR=3.5							
KBZ	**Khabaz**	**15.15**	**51**		Pn	**P**	**22 46 52.5**	**+2.7**
	comp=E,0.1nm,0.3s,baz=264,slow=13,SNR=4.0							
AKASG	**Malin Array Be**	**15.68**	**6**		Pn	**Pn**	**22 46 52.2**	**+0.5**
	comp=E,1.9nm,0.3s,baz=196,slow=11,SNR=4.5							
GERES	**GERESS Array B**	**16.75**	**329**		Pn	**P**	**22 47 08.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=134,slow=12,SNR=5.0							
ESDC	**Sonseca Array**	**24.73**	**290**		P	**P**	**22 48 32.8**	**+0.5**
	comp=E,0.5nm,0.5s,baz=84,slow=9.0,SNR=8.3							
FINES	**FINESS Array B**	**26.34**	**359**		P	**P**	**22 48 46.4**	**-0.1**
	comp=E,2.5nm,0.8s,baz=159,slow=11,SNR=4.9							
HFS	**Hagfors**	**26.42**	**345**		P	**P**	**22 48 47.9**	**+0.6**
	comp=E,1.8nm,0.8s,baz=131,slow=13,SNR=4.2							
AKTO	**Aktyubinsk**	**27.34**	**46**		P	**P**	**22 48 56.2**	**+0.6**
	comp=E,1.3nm,0.7s,baz=266,slow=14,SNR=3.7							
EKA	**Eskdalemuir Ar**	**28.82**	**324**		P	**P**	**22

UZB S Sb 22 46 02.2 +0.1
154nm,0.3s
SHLS Shalkode 1.26 166 *eP* **Pg 22 45 47.4 +1.8**
35nm,0.1s
SHLS *eS* **Sn 22 46 05.2 +1.3**
103nm,0.2s
SHLS Shalkode 1.26 166 P **Pg 22 45 46.8 +1.1**
19nm,0.2s
SHLS P **Pg 22 45 47.4 +1.8**
35nm,0.1s
SHLS S **Sn 22 46 05.1 +1.3**
239nm,0.3s
SHLS S **Sn 22 46 05.2 +1.3**
103nm,0.2s
KTMS Ketmen 1.33 135 *eP* **Pn 22 45 45.8 -1.3**
0.5nm,0.1s
KTMS *eS* **Sb 22 46 02.8 -1.8**
107nm,0.1s
KTMS Ketmen 1.33 135 P **Pn 22 45 45.8 -1.3**
0.5nm,0.1s
KTMS S **Sb 22 46 02.8 -1.8**
107nm,0.1s
SATY Saty 1.41 200 *eP* **Pb 22 45 48.4 -0.1**
46nm,0.1s
SATY *eS* **Sg 22 46 07.2 +0.5**
209nm,0.1s
SATY Saty 1.41 200 P **Pb 22 45 48.4 -0.1**
46nm,0.1s
SATY S **Sg 22 46 07.2 +0.5**
209nm,0.1s
CHKK Chushkaly 1.58 251 *eP* **Pn 22 45 50.7 +0.2**
21nm,0.2s
CHKK *eS* **Sn 22 46 11.3 -0.3**
144nm,0.2s
CHKK Chushkaly 1.58 251 P **Pn 22 45 50.7 +0.2**
21nm,0.2s
CHKK S **Sn 22 46 11.3 -0.3**
144nm,0.2s
KOTS Kotyrbulak 1.82 231 *eP* **Pb 22 45 54.9 -0.6**
26nm,0.2s
KOTS *eS* **Sb 22 46 18.7 -0.1**
2.5nm,0.2s
KOTS Kotyrbulak 1.82 231 P **Pb 22 45 54.9 -0.6**
26nm,0.2s
KOTS S **Sb 22 46 18.7 -0.1**
2.5nm,0.2s
KTBS Karatobe 1.84 249 *eP* **Pb 22 45 55.4 -0.4**
11nm,0.1s
KTBS *eS* **Sb 22 46 19.4 +0.1**
95nm,0.3s
KTBS Karatobe 1.84 249 P **Pn 22 45 54.6 +0.5**
9.1nm,0.2s
KTBS P **Pb 22 45 55.4 -0.4**
11nm,0.1s
KTBS S **Sb 22 46 19.0 -0.3**
95nm,0.3s
KTBS S **Sb 22 46 19.4 +0.1**
95nm,0.3s
MDOK Medeo 1.90 231 *eP* **Pb 22 45 56.2 -0.7**
7.8nm,0.1s
MDOK *eS* **Sb 22 46 20.5 -0.6**
68nm,0.1s
MDOK Medeo 1.90 231 Pg **Pb 22 45 56.2 -0.7**
7.8nm,0.1s
MDOK Lg Lg 22 46 20.5
68nm,0.1s
KNDC Almaty 1.91 233 ⇑Pn **Pb 22 45 56.7 -0.3**
6.8nm,0.2s
KNDC ⇑Sn **Sg 22 46 22.8 -0.1**
60nm,0.2s
AAA Alma-Ata 1.95 234 *eP* **Pb 22 45 57.4 -0.2**
21nm,0.1s
AAA *eS* **Sb 22 46 23.3 +1.0**
133nm,0.2s
AAA Alma-Ata 1.95 234 Pg **Pb 22 45 57.4 -0.2**
21nm,0.1s
AAA Lg Lg 22 46 23.3
133nm,0.2s
KUU Kurty 2.02 257 *eP* **Pb 22 45 57.7 -1.2**
9.6nm,0.1s
KUU *eS* **Sb 22 46 23.6 -0.8**
64nm,0.2s
KUU Kurty 2.02 257 Pg **Pb 22 45 57.7 -1.2**
9.6nm,0.1s
KUU Lg Lg 22 46 23.6
64nm,0.2s
IZV Izvestkoviy 2.23 234 *eP* **Pb 22 46 01.5 -1.0**
3.1nm,0.2s
IZV *eS* **Sb 22 46 30.2 -0.3**
41nm,0.2s
IZV Izvestkoviy 2.23 234 Pg **Pb 22 46 01.5 -1.0**
3.1nm,0.2s
IZV Lg Lg 22 46 30.2
41nm,0.2s
MTBS Maitube 2.28 237 *eP* **Pb 22 46 02.6 -0.7**
5.6nm,0.2s
MTBS *eS* **Sb 22 46 32.5 +0.5**
175nm,0.1s
MTBS Maitube 2.28 237 Pg **Pb 22 46 02.3 -1.0**
MTBS Lg Lg 22 46 32.5
175nm,0.1s
KST Kastek 2.62 240 *eP* **Pb 22 46 08.2 -0.9**
3.1nm,0.1s
KST *eS* **Sb 22 46 42.3 +0.6**
40nm,0.4s
KST Kastek 2.62 240 Pg **Pb 22 46 07.7 -1.3**
3.1nm,0.1s
KST Lg Lg 22 46 42.3
40nm,0.4s
DGS Degeres 2.64 245 *eP* **Pb 22 46 08.4 -1.1**
4.1nm,0.4s
DGS *eS* **Sb 22 46 42.5 +0.1**
42nm,0.4s
DGS Degeres 2.64 245 Pg **Pb 22 46 07.8 -1.6**
3.9nm,0.2s
DGS Pg **Pg 22 46 08.9 -3.1**
5.1nm,0.3s
DGS Lg Lg 22 46 42.6
42nm,0.4s
DGS Lg Lg 22 46 42.8
43nm,0.6s
TKM2 Tokmak 2 2.91 241 ⇓Pg **Pb 22 46 15.3 +1.2**
1.5nm,0.4s
TKM2 ⇑Lg Lg 22 46 51.4
9.6nm,0.3s
MAKZ Makanchi 3.17 39 ⇓Pg **Pg 22 46 20.0 -2.2**
3.7nm,0.8s
MAKZ ⇑Lg Lg 22 46 57.5
3.3nm,0.5s
MK31 Makanchi Array 3.31 42 ⇓Pn **Pn 22 46 14.7 +0.5**
0.1nm,0.1s,baz=215,slow=15,SNR=36
MK31 ⇓Pg **Pb 22 46 22.1 +1.3**
0.3nm,0.2s,baz=222,slow=15,SNR=22
MK31 ⇑Sn **Sn 22 46 54.0 -0.1**
2.0nm,0.4s,baz=221,slow=25,SNR=5.3
MK31 ⇓Lg Lg 22 47 02.7
1.9nm,0.4s,baz=217,slow=28,SNR=4.8
SGDS Sogindy 3.33 255 Pg **Pb 22 46 20.1 -1.2**
2.5nm,0.2s
SGDS Lg Lg 22 47 03.2
14nm,0.4s
BTLS Baital 3.63 282 *eP* **Pb 22 46 27.7 +1.4**
4.0nm,0.5s
BTLS *eS* **Sb 22 47 14.4 +3.7**
2.0nm,0.3s
BTLS Baital 3.63 282 Pg **Pb 22 46 27.7 +1.4**
4.0nm,0.5s
BTLS Lg Lg 22 47 14.4
2.0nm,0.3s
AAK Ala-Archa 3.75 244 ⇓Pg **Pb 22 46 30.2 +1.7**
2.8nm,0.8s
AAK ⇑Lg Lg 22 47 21.2
7.6nm,0.6s
MRKS Merke 4.54 251 *eP* **Pb 22 46 43.7 +1.8**
1.2nm,0.2s
MRKS *eS* **Sg 22 47 43.1 -4.3**
7.5nm,0.5s
MRKS Merke 4.54 251 Pg **Pb 22 46 43.7 +1.8**
1.2nm,0.2s
MRKS Lg Lg 22 47 43.1
7.5nm,0.5s
OTUK Ortayu 6.04 312 ⇑Pn **Pn 22 46 50.7 -1.1**
1.0nm,0.8s
OTUK ⇑Lg Lg 22 48 34.0
4.2nm,0.5s
KURBB Kurchatov Arra 6.25 357 ⇓Pg Pg 22 47 15.9 -5.2
1.1nm,0.6s
KURBB ⇓Lg Lg 22 48 38.5
12nm,0.7s
KK31 Karatay Array 6.32 261 ⇓Lg Lg 22 48 46.1
0.8nm,0.4s,baz=77,slow=30,SNR=7.5

*IDC **09** 22:53:22.8±0.9, 10°.33S×41°.46E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.6/49, mbtmp3.9/8, ML5.0/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/50, Error ellipse: s-maj=33.7km s-min=17.4km az=130.0*
*NEIC **09** 22:53:23.8±0.9, 10°.31S±0°.08×41°.33E±0°.02, h10km±1km, mb4.6/10, Error ellipse: s-maj=13.9km s-min=3.1km az=171.0*
ISC 09 22:53:23.7±0.5, 10°.37S±0°.06×41°.44E±0°.07, h10km, n105, σ1s56/104, mb4.1/9, MS3.6/4, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGEA	**Songea**	**5.68**	**266**	*i* P	**Pn**	**22 54 48.0**	**-0.3**
NGEA				*i* S	Sn	22 55 44.2	-9.5
NGEA				IAML		22 55 49.2	
	comp=Z,877nm,0.2s						
BANG	**Mbangamawe**	**5.70**	**272**	*i* P	**Pn**	**22 54 48.7**	**+0.1**
BANG				IAML		22 55 52.2	
	comp=Z,483nm,0.3s						
KURU	**Muhukuru**	**5.93**	**261**	*i* P	**Pn**	**22 54 51.9**	**+0.1**
KURU				IAML		22 55 57.1	
	comp=Z,1μm,0.2s						
ZINI	**Mgazini**	**6.00**	**269**	*i* P	**Pn**	**22 54 52.5**	**-0.3**
ZINI				IAML		22 55 58.0	
	comp=Z,1μm,0.1s						
WINO	**Wino**	**6.08**	**275**	*i* P	**Pn**	**22 54 53.1**	**-0.7**
WINO				IAML		22 56 01.2	
	comp=Z,711nm,0.3s						
LIGA	**Liganga**	**6.09**	**267**	*i* P	**Pn**	**22 54 52.6**	**-1.3**
LIGA				IAML		22 56 00.3	
	comp=Z,1μm,0.1s						
MFRI	**Mfriga**	**6.13**	**280**	*i* P	**Pn**	**22 54 53.8**	**-0.8**
MFRI				IAML		22 55 59.7	
	comp=Z,2μm,0.2s						
BUMI	**Ibumi**	**6.41**	**272**	*i* P	**Pn**	**22 54 58.0**	**-0.4**
BUMI				IAML		22 56 08.6	
	comp=Z,636nm,0.2s						
KIDE	**Kidegembe**	**6.42**	**279**	*i* P	**Pn**	**22 54 57.8**	**-0.7**
KIDE				IAML		22 56 10.6	
	comp=Z,640nm,0.2s						
MUDIN	**Mudindi**	**6.42**	**274**	*i* P	**Pn**	**22 54 58.6**	**0.0**
MUDIN				IAML		22 56 09.4	
	comp=Z,1μm,0.2s						
MBAM	**Mbamba Bay**	**6.59**	**262**	*i* P	**Pn**	**22 55 02.0**	**+1.2**
MBAM				IAML		22 56 11.7	
	comp=Z,392nm,0.4s						
UWEM	**Njombe**	**6.62**	**277**	*i* P	**Pn**	**22 55 00.6**	**-0.7**
UWEM				IAML		22 56 12.9	
	comp=Z,843nm,0.2s						
MKIL	**Mkili**	**6.66**	**265**	*i* P	**Pn**	**22 55 01.9**	**+0.1**
MKIL				IAML		22 56 13.7	
	comp=Z,1μm,0.3s						
BAKO	**Makambako**	**6.72**	**282**	*i* P	**Pn**	**22 55 01.4**	**-1.3**
BAKO				IAML		22 56 14.7	
	comp=Z,405nm,0.2s						
MANDA	**Manda**	**6.73**	**268**	*i* P	**Pn**	**22 55 02.2**	**-0.5**
MANDA				IAML		22 56 15.4	
	comp=Z,292nm,0.5s						
NIND	**Nindi**	**6.76**	**271**	*i* P	**Pn**	**22 55 02.3**	**-0.9**
NIND				IAML		22 56 14.6	
	comp=Z,766nm,0.1s						
TOLA	**Matola**	**6.80**	**276**	*i* P	**Pn**	**22 55 03.4**	**-0.4**
TOLA				IAML		22 56 21.3	
	comp=Z,792nm,0.2s						
UNDA	**Madunda**	**6.88**	**274**	*i* P	**Pn**	**22 55 06.2**	**+1.3**
UNDA				IAML		22 56 20.6	
	comp=Z,402nm,0.2s						
LM110	**Lake Malawi, 1**	**6.93**	**270**	*i* P	**Pn**	**22 55 07.1**	**+1.7**
LM110				IAML		22 56 24.2	
	comp=Z,854nm,0.6s						
LM118	**Lake Malawi, 1**	**6.94**	**262**	*i* P	**Pn**	**22 55 07.6**	**+2.2**
LM118				IAML		22 56 24.8	
	comp=Z,604nm,0.5s						
KIPE	**Kipengere**	**6.98**	**278**	*i* P	**Pn**	**22 55 05.1**	**-1.3**
KIPE				IAML		22 56 27.0	
	comp=Z,148nm,0.5s						
DODT	**Dodoma, Tanzan**	**7.00**	**306**	*i* P	**Pn**	**22 55 05.1**	**-1.4**
LM206	**Lake Malawi, 2**	**7.02**	**273**	*i* P	**Pn**	**22 55 08.3**	**+1.7**
LM206				IAML		22 57 20.6	
	comp=Z,722nm,1.0s						
LM302	**Lake Malawi, 3**	**7.03**	**265**	*i* P	**Pn**	**22 55 07.7**	**+1.0**
LM302				IAML		22 56 28.0	
	comp=Z,808nm,0.3s						
GAWA	**Igawa**	**7.14**	**282**	*i* P	**Pn**	**22 55 07.2**	**-1.1**
GAWA				IAML		22 56 34.6	
	comp=Z,124nm,0.5s						
UKWA	**Ukwama**	**7.17**	**277**	*i* P	**Pn**	**22 55 08.8**	**-0.2**
UKWA				IAML		22 56 29.3	
	comp=Z,743nm,0.3s						
LM203	**Lake Malawi, 2**	**7.18**	**272**	*i* P	**Pn**	**22 55 09.7**	**+0.9**
LM203				IAML		22 56 32.7	
	comp=Z,207nm,0.3s						
THAN	**Thanula**	**7.21**	**261**	*i* P	**Pn**	**22 55 10.3**	**+1.0**
THAN				IAML		22 56 29.0	
	comp=Z,118nm,0.4s						
LIVA	**Livingstonia**	**7.21**	**267**	*i* P	**Pn**	**22 55 08.9**	**-0.6**
LIVA				IAML		22 56 29.9	
	comp=Z,262nm,0.2s						
LM103	**Lake Malawi, 1**	**7.25**	**275**	*i* P	**Pn**	**22 55 11.1**	**+1.4**
LM103				IAML		22 56 58.5	
	comp=Z,551nm,0.8s						
SCHM	**Mlare**	**7.29**	**271**	*i* P	**Pn**	**22 55 10.9**	**+0.4**
SCHM				IAML		22 57 10.2	
	comp=Z,84nm,0.9s						
MAKE	**Makete**	**7.32**	**278**	*i* P	**Pn**	**22 55 10.6**	**-0.4**
MAKE				IAML		22 56 30.9	
	comp=Z,491nm,0.2s						
NGON	**Ngonga**	**7.39**	**265**	*i* P	**Pn**	**22 55 11.6**	**-0.3**
NGON				IAML		22 56 29.6	
	comp=Z,185nm,0.1s						
KARM1	**KARONGA**	**7.44**	**273**	*i* P	**Pn**	**22 55 12.2**	**-0.3**
KARM1				IAML		22 56 34.8	
	comp=Z,125nm,0.2s						
ENUK	**Enukweni**	**7.46**	**263**	*i* P	**Pn**	**22 55 12.8**	**-0.4**
ENUK				IAML		22 56 35.2	
	comp=Z,270nm,0.2s						
CHML	**Chimala**	**7.47**	**281**	*i* P	**Pn**	**22 55 12.3**	**-0.6**
MATAM	**Matamba**	**7.50**	**280**	*i* P	**Pn**	**22 55 12.0**	**-1.5**
MATAM				IAML		22 56 33.2	
	comp=Z,304nm,0.6s						
CHEL	**Chelinda**	**7.51**	**268**	*i* P	**Pn**	**22 55 13.5**	**-0.1**
CHEL				IAML		22 56 34.8	
	comp=Z,390nm,0.5s						
BOLE	**Bolero**	**7.59**	**265**	*i* P	**Pn**	**22 55 14.1**	**-0.5**
BOLE				IAML		22 56 39.0	
	comp=Z,297nm,0.2s						
NKAL	**Nkalisi**	**7.65**	**278**	*i* P	**Pn**	**22 55 15.1**	**-0.3**
NKAL				IAML		22 56 55.1	
	comp=Z,273nm,0.4s						
NTHA	**Nthalire**	**7.68**	**269**	*i* P	**Pn**	**22 55 15.6**	**-0.2**
NTHA				IAML		22 56 39.1	
	comp=Z,257nm,0.2s						
KALO	**Kalowe**	**7.69**	**273**	*i* P	**Pn**	**22 55 15.9**	**0.0**
KALO				IAML		22 56 38.4	
	comp=Z,98nm,0.1s						
THAZ	**Thazima**	**7.73**	**266**	*i* P	**Pn**	**22 55 15.9**	**-0.7**
THAZ				IAML		22 56 38.4	
	comp=Z,285nm,0.4s						
ZOMB	**Zomba**	**7.75**	**229**	*i* P	**Pn**	**22 55 17.5**	**+0.7**
ZOMB				S	Sn	22 56 38.2	-6.5
ZOMB	**Zomba**	**7.75**	**229**	*i* P	**Pn**	**22 55 17.5**	**+0.7**
ZOMB				S	Sn	22 56 38.2	-6.5
ZOMB	**Zomba**	**7.75**	**229**	*i* P	**Pn**	**22 55 17.5**	**+0.7**
ZOMB				IAML		22 57 30.4	
	comp=Z,37nm,0.3s						
WENY	**Wenya**	**7.76**	**271**	*i* P	**Pn**	**22 55 17.4**	**+0.4**
WENY				IAML		22 56 43.0	
	comp=Z,406nm,0.1s						
VWZMW	**Thunduwike**	**7.77**	**263**	*i* P	**Pn**	**22 55 16.8**	**-0.3**
VWZMW				IAML		22 56 41.8	
	comp=Z,302nm,0.3s						
IGOM	**Igoma**	**7.79**	**279**	*i* P	**Pn**	**22 55 18.3**	**+0.7**
IGOM				IAML		22 56 46.1	
	comp=Z,1μm,0.4s						
ISOK	**Kyela**	**7.87**	**276**	*i* P	**Pn**	**22 55 18.4**	**-0.2**
ISOK				IAML		22 56 45.0	
	comp=Z,168nm,0.2s						
KAPK	**Kapoka**	**7.88**	**274**	*i* P	**Pn**	**22 55 17.7**	**-0.9**
KAPK				IAML		22 56 46.5	
	comp=Z,250nm,0.2s						
MZUN	**Kiwira**	**7.90**	**278**	*i* P	**Pn**	**22 55 18.9**	**+0.1**
MZUN				IAML		22 56 45.9	
	comp=Z,292nm,0.4s						
JILO	**Lwanjilo**	**7.94**	**281**	*i* P	**Pn**	**22 55 18.2**	**-1.2**
JILO				IAML		22 56 42.5	
	comp=Z,49nm,0.6s						
CPMW	**Chitipa**	**8.07**	**274**	*i* P	**Pn**	**22 55 21.2**	**0.0**
CPMW				IAML		22 56 47.9	
	comp=Z,99nm,0.3s						
ILIND	**Ilindi**	**8.09**	**278**	*i* P	**Pn**	**22 55 22.2**	**+0.5**
ILIND				IAML		22 56 48.1	
	comp=Z,119nm,0.4s						
ITUM	**Tunduma**	**8.19**	**276**	*i* P	**Pn**	**22 55 21.7**	**-1.1**
ITUM				IAML		22 57 12.5	
	comp=Z,43nm,0.3s						
LOSI	**Makongolosi**	**8.40**	**283**	*i* P	**Pn**	**22 55 24.3**	**-1.4**
LOSI				IAML		22 56 55.7	
	comp=Z,31nm,0.4s						
KIBK	**Kibwezi**	**8.66**	**337**	Pn	**Pn**	**22 55 27.4**	**-1.9**
OPO	**Ambohidratompo**	**9.87**	**146**	Pn	**Pn**	**22 55 46.9**	**+1.0**
	comp=Z,20nm,0.3s,baz=320,slow=15,SNR=173						
OPO				Sn	**Sn**	**22 57 30.6**	**-6.3**
	comp=Z,15nm,0.3s,baz=253,slow=21,SNR=4.1						
OPO				LR	LR	22 59 15.8	
	comp=Z,134nm,18.4s,baz=236,slow=36						
ABPO	**Ambohimpanom**	**10.26**	**148**		**Pn**	**22 55 52.0**	**+0.8**
ABPO	**Ambohimpanom**	**10.26**	**148**	*i* P	**Pn**	**22 55 52.2**	**+1.0**
ABPO				IAML		22 58 03.0	
	comp=Z,49nm,0.3s						
VOI	**Vohitsoka**	**12.57**	**157**		**Pn**	**22 56 22.8**	**0.0**
SKRH	**Sakahara**	**12.78**	**166**	*i* P	**Pn**	**22 56 25.3**	**-0.4**
LBB	**Lubumbashi**	**13.76**	**263**	*i* P	**Pn**	**22 56 36.9**	**-2.3**
LSZ	**Lusaka**	**13.81**	**248**	Pn	**Pn**	**22 56 37.2**	**-2.6**
	comp=Z,22nm,0.3s,baz=81,slow=12,SNR=277						
LSZ				Sn	Sn	22 58 59.8	-14
	comp=Z,8.5nm,0.3s,baz=343,slow=23,SNR=6.6						
LSZ				LR	LR	23 02 03.6	
	comp=Z,239nm,18.6s,baz=74,slow=38						
LSZ	**Lusaka**	**13.81**	**248**		**Pn**	**22 56 36.9**	**-2.9**
LSZ	**Lusaka**	**13.81**	**248**	*i* P	**Pn**	**22 56 38.1**	**-1.7**
LSZ	**Lusaka**	**13.81**	**248**	*i* P	**Pn**	**22 56 38.1**	**-1.7**
LSZ	**Lusaka**	**13.81**	**248**	*i* P	**Pn**	**22 56 37.7**	**-2.1**
MBAR	**Mbarara**	**14.40**	**312**	Pn	**Pn**	**22 56 45.1**	**-2.9**
	comp=Z,3.0nm,0.3s,baz=66,slow=23,SNR=13						
MBAR				Sn	Sn	22 59 11.4	-17
	comp=Z,3.3nm,0.3s,baz=139,slow=23,SNR=3.1						
MBAR				LR	LR	23 01 34.8	
	comp=Z,80nm,21.7s,baz=106,slow=34						
MBAR	**Mbarara**	**14.40**	**312**	*i* P	**Pn**	**22 56 44.5**	**-3.5**
MBAR				IAML		22 59 23.5	
	comp=Z,15nm,0.2s						
LODK	**Lodwar**	**14.98**	**336**	Pn	**Pn**	**22 56 55.0**	**-0.7**
MSEY	**Mahe Island**	**15.02**	**69**	Pn	**Pn**	**22 56 56.6**	**+0.3**
BLWY	**Bulawayo**	**15.72**	**230**	*i* P	**Pn**	**22 57 03.6**	**-1.9**
BLWY	**Bulawayo**	**15.72**	**230**	*i* P	**Pn**	**22 57 03.6**	**-1.9**
MATP	**Matopo**	**15.97**	**230**	Pn	**Pn**	**22 57 08.0**	**-0.9**
	comp=Z,3.1nm,0.3s,baz=42,slow=14,SNR=82						
MATP				LR	LR	23 03 25.8	
	comp=Z,129nm,18.8s,baz=17,slow=38						
RER	**Riviere de l'E**	**17.44**	**130**		**P**	**22 57 29.2**	**+0.7**
RER				IAmb	IAmb	22 57 38.1	
	comp=Z,52nm,0.9s						
LBTB	**Lobatse**	**20.94**	**224**	P	**P**	**22 58 07.8**	**+0.9**
	comp=Z,8.9nm,0.6s,baz=39,slow=11,SNR=16						
LBTB				LR	LR	23 06 01.8	
	comp=Z,103nm,20.5s,baz=46,slow=36						
LBTB	**Lobatse**	**20.94**	**224**	P	**P**	**22 58 07.0**	**+0.1**
LBTB	**Lobatse**	**20.94**	**224**	*i* P	**P**	**22 58 08.5**	**+1.6**
LBTB	**Lobatse**	**20.94**	**224**	*i* P	**P**	**22 58 08.5**	**+1.6**
LBTB	**Lobatse**	**20.94**	**224**	*i* P	**P**	**22 58 07.9**	**+0.9**
BOSA	**Boshof**	**23.66**	**218**	P	**P**	**22 58 36.6**	**+1.0**
	comp=Z,12nm,0.8s,baz=43,slow=11,SNR=14						
BOSA	**Boshof**	**23.66**	**218**	P	**P**	**22 58 35.6**	**0.0**
BOSA				IAmb	IAmb	22 58 48.4	
	comp=Z,14nm,0.8s						
BOSA	**Boshof**	**23.66**	**218**	*i* P	**P**	**22 58 37.4**	**+1.8**
BOSA	**Boshof**	**23.66**	**218**	*i* P	**P**	**22 58 37.4**	**+1.8**
TSUM	**Tsumeb**	**24.65**	**246**	P	**P**	**22 58 46.1**	**+1.1**
	comp=Z,1.8nm,0.5s,baz=72,slow=7.3,SNR=5.1						
TSUM				LR	LR	23 07 40.6	
	comp=Z,183nm,18.5s,baz=92,slow=35						
TSUM	**Tsumeb**	**24.65**	**246**	P	**P**	**22 58 43.7**	**-1.3**
TSUM				IAmb	IAmb	22 59 05.6	
	comp=Z,16nm,0.9s						
TSUM	**Tsumeb**	**24.65**	**246**	*i* P	**P**	**22 58 50.4**	**+5.4**
TSUM	**Tsumeb**	**24.65**	**246**	*i* P	**P**	**22 58 50.4**	**+5.4**
SOCY	**Socotra**	**25.64**	**29**	P	**P**	**22 58 56.7**	**+2.8**
SUR	**Sutherland**	**29.02**	**218**	P	**P**	**22 59 21.9**	**-2.3**
SUR				IAmb	IAmb	22 59 36.5	
	comp=Z,18nm,1.1s						
KK31	**Karatay Array**	**59.47**	**24**	P	**P**	**23 03 26.8**	**-0.1**
KK31				IAmb	IAmb	23 03 28.3	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**59.47**	**24**	P	**P**	**23 03 26.6**	**-0.4**
ABKAR	**Akbulak array**	**61.56**	**14**	P	**P**	**23 03 40.5**	**-0.5**
ABKAR	**Akbulak array**	**61.56**	**14**	P	**P**	**23 03 40.5**	**-0.5**
ABKAR				IAmb	IAmb	23 03 41.9	
	comp=Z,1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**63.55**	**63**	P	**P**	**23 03 56.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=264,slow=8.9,SNR=4.8						
ESDC	**Sonseca Array**	**65.20**	**323**	P	**P**	**23 04 06.8**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=116,slow=6.6,SNR=1.9						
SNAA	**Sanae**	**66.89**	**194**	LR	LR	23 26 50.3	
	comp=Z,33nm,21.3s,baz=36,slow=30						
MKAR	**Makanchi Array**	**67.58**	**29**	P	**P**	**23 04 20.3**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=236,slow=8.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**68.78**	**24**	P	**P**	**23 04 27.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=227,slow=6.7,SNR=5.6						
KURK	**Kurchatov**	**68.88**	**24**	P	**P**	**23 04 27.9**	**-0.6**
ZALV	**Zalesovo Beam**	**73.83**	**25**	P	**P**	**23 04 57.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=247,slow=9.5,SNR=3.9						
ARCES	**ARCESS Array B**	**80.49**	**354**	LR	LR	23 43 49.2	
	comp=Z,32nm,19.4s,baz=50,slow=38						
NVAR	**Mina Array Bea**	**146.68**	**330**	PKPbc	**PKiKP**	**23 13 07.8**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=42,slow=5.5,SNR=1.5						

*IDC **09** 23:19:21.3±0.8, 36°.24S×52°.93E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.7/49, mbtmp4.1/6, ML4.1/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/43, Error ellipse: s-maj=37.1km s-min=22.2km az=27.0*
*NEIC **09** 23:19:24.1±1.9, 36°.1S±0°.1×53°.0E±0°.2, h10km±1km, mb4.4/7, Error ellipse: s-maj=28.9km s-min=20.0km az=231.0*
ISC 09 23:19:23.1±0.6, 36°.2S±0°.1×52°.9E±0°.2, h10km, n38, σ1s01/25, mb4.3/6, MS3.6/9, Southwest of Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**15.19**	**338**	Pn	**Pn**	**23 22 55.9**	**-1.9**
VOI				IAmb	IAmb	23 22 58.3	
	comp=Z,28nm,1.4s						
ABPO	**Ambohimpanom**	**17.82**	**342**		**P**	**23 23 33.4**	**+1.3**
OPO	**Ambohidratompo**	**18.25**	**343**	P	**P**	**23 23 38.6**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=155,slow=15,SNR=2.8						
OPO				LR	LR	23 28 27.0	
	comp=Z,116nm,21.3s,baz=1.5,slow=30						
BOSA	**Boshof**	**24.44**	**280**	P	**P**	**23 24 42.4**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=123,slow=9.4,SNR=5.5						
BOSA				LR	LR	23 33 04.8	
	comp=Z,42nm,20.0s,baz=115,slow=34						
BOSA	**Boshof**	**24.44**	**280**	P	**P**	**23 24 42.0**	**-0.2**
BOSA				IAmb	IAmb	23 24 44.6	
	comp=Z,14nm,1.2s						
LBTB	**Lobatse**	**25.89**	**288**	LR	LR	23 32 60.0	
	comp=Z,99nm,20.6s,baz=136,slow=32						
MATP	**Matopo**	**26.48**	**300**	LR	LR	23 33 36.3	
	comp=Z,152nm,18.2s,baz=140,slow=32						
SUR	**Sutherland**	**26.68**	**269**	LR	LR	23 34 08.0	
	comp=Z,49nm,20.2s,baz=92,slow=33						
MAW	**Mawson**	**31.97**	**173**	LR	LR	23 35 45.2	
	comp=Z,146nm,19.2s,baz=62,slow=31						
H08S1	**Diego Carcia H**	**33.60**	**37**	T	T	00 00 55.6	
	baz=209,slow=76,SNR=5.2						
H08S2	**Diego Garcia H**	**33.61**	**37**	T	T	00 00 53.8	
	baz=209						
H08S3	**Diego Garcia H**	**33.62**	**37**	T	T	00 00 56.4	
	baz=209,slow=76,SNR=5.0						
CASY	**Casey**	**44.55**	**151**	P	**P**	**23 27 35.8**	**+1.2**
CASY				IAmb	IAmb	23 27 49.3	
	comp=Z,7.9nm,1.4s						
H01W2	**Cape Leeuwin H**	**49.13**	**108**	T	T	00 20 31.0	
	baz=249,slow=75,SNR=8.5						
H01W3	**Cape Leeuwin H**	**49.14**	**108**	T	T	00 20 48.3	

	baz=249,slow=75,SNR=7.4							
H01W1	**Cape Leeuwin H**	**49.15**	**108**	T	T	00 20 32.6		
	baz=249,slow=75,SNR=7.9							
QSPA	**South Pole Qui**	**53.99**	**180**	P	**P**	**23 28 46.3**	**-0.7**	
	comp=Z,0.6nm,0.3s,baz=239,slow=3.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**68.82**	**306**	P	**P**	**23 30 27.9**	**+0.1**	
	comp=Z,1.4nm,0.9s,baz=109,slow=3.5,SNR=4.0							
TORD				LR	LR	23 57 48.7		
	comp=Z,52nm,19.5s,baz=140,slow=34							
TORD	**Torodi Ar. Bea**	**68.82**	**306**	P	**P**	**23 30 27.9**	**+0.1**	
TORD				IAmb	IAmb	23 30 32.0		
	comp=Z,3.3nm,1.2s							
ASAR	**Alice Springs**	**69.51**	**105**	P	**P**	**23 30 31.8**	**-0.4**	
	comp=Z,1.0nm,0.6s,baz=236,slow=5.7,SNR=9.2							
ASAR	**Alice Springs**	**69.51**	**105**	P	**P**	**23 30 32.0**	**-0.2**	
CMAR	**Chiang Mai Arr**	**69.67**	**47**	LR	LR	23 58 23.0		
	comp=Z,48nm,19.9s,baz=200,slow=34							
MMAI	**Mount Meron Ar**	**70.76**	**345**	LR	LR	23 57 25.3		
	comp=Z,36nm,21.3s,baz=320,slow=32							
WRA	**Warramunga Arr**	**71.82**	**102**	P	**P**	**23 30 46.0**	**-0.3**	
	comp=Z,2.2nm,0.8s,baz=233,slow=5.1,SNR=10.0							
KKAR	**Karatay Array**	**80.55**	**13**	P	**P**	**23 31 35.7**	**+0.4**	
PDG	**Podgorica**	**84.05**	**336**		**P**	**23 31 55.1**	**+1.5**	
PMG	**Port Moresby**	**87.96**	**100**	LR	LR	00 11 38.0		
	comp=Z,33nm,18.4s,baz=93,slow=36							
TOLK	**Toolik Lake Re**	**145.18**	**14**		**PKPdf**	**23 38 59.8**	**-0.1**	
X51A	**Calhoun**	**145.68**	**280**		**PKPdf**	**23 39 01.6**	**-0.1**	
INK	**Inuvik**	**147.64**	**4**	PKPbc	**PKPbc**	**23 39 06.2**	**-0.5**	
	comp=Z,2.3nm,0.5s,baz=19,slow=3.0,SNR=4.9							
I23K	**Minto, Yukon-K**	**148.14**	**18**		**PKPbc**	**23 39 06.6**	**-1.5**	
ILAR	**Eielson Array**	**149.04**	**16**	PKPbc	**PKPbc**	**23 39 09.4**	**-1.1**	
	comp=Z,2.7nm,0.7s,baz=318,slow=3.3,SNR=21							
ILAR	**Eielson Array**	**149.04**	**16**		**PKPbc**	**23 39 09.0**	**-1.5**	
DOT	**Dot Lake**	**150.64**	**15**		**PKPdf**	**23 39 09.3**	**+0.4**	
YKA	**Yellowknife Ar**	**152.54**	**347**	PKPbc	**PKPbc**	**23 39 17.6**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=28,slow=2.2,SNR=5.6							
TXAR	**Lajitas Array**	**159.13**	**258**	PKPab				
	comp=Z,0.2nm,0.8s,baz=113,slow=3.3,SNR=3.5							
TXAR	**Lajitas Array**	**159.13**	**258**		**PKPab**	**23 39 58.8**	**+0.1**	
BW06	**Boulder Array**	**164.93**	**301**		**PKPab**	**23 40 22.9**	**-1.0**	

*KRNET **09** 23:23:45.9±0.1, 39°.35N×70°.63E, h9km, mb3.1*
*NNC **09** 23:23:51.9±3.1, 39°.58N×70°.57E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=27.3km s-min=15.7km az=176.0

ISC 09 23:23:48.3±0.9, 39°.32N±0°.04×70°.57E±0°.04, h10km, n15, σ1§98/26, 11C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.38**	**212**	⇑*i*	P	**Pg**	**23 23 54.6**	**-1.2**
	baz=15							
GAR				⇑*i*	S	**Sg**	**23 24 00.4**	**-0.5**
	baz=15							
BTK	**Batken**	**0.76**	**14**	⇑*i*	P	**Pg**	**23 23 59.7**	**-3.2**
	baz=11							
BTK				⇑*i*	S	**Sg**	**23 24 10.2**	**-2.6**
	baz=11							
DRK	**Karamyk**	**0.96**	**80**	⇑*i*	P	**Pg**	**23 24 03.7**	**-3.1**
	baz=81							
DRK				⇑*i*	S	**Sg**	**23 24 16.4**	**-3.0**
	baz=81							
CHGR	**Chuyangaron**	**1.29**	**239**	⇓*i*	P	**Pn**	**23 24 11.3**	**-1.1**
	baz=39							
CHGR				⇓*i*	S	**Sn**	**23 24 30.0**	**+0.2**
	baz=39							
OHH	**Osh**	**2.08**	**54**	⇓*i*	P	**Pn**	**23 24 23.2**	**-0.1**
	baz=54							
OHH				⇓*i*	S	**Sn**	**23 24 50.9**	**+1.6**
	baz=54							
TRKS	**Terek-Say**	**2.25**	**11**	⇓*e*	P	**Pn**	**23 24 24.9**	**-0.8**
	baz=11							
TRKS				⇓*i*	S	**Sn**	**23 24 53.7**	**+0.2**
	baz=11							
SFK	**Sufi-Kurgan**	**2.36**	**72**	⇓*i*	P	**Pn**	**23 24 27.4**	**+0.1**
	baz=72							
SFK				⇓*i*	S	**Sn**	**23 24 57.6**	**+1.1**
	baz=72							
ARSB	**Arslanbob**	**2.72**	**42**	⇓*i*	P	**Pn**	**23 24 32.3**	**+0.2**
	baz=42							
ARSB				⇓*i*	S	**Sn**	**23 25 06.2**	**+1.1**
	baz=42							
AML	**Almayashu**	**3.67**	**39**	⇑*i*	P	**Pn**	**23 24 46.1**	**+0.6**
	baz=39							
AML				⇑*i*	S	**Sn**	**23 25 29.7**	**+0.7**
	baz=39							
KK31	**Karatay Array**	**3.78**	**359**	⇓	Pn	**Pn**	**23 24 48.4**	**+1.8**
	0.5nm,0.4s,baz=186,slow=14,SNR=21							
KK31				⇓	Pg	**Pb**	**23 24 56.8**	**+1.7**
	1.4nm,0.3s,baz=185,slow=16,SNR=12							
KK31				⇑	Lg	Lg	23 25 45.4	
	3.3nm,0.3s,baz=183,slow=30,SNR=10							
MRKS	**Merke**	**3.96**	**30**		Pg	**Pb**	**23 25 00.2**	**+2.0**
	5.9nm,0.3s							
MRKS					Lg	Lg	23 25 51.5	
	10nm,0.2s							
AAK	**Ala-Archa**	**4.45**	**41**	⇓	Pn	**Pn**	**23 25 00.3**	**+4.4**
	1.6nm,0.6s							
AAK				⇑	Lg	Lg	23 26 06.5	
	7.0nm,0.8s							
TKM2	**Tokmak 2**	**5.22**	**45**	⇑	Pn	**Pn**	**23 25 08.0**	**+1.4**
	2.3nm,0.5s							
TKM2				⇓	Sn	**Sn**	**23 26 08.8**	**+1.7**
	2.1nm,0.6s							
TKM2				⇓	Lg	Lg	23 26 30.0	
	3.8nm,0.9s							
KST	**Kastek**	**5.51**	**46**		Pg	**Pb**	**23 25 27.2**	**+2.6**
	1.7nm,0.2s							
KST					Lg	Lg	23 26 39.7	
	4.7nm,0.4s							
DGS	**Degeres**	**5.54**	**43**		Pg	**Pb**	**23 25 27.1**	**+2.0**
	2.0nm,0.4s							
DGS					Lg	Lg	23 26 41.7	
	3.2nm,0.6s							

*IDC **09** 23:25:25.6±1.1, 35°.04N×26°.85E, h0km, mb3.8/9,*
mb1 3.9/12, mb1mx3.7/57, mbtmp3.8/12, ML3.6/3, MS3.1/1,
Ms1 3.1/1, ms1mx2.3/49, Error ellipse: s-maj=25.4km
s-min=11.8km az=4.0
*DDA **09** 23:25:25.1, 34°.83N×27°.04E, h7km±5km, ML2.9*
*NEIC **09** 23:25:27.1±2.1, 34°.99N±0°.07×26°.72E±0°.07, h8km±6km,*
Error ellipse: s-maj=10.4km s-min=7.9km az=180.0
*ATH **09** 23:25:27.8, 35°.00N×26°.74E, h30km±7km, ML3.7/5, Error*
ellipse: s-maj=7.2km s-min=2.0km az=276.0
*ISK **09** 23:25:29.2, 35°.03N×26°.67E, h3km, ML3.4/7*

ISC 09 23:25:26.1±1.3, 34°.96N±0°.04×26°.73E±0°.03, h6km±8km, n77, σ1§44/97, mb3.8/11, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.44**	**290**	P		**Pb**	**23 25 37.4**	**+1.0**
ZKR				S		**Sb**	**23 25 43.9**	**+0.7**
ZKR				AML	AML		23 25 44.9	
	comp=N,17445μm,0.4s							
ZKR				AML	AML		23 25 45.6	
	comp=E,28456μm,0.6s							
ZKR	**Zakros**	**0.44**	**290**	PG		**Pb**	**23 25 37.4**	**+1.0**
ZKR				SG		**Sb**	**23 25 43.5**	**+0.2**
NPS	**Neapolis**	**0.96**	**288**	P		**Pn**	**23 25 46.1**	**-0.1**
NPS				S		**Sb**	**23 25 58.5**	**+0.3**
NPS				AML	AML		23 26 02.6	
	comp=E,16333μm,0.9s							
NPS				AML	AML		23 26 03.0	
	comp=N,10688μm,0.5s							
NPS	**Neapolis**	**0.96**	**288**	P		**Pg**	**23 25 41.3**	**-3.2**
LAST	**Lasithi**	**1.04**	**281**	P		**Pb**	**23 25 47.1**	**+0.6**
LAST				S		**Sb**	**23 26 01.0**	**+0.4**
LAST				AML	AML		23 26 10.5	
	comp=N,5461μm,0.6s							
LAST				AML	AML		23 26 12.3	
	comp=E,5776μm,1.0s							
LAST	**Lasithi**	**1.04**	**281**	P		**Pg**	**23 25 44.3**	**-1.8**
IDI	**Anoyia**	**1.54**	**283**	Pg		**Pn**	**23 25 53.5**	**-0.7**
	comp=E,13nm,0.3s,baz=74,slow=15,SNR=8.4							
IDI				Lg		Lg	23 26 19.7	
	comp=E,71nm,0.3s,baz=70,slow=22,SNR=12							
IDI				LR		LR	23 26 50.5	
	comp=E,207nm,22.0s,baz=64,slow=52							
IDI	**Anoyia**	**1.54**	**283**			**Pn**	**23 25 52.8**	**-1.4**
SIVA	**Sivas**	**1.57**	**273**	P		**Pn**	**23 25 55.3**	**+0.8**
SIVA				S		**Sb**	**23 26 16.3**	**+0.6**
SIVA				AML	AML		23 26 32.3	
	comp=E,6525μm,0.8s							
SIVA				AML	AML		23 26 36.6	
	comp=N,5203μm,0.7s							
ARG	**Arkhangelos**	**1.69**	**42**	P		**Pn**	**23 25 56.7**	**+0.5**
ARG	**Arkhangelos**	**1.69**	**42**	PN		**Pg**	**23 26 00.5**	**+2.0**
ARG				SN		**Sg**	**23 26 22.9**	**+2.4**
SANT	**Santorini**	**1.74**	**324**	P		**Pg**	**23 25 59.4**	**0.0**
SANT				S		**Sn**	**23 26 20.2**	**+0.7**
SANT				AML	AML		23 26 29.1	
	comp=N,634μm,0.8s							
SANT				AML	AML		23 26 29.8	
	comp=E,1641μm,0.6s							
SANT	**Santorini**	**1.74**	**324**	Pn		**Pn**	**23 25 54.6**	**-2.3**
KOSK	**Kos Island**	**1.80**	**6**	PN		**Pg**	**23 26 01.1**	**+0.6**
DAT	**Datca**	**1.89**	**21**	PN		**Pg**	**23 26 03.1**	**+0.7**
DAT				SN		**Sg**	**23 26 27.1**	**+0.2**
BODT	**Bodrum**	**2.15**	**13**	PN		**Pb**	**23 26 06.3**	**+0.9**
BODT				SN		**Sb**	**23 26 33.2**	**+0.9**
GVD	**Gavdhos**	**2.17**	**267**	PN		**Pg**	**23 26 07.1**	**-0.6**
BDRM	**Kayabasi**	**2.18**	**15**	*i* P		**Pn**	**23 26 04.5**	**+1.6**
BDRM				*i* S		**Sn**	**23 26 27.9**	**-2.3**
BDRM				IAML			23 26 43.0	
	comp=N,88nm,0.8s							
BDRM				IAML			23 26 45.0	
	comp=E,69nm,0.8s							
TURN	**Turunc**	**2.19**	**34**	*i* P		**Pb**	**23 26 06.6**	**+0.5**
TURN				*i* S		**Sb**	**23 26 32.8**	**-0.7**
TURN				IAML			23 26 46.0	
	comp=N,91nm,0.4s							
TURN				IAML			23 26 47.0	
	comp=E,128nm,0.7s							
TURN	**Turunc**	**2.19**	**34**	PN		**Pg**	**23 26 07.2**	**-0.8**
TURN				SN		**Sg**	**23 26 35.1**	**-1.3**
IMMV	**Iera Moni Meta**	**2.30**	**283**	PN		**Pb**	**23 26 08.2**	**+0.2**
APE	**Apeiranthos**	**2.31**	**336**	PN		**Pb**	**23 26 07.1**	**-1.2**
DALY	**Dalyan (Mula)**	**2.42**	**40**	*i* P		**Pn**	**23 26 05.2**	**-1.1**
DALY				*i* S		**Sb**	**23 26 40.1**	**-0.1**
DALY	**Dalyan (Mula)**	**2.42**	**40**	PN		**Pb**	**23 26 10.7**	**+0.6**
MLSB	**Milas**	**2.48**	**20**	PN		**Pb**	**23 26 10.7**	**-0.4**
KNDR	**Palaiochora Ch**	**2.51**	**277**	PN		**Pb**	**23 26 11.9**	**+0.4**
YER	**Yerkesik**	**2.51**	**30**	PN		**Pb**	**23 26 11.1**	**-0.5**
DDIM	**Aydin, Didim**	**2.52**	**9**	*e*P		**Pb**	**23 26 12.6**	**+0.8**
DDIM				*i* S		**Sb**	**23 26 45.0**	**+1.8**
DDIM				IAML			23 27 08.0	
	comp=E,115nm,0.8s							
DDIM				IAML			23 27 12.0	
	comp=N,143nm,1.5s							
FETY	**Fethiye**	**2.54**	**48**	*i* P		**Pn**	**23 26 08.3**	**+0.4**
MULA	**Mugla, Merkez-**	**2.63**	**29**	*i* P		**Pn**	**23 26 10.4**	**+1.3**
MULA				*i* S		**Sn**	**23 26 39.8**	**-1.7**
MULA				IAML			23 26 55.0	
	comp=N,58nm,0.8s							
MULA				IAML			23 26 57.0	
	comp=E,109nm,0.8s							
AKAS	**Kas**	**2.67**	**61**	*i* P		**Pn**	**23 26 08.5**	**-1.2**
AKAS				IAML			23 26 47.0	
	comp=N,66nm,0.9s							
GCAM	**G?zelcaml?**	**2.76**	**8**	*i* P		**Pn**	**23 26 06.5**	**-4.4**
GCAM				*i* S		**Sn**	**23 26 45.6**	**+1.0**
AYDN	**Tasoluk**	**2.85**	**19**	*i* P		**Pn**	**23 26 14.8**	**+2.6**
AYDN				*i* S		**Sb**	**23 26 51.4**	**-1.2**
CAEL	**Denizli, Camel**	**3.01**	**44**	*i* P		**Pn**	**23 26 14.6**	**+0.1**
CAEL				*i* S		**Sg**	**23 27 00.4**	**-2.4**
TAVA	**DENIZLI_Tavas**	**3.06**	**35**	*i* P		**Pn**	**23 26 17.7**	**+2.6**
TAVA				*i* S		**Sb**	**23 26 56.0**	**-2.7**
TAVA				IAML			23 27 10.0	
	comp=E,55nm,0.9s							
TAVA				IAML			23 27 13.0	
	comp=N,49nm,0.8s							
GOLH	**Golhisar**	**3.23**	**45**	*i* P		**Pn**	**23 26 18.4**	**+1.0**
GOLH				IAML			23 27 17.0	
	comp=E,44nm,1.7s							
GOLH				IAML			23 27 22.0	
	comp=N,92nm,1.0s							
ITM	**Ithomi**	**4.47**	**301**	Pn		**Pn**	**23 26 36.0**	**+1.6**
AGG	**Agios Georgios**	**5.37**	**320**	Pn		**Pn**	**23 26 46.5**	**-0.2**
CSS	**Mathiatis**	**5.42**	**88**	Pn		**Pn**	**23 26 49.3**	**+1.8**
ALN	**Alexandroupoli**	**5.95**	**355**	Pn		**Pn**	**23 26 55.9**	**+1.2**
LIT	**Litokhoron**	**6.13**	**328**	Pn		**Pn**	**23 26 57.5**	**+0.2**
BRTR	**Keskin Array B**	**7.27**	**47**	Pn		Pn	23 27 18.2	+5.2
	comp=N,0.1nm,0.3s,baz=223,slow=17,SNR=2.5							
BRTR				Sn		**Sn**	**23 28 36.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=221,slow=22,SNR=5.1							
BRTR	**Keskin Array B**	**7.27**	**47**	Pn		**Pn**	**23 27 11.7**	**-1.3**
MMAI	**Mount Meron Ar**	**7.46**	**103**	Pn		**Pn**	**23 27 13.3**	**-2.3**
	comp=N,0.5nm,0.3s,baz=298,slow=11,SNR=1.4							
MMAI				Sn		**Sn**	**23 28 40.3**	**-0.4**
	comp=N,3.0nm,0.3s,baz=310,slow=20,SNR=7.5							
VTS	**Vitosha**	**8.11**	**341**	Pn		**Pn**	**23 27 24.0**	**-0.5**
GHAJ	**Ghor Haditha**	**8.26**	**114**	Pn		**Pn**	**23 27 27.8**	**+1.3**
SCTE	**Santa Cesarea**	**8.31**	**310**	Pn		**Pn**	**23 27 27.5**	**+0.4**
EIL	**Elat**	**8.73**	**125**	Pn		**Pn**	**23 27 34.5**	**+1.5**
	comp=N,0.7nm,0.3s,baz=288,slow=1.2,SNR=8.7							
EIL				Sn		**Sn**	**23 29 08.4**	**-3.4**
	comp=N,2.1nm,0.3s,baz=121,slow=13,SNR=7.9							
TIP	**Timpagrande**	**9.01**	**301**	Pn		**Pn**	**23 27 36.7**	**0.0**
RAFF	**Raffo Rosso**	**10.26**	**286**	Pn		**Pn**	**23 27 55.9**	**+2.1**
MLR	**Muntele Rosu**	**10.53**	**357**	Pn		**Pn**	**23 28 02.4**	**+4.7**
	comp=N,1.1nm,0.3s,baz=159,slow=6.8,SNR=3.2							
MLR	**Muntele Rosu**	**10.53**	**357**	Pn		**Pn**	**23 28 00.6**	**+2.9**
SGRT	**San Giovanni R**	**10.96**	**311**	Pn		**Pn**	**23 28 02.6**	**-1.0**
CASP	**Castiglione de**	**14.60**	**307**	P		**P**	**23 29 00.1**	**+0.3**
GNI	**Garni**	**15.19**	**65**	LR		LR	23 36 17.9	
	comp=N,64nm,19.3s,baz=308,slow=43							
AKASG	**Malin Array Be**	**15.84**	**6**	Pn		**P**	**23 29 13.6**	**+0.2**
	comp=N,0.8nm,0.3s,baz=194,slow=11,SNR=5.5							
GERES	**GERESS Array B**	**16.89**	**329**	Pn		**P**	**23 29 25.4**	**+0.2**
	comp=N,0.1nm,0.3s,baz=138,slow=12,SNR=9.2							
GERES	**GERESS Array B**	**16.89**	**329**	P		**P**	**23 29 25.1**	**-0.1**
SENIN	**Lac Senin/Sane**	**18.57**	**314**	P		**P**	**23 29 43.2**	**-0.7**
SENIN				IAmb		IAmb	23 29 48.4	
	comp=Z,18nm,1.5s							
CLL	**Collm**	**19.11**	**333**	*e*P		**P**	**23 29 48.0**	**-1.5**
WLF	**Walferdange**	**21.05**	**321**	P		**P**	**23 30 11.6**	**+0.9**
WLF				IAmb		IAmb	23 30 15.1	
	comp=Z,14nm,1.3s							
ESBB	**Sonseca Array**	**24.79**	**290**	P		**P**	**23 30 49.4**	**+0.5**
ESDC	**Sonseca Array**	**24.79**	**290**	P		**P**	**23 30 49.2**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=82,slow=9.3,SNR=22							
ESDC	**Sonseca Array**	**24.79**	**290**	P		**P**	**23 30 49.3**	**+0.5**
FINES	**FINESS Array B**	**26.50**	**359**	P		**P**	**23 31 03.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=156,slow=15,SNR=5.1							
EKA	**Eskdalemuir Ar**	**28.95**	**324**	P		**P**	**23 31 25.8**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=129,slow=11,SNR=4.8							
TORD	**Torodi Ar. Bea**	**31.37**	**232**	P		**P**	**23 31 49.1**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=32,slow=9.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**31.37**	**232**	P		**P**	**23 31 48.4**	**+0.6**
TORD				IAmb		IAmb	23 31 50.6	
	comp=Z,2.2nm,1.3s							
ARCES	**ARCESS Array B**	**34.63**	**359**	P		**P**	**23 32 14.7**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=182,slow=9.2,SNR=8.3							
MK31	**Makanchi Array**	**42.81**	**56**	P		**P**	**23 33 26.7**	**+2.0**
MKAR	**Makanchi Array**	**42.81**	**56**	P		**P**	**23 33 24.8**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=277,slow=6.6,SNR=2.3							
MKAR	**Makanchi Array**	**42.81**	**56**	P		**P**	**23 33 24.3**	**-0.4**
ZALV	**Zalesovo Beam**	**44.22**	**46**	P		**P**	**23 33 37.1**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=264,slow=12,SNR=2.3							
SUMG	**Summit**	**49.62**	**339**	P		**P**	**23 34 18.5**	**+0.1**
SUMG				IAmb		IAmb	23 34 20.0	
	comp=Z,2.5nm,0.9s							
SCHQ	**Schefferville**	**64.17**	**320**	P		**P**	**23 36 01.2**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=58,slow=9.5,SNR=3.9							
SCHQ	**Schefferville**	**64.17**	**320**	P		**P**	**23 36 00.8**	**-0.5**
YKA	**Yellowknife Ar**	**78.02**	**343**	P		**P**	**23 37 24.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=46,slow=5.9,SNR=5.0							
MIYJ	**Miyakonagasawa**	**1.39**	**257**	P		**Pn**	**23 29 30.3**	**-0.5**
MIYJ				*e*S		**Sn**	**23 29 46.7**	**-1.2**
JKEN	**Kujiedanarisaw**	**1.47**	**283**	P		**Pn**	**23 29 31.2**	**-0.6**
JKEN				*e*S		**Sn**	**23 29 49.4**	**-0.4**
JANG	**Nango**	**1.65**	**288**	P		**Pn**	**23 29 33.5**	**-0.9**
JANG				*e*S		**Sn**	**23 29 53.6**	**-0.8**
JOM	**Ohasama**	**1.81**	**257**	P		**Pn**	**23 29 36.8**	**+0.2**
JMK	**Ichinoseki**	**2.05**	**244**	P		**Pn**	**23 29 39.5**	**-0.4**
JMK				*e*S		**Sn**	**23 30 03.8**	**-0.4**
JOT	**Ohata**	**2.43**	**309**	P		**Pn**	**23 29 44.8**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.46**	**346**	P		**Pn**	**23 29 46.4**	**+0.8**
JNBK				*e*S		**Sn**	**23 30 15.5**	**+1.1**
JYK	**Kaneyama**	**2.68**	**250**	P		**Pn**	**23 29 48.9**	**+0.4**
JCH	**Churui**	**2.72**	**357**	P		**Pn**	**23 29 48.6**	**-0.5**
JCH				*e*S		**Sn**	**23 30 20.2**	**-0.6**
JAK	**Akkeshi**	**3.21**	**15**	P		**Pn**	**23 29 55.1**	**-0.7**
JAK				*e*S		**Sn**	**23 30 32.4**	**-0.5**
JAR	**Ashorobuto**	**3.41**	**2**	P		**Pn**	**23 29 57.4**	**-1.1**
JAR				*e*S		**Sn**	**23 30 37.4**	**-0.2**
JFT	**Otama**	**3.47**	**228**	P		**Pn**	**23 29 59.1**	**-0.3**
MAT	**Matsushiro**	**5.39**	**233**	P		**Pn**	**23 30 26.8**	**+1.0**
MJAR	**Matsushiro Arr**	**5.39**	**233**	Pn		**Pn**	**23 30 26.4**	**+0.6**
	0.2nm,0.3s,baz=42,slow=12,SNR=7.6							
USRK	**Ussuriysk Ar.**	**9.63**	**300**	Pn		Pn	23 31 27.6	+3.6
	baz=89,slow=15,SNR=4.6							
JCJ	**Chichijima**	**12.82**	**186**	LR		LR	23 38 58.5	
	comp=Z,12nm,19.7s,baz=120,slow=47							
SONM	**Songino Array**	**27.74**	**299**	P		**P**	**23 34 54.7**	**+1.5**
	0.3nm,0.3s,baz=81,slow=9.5,SNR=1.8							
H11N2	**WAKE ISLAND Hy**	**28.37**	**128**	T		T	00 06 06.0	
	baz=318,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.38**	**128**	T		T	00 05 56.8	
	baz=318,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.39**	**128**	T		T	00 05 50.3	
	baz=318,slow=75							
ZALV	**Zalesovo Beam**	**41.31**	**310**	P		**P**	**23 36 51.1**	**+1.3**
	0.4nm,0.4s,baz=101,slow=8.4,SNR=2.1							
MKAR	**Makanchi Array**	**44.10**	**300**	P		**P**	**23 37 12.9**	**+0.4**
	0.3nm,0.5s,baz=85,slow=11,SNR=1.9							
KURBB	**Kurchatov Arra**	**45.64**	**306**	P		**P**	**23 37 25.2**	**+0.5**
	0.7nm,0.5s,baz=80,slow=8.7,SNR=4.7							
WRA	**Warramunga Arr**	**60.15**	**190**	P		**P**	**23 39 10.6**	**-1.3**
	0.3nm,0.8s,baz=8.0,slow=6.5,SNR=1.5							

*IDC **09** 23:29:00.8±2.8, 39°.85N×144°.14E, h0km, mb3.6/5,*
mb1 3.7/7, mb1mx3.4/50, mbtmp3.6/7, ML2.4/2, MS2.3/1,
Ms1 2.3/1, ms1mx2.0/46, Error ellipse: s-maj=66.9km
s-min=30.3km az=70.0
*JMA **09** 23:29:06.3±0.1, 39°.90N×143°.58E, h37km, M3.5*
*NIED **09** 23:29:06.3, 39°.90N×143°.58E, h37km, MW3.7, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14 Nm;
Mrr3.10; Mθθ0.68; Mφφ-3.77; Mrθ0.77; Mrφ-1.47; Mθφ1.33;
Fault plane solution: M0 3.98000×10^14 NP1: φ 24.00000°,
δ 57.00000°, λ 100.00000°. NP2: φ 187.00000°, δ 35.00000°,
λ 76.00000°.

ISC 09 23:29:07.9±1.1, 39°.89N±0°.06×143°.58E±0°.08, h35km, n25, σ0§83/29, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.32**	**273**	P		**Pn**	**23 29 28.9**	**-0.9**
JTH				*e*S		**Sn**	**23 29 45.4**	**-0.7**

*IGQ **09** 23:37:29.0±0.4, 2°.52S×3°.×7°.78W±°, h193km*
*VAO **09** 23:37:31.7±0.6, 1°.59S×77°.36W, h181km, mb4.4*
*IDC **09** 23:37:31.3±0.8, 1°.50S×77°.39W, h187km±7km, mb4.0/19,*
mb1 4.2/23, mb1mx4.1/36, mbtmp4.6/23, Error ellipse:
s-maj=13.0km s-min=7.8km az=54.0
*NEIC **09** 23:37:32.2±1.5, 1°.53S±0°.06×77°.45W±0°.09, h185km±6km,*
mb4.4/156, Md4.4(IGQ), Error ellipse: s-maj=13.2km
s-min=9.0km az=70.0

ISC 09 23:37:30.8±0.4, 1°.62S±0°.04×77°.55W±0°.05, h186km±3km, n318, σ1§10/308, mb4.4/90, 1C, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APUY	**Puyo**	**0.47**	**289**	P		**Pn**	**23 37 56.0**	**-0.3**
APUY				S		**Sn**	**23 38 16.0**	**0.0**
PUYO	**Puyo, Santa Ro**	**0.49**	**285**	P		**Pn**	**23 37 56.0**	**-0.4**
PUYO				S		**Sn**	**23 38 16.0**	**-0.1**
BULB	**Ulba Tungurahu**	**0.88**	**282**	P		**Pn**	**23 37 58.0**	**-0.8**
BULB				S		**Sn**	**23 38 20.0**	**-0.3**
BRUN	**Tungurahua Vol**	**0.88**	**283**	P		**Pn**	**23 37 58.0**	**-0.8**
BRUN				S		**Sn**	**23 38 21.0**	**+0.7**
PAT1	**Patacocha**	**0.89**	**277**	P		**Pn**	**23 37 59.0**	**0.0**
RUN5	**Runtun**	**0.90**	**283**	P		**Pn**	**23 37 58.0**	**-0.8**
ARRY	**Arrayan**	**0.91**	**277**	P		**Pn**	**23 37 58.0**	**-1.0**
RETU	**Refugio**	**0.91**	**280**	P		**Pn**	**23 37 59.0**	**-0.2**
SANGA

TUMC Tumaco 3.61 341 Pn Pn 23 38 28.0 +0.7
TUMC Sn Sn 23 39 10.6 -1.0
BBAC Balboa, Cauca 3.63 5 eP Pn 23 38 27.4 -0.3
BBAC Balboa, Cauca 3.63 5 P Pn 23 38 27.0 -0.7
MCRA Macar, Loja 3.64 221 P Pn 23 38 24.0 -3.7
FLOC Florencia 3.70 31 Pn 23 38 28.0 -0.4
FLOC Florencia 3.70 31 i P Pn 23 38 28.5 +0.1
PCON Cinco Dias 4.08 16 eP Pn 23 38 34.7 +0.9
POPC Popayan, Colom 4.22 12 eP Pn 23 38 31.1 -4.0
GARC Garzon, Huila 4.30 29 i P Pn 23 38 36.8 +0.5
MARP Paez Belalcaza 4.71 20 eP Pn 23 38 42.0 +0.5
BETC Betania 4.76 26 eP Pn 23 38 43.3 +1.3
MACC Macarena, Meta 5.26 45 eP Pn 23 38 48.3 -0.1
ATAH Atahualpa 5.55 189 P Pn 23 38 52.9 +0.5
84nm,0.3s,baz=25,slow=7.7,SNR=579
ATAH S Sn 23 39 54.7 -2.0
53nm,0.3s,baz=148,slow=23,SNR=16
ORTC Ortega, Tolima 5.95 23 eP Pn 23 38 55.2 -2.1
GUVC San Jose del G 6.43 50 eP Pn 23 39 04.7 +1.2
ANIL Santa Ana 6.44 19 eP Pn 23 39 03.9 0.0
TOLC Tolima 6.55 20 eP Pn 23 39 04.6 -0.8
PLMC San Jos del P 6.60 11 eP Pn 23 39 02.3 -3.6
VILC Villavicencio, 6.87 34 eP Pn 23 39 10.6 +1.1
ROSC El Rosal 7.18 27 P Pn 23 39 16.8 +3.0
3.3nm,0.3s,baz=318,slow=21,SNR=5.5
ROSC El Rosal 7.18 27 Pn Pn 23 39 13.2 -0.6
NORC Norcasia 7.62 27 eP Pn 23 39 17.4 -1.7
CZSB Cruzeiro do Su 7.76 142 eP Pn 23 39 20.5 -0.5
PTGC Puerto Gaitan, 7.92 43 eP Pn 23 39 23.4 +0.4
RUSC La Rusia 8.69 31 Pn Pn 23 39 34.2 +0.5
RUSC La Rusia 8.69 31 eP Pn 23 39 34.2 +0.5
BARC Barichara 9.25 28 eP Pn 23 39 41.5 +0.8
ZARC Zaragoza, Cauc 9.44 17 eP Pn 23 39 45.0 +2.0
PAMC Pamplona, Colo 10.13 28 eP Pn 23 39 53.5 +1.0
NNA Nana 10.33 176 P Pn 23 39 55.7 +1.1
9.5nm,0.3s,baz=295,slow=8.1,SNR=12
NNA S Sn 23 41 41.2 -8.5
9.3nm,0.3s,baz=80,slow=19,SNR=6.7
NNA Nana 10.33 176 Pn 23 39 55.9 +1.3
OCAC Ocana 10.66 20 eP Pn 23 39 58.1 -0.9
BCIP Isla Barro Col 10.95 348 Pn Pn 23 40 02.2 -0.5
SJCC San Jacinto, C 11.68 12 Pn Pn 23 40 11.9 -0.2
SRBA San Rafael, Bu 12.23 332 Pn 23 40 21.1 +1.9
SDV Santo Domingo 12.51 33 P Pn 23 40 22.3 -0.4
4.7nm,0.3s,baz=226,slow=13,SNR=9.1
SDV Santo Domingo 12.51 33 Pn Pn 23 40 23.9 +1.1
SDV Santo Domingo 12.51 33 eP Pn 23 40 22.9 +0.2
ETMB Extrema 13.91 126 eP Pn 23 40 37.6 -2.6
ORTG Ortega, Santa 14.27 327 P P 23 40 48.7 +2.1
URIC Uribia, Colomb 14.34 23 Pn 23 40 43.3 -2.2
URIC Uribia, Colomb 14.34 23 eP Pn 23 40 43.8 -1.8
LPAZ La Paz 17.28 148 P Pn 23 41 23.1 +1.3
1.7nm,0.3s,baz=323,slow=5.5,SNR=32
LPAZ S S 23 44 29.7 -1.5
0.1nm,0.3s,baz=144,slow=20,SNR=1.4
LPAZ La Paz 17.28 148 Pn 23 41 22.9 +1.1
LPAZ IAmb IAmb 23 41 35.3
comp=Z,9.7nm,0.6s
LPAZ La Paz 17.28 148 eP Pn 23 41 22.1 +0.3
PCRV Puerto La Cruz 17.39 47 P Pn 23 41 24.5 +1.9
comp=Z,5.4nm,0.3s,baz=269,slow=2.3,SNR=15
PLCV Puerto La Cruz 17.42 48 P Pn 23 41 24.5 +1.6
BOAV Boa Vista 17.48 77 eP P 23 41 21.5 -0.6
PTGA Pitinga 17.60 87 P P 23 41 22.6 -0.8
comp=Z,1.9nm,0.3s,baz=270,slow=12,SNR=16
PTGA Pitinga 17.60 87 P P 23 41 22.8 -0.6
PTGA IAmb IAmb 23 41 31.1
comp=Z,18nm,0.8s
PB16 IPOC Station P 18.39 155 P Pn 23 41 34.4 -0.4
MNMC Minye Minye 19.07 156 P P 23 41 41.1 +1.6
PSGCX Pisagua 19.29 158 P P 23 41 42.5 +0.8
PB11 IPOC Station P 19.62 157 P P 23 41 46.3 +1.0
MTO3 Montecristo 19.75 324 P P 23 41 48.6 +1.8
PB08 IPOC Station P 20.16 157 P P 23 41 53.4 +2.1
VILB Vilhena 20.55 124 eP P 23 41 56.0 +0.8
PB01 IPOC Station P 20.85 158 P P 23 42 00.6 +2.2
PB01 IAmb IAmb 23 42 06.4
comp=Z,24nm,1.2s
APG El Apazote 20.88 323 P P 23 41 59.8 +0.9
comp=Z,9.1nm,0.8s,baz=325,slow=14,SNR=7.7
TOSP Speyside 21.23 52 P P 23 42 01.4 -1.0
PB07 IPOC Station P 21.34 160 P P 23 42 04.9 +1.3
PB07 IAmb IAmb 23 42 13.6
comp=Z,14nm,0.7s
PB09 IPOC Station P 21.63 159 P P 23 42 08.0 +1.3
SIV San Ignacio 21.63 132 P P 23 42 06.4 -0.1
comp=Z,2.8nm,0.4s,baz=322,slow=12,SNR=17
SIV pP pP 23 42 38.1 -0.7
comp=Z,6.5nm,0.6s,baz=329,slow=14,SNR=3.5
ITTB Itaituba 21.96 98 eP P 23 42 09.3 -0.6
LVC Limon Verde 22.49 159 P P 23 42 17.5 +2.2
comp=Z,8.2nm,0.6s,baz=341,slow=5.4,SNR=14
LVC Limon Verde 22.49 159 eP P 23 42 17.3 +2.1
SJG San Juan 22.59 29 P P 23 42 13.8 -1.9
comp=Z,8.9nm,0.5s,baz=187,slow=7.7,SNR=6.3
SJG San Juan 22.59 29 P P 23 42 14.5 -1.2
SJG IAmb IAmb 23 42 32.1
comp=Z,12nm,0.8s
NPGB Novo Progresso 22.77 104 eP P 23 42 16.6 -0.9
PTLB Pontes e Lacer 22.78 128 eP P 23 42 18.0 +0.6
PB10 IPOC Station P 22.80 163 P P 23 42 18.6 +1.2
PB10 IAmb IAmb 23 42 21.5
comp=Z,11nm,0.7s
CBYP Canovanas 22.87 30 P P 23 42 16.9 -1.5
MALB Monte Alegre 23.28 91 eP P 23 42 22.2 +0.1
CLDB Colider 23.48 114 eP P 23 42 24.2 +0.3
GO02 Mina Guanaco 24.64 162 P P 23 42 36.3 +1.7
GO02 IAmb IAmb 23 42 39.4
comp=Z,10.0nm,0.8s
CMIG Matias Romero 25.25 318 P P 23 42 40.7 +0.8
comp=Z,10nm,0.7s,baz=97,slow=6.5,SNR=12
MCPB Macapa, AP 25.52 87 eP P 23 42 42.1 -0.3
MDP Montagnes des 25.76 75 P P 23 42 44.0 -0.6
comp=Z,26nm,0.6s,baz=265,slow=7.4,SNR=25
SALV Santo Antonio 25.80 125 eP P 23 42 46.3 +1.4
AC02 Maricunga 26.35 163 P P 23 42 51.4 +1.1
PP1B Ponte de Pedra 27.36 127 eP P 23 42 60.0 +1.1
SNDB Serra Nova Dou 28.00 113 eP P 23 43 04.7 +0.2
PRPB Parauapebas 28.03 100 eP P 23 43 03.9 -1.0
AQDB Aquidauana 28.40 133 eP P 23 43 09.1 +1.0
ARAG Araguaiana, MT 28.98 120 eP P 23 43 13.5 +0.3
TMAB Tom-Au,PA,Br 29.45 92 eP P 23 43 18.1 +0.7
CO03 El Pedregal 29.78 168 P P 23 43 21.6 +1.3
CO03 IAmb IAmb 23 43 22.6
comp=Z,10.0nm,0.8s
CO02 Combarbal 30.07 169 P P 23 43 24.6 +1.7
SMTB Santa Maria do 30.67 105 eP P 23 43 28.3 0.0
PEXB Peixe 30.81 111 eP P 23 43 29.6 +0.2
CPUP Villa Florida 31.34 143 P P 23 43 33.1 -0.8
comp=Z,1.7nm,0.5s,baz=328,slow=9.1,SNR=7.4
CPUP PcP PcP 23 46 23.2 -0.1
comp=Z,1.0nm,0.5s,baz=317,slow=5.4,SNR=3.6
CPUP Villa Florida 31.34 143 P P 23 43 33.0 -0.8
CPUP PcP PcP 23 46 23.9 +0.6
CPUP Villa Florida 31.34 143 eP P 23 43 32.2 -1.6
VA03 San Esteban 31.68 169 P P 23 43 39.0 +2.2
MT02 Curacav 32.05 170 P P 23 43 41.7 +1.7
MT02 IAmb IAmb 23 43 44.3
comp=Z,17nm,1.1s
ITRB Iturama 32.10 126 eP P 23 43 41.3 +0.6
BDFB Brasilia 32.28 117 P P 23 43 42.7 +0.3
comp=Z,1.5nm,0.3s,baz=281,slow=5.2,SNR=4.4
BDFB Brasilia 32.28 117 P P 23 43 42.8 +0.3
BDFB IAmb IAmb 23 43 50.6
comp=Z,7.8nm,1.3s
MT03 Universidad Ad 32.39 169 P P 23 43 44.9 +1.8
PCMB Pacaembu 32.41 130 eP P 23 43 42.9 -0.4
IPMB Ipameri, GO 33.08 121 eP P 23 43 50.2 +1.0
BO01 Tunca 33.16 170 P P 23 43 51.2 +1.5
BO01 IAmb IAmb 23 43 51.5
comp=Z,7.1nm,0.8s
ROSB Rosrio 33.42 93 eP P 23 43 51.6 -0.6
PTGB Pitanga 33.67 135 eP P 23 43 55.2 +0.9
SDBA SAO DESIDERIO 34.08 110 eP P 23 43 57.7 -0.3
ITQB Itaqui 34.27 146 P P 23 43 59.2 -0.1
ITQB IAmb IAmb 23 44 02.9
comp=Z,6.9nm,0.9s
ITQB PcP 23 46 31.8 +0.4
ITQB Itaqui 34.27 146 eP P 23 43 59.4 +0.1
ITAB Concordia 35.25 139 P P 23 44 07.6 -0.2
ITAB Concordia 35.25 139 eP P 23 44 07.6 -0.2
GOGA Godfrey 35.28 351 P P 23 44 08.4 +0.5
JANB Januaria 35.42 114 eP P 23 44 09.0 -0.4
LRAL Lakeview Retre 35.60 346 P 23 44 10.4
baz=164
NBPS Pedro II - PI 36.16 95 eP P 23 44 15.3 -0.5
TIJ01 Guaruva-PR 36.23 133 eP P 23 44 16.5 +0.3
MC01 Montes Claros 36.31 116 eP P 23 44 17.0 0.0
833A Chaparral WMA, 36.41 326 P 23 44 18.2
baz=141
CPSB Cacapava Do Su 36.64 144 eP P 23 44 18.6 -0.9
PET01 Itanhaem-SP 36.95 130 eP P 23 44 21.5 -0.7
NBMO Morrinhos-CE 37.51 93 eP P 23 44 26.2 -0.9
PLTB Pedras Altas 37.55 145 P P 23 44 26.3 -0.9
PLTB IAmb IAmb 23 44 43.2
comp=Z,17nm,1.2s
PLTB Pedras Altas 37.55 145 eP P 23 44 27.2 0.0
PARB Paraibuna 37.74 127 eP P 23 44 28.5 -0.5
NBPB Pedra_Branca-C 38.08 97 eP P 23 44 31.2 -0.7
NBPN Ponto Novo - B 38.20 105 eP P 23 44 32.9 0.0
JCT Junction City 38.32 328 P 23 44 34.4
baz=142
TZTN Tazewell 38.37 352 P 23 44 33.8
baz=170
TZTN Tazewell 38.38 352 P P 23 44 33.1 -0.9
WHTX Lake Whitney, 38.38 332 P 23 44 34.5
baz=147
T57A Hurt 38.45 358 P P 23 44 34.0 -0.6
T57A IAmb IAmb 23 44 37.2
comp=Z,4.1nm,0.7s
ESAR Angra dos Reis 38.53 126 eP P 23 44 35.9 +0.5
WVT Waverly 38.76 347 P 23 44 36.2
baz=163
MIAR Mount Ida 38.99 339 P 23 44 38.2
baz=154
NBMA Muriti-CE 39.07 100 eP P 23 44 40.1 0.0
W41B Gary Mavity, V 39.10 341 P 23 44 39.0
baz=156
WHAR Wooly Hollow 39.22 341 P P 23 44 39.8 -1.2
WHAR IAmb IAmb 23 44 40.4
comp=Z,4.8nm,0.8s
NBCL Cascavel-CE 39.29 95 eP P 23 44 41.8 -0.2
GDU01 Guandu, BA 39.43 110 eP P 23 44 43.2 +0.1
PLCA Paso Flores 39.45 172 P P 23 44 44.2 +1.3
comp=Z,10nm,0.7s,baz=347,slow=9.7,SNR=17
PLCA PcP PcP 23 46 47.8 +0.7
comp=Z,1.0nm,0.7s,baz=15,slow=9.7,SNR=3.6
PLCA Paso Flores 39.45 172 P 23 44 44.0 +1.1
PLCA IAmb IAmb 23 44 45.1
comp=Z,13nm,0.8s
PLCA PcP PcP 23 46 48.0 +0.9
PLCA Paso Flores 39.45 172 eP P 23 44 44.3 +1.4
SJMB Sao Joao De Ma 39.48 118 eP P 23 44 42.5 -0.9
TXAR Lajitas Array 39.64 323 P P 23 44 45.9 +1.2
comp=Z,2.9nm,0.8s,baz=146,slow=8.3,SNR=27
TXAR PcP PcP 23 46 48.9 +1.0
comp=Z,1.7nm,0.8s,baz=148,slow=7.0,SNR=11
TXAR ScP ScP 23 50 18.8 -0.5
comp=Z,0.3nm,1.0s,baz=157,slow=6.8,SNR=4.1
TXAR Lajitas Array 39.64 323 P P 23 44 45.6 +0.9
TXAR PcP 23 46 48.3 +0.3
TX31 Lajitas Ar. Si 39.64 323 P P 23 44 45.7 +1.0
TX31 IAmb IAmb 23 44 46.6
comp=Z,14nm,1.1s
TX31 PcP 23 46 48.3 +0.3
TX32 Lajitas Array 39.64 323 P P 23 44 45.4 +0.7
TX32 PcP 23 46 48.3 +0.3
W39A Magazine 39.65 339 P 23 44 44.0
baz=154
W39A Magazine 39.65 339 IAmb IAmb 23 44 45.1
comp=Z,5.6nm,0.8s
NBIT Itapeh - BA 39.88 111 eP P 23 44 47.9 +1.2
CMC01 Camacan, BA 39.92 112 eP P 23 44 46.9 -0.2
ABTX Abilene, Hawle 39.95 330 P P 23 44 47.4 +0.2
ABTX IAmb IAmb 23 44 48.8
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 39.95 330 P 23 44 47.4
baz=144,SNR=5.1
GUA01 Guaratinga, BA 40.01 114 eP P 23 44 48.2 +0.4
CAM01 Campos-RJ 40.29 123 eP P 23 44 50.2 +0.2
SLBS Sierra La Lagu 40.31 311 P P 23 44 52.3 +2.1
SLBS IAmb IAmb 23 44 53.1
comp=Z,15nm,0.8s
U40A Yellville 40.38 341 P 23 44 49.5
baz=156,SNR=7.0
U40A Yellville 40.38 341 IAmb IAmb 23 44 50.4
comp=Z,6.1nm,0.8s
RIB01 Linhares ES 40.40 118 eP P 23 44 50.7 -0.3
WCI Wyandotte Cave 40.46 349 P 23 44 49.5
baz=166
NBPA Parau_RN 40.55 97 eP P 23 44 51.7 -0.7
NBLA Lagarto - SE 40.55 105 eP P 23 44 51.5 -0.8
ALF01 Guarapari-ES 40.59 120 eP P 23 44 53.3 +0.8
MGMO Muriain Grove 40.92 342 IAmb IAmb 23 44 54.7
comp=Z,5.8nm,0.8s
TUL1 Leonard 41.03 337 P 23 44 54.8
baz=151
WMOK Wichita Mounta 41.28 333 P 23 44 57.7
baz=147,SNR=9.4
WMOK Wichita Mounta 41.28 333 P P 23 44 57.8 -0.2
WMOK IAmb IAmb 23 44 58.9
comp=Z,7.7nm,0.8s
O56A Blue Knob Stat 41.69 359 P 23 45 01.7
baz=178
O53A New Philadelph 41.80 356 P 23 45 02.5
baz=174
NBAN Anadia - AL 41.81 103 eP P 23 45 02.5 -0.1
N59A State Game Lan 42.36 2 P 23 45 07.5
baz=182
MNTX Cornudas Mount 42.37 324 P 23 45 07.3
baz=136,SNR=18
MNTX Cornudas Mount 42.37 324 P P 23 45 07.0 +0.2
MNTX IAmb IAmb 23 45 08.4
comp=Z,9.0nm,0.9s
MSTX Muleshoe 42.61 328 P 23 45 09.5
baz=141
MSTX Muleshoe 42.61 328 P P 23 45 09.1 +0.2
M57A Sunshine Farm, 42.75 0 P P 23 45 10.4 +0.7
M57A IAmb IAmb 23 45 18.1
comp=Z,11nm,1.3s
NBRF Rio Formoso - 42.80 101 eP P 23 45 10.0 -0.5
BINY Binghamton 43.64 2 P 23 45 17.3
baz=182
121A Cookes Peak, D 44.40 323 IAmb IAmb 23 45 26.1
comp=Z,11nm,0.9s
121A Cookes Peak, D 44.40 323 P 23 45 24.9
baz=134,SNR=6.9
319A Douglas 44.55 320 P P 23 45 26.0 +1.6
319A IAmb IAmb 23 45 26.8
comp=Z,22nm,1.2s
J56A Wolcott 44.69 1 P 23 45 25.4
baz=181
J58A Remsen 44.82 2 P 23 45 26.3
baz=183
J59A Piesco 44.96 3 P 23 45 27.4
baz=184
CBKS Cedar Bluff 45.12 335 P 23 45 29.0
baz=148
I58A Old Forge 45.16 3 P 23 45 29.0
baz=184
ANMO Albuquerque 45.34 326 P P 23 45 31.9 +1.2
ANMO Albuquerque 45.34 326 P 23 45 31.8
baz=137
PECO Prince Edward 45.35 1 P P 23 45 29.4 -0.9
PECO IAmb IAmb 23 45 44.0
comp=Z,19nm,1.4s
T25A Trinidad 45.91 330 P 23 45 36.5
baz=141,SNR=10.0
T25A Trinidad 45.91 330 IAmb IAmb 23 45 37.6
comp=Z,17nm,1.1s
H58A Gabriels 45.93 3 P 23 45 34.5
baz=184
DELO Deloro Mine 45.93 360 P P 23 45 33.9 -1.0
DELO IAmb IAmb 23 45 35.2
comp=Z,13nm,1.3s
TUC Tucson 46.12 320 P 23 45 37.6
baz=130
TUC Tucson 46.12 320 P P 23 45 37.6 +0.9
G57A Newington 46.57 3 P 23 45 39.9
baz=183
SDCO Great Sand Dun 46.93 329 P 23 45 44.2
baz=140,SNR=34
SDCO Great Sand Dun 46.93 329 IAmb IAmb 23 45 45.2
comp=Z,16nm,0.8s
214A Organ Pipe Nat 47.23 318 P 23 45 46.1
baz=128,SNR=6.4
214A Organ Pipe Nat 47.23 318 IAmb IAmb 23 45 47.5
comp=Z,14nm,0.8s
W18A Petrified Fore 47.35 324 P 23 45 47.4
baz=134
S22A 4UR Ranch, Cre 47.62 328 P 23 45 49.3
baz=138,SNR=6.3
F60A Warwick 47.64 5 P 23 45 48.7
baz=187
Q24A Divide 47.70 331 P 23 45 49.4
baz=141
E56A St. Veronique 48.01 2 P 23 45 50.9
baz=183
E60A Ste Agathe de 48.09 6 P 23 45 51.6
baz=188
MVCO Mesa Verde 48.12 327 P 23 45 52.7
baz=136
ECSD EROS Data Cent 48.27 342 P 23 45 52.2
baz=154
D55A Sainte-Anne-du 48.47 2 P 23 45 53.4
baz=183
D56A ZEC Mazanza, M 48.52 3 P 23 45 54.4
baz=184
E62A Clayton Lake 48.55 7 P 23 45 55.4
baz=191
ISCO Idaho Springs 48.57 331 P 23 45 56.3
baz=141
E64A Bridgewater 48.59 9 P 23 45 55.3
baz=193
WUAZ Wupatki 48.60 323 P 23 45 57.1
baz=132,SNR=16
D58A Chemin du LacG 48.68 4 P 23 45 56.2
baz=186
PV01 Paradox Valley 48.83 327 IAmb IAmb 23 45 59.8
comp=Z,12nm,1.0s
PV15 Paradox Valley 48.93 328 IAmb IAmb 23 46 01.3
comp=Z,10nm,1.0s
LATQ La Tuque 48.98 4 P 23 45 57.9
baz=186
PV13 Radium Mtn., P 48.98 327 P P 23 45 59.5 +0.6
PV03 Paradox Valley 49.07 327 IAmb IAmb 23 46 01.2
comp=Z,18nm,1.0s
PV18 Skein Mesa, Pa 49.09 327 P P 23 46 00.0 +0.4
PV18 IAmb IAmb 23 46 01.3
comp=Z,15nm,0.8s
PV11 David Mesa, Pa 49.11 327 P P 23 46 00.6 +0.9
PV11 IAmb IAmb 23 46 01.5
comp=Z,18nm,1.1s
PV16 Nyswonger Mesa 49.15 327 IAmb IAmb 23 46 02.4
comp=Z,11nm,1.1s
PV17 East Wray Mesa 49.15 327 IAmb IAmb 23 46 01.7
comp=Z,14nm,0.8s
PV22 Blue Mesa, Par 49.24 328 P P 23 46 00.8 +0.1
GLA Glamis 49.24 318 P 23 46 01.5
baz=127
PDMCI Parker Dam,Lak 49.56 320 P 23 46 04.0
baz=128
N23A Red Feather La 49.58 332 P 23 46 03.7
baz=141
PHWY Pilot Hill 49.67 332 IAmb IAmb 23 46 05.4
comp=Z,5.2nm,0.6s
U15A North Rim 49.77 323 IAmb IAmb 23 46 07.2
comp=Z,6.6nm,0.9s
SWSC Sam W. Stewart 49.84 317 P 23 46 06.1
baz=126
IKP In-Ko-Pah, Jac 49.88 317 P 23 46 06.4
baz=125
W13A Hualapai Mount 49.89 321 IAmb IAmb 23 46 08.1
comp=Z,7.5nm,0.9s
BC3 Big Chuckawall 50.03 318 P 23 46 07.9
baz=127
IRM Iron Mountain 50.12 319 P 23 46 08.3
baz=127
O20A White River Ci 50.13 329 P 23 46 07.8
baz=138
MONP2 Monument Peak 50.23 317 P 23 46 08.8
baz=125
PKCU Pink Cliffs 50.46 324 IAmb IAmb 23 46 11.9
comp=Z,5.7nm,0.7s
KNB Kanab 50.48 323 P P 23 46 11.0 +1.0
KNB IAmb IAmb 23 46 12.4
comp=Z,6.4nm,0.8s
SRU San Rafael Swe 50.59 327 IAmb IAmb 23 46 12.6
comp=Z,14nm,1.2s
TPFO Pinon Flats O 50.67 317 P 23 46 12.0
baz=126
PFO Pinyon Flats O 50.68 317 P 23 46 12.1
baz=126
MTPU Mount Pierson 50.79 325 P P 23 46 13.2 +0.6
MTPU PcP PcP 23 47 27.2 +0.4
RWWY Rawlins 50.80 331 IAmb IAmb 23 46 13.0
comp=Z,8.8nm,0.9s
GMRC Granite Mounta 50.84 319 P 23 46 14.0
baz=127,SNR=7.4
P17A Butcher Ranch, 50.97 327 IAmb IAmb 23 46 15.4
comp=Z,12nm,1.0s
TMUT Trail Mountain 51.10 326 P P 23 46 15.4 +0.5
CCUT Cedar City 51.15 323 P P 23 46 16.2 +1.0
CCUT PcP PcP 23 47 29.2 +1.2
MURC Murrieta 51.17 317 P 23 46 16.3
baz=125
K22A Casper 51.23 333 P 23 46 15.4
baz=142
K22A Casper 51.23 333 IAmb IAmb 23 46 16.3
comp=Z,4.6nm,0.6s
HEC Hector,Ludlow 51.31 319 P 23 46 17.5
baz=127
RSSD Black Hills 51.32 336 P 23 46 16.9
baz=145
RSSD Black Hills 51.32 336 P P 23 46 16.7 +0.4
CHGQ Chibougamau 51.40 3 P 23 46 15.7
baz=184
MPU Maple Canyon 51.84 327 IAmb IAmb 23 46 21.9
comp=Z,10.0nm,1.0s
BFSC Mount Baldy Ra 51.85 317 P 23 46 21.7
baz=125
GSC Goldstone, Bar 51.90 319 P 23 46 22.0
baz=126,SNR=5.3
GSC Goldstone, Bar 51.90 319 P P 23 46 22.1 +1.5
GSC IAmb IAmb 23 46 22.9
comp=Z,9.4nm,1.1s
SHOC Shoshone, Teco 51.91 320 P 23 46 22.3
baz=127
JLU Jordanelle 52.15 327 IAmb IAmb 23 46 24.2
comp=Z,12nm,0.8s
AGMN Agassiz Nation 52.20 345 P 23 46 22.7
baz=156
EDW2 Edwards Air Fo 52.45 318 P 23 46 25.6
baz=125,SNR=6.9
TPNV Topopah Spring 52.54 321 IAmb IAmb 23 46 27.8
comp=Z,11nm,0.9s
TPNV Topopah Spring 52.54 321 P 23 46 26.6
baz=128,SNR=6.3
LRMC Laurel Mtn Rad 52.59 319 P 23 46 26.9
baz=126
DUG Dugway, Tooele 52.61 326 IAmb IAmb 23 46 27.4
comp=Z,7.2nm,0.7s
DUG Dugway, Tooele 52.61 326 P 23 46 26.9
baz=133,SNR=13
FURC Furnace Creek, 52.64 320 P 23 46 27.2
baz=127
BW06 Boulder Array 52.75 331 P 23 46 26.5
baz=138,SNR=5.7
PDAR Pinedale Array 52.75 331 P P 23 46 27.0 +0.1
comp=Z,1.8nm,0.6s,baz=127,slow=9.0,SNR=20
PDAR PcP PcP 23 47 33.4 -0.5
comp=Z,1.2nm,0.6s,baz=144,slow=6.0,SNR=5.7
MPMC Manual Prospec 52.80 319 P 23 46 28.0
baz=126
HWUT Hardware Ranch 52.93 328 IAmb IAmb 23 46 29.3
comp=Z,10nm,0.7s
R11A Troy Canyon, C 53.01 323 P 23 46 29.6
baz=130,SNR=9.2
SCZ2 Santa Cruz Isl 53.08 316 P 23 46 30.1
baz=123
ARVC Arvin 53.15 317 P 23 46 30.9
baz=124
ISA Isabella, Lake 53.22 318 P 23 46 31.2
baz=125
BGU Big Grassy Mou 53.24 327 P P 23 46 30.2 -0.1
BGU IAmb IAmb 23 46 32.0
comp=Z,14nm,1.2s
CWC Cottonwood Cre 53.41 319 P 23 46 32.7
baz=126
AHID Auburn Hatcher 53.52 330 IAmb IAmb 23 46 33.3
comp=Z,9.7nm,0.9s
PKM Mcpherson Peak 53.69 317 P 23 46 34.9
baz=123
HVU Hansel Valley 53.69 328 IAmb IAmb 23 46 34.9
comp=Z,5.6nm,0.9s
VES Vestal, Richgr 53.73 318 P 23 46 34.6
baz=125

REDW	**Red Top Meadow**	**53.83**	**330**	IAmb	IAmb	23 46 36.5	
	comp=Z,5.9nm,0.9s						
LOHW	**Long Hollow**	**53.89**	**331**	IAmb	IAmb	23 46 36.3	
	comp=Z,5.8nm,0.8s						
TPAW	**Teton Pass**	**53.98**	**330**	IAmb	IAmb	23 46 36.9	
	comp=Z,4.3nm,0.7s						
ULM	**Lac du Bonnet**	**54.01**	**346**	P	**P**	**23 46 34.1**	**-1.5**
	comp=Z,4.4nm,0.4s,baz=154,slow=7.2,SNR=7.5						
ULM				PcP	**sP**	**23 47 37.4**	**-1.6**
	comp=Z,6.2nm,1.0s,baz=195,slow=4.1,SNR=3.4						
RLMT	**Red Lodge**	**54.39**	**333**	P		23 46 38.7	
	baz=140						
YNE	**Yellowstone No**	**54.65**	**332**	IAmb	IAmb	23 46 42.0	
	comp=Z,4.2nm,0.6s						
NVAR	**Mina Array Bea**	**54.73**	**321**	P	**P**	**23 46 42.4**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=129,slow=6.6,SNR=15						
NVAR				pP	**pP**	**23 47 25.5**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=142,slow=6.9,SNR=2.5						
NVAR				PcP	**PcP**	**23 47 41.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=130,slow=5.4,SNR=5.2						
LHV	**Little Huntoon**	**54.75**	**321**	P	**P**	**23 46 41.8**	**+0.7**
LHV				IAmb	IAmb	23 46 43.2	
	comp=Z,6.1nm,1.0s						
YHH	**Holmes Hill**	**54.88**	**331**	IAmb	IAmb	23 46 44.2	
	comp=Z,4.7nm,0.7s						
YHB	**Horse Butte**	**55.02**	**331**	IAmb	IAmb	23 46 45.4	
	comp=Z,6.7nm,0.7s						
WAKR	**Walker**	**55.49**	**321**	IAmb	IAmb	23 46 48.9	
	comp=Z,4.1nm,0.9s						
HLID	**Hailey**	**55.80**	**328**	IAmb	IAmb	23 46 50.4	
	comp=Z,4.6nm,0.8s						
HLID	**Hailey**	**55.80**	**328**	P		23 46 49.4	
	baz=134,SNR=9.5						
MFID	**Camas Ranch**	**56.45**	**327**	P	**P**	**23 46 54.0**	**+0.6**
AFDM	**Forest Hills D**	**56.73**	**320**	IAmb	IAmb	23 46 56.8	
	comp=Z,5.0nm,1.0s						
BEKR	**Beckworth**	**56.87**	**321**	IAmb	IAmb	23 46 58.3	
	comp=Z,7.4nm,0.9s						
MSO	**Missoula**	**57.85**	**331**	IAmb	IAmb	23 47 04.0	
	comp=Z,3.9nm,0.8s						
MSO	**Missoula**	**57.85**	**331**	P		23 47 03.4	
	baz=136,SNR=5.1						
J08A	**Circle Bar Ran**	**57.88**	**326**	IAmb	IAmb	23 47 05.2	
	comp=Z,5.6nm,0.7s						
O03E	**Paynes Creek**	**58.02**	**321**	P		23 47 04.7	
	baz=125						
O02D	**Mt. Diablo Mer**	**58.58**	**320**	P		23 47 08.3	
	baz=124						
F10A	**Beach Ranch, E**	**58.90**	**329**	IAmb	IAmb	23 47 15.5	
	comp=Z,7.7nm,1.1s						
L04D	**Klamath Falls**	**59.43**	**323**	P		23 47 14.5	
	baz=125						
J04D	**Umpqua Nationa**	**59.91**	**324**	P		23 47 18.0	
	baz=126						
I05D	**Terrebonne, OR**	**60.11**	**325**	P		23 47 20.1	
	baz=127						
NEW	**Newport**	**60.40**	**331**	P		23 47 20.5	
	baz=133,SNR=7.4						
NEW	**Newport**	**60.40**	**331**	P	**P**	**23 47 20.3**	**-0.1**
NEW				IAmb	IAmb	23 47 21.4	
	comp=Z,6.4nm,0.8s						
I04A	**Tendick Farm,**	**60.41**	**324**	P		23 47 20.8	
	baz=126						
K02D	**Willamette Mer**	**60.53**	**322**	P		23 47 22.1	
	baz=124						
G05D	**Wamic, OR**	**60.65**	**326**	P		23 47 23.5	
	baz=128						
I02D	**Swisshome**	**61.44**	**324**	P		23 47 28.9	
	baz=125						
LTY	**Liberty**	**61.54**	**328**	IAmb	IAmb	23 47 29.9	
	comp=Z,7.4nm,1.0s						
B08A	**Colville Reser**	**61.56**	**330**	P	**P**	**23 47 28.7**	**+0.4**
B08A				IAmb	IAmb	23 47 29.5	
	comp=Z,6.0nm,0.8s						
LON	**Longmire**	**61.84**	**327**	P	**P**	**23 47 30.2**	**0.0**
LON				IAmb	IAmb	23 47 31.6	
	comp=Z,6.3nm,0.8s						
D04E	**Lakebay**	**62.62**	**327**	P		23 47 36.5	
	baz=127						
D03D	**Eldon**	**63.01**	**327**	P		23 47 38.7	
	baz=127						
A04D	**Lummi Island**	**63.52**	**328**	P		23 47 41.6	
	baz=128						
YKA	**Yellowknife Ar**	**69.78**	**343**	P	**P**	**23 48 19.6**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=138,slow=5.9,SNR=17						
LIC	**Lamto**	**72.82**	**83**	*eP*	**P**	**23 48 39.0**	**-0.7**
	comp=Z,158nm,1.7s						
TIC	**Toumodi**	**72.85**	**83**	*eP*	**P**	**23 48 39.2**	**-0.8**
DBIC	**Dimbokro**	**73.02**	**83**	P	**P**	**23 48 40.4**	**-0.5**
	comp=Z,3.8nm,0.3s,baz=257,slow=3.3,SNR=23						
KIC	**Kosan Boka**	**73.11**	**83**	*eP*	**P**	**23 48 40.9**	**-0.6**
	comp=Z,18nm,0.5s						
SIT	**Sitka**	**74.47**	**331**	P		23 48 49.1	
	baz=118						
KOWA	**Kowa**	**74.49**	**75**	P	**P**	**23 48 48.9**	**-0.5**
	comp=Z,10.0nm,0.5s,baz=266,slow=6.4,SNR=21						
KOWA	**Kowa**	**74.49**	**75**	P	**P**	**23 48 48.8**	**-0.6**
WHY	**Whitehorse**	**76.03**	**335**	P		23 48 58.2	
	baz=120						
ESDC	**Sonseca Array**	**78.45**	**49**	pP	pP	23 49 56.2	-0.4
	comp=Z,0.6nm,0.7s,baz=262,slow=6.4,SNR=3.3						
CTG	**Chitna Glacier**	**78.99**	**334**	P		23 49 14.9	
	baz=114						
INK	**Inuvik**	**79.52**	**342**	P		23 49 16.7	
	baz=122,SNR=5.2						
EPYK	**Eagle Plains**	**79.58**	**339**	P		23 49 17.0	
	baz=119,SNR=5.5						
TORD	**Torodi Ar. Bea**	**79.90**	**76**	P	**P**	**23 49 18.5**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=280,slow=5.8,SNR=66						
TORD				pP	**pP**	**23 50 04.6**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=308,slow=7.3,SNR=2.9						
MCARA	**McCarthy VSAT**	**79.91**	**334**	P		23 49 19.2	
	baz=112						
L27K	**Beaver Creek,**	**80.06**	**335**	P		23 49 20.1	
	baz=114,SNR=5.5						
EGAK	**Eagle**	**80.50**	**337**	P		23 49 22.1	
	baz=115,SNR=8.7						
K27K	**Chicken**	**80.55**	**336**	P		23 49 23.1	
	baz=114						
KLU	**Klutina**	**81.25**	**333**	P		23 49 26.1	
	baz=110						
SCRK	**Sand Creek**	**81.31**	**336**	P		23 49 26.5	
	baz=112,SNR=8.8						
VNA3	**Neumayer Olymp**	**81.47**	**162**	P	**P**	**23 49 27.1**	**+0.3**
M24K	**Tolsona, Glenn**	**81.57**	**334**	P		23 49 28.5	
	baz=110						
VNA1	**Neumayer--Stat**	**81.71**	**162**	P	**P**	**23 49 28.9**	**+0.9**
WAT6	**Susitna Watana**	**82.42**	**334**	P		23 49 31.7	
	baz=108,SNR=5.2						
SML	**Sawmill**	**82.44**	**333**	P		23 49 32.1	
	baz=108						
HDA	**Harding Lake**	**82.67**	**336**	P		23 49 32.6	
	baz=109,SNR=7.7						
HDA				P		23 49 32.6	
	baz=109,SNR=7.7						
ILAR	**Eielson Array**	**82.77**	**336**	P	**P**	**23 49 33.2**	**-0.4**
	comp=Z,6.3nm,0.8s,baz=122,slow=4.1,SNR=48						
WAT2	**Susitna Watana**	**82.90**	**334**	P		23 49 34.4	
	baz=108						
BRSE	**Bradley Lake S**	**82.98**	**331**	P		23 49 35.3	
	baz=105						
POKR	**Poker Plat Res**	**83.10**	**336**	P		23 49 35.1	
	baz=109						
MCK	**McKinley**	**83.29**	**335**	P		23 49 36.4	
	baz=107						
SUA	**Susitna One**	**83.44**	**332**	P		23 49 37.6	
	baz=106						
CUT	**Chulitna**	**83.48**	**333**	P		23 49 37.3	
	baz=106						
H24K	**Nodor Dome**	**83.51**	**337**	P		23 49 37.7	
	baz=109,SNR=5.8						
NEA2	**Nenana**	**83.60**	**336**	P		23 49 37.8	
	baz=107,SNR=10						
SNAA	**Sanae**	**83.69**	**162**	P	**P**	**23 49 38.6**	**+0.3**
TRF	**Thorofare Moun**	**83.78**	**334**	P		23 49 38.9	
	baz=106						
I23K	**Minto, Yukon-K**	**83.89**	**336**	P		23 49 39.4	
	baz=107,SNR=10						
SKT	**Skwentna**	**83.94**	**333**	P		23 49 39.7	
	baz=105,SNR=17						
SPCR	**Spurr Chakacha**	**84.06**	**332**	P		23 49 40.5	
	baz=104						
H23K	**Yukon River**	**84.16**	**337**	P		23 49 41.3	
	baz=107						
BPAW	**Bear Paw Mtn.**	**84.26**	**335**	P		23 49 41.2	
	baz=106,SNR=18						
MLY	**Manley**	**84.41**	**336**	P		23 49 41.6	
	baz=106,SNR=10						
PPLA	**Purkeypile**	**84.47**	**334**	P		23 49 42.3	
	baz=104,SNR=7.7						
CHUM	**Lake Minchumin**	**84.77**	**335**	P		23 49 43.5	
	baz=104						
COLD	**Coldfoot**	**84.82**	**338**	P		23 49 44.8	
	baz=106,SNR=7.2						
TOLK	**Toolik Lake Re**	**85.01**	**340**	P		23 49 44.4	
	baz=107						
H21K	**Melozitna Rive**	**85.41**	**336**	P		23 49 46.8	
	baz=104						
TTA	**Tatalina**	**86.18**	**333**	P		23 49 50.4	
	baz=101						
VNDA	**Vanda**	**94.78**	**191**	P	**P**	**23 50 32.5**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=126,slow=3.7,SNR=10						
VNDA	**Vanda**	**94.78**	**191**	P	**P**	**23 50 32.1**	**+1.5**
VNDA				IAmb	IAmb	23 50 33.0	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**125.85**	**13**	PKP	**PKPdf**	**23 56 10.1**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=266,slow=3.0,SNR=12						
ZALV	**Zalesovo Beam**	**125.85**	**13**		**PKPdf**	**23 56 09.7**	**-0.7**
STKA	**Stephens Creek**	**130.15**	**225**	PKP	**PKPdf**	**23 56 18.8**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=294,slow=4.1,SNR=4.5						
STKA	**Stephens Creek**	**130.15**	**225**		**PKPdf**	**23 56 19.7**	**+0.5**
MKAR	**Makanchi Array**	**131.69**	**18**	PKP	**PKPdf**	**23 56 21.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=297,slow=2.6,SNR=20						
MKAR				SKPbc	**SKPbc**	**23 59 29.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=327,slow=3.6,SNR=5.1						
MJAR	**Matsushiro Arr**	**132.06**	**321**	PKP	**PKPdf**	**23 56 23.3**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=112,slow=1.3,SNR=4.3						
SONM	**Songino Array**	**133.84**	**356**	PKP	**PKPdf**	**23 56 26.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=31,slow=0.5,SNR=6.3						
KSRS	**Korea Array**	**137.32**	**330**	PKP	**PKPdf**	**23 56 32.8**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=42,slow=1.4,SNR=16						
KSRS				SKPbc	**SKPbc**	**23 59 48.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=48,slow=1.9,SNR=4.3						
ASAR	**Alice Springs**	**140.41**	**229**	PKhKP	PKPpre	23 56 31.2	
	comp=Z,1.4nm,0.5s,baz=123,slow=3.7,SNR=23						
ASAR				PKP	**PKPdf**	**23 56 38.5**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=115,slow=1.9,SNR=22						
ASAR	**Alice Springs**	**140.41**	**229**		PKPpre	23 56 30.6	
ASAR				PKPdf	**PKPdf**	**23 56 38.1**	**-0.6**
WRA	**Warramunga Arr**	**142.09**	**234**	PKhKP	PKPpre	23 56 36.7	
	comp=Z,3.3nm,0.6s,baz=125,slow=3.0,SNR=25						
WRA				SKPbc	**SKPbc**	**00 00 01.3**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=122,slow=3.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**162.91**	**11**	PKP	**PKPdf**	**23 57 11.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=308,slow=1.4,SNR=5.1						

*NEIC **09** 23:38:14.8±1.8, 29.°72N±0.°05×130.°5E±0.°1, h55km±10km, mb4.3/6, Error ellipse: s-maj=16.5km s-min=7.1km az=99.0*
*JMA **09** 23:38:14.2, 29.°76N×130.°40E, h52km±1km, M4.1*
JMA Felt I J1.
*NIED **09** 23:38:14.2, 29.°77N×130.°40E, h52km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.45; Mθθ1.67; Mϕϕ -2.12; Mrθ-0.75; Mθϕ0.64; Mϕr0.40; Fault plane solution: M0 2.20000×10^15^ NP1: ϕs308.00000°, δ82.00000°, λ25.00000°. NP2: ϕs214.00000°, δ65.00000°, λ171.00000°.*
*IDC **09** 23:38:15.1±2.3, 29.°71N×130.°29E, h54km±23km, mb3.4/11, mb1 3.7/14, mb1mx3.5/50, mbtmp3.8/14, ML4.0/3 Error ellipse: s-maj=21.3km s-min=13.2km az=100.0*

ISC 09 23:38:14.3±1.0, 29.°72N±0.°04×130.°45E±0.°06, h46km±9km, n52, σ1=01/66, mb3.8/15, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.51**	**284**	P	**Pn**	**23 38 25.3**	**-0.2**
JNN				*eS*	**Sn**	**23 38 32.9**	**-0.5**
JYAK	**Yakushimahirau**	**0.52**	**6**	P	**Pn**	**23 38 25.1**	**-0.5**
JYAK				S	**Sn**	**23 38 33.5**	**-0.1**
JKC	**Kuchinoerabu**	**0.77**	**344**	P	**Pn**	**23 38 28.3**	**-0.6**
JKC				S	**Sn**	**23 38 39.1**	**-0.3**
JMTN	**Minamitane**	**0.78**	**30**	P	**Pn**	**23 38 29.1**	**+0.1**
JMTN				*eS*	**Sn**	**23 38 40.5**	**+0.8**
JTN	**Tanegashima 3**	**1.04**	**26**	P	**Pn**	**23 38 32.7**	**+0.2**
JTAJ	**Takarajima**	**1.22**	**243**	P	**Pn**	**23 38 35.1**	**+0.1**
JZK	**Kikaishima**	**1.46**	**197**	P	**Pn**	**23 38 39.4**	**+1.1**
JAM	**Amami Oshima**	**1.50**	**210**	P	**Pn**	**23 38 39.2**	**+0.4**
JAM				*eS*	**Sn**	**23 38 59.2**	**+2.1**
JTSR	**Tashiro 2**	**1.50**	**16**	P	**Pn**	**23 38 38.7**	**-0.1**
JTSR				*eS*	**Sn**	**23 38 57.1**	**-0.1**
JSU	**Suzuyama**	**1.78**	**0**	P	**Pn**	**23 38 42.4**	**-0.3**
JSU				*eS*	**Sn**	**23 39 04.3**	**+0.2**
JSU	**Suzuyama**	**1.78**	**0**		**Pn**	**23 38 42.4**	**-0.3**
JAMN	**Amaminishikomi**	**1.85**	**217**	P	**Pn**	**23 38 43.6**	**+0.1**
JAMN				S	**Sn**	**23 39 06.3**	**+0.7**
JTK	**Tokunoshima**	**2.33**	**215**	P	**Pn**	**23 38 50.6**	**+0.4**
JTK				S	**Sn**	**23 39 18.5**	**+0.8**
JOKE	**Okinoerabujima**	**2.87**	**215**	P	**Pn**	**23 38 58.0**	**+0.4**
JOKE				S	**Sn**	**23 39 31.5**	**+0.5**
JYRO	**Yoronjima**	**3.21**	**214**	P	**Pn**	**23 39 02.0**	**-0.3**
JYRO				S	**Sn**	**23 39 38.9**	**-0.4**
JNU	**Nakatsue**	**3.41**	**6**	Pn	**Pn**	**23 39 06.0**	**+1.0**
JIH	**Iheya**	**3.45**	**220**	P	**Pn**	**23 39 05.9**	**+0.3**
JIH				S	**Sn**	**23 39 44.3**	**-1.0**
JOW	**Kunigami**	**3.46**	**214**	P	**Pn**	**23 39 05.3**	**-0.3**
	58nm,0.3s,baz=92,slow=20,SNR=144						
JOW				S	**Sn**	**23 39 44.9**	**-0.4**
	67nm,0.3s,baz=206,slow=28,SNR=20						
JOW	**Kunigami**	**3.46**	**214**	P	**Pn**	**23 39 05.2**	**-0.5**
JOW				S	**Sn**	**23 39 44.8**	**-0.6**
JTU	**Tsushima**	**4.87**	**350**	Pn	**Pn**	**23 39 25.7**	**+0.7**
JMN	**Monobe**	**4.95**	**35**	Pn	**Pn**	**23 39 25.6**	**-0.6**
JHS	**Saijyo**	**5.73**	**23**	Pn	**Pn**	**23 39 36.3**	**-0.6**
JWT	**Wachi**	**6.95**	**36**	Pn	**Pn**	**23 39 52.9**	**-0.6**
INU	**Inuyama**	**7.89**	**43**	Pn	**Pn**	**23 40 06.8**	**+0.3**
KSRS	**Korea Array**	**7.99**	**345**	P	**Pn**	**23 40 11.6**	**+3.7**
	0.7nm,0.3s,baz=166,slow=15,SNR=25						
KS19	**Wonju Array Si**	**8.05**	**345**	Pn	**Pn**	**23 40 11.1**	**+2.4**
JGF	**Kuroka**	**8.26**	**43**	Pn	**Pn**	**23 40 11.4**	**-0.2**
MAJO	**Matsushiro**	**9.41**	**42**	Pn	**Pn**	**23 40 28.0**	**+0.6**
MAT	**Matsushiro**	**9.41**	**42**	P	**Pn**	**23 40 27.8**	**+0.5**
MJAR	**Matsushiro Arr**	**9.41**	**42**	P	**Pn**	**23 40 28.2**	**+0.9**
	0.4nm,0.3s,baz=248,slow=14,SNR=12						
MJAR	**Matsushiro Arr**	**9.41**	**42**	Pn	**Pn**	**23 40 26.6**	**-0.8**
KLR	**Kul'dur**	**19.51**	**3**	P	**P**	**23 42 36.5**	**-1.2**
	0.2nm,0.3s,baz=217,slow=6.0,SNR=8.4						
SONM	**Songino Array**	**25.88**	**321**	P	**P**	**23 43 42.2**	**+0.3**
	1.9nm,0.6s,baz=140,slow=10,SNR=10						
SONM	**Songino Array**	**25.88**	**321**	P	**P**	**23 43 42.5**	**+0.6**
FAKI	**Fak Fak**	**32.50**	**177**	P	**P**	**23 44 40.9**	**+0.1**
MK31	**Makanchi Array**	**40.79**	**308**	P	**P**	**23 45 50.1**	**-1.0**
MK31				IAmb	IAmb	23 46 05.7	
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**40.79**	**308**	P	**P**	**23 45 50.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=90,slow=10,SNR=9.0						
MKAR	**Makanchi Array**	**40.79**	**308**	P	**P**	**23 45 50.3**	**-0.9**
MAKZ	**Makanchi**	**41.01**	**308**	P	**P**	**23 45 52.9**	**0.0**
MAKZ				IAmb	IAmb	23 46 00.4	
	comp=Z,7.0nm,1.4s						
KURK	**Kurchatov**	**43.73**	**314**	P	**P**	**23 46 14.6**	**-0.4**
KURBB	**Kurchatov Arra**	**43.78**	**314**	P	**P**	**23 46 14.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=95,slow=8.6,SNR=15						
KNRA	**Kununurra**	**45.16**	**182**	P	**P**	**23 46 26.8**	**+0.2**
KNRA				IAmb	IAmb	23 46 38.2	
	comp=Z,24nm,1.3s						
BVAR	**Borovoye Array**	**49.05**	**316**	P	**P**	**23 46 55.8**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=126,slow=14,SNR=4.0						
BRVK	**Borovoye**	**49.12**	**316**	P	**P**	**23 46 56.5**	**-0.7**
BRVK				IAmb	IAmb	23 47 00.9	
	comp=Z,2.2nm,0.6s						
WRA	**Warramunga Arr**	**49.52**	**175**	P	**P**	**23 46 59.3**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=354,slow=8.0,SNR=6.4						
ASAR	**Alice Springs**	**53.19**	**176**	P	**P**	**23 47 27.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=8.2,slow=14,SNR=8.9						
ILAR	**Eielson Array**	**60.45**	**29**	P	**P**	**23 48 20.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=300,slow=7.2,SNR=2.5						
FINES	**FINESS Array B**	**70.80**	**330**	P	**P**	**23 49 23.4**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=93,slow=3.8,SNR=4.8						
YKA	**Yellowknife Ar**	**74.54**	**26**	P	**P**	**23 49 49.8**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=308,slow=5.0,SNR=3.9						
NOA	**NORSAR Array B**	**77.05**	**334**	P	**P**	**23 50 00.1**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=48,slow=5.4,SNR=1.8						
NVAR	**Mina Array Bea**	**86.69**	**47**	P	**P**	**23 50 56.0**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=277,slow=2.2,SNR=1.9						

*ARE **09** 23:43:56±2.4, 13.°19S±0.°08×76.°4W±0.°1, h41km±6km, Error ellipse: s-maj=16.0km s-min=8.1km az=59.0*

*IDC **09** 23:43:57.4±3.1, 12.°79S×76.°04W, h28km±19km, mb3.6/3, mb1 4.0/5, mb1mx3.6/36, mbtmp3.9/5, ML3.6/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/24, Error ellipse: s-maj=85.3km s-min=22.0km az=42.0*
*NEIC **09** 23:43:57.8±2.4, 13.°25S±0.°08×76.°5W±0.°1, h44km±8km, mb4.5/14, ML4.7(ARE), Error ellipse: s-maj=19.5km s-min=8.7km az=66.0*

ISC 09 23:43:56.9±0.8, 13.°2S±0.°1×76.°3W±0.°2, h35km, n42, σ1=68/33, mb4.4/10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.30**	**336**	Pg	**Pn**	**23 44 19.5**	**+0.9**
	78nm,0.3s,baz=150,slow=11,SNR=38						
NNA				Lg	Lg	23 44 33.0	
	406nm,0.3s,baz=160,slow=10.0,SNR=27						
NNA				LR	LR	23 44 53.1	
	comp=Z,70nm,21.9s,baz=101,slow=50						
NNA	**Nana**	**1.30**	**336**		**Pn**	**23 44 18.9**	**+0.3**
NNA				Sn	**Sn**	**23 44 34.7**	**-0.1**
ATAH	**Atahualpa**	**6.35**	**341**	Pn	**Pn**	**23 45 29.6**	**+1.1**
	2.0nm,0.3s,baz=180,slow=6.8,SNR=8.7						
ATAH				Sn	**Sn**	**23 46 45.5**	**+5.4**
	4.3nm,0.3s,baz=51,slow=15,SNR=1.4						
PB16	**IPOC Station P**	**8.31**	**129**	Pn	**Pn**	**23 45 56.4**	**+1.0**
LPAZ	**La Paz**	**8.48**	**112**	Pn	Pn	23 46 03.5	+5.6
	1.6nm,0.3s,baz=298,slow=9.4,SNR=12						
LPAZ				LR	LR	23 49 48.3	
	comp=Z,153nm,19.8s,baz=301,slow=42						
LPAZ	**La Paz**	**8.48**	**112**	Pn	Pn	23 46 03.7	+5.8
PB07	**IPOC Station P**	**10.47**	**145**	Pn	**Pn**	**23 46 23.9**	**-0.8**
PB04	**IPOC Station P**	**10.82**	**148**	Pn	**Pn**	**23 46 30.4**	**+0.8**
LVC	**Limon Verde**	**11.72**	**144**	Pn	**Pn**	**23 46 44.4**	**+2.4**
	0.4nm,0.3s,baz=329,slow=18,SNR=3.0						
LVC				Sn	**Sn**	**23 48 53.9**	**+2.2**
	0.5nm,0.3s,baz=274,slow=23,SNR=1.9						
LVC				LR	LR	23 50 30.8	
	comp=Z,110nm,18.2s,baz=321,slow=33						
LVC	**Limon Verde**	**11.72**	**144**		**Pn**	**23 46 43.1**	**+1.1**
GO02	**Mina Guanaco**	**13.49**	**153**	Pn	**Pn**	**23 47 05.8**	**-0.3**
FLOC	**Florencia**	**14.68**	**3**	Pn	**P**	**23 47 24.5**	**-3.5**
SIV	**San Ignacio**	**15.00**	**103**	Pn	**Pn**	**23 47 25.1**	**-1.3**
	0.3nm,0.3s,baz=259,slow=14,SNR=4.7						
SIV				LR	LR	23 53 41.3	
	comp=Z,139nm,21.7s,baz=289,slow=39						
ROSC	**El Rosal**	**18.01**	**6**	LR	LR	23 56 04.7	
	comp=Z,99nm,18.3s,baz=208,slow=41						
RUSC	**La Rusia**	**19.22**	**10**		**Pn**	**23 48 22.0**	**+2.3**
H03N1	**Juan Fernandez**	**20.31**	**186**	T	T	00 09 24.5	
	baz=6.2,slow=75,SNR=5.3						
H03N2	**Juan Fernandez**	**20.31**	**186**	T	T	00 09 23.8	
	baz=6.2,slow=75,SNR=3.6						
H03N3	**Juan Fernandez**	**20.32**	**186**	T	T	00 09 25.0	
	baz=6.2,slow=75,SNR=3.8						
SJCC	**San Jacinto, C**	**22.95**	**3**	P	**P**	**23 49 00.2**	**+1.8**
SJCC				IAmb	IAmb	23 49 17.4	
	comp=Z,17nm,1.1s						
PLTB	**Pedras Altas**	**27.86**	**135**	P	**P**	**23 49 44.0**	**+0.7**
143A	**Socs Landing,**	**47.86**	**343**	P	**P**	**23 52 32.6**	**+1.3**
TXAR	**Lajitas Array**	**49.85**	**328**	P	**P**	**23 52 46.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=140,slow=9.9,SNR=5.9						
TX31	**Lajitas Ar. Si**	**49.85**	**328**	P	**P**	**23 52 46.8**	**-0.1**
TX31				IAmb	IAmb	23 52 47.6	
	comp=Z,6.4nm,1.2s						
T59A	**Double "B" Far**	**49.90**	**359**	P	**P**	**23 52 46.5**	**-0.5**
T59A				IAmb	IAmb	23 52 48.0	
	comp=Z,12nm,1.3s						
T57A	**Hurt**	**49.99**	**357**	P	**P**	**23 52 46.6**	**-1.1**
R55A	**Marlinton**	**51.32**	**356**	P	**P**	**23 52 57.1**	**-0.6**
R55A				IAmb	IAmb	23 53 14.1	
	comp=Z,8.9nm,1.4s						
SIUC	**Southern Illin**	**52.06**	**347**	P	**P**	**23 53 02.0**	**-1.2**
SIUC				IAmb	IAmb	23 53 02.8	
	comp=Z,3.7nm,0.8s						
Q44A	**Meyer Farm, Va**	**53.16**	**348**	P	**P**	**23 53 10.1**	**-1.3**
Q44A				IAmb	IAmb	23 53 10.7	
	comp=Z,6.8nm,0.6s						
E63A	**Oxbow**	**59.75**	**6**	P	**P**	**23 53 56.2**	**-1.9**
RDMU	**Red Mountain**	**61.74**	**332**	P	**P**	**23 54 09.9**	**-2.2**
RDMU				IAmb	IAmb	23 54 18.2	
	comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**64.65**	**324**	P	**P**	**23 54 31.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=137,slow=7.1,SNR=3.8						
NVAR

ARG					S	Sg	00 00 15.5	+2.0	
SANT	**Santorini**	**1.73**	**323**		PN	Pb	**23 59 50.5**	**-1.1**	
KOSK	**Kos Island**	**1.76**	**6**		PN	Pb	**23 59 51.4**	**-0.8**	
THT2	**Imerovigli**	**1.80**	**324**		PN	Pb	**23 59 51.7**	**-1.1**	
DAT	**Datca**	**1.86**	**21**	*i*	P	Pn	**23 59 52.6**	**+0.9**	
DAT					S	Sb	**00 00 16.2**	**-0.8**	
DAT					IAML		00 00 28.0		
	comp=E,64nm,0.7s								
DAT	**Datca**	**1.86**	**21**		PN	Pb	**23 59 53.2**	**-0.7**	
DATC	**Datca-Mugla**	**1.91**	**23**		PN	Pb	**23 59 54.0**	**-0.8**	
BODT	**Bodrum**	**2.11**	**12**		PN	Pb	**23 59 56.5**	**-1.7**	
VAM	**Vamos**	**2.12**	**282**		PN	Pb	**23 59 58.0**	**-0.4**	
BDRM	**Kayabasi**	**2.14**	**15**	*i*	P	Pn	**23 59 56.3**	**+0.8**	
BDRM					S	Sb	**00 00 24.3**	**-0.9**	
BDRM					IAML		00 00 33.0		
	comp=N,68nm,0.5s								
TURN	**Turunc**	**2.15**	**34**	*i*	P	Pb	**23 59 57.7**	**-1.2**	
TURN					S	Sn	**00 00 22.5**	**+0.5**	
TURN					IAML		00 00 31.0		
	comp=E,64nm,0.5s								
TURN					IAML		00 00 32.0		
	comp=N,93nm,0.5s								
TURN	**Turunc**	**2.15**	**34**		PN	Pb	**23 59 57.9**	**-1.0**	
GVDS	**Gavdos**	**2.19**	**267**		PN	Pb	**23 59 59.9**	**+0.4**	
GVD	**Gavdhos**	**2.19**	**267**		PN	Pb	**23 59 59.5**	**0.0**	
APE	**Apeiranthos**	**2.29**	**335**		P	Pn	**23 59 58.3**	**+0.8**	
APE	**Apeiranthos**	**2.29**	**335**		PN	Pn	**23 59 58.6**	**+1.1**	
APE	**Apeiranthos**	**2.29**	**335**		P	Pn	**23 59 58.5**	**+0.9**	
IMMV	**Iera Moni Meta**	**2.31**	**282**		P	Pb	**00 00 01.1**	**-0.5**	
IMMV	**Iera Moni Meta**	**2.31**	**282**		PN	Pb	**00 00 00.5**	**-1.1**	
DALY	**Dalyan (Mula)**	**2.39**	**40**	*i*	P	Pn	**00 00 00.7**	**+1.9**	
DALY					S	Sb	**00 00 33.6**	**+1.4**	
DALY					IAML		00 00 42.0		
	comp=E,76nm,1.2s								
DALY					IAML		00 00 44.0		
	comp=N,52nm,0.6s								
DALY	**Dalyan (Mula)**	**2.39**	**40**		PN	Pn	**00 00 00.9**	**+2.1**	
MLSB	**Milas**	**2.44**	**20**		PN	Pn	**00 00 01.4**	**+1.8**	
YER	**Yerkesik**	**2.47**	**30**		PN	Pn	**00 00 01.9**	**+1.9**	
DDIM	**Aydin, Didim**	**2.49**	**9**	*i*	P	Pb	**00 00 04.7**	**+0.1**	
FETY	**Fethiye**	**2.51**	**49**	*i*	P	Pn	**23 59 59.8**	**-0.7**	
KNDR	**Palaiochora Ch**	**2.52**	**276**		PN	Pb	**00 00 04.2**	**-0.9**	
MULA	**Mugla, Merkez-**	**2.59**	**29**	*i*	P	Pn	**00 00 03.4**	**+1.7**	
MULA					S	Sb	**00 00 36.4**	**-1.8**	
MULA					IAML		00 00 43.0		
	comp=E,50nm,0.6s								
MULA					IAML		00 00 45.0		
	comp=N,43nm,0.7s								
AKAS	**Kas**	**2.64**	**61**	*i*	P	Pn	**00 00 02.6**	**+0.2**	
AKAS					S	Sn	**00 00 29.7**	**-4.5**	
AKAS					IAML		00 00 39.0		
	comp=E,30nm,0.7s								
AKAS					IAML		00 00 41.0		
	comp=N,43nm,0.4s								
GCAM	**G?zelcaml?**	**2.73**	**8**	*i*	P	Pn	**00 00 05.0**	**+1.5**	
AYDN	**Tasoluk**	**2.81**	**19**	*i*	P	Pn	**00 00 05.8**	**+1.1**	
AYDN					S	Sb	**00 00 42.6**	**-1.9**	
CAEL	**Denizli, Camel**	**2.98**	**44**	*i*	P	Pn	**00 00 08.4**	**+1.4**	
CAEL					IAML		00 00 58.0		
	comp=E,102nm,0.8s								
CAEL					IAML		00 01 07.0		
	comp=N,107nm,0.8s								
TAVA	**DENIZLI_Tavas**	**3.02**	**35**	*i*	P	Pn	**00 00 08.8**	**+1.1**	
TAVA					S	Sn	**00 00 46.4**	**+2.6**	
TAVA					IAML		00 00 55.0		
	comp=N,32nm,0.9s								
TAVA					IAML		00 00 56.0		
	comp=E,30nm,0.5s								
DGB	**zmir**	**3.05**	**2**	*i*	P	Pn	**00 00 07.9**	**-0.1**	
GOLH	**Golhisar**	**3.19**	**45**	*i*	P	Pn	**00 00 11.7**	**+1.7**	
GOLH					S	Sn	**00 00 51.9**	**+3.9**	
GOLH					IAML		00 01 09.0		
	comp=N,29nm,0.5s								
AKUM	**Antalya-Kumluc**	**3.21**	**65**	*i*	P	Pn	**00 00 10.6**	**+0.5**	
AKUM					S	Sn	**00 00 45.7**	**-2.6**	
AKUM					IAML		00 00 50.0		
	comp=E,38nm,1.1s								
AKUM					IAML		00 00 57.0		
	comp=N,24nm,0.5s								
ZEYE	**Izmir, Urla-Ze**	**3.24**	**357**	*i*	P	Pn	**00 00 08.7**	**-1.9**	
ZEYE					IAML		00 01 12.0		
	comp=E,24nm,0.9s								
URLA	**Izmir**	**3.36**	**358**	*i*	P	Pn	**00 00 11.4**	**-0.9**	
KORT	**Korkueli**	**3.54**	**55**	*i*	P	Pn	**00 00 16.6**	**+1.7**	
KORT					S	Sn	**00 00 54.3**	**-2.3**	
KORT					IAML		00 01 04.0		
	comp=E,39nm,0.6s								
KORT					IAML		00 01 08.0		
	comp=N,20nm,0.5s								
MANT	**Manisa**	**3.78**	**22**	*i*	P	Pn	**00 00 18.7**	**+0.5**	
MANT					S	Sn	**00 01 00.1**	**-2.4**	
BRDR	**BURDUR-Merkez**	**3.80**	**44**	*i*	P	Pn	**00 00 20.3**	**+2.0**	
BRDR					S	Sn	**00 01 07.1**	**+4.3**	
BRDR					IAML		00 01 24.0		
	comp=E,12nm,0.6s								
BRDR					IAML		00 01 25.0		
	comp=N,20nm,0.7s								
ZEDA	**zmir-Bergama**	**3.97**	**4**	*i*	P	Pn	**00 00 20.7**	**+0.1**	
AKMS	**Akamas**	**4.59**	**88**		P	Pn	**00 00 29.5**	**+0.5**	
AKMS					AML	AML	00 01 21.3		
	comp=N,0.3nm,0.5s								
AKMS					AML	AML	00 01 21.9		
	comp=N,0.2nm,0.4s								
NATA	**Nata**	**4.79**	**91**		P	Pn	**00 00 32.0**	**+0.1**	
NATA					AML	AML	00 01 26.8		
	comp=N,0.4nm,0.7s								
NATA					AML	AML	00 01 27.9		
	comp=N,0.5nm,0.6s								
SZAC	**Souni**	**5.05**	**91**		P	Pn	**00 00 36.7**	**+1.2**	
SZAC					AML	AML	00 01 34.2		
	comp=N,0.2nm,0.4s								
SZAC					AML	AML	00 01 34.5		
	comp=N,0.2nm,0.7s								
ASGA	**Asgata**	**5.35**	**90**		P	Pn	**00 00 40.3**	**+0.8**	
CSS	**Mathiatis**	**5.41**	**88**		P	Pn	**00 00 40.6**	**+0.3**	
MVOU	**Mavrovouni**	**5.65**	**88**		P	Pn	**00 00 44.5**	**+0.8**	
BRTR	**Keskin Array B**	**7.24**	**47**		Pn	Pn	**00 01 06.6**	**+1.0**	
	comp=N,0.1nm,0.3s,baz=222,slow=16,SNR=2.2								
MMAI	**Mount Meron Ar**	**7.46**	**103**		Pn	Pn	**00 01 07.5**	**-1.1**	
	comp=N,0.9nm,0.3s,baz=311,slow=12,SNR=7.6								
MMAI					Sn	Sn	**00 02 31.0**	**-1.9**	
	comp=N,1.5nm,0.3s,baz=308,slow=49,SNR=1.7								
EIL	**Elat**	**8.74**	**125**		Pn	Pn	**00 01 25.1**	**-1.0**	
	comp=N,0.4nm,0.3s,baz=269,slow=1.3,SNR=9.5								
EIL					Sn	Sn	00 02 58.2	-6.2	
	comp=N,0.6nm,0.3s,baz=180,slow=6.0,SNR=5.7								
GNI	**Garni**	**15.16**	**65**		LR	LR	00 08 50.6		
	comp=N,34nm,19.9s,baz=174,slow=38								
OBN	**Obninsk**	**21.24**	**16**		LR	LR	00 13 25.5		
	comp=N,10nm,19.6s,baz=1.0,slow=40								
ESDC	**Sonseca Array**	**24.79**	**290**		P	P	**00 04 42.7**	**+1.0**	
	comp=N,0.2nm,0.7s,baz=80,slow=11,SNR=1.3								
NOA	**NORSAR Array B**	**27.90**	**344**		LR	LR	00 16 39.9		
	comp=N,12nm,18.7s,baz=260,slow=37								
TORD	**Torodi Ar. Bea**	**31.40**	**232**		P	P	**00 05 40.1**	**-0.7**	
	comp=N,0.3nm,0.6s,baz=25,slow=7.2,SNR=1.6								
MKAR	**Makanchi Array**	**42.78**	**57**		P	P	**00 07 18.3**	**+1.1**	
	comp=N,0.4nm,0.6s,baz=272,slow=8.3,SNR=4.1								

IDC ***10*** *00:04:03.5±1.3,35°.06N×26°.89E,h0km,mb3.4/3, mb1 3.4/5,mb1mx3.2/42,mbtmp3.3/5,ML3.1/2,Error ellipse: s-maj=42.2km s-min=17.2km az=7.0*
ISK ***10*** *00:04:06.5,35°.10N×26°.74E,h6km,ML2.7/10*
THE ***10*** *00:04:07.4,35°.02N×26°.65E,h0km±2km,ML2.6/4,Error ellipse: s-maj=4.4km s-min=0.9km az=151.0*
ATH ***10*** *00:04:07.7,35°.14N×26°.71E,h10km±2km,ML2.6/5,Error ellipse: s-maj=4.6km s-min=1.1km az=166.0*
DDA ***10*** *00:04:08.5,35°.11N×27°.24E,h9km±2km,ML2.2*
ISC 10 00:04:05.6±1.2,35°.06N±0°.04×26°.79E±0°.03,h14km±8km, n65,σ1§18/88,mb3.3/3,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.48**	**277**	P	**Pg**	**00 04 15.3**	**+0.2**
ZKR				S	**Sg**	**00 04 21.9**	**+0.5**
ZKR				AML	AML	00 04 22.5	
	comp=N,2196μm,0.4s						
ZKR				AML	AML	00 04 23.2	
	comp=E,6218μm,0.3s						
ZKR	**Zakros**	**0.48**	**277**	P	**Pg**	**00 04 15.2**	**+0.2**
ZKR				S	**Sg**	**00 04 22.1**	**+0.7**
	comp=E,2μm,0.4s						

ZKR	**Zakros**	**0.48**	**277**		PG	Pg	**00 04 15.4**	**+0.4**	
ZKR					SG	Sg	**00 04 22.1**	**+0.7**	
STIA	**Sitia Lasithi**	**0.59**	**284**		P	Pg	**00 04 17.3**	**+0.1**	
STIA					S	Sg	**00 04 24.7**	**-0.4**	
FRMA	**Ierapetra Chan**	**0.87**	**267**		P	Pg	**00 04 20.1**	**-2.3**	
FRMA					S	Sg	**00 04 31.1**	**-2.7**	
	comp=E,312nm,0.3s								
NPS	**Neapolis**	**0.99**	**282**		P	Pb	**00 04 24.8**	**+0.3**	
NPS					S	Sg	**00 04 37.5**	**-0.1**	
NPS					AML	AML	00 04 45.3		
	comp=E,1336μm,0.5s								
NPS					AML	AML	00 04 45.6		
	comp=N,1463μm,0.6s								
NPS	**Neapolis**	**0.99**	**282**		P	Pb	**00 04 24.9**	**+0.3**	
NPS					S	Sn	**00 04 38.6**	**-0.3**	
	comp=N,728nm,0.5s								
LAST	**Lasithi**	**1.08**	**276**		P	Pb	**00 04 25.8**	**-0.3**	
LAST					S	Sb	**00 04 40.4**	**+0.2**	
LAST					AML	AML	00 04 47.4		
	comp=E,464μm,0.9s								
LAST					AML	AML	00 04 47.7		
	comp=N,572μm,0.7s								
LAST	**Lasithi**	**1.08**	**276**		P	Pb	**00 04 25.7**	**-0.5**	
HRKL	**Herakleio**	**1.41**	**281**		PN	Pg	**00 04 32.8**	**+0.1**	
HRKL					SN	Sg	**00 04 51.9**	**+0.9**	
NIS1	**Nisyros Isl.**	**1.57**	**11**		P	Pb	**00 04 35.0**	**+0.5**	
NIS1	**Nisyros Isl.**	**1.57**	**11**		PN	Pg	**00 04 35.2**	**-0.6**	
NISR	**Nisiros**	**1.57**	**10**		P	Pb	**00 04 34.7**	**+0.1**	
IDI	**Anoyia**	**1.58**	**279**		P	Pb	**00 04 35.6**	**+1.0**	
IDI					S	Sn	**00 04 54.3**	**+0.8**	
IDI					AML	AML	00 05 03.4		
	comp=E,179μm,0.2s								
IDI					AML	AML	00 05 04.8		
	comp=N,306μm,0.5s								
IDI	**Anoyia**	**1.58**	**279**		Pn	Pg	**00 04 35.9**	**+0.1**	
	comp=N,9.5nm,0.3s,baz=90,slow=18,SNR=25								
IDI					Sn	Sg	**00 04 58.0**	**+1.6**	
	comp=N,8.2nm,0.3s,baz=301,slow=20,SNR=5.3								
IDI	**Anoyia**	**1.58**	**279**		PN	Pb	**00 04 35.3**	**+0.7**	
ARG	**Arkhangelos**	**1.59**	**43**		P	Pg	**00 04 36.5**	**+0.4**	
ARG					S	Sg	**00 04 56.9**	**+0.3**	
ARG					AML	AML	00 05 05.3		
	comp=N,280μm,0.5s								
ARG					AML	AML	00 05 09.6		
	comp=E,287μm,0.5s								
ARG	**Arkhangelos**	**1.59**	**43**		P	Pg	**00 04 37.3**	**+1.2**	
ARG	**Arkhangelos**	**1.59**	**43**		PN	Pg	**00 04 36.1**	**0.0**	
SIVA	**Sivas**	**1.63**	**269**		P	Pb	**00 04 35.7**	**+0.3**	
KOSK	**Kos Island**	**1.70**	**5**		PN	Pb	**00 04 37.0**	**+0.4**	
SANT	**Santorini**	**1.70**	**321**		P	Pb	**00 04 36.4**	**-0.4**	
SANT	**Santorini**	**1.70**	**321**		P	Pb	**00 04 36.3**	**-0.4**	
SANT	**Santorini**	**1.70**	**321**		PN	Pb	**00 04 36.6**	**-0.1**	
THR8	**Santorini-Mono**	**1.72**	**322**		P	Pb	**00 04 36.6**	**-0.3**	
THR6	**Thira Island,**	**1.72**	**319**		P	Pb	**00 04 36.8**	**-0.2**	
SNT1	**Gialos, Santor**	**1.75**	**321**		P	Pn	**00 04 36.6**	**+1.0**	
SNT5	**Nea Kammeni, S**	**1.76**	**320**		P	Pb	**00 04 37.3**	**-0.4**	
SNT5	**Nea Kammeni, S**	**1.76**	**320**		P	Pb	**00 04 37.4**	**-0.3**	
THR3	**Thira Island,**	**1.76**	**320**		P	Pb	**00 04 37.4**	**-0.3**	
THT2	**Imerovigli**	**1.77**	**321**		P	Pb	**00 04 37.4**	**-0.4**	
THT2	**Imerovigli**	**1.77**	**321**		P	Pb	**00 04 37.2**	**-0.7**	
DAT	**Datca**	**1.79**	**21**	*i*	P	Pb	**00 04 38.9**	**+0.7**	
DAT					S	Sg	**00 05 04.4**	**+1.3**	
THR5	**Thira Island,**	**1.79**	**320**		P	Pb	**00 04 37.7**	**-0.6**	
CMBO	**Columbo, Santo**	**1.81**	**322**		P	Pb	**00 04 39.2**	**+0.7**	
BDRM	**Kayabasi**	**2.07**	**15**	*i*	P	Pn	**00 04 41.6**	**+1.5**	
BDRM					S	Sg	**00 05 11.9**	**-0.3**	
TURN	**Turunc**	**2.08**	**34**	*i*	P	Pb	**00 04 42.9**	**-0.2**	
TURN					S	Sb	**00 05 08.8**	**0.0**	
TURN					IAML		00 05 17.0		
	comp=E,23nm,1.0s								
TURN					IAML		00 05 19.0		
	comp=N,27nm,0.4s								
TURN	**Turunc**	**2.08**	**34**		PN	Pb	**00 04 42.9**	**-0.2**	
VAM	**Vamos**	**2.15**	**280**		P	Pb	**00 04 44.1**	**-0.2**	
GVDS	**Gavdos**	**2.23**	**265**		PN	Pb	**00 04 45.0**	**-0.7**	
GVD	**Gavdhos**	**2.23**	**265**		PN	Pn	**00 04 44.2**	**+2.0**	
APE	**Apeiranthos**	**2.25**	**333**		P	Pb	**00 04 44.4**	**-1.8**	
APE	**Apeiranthos**	**2.25**	**333**		P	Pb	**00 04 44.3**	**-1.8**	
APE					S	Sb	**00 05 12.6**	**-1.3**	
	comp=N,65nm,0.4s								
APE	**Apeiranthos**	**2.25**	**333**		PN	Pn	**00 04 44.2**	**+1.7**	
DALY	**Dalyan (Mula)**	**2.32**	**40**	*i*	P	Pb	**00 04 46.8**	**-0.4**	
DALY					S	Sg	**00 05 18.9**	**-1.1**	
DALY					IAML		00 05 27.0		
	comp=E,26nm,0.8s								
DALY					IAML		00 05 31.0		
	comp=N,21nm,0.6s								
DALY	**Dalyan (Mula)**	**2.32**	**40**		PN	Pb	**00 04 46.2**	**-0.9**	
IMMV	**Iera Moni Meta**	**2.34**	**281**		PN	Pn	**00 04 46.0**	**+2.4**	
YER	**Yerkesik**	**2.40**	**30**		PN	Pn	**00 04 46.6**	**+2.0**	
FETY	**Fethiye**	**2.44**	**49**	*i*	P	Pn	**00 04 44.8**	**-0.3**	
FETY					S	Sn	**00 05 15.6**	**+0.8**	
KNDR	**Palaiochora Ch**	**2.55**	**275**		PN	Pn	**00 04 49.4**	**+2.8**	
AKAS	**Kas**	**2.57**	**62**	*i*	P	Pn	**00 04 48.2**	**+1.2**	
AKAS					S	Sn	**00 05 18.2**	**0.0**	
AKAS					IAML		00 05 25.0		
	comp=E,15nm,0.7s								
AKAS					IAML		00 05 29.0		
	comp=N,28nm,1.0s								
SMG	**Samos**	**2.65**	**1**		P	Pb	**00 04 51.9**	**-0.9**	
GCAM	**G?zelcaml?**	**2.66**	**8**	*i*	P	Pb	**00 04 52.1**	**-1.0**	
GCAM				*i*	S	Sb	**00 05 23.8**	**-1.7**	
GCAM					IAML		00 05 38.0		
	comp=E,11nm,0.6s								
GCAM					IAML		00 05 40.0		
	comp=N,12nm,0.4s								
AYDN	**Tasoluk**	**2.74**	**18**	*i*	P	Pn	**00 04 48.8**	**-0.5**	
CAEL	**Denizli, Camel**	**2.91**	**44**	*i*	P	Pn	**00 04 54.6**	**+3.0**	
TAVA	**DENIZLI_Tavas**	**2.95**	**35**	*i*	P	Pn	**00 04 54.2**	**+2.0**	
TAVA					S	Sn	**00 05 30.4**	**+2.9**	
TAVA					IAML		00 05 44.0		
	comp=E,9.5nm,0.5s								
TAVA					IAML		00 05 45.0		
	comp=N,13nm,0.5s								
DGB	**zmir**	**2.99**	**1**	*i*	P	Pn	**00 04 54.0**	**+1.4**	
GOLH	**Golhisar**	**3.12**	**45**	*i*	P	Pn	**00 04 57.7**	**+3.1**	
GOLH					S	Sb	**00 05 36.8**	**-2.2**	
GOLH					IAML		00 05 49.0		
	comp=N,15nm,0.8s								
ZEYE	**Izmir, Urla-Ze**	**3.18**	**356**	*i*	P	Pn	**00 04 56.0**	**+0.8**	
URLA	**Izmir**	**3.30**	**357**	*i*	P	Pn	**00 04 58.0**	**+1.1**	
MMAI	**Mount Meron Ar**	**7.43**	**103**		Pn	Pn	**00 05 53.8**	**0.0**	
	comp=N,0.3nm,0.3s,baz=276,slow=12,SNR=1.2								
MMAI					Sn	Sn	**00 07 18.8**	**+0.9**	
	comp=N,0.8nm,0.3s,baz=287,slow=20,SNR=1.5								
EIL	**Elat**	**8.74**	**126**		Pn	Pn	**00 06 10.6**	**-1.1**	
	comp=N,0.2nm,0.3s,baz=49,slow=20,SNR=1.2								
EIL					Sn	Sn	00 07 42.3	-7.7	
	comp=N,0.2nm,0.3s,baz=83,slow=13,SNR=1.8								
ESDC	**Sonseca Array**	**24.81**	**290**		P	P	**00 09 26.4**	**-0.9**	
	comp=N,0.5nm,0.9s,baz=82,slow=10,SNR=2.1								
TORD	**Torodi Ar. Bea**	**31.47**	**232**		P	P	**00 10 26.6**	**-0.4**	
	comp=N,0.5nm,0.9s,baz=34,slow=7.7,SNR=1.9								
MKAR	**Makanchi Array**	**42.71**	**57**		P	P	**00 12 01.4**	**-0.7**	
	comp=N,0.6nm,0.9s,baz=286,slow=8.0,SNR=2.3								

IDC ***10*** *00:12:25.5±1.6,35°.23N×26°.58E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.3/44,mbtmp3.4/4,Error ellipse: s-maj=70.3km s-min=25.8km az=154.0*
DDA ***10*** *00:12:28.0,35°.18N×26°.71E,h10km±1km,ML2.3*
ISK ***10*** *00:12:29.4,35°.15N×26°.72E,h6km,ML2.7/9*
THE ***10*** *00:12:29.4,35°.01N×26°.66E,h0km±1km,ML2.8/6,Error ellipse: s-maj=4.1km s-min=0.9km az=149.0*
ATH ***10*** *00:12:30.3,35°.15N×26°.67E,h1km±3km,ML2.8/4,Error ellipse: s-maj=4.5km s-min=1.0km az=178.0*
ISC 10 00:12:28.2±1.3,35°.04N±0°.05×26°.72E±0°.03,h16km±8km, n62,σ1§54/86,mb3.4/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.42**	**280**	P	**Pg**	**00 12 37.3**	**+0.6**
ZKR				S	**Sb**	**00 12 43.1**	**-0.2**
ZKR				AML	AML	00 12 44.6	
	comp=N,2822μm,0.4s						
ZKR				AML	AML	00 12 47.1	
	comp=E,5865μm,0.3s						
ZKR	**Zakros**	**0.42**	**280**	P	**Pg**	**00 12 37.3**	**+0.6**
ZKR				S	**Sb**	**00 12 44.3**	**+0.9**
	comp=E,2μm,0.3s						
ZKR	**Zakros**	**0.42**	**280**	PG	**Pg**	**00 12 37.3**	**+0.6**
ZKR				SG	**Sb**	**00 12 44.1**	**+0.7**

STIA	**Sitia Lasithi**	**0.54**	**288**		P	Pb	**00 12 39.4**	**+0.1**	
STIA					S	Sb	**00 12 48.1**	**+1.2**	
FRMA	**Ierapetra Chan**	**0.81**	**268**		P	Pg	**00 12 42.0**	**-2.0**	
FRMA					S	Sg	**00 12 53.3**	**-1.3**	
	comp=E,375nm,0.4s								
NPS	**Neapolis**	**0.93**	**284**		P	Pb	**00 12 47.0**	**+0.9**	
NPS					S	Sb	**00 12 58.9**	**+0.7**	
NPS					AML	AML	00 13 07.3		
	comp=E,2388μm,0.6s								
NPS					AML	AML	00 13 07.7		
	comp=N,2738μm,0.7s								
NPS	**Neapolis**	**0.93**	**284**		P	Pb	**00 12 46.8**	**+0.7**	
NPS					S	Sn	**00 13 01.7**	**+1.9**	
	comp=N,1μm,0.6s								
LAST	**Lasithi**	**1.02**	**277**		P	Pg	**00 12 48.2**	**+0.1**	
LAST					S	Sb	**00 13 02.1**	**+1.2**	
LAST					AML	AML	00 13 09.6		
	comp=N,1018μm,0.5s								
LAST					AML	AML	00 13 14.4		
	comp=E,667μm,0.9s								
LAST	**Lasithi**	**1.02**	**277**		P	Pg	**00 12 48.2**	**+0.1**	
LAST					S	Sn	**00 13 03.5**	**+1.4**	
	comp=E,402nm,0.6s								
HRKL	**Herakleio**	**1.35**	**282**		PN	Pg	**00 12 55.4**	**+1.1**	
HRKL					SN	Sn	**00 13 14.5**	**+4.4**	
KSTL	**Kastelli Herak**	**1.38**	**281**		P	Pn	**00 12 51.4**	**-1.4**	
KSTL					S	Sb	**00 13 05.7**	**-5.2**	
IDI	**Anoyia**	**1.52**	**280**		P	Pb	**00 12 57.0**	**+0.9**	
IDI	**Anoyia**	**1.52**	**280**		PN	Pg	**00 12 57.8**	**+0.4**	
IDI					SN	Sg	**00 13 17.8**	**+0.6**	
SIVA	**Sivas**	**1.57**	**270**		P	Pb	**00 12 57.9**	**+1.1**	
NIS1	**Nisyros Isl.**	**1.60**	**13**		P	Pn	**00 12 57.2**	**+1.3**	
NIS1	**Nisyros Isl.**	**1.60**	**13**		PN	Pb	**00 12 57.6**	**+0.1**	
ARG	**Arkhangelos**	**1.64**	**44**		P	Pb	**00 12 59.5**	**+1.4**	
ARG					S	Sb	**00 13 19.9**	**+1.4**	
ARG					AML	AML	00 13 31.2		
	comp=N,197μm,0.5s								
ARG					AML	AML	00 13 33.5		
	comp=E,234μm,0.7s								
ARG	**Arkhangelos**	**1.64**	**44**		P	Pb	**00 12 59.3**	**+1.2**	
ARG	**Arkhangelos**	**1.64**	**44**		PN	Pn	**00 12 58.4**	**+2.0**	
SANT	**Santorini**	**1.68**	**323**		P	Pb	**00 12 58.6**	**-0.2**	
SANT	**Santorini**	**1.68**	**323**		PN	Pb	**00 12 58.8**	**0.0**	
THR8	**Santorini-Mono**	**1.70**	**324**		P	Pb	**00 12 58.7**	**-0.3**	
THR6	**Thira Island,**	**1.70**	**321**		P	Pb	**00 12 59.1**	**+0.1**	
THR6	**Thira Island,**	**1.70**	**321**		P	Pb	**00 12 59.2**	**+0.1**	
KOSK	**Kos Island**	**1.72**	**7**		PN	Pn	**00 12 58.9**	**+1.4**	
SNT1	**Gialos, Santor**	**1.73**	**323**		P	Pn	**00 12 59.0**	**+1.4**	
SNT5	**Nea Kammeni, S**	**1.73**	**322**		P	Pn	**00 12 59.1**	**+1.4**	
THR3	**Thira Island,**	**1.74**	**322**		P	Pb	**00 12 59.3**	**-0.4**	
THT2	**Imerovigli**	**1.75**	**323**		P	Pb	**00 12 59.8**	**-0.1**	
THT2	**Imerovigli**	**1.75**	**323**		P	Pb	**00 12 59.8**	**-0.1**	
THT2	**Imerovigli**	**1.75**	**323**		PN	Pb	**00 12 59.8**	**-0.1**	
CMBO	**Columbo, Santo**	**1.78**	**324**		P	Pb	**00 13 00.3**	**-0.2**	
CMBO					S	Sg	**00 13 23.3**	**-2.3**	
	comp=E,442nm,0.6s								
DAT	**Datca**	**1.82**	**22**	*i*	P	Pn	**00 13 00.3**	**+1.3**	
DAT					S	Sn	**00 13 22.9**	**+1.0**	
DAT					IAML		00 13 33.0		
	comp=E,25nm,0.8s								
DAT					IAML		00 13 33.0		
	comp=N,22nm,0.4s								
DAT	**Datca**	**1.82**	**22**		PN	Pn	**00 13 00.7**	**+1.6**	
BODT	**Bodrum**	**2.07**	**13**		PN	Pn	**00 13 04.1**	**+1.7**	
VAM	**Vamos**	**2.10**	**281**		P	Pb	**00 13 06.6**	**+0.8**	
BDRM	**Kayabasi**	**2.10**	**16**	*i*	P	Pn	**00 13 05.1**	**+2.3**	
BDRM					S	Sb	**00 13 30.7**	**-1.2**	
TURN	**Turunc**	**2.13**	**35**	*i*	P	Pn	**00 13 04.7**	**+1.6**	
TURN					S	Sb	**00 13 32.8**	**+0.2**	
TURN					IAML		00 13 42.0		
	comp=E,23nm,0.4s								
TURN					IAML		00 13 43.0		
	comp=N,23nm,0.7s								
TURN	**Turunc**	**2.13**	**35**		PN	Pn	**00 13 05.2**	**+2.1**	
APE	**Apeiranthos**	**2.24

comp=E,2988µm,0.6s
NPS AML AML 00 45 04.1
comp=N,2289µm,0.7s
NPS Neapolis 0.99 286 P **Pg** **00 44 43.1 +0.2**
NPS S **Sb** **00 44 57.1 +0.4**
comp=N,1µm,0.6s
LAST Lasithi 1.08 279 P **Pg** **00 44 44.5 -0.1**
LAST S **Sg** **00 44 58.4 -0.2**
LAST AML AML 00 45 06.0
comp=E,697µm,0.5s
LAST AML AML 00 45 06.0
comp=N,1429µm,0.5s
LAST Lasithi 1.08 279 P **Pg** **00 44 44.2 -0.4**
HRKL Herakleio 1.41 283 PN **Pg** **00 44 51.5 +0.6**
HRKL SN **Sn** **00 45 10.9 +2.1**
KSTL Kastelli Herak 1.43 283 P **Pn** **00 44 47.9 -2.4**
IDI Anoyia 1.58 281 P **Pn** **00 44 53.3 +1.0**
IDI S **Sg** **00 45 13.5 -1.0**
IDI AML AML 00 45 21.6
comp=N,413µm,0.4s
IDI AML AML 00 45 24.4
comp=E,284µm,0.7s
IDI Anoyia 1.58 281 Pn **Pb** **00 44 53.8 +0.4**
comp=E,15nm,0.3s,baz=96,slow=17,SNR=47
IDI Sn **Sg** **00 45 16.6 +2.1**
comp=E,18nm,0.3s,baz=314,slow=17,SNR=8.9
IDI Anoyia 1.58 281 PN **Pg** **00 44 54.3 +0.2**
IDI SN **Sg** **00 45 15.4 +0.9**
SIVA Sivas 1.62 271 P **Pn** **00 44 54.2 +1.4**
NIS1 Nisyros Isl. 1.64 11 P **Pb** **00 44 54.1 -0.3**
NIS1 Nisyros Isl. 1.64 11 PN **Pb** **00 44 53.8 -0.6**
ARG Arkhangelos 1.64 42 P **Pg** **00 44 55.8 +0.6**
ARG S **Sg** **00 45 16.0 -0.5**
ARG AML AML 00 45 20.9
comp=N,374µm,1.0s
ARG AML AML 00 45 23.1
comp=E,470µm,0.4s
ARG Arkhangelos 1.64 42 P **Pg** **00 44 55.9 +0.6**
ARG S **Sg** **00 45 17.9 +1.4**
comp=E,238nm,0.8s
ARG Arkhangelos 1.64 42 PN **Pb** **00 44 55.1 +0.7**
SANT Santorini 1.74 322 P **Pb** **00 44 55.0 -1.2**
SANT Santorini 1.74 322 PN **Pb** **00 44 55.2 -1.0**
KOSK Kos Island 1.76 5 P **Pn** **00 44 55.2 +0.5**
KOSK Kos Island 1.76 5 PN **Pb** **00 44 55.9 -0.6**
THR8 Santorini-Mono 1.76 323 P **Pn** **00 44 54.8 +0.1**
THR6 Thira Island, 1.76 321 P **Pb** **00 44 55.6 -0.9**
THR6 Thira Island, 1.76 321 P **Pb** **00 44 55.4 -1.1**
SNT1 Gialos, Santor 1.79 323 P **Pn** **00 44 55.4 +0.2**
SNT5 Nea Kammeni, S 1.80 322 P **Pn** **00 44 54.9 -0.4**
SNT5 Nea Kammeni, S 1.80 322 P **Pn** **00 44 55.3 0.0**
THR3 Thira Island, 1.80 322 P **Pb** **00 44 56.2 -1.0**
THR3 Thira Island, 1.80 322 P **Pn** **00 44 55.7 +0.4**
DAT Datca 1.85 20 PN **Pb** **00 44 57.3 -0.7**
CMBO Columbo, Santo 1.85 323 P **Pb** **00 44 57.3 -0.7**
CMBO Columbo, Santo 1.85 323 P **Pb** **00 44 57.3 -0.7**
CMBO S **Sb** **00 45 19.0 -2.3**
comp=E,702nm,0.6s
BODT Bodrum 2.11 12 PN **Pn** **00 45 00.4 +0.8**
BDRM Kayabasi 2.13 14 *i* P **Pn** **00 45 00.9 +1.0**
TURN Turunc 2.14 33 *i* P **Pb** **00 45 03.3 +0.1**
TURN *i* S **Sb** **00 45 28.6 -1.0**
TURN IAML 00 45 33.0
comp=N,19nm,0.4s
TURN IAML 00 45 36.0
comp=E,29nm,0.5s
VAM Vamos 2.15 282 P **Pb** **00 45 03.0 -0.2**
GVDS Gavdos 2.21 267 PN **Pn** **00 45 03.7 +2.7**
GVD Gavdhos 2.22 267 PN **Pn** **00 45 03.6 +2.5**
APE Apeiranthos 2.30 334 P **Pn** **00 45 02.6 +0.3**
APE Apeiranthos 2.30 334 PN **Pn** **00 45 02.9 +0.6**
IMMV Iera Moni Meta 2.34 282 P **Pb** **00 45 05.5 -0.8**
IMMV Iera Moni Meta 2.34 282 PN **Pb** **00 45 05.3 -1.0**
DALY Dalyan (Mula) 2.37 39 *i* P **Pn** **00 45 05.1 +2.0**
DALY *i* S **Sg** **00 45 38.0 -2.0**
DALY IAML 00 45 48.0
comp=E,41nm,0.9s
DALY IAML 00 45 51.0
comp=N,31nm,0.6s
DALY Dalyan (Mula) 2.37 39 PN **Pn** **00 45 05.6 +2.5**
MLSB Milas 2.43 19 PN **Pn** **00 45 05.6 +1.5**
YER Yerkesik 2.46 29 PN **Pn** **00 45 06.1 +1.7**
DDIM Aydin, Didim 2.48 9 *i* P **Pg** **00 45 11.1 -0.4**
FETY Fethiye 2.49 48 *i* P **Pn** **00 45 05.1 +0.3**
KNDR Palaiochora Ch 2.55 276 PN **Pb** **00 45 07.8 +2.2**
AKAS Kas 2.61 61 *i* P **Pn** **00 45 06.5 -0.1**
AKAS *i* S **Sn** **00 45 35.1 -3.6**
GCAM G?zelcaml? 2.72 8 *i* P **Pb** **00 45 12.0 -0.9**
AYDN Tasoluk 2.80 18 *i* P **Pn** **00 45 10.8 +1.6**
AYDN *i* S **Sn** **00 45 44.4 +1.0**
CAEL Denizli, Camel 2.96 43 *i* P **Pb** **00 45 16.2 -0.8**
TAVA DENIZLI_Tavas 3.01 34 *i* P **Pn** **00 45 14.0 +1.9**
TAVA *i* S **Sn** **00 45 48.2 -0.2**
TAVA IAML 00 45 59.0
comp=E,9.9nm,0.7s
DGB zmir 3.05 2 *i* P **Pn** **00 45 13.6 +1.0**
DGB *i* S **Sn** **00 45 49.0 -0.3**
GOLH Golhisar 3.17 44 *i* P **Pn** **00 45 15.8 +1.5**
GOLH *i* S **Sn** **00 45 55.5 +3.0**
GOLH IAML 00 45 58.0
comp=N,16nm,1.3s
GOLH IAML 00 45 58.0
comp=E,30nm,1.4s
ZEYE Izmir, Urla-Ze 3.25 356 *i* P **Pn** **00 45 14.1 -1.1**
ZEYE IAML 00 46 01.0
comp=N,11nm,0.9s
ZEYE IAML 00 46 11.0
comp=E,7.6nm,1.0s
URLA Izmir 3.36 358 *i* P **Pn** **00 45 15.3 -1.5**
URLA IAML 00 46 22.0
comp=E,11nm,0.7s
URLA IAML 00 46 24.0
comp=N,9.8nm,0.9s
MMAI Mount Meron Ar 7.43 103 Pn **Pn** **00 46 11.6 -1.2**
comp=N,0.5nm,0.3s,baz=285,slow=12,SNR=2.2
MMAI Sn **Sn** **00 47 34.9 -2.5**
comp=N,0.8nm,0.3s,baz=304,slow=26,SNR=1.8
EIL Elat 8.71 125 Pn Pn 00 46 29.3 -1.1
comp=N,0.2nm,0.3s,baz=283,slow=1.5,SNR=7.2
EIL Sn Sn 00 48 02.4 -6.5
comp=N,0.4nm,0.3s,baz=77,slow=19,SNR=2.5
ESDC Sonseca Array 24.82 290 P **P** **00 49 48.2 +1.5**
comp=N,0.6nm,1.1s,baz=77,slow=10,SNR=2.5
TORD Torodi Ar. Bea 31.42 232 P **P** **00 50 46.4 +0.5**
comp=N,0.5nm,0.8s,baz=33,slow=8.9,SNR=2.1
KURBB Kurchatov Arra 40.19 51 P **P** **00 52 00.3 -0.4**
comp=N,0.3nm,0.4s,baz=273,slow=8.5,SNR=3.9
MKAR Makanchi Array 42.76 57 P **P** **00 52 20.9 -0.9**
comp=N,0.1nm,0.3s,baz=277,slow=7.8,SNR=5.1
ZALV Zalesovo Beam 44.16 46 P **P** **00 52 34.0 +1.0**
comp=N,0.7nm,0.4s,baz=270,slow=7.1,SNR=2.8

*IDC **10** 00:56:00.7±3.2, 19°.97S×69°.13W, h97km±24km, mb4.2/5, mb1 4.1/8, mb1mx3.7/28, mbtmp4.5/8, MS2.7/2, Ms1 2.7/2, ms1mx2.4/22, Error ellipse: s-maj=46.7km s-min=20.1km az=116.0*
*NEIC **10** 00:56:02.0±2.0, 20°.12S±0°.03×69°.19W±0°.05, h99km±4km, mb4.4/21, ML4.2(GUC), Error ellipse: s-maj=7.8km s-min=2.1km az=56.0*
*VAO **10** 00:56:02.7±0.3, 20°.01S×69°.16W, h115km, mb4.3*
*GUC **10** 00:56:02.0±0.6, 20°.14S×69°.23W, h98km±3km, ML4.4*

ISC 10 00:56:01.3±0.5, 20°.11S±0°.03×69°.19W±0°.05, h98km±5km, n146, σ1§11/152, mb4.3/10, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.05**	**133**	*eP*	**Pn**	**00 56 16.7**	**+1.1**
PB08				*i* S	**Sn**	**00 56 27.4**	**+1.4**
PB08				IAML		00 56 27.9	
	comp=N,31µm,0.3s						
PB08	**IPOC Station P**	**0.05**	**133**	Pn	**Pn**	**00 56 15.6**	**+0.1**
PB08				Sn	**Sn**	**00 56 27.0**	**+0.9**
PB11	**IPOC Station P**	**0.56**	**308**	*eP*	**Pn**	**00 56 18.5**	**+0.9**
PB11				*i* S	**Sn**	**00 56 30.9**	**+1.1**
PB11				IAML		00 56 32.8	
	comp=N,52µm,0.7s						
PB11	**IPOC Station P**	**0.56**	**308**	Pn	**Pn**	**00 56 17.7**	**+0.1**
PB11				Sn	**Sn**	**00 56 30.8**	**+1.1**
TA02	**Huaiquique**	**0.90**	**260**	*eP*	**Pn**	**00 56 21.0**	**+0.5**
TA02				*i* S	**Sn**	**00 56 35.7**	**+0.7**
TA02				IAML		00 56 37.1	
	comp=N,32µm,0.2s						
TA02	**Huaiquique**	**0.90**	**260**		**Pn**	**00 56 21.0**	**+0.5**
TA02				Sn	**Sn**	**00 56 35.6**	**+0.7**
PB01	**IPOC Station P**	**0.97**	**197**	*eP*	**Pn**	**00 56 22.1**	**+0.7**
PB01				*i* S	**Sn**	**00 56 37.2**	**+0.7**
PB01				IAML		00 56 38.2	
	comp=N,21µm,0.3s						
PB01	**IPOC Station P**	**0.97**	**197**		**Pn**	**00 56 21.3**	**-0.2**
PB01				Sn	**Sn**	**00 56 37.1**	**+0.7**
PSGC	**Pisagua**	**1.02**	**300**	*eP*	**Pn**	**00 56 22.5**	**+0.5**
PSGC				*i* S	**Sn**	**00 56 38.0**	**+0.6**
PSGC				IAML		00 56 39.7	
	comp=N,6µm,0.1s						
PSGCX	**Pisagua**	**1.02**	**300**	Pn	**Pn**	**00 56 22.6**	**+0.6**
TA01	**Diego Aracena**	**1.03**	**244**	*eP*	**Pn**	**00 56 22.1**	**+0.1**
TA01				*i* S	**Sn**	**00 56 37.7**	**+0.1**
TA01	**Diego Aracena**	**1.03**	**244**	Pn	**Pn**	**00 56 22.1**	**+0.1**
TA01				Sn	**Sn**	**00 56 37.5**	**0.0**
MNMC	**Minye Minye**	**1.05**	**338**	*eP*	**Pn**	**00 56 23.9**	**+1.5**
MNMC				*i* S	**Sn**	**00 56 40.8**	**+2.5**
MNMC	**Minye Minye**	**1.05**	**338**		**Pn**	**00 56 24.0**	**+1.5**
PATCX	**Punta Patache**	**1.15**	**232**	*eP*	**Pn**	**00 56 23.6**	**+0.2**
PATCX				*i* S	**Sn**	**00 56 40.2**	**+0.2**
PATCX	**Punta Patache**	**1.15**	**232**		**Pn**	**00 56 23.6**	**+0.2**
PB09	**IPOC Station P**	**1.68**	**182**	*eP*	**Pn**	**00 56 30.9**	**+1.0**
PB09				*i* S	**Sn**	**00 56 52.9**	**+1.2**
PB09				IAML		00 56 56.0	
	comp=E,3µm,0.6s						
PB09	**IPOC Station P**	**1.68**	**182**	Pn	**Pn**	**00 56 31.4**	**+1.5**
PB07	**IPOC Station P**	**1.74**	**202**	*eP*	**Pn**	**00 56 31.2**	**+0.6**
PB07				*i* S	**Sn**	**00 56 53.1**	**+0.2**
PB07				IAML		00 56 55.2	
	comp=E,5µm,0.4s						
PB07	**IPOC Station P**	**1.74**	**202**	Pn	**Pn**	**00 56 31.3**	**+0.6**
PB16	**IPOC Station P**	**1.79**	**350**		**Pn**	**00 56 33.9**	**+2.1**
AP01	**Chacalluta**	**2.04**	**328**	Pn	**Pn**	**00 56 35.3**	**+0.8**
PB04	**IPOC Station P**	**2.39**	**202**		**Pn**	**00 56 39.6**	**+0.5**
LVC	**Limon Verde**	**2.50**	**174**	*eP*	**Pn**	**00 56 42.0**	**+1.3**
	comp=E,56nm,0.3s,baz=350,slow=8.9,SNR=263						
LVC				S	**Sn**	**00 57 11.6**	**+0.7**
	comp=E,143nm,0.3s,baz=90,slow=20,SNR=5.6						
LVC	**Limon Verde**	**2.50**	**174**	Pn	**Pn**	**00 56 41.9**	**+1.1**
LVC	**Limon Verde**	**2.50**	**174**	*eP*	**Pn**	**00 56 42.1**	**+1.3**
PB06	**IPOC Station P**	**2.61**	**188**		**Pn**	**00 56 42.5**	**+0.5**
PB15	**IPOC Station P**	**3.10**	**185**	Pn	**Pn**	**00 56 48.6**	**+0.1**
PB10	**IPOC Station P**	**3.62**	**200**	Pn	**Pn**	**00 56 54.8**	**-0.6**
LPAZ	**La Paz**	**3.93**	**15**	P	**Pn**	**00 57 03.2**	**+3.0**
	comp=E,3.1nm,0.3s,baz=188,slow=8.3,SNR=169						
LPAZ				LR	LR	00 58 36.0	
	comp=E,29nm,20.9s,baz=180,slow=41						
LPAZ	**La Paz**	**3.93**	**15**	Pn	**Pn**	**00 57 03.4**	**+3.2**
GO02	**Mina Guanaco**	**5.04**	**184**	Pn	**Pn**	**00 57 14.0**	**-0.9**
AC01	**Pan de Azucar**	**6.15**	**192**	Pn	**Pn**	**00 57 26.5**	**-3.1**
AC02	**Maricunga**	**6.78**	**180**	Pn	**Pn**	**00 57 36.6**	**-0.9**
GO03	**Copiapo**	**7.51**	**187**	Pn	**Pn**	**00 57 44.8**	**-3.4**
SIV	**San Ignacio**	**8.74**	**63**	P	**Pn**	**00 58 02.8**	**-2.2**
	comp=E,4.8nm,0.3s,baz=256,slow=13,SNR=126						
ETMB	**Extrema**	**10.63**	**16**	*eP*	**Pn**	**00 58 30.3**	**-0.4**
PTLB	**Pontes e Lacer**	**10.64**	**66**	*eP*	**Pn**	**00 58 29.6**	**-1.2**
NNA	**Nana**	**10.92**	**317**	S	**Sn**	**01 00 32.1**	**-2.8**
	comp=E,1.3nm,0.3s,baz=195,slow=9.1,SNR=1.6						
VILB	**Vilhena**	**11.17**	**52**	*eP*	**Pn**	**00 58 37.7**	**-0.4**
CPUP	**Villa Florida**	**12.54**	**122**	P	**Pn**	**00 58 55.0**	**-1.1**
	comp=E,0.1nm,0.3s,baz=312,slow=11,SNR=5.5						
AQDB	**Aquidauana**	**12.66**	**94**	*eP*	**Pn**	**00 58 58.7**	**+0.8**
CZSB	**Cruzeiro do Su**	**12.77**	**344**	*eP*	**Pn**	**00 58 57.6**	**-1.7**
MT02	**Curacav**	**13.21**	**187**	Pn	**Pn**	**00 59 05.0**	**0.0**
MT03	**Universidad Ad**	**13.38**	**185**	P	**P**	**00 59 14.7**	**+1.4**
SALV	**Santo Antonio**	**13.50**	**74**	*eP*	**Pn**	**00 59 08.4**	**-0.5**
MT09	**Talagante**	**13.71**	**186**	Pn	**Pn**	**00 59 12.3**	**+0.7**
MT09				P	**P**	**00 59 18.1**	**+1.2**
MT01	**Popeta**	**13.82**	**187**	Pn	**Pn**	**00 59 12.3**	**-0.7**
BO01	**Tunca**	**14.33**	**186**	Pn	**Pn**	**00 59 19.1**	**-0.5**
BO02	**Sierra Bellavi**	**14.69**	**185**	Pn	**Pn**	**00 59 24.7**	**+0.4**
ITQB	**Itaqui**	**14.84**	**132**	*eP*	**Pn**	**00 59 27.2**	**+1.1**
GO05	**Huala**	**15.04**	**189**	P	**P**	**00 59 32.9**	**+1.3**
CLDB	**Colider**	**15.83**	**57**	*eP*	**P**	**00 59 39.6**	**-0.9**
PTGB	**Pitanga**	**16.48**	**109**	*eP*	**P**	**00 59 48.3**	**+0.5**
PCMB	**Pacaembu**	**16.82**	**98**	*eP*	**Pn**	**00 59 50.8**	**-0.2**
ARAG	**Araguaiana, MT**	**17.11**	**78**	*eP*	**Pn**	**00 59 54.4**	**-0.1**
ITAB	**Concordia**	**17.15**	**118**	P	**Pn**	**00 59 55.3**	**+0.4**
CPSB	**Cacapava Do Su**	**17.53**	**129**	*eP*	**Pn**	**01 00 01.7**	**+2.2**
ITRB	**Iturama**	**17.71**	**92**	*eP*	**P**	**01 00 01.2**	**-0.2**
PLTB	**Pedras Altas**	**18.17**	**133**	*eP*	**P**	**01 00 06.0**	**-0.3**
FRTB	**Fartura**	**18.51**	**104**	*eP*	**P**	**01 00 09.7**	**-0.4**
NPGB	**Novo Progresso**	**18.67**	**48**	*eP*	**P**	**01 00 10.3**	**-1.5**
SNDB	**Serra Nova Dou**	**18.99**	**68**	*eP*	**P**	**01 00 14.7**	**-0.7**
BB19B	**Bebedouro**	**19.37**	**96**	*eP*	**P**	**01 00 19.1**	**-0.4**
IPMB	**Ipameri, GO**	**19.94**	**87**	*eP*	**P**	**01 00 25.5**	**-0.2**
TER01	**Tubaro-SC**	**20.09**	**119**	*eP*	**P**	**01 00 28.9**	**+1.7**
RCLB	**Rio Claro- Sao**	**20.31**	**100**	*eP*	**P**	**01 00 29.2**	**-0.5**
ITTB	**Itaituba**	**20.41**	**42**	*eP*	**P**	**01 00 29.5**	**-1.2**
PLCA	**Paso Flores**	**20.59**	**183**	P	**P**	**01 00 33.4**	**+0.8**
	comp=E,6.6nm,0.5s,baz=7.1,slow=11,SNR=13						
PLCA	**Paso Flores**	**20.59**	**183**	P	**P**	**01 00 33.3**	**+0.8**
PLCA				IAmb	IAmb	01 00 34.3	
	comp=Z,11nm,0.9s						
PLCA	**Paso Flores**	**20.59**	**183**	*eP*	**P**	**01 00 33.6**	**+1.1**
BDFB	**Brasilia**	**20.63**	**81**	P	**P**	**01 00 32.4**	**-0.8**
	comp=Z,11nm,0.5s,baz=262,slow=10,SNR=20						
BDFB	**Brasilia**	**20.63**	**81**	P	**P**	**01 00 33.1**	**-0.1**
BDFB				IAmb	IAmb	01 00 36.0	
	comp=Z,11nm,0.6s						
PET01	**Itanhaem-SP**	**20.71**	**106**	*eP*	**P**	**01 00 34.3**	**+0.4**
VAO	**Valinhos**	**20.87**	**102**	*eP*	**P**	**01 00 34.0**	**-1.7**
PTGA	**Pitinga**	**21.27**	**26**	P	**P**	**01 00 37.6**	**-2.3**
	comp=Z,5.2nm,0.3s,baz=209,slow=13,SNR=11						
PTGA	**Pitinga**	**21.27**	**26**	P	**P**	**01 00 37.4**	**-2.6**
PEXB	**Peixe**	**21.51**	**72**	*eP*	**P**	**01 00 42.0**	**-1.3**
PARB	**Paraibuna**	**22.12**	**103**	*eP*	**P**	**01 00 47.5**	**-1.5**
LL01	**San Ignacio de**	**22.37**	**186**	P	**P**	**01 00 51.2**	**-0.1**
LL01				IAmb	IAmb	01 00 52.9	
	comp=Z,9.4nm,0.7s						
ESAR	**Angra dos Reis**	**23.19**	**102**	*eP*	**P**	**01 00 58.7**	**-1.0**
MALB	**Monte Alegre**	**23.28**	**41**	*eP*	**P**	**01 00 58.5**	**-2.1**
PRPB	**Parauapebas**	**23.37**	**56**	*eP*	**P**	**01 00 59.7**	**-1.7**
BBAC	**Balboa, Cauca**	**23.37**	**339**	*eP*	**P**	**01 01 04.0**	**+2.3**
SMTB	**Santa Maria do**	**23.68**	**65**	*eP*	**P**	**01 01 03.5**	**-0.8**
TUMC	**Tumaco**	**23.72**	**336**	*eP*	**P**	01 01 15.6	+11
BOAV	**Boa Vista**	**23.93**	**22**	*eP*	**P**	**01 01 06.2**	**-0.2**
VAS01	**Vassouras-RJ**	**24.09**	**100**	*eP*	**P**	**01 01 08.7**	**+0.7**
MC01	**Montes Claros**	**24.18**	**86**	*eP*	**P**	**01 01 07.7**	**-1.2**
JANB	**Januaria**	**24.23**	**82**	*eP*	**P**	**01 01 08.7**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.52**	**76**	*eP*	**P**	**01 01 10.7**	**-1.2**
ORTC	**Ortega, Tolima**	**24.60**	**345**	*eP*	**P**	**01 01 12.7**	**+0.2**
DUB01	**Friburgo-RJ**	**25.09**	**99**	*eP*	**P**	**01 01 16.8**	**-0.2**
CAM01	**Campos-RJ**	**25.75**	**99**	*eP*	**P**	**01 01 22.6**	**-0.3**
MCPB	**Macapa, AP**	**25.82**	**43**	*eP*	**P**	**01 01 23.3**	**-0.3**
GUY2C	**Guyana, Caldas**	**25.90**	**346**	*eP*	**P**	**01 01 25.4**	**+0.6**
RUSC	**La Rusia**	**26.12**	**351**	P	**P**	**01 01 27.6**	**+0.8**
RUSC				IAmb	IAmb	01 01 29.9	
	comp=Z,5.9nm,0.6s						
RUSC	**La Rusia**	**26.12**	**351**	*eP*	**P**	**01 01 27.1**	**+0.3**
SJMB	**Sao Joao De Ma**	**26.44**	**92**	*eP*	**P**	**01 01 29.1**	**-0.1**
CBOC	**Ciudad Bolivar**	**26.67**	**345**	*eP*	**P**	**01 01 31.8**	**+0.4**
ALF01	**Guarapari-ES**	**26.68**	**96**	*eP*	**P**	**01 01 31.2**	**-0.1**
BSFB	**Barra de Sao F**	**26.74**	**92**	*eP*	**P**	**01 01 31.4**	**-0.5**
RIB01	**Linhares ES**	**27.11**	**93**	*eP*	**P**	**01 01 35.0**	**-0.2**
NAN01	**Guarapari, ES**	**27.56**	**90**	*eP*	**P**	**01 01 39.0**	**-0.3**
GUA01	**Guaratinga, BA**	**28.09**	**88**	*eP*	**P**	**01 01 44.1**	**+0.1**
CMC01	**Camacan, BA**	**28.63**	**85**	*eP*	**P**	**01 01 47.1**	**-1.7**
NBIT	**Itapeh - BA**	**28.81**	**84**	*eP*	**P**	**01 01 50.7**	**+0.2**
GDU01	**Guandu, BA**	**29.01**	**82**	*eP*	**P**	**01 01 51.5**	**-0.7**
SMLC	**San Martn de**	**29.13**	**350**	*eP*	**P**	**01 01 50.9**	**-2.3**
NBPN	**Ponto Novo - B**	**29.38**	**76**	*eP*	**P**	**01 01 54.9**	**-0.6**
NBPS	**Pedro II - PI**	**31.20**	**64**	*eP*	**P**	**01 02 11.2**	**-0.4**
NBMA	**Muriti-CE**	**32.08**	**71**	*eP*	**P**	**01 02 19.8**	**+0.5**
NBPB	**Pedra_Branca-C**	**32.21**	**67**	*eP*	**P**	**01 02 20.9**	**+0.4**
TOSP	**Speyside**	**32.35**	**16**	P	**P**	**01 02 22.3**	**+0.8**
BATAN	**Batan**	**33.11**	**334**	P	**P**	**01 02 30.7**	**+2.6**
NBAN	**Anadia - AL**	**33.40**	**77**	*eP*	**P**	**01 02 30.3**	**-0.4**
NBCL	**Cascavel-CE**	**33.98**	**66**	*eP*	**P**	**01 02 35.4**	**-0.4**
NBPA	**Parau_RN**	**34.27**	**70**	*eP*	**P**	**01 02 38.4**	**+0.1**
NBRF	**Rio Formoso -**	**34.82**	**76**	*eP*	**P**	**01 02 42.7**	**-0.3**
NBPV	**Pedro Velho**	**35.59**	**72**	*eP*	**P**	**01 02 49.6**	**-0.1**
ICMP	**Isla Caja de M**	**37.85**	**4**	P	**P**	**01 03 09.6**	**+0.9**
OBIP	**Obispado Ponce**	**38.00**	**4**	P	**P**	**01 03 09.9**	**0.0**
PDPR	**Patillas Dam,**	**38.02**	**5**	P	**P**	**01 03 08.3**	**-1.8**
PDPR				IAmb	IAmb	01 03 10.9	
	comp=Z,10nm,1.0s						
GCPR	**Guaynabo City**	**38.30**	**5**	P	**P**	**01 03 11.3**	**-1.2**
PMSA	**Palmer Station**	**44.77**	**177**	*eP*	**P**	**01 04 04.0**	**-0.8**
LPIG	**La Paz**	**59.46**	**316**	LR	LR	01 29 24.8	
	comp=Z,18nm,18.8s,baz=214,slow=34						
VNA3	**Neumayer Olymp**	**61.47**	**161**	P	**P**	**01 06 08.3**	**+1.0**
O49A	**Covington**	**61.63**	**347**	P	**P**	**01 06 09.6**	**+1.0**
O49A				IAmb	IAmb	01 06 24.4	
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**63.67**	**161**	P	**P**	**01 06 22.7**	**+0.8**
SNAA	**Sanae**	**63.67**	**161**	P	**P**	**01 06 22.9**	**+1.0**
SNAA				IAmb	IAmb	01 06 23.5	
	comp=Z,3.2nm,0.7s						
DBIC	**Dimbokro**	**68.60**	**74**	P	**P**	**01 06 53.4**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=226,slow=7.8,SNR=11						
DBIC	**Dimbokro**	**68.60**	**74**	P	**P**	**01 06 53.8**	**-0.4**
DBIC				IAmb	IAmb	01 06 58.2	
	comp=Z,7.6nm,1.0s						
QSPA	**South Pole Qui**	**70.07**	**180**	P	**P**	**01 07 04.6**	**+1.9**
GCMT	**Greycliff**	**75.17**	**332**	P	**P**	**01 07 31.8**	**-1.3**
TOA0	**Torodi Ar. Sit**	**77.14**	**71**	P	**P**	**01 07 43.5**	**-1.2**
TOA0				IAmb	IAmb	01 07 45.8	
	comp=Z,3.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.14**	**71**	P	**P**	**01 07 43.4**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=258,slow=5.0,SNR=39						
TORD				pP	**pP**	**01 08 11.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=253,slow=5.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**77.14**	**71**	P	**P**	**01 07 43.8**	**-1.0**
YKA	**Yellowknife Ar**	**89.80**	**341**	pP	pP	01 09 15.3	+0.1
	comp=Z,0.7nm,0.7s,baz=129,slow=5.4,SNR=3.5						
H11S2	**WAKE ISLAND Hyl**	**27.43**	**278**	T	T	03 34 42.4	
	baz=101,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hyl**	**27.44**	**278**	T	T	03 34 43.0	
	baz=101,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hyl**	**27.45**	**278**	T	T	03 34 44.0	
	baz=101,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hyl**	**27.48**	**280**	T	T	03 34 43.1	
	baz=101,slow=74						
H11N2	**WAKE ISLAND Hyl**	**27.49**	**280**	T	T	03 34 47.7	
	baz=101,slow=74						
H11N1	**WAKE ISLAND Hyl**	**27.49**	**280**	T	T	03 34 45.1	
	baz=101						
MKAR	**Makanchi Array**	**144.65**	**35**	PKP	PKPbc	01 15 25.8	+0.3
	comp=Z,0.5nm,0.5s,baz=304,slow=3.3,SNR=6.9						
MKAR				pPKP	pPKPdf	01 15 54.3	-0.6
	comp=Z,0.2nm,0.5s,baz=306,slow=5.2,SNR=2.2						
MKAR	**Makanchi Array**	**144.65**	**35**		**PKPab**	**01 15 25.6**	**+0.2**

*DDA **10** 00:57:14.1, 34°.66N×26°.80E, h5km±5km, ML2.7*
*IDC **10** 00:57:18.6±1.9, 35°.03N×26°.86E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.3/29, mbtmp3.2/3, Error ellipse: s-maj=55.3km s-min=23.8km az=173.0*
*THE **10** 00:57:19.8, 34°.89N×26°.62E, h2km±2km, ML2.8/8, Error ellipse: s-maj=3.3km s-min=0.9km az=177.0*
*ISK **10** 00:57:20.9, 35°.16N×26°.64E, h6km, ML2.9/10*
*ATH **10** 00:57:21.8, 35°.16N×26°.61E, h12km±3km, ML2.8/5, Error ellipse: s-maj=4.8km s-min=1.0km az=187.0*

ISC 10 00:57:18.7±1.4, 34°.96N±0°.06×26°.69E±0°.03, h6km±9km, n63, σ1§52/87, mb3.1/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.42**	**292**	P	**Pb**	**00 57 27.9**	**-0.6**
ZKR				S	**Sb**	**00 57 33.3**	**-1.8**
ZKR				AML	AML	00 57 34.9	
	comp=E,6507µm,0.4s						
ZKR				AML	AML	00 57 36.0	
	comp=N,2146µm,0.2s						
ZKR	**Zakros**	**0.42**	**292**	P	**Pb**	**00 57 27.7**	**-0.7**
ZKR				S	**Sb**	**00 57 34.7**	**-0.4**
	comp=N,2µm,0.3s						
ZKR	**Zakros**	**0.42**	**292**	PG	**Pb**	**00 57 27.8**	**-0.7**
ZKR				SG	**Sb**	**00 57 34.1**	**-1.0**
FRMA	**Ierapetra Chan**	**0.79**	**274**	P	**Pg**	**00 57 32.5**	**-1.3**
FRMA				S	**Sg**	**00 57 41.9**	**-2.1**
	comp=N,368nm,0.6s						
NPS	**Neapolis**	**0.93**	**289**	P	**Pb**	**00 57 37.4**	**+0.1**
NPS				S	**Sb**	**00 57 48.9**	**-1.1**
NPS				AML	AML	00 57 58.4	
	comp=E,2520µm,0.5s						
NPS				AML	AML	00 57 59.4	
	comp=N,1716µm,0.6s						
NPS	**Neapolis**	**0.93**	**289**	P	**Pg**	**00 57 36.8**	**+0.2**
NPS				S	**Sn**	**00 57 51.7**	**

	comp=E,35nm,0.7s								
DALY					IAML			00 58 48.0	
	comp=N,36nm,1.0s								
DALY	**Dalyan (Mula)**	**2.45**	**40**		PN	**Pn**		**00 58 00.7**	**+1.6**
KNDR	**Palaiochora Ch**	**2.48**	**277**		PN	**Pb**		**00 58 02.9**	**-0.7**
YER	**Yerkesik**	**2.53**	**30**		PN	**Pn**		**00 58 01.7**	**+1.4**
DDIM	**Aydin, Didim**	**2.53**	**10**	*i*	P	**Pb**		**00 58 03.6**	**-0.9**
DDIM					IAML			00 59 01.0	
	comp=E,38nm,0.9s								
DDIM					IAML			00 59 01.0	
	comp=N,35nm,1.1s								
FETY	**Fethiye**	**2.57**	**49**	*i*	P	**Pn**		**00 57 59.9**	**-0.9**
FETY				*i*	S	**Sn**		**00 58 26.5**	**-5.8**
MULA	**Mugla, Merkez-**	**2.65**	**29**	*i*	P	**Pn**		**00 57 59.1**	**-2.8**
AKAS	**Kas**	**2.69**	**61**	*i*	P	**Pn**		**00 58 01.7**	**-0.9**
AKAS				*i*	S	**Sn**		**00 58 30.2**	**-5.5**
AKAS					IAML			00 58 41.0	
	comp=N,28nm,0.6s								
GCAM	**G?zelcaml?**	**2.77**	**9**	*i*	P	**Pn**		**00 58 06.1**	**+2.6**
AYDN	**Tasoluk**	**2.86**	**19**	*i*	P	**Pn**		**00 58 06.6**	**+1.7**
CAEL	**Denizli, Camel**	**3.04**	**44**	*i*	P	**Pn**		**00 58 08.4**	**+1.0**
CAEL					IAML			00 59 01.0	
	comp=N,37nm,0.7s								
CAEL					IAML			00 59 02.0	
	comp=E,36nm,0.9s								
TAVA	**DENIZLI_Tavas**	**3.08**	**35**	*i*	P	**Pn**		**00 58 08.1**	**+0.1**
TAVA				*i*	S	**Sb**		**00 58 49.7**	**-2.1**
TAVA					IAML			00 59 03.0	
	comp=N,22nm,0.6s								
DGB	**zmir**	**3.09**	**3**	*i*	P	**Pn**		**00 58 09.3**	**+1.3**
GOLH	**Golhisar**	**3.25**	**45**	*i*	P	**Pn**		**00 58 11.8**	**+1.5**
GOLH				*i*	S	**Sn**		**00 58 50.8**	**+1.5**
GOLH					IAML			00 59 03.0	
	comp=N,19nm,0.7s								
GOLH					IAML			00 59 13.0	
	comp=E,28nm,1.4s								
ZEYE	**Izmir, Urla-Ze**	**3.28**	**357**	*i*	P	**Pn**		**00 58 09.3**	**-1.2**
ESDC	**Sonseca Array**	**24.76**	**290**		P	**P**		**01 02 43.8**	**+2.7**
	comp=E,0.3nm,0.9s,baz=78,slow=7.7,SNR=1.8								
TORD	**Torodi Ar. Bea**	**31.34**	**232**		P	**P**		**01 03 42.2**	**+2.1**
	comp=E,0.5nm,0.8s,baz=32,slow=8.6,SNR=1.9								
MKAR	**Makanchi Array**	**42.84**	**56**		P	**P**		**01 05 16.7**	**-0.7**
	comp=E,0.4nm,1.0s,baz=274,slow=7.8,SNR=1.5								

ZUR 10 01:04:26.2, 46°33N×7°37E, h5$^{km}_{\pm1km}$, MLh0.5/6, 2D, Error ellipse: s-maj=3.7km s-min=0.9km az=95.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.06**	**301**	⇓Pg	Pg	01 04 28.1	+0.2
SENIN				⇓Pg	Pg	01 04 28.1	+0.2
	SNR=1.4						
SIOO	**Sion-Ophtalmol**	**0.10**	**175**	Sg	Sg	01 04 30.5	+0.7
ESION	**College des Cr**	**0.11**	**188**	Sg	Sg	01 04 30.5	+0.5
LKBD	**Leukerbad**	**0.19**	**73**	Sg	Sg	01 04 33.1	+0.7
GRYON	**Gryon**	**0.20**	**245**	Sg	Sg	01 04 33.2	+0.4
DIX	**Grande Dixence**	**0.26**	**174**	Pg	Pg	01 04 31.4	+0.2
DIX				Pg	Pg	01 04 31.4	+0.2
	SNR=0.5						
DIX				Sg	Sg	01 04 34.7	0.0
LAUCH	**Lauchernalp**	**0.29**	**74**	Pg	Pg	01 04 32.3	+0.4
LAUCH				Pg	Pg	01 04 32.3	+0.4
	SNR=0.5						
LAUCH				Sg	Sg	01 04 36.3	+0.5

LDG 10 01:04:35.0±0.0, 44°30N×4°84E, h4^{km}, Md1.6/2, MI1.7/9, Error ellipse: s-maj=1.3km s-min=0.7km az=10.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIVF	**Saint-Julien-l**	**0.57**	**348**	*e*Pg	Pg	01 04 45.7	-0.2
VIVF				*e*Sg	Sg	01 04 53.5	+0.2
	2.7nm,0.2s						
SMRF	**Simiane la Rot**	**0.62**	**121**	*e*Pg	Pg	01 04 47.0	+0.1
SMRF				*e*Sg	Sg	01 04 55.0	0.0
	4.0nm,0.3s						
SMRF				*e*Sn	Sn	01 04 59.5	-1.6
	3.2nm,0.2s						
LASF	**Ste Croix**	**0.74**	**253**	*e*Pg	Pg	01 04 48.7	-0.5
LASF	**Ste Croix**	**0.74**	**253**	*e*P	Pb	01 04 50.7	+0.2
LASF				*e*Sg	Sg	01 04 58.6	-0.2
	1.6nm,0.2s						
LASF				*e*Sn	Sb	01 05 01.9	+0.9
	4.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.97**	**50**	*e*Pg	Pg	01 04 53.1	-0.4
ORIF				*e*Sg	Sg	01 05 05.9	-0.2
	1.0nm,0.3s						
MBDF	**Montbardon**	**1.45**	**72**	*e*Sg	Sb	01 05 20.9	-0.5
	0.7nm,0.3s						
FRF	**La Foret Royal**	**1.50**	**119**	*e*Pn	Pn	01 05 00.6	-2.1
FRF	**La Foret Royal**	**1.50**	**119**	*e*Pg	Pn	01 05 02.8	+0.1
FRF				*e*Sn	Sn	01 05 20.1	-2.6
FRF				*e*Sg	Sb	01 05 22.6	-0.2
	1.9nm,0.2s						
LMR	**La Mourre**	**1.55**	**128**	*e*Pn	Pn	01 05 01.3	-2.0
LMR	**La Mourre**	**1.55**	**128**	*e*Pg	Pb	01 05 04.2	0.0
LMR				*e*Sn	Sn	01 05 20.4	-3.4
LMR				*e*Sg	Sb	01 05 23.6	-0.5
	1.5nm,0.2s						
SBF	**Sospel**	**1.92**	**102**	*e*Pg	Pb	01 05 10.8	+0.2
SBF				*e*Sg	Sb	01 05 35.8	+0.8
	0.9nm,0.2s						
CAF	**Calviac**	**2.08**	**288**	*e*Pn	Pn	01 05 09.2	-1.5
CAF	**Calviac**	**2.08**	**288**	*e*Pg	Pb	01 05 14.0	+0.7
CAF				*e*Sg	Sb	01 05 40.3	+0.8
	0.8nm,0.2s						
MTLF	**Montolieu**	**2.13**	**244**	*e*Pn	Pn	01 05 09.7	-1.6
MTLF	**Montolieu**	**2.13**	**244**	*e*Pg	Pb	01 05 14.3	+0.2
MTLF				*e*Sn	Sn	01 05 35.1	-3.1
MTLF				*e*Sg	Sb	01 05 41.8	+1.0
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.57**	**294**	*e*Pg	Pb	01 05 22.9	+1.3
RJF				*e*Sg	Sg	01 05 55.7	-1.8
	1.2nm,0.3s						

*IDC **10** 01:07:06.6±0.6, 5°.36S×131°.32E, h0^{km}, mb4.6/13, mb1 4.8/17, mb1mx4.5/41, mbtmp4.7/17, ML4.8/3, MS3.5/14, Ms1 3.6/14, ms1mx3.4/31, Error ellipse: s-maj=27.3km s-min=12.6km az=80.0*

*NEIC **10** 01:07:12.3±2.3, 5°.32S±0°.05×131°.52E±0°.08, h36$^{km}_{\pm5km}$, mb4.8/41, Error ellipse: s-maj=11.2km s-min=7.6km az=99.0*

*DJA **10** 01:07:15.1±0.2, 5°.2S×13°.1E±°, h54$^{km}_{\pm6km}$, M4.9/12, mb5.0/12, mB5.3/7, MLv5.0/12, Mw(mB)4.7/7, MwMwp4.8/1, Mwp5.2/1*

ISC 10 01:07:13.5±0.3, 5°.34S±0°.04×131°.45E±0°.04, h54^{km}, n140, σ1°78/140, mb4.7/37, MS3.5/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**298**	P	**Pn**	**01 07 41.9**	**+0.5**
BNDI				S	**Sn**	**01 08 02.7**	**+0.2**
FAKI	**Fak Fak**	**2.53**	**18**		**Pn**	**01 07 51.1**	**-1.1**
FAKI	**Fak Fak**	**2.53**	**18**	P	**Pn**	**01 07 52.1**	**-0.1**
FAKI				S	**Sn**	**01 08 19.2**	**-2.7**
SAUI	**Saumlaki**	**2.63**	**183**		**Pn**	**01 07 54.9**	**+1.3**
SAUI	**Saumlaki**	**2.63**	**183**	P	**Pn**	**01 07 57.2**	**+3.6**
SAUI				S	**Sn**	**01 08 28.8**	**+4.5**
KMPI	**Kaimana, Papua**	**2.80**	**54**	P	**Pn**	**01 07 56.6**	**+0.7**
KMPI				S	**Sn**	**01 08 26.5**	**-1.9**
MSAI	**Masohi**	**3.20**	**308**	P	**Pn**	**01 08 01.1**	**-0.3**
MSAI				S	**Sn**	**01 08 37.8**	**-0.5**
SIJI	**Sorong**	**4.44**	**358**	Pn	**Pn**	**01 08 16.7**	**-1.8**
	68nm,0.3s,baz=157,slow=4.5,SNR=72						
SIJI				Sn	**Sn**	**01 09 04.9**	**-4.1**
	43nm,0.3s,baz=238,slow=23,SNR=12						
SWI	**Sorong**	**4.45**	**358**	P	**Pn**	**01 08 16.8**	**-1.7**
SWI				S	**Sn**	**01 09 04.9**	**-4.2**
RKPI	**Ransiki, Papua**	**4.68**	**36**	P	**Pn**	**01 08 22.0**	**+0.3**
RKPI				S	**Sn**	**01 09 13.7**	**-1.0**
NLAI	**Namlea**	**4.81**	**296**	P	**Pn**	**01 08 25.1**	**+1.6**
LBMI	**Labuha**	**6.11**	**320**	P	**Pn**	**01 08 42.3**	**+0.9**
	0.8nm2μm115nm,0.6s						
BAKI	**Biak**	**6.21**	**49**	P	**Pn**	**01 08 44.7**	**+2.0**
	3μm299nm,0.7s						
SANI	**Sanana**	**6.36**	**301**	P	**Pn**	**01 08 44.0**	**-0.7**
	0.4nm1μm93nm,0.6s						
SANI				S	**Sn**	**01 09 55.8**	**-0.2**
	0.4nm1μm93nm,0.6s						
KDU	**Kakadu**	**7.37**	**172**	P	**Pn**	**01 08 55.8**	**-2.8**
	baz=7.3,SNR=57						
KDU				S	**Sn**	**01 10 14.1**	**-6.8**
	baz=7.3						
MTN	**Manton Dam**	**7.46**	**182**	P	**Pn**	**01 08 58.1**	**-1.8**
	baz=7.3,SNR=42						
MTN				S	**Sn**	**01 10 17.2**	**-6.0**
	baz=7.3						
MTN	**Manton Dam**	**7.46**	**182**	Pn	**Pn**	**01 08 57.9**	**-2.0**
SOEI	**Soe**	**8.36**	**238**	Pn	**Pn**	**01 09 12.7**	**+0.4**
SOEI	**Soe**	**8.36**	**238**	P	**Pn**	**01 09 13.5**	**+1.2**
	2μm234nm,1.0s						
BATI	**Baumata**	**9.11**	**237**	Pn	**Pn**	**01 09 23.0**	**+0.6**
	21nm,0.3s,baz=85,slow=2.2,SNR=8.1						
BATI				Sn	**Sn**	**01 11 05.0**	**+1.4**
	9.1nm,0.3s,baz=28,slow=17,SNR=1.9						
BATI	**Baumata**	**9.11**	**237**	P	**Pn**	**01 09 24.9**	**+2.5**
	92nm,0.9s						
GENI	**Genyem**	**9.11**	**73**	P	**Pn**	**01 09 24.6**	**+2.1**
	89nm,0.6s						
MMRI	**Maumere**	**9.71**	**250**	Pn	**Pn**	**01 09 32.1**	**+1.4**
MMRI	**Maumere**	**9.71**	**250**	P	Pn	01 09 42.6	+12
KNRA	**Kununurra**	**10.61**	**194**	P	**Pn**	**01 09 39.7**	**-3.3**
	baz=10,SNR=48						
KNRA	**Kununurra**	**10.61**	**194**	Pn	**Pn**	**01 09 39.6**	**-3.3**
MRSI	**Marisa**	**11.12**	**301**	P	**Pn**	**01 09 51.2**	**+1.3**
	19nm,0.5s						
BNSI	**Bone**	**11.34**	**274**	P	Pn	01 09 59.0	+6.0
KAPI	**Kappang**	**11.66**	**271**	Pn	**Pn**	**01 10 01.9**	**+4.6**
	1.8nm,0.3s,baz=121,slow=9.7,SNR=4.4						
KAPI	**Kappang**	**11.66**	**271**	Pn	**Pn**	**01 09 56.8**	**-0.5**
TTSI	**Tana Toraja**	**11.82**	**281**	P	Pn	01 10 10.7	+11
TOLI2	**Tolitoli**	**12.43**	**301**	Pn	**Pn**	**01 10 04.8**	**-3.1**
FITZ	**Fitzroy Crossi**	**13.89**	**204**	Pn	Pn	01 10 22.0	-5.8
	2.8nm,0.3s,baz=19,slow=8.2,SNR=62						
FITZ				Sn	Sn	01 12 44.5	-16
	1.1nm,0.3s,baz=118,slow=22,SNR=2.5						
FITZ				LR	LR	01 17 29.5	
	comp=Z,224nm,18.7s,baz=22,slow=45						
FITZ	**Fitzroy Crossi**	**13.89**	**204**	P	Pn	01 10 22.2	-5.5
	baz=14,SNR=18						
WRA	**Warramunga Arr**	**14.79**	**169**	Pn	Pn	01 10 33.3	-6.3
	4.2nm,0.3s,baz=348,slow=14,SNR=47						
WRA				Sn	Sn	01 13 09.0	-13
	7.4nm,0.3s,baz=345,slow=23,SNR=11						
WB2	**Warramunga Arr**	**14.79**	**169**	P	Pn	01 10 34.2	-5.4
	baz=15						
PMG	**Port Moresby**	**16.09**	**105**	Pn	**Pn**	**01 10 56.5**	**+0.1**
	4.6nm,0.3s,baz=312,slow=9.0,SNR=9.1						
PMG				LR	LR	01 18 50.5	
	comp=Z,320nm,19.4s,baz=270,slow=43						
PMG	**Port Moresby**	**16.09**	**105**	Pn	**Pn**	**01 10 53.3**	**-3.1**
PMG				IAmb	IAmb	01 10 59.6	
	comp=Z,70nm,0.9s						
BBKI	**Banjar Baru**	**16.66**	**276**	P	**P**	**01 11 06.7**	**+1.5**
	comp=Z,38nm,1.0s						
QIS	**Mount Isa**	**17.08**	**153**	P	**Pn**	**01 11 05.3**	**-3.4**
	baz=17,SNR=14						
MTSU	**Mount Surprise**	**17.88**	**136**	P	**Pn**	**01 11 17.0**	**-1.6**
	baz=18,SNR=19						
AS31	**Alice Springs**	**18.37**	**173**	P	**P**	**01 11 21.7**	**-2.4**
ASAR	**Alice Springs**	**18.38**	**173**	P	**P**	**01 11 21.5**	**-2.6**
	comp=Z,4.2nm,0.3s,baz=353,slow=10,SNR=49						
ASAR				S	Sn	01 14 34.8	-14
	comp=Z,1.8nm,0.3s,baz=354,slow=25,SNR=5.8						
PSA00	**Pilbara Seismi**	**19.67**	**214**	P	**P**	**01 11 36.4**	**-1.8**
PSA00				IAmb	IAmb	01 11 43.6	
	comp=Z,33nm,0.7s						
WRKA	**Warakurna**	**19.82**	**188**	P	**P**	**01 11 39.3**	**-0.6**
	baz=20,SNR=85						
CTA	**Charters Tower**	**20.55**	**137**	P	**P**	**01 11 48.8**	**+1.0**
	comp=Z,33nm,0.8s,baz=309,slow=13,SNR=16						
CTA				S	**S**	**01 15 37.0**	**+2.2**
	comp=Z,5.8nm,0.7s,baz=12,slow=14,SNR=2.2						
CTA	**Charters Tower**	**20.55**	**137**	P	**P**	**01 11 49.1**	**+1.3**
	baz=20						
CTAO	**Charters Tower**	**20.55**	**137**	P	**P**	**01 11 49.1**	**+1.3**
CTAO				IAmb	IAmb	01 11 50.4	
	comp=Z,55nm,1.0s						
LEM	**Lembang**	**23.74**	**265**	LR	LR	01 23 02.7	
	comp=Z,207nm,19.6s,baz=172,slow=40						
QLP	**Quilpie**	**24.40**	**151**	P	**P**	**01 12 27.5**	**+0.5**
	baz=24,SNR=3.5						
MEEK	**Meekatharra**	**24.47**	**209**	P	**P**	**01 12 26.6**	**-1.0**
	baz=24,SNR=4.2						
FORT	**Forrest**	**25.51**	**187**	P	**P**	**01 12 36.8**	**-0.2**
	baz=26,SNR=13						
FORT	**Forrest**	**25.51**	**187**	P	**P**	**01 12 36.8**	**-0.2**
BBOO	**Buckleboo**	**27.67**	**172**	P	**P**	**01 12 55.5**	**-1.0**
BBOO				IAmb	IAmb	01 13 00.6	
	comp=Z,11nm,0.8s						
MORW	**Morawa**	**27.75**	**210**	P	**P**	**01 12 56.8**	**-0.5**
MORW				IAmb	IAmb	01 13 10.5	
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**28.06**	**161**	P	**P**	**01 12 60.0**	**0.0**
	comp=Z,4.4nm,0.3s,baz=343,slow=8.4,SNR=15						
STKA				LR	LR	01 25 30.2	
	comp=Z,245nm,18.9s,baz=345,slow=39						
STKA	**Stephens Creek**	**28.06**	**161**	P	**P**	**01 13 00.1**	**+0.1**
HNR	**Honiara**	**28.54**	**100**	LR	LR	01 26 45.6	
	comp=Z,103nm,19.0s,baz=244,slow=41						
JOW	**Kunigami**	**32.13**	**355**	LR	LR	01 25 16.4	
	comp=Z,87nm,19.6s,baz=305,slow=34						
QIZ	**Qiongzhong**	**32.24**	**319**	P	**P**	**01 13 37.3**	**+0.2**
QIZ				S	**S**	**01 18 51.0**	**+4.2**
QIZ				sS	**sS**	**01 19 05.7**	**-1.6**
QIZ				L	L		
	comp=Z,330nm,14.9s						
QIZ				L	L		
	comp=Z,200nm,9.2s						
QIZ				L	L		
	comp=Z,240nm,19.6s						
JCJ	**Chichijima**	**33.87**	**17**	LR	LR	01 25 11.4	
	comp=Z,88nm,21.8s,baz=118,slow=32						
CAN	**Canberra**	**33.95**	**154**	P	**P**	**01 13 53.3**	**+1.4**
CAN				IAmb	IAmb	01 13 53.7	
	comp=Z,14nm,0.9s						
TOO	**Toolangi**	**34.55**	**160**	P	**P**	**01 13 58.7**	**+1.7**
TOO				IAmb	IAmb	01 13 59.7	
	comp=Z,11nm,0.8s						
DZM	**Mont Dzumac**	**37.70**	**120**	LR	LR	01 29 27.3	
	comp=Z,81nm,20.9s,baz=131,slow=36						
JNU	**Nakatsue**	**38.25**	**359**	P	**P**	**01 14 29.1**	**+0.5**
JHJ	**Hachijo jima 2**	**39.06**	**11**	LR	LR	01 29 31.2	
	comp=Z,118nm,19.4s,baz=128,slow=34						
NJ2	**Nanjing**	**39.07**	**343**	*e*P	**P**	**01 14 38.0**	**+2.6**
WHN	**Wuhan**	**39.26**	**336**	P	**P**	**01 14 38.3**	**+1.3**
GYA	**Guiyang**	**39.70**	**324**	*e*P	**P**	**01 14 43.6**	**+2.7**
GYA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CM31	**Chiang Mai Arr**	**39.83**	**307**	P	**P**	**01 14 41.9**	**-0.1**
CM31				IAmb	IAmb	01 15 01.3	
	comp=Z,20nm,1.5s						
CMAR	**Chiang Mai Arr**	**39.83**	**307**	P	**P**	**01 14 42.0**	**0.0**
	comp=Z,4.4nm,0.5s,baz=137,slow=7.5,SNR=17						
CMAR	**Chiang Mai Arr**	**39.83**	**307**	P	**P**	**01 14 41.4**	**-0.6**
CHTO	**Chiang Mai**	**40.02**	**308**	P	**P**	**01 14 42.7**	**-0.9**
JHS	**Saijyo**	**40.15**	**2**	P	**P**	**01 14 45.2**	**+0.8**
JWT	**Wachi**	**40.58**	**5**	P	**P**	**01 14 48.4**	**+0.5**
JWT				IAmb	IAmb	01 14 49.5	
	comp=Z,25nm,0.8s						
JGF	**Kuroka**	**41.10**	**7**	P	**P**	**01 14 53.2**	**+1.0**
MJAR	**Matsushiro Arr**	**42.14**	**8**	P	**P**	**01 14 59.2**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=182,slow=9.5,SNR=10.0						
MJAR				LR	LR	01 30 30.9	
	comp=Z,71nm,21.5s,baz=195,slow=33						
MJAR	**Matsushiro Arr**	**42.14**	**8**	P	**P**	**01 14 60.0**	**-0.8**
MAJO	**Matsushiro**	**42.14**	**8**	P	**P**	**01 14 59.9**	**-0.8**
MAJO				IAmb	IAmb	01 15 01.4	
	comp=Z,13nm,1.1s						
MAT	**Matsushiro**	**42.14**	**8**	P	**P**	**01 15 00.0**	**-0.7**
KSAR	**Wonju Array Be**	**42.69**	**356**	P	**P**	**01 15 05.0**	**-0.1**
KSRS	**Korea Array**	**42.70**	**356**	P	**P**	**01 15 05.6**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=170,slow=8.6,SNR=7.2						
KSRS				LR	LR	01 33 38.8	
	comp=Z,47nm,18.9s,baz=171,slow=37						
JSD	**Sado**	**43.62**	**8**	P	**P**	**01 15 12.9**	**+0.3**
JSD				IAmb	IAmb	01 15 14.2	
	comp=Z,16nm,0.6s						
CD2	**Chengdu**	**44.72**	**325**	P	**P**	**01 15 21.3**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				L	L		
	comp=Z,220nm,16.5s						
CD2				L	L		
	comp=Z,200nm,19.2s						
CD2				L	L		
	comp=Z,210nm,11.2s						
LZH	**Lanzhou**	**48.66**	**330**	*e*P	**P**	**01 15 52.8**	**+0.2**
LZH				pP	pP	01 16 04.8	-0.2
LZH				sP	sP	01 16 09.3	-1.1
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
CN2	**Changchun**	**49.21**	**354**	*e*P	**P**	**01 15 57.1**	**+0.7**
CN2				*e*S	S	01 23 21.6	+23
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				L	L		
	comp=Z,100nm,12.0s						
CN2				L	L		
	comp=Z,100nm,12.0s						
CN2				L	L		
	comp=Z,100nm,11.0s						
USA0B	**Ussuriysk Arra**	**49.31**	**1**	P	**P**	**01 15 57.1**	**0.0**
USA0B				IAmb	IAmb	01 15 58.1	
	comp=Z,5.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**49.31**	**1**	P	**P**	**01 15 57.9**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=179,slow=7.2,SNR=13						
HHC	**Hu-ho-hao-te**	**49.45**	**340**	*e*P	**P**	**01 15 58.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,55nm,6.0s						
LBZ	**Lake Benmore**	**51.59**	**145**	P	**P**	**01 16 15.6**	**+1.1**
BKZ	**Black Stump Fm**	**52.77**	**136**	P	**P**	**01 16 23.3**	**-0.1**
GTA	**Gaotai**	**53.25**	**330**	*e*P	**P**	**01 16 31.0**	**+4.0**
GTA				pP	sP	01 16 45.6	+0.7
GTA				sP	pwP	01 16 51.4	+3.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,75nm,5.2s						
GTA				L	L		
	comp=Z,120nm,16.7s						
GTA				L	L		
	comp=Z,91nm,16.0s						
GTA				L	L		
	comp=Z,190nm,18.9s						
PEA0B	**Petropavlovsk-**	**62.31**	**18**	P	**P**	**01 17 31.5**	**+1.4**
PEA0B				IAmb	IAmb	01 17 39.6	
	comp=Z,14nm,1.4s						
PETK	**Petropavlovsk-**	**62.31**	**18**	P	**P**	**01 17 31.4**	**+1.3**
	comp=Z,4.4nm,0.7s,baz=184,slow=5.7,SNR=13						
PETK				LR	LR	01 41 11.2	
	comp=Z,19nm,21.8s,baz=211,slow=33						
PETK	**Petropavlovsk-**	**62.31**	**18**	P	**P**	**01 17 31.5**	**+1.4**
CASY	**Casey**	**62.56**	**189**	P	**P**	**01 17 31.3**	**-0.3**
CASY				IAmb	IAmb	01 17 35.2	
	comp=Z,6.3nm,1.4s						
WMQ	**Urumqi**	**62.82**	**326**	*e*P	**P**	**01 17 34.8**	**+1.0**
WMQ				sP	sP	01 17 51.5	-0.5
WMQ				pmax	pmax		
	comp=Z,28nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,210nm,4.7s						
SHLS	**Shalkode**	**67.31**	**321**	*e*P	**P**	**01 17 59.5**	**-3.5**
	baz=322						
UZB	**Uzynbulak**	**67.58**	**321**	*e*P	P	01 17 59.8	-5.0
	baz=321						
MK31	**Makanchi Array**	**67.65**	**326**	P	**P**	**01 18 05.2**	**+0.2**
MK31				IAmb	IAmb	01 18 06.2	
	comp=Z,7.6nm,0.6s						
MKAR	**Makanchi Array**	**67.65**	**326**	P	**P**	**01 18 05.5**	**+0.5**
	comp=Z,14nm,0.6s,baz=115,slow=8.2,SNR=31						
MKAR				LR	LR	01 49 04.5	
	comp=Z,17nm,21.8s,baz=147,slow=37						
MKAR	**Makanchi Array**	**67.65**	**326**	P	**P**	**01 18 05.4**	**+0.4**
MAKZ	**Makanchi**	**67.84**	**326**	P	**P**	**01 18 06.2**	**+0.1**
SATY	**Saty**	**67.92**	**321**	*e*P	**P**	**01 18 06.2**	**-0.7**
	baz=321						
KPKS	**Kokpek**	**67.96**	**321**	*e*P	**P**	**01 18 06.2**	**-0.9**
	baz=321						
KDJ	**Kajisay**	**68.24**	**319**	P	**P**	**01 18 09.1**	**+0.2**
KDJ				IAmb	IAmb	01 18 28.7	
	comp=Z,8.9nm,1.1s						
MDOK	**Medeo**	**68.83**	**320**	*e*P	**P**	**01 18 11.2**	**-1.4**
	baz=320						
MTBS	**Maitube**	**69.21**	**320**	*e*P	**P**	**01 18 13.3**	**-1.6**
	baz=320						
CHKK	**Chushkaly**	**69.22**	**321**	*e*P	**P**	**01 18 13.6**	**-1.2**
	baz=321						
BOOM	**Boomskoye usch**	**69.22**	**319**	P	**P**	**01 18 15.7**	**+0.7**
BOOM				IAmb	IAmb	01 18 34.7	
	comp=Z,7.3nm,1.1s						
KUU	**Kurty**	**69.64**	**321**	*e*P	**P**	**01 18 16.7**	**-0.8**
	comp=Z,6.4nm,0.5s,baz=321						
SEY	**Seymchan**	**69.92**	**10**	P	**P**	**01 18 19.4**	**+0.7**
	comp=Z,4.4nm,0.7s,baz=166,slow=5.3,SNR=5.7						
SGDS	**Sogindy**	**70.52**	**320**	*e*P	**P**	**01 18 21.4**	**-1.4**
	baz=320						
ARSB	**Arslanbob**	**70.65**	**317**	P	**P**	**01 18 23.8**	**0.0**
ZALV	**Zalesovo Beam**	**70.75**	**333**	P	**P**	**01 18 23.3**	**-0.6**
	comp=Z,4.4nm,0.5s,baz=126,slow=5.9,SNR=2.0						
ZALV	**Zalesovo Beam**	**70.75**	**333**	P	**P**	**01 18 24.1**	**+0.1**
GAR	**Garm**	**71.54**	**314**	P	**P**	**01 18 29.5**	**+0.3**
BTK

MDSI	**Maura Dua**	**1.95**	**11**	P	**Pn**	**01 07 51.3**	**+0.6**
MDSI				S	**Sn**	**01 08 16.3**	**+2.3**
MNAI	**Manna**	**2.21**	**337**	Pn	**Pn**	**01 07 55.1**	**+0.8**
MNAI	**Manna**	**2.21**	**337**	P	**Pn**	**01 07 55.1**	**+0.8**
MNAI				S	**Sn**	**01 08 25.0**	**+4.6**
LHSI	**Lahat**	**2.58**	**354**	P	**Pn**	**01 08 00.4**	**+1.0**
TNG	**Tangerang**	**2.83**	**85**	P	**Pn**	**01 08 03.2**	**+0.4**
TNG				P	**Pn**	**01 08 02.8**	**0.0**
KSI	**Kapahiang**	**3.00**	**336**	P	**Pn**	**01 08 05.6**	**+0.4**
CBJI	**Citeko**	**3.02**	**90**	P	**Pn**	**01 08 07.3**	**+1.8**
CBJI				S	**Sn**	**01 08 47.9**	**+7.4**
PMBI	**Palembang**	**3.59**	**16**	Pn	**Pn**	**01 08 13.0**	**-0.3**
LEM	**Lembang**	**3.81**	**96**	Pn	**Pn**	**01 08 16.1**	**-0.3**
	12nm,0.3s,baz=174,slow=19,SNR=14						
LEM				Lg	Lg	01 09 11.2	
	14nm,0.3s,baz=166,slow=21,SNR=6.4						
LEM				LR	LR	01 09 43.7	
	comp=Z,456nm,20.4s,baz=294,slow=41						
LEM	**Lembang**	**3.81**	**96**	P	**Pn**	**01 08 17.4**	**+1.0**
XMIS	**Christmas Isla**	**4.44**	**156**	Pn	Pn	01 08 18.7	-6.2
PPBI	**Pangkal Pinang**	**4.82**	**29**	P	**Pn**	**01 08 31.0**	**+0.9**
KRJI	**Kerinci**	**4.89**	**331**	P	**Pn**	**01 08 32.6**	**+1.4**
KRJI				S	**Sn**	**01 09 28.6**	**+2.1**
KPJI	**Karang Pucung**	**5.17**	**101**	P	**Pn**	**01 08 35.5**	**+0.6**
	0.3nm54nm,0.9s						
TPI	**Tanjungpandan**	**5.28**	**47**	P	**Pn**	**01 08 36.8**	**+0.3**
DSRI	**Dabo**	**5.94**	**7**	P	**Pn**	**01 08 47.3**	**+1.7**
	0.2nm39nm,0.9s						
RGRI	**Rengat**	**6.20**	**346**	P	**Pn**	**01 08 48.1**	**-1.0**
	7.0nm80µm886nm,0.5s						
PDSI	**Padang**	**6.40**	**328**	P	**Pn**	**01 08 51.3**	**-0.6**
	0.3nm32nm,0.4s						
PDSI				S	**Sn**	**01 10 01.6**	**-2.1**
	0.3nm32nm,0.4s						
UGM	**Wanagama**	**6.83**	**103**	Pn	**Pn**	**01 08 58.0**	**+0.3**
UGM	**Wanagama**	**6.83**	**103**	P	**Pn**	**01 08 58.4**	**+0.6**
	1.1nm113nm,1.9s						
SISI	**Saibi**	**6.90**	**317**	P	**Pn**	**01 08 59.8**	**+1.1**
	0.5nm55nm,0.6s						
SISI				S	**Sn**	**01 10 13.5**	**-2.5**
	0.5nm55nm,0.6s						
BKNI	**Bangkinang**	**7.24**	**337**	Pn	**Pn**	**01 09 02.2**	**-1.2**
PWJI	**Pagerwojo**	**8.09**	**102**	P	**Pn**	**01 09 16.5**	**+1.4**
	0.3nm49nm,0.9s						
PBSI	**Pulau Batu**	**8.38**	**319**	P	**Pn**	**01 09 17.1**	**-1.9**
	58nm,1.4s						
GSI	**Gunungsitoli**	**9.87**	**321**	Pn	**Pn**	**01 09 37.4**	**-2.0**
GSI	**Gunungsitoli**	**9.87**	**321**	P	**Pn**	**01 09 38.7**	**-0.7**
	38nm,0.6s						
STKI	**Sintang**	**10.00**	**50**	P	Pn	01 09 48.3	+7.1
	12µm29nm,0.6s						
JAGI	**Jajag, Banyuwa**	**10.46**	**102**		**Pn**	**01 09 46.1**	**-1.4**
SRBI	**Singaraja**	**11.44**	**99**	P	**Pn**	**01 10 00.9**	**+0.1**
	66nm,0.9s						
KAPI	**Kappang**	**15.93**	**86**	LR	LR	01 17 16.2	
	comp=Z,396nm,19.1s,baz=238,slow=38						
TOLI2	**Tolitoli**	**18.52**	**67**	P	**Pn**	**01 11 33.4**	**+0.3**
APSI	**Ampana**	**18.62**	**74**	P	**P**	**01 11 31.9**	**-1.7**
	57nm,1.0s						
MRSI	**Marisa**	**19.35**	**70**	P	**P**	**01 11 41.4**	**-0.2**
	70nm,0.6s						
SRAK	**Srakaew**	**20.36**	**355**	P	Pn	01 11 55.0	0.0
	26nm,1.0s						
SOEI	**Soe**	**20.52**	**101**	P	**P**	**01 11 53.2**	**-1.3**
UBPT	**Khong Chiam**	**21.61**	**4**	P	**P**	**01 12 03.3**	**-2.7**
CHAI	**Chaiyaphum**	**22.24**	**355**	P	**P**	**01 12 14.0**	**+1.2**
	3.8nm0.9s						
CM04	**Chiang Mai Arr**	**25.11**	**349**	P	**P**	**01 12 40.0**	**-0.3**
	10nm,0.8s						
CM15	**Chiang Mai Arr**	**25.17**	**349**	P	**P**	**01 12 41.0**	**+0.1**
	13nm,0.8s						
CM31	**Chiang Mai Arr**	**25.17**	**349**	P	**P**	**01 12 42.2**	**+1.3**
CM31	**Chiang Mai Arr**	**25.17**	**349**	P	**P**	**01 12 40.8**	**-0.1**
CM31				IAmb	IAmb	01 12 42.6	
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.17**	**349**	P	**P**	**01 12 39.8**	**-1.1**
	comp=Z,9.1nm,0.9s,baz=182,slow=8.9,SNR=33						
CMAR				LR	LR	01 22 53.2	
	comp=Z,130nm,19.0s,baz=204,slow=38						
CMAR	**Chiang Mai Arr**	**25.17**	**349**	P	**P**	**01 12 40.0**	**-0.9**
CHTO	**Chiang Mai**	**25.52**	**349**	P	**P**	**01 12 43.5**	**-0.6**
PAYA	**Payao**	**25.90**	**351**	P	**P**	**01 12 47.0**	**-0.5**
PALK	**Pallekele**	**26.76**	**300**	LR	LR	01 23 37.3	
	comp=Z,119nm,18.2s,baz=227,slow=37						
NWAO	**Narrogin (SRO)**	**29.19**	**156**	LR	LR	01 23 50.3	
	comp=Z,203nm,18.8s,baz=334,slow=34						
H01W3	**Cape Leeuwin H**	**29.89**	**163**	T	T	01 44 33.9	
	baz=343						
H01W2	**Cape Leeuwin H**	**29.91**	**163**	T	T	01 44 22.8	
	baz=343,slow=74						
H01W1	**Cape Leeuwin H**	**29.91**	**163**	T	T	01 44 25.0	
	baz=343,slow=74						
H08S2	**Diego Garcia H**	**31.10**	**266**	T	T	01 46 05.8	
	baz=90,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**31.11**	**266**	T	T	01 46 07.0	
	baz=90,slow=75,SNR=9.6						
H08S1	**Diego Garcia H**	**31.12**	**266**	T	T	01 46 00.6	
	baz=90,slow=75,SNR=14						
KMI	**Kunming**	**31.36**	**358**	⇓P	**P**	**01 13 36.9**	**+0.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GYA	**Guiyang**	**32.79**	**5**	*eP*	**P**	**01 13 49.0**	**+0.2**
ASAR	**Alice Springs**	**33.63**	**124**	P	**P**	**01 13 56.0**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=304,slow=8.4,SNR=4.9						
ASAR	**Alice Springs**	**33.63**	**124**	P	**P**	**01 13 55.1**	**-1.1**
AS31	**Alice Springs**	**33.63**	**124**	P	**P**	**01 13 55.8**	**-0.4**
SHL	**Shillong**	**33.83**	**340**	P	**P**	**01 13 57.3**	**-0.7**
SHL				IAmb	IAmb	01 14 02.9	
	comp=Z,15nm,1.0s						
YULB	**Yu-li**	**34.20**	**29**	P	**P**	**01 14 01.7**	**+0.8**
YULB				IAmb	IAmb	01 14 08.3	
	comp=Z,8.1nm,0.7s						
ODAN	**Odare**	**36.70**	**335**	*eP*	**P**	**01 14 23.6**	**+0.9**
	comp=Z,38nm,0.6s						
ENH	**Enshi**	**36.88**	**8**	P	**P**	**01 14 23.4**	**-0.4**
ENH				IAmb	IAmb	01 14 24.2	
	comp=Z,10nm,0.7s						
TAPN	**Taplejung**	**37.00**	**336**	*eP*	**P**	**01 14 26.3**	**+1.0**
	comp=Z,59nm,0.9s						
RAMN	**Ramite**	**37.12**	**334**	*eP*	**P**	**01 14 27.8**	**+1.6**
	comp=Z,24nm,0.5s						
LSA	**Lhasa**	**37.91**	**342**	P	**P**	**01 14 32.8**	**-0.3**
LSA				IAmb	IAmb	01 14 34.4	
	comp=Z,5.2nm,0.5s						
JIRN	**Jiri**	**37.91**	**334**	*eP*	**P**	**01 14 34.4**	**+1.3**
	comp=Z,82nm,0.7s						
PKI	**Pulchoki**	**38.18**	**333**	*eP*	**P**	**01 14 35.8**	**+0.5**
PKIN	**Phulchoki**	**38.19**	**333**	*eP*	**P**	**01 14 35.8**	**+0.5**
	comp=Z,17nm,0.6s						
GUN	**Gumba**	**38.26**	**334**	*eP*	**P**	**01 14 37.2**	**+1.2**
KKN	**Kakani**	**38.43**	**333**	*eP*	**P**	**01 14 37.8**	**+0.6**
	comp=Z,50nm,0.7s						
GKN	**Gorkha**	**38.90**	**332**	*eP*	**P**	**01 14 42.0**	**+0.8**
KOLN	**Koldanda**	**39.19**	**331**	*eP*	**P**	**01 14 44.6**	**+1.0**
	comp=Z,88nm,0.7s						
DANN	**Dangsing**	**39.60**	**332**	*eP*	**P**	**01 14 48.0**	**+0.8**
	comp=Z,112nm,0.6s						
PYUN	**Piuthan**	**39.76**	**331**	*eP*	**P**	**01 14 49.5**	**+1.1**
	comp=Z,55nm,0.7s						
XAN	**Xi'an**	**40.52**	**7**	P	**P**	**01 14 53.1**	**-1.3**
XAN				pP	pP	01 15 01.3	-5.8
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2	**Nanjing**	**40.85**	**20**	*eP*	**P**	**01 14 56.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
PMG	**Port Moresby**	**43.02**	**97**	P	**P**	**01 15 14.4**	**-0.8**
	comp=Z,12nm,0.3s,baz=269,slow=5.6,SNR=5.9						
PMG	**Port Moresby**	**43.02**	**97**	P	**P**	**01 15 13.9**	**-1.2**
PMG				IAmb	IAmb	01 15 15.2	
	comp=Z,34nm,0.8s						
STKA	**Stephens Creek**	**43.41**	**131**	P	**P**	**01 15 18.4**	**+0.4**
	comp=Z,6.3nm,0.6s,baz=290,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**43.41**	**131**	P	**P**	**01 15 17.8**	**-0.2**
GTA	**Gaotai**	**45.74**	**356**	*eP*	**P**	**01 15 38.0**	**+1.4**
GTA				pP	pwP	01 15 51.4	-0.9
GTA				sP	sP	01 15 56.0	+0.9
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,33nm,5.6s						
GTA				L	L		
	comp=Z,150nm,18.9s						
GTA				L	L		
	comp=Z,88nm,19.6s						
GTA				L	L		
	comp=Z,220nm,20.7s						
JTU	**Tsushima**	**47.35**	**29**	P	**P**	**01 15 48.3**	**-0.8**
JTU				IAmb	IAmb	01 15 50.5	
	comp=Z,7.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**47.56**	**8**	*eP*	**P**	**01 15 47.6**	**-3.2**
HHC	**Hu-ho-hao-te**	**47.56**	**8**	*eP*	**P**	**01 15 51.1**	**+0.3**
HHC				S	**S**	**01 22 45.1**	**+2.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,73nm,6.3s						
HHC				L	L		
	comp=Z,240nm,17.7s						
HHC				L	L		
	comp=Z,110nm,14.9s						
HHC				L	L		
	comp=Z,220nm,19.2s						
BJT	**Baijiatuan**	**47.59**	**13**	P	**P**	**01 15 50.7**	**-0.1**
BJI	**Beijing**	**47.61**	**13**	P	**P**	**01 15 50.9**	**-0.1**
BJI				pmax	pmax		
	comp=Z,21nm,0.6s						
BJI				L	L		
	comp=Z,130nm,19.4s						
BJI				L	L		
	comp=Z,120nm,15.9s						
BJI				L	L		
	comp=Z,170nm,28.4s						
JMN	**Monobe**	**49.04**	**34**	P	**P**	**01 16 02.0**	**-0.3**
JMN				IAmb	IAmb	01 16 04.1	
	comp=Z,16nm,0.9s						
KSAR	**Wonju Array Be**	**49.08**	**25**	P	**P**	**01 16 03.3**	**+0.9**
KSRS	**Korea Array**	**49.10**	**25**	P	**P**	**01 16 02.3**	**-0.3**
	comp=Z,8.2nm,0.7s,baz=218,slow=7.6,SNR=31						
KS19	**Wonju Array Si**	**49.12**	**25**	P	**P**	**01 16 02.8**	**+0.1**
KS19				IAmb	IAmb	01 16 03.5	
	comp=Z,10nm,0.7s						
NIL	**Nilore**	**49.25**	**326**	P	**P**	**01 16 03.8**	**-0.1**
JHS	**Saijyo**	**49.60**	**32**	P	**P**	**01 16 05.5**	**-0.9**
JWT	**Wachi**	**51.04**	**33**	P	**P**	**01 16 16.3**	**-1.0**
JWT				IAmb	IAmb	01 16 17.1	
	comp=Z,14nm,0.7s						
WMQ	**Urumqi**	**52.08**	**345**	*eP*	**P**	**01 16 26.7**	**+1.7**
WMQ				pP	pP	01 16 38.8	+0.6
WMQ				pmax	pmax		
	comp=Z,47nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.7s						
MAT	**Matsushiro**	**53.51**	**34**	P	**P**	**01 16 33.4**	**-2.3**
MJAR	**Matsushiro Arr**	**53.51**	**34**	P	**P**	**01 16 33.9**	**-1.8**
	comp=Z,2.5nm,0.5s,baz=213,slow=7.4,SNR=6.2						
MJAR	**Matsushiro Arr**	**53.51**	**34**	P	**P**	**01 16 34.3**	**-1.4**
CN2	**Changchun**	**53.67**	**19**	*eP*	**P**	**01 16 34.7**	**-2.0**
CN2				*eS*	**S**	**01 24 03.5**	**-3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				L	L		
	comp=Z,100nm,18.0s						
CN2				L	L		
	comp=Z,100nm,18.0s						
CN2				L	L		
	comp=Z,200nm,19.0s						
SHLS	**Shalkode**	**54.06**	**338**	*eP*	**P**	**01 16 39.0**	**-0.6**
	comp=Z,11nm,0.7s,baz=338						
SONM	**Songino Array**	**54.06**	**2**	P	**P**	**01 16 40.4**	**+0.8**
	comp=Z,19nm,0.7s,baz=179,slow=9.0,SNR=69						
SONM	**Songino Array**	**54.06**	**2**	P	**P**	**01 16 40.2**	**+0.6**
KDJ	**Kajisay**	**54.07**	**336**	P	**P**	**01 16 40.9**	**+1.0**
KDJ				IAmb	IAmb	01 16 42.5	
	comp=Z,16nm,0.8s						
ULN	**Ulaanbaatar**	**54.12**	**3**	P	**P**	**01 16 40.0**	**-0.1**
ULN				IAmb	IAmb	01 16 41.3	
	comp=Z,11nm,0.8s						
UZB	**Uzynbulak**	**54.21**	**338**	*eP*	**P**	**01 16 41.3**	**+0.5**
	comp=Z,8.8nm,0.6s,baz=338						
SATY	**Saty**	**54.37**	**337**	*eP*	**P**	**01 16 41.8**	**-0.2**
	baz=337						
DRK	**Karamyk**	**54.41**	**330**	P	**P**	**01 16 42.9**	**+0.4**
KPKS	**Kokpek**	**54.61**	**338**	*eP*	**P**	**01 16 43.9**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=337						
GAR	**Garm**	**54.81**	**328**	P	**P**	**01 16 44.4**	**-0.8**
BOOM	**Boomskoye usch**	**54.89**	**335**	P	**P**	**01 16 45.8**	**0.0**
BOOM				IAmb	IAmb	01 16 47.4	
	comp=Z,13nm,1.4s						
MDOK	**Medeo**	**54.99**	**336**	*eP*	**P**	**01 16 44.5**	**-2.0**
	baz=336						
CHGR	**Chuyangaron**	**55.17**	**327**	P	**P**	**01 16 45.8**	**-2.0**
MTBS	**Maitube**	**55.21**	**336**	*eP*	**P**	**01 16 46.6**	**-1.4**
	baz=336						
BTK	**Batken**	**55.34**	**329**	IAmb	IAmb	01 16 50.4	
	comp=Z,9.2nm,0.6s						
AAK	**Ala-Archa**	**55.62**	**334**	P	**P**	**01 16 51.2**	**+0.1**
KUU	**Kurty**	**55.88**	**336**	*eP*	**P**	**01 16 52.0**	**-0.7**
	comp=Z,19nm,1.1s,baz=336						
SGDS	**Sogindy**	**56.23**	**335**	*eP*	**P**	**01 16 54.1**	**-1.1**
	baz=334						
MK31	**Makanchi Array**	**56.31**	**342**	P	**P**	**01 16 56.1**	**+0.4**
MK31				IAmb	IAmb	01 16 57.1	
	comp=Z,6.3nm,0.8s						
MKAR	**Makanchi Array**	**56.31**	**342**	P	**P**	**01 16 55.8**	**+0.1**
	comp=Z,10nm,0.7s,baz=146,slow=7.9,SNR=73						
MKAR	**Makanchi Array**	**56.31**	**342**	P	**P**	**01 16 55.5**	**-0.2**
MAKZ	**Makanchi**	**56.42**	**342**	P	**P**	**01 16 56.6**	**+0.1**
USA0B	**Ussuriysk Arra**	**56.42**	**24**	P	**P**	**01 16 56.2**	**-0.3**
USA0B				IAmb	IAmb	01 16 57.0	
	comp=Z,15nm,1.0s						
USRK	**Ussuriysk Ar.**	**56.42**	**24**	P	**P**	**01 16 56.0**	**-0.5**
	comp=Z,9.2nm,0.7s,baz=208,slow=6.1,SNR=11						
USRK	**Ussuriysk Ar.**	**56.42**	**24**	P	**P**	**01 16 56.2**	**-0.3**
HIA	**Hailar**	**57.17**	**12**	P	**P**	**01 17 00.4**	**-1.3**
HIA				IAmb	IAmb	01 17 01.2	
	comp=Z,9.1nm,0.6s						
BTLS	**Baital**	**57.76**	**335**	*eP*	**P**	**01 17 04.1**	**-1.9**
	baz=335						
KK31	**Karatay Array**	**57.80**	**332**	P	**P**	**01 17 06.4**	**+0.1**
KKAR	**Karatay Array**	**57.80**	**332**	P	**P**	**01 17 06.5**	**+0.2**
SEM	**Semipalatinsk**	**60.15**	**343**	*eP*	**P**	**01 17 20.6**	**-2.1**
	baz=343						
GEYT	**Alibeck**	**61.24**	**320**	P	**P**	**01 17 31.4**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=190,slow=15,SNR=7.0						
GEYT				LR	LR	01 46 29.5	
	comp=Z,44nm,20.4s,baz=45,slow=38						
GYA0B	**ALIBECK ARRAY**	**61.24**	**320**	P	**P**	**01 17 30.5**	**+0.3**
GYA0B				IAmb	IAmb	01 17 32.3	
	comp=Z,6.5nm,0.9s						
ZAA0	**Zalesovo Array**	**62.22**	**347**	IAmb	IAmb	01 17 37.1	
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**62.22**	**347**	P	**P**	**01 17 36.1**	**-0.3**
	comp=Z,7.0nm,0.4s,baz=151,slow=4.7,SNR=46						
ZALV	**Zalesovo Beam**	**62.22**	**347**	P	**P**	**01 17 36.3**	**0.0**
BRZS	**Berezniki**	**62.32**	**338**	*eP*	**P**	**01 17 35.8**	**-1.3**
	baz=338						
BRVK	**Borovoye**	**65.69**	**339**	P	**P**	**01 17 58.7**	**-0.5**
BRVK				IAmb	IAmb	01 18 00.1	
	comp=Z,6.5nm,0.7s						
MAW	**Mawson**	**67.04**	**196**	LR	LR	01 42 38.1	
	comp=Z,107nm,18.8s,baz=56,slow=32						
ABKAR	**Akbulak array**	**67.31**	**331**	P	**P**	**01 18 09.7**	**+0.1**
ARU	**Arti**	**72.75**	**336**	P	**P**	**01 18 43.1**	**+0.2**
ARU				IAmb	IAmb	01 18 44.4	
	comp=Z,11nm,0.9s						
MBAR	**Mbarara**	**73.11**	**271**	P	**P**	**01 18 45.0**	**-1.0**
KBZ	**Khabaz**	**74.11**	**319**	P	**P**	**01 18 52.2**	**+1.2**
	comp=Z,7.3nm,0.9s,baz=172,slow=6.4,SNR=15						
PETK	**Petropavlovsk-**	**74.66**	**30**	P	**P**	**01 18 53.3**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=213,slow=4.6,SNR=4.9						
MA2	**Magadan**	**75.54**	**23**	P	**P**	**01 18 58.4**	**-0.6**
	comp=Z,5.7nm,0.4s,baz=345,slow=19,SNR=2.7						
MA2	**Magadan**	**75.54**	**23**	P	**P**	**01 18 57.8**	**-1.2**
NRIK	**Noril'sk**	**76.41**	**354**	P	**P**	**01 19 03.3**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=150,slow=5.1,SNR=6.5						
NRIK				LR	LR	01 55 32.8	
	comp=Z,77nm,20.2s,baz=159,slow=38						
BOSA	**Boshof**	**76.92**	**242**	LR	LR	01 48 13.7	
	comp=Z,72nm,19.9s,baz=30,slow=32						
BR131	**Keskin Array S**	**79.08**	**312**	IAmb	IAmb	01 19 36.4	
	comp=Z,9.6nm,0.9s						
BRTR	**Keskin Array B**	**79.08**	**312**	P	**P**	**01 19 20.5**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=130,slow=6.9,SNR=18						
BRTR	**Keskin Array B**	**79.08**	**312**	P	**P**	**01 19 19.9**	**+0.4**
KLMR	**Klimovskoe**	**83.43**	**334**	*eP*	**P**	**01 19 41.4**	**-0.5**
KLMR				AMP		01 19 44.1	
	comp=Z,21nm,1.6s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**01 19 41.9**	**-0.9**
QSPA				IAmb	IAmb	01 19 57.9	
	comp=Z,4.3nm,0.9s						
ALN	**Alexandroupoli**	**84.99**	**312**	IAmb	IAmb	01 20 07.5	
	comp=Z,3.8nm,0.8s						
SORM	**Soroca**	**85.13**	**319**	⇑P	**P**	**01 19 51.5**	**+0.7**
AKASG	**Malin Array Be**	**85.27**	**322**	P	**P**	**01 19 52.6**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=88,slow=4.6,SNR=22						
AKASG	**Malin Array Be**	**85.27**	**322**	P	**P**	**01 19 51.2**	**-0.2**
AKBB	**Malin Array Si**	**85.27**	**322**	P	**P**	**01 19 51.2**	**-0.2**
AKBB				IAmb	IAmb	01 20 07.5	
	comp=Z,5.9nm,0.7s						
VRI	**Vrincioaia**	**85.65**	**317**	⇓P	**P**	**01 19 56.3**	**+2.8**
PLOR	**Plostina**	**85.69**	**317**	⇓P	**P**	**01 19 53.5**	**-0.2**
TESR	**Tescani**	**85.85**	**318**	⇓P	**P**	**01 19 56.8**	**+2.3**
MLR	**Muntele Rosu**	**86.09**	**316**	⇓P	**P**	**01 19 58.3**	**+2.5**
MLR	**Muntele Rosu**	**86.09**	**316**	P	**P**	**01 19 56.6**	**+0.8**
MLR				IAmb	IAmb	01 20 14.2	
	comp=Z,15nm,1.1s						
PRAR	**RASCA**	**86.33**	**318**	⇑P	**P**	**01 19 59.3**	**+2.4**
BURAR	**Bucovina Array**	**87.06**	**318**	⇓P	**P**	**01 20 03.5**	**+3.1**
BURAR	**Bucovina Array**	**87.06**	**318**	P	**P**	**01 20 02.1**	**+1.7**
BUR08	**Bucovina Ar. S**	**87.07**	**318**	IAmb	IAmb	01 20 04.2	
	comp=Z,11nm,0.9s						
VTS	**Vitosha**	**87.40**	**313**	⇓P	**P**	**01 20 04.3**	**+2.0**
VTS	**Vitosha**	**87.40**	**313**	P	**P**	**01 20 03.1**	**+0.8**
VTS				IAmb	IAmb	01 20 19.7	
	comp=Z,5.4nm,1.0s						
NACGM	**Naroch**	**87.80**	**326**	*i* P	**P**	**01 20 04.9**	**+1.2**
BMR	**Baia Mare**	**88.21**	**318**	⇑P	**P**	**01 20 08.7**	**+2.9**
GZR	**Gura Zlata**	**88.25**	**316**	⇓P	**P**	**01 20 08.7**	**+2.5**
MDVR	**Moldovita**	**88.88**	**315**	⇓P	**P**	**01 20 11.4**	**+2.3**
SIRR	**Siria**	**89.18**	**317**	⇑P	**P**	**01 20 12.7**	**+2.2**
KOLS	**Kolonicke sedl**	**89.25**	**319**	*eP*	**P**	**01 20 13.8**	**+3.1**
FINES	**FINESS Array B**	**89.76**	**332**	P	**P**	**01 20 13.8**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=129,slow=6.1,SNR=7.0						
CRVS	**Cervenica-Dubn**	**89.77**	**319**	*eP*	P	01 20 18.4	+5.2
DIVS	**Divbare**	**89.99**	**314**	IAmb	IAmb	01 20 32.3	
	comp=Z,8.5nm,1.1s						
PDG	**Podgorica**	**90.27**	**313**	⇑P	**P**	**01 20 16.0**	**+0.4**
PDG	**Podgorica**	**90.27**	**313**	P	**P**	**01 20 16.3**	**+0.7**
PDG				IAmb	IAmb	01 20 33.1	
	comp=Z,11nm,1.1s						
MORH	**Mrgy, Hungar**	**91.24**	**316**	⇑P	**P**	**01 20 21.6**	**+1.6**
ARCES	**ARCESS Array B**	**91.89**	**340**	P	**P**	**01 20 23.6**	**+1.0**
	comp=Z,3.0nm,1.0s,baz=98,slow=6.5,SNR=3.9						
ARCES				LR	LR	02 05 40.3	
	comp=Z,38nm,20.6s,baz=280,slow=38						
PDAR	**Pinedale Array**	**133.34**	**34**	PKP	**PKiKP**	**01 26 33.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=45,slow=1.0,SNR=3.5						
PDAR	**Pinedale Array**	**133.34**	**34**		**PKiKP**	**01 26 32.8**	**+0.3**
LPIG	**La Paz**	**142.84**	**58**	PKP	**PKiKP**	**01 26 51.0**	**-1.0**
	comp=Z,44nm,0.4s,baz=270,slow=10,SNR=4.2						
BDFB	**Brasilia**	**144.52**	**232**	PKP	**PKPdf**	**01 26 52.8**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=274,slow=3.0,SNR=3.1						
BDFB	**Brasilia**	**144.52**	**232**		**PKPdf**	**01 26 51.9**	**-0.3**
WMOK	**Wichita Mounta**	**144.94**	**33**	PKPbc		01 26 51.7	+0.2
TXAR	**Lajitas Array**	**145.49**	**45**	PKPbc	**PKPab**	**01 26 54.5**	**+0.8**
	comp=Z,10.0nm,0.8s,baz=296,slow=1.7,SNR=84						
TXAR	**Lajitas Array**	**145.49**	**45**		**PKPab**	**01 26 54.9**	**+1.1**
N58A	**Sunbury**	**145.72**	**1**	PKPbc	**PKPbc**	**01 26 53.8**	**0.0**
FVM	**French Village**	**146.01**	**20**	PKPbc	**PKPbc**	**01 26 54.8**	**0.0**
O56A	**Blue Knob Stat**	**146.22**	**3**	PKPbc	**PKPbc**	**01 26 55.5**	**+0.1**
SIUC	**Southern Illin**	**146.66**	**19**		**PKPbc**	**01 26 56.4**	**-0.3**
WCI	**Wyandotte Cave**	**147.03**	**15**		**PKPbc**	**01 26 57.3**	**-0.4**
JCT	**Junction City**	**147.37**	**40**	PKPbc	**PKPbc**	**01 26 59.9**	**+0.9**
LCAR	**Lake Charles**	**147.45**	**23**		**PKPbc**	**01 26 59.2**	**+0.2**
MIAR	**Mount Ida**	**147.72**	**28**		**PKPbc**	**01 26 59.5**	**-0.2**
T47A	**Sharon Grove**	**147.97**	**17**	PKPbc	**PKPbc**	**01 27 00.3**	**0.0**
WVT	**Waverly**	**148.55**	**18**	PKPbc	**PKPbc**	**01 27 02.3**	**+0.4**
WLAR	**White Oak Lake**	**148.65**	**28**	PKPbc	**PKPbc**	**01 27 02.7**	**+0.5**
CLTN	**Cedars of Leba**	**149.03**	**16**	PKPbc	**PKPbc**	**01 27 03.6**	**+0.5**
**TZTN

PSA00	**Pilbara Seismi**	**58.35**	**256**	P		**P**	**01 25 31.2**	**+0.1**
SBA	**Scott Base**	**58.48**	**184**	P		**P**	**01 25 34.1**	**+3.0**
CASY	**Casey**	**64.72**	**205**	P		**P**	**01 26 12.1**	**+0.2**

*IDC **10** 01:16:40.5±1.3,56°.75N×155°.81W,h0km, mb3.7/10, mb1 4.0/13,mb1mx3.8/50,mbtmp3.7/13,ML3.9/3,MS2.9/7, Ms1 2.9/7,ms1mx2.7/33,Error ellipse: s-maj=27.3km s-min=20.1km az=11.0*
*NEIC **10** 01:16:49.9±1.7,57°.16N±0°.05×154°.86W±0°.08,h55km±9km, Error ellipse: s-maj=7.1km s-min=5.9km az=152.0*
*AEIC **10** 01:16:50±1.5,57°.13N±0°.05×154°.83W±0°.08,h58km±6km, ML3.8,mb4.1/6(NEIC),ML3.9/25(NEIC),Error ellipse: s-maj=7.9km s-min=6.2km az=163.0*

ISC 10 01:16:49.4±0.6,57°.19N±0°.05×155°.01W±0°.05,h52km, n117,σ1°37/122,mb3.9/11,MS3.0/3,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.78**	**144**		**Pn**	**01 17 03.5**	**-0.6**
SII	**Sitkinak Islan**	**0.78**	**144**		**Sn**	**01 17 14.5**	**-0.5**
SII	**Sitkinak Islan**	**0.78**	**144**	P		01 17 03.5	
	baz=329						
SII				S		01 17 14.8	
	baz=329						
OHAK	**Old Harbor**	**0.94**	**87**		**Pn**	**01 17 05.6**	**-0.6**
OHAK				Sn	**Sn**	**01 17 17.8**	**-0.8**
OHAK	**Old Harbor**	**0.94**	**87**	P		01 17 05.7	
	baz=265						
OHAK				S		01 17 18.1	
	baz=265						
KDAK	**Kodiak Island**	**1.44**	**65**	Pn	**Pn**	**01 17 12.9**	**-0.1**
	90nm,0.3s,baz=201,slow=4.7,SNR=3272						
KDAK				Sn	**Sn**	**01 17 35.5**	**+4.8**
	170nm,0.3s,baz=107,slow=22,SNR=5.6						
KDAK				LR	LR	01 18 06.5	
	comp=Z,206nm,19.6s,baz=264,slow=42						
KDAK	**Kodiak Island**	**1.44**	**65**		**Pn**	**01 17 12.8**	**-0.2**
KDAK					**Sn**	**01 17 30.1**	**-0.6**
AUCH	**Augustine Cone**	**2.33**	**20**		**Pn**	**01 17 26.2**	**+0.9**
AUH	**Augustine H**	**2.33**	**20**		**Pn**	**01 17 26.2**	**+0.9**
VNHG	**Veniaminof 1**	**2.49**	**249**		**Pn**	**01 17 29.5**	**+2.0**
VNSG	**Veniaminof 6**	**2.49**	**246**		**Pn**	**01 17 29.1**	**+1.6**
OPT	**Oil Point**	**2.64**	**20**		**Pn**	**01 17 30.8**	**+1.3**
VNFG	**Fog Glacier, M**	**2.66**	**252**		**Pn**	**01 17 31.5**	**+1.6**
VNFG	**Fog Glacier, M**	**2.66**	**252**	P		01 17 32.1	
	baz=70						
ILS	**Iliamna Low So**	**2.96**	**19**		**Pn**	**01 17 35.6**	**+1.8**
HOM	**Homer**	**3.04**	**34**		**Pn**	**01 17 35.5**	**+0.5**
CNPM	**China Poot**	**3.07**	**39**	Pn	**Pn**	**01 17 36.2**	**+0.8**
CNPM					**Sn**	**01 18 10.6**	**-0.3**
CNPM				IAML		01 18 22.0	
	comp=N,400nm,0.7s						
CNPM				IAML		01 18 27.1	
	comp=E,350nm,0.6s						
BRLK	**Bradley Lake**	**3.37**	**38**	Pn	**Pn**	**01 17 39.4**	**-0.1**
BRLK				IAML		01 18 31.6	
	comp=N,210nm,0.5s						
BRLK				IAML		01 18 34.0	
	comp=E,202nm,0.6s						
BRSE	**Bradley Lake S**	**3.40**	**39**		**Pn**	**01 17 40.2**	**+0.4**
BRSE	**Bradley Lake S**	**3.40**	**39**	P		01 17 40.5	
	baz=221						
RED	**Redoubt Volcan**	**3.44**	**19**		**Pn**	**01 17 42.1**	**+1.6**
RED					**Sn**	**01 18 22.9**	**+2.9**
RSO	**Redoubt South**	**3.49**	**19**	Pn	**Pn**	**01 17 42.8**	**+1.6**
NCT	**North Crescent**	**3.55**	**17**		**Pn**	**01 17 43.7**	**+1.7**
SDPT	**Sand Point**	**3.56**	**241**	Pn	**Pn**	**01 17 42.6**	**+0.6**
SDPT				Sn	**Sn**	**01 18 24.5**	**+1.7**
SDPT				IAML		01 18 46.6	
	comp=E,302nm,0.9s						
SDPT				IAML		01 18 53.4	
	comp=N,275nm,1.4s						
SDPT	**Sand Point**	**3.56**	**241**	P		01 17 43.6	
	baz=58						
SDPT				S		01 18 24.9	
	baz=58						
DFR	**Drift River**	**3.62**	**18**		**Pn**	**01 17 44.3**	**+1.3**
SVW2	**Sparrevohn**	**3.93**	**356**	Pn	**Pn**	**01 17 47.7**	**+0.6**
SEW	**Seward**	**4.12**	**42**	Pn	**Pn**	**01 17 48.5**	**-1.2**
SLKM	**Skilak Lake**	**4.15**	**35**		**Pn**	**01 17 50.9**	**+0.7**
PS4A	**Pavlof South-4**	**4.24**	**247**		**Pn**	**01 17 52.6**	**+1.3**
SPCP	**Crater Peak Br**	**4.34**	**19**		**Pn**	**01 17 54.4**	**+1.5**
SPCG	**Spurr Capps Gl**	**4.39**	**19**		**Pn**	**01 17 54.8**	**+1.3**
STLK	**Strandline Lak**	**4.62**	**19**		**Pn**	**01 17 57.7**	**+1.1**
RC01	**Rabbit Creek A**	**4.76**	**33**	Pn	**Pn**	**01 17 58.6**	**+0.2**
RC01				IAML		01 19 09.9	
	comp=N,104nm,0.6s						
SUA	**Susitna One**	**4.81**	**25**	Pn	**Pn**	**01 18 00.5**	**+1.2**
SUA				IAML		01 19 03.9	
	comp=E,114nm,1.0s						
SUA				IAML		01 19 08.5	
	comp=N,128nm,0.9s						
PWL	**Port Wells**	**5.04**	**40**	Pn	**Pn**	**01 18 02.0**	**-0.3**
PWL				IAML		01 19 21.4	
	comp=E,84nm,1.3s						
PWL				IAML		01 19 21.4	
	comp=N,99nm,0.5s						
SKT	**Skwentna**	**5.12**	**19**		**Pn**	**01 18 04.1**	**+0.7**
FALS	**False Pass**	**5.26**	**247**		**Pn**	**01 18 06.2**	**+0.9**
PMR	**Palmer**	**5.34**	**32**	Pn	**Pn**	**01 18 08.5**	**+2.2**
PMR				IAML		01 19 19.0	
	comp=N,63nm,1.5s						
PMR				IAML		01 19 24.4	
	comp=E,48nm,0.7s						
KNK	**Knik Glacier**	**5.40**	**36**	Pn	**Pn**	**01 18 06.9**	**-0.4**
KNK	**Knik Glacier**	**5.40**	**36**	P		01 18 08.1	
	baz=220						
GLI	**Glacier Island**	**5.51**	**45**	Pn	**Pn**	**01 18 08.6**	**-0.2**
GHO	**Glory Hole Cre**	**5.54**	**31**	Pn	**Pn**	**01 18 09.9**	**+0.7**
FID	**Port Fidalgo**	**5.67**	**47**		**Pn**	**01 18 09.8**	**-1.2**
SML	**Sawmill**	**5.74**	**33**	Pn	**Pn**	**01 18 13.4**	**+1.5**
TT01	**Tatalina**	**5.76**	**355**		**Pn**	**01 18 13.6**	**+1.5**
TTA	**Tatalina**	**5.78**	**355**	Pn	**Pn**	**01 18 14.7**	**+2.1**
TTA	**Tatalina**	**5.78**	**355**	P		01 18 14.5	
	baz=174						
JPK	**Jack Peak**	**5.81**	**45**		**Pn**	**01 18 12.7**	**-0.1**
EYAK	**Cordova Ski Ar**	**5.86**	**51**	Pn	**Pn**	**01 18 12.3**	**-1.3**
SCM	**Sheep Creek Mo**	**6.08**	**37**	Pn	**Pn**	**01 18 16.4**	**-0.2**
SCM				Sn	**Sn**	**01 19 21.7**	**-3.0**
DIV	**Divide**	**6.18**	**46**		**Pn**	**01 18 17.9**	**0.0**
KLU	**Klutina**	**6.34**	**43**		**Pn**	**01 18 20.1**	**-0.1**
KLU				Sn	**Sn**	**01 19 27.8**	**-3.4**
KLU	**Klutina**	**6.34**	**43**	P		01 18 20.5	
	baz=230						
KLU				S		01 19 28.2	
	baz=230						
WAT6	**Susitna Watana**	**6.53**	**31**		**Pn**	**01 18 23.0**	**+0.2**
BMRM	**Bremner River**	**6.56**	**50**	Pn	**Pn**	**01 18 24.1**	**+0.9**
WAT2	**Susitna Watana**	**6.62**	**26**		**Pn**	**01 18 24.5**	**+0.5**
WAT2	**Susitna Watana**	**6.62**	**26**	P		01 18 24.5	
	baz=211						
M24K	**Tolsona, Glenn**	**6.66**	**39**	Pn	**Pn**	**01 18 24.0**	**-0.5**
KTH	**Kantishna Hill**	**6.70**	**16**	Pn	**Pn**	**01 18 26.4**	**+1.4**
TRF	**Thorofare Moun**	**6.70**	**18**	Pn	**Pn**	**01 18 25.6**	**+0.4**
AKUT	**Akutan**	**6.81**	**248**	Pn	**Pn**	**01 18 27.2**	**+0.6**
N25K	**Chitina, Valde**	**6.91**	**46**	Pn	**Pn**	**01 18 28.2**	**+0.1**
KHIT	**Khitrov Hills**	**6.92**	**57**		**Pn**	**01 18 27.7**	**-0.4**
CRQM	**Cirque**	**7.10**	**55**	Pn	**Pn**	**01 18 31.4**	**+0.8**
GLB	**Gilahina Butte**	**7.14**	**49**	Pn	**Pn**	**01 18 30.5**	**-0.6**
BPAW	**Bear Paw Mtn.**	**7.21**	**14**	Pn	**Pn**	**01 18 32.6**	**+0.6**
MREP	**Makushin Rep't**	**7.48**	**248**		**Pn**	**01 18 36.6**	**+0.8**
KIAG	**Kiagna River**	**7.51**	**55**		**Pn**	**01 18 35.8**	**-0.6**
BALM	**Baldy**	**7.57**	**54**		**Pn**	**01 18 36.1**	**-0.9**
PTPK	**Patty Peak**	**7.58**	**53**		**Pn**	**01 18 36.7**	**-0.6**
YAH	**Yahtse**	**7.59**	**50**	Pn	**Pn**	**01 18 37.1**	**-0.3**
GRNC	**Granite Creek**	**7.71**	**57**	Pn	**Pn**	**01 18 38.3**	**-0.8**
RKAV	**Rock Avalanche**	**7.76**	**61**		**Pn**	**01 18 38.9**	**-0.7**
BARN	**Barnard Glacie**	**7.88**	**55**	Pn	**Pn**	**01 18 41.0**	**-0.3**
NEA2	**Nenana**	**7.97**	**19**	Pn	**Pn**	**01 18 43.6**	**+1.2**
CTGM	**Chitina Glacie**	**7.99**	**56**	Pn	**Pn**	**01 18 41.8**	**-1.0**
WRH	**Wood River Hil**	**8.04**	**22**	Pn	**Pn**	**01 18 41.6**	**-1.7**
MLY	**Manley**	**8.13**	**13**	Pn	**Pn**	**01 18 44.2**	**-0.5**
PCA	**Pinnacle**	**8.22**	**63**	Pn	**Pn**	**01 18 45.3**	**-0.7**
HDA	**Harding Lake**	**8.24**	**25**	Pn	**Pn**	**01 18 45.6**	**-0.5**
CCB	**Clear Creek Bu**	**8.26**	**22**	Pn	**Pn**	**01 18 45.2**	**-1.1**
DOT	**Dot Lake**	**8.43**	**35**	Pn	**Pn**	**01 18 50.5**	**+1.7**
I23K	**Minto, Yukon-K**	**8.44**	**16**	Pn	**Pn**	**01 18 48.5**	**-0.2**
MDM	**Murphy Dome**	**8.45**	**20**	Pn	**Pn**	**01 18 50.1**	**+1.1**
BCPM	**Bancas Point**	**8.49**	**65**	Pn	**Pn**	**01 18 49.2**	**-0.4**
YUK2	**White River**	**8.55**	**51**		**Pn**	**01 18 51.2**	**+0.8**
IL31		**8.56**	**24**	Pn	**Pn**	**01 18 50.5**	**0.0**
ILAR	**Eielson Array**	**8.56**	**24**	Pn	**Pn**	**01 18 49.6**	**-0.9**
	comp=E,0.9nm,0.3s,baz=210,slow=15,SNR=25						
ILAR				Sn	**Sn**	**01 20 20.0**	**-5.5**
	comp=E,0.6nm,0.3s,baz=199,slow=24,SNR=2.6						
ILAR				LR	LR	01 22 38.3	
	comp=E,47nm,20.7s,baz=228,slow=39						
ILAR	**Eielson Array**	**8.56**	**24**	Pn	**Pn**	**01 18 50.5**	**0.0**
SCRK	**Sand Creek**	**8.69**	**34**	Pn	**Pn**	**01 18 54.3**	**+1.9**
L27K	**Beaver Creek,**	**8.82**	**43**	Pn	**Pn**	**01 18 54.3**	**+0.3**
BCAR	**Beaver Creek A**	**8.83**	**43**	Pn	**Pn**	**01 18 54.5**	**+0.3**
IM03		**8.85**	**3**		**Pn**	**01 18 53.9**	**-0.4**
IMAR	**Indian Mountai**	**8.85**	**3**	Pn	**Pn**	**01 18 55.7**	**+1.4**
ANM	**Nome**	**8.95**	**330**	Pn	**Pn**	**01 18 58.0**	**+2.3**
H23K	**Yukon River**	**9.05**	**14**		**Pn**	**01 18 56.9**	**-0.2**
K27K	**Chicken**	**9.34**	**37**	Pn	**Pn**	**01 19 02.5**	**+1.4**
TNA	**Tin City**	**10.41**	**329**	Pn	**Pn**	**01 19 18.4**	**+2.7**
WHY	**Whitehorse**	**10.95**	**63**	Pn	**Pn**	**01 19 23.4**	**+0.1**
BMAR	**Burnt Mountain**	**11.34**	**21**	Pn	**Pn**	**01 19 26.7**	**-1.7**
ADK	**Adak**	**13.63**	**256**	Pn	**P**	**01 20 04.9**	**-2.1**
INK	**Inuvik**	**14.75**	**32**	Pn	**P**	**01 20 19.2**	**-0.3**
	comp=E,0.3nm,0.3s,baz=206,slow=19,SNR=3.0						
INK				Sn	**S**	**01 23 10.6**	**-2.0**
	comp=E,0.0nm,0.3s,baz=357,slow=33,SNR=5.9						
INK				LR	LR	01 26 11.1	
	comp=E,53nm,21.2s,baz=337,slow=37						
BBB	**Bella Bella**	**16.28**	**96**	LR	LR	01 25 27.1	
	comp=E,47nm,19.1s,baz=286,slow=32						
C36M	**Paulatuk**	**18.21**	**36**	P	**P**	**01 20 56.6**	**-1.0**
C36M				IAmb	IAmb	01 21 02.9	
	comp=Z,27nm,1.4s						
YKA	**Yellowknife Ar**	**20.71**	**58**	P	Pn	01 21 29.1	+1.5
	comp=Z,0.4nm,0.7s,baz=269,slow=12,SNR=2.2						
NEW	**Newport**	**24.33**	**95**	LR	LR	01 30 30.6	
	comp=Z,44nm,18.4s,baz=302,slow=34						
YBH	**Yreka Blue Hor**	**25.75**	**113**	LR	LR	01 29 47.3	
	comp=Z,52nm,18.8s,baz=317,slow=30						
MA2	**Magadan**	**27.87**	**298**	LR	LR	01 35 05.2	
	comp=Z,16nm,18.1s,baz=342,slow=40						
PDAR	**Pinedale Array**	**31.92**	**97**	P	**P**	**01 23 10.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=318,slow=4.9,SNR=7.4						
SRU	**San Rafael Swe**	**33.98**	**103**	P	**P**	**01 23 31.0**	**+3.1**
KLR	**Kul'dur**	**42.58**	**292**	P	**P**	**01 24 37.7**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=224,slow=4.1,SNR=2.8						
TX31	**Lajitas Ar. Si**	**45.10**	**106**	P	**P**	**01 25 00.1**	**-0.2**
TX31				IAmb	IAmb	01 25 13.9	
	comp=Z,9.4nm,1.5s						
TX32	**Lajitas Array**	**45.10**	**106**	P	**P**	**01 25 01.4**	**+1.0**
TXAR	**Lajitas Array**	**45.10**	**106**	P	**P**	**01 25 01.7**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=312,slow=5.4,SNR=9.2						
KSRS	**Korea Array**	**52.78**	**283**	P	**P**	**01 25 59.8**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=38,slow=5.6,SNR=4.8						
NOA	**NORSAR Array B**	**61.62**	**8**	P	**P**	**01 27 01.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=353,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**61.70**	**359**	P	**P**	**01 27 01.6**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=23,slow=6.2,SNR=5.5						
FINES	**FINESS Array B**	**61.70**	**359**	P	**P**	**01 27 01.8**	**+0.4**
MKAR	**Makanchi Array**	**65.96**	**321**	P	**P**	**01 27 28.6**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=42,slow=7.4,SNR=6.4						
MKAR	**Makanchi Array**	**65.96**	**321**	P	**P**	**01 27 29.7**	**-0.1**
AKASG	**Malin Array Be**	**72.42**	**357**	P	**P**	**01 28 09.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=2.5,slow=5.7,SNR=2.3						
AKASG	**Malin Array Be**	**72.42**	**357**	P	**P**	**01 28 09.7**	**+0.2**
AKASG				IAmb	IAmb	01 28 11.3	
	comp=Z,1.3nm,1.3s						
GERES	**GERESS Array B**	**73.92**	**8**	P	**P**	**01 28 20.2**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=3.4,slow=4.9,SNR=2.6						
ESDC	**Sonseca Array**	**80.46**	**22**	P	**P**	**01 28 56.6**	**+1.2**
	comp=Z,1.3nm,1.2s,baz=338,slow=5.0,SNR=2.1						
ESDC	**Sonseca Array**	**80.46**	**22**	P	**P**	**01 28 55.6**	**+0.3**
ESDC				IAmb	IAmb	01 29 02.1	
	comp=Z,3.7nm,1.4s						

ROM 10 01:18:41.2±0.1,38°.163N±0°.007×15°.121E±0°.003, h10km,ML1.1/7,1C-2D,Error ellipse: s-maj=0.7km s-min=0.3km az=177.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.14**	**175**	⇓P	Pg	01 18 45.0	+0.6
NOV				S	Sg	01 18 47.4	+0.8
NOV				AML	AML		
	comp=N,78μm,0.4s						
NOV				AML	AML		
	comp=E,155μm,0.5s						
MCSR	**Castroreale**	**0.14**	**134**	P	Pg	01 18 44.8	+0.4
MCSR				S	Sg	01 18 47.5	+0.7
MCSR				AML	AML		
	comp=E,224μm,0.3s						
MCSR				AML	AML		
	comp=N,398μm,0.3s						
MPNC	**Port Mandanici**	**0.18**	**96**	⇑P	Pg	01 18 45.6	+0.6
MPNC				S	Sg	01 18 48.8	+1.0
MPNC				AML	AML		
	comp=E,91μm,1.5s						
MPNC				AML	AML		
	comp=N,119μm,0.5s						
AIO	**Antillo**	**0.21**	**155**	P	Pg	01 18 46.5	+0.9
AIO				S	Sg	01 18 49.8	+1.2
AIO				AML	AML		
	comp=N,55μm,0.2s						
AIO				AML	AML		
	comp=E,38μm,1.3s						
MUCR	**Ucria**	**0.23**	**239**	P	Pg	01 18 46.7	+0.8
MUCR				S	Sg	01 18 50.3	+1.1
MUCR				AML	AML		
	comp=E,39μm,0.3s						
MUCR				AML	AML		
	comp=N,50μm,1.5s						
VPL	**Vulcano Piano**	**0.24**	**333**	P	Pg	01 18 46.8	+0.6
VPL				S	Sg	01 18 51.3	+1.8
VPL				AML	AML		
	comp=E,158μm,0.5s						
VPL				AML	AML		
	comp=N,186μm,0.3s						
MSRU	**Castanea**	**0.32**	**72**	⇓P	Pg	01 18 48.3	+0.7
MSRU				S	Sb	01 18 53.3	-1.0
MSRU				AML	AML		
	comp=E,54μm,1.0s						
MSRU				AML	AML		
	comp=N,47μm,0.3s						

KRSC 10 01:23:21.8±1.6,51°.68N×155°.02E,h506km±19km,ML4.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.91**	**85**	*e*P	P	01 24 27.3	+0.4
KDTR				*e*S	S	01 25 19.0	-1.0
GRL	**Gorelyy**	**2.08**	**64**	P	P	01 24 30.6	+2.7
RUS	**Russkaya**	**2.29**	**69**	*e*P	P	01 24 29.7	+0.9
RUS				*e*S	S	01 25 23.5	0.0
GNL	**Ganaly**	**2.69**	**40**	P	P	01 24 31.0	-0.3
UGLR	**Uglovaya**	**2.79**	**55**	*e*P	P	01 24 33.7	+1.8
SDLR	**Sedlovina**	**2.86**	**54**	P	P	01 24 33.5	+1.2
SPN	**Mys Shipunski**	**3.38**	**63**	*e*P	P	01 24 37.1	+1.3
SPN				*e*S	S	01 25 35.9	-0.3
KZV	**Kizimen**	**4.67**	**40**	*e*P	P	01 24 48.0	+1.8
TUMR	**Tumrok**	**4.74**	**38**	*e*P	P	01 24 48.5	+1.8
TUMD	**Tumrok D**	**4.78**	**40**	*e*P	P	01 24 49.0	+2.0
MKZ	**Mys Kozlova**	**4.97**	**52**	*e*P	P	01 24 50.6	+2.0
MKZ				*e*S	S	01 25 58.5	-1.2
KMNR	**Kamenistaya**	**5.13**	**35**	*e*P	P	01 24 53.0	+2.8
BZWR	**Bezymyannyi-We**	**5.38**	**35**	*e*P	P	01 24 54.6	+2.0
SRDR	**Sredinnyy**	**5.41**	**29**	*e*P	P	01 24 53.6	+0.9
KBTR	**Krutoberegovo**	**6.46**	**42**	*e*P	P	01 25 03.8	+1.1

*DDA **10** 01:36:08.5,34°.70N×26°.57E,h5km±5km,ML2.3*
*ATH **10** 01:36:13.7,35°.05N×26°.82E,h11km±4km,ML2.8/9, Error ellipse: s-maj=5.1km s-min=2.4km az=144.0*
*THE **10** 01:36:14.7,34°.90N×26°.64E,h0km±1km,ML2.6/4,Error ellipse: s-maj=4.3km s-min=1.0km az=159.0*

ISC 10 01:36:12.5±1.8,34°.82N±0°.10×26°.72E±0°.03,h11km±11km, n34,σ1°35/46,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.51**	**306**	P	**Pb**	**01 36 23.2**	**-0.3**
ZKR				S	**Sb**	**01 36 30.0**	**-1.0**
ZKR				AML	AML	01 36 37.3	
	comp=N,1694μm,0.2s						
ZKR				AML	AML	01 36 38.0	
	comp=E,4291μm,0.4s						
ZKR	**Zakros**	**0.51**	**306**	P	**Pb**	**01 36 23.2**	**-0.3**
ZKR				S	**Sb**	**01 36 29.9**	**-1.0**
	comp=E,1μm,0.3s						
FRMA	**Ierapetra Chan**	**0.83**	**284**	P	**Pg**	**01 36 27.7**	**-0.9**
FRMA				S	**Sb**	**01 36 39.2**	**-1.1**
	comp=E,265nm,0.4s						
NPS	**Neapolis**	**1.01**	**296**	P	**Pn**	**01 36 32.8**	**+0.1**
NPS				S	**Sn**	**01 36 46.5**	**-0.4**
NPS				AML	AML	01 36 54.3	
	comp=E,1795μm,0.6s						
NPS				AML	AML	01 36 54.7	
	comp=N,1072μm,0.5s						
NPS	**Neapolis**	**1.01**	**296**	P	**Pb**	**01 36 32.5**	**+0.4**
NPS				S	**Sn**	**01 36 46.6**	**-0.3**
	comp=N,1μm,0.5s						
LAST	**Lasithi**	**1.08**	**289**	P	**Pb**	**01 36 33.7**	**+0.5**
LAST				S	**Sn**	**01 36 49.1**	**+0.5**
LAST				AML	AML	01 36 56.0	
	comp=N,1142μm,0.6s						
LAST				AML	AML	01 36 57.8	
	comp=E,624μm,0.6s						
LAST	**Lasithi**	**1.08**	**289**	P	**Pb**	**01 36 33.3**	**+0.1**
LAST				S	**Sn**	**01 36 49.5**	**+0.9**
	comp=E,235nm,0.6s						
IDI	**Anoyia**	**1.57**	**288**	P	**Pg**	**01 36 43.1**	**+0.4**
IDI				AML	AML	01 37 12.9	
	comp=E,282μm,0.5s						
IDI				AML	AML	01 37 13.9	
	comp=N,343μm,0.6s						
SIVA	**Sivas**	**1.58**	**278**	P	**Pg**	**01 36 43.5**	**+0.6**
SIVA				AML	AML	01 37 18.0	
	comp=E,660μm,0.6s						
SIVA				AML	AML	01 37 18.8	
	comp=N,554μm,0.7s						
ARG	**Arkhangelos**	**1.81**	**39**	P	**Pb**	**01 36 46.3**	**+0.7**
SANT	**Santorini**	**1.86**	**327**	P	**Pn**	**01 36 44.4**	**0.0**
SANT				AML	AML	01 37 13.8	
	comp=E,397μm,0.4s						
SANT				AML	AML	01 37 21.4	
	comp=N,174μm,0.4s						
THR6	**Thira Island,**	**1.88**	**325**	P	**Pn**	**01 36 45.3**	**+0.8**
THR6	**Thira Island,**	**1.88**	**325**	P	**Pn**	**01 36 45.3**	**+0.8**
THR8	**Santorini-Mono**	**1.88**	**328**	P	**Pn**	**01 36 44.9**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.92**	**326**	P	**Pn**	**01 36 45.7**	**+0.6**
THR3	**Thira Island,**	**1.92**	**326**	P	**Pn**	**01 36 45.7**	**+0.6**
THR3	**Thira Island,**	**1.92**	**326**	P	**Pn**	**01 36 45.9**	**+0.8**
THR5	**Thira Island,**	**1.95**	**325**	P	**Pn**	**01 36 46.7**	**+1.1**
CMBO	**Columbo, Santo**	**1.97**	**327**	P	**Pn**	**01 36 46.6**	**+0.8**
DAT	**Datca**	**2.03**	**20**	*i* P	**Pn**	**01 36 48.5**	**+1.7**
DAT				IAML		01 37 23.0	
	comp=E,18nm,0.9s						
DAT				IAML		01 37 24.0	
	comp=N,20nm,0.8s						
VAM	**Vamos**	**2.15**	**287**	P	**Pb**	**01 36 52.0**	**+0.5**
VAM				AML	AML	01 37 31.4	
	comp=E,226μm,0.5s						
VAM				AML	AML	01 37 31.7	
	comp=N,245μm,0.5s						
TURN	**Turunc**	**2.31**	**32**	*i* P	**Pb**	**01 36 54.8**	**+0.5**
TURN				*i* S	**Sg**	**01 37 25.9**	**-0.9**
TURN				IAML		01 37 32.0	
	comp=N,17nm,0.5s						
BDRM	**Kayabasi**	**2.32**	**14**	*i* P	**Pn**	**01 36 52.7**	**+2.1**
BDRM				*i* S	**Sn**	**01 37 16.4**	**-2.8**
BDRM				IAML		01 37 34.0	
	comp=E,12nm,1.1s						
BDRM				IAML		01 37 40.0	
	comp=N,17nm,0.8s						
IMMV	**Iera Moni Meta**	**2.33**	**287**	P	**Pb**	**01 36 54.8**	**+0.2**
IMMV				AML	AML	01 37 33.6	
	comp=N,167μm,0.5s						
IMMV				AML	AML	01 37 43.0	
	comp=E,335μm,0.6s						
APE	**Apeiranthos**	**2.44**	**337**	P	**Pn**	**01 36 52.8**	**+0.4**
APE				AML	AML	01 37 23.8	
	comp=E,157μm,0.6s						
APE				AML	AML	01 37 27.0	
	comp=N,120μm,0.8s						
APE	**Apeiranthos**	**2.44**	**337**	P	**Pn**	**01 36 52.6**	**+0.2**
DALY	**Dalyan (Mula)**	**2.54**	**38**	*i* P	**Pn**	**01 36 55.5**	**+1.9**
DALY				*i* S	**Sb**	**01 37 30.2**	**+0.9**
DALY				IAML		01 37 39.0	
	comp=E,19nm,1.1s						
FETY	**Fethiye**	**2.64**	**46**	*i* P	**Pn**	**01 36 55.4**	**+0.2**
FETY				IAML		01 37 40.0	
	comp=N,9.9nm,1.0s						
AKAS	**Kas**	**2.74**	**58**	*i* P	**Pn**	**01 36 57.0**	**+0.4**
AKAS				*i* S	**Sn**	**01 37 25.4**	**-4.4**
AKAS				IAML		01 37 34.0	
	comp=E,8.8nm,0.5s						
GCAM	**G?zelcaml?**	**2.91**	**8**	*i* P	**Pn**	**01 37 01.5**	**+2.8**
GCAM				IAML		01 37 56.0	
	comp=E,15nm,0.6s						
GCAM				IAML		01 38 02.0	
	comp=N,12nm,0.8s						
AYDN	**Tasoluk**	**2.99**	**18**	*i* P	**Pn**	**01 37 01.3**	**+1.4**
CAEL	**Denizli, Camel**	**3

U40A					IAmb_Lg			01 46 55.2	
	comp=Z,22nm,0.9s								
ABTX	**Abilene, Hawle**	**4.05**	**206**		Pn	Pn		01 45 57.7	+1.0
ABTX					IAmb_Lg			01 47 04.2	
	comp=Z,23nm,1.1s								
X40A	**Basin Creek Fa**	**4.22**	**114**		Pn	Pn		01 45 58.6	-0.3
X40A					IAmb_Lg			01 47 09.6	
	comp=Z,21nm,0.7s								
MGMO	**Mountain Grove**	**4.30**	**77**		Pn	Pn		01 46 00.3	+0.1
WHAR	**Wooly Hollow**	**4.36**	**102**		Pn	Pn		01 46 01.1	+0.2
WHAR					IAmb_Lg			01 47 20.5	
	comp=Z,10nm,0.8s								
FCAR	**Ozark Folk Cen**	**4.38**	**93**		IAmb_Lg			01 47 20.0	
	comp=Z,9.7nm,0.8s								
WLAR	**White Oak Lake**	**4.44**	**124**		IAmb_Lg			01 47 21.1	
	comp=Z,17nm,0.9s								
R40A	**Maddies Statio**	**4.64**	**63**		Pn	Pn		01 46 04.2	-0.6
R40A					IAmb_Lg			01 47 18.6	
	comp=Z,23nm,0.7s								
KSCO	**Kaye Shedlock'**	**4.89**	**305**		IAmb_Lg			01 47 42.4	
	comp=Z,14nm,0.7s								
LCAR	**Lake Charles**	**5.15**	**90**		IAmb_Lg			01 47 40.2	
	comp=Z,9.6nm,0.9s								
T42A	**Van Buren**	**5.22**	**80**		Pn	Pn		01 46 13.4	+0.8
P40A	**Paris**	**5.40**	**51**		Pn	Pn		01 46 15.5	+0.3
P40A					IAmb_Lg			01 47 51.0	
	comp=Z,12nm,0.8s								
T25A	**Trinidad**	**5.61**	**281**		Pn	Pn		01 46 17.6	-0.7
T25A					IAmb_Lg			01 48 01.4	
	comp=Z,7.3nm,0.8s								
N38A	**Joes South For**	**5.62**	**35**		IAmb_Lg			01 47 56.7	
	comp=Z,19nm,0.7s								
PBMO	**Poplar Bluff**	**5.72**	**83**		IAmb_Lg			01 47 56.7	
	comp=Z,15nm,0.9s								
FVM	**French Village**	**5.91**	**71**		IAmb_Lg			01 48 11.2	
	comp=Z,7.2nm,0.8s								
JCT	**Junction City**	**6.09**	**199**		Pn	Pn		01 46 24.7	-0.1
S44A	**Carbondale**	**6.76**	**75**		IAmb_Lg			01 48 31.7	
	comp=Z,8.0nm,0.7s								
SIUC	**Southern Illin**	**6.79**	**75**		IAmb_Lg			01 48 33.5	
	comp=Z,8.5nm,0.8s								
L40A	**Anamosa**	**7.56**	**38**		IAmb_Lg			01 49 04.8	
	comp=Z,8.7nm,0.9s								
PHWY	**Pilot Hill**	**7.98**	**311**		IAmb_Lg			01 49 17.9	
	comp=Z,7.7nm,0.9s								
O44A	**Mansfield**	**8.10**	**59**		IAmb_Lg			01 49 24.6	
	comp=Z,11nm,0.8s								
L42A	**Oliver, Polo**	**8.36**	**44**		IAmb_Lg			01 49 29.6	
	comp=Z,10nm,0.9s								
JFWS	**Jewell Farm**	**8.68**	**38**		IAmb_Lg			01 49 51.9	
	comp=Z,7.4nm,0.7s								
M44A	**Midewin, Midew**	**8.98**	**52**		IAmb_Lg			01 49 48.3	
	comp=Z,8.1nm,0.8s								
BLO	**Bloomington**	**9.17**	**68**		IAmb_Lg			01 49 42.3	
	comp=Z,10.0nm,0.8s								
PV13	**Radium Mtn., P**	**9.21**	**285**		IAmb_Lg			01 49 56.9	
	comp=Z,5.4nm,1.2s								
RWWY	**Rawlins**	**9.28**	**309**		IAmb_Lg			01 49 58.7	
	comp=Z,6.4nm,1.1s								
K22A	**Casper**	**9.43**	**315**		IAmb_Lg			01 50 17.5	
	comp=Z,8.3nm,1.1s								

TUL ***10*** *01:55:04.2±0.9,36°.29N±0°.01×97°.53W±0°.02,h6*$_{km}$*±6*$_{km}$*, ML2.5,mb_Lg2.3/36(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=68.0*

NEIC 10 01:55:04.4±1.0,36°.291N±0°.010×97°.53W±0°.01,h4$_{km}$**±7**$_{km}$**, Error ellipse: s-maj=1.6km s-min=1.3km az=127.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**301**		Pg	01 55 12.7	+0.2
CROK				Sg	Sg	01 55 18.7	+0.7
OK029	**Liberty Lake**	**0.50**	**173**		Pg	01 55 14.0	+0.1
OK029				Sg	Sg	01 55 20.9	+0.5
BLOK	**Blackwell**	**0.53**	**28**		Pg	01 55 14.8	+0.1
BLOK				Sg	Sg	01 55 22.2	+0.6
GC02	**Grant County #**	**0.62**	**335**		Pg	01 55 16.1	-0.2
GC02				Sg	Sg	01 55 24.7	+0.4
BCOK	**Bluff Creek, N**	**0.64**	**186**		Pg	01 55 16.3	-0.2
BCOK				Sg	Sg	01 55 25.0	+0.2
BCOK				IAmb_Lg		01 55 25.2	
	comp=Z,55nm,0.9s						
OK031	**S. Brethren Rd**	**0.66**	**121**	Pg	Pg	01 55 16.8	-0.1
OK031				Sg	Sg	01 55 25.8	+0.4
QUOK	**Quay**	**0.68**	**100**		Pg	01 55 17.2	-0.1
QUOK				Sg	Sg	01 55 26.1	0.0
OK030	**Cody Creek RV**	**0.71**	**121**		Pg	01 55 18.0	0.0
OK030				Sg	Sg	01 55 27.4	+0.4
KAN13	**South Haven SW**	**0.72**	**3**		Pg	01 55 18.1	-0.1
OK025	**Westminster Rd**	**0.73**	**167**		Pg	01 55 18.2	-0.1
OK025				Sg	Sg	01 55 28.3	+0.6
OK032	**Salt Plains WL**	**0.75**	**313**		Pg	01 55 18.4	-0.3
OK032				Sg	Sg	01 55 28.6	+0.1
KAN09	**Caldwell North**	**0.85**	**355**		Pg	01 55 20.3	-0.3
KAN09				Sg	Sg	01 55 31.8	+0.2
KAN05	**Bluff City Nor**	**0.86**	**342**	Pg	Pg	01 55 20.5	-0.4
OKCFA	**Oklahoma City**	**0.88**	**176**	Pg	Pg	01 55 20.8	-0.4
OKCFA				IAmb_Lg		01 55 32.3	
	comp=Z,26nm,0.8s						
OKCFA				Sg	Sg	01 55 32.9	+0.4
OKCSW	**OKLAHOMA CITY**	**0.89**	**175**		Pg	01 55 21.1	-0.3
OKCSW				Sg	Sg	01 55 33.1	+0.3
KAN10	**Anthony SW Sta**	**0.95**	**332**	Pg	Pg	01 55 21.8	-0.7
KAN08	**Anthony NE Sta**	**1.00**	**339**	Pg	Pg	01 55 23.1	-0.4
KAN16	**Harper SW Stat**	**1.03**	**336**	Pg	Pg	01 55 23.6	-0.5
T35A	**Sooner Cattle**	**1.03**	**52**	Pg	Pg	01 55 23.8	-0.3
FNO	**Franklin**	**1.04**	**174**		Pg	01 55 23.7	-0.5
U32A	**Winter Ranch,**	**1.19**	**275**		Pg	01 55 26.4	-0.8
W35A	**Tecumseh**	**1.25**	**155**		Pg	01 55 27.3	-1.2
WMOK	**Wichita Mounta**	**1.85**	**214**	Pn	Pn	01 55 36.8	-0.2
R32A	**Long Quarter,**	**2.33**	**337**	IAmb_Lg		01 56 17.3	
	comp=Z,7.8nm,0.8s						
X37A	**Clayton**	**2.45**	**133**	IAmb_Lg		01 56 26.0	
	comp=Z,9.0nm,0.8s						
S39A	**Bolivar**	**3.65**	**66**	Pn	Pn	01 56 02.3	+0.6
MIAR	**Mount Ida**	**3.67**	**117**	Pn	Pn	01 56 02.4	+0.4
U40A	**Yellville**	**3.78**	**88**	IAmb_Lg		01 57 14.2	
	comp=Z,5.1nm,0.8s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	Pn	Pn	01 56 07.9	+0.7
ABTX				IAmb_Lg		01 57 14.3	
	comp=Z,8.6nm,1.1s						
X40A	**Basin Creek Fa**	**4.24**	**114**	Pn	Pn	01 56 11.0	+1.3
X40A				IAmb_Lg		01 57 27.2	
	comp=Z,5.8nm,0.7s						
MGMO	**Mountain Grove**	**4.32**	**77**	Pn	Pn	01 56 10.7	-0.2
MGMO				IAmb_Lg		01 57 26.6	
	comp=Z,5.5nm,0.7s						
WHAR	**Wooly Hollow**	**4.38**	**102**	IAmb_Lg		01 57 25.4	
	comp=Z,6.8nm,0.7s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		01 57 36.6	
	comp=Z,5.5nm,0.8s						
R40A	**Maddies Statio**	**4.65**	**63**	Pn	Pn	01 56 15.2	-0.2
R40A				IAmb_Lg		01 57 29.5	
	comp=Z,9.1nm,0.7s						
T42A	**Van Buren**	**5.23**	**80**	IAmb_Lg		01 57 58.6	
	comp=Z,3.9nm,0.8s						
P40A	**Paris**	**5.41**	**52**	IAmb_Lg		01 58 02.9	
	comp=Z,4.9nm,0.7s						
N38A	**Joes South For**	**5.62**	**36**	IAmb_Lg		01 58 04.4	
	comp=Z,7.2nm,0.8s						
FVM	**French Village**	**5.92**	**71**	IAmb_Lg		01 58 11.7	
	comp=Z,7.5nm,1.2s						
S44A	**Carbondale**	**6.77**	**76**	IAmb_Lg		01 58 48.7	
	comp=Z,6.2nm,0.7s						
SIUC	**Southern Illin**	**6.80**	**75**	IAmb_Lg		01 58 42.7	
	comp=Z,5.4nm,0.8s						
X48A	**Hartselle**	**8.76**	**99**	IAmb_Lg		01 59 48.2	
	comp=Z,3.1nm,0.8s						

JMA ***10*** *02:08:38.8±0.3,43°.68N×147°.62E,h8*$_{km}$*,M4.2*
NIED ***10*** *02:08:38.8,43°.68N×147°.62E,h8*$_{km}$*, MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10*^{14}*Nm; Mrr0.22; Mθθ1.29; Mϕϕ-1.52; Mrθ0.03; Mrϕ-1.30; Mθϕ-3.20; Fault plane solution: Mo3.61000×10*^{14} *NP1: ϕs169.00000°,δ86.00000°,λ62.00000°. NP2:ϕs72.00000°, δ28.00000°,λ172.00000°.*
MOS ***10*** *02:08:39.0±1.7,43°.93N×147°.88E,h52*$_{km}$*,mb4.2/1 Error ellipse: s-maj=12.4km s-min=10.2km az=151.6*
SKHL ***10*** *02:08:39.2±0.3,43°.80N×147°.90E,h56*$_{km}$*±3*$_{km}$*,mb4.4/6*
NEIC ***10*** *02:08:43.3±1.7,43°.9N±0°.1×147°.7E±0°.2,h71*$_{km}$*±10*$_{km}$*,*

mb4.1/17,Error ellipse: s-maj=16.4km s-min=15.2km az=145.0
IDC ***10*** *02:08:45.9±3.2,43°.95N×147°.76E,h100*$_{km}$*±30*$_{km}$*, mb3.6/10,mb1 3.8/12,mb1mx3.5/34,mbtmp3.9/12,MS2.6/2, Ms1 2.6/2,ms1mx2.2/39,Error ellipse: s-maj=28.6km s-min=20.3km az=156.0*

ISC 10 02:08:37.2±0.6,43°.86N±0°.06×147°.80E±0°.06,h21$_{km}$**±4**$_{km}$**, n84,σ1°.42/95,mb4.0/18,1C-5D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.37**	**2**	*d i* P	**Pb**	**02 09 03.1**	**+1.0**
KUR				*e* S	**Sb**	**02 09 18.8**	**-0.4**
KUR				pmax	pmax		
	comp=N,47nm,0.2s						
KUR				pmax	pmax		
	comp=Z,176nm,0.2s						
KUR				pmax	pmax		
	comp=E,45nm,0.1s						
KUR				smax	smax		
	comp=E,1.0nm,0.3s						
KUR	**Kuril'sk**	**1.37**	**2**	*i* P	**Pb**	**02 09 03.1**	**+1.0**
KUR				AMB	AMB	02 09 04.9	
	comp=E,180nm,0.4s						
KUR				*e* S	**Sb**	**02 09 18.8**	**-0.4**
KUR				A	A	02 09 21.3	
	comp=E,320nm,0.3s						
KUR				A	A	02 09 21.3	
	comp=E,750nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.41**	**278**	*d i* P	**Pn**	**02 09 02.3**	**+0.7**
YUK				*e* S	**Sn**	**02 09 19.6**	**+0.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=N,202nm,0.2s						
YUK				pmax	pmax		
	comp=E,268nm,0.2s						
YUK				smax	smax		
	comp=E,1.0nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.41**	**278**	*i* P	**Pn**	**02 09 02.3**	**+0.7**
YUK				AMB	AMB	02 09 02.7	
	comp=E,140nm,0.3s						
YUK				*e* S	**Sn**	**02 09 19.4**	**-0.1**
YUK				A	A	02 09 21.8	
	comp=E,740nm,0.2s						
YUK				A	A	02 09 21.8	
	comp=E,180nm,0.2s						
GRPR	**Tuman**	**1.47**	**276**	*i* P	**Pb**	**02 09 03.6**	**-0.2**
GRPR				*e* S	**Sn**	**02 09 20.8**	**-0.2**
GRPR				pmax	pmax		
	comp=Z,1μm,0.3s						
GRPR				pmax	pmax		
	comp=E,221nm,0.2s						
GRPR				pmax	pmax		
	comp=N,320nm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GRPR				smax	smax		
	comp=E,963nm,0.3s						
GRPR	**Tuman**	**1.47**	**276**	*i* P	**Pb**	**02 09 03.6**	**-0.2**
GRPR				AMB	AMB	02 09 04.5	
	comp=E,120nm,0.2s						
GRPR				*e* S	**Sn**	**02 09 20.8**	**-0.2**
GRPR				A	A	02 09 22.6	
	comp=E,240nm,0.4s						
GRPR				A	A	02 09 22.6	
	comp=E,960nm,0.4s						
NEM2	**Nemuro 2**	**1.57**	**252**	P	**Pn**	**02 09 04.6**	**+0.8**
NEM2				*e* S	**Sn**	**02 09 22.8**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.58**	**253**	*i* P	**Pn**	**02 09 04.8**	**+0.9**
NMR				*e* S	**Sn**	**02 09 22.7**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.58**	**253**	*i* P	**Pn**	**02 09 04.8**	**+0.9**
NMR				*e* S	**Sn**	**02 09 22.7**	**-1.0**
GLVR	**Golovnino**	**1.66**	**267**	*i* P	**Pb**	**02 09 06.6**	**-0.3**
GLVR				*i* S	**Sb**	**02 09 27.5**	**+0.2**
GLVR				pmax	pmax		
	comp=N,329nm,0.2s						
GLVR				pmax	pmax		
	comp=E,311nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,3μm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.4s						
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR	**Golovnino**	**1.66**	**267**	*i* P	**Pb**	**02 09 06.7**	**-0.2**
GLVR				AMB	AMB	02 09 07.3	
	comp=N,200nm,0.4s						
GLVR				*i* S	**Sb**	**02 09 27.5**	**+0.2**
GLVR				A	A	02 09 28.7	
	comp=N,360nm,0.2s						
GLVR				A	A	02 09 28.7	
	comp=N,300nm,0.2s						
RUSJ	**Misakicho**	**1.86**	**278**	*i* P	**Pb**	**02 09 10.0**	**-0.4**
RUSJ				*e* S	**Sn**	**02 09 30.9**	**+0.3**
JRA	**Rausu**	**1.94**	**273**	P	**Pb**	**02 09 10.8**	**-0.9**
JNSB	**Nemuroshibetsu**	**2.02**	**269**	P	**Pn**	**02 09 12.0**	**+2.0**
JKHN	**Kushirohamanak**	**2.07**	**249**	P	**Pn**	**02 09 12.0**	**+1.3**
JKHN				*e* S	**Sn**	**02 09 36.0**	**+0.2**
JNK	**Nakash**	**2.25**	**264**	P	**Pn**	**02 09 14.7**	**+1.6**
JAK	**Akkeshi**	**2.42**	**250**	P	**Pn**	**02 09 16.5**	**+1.0**
JAK				*e* S	**Sn**	**02 09 44.1**	**-0.3**
JTKR	**Abashiri--Toko**	**2.81**	**274**	P	**Pn**	**02 09 23.4**	**+2.5**
JAR	**Ashorobuto**	**2.98**	**261**	P	**Pn**	**02 09 25.4**	**+2.2**
JAR				*e* S	**Sn**	**02 10 00.2**	**+1.9**
JOB	**Onbets**	**3.04**	**253**	P	**Pn**	**02 09 25.9**	**+1.9**
JOB				*e* S	**Sn**	**02 10 00.3**	**+0.5**
JMP	**Maruseppu**	**3.21**	**274**	P	**Pn**	**02 09 29.2**	**+2.8**
JCH	**Churui**	**3.47**	**251**	P	**Pn**	**02 09 31.5**	**+1.6**
JKA	**Kamikawa-asahi**	**3.76**	**276**	Pn	**Pn**	**02 09 38.2**	**+4.3**
ASAJ	**Asahikawa**	**3.76**	**276**	P	**Pb**	**02 09 41.3**	**-1.5**
	comp=N,7.7nm,0.3s,baz=113,slow=27,SNR=7.5						
ASAJ				S	**Sb**	**02 10 25.2**	**-2.8**
	baz=236,slow=28,SNR=1.1						
ASAJ				LR	LR	02 11 20.0	
	comp=N,87nm,20.6s,baz=150,slow=41						
JFR	**Furan**	**3.85**	**261**	P	**Pn**	**02 09 38.4**	**+3.2**
JEM	**Erimo**	**3.87**	**243**		**Pn**	**02 09 39.0**	**+3.5**
ERM	**Erimo**	**3.88**	**243**	PN	**Pn**	**02 09 39.0**	**+3.6**
ERM	**Erimo**	**3.88**	**243**		**Pn**	**02 09 39.0**	**+3.6**
JNBK	**Urakawa-nobuka**	**4.02**	**249**	P	**Pn**	**02 09 38.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.71**	**313**	*e* PN	**Pn**	**02 09 48.9**	**+2.0**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.71**	**313**	Pn	**Pn**	**02 09 49.7**	**+2.8**
YSS	**Yuzh-Sakhalins**	**4.71**	**313**	*e* P	**Pn**	**02 09 48.9**	**+2.0**
YSS				AMB	AMB	02 09 49.6	
	comp=Z,20nm,1.0s						
SKR	**Severo-Kuril's**	**8.86**	**37**	*e* PN	**Pn**	**02 10 44.2**	**+0.4**
SKR				pmax	pmax		
	comp=Z,33nm,0.6s						
SKR				MLR	MLR		
	comp=Z,700nm,15.0s						
SKR	**Severo-Kuril's**	**8.86**	**37**	*e* P	**Pn**	**02 10 44.6**	**+0.8**
SKR				AMB	AMB	02 10 46.5	
	comp=Z,10.0nm,0.4s						
SKR				*e* S	**Sn**	**02 12 19.5**	**-3.4**
SKR				A	A	02 12 23.9	
	comp=Z,60nm,0.9s						
SKR				A	A	02 12 23.9	
	comp=Z,30nm,0.9s						
MJAR	**Matsushiro Arr**	**10.35**	**228**	LR	LR	02 15 02.5	
	comp=Z,32nm,18.6s,baz=250,slow=36						
JWT	**Wachi**	**12.83**	**232**	Pn	**Pn**	**02 11 39.4**	**+1.2**
KSRS	**Korea Array**	**16.37**	**254**	P	**P**	**02 12 30.1**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=62,slow=11,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.88**	**140**	T	T	02 45 16.5	
	baz=331,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**28.89**	**140**	T	T	02 45 19.5	
	baz=331,slow=76,SNR=101						
H11N3	**WAKE ISLAND Hy**	**28.90**	**140**	T	T	02 45 17.5	
	baz=331,slow=76,SNR=82						
H11S1	**WAKE ISLAND Hy**	**29.86**	**142**	T	T	02 46 32.9	
	baz=332,slow=76,SNR=150						
H11S3	**WAKE ISLAND Hy**	**29.86**	**142**	T	T	02 46 30.5	
	baz=332,slow=76,SNR=141						
H11S2	**WAKE ISLAND Hy**	**29.88**	**142**	T	T	02 46 28.4	
	baz=332,slow=76,SNR=130						
IMAR	**Indian Mountai**	**38.29**	**34**	P	**P**	**02 15 55.9**	**+0.2**
KDAK	**Kodiak Island**	**38.83**	**47**	P	**P**	**02 15 58.7**	**-1.6**
	comp=Z,12nm,0.9s,baz=325,slow=21,SNR=2.6						
KDAK	**Kodiak Island**	**38.83**	**47**	P	**P**	**02 15 59.8**	**-0.5**
KDAK	**Kodiak Island**	**38.83**	**47**	P	**P**	**02 15 59.8**	**-0.5**
MLY	**Manley**	**39.48**	**36**	P	**P**	**02 16 06.6**	**+0.9**
MLY				IAmb	IAmb	02 16 21.9	
	comp=Z,3.5nm,1.2s						
COLD	**Coldfoot**	**39.81**	**32**	P	**P**	**02 16 08.9**	**+0.6**
COLD				IAmb	IAmb	02 16 10.9	
	comp=Z,2.7nm,1.1s						
I23K	**Minto, Yukon-K**	**40.06**	**36**	P	**P**	**02 16 11.7**	**+1.3**
TOLK	**Toolik Lake Re**	**40.16**	**30**	P	**P**	**02 16 11.1**	**-0.2**
MDM	**Murphy Dome**	**40.54**	**36**	P	**P**	**02 16 15.5**	**+1.0**
MDM				IAmb	IAmb	02 16 30.6	
	comp=Z,2.5nm,1.1s						
IL31		**41.12**	**36**	P	**P**	**02 16 19.0**	**-0.2**
IL31				IAmb	IAmb	02 16 21.0	
	comp=Z,4.4nm,1.1s						
ILAR	**Eielson Array**	**41.12**	**36**	P	**P**	**02 16 19.1**	**-0.2**
	comp=Z,2.8nm,1.1s,baz=277,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**41.12**	**36**	P	**P**	**02 16 19.3**	**0.0**
ILAR	**Eielson Array**	**41.12**	**36**	P	**P**	**02 16 19.3**	**0.0**
FYU	**Fort Yukon**	**41.75**	**34**	P	**P**	**02 16 25.7**	**+1.3**
BMAR	**Burnt Mountain**	**41.99**	**32**	P	**P**	**02 16 27.4**	**+1.1**
SCRK	**Sand Creek**	**42.43**	**37**	P	**P**	**02 16 29.8**	**-0.3**
K27K	**Chicken**	**43.26**	**37**	P	**P**	**02 16 37.5**	**+0.8**
L27K	**Beaver Creek,**	**43.50**	**39**	P	**P**	**02 16 40.1**	**+1.4**
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**02 16 49.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=73,slow=9.8,SNR=2.7						
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**02 16 50.5**	**0.0**
MKAR	**Makanchi Array**	**44.95**	**298**	P	**P**	**02 16 50.5**	**0.0**
MKAR	**Makanchi Array**	**44.95**	**298**	*e* P	**P**	**02 16 50.5**	**0.0**
HYT	**Haines Junctio**	**45.94**	**41**	P	**P**	**02 16 59.6**	**+1.4**
HYT				IAmb	IAmb	02 17 05.5	
	comp=Z,3.1nm,0.9s						
INK	**Inuvik**	**46.07**	**30**	P	**P**	**02 16 59.1**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=282,slow=7.8,SNR=7.4						
INK	**Inuvik**	**46.07**	**30**	P	**P**	**02 16 59.1**	**+0.1**
INK				IAmb	IAmb	02 17 12.8	
	comp=Z,5.1nm,1.4s						
ABKAR	**Akbulak array**	**57.36**	**309**	P	**P**	**02 18 22.9**	**-0.6**
ABKAR				IAmb	IAmb	02 18 23.0	
	comp=Z,1.9nm,1.1s						
ARCES	**ARCESS Array B**	**59.31**	**340**	P	**P**	**02 18 36.3**	**-0.5**
	comp=Z,4.8nm,1.1s,baz=61,slow=7.3,SNR=2.0						
WRA	**Warramunga Arr**	**64.68**	**194**	P	**P**	**02 19 13.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=8.4,slow=6.0,SNR=1.1						
FINES	**FINESS Array B**	**64.99**	**333**	P	**P**	**02 19 13.9**	**-1.2**
	comp=Z,2.2nm,0.9s,baz=57,slow=10,SNR=2.4						
NVAR	**Mina Array Bea**	**67.12**	**58**	P	**P**	**02 19 29.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=290,slow=7.3,SNR=6.2						
NVAR	**Mina Array Bea**	**67.12**	**58**	P	**P**	**02 19 29.6**	**+0.1**
NOA	**NORSAR Array B**	**69.67**	**339**	P	**P**	**02 19 43.2**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=38,slow=5.9,SNR=4.8						
NOA	**NORSAR Array B**	**69.67**	**339**	*e* P	**P**	**02 19 43.6**	**-1.2**
PV17	**East Wray Mesa**	**72.81**	**53**	P	**P**	**02 20 04.7**	**+0.3**
PV17				IAmb	IAmb	02 20 05.3	
	comp=Z,4.4nm,1.4s						
SCHQ	**Schefferville**	**77.36**	**20**	P	**P**	**02 20 29.3**	**-0.8**
CLL	**Collm**	**77.43**	**333**	*e* P	**P**	**02 20 29.0**	**-1.5**
TX31	**Lajitas Ar. Si**	**82.20**	**57**	P	**P**	**02 20 56.7**	**-0.2**
TX31				IAmb	IAmb	02 20 56.9	
	comp=Z,2.1nm,0.7s						
TX32	**Lajitas Array**	**82.20**	**57**	P	**P**	**02 20 56.2**	**-0.6**
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**02 20 56.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=288,slow=3.8,SNR=9.3						
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**02 20 56.6**	**-0.3**
TXAR	**Lajitas Array**	**82.20**	**57**	P	**P**	**02 20 56.6**	**-0.3**

JMA 10 02:52:42.9±0.2,38°.36N×144°.55E,h52$_{km}$**,M3.6,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.37**	**289**	P	Pn	02 53 20.5	+1.3
OFUJ				*e* S	Sn	02 53 48.4	+1.3
JIKH	**Ishinomakikobu**	**2.43**	**270**	P	Pn	02 53 21.2	+1.1
JIKH				S	Sn	02 53 49.8	+1.3
MIYJ	**Miyakonagasawa**	**2.45**	**301**	P	Pn	02 53 21.2	+0.8
MIYJ				*e* S	Sn	02 53 49.7	+0.5
JKMT	**Kesennumamotoy**	**2.45**	**282**	P	Pn	02 53 21.8	+1.4
JKMT				*e* S	Sn	02 53 50.3	+1.1
JMK	**Ichinoseki**	**2.67**	**284**	P	Pn	02 53 25.1	+1.7
JMK				*e* S	Sn	02 53 56.1	+1.5
JOM	**Ohasama**	**2.77**	**295**	P	Pn	02 53 26.3	+1.5
JOM				S	Sn	02 53 58.6	+1.5
JFT	**Otama**	**3.44**	**257**	*e* S	Sn	02 54 15.9	+2.5
JOT	**Ohata**	**4.05**	**319**	S	Sn	02 54 26.6	-1.7
JCH	**Churui**	**4.34**	**348**	P	Pn	02 53 45.5	-0.9
JCH				*e* S	Sn	02 54 32.9	-2.8
JKB	**Kayabe**	**4.44**	**324**	P	Pn	02 53 49.3	+1.7
BSO1	**Boso 1**	**4.69**	**219**	*e* S	Sn	02 54 44.6	+1.2
JRY	**Ryogami san**	**5.08**	**244**	P	Pn	02 53 57.9	+1.4
JRY				*e* S	Sn	02 54 53.2	-0.7
NEM2	**Nemuro 2**	**5.08**	**10**	*e* S	Sn	02 54 46.4	-7.4
JTKR	**Abashiri--Toko**	**5.63**	**355**	P	Pn	02 54 03.3	-0.6
JTKR				*e* S	Sn	02 55 03.9	-3.3

	SNR=14							
KSCHC	**Chuncheon**	**1.91**	**132**	P	Pn	02 58 40.8	0.0	
	SNR=8.7							
KSCHC	**Chuncheon**	**1.91**	**132**	P	Pn	02 58 40.8	0.0	
	SNR=8.7							
SEHB	**SEOHWA**	**1.92**	**114**	P	Pn	02 58 38.9	-2.2	

*BGR **10** 03:01:33.8±0.0,20.°40S×176.°65W,h33km*
*NEIC **10** 03:02:27.9±1.1,20.°30S±0.°05×177.°6W±0.°1,h492km±7km, mb4.1/42, Error ellipse: s-maj=16.3km s-min=6.4km az=100.0*
*IDC **10** 03:02:28.6±1.3,20.°27S×177.°73W,h506km±13km, mb3.6/21,mb1 3.8/24,mb1mx3.7/36,mbtmp4.4/24, Error ellipse: s-maj=16.2km s-min=11.5km az=130.0*

ISC 10 03:02:27.9±0.4,20.°30S±0.°08×177.°68W±0.°07,h500km, n135,σ0.°62/148,mb4.0/44,10C-13D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.78**	**302**	P	**P**	**03 03 54.3**	**+1.3**
	27nm,0.3s,baz=168,slow=4.5,SNR=87						
MSVF				S	**S**	**03 05 03.3**	**+1.0**
	baz=136,slow=20,SNR=0.6						
MSVF	**Nonsavu**	**4.78**	**302**		**P**	**03 03 53.6**	**+0.6**
MSVF					**S**	**03 05 00.8**	**-1.6**
NIUE	**Niue**	**7.41**	**82**	P	**P**	**03 04 16.9**	**-1.4**
AFI	**Afiamalu**	**8.50**	**43**	P	**P**	**03 04 29.1**	**-0.5**
	3.5nm,0.3s,baz=218,slow=12,SNR=2.5						
AFI				S	S	03 05 60.0	-10
	13nm,0.3s,baz=20,slow=22,SNR=9.3						
AFI	**Afiamalu**	**8.50**	**43**	P	**P**	**03 04 28.7**	**-1.0**
FUNA	**Funafuti**	**12.09**	**345**	P	**P**	**03 05 08.0**	**+0.5**
PINNC	**Pines Island,**	**14.04**	**258**	P	**P**	**03 05 27.8**	**-0.2**
DZM	**Mont Dzumac**	**14.91**	**260**	P	**P**	**03 05 36.1**	**-1.2**
	0.6nm,0.3s,baz=89,slow=16,SNR=2.0						
DZM	**Mont Dzumac**	**14.91**	**260**	P	**P**	**03 05 37.8**	**+0.5**
MXZ	**Matakaoa Point**	**17.55**	**191**	P	**P**	**03 06 03.7**	**-0.2**
CTAO	**Charters Tower**	**33.80**	**264**	P	**P**	**03 08 28.4**	**+0.4**
STKA	**Stephens Creek**	**38.14**	**244**	P	**P**	**03 09 04.0**	**+0.2**
	3.9nm,0.8s,baz=92,slow=13,SNR=5.7						
STKA	**Stephens Creek**	**38.14**	**244**	P	**P**	**03 09 04.2**	**+0.4**
AS31	**Alice Springs**	**44.85**	**256**	P	**P**	**03 09 57.6**	**+0.4**
AS31				IAmb	IAmb	03 09 57.9	
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**03 09 57.3**	**+0.1**
	comp=Z,7.7nm,0.5s,baz=96,slow=7.6,SNR=119						
ASAR				PcP	**PcP**	**03 11 28.4**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=100,slow=4.1,SNR=7.9						
ASAR				S	**S**	**03 15 55.5**	**-2.6**
	comp=Z,1.6nm,0.9s,baz=91,slow=13,SNR=8.7						
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**03 09 57.3**	**+0.1**
ASAR				pP	**PcP**	**03 11 28.1**	**-0.5**
WRA	**Warramunga Arr**	**44.92**	**262**	P	**P**	**03 09 57.2**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=98,slow=7.7,SNR=53						
WRA				PcP	**PcP**	**03 11 28.4**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=100,slow=3.7,SNR=4.5						
FITZ	**Fitzroy Crossi**	**53.35**	**262**	P	**P**	**03 11 00.8**	**+0.6**
FITZ				IAmb	IAmb	03 11 00.8	
	comp=Z,7.2nm,1.0s						
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**03 11 33.6**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=352,slow=5.2,SNR=7.3						
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**03 11 33.9**	**+1.4**
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**03 12 48.0**	**+0.9**
QSPA				IAmb	IAmb	03 12 48.2	
	comp=Z,6.9nm,0.8s						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	**P**	**03 12 49.1**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=156,slow=6.3,SNR=7.7						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	**P**	**03 12 50.6**	**+0.5**
PETK	**Petropavlovsk-**	**76.15**	**345**	P	**P**	**03 13 23.7**	**0.0**
	comp=Z,5.4nm,0.8s,baz=27,slow=9.4,SNR=9.9						
PETK	**Petropavlovsk-**	**76.15**	**345**	P	**P**	**03 13 24.5**	**+0.8**
KSRS	**Korea Array**	**76.93**	**318**	P	**P**	**03 13 28.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=143,slow=5.9,SNR=4.5						
USRK	**Ussuriysk Ar.**	**78.97**	**326**	P	**P**	**03 13 40.1**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=117,slow=3.8,SNR=14						
USRK	**Ussuriysk Ar.**	**78.97**	**326**	P	**P**	**03 13 40.3**	**+1.1**
MDPB	**Devils Postpil**	**79.72**	**44**	P	**P**	**03 13 44.3**	**+0.7**
KDAK	**Kodiak Island**	**80.55**	**13**	P	**P**	**03 13 48.0**	**+0.8**
	comp=Z,14nm,1.1s,baz=184,slow=5.5,SNR=3.6						
NVAR	**Mina Array Bea**	**80.68**	**43**	P	**P**	**03 13 49.2**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=224,slow=8.5,SNR=12						
NV11	**Mina Array Sit**	**80.77**	**43**	P	**P**	**03 13 49.5**	**+0.5**
KVN	**Kaiserville**	**81.16**	**43**	P	**P**	**03 13 51.7**	**+0.6**
TPH	**Tonopah**	**81.17**	**44**	P	**P**	**03 13 51.6**	**+0.4**
Y14A	**Wickenburg**	**81.83**	**49**	P	**P**	**03 13 55.3**	**+0.8**
Y14A				IAmb	IAmb	03 13 56.4	
	comp=Z,3.7nm,0.7s						
MAW	**Mawson**	**81.85**	**200**	P	**P**	**03 13 54.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=201,slow=2.5,SNR=3.7						
PRN	**Pahroc Range**	**82.24**	**46**	P	**P**	**03 13 57.1**	**+0.5**
PRN				IAmb	IAmb	03 13 58.8	
	comp=Z,7.1nm,1.0s						
KLR	**Kul'dur**	**82.51**	**329**	P	**P**	**03 13 57.2**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=102,slow=4.9,SNR=5.6						
TUC	**Tucson**	**82.62**	**52**	P	**P**	**03 13 58.7**	**+0.1**
TUC				IAmb	IAmb	03 14 01.2	
	comp=Z,4.6nm,0.9s						
X16A	**Lo Mia Camp, P**	**83.19**	**50**	P	**P**	**03 14 02.1**	**+0.6**
X16A				IAmb	IAmb	03 14 03.9	
	comp=Z,5.4nm,1.1s						
I07A	**Izee**	**83.25**	**38**	P	**P**	**03 14 02.4**	**+0.9**
I07A				IAmb	IAmb	03 14 03.5	
	comp=Z,5.0nm,0.9s						
LCMT	**Little Creek M**	**83.25**	**47**	P	**P**	**03 14 02.3**	**+0.6**
LCMT				IAmb	IAmb	03 14 03.6	
	comp=Z,3.8nm,0.9s						
CCUT	**Cedar City**	**83.45**	**46**	P	**P**	**03 14 02.9**	**+0.1**
SPR3	**Spring Creek 3**	**83.58**	**44**	P	**P**	**03 14 03.5**	**0.0**
U15A	**North Rim**	**83.61**	**48**	P	**P**	**03 14 04.0**	**+0.4**
U15A				IAmb	IAmb	03 14 05.9	
	comp=Z,6.4nm,0.8s						
ELK	**Elko**	**83.93**	**43**	P	**P**	**03 14 05.2**	**0.0**
	comp=Z,1.0nm,0.7s,baz=254,slow=10,SNR=4.4						
G08A	**Pilot Rock**	**84.28**	**37**	P	**P**	**03 14 06.9**	**+0.3**
G08A				IAmb	IAmb	03 14 08.3	
	comp=Z,5.1nm,1.1s						
MTPU	**Mount Pierson**	**84.51**	**46**	P	**P**	**03 14 08.4**	**+0.2**
MTPU				IAmb	IAmb	03 14 10.6	
	comp=Z,3.0nm,0.9s						
RPSI	**Rantau Prapat**	**84.73**	**275**	P	**P**	**03 14 09.6**	**+0.2**
RPSI				IAmb	IAmb	03 14 10.0	
	comp=Z,8.4nm,1.0s						
RPSI	**Rantau Prapat**	**84.73**	**275**	P	**P**	**03 14 08.8**	**-0.5**
PSI	**Prapat**	**84.77**	**275**	P	**P**	**03 14 08.8**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=353,slow=1.5,SNR=6.6						
BMO	**Blue Mountains**	**84.97**	**38**	P	**P**	**03 14 10.5**	**+0.5**
F10A	**Beach Ranch, E**	**85.66**	**37**	P	**P**	**03 14 13.8**	**+0.5**
TMUT	**Trail Mountain**	**85.80**	**46**	P	**P**	**03 14 14.6**	**+0.2**
TMUT				IAmb	IAmb	03 14 17.4	
	comp=Z,2.7nm,0.8s						
MNTX	**Cornudas Mount**	**86.39**	**54**		**P**	**03 14 17.5**	**+0.5**
MNTX				IAmb	IAmb	03 14 19.0	
	comp=Z,3.0nm,0.9s						
RND	**Reindeer**	**86.44**	**13**	P	**P**	**03 14 17.3**	**+0.8**
RND				IAmb	IAmb	03 14 33.5	
	comp=Z,9.6nm,1.2s						
TX31	**Lajitas Ar. Si**	**86.70**	**57**	P	**P**	**03 14 18.9**	**+0.3**
TX31				IAmb	IAmb	03 14 20.3	
	comp=Z,7.3nm,0.8s						
TX32	**Lajitas Array**	**86.70**	**57**	P	**P**	**03 14 19.2**	**+0.6**
TX32				IAmb	IAmb	03 14 20.3	
	comp=Z,2.5nm,0.8s						
TXAR	**Lajitas Array**	**86.70**	**57**	P	**P**	**03 14 19.9**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=219,slow=6.4,SNR=22						
TXAR	**Lajitas Array**	**86.70**	**57**	P	**P**	**03 14 18.7**	**+0.1**
BCYI	**Bear Canyon**	**87.00**	**40**	P	**P**	**03 14 19.8**	**0.0**
NEW	**Newport**	**87.04**	**326**	P	**P**	**03 14 19.2**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=203,slow=4.0,SNR=3.8						
ANMO	**Albuquerque**	**87.05**	**51**		**P**	**03 14 20.1**	**-0.2**
MCMT	**McKenzie Canyo**	**87.61**	**40**	P	**P**	**03 14 22.9**	**+0.2**
HDA	**Harding Lake**	**87.72**	**13**	P	**P**	**03 14 22.4**	**0.0**
CCB	**Clear Creek Bu**	**87.76**	**12**	P	**P**	**03 14 22.2**	**-0.3**
MDM	**Murphy Dome**	**87.95**	**12**	P	**P**	**03 14 22.3**	**-1.2**
IL31		**88.05**	**13**	P	**P**	**03 14 23.5**	**-0.4**
IL31				IAmb	IAmb	03 14 23.9	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**88.05**	**13**	P	**P**	**03 14 23.1**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=220,slow=6.0,SNR=34						
ILAR	**Eielson Array**	**88.05**	**13**	P	**P**	**03 14 23.4**	**-0.6**
SNAA	**Sanae**	**88.20**	**178**	P	**P**	**03 14 24.0**	**-0.8**
SNAA	**Sanae**	**88.20**	**178**	P	**P**	**03 14 24.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=207,slow=13						
POKR	**Poker Plat Res**	**88.25**	**12**	P	**P**	**03 14 23.9**	**-1.0**
POKR				IAmb	IAmb	03 14 24.8	
	comp=Z,4.9nm,0.8s						
VNA3	**Neumayer Olymp**	**88.32**	**176**	P	**P**	**03 14 24.9**	**-0.5**
PDAR	**Pinedale Array**	**88.61**	**43**	P	**P**	**03 14 27.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=187,slow=3.4,SNR=10						
YHL	**Hebgen Lake**	**88.64**	**41**	P	**P**	**03 14 27.7**	**+0.2**
VNA1	**Neumayer--Stat**	**88.99**	**176**	P	**P**	**03 14 28.2**	**-0.2**
DAWY	**Dawson**	**89.19**	**16**	P	**P**	**03 14 30.1**	**+0.7**
DAWY				IAmb	IAmb	03 14 30.1	
	comp=Z,4.1nm,0.7s						
HHC	**Hu-ho-hao-te**	**89.42**	**314**	*e*P	**P**	**03 14 30.0**	**-1.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,6.0s						
COLD	**Coldfoot**	**89.63**	**10**	P	**P**	**03 14 31.3**	**+0.1**
COLD				IAmb	IAmb	03 14 32.1	
	comp=Z,3.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**90.33**	**289**	P	**P**	**03 14 36.8**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=125,slow=2.7,SNR=14						
CMAR	**Chiang Mai Arr**	**90.33**	**289**	P	**P**	**03 14 36.1**	**+0.5**
CHTO	**Chiang Mai**	**90.45**	**290**	P	**P**	**03 14 36.4**	**+0.2**
YKA	**Yellowknife Ar**	**96.21**	**25**	P	**P**	**03 15 00.8**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=232,slow=3.9,SNR=2.6						
SUR	**Sutherland**	**124.71**	**199**	PKP	**PKPdf**	**03 20 31.1**	**0.0**
	comp=Z,5.6nm,1.0s,baz=299,slow=8.8,SNR=1.4						
ARCES	**ARCESS Array B**	**128.78**	**350**	PKP	**PKPdf**	**03 20 36.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=5.7,slow=2.4,SNR=7.8						
FINES	**FINESS Array B**	**135.66**	**344**	PKP	**PKPdf**	**03 20 48.8**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=63,slow=3.4,SNR=4.5						
AKASG	**Malin Array Be**	**142.98**	**331**	PKhKP	PKPpre	03 21 00.9	
	comp=Z,7.2nm,0.6s,baz=43,slow=4.5,SNR=32						
BSEG	**Bad Segeberg**	**145.87**	**352**	*e*PKPbc	**PKPbc**	**03 21 10.7**	**+0.1**
	baz=15,slow=2.6						
BRTR	**Keskin Array B**	**146.92**	**313**	PKPbc	**PKPbc**	**03 21 13.9**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=136,slow=5.1,SNR=18						
BRTR	**Keskin Array B**	**146.92**	**313**		**PKPdf**	**03 21 11.8**	**+0.4**
KOLS	**Kolonicke sedl**	**147.25**	**335**	*e*PKP	**PKPab**	**03 21 18.5**	**+0.5**
FLTG	**Flechtingen**	**147.28**	**350**	*e*PKPbc	**PKPbc**	**03 21 14.4**	**-0.2**
	baz=15,slow=2.6						
CRVS	**Cervenica-Dubn**	**147.59**	**336**	*e*PKP	**PKPab**	**03 21 19.5**	**+0.1**
OSTC	**Ostas**	**147.87**	**343**	*e*PKP	**PKPbc**	**03 21 16.1**	**-0.1**
CHVC	**Chvalec**	**147.88**	**343**	*e*PKP	**PKPbc**	**03 21 15.6**	**-0.6**
CLZ	**Clausthal**	**147.89**	**351**	*e*PKPbc	**PKPbc**	**03 21 16.5**	**+0.3**
	baz=15,slow=2.6						
CLL	**Collm**	**147.93**	**347**	*i*PKPbc	**PKPbc**	**03 21 16.2**	**-0.1**
	comp=Z,11nm,0.6s						
CLL				*e*PKPab	**PKPab**	**03 21 20.0**	**-0.6**
	comp=Z,9.0nm,1.4s						
CLL	**Collm**	**147.93**	**347**	*e*PKPbc	**PKPbc**	**03 21 16.4**	**+0.1**
	baz=15,slow=2.6						
DPC	**Dobruska-Polom**	**148.02**	**343**	*e*PKP	**PKPbc**	**03 21 16.3**	**-0.3**
LANS	**Liptovska Anna**	**148.10**	**339**	*e*PKP	**PKiKP**	**03 21 18.0**	**-0.2**
LANS				*e*		03 21 21.9	
BRG	**Berggiesshubel**	**148.14**	**346**	*i* PKP	**PKPbc**	**03 21 17.0**	**+0.2**
BRG				Amp		03 21 17.6	
	comp=Z,5.7nm,0.7s						
BRG	**Berggiesshubel**	**148.14**	**346**	*e*PKPbc	**PKPbc**	**03 21 17.0**	**+0.2**
	baz=15,slow=2.6						
KRLC	**Kraliky**	**148.14**	**342**	*e*PKP	**PKPbc**	**03 21 17.1**	**+0.2**
MORC	**Moravsky Berou**	**148.18**	**341**	*e*PKP	**PKPbc**	**03 21 17.2**	**+0.2**
FBE	**Freiberg**	**148.22**	**347**	*e*PKPbc	**PKPbc**	**03 21 17.6**	**+0.6**
	baz=15,slow=2.6						
PVCC	**Panska Ves**	**148.31**	**345**	*e*PKP	**PKPbc**	**03 21 17.8**	**+0.5**
KASTN	**Kahler Asten**	**148.79**	**353**	*e*PKPbc	**PKPbc**	**03 21 18.6**	**+0.1**
	baz=15,slow=2.6						
PRU	**Pruhonice**	**148.82**	**345**	*e*PKP	**PKPbc**	**03 21 18.6**	**+0.1**
MOX	**Moxa**	**148.84**	**349**	*e*PKPbc	**PKPbc**	**03 21 18.6**	**0.0**
	baz=15,slow=2.6						
VRAC	**Vranov**	**148.88**	**342**	*e*PKP	**PKPbc**	**03 21 19.1**	**+0.4**
PLN	**Plauen**	**148.88**	**348**	*e*PKPbc	**PKPbc**	**03 21 19.0**	**+0.3**
	baz=15,slow=2.6						
TANN	**Tannenbergstha**	**148.89**	**347**	*e*PKPbc	**PKPbc**	**03 21 18.9**	**+0.1**
	baz=15,slow=2.6						
WERD	**Werda**	**148.89**	**348**	*e*PKPbc	**PKPbc**	**03 21 18.9**	**+0.2**
	baz=15,slow=2.6						
JAVC	**Velka Javorina**	**148.95**	**340**	*e*PKP	**PKiKP**	**03 21 20.3**	**+0.3**
GUNZ	**Gunzen**	**148.97**	**348**	*e*PKPbc	**PKPbc**	**03 21 19.2**	**+0.3**
	baz=15,slow=2.6						
KRUC	**Moravsky**	**149.16**	**342**	*e*PKP	**PKPbc**	**03 21 19.5**	**+0.1**
KRUC				*e*		03 21 25.9	
TREC	**Trest**	**149.21**	**343**	*e*PKP	**PKPbc**	**03 21 19.3**	**-0.2**
PBCC	**Pribram**	**149.23**	**345**	*e*PKP	**PKPbc**	**03 21 19.4**	**-0.2**
MODS	**Modra-Piesok**	**149.50**	**340**	*e*PKP	**PKPbc**	**03 21 20.1**	**-0.2**
ROTZ	**Rotzenmuhle**	**149.56**	**347**	*e*PKPbc	**PKPbc**	**03 21 20.5**	**+0.2**
	baz=15,slow=2.6						
MEM	**Membach**	**149.61**	**355**	*d*PKPbc	**PKPbc**	**03 21 20.5**	**+0.1**
MEM				*d*PKPab	**PKPab**	**03 21 27.3**	**-0.2**
BTNL	**Ternell**	**149.63**	**355**	*d*PKPdf	**PKPdf**	**03 21 15.7**	**+0.4**
BTNL				*d*PKPbc	**PKPbc**	**03 21 20.2**	**-0.2**
BSTI	**Sart Tilman**	**149.67**	**356**	*d*PKPbc	**PKPbc**	**03 21 20.7**	**+0.2**
TNS	**Taunus Mts**	**149.75**	**352**	*e*PKPbc	**PKPbc**	**03 21 20.9**	**+0.1**
	baz=15,slow=2.6						
KHC	**Kasperske Hory**	**149.85**	**345**	*e*PKP	**PKPbc**	**03 21 20.9**	**-0.2**
CKRC	**Cesky Krumlov**	**149.96**	**344**	*e*PKP	**PKPbc**	**03 21 21.4**	**+0.1**
BMRD	**Maredsous**	**150.00**	**357**	*d*PKPbc	**PKPbc**	**03 21 21.4**	**0.0**
MILB	**Miltenberg**	**150.01**	**351**	*e*PKPbc	**PKPbc**	**03 21 21.6**	**+0.2**
	baz=15,slow=2.6						
GEC2	**GERESS Array S**	**150.09**	**345**	*e*PKPbc	**PKPbc**	**03 21 21.7**	**-0.1**
	baz=15,slow=2.6						
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc	**PKPbc**	**03 21 21.4**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=45,slow=2.5,SNR=16						
GERES	**GERESS Array B**	**150.09**	**345**		**PKPbc**	**03 21 21.9**	**+0.2**
DOU	**Dourbes**	**150.21**	**357**	*d*PKPdf	**PKPdf**	**03 21 16.5**	**+0.4**
DOU				*d*PKPbc	**PKPbc**	**03 21 21.7**	**-0.2**
DOU				*d*PKPab	**PKPab**	**03 21 29.5**	**-0.5**
WLF	**Walferdange**	**150.54**	**355**	*d*PKPdf	**PKPdf**	**03 21 17.1**	**+0.4**
WLF				*d*PKPbc	**PKiKP**	**03 21 23.5**	**+0.4**
WLF				*d*PKPab	**PKPab**	**03 21 31.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**172.86**	**175**	PKP	**PKPdf**	**03 21 38.7**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=336,slow=2.3,SNR=5.1						
TORD				PKPab	**PKPab**	**03 23 10.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=176,slow=3.5,SNR=2.9						

NNC 10 03:04:38.0±2.2,54.°24N×86.°38E,h0km,mb4.3,mpv3.4, 5C-3D,Error ellipse: s-maj=26.7km s-min=10.7km az=173.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.96**	**253**	⇓P	Pg	03 04 56.2	-0.2
	4.2nm,0.9s						
ZAA0				⇑S	Sb	03 05 09.9	-0.9
	59nm,1.1s						
KURBB	**Kurchatov Arra**	**6.01**	**236**	⇑Pn	Pn	03 06 10.2	+2.1
	22nm,1.0s						
KURBB				⇑Sn	Sn	03 07 19.5	+1.9
	3.8nm,0.5s						
KURBB				⇑Lg	Lg	03 07 49.6	
	23nm,0.7s						
MK31	**Makanchi Array**	**7.89**	**201**	⇓Pn	Pn	03 06 35.9	+2.0
	3.2nm,0.8s,baz=30,slow=12,SNR=19						
MK31				⇓Sn	Sn	03 08 03.3	-0.6
	2.4nm,0.8s,baz=30,slow=25,SNR=6.6						
MK31				⇑Lg	Lg	03 08 45.9	
	22nm,1.2s,baz=28,slow=30,SNR=9.3						

KRSC 10 03:05:33.3±1.5,48.°11N×156.°62E,h22km±28km,ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.82**	**14**	*e*P	Pn	03 06 34.8	+4.1
KDTR				*e*S	Sb	03 07 20.6	-5.1
MTVR	**Mutnovka**	**4.49**	**12**	*e*P	Pn	03 06 44.5	+4.4
MTVR				*e*S	Sn	03 07 37.5	+5.8
RUS	**Russkaya**	**4.49**	**15**	*e*P	Pn	03 06 43.5	+3.5
RUS				*e*S	Sn	03 07 37.0	+5.5
GRL	**Gorelyy**	**4.54**	**11**	*e*P	Pn	03 06 45.2	+4.4
UGLR	**Uglovaya**	**5.29**	**14**	P	Pn	03 06 56.7	+5.6
AVH	**Avacha**	**5.33**	**14**	P	Pn	03 06 57.5	+5.9
KOK	**Koryaka**	**5.34**	**13**	*e*P	Pn	03 06 56.3	+4.5
SDLR	**Sedlovina**	**5.37**	**15**	P	Pn	03 06 56.1	+4.0
KRX	**Arik**	**5.41**	**13**	P	Pn	03 06 58.0	+5.3
SPN	**Mys Shipunski**	**5.44**	**22**	P	Pn	03 06 58.4	+5.4
SPN				S	Sn	03 08 01.0	+6.1
MKZ	**Mys Kozlova**	**7.20**	**24**	P	Pn	03 07 22.3	+5.2
KZV	**Kizimen**	**7.37**	**17**	P	Pn	03 07 25.1	+5.4

*IDC **10** 03:12:27.3±0.6,49.°25S×69.°58E,h0km,mb4.3/13, mb1 4.5/14,mb1mx4.3/27,mbtmp4.4/14,ML4.1/1,MS3.8/15, Ms1 3.8/15,ms1mx3.7/28,Error ellipse: s-maj=20.4km s-min=17.7km az=144.0*
*NEIC **10** 03:12:29.5±1.6,49.°3S±0.°1×69.°8E±0.°2,h10km±1km, mb4.7/13,Error ellipse: s-maj=24.8km s-min=19.1km az=186.0*

ISC 10 03:12:29.0±0.5,49.°29S±0.°10×69.°7E±0.°1,h10km,n48, σ0.°81/36,mb4.5/17,MS3.8/14,1C,Kerguelen Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**18.69**	**188**	P	**Pn**	**03 16 47.2**	**-0.2**
	0.6nm,0.3s,baz=15,slow=14,SNR=17						
MAW				LR	LR	03 22 26.3	
	comp=Z,502nm,21.8s,baz=50,slow=32						
SYO	**Syowa Base**	**24.60**	**206**	*e*P	**P**	**03 17 49.2**	**+0.3**
H01W2	**Cape Leeuwin H**	**35.47**	**83**	T	T	03 56 30.1	
	baz=232,slow=75,SNR=25						
H01W3	**Cape Leeuwin H**	**35.48**	**83**	T	T	03 56 24.3	
	baz=232,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**35.49**	**83**	T	T	03 56 31.4	
	baz=232,slow=75,SNR=27						
SNAA	**Sanae**	**38.80**	**209**	P	P	03 20 04.2	+11
SNAA	**Sanae**	**38.80**	**209**	P	**P**	**03 19 54.4**	**+0.9**
	2.5nm,1.0s,baz=87,slow=13,SNR=4.4						
SNAA	**Sanae**	**38.80**	**209**	P	**P**	**03 19 54.4**	**+0.9**
BOSA	**Boshof**	**39.51**	**285**	P	**P**	**03 19 59.3**	**-0.6**
	3.2nm,0.9s,baz=124,slow=10,SNR=4.5						
BOSA				LR	LR	03 32 26.1	
	comp=Z,52nm,18.0s,baz=192,slow=30						
BOSA	**Boshof**	**39.51**	**285**	P	**P**	**03 19 59.7**	**-0.3**
BOSA				IAmb	IAmb	03 20 06.0	
	comp=Z,9.6nm,1.1s						
VNA1	**Neumayer--Stat**	**40.69**	**210**	P	P	03 20 19.0	+10
QSPA	**South Pole Qui**	**40.89**	**180**	P	**P**	**03 20 10.4**	**-0.6**
	comp=Z,20nm,1.3s,baz=274,slow=7.6,SNR=11						
QSPA	**South Pole Qui**	**40.89**	**180**	P	**P**	**03 20 10.6**	**-0.4**
QSPA				IAmb	IAmb	03 20 17.5	
	comp=Z,18nm,1.1s						
VNA3	**Neumayer Olymp**	**41.02**	**209**	P	P	03 20 23.0	+11
VNDA	**Vanda**	**42.93**	**161**	P	**P**	**03 20 28.5**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=270,slow=9.1,SNR=2.3						
VNDA				LR	LR	03 37 54.9	
	comp=Z,256nm,19.5s,baz=256,slow=36						
LSZ	**Lusaka**	**47.82**	**300**	P	**P**	**03 21 07.5**	**+0.6**
LSZ				IAmb	IAmb	03 21 09.6	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**54.43**	**76**	P	**P**	**03 21 57.6**	**+1.2**
	comp=Z,6.1nm,0.9s,baz=260,slow=3.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**54.43**	**76**	P	**P**	**03 21 56.6**	**+0.2**
STKA	**Stephens Creek**	**55.26**	**100**	P	**P**	**03 22 02.6**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=215,slow=9.7,SNR=6.3						
STKA				LR	LR	03 41 06.8	
	comp=Z,71nm,19.0s,baz=207,slow=31						
STKA	**Stephens Creek**	**55.26**	**100**	P	**P**	**03 22 01.8**	**-0.6**
ASAR	**Alice Springs**	**55.78**	**87**	P	**P**	**03 22 06.1**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=216,slow=6.8,SNR=25						
ASAR				PcP	**PcP**	**03 23 05.0**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=213,slow=3

comp=E,517µm,0.3s
SANT AML AML 03 33 13.8
comp=N,151µm,0.3s
SANT Santorini 1.58 319 P **Pg 03 32 43.1 -0.6**
THR8 Santorini-Mono 1.60 320 P **Pb 03 32 43.0 +0.2**
SIVA Sivas 1.60 264 P **Pb 03 32 43.7 +0.8**
SIVA AML AML 03 33 20.1
comp=N,538µm,0.7s
SIVA AML AML 03 33 28.9
comp=E,858µm,0.6s
THR6 Thira Island, 1.61 317 P **Pb 03 32 43.0 +0.1**
THR9 Santorini-Faro 1.63 316 P **Pb 03 32 43.6 +0.3**
SNT5 Nea Kammeni, S 1.64 318 P **Pb 03 32 43.6 +0.1**
THR3 Thira Island, 1.64 318 P **Pb 03 32 43.4 -0.1**
BDRM Kayabasi 1.96 16 *i* P **Pb 03 32 49.2 +0.4**
BDRM *i* S **Sb 03 33 12.6 -0.6**
TURN Turunc 1.99 37 *i* P **Pb 03 32 48.7 -0.8**
TURN *i* S **Sb 03 33 14.8 +0.6**
TURN IAML 03 33 24.0
comp=N,28nm,0.8s
TURN IAML 03 33 28.0
comp=E,34nm,0.7s
VAM Vamos 2.10 277 P **Pb 03 32 51.0 -0.4**
VAM AML AML 03 33 27.7
comp=N,397µm,0.7s
VAM AML AML 03 33 42.1
comp=E,230µm,0.7s
APE Apeiranthos 2.12 332 P **Pb 03 32 50.5 -1.3**
APE AML AML 03 33 20.1
comp=E,125µm,0.5s
APE AML AML 03 33 22.9
comp=N,146µm,0.5s
DALY Dalyan (Mula) 2.24 43 *i* P **Pb 03 32 52.8 -0.9**
DALY *i* S **Sg 03 33 26.7 +1.5**
DALY IAML 03 33 35.0
comp=N,30nm,0.8s
IMMV Iera Moni Meta 2.29 278 P **Pb 03 32 53.9 -0.6**
IMMV Iera Moni Meta 2.29 278 P **Pb 03 32 54.1 -0.4**
DDIM Aydin, Didim 2.30 10 *i* P **Pg 03 32 59.4 +2.1**
MULA Mugla, Merkez- 2.42 31 *i* P **Pb 03 32 57.0 +0.2**
MULA *i* S **Sg 03 33 29.5 -1.6**
MULA IAML 03 33 39.0
comp=E,32nm,1.0s
GCAM G?zelcaml? 2.54 9 *i* P **Pb 03 32 57.7 -1.1**
AKAS Kas 2.54 65 *i* P **Pn 03 32 54.2 -0.3**
AKAS *i* S **Sn 03 33 25.0 -0.5**
AKAS IAML 03 33 30.0
comp=N,29nm,0.5s
AKAS IAML 03 33 32.0
comp=E,14nm,1.1s
AYDN Tasoluk 2.63 20 *i* P **Pn 03 32 56.8 +1.1**
AYDN *i* S **Sb 03 33 30.4 -2.3**
CAEL Denizli, Camel 2.83 46 *i* P **Pb 03 33 01.6 -2.4**
DGB zmir 2.86 2 *i* P **Pn 03 32 59.4 +0.6**
DGB *i* S **Sn 03 33 29.9 -3.2**
TAVA DENIZLI_Tavas 2.86 37 *i* P **Pn 03 33 00.9 +2.0**
TAVA *i* S **Sb 03 33 37.6 -1.9**
TAVA IAML 03 33 53.0
comp=E,13nm,0.8s
TAVA IAML 03 33 54.0
comp=N,21nm,0.6s
ZEYE Izmir, Urla-Ze 3.05 356 *i* P **Pn 03 33 02.4 +1.1**
GOLH Golhisar 3.05 47 *i* P **Pn 03 33 04.1 +2.6**
GOLH *i* S **Sn 03 33 40.3 +2.2**
GOLH IAML 03 33 59.0
comp=N,15nm,0.7s
URLA Izmir 3.17 358 *i* P **Pn 03 33 03.1 +0.1**
VLI Veliai 3.46 297 P **Pn 03 33 08.5 +1.6**
MANT Manisa 3.60 23 *i* P **Pn 03 33 11.0 +1.9**
MANT IAML 03 33 55.0
comp=E,7.8nm,0.4s
USAK Uak-Merkez 3.96 27 *i* P **Pn 03 33 15.9 +2.0**

NEIC ***10*** *03:32:20.8±1.4, 18°.0S±0°.2×178°.39W±0°.09, h585km±13km, mb4.4/9, Error ellipse: s-maj=26.1km s-min=11.8km az=172.0*
IDC ***10*** *03:32:21.1±2.4, 17°.76S×178°.53W, h588km±21km, mb3.2/6, mb1 3.4/8, mb1mx3.0/31, mbtmp4.1/8, Error ellipse: s-maj=79.9km s-min=22.1km az=148.0*
ISC 10 03:32:19.8±0.7, 18°.0S±0°.2×178°.4W±0°.1, h579km, n21, σ0s79/22, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**274**	P	**P**	**03 33 41.0**	**+1.2**
	2.7nm,0.3s,baz=60,slow=22,SNR=12						
MSVF	**Nonsavu**	**3.41**	**274**	P	**P**	**03 33 41.4**	**+1.5**
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**03 35 26.3**	**-0.9**
	0.3nm,0.3s,baz=84,slow=8.3,SNR=1.4						
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**03 35 26.6**	**-0.5**
BKZ	**Black Stump Fm**	**21.57**	**191**	P	**P**	**03 36 27.9**	**-0.6**
BKZ				IAmb	IAmb	03 36 38.0	
	comp=Z,15nm,1.2s						
CTA	**Charters Tower**	**33.46**	**261**	P	**P**	**03 38 10.8**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=104,slow=8.3,SNR=1.5						
TOO	**Toolangi**	**37.15**	**231**	P	**P**	**03 38 42.7**	**+0.2**
TOO				IAmb	IAmb	03 38 51.0	
	comp=Z,11nm,1.1s						
TAOE	**Nuku Hiva Isla**	**38.21**	**81**	P	**P**	**03 38 52.1**	**+0.6**
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**03 38 55.6**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=92,slow=10,SNR=9.8						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**03 38 55.4**	**+0.9**
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**03 39 32.7**	**+0.4**
BBOO				IAmb	IAmb	03 39 34.7	
	comp=Z,5.2nm,0.8s						
NPH	**North Pit**	**43.54**	**33**	P	**P**	**03 39 32.8**	**-0.9**
WRA	**Warramunga Arr**	**44.65**	**260**	P	**P**	**03 39 41.8**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=96,slow=7.0,SNR=25						
AS31	**Alice Springs**	**44.80**	**254**	P	**P**	**03 39 43.3**	**0.0**
AS31				IAmb	IAmb	03 39 44.3	
	comp=Z,4.8nm,0.5s						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**03 39 43.4**	**+0.1**
	comp=Z,15nm,0.6s,baz=88,slow=8.4,SNR=195						
ASAR				PcP	**PcP**	**03 41 12.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=99,slow=3.6,SNR=2.7						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**03 39 43.1**	**-0.2**
FORT	**Forrest**	**50.00**	**245**	P	**P**	**03 40 22.0**	**0.0**
FORT				IAmb	IAmb	03 40 38.2	
	comp=Z,18nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P	**P**	**03 40 45.1**	**+1.0**
ILAR	**Eielson Array**	**85.95**	**13**	P	**P**	**03 43 59.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=221,slow=4.8,SNR=4.9						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**03 43 59.7**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=267,slow=1.8,SNR=3.0						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**03 44 00.1**	**0.0**

DNK ***10*** *03:46:52.2±2.2, 51°.34N×16°.12E, h254km±197km, ML2.2*
IPEC ***10*** *03:46:54.3±0.2, 51°.47N×16°.26E, h1km, ML2.5/3, Error ellipse: s-maj=1.6km s-min=0.8km az=38.0*
VIE ***10*** *03:46:54.4±0.6, 51°.46N×16°.24E, h0km, mb2.4/5, ml2.9/5, Error ellipse: s-maj=6.6km s-min=3.8km az=34.0 68 km NW of Wroclaw Suspected Mining induced.*
IDC ***10*** *03:46:55.3±0.8, 51°.43N×16°.07E, h0km, mb1 3.3/7, mb1mx3.1/51, mbtmp3.3/7, ML2.8/7, Error ellipse: s-maj=12.7km s-min=7.8km az=110.0*
BGR ***10*** *03:46:56.3±0.3, 51°.39N×16°.16E, h1km, ML3.0/21, Error ellipse: s-maj=4.4km s-min=2.2km az=24.0*
PRU ***10*** *03:46:56.2±0.0, 51°.41N×16°.18E, h0km*
ISC 10 03:46:53.5±0.7, 51°.49N±0°.02×16°.20E±0°.02, h0km, n67, σ1s31/146, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**175**	*i* Pg	**Pg**	**03 47 07.0**	**+1.0**
KSP				*e*Sg	**Sg**	**03 47 15.4**	**+0.9**
KSP	**Ksiaz**	**0.65**	**175**	*e*Pg	**Pg**	**03 47 07.1**	**+1.0**
KSP				*e*Sg	**Sg**	**03 47 15.4**	**+0.9**
CHVC	**Chvalec**	**0.91**	**186**	*e*PG	**Pb**	**03 47 11.8**	**-0.4**
CHVC				*e*SG	**Sg**	**03 47 22.6**	**-0.1**
	comp=Z,74nm,0.5s						
OSTC	**Ostas**	**0.94**	**179**	*e*PG	**Pg**	**03 47 12.2**	**+0.7**
OSTC				*e*SG	**Sg**	**03 47 23.2**	**-0.4**
	comp=Z,74nm,0.5s						
UPC	**Upice**	**0.99**	**187**	*e*PG	**Pg**	**03 47 13.1**	**+0.6**
UPC				*e*SG	**Sg**	**03 47 25.8**	**+0.4**
	comp=Z,176nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG	**Pg**	**03 47 15.9**	**+0.4**
DPC				*e*SG	**Sg**	**03 47 30.3**	**0.0**
	comp=Z,64nm,0.5s						
PVCC	**Panska Ves**	**1.41**	**227**	*e*PG	**Pg**	**03 47 20.7**	**+0.2**
PVCC				*e*SG	**Sn**	**03 47 39.8**	**+0.1**
	comp=Z,172nm,0.4s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pn**	**03 47 21.1**	**-0.2**
KRLC				*e*SG	**Sg**	**03 47 39.6**	**-1.0**
	comp=Z,44nm,0.6s						
BRG	**Berggiesshubel**	**1.55**	**247**	Pn	**Pn**	**03 47 21.4**	**-0.9**
BRG				Pg	**Pg**	**03 47 24.1**	**+1.0**
BRG				Sg	**Sg**	**03 47 44.3**	**+1.2**
BRG				Amp		03 47 47.7	
	comp=Z,58nm,0.5s						
BRG	**Berggiesshubel**	**1.55**	**247**	*e*Pn	**Pn**	**03 47 22.4**	**0.0**
BRG				*e*Pg	**Pg**	**03 47 24.4**	**+1.3**
BRG				*e*Sg	**Sg**	**03 47 44.4**	**+1.2**
RUE	**Ruedersdorf**	**1.79**	**304**	*e*Pn	**Pn**	**03 47 26.0**	**+0.3**
RUE				*e*Pg	**Pg**	**03 47 31.2**	**+3.4**
RUE				*e*Sg	**Sg**	**03 47 53.3**	**+2.2**
PRA	**Prague**	**1.81**	**219**	*e*PG	**Pn**	**03 47 26.3**	**+0.4**
PRA				*e*SG	**Sg**	**03 47 51.8**	**+0.2**
	comp=Z,58nm,1.0s						
PRU	**Pruhonice**	**1.83**	**216**	*e*PG	**Pb**	**03 47 28.2**	**+0.2**
PRU				*e*SG	**Sb**	**03 47 51.9**	**+0.4**
	comp=Z,46nm,0.6s						
FBE	**Freiberg**	**1.88**	**253**	*e*Pg	**Pg**	**03 47 30.2**	**+0.7**
FBE				*e*Sg	**Sg**	**03 47 55.2**	**+1.4**
MORC	**Moravsky Berou**	**1.92**	**153**	*e*PN	**Pn**	**03 47 27.5**	**-0.1**
MORC				*e*SG	**Sn**	**03 47 52.5**	**+0.1**
MORC	**Moravsky Berou** baz=335	**1.92**	**153**	*e*Pn	**Pn**	**03 47 27.4**	**-0.1**
MORC				*e*Sg	**Sn**	**03 47 52.5**	**+0.1**
	comp=Z,19nm,0.4s,baz=335						
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn	**Pn**	**03 47 27.7**	**+0.1**
MORC				*e*Sg	**Sb**	**03 47 53.4**	**-0.5**
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pn**	**03 47 29.0**	**+0.3**
CLL				*e*Pg	**Pg**	**03 47 33.0**	**+1.0**
	comp=Z,21nm,0.4s						
CLL				*e*Sg	**Sg**	**03 47 59.0**	**+1.0**
	comp=Z,35nm,0.6s						
CLL	**Collm**	**2.01**	**266**	*e*Pn	**Pn**	**03 47 28.6**	**-0.1**
CLL				*e*Pg	**Pg**	**03 47 33.0**	**+1.0**
CLL				*e*Sg	**Sg**	**03 47 59.4**	**+1.4**
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*PG	**Pb**	**03 47 32.2**	**+0.2**
OKC				*e*SG	**Sb**	**03 47 59.2**	**+1.0**
	comp=Z,46nm,0.8s						
VRAC	**Vranov**	**2.20**	**173**	Pn	**Pn**	**03 47 32.7**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=344,slow=15,SNR=8.6						
VRAC				Pg	**Pb**	**03 47 34.7**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=344,slow=14,SNR=8.6						
VRAC				Lg	Lg	03 48 01.9	
	comp=Z,3.4nm,0.3s,baz=240,slow=17,SNR=7.7						
VRAC	**Vranov**	**2.20**	**173**	*e*PN	**Pn**	**03 47 31.9**	**+0.6**
VRAC				*e*SG	**Sb**	**03 48 02.2**	**+0.2**
VRAC	**Vranov** baz=354	**2.20**	**173**	*e*Pn	**Pn**	**03 47 31.9**	**+0.6**
VRAC				*e*Sg	**Sb**	**03 48 02.2**	**+0.2**
	comp=Z,26nm,0.6s,baz=354						
TREC	**Trest**	**2.25**	**192**	*e*PN	**Pb**	**03 47 33.7**	**-1.3**
TREC				*e*PG	**Pg**	**03 47 35.7**	**-0.8**
TREC				*e*SG	**Sb**	**03 48 04.0**	**+0.7**
	comp=Z,34nm,1.0s						
PBCC	**Pribram**	**2.29**	**219**	*e*PG	**Pb**	**03 47 36.4**	**+0.7**
PBCC				*e*SG	**Sb**	**03 48 06.0**	**+1.5**
	comp=Z,15nm,0.6s						
LNIZ	**Loecknitz**	**2.34**	**330**	*e*Pn	**Pn**	**03 47 33.2**	**-0.1**
KRUC	**Moravsky**	**2.44**	**177**	*e*PN	**Pn**	**03 47 35.8**	**+1.2**
KRUC				*e*SG	**Sb**	**03 48 09.5**	**+0.8**
KRUC	**Moravsky** baz=358	**2.44**	**177**	*e*Pn	**Pn**	**03 47 35.7**	**+1.2**
KRUC				*e*Sg	**Sb**	**03 48 09.5**	**+0.8**
	comp=Z,30nm,0.7s,baz=358						
TANN	**Tannenbergstha**	**2.59**	**247**	*e*Pn	**Pn**	**03 47 37.6**	**+0.8**
TANN				*e*Pg	**Pg**	**03 47 44.4**	**+1.2**
TANN				*e*Sg	**Sg**	**03 48 17.0**	**+0.1**
WERD	**Werda**	**2.67**	**248**	*e*Pn	**Pn**	**03 47 38.6**	**+0.8**
WERD				*e*Pg	**Pg**	**03 47 45.0**	**+0.2**
WERD				*e*Sg	**Sg**	**03 48 20.1**	**+0.8**
NKC	**Novy Kostel**	**2.69**	**244**	*e*PN	**Pn**	**03 47 38.8**	**+0.7**
NKC				*e*PG	**Pg**	**03 47 44.0**	**-1.0**
NKC				*e*SG	**Sg**	**03 48 20.5**	**+0.7**
	comp=Z,33nm,0.4s						
GUNZ	**Gunzen**	**2.69**	**247**	*e*Pn	**Pn**	**03 47 39.2**	**+1.1**
GUNZ				*e*Pg	**Pg**	**03 47 45.4**	**+0.3**
GUNZ				*e*Sg	**Sg**	**03 48 20.6**	**+0.6**
WERN	**Wernitzgruen**	**2.70**	**245**	*e*Pn	**Pn**	**03 47 39.1**	**+0.8**
WERN				*e*Pg	**Pg**	**03 47 46.8**	**+1.5**
WERN				*e*Sg	**Sg**	**03 48 21.4**	**+1.1**
PLN	**Plauen**	**2.74**	**250**	*e*Pg	**Pg**	**03 47 46.3**	**+0.2**
PLN				*e*Sg	**Sg**	**03 48 21.5**	**-0.1**
NEUB	**Neuenburg**	**2.79**	**266**	*e*Pg	**Pg**	**03 47 47.4**	**+0.5**
NEUB				*e*Sg	**Sg**	**03 48 24.9**	**+1.9**
JAVC	**Velka Javorina**	**2.80**	**160**	*e*PN	**Pn**	**03 47 41.7**	**+2.1**
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**03 47 41.7**	**+0.7**
KHC				*e*PG	**Pb**	**03 47 46.6**	**+0.5**
KHC				*e*SN	**Sn**	**03 48 16.5**	**0.0**
KHC				*e*SG	**Sg**	**03 48 25.5**	**-1.1**
	comp=Z,24nm,0.8s						
CKRC	**Cesky Krumlov**	**2.94**	**205**	*e*PN	**Pn**	**03 47 42.8**	**+1.3**
CKRC				*e*PG	**Pb**	**03 47 48.4**	**+1.7**
CKRC				*e*SG	**Sg**	**03 48 25.9**	**-1.9**
MOX	**Moxa**	**3.01**	**255**	*e*Pg	**Pg**	**03 47 52.0**	**+0.8**
MOX				*e*Sg	**Sg**	**03 48 30.7**	**+0.5**
ROTZ	**Rotzenmuhle**	**3.07**	**237**	*e*Pn	**Pn**	**03 47 44.4**	**+1.1**
ROTZ				*e*Pg	**Pg**	**03 47 52.7**	**+0.3**
ROTZ				*e*Sg	**Sg**	**03 48 31.3**	**-0.8**
SMOL	**Smolenice**	**3.08**	**165**	*e*PG	**Pg**	**03 47 53.3**	**+0.7**
SMOL				*e*SG	**Sg**	**03 48 35.5**	**+2.9**
GEC2	**GERESS Array S**	**3.10**	**212**	*e*Pn	**Pn**	**03 47 43.9**	**+0.2**
GEC2				*e*Pg	**Pb**	**03 47 51.1**	**+1.6**
GEC2				*e*Sg	**Sb**	**03 48 30.5**	**+2.7**
GERES	**GERESS Array B**	**3.10**	**212**	Pn	**Pn**	**03 47 44.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=30,slow=13,SNR=23						
GERES				Pg	**Pb**	**03 47 50.9**	**+1.3**
	comp=Z,4.1nm,0.3s,baz=32,slow=17,SNR=35						
GERES				Lg	Lg	03 48 30.1	
	comp=Z,1.8nm,0.3s,baz=28,slow=26,SNR=6.4						
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PN	**Pn**	**03 47 45.3**	**+0.9**
LANS				*e*PG	**Pg**	**03 47 54.0**	**+0.2**
LANS				*e*SG	**Sg**	**03 48 35.8**	**+1.3**
WET	**Wettzell**	**3.17**	**223**	*e*Pn	**Pn**	**03 47 45.5**	**+0.9**
WET				*e*Sg	**Sg**	**03 48 34.3**	**-1.0**
FLTG	**Flechtingen**	**3.18**	**287**	*e*Pg	**Pg**	**03 47 57.6**	**+3.1**
MODS	**Modra-Piesok**	**3.20**	**167**	*e*PG	**Pg**	**03 47 55.0**	**+0.2**
MODS				*e*SG	**Sg**	**03 48 36.6**	**+0.4**
KOLL	**Kolacno**	**3.24**	**153**	*e*PN	**Pn**	**03 47 47.0**	**+1.3**
KOLL				*e*PG	**Pg**	**03 47 56.7**	**+1.0**
KOLL				*e*SG	**Sg**	**03 48 38.8**	**+1.1**
NIE	**Niedzica**	**3.34**	**127**	*e*Pg	**Pg**	**03 47 57.9**	**+0.3**
NIE				*e*Sg	**Sg**	**03 48 43.3**	**+2.3**
VYHS	**Vyhne**	**3.45**	**149**	*e*PN	**Pn**	**03 47 48.8**	**+0.3**
VYHS				*e*PG	**Pg**	**03 48 02.1**	**+2.5**
CONA	**Conrad Observa**	**3.57**	**184**	*e*Pn	**Pn**	**03 47 50.7**	**+0.5**
	comp=Z,1.4nm,0.5s						
CONA				Sg	**Sg**	**03 48 49.4**	**+1.2**
	comp=Z,16nm,0.5s						
CLZ	**Clausthal**	**3.64**	**278**	*e*Pn	**Pn**	**03 47 52.7**	**+1.6**
CLZ				*e*Pg	**Pg**	**03 48 04.2**	**+0.9**
CLZ				*e*Sg	**Sg**	**03 48 53.1**	**+2.6**
GRF	**Grafenberg Arr**	**3.65**	**242**	*e*Sg	**Sg**	**03 48 50.4**	**-0.2**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*PN	**Pn**	**03 47 51.5**	**-2.3**
STHS				*e*PG	**Pg**	**03 48 06.7**	**-0.3**
STHS				*e*SG	**Sg**	**03 49 00.6**	**+3.9**
MOA	**Molln**	**3.85**	**200**	*e*Pn	**Pn**	**03 47 54.9**	**+0.8**
	comp=Z,3.3nm,0.4s						
MOA				Sg	**Sg**	**03 48 58.0**	**+0.7**
	comp=Z,11nm,0.5s						
UBBA	**Unterbreizbach**	**3.96**	**263**	*e*Pg	**Pg**	**03 48 09.4**	**+0.1**
UBBA				*e*SG	**Sg**	**03 49 02.2**	**+1.6**
ARSA	**Arzberg**	**4.27**	**186**	Sg	**Sg**	**03 49 13.7**	**+3.1**
	comp=Z,12nm,0.8s						
LUNU	**Lund**	**4.46**	**340**	*i* P	**Pn**	**03 48 02.4**	**0.0**
LUNU				*e*S	**Sn**	**03 48 54.0**	**-0.9**
KOLS	**Kolonicke sedl**	**4.67**	**121**	*e*PN	**Pn**	**03 48 06.0**	**+0.8**
KOLS				*e*PG	**Pg**	**03 48 27.0**	**+4.1**
KOLS				*e*SG	**Sg**	**03 49 25.5**	**+2.1**
BLEU	**Blekinge**	**4.83**	**357**	*e*P	**Pn**	**03 48 06.5**	**-0.8**
BLEU				*i* P	**Pn**	**03 48 07.6**	**+0.2**
BLEU				*i* S	**Sn**	**03 49 01.2**	**-2.8**
DEL	**Delary** baz=174,slow=14	**5.17**	**346**	*e*	**Pn**	**03 48 11.4**	**-0.8**
DEL				*i* P	**Pn**	**03 48 11.9**	**-0.3**
DEL				*e*S	**Sn**	**03 49 08.3**	**-4.1**
DEL				IAML		03 49 12.0	
	comp=Z,1.2nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.28**	**224**	Pn	**Pn**	**03 48 27.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=41,slow=11,SNR=1.5						
DAVOX				Lg	Lg	03 50 10.7	
	comp=Z,0.4nm,0.3s,baz=336,slow=20,SNR=2.7						
AKASG	**Malin Array Be**	**8.24**	**90**	Pn	**Pn**	**03 48 53.8**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=4.3						
AKASG				Lg	Lg	03 51 22.2	
	comp=Z,0.9nm,0.3s,baz=276,slow=27,SNR=2.7						
HFS	**Hagfors**	**8.78**	**352**	Pn	**Pn**	**03 49 01.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=1.2						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**03 49 34.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=3.6						
EKA	**Eskdalemuir Ar** baz=102,slow=13,SNR=3.5	**12.16**	**296**	Pn	**Pn**	**03 49 45.4**	**-2.5**
ARCES	**ARCESS Array B** baz=194,slow=15,SNR=6.4	**18.63**	**10**	Pn	**P**	**03 51 09.4**	**-2.9**

IDC ***10*** *03:56:16.2±0.7, 1°.70N×126°.42E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.0/50, mbtmp4.3/11, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=53.0km s-min=14.1km az=78.0*
NEIC ***10*** *03:56:21.2±1.6, 1°.76N±0°.09×126°.65E±0°.07, h28km±7km, mb4.5/11, Error ellipse: s-maj=15.2km s-min=4.9km az=214.0*
DJA ***10*** *03:56:22.2±1.1, 2°.N±5°×12°.7E±°, h17km±18km, M4.2/7, mb4.4/1, mB4.4/1, MLv4.1/7, Mw(mB)3.6/1*
ISC 10 03:56:22.6±0.5, 1°.74N±0°.05×126°.67E±0°.06, h47km, n35, σ1s04/37, mb4.5/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**144**		**Pn**	**03 56 42.6**	**-0.3**
TNTI				Sn	**Sn**	**03 56 58.5**	**+0.6**
TNTI	**Ternate**	**1.19**	**144**	P	**Pn**	**03 56 42.6**	**-0.3**
SGSI	**Sangihe**	**2.24**	**329**	P	**Pn**	**03 56 57.7**	**+0.4**
LBMI	**Labuha**	**2.51**	**161**	P	**Pn**	**03 57 01.9**	**+1.0**
KMSI	**Cibinong**	**2.93**	**247**	P	**Pn**	**03 57 05.8**	**-0.9**
GTOI	**Gorontalo**	**3.82**	**253**	P	**Pn**	**03 57 21.1**	**+2.1**
LUWI	**Luwuk**	**4.78**	**235**	Pn	**Pn**	**03 57 31.9**	**-0.3**
LUWI				Sn	**Sn**	**03 58 27.6**	**+1.2**
MRSI	**Marisa**	**4.89**	**255**	P	**Pn**	**03 57 35.4**	**+1.7**
SIJI	**Sorong**	**5.28**	**119**	LR	LR	04 00 03.6	
	comp=Z,168nm,20.1s,baz=340,slow=42						
TOLI2	**Tolitoli**	**5.92**	**264**		**Pn**	**03 57 44.8**	**-3.0**
KNRA	**Kununurra**	**17.43**	**173**	Pn	**Pn**	**04 00 21.7**	**-0.8**
KNRA				IAmb	IAmb	04 00 25.1	
	comp=Z,45nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.74**	**183**	Pn	**P**	**04 00 47.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=7.2,slow=11,SNR=7.7						
FITZ	**Fitzroy Crossi**	**19.74**	**183**	P	**P**	**04 00 46.7**	**-1.9**
FITZ				IAmb	IAmb	04 00 58.5	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**22.83**	**161**	P	**P**	**04 01 20.5**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=338,slow=11,SNR=59						
JOW	**Kunigami**	**24.99**	**3**	P	**P**	**04 01 43.0**	**+1.0**
	comp=Z,13nm,0.7s,baz=184,slow=13,SNR=3.8						
JOW	**Kunigami**	**24.99**	**3**	P	**P**	**04 01 42.3**	**+0.2**
JOW				IAmb	IAmb	04 02 01.3	
	comp=Z,55nm,1.5s						
RABL	**Rabaul**	**26.15**	**103**	P	**P**	**04 01 53.5**	**+0.7**
AS31	**Alice Springs**	**26.22**	**165**	P	**P**	**04 01 54.3**	**+1.0**
ASAR	**Alice Springs**	**26.22**	**165**	P	**P**	**04 01 55.0**	**+1.7**
	comp=Z,5.3nm,0.5s,baz=349,slow=12,SNR=43						
ASAR				PcP	**PcP**	**04 05 19.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=352,slow=2.2,SNR=3.2						
ASAR	**Alice Springs**	**26.22**	**165**	P	**P**	**04 01 53.8**	**+0.5**
ASAR					**PcP**	**04 05 19.2**	**-0.2**
JWT	**Wachi**	**34.34**	**13**	P	**P**	**04 03 04.3**	**-0.6**
JWT				IAmb	IAmb	04 03 10.1	
	comp=Z,8.7nm,1.4s						
HNR	**Honiara**	**34.96**	**109**	P	**P**	**04 03 09.9**	**-0.7**
BBOO	**Buckleboo**	**35.50**	**166**	P	**P**	**04 03 14.3**	**-0.6**
BBOO				IAmb	IAmb	04 03 22.3	
	comp=Z,19nm,1.2s						
MJAR	**Matsushiro Arr**	**36.23**	**16**	P	**P**	**04 03 21.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=178,slow=9.5,SNR=4.7						
STKA	**Stephens Creek**	**36.31**	**158**	P	**P**	**04 03 21.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=334,slow=11,SNR=5.1						
KLR	**Kul'dur**	**47.51**	**5**	P	**P**	**04 04 53.3**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=191,slow=5.4,SNR=6.0						
SONM	**Songino Array**	**49.15**	**342**	P	**P**	**04 05 05.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=142,slow=7.5,SNR=3.9						
TLY	**Talaya**	**53.39**	**342**	LR	LR	04 28 59.8	
	comp=Z,29nm,18.7s,baz=136,slow=37						
MK31	**Makanchi Array**	**59.15**	**326**	P	**P**	**04 06 18.4**	**-0.3**
MK31				IAmb	IAmb	04 06 20.2	
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**59.15**	**326**	P	**P**	**04 06 18.1**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=123,slow=8.4,SNR=28						
MKAR	**Makanchi Array**	**59.15**	**326**	P	**P**	**04 06 18.6**	**-0.1**
ABKAR	**Akbulak array**	**73.64**	**321**	P	**P**	**04 07 51.5**	**+0.3**
ARU

comp=Z,4.9nm,0.8s
MGMO Mountain Grove 4.31 77 IAmb_Lg 04 00 51.2
comp=Z,4.3nm,0.8s
P38A Dawn 4.59 42 IAmb_Lg 04 01 02.3
comp=Z,7.3nm,0.9s
CCM Cathedral Cave 5.32 69 IAmb_Lg 04 01 20.2
comp=Z,5.5nm,0.8s
P40A Paris 5.41 52 IAmb_Lg 04 01 28.9
comp=Z,6.5nm,0.8s
PBMO Poplar Bluff 5.74 83 IAmb_Lg 04 01 34.4
comp=Z,6.3nm,0.7s
L34A Svendsen Farm, 5.74 9 IAmb_Lg 04 01 42.4
comp=Z,6.4nm,0.8s
FVM French Village 5.92 71 IAmb_Lg 04 01 44.6
comp=Z,6.7nm,0.9s
K31A O'Neill 6.40 352 IAmb_Lg 04 02 03.4
comp=Z,5.4nm,0.7s
I40A Norwalk 9.25 33 IAmb_Lg 04 03 37.0
comp=Z,4.2nm,0.8s

*IDC **10** 04:07:05.6±1.1,35°.11N×26°.80E,h0km,mb3.7/10,*
mb1 3.7/12,mb1mx3.6/41,mbtmp3.7/12,ML3.3/3,MS2.8/1,
Ms1 2.8/1,ms1mx2.1/48,Error ellipse: s-maj=24.0km
s-min=13.8km az=175.0
*NIC **10** 04:07:08.0±0.0,34°.93N×26°.72E,h12km±2km,MI4.1/2*
*DDA **10** 04:07:08.3,35°.16N×26°.58E,h10km±4km,MW3.6*
*ISK **10** 04:07:09.6,35°.17N×26°.65E,h5km,ML3.3/10*
*ATH **10** 04:07:10.7,35°.08N×26°.63E,h17km±2km,ML3.3/10,Error*
ellipse: s-maj=4.6km s-min=1.6km az=156.0
*THE **10** 04:07:10.1,35°.01N×26°.61E,h0km±1km,ML3.2/4,Error*
ellipse: s-maj=4.5km s-min=1.1km az=165.0

ISC 10 04:07:07.8±1.1,34°.94N±0°.04×26°.75E±0°.02,h17km±6km,
n104,σ1°88/133,mb3.7/10,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.47**	**292**	P	**Pg**	**04 07 17.3**	**0.0**
ZKR				S	**Sg**	**04 07 23.4**	**-0.2**
ZKR				AML	AML	04 07 24.9	
	comp=E,15151μm,0.2s						
ZKR				AML	AML	04 07 30.5	
	comp=N,6941μm,0.5s						
ZKR	**Zakros**	**0.47**	**292**	P	**Pg**	**04 07 17.3**	**0.0**
ZKR				S	**Sg**	**04 07 24.0**	**+0.4**
	comp=N,6μm,0.3s						
ZKR	**Zakros**	**0.47**	**292**	PG	**Pg**	**04 07 17.5**	**+0.2**
ZKR				SG	**Sg**	**04 07 24.1**	**+0.4**
ZKR	**Zakros**	**0.47**	**292**	P	**Pg**	**04 07 17.1**	**-0.1**
ZKR				S	**Sg**	**04 07 24.2**	**+0.5**
STIA	**Sitia Lasithi**	**0.60**	**296**	P	**Pg**	**04 07 18.4**	**-1.3**
STIA				S	**Sg**	**04 07 26.8**	**-0.9**
FRMA	**Ierapetra Chan**	**0.84**	**275**	P	**Pg**	**04 07 21.9**	**-2.2**
FRMA				S	**Sg**	**04 07 32.4**	**-2.8**
	comp=N,1μm,0.6s						
NPS	**Neapolis**	**0.98**	**289**	P	**Pg**	**04 07 26.8**	**-0.1**
NPS				S	**Sg**	**04 07 39.2**	**-0.6**
NPS				AML	AML	04 07 47.9	
	comp=E,8315μm,0.6s						
NPS				AML	AML	04 07 51.7	
	comp=N,5167μm,0.8s						
NPS	**Neapolis**	**0.98**	**289**	P	**Pg**	**04 07 26.6**	**-0.3**
NPS				S	**Sg**	**04 07 40.6**	**+0.7**
	comp=N,3μm,0.7s						
LAST	**Lasithi**	**1.06**	**282**	P	**Pg**	**04 07 27.6**	**-0.8**
LAST				S	**Sg**	**04 07 40.6**	**-1.8**
LAST				AML	AML	04 07 50.2	
	comp=N,5814μm,0.7s						
LAST				AML	AML	04 08 00.1	
	comp=E,3202μm,0.7s						
LAST	**Lasithi**	**1.06**	**282**	P	**Pg**	**04 07 27.6**	**-0.8**
HRKL	**Herakleio**	**1.40**	**286**	PN	**Pb**	**04 07 35.3**	**+1.8**
KSTL	**Kastelli Herak**	**1.42**	**285**	P	**Pn**	**04 07 31.2**	**-1.6**
IDI	**Anoyia**	**1.56**	**283**	P	**Pn**	**04 07 37.1**	**+2.2**
IDI				AML	AML	04 08 08.7	
	comp=N,1323μm,1.1s						
IDI				AML	AML	04 08 14.8	
	comp=E,818μm,0.6s						
IDI	**Anoyia**	**1.56**	**283**	Pn	**Pn**	**04 07 36.7**	**+1.8**
	comp=E,44nm,0.3s,baz=79,slow=15,SNR=188						
IDI				Sn	**Sb**	**04 07 58.3**	**+2.5**
	comp=E,44nm,0.3s,baz=25,slow=16,SNR=12						
IDI				LR	LR	04 08 34.3	
	comp=E,166nm,20.2s,baz=72,slow=56						
IDI	**Anoyia**	**1.56**	**283**	P	**Pn**	**04 07 37.0**	**+2.2**
IDI	**Anoyia**	**1.56**	**283**	PN	**Pn**	**04 07 37.0**	**+2.2**
IDI				SN	**Sb**	**04 07 58.7**	**+2.9**
SIVA	**Sivas**	**1.59**	**273**	P	**Pn**	**04 07 37.7**	**+2.5**
SIVA				AML	AML	04 08 12.2	
	comp=E,3582μm,0.7s						
SIVA				AML	AML	04 08 15.4	
	comp=N,2334μm,0.6s						
NIS1	**Nisyros Isl.**	**1.69**	**12**	P	**Pb**	**04 07 39.1**	**+0.6**
NIS1	**Nisyros Isl.**	**1.69**	**12**	PN	**Pn**	**04 07 38.7**	**+2.1**
NISR	**Nisiros**	**1.69**	**10**	P	**Pb**	**04 07 39.9**	**+1.4**
ARG	**Arkhangelos**	**1.70**	**41**	P	**Pg**	**04 07 40.7**	**+0.3**
ARG				AML	AML	04 08 11.6	
	comp=E,1258μm,0.6s						
ARG				AML	AML	04 08 17.6	
	comp=N,1165μm,0.8s						
ARG	**Arkhangelos**	**1.70**	**41**	P	**Pg**	**04 07 40.5**	**+0.1**
ARG				S	**Sg**	**04 08 02.9**	**+0.4**
	comp=N,580nm,0.7s						
ARG	**Arkhangelos**	**1.70**	**41**	PN	**Pg**	**04 07 40.2**	**-0.2**
ARG	**Arkhangelos**	**1.70**	**41**	S	**Sb**	**04 08 00.5**	**+0.9**
SANT	**Santorini**	**1.77**	**324**	P	**Pn**	**04 07 38.7**	**+1.0**
SANT				AML	AML	04 08 04.9	
	comp=E,1364μm,0.5s						
SANT				AML	AML	04 08 15.5	
	comp=N,726μm,0.9s						
SANT	**Santorini**	**1.77**	**324**	P	**Pn**	**04 07 38.7**	**+1.0**
SANT	**Santorini**	**1.77**	**324**	PN	**Pn**	**04 07 39.3**	**+1.6**
THR6	**Thira Island,**	**1.79**	**322**	P	**Pn**	**04 07 39.4**	**+1.5**
THR6	**Thira Island,**	**1.79**	**322**	P	**Pn**	**04 07 39.7**	**+1.8**
THR8	**Santorini-Mono**	**1.79**	**325**	P	**Pn**	**04 07 39.4**	**+1.5**
KOSK	**Kos Island**	**1.82**	**6**	PN	**Pn**	**04 07 40.2**	**+1.9**
SNT5	**Nea Kammeni, S**	**1.83**	**323**	P	**Pn**	**04 07 39.9**	**+1.5**
THR3	**Thira Island,**	**1.83**	**324**	P	**Pn**	**04 07 40.2**	**+1.8**
THR3	**Thira Island,**	**1.83**	**324**	P	**Pn**	**04 07 40.2**	**+1.8**
THR5	**Thira Island,**	**1.86**	**323**	P	**Pn**	**04 07 40.6**	**+1.6**
THR5	**Thira Island,**	**1.86**	**323**	P	**Pn**	**04 07 40.5**	**+1.6**
CMBO	**Columbo, Santo**	**1.88**	**325**	P	**Pn**	**04 07 40.3**	**+1.2**
DAT	**Datca**	**1.91**	**20**	PN	**Pn**	**04 07 41.9**	**+2.3**
VAM	**Vamos**	**2.14**	**283**	P	**Pn**	**04 07 45.9**	**+3.2**
VAM				AML	AML	04 08 25.7	
	comp=E,1162μm,0.9s						
VAM				AML	AML	04 08 25.9	
	comp=N,1053μm,0.9s						
BODT	**Bodrum**	**2.16**	**12**	P	**Pn**	**04 07 44.9**	**+1.8**
BODT	**Bodrum**	**2.16**	**12**	PN	**Pn**	**04 07 45.5**	**+2.4**
GVDS	**Gavdos**	**2.19**	**268**	PN	**Pb**	**04 07 48.3**	**+1.4**
GVD	**Gavdhos**	**2.19**	**268**	P	**Pb**	**04 07 48.8**	**+1.8**
GVD				AML	AML	04 08 32.7	
	comp=E,808μm,0.6s						
GVD				AML	AML	04 08 44.3	
	comp=N,770μm,0.7s						
GVD	**Gavdhos**	**2.19**	**268**	PN	**Pb**	**04 07 47.7**	**+0.7**
BDRM	**Kayabasi**	**2.19**	**15**	*i* P	**Pn**	**04 07 45.9**	**+2.5**
TURN	**Turunc**	**2.20**	**33**	*i* P	**Pb**	**04 07 47.4**	**+0.4**
TURN				*i* S	**Sb**	**04 08 15.5**	**+1.6**
TURN	**Turunc**	**2.20**	**33**	PN	**Pb**	**04 07 46.8**	**-0.2**
IMMV	**Iera Moni Meta**	**2.33**	**284**	P	**Pb**	**04 07 49.2**	**0.0**
IMMV				AML	AML	04 08 35.4	
	comp=N,668μm,0.6s						
IMMV				AML	AML	04 08 37.2	
	comp=E,1090μm,0.6s						
IMMV	**Iera Moni Meta**	**2.33**	**284**	PN	**Pn**	**04 07 48.8**	**+3.5**
APE	**Apeiranthos**	**2.34**	**335**	P	**Pn**	**04 07 46.8**	**+1.2**
APE	**Apeiranthos**	**2.34**	**335**	PN	**Pn**	**04 07 46.9**	**+1.4**
APE	**Apeiranthos**	**2.34**	**335**	P	**Sn**	**04 07 46.7**	**+1.2**
APE				S	**Sn**	**04 08 16.2**	**+2.2**
DALY	**Dalyan (Mula)**	**2.43**	**39**	*i* P	**Pn**	**04 07 49.5**	**+2.8**
DALY				*i* S	**Sb**	**04 08 20.0**	**-0.6**
DALY	**Dalyan (Mula)**	**2.43**	**39**	PN	**Pb**	**04 07 50.1**	**-0.9**
MLSB	**Milas**	**2.49**	**19**	PN	**Pn**	**04 07 50.1**	**+2.5**
YER	**Yerkesik**	**2.52**	**29**	PN	**Pn**	**04 07 51.1**	**+3.1**
KNDR	**Palaiochora Ch**	**2.53**	**277**	PN	**Pb**	**04 07 52.6**	**-0.1**
DDIM	**Aydin, Didim**	**2.54**	**9**	*i* P	**Pb**	**04 07 51.9**	**-1.0**
DDIM				*i* S	**Sg**	**04 08 30.6**	**+1.1**
MULA	**Mugla, Merkez-**	**2.64**	**28**	*i* P	**Pn**	**04 07 52.6**	**+3.0**
MULA				*i* S	**Sn**	**04 08 21.5**	**+0.2**
AKAS	**Kas**	**2.66**	**60**	*i* P	**Pn**	**04 07 50.9**	**+0.9**
AKAS				*i* S	**Sn**	**04 08 24.1**	**+2.2**
AYDN	**Tasoluk**	**2.86**	**18**	*i* P	**Pn**	**04 07 55.4**	**+2.7**
CAEL	**Denizli, Camel**	**3.01**	**43**	*i* P	**Pn**	**04 07 58.6**	**+3.7**
TAVA	**DENIZLI_Tavas**	**3.07**	**34**	*i* P	**Pn**	**04 07 58.2**	**+2.6**
TAVA				*i* S	**Sn**	**04 08 35.3**	**+3.4**
DGB	**zmir**	**3.11**	**2**	*i* P	**Pn**	**04 07 57.3**	**+1.3**
DGB				*i* S	**Sb**	**04 08 38.8**	**-1.4**
GOLH	**Golhisar**	**3.23**	**44**	*i* P	**Pn**	**04 08 00.5**	**+2.7**
GOLH				*i* S	**Sn**	**04 08 35.3**	**-0.7**
AKUM	**Antalya-Kumluc**	**3.23**	**64**	*i* P	**Pn**	**04 08 00.2**	**+2.4**
AKUM				*i* S	**Sn**	**04 08 35.2**	**-0.7**
KTHA	**Kythira Island**	**3.28**	**295**	P	**Pn**	**04 08 00.5**	**+2.1**
ZEYE	**Izmir, Urla-Ze**	**3.30**	**357**	*i* P	**Pn**	**04 07 59.1**	**+0.5**
KTHR	**Kythira**	**3.32**	**294**	P	**Pn**	**04 08 01.3**	**+2.3**
URLA	**Izmir**	**3.41**	**358**	*i* P	**Pn**	**04 08 00.4**	**+0.2**
URLA				*i* S	**Sn**	**04 08 41.4**	**+1.0**
VLI	**Veliai**	**3.57**	**301**	P	**Pn**	**04 08 04.0**	**+1.6**
MANT	**Manisa**	**3.83**	**22**	*i* P	**Pn**	**04 08 08.3**	**+2.1**
BRDR	**BURDUR-Merkez**	**3.83**	**43**	*i* P	**Pb**	**04 08 15.7**	**+0.7**
OSC1	**CSNet OBS 1**	**4.02**	**110**	S	**Sn**	**04 08 58.3**	**+3.1**
USAK	**Uak-Merkez**	**4.18**	**25**	*i* P	**Pn**	**04 08 13.2**	**+2.3**
KYMI	**Kymi, Euboea I**	**4.25**	**331**	P	**Pn**	**04 08 14.3**	**+2.5**
KZIL	**AFYON_Kizioren**	**4.29**	**39**	*i* P	**Pn**	**04 08 15.7**	**+3.3**
DEMI	**Demirci**	**4.38**	**20**	*i* P	**Pn**	**04 08 15.3**	**+1.6**
KEPZ	**Antalya-Kepez**	**4.40**	**62**	*i* P	**Pn**	**04 08 16.1**	**+2.3**
KEPZ				*i* S	**Sn**	**04 09 06.0**	**+1.3**
KOCA	**Canakkale, Ayv**	**4.58**	**354**	*i* P	**Pn**	**04 08 17.6**	**+1.4**
AKMS	**Akamas**	**4.59**	**87**	P	**Pn**	**04 08 17.9**	**+1.5**
AKMS				AML	AML	04 09 10.5	
	comp=E,0.5nm,0.5s						
AKMS				AML	AML	04 09 11.0	
	comp=E,0.6nm,0.4s						
GAZI	**Gazipasa**	**4.72**	**73**	*i* P	**Pn**	**04 08 17.7**	**-0.5**
GAZI				*i* S	**Sn**	**04 09 07.0**	**-5.5**
SEDI	**Konya, Seydise**	**4.76**	**57**	*i* P	**Pn**	**04 08 21.9**	**+3.0**
SEDI				*i* S	**Sn**	**04 09 09.3**	**-4.4**
BAYC	**CANAKKALE_Bayr**	**4.79**	**358**	*i* P	**Pn**	**04 08 19.4**	**+0.2**
KLV	**Kalavryta, Ach**	**4.83**	**311**	P	**Pn**	**04 08 21.4**	**+1.7**
DURS	**Dursunbey**	**4.85**	**16**	*i* P	**Pn**	**04 08 21.9**	**+1.8**
BOZC	**Bozcaada**	**4.92**	**354**	*i* P	**Pn**	**04 08 22.4**	**+1.4**
SZAC	**Souni**	**5.05**	**90**	S	**Sn**	**04 09 24.0**	**+3.3**
ASGA	**Asgata**	**5.34**	**90**	P	**Pn**	**04 08 29.5**	**+2.7**
ASGA				AML	AML	04 09 30.3	
	comp=E,0.3nm,0.9s						
ASGA				AML	AML	04 09 31.1	
	comp=E,0.3nm,0.8s						
MVOU	**Mavrovouni**	**5.65**	**87**	P	**Pn**	**04 08 33.7**	**+2.7**
BRTR	**Keskin Array B**	**7.27**	**47**	Pn	**Pn**	**04 08 53.4**	**0.0**
	comp=E,0.1nm,0.3s,baz=219,slow=15,SNR=2.5						
BRTR				Sn	**Sn**	**04 10 13.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=220,slow=22,SNR=1.8						
BRTR				LR	LR	04 12 34.7	
	comp=E,79nm,21.1s,baz=222,slow=46						
MMAI	**Mount Meron Ar**	**7.44**	**103**	Pn	**Pn**	**04 08 53.3**	**-2.4**
	comp=E,1.3nm,0.3s,baz=288,slow=10.0,SNR=1.7						
MMAI				Sn	**Sn**	**04 10 19.9**	**+0.2**
	comp=E,3.4nm,0.3s,baz=298,slow=23,SNR=2.7						
EIL	**Elat**	**8.71**	**125**	Pn	**Pn**	**04 09 13.8**	**+0.9**
	comp=E,0.7nm,0.3s,baz=171,slow=10,SNR=4.3						
EIL				Sn	**Sn**	**04 10 46.8**	**-3.9**
	comp=E,1.5nm,0.3s,baz=168,slow=3.6,SNR=6.9						
AKASG	**Malin Array Be**	**15.85**	**6**	Pn	**Pn**	**04 10 50.3**	**+0.3**
	comp=E,0.6nm,0.3s,baz=194,slow=10,SNR=5.4						
ESDC	**Sonseca Array**	**24.81**	**290**	P	**P**	**04 12 29.0**	**-0.1**
	comp=E,0.2nm,0.5s,baz=80,slow=10,SNR=4.8						
FINES	**FINESS Array B**	**26.52**	**359**	P	**P**	**04 12 42.6**	**-1.6**
	comp=E,1.0nm,0.7s,baz=187,slow=9.8,SNR=3.4						
HFS	**Hagfors**	**26.60**	**345**	P	**P**	**04 12 42.9**	**-2.0**
	comp=E,1.2nm,0.7s,baz=166,slow=8.9,SNR=1.7						
EKA	**Eskdalemuir Ar**	**28.98**	**324**	P	**P**	**04 13 05.2**	**-1.0**
	comp=E,0.2nm,0.3s,baz=124,slow=9.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**31.37**	**232**	P	**P**	**04 13 28.7**	**+1.0**
	comp=E,1.3nm,1.0s,baz=43,slow=7.2,SNR=3.8						
ARCES	**ARCESS Array B**	**34.65**	**359**	P	**P**	**04 13 54.4**	**-1.6**
	comp=E,1.3nm,0.6s,baz=176,slow=7.3,SNR=5.9						
KURBB	**Kurchatov Arra**	**40.25**	**51**	P	**P**	**04 14 43.9**	**+0.4**
	comp=E,1.0nm,0.5s,baz=276,slow=8.9,SNR=7.4						
MKAR	**Makanchi Array**	**42.81**	**56**	P	**P**	**04 15 05.3**	**+0.7**
	comp=E,0.4nm,0.3s,baz=273,slow=8.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**44.22**	**46**	P	**P**	**04 15 15.0**	**-0.8**
	comp=E,1.3nm,0.4s,baz=279,slow=8.8,SNR=3.5						
SCHQ	**Schefferville**	**64.19**	**320**	P	**P**	**04 17 40.3**	**-1.1**
	comp=E,1.6nm,0.7s,baz=80,slow=6.1,SNR=2.2						

HEL 10 04:16:00.8±0.0,67°.83N×20°.21E,h0km,ML1.7,
ML2.3(UPP),Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	04 16 03.1	-0.4
KUA				*i* S	Sg	04 16 05.2	-0.1
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	04 16 04.8	-0.4
RATU				*i* S	Sg	04 16 07.9	-0.3
KOVU	**Salmi**	**0.40**	**358**	*i* P	Pg	04 16 07.9	-0.5
KOVU				*i* S	Sg	04 16 13.3	-0.3
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	04 16 08.8	-0.6
NIKU				*i* S	Sg	04 16 15.1	0.0
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	04 16 13.6	-0.7
LANU				*e*S	Sg	04 16 23.5	-0.1
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	04 16 13.9	-0.7
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	04 16 23.6	-0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	04 16 23.5	-0.4
KIF				MSG		04 16 39.8	
	comp=Z,6.8nm,0.2s						
KIF				*e*SB	Sn	04 16 41.2	-0.6
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	04 16 25.5	-1.7
	baz=307						
PAJU				*e*SB	Sg	04 16 44.1	-1.0
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	04 16 27.0	-0.8
KLF	**Kolari**	**1.56**	**111**	*e*P	Pn	04 16 28.6	-1.2
KLF				*e*SN	Sn	04 16 50.0	-0.6
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	04 16 32.1	+0.5
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	04 16 42.2	+1.1
TOF				MSG		04 17 09.8	
	comp=Z,2.6nm,0.2s						
TOF				*e*SG	Sb	04 17 14.1	-0.4
SGF	**Sodankyl**	**2.45**	**96**	*e*SG	Sb	04 17 16.1	-0.2
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	04 16 45.6	+2.0
RNF				*e*SG	Sb	04 17 19.4	-0.4
ARA0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	04 16 44.4	+0.5
ARA0				*e*SG	Sg	04 17 22.6	-1.3
KEV	**Kevo**	**3.14**	**49**	*e*S	Sn	04 17 30.4	+0.9

*IDC **10** 04:29:01.8±1.1,49°.20S×69°.40E,h0km,mb4.0/6,*
mb1 4.1/7,mb1mx3.9/30,mbtmp4.0/7,ML4.4/1,MS3.2/1,
Ms1 3.1/1,ms1mx2.7/24,Error ellipse: s-maj=35.5km
s-min=24.5km az=130.0

ISC 10 04:29:03.4±1.0,49°.2S±0°.2×69°.4E±0°.2,h10km,n10,
σ1°26/7,mb4.0/6,Kerguelen Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**18.74**	**188**	P	**Pn**	**04 33 23.7**	**+1.3**
	1.2nm,0.3s,baz=356,slow=15,SNR=11						
MAW				LR	LR	04 38 49.6	
	comp=Z,80nm,21.2s,baz=27,slow=31						
H01W2	**Cape Leeuwin H**	**35.63**	**83**	T	T	05 13 06.7	
	baz=232,slow=74,SNR=4.3						
H01W3	**Cape Leeuwin H**	**35.64**	**83**	T	T	05 13 06.7	
	baz=232,slow=74,SNR=5.1						
H01W1	**Cape Leeuwin H**	**35.65**	**83**	T	T	05 13 07.7	
	baz=232,slow=74,SNR=3.7						
SNAA	**Sanae**	**38.79**	**209**	P	**P**	**04 36 28.0**	**+0.2**
	0.9nm,1.0s,baz=49,slow=9.3,SNR=1.7						
QSPA	**South Pole Qui**	**40.97**	**180**	P	**P**	**04 36 45.0**	**-1.1**
	2.0nm,0.6s,baz=291,slow=8.6,SNR=5.7						
ASAR	**Alice Springs**	**55.94**	**88**	P	**P**	**04 38 41.4**	**-0.4**
	1.7nm,0.8s,baz=213,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**58.86**	**85**	P	**P**	**04 39 02.0**	**-0.3**
	1.3nm,0.7s,baz=220,slow=5.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**85.88**	**295**	P	**P**	**04 41 42.4**	**-1.1**
	1.2nm,1.0s,baz=123,slow=4.5,SNR=3.9						
MKAR	**Makanchi Array**	**96.27**	**9**	P	**P**	**04 42 32.8**	**+1.4**
	0.4nm,0.8s,baz=210,slow=8.3,SNR=4.0						

*IDC **10** 04:56:18.0±1.1,61°.39N×150°.16W,h0km,mb3.2/2,*
mb1 3.7/6,mb1mx3.5/46,mbtmp3.5/6,ML3.4/4,MS2.6/1,
Ms1 2.6/1,ms1mx2.2/26,Error ellipse: s-maj=27.6km
s-min=11.4km az=112.0
*ANF **10** 04:56:19.6±0.1,61°.62N×150°.91W,h61km±2km,ML3.9/49,*
ML3.9/50,Error ellipse: s-maj=1.6km s-min=1.1km
az=64.0,Hypocentre not reviewed by the ISC
*NEIC **10** 04:56:19.7±1.2,61°.62N±0°.03×150°.89W±0°.05,h67km±5km,*
Error ellipse: s-maj=4.3km s-min=2.4km az=144.0
*AEIC **10** 04:56:20.1±1.2,61°.62N±0°.03×150°.90W±0°.05,h64km±3km,*
ML3.6,ML3.7/114(NEIC),Error ellipse: s-maj=4.3km
s-min=3.6km az=148.0

ISC 10 04:56:20.0±0.9,61°.62N±0°.02×150°.88W±0°.03,h64km±6km,
n159,σ0°77/151,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUA	**Susitna One**	**0.17**	**158**		**Pn**	**04 56 29.6**	**-0.3**
SUA				IAML		04 56 37.7	
	comp=E,5μm,0.7s						
SUA				IAML		04 56 38.6	
	comp=N,4μm,0.6s						
SUA	**Susitna One**	**0.17**	**158**		**Sn**	**04 56 37.3**	**+0.2**
SUA	**Susitna One**	**0.17**	**158**	P		04 56 29.6	
	baz=335,SNR=187						
SUA				S		04 56 37.1	
	baz=335						
M22K	**Willow**	**0.39**	**69**		**Pn**	**04 56 30.7**	**-0.5**
M22K					**Sn**	**04 56 39.9**	**+0.6**
M22K	**Willow**	**0.39**	**69**	P		04 56 30.9	
	baz=251,SNR=598						
M22K				S		04 56 39.6	
	baz=251						
STLK	**Strandline Lak**	**0.47**	**256**		**Pn**	**04 56 31.7**	**-0.3**
SKT	**Skwentna**	**0.48**	**320**		**Pn**	**04 56 30.9**	**-1.1**
SKT	**Skwentna**	**0.48**	**320**		**Sn**	**04 56 40.3**	**-0.5**
SKT	**Skwentna**	**0.48**	**320**	IAML		04 56 40.7	
	comp=N,30μm,0.4s						
SKT				IAML		04 56 41.0	
	comp=E,21μm,0.4s						
SKT	**Skwentna**	**0.48**	**320**	P		04 56 31.4	
	baz=140,SNR=686						
SKT				S		04 56 40.4	
	baz=140						
FIS	**Fire Island**	**0.57**	**146**		**Pn**	**04 56 32.8**	**-0.2**
FIS				IAML		04 56 46.8	
	comp=N,4μm,0.7s						
SPCG	**Spurr Capps Gl**	**0.64**	**240**		**Pn**	**04 56 33.5**	**-0.4**
SPCG					**Sn**	**04 56 44.2**	**+0.2**
SPCP	**Crater Peak Br**	**0.71**	**240**		**Pn**	**04 56 34.4**	**-0.3**
SPU	**Mount Spurr**	**0.72**	**233**		**Pn**	**04 56 34.2**	**-0.5**
SPCN	**Chakachatna No**	**0.74**	**238**		**Pn**	**04 56 34.8**	**-0.2**
SPCR	**Spurr Chakacha**	**0.77**	**237**		**Pn**	**04 56 34.6**	**-0.7**
SPCR					**Sn**	**04 56 46.3**	**-0.3**
SPCR	**Spurr Chakacha**	**0.77**	**237**	P		04 56 34.7	
	baz=55,SNR=116						
SPCR				S		04 56 46.1	
	baz=55						
RC01	**Rabbit Creek A**	**0.77**	**133**		**Pn**	**04 56 34.6**	**-0.7**
RC01	**Rabbit Creek A**	**0.77**	**133**		**Sn**	**04 56 47.4**	**+0.9**
RC01	**Rabbit Creek A**	**0.77**	**133**	IAML		04 56 48.1	
	comp=E,2μm,0.4s						
RC01				IAML		04 56 48.2	
	comp=N,2μm,0.4s						
RC01	**Rabbit Creek A**	**0.77**	**133**	P		04 56 34.9	
	baz=314,SNR=118						
RC01				S		04 56 46.7	
	baz=314						
SPBG	**Spurr Blockage**	**0.80**	**244**		**Pn**	**04 56 35.4**	**-0.4**
SPBG					**Sn**	**04 56 48.3**	**+0.9**
PMR	**Palmer**	**0.84**	**91**		**Pn**	**04 56 35.2**	**-0.9**
PMR	**Palmer**	**0.84**	**91**	IAML		04 56 48.8	
	comp=N,2μm,0.4s						
PMR	**Palmer**	**0.84**	**91**	P		04 56 35.2	
	baz=273,SNR=61						
PMR				S		04 56 47.6	
	baz=273						
CUT	**Chulitna**	**0.84**	**20**		**Pn**	**04 56 35.3**	**-0.8**
CUT	**Chulitna**	**0.84**	**20**		**Sn**	**04 56 48.7**	**+0.7**
CUT	**Chulitna**	**0.84**	**20**	IAML		04 56 49.4	
	comp=E,9μm,0.3s						
CUT				IAML		04 56 49.5	
	comp=N,9μm,0.4s						
CUT	**Chulitna**	**0.84**	**20**	P		04 56 35.7	
	baz=201,SNR=152						
CUT				S		04 56 48.3	
	baz=201						
CAPN	**Captain Cook N**	**0.86**	**189**		**Pn**	**04 56 37.6**	**+1.2**
CAPN	**Captain Cook N**	**0.86**	**189**	P		04 56 37.7	
	baz=7.9						
GHO	**Glory Hole Cre**	**0.94**	**80**		**Pn**	**04 56 37.2**	**-0.3**
GHO					**Sn**	**04 56 51.4**	**+0.9**
SLKM	**Skilak Lake**	**1.16**	**164**		**Pn**	**04 56 39.5**	**-0.7**
SLKM					**Sn**	**04 56 56.0**	**+

BRSE						Sn	04 57 12.5	-0.2
BRSE	**Bradley Lake S**	**1.89**	**178**	P			04 56 49.1	
	baz=358							
BRSE				S			04 57 11.8	
	baz=358							
CAST	**Castle Rocks**	**1.89**	**343**			**Pn**	**04 56 50.5**	**+0.5**
CAST	**Castle Rocks**	**1.89**	**343**	P			04 56 49.8	
	baz=163							
KTH	**Kantishna Hill**	**1.94**	**359**			**Pn**	**04 56 50.8**	**+0.1**
KTH						Sn	04 57 14.5	+0.4
KTH	**Kantishna Hill**	**1.94**	**359**	IAML			04 57 16.0	
	comp=E,790nm,1.2s							
GLI	**Glacier Island**	**1.97**	**110**			**Pn**	**04 56 49.5**	**-1.7**
GLI	**Glacier Island**	**1.97**	**110**	IAML			04 57 25.6	
	comp=N,659nm,0.6s							
GLI				IAML			04 57 27.4	
	comp=E,554nm,0.7s							
GLI	**Glacier Island**	**1.97**	**110**	P			04 56 49.5	
	baz=294							
ILS	**Iliamna Low So**	**1.98**	**214**			**Pn**	**04 56 52.0**	**+0.7**
HOM	**Homer**	**2.00**	**191**			**Pn**	**04 56 52.1**	**+0.6**
HOM	**Homer**	**2.00**	**191**	P			04 56 51.5	
	baz=10							
RND	**Reindeer**	**2.02**	**27**			**Pn**	**04 56 51.6**	**-0.2**
RND	**Reindeer**	**2.02**	**27**	IAML			04 57 20.5	
	comp=N,450nm,0.4s							
CNPM	**China Poot**	**2.11**	**185**			**Pn**	**04 56 52.5**	**-0.5**
JPK	**Jack Peak**	**2.14**	**103**			**Pn**	**04 56 52.1**	**-1.3**
VMT	**TAPS Tl Valdez**	**2.24**	**102**			**Pn**	**04 56 53.5**	**-1.2**
M24K	**Tolsona, Glenn**	**2.28**	**76**			**Pn**	**04 56 55.5**	**+0.2**
M24K	**Tolsona, Glenn**	**2.28**	**76**	IAML			04 57 38.3	
	comp=N,694nm,0.9s							
M24K	**Tolsona, Glenn**	**2.28**	**76**	P			04 56 55.6	
	baz=260,SNR=42							
OPT	**Oil Point**	**2.29**	**211**			**Pn**	**04 56 56.2**	**+0.8**
FID	**Port Fidalgo**	**2.30**	**110**			**Pn**	**04 56 53.7**	**-1.9**
FID	**Port Fidalgo**	**2.30**	**110**	IAML			04 57 32.1	
	comp=N,367nm,0.5s							
FID				IAML			04 57 37.8	
	comp=E,407nm,0.5s							
MCK	**McKinley**	**2.30**	**22**			**Pn**	**04 56 55.9**	**+0.3**
MCK	**McKinley**	**2.30**	**22**	P			04 56 55.7	
	baz=204,SNR=32							
SVW2	**Sparrevohn**	**2.32**	**259**			**Pn**	**04 56 55.1**	**-0.8**
SVW2						Sn	04 57 22.1	-1.2
CHUM	**Lake Minchumin**	**2.37**	**344**			**Pn**	**04 56 56.6**	**+0.2**
CHUM	**Lake Minchumin**	**2.37**	**344**	P			04 56 56.4	
	baz=163,SNR=78							
CHUM				S			04 57 23.1	
	baz=163							
KLU	**Klutina**	**2.38**	**91**			**Pn**	**04 56 55.4**	**-1.3**
KLU	**Klutina**	**2.38**	**91**	IAML			04 57 33.3	
	comp=N,493nm,0.4s							
KLU				IAML			04 57 35.9	
	comp=E,326nm,0.4s							
KLU	**Klutina**	**2.38**	**91**	P			04 56 55.3	
	baz=275,SNR=23							
KLU				S			04 57 24.1	
	baz=275							
HIN	**Hinchinbrook I**	**2.46**	**118**			**Pn**	**04 56 57.8**	**0.0**
HIN				IAML			04 57 30.0	
	comp=N,494nm,0.5s							
HIN				IAML			04 57 46.3	
	comp=E,451nm,0.4s							
BPAW	**Bear Paw Mtn.**	**2.49**	**359**			**Pn**	**04 56 57.4**	**-0.7**
BPAW				IAML			04 57 29.5	
	comp=N,287nm,0.6s							
BPAW	**Bear Paw Mtn.**	**2.49**	**359**			**Sn**	**04 57 26.6**	**-0.8**
BPAW	**Bear Paw Mtn.**	**2.49**	**359**	P			04 56 57.4	
	baz=179,SNR=32							
BPAW				S			04 57 26.5	
	baz=179							
DIV	**Divide**	**2.51**	**99**			**Pn**	**04 56 56.8**	**-1.6**
AU22	**Augustine Moun**	**2.57**	**210**			**Pn**	**04 56 59.7**	**+0.5**
AUL	**Augustine Lava**	**2.58**	**211**			**Pn**	**04 57 00.1**	**+0.8**
AUH	**Augustine H**	**2.59**	**210**			**Pn**	**04 56 59.7**	**+0.1**
AUW	**Augustine West**	**2.59**	**211**			**Pn**	**04 56 60.0**	**+0.4**
PS11	**TAPS Pump St11**	**2.60**	**77**			**Pn**	**04 56 60.0**	**+0.3**
BWN	**Browne**	**2.64**	**14**			**Pn**	**04 57 00.8**	**+0.7**
BWN	**Browne**	**2.64**	**14**	IAML			04 57 51.6	
	comp=N,488nm,0.8s							
EYAK	**Cordova Ski Ar**	**2.71**	**111**			**Pn**	**04 57 01.7**	**+0.6**
EYAK	**Cordova Ski Ar**	**2.71**	**111**	P			04 57 00.8	
	baz=296							
TT01	**Tatalina**	**2.73**	**301**			**Pn**	**04 57 00.9**	**-0.4**
TTA	**Tatalina**	**2.74**	**301**			**Pn**	**04 57 00.9**	**-0.6**
TTA	**Tatalina**	**2.74**	**301**	P			04 57 00.9	
	baz=116,SNR=59							
PS12	**TAPS Pump St12**	**2.75**	**90**			**Pn**	**04 57 00.9**	**-0.7**
HARP	**HAARP**	**2.81**	**71**			**Pn**	**04 57 02.7**	**+0.2**
HARP	**HAARP**	**2.81**	**71**	P			04 57 02.5	
	baz=256,SNR=34							
PAX	**Paxson**	**2.87**	**59**			**Pn**	**04 57 03.9**	**+0.5**
PAX	**Paxson**	**2.87**	**59**	P			04 57 03.2	
	baz=244							
N25K	**Chitina, Valde**	**3.00**	**87**			**Pn**	**04 57 04.2**	**-0.9**
N25K	**Chitina, Valde**	**3.00**	**87**	IAML			04 57 49.9	
	comp=N,266nm,0.4s							
N25K				IAML			04 57 53.0	
	comp=E,280nm,0.5s							
N25K	**Chitina, Valde**	**3.00**	**87**	P			04 57 04.2	
	baz=273,SNR=9.9							
N25K				S			04 57 39.5	
	baz=273							
NEA2	**Nenana**	**3.10**	**15**			**Pn**	**04 57 06.1**	**-0.2**
NEA2						Sn	04 57 40.7	-1.5
NEA2	**Nenana**	**3.10**	**15**	P			04 57 06.1	
	baz=196,SNR=20							
BMRM	**Bremner River**	**3.10**	**99**			**Pn**	**04 57 06.2**	**-0.2**
BMRM	**Bremner River**	**3.10**	**99**	IAML			04 57 58.2	
	comp=E,217nm,0.5s							
BMRM				IAML			04 58 02.5	
	comp=N,190nm,0.7s							
BMRM	**Bremner River**	**3.10**	**99**	P			04 57 04.7	
	baz=285							
WRH	**Wood River Hil**	**3.13**	**23**			**Pn**	**04 57 06.5**	**-0.3**
HDA	**Harding Lake**	**3.33**	**31**			**Pn**	**04 57 10.5**	**+1.0**
HDA	**Harding Lake**	**3.33**	**31**	IAML			04 58 06.1	
	comp=E,242nm,1.0s							
HDA	**Harding Lake**	**3.33**	**31**	P			04 57 10.0	
	baz=215							
HDA				P			04 57 10.0	
	baz=215							
CCB	**Clear Creek Bu**	**3.34**	**23**			**Pn**	**04 57 09.5**	**-0.2**
GLB	**Gilahina Butte**	**3.39**	**90**			**Pn**	**04 57 10.6**	**+0.2**
GLB	**Gilahina Butte**	**3.39**	**90**	IAML			04 58 05.7	
	comp=N,156nm,0.4s							
MLY	**Manley**	**3.43**	**1**			**Pn**	**04 57 10.2**	**-0.6**
MLY						Sn	04 57 50.0	-0.2
MLY	**Manley**	**3.43**	**1**	IAML			04 57 50.4	
	comp=N,118nm,0.7s							
MLY	**Manley**	**3.43**	**1**	P			04 57 10.3	
	baz=181,SNR=38							
PS08	**TAPS Pump Stn8**	**3.47**	**30**			**Pn**	**04 57 11.3**	**0.0**
HMT	**Hamilton**	**3.47**	**109**			**Pn**	**04 57 11.6**	**0.0**
TCOL	**CIGO, UAF Yank**	**3.54**	**21**			**Pn**	**04 57 12.7**	**+0.3**
TCOL						Sn	04 57 51.9	-1.0
TCOL	**CIGO, UAF Yank**	**3.54**	**21**	P			04 57 11.8	
	baz=204							
COLA	**College**	**3.54**	**21**			**Pn**	**04 57 12.6**	**+0.2**
COLA	**College**	**3.54**	**21**	P			04 57 11.9	
	baz=204							
MDM	**Murphy Dome**	**3.56**	**18**			**Pn**	**04 57 12.9**	**+0.2**
VRDI	**Verde Repeater**	**3.59**	**93**			**Pn**	**04 57 13.3**	**0.0**
I23K	**Minto, Yukon-K**	**3.61**	**10**			**Pn**	**04 57 13.4**	**+0.1**
I23K						Sn	04 57 53.3	-1.3
I23K	**Minto, Yukon-K**	**3.61**	**10**	P			04 57 13.4	
	baz=192,SNR=38							
IL31		**3.64**	**28**			**Pn**	**04 57 13.2**	**-0.5**
ILAR	**Eielson Array**	**3.64**	**28**	Pn		**Pn**	**04 57 14.7**	**+0.9**
	comp=N,4.0nm,0.3s,baz=208,slow=14,SNR=108							
ILAR				Sn		**Sn**	**04 57 56.7**	**+1.2**
	comp=N,9.4nm,0.3s,baz=207,slow=23,SNR=5.0							
ILAR				Lg		Lg	04 58 10.1	
	comp=N,7.9nm,0.3s,baz=203,slow=30,SNR=4.8							
ILAR	**Eielson Array**	**3.64**	**28**	Pn		**Pn**	**04 57 13.6**	**-0.3**
DOT	**Dot Lake**	**3.75**	**54**			**Pn**	**04 57 15.4**	**+0.1**
MCARA	**McCarthy VSAT**	**3.77**	**90**			**Pn**	**04 57 15.4**	**-0.2**
MCARA	**McCarthy VSAT**	**3.77**	**90**	P			04 57 15.2	
	baz=277							
POKR	**Poker Plat Res**	**3.84**	**22**			**Pn**	**04 57 16.5**	**0.0**
POKR	**Poker Plat Res**	**3.84**	**22**	P			04 57 16.5	
	baz=206							
PS07	**TAPS Pump Stn7**	**3.88**	**16**			**Pn**	**04 57 17.6**	**+0.5**
KDAK	**Kodiak Island**	**3.94**	**193**	Pn		**Pn**	**04 57 16.5**	**-1.4**
	comp=N,5.5nm,0.3s,baz=57,slow=7.3,SNR=377							
KDAK				Sn		**Sn**	**04 57 59.4**	**-3.5**
	comp=N,5.1nm,0.3s,baz=277,slow=18,SNR=2.0							
KDAK				Lg		Lg	04 58 12.5	
	comp=N,19nm,0.3s,baz=248,slow=17,SNR=11							
KDAK				LR		LR	04 58 49.4	
	comp=N,66nm,18.2s,baz=63,slow=40							
KDAK	**Kodiak Island**	**3.94**	**193**	IAML			04 58 17.9	
	comp=N,122nm,0.6s							
KDAK				IAML			04 58 18.7	
	comp=N,150nm,0.7s							
KDAK	**Kodiak Island**	**3.94**	**193**	P			04 57 16.5	
	baz=12							
SCRK	**Sand Creek**	**3.95**	**50**			**Pn**	**04 57 17.6**	**-0.5**
SCRK	**Sand Creek**	**3.95**	**50**	IAML			04 58 12.4	
	comp=N,98nm,0.4s							
SCRK				IAML			04 58 16.3	
	comp=E,79nm,0.8s							
SCRK	**Sand Creek**	**3.95**	**50**	P			04 57 17.6	
	baz=236,SNR=34							
PTPK	**Patty Peak**	**4.07**	**92**			**Pn**	**04 57 19.8**	**-0.1**
H21K	**Melozitna Rive**	**4.14**	**349**			**Pn**	**04 57 20.6**	**-0.1**
H21K	**Melozitna Rive**	**4.14**	**349**	P			04 57 20.4	
	baz=167,SNR=20							
H23K	**Yukon River**	**4.26**	**7**			**Pn**	**04 57 22.0**	**-0.3**
H23K	**Yukon River**	**4.26**	**7**	P			04 57 22.3	
	baz=189,SNR=19							
PS06	**TAPS Pump Stn6**	**4.28**	**6**			**Pn**	**04 57 23.0**	**+0.4**
H24K	**Noodor Dome**	**4.44**	**16**			**Pn**	**04 57 25.0**	**+0.3**
H24K	**Noodor Dome**	**4.44**	**16**	P			04 57 25.1	
	baz=199							
L27K	**Beaver Creek,**	**4.46**	**67**			**Pn**	**04 57 24.7**	**-0.3**
L27K	**Beaver Creek,**	**4.46**	**67**	IAML			04 58 40.3	
	comp=N,56nm,0.8s							
L27K	**Beaver Creek,**	**4.46**	**67**	P			04 57 24.6	
	baz=255,SNR=7.1							
BARN	**Barnard Glacie**	**4.48**	**93**			**Pn**	**04 57 24.6**	**-0.7**
BARN	**Barnard Glacie**	**4.48**	**93**	IAML			04 58 39.6	
	comp=E,78nm,0.6s							
BARN				IAML			04 58 41.5	
	comp=N,72nm,0.8s							
BC03		**4.48**	**67**			**Pn**	**04 57 25.1**	**-0.2**
BCAR	**Beaver Creek A**	**4.48**	**67**			**Pn**	**04 57 24.8**	**-0.5**
GRNC	**Granite Creek**	**4.51**	**97**			**Pn**	**04 57 24.7**	**-1.1**
GRNC	**Granite Creek**	**4.51**	**97**	IAML			04 58 43.9	
	comp=N,94nm,0.7s							
IM03		**4.56**	**345**			**Pn**	**04 57 25.9**	**-0.4**
IMAR	**Indian Mountai**	**4.56**	**345**	Pn		**Pn**	**04 57 25.4**	**-0.9**
OHAK	**Old Harbor**	**4.58**	**197**	Pn		**Pn**	**04 57 24.5**	**-2.1**
OHAK				IAML			04 58 39.0	
	comp=N,66nm,0.8s							
OHAK				IAML			04 58 51.1	
	comp=E,63nm,1.2s							
OHAK	**Old Harbor**	**4.58**	**197**	P			04 57 24.2	
	baz=14							
PRP	**Porcupine Dome**	**4.59**	**29**			**Pn**	**04 57 26.9**	**+0.1**
PRP	**Porcupine Dome**	**4.59**	**29**	IAML			04 58 46.6	
	comp=E,61nm,0.6s							
PRP				IAML			04 58 48.9	
	comp=N,57nm,0.7s							
PRP	**Porcupine Dome**	**4.59**	**29**	P			04 57 28.0	
	baz=214							
YAH	**Yahtse**	**4.62**	**102**			**Pn**	**04 57 26.4**	**-1.0**
YAH	**Yahtse**	**4.62**	**102**	IAML			04 58 54.3	
	comp=E,94nm,3.8s							
CTG	**Chitna Glacier**	**4.65**	**94**	P			04 57 27.4	
	baz=282							
K27K	**Chicken**	**4.71**	**55**			**Pn**	**04 57 28.4**	**0.0**
K27K				IAML			04 58 53.7	
	comp=N,46nm,1.1s							
K27K	**Chicken**	**4.71**	**55**	P			04 57 28.2	
	baz=243							
YUK2	**White River**	**4.78**	**84**			**Pn**	**04 57 28.9**	**-0.6**
BVCY	**Beaver Creek**	**4.79**	**76**			**Pn**	**04 57 29.4**	**0.0**
YUK3	**Moose Creek**	**4.96**	**84**			**Pn**	**04 57 31.3**	**-0.7**
PCA	**Pinnacle**	**5.41**	**102**			**Pn**	**04 57 36.0**	**-2.1**
PINM	**Pinnacle**	**5.42**	**102**	P			04 57 36.7	
	baz=291							
EGAK	**Eagle**	**5.42**	**50**			**Pn**	**04 57 37.8**	**-0.3**
EGAK	**Eagle**	**5.42**	**50**	P			04 57 37.6	
	baz=239							
FYU	**Fort Yukon**	**5.55**	**24**	Pn		**Pn**	**04 57 39.7**	**0.0**
COLD	**Coldfoot**	**5.64**	**3**			**Pn**	**04 57 40.3**	**-0.8**
COLD	**Coldfoot**	**5.64**	**3**	P			04 57 40.7	
	baz=183							
DAWY	**Dawson**	**5.80**	**60**			**Pn**	**04 57 42.9**	**-0.5**
PNL	**Peninsula**	**5.98**	**104**			**Pn**	**04 57 44.9**	**-0.9**
YUK6	**Outpost Mounta**	**6.07**	**91**			**Pn**	**04 57 46.7**	**-0.6**
BMAR	**Burnt Mountain**	**6.43**	**22**	Pn		**Pn**	**04 57 51.9**	**0.0**
HYT	**Haines Junctio**	**6.51**	**91**			**Pn**	**04 57 52.4**	**-0.7**
TOLK	**Toolik Lake Re**	**7.07**	**4**	P			04 58 01.8	
	baz=185							
WHY	**Whitehorse**	**7.80**	**90**	P			04 58 09.7	
	baz=284							
TNA	**Tin City**	**8.55**	**305**	P			04 58 21.2	
	baz=110							
INK	**Inuvik**	**9.92**	**40**	Pn		**Pn**	**04 58 40.3**	**+0.9**
	comp=N,0.3nm,0.3s,baz=234,slow=9.9,SNR=9.7							
INK				Sn		**Sn**	**05 00 31.3**	**+2.3**
	comp=N,0.2nm,0.3s,baz=162,slow=23,SNR=1.7							
INK	**Inuvik**	**9.92**	**40**			**Pn**	**04 58 39.7**	**+0.2**
YKA	**Yellowknife Ar**	**16.89**	**71**	Pn		**Pn**	**05 00 11.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=278,slow=10,SNR=7.1							
TXAR	**Lajitas Array**	**44.64**	**114**	P		**P**	**05 04 26.8**	**+0.8**
	comp=N,0.3nm,0.8s,baz=325,slow=7.7,SNR=2.6							
TXAR	**Lajitas Array**	**44.64**	**114**	P		**P**	**05 04 25.9**	**-0.1**
MKAR	**Makanchi Array**	**63.80**	**322**	P		P	05 06 53.2	+8.2
	comp=N,0.1nm,0.4s,baz=37,slow=7.4,SNR=1.5							

*ATH **10** 05:08:30.1,34°.90N×26°.73E,h10km±5km, ML2.5/2, Error ellipse: s-maj=9.6km s-min=2.6km az=351.0*
*THE **10** 05:08:30.6,34°.95N×26°.65E,h1km±7km, ML2.4/1, Error ellipse: s-maj=11.6km s-min=2.1km az=165.0*
*DDA **10** 05:08:41.7,35°.69N×27°.56E,h13km±2km, ML1.8*
ISC 10 05:08:28.2±2.1,34°.9N±0°.1×26°.77E±0°.04,h17km±11km, n18,σ1°87/25,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.51**	**298**	P	**Pb**	**05 08 39.0**	**+0.2**
ZKR				S	**Sb**	**05 08 46.1**	**+0.1**
ZKR				AML	AML	05 08 46.9	
	comp=E,2192μm,0.6s						
ZKR				AML	AML	05 08 47.0	
	comp=N,1292μm,0.5s						
ZKR	**Zakros**	**0.51**	**298**	P	**Pb**	**05 08 39.0**	**+0.2**
ZKR				S	**Sb**	**05 08 45.9**	**-0.1**
	comp=N,885nm,0.5s						
STIA	**Sitia Lasithi**	**0.65**	**301**	P	**Pg**	**05 08 40.1**	**-0.8**
STIA				S	**Sg**	**05 08 49.0**	**-0.5**
NPS	**Neapolis**	**1.02**	**293**	P	**Pn**	**05 08 48.6**	**+0.7**
NPS	**Neapolis**	**1.02**	**293**	P	**Pn**	**05 08 48.6**	**+0.7**
LAST	**Lasithi**	**1.10**	**286**	P	**Pn**	**05 08 49.6**	**+0.7**
LAST				S	**Sn**	**05 09 05.2**	**+1.4**
LAST				AML	AML	05 09 15.1	
	comp=E,405μm,0.6s						
LAST				AML	AML	05 09 15.7	
	comp=N,392μm,0.6s						
LAST	**Lasithi**	**1.10**	**286**	P	**Pn**	**05 08 49.5**	**+0.6**
ARG	**Arkhangelos**	**1.74**	**39**	P	**Pg**	**05 09 01.9**	**+0.3**
SANT	**Santorini**	**1.83**	**325**	P	**Pb**	**05 09 01.2**	**-0.2**
SNT5	**Nea Kammeni, S**	**1.89**	**324**	P	**Pn**	**05 09 01.2**	**+1.4**
THR3	**Thira Island,**	**1.89**	**324**	P	**Pn**	**05 09 01.3**	**+1.5**
THR5	**Thira Island,**	**1.93**	**323**	P	**Pn**	**05 09 01.4**	**+1.1**
BDRM	**Kayabasi**	**2.25**	**14**	*i* P	**Pn**	**05 09 07.5**	**+2.7**
BDRM				IAML		05 09 37.0	
	comp=N,16nm,0.4s						
BDRM				IAML		05 09 48.0	
	comp=E,11nm,0.8s						
DALY	**Dalyan (Mula)**	**2.47**	**38**	*i* P	**Pn**	**05 09 08.6**	**+0.8**
DALY				IAML		05 09 57.0	
	comp=N,21nm,0.6s						
AKAS	**Kas**	**2.68**	**59**	*i* P	**Pn**	**05 09 11.9**	**+1.2**
AKAS				IAML		05 09 36.0	
	comp=N,19nm,1.0s						
AKAS				*i* S	**Sn**	**05 09 38.3**	**-4.7**
AKAS				IAML		05 09 54.0	
	comp=E,14nm,0.7s						
AYDN	**Tasoluk**	**2.92**	**18**	*i* P	**Pn**	**05 09 15.9**	**+1.9**
AYDN				*i* S	**Sn**	**05 09 44.9**	**-3.9**
AYDN				IAML		05 09 59.0	
	comp=N,4.0nm,0.8s						
AYDN				IAML		05 10 17.0	
	comp=E,2.9nm,0.6s						
TAVA	**DENIZLI_Tavas**	**3.11**	**33**	*i* P	**Pn**	**05 09 18.8**	**+2.1**
TAVA				*i* S	**Sn**	**05 09 53.7**	**+0.1**
TAVA				IAML		05 10 15.0	
	comp=N,10nm,0.7s						
TAVA				IAML		05 10 15.0	
	comp=E,12nm,0.7s						
GOLH	**Golhisar**	**3.27**	**43**	*i* P	**Pn**	**05 09 21.7**	**+2.9**
GOLH				IAML		05 09 51.0	
	comp=E,8.6nm,2.0s						

*IDC **10** 05:21:18.3±1.0,54°.92N×162°.62E,h0km,mb3.8/11, mb1 4.1/12,mb1mx3.8/50,mbtmp3.8/12, ML3.3/1, Error ellipse: s-maj=29.4km s-min=19.1km az=147.0*
*KRSC **10** 05:21:19.1±1.1,54°.54N×162°.95E,h18km±40km, ML4.3*
*MOS **10** 05:21:22.3±0.8,54°.60N×162°.84E,h48km,mb4.0/1, Error ellipse: s-maj=7.5km s-min=5.2km az=87.9*
ISC 10 05:21:19.5±1.6,54°.59N±0°.03×162°.97E±0°.04,h14km±10km, n94,σ1°22/130,mb3.9/11,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.72**	**268**	PN	**Pg**	**05 21 33.0**	**-0.4**
MKZ	**Mys Kozlova**	**0.72**	**268**	*eP*	**Pg**	**05 21 33.0**	**-0.4**
TUMD	**Tumrok D**	**1.60**	**294**	*eP*	**Pn**	**05 21 46.6**	**-0.8**
KBTR	**Krutoberegovo**	**1.63**	**357**	PN	**Pn**	**05 21 47.6**	**-0.1**
KBTR	**Krutoberegovo**	**1.63**	**357**	*eP*	**Pn**	**05 21 47.6**	**-0.1**
KZV	**Kizimen**	**1.63**	**290**	PN	**Pn**	**05 21 47.3**	**-0.6**
KZV	**Kizimen**	**1.63**	**290**	*eP*	**Pn**	**05 21 47.3**	**-0.6**
KBG	**Krutoberegovo**	**1.68**	**355**	PN	**Pg**	**05 21 52.2**	**+0.6**
KBG	**Krutoberegovo**	**1.68**	**355**	*eP*	**Pg**	**05 21 52.2**	**+0.6**
TUMR	**Tumrok**	**1.77**	**294**	PN	**Pn**	**05 21 50.0**	**+0.2**
TUMR	**Tumrok**	**1.77**	**294**	*eP*	**Pn**	**05 21 50.0**	**+0.2**
BKI	**Bering**	**1.84**	**69**	*eS*	**Sb**	**05 22 15.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.88**	**317**	PN	**Pn**	**05 21 51.6**	**+0.3**
BZGR				S	**Sn**	**05 22 15.9**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.88**	**317**	*eP*	**Pn**	**05 21 51.6**	**+0.3**
BZGR				*eS*	**Sn**	**05 22 15.9**	**+1.1**
ZLN	**Zelenaya**	**1.89**	**320**	PN	**Pn**	**05 21 52.5**	**+1.0**
ZLN				S	**Sb**	**05 22 17.5**	**+0.1**
ZLN	**Zelenaya**	**1.89**	**320**	*eP*	**Pn**	**05 21 52.5**	**+1.0**
ZLN				*eS*	**Sb**	**05 22 17.5**	**+0.1**
KMNR	**Kamenistaya**	**1.95**	**308**	PN	**Pn**	**05 21 53.0**	**+0.7**
KMNR				S	**Sn**	**05 22 18.1**	**+1.4**
KMNR	**Kamenistaya**	**1.95**	**308**	*eP*	**Pn**	**05 21 53.0**	**+0.7**
KMNR				*eS*	**Sn**	**05 22 18.1**	**+1.4**
BZMR	**Bezymyannaya**	**1.96**	**315**	PN	**Pn**	**05 21 53.5**	**+1.1**
BZMR	**Bezymyannaya**	**1.96**	**315**	*eP*	**Pn**	**05 21 53.5**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.97**	**315**	PN	**Pn**	**05 21 53.4**	**+0.7**
BZWR	**Bezymyannyi-We**	**1.97**	**315**	*eP*	**Pn**	**05 21 53.4**	**+0.7**
LGNR	**Loginova**	**1.98**	**320**	PN	**Pn**	**05 21 54.3**	**+1.4**
LGNR				S	**Sb**	**05 22 20.4**	**+0.2**
LGNR	**Loginova**	**1.98**	**320**	*eP*	**Pn**	**05 21 54.3**	**+1.4**
LGNR				*eS*	**Sb**	**05 22 20.4**	**+0.2**
CIRR	**Tsirk**	**1.99**	**321**	PN	**Pn**	**05 21 54.0**	**+1.2**
CIRR				S	**Sb**	**05 22 19.9**	**-0.2**
CIRR	**Tsirk**	**1.99**	**321**	*eP*	**Pn**	**05 21 54.0**	**+1.2**
CIRR				*eS*	**Sb**	**05 22 19.9**	**-0.2**
KIRR	**Kirishev**	**2.03**	**313**	PN	**Pn**	**05 21 54.6**	**+1.2**
KIRR				S	**Sb**	**05 22 20.9**	**-0.5**
KIRR	**Kirishev**	**2.03**	**313**	*eP*	**Pn**	**05 21 54.6**	**+1.2**
KIRR				*eS*	**Sb**	**05 22 20.9**	**-0.5**
KII	**Karymskiy**	**2.13**	**256**	PN	**Pn**	**05 21 55.7**	**+0.9**
KII				S	**Sn**	**05 22 22.7**	**+1.6**
KII	**Karymskiy**	**2.13**	**256**	*eP*	**Pn**	**05 21 55.7**	**+0.9**
KII				*eS*	**Sn**	**05 22 22.7**	**+1.6**
SMKR	**Semkarok**	**2.17**	**338**	PN	**Pn**	**05 21 56.0**	**+0.7**
SMKR				S	**Sn**	**05 22 23.6**	**+1.6**
SMKR	**Semkarok**	**2.17**	**338**	*eP*	**Pn**	**05 21 56.0**	**+0.7**
SMKR				*eS*	**Sn**	**05 22 23.6**	**+1.6**
KLY	**Klyuchi**	**2.17**	**324**	PN	**Pn**	**05 21 55.0**	**-0.2**
KLY	**Klyuchi**	**2.17**	**324**	*eP*	**Pn**	**05 21 55.0**	**-0.2**
BDR	**Baidarnaya**	**2.22**	**334**	PN	**Pn**	**05 21 57.9**	**+1.9**
BDR	**Baidarnaya**	**2.22**	**334**	*eP*	**Pn**	**05 21 57.9**	**+1.9**
SPN	**Mys Shipunski**	**2.29**	**231**	PN	**Pn**	**05 21 56.8**	**-0.1**
SPN	**Mys Shipunski**	**2.29**	**231**	*eP*	**Pn**	**05 21 56.8**	**-0.1**
KOZ	**Kozyrevsk**	**2.30**	**311**	PN	**Pn**	**05 21 58.4**	**+1.4**
KOZ	**Kozyrevsk**	**2.30**	**311**	*eP*	**Pn**	**05 21 58.4**	**+1.4**
SRKR	**Sorokina**	**2.31**	**335**	PN	**Pn**	**05 21 58.1**	**+1.0**
SRKR				S	**Sn**	**05 22 26.9**	**+1.5**
SRKR

AKASG	**Malin Array Be**	**68.18**	**330**	P		**P**	**05 32 17.8**	**-1.1**
	0.4nm,0.3s,baz=27,slow=6.8,SNR=4.3							
TXAR	**Lajitas Array**	**68.50**	**70**	P		**P**	**05 32 23.8**	**+2.4**
	0.5nm,0.6s,baz=300,slow=4.4,SNR=5.7							
KBZ	**Khabaz**	**69.59**	**318**	P		**P**	**05 32 27.1**	**-0.6**
	2.3nm,0.8s,baz=121,slow=4.3,SNR=5.3							
BRTR	**Keskin Array B**	**76.52**	**322**	P		**P**	**05 33 08.3**	**-0.7**
	0.8nm,0.6s,baz=64,slow=5.7,SNR=4.8							
WRA	**Warramunga Arr**	**78.18**	**207**	P		**P**	**05 33 19.2**	**+1.0**
	1.2nm,1.1s,baz=19,slow=8.9,SNR=3.0							
ESDC	**Sonseca Array**	**85.44**	**350**	P		**P**	**05 33 56.1**	**-0.4**
	0.6nm,0.8s,baz=3.8,slow=7.7,SNR=3.4							

*THE **10** 05:26:42.3, 34˚.97N × 26˚.69E, h0km ± 3km, ML2.8/3, Error ellipse: s-maj=6.9km s-min=1.7km az=161.0*
*ATH **10** 05:26:43.0, 34˚.94N × 26˚.69E, h14km ± 5km, ML2.9/2, Error ellipse: s-maj=11.0km s-min=3.1km az=352.0*
*DDA **10** 05:26:44.2, 35˚.06N × 27˚.11E, h18km ± 5km, ML2.2*

ISC 10 05:26:42.0 ± 2.1, 34˚.9N ± 0˚.1 × 26˚.75E ± 0˚.04, h14 km ± 11 km, n20, σ 1 s 13/30, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.47**	**293**	P	**Pg**	**05 26 51.1**	**-0.2**
ZKR				S	**Sg**	**05 26 58.1**	**+0.3**
ZKR				AML	AML	05 26 58.7	
	comp=N,2721μm,0.4s						
ZKR				AML	AML	05 26 59.3	
	comp=E,4943μm,0.3s						
ZKR	**Zakros**	**0.47**	**293**	P	**Pg**	**05 26 51.2**	**-0.2**
ZKR				S	**Sg**	**05 26 58.6**	**+0.8**
	comp=E,2μm,0.3s						
STIA	**Sitia Lasithi**	**0.60**	**297**	P	**Pg**	**05 26 52.3**	**-1.6**
STIA				S	**Sg**	**05 27 01.7**	**-0.2**
NPS	**Neapolis**	**0.99**	**290**	P	**Pg**	**05 27 00.4**	**-0.7**
NPS				S	**Sg**	**05 27 14.6**	**+0.5**
NPS				AML	AML	05 27 20.8	
	comp=N,1698μm,0.8s						
NPS				AML	AML	05 27 21.3	
	comp=E,2174μm,0.7s						
NPS	**Neapolis**	**0.99**	**290**	P	**Pg**	**05 27 00.5**	**-0.7**
NPS				S	**Sg**	**05 27 14.2**	**+0.1**
	comp=E,988nm,0.7s						
LAST	**Lasithi**	**1.07**	**283**	P	**Pg**	**05 27 01.9**	**-0.8**
LAST	**Lasithi**	**1.07**	**283**	P	**Pg**	**05 27 01.8**	**-0.8**
LAST				S	**Sb**	**05 27 18.0**	**+1.8**
	comp=E,385nm,0.7s						
ARG	**Arkhangelos**	**1.71**	**41**	P	**Pg**	**05 27 14.6**	**-0.2**
SANT	**Santorini**	**1.78**	**324**	P	**Pn**	**05 27 12.7**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.84**	**324**	P	**Pn**	**05 27 13.6**	**+0.4**
THR5	**Thira Island,**	**1.87**	**323**	P	**Pn**	**05 27 14.0**	**+0.4**
BDRM	**Kayabasi**	**2.20**	**15**	*i* P	**Pn**	**05 27 20.2**	**+2.0**
BDRM				IAML		05 27 53.0	
	comp=E,14nm,0.6s						
BDRM				IAML		05 27 56.0	
	comp=N,19nm,0.8s						
APE	**Apeiranthos**	**2.35**	**336**	P	**Pn**	**05 27 20.1**	**-0.2**
DALY	**Dalyan (Mula)**	**2.44**	**39**	*i* P	**Pn**	**05 27 22.9**	**+1.5**
DALY				*i* S	**Sb**	**05 27 55.9**	**+0.3**
DALY				IAML		05 28 12.0	
	comp=N,18nm,0.6s						
MULA	**Mugla, Merkez-**	**2.65**	**28**	*i* P	**Pn**	**05 27 25.6**	**+1.2**
MULA				IAML		05 27 55.0	
	comp=E,18nm,0.7s						
MULA				IAML		05 27 56.0	
	comp=N,8.4nm,1.0s						
AKAS	**Kas**	**2.67**	**60**	*i* P	**Pn**	**05 27 24.5**	**-0.3**
AKAS				*i* S	**Sn**	**05 27 56.3**	**-0.7**
AKAS				IAML		05 27 59.0	
	comp=N,35nm,0.5s						
AKAS				IAML		05 28 00.0	
	comp=E,13nm,0.4s						
AYDN	**Tasoluk**	**2.87**	**18**	*i* P	**Pn**	**05 27 25.8**	**-1.7**
CAEL	**Denizli, Camel**	**3.02**	**43**	*i* P	**Pg**	**05 27 39.6**	**-0.3**
TAVA	**DENIZLI_Tavas**	**3.08**	**34**	*i* P	**Pn**	**05 27 31.1**	**+0.8**
TAVA				*i* S	**Sn**	**05 28 07.5**	**+0.5**
TAVA				IAML		05 28 13.0	
	comp=E,8.5nm,0.9s						
TAVA				IAML		05 28 14.0	
	comp=N,7.1nm,0.4s						
GOLH	**Golhisar**	**3.24**	**44**	*i* P	**Pn**	**05 27 33.6**	**+1.1**
GOLH				*i* S	**Sn**	**05 28 07.8**	**-3.2**
GOLH				IAML		05 28 16.0	
	comp=N,11nm,0.5s						

*IDC **10** 05:29:03.1 ± 3.2, 30˚.86N × 142˚.87E, h0km, mb3.8/4, mb1 3.8/8, mb1mx3.5/49, mbtmp3.8/8, ML3.4/4, Error ellipse: s-maj=101.1km s-min=20.6km az=70.0*

ISC 10 05:29:08.4 ± 2.3, 30˚.7N ± 0˚.2 × 142˚.1E ± 0˚.4, h23km, n8, σ 2 s 18/10, mb3.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.14**	**322**	Pn	**Pn**	**05 29 57.8**	**+1.2**
	8.4nm,0.3s,baz=108,slow=20,SNR=1.3						
JHJ				Sn	**Sn**	**05 30 35.6**	**+2.3**
	20nm,0.3s,baz=107,slow=19,SNR=2.4						
JCJ	**Chichijima**	**3.55**	**179**	Pn	**Pn**	**05 30 03.2**	**+1.0**
	4.3nm,0.3s,baz=1.9,slow=19,SNR=8.7						
JCJ				Sn	**Sn**	**05 30 43.6**	**+0.1**
	5.8nm,0.3s,baz=285,slow=20,SNR=1.6						
MJAR	**Matsushiro Arr**	**6.70**	**332**	Pn	**Pn**	**05 30 43.2**	**-2.2**
	0.2nm,0.3s,baz=146,slow=10,SNR=5.4						
KSRS	**Korea Array**	**13.56**	**304**	Pn	**P**	**05 32 24.4**	**-3.7**
	0.4nm,0.3s,baz=113,slow=13,SNR=6.0						
SONM	**Songino Array**	**32.17**	**312**	P	**P**	**05 35 36.4**	**+1.8**
	0.6nm,0.5s,baz=90,slow=6.2,SNR=2.5						
MKAR	**Makanchi Array**	**48.21**	**307**	P	**P**	**05 37 48.9**	**+1.8**
	0.8nm,0.7s,baz=96,slow=9.0,SNR=6.4						
KURBB	**Kurchatov Arra**	**50.54**	**312**	P	**P**	**05 38 05.3**	**+0.4**
	0.6nm,0.7s,baz=89,slow=7.9,SNR=4.5						
WRA	**Warramunga Arr**	**50.86**	**189**	P	**P**	**05 38 07.7**	**+0.1**
	0.7nm,0.4s,baz=7.6,slow=7.5,SNR=12						

IDC 10 05:31:17.5 ± 2.4, 34˚.12N × 138˚.76E, h0km, mb3.6/1, mb1 3.9/2, mb1mx3.3/48, mbtmp3.6/2, ML2.5/2, Error ellipse: s-maj=69.1km s-min=30.1km az=75.0, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**2.46**	**350**	Pn	Pn	05 31 58.7	-0.2
	0.1nm,0.3s,baz=168,slow=7.5,SNR=3.0						
KSRS	**Korea Array**	**9.41**	**294**	Pn	Pn	05 33 34.2	-0.1
	0.4nm,0.3s,baz=110,slow=12,SNR=8.6						
WRA	**Warramunga Arr**	**53.92**	**185**	P	P	05 40 42.9	0.0
	0.2nm,0.3s,baz=8.3,slow=8.2,SNR=5.5						

JMA 10 05:31:32.6 ± 0.3, 33˚.79N × 137˚.34E, h371 km ± 4 km, M2.7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**0.80**	**319**	P	Pn	05 32 20.4	+0.6
JTNC	**Tanabenakahech**	**1.44**	**272**	P	Pn	05 32 22.5	0.0
JWY	**Kouya**	**1.51**	**287**	P	Pn	05 32 23.1	+0.1
JWT	**Wachi**	**2.19**	**313**	P	Pn	05 32 27.4	+0.4
JAI	**Aioi**	**2.41**	**271**	P	Pn	05 32 28.8	+0.1
JRY	**Ryogami san**	**2.57**	**30**	P	Pn	05 32 30.1	+0.2
JRY				S	S	05 33 15.2	-1.0
JMN	**Monobe**	**2.88**	**270**	P	Pn	05 32 32.8	+0.2
BSO1	**Boso 1**	**3.13**	**73**	P	Pn	05 32 34.9	+0.9
BSO1				S	S	05 33 23.7	-0.1
JAG	**Ashikaga**	**3.15**	**33**	P	Pn	05 32 35.1	+0.3

*IDC **10** 05:39:43.4 ± 0.7, 11˚.53N × 141˚.14E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.1/49, mbtmp4.1/22, ML4.0/1, Error ellipse: s-maj=25.6km s-min=15.3km az=82.0*
*NEIC **10** 05:39:49.2 ± 1.9, 11˚.6N ± 0˚.1 × 141˚.2E ± 0˚.1, h35km ± 2km, mb4.4/31, Error ellipse: s-maj=21.7km s-min=17.5km az=126.0*

ISC 10 05:39:49.6 ± 0.6, 11˚.56N ± 0˚.09 × 141˚.16E ± 0˚.10, h45km, n62, σ 1 s 16/57, mb4.2/34, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.15**	**60**	Pn	**Pn**	**05 40 47.9**	**-2.6**
JOW	**Kunigami**	**19.44**	**323**	P	**P**	**05 44 12.8**	**+0.5**
	0.6nm,0.3s,baz=175,slow=12,SNR=2.0						
JOW	**Kunigami**	**19.44**	**323**	IAmb	IAmb	05 44 14.6	
	comp=Z,28nm,1.0s						
TOLI2	**Tolitoli**	**22.73**	**244**	P	**P**	**05 44 45.3**	**-2.7**
SSLB	**Suanglung**	**22.73**	**305**	P	**P**	**05 44 46.3**	**-1.7**
SSLB				IAmb	IAmb	05 44 51.9	
	comp=Z,13nm,0.8s						
TPUB	**Ta-pu**	**22.77**	**304**	P	**P**	**05 44 47.2**	**-1.1**
TPUB				IAmb	IAmb	05 44 54.2	
	comp=Z,9.3nm,0.9s						
YHNB	**Yeheng**	**22.84**	**308**	P	**P**	**05 44 48.2**	**-0.9**
YHNB				IAmb	IAmb	05 44 54.6	
	comp=Z,23nm,1.1s						
JNU	**Nakatsue**	**23.44**	**338**	P	**P**	**05 44 55.6**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=153,slow=7.2,SNR=4.2						
JNU	**Nakatsue**	**23.44**	**338**	IAmb	IAmb	05 44 57.5	
	comp=Z,8.1nm,1.0s						
JWT	**Wachi**	**24.19**	**348**	P	**P**	**05 45 01.9**	**+0.1**
JHS	**Saijyo**	**24.45**	**344**	P	**P**	**05 45 03.7**	**-0.7**
MJAR	**Matsushiro Arr**	**25.02**	**354**	P	**P**	**05 45 08.6**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=260,slow=30,SNR=1.3						
MJAR	**Matsushiro Arr**	**25.02**	**354**	IAmb	IAmb	05 45 13.7	
	comp=Z,1.1nm,0.6s						
JSD	**Sado**	**26.50**	**355**	P	**P**	**05 45 22.5**	**-0.3**
JSD				IAmb	IAmb	05 45 25.9	
	comp=Z,6.5nm,0.7s						
KSRS	**Korea Array**	**28.39**	**337**	P	**P**	**05 45 39.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=161,slow=8.9,SNR=1.6						
WRA	**Warramunga Arr**	**32.01**	**192**	P	**P**	**05 46 11.4**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=11,slow=9.7,SNR=5.4						
USRK	**Ussuriysk Ar.**	**33.47**	**348**	P	**P**	**05 46 25.1**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=145,slow=38,SNR=2.6						
ENH	**Enshi**	**34.77**	**307**	P	**P**	**05 46 35.9**	**-0.1**
AS31	**Alice Springs**	**35.72**	**191**	P	**P**	**05 46 46.2**	**+2.1**
ASAR	**Alice Springs**	**35.72**	**191**	P	**P**	**05 46 42.5**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=19,slow=12,SNR=2.6						
KLR	**Kul'dur**	**38.36**	**350**	P	**P**	**05 47 05.6**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=175,slow=6.2,SNR=12						
CMAR	**Chiang Mai Arr**	**41.27**	**285**	P	**P**	**05 47 30.8**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=91,slow=7.5,SNR=4.5						
STKA	**Stephens Creek**	**43.19**	**179**	P	**P**	**05 47 45.5**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=336,slow=18,SNR=2.0						
GTA	**Gaotai**	**45.90**	**315**	*e*P	**P**	**05 48 09.3**	**+1.3**
GTA				pP	pP	05 48 12.9	-6.4
GTA				sP	pwP	05 48 15.2	-8.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	**46.09**	**328**	P	**P**	**05 48 09.5**	**+0.1**
ULN				IAmb	IAmb	05 48 16.7	
	comp=Z,3.7nm,0.5s						
SONM	**Songino Array**	**46.41**	**328**	P	**P**	**05 48 12.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=142,slow=7.7,SNR=5.3						
SONM	**Songino Array**	**46.41**	**328**	IAmb	IAmb	05 48 15.3	
	comp=Z,1.5nm,0.8s						
YAK	**Yakutsk**	**51.07**	**353**	P	**P**	**05 48 46.8**	**-0.4**
	comp=Z,12nm,0.5s,baz=160,slow=18,SNR=1.7						
YAK	**Yakutsk**	**51.07**	**353**	IAmb	IAmb	05 48 47.6	
	comp=Z,19nm,0.6s						
MK31	**Makanchi Array**	**60.48**	**317**	P	**P**	**05 49 54.9**	**-0.1**
MK31				IAmb	IAmb	05 50 03.1	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**60.48**	**317**	P	**P**	**05 49 55.6**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=102,slow=8.1,SNR=9.9						
MAKZ	**Makanchi**	**60.69**	**317**	P	**P**	**05 49 56.4**	**0.0**
MAKZ				IAmb	IAmb	05 49 57.9	
	comp=Z,2.3nm,0.9s						
ZAA0	**Zalesovo Array**	**61.21**	**326**	P	**P**	**05 50 00.0**	**+0.3**
ZAA0				IAmb	IAmb	05 50 06.2	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**61.21**	**326**	P	**P**	**05 49 59.8**	**0.0**
	comp=Z,1.8nm,0.5s,baz=113,slow=8.7,SNR=5.3						
NIL	**Nilore**	**65.34**	**302**	P	**P**	**05 50 27.1**	**-0.5**
ARSB	**Arslanbob**	**66.08**	**310**	P	**P**	**05 50 32.2**	**-0.2**
ARSB				IAmb	IAmb	05 50 34.2	
	comp=Z,2.3nm,0.8s						
NRIK	**Noril'sk**	**66.89**	**342**	P	**P**	**05 50 37.4**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=136,slow=9.7,SNR=1.9						
NRIK	**Noril'sk**	**66.89**	**342**	P	**P**	**05 50 36.8**	**0.0**
NRIK				IAmb	IAmb	05 50 38.7	
	comp=Z,3.7nm,0.9s						
GAR	**Garm**	**67.95**	**307**	P	**P**	**05 50 43.0**	**-1.2**
KK31	**Karatay Array**	**68.07**	**312**	P	**P**	**05 50 44.8**	**0.0**
KK31				IAmb	IAmb	05 50 45.2	
	comp=Z,1.3nm,0.8s						
KKAR	**Karatay Array**	**68.07**	**312**	P	**P**	**05 50 44.8**	**0.0**
BRVK	**Borovoye**	**69.36**	**322**	P	**P**	**05 50 53.4**	**+0.9**
IMAR	**Indian Mountai**	**69.48**	**23**	P	**P**	**05 50 53.1**	**0.0**
MLY	**Manley**	**70.41**	**25**	P	**P**	**05 51 00.3**	**+1.5**
BWN	**Browne**	**70.72**	**26**	P	**P**	**05 51 01.6**	**+0.8**
I23K	**Minto, Yukon-K**	**71.00**	**25**	P	**P**	**05 51 04.6**	**+2.2**
IL31		**71.94**	**25**	P	**P**	**05 51 07.2**	**-0.9**
ILAR	**Eielson Array**	**71.94**	**25**	P	**P**	**05 51 08.5**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=250,slow=6.3,SNR=10						
DOT	**Dot Lake**	**72.97**	**27**	P	**P**	**05 51 15.9**	**+1.7**
BMAR	**Burnt Mountain**	**73.37**	**23**	P	**P**	**05 51 19.6**	**+3.1**
ABKAR	**Akbulak array**	**75.61**	**318**	P	**P**	**05 51 30.1**	**+0.2**
BESE	**Bessie Mountai**	**77.10**	**32**	P	**P**	**05 51 37.6**	**-0.6**
BESE				IAmb	IAmb	05 51 38.1	
	comp=Z,4.6nm,0.9s						
INK	**Inuvik**	**77.61**	**22**	P	**P**	**05 51 41.5**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=210,slow=7.4,SNR=2.4						
INK	**Inuvik**	**77.61**	**22**	P	**P**	**05 51 42.2**	**+1.5**
BBB	**Bella Bella**	**81.42**	**39**	P	**P**	**05 52 02.1**	**+0.3**
	comp=Z,13nm,1.0s,baz=295,slow=19,SNR=2.1						
YKA	**Yellowknife Ar**	**86.31**	**27**	P	**P**	**05 52 28.0**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=282,slow=6.5,SNR=7.1						
ARCES	**ARCESS Array B**	**87.87**	**342**	P	**P**	**05 52 34.0**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=64,slow=8.1,SNR=4.5						
NVAR	**Mina Array Bea**	**91.01**	**51**	P	**P**	**05 52 48.8**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=251,slow=5.5,SNR=1.8						
FINES	**FINESS Array B**	**91.43**	**334**	P	**P**	**05 52 49.8**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=64,slow=6.3,SNR=13						
MAW	**Mawson**	**96.18**	**202**	P	**P**	**05 53 14.4**	**+2.0**
MAW				IAmb	IAmb	05 53 16.6	
	comp=Z,1.5nm,0.6s						
LPAZ	**La Paz**	**151.20**	**103**	PKPbc	**PKiKP**	**05 59 42.8**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=312,slow=2.5,SNR=12						
LPAZ	**La Paz**	**151.20**	**103**		**PKPbc**	**05 59 39.8**	**-0.1**

*IDC **10** 05:40:01.4 ± 0.5, 11˚.47N × 141˚.05E, h0km, mb4.5/25, mb1 4.6/26, mb1mx4.4/49, mbtmp4.5/26, ML4.5/1, Error ellipse: s-maj=18.5km s-min=12.2km az=89.0*
*GCMT **10** 05:40:06.5 ± 0.4, 11˚.35N ± 0˚.03 × 140˚.84E ± 0˚.04, h30km, MW4.9/64, Moment Tensor Solution. s27,c31; s64,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.72±.21; $M_{\theta\theta}$-2.29±.12; $M_{\phi\phi}$-0.43±.13; $M_{r\theta}$0.65±.14; $M_{\theta\phi}$-0.56±.09; $M_{\phi r}$-0.01±.21; Best double couple: M_{o}2.66300×10^{16} NP1:ϕs251.00000°, δ38.00000°, λ85.00000°. NP2: ϕs78.00000°, δ52.00000°, λ94.00000°. Principal axes: T 2.8050, Plg82.0000°, Azm12.0000°; N -0.2860, Plg3.0000°, Azm255.0000°; P -2.5210, Plg7.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 05:40:07.5 ± 2.0, 11˚.44N ± 0˚.02 × 140˚.9E ± 0˚.1, h35km ± 1km, mb4.8/87 Error ellipse: s-maj=17.0km s-min=3.8km az=92.0*
*BJI **10** 05:40:11.1 ± 0.0, 11˚.47N × 141˚.10E, h95km, mB4.9/36, mb4.9/50*

ISC 10 05:40:08.2 ± 0.5, 11˚.48N ± 0˚.07 × 140˚.84E ± 0˚.07, h45km, n140, σ 1 s 35/143, mb4.8/73, MS4.1/12, 2C-2D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.45**	**62**	Pn	**Pn**	**05 41 13.9**	**+0.6**
JOW	**Kunigami**	**19.32**	**324**	P	**Pn**	**05 44 31.1**	**+0.1**
	2.4nm,0.3s,baz=104,slow=27,SNR=3.5						
JOW	**Kunigami**	**19.32**	**324**	Pn	**Pn**	**05 44 31.5**	**+0.5**
JOW				IAmb	IAmb	05 44 40.5	
	comp=Z,38nm,0.7s						
YULB	**Yu-li**	**22.06**	**305**	P	**P**	**05 45 00.3**	**+0.9**
YULB				IAmb	IAmb	05 45 04.4	
	comp=Z,39nm,1.4s						
JSU	**Suzuyama**	**22.12**	**336**	P	**P**	**05 45 00.2**	**+0.3**
JSU				IAmb	IAmb	05 45 04.5	
	comp=Z,39nm,0.8s						
SSLB	**Suanglung**	**22.52**	**306**	P	**P**	**05 45 05.5**	**+1.1**
SSLB				IAmb	IAmb	05 45 08.3	
	comp=Z,38nm,1.0s						
TPUB	**Ta-pu**	**22.55**	**304**	P	**P**	**05 45 03.3**	**-1.4**
TPUB				IAmb	IAmb	05 45 07.7	
	comp=Z,40nm,1.0s						
YHNB	**Yeheng**	**22.64**	**308**	P	**P**	**05 45 07.2**	**+1.5**
YHNB				IAmb	IAmb	05 45 09.9	
	comp=Z,41nm,1.0s						
JNU	**Nakatsue**	**23.40**	**339**	P	**P**	**05 45 13.2**	**0.0**
	comp=Z,9.7nm,0.8s,baz=153,slow=4.8,SNR=6.0						
JNU	**Nakatsue**	**23.40**	**339**	P	**P**	**05 45 11.8**	**-1.5**
JWT	**Wachi**	**24.20**	**349**	P	**P**	**05 45 20.9**	**+0.3**
JHS	**Saijyo**	**24.44**	**345**	P	**P**	**05 45 25.0**	**+2.1**
MJAR	**Matsushiro Arr**	**25.06**	**355**	P	**P**	**05 45 26.2**	**-2.3**
	comp=Z,3.3nm,0.7s,baz=165,slow=10,SNR=3.1						
JSD	**Sado**	**26.54**	**355**	P	**P**	**05 45 41.9**	**+0.1**
JSD				IAmb	IAmb	05 45 42.9	
	comp=Z,44nm,1.2s						
KSRS	**Korea Array**	**28.34**	**338**	P	**P**	**05 45 57.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=160,slow=10.0,SNR=6.8						
KSAR	**Wonju Array Be**	**28.35**	**338**	P	**P**	**05 45 56.7**	**-1.3**
NJ2	**Nanjing**	**28.80**	**319**	*e*P	**P**	**05 46 03.8**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				L	L		
	comp=Z,370nm,15.7s						
NJ2				L	L		
	comp=Z,250nm,15.9s						
NJ2				L	L		
	comp=Z,570nm,16.2s						
QIZ	**Qiongzhong**	**30.80**	**288**	P	**P**	**05 46 22.0**	**+2.0**
QIZ				pP	**pwP**	**05 46 39.6**	**+3.8**
QIZ				S	**S**	**05 51 20.1**	**-0.4**
QIZ				L	L		
	comp=Z,180nm,8.4s						
QIZ				L	L		
	comp=Z,210nm,17.3s						
WHN	**Wuhan**	**31.03**	**312**	⇓P	**P**	**05 46 24.0**	**+2.2**
WRA	**Warramunga Arr**	**31.88**	**192**	P	**P**	**05 46 28.4**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=11,slow=8.9,SNR=12						
FITZ	**Fitzroy Cressi**	**33.00**	**207**	P	**P**	**05 46 38.6**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=83,slow=9.8,SNR=4.1						
USRK	**Ussuriysk Ar.**	**33.48**	**348**	P	**P**	**05 46 42.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=76,slow=19,SNR=7.0						
ENH	**Enshi**	**34.58**	**308**	P	**P**	**05 46 53.5**	**+0.5**
AS31	**Alice Springs**	**35.59**	**191**	P	**P**	**05 47 00.5**	**-1.1**
ASAR	**Alice Springs**	**35.59**	**191**	P	**P**	**05 47 00.3**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=18,slow=12,SNR=8.6						
ASAR				PP	**PP**	**05 48 22.6**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=5.3,slow=9.5,SNR=4.8						
ASAR				PcP	**PcP**	**05 49 30.4**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=30,slow=2.8,SNR=2.5						
ASAR	**Alice Springs**	**35.59**	**191**	P	**P**	**05 47 01.1**	**-0.6**
BJT	**Baijiatuau**	**35.83**	**327**	P	**P**	**05 47 04.3**	**+0.8**
BJI	**Beijing**	**35.84**	**327**	P	**P**	**05 47 04.8**	**+1.2**
BJI				S	**S**	**05 52 37.9**	**-0.3**
BJI				pmax	pmax		
	comp=Z,15nm,0.6s						
BJI				pmax	pmax		
	comp=Z,140nm,4.1s						
BJI				L	L		
	comp=Z,210nm,15.3s						
BJI				L	L		
	comp=Z,200nm,15.9s						
BJI				L	L		
	comp=Z,220nm,22.7s						
SLVN	**Son La**	**36.68**	**290**	P	**P**	**05 47 12.2**	**+1.1**
XAN	**Xi'an**	**36.77**	**313**	P	**P**	**05 47 12.7**	**+1.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KLR	**Kul'dur**	**38.38**	**350**	P	**P**	**05 47 25.8**	**+0.7**
	comp=Z,11nm,0.8s,baz=148,slow=8.4,SNR=22						
KMI	**Kunming**	**38.49**	**296**	⇓P	**P**	**05 47 29.6**	**+3.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC	**Hu-ho-hao-te**	**38.97**	**324**	*e*P	**P**	**05 47 30.4**	**+0.2**
HHC				S	**S**	**05 53 20.5**	**-5.5**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,75nm,5.7s						
HHC				L	L		
	comp=Z,120nm,17.0s						
HHC				L	L		
	comp=Z,170nm,18.6s						
HHC				L	L		
	comp=Z,190nm,14.6s						
CD2	**Chengdu**	**39.36**	**305**	⇑*i*P	**P**	**05 47 34.8**	**+1.2**
CD2				pP	pwP	05 47 54.6	+5.0
CD2				S	**S**	**05 53 29.1**	**-2.9**
CD2				pmax	pmax		
	comp=Z,70nm,0.8s						
CD2				pmax	pmax		
	comp=Z,190nm,6.4s						
CD2				L	L		
	comp=Z,270nm,18.3s						
CD2				L	L		
	comp=Z,170nm,16.7s						
CD2				L	L		
	comp=Z,190nm,20.4s						
CMAR	**Chiang Mai Arr**	**40.99**	**285**	P	**P**	**05 47 49.2**	**+2.0**
	comp=Z,4.4nm,0.8s,baz=88,slow=6.5,SNR=17						
CMAR				PcP	**PcP**	**05 49 48.2**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=108,slow=2.0,SNR=6.4

BILL IAmb IAmb 05 50 03.1
comp=Z,7.1nm,0.9s
MK31 Makanchi Array 60.33 318 P **P** **05 50 12.0 -0.6**
MK31 IAmb IAmb 05 50 14.7
comp=Z,7.4nm,1.1s
MKAR Makanchi Array 60.33 318 P **P** **05 50 13.3 +0.7**
comp=Z,3.3nm,0.7s,baz=102,slow=8.9,SNR=19
MAKZ Makanchi 60.54 318 P **P** **05 50 13.9 -0.1**
MAKZ IAmb IAmb 05 50 16.1
comp=Z,14nm,1.3s
TIXI Tiksi 60.57 356 P **P** **05 50 13.2 -0.5**
ZAA0 Zalesovo Array 61.10 326 P **P** **05 50 15.7 -0.1**
ZAA0 IAmb IAmb 05 50 18.7
comp=Z,6.8nm,1.0s
ZALV Zalesovo Beam 61.10 326 P **P** **05 50 18.1 +0.5**
comp=Z,3.8nm,0.7s,baz=74,slow=5.4,SNR=9.8
ZALV Zalesovo Beam 61.10 326 P **P** **05 50 17.4 -0.2**
SHLS Shalkode 61.42 313 *e*P **P** **05 50 18.2 -2.0**
baz=313
UZB Uzynbulak 61.73 313 *e*P **P** **05 50 21.8 -0.6**
baz=313
KPKS Kokpek 62.04 313 *e*P **P** **05 50 23.6 -0.8**
baz=313
PRZ Przheval'sk 62.06 312 P **P** **05 50 24.6 0.0**
SATY Saty 62.16 313 *e*P **P** **05 50 24.9 -0.3**
baz=313
TARG Taragay, Kyrgy 62.37 311 P **P** **05 50 27.4 +0.5**
TARG IAmb IAmb 05 50 56.6
comp=Z,5.5nm,1.0s
SEM Semipalatinsk 62.62 321 *e*P **P** **05 50 26.9 -1.3**
baz=321
KDJ Kajisay 62.89 312 P **P** **05 50 30.7 +0.5**
KDJ IAmb IAmb 05 50 40.5
comp=Z,8.7nm,0.8s
MDOK Medeo 63.16 313 *e*P **P** **05 50 31.4 -0.5**
baz=312
KSH Kashi 63.43 308 P **P** **05 50 36.0 +2.3**
KSH pmax pmax
comp=Z,4.0nm,0.5s
KSH pmax pmax
comp=Z,76nm,3.4s
MTBS Maitube 63.60 313 *e*P **P** **05 50 33.9 -0.8**
baz=312
KUU Kurty 63.79 313 *e*P **P** **05 50 35.5 -0.4**
baz=313
SGDS Sogindy 64.95 313 *e*P **P** **05 50 42.9 -0.6**
baz=312
NIL Nilore 65.12 302 P **P** **05 50 44.9 +0.2**
BTLS Baital 65.59 314 *e*P **P** **05 50 47.4 -0.1**
baz=314
ARSB Arslanbob 65.90 310 P **P** **05 50 48.8 -1.0**
ARSB IAmb IAmb 05 50 52.0
comp=Z,12nm,1.0s
DRK Karamyk 66.64 308 P **P** **05 50 55.2 +0.5**
NRIK Noril'sk 66.87 342 P **P** **05 50 55.4 +0.1**
comp=Z,8.2nm,0.9s,baz=116,slow=8.4,SNR=10
NRIK Noril'sk 66.87 342 P **P** **05 50 54.8 -0.4**
BRZS Berezniki 67.27 319 *e*P **P** **05 50 57.1 -1.1**
baz=319
BTK Batken 67.43 309 P **P** **05 50 59.9 +0.4**
BTK IAmb IAmb 05 51 01.5
comp=Z,14nm,1.2s
GAR Garm 67.75 307 P **P** **05 51 01.8 +0.2**
KK31 Karatay Array 67.89 312 P **P** **05 51 02.7 +0.3**
KK31 IAmb IAmb 05 51 04.1
comp=Z,13nm,1.4s
KKAR Karatay Array 67.89 312 P **P** **05 51 02.7 +0.3**
CHGR Chuyangaron 68.64 307 P **P** **05 51 06.8 -0.4**
CNPM China Poot 69.02 30 P **P** **05 51 08.8 -0.3**
IMAR Indian Mountai 69.67 23 P **P** **05 51 12.9 0.0**
BPAW Bear Paw Mtn. 70.26 26 P **P** **05 51 16.5 -0.1**
BPAW IAmb IAmb 05 51 17.2
comp=Z,6.9nm,1.0s
MLY Manley 70.60 25 P **P** **05 51 18.4 -0.3**
PWL Port Wells 70.72 29 P **P** **05 51 18.6 -0.8**
RND Reindeer 71.02 27 P **P** **05 51 20.5 -0.8**
I23K Minto, Yukon-K 71.20 25 P **P** **05 51 22.8 +0.7**
COLD Coldfoot 71.38 23 P **P** **05 51 23.8 +0.5**
SCM Sheep Creek Mo 71.39 28 P **P** **05 51 22.6 -0.9**
WRH Wood River Hil 71.57 26 IAmb IAmb 05 51 26.1
comp=Z,9.1nm,1.2s
MDM Murphy Dome 71.62 25 P **P** **05 51 24.4 -0.4**
CCB Clear Creek Bu 71.73 25 P **P** **05 51 24.6 -0.9**
TOLK Toolik Lake Re 71.98 21 P **P** **05 51 27.0 +0.1**
TOLK IAmb IAmb 05 51 28.3
comp=Z,8.7nm,1.0s
HDA Harding Lake 72.05 26 P **P** **05 51 26.0 -1.3**
IL31 72.14 25 P **P** **05 51 26.5 -1.4**
ILAR Eielson Array 72.14 25 P **P** **05 51 26.3 -1.6**
comp=Z,2.8nm,0.7s,baz=242,slow=5.9,SNR=23
PAX Paxson 72.44 27 P **P** **05 51 29.3 -0.5**
PAX IAmb IAmb 05 51 30.2
comp=Z,14nm,1.2s
FYU Fort Yukon 73.15 24 P **P** **05 51 33.7 -0.1**
FYU IAmb IAmb 05 51 35.3
comp=Z,23nm,1.4s
DOT Dot Lake 73.17 27 IAmb IAmb 05 51 34.4
comp=Z,6.7nm,0.8s
SCRK Sand Creek 73.25 26 P **P** **05 51 34.4 -0.3**
SCRK IAmb IAmb 05 51 34.5
comp=Z,9.8nm,1.3s
BMAR Burnt Mountain 73.55 23 P **P** **05 51 37.2 +0.9**
GRNC Granite Creek 73.90 30 P **P** **05 51 38.6 0.0**
GRNC IAmb IAmb 05 51 44.0
comp=Z,19nm,1.2s
K27K Chicken 74.09 27 P **P** **05 51 40.4 +1.0**
PPT2 Papeete2 74.53 112 *e*LR LR 06 14 41.9
comp=Z,106nm,23.0s
EGAK Eagle 74.57 26 P **P** **05 51 42.9 +0.7**
DAWY Dawson 75.27 27 P **P** **05 51 46.3 0.0**
DAWY IAmb IAmb 05 51 47.8
comp=Z,9.2nm,1.1s
ABKAR Akbulak array 75.46 318 P **P** **05 51 47.0 -0.6**
ABKAR Akbulak array 75.46 318 IAmb IAmb 05 51 48.8
comp=Z,7.4nm,1.4s
HYT Haines Junctio 75.99 30 P **P** **05 51 50.9 +0.3**
HYT IAmb IAmb 05 51 52.6
comp=Z,9.1nm,0.9s
TBI Tubuai 76.43 118 *e*LR LR 06 15 22.2
comp=Z,127nm,30.2s
EPYK Eagle Plains 76.53 24 IAmb IAmb 05 51 56.3
comp=Z,7.8nm,1.0s
INK Inuvik 77.80 22 P **P** **05 51 59.3 -1.1**
comp=Z,4.0nm,0.9s,baz=258,slow=5.2,SNR=9.1
YKA Yellowknife Ar 86.51 27 P **P** **05 52 46.0 -0.2**
comp=Z,2.4nm,0.6s,baz=282,slow=6.5,SNR=24
YBH Yreka Blue Hor 87.20 48 P **P** **05 52 50.5 +0.3**
comp=Z,2.7nm,1.0s,baz=253,slow=5.7,SNR=5.1
ARCES ARCESS Array B 87.84 341 P **P** **05 52 51.8 -0.7**
comp=Z,3.7nm,0.9s,baz=75,slow=6.4,SNR=7.8
PINE Pine Mountain 88.00 46 P **P** **05 52 54.5 +0.5**
MOD Modoc Plateau 88.91 48 P **P** **05 52 58.2 -0.2**
MOD IAmb IAmb 05 53 10.3
comp=Z,6.4nm,1.1s
BEKR Beckworth 89.38 50 P **P** **05 52 59.5 -1.1**
BEKR IAmb IAmb 05 53 12.9
comp=Z,6.5nm,1.0s
NEW Newport 89.39 41 P **P** **05 53 00.4 +0.1**
comp=Z,1.6nm,0.6s,baz=275,slow=3.0,SNR=5.1
NEW Newport 89.39 41 IAmb IAmb 05 53 01.7
comp=Z,5.6nm,1.2s
CMB Columbia Colle 89.81 51 P **P** **05 53 02.9 +0.4**
CMB IAmb IAmb 05 53 18.4
comp=Z,5.2nm,1.2s
WVOR Wild Horse Val 89.97 47 P **P** **05 53 03.8 +0.5**
WVOR IAmb IAmb 05 53 15.2
comp=Z,7.0nm,1.1s
BMO Blue Mountains 90.24 44 P **P** **05 53 04.6 +0.2**
BMO IAmb IAmb 05 53 07.8
comp=Z,6.2nm,1.2s
NVAR Mina Array Bea 91.29 50 P **P** **05 53 07.2 -2.4**
comp=Z,1.8nm,0.8s,baz=264,slow=6.3,SNR=9.5
FINES FINESS Array B 91.37 334 P **P** **05 53 07.5 -1.6**
comp=Z,2.8nm,0.4s,baz=69,slow=5.1,SNR=16
TPH Tonopah 92.21 51 P **P** **05 53 14.6 +0.7**
HLID Hailey 92.61 45 IAmb IAmb 05 53 28.0
comp=Z,4.1nm,1.1s
MNK Minsk 93.58 327 *i* P **P** **05 53 16.0 -3.5**
comp=E,1.0nm,1.0s
MNK *i* P **P** **05 53 16.0 -3.5**
comp=N,29nm,1.0s
MNK *i* P **P** **05 53 16.0 -3.5**
comp=Z,6.0nm,1.0s,baz=244
MNK *i* pP **pwP** **05 53 37.7 +0.7**
MNK *i* sS **SKSac** **06 03 45.8 -4.6**
MNK *i* SKKS **SKKSdf** **06 17 30.8 -0.7**
MNK *i* LQ LQ 06 29 21.1
MNK *i* LR LR 06 32 45.7
MNK *i* LRM MLR 06 38 05.1
comp=N,141nm,18.4s
MNK *i* LRM MLR 06 38 07.1
comp=E,23nm,18.4s
MNK *i* LRM MLR 06 38 38.5
comp=Z,265nm,18.0s
PFO Pinyon Flats O 94.06 55 P **P** **05 53 22.0 -0.4**
comp=Z,2.7nm,1.0s,baz=297,slow=7.0,SNR=3.8
YHL Hebgen Lake 94.37 43 P **P** **05 53 23.4 -0.3**
YMR Madison River 94.58 43 P **P** **05 53 24.4 -0.2**
YHH Holmes Hill 94.61 43 IAmb IAmb 05 53 27.1
comp=Z,3.6nm,1.1s
YMP Mirror Lake Pl 95.09 43 P **P** **05 53 27.6 +0.5**
TCRU Three Creeks R 95.62 49 P **P** **05 53 31.9 +2.3**
LPAZ La Paz 151.49 103 PKPbc **PKiKP** **06 00 00.2 +0.6**
comp=Z,7.1nm,0.7s,baz=309,slow=1.7,SNR=16
CPUP Villa Florida 157.38 133 PKPab **PKPab** **06 00 31.0 -0.5**
comp=Z,1.5nm,0.9s,baz=262,slow=8.9,SNR=3.0

IDC 10 05:46:27.4±3.7, 6.76S×154.59E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/41, mbtmp3.6/3, Error ellipse: s-maj=129.2km s-min=39.5km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**234**	P	P	05 51 40.3	-0.1
	1.9nm,0.8s,baz=59,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**26.03**	**228**	P	P	05 52 03.1	+0.5
	0.5nm,0.7s,baz=61,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**82.96**	**319**	P	P	05 58 55.4	+0.9
	0.3nm,0.6s,baz=96,slow=5.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**152.57**	**286**	PKPbc	PKPbc	06 06 25.6	-1.5
	0.5nm,0.7s,baz=94,slow=2.5,SNR=2.0						

*IDC **10** 05:49:59.4±0.8, 6.13S×152.23E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.1/38, mbtmp4.2/11, ML2.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/27, Error ellipse: s-maj=32.5km s-min=17.0km az=127.0*
*NEIC **10** 05:50:04.2±2.1, 6.14S±0.08×152.3E±0.1, h25km±5km, mb4.5/12, Error ellipse: s-maj=19.0km s-min=10.1km az=115.0*
ISC 10 05:50:05.1±0.7, 6.17S±0.08×152.3E±0.1, h38km, n33, σ0s81/31, mb4.3/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.97**	**356**		**Pn**	**05 50 35.8**	**-0.2**
PMG	**Port Moresby**	**6.03**	**237**	Pn	**Pn**	**05 51 31.4**	**-0.4**
	3.2nm,0.3s,baz=72,slow=9.6,SNR=2.2						
PMG				Sn	**Sn**	**05 52 40.6**	**+0.9**
	2.8nm,0.3s,baz=121,slow=19,SNR=5.6						
PMG	**Port Moresby**	**6.03**	**237**	Pn	**Pn**	**05 51 32.9**	**+1.1**
MANU	**Manus Island**	**6.41**	**310**	Pn	**Pn**	**05 51 36.9**	**-0.1**
EIDS	**Eidsvold**	**19.13**	**183**	P	P	**05 54 23.8**	**-1.2**
EIDS				IAmb	IAmb	05 54 41.2	
	comp=Z,24nm,1.4s						
MTN	**Manton Dam**	**21.90**	**251**	P	P	**05 54 55.6**	**+0.4**
MTN				IAmb	IAmb	05 55 16.7	
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**22.19**	**230**	P	P	**05 54 56.9**	**-1.4**
	comp=Z,5.7nm,0.8s,baz=56,slow=10.0,SNR=21						
AS31	**Alice Springs**	**24.82**	**224**	P	**P**	**05 55 23.9**	**-0.1**
ASAR	**Alice Springs**	**24.82**	**224**	P	**P**	**05 55 23.2**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=56,slow=9.2,SNR=27						
KNRA	**Kununurra**	**24.95**	**246**	P	**P**	**05 55 24.9**	**-0.2**
STKA	**Stephens Creek**	**27.47**	**200**	P	**P**	**05 55 47.8**	**0.0**
	comp=Z,3.7nm,1.0s,baz=7.7,slow=16,SNR=3.2						
FITZ	**Fitzroy Crossi**	**28.59**	**243**	P	**P**	**05 55 56.8**	**-1.1**
	comp=Z,8.0nm,0.7s,baz=45,slow=8.1,SNR=23						
FITZ	**Fitzroy Crossi**	**28.59**	**243**	P	**P**	**05 55 57.3**	**-0.6**
FITZ				IAmb	IAmb	05 56 01.3	
	comp=Z,20nm,1.2s						
MJAR	**Matsushiro Ar**	**44.49**	**344**	LR	LR	06 15 02.5	
	comp=Z,28nm,20.2s,baz=165,slow=34						
VNDA	**Vanda**	**71.49**	**178**	P	**P**	**06 01 21.4**	**0.0**
	comp=Z,0.8nm,0.8s,baz=336,slow=6.8,SNR=5.9						
VNDA	**Vanda**	**71.49**	**178**	IAmb	IAmb	06 01 26.5	
	comp=Z,0.9nm,0.9s						
MKAR	**Makanchi Array**	**81.03**	**319**	P	**P**	**06 02 16.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=114,slow=5.1,SNR=2.1						
ZAA0	**Zalesovo Array**	**82.02**	**327**	P	**P**	**06 02 20.8**	**-0.3**
ZAA0				IAmb	IAmb	06 02 21.2	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**82.02**	**327**	P	**P**	**06 02 20.6**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=118,slow=5.6,SNR=11						
ZALV	**Zalesovo Beam**	**82.02**	**327**	P	**P**	**06 02 19.8**	**-1.3**
MCK	**McKinley**	**82.31**	**23**	P	**P**	**06 02 23.4**	**+0.9**
MLY	**Manley**	**82.33**	**21**	P	**P**	**06 02 23.6**	**+1.0**
MLY				IAmb	IAmb	06 02 24.4	
	comp=Z,4.4nm,0.7s						
IL31		**83.60**	**22**	P	**P**	**06 02 28.9**	**-0.2**
IL31				IAmb	IAmb	06 02 31.0	
	comp=Z,5.4nm,1.1s						
ILAR	**Eielson Array**	**83.60**	**22**	P	**P**	**06 02 29.0**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=251,slow=5.2,SNR=26						
ILAR	**Eilson Array**	**83.60**	**22**	P	**P**	**06 02 29.3**	**+0.1**
MAW	**Mawson**	**84.13**	**203**	LR	LR	06 36 01.9	
	comp=Z,36nm,20.9s,baz=60,slow=33						
EGAK	**Eagle**	**85.80**	**23**	P	**P**	**06 02 41.6**	**+1.4**
INK	**Inuvik**	**89.90**	**21**	P	**P**	**06 03 00.2**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=289,slow=6.8,SNR=3.6						
NVAR	**Mina Array Bea**	**93.31**	**52**	P	**P**	**06 03 17.9**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=263,slow=6.0,SNR=6.7						
LPAZ	**La Paz**	**134.19**	**120**	PKP	**PKPdf**	**06 09 20.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=224,slow=11,SNR=2.6						
TORD	**Torodi Ar. Bea**	**150.23**	**286**	PKPbc	**PKPbc**	**06 09 52.6**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=62,slow=2.1,SNR=13						
TORD	**Torodi Ar. Bea**	**150.23**	**286**		**PKPbc**	**06 09 51.8**	**-1.4**
BDFB	**Brasilia**	**150.42**	**137**	PKPbc	**PKPbc**	**06 09 53.9**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=56,slow=3.6,SNR=4.5						

*INET **10** 06:25:49.0, 12.58N×88.03W, h15km, MW4.0*
*UCR **10** 06:25:56.0±0.8, 12.61N×88.13W, h36km±158km, ML3.8*
*SNET **10** 06:25:56.0±0.7, 12.64N×88.15W, h31km±2km, ML3.9*
ISC 10 06:25:55.0±2.8, 12.6N±0.1×88.11W±0.05, h28km±13km, n59, σ0s31/92, 15C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.76**	**21**	*e*P	**Pb**	**06 26 09.8**	**+0.1**
CNCH				*e*S	**Sn**	**06 26 20.7**	**+0.3**
CNCH	**Conchagua**	**0.76**	**21**	*e*P	**Pb**	**06 26 09.8**	**+0.1**
CNCH				*e*S	**Sn**	**06 26 20.7**	**+0.3**
LCND	**La Caada**	**0.77**	**16**	*e*P	**Pn**	**06 26 09.7**	**-0.2**
LCND				*e*S	**Sb**	**06 26 19.9**	**-0.1**
LCND				IAML		06 26 23.6	
	comp=Z,6µm,0.3s						
LCND	**La Caada**	**0.77**	**16**	*e*P	**Pn**	**06 26 09.7**	**-0.2**
LCND				*e*P	**Pn**	**06 26 09.8**	**-0.2**
LCND				*e*S	**Sb**	**06 26 19.9**	**-0.1**
LCND				*e*S	**Sn**	**06 26 20.9**	**+0.3**
LCND				IAML		06 26 23.6	
	comp=Z,6µm,0.3s						
LCY	**Lacayo**	**0.87**	**348**	*e*P	**Pn**	**06 26 11.3**	**-0.1**
LCY				*e*S	**Sn**	**06 26 23.1**	**-0.1**
LCY	**Lacayo**	**0.87**	**348**	*e*P	**Pn**	**06 26 11.3**	**-0.1**
LCY				*e*S	**Sn**	**06 26 23.1**	**-0.1**
PACA	**Pacayal**	**0.92**	**347**	*e*P	**Pn**	**06 26 12.2**	**+0.1**
PACA				*e*S	**Sb**	**06 26 24.4**	**0.0**
PACA				IAML		06 26 28.2	
	comp=Z,2µm,0.2s						
PACA	**Pacayal**	**0.92**	**347**	*e*P	**Pn**	**06 26 12.2**	**+0.1**
PACA				*e*S	**Sb**	**06 26 24.4**	**0.0**
PACA				IAML		06 26 28.2	
	comp=Z,2µm,0.2s						
TECA	**Tecapa**	**1.00**	**338**	*e*P	**Pn**	**06 26 13.1**	**-0.1**
TECA	**Tecapa**	**1.00**	**338**	*e*P	**Pn**	**06 26 13.1**	**-0.1**
COEB	**Comit de Eme**	**1.01**	**336**	*i*P	**Pn**	**06 26 13.2**	**-0.2**
COEB				*e*S	**Sb**	**06 26 26.9**	**-0.1**
COEB				IAML		06 26 30.3	
	comp=Z,3µm,0.3s						
COEB	**Comit de Eme**	**1.01**	**336**	*i*P	**Pn**	**06 26 13.2**	**-0.2**
COEB				*e*S	**Sb**	**06 26 26.9**	**-0.1**
COEB				IAML		06 26 30.3	
	comp=Z,3µm,0.3s						
PQSS	**Presa 15 de Se**	**1.14**	**337**	*e*P	**Pn**	**06 26 15.1**	**+0.1**
PQSS				*e*S	**Sn**	**06 26 29.3**	**-0.4**
TECO	**Alcaldia de Te**	**1.16**	**326**	*e*P	**Pn**	**06 26 15.1**	**-0.3**
UESV	**Universidad de**	**1.25**	**328**	*e*P	**Pn**	**06 26 16.6**	**-0.1**
UESV				*e*S	**Sn**	**06 26 32.5**	**0.0**
UESV				IAML		06 26 34.8	
	comp=Z,2µm,0.3s						
UESV	**Universidad de**	**1.25**	**328**	*e*P	**Pn**	**06 26 16.6**	**-0.1**
UESV				*e*S	**Sn**	**06 26 32.5**	**0.0**
UESV				IAML		06 26 34.8	
	comp=Z,2µm,0.3s						
SJTE	**Alcalda de S**	**1.36**	**320**	*i*P	**Pn**	**06 26 18.0**	**-0.1**
SJTE				*e*S	**Sn**	**06 26 35.0**	**-0.2**
SJTE				IAML		06 26 36.6	
	comp=Z,1µm,0.2s						
SJTE	**Alcalda de S**	**1.36**	**320**	*i*P	**Pn**	**06 26 18.0**	**-0.1**
SJTE				*e*S	**Sn**	**06 26 35.0**	**-0.2**
SJTE				IAML		06 26 36.6	
	comp=Z,1µm,0.2s						
PAVA	**Las Pavas**	**1.40**	**325**	*e*P	**Pn**	**06 26 18.8**	**+0.1**
PAVA				IAML		06 26 39.2	
	comp=Z,2µm,0.5s						
PAVA	**Las Pavas**	**1.40**	**325**	*e*P	**Pn**	**06 26 18.8**	**+0.1**
PAVA				IAML		06 26 39.2	
	comp=Z,2µm,0.5s						
LFRS	**El Faro**	**1.40**	**319**	*e*P	**Pn**	**06 26 18.6**	**-0.2**
LFRS				*e*S	**Sn**	**06 26 36.4**	**+0.1**
LFRS	**El Faro**	**1.40**	**319**	*e*P	**Pn**	**06 26 18.6**	**-0.2**
LFRS				*e*S	**Sn**	**06 26 36.4**	**+0.1**
LBRS	**Las Brisas**	**1.48**	**322**	*e*P	**Pn**	**06 26 20.0**	**+0.2**
LBRS				*e*S	**Sn**	**06 26 38.2**	**0.0**
LBRS	**Las Brisas**	**1.48**	**322**	*e*P	**Pn**	**06 26 20.0**	**+0.2**
LBRS				*e*S	**Sn**	**06 26 38.2**	**0.0**
LFU	**La Fuente**	**1.53**	**320**	*e*P	**Pn**	**06 26 20.8**	**+0.3**
LFU	**La Fuente**	**1.53**	**320**	*e*P	**Pn**	**06 26 20.8**	**+0.3**
UDBS	**Universidad Do**	**1.53**	**318**	*e*P	**Pn**	**06 26 20.6**	**+0.1**
UDBS				IAML		06 26 41.8	
	comp=Z,2µm,0.2s						
UDBS	**Universidad Do**	**1.53**	**318**	*e*P	**Pn**	**06 26 20.6**	**+0.1**
UDBS				IAML		06 26 41.8	
	comp=Z,2µm,0.2s						
IGN	**Direccin Gen**	**1.54**	**318**	*e*P	**Pn**	**06 26 20.7**	**+0.1**
IGN	**Direccin Gen**	**1.54**	**318**	*e*P	**Pn**	**06 26 20.7**	**+0.1**
UTEC	**Universidad Te**	**1.55**	**317**	*e*P	**Pn**	**06 26 20.5**	**-0.2**
UTEC				IAML		06 26 41.7	
	comp=Z,2µm,0.4s						
UTEC	**Universidad Te**	**1.55**	**317**	*e*P	**Pn**	**06 26 20.5**	**-0.2**
UTEC				IAML		06 26 41.7	
	comp=Z,2µm,0.4s						
SNET	**Serv Nac Est T**	**1.56**	**316**	*e*P	**Pn**	**06 26 20.7**	**-0.2**
SNET				*e*S	**Sn**	**06 26 39.6**	**-0.6**
SNET				IAML		06 26 45.2	
	comp=Z,1µm,0.3s						
SNET	**Serv Nac Est T**	**1.56**	**316**	*e*P	**Pn**	**06 26 20.7**	**-0.2**
SNET				*e*S	**Sn**	**06 26 39.6**	**-0.6**
SNET				IAML		06 26 45.2	
	comp=Z,1µm,0.3s						
UESS	**Universidad de**	**1.56**	**317**	*e*P	**Pn**	**06 26 20.8**	**-0.1**
UESS				IAML		06 26 43.2	
	comp=Z,2µm,0.2s						
UESS	**Universidad de**	**1.56**	**317**	*e*P	**Pn**	**06 26 20.8**	**-0.1**
UESS				IAML		06 26 43.2	
	comp=Z,2µm,0.2s						
SEMO	**Seminario San**	**1.57**	**316**	*e*P	**Pn**	**06 26 20.7**	**-0.3**
ITCA	**Escuela Especi**	**1.58**	**314**	*e*P	**Pn**	**06 26 21.2**	**0.0**
ITCA				*e*S	**Sn**	**06 26 41.2**	**+0.4**
ITCA	**Escuela Especi**	**1.58**	**314**	*e*P	**Pn**	**06 26 21.2**	**0.0**
ITCA				*e*S	**Sn**	**06 26 41.2**	**+0.4**
UEES	**Universidad Ev**	**1.58**	**316**	*e*P	**Pn**	**06 26 21.2**	**-0.1**
UEES				*e*S	**Sn**	**06 26 40.5**	**-0.4**
UEES				IAML		06 26 44.4	
	comp=Z,1µm,0.2s						
UEES	**Universidad Ev**	**1.58**	**316**	*e*P	**Pn**	**06 26 21.2**	**-0.1**
UEES				*e*S	**Sn**	**06 26 40.5**	**-0.4**
UEES				IAML		06 26 44.4	
	comp=Z,1µm,0.2s						
BOQS	**Boqueron**	**1.63**	**316**	*e*P	**Pn**	**06 26 22.0**	**+0.1**
BOQS				*e*S	**Sn**	**06 26 42.7**	**+0.6**
BOQS	**Boqueron**	**1.63**	**316**	*e*P	**Pn**	**06 26 22.0**	**+0.1**
BOQS				*e*S	**Sn**	**06 26 42.7**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.69**	**29**	*e*P	**Pn**	**06 26 22.6**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.69**	**29**	*e*P	**Pn**	**06 26 22.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.69**	**310**	*e*P	**Pn**	**06 26 22.4**	**-0.5**
JAYA				*e*S	**Sn**	**06 26 42.7**	**-0.9**
JAYA				IAML		06 26 46.9	
	comp=Z,2µm,0.2s						
JAYA	**Jayaque - finc**	**1.69**	**310**	*e*P	**Pn**	**06 26 22.4**	**-0.5**
JAYA				*e*S	**Sn**	**06 26 42.7**	**-0.9**
JAYA				IAML		06 26 46.9	
	comp=Z,2µm,0.2s						
CEDA	**San Andres**	**1.75**	**315**	*e*P	**Pn**	**06 26 23.6**	**+0.1**
CEDA	**San Andres**	**1.75**	**315**	*e*P	**Pn**	**06 26 23.6**	**+0.1**
TACO	**Tacachico**	**1.85**	**319**	*e*P	**Pn**	**06 26 24.8**	**0.0**
TACO	**Tacachico**	**1.85**	**319**	*e*P	**Pn**	**06 26 24.8**	**0.0**
SBLS	**San Blas**	**1.94**	**311**	*e*P	**Pn**	**06 26 26.4**	**+0.1**
SBLS	**San Blas**	**1.94**	**311**	*e*P	**Pn**	**06 26 26.4**	**+0.1**
UNIC	**Universidad Ca**	**1.98**	**315**	*e*P	**Pn**	**06 26 26.7**	**-0.1**
UNIC	**Universidad Ca**	**1.98**	**315**	*e*P	**Pn**	**06 26 26.7**	**-0.1**
RTR	**El Retiro**	**2.00**	**312**	*e*P	**Pn**	**06 26 27.4**	**+0.4**
RTR				*e*S	**Sn**	**06 26 52.1**	**+1.0**
RTR	**El Retiro**	**2.00**	**312**	*e*P	**Pn**	**06 26 27.4**	**+0.4**
RTR				*e*S	**Sn**	**06 26 52.1**	**+1.0**
MTO3	**Montecristo**	**2.19**	**326**	*e*P	**Pn**	**06 26 29.8**	**+0.1**
MTO3	**Montecristo**	**2.19**	**326**	*e*P	**Pn**	**06 26 29.8**	**+0.1**

*IDC **10** 06:27:09.9±2.2, 6.73S×130.04E, h146km±27km, mb3.3/1, mb1 3.3/6, mb1mx3.2/41, mbtmp3.8/6, Error ellipse: s-maj=41.1km s-min=20.5km az=96.0*
ISC 10 06:27:08.6±0.9, 6.74S±0.06×130.1E±0.1, h146km, n6, σ3s06/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.95**	**12**	P	**Pn**	**06 28 36.0**	**+1.3**
	2.4nm,0.3s,baz=234,slow=23,SNR=13						
SIJI				S	**Sn**	**06 29 37.3**	**-4.7**
	1.8nm,0.3s,baz=269,slow=24,SNR=1.4						
BATI	**Baumata**	**7.21**	**241**	P	**Pn**	**06 28 52.2**	**+0.7**
	3.1nm,0.3s,baz=270,slow=20,SNR=1.3						
FITZ	**Fitzroy Crossi**	**12.09**	**201**	P	**Pn**	**06 29 58.0**	**+1.8**
	0.4nm,0.3s,baz=12,slow=10,SNR=22						
FITZ				S	**Sn**	**06 32 05.0**	**-4.8**
	0.3nm,0.3s,baz=107,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**13.77**	**163**	P	**Pn**	**06 30 19.9**	**+2.1**
	0.2nm,0.3s,baz=345,slow=13,SNR=3.6						
WRA				S	**Sn**	**06 32 47.3**	**-3.0**
	0.2nm,0.3s,baz=342,slow=21,SNR=2.5						
ASAR	**Alice Springs**	**17.23**	**168**	P	**P**	**06 31 00.6**	**+0.7**
	0.0nm,0.3s,baz=356,slow=12,SNR=1.6						
ASAR				S	**S**	**06 34 12.2**	**+0.1**
	0.1nm,0.3s,baz=346,slow=26,SNR=2.1						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**06 37 53.5**	**+1.2**

ZKR	**Zakros**	**0.45 165**	P	**Pg**	**06 42 09.6 +0.2**
ZKR			AML	AML	06 42 15.4
	comp=E,2634μm,0.3s				
ZKR			S	**Sg**	**06 42 15.4 +0.1**
ZKR			AML	AML	06 42 16.0
	comp=N,1515μm,0.4s				
ZKR	**Zakros**	**0.45 165**	P	**Pg**	**06 42 09.6 +0.2**
ZKR			S	**Sg**	**06 42 15.3 0.0**
	comp=N,1μm,0.3s				
ZKR	**Zakros**	**0.45 165**	PG	**Pg**	**06 42 09.2 -0.2**
ZKR			SG	**Sg**	**06 42 15.1 -0.2**
NPS	**Neapolis**	**0.47 232**	P	**Pb**	**06 42 11.6 +0.4**
NPS			S	**Sb**	**06 42 17.9 -0.4**
NPS			AML	AML	06 42 20.3
	comp=N,996μm,0.1s				
NPS			AML	AML	06 42 20.9
	comp=E,1435μm,0.2s				
NPS	**Neapolis**	**0.47 232**	P	**Pb**	**06 42 11.6 +0.4**
NPS			S	**Sb**	**06 42 18.0 -0.4**
	comp=E,622nm,0.1s				
FRMA	**Ierapetra Chan**	**0.60 207**	P	**Pg**	**06 42 12.1 -0.1**
FRMA			S	**Sg**	**06 42 19.3 -0.8**
	comp=E,568nm,0.2s				
LAST	**Lasithi**	**0.62 231**	P	**Pb**	**06 42 13.9 +0.1**
LAST			S	**Sb**	**06 42 22.5 -0.2**
LAST			AML	AML	06 42 23.9
	comp=E,528μm,0.2s				
LAST			AML	AML	06 42 24.3
	comp=N,696μm,0.3s				
LAST	**Lasithi**	**0.62 231**	P	**Pb**	**06 42 13.9 +0.1**
LAST			S	**Sb**	**06 42 22.4 -0.3**
	comp=N,310nm,0.2s				
KSTL	**Kastelli Herak**	**0.85 253**	P	**Pg**	**06 42 15.7 -1.3**
SANT	**Santorini**	**0.95 329**	PG	**Pb**	**06 42 19.7 +0.2**
THR9	**Santorini-Faro**	**0.99 324**	P	**Pn**	**06 42 20.8 0.0**
IDI	**Anoyia**	**1.00 255**	P	**Pb**	**06 42 20.3 0.0**
IDI			S	**Sn**	**06 42 34.9 -0.4**
IDI	**Anoyia**	**1.00 255**	P	**Pb**	**06 42 20.4 +0.2**
IDI			S	**Sn**	**06 42 34.9 -0.4**
	comp=N,200nm,0.2s				
IDI	**Anoyia**	**1.00 255**	PG	**Pb**	**06 42 19.8 -0.4**
IDI			SG	**Sg**	**06 42 34.0 +1.2**
SNT5	**Nea Kammeni, S**	**1.01 327**	P	**Pn**	**06 42 21.0 -0.1**
THR5	**Thira Island,**	**1.04 326**	P	**Pb**	**06 42 20.9 0.0**
SIVA	**Sivas**	**1.16 243**	P	**Pg**	**06 42 24.0 +1.1**
NIS1	**Nisyros Isl.**	**1.38 40**	PN	**Pb**	**06 42 26.5 -0.2**
APE	**Apeiranthos**	**1.57 344**	PN	**Pn**	**06 42 29.3 +0.4**
DAT	**Datca**	**1.69 46**	PN	**Pn**	**06 42 30.9 +0.3**
IMMV	**Iera Moni Meta**	**1.71 268**	PN	**Pn**	**06 42 30.8 +0.1**
GVDS	**Gavdos**	**1.77 247**	PN	**Pn**	**06 42 32.1 +0.6**
GVD	**Gavdhos**	**1.77 247**	PN	**Pn**	**06 42 31.7 +0.1**
ARG	**Arkhangelos**	**1.80 68**	PN	**Pn**	**06 42 32.2 +0.3**
BODT	**Bodrum**	**1.81 33**	PN	**Pn**	**06 42 32.6 +0.5**
TURN	**Turunc**	**2.14 55**	PN	**Pn**	**06 42 37.1 +0.4**
DALY	**Dalyan (Mula)**	**2.44 58**	PN	**Pn**	**06 42 41.1 +0.3**
KTHA	**Kythira Island**	**2.54 287**	PN	**Pn**	**06 42 42.9 +0.7**

*IDC **10** 06:49:41.5±1.6, 1.°60N×126.°15E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/37, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=117.7km s-min=21.0km az=68.0*
*DJA **10** 06:49:47.8±2.3, 2.°N±6.°×12.°7E±.°, h37km±34km, M3.2/5, MLv3.2/5*

ISC 10 06:49:46.4±1.1, 1.°68N±0.°10×126.°8E±0.°1, h35km, n8, σ1§80/8, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.08**	**147**	P		**Pn**	**06 50 06.0**	**+1.0**
SGSI	**Sangihe**	**2.35**	**328**	P		**Pn**	**06 50 24.1**	**+1.5**
GTOI	**Gorontalo**	**3.91**	**255**	P		**Pn**	**06 50 45.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.69**	**183**	P		**P**	**06 54 11.1**	**-1.6**
	0.1nm,0.3s,baz=114,slow=12,SNR=1.7							
WRA	**Warramunga Arr**	**22.73**	**161**	P		**P**	**06 54 45.5**	**-0.1**
	1.8nm,0.6s,baz=338,slow=11,SNR=15							
ASAR	**Alice Springs**	**26.13**	**165**	P		**P**	**06 55 19.6**	**+2.2**
	0.5nm,0.3s,baz=353,slow=15,SNR=11							
MKAR	**Makanchi Array**	**59.26**	**326**	P		**P**	**06 59 43.0**	**-1.5**
	0.2nm,0.5s,baz=118,slow=7.1,SNR=4.1							
KURBB	**Kurchatov Arra**	**63.48**	**328**	P		**P**	**07 00 11.4**	**-1.6**
	0.3nm,0.5s,baz=133,slow=6.2,SNR=3.0							

*NNC **10** 07:03:38.7±2.5, 54.°55N×86.°96E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=24.8km s-min=12.9km az=172.0, Suspected Mining explosion.*
*IDC **10** 07:03:39.4±2.3, 54.°45N×87.°08E, h0km, mb1 3.2/4, mb1mx3.1/55, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=19.5km s-min=16.7km az=54.0*

ISC 10 07:03:38.4±1.8, 54.°6N±0.°1×87.°01E±0.°07, h0km, n10, σ1§19/15, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**246**	*i*			07 12 13.3	
	baz=70,slow=314,SNR=0.8							
ZAA0	**Zalesovo Array**	**1.42**	**246**	⇑P		**Pg**	**07 04 04.1**	**-1.5**
	0.3nm,0.4s							
ZAA0				⇓S		**Sg**	**07 04 23.7**	**-0.3**
	2.8nm,0.8s							
ZALV	**Zalesovo Beam**	**1.42**	**246**	Pg		**Pg**	**07 04 04.1**	**-1.5**
	1.3nm,0.3s,baz=65,slow=16,SNR=11							
ZALV				Lg		Lg	07 04 23.7	
	1.4nm,0.3s,baz=65,slow=24,SNR=5.1							
KURBB	**Kurchatov Arra**	**6.49**	**236**	Pn		**Pn**	**07 05 16.6**	**+1.4**
	0.1nm,0.3s,baz=54,slow=14,SNR=8.0							
KURBB				Sn		**Sn**	**07 06 29.9**	**+0.1**
	0.0nm,0.3s,baz=54,slow=23,SNR=1.2							
KURBB				Lg		Lg	07 07 04.0	
	0.0nm,0.3s,baz=55,slow=28,SNR=4.7							
KURBB	**Kurchatov Arra**	**6.49**	**236**	⇓Pn		**Pn**	**07 05 16.5**	**+1.4**
	0.8nm,0.5s							
KURBB				⇑Sn		**Sn**	**07 06 30.5**	**+0.7**
	2.5nm,0.6s							
KURBB				⇓Lg		Lg	07 07 05.5	
	7.9nm,0.9s							
MK31	**Makanchi Array**	**8.32**	**203**	⇑Pn		**Pn**	**07 05 42.4**	**+2.2**
	0.2nm,0.4s,baz=27,slow=14							
MK31				⇑Sn		**Sn**	**07 07 15.1**	**+0.1**
	0.4nm,0.5s							
MK31				⇑Lg		Lg	07 08 04.6	
	2.9nm,0.9s,baz=33,slow=32,SNR=5.4							
MKAR	**Makanchi Array**	**8.32**	**203**	Pn		**Pn**	**07 05 41.0**	**+0.7**
	0.1nm,0.3s,baz=25,slow=12,SNR=2.7							
MKAR				Sn		**Sn**	**07 07 14.0**	**-0.9**
	0.1nm,0.3s,baz=24,slow=27,SNR=6.1							
MKAR				Lg		Lg	07 07 56.8	
	0.0nm,0.3s,baz=29,slow=30,SNR=6.3							
MAKZ	**Makanchi**	**8.38**	**204**	⇑Pn		**Pn**	**07 05 41.6**	**+0.6**
	0.6nm,0.6s							
MAKZ				⇓Sn		**Sn**	**07 07 17.1**	**+0.7**
	2.0nm,0.8s							
MAKZ				⇑Lg		Lg	07 08 05.8	
	2.6nm,1.0s							
BVAR	**Borovoye Array**	**9.96**	**268**	Pn		**Pn**	**07 06 03.6**	**+1.0**
	0.3nm,0.3s,baz=46,slow=29,SNR=2.0							
SONM	**Songino Array**	**13.86**	**111**	Pn		**Pn**	**07 06 55.5**	**-0.6**
	0.5nm,0.3s,baz=347,slow=5.9,SNR=2.8							

IDC 10 07:24:56.5±3.1, 53.°43N×87.°57E, h0km, mb1 2.7/2, mb1mx2.6/40, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.1km s-min=15.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**289**	*i*			07 35 27.1	
	baz=104,slow=317,SNR=1.7							
ZALV	**Zalesovo Beam**	**1.72**	**289**	Pg		Pn	07 25 27.1	-0.6
	0.6nm,0.3s,baz=109,slow=14,SNR=5.2							
ZALV				Lg		Lg	07 25 51.6	
	0.9nm,0.3s,baz=110,slow=22,SNR=5.8							
KURBB	**Kurchatov Arra**	**6.25**	**247**	Pn		Pn	07 26 30.3	+0.4
	0.1nm,0.3s,baz=61,slow=13,SNR=4.7							
KURBB				Lg		Lg	07 28 13.8	
	0.0nm,0.3s,baz=60,slow=32,SNR=2.2							
MKAR	**Makanchi Array**	**7.46**	**209**	Pn		Pn	07 26 48.0	+1.5
	0.1nm,0.3s,baz=28,slow=14,SNR=5.9							
MKAR				Lg		Lg	07 28 52.0	
	0.0nm,0.3s,baz=28,slow=31,SNR=1.5							

*INET **10** 07:37:05.1, 12.°73N×90.°30W, h15km, MW3.2*

*GCG **10** 07:37:15.0±0.6, 16.°15N×91.°70W, h35km±671km, MD3.9*
*SNET **10** 07:37:21.0±1.1, 13.°19N×89.°68W, h28km±4km, ML3.6*
*UCR **10** 07:37:21.0±1.2, 13.°18N×89.°69W, h27km±4km, ML3.6*

ISC 10 07:37:22.0±1.5, 13.°20N±0.°07×89.°63W±0.°04, h31km±12km, n55, σ1§02/91, 2C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAYA	**Jayaque - finc**	**0.48**	**21**	*e*P		**Pn**	**07 37 32.2**	**-0.9**
JAYA				*e*S		**Sn**	**07 37 40.3**	**-0.3**
JAYA				IAML			07 37 41.8	
	comp=Z,3μm,0.1s							
JAYA	**Jayaque - finc**	**0.48**	**21**	*e*P		**Pn**	**07 37 32.2**	**-0.9**
JAYA				*e*S		**Sn**	**07 37 40.3**	**-0.3**
JAYA				IAML			07 37 41.8	
	comp=Z,3μm,0.1s							
ITCA	**Escuela Especi**	**0.58**	**36**	*e*P		**Pn**	**07 37 33.5**	**-0.8**
ITCA				*e*S		**Sn**	**07 37 43.1**	**+0.2**
ITCA	**Escuela Especi**	**0.58**	**36**	*e*P		**Pn**	**07 37 33.5**	**-0.8**
ITCA				*e*S		**Sn**	**07 37 43.1**	**+0.2**
MAGS	**Ministerio de**	**0.59**	**35**	*e*P		**Pn**	**07 37 33.7**	**-0.8**
MAGS				*e*S		**Sn**	**07 37 43.2**	**+0.2**
SNET	**Serv Nac Est T**	**0.62**	**39**	⇓*i*P		**Pn**	**07 37 34.0**	**-0.8**
SNET				*e*S		**Sn**	**07 37 43.9**	**+0.1**
SNET				IAML			07 37 46.0	
	comp=Z,3μm,0.3s							
SNET	**Serv Nac Est T**	**0.62**	**39**	⇓*i*P		**Pn**	**07 37 34.0**	**-0.8**
SNET				*e*S		**Sn**	**07 37 43.9**	**+0.1**
SNET				*e*S		**Sn**	**07 37 43.9**	**+0.1**
SNET				IAML			07 37 46.0	
	comp=Z,3μm,0.3s							
BOQS	**Boqueron**	**0.63**	**33**	⇓*i*P		**Pn**	**07 37 34.5**	**-0.6**
BOQS				*e*S		**Sn**	**07 37 44.6**	**+0.3**
BOQS	**Boqueron**	**0.63**	**33**	⇓*i*P		**Pn**	**07 37 34.5**	**-0.6**
BOQS				*e*S		**Sn**	**07 37 44.6**	**+0.3**
SBLS	**San Blas**	**0.64**	**1**	*i* P		**Pn**	**07 37 33.9**	**-1.0**
SBLS	**San Blas**	**0.64**	**1**	*i* P		**Pb**	**07 37 33.9**	**-1.0**
SEMO	**Seminario San**	**0.64**	**38**	*e*P		**Pb**	**07 37 34.3**	**-0.6**
SEMO				*e*S		**Sn**	**07 37 44.4**	**+0.1**
UEES	**Universidad Ev**	**0.64**	**37**	IAML			07 37 47.7	
	comp=Z,3μm,0.2s							
UEES	**Universidad Ev**	**0.64**	**37**	IAML			07 37 47.7	
	comp=Z,3μm,0.2s							
CEDA	**San Andres**	**0.64**	**21**	*e*P		**Pn**	**07 37 34.2**	**-0.9**
CEDA				*e*S		**Sn**	**07 37 44.3**	**0.0**
CEDA				IAML			07 37 47.7	
	comp=Z,2μm,0.3s							
CEDA	**San Andres**	**0.64**	**21**	*e*P		**Pn**	**07 37 34.2**	**-0.9**
CEDA				*e*S		**Sn**	**07 37 44.3**	**0.0**
CEDA				IAML			07 37 47.7	
	comp=Z,2μm,0.3s							
UESS	**Universidad de**	**0.67**	**39**	*e*P		**Pn**	**07 37 34.8**	**-0.6**
UESS				*e*S		**Sn**	**07 37 45.5**	**+0.6**
UESS	**Universidad de**	**0.67**	**39**	*e*P		**Pn**	**07 37 34.8**	**-0.6**
UESS				*e*S		**Sn**	**07 37 45.5**	**+0.6**
IGN	**Direccin Gen**	**0.68**	**41**	*i* P		**Pn**	**07 37 35.0**	**-0.6**
IGN				*e*S		**Sn**	**07 37 46.4**	**+1.1**
IGN	**Direccin Gen**	**0.68**	**41**	*i* P		**Pn**	**07 37 35.0**	**-0.6**
IGN				*e*S		**Sn**	**07 37 46.4**	**+1.1**
UDBS	**Universidad Do**	**0.69**	**42**	*e*P		**Pn**	**07 37 35.2**	**-0.6**
UDBS				*e*S		**Sn**	**07 37 46.0**	**+0.5**
UDBS	**Universidad Do**	**0.69**	**42**	*e*P		**Pn**	**07 37 35.2**	**-0.6**
UDBS				*e*S		**Sn**	**07 37 46.0**	**+0.5**
RTR	**El Retiro**	**0.69**	**359**	*e*P		**Pb**	**07 37 34.7**	**-1.1**
RTR	**El Retiro**	**0.69**	**359**	*e*P		**Pb**	**07 37 34.7**	**-1.1**
LFRS	**El Faro**	**0.70**	**53**	⇓*i*P		**Pn**	**07 37 35.4**	**-0.5**
LFRS	**El Faro**	**0.70**	**53**	⇓*i*P		**Pn**	**07 37 35.4**	**-0.5**
SJTE	**Alcalda de S**	**0.73**	**56**	*e*P		**Pn**	**07 37 35.9**	**-0.5**
SJTE				*e*S		**Sn**	**07 37 47.3**	**+0.6**
SJTE	**Alcalda de S**	**0.73**	**56**	*e*P		**Pn**	**07 37 35.9**	**-0.5**
SJTE				*e*S		**Sn**	**07 37 47.3**	**+0.6**
LFU	**La Fuente**	**0.74**	**43**	⇑*i*P		**Pn**	**07 37 36.3**	**-0.3**
LFU	**La Fuente**	**0.74**	**43**	⇑*i*P		**Pn**	**07 37 36.3**	**-0.3**
UNIC	**Universidad Ca**	**0.78**	**6**	*e*P		**Pb**	**07 37 35.9**	**-1.3**
UNIC				*e*S		**Sn**	**07 37 48.1**	**+0.4**
UNIC	**Universidad Ca**	**0.78**	**6**	*e*P		**Pb**	**07 37 35.9**	**-1.3**
UNIC				*e*S		**Sn**	**07 37 48.1**	**+0.4**
LBRS	**Las Brisas**	**0.78**	**47**	⇓*i*P		**Pn**	**07 37 36.8**	**-0.2**
LBRS	**Las Brisas**	**0.78**	**47**	⇓*i*P		**Pn**	**07 37 36.8**	**-0.2**
TACO	**Tacachico**	**0.81**	**19**	*e*P		**Pb**	**07 37 36.4**	**-1.3**
TACO				*e*S		**Sn**	**07 37 48.5**	**0.0**
TACO	**Tacachico**	**0.81**	**19**	*e*P		**Pb**	**07 37 36.4**	**-1.3**
TACO				*e*S		**Sn**	**07 37 48.5**	**0.0**
PAVA	**Las Pavas**	**0.85**	**53**	*e*P		**Pn**	**07 37 37.9**	**-0.1**
PAVA				*e*S		**Sn**	**07 37 50.9**	**+1.5**
PAVA				IAML			07 37 52.1	
	comp=Z,2μm,0.4s							
PAVA	**Las Pavas**	**0.85**	**53**	*e*P		**Pn**	**07 37 37.9**	**-0.1**
PAVA				*e*S		**Sn**	**07 37 50.9**	**+1.5**
PAVA				IAML			07 37 52.1	
	comp=Z,2μm,0.4s							
TECO	**Alcaldia de Te**	**0.89**	**68**	*e*P		**Pb**	**07 37 38.0**	**-1.0**
TECO				*e*S		**Sn**	**07 37 50.9**	**+0.4**
UESV	**Universidad de**	**0.93**	**62**	*e*S		**Sn**	**07 37 51.9**	**+0.5**
UESV	**Universidad de**	**0.93**	**62**	*e*S		**Sn**	**07 37 51.9**	**+0.5**
COEB	**Comit de Eme**	**1.11**	**74**	*e*P		**Pn**	**07 37 41.1**	**-0.5**
COEB				IAML			07 37 58.6	
	comp=Z,1μm,0.3s							
COEB	**Comit de Eme**	**1.11**	**74**	*e*P		**Pn**	**07 37 41.1**	**-0.5**
COEB				IAML			07 37 58.6	
	comp=Z,1μm,0.3s							
PQSS	**Presa 15 de Se**	**1.12**	**68**	*e*P		**Pn**	**07 37 41.7**	**0.0**
PQSS				*e*S		**Sb**	**07 37 57.4**	**+0.2**
TECA	**Tecapa**	**1.14**	**75**	*e*P		**Pn**	**07 37 41.6**	**-0.4**
TECA	**Tecapa**	**1.14**	**75**	*e*P		**Pn**	**07 37 41.6**	**-0.4**
PACA	**Pacayal**	**1.30**	**78**	*e*P		**Pb**	**07 37 45.1**	**-0.9**
PACA				*e*S		**Sb**	**07 38 03.1**	**+0.7**
PACA	**Pacayal**	**1.30**	**78**	*e*P		**Pb**	**07 37 45.1**	**-0.9**
PACA				*e*S		**Sb**	**07 38 03.1**	**+0.7**
CNRM	**Centro Naciona**	**1.45**	**79**	*e*P		**Pn**	**07 37 45.9**	**-0.2**
CNRM				*e*S		**Sb**	**07 38 06.1**	**-0.4**
CNRM	**Centro Naciona**	**1.45**	**79**	*e*P		**Pn**	**07 37 45.9**	**-0.2**
CNRM				*e*S		**Sb**	**07 38 06.1**	**-0.4**
PCG	**Pacaya**	**1.52**	**321**	*e*P		**Pb**	**07 37 48.1**	**-1.6**
PCG				*e*S		**Sb**	**07 38 13.7**	**+5.0**
NBG	**Las Nubes**	**1.54**	**333**	*e*P		**Pn**	**07 37 47.6**	**-0.2**
NBG				*e*S		**Sb**	**07 38 13.4**	**+3.9**
LCND	**La Caada**	**1.70**	**86**	*e*P		**Pn**	**07 37 49.7**	**+0.1**
LCND				*e*S		**Sn**	**07 38 11.9**	**+1.6**
LCND	**La Caada**	**1.70**	**86**	*e*P		**Pn**	**07 37 49.7**	**+0.1**
LCND				*e*S		**Sn**	**07 38 11.9**	**+1.6**
FUG	**Fuego 3**	**1.71**	**317**	*e*P		**Pn**	**07 37 48.7**	**-1.2**
FUG				*e*S		**Sn**	**07 38 08.9**	**-1.9**

*IDC **10** 07:50:59.2±1.3, 27.°64N×85.°39E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/54, mbtmp3.8/11, ML4.1/1, MS3.7/3, Ms1 3.7/3, ms1mx2.8/44, Error ellipse: s-maj=46.7km s-min=19.4km az=61.0*

ISC 10 07:51:00.7±1.5, 27.°7N±0.°2×85.°4E±0.°3, h10km, n14, σ0§83/11, mb3.8/10, MS3.4/3, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**19.25**	**354**	P		**P**	**07 55 25.2**	**0.0**
	0.6nm,0.3s,baz=173,slow=11,SNR=24							
KURBB	**Kurchatov Arra**	**23.51**	**349**	P		**P**	**07 56 11.2**	**+0.5**
	1.8nm,0.6s,baz=171,slow=10,SNR=17							
SONM	**Songino Array**	**25.96**	**34**	P		**P**	**07 56 32.9**	**-0.5**
	1.4nm,0.5s,baz=220,slow=12,SNR=5.0							
ZALV	**Zalesovo Beam**	**26.26**	**359**	P		**P**	**07 56 37.8**	**+1.9**
	1.1nm,0.5s,baz=196,slow=9.8,SNR=2.1							
BVAR	**Borovoye Array**	**27.67**	**340**	P		**P**	**07 56 48.9**	**+0.2**
	0.4nm,0.3s,baz=130,slow=7.9,SNR=2.4							
KSRS	**Korea Array**	**36.90**	**64**	LR		LR	08 14 41.9	
	comp=Z,54nm,19.1s,baz=194,slow=39							
KAPI	**Kappang**	**46.44**	**129**	LR		LR	08 22 16.2	
	comp=Z,36nm,19.7s,baz=284,slow=40							
TIXI	**Tiksi**	**50.07**	**17**	P		**P**	**07 59 54.8**	**-0.5**
	0.8nm,0.3s,baz=208,slow=0.7,SNR=1.7							
FINES	**FINESS Array B**	**51.49**	**328**	P		**P**	**08 00 06.4**	**+0.3**
	0.5nm,0.4s,baz=118,slow=6.9,SNR=5.2							
BATI	**Baumata**	**52.84**	**130**	LR		LR	08 25 51.8	
	comp=Z,258nm,18.1s,baz=228,slow=40							
ARCES	**ARCESS Array B**	**53.92**	**338**	P		**P**	**08 00 24.4**	**+0.5**
	0.8nm,0.6s,baz=99,slow=7.5,SNR=7.4							
NOA	**NORSAR Array B**	**58.58**	**327**	P		**P**	**08 00 56.5**	**-0.9**
	0.3nm,0.5s,baz=112,slow=4.8,SNR=1.6							
WRA	**Warramunga Arr**	**66.97**	**130**	P		**P**	**08 01 54.0**	**+0.1**
	0.4nm,0.6s,baz=323,slow=6.7,SNR=2.4							
ASAR	**Alice Springs**	**69.25**	**133**	P		**P**	**08 02 08.2**	**+0.1**
	0.6nm,0.7s,baz=323,slow=5.3,SNR=6.8							

IDC 10 08:13:20.5±1.8, 4.°21S×144.°52E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/30, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=48.8km s-min=29.3km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.79**	**153**	Pn		Pn	08 14 47.7	-0.1
	1.2nm,0.3s,baz=339,slow=17,SNR=1.5							
PMG				Sn		Sn	08 15 47.3	-7.7
	2.2nm,0.3s,baz=322,slow=19,SNR=1.8							
WRA	**Warramunga Arr**	**18.52**	**212**	P		P	08 17 38.2	-0.5
	0.1nm,0.3s,baz=33,slow=11,SNR=8.9							
ASAR	**Alice Springs**	**21.89**	**207**	P		P	08 18 14.5	-0.9
	0.3nm,0.6s,baz=32,slow=9.4,SNR=5.3							
FITZ	**Fitzroy Crossi**	**23.06**	**232**	P		P	08 18 28.6	+0.8
	1.5nm,0.6s,baz=63,slow=11,SNR=1.4							
ILAR	**Eielson Array**	**84.83**	**24**	P		P	08 25 57.0	+0.3
	0.4nm,0.8s,baz=254,slow=5.1,SNR=3.1							

*NOU **10** 08:23:57.2, 43.°94S×169.°54E, h7km, MLv4.0, South Island, New Zealand*

WEL 10 08:23:56.4±0.4, 44.°3S±3.°×16.°9E±.°, h5km, M3.8/34, ML3.9/34, MLv3.8/34, Error ellipse: s-maj=0.0km s-min=0.0km az=136.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FOZ	**Fox Glacier**	**0.50**	**27**	P		Pg	08 24 06.0	-0.1
FOZ				S		Sg	08 24 11.9	-0.7
JCZ	**Jackson Bay**	**0.52**	**259**	P		Pb	08 24 07.5	-0.7
JCZ				S		Sg	08 24 14.2	+0.9
LBZ	**Lake Benmore**	**0.64**	**130**	P		Pg	08 24 09.0	+0.3
LBZ				S		Sg	08 24 17.3	+0.3
GCSZ	**Gaunt Creek Bo**	**0.90**	**42**	P		Pg	08 24 12.7	-0.9
WKZ	**Wanaka**	**0.91**	**202**	P		Pg	08 24 13.5	-0.5
WKZ				S		Sg	08 24 25.9	+0.1
RPZ	**Rata Peaks**	**1.16**	**77**	P		Pg	08 24 18.1	-0.4
TMZ	**Timaru**	**1.16**	**111**	P		Pg	08 24 18.5	-0.1
ARCZ	**Arundel**	**1.21**	**89**	P		Pg	08 24 19.3	-0.3
EAZ	**Earnscleugh**	**1.26**	**186**	P		Pg	08 24 19.6	-1.0
WVZ	**Waitaha Valley**	**1.28**	**45**	P		Pg	08 24 19.9	-1.0
WVZ				S		Sg	08 24 37.1	-0.3
MSZ	**Milford Sound**	**1.32**	**238**	P		Pn	08 24 20.4	-1.1
MSZ				S		Sg	08 24 38.0	-0.9
ODZ	**Otahua Downs**	**1.34**	**143**	P		Pn	08 24 21.2	-0.6
ODZ				S		Sb	08 24 38.2	-1.3
MHCZ	**Mount Hutt**	**1.56**	**74**	P		Pb	08 24 25.8	0.0
WACZ	**Wakanui South**	**1.69**	**90**	P		Pn	08 24 27.1	+0.5
MLZ	**Mavora Lakes**	**1.70**	**215**	P		Pb	08 24 27.8	-0.4
MLZ				S		Sb	08 24 50.4	+0.5
INZ	**Inchbonnie**	**1.89**	**49**	P		Pn	08 24 28.9	-0.4
INZ				S		Sg	08 24 56.4	-0.8
RACZ	**Rakaia**	**1.93**	**83**	P		Pb	08 24 32.5	+0.6
OXZ	**Oxford**	**1.96**	**71**	P		Pg	08 24 33.2	-0.6
TUZ	**Tuapeka**	**1.98**	**177**	P		Pn	08 24 30.3	-0.2
HHSZ	**Highcliff Hill**	**2.06**	**158**	P		Pb	08 24 34.3	+0.1
WHZ	**Wether Hill Ro**	**2.21**	**209**	P		Pn	08 24 33.8	+0.1
MQZ	**McQueen's Vall**	**2.30**	**84**	P		Pn	08 24 34.9	0.0
LTZ	**Lake Taylor**	**2.35**	**60**	P		Pn	08 24 35.9	+0.2
AMCZ	**Amberley**	**2.43**	**72**	P		Pn	08 24 36.9	+0.2
AKCZ	**Akaroa Harbour**	**2.47**	**89**	P		Pn	08 24 37.4	+0.1
SYZ	**Scrubby Hill**	**2.57**	**186**	P		Pn	08 24 40.4	+1.7
OKCZ	**Okains Bay**	**2.59**	**86**	P		Pn	08 24 39.9	+0.9
GVZ	**Greta Valley S**	**2.77**	**70**	P		Pn	08 24 41.3	-0.1
DSZ	**Denniston Nort**	**2.80**	**38**	P		Pn	08 24 41.0	-1.0
APZ	**The Paps**	**3.04**	**200**	P		Pn	08 24 45.0	-0.2
KHZ	**Kahutara**	**3.34**	**64**	P		Pn	08 24 50.0	+0.7
THZ	**Tophouse**	**3.34**	**50**	P		Pn	08 24 49.6	+0.2
QRZ	**Quartz Range**	**3.87**	**36**	P		Pn	08 24 56

MIYJ eS Sn 08 33 40.6 +0.2
JTH Tanohata 1.29 285 ⇑P Pn 08 33 22.4 -1.7
JTH eS Sn 08 33 39.3 -1.2
JKEN Kujiedanarisaw 1.49 294 ⇑P Pn 08 33 24.6 -2.2
JANG Nango 1.70 297 ⇑P Pn 08 33 27.7 -1.9
JOM Ohasama 1.70 266 ⇑P Pn 08 33 29.4 -0.3
JMK Ichinoseki 1.88 250 ⇑P Pn 08 33 31.5 -0.6
JIO Ouri 2.03 236 ⇑P Pn 08 33 33.0 -1.1
JTM Tenmabayashi 2.19 303 P Pn 08 33 35.6 -0.9
JTM Tenmabayashi 2.19 303 Pn Pn 08 33 36.3 -0.2
JTM Tenmabayashi 2.19 303 ⇑P Pn 08 33 35.3 -1.2
ERM Erimo 2.42 354 *ce*P Pn 08 33 37.9 -1.6
ERM pmax pmax
comp=Z,935nm,1.0s
ERM Erimo 2.42 354 Pn Pn 08 33 38.1 -1.4
ERM Erimo 2.42 354 ⇑P Pn 08 33 37.8 -1.6
JYK Kaneyama 2.52 255 ⇑P Pn 08 33 41.0 0.0
JOT Ohata 2.57 314 P Pn 08 33 40.4 -1.2
JNBK Urakawa-nobuka 2.73 348 ⇑P Pn 08 33 42.9 -0.8
JNBK eS Sn 08 34 16.0 +0.1
JMM Marumori 2.73 231 Pn Pn 08 33 42.9 -1.0
JMM Marumori 2.73 231 ⇑P Pn 08 33 42.6 -1.2
JKB Kayabe 2.94 321 P Pn 08 33 45.6 -1.1
JCH Churui 3.00 358 P Pn 08 33 45.5 -2.1
JCH eS Sn 08 34 19.4 -3.3
JFT Otama 3.23 231 ⇑P Pn 08 33 50.3 -0.5
JOMM Oshimamatsumae 3.27 307 P Pn 08 33 50.8 -0.4
JAK Akkeshi 3.50 15 P Pn 08 33 51.6 -2.8
JAK eS Sn 08 34 30.8 -4.2
JEW Eniwo 3.57 335 Pn Pn 08 33 55.5 0.0
JEW Eniwo 3.57 335 ⇑P Pn 08 33 54.5 -0.9
NMR Nemuro--Hokkai 4.12 23 ⇓*i*P Pn 08 33 59.7 -3.1
NMR *i* S Sn 08 34 44.0 -6.1
JYT Yasato 4.26 219 Pn Pn 08 34 04.3 -0.6
JYT Yasato 4.26 219 ⇑P Pn 08 34 03.4 -1.6
JSD Sado 4.37 251 Pn Pn 08 34 07.1 +0.7
JSD Sado 4.37 251 ⇑P Pn 08 34 06.3 -0.1
GLVR Golovnino 4.40 20 *e*P Pn 08 34 04.1 -2.6
GLVR *i* S Sn 08 34 52.8 -4.2
GLVR pmax pmax
comp=Z,4μm,1.1s
GLVR pmax pmax
comp=Z,1μm,0.6s
GLVR pmax pmax
comp=N,373nm,0.4s
GLVR pmax pmax
comp=E,451nm,0.2s
GLVR smax smax
comp=N,9μm,0.4s
GLVR smax smax
comp=E,4μm,0.3s
GLVR smax smax
comp=N,20μm,1.6s
GLVR smax smax
comp=E,29μm,1.2s
GLVR MLR MLR
comp=Z,11μm,11.0s
JKA Kamikawa-asahi 4.55 352 Pn Pn 08 34 08.4 -0.5
JKA Kamikawa-asahi 4.55 352 Sn 08 34 59.4 -1.5
ASAJ Asahikawa 4.55 352 Pn Pn 08 34 07.6 -1.3
comp=Z,11nm,0.3s,baz=207,slow=14,SNR=76
ASAJ Sn Sn 08 34 59.4 -1.5
comp=Z,47nm,0.3s,baz=187,slow=16,SNR=7.4
ASAJ Asahikawa 4.55 352 P Pn 08 34 08.4 -0.5
ASAJ 08 34 59.4
RUSJ Misakicho 4.68 16 *e*P Pn 08 34 08.7 -1.9
RUSJ eS Sn 08 35 01.5 -2.5
GRPR Tuman 4.70 21 ⇓*i*P Pn 08 34 08.2 -2.7
GRPR eS Sn 08 34 57.5 -7.0
GRPR pmax pmax
comp=Z,1μm,0.6s
GRPR pmax pmax
comp=E,352nm,0.2s
GRPR pmax pmax
comp=N,313nm,0.1s
GRPR pmax pmax
comp=Z,3μm,1.0s
GRPR smax smax
comp=N,12μm,1.2s
GRPR smax smax
comp=E,14μm,1.0s
GRPR smax smax
comp=E,13μm,0.4s
GRPR smax smax
comp=N,9μm,0.4s
GRPR MLR MLR
comp=E,6μm,13.0s
GRPR MLR MLR
comp=N,6μm,14.0s
GRPR MLR MLR
comp=Z,4μm,14.0s
YUK Yuzh-Kuril'sk 4.76 21 *d i*P Pn 08 34 08.9 -2.8
YUK *i* S Sn 08 34 58.1 -8.0
YUK pmax pmax
comp=Z,4μm,1.1s
YUK pmax pmax
comp=N,513nm,0.4s
YUK pmax pmax
comp=Z,1μm,0.4s
YUK smax smax
comp=N,11μm,0.6s
YUK smax smax
comp=E,7μm,0.6s
YUK smax smax
comp=E,25μm,1.1s
YUK smax smax
comp=N,17μm,1.2s
YUK MLR MLR
comp=Z,31μm,15.0s
YUK MLR MLR
comp=N,45μm,16.0s
YUK MLR MLR
comp=E,31μm,16.0s
MJAR Matsushiro Arr 5.17 235 Pn Pn 08 34 17.9 +0.5
comp=E,2.8nm,0.3s,baz=43,slow=11,SNR=346
MJAR LR LR 08 36 19.6
comp=E,11μm,18.6s,baz=55,slow=39
MJAR Matsushiro Arr 5.17 235 P Pn 08 34 18.3 +0.9
MJAR Matsushiro Arr 5.17 235 Pn Pn 08 34 18.3 +0.9
MAJO Matsushiro 5.17 235 P Pn 08 34 18.3 +0.9
MAJO Matsushiro 5.17 235 Pn Pn 08 34 18.3 +0.9
MAJO Matsushiro 5.17 235 ⇑P Pn 08 34 18.3 +0.9
MAT Matsushiro 5.17 235 P Pn 08 34 18.2 +0.8
MAT eS Sn 08 35 15.0 -1.2
JGF Kuroka 6.30 232 Pn Pn 08 34 34.1 +1.2
JGF Kuroka 6.30 232 ⇑P Pn 08 34 34.1 +1.2
KUR Kuril'sk 6.49 29 *e*P Pn 08 34 34.1 -1.3
KUR eS Sn 08 35 43.8 -4.7
KUR pmax pmax
comp=Z,501nm,0.9s
KUR pmax pmax
comp=N,346nm,0.6s
KUR pmax pmax
comp=E,186nm,0.3s
KUR smax smax
comp=E,2μm,0.6s
KUR smax smax
comp=N,2μm,0.7s
KUR MLR MLR
comp=N,21μm,13.0s
KUR MLR MLR
comp=E,26μm,13.0s
KUR MLR MLR
comp=Z,29μm,13.0s
JSG Sagara 6.50 222 Pn 08 34 37.3 +1.8
JSG Sagara 6.50 222 ⇑P Pn 08 34 39.0 +3.4
INU Inuyama 6.67 232 Pn Pn 08 34 38.7 +0.7
INU Inuyama 6.67 232 ⇑P Pn 08 34 38.5 +0.4
JHJ2 Mitsune 7.13 206 Pn 08 34 43.4 -0.8
JHJ2 Mitsune 7.13 206 ⇑P Pn 08 34 42.8 -1.5
JHJ Hachijo jima 2 7.13 206 Pn Pn 08 34 41.8 -2.6
comp=Z,46nm,0.3s,baz=328,slow=22,SNR=23
JHJ Sn Sn 08 35 58.6 -5.9
comp=Z,148nm,0.3s,baz=52,slow=20,SNR=6.1
YSS Yuzh-Sakhalins 7.36 356 ⇑*e*P Pn 08 34 46.5 -0.9
YSS eS Sn 08 36 08.7 -1.3
YSS pmax pmax
comp=Z,270nm,0.9s
YSS pmax pmax
comp=Z,1μm,5.2s
YSS MLR MLR
comp=Z,54μm,12.0s
YSS MLR MLR
comp=N,42μm,14.0s
YSS Yuzh-Sakhalins 7.36 356 Pn Pn 08 34 47.1 -0.3
YSS Yuzh-Sakhalins 7.36 356 ⇑P Pn 08 34 46.0 -1.4
TEY Ternei 7.44 319 ⇑*i*P Pn 08 34 49.9 +1.4
TEY pmax pmax
comp=N,110nm,1.1s
TEY pmax pmax
comp=E,140nm,1.1s
TEY pmax pmax
comp=Z,160nm,1.1s
TEY MLR MLR
comp=E,2μm,14.0s
TEY MLR MLR
comp=N,3μm,16.0s
TEY MLR MLR
comp=Z,5μm,14.0s
JWT Wachi 7.75 239 Pn 08 34 54.8 +2.1
JWT Wachi 7.75 239 ⇑P Pn 08 34 54.1 +1.4
VLA Vladivostok 9.40 296 *c i*P Pn 08 35 16.6 +1.2
JHS Saijyo 9.46 244 Pn Pn 08 35 18.1 +1.9
JHS Saijyo 9.46 244 ⇑P Pn 08 35 17.4 +1.2
UGL Uglegorsk 9.52 354 *e*P Pn 08 35 15.6 -1.4
UGL eS Sn 08 37 02.7 -0.4
UGL pmax pmax
comp=Z,380nm,1.3s
UGL pmax pmax
comp=Z,200nm,0.9s
UGL smax smax
comp=E,270nm,1.2s
UGL smax smax
comp=E,4μm,4.0s
UGL MLR MLR
comp=N,34μm,14.0s
UGL MLR MLR
comp=Z,32μm,14.0s
JMN Monobe 9.69 236 Pn Pn 08 35 19.9 +0.4
JMN Monobe 9.69 236 ⇑P Pn 08 35 20.4 +0.9
USA0B Ussuriysk Arra 9.72 302 P Pn 08 35 21.8 +2.0
USA0B Ussuriysk Arra 9.72 302 Pn 08 35 21.8 +2.0
USRK Ussuriysk Ar. 9.72 302 Pn Pn 08 35 21.0 +1.3
baz=106,slow=14,SNR=127
USRK LR LR 08 39 13.2
comp=Z,33μm,18.7s,baz=103,slow=39
USRK Ussuriysk Ar. 9.72 302 P Pn 08 35 21.5 +1.8
USRK Ussuriysk Ar. 9.72 302 Pn Pn 08 35 21.5 +1.8
MSHR Mys Shultsa 9.77 292 *ce*P Pn 08 35 21.3 +0.9
MSHR pmax pmax
comp=Z,56nm,0.9s
ULDB Ullung-do Bore 10.09 262 P Pn 08 35 27.3 +2.5
SNR=19
ULDB Ullung-do Bore 10.09 262 P Pn 08 35 27.3 +2.5
SNR=19
TYV Tymovskoe 11.27 357 *e*P Pn 08 35 39.8 -1.1
TYV *e*S Sn 08 37 46.0 +0.1
TYV pmax pmax
comp=Z,900nm,3.3s
TYV pmax pmax
comp=Z,77nm,1.1s
TYV smax smax
comp=N,50nm,1.9s
TYV smax smax
comp=E,4μm,8.2s
TYV MLR MLR
comp=Z,62μm,16.0s
TYV MLR MLR
comp=N,45μm,17.0s
IMWB Imwonan-gil 11.35 262 P Pn 08 35 45.0 +3.0
SNR=25
IMWB Imwonan-gil 11.35 262 P Pn 08 35 45.0 +3.0
SNR=25
UJN ULJIN 11.37 261 P Pn 08 35 45.2 +2.9
SNR=16
UJN ULJIN 11.37 261 P Pn 08 35 45.2 +2.9
SNR=16
KSULJ Uljin 11.46 260 P Pn 08 35 46.0 +2.4
SNR=23
KSULJ Uljin 11.46 260 P Pn 08 35 46.0 +2.4
SNR=23
MDJ Mudanjiang 11.46 300 P Pn 08 35 45.3 +1.7
MDJ pmax pmax
comp=N,88nm,1.1s
MDJ pmax pmax
comp=N,4μm,6.1s
MDJ L L
comp=N,36μm,14.3s
MDJ L L
comp=N,68μm,15.6s
MDJ L L
comp=N,89μm,14.9s
MDJ Mudanjiang 11.46 300 Pn 08 35 45.4 +1.7
OKEB Okgye-meyeon 11.52 265 P Pn 08 35 49.0 +4.5
SNR=25
KSJMJ Jumunjin 11.63 266 P Pn 08 35 48.5 +2.5
SNR=22
KSJMJ Jumunjin 11.63 266 P Pn 08 35 48.5 +2.5
SNR=22
KSPHA Pohang 11.66 257 P Pn 08 35 50.0 +3.6
SNR=36
KSPHA Pohang 11.66 257 P Pn 08 35 50.0 +3.6
SNR=36
KSTBA Taebaek 11.68 262 P Pn 08 35 49.9 +3.2
SNR=79
KSTBA Taebaek 11.68 262 P Pn 08 35 49.9 +3.2
SNR=79
KSSKC Sokcho 11.73 268 P Pn 08 35 50.9 +3.6
SNR=17
KSSKC Sokcho 11.73 268 P Pn 08 35 50.9 +3.6
SNR=17
KSDGY Daegwallyeong 11.74 265 P Pn 08 35 50.0 +2.5
SNR=30
KSDGY Daegwallyeong 11.74 265 P Pn 08 35 50.0 +2.5
SNR=30
KSDGY Daegwallyeong 11.74 265 P Pn 08 35 52.0 +4.4
SNR=45
KSADO Andong 11.90 259 P Pn 08 35 53.0 +3.4
SNR=25
KSADO Andong 11.90 259 P Pn 08 35 53.0 +3.4
SNR=25
KSADO Andong 11.90 259 P Pn 08 35 54.0 +4.3
SNR=40
SEHB SEOHWA 11.94 268 P Pn 08 35 52.0 +1.8
SNR=23
SEHB SEOHWA 11.94 268 P Pn 08 35 52.0 +1.8
SNR=23
KSUSN Ulsan 12.03 256 P Pn 08 35 55.4 +4.0
SNR=8.9
KSUSN Ulsan 12.03 256 P Pn 08 35 54.1 +2.6
SNR=22
JNU Nakatsue 12.04 241 Pn Pn 08 35 50.6 -1.0
comp=N,1.4nm,0.3s,baz=50,slow=8.1,SNR=15
JNU Sn Sn 08 38 09.7 +4.6
comp=N,0.4nm,0.3s,baz=117,slow=15,SNR=1.1
JNU LR LR 08 40 57.3
comp=N,35μm,18.1s,baz=52,slow=40
JNU Nakatsue 12.04 241 Pn 08 35 50.3 -1.3
JNU Nakatsue 12.04 241 ⇑P Pn 08 35 51.3 -0.4
KSYOW Yeongwol 12.04 263 P Pn 08 35 56.6 +5.0
SNR=34
KSYOC YEONGCHEON 12.06 257 P Pn 08 35 55.6 +3.8
SNR=9.3
KSYOC YEONGCHEON 12.06 257 P Pn 08 35 55.6 +3.8
SNR=9.3
KSIJA iNJE 12.11 267 P Pn 08 35 55.7 +3.2
SNR=66
KSIJA iNJE 12.11 267 P Pn 08 35 55.7 +3.2
SNR=66
KSEUS ULSEONG 12.12 259 P Pn 08 35 57.1 +4.4
SNR=20
KSDAG Daegu 12.18 256 P Pn 08 35 57.0 +3.5
SNR=19
KSDAG Daegu 12.18 256 P Pn 08 35 57.0 +3.5
SNR=19
GRNR Gornyy 12.21 338 ⇑*i*P Pn 08 35 53.5 -0.4
GRNR *e*S Sn 08 38 11.4 +2.3
GRNR pmax pmax
comp=N,120nm,0.9s
GRNR pmax pmax
comp=E,80nm,0.9s
GRNR pmax pmax
comp=Z,130nm,1.0s
GRNR smax smax
comp=N,8.0nm,0.9s
GRNR MLR MLR
comp=E,28μm,16.0s
GRNR MLR MLR
comp=N,15μm,17.0s
GRNR MLR MLR
comp=Z,24μm,15.0s
KSBUS Busan 12.23 254 P Pn 08 35 58.0 +3.9
SNR=12
KSBUS Busan 12.23 254 P Pn 08 35 56.4 +2.3
SNR=13
KSBUS Busan 12.23 254 P Pn 08 35 57.0 +2.9
SNR=12
KSWJU Wonju 12.29 265 P Pn 08 35 59.0 +4.0
SNR=20
KSWJU Wonju 12.29 265 P Pn 08 35 59.0 +4.0
SNR=20
JTU Tsushima 12.34 250 Pn 08 35 55.3 -0.4
JTU Tsushima 12.34 250 ⇑P Pn 08 35 56.6 +0.9
KSBSA Busan_acc 12.35 253 P Pn 08 35 58.2 +2.4
SNR=9.6
KSRS Korea Array 12.38 265 Pn Pn 08 35 58.1 +1.9
comp=Z,0.8nm,0.3s,baz=85,slow=12,SNR=67
KSRS LR LR 08 40 32.5
comp=Z,30μm,18.2s,baz=79,slow=37
KSCHC Chuncheon 12.38 266 P Pn 08 35 59.0 +2.7
SNR=26
KSCHC Chuncheon 12.38 266 P Pn 08 35 59.0 +2.7
SNR=26
HWCB Hwacheon 12.40 269 P Pn 08 35 59.0 +2.5
SNR=20
HWCB Hwacheon 12.40 269 P Pn 08 35 59.0 +2.5
SNR=20
MIYA Miryang-si 12.40 255 P Pn 08 35 60.0 +3.5
SNR=12
MIYA Miryang-si 12.40 255 P Pn 08 35 60.0 +3.5
SNR=12
KSAR Wonju Array Be 12.41 265 P Pn 08 35 55.7 -0.9
KSAR Wonju Array Be 12.41 265 Pn Pn 08 35 55.7 -0.9
KSCHJ Chungju 12.50 262 P Pn 08 35 60.0 +2.2
SNR=37
KSCHJ Chungju 12.50 262 P Pn 08 36 00.0 +2.2
SNR=36
KSCHJ Chungju 12.50 262 P Pn 08 35 60.0 +2.2
SNR=37
KSCHJ Chungju 12.50 262 P Pn 08 36 00.0 +2.2
SNR=36
KSMGY Mungyeong 12.50 261 P Pn 08 36 00.2 +2.3
SNR=15
KSMGY Mungyeong 12.50 261 P Pn 08 36 00.2 +2.3
SNR=15
KSMGY Mungyeong 12.50 261 P Pn 08 36 02.0 +4.2
SNR=6.8
KSSAJ Sangju 12.51 260 P Pn 08 36 00.4 +2.4
SNR=14
KSSAJ Sangju 12.51 260 P Pn 08 36 00.4 +2.4
SNR=14
JCJ Chichijima 12.53 185 Pn Pn 08 35 54.1 -4.1
comp=Z,14nm,0.3s,baz=93,slow=21,SNR=16
JCJ Sn Sn 08 38 13.6 -3.4
comp=Z,32nm,0.3s,baz=275,slow=23,SNR=4.5
JCJ Chichijima 12.53 185 Pn 08 35 55.9 -2.3
KSCWO Cheorwon 12.55 268 P Pn 08 35 59.9 +1.4
SNR=27
KSCWO Cheorwon 12.55 268 P Pn 08 35 59.9 +1.4
SNR=27
KSMAS Masan 12.66 254 P Pn 08 36 02.2 +2.2
SNR=19
KSGIC Gimchen 12.66 259 P Pn 08 36 03.2 +3.1
SNR=8.9
KSCPR CHUPUNGNYEONG 12.71 259 P Pn 08 36 03.1 +2.4
SNR=11
KSCPR CHUPUNGNYEONG 12.71 259 P Pn 08 36 03.1 +2.4
SNR=11
KLR Kul'dur 12.75 323 Pn Pn 08 35 57.6 -3.5
comp=Z,0.6nm,0.3s,baz=136,slow=13,SNR=84
KLR Sn Sn 08 38 27.5 +5.4
baz=126,slow=22,SNR=1.2
KLR Kul'dur 12.75 323 *de*P Pn 08 36 01.0 -0.1
KSBON Boeun 12.75 261 P Pn 08 36 02.7 +1.4
SNR=24
KSBON Boeun 12.75 261 P Pn 08 36 02.6 +1.4
SNR=31
KUJA Jangpyeong 12.76 253 P Pn 08 36 04.0 +2.6
SNR=8.6
OKCB Cheongsan-myeo 12.80 260 P Pn 08 36 04.0 +2.0
SNR=34
OKCB Cheongsan-myeo 12.80 260 P Pn 08 36 04.0 +2.0
SNR=18
EURB Uiryeong-eup 12.81 255 P Pn 08 36 05.0 +2.9
SNR=9.5
EURB Uiryeong-eup 12.81 255 P Pn 08 36 05.0 +2.9
SNR=13
KSICN Icheon 12.81 265 P Pn 08 36 05.0 +2.9
SNR=28
KSICN Icheon 12.81 265 P Pn 08 36 07.0 +4.9
SNR=8.4
YNCB YEONCHEON 13.01 268 P Pn 08 36 06.3 +1.5
SNR=16
KSCEA Cheonan 13.06 263 P Pn 08 36 07.6 +2.0
SNR=14
KSCEA Cheonan 13.06 263 P Pn 08 36 07.5 +2.0
SNR=19
TJN Taejon 13.12 261 *ce*P Pn 08 36 06.9 +0.6
HAMB Hamyang 13.14 257 P Pn 08 36 10.2 +3.6
SNR=16
HAMB Hamyang 13.14 257 P Pn 08 36 10.2 +3.6
SNR=16
HAMB Hamyang 13.14 257 P Pn 08 36 11.1 +4.5
SNR=11
KSSEO Seoul 13.14 266 P Pn 08 36 09.2 +2.6
SNR=18
KSSEO Seoul 13.14 266 P Pn 08 36 11.1 +4.5
SNR=8.0
KSSEO Seoul 13.14 266 P Pn 08 36 11.0 +4.5
SNR=18
KSSWO Suwon 13.16 265 P Pn 08 36 11.5 +4.6
SNR=18
KOJ2 Gongju-si 13.26 261 P Pn 08 36 11.0 +2.8
SNR=21
KSNAH Namhae 13.29 254 P Pn 08 36 10.6 +2.0
SNR=11
KSJEO Jeonju 13.32 259 P Pn 08 36 13.0 +3.9
SNR=11
JSU Suzuyama 13.33 237 Pn Pn 08 36 09.1 -0.1
JSU Suzuyama 13.33 237 ⇑P Pn 08 36 08.2 -1.0
HAWB Hwaseong-si 13.36 264 P Pn 08 36 13.0 +3.4
SNR=20
HAWB Hwaseong-si 13.36 264 P Pn 08 36 12.0 +2.4
SNR=18
INCN Inchon 13.37 266 P Pn 08 36 09.4 -0.3
INCN Inchon 13.37 266 Pn 08 36 09.4 -0.3
GWYB Gwangyang 13.41 255 P Pn 08 36 13.0 +2.7
SNR=11
NAWB Namwon 13.44 257 P Pn 08 36 14.0 +3.3
SNR=9.7
NAWB Namwon 13.44 257 P Pn 08 36 14.0 +3.3
SNR=9.7
KSGAH Ganghwa 13.46 267 P Pn 08 36 12.4 +1.6
SNR=8.9
KSGAH Ganghwa 13.46 267 P Pn 08 36 14.7 +3.8
SNR=8.9
SUCA Sunchang 13.65 257 P Pn 08 36 17.0 +3.4
SNR=9.9
KSGUS GUNSAN 13.68 260 P Pn 08 36 15.5 +1.6
SNR=7.0
NKL Nikolayevsk 13.68 353 *e*P Pn 08 36 10.9 -2.9
NKL *e*S Sn 08 38 46.9 +2.1
NKL pmax pmax
comp=E,32nm,0.6s
NKL pmax pmax
comp=N,1.0nm,1.0s
NKL smax smax
comp=E,722nm,2.2s
NKL MLR MLR
comp=E,2μm,18.0s
NKL MLR MLR
comp=N,2.0nm,15.0s
NKL MLR MLR
comp=Z,15μm,15.0s
KSSES Seosan 13.69 264 P Pn 08 36 16.0 +1.9
SNR=15
KSSES Seosan 13.69 264 P Pn 08 36 16.0 +1.9
SNR=15
KSSCH SUNCHEON 13.70 256 P Pn 08 36 17.3 +3.1
SNR=9.8
PORA Boryeong 13.75 262 P P 08 36 20.0 -3.2
SNR=7.1
KSJEU Jeongeup 13.76 258 P Pn 08 36 17.5 +2.5
SNR=12
KSDEI Deokjeokdo 13.83 266 P Pn 08 36 19.0 +3.0
SNR=8.3
KSDEI Deokjeokdo 13.83 266 P P 08 36 20.9 -3.2
SNR=13
BOSB Boseong-gun 13.84 255 P Pn 08 36 18.0 +1.8
SNR=24

KSKWJ **Gwangju** 13.85 256 P **Pn** 08 36 18.7 +2.4
SNR=31
KOHB KOHEUNG 13.86 254 P **Pn** 08 36 19.4 +3.0
SNR=11
OKH Okha 13.95 359*c* *i*P **Pn** 08 36 15.8 -1.7
OKH *i* S **Sn** 08 38 54.3 +2.9
OKH pmax pmax
comp=Z,1μm,11.4s
OKH smax smax
comp=E,1μm,14.0s
OKH smax smax
comp=N,900nm,19.1s
OKH MLR MLR
comp=E,51μm,19.0s
OKH MLR MLR
comp=N,72μm,17.0s
OKH MLR MLR
comp=Z,44μm,18.0s
SMKB Mukjeong-gil 13.97 259 P **Pn** 08 36 20.0 +2.0
SNR=7.3
GOCB Gochang-gun 14.07 258 P **Pn** 08 36 23.0 +3.7
SNR=10
CN2 Changchun 14.11 293 *e*P **Pn** 08 36 19.4 -0.4
CN2 *e*S **Sn** 08 38 56.4 +1.0
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,2μm,11.0s
CN2 L L
comp=Z,31μm,15.0s
CN2 L L
comp=Z,31μm,15.0s
CN2 L L
comp=Z,33μm,17.0s
SKR Severo-Kuril's 14.19 35 *e*P **Pn** 08 36 17.4 -3.4
SKR *e*S Sn 08 38 48.3 -8.9
SKR pmax pmax
comp=Z,18nm,0.8s
SKR pmax pmax
comp=Z,300nm,3.6s
SKR MLR MLR
comp=Z,11μm,14.0s
SKR MLR MLR
comp=Z,11μm,13.0s
KSGBI Gyogryolbido 14.43 264 P **Pn** 08 36 26.1 +2.0
SNR=24
KSBAR Backryungdo 14.73 270 P **Pn** 08 36 30.2 +1.9
SNR=11
KSBAR Backryungdo 14.73 270 P **P** 08 36 32.4 -1.7
SNR=14
SNY Shenyang 15.26 285 ⇑P **Pn** 08 36 34.3 -1.0
SNY S **Sn** 08 39 18.4 -5.0
SNY pmax pmax
comp=Z,30nm,1.4s
SNY L L
comp=Z,26μm,15.3s
SNY L L
comp=Z,41μm,17.1s
SNY L L
comp=Z,57μm,15.9s
PETK Petropavlovsk- 16.64 31 Pn **P** 08 36 56.2 +1.0
baz=210,slow=8.6,SNR=5.9
PETK LR LR 08 43 00.7
comp=Z,9μm,19.2s,baz=219,slow=36
DL2 Dalian 16.94 275 P **Pn** 08 36 56.0 -0.9
DL2 S **Sn** 08 40 01.5 -2.8
DL2 pmax pmax
comp=Z,280nm,1.2s
DL2 pmax pmax
comp=Z,6μm,9.8s
DL2 L L
comp=Z,23μm,13.7s
DL2 L L
comp=Z,20μm,16.1s
DL2 L L
comp=Z,32μm,15.2s
PET Petropavlovsk 16.97 33*α* *i*P **P** 08 36 59.8 +1.0
PET *e*S **Sn** 08 40 05.1 +0.3
PET pmax pmax
comp=Z,161nm,1.2s
PET pmax pmax
comp=Z,800nm,7.2s
PET pmax pmax
comp=Z,600nm,10.3s
PET MLR MLR
comp=Z,13μm,16.0s
PET MLR MLR
comp=Z,13μm,16.0s
PET Petropavlovsk 16.97 33 Pn **P** 08 36 58.8 -0.1
ZEA Zeya 17.93 327 *e*P **Pn** 08 37 05.5 -3.5
ZEA *e*S Sn 08 40 14.6 -13
ZEA pmax pmax
comp=N,140nm,0.9s
ZEA pmax pmax
comp=E,90nm,0.9s
ZEA pmax pmax
comp=Z,180nm,0.9s
ZEA pmax pmax
comp=E,1μm,9.3s
ZEA pmax pmax
comp=N,2μm,10.5s
ZEA pmax pmax
comp=Z,3μm,11.6s
ZEA smax smax
comp=N,900nm,11.6s
ZEA smax smax
comp=E,1μm,11.8s
ZEA MLR MLR
comp=E,14μm,13.0s
ZEA MLR MLR
comp=N,24μm,15.0s
ZEA MLR MLR
comp=Z,22μm,14.0s
JOW Kunigami 17.98 229 P **Pn** 08 37 09.4 -0.3
comp=Z,1.4nm,0.3s,baz=21,slow=19,SNR=1.6
JOW LR LR 08 44 47.2
comp=Z,9μm,19.3s,baz=42,slow=40
JOW Kunigami 17.98 229 **P** 08 37 10.3 +0.1
HIA Hailar 19.44 308 P **P** 08 37 24.3 -1.8
HIA pmax pmax
comp=Z,188nm,0.9s
HIA Hailar 19.44 308 P **P** 08 37 24.3 -1.8
HIA IAmb IAmb 08 37 35.7
comp=Z,188nm,0.9s
SSE Sheshan 20.04 252 P **P** 08 37 31.3 -1.4
SSE sP **sP** 08 37 43.5 +1.4
SSE pmax pmax
comp=Z,520nm,3.8s
MA2 Magadan 20.51 11 P **P** 08 37 37.4 -0.2
comp=Z,144nm,0.8s,baz=191,slow=8.9,SNR=36
MA2 S **S** 08 41 20.8 -4.9
comp=Z,6.7nm,0.7s,baz=150,slow=14,SNR=1.4
MA2 LR LR 08 46 35.8
comp=Z,12μm,18.6s,baz=194,slow=40
MA2 Magadan 20.51 11*c* *i*P **P** 08 37 37.9 +0.3
MA2 pmax pmax
comp=Z,360nm,1.7s
MA2 MLR MLR
comp=Z,12μm,15.0s
MA2 Magadan 20.51 11 P **P** 08 37 37.7 +0.1
MA2 IAmb IAmb 08 37 39.1
comp=Z,172nm,0.8s
MA2 Magadan 20.51 11 IAMs_20 IAMs_20 08 46 24.9
comp=Z,13μm,18.0s
MA2 Magadan 20.51 11 ⇑P **P** 08 37 35.8 -1.8
BJI Beijing 20.96 280 P **P** 08 37 40.4 -2.2
BJI sP **pP** 08 37 50.5 +1.5
BJI S **S** 08 41 34.6 -0.1
BJI PcP **PcP** 08 41 49.9 +0.5
BJI pmax pmax
comp=Z,99nm,1.3s
BJI pmax pmax
comp=Z,980nm,3.5s
BJI L L
comp=Z,13μm,13.8s
BJI L L
comp=Z,30μm,15.1s
BJI L L
comp=Z,16μm,16.5s
BJT Baijiatuau 20.96 280 P **P** 08 37 40.6 -2.1
BJT pmax pmax
comp=Z,115nm,1.0s
BJT MLR MLR
comp=Z,23μm,18.0s
BJT Baijiatuau 20.96 280 P **P** 08 37 40.5 -2.1
BJT Baijiatuau 20.96 280 IAMs_20 IAMs_20 08 45 48.3
comp=Z,23μm,18.0s

TIA Tai'an 21.05 269 P **P** 08 37 40.8 -2.8
TIA S **S** 08 41 33.7 -3.0
TIA pmax pmax
comp=Z,190nm,1.3s
TIA pmax pmax
comp=Z,3μm,11.6s
TIA L L
comp=Z,20μm,15.7s
TIA L L
comp=Z,47μm,16.7s
TIA L L
comp=Z,69μm,14.7s
NJ2 Nanjing 21.31 257⇓ *i*P **P** 08 37 45.2 -1.2
NJ2 pP **pP** 08 37 49.5 -3.3
NJ2 sP **pwP** 08 37 53.6 -2.3
NJ2 S **S** 08 41 37.7 -4.1
NJ2 sS Sn 08 41 47.7 -2.0
NJ2 SS **SnSn** 08 42 08.1 +3.4
NJ2 pmax pmax
comp=Z,54nm,1.0s
NJ2 pmax pmax
comp=Z,960nm,4.0s
NJ2 L L
comp=Z,22μm,15.6s
NJ2 L L
comp=Z,16μm,15.2s
NJ2 L L
comp=Z,22μm,17.1s
TATO Taipei 23.55 238 P **P** 08 38 09.2 -0.9
TATO Taipei 23.55 238 IAMs_20 IAMs_20 08 48 56.3
comp=Z,19μm,18.0s
YHNB Yeheng 23.84 238 IAmb IAmb 08 38 27.6
comp=Z,234nm,1.4s
YHNB IAMs_20 IAMs_20 08 49 05.0
comp=Z,15μm,18.0s
SEY Seymchan 23.96 10 P **P** 08 38 12.8 -0.8
comp=Z,154nm,1.0s,baz=192,slow=7.2,SNR=107
SEY S **S** 08 42 26.5 -2.0
comp=Z,4.1nm,0.9s,baz=195,slow=23,SNR=0.9
SEY LR LR 08 49 22.8
comp=Z,12μm,18.7s,baz=194,slow=41
YAK Yakutsk 23.98 344 P **P** 08 38 11.8 -2.0
comp=Z,54nm,0.7s,baz=144,slow=1.7,SNR=41
YAK S **S** 08 42 26.6 -2.2
comp=Z,8.5nm,0.4s,baz=178,slow=19,SNR=1.8
YAK Yakutsk 23.98 344*c* *i*P **P** 08 38 11.1 -2.6
YAK pmax pmax
comp=Z,286nm,1.0s
YAK MLR MLR
comp=Z,6μm,14.0s
YAK Yakutsk 23.98 344 P **P** 08 38 11.9 -1.9
YAK Yakutsk 23.98 344 ⇑P **P** 08 38 10.9 -2.8
NACB Ninganchiao 24.04 237 IAmb IAmb 08 38 29.4
comp=Z,194nm,1.4s
CIT Chita 24.09 311 *e*P **P** 08 38 13.0 -1.9
CIT *e* 08 38 24.2
CIT *e* 08 38 51.2
CIT *e* 08 38 59.2
CIT *e*S **S** 08 42 33.9 +3.1
CIT pmax pmax
comp=Z,958nm,2.0s
TIY Taiyuan 24.27 275 *e*P **P** 08 38 14.0 -2.8
TIY L L
comp=Z,22μm,16.6s
HHC Hu-ho-hao-te 24.34 283 *e*P **P** 08 38 15.8 -1.6
HHC S **S** 08 42 32.4 -2.8
HHC sS pS 08 42 40.9 -1.9
HHC pmax pmax
comp=Z,58nm,0.9s
HHC pmax pmax
comp=Z,2μm,7.3s
HHC L L
comp=Z,16μm,13.8s
HHC L L
comp=Z,40μm,16.3s
HHC L L
comp=Z,51μm,15.7s
SSLB Suanglung 24.73 237 P **P** 08 38 18.6 -2.4
SSLB IAmb IAmb 08 38 38.4
comp=Z,226nm,1.4s
SSLB IAMs_20 IAMs_20 08 48 55.6
comp=Z,12μm,18.0s
YULB Yu-li 24.79 236 P **P** 08 38 18.9 -2.6
YULB IAmb IAmb 08 38 41.7
comp=Z,82nm,0.8s
YULB IAMs_20 IAMs_20 08 49 48.2
comp=Z,13μm,19.0s
TPUB Ta-pu 25.28 237 P **P** 08 38 24.3 -1.7
TPUB IAmb IAmb 08 38 59.0
comp=Z,208nm,1.1s
TPUB IAMs_20 IAMs_20 08 49 23.2
comp=Z,17μm,18.0s
TWG Pinlang 25.34 235 IAmb IAmb 08 39 01.5
comp=Z,171nm,0.9s
WHN Wuhan 25.41 258⇑ *i*P **P** 08 38 26.9 -0.2
WHN pP **pP** 08 38 32.5 -1.5
WHN sP **pwP** 08 38 37.0 +0.1
WHN S **S** 08 42 49.1 -3.2
WHN pmax pmax
comp=Z,900nm,1.2s
WHN L L
comp=Z,57μm,16.0s
WHN L L
comp=Z,32μm,16.6s
WHN L L
comp=Z,44μm,17.4s
QZH Quanzhou 25.52 243⇑ *i*P **P** 08 38 27.6 -0.5
QZH S **S** 08 42 57.5 +3.4
QZH pmax pmax
comp=Z,120nm,2.1s
QZH pmax pmax
comp=Z,3μm,8.8s
QZH L L
comp=Z,6μm,13.7s
QZH L L
comp=Z,15μm,14.2s
QZH L L
comp=Z,14μm,16.0s
BTO Baotou 25.53 283 *e*P **P** 08 38 27.2 -1.1
BTO L L
comp=Z,64μm,15.7s
BOD Bodaibo 26.32 324 *e*P **P** 08 38 34.8 -0.3
BOD pmax pmax
comp=Z,333nm,1.0s
ULN Ulaanbaatar 27.38 300*c* *i*P **P** 08 38 45.1 +0.2
ULN pmax pmax
comp=Z,291nm,1.3s
ULN MLR MLR
comp=Z,35μm,16.0s
ULN Ulaanbaatar 27.38 300 P **P** 08 38 45.0 0.0
ULN Ulaanbaatar 27.38 300 ⇑P **P** 08 38 44.9 0.0
SONM Songino Array 27.82 299 P **P** 08 38 48.6 -0.3
comp=Z,63nm,1.0s,baz=104,slow=7.0,SNR=153
SONM S **S** 08 43 28.5 -1.9
comp=Z,2.1nm,0.8s,baz=70,slow=14,SNR=1.1
SONM LR LR 08 50 38.0
comp=Z,18μm,20.7s,baz=87,slow=38
SONM Songino Array 27.82 299 P **P** 08 38 48.3 -0.6
SONM pmax pmax
comp=Z,587nm,1.7s
SONM Songino Array 27.82 299 P **P** 08 38 48.3 -0.6
XAN Xi'an 28.11 270 P **P** 08 38 50.7 -0.7
XAN pP pP 08 38 56.6 -1.8
XAN pmax pmax
comp=Z,29nm,1.2s
XAN pmax pmax
comp=Z,2μm,7.7s
XAN L L
comp=Z,17μm,15.1s
XAN L L
comp=Z,34μm,16.2s
XAN L L
comp=Z,39μm,15.4s
H11N2 WAKE ISLAND Hy 28.25 128 T T 09 09 52.2
baz=318,slow=75,SNR=356
H11N1 WAKE ISLAND Hy 28.26 128 T T 09 09 49.9
baz=318,slow=75,SNR=457
H11N3 WAKE ISLAND Hy 28.27 128 T T 09 09 54.0
baz=318,slow=75,SNR=530
H11S1 WAKE ISLAND Hy 29.07 130 T T 09 10 56.4
baz=322,slow=74,SNR=72
H11S3 WAKE ISLAND Hy 29.07 130 T T 09 11 00.5
baz=322,SNR=61
H11S2 WAKE ISLAND Hy 29.08 130 T T 09 10 56.4
baz=322,SNR=66
ENH Enshi 29.24 262 P **P** 08 39 01.1 -0.4

ENH IAMs_20 IAMs_20 08 51 31.6
comp=Z,15μm,18.0s
IRK Irkutsk 29.68 308 *e*P **P** 08 39 05.1 -0.1
IRK pmax pmax
comp=Z,285nm,2.3s
SZP Santa 29.71 229 P **P** 08 39 04.8 -0.8
TLY Talaya 29.98 307 P **P** 08 39 08.1 +0.2
comp=Z,18nm,0.9s,baz=99,slow=7.4,SNR=39
TLY LR LR 08 51 58.8
comp=Z,5μm,21.0s,baz=89,slow=38
TLY Talaya 29.98 307*c* *i*P **P** 08 39 07.4 -0.4
TLY *e* 08 40 12.1
TLY pmax pmax
comp=Z,266nm,1.2s
TLY MLR MLR
comp=Z,13μm,15.0s
TLY Talaya 29.98 307 P **P** 08 39 08.0 +0.1
TLY IAmb IAmb 08 39 24.2
comp=Z,82nm,1.0s
TLY Talaya 29.98 307 ⇑P **P** 08 39 07.5 -0.3
ZAK Zakamensk 30.06 304 *e*P **P** 08 39 08.5 -0.1
ZAK pmax pmax
comp=Z,125nm,1.2s
GZH Guangzhou 30.37 246 P **P** 08 39 07.2 -4.3
GZH S **S** 08 44 04.8 -5.7
GZH L L
comp=Z,26μm,13.6s
GZH L L
comp=Z,14μm,13.2s
BILL Bilibino 31.10 16*d* *i*P **P** 08 39 17.0 -0.5
BILL *e* 08 40 20.2
BILL *e*S **S** 08 44 23.4 +2.3
BILL *e*SS **SnSn** 08 46 05.9 +2.7
BILL pmax pmax
comp=Z,41nm,1.0s
BILL Bilibino 31.10 16 P **P** 08 39 17.3 -0.2
BILL IAmb IAmb 08 39 45.2
comp=Z,58nm,0.9s
LZH Lanzhou 31.33 276 ⇑P **P** 08 39 20.3 +0.2
LZH pP pP 08 39 28.2 +1.1
LZH sP sP 08 39 33.0 +3.1
LZH S **S** 08 44 23.5 -2.2
LZH sS sS 08 44 38.0 +0.7
LZH pmax pmax
comp=Z,160nm,1.3s
LZH pmax pmax
comp=Z,2μm,5.4s
LZH L L
comp=Z,16μm,13.0s
LZH L L
comp=Z,40μm,12.5s
LZH L L
comp=Z,31μm,15.2s
MOY Mondy 31.62 307 *e*P **P** 08 39 22.8 +0.4
MOY pmax pmax
comp=Z,169nm,1.6s
TIXI Tiksi 32.96 352 P **P** 08 39 32.5 -1.3
comp=Z,19nm,1.2s,baz=143,slow=8.9,SNR=30
TIXI Tiksi 32.96 352 P **P** 08 39 32.2 -1.5
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI MLR MLR
comp=Z,11μm,18.0s
TIXI Tiksi 32.96 352 P **P** 08 39 32.2 -1.5
TIXI IAMs_20 IAMs_20 08 55 11.6
comp=Z,11μm,18.0s
TIXI Tiksi 32.96 352 ⇑P **P** 08 39 32.8 -1.0
GYA Guiyang 33.31 258 ⇑P **P** 08 39 37.4 0.0
GYA pP pwP 08 39 46.5 -0.8
GYA PcP **PcP** 08 42 19.8 +0.6
GYA S **S** 08 44 55.4 -1.2
GYA sS sS 08 45 09.6 +1.4
GYA ScP **ScP** 08 46 01.0 -0.8
GYA pmax pmax
comp=Z,29nm,1.2s
GYA pmax pmax
comp=Z,180nm,8.5s
GYA L L
comp=Z,2μm,15.1s
GYA L L
comp=Z,1μm,17.0s
CD2 Chengdu 33.36 267⇑ *i*P **P** 08 39 37.4 -0.4
CD2 pP pP 08 39 44.2 -0.6
CD2 sP sP 08 39 50.0 +2.4
CD2 S **S** 08 44 56.0 -1.2
CD2 sS sS 08 45 08.0 -0.9
CD2 pmax pmax
comp=Z,210nm,1.1s
CD2 pmax pmax
comp=Z,3μm,14.5s
CD2 L L
comp=Z,41μm,13.5s
CD2 L L
comp=Z,27μm,15.3s
CD2 L L
comp=Z,50μm,14.9s
GTA Gaotai 33.45 284 ⇑P **P** 08 39 39.4 +0.8
GTA pP pP 08 39 46.8 +1.2
GTA sP sP 08 39 51.0 +2.6
GTA PcP **PcP** 08 42 20.2 +0.8
GTA S **S** 08 44 56.8 -1.8
GTA sS pS 08 45 07.5 +1.0
GTA pmax pmax
comp=Z,150nm,1.3s
GTA pmax pmax
comp=Z,1μm,7.6s
GTA L L
comp=Z,8μm,17.4s
GTA L L
comp=Z,37μm,16.0s
GTA L L
comp=Z,43μm,16.7s
PATS Pohnpei 35.25 154 IAMs_20 IAMs_20 08 54 57.3
comp=Z,7μm,18.0s
QIZ Qiongzhong 35.49 245 P **P** 08 39 56.0 -0.3
QIZ S **S** 08 45 30.0 -0.1
QIZ sS **sS** 08 45 41.5 -0.4
QIZ pmax pmax
comp=Z,510nm,6.3s
QIZ L L
comp=Z,11μm,14.3s
QIZ L L
comp=Z,9μm,13.9s
QIZ L L
comp=Z,12μm,14.9s
QIZ Qiongzhong 35.49 245 IAMs_20 IAMs_20 08 55 30.4
comp=Z,9μm,18.0s
GAMB Gambell 35.67 32 S 08 45 33.1
baz=249
KWAJ Kwajalein Atol 37.50 138 IAMs_20 IAMs_20 08 54 08.5
comp=Z,6μm,20.0s
TNA Tin City 37.81 31 P **P** 08 40 14.2 -1.3
TNA **pP** 08 40 22.7 +0.2
TNA IAmb IAmb 08 40 38.7
comp=Z,53nm,1.0s
TNA Tin City 37.81 31 P 08 40 15.0
baz=251
TNA S 08 46 05.7
baz=251
SLVN Son La 38.30 253 P **P** 08 40 20.5 +0.2
SLVN IAMs_20 IAMs_20 08 57 43.4
comp=Z,6μm,18.0s
ANM Nome 38.55 33 P 08 40 22.4
baz=255
ANM S 08 46 19.1
baz=255
DGZ Jazzator, Alta 40.27 304*c* *i*P **P** 08 40 37.4 +0.9
DGZ pmax pmax
comp=Z,125nm,1.1s
DGZ MLR MLR
comp=Z,47μm,15.0s
RDOG Red Dog Mine 40.47 28 IAMs_20 IAMs_20 08 59 14.2
comp=Z,5μm,19.0s
RDOG Red Dog Mine 40.47 28 P 08 40 38.0
baz=254,SNR=10
RDOG S 08 46 44.0
baz=254
UBPT Khong Chiam 41.09 245 P **P** 08 40 44.6 +1.2
comp=Z,1μmcomp=Z,34nm,1.3s
UBPT Khong Chiam 41.09 245 P **P** 08 40 44.1 +0.7
WMQ Urumqi 41.19 295 P **P** 08 40 45.2 +1.1
WMQ pP sP 08 40 55.0 +1.0
WMQ S **S** 08 47 00.0 +4.0
WMQ SS **SS** 08 49 52.0 -7.1
WMQ pmax pmax

comp=Z,360nm,1.1s
WMQ pmax pmax
comp=Z,3µm,5.5s
WMQ L L
comp=Z,19µm,14.5s
WMQ L L
comp=Z,14µm,15.1s
WMQ L L
comp=Z,12µm,15.7s
TNTI Ternate 41.36 205 P **P** **08 40 45.2 -0.4**
comp=Z,747nmcomp=Z,2µmcomp=Z,22nm,0.6s
ZAA0 Zalesovo Array 41.44 310 IAMs_20 IAMs_20 08 58 42.8
comp=Z,8µm,22.0s
ZALV Zalesovo Beam 41.44 310 P **P** **08 40 45.7 -0.2**
comp=Z,34nm,0.8s,baz=89,slow=7.6,SNR=66
ZALV PcP **PcP** **08 42 44.6 +1.3**
comp=Z,12nm,0.7s,baz=112,slow=4.0,SNR=2.4
ZALV LR LR 08 58 53.2
comp=Z,5µm,20.3s,baz=81,slow=38
NRIK Noril'sk 41.65 334 P **P** **08 40 46.6 -0.8**
comp=Z,32nm,1.1s,baz=111,slow=8.6,SNR=44
NRIK S **S** **08 46 59.0 -2.9**
comp=Z,1.4nm,0.4s,baz=135,slow=20,SNR=1.2
NRIK LR LR 08 59 13.5
comp=Z,9µm,19.0s,baz=104,slow=38
NRIK Noril'sk 41.65 334*c iP* **P** **08 40 46.9 -0.5**
NRIK pmax pmax
comp=Z,95nm,1.5s
NRIK MLR MLR
comp=Z,14µm,17.0s
NRIK Noril'sk 41.65 334 P **P** **08 40 46.1 -1.3**
DIBR DIBRUGARH 41.80 268⇑*eP* **P** **08 40 48.9 -0.2**
ZSN Zaisan 42.32 301⇑*iP* **P** **08 40 53.8 +0.6**
comp=Z,160nm,1.5s,baz=301
ZSN Zaisan 42.32 301*c iP* **P** **08 40 53.8 +0.6**
ZSN pmax pmax
comp=Z,160nm,1.5s
TTA Tatalina 42.38 36 P **P** **08 40 55.5 +2.0**
TTA pmax pmax
comp=Z,23nm,1.1s
TTA MLR MLR
comp=Z,4µm,18.0s
TTA Tatalina 42.38 36 P **P** **08 40 55.5 +2.0**
TTA IAMs_20 IAMs_20 09 01 52.4
comp=Z,4µm,18.0s
JORH JORHAT 42.67 268*eP* **P** **08 40 57.2 +0.9**
UTTA Uttaradit 43.00 252 P **P** **08 41 00.2 +1.2**
comp=Z,162nmcomp=Z,19nm,1.1s
GTOI Gorontalo 43.06 211 P **P** **08 40 55.8 -3.6**
comp=Z,617nmcomp=Z,38nm,1.2s
KOHI KOHIMA 43.30 267⇑*eP* **P** **08 41 01.3 -0.2**
KOHI IAmb IAmb 08 41 04.7
comp=Z,265nm,0.9s
SII Sitkinak Islan 43.33 46 IAMs_20 IAMs_20 08 56 24.3
comp=Z,5µm,20.0s
SII Sitkinak Islan 43.33 46 P 08 41 00.9
baz=275
A21K Barrow 43.45 24 P 08 41 02.0
baz=256
A21K S 08 47 29.9
baz=256
CM35 Chiang Mai Arr 43.45 254 P **P** **08 41 03.5 +0.8**
CHTO Chiang Mai 43.52 255 P **P** **08 41 02.9 -0.3**
CHTO pmax pmax
comp=Z,62nm,1.1s
CHTO MLR MLR
comp=Z,9µm,18.0s
CHTO Chiang Mai 43.52 255 P **P** **08 41 02.9 -0.3**
CHTO Chiang Mai 43.52 255⇑P **P** **08 41 03.2 -0.1**
TOLI2 Tolitoli 43.55 214 P **P** **08 41 03.4 0.0**
FAKI Fak Fak 43.56 196 IAMs_20 IAMs_20 08 57 13.0
comp=Z,5µm,19.0s
IMAR Indian Mountai 43.61 32 P **P** **08 41 04.2 +0.9**
LSA Lhasa 43.64 274 P **P** **08 41 06.2 +1.6**
LSA pP **pwP** **08 41 14.4 -0.4**
LSA S **S** **08 47 36.9 +3.8**
LSA ScS **ScS** **08 51 03.5 +0.6**
LSA pmax pmax
comp=Z,81nm,1.4s
LSA L L
comp=Z,30µm,17.1s
LSA L L
comp=Z,36µm,18.5s
LSA L L
comp=Z,68µm,15.7s
LSA Lhasa 43.64 274 P **P** **08 41 05.2 +0.6**
LSA Lhasa 43.64 274 P **P** **08 41 06.1 +1.5**
LSA pmax pmax
comp=Z,131nm,1.4s
LSA MLR MLR
comp=Z,14µm,18.0s
LSA Lhasa 43.64 274 P **P** **08 41 06.1 +1.5**
LSA IAmb IAmb 08 41 32.9
comp=Z,131nm,1.4s
CM09 Chiang Mai Arr 43.72 254 P **P** **08 41 06.3 +1.5**
comp=Z,298nmcomp=Z,26nm,0.8s
CM31 Chiang Mai Arr 43.74 254 P P 08 41 20.0 +15
CMAR Chiang Mai Arr 43.74 254 P **P** **08 41 05.2 +0.1**
comp=Z,9.0nm,0.8s,baz=47,slow=6.7,SNR=46
CMAR LR LR 09 01 22.0
comp=Z,3µm,19.4s,baz=92,slow=39
CMAR Chiang Mai Arr 43.74 254*i* P **P** **08 41 06.0 +1.0**
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 43.74 254 P **P** **08 41 04.4 -0.7**
CM04 Chiang Mai Arr 43.75 254 P **P** **08 41 06.5 +1.4**
comp=Z,293nmcomp=Z,35nm,0.9s
CM01 Chiang Mai Arr 43.76 254 P **P** **08 41 06.8 +1.7**
comp=Z,228nmcomp=Z,22nm,0.8s
CM02 Chiang Mai Arr 43.76 254 P **P** **08 41 06.0 +0.9**
comp=Z,207nmcomp=Z,25nm,0.8s
CM15 Chiang Mai Arr 43.76 254 P **P** **08 41 06.9 +1.7**
comp=Z,353nmcomp=Z,18nm,0.7s
OHAK Old Harbor 43.77 45 IAMs_20 IAMs_20 08 59 00.8
comp=Z,4µm,19.0s
OHAK Old Harbor 43.77 45 P 08 41 04.7
baz=275
CM05 Chiang Mai Arr 43.78 254 P **P** **08 41 06.6 +1.3**
comp=Z,180nmcomp=Z,22nm,1.1s
CM13 Chiang Mai Arr 43.79 254 P **P** **08 41 06.8 +1.4**
comp=Z,201nmcomp=Z,24nm,1.1s
H21K Melozitna Rive 43.97 32 P 08 41 07.3
baz=266,SNR=12
H21K S 08 47 37.8
baz=266
CHUM Lake Minchumin 44.09 35 P 08 41 09.2
baz=268
CHUM S 08 47 41.2
baz=268
KDAK Kodiak Island 44.10 44 P **P** **08 41 07.2 -0.2**
comp=Z,17nm,0.8s,baz=305,slow=8.3,SNR=9.7
KDAK Kodiak Island 44.10 44 IAmb IAmb 08 42 00.7
comp=Z,236nm,2.0s
KDAK Kodiak Island 44.10 44 P 08 41 08.2
baz=275
PPLA Purkeypile 44.13 36 P **P** **08 41 08.8 +1.1**
PPLA IAMs_20 IAMs_20 09 03 06.6
comp=Z,4µm,18.0s
PPLA Purkeypile 44.13 36 P 08 41 08.9
baz=270
PPLA S 08 47 37.3
baz=270
SPCR Spurr Chakacha 44.13 39 P 08 41 09.1
baz=271
SPCR S 08 47 40.9
baz=271
MK31 Makanchi Array 44.18 300*i* P **P** **08 41 08.0 -0.3**
MK31 pmax pmax
comp=Z,104nm,0.9s
MK31 Makanchi Array 44.18 300 IAmb IAmb 08 41 10.0
comp=Z,92nm,1.0s
MKAR Makanchi Array 44.18 300 P **P** **08 41 07.9 -0.4**
comp=Z,77nm,0.9s,baz=81,slow=7.9,SNR=260
MKAR S **S** **08 47 36.7 -3.1**
comp=Z,0.8nm,0.9s,baz=83,slow=10,SNR=1.3
MKAR LR LR 09 00 35.6
comp=Z,10µm,19.0s,baz=72,slow=38
MKAR Makanchi Array 44.18 300 P **P** **08 41 08.3 0.0**
I21K Tanana 44.28 33 S 08 47 42.7
baz=267
MAKZ Makanchi 44.39 300 P **P** **08 41 09.7 -0.2**
MAKZ pmax pmax
comp=Z,152nm,1.2s
MAKZ MLR MLR
comp=Z,13µm,19.0s
MAKZ Makanchi 44.39 300 P **P** **08 41 09.7 -0.2**
MAKZ Makanchi 44.39 300⇑P **P** **08 41 09.6 -0.4**
MAKZ ⇑P **P** **08 41 09.7 -0.2**
SKT Skwentna 44.44 38 P 08 41 11.7
baz=271
SKT S 08 47 42.8
baz=271
SANI Sanana 44.46 205 P **P** **08 41 10.7 0.0**
comp=Z,2µmcomp=Z,1µmcomp=Z,59nm,0.9s
BPAW Bear Paw Mtn. 44.68 35 P **P** **08 41 13.2 +1.2**
BPAW Bear Paw Mtn. 44.68 35 P 08 41 13.4
baz=269
BPAW S 08 47 47.7
baz=269
KTH Kantishna Hill 44.70 35 IAmb IAmb 08 41 41.2
comp=Z,66nm,1.0s
SEM Semipalatinsk 44.72 306⇑*iP* **P** **08 41 11.3 -1.4**
comp=Z,88nm,1.3s,baz=306
SEM *e*S **S** **08 47 48.9 +0.9**
baz=306
SEM *e*LR LR 09 00 27.5
comp=Z,2µm,13.9s,baz=306
SEM Semipalatinsk 44.72 306*c iP* **P** **08 41 11.3 -1.4**
SEM *e*S **S** **08 47 48.8 +0.9**
SEM pmax pmax
comp=Z,88nm,1.3s
SEM MLR MLR
comp=Z,2µm,14.0s
MLY Manley 44.80 33 P 08 41 14.5
baz=269,SNR=11
MLY S 08 47 49.8
baz=269
SUA Susitna One 44.83 38 P 08 41 14.0
baz=272
BRSE Bradley Lake S 44.92 41 P 08 41 15.8
baz=274
GUWA GUWAHATI 44.92 269⇑*eP* **P** **08 41 14.1 -0.3**
GUWA IAmb IAmb 08 41 17.8
comp=Z,153nm,1.0s
TRF Thorofare Moun 44.99 36 P 08 41 16.0
baz=271
TRF S 08 47 47.1
baz=271
CUT Chulitna 45.02 37 IAMs_20 IAMs_20 09 03 48.3
comp=Z,4µm,18.0s
CUT Chulitna 45.02 37 P 08 41 16.3
baz=272
SHL Shillong 45.10 268 P **P** **08 41 15.6 -0.4**
SHL pmax pmax
comp=Z,90nm,1.1s
SHL MLR MLR
comp=Z,7µm,19.0s
SHL Shillong 45.10 268*eP* **P** **08 41 17.0 +1.0**
SHL Shillong 45.10 268 P **P** **08 41 15.6 -0.4**
SHL IAmb IAmb 08 41 31.0
comp=Z,90nm,1.1s
SHL IAMs_20 IAMs_20 09 02 45.2
comp=Z,7µm,19.0s
COLD Coldfoot 45.11 30 P **P** **08 41 15.7 +0.3**
COLD IAMs_20 IAMs_20 09 02 19.0
comp=Z,4µm,18.0s
COLD Coldfoot 45.11 30 P 08 41 16.7
baz=267
COLD S 08 47 54.0
baz=267
UTHA Uthaitani 45.21 251 P **P** **08 41 18.5 +1.7**
comp=Z,116nmcomp=Z,11nm,0.8s
H23K Yukon River 45.32 32 P 08 41 18.3
baz=269,SNR=15
H23K S 08 47 57.0
baz=269
RC01 Rabbit Creek A 45.33 39 IAMs_20 IAMs_20 09 03 18.6
comp=Z,4µm,18.0s
RC01 Rabbit Creek A 45.33 39 P 08 41 17.5
baz=274
BWN Browne 45.35 35 P **P** **08 41 19.3 +2.1**
BWN IAMs_20 IAMs_20 09 02 11.6
comp=Z,4µm,18.0s
I23K Minto, Yukon-K 45.39 33 P 08 41 18.3
baz=270
I23K S 08 47 56.3
baz=270
TOLK Toolik Lake Re 45.44 28 IAmb IAmb 08 41 53.3
comp=Z,66nm,1.1s
TOLK IAMs_20 IAMs_20 09 04 02.4
comp=Z,4µm,18.0s
TOLK Toolik Lake Re 45.44 28 P 08 41 18.8
baz=266,SNR=16
TOLK S 08 47 56.6
baz=266
NEA2 Nenana 45.52 34 P **P** **08 41 19.5 +0.9**
NEA2 IAmb IAmb 08 41 32.0
comp=Z,59nm,1.1s
NEA2 Nenana 45.52 34 P 08 41 19.4
baz=271
NEA2 S 08 47 56.7
baz=271
SEW Seward 45.54 40 IAMs_20 IAMs_20 09 02 30.3
comp=Z,5µm,19.0s
SEW Seward 45.54 40 P 08 41 19.7
baz=275
MCK McKinley 45.59 35 P 08 41 19.9
baz=272,SNR=5.0
MCK S 08 47 59.1
baz=272
PMR Palmer 45.59 38 P 08 41 19.6
baz=274
PMR S 08 47 57.4
baz=274
KURK Kurchatov 45.67 306 P **P** **08 41 19.2 -0.8**
KURK Kurchatov 45.67 306 P **P** **08 41 19.1 -0.8**
GHO Glory Hole Cre 45.68 38 P **P** **08 41 21.2 +1.2**
KURBB Kurchatov Arra 45.75 306 P **P** **08 41 19.1 -1.4**
comp=Z,128nm,1.0s,baz=80,slow=8.7,SNR=376
KURBB Kurchatov Arra 45.75 306 P **P** **08 41 20.1 -0.5**
WAT2 Susitna Watana 45.77 36 P 08 41 21.6
baz=273
WAT2 S 08 48 01.2
baz=273
MDM Murphy Dome 45.87 33 IAmb IAmb 08 41 47.6
comp=Z,68nm,1.2s
KNK Knik Glacier 45.92 38 IAMs_20 IAMs_20 09 03 25.3
comp=Z,3µm,18.0s
KNK Knik Glacier 45.93 38 S 08 48 03.6
baz=274
WRH Wood River Hil 45.94 34 IAmb IAmb 08 42 05.2
comp=Z,122nm,1.8s
PATY Pattaya 45.95 247 P **P** **08 41 25.0 +2.5**
SML Sawmill 45.96 38 P **P** **08 41 22.6 +0.4**
SML IAmb IAmb 08 41 48.4
comp=Z,110nm,1.2s
SML Sawmill 45.96 38 P 08 41 23.5
baz=274
SML S 08 48 04.5
baz=274
H24K Noodor Dome 46.01 32 P 08 41 23.5
baz=270,SNR=6.4
H24K S 08 48 06.0
baz=270
PWL Port Wells 46.03 39 IAMs_20 IAMs_20 09 03 34.1
comp=Z,4µm,20.0s
TCOL CIGO, UAF Yank 46.03 34 IAmb IAmb 08 41 36.1
comp=Z,59nm,1.0s
TCOL CIGO, UAF Yank 46.03 34 P 08 41 23.5
baz=272
TCOL S 08 48 07.4
baz=272
COLA College 46.03 34*deP* **P** **08 41 23.3 +0.7**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 46.03 34 P **P** **08 41 25.2 +2.6**
COLA IAmb IAmb 08 41 36.1
comp=Z,55nm,0.9s
COLA College 46.03 34 P 08 41 23.4
baz=272
CCB Clear Creek Bu 46.06 34 P **P** **08 41 23.8 +1.0**
WAT6 Susitna Watana 46.18 37 P 08 41 23.9
baz=274
WAT6 S 08 48 09.2
baz=274
POKR Poker Plat Res 46.20 33 IAmb IAmb 08 41 43.2
comp=Z,60nm,0.9s
POKR Poker Plat Res 46.21 33 P 08 41 24.6
baz=272,SNR=8.6
POKR S 08 48 09.3
baz=272
HDA Harding Lake 46.44 34 IAMs_20 IAMs_20 09 02 21.5
comp=Z,3µm,18.0s
HDA Harding Lake 46.44 34 P 08 41 26.5
baz=273,SNR=8.9
HDA P 08 41 26.5
baz=273,SNR=8.9
HDA S 08 48 10.0
baz=273
HDA S 08 48 10.0
baz=273
IL31 46.45 34 IAmb IAmb 08 41 53.3
comp=Z,37nm,0.9s
ILAR Eielson Array 46.45 34 P **P** **08 41 25.2 -0.7**
comp=Z,9.4nm,0.8s,baz=264,slow=6.4,SNR=70
ILAR Eielson Array 46.45 34 P **P** **08 41 25.8 -0.2**
ILAR Eielson Array 46.45 34 P **P** **08 41 25.8 -0.2**
AGT Agartala 46.47 266*eP* **P** **08 41 27.8 +1.2**
AGT IAmb IAmb 08 41 43.9
comp=Z,292nm,1.0s
TARA Tarawa 46.57 137 IAMs_20 IAMs_20 08 58 21.8
comp=Z,5µm,18.0s
GLI Glacier Island 46.63 39 P 08 41 28.2
baz=276
JOHN Johnston Islan 46.63 105 IAMs_20 IAMs_20 09 00 59.6
comp=Z,7µm,18.0s
SBUM Sibu 46.63 226 P **P** **08 41 29.0 +1.1**
GTK Tadong 46.74 272*eP* **P** **08 41 30.2 +1.2**
GTK IAmb IAmb 08 41 40.4
comp=Z,38nm,0.8s
BRDH Bariadhala 46.83 265 P **P** **08 41 30.0 +0.6**
comp=Z,88nm,0.3s,baz=66,slow=15,SNR=3.6
FID Port Fidalgo 46.95 39 IAMs_20 IAMs_20 09 02 45.9
comp=Z,4µm,18.0s
M24K Tolsona, Glenn 46.95 37 P 08 41 30.8
baz=276
M24K S 08 48 29.7
baz=276
HIN Hinchinbrook I 46.97 40 IAMs_20 IAMs_20 09 04 50.1
comp=Z,5µm,19.0s
PRP Porcupine Dome 46.99 33 P **P** **08 41 31.5 +1.1**
PRP IAmb IAmb 08 41 49.2
comp=Z,33nm,0.8s
PRP IAMs_20 IAMs_20 09 03 46.9
comp=Z,3µm,18.0s
PRP Porcupine Dome 46.99 33 P 08 41 30.8
baz=273,SNR=10
PRP S 08 48 21.5
baz=273
FYU Fort Yukon 47.06 31 IAmb IAmb 08 42 11.7
comp=Z,66nm,0.9s
SHLS Shalkode 47.13 296⇑*iP* **P** **08 41 28.4 -3.3**
comp=Z,174nm,2.4s,baz=296
SHLS *e*S **S** **08 48 24.4 +1.8**
baz=296
SHLS Shalkode 47.13 296*c iP* **P** **08 41 28.4 -3.3**
SHLS *e*S **S** **08 48 24.3 +1.8**
SHLS pmax pmax
comp=Z,174nm,2.4s
KLU Klutina 47.13 38 P **P** **08 41 33.4 +2.0**
KLU IAmb IAmb 08 41 57.4
comp=Z,74nm,1.1s
KLU Klutina 47.13 38 P 08 41 32.2
baz=276
KLU S 08 48 22.7
baz=276
PAX Paxson 47.19 36 P **P** **08 41 34.0 +2.1**
PAX pmax pmax
comp=Z,23nm,1.2s
PAX MLR MLR
comp=Z,3µm,20.0s
PAX Paxson 47.19 36 P **P** **08 41 34.0 +2.1**
PAX Paxson 47.20 36 P 08 41 32.4
baz=275
PAX S 08 48 23.1
baz=275
TDK Taldyqorghan 47.28 299*i* P **P** **08 41 32.8 0.0**
comp=Z,263nm,1.3s,baz=299
TDK *e*S **S** **08 48 30.0 +5.6**
baz=299
TDK *e*LR LR 09 01 49.0
comp=Z,14µm,17.6s,baz=299
TDK Taldyqorghan 47.28 299*i* P **P** **08 41 32.7 0.0**
TDK *e*S **S** **08 48 30.0 +5.6**
TDK pmax pmax
comp=Z,263nm,1.3s
TDK MLR MLR
comp=Z,14µm,18.0s
EYAK Cordova Ski Ar 47.33 39 IAMs_20 IAMs_20 09 04 53.4
comp=Z,6µm,18.0s
EYAK Cordova Ski Ar 47.33 39 P 08 41 33.7
baz=277
TAPN Taplejung 47.42 273*eP* **P** **08 41 35.3 +0.9**
comp=Z,434nm,1.2s
UZB Uzynbulak 47.44 296⇑*iP* **P** **08 41 33.7 -0.4**
comp=Z,70nm,1.3s,baz=296
UZB *e*S **S** **08 48 26.1 -0.9**
baz=296
UZB Uzynbulak 47.44 296*c iP* **P** **08 41 33.7 -0.4**
UZB *e*S **S** **08 48 26.1 -0.9**
UZB pmax pmax
comp=Z,70nm,1.3s
KPKS Kokpek 47.57 297⇑*iP* **P** **08 41 35.0 -0.1**
comp=Z,128nm,1.3s,baz=297
KPKS *e*S **S** **08 48 28.3 -0.5**
baz=297
KPKS Kokpek 47.57 297*c iP* **P** **08 41 35.0 -0.1**
KPKS *e*S **S** **08 48 28.2 -0.5**
KPKS pmax pmax
comp=Z,128nm,1.3s
N25K Chitina, Valde 47.75 38 P **P** **08 41 38.5 +2.2**
N25K Chitina, Valde 47.75 38 S 08 48 32.3
baz=277
DOT Dot Lake 47.76 35 P **P** **08 41 37.4 +1.2**
DOT IAMs_20 IAMs_20 09 03 34.4
comp=Z,4µm,18.0s
SCRK Sand Creek 47.76 35 P **P** **08 41 36.6 +0.2**
SCRK IAmb IAmb 08 42 28.0
comp=Z,36nm,1.0s
SCRK Sand Creek 47.76 35 P 08 41 36.6
baz=276,SNR=17
SCRK S 08 48 29.9
baz=276
BMRM Bremner River 47.83 39 IAMs_20 IAMs_20 09 05 44.6
comp=Z,3µm,18.0s
BMRM Bremner River 47.83 39 P 08 41 37.5
baz=278
SATY Saty 47.89 296⇑*iP* **P** **08 41 37.3 -0.3**
comp=Z,4µm,15.3s,baz=296
SATY Saty 47.89 296*c iP* **P** **08 41 37.3 -0.3**
SATY pmax pmax
comp=Z,4µm,15.3s
ODAN Odare 47.91 272*eP* **P** **08 41 38.9 +0.8**
comp=Z,328nm,1.0s
ARXS Arharly 47.91 298*eP* **P** **08 41 37.4 -0.4**
MENT Mentasta 47.99 36 P **P** **08 41 40.3 +2.3**
MENT IAmb IAmb 08 41 59.6
comp=Z,71nm,1.3s
MENT IAMs_20 IAMs_20 09 03 38.8
comp=Z,3µm,18.0s
HMT Hamilton 48.09 40 IAMs_20 IAMs_20 09 05 17.5
comp=Z,5µm,19.0s
PRZ Przheval'sk 48.09 296 P **P** **08 41 40.3 +1.0**
PRZ pmax pmax
comp=Z,489nm,1.7s
PRZ MLR MLR
comp=Z,19µm,18.0s
PRZ Przheval'sk 48.09 296 P **P** **08 41 40.3 +1.0**
VRDI Verde Repeater 48.34 38 IAmb IAmb 08 42 07.0
comp=Z,39nm,1.1s
JIRN Jiri 48.44 274*eP* **P** **08 41 43.4 +1.1**
comp=Z,253nm,1.1s
RAMN Ramite 48.47 273*eP* **P** **08 41 43.2 +0.7**
comp=Z,371nm,1.1s
KSM Kuching 48.50 227 P **P** **08 41 44.0 +1.5**
MCARA McCarthy VSAT 48.53 38 P **P** **08 41 44.2 +2.1**
MCARA IAmb IAmb 08 42 10.8
comp=Z,69nm,1.1s
MCARA McCarthy VSAT 48.53 38 P 08 41 42.9
baz=279
GUN Gumba 48.55 274*eP* **P** **08 41 44.0 +0.8**
comp=Z,419nm,0.9s
CRQM Cirque 48.57 39 P **P** **08 41 44.9 +2.2**
CRQM IAMs_20 IAMs_20 09 01 29.8
comp=Z,4µm,19.0s
CRQE Cirque 48.59 39 P 08 41 43.3
baz=279
K27K Chicken 48.59 34 IAmb IAmb 08 42 04.9
comp=Z,44nm,1.0s
K27K Chicken 48.59 34 P 08 41 43.7
baz=277

K27K S 08 48 42.3
baz=277
CHKK Chushkaly 48.60 298 *e*P **P** **08 41 42.1 -1.0**
baz=298
CHKK Chushkaly 48.60 298 *e*P **P** **08 41 42.0 -1.0**
TGL Tana Glacier 48.72 39 IAMs_20 IAMs_20 09 01 43.2
comp=Z,4μm,19.0s
MDOK Medeo 48.79 297 *i* P **P** **08 41 44.5 -0.1**
baz=297
MDOK *e*S **S** **08 48 51.2 +5.0**
baz=297
MDOK *e*LR LR 09 02 32.1
comp=Z,10μm,16.4s,baz=297
MDOK Medeo 48.79 297 *i* P **P** **08 41 44.5 -0.1**
MDOK *e*S **S** **08 48 51.2 +5.0**
MDOK MLR MLR
comp=Z,10μm,16.0s
BNSI Bone 48.81 212 P **P** **08 41 44.4 -0.3**
comp=Z,1μmcomp=Z,100nm,1.2s
L27K Beaver Creek, 48.83 36 P **P** **08 41 46.9 +2.4**
L27K IAmb IAmb 08 42 11.0
comp=Z,38nm,1.1s
L27K Beaver Creek, 48.83 36 P 08 41 45.3
baz=278,SNR=5.5
L27K S 08 48 46.6
baz=278
AAA Alma-Ata 48.87 297 *e*P **P** **08 41 44.3 -0.9**
baz=297
AAA *e*S **S** **08 48 53.1 +6.0**
baz=297
AAA *e*LR LR 09 02 48.4
comp=Z,12μm,15.8s,baz=297
AAA Alma-Ata 48.87 297 *e*P **P** **08 41 44.2 -0.9**
AAA *e*S **S** **08 48 53.1 +6.0**
AAA MLR MLR
comp=Z,12μm,16.0s
EGAK Eagle 48.89 33 P **P** **08 41 46.4 +1.5**
EGAK IAmb IAmb 08 42 10.3
comp=Z,44nm,1.1s
EGAK Eagle 48.90 33 P 08 41 46.2
baz=277
KUU Kurty 49.03 298⇑ *i*P **P** **08 41 45.6 -0.7**
comp=Z,157nm,1.1s,baz=298
KUU *e*S **S** **08 48 44.7 -4.6**
baz=298
KUU Kurty 49.03 298*c i*P **P** **08 41 45.6 -0.7**
KUU *e*S **S** **08 48 44.7 -4.6**
KUU pmax pmax
comp=Z,157nm,1.1s
KKN Kakani 49.07 275 *e*P **P** **08 41 47.9 +0.8**
comp=Z,348nm,1.0s
PKI Pulchoki 49.08 274 *e*P **P** **08 41 47.5 +0.2**
comp=Z,371nm,1.5s
PKIN Phulchoki 49.09 274 *e*P **P** **08 41 47.5 +0.3**
comp=Z,333nm,1.5s
MTBS Maitube 49.23 297⇑ *i*P **P** **08 41 47.5 -0.4**
baz=297
MTBS *e*S **S** **08 48 52.7 +0.5**
baz=297
MTBS Maitube 49.23 297*c i*P **P** **08 41 47.5 -0.4**
MTBS *e*S **S** **08 48 52.7 +0.5**
MESA MESA 49.25 39 P 08 41 48.8
baz=281
DMN Daman 49.30 275 *e*P **P** **08 41 49.4 +0.6**
YAH Yahtse 49.31 39 IAMs_20 IAMs_20 09 05 40.9
comp=Z,3μm,20.0s
CTG Chitna Glacier 49.40 38 P 08 41 49.8
baz=281
CTGM Chitina Glacie 49.40 38 IAMs_20 IAMs_20 09 04 29.2
comp=Z,3μm,18.0s
GKN Gorkha 49.46 275 *e*P **P** **08 41 50.5 +0.5**
KAPI Kappang 49.51 212 P **P** **08 41 51.0 +0.9**
KAPI pmax pmax
comp=Z,72nm,1.1s
KAPI Kappang 49.51 212 P **P** **08 41 51.0 +0.9**
KAPI IAmb IAmb 08 42 36.9
comp=Z,72nm,1.1s
BRZS Berezniki 49.54 307⇑ *i*P **P** **08 41 49.3 -0.9**
comp=Z,92nm,1.7s,baz=307
BRZS Berezniki 49.54 307*c i*P **P** **08 41 49.2 -0.9**
BRZS pmax pmax
comp=Z,92nm,1.7s
BKSI Bulukumba 49.64 211 P **P** **08 41 50.8 -0.3**
comp=Z,1μmcomp=Z,28nm,1.0s
ULHL Ulahol 49.67 296 P **P** **08 41 52.0 +0.6**
SNR=11
DAWY Dawson 49.76 34 P **P** **08 41 54.0 +2.4**
DAWY IAMs_20 IAMs_20 09 06 54.2
comp=Z,3μm,18.0s
TKM2 Tokmak 2 49.88 297 P **P** **08 41 53.2 +0.2**
SNR=146
TKM2 Tokmak 2 49.88 297 *i* P **P** **08 41 52.7 -0.3**
TKM2 pmax pmax
comp=Z,177nm,0.9s
DANN Dangsing 49.97 276 *e*P **P** **08 41 55.0 +1.0**
comp=Z,436nm,0.7s
PCA Pinnacle 50.09 39 IAMs_20 IAMs_20 09 04 19.7
comp=Z,3μm,19.0s
BRVK Borovoye 50.13 311 *i* P **P** **08 41 54.8 +0.3**
BRVK pmax pmax
comp=Z,87nm,1.0s
BRVK MLR MLR
comp=Z,10μm,15.0s
BRVK Borovoye 50.13 311 P **P** **08 41 54.4 -0.1**
BRVK Borovoye 50.13 311 IAMs_20 IAMs_20 09 04 09.7
comp=Z,6μm,18.0s
BTLS Baital 50.20 300⇑ *i*P **P** **08 41 54.4 -0.8**
comp=Z,54nm,1.5s,baz=300
BTLS *e*S **S** **08 49 04.1 -1.4**
baz=300
BTLS Baital 50.20 300*c i*P **P** **08 41 54.3 -0.8**
BTLS *e*S **S** **08 49 04.1 -1.4**
BTLS pmax pmax
comp=Z,54nm,1.5s
OTUK Ortayu 50.27 305 P **P** **08 41 54.2 -1.5**
SGDS Sogindy 50.35 298⇑ *i*P **P** **08 41 55.1 -1.3**
comp=Z,93nm,2.0s,baz=298
SGDS Sogindy 50.35 298*c i*P **P** **08 41 55.1 -1.3**
SGDS pmax pmax
comp=Z,93nm,2.0s
KOLN Koldanda 50.38 276 *e*P **P** **08 41 57.8 +0.8**
comp=Z,619nm,1.3s
KBK Karagaybulak 50.42 297 P **P** **08 41 57.2 +0.1**
SNR=66
CHMS Chumysh 50.43 298 P **P** **08 41 58.0 +1.0**
SNR=6.3
EPYK Eagle Plains 50.48 31 IAmb IAmb 08 42 23.5
comp=Z,70nm,1.0s
EPYK IAMs_20 IAMs_20 09 05 47.1
comp=Z,3μm,18.0s
EPYK Eagle Plains 50.48 31 P 08 41 58.2
baz=280,SNR=19
EPYK S 08 49 09.9
baz=280
USP Ospenovka 50.50 298 P **P** **08 41 57.4 -0.2**
SNR=20
FRU1 Bishkek 50.58 297 P **P** **08 41 58.6 +0.4**
FRU1 pmax pmax
comp=Z,338nm,1.6s
FRU1 MLR MLR
comp=Z,8μm,18.0s
FRU1 Bishkek 50.58 297 P **P** **08 41 58.6 +0.4**
PYUN Piuthan 50.68 276 *e*P **P** **08 42 00.6 +1.3**
AAK Ala-Archa 50.73 297 LR LR 09 04 40.7
comp=Z,9μm,18.9s,baz=88,slow=38
AAK Ala-Archa 50.73 297 P **P** **08 41 59.9 +0.4**
SNR=15
AAK Ala-Archa 50.73 297 *i* P **P** **08 41 59.5 +0.1**
SNR=23
AAK Ala-Archa 50.73 297 *i* P **P** **08 41 59.0 -0.4**
AAK pmax pmax
comp=Z,239nm,1.5s
AAK MLR MLR
comp=Z,27μm,17.0s
AAK Ala-Archa 50.73 297 P **P** **08 41 59.6 +0.2**
AAK IAmb IAmb 08 42 16.0
comp=Z,101nm,1.4s
AAK Ala-Archa 50.73 297 ⇑P **P** **08 41 59.8 +0.4**
AAK ⇑P **P** **08 41 59.9 +0.4**
KSH Kashi 50.88 293⇑ *i*P **P** **08 42 04.8 +4.3**
KSH sP sP 08 42 14.1 +3.6
KSH S **S** **08 49 19.4 +4.1**
KSH sS sS 08 49 32.2 +4.9
KSH SS **SS** **08 52 51.5 +1.6**
KSH pmax pmax
comp=Z,57nm,1.5s
KSH pmax pmax
comp=Z,2μm,4.5s
KSH L L
comp=Z,12μm,14.0s
KSH L L
comp=Z,18μm,14.2s
KSH L L
comp=Z,28μm,15.4s
HNR Honiara 51.13 159 IAMs_20 IAMs_20 09 00 57.1
comp=Z,3μm,18.0s
EKS2 Erkin-Say 51.22 297 P **P** **08 42 02.7 -0.3**
SNR=36
HYT Haines Junctio 51.26 38 IAMs_20 IAMs_20 09 05 53.4
comp=Z,3μm,18.0s
INK Inuvik 51.35 28 P **P** **08 42 03.9 +0.4**
comp=Z,7.4nm,0.6s,baz=300,slow=6.2,SNR=42
INK S **S** **08 49 21.1 +0.3**
comp=Z,3.6nm,1.3s,baz=356,slow=13,SNR=2.0
INK Inuvik 51.35 28 IAMs_20 IAMs_20 09 07 44.8
comp=Z,4μm,18.0s
INK Inuvik 51.35 28⇑ P **P** **08 42 04.3 +0.9**
INK ⇑P **P** **08 42 04.3 +0.9**
INK Inuvik 51.35 28 P 08 42 04.2
baz=281,SNR=19
INK S 08 49 21.2
baz=281
AML Almayashu 51.47 297 P **P** **08 42 06.0 +0.7**
SNR=61
AML Almayashu 51.47 297 *i* P **P** **08 42 05.6 +0.4**
SNR=62
KULM Kulim 51.52 240 P **P** **08 42 07.0 +1.6**
DGPR DIGLIPUR 51.55 254⇑ *e*P **P** **08 42 06.2 +0.6**
DGPR IAmb IAmb 08 42 16.7
comp=Z,165nm,1.1s
IPM Ipoh 51.87 239 P **P** **08 42 09.0 +1.0**
WHY Whitehorse 52.55 38 P **P** **08 42 15.3 +2.6**
WHY Whitehorse 52.55 38 P 08 42 13.7
baz=286
WHY S 08 49 39.9
baz=286
DZA Taraz 52.80 299 *e*P **P** **08 42 13.6 -1.1**
baz=298
DZA Taraz 52.80 299 *e*P **P** **08 42 13.5 -1.1**
KDU Kakadu 53.03 193 ⇑P **P** **08 42 17.3 +0.8**
BESE Bessie Mountai 53.16 40 IAMs_20 IAMs_20 09 05 18.7
comp=Z,3μm,18.0s
KK31 Karatay Array 53.27 299 *i* P **P** **08 42 17.5 -0.6**
KK31 Karatay Array 53.27 299 IAmb IAmb 08 42 34.3
comp=Z,58nm,0.9s
KKAR Karatay Array 53.27 299 IAmb IAmb 08 42 34.3
comp=Z,58nm,0.9s
KKAR Karatay Array 53.27 299⇑ P **P** **08 42 17.5 -0.6**
KKAR ⇑P **P** **08 42 18.1 -0.1**
DDI Dehra Dun 53.37 281 *e*P **P** **08 42 18.6 -0.5**
SIT Sitka 53.38 42 S 08 49 47.3
baz=288
DSRI Dabo 53.43 231 P **P** **08 42 18.2 -1.3**
comp=Z,1μmcomp=Z,2μmcomp=Z,29nm,1.5s
MTN Manton Dam 53.44 195 P **P** **08 42 21.4 +1.9**
MTN IAmb IAmb 08 42 48.5
comp=Z,46nm,0.9s
MTN Manton Dam 53.44 195⇓ P **P** **08 42 21.3 +1.8**
MTN ⇑P **pP** **08 42 23.6 -3.0**
TPI Tanjungpandan 53.47 227 P **P** **08 42 17.6 -2.2**
comp=Z,901nmcomp=Z,45nm,1.4s
JIS Juneau Island 53.49 41 IAMs_20 IAMs_20 09 07 56.4
comp=Z,3μm,18.0s
SMLA Simla 53.65 283 *e*P **P** **08 42 20.5 -0.5**
DHRM DHARAMSHALA 53.77 284 *e*P **P** **08 42 19.9 -2.3**
DHRM IAmb IAmb 08 42 30.9
comp=Z,180nm,1.2s
PPBI Pangkal Pinang 53.85 229 P **P** **08 42 22.2 -0.4**
comp=Z,18μmcomp=Z,71nm,0.9s
TWSI Taliwang, Sumb 54.06 213 P **P** **08 42 22.9 -1.2**
comp=Z,32nm,1.1s
CHM Chimkent 54.20 299 *e*S **S** **08 50 03.4 +2.9**
baz=298
SVE Sverdlovsk 54.32 318*d i*P **P** **08 42 26.6 +1.1**
SVE *e* 08 44 34.3
SVE *e*S **S** **08 50 03.2 +1.7**
SVE *e* 08 52 11.7
SVE pmax pmax
comp=Z,188nm,1.3s
SVE MLR MLR
comp=Z,40μm,15.0s
SVE MLR MLR
comp=E,28μm,15.0s
SVE MLR MLR
comp=N,8μm,14.0s
C36M Paulatuk 54.41 26 P 08 42 26.0
baz=288
PSI Prapat 54.51 239 P **P** **08 42 27.1 -0.5**
PSI pmax pmax
comp=Z,41nm,1.1s
PSI MLR MLR
comp=Z,3μm,18.0s
RPSI Rantau Prapat 54.59 239 P **P** **08 42 27.1 -0.9**
RPSI IAmb IAmb 08 42 46.3
comp=Z,41nm,1.1s
RPSI IAMs_20 IAMs_20 09 06 58.8
comp=Z,3μm,18.0s
BKNI Bangkinang 55.00 235 P **P** **08 42 32.2 +1.3**
BKNI IAMs_20 IAMs_20 09 08 07.9
comp=Z,4μm,18.0s
BKNI Bangkinang 55.00 235⇑ P **P** **08 42 32.3 +1.3**
BKNI Bangkinang 55.00 235 P **P** **08 42 32.0 +1.0**
comp=Z,3μmcomp=Z,2μmcomp=Z,165nm,1.3s
MLSI Meulaboh, Aceh 55.14 243 P **P** **08 42 30.3 -1.7**
comp=Z,108nm,1.2s
NIL Nilore 55.38 287 P **P** **08 42 34.9 +1.3**
NIL pmax pmax
comp=Z,1μm,2.0s
NIL MLR MLR
comp=Z,3μm,18.0s
NIL Nilore 55.38 287 P **P** **08 42 34.9 +1.3**
NIL Nilore 55.38 287 IAMs_20 IAMs_20 09 07 56.8
comp=Z,3μm,18.0s
ARU Arti 55.53 318 LR LR 09 09 03.3
comp=Z,15μm,18.4s,baz=62,slow=39
ARU Arti 55.53 318*c i*P **P** **08 42 34.5 +0.2**
ARU 08 43 33.1
ARU 08 44 37.1
ARU S **S** **08 50 21.8 +4.0**
ARU 08 52 25.1
ARU pmax pmax
comp=Z,235nm,1.1s
ARU pmax pmax
comp=Z,1μm,10.1s
ARU MLR MLR
comp=Z,31μm,15.0s
ARU Arti 55.53 318 P **P** **08 42 34.3 0.0**
SDSI Sungai Dareh 55.72 234 P **P** **08 42 36.5 +0.3**
comp=Z,141nm,1.3s
PWJI Pagerwojo 55.74 219 P **P** **08 42 32.9 -3.3**
comp=Z,113nm,1.3s
VIS Vishakhapatnam 56.05 265 *e*P **P** **08 42 37.9 -0.7**
VIS IAmb IAmb 08 42 40.7
comp=Z,59nm,1.2s
CHGR Chuyangaron 56.05 295 P **P** **08 42 37.9 -0.6**
GSI Gunungsitoli 56.52 239 P **P** **08 42 42.5 +0.6**
KPJI Karang Pucung 56.59 222 P **P** **08 42 40.9 -1.4**
comp=Z,77nm,1.1s
KNRA Kununurra 56.69 197 P **P** **08 42 43.9 +1.0**
KNRA IAmb IAmb 08 43 12.5
comp=Z,60nm,1.0s
LHSI Lahat 56.72 230 P **P** **08 42 44.0 +0.7**
comp=Z,4μmcomp=Z,224nm,1.1s
MDSI Maura Dua 56.87 229 P **P** **08 42 44.6 +0.3**
comp=Z,1μmcomp=Z,49nm,1.6s
EUNU Eureka 57.40 9 IAmb IAmb 08 43 52.0
comp=Z,64nm,1.1s
ALE Alert 57.44 4 IAMs_20 IAMs_20 09 11 37.7
comp=Z,5μm,18.0s
BHPL Bhopal 57.49 274⇑ *e*P **P** **08 42 47.5 -1.3**
BHPL IAmb IAmb 08 42 48.8
comp=Z,114nm,1.2s
AB31 Akbulak array 57.55 310 *i* P **P** **08 42 48.3 -0.4**
KBL Kabul 58.03 290 P **P** **08 42 52.3 -0.4**
KBL pmax pmax
comp=Z,145nm,1.3s
KBL MLR MLR
comp=Z,6μm,20.0s
KBL Kabul 58.03 290 P **P** **08 42 52.3 -0.4**
AKTO Aktyubinsk 58.18 311 LR LR 09 09 18.2
comp=Z,3μm,19.3s,baz=61,slow=38
KBS Kingsbay 58.40 350 *i* P **P** **08 42 55.1 +0.8**
KBS Kingsbay 58.40 350⇓ *e*P **P** **08 42 55.8 +1.5**
KBS pmax pmax
comp=Z,82nm,1.0s
KBS MLR MLR
comp=Z,3μm,18.0s
KBS Kingsbay 58.40 350 P **P** **08 42 55.5 +1.2**
KBS Kingsbay 58.40 350 IAMs_20 IAMs_20 09 09 41.3
comp=Z,4μm,18.0s
NOR Nord 58.58 357⇑ *i*P **P** **08 42 55.8 +0.2**
NOR IAmb IAmb 08 42 56.4
comp=Z,28nm,1.1s
NOR IAMs_20 IAMs_20 09 16 27.1
comp=Z,4μm,15.2s
NOR Nord 58.58 357⇑ *i*P **P** **08 42 55.7 +0.2**
NOR MLR MLR
comp=Z,4μm,15.0s
SANVU Saraoutou 59.07 153 IAMs_20 IAMs_20 09 05 02.7
comp=Z,2μm,18.0s
KIRV Kirov 59.19 323 LR LR 09 11 00.5
comp=Z,2μm,21.5s,baz=54,slow=39
KIRV Kirov 59.19 323*c i*P **P** **08 43 00.2 +0.2**
HSPB Hornsund (broa 59.27 348 *e*P **P** **08 43 01.1 +0.8**
CTA Charters Tower 59.44 177 LR LR 09 05 46.2
comp=Z,1μm,21.1s,baz=358,slow=33
PRGR Permogore 59.50 327 *e*P **P** **08 43 02.2 0.0**
PRGR *e* 08 43 14.8
PRGR pmax pmax
comp=Z,128nm,1.2s
RES Resolute Bay 59.70 15 IAmb IAmb 08 43 53.6
comp=Z,36nm,0.8s
RES IAMs_20 IAMs_20 09 12 55.1
comp=Z,3μm,19.0s
WRAB Tennant Creek 59.84 190⇑ *e*P **P** **08 43 05.5 +0.6**
WRAB pmax pmax
comp=Z,40nm,1.7s
WRAB MLR MLR
comp=Z,2μm,18.0s
WRAB Tennant Creek 59.84 190 P **P** **08 43 05.6 +0.6**
WRAB IAmb IAmb 08 43 54.7
comp=Z,38nm,1.0s
WRA Warramunga Arr 59.85 190 P **P** **08 43 03.9 -1.1**
comp=Z,10nm,0.7s,baz=8.4,slow=6.8,SNR=50
WRA Warramunga Arr 59.85 190 *i* P **P** **08 43 04.8 -0.2**
WRA pmax pmax
comp=Z,10.0nm,0.7s
HYB Hyderabad 59.91 268 *i* P **P** **08 43 05.0 -0.7**
HYB Hyderabad 59.91 268 *e*P **P** **08 43 05.0 -0.7**
HYB IAmb IAmb 08 43 22.8
comp=Z,35nm,0.7s
LVZ Lovozero 60.44 336*c e*P **P** **08 43 08.3 -0.3**
LVZ pmax pmax
comp=Z,65nm,2.5s
LVZ MLR MLR
comp=Z,7nm,16.0s
YKA Yellowknife Ar 60.76 31 P **P** **08 43 10.1 -0.7**
comp=Z,4.7nm,0.9s,baz=298,slow=6.4,SNR=25
YKA Yellowknife Ar 60.76 31 *i* P **P** **08 43 12.3 +1.5**
YKA pmax pmax
comp=Z,12nm,1.1s
APA Apatity 61.01 336⇓ *i*P **P** **08 43 11.2 -1.2**
APA *i* 08 45 25.0
APA *i*S **S** **08 51 26.0 -3.0**
APA *i*SS SKKSac 08 53 01.0 -0.3
APA *i*SSS SSS 08 55 25.0
APA pmax pmax
comp=Z,21nm,1.0s
APA MLR MLR
comp=Z,6μm,18.0s
KEV Kevo 61.61 339 P **P** **08 43 16.7 +0.3**
KEV pmax pmax
comp=Z,219nm,1.9s
KEV MLR MLR
comp=Z,4μm,19.0s
KEV Kevo 61.61 339 P **P** **08 43 16.7 +0.3**
KEV IAMs_20 IAMs_20 09 14 37.6
comp=Z,4μm,19.0s
ARCES ARCESS Array B 62.16 339 P **P** **08 43 18.9 -1.3**
comp=Z,12nm,0.9s,baz=37,slow=6.2,SNR=15
ARCES LR LR 09 13 16.4
comp=Z,5μm,21.5s,baz=60,slow=39
ARCES ARCESS Array B 62.16 339 IAmb IAmb 08 43 36.9
comp=Z,60nm,1.2s
TULEG Thule 62.33 8⇑ *i*P **P** **08 43 20.2 -1.0**
TULEG IAmb IAmb 08 43 21.7
comp=Z,21nm,1.0s
TULEG *i* 08 43 35.3
TULEG IAMs_20 IAMs_20 09 12 49.6
comp=Z,6μm,19.2s
TULEG Thule 62.33 8 P **P** **08 43 20.6 -0.6**
TULEG IAmb IAmb 08 44 35.1
comp=Z,70nm,1.3s
KLMR Klimovskoe 62.46 328 *e*P **P** **08 43 19.6 -2.6**
KLMR S **S** **08 51 47.9 +0.5**
KLMR pmax pmax
comp=Z,144nm,1.4s
KLMR MLR MLR
comp=Z,9μm,16.0s
KLMR Klimovskoe 62.46 328 *e*P **P** **08 43 19.7 -2.5**
KLMR *e*P **P** **08 43 19.7 -2.5**
KLMR *e*P **P** **08 43 19.7 -2.5**
KLMR AMP 08 43 23.9
comp=Z,144nm,1.4s
KLMR *e*PP **PP** **08 45 33.7 -5.6**
KLMR S **S** **08 51 47.9 +0.5**
KLMR S **S** **08 51 47.9 +0.5**
KLMR LQ LQ 09 04 42.8
KLMR LQ LQ 09 04 42.8
KLMR LR LR 09 06 39.1
KLMR AMP 09 13 06.2
comp=Z,9μm,15.8s
NEEM North Greenlan 62.87 4⇑ *i*P **P** **08 43 25.4 +0.3**
NEEM IAmb IAmb 08 43 26.3
comp=Z,63nm,1.2s
NEEM IAMs_20 IAMs_20 09 16 00.3
comp=Z,4μm,17.0s
HRA Herat 62.98 293 P **P** **08 43 26.4 0.0**
BELG Belogornoye 63.03 317 LR LR 09 12 51.8
comp=Z,5μm,20.1s,baz=57,slow=38
DAG Danmarks Havn 63.34 355⇑ *i*P **P** **08 43 27.9 0.0**
DAG IAmb IAmb 08 43 29.1
comp=Z,38nm,0.9s
DAG IAMs_20 IAMs_20 09 15 58.1
comp=Z,3μm,16.1s
DAG Danmarks Havn 63.34 355⇑ *i*P **P** **08 43 27.9 0.0**
DAG pmax pmax
comp=Z,38nm,0.9s
DAG MLR MLR
comp=Z,3μm,16.0s
AS31 Alice Springs 63.58 190 P **P** **08 43 30.0 -0.1**
ASAR Alice Springs 63.58 190 P **P** **08 43 30.0 -0.1**
comp=Z,5.3nm,0.8s,baz=9.6,slow=6.5,SNR=35
ASAR LR LR 09 11 42.1
comp=Z,834nm,19.8s,baz=10,slow=36
ASAR Alice Springs 63.58 190 P **P** **08 43 30.6 +0.5**
ASAR Alice Springs 63.58 190 P **P** **08 43 30.6 +0.5**
A04D Lummi Island 63.78 47 P 08 43 31.6
baz=301
A04D S 08 52 06.1
baz=301
NLWA Neilton Lookou 63.79 49 P **P** **08 43 34.3 +2.9**
NLWA IAmb IAmb 08 43 58.4
comp=Z,42nm,1.1s
A05A Maple Falls 63.99 47 P **P** **08 43 35.0 +2.5**
A05A IAmb IAmb 08 43 58.5
comp=Z,32nm,1.0s
GEYT Alibeck 64.02 299 P **P** **08 43 32.6 -0.5**
comp=Z,35nm,1.1s,baz=83,slow=15,SNR=28
GEYT LR LR 09 14 53.4
comp=Z,3μm,19.5s,baz=80,slow=39
GYA0B ALIBECK ARRAY 64.02 299 IAmb IAmb 08 43 50.9
comp=Z,41nm,0.9s
D03D Eldon 64.17 49 P 08 43 34.0
baz=301
D03D S 08 52 11.1
baz=301
B05A Bryant 64.36 48 P 08 43 36.2
baz=302
B05A S 08 52 12.4
baz=302
E03A Lebam 64.40 50 P **P** **08 43 37.4 +2.1**
PALK Pallekele 64.51 258 LR LR 09 13 34.0
comp=Z,1μm,18.9s,baz=144,slow=38
PALK Pallekele 64.51 258 IAMs_20 IAMs_20 09 12 46.5
comp=Z,2μm,18.0s
B06A Marblemount 64.58 47 IAmb IAmb 08 44 02.5
comp=Z,36nm,1.0s

PSA00	**Pilbara Seismi**	**64.75**	**204**	P		**P**		**08 43 38.7**	**+0.9**	
PSA00	comp=Z,69nm,1.8s			IAmb		IAmb		08 43 55.7		
E04D	**Cinebar**	**64.98**	**49**	P				08 43 40.2		
E04D	baz=302			S				08 52 17.7		
D05A	**Enumclaw**	**64.99**	**49**	P		**P**		**08 43 41.2**	**+2.0**	
D05A	comp=Z,65nm,1.2s			IAmb		IAmb		08 44 18.4		
DZM	**Mont Dzumac**	**65.00**	**156**	*e*P		**P**		**08 43 40.9**	**+1.4**	
DZM	comp=Z,116nm,1.4s			*e*S		**S**		**08 52 18.8**	**-1.2**	
DZM	comp=Z,823nm,23.6s **Mont Dzumac**	**65.00**	**156**	*e*LR		LR		09 03 12.3		
DZM	comp=Z,3µm,22.1s **Mont Dzumac**	**65.00**	**156**	P		**P**		**08 43 40.2**	**+0.7**	
DZM	comp=Z,16nm,1.1s,baz=14,slow=10.0,SNR=3.2			IAMs_20		IAMs_20		09 14 25.7		
ONTNC	comp=Z,4µm,18.0s **Ouen Toro**	**65.23**	**157**	IAMs_20		IAMs_20		09 14 40.6		
KULLO	comp=Z,3µm,18.0s **Kullorsuaq**	**65.26**	**6**⇑	*i*P		**P**		**08 43 40.3**	**-0.2**	
KULLO	comp=Z,38nm,1.2s			IAmb		IAmb		08 43 41.2		
KULLO	comp=Z,5µm,18.1s			IAMs_20		IAMs_20		09 15 35.6		
KULLO	**Kullorsuaq**	**65.26**	**6**⇑	*i*P		**P**		**08 43 40.3**	**-0.2**	
KULLO	comp=Z,38nm,1.2s			pmax		pmax				
KULLO	comp=Z,5µm,18.0s			MLR		MLR				
G03D	**McMinnville, O**	**65.28**	**51**	S				08 52 22.6		
OUENC	baz=302 **Ouen Island, N**	**65.45**	**156**	IAMs_20		IAMs_20		09 14 40.6		
I02D	comp=Z,3µm,19.0s **Swisshome**	**65.51**	**52**	P				08 43 42.7		
MSVF	baz=302 **Nonsavu**	**65.54**	**144**	IAMs_20		IAMs_20		09 09 10.8		
PINNC	comp=Z,2µm,19.0s **Pines Island,**	**65.82**	**156**	IAMs_20		IAMs_20		09 09 22.5		
DBG	comp=Z,3µm,20.0s **Daneborg**	**65.84**	**355**⇑	*i*P		**P**		**08 43 44.0**	**-0.3**	
DBG	comp=Z,25nm,1.2s			IAmb		IAmb		08 43 45.3		
DBG	comp=Z,3µm,17.7s			IAMs_20		IAMs_20		09 17 24.0		
B08A	**Colville Reser**	**65.87**	**46**	P		**P**		**08 43 45.5**	**+0.6**	
B08A	comp=Z,46nm,1.2s			IAmb		IAmb		08 44 11.1		
B08A	comp=Z,2µm,18.0s			IAMs_20		IAMs_20		09 15 57.6		
J01E	**Myrtle Point**	**65.96**	**53**	P				08 43 47.1		
H04D	baz=302 **Lebanon**	**65.96**	**51**	P				08 43 46.8		
F05D	baz=303 **White Salmon**	**65.99**	**50**	P				08 43 46.3		
F05D	baz=303			S				08 52 30.2		
I03D	**Drain, OR**	**66.03**	**52**	P				08 43 47.1		
I03D	baz=303			S				08 52 40.2		
MOS	baz=303 **Moscow**	**66.15**	**324**	*e*P		**P**		**08 43 45.1**	**-1.4**	
MOS				*e*				08 43 58.9		
MOS				*e*				08 46 08.6		
MOS				*e*S		**S**		**08 52 35.3**	**+2.0**	
MOS				*e*				08 52 47.1		
MOS	comp=Z,170nm,1.6s			pmax		pmax				
MOS	comp=N,8µm,15.0s			MLR		MLR				
MOS	comp=Z,15µm,15.0s			MLR		MLR				
MOS	comp=E,12µm,16.0s			MLR		MLR				
H04A	**Detroit Lake**	**66.21**	**51**	P		**P**		**08 43 48.6**	**+1.4**	
K02D	**Willamette Mer**	**66.38**	**53**	P				08 43 49.7		
G05D	baz=303 **Wamic, OR**	**66.42**	**50**	P				08 43 49.2		
G05D	baz=303			S				08 52 36.6		
I04A	**Tendick Farm,**	**66.55**	**52**	P				08 43 50.3		
I04A	baz=303,SNR=5.1			S				08 52 39.9		
E07A	baz=303 **Sunnyside**	**66.56**	**48**	IAmb		IAmb		08 44 16.0		
VRH	comp=Z,65nm,1.2s **Novokhopyorsk**	**66.77**	**318**	*e*P		**P**		**08 43 50.2**	**-0.3**	
VRH				*e*				08 46 20.5		
VRH				*e*S		**S**		**08 52 36.7**	**-4.1**	
VRH	comp=Z,130nm,1.7s			pmax		pmax				
VRH	comp=N,360nm,8.0s			smax		smax				
VRH	comp=Z,24µm,16.0s			MLR		MLR				
C09A	**Chrisman Ranch**	**66.77**	**47**	IAmb		IAmb		08 44 16.9		
C09A	comp=Z,53nm,1.0s			IAMs_20		IAMs_20		09 16 51.5		
D08A	comp=Z,2µm,18.0s **Wollman Farm,**	**66.82**	**47**	IAmb		IAmb		08 44 17.1		
HAWA	comp=Z,38nm,1.0s **Hanford**	**66.84**	**48**	IAmb		IAmb		08 44 17.6		
F07A	comp=Z,31nm,1.1s **Phinny Hill Vi**	**66.88**	**49**	IAmb		IAmb		08 44 18.1		
I05D	comp=Z,52nm,1.0s **Terrebonne, OR**	**66.90**	**51**	P				08 43 53.1		
OBN	baz=303 **Obninsk**	**67.01**	**323**	LR		LR		09 18 07.4		
OBN	comp=Z,660nm,20.4s,baz=58,slow=40 **Obninsk**	**67.01**	**323***c*	*i*P		**P**		**08 43 52.0**	**0.0**	
OBN				*e*				08 46 19.2		
OBN				*e*SS		SS		08 57 04.2	+2.6	
OBN	comp=Z,202nm,1.7s			pmax		pmax				
OBN	comp=Z,15µm,16.0s			MLR		MLR				
OBN	**Obninsk**	**67.01**	**323**	P		**P**		**08 43 52.2**	**+0.2**	
OBN	comp=Z,3µm,20.0s			IAMs_20		IAMs_20		09 12 53.0		
J04D	**Umpqua Nationa**	**67.04**	**52**	P				08 43 53.6		
E08A	baz=303 **Dider Farm, El**	**67.06**	**48**	P		**P**		**08 43 54.3**	**+1.9**	
E08A	comp=Z,31nm,1.0s			IAmb		IAmb		08 44 18.8		
NEW	**Newport**	**67.16**	**46**	IAmb		IAmb		08 44 19.3		
NEW	comp=Z,50nm,1.2s **Newport**	**67.16**	**46**	P				08 43 53.8		
FINES	baz=304,SNR=22 **FINESS Array B**	**67.29**	**332**	P		**P**		**08 43 52.7**	**-1.0**	
FINES	comp=Z,44nm,0.8s,baz=55,slow=7.2,SNR=77			LR		LR		09 16 08.6		
FINES	comp=Z,7µm,18.4s,baz=36,slow=39 **FINESS Array B**	**67.29**	**332**	*i*P		**P**		**08 43 53.2**	**-0.5**	
FINES	comp=Z,44nm,0.8s			pmax		pmax				
KHMM	**Horse Mountain**	**67.32**	**55**			**PcP**		**08 44 21.1**	**-1.0**	
LPSR	**Galich'ya Gora**	**67.37**	**320**	*e*P		**P**		**08 43 54.3**	**0.0**	
LPSR				*e*				08 46 25.3		
LPSR				*e*S		**S**		**08 52 46.8**	**-1.3**	
LPSR	comp=Z,120nm,1.4s			pmax		pmax				
LPSR	comp=E,670nm,7.8s			smax		smax				
LPSR	comp=Z,18µm,14.0s			MLR		MLR				
L04D	**Klamath Falls**	**67.48**	**53**	P				08 43 56.7		
YBH	baz=304 **Yreka Blue Hor**	**67.50**	**54**	P		**P**		**08 43 57.5**	**+2.0**	
YBH	comp=Z,128nm,1.9s			pmax		pmax				
YBH	**Yreka Blue Hor**	**67.50**	**54**	P		**P**		**08 43 57.5**	**+2.0**	
E09A	**Wood Farm, Sta**	**67.57**	**48**	IAmb		IAmb		08 44 22.2		
AFI	comp=Z,59nm,1.1s **Afiamalu**	**67.59**	**132**	IAMs_20		IAMs_20		09 13 21.2		
M02C	comp=Z,3µm,19.0s **Callahan**	**67.59**	**54**	P				08 43 57.4		
M02C	baz=304			S				08 52 50.2		
K04D	baz=304 **Chiloquin, OR**	**67.60**	**53**	P				08 43 57.7		
VORR	baz=304 **Voronezh**	**67.78**	**319**	*e*P		**P**		**08 43 55.0**	**-1.9**	
VORR	comp=Z,300nm,1.4s			pmax		pmax				
N02D	**Trinity Center**	**67.92**	**55**	P				08 43 59.6		
N02D	baz=304			S				08 52 52.3		
M04C	**Macdoel**	**68.01**	**54**	P				08 44 00.0		
VSR	baz=304,SNR=5.1 **Storozhevoye**	**68.07**	**319**	*e*P		**P**		**08 43 58.4**	**-0.4**	
VSR				*e*				08 46 27.2		
VSR				*e*S		**S**		**08 52 49.7**	**-6.8**	
VSR	comp=Z,100nm,1.4s			pmax		pmax				
VSR	comp=N,570nm,9.7s			smax		smax				
VSR	comp=Z,12µm,16.0s			MLR		MLR				
SUMG	**Summit**	**68.11**	**1**⇑	*i*P		**P**		**08 44 00.2**	**+1.0**	
SUMG	comp=Z,63nm,1.1s			IAmb		IAmb		08 44 00.7		
SUMG	comp=Z,4µm,16.6s			IAMs_20		IAMs_20		09 17 38.2		
SUMG	**Summit**	**68.11**	**1**⇑	*i*P		**P**		**08 44 00.1**	**+1.0**	
SUMG	comp=Z,63nm,1.1s			pmax		pmax				
SUMG	comp=Z,4µm,17.0s			MLR		MLR				
SUMG	**Summit**	**68.11**	**1**	IAmb		IAmb		08 44 00.9		
SUMG	comp=Z,57nm,1.1s			IAMs_20		IAMs_20		09 16 16.2		
I07A	comp=Z,4µm,19.0s **Izee**	**68.14**	**50**	P		**P**		**08 44 00.6**	**+1.0**	
VORD	**Divnogorie**	**68.15**	**319**	*e*P		**P**		**08 43 58.8**	**-0.5**	
VORD				*e*				08 46 27.2		
VORD				*e*S		**S**		**08 52 51.6**	**-5.9**	
VORD	comp=Z,110nm,1.6s			pmax		pmax				
VORD	comp=N,40nm,3.9s			smax		smax				
VORD	comp=Z,6µm,13.0s			MLR		MLR				
MAK	**Makhachkala**	**68.16**	**308**	*e*P		**P**		**08 43 54.8**	**-4.6**	
MAK				*e*				08 44 20.0		
MAK				*e*				08 46 30.2		
MAK				*e*S		**S**		**08 52 50.2**	**-7.6**	
MAK	comp=Z,198nm,1.5s			pmax		pmax				
MAK	comp=Z,8µm,14.0s			MLR		MLR				
WDC	**Whiskeytown Da**	**68.24**	**55**	IAmb		IAmb		08 44 26.7		
O02D	comp=Z,47nm,1.1s **Mt. Diablo Mer**	**68.31**	**55**	P				08 44 00.7		
F10A	baz=304,SNR=5.9 **Beach Ranch, E**	**68.40**	**48**	IAmb		IAmb		08 44 27.4		
MEF	comp=Z,40nm,1.2s **Metsahovi**	**68.73**	**332**	*e*P		**P**		**08 44 03.4**	**+0.6**	
HOPS	**Hopland Field**	**68.79**	**57**	IAMs_20		IAMs_20		09 15 12.9		
O03E	comp=Z,2µm,18.0s **Paynes Creek**	**68.87**	**55**	P				08 44 04.8		
MOD	baz=305,SNR=10 **Modoc Plateau**	**68.89**	**53**	IAmb		IAmb		08 44 25.7		
JTMT	comp=Z,76nm,1.6s **Jette**	**69.01**	**45**	IAmb		IAmb		08 44 31.5		
VSU	comp=Z,62nm,1.1s **Vasula**	**69.06**	**330**	*e*P		**P**		**08 44 05.7**	**+0.9**	
VSU	**Vasula**	**69.06**	**330***c*	*i*P		**P**		**08 44 05.0**	**+0.2**	
VSU	comp=Z,198nm,0.9s			pmax		pmax				
VSU	comp=Z,14µm,16.0s			MLR		MLR				
RAF	**Rauma**	**69.09**	**334**	*e*P		**P**		**08 44 05.4**	**+0.4**	
J08A	**Circle Bar Ran**	**69.17**	**51**	IAmb		IAmb		08 44 32.8		
LGD	comp=Z,50nm,1.1s **Lagodekhi**	**69.56**	**308**	P		**P**		**08 44 08.6**	**+0.3**	
GOF	**Gofitskoye**	**69.59**	**312**⇑	*i*P		**P**		**08 44 09.3**	**+0.9**	
GOF				*e*S		**S**		**08 53 18.5**	**+3.7**	
GOF	comp=Z,119nm,0.7s			pmax		pmax				
WVOR	**Wild Horse Val**	**69.60**	**51**	IAmb		IAmb		08 44 30.2		
SCO	comp=Z,64nm,1.4s **Scoresbysund**	**69.71**	**355**⇑	*i*P		**P**		**08 44 09.5**	**+0.8**	
SCO	comp=Z,38nm,1.3s			IAmb		IAmb		08 44 10.0		
SCO	comp=Z,4µm,16.6s			IAMs_20		IAMs_20		09 20 30.2		
SCO	**Scoresbysund**	**69.71**	**355**	P		**P**		**08 44 09.2**	**+0.6**	
SCO	comp=Z,135nm,2.0s			pmax		pmax				
SCO	**Scoresbysund**	**69.71**	**355**	P		**P**		**08 44 09.2**	**+0.6**	
SCO	comp=Z,135nm,2.0s			IAmb		IAmb		08 44 24.8		
MSO	**Missoula**	**69.74**	**46**	IAmb		IAmb		08 44 35.5		
MSO	comp=Z,32nm,1.0s **Missoula**	**69.75**	**46**	P				08 44 10.6		
DDFL	baz=307,SNR=14 **Dedoflistskaro**	**69.86**	**307**	P		P		08 44 15.6	+5.4	
BEKR	**Beckworth**	**70.02**	**55**	IAmb		IAmb		08 44 37.6		
AAL	comp=Z,36nm,1.0s **Aland**	**70.31**	**334**	*e*P		**P**		**08 44 12.2**	**-0.3**	
ZEI	**Tsey**	**70.42**	**310**	*e*P		**P**		**08 44 11.6**	**-2.2**	
ZEI	comp=Z,76nm,1.5s			pmax		pmax				
KIV	**Kislovodsk**	**70.45**	**311**	⇓P		**P**		**08 44 15.4**	**+1.6**	
KIV	**Kislovodsk** SNR=44	**70.45**	**311**	*i* P		**P**		**08 44 15.2**	**+1.4**	
KIV	**Kislovodsk**	**70.45**	**311**	*e*P		**P**		**08 44 14.7**	**+0.9**	
KIV				*e*				08 46 50.5		
KIV				*e*S		**S**		**08 53 26.7**	**+1.6**	
KIV	comp=Z,672nm,1.1s			pmax		pmax				
KIV	comp=Z,509nm,4.2s			pmax		pmax				
KIV	comp=Z,25µm,18.0s			MLR		MLR				
KIV	**Kislovodsk**	**70.45**	**311**	P		**P**		**08 44 14.1**	**+0.4**	
KBZ	**Khabaz**	**70.46**	**311**	P		**P**		**08 44 13.3**	**-0.4**	
KBZ	comp=Z,65nm,0.9s,baz=60,slow=3.8,SNR=94			S		**S**		**08 53 22.4**	**-2.6**	
KBZ	comp=Z,0.5nm,0.3s,baz=49,slow=19,SNR=1.4			LR		LR		09 18 13.4		
KBZ	comp=Z,3µm,18.0s,baz=26,slow=39 **Khabaz**	**70.46**	**311***c*	*i*P		**P**		**08 44 14.7**	**+1.0**	
KBZ	comp=Z,6µm,14.9s			pmax		pmax				
FFC	**Flin Flon**	**70.66**	**34**	P		**P**		**08 44 15.1**	**+0.3**	
FFC	comp=Z,39nm,1.2s			pmax		pmax				
FFC	comp=Z,2µm,18.0s			MLR		MLR				
FFC	**Flin Flon**	**70.66**	**34**	P		**P**		**08 44 15.1**	**+0.3**	
FFC	comp=Z,39nm,1.1s			IAmb		IAmb		08 44 20.1		
MFID	**Camas Ranch**	**70.70**	**49**	IAmb		IAmb		08 44 41.9		
PAHR	comp=Z,60nm,1.3s **Pah Rah Range**	**70.72**	**54**	IAmb		IAmb		08 44 42.0		
VCNR	comp=Z,53nm,1.2s **Virginia City**	**70.80**	**55**	IAmb		IAmb		08 44 42.8		
ONI	comp=Z,29nm,0.9s **Oni**	**70.81**	**310**	P		**P**		**08 44 18.5**	**+2.6**	
NEY	**Neytrino**	**70.85**	**311**⇑	*e*P		**P**		**08 44 14.0**	**-2.3**	
NEY	comp=Z,3µm,15.0s			MLR		MLR				
KZRT	**Kazreti**	**70.95**	**308**	P		**P**		**08 44 18.0**	**+1.2**	
ILULI	**Ilulissat**	**70.96**	**5**	IAmb		IAmb		08 44 50.5		
FCC	comp=Z,27nm,0.8s **Fort Churchill**	**70.97**	**28**	P		**P**		**08 44 19.6**	**+3.1**	
FCC	comp=Z,40nm,1.3s			pmax		pmax				
FCC	comp=Z,2µm,20.0s			MLR		MLR				
FCC	**Fort Churchill**	**70.97**	**28**	P		**P**		**08 44 19.6**	**+3.1**	
FCC	comp=Z,40nm,1.3s			IAmb		IAmb		08 44 21.6		
FCC	comp=Z,2µm,20.0s			IAMs_20		IAMs_20		09 19 56.3		
SAO	**San Andreas Ge**	**71.12**	**58**	IAmb		IAmb		08 44 23.7		
STKA	comp=Z,76nm,1.9s **Stephens Creek**	**71.15**	**182**	P		**P**		**08 44 18.3**	**+0.5**	
STKA	comp=Z,3.8nm,0.7s,baz=356,slow=6.8,SNR=13			LR		LR		09 20 58.3		
STKA	comp=Z,670nm,18.1s,baz=13,slow=40 **Stephens Creek**	**71.15**	**182**	P		**P**		**08 44 19.0**	**+1.2**	
STKA	comp=Z,16nm,2.0s			pmax		pmax				
STKA	**Stephens Creek**	**71.15**	**182**	P		**P**		**08 44 19.0**	**+1.2**	
IDID	**Didziasalis**	**71.20**	**327**	*e*P		**P**		**08 44 19.0**	**+1.0**	
YERR	**Yerington**	**71.24**	**55**	IAmb		IAmb		08 44 45.3		
EGMT	comp=Z,52nm,1.0s **Eagleton**	**71.27**	**43**	P				08 44 19.4		
MNK	baz=309,SNR=17 **Minsk**	**71.27**	**326**	*i* P		**P**		**08 44 17.7**	**-0.7**	
MNK				*i*				08 44 38.0		
MNK				*i*				08 46 54.7		
MNK				*i* PPP		PPP		08 48 37.4		
MNK				*i* S		**S**		**08 53 32.7**	**-1.4**	
MNK				*i*				08 54 05.2		
MNK				*i* SS		**SS**		**08 58 06.4**	**-0.9**	
MNK	comp=Z,108nm,0.9s			pmax		pmax				
MNK	comp=E,9.0nm,1.1s			pmax		pmax				
MNK	comp=N,60nm,1.1s			pmax		pmax				
MNK	comp=Z,11µm,18.0s			MLR		MLR				
MNK	comp=N,7µm,18.0s			MLR		MLR				
MNK	comp=E,745nm,18.0s			MLR		MLR				
MNK	**Minsk**	**71.27**	**326**	*i* P		**P**		**08 44 17.8**	**-0.7**	
MNK	comp=E,9.0nm,1.1s			*i* P		**P**		**08 44 17.8**	**-0.7**	
MNK	comp=N,60nm,1.1s			*i* P		**P**		**08 44 17.8**	**-0.7**	
MNK	comp=Z,108nm,0.9s,baz=227			*i* PcP		**PcP**		**08 44 38.0**	**-0.2**	
MNK				*i* PP		**PP**		**08 46 54.7**	**-1.3**	
MNK				*i* PPP		PPP		08 48 37.5		
MNK				*i* S		**S**		**08 53 32.8**	**-1.3**	
MNK				*i* ScS		**SKiKP**		**08 54 05.3**	**+8.4**	
MNK				*i* SS		**SS**		**08 58 06.5**	**-0.8**	
MNK				*i* SSS		SSS		09 01 25.2		
MNK				*i* LQ		LQ		09 09 27.0		
MNK				*i* LR		LR		09 13 13.1		
MNK				*i* LRM		MLR		09 18 44.6		
MNK	comp=Z,11µm,18.1s			*i* LRM		MLR		09 18 47.8		
MNK	comp=N,7µm,18.0s			*i* LRM		MLR		09 19 28.7		
MNK	comp=E,745nm,18.0s									
ISAL	**Salakas**	**71.28**	**328**	*e*P		**P**		**08 44 19.5**	**+1.1**	
SLIT	**Slitere, Latvi**	**71.33**	**331**	*e*P		**P**		**08 44 19.0**	**+0.2**	
UPP	**Uppsala**	**71.35**	**334**	*e*P		**P**		**08 44 19.5**	**+0.7**	
DLMT	**Dillon**	**71.38**	**46**	IAmb		IAmb		08 44 45.9		
HLID	comp=Z,52nm,1.1s **Hailey**	**71.44**	**49**	IAmb		IAmb		08 44 46.5		
HLID	comp=Z,37nm,1.1s **Hailey**	**71.44**	**49**	P				08 44 20.8		
NACGM	baz=307,SNR=23 **Naroch**	**71.46**	**327**	*i* P		**P**		**08 44 20.6**	**+1.0**	
GNI	**Garni**	**71.47**	**307**	P		**P**		**08 44 21.2**	**+1.1**	
GNI	**Garni**	**71.47**	**307***c*	*i*P		**P**		**08 44 21.4**	**+1.3**	
GNI	comp=Z,122nm,1.7s			pmax		pmax				
GNI	**Garni**	**71.47**	**307**	P		**P**		**08 44 21.4**	**+1.3**	
AKH	**Akhalkalaki**	**71.48**	**309**	⇑P		**P**		**08 44 21.8**	**+1.6**	
AKH	**Akhalkalaki**	**71.48**	**309**	P		**P**		**08 44 21.9**	**+1.6**	
ICESG	**Greenland Ices**	**71.59**	**1**⇑	*i*P		**P**		**08 44 21.5**	**+0.9**	
ICESG	comp=Z,79nm,1.1s			IAmb		IAmb		08 44 22.5		
ICESG	comp=Z,3µm,16.5s			IAMs_20		IAMs_20		09 19 21.7		
PMPB	**Monarch Peak**	**71.86**	**58**	P		**P**		**08 44 23.5**	**+1.0**	
PMPB	comp=Z,124nm,1.7s			IAmb		IAmb		08 44 50.4		
KVN	**Kaiserville**	**71.91**	**54**	IAmb		IAmb		08 44 49.5		
BANOM	comp=Z,59nm,1.0s **Banah**	**71.93**	**289**	P		**P**		**08 44 22.6**	**-0.3**	
SHME	**Shamm**	**71.97**	**289**	*i* P		**P**		**08 44 22.9**	**-0.2**	
LHV	SNR=6.5 **Little Huntoon**	**72.14**	**55**	IAMs_20		IAMs_20		09 08 39.3		
NVAR	comp=Z,2µm,20.0s **Mina Array Bea**	**72.16**	**55**	P		**P**		**08 44 25.2**	**+0.8**	
NVAR	comp=Z,19nm,1.0s,baz=287,slow=6.0,SNR=38			S		**S**		**08 53 48.0**	**+2.7**	
NVAR	comp=Z,0.2nm,0.5s,baz=216,slow=2.9,SNR=1.1			LR		LR		09 17 30.5		
PABE	comp=Z,839nm,18.1s,baz=304,slow=37 **Paberze**	**72.20**	**329**	*e*P		**P**		**08 44 24.9**	**+0.9**	
KARS	**Kars**	**72.20**	**308**	P		**P**		**08 44 25.4**	**+0.9**	
KARS	comp=Z,127nm,0.8s			pmax		pmax				
KARS	comp=Z,6µm,19.0s			MLR		MLR				
KARS	**Kars**	**72.20**	**308**	P		**P**		**08 44 25.4**	**+0.9**	
NC303	**NORSAR Array S**	**72.24**	**338**	IAmb		IAmb		08 44 25.9		
MLAC	comp=Z,66nm,1.1s **Mammoth, Mammo**	**72.29**	**56**	P				08 44 26.4		
MSFE	baz=307,SNR=11 **Esma-Masafi**	**72.36**	**288**	P		**P**		**08 44 25.0**	**-0.6**	
SOC	**Sochi**	**72.39**	**312**	*e*P		**P**		**08 44 24.7**	**-0.6**	
SOC				*e*				08 47 02.5		
SOC				*e*PPP		PPP		08 48 47.4		
SOC				*e*S		**S**		**08 53 48.6**	**+1.3**	
SOC				*e*SS		**SS**		**08 58 30.7**	**+5.8**	
SOC	comp=Z,38nm,0.8s			pmax		pmax				
NB201	**NORSAR Array S**	**72.40**	**338**	P		**P**		**08 44 24.9**	**-0.3**	
NB2	**NORSAR Subarra**	**72.43**	**338**	P		**P**		**08 44 25.0**	**-0.4**	
NOA	baz=37,slow=6.2 **NORSAR Array B**	**72.43**	**338**	P		**P**		**08 44 24.4**	**-1.0**	
NOA	comp=Z,32nm,0.9s,baz=37,slow=6.0,SNR=56			LR		LR		09 20 33.7		
YHB	comp=Z,5µm,18.1s,baz=30,slow=40 **Horse Butte**	**72.53**	**46**	IAmb		IAmb		08 44 53.0		
UOSS	comp=Z,44nm,1.1s **Minazif**	**72.57**	**288**	P		**P**		**08 44 26.5**	**-0.2**	
UOSS	**Minazif**	**72.57**	**288**	P		**P**		**08 44 27.4**	**+0.6**	
UOSS				IAmb		IAmb		08 44 53.5		
UOSS	comp=Z,53nm,0.9s **Minazif**	**72.57**	**288**	IAMs_20		IAMs_20		09 19 15.3		
PBUR	comp=Z,2µm,19.0s **Paburge**	**72.63**	**330**	*e*P		**P**		**08 44 27.2**	**+0.6**	
ELK	**Elko**	**72.66**	**51**	IAmb		IAmb		08 44 51.5		
NAO01	comp=Z,72nm,1.9s **NORSAR Array S**	**72.69**	**338**	P		**P**		**08 44 26.9**	**0.0**	
HATD	**Hatta, Dubai** SNR=9.4	**72.69**	**288**	*i* P		**P**		**08 44 27.8**	**+0.3**	
YMR	**Madison River**	**72.71**	**46**	IAmb		IAmb		08 45 10.2		
SOHO	comp=Z,61nm,1.5s **SOHO** SNR=8.4	**72.80**	**287**	*i* P		**P**		**08 44 28.1**	**0.0**	
ASHO	**Ashiyiah** SNR=6.1	**72.83**	**288**	*i* P		**P**		**08 44 28.6**	**+0.3**	
YNR	**Norris Junctio**	**72.84**	**46**	P		**P**		**08 44 31.5**	**+3.1**	
ANN	**Anapa**	**72.91**	**314**	*e*P		**P**		**08 44 27.7**	**-0.7**	
ANN				*e**PP		**pP**		**08 44 34.0**	**-1.8**	
ANN				*e*				08 44 38.0		
ANN				*e*PPP		PPP		08 48 55.8		
ANN				*e*S		**S**		**08 53 54.3**	**+1.1**	
ANN				*e*				08 54 35.8		
ANN				*e*SS		**SS**		**08 58 38.6**	**+5.8**	
ANN	comp=Z,78nm,1.1s			pmax		pmax				
SMMC	**Simmler**	**72.92**	**58**	P				08 44 29.8		
MORW	baz=307 **Morawa**	**72.95**	**205**	P		**P**		**08 44 29.2**	**+0.6**	
MORW						**pwP**		**08 44 43.0**	**+3.4**	
MORW	comp=Z,41nm,1.1s			IAmb		IAmb		08 44 47.6		
TIN	**Tinemaha, Big**	**73.03**	**56**	P				08 44 30.5		
LKWY	baz=307 **Lake**	**73.09**	**46**	P		**P**		**08 44 32.5**	**+2.6**	
LKWY	comp=Z,75nm,1.7s			pmax		pmax				
LKWY	comp=Z,4µm,18.0s			MLR		MLR				
LKWY	**Lake**	**73.09**	**46**	P		**P**		**08 44 32.5**	**+2.6**	
LKWY	comp=Z,75nm,1.6s			IAmb		IAmb		08 45 14.7		
H17A	**Grant Village**	**73.10**	**46**	IAmb		IAmb		08 44 58.8		
H17A	comp=Z,54nm,1.1s			IAMs_20		IAMs_20		09 17 00.8		
H17A	comp=Z,3µm,20.0s **Grant Village**	**73.10**	**46**	P				08 44 31.9		
H17A	baz=309,SNR=29			S				08 54 00.5		
YMP	baz=309 **Mirror Lake Pl**	**73.12**	**46**	IAmb		IAmb		08 45 14.5		
FAQ	comp=Z,56nm,1.3s **Al Faqa, Dubai**	**73.13**	**288**	P		**P**		**08 44 30.1**	**0.0**	

SFJD Kangerlussuaq 73.17 6⇑ iP P 08 44 29.8 +0.2
SFJD IAmb IAmb 08 44 30.9
comp=Z,15nm,0.9s
SFJD IAMs_20 IAMs_20 09 19 47.1
comp=Z,3µm,19.1s
SFJD Kangerlussuaq 73.17 6 P P **08 44 30.3 +0.7**
SFJD pmax pmax
comp=Z,25nm,1.0s
SFJD MLR MLR
comp=Z,5µm,19.0s
SFJD Kangerlussuaq 73.17 6 P P **08 44 30.3 +0.7**
VES Vestal, Richgr 73.20 57 P 08 44 31.0
baz=307,SNR=6.0
AKASG Malin Array Be 73.25 323 P P **08 44 29.1 -1.2**
comp=Z,22nm,0.7s,baz=43,slow=6.2,SNR=72
AKASG LR LR 09 21 54.7
comp=Z,4µm,18.0s,baz=55,slow=40
AKASG Malin Array Be 73.25 323 iP P **08 44 29.7 -0.6**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKASG Malin Array Be 73.25 323 IAmb IAmb 08 44 32.1
comp=Z,92nm,1.9s
AKBB Malin Array Si 73.25 323*c* iP P **08 44 30.2 -0.1**
AKBB Malin Array Si 73.25 323 IAmb IAmb 08 44 31.7
comp=Z,46nm,0.9s
PKM Mcpherson Peak 73.29 58 P 08 44 32.3
baz=307
RLMT Red Lodge 73.36 45 IAmb IAmb 08 45 17.4
comp=Z,82nm,1.8s
RLMT IAMs_20 IAMs_20 09 22 05.6
comp=Z,2µm,18.0s
RLMT Red Lodge 73.36 45 P 08 44 31.2
baz=310,SNR=6.4
ASUD Al Ashush, Dub 73.40 288 iP P **08 44 31.9 +0.3**
SNR=8.5
TPAW Teton Pass 73.46 47 P P **08 44 34.6 +2.5**
TPAW IAmb IAmb 08 45 18.4
comp=Z,78nm,1.4s
HVU Hansel Valley 73.48 49 IAmb IAmb 08 44 58.8
comp=Z,43nm,1.2s
CWC Cottonwood Cre 73.49 56 P 08 44 33.3
baz=307
LOHW Long Hollow 73.58 47 P P **08 44 34.5 +1.7**
LOHW IAmb IAmb 08 44 59.7
comp=Z,59nm,1.6s
SUW Suwalki 73.59 328 eP P **08 44 32.8 +0.5**
REDW Red Top Meadow 73.60 47 IAmb IAmb 08 44 54.6
comp=Z,113nm,1.9s
GRAC Grapevine Rang 73.61 55 P 08 44 34.0
baz=308
GRAC S 08 54 05.0
baz=308
ISA Isabella, Lake 73.70 57 P 08 44 33.8
baz=307
ARVC Arvin 73.80 58 P 08 44 34.1
baz=307,SNR=5.5
ARVC S 08 54 06.1
baz=307
DGMT Dagmar 73.81 40 P P **08 44 34.6 +0.9**
DGMT Dagmar 73.81 40 IAMs_20 IAMs_20 09 20 38.2
comp=Z,2µm,18.0s
R11A Troy Canyon, C 73.91 53 IAmb IAmb 08 45 01.2
comp=Z,49nm,1.2s
R11A Troy Canyon, C 73.91 53 P 08 44 35.4
baz=308,SNR=13
R11A S 08 54 07.8
baz=308
LAO LASA Array 73.97 42 IAMs_20 IAMs_20 09 22 53.3
comp=Z,2µm,18.0s
SPUT South Promonto 73.97 49 IAmb IAmb 08 45 01.8
comp=Z,66nm,1.4s
DY2G Dye2 73.98 4⇑ iP P **08 44 35.0 +0.4**
DY2G IAmb IAmb 08 44 36.3
comp=Z,77nm,1.2s
DY2G *i* 08 44 49.8
DY2G IAMs_20 IAMs_20 09 21 30.7
comp=Z,3µm,17.6s
KONO Kongsberg 74.03 338*c* eP P **08 44 35.2 +0.4**
KONO pmax pmax
comp=Z,18nm,1.0s
KONO MLR MLR
comp=Z,7µm,17.0s
STRU Stroemstad 74.06 337 iP P **08 44 35.6 +0.7**
MPMC Manual Prospec 74.10 56 P 08 44 36.5
baz=308
MPMC S 08 54 09.7
baz=308
OSI Osito Audit: C 74.17 58 S 08 54 07.8
baz=308
FURC Furnace Creek, 74.25 56 P 08 44 37.2
baz=308,SNR=25
SPR3 Spring Creek 3 74.28 52 IAmb IAmb 08 44 59.0
comp=Z,120nm,2.0s
HWUT Hardware Ranch 74.30 49 P P **08 44 38.7 +1.8**
HWUT IAmb IAmb 08 45 03.7
comp=Z,54nm,1.2s
LRMC Laurel Mtn Rad 74.33 57 P 08 44 37.9
baz=308
TPNV Topopah Spring 74.35 55 IAmb IAmb 08 44 57.8
comp=Z,58nm,1.1s
TPNV IAMs_20 IAMs_20 09 09 59.9
comp=Z,2µm,19.0s
TPNV Topopah Spring 74.35 55 P 08 44 37.6
baz=308,SNR=31
DUG Dugway, Tooele 74.45 51 IAmb IAmb 08 45 04.6
comp=Z,37nm,1.1s
DUG Dugway, Tooele 74.45 51 P 08 44 38.7
baz=309,SNR=33
SNCC San Nicolas Is 74.47 60 S 08 54 13.2
baz=308
EDW2 Edwards Air Fo 74.49 58 P 08 44 38.6
baz=308
EDW2 S 08 54 13.2
baz=308
SIM Simferopol' 74.62 316 eP P **08 44 39.8 +1.3**
SIM S S **08 54 09.0 -3.5**
SIM pmax pmax
comp=Z,51nm,0.4s
BORU Boraas 74.68 335 eP P **08 44 38.8 +0.3**
BLEU Blekinge 74.69 333 iP P **08 44 38.5 -0.2**
PDAR Pinedale Array 74.71 47 P P **08 44 39.6 +0.2**
comp=Z,7.2nm,0.9s,baz=258,slow=1.5,SNR=32
BW06 Boulder Array 74.71 47 P 08 44 39.9
baz=310,SNR=13
TJOU Tjoern 74.73 336 iP P **08 44 39.5 +0.7**
PRN Pahroc Range 74.82 54 IAmb IAmb 08 45 06.7
comp=Z,78nm,1.5s
PRN IAMs_20 IAMs_20 09 22 51.2
comp=Z,2µm,18.0s
MWC Mount Wilson 74.85 58 IAMs_20 IAMs_20 09 19 12.5
comp=Z,2µm,19.0s
PSUT Pine Spring 74.86 52 IAmb IAmb 08 45 06.8
comp=Z,38nm,1.1s
JLU Jordanelle 75.00 50 P P **08 44 42.5 +1.4**
JLU IAmb IAmb 08 45 07.8
comp=Z,62nm,1.4s
GSC Goldstone, Bar 75.00 57 P 08 44 41.3
baz=308
BFSC Mount Baldy Ra 75.10 58 P 08 44 42.0
baz=308
BFSC S 08 54 14.9
baz=308
ANGG Ammassalik, Gr 75.10 0 IAMs_20 IAMs_20 09 16 58.1
comp=Z,4µm,22.0s
ONAU Onsala 75.14 335 eP P **08 44 41.6 +0.4**
FABU Falkenberg 75.20 335 iP P **08 44 41.6 0.0**
DEL Delary 75.23 334 iP P **08 44 41.9 +0.1**
MPU Maple Canyon 75.27 50 IAmb IAmb 08 45 09.1
comp=Z,47nm,1.2s
SHPR Sheep Range 75.31 55 IAmb IAmb 08 45 14.0
comp=Z,41nm,1.2s
SORM Soroca 75.42 321 ⇑P P **08 44 43.1 +0.1**
TUQ Turquoise Moun 75.49 56 P 08 44 44.9
baz=309
HOMB Homborsund 75.49 337 iP P **08 44 43.8 +0.6**
BBRC Big Bear Solar 75.57 57 P 08 44 45.1
baz=308
BBRC S 08 54 21.8
baz=308
HEC Hector,Ludlow 75.60 57 P 08 44 45.2
baz=308,SNR=13
HEC S 08 54 25.0
baz=308
MARD Mardin 75.65 307 IAMs_20 IAMs_20 09 21 59.2
comp=Z,2µm,18.0s
CCUT Cedar City 75.78 53 IAmb IAmb 08 45 12.3
comp=Z,57nm,1.2s

MURC Murrieta 75.80 58 P 08 44 46.5
baz=308
SNART Snartemo 75.82 338 iP P **08 44 46.4 +1.3**
NUUK Nuuk 75.85 7 iP P **08 44 45.6 +0.5**
NUUK IAmb IAmb 08 44 46.4
comp=Z,42nm,1.2s
NUUK IAMs_20 IAMs_20 09 21 37.0
comp=Z,5µm,18.5s
BSD Bornholm Skovb 75.94 332 eP P **08 44 46.6 +0.8**
BSD Bornholm Skovb 75.94 332⇑ iP P **08 44 46.0 +0.2**
BSD IAmb IAmb 08 44 47.1
comp=Z,67nm,1.1s
BSD IAMs_20 IAMs_20 09 21 14.1
comp=Z,6µm,17.9s
BSD Bornholm Skovb 75.94 332⇑ iP P **08 44 46.0 +0.2**
BSD pmax pmax
comp=Z,67nm,1.1s
BSD MLR MLR
comp=Z,6µm,18.0s
TMUT Trail Mountain 75.98 50 IAmb IAmb 08 45 13.4
comp=Z,58nm,1.3s
KIS Kishinev 75.98 320 eP P 08 44 35.5 -11
KIS Kishinev 75.98 320 eP P 08 44 35.5 -11
KIS ePPP PPP 08 49 21.5
KIS eS S 08 54 43.0 +16
KIS ePS **PnS** **08 55 10.0 +4.2**
KIS MLR MLR
comp=N,2µm,14.0s
KIS MLR MLR
comp=E,2µm,14.0s
MIB Mutribah 75.99 297 eP P **08 44 45.8 -0.8**
LUNU Lund 76.04 333 iP P **08 44 47.0 +0.6**
GMRC Granite Mounta 76.06 56 P 08 44 47.8
baz=309,SNR=7.8
GMRC S 08 54 28.2
baz=309
RDMU Red Mountain 76.12 49 P P **08 44 48.8 +1.3**
RDMU IAmb IAmb 08 45 14.0
comp=Z,89nm,1.2s
P17A Butcher Ranch, 76.14 50 IAmb IAmb 08 45 14.2
comp=Z,67nm,1.2s
BEL Belsk 76.17 327 eP P **08 44 48.6 +1.4**
LCMT Little Creek M 76.19 53 IAmb IAmb 08 45 14.6
comp=Z,42nm,1.0s
QRN Al-Qurain 76.23 296 eP P **08 44 46.9 -1.1**
LVV L'vov 76.25 325 eP P **08 44 48.4 +0.7**
LVV *e* 08 47 42.1
LVV ePPP PPP 08 49 30.9
LVV eS **S** **08 54 30.2 -0.2**
LVV pmax pmax
comp=Z,280nm,1.3s
LVV MLR MLR
comp=E,14µm,13.0s
LVV MLR MLR
comp=N,10µm,15.0s
LVV MLR MLR
comp=Z,14µm,15.0s
PFO Pinyon Flats O 76.27 58 P P **08 44 49.9 +1.6**
PFO pmax pmax
comp=Z,31nm,1.3s
PFO MLR MLR
comp=Z,2µm,18.0s
PFO Pinyon Flats O 76.27 58 P P **08 44 49.9 +1.6**
PFO IAMs_20 IAMs_20 09 20 05.2
comp=Z,2µm,18.0s
PFO Pinyon Flats O 76.27 58 P 08 44 48.7
baz=309
TPFO Pinon Flats 76.28 58 P 08 44 48.3
baz=309
BELC Belle Mtn. Jos 76.33 57 P 08 44 48.4
baz=309
BELC S 08 54 32.2
baz=309
COP Copenhagen 76.35 334 iP P **08 44 48.8 +0.6**
COP IAmb IAmb 08 44 49.8
comp=Z,35nm,0.7s
COP IAMs_20 IAMs_20 09 21 49.8
comp=Z,7µm,16.6s
COP Copenhagen 76.35 334 iP P **08 44 48.7 +0.6**
COP pmax pmax
comp=Z,35nm,0.7s
COP MLR MLR
comp=Z,7µm,17.0s
RDF Al-Radifah 76.38 296 eP P **08 44 47.8 -1.0**
KNB Kanab 76.45 53 IAmb IAmb 08 45 16.4
comp=Z,64nm,1.2s
MALT Malatya 76.46 309 P P **08 44 51.0 +1.7**
ULM Lac du Bonnet 76.46 35 P P **08 44 49.0 +0.1**
comp=Z,12nm,1.1s,baz=308,slow=7.5,SNR=6.3
ULM S **S** **08 54 30.2 -2.4**
comp=Z,1.7nm,0.8s,baz=284,slow=4.2,SNR=2.2
ULM Lac du Bonnet 76.46 35 P P **08 44 49.0 +0.1**
ULM Lac du Bonnet 76.46 35 IAMs_20 IAMs_20 09 22 23.4
comp=Z,2µm,19.0s
K22A Casper 76.48 45 IAmb IAmb 08 45 38.2
comp=Z,79nm,1.4s
MDND Maddock 76.48 38 IAmb IAmb 08 45 22.9
comp=Z,76nm,1.2s
MDND IAMs_20 IAMs_20 09 23 38.3
comp=Z,2µm,19.0s
K22A Casper 76.48 45 P 08 44 49.5
baz=312,SNR=10
K22A S 08 54 32.1
baz=312
MDND Maddock 76.48 38 P 08 44 48.8
baz=315
MDND S 08 54 33.1
baz=315
PKCU Pink Cliffs 76.49 53 P P **08 44 52.5 +2.8**
SRU San Rafael Swe 76.50 50 IAmb IAmb 08 45 15.9
comp=Z,55nm,1.0s
NEE2 Needles Airpor 76.74 56 S 08 54 34.5
baz=309
IRM Iron Mountain 76.78 57 P 08 44 51.7
baz=309,SNR=6.1
MUD Monsted U'grnd 76.79 336 iP P **08 44 51.7 +1.1**
MUD Monsted U'grnd 76.79 336 iP P **08 44 51.7 +1.1**
RSSD Black Hills 76.83 43 P P **08 44 51.8 +0.4**
RSSD pmax pmax
comp=Z,16nm,0.8s
RSSD Black Hills 76.83 43 P P **08 44 51.8 +0.4**
RSSD Black Hills 76.83 43 IAMs_20 IAMs_20 09 24 47.1
comp=Z,2µm,18.0s
RSSD Black Hills 76.83 43 P 08 44 51.1
baz=313
E28A Huff 76.84 40 IAmb IAmb 08 45 09.2
comp=Z,137nm,1.9s
BC3 Big Chuckawall 76.90 57 P 08 44 52.4
baz=309
RGN Rugen 76.95 333 eP P **08 44 52.6 +1.0**
comp=Z,238nm,1.3s,baz=35,slow=5.3
KWP Kalwaria Pacla 76.97 325 eP P **08 44 53.0 +1.2**
SWSC Sam W. Stewart 77.12 58 P 08 44 53.9
baz=309
SWSC S 08 54 42.7
baz=309
U15A North Rim 77.15 53 P P **08 44 54.9 +1.5**
U15A IAmb IAmb 08 45 20.3
comp=Z,70nm,1.2s
U15A IAMs_20 IAMs_20 09 24 18.1
comp=Z,1µm,18.0s
O20A White River Ci 77.17 48 IAmb IAmb 08 45 31.5
comp=Z,52nm,1.3s
O20A White River Ci 77.17 48 P 08 44 53.0
baz=311,SNR=14
O20A S 08 54 39.1
baz=311
BURAR Bucovina Array 77.29 322 ⇓P P **08 44 53.9 +0.1**
BURAR Bucovina Array 77.29 322 P P **08 44 54.3 +0.5**
BURAR Bucovina Array 77.29 322 IAmb IAmb 08 45 19.7
comp=Z,33nm,0.8s
PDMCI Parker Dam,Lak 77.34 56 P 08 44 55.1
baz=310
BIZ Bicaz 77.35 321 ⇓P P **08 44 54.1 +0.1**
ILGA Ilgaz 77.42 313 IAMs_20 IAMs_20 09 22 12.7
comp=Z,2µm,19.0s
LNIZ Loecknitz 77.47 332 eP P **08 44 55.6 +1.1**
comp=Z,370nm,1.8s,baz=35,slow=5.3
CFR Carcaliu 77.59 319 ⇑P P **08 44 55.7 +0.3**
TPGR Topolog 77.67 319 ⇓P P **08 44 56.3 +0.5**
KOLS Kolonicke sedl 77.68 325 eP P **08 44 56.5 +0.7**
KOLS Kolonicke sedl 77.68 325 eP P **08 44 56.5 +0.7**
GLA Glamis 77.69 57 P 08 44 55.9
baz=310
GLA S 08 54 44.1
baz=310

OJC Ojcow 77.80 327 eP P **08 44 57.3 +0.9**
VRI Vrincioaia 77.81 320 ⇓P P **08 44 57.1 +0.5**
PLOR Plostina 77.85 320 ⇓P P **08 44 57.3 +0.4**
PV14 Lion Creek, Pa 77.87 50 IAMs_20 IAMs_20 09 22 57.8
comp=Z,2µm,18.0s
AGMN Agassiz Nation 77.89 36 IAMs_20 IAMs_20 09 24 15.6
comp=Z,2µm,19.0s
UZH Uzhgorod 77.89 325 eP P **08 44 58.0 +1.0**
UZH eS S **08 54 48.0 -0.3**
UZH MLR MLR
comp=Z,2µm,15.0s
AGMN Agassiz Nation 77.89 36 P 08 44 56.7
baz=317,SNR=5.5
PV22 Blue Mesa, Par 77.91 50 P P **08 44 59.4 +1.8**
PV22 IAmb IAmb 08 45 24.0
comp=Z,44nm,1.0s
PV20 West Nyswonger 77.93 50 IAmb IAmb 08 45 24.1
comp=Z,65nm,1.0s
PV04 Paradox Valley 77.93 50 IAmb IAmb 08 45 24.2
comp=Z,65nm,1.1s
PV04 IAMs_20 IAMs_20 09 22 34.3
comp=Z,2µm,19.0s
GAZ Gaziantep 77.93 308 IAmb IAmb 08 45 25.0
comp=Z,65nm,1.1s
TIRR Tirgusor 77.95 318 IAmb IAmb 08 44 59.3
comp=Z,73nm,1.2s
N23A Red Feather La 77.97 47 P 08 44 58.9
baz=312,SNR=15
N23A S 08 54 50.8
baz=312
PV16 Nyswonger Mesa 77.98 50 IAmb IAmb 08 45 24.4
comp=Z,58nm,1.0s
PV05 Paradox Valley 78.02 50 IAMs_20 IAMs_20 09 24 18.6
comp=Z,2µm,18.0s
PV18 Skein Mesa, Pa 78.02 50 IAmb IAmb 08 45 24.7
comp=Z,52nm,1.0s
PV12 Saucer Basin, 78.04 50 IAmb IAmb 08 45 32.6
comp=Z,81nm,1.2s
PV07 Paradox Valley 78.05 50 IAmb IAmb 08 45 24.7
comp=Z,47nm,1.3s
PV03 Paradox Valley 78.05 50 IAmb IAmb 08 45 24.8
comp=Z,51nm,1.1s
CRVS Cervenica-Dubn 78.06 325 eP P **08 44 59.0 +1.0**
CRVS pmax pmax
comp=Z,70nm,1.3s
CRVS Cervenica-Dubn 78.06 325 eP P **08 44 59.0 +1.0**
CRVS eL L 09 23 18.3
OZUR 78.10 321 ⇓P P **08 44 58.7 +0.4**
PV13 Radium Mtn., P 78.13 50 IAmb IAmb 08 45 25.3
comp=Z,68nm,1.0s
SKMB Sankelmark Bun 78.14 335 eP P **08 44 59.7 +1.5**
comp=Z,267nm,1.4s,baz=35,slow=5.3
PV02 Paradox Valley 78.15 50 IAmb IAmb 08 45 25.5
comp=Z,52nm,1.1s
NIE Niedzica 78.19 326 eP P **08 44 59.8 +1.2**
D32A Dogwood Acres, 78.21 37 IAMs_20 IAMs_20 09 17 52.1
comp=Z,2µm,19.0s
PV01 Paradox Valley 78.30 50 IAmb IAmb 08 45 26.2
comp=Z,43nm,1.2s
WUAZ Wupatki 78.31 54 IAmb IAmb 08 45 26.6
comp=Z,45nm,1.1s
WUAZ Wupatki 78.31 54 P 08 45 01.1
baz=311,SNR=19
BR131 Keskin Array S 78.35 312 P P **08 44 59.5 -0.4**
BR131 pmax pmax
comp=Z,55nm,1.2s
BR131 Keskin Array S 78.35 312 P P **08 44 59.5 -0.4**
BR131 IAmb IAmb 08 45 15.1
comp=Z,55nm,1.2s
BRTR Keskin Array B 78.35 312 P P **08 44 59.1 -0.7**
comp=Z,15nm,1.1s,baz=105,slow=4.2,SNR=51
BRTR LR LR 09 25 20.2
comp=Z,4µm,18.1s,baz=24,slow=40
BRTR Keskin Array B 78.35 312 iP P **08 45 00.6 +0.7**
BRTR pmax pmax
comp=Z,14nm,1.0s
DOPR Dopca 78.39 321 ⇓P P **08 44 59.7 -0.1**
RUE Ruedersdorf 78.43 331 eP P **08 45 00.8 +0.9**
comp=Z,120nm,1.4s,baz=35,slow=5.3
MLR Muntele Rosu 78.46 320 ⇓P P **08 45 00.3 0.0**
MLR Muntele Rosu 78.46 320 IAmb IAmb 08 45 40.5
comp=Z,52nm,1.3s
BSEG Bad Segeberg 78.49 334 eP P **08 45 01.1 +1.0**
comp=Z,70nm,1.1s,baz=35,slow=5.3
CJR Cluj-Napoca 78.70 323 ⇑P P **08 45 01.8 +0.2**
ANTO Ankara 78.73 313 P P **08 45 03.4 +1.5**
ANTO pmax pmax
comp=Z,68nm,0.9s
ANTO MLR MLR
comp=Z,2µm,19.0s
ANTO Ankara 78.73 313 P P **08 45 03.4 +1.5**
ANTO IAmb IAmb 08 45 29.7
comp=Z,68nm,0.9s
ANTO IAMs_20 IAMs_20 09 22 04.5
comp=Z,2µm,19.0s
LANS Liptovska Anna 78.74 326 eP P **08 45 03.5 +1.7**
LANS pmax pmax
comp=Z,31nm,1.2s
LANS Liptovska Anna 78.74 326 eP P **08 45 03.5 +1.7**
KSP Ksiaz 78.75 329 eP P **08 45 02.6 +0.9**
OKC Ostrava-Krasne 78.78 327 eP P **08 45 02.9 +1.0**
OKC eS S 08 54 48.2 -10
OKC MLR MLR
comp=Z,8µm,18.8s
OKC Ostrava-Krasne 78.78 327 eP P **08 45 02.9 +1.0**
OKC eS S 08 54 48.2 -10
OKC AMS AMS 09 22 50.0
comp=Z,8µm,18.8s
B35A Bob, Littlefor 78.80 35 P P **08 45 01.5 -0.6**
B35A IAmb IAmb 08 45 44.5
comp=Z,120nm,1.9s
B35A IAMs_20 IAMs_20 09 23 44.5
comp=Z,2µm,18.0s
KECS Kecovo 78.81 325 eP P **08 45 03.1 +1.0**
KECS pmax pmax
comp=Z,13nm,1.1s
KECS Kecovo 78.81 325 eP P **08 45 03.1 +1.0**
ISCO Idaho Springs 78.90 47 IAMs_20 IAMs_20 09 20 56.5
comp=Z,1µm,19.0s
ISCO Idaho Springs 78.90 47 P 08 45 03.9
baz=313,SNR=8.7
VOIR 78.94 321 ⇓P P **08 45 03.4 +0.5**
MVCO Mesa Verde 78.95 51 P 08 45 03.4
baz=312,SNR=18
OSTC Ostas 79.01 329 eP P **08 45 04.0 +0.8**
OSTC eS S **08 54 58.0 -2.3**
OSTC AMS AMS 09 25 30.0
comp=Z,9µm,14.9s
CHVC Chvalec 79.05 329 eP P **08 45 04.4 +1.0**
CHVC AMS AMS 09 25 30.0
comp=Z,9µm,14.9s
DRGR 79.06 323 ⇓P P **08 45 03.7 +0.1**
DRGR 79.06 323 P P **08 45 04.3 +0.7**
MORC Moravsky Berou 79.08 328 ⇓P P **08 45 03.3 -0.3**
MORC Moravsky Berou 79.08 328 eP P **08 45 04.3 +0.7**
MORC Moravsky Berou 79.08 328 IAmb IAmb 08 45 05.9
comp=Z,60nm,1.1s
DPC Dobruska-Polom 79.13 329 eP P **08 45 05.1 +1.3**
DPC eS S **08 55 01.3 -0.3**
DPC MLR MLR
comp=Z,10µm,14.7s
DPC Dobruska-Polom 79.13 329 eP P **08 45 05.1 +1.3**
DPC eS S **08 55 01.3 -0.3**
DPC AMS AMS 09 25 20.0
comp=Z,10µm,14.7s
UPC Upice 79.13 329 eP P **08 45 04.6 +0.8**
UPC *e* 08 45 14.4
UPC eS S **08 54 53.2 -8.3**
UPC MLR MLR
comp=Z,10µm,14.9s
UPC Upice 79.13 329 eP P **08 45 04.6 +0.8**
UPC epP **sP** **08 45 14.4 +0.4**
UPC eS S **08 54 53.2 -8.3**
UPC AMS AMS 09 25 30.0
comp=Z,10µm,14.9s
KRLC Kraliky 79.16 328 eP P **08 45 04.1 +0.1**
KRLC *e* 08 45 14.1
KRLC eS S **08 55 06.6 +4.7**
KRLC MLR MLR
comp=Z,8µm,15.2s
KRLC Kraliky 79.16 328 eP P **08 45 04.1 +0.1**
KRLC epP **sP** **08 45 14.1 -0.1**
KRLC eS S **08 55 06.6 +4.7**
KRLC AMS AMS 09 25 10.0
comp=Z,8µm,15.2s

ARR	**Arges**	**79.19**	**321**	⇑P		**P**		**08 45 05.1**	**+0.8**
SUSD	**Miller**	**79.22**	**40**	IAmb		IAmb		08 45 31.2	
	comp=Z,55nm,0.8s								
SUSD				IAMs_20		IAMs_20		09 19 52.1	
	comp=Z,2µm,19.0s								
SUSD	**Miller**	**79.22**	**40**	P				08 45 04.4	
	baz=316								
SUSD				S				08 54 59.2	
	baz=316								
NRS	**Narsarsuaq**	**79.32**	**4**	IAMs_20		IAMs_20		09 24 12.0	
	comp=Z,2µm,18.0s								
FLTG	**Flechtingen**	**79.48**	**332**	*e*P		**P**		**08 45 05.9**	**+0.3**
	comp=Z,70nm,1.2s,baz=35,slow=5.3								
OUZ	**Omahuta**	**79.48**	**155**	IAMs_20		IAMs_20		09 15 16.3	
	comp=Z,2µm,20.0s								
PSZ	**Piszkesteto**	**79.49**	**325**	⇓P		**P**		**08 45 06.4**	**+0.5**
PSZ	**Piszkesteto**	**79.49**	**325**	IAmb		IAmb		08 45 08.5	
	comp=Z,85nm,1.2s								
F33A	**5 Mile Ranch,**	**79.50**	**38**	IAMs_20		IAMs_20		09 25 35.3	
	comp=Z,2µm,18.0s								
VYHS	**Vyhne**	**79.52**	**326**	*e*P		**P**		**08 45 06.9**	**+0.9**
VYHS				pmax		pmax			
	comp=Z,48nm,1.2s								
VYHS	**Vyhne**	**79.52**	**326**	*e*P		**P**		**08 45 06.9**	**+0.9**
VYHS				*e*L		L		09 23 56.5	
W18A	**Petrified Fore**	**79.58**	**53**	P		**P**		**08 45 08.3**	**+1.5**
W18A	**Petrified Fore**	**79.58**	**53**	S				08 55 09.5	
	baz=311								
S22A	**4UR Ranch, Cre**	**79.58**	**49**	P				08 45 06.6	
	baz=312,SNR=19								
S22A				S				08 55 04.5	
	baz=312								
BRG	**Berggiesshubel**	**79.65**	**330**	⇓*i*P		**P**		**08 45 07.1**	**+0.5**
BRG				Amp				08 45 08.6	
	comp=Z,36nm,1.1s								
BRG				*ex*		x		08 45 17.3	
BRG				Amp				08 45 19.0	
	comp=Z,21nm,0.9s								
BRG				PP		**PP**		**08 48 07.1**	**+0.2**
BRG				Amp				08 48 10.8	
	comp=Z,16nm,1.3s								
BRG	**Berggiesshubel**	**79.65**	**330**	S		**S**		**08 55 07.0**	**0.0**
BRG				Amp				09 23 34.0	
	comp=N,4.1nm,17.6s								
BRG				Amp				09 23 43.0	
	comp=E,3.4nm,16.0s								
BRG				Amp				09 23 59.0	
	comp=Z,5.7nm,16.7s								
BRG	**Berggiesshubel**	**79.65**	**330**	*e*P		**P**		**08 45 07.2**	**+0.6**
	comp=Z,36nm,1.1s,baz=35,slow=5.3								
CLL	**Collm**	**79.66**	**331**	⇑*i*P		**P**		**08 45 06.7**	**+0.1**
	comp=Z,52nm,1.0s								
CLL				*e*PcP		**pP**		**08 45 16.0**	**+1.8**
CLL				*i*				08 45 35.4	
CLL				*e*PP		PP		08 48 18.0	+11
CLL				*e*PPP		PPP		08 49 48.0	
CLL				*e*S		**S**		**08 55 13.0**	**+6.0**
CLL				*e*PS		**PnS**		**08 55 54.0**	**+1.7**
CLL				*e*SS		**SS**		**09 00 18.0**	**+3.7**
CLL				*e*SSS		SSS		09 03 42.0	
CLL				*e*SSSS				09 06 24.0	
CLL				LmH				09 19 00.0	
	comp=N,6µm,19.3s								
CLL				LmH				09 19 00.0	
	comp=E,9µm,19.6s								
CLL				LmV				09 23 00.0	
	comp=N,5µm,19.0s								
CLL				LmV				09 23 00.0	
	comp=E,3µm,19.0s								
CLL				LmV				09 23 00.0	
	comp=Z,6µm,19.9s								
CLL	**Collm**	**79.66**	**331**	⇑*i*P		**P**		**08 45 06.7**	**+0.1**
CLL				*e*				08 45 16.0	
CLL				*e*S		**S**		**08 55 13.0**	**+6.0**
CLL				pmax		pmax			
	comp=Z,52nm,1.0s								
CLL				MLR		MLR			
	comp=Z,6µm,19.9s								
CLL	**Collm**	**79.66**	**331**	IAmb		IAmb		08 45 08.3	
	comp=Z,49nm,1.0s								
CLL	**Collm**	**79.66**	**331**	*e*P		**P**		**08 45 07.0**	**+0.4**
	comp=Z,52nm,1.0s,baz=35,slow=5.3								
PVCC	**Panska Ves**	**79.68**	**330**	*e*P		**P**		**08 45 07.0**	**+0.2**
PVCC				*e*S		**S**		**08 55 00.9**	**-6.4**
PVCC				MLR		MLR			
	comp=Z,9µm,16.8s								
PVCC	**Panska Ves**	**79.68**	**330**	*e*P		**P**		**08 45 07.0**	**+0.2**
PVCC				*e*S		**S**		**08 55 00.9**	**-6.4**
PVCC				AMS		AMS		09 23 40.0	
	comp=Z,9µm,16.8s								
214A	**Organ Pipe Nat**	**79.69**	**57**	P				08 45 07.3	
	baz=310								
214A				S				08 55 06.6	
	baz=310								
JAVC	**Velka Javorina**	**79.73**	**327**	*e*P		**P**		**08 45 08.9**	**+1.7**
Q24A	**Divide**	**79.73**	**48**	P				08 45 07.2	
	baz=313								
Q24A				S				08 55 08.3	
	baz=313								
NRDL	**Niedersach Rie**	**79.74**	**333**	*e*P		**P**		**08 45 07.8**	**+0.8**
	comp=Z,107nm,1.9s,baz=35,slow=5.3								
VRAC	**Vranov**	**79.83**	**328**	*e*P		**P**		**08 45 08.4**	**+0.8**
FBE	**Freiberg**	**79.84**	**331**	*e*P		**P**		**08 45 08.6**	**+1.0**
	comp=Z,146nm,1.8s,baz=35,slow=5.3								
ASSE	**Asse, Remlinge**	**79.84**	**333**	*e*P		**P**		**08 45 08.3**	**+0.7**
	comp=Z,329nm,2.6s,baz=35,slow=5.3								
SIRR	**Siria**	**79.94**	**323**	⇑P		**P**		**08 45 08.7**	**+0.4**
ISK	**Istanbul-Kandi**	**79.98**	**316**	P		**P**		**08 45 08.2**	**-0.4**
GZR	**Gura Zlata**	**80.06**	**322**	⇓P		**P**		**08 45 09.2**	**+0.2**
EYMN	**Ely**	**80.09**	**34**	IAMs_20		IAMs_20		09 27 39.5	
	comp=Z,2µm,18.0s								
EYMN	**Ely**	**80.09**	**34**	IAmb		IAmb		08 45 52.4	
	comp=Z,48nm,1.4s								
OGNE	**Ogallala**	**80.09**	**44**	IAmb		IAmb		08 45 14.8	
	comp=Z,75nm,1.1s								
OGNE				IAMs_20		IAMs_20		09 24 16.8	
	comp=Z,2µm,18.0s								
OGNE	**Ogallala**	**80.09**	**44**	P				08 45 09.1	
	baz=315,SNR=10								
EYMN	**Ely**	**80.09**	**34**	P				08 45 08.6	
	baz=320,SNR=6.1								
PRA	**Prague**	**80.10**	**329**	*e*P		**P**		**08 45 10.1**	**+1.1**
PRA				*e*S		**S**		**08 55 07.8**	**-3.9**
PRA				MLR		MLR			
	comp=Z,8µm,15.0s								
PRA	**Prague**	**80.10**	**329**	*e*P		**P**		**08 45 10.1**	**+1.1**
PRA				*e*S		**S**		**08 55 07.8**	**-3.9**
PRA				AMS		AMS		09 25 00.0	
	comp=Z,8µm,15.0s								
SMOL	**Smolenice**	**80.10**	**327**	*e*P		**P**		**08 45 10.7**	**+1.6**
SMOL				pmax		pmax			
	comp=Z,30nm,1.1s								
SMOL	**Smolenice**	**80.10**	**327**	*e*P		**P**		**08 45 10.6**	**+1.5**
KRUC	**Moravsky**	**80.10**	**328**	*e*P		**P**		**08 45 09.9**	**+0.8**
PRU	**Pruhonice**	**80.12**	**329**	*e*P		**P**		**08 45 10.1**	**+0.9**
PRU				*e*				08 45 19.8	
PRU				*e*S		**S**		**08 55 14.4**	**+2.4**
PRU				MLR		MLR			
	comp=Z,8µm,14.9s								
PRU	**Pruhonice**	**80.12**	**329**	*e*P		**P**		**08 45 10.1**	**+0.9**
PRU				*e*pP		**sP**		**08 45 19.8**	**+0.4**
PRU				*e*S		**S**		**08 55 14.4**	**+2.4**
PRU				AMS		AMS		09 25 00.0	
	comp=Z,8µm,14.9s								
CLZ	**Clausthal**	**80.19**	**333**	*e*P		**P**		**08 45 10.5**	**+0.9**
	comp=Z,104nm,1.4s,baz=35,slow=5.3								
NEUB	**Neuenburg**	**80.19**	**332**	*e*P		**P**		**08 45 10.2**	**+0.7**
	comp=Z,73nm,1.2s,baz=35,slow=5.3								
MODS	**Modra-Piesok**	**80.27**	**327**	*e*P		**P**		**08 45 10.4**	**+0.3**
MODS				pmax		pmax			
	comp=Z,64nm,1.2s								
MODS	**Modra-Piesok**	**80.27**	**327**	*e*P		**P**		**08 45 10.4**	**+0.3**
MODS	**Modra-Piesok**	**80.27**	**327**	*e*S		**S**		**08 55 14.6**	**+0.9**
MODS				*e*L		L		09 24 17.5	
TREC	**Trest**	**80.29**	**328**	*e*P		**P**		**08 45 11.0**	**+0.9**
TREC				*e*				08 45 19.5	
TREC				*e*S		**S**		**08 55 14.1**	**+0.2**
TREC				MLR		MLR			
	comp=Z,8µm,15.2s								
TREC	**Trest**	**80.29**	**328**	*e*P		**P**		**08 45 11.0**	**+0.9**
TREC				*e*pP		**pP**		**08 45 19.5**	**+1.9**
TREC				*e*S		**S**		**08 55 14.1**	**+0.2**
TREC				AMS		AMS		09 25 30.0	
	comp=Z,8µm,15.2s								
SDCO	**Great Sand Dun**	**80.36**	**49**	IAMs_20		IAMs_20		09 27 57.3	
	comp=Z,1µm,18.0s								
SDCO	**Great Sand Dun**	**80.36**	**49**	P				08 45 11.6	
	baz=313,SNR=18								
BZS	**Buzias**	**80.44**	**323**	⇑P		**P**		**08 45 11.2**	**+0.2**
ZST	**Bratislava**	**80.48**	**327**	*e*P		**P**		**08 45 12.9**	**+1.7**
ZST				pmax		pmax			
	comp=Z,787nm,2.7s								
ZST	**Bratislava**	**80.48**	**327**	*e*P		**P**		**08 45 12.9**	**+1.7**
ZST	**Bratislava**	**80.48**	**327**	*e*S		**S**		**08 55 19.4**	**+3.6**
GTTG	**Gottingen**	**80.57**	**333**	*e*P		**P**		**08 45 12.4**	**+0.8**
	comp=Z,73nm,1.3s,baz=35,slow=5.3								
PBCC	**Pribram**	**80.58**	**329**	*e*P		**P**		**08 45 11.7**	**0.0**
PBCC				*ex*		x		08 45 22.1	
TANN	**Tannenbergstha**	**80.58**	**331**	*e*P		**P**		**08 45 12.4**	**+0.7**
	comp=Z,32nm,1.4s,baz=35,slow=5.3								
HERR	**Herculane**	**80.61**	**322**	⇑P		**P**		**08 45 12.0**	**+0.1**
WERD	**Werda**	**80.61**	**331**	*e*P		**P**		**08 45 12.4**	**+0.6**
	comp=Z,77nm,1.7s,baz=35,slow=5.3								
K31A	**O'Neill**	**80.62**	**41**	IAMs_20		IAMs_20		09 25 12.5	
	comp=Z,3µm,18.0s								
PLN	**Plauen**	**80.64**	**331**	*e*P		**P**		**08 45 12.7**	**+0.7**
	comp=Z,74nm,1.8s,baz=35,slow=5.3								
EDRB	**Edirne**	**80.66**	**317**	P		**P**		**08 45 12.6**	**+0.4**
GUNZ	**Gunzen**	**80.67**	**331**	*e*P		**P**		**08 45 13.0**	**+0.8**
	comp=Z,33nm,1.1s,baz=35,slow=5.3								
IBBN	**Ibbenburen**	**80.70**	**334**	*e*P		**P**		**08 45 12.8**	**+0.6**
	comp=Z,62nm,1.1s,baz=35,slow=5.3								
MOX	**Moxa**	**80.71**	**331**	*e*P		**P**		**08 45 13.1**	**+0.7**
	comp=Z,83nm,1.8s,baz=35,slow=5.3								
MOX				*e*L		L		09 24 30.6	
	comp=Z,6µm,18.4s								
WERN	**Wernitzgruen**	**80.72**	**331**	*e*P		**P**		**08 45 13.3**	**+0.9**
	comp=Z,43nm,1.2s,baz=35,slow=5.3								
NKC	**Novy Kostel**	**80.73**	**331**	*e*P		**P**		**08 45 13.1**	**+0.6**
NKC				*e*S		**S**		**08 55 12.7**	**-5.8**
NKC				MLR		MLR			
	comp=Z,5µm,14.2s								
NKC	**Novy Kostel**	**80.73**	**331**	*e*P		**P**		**08 45 13.1**	**+0.6**
NKC				*e*S		**S**		**08 55 12.7**	**-5.8**
NKC				AMS		AMS		09 26 00.0	
	comp=Z,5µm,14.2s								
TUC	**Tucson**	**80.77**	**56**	P		**P**		**08 45 15.1**	**+2.0**
TUC				pmax		pmax			
	comp=Z,33nm,1.5s								
TUC	**Tucson**	**80.77**	**56**	P		**P**		**08 45 15.1**	**+2.0**
TUC	**Tucson**	**80.77**	**56**	P				08 45 13.3	
	baz=311								
F36A	**Milaca**	**80.78**	**36**	IAMs_20		IAMs_20		09 26 12.8	
	comp=Z,2µm,18.0s								
ECSD	**EROS Data Cent**	**80.89**	**40**	P				08 45 13.1	
	baz=318,SNR=19								
MDVR	**Moldovita**	**81.02**	**322**	⇑P		**P**		**08 45 13.8**	**-0.4**
E38A	**The Farm, Brul**	**81.09**	**35**	IAMs_20		IAMs_20		09 25 31.1	
	comp=Z,2µm,19.0s								
KSCO	**Kaye Shedlock'**	**81.12**	**46**	IAmb		IAmb		08 45 20.5	
	comp=Z,52nm,1.2s								
KSCO	**Kaye Shedlock'**	**81.12**	**46**	P				08 45 13.8	
	baz=315,SNR=6.8								
KSCO				S				08 55 12.1	
	baz=315								
CKRC	**Cesky Krumlov**	**81.14**	**329**	*e*P		**P**		**08 45 15.2**	**+0.5**
CKRC				*e*pP		**sP**		**08 45 25.0**	**+0.1**
CKRC				*e*S		**S**		**08 55 14.9**	**-7.9**
UBBA	**Unterbreizbach**	**81.16**	**332**	*e*P		**P**		**08 45 15.1**	**+0.6**
	comp=Z,34nm,1.4s,baz=35,slow=5.3								
RAYN	**Ar Rayn**	**81.17**	**293**	P		**P**		**08 45 15.3**	**0.0**
RAYN				pmax		pmax			
	comp=Z,53nm,1.1s								
RAYN	**Ar Rayn**	**81.17**	**293**	P		**P**		**08 45 15.3**	**0.0**
RAYN				IAmb		IAmb		08 45 17.0	
	comp=Z,53nm,1.1s								
RAYN				IAMs_20		IAMs_20		09 26 48.2	
	comp=Z,2µm,20.0s								
KHC	**Kasperske Hory**	**81.18**	**329**	*e*P		**P**		**08 45 15.3**	**+0.4**
KHC				*e*				08 45 25.6	
KHC				*e*S		**S**		**08 55 21.6**	**-1.6**
KHC				MLR		MLR			
	comp=Z,11µm,15.1s								
KHC	**Kasperske Hory**	**81.18**	**329**	*e*P		**P**		**08 45 15.3**	**+0.4**
KHC				*e*pP		**sP**		**08 45 25.6**	**+0.5**
KHC				*ex*		x		08 45 39.0	
KHC				*e*S		**S**		**08 55 21.6**	**-1.6**
KHC				AMS		AMS		09 25 40.0	
	comp=Z,11µm,15.1s								
ROTZ	**Rotzenmuhle**	**81.20**	**330**	*e*P		**P**		**08 45 16.0**	**+1.0**
	comp=Z,118nm,1.8s,baz=35,slow=5.3								
CONA	**Conrad Observa**	**81.21**	**327**	*e*P		**P**		**08 45 16.3**	**+1.1**
	comp=Z,38nm,1.1s,SNR=23								
ESK	**Eskdalemuir**	**81.26**	**341**	P		**P**		**08 45 16.2**	**+1.1**
ESK				pmax		pmax			
	comp=Z,27nm,1.3s								
ESK				MLR		MLR			
	comp=Z,2µm,20.0s								
ESK	**Eskdalemuir**	**81.26**	**341**	P		**P**		**08 45 16.2**	**+1.1**
ESK	**Eskdalemuir**	**81.26**	**341**	IAMs_20		IAMs_20		09 21 32.0	
	comp=Z,2µm,20.0s								
MORH	**Mrgy, Hungar**	**81.34**	**325**	⇓P		**P**		**08 45 15.8**	**0.0**
MORH	**Mrgy, Hungar**	**81.34**	**325**	⇑*i*P		**P**		**08 45 15.7**	**0.0**
GEC2	**GERESS Array S**	**81.36**	**329**	*e*P		**P**		**08 45 16.5**	**+0.5**
	comp=Z,26nm,1.2s,baz=35,slow=5.3								
GERES	**GERESS Array B**	**81.36**	**329**	P		**P**		**08 45 15.5**	**-0.5**
	comp=Z,6.4nm,0.8s,baz=46,slow=5.8,SNR=29								
GERES				PP		**PP**		**08 48 27.1**	**+5.9**
	comp=Z,0.5nm,0.4s,baz=32,slow=5.8,SNR=1.7								
GERES				LR		LR		09 25 02.8	
	comp=Z,6µm,19.0s,baz=22,slow=38								
GERES	**GERESS Array B**	**81.36**	**329**	P		**P**		**08 45 15.7**	**-0.3**
GERES	**GERESS Array B**	**81.36**	**329**	P		**P**		**08 45 15.7**	**-0.3**
KASTN	**Kahler Asten**	**81.40**	**333**	*e*P		**P**		**08 45 16.7**	**+0.7**
	comp=Z,29nm,1.3s,baz=35,slow=5.3								
T25A	**Trinidad**	**81.40**	**48**	P				08 45 16.8	
	baz=314,SNR=14								
ISP	**Isparta**	**81.43**	**312**	IAMs_20		IAMs_20		09 26 50.6	
	comp=Z,2µm,18.0s								
WET	**Wettzell**	**81.45**	**330**	*e*P		**P**		**08 45 17.4**	**+1.1**
	comp=Z,57nm,1.3s,baz=35,slow=5.3								
SPMN	**Marine on St.**	**81.59**	**36**	IAMs_20		IAMs_20		09 26 47.4	
	comp=Z,2µm,18.0s								
SPMN	**Marine on St.**	**81.59**	**36**	P				08 45 17.3	
	baz=320								
BUG	**Bochum--Univer**	**81.59**	**334**	*e*P		**P**		**08 45 17.6**	**+0.7**
	comp=Z,62nm,1.4s,baz=35,slow=5.3								
FRGS	**Fruska Gora**	**81.62**	**323**	⇑P		**P**		**08 45 17.7**	**+0.4**
FRGS	**Fruska Gora**	**81.62**	**323**	⇑*i*P		**P**		**08 45 17.5**	**+0.2**
GRF	**Grafenberg Arr**	**81.64**	**331**	*e*P		**P**		**08 45 18.5**	**+1.2**
	comp=Z,92nm,1.1s,baz=35,slow=5.3								
GRF				*e*L		L		09 25 08.6	
	comp=Z,3µm,18.4s								
GRFO	**Grafenberg**	**81.64**	**331**	P		**P**		**08 45 18.9**	**+1.6**
GRFO				pmax		pmax			
	comp=Z,91nm,1.1s								
GRFO	**Grafenberg**	**81.64**	**331**	P		**P**		**08 45 18.9**	**+1.6**
ANMO	**Albuquerque**	**81.69**	**51**	P		**P**		**08 45 18.9**	**+0.8**
	comp=Z,8.8nm,1.0s,baz=299,slow=6.9,SNR=29								
ANMO	**Albuquerque**	**81.69**	**51**	*ce*P		**P**		**08 45 20.0**	**+1.9**
ANMO				pmax		pmax			
	comp=Z,32nm,1.4s								
ANMO				MLR		MLR			
	comp=Z,989nm,18.0s								
ANMO	**Albuquerque**	**81.69**	**51**	P		**P**		**08 45 21.6**	**+3.5**
ANMO	**Albuquerque**	**81.69**	**51**	P				08 45 19.1	
	baz=313								
ALN	**Alexandroupoli**	**81.70**	**317**	P		**P**		**08 45 17.9**	**+0.1**
ALN	**Alexandroupoli**	**81.70**	**317**	IAmb		IAmb		08 45 33.8	
	comp=Z,124nm,2.0s								
CSS	**Mathiatis**	**81.74**	**309**	IAMs_20		IAMs_20		09 27 19.4	
	comp=Z,1µm,19.0s								
RDO	**Rodhopi**	**81.79**	**318**	P		**P**		**08 45 18.6**	**+0.4**
BGNE	**Belgrade**	**81.81**	**42**	IAMs_20		IAMs_20		09 25 53.1	
	comp=Z,1µm,18.0s								
BGNE	**Belgrade**	**81.82**	**42**	P				08 45 18.1	
	baz=317,SNR=6.0								
ARSA	**Arzberg**	**81.89**	**327**	*e*P		**P**		**08 45 19.7**	**+1.0**
	comp=Z,25nm,1.2s,SNR=8.5								
VTS	**Vitosha**	**81.89**	**320**	⇑P		**P**		**08 45 19.7**	**+0.7**
VTS	**Vitosha**	**81.89**	**320**	IAmb		IAmb		08 45 21.4	
	comp=Z,35nm,0.9s								
MOA	**Molln**	**81.93**	**328**	*e*P		**P**		**08 45 19.9**	**+1.0**
	comp=Z,28nm,1.5s,SNR=10								
SOCY	**Socotra**	**81.96**	**279**	P		**P**		**08 45 18.5**	**-1.2**
BEHE	**Becsehely**	**81.97**	**326**	⇑*i*P		**P**		**08 45 19.4**	**+0.3**
Y22D	**IRIS PASSCAL I**	**82.00**	**52**	P				08 45 20.4	
	baz=313								
TNS	**Taunus Mts**	**82.21**	**333**	*e*P		**P**		**08 45 21.0**	**+0.7**
	comp=Z,36nm,1.3s,baz=35,slow=5.3								
TEKS	**Tekeris**	**82.22**	**323**	*e*P		**P**		**08 45 20.1**	**-0.4**
I37A	**Lemond, Waseca**	**82.23**	**38**	IAmb		IAmb		08 45 46.5	
	comp=Z,45nm,0.9s								
I37A				IAMs_20		IAMs_20		09 20 23.4	
	comp=Z,2µm,18.0s								
MILB	**Miltenberg**	**82.23**	**332**	*e*P		**P**		**08 45 21.0**	**+0.6**
	comp=Z,34nm,1.1s,baz=35,slow=5.3								
SMTH	**Samothraki Isl**	**82.28**	**317**	P		**P**		**08 45 20.8**	**-0.1**
L34A	**Svendsen Farm,**	**82.31**	**41**	IAmb		IAmb		08 45 45.7	
	comp=Z,32nm,0.9s								
L34A				IAMs_20		IAMs_20		09 21 28.0	
	comp=Z,1µm,19.0s								
DIVS	**Divibare**	**82.34**	**323**	⇑*i*P		**P**		**08 45 21.3**	**+0.1**
DIVS	**Divibare**	**82.34**	**323**	IAmb		IAmb		08 45 36.0	
	comp=Z,51nm,1.2s								
DIVS				IAMs_20		IAMs_20		09 24 19.8	
	comp=Z,3µm,18.0s								
SCHQ	**Schefferville**	**82.41**	**17**	P		**P**		**08 45 21.1**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=22,slow=6.8,SNR=5.7								
SCHQ				S		**S**		**08 55 33.4**	**-2.2**
	comp=Z,1.5nm,0.8s,baz=274,slow=9.7,SNR=1.7								
SCHQ				LR		LR		09 25 28.6	
	comp=Z,1µm,19.7s,baz=358,slow=38								
SCHQ	**Schefferville**	**82.41**	**17**	IAMs_20		IAMs_20		09 25 26.7	
	comp=Z,2µm,20.0s								
AHRW	**Bad Neuenahr-A**	**82.42**	**334**	*e*P		**P**		**08 45 21.9**	**+0.6**
	comp=Z,40nm,1.2s,baz=35,slow=5.3								
KAVA	**Kavala**	**82.43**	**318**	P		**P**		**08 45 21.9**	**+0.3**
NVR	**Nevrokopi**	**82.50**	**319**	P		**P**		**08 45 22.6**	**+0.6**
121A	**Cookes Peak, D**	**82.51**	**54**	IAmb		IAmb		08 45 49.2	
	comp=Z,41nm,1.2s								
121A				IAMs_20		IAMs_20		09 25 18.0	
	comp=Z,1µm,19.0s								
121A	**Cookes Peak, D**	**82.51**	**54**	P				08 45 22.4	
	baz=313,SNR=11								
COWI	**Conover**	**82.54**	**34**	IAMs_20		IAMs_20		09 28 09.3	
	comp=Z,1µm,18.0s								
PERS	**Pernice**	**82.54**	**327**	*i* P		**P**		**08 45 22.8**	**+0.6**
SOKA	**Soboth**	**82.55**	**327**	*e*P		**P**		**08 45 22.6**	**+0.4**
	comp=Z,56nm,1.0s,SNR=33								
THAS	**Thassos island**	**82.61**	**318**	P		**P**		**08 45 22.7**	**+0.2**
RJOB	**Jochberg**	**82.61**	**329**	*e*P		**P**		**08 45 23.7**	**+1.2**
	comp=Z,715nm,2.0s,baz=35,slow=5.3								
N33A	**J Bar K, Exete**	**82.67**	**42**	IAMs_20		IAMs_20		09 26 11.6	
	comp=Z,2µm,18.0s								
BTNL	**Ternell**	**82.70**	**334**	*d*P		**P**		**08 45 22.7**	**-0.1**
MEM	**Membach**	**82.72**	**334**	*d*P		**P**		**08 45 21.4**	**-1.5**
MEM				*dp*P		**pP**		**08 45 30.5**	**0.0**
MEM				*dx*		x		08 45 34.1	
PRK	**Paraskevi**	**82.77**	**316**	P		**P**		**08 45 24.8**	**+1.4**
BBLS	**Lazići**	**82.80**	**323**	⇑*i*P		**P**		**08 45 24.3**	**+0.7**
GHAJ	**Ghor Haditha**	**82.83**	**305**	IAMs_20		IAMs_20		09 28 39.2	
	comp=Z,3µm,18.0s								
HAPS	**Han Pijesak,Bl**	**82.84**	**323**	*e*P		**P**		**08 45 23.8**	**0.0**
CBKS	**Cedar Bluff**	**82.85**	**45**	IAmb		IAmb		08 45 28.6	
	comp=Z,52nm,1.3s								
CBKS				IAMs_20		IAMs_20		09 27 09.7	
	comp=Z,2µm,18.0s								
CBKS	**Cedar Bluff**	**82.85**	**45**	P				08 45 24.0	
	baz=316								
FUR	**Furstenfeldbru**	**82.86**	**330**	*e*P		**P**		**08 45 24.7**	**+1.0**
	comp=Z,54nm,0.8s,baz=35,slow=5.3								
LIA	**Limnos Island**	**82.88**	**317**	P		**P**		**08 45 23.9**	**0.0**
OBKA	**Obir**	**82.88**	**327**	*i* P		**P**		**08 45 24.1**	**+0.2**
	comp=Z,16nm,1.1s								
KBA	**Koelnbreinsper**	**82.92**	**328**	*e*P		**P**		**08 45 25.0**	**+0.7**
	comp=Z,40nm,1.1s,SNR=20								
BLCB	**Balcova**	**82.97**	**315**	P		**P**		**08 45 24.7**	**+0.2**
RUDO	**Rudo**	**83.00**	**323**	*e*P		**P**		**08 45 24.0**	**-0.6**
SIGR	**SIGRI**	**83.02**	**316**	P		**P**		**08 45 24.1**	**-0.6**
CRES	**Cresnjev**	**83.04**	**326**	⇑*i*P		**P**		**08 45 23.8**	**-0.9**
MRAK	**Mrakovica**	**83.05**	**325**	⇑*i*P		**P**		**08 45 25.4**	**+0.6**
AKAS	**Kas**	**83.06**	**312**	IAMs_20		IAMs_20		09 27 24.1	
	comp=Z,2µm,19.0s								
BCLA	**Clavier**	**83.12**	**335**	*d*P		**P**		**08 45 25.3**	**+0.3**
BLY	**Banja Luka**	**83.13**	**325**	⇑*i*P		**P**		**08 45 25.2**	**0.0**
KNT	**Kendrikon**	**83.13**	**319**	P		**P**		**08 45 25.6**	**+0.3**
STU	**Stuttgart**	**83.15**	**332**	*e*P		**P**		**08 45 25.8**	**+0.6**
	comp=Z,63nm,1.1s,baz=35,slow=5.3								
SOH	**Sokhos**	**83.15**	**319**	P		**P**		**08 45 25.2**	**-0.2**
MYKA	**Terra Mystica**	**83.16**

PDG	Podgorica	83.97	322	⇑*i*P		P		08 45 29.4	-0.1	
PDG	Podgorica comp=Z,3µm,18.0s	83.97	322	IAMs_20	IAMs_20			09 26 36.6		
TTG	Podgorica	83.97	322	⇑*i*P		P		08 45 29.0	-0.5	
FETA	Feichten comp=Z,29nm,1.1s,SNR=10	84.01	330	*e*P		P		08 45 30.3	+0.4	
CEME	Cevo	84.04	322	⇑*i*P		P		08 45 29.7	-0.3	
DAVA	Damuels comp=Z,57nm,1.1s,SNR=11	84.12	330	*e*P		P		08 45 30.7	+0.3	
LIT	Litokhoron	84.13	319	P		P		08 45 29.3	-1.1	
LIT	Litokhoron comp=Z,47nm,1.0s	84.13	319	IAmb		IAmb		08 45 31.6		
DRME	Dracevica, Mon	84.19	322	⇑*i*P		P		08 45 30.9	+0.3	
DRME	Dracevica, Mon	84.19	322	⇑*i*P		P		08 45 30.3	-0.3	
BUM	Brajici-Budva	84.24	322	⇑*i*P		P		08 45 30.7	-0.3	
KSU1	Kansas State U comp=Z,2µm,18.0s	84.31	43	IAMs_20	IAMs_20			09 27 24.1		
HCY	Herceg Novi	84.31	322	*e*P		P		08 45 31.1	-0.2	
HCY	Herceg Novi	84.31	322	⇑*i*P		P		08 45 30.9	-0.4	
XOR	Xorichti	84.31	318	P		P		08 45 30.0	-1.4	
ULC	Ulcinj	84.33	322	⇑*i*P		P		08 45 31.2	-0.2	
E46A	Sault Ste Mari comp=Z,37nm,1.4s	84.33	31	IAmb		IAmb		08 45 51.1		
E46A	comp=Z,2µm,18.0s			IAMs_20	IAMs_20			09 29 05.3		
KZN	Kozani	84.34	319	P		P		08 45 31.3	-0.3	
ECH	Echery comp=Z,28nm,1.0s	84.35	332	IAmb		IAmb		08 45 33.0		
STON	Ston	84.35	323	⇑*i*P		P		08 45 29.5	-1.9	
PPT	Papeete comp=Z,2µm,19.4s,baz=320,slow=32	84.37	118	LR		LR		09 17 31.4		
I42A	Draeger Farm, comp=Z,1µm,19.0s	84.38	35	IAMs_20	IAMs_20			09 27 51.1		
KYMI	Kymi, Euboea I	84.38	317	P		P		08 45 31.4	-0.3	
PPT2	Papeete2 comp=Z,316nm,23.2s	84.38	118	*e*S		S		08 55 54.4	-2.1	
PPT2	Papeete2 comp=Z,3µm,22.0s,baz=319	84.38	118	*e*LR		LR		09 12 13.5		
PPT2	Papeete2 comp=Z,5.8nm,0.3s	84.38	118	*e*T		T		10 18 39.6		
H43A	Windswept, Lux comp=Z,2µm,18.0s	84.42	34	IAMs_20	IAMs_20			09 30 44.1		
CTI	Castel Tesino comp=Z,36nm,1.1s	84.44	329	IAmb		IAmb		08 45 32.7		
TIAR	Tiarei comp=Z,2.3nm,0.4s	84.52	118	*e*T		T		10 18 48.0		
JFWS	Jewell Farm comp=Z,3µm,18.0s	84.54	37	IAMs_20	IAMs_20			09 28 37.5		
JFWS	Jewell Farm baz=322	84.54	37	P				08 45 32.1		
MSTX	Muleshoe	84.56	50	P		P		08 45 34.4	+1.5	
MSTX	comp=Z,32nm,1.1s			IAmb		IAmb		08 45 58.7		
MSTX	Muleshoe baz=315,SNR=10	84.57	50	P				08 45 32.8		
MNTX	Cornudas Mount comp=Z,28nm,1.1s	84.57	53	IAmb		IAmb		08 45 58.9		
MNTX	Cornudas Mount baz=314,SNR=16	84.57	53	P				08 45 33.2		
KBN	Korca	84.59	320	P		P		08 45 32.7	-0.1	
EREA	Eretria	84.62	317	P		P		08 45 32.4	-0.6	
LSQQ	Lebel-sur-Quev baz=330	84.74	25	P				08 45 32.5		
L40A	Anamosa comp=Z,27nm,0.9s	84.75	38	IAmb		IAmb		08 46 02.2		
L40A	comp=Z,2µm,20.0s			IAMs_20	IAMs_20			09 24 08.2		
N38A	Joes South For comp=Z,32nm,0.8s	84.75	40	IAmb		IAmb		08 46 02.6		
THL	Klokotos Trika	84.77	319	P		P		08 45 32.3	-1.3	
KPRO	Kipourio	84.81	319	P		P		08 45 32.2	-1.7	
CHGQ	Chibougamau baz=332	84.83	23	P				08 45 33.2		
G45A	Suttons Bay comp=Z,2µm,18.0s	84.86	33	IAMs_20	IAMs_20			09 29 06.5		
DION	Dionisos Attik	84.88	316	P		P		08 45 33.0	-1.2	
ATAL	Atalanti	84.90	317	P		P		08 45 32.9	-1.4	
LKR	Lokris	84.95	317	P		P		08 45 33.2	-1.3	
KAN08	Anthony NE Sta comp=Z,31nm,1.0s	84.96	45	IAmb		IAmb		08 46 00.3		
AGG	Agios Georgios	85.02	318	P		P		08 45 33.4	-1.5	
LSK	Leskovik	85.05	320	P		P		08 45 35.8	+0.7	
MAKR	Makrakomi, Fth	85.13	318	P		P		08 45 34.2	-1.3	
OK032	Salt Plains WL comp=Z,1µm,19.0s	85.14	45	IAMs_20	IAMs_20			09 27 23.4		
VILL	Villia	85.14	317	P		P		08 45 33.7	-1.9	
TAOE	Nuku Hiva Isla comp=Z,364nm,24.3s	85.25	105	*e*S		S		08 56 01.1	-4.3	
TAOE	Nuku Hiva Isla comp=Z,4µm,20.1s,baz=318	85.25	105	*e*LR		LR		09 12 39.5		
SALO	Salr	85.25	329			pP		08 45 45.4	+1.9	
JAN	Janina	85.30	319	P		P		08 45 36.6	+0.3	
SANT	Santorini comp=Z,2µm,18.0s	85.30	314	IAMs_20	IAMs_20			09 28 25.2		
EVR	Evrytania	85.36	318	P		P		08 45 35.3	-1.5	
I45A	Fountain comp=Z,2µm,18.0s	85.43	34	IAMs_20	IAMs_20			09 31 00.7		
GLMI	Grayling comp=Z,2µm,18.0s	85.47	32	IAMs_20	IAMs_20			09 30 21.4		
GLMI	Grayling baz=325	85.47	32	P				08 45 37.1		
CROK	Carrier comp=Z,2µm,20.0s	85.48	45	IAMs_20	IAMs_20			09 27 35.5		
P38A	Dawn comp=Z,2µm,19.0s	85.49	41	IAMs_20	IAMs_20			09 29 34.2		
L42A	Oliver, Polo comp=Z,2µm,18.0s	85.52	37	IAMs_20	IAMs_20			09 29 26.5		
ANX	Ano Chora	85.55	318	P		P		08 45 37.1	-0.6	
SRN	Sarande	85.55	320	P		P		08 45 37.3	-0.2	
MEH	Mehetia comp=Z,41nm,0.3s	85.61	117	*e*T		T		10 20 10.4		
SERG	Sergoula	85.61	318	P		P		08 45 37.0	-0.9	
IGT	Igoumenitsa	85.65	320	P		P		08 45 37.7	-0.4	
EFP	Efpalio	85.68	318	P		P		08 45 37.3	-0.9	
PVO	Paravola	85.74	318	P		P		08 45 38.1	-0.4	
KEK	Kerkira	85.78	320	P		P		08 45 38.5	-0.2	
LAKA	Lakka	85.78	318	P		P		08 45 38.1	-0.7	
ZKR	Zakros	85.79	313	P		P		08 45 38.5	-0.3	
STIA	Sitia Lasithi	85.80	313	P		P		08 45 38.1	-0.7	
KLV	Kalavryta, Ach	85.84	317	P		P		08 45 37.8	-1.3	
PDO	Prodromos	85.93	318	P		P		08 45 38.5	-0.9	
N41A	Harden Midland comp=Z,30nm,1.1s	85.97	38	IAmb		IAmb		08 46 12.4		
N41A	comp=Z,2µm,19.0s			IAMs_20	IAMs_20			09 27 54.7		
LKD2	Lefkada island	86.05	319	P		P		08 45 38.4	-1.7	
DRO	Drossia	86.14	318	P		P		08 45 40.0	-0.5	
LAST	Lasithi	86.17	314	P		P		08 45 40.2	-0.6	
L44A	Lake County Fo comp=Z,1µm,20.0s	86.18	36	IAMs_20	IAMs_20			09 22 51.9		
L44A	Lake County Fo baz=323	86.19	36	P				08 45 39.8		
RLS	Riolos of Patr	86.19	318	P		P		08 45 40.4	-0.3	
OK029	Liberty Lake comp=Z,25nm,0.8s	86.29	45	IAmb		IAmb		08 46 07.9		
OK029	comp=Z,1µm,19.0s			IAMs_20	IAMs_20			09 26 04.9		
WMOK	Wichita Mounta comp=Z,24nm,1.1s	86.32	47	IAmb		IAmb		08 46 07.3		
WMOK	Wichita Mounta baz=317,SNR=9.3	86.32	47	P				08 45 41.5		
MURB	Monte Urbino	86.35	326	P		P		08 45 42.0	+0.5	
FSK	Fiskardo	86.35	319	P		P		08 45 40.8	-0.7	
IDI	Anoyia comp=Z,2µm,18.0s	86.41	314	IAMs_20	IAMs_20			09 29 10.5		
VLI	Velíai	86.42	316	P		P		08 45 39.2	-2.7	
QUOK	Quay comp=Z,3µm,21.0s	86.42	45	IAMs_20	IAMs_20			09 20 47.3		
AMT	Artemida-Makis	86.46	317	P		P		08 45 40.1	-2.0	
OK031	S. Brethren Rd comp=Z,1µm,18.0s	86.51	45	IAMs_20	IAMs_20			09 30 54.7		
OK025	Westminster Rd comp=Z,1µm,19.0s	86.51	45	IAMs_20	IAMs_20			09 26 10.8		
HQIL	Hanson Quary C comp=Z,2µm,20.0s	86.51	36	IAMs_20	IAMs_20			09 23 01.6		
VLS	Valsamata	86.55	318	P		P		08 45 41.4	-1.1	
OK030	Cody Creek RV comp=Z,39nm,1.4s	86.56	45	IAmb		IAmb		08 46 08.6		
OK030	comp=Z,1µm,18.0s			IAMs_20	IAMs_20			09 30 54.0		
PSDA	Pessada-Kefalo	86.60	318	P		P		08 45 42.0	-0.7	
ITM	Ithomi	86.61	317	P		P		08 45 40.8	-2.0	
ITM	Ithomi comp=Z,2µm,20.0s	86.61	317	IAMs_20	IAMs_20			09 27 46.8		
KEF3	Kipouria, Keph	86.65	319	P		P		08 45 42.3	-0.7	
J47A	Sunmer comp=Z,35nm,1.1s	86.68	33	IAmb		IAmb		08 46 32.2		
J47A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20			09 32 13.6		
VLMS	Volimes, Zakyn	86.74	318	P		P		08 45 42.6	-0.9	
M44A	Midewin, Midew comp=Z,55nm,1.4s	86.75	36	IAmb		IAmb		08 46 26.1		
M44A	comp=Z,2µm,19.0s			IAMs_20	IAMs_20			09 29 46.0		
INTR	Introdacqua	86.76	325	IAmb		IAmb		08 46 14.1		
HDIL	comp=Z,47nm,1.2s Hopedale comp=Z,37nm,1.1s	86.83	37	IAmb		IAmb		08 46 16.7		
HDIL	comp=Z,2µm,18.0s			IAMs_20	IAMs_20			09 29 44.3		
HDIL	Hopedale baz=322	86.83	37	P				08 45 43.8		
I49A	Point Hope comp=Z,2µm,18.0s	86.92	32	IAMs_20	IAMs_20			09 31 02.0		
D55A	Sainte-Anne-du baz=331	87.01	26	P				08 45 44.1		
L46A	Eue Claire comp=Z,2µm,19.0s	87.04	35	IAMs_20	IAMs_20			09 30 05.3		
SLBS	Sierra La Lagu comp=Z,2µm,18.0s	87.04	62	IAMs_20	IAMs_20			09 31 57.9		
ALGO	Algonquin Park baz=329	87.05	28	P				08 45 44.6		
S39A	Bolivar comp=Z,1µm,18.0s	87.07	42	IAMs_20	IAMs_20			09 24 39.1		
TUL1	Leonard baz=318	87.11	44	P				08 45 45.8		
R40A	Maddies Statio R40A comp=Z,2µm,19.0s	87.15	41	P IAMs_20	P IAMs_20			08 45 44.9 09 30 33.0	-0.5	
BNI	Bardonecchia comp=Z,25nm,1.1s	87.21	331	IAmb		IAmb		08 46 25.6		
D56A	ZEC Mazanza, M baz=332	87.22	25	P				08 45 45.2		
TXAR	Lajitas Array TXAR comp=Z,6.5nm,1.1s,baz=306,slow=4.2,SNR=32	87.27	54	P LR	P LR			08 45 47.8 09 25 58.4	+1.5	
ABTX	comp=Z,626nm,18.1s,baz=0.0,slow=36 Abilene, Hawle comp=Z,59nm,1.6s	87.36	49	IAmb		IAmb		08 45 52.3		
ABTX	Abilene, Hawle baz=317,SNR=6.4	87.36	49	P				08 45 46.9		
P43A	Skaggs, Pawnee P43A comp=Z,2µm,18.0s	87.44	38	IAmb IAMs_20	IAMs_20	IAmb		08 46 20.4 09 32 07.5		
U38A	Gravette comp=Z,2µm,18.0s	87.46	43	IAMs_20	IAMs_20			09 29 29.7		
G54A	Lake Saint Pet baz=329	87.51	28	P				08 45 46.8		
O44A	Mansfield comp=Z,2µm,18.0s	87.54	37	IAMs_20	IAMs_20			09 30 47.9		
E56A	St. Veronique baz=331	87.58	25	P				08 45 46.8		
SADO	Sadowa comp=Z,3µm,19.0s	87.66	29	IAMs_20	IAMs_20			09 29 40.0		
HPIG	comp=Z,22nm,1.1s	87.67	57	IAmb		IAmb		08 46 14.4		
HPIG	comp=Z,2µm,18.0s			IAMs_20	IAMs_20			09 22 05.0		
TIP	Timpagrande comp=Z,35nm,1.3s	87.68	321	IAmb		IAmb		08 46 03.6		
D58A	Chemin du LacG baz=333	87.78	24	P				08 45 48.2		
HHAR	Hobbs comp=Z,2µm,18.0s	87.82	43	IAMs_20	IAMs_20			09 29 48.1		
CCM	Cathedral Cave CCM comp=Z,73nm,1.5s	87.84	40	P pmax	P pmax			08 45 48.8 	+0.1	
CCM	Cathedral Cave	87.84	40	P	P			08 45 48.8	+0.1	
CCM	Cathedral Cave comp=Z,1µm,19.0s	87.84	40	IAMs_20	IAMs_20			09 31 24.0		
SLM	Saint Louis comp=Z,1µm,19.0s	87.89	39	IAMs_20	IAMs_20			09 30 28.4		
L48A	N Adams comp=Z,52nm,1.4s	87.90	34	IAmb		IAmb		08 45 54.4		
L48A	comp=Z,2µm,18.0s			IAMs_20	IAMs_20			09 32 28.0		
AAM	Ann Arbor comp=Z,2µm,20.0s	87.94	33	IAMs_20	IAMs_20			09 29 36.9		
K50A	Casco comp=Z,1µm,18.0s	87.97	32	IAMs_20	IAMs_20			09 29 35.8		
SFIN	Lafayette comp=Z,29nm,1.2s	87.99	36	IAmb		IAmb		08 46 20.1		
SFIN	comp=Z,2µm,19.0s			IAMs_20	IAMs_20			09 23 53.7		
SFIN	Lafayette baz=324	87.99	36	P				08 45 49.8		
MGMO	Mountain Grove comp=Z,62nm,1.7s	88.02	41	IAmb		IAmb		08 46 22.9		
MGMO	comp=Z,2µm,19.0s			IAMs_20	IAMs_20			09 25 08.2		
H53A	Bobcaygeon baz=329	88.04	29	P				08 45 49.4		
Z35A	Perchaven, San comp=Z,2µm,18.0s	88.21	47	IAMs_20	IAMs_20			09 30 55.1		
N47A	Urbana N47A comp=Z,47nm,1.3s	88.22	35	P IAmb	P IAmb			08 45 49.9 08 45 55.4	-0.6	
Q44A	Meyer Farm, Va comp=Z,33nm,1.1s	88.27	38	IAmb		IAmb		08 46 23.7		
Q44A	comp=Z,2µm,18.0s			IAMs_20	IAMs_20			09 31 47.3		
E58A	La Victoria baz=333	88.30	24	P				08 45 50.4		
FVM	French Village comp=Z,1µm,18.0s	88.30	40	IAMs_20	IAMs_20			09 30 43.5		
X37A	Clayton comp=Z,2µm,18.0s	88.32	45	IAMs_20	IAMs_20			09 33 22.8		
U40A	Yellville comp=Z,25nm,0.9s	88.33	42	IAmb		IAmb		08 46 16.6		
U40A	comp=Z,2µm,18.0s			IAMs_20	IAMs_20			09 33 27.5		
U40A	Yellville baz=320,SNR=10	88.33	42	P				08 45 51.1		
DELO	Deloro Mine comp=Z,28nm,1.4s	88.44	28	IAmb		IAmb		08 46 10.8		
DELO	comp=Z,2µm,19.0s			IAMs_20	IAMs_20			09 32 30.5		
TBI	Tubuai comp=Z,447nm,25.5s	88.48	122	*e*S		S		08 56 32.1	-3.9	
TBI	Tubuai comp=Z,1µm,24.0s,baz=317	88.48	122	*e*LR		LR		09 14 12.9		
TBI	Tubuai comp=Z,21nm,0.3s	88.48	122	*e*T		T		10 23 44.5		
T42A	Van Buren comp=Z,30nm,1.3s	88.71	41	IAmb		IAmb		08 45 58.1		
T42A	comp=Z,2µm,19.0s			IAMs_20	IAMs_20			09 33 11.4		
W39A	Magazine comp=Z,1µm,19.0s	88.72	44	IAMs_20	IAMs_20			09 30 30.1		
W39A	Magazine baz=320	88.72	44	P				08 45 53.2		
JCT	Junction City baz=317	88.81	50	P				08 45 54.8		
CEL	Celeste comp=Z,2µm,21.0s	88.82	321	IAMs_20	IAMs_20			09 28 41.2		
OLIL	Olney comp=Z,27nm,0.9s	88.84	38	IAmb		IAmb		08 46 26.6		
OLIL	comp=Z,1µm,18.0s			IAMs_20	IAMs_20			09 30 14.4		
N49A	Columbus Grove comp=Z,46nm,1.4s	88.84	34	IAmb		IAmb		08 45 58.7		
N49A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20			09 32 57.1		
G57A	Newington baz=331	88.86	26	P				08 45 53.5		
E60A	Ste Agathe de baz=334	88.88	23	P				08 45 53.7		
F59A	Saint Guilaume baz=333	88.92	24	P				08 45 54.1		
M50A	Fremont comp=Z,2µm,19.0s	88.94	33	IAMs_20	IAMs_20			09 32 29.4		
D62A	Allapoint, All comp=Z,3µm,19.0s	88.94	22	IAMs_20	IAMs_20			09 28 43.0		
D62A	Allapoint, All baz=336	88.94	22	P				08 45 54.3		
FCAR	Ozark Folk Cen comp=Z,17nm,0.9s	89.06	42	IAmb		IAmb		08 46 20.0		
WHTX	Lake Whitney, baz=318	89.08	48	P				08 45 55.4		
S44A	Carbondale comp=Z,35nm,1.0s	89.10	39	IAmb		IAmb		08 46 36.0		
S44A				IAMs_20	IAMs_20			09 33 06.6		
SIUC	comp=Z,2µm,18.0s Southern Illin comp=Z,2µm,19.0s	89.11	39	IAMs_20	IAMs_20			09 33 15.5		
E61A	Lac Etchemin baz=335	89.11	23	P				08 45 53.2		
J54A	Appleton comp=Z,2µm,19.0s	89.13	29	IAMs_20	IAMs_20			09 30 26.9		
G58A	Ormstown baz=332	89.13	26	P				08 45 54.8		
BLO	Bloomington comp=Z,2µm,18.0s	89.22	37	IAMs_20	IAMs_20			09 32 46.4		
E62A	Clayton Lake comp=Z,2µm,19.0s	89.22	22	IAMs_20	IAMs_20			09 28 58.6		
PBMO	Poplar Bluff comp=Z,1µm,18.0s	89.24	40	IAMs_20	IAMs_20			09 30 18.4		
D63A	Stockholm baz=336	89.25	21	P				08 45 54.8		
H57A	Richville baz=331	89.28	27	P				08 45 55.2		
MEDO	Medina comp=Z,2µm,18.0s	89.29	29	IAMs_20	IAMs_20			09 30 41.2		
MIAR	Mount Ida comp=Z,2µm,18.0s	89.33	44	IAMs_20	IAMs_20			09 32 13.2		
MIAR	Mount Ida baz=320,SNR=7.3	89.33	44	P				08 45 56.4		
F61A	St Evariste baz=334	89.37	23	P				08 45 55.2		
O49A	Covington comp=Z,1µm,19.0s	89.38	35	IAMs_20	IAMs_20			09 24 33.3		
LCAR	Lake Charles comp=Z,36nm,1.6s	89.42	41	IAmb IAMs_20	IAMs_20	IAmb		08 46 29.9 09 31 40.4		
LCAR	comp=Z,2µm,21.0s									
WHAR	Wooly Hollow comp=Z,65nm,1.6s	89.44	43	IAmb IAMs_20	IAMs_20	IAmb		08 46 01.4 09 26 55.0		
WHAR	comp=Z,1µm,18.0s									
J55A	Hilton comp=Z,30nm,1.2s	89.44	29	IAmb IAMs_20	IAMs_20	IAmb		08 46 01.3 09 30 52.2		
J55A	comp=Z,2µm,19.0s									
P48A	Milroy comp=Z,2µm,18.0s	89.49	36	IAMs_20	IAMs_20			09 24 52.3		
M52A	Chesterland comp=Z,2µm,18.0s	89.52	32	IAMs_20	IAMs_20			09 31 21.7		
Z38A	Mt. Pleasant comp=Z,2µm,18.0s	89.53	46	IAMs_20	IAMs_20			09 33 58.8		
W41B	Gary Mavity, V baz=321	89.55	43	P				08 45 57.2		
FRNY	Flat Rock comp=Z,2µm,19.0s	89.56	25	IAMs_20	IAMs_20			09 33 30.9		
MOQ	Mont Orford	89.57	24	P	P			08 45 57.0	+0.1	
BATG	Bathurst New B comp=Z,2µm,18.0s	89.57	20	IAMs_20	IAMs_20			09 30 42.6		
ERPA	Erie baz=328	89.59	31	P				08 45 56.8		
N51A	Ashland comp=Z,2µm,19.0s	89.62	33	IAMs_20	IAMs_20			09 30 31.4		
I57A	Carthage baz=331	89.64	27	P				08 45 57.1		
USIN	University of comp=Z,1µm,18.0s	89.65	38	IAMs_20	IAMs_20			09 30 40.0		
PARMO	Parma comp=Z,2µm,18.0s	89.67	40	IAMs_20	IAMs_20			09 33 05.7		
H59A	Cadyville baz=332	89.69	26	P				08 45 57.6		
E63A	Oxbow comp=Z,2µm,19.0s	89.72	21	IAMs_20	IAMs_20			09 29 14.6		
E63A	Oxbow baz=336	89.72	21	P				08 45 57.6		
H58A	Gabriels baz=332	89.73	26	P				08 45 57.3		
P49A	Miami Univ. Ec comp=Z,24nm,0.9s	89.75	35	IAmb IAMs_20	IAMs_20	IAmb		08 46 38.8 09 25 02.1		
P49A	comp=Z,1µm,19.0s									
P49A	Miami Univ. Ec baz=325	89.75	35	P				08 45 58.3		
F62A	Pittston Farm, baz=335	89.75	23	P				08 45 57.9		
HENM	Henderson Moun comp=Z,1µm,18.0s	89.77	40	IAMs_20	IAMs_20			09 32 59.3		
X40A	Basin Creek Fa comp=Z,2µm,19.0s	89.77	43	IAMs_20	IAMs_20			09 30 34.8		
X40A	Basin Creek Fa baz=320	89.77	43	P				08 45 58.1		
J56A	Wolcott comp=Z,2µm,18.0s	89.78	28	IAMs_20	IAMs_20			09 33 11.2		
J56A	Wolcott baz=330	89.79	28	P				08 45 58.3		
G61A	St-Isidore-de- baz=334	89.83	24	P				08 45 58.5		
MMNY	Mt. Morris Dam comp=Z,48nm,1.4s	89.87	29	IAmb IAMs_20	IAMs_20	IAmb		08 46 03.4 09 30 58.5		
MMNY	comp=Z,2µm,19.0s									
WVNY	West Valley, N comp=Z,44nm,1.4s	89.88	30	IAmb IAMs_20	IAMs_20	IAmb		08 46 03.8 09 30 53.9		
WVNY	comp=Z,2µm,20.0s									
M53A	WI Miller and comp=Z,46nm,1.3s	89.88	32	IAmb IAMs_20	IAMs_20	IAmb		08 46 04.0 09 32 28.3		
M53A	comp=Z,2µm,18.0s									
M53A	WI Miller and baz=328	89.89	32	P				08 45 58.5		
E64A	Bridgewater baz=336	89.89	21	P				08 45 58.7		
435B	Jarrell comp=Z,2µm,18.0s	89.90	49	IAMs_20	IAMs_20			09 28 27.0		
PENMO	Penman comp=Z,2µm,18.0s	89.90	40	IAMs_20	IAMs_20			09 33 12.8		
ALLY	Alegheny Colle comp=Z,2µm,19.0s	89.92	31	IAMs_20	IAMs_20			09 33 03.2		
T45A	Paducah comp=Z,2µm,18.0s	89.93	39	IAMs_20	IAMs_20			09 31 59.7		
J57A	Williamstown comp=Z,72nm,1.7s	89.98	28	IAmb		IAmb		08 46 04.0		
J57A	Williamstown baz=331	89.98	28	P				08 45 58.7		
237A	Washetta, Mont comp=Z,2µm,18.0s	90.01	47	IAMs_20	IAMs_20			09 33 49.8		
PEBM	Pemiscott Bayo comp=Z,2µm,18.0s	90.04	41	IAMs_20	IAMs_20			09 30 51.7		
HBAR	Harrisburg comp=Z,2µm,19.0s	90.08	41	IAMs_20	IAMs_20			09 26 21.7		
GNAR	Gosnell comp=Z,1µm,19.0s	90.08	41	IAMs_20	IAMs_20			09 32 21.7		
WCI	Wyandotte Cave WCI comp=Z,20nm,1.2s	90.09	37	P pmax	P pmax			08 45 59.5 	+0.2	
WCI	Wyandotte Cave	90.09	37	P	P			08 45 59.5	+0.2	
WCI	Wyandotte Cave comp=Z,2µm,19.0s	90.09	37	IAMs_20	IAMs_20			09 33 24.4		
WCI	Wyandotte Cave baz=324	90.09	37	P				08 45 59.3		
H60A	Morristown baz=333	90.10	25	P				08 45 59.0		
NCB	Newcomb comp=Z,2µm,19.0s	90.11	26	IAMs_20	IAMs_20			09 32 16.5		
K56A	Middlesex baz=330	90.11	29	P				08 45 59.0		
F63A	Nahmakanta, Br comp=Z,1µm,18.0s	90.18	22	IAMs_20	IAMs_20			09 34 35.9		
G62A	West of Eustis baz=335	90.19	23	P				08 45 59.4		
GLAT	Glass comp=Z,2µm,18.0s	90.21	40	IAMs_20	IAMs_20			09 33 30.0		
LPAR	Lepanto comp=Z,2µm,18.0s	90.22	41	IAMs_20	IAMs_20			09 34 40.5		
WLAR	White Oak Lake comp=Z,38nm,1.2s	90.23	44	IAmb IAMs_20	IAMs_20	IAmb		08 46 05.8 09 31 40.1		
WLAR	comp=Z,1µm,

J58A	**Remsen**	**90.28**	**27**	P			08 46 00.4	
	baz=331							
VT1	**Waterbury**	**90.28**	**25**	IAMs_20	IAMs_20	09 32 53.2		
	comp=Z,2µm,20.0s							
N53A	**Lisbon**	**90.35**	**32**	IAMs_20	IAMs_20	09 31 46.7		
	comp=Z,2µm,18.0s							
H61A	**Lyndonville**	**90.37**	**24**	P			08 46 00.8	
	baz=334							
I59A	**Olmsteadville**	**90.38**	**26**	P			08 45 60.0	
	baz=332							
J59A	**Piesco**	**90.46**	**27**	IAmb	IAmb	08 46 27.0		
	comp=Z,25nm,1.2s							
J59A	**Piesco**	**90.46**	**27**	P			08 46 00.6	
	baz=332							
HALT	**Halls**	**90.47**	**40**	IAMs_20	IAMs_20	09 33 39.8		
	comp=Z,2µm,19.0s							
L56A	**Greenwood**	**90.51**	**29**	IAmb	IAmb	08 46 27.5		
	comp=Z,26nm,1.1s							
L56A				IAMs_20	IAMs_20	09 34 01.5		
	comp=Z,2µm,19.0s							
L56A	**Greenwood**	**90.51**	**29**	P			08 46 01.6	
	baz=330							
O52A	**Adamsville**	**90.51**	**33**	IAMs_20	IAMs_20	09 31 08.1		
	comp=Z,2µm,19.0s							
P51A	**Williamsport**	**90.52**	**34**	IAMs_20	IAMs_20	09 33 19.4		
	comp=Z,2µm,20.0s							
I60A	**Shoreham**	**90.54**	**26**	P			08 46 01.8	
	baz=333							
R49A	**Shelbyville**	**90.55**	**36**	IAMs_20	IAMs_20	09 32 30.6		
	comp=Z,2µm,18.0s							
G63A	**Kingsbury**	**90.56**	**23**	P			08 46 01.9	
	baz=335							
N54A	**Moraine State**	**90.56**	**31**	IAMs_20	IAMs_20	09 34 55.2		
	comp=Z,2µm,18.0s							
N54A	**Moraine State**	**90.56**	**31**	P			08 46 01.0	
	baz=328							
H62A	**Milan**	**90.58**	**24**	P			08 46 01.7	
	baz=334							
M55A	**Ridgway**	**90.62**	**30**	IAmb	IAmb	08 46 07.5		
	comp=Z,50nm,1.4s							
LBNH	**Lisbon**	**90.63**	**25**	IAMs_20	IAMs_20	09 34 13.2		
	comp=Z,2µm,18.0s							
O53A	**New Philadelph**	**90.66**	**33**	IAmb	IAmb	08 46 07.3		
	comp=Z,40nm,1.4s							
O53A				IAMs_20	IAMs_20	09 31 20.0		
	comp=Z,2µm,19.0s							
O53A	**New Philadelph**	**90.67**	**33**	P			08 46 01.5	
	baz=327							
G64A	**Maxfield**	**90.69**	**22**	P			08 46 01.7	
	baz=336							
T47A	**Sharon Grove**	**90.70**	**38**	IAmb	IAmb	08 46 35.5		
	comp=Z,25nm,1.1s							
T47A				IAMs_20	IAMs_20	09 28 51.8		
	comp=Z,1µm,18.0s							
CCAR	**Cane Creek**	**90.77**	**43**	IAMs_20	IAMs_20	09 27 39.2		
	comp=Z,1µm,18.0s							
Q51A	**Peebles**	**90.77**	**35**	IAmb	IAmb	08 46 44.3		
	comp=Z,18nm,0.8s							
Q51A				IAMs_20	IAMs_20	09 34 01.1		
	comp=Z,1µm,18.0s							
P52A	**Corning**	**90.79**	**34**	IAmb	IAmb	08 46 07.6		
	comp=Z,34nm,1.3s							
P52A				IAMs_20	IAMs_20	09 33 37.5		
	comp=Z,1µm,19.0s							
P52A	**Corning**	**90.79**	**34**	P			08 46 02.6	
	baz=327							
ACCN	**Adirondack Com**	**90.82**	**26**	IAmb	IAmb	08 46 50.0		
	comp=Z,60nm,1.6s							
I61A	**Oroboro, Fairl**	**90.82**	**25**	P			08 46 01.8	
	baz=333							
R50A	**Paris**	**90.94**	**36**	IAmb	IAmb	08 46 08.8		
	comp=Z,26nm,1.4s							
R50A				IAMs_20	IAMs_20	09 25 36.9		
	comp=Z,1µm,19.0s							
HNH	**Hanover**	**90.99**	**25**	IAMs_20	IAMs_20	09 34 53.8		
	comp=Z,2µm,18.0s							
J60A	**Lant Hill Farm**	**91.03**	**26**	P			08 46 03.2	
	baz=332							
WVT	**Waverly**	**91.04**	**39**	P	**P**	**08 46 05.1 +1.3**		
WVT				pmax	pmax			
	comp=Z,40nm,1.8s							
WVT	**Waverly**	**91.04**	**39**	P	**P**	**08 46 05.1 +1.3**		
WVT				IAmb	IAmb	08 46 37.5		
	comp=Z,40nm,1.8s							
WVT	**Waverly**	**91.04**	**39**	IAMs_20	IAMs_20	09 32 40.8		
	comp=Z,2µm,18.0s							
BINY	**Binghamton**	**91.04**	**28**	IAMs_20	IAMs_20	09 33 39.4		
	comp=Z,2µm,19.0s							
WVT	**Waverly**	**91.04**	**39**	P			08 46 04.0	
	baz=323							
BINY	**Binghamton**	**91.04**	**28**	P			08 46 03.4	
	baz=331							
W45A	**Hickory Valley**	**91.14**	**41**	IAMs_20	IAMs_20	09 31 25.6		
	comp=Z,1µm,18.0s							
I62A	**Tamworth**	**91.15**	**24**	IAMs_20	IAMs_20	09 35 21.8		
	comp=Z,2µm,18.0s							
735A	**Kenedy**	**91.18**	**50**	IAMs_20	IAMs_20	09 30 48.1		
	comp=Z,1µm,18.0s							
L58A	**Harry Jones Me**	**91.22**	**28**	P			08 46 04.4	
	baz=331							
J61A	**Chester**	**91.23**	**25**	P			08 46 04.5	
	baz=333							
P53A	**Whipple**	**91.23**	**33**	IAMs_20	IAMs_20	09 31 39.0		
	comp=Z,2µm,19.0s							
I63A	**Otisfield**	**91.23**	**24**	P			08 46 04.6	
	baz=334							
Q52A	**Bidwell**	**91.29**	**34**	IAMs_20	IAMs_20	09 34 18.8		
	comp=Z,2µm,20.0s							
L59A	**Walton**	**91.39**	**28**	P			08 46 05.2	
	baz=331							
TRY	**Troy**	**91.39**	**26**	IAMs_20	IAMs_20	09 32 56.6		
	comp=Z,2µm,19.0s							
WDD	**Wied Dalam**	**91.41**	**321**	IAMs_20	IAMs_20	09 32 39.7		
	comp=Z,2µm,19.0s							
FFD	**Franklin Falls**	**91.41**	**25**	IAMs_20	IAMs_20	09 35 22.7		
	comp=Z,2µm,18.0s							
MSEY	**Mahe Island**	**91.41**	**265**	IAMs_20	IAMs_20	09 28 25.3		
	comp=Z,1µm,18.0s							
HKT	**Hockley**	**91.53**	**48**	*de*P	**P**	**08 46 08.5 +2.4**		
HKT				pmax	pmax			
	comp=Z,6.0nm,1.3s							
HKT				MLR	MLR			
	comp=Z,730nm,18.0s							
HKT	**Hockley**	**91.53**	**48**	IAMs_20	IAMs_20	09 30 30.8		
	comp=Z,1µm,19.0s							
OXF	**Oxford**	**91.53**	**41**	IAMs_20	IAMs_20	09 27 03.1		
	comp=Z,1µm,20.0s							
OXF	**Oxford**	**91.53**	**41**	P			08 46 05.8	
	baz=322							
J62A	**Henniker**	**91.58**	**25**	P			08 46 05.4	
	baz=334							
K61A	**Williamstown**	**91.59**	**26**	P			08 46 05.7	
	baz=333							
SSPA	**Standing Stone**	**91.67**	**30**	P			08 46 05.7	
	baz=330							
KSPA	**Keystone Colle**	**91.68**	**28**	IAMs_20	IAMs_20	09 34 27.3		
	comp=Z,2µm,19.0s							
U49A	**Red Boiling Sp**	**91.71**	**38**	IAmb	IAmb	08 46 37.0		
	comp=Z,29nm,1.4s							
U49A				IAMs_20	IAMs_20	09 32 28.5		
	comp=Z,2µm,18.0s							
O56A	**Blue Knob Stat**	**91.72**	**31**	IAMs_20	IAMs_20	09 31 45.8		
	comp=Z,2µm,19.0s							
MCWV	**Mont Chateau**	**91.73**	**32**	IAMs_20	IAMs_20	09 27 56.1		
	comp=Z,2µm,19.0s							
CLTN	**Cedars of Leba**	**91.79**	**38**	IAMs_20	IAMs_20	09 35 02.7		
	comp=Z,2µm,20.0s							
S51A	**Beattyville**	**91.80**	**36**	IAMs_20	IAMs_20	09 31 35.6		
	comp=Z,2µm,18.0s							
PLAL	**Pickwick Lake**	**91.83**	**40**	IAMs_20	IAMs_20	09 34 04.9		
	comp=Z,2µm,18.0s							
V48A	**Smith Brothers**	**91.84**	**39**	IAMs_20	IAMs_20	09 33 15.0		
	comp=Z,2µm,19.0s							
Q54A	**Coxs Mills**	**91.89**	**33**	IAMs_20	IAMs_20	09 32 08.4		
	comp=Z,2µm,19.0s							
143A	**Socs Landing,**	**91.90**	**44**	IAMs_20	IAMs_20	09 32 00.2		
	comp=Z,2µm,19.0s							
R53A	**Hurricane**	**91.95**	**34**	IAMs_20	IAMs_20	09 34 39.4		
	comp=Z,2µm,19.0s							
Y45A	**Yeager Farm, C**	**91.97**	**42**	IAMs_20	IAMs_20	09 27 37.8		
	comp=Z,1µm,19.0s							
K63A	**Dunstable**	**92.15**	**25**	IAMs_20	IAMs_20	09 35 22.4		
	comp=Z,2µm,19.0s							
N59A	**State Game Lan**	**92.23**	**29**	IAmb	IAmb	08 46 15.0		
	comp=Z,33nm,1.4s							
N59A				IAMs_20	IAMs_20	09 33 20.1		
	comp=Z,2µm,19.0s							
N59A	**State Game Lan**	**92.24**	**29**	P			08 46 09.5	
	baz=331							
HRV	**Adam Dziewonsk**	**92.30**	**25**	IAMs_20	IAMs_20	09 35 17.4		
	comp=Z,2µm,19.0s							
KSCT	**Kent School, K**	**92.35**	**27**	IAMs_20	IAMs_20	09 33 18.8		
	comp=Z,3µm,20.0s							
342A	**Flagon Creek P**	**92.42**	**45**	IAMs_20	IAMs_20	09 33 16.3		
	comp=Z,1µm,20.0s							
PAGS	**Pennsylvania G**	**92.47**	**30**	IAMs_20	IAMs_20	09 34 47.6		
	comp=Z,2µm,20.0s							
WES	**Weston**	**92.49**	**25**	IAMs_20	IAMs_20	09 35 48.4		
	comp=Z,2µm,18.0s							
Q56A	**Snyder Ridge,**	**92.52**	**32**	IAMs_20	IAMs_20	09 32 09.0		
	comp=Z,2µm,20.0s							
MAHO	**Mahon**	**92.54**	**330**	P	**P**	**08 46 09.6 -1.1**		
MAHO	**Mahon**	**92.54**	**330**	PP	PP	08 50 06.6 +15		
ZAIG	**Zacatecas**	**92.58**	**58**	IAMs_20	IAMs_20	09 24 28.3		
	comp=Z,1µm,18.0s							
P57A	**Homestead Farm**	**92.61**	**31**	IAMs_20	IAMs_20	09 32 13.4		
	comp=Z,2µm,20.0s							
LUPA	**Lehigh Univers**	**92.66**	**29**	IAMs_20	IAMs_20	09 33 13.3		
	comp=Z,3µm,20.0s							
S54A	**Dingess, Beckl**	**92.67**	**34**	IAMs_20	IAMs_20	09 35 06.4		
	comp=Z,1µm,18.0s							
SWET	**Sewanee**	**92.69**	**39**	IAMs_20	IAMs_20	09 34 46.5		
	comp=Z,2µm,18.0s							
UCCT	**U. Connecticut**	**92.72**	**26**	IAMs_20	IAMs_20	09 34 19.5		
	comp=Z,2µm,19.0s							
TZTN	**Tazewell**	**92.72**	**36**	IAMs_20	IAMs_20	09 36 16.0		
	comp=Z,1µm,19.0s							
VBMS	**Vicksburg**	**92.75**	**43**	IAMs_20	IAMs_20	09 28 15.6		
	comp=Z,1µm,18.0s							
X48A	**Hartselle**	**92.76**	**40**	IAMs_20	IAMs_20	09 35 29.5		
	comp=Z,1µm,19.0s							
R55A	**Marlinton**	**92.78**	**33**	IAMs_20	IAMs_20	09 32 45.0		
	comp=Z,2µm,19.0s							
MVL	**Millersville**	**92.81**	**30**	IAMs_20	IAMs_20	09 35 22.6		
	comp=Z,2µm,18.0s							
WSPT	**Westport, CT**	**92.89**	**27**	IAMs_20	IAMs_20	09 33 45.3		
	comp=Z,2µm,20.0s							
V51A	**Loudon**	**92.96**	**37**	IAMs_20	IAMs_20	09 33 14.5		
	comp=Z,2µm,18.0s							
SDMD	**Soldier's Deli**	**93.14**	**30**	IAMs_20	IAMs_20	09 32 44.2		
	comp=Z,1µm,19.0s							
WUPA	**West Chester U**	**93.15**	**29**	IAMs_20	IAMs_20	09 35 47.5		
	comp=Z,1µm,18.0s							
CPCT	**Cooper Cave**	**93.17**	**37**	IAMs_20	IAMs_20	09 33 56.0		
	comp=Z,2µm,18.0s							
344A	**Westbrook Farm**	**93.23**	**44**	IAMs_20	IAMs_20	09 33 03.4		
	comp=Z,1µm,18.0s							
Z47A	**Carrollton**	**93.25**	**41**	IAMs_20	IAMs_20	09 32 41.6		
	comp=Z,2µm,18.0s							
P60A	**Greenville**	**93.25**	**29**	IAMs_20	IAMs_20	09 36 08.0		
	comp=Z,2µm,19.0s							
P60A	**Greenville**	**93.25**	**29**	P			08 46 14.0	
	baz=331							
V52A	**Sevierville**	**93.28**	**37**	IAMs_20	IAMs_20	09 33 59.8		
	comp=Z,2µm,18.0s							
TKL	**Tuckaleechee C**	**93.35**	**37**	IAMs_20	IAMs_20	09 34 01.7		
	comp=Z,2µm,18.0s							
FPAL	**Fort Paine**	**93.39**	**39**	IAMs_20	IAMs_20	09 35 17.1		
	comp=Z,1µm,19.0s							
U54A	**Nelsons Funny**	**93.52**	**35**	IAMs_20	IAMs_20	09 35 44.0		
	comp=Z,2µm,19.0s							
Y49A	**Blount Mountai**	**93.55**	**40**	IAMs_20	IAMs_20	09 36 00.4		
	comp=Z,2µm,18.0s							
BLA	**Blacksburg**	**93.55**	**34**	IAMs_20	IAMs_20	09 35 59.6		
	comp=Z,2µm,18.0s							
S57A	**Dark Hollow, R**	**93.70**	**32**	IAMs_20	IAMs_20	09 32 48.5		
	comp=Z,2µm,19.0s							
X51A	**Calhoun**	**93.73**	**38**	IAMs_20	IAMs_20	09 34 55.0		
	comp=Z,2µm,18.0s							
W52A	**Murphy**	**93.74**	**37**	IAMs_20	IAMs_20	09 33 57.1		
	comp=Z,2µm,18.0s							
V53A	**Saluda**	**93.78**	**36**	IAMs_20	IAMs_20	09 27 26.0		
	comp=Z,2µm,19.0s							
KEST	**Kesra**	**93.93**	**324**	P	**P**	**08 46 15.4 -1.9**		
	comp=Z,2.8nm,0.8s,baz=59,slow=4.7,SNR=3.5							
KEST				PP	**PP**	**08 50 03.4 +1.1**		
	comp=Z,6.8nm,1.0s,baz=12,slow=4.6,SNR=5.1							
KEST				LR	LR	09 33 45.1		
	comp=Z,6µm,18.2s,baz=338,slow=39							
T57A	**Hurt**	**94.23**	**33**	IAMs_20	IAMs_20	09 37 26.4		
	comp=Z,2µm,18.0s							
BG3	**Lake Jocassee**	**94.28**	**37**	IAMs_20	IAMs_20	09 34 47.4		
	comp=Z,2µm,18.0s							
U56A	**King**	**94.30**	**34**	IAMs_20	IAMs_20	09 34 13.4		
	comp=Z,1µm,19.0s							
V55A	**Taylorsville**	**94.35**	**35**	IAMs_20	IAMs_20	09 36 16.8		
	comp=Z,2µm,19.0s							
Z51A	**Franklin**	**94.59**	**39**	IAMs_20	IAMs_20	09 34 06.0		
	comp=Z,2µm,19.0s							
Y52A	**Liburn**	**94.68**	**38**	IAMs_20	IAMs_20	09 34 02.2		
	comp=Z,2µm,18.0s							
UCM	**Universidad Co**	**94.86**	**335**	P	**P**	**08 46 21.6 +0.2**		
UCM	**Universidad Co**	**94.86**	**335**	PP	**PP**	**08 50 15.0 +5.7**		
KMSC	**Kings Mountain**	**94.89**	**35**	IAMs_20	IAMs_20	09 36 39.2		
	comp=Z,2µm,19.0s							
PAULI	**Pauline**	**94.94**	**36**	IAMs_20	IAMs_20	09 36 36.6		
	comp=Z,2µm,20.0s							
T59A	**Double "B" Far**	**94.95**	**32**	IAMs_20	IAMs_20	09 34 30.5		
	comp=Z,2µm,18.0s							
S61A	**Acworth**	**95.09**	**30**	IAMs_20	IAMs_20	09 32 24.9		
	comp=Z,2µm,20.0s							
250A	**Grady**	**95.13**	**41**	IAMs_20	IAMs_20	09 37 03.5		
	comp=Z,1µm,18.0s							
HODGE	**Hodges**	**95.22**	**37**	IAMs_20	IAMs_20	09 36 43.3		
	comp=Z,2µm,18.0s							
V58A	**Windy Hill, Pi**	**95.31**	**34**	IAMs_20	IAMs_20	09 34 21.1		
	comp=Z,1µm,18.0s							
GOGA	**Godfrey**	**95.34**	**38**	IAMs_20	IAMs_20	09 34 39.5		
	comp=Z,2µm,18.0s							
152A	**Waverly Hall**	**95.34**	**39**	IAMs_20	IAMs_20	09 34 36.8		
	comp=Z,1µm,18.0s							
BRAL	**Brewton**	**95.38**	**42**	IAMs_20	IAMs_20	09 35 32.2		
	comp=Z,2µm,19.0s							
W57A	**Gilead**	**95.47**	**35**	IAMs_20	IAMs_20	09 38 23.6		
	comp=Z,2µm,18.0s							
FURI	**Furi**	**95.60**	**286**	IAMs_20	IAMs_20	09 34 26.7		
	comp=Z,1µm,18.0s							
JSC	**Jenkinsville**	**95.64**	**36**	IAMs_20	IAMs_20	09 37 23.2		
	comp=Z,1µm,19.0s							
ESDC	**Sonseca Array**	**95.67**	**335**	P	**P**	**08 46 24.0 -1.1**		
	comp=Z,1.1nm,0.9s,baz=21,slow=5.0,SNR=6.3							
ESDC				LR	LR	09 35 30.9		
	comp=Z,5µm,18.1s,baz=5.0,slow=39							
BIRD	**Birdtown, Kers**	**95.69**	**35**	IAMs_20	IAMs_20	09 34 41.5		
	comp=Z,2µm,20.0s							
MTE	**Manteigas**	**96.09**	**338**	IAMs_20	IAMs_20	09 33 30.5		
	comp=Z,2µm,20.0s							
154A	**Montrose**	**96.17**	**38**	IAMs_20	IAMs_20	09 34 08.4		
	comp=Z,2µm,19.0s							
Y57A	**Sumter**	**96.25**	**35**	IAMs_20	IAMs_20	09 34 30.3		
	comp=Z,2µm,18.0s							
X58A	**Rowland**	**96.26**	**34**	IAMs_20	IAMs_20	09 28 47.5		
	comp=Z,2µm,20.0s							
CART	**Cartagena**	**96.54**	**332**	P	**P**	**08 46 28.5 -0.5**		
CART	**Cartagena**	**96.54**	**332**	PP	PP	08 50 37.1 +15		
Y58A	**Scranton**	**96.67**	**35**	IAMs_20	IAMs_20	09 34 18.3		
	comp=Z,2µm,18.0s							
Y59A	**Loris**	**96.94**	**34**	IAMs_20	IAMs_20	09 36 09.5		
	comp=Z,2µm,19.0s							
255A	**Hazlehurst**	**97.03**	**38**	IAMs_20	IAMs_20	09 36 16.4		
	comp=Z,1µm,19.0s							
NHSC	**New Hope**	**97.11**	**36**	IAMs_20	IAMs_20	09 29 38.2		
	comp=Z,2µm,19.0s							
Y60A	**Bolivia**	**97.22**	**34**	IAMs_20	IAMs_20	09 32 53.7		
	comp=Z,1µm,20.0s							
553A	**Crawfordville**	**97.50**	**40**	IAMs_20	IAMs_20	09 38 52.1		
	comp=Z,1µm,20.0s							
257A	**Skidaway Islan**	**97.67**	**37**	IAMs_20	IAMs_20	09 36 37.2		
	comp=Z,2µm,19.0s							
EVO	**Evora**	**97.96**	**338**	P	P	08 46 27.9 -7.6		
EVO	**Evora**	**97.96**	**338**	PP	**PP**	**08 50 39.5 +6.4**		
LIS	**Lisbon**	**98.11**	**339**	*e*PP	**PP**	**08 50 35.5 +1.2**		
LIS				IAMs_20	IAMs_20	09 37 52.1		
	comp=Z,4µm,14.5s							
RKT	**Rikitea**	**98.24**	**113**	*e*SKSac	**SKSac**	**08 57 08.6 -4.3**		
	comp=Z,644nm,24.8s							
RKT	**Rikitea**	**98.24**	**113**	*e*PS	PS	08 59 32.9 +2.6		
	comp=Z,740nm,26.8s							
RKT				*e*SS	SS	09 04 44.6 -2.4		
	comp=Z,526nm,22.8s							
RKT	**Rikitea**	**98.24**	**113**	*e*LR	LR	09 18 38.3		
	comp=Z,2µm,21.8s							
456A	**Hilliard**	**98.24**	**38**	IAMs_20	IAMs_20	09 37 58.5		
	comp=Z,2µm,19.0s							
EMAL	**Malaga-Limoner**	**98.47**	**334**	P	Pdif	08 46 40.2 +2.5		
MESJ	**Messejana**	**98.66**	**338**	*e*Pdif	Pdif	08 46 39.0 +0.5		
MESJ				*e*PP	**PP**	**08 50 39.8 +1.3**		
MESJ				*e*SS	SS	09 04 53.4 +3.3		
MESJ				IAMs_20	IAMs_20	09 31 57.0		
	comp=E,3µm,16.9s							
MESJ	**Messejana**	**98.66**	**338**	*e*P	Pdif	08 46 39.0 +0.4		
MESJ				*e*		08 50 39.8		
MESJ				*e*SS	SS	09 04 53.4 +3.3		
ARNO	**Arenosillo**	**98.90**	**336**	P	**P**	**08 46 35.7 -4.0**		
TLIG	**Tlapa**	**98.91**	**59**	IAMs_20	IAMs_20	09 38 30.1		
	comp=Z,2µm,18.0s							
656A	**Willston**	**99.11**	**40**	IAMs_20	IAMs_20	09 35 35.7		
	comp=Z,2µm,19.0s							
MELI	**Melilla**	**99.28**	**333**	P	**Pdif**	**08 46 48.2 +6.9**		
SFS	**San Fernando**	**99.31**	**336**	P	**Pdif**	**08 46 41.9 +0.4**		
CEU	**Ceuta**	**99.56**	**335**	P	**Pdif**	**08 46 45.7 +3.1**		
PVLZ	**Peæn de**	**99.86**	**334**	P	**Pdif**	**08 46 54.7 +11**		
DWPF	**Disney Wildern**	**100.69**	**39**	IAMs_20	IAMs_20	09 41 00.5		
	comp=Z,2µm,19.0s							
IFR	**Ifrane**	**101.65**	**334**	P	**Pdif**	**08 46 53.7 +1.5**		
IFR	**Ifrane**	**101.65**	**334**	PP	**PP**	**08 51 05.4 +3.9**		
LODK	**Lodwar**	**101.67**	**284**	IAMs_20	IAMs_20	09 38 50.8		
	comp=Z,2µm,19.0s							
060A	**Indiantown**	**102.11**	**39**	IAMs_20	IAMs_20	09 38 44.0		
	comp=Z,2µm,20.0s							
AVE	**Averroes**	**102.61**	**335**	P	**Pdif**	**08 46 58.7 +2.5**		
AVE	**Averroes**	**102.61**	**335**	PP	**PKiKP**	**08 51 22.1 +4.9**		
061Z	**Ochoppi**	**102.81**	**40**	IAMs_20	IAMs_20	09 43 26.8		
	comp=Z,2µm,19.0s							
KIBK	**Kibwezi**	**103.37**	**278**	IAMs_20	IAMs_20	09 38 14.8		
	comp=Z,1µm,18.0s							
BBSR	**BB Station**	**103.76**	**24**	IAMs_20	IAMs_20	09 39 03.6		
	comp=Z,1µm,19.0s							
SOR	**Soroa**	**104.25**	**44**	IAMs_20	IAMs_20	09 43 47.4		
	comp=Z,1µm,20.0s							
MBAR	**Mbarara**	**107.78**	**284**	IAMs_20	IAMs_20	09 42 50.7		
	comp=Z,2µm,19.0s							
TGUH	**Tegucigalpa,Un**	**108.72**	**53**	IAMs_20	IAMs_20	09 46 30.1		
	comp=Z,937nm,19.0s							
CRIN	**San Cristobal**	**109.90**	**53**	IAMs_20	IAMs_20	09 47 57.6		
	comp=Z,791nm,18.0s							
GTBY	**Guantanamo Bay**	**110.66**	**39**	IAMs_20	IAMs_20	09 45 56.6		
	comp=Z,2µm,19.0s							
GRTK	**Grand Turk**	**111.13**	**35**	IAMs_20	IAMs_20	09 44 28.2		
	comp=Z,2µm,20.0s							
SC01	**Santiago de lo**	**113.14**	**35**	IAMs_20	IAMs_20	09 50 08.5		
	comp=Z,2µm,18.0s							
CAO2	**Cobano, Puntar**	**113.43**	**54**	IAMs_20	IAMs_20	09 47 26.0		
	comp=Z,907nm,21.0s							
CVTR	**Volcan Turrial**	**114.00**	**52**	IAMs_20	IAMs_20	09 49 55.0		
	comp=Z,869nm,21.0s							
SJG	**San Juan**	**116.25**	**32**	IAMs_20	IAMs_20	09 46 55.7		
	comp=Z,1µm,19.0s							
TORD	**Torodi Ar. Bea**	**116.60**	**318**	PKP	**PKPdf**	**08 51 42.6 -1.3**		
	comp=Z,0.3nm,0.5s,baz=31,slow=2.8,SNR=2.1							
TORD				PP	**PP**	**08 52 49.5 -1.0**		
	comp=Z,14nm,1.1s,baz=22,slow=7.3,SNR=18							
PAYG	**Puerto Ayora**	**117.64**	**66**	IAMs_20	IAMs_20	09 46 43.4		
	comp=Z,1µm,18.0s							
SEUS	**St. Eustatius**	**118.05**	**29**	IAMs_20	IAMs_20	09 45 03.8		
	comp=Z,843nm,20.0s							
LSZ	**Lusaka**	**119.00**	**274**	IAMs_20	IAMs_20	09 44 55.4		
	comp=Z,1µm,18.0s							
FDF	**Fort de France**	**121.26**	**28**	IAMs_20	IAMs_20	09 48 12.7		
	comp=Z,1µm,20.0s							
BIM	**Bigot**	**121.49**	**28**	IAMs_20	IAMs_20	09 47 58.8		
	comp=Z,1µm,20.0s							
MPOM	**Morne Pois Mar**	**121.63**	**28**	IAMs_20	IAMs_20	09 48 11.5		
	comp=Z,1µm,20.0s							
MCLT	**Moule a Chique**	**122.28**	**28**	IAMs_20	IAMs_20	09 50 00.6		
	comp=Z,1µm,20.0s							
SDV	**Santo Domingo**	**122.31**	**41**	IAMs_20	IAMs_20	09 51 59.5		
	comp=Z,1µm,20.0s							
GRGR	**Grenville**	**123.46**	**30**	IAMs_20	IAMs_20	09 50 41.2		
	comp=Z,1µm,20.0s							
LBTB	**Lobatse**	**126.50**	**266**	PKIKP	**PKPdf**	**08 52 02.2 -0.5**		
LBTB	**Lobatse**	**126.50**	**266**	PKPdf	**PKPdf**	**08 52 02.2 -0.5**		
QSPA	**South Pole Qui**	**129.35**	**180**	IAMs_20	IAMs_20	09 45 19.9		
	comp=Z,851nm,20.0s							
TSUM	**Tsumeb**	**129.47**	**277**	IAMs_20

*IDC **10** 08:34:29.7±1.6,54.°84N×162.°68E,h0km,mb3.2/3, mb1 3.6/4,mb1mx3.5/49,mbtmp3.2/4,ML2.7/1,Error ellipse: s-maj=140.9km s-min=24.0km az=148.0*

*KRSC **10** 08:34:31.9±0.9,54.°72N×162.°65E,h41km±18km,ML4.0*

ISC 10 08:34:33.4±1.4,54.°78N±0.°03×162.°64E±0.°04,h26km±12km, n46,σ91°/72,mb3.1/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MKZ	**Mys Kozlova**	**0.57**	**247**	*eP*		**Pb**	**08**	**34**	**44.6**	**-0.2**
MKZ				*eS*		**Sb**	**08**	**34**	**52.8**	**+0.2**
TUMD	**Tumrok D**	**1.35**	**289**	*eP*		**Pn**	**08**	**34**	**55.9**	**-0.7**
TUMD				*eS*		**Sn**	**08**	**35**	**12.5**	**-1.3**
KZV	**Kizimen**	**1.39**	**285**	*eP*		**Pn**	**08**	**34**	**56.5**	**-0.7**
KZV				*eS*		**Sn**	**08**	**35**	**13.4**	**-1.4**
KBTR	**Krutoberegovo**	**1.43**	**4**	*eP*		**Pn**	**08**	**34**	**57.3**	**-0.4**
KBTR				*eS*		**Sn**	**08**	**35**	**15.1**	**-0.5**
KBG	**Krutoberegovo**	**1.48**	**2**	*eP*		**Pn**	**08**	**34**	**58.2**	**0.0**
KBG				*eS*		**Sn**	**08**	**35**	**16.3**	**-0.4**
TUMR	**Tumrok**	**1.52**	**290**	*eP*		**Pn**	**08**	**34**	**58.7**	**-0.3**
TUMR				*eS*		**Sn**	**08**	**35**	**17.2**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.60**	**317**	*eP*		**Pn**	**08**	**35**	**00.2**	**+0.1**
BZGR				*eS*		**Sn**	**08**	**35**	**20.0**	**0.0**
ZLN	**Zelenaya**	**1.62**	**321**	*eP*		**Pn**	**08**	**35**	**00.8**	**+0.5**
ZLN				*eS*		**Sb**	**08**	**35**	**22.2**	**-0.4**
BZMR	**Bezymyannaya**	**1.68**	**314**	*eP*		**Pn**	**08**	**35**	**01.6**	**+0.3**
BZMR				*eS*		**Sn**	**08**	**35**	**23.1**	**+1.1**
KMNR	**Kamenistaya**	**1.68**	**306**	*eP*		**Pn**	**08**	**35**	**01.3**	**+0.1**
KMNR				*eS*		**Sn**	**08**	**35**	**22.6**	**+0.6**
BZWR	**Bezymyannyi-We**	**1.70**	**315**	*eP*		**Pn**	**08**	**35**	**02.0**	**+0.5**
BZWR				*eS*		**Sn**	**08**	**35**	**23.7**	**+1.2**
LGNR	**Loginova**	**1.71**	**320**	*eP*		**Pn**	**08**	**35**	**02.3**	**+0.5**
LGNR				*eS*		**Sb**	**08**	**35**	**24.7**	**-0.7**
CIRR	**Tsirk**	**1.71**	**322**	*eP*		**Pn**	**08**	**35**	**03.0**	**+1.3**
CIRR				*eS*		**Sb**	**08**	**35**	**25.9**	**+0.5**
KIRR	**Kirishev**	**1.76**	**313**	*eP*		**Pn**	**08**	**35**	**03.0**	**+0.7**
KLY	**Klyuchi**	**1.90**	**324**	*eP*		**Pn**	**08**	**35**	**04.5**	**+0.4**
SMKR	**Semkarok**	**1.92**	**340**	*eP*		**Pn**	**08**	**35**	**05.0**	**+0.6**
BDR	**Baidarnaya**	**1.96**	**336**	*eP*		**Pn**	**08**	**35**	**05.0**	**0.0**
BKI	**Bering**	**1.97**	**76**	*eP*		**Pn**	**08**	**35**	**05.5**	**+0.5**
BKI				*eS*		**Sn**	**08**	**35**	**29.6**	**+0.8**
KOZ	**Kozyrevsk**	**2.03**	**310**	*eP*		**Pn**	**08**	**35**	**06.7**	**+0.8**
KOZ				*eS*		**Sn**	**08**	**35**	**31.9**	**+1.6**
SRKR	**Sorokina**	**2.05**	**337**	*eP*		**Pn**	**08**	**35**	**06.8**	**+0.6**
SRDR	**Sredinnyy**	**2.26**	**314**	*eP*		**Pn**	**08**	**35**	**09.7**	**+0.6**
SPN	**Mys Shipunski**	**2.29**	**223**	*eP*		**Pn**	**08**	**35**	**08.1**	**-1.3**
SPN				*eS*		**Sn**	**08**	**35**	**33.7**	**-3.0**
ESO	**Esso**	**2.52**	**299**	*eP*		**Pn**	**08**	**35**	**13.2**	**+0.5**
ESO				*eS*		**Sn**	**08**	**35**	**42.5**	**0.0**
NLC	**Nalytchevo**	**2.53**	**232**	*eP*		**Pn**	**08**	**35**	**13.4**	**+0.7**
NLC				*eS*		**Sn**	**08**	**35**	**42.8**	**+0.2**
SDLR	**Sedlovina**	**2.68**	**237**	*eP*		**Pn**	**08**	**35**	**15.5**	**+0.6**
SDLR				*eS*		**Sn**	**08**	**35**	**46.6**	**+0.1**
SMAR	**Somma**	**2.73**	**238**	*eP*		**Pn**	**08**	**35**	**16.0**	**+0.3**
SMAR				*eS*		**Sn**	**08**	**35**	**47.2**	**-0.7**
KRER	**Koryakskii**	**2.73**	**239**	*eP*		**Pn**	**08**	**35**	**16.8**	**+1.1**
KRER				*eS*		**Sn**	**08**	**35**	**48.9**	**+1.0**
KRX	**Arik**	**2.75**	**240**	*eP*		**Pn**	**08**	**35**	**16.6**	**+0.7**
KRX				*eS*		**Sn**	**08**	**35**	**48.2**	**-0.1**
UGLR	**Uglovaya**	**2.75**	**236**	*eP*		**Pn**	**08**	**35**	**16.4**	**+0.5**
UGLR				*eS*		**Sn**	**08**	**35**	**48.4**	**+0.2**
AVH	**Avacha**	**2.76**	**238**	*eP*		**Pn**	**08**	**35**	**17.0**	**+1.1**
AVH				*eS*		**Sn**	**08**	**35**	**50.0**	**+1.6**
KOK	**Koryaka**	**2.79**	**239**	*eP*		**Pn**	**08**	**35**	**17.3**	**+0.9**
DALK	**Dalny**	**2.89**	**234**	*eP*		**Pn**	**08**	**35**	**17.7**	**0.0**
DALK				*eS*		**Sn**	**08**	**35**	**49.9**	**-1.7**
PET	**Petropavlovsk**	**2.94**	**235**	*eP*		**Pn**	**08**	**35**	**18.8**	**+0.4**
PET				*eS*		**Sn**	**08**	**35**	**52.7**	**-0.1**
GNL	**Ganaly**	**2.96**	**250**	*eP*		**Pn**	**08**	**35**	**19.5**	**+0.7**
KRMR	**Karymshinskiy**	**3.31**	**236**	*eP*		**Pn**	**08**	**35**	**25.2**	**+1.7**
KRMR				*eS*		**Sn**	**08**	**36**	**02.7**	**+0.8**
PETK	**Petropavlovsk-** 3.4nm,0.3s,baz=83,slow=19,SNR=44	**3.37**	**242**	Pn		**Pn**	**08**	**35**	**24.9**	**+0.7**
PETK					Sn	**Sn**	**08**	**36**	**04.4**	**+1.0**
	5.3nm,0.3s,baz=72,slow=41,SNR=2.4									
RUS	**Russkaya**	**3.40**	**228**	*eP*		**Pn**	**08**	**35**	**24.4**	**-0.3**
MTVR	**Mutnovka**	**3.51**	**231**	*eP*		**Pn**	**08**	**35**	**28.0**	**+1.6**
GRL	**Gorelyy**	**3.52**	**232**	*eP*		**Pn**	**08**	**35**	**27.9**	**+1.5**
GRL				*eS*		**Sn**	**08**	**36**	**09.0**	**+1.8**
KDTR	**Khodutka, Kamc**	**4.04**	**224**	*eP*		**Pn**	**08**	**35**	**34.3**	**+0.8**
ILAR	**Eielson Array** 0.5nm,1.0s,baz=276,slow=8.1,SNR=3.4	**26.56**	**48**	P		**P**	**08**	**40**	**08.3**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=354	**35.14**	**173**	T		T	09	18	47.2	
H11N3	**WAKE ISLAND Hy** baz=354,slow=74	**35.16**	**173**	T		T	09	18	48.5	
H11N1	**WAKE ISLAND Hy** baz=354,slow=74	**35.16**	**173**	T		T	09	18	49.1	
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=303,slow=8.3,SNR=2.9	**40.90**	**45**	P		**P**	**08**	**42**	**12.6**	**-0.2**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=316,slow=5.2,SNR=4.3	**68.61**	**69**	P		**P**	**08**	**45**	**34.0**	**-0.1**

*BJI **10** 08:44:40.3±0.0,39.°62N×143.°77E,h4km,mB5.4/9, mb4.7/44,Ms5.3/4,Ms7 5.1/4*

*JMA **10** 08:44:42.8±0.2,39.°62N×143.°71E,h18km,M4.5*

JMA Felt I J1.

*MOS **10** 08:44:45.4±1.0,39.°65N×143.°53E,h28km,mb4.9/19,Error ellipse: s-maj=7.1km s-min=4.8km az=105.0*

*IDC **10** 08:44:47.8±5.5,39.°59N×143.°45E,h28km±38km,mb3.9/22, mb1 4.2/29,mb1mx4.1/48,mbtmp4.2/29,ML3.6/7,Error ellipse: s-maj=17.1km s-min=12.2km az=107.0*

*NEIC **10** 08:44:49.6±1.5,39.°62N±0.°05×143.°4E±0.°1,h37km±5km, mb4.6/18,Error ellipse: s-maj=12.9km s-min=7.0km az=92.0*

ISC 10 08:44:44.6±0.5,39.°63N±0.°05×143.°70E±0.°06,h11km,n168, σ19°/56°/169,mb4.5/48,9C-14D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JTH	**Tanohata**	**1.45**	**283**	P		**Pn**	**08**	**45**	**08.3**	**-2.5**
MIYJ	**Miyakonagasawa**	**1.46**	**268**	P		**Pn**	**08**	**45**	**08.6**	**-2.2**
JKEN	**Kujiedanarisaw**	**1.64**	**291**	P		**Pn**	**08**	**45**	**10.9**	**-2.4**
OFUJ	**Ofunato**	**1.67**	**251**	P		**Pn**	**08**	**45**	**11.7**	**-2.1**
JANG	**Nango**	**1.84**	**294**	P		**Pn**	**08**	**45**	**13.9**	**-2.2**
JOM	**Ohasama**	**1.87**	**266**	P		**Pn**	**08**	**45**	**15.0**	**-1.5**
JMK	**Ichinoseki**	**2.04**	**251**	P		**Pn**	**08**	**45**	**17.1**	**-1.8**
JIO	**Ouri**	**2.18**	**238**	P		**Pn**	**08**	**45**	**18.7**	**-2.1**
JTM	**Tenmabayashi**	**2.32**	**301**	P		**Pn**	**08**	**45**	**21.4**	**-1.4**
JTM	**Tenmabayashi**	**2.32**	**301**	Pn		**Pn**	**08**	**45**	**21.6**	**-1.2**
ERM	**Erimo**	**2.42**	**350**	*eP*		**Pb**	**08**	**45**	**25.4**	**-2.7**
ERM	**Erimo**	**2.42**	**350**	Pn		**Pn**	**08**	**45**	**24.2**	**+0.1**
JOT	**Ohata**	**2.67**	**312**	P		**Pn**	**08**	**45**	**26.7**	**-0.9**
JYK	**Kaneyama**	**2.69**	**256**	P		**Pn**	**08**	**45**	**26.8**	**-1.0**
JNBK	**Urakawa-nobuka**	**2.74**	**345**	P		**Pb**	**08**	**45**	**29.5**	**-4.1**
JMM	**Marumori**	**2.88**	**233**	Pn		**Pn**	**08**	**45**	**28.2**	**-2.2**
JCH	**Churui**	**2.99**	**355**	P		**Pn**	**08**	**45**	**31.9**	**-0.1**
JCH				S		**Sn**	**08**	**46**	**06.3**	**-1.5**
JKB	**Kayabe**	**3.03**	**319**	P		**Pn**	**08**	**45**	**32.9**	**+0.4**
JFT	**Otama**	**3.38**	**232**	P		**Pn**	**08**	**45**	**35.9**	**-1.4**
JEW	**Eniwo**	**3.63**	**333**			**Pn**	**08**	**45**	**42.3**	**+1.6**
NMR	**Nemuro--Hokkai**	**4.03**	**22**	*i*P		**Pn**	**08**	**45**	**45.9**	**-0.3**
NMR				*eS*		**Sn**	**08**	**46**	**30.5**	**-2.9**
GLVR	**Golovnino**	**4.32**	**18**	*eP*		**Pn**	**08**	**45**	**50.5**	**+0.3**
GLVR				*eS*		**Sn**	**08**	**46**	**38.1**	**-2.5**
GLVR	comp=N,97nm,0.1s				pmax	pmax				
GLVR	comp=E,101nm,0.1s				pmax	pmax				
GLVR	comp=Z,151nm,0.1s				pmax	pmax				
GLVR	comp=E,858nm,0.3s				smax	smax				
GLVR	comp=N,644nm,0.2s				smax	smax				
JYT	**Yasato**	**4.39**	**220**	Pn		**Pn**	**08**	**45**	**49.9**	**-1.3**
JSD	**Sado**	**4.54**	**251**	Pn		**Pn**	**08**	**45**	**52.0**	**-1.2**
JKA	**Kamikawa-asahi**	**4.56**	**350**	Pn		**Pn**	**08**	**45**	**54.8**	**+1.3**
JKA	**Kamikawa-asahi**	**4.56**	**350**			**Sn**	**08**	**46**	**46.5**	**+0.1**
ASAJ	**Asahikawa** comp=N,5.0nm,0.3s,baz=200,slow=13,SNR=38	**4.56**	**350**	Pn		**Pn**	**08**	**45**	**53.6**	**+0.1**
ASAJ					Sn	**Sn**	**08**	**46**	**46.5**	**0.0**
	comp=N,7.3nm,0.3s,baz=113,slow=28,SNR=2.1									
ASAJ	**Asahikawa**	**4.56**	**350**	P		**Pn**	**08**	**45**	**54.8**	**+1.3**
ASAJ							08	46	46.5	
RUSJ	**Misakicho**	**4.62**	**14**	*eP*		**Pn**	**08**	**45**	**55.0**	**+0.7**
RUSJ				*eS*		**Sn**	**08**	**46**	**47.4**	**-0.4**
GRPR	**Tuman**	**4.62**	**19**	*eP*		**Pn**	**08**	**45**	**53.9**	**-0.5**
GRPR				*eS*		**Sn**	**08**	**46**	**44.8**	**-3.2**
GRPR	comp=Z,150nm,0.7s				pmax	pmax				
GRPR	comp=N,98nm,0.6s				pmax	pmax				
GRPR	comp=E,43nm,0.3s				pmax	pmax				
GRPR	comp=E,594nm,0.7s				smax	smax				
GRPR	comp=N,735nm,0.4s				smax	smax				
YUK	**Yuzh-Kuril'sk**	**4.69**	**19**	*eP*		**Pn**	**08**	**45**	**55.4**	**+0.2**
YUK				*eS*		**Sn**	**08**	**46**	**46.4**	**-3.1**
YUK	comp=Z,252nm,0.5s				pmax	pmax				
YUK	comp=E,82nm,0.2s				pmax	pmax				
YUK	comp=N,145nm,0.5s				pmax	pmax				
YUK	comp=Z,1μm,1.5s				pmax	pmax				
YUK	comp=E,537nm,0.9s				smax	smax				
YUK	comp=N,683nm,0.4s				smax	smax				
YUK	comp=N,1μm,1.2s				smax	smax				
YUK	comp=E,3μm,1.6s				smax	smax				
MAJO	**Matsushiro**	**5.32**	**236**	*ce*P		**Pn**	**08**	**46**	**03.8**	**-0.2**
MAJO	**Matsushiro**	**5.32**	**236**	Pn		**Pn**	**08**	**46**	**03.8**	**-0.2**
MAT	**Matsushiro**	**5.32**	**236**	P		**Pn**	**08**	**46**	**03.6**	**-0.4**
MAT				S		**Sn**	**08**	**47**	**05.2**	**-0.1**
MJAR	**Matsushiro Arr** comp=E,1.6nm,0.3s,baz=39,slow=12,SNR=100	**5.32**	**236**	Pn		**Pn**	**08**	**46**	**03.5**	**-0.5**
MJAR	**Matsushiro Arr**	**5.32**	**236**	P		**Pn**	**08**	**46**	**03.8**	**-0.2**
MJAR	**Matsushiro Arr**	**5.32**	**236**	Pn		**Pn**	**08**	**46**	**03.8**	**-0.2**
KUR	**Kuril'sk** comp=E,1.4nm,0.2s,baz=29,slow=16,SNR=2.0	**6.39**	**27**	*eP*		**Pn**	**08**	**46**	**18.4**	**-0.2**
KUR				*eS*		**Sn**	**08**	**47**	**28.0**	**-3.5**
KUR	comp=Z,40nm,0.4s				pmax	pmax				
KUR	comp=E,26nm,0.3s				pmax	pmax				
KUR	comp=N,29nm,0.5s				pmax	pmax				
KUR	comp=E,94nm,0.3s				smax	smax				
KUR	comp=N,179nm,0.4s				smax	smax				
JGF	**Kuroka**	**6.45**	**233**			**Pn**	**08**	**46**	**19.1**	**-0.3**
INU	**Inuyama**	**6.82**	**233**	Pn		**Pn**	**08**	**46**	**24.2**	**-0.4**
JHJ	**Hachijo jima 2** comp=N,19nm,0.3s,baz=123,slow=20,SNR=10	**7.23**	**207**	Pn		**Pn**	**08**	**46**	**29.0**	**-1.2**
JHJ	comp=N,23nm,0.3s,baz=53,slow=20,SNR=7.1				Sn	Sn	08	47	42.0	-10
YSS	**Yuzh-Sakhalins**	**7.35**	**355**	*eP*		**Pn**	**08**	**46**	**33.4**	**+1.6**
YSS				*eS*		**Sn**	**08**	**47**	**59.0**	**+3.8**
YSS	comp=Z,30nm,1.1s				pmax	pmax				
JWT	**Wachi**	**7.90**	**239**	Pn		**Pn**	**08**	**46**	**39.9**	**+0.5**
VLA	**Vladivostok**	**9.54**	**295**	*i*P		**Pn**	**08**	**47**	**01.8**	**-0.1**
SAIJ	**Saijyo**	**9.62**	**245**	Pn		**Pn**	**08**	**47**	**03.8**	**+0.9**
USA0B	**Ussuriysk Arra**	**9.85**	**301**	P		**Pn**	**08**	**47**	**07.6**	**+1.5**
USA0B	**Ussuriysk Arra**	**9.85**	**301**	Pn		**Pn**	**08**	**47**	**07.6**	**+1.5**
USRK	**Ussuriysk Ar.** baz=99,slow=13,SNR=21	**9.85**	**301**	Pn		**Pn**	**08**	**47**	**07.2**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.85**	**301**	Pn		**Pn**	**08**	**47**	**07.1**	**+1.0**
MSHR	**Mys Shultsa**	**9.92**	**291**	*i*P		Pn	08	47	09.8	+2.8
JNU	**Nakatsue** comp=Z,0.3nm,0.3s,baz=53,slow=12,SNR=3.7	**12.20**	**242**	Pn		**Pn**	**08**	**47**	**36.7**	**-1.7**
KSRS	**Korea Array** comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=17	**12.55**	**265**	Pn		**Pn**	**08**	**47**	**43.1**	**+0.1**
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=138,slow=13,SNR=5.7	**12.83**	**322**	Pn		**Pn**	**08**	**47**	**46.5**	**-0.4**
TJN	**Taejon**	**13.29**	**261**	*i*P		**Pn**	**08**	**47**	**52.7**	**-0.4**
PEA0B	**Petropavlovsk-**	**16.54**	**31**	*i*P		**P**	**08**	**48**	**38.9**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,0.2nm,0.3s,baz=224,slow=6.0,SNR=6.4	**16.54**	**31**	Pn		**P**	**08**	**48**	**42.7**	**+3.8**
HIA	**Hailar**	**19.56**	**307**	*i*P		**P**	**08**	**49**	**09.4**	**-2.9**
HIA	comp=Z,16nm,1.2s				pmax	pmax				
MA2	**Magadan** comp=Z,15nm,0.7s,baz=208,slow=12,SNR=4.3	**20.46**	**10**	P		Pn	08	49	23.5	-0.6
MA2	**Magadan**	**20.46**	**10**	*i*P		**P**	**08**	**49**	**22.0**	**0.0**
MA2	comp=Z,25nm,1.0s				pmax	pmax				
MA2	**Magadan** comp=Z,22nm,0.9s	**20.46**	**10**	IAmb		IAmb	08	49	28.1	
NJ2	**Nanjing**	**21.47**	**257**	*eP*		**P**	**08**	**49**	**33.9**	**+0.8**
NJ2	comp=Z,13nm,0.5s				pmax	pmax				
SEY	**Seymchan** comp=Z,13nm,0.9s,baz=204,slow=8.4,SNR=14	**23.91**	**10**	P		**P**	**08**	**49**	**59.5**	**+1.3**
YAK	**Yakutsk**	**24.00**	**344**	*i*P		**P**	**08**	**49**	**57.5**	**-1.5**
YAK	comp=Z,22nm,0.6s				pmax	pmax				
HHC	**Hu-ho-hao-te**	**24.49**	**283**	*eP*		**P**	**08**	**50**	**04.9**	**+1.0**
HHC	comp=Z,19nm,0.9s				pmax	pmax				
ULN	**Ulaanbaatar**	**27.51**	**300**	P		**P**	**08**	**50**	**31.0**	**-0.2**
ULN	comp=Z,13nm,1.0s				pmax	pmax				
ULN	**Ulaanbaatar**	**27.51**	**300**	P		**P**	**08**	**50**	**31.0**	**-0.2**
ULN	comp=Z,13nm,1.0s				IAmb	IAmb	08	50	31.5	
SONM	**Songino Array** comp=Z,5.6nm,0.7s,baz=99,slow=8.8,SNR=11	**27.95**	**299**	P		**P**	**08**	**50**	**34.1**	**-1.0**
SONM	**Songino Array** comp=Z,4.6nm,0.8s	**27.95**	**299**	IAmb		IAmb	08	50	36.8	
H11N2	**WAKE ISLAND Hy** baz=318,slow=75,SNR=40	**28.13**	**128**	T		T	09	21	34.5	
H11N1	**WAKE ISLAND Hy** baz=318,slow=75,SNR=38	**28.14**	**128**	T		T	09	21	35.4	
H11N3	**WAKE ISLAND Hy** baz=318,slow=75,SNR=44	**28.15**	**128**	T		T	09	21	35.1	
H11S1	**WAKE ISLAND Hy** baz=321	**28.95**	**130**	T		T	09	22	36.4	
H11S3	**WAKE ISLAND Hy** baz=321	**28.95**	**130**	T		T	09	22	34.4	
H11S2	**WAKE ISLAND Hy** baz=321	**28.97**	**130**	T		T	09	22	37.4	
TLY	**Talaya**	**30.10**	**307**	*i*P		**P**	**08**	**50**	**53.0**	**-1.0**
BILL	**Bilibino** comp=Z,11nm,2.4s	**31.03**	**16**	*i*P		**P**	**08**	**51**	**02.0**	**0.0**
BILL					pmax	pmax				
LZH	**Lanzhou**	**31.49**	**276**	*eP*		**P**	**08**	**51**	**09.2**	**+2.6**
LZH	comp=Z,18nm,1.0s				pmax	pmax				
GYA	**Guiyang**	**33.47**	**258**	*i*P		**P**	**08**	**51**	**22.6**	**-1.4**
GYA	comp=Z,3.0nm,1.1s				pmax	pmax				
GTA	**Gaotai**	**33.60**	**284**	*eP*		**P**	**08**	**51**	**25.0**	**0.0**
GTA				pP		pwP	08	51	30.4	-0.8
GTA				sP		sP	08	51	33.4	+4.8
GTA	comp=Z,11nm,1.1s				pmax	pmax				
KMI	**Kunming**	**37.17**	**260**	*i*P		**P**	**08**	**51**	**55.3**	**-0.6**
KMI	comp=Z,9.0nm,1.0s				pmax	pmax				
DGZ	**Jazzator, Alta**	**40.39**	**304**	*i*P		**P**	**08**	**52**	**22.1**	**-0.6**
DGZ	comp=Z,8.0nm,0.5s				pmax	pmax				
WMQ	**Urumqi**	**41.33**	**295**	*eP*		**P**	**08**	**52**	**28.9**	**-1.5**
WMQ				sP		pwP	08	52	40.6	+4.0
WMQ	comp=Z,53nm,0.7s				pmax	pmax				
WMQ	comp=Z,530nm,10.7s				pmax	pmax				
ZAA0	**Zalesovo Array**	**41.55**	**310**	P		**P**	**08**	**52**	**31.5**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.4s,baz=86,slow=8.1,SNR=5.2	**41.55**	**310**	P		**P**	**08**	**52**	**31.6**	**-0.3**
ZALV	comp=Z,1.7nm,0.6s,baz=69,slow=4.9,SNR=2.2				PcP	**PcP**	**08**	**54**	**29.4**	**+0.3**
ZALV	**Zalesovo Beam**	**41.55**	**310**	*i* P		**P**	**08**	**52**	**28.8**	**-3.1**
ZALV	comp=Z,2.0nm,0.3s				pmax	pmax				
ZSN	**Zaisan** baz=301	**42.45**	**301**	*eP*		**P**	**08**	**52**	**37.6**	**-1.8**
ZSN	**Zaisan**	**42.45**	**301**	*eP*		**P**	**08**	**52**	**37.6**	**-1.8**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.4s,baz=43,slow=6.4,SNR=7.0	**43.91**	**255**	P		**P**	**08**	**52**	**50.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**43.91**	**255**	*i* P		**P**	**08**	**52**	**51.2**	**-0.3**
CMAR	comp=Z,1.0nm,0.4s				pmax	pmax				
MK31	**Makanchi Array**	**44.31**	**300**	*i* P		**P**	**08**	**52**	**53.8**	**-0.7**
MK31	comp=Z,9.0nm,0.8s				pmax	pmax				
MK31	**Makanchi Array**	**44.31**	**300**	P		**P**	**08**	**52**	**53.1**	**-1.3**
MK31					IAmb	IAmb	08	52	54.9	
MKAR	**Makanchi Array** comp=Z,5.9nm,0.8s,baz=82,slow=9.4,SNR=30	**44.31**	**300**	P		**P**	**08**	**52**	**53.8**	**-0.6**
MKAR	**Makanchi Array**	**44.31**	**300**	*i* P		**P**	**08**	**52**	**53.7**	**-0.8**
MKAR	comp=Z,6.0nm,0.8s				pmax	pmax				
MAKZ	**Makanchi**	**44.52**	**300**	P		**P**	**08**	**52**	**55.6**	**-0.5**
MAKZ	comp=Z,10.0nm,1.0s				pmax	pmax				
MAKZ	**Makanchi**	**44.52**	**300**	P		**P**	**08**	**52**	**55.6**	**-0.5**
MAKZ	comp=Z,10nm,1.0s				IAmb	IAmb	08	52	56.7	
SEM	**Semipalatinsk** baz=306	**44.84**	**306**	*eP*		**P**	**08**	**52**	**56.5**	**-2.3**
SEM	**Semipalatinsk**	**44.84**	**306**	*eP*		**P**	**08**	**52**	**56.5**	**-2.3**
KURBB	**Kurchatov Arra**	**45.87**	**306**	P		**P**	**08**	**53**	**05.6**	**-1.1**
ILAR	**Eielson Array** comp=Z,0.9nm,0.7s,baz=269,slow=6.4,SNR=12	**46.34**	**34**	P		**P**	**08**	**53**	**12.2**	**+1.9**
SHLS	**Shalkode** baz=296	**47.27**	**296**	*eP*		**P**	**08**	**53**	**13.9**	**-4.1**
SHLS	**Shalkode**	**47.27**	**296**	*eP*		**P**	**08**	**53**	**13.8**	**-4.1**
UZB	**Uzynbulak** baz=296	**47.57**	**296**	*eP*		**P**	**08**	**53**	**18.8**	**-1.6**
UZB	**Uzynbulak**	**47.57**	**296**	*eP*		**P**	**08**	**53**	**18.8**	**-1.6**
DOT	**Dot Lake** comp=Z,6.1nm,1.0s	**47.65**	**35**	P		**P**	**08**	**53**	**18.1**	**-2.4**
DOT					IAmb	IAmb	08	53	19.5	
KPKS	**Kokpek** baz=297	**47.70**	**297**	*eP*		**P**	**08**	**53**	**19.9**	**-1.5**
KPKS	**Kokpek**	**47.70**	**297**	*eP*		**P**	**08**	**53**	**19.8**	**-1.5**
SATY	**Saty** baz=297	**48.03**	**296**	*eP*		**P**	**08**	**53**	**21.5**	**-2.4**
SATY	**Saty**	**48.03**	**296**	*eP*		**P**	**08**	**53**	**21.5**	**-2.4**
TARG	**Taragay, Kyrgy** comp=Z,6.4nm,0.8s	**48.90**	**295**	IAmb		IAmb	08	53	32.0	
MDOK	**Medeo** baz=297	**48.93**	**297**	*eP*		**P**	**08**	**53**	**29.4**	**-1.4**
MDOK	**Medeo**	**48.93**	**297**	*eP*		**P**	**08**	**53**	**29.4**	**-1.4**
KUU	**Kurty** baz=298	**49.17**	**298**	*eP*		**P**	**08**	**53**	**30.7**	**-1.8**
KUU	**Kurty**	**49.17**	**298**	*eP*		**P**	**08**	**53**	**30.7**	**-1.8**
MTBS	**Maitube** baz=297	**49.37**	**297**	*eP*		**P**	**08**	**53**	**32.6**	**-1.5**
MTBS	**Maitube**	**49.37**	**297**	*eP*		**P**	**08**	**53**	**32.6**	**-1.5**
BRZS	**Berezniki** baz=307	**49.66**	**307**	*eP*		**P**	**08**	**53**	**34.0**	**-2.2**
BRZS	**Berezniki**	**49.66**	**307**	*eP*		**P**	**08**	**53**	**34.0**	**-2.2**
TKM2	**Tokmak 2**	**50.01**	**297**	*i* P		**P**	**08**	**53**	**38.3**	**-0.9**
TKM2	comp=Z,15nm,0.8s				pmax	pmax				
BRVK	**Borovoye** comp=Z,8.0nm,0.9s	**50.24**	**311**	*i*P		**P**	**08**	**53**	**39.8**	**-0.7**
BRVK					pmax	pmax				
BTLS	**Baital** baz=300	**50.33**	**300**	*eP*		**P**	**08**	**53**	**38.9**	**-2.4**
BTLS	**Baital**	**50.33**	**300**	*eP*		**P**	**08**	**53**	**38.8**	**-2.5**
OTUK	**Ortayu**	**50.40**	**305**	P		**P**	**08**	**53**	**40.3**	**-1.5**
AAK	**Ala-Archa**	**50.87**	**297**	*i*P		**P**	**08**	**53**	**45.1**	**-0.5**
AAK	comp=Z,34nm,2.2s				pmax	pmax				
INK	**Inuvik** comp=Z,1.3nm,0.8s,baz=305,slow=7.6,SNR=5.1	**51.25**	**28**	P		**P**	**08**	**53**	**50.0**	**+2.2**
ARSB	**Arslanbob** comp=Z,14nm,0.9s	**52.41**	**296**	P		**P**	**08**	**53**	**56.4**	**-0.8**
ARSB					pmax	pmax				
ARSB	**Arslanbob**	**52.41**	**296**	P		**P**	**08**	**53**	**56.4**	**-0.8**
KK31	**Karatay Array** comp=Z,5.0nm,1.0s	**53.41**	**299**	P		**P**	**08**	**54**	**03.1**	**-1.2**
KK31					pmax	pmax				
KK31	**Karatay Array**	**53.41**	**299**	P		**P**	**08**	**54**	**03.1**	**-1.2**
KK31	comp=Z,4.9nm,0.9s

ISC 10 08:51:19.3±0.4, 25.18S±0.06×179.30W±0.07, h465km, n110, σ29/130, mb4.2/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.23**	**164**	S	S	**08 53 39.0**	**-1.9**
RAO	**Raoul Island**	**4.24**	**163**	P	P	08 52 28.1	-9.3
	64nm,0.3s,baz=273,slow=22,SNR=2.0						
RAO				S	S	08 53 29.8	-11
	42nm,0.3s,baz=22,slow=22,SNR=1.6						
RAO	**Raoul Island**	**4.24**	**163**	Pn	P	08 52 29.1	-8.4
GLKZ	**Green Lake**	**4.25**	**163**	P	P	**08 52 38.3**	**+0.8**
GLKZ				S	S	08 53 32.9	-8.4
NIUE	**Niue**	**10.60**	**57**	P	P	**08 53 40.9**	**-2.1**
OUZ	**Omahuta**	**11.74**	**210**	P	P	**08 53 55.1**	**+0.1**
OUZ	**Omahuta**	**11.74**	**210**	P	P	**08 53 56.9**	**+1.9**
GRZ	**Great Barrier**	**11.92**	**201**	P	P	**08 54 01.7**	**+4.8**
WCZ	**Waipu Caves**	**12.04**	**206**	P	P	**08 54 00.4**	**+2.1**
KUZ	**Kuaotunu**	**12.29**	**199**	P	P	**08 54 05.3**	**+4.3**
PINNC	**Pines Island,**	**12.39**	**279**	P	P	**08 54 00.4**	**-1.8**
MXZ	**Matakaoa Point**	**12.51**	**189**	P	P	**08 54 02.1**	**-1.3**
MXZ	**Matakaoa Point**	**12.51**	**189**	P	P	**08 54 03.0**	**-0.4**
MXZ				S	S	**08 56 18.0**	**-0.8**
WMGZ	**Waiomatatini S**	**12.75**	**188**	P	P	**08 54 05.8**	**-0.1**
WMGZ				S	S	**08 56 21.2**	**-2.3**
HAZ	**Te Kaha**	**12.78**	**190**	P	P	**08 54 05.5**	**-0.8**
HAZ				S	S	**08 56 20.2**	**-3.9**
PKGZ	**Pakihiroa**	**12.87**	**189**	P	P	**08 54 06.7**	**-0.6**
PKGZ				S	S	**08 56 24.8**	**-1.1**
RUGZ	**Raukumara Rang**	**13.00**	**191**	P	P	**08 54 08.5**	**-0.3**
PUZ	**Puketiti**	**13.02**	**189**	P	P	**08 54 07.5**	**-1.3**
PUZ				S	S	**08 56 22.9**	**-5.9**
TWGZ	**Tauwhareparae**	**13.16**	**189**	P	P	**08 54 09.2**	**-1.3**
TWGZ				S	S	**08 56 28.9**	**-2.8**
AFI	**Afiamalu**	**13.26**	**34**	S	S	**08 56 29.7**	**-4.4**
	6.4nm,0.3s,baz=263,slow=20,SNR=2.5						
AFI	**Afiamalu**	**13.26**	**34**	P	P	**08 54 09.0**	**-2.8**
MWZ	**Matawai**	**13.39**	**191**	P	P	**08 54 12.2**	**-0.7**
URZ	**Urewera**	**13.39**	**192**	P	P	**08 54 10.0**	**-2.8**
	8.4nm,0.3s,baz=291,slow=12,SNR=41						
URZ				S	S	**08 56 32.0**	**-4.0**
	1.4nm,0.3s,baz=278,slow=23,SNR=1.7						
URZ	**Urewera**	**13.39**	**192**	P	P	**08 54 10.2**	**-2.6**
URZ	**Urewera**	**13.39**	**192**	P	P	**08 54 10.2**	**-2.6**
DZM	**Mont Dzumac**	**13.43**	**280**	P	P	**08 54 13.9**	**+0.3**
	1.8nm,0.3s,baz=99,slow=13,SNR=14						
DZM	**Mont Dzumac**	**13.43**	**280**	P	P	**08 54 14.3**	**+0.8**
CNGZ	**Carnagh Statio**	**13.43**	**188**	P	P	**08 54 12.7**	**-0.5**
CNGZ				S	S	**08 56 36.4**	**-0.5**
NOUC	**Port Laguerre**	**13.54**	**280**	P	P	**08 54 15.7**	**+1.0**
HRRZ	**Handcock Road**	**13.69**	**195**	P	P	**08 54 17.8**	**+1.7**
SNGZ	**Shannon Statio**	**13.86**	**191**	P	P	08 54 04.7	-13
PRGZ	**Paritu Road**	**13.91**	**189**	P	P	**08 54 17.9**	**-0.5**
PRGZ				S	S	**08 56 45.2**	**-1.0**
HIZ	**Hauiti**	**14.19**	**199**	P	P	**08 54 20.1**	**-1.3**
BKZ	**Black Stump Fm**	**14.39**	**193**	P	P	08 54 20.1	-3.5
BFZ	**Black Stump Fm**	**15.90**	**192**	P	P	**08 54 36.8**	**-2.7**
BFZ				IAmb	IAmb	08 54 39.3	
	comp=Z,20nm,0.6s						
OGWZ	**Otaki Gorge**	**16.26**	**195**	P	P	**08 54 39.3**	**-4.0**
OGWZ				S	S	**08 57 28.9**	**-2.9**
TMWZ	**Te Maipa**	**16.38**	**193**	P	P	**08 54 44.7**	**+0.1**
TMWZ				S	S	**08 57 35.3**	**+1.2**
CAW	**Cannon Point**	**16.56**	**195**	P	P	**08 54 44.7**	**-1.8**
CAW				S	S	**08 57 36.4**	**-1.1**
SNZO	**South Karori**	**16.84**	**196**	P	P	**08 54 47.9**	**-1.5**
TCW	**Tory Channel**	**16.86**	**197**	P	P	**08 54 46.3**	**-3.3**
TCW				S	S	**08 57 39.5**	**-3.5**
BHW	**Baring Head**	**16.90**	**195**	P	P	**08 54 47.4**	**-2.6**
BHW	**Baring Head**	**16.90**	**195**	P	P	**08 54 50.4**	**+0.5**
PLWZ	**Palliser**	**16.96**	**194**	P	P	**08 54 48.9**	**-1.8**
QRZ	**Quartz Range**	**17.03**	**202**	P	P	**08 54 49.9**	**-1.5**
QRZ	**Quartz Range**	**17.03**	**202**	P	P	**08 54 49.8**	**-1.5**
QRZ				S	S	**08 57 48.3**	**+2.2**
NNZ	**Nelson**	**17.12**	**199**	P	P	**08 54 49.7**	**-2.6**
NNZ	**Nelson**	**17.12**	**199**	P	P	**08 54 49.1**	**-3.1**
NNZ				S	S	**08 57 44.4**	**-3.2**
TUWZ	**Tuamarina**	**17.15**	**197**	P	P	**08 54 48.4**	**-4.2**
TUWZ	**Tuamarina**	**17.15**	**197**	P	P	**08 54 48.7**	**-3.9**
TUWZ				S	S	**08 57 44.3**	**-4.0**
BSWZ	**Blackbirch Sta**	**17.44**	**197**	P	P	**08 54 54.0**	**-1.5**
BSWZ	**Blackbirch Sta**	**17.44**	**197**	P	P	**08 54 55.5**	**-0.1**
BSWZ				S	S	**08 57 51.5**	**-1.8**
THZ	**Tophouse**	**17.76**	**199**	P	P	**08 54 57.1**	**-1.8**
THZ				IAmb	IAmb	08 55 00.4	
	comp=Z,15nm,0.8s						
THZ	**Tophouse**	**17.76**	**199**	P	P	**08 54 56.8**	**-2.1**
THZ				S	S	**08 57 55.0**	**-4.0**
DSZ	**Denniston Nort**	**18.09**	**202**	P	P	**08 55 01.3**	**-0.9**
KHZ	**Kahutara**	**18.18**	**197**	P	P	**08 55 01.3**	**-1.6**
KHZ				IAmb	IAmb	08 55 06.4	
	comp=Z,20nm,0.9s						
KHZ	**Kahutara**	**18.18**	**197**	P	P	**08 55 00.9**	**-2.0**
KHZ				S	S	**08 58 02.0**	**-3.8**
GVZ	**Greta Valley S**	**18.83**	**198**	P	P	**08 55 06.3**	**-2.7**
LTZ	**Lake Taylor**	**18.88**	**199**	P	P	**08 55 08.0**	**-1.5**
OXZ	**Oxford**	**19.45**	**199**	P	P	**08 55 13.0**	**-1.6**
RPZ	**Rata Peaks**	**20.10**	**201**	P	P	**08 55 21.7**	**+1.1**
FOZ	**Fox Glacier**	**20.36**	**203**	P	P	**08 55 23.3**	**+0.4**
LBZ	**Lake Benmore**	**20.98**	**201**	P	P	**08 55 28.4**	**-0.2**
LBZ				IAmb	IAmb	08 55 30.1	
	comp=Z,13nm,0.5s						
ODZ	**Otahua Downs**	**21.43**	**200**	P	P	**08 55 31.2**	**-1.4**
WKZ	**Wanaka**	**21.77**	**203**	P	P	**08 55 34.6**	**-1.2**
CAN	**Canberra**	**29.08**	**242**	P	P	**08 56 41.3**	**+0.5**
CAN				IAmb	IAmb	08 56 42.0	
	comp=Z,19nm,1.1s						
CTA	**Charters Tower**	**32.14**	**272**	P	P	**08 57 07.1**	**-0.3**
	comp=Z,26nm,0.8s,baz=96,slow=10,SNR=28						
CTAO	**Charters Tower**	**32.14**	**272**	P	P	**08 57 07.3**	**-0.1**
CTAO				IAmb	IAmb	08 57 08.1	
	comp=Z,28nm,0.8s						
TOO	**Toolangi**	**32.31**	**239**	P	P	**08 57 06.5**	**-2.2**
STKA	**Stephens Creek**	**34.86**	**250**	P	P	**08 57 29.7**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=89,slow=10,SNR=15						
STKA				PcP	PcP	**08 59 52.3**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=136,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**34.86**	**250**	P	P	**08 57 30.2**	**-0.1**
BBOO	**Buckleboo**	**39.55**	**248**	P	P	**08 58 07.9**	**-1.1**
AS31	**Alice Springs**	**42.47**	**262**	P	P	**08 58 31.7**	**-0.8**
AS31				IAmb	IAmb	08 58 32.6	
	comp=Z,3.5nm,0.4s						
ASAR	**Alice Springs**	**42.47**	**262**	P	P	**08 58 31.7**	**-0.8**
	comp=Z,4.8nm,0.3s,baz=96,slow=7.2,SNR=124						
ASAR				PcP	PcP	**09 00 16.3**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=111,slow=4.6,SNR=1.7						
ASAR				ScP	ScP	**09 03 30.2**	**+9.0**
	comp=Z,1.1nm,0.7s,baz=100,slow=4.3,SNR=7.3						
ASAR				S	S	**09 04 17.1**	**-3.0**
	comp=Z,1.1nm,0.8s,baz=97,slow=14,SNR=5.0						
ASAR	**Alice Springs**	**42.47**	**262**	P	P	**08 58 31.4**	**-1.1**
WRA	**Warramunga Arr**	**42.97**	**267**	P	P	**08 58 35.3**	**-1.2**
	comp=Z,9.7nm,0.5s,baz=99,slow=6.9,SNR=151						
WRA				ScP	ScP	**09 03 30.5**	**+7.3**
	comp=Z,0.4nm,0.8s,baz=96,slow=3.9,SNR=2.3						
WRA				S	S	**09 04 22.0**	**-5.3**
	comp=Z,0.9nm,1.1s,baz=98,slow=13,SNR=2.5						
FORT	**Forrest**	**46.48**	**251**	P	P	**08 59 01.5**	**-2.0**
FORT				IAmb	IAmb	08 59 02.6	
	comp=Z,25nm,0.8s						
KNRA	**Kununurra**	**49.33**	**271**	IAmb	IAmb	08 59 25.3	
	comp=Z,36nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.37**	**266**	P	P	**08 59 39.7**	**-0.4**
FITZ				IAmb	IAmb	08 59 41.1	
	comp=Z,15nm,1.0s						
PSA00	**Pilbara Seismi**	**55.57**	**260**	P	P	**09 00 09.0**	**-1.0**
MORW	**Morawa**	**57.04**	**251**	P	P	**09 00 19.6**	**-0.5**
MORW				IAmb	IAmb	09 00 19.8	
	comp=Z,6.5nm,0.7s						
QSPA	**South Pole Qui**	**64.91**	**180**	P	P	**09 01 14.3**	**+2.7**
QSPA				IAmb	IAmb	09 01 14.8	
	comp=Z,5.4nm,0.8s						
MJAR	**Matsushiro Arr**	**73.31**	**325**	P	P	**09 02 01.6**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=149,slow=5.0,SNR=5.0						
MJAR	**Matsushiro Arr**	**73.31**	**325**	IAmb	IAmb	09 02 03.4	
	comp=Z,0.8nm,0.7s						
MAW	**Mawson**	**76.78**	**200**	P	P	**09 02 22.9**	**+1.3**
	comp=Z,3.9nm,0.7s,baz=136,slow=7.8,SNR=16						
MAW	**Mawson**	**76.78**	**200**	IAmb	IAmb	09 02 23.6	
	comp=Z,0.7nm,0.7s						
KSRS	**Korea Array**	**79.63**	**320**	P	P	**09 02 38.2**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=136,slow=5.8,SNR=7.3						
SNAA	**Sanae**	**83.38**	**179**	P	P	**09 02 57.0**	**+0.7**
VNA3	**Neumayer Olymp**	**83.57**	**177**	P	P	**09 02 58.5**	**+1.3**
VNA2	**Neumayer--Watz**	**83.99**	**177**	P	P	**09 03 01.1**	**+1.8**
	baz=187,slow=5.3						
VNA1	**Neumayer--Stat**	**84.23**	**177**	P	P	**09 03 02.2**	**+1.8**
F10A	**Beach Ranch, E**	**90.42**	**38**	P	P	**09 03 31.6**	**+1.4**
F10A				IAmb	IAmb	09 03 32.6	
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.56**	**290**	P	P	**09 03 33.1**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=124,slow=2.6,SNR=5.3						
TXAR	**Lajitas Array**	**90.57**	**58**	P	P	**09 03 32.3**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=193,slow=5.1,SNR=4.5						
ILAR	**Eielson Array**	**93.12**	**13**	P	P	**09 03 39.6**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=215,slow=5.1,SNR=8.3						
PDAR	**Pinedale Array**	**93.17**	**44**	P	P	**09 03 43.5**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=225,slow=4.2,SNR=5.8						
KURK	**Kurchatov**	**116.56**	**316**		**PKPdf**	**09 09 08.9**	**-0.5**
KURBB	**Kurchatov Arra**	**116.60**	**316**	PKP	**PKPdf**	**09 09 08.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=103,slow=1.9,SNR=4.4						
BVAR	**Borovoye Array**	**121.81**	**318**	PKP	**PKPdf**	**09 09 19.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=216,slow=9.0,SNR=4.6						
SCHQ	**Schefferville**	**123.06**	**40**	PKP	**PKPdf**	**09 09 21.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=270,slow=4.0,SNR=1.8						
FINES	**FINESS Array B**	**139.85**	**341**	PKhKP	PKPpre	09 09 46.5	
	comp=Z,1.3nm,0.7s,baz=45,slow=3.3,SNR=4.7						
FINES				PKP	**PKPdf**	**09 09 54.1**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=92,slow=3.3,SNR=4.4						
NOA	**NORSAR Array B**	**143.44**	**351**	PKP	PKPab	09 09 58.0	+0.4
	comp=Z,3.2nm,0.9s,baz=15,slow=4.9,SNR=7.5						
PABE	**Paberze**	**145.24**	**337**		**PKPbc**	**09 10 04.1**	**+0.6**
AKASG	**Malin Array Be**	**146.38**	**327**	PKPbc	**PKPdf**	**09 10 06.8**	**+1.9**
	comp=Z,1.6nm,0.3s,baz=45,slow=4.0,SNR=10						
BR131	**Keskin Array S**	**148.84**	**306**		**PKPbc**	**09 10 12.9**	**-1.2**
BRTR	**Keskin Array B**	**148.84**	**306**	PKPbc	**PKPbc**	**09 10 13.2**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=149,slow=3.8,SNR=7.2						
BRTR				PKPab	**PKPab**	**09 10 20.2**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=79,slow=4.0,SNR=9.4						
BUR08	**Bucovina Ar. S**	**150.37**	**325**		**PKiKP**	**09 10 19.9**	**+2.0**
CLL	**Collm**	**152.26**	**343**	*i* PKPbc	**PKiKP**	**09 10 22.6**	**+1.1**
	comp=Z,7.0nm,0.7s						
GERES	**GERESS Array B**	**154.27**	**340**	PKP	**PKPdf**	**09 10 18.0**	**+0.7**
	comp=Z,0.3nm,0.2s,baz=46,slow=7.0,SNR=1.9						
GERES				PKPbc	**PKiKP**	**09 10 27.1**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=97,slow=3.1,SNR=1.2						
TORD	**Torodi Ar. Bea**	**168.00**	**185**	PKP	**PKPdf**	**09 10 33.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=180,slow=0.6,SNR=2.8						
TORD				PKPab	**PKPab**	**09 11 43.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=176,slow=3.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**168.00**	**185**	PKPdf	**PKPdf**	**09 10 32.5**	**+0.2**

*IDC **10** 08:51:48.8±1.7, 20.84S×179.24W, h593km±21km, mb3.5/7, mb1 3.8/10, mb1mx3.5/32, mbtmp4.6/10, Error ellipse: s-maj=37.0km s-min=14.0km az=154.0*

ISC 10 08:51:49.3±0.9, 20.8S±0.2×179.3W±0.1, h600km, n10, σ0892/10, mb4.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.91**	**320**	P	P	**08 53 12.7**	**-1.7**
	18nm,0.3s,baz=164,slow=15,SNR=42						
AFI	**Afiamalu**	**9.90**	**48**	P	P	**08 54 08.2**	**+0.9**
	24nm,0.3s,baz=315,slow=2.9,SNR=21						
DZM	**Mont Dzumac**	**13.33**	**262**	P	P	**08 54 42.3**	**+0.6**
	1.5nm,0.3s,baz=81,slow=18,SNR=8.2						
CTA	**Charters Tower**	**32.24**	**265**	P	P	**08 57 31.4**	**+1.1**
	16nm,0.4s,baz=90,slow=11,SNR=24						
STKA	**Stephens Creek**	**36.57**	**244**	P	P	**08 58 06.0**	**-0.1**
	5.9nm,0.5s,baz=82,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**43.27**	**257**	P	P	**08 58 59.8**	**+0.1**
	15nm,0.6s,baz=93,slow=8.1,SNR=44						
WRA	**Warramunga Arr**	**43.35**	**263**	P	P	**08 59 00.1**	**-0.2**
	4.8nm,0.3s,baz=96,slow=7.6,SNR=27						
VNDA	**Vanda**	**57.55**	**185**	P	P	**09 00 41.5**	**-0.7**
	0.4nm,0.5s,baz=6.3,slow=7.5,SNR=2.5						
NVAR	**Mina Array Bea**	**82.06**	**44**	P	P	**09 03 08.0**	**-0.3**
	1.7nm,0.7s,baz=224,slow=7.6,SNR=11						
TXAR	**Lajitas Array**	**88.23**	**58**	P	P	**09 03 38.4**	**+0.3**
	1.2nm,0.8s,baz=210,slow=7.3,SNR=5.6						

IDC 10 09:05:14.3±1.7, 54.67N×83.79E, h0km, mb1 2.8/3, mb1mx2.8/46, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=15.4km s-min=10.1km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**140**	*i*		09 10 30.0	
	baz=320,slow=326,SNR=3.5						
ZALV	**Zalesovo Beam**	**0.94**	**140**	Pg	Pg	09 05 31.4	-1.0
	1.2nm,0.3s,baz=324,slow=14,SNR=10						
ZALV				Lg	Lg	09 05 46.8	
	5.1nm,0.3s,baz=320,slow=29,SNR=18						
KURBB	**Kurchatov Arra**	**5.16**	**220**	Pn	Pn	09 06 33.1	+0.3
	0.1nm,0.3s,baz=38,slow=14,SNR=7.0						
KURBB				Lg	Lg	09 07 58.8	
	0.0nm,0.3s,baz=42,slow=30,SNR=6.2						
MKAR	**Makanchi Array**	**7.94**	**187**	Pn	Pn	09 07 10.8	-0.2
	0.1nm,0.3s,baz=9.3,slow=14,SNR=3.8						
MKAR				Lg	Lg	09 09 25.7	
	0.1nm,0.3s,baz=5.6,slow=22,SNR=3.0						
BVAR	**Borovoye Array**	**8.10**	**264**	Pn	Pn	09 07 12.1	-0.9
	0.3nm,0.3s,baz=52,slow=17,SNR=2.6						

IDC 10 09:06:58.9±5.6, 27.95N×86.82E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/47, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=290.0km s-min=26.2km az=65.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.15**	**350**	P	Pn	09 11 24.2	-0.3
	0.3nm,0.3s,baz=174,slow=10,SNR=10						
KURBB	**Kurchatov Arra**	**23.51**	**347**	P	P	09 12 09.9	-0.5
	0.8nm,0.7s,baz=171,slow=9.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**26.02**	**357**	P	P	09 12 33.8	+0.3
	0.5nm,0.3s,baz=201,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**66.17**	**131**	P	P	09 17 48.6	-0.1
	0.6nm,0.7s,baz=323,slow=6.4,SNR=5.4						

IDC 10 09:12:21.4±3.2, 54.67N×87.30E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.6km s-min=19.6km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**245**	*i*		09 20 55.3	
	baz=66,slow=320,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.62**	**245**	Pg	Pn	09 12 49.2	-2.0
	1.1nm,0.3s,baz=60,slow=17,SNR=6.3						
ZALV				Lg	Lg	09 13 13.7	
	1.6nm,0.3s,baz=62,slow=27,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.70**	**236**	Pn	Pn	09 14 00.9	0.0
	0.1nm,0.3s,baz=53,slow=14,SNR=5.8						
KURBB				Sn	Sn	09 15 14.1	-3.8
	baz=59,slow=21,SNR=1.7						
KURBB				Lg	Lg	09 15 55.3	
	0.1nm,0.3s,baz=46,slow=30,SNR=6.2						
MKAR	**Makanchi Array**	**8.50**	**204**	Pn	Pn	09 14 27.3	+1.6
	0.1nm,0.3s,baz=24,slow=13,SNR=5.8						
MKAR				Sn	Sn	09 16 00.6	-1.6
	0.1nm,0.3s,baz=23,slow=27,SNR=2.5						
MKAR				Lg	Lg	09 16 54.2	
	0.1nm,0.3s,baz=16,slow=14,SNR=6.4						

ATH 10 09:24:38.8, 38.60N×23.42E, h15km±1km, ML1.5/5, Error ellipse: s-maj=1.9km s-min=0.7km az=247.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.33**	**330**	P	Pg	09 24 45.7	+0.1
SMIA				S	Sg	09 24 50.4	+0.2
SMIA				AML	AML	09 24 51.0	
	comp=E,380μm,0.3s						
SMIA				AML	AML	09 24 52.0	
	comp=N,424μm,0.4s						
ATAL	**Atalanti**	**0.33**	**287**	P	Pg	09 24 45.0	-0.6
ATAL				S	Sg	09 24 50.4	+0.1
ATAL				AML	AML	09 24 51.4	
	comp=E,142μm,0.3s						
ATAL				AML	AML	09 24 51.8	
	comp=N,131μm,0.1s						
LKR	**Lokris**	**0.33**	**279**	P	Pg	09 24 45.2	-0.6
LKR				S	Sg	09 24 50.1	-0.3
LKR				AML	AML	09 24 51.7	
	comp=N,212μm,0.1s						
LKR				AML	AML	09 24 52.1	
	comp=E,242μm,0.1s						
VIL2	**Platees**	**0.40**	**197**	P	Pb	09 24 47.7	0.0
VIL2				S	Sb	09 24 54.4	+0.7
VIL2				AML	AML	09 24 56.1	
	comp=N,81μm,0.1s						
VIL2				AML	AML	09 24 57.1	
	comp=E,180μm,0.3s						
EREA	**Eretria**	**0.44**	**114**	P	Pg	09 24 47.3	-0.3
EREA				S	Sg	09 24 53.0	-0.7
EREA				AML	AML	09 24 56.2	
	comp=N,210μm,0.1s						
EREA				AML	AML	09 24 57.9	
	comp=E,126μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.53**	**86**	P	Pg	09 24 49.1	-0.3
KYMI				S	Sb	09 24 57.2	-0.2
DION	**Dionisos Attik**	**0.66**	**142**	P	Pg	09 24 51.6	-0.2
DION				S	Sg	09 25 00.5	0.0
LTK	**Loutraki**	**0.68**	**212**	P	Pg	09 24 51.6	-0.5
LTK				S	Sb	09 25 01.4	-0.1
NEO	**Neokhori**	**0.72**	**348**	P	Pg	09 24 52.7	-0.3
XOR	**Xorichti**	**0.79**	**347**	P	Pg	09 24 53.9	-0.3
XOR				S	Sg	09 25 04.6	0.0
VLY	**Voula,Athens**	**0.80**	**158**	P	Pg	09 24 54.2	-0.2
VLY				S	Sg	09 25 04.6	-0.4
SKY	**Skiros Island**	**0.93**	**72**	P	Pb	09 24 56.1	-0.5
KLV	**Kalavryta, Ach**	**1.14**	**241**	P	Pb	09 24 59.6	-0.7

BUC 10 09:26:38.7±0.3, 45.22N×23.03E, h6km±2km, ml1.7/6, 20C-14D, Error ellipse: s-maj=2.5km s-min=1.7km az=7.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZR	**Gura Zlata**	**0.25**	**314**	⇓P	Pg	09 26 43.8	+0.1
GZR				⇓S	Sg	09 26 47.6	+0.6
GZR	**Gura Zlata**	**0.25**	**314**	⇓P	Pg	09 26 43.8	+0.1
GZR				⇓S	Sg	09 26 47.6	+0.6
HERR	**Herculane**	**0.55**	**232**	⇑P	Pg	09 26 48.9	-0.4
HERR				⇑S	Sg	09 26 57.6	+1.0
HERR	**Herculane**	**0.55**	**232**	⇑P	Pg	09 26 48.9	-0.4
HERR				⇑S	Sg	09 26 57.6	+1.0
MDVR	**Moldovita**	**1.03**	**245**	⇑P	Pg	09 26 58.3	-0.2
MDVR				⇑S	Sb	09 27 13.0	+0.2
MDVR	**Moldovita**	**1.03**	**245**	⇑P	Pg	09 26 58.3	-0.2
MDVR				⇑S	Sb	09 27 13.0	+0.2
BZS	**Buzias**	**1.07**	**292**	⇓P	Pg	09 26 59.0	0.0
BZS				⇓S	Sb	09 27 13.6	-0.3
BZS	**Buzias**	**1.07**	**292**	⇓P	Pg	09 26 59.3	0.0
BZS				⇓S	Sb	09 27 13.6	-0.3
ARR	**Arges**	**1.14**	**82**	⇑P	Pg	09 26 59.8	-0.8
ARR				⇓S	Sn	09 27 17.2	-0.1
ARR	**Arges**	**1.14**	**82**	⇑P	Pg	09 26 59.8	-0.8
ARR				⇓S	Sn	09 27 17.2	-0.1
SIRR	**Siria**	**1.42**	**318**	⇑P	Pn	09 27 04.9	-0.2
SIRR				⇓S	Sg	09 27 25.3	+0.9
SIRR	**Siria**	**1.42**	**318**	⇑P	Pn	09 27 04.9	-0.2
SIRR				⇓S	Sg	09 27 25.3	+0.9
VOIR		**1.44**	**81**	⇑P	Pn	09 27 04.6	-0.8
VOIR				⇓S	Sg	09 27 25.4	+0.3
VOIR		**1.44**	**81**	⇑P	Pn	09 27 04.6	-0.8
VOIR				⇓S	Sg	09 27 25.4	+0.3
DRGR		**1.59**	**352**	⇑P	Pn	09 27 07.6	+0.2
DRGR				⇓S	Sb	09 27 28.7	-0.2
DRGR		**1.59**	**352**	⇑P	Pn	09 27 07.6	+0.2
DRGR				⇓S	Sb	09 27 28.7	-0.2
MLR	**Muntele Rosu**	**2.07**	**81**	⇓S	Sb	09 27 42.4	-0.5
MLR	**Muntele Rosu**	**2.07**	**81**	⇓S	Sb	09 27 42.4	-0.5

*MOS **10** 09:29:30.5±1.0, 51.22N×178.21W, h22km, mb5.0/63, Error ellipse: s-maj=6.7km s-min=5.3km az=87.6*
*IDC **10** 09:29:31.1±4.1, 51.28N×178.26W, h18km±25km, mb4.3/27, mb1 4.5/29, mb1mx4.4/35, mbtmp4.4/29, ML4.5/1, MS4.1/4, Ms1 4.1/4, ms1mx3.5/49, Error ellipse: s-maj=17.1km s-min=

KDAK **Kodiak Island** 16.25 56 P 09 33 16.9
baz=256
TTA **Tatalina** 16.79 37 P **Pn** **09 33 23.6 -1.4**
TTA pmax pmax
comp=Z,29nm,0.8s
TTA **Tatalina** 16.79 37 Pn **Pn** **09 33 23.6 -1.4**
TTA **Tatalina** 16.79 37 P 09 33 24.5
baz=235,SNR=7.6
RSO **Redoubt South** 16.98 47 P **P** **09 33 28.9 -0.6**
HOM **Homer** 17.23 50 P **Pn** **09 33 31.3 +0.8**
CNPM **China Poot** 17.39 51 P **Pn** **09 33 33.3 +0.9**
CNPM IAmb IAmb 09 33 39.6
comp=Z,39nm,0.6s
SPCR **Spurr Chakacha** 17.52 45 P 09 33 33.6
baz=246,SNR=7.9
BRLK **Bradley Lake** 17.63 50 P **P** **09 33 36.7 +0.2**
BRLK IAmb IAmb 09 33 40.6
comp=Z,89nm,1.5s
BRSE **Bradley Lake S** 17.69 50 P 09 33 37.4
baz=252
SKT **Skwentna** 18.13 43 P **P** **09 33 43.9 +1.9**
SKT **Skwentna** 18.13 43 P 09 33 43.4
baz=245,SNR=17
PPLA **Purkeypile** 18.27 40 P **P** **09 33 45.6 +2.0**
PPLA **Purkeypile** 18.27 40 P 09 33 45.1
baz=241
SUA **Susitna One** 18.27 45 P **P** **09 33 43.9 +0.3**
SUA **Susitna One** 18.27 45 P 09 33 44.8
baz=248
O22K **Cooper Landing** 18.40 48 P **P** **09 33 45.6 +0.7**
O22K **Cooper Landing** 18.40 48 P 09 33 44.2
baz=252,SNR=14
SEW **Seward** 18.42 50 P **Pn** **09 33 45.1 0.0**
SEW IAmb IAmb 09 33 52.3
comp=Z,43nm,0.9s
SEW **Seward** 18.42 50 P 09 33 44.9
baz=253
CAST **Castle Rocks** 18.56 38 P 09 33 45.7
baz=240
RDOG **Red Dog Mine** 18.57 18 **P** **09 33 45.9 -0.8**
RC01 **Rabbit Creek A** 18.59 47 P 09 33 46.5
baz=250
BILL **Bilibino** 18.61 342 *ce*P **Pn** **09 33 49.9 +2.6**
BILL *e*S **S** **09 37 16.2 -2.7**
BILL pmax pmax
comp=Z,71nm,1.3s
BILL **Bilibino** 18.61 342 P **Pn** **09 33 47.7 +0.4**
BILL IAmb IAmb 09 33 54.6
comp=Z,40nm,0.8s
M22K **Willow** 18.66 44 P 09 33 48.3
baz=248,SNR=7.1
CHUM **Lake Minchumin** 18.71 37 P 09 33 48.8
baz=239,SNR=11
CUT **Chulitna** 18.85 42 P **P** **09 33 49.6 -0.2**
CUT **Chulitna** 18.85 42 P 09 33 49.9
baz=246
PMR **Palmer** 19.04 45 P **Pn** **09 33 54.3 +1.7**
PMR pmax pmax
comp=Z,37nm,1.4s
PMR **Palmer** 19.04 45 P **Pn** **09 33 54.3 +1.7**
KTH **Kantishna Hill** 19.09 39 P **Pn** **09 33 53.1 -0.1**
KTH IAmb IAmb 09 33 57.5
comp=Z,92nm,1.0s
PWL **Port Wells** 19.17 48 P **Pn** **09 33 54.0 -0.3**
PWL IAmb IAmb 09 34 00.1
comp=Z,46nm,1.1s
GHO **Glory Hole Cre** 19.20 45 P **P** **09 33 53.6 -0.1**
KNK **Knik Glacier** 19.28 46 P **Pn** **09 33 56.7 +1.1**
KNK IAmb IAmb 09 34 00.5
comp=Z,48nm,0.9s
KNK **Knik Glacier** 19.28 46 P 09 33 55.3
baz=251,SNR=7.7
TRF **Thorofare Moun** 19.29 40 P **P** **09 33 55.0 +0.2**
TRF IAmb IAmb 09 34 01.8
comp=Z,74nm,0.9s
TRF **Thorofare Moun** 19.29 40 P 09 33 55.2
baz=243,SNR=15
BPAW **Bear Paw Mtn.** 19.32 37 **Pn** **09 33 55.6 -0.5**
BPAW IAmb IAmb 09 34 00.1
comp=Z,30nm,0.8s
BPAW **Bear Paw Mtn.** 19.32 37 P 09 33 55.6
baz=240,SNR=19
MA2 **Magadan** 19.42 308 LR LR 09 40 24.1
comp=Z,521nm,18.2s,baz=88,slow=34
SML **Sawmill** 19.47 45 P **Pn** **09 33 57.8 -0.1**
SML IAmb IAmb 09 34 16.0
comp=Z,28nm,0.8s
SML **Sawmill** 19.47 45 P 09 33 56.6
baz=250
H21K **Melozitna Rive** 19.52 32 P 09 33 58.5
baz=234,SNR=34
SEY **Seymchan** 19.70 318 P **Pn** **09 34 01.5 +0.9**
comp=Z,0.6nm,0.3s,baz=120,slow=11,SNR=16
GLI **Glacier Island** 19.76 48 P **P** **09 33 59.6 -0.2**
GLI IAmb IAmb 09 34 16.6
comp=Z,47nm,0.9s
WAT2 **Susitna Watana** 19.79 42 P 09 33 59.9
baz=246,SNR=18
MID **Middleton Isla** 19.79 53 P **P** **09 34 00.6 +0.5**
MID pmax pmax
comp=Z,756nm,1.4s
MID **Middleton Isla** 19.79 53 P **P** **09 34 00.6 +0.5**
RND **Reindeer** 19.85 40 P **P** **09 34 00.4 -0.5**
RND pmax pmax
comp=Z,22nm,0.7s
RND **Reindeer** 19.85 40 P **P** **09 34 00.3 -0.5**
MLY **Manley** 19.89 35 P **Pn** **09 34 02.8 0.0**
MLY IAmb IAmb 09 34 06.7
comp=Z,56nm,0.8s
MLY **Manley** 19.89 35 P 09 34 02.4
baz=238,SNR=73
SCM **Sheep Creek Mo** 19.93 46 P **P** **09 34 01.1 -0.6**
SCM pmax pmax
comp=Z,48nm,0.7s
SCM **Sheep Creek Mo** 19.93 46 P **P** **09 34 01.1 -0.6**
SCM IAmb IAmb 09 34 08.8
comp=Z,48nm,0.7s
MCK **McKinley** 19.96 40 P **P** **09 34 02.6 +0.6**
MCK pmax pmax
comp=Z,25nm,0.8s
MCK **McKinley** 19.96 40 P **P** **09 34 02.6 +0.6**
MCK **McKinley** 19.96 40 P 09 34 01.5
baz=244,SNR=11
WAT6 **Susitna Watana** 20.00 43 P 09 34 01.8
baz=249
FID **Port Fidalgo** 20.01 49 P **P** **09 34 02.7 +0.1**
FID IAmb IAmb 09 34 11.1
comp=Z,94nm,1.2s
NEA2 **Nenana** 20.29 37 P **P** **09 34 06.2 +0.6**
NEA2 IAmb IAmb 09 34 12.5
comp=Z,27nm,0.8s
NEA2 **Nenana** 20.29 37 P 09 34 05.7
baz=242,SNR=24
EYAK **Cordova Ski Ar** 20.32 50 P **P** **09 34 06.6 +0.8**
EYAK IAmb IAmb 09 34 10.3
comp=Z,66nm,1.3s
I23K **Minto, Yukon-K** 20.45 36 P **P** **09 34 08.0 +0.8**
I23K IAmb IAmb 09 34 15.1
comp=Z,37nm,0.8s
I23K **Minto, Yukon-K** 20.45 36 P 09 34 08.3
baz=240,SNR=24
KLU **Klutina** 20.47 47 P 09 34 08.9
baz=254
M24K **Tolsona, Glenn** 20.53 45 P 09 34 10.2
baz=252,SNR=5.2
WRH **Wood River Hil** 20.62 38 P **P** **09 34 08.5 -0.6**
H23K **Yukon River** 20.73 34 P 09 34 11.6
baz=238,SNR=31
MDM **Murphy Dome** 20.78 37 P **P** **09 34 11.3 +0.4**
MDM IAmb IAmb 09 34 18.3
comp=Z,32nm,0.8s
CCB **Clear Creek Bu** 20.80 38 P **P** **09 34 10.8 -0.3**
CCB IAmb IAmb 09 34 16.5
comp=Z,18nm,0.6s
TCOL **CIGO, UAF Yank** 20.88 37 P 09 34 13.5
baz=243,SNR=7.5
COLA **College** 20.89 37 *de*P Pn 09 34 13.8 -0.7
COLA pmax pmax
comp=Z,21nm,0.9s
COLA **College** 20.89 37 P **P** **09 34 11.9 -0.1**
COLA IAmb IAmb 09 34 30.9
comp=Z,30nm,0.8s
COLA **College** 20.89 37 P 09 34 11.9
baz=243
BMRM **Bremner River** 20.96 49 P **P** **09 34 13.4 +0.6**
BMRM IAmb IAmb 09 34 22.2
comp=Z,40nm,0.9s
BMRM **Bremner River** 20.96 49 P 09 34 14.4
baz=257
HDA **Harding Lake** 21.04 39 P **P** **09 34 12.5 -1.1**
HDA **Harding Lake** 21.04 39 P 09 34 13.0
baz=245,SNR=10
HDA P 09 34 13.0
baz=245,SNR=10
HARP **HAARP** 21.08 45 P 09 34 13.8
baz=252
N25K **Chitina, Valde** 21.11 47 **P** **09 34 16.4 +1.9**
N25K IAmb IAmb 09 34 22.2
comp=Z,33nm,0.7s
N25K **Chitina, Valde** 21.11 47 P 09 34 15.5
baz=255,SNR=7.1
PAX **Paxson** 21.12 43 P **P** **09 34 15.1 +0.5**
PAX pmax pmax
comp=Z,25nm,0.9s
PAX **Paxson** 21.12 43 P **P** **09 34 15.1 +0.5**
PAX **Paxson** 21.12 43 P 09 34 14.6
baz=251,SNR=12
POKR **Poker Plat Res** 21.16 37 P **P** **09 34 15.1 +0.2**
POKR **Poker Plat Res** 21.16 37 P 09 34 15.4
baz=243
IL31 21.21 38 P **P** **09 34 15.3 -0.1**
IL31 IAmb IAmb 09 34 34.0
comp=Z,24nm,0.8s
ILAR **Eielson Array** 21.21 38 P **P** **09 34 14.4 -1.1**
comp=Z,2.5nm,0.6s,baz=236,slow=8.3,SNR=41
ILAR PcP **PcP** **09 38 19.5 -0.7**
comp=Z,0.4nm,0.5s,baz=282,slow=3.0,SNR=4.6
ILAR ScP **ScP** **09 41 53.1 -3.8**
comp=Z,0.7nm,0.7s,baz=289,slow=3.5,SNR=4.6
ILAR **Eielson Array** 21.21 38 P **P** **09 34 16.2 +0.7**
COLD **Coldfoot** 21.29 30 **P** **09 34 17.6 +1.3**
COLD **Coldfoot** 21.29 30 P 09 34 16.8
baz=234,SNR=17
H24K **Noodor Dome** 21.33 35 P 09 34 17.2
baz=241,SNR=24
GLB **Gilahina Butte** 21.44 48 P **P** **09 34 17.8 -0.2**
GLB IAmb IAmb 09 34 25.0
comp=Z,25nm,0.6s
MENT **Mentasta** 21.87 44 P **P** **09 34 22.8 +0.2**
MENT IAmb IAmb 09 34 48.8
comp=Z,19nm,0.7s
DOT **Dot Lake** 21.94 42 P **P** **09 34 22.5 -0.9**
DOT IAmb IAmb 09 34 28.9
comp=Z,23nm,0.8s
SCRK **Sand Creek** 22.08 41 P **P** **09 34 23.7 -1.2**
SCRK **Sand Creek** 22.08 41 P 09 34 23.7
baz=250,SNR=20
TOLK **Toolik Lake Re** 22.32 28 P **P** **09 34 26.5 -0.9**
TOLK IAmb IAmb 09 34 33.3
comp=Z,18nm,0.7s
TOLK **Toolik Lake Re** 22.32 28 P 09 34 27.3
baz=232,SNR=16
FYU **Fort Yukon** 22.62 34 P **P** **09 34 30.8 +0.3**
FYU IAmb IAmb 09 34 35.1
comp=Z,34nm,0.7s
L27K **Beaver Creek,** 22.73 44 P **P** **09 34 31.3 -0.6**
L27K **Beaver Creek,** 22.73 44 P 09 34 31.4
baz=255
BCAR **Beaver Creek A** 22.75 44 P **P** **09 34 30.9 -1.1**
K27K **Chicken** 22.89 42 P **P** **09 34 32.8 -0.7**
K27K **Chicken** 22.89 42 P 09 34 33.4
baz=252
BMAR **Burnt Mountain** 23.25 33 P **P** **09 34 37.5 +0.4**
EGAK **Eagle** 23.50 40 P **P** **09 34 38.9 -0.7**
EGAK **Eagle** 23.50 40 P 09 34 38.6
baz=252,SNR=10
DAWY **Dawson** 24.04 43 P **P** **09 34 44.0 -0.9**
HYT **Haines Junctio** 24.36 51 P **P** **09 34 47.6 -0.4**
TYV **Tymovskoe** 24.46 285 *e*P **P** **09 34 51.1 +2.4**
TYV pmax pmax
comp=Z,31nm,0.6s
TYV pmax pmax
comp=Z,300nm,6.3s
UGL **Uglegorsk** 25.37 281 *e*P **P** **09 34 58.9 +1.9**
UGL pmax pmax
comp=Z,60nm,0.8s
YSS **Yuzh-Sakhalins** 25.73 276 *ce*P **P** **09 35 01.5 +1.2**
YSS pmax pmax
comp=Z,57nm,1.7s
YSS **Yuzh-Sakhalins** 25.73 276 P **P** **09 35 01.2 +0.9**
YSS IAmb IAmb 09 35 03.1
comp=Z,38nm,0.9s
EPYK **Eagle Plains** 25.73 38 P **P** **09 34 58.9 -1.3**
JIS **Juneau Island** 25.91 57 P **P** **09 35 01.8 0.0**
ASAJ **Asahikawa** 27.09 271 P **P** **09 35 12.7 0.0**
comp=Z,11nm,1.0s,baz=60,slow=13,SNR=3.4
INK **Inuvik** 27.46 35 P **P** **09 35 13.7 -2.0**
comp=Z,3.7nm,0.7s,baz=236,slow=8.1,SNR=19
INK PcP **PcP** **09 38 33.5 -0.2**
comp=Z,1.9nm,0.6s,baz=284,slow=5.5,SNR=8.3
INK **Inuvik** 27.46 35 P **P** **09 35 14.9 -0.8**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK **Inuvik** 27.46 35 P **P** **09 35 14.9 -0.8**
INK **Inuvik** 27.46 35 P 09 35 14.6
baz=254
DIB **Dawson Inlet,** 27.76 68 P **P** **09 35 19.1 +0.6**
DIB IAmb IAmb 09 35 26.4
comp=Z,18nm,1.1s
H02S1 **DAWSON INLET T** 27.76 68 P **P** **09 35 19.1 +0.6**
C36M **Paulatuk** 31.03 34 P **P** **09 35 46.7 -0.6**
C36M **Paulatuk** 31.03 34 P 09 35 46.4
baz=262
TIXI **Tiksi** 31.06 331 P **P** **09 35 49.5 +2.0**
comp=Z,1.7nm,0.5s,baz=120,slow=9.3,SNR=7.5
TIXI PcP **PcP** **09 38 42.1 -0.7**
comp=Z,4.3nm,0.7s,baz=99,slow=2.2,SNR=8.9
TIXI **Tiksi** 31.06 331 ⇑*e*P **P** **09 35 50.1 +2.5**
KLR **Kul'dur** 31.62 287 *c i*P **P** **09 35 53.1 +0.3**
KLR pmax pmax
comp=Z,25nm,0.6s
ZEA **Zeya** 32.69 296 *e*P **P** **09 36 02.2 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
H11N2 **WAKE ISLAND Hy** 33.46 206 T T 10 12 00.6
baz=17,slow=76,SNR=100
H11N3 **WAKE ISLAND Hy** 33.47 206 T T 10 12 01.3
baz=17,slow=76,SNR=150
H11N1 **WAKE ISLAND Hy** 33.47 206 T T 10 12 02.0
baz=17,slow=76,SNR=163
USRK **Ussuriysk Ar.** 33.71 278 P **P** **09 36 09.3 -1.9**
comp=Z,4.6nm,0.6s,baz=60,slow=11,SNR=14
USRK **Ussuriysk Ar.** 33.71 278 P **P** **09 36 11.5 +0.4**
USRK **Ussuriysk Ar.** 33.71 278 P **P** **09 36 11.5 +0.4**
MAJO **Matsushiro** 34.12 262 *c i*P **P** **09 36 16.1 +1.3**
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MAJO **Matsushiro** 34.12 262 P **P** **09 36 15.7 +0.9**
MAJO IAmb IAmb 09 36 16.8
comp=Z,7.1nm,0.7s
MAT **Matsushiro** 34.12 262 P **P** **09 36 15.7 +0.9**
MJAR **Matsushiro Arr** 34.12 262 P **P** **09 36 14.6 -0.3**
comp=Z,3.4nm,0.5s,baz=46,slow=7.3,SNR=12
MJAR PcP **PcP** **09 38 52.3 +0.4**
comp=Z,0.9nm,0.5s,baz=79,slow=3.2,SNR=5.5
MJAR **Matsushiro Arr** 34.12 262 P **P** **09 36 14.6 -0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR **Matsushiro Arr** 34.12 262 IAmb IAmb 09 36 18.1
comp=Z,1.8nm,0.8s
VLA **Vladivostok** 34.33 276 ⇑*e*P **P** **09 36 16.9 +0.5**
VLA pmax pmax
comp=Z,20nm,0.9s
H11S1 **WAKE ISLAND Hy** 34.67 206 T T 10 13 32.8
baz=17,slow=76,SNR=182
H11S2 **WAKE ISLAND Hy** 34.69 206 T T 10 13 34.1
baz=17,slow=76,SNR=128
H11S3 **WAKE ISLAND Hy** 34.69 206 T T 10 13 35.1
baz=17,slow=76,SNR=122
NLWA **Neilton Lookou** 34.97 74 P **P** **09 36 24.5 +2.4**
NLWA IAmb IAmb 09 36 32.1
comp=Z,16nm,1.1s
MSHR **Mys Shultsa** 35.06 276 *de*P **P** **09 36 24.2 +1.4**
MSHR pmax pmax
comp=Z,25nm,1.3s
YKA **Yellowknife Ar** 35.14 46 P **P** **09 36 22.4 -0.9**
comp=Z,2.1nm,0.5s,baz=272,slow=9.1,SNR=26
YKA PcP **PcP** **09 38 54.6 +0.4**
comp=Z,0.3nm,0.3s,baz=293,slow=2.8,SNR=5.8
YKA LR LR 09 51 17.2
comp=Z,321nm,18.7s,baz=0.0,slow=37
JGF **Kuroka** 35.26 261 P **P** **09 36 25.9 +1.2**
comp=Z,12nm,1.1s
D03D **Eldon** 35.38 74 P 09 36 25.8
baz=297,SNR=6.1
INU **Inuyama** 35.63 261 P **P** **09 36 28.9 +1.1**
INU IAmb IAmb 09 36 46.3
comp=Z,22nm,1.4s
B05A **Bryant** 35.66 72 P 09 36 27.9
baz=296
B06A **Marblemount** 35.91 71 P **P** **09 36 30.9 +0.9**
B06A IAmb IAmb 09 36 39.4
comp=Z,5.7nm,0.7s
D05A **Enumclaw** 36.21 74 P **P** **09 36 35.3 +2.7**
D05A IAmb IAmb 09 36 41.2
comp=Z,22nm,1.0s
LON **Longmire** 36.52 74 P **P** **09 36 36.9 +1.5**
LON pmax pmax
comp=Z,6.0nm,0.8s
LON **Longmire** 36.52 74 P **P** **09 36 36.9 +1.5**
JWT **Wachi** 36.68 263 P **P** **09 36 38.4 +1.6**
JWT IAmb IAmb 09 36 39.2
comp=Z,12nm,0.6s
LTY **Liberty** 36.97 73 P **P** **09 36 40.3 +1.1**
LTY IAmb IAmb 09 36 47.1
comp=Z,15nm,1.4s
B08A **Colville Reser** 37.26 71 P **P** **09 36 43.1 +1.4**
B08A IAmb IAmb 09 36 59.0
comp=Z,10.0nm,0.8s
H04A **Detroit Lake** 37.30 77 P **P** **09 36 43.1 +1.1**
H04A IAmb IAmb 09 36 51.0
comp=Z,14nm,0.8s
HAWA **Hanford** 38.07 73 P **P** **09 36 49.9 +1.4**
HAWA IAmb IAmb 09 36 56.0
comp=Z,14nm,0.8s
F07A **Phinny Hill Vi** 38.07 74 P **P** **09 36 48.2 -0.3**
F07A IAmb IAmb 09 36 52.7
comp=Z,13nm,0.6s
D08A **Wollman Farm,** 38.12 72 P **P** **09 36 49.8 +1.0**
D08A IAmb IAmb 09 36 50.6
comp=Z,6.9nm,0.7s
C09A **Chrisman Ranch** 38.15 71 P **P** **09 36 50.1 +0.9**
C09A IAmb IAmb 09 37 06.1
comp=Z,8.9nm,0.8s
JHS **Saijyo** 38.30 264 P **P** **09 36 52.2 +1.7**
JHS IAmb IAmb 09 36 52.9
comp=Z,6.5nm,0.7s
NEW **Newport** 38.62 70 P **P** **09 36 53.6 +0.5**
NEW pmax pmax
comp=Z,16nm,0.8s
NEW **Newport** 38.62 70 P **P** **09 36 53.5 +0.5**
NEW IAmb IAmb 09 36 59.9
comp=Z,16nm,0.8s
NEW **Newport** 38.62 70 P 09 36 53.6
baz=298,SNR=21
HIA **Hailar** 38.74 292 P **P** **09 36 54.2 +0.1**
HIA pmax pmax
comp=Z,14nm,1.0s
HIA **Hailar** 38.74 292 P **P** **09 36 54.2 +0.1**
HIA IAmb IAmb 09 36 55.0
comp=Z,14nm,1.0s
G08A **Pilot Rock** 38.97 75 P **P** **09 36 57.3 +1.2**
K05A **Summer Lake** 39.12 79 P **P** **09 36 59.9 +2.2**
K05A IAmb IAmb 09 37 07.3
comp=Z,12nm,0.8s
I07A **Izee** 39.26 77 P **P** **09 37 00.3 +1.7**
I07A IAmb IAmb 09 37 01.0
comp=Z,7.7nm,0.6s
O02D **Mt. Diablo Mer** 39.37 84 P 09 36 59.5
baz=305
F10A **Beach Ranch, E** 39.67 73 P **P** **09 37 03.1 +1.1**
MOD **Modoc Plateau** 39.94 80 P **P** **09 37 05.2 +0.8**
KSRS **Korea Array** 40.03 272 P **P** **09 37 03.9 -1.1**
comp=Z,4.6nm,0.8s,baz=55,slow=8.4,SNR=23
KSRS PcP **PcP** **09 39 10.6 +0.9**
comp=Z,0.5nm,0.3s,baz=58,slow=3.6,SNR=5.1
KS19 **Wonju Array Si** 40.03 272 P **P** **09 37 05.5 +0.6**
KSAR **Wonju Array Be** 40.06 272 P **P** **09 37 05.4 +0.2**
KSAR **Wonju Array Be** 40.06 272 P **P** **09 37 05.4 +0.2**
WALA **Waterton Lakes** 40.12 67 P **P** **09 37 06.5 +0.7**
WALA IAmb IAmb 09 37 21.9
comp=Z,27nm,1.5s
BMO **Blue Mountains** 40.20 74 P **P** **09 37 07.3 +0.9**
BMO pmax pmax
comp=Z,6.0nm,1.2s
BMO **Blue Mountains** 40.20 74 P **P** **09 37 07.3 +0.9**
J08A **Circle Bar Ran** 40.27 77 P **P** **09 37 08.9 +1.8**
JTMT **Jette** 40.54 69 P **P** **09 37 09.7 +0.4**
WVOR **Wild Horse Val** 40.68 78 P **P** **09 37 11.1 +0.7**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
WVOR **Wild Horse Val** 40.68 78 P **P** **09 37 11.1 +0.7**
JNU **Nakatsue** 40.92 264 P **P** **09 37 13.2 +0.8**
JNU IAmb IAmb 09 37 18.1
comp=Z,13nm,0.8s
TJN **Taejon** 41.04 271 *ce*P **P** **09 37 14.4 +1.1**
BEKR **Beckworth** 41.06 83 P **P** **09 37 14.9 +1.2**
MSO **Missoula** 41.20 70 P **P** **09 37 14.6 -0.1**
MSO **Missoula** 41.20 70 P 09 37 14.7
baz=300,SNR=7.2
PAHR **Pah Rah Range** 41.77 82 P **P** **09 37 19.4 0.0**
VCNR **Virginia City** 41.84 83 P **P** **09 37 20.8 +0.6**
MFID **Camas Ranch** 41.86 75 P **P** **09 37 20.1 -0.1**
HRY **Holter Researc** 42.50 69 P **P** **09 37 26.3 +1.0**
HLID **Hailey** 42.64 74 P **P** **09 37 28.0 +1.4**
HLID **Hailey** 42.64 74 P 09 37 27.1
baz=303,SNR=15
BCYI **Bear Canyon** 42.84 73 P **P** **09 37 29.4 +1.2**
MCMT **McKenzie Canyo** 42.90 72 P **P** **09 37 29.6 +0.9**
NVAR **Mina Array Bea** 43.20 83 P **P** **09 37 32.4 +1.2**
comp=Z,1.2nm,0.9s,baz=290,slow=6.1,SNR=6.4
NVAR PcP **PcP** **09 39 20.4 0.0**
comp=Z,0.5nm,0.7s,baz=296,slow=3.2,SNR=2.3
NV11 **Mina Array Sit** 43.29 83 P **P** **09 37 33.5 +1.6**
ELK **Elko** 43.73 78 P **P** **09 37 36.8 +1.3**
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK **Elko** 43.73 78 P **P** **09 37 36.8 +1.3**
YHH **Holmes Hill** 44.11 71 P **P** **09 37 39.5 +0.9**
YHH IAmb IAmb 09 37 55.3
comp=Z,13nm,1.0s
YPP **Pitchstone Pla** 44.42 71 P **P** **09 37 42.3 +1.2**
YNE **Yellowstone No** 44.49 70 P **P** **09 37 41.5 0.0**
H17A **Grant Village** 44.49 71 P **P** **09 37 43.2 +1.6**
H17A IAmb IAmb 09 37 59.4
comp=Z,12nm,1.1s
H17A **Grant Village** 44.49 71 P 09 37 41.0
baz=304,SNR=12
LKWY **Lake** 44.50 71 P **P** **09 37 41.4 -0.3**
LKWY pmax pmax
comp=Z,6.0nm,0.8s
LKWY **Lake** 44.50 71 P **P** **09 37 41.4 -0.3**
YMP **Mirror Lake Pl** 44.55 70 P **P** **09 37 42.7 +0.6**
FLWY **Flagg Ranch** 44.59 71 P **P** **09 37 43.3 +1.0**
HVU **Hansel Valley** 44.65 75 P **P** **09 37 43.7 +1.0**
HVU pmax pmax
comp=Z,12nm,0.6s
HVU **Hansel Valley** 44.65 75 P **P** **09 37 43.7 +1.0**
HVU IAmb IAmb 09 37 44.7
comp=Z,12nm,0.6s
TPAW **Teton Pass** 44.77 72 P **P** **09 37 45.1 +1.2**
NRIK **Noril'sk** 44.83 330 ⇑*e*P **P** **09 37 43.2 -0.4**
NRIK pmax pmax
comp=Z,3.0nm,0.8s
RLMT **Red Lodge** 44.87 69 P **P** **09 37 45.1 +0.6**
RLMT IAmb IAmb 09 38 01.6
comp=Z,17nm,0.9s
RLMT **Red Lodge** 44.87 69 P 09 37 44.1
baz=303
REDW **Red Top Meadow** 44.91 72 P **P** **09 37 45.7 +0.9**
SNOW **Snow King Moun** 44.91 72 P **P** **09 37 45.2 +0.3**
R11A **Troy Canyon, C** 44.95 81 P **P** **09 37 45.5 +0.4**
BGU **Big Grassy Mou** 44.99 77 P **P** **09 37 45.9 +0.5**
AHID **Auburn Hatcher** 45.10 73 P **P** **09 37 46.8 +0.5**
SPUT **South Promonto** 45.12 76 P **P** **09 37 47.3 +0.9**
TPNV **Topopah Spring** 45.40 83 P **P** **09 37 49.7 +1.0**
TPNV pmax pmax
comp=Z,9.0nm,0.8s
TPNV **Topopah Spring** 45.40 83 P **P** **09 37 49.7 +1.0**
TPNV IAmb IAmb 09 37 58.9
comp=Z,8.8nm,0.8s
TPNV **Topopah Spring** 45.40 83 P 09 37 48.4
baz=308,SNR=5.1
HWUT **Hardware Ranch** 45.48 75 P **P** **09 37 49.8 +0.4**
DUG **Dugway, Tooele** 45.55 77 P **P** **09 37 51.0 +1.1**
DUG pmax pmax
comp=Z,12nm,1.1s

DUG **Dugway, Tooele** 45.55 77 P **P** 09 37 51.0 +1.1
DUG IAmb IAmb 09 37 59.0
comp=Z,12nm,1.1s
DUG **Dugway, Tooele** 45.55 77 P 09 37 50.8
baz=306,SNR=13
BJI **Beijing** 45.81 283 P **P** 09 37 53.1 +1.4
BJI pmax pmax
comp=Z,10.0nm,0.7s
BJT **Baijiatuau** 45.82 283 P **P** 09 37 52.3 +0.4
BJT pmax pmax
comp=Z,7.0nm,0.7s
BJT **Baijiatuau** 45.82 283 P **P** 09 37 52.3 +0.4
BJT IAmb IAmb 09 37 53.5
comp=Z,6.8nm,0.7s
PRN **Pahroc Range** 45.86 82 P **P** 09 37 53.3 +1.0
PRN IAmb IAmb 09 38 01.5
comp=Z,10nm,1.0s
PSUT **Pine Spring** 45.91 80 P **P** 09 37 53.8 +1.0
PSUT IAmb IAmb 09 38 08.5
comp=Z,6.8nm,0.7s
BW06 **Boulder Array** 46.02 72 P **P** 09 37 54.4 +0.7
BW06 IAmb IAmb 09 37 55.2
comp=Z,10nm,0.7s
BW06 **Boulder Array** 46.02 72 P 09 37 54.0
baz=305,SNR=18
PD31 **Pinedale Array** 46.02 72 P **P** 09 37 54.4 +0.7
PD31 IAmb IAmb 09 37 55.2
comp=Z,9.1nm,0.7s
PDAR **Pinedale Array** 46.02 72 P **P** 09 37 53.8 +0.1
comp=Z,8.8nm,0.6s,baz=309,slow=3.7,SNR=84
PDAR **Pinedale Array** 46.02 72 P **P** 09 37 54.3 +0.6
JLU **Jordanelle** 46.15 76 P **P** 09 37 55.6 +0.9
NLU **North Lily Min** 46.15 77 P **P** 09 37 55.6 +0.9
MPU **Maple Canyon** 46.38 77 P **P** 09 37 56.9 +0.4
TLY **Talaya** 46.53 303 LR LR 09 57 58.2
comp=Z,236nm,18.6s,baz=299,slow=37
ULN **Ulaanbaatar** 46.72 297 *c i* P **P** 09 37 59.6 +0.6
ULN pmax pmax
comp=Z,17nm,1.0s
ULN **Ulaanbaatar** 46.72 297 P **P** 09 37 59.8 +0.8
ULN IAmb IAmb 09 38 00.7
comp=Z,16nm,0.9s
TMUT **Trail Mountain** 47.08 77 P **P** 09 38 03.1 +0.9
TMUT IAmb IAmb 09 38 12.4
comp=Z,8.1nm,0.7s
SONM **Songino Array** 47.11 297 P **P** 09 38 00.8 -1.3
comp=Z,7.2nm,0.7s,baz=59,slow=8.7,SNR=8.2
SONM **Songino Array** 47.11 297 P **P** 09 38 03.1 +1.1
SONM pmax pmax
comp=Z,21nm,1.4s
SONM **Songino Array** 47.11 297 P **P** 09 38 03.1 +1.1
SONM IAmb IAmb 09 38 04.0
comp=Z,21nm,1.4s
LCMT **Little Creek M** 47.23 81 P **P** 09 38 04.3 +1.2
MTPU **Mount Pierson** 47.25 79 P **P** 09 38 03.8 +0.2
P17A **Butcher Ranch,** 47.26 77 P **P** 09 38 03.6 +0.3
P17A IAmb IAmb 09 38 05.2
comp=Z,7.6nm,0.6s
RDMU **Red Mountain** 47.31 75 P **P** 09 38 04.8 +1.0
ZAK **Zakamensk** 47.42 302 *e* P **P** 09 38 05.2 +0.8
ZAK pmax pmax
comp=Z,8.0nm,1.2s
KNB **Kanab** 47.49 81 P **P** 09 38 06.0 +0.8
KNB pmax pmax
comp=Z,5.0nm,0.7s
KNB **Kanab** 47.49 81 P **P** 09 38 06.0 +0.8
KNB IAmb IAmb 09 38 16.1
comp=Z,4.7nm,0.7s
SRU **San Rafael Swe** 47.62 77 P **P** 09 38 06.8 +0.7
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU **San Rafael Swe** 47.62 77 P **P** 09 38 06.8 +0.7
SRU IAmb IAmb 09 38 24.1
comp=Z,9.0nm,0.7s
K22A **Casper** 47.91 71 P **P** 09 38 08.0 -0.3
K22A IAmb IAmb 09 38 11.3
comp=Z,6.9nm,0.8s
K22A **Casper** 47.91 71 P 09 38 08.0
baz=306,SNR=7.1
RWWY **Rawlins** 48.07 72 P **P** 09 38 08.9 -0.9
RWWY IAmb IAmb 09 38 14.4
comp=Z,6.7nm,0.8s
HHC **Hu-ho-hao-te** 48.13 287 *e* P **P** 09 38 12.0 +2.0
HHC pmax pmax
comp=Z,23nm,0.9s
U15A **North Rim** 48.20 81 P **P** 09 38 12.2 +1.4
U15A IAmb IAmb 09 38 21.6
comp=Z,8.7nm,0.7s
O20A **White River Ci** 48.38 74 P **P** 09 38 12.6 +0.5
O20A **White River Ci** 48.38 74 P 09 38 12.4
baz=308,SNR=24
RSSD **Black Hills** 48.51 68 P **P** 09 38 13.3 +0.3
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD **Black Hills** 48.51 68 P **P** 09 38 13.2 +0.3
RSSD **Black Hills** 48.51 68 P 09 38 12.4
baz=306
MDND **Maddock** 48.87 61 P **P** 09 38 15.8 +0.3
MDND IAmb IAmb 09 38 16.4
comp=Z,12nm,0.8s
MDND **Maddock** 48.87 61 P 09 38 15.2
baz=305
PV10 **Paradox Valley** 48.98 77 P **P** 09 38 17.6 +0.8
PV10 IAmb IAmb 09 38 18.8
comp=Z,12nm,0.7s
PV14 **Lion Creek, Pa** 48.99 77 P **P** 09 38 17.4 +0.6
PV14 IAmb IAmb 09 38 23.5
comp=Z,7.2nm,0.8s
PV22 **Blue Mesa, Par** 49.04 76 P **P** 09 38 17.8 +0.6
PV22 IAmb IAmb 09 38 20.4
comp=Z,9.8nm,0.8s
PV20 **West Nyswonger** 49.05 77 P **P** 09 38 17.7 +0.5
PV20 IAmb IAmb 09 38 26.6
comp=Z,6.9nm,0.6s
PV16 **Nyswonger Mesa** 49.10 77 P **P** 09 38 18.0 +0.3
PV16 IAmb IAmb 09 38 18.9
comp=Z,8.7nm,0.6s
NJ2 **Nanjing** 49.20 273 *e* P **P** 09 38 18.8 +0.6
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
N23A **Red Feather La** 49.31 72 P 09 38 19.9
baz=308,SNR=7.0
WUAZ **Wupatki** 49.35 81 P 09 38 19.6
baz=310
ULM **Lac du Bonnet** 49.51 57 P **P** 09 38 18.3 -2.0
comp=Z,3.0nm,0.5s,baz=311,slow=7.6,SNR=5.5
ULM **Lac du Bonnet** 49.51 57 P **P** 09 38 19.6 -0.7
ULM pmax pmax
comp=Z,4.0nm,0.7s
ULM **Lac du Bonnet** 49.51 57 P **P** 09 38 19.6 -0.7
SMCO **Snowmass** 49.74 75 P **P** 09 38 23.3 +0.5
SMCO IAmb IAmb 09 38 24.2
comp=Z,4.4nm,0.6s
MVCO **Mesa Verde** 50.05 78 P **P** 09 38 25.1 +0.2
MVCO IAmb IAmb 09 38 41.3
comp=Z,6.9nm,0.8s
MVCO **Mesa Verde** 50.05 78 P 09 38 24.8
baz=310
KBS **Kingsbay** 50.08 357 P **P** 09 38 23.7 -0.6
KBS pmax pmax
comp=Z,42nm,1.4s
KBS **Kingsbay** 50.08 357 P **P** 09 38 23.7 -0.6
ISCO **Idaho Springs** 50.18 73 P **P** 09 38 26.6 +0.6
ISCO pmax pmax
comp=Z,3.0nm,0.7s
ISCO **Idaho Springs** 50.18 73 P **P** 09 38 26.6 +0.6
S22A **4UR Ranch, Cre** 50.73 76 P 09 38 31.2
baz=309,SNR=8.2
SUSD **Miller** 51.24 64 P **P** 09 38 33.3 -0.3
SDCO **Great Sand Dun** 51.54 75 P **P** 09 38 36.7 +0.5
SDCO **Great Sand Dun** 51.54 75 P 09 38 36.7
baz=310,SNR=7.9
OGNE **Ogallala** 51.61 70 P 09 38 36.5
baz=309
B35A **Bob, Littlefor** 51.76 58 P **P** 09 38 36.8 -0.6
K31A **O'Neill** 52.48 66 P **P** 09 38 43.2 +0.4
K31A IAmb IAmb 09 38 43.8
comp=Z,18nm,1.2s
T25A **Trinidad** 52.60 75 P **P** 09 38 44.9 +0.9
T25A IAmb IAmb 09 39 01.4
comp=Z,7.7nm,0.8s
T25A **Trinidad** 52.60 75 P 09 38 44.4
baz=310,SNR=7.2
ANMO **Albuquerque** 52.77 78 ⇓ *e* P **P** 09 38 45.5 +0.2
ANMO pmax pmax
comp=Z,2.0nm,1.3s
ANMO **Albuquerque** 52.77 78 P 09 38 45.2
baz=311
ECSD **EROS Data Cent** 53.01 64 P **P** 09 38 46.0 -0.7
ECSD **EROS Data Cent** 53.01 64 P 09 38 45.5
baz=309
WHN **Wuhan** 53.06 274 ⇓ P **P** 09 38 47.9 +0.7
EYMN **Ely** 53.19 57 P **P** 09 38 47.9 -0.1
EYMN IAmb IAmb 09 38 48.9
comp=Z,7.9nm,1.1s
EYMN **Ely** 53.19 57 P 09 38 46.8
baz=308
SUMG **Summit** 53.46 14 *e* P **P** 09 38 50.0 -0.1
SUMG IAmb IAmb 09 38 52.7
comp=Z,3.4nm,0.6s
SUMG **Summit** 53.46 14 P **P** 09 38 49.8 -0.3
SUMG pmax pmax
comp=Z,8.0nm,1.1s
SUMG **Summit** 53.46 14 P **P** 09 38 49.8 -0.3
SUMG IAmb IAmb 09 39 04.8
comp=Z,8.4nm,1.1s
E38A **The Farm, Brul** 54.00 58 P **P** 09 38 53.6 -0.3
E38A IAmb IAmb 09 38 53.8
comp=Z,8.5nm,0.5s
L34A **Svendsen Farm,** 54.26 65 P **P** 09 38 56.2 +0.3
CBKS **Cedar Bluff** 54.32 70 P **P** 09 38 57.3 +0.8
CBKS pmax pmax
comp=Z,15nm,0.7s
CBKS **Cedar Bluff** 54.32 70 P **P** 09 38 57.3 +0.8
CBKS **Cedar Bluff** 54.33 70 P 09 38 56.6
baz=310
ZALV **Zalesovo Beam** 54.49 314 P **P** 09 38 56.1 -1.2
comp=Z,0.7nm,0.3s,baz=39,slow=5.5,SNR=2.7
ZALV PcP **PcP** 09 40 01.2 +0.6
comp=Z,6.8nm,0.6s,baz=37,slow=4.2,SNR=18
I37A **Lemond, Waseca** 54.63 62 P **P** 09 38 58.8 +0.2
I37A IAmb IAmb 09 39 00.6
comp=Z,12nm,0.9s
R32A **Long Quarter,** 55.19 70 P **P** 09 39 02.1 -0.6
R32A IAmb IAmb 09 39 05.0
comp=Z,10nm,0.8s
N35A **Tabor** 55.39 66 P **P** 09 39 04.2 +0.1
G40A **Rib Lake** 55.58 59 P **P** 09 39 04.6 -0.8
G40A IAmb IAmb 09 39 05.7
comp=Z,8.1nm,1.1s
MNTX **Cornudas Mount** 55.61 81 P **P** 09 39 06.6 +0.8
MNTX **Cornudas Mount** 55.62 81 P 09 39 06.3
baz=313
MSTX **Muleshoe** 55.69 77 P **P** 09 39 06.9 +0.4
MSTX IAmb IAmb 09 39 13.2
comp=Z,11nm,1.2s
MSTX **Muleshoe** 55.69 77 P 09 39 06.3
baz=312,SNR=5.3
LZH **Lanzhou** 55.83 287 ⇑ P **P** 09 39 07.9 +0.4
LZH pP pwP 09 39 14.8 +0.8
LZH sP sP 09 39 18.8 +8.4
LZH pmax pmax
comp=Z,20nm,1.3s
DGZ **Jazzator, Alta** 56.00 309 ⇑ *i* P **P** 09 39 09.6 +1.0
DGZ pmax pmax
comp=Z,5.0nm,0.9s
GTA **Gaotai** 56.02 292 ⇑ P **P** 09 39 09.5 +0.7
GTA pP pwP 09 39 22.8 +7.4
GTA sP sP 09 39 30.3 +19
GTA pmax pmax
comp=Z,30nm,0.9s
F42A **Maple Grove Fa** 56.36 57 P **P** 09 39 11.3 +0.3
E43A **Lone Tree Farm** 56.56 56 P **P** 09 39 12.3 -0.1
N38A **Joes South For** 56.81 65 P **P** 09 39 13.6 -0.7
KAN13 **South Haven SW** 56.85 71 P **P** 09 39 14.5 -0.1
JFWS **Jewell Farm** 57.09 61 P 09 39 15.1
baz=311
P38A **Dawn** 57.42 66 P **P** 09 39 17.7 -0.9
WMOK **Wichita Mounta** 57.60 73 P **P** 09 39 20.2 +0.3
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK **Wichita Mounta** 57.60 73 P **P** 09 39 20.2 +0.3
WMOK **Wichita Mounta** 57.60 73 P 09 39 19.4
baz=313
OK029 **Liberty Lake** 57.68 72 P **P** 09 39 20.5 0.0
OK029 IAmb IAmb 09 39 27.7
comp=Z,11nm,0.9s
OK031 **S. Brethren Rd** 57.95 71 P **P** 09 39 22.3 0.0
OK031 IAmb IAmb 09 39 24.2
comp=Z,9.0nm,0.7s
OK030 **Cody Creek RV** 58.00 71 P **P** 09 39 22.2 -0.4
OK030 IAmb IAmb 09 39 25.8
comp=Z,14nm,1.1s
TX31 **Lajitas Ar. Si** 58.31 81 P **P** 09 39 25.4 +0.3
TX31 IAmb IAmb 09 39 38.5
comp=Z,6.3nm,0.8s
TX32 **Lajitas Array** 58.31 81 P **P** 09 39 25.4 +0.3
TXAR **Lajitas Array** 58.31 81 P **P** 09 39 24.5 -0.6
comp=Z,0.9nm,0.5s,baz=306,slow=5.7,SNR=33
TXAR PcP **PcP** 09 40 12.9 -3.2
comp=Z,0.7nm,0.6s,baz=310,slow=3.4,SNR=2.0
TXAR **Lajitas Array** 58.31 81 P **P** 09 39 25.3 +0.2
P40A **Paris** 58.34 65 P **P** 09 39 24.5 -0.5
ARCES **ARCESS Array B** 58.42 350 P **P** 09 39 23.2 -1.9
comp=Z,1.8nm,0.4s,baz=21,slow=7.2,SNR=34
ARCES PcP **PcP** 09 40 14.0 -1.8
comp=Z,2.0nm,0.8s,baz=39,slow=5.8,SNR=1.7
ARCES **ARCESS Array B** 58.42 350 P **P** 09 39 23.2 -1.9
ARCES pmax pmax
comp=Z,17nm,1.4s
ARCES **ARCESS Array B** 58.42 350 IAmb IAmb 09 39 31.6
comp=Z,17nm,1.4s
ABTX **Abilene, Hawle** 58.52 76 P **P** 09 39 25.9 -0.6
ABTX IAmb IAmb 09 39 34.8
comp=Z,7.8nm,0.8s
ABTX **Abilene, Hawle** 58.52 76 P 09 39 25.9
baz=314
TUL1 **Leonard** 58.60 71 P 09 39 26.0
baz=313
ZSN **Zaisan** 58.77 308 *e* P **P** 09 39 27.4 -0.6
baz=308
ZSN **Zaisan** 58.77 308 *e* P **P** 09 39 27.4 -0.6
S39A **Bolivar** 58.84 67 P **P** 09 39 26.8 -1.8
S39A IAmb IAmb 09 39 27.5
comp=Z,7.1nm,0.7s
R40A **Maddies Statio** 59.05 66 P **P** 09 39 28.6 -1.3
U38A **Gravette** 59.07 69 P **P** 09 39 29.6 -0.5
U38A IAmb IAmb 09 39 35.9
comp=Z,6.5nm,0.8s
HDIL **Hopedale** 59.20 62 P **P** 09 39 30.4 -0.6
HHAR **Hobbs** 59.44 69 P **P** 09 39 32.1 -0.6
HHAR IAmb IAmb 09 39 32.5
comp=Z,6.5nm,0.5s
P43A **Skaggs, Pawnee** 59.69 63 P **P** 09 39 34.2 -0.2
CCM **Cathedral Cave** 59.80 66 P **P** 09 39 34.8 -0.3
CCM pmax pmax
comp=Z,5.0nm,0.6s
CCM **Cathedral Cave** 59.80 66 P **P** 09 39 34.8 -0.3
CCM IAmb IAmb 09 39 41.3
comp=Z,5.2nm,0.6s
WMQ **Urumqi** 59.81 303 *e* P **P** 09 39 37.7 +2.5
J47A **Sunmer** 59.81 58 P **P** 09 39 35.3 +0.2
MGMO **Mountain Grove** 59.82 67 P **P** 09 39 34.7 -0.6
MGMO IAmb IAmb 09 39 35.1
comp=Z,9.2nm,0.7s
SCHQ **Schefferville** 59.97 38 P **P** 09 39 34.9 -1.3
comp=Z,1.7nm,0.7s,baz=260,slow=14,SNR=1.6
U40A **Yellville** 60.03 68 P **P** 09 39 36.1 -0.6
U40A **Yellville** 60.03 68 P 09 39 35.7
baz=314,SNR=13
W39A **Magazine** 60.28 70 P **P** 09 39 38.9 +0.4
W39A IAmb IAmb 09 39 47.9
comp=Z,5.3nm,0.8s
FVM **French Village** 60.31 65 P **P** 09 39 38.2 -0.5
FVM pmax pmax
comp=Z,9.0nm,0.6s
FVM **French Village** 60.31 65 P **P** 09 39 38.2 -0.5
MK31 **Makanchi Array** 60.50 309 P **P** 09 39 38.9 -1.0
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 **Makanchi Array** 60.50 309 P **P** 09 39 38.9 -1.0
MK31 IAmb IAmb 09 39 40.8
comp=Z,3.2nm,0.6s
MKAR **Makanchi Array** 60.50 309 P **P** 09 39 37.8 -2.1
comp=Z,4.7nm,0.6s,baz=52,slow=5.7,SNR=22
MKAR PcP **PcP** 09 40 20.7 -3.7
comp=Z,0.8nm,0.5s,baz=182,slow=25,SNR=2.7
MKAR **Makanchi Array** 60.50 309 *i* P **P** 09 39 38.7 -1.2
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR **Makanchi Array** 60.50 309 P **P** 09 39 38.3 -1.6
SFIN **Lafayette** 60.54 61 P **P** 09 39 40.4 +0.2
SFIN **Lafayette** 60.54 61 P 09 39 40.1
baz=314,SNR=11
T42A **Van Buren** 60.59 67 P **P** 09 39 39.3 -1.3
T42A IAmb IAmb 09 39 39.7
comp=Z,6.7nm,0.6s
MAKZ **Makanchi** 60.64 309 P **P** 09 39 39.7 -1.2
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ **Makanchi** 60.64 309 P **P** 09 39 39.7 -1.2
MAKZ IAmb IAmb 09 39 41.7
comp=Z,5.7nm,0.7s
GYA **Guiyang** 60.73 277 ⇓ P **P** 09 39 43.8 +1.9
GYA pmax pmax
comp=Z,1.0nm,1.0s
FCAR **Ozark Folk Cen** 60.78 68 P **P** 09 39 41.0 -0.9
MIAR **Mount Ida** 60.85 70 P **P** 09 39 42.2 -0.2
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR **Mount Ida** 60.85 70 P **P** 09 39 42.2 -0.2
MIAR IAmb IAmb 09 39 44.5
comp=Z,7.0nm,0.8s
MIAR **Mount Ida** 60.85 70 P 09 39 42.3
baz=314,SNR=8.7
L48A **N Adams** 60.91 58 P **P** 09 39 42.9 +0.1
N47A **Urbana** 60.97 60 P **P** 09 39 42.6 -0.5
P46A **Rosedale** 61.01 62 P **P** 09 39 43.3 -0.1
AAM **Ann Arbor** 61.08 58 P **P** 09 39 43.7 -0.1
AAM pmax pmax
comp=Z,29nm,0.4s
AAM **Ann Arbor** 61.08 58 P **P** 09 39 43.7 -0.1
WHAR **Wooly Hollow** 61.09 69 P **P** 09 39 43.6 -0.4
WHAR IAmb IAmb 09 39 46.0
comp=Z,8.4nm,1.0s
OLIL **Olney** 61.12 63 P **P** 09 39 43.9 -0.2
PBMO **Poplar Bluff** 61.15 66 P **P** 09 39 43.9 -0.5
PBMO IAmb IAmb 09 39 49.5
comp=Z,9.3nm,0.8s
W41B **Gary Mavity, V** 61.20 69 P 09 39 43.9
baz=314,SNR=6.4
LCAR **Lake Charles** 61.22 67 P **P** 09 39 43.6 -1.3
LCAR IAmb IAmb 09 39 59.2
comp=Z,4.7nm,0.8s
BRVK **Borovoye** 61.36 320 P **P** 09 39 45.4 -0.2
BRVK pmax pmax
comp=Z,6.0nm,0.5s
BRVK **Borovoye** 61.36 320 P **P** 09 39 45.4 -0.2
BRVK IAmb IAmb 09 39 45.8
comp=Z,5.5nm,0.5s
PARMO **Parma** 61.62 66 P **P** 09 39 47.6 +0.1
BLO **Bloomington** 61.70 62 P **P** 09 39 47.9 -0.1
BLO pmax pmax
comp=Z,19nm,0.9s
BLO **Bloomington** 61.70 62 P **P** 09 39 47.9 -0.1
N49A **Columbus Grove** 61.76 59 P **P** 09 39 48.6 +0.1
D55A **Sainte-Anne-du** 61.89 49 P 09 39 48.1
baz=316
USIN **University of** 61.90 64 P **P** 09 39 49.3 -0.1
P48A **Milroy** 62.10 61 P **P** 09 39 50.4 -0.4
H53A **Bobcaygeon** 62.11 53 P 09 39 49.2
baz=315
O49A **Covington** 62.19 60 P **P** 09 39 51.0 -0.4
O49A IAmb IAmb 09 39 52.0
comp=Z,20nm,1.4s
D56A **ZEC Mazanza, M** 62.21 49 P 09 39 50.0
baz=316
PRGR **Permogore** 62.30 338 *e* P **P** 09 39 50.8 -0.9
PRGR pmax pmax
comp=Z,12nm,0.6s
E56A **St. Veronique** 62.44 49 P 09 39 51.4
baz=316
P49A **Miami Univ. Ec** 62.44 61 P **P** 09 39 52.5 -0.5
P49A **Miami Univ. Ec** 62.44 61 P 09 39 52.3
baz=315,SNR=6.3
WCI **Wyandotte Cave** 62.48 63 P **P** 09 39 53.1 -0.3
WCI pmax pmax
comp=Z,16nm,0.9s
WCI **Wyandotte Cave** 62.48 63 P **P** 09 39 53.1 -0.3
WCI **Wyandotte Cave** 62.48 63 P 09 39 52.5
baz=315
DELO **Deloro Mine** 62.63 52 P **P** 09 39 54.2 0.0
DELO IAmb IAmb 09 39 54.4
comp=Z,5.8nm,0.4s
BRZS **Berezniki** 62.65 317 *e* P **P** 09 39 52.9 -1.5
baz=316
BRZS **Berezniki** 62.65 317 *e* P **P** 09 39 52.8 -1.5
N51A **Ashland** 62.73 58 P **P** 09 39 54.8 -0.2
TRQ **Mont Tremblant** 62.90 49 P **P** 09 39 54.7 -1.4
T47A **Sharon Grove** 62.90 64 P **P** 09 39 56.2 0.0
W45A **Hickory Valley** 63.00 67 P **P** 09 39 56.7 -0.1
ARU **Arti** 63.03 329 *d i* P **P** 09 39 56.8 +0.1
ARU 09 42 11.0
ARU S **S** 09 48 26.1 -0.7
ARU SS **SS** 09 52 39.0 +7.6
ARU pmax pmax
comp=Z,7.0nm,0.6s
D58A **Chemin du LacG** 63.05 48 P 09 39 55.5
baz=317
WVT **Waverly** 63.09 65 P **P** 09 39 57.2 -0.3
WVT pmax pmax
comp=Z,8.0nm,1.2s
WVT **Waverly** 63.09 65 P **P** 09 39 57.2 -0.3
WVT IAmb IAmb 09 40 03.0
comp=Z,8.1nm,1.2s
M53A **WI Miller and** 63.26 57 P **P** 09 39 59.0 +0.5
M53A **WI Miller and** 63.27 57 P 09 39 58.3
baz=316
OXF **Oxford** 63.33 68 P **P** 09 39 59.3 +0.3
OXF pmax pmax
comp=Z,34nm,1.0s
OXF **Oxford** 63.33 68 P **P** 09 39 59.3 +0.3
OXF **Oxford** 63.33 68 P 09 39 59.0
baz=315,SNR=7.2
J55A **Hilton** 63.43 53 P **P** 09 39 59.9 +0.4
R50A **Paris** 63.54 61 P **P** 09 40 00.6 +0.2
Q51A **Peebles** 63.55 60 P **P** 09 40 00.7 +0.2
O52A **Adamsville** 63.59 58 P **P** 09 40 00.8 +0.1
M54A **Oil Creek Stat** 63.75 56 P 09 40 01.3
baz=316
PLAL **Pickwick Lake** 63.77 66 P **P** 09 40 01.8 -0.1
PLAL IAmb IAmb 09 40 02.3
comp=Z,11nm,0.7s
MMNY **Mt. Morris Dam** 63.77 54 P **P** 09 40 02.1 +0.3
MMNY IAmb IAmb 09 40 02.4
comp=Z,13nm,0.8s
P52A **Corning** 63.78 59 P **P** 09 40 01.9 0.0
P52A IAmb IAmb 09 40 02.4
comp=Z,12nm,0.7s
P52A **Corning** 63.78 59 P 09 40 01.4
baz=316,SNR=5.5
O53A **New Philadelph** 63.83 58 P 09 40 01.3
baz=316
J56A **Wolcott** 63.91 53 P **P** 09 40 02.5 -0.2
J56A **Wolcott** 63.91 53 P 09 40 02.0
baz=316
V48A **Smith Brothers** 63.95 65 P **P** 09 40 03.2 +0.1
V48A IAmb IAmb 09 40 08.9
comp=Z,7.9nm,0.9s
N54A **Moraine State** 63.97 57 P 09 40 02.9
baz=316,SNR=7.0
CLTN **Cedars of Leba** 63.98 64 P **P** 09 40 03.9 +0.6
CLTN IAmb IAmb 09 40 09.6
comp=Z,14nm,0.9s
KIRV **Kirov** 63.98 335 *de* P **P** 09 40 03.5 +0.6
U49A **Red Boiling Sp** 63.99 64 P **P** 09 40 03.4 0.0
U49A IAmb IAmb 09 40 03.8
comp=Z,5.7nm,0.7s
K56A **Middlesex** 64.09 54 P 09 40 04.0
baz=316,SNR=11
KMI **Kunming** 64.14 278 ⇓ P **P** 09 40 04.4 -0.4
KMI pmax pmax
comp=Z,13nm,0.5s
T50A **Nancy** 64.16 63 P **P** 09 40 05.0 +0.5
Q52A **Bidwell** 64.19 59 P **P** 09 40 04.8 +0.2
J57A **Williamstown** 64.24 52 P 09 40 04.4
baz=317
P53A **Whipple** 64.28 59 P **P** 09 40 05.6 +0.3
P53A IAmb IAmb 09 40 06.0
comp=Z,12nm,0.7s
L56A **Greenwood** 64.38 54 P **P** 09 40 06.3 +0.4
L56A **Greenwood** 64.38 54 P 09 40 06.2
baz=317,SNR=12
S51A **Beattyville** 64.41 61 P **P** 09 40 06.5 +0.4
SHLS **Shalkode** 64.50 308 *eP* **P** 09 40 04.9 -2.0

baz=307
SHLS Shalkode 64.50 308 *e*P P 09 40 04.8 -2.0
J58A Remsen 64.63 52 P 09 40 06.4
baz=317
KPKS Kokpek 64.67 308 *e*P P 09 40 07.4 -0.4
baz=308
KPKS Kokpek 64.67 308 *e*P P 09 40 07.4 -0.4
UZB Uzynbulak 64.73 308 *e*P P 09 40 07.6 -0.7
baz=308
UZB Uzynbulak 64.73 308 *e*P P 09 40 07.6 -0.7
X48A Hartselle 64.74 66 P P **09 40 07.8 -0.5**
X48A IAmb IAmb 09 40 08.3
comp=Z,7.4nm,0.6s
G60A Masonville 64.78 49 P 09 40 07.7
baz=318
R53A Hurricane 64.81 60 P P **09 40 09.2 +0.4**
D62A Allapoint, All 64.82 46 P 09 40 07.8
baz=319
SWET Sewanee 64.83 65 P P **09 40 08.7 -0.2**
SWET IAmb IAmb 09 40 09.1
comp=Z,6.3nm,0.6s
Q54A Coxs Mills 64.94 59 P P **09 40 09.9 +0.4**
Q54A IAmb IAmb 09 40 10.2
comp=Z,22nm,1.3s
E62A Clayton Lake 64.95 46 P 09 40 08.7
baz=319
Z47A Carrollton 65.04 68 P P **09 40 10.2 0.0**
SATY Saty 65.10 308 *e*P P 09 40 11.1 +0.4
baz=308
SATY Saty 65.10 308 *e*P P 09 40 11.1 +0.4
BINY Binghamton 65.13 53 P 09 40 10.3
baz=317
W50A Signal Mountai 65.19 64 P P **09 40 11.5 +0.2**
W50A IAmb IAmb 09 40 14.0
comp=Z,11nm,0.7s
CHKK Chushkaly 65.21 310 *e*P P 09 40 10.4 -0.8
baz=310
CHKK Chushkaly 65.21 310 *e*P P 09 40 10.4 -0.8
TZTN Tazewell 65.22 62 P P **09 40 12.1 +0.7**
TZTN Tazewell 65.22 62 P 09 40 11.4
baz=316
V51A Loudon 65.30 63 P P **09 40 12.2 +0.2**
SSPA Standing Stone 65.30 56 P 09 40 11.5
baz=317
L58A Harry Jones Me 65.31 53 P 09 40 12.2
baz=317
CPCT Cooper Cave 65.46 64 P P **09 40 13.1 +0.1**
CPCT IAmb IAmb 09 40 13.9
comp=Z,7.9nm,0.6s
FPAL Fort Paine 65.50 65 P P **09 40 13.0 -0.3**
Y49A Blount Mountai 65.53 66 P P **09 40 13.1 -0.4**
Y49A IAmb IAmb 09 40 14.2
comp=Z,7.7nm,0.6s
G62A West of Eustis 65.54 48 P 09 40 12.3
baz=319
S54A Dingess, Beckl 65.54 60 P P **09 40 14.2 +0.7**
S54A IAmb IAmb 09 40 14.8
comp=Z,18nm,1.0s
E63A Oxbow 65.60 46 P 09 40 12.1
baz=319
L59A Walton 65.61 53 P 09 40 13.5
baz=318
J60A Lant Hill Farm 65.64 51 P 09 40 13.2
baz=318
MDOK Medeo 65.69 309 *e*P P 09 40 13.6 -1.1
baz=309
MDOK Medeo 65.69 309 *e*P P 09 40 13.5 -1.1
V52A Sevierville 65.70 63 P P **09 40 14.8 +0.3**
V52A IAmb IAmb 09 40 20.8
comp=Z,12nm,0.9s
BTLS Baital 65.72 312 *e*P P 09 40 14.6 0.0
baz=312
BTLS Baital 65.72 312 *e*P P 09 40 14.5 0.0
TKL Tuckaleechee C 65.73 63 P P **09 40 15.0 +0.3**
TKL pmax pmax
comp=Z,13nm,0.9s
TKL Tuckaleechee C 65.73 63 P P **09 40 15.0 +0.3**
TKL IAmb IAmb 09 40 20.7
comp=Z,13nm,0.9s
H62A Milan 65.73 49 P 09 40 13.8
baz=319
MTBS Maitube 66.02 309 *e*P P 09 40 16.3 -0.3
baz=309
MTBS Maitube 66.02 309 *e*P P 09 40 16.3 -0.3
W52A Murphy 66.05 63 P P **09 40 17.1 +0.3**
FINES FINESS Array B 66.13 348 P P **09 40 15.3 -1.5**
comp=Z,2.0nm,0.5s,baz=33,slow=7.0,SNR=16
FINES FINESS Array B 66.13 348 *i*P P 09 40 16.3 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.5s
N59A State Game Lan 66.19 54 P 09 40 17.7
baz=318,SNR=6.1
U54A Nelsons Funny 66.19 61 P P **09 40 18.5 +0.7**
V53A Saluda 66.26 62 P P **09 40 18.7 +0.5**
BLA Blacksburg 66.45 60 P P **09 40 20.0 +0.6**
BLA pmax pmax
comp=Z,13nm,0.7s
BLA Blacksburg 66.45 60 P P **09 40 20.0 +0.6**
BLA Blacksburg 66.46 60 P 09 40 19.2
baz=317
LUPA Lehigh Univers 66.62 54 P P **09 40 20.7 +0.3**
BG3 Lake Jocassee 66.69 63 P P **09 40 21.6 +0.7**
Y52A Lilburn 66.87 64 P P **09 40 22.1 0.0**
Y52A IAmb IAmb 09 40 22.8
comp=Z,11nm,0.7s
250A Grady 66.97 67 P P **09 40 22.9 +0.2**
V55A Taylorsville 67.01 61 P P **09 40 23.4 +0.4**
AAK Ala-Archa 67.33 310 P P **09 40 25.1 +0.1**
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 67.33 310 P P **09 40 25.1 +0.1**
AAK IAmb IAmb 09 40 27.2
comp=Z,5.4nm,0.6s
152A Waverly Hall 67.36 66 P P **09 40 24.6 -0.6**
152A IAmb IAmb 09 40 25.1
comp=Z,7.8nm,0.7s
PAULI Pauline 67.44 62 P P **09 40 25.7 +0.1**
PAULI IAmb IAmb 09 40 26.8
comp=Z,9.8nm,0.9s
KMSC Kings Mountain 67.47 62 P P **09 40 26.0 +0.2**
KMSC Kings Mountain 67.47 62 P 09 40 25.7
baz=317,SNR=16
GOGA Godfrey 67.54 64 P P **09 40 26.0 -0.3**
GOGA pmax pmax
comp=Z,16nm,1.0s
GOGA Godfrey 67.54 64 P P **09 40 26.0 -0.3**
GOGA IAmb IAmb 09 40 42.0
comp=Z,16nm,1.0s
GOGA Godfrey 67.54 64 P 09 40 26.0
baz=317,SNR=6.5
HODGE Hodges 67.62 63 P P **09 40 26.6 -0.2**
LSA Lhasa 67.89 290 P P **09 40 29.6 +0.4**
LSA pmax pmax
comp=Z,25nm,0.9s
LSA Lhasa 67.89 290 P P **09 40 29.6 +0.4**
NOA NORSAR Array B 67.94 355 P P **09 40 27.3 -1.2**
comp=Z,1.9nm,0.6s,baz=6.6,slow=6.5,SNR=10.0
JSC Jenkinsville 68.14 62 P P **09 40 30.7 +0.6**
JSC pmax pmax
comp=Z,9.0nm,0.5s
JSC Jenkinsville 68.14 62 P P **09 40 30.7 +0.6**
JSC IAmb IAmb 09 40 30.9
comp=Z,9.2nm,0.5s
T59A Double "B" Far 68.18 58 P P **09 40 30.7 +0.5**
T59A IAmb IAmb 09 40 31.4
comp=Z,9.8nm,0.8s
W57A Gilead 68.20 61 P P **09 40 30.8 +0.3**
BIRD Birdtown, Kers 68.32 62 P P **09 40 31.6 +0.5**
BIRD IAmb IAmb 09 40 32.2
comp=Z,12nm,0.7s
ABKAR Akbulak array 68.38 323 P P **09 40 31.3 -0.1**
KK31 Karatay Array 68.85 313 P P **09 40 34.3 -0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 68.85 313 P P **09 40 34.2 -0.1**
KK31 IAmb IAmb 09 40 34.6
comp=Z,5.1nm,0.6s
KKAR Karatay Array 68.85 313 P P **09 40 34.3 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 68.85 313 P P **09 40 34.1 -0.3**
KKAR Karatay Array 68.85 313 P P **09 40 34.2 -0.1**
KKAR IAmb IAmb 09 40 34.6
comp=Z,5.1nm,0.6s
VSU Vasula 68.90 346⇑*e*P P 09 40 34.7 +0.3
VSU pmax pmax
comp=Z,25nm,0.8s
KSH Kashi 68.97 307 P P **09 40 39.0 +3.7**
KSH S S 09 49 43.8 +3.9
KSH Kashi 68.97 307 SS SS 09 54 12.2 +7.7
KSH pmax pmax
comp=Z,7.0nm,0.4s
KSH pmax pmax
comp=Z,810nm,11.4s
KSH L L
comp=Z,2μm,18.9s
KSH L L
comp=Z,1μm,14.2s
KSH L L
comp=Z,650nm,10.9s
OBN Obninsk 70.25 340⇓*e*P P 09 40 43.6 +0.8
OBN *e* 09 43 19.5
OBN pmax pmax
comp=Z,14nm,0.4s
CMAR Chiang Mai Arr 71.42 276 P P **09 40 50.2 -0.3**
comp=Z,1.7nm,0.4s,baz=16,slow=7.4,SNR=13
CMAR Chiang Mai Arr 71.42 276 *i*P P 09 40 50.5 0.0
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 71.42 276 P P **09 40 50.8 +0.3**
TAPN Taplejung 71.66 291 *e*P P 09 40 53.9 +1.7
comp=Z,71nm,0.7s
ODAN Odare 72.21 291 *e*P P 09 40 56.9 +1.4
GUN Gumba 72.31 292 *e*P P 09 40 57.3 +1.1
comp=Z,124nm,0.5s
JIRN Jiri 72.32 292 *e*P P 09 40 57.8 +1.6
comp=Z,134nm,0.8s
RAMN Ramite 72.61 291 *e*P P 09 40 58.8 +1.0
comp=Z,85nm,0.6s
KKN Kakani 72.75 293 *e*P P 09 40 59.7 +1.1
PKI Pulchoki 72.84 293 *e*P P 09 41 00.0 +0.7
comp=Z,47nm,0.7s
PKIN Phulchoki 72.84 293 *e*P P 09 40 59.8 +0.6
comp=Z,24nm,0.5s
GKN Gorkha 72.96 293 *e*P P 09 41 00.6 +0.8
DMN Daman 72.99 293 *e*P P 09 41 01.4 +1.3
DANN Dangsing 73.21 294 *e*P P 09 41 02.4 +1.0
comp=Z,138nm,0.8s
KOLN Koldanda 73.74 294 *e*P P 09 41 05.2 +0.8
ESK Eskdalemuir 73.86 3 P P **09 41 04.4 0.0**
ESK pmax pmax
comp=Z,16nm,1.3s
ESK Eskdalemuir 73.86 3 P P **09 41 04.4 0.0**
ESK IAmb IAmb 09 41 08.3
comp=Z,16nm,1.2s
NIL Nilore 74.88 305 P P **09 41 10.4 -0.4**
NIL pmax pmax
comp=Z,13nm,0.6s
NIL Nilore 74.88 305 P P **09 41 10.4 -0.4**
NIL IAmb IAmb 09 41 12.0
comp=Z,13nm,0.6s
AKASG Malin Array Be 75.92 342 P P **09 41 15.6 -0.8**
comp=Z,6.7nm,0.5s,baz=21,slow=5.8,SNR=36
AKASG Malin Array Be 75.92 342 *i*P P 09 41 15.8 -0.6
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 75.92 342 P P **09 41 15.9 -0.5**
AKBB Malin Array Si 75.92 342 P P **09 41 15.8 -0.6**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 75.92 342 P P **09 41 15.8 -0.6**
AKBB IAmb IAmb 09 41 17.0
comp=Z,10.0nm,0.8s
KBL Kabul 76.30 308 P P **09 41 17.9 -1.3**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 76.30 308 P P **09 41 17.9 -1.3**
KBL IAmb IAmb 09 41 19.2
comp=Z,8.0nm,0.6s
GOF Gofitskoye 77.78 331⇑*e*P P 09 41 27.9 +0.9
GOF pmax pmax
comp=Z,54nm,1.0s
DPC Dobruska-Polom 78.16 351 *e*P P 09 41 27.8 -1.3
DPC Dobruska-Polom 78.16 351 *e*P P 09 41 27.8 -1.3
KRLC Kraliky 78.39 350 *e*P P 09 41 30.3 -0.1
KRLC Kraliky 78.39 350 *e*P P 09 41 30.3 -0.1
GYA0B ALIBECK ARRAY 78.54 318 P P **09 41 31.6 +0.1**
GYA0B IAmb IAmb 09 41 33.9
comp=Z,6.9nm,0.6s
SORM Soroca 78.54 342⇑P P 09 41 30.5 -0.6
SORM Soroca 78.54 342⇑P P 09 41 30.5 -0.6
KOLS Kolonicke sedl 78.81 346 *e*P P 09 41 33.1 +0.5
KOLS Kolonicke sedl 78.81 346 *e*P P 09 41 33.1 +0.5
KIV Kislovodsk 78.89 331 *e*P P 09 41 33.4 +0.1
KIV pmax pmax
comp=Z,46nm,1.0s
CRVS Cervenica-Dubn 78.95 347 *e*P P 09 41 34.0 +0.5
CRVS Cervenica-Dubn 78.95 347 *e*P P 09 41 34.0 +0.5
LANS Liptovska Anna 78.98 348 *e*P P 09 41 34.4 +0.8
LANS Liptovska Anna 78.98 348 *e*P P 09 41 34.4 +0.8
KBZ Khabaz 79.03 331 P P **09 41 33.6 -0.3**
comp=Z,7.1nm,0.8s,baz=64,slow=3.8,SNR=18
KBZ Khabaz 79.03 331⇓*e*P P 09 41 34.4 +0.5
KBZ pmax pmax
comp=Z,9.0nm,0.8s
VRAC Vranov 79.16 350 *e*P P 09 41 34.2 -0.4
AKT Akhty 79.47 327 *e*P P 09 41 36.4 -0.1
AKT *e* 09 41 43.8
AKT *e* 09 44 35.2
AKT pmax pmax
comp=Z,12nm,0.7s
BUR08 Bucovina Ar. S 79.59 344 P P **09 41 37.2 +0.2**
BUR08 IAmb IAmb 09 41 37.9
comp=Z,8.6nm,0.8s
BURAR Bucovina Array 79.61 344⇑P P 09 41 37.1 -0.1
BURAR Bucovina Array 79.61 344⇑P P 09 41 37.1 -0.1
BURAR Bucovina Array 79.61 344 P P **09 41 37.4 +0.2**
BURAR IAmb IAmb 09 41 38.3
comp=Z,8.8nm,0.7s
KHC Kasperske Hory 79.63 352 *e*P P 09 41 37.1 -0.1
KHC Kasperske Hory 79.63 352 *e*P P 09 41 37.1 -0.1
LGD Lagodekhi 79.66 328 P P **09 41 37.9 +0.5**
VYHS Vyhne 79.70 349 *e*P P 09 41 37.8 +0.2
VYHS Vyhne 79.70 349 *e*P P 09 41 37.8 +0.2
GERES GERESS Array B 79.90 352 P P **09 41 37.9 -0.8**
comp=Z,1.9nm,0.8s,baz=36,slow=5.0,SNR=10
GERES GERESS Array B 79.90 352 P P **09 41 37.4 -1.4**
MODS Modra-Piesok 80.01 350 *e*P P 09 41 37.9 -1.3
MODS Modra-Piesok 80.01 350 *e*P P 09 41 37.9 -1.3
DDFL Dedoflistskaro 80.05 328 P P **09 41 43.0 +3.4**
BIZ Bicaz 80.11 343 P P **09 41 40.2 +0.4**
ARCR ARCALIA 80.27 345 P P **09 41 41.5 +0.8**
TESR Tescani 80.42 343 P P **09 41 41.9 +0.4**
CONA Conrad Observa 80.60 350 *i*P P 09 41 42.6 +0.1
comp=Z,3.1nm,0.7s
DRGR 80.83 346 P P **09 41 43.2 -0.5**
DRGR 80.83 346 P P **09 41 43.2 -0.5**
AKH Akhalkalaki 80.94 330 P P **09 41 44.9 +0.4**
AKH Akhalkalaki 80.94 330 P P **09 41 45.7 +1.1**
VRI Vrincioaia 81.03 343 P P **09 41 44.6 -0.2**
VRI Vrincioaia 81.03 343 P P **09 41 44.6 -0.2**
PLOR Plostina 81.06 343 P P **09 41 45.0 +0.1**
PLOR Plostina 81.06 343 P P **09 41 45.0 +0.1**
DOPR Dopca 81.18 344 P P **09 41 47.1 +1.6**
TLCR 81.27 341 P P **09 41 45.3 -0.7**
TLCR 81.27 341 P P **09 41 45.3 -0.7**
ARSA Arzberg 81.31 351 *e*P P **09 41 46.5 +0.2**
comp=Z,2.0nm,0.6s
CFR Carcaliu 81.42 342 P P **09 41 45.4 -1.3**
CFR Carcaliu 81.42 342 P P **09 41 45.4 -1.3**
SIRR Siria 81.50 346 P P **09 41 47.8 +0.5**
MLR Muntele Rosu 81.54 343 P P **09 41 49.2 +1.6**
MLR Muntele Rosu 81.54 343 P P **09 41 49.2 +1.6**
WATA Walderalm 81.57 353 *e*P P **09 41 47.1 -0.7**
comp=Z,4.2nm,0.5s
MOTA Moosalm 81.60 354 *e*P P **09 41 46.9 -1.0**
comp=Z,9.7nm,1.2s
WTTA Wattenberg 81.64 353 *e*P P **09 41 47.2 -1.0**
comp=Z,4.3nm,0.6s
TPGR Tzotlog 81.67 341 P P **09 41 48.0 -0.2**
KBA Koelnbreinsper 81.69 352 *e*P P **09 41 48.4 0.0**
comp=Z,13nm,0.7s
VOIR 81.75 344 P P **09 41 49.1 +0.4**
VOIR 81.75 344 P P **09 41 49.1 +0.4**
ARR Arges 81.89 344 P P **09 41 49.6 +0.2**
SOKA Soboth 81.92 351 *e*P P **09 41 49.7 +0.2**
comp=Z,10nm,1.0s
FETA Feichten 81.94 354 *e*P P **09 41 48.6 -1.2**
comp=Z,5.5nm,1.1s
MORH Mrgy, Hungar 81.97 348 ⇑P P **09 41 49.6 0.0**
TLBR Topalu 82.05 341 ⇑P P **09 41 46.5 -3.6**
TIRR Tirgusor 82.05 341 ⇑P P **09 41 49.7 -0.4**
TIRR Tirgusor 82.05 341 ⇑P P **09 41 49.7 -0.4**
WRAB Tennant Creek 82.08 224 *de*P P **09 41 50.4 0.0**
WRAB pmax pmax
comp=Z,10.0nm,1.7s
ABTA Abfaltersbach 82.08 353 *e*P P **09 41 49.6 -0.8**
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 82.09 224 P P **09 41 49.8 -0.7**
comp=Z,1.6nm,0.6s,baz=32,slow=5.8,SNR=23
MYKA Terra Mystica 82.10 352 *i*P P **09 41 49.5 -1.0**
comp=Z,4.6nm,0.9s
OBKA Obir 82.14 351 *e*P P **09 41 50.0 -0.7**
comp=Z,4.0nm,0.5s
BZS Buzias 82.14 346 ⇓P P **09 41 50.8 +0.2**
BZS Buzias 82.14 346 ⇓P P **09 41 50.8 +0.2**
GZR Gura Zlata 82.18 345 ⇑P P **09 41 50.5 -0.4**
GZR Gura Zlata 82.18 345 ⇑P P **09 41 50.5 -0.4**
HERR Herculane 82.73 345 ⇑P P **09 41 53.0 -0.7**
TEOL Teolo 83.53 353 P P **09 41 58.3 +0.5**
BLY Banja Luka 83.59 349 *e*P P **09 41 58.0 -0.1**
DIVS Divibare 83.86 347 P P **09 41 59.6 -0.1**
DIVS IAmb IAmb 09 42 00.3
comp=Z,15nm,1.1s
HAPS Han Pijesak,Bl 84.02 348 *e*P P **09 41 59.3 -1.2**
BBLS Lazići 84.17 347⇑*i*P P **09 42 01.3 +0.1**
RUDO Rudo 84.42 347 *e*P P **09 42 01.4 -1.0**
FITZ Fitzroy Crossi 84.60 233 P P **09 42 04.5 +1.1**
FITZ IAmb IAmb 09 42 05.1
comp=Z,7.1nm,0.6s
MSSA Maissana 84.72 354 P P **09 42 03.1 -0.9**
MSSA IAmb IAmb 09 42 05.0
comp=Z,6.5nm,0.7s
VTS Vitosha 84.80 344 ⇑P P **09 42 02.6 -1.9**
VTS Vitosha 84.80 344 P P **09 42 04.5 0.0**
VTS pmax pmax
comp=Z,9.0nm,0.7s
VTS Vitosha 84.80 344 P P **09 42 04.5 0.0**
VTS IAmb IAmb 09 42 05.0
comp=Z,9.4nm,0.7s
UPM Unac-Piva 84.89 348 *e*P P **09 42 03.9 -1.1**
BRY Bratogost 85.24 348 *e*P P **09 42 05.7 -1.0**
MALT Malatya 85.34 332 P P **09 42 08.5 +1.3**
BR131 Keskin Array S 85.35 336 P P **09 42 07.0 -0.3**
BR131 pmax pmax
comp=Z,12nm,0.8s
BR131 Keskin Array S 85.35 336 P P **09 42 07.0 -0.3**
BRTR Keskin Array B 85.35 336 P P **09 42 06.7 -0.6**
comp=Z,7.0nm,0.8s,baz=50,slow=2.6,SNR=33
BRTR Keskin Array B 85.35 336 *i*P P **09 42 07.1 -0.3**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 85.35 336 P P **09 42 06.9 -0.3**
STON Ston 85.38 348⇑*i*P P **09 42 04.9 -2.3**
OSSC Osservatorio P 85.39 353 P P **09 42 06.6 -0.7**
TREB Trebinje 85.45 348 *e*P P **09 42 06.6 -1.0**
MURB Monte Urbino 85.54 352 P P **09 42 07.7 -0.5**
ASAR Alice Springs 85.55 223 P P **09 42 07.8 -0.4**
comp=Z,3.7nm,0.7s,baz=24,slow=5.6,SNR=59
ASAR Alice Springs 85.55 223 P P **09 42 08.4 +0.2**
ASAR Alice Springs 85.55 223 P P **09 42 08.4 +0.2**
PDG Podgorica 85.60 347 ⇑P P **09 42 07.7 -0.6**
PDG Podgorica 85.60 347 *e*P P **09 42 07.7 -0.6**
PDG Podgorica 85.60 347 P P **09 42 07.6 -0.7**
HCY Herceg Novi 85.69 348 *e*P P **09 42 07.7 -1.1**
DRME Dracevica, Mon 85.85 347 *e*P P **09 42 08.9 -0.7**
NRCA Norcia 85.92 352 P P **09 42 09.7 -0.3**
ALN Alexandroupoli 85.95 342 P P **09 42 12.6 +2.5**
TIP Timpagrande 89.14 348 ⇑P P **09 42 24.9 -0.7**
TIP Timpagrande 89.14 348 P P **09 42 25.0 -0.6**
ESDC Sonseca Array 89.45 4 P P **09 42 25.2 -1.8**
comp=Z,1.8nm,0.6s,baz=350,slow=3.8,SNR=9.8
ESDC Sonseca Array 89.45 4 P P **09 42 25.7 -1.3**
ESDC IAmb IAmb 09 42 26.8
comp=Z,6.6nm,1.4s
STKA Stephens Creek 89.91 213 P P **09 42 29.1 +0.2**
comp=Z,4.3nm,0.6s,baz=354,slow=5.8,SNR=17
TORD Torodi Ar. Bea 116.01 0 PKP **PKiKP 09 48 12.2 -1.1**
comp=Z,0.7nm,0.5s,baz=356,slow=2.4,SNR=6.9
TORD Torodi Ar. Bea 116.01 0 **PKiKP 09 48 12.4 -0.9**
H03N2 Juan Fernandez 120.70 106 T T 12 00 50.5
baz=317,slow=77,SNR=35
H03N1 Juan Fernandez 120.72 106 T T 12 00 54.5
baz=317,slow=77,SNR=27
H03N3 Juan Fernandez 120.72 106 T T 12 00 55.2
baz=317,slow=77,SNR=38
DBIC Dimbokro 122.16 8 PKP **PKPdf 09 48 24.4 -0.8**
comp=Z,3.3nm,0.4s,baz=31,slow=1.2,SNR=12
DBIC Dimbokro 122.16 8 PKIKP **PKPdf 09 48 24.5 -0.6**
DBIC Dimbokro 122.16 8 **PKPdf 09 48 24.5 -0.6**
PLCA Paso Flores 130.52 108 PKP **PKPdf 09 48 40.4 0.0**
comp=Z,1.4nm,0.7s,baz=282,slow=4.2,SNR=2.8
MAW Mawson 146.51 217 PKPbc **PKPdf 09 49 10.0 +1.5**
comp=Z,8.9nm,0.9s,baz=62,slow=1.7,SNR=12
MAW Mawson 146.51 217 PKP2 **PKPdf 09 49 10.0 +1.5**
BOSA Boshof 151.44 313 PKPbc **PKPbc 09 49 23.4 -0.6**
comp=Z,9.4nm,0.6s,baz=23,slow=2.3,SNR=34
BOSA PKPab **PKPab 09 49 31.9 -0.4**
comp=Z,3.8nm,0.5s,baz=352,slow=1.3,SNR=5.4
BOSA Boshof 151.44 313 **PKPbc 09 49 24.2 +0.2**

*IDC **10** 09:32:22.9±2.6, 53°.57N×87°.67E, h0km, mb1 3.2/2, mb1mx3.1/40, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=22.1km s-min=14.5km az=63.0*
*NNC **10** 09:32:23.4±3.1, 53°.43N×87°.70E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=26.5km s-min=13.6km az=61.0, Suspected Mining explosion.*

ISC 10 09:32:24.4±3.6, 53°.5N±0°.1×87°.6E±0°.2, h0km, n7, σ1s 19/11, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**285**	*i*				09 43 30.3	
	baz=100,slow=309,SNR=3.0								
ZAA0	**Zalesovo Array**	**1.69**	**285**	⇑Pn		**Pn**		**09 32 54.8**	**-0.3**
	0.5nm,0.3s								
ZAA0				⇓Sn		**Sb**		**09 33 20.3**	**+2.2**
	6.3nm,0.8s								
ZALV	**Zalesovo Beam**	**1.69**	**285**	Pn		**Pn**		**09 32 54.2**	**-0.9**
	2.5nm,0.3s,baz=100,slow=16,SNR=16								
ZALV				Lg		Lg		09 33 18.0	
	3.8nm,0.3s,baz=98,slow=28,SNR=14								
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn		**Pn**		**09 33 58.7**	**+0.3**
	0.1nm,0.3s,baz=62,slow=14,SNR=9.1								
KURBB				Sn		**Sn**		**09 35 09.5**	**-1.5**
	0.0nm,0.3s,baz=47,slow=15,SNR=2.9								
KURBB				Lg		Lg		09 35 44.4	
	0.1nm,0.3s,baz=60,slow=33,SNR=4.7								
KURBB	**Kurchatov Arra**	**6.30**	**246**	⇑Pn		**Pn**		**09 33 58.6**	**+0.2**
	2.5nm,0.7s								
KURBB				⇓Sn		**Sn**		**09 35 09.4**	**-1.6**
	2.7nm,0.6s								
KURBB				⇑Lg		Lg		09 35 42.1	
	12nm,0.7s								
MK31	**Makanchi Array**	**7.56**	**209**	⇓Pn		**Pn**		**09 34 16.0**	**+0.2**
	0.3nm,0.4s,baz=28,slow=14,SNR=16								
MK31				⇑Sn		**Sn**		**09 35 41.4**	**-0.8**
	1.6nm,0.9s,baz=34,slow=25,SNR=4.1								
MK31				⇓Lg		Lg		09 36 23.1	
	3.3nm,1.0s,baz=31,slow=30,SNR=6.2								
MKAR	**Makanchi Array**	**7.56**	**209**	Pn		**Pn**		**09 34 16.1**	**+0.3**
	0.4nm,0.3s,baz=28,slow=13,SNR=16								
MKAR				Sn		**Sn**		**09 35 42.2**	**0.0**
	0.2nm,0.3s,baz=25,slow=17,SNR=5.5								
MKAR				Lg		Lg		09 36 23.4	
	0.1nm,0.3s,baz=24,slow=32,SNR=8.3								

IDC 10 09:42:57.2±1.8, 12°.99N×146°.33E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, MS4.0/4, Ms1 4.0/4, ms1mx3.3/47, Error ellipse: s-maj=49.3km s-min=32.3km az=97.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**14.56**	**345**	LR	LR	LR	09 51 17.3	
	comp=Z,161nm,18.0s,baz=148,slow=34							
KSRS	**Korea Array**	**29.39**	**329**	P		P	09 49 01.9	-0.3
	0.3nm,0.3s,baz=144,slow=8.9,SNR=1.4							
WRA	**Warramunga Arr**	**34.79**	**200**	P		P	09 49 49.7	-0.1
	0.4nm,0.8s,baz=25,slow=9.2,SNR=2.0							
CMAR	**Chiang Mai Arr**	**45.83**	**283**	P		P	09 51 20.8	-0.6
	1.1nm,0.4s,baz=82,slow=6.6,SNR=1.4							

MKAR	**Makanchi Array**	**62.90**	**316**	P	P	09 53 25.9	+0.6
	0.9nm,0.6s,baz=101,slow=6.8,SNR=8.4						
RAR	**Rarotonga**	**62.90**	**122**	LR	LR	10 16 14.6	
	comp=Z,109nm,21.6s,baz=286,slow=32						
ILAR	**Eielson Array**	**68.50**	**25**	P	P	09 54 01.1	-0.1
	0.3nm,0.6s,baz=264,slow=5.8,SNR=2.4						
ARU	**Arti**	**78.06**	**325**	LR	LR	10 30 55.6	
	comp=Z,91nm,18.2s,baz=200,slow=37						
MAW	**Mawson**	**99.42**	**203**	LR	LR	10 43 30.3	
	comp=Z,209nm,18.1s,baz=250,slow=36						

SOME ***10*** *09:55:55.8,40˚.18N×77˚.28E,h5km*
KRNET ***10*** *09:55:55.2±0.1,40˚.06N×77˚.92E,mb2.8*
NNC ***10*** *09:55:57.4±1.0,40˚.21N×77˚.32E,h0km,mb3.5,mpv3.3,*
Error ellipse: s-maj=6.9km s-min=5.1km az=176.0
ISC 10 09:55:54.3±2.5,**40˚.0N**±0.1×**77˚.27E**±0.05,**h10**km,**n36,**
σ1§46/55,11C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
TARG	**Taragay, Kyrgy**	**1.83**	**13**	⇑	*iP*	**Pn**	**09 56 25.4 -0.8**
	baz=57						
TARG				⇑	*iS*	**Sn**	**09 56 47.4 -2.2**
	baz=57						
KDJ	**Kajisay**	**2.18**	**358**	⇓	*iP*	**Pn**	**09 56 31.8 +0.9**
	baz=45						
KDJ				⇓	*iS*	**Sn**	**09 56 58.6 +0.6**
	baz=45						
ULHL	**Ulahol**	**2.42**	**342**	⇑	*eP*	**Pb**	**09 56 37.2 -0.9**
	baz=30						
ULHL				⇑	*iS*	**Sb**	**09 57 08.1 -0.1**
	baz=30						
BOOM	**Boomskoye usch**	**2.73**	**339**	⇑	*eP*	**Pb**	**09 56 41.7 -1.7**
	baz=29						
BOOM				⇑	*iS*	**Sb**	**09 57 15.9 -1.1**
	baz=29						
ANVS	**Anan'yevo**	**2.85**	**6**	⇑	*iP*	**Pn**	**09 56 40.8 +0.8**
	baz=56						
ANVS				⇑	*iS*	**Sn**	**09 57 13.2 -1.3**
	baz=56						
ARLS	**Aral**	**2.94**	**312**	⇓	*iP*	**Pb**	**09 56 47.5 +0.6**
	baz=5.0						
ARLS				⇓	*iS*	**Sb**	**09 57 25.7 +2.8**
	baz=5.0						
IZV	**Izvestkoviy**	**3.13**	**351**		*eP*	**Pb**	**09 56 50.5 +0.4**
	5.8nm,0.3s						
IZV					*eS*	**Sb**	**09 57 29.4 +1.1**
	39nm,0.4s						
IZV	**Izvestkoviy**	**3.13**	**351**		Pg	**Pb**	**09 56 50.5 +0.4**
	5.8nm,0.3s						
IZV					Lg	Lg	09 57 29.4
	39nm,0.4s						
MDOK	**Medeo**	**3.22**	**357**		*eP*	**Pb**	**09 56 51.5 -0.2**
	4.8nm,0.4s						
MDOK					*eS*	**Sb**	**09 57 31.3 +0.4**
	42nm,0.5s						
MDOK	**Medeo**	**3.22**	**357**		Pg	**Pb**	**09 56 51.5 -0.2**
	6.0nm,0.5s						
MDOK					Lg	Lg	09 57 31.5
	17nm,0.6s						
MDOK	**Medeo**	**3.22**	**357**		Pg	**Pb**	**09 56 51.5 -0.2**
	4.8nm,0.4s						
MDOK					Lg	Lg	09 57 31.3
	42nm,0.5s						
SATY	**Saty**	**3.23**	**15**		*eP*	**Pb**	**09 56 52.0 +0.3**
	7.2nm,0.4s						
SATY					*eS*	**Sb**	**09 57 31.8 +0.6**
	26nm,0.3s						
SATY	**Saty**	**3.23**	**15**		Pg	**Pb**	**09 56 52.0 +0.3**
	7.2nm,0.4s						
SATY					Lg	Lg	09 57 32.2
	26nm,0.3s						
TKM2	**Tokmak 2**	**3.23**	**338**	⇓	Pg	**Pb**	**09 56 51.4 -0.4**
	2.2nm,0.6s						
TKM2				⇑	Lg	Lg	09 57 32.9
	9.4nm,0.8s						
MTBS	**Maitube**	**3.24**	**349**		*eP*	**Pb**	**09 56 52.5 +0.5**
	2.3nm,0.1s						
MTBS					*eS*	**Sb**	**09 57 32.8 +1.2**
	8.9nm,0.2s						
MTBS	**Maitube**	**3.24**	**349**		Pg	**Pb**	**09 56 52.5 +0.5**
	2.3nm,0.1s						
MTBS					Lg	Lg	09 57 32.8
	8.9nm,0.2s						
KST	**Kastek**	**3.25**	**343**		*eP*	**Pb**	**09 56 52.7 +0.6**
	3.3nm,0.3s						
KST					*eS*	**Sb**	**09 57 33.2 +1.5**
	12nm,0.5s						
KST	**Kastek**	**3.25**	**343**		Pg	**Pb**	**09 56 52.7 +0.6**
	3.3nm,0.3s						
KST					Lg	Lg	09 57 33.2
	12nm,0.5s						
AAK	**Ala-Archa**	**3.41**	**323**	⇑	Pg	**Pb**	**09 56 55.7 +0.9**
	1.7nm,0.6s						
AAK				⇓	Lg	Lg	09 57 39.9
	8.6nm,0.6s						
UZB	**Uzynbulak**	**3.46**	**22**		*eP*	**Pb**	**09 56 57.2 +1.5**
	1.4nm,0.2s						
UZB					*eS*	**Sb**	**09 57 41.1 +3.3**
	13nm,0.7s						
UZB	**Uzynbulak**	**3.46**	**22**		Pg	**Pb**	**09 56 57.2 +1.5**
	1.4nm,0.2s						
UZB					Lg	Lg	09 57 41.1
	13nm,0.7s						
DGS	**Degeres**	**3.48**	**342**		*eP*	**Pb**	**09 56 56.8 +0.7**
	2.5nm,0.3s						
DGS					*eS*	**Sb**	**09 57 40.4 +2.0**
	11nm,0.6s						
DGS	**Degeres**	**3.48**	**342**		Pg	**Pb**	**09 56 56.8 +0.7**
	2.5nm,0.3s						
DGS					Lg	Lg	09 57 40.4
	11nm,0.6s						
SHLS	**Shalkode**	**3.61**	**26**		*eP*	**Pg**	**09 57 01.5 -1.8**
	4.7nm,0.2s						
SHLS					*eS*	**Sg**	**09 57 48.5 -1.6**
	24nm,0.2s						
SHLS	**Shalkode**	**3.61**	**26**		Pg	**Pg**	**09 57 01.5 -1.8**
	4.7nm,0.2s						
SHLS					Lg	Lg	09 57 48.4
	24nm,0.2s						
KPKS	**Kokpek**	**3.67**	**16**		*eP*	**Pb**	**09 56 59.7 +0.4**
	8.1nm,0.2s						
KPKS					*eS*	**Sb**	**09 57 45.2 +1.2**
	32nm,0.4s						
PDGK	**Podgornoye**	**3.77**	**25**		Pg	**Pb**	**09 57 01.2 +0.3**
	1.2nm,0.4s						
PDGK					Lg	Lg	09 57 47.8
	7.4nm,0.5s						
PDGK	**Podgornoye**	**3.77**	**25**	⇑	Pg	**Pb**	**09 56 59.8 -1.2**
	3.2nm,0.6s						
PDGK				⇓	Lg	Lg	09 57 47.4
	13nm,0.6s						
KTBS	**Karatobe**	**3.79**	**354**		*eP*	**Pb**	**09 57 01.9 +0.6**
	0.9nm,0.2s						
KTBS					*eS*	**Sb**	**09 57 48.9 +1.6**
	25nm,0.4s						
KTBS	**Karatobe**	**3.79**	**354**		Pg	**Pb**	**09 57 01.9 +0.6**
	0.9nm,0.2s						
KTBS					Lg	Lg	09 57 48.8
	25nm,0.4s						
CHKK	**Chushkaly**	**3.91**	**357**		*eP*	**Pb**	**09 57 04.8 +1.5**
	1.6nm,0.1s						
CHKK					*eS*	**Sb**	**09 57 54.2 +3.4**
	20nm,0.4s						
CHKK	**Chushkaly**	**3.91**	**357**		Pg	**Pb**	**09 57 04.8 +1.5**
	1.6nm,0.1s						
CHKK					Lg	Lg	09 57 54.2
	20nm,0.4s						
ARXS	**Arharly**	**4.28**	**5**		*eP*	**Pb**	**09 57 11.0 +1.3**
	3.5nm,0.3s						
ARXS					*eS*	**Sb**	**09 58 04.8 +3.3**
	15nm,0.4s						
ARXS	**Arharly**	**4.28**	**5**		Pg	**Pb**	**09 57 11.0 +1.3**
	3.5nm,0.3s						
ARXS					Lg	Lg	09 58 04.9
	15nm,0.4s						
DJR	**Jarkent**	**4.77**	**22**		*eP*	**Pb**	**09 57 19.2 +1.2**
	0.5nm,0.1s						
DJR					*eS*	**Sb**	**09 58 18.8 +3.4**
	7.0nm,0.3s						
DJR	**Jarkent**	**4.77**	**22**		Pg	**Pb**	**09 57 19.2 +1.2**
	0.5nm,0.1s						
DJR					Lg	Lg	09 58 18.8
	7.0nm,0.3s						

SOME ***10*** *10:07:28.5,39˚.75N×73˚.83E,h10km*
KRNET ***10*** *10:07:28.2±0.1,39˚.63N×73˚.89E,h13km,mb3.8*
ISU ***10*** *10:07:30,39˚.73N×73˚.83E,h5km*
NNC ***10*** *10:07:31.6±0.8,39˚.80N×73˚.96E,h0km,mb4.1,mpv3.8,*
Error ellipse: s-maj=6.0km s-min=3.2km az=176.0
ISC 10 10:07:26.9±1.4,**39˚.68N**±0˚.04×**74˚.11E**±0˚.02,**h5**km±10km,
n70,σ1§48/113,42C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
SFK	**Sufi-Kurgan**	**0.57**	**306**	⇓	*iP*	**Pg**	**10 07 38.1 +0.1**
	baz=22						
SFK				⇓	*iS*	**Sg**	**10 07 45.0 -0.4**
	baz=22						
OHH	**Osh**	**1.32**	**310**	⇓	*iP*	**Pn**	**10 07 51.7 -0.4**
	baz=17						
OHH				⇓	*iS*	**Sg**	**10 08 09.2 -0.1**
	baz=17						
KSH	**Kashi**	**1.45**	**96**		Pg	**Pn**	**10 07 53.0 -1.0**
KSH					Sg	**Sb**	**10 08 11.8 -1.6**
KSH					SMN		
	330nm,0.3s						
KSH					SME		
	200nm,0.4s						
DRK	**Karamyk**	**1.79**	**264**	⇑	*iP*	**Pn**	**10 07 58.9 +0.1**
	baz=66						
DRK				⇑	*eS*	**Sn**	**10 08 20.8 -1.3**
	baz=66						
ARSB	**Arslanbob**	**1.85**	**333**	⇑	*iP*	**Pb**	**10 08 01.9 +0.6**
	baz=38						
ARSB				⇑	*iS*	**Sg**	**10 08 27.4 +0.9**
	baz=38						
ARSB	**Arslanbob**	**1.85**	**333**		*eP*	**Pb**	**10 08 02.0 +0.6**
ARSB					*eS*	**Sg**	**10 08 28.0 +1.5**
FRG	**Fergana**	**2.07**	**301**		*iP*	**Pn**	**10 08 02.0 -0.4**
FRG					*eS*	**Sn**	**10 08 26.0 -2.5**
ARLS	**Aral**	**2.19**	**4**	⇑	*iP*	**Pg**	**10 08 08.3 -0.5**
	baz=8.0						
ARLS				⇑	*iS*	**Sg**	**10 08 38.2 +1.0**
	baz=8.0						
AML	**Almayashu**	**2.47**	**353**	⇑	*iP*	**Pb**	**10 08 12.5 +0.4**
	baz=57						
AML				⇑	*iS*	**Sg**	**10 08 45.1 -1.2**
	baz=57						
AML	**Almayashu**	**2.47**	**353**		P	**Pg**	**10 08 13.4 -0.9**
	SNR=34						
BTK	**Batken**	**2.56**	**280**	⇑	*eP*	**Pn**	**10 08 10.9 +1.7**
	baz=81						
BTK				⇑	*iS*	**Sn**	**10 08 42.1 +1.4**
	baz=81						
BTK	**Batken**	**2.56**	**280**		*iP*	**Pb**	**10 08 13.0 -0.4**
BTK					*eS*	**Sb**	**10 08 47.0 +1.8**
TRKS	**Terek-Say**	**2.92**	**310**	⇑	*eP*	**Pn**	**10 08 15.8 +1.6**
	baz=12						
TRKS				⇑	*iS*	**Sn**	**10 08 51.1 +1.4**
	baz=12						
AAK	**Ala-Archa**	**2.97**	**6**	⇑	*iP*	**Pb**	**10 08 19.7 -0.7**
	baz=8.0						
AAK				⇑	*iS*	**Sb**	**10 08 57.3 +0.2**
	baz=8.0						
AAK	**Ala-Archa**	**2.97**	**6**		P	**Pb**	**10 08 19.5 -0.9**
	SNR=18						
AAK	**Ala-Archa**	**2.97**	**6**	⇑	Pg	**Pg**	**10 08 23.7 -0.2**
	16nm,0.5s						
AAK				⇑	Lg	Lg	10 09 04.0
	72nm,0.6s						
EKS2	**Erkin-Say**	**2.99**	**355**	⇓	*iP*	**Pb**	**10 08 19.9 -0.9**
	baz=58						
EKS2				⇓	*iS*	**Sb**	**10 08 57.1 -0.5**
	baz=58						
EKS2	**Erkin-Say**	**2.99**	**355**		P	**Pb**	**10 08 22.0 +1.3**
	SNR=8.1						
GAR	**Garm**	**3.02**	**258**	⇓	*iP*	**Pn**	**10 08 16.9 +1.4**
	baz=58						
GAR				⇓	*eS*	**Sn**	**10 08 52.5 +0.5**
	baz=58						
ULHL	**Ulahol**	**3.03**	**32**	⇑	*eP*	**Pb**	**10 08 21.7 +0.2**
	baz=33						
ULHL				⇑	*iS*	**Sb**	**10 09 00.5 +1.6**
	baz=33						
ULHL	**Ulahol**	**3.03**	**32**		P	**Pg**	**10 08 26.5 +1.5**
	SNR=7.3						
KBK	**Karagaybulak**	**3.04**	**12**	⇑	*eP*	**Pb**	**10 08 21.2 -0.5**
	baz=14						
KBK				⇑	*eS*	**Sb**	**10 08 59.8 +0.6**
	baz=14						
KBK	**Karagaybulak**	**3.04**	**12**		P	**Pg**	**10 08 23.8 -1.5**
	SNR=21						
MNAS	**Manas**	**3.06**	**337**	⇑	*iP*	**Pb**	**10 08 19.8 -2.1**
	baz=40						
MNAS				⇑	*iS*	**Sb**	**10 08 57.5 -2.0**
	baz=40						
BOOM	**Boomskoye usch**	**3.13**	**26**	⇑	*iP*	**Pb**	**10 08 22.5 -0.7**
	baz=28						
BOOM				⇑	*iS*	**Sb**	**10 09 02.3 +0.5**
	baz=28						
MRKS	**Merke**	**3.13**	**348**		*eP*	**Pg**	**10 08 25.8 -1.2**
	16nm,0.3s						
MRKS					*eS*	**Sg**	**10 09 06.2 -1.4**
	160nm,0.6s						
MRKS	**Merke**	**3.13**	**348**		Pg	**Pg**	**10 08 25.9 -1.2**
	36nm,0.4s						
MRKS					Lg	Lg	10 09 06.1
	159nm,0.4s						
FRU1	**Bishkek**	**3.15**	**7**	⇑	*eP*	**Pb**	**10 08 22.3 -1.2**
	baz=9.0						
FRU1				⇑	*iS*	**Sb**	**10 09 02.2 -0.1**
	baz=9.0						
CHMS	**Chumysh**	**3.35**	**8**	⇑	*eP*	**Pb**	**10 08 25.3 -1.6**
	baz=11						
CHMS				⇑	*iS*	**Sb**	**10 09 06.6 -1.4**
	baz=11						
KDJ	**Kajisay**	**3.38**	**43**	⇓	*eP*	**Pb**	**10 08 26.9 -0.5**
	baz=44						
KDJ				⇓	*eS*	**Sb**	**10 09 09.3 +0.4**
	baz=44						
TKM2	**Tokmak 2**	**3.43**	**19**	⇑	*iP*	**Pb**	**10 08 26.9 -1.4**
	baz=21						
TKM2				⇑	*eS*	**Sb**	**10 09 09.2 -1.1**
	baz=21						
TKM2	**Tokmak 2**	**3.43**	**19**		P	**Pg**	**10 08 31.9 -0.8**
	SNR=10.0						
TKM2	**Tokmak 2**	**3.43**	**19**	⇓	Pg	**Pg**	**10 08 31.4 -1.2**
	10nm,0.6s						
TKM2				⇑	Lg	Lg	10 09 18.6
	27nm,0.6s						
TARG	**Taragay, Kyrgy**	**3.48**	**53**	⇑	*iP*	**Pb**	**10 08 28.1 -1.2**
	baz=53						
TARG				⇑	*iS*	**Sb**	**10 09 12.1 +0.1**
	baz=53						
KST	**Kastek**	**3.64**	**22**		*eP*	**Pg**	**10 08 36.4 -0.3**
	13nm,0.3s						
KST					*eS*	**Sg**	**10 09 24.5 +0.6**
	68nm,0.6s						
KST	**Kastek**	**3.64**	**22**		Pg	**Pg**	**10 08 36.9 +0.3**
	13nm,0.3s						
KST					Lg	Lg	10 09 24.8
	68nm,0.6s						
DGS	**Degeres**	**3.77**	**19**		*eP*	**Pg**	**10 08 39.5 +0.3**
	21nm,0.7s						
DGS					*eS*	**Sg**	**10 09 30.2 +2.0**
	38nm,0.4s						
DGS	**Degeres**	**3.77**	**19**		Pg	**Pg**	**10 08 39.5 +0.3**
	21nm,0.7s						
DGS					Lg	Lg	10 09 30.2
	38nm,0.4s						
SGDS	**Sogindy**	**3.79**	**6**		Pg	**Pg**	**10 08 38.5 -1.1**
	26nm,0.4s						
SGDS					Lg	Lg	10 09 27.9
	36nm,0.6s						
IZV	**Izvestkoviy**	**3.85**	**29**		*eP*	**Pg**	**10 08 41.0 +0.3**
	12nm,0.3s						
IZV					*eS*	**Sg**	**10 09 32.9 +2.3**
	60nm,0.6s						
IZV	**Izvestkoviy**	**3.85**	**29**		Pg	**Pg**	**10 08 41.6 +0.9**
	12nm,0.3s						
IZV					Lg	Lg	10 09 32.9
	60nm,0.6s						
MTBS	**Maitube**	**3.87**	**26**		*eP*	**Pg**	**10 08 40.9 -0.1**
	8.8nm,0.3s						
MTBS					*eS*	**Sg**	**10 09 32.8 +1.7**
	42nm,0.5s						
MTBS	**Maitube**	**3.87**	**26**		Pg	**Pg**	**10 08 41.3 +0.4**
	5.4nm,0.2s						
MTBS					Lg	Lg	10 09 32.7
	42nm,0.6s						
CHGR	**Chuyangaron**	**3.98**	**257**	⇑	*eP*	**Pn**	**10 08 30.3 +1.6**
	baz=57						
CHGR				⇑	*iS*	**Sn**	**10 09 15.8 0.0**
	baz=57						
ANVS	**Anan'yevo**	**4.10**	**40**	⇑	*eP*	**Pb**	**10 08 36.5 -3.2**
	baz=41						
ANVS				⇑	*eS*	**Sb**	**10 09 26.3 -3.4**
	baz=41						
MDOK	**Medeo**	**4.12**	**31**		*eP*	**Pg**	**10 08 45.7 -0.2**
	17nm,0.7s						
MDOK					*eS*	**Sg**	**10 09 40.1 +0.8**
	46nm,0.7s						
MDOK	**Medeo**	**4.12**	**31**	⇑	Pg	**Pg**	**10 08 45.3 -0.6**
	14nm,0.6s						
MDOK				⇑	Lg	Lg	10 09 40.8
	37nm,0.6s						
MDOK	**Medeo**	**4.12**	**31**		Pg	**Pg**	**10 08 45.8 -0.2**
	17nm,0.6s						
MDOK					Lg	Lg	10 09 40.1
	40nm,0.6s						
KOTS	**Kotyrbulak**	**4.21**	**31**		*eP*	**Pg**	**10 08 47.9 +0.3**
	42nm,0.4s						
KOTS					*eS*	**Sg**	**10 09 44.5 +2.4**
	2.4nm,0.8s						
KOTS	**Kotyrbulak**	**4.21**	**31**		Pg	**Pg**	**10 08 48.7 +1.1**
	42nm,0.4s						
KOTS					Lg	Lg	10 09 44.5
	2.4nm,0.8s						
PRZ	**Przheval'sk**	**4.29**	**48**	⇓	*iP*	**Pb**	**10 08 39.7 -3.2**
	baz=48						
PRZ				⇓	*iS*	**Sb**	**10 09 31.4 -3.6**
	baz=48						
KK31	**Karatay Array**	**4.36**	**323**	⇓	Pn	**Pn**	**10 08 36.2 +2.4**
	0.8nm,0.3s,baz=136,slow=13,SNR=15						
KK31				⇑	Pg	**Pg**	**10 08 48.4 -2.1**
	4.3nm,0.5s,baz=151,slow=17,SNR=4.5						
KK31				⇓	Sn	**Sn**	**10 09 28.2 +3.2**
	3.5nm,0.3s,baz=157,slow=27,SNR=4.9						
KK31				⇑	Lg	Lg	10 09 43.7
	8.9nm,0.4s,baz=140,slow=29,SNR=5.0						
KTBS	**Karatobe**	**4.47**	**25**		*eP*	**Pg**	**10 08 51.5 -1.1**
	6.0nm,0.4s						
KTBS					*eS*	**Sg**	**10 09 51.0 +0.6**
	76nm,0.6s						
KTBS	**Karatobe**	**4.47**	**25**		Pg	**Pg**	**10 08 52.7 +0.1**
	6.0nm,0.4s						
KTBS					Lg	Lg	10 09 52.0
	76nm,0.6s						
SATY	**Saty**	**4.68**	**42**		*eP*	**Pg**	**10 08 56.9 +0.4**
	9.8nm,0.5s						
SATY					*eS*	**Sg**	**10 10 00.4 +3.2**
	36nm,0.6s						
SATY	**Saty**	**4.68**	**42**		Pg	**Pg**	**10 08 57.3 +0.7**
	11nm,0.6s						
SATY					Lg	Lg	10 10 00.0
	36nm,0.6s						
CHKK	**Chushkaly**	**4.70**	**26**		*eP*	**Pg**	**10 08 56.2 -0.6**
	4.9nm,0.0s						
CHKK					*eS*	**Sg**	**10 09 58.6 +0.9**
	24nm,0.5s						
CHKK	**Chushkaly**	**4.70**	**26**		Pg	**Pg**	**10 08 56.5 -0.3**
	2.5nm,0.1s						
CHKK					Lg	Lg	10 09 58.5
	26nm,0.5s						
UZB	**Uzynbulak**	**5.07**	**45**		*eP*	**Pg**	**10 09 02.7 -1.3**
	4.8nm,0.3s						
UZB					*eS*	**Sg**	**10 10 10.4 +0.8**
	13nm,0.7s						
UZB	**Uzynbulak**	**5.07**	**45**		Pg	**Pg**	**10 09 03.7 -0.2**
	4.8nm,0.3s						
UZB					Lg	Lg	10 10 10.6
	13nm,0.7s						
KPKS	**Kokpek**	**5.11**	**41**		*eP*	**Pg**	**10 09 04.7 -0.1**
	6.3nm,0.3s						
KPKS					*eS*	**Sg**	**10 10 13.9 +2.9**
	33nm,0.6s						
ARXS	**Arharly**	**5.31**	**30**		*eP*	**Pg**	**10 09 07.1 -1.5**
	12nm,0.6s						
ARXS					*eS*	**Sg**	**10 10 17.5 0.0**
	23nm,0.9s						
ARXS	**Arharly**	**5.31**	**30**		Pg	**Pg**	**10 09 07.1 -1.5**
	12nm,0.6s						
ARXS					Lg	Lg	10 10 17.5
	23nm,0.9s						
SHLS	**Shalkode**	**5.32**	**47**		*eP*	**Pg**	**10 09 12.9 +4.1**
	9.8nm,0.3s						
SHLS					*eS*	Sg	10 10 27.7 +10
	20nm,0.8s						
SHLS	**Shalkode**	**5.32**	**47**		Pg	**Pg**	**10 09 13.2 +4.4**
	9.8nm,0.3s						
SHLS					Lg	Lg	10 10 26.8
	20nm,0.8s						
PDGK	**Podgornoye**	**5.44**	**46**		Pg	**Pg**	**10 09 11.0 -0.2**
	2.3nm,0.6s						
PDGK					Lg	Lg	10 10 23.4
	9.8nm,1.0s						
PDGK	**Podgornoye**	**5.44**	**46**	⇑	Pg	**Pg**	**10 09 10.9 -0.3**
	6.7nm,0.8s						
PDGK				⇓	Lg	Lg	10 10 22.1
	25nm,0.8s						
DJR	**Jarkent**	**6.29**	**40**		*eP*	**Pg**	**10 09 26.9 -0.4**
	2.3nm,0.2s						
DJR					*eS*	**Sg**	**10 10 51.1 +2.4**
	7.5nm,0.6s						
DJR	**Jarkent**	**6.29**	**40**		Pg	**Pg**	**10 09 27.0 -0.4**
	0.2nm,0.3s						
DJR					Lg	Lg	10 10 50.9
	1.0nm,1.3s						
GTA	**Gaotai**	**19.81**	**83**		*eP*	**P**	**10 11 57.8 -0.6**
GTA					pP	sP	10 12 04.8 +3.0
GTA					sP	pP	10 12 08.9 +8.2
GTA					pmax	pmax	
	comp=Z,4.0nm,1.1s						

MOS ***10*** *10:15:52.1±1.0,18˚.18S×178˚.06W,h557km,mb5.0/60,*
Error ellipse: s-maj=7.4km s-min=6.0km az=74.5
NEIC ***10*** *10:15:52.5±2.0,18.295S±0˚.09×178˚.01W±0˚.10,*
h548km±5km,mb5.0/372, Error ellipse: s-maj=13.8km
s-min=12.3km az=129.0
BJI ***10*** *10:15:52.0±0.0,18˚.15S×177˚.40W,h582km,mB5.0/26,*
mb5.2/48
IDC ***10*** *10:15:54.0±0.5,18˚.28S×177˚.99W,h572km±5km,mb4.5/29,*
mb1 4.6/34,mb1mx4.6/40,mbtmp5.4/34, Error ellipse:
s-maj=9.7km s-min=8.4km az=159.0
GCMT ***10*** *10:15:54.5±0.4,18˚.47S±0˚.06×177˚.89W±0˚.03,*
h584km±4km,MW5.4/47,Moment Tensor Solution.
s47,c58; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm;
Mrr-0.97±.06; Mθθ-0.27±.10; Mϕϕ 1.24±.09; Mrθ-1.13±.10;
Mθϕ 0.20±.08; Mϕr-0.04±.11; Best double couple:
M₀1.54700×10¹⁷ NP1:ϕs159.00000°,δ49.00000°,
λ-141.00000°. NP2:ϕs41.00000°,δ61.00000°,
λ-48.00000°. Principal axes: T 1.2910, Plg7.0000°,
Azm103.0000°; N 0.5140, Plg36.0000°, Azm198.0000°; P
-1.8040, Plg53.0000°, Azm3.0000°; nsta1 refers to body
waves, cutoff=40s. Triangular moment-rate function
NOU ***10*** *10:15:54.1,18˚.26S×177˚.91W,h578km,ML5.0,Fiji*
Islands Region
BGR ***10*** *10:15:58.9±0.0,17˚.32S×177˚.00W,h600km*
ISC 10 10:15:53.3±0.3,**18˚.28S**±0˚.04×**177˚.94W**±0˚.04,
h572km±3km,**h573**km:**pP-P,n1124,**σ1**§17**/1239,**mb5.0**/261,
149C-226D,Fault plane solution: NP1:ϕs59.93183°,
δ64.70081°,λ-34.85792°. **NP2:**ϕs166.50766°,δ58.88712°,
λ-150.05643°. **Principal axes:** T Plg3.6236°,
Azm114.3832°; N Plg47.8909°, Azm208.4009°; P
Plg41.8789°, Azm21.1282°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
LKBA	**Tubou, Lakemba**	**0.83**	**273**		P	**P**	**10 17 04.0 +2.5**
TAVE	**Taveuni**	**2.44**	**310**		P	**P**	**10 17 09.9 +2.7**
DGTI	**Dogotuki**	**2.96**	**311**		P	**P**	**10 17 12.3 +2.2**
MSVF	**Nonsavu**	**3.85**	**277**		P	**P**	**10 17 18.2 +2.4**
	64nm,0.3s,baz=127,slow=8.2,SNR=474						
MSVF					S	**S**	**10 18 27.4

NIUE	Niue	7.64	97	P		P		10 17 49.6	+1.3	
NIUE	Niue	7.64	97	P		P		10 17 49.7	+1.4	
FUNA	Funafuti	10.09	344	P		P		10 18 11.8	-0.8	
RAO	Raoul Island	10.92	180	P		P		10 18 20.2	-0.6	
	67nm,0.3s,baz=268,slow=23,SNR=2.4									
RAO				S		S		10 20 18.3	-3.8	
	41nm,0.3s,baz=235,slow=22,SNR=1.7									
RAO	Raoul Island	10.92	180	P		P		10 18 20.1	-0.7	
RAO	Raoul Island	10.92	180	P		P		10 18 20.1	-0.7	
LIFNC	LIFOU	14.19	257	P		P		10 18 52.5	-1.9	
LIFNC	LIFOU	14.19	257	P		P		10 18 53.5	-0.9	
PINNC	Pines Island,	14.36	250	P		P		10 18 55.0	-1.0	
PINNC	Pines Island,	14.36	250	P		P		10 18 56.8	+0.8	
SANVU	Saraoutou	14.49	279	P		P		10 18 55.7	-1.8	
SANVU	Saraoutou	14.49	279	P		P		10 18 58.2	+0.7	
YATNC	Mamie plateau,	14.73	253	P		P		10 18 59.7	0.0	
OUENC	Ouen Island, N	14.85	251	P		P		10 18 59.5	-1.3	
OUENC	Ouen Island, N	14.85	251	P		P		10 19 01.1	+0.2	
DZM	Mont Dzumac	15.13	253	*e*P		P		10 19 02.8	-0.9	
	248nm,0.9s									
DZM	Mont Dzumac	15.13	253	P		P		10 19 02.9	-0.9	
	15nm,0.3s,baz=89,slow=12,SNR=11.4									
DZM				S		S		10 21 41.1	+1.3	
	baz=328,slow=23,SNR=4.0									
DZM	Mont Dzumac	15.13	253	P		P		10 19 02.6	-1.2	
DZM	Mont Dzumac	15.13	253	P		P		10 19 03.3	-0.5	
ONTNC	Ouen Toro	15.18	252	P		P		10 19 02.7	-1.3	
ONTNC	Ouen Toro	15.18	252	P		P		10 19 04.6	+0.6	
NOUC	Port Laguerre	15.27	253	P		P		10 19 05.7	+0.7	
KNTN	Kanton	16.57	22	P		P		10 19 16.6	-0.8	
NFK	Norfolk Island	16.78	228	P		P		10 19 20.3	+1.3	
	baz=17,SNR=12									
NFK	Norfolk Island	16.78	228	P		P		10 19 21.5	+2.5	
KOUNC	Koumac, New Ca	16.91	259	P		P		10 19 21.8	+1.5	
RAR	Rarotonga	17.35	103	P		P		10 19 24.5	+0.2	
	2.2nm,0.3s,baz=256,slow=7.6,SNR=10									
RAR	Rarotonga	17.35	103	P		P		10 19 25.0	+0.7	
RAR				pmax		pmax				
	comp=Z,325nm,1.6s									
RAR	Rarotonga	17.35	103	P		P		10 19 24.9	+0.7	
WMGZ	Waiomatatini S	19.73	189	P		P		10 19 45.8	+0.1	
HAZ	Te Kaha	19.76	190	P		P		10 19 44.6	-1.4	
PKGZ	Pakihiroa	19.84	189	P		P		10 19 46.4	-0.5	
RUGZ	Raukumara Rang	19.98	190	P		P		10 19 47.3	-0.9	
PUZ	Puketiti	20.00	189	P		P		10 19 47.3	-0.9	
TGRZ	Tauranga	20.03	194	P		P		10 19 50.4	+2.0	
OPRZ	Ohinepanea	20.08	193	P		P		10 19 49.9	+1.0	
TWGZ	Tauwhareparae	20.14	189	P		P		10 19 49.4	-0.2	
TOZ	Tahuroa Road	20.21	195	P		P		10 19 51.5	+1.4	
MWZ	Matawai	20.37	190	P		P		10 19 49.7	-1.9	
URZ	Urewera	20.37	191	P		P		10 19 49.3	-2.2	
	comp=Z,70nm,0.4s,baz=225,slow=1.4,SNR=78									
URZ				S		S		10 22 57.6	-6.5	
	comp=Z,14nm,0.8s,baz=133,slow=23,SNR=2.6									
URZ	Urewera	20.37	191	P		P		10 19 49.5	-2.0	
URZ	Urewera	20.37	191	P		P		10 19 49.1	-2.4	
CNGZ	Carnagh Statio	20.41	189	P		P		10 19 51.6	-0.3	
PRRZ	Plateau Road	20.74	193	P		P		10 19 54.4	-0.5	
PRGZ	Paritu Road	20.89	189	P		P		10 19 57.0	+0.7	
MTHZ	Maungataniwha	21.00	191	P		P		10 19 57.5	+0.3	
RAHZ	Arahi	21.01	191	P		P		10 19 57.3	-0.1	
KNZ	Kokohu	21.02	190	P		P		10 19 56.2	-1.1	
MHGZ	Mahia Peninsul	21.11	189	P		P		10 19 58.3	+0.2	
RATZ	Rangitukua	21.23	194	P		P		10 19 58.1	-1.2	
NMHZ	Naumai	21.24	191	P		P		10 19 58.5	-1.0	
ARHZ	Aropaoanui	21.37	191	P		P		10 19 58.3	-7.2	
BKZ	Black Stump Fm	21.37	192	P		P		10 19 58.2	-2.3	
BKZ				IAmb		IAmb		10 20 03.4		
	comp=Z,38nm,1.2s									
BKZ	Black Stump Fm	21.37	192	P		P		10 19 58.6	-1.9	
TARA	Tarawa	21.48	334	P		P		10 20 01.1	-0.7	
TARA	Tarawa	21.48	334	P		P		10 20 02.1	+0.3	
	comp=Z,403nm,1.1s									
TMVZ	Te Maari	21.48	194	P		P		10 20 00.4	-1.2	
SNVZ	South Ngauruho	21.57	194	P		P		10 20 05.4	+2.9	
MCHZ	McNeill Hill	21.60	191	P		P		10 20 01.4	-1.2	
KWHZ	Kaweka Forest	21.63	192	P		P		10 20 01.2	-1.7	
VRZ	Vera Road	21.72	195	P		P		10 20 05.9	+2.3	
MOVZ	Moawhango	21.75	193	P		P		10 20 03.3	-0.7	
BHHZ	Black Hill Sta	21.77	193	P		P		10 20 02.1	-2.0	
KRHZ	Kereru	21.85	192	P		P		10 20 03.6	-1.3	
KAHZ	Kahuranaki	21.90	191	P		P		10 20 03.5	-1.8	
PNHZ	Pukenui	22.15	192	P		P		10 20 05.8	-1.6	
TSZ	Takapari Road	22.34	192	P		P		10 20 08.9	-0.3	
PRHZ	Porangahau	22.41	191	P		P		10 20 09.1	-0.6	
BFZ	Birch Farm	22.88	191	P		P		10 20 12.6	-1.3	
BFZ				IAmb		IAmb		10 20 17.7		
	comp=Z,68nm,1.1s									
BFZ	Birch Farm	22.88	191	P		P		10 20 12.5	-1.5	
SNZO	South Karori	23.80	194	P		P		10 20 21.1	-1.0	
BHW	Baring Head	23.86	193	P		P		10 20 21.6	-1.0	
QRZ	Quartz Range	23.92	198	P		P		10 20 23.6	+0.4	
PLWZ	Palliser	23.93	193	P		P		10 20 22.4	-0.9	
TUWZ	Tuamarina	24.10	195	P		P		10 20 23.2	-1.6	
LHI	Lord Howe Isla	24.61	233	P		P		10 20 31.0	+1.6	
	baz=25,SNR=3.8									
THZ	Tophouse	24.68	197	P		P		10 20 29.2	-0.8	
THZ				IAmb		IAmb		10 20 31.6		
	comp=Z,50nm,0.9s									
KHZ	Kahutara	25.13	195	P		P		10 20 32.7	-1.1	
KHZ				IAmb		IAmb		10 20 35.9		
	comp=Z,84nm,1.1s									
LTZ	Lake Taylor	25.80	197	P		P		10 20 38.5	-1.4	
LTZ				IAmb		IAmb		10 20 41.2		
	comp=Z,82nm,1.0s									
OXZ	Oxford	26.37	197	P		P		10 20 44.1	-0.6	
MQZ	McQueen's Vall	26.56	195	P		P		10 20 45.2	-1.2	
MQZ				IAmb		IAmb		10 21 13.1		
	comp=Z,124nm,1.6s									
PAE	Paea	26.98	93	*e*P		P		10 20 50.8	+0.4	
	comp=Z,31nm,1.1s									
PPT2	Papeete2	26.99	93	*e*P		P		10 20 51.2	+0.6	
	comp=Z,144nm,1.3s									
PPT	Papeete	26.99	93	P		P		10 20 50.7	+0.1	
	comp=Z,75nm,0.6s,baz=72,slow=5.6,SNR=8.6									
TIAR	Tiarei	27.21	93	*e*P		P		10 20 53.6	+1.1	
	comp=Z,16nm,0.9s									
FOZ	Fox Glacier	27.21	200	P		P		10 20 51.8	-0.3	
LBZ	Lake Benmore	27.87	198	P		P		10 20 56.2	-1.7	
LBZ				IAmb		IAmb		10 21 00.8		
	comp=Z,58nm,0.9s									
PMOR	Pomariorio Ree	28.96	88	*e*P		P		10 21 08.1	+0.4	
	comp=Z,196nm,1.0s									
VAH	Vaihoa	29.17	89	*e*P		P		10 21 09.6	0.0	
	comp=Z,253nm,1.2s									
EIDS	Eidsvold	29.56	251	P		P		10 21 12.8	-0.1	
	baz=30,SNR=43									
EIDS	Eidsvold	29.56	251	P		P		10 21 12.7	-0.1	
ARMA	Armidale	30.14	241	P		P		10 21 19.0	+1.1	
	baz=30,SNR=123									
ARMA	Armidale	30.14	241	P		P		10 21 19.2	+1.3	
KWAJ	Kwajalein Atol	30.45	331	P		P		10 21 21.5	+0.9	
KWAJ	Kwajalein Atol	30.45	331	P		P		10 21 21.5	+0.9	
MGCD	Mangrove Creek	31.45	236	P		P		10 21 29.9	+1.0	
	baz=32,SNR=49									
RIV	Riverview	31.63	235	P		P		10 21 31.4	+0.9	
	baz=32,SNR=3.6									
RMQ	Roma	31.78	249	P		P		10 21 32.7	+0.8	
	baz=32,SNR=98									
CTA	Charters Tower	33.82	261	P		P		10 21 49.4	+0.3	
	comp=Z,174nm,0.6s,baz=83,slow=10,SNR=269									
CTAO	Charters Tower	33.82	261	P		P		10 21 49.5	+0.3	
CTAO				pmax		pmax				
	comp=Z,187nm,0.7s									
CTAO	Charters Tower	33.82	261	P		P		10 21 49.5	+0.3	
CAN	Canberra	33.83	233	P		P		10 21 50.2	+1.1	
CAN				pmax		pmax				
	comp=Z,205nm,0.7s									
CAN	Canberra	33.83	233	P		P		10 21 50.2	+1.1	
YNG	Young	33.94	235	P		P		10 21 50.8	+0.8	
	baz=34,SNR=11									
PATS	Pohnpei	34.23	315	P		P		10 21 54.0	+1.4	
	baz=34,SNR=4.1									
PATS	Pohnpei	34.23	315	P		P		10 21 53.8	+1.2	
MILA	Mila	34.38	230	P		P		10 21 54.5	+0.8	
	baz=34,SNR=4.7									
PMG	Port Moresby	34.96	280	P		P		10 22 00.1	+1.4	
PMG				pmax		pmax				
	comp=Z,114nm,0.9s									
PMG	Port Moresby	34.96	280	P		P		10 22 00.1	+1.4	
PMG	Port Moresby	34.96	280	P		P		10 21 58.6	-0.1	
	comp=Z,134nm,1.1s									
PMG	Port Moresby	34.96	280	P		P		10 22 00.3	+1.6	
CMSA	Cobar Meteorol	35.36	241	P		P		10 22 02.3	+0.5	
	baz=35,SNR=318									
JOHN	Johnston Islan	35.76	14	P		P		10 22 06.2	+1.0	
MTSU	Mount Surprise	35.81	264	P		P		10 22 05.8	+0.1	
	baz=36,SNR=118									
QLP	Quilpie	35.82	250	P		P		10 22 05.8	+0.1	
	baz=36,SNR=99									
TOO	Toolangi	37.28	231	P		P		10 22 18.4	+0.8	
	baz=37,SNR=195									
TOO	Toolangi	37.28	231	P		P		10 22 18.7	+1.1	
TOO	Toolangi	37.28	231	P		P		10 22 18.7	+1.1	
MANU	Manus Island	37.65	291	P		P		10 22 22.1	+1.3	
MANU				IAmb		IAmb		10 22 22.3		
	comp=Z,72nm,1.5s									
TAOE	Nuku Hiva Isla	37.84	81	*e*P		P		10 22 22.5	0.0	
	comp=Z,220nm,0.8s									
TAOE	Nuku Hiva Isla	37.84	81	P		P		10 22 24.3	+1.8	
MOO	Moorlands	38.12	223	P		P		10 22 25.3	+1.0	
	baz=38,SNR=3.7									
TAU	Tasmania Unive	38.26	223	P		P		10 22 26.1	+0.7	
TAU				pmax		pmax				
	comp=Z,55nm,0.9s									
TAU	Tasmania Unive	38.26	223	P		P		10 22 26.1	+0.7	
TAU				IAmb		IAmb		10 22 26.8		
	comp=Z,55nm,0.9s									
STKA	Stephens Creek	38.84	242	P		P		10 22 31.2	+0.9	
	comp=Z,186nm,0.8s,baz=90,slow=9.9,SNR=405									
STKA	Stephens Creek	38.84	242	P		P		10 22 31.4	+1.1	
STKA				pmax		pmax				
	comp=Z,51nm,1.0s									
STKA	Stephens Creek	38.84	242	P		P		10 22 31.4	+1.1	
STKA				IAmb		IAmb		10 22 32.1		
	comp=Z,51nm,1.0s									
ARPS	Mount Arapiles	39.79	234	P		P		10 22 38.1	+0.3	
	baz=40,SNR=38									
QIS	Mount Isa	40.02	260	P		P		10 22 39.4	-0.5	
	baz=40,SNR=22									
WAKE	Wake Island	40.28	337	P		P		10 22 42.0	+0.2	
HTT	Hallett	41.34	240	P		P		10 22 50.9	+0.6	
	baz=41,SNR=76									
KHU	Kahuku	43.26	32	P		P		10 23 06.8	+1.2	
KHU				pmax		pmax				
	comp=Z,164nm,1.4s									
KHU	Kahuku	43.26	32	P		P		10 23 06.8	+1.2	
KHLU	Kahalu`u	43.42	31	P		P		10 23 08.2	+1.6	
HUH	Hualalai	43.52	31	P		P		10 23 08.7	+1.1	
BBOO	Buckleboo	43.62	241	P		P		10 23 08.2	+0.3	
	baz=44,SNR=156									
BBOO	Buckleboo	43.62	241	P		P		10 23 08.5	+0.6	
HMH	Humu'ula Sheep	43.63	31	P		P		10 23 10.0	+1.5	
HPAH	Hawaii Prepara	43.88	31	P		P		10 23 11.5	+1.3	
DHH	Diamond Head	43.97	28	P		P		10 23 12.4	+1.6	
DHH	Diamond Head	43.97	28	P		P		10 23 12.4	+1.6	
KIP	Kipapa	44.02	27	*e*P		P		10 23 10.5	-0.6	
KIP				pmax		pmax				
	comp=Z,157nm,1.2s									
WMR	Waimanalo Ridg	44.08	28	P		P		10 23 13.1	+1.5	
HLK	Haleakala	44.24	30	P		P		10 23 14.7	+1.5	
WRAB	Tennant Creek	44.99	260	*c i* P		P		10 23 18.0	-0.8	
WRAB				pmax		pmax				
	comp=Z,97nm,0.8s									
WRAB	Tennant Creek	44.99	260	P		P		10 23 18.3	-0.4	
WRA	Warramunga Arr	45.00	260	P		P		10 23 18.1	-0.7	
	comp=Z,80nm,0.7s,baz=97,slow=6.9,SNR=835									
WRA				PcP		PcP		10 24 48.1	+0.5	
	comp=Z,2.6nm,0.4s,baz=94,slow=2.3,SNR=2.5									
WRA				pP		pP		10 24 59.8	-0.5	
	comp=Z,1.6nm,0.4s,baz=95,slow=6.9,SNR=1.3									
WRA				S		S		10 29 11.5	-5.1	
	comp=Z,12nm,0.9s,baz=95,slow=13,SNR=10									
AS31	Alice Springs	45.12	255	P		P		10 23 19.8	+0.1	
ASAR	Alice Springs	45.12	255	P		P		10 23 19.8	0.0	
	comp=Z,270nm,0.7s,baz=88,slow=8.6,SNR=2373									
ASAR				PcP		PcP		10 24 48.4	+0.5	
	comp=Z,5.2nm,0.6s,baz=96,slow=4.2,SNR=2.9									
ASAR				ScP		ScP		10 27 48.2	+1.8	
	comp=Z,4.7nm,0.7s,baz=93,slow=3.8,SNR=5.4									
ASAR				S		S		10 29 15.7	-2.5	
	comp=Z,40nm,0.9s,baz=88,slow=15,SNR=43									
KDU	Kakadu	47.99	269	P		P		10 23 41.1	-0.3	
	baz=48,SNR=24									
MTN	Manton Dam	49.23	269	P		P		10 23 50.0	-0.6	
	baz=49,SNR=34									
MTN	Manton Dam	49.23	269	P		P		10 23 49.6	-1.0	
MTN				IAmb		IAmb		10 23 51.2		
	comp=Z,58nm,0.8s									
WRKA	Warakurna	50.15	252	P		P		10 23 57.3	0.0	
	baz=50,SNR=191									
FORT	Forrest	50.25	245	P		P		10 23 57.4	-0.5	
	baz=50,SNR=85									
FORT	Forrest	50.25	245	P		P		10 23 57.3	-0.5	
KNRA	Kununurra	50.89	264	P		P		10 24 02.5	-0.2	
	baz=51,SNR=40									
KNRA	Kununurra	50.89	264	P		P		10 24 02.5	-0.2	
KNRA				IAmb		IAmb		10 24 03.3		
	comp=Z,66nm,0.7s									
SIJI	Sorong	52.75	283	P		P		10 24 16.7	+0.6	
	comp=Z,38nm,0.8s									
SWI	Sorong	52.76	283	P		P		10 24 16.1	-0.1	
	comp=Z,1μmcomp=Z,84nm,1.1s									
FITZ	Fitzroy Crossi	53.40	261	P		P		10 24 20.8	+0.1	
	baz=53,SNR=39									
FITZ	Fitzroy Crossi	53.40	261	P		P		10 24 20.6	-0.1	
KMBL	Kambalda	55.55	244	P		P		10 24 34.7	-0.8	
	baz=56,SNR=34									
SOEI	Soe	56.52	270	P		P		10 24 44.2	+1.6	
SOEI				IAmb		IAmb		10 24 44.9		
	comp=Z,62nm,0.8s									
TNTI	Ternate	56.98	283	P		P		10 24 45.5	0.0	
PSA00	Pilbara Seismi	58.24	256	P		P		10 24 53.8	-0.3	
PSA00				IAmb		IAmb		10 24 54.6		
	comp=Z,63nm,1.0s									
PSA00	Pilbara Seismi	58.24	256	P		P		10 24 53.3	-0.8	
PSA00				IAmb		IAmb		10 24 54.6		
	comp=Z,34nm,1.1s									
MEEK	Meekatharra	58.72	250	P		P		10 24 56.6	-0.6	
	baz=59,SNR=34									
KLBR	Kellerberrin	59.06	244	P		P		10 24 59.0	-0.4	
	baz=59,SNR=126									
JCJ	Chichijima	59.41	318	P		P		10 25 01.7	0.0	
	comp=Z,102nm,0.8s,baz=279,slow=22,SNR=7.6									
JCJ	Chichijima	59.41	318	P		P		10 25 00.8	-0.9	
JCJ				IAmb		IAmb		10 25 02.3		
	comp=Z,94nm,0.7s									
NWAO	Narrogin (SRO)	59.43	242	P		P		10 25 01.8	-0.1	
	baz=59,SNR=8.9									
NWAO	Narrogin (SRO)	59.43	242	P		P		10 25 01.4	-0.5	
NWAO				pmax		pmax				
	comp=Z,35nm,0.9s									
NWAO	Narrogin (SRO)	59.43	242	P		P		10 25 01.5	-0.3	
NWAO	Narrogin (SRO)	59.43	242	P		P		10 25 01.4	-0.5	
NWAO				IAmb		IAmb		10 25 02.6		
	comp=Z,35nm,0.9s									
BLDU	Balliduu	60.02	245	P		P		10 25 05.3	-0.5	
	baz=60,SNR=55									
SBA	Scott Base	60.08	184	P		P		10 25 07.9	+2.6	
SBA				pmax		pmax				
	comp=Z,27nm,1.1s									
SBA	Scott Base	60.08	184	P		P		10 25 07.9	+2.6	
VNDA	Vanda	60.12	185	P		P		10 25 06.6	+1.0	
	comp=Z,4.3nm,0.6s,baz=355,slow=7.8,SNR=59									
VNDA				pP		pwP		10 26 59.7	+0.3	
	comp=Z,1.6nm,0.7s,baz=359,slow=7.0,SNR=2.7									
VNDA	Vanda	60.12	185	P		P		10 25 06.3	+0.7	
VNDA				pmax		pmax				
	comp=Z,7.0nm,0.8s									
VNDA	Vanda	60.12	185	P		P		10 25 06.3	+0.7	
MUN	Mundaring	60.35	243	P		P		10 25 08.1	+0.1	
	baz=60,SNR=19									
MORW	Morawa	60.74	246	P		P		10 25 10.1	-0.5	
	baz=61,SNR=17									
MORW	Morawa	60.74	246	P		P		10 25 09.6	-1.0	
GIRL	Giralia	63.21	253	P		P		10 25 27.7	+1.0	
	baz=63,SNR=15									
GIRL	Giralia	63.21	253	P		P		10 25 27.7	+1.0	
TOLI2	Tolitoli	63.22	281	P		P		10 25 26.9	0.0	
JHJ2	Mitsune	65.11	322	P		P		10 25 38.8	+0.4	
JHJ	Hachijo jima 2	65.13	322	P		P		10 25 38.8	+0.3	
	comp=Z,234nm,0.4s,baz=131,slow=4.3,SNR=31									
CASY	Casey	65.99	205	P		P		10 25 43.7	+0.3	
CASY				IAmb		IAmb		10 25 44.7		
	comp=Z,44nm,1.1s									
JOW	Kunigami	68.80	309	P		P		10 26 02.3	+1.1	
	comp=Z,40nm,0.5s,baz=126,slow=3.3,SNR=7.5									
JOW	Kunigami	68.80	309	P		P		10 26 02.2	+1.1	
JOW				IAmb		IAmb		10 26 02.9		
	comp=Z,56nm,0.7s									
JMN	Monobe	69.16	318	P		P		10 26 04.2	+1.0	
JMN				IAmb		IAmb		10 26 05.4		
	comp=Z,72nm,0.9s									
JWT	Wachi	69.25	320	P		P		10 26 04.1	+0.4	
JWT				IAmb		IAmb		10 26 05.2		
	comp=Z,54nm,0.9s									
AMKA	Amchitka	69.40	358	P		P		10 26 03.7	-0.5	
JSD	Sado	69.50	324	P		P		10 26 05.4	+0.3	
KIWB	Kanaga Island	69.83	1	P		P		10 26 06.9	+0.1	
ADK	Adak	69.87	1	P		P		10 26 06.7	-0.3	
ADK				pmax		pmax				
	comp=Z,157nm,0.6s									
ADK	Adak	69.87	1	P		P		10 26 06.7	-0.3	
ERM	Erimo	69.93	330	*e*P		P		10 26 08.4	+0.8	
ERM				pmax		pmax				
	comp=Z,29nm,1.1s									
JSU	Suzuyama	70.00	315	P		P		10 26 09.0	+0.6	
JSU				IAmb		IAmb		10 26 09.4		
	comp=Z,31nm,0.6s									
GSTR	Great Sitkin T	70.09	1	P		P		10 26 08.3	-0.1	
ATKA	Atka Island	70.26	2	P		P		10 26 08.9	-0.4	
KUR	Kuril'sk	70.44	335	*e*P		P		10 26 10.6	+0.1	
KUR				pmax		pmax				
	comp=Z,432nm,1.0s									
JHS	Saijyo	70.47	319	P		P		10 26 11.9	+0.9	
JNU	Nakatsue	70.71	316	P		P		10 26 12.7	+0.2	
	comp=Z,21nm,0.7s,baz=124,slow=1.3,SNR=22									
JNU	Nakatsue	70.71	316	P		P		10 26 12.1	-0.4	
JNU				IAmb		IAmb		10 26 13.8		
	comp=Z,33nm,0.9s									
SMY	Shemya	71.05	355	P		P		10 26 13.7	-0.2	
SMY				pmax		pmax				
	comp=Z,166nm,1.1s									
SMY	Shemya	71.05	355	P		P		10 26 13.7	-0.2	
JEW	Eniwo	71.38	330	P		P		10 26 17.3	+1.2	
NIKH	Nikolski High	71.39	6	P				10 26 15.5		
	baz=189									
NIKH	Nikolski High	71.39	6	P		P		10 26 15.6	-0.4	
YOJ	Yonaguni jima	71.52	305	P		P		10 26 17.5	+0.2	
YOJ				pmax		pmax				
	comp=Z,79nm,0.9s									
YOJ	Yonaguni jima	71.52	305	P		P		10 26 17.5	+0.2	
YOJ				IAmb		IAmb		10 26 18.5		
	comp=Z,79nm,0.9s									
SBUM	Sibu	71.70	279	P		P		10 26 20.0	+1.3	
QSPA	South Pole Qui	71.78	180	P		P		10 26 19.4	+1.1	
QSPA				IAmb		IAmb		10 26 20.4		
	comp=Z,28nm,1.0s									
JKA	Kamikawa-asahi	71.81	331	P		P		10 26 19.8	+1.2	
JKA				IAmb		IAmb		10 26 20.9		
	comp=Z,51nm,0.8s									
ASAJ	Asahikawa	71.81	331	P		P		10 26 19.7	+1.2	
	comp=Z,52nm,0.8s,baz=220,slow=4.9,SNR=41									
ASAJ	Asahikawa	71.81	331	P		P		10 26 19.8	+1.2	
ASAJ				pmax		pmax				
	comp=Z,51nm,0.8s									
TWG	Pinlang	72.24	302	P		P		10 26 20.2	-1.3	
TWG				IAmb		IAmb		10 26 21.1		
	comp=Z,55nm,0.6s									
YULB	Yu-li	72.34	303	P		P		10 26 21.6	-0.6	
YULB				IAmb		IAmb		10 26 22.2		
	comp=Z,37nm,0.5s									
SKR	Severo-Kuril's	72.36	343	*e*P		P		10 26 20.1	-1.5	
SKR				pmax		pmax				
	comp=Z,64nm,0.7s									
NACB	Ninganchiao	72.49	304	P		P		10 26 22.6	-0.4	
SSLB	Suanglung	72.81	303	P		P		10 26 23.8	-1.0	
TPUB	Ta-pu	72.83	302	P		P		10 26 23.9	-1.0	
YHNB	Yeheng	72.91	304	P		P		10 26 25.5	0.0	
YHNB				IAmb		IAmb		10 26 26.4		
	comp=Z,40nm,0.8s									
PET	Petropavlovsk	73.84	346	*d i* P		P		10 26 29.5	-0.5	

baz=203,SNR=6.1
SII Sitkinak Islan 77.18 13 P **P** **10 26 49.0 +0.5**
ARVC Arvin 77.22 46 P 10 26 50.5
baz=237,SNR=8.3
109C Camp Elliot, M 77.23 49 P 10 26 50.6
baz=238
109C Camp Elliot, M 77.23 49 P **P** **10 26 50.9 +1.6**
CBX Cerro Bola 77.25 50 P **P** **10 26 51.4 +1.8**
MWC Mount Wilson 77.26 47 P **P** **10 26 51.0 +1.3**
MWC pmax pmax
comp=Z,37nm,0.7s
MWC Mount Wilson 77.26 47 P **P** **10 26 51.0 +1.3**
MWC IAmb IAmb 10 26 52.0
comp=Z,37nm,0.7s
KHMM Horse Mountain 77.40 39 P **P** **10 26 52.2 +1.9**
KHMM IAmb IAmb 10 26 54.0
comp=Z,44nm,1.0s
BAR Barrett 77.43 49 P **P** **10 26 51.9 +1.5**
VES Vestal, Richgr 77.44 45 P 10 26 51.6
baz=236,SNR=21
SPX San Pedro Mart 77.47 51 P **P** **10 26 52.9 +1.8**
MURC Murrieta 77.54 48 P 10 26 52.5
baz=238,SNR=8.7
O02D Mt. Diablo Mer 77.55 40 P 10 26 53.1
baz=233,SNR=12
BFSC Mount Baldy Ra 77.55 47 P 10 26 52.3
baz=238,SNR=6.4
EDW2 Edwards Air Fo 77.66 47 P 10 26 53.3
baz=237,SNR=18
KRMB Red Mountain 77.69 38 P **P** **10 26 53.8 +2.0**
KRMB IAmb IAmb 10 27 10.0
comp=Z,133nm,1.6s
MONP2 Monument Peak 77.72 49 P 10 26 54.1
baz=239,SNR=33
ISA Isabella, Lake 77.75 46 P 10 26 53.9
baz=237,SNR=32
ISA Isabella, Lake 77.75 46 P **P** **10 26 54.2 +2.1**
ISA pmax pmax
comp=Z,32nm,0.9s
ISA Isabella, Lake 77.75 46 P **P** **10 26 54.2 +2.1**
ISA IAmb IAmb 10 26 54.9
comp=Z,32nm,0.8s
CMB Columbia Colle 77.81 43 P **P** **10 26 53.7 +1.4**
CMB pmax pmax
comp=Z,28nm,0.9s
CMB Columbia Colle 77.81 43 P **P** **10 26 53.7 +1.4**
KBO Bosley Butte 77.93 38 P **P** **10 26 55.4 +2.5**
KBO IAmb IAmb 10 26 59.7
comp=Z,178nm,1.7s
WDC Whiskeytown Da 77.94 40 P **P** **10 26 54.0 +1.1**
WDC pmax pmax
comp=Z,33nm,1.3s
WDC Whiskeytown Da 77.94 40 P **P** **10 26 54.0 +1.1**
AFDM Forest Hills D 77.96 42 P **P** **10 26 54.3 +1.2**
ORV Oroville 77.98 41 P **P** **10 26 54.4 +1.2**
ORV pmax pmax
comp=Z,25nm,1.0s
ORV Oroville 77.98 41 P **P** **10 26 54.4 +1.2**
OHAK Old Harbor 77.99 13 P 10 26 53.4
baz=204,SNR=8.6
OHAK Old Harbor 77.99 13 P **P** **10 26 53.0 +0.3**
PFO Pinyon Flats O 78.07 49 P **P** **10 26 55.7 +1.8**
comp=Z,11nm,0.9s,baz=263,slow=3.8,SNR=13
PFO Pinyon Flats O 78.07 49 P **P** **10 26 55.3 +1.4**
PFO pmax pmax
comp=Z,20nm,1.2s
PFO Pinyon Flats O 78.07 49 P **P** **10 26 55.3 +1.4**
PFO Pinyon Flats O 78.07 49 P 10 26 55.5
baz=238,SNR=6.5
TPFO Pinon Flats 78.07 49 P 10 26 55.4
baz=238,SNR=6.3
N02D Trinity Center 78.08 39 P 10 26 55.8
baz=233,SNR=8.2
BBRC Big Bear Solar 78.08 48 P 10 26 55.7
baz=238
SWSC Sam W. Stewart 78.19 49 P 10 26 56.3
baz=239,SNR=9.1
LRMC Laurel Mtn Rad 78.20 46 P 10 26 56.2
baz=237
O03E Paynes Creek 78.22 40 P 10 26 55.9
baz=234,SNR=8.1
M02C Callahan 78.24 39 P 10 26 56.8
baz=233,SNR=14
L02E Cave Junction 78.26 38 P 10 26 56.5
baz=232
CPBX Cerro Prieto 78.29 50 P **P** **10 26 57.3 +2.4**
RRX Edison Barstow 78.35 47 P 10 26 56.9
baz=238
SLBS Sierra La Lagu 78.36 60 P **P** **10 26 57.2 +1.6**
MDPB Devils Postpil 78.43 44 P **P** **10 26 57.5 +1.5**
MDPB IAmb IAmb 10 26 58.6
comp=Z,36nm,0.8s
CWC Cottonwood Cre 78.44 45 P 10 26 57.4
baz=237
NJ2 Nanjing 78.52 309 ↓*i*P **P** **10 26 57.4 +1.2**
NJ2 pmax pmax
comp=Z,47nm,0.7s
YBH Yreka Blue Hor 78.53 39 P **P** **10 26 57.9 +1.7**
YBH pmax pmax
comp=Z,27nm,0.8s
YBH Yreka Blue Hor 78.53 39 P **P** **10 26 57.9 +1.7**
YBH IAmb IAmb 10 26 59.1
comp=Z,27nm,0.8s
K02D Willamette Mer 78.56 38 P 10 26 58.1
baz=232
MLAC Mammoth, Mammo 78.59 44 P 10 26 58.8
baz=236,SNR=16
BELC Belle Mtn. Jos 78.59 48 P 10 26 58.6
baz=239,SNR=16
MPMC Manual Prospec 78.64 46 P 10 26 58.7
baz=237,SNR=22
KDAK Kodiak Island 78.65 14 P 10 26 57.1
baz=205
KDAK Kodiak Island 78.66 14 P **P** **10 26 56.9 +0.6**
KDAK pmax pmax
comp=Z,57nm,0.9s
KDAK Kodiak Island 78.66 14 P **P** **10 26 56.9 +0.6**
KDAK IAmb IAmb 10 26 58.7
comp=Z,57nm,0.9s
TIN Tinemaha, Big 78.68 45 P 10 26 58.8
baz=237,SNR=19
WAKR Walker 78.69 43 P **P** **10 26 59.0 +1.8**
WAKR IAmb IAmb 10 27 00.1
comp=Z,40nm,0.8s
J01E Myrtle Point 78.69 37 P 10 26 58.5
baz=232
GSC Goldstone, Bar 78.71 47 P **P** **10 26 58.8 +1.5**
GSC pmax pmax
comp=Z,9,0nm,0.8s
GSC Goldstone, Bar 78.71 47 P **P** **10 26 58.8 +1.5**
GSC Goldstone, Bar 78.71 47 P 10 26 58.7
baz=238,SNR=8.3
MDJ Mudanjiang 78.74 325 P **P** **10 26 58.2 +1.1**
MDJ pmax pmax
comp=Z,90nm,1.0s
MDJ pmax pmax
comp=Z,370nm,8.0s
MDJ Mudanjiang 78.74 325 P **P** **10 26 58.3 +1.2**
MDJ IAmb IAmb 10 26 59.6
comp=Z,83nm,0.8s
HEC Hector,Ludlow 78.79 48 P 10 26 59.3
baz=238,SNR=7.4
BC3 Big Chuckawall 78.81 49 P 10 26 59.7
baz=239,SNR=9.7
BEKR Beckworth 78.87 41 P **P** **10 26 59.6 +1.4**
BEKR IAmb IAmb 10 27 00.2
comp=Z,23nm,0.6s
PNTR Pine Nut 78.91 42 P **P** **10 27 00.2 +1.7**
PNTR IAmb IAmb 10 27 01.2
comp=Z,74nm,0.9s
HUMO Hull Mountain 78.92 38 P **P** **10 26 59.4 +1.2**
HUMO IAmb IAmb 10 27 01.2
comp=Z,58nm,1.2s
GLA Glamis 78.95 50 P 10 27 00.8
baz=240,SNR=7.1
GLA Glamis 78.95 50 P **P** **10 27 00.1 +1.5**
GLA pmax pmax
comp=Z,32nm,1.0s
GLA Glamis 78.95 50 P **P** **10 27 00.1 +1.5**
VCNR Virginia City 79.00 42 P **P** **10 27 00.5 +1.6**
L04D Klamath Falls 79.07 39 P 10 27 00.7
baz=233,SNR=9.3
M04C Macdoel 79.08 39 P 10 27 00.9
baz=233,SNR=14
YERR Yerington 79.08 43 P **P** **10 27 01.0 +1.7**
YERR IAmb IAmb 10 27 01.8
comp=Z,49nm,0.7s
LHV Little Huntoon 79.16 44 P **P** **10 27 01.4 +1.9**
LHV IAmb IAmb 10 27 02.5
comp=Z,40nm,0.9s
GRAC Grapevine Rang 79.23 45 P 10 27 01.8
baz=237,SNR=14
GMRC Granite Mounta 79.24 48 P 10 27 01.8
baz=239,SNR=8.2
IRM Iron Mountain 79.28 49 P 10 27 02.2
baz=239,SNR=16
FURC Furnace Creek, 79.28 46 P 10 27 01.7
baz=238,SNR=9.0
I02D Swisshome 79.33 36 P 10 27 01.5
baz=232
RYN Ryan 79.35 43 P **P** **10 27 01.6 +0.9**
I03D Drain, OR 79.36 37 P 10 27 02.1
baz=232,SNR=5.4
NVAR Mina Array Bea 79.39 44 P **P** **10 27 02.6 +1.6**
comp=Z,25nm,0.7s,baz=224,slow=9.0,SNR=142
NVAR pP **pwP** **10 29 03.5 -0.5**
comp=Z,0.8nm,0.8s,baz=226,slow=7.4,SNR=1.7
NVAR Mina Array Bea 79.39 44 P **P** **10 27 02.4 +1.4**
SHOC Shoshone, Teco 79.39 47 P 10 27 02.2
baz=238
TUQ Turquoise Moun 79.39 47 P 10 27 02.4
baz=238,SNR=6.5
PAHR Pah Rah Range 79.40 42 P **P** **10 27 02.6 +1.6**
PAHR IAmb IAmb 10 27 03.6
comp=Z,45nm,1.2s
NV11 Mina Array Sit 79.48 44 P **P** **10 27 02.9 +1.5**
GRNR Gornyy 79.57 333 ↓*i*P **P** **10 27 02.5 +1.1**
GRNR pmax pmax
comp=Z,50nm,1.1s
113A Mohawk Valley, 79.58 50 P **P** **10 27 03.4 +1.6**
J04D Umpqua Nationa 79.80 38 P 10 27 04.7
baz=233,SNR=27
KVN Kaiserville 79.86 43 P **P** **10 27 04.9 +1.5**
KVN pmax pmax
comp=Z,28nm,0.7s
KVN Kaiserville 79.86 43 P **P** **10 27 04.9 +1.5**
KVN IAmb IAmb 10 27 05.8
comp=Z,28nm,0.7s
214A Organ Pipe Nat 79.89 52 P 10 27 05.6
baz=241,SNR=9.0
214A Organ Pipe Nat 79.89 52 P **P** **10 27 05.6 +2.0**
TPH Tonopah 79.91 44 P **P** **10 27 05.2 +1.5**
TPH pmax pmax
comp=Z,131nm,1.1s
TPH Tonopah 79.91 44 P **P** **10 27 05.2 +1.5**
TPH IAmb IAmb 10 27 06.3
comp=Z,131nm,1.1s
HSIG 79.93 55 P **P** **10 27 05.2 +1.5**
I04A Tendick Farm, 79.95 37 P 10 27 04.8
baz=233,SNR=9.2
TPNV Topopah Spring 79.96 46 P 10 27 05.5
baz=238,SNR=25
TPNV Topopah Spring 79.96 46 P **P** **10 27 05.1 +1.1**
TPNV pmax pmax
comp=Z,17nm,0.8s
TPNV Topopah Spring 79.96 46 P **P** **10 27 05.0 +1.1**
NEE2 Needles Airpor 79.97 48 P 10 27 05.6
baz=240
PDMCI Parker Dam,Lak 80.07 49 P 10 27 06.2
baz=240,SNR=8.3
MOD Modoc Plateau 80.08 40 P **P** **10 27 05.5 +1.1**
MOD IAmb IAmb 10 27 07.0
comp=Z,40nm,0.7s
K05A Summer Lake 80.21 39 P **P** **10 27 06.7 +1.5**
K05A IAmb IAmb 10 27 08.1
comp=Z,80nm,1.0s
H04D Lebanon 80.21 37 P 10 27 06.3
baz=232,SNR=5.1
G03D McMinnville, O 80.34 36 P 10 27 07.1
baz=232
SHPR Sheep Range 80.47 47 P **P** **10 27 08.3 +1.7**
CNPM China Poot 80.54 13 P **P** **10 27 06.7 +0.5**
CNPM IAmb IAmb 10 27 07.6
comp=Z,78nm,1.0s
HOM Homer 80.57 13 P 10 27 07.6
baz=205
CN2 Changchun 80.58 322 *e*P **P** **10 27 07.0 +0.2**
CN2 pmax pmax
comp=Z,50nm,1.2s
H04A Detroit Lake 80.62 37 P **P** **10 27 08.3 +1.3**
H04A IAmb IAmb 10 27 08.7
comp=Z,39nm,0.6s
KLR Kul'dur 80.65 329 P **P** **10 27 08.1 +1.0**
comp=Z,12nm,0.8s,baz=104,slow=3.9,SNR=38
KLR Kul'dur 80.65 329 *d*P **P** **10 27 07.9 +0.9**
KLR *i* *PP **pP** **10 29 06.2 -2.1**
KLR pmax pmax
comp=Z,19nm,0.9s
W13A Hualapai Mount 80.66 48 P **P** **10 27 08.7 +1.0**
Y14A Wickenburg 80.71 50 P **P** **10 27 09.0 +1.2**
PINE Pine Mountain 80.81 38 P **P** **10 27 09.7 +1.5**
PINE IAmb IAmb 10 27 11.2
comp=Z,88nm,0.9s
BRLK Bradley Lake 80.83 13 P **P** **10 27 08.0 +0.3**
BRLK IAmb IAmb 10 27 08.9
comp=Z,65nm,0.8s
BRSE Bradley Lake S 80.84 14 P 10 27 08.1
baz=206,SNR=12
I05D Terrebonne, OR 80.90 37 P 10 27 10.0
baz=233,SNR=15
E03A Lebam 81.00 35 P **P** **10 27 10.3 +1.4**
E03A IAmb IAmb 10 27 11.5
comp=Z,74nm,0.9s
PRN Pahroc Range 81.01 46 P **P** **10 27 11.5 +2.1**
PRN IAmb IAmb 10 27 12.4
comp=Z,45nm,0.9s
F04D Rainier, OR 81.02 35 P 10 27 10.8
baz=232
RSO Redoubt South 81.07 12 P **P** **10 27 09.1 -0.1**
SVW2 Sparrevohn 81.12 11 P **P** **10 27 09.2 0.0**
SVW2 IAmb IAmb 10 27 10.3
comp=Z,40nm,1.2s
R11A Troy Canyon, C 81.14 45 P 10 27 11.3
baz=238,SNR=22
R11A Troy Canyon, C 81.14 45 P **P** **10 27 11.4 +1.3**
WHN Wuhan 81.18 306 ↑*i*P **P** **10 27 11.6 +1.4**
WHN pmax pmax
comp=Z,48nm,0.9s
DIB Dawson Inlet, 81.27 26 P **P** **10 27 10.3 +0.3**
DIB IAmb IAmb 10 27 12.5
comp=Z,44nm,1.1s
NLWA Neilton Lookou 81.37 34 P **P** **10 27 12.6 +1.7**
NLWA IAmb IAmb 10 27 13.5
comp=Z,55nm,1.1s
WVOR Wild Horse Val 81.40 40 P **P** **10 27 12.6 +1.4**
WVOR pmax pmax
comp=Z,56nm,1.1s
WVOR Wild Horse Val 81.40 40 P **P** **10 27 12.6 +1.4**
WVOR IAmb IAmb 10 27 13.9
comp=Z,56nm,1.1s
G05D Wamic, OR 81.45 37 P 10 27 12.7
baz=233,SNR=8.8
SEW Seward 81.46 14 P 10 27 10.9
baz=207,SNR=5.0
SEW Seward 81.46 14 P **P** **10 27 11.2 +0.3**
SEW IAmb IAmb 10 27 11.8
comp=Z,43nm,0.8s
E04D Cinebar 81.55 35 P 10 27 13.3
baz=232,SNR=9.9
TUC Tucson 81.58 52 P 10 27 14.7
baz=242
TUC Tucson 81.58 52 P **P** **10 27 14.7 +2.4**
TUC pmax pmax
comp=Z,30nm,1.0s
TUC Tucson 81.58 52 P **P** **10 27 14.7 +2.4**
TUC IAmb IAmb 10 27 15.8
comp=Z,30nm,0.9s
MA2 Magadan 81.67 345 P **P** **10 27 11.7 -0.3**
comp=Z,31nm,0.6s,baz=143,slow=2.7,SNR=13
MA2 Magadan 81.67 345 *d*P **P** **10 27 11.4 -0.6**
MA2 pmax pmax
comp=Z,52nm,1.7s
MA2 Magadan 81.67 345 P **P** **10 27 11.3 -0.7**
MA2 IAmb IAmb 10 27 12.6
comp=Z,49nm,0.9s
CAPN Captain Cook N 81.68 13 P 10 27 12.0
baz=206
O22K Cooper Landing 81.73 14 P 10 27 12.4
baz=207,SNR=7.8
O22K Cooper Landing 81.73 14 P **P** **10 27 12.2 0.0**
F05D White Salmon 81.75 36 P 10 27 14.1
baz=233,SNR=13
I07A Izee 81.82 38 P **P** **10 27 14.7 +1.4**
I07A IAmb IAmb 10 27 16.0
comp=Z,51nm,0.8s
D04E Lakebay 81.82 34 P 10 27 15.1
baz=232,SNR=9.1
TIA Tai'an 81.82 312 P **P** **10 27 14.0 +0.6**
TIA pmax pmax
comp=Z,17nm,0.9s
SPCR Spurr Chakacha 81.85 12 P 10 27 12.3
baz=205,SNR=9.3
D03D Eldon 81.87 34 P 10 27 15.0
baz=232,SNR=20
GAMB Gambell 81.93 3 P 10 27 14.2
baz=186
J08A Circle Bar Ran 82.02 39 P **P** **10 27 15.5 +1.2**
J08A IAmb IAmb 10 27 16.9
comp=Z,79nm,1.2s
LCMT Little Creek M 82.06 47 P **P** **10 27 16.3 +1.6**
LCMT IAmb IAmb 10 27 17.4
comp=Z,26nm,0.8s
X16A Lo Mia Camp, P 82.08 50 P **P** **10 27 16.9 +2.0**
X16A IAmb IAmb 10 27 18.2
comp=Z,32nm,1.0s
LON Longmire 82.08 35 P **P** **10 27 15.1 +0.6**
LON pmax pmax
comp=Z,15nm,0.8s
LON Longmire 82.08 35 P **P** **10 27 15.1 +0.6**
CCUT Cedar City 82.24 46 P **P** **10 27 17.5 +1.7**
CCUT IAmb IAmb 10 27 18.8
comp=Z,26nm,0.8s
D05A Enumclaw 82.25 35 P **P** **10 27 17.0 +1.8**
D05A IAmb IAmb 10 27 18.2
comp=Z,104nm,1.1s
RC01 Rabbit Creek A 82.27 13 P 10 27 15.2
baz=207,SNR=7.5
RC01 Rabbit Creek A 82.28 13 P **P** **10 27 14.8 -0.2**
RC01 IAmb IAmb 10 27 16.2
comp=Z,63nm,1.0s
319A Douglas 82.29 54 P **P** **10 27 18.4 +2.4**
319A IAmb IAmb 10 27 19.6
comp=Z,60nm,1.0s
SPR3 Spring Creek 3 82.32 45 P **P** **10 27 17.0 +0.8**
KNB Kanab 82.35 47 P **P** **10 27 18.0 +1.8**
KNB pmax pmax
comp=Z,27nm,0.8s
KNB Kanab 82.35 47 P **P** **10 27 18.0 +1.8**
KNB IAmb IAmb 10 27 19.2
comp=Z,27nm,0.8s
PGC Sidney 82.38 33 P **P** **10 27 17.0 +1.2**
PGC IAmb IAmb 10 27 18.0
comp=Z,37nm,0.8s
PWL Port Wells 82.39 14 P **P** **10 27 15.4 -0.2**
SUA Susitna One 82.39 13 P 10 27 15.5
baz=206,SNR=16
SUA Susitna One 82.39 13 P **P** **10 27 15.6 -0.2**
PSUT Pine Spring 82.40 45 P **P** **10 27 17.9 +1.4**
PSUT IAmb IAmb 10 27 18.9
comp=Z,22nm,0.7s
BBB Bella Bella 82.43 28 P **P** **10 27 16.7 +0.7**
BBB IAmb IAmb 10 27 18.1
comp=Z,44nm,0.9s
U15A North Rim 82.44 48 P **P** **10 27 18.7 +1.9**
U15A IAmb IAmb 10 27 19.9
comp=Z,57nm,0.8s
SZCU Shurtz Canyon 82.46 46 P **P** **10 27 18.6 +1.7**
ELK Elko 82.62 43 P **P** **10 27 18.8 +1.2**
ELK pmax pmax
comp=Z,22nm,0.8s
ELK Elko 82.62 43 P **P** **10 27 18.8 +1.2**
ELK IAmb IAmb 10 27 20.0
comp=Z,22nm,0.8s
F07A Phinny Hill Vi 82.62 37 P **P** **10 27 18.7 +1.5**
F07A IAmb IAmb 10 27 19.5
comp=Z,34nm,0.8s
WUAZ Wupatki 82.65 49 P 10 27 19.6
baz=242,SNR=19
WUAZ Wupatki 82.65 49 P **P** **10 27 19.5 +1.8**
CRAG Craig 82.67 24 P 10 27 18.5
baz=222
GLI Glacier Island 82.70 15 P 10 27 17.2
baz=209,SNR=9.4
GLI Glacier Island 82.70 15 P **P** **10 27 16.8 -0.3**
SKT Skwentna 82.70 12 P 10 27 16.1
baz=205,SNR=8.4
SKT Skwentna 82.70 12 P **P** **10 27 15.7 -1.5**
SKT IAmb IAmb 10 27 17.3
comp=Z,27nm,0.9s
EYAK Cordova Ski Ar 82.74 15 P 10 27 17.6
baz=211
TTA Tatalina 82.76 10 P 10 27 18.4
baz=201,SNR=21
TTA Tatalina 82.76 10 P **P** **10 27 18.2 +0.7**
TTA pmax pmax
comp=Z,82nm,1.1s
TTA Tatalina 82.76 10 P **P** **10 27 18.2 +0.7**
TTA IAmb IAmb 10 27 19.3
comp=Z,82nm,1.1s
M22K Willow 82.78 13 P 10 27 17.6
baz=207,SNR=17
A04D Lummi Island 82.81 33 P 10 27 19.5
baz=232,SNR=9.0
G08A Pilot Rock 82.83 38 P **P** **10 27 19.4 +1.1**
G08A IAmb IAmb 10 27 20.8
comp=Z,80nm,1.4s
KNK Knik Glacier 82.85 14 P 10 27 18.2
baz=208,SNR=12
B05A Bryant 82.85 34 P 10 27 19.6
baz=232,SNR=21
KNK Knik Glacier 82.85 14 P **P** **10 27 18.0 0.0**
KNK IAmb IAmb 10 27 19.1
comp=Z,67nm,0.8s
PMR Palmer 82.86 13 P 10 27 18.0
baz=208,SNR=26
PMR Palmer 82.86 13 P **P** **10 27 17.8 -0.1**
PMR pmax pmax
comp=Z,141nm,1.4s
PMR Palmer 82.86 13 P **P** **10 27 17.8 -0.1**
PMR IAmb IAmb 10 27 18.9
comp=Z,141nm,1.4s
PKCU Pink Cliffs 82.92 47 P **P** **10 27 21.4 +2.2**
PKCU IAmb IAmb 10 27 22.9
comp=Z,47nm,0.9s
LTY Liberty 83.01 35 P **P** **10 27 20.0 +0.9**
LTY IAmb IAmb 10 27 21.2
comp=Z,30nm,1.0s
E07A Sunnyside 83.05 36 P **P** **10 27 20.7 +1.3**
E07A IAmb IAmb 10 27 21.8
comp=Z,47nm,0.9s
SIT Sitka 83.05 22 P 10 27 20.0
baz=220
GHO Glory Hole Cre 83.06 13 P **P** **10 27 19.1 0.0**
HAWA Hanford 83.14 36 P **P** **10 27 20.9 +1.2**
HAWA IAmb IAmb 10 27 22.2
comp=Z,48nm,0.9s
ANM Nome 83.15 5 P 10 27 19.3
baz=192
X18A Snowflake 83.22 50 P **P** **10 27 22.4 +1.7**
SML Sawmill 83.22 14 P 10 27 19.9
baz=208,SNR=6.4
SML Sawmill 83.23 14 P **P** **10 27 19.5 -0.4**
SML IAmb IAmb 10 27 33.8
comp=Z,34nm,0.9s
HPIG 83.24 59 P **P** **10 27 22.7 +1.7**
MTPU Mount Pierson 83.30 46 P **P** **10 27 23.2 +2.0**
MTPU IAmb IAmb 10 27 24.6
comp=Z,25nm,0.8s
A05A Maple Falls 83.30 33 P **P** **10 27 21.5 +1.0**
B06A Marblemount 83.33 34 P **P** **10 27 21.1 +0.5**
B06A IAmb IAmb 10 27 22.4
comp=Z,32nm,1.0s
CUT Chulitna 83.34 13 P 10 27 20.3
baz=206,SNR=23
CUT Chulitna 83.34 13 P **P** **10 27 19.9 -0.4**
BMRM Bremner River 83.39 16 P 10 27 21.1
baz=212,SNR=14
BMRM Bremner River 83.39 16 P **P** **10 27 20.4 -0.3**
TCRU Three Creeks R 83.40 46 P **P** **10 27 23.2 +1.7**
PPLA Purkeypile 83.40 12 P 10 27 19.8
baz=205
PPLA Purkeypile 83.41 12 P **P** **10 27 21.2 +0.3**
PPLA IAmb IAmb 10 27 22.7
comp=Z,46nm,1.3s
MESA MESA 83.44 17 P 10 27 22.2
baz=214,SNR=12
MESA MESA 83.44 17 P **P** **10 27 22.2 +1.1**
E08A Dider Farm, El 83.46 37 P **P** **10 27 22.6 +1.3**

E08A IAmb IAmb 10 27 23.7
comp=Z,28nm,0.7s
SCM Sheep Creek Mo 83.48 14 P **P** **10 27 21.4 +0.3**
SCM pmax pmax
comp=Z,147nm,0.7s
SCM Sheep Creek Mo 83.48 14 P **P** **10 27 21.4 +0.3**
KLU Klutina 83.51 15 P 10 27 21.4
baz=210,SNR=9.4
KLU Klutina 83.51 15 P **P** **10 27 21.9 +0.5**
KLU IAmb IAmb 10 27 22.7
comp=Z,42nm,1.0s
BMO Blue Mountains 83.55 39 P **P** **10 27 23.1 +1.1**
BMO pmax pmax
comp=Z,13nm,0.9s
BMO Blue Mountains 83.55 39 P **P** **10 27 23.1 +1.1**
CRQM Cirque 83.60 16 P **P** **10 27 22.7 +0.8**
CRQE Cirque 83.61 16 P 10 27 22.4
baz=213,SNR=12
W18A Petrified Fore 83.65 50 P 10 27 24.3
baz=242,SNR=7.9
W18A Petrified Fore 83.65 50 P **P** **10 27 24.6 +1.9**
YAH Yahtse 83.65 17 P **P** **10 27 23.1 +0.9**
MAW Mawson 83.66 200 P **P** **10 27 22.4 +0.5**
comp=Z,4.3nm,0.5s,baz=127,slow=4.8,SNR=29
MAW pP **pP** **10 29 26.0 +1.9**
comp=Z,4.9nm,1.1s,baz=135,slow=5.7,SNR=4.2
MAW Mawson 83.66 200 P **P** **10 27 22.7 +0.8**
baz=84,SNR=9.1
MAW Mawson 83.66 200 P **P** **10 27 22.3 +0.3**
MAW pmax pmax
comp=Z,4.0nm,1.2s
MAW Mawson 83.66 200 P **P** **10 27 22.3 +0.3**
MFID Camas Ranch 83.67 40 P **P** **10 27 24.0 +1.4**
MFID IAmb IAmb 10 27 25.1
comp=Z,26nm,0.9s
WRAK Wrangell Islan 83.67 24 P 10 27 23.2
baz=223,SNR=7.6
WRAK Wrangell Islan 83.67 24 P **P** **10 27 23.1 +1.0**
WRAK IAmb IAmb 10 27 24.3
comp=Z,39nm,0.8s
TGL Tana Glacier 83.68 17 P **P** **10 27 22.7 +0.5**
PCA Pinnacle 83.86 18 P **P** **10 27 23.9 +0.8**
PCA IAmb IAmb 10 27 24.6
comp=Z,47nm,0.9s
PINM Pinnacle 83.86 18 P 10 27 23.2
baz=216
D08A Wollman Farm, 83.86 36 P **P** **10 27 24.7 +1.4**
D08A IAmb IAmb 10 27 25.7
comp=Z,41nm,1.0s
TABL Table Mountain 83.89 17 P **P** **10 27 23.9 +0.5**
CAST Castle Rocks 83.90 11 P 10 27 22.3
baz=205
VRDI Verde Repeater 83.91 16 P **P** **10 27 23.7 +0.2**
TNA Tin City 83.93 4 P 10 27 23.8
baz=190
TNA Tin City 83.93 4 P **P** **10 27 23.3 +0.1**
TNA IAmb IAmb 10 27 24.9
comp=Z,52nm,1.0s
DUG Dugway, Tooele 83.93 44 P 10 27 25.1
baz=240,SNR=8.1
DUG Dugway, Tooele 83.93 44 P **P** **10 27 24.8 +0.8**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 83.93 44 P **P** **10 27 24.8 +0.8**
N25K Chitina, Valde 83.94 15 P 10 27 24.0
baz=212,SNR=27
121A Cookes Peak, D 83.94 53 P 10 27 26.5
baz=244,SNR=12
N25K Chitina, Valde 83.94 15 P **P** **10 27 23.8 +0.4**
121A Cookes Peak, D 83.94 53 P **P** **10 27 26.4 +2.1**
GRNC Granite Creek 83.95 17 P **P** **10 27 23.9 +0.2**
M24K Tolsona, Glenn 83.98 14 P 10 27 24.4
baz=210,SNR=15
M24K Tolsona, Glenn 83.98 14 P **P** **10 27 24.5 +0.8**
E09A Wood Farm, Sta 83.99 37 P **P** **10 27 25.2 +1.3**
E09A IAmb IAmb 10 27 26.1
comp=Z,53nm,1.5s
GLB Gilahina Butte 84.00 16 P **P** **10 27 24.0 +0.3**
WAT6 Susitna Watana 84.04 14 P 10 27 24.1
baz=209,SNR=64
MCARA McCarthy VSAT 84.15 16 P 10 27 24.9
baz=213,SNR=9.7
MCARA McCarthy VSAT 84.16 16 P **P** **10 27 24.8 +0.4**
MCARA IAmb IAmb 10 27 26.0
comp=Z,68nm,1.0s
BGU Big Grassy Mou 84.16 44 P **P** **10 27 25.9 +0.8**
WAT2 Susitna Watana 84.19 13 P 10 27 24.6
baz=208,SNR=24
F10A Beach Ranch, E 84.22 38 P **P** **10 27 25.8 +0.6**
F10A IAmb IAmb 10 27 27.2
comp=Z,55nm,0.9s
SEY Seymchan 84.23 347 P **P** **10 27 24.9 +0.3**
comp=Z,83nm,0.8s,baz=154,slow=5.4,SNR=159
SEY Seymchan 84.23 347 P **P** **10 27 25.0 +0.3**
KTH Kantishna Hill 84.25 12 P **P** **10 27 24.2 -0.7**
KTH IAmb IAmb 10 27 25.0
comp=Z,73nm,0.9s
BARN Barnard Glacie 84.25 17 P **P** **10 27 25.5 +0.4**
CTG Chitna Glacier 84.26 17 P 10 27 25.8
baz=215,SNR=15
CTGM Chitina Glacie 84.26 17 P **P** **10 27 25.7 +0.6**
TRF Thorofare Moun 84.28 12 P 10 27 24.7
baz=206,SNR=88
TRF Thorofare Moun 84.28 12 P **P** **10 27 24.8 -0.4**
CHUM Lake Minchumin 84.28 11 P 10 27 24.4
baz=204,SNR=30
NLU North Lily Min 84.31 45 P **P** **10 27 27.1 +1.1**
JIS Juneau Island 84.31 21 P **P** **10 27 26.2 +1.1**
JIS IAmb IAmb 10 27 27.2
comp=Z,22nm,0.8s
RPSI Rantau Prapat 84.32 275 P **P** **10 27 25.9 -0.5**
BJT Baijiatuan 84.35 315 P **P** **10 27 26.8 +1.0**
BJT pmax pmax
comp=Z,88nm,1.5s
BJT Baijiatuan 84.35 315 P **P** **10 27 26.8 +1.0**
BJT IAmb IAmb 10 27 28.0
comp=Z,88nm,1.5s
PSI Prapat 84.36 275 P **P** **10 27 25.9 -0.8**
PSI pmax pmax
comp=Z,21nm,1.0s
BJI Beijing 84.36 315 P **P** **10 27 26.8 +0.9**
BJI pmax pmax
comp=Z,26nm,0.6s
BJI pmax pmax
comp=Z,130nm,3.5s
BESE Bessie Mountai 84.38 21 P **P** **10 27 26.8 +1.2**
BESE IAmb IAmb 10 27 27.8
comp=Z,36nm,0.9s
B08A Colville Reser 84.39 35 P **P** **10 27 26.2 +0.3**
B08A IAmb IAmb 10 27 27.5
comp=Z,40nm,0.9s
HARP HAARP 84.48 15 P 10 27 26.6
baz=211,SNR=15
RND Reindeer 84.53 13 P **P** **10 27 26.4 +0.1**
RND pmax pmax
comp=Z,142nm,0.7s
RND Reindeer 84.53 13 P **P** **10 27 26.4 +0.1**
TMUT Trail Mountain 84.57 46 P **P** **10 27 28.8 +1.4**
TMUT IAmb IAmb 10 27 29.8
comp=Z,16nm,0.7s
HLID Hailey 84.62 41 P 10 27 29.0
baz=239,SNR=50
HLID Hailey 84.62 41 P **P** **10 27 29.0 +1.6**
HLID IAmb IAmb 10 27 30.1
comp=Z,22nm,0.8s
MPU Maple Canyon 84.63 45 P **P** **10 27 28.8 +1.3**
C09A Chrisman Ranch 84.65 36 P **P** **10 27 28.2 +1.1**
C09A IAmb IAmb 10 27 29.2
comp=Z,28nm,0.8s
BPAW Bear Paw Mtn. 84.73 12 P 10 27 26.0
baz=206,SNR=16
SPUT South Promonto 84.73 44 P **P** **10 27 29.1 +1.2**
BPAW Bear Paw Mtn. 84.73 12 P **P** **10 27 26.3 -0.9**
BPAW IAmb IAmb 10 27 29.1
comp=Z,20nm,0.7s
HVU Hansel Valley 84.75 43 P **P** **10 27 29.1 +1.1**
HVU pmax pmax
comp=Z,10.0nm,0.7s
HVU Hansel Valley 84.75 43 P **P** **10 27 29.1 +1.1**
MCK McKinley 84.80 13 P 10 27 27.4
baz=208,SNR=34
MCK McKinley 84.80 13 P **P** **10 27 27.4 -0.2**
MCK pmax pmax
comp=Z,137nm,1.2s
MCK McKinley 84.80 13 P **P** **10 27 27.4 -0.2**

ENH Enshi 84.84 304 P **P** **10 27 29.3 +0.7**
ENH IAmb IAmb 10 27 30.7
comp=Z,64nm,0.8s
CTU Camp Tracy 84.89 44 P **P** **10 27 29.3 +0.6**
PAX Paxson 84.90 14 P 10 27 27.9
baz=211,SNR=19
PAX Paxson 84.90 14 P **P** **10 27 27.9 -0.2**
PAX pmax pmax
comp=Z,32nm,0.8s
PAX Paxson 84.90 14 P **P** **10 27 27.9 -0.2**
PAX IAmb IAmb 10 27 28.9
comp=Z,32nm,0.8s
SRU San Rafael Swe 84.95 46 P **P** **10 27 30.3 +1.2**
SRU pmax pmax
comp=Z,18nm,0.7s
SRU San Rafael Swe 84.95 46 P **P** **10 27 30.3 +1.2**
SRU IAmb IAmb 10 27 31.3
comp=Z,18nm,0.7s
P17A Butcher Ranch, 84.98 46 P **P** **10 27 30.2 +1.0**
JLU Jordanelle 85.04 44 P **P** **10 27 30.4 +0.8**
BWN Browne 85.09 12 P **P** **10 27 28.8 -0.1**
GSI Gunungsitoli 85.16 273 P **P** **10 27 31.3 +0.9**
GSI IAmb IAmb 10 27 32.3
comp=Z,20nm,0.8s
HYT Haines Junctio 85.26 19 P **P** **10 27 30.9 +0.9**
HYT IAmb IAmb 10 27 31.9
comp=Z,36nm,0.9s
MENT Mentasta 85.29 15 P **P** **10 27 30.4 +0.5**
MENT IAmb IAmb 10 27 31.1
comp=Z,28nm,0.7s
MNTX Cornudas Mount 85.43 55 P **P** **10 27 33.3 +2.0**
MNTX IAmb IAmb 10 27 34.3
comp=Z,27nm,1.3s
MNTX Cornudas Mount 85.43 55 P 10 27 33.2
baz=245,SNR=21
HWUT Hardware Ranch 85.45 44 P **P** **10 27 32.7 +1.3**
PV05 Paradox Valley 85.46 48 P **P** **10 27 33.0 +1.4**
MVCO Mesa Verde 85.49 49 P 10 27 32.9
baz=243
MVCO Mesa Verde 85.49 49 P **P** **10 27 33.0 +1.2**
BNM Barren Site 85.51 52 P **P** **10 27 33.3 +1.4**
NEA2 Nenana 85.54 12 P 10 27 30.2
baz=207,SNR=6.9
NEA2 Nenana 85.54 12 P **P** **10 27 30.7 -0.4**
NEW Newport 85.55 36 P 10 27 32.1
baz=236,SNR=14
NEW Newport 85.55 36 P **P** **10 27 31.9 +0.4**
NEW pmax pmax
comp=Z,12nm,0.8s
NEW Newport 85.55 36 P **P** **10 27 31.9 +0.4**
GYA Guiyang 85.60 300 ⇑P **P** **10 27 33.5 +1.1**
MLY Manley 85.62 11 P 10 27 30.9
baz=206,SNR=26
MLY Manley 85.62 11 P **P** **10 27 30.6 -0.9**
MLY IAmb IAmb 10 27 32.6
comp=Z,42nm,1.2s
BCYI Bear Canyon 85.63 41 P **P** **10 27 33.6 +1.3**
WRH Wood River Hil 85.63 12 P **P** **10 27 31.1 -0.4**
PV19 Morning Glory 85.65 47 P **P** **10 27 33.7 +1.2**
PV14 Lion Creek, Pa 85.65 47 P **P** **10 27 33.5 +1.0**
PV17 East Wray Mesa 85.65 47 P **P** **10 27 33.3 +0.8**
PV18 Skein Mesa, Pa 85.67 48 P **P** **10 27 33.5 +0.9**
PV20 West Nyswonger 85.67 47 P **P** **10 27 33.5 +1.0**
PV20 IAmb IAmb 10 27 37.9
comp=Z,14nm,0.7s
PV13 Radium Mtn., P 85.69 48 P **P** **10 27 33.5 +0.8**
PV16 Nyswonger Mesa 85.69 47 P **P** **10 27 33.8 +1.1**
PV03 Paradox Valley 85.72 48 P **P** **10 27 33.5 +0.7**
PV11 David Mesa, Pa 85.72 47 P **P** **10 27 33.6 +0.8**
ZEA Zeya 85.72 331 *e*P **P** **10 27 33.2 +1.0**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.8s
PV04 Paradox Valley 85.74 47 P **P** **10 27 34.0 +1.1**
PV02 Paradox Valley 85.77 48 P **P** **10 27 34.1 +1.1**
PV12 Saucer Basin, 85.78 47 P **P** **10 27 33.9 +0.8**
DOT Dot Lake 85.81 14 P **P** **10 27 32.6 +0.2**
DOT IAmb IAmb 10 27 33.7
comp=Z,59nm,1.0s
HDA Harding Lake 85.82 13 P 10 27 32.2
baz=209,SNR=38
HDA P 10 27 32.2
baz=209,SNR=38
HDA Harding Lake 85.82 13 P **P** **10 27 32.1 -0.3**
HDA IAmb IAmb 10 27 33.2
comp=Z,50nm,0.8s
TX31 Lajitas Ar. Si 85.82 57 P **P** **10 27 35.6 +2.3**
TX32 Lajitas Array 85.82 57 P **P** **10 27 35.6 +2.3**
TX32 IAmb IAmb 10 27 36.9
comp=Z,36nm,0.8s
TXAR Lajitas Array 85.82 57 P **P** **10 27 35.8 +2.4**
comp=Z,25nm,0.7s,baz=219,slow=6.1,SNR=401
TXAR pP **pwP** **10 29 37.7 -1.2**
comp=Z,0.4nm,0.8s,baz=245,slow=3.9,SNR=2.1
H21K Melozitna Rive 85.82 10 P 10 27 32.7
baz=204,SNR=24
CCB Clear Creek Bu 85.85 13 P **P** **10 27 32.0 -0.5**
PV01 Paradox Valley 85.86 48 P **P** **10 27 34.3 +0.8**
L27K Beaver Creek, 85.87 16 P 10 27 33.2
baz=214,SNR=14
L27K Beaver Creek, 85.87 16 P **P** **10 27 32.6 -0.1**
L27K IAmb IAmb 10 27 34.3
comp=Z,17nm,0.8s
BCAR Beaver Creek A 85.88 16 P **P** **10 27 33.4 +0.6**
PV22 Blue Mesa, Par 85.89 47 P **P** **10 27 34.5 +1.0**
PV07 Paradox Valley 85.94 47 P **P** **10 27 34.5 +0.7**
WHY Whitehorse 85.95 20 P 10 27 34.2
baz=221,SNR=11
WHY Whitehorse 85.95 20 P **P** **10 27 33.5 +0.2**
WHY IAmb IAmb 10 27 35.3
comp=Z,39nm,1.1s
IMAR Indian Mountai 85.97 10 P **P** **10 27 33.3 +0.2**
ANMO Albuquerque 85.98 51 P 10 27 35.4
baz=244
ANMO Albuquerque 85.98 51 *de*P **P** **10 27 35.3 +1.2**
ANMO pmax pmax
comp=Z,19nm,1.0s
ANMO Albuquerque 85.98 51 P **P** **10 27 35.1 +1.0**
I23K Minto, Yukon-K 85.98 12 P 10 27 32.4
baz=207,SNR=25
I23K Minto, Yukon-K 85.98 12 P **P** **10 27 32.5 -0.5**
I23K IAmb IAmb 10 27 33.8
comp=Z,56nm,1.4s
PV15 Paradox Valley 86.01 48 P **P** **10 27 35.4 +1.2**
TCOL CIGO, UAF Yank 86.03 12 P 10 27 33.0
baz=209,SNR=24
TCOL CIGO, UAF Yank 86.03 12 P **P** **10 27 33.0 -0.4**
MDM Murphy Dome 86.04 12 P **P** **10 27 32.7 -0.7**
COLA College 86.04 12 P 10 27 33.0
baz=209
COLA College 86.04 12 P **P** **10 27 33.1 -0.2**
COLA pmax pmax
comp=Z,87nm,0.6s
COLA College 86.04 12 P **P** **10 27 33.1 -0.2**
SCRK Sand Creek 86.11 14 P 10 27 34.2
baz=212,SNR=18
SCRK Sand Creek 86.11 14 P **P** **10 27 34.0 +0.1**
SCRK IAmb IAmb 10 27 35.4
comp=Z,26nm,1.0s
IL31 86.15 13 P **P** **10 27 33.4 -0.5**
ILAR Eielson Array 86.15 13 P **P** **10 27 33.5 -0.4**
comp=Z,23nm,0.4s,baz=219,slow=4.8,SNR=408
ILAR pP **pwP** **10 29 38.4 -1.5**
comp=Z,2.0nm,1.0s,baz=233,slow=5.0,SNR=1.7
ILAR PP **PP** **10 31 06.8 +1.2**
comp=Z,4.1nm,0.9s,baz=219,slow=7.6,SNR=6.6
ILAR PKiKP **PKiKP** **10 32 36.8 -0.6**
comp=Z,0.5nm,0.6s,baz=350,slow=2.7,SNR=5.5
MCMT McKenzie Canyo 86.23 40 P **P** **10 27 36.6 +1.4**
ECR Eagle Creek 86.28 42 P **P** **10 27 37.4 +2.0**
RDMU Red Mountain 86.29 45 P **P** **10 27 36.3 +0.8**
AHID Auburn Hatcher 86.32 43 P **P** **10 27 36.7 +1.2**
POKR Poker Flat Res 86.34 12 P 10 27 34.3
baz=209,SNR=19
POKR Poker Flat Res 86.34 12 P **P** **10 27 34.1 -0.7**
H23K Yukon River 86.55 11 P 10 27 35.3
baz=207,SNR=10.0
MSO Missoula 86.60 38 P **P** **10 27 37.0 +0.4**
MSO Missoula 86.60 38 P 10 27 36.9
baz=239,SNR=21
K27K Chicken 86.61 15 P 10 27 37.1
baz=214

K27K Chicken 86.61 15 P **P** **10 27 36.9 +0.7**
K27K IAmb IAmb 10 27 38.3
comp=Z,34nm,1.1s
DLMT Dillon 86.66 40 P **P** **10 27 38.6 +1.6**
DLMT IAmb IAmb 10 27 39.5
comp=Z,29nm,0.8s
TPAW Teton Pass 86.76 42 P **P** **10 27 38.9 +1.2**
TPAW IAmb IAmb 10 27 40.4
comp=Z,27nm,1.1s
REDW Red Top Meadow 86.76 42 P **P** **10 27 38.8 +1.2**
REDW IAmb IAmb 10 27 40.2
comp=Z,42nm,1.1s
RDOG Red Dog Mine 86.79 6 P 10 27 37.8
baz=194
RDOG Red Dog Mine 86.79 6 P **P** **10 27 37.9 +1.0**
RDOG IAmb IAmb 10 27 38.8
comp=Z,15nm,0.8s
XAN Xi'an 86.83 307 P **P** **10 27 39.2 +1.2**
XAN pmax pmax
comp=Z,47nm,1.1s
XAN Xi'an 86.83 307 P **P** **10 27 39.5 +1.6**
XAN Xi'an 86.83 307 P **P** **10 27 39.5 +1.6**
BILL Bilibino 86.84 354 *c* i P **P** **10 27 37.0 -0.1**
BILL *e* 10 31 10.2
BILL *eS* **S** **10 37 22.3 -5.0**
BILL pmax pmax
comp=Z,32nm,1.0s
BILL Bilibino 86.84 354 P **P** **10 27 37.3 +0.1**
BILL IAmb IAmb 10 27 39.3
comp=Z,25nm,0.9s
SNOW Snow King Moun 86.87 42 P **P** **10 27 39.7 +1.5**
SNOW IAmb IAmb 10 27 40.9
comp=Z,39nm,1.0s
JTMT Jette 86.88 37 P **P** **10 27 38.1 +0.1**
H24K Noodor Dome 86.88 12 P 10 27 36.1
baz=208,SNR=13
S22A 4UR Ranch, Cre 86.92 49 P 10 27 40.0
baz=244,SNR=21
HIA Hailar 86.93 324 P **P** **10 27 38.0 0.0**
HIA pmax pmax
comp=Z,46nm,1.5s
HIA Hailar 86.93 324 P **P** **10 27 38.0 0.0**
HIA IAmb IAmb 10 27 39.8
comp=Z,46nm,1.5s
LRM Limekiln Ridge 86.97 40 P **P** **10 27 40.0 +1.4**
O20A White River Ci 86.99 46 P 10 27 39.8
baz=243,SNR=13
O20A White River Ci 86.99 46 P **P** **10 27 39.9 +1.2**
O20A IAmb IAmb 10 27 41.2
comp=Z,37nm,1.4s
LOHW Long Hollow 87.04 42 P **P** **10 27 40.1 +1.2**
LOHW IAmb IAmb 10 27 40.9
comp=Z,13nm,0.8s
PRP Porcupine Dome 87.08 13 P 10 27 38.2
baz=211,SNR=7.8
PRP Porcupine Dome 87.08 13 P **P** **10 27 38.6 +0.1**
PRP IAmb IAmb 10 27 45.4
comp=Z,21nm,0.7s
QLMT Earthquake Lak 87.11 41 P **P** **10 27 41.2 +2.0**
FLWY Flagg Ranch 87.21 42 P **P** **10 27 41.6 +1.9**
FLWY IAmb IAmb 10 27 42.6
comp=Z,51nm,1.1s
YHB Horse Butte 87.22 41 P **P** **10 27 41.8 +2.1**
YHB IAmb IAmb 10 27 42.9
comp=Z,50nm,1.0s
YPP Pitchstone Pla 87.23 42 P **P** **10 27 42.0 +2.0**
YHL Hebgen Lake 87.27 41 P **P** **10 27 42.3 +2.2**
BW06 Boulder Array 87.31 43 P 10 27 41.2
baz=242,SNR=30
BW06 Boulder Array 87.32 43 P **P** **10 27 41.1 +0.8**
BW06 IAmb IAmb 10 27 42.1
comp=Z,18nm,0.8s
PD31 Pinedale Array 87.32 43 P **P** **10 27 41.2 +0.9**
PD31 IAmb IAmb 10 27 42.1
comp=Z,17nm,0.8s
PDAR Pinedale Array 87.32 43 P **P** **10 27 41.1 +0.9**
comp=Z,14nm,0.7s,baz=216,slow=2.8,SNR=120
PDAR Pinedale Array 87.32 43 P **P** **10 27 41.0 +0.7**
DAWY Dawson 87.32 16 P **P** **10 27 40.1 +0.6**
DAWY IAmb IAmb 10 27 41.2
comp=Z,78nm,1.4s
YMR Madison River 87.32 41 P **P** **10 27 42.1 +1.9**
YMR IAmb IAmb 10 27 43.4
comp=Z,39nm,0.8s
H17A Grant Village 87.43 41 P 10 27 43.6
baz=241,SNR=40
H17A Grant Village 87.43 41 P **P** **10 27 43.8 +3.0**
H17A IAmb IAmb 10 27 44.5
comp=Z,31nm,0.9s
SMCO Snowmass 87.44 47 P **P** **10 27 42.4 +1.3**
YHH Holmes Hill 87.45 41 P **P** **10 27 43.0 +2.0**
YHH IAmb IAmb 10 27 45.0
comp=Z,32nm,1.3s
EGAK Eagle 87.45 15 P 10 27 40.5
baz=215,SNR=34
EGAK Eagle 87.46 15 P **P** **10 27 40.5 +0.4**
EGAK IAmb IAmb 10 27 41.6
comp=Z,41nm,0.8s
YNR Norris Junctio 87.52 41 P **P** **10 27 43.5 +2.3**
LKWY Lake 87.63 41 P **P** **10 27 44.6 +2.9**
LKWY pmax pmax
comp=Z,26nm,0.8s
LKWY Lake 87.63 41 P **P** **10 27 44.6 +2.9**
LKWY IAmb IAmb 10 27 45.5
comp=Z,26nm,0.8s
PHIT Phitsanulok 87.68 289 P **P** **10 27 43.7 +1.6**
COLD Coldfoot 87.69 10 P 10 27 41.9
baz=206,SNR=70
COLD Coldfoot 87.69 10 P **P** **10 27 42.0 +0.9**
UTTA Uttaradit 87.74 289 P **P** **10 27 44.4 +2.0**
WALA Waterton Lakes 87.77 36 P **P** **10 27 43.1 +1.0**
WALA IAmb IAmb 10 27 44.1
comp=Z,18nm,0.8s
HRY Holter Researc 87.79 39 P **P** **10 27 43.5 +1.3**
HHC Hu-ho-hao-te 87.85 314 *e*P **P** **10 27 44.1 +1.5**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,210nm,9.8s
YMP Mirror Lake Pl 87.86 41 P **P** **10 27 45.1 +2.2**
YMP IAmb IAmb 10 28 00.2
comp=Z,20nm,1.2s
SDCO Great Sand Dun 87.87 49 P 10 27 43.9
baz=245,SNR=18
SDCO Great Sand Dun 87.87 49 P **P** **10 27 43.9 +0.9**
FYU Fort Yukon 88.05 12 P **P** **10 27 42.6 -0.2**
FYU IAmb IAmb 10 27 44.0
comp=Z,27nm,0.6s
YNE Yellowstone No 88.08 41 P **P** **10 27 45.8 +1.9**
YNE IAmb IAmb 10 27 46.8
comp=Z,40nm,1.1s
MSTX Muleshoe 88.35 53 P 10 27 46.4
baz=247
MSTX Muleshoe 88.36 53 P **P** **10 27 46.5 +1.3**
MSTX IAmb IAmb 10 27 47.2
comp=Z,41nm,1.1s
RWWY Rawlins 88.38 45 P **P** **10 27 45.3 0.0**
RWWY IAmb IAmb 10 27 46.4
comp=Z,32nm,1.1s
KMI Kunming 88.39 297 ⇓P **P** **10 27 47.3 +1.6**
KMI pmax pmax
comp=Z,16nm,1.3s
T25A Trinidad 88.41 50 P 10 27 46.2
baz=246
T25A Trinidad 88.41 50 P **P** **10 27 46.5 +1.0**
RLMT Red Lodge 88.60 41 P 10 27 47.5
baz=242,SNR=14
RLMT Red Lodge 88.60 41 P **P** **10 27 48.0 +1.8**
RLMT IAmb IAmb 10 27 49.0
comp=Z,24nm,0.9s
Q24A Divide 88.63 48 P 10 27 47.8
baz=245
ISCO Idaho Springs 88.66 47 P 10 27 48.1
baz=245
ISCO Idaho Springs 88.66 47 P **P** **10 27 48.4 +1.7**
ISCO pmax pmax
comp=Z,4.0nm,1.2s
ISCO Idaho Springs 88.66 47 P **P** **10 27 48.4 +1.7**
GCMT Greycliff 88.66 41 P **P** **10 27 48.2 +1.8**
N23A Red Feather La 88.89 46 P 10 27 49.0
baz=245,SNR=12
833A Chaparral WMA, 88.90 60 P 10 27 49.4
baz=249
BMAR Burnt Mountain 88.92 12 P **P** **10 27 48.0 +1.1**
CMIG Matias Romero 88.93 72 P **P** **10 27 49.8 +1.8**

comp=Z,5.4nm,0.8s,baz=286,slow=4.4,SNR=7.2
TOLK Toolik Lake Re 89.07 10 P 10 27 47.9
baz=207,SNR=16
TOLK Toolik Lake Re 89.07 10 P **P** **10 27 48.0 +0.4**
TOLK IAmb IAmb 10 27 49.0
comp=Z,22nm,0.7s
K22A Casper 89.26 44 P 10 27 50.3
baz=244,SNR=10
K22A Casper 89.26 44 P **P** **10 27 50.3 +1.1**
K22A IAmb IAmb 10 27 51.4
comp=Z,28nm,1.2s
CM36 Chiang Mai Arr 89.31 290 P **P** **10 27 50.0 +0.2**
JCT Junction City 89.36 58 P 10 27 50.8
baz=248
JCT Junction City 89.36 58 P **P** **10 27 51.0 +1.2**
JCT pmax pmax
comp=Z,14nm,0.8s
JCT Junction City 89.36 58 P **P** **10 27 51.0 +1.2**
JCT IAmb IAmb 10 27 51.9
comp=Z,14nm,0.8s
CM04 Chiang Mai Arr 89.37 290 P **P** **10 27 51.0 +0.9**
CM09 Chiang Mai Arr 89.38 290 P **P** **10 27 51.9 +1.8**
CM01 Chiang Mai Arr 89.40 290 P **P** **10 27 52.0 +1.8**
PHWY Pilot Hill 89.40 46 P **P** **10 27 50.3 +0.2**
PHWY IAmb IAmb 10 27 52.1
comp=Z,12nm,1.1s
CM05 Chiang Mai Arr 89.41 289 P **P** **10 27 51.0 +0.8**
CM02 Chiang Mai Arr 89.41 290 P **P** **10 27 52.1 +1.8**
CM31 Chiang Mai Arr 89.42 290 P **P** **10 27 52.2 +1.9**
CM31 Chiang Mai Arr 89.42 290 P **P** **10 27 51.5 +1.2**
CM31 IAmb IAmb 10 27 52.8
comp=Z,21nm,0.9s
CMAR Chiang Mai Arr 89.42 290 P **P** **10 27 51.8 +1.5**
comp=Z,13nm,0.9s,baz=111,slow=2.8,SNR=72
CMAR Chiang Mai Arr 89.42 290 P **P** **10 27 51.4 +1.1**
CM15 Chiang Mai Arr 89.44 290 P **P** **10 27 52.0 +1.7**
CM13 Chiang Mai Arr 89.44 289 P **P** **10 27 52.0 +1.6**
CM33 Chiang Mai Arr 89.54 290 P **P** **10 27 51.0 +0.1**
CHTO Chiang Mai 89.54 290 P **P** **10 27 51.9 +1.1**
CHTO pmax pmax
comp=Z,20nm,0.8s
CHTO Chiang Mai 89.54 290 P **P** **10 27 51.9 +1.1**
CHTO IAmb IAmb 10 27 52.9
comp=Z,20nm,0.8s
CM32 Chiang Mai Arr 89.58 290 P **P** **10 27 53.0 +2.0**
CD2 Chengdu 89.64 303 P **P** **10 27 51.7 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
EGMT Eagleton 89.66 39 P **P** **10 27 52.3 +1.5**
EPYK Eagle Plains 89.84 15 P 10 27 51.5
baz=219,SNR=41
EPYK Eagle Plains 89.84 15 P **P** **10 27 51.5 +0.3**
YAK Yakutsk 90.08 338 P **P** **10 27 52.5 +0.2**
comp=Z,14nm,0.4s,baz=268,slow=1.2,SNR=4.6
YAK Yakutsk 90.08 338 *e*P **P** **10 27 51.4 -0.9**
YAK *e*PP **pP** **10 29 54.5 -2.0**
YAK *e* 10 31 32.7
YAK *e*S **SKSac** **10 37 27.2 -1.2**
YAK *e* 10 37 54.3
YAK *e*SS **SS** **10 44 18.2 +4.1**
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,61nm,1.5s
YAK pmax pmax
comp=E,19nm,1.8s
YAK pmax pmax
comp=N,15nm,1.6s
YAK smax smax
comp=E,16nm,1.8s
YAK smax smax
comp=N,15nm,1.4s
SNAA Sanae 90.22 178 P **P** **10 27 53.1 0.0**
SNAA Sanae 90.22 178 pP pP 10 30 03.7 +6.5
SNAA Sanae 90.22 178⇓ *e*P **P** **10 27 53.2 +0.1**
SNAA pmax pmax
comp=Z,3.0nm,0.8s
ABTX Abilene, Hawle 90.27 56 P 10 27 55.2
baz=248
ABTX Abilene, Hawle 90.27 56 P **P** **10 27 54.8 +0.8**
VNA3 Neumayer Olymp 90.34 176 P **P** **10 27 54.1 +0.5**
VNA3 Neumayer Olymp 90.34 176 pP pP 10 30 05.9 +8.3
KSCO Kaye Shedlock' 90.45 49 P 10 27 55.8
baz=247
KSCO Kaye Shedlock' 90.45 49 P **P** **10 27 56.2 +1.5**
KSCO IAmb IAmb 10 27 58.1
comp=Z,23nm,1.2s
PLCA Paso Flores 90.76 134 P **P** **10 27 57.3 +1.1**
comp=Z,2.8nm,1.0s,baz=242,slow=7.0,SNR=3.8
VNA2 Neumayer--Watz 90.79 177 P **P** **10 27 55.6 0.0**
VNA2 Neumayer--Watz 90.79 177 pP pP 10 30 07.0 +7.4
VNA1 Neumayer--Stat 91.01 177 P **P** **10 27 57.6 +1.0**
VNA1 Neumayer--Stat 91.01 177 pP pP 10 30 06.9 +6.3
LAO LASA Array 91.20 41 P **P** **10 27 59.6 +1.7**
435B Jarrell 91.25 58 P 10 28 00.1
baz=250
LZH Lanzhou 91.47 308 ⇓P **P** **10 28 01.0 +1.4**
LZH PP **PP** **10 31 48.4 +0.2**
LZH pmax pmax
comp=Z,34nm,1.4s
LZH pmax pmax
comp=Z,180nm,6.2s
RSSD Black Hills 91.52 44 P 10 28 00.4
baz=246
RSSD Black Hills 91.52 44 P **P** **10 28 00.5 +0.8**
RSSD pmax pmax
comp=Z,19nm,0.8s
RSSD Black Hills 91.52 44 P **P** **10 28 00.5 +0.8**
RSSD IAmb IAmb 10 28 01.4
comp=Z,19nm,0.8s
WMOK Wichita Mounta 91.70 54 P **P** **10 28 01.2 +0.7**
WMOK pmax pmax
comp=Z,4.0nm,1.0s
WMOK Wichita Mounta 91.70 54 P **P** **10 28 01.1 +0.7**
WMOK Wichita Mounta 91.70 54 P 10 28 01.1
baz=249
WHTX Lake Whitney, 91.77 57 P 10 28 02.1
baz=250
U32A Winter Ranch, 92.12 52 P **P** **10 28 02.5 0.0**
U32A IAmb IAmb 10 28 04.7
comp=Z,8.9nm,0.9s
INK Inuvik 92.12 15 P 10 28 01.5
baz=222
INK Inuvik 92.12 15 P **P** **10 28 01.5 -0.1**
INK pmax pmax
comp=Z,45nm,1.0s
INK Inuvik 92.12 15 P **P** **10 28 01.5 -0.1**
HKT Hockley 92.39 59⇓ *e*P **P** **10 28 05.0 +1.4**
HKT pmax pmax
comp=Z,6.0nm,1.4s
CBKS Cedar Bluff 92.46 50 P 10 28 05.0
baz=248
CBKS Cedar Bluff 92.46 50 P **P** **10 28 05.0 +1.1**
CBKS pmax pmax
comp=Z,24nm,0.9s
CBKS Cedar Bluff 92.46 50 P **P** **10 28 05.0 +1.1**
CBKS IAmb IAmb 10 28 06.0
comp=Z,24nm,0.9s
OK032 Salt Plains WL 92.87 52 P **P** **10 28 06.8 +1.0**
FNO Franklin 92.94 54 P **P** **10 28 07.5 +1.3**
R32A Long Quarter, 93.07 51 P **P** **10 28 08.2 +1.5**
KAN09 Caldwell North 93.43 52 P **P** **10 28 09.9 +1.6**
KAN09 IAmb IAmb 10 28 10.6
comp=Z,27nm,1.1s
ULN Ulaanbaatar 93.72 319 *d* iP **P** **10 28 09.6 0.0**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 93.72 319 P **P** **10 28 09.4 -0.3**
ULN IAmb IAmb 10 28 10.9
comp=Z,11nm,0.8s
SONM Songino Array 94.12 319 P **P** **10 28 11.0 -0.4**
comp=Z,3.2nm,0.7s,baz=107,slow=4.6,SNR=11
SONM PP **PP** **10 32 04.8 -3.4**
comp=Z,0.6nm,0.5s,baz=116,slow=9.8,SNR=3.6
SONM Songino Array 94.12 319 P **P** **10 28 11.0 -0.4**
SONM pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 94.12 319 IAmb IAmb 10 28 12.5
comp=Z,6.6nm,1.1s
T35A Sooner Cattle 94.19 53 P **P** **10 28 12.8 +1.0**
T35A IAmb IAmb 10 28 15.3
comp=Z,10nm,1.1s
YKA Yellowknife Ar 94.48 25 P **P** **10 28 12.6 +0.1**
comp=Z,9.0nm,0.7s,baz=236,slow=4.3,SNR=37
YKA PP **PP** **10 32 09.0 -1.4**
comp=Z,1.3nm,1.0s,baz=236,slow=7.4,SNR=4.1
BGNE Belgrade 94.52 48 P 10 28 14.7
baz=250
BGNE Belgrade 94.52 48 P **P** **10 28 15.0 +1.8**
K31A O'Neill 94.52 47 P **P** **10 28 14.8 +1.5**
KSU1 Kansas State U 94.84 51 P 10 28 16.2
baz=250
C36M Paulatuk 95.32 17 P 10 28 16.6
baz=230
C36M Paulatuk 95.32 17 P **P** **10 28 16.7 +0.6**
C36M IAmb IAmb 10 28 17.5
comp=Z,17nm,0.8s
GTA Gaotai 95.61 310 *e*P **P** **10 28 19.0 +0.6**
GTA pmax pmax
comp=Z,7.0nm,1.1s
MDND Maddock 95.80 42 P 10 28 19.1
baz=249
N35A Tabor 96.12 49 P **P** **10 28 22.4 +1.9**
ECSD EROS Data Cent 96.37 46 P 10 28 21.8
baz=251
ECSD EROS Data Cent 96.37 46 P **P** **10 28 21.9 +0.3**
ECSD IAmb IAmb 10 28 22.8
comp=Z,6.3nm,0.8s
TIXI Tiksi 96.62 345 P **P** **10 28 21.3 -0.7**
comp=Z,7.9nm,0.7s,baz=127,slow=5.3,SNR=29
TIXI PP **PP** **10 32 23.3 -3.2**
comp=Z,2.2nm,0.7s,baz=114,slow=7.7,SNR=6.1
TIXI Tiksi 96.62 345 *d* iP **P** **10 28 20.9 -1.0**
TIXI Tiksi 96.62 345 P **P** **10 28 21.1 -0.9**
TIXI IAmb IAmb 10 28 22.2
comp=Z,8.7nm,0.8s
TIXI Tiksi 96.62 345 IAmb IAmb 10 32 31.6
comp=Z,3.8nm,0.7s
TIXI Tiksi 96.62 345 **PP** **10 32 23.6 -2.9**
U40A Yellville 96.80 54 P 10 28 23.9
baz=252
U40A Yellville 96.80 54 P **P** **10 28 24.1 +0.5**
U40A IAmb IAmb 10 28 26.9
comp=Z,4.3nm,0.9s
S39A Bolivar 96.84 53 P **P** **10 28 24.4 +0.6**
S39A IAmb IAmb 10 28 26.3
comp=Z,5.6nm,0.8s
W41B Gary Mavity, V 96.91 55 P 10 28 25.7
baz=253
ZAK Zakamensk 96.95 321 *e*P **P** **10 28 22.8 -1.3**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
F33A 5 Mile Ranch, 97.27 44 P **P** **10 28 26.0 +0.6**
F33A IAmb IAmb 10 28 28.4
comp=Z,13nm,1.4s
P38A Dawn 97.27 51 P **P** **10 28 26.4 +0.8**
P38A IAmb IAmb 10 28 27.5
comp=Z,5.8nm,0.8s
ZSN Zaisan 108.04 315 *e*PKiKP **PKiKP** **10 33 15.3 -1.2**
baz=315
SIV San Ignacio 109.13 115 PKKPbc PKKPbc 10 44 27.3 -0.2
comp=Z,2.2nm,0.6s,baz=116,slow=5.1,SNR=10.0
MKAR Makanchi Array 109.71 314 Pdiff **Pdif** **10 29 21.7 +0.9**
comp=Z,0.5nm,0.5s,baz=89,slow=5.9,SNR=4.3
MKAR PKiKP **PKiKP** **10 33 18.9 -0.9**
comp=Z,3.6nm,0.5s,baz=158,slow=0.6,SNR=42
MKAR PKKPbc **PKKPbc** **10 44 25.5 -0.7**
comp=Z,0.5nm,0.7s,baz=251,slow=4.4,SNR=4.8
J56A Wolcott 110.27 50 P 10 33 20.2
baz=264
MATQ Matagami 110.34 43 P 10 33 19.9
baz=266
LSQQ Lebel-sur-Quev 110.71 44 P 10 33 20.9
baz=266
SEM Semipalatinsk 111.34 318 *e*PKiKP **PKiKP** **10 33 21.8 -1.2**
baz=318
SEM Semipalatinsk 111.34 318 *i* PKiKP **PKiKP** **10 33 21.7 -1.2**
SHLS Shalkode 111.35 310 *e*PKiKP **PKiKP** **10 33 21.6 -1.6**
baz=310
SHLS Shalkode 111.35 310 *i* PKiKP **PKiKP** **10 33 21.5 -1.6**
UZB Uzynbulak 111.67 310 *e*PKiKP **PKiKP** **10 33 22.9 -0.8**
baz=310
UZB Uzynbulak 111.67 310 *i* PKiKP **PKiKP** **10 33 22.9 -0.8**
KPKS Kokpek 111.94 310 *e*PKiKP **PKiKP** **10 33 23.2 -1.0**
baz=310
KPKS Kokpek 111.94 310 *i* PKiKP **PKiKP** **10 33 23.2 -1.0**
SATY Saty 112.11 310 *e*PKiKP **PKiKP** **10 33 23.9 -0.7**
baz=310
SATY Saty 112.11 310 *i* PKiKP **PKiKP** **10 33 23.8 -0.7**
KURK Kurchatov 112.40 318 *i* PKiKP **PKiKP** **10 33 23.8 -0.8**
KURK Kurchatov 112.40 318 **PKiKP** **10 33 23.8 -0.8**
KURBB Kurchatov Arra 112.45 318 PKiKP **PKiKP** **10 33 23.8 -0.9**
comp=Z,5.1nm,0.7s,baz=94,slow=1.8,SNR=45
KURBB PP **PP** **10 34 20.4 -1.9**
comp=Z,2.0nm,0.6s,baz=88,slow=7.8,SNR=6.0
MDOK Medeo 113.11 310 *e*PKiKP **PKiKP** **10 33 25.4 -1.2**
baz=310
MDOK Medeo 113.11 310 *i* PKiKP **PKiKP** **10 33 25.3 -1.2**
MTBS Maitube 113.56 310 *e*PKiKP **PKiKP** **10 33 26.0 -1.3**
baz=310
MTBS Maitube 113.56 310 *i* PKiKP **PKiKP** **10 33 26.0 -1.3**
KUU Kurty 113.67 311 *e*PKiKP **PKiKP** **10 33 25.8 -1.7**
baz=311
KUU Kurty 113.67 311 *i* PKiKP **PKiKP** **10 33 25.7 -1.7**
SGDS Sogindy 114.89 310 *e*PKiKP PKPdf 10 33 28.8 -1.0
baz=310
SGDS Sogindy 114.89 310 *i* PKiKP PKPdf 10 33 28.7 -1.1
AAK Ala-Archa 114.96 309⇑ *i*PKiKP PKPdf 10 33 30.0 -0.1
AAK pmax pmax
comp=Z,4.0nm,0.5s
BTLS Baital 115.35 312 *e*PKiKP **PKPdf** **10 33 29.8 -0.8**
baz=312
BTLS Baital 115.35 312 *i* PKiKP **PKPdf** **10 33 29.7 -0.8**
NEEM North Greenlan 115.40 11⇓ *i*P **PKPdf** **10 33 29.9 -0.3**
NEEM IAmb IAmb 10 33 30.4
comp=Z,11nm,0.6s
KULLO Kullorsuaq 115.48 15 *i* P **PKPdf** **10 33 29.1 -0.8**
KULLO IAmb IAmb 10 33 29.5
comp=Z,5.4nm,0.6s
BRZS Berezniki 116.21 317 *e*PKiKP **PKPdf** **10 33 31.0 -1.1**
baz=317
BRZS Berezniki 116.21 317 *i* PKiKP **PKPdf** **10 33 30.9 -1.1**
BVAR Borovoye Array 117.41 321 PKP **PKPdf** **10 33 32.7 -1.6**
comp=Z,3.9nm,0.4s,baz=150,slow=3.2,SNR=15
BRVK Borovoye 117.47 321 *d* iPKiKP **PKPdf** **10 33 33.5 -0.9**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 117.47 321 **PKPdf** **10 33 33.6 -0.7**
KK31 Karatay Array 117.89 310 PKiKP **PKPdf** **10 33 34.8 -0.7**
KK31 Karatay Array 117.89 310 PKPdf **PKPdf** **10 33 34.8 -0.7**
KKAR Karatay Array 117.89 310 PKiKP **PKPdf** **10 33 35.1 -0.4**
KKAR Karatay Array 117.89 310 **PKPdf** **10 33 34.7 -0.8**
KKAR Karatay Array 117.89 310 PKPdf **PKPdf** **10 33 35.1 -0.4**
GAR Garm 118.01 305 PKPdf **PKPdf** **10 33 36.0 0.0**
KBL Kabul 118.86 300 PKiKP **PKPdf** **10 33 37.9 0.0**
KBL Kabul 118.86 300 PKPdf **PKPdf** **10 33 37.9 0.0**
CHGR Chuyangaron 118.91 305 **PKPdf** **10 33 37.3 -0.4**
SPITS Spitsbergen Ar 119.66 357 PKP **PKPdf** **10 33 37.7 -0.2**
comp=Z,21nm,0.9s,baz=80,slow=5.3,SNR=13
BDFB Brasilia 120.27 121 PKKPbc PKKPbc 10 43 50.0 -0.2
comp=Z,3.0nm,0.6s,baz=135,slow=2.9,SNR=3.5
DAG Danmarks Havn 120.53 5⇓ *i*P **PKPdf** **10 33 38.6 -1.1**
DAG IAmb IAmb 10 33 39.1
comp=Z,7.8nm,0.9s
DAG Danmarks Havn 120.53 5⇓ *i*PKiKP **PKPdf** **10 33 38.5 -1.1**
DAG pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 120.87 21⇓ *i*P **PKPdf** **10 33 39.7 -0.7**
SFJD IAmb IAmb 10 33 40.3
comp=Z,4.9nm,0.6s
SFJD Kangerlussuaq 120.87 21⇓ *i*PKiKP **PKPdf** **10 33 39.7 -0.7**
SFJD pmax pmax
comp=Z,5.0nm,0.6s
SUMG Summit 120.99 13 *i* P **PKPdf** **10 33 41.1 0.0**
SUMG IAmb IAmb 10 33 42.0
comp=Z,11nm,1.0s
SUMG Summit 120.99 13 *i* PKiKP **PKPdf** **10 33 41.1 0.0**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 120.99 13 PKPdf **PKiKP** **10 33 41.5 +0.2**
NUUK Nuuk 121.74 25 *i* P **PKiKP** **10 33 42.3 -0.1**
NUUK IAmb IAmb 10 33 42.9
comp=Z,14nm,0.8s
DY2G Dye2 122.63 21⇓ *i*P **PKPdf** **10 33 43.7 -0.5**
DY2G IAmb IAmb 10 33 44.4
comp=Z,28nm,0.6s
DBG Daneborg 122.64 7⇓ *i*P **PKPdf** **10 33 43.2 -0.5**
DBG IAmb IAmb 10 33 43.9
comp=Z,11nm,0.8s
ICESG Greenland Ices 123.07 17⇓ *i*P **PKPdf** **10 33 44.4 -0.8**
ICESG IAmb IAmb 10 33 45.1
comp=Z,14nm,0.7s
ARU Arti 123.40 326 PKP **PKPdf** **10 33 45.3 -0.3**
comp=Z,6.2nm,0.6s,baz=322,slow=1.1,SNR=17
ARU Arti 123.40 326 *d* iPKiKP **PKPdf** **10 33 45.2 -0.5**
ARU pmax pmax
comp=Z,42nm,2.5s
ARU Arti 123.40 326 PKPdf **PKPdf** **10 33 45.2 -0.5**
ABKAR Akbulak array 124.50 318 PKPdf **PKPdf** **10 33 47.8 -0.2**
ABKAR Akbulak array 124.50 318 **PKPdf** **10 33 47.8 -0.2**
AKTO Aktyubinsk 125.44 319 PKP **PKPdf** **10 33 49.6 -0.2**
comp=Z,7.3nm,0.8s,baz=82,slow=2.9,SNR=26
SCO Scoresbysund 125.83 10⇓ *i*P **PKiKP** **10 33 50.3 -0.1**
SCO IAmb IAmb 10 33 51.1
comp=Z,12nm,0.8s
SCO Scoresbysund 125.83 10 PKIKP **PKiKP** **10 33 50.2 -0.1**
SCO Scoresbysund 125.83 10 PKPdf **PKiKP** **10 33 50.2 -0.1**
LVZ Lovozero 126.26 345 *d* iPKIKP **PKPdf** **10 33 50.9 0.0**
LVZ pmax pmax
comp=Z,22nm,1.3s
LVZ Lovozero 126.26 345 **PKPdf** **10 33 50.5 -0.3**
ARCES ARCESS Array B 126.76 350 PKP **PKPdf** **10 33 51.5 -0.2**
comp=Z,13nm,0.6s,baz=29,slow=2.8,SNR=59
ARCES ARCESS Array B 126.76 350 PKIKP **PKPdf** **10 33 51.6 -0.1**
ARCES ARCESS Array B 126.76 350 PKPdf **PKPdf** **10 33 51.6 -0.1**
PRGR Permogore 127.06 336 *e*PKiKP **PKPdf** **10 33 51.6 -0.9**
PRGR pmax pmax
comp=Z,20nm,0.8s
KIRV Kirov 127.06 331 *c i*PKIKP **PKPdf** **10 33 52.8 +0.3**
GEYT Alibeck 127.61 304 PKP **PKPdf** **10 33 54.2 -0.1**
comp=Z,7.3nm,0.6s,baz=231,slow=9.4,SNR=8.2
BOSA Boshof 128.27 206 PKP **PKPdf** **10 33 55.8 -0.2**
comp=Z,2.2nm,0.7s,baz=183,slow=2.5,SNR=4.6
KLMR Klimovskoe 129.87 337 *e*PKIKP **PKPdf** **10 33 56.9 -0.9**
KLMR pmax pmax
comp=Z,14nm,0.7s
KLMR Klimovskoe 129.87 337 *e*PKPdf **PKPdf** **10 33 56.9 -0.9**
KLMR AMP 10 33 58.7
comp=Z,14nm,0.7s
KLMR *e*PP **pPKPdf** **10 36 12.4 +2.1**
BELG Belogornoye 130.84 325 PKP **PKPdf** **10 33 59.9 0.0**
comp=Z,38nm,0.8s,baz=301,slow=1.6,SNR=11
BELG SKPbc **SKPab** **10 36 32.4 +0.4**
comp=Z,51nm,0.9s,baz=148,slow=2.2,SNR=9.9
FIA1 FINESS Array S 133.66 344 **PKPdf** **10 34 04.8 -0.1**
FINES FINESS Array B 133.66 344 PKhKP PKPpre 10 33 50.7
comp=Z,1.1nm,0.5s,baz=48,slow=5.7,SNR=5.6
FINES PKP **PKPdf** **10 34 04.8 -0.2**
comp=Z,13nm,0.7s,baz=86,slow=2.5,SNR=17
OBN Obninsk 134.83 333 *c* iPKIKP **PKPdf** **10 34 07.5 +0.2**
OBN *i* 10 36 45.3
OBN pmax pmax
comp=Z,12nm,0.5s
VSU Vasula 135.97 342⇓ *i*PKIKP **PKiKP** **10 34 11.2 +0.1**
NOA NORSAR Array B 136.79 354 PKhKP PKPpre 10 33 58.3
comp=Z,2.7nm,0.8s,baz=16,slow=4.6,SNR=7.1
NOA PKP **PKPdf** **10 34 10.0 -0.9**
comp=Z,2.6nm,0.6s,baz=14,slow=3.9,SNR=11
NOA SKPbc **SKPbc** **10 36 50.7 +0.3**
comp=Z,1.1nm,0.8s,baz=13,slow=4.4,SNR=3.3
ZEI Tsey 137.06 314 *i* PKIKP **PKPdf** **10 34 11.9 -0.3**
ZEI pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 137.36 310 PKP **PKPdf** **10 34 13.7 +0.9**
comp=Z,7.1nm,0.4s,baz=305,slow=14,SNR=3.6
GNI Garni 137.36 310 *d* iPKIKP **PKPdf** **10 34 13.1 +0.3**
HFS Hagfors 137.36 351 PKhKP PKPpre 10 34 02.4
comp=Z,5.0nm,0.6s,baz=47,slow=2.6,SNR=14
HFS PKP **PKPdf** **10 34 10.8 -1.2**
comp=Z,6.7nm,0.7s,baz=113,slow=3.4,SNR=6.9
KBZ Khabaz 137.38 316 PKP **PKPdf** **10 34 11.8 -0.7**
comp=Z,3.8nm,0.7s,baz=86,slow=1.3,SNR=8.3
KBZ Khabaz 137.38 316⇓ *i*PKIKP **PKiKP** **10 34 14.7 +0.2**
NEY Neytrino 137.69 315⇓ *i*PKIKP **PKiKP** **10 34 14.6 -0.8**
MNK Minsk 138.77 337 *i* PKHKP PKPpre 10 34 09.9
MNK *i* 10 37 10.3
MNK *i* SSS SSS 11 00 00.5
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK Minsk 138.77 337 *i* PKP **PKPdf** **10 34 10.0 -4.7**
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf** **10 34 10.0 -4.7**
comp=N,17nm,0.9s
MNK *i* PKP **PKPdf** **10 34 10.0 -4.7**
comp=Z,18nm,0.9s,baz=219
MNK *i* pPKP **pPKPdf** **10 36 20.6 -6.6**
MNK *i* sPKP 10 36 26.3
MNK *i* PP **PP** **10 37 08.7 -5.0**
MNK *i* SKP 10 37 10.3
MNK *i* PKS **PKSdf** **10 37 46.0 -4.4**
MNK *i* PPP PPP 10 40 06.7
NACGM Naroch 138.85 338 *i* PKP **PKPdf** **10 34 08.7 -6.1**
AKASG Malin Array Be 141.09 332 PKhKP PKPpre 10 34 13.2
comp=Z,7.7nm,0.3s,baz=43,slow=4.3,SNR=32
MUD Monsted U'grnd 141.51 354 *i* P **PKPdf** **10 34 15.4 -4.1**
MUD Monsted U'grnd 141.51 354 *i* PKHKP PKPpre 10 34 15.4
LAWE Loch Awe, Argy 141.67 7 *e*P **PKPdf** **10 34 15.2 -4.6**
BSD Bornholm Skovb 141.94 348 *i* P **PKPdf** **10 34 15.8 -4.5**
BSD IAmb IAmb 10 34 16.9
comp=Z,20nm,0.8s
BSD Bornholm Skovb 141.94 348 *i* PKHKP PKPpre 10 34 15.7
BSD pmax pmax
comp=Z,20nm,0.8s
ESY Stoneypath 142.26 4 *e*P **PKPdf** **10 34 17.5 -3.4**
EBL Broad Law 142.37 5 *e*P **PKPdf** **10 34 17.9 -3.2**
EKA Eskdalemuir Ar 142.80 5 PKhKP PKPpre 10 34 18.9
comp=Z,12nm,0.6s,baz=322,slow=2.7,SNR=43
EKA PP **PP** **10 37 33.7 -3.9**
comp=Z,0.4nm,0.4s,baz=2.6,slow=5.4,SNR=3.7
GAL1 Galloway 143.11 7 *e*P PKPab 10 34 19.9 -0.3
SKMB Sankelmark Bun 143.19 353 *e*PKPbc PKPbc 10 34 21.6 +0.7
baz=14,slow=2.8
SORM Soroca 143.33 330 ⇑P PKPab 10 34 21.4 +0.1
SORM Soroca 143.33 330 ⇑PKIKP PKPab 10 34 21.4 +0.1
EDMD Edmundbyers 143.38 4 *e*P PKPab 10 34 20.6 -0.7
BEL Belsk 143.40 340 *e*PKP PKPbc 10 34 22.3 +0.7
LNIZ Loecknitz 143.61 348 *e*PKPbc PKPbc 10 34 22.6 +0.4
baz=14,slow=2.8
IOMK Kirk Michael 143.72 7 *e*P PKPbc 10 34 22.4 -0.1
WIM Isle of Man 143.82 7 *e*P PKPbc 10 34 22.7 -0.2
BSEG Bad Segeberg 143.84 352 *e*PKPbc **PKPdf** **10 34 23.5 -0.2**
baz=14,slow=2.8
GDLE Glaisdale, N Y 143.86 3 *e*P PKPbc 10 34 22.8 -0.2
HLG Helgoland 143.88 354 *e*PKPbc **PKPdf** **10 34 23.9 +0.1**
baz=14,slow=2.8
GAZ Gaziantep 143.91 309 PKPbc 10 34 23.6 -0.2
LVV L'vov 143.93 336 *e*PKIKP PKPbc 10 34 23.0 -0.4
HPK Haverah Park 144.28 4 *e*P PKPbc 10 34 24.4 +0.1
DSB Dublin 144.49 9 PKPdf **PKPdf** **10 34 24.6 -0.3**
WPS Cemaes, Angles 144.58 7 *e*P **PKPdf** **10 34 24.7 -0.2**
KWP Kalwaria Pacla 144.58 337 *e*PKP **PKPab** **10 34 25.9 -0.2**
KWP Kalwaria Pacla 144.58 337 PKIKP **PKPab** **10 34 26.1 0.0**
KWP Kalwaria Pacla 144.58 337 **PKPab** **10 34 26.1 0.0**
WME Myndd Eilian 144.60 7 *e*P **PKPdf** **10 34 25.1 +0.1**
RUE Ruedersdorf 144.65 348 *e*PKPbc **PKPab** **10 34 26.0 -0.1**
baz=14,slow=2.8
VASR Vaslui 144.65 329 ⇑P **PKPab** **10 34 26.4 0.0**
WLF1 Llynfaes 144.70 7 *e*P PKPbc 10 34 25.6 0.0
YRC Rhoscolyn 144.72 7 *e*P PKPbc 10 34 25.6 -0.1
LBWR Ladybower, Pea 144.82 4 *e*P PKPbc 10 34 25.9 -0.1
YLL Llanberis 144.87 7 *e*P PKPbc 10 34 26.0 -0.2
PRAR RASCA 144.88 331 ⇑P PKPbc 10 34 26.3 -0.1
STNC Stoke 145.10 4 *e*P **PKPbc** **10 34 27.3 +0.5**
OJC Ojcow 145.11 340 *e*PKP **PKPbc** **10 34 27.5 +0.5**
OJC Ojcow 145.11 340 PKIKP **PKPdf** **10 34 26.3 +0.3**
OJC Ojcow 145.11 340 PKPdf **PKPdf** **10 34 26.3 +0.3**
TLCR 145.12 326 ⇑P **PKPbc** **10 34 27.5 +0.3**
TLCR 145.12 326 ⇑PKIKP **PKPbc** **10 34 27.5 +0.3**
BUR08 Bucovina Ar. S 145.13 332 **PKPbc** **10 34 27.7 +0.4**
BURAR Bucovina Array 145.15 332 ⇑P **PKPbc** **10 34 27.7 +0.4**
BURAR Bucovina Array 145.15 332 ⇑PKIKP **PKPbc** **10 34 27.7 +0.4**
BURAR Bucovina Array 145.15 332 **PKPab** **10 34 27.9 -0.5**
LLW Llanuwychllyn 145.21 6 *e*P **PKPbc** **10 34 26.7 -0.5**
FOEL Foel Wylfa 145.22 6 *e*P **PKPdf** **10 34 26.1 -0.1**
BIZ Bicaz 145.25 331 ⇑P **PKPbc** **10 34 28.1 +0.6**
GHRR 145.25 328 ⇑P **PKPab** **10 34 28.6 -0.1**
FLTG Flechtingen 145.26 350 *e*PKPdf **PKPdf** **10 34 26.3 +0.1**
baz=18,slow=1.6
FLTG *e*PKPbc **PKPbc** **10 34 27.7 +0.4**

baz=14,slow=2.8
NRDL Niedersach Rie 145.28 351 *e*PKPdf PKPdf 10 34 26.6 +0.5
baz=18,slow=1.6
NRDL *e*PKPbc PKPab 10 34 27.9 -0.6
baz=14,slow=2.8
STHS Stebnicka Huta 145.30 338 *e*PKIKP PKPbc 10 34 27.5 -0.1
STHS Stebnicka Huta 145.30 338 *e*PKP PKPbc 10 34 27.5 -0.1
TESR Tescani 145.30 330 ⇑P PKPab 10 34 28.4 -0.5
KOLS Kolonicke sedl 145.32 336 *e*PKP2 PKPab 10 34 28.6 -0.3
KOLS Kolonicke sedl 145.32 336 *e*PKP PKPab 10 34 28.6 -0.3
KOLS *e* 10 40 02.0
BR131 Keskin Array S 145.36 315 PKIKP PKPdf 10 34 26.6 -0.4
BR131 Keskin Array S 145.36 315 PKPdf PKPdf 10 34 26.6 -0.4
BR131 PKPbc PKPbc 10 34 28.1 -0.2
BRTR Keskin Array B 145.36 315 PKPbc PKPbc 10 34 27.8 -0.4
comp=Z,26nm,0.6s,baz=138,slow=4.1,SNR=128
BRTR SKPbc SKiKP 10 37 14.2 +0.7
comp=Z,3.3nm,0.8s,baz=111,slow=2.8,SNR=4.4
BRTR Keskin Array B 145.36 315 PKPdf PKPdf 10 34 26.1 -0.8
BRTR PKPbc PKPbc 10 34 28.2 -0.1
CFR Carcaliu 145.49 327 ⇓P PKPbc 10 34 28.9 +0.7
CFR Carcaliu 145.49 327 ⇓PKP2 PKPbc 10 34 28.9 +0.7
ASSE Asse, Remlinge 145.55 351 *e*PKPbc PKPbc 10 34 28.7 +0.7
baz=14,slow=2.8
TPGR Topolog 145.55 326 ⇑P PKPab 10 34 29.6 -0.5
UZH Uzhgorod 145.56 336 *e*PKIKP PKPbc 10 34 28.3 0.0
UZH *i* 10 34 32.5
KSP Ksiaz 145.59 344 *e*PKP PKPab 10 34 29.2 -0.7
WACR West Acre 145.61 2 *e*P PKPbc 10 34 28.2 -0.1
HLM1 Long Mynd 145.61 5 *e*P PKPbc 10 34 28.0 -0.4
NIE Niedzica 145.63 339 *e*PKP PKPab 10 34 29.7 -0.5
ODBI Odobesti 145.63 328 ⇑P PKPab 10 34 30.3 0.0
CRVS Cervenica-Dubn 145.65 337 *e*PKP2 PKPbc 10 34 29.3 +0.7
CRVS Cervenica-Dubn 145.65 337 *e*PKP PKPbc 10 34 29.3 +0.7
CRVS *e* 10 40 03.0
VRI Vrincioaia 145.72 329 ⇑P PKPbc 10 34 29.5 +0.6
VRI Vrincioaia 145.72 329 ⇑PKP2 PKPbc 10 34 29.5 +0.6
IBBN Ibbenburen 145.75 354 *e*PKPbc PKPbc 10 34 29.4 +0.7
baz=14,slow=2.8
PLOR Plostina 145.77 329 ⇑P PKPbc 10 34 29.6 +0.5
TIRR Tirgusor 145.82 326 ⇑P PKPbc 10 34 29.1 -0.1
TIRR Tirgusor 145.82 326 ⇑PKIKP PKPbc 10 34 29.1 -0.1
TIRR Tirgusor 145.82 326 PKPdf PKPbc 10 34 28.9 -0.3
BMR Baia Mare 145.84 334 ⇑P PKPab 10 34 30.1 -0.9
BMR Baia Mare 145.84 334 ⇑PKP2 PKPab 10 34 30.1 -0.9
ANTO Ankara 145.85 316 PKIKP PKPbc 10 34 29.7 +0.1
ANTO Ankara 145.85 316 PKPbc 10 34 29.7 +0.1
OSTC Ostas 145.87 344⇑*e*PKP PKPdf 10 34 28.0 +0.7
OSTC *e*SKS SKSdf 10 40 03.2 -39
CLZ Clausthal 145.87 351 *e*PKPdf PKPdf 10 34 27.9 +0.5
baz=18,slow=1.6
CLZ *e*PKPbc PKPbc 10 34 30.0 +0.9
baz=14,slow=2.8
CLZ *e*PKPab PKiKP 10 34 31.6 -0.2
baz=14,slow=4.1
CHVC Chvalec 145.88 344⇑*e*PKP PKPdf 10 34 27.9 +0.5
CHVC *e*SKS SKSdf 10 40 03.7 -39
CLL Collm 145.92 348 ⇓*i*PKPbc PKPbc 10 34 29.8 +0.6
comp=Z,186nm,0.8s
CLL Collm 145.92 348 PKPdf PKPdf 10 34 27.3 0.0
CLL PKPbc PKPbc 10 34 29.6 +0.4
CLL Collm 145.92 348 *e*PKPdf PKPdf 10 34 27.5 +0.2
baz=18,slow=1.6
CLL *e*PKPbc PKPbc 10 34 29.9 +0.6
baz=14,slow=2.8
HARR Harsova 145.92 326 ⇓P PKPbc 10 34 30.2 +0.8
HARR Harsova 145.92 326 ⇓PKP2 PKPbc 10 34 30.2 +0.8
ARCR ARCALIA 145.93 332 ⇑P PKPab 10 34 30.7 -0.7
TLBR Topalu 145.96 326 ⇑P PKPbc 10 34 30.0 +0.4
OKC Ostrava-Krasne 145.97 341 *e*PKP2 PKPbc 10 34 30.1 +0.7
OKC Ostrava-Krasne 145.97 341⇑*e*PKP PKPbc 10 34 30.1 +0.7
UPC Upice 145.97 344 *e*PKP2 PKPbc 10 34 30.0 +0.6
UPC Upice 145.97 344⇑*e*PKP PKPbc 10 34 30.0 +0.6
UPC *e*SKS SKSdf 10 40 04.0 -38
RSBS Rosebush, Pemb 145.97 8 *e*P PKPbc 10 34 29.0 -0.4
OZUR 146.01 330 ⇑ PKPab 10 34 30.9 -1.0
DPC Dobruska-Polom 146.03 344 *e*PKIKP PKPdf 10 34 28.2 +0.6
DPC *e* 10 34 30.3
DPC Dobruska-Polom 146.03 344 *e*PKPDF PKPdf 10 34 28.2 +0.6
DPC ⇑*e*PKP PKPbc 10 34 30.3 +0.6
DPC *e*SKS SKSdf 10 40 03.4 -39
MCH1 Michaelchurch 146.12 6 *e*P PKPbc 10 34 28.9 -0.8
MBAR Mbarara 146.13 239 PKP2 PKPbc 10 34 31.9 +0.7
MBAR Mbarara 146.13 239 PKPbc 10 34 31.9 +0.7
BRG Berggiesshubel 146.13 346⇓*e*PKPf 10 34 28.5
BRG Amp 10 34 29.2
comp=Z,15nm,1.2s
BRG ⇑*i*PKP PKPbc 10 34 30.5 +0.7
BRG Amp 10 34 31.5
comp=Z,74nm,0.7s
BRG *i* PKPab PKiKP 10 34 32.5 +0.3
BRG Amp 10 34 33.2
comp=Z,57nm,0.9s
BRG *ex* x 10 34 50.4
BRG Amp 10 34 51.7
comp=Z,9.5nm,0.8s
BRG Berggiesshubel 146.13 346 *e*PKPdf PKPdf 10 34 28.3 +0.6
baz=18,slow=1.6
BRG *e*PKPbc PKPbc 10 34 30.6 +0.7
baz=14,slow=2.8
BRG *e*PKPab PKiKP 10 34 32.6 +0.4
baz=14,slow=4.1
LANS Liptovska Anna 146.14 339 *e*PKP2 PKPab 10 34 31.4 -0.8
LANS Liptovska Anna 146.14 339 *e*PKP PKPab 10 34 31.4 -0.8
LANS *e* 10 40 05.2
KRLC Kraliky 146.15 343 *e*PKIKP PKPdf 10 34 28.1 +0.2
KRLC Kraliky 146.15 343⇑*e*PKP PKPdf 10 34 28.1 +0.2
KRLC *e*SKS SKSdf 10 40 03.9 -39
MORC Moravsky Berou 146.20 342 ⇑P PKPdf 10 34 28.9 +0.9
MORC Moravsky Berou 146.20 342 *e*PKP PKPbc 10 34 30.7 +0.5
MORC Moravsky Berou 146.20 342 PKIKP PKPdf 10 34 28.1 +0.2
MORC 10 34 31.0
MORC Moravsky Berou 146.20 342 PKPdf 10 34 28.1 +0.2
MORC PKPbc PKPbc 10 34 31.0 +0.8
FBE Freiberg 146.21 347 *e*PKPbc PKPbc 10 34 31.2 +1.1
baz=14,slow=2.8
FBE *e*PKPab PKiKP 10 34 33.2 +0.9
baz=14,slow=4.1
GTTG Gottingen 146.22 351 *e*PKPbc PKPbc 10 34 30.8 +0.7
baz=14,slow=2.8
GTTG *e*PKPab PKiKP 10 34 32.9 +0.5
baz=14,slow=4.1
NEHR Nehoiu 146.25 329 ⇑P PKPbc 10 34 31.0 +0.6
NEUB Neuenburg 146.25 349 *e*PKPdf PKPdf 10 34 28.5 +0.6
baz=18,slow=1.6
NEUB *e*PKPbc PKPbc 10 34 30.9 +0.8
baz=14,slow=2.8
DOPR Dopca 146.30 330 ⇑P PKPbc 10 34 31.5 +1.0
PVCC Panska Ves 146.31 346 *e*PKP2 PKPbc 10 34 30.9 +0.5
PVCC Panska Ves 146.31 346⇑*e*PKP PKPbc 10 34 30.9 +0.5
PVCC *e*SKS SKSdf 10 40 05.2 -38
ISR Istrita 146.34 328 ⇑P PKPbc 10 34 30.6 -0.1
ISR Istrita 146.34 328 ⇑PKIKP PKPbc 10 34 30.6 -0.1
KECS Kecovo 146.35 338 *e*PKP2 PKPbc 10 34 31.2 +0.6
KECS Kecovo 146.35 338 *e*PKP PKPbc 10 34 31.2 +0.6
KECS *e* 10 40 04.6
MLR Muntele Rosu 146.38 329 PKPbc PKPbc 10 34 30.6 -0.3
comp=Z,29nm,0.6s,baz=44,slow=2.5,SNR=28
MLR Muntele Rosu 146.38 329 ⇑P PKPbc 10 34 30.5 -0.4
MLR ⇑P PKiKP 10 34 31.2 -2.0
MLR Muntele Rosu 146.38 329 ⇑PKIKP PKPbc 10 34 30.5 -0.4
MLR Muntele Rosu 146.38 329 PKPdf PKPdf 10 34 28.3 -0.2
MLR PKPbc PKPbc 10 34 31.6 +0.7
STRD Stroud 146.41 5 *e*P PKPbc 10 34 30.1 -0.4
CJR Cluj-Napoca 146.55 333 ⇑P PKPbc 10 34 31.9 +0.7
CJR Cluj-Napoca 146.55 333 ⇑PKP2 PKPbc 10 34 31.9 +0.7
BUG Bochum--Univer 146.65 354 *e*PKPdf PKPdf 10 34 29.7 +1.2
baz=18,slow=1.6
BUG *e*PKPbc PKPbc 10 34 31.7 +0.4
baz=14,slow=2.8
KASTN Kahler Asten 146.76 353 *e*PKPdf PKPdf 10 34 29.0 +0.2
baz=18,slow=1.6
KASTN *e*PKPbc PKPbc 10 34 32.1 +0.5
baz=14,slow=2.8
PRA Prague 146.76 345 *e*PKP2 PKPbc 10 34 31.7 +0.1
PRA Prague 146.76 345⇑*e*PKP PKPbc 10 34 31.7 +0.1
PRU Pruhonice 146.81 345 *e*PKP2 PKPbc 10 34 31.9 +0.2
PRU Pruhonice 146.81 345⇑*e*PKP PKPbc 10 34 31.9 +0.2
PRU *e*SKS SKSdf 10 40 06.4 -37
MOX Moxa 146.82 349 *e*PKPbc PKPbc 10 34 32.3 +0.5
baz=14,slow=2.8
MOX *e*PKPab PKPab 10 34 35.2 +0.3
baz=14,slow=4.1
VOIR 146.85 330 ⇑P PKPbc 10 34 32.8 +0.7
VOIR 146.85 330 ⇑PKP2 PKPbc 10 34 32.8 +0.7
DRGR 146.87 334 ⇓P PKPbc 10 34 32.2 +0.1
DRGR 146.87 334 ⇓PKP2 PKPbc 10 34 32.2 +0.1
PLN Plauen 146.87 348 *e*PKPdf PKPdf 10 34 29.3 +0.3
baz=18,slow=1.6
PLN *e*PKPbc PKPbc 10 34 32.6 +0.7
baz=14,slow=2.8
TANN Tannenbergstha 146.88 348 *e*PKPdf PKPdf 10 34 29.3 +0.2
baz=18,slow=1.6
TANN *e*PKPbc PKPbc 10 34 32.7 +0.7
baz=14,slow=2.8
WERD Werda 146.88 348 *e*PKPbc PKPbc 10 34 32.7 +0.7
baz=14,slow=2.8
WERD *e*PKPab PKPab 10 34 35.5 +0.4
baz=14,slow=4.1
VRAC Vranov 146.90 342 PKPbc PKPbc 10 34 32.7 +0.7
comp=Z,41nm,0.9s,baz=13,slow=2.8,SNR=21
VRAC Vranov 146.90 342 ⇑P PKiKP 10 34 33.1 -0.8
VRAC Vranov 146.90 342 *e*PKP PKPbc 10 34 32.5 +0.5
VRAC *e* 10 34 36.1
VYHS Vyhne 146.92 339 *e*PKP2 PKPbc 10 34 33.0 +0.9
VYHS Vyhne 146.92 339 *e*PKP PKPbc 10 34 33.0 +0.9
VYHS *e* 10 40 06.6
UBBA Unterbreizbach 146.92 351 *e*PKPbc PKPbc 10 34 32.4 +0.5
baz=14,slow=2.8
WOL Wolverton 146.94 4 *e*P PKPbc 10 34 31.9 -0.1
GUNZ Gunzen 146.95 348 *e*PKPdf PKPdf 10 34 29.6 +0.4
baz=18,slow=1.6
GUNZ *e*PKPbc PKPbc 10 34 33.0 +0.8
baz=14,slow=2.8
GUNZ *e*PKPab PKPab 10 34 36.0 +0.6
baz=14,slow=4.1
JAVC Velka Javorina 146.97 341 *e*PKP PKiKP 10 34 33.7 -0.4
WERN Wernitzgruen 147.01 348 *e*PKPdf PKPdf 10 34 29.8 +0.5
baz=18,slow=1.6
WERN *e*PKPbc PKPbc 10 34 33.2 +0.9
baz=14,slow=2.8
WERN *e*PKPab PKPab 10 34 36.4 +0.7
baz=14,slow=4.1
PSZ Piszkesteto 147.04 338 ⇑P PKPbc 10 34 32.6 +0.1
PSZ Piszkesteto 147.04 338 PKIKP PKPdf 10 34 30.1 +0.6
PSZ Piszkesteto 147.04 338 PKPdf PKPdf 10 34 30.1 +0.6
PSZ PKPbc PKPbc 10 34 33.1 +0.6
NKC Novy Kostel 147.05 348 *e*PKIKP PKPdf 10 34 30.1 +0.8
NKC Novy Kostel 147.05 348 *e*PKPDF PKPdf 10 34 30.1 +0.8
NKC ⇑*e*PKP PKPbc 10 34 32.8 +0.4
NKC *e*SKS SKSdf 10 40 06.9 -37
ARR Arges 147.10 330 ⇑P PKPdf 10 34 30.5 +0.9
KRUC Moravsky 147.17 343 *e*PKP PKPbc 10 34 33.2 +0.5
KRUC *e* 10 34 37.1
ELSH Elham, Standar 147.20 1 *e*P PKPbc 10 34 33.2 +0.5
PBCC Pribram 147.23 346⇑*e*PKP PKPbc 10 34 32.9 0.0
PBCC *e*PKPAB PKPab 10 34 37.1 +0.6
PBCC *e*SKS SKSdf 10 40 07.3 -37
MANZ Manzenberg 147.35 348 *e*PKPdf PKPdf 10 34 30.1 +0.3
baz=18,slow=1.6
MANZ *e*PKPbc PKPbc 10 34 33.9 +0.7
baz=14,slow=2.8
SMOL Smolenice 147.36 341 *e*PKP2 PKiKP 10 34 34.4 -0.5
SMOL Smolenice 147.36 341 *e*PKP PKiKP 10 34 34.4 -0.5
SMOL *e* 10 34 38.3
UCC Uccle 147.50 357 *d*PKPbc PKPbc 10 34 33.9 +0.4
UCC *d*PKPab PKPab 10 34 37.4 -0.1
MODS Modra-Piesok 147.53 341 *e*PKP2 PKPbc 10 34 33.8 +0.1
MODS Modra-Piesok 147.53 341 *e*PKP PKPbc 10 34 33.8 +0.1
MODS *e* 10 40 07.5
ROTZ Rotzenmuhle 147.54 348 *e*PKPdf PKPdf 10 34 30.3 +0.2
baz=18,slow=1.6
ROTZ *e*PKPbc PKiKP 10 34 34.5 -0.7
baz=14,slow=2.8
HUMR Humele 147.54 329 ⇑P PKPbc 10 34 33.0 -0.9
AHRW Bad Neuenahr-A 147.56 354 *e*PKPbc PKPbc 10 34 34.2 +0.5
baz=14,slow=2.8
MEM Membach 147.59 355 *d*PKPbc PKPbc 10 34 34.0 +0.3
BTNL Ternell 147.60 355 *d*PKPdf PKPdf 10 34 30.6 +0.4
BTNL *d*PKPbc PKPbc 10 34 34.1 +0.2
BSTI Sart Tilman 147.65 356 *d*PKPbc PKPbc 10 34 34.4 +0.5
CSS Mathiatis 147.66 307 PKPdf PKPdf 10 34 31.4 +0.7
CSS PKPbc PKPbc 10 34 34.5 0.0
TNS Taunus Mts 147.72 352 *e*PKPdf PKPdf 10 34 30.7 +0.2
baz=18,slow=1.6
TNS *e*PKPbc PKPbc 10 34 34.8 +0.6
baz=14,slow=2.8
SIRR Siria 147.72 334 ⇑P PKiKP 10 34 35.2 -0.5
ZST Bratislava 147.74 341 *e*PKP2 PKPbc 10 34 34.9 +0.7
ZST Bratislava 147.74 341 *e*PKP PKPbc 10 34 34.9 +0.7
SNF Seneffe 147.80 357 *d*PKPbc PKPbc 10 34 33.5 -0.7
SNF *d*PKPab PKPab 10 34 39.0 +0.2
GRA1 Grafenberg Arr 147.81 349 PKiKP 10 34 35.2 -0.6
GRA1 PKPab PKPab 10 34 39.8 +0.9
GRF Grafenberg Arr 147.81 349 PKP2 PKiKP 10 34 35.2 -0.6
GRF Grafenberg Arr 147.81 349 *e*PKPdf PKPdf 10 34 30.8 +0.2
baz=18,slow=1.6
GRF *e*PKP PKiKP 10 34 35.1 -0.6
GRF *e*PKPab PKPab 10 34 39.7 +0.8
baz=14,slow=4.1
GRFO Grafenberg 147.81 349 PKP2 PKiKP 10 34 35.5 -0.3
GRFO Grafenberg 147.81 349 PKiKP 10 34 35.5 -0.3
GRFO PKPab PKPab 10 34 39.8 +1.0
BCLA Clavier 147.83 356 *d*PKPbc PKPbc 10 34 34.4 +0.1
BCLA *d*PKPab PKPab 10 34 38.9 0.0
BHOU Houvegnez 147.84 355 *d*PKPbc PKPbc 10 34 34.5 0.0
KHC Kasperske Hory 147.84 346 *e*PKHKP PKPpre 10 34 30.7
KHC *e* 10 34 39.5
KHC Kasperske Hory 147.84 346 *e*PKPDF PKPdf 10 34 30.7 0.0
KHC ⇑*e*PKP PKPbc 10 34 34.7 +0.2
KHC *e*PKPAB PKPab 10 34 39.5 +0.4
KHC *e*SKS SKSdf 10 40 08.9 -36
BGES Gesves 147.88 356 *d*PKPbc PKPbc 10 34 34.5 0.0
BGES *d*PKPab PKPab 10 34 38.5 -0.6
GZR Gura Zlata 147.93 332 ⇓P PKPbc 10 34 35.0 +0.1
GZR Gura Zlata 147.93 332 ⇓PKHKP PKPpre 10 34 35.0
CKRC Cesky Krumlov 147.96 345 *e*PKPDF PKPdf 10 34 31.4 +0.5
CKRC ⇑*e*PKP PKiKP 10 34 35.6 -0.5
CKRC *e*SKS SKSdf 10 40 09.3 -36
BMRD Maredsous 147.98 357 *d*PKPbc PKPbc 10 34 35.1 +0.4
WET Wettzell 147.99 347 *e*PKPbc PKPbc 10 34 35.5 +0.6
baz=14,slow=2.8
WET *e*PKPab PKPab 10 34 40.5 +0.8
baz=14,slow=4.1
MILB Miltenberg 147.99 351 *e*PKPbc PKiKP 10 34 35.6 -0.6
baz=14,slow=2.8
MILB *e*PKPab PKPab 10 34 39.7 +0.1
baz=14,slow=4.1
GEC2 GERESS Array S 148.08 345 PKPdf PKPdf 10 34 31.8 +0.6
GEC2 PKPbc PKiKP 10 34 35.9 -0.6
GEC2 GERESS Array S 148.08 345 *e*PKPdf PKPdf 10 34 31.1 -0.1
baz=18,slow=1.6
GEC2 *e*PKPbc PKPbc 10 34 35.7 +0.5
baz=14,slow=2.8
GERES GERESS Array B 148.08 345 PKPbc PKPbc 10 34 35.6 +0.5
comp=Z,35nm,0.7s,baz=31,slow=3.5,SNR=108
GERES GERESS Array B 148.08 345 PKPdf PKPdf 10 34 31.8 +0.6
GERES PKPbc PKiKP 10 34 35.6 +0.5
DOU Dourbes 148.19 357 *d*PKPbc PKPbc 10 34 35.6 +0.3
BZS Buzias 148.26 333 ⇓P PKPdf 10 34 31.7 +0.3
BZS Buzias 148.26 333 ⇓PKHKP PKPpre 10 34 31.7
SRE Strehaia 148.30 331 ⇑P PKiKP 10 34 36.7 -0.2
SRE Strehaia 148.30 331 ⇑PKP2 PKiKP 10 34 36.7 -0.2
CONA Conrad Observa 148.35 342 *i* P PKiKP 10 34 36.5 -0.5
comp=Z,28nm,0.8s,SNR=32
EDRB Edirne 148.46 323 P PKPbc 10 34 36.0 -0.2
HERR Herculane 148.49 332 ⇓P PKPbc 10 34 36.4 +0.3
WLF Walferdange 148.52 355 *d*PKPbc PKiKP 10 34 37.1 0.0
WLF *d*PKiKP PKPbc 10 34 38.7 +2.6
WLF *d*PKPab PKPab 10 34 42.1 +0.3
WLF Walferdange 148.52 355 PKHKP PKPpre 10 34 32.4
WLF 10 34 42.5
WLF Walferdange 148.52 355 PKPdf PKPdf 10 34 32.4 +0.7
WLF 10 34 37.3 +0.1
WLF PKPab PKPab 10 34 42.5 +0.8
WLF Walferdange 148.52 355 *e*PKPbc PKiKP 10 34 37.3 +0.1
baz=14,slow=2.8
WLF *e*PKPab PKPab 10 34 42.6 +0.8
baz=14,slow=4.1
BANR Banloc 148.65 334 ⇑P PKiKP 10 34 38.0 +0.4
MOA Molln 148.86 344 *e*P PKPbc 10 34 37.2 +0.1
comp=Z,22nm,0.8s,SNR=14
MDVR Moldovita 148.88 332 ⇑P PKPbc 10 34 36.8 -0.4
MORH Mrgy, Hungar 148.94 337 ⇑P PKPdf 10 34 32.5 0.0
MORH Mrgy, Hungar 148.94 337⇓*i*P PKPbc 10 34 36.7 -0.5
JSA Saint Aubin 148.98 5 *e*P PKPbc 10 34 37.1 -0.1
STU Stuttgart 149.04 351 PKIKP PKPdf 10 34 32.9 +0.3
STU Stuttgart 149.04 351 PKPdf PKPdf 10 34 32.9 +0.3
STU PKiKP PKiKP 10 34 38.0 -0.3
STU Stuttgart 149.04 351 *e*PKPbc PKiKP 10 34 38.2 -0.1
baz=14,slow=2.8
ARSA Arzberg 149.06 342 *i* P PKPbc 10 34 37.5 0.0
comp=Z,20nm,1.2s,SNR=10
FUR Furstenfeldbru 149.26 348 *e*PKPbc PKiKP 10 34 38.7 -0.1
baz=14,slow=2.8
RJOB Jochberg 149.33 346 *e*PKPbc PKPbc 10 34 38.6 +0.3
baz=14,slow=2.8
RJOB *e*PKPab PKPab 10 34 46.3 +1.0
baz=14,slow=4.1
MANT Manisa 149.37 317 PKPdf PKPdf 10 34 32.7 -1.0
MANT PKPbc 10 34 39.0 +0.2
MANT PKPab 10 34 47.0 +0.9
FRGS Fruska Gora 149.38 335 ⇓P PKiKP 10 34 38.9 -0.3
FRGS Fruska Gora 149.38 335 *e*P PKPbc 10 34 38.7 +0.3
ALN Alexandroupoli 149.47 323 P PKPbc 10 34 37.9 -0.8
ALN Alexandroupoli 149.47 323 PKHKP PKPpre 10 34 38.4
ALN 10 34 46.7
ALN 149.47 323 PKPbc 10 34 38.4 -0.3
ALN PKPab PKPab 10 34 46.7 +0.7
BFO Black Forest 149.59 352 PKHKP PKPpre 10 34 39.1
BFO PKP PKPab 10 34 46.8 +0.5
BFO Black Forest 149.59 352 PKPbc 10 34 39.1 +0.4
BFO PKPab PKPab 10 34 46.8 +0.5
BFO Black Forest 149.59 352 *e*PKPbc PKPbc 10 34 39.2 +0.4
baz=14,slow=2.8
BFO *e*PKPab PKPab 10 34 46.4 +0.1
baz=14,slow=4.1
RDO Rodhopi 149.60 324 P PKPbc 10 34 38.8 -0.2
SOKA Soboth 149.72 342 *e*P PKPbc 10 34 38.9 -0.3
comp=Z,35nm,0.8s,SNR=18
PERS Pernice 149.74 342 *i* PKPbc PKPbc 10 34 38.9 -0.3
BOVS Bovan 149.78 331 ⇑P PKPbc 10 34 38.9 -0.5
VTS Vitosha 149.80 328 ⇓P PKPbc 10 34 40.0 +0.3
VTS Vitosha 149.80 328 PKHKP PKPpre 10 34 40.0
VTS Vitosha 149.80 328 PKPbc 10 34 40.0 +0.3
KBA Koelnbreinsper 149.81 345 *e*P PKPbc 10 34 39.1 -0.5
comp=Z,41nm,0.6s,SNR=23
AKAS Kas 149.83 312 PKPbc 10 34 38.8 -1.1
AKAS PKPab PKPab 10 34 46.9 -1.1
ECH Echery 149.85 353 PKHKP PKPpre 10 34 39.8
ECH 10 34 47.5
ECH Echery 149.85 353 PKiKP 10 34 39.8 -0.2
ECH PKPab PKPab 10 34 47.5 +0.1
UBR Ueberruh 149.94 349 *e*PKPdf PKPdf 10 34 34.1 0.0
baz=18,slow=1.6
UBR *e*PKPbc PKPbc 10 34 39.9 +0.2
baz=14,slow=2.8
WATA Walderalm 149.99 347 *i* P PKPbc 10 34 39.9 -0.1
comp=Z,43nm,0.6s,SNR=16
TEKS Tekeris 149.99 335⇓*i*P PKiKP 10 34 40.2 -0.3
RETA Reutte 150.01 348 *i* P PKPbc 10 34 39.9 +0.1
comp=Z,16nm,0.7s,SNR=11
OBKA Obir 150.01 343 *e*P PKPbc 10 34 39.3 -0.6
comp=Z,17nm,0.7s,SNR=6.2
WTTA Wattenberg 150.04 347 *e*P PKPbc 10 34 40.3 +0.2
comp=Z,90nm,0.6s,SNR=29
SMTH Samothraki Isl 150.05 323 P PKPbc 10 34 39.5 -0.6
MOTA Moosalm 150.07 348 *e*P PKPbc 10 34 40.1 -0.1
comp=Z,64nm,0.9s,SNR=17
MYKA Terra Mystica 150.15 344 *i* P PKPbc 10 34 39.6 -0.6
comp=Z,45nm,0.6s,SNR=17
DIVS Divibare 150.17 334⇓*i*P PKPbc 10 34 40.6 +0.2
DIVS Divibare 150.17 334 PKPdf PKPdf 10 34 34.7 +0.1
DIVS PKPbc PKiKP 10 34 40.8 -0.1
KAVA Kavala 150.27 324 P PKPbc 10 34 40.4 -0.2
ABTA Abfaltersbach 150.33 345 *i* P PKPdf 10 34 34.4 -0.4
comp=Z,13nm,0.9s
ABTA *i* P PKPbc 10 34 40.3 -0.4
comp=Z,86nm,0.7s
CLF Chambon-Foret 150.33 360 PKiKP 10 34 41.9 +1.0
CLF PKPab PKPab 10 34 50.4 +1.1
CRES Cresnjev 150.36 341⇓*i*P PKPbc 10 34 40.4 -0.3
DAVA Damuels 150.36 349 *i* P PKPbc 10 34 41.1 +0.2
comp=Z,82nm,1.1s,SNR=17
PRK Paraskevi 150.38 320 P PKiKP 10 34 41.5 +0.1
NVR Nevrokopi 150.38 326 P PKPbc 10 34 40.5 -0.4
ZOU Zoufplan 150.39 345 PKPdf PKPdf 10 34 34.5 -0.5
ZOU PKPbc PKPbc 10 34 40.5 -0.5
THAS Thassos island 150.42 324 P PKPbc 10 34 40.4 -0.5
LJU Ljubljana 150.44 342 *i* PKPbc PKPbc 10 34 41.0 +0.1
FETA Feichten 150.46 348 *e*P PKPdf 10 34 35.0 0.0
comp=Z,12nm,0.9s
FETA *i* P PKiKP 10 34 41.4 -0.2
comp=Z,45nm,0.7s
MRAK Mrakovica 150.60 338⇓*i*P PKiKP 10 34 41.9 +0.1
BBLS Lazići 150.60 334⇓*i*P PKiKP 10 34 41.7 -0.1
HAPS Han Pijesak,Bl 150.61 335 *e*P PKPbc 10 34 40.9 -0.5
LIA Limnos Island 150.62 322 P PKPbc 10 34 41.0 -0.4
SIGR SIGRI 150.66 320 P PKPbc 10 34 40.9 -0.6
BLY Banja Luka 150.73 338⇓*i*P PKPbc 10 34 41.7 +0.2
STAL STALIGIAL 150.74 345 PKPdf 10 34 34.9 -0.5
STAL PKPbc PKPbc 10 34 41.3 -0.2
CEY Cerknica 150.75 342 *i* PKPdf PKPdf 10 34 35.7 +0.3
CEY *i* PKPbc PKPbc 10 34 41.7 +0.1
CEY *i* PKPab PKPab 10 34 51.1 -0.2
CEY Cerknica 150.75 342⇓*i*P PKPbc 10 34 41.1 -0.5
RUDO Rudo 150.82 334⇓*i*P PKPbc 10 34 41.4 -0.4
DAVOX Davos/Dischmat 150.85 349 PKP PKPdf 10 34 36.4 +0.7
comp=Z,8.6nm,0.8s,baz=335,slow=3.1,SNR=13
DAVOX PKPbc PKiKP 10 34 42.6 +0.2
comp=Z,86nm,0.7s,baz=264,slow=1.2,SNR=77
SMG Samos 150.94 317 P PKPbc 10 34 41.7 -0.5
TRI Trieste 150.97 343 PKIKP PKPbc 10 34 41.8 -0.2
TRI 10 34 51.8
TRI Trieste 150.97 343 PKPbc 10 34 41.8 -0.2
TRI PKPab 10 34 51.8 -0.3
BODT Bodrum 150.99 315 P PKPbc 10 34 40.9 -1.5
CHOS Chios island 151.04 319 P PKPbc 10 34 42.1 -0.4
MGRS Mrkonjic Grad 151.05 337 *e*P PKiKP 10 34 42.8 +0.2
CTI Castel Tesino 151.19 346 PKIKP PKPdf 10 34 35.8 -0.3
CTI PKP PKPab 10 34 53.1 -0.1
CTI Castel Tesino 151.19 346 PKPdf PKPdf 10 34 35.8 -0.3
CTI PKPbc PKPbc 10 34 42.4 -0.3
CTI PKPab PKPab 10 34 53.1 -0.1
TUE Stuetta 151.25 349 PKPdf 10 34 36.8 +0.4
TUE PKPbc PKiKP 10 34 43.3 +0.1
PLG Polygyros 151.29 325 P PKPbc 10 34 41.7 -1.3
UPM Unac-Piva 151.36 334 *e*P PKPbc 10 34 42.5 -0.7
PAIG Paliouri 151.47 324 P PKPbc 10 34 42.0 -1.3
SENIN Lac Senin/Sane 151.66 352 PKiKP 10 34 44.9 +0.8
SENIN PKPab PKPab 10 34 56.0 +0.7
BRY Bratogost 151.76 334⇓*i*P PKPbc 10 34 43.5 -0.6
PDG Podgorica 151.83 332 ⇑P PKPbc 10 34 43.8 -0.2
PDG Podgorica 151.83 332⇓*i*P PKPbc 10 34 43.9 -0.5
PDG Podgorica 151.83 332 PKPbc 10 34 43.9 -0.2
PDG PKPab PKPab 10 34 55.8 -0.1
TEOL Teolo 151.83 346 PKPdf PKPdf 10 34 37.5 +0.5
TEOL PKiKP 10 34 44.2 0.0
TEOL PKPab PKPab 10 34 56.2 +0.5
SALO Salr 151.84 347 PKPbc 10 34 43.9 -0.1
SALO PKPab PKPab 10 34 55.5 -0.3
TREB Trebinje 151.99 334 *e*P PKPbc 10 34 43.7 -0.7
LIT Litokhoron 152.00 325 P PKPbc 10 34 43.2 -1.4
LIT Litokhoron 152.00 325 PKIKP PKPbc 10 34 43.7 -0.9
LIT 10 34 56.9
LIT Litokhoron 152.00 325 PKPbc 10 34 43.7 -0.9
LIT PKPab PKPab 10 34 56.9 +0.1
DRME Dracevica, Mon 152.06 332⇓*i*P PKPbc 10 34 44.4 -0.2
FNA Florina 152.09 328 P PKPbc 10 34 44.2 -0.6
FNA Florina 152.09 328 PKIKP PKPdf 10 34 37.0 -0.6
FNA PKP PKPbc 10 34 44.4 -0.4
FNA PKP PKPab 10 34 56.9 -0.3
FNA Florina 152.09 328 PKPdf 10 34 37.0 -0.6
FNA PKPbc PKPbc 10 34 44.4 -0.4
FNA PKPab PKPab 10 34 56.9 -0.3
XOR Xorichti 152.12 323 P PKPbc 10 34 43.6 -1.3
STON Ston 152.13 335⇓*i*P PKPbc 10 34 42.8 -1.9
HCY Herceg Novi 152.15 333 *e*P PKPbc 10 34 44.3 -0.5
SMIA Simia 152.44 322 P PKPbc 10 34 44.9 -0.7
ATAL Atalanti 152.68 322 P PKPbc 10 34 45.0 -1.0
KPRO Kipourio 152.71 326 P PKPbc 10 34 46.0 -0.2
LKR Lokris 152.72 322 P PKPbc 10 34 45.0 -1.1
AGG Agios Georgios 152.84 324 P PKPbc 10 34 45.2 -1.2
AGG Agios Georgios 152.84 324 PKIKP PKPbc 10 34 45.6 -0.8
AGG 10 35 00.1
AGG Agios Georgios 152.84 324 PKPbc 10 34 45.6 -0.8
AGG PKPab PKPab 10 35 00.1 -0.3
**VILL Villia 152.85 321 P PKPbc 10 34 45.2

ZCCA	**Zocca**	**152.95**	**346**		**PKiKP**		**10 34 47.9**	**+1.3**
ZCCA				PKPab	**PKPab**		**10 35 02.1**	**+1.5**
LSK	**Leskovik**	**152.96**	**328**	P	**PKiKP**		**10 34 46.8**	**0.0**
MAKR	**Makrakomi, Fth**	**152.96**	**324**	P	**PKPbc**		**10 34 46.4**	**-0.3**
BNI	**Bardonecchia**	**153.03**	**353**	PKIKP	**PKPdf**		**10 34 39.4**	**+0.5**
BNI				PKP	**PKPab**		**10 35 02.1**	**+1.1**
BNI	**Bardonecchia**	**153.03**	**353**	PKPdf	**PKPdf**		**10 34 39.4**	**+0.5**
BNI				PKPbc	**PKiKP**		**10 34 47.8**	**+1.0**
BNI				PKPab	**PKPab**		**10 35 02.1**	**+1.1**
VLC	**Villacollemand**	**153.26**	**347**		**PKPab**		**10 35 01.6**	**-0.3**
LAST	**Lasithi**	**153.26**	**314**	P	**PKPbc**		**10 34 47.2**	**-0.3**
MSSA	**Maissana**	**153.29**	**348**		**PKPbc**		**10 34 46.3**	**-1.0**
MSSA				PKPab	**PKPab**		**10 35 01.6**	**-0.5**
ANX	**Ano Chora**	**153.37**	**324**	P	**PKiKP**		**10 34 47.9**	**+0.2**
SERG	**Sergoula**	**153.42**	**323**	P	**PKPbc**		**10 34 47.4**	**-0.3**
MURB	**Monte Urbino**	**153.57**	**343**	PKPdf	**PKPdf**		**10 34 39.4**	**-0.2**
MURB					**PKiKP**		**10 34 48.0**	**+0.1**
MURB				PKPab	**PKPab**		**10 35 04.7**	**+1.4**
LAKA	**Lakka**	**153.58**	**323**	P	**PKiKP**		**10 34 48.5**	**+0.4**
KLV	**Kalavryta, Ach**	**153.62**	**322**	P	**PKPbc**		**10 34 47.6**	**-0.6**
OSSC	**Osservatorio P**	**153.66**	**345**	PKPdf	**PKPdf**		**10 34 38.2**	**-1.5**
OSSC				PKPbc	**PKPbc**		**10 34 47.2**	**-0.8**
OSSC					**PKPab**		**10 35 03.4**	**-0.3**
KEK	**Kerkira**	**153.70**	**328**	P	**PKPbc**		**10 34 47.8**	**-0.4**
PDO	**Prodromos**	**153.78**	**324**	P	**PKiKP**		**10 34 48.5**	**+0.1**
NRCA	**Norcia**	**153.79**	**341**		**PKPdf**		**10 34 39.7**	**-0.2**
NRCA				PKPbc	**PKiKP**		**10 34 48.6**	**+0.2**
NRCA				PKPab	**PKPab**		**10 35 04.9**	**+0.6**
SGRT	**San Giovanni R**	**153.84**	**336**	PKPdf	**PKPdf**		**10 34 39.8**	**-0.3**
SGRT					**PKPbc**		**10 34 48.4**	**-0.1**
SGRT					**PKPab**		**10 35 04.4**	**-0.1**
LKD2	**Lefkada island**	**153.93**	**325**	P	**PKPbc**		**10 34 48.5**	**-0.3**
DRO	**Drossia**	**153.93**	**323**	P	**PKiKP**		**10 34 48.9**	**+0.1**
AQU	**L'Aquila**	**154.13**	**340**	PKIKP	**PKPdf**		**10 34 40.1**	**-0.3**
AQU				PKP	**PKPab**		**10 35 06.6**	**+0.9**
AQU	**L'Aquila**	**154.13**	**340**	PKPdf	**PKPdf**		**10 34 40.1**	**-0.3**
AQU				PKPbc	**PKiKP**		**10 34 50.1**	**+1.0**
AQU				PKPab	**PKPab**		**10 35 06.6**	**+0.9**
INTR	**Introdacqua**	**154.28**	**339**	PKPdf	**PKPdf**		**10 34 39.6**	**-1.1**
INTR				PKPbc	**PKiKP**		**10 34 49.4**	**0.0**
INTR				PKPab	**PKPab**		**10 35 06.3**	**-0.1**
ITM	**Ithomi**	**154.33**	**321**	PKPab	**PKPab**		**10 35 07.1**	**+0.4**
PBRG	**Braganca**	**155.38**	**16**	*e*PKPab	**PKPab**		**10 35 11.7**	**+0.6**
TIP	**Timpagrande**	**155.57**	**332**	PKPdf	**PKPdf**		**10 34 42.7**	**+0.2**
TIP				PKPab	**PKPab**		**10 35 11.4**	**-0.7**
MVO	**Moncorvo**	**155.90**	**17**	*e*PKPab	**PKPab**		**10 35 14.1**	**+0.7**
MTE	**Manteigas**	**156.45**	**19**	*e*PKPab	**PKPab**		**10 35 16.2**	**+0.4**
PCAS	**Casmilo, Conde**	**156.46**	**21**	*e*PKPab	**PKPab**		**10 35 16.0**	**+0.2**
PSBE	**So Bento**	**156.84**	**22**	*e*PKPab	**PKPab**		**10 35 18.1**	**+0.6**
PMAFR	**Mafra**	**157.16**	**23**	*e*PKPab	**PKPab**		**10 35 19.5**	**+0.7**
PMRV	**Marv??o**	**157.39**	**19**	*e*PKPab	**PKPab**		**10 35 19.8**	**0.0**
PMTG	**Montargil**	**157.44**	**21**	*e*PKPab	**PKPab**		**10 35 20.1**	**+0.1**
PESTR	**Estremoz**	**157.83**	**20**	*e*PKPab	**PKPab**		**10 35 21.4**	**-0.4**
PESTR	**Estremoz**	**157.83**	**20**	PKPab	**PKPab**		**10 35 21.9**	**+0.1**
EVO	**Evora**	**157.99**	**21**	*e*PKPab	**PKPab**		**10 35 22.9**	**+0.4**
ESBB	**Sonseca Array**	**158.05**	**13**	PKPab	**PKPab**		**10 35 23.5**	**+0.8**
ESDC	**Sonseca Array**	**158.05**	**13**	PKP	**PKPdf**		**10 34 46.1**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=12,slow=2.2,SNR=6.0							
ESDC				PKPab	**PKPab**		**10 35 23.1**	**+0.4**
	comp=Z,11nm,0.9s,baz=343,slow=4.1,SNR=27							
ESDC				PP	**PP**		**10 39 06.1**	**+2.1**
	comp=Z,1.4nm,0.9s,baz=314,slow=4.7,SNR=4.2							
PNCL	**Nicolau / Gran**	**158.18**	**23**	*e*PKPab	**PKPab**		**10 35 23.4**	**+0.1**
PBAR	**Barrancos**	**158.64**	**20**	*e*PKPab	**PKPab**		**10 35 25.7**	**+0.4**
PCVE	**Castro Verde**	**158.78**	**23**	*e*PKPab	**PKPab**		**10 35 26.5**	**+0.6**
PFVI	**Vila Bisbo**	**158.92**	**25**	*e*PKPab	**PKPab**		**10 35 25.6**	**-1.0**
PVAQ	**Vaqueiros**	**159.10**	**22**	*e*PKPab	**PKPab**		**10 35 28.1**	**+0.8**
PBDV	**Barranco-do-Ve**	**159.17**	**23**	*e*PKPab	**PKPab**		**10 35 27.8**	**+0.1**
KEST	**Kesra**	**161.45**	**341**	PKPab	**PKPab**		**10 35 38.1**	**+0.3**
	comp=Z,18nm,0.7s,baz=3.1,slow=1.6,SNR=14							
KEST	**Kesra**	**161.45**	**341**	PKPab	**PKPab**		**10 35 37.6**	**-0.1**
DBIC	**Dimbokro**	**166.64**	**149**	PKP	**PKPdf**		**10 34 53.5**	**-1.1**
	comp=Z,12nm,1.0s,baz=154,slow=3.6,SNR=5.3							
DBIC				PKPab	**PKPab**		**10 36 00.6**	**-0.4**
	comp=Z,18nm,1.2s,baz=186,slow=8.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**174.89**	**176**	PKP	**PKPdf**		**10 34 58.1**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=352,slow=1.2,SNR=13							
TORD				PKPab	**PKPab**		**10 36 36.9**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=190,slow=3.5,SNR=1.6							
TORD	**Torodi Ar. Bea**	**174.89**	**176**		**PKPdf**		**10 34 58.0**	**-0.9**

VIE 10 10:17:35.5±0.3, 49°29N×16°27E, h0km, mb1.0/2, ml1.4/2
Error ellipse: s-maj=4.6km s-min=2.0km az=85.0 30 km WNW of Brno Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VRAC	**Vranov**	**0.21**	**86**	*e*Pg		Pg	10 17 38.9	-0.7
VRAC				*e*Sg		Sg	10 17 40.8	-1.6
KRUC	**Moravsky**	**0.25**	**160**	*e*Pg		Pg	10 17 40.5	+0.3
KRUC				*e*Sg		Sg	10 17 43.8	+0.4
KRUC				*e*Rg		Rg	10 17 45.7	
JAVC	**Velka Javorina**	**1.02**	**115**	*e*Pg		Pg	10 17 55.2	+0.2
CONA	**Conrad Observa**	**1.39**	**191**	*e*Pg		Pg	10 18 01.9	-0.2
	0.8nm,0.1s							
CONA				Sg		Sn	10 18 21.2	-0.2
	2.3nm,0.3s							

BUC 10 10:21:23.8±0.4, 44°42N×28°55E, h5km, ml1.7/5, 16C-2D, Error ellipse: s-maj=3.2km s-min=1.5km az=90.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TIRR	**Tirgusor**	**0.10**	**293**	↑P		Pg	10 21 25.4	-0.5
TIRR				↑S		Sg	10 21 27.0	-0.4
TIRR	**Tirgusor**	**0.10**	**293**	↑P		Pg	10 21 25.4	-0.5
TIRR				↑S		Sg	10 21 27.0	-0.4
MFTR	**Murfatlar**	**0.26**	**200**	↑P		Pg	10 21 29.0	+0.2
MFTR				↑S		Sg	10 21 32.8	+0.6
MFTR	**Murfatlar**	**0.26**	**200**	↑P		Pg	10 21 29.0	+0.2
MFTR				↑S		Sg	10 21 32.8	+0.6
TLBR	**Topalu**	**0.38**	**290**	↓S		Sg	10 21 36.8	+0.7
TLBR	**Topalu**	**0.38**	**290**	↓S		Sg	10 21 36.8	+0.7
TPGR	**Topolog**	**0.45**	**348**	↑P		Pg	10 21 32.8	+0.3
TPGR				↑S		Sg	10 21 38.5	+0.2
TPGR	**Topolog**	**0.45**	**348**	↑P		Pg	10 21 32.8	+0.3
TPGR				↑S		Sg	10 21 38.5	+0.2
CFR	**Carcaliu**	**0.81**	**339**	↑P		Pg	10 21 39.2	-0.2
CFR				↑S		Sb	10 21 51.3	-0.4
CFR	**Carcaliu**	**0.81**	**339**	↑P		Pg	10 21 39.2	-0.2
CFR				↑S		Sb	10 21 51.3	-0.4

BGR ***10*** *10:20:25.8±0.0, 18°81S×176°11W, h33km*
NOU ***10*** *10:21:27.6, 17°68S×177°98W, h582km, mb4.6, Fiji Islands Region*
NEIC ***10*** *10:21:33.7±1.5, 17°9S±0°1×178°44W±0°05, h615km±6km, mb4.4/103, Error ellipse: s-maj=16.0km s-min=1.7km az=157.0*
IDC ***10*** *10:21:34.2±0.9, 17°95S×178°49W, h630km±8km, mb3.7/21, mb1 3.9/23, mb1mx3.7/38, mbtmp4.7/23, Error ellipse: s-maj=17.7km s-min=9.6km az=148.0*
ISC 10 10:21:31.8±0.4, 17°90S±0°07×178°39W±0°06, h600km, n285, σ1°06/287, mb4.4/74, 20C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**3.40**	**272**	P		**P**	**10 22 56.6**	**+3.2**
	9.5nm,0.3s,baz=130,slow=4.8,SNR=53							
MSVF				S		**S**	**10 24 06.2**	**+6.3**
	baz=34,slow=21,SNR=9.0							
MSVF	**Nonsavu**	**3.40**	**272**	P		**P**	**10 22 56.5**	**+3.1**
AFI	**Afiamalu**	**7.50**	**59**	P		**P**	**10 23 26.8**	**+0.3**
	16nm,0.3s,baz=70,slow=3.3,SNR=8.4							
AFI	**Afiamalu**	**7.50**	**59**	P		**P**	**10 23 27.5**	**+0.9**
LIFNC	**LIFOU**	**13.86**	**256**	P		**P**	**10 24 28.9**	**-0.5**
LIFNC	**LIFOU**	**13.86**	**256**	P		**P**	**10 24 28.4**	**-1.0**
SANVU	**Saraoutou**	**14.02**	**278**	P		**P**	**10 24 31.1**	**+0.1**
SANVU	**Saraoutou**	**14.02**	**278**	P		**P**	**10 24 30.9**	**-0.1**
PINNC	**Pines Island,**	**14.09**	**248**	P		**P**	**10 24 31.6**	**+0.1**
PINNC	**Pines Island,**	**14.09**	**248**	P		**P**	**10 24 31.5**	**-0.1**
YATNC	**Mamie plateau,**	**14.44**	**251**	P		**P**	**10 24 34.8**	**-0.1**
OUENC	**Ouen Island, N**	**14.58**	**250**	P		**P**	**10 24 36.7**	**+0.6**
OUENC	**Ouen Island, N**	**14.58**	**250**	P		**P**	**10 24 36.4**	**+0.3**
DZM	**Mont Dzumac**	**14.85**	**251**	P		**P**	**10 24 38.5**	**-0.2**
	2.4nm,0.3s,baz=132,slow=22,SNR=14							
DZM	**Mont Dzumac**	**14.85**	**251**	P		**P**	**10 24 39.3**	**+0.6**
DZM	**Mont Dzumac**	**14.85**	**251**	P		**P**	**10 24 38.9**	**+0.2**
ONTNC	**Ouen Toro**	**14.89**	**250**	P		**P**	**10 24 39.5**	**+0.5**
ONTNC	**Ouen Toro**	**14.89**	**250**	P		**P**	**10 24 39.5**	**+0.5**
NOUC	**Port Laguerre**	**14.98**	**251**	P		**P**	**10 24 40.3**	**+0.5**
KNTN	**Kanton**	**16.40**	**24**	P		**P**	**10 24 52.5**	**-0.5**
KOUNC	**Koumac, New Ca**	**16.57**	**258**	P		**P**	**10 24 56.2**	**+1.8**
NFK	**Norfolk Island**	**16.72**	**226**	P		**P**	**10 24 55.4**	**-0.3**
	baz=17,SNR=4.4							
OUZ	**Omahuta**	**18.66**	**201**	P		**P**	**10 25 16.4**	**+3.1**
OUZ				IAmb		IAmb	10 25 17.6	
	comp=Z,20nm,0.7s							
URZ	**Urewera**	**20.66**	**190**	P		**P**	**10 25 28.9**	**-2.4**
	comp=Z,16nm,0.8s,baz=298,slow=23,SNR=2.7							
URZ	**Urewera**	**20.66**	**190**	P		**P**	**10 25 29.7**	**-1.6**
URZ				IAmb		IAmb	10 25 45.4	
	comp=Z,19nm,0.9s							
BHW	**Baring Head**	**24.13**	**192**	P		**P**	**10 26 01.3**	**-0.8**
PPT	**Papeete**	**27.43**	**94**	P		**P**	**10 26 32.4**	**+0.8**
	comp=Z,21nm,0.6s,baz=270,slow=21,SNR=2.3							
PPTF	**Pamatai, Papee**	**27.44**	**94**	P		**P**	**10 26 33.0**	**+1.3**
WKZ	**Wanaka**	**28.84**	**199**	P		**P**	**10 26 42.8**	**-0.6**
EIDS	**Eidsvold**	**29.29**	**250**	P		**P**	**10 26 47.3**	**-0.2**
	baz=30,SNR=6.5							
EIDS	**Eidsvold**	**29.29**	**250**	P		**P**	**10 26 47.5**	**0.0**
EIDS				IAmb		IAmb	10 26 48.5	
	comp=Z,16nm,0.7s							
MLZ	**Mavora Lakes**	**29.61**	**199**	P		**P**	**10 26 50.0**	**0.0**
ARMA	**Armidale**	**29.96**	**240**	P		**P**	**10 26 54.5**	**+1.1**
	baz=30,SNR=17							
ARMA	**Armidale**	**29.96**	**240**	P		**P**	**10 26 54.5**	**+1.1**
ARMA				IAmb		IAmb	10 26 55.1	
	comp=Z,15nm,0.7s							
WHZ	**Wether Hill Ro**	**30.13**	**199**	P		**P**	**10 26 54.7**	**+0.2**
MGCD	**Mangrove Creek**	**31.31**	**235**	P		**P**	**10 27 06.6**	**+1.9**
	baz=32,SNR=8.0							
RMQ	**Roma**	**31.52**	**248**	P		**P**	**10 27 07.7**	**+1.0**
	baz=32,SNR=12							
CTA	**Charters Tower**	**33.47**	**261**	P		**P**	**10 27 22.9**	**-0.2**
	comp=Z,7.0nm,0.6s,baz=78,slow=11,SNR=8.3							
CTAO	**Charters Tower**	**33.47**	**261**	P		**P**	**10 27 23.1**	**0.0**
CTAO				IAmb		IAmb	10 27 24.1	
	comp=Z,9.2nm,0.8s							
CAN	**Canberra**	**33.72**	**233**	P		**P**	**10 27 26.1**	**+1.0**
PMG	**Port Moresby**	**34.48**	**280**	P		**P**	**10 27 32.8**	**+1.2**
CMSA	**Cobar Meteorol**	**35.17**	**240**	P		**P**	**10 27 37.8**	**+0.7**
	baz=35,SNR=28							
MTSU	**Mount Surprise**	**35.43**	**264**	P		**P**	**10 27 39.7**	**+0.2**
	baz=36,SNR=9.9							
QLP	**Quilpie**	**35.55**	**249**	P		**P**	**10 27 40.6**	**+0.2**
	baz=36,SNR=7.5							
TOO	**Toolangi**	**37.19**	**231**	P		**P**	**10 27 54.4**	**+0.8**
	baz=37,SNR=22							
TOO	**Toolangi**	**37.19**	**231**	P		**P**	**10 27 54.7**	**+1.1**
TAU	**Tasmania Unive**	**38.26**	**222**	P		**P**	**10 28 02.5**	**+0.4**
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**	**10 28 06.1**	**+0.6**
	comp=Z,15nm,0.5s,baz=88,slow=9.8,SNR=21							
STKA				S		**S**	**10 33 18.3**	**-2.1**
	comp=Z,2.5nm,1.0s,baz=152,slow=22,SNR=2.6							
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**	**10 28 06.6**	**+1.1**
ARPS	**Mount Arapiles**	**39.67**	**234**	P		**P**	**10 28 13.9**	**+0.3**
	baz=40,SNR=9.1							
QIS	**Mount Isa**	**39.67**	**259**	P		**P**	**10 28 14.6**	**+0.7**
	baz=40,SNR=4.3							
WAKE	**Wake Island**	**39.77**	**338**	P		**P**	**10 28 14.8**	**+0.2**
HTT	**Hallet**	**41.16**	**239**	P		**P**	**10 28 26.3**	**+0.7**
	baz=41,SNR=9.4							
KHLU	**Kahalu`u**	**43.32**	**32**	P		**P**	**10 28 42.8**	**+0.3**
BBOO	**Buckleboo**	**43.42**	**241**	P		**P**	**10 28 43.4**	**+0.2**
	baz=44,SNR=32							
BBOO	**Buckleboo**	**43.42**	**241**	P		**P**	**10 28 43.2**	**0.0**
HMH	**Humu'ula Sheep**	**43.53**	**32**	P		**P**	**10 28 45.3**	**+0.9**
HPAH	**Hawaii Prepara**	**43.78**	**32**	P		**P**	**10 28 46.7**	**+0.6**
WMR	**Waimanalo Ridg**	**43.95**	**28**	P		**P**	**10 28 47.8**	**+0.6**
WRA	**Warramunga Arr**	**44.65**	**260**	P		**P**	**10 28 52.0**	**-0.8**
	comp=Z,5.3nm,0.3s,baz=93,slow=7.8,SNR=39							
WRA				PcP		**PcP**	**10 30 21.7**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=100,slow=3.7,SNR=3.0							
WRA				S		**S**	**10 34 41.3**	**-5.5**
	comp=Z,2.8nm,0.8s,baz=101,slow=12,SNR=6.9							
AS31	**Alice Springs**	**44.81**	**254**	P		**P**	**10 28 54.0**	**0.0**
AS31				IAmb		IAmb	10 28 55.1	
	comp=Z,12nm,0.5s							
AS31						**S**	**10 34 46.9**	**-2.2**
ASAR	**Alice Springs**	**44.81**	**254**	P		**P**	**10 28 54.0**	**0.0**
	comp=Z,21nm,0.3s,baz=93,slow=8.0,SNR=70							
ASAR				PcP		**PcP**	**10 30 22.2**	**-0.5**
	comp=Z,4.9nm,0.6s,baz=103,slow=3.4,SNR=5.3							
ASAR				pP		**pP**	**10 30 40.7**	**+1.8**
	comp=Z,3.7nm,1.0s,baz=82,slow=9.4,SNR=1.9							
ASAR				S		**S**	**10 34 46.0**	**-3.0**
	comp=Z,6.3nm,0.8s,baz=88,slow=16,SNR=20							
ASAR	**Alice Springs**	**44.81**	**254**	P		**P**	**10 28 54.4**	**+0.4**
KDU	**Kakadu**	**47.58**	**269**	P		**P**	**10 29 14.5**	**-0.4**
	baz=48,SNR=9.2							
MTN	**Manton Dam**	**48.82**	**268**	P		**P**	**10 29 23.6**	**-0.5**
	baz=49,SNR=4.1							
MTN	**Manton Dam**	**48.82**	**268**	P		**P**	**10 29 23.5**	**-0.6**
MTN				IAmb		IAmb	10 29 24.1	
	comp=Z,20nm,0.7s							
WRKA	**Warakurna**	**49.86**	**252**	P		**P**	**10 29 31.6**	**-0.1**
	baz=50,SNR=18							
FORT	**Forrest**	**50.03**	**245**	P		**P**	**10 29 32.2**	**-0.6**
	baz=50,SNR=9.9							
FORT	**Forrest**	**50.03**	**245**	P		**P**	**10 29 32.4**	**-0.4**
FORT				IAmb		IAmb	10 29 32.6	
	comp=Z,25nm,0.8s							
KNRA	**Kununurra**	**50.51**	**264**	P		**P**	**10 29 35.9**	**-0.5**
	baz=51,SNR=5.8							
KNRA	**Kununurra**	**50.51**	**264**	P		**P**	**10 29 35.9**	**-0.5**
KNRA				IAmb		IAmb	10 29 36.8	
	comp=Z,15nm,0.7s							
FAKI	**Fak Fak**	**50.59**	**281**	P		**P**	**10 29 37.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P		**P**	**10 29 54.8**	**+0.2**
	baz=53,SNR=4.8							
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P		**P**	**10 29 54.9**	**+0.3**
FITZ				IAmb		IAmb	10 29 55.4	
	comp=Z,13nm,1.3s							
TNTI	**Ternate**	**56.48**	**283**	P		**P**	**10 30 19.5**	**+0.9**
TNTI				IAmb		IAmb	10 30 19.9	
	comp=Z,31nm,0.8s							
PSA00	**Pilbara Seismi**	**57.93**	**255**	P		**P**	**10 30 27.4**	**-0.9**
PSA00	**Pilbara Seismi**	**57.93**	**255**	P		**P**	**10 30 28.2**	**-0.1**
PSA00				IAmb		IAmb	10 30 28.6	
	comp=Z,18nm,0.8s							
MMRI	**Maumere**	**58.32**	**271**	P		**P**	**10 30 30.6**	**-0.4**
MMRI				IAmb		IAmb	10 30 48.1	
	comp=Z,56nm,1.1s							
MEEK	**Meekatharra**	**58.45**	**249**	P		**P**	**10 30 31.4**	**-0.5**
	baz=59,SNR=4.8							
KLBR	**Kellerberrin**	**58.85**	**244**	P		**P**	**10 30 33.9**	**-0.4**
	baz=59,SNR=7.4							
MORW	**Morawa**	**60.50**	**246**	P		**P**	**10 30 44.6**	**-0.8**
MORW				IAmb		IAmb	10 30 45.0	
	comp=Z,16nm,1.3s							
GIRL	**Giralia**	**62.91**	**253**	P		**P**	**10 31 02.1**	**+1.1**
	baz=63,SNR=4.0							
GIRL	**Giralia**	**62.91**	**253**	P		**P**	**10 31 02.2**	**+1.1**
JHJ2	**Mitsune**	**64.55**	**322**	P		**P**	**10 31 11.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**66.06**	**269**	P		**P**	**10 31 19.9**	**-1.1**
CASY	**Casey**	**66.15**	**205**	P		**P**	**10 31 21.2**	**+0.6**
MJAR	**Matsushiro Arr**	**67.91**	**323**	P		**P**	**10 31 31.3**	**-0.7**
	comp=Z,11nm,0.6s,baz=158,slow=5.8,SNR=23							
MJAR	**Matsushiro Arr**	**67.91**	**323**	P		**P**	**10 31 31.7**	**-0.2**
MJAR				IAmb		IAmb	10 31 32.2	
	comp=Z,12nm,0.8s							
MAJO	**Matsushiro**	**67.92**	**323**	P		**P**	**10 31 31.6**	**-0.3**
MAJO				IAmb		IAmb	10 31 32.2	
	comp=Z,13nm,0.7s							
MAT	**Matsushiro**	**67.92**	**323**	P		**P**	**10 31 31.3**	**-0.6**
JOW	**Kunigami**	**68.23**	**309**	P		**P**	**10 31 33.5**	**-0.5**
	comp=Z,12nm,0.6s,baz=126,slow=14,SNR=2.2							
JMN	**Monobe**	**68.60**	**319**	P		**P**	**10 31 36.9**	**+0.7**
JMN				IAmb		IAmb	10 31 37.8	
	comp=Z,24nm,1.0s							
JWT	**Wachi**	**68.69**	**321**	P		**P**	**10 31 36.6**	**0.0**
JWT				IAmb		IAmb	10 31 37.5	
	comp=Z,12nm,0.8s							
JSD	**Sado**	**68.95**	**324**	P		**P**	**10 31 38.4**	**+0.3**
JSD				IAmb		IAmb	10 31 38.9	
	comp=Z,19nm,0.7s							
JTM	**Tennabayashi**	**69.48**	**328**	P		**P**	**10 31 42.3**	**+1.1**
ADK	**Adak**	**69.50**	**1**	P		**P**	**10 31 40.5**	**-0.5**
UGM	**Wanagama**	**69.67**	**268**	P		**P**	**10 31 42.7**	**-0.3**
JHS	**Saijyo**	**69.91**	**319**	P		**P**	**10 31 44.3**	**+0.4**
JNU	**Nakatsue**	**70.15**	**316**	P		**P**	**10 31 45.3**	**-0.1**
	comp=Z,5.7nm,0.9s,baz=56,slow=7.2,SNR=3.9							
JNU	**Nakatsue**	**70.15**	**316**	P		**P**	**10 31 45.1**	**-0.3**
JNU				IAmb		IAmb	10 31 45.6	
	comp=Z,8.7nm,0.9s							
ASAJ	**Asahikawa**	**71.28**	**331**	P		**P**	**10 31 52.4**	**+0.7**
	comp=Z,7.8nm,0.7s,baz=207,slow=4.0,SNR=5.3							
JTU	**Tsushima**	**71.98**	**317**	P		**P**	**10 31 55.5**	**-0.5**
JTU				IAmb		IAmb	10 32 01.2	
	comp=Z,35nm,1.4s							
QSPA	**South Pole Qui**	**72.15**	**180**	P		**P**	**10 31 57.5**	**+0.8**
QSPA				IAmb		IAmb	10 31 58.7	
	comp=Z,8.8nm,1.3s							
TPUB	**Ta-pu**	**72.27**	**302**	P		**P**	**10 31 57.0**	**-1.0**
PET	**Petropavlovsk**	**73.37**	**346**	P		**P**	**10 32 03.0**	**-0.5**
PET				IAmb		IAmb	10 32 23.3	
	comp=Z,18nm,0.9s							
PEA0B	**Petropavlovsk-**	**73.68**	**345**	P		**P**	**10 32 05.4**	**+0.1**
PEA0B				IAmb		IAmb	10 32 05.5	
	comp=Z,9.3nm,0.8s							
PETK	**Petropavlovsk-**	**73.68**	**345**	P		**P**	**10 32 04.8**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=137,slow=8.3,SNR=14							
PETK	**Petropavlovsk-**	**73.68**	**345**	P		**P**	**10 32 05.4**	**+0.1**
KSRS	**Korea Array**	**74.71**	**318**	P		**P**	**10 32 12.1**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=129,slow=6.4,SNR=14							
KSAR	**Wonju Array Be**	**74.73**	**318**	P		**P**	**10 32 12.1**	**+0.6**
KS19	**Wonju Array Si**	**74.77**	**318**	P		**P**	**10 32 11.8**	**0.0**
KS19				IAmb		IAmb	10 32 30.7	
	comp=Z,11nm,1.3s							
USA0B	**Ussuriysk Arra**	**76.62**	**326**	P		**P**	**10 32 23.2**	**+1.4**
USA0B				IAmb		IAmb	10 32 24.5	
	comp=Z,12nm,1.4s							
USRK	**Ussuriysk Ar.**	**76.62**	**326**	P		**P**	**10 32 22.8**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=120,slow=4.4,SNR=13							
USRK	**Ussuriysk Ar.**	**76.62**	**326**	P		**P**	**10 32 23.0**	**+1.1**
CBX	**Cerro Bola**	**77.33**	**50**	P		**P**	**10 32 27.4**	**+1.3**
ISA	**Isabella, Lake**	**77.80**	**46**	P		**P**	**10 32 28.4**	**-0.2**
ISA				IAmb		IAmb	10 32 30.4	
	comp=Z,7.1nm,0.9s							
CMB	**Columbia Colle**	**77.82**	**43**	P		**P**	**10 32 28.6**	**+0.1**
AFDM	**Forest Hills D**	**77.96**	**42**	P		**P**	**10 32 29.0**	**-0.3**
ORV	**Oroville**	**77.97**	**41**	P		**P**	**10 32 29.0**	**-0.2**
MDJ	**Mudanjiang**	**78.19**	**325**	P		**P**	**10 32 31.3**	**+1.0**
MDJ				IAmb		IAmb	10 32 32.1	
	comp=Z,20nm,0.9s							
MDPB	**Devils Postpil**	**78.46**	**44**	P		**P**	**10 32 33.2**	**+1.0**
MDPB				IAmb		IAmb	10 32 33.9	
	comp=Z,6.5nm,0.9s							
WAKR	**Walker**	**78.70**	**43

CM15 Chiang Mai Arr 88.92 290 P P 10 33 25.9 +1.9
comp=Z,0.0nmcomp=Z,8.7nm,0.9s
CM13 Chiang Mai Arr 88.92 290 P P 10 33 25.0 +1.0
comp=Z,0.0nmcomp=Z,6.7nm,0.0s
CHTO Chiang Mai 89.02 290 P P 10 33 24.9 +0.5
CHTO IAmb IAmb 10 33 25.9
comp=Z,7.2nm,0.8s
PHWY Pilot Hill 89.44 46 P P 10 33 25.3 -1.0
PHWY IAmb IAmb 10 33 27.4
comp=Z,2.5nm,0.9s
SNAA Sanae 90.60 179 P P 10 33 30.2 -0.6
VNA3 Neumayer Olymp 90.74 176 P P 10 33 31.6 +0.1
VNA2 Neumayer--Watz 91.18 177 P P 10 33 33.0 -0.5
VNA1 Neumayer--Stat 91.41 177 P P 10 33 35.0 +0.5
SONM Songino Array 93.56 319 P P 10 33 43.9 -0.9
comp=Z,0.9nm,0.5s,baz=114,slow=3.6,SNR=2.8
ZALV Zalesovo Beam 108.24 322 PKiKP PKiKP 10 38 50.8 -1.6
comp=Z,1.0nm,0.3s,baz=304,slow=2.8,SNR=2.4
ZALV Zalesovo Beam 108.24 322 PKiKP 10 38 51.2 -1.3
MKAR Makanchi Array 109.14 314 PKiKP PKiKP 10 38 52.9 -1.5
comp=Z,1.2nm,0.5s,baz=207,slow=0.8,SNR=14
KURK Kurchatov 111.83 318 PKiKP 10 38 58.0 -1.3
KURBB Kurchatov Arra 111.89 318 PKiKP PKiKP 10 38 58.0 -1.4
comp=Z,1.4nm,0.6s,baz=100,slow=1.7,SNR=12
ARU Arti 122.86 326 PKPdf 10 39 18.5 -1.9
HRA Herat 123.91 300 PKPdf 10 39 20.9 -2.5
ARCES ARCESS Array B 126.31 350 PKP PKPdf 10 39 25.3 -1.4
comp=Z,2.3nm,0.8s,baz=336,slow=2.7,SNR=4.1
ARCES ARCESS Array B 126.31 350 PKPdf 10 39 25.8 -0.9
FINES FINESS Array B 133.19 344 PKP PKPdf 10 39 38.2 -1.6
comp=Z,1.1nm,0.5s,baz=90,slow=1.7,SNR=4.9
FINES FINESS Array B 133.19 344 PKPdf 10 39 39.8 -0.1
AKASG Malin Array Be 140.56 332 PKhKP PKPpre 10 39 47.6
comp=Z,0.7nm,0.3s,baz=46,slow=4,1,SNR=3.4
SORM Soroca 142.79 330 ↑P PKPdf 10 39 54.8 -3.0
BSEG Bad Segeberg 143.41 351 *e*PKPbc PKPab 10 39 56.8 -0.4
baz=13,slow=2.7
LODK Lodwar 143.94 250 PKPbc 10 39 58.1 -2.3
TLCR 144.58 326 ↑P PKPab 10 40 01.7 -0.3
BUR08 Bucovina Ar. S 144.60 332 PKPbc 10 40 01.7 +0.2
OJC Ojcow 144.61 340 PKPdf PKPdf 10 39 59.8 -1.2
BURAR Bucovina Array 144.62 332 ↑P PKPbc 10 40 01.7 +0.2
BURAR Bucovina Array 144.62 332 PKPbc 10 40 01.9 +0.3
BIZ Bicaz 144.71 331 ↑P PKPdf 10 40 01.0 -0.2
BR131 Keskin Array S 144.79 315 PKPdf PKPdf 10 40 00.9 -0.9
BRTR Keskin Array B 144.79 315 PKP PKPdf 10 40 01.8 0.0
comp=Z,5.4nm,0.5s,baz=134,slow=3.6,SNR=24
BRTR Keskin Array B 144.79 315 PKPdf PKPdf 10 40 00.6 -1.2
FLTG Flechtingen 144.82 350 *e*PKPbc **PKPdf 10 40 01.2 +0.1**
baz=13,slow=2.7
NRDL Niedersach Rie 144.84 351 *e*PKPbc PKPbc 10 40 01.6 -0.2
baz=13,slow=2.7
TPGR Topolog 145.01 326 ↑P PKPbc 10 40 02.4 -0.3
VRI Vrincioaia 145.18 329 ↓P PKPbc 10 40 03.0 -0.1
PLOR Plostina 145.23 329 ↑P PKPdf 10 40 00.4 -1.8
ANTO Ankara 145.29 316 PKPdf 10 40 00.6 -1.9
ANTO PKPbc **PKPbc 10 40 03.6 -0.1**
CLZ Clausthal 145.43 350 *e*PKPbc **PKPbc 10 40 03.7 0.0**
baz=13,slow=2.7
CLL Collm 145.46 347 *j* PKPbc **PKPbc 10 40 03.3 -0.5**
comp=Z,20nm,0.9s
CLL Collm 145.46 347 PKPbc PKPbc 10 40 03.7 -0.1
CLL Collm 145.46 347 *e*PKPbc **PKPbc 10 40 03.4 -0.3**
baz=13,slow=2.7
BRG Berggiesshubel 145.66 346 Amp 10 40 05.1
comp=Z,10nm,0.8s
BRG Berggiesshubel 145.66 346 *e*PKPbc **PKPbc 10 40 04.3 -0.1**
baz=13,slow=2.7
BRG Berggiesshubel 145.66 346 *e*P **PKPbc 10 40 04.2 -0.1**
MORC Moravsky Berou 145.71 342 ↑P PKPbc 10 40 04.2 -0.4
MORC Moravsky Berou 145.71 342 PKPbc 10 40 04.6 0.0
FBE Freiberg 145.75 347 *e*PKPbc **PKPbc 10 40 04.8 +0.2**
baz=13,slow=2.7
DOPR Dopca 145.76 330 ↑P PKPbc 10 40 05.5 +0.7
MLR Muntele Rosu 145.84 329 ↑P PKPbc 10 40 05.0 -0.3
MLR Muntele Rosu 145.84 329 PKPbc 10 40 04.8 -0.4
CJR Cluj-Napoca 146.02 333 ↑P PKPbc 10 40 05.4 +0.2
VOIR 146.31 330 ↑P PKPbc 10 40 06.0 -0.5
KASTN Kahler Asten 146.34 352 *e*PKPbc **PKPbc 10 40 05.9 -0.4**
baz=13,slow=2.7
DRGR 146.34 333 ↑P PKPbc 10 40 06.3 -0.1
MOX Moxa 146.37 348 *e*PKPbc **PKPbc 10 40 06.1 -0.3**
baz=13,slow=2.7
VRAC Vranov 146.41 342 *e*PKP **PKPbc 10 40 05.7 -0.8**
PLN Plauen 146.41 348 *e*PKPbc **PKPbc 10 40 06.3 -0.2**
baz=13,slow=2.7
TANN Tannenbergstha 146.42 347 *e*PKPbc **PKPbc 10 40 06.4 -0.1**
baz=13,slow=2.7
WERD Werda 146.42 348 *e*PKPbc **PKPbc 10 40 06.4 -0.1**
baz=13,slow=2.7
JAVC Velka Javorina 146.48 341 *e*PKP **PKPbc 10 40 07.2 +0.4**
GUNZ Gunzen 146.50 348 *e*PKPbc **PKPbc 10 40 06.7 0.0**
baz=13,slow=2.7
PSZ Piszkesteto 146.54 337 ↑P PKPbc 10 40 07.2 +0.3
PSZ Piszkesteto 146.54 337 PKPbc 10 40 07.2 +0.3
WERN Wernitzgruen 146.56 347 *e*PKPbc **PKPbc 10 40 07.0 +0.1**
baz=13,slow=2.7
ARR Arges 146.56 330 ↑P PKPdf 10 40 04.6 +0.2
KRUC Moravsky 146.69 342 *e*PKP **PKPbc 10 40 06.9 -0.3**
MANZ Manzenberg 146.90 348 *e*PKPbc **PKPbc 10 40 07.8 -0.1**
baz=13,slow=2.7
ROTZ Rotzenmuhle 147.09 347 *e*PKPbc **PKPbc 10 40 08.3 0.0**
baz=13,slow=2.7
SIRR Siria 147.20 334 ↑P PKPbc 10 40 08.9 +0.2
TNS Taunus Mts 147.29 352 *e*PKPbc **PKPbc 10 40 08.8 -0.1**
baz=13,slow=2.7
GRF Grafenberg Arr 147.35 348 *e*PKPbc **PKPbc 10 40 09.0 0.0**
baz=13,slow=2.7
GZR Gura Zlata 147.40 332 ↑P PKPbc 10 40 08.8 -0.5
GEC2 GERESS Array S 147.61 345 PKPbc 10 40 09.6 -0.2
GEC2 GERESS Array S 147.61 345 *e*PKPbc **PKPbc 10 40 09.6 -0.2**
baz=13,slow=2.7
GERES GERESS Array B 147.61 345 PKPbc 10 40 09.5 -0.3
comp=Z,5.2nm,0.5s,baz=30,slow=3.3,SNR=28
GERES GERESS Array B 147.61 345 PKPbc 10 40 09.7 -0.1
CONA Conrad Observa 147.86 342 *i* P **PKPbc 10 40 10.2 -0.2**
comp=Z,5.5nm,0.7s
HERR Herculane 147.96 332 ↓P PKPbc 10 40 10.2 -0.5
MDVR Moldovita 148.35 332 ↑P PKPbc 10 40 11.4 -0.3
MORH Mrgy, Hungar 148.43 337 ↑P PKPbc 10 40 10.7 -1.0
FRGS Fruska Gora 148.86 335 ↓P PKPbc 10 40 12.8 -0.1
RJOB Jochberg 148.86 345 *e*PKPbc **PKPbc 10 40 12.4 -0.4**
baz=13,slow=2.7
BFO Black Forest 149.16 351 *e*PKPbc **PKPbc 10 40 13.1 -0.4**
baz=13,slow=2.7
SOKA Soboth 149.24 342 *i* P **PKPbc 10 40 12.6 -1.2**
comp=Z,3.8nm,0.8s
BOVS Bovan 149.24 331 ↑P PKPbc 10 40 11.7 -2.1
VTS Vitosha 149.26 328 ↑P PKPbc 10 40 14.2 0.0
KBA Koelnbreinsper 149.34 344 *i* P **PKPbc 10 40 13.2 -1.0**
comp=Z,3.0nm,0.5s
UBR Ueberruh 149.49 349 *e*PKPbc **PKPbc 10 40 14.0 -0.4**
baz=13,slow=2.7
WATA Walderalm 149.52 347 *i* P **PKPbc 10 40 14.1 -0.5**
comp=Z,5.5nm,0.6s
RETA Reutte 149.55 348 *i* P **PKPbc 10 40 14.2 -0.4**
comp=Z,2.1nm,0.6s
WTTA Wattenberg 149.58 346 *e*P **PKPbc 10 40 14.4 -0.3**
comp=Z,16nm,0.6s,SNR=7.2
MOTA Moosalm 149.62 347 *e*P **PKPbc 10 40 14.2 -0.6**
comp=Z,7.9nm,0.9s
MYKA Terra Mystica 149.68 343 *i* P **PKPbc 10 40 12.7 -2.1**
comp=Z,6.8nm,0.7s
ABTA Abfaltersbach 149.86 345 *e*P **PKPbc 10 40 13.2 -2.1**
comp=Z,11nm,0.6s,SNR=6.2
DAVA Damuels 149.92 349 *i* P **PKPbc 10 40 15.3 -0.3**
comp=Z,9.4nm,1.0s
FETA Feichten 150.00 347 *i* P **PKPbc 10 40 15.5 -0.2**
comp=Z,7.3nm,0.8s
TUE Stuetta 150.80 349 PKPbc 10 40 17.6 0.0
TORD Torodi Ar. Bea 175.27 181 PKP PKPdf 10 40 32.7 -1.9
comp=Z,1.3nm,0.9s,baz=136,slow=0.5,SNR=3.9
TORD Torodi Ar. Bea 175.27 181 PKPdf 10 40 32.4 -2.2

BJI ***10*** *10:25:18.6±0.0, 35.58N× 140.84E, h27km, mB4.9/14, mb4.6/38, Ms4.3/7, Ms7 3.9/7*
JMA ***10*** *10:25:23.8±0.2, 35.71N× 140.70E, h52km±2km, M3.9 Broadband fault plane solution: P waves. NP1: φs200.00000°, δ29.00000°, λ74.00000°. NP2:φs39.00000°, δ63.00000°, λ99.00000°. Principal axes: T Plg71.0000°, Azm328.0000°; N Plg8.0000°, Azm214.0000°; P Plg17.0000°, Azm122.0000°;*

JMA Felt II J1.
NEIC ***10*** *10:25:23.2± 1.4, 35.71N±0.05× 140.89E±0.08, h46km±3km, mb4.5/20 Error ellipse: s-maj=9.5km s-min=7.3km az=64.0*
NIED ***10*** *10:25:23.8, 35.71N× 140.70E, h52km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr5.34; Mθθ-0.68; Mφφ-4.66; Mrθ2.87; Mθφ-1.87; Mφr4.43; Fault plane solution: M0 7.53000×10¹⁵ NP1:φs30.00000°, δ67.00000°, λ,96.00000°. NP2:φs194.00000°, δ23.00000°, λ76.00000°.*
IDC ***10*** *10:25:27.0± 1.5, 35.55N× 140.57E, h71km± 13km, mb3.9/23, mb1 4.0/28, mb1mx3.9/55, mbtmp4.2/28, MS3.7/18, Ms1 3.7/18, ms1mx3.6/42 Error ellipse: s-maj=15.5km s-min=8.5km az=69.0*
ISC 10 10:25:23.6±0.7, 35.65N±0.04× 140.81E±0.05, h47km±6km, n115, σ1°$44/111, mb4.3/35, MS3.8/12, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**40**	**↑P**		**Pn**		**10 25 31.8**	**+0.8**
CHOJ				S		**Sn**		**10 25 37.7**	**+1.5**
JSMT	**Sammumatsuo**	**0.29**	**269**	**↑P**		**Pn**		**10 25 32.7**	**+0.4**
JIHU	**Itakohorinouch**	**0.39**	**324**	**↓P**		**Pn**		**10 25 33.6**	**+0.2**
JCN	**Nagara**	**0.54**	**245**	**↑P**		**Pn**		**10 25 35.9**	**+0.7**
JYT	**Yasato**	**0.76**	**319**	P		**Pn**		**10 25 37.1**	**-0.9**
JYT				S		**Sn**		**10 25 46.8**	**-1.7**
JYT	**Yasato**	**0.76**	**319**			**Pn**		**10 25 37.3**	**-0.7**
JYT				Sn		**Sn**		**10 25 47.0**	**-1.4**
BSO3	**Boso 3**	**0.88**	**196**	P		**Pn**		**10 25 40.6**	**+1.2**
BSO1	**Boso 1**	**1.00**	**172**	P		**Pn**		**10 25 43.1**	**+2.3**
JAG	**Ashikaga**	**1.34**	**306**	**↓P**		**Pn**		**10 25 44.8**	**-1.1**
JOD2	**Odawara 2**	**1.45**	**255**	**↓P**		**Pn**		**10 25 47.1**	**-0.3**
JMM	**Marumori**	**2.21**	**360**			**Pn**		**10 25 56.3**	**-1.5**
MJAR	**Matsushiro Arr**	**2.28**	**294**	P		**Pn**		**10 25 59.3**	**+0.5**
	6.9nm,0.3s,baz=93,slow=13,SNR=254								
MJAR				S		**Sn**		**10 26 28.5**	**+2.8**
	8.7nm,0.3s,baz=304,slow=41,SNR=3.7								
MJAR				LR		LR		10 26 59.4	
	comp=Z,1μm,20.0s,baz=115,slow=44								
MJAR	**Matsushiro Arr**	**2.28**	**294**	P		**Pn**		**10 25 59.2**	**+0.4**
MJAR	**Matsushiro Arr**	**2.28**	**294**			**Pn**		**10 25 59.2**	**+0.4**
MAJO	**Matsushiro**	**2.29**	**294**	pmax		pmax			
	comp=Z,222nm,0.7s								
MAJO	**Matsushiro**	**2.29**	**294**			**Pn**		**10 25 59.2**	**+0.3**
MAJO	**Matsushiro**	**2.29**	**294**	*d*	iP	**Pn**		**10 25 59.0**	**+0.2**
MAT	**Matsushiro**	**2.29**	**294**	P		**Pn**		**10 25 58.9**	**+0.1**
MAT	**Matsushiro**	**2.29**	**294**	S		**Sn**		**10 26 28.5**	**+2.7**
MAT	**Matsushiro**	**2.29**	**294**	P		**Pn**		**10 25 59.5**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.29**	**294**			**Pn**		**10 25 59.6**	**+0.7**
JSG	**Sagara**	**2.36**	**246**			**Pn**		**10 26 01.9**	**+2.2**
JHJ2	**Mitsune**	**2.66**	**198**			**Pn**		**10 26 04.2**	**+0.2**
JHJ	**Hachijo jima 2**	**2.66**	**199**	P		**Pn**		**10 26 04.5**	**+0.5**
	comp=Z,111nm,0.3s,baz=323,slow=22,SNR=28								
JHJ				S		**Sn**		**10 26 34.5**	**-0.5**
	comp=Z,204nm,0.3s,baz=203,slow=23,SNR=4.3								
JGF	**Kuroka**	**2.81**	**270**	Pn		**Pn**		**10 26 08.0**	**+1.9**
INU	**Inuyama**	**3.10**	**266**	Pn		**Pn**		**10 26 10.9**	**+0.9**
JSD	**Sado**	**3.14**	**320**	Pn		**Pn**		**10 26 11.2**	**+0.7**
JWT	**Wachi**	**4.42**	**267**	Pn		**Pn**		**10 26 28.8**	**+0.6**
JTM	**Tenmabayashi**	**5.13**	**2**	Pn		**Pn**		**10 26 37.8**	**0.0**
JMN	**Monobe**	**6.02**	**253**	Pn		**Pn**		**10 26 50.3**	**+0.2**
JHS	**Saijyo**	**6.32**	**266**	Pn		**Pn**		**10 26 56.6**	**+2.4**
ASAJ	**Asahikawa**	**8.57**	**9**	P		**Pn**		**10 27 23.5**	**-1.5**
	comp=Z,2.3nm,0.3s,baz=211,slow=17,SNR=11								
ASAJ				S		**Sn**		**10 28 56.8**	**-3.3**
	comp=Z,1.5nm,0.3s,baz=62,slow=15,SNR=2.4								
ASAJ				LR		LR		10 31 35.8	
	comp=Z,245nm,18.7s,baz=211,slow=42								
JNU	**Nakatsue**	**8.58**	**256**	P		**Pn**		**10 27 26.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=72,slow=4.9,SNR=1.8								
JNU				LR		LR		10 31 04.5	
	comp=Z,833nm,18.0s,baz=54,slow=40								
JNU	**Nakatsue**	**8.58**	**256**			**Pn**		**10 27 25.0**	**-0.3**
JCJ	**Chichijima**	**8.61**	**172**	P		**Pn**		**10 27 24.1**	**-1.5**
	comp=Z,20nm,0.3s,baz=288,slow=21,SNR=9.2								
JCJ				S		**Sn**		**10 28 54.3**	**-7.1**
	comp=Z,8.5nm,0.3s,baz=110,slow=23,SNR=1.9								
JTU	**Tsushima**	**9.42**	**266**	Pn		**Pn**		**10 27 36.4**	**-0.2**
JSU	**Suzuyama**	**9.57**	**247**	Pn		**Pn**		**10 27 37.8**	**-0.9**
KSRS	**Korea Array**	**10.52**	**284**	P		**Pn**		**10 27 53.9**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=99,slow=14,SNR=17								
KSRS				LR		LR		10 32 06.4	
	comp=Z,222nm,18.1s,baz=98,slow=38								
KSAR	**Wonju Array Be**	**10.55**	**284**	Pn		**Pn**		**10 27 51.1**	**-1.0**
KS19	**Wonju Array Si**	**10.57**	**284**	Pn		**Pn**		**10 27 53.0**	**+0.6**
USA0B	**Ussuriysk Arra**	**10.89**	**324**	Pn		**Pn**		**10 27 56.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.89**	**324**	P		**Pn**		**10 27 58.3**	**+1.6**
	baz=128,slow=13,SNR=4.2								
USRK				LR		LR		10 32 07.9	
	comp=Z,298nm,19.4s,baz=143,slow=37								
USRK	**Ussuriysk Ar.**	**10.89**	**324**			**Pn**		**10 27 56.0**	**-0.8**
JOW	**Kunigami**	**13.85**	**234**	LR		LR		10 33 32.0	
	comp=Z,172nm,21.1s,baz=327,slow=36								
KLR	**Kul'dur**	**15.11**	**337**	P		**Pn**		**10 28 54.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=135,slow=18,SNR=1.7								
KLR				LR		LR		10 33 48.8	
	comp=Z,316nm,18.5s,baz=168,slow=33								
NJ2	**Nanjing**	**18.58**	**265**	*e*P		**Pn**		**10 29 37.3**	**0.0**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
BJI	**Beijing**	**19.92**	**290**	P		**P**		**10 29 50.7**	**-0.5**
BJI				pmax		pmax			
	comp=Z,9.0nm,0.8s								
BJT	**Baijiatuan**	**19.92**	**290**	P		**P**		**10 29 50.3**	**-1.0**
HIA	**Hailar**	**20.56**	**318**	P		**P**		**10 29 57.5**	**-0.7**
PETK	**Petropavlovsk-**	**21.13**	**29**	P		**P**		**10 30 06.9**	**+2.6**
	comp=Z,7.2nm,1.1s,baz=219,slow=10,SNR=4.2								
PETK				LR		LR		10 37 38.8	
	comp=Z,118nm,21.1s,baz=188,slow=34								
PETK	**Petropavlovsk-**	**21.13**	**29**	P		**P**		**10 30 03.2**	**-1.1**
HHC	**Hu-ho-hao-te**	**23.48**	**292**	*e*P		**P**		**10 30 30.6**	**+1.5**
HHC				pmax		pmax			
	comp=Z,28nm,0.8s								
HHC				pmax		pmax			
	comp=Z,130nm,6.8s								
MA2	**Magadan**	**24.81**	**12**	LR		LR		10 40 59.0	
	comp=Z,94nm,20.6s,baz=134,slow=37								
XAN	**Xi'an**	**26.16**	**276**	P		**P**		**10 30 53.3**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**27.90**	**118**	T		T		11 00 26.1	
	baz=309,slow=75,SNR=31								
H11N1	**WAKE ISLAND Hy**	**27.91**	**118**	T		T		11 00 55.3	
	baz=309,slow=75,SNR=34								
H11N3	**WAKE ISLAND Hy**	**27.92**	**118**	T		T		11 00 33.9	
	baz=309,slow=75,SNR=33								
SONM	**Songino Array**	**28.18**	**306**	P		**P**		**10 31 11.0**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=103,slow=9.8,SNR=6.6								
SONM				LR		LR		10 42 08.0	
	comp=Z,148nm,21.4s,baz=76,slow=36								
SONM	**Songino Array**	**28.18**	**306**	P		**P**		**10 31 10.6**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**28.56**	**120**	T		T		11 01 14.6	
	baz=312,slow=75,SNR=54								
H11S3	**WAKE ISLAND Hy**	**28.56**	**120**	T		T		11 01 19.4	
	baz=312,slow=75,SNR=56								
H11S2	**WAKE ISLAND Hy**	**28.57**	**120**	T		T		11 01 14.3	
	baz=312,slow=75,SNR=40								
LZH	**Lanzhou**	**29.84**	**282**	*e*P		**P**		**10 31 27.4**	**+0.9**
LZH				pmax		pmax			
	comp=Z,18nm,1.2s								
LZH				L		L			
	comp=Z,310nm,13.0s								
LZH				L		L			
	comp=Z,290nm,14.6s								
LZH				L		L			
	comp=Z,240nm,16.8s								
GYA	**Guiyang**	**30.52**	**262**	**↓P**		**P**		**10 31 31.0**	**-1.6**
GYA				pmax		pmax			
	comp=Z,2.0nm,1.2s								
GTA	**Gaotai**	**32.52**	**289**	*e*P		**P**		**10 31 51.3**	**+1.2**
GTA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**40.68**	**256**	P		**P**		**10 32 59.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=50,slow=6.3,SNR=1.6								
CMAR				LR		LR		10 52 37.9	
	comp=Z,94nm,18.8s,baz=224,slow=40								
WMQ	**Urumqi**	**41.04**	**298**	*e*P		**P**		**10 33 03.3**	**+0.9**
ZAA0	**Zalesovo Array**	**42.50**	**314**	P		**P**		**10 33 12.7**	**-1.3**
ZALV	**Zalesovo Beam**	**42.50**	**314**	P		**P**		**10 33 14.6**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=96,slow=7.4,SNR=7.6								
ZALV				LR		LR		10 50 30.2	
	comp=Z,92nm,18.2s,baz=14,slow=35								
ZALV	**Zalesovo Beam**	**42.50**	**314**	P		**P**		**10 33 12.8**	**-1.1**
NRIK	**Noril'sk**	**44.32**	**336**	P		**P**		**10 33 29.2**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=120,slow=5.4,SNR=4.7								
NRIK				LR		LR		10 52 30.0	
	comp=Z,157nm,18.0s,baz=104,slow=37								
NRIK	**Noril'sk**	**44.32**	**336**	P		**P**		**10 33 28.0**	**-0.5**
NRIK				IAmb		IAmb		10 33 30.0	
	comp=Z,11nm,1.3s								
MK31	**Makanchi Array**	**44.45**	**303**	P		**P**		**10 33 30.2**	**+0.3**
MK31				IAmb		IAmb		10 33 48.7	
	comp=Z,4.9nm,0.9s								
MKAR	**Makanchi Array**	**44.45**	**303**	P		**P**		**10 33 28.7**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=86,slow=10.0,SNR=16								
MKAR				LR		LR		10 51 49.5	
	comp=Z,140nm,19.3s,baz=26,slow=36								
MKAR	**Makanchi Array**	**44.45**	**303**	P		**P**		**10 33 29.8**	**-0.1**
MAKZ	**Makanchi**	**44.66**	**303**	P		**P**		**10 33 31.6**	**0.0**
MAKZ				IAmb		IAmb		10 33 50.5	
	comp=Z,7.5nm,1.0s								
KURBB	**Kurchatov Arra**	**46.48**	**309**	P		**P**		**10 33 44.5**	**-1.3**
	comp=Z,12nm,1.0s,baz=84,slow=8.2,SNR=37								
TARG	**Taragay, Kyrgy**	**48.58**	**297**	P		**P**		**10 34 01.7**	**-1.1**
AAK	**Ala-Archa**	**50.72**	**299**	P		**P**		**10 34 18.9**	**+0.1**
AAK				IAmb		IAmb		10 34 22.3	
	comp=Z,6.9nm,1.2s								
ILAR	**Eielson Array**	**50.93**	**32**	P		**P**		**10 34 21.8**	**+2.1**
	comp=Z,2.0nm,0.8s,baz=270,slow=6.6,SNR=13								
ILAR	**Eielson Array**	**50.93**	**32**	P		**P**		**10 34 18.7**	**-1.1**
BVAR	**Borovoye Array**	**51.15**	**313**	P		**P**		**10 34 21.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=278,slow=10,SNR=4.8								
BRVK	**Borovoye**	**51.20**	**313**	P		**P**		**10 34 20.8**	**-1.2**
BRVK				IAmb		IAmb		10 34 24.1	
	comp=Z,8.2nm,1.0s								
ARSB	**Arslanbob**	**52.18**	**298**	P		**P**		**10 34 28.9**	**-0.7**
BCAR	**Beaver Creek A**	**53.31**	**34**	P		**P**		**10 34 35.7**	**-1.9**
KK31	**Karatay Array**	**53.40**	**301**	P		**P**		**10 34 38.2**	**-0.3**
KK31				IAmb		IAmb		10 34 52.9	
	comp=Z,5.2nm,0.9s								
KKAR	**Karatay Array**	**53.40**	**301**	P		**P**		**10 34 38.3**	**-0.2**
NIL	**Nilore**	**54.59**	**289**	P		**P**		**10 34 46.6**	**-0.7**
WRA	**Warramunga Arr**	**55.63**	**187**	P		**P**		**10 34 55.9**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=1.0,slow=7.5,SNR=24								
INK	**Inuvik**	**55.84**	**27**	P		**P**		**10 34 58.0**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=259,slow=5.2,SNR=4.0								
ARU	**Arti**	**57.08**	**319**	P		**P**		**10 35 04.6**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=95,slow=2.6,SNR=8.6								
ARU	**Arti**	**57.08**	**319**	P		**P**		**10 35 03.8**	**-0.9**
ABKAR	**Akbulak array**	**58.46**	**311**	P		**P**		**10 35 13.3**	**-1.2**
ABKAR	**Akbulak array**	**58.46**	**311**	P		**P**		**10 35 14.0**	**-0.5**
ABKAR				IAmb		IAmb		10 35 15.2	
	comp=Z,4.0nm,0.8s								
AKTO	**Aktyubinsk**	**59.24**	**312**	P		**P**		**10 35 19.8**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=71,slow=12,SNR=4.6								
ASAR	**Alice Springs**	**59.35**	**187**	P		**P**		**10 35 22.1**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=18,slow=10,SNR=6.3								
ARCES	**ARCESS Array B**	**65.12**	**339**	P		**P**		**10 36 00.3**	**+1.3**
	comp=Z,3.3nm,1.0s,baz=60,slow=5.3,SNR=2.1								
YKA	**Yellowknife Ar**	**65.25**	**30**	P		**P**		**10 36 00.6**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=297,slow=6.2,SNR=2.5								
FINES	**FINESS Array B**	**69.81**	**332**	P		**P**		**10 36 29.5**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=84,slow=5.9,SNR=4.7								
FINES				LR		LR		11 08 04.0	
	comp=Z,85nm,18.8s,baz=132,slow=37								
KBZ	**Khabaz**	**71.43**	**311**	P		**P**		**10 36 39.4**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=70,slow=4.1,SNR=8.7								
SUMG	**Summit**	**72.06**	**360**	P		**P**		**10 36 39.9**	**-2.8**
SUMG				IAmb		IAmb		10 36 59.2	
	comp=Z,8.4nm,1.4s								
GNI	**Garni**	**72.14**	**307**	P		**P**		**10 36 42.6**	**-0.8**
AKASG	**Malin Array Be**	**75.09**	**322**	P		**P**		**10 36 60.0**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=49,slow=5.9,SNR=5.9								
AKASG				LR		LR		11 12 48.5	
	comp=Z,98nm,18.5s,baz=190,slow=38								
AKASG	**Malin Array Be**	**75.09**	**322**	P		**P**		**10 37 00.8**	**+0.5**
AKBB	**Malin Array Si**	**75.09**	**322**	P		**P**		**10 36 59.5**	**-0.8**
AKBB				IAmb		IAmb		10 37 01.5	
	comp=Z,6.4nm,0.8s								
NOA	**NORSAR Array B**	**75.27**	**337**	P		**P**		**10 37 01.7**	**+0.5**
	comp=Z,3.6nm,0.9s,baz=42,slow=5.8,SNR=7.4								
NOA				LR		LR		11 13 09.2	
	comp=Z,34nm,19.5s,baz=225,slow=38								
NVAR	**Mina Array Bea**	**76.21**	**53**	P		**P**		**10 37 10.8**	**+3.5**
	comp=Z,0.6nm,0.7s,baz=284,slow=5.6,SNR=4.4								
PDAR

NHDH			*i* S		Sn	10 32 49.2	-0.5
	baz=290						
NWLT	**Wulai**	**0.54 265**	*i* P		Pn	10 32 38.0	+0.3
NWLT	baz=270		*i* S		Sn	10 32 49.5	-0.3
	baz=270						
TATO	**Taipei**	**0.57 285**	P		Pn	10 32 38.0	+0.2
TATO	baz=288		S		Sn	10 32 49.2	-1.0
	baz=288						
YM01	**YM01**	**0.57 304**	P		Pn	10 32 37.7	-0.2
YM01	baz=301		S		Sn	10 32 49.4	-0.9
	baz=301						
NDT	**Datong Townshi**	**0.57 247**	*i* P		Pn	10 32 38.7	+0.8
NDT	baz=256		*i* S		Sn	10 32 51.2	+1.0
	baz=256						
TAP	**Taipei**	**0.57 292**	*e*P		Pn	10 32 37.8	-0.1
TAP	baz=292		S		Sn	10 32 49.9	-0.4
	baz=292						
YM08	**YM08**	**0.58 308**	P		Pn	10 32 37.8	-0.2
YM08	baz=305		*e*S		Sn	10 32 49.1	-1.3
	baz=305						
BACT	**New Taipei Cit**	**0.62 286**	P		Pn	10 32 39.0	+0.8
BACT	baz=287		S		Sn	10 32 52.0	+1.2
	baz=287						
ANP	**Anpu**	**0.63 305**	*i* P		Pn	10 32 38.3	-0.2
ANP	baz=300		S		Sn	10 32 50.4	-0.9
	baz=300						
TWY	**Chenhua**	**0.64 315**	*i* P		Pn	10 32 38.5	+0.2
TWY	baz=314		*i* S		Sn	10 32 51.0	-0.1
	baz=314						
YHNB	**Yeheng**	**0.67 257**	P		Pn	10 32 39.0	+0.2
YHNB	baz=257		S		Sn	10 32 51.6	-0.2
	baz=257						
TWS1	**Kuangyinshan**	**0.67 294**	*i* P		Pn	10 32 39.4	+0.7
TWS1	baz=297		*i* S		Sn	10 32 52.9	+1.2
	baz=297						
NTY	**Taoyuan**	**0.74 284**	P		Pn	10 32 39.9	+0.6
NTY	baz=284		S		Sn	10 32 51.8	-1.0
	baz=284						
NNSB	**Datong**	**0.76 239**	P		Pn	10 32 40.0	+0.4
NNSB	baz=245		S		Sn	10 32 53.8	+0.5
	baz=245						
NNSH	**Datong**	**0.76 239**	*i* P		Pn	10 32 40.2	+0.6
NNSH	baz=245		*i* S		Sn	10 32 54.0	+0.7
	baz=245						
NNS	**Nan Shan**	**0.76 240**	*i* P		Pn	10 32 40.1	+0.5
NNS	baz=245		*i* S		Sn	10 32 53.7	+0.4
	baz=245						
ETL	**Fush Village**	**0.79 213**	P		Pn	10 32 39.8	-0.1
ETL	baz=224		S		Sn	10 32 54.2	+0.6
	baz=224						
NACB	**Ninganchiao**	**0.79 215**	P		Pn	10 32 39.6	-0.3
NACB	baz=216		S		Sn	10 32 53.8	+0.1
	baz=216						
PCYT	**Pengchaiyu**	**0.80 358**	*i* P		Pn	10 32 40.3	+0.4
	baz=357						
ETLH	**Xiulin Townshi**	**0.83 222**	P		Pn	10 32 40.3	0.0
ETLH	baz=232		*i* S		Sn	10 32 54.6	+0.1
	baz=232						
NCU	**National Centr**	**0.84 280**	*i* P		Pn	10 32 40.7	+0.4
NCU	baz=272		*i* S		Sn	10 32 55.1	+0.7
	baz=272						
NCUH	**Zhongli**	**0.84 280**	*i* P		Pn	10 32 40.8	+0.5
NCUH	baz=272		*i* S		Sn	10 32 55.1	+0.7
	baz=272						
JYNG	**Yonagunijimaku**	**0.86 116**	P		Pn	10 32 40.8	+0.3
JYNG			*e*S		Sn	10 32 55.5	+0.8
TWD	**Chiawan**	**0.87 212**	*i* P		Pn	10 32 40.5	-0.1
TWD	baz=222		*i* S		Sn	10 32 54.9	0.0
	baz=222						
YOJ	**Yonaguni jima**	**0.91 113**	P		Pn	10 32 41.3	+0.3
YOJ			*e*S		Sn	10 32 56.1	+0.4
YOJ	**Yonaguni jima**	**0.91 113**	P		Pn	10 32 41.6	+0.6
YOJ	baz=121		S		Sn	10 32 56.2	+0.6
	baz=121						
NJD	**Zhudong**	**0.92 265**	P		Pn	10 32 41.6	+0.6
NJD	baz=257		S		Sn	10 32 56.2	+0.3
	baz=257						
FUSS	**Fushou**	**0.96 234**	*i* P		Pn	10 32 42.4	+0.6
FUSS	baz=228		*i* S		Sn	10 32 57.6	+0.5
	baz=228						
LIOB	**Emei**	**1.00 260**	*i* P		Pn	10 32 42.2	+0.2
LIOB	baz=253		*i* S		Sn	10 32 56.7	-0.7
	baz=253						
SBCB	**Hsinchu**	**1.01 268**	P		Pn	10 32 42.3	+0.3
SBCB	baz=262		S		Sn	10 32 57.7	+0.2
	baz=262						
NSTT	**Nanjuang**	**1.01 259**	*i* P		Pn	10 32 42.2	+0.1
NSTT	baz=252		*i* S		Sn	10 32 56.8	-0.8
	baz=252						
WHF	**Hehuan Shan**	**1.01 228**	*i* P		Pn	10 32 42.9	+0.3
WHF	baz=230		*i* S		Sn	10 32 58.8	+0.3
	baz=230						
ETM	**Tongmen**	**1.02 213**	P		Pn	10 32 41.6	-0.6
ETM	baz=214		S		Sn	10 32 56.8	-0.9
	baz=214						
HSN	**Hsinchu**	**1.02 269**	*i* P		Pn	10 32 42.3	+0.2
HSN	baz=263		*i* S		Sn	10 32 57.4	-0.4
	baz=263						
TDCB	**Techi**	**1.03 236**	P		Pn	10 32 43.1	+0.7
TDCB	baz=232		S		Sn	10 32 59.0	+0.8
	baz=232						
TEYL	**Yanliau Villag**	**1.06 206**	P		Pn	10 32 42.5	-0.1
TEYL	baz=201		S		Sn	10 32 58.8	+0.3
	baz=201						
NJN	**Zhunan**	**1.12 263**	P		Pn	10 32 43.5	+0.2
NJN	baz=259		S		Sn	10 33 00.3	+0.5
	baz=259						
CHGB	**Renai**	**1.13 228**	P		Pn	10 32 44.2	+0.6
CHGB	baz=230		S		Sn	10 33 01.9	+1.5
	baz=230						
ESL	**Shilin**	**1.17 211**	*i* P		Pn	10 32 43.0	-0.9
ESL	baz=218		*i* S		Sn	10 32 59.2	-1.6
	baz=218						
WHP	**Taichung City**	**1.18 243**	*i* P		Pn	10 32 44.8	+0.7
WHP	baz=244		*i* S		Sn	10 33 01.3	+0.2
	baz=244						
OWD	**Renai**	**1.21 224**	P		Pn	10 32 44.8	+0.4
OWD	baz=226		S		Sn	10 33 01.9	+0.1
	baz=226						
NMLH	**Miaoli**	**1.22 257**	*i* P		Pn	10 32 44.7	+0.2
NMLH	baz=257		*i* S		Sn	10 33 01.7	-0.1
	baz=257						
TEGC	**Jichi Village**	**1.22 205**	P		Pn	10 32 44.6	+0.2
TEGC	baz=206		S		Sn	10 33 01.7	-0.1
	baz=206						
EGFH	**Guangfu**	**1.30 208**	*i* P		Pn	10 32 44.3	-1.1
EGFH	baz=216		*i* S		Sn	10 33 02.2	-1.3
	baz=216						
WPL	**Puli Township**	**1.32 232**	P		Pn	10 32 46.3	+0.8
WPL	baz=242		S		Sn	10 33 05.7	+1.9
	baz=242						
WCS	**Beigang Elemen**	**1.32 235**	*i* P		Pn	10 32 46.2	+0.6
WCS	baz=243		S		Sn	10 33 04.3	+0.4
	baz=243						
DPDB	**Guoxing**	**1.32 234**	P		Pn	10 32 46.6	+0.8
DPDB	baz=242		*e*S		Sn	10 33 04.8	+0.7
	baz=242						
WDJ	**Dajia District**	**1.41 251**	*i* P		Pn	10 32 47.1	+0.5
WDJ	baz=246		*i* S		Sn	10 33 05.2	-0.5
	baz=246						
SMLT	**Sun Moon Lake**	**1.44 230**	*i* P		Pn	10 32 47.8	+0.6
SMLT	baz=238		*i* S		Sn	10 33 09.0	+2.4
	baz=238						
TCU	**Taichung**	**1.46 243**	*i* P		Pn	10 32 47.7	+0.4
TCU	baz=251		*i* S		Sn	10 33 07.2	+0.4
	baz=251						
HGSD	**Ruisui**	**1.46 205**	P		Pn	10 32 47.5	+0.2
HGSD	baz=216		S		Sn	10 33 07.3	+0.5
	baz=216						
SSLB	**Suanglung**	**1.47 225**	P		Pn	10 32 48.1	+0.7
SSLB	baz=228		S		Sn	10 33 08.8	+1.7
	baz=228						
EHY	**Hungye**	**1.49 208**	*i* P		Pn	10 32 46.2	-1.5
EHY	baz=210		*i* S		Sn	10 33 05.5	-2.0
	baz=210						
WWF	**Wufeng**	**1.49 239**	P		Pn	10 32 48.3	+0.6
WWF	baz=247		S		Sn	10 33 08.5	+0.9
	baz=247						
IRIF	**Iriomote-Funau**	**1.57 108**	*e*S		Sn	10 33 09.8	+0.6
WNT1	**Nantou City**	**1.58 235**	P		Pn	10 32 49.4	+0.6
WNT1	baz=244		S		Sn	10 33 11.0	+1.5
	baz=244						
WCHH	**Zhanghua**	**1.58 242**	*i* P		Pn	10 32 49.0	+0.2
WCHH	baz=251		S		Sn	10 33 10.7	+1.1
	baz=251						
WNT	**Mingjian**	**1.60 234**	*i* P		Pn	10 32 49.6	+0.7
WNT	baz=244		*i* S		Sn	10 33 10.9	+1.1
	baz=244						
WHYT	**Xinyi Township**	**1.60 225**	*i* P		Pn	10 32 50.0	+1.0
WHYT	baz=235		*i* S		Sn	10 33 11.5	+1.6
	baz=235						
WJS	**Zhushan**	**1.60 232**	*i* P		Pn	10 32 49.4	+0.4
WJS	baz=242		S		Sn	10 33 12.2	+2.3
	baz=242						
YULB	**Yu-li**	**1.60 207**	P		Pn	10 32 47.8	-1.2
YULB	baz=209		S		Sn	10 33 08.1	-1.9
	baz=209						
EYUL	**Yuli**	**1.63 206**	P		Pn	10 32 49.1	-0.4
EYUL	baz=208		*e*S		Sn	10 33 09.1	-1.6
	baz=208						
TWF1	**Yuli**	**1.64 207**	*i* P		Pn	10 32 48.5	-1.1
TWF1	baz=209		S		Sn	10 33 09.8	-1.0
	baz=209						
YUS	**Yu-Shan**	**1.69 218**	*i* P		Pn	10 32 51.4	+0.7
YUS	baz=213		*i* S		Sn	10 33 14.0	+1.3
	baz=213						
HATJ	**Hateruma jima**	**1.74 116**	*e*S		Sn	10 33 13.4	+0.4
ALS	**Alishan**	**1.76 222**	*i* P		Pn	10 32 52.3	+1.0
ALS	baz=233		*i* S		Sn	10 33 15.2	+1.1
	baz=233						
FULB	**Fuli**	**1.78 204**	*i* P		Pn	10 32 50.9	-0.4
FULB	baz=216		*i* S		Sn	10 33 15.4	+1.4
	baz=216						
CHN5	**Tsauling**	**1.78 227**	*i* P		Pn	10 32 51.6	+0.3
CHN5	baz=229		*i* S		Sn	10 33 15.0	+0.9
	baz=229						
WGK	**Gukeng**	**1.80 231**	*i* P		Pn	10 32 52.0	+0.5
WGK	baz=243		*i* S		Sn	10 33 15.7	+1.3
	baz=243						
WDLH	**Douliu**	**1.82 232**	*i* P		Pn	10 32 52.0	+0.3
WDLH	baz=243		S		Sn	10 33 15.7	+0.9
	baz=243						
WRL	**Guolierlin Hig**	**1.82 240**	*i* P		Pn	10 32 51.5	-0.2
WRL	baz=248		S		Sn	10 33 14.1	-0.7
	baz=248						
JKRS	**Kuro-shima**	**1.84 108**	P		Pn	10 32 52.6	+0.6
JKRS			S		Sn	10 33 15.6	+0.3
CHKT	**Chengkung**	**1.84 201**	*i* P		Pn	10 32 51.6	-0.5
CHKT	baz=204		*i* S		Sn	10 33 13.7	-1.7
	baz=204						
ECS	**Chishang**	**1.90 205**	P		Pn	10 32 53.0	+0.1
ECS	baz=215		S		Sn	10 33 16.7	0.0
	baz=215						
ELDTW	**Lidau**	**1.90 211**	*i* P		Pn	10 32 52.9	-0.1
ELDTW	baz=207		*i* S		Sn	10 33 15.5	-1.4
	baz=207						
WTCT	**Ta-ch'eng**	**1.91 240**	*e*S		Sn	10 33 16.9	0.0
JIJ	**Ishigaki jima**	**1.92 103**	P		Pn	10 32 53.2	+0.2
JIJ			S		Sn	10 33 16.8	-0.3
WTK	**Tuku**	**1.93 234**	P		Pn	10 32 53.1	0.0
WTK	baz=244		S		Sn	10 33 17.7	+0.5
	baz=244						
EDH	**Donghe**	**1.98 202**	*i* P		Pn	10 32 53.3	-0.5
EDH	baz=204		*i* S		Sn	10 33 17.3	-1.3
	baz=204						
CHN4	**Tsaushan**	**2.01 223**	*i* P		Pn	10 32 54.8	+0.5
CHN4	baz=226		*i* S		Sn	10 33 21.2	+2.0
	baz=226						
CHY	**Chiayi**	**2.02 229**	*i* P		Pn	10 32 54.7	+0.4
CHY	baz=231		*i* S		Sn	10 33 19.5	+0.1
	baz=231						
TPUB	**Ta-pu**	**2.02 222**	P		Pn	10 32 55.0	+0.5
TPUB	baz=224		S		Sn	10 33 19.8	+0.2
	baz=224						
JISG	**Ishigakijimahi**	**2.03 96**	P		Pn	10 32 55.0	+0.6
JISG			S		Sn	10 33 19.4	-0.2
STYH	**Taoyuan**	**2.04 216**	*i* P		Pn	10 32 55.2	+0.6
STYH	baz=212		*i* S		Sn	10 33 20.6	+0.6
	baz=212						
WTP	**Ta-pu**	**2.08 221**	*i* P		Pn	10 32 55.6	+0.5
WTP	baz=224		*i* S		Sn	10 33 21.0	+0.2
	baz=224						
WSF	**Szhu**	**2.08 236**	S		Sn	10 33 21.4	+0.6
LONT	**Longtian**	**2.10 205**	S		Sn	10 33 20.2	-1.3
	baz=202						
TWK	**Hsinying**	**2.14 224**	*i* P		Pn	10 32 56.0	+0.1
TWK	baz=226		*i* S		Sn	10 33 22.6	+0.4
	baz=226						
SNST	**Tainan City**	**2.17 223**	*i* P		Pn	10 32 56.8	+0.5
SNST	baz=225		S		Sn	10 33 23.5	+0.7
	baz=225						
CHN1	**Nanshi**	**2.17 222**	*i* P		Pn	10 32 56.6	+0.2
CHN1	baz=224		*i* S		Sn	10 33 22.8	-0.3
	baz=224						
ICHU	**Yijhu**	**2.21 229**	*i* P		Pn	10 32 57.0	+0.2
ICHU	baz=231		S		Sn	10 33 23.6	-0.2
	baz=231						
JTJ	**Tarama**	**2.38 94**	P		Pn	10 33 00.0	+1.0
JTJ			S		Sn	10 33 28.5	+0.8
JIRB	**Irabujima**	**2.80 89**	*e*S		Sn	10 33 37.6	0.0
JIKM	**Ikemajima**	**2.87 87**	S		Sn	10 33 39.8	+0.5
JMJ2	**Miyako jima3**	**2.94 91**	P		Pn	10 33 07.5	+1.1
JMJ2			*e*S		Sn	10 33 42.2	+1.1
JOGS	**Gusukube**	**3.01 91**	*e*S		Sn	10 33 44.2	+1.5
JOW	**Kunigami**	**5.92 69**	Pn		Pn	10 33 46.1	-0.5
	4.2nm,0.3s,baz=126,slow=25,SNR=30						
JOW			Sn		Sn	10 34 51.6	-1.4
	0.9nm,0.3s,baz=185,slow=29,SNR=1.5						
KSRS	**Korea Array**	**13.54 20**	Pn		P	10 35 34.8	0.0
	0.1nm,0.3s,baz=200,slow=11,SNR=11						
WRA	**Warramunga Arr**	**46.07 164**	P		P	10 40 34.2	-1.2
	0.8nm,0.4s,baz=345,slow=8.4,SNR=8.0						
ASAR	**Alice Springs**	**49.55 166**	P		P	10 41 02.4	+0.2
	0.3nm,0.4s,baz=344,slow=8.1,SNR=5.4						

IDC ***10*** *10:37:40.9±3.4, 35°.87N×141°.30E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.2/36, mbtmp3.3/4, ML2.7/2, Error ellipse: s-maj=70.5km s-min=30.9km az=65.0*
JMA ***10*** *10:37:48.9±0.1, 35°.72N×140°.67E, h47km±2km, M2.7*
ISC 10 10:37:48.9±1.2**, 35°.68N**±0°.04×**140°.72E**±0°.07**, h45**km±9km**, n16**, σ0**.95**/20**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
CHOJ	**Chosi**	**0.12**	**79**	P	Pn	Pn	10 37 56.5	+0.3
JSMT	**Sammumatsuo**	**0.22**	**260**	P	Pn	Pn	10 37 57.1	+0.2
JIHU	**Itakohorinouch**	**0.32**	**331**	P	Pn	Pn	10 37 58.2	+0.4
JCN	**Nagara**	**0.50**	**238**	P	Pn	Pn	10 38 00.6	+0.8
JYT	**Yasato**	**0.69**	**322**	P	Pn	Pn	10 38 01.6	-0.7
JYT				S	Sn	Sn	10 38 10.7	-1.3
BSO3	**Boso 3**	**0.89**	**191**	P	Pn	Pn	10 38 05.5	+0.7
JHO	**Hitachi**	**0.94**	**353**	P	Pn	Pn	10 38 05.4	-0.2
BSO1	**Boso 1**	**1.05**	**168**	P	Pn	Pn	10 38 07.1	+0.5
JAG	**Ashikaga**	**1.27**	**306**	P	Pn	Pn	10 38 09.3	-0.8
JOD2	**Odawara 2**	**1.39**	**253**	P	Pn	Pn	10 38 12.2	+0.3
JIM2	**Oshima 3**	**1.43**	**228**	P	Pn	Pn	10 38 11.7	-0.6
JIM2				S	Sn	Sn	10 38 28.4	-1.5
MJAR	**Matsushiro Arr**	**2.21**	**294**	Pn	Pn	Pn	10 38 23.8	+0.8
	0.6nm,0.3s,baz=99,slow=14,SNR=34							
MAT	**Matsushiro**	**2.21**	**294**	P		Pn	10 38 23.7	+0.7
MAT				S		Sn	10 38 50.6	+1.5
JHJ	**Hachijo jima 2**	**2.67**	**197**	Pn		Pn	10 38 29.2	-0.1
	4.9nm,0.3s,baz=52,slow=18,SNR=2.1							
JHJ				Sn		Sn	10 38 58.6	-1.8
	9.3nm,0.3s,baz=72,slow=23,SNR=2.7							
MKAR	**Makanchi Array**	**44.37**	**303**	P		P	10 45 55.3	+0.5
	0.3nm,0.6s,baz=86,slow=6.2,SNR=2.1							
WRA	**Warramunga Arr**	**55.65**	**187**	P		P	10 47 20.6	+0.2
	0.3nm,0.7s,baz=360,slow=7.1,SNR=1.6							

LJU 10 10:38:18.3, 45°.91N×15°.23E, h0km, ML0.9, 1C, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
LEGS	**Legarje**	**0.07**	**58**	*i* Pg	Pg	Pg	10 38 19.8	+0.1
PDKS	**Podkum**	**0.22**	**314**	*e*Pg	Pg	Pg	10 38 22.1	-0.4
PDKS				*i* Sg	Sg	Sg	10 38 25.8	+0.4
PDKS				IAML			10 38 26.3	
	comp=Z,9.2nm,0.1s							
VISS	**Visnje**	**0.29**	**249**	*i* Pg	Pg		10 38 23.8	-0.1
VISS				*e*Sg	Sg		10 38 28.8	+1.1
VISS				IAML			10 38 31.9	
	comp=Z,17nm,0.2s							

IDC 10 11:02:12.0±2.3**, 6°.43S×129°.54E, h0km, mb3.5**/1**, mb1 3.6**/4**, mb1mx3.4**/44**, mbtmp3.4**/4**, ML3.1**/3**, MS3.7**/2**, Ms1 3.7**/2**, ms1mx3.0**/29**, Error ellipse: s-maj=81.2km s-min=30.5km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
FITZ	**Fitzroy Crossi**	**12.21**	**198**	Pn	Pn	Pn	11 05 08.4	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=1.6							
FITZ				Sn	Sn	Sn	11 07 11.4	-13
	0.1nm,0.3s,baz=235,slow=8.0,SNR=1.6							
WRA	**Warramunga Arr**	**14.22**	**161**	Pn	Pn	Pn	11 05 35.0	+0.2
	0.1nm,0.3s,baz=340,slow=14,SNR=1.3							
WRA				Sn	Sn	Sn	11 07 58.2	-15
	0.1nm,0.3s,baz=335,slow=21,SNR=4.7							
ASAR	**Alice Springs**	**17.64**	**167**	P	Pn	Pn	11 06 18.6	-0.9
	0.1nm,0.3s,baz=345,slow=9.6,SNR=9.4							
ASAR				S	Sn	Sn	11 09 21.5	-15
	0.0nm,0.3s,baz=318,slow=18,SNR=1.6							
JCJ	**Chichijima**	**35.51**	**20**	LR	LR	LR	11 22 49.1	
	comp=Z,38nm,18.6s,baz=112,slow=35							
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	P	11 13 10.0	0.0
	0.2nm,0.4s,baz=133,slow=6.1,SNR=2.5							
RAR	**Rarotonga**	**69.71**	**110**	LR	LR	LR	11 37 52.3	
	comp=Z,194nm,21.1s,baz=174,slow=31							

JMA ***10*** *11:05:21.8±0.2, 39°.63N×143°.71E, h24km, M3.8*
NIED ***10*** *11:05:21.9, 39°.63N×143°.71E, h24km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.69; Mθθ0.41; Mϕϕ-3.10; Mrθ2.04; Mθϕ-0.71; Mϕr0.71; Fault plane solution: M₀3.68000×10¹⁴ NP1:φs38.00000°, δ62.00000°, λ.121.00000°. NP2:φs166.00000°, δ41.00000°, λ46.00000°.*
IDC ***10*** *11:05:23.3±2.9, 39°.84N×143°.31E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/39, mbtmp3.6/5, ML2.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.6/41 Error ellipse: s-maj=63.3km s-min=32.9km az=147.0*
ISC 10 11:05:23.6±1.2**, 39°.66N**±0°.06×**143°.59E**±0°.08**, h11**km**, n27**, σ1**.65**/30**, mb3.6**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
JTH	**Tanohata**	**1.35**	**282**	P	Pn	Pn	11 05 46.9	-1.6
JTH				S	Sb	Sb	11 06 05.5	-0.8
MIYJ	**Miyakonagasawa**	**1.37**	**267**	P	Pn	Pn	11 05 47.3	-1.3
MIYJ				*e*S	Sb	Sb	11 06 05.5	-1.2
JKEN	**Kujiedanarisaw**	**1.54**	**291**	P	Pn	Pn	11 05 49.7	-1.3
OFUJ	**Ofunato**	**1.59**	**249**	P	Pn	Pn	11 05 50.3	-1.4
JANG	**Nango**	**1.74**	**295**	P	Pn	Pn	11 05 52.5	-1.3
JOM	**Ohasama**	**1.78**	**265**	P	Pn	Pn	11 05 53.7	-0.6
JMK	**Ichinoseki**	**1.97**	**250**	P	Pn	Pn	11 05 55.7	-1.2
JOT	**Ohata**	**2.59**	**312**	P	Pn	Pn	11 06 05.2	-0.2
JYK	**Kaneyama**	**2.61**	**254**	P	Pn	Pn	11 06 05.3	-0.4
JNBK	**Urakawa-nobuka**	**2.69**	**347**	P	Pn	Pn	11 06 07.8	+1.0
JNBK				*e*S	Sn	Sn	11 06 40.7	+1.3
JCH	**Churui**	**2.96**	**357**	P	Pn	Pn	11 06 10.4	0.0
JCH				S	Sn	Sn	11 06 45.1	-0.8
JFT	**Otama**	**3.33**	**231**	P	Pn	Pn	11 06 14.5	-1.1
JFT				*e*S	Sn	Sn	11 06 53.5	-1.6
JAK	**Akkeshi**	**3.44**	**14**	P	Pn	Pn	11 06 16.5	-0.5
JAK				*e*S	Sn	Sn	11 06 55.8	-1.9
JAR	**Ashorobuto**	**3.63**	**2**	P	Pn	Pn	11 06 19.1	-0.7
JAR				*e*S	Sn	Sn	11 07 01.3	-1.4
MJAR	**Matsushiro Arr**	**5.26**	**235**	Pn	Pn	Pn	11 06 42.0	-0.2
	0.2nm,0.3s,baz=43,slow=11,SNR=17							
MAT	**Matsushiro**	**5.26**	**235**	P		Pn	11 06 41.8	-0.4
MAT				S		Sn	11 07 46.7	+3.9
USRK	**Ussuriysk Ar.**	**9.76**	**301**	Pn		Pn	11 07 47.9	+4.0
	baz=102,slow=14,SNR=5.5							
KSRS	**Korea Array**	**12.46**	**265**	Pn		Pn	11 08 24.0	+3.2
	0.1nm,0.3s,baz=84,slow=11,SNR=2.2							
SONM	**Songino Array**	**27.86**	**299**	P		P	11 11 11.9	-1.4
	0.5nm,0.5s,baz=95,slow=8.4,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**28.22**	**128**	T		T	11 42 17.0	
	baz=318,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**28.23**	**128**	T		T	11 42 15.6	
	baz=318,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.24**	**128**	T		T	11 42 17.2	
	baz=318,slow=75,SNR=8.2							
ZALV	**Zalesovo Beam**	**41.47**	**310**	P		P	11 13 08.9	-1.3
	0.7nm,0.4s,baz=91,slow=10,SNR=2.4							
NRIK	**Noril'sk**	**41.63**	**334**	LR		LR	11 31 19.0	
	comp=Z,100nm,18.9s,baz=270,slow=38							
KDAK	**Kodiak Island**	**44.01**	**44**	LR		LR	11 37 06.6	
	comp=Z,44nm,18.2s,baz=70,slow=43							
MKAR	**Makanchi Array**	**44.22**	**300**	P		P	11 13 32.4	-0.4
	1.0nm,0.9s,baz=81,slow=8.9,SNR=5.0							
ILAR	**Eielson Array**	**46.36**	**34**	P		P	11 13 50.4	+1.0
	0.2nm,0.8s,baz=263,slow=7.2,SNR=2.2							

NEIC ***10*** *11:07:26.7±1.8, 18°29S±0°10×178°00W±0°05, h555km±4km, mb4.8/278, Error ellipse: s-maj=14.5km s-min=7.3km az=179.0*

NOU ***10*** *11:07:27.5, 18°24S×177°88W, h584km, mb4.7, Fiji Islands Region*

IDC ***10*** *11:07:28.6±0.8, 18°30S×178°01W, h585km±8km, mb4.1/32, mb1 4.2/35, mb1mx4.2/39, mbtmp5.0/35, Error ellipse: s-maj=9.9km s-min=8.5km az=134.0*

BGR ***10*** *11:07:34.0±0.0, 17°06S×176°99W, h600km*

ISC 10 11:07:28.0±0.5, 18°30S±0°06×177°98W±0°05, h582km±5km, n666, σ0°89/724, mb4.7/177, 36C-32D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.82**	**278**	P	**P**	**11 08 51.7**	**+0.7**
	30nm,0.3s,baz=134,slow=6.3,SNR=165						
MSVF				S	**S**	**11 10 00.4**	**+1.7**
	baz=162,slow=23,SNR=20						
MSVF	**Nonsavu**	**3.82**	**278**	P	**P**	**11 08 51.9**	**+0.8**
AFI	**Afiamalu**	**7.39**	**55**	P	**P**	**11 09 18.9**	**-2.2**
	50nm,0.3s,baz=169,slow=1.6,SNR=46						
AFI				S	**S**	**11 10 49.9**	**-3.8**
	19nm,0.3s,baz=220,slow=24,SNR=6.3						
AFI	**Afiamalu**	**7.39**	**55**	P	**P**	**11 09 18.4**	**-2.7**
AFI	**Afiamalu**	**7.39**	**55**	P	**P**	**11 09 18.8**	**-2.3**
NIUE	**Niue**	**7.67**	**97**	P	**P**	**11 09 23.3**	**-0.3**
	baz=7.6,SNR=4.9						
NIUE				S	**S**	**11 10 59.9**	**+1.6**
	baz=7.6						
NIUE	**Niue**	**7.67**	**97**	P	**P**	**11 09 23.0**	**-0.6**
NIUE	**Niue**	**7.67**	**97**	P	**P**	**11 09 23.3**	**-0.3**
LIFNC	**LIFOU**	**14.15**	**258**	P	**P**	**11 10 26.6**	**-2.0**
LIFNC	**LIFOU**	**14.15**	**258**	P	**P**	**11 10 27.6**	**-1.0**
PINNC	**Pines Island,**	**14.31**	**250**	P	**P**	**11 10 29.3**	**-0.8**
PINNC	**Pines Island,**	**14.31**	**250**	P	**P**	**11 10 31.5**	**+1.3**
SANVU	**Saraoutou**	**14.46**	**279**	P	**P**	**11 10 31.0**	**-0.7**
SANVU	**Saraoutou**	**14.46**	**279**	P	**P**	**11 10 32.4**	**+0.7**
YATNC	**Mamie plateau,**	**14.69**	**253**	P	**P**	**11 10 35.0**	**+1.2**
OUENC	**Ouen Island, N**	**14.81**	**251**	P	**P**	**11 10 34.4**	**-0.6**
OUENC	**Ouen Island, N**	**14.81**	**251**	P	**P**	**11 10 35.0**	**+0.1**
DZM	**Mont Dzumac**	**15.09**	**253**	P	**P**	**11 10 36.9**	**-0.8**
	4.1nm,0.3s,baz=121,slow=5.9,SNR=32						
DZM	**Mont Dzumac**	**15.09**	**253**	P	**P**	**11 10 37.4**	**-0.4**
DZM	**Mont Dzumac**	**15.09**	**253**	P	**P**	**11 10 37.5**	**-0.3**
ONTNC	**Ouen Toro**	**15.13**	**252**	P	**P**	**11 10 38.2**	**+0.2**
NOUC	**Port Laguerre**	**15.23**	**253**	P	**P**	**11 10 39.4**	**+0.5**
KNTN	**Kanton**	**16.61**	**22**	P	**P**	**11 10 50.0**	**-1.9**
KOUNC	**Koumac, New Ca**	**16.88**	**260**	P	**P**	**11 10 56.2**	**+2.0**
RAR	**Rarotonga**	**17.38**	**103**	P	**P**	**11 10 59.2**	**+0.4**
	1.2nm,0.3s,baz=252,slow=7.0,SNR=4.3						
RAR	**Rarotonga**	**17.38**	**103**	P	**P**	**11 10 58.9**	**+0.1**
KUZ	**Kuaotunu**	**19.19**	**196**	P	**P**	**11 11 16.1**	**+1.1**
WMGZ	**Waiomatatini S**	**19.70**	**188**	P	**P**	**11 11 20.4**	**+0.8**
HAZ	**Te Kaha**	**19.73**	**190**	P	**P**	**11 11 19.8**	**-0.2**
AWAZ	**Awhitu Peninsu**	**19.78**	**198**	P	**P**	**11 11 21.9**	**+1.5**
PUZ	**Puketiti**	**19.97**	**189**	P	**P**	**11 11 21.7**	**-0.4**
TWGZ	**Tauwhareparae**	**20.11**	**189**	P	**P**	**11 11 23.1**	**-0.3**
TOZ	**Tahuroa Road**	**20.18**	**195**	P	**P**	**11 11 25.4**	**+1.4**
MWZ	**Matawai**	**20.34**	**190**	P	**P**	**11 11 23.4**	**-2.1**
URZ	**Urewera**	**20.34**	**191**	P	**P**	**11 11 22.9**	**-2.5**
	26nm,0.4s,baz=304,slow=22,SNR=32						
URZ				S	**S**	**11 14 32.7**	**-4.6**
	6.6nm,0.7s,baz=296,slow=23,SNR=1.5						
URZ	**Urewera**	**20.34**	**191**	P	**P**	**11 11 23.0**	**-2.5**
PRGZ	**Paritu Road**	**20.86**	**189**	P	**P**	**11 11 30.6**	**+0.4**
RAHZ	**Arahi**	**20.98**	**191**	P	**P**	**11 11 30.8**	**-0.4**
KNZ	**Kokohu**	**20.99**	**189**	P	**P**	**11 11 30.4**	**-0.8**
MCHZ	**McNeill Hill**	**21.57**	**191**	P	**P**	**11 11 34.9**	**-1.5**
SNZO	**South Karori**	**23.77**	**194**	P	**P**	**11 11 54.9**	**-1.1**
OXZ	**Oxford**	**26.33**	**197**	P	**P**	**11 12 17.9**	**-0.7**
OXZ				IAmb	IAmb	11 12 24.4	
	comp=Z,49nm,1.3s						
PPT	**Papeete**	**27.02**	**93**	P	**P**	**11 12 24.5**	**-0.6**
	comp=Z,17nm,0.5s,baz=94,slow=12,SNR=2.3						
WKZ	**Wanaka**	**28.59**	**200**	P	**P**	**11 12 37.4**	**-1.0**
XMAS	**Kiritimati**	**28.59**	**47**	P	**P**	**11 12 38.5**	**-0.2**
EIDS	**Eidsvold**	**29.52**	**251**	P	**P**	**11 12 46.6**	**0.0**
	baz=30,SNR=15						
EIDS	**Eidsvold**	**29.52**	**251**	P	**P**	**11 12 46.0**	**-0.6**
EIDS				IAmb	IAmb	11 12 47.3	
	comp=Z,23nm,0.6s						
ARMA	**Armidale**	**30.10**	**241**	P	**P**	**11 12 52.6**	**+1.0**
	baz=30,SNR=22						
ARMA	**Armidale**	**30.10**	**241**	P	**P**	**11 12 51.5**	**-0.2**
ARMA				IAmb	IAmb	11 13 05.2	
	comp=Z,50nm,1.6s						
MGCD	**Mangrove Creek**	**31.41**	**236**	P	**P**	**11 13 04.3**	**+1.7**
	baz=32,SNR=7.3						
RMQ	**Roma**	**31.74**	**249**	P	**P**	**11 13 06.3**	**+0.7**
	baz=32,SNR=25						
CTA	**Charters Tower**	**33.78**	**261**	P	**P**	**11 13 23.0**	**0.0**
	comp=Z,24nm,0.3s,baz=83,slow=10,SNR=76						
CTAO	**Charters Tower**	**33.78**	**261**	P	**P**	**11 13 22.8**	**-0.2**
CAN	**Canberra**	**33.79**	**233**	P	**P**	**11 13 23.3**	**+0.4**
CAN				IAmb	IAmb	11 13 24.4	
	comp=Z,23nm,0.6s						
PMG	**Port Moresby**	**34.93**	**280**	P	**P**	**11 13 33.4**	**+0.8**
PMG	**Port Moresby**	**34.93**	**280**	P	**P**	**11 13 32.9**	**+0.4**
	comp=Z,70nm,1.0s						
CMSA	**Cobar Meteorol**	**35.31**	**241**	P	**P**	**11 13 36.1**	**+0.6**
	baz=36,SNR=52						
MTSU	**Mount Surprise**	**35.77**	**264**	P	**P**	**11 13 39.6**	**+0.1**
	baz=36,SNR=41						
QLP	**Quilpie**	**35.78**	**250**	P	**P**	**11 13 39.5**	**+0.1**
	baz=36,SNR=20						
TOO	**Toolangi**	**37.24**	**231**	P	**P**	**11 13 52.0**	**+0.7**
	baz=37,SNR=30						
TOO	**Toolangi**	**37.24**	**231**	P	**P**	**11 13 51.8**	**+0.5**
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**11 14 04.9**	**+0.9**
	comp=Z,22nm,0.7s,baz=88,slow=9.8,SNR=73						
STKA				PcP	**PcP**	**11 16 00.4**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=47,slow=1.9,SNR=3.4						
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**11 14 04.7**	**+0.7**
ARPS	**Mount Arapiles**	**39.75**	**234**	P	**P**	**11 14 11.7**	**+0.2**
	baz=40,SNR=7.3						
QIS	**Mount Isa**	**39.98**	**260**	P	**P**	**11 14 13.3**	**-0.4**
	baz=40,SNR=8.1						
WAKE	**Wake Island**	**40.29**	**337**	P	**P**	**11 14 15.6**	**-0.3**
HTT	**Hallett**	**41.30**	**240**	P	**P**	**11 14 24.5**	**+0.6**
	baz=41,SNR=9.0						
KHLU	**Kahalu`u**	**43.45**	**31**	P	**P**	**11 14 41.2**	**+0.3**
BBOO	**Buckleboo**	**43.57**	**241**	P	**P**	**11 14 42.0**	**+0.3**
	baz=44,SNR=25						
BBOO	**Buckleboo**	**43.57**	**241**	P	**P**	**11 14 41.4**	**-0.2**
BBOO				IAmb	IAmb	11 14 42.7	
	comp=Z,16nm,0.7s						
HMH	**Humu'ula Sheep**	**43.67**	**31**	P	**P**	**11 14 42.8**	**0.0**
HPAH	**Hawaii Prepara**	**43.92**	**31**	P	**P**	**11 14 45.1**	**+0.5**
DHH	**Diamond Head**	**44.01**	**28**	P	**P**	**11 14 45.2**	**+0.1**
KIP	**Kipapa**	**44.06**	**27**	P	**P**	**11 14 46.1**	**+0.6**
WB0	**Warramunga Arr**	**44.93**	**260**	P	**P**	**11 14 52.2**	**-0.1**
WB2	**Warramunga Arr**	**44.95**	**260**	P	**P**	**11 14 52.2**	**-0.2**
WRA	**Warramunga Arr**	**44.96**	**260**	P	**P**	**11 14 51.8**	**-0.7**
	comp=Z,16nm,0.6s,baz=97,slow=6.9,SNR=272						
WRA				PcP	**PcP**	**11 16 21.5**	**+0.3**
	comp=Z,2.6nm,0.4s,baz=91,slow=3.8,SNR=6.8						
WRA				ScP	**ScP**	**11 19 20.1**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=90,slow=4.6,SNR=2.3						
WRA				S	**S**	**11 20 45.4**	**-4.1**
	comp=Z,1.9nm,0.7s,baz=93,slow=14,SNR=7.5						
AS31	**Alice Springs**	**45.08**	**255**	P	**P**	**11 14 53.6**	**+0.2**
AS31				IAmb	IAmb	11 14 54.5	
	comp=Z,15nm,0.5s						
ASAR	**Alice Springs**	**45.08**	**255**	P	**P**	**11 14 53.5**	**0.0**
	comp=Z,36nm,0.7s,baz=88,slow=8.5,SNR=441						
ASAR				PcP	**PcP**	**11 16 21.9**	**+0.3**
	comp=Z,7.8nm,0.6s,baz=101,slow=4.4,SNR=11						
ASAR				ScP	**ScP**	**11 19 20.4**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=95,slow=4.5,SNR=5.3						
ASAR				S	**S**	**11 20 49.1**	**-1.9**
	comp=Z,8.5nm,0.9s,baz=90,slow=14,SNR=32						
ASAR	**Alice Springs**	**45.08**	**255**	P	**P**	**11 14 53.9**	**+0.4**
ASAR					**PcP**	**11 16 22.1**	**+0.5**
KDU	**Kakadu**	**47.96**	**269**	P	**P**	**11 15 15.0**	**-0.1**
	baz=48,SNR=6.2						
MTN	**Manton Dam**	**49.20**	**269**	P	**P**	**11 15 23.9**	**-0.4**
	baz=49,SNR=5.2						
MTN	**Manton Dam**	**49.20**	**269**	P	**P**	**11 15 24.1**	**-0.3**
MTN				IAmb	IAmb	11 15 29.9	
	comp=Z,47nm,1.6s						
WRKA	**Warakurna**	**50.11**	**252**	P	**P**	**11 15 31.0**	**0.0**
	baz=50,SNR=122						
FORT	**Forrest**	**50.21**	**245**	P	**P**	**11 15 31.1**	**-0.5**
	baz=50,SNR=7.4						
FORT	**Forrest**	**50.21**	**245**	P	**P**	**11 15 31.0**	**-0.5**
FORT				IAmb	IAmb	11 15 31.8	
	comp=Z,17nm,0.8s						
KNRA	**Kununurra**	**50.85**	**264**	P	**P**	**11 15 36.1**	**-0.3**
	baz=51,SNR=16						
KNRA	**Kununurra**	**50.85**	**264**	P	**P**	**11 15 36.2**	**-0.2**
SILJI	**Sorong**	**52.72**	**283**	P	**P**	**11 15 50.0**	**+0.1**
	comp=Z,9.5nm,0.4s,baz=112,slow=17,SNR=4.0						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**11 15 54.3**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=90,slow=6.9,SNR=15						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**11 15 54.5**	**+0.1**
	baz=53,SNR=9.2						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**11 15 54.5**	**+0.1**
PSA00	**Pilbara Seismi**	**58.20**	**256**	P	**P**	**11 16 26.9**	**-0.8**
PSA00	**Pilbara Seismi**	**58.20**	**256**	P	**P**	**11 16 27.2**	**-0.5**
PSA00				IAmb	IAmb	11 16 30.4	
	comp=Z,14nm,1.1s						
MEEK	**Meekatharra**	**58.68**	**250**	P	**P**	**11 16 29.5**	**-1.3**
	baz=59,SNR=3.1						
KLBR	**Kellerberrin**	**59.02**	**244**	P	**P**	**11 16 32.7**	**-0.4**
	baz=59,SNR=7.0						
VNDA	**Vanda**	**60.09**	**185**	P	**P**	**11 16 39.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=254,slow=23,SNR=10						
VNDA				PcP	**PcP**	**11 17 18.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=350,slow=6.1,SNR=3.6						
MORW	**Morawa**	**60.70**	**246**	P	**P**	**11 16 44.2**	**0.0**
GIRL	**Giralia**	**63.17**	**253**	P	**P**	**11 16 60.0**	**-0.4**
JHJ2	**Mitsune**	**65.11**	**322**	P	**P**	**11 17 12.6**	**+0.4**
JHJ	**Hachijo jima 2**	**65.13**	**322**	P	**P**	**11 17 12.3**	**-0.2**
	comp=Z,66nm,0.3s,baz=87,slow=16,SNR=12						
JYT	**Yasato**	**67.12**	**324**	P	**P**	**11 17 25.4**	**+0.7**
JMM	**Marumori**	**68.00**	**326**	P	**P**	**11 17 29.9**	**-0.1**
JMM				IAmb	IAmb	11 17 43.5	
	comp=Z,61nm,1.5s						
JGF	**Kuroka**	**68.30**	**322**	P	**P**	**11 17 32.1**	**+0.2**
MJAR	**Matsushiro Arr**	**68.47**	**323**	P	**P**	**11 17 32.6**	**-0.3**
	comp=Z,14nm,0.6s,baz=161,slow=5.9,SNR=32						
MJAR	**Matsushiro Arr**	**68.47**	**323**	P	**P**	**11 17 32.0**	**-0.9**
MAJO	**Matsushiro**	**68.47**	**323**	P	**P**	**11 17 32.6**	**-0.3**
MAJO				IAmb	IAmb	11 17 33.2	
	comp=Z,19nm,0.5s						
MAT	**Matsushiro**	**68.47**	**323**	P	**P**	**11 17 32.5**	**-0.4**
JMN	**Monobe**	**69.16**	**318**	P	**P**	**11 17 37.9**	**+0.8**
JMN				IAmb	IAmb	11 17 38.9	
	comp=Z,18nm,0.9s						
JWT	**Wachi**	**69.25**	**321**	P	**P**	**11 17 37.6**	**+0.1**
JSD	**Sado**	**69.50**	**324**	P	**P**	**11 17 39.0**	**0.0**
JSD				IAmb	IAmb	11 17 40.1	
	comp=Z,26nm,0.7s						
KIWB	**Kanaga Island**	**69.86**	**1**	P	**P**	**11 17 40.4**	**-0.4**
ADK	**Adak**	**69.90**	**1**	P	**P**	**11 17 39.8**	**-1.2**
UGM	**Wanagama**	**70.04**	**268**	P	**P**	**11 17 42.7**	**-0.1**
GSTR	**Great Sitkin T**	**70.12**	**1**	P	**P**	**11 17 42.3**	**-0.1**
ATKA	**Atka Island**	**70.28**	**2**	P	**P**	**11 17 42.4**	**-0.9**
JHS	**Saijyo**	**70.46**	**319**	P	**P**	**11 17 46.0**	**+1.2**
JNU	**Nakatsue**	**70.71**	**316**	P	**P**	**11 17 46.2**	**-0.1**
	comp=Z,3.5nm,0.4s,baz=17,slow=4.8,SNR=8.9						
JNU	**Nakatsue**	**70.71**	**316**	P	**P**	**11 17 46.2**	**-0.1**
SMY	**Shemya**	**71.07**	**355**	P	**P**	**11 17 47.2**	**-0.7**
NIKH	**Nikolski High**	**71.42**	**6**	P		11 17 49.1	
	baz=189						
YOJ	**Yonaguni jima**	**71.50**	**305**	P	**P**	**11 17 51.4**	**+0.3**
YOJ				IAmb	IAmb	11 17 56.1	
	comp=Z,40nm,1.1s						
SBUM	**Sibu**	**71.67**	**279**	P	**P**	**11 17 53.0**	**+0.7**
QSPA	**South Pole Qui**	**71.75**	**180**	P	**P**	**11 17 53.2**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=329,slow=0.1,SNR=14						
QSPA	**South Pole Qui**	**71.75**	**180**	P	**P**	**11 17 53.1**	**+1.1**
ASAJ	**Asahikawa**	**71.82**	**331**	P	**P**	**11 17 53.9**	**+1.4**
	comp=Z,15nm,0.7s,baz=243,slow=3.9,SNR=11						
TWG	**Pinlang**	**72.23**	**302**	P	**P**	**11 17 54.4**	**-1.0**
TWG				IAmb	IAmb	11 17 54.6	
	comp=Z,20nm,0.6s						
YULB	**Yu-li**	**72.33**	**303**	P	**P**	**11 17 55.2**	**-0.7**
YULB				IAmb	IAmb	11 17 56.0	
	comp=Z,14nm,0.5s						
SSLB	**Suanglung**	**72.79**	**303**	P	**P**	**11 17 57.8**	**-0.8**
TPUB	**Ta-pu**	**72.81**	**302**	P	**P**	**11 17 58.0**	**-0.8**
KSM	**Kuching**	**73.14**	**277**	P	**P**	**11 18 02.0**	**+1.2**
PET	**Petropavlovsk**	**73.86**	**346**	P	**P**	**11 18 03.7**	**-0.2**
PET				IAmb	IAmb	11 18 03.8	
	comp=Z,21nm,0.8s						
YSS	**Yuzh-Sakhalins**	**73.95**	**333**	P	**P**	**11 18 05.6**	**+1.0**
YSS				IAmb	IAmb	11 18 06.5	
	comp=Z,37nm,1.1s						
PEA0B	**Petropavlovsk-**	**74.17**	**345**	P	**P**	**11 18 05.7**	**0.0**
PEA0B				IAmb	IAmb	11 18 06.6	
	comp=Z,33nm,0.7s						
PETK	**Petropavlovsk-**	**74.17**	**345**	P	**P**	**11 18 05.8**	**+0.1**
	comp=Z,25nm,0.6s,baz=110,slow=8.2,SNR=90						
PETK	**Petropavlovsk-**	**74.17**	**345**	P	**P**	**11 18 05.6**	**-0.1**
SDPT	**Sand Point**	**74.86**	**10**	P		11 18 08.6	
	baz=197						
SDPT	**Sand Point**	**74.86**	**10**	P	**P**	**11 18 08.8**	**-0.7**
KSRS	**Korea Array**	**75.27**	**318**	P	**P**	**11 18 13.2**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=129,slow=6.4,SNR=20						
KSAR	**Wonju Array Be**	**75.28**	**318**	P	**P**	**11 18 13.3**	**+1.0**
KS19	**Wonju Array Si**	**75.33**	**318**	P	**P**	**11 18 13.4**	**+0.8**
SCI2	**San Clemente I**	**76.29**	**48**	P		11 18 19.3	
	baz=237						
SAO	**San Andreas Ge**	**76.43**	**44**	P	**P**	**11 18 19.9**	**+1.2**
SAO				IAmb	IAmb	11 18 20.9	
	comp=Z,25nm,0.8s						
PKM	**Mcpherson Peak**	**76.46**	**46**	P		11 18 20.3	
	baz=236,SNR=5.4						
PMPB	**Monarch Peak**	**76.54**	**44**	P	**P**	**11 18 20.6**	**+1.3**
PMPB				IAmb	IAmb	11 18 21.4	
	comp=Z,19nm,0.6s						
SMMC	**Simmler**	**76.57**	**45**	P		11 18 20.9	
	baz=236						
CIS	**Catalina Islan**	**76.61**	**48**	P		11 18 20.5	
	baz=237						
PAGB	**Antelope Grade**	**76.63**	**45**	P	**P**	**11 18 21.4**	**+1.6**
GDXM	**Geysers**	**76.77**	**41**	P	**P**	**11 18 22.4**	**+1.8**
OSI	**Osito Audit: C**	**77.05**	**47**	P		11 18 23.5	
	baz=237						
KMRM	**Mail Ridge**	**77.06**	**40**	P	**P**	**11 18 23.8**	**+1.7**
DECC	**Green Verdugo**	**77.13**	**47**	P		11 18 23.3	
	baz=237						
USRK	**Ussuriysk Ar.**	**77.17**	**326**	P	**P**	**11 18 23.4**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=144,slow=3.8,SNR=12						
USRK	**Ussuriysk Ar.**	**77.17**	**326**	P	**P**	**11 18 23.5**	**+1.0**
SII	**Sitkinak Islan**	**77.21**	**13**	P		11 18 22.7	
	baz=203						
SII	**Sitkinak Islan**	**77.21**	**13**	P	**P**	**11 18 22.6**	**+0.1**
ARVC	**Arvin**	**77.26**	**46**	P		11 18 24.4	
	baz=237						
109C	**Camp Elliot, M**	**77.27**	**49**	P		11 18 24.2	
	baz=238						
109C	**Camp Elliot, M**	**77.27**	**49**	P	**P**	**11 18 24.8**	**+1.4**
CBX	**Cerro Bola**	**77.29**	**50**	P	**P**	**11 18 25.1**	**+1.5**
MWC	**Mount Wilson**	**77.31**	**47**	P	**P**	**11 18 24.8**	**+1.1**
MWC				IAmb	IAmb	11 18 25.5	
	comp=Z,28nm,0.7s						
KHMM	**Horse Mountain**	**77.44**	**39**	P	**P**	**11 18 25.9**	**+1.7**
KHMM				IAmb	IAmb	11 18 29.1	
	comp=Z,45nm,1.3s						
BAR	**Barrett**	**77.47**	**49**	P	**P**	**11 18 26.0**	**+1.5**
VES	**Vestal, Richgr**	**77.48**	**45**	P		11 18 25.1	
	baz=236,SNR=13						
VOG	**Valley Oaks Go**	**77.54**	**45**	P		11 18 25.6	
	baz=236						
MURC	**Murrieta**	**77.58**	**48**	P		11 18 26.1	
	baz=238,SNR=6.0						
O02D	**Mt. Diablo Mer**	**77.59**	**40**	P		11 18 26.7	
	baz=233,SNR=7.5						
BFSC	**Mount Baldy Ra**	**77.59**	**47**	P		11 18 26.0	
	baz=238,SNR=6.5						
EDW2	**Edwards Air Fo**	**77.70**	**47**	P		11 18 26.7	
	baz=237,SNR=13						
MONP2	**Monument Peak**	**77.76**	**49**	P		11 18 27.6	
	baz=239,SNR=25						
ISA	**Isabella, Lake**	**77.80**	**46**	P		11 18 27.4	
	baz=237,SNR=22						
ISA	**Isabella, Lake**	**77.80**	**46**	P	**P**	**11 18 27.9**	**+1.7**
ISA				IAmb	IAmb	11 18 28.5	
	comp=Z,24nm,0.8s						
CMB	**Columbia Colle**	**77.85**	**43**	P	**P**	**11 18 27.2**	**+0.8**
CMB				IAmb	IAmb	11 18 28.3	
	comp=Z,19nm,0.8s						
RMX	**La Rumorosa**	**77.86**	**50**	P	**P**	**11 18 28.4**	**+1.7**
RMX				IAmb	IAmb	11 18 29.1	
	comp=Z,28nm,0.9s						
WDC	**Whiskeytown Da**	**77.98**	**40**	P	**P**	**11 18 28.2**	**+1.3**
AFDM	**Forest Hills D**	**78.00**	**42**	P	**P**	**11 18 28.1**	**+0.9**
ORV	**Oroville**	**78.02**	**41**	P	**P**	**11 18 28.0**	**+0.7**
OHAK	**Old Harbor**	**78.02**	**13**	P		11 18 27.0	
	baz=204						
PFO	**Pinyon Flats O**	**78.11**	**49**	P	**P**	**11 18 29.5**	**+1.5**
	comp=Z,11nm,1.1s,baz=254,slow=5.8,SNR=9.9						
PFO	**Pinyon Flats O**	**78.11**	**49**	P	**P**	**11 18 28.9**	**+0.9**
PFO	**Pinyon Flats O**	**78.11**	**49**	P		11 18 29.0	
	baz=238,SNR=5.0						
TPFO	**Pinon Flats**	**78.11**	**49**	P		11 18 29.2	
	baz=238						
N02D	**Trinity Center**	**78.12**	**39**	P		11 18 29.4	
	baz=233,SNR=5.5						
BBRC	**Big Bear Solar**	**78.12**	**48**	P		11 18 29.0	
	baz=238						
SWSC	**Sam W. Stewart**	**78.24**	**49**	P		11 18 29.7	
	baz=239,SNR=11						
LRMC	**Laurel Mtn Rad**	**78.24**	**46**	P		11 18 29.5	
	baz=237						
O03E	**Paynes Creek**	**78.27**	**40**	P		11 18 29.5	
	baz=234						
M02C	**Callahan**	**78.28**	**39**	P		11 18 30.4	
	baz=233,SNR=6.2						
L02E	**Cave Junction**	**78.31**	**38**	P		11 18 30.1	
	baz=232						
RRX	**Edison Barstow**	**78.39**	**47**	P		11 18 30.4	
	baz=238						
MDPB	**Devils Postpil**	**78.48**	**44**	P	**P**	**11 18 31.0**	**+0.9**
MDPB				IAmb	IAmb	11 18 32.1	
	comp=Z,27nm,0.8s						
CWC	**Cottonwood Cre**	**78.49**	**45**	P		11 18 31.0	
	baz=237						
NJ2	**Nanjing**	**78.50**	**309**	*e*P	**P**	**11 18 30.7**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,17nm,0.7s						
YBH	**Yreka Blue Hor**	**78.58**	**39**	P	**P**	**11 18 31.6**	**+1.4**
	comp=Z,15nm,0.6s,baz=191,slow=2.0,SNR=68						
K02D	**Willamette Mer**	**78.60**	**38**	P		11 18 31.7	
	baz=232						
MLAC	**Mammoth, Mammo**	**78.64**	**44**	P		11 18 32.4	
	baz=236,SNR=5.4						
BELC	**Belle Mtn. Jos**	**78.64**	**48**	P		11 18 32.1	
	baz=239,SNR=19						
MPMC	**Manual Prospec**	**78.68**	**46**	P		11 18 32.3	
	baz=237,SNR=12						
KDAK	**Kodiak Island**	**78.69**	**14**	P		11 18 30.3	
	baz=204						
KDAK	**Kodiak Island**	**78.69**	**14**	P	**P**	**11 18 30.5**	**+0.2**
	comp=Z,19nm,0.6s,baz=207,slow=1.7,SNR=27						
TIN	**Tinemaha, Big**	**78.72**	**45**	P		11 18 32.5	
	baz=237,SNR=11						
WAKR	**Walker**	**78.73**	**43**	P	**P**	**11 18 32.6**	**+1.3**
WAKR				IAmb	IAmb	11 18 33.7	
	comp=Z,30nm,0.8s						
MDJ	**Mudanjiang**	**78.74**	**325**	P	**P**	**11 18 31.7**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,32nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,150nm,3.9s						
MDJ	**Mudanjiang**	**78.74**	**325**	P	**P**	**11 18 32.0**	**+1.0**
MDJ				IAmb	IAmb	11 18 33.1	
	comp=Z,33nm,1.0s						
HEC	**Hector,Ludlow**	**78.83**	**48**	P		11 18 32.7	
	baz=238,SNR=15						
BC3	**Big Chuckawall**	**78.85**	**49**	P		11 18 33.5	
	baz=239,SNR=7.4						
BEKR	**Beckworth**	**78.92**	**41**	P	**P**	**11 18 33.1**	**+0.9**
BEKR				IAmb	IAmb	11 18 33.7	
	comp=Z,16nm,0.6s						
PNTR	**Pine Nut**	**78.95**	**42**	P	**P**	**11 18 33.9**	**+1.4**
PNTR				IAmb	IAmb	11 18 34.8	
	comp=Z,52nm,0.8s						
HUMO	**Hull Mountain**	**78.96**	**38**	P	**P**	**11 18 33.5**	**+1.3**
HUMO				IAmb	IAmb	11 18 34.8	
	comp=Z,33nm,1.2s						
GLA	**Glamis**	**79.00**	**50**	P		11 18 34.3	
	baz=240,SNR=8.8						
GLA	**Glamis**	**79.00**	**50**	P	**P**	**11 18 34.1**	**+1.5**
GLA				IAmb	IAmb	11 18 35.

BRSE **Bradley Lake S** 80.87 14 P 11 18 41.8
baz=206,SNR=5.0
I05D **Terrebonne, OR** 80.94 37 P 11 18 43.5
baz=233,SNR=9.1
E03A **Lebam** 81.05 35 P **P** **11 18 44.1 +1.2**
PRN **Pahroc Range** 81.06 46 P **P** **11 18 45.1 +1.7**
PRN IAmb IAmb 11 18 45.9
comp=Z,32nm,0.9s
F04D **Rainier, OR** 81.06 35 P 11 18 44.6
baz=232
RSO **Redoubt South** 81.10 12 P **P** **11 18 42.9 -0.3**
SVW2 **Sparrevohn** 81.15 11 P **P** **11 18 43.0 -0.1**
SVW2 IAmb IAmb 11 18 45.6
comp=Z,40nm,1.7s
R11A **Troy Canyon, C** 81.18 45 P 11 18 44.8
baz=238,SNR=6.7
DIB **Dawson Inlet,** 81.31 26 P **P** **11 18 44.5 +0.5**
NLWA **Neilton Lookou** 81.41 34 P **P** **11 18 46.0 +1.2**
NLWA IAmb IAmb 11 18 47.0
comp=Z,26nm,1.0s
WVOR **Wild Horse Val** 81.44 40 P **P** **11 18 46.5 +1.2**
WVOR IAmb IAmb 11 18 47.4
comp=Z,38nm,1.1s
SEW **Seward** 81.49 14 P 11 18 44.5
baz=207
G05D **Wamic, OR** 81.49 37 P 11 18 46.3
baz=233,SNR=5.7
E04D **Cinebar** 81.59 35 P 11 18 46.9
baz=232,SNR=9.6
TUC **Tucson** 81.62 52 P **P** **11 18 48.3 +2.0**
TUC IAmb IAmb 11 18 49.4
comp=Z,25nm,0.9s
TUC **Tucson** 81.62 52 P 11 18 48.3
baz=242
Q23K **Middleton Isla** 81.65 16 P 11 18 48.9
baz=210
MA2 **Magadan** 81.68 345 P **P** **11 18 45.2 -0.7**
comp=Z,7.0nm,0.4s,baz=143,slow=6.2,SNR=4.5
O22K **Cooper Landing** 81.77 14 P 11 18 46.1
baz=207
O22K **Cooper Landing** 81.77 14 P **P** **11 18 46.1 -0.1**
F05D **White Salmon** 81.80 36 P 11 18 47.7
baz=233,SNR=8.9
I07A **Izee** 81.86 38 P **P** **11 18 48.4 +1.1**
I07A IAmb IAmb 11 18 49.5
comp=Z,32nm,0.8s
D04E **Lakebay** 81.86 34 P 11 18 48.5
baz=232
SPCR **Spurr Chakacha** 81.88 12 P 11 18 45.9
baz=205,SNR=5.1
D03D **Eldon** 81.91 34 P 11 18 48.4
baz=232,SNR=8.5
GAMB **Gambell** 81.96 3 P 11 18 47.0
baz=186
J08A **Circle Bar Ran** 82.06 39 P **P** **11 18 49.1 +0.8**
J08A IAmb IAmb 11 18 50.4
comp=Z,51nm,1.2s
LCMT **Little Creek M** 82.10 47 P **P** **11 18 49.5 +0.8**
LCMT IAmb IAmb 11 18 51.0
comp=Z,20nm,0.9s
X16A **Lo Mia Camp, P** 82.12 50 P **P** **11 18 50.3 +1.3**
X16A IAmb IAmb 11 18 51.7
comp=Z,23nm,1.0s
LON **Longmire** 82.12 35 P **P** **11 18 49.0 +0.5**
CCUT **Cedar City** 82.29 46 P **P** **11 18 51.1 +1.3**
CCUT IAmb IAmb 11 18 52.3
comp=Z,18nm,0.8s
D05A **Enumclaw** 82.29 35 P **P** **11 18 50.6 +1.3**
RC01 **Rabbit Creek A** 82.31 13 P 11 18 48.5
baz=207
RC01 **Rabbit Creek A** 82.31 13 P **P** **11 18 48.8 -0.2**
RC01 IAmb IAmb 11 18 49.7
comp=Z,38nm,1.0s
319A **Douglas** 82.33 54 P **P** **11 18 51.6 +1.6**
319A IAmb IAmb 11 18 53.1
comp=Z,45nm,1.0s
SPR3 **Spring Creek 3** 82.36 45 P **P** **11 18 50.6 +0.4**
KNB **Kanab** 82.40 47 P **P** **11 18 51.5 +1.3**
KNB IAmb IAmb 11 18 52.7
comp=Z,20nm,0.8s
PGC **Sidney** 82.42 33 P **P** **11 18 50.7 +0.9**
PGC IAmb IAmb 11 18 51.6
comp=Z,42nm,1.1s
SUA **Susitna One** 82.42 13 P 11 18 49.2
baz=206,SNR=6.5
SUA **Susitna One** 82.43 13 P **P** **11 18 49.6 -0.2**
PSUT **Pine Spring** 82.44 45 P **P** **11 18 51.8 +1.2**
PSUT IAmb IAmb 11 18 52.4
comp=Z,16nm,0.7s
BBB **Bella Bella** 82.47 28 P **P** **11 18 50.9 +0.9**
BBB IAmb IAmb 11 18 51.5
comp=Z,21nm,0.8s
U15A **North Rim** 82.48 48 P **P** **11 18 52.6 +1.7**
SZCU **Shurtz Canyon** 82.50 47 P **P** **11 18 52.3 +1.4**
SZCU IAmb IAmb 11 18 53.2
comp=Z,16nm,0.9s
F07A **Phinny Hill Vi** 82.67 37 P **P** **11 18 52.2 +1.0**
F07A IAmb IAmb 11 18 53.0
comp=Z,19nm,0.8s
ELK **Elko** 82.67 43 P **P** **11 18 52.6 +0.9**
ELK IAmb IAmb 11 18 53.5
comp=Z,16nm,0.8s
WUAZ **Wupatki** 82.69 49 P 11 18 53.4
baz=241,SNR=19
WUAZ **Wupatki** 82.69 49 P **P** **11 18 52.6 +0.8**
WUAZ IAmb IAmb 11 18 54.9
comp=Z,19nm,1.0s
CRAG **Craig** 82.71 24 P 11 18 51.7
baz=222
GLI **Glacier Island** 82.73 15 P 11 18 50.6
baz=209
SKT **Skwentna** 82.73 12 P 11 18 50.4
baz=205
EYAK **Cordova Ski Ar** 82.77 15 P 11 18 50.8
baz=211
TTA **Tatalina** 82.79 10 P 11 18 51.8
baz=201,SNR=12
TTA **Tatalina** 82.79 10 P **P** **11 18 52.4 +0.9**
TTA IAmb IAmb 11 18 52.8
comp=Z,39nm,1.1s
M22K **Willow** 82.82 13 P 11 18 51.0
baz=207,SNR=13
A04D **Lummi Island** 82.85 33 P 11 18 53.1
baz=232,SNR=6.6
G08A **Pilot Rock** 82.87 38 P **P** **11 18 53.4 +1.0**
G08A IAmb IAmb 11 18 54.3
comp=Z,48nm,1.4s
IPM **Ipoh** 82.87 277 P **P** **11 18 54.0 +1.0**
KNK **Knik Glacier** 82.88 14 P 11 18 51.7
baz=208,SNR=6.0
B05A **Bryant** 82.89 34 P 11 18 53.0
baz=232,SNR=14
PMR **Palmer** 82.89 13 P 11 18 51.6
baz=208,SNR=11
PMR **Palmer** 82.89 13 P **P** **11 18 51.8 -0.1**
LTY **Liberty** 83.05 35 P **P** **11 18 54.0 +0.8**
E07A **Sunnyside** 83.09 36 P **P** **11 18 54.2 +0.9**
E07A IAmb IAmb 11 18 55.3
comp=Z,24nm,0.8s
GHO **Glory Hole Cre** 83.10 13 P **P** **11 18 53.1 0.0**
HAWA **Hanford** 83.18 36 P **P** **11 18 54.7 +1.0**
HAWA IAmb IAmb 11 18 55.8
comp=Z,30nm,0.9s
SML **Sawmill** 83.26 14 P 11 18 53.2
baz=208
SML **Sawmill** 83.26 14 P **P** **11 18 53.3 -0.5**
SML IAmb IAmb 11 18 53.9
comp=Z,16nm,0.6s
X18A **Snowflake** 83.26 50 P **P** **11 18 56.0 +1.3**
X18A IAmb IAmb 11 18 57.1
comp=Z,12nm,0.7s
HPIG 83.28 59 P **P** **11 18 56.1 +1.2**
HPIG IAmb IAmb 11 18 57.3
comp=Z,12nm,0.6s
MTPU **Mount Pierson** 83.34 46 P **P** **11 18 56.5 +1.3**
MTPU IAmb IAmb 11 18 58.1
comp=Z,17nm,0.8s
A05A **Maple Falls** 83.34 33 P **P** **11 18 55.1 +0.7**
A05A IAmb IAmb 11 18 55.9
comp=Z,22nm,1.1s
B06A **Marblemount** 83.37 34 P **P** **11 18 55.3 +0.7**
CUT **Chulitna** 83.37 13 P 11 18 53.7
baz=206,SNR=8.7
CUT **Chulitna** 83.37 13 P **P** **11 18 54.2 -0.1**
BMRM **Bremner River** 83.42 16 P 11 18 54.6
baz=212,SNR=6.7
BMRM **Bremner River** 83.43 16 P **P** **11 18 54.7 0.0**
PPLA **Purkeypile** 83.44 12 P 11 18 54.2
baz=205
PPLA **Purkeypile** 83.44 12 P **P** **11 18 53.7 -1.1**
PPLA IAmb IAmb 11 18 56.8
comp=Z,37nm,1.4s
MESA **MESA** 83.47 17 P 11 18 55.6
baz=214
MESA **MESA** 83.48 17 P **P** **11 18 56.0 +0.9**
KULM **Kulim** 83.49 278 P **P** **11 18 57.0 +1.0**
E08A **Dider Farm, El** 83.50 37 P **P** **11 18 56.1 +0.8**
E08A IAmb IAmb 11 18 57.2
comp=Z,18nm,0.8s
SCM **Sheep Creek Mo** 83.51 14 P **P** **11 18 55.3 +0.2**
KLU **Klutina** 83.55 15 P 11 18 55.5
baz=210
KLU **Klutina** 83.55 15 P **P** **11 18 54.8 -0.5**
KLU IAmb IAmb 11 18 56.1
comp=Z,25nm,1.0s
BMO **Blue Mountains** 83.60 39 P **P** **11 18 56.5 +0.6**
MAW **Mawson** 83.63 200 P **P** **11 18 56.2 +0.6**
comp=Z,1.1nm,0.5s,baz=103,slow=3.9,SNR=6.7
MAW **Mawson** 83.63 200 P **P** **11 18 56.8 +1.2**
CRQM **Cirque** 83.63 16 P **P** **11 18 55.6 -0.2**
CRQE **Cirque** 83.64 16 P 11 18 55.9
baz=213,SNR=5.2
YAH **Yahtse** 83.69 17 P **P** **11 18 56.1 -0.1**
WRAK **Wrangell Islan** 83.71 24 P 11 18 56.9
baz=223
MFID **Camas Ranch** 83.71 40 P **P** **11 18 57.6 +1.0**
MFID IAmb IAmb 11 18 58.5
comp=Z,16nm,0.9s
TGL **Tana Glacier** 83.71 17 P **P** **11 18 56.3 +0.1**
D08A **Wollman Farm,** 83.91 36 P **P** **11 18 58.1 +0.8**
D08A IAmb IAmb 11 18 59.3
comp=Z,23nm,0.9s
VRDI **Verde Repeater** 83.95 16 P **P** **11 18 57.4 0.0**
VRDI IAmb IAmb 11 18 58.3
comp=Z,27nm,0.7s
TNA **Tin City** 83.95 4 P 11 18 57.8
baz=190
N25K **Chitina, Valde** 83.97 15 P 11 18 57.5
baz=212,SNR=17
N25K **Chitina, Valde** 83.97 15 P **P** **11 18 57.6 +0.2**
DUG **Dugway, Tooele** 83.98 44 P 11 18 58.6
baz=240
DUG **Dugway, Tooele** 83.98 44 P **P** **11 18 59.0 +1.0**
121A **Cookes Peak, D** 83.98 53 P 11 18 59.8
baz=244
121A **Cookes Peak, D** 83.98 53 P **P** **11 18 59.4 +1.1**
121A IAmb IAmb 11 19 01.1
comp=Z,13nm,0.8s
M24K **Tolsona, Glenn** 84.02 14 P 11 18 57.8
baz=210
M24K **Tolsona, Glenn** 84.02 14 P **P** **11 18 58.4 +0.8**
GLB **Gilahina Butte** 84.03 16 P **P** **11 18 57.8 +0.1**
E09A **Wood Farm, Sta** 84.03 37 P **P** **11 18 59.0 +1.0**
E09A IAmb IAmb 11 18 59.7
comp=Z,25nm,1.4s
WAT6 **Susitna Watana** 84.07 14 P 11 18 57.6
baz=209,SNR=23
MCARA **McCarthy VSAT** 84.19 16 P 11 18 58.5
baz=213
MCARA **McCarthy VSAT** 84.19 16 P **P** **11 18 58.9 +0.5**
MCARA IAmb IAmb 11 18 59.5
comp=Z,45nm,1.2s
ZAIG **Zacatecas** 84.22 64 P **P** **11 19 00.7 +1.0**
WAT2 **Susitna Watana** 84.22 13 P 11 18 58.0
baz=208,SNR=16
SEY **Seymchan** 84.25 347 P **P** **11 18 58.5 -0.1**
comp=Z,23nm,0.5s,baz=156,slow=5.5,SNR=62
F10A **Beach Ranch, E** 84.26 38 P **P** **11 18 59.6 +0.4**
F10A IAmb IAmb 11 19 00.7
comp=Z,29nm,0.9s
KTH **Kantishna Hill** 84.28 12 P **P** **11 18 58.1 -0.7**
KTH IAmb IAmb 11 18 59.3
comp=Z,35nm,0.9s
BARN **Barnard Glacie** 84.29 17 P **P** **11 18 59.2 +0.1**
CTG **Chitna Glacier** 84.30 17 P 11 18 59.3
baz=215,SNR=7.3
CTGM **Chitina Glacie** 84.30 17 P **P** **11 18 59.4 +0.3**
TRF **Thorofare Moun** 84.31 12 P 11 18 58.2
baz=206,SNR=39
TRF **Thorofare Moun** 84.31 12 P **P** **11 18 58.4 -0.7**
CHUM **Lake Minchumin** 84.31 11 P 11 18 58.0
baz=204,SNR=14
BJT **Baijiatuau** 84.35 315 P **P** **11 19 00.3 +0.7**
BJT IAmb IAmb 11 19 01.1
comp=Z,7.4nm,0.5s
BJI **Beijing** 84.35 315 P **P** **11 19 00.7 +1.1**
BJI pP **PcP** **11 19 02.7 +0.7**
BJI pmax pmax
comp=Z,9.0nm,0.5s
B08A **Colville Reser** 84.43 35 P **P** **11 19 00.2 +0.3**
B08A IAmb IAmb 11 19 01.0
comp=Z,21nm,0.8s
HARP **HAARP** 84.51 15 P 11 19 00.3
baz=211,SNR=5.4
RND **Reindeer** 84.56 13 P **P** **11 19 00.2 -0.1**
HLID **Hailey** 84.66 41 P 11 19 02.5
baz=239,SNR=31
HLID **Hailey** 84.66 41 P **P** **11 19 02.5 +1.1**
HLID IAmb IAmb 11 19 03.5
comp=Z,15nm,0.8s
C09A **Chrisman Ranch** 84.69 36 P **P** **11 19 02.1 +0.9**
C09A IAmb IAmb 11 19 02.7
comp=Z,16nm,0.7s
BPAW **Bear Paw Mtn.** 84.76 12 P 11 18 59.6
baz=206,SNR=7.5
BPAW **Bear Paw Mtn.** 84.76 12 P **P** **11 19 00.0 -1.1**
MCK **McKinley** 84.84 13 P 11 19 00.9
baz=208,SNR=18
MCK **McKinley** 84.84 13 P **P** **11 19 01.6 +0.1**
PAX **Paxson** 84.93 14 P 11 19 01.3
baz=211,SNR=8.9
PAX **Paxson** 84.93 14 P **P** **11 19 01.1 -0.9**
PAX IAmb IAmb 11 19 02.4
comp=Z,15nm,0.8s
SRU **San Rafael Swe** 85.00 46 P **P** **11 19 03.7 +0.6**
SRU IAmb IAmb 11 19 04.8
comp=Z,13nm,0.7s
P17A **Butcher Ranch,** 85.02 46 P **P** **11 19 04.2 +1.1**
JLU **Jordanelle** 85.08 45 P **P** **11 19 03.8 +0.3**
HYT **Haines Junctio** 85.30 19 P **P** **11 19 04.4 +0.5**
HYT IAmb IAmb 11 19 05.4
comp=Z,17nm,0.9s
Y22D **IRIS PASSCAL I** 85.30 52 P 11 19 05.3
baz=244
LENM **Lemitar** 85.30 52 P **P** **11 19 05.6 +0.9**
MENT **Mentasta** 85.32 15 P **P** **11 19 04.1 +0.3**
MENT IAmb IAmb 11 19 05.0
comp=Z,15nm,0.8s
MNTX **Cornudas Mount** 85.47 55 P 11 19 06.4
baz=245
MNTX **Cornudas Mount** 85.47 55 P **P** **11 19 06.8 +1.5**
MNTX IAmb IAmb 11 19 07.9
comp=Z,18nm,1.2s
HWUT **Hardware Ranch** 85.50 44 P **P** **11 19 05.8 +0.4**
PV05 **Paradox Valley** 85.50 48 P **P** **11 19 06.9 +1.3**
PV05 IAmb IAmb 11 19 07.8
comp=Z,9.3nm,0.7s
MVCO **Mesa Verde** 85.53 49 P 11 19 06.0
baz=243
NEA2 **Nenana** 85.58 12 P 11 19 03.8
baz=207,SNR=5.8
NEA2 **Nenana** 85.58 12 P **P** **11 19 04.1 -0.9**
GYA **Guiyang** 85.58 300 *eP* **P** **11 19 07.2 +1.1**
GYA pmax pmax
comp=Z,2.0nm,0.9s
NEW **Newport** 85.59 36 P 11 19 05.7
baz=236,SNR=9.2
NEW **Newport** 85.59 36 P **P** **11 19 05.4 -0.1**
MLY **Manley** 85.65 11 P 11 19 04.4
baz=206,SNR=11
MLY **Manley** 85.65 11 P **P** **11 19 04.7 -0.7**
MLY IAmb IAmb 11 19 06.1
comp=Z,9.3nm,0.7s
WRH **Wood River Hil** 85.67 13 P **P** **11 19 04.7 -0.7**
BCYI **Bear Canyon** 85.67 41 P **P** **11 19 07.1 +0.8**
PV10 **Paradox Valley** 85.68 47 P **P** **11 19 06.7 +0.2**
PV10 IAmb IAmb 11 19 07.8
comp=Z,14nm,0.8s
PV19 **Morning Glory** 85.69 47 P **P** **11 19 06.6 +0.1**
PV14 **Lion Creek, Pa** 85.69 47 P **P** **11 19 07.2 +0.7**
PV14 IAmb IAmb 11 19 10.4
comp=Z,10nm,0.9s
PV17 **East Wray Mesa** 85.69 47 P **P** **11 19 06.8 +0.3**
PV17 IAmb IAmb 11 19 09.2
comp=Z,7.5nm,0.6s
PV18 **Skein Mesa, Pa** 85.71 48 P **P** **11 19 06.7 +0.2**
PV20 **West Nyswonger** 85.72 47 P **P** **11 19 07.0 +0.5**
PV20 IAmb IAmb 11 19 11.4
comp=Z,9.1nm,0.7s
PV13 **Radium Mtn., P** 85.73 48 P **P** **11 19 07.0 +0.3**
PV16 **Nyswonger Mesa** 85.74 47 P **P** **11 19 07.1 +0.4**
PV03 **Paradox Valley** 85.76 48 P **P** **11 19 07.2 +0.4**
PV11 **David Mesa, Pa** 85.76 47 P **P** **11 19 07.6 +0.9**
PV11 IAmb IAmb 11 19 09.7
comp=Z,24nm,1.5s
PV04 **Paradox Valley** 85.78 47 P **P** **11 19 07.3 +0.5**
PV04 IAmb IAmb 11 19 08.6
comp=Z,10nm,0.8s
PV02 **Paradox Valley** 85.82 48 P **P** **11 19 07.8 +0.7**
PV12 **Saucer Basin,** 85.82 47 P **P** **11 19 07.8 +0.7**
DOT **Dot Lake** 85.84 14 P **P** **11 19 05.9 -0.4**
DOT IAmb IAmb 11 19 07.2
comp=Z,24nm,1.0s
HDA **Harding Lake** 85.85 13 P 11 19 05.8
baz=209,SNR=22
HDA P 11 19 05.8
baz=209,SNR=22
HDA **Harding Lake** 85.85 13 P **P** **11 19 05.8 -0.5**
H21K **Melozitna Rive** 85.85 10 P 11 19 06.2
baz=204,SNR=10.0
TX31 **Lajitas Ar. Si** 85.86 57 P **P** **11 19 09.4 +2.0**
TX32 **Lajitas Array** 85.86 57 P **P** **11 19 09.4 +2.1**
TXAR **Lajitas Array** 85.86 57 P **P** **11 19 09.4 +2.0**
comp=Z,21nm,0.7s,baz=219,slow=6.1,SNR=338
TXAR **Lajitas Array** 85.86 57 P **P** **11 19 09.3 +1.9**
CCB **Clear Creek Bu** 85.88 13 P **P** **11 19 05.7 -0.7**
PV01 **Paradox Valley** 85.90 48 P **P** **11 19 07.8 +0.3**
L27K **Beaver Creek,** 85.90 16 P 11 19 06.6
baz=214,SNR=7.6
L27K **Beaver Creek,** 85.90 16 P **P** **11 19 07.0 +0.4**
L27K IAmb IAmb 11 19 07.8
comp=Z,9.2nm,0.8s
BCAR **Beaver Creek A** 85.92 16 P **P** **11 19 06.8 +0.1**
PV22 **Blue Mesa, Par** 85.93 47 P **P** **11 19 08.2 +0.6**
PV07 **Paradox Valley** 85.98 47 P **P** **11 19 08.2 +0.3**
WHY **Whitehorse** 85.99 20 P 11 19 07.5
baz=221,SNR=5.0
WHY **Whitehorse** 85.99 20 P **P** **11 19 07.5 +0.3**
WHY IAmb IAmb 11 19 08.2
comp=Z,12nm,0.8s
IMAR **Indian Mountai** 86.00 10 P **P** **11 19 06.7 -0.3**
I23K **Minto, Yukon-K** 86.01 12 P 11 19 06.0
baz=207,SNR=8.5
I23K **Minto, Yukon-K** 86.01 12 P **P** **11 19 06.1 -1.0**
I23K IAmb IAmb 11 19 07.2
comp=Z,32nm,1.4s
ANMO **Albuquerque** 86.02 51 P **P** **11 19 08.9 +0.8**
ANMO IAmb IAmb 11 19 10.6
comp=Z,14nm,1.1s
ANMO **Albuquerque** 86.02 51 P 11 19 08.8
baz=244
PV15 **Paradox Valley** 86.06 48 P **P** **11 19 08.5 +0.3**
TCOL **CIGO, UAF Yank** 86.07 12 P 11 19 06.5
baz=208,SNR=14
TCOL **CIGO, UAF Yank** 86.07 12 P **P** **11 19 06.7 -0.6**
COLA **College** 86.07 12 P 11 19 06.2
baz=208
MDM **Murphy Dome** 86.07 12 P **P** **11 19 06.3 -1.0**
MDM IAmb IAmb 11 19 07.5
comp=Z,27nm,0.9s
COLA **College** 86.07 12 P **P** **11 19 06.7 -0.6**
SCRK **Sand Creek** 86.14 14 P 11 19 07.8
baz=212,SNR=10.0
SCRK **Sand Creek** 86.14 14 P **P** **11 19 07.6 -0.2**
IL31 86.18 13 P **P** **11 19 06.8 -0.9**
ILAR **Eielson Array** 86.18 13 P **P** **11 19 07.3 -0.6**
comp=Z,12nm,0.4s,baz=218,slow=4.9,SNR=396
ILAR pP **pP** **11 21 13.5 +1.0**
comp=Z,1.4nm,1.0s,baz=224,slow=5.0,SNR=3.9
ILAR PP **PP** **11 22 42.7 +2.8**
comp=Z,1.4nm,1.0s,baz=222,slow=6.8,SNR=4.2
ILAR PKiKP **PKiKP** **11 24 10.2 -0.9**
comp=Z,0.2nm,0.6s,baz=295,slow=2.3,SNR=5.2
ILAR **Eielson Array** 86.18 13 P **P** **11 19 06.8 -1.0**
MCMT **McKenzie Canyo** 86.28 40 P **P** **11 19 10.1 +1.0**
AHID **Auburn Hatcher** 86.36 43 P **P** **11 19 10.4 +0.9**
POKR **Poker Plat Res** 86.37 12 P 11 19 07.8
baz=209,SNR=20
POKR **Poker Plat Res** 86.37 12 P **P** **11 19 08.0 -0.8**
H23K **Yukon River** 86.58 11 P 11 19 08.9
baz=207,SNR=5.1
MSO **Missoula** 86.64 38 P 11 19 10.4
baz=239,SNR=12
MSO **Missoula** 86.64 38 P **P** **11 19 10.1 -0.5**
K27K **Chicken** 86.64 15 P 11 19 10.6
baz=214
K27K **Chicken** 86.64 15 P **P** **11 19 11.1 +1.0**
K27K IAmb IAmb 11 19 11.8
comp=Z,12nm,1.0s
DLMT **Dillon** 86.70 40 P **P** **11 19 11.9 +1.0**
DLMT IAmb IAmb 11 19 13.0
comp=Z,18nm,0.8s
TPAW **Teton Pass** 86.80 42 P **P** **11 19 12.7 +1.0**
TPAW IAmb IAmb 11 19 13.9
comp=Z,16nm,1.0s
REDW **Red Top Meadow** 86.81 42 P **P** **11 19 12.2 +0.5**
REDW IAmb IAmb 11 19 13.8
comp=Z,24nm,1.1s
RDOG **Red Dog Mine** 86.81 6 P 11 19 11.4
baz=194
XAN **Xi'an** 86.82 307 P **P** **11 19 13.2 +1.5**
XAN pP PcP 11 19 22.5 +9.3
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN pmax pmax
comp=Z,26nm,1.2s
XAN **Xi'an** 86.82 307 P **P** **11 19 13.6 +1.9**
BILL **Bilibino** 86.86 354 P **P** **11 19 10.6 -0.4**
H24K **Noodor Dome** 86.91 12 P 11 19 09.6
baz=208,SNR=6.1
SNOW **Snow King Moun** 86.92 42 P **P** **11 19 13.2 +1.0**
SNOW IAmb IAmb 11 19 14.4
comp=Z,28nm,1.1s
JTMT **Jette** 86.92 37 P **P** **11 19 11.9 -0.1**
HIA **Hailar** 86.93 324 P **P** **11 19 12.7 +0.9**
S22A **4UR Ranch, Cre** 86.96 49 P 11 19 13.8
baz=244
O20A **White River Ci** 87.03 46 P 11 19 13.2
baz=243
O20A **White River Ci** 87.03 46 P **P** **11 19 13.3 +0.6**
O20A IAmb IAmb 11 19 14.8
comp=Z,23nm,1.4s
LOHW **Long Hollow** 87.08 42 P **P** **11 19 13.9 +1.0**
LOHW IAmb IAmb 11 19 14.9
comp=Z,41nm,1.6s
PRP **Porcupine Dome** 87.12 13 P 11 19 12.1
baz=211
PRP **Porcupine Dome** 87.12 13 P **P** **11 19 11.7 -0.8**
PRP IAmb IAmb 11 19 15.7
comp=Z,25nm,1.4s
QLMT **Earthquake Lak** 87.15 41 P **P** **11 19 15.0 +1.8**
FLWY **Flagg Ranch** 87.25 42 P **P** **11 19 15.1 +1.4**
FLWY IAmb IAmb 11 19 16.2
comp=Z,33nm,1.1s
YPP **Pitchstone Pla** 87.27 42 P **P** **11 19 15.8 +1.9**
YHL **Hebgen Lake** 87.32 41 P **P** **11 19 15.9 +1.8**
DAWY **Dawson** 87.35 16 P **P** **11 19 13.8 +0.3**
DAWY IAmb IAmb 11 19 14.7
comp=Z,41nm,1.4s
BW06 **Boulder Array** 87.36 43 P **P** **11 19 14.7 +0.4**
BW06 IAmb IAmb 11 19 15.6
comp=Z,12nm,0.8s
BW06 **Boulder Array** 87.36 43 P 11 19 14.6
baz=242
PD31 **Pinedale Array** 87.36 43 P **P** **11 19 14.6 +0.4**
PD31 IAmb IAmb 11 19 15.7
comp=Z,11nm,0.8s
PDAR **Pinedale Array** 87.36 43 P **P** **11 19 14.7 +0.4**
comp=Z,10nm,0.7s,baz=218,slow=2.9,SNR=76
PDAR **Pinedale Array** 87.36 43 P **P** **11 19 14.3 +0.1**
YMR **Madison River** 87.36 41 P **P** **11 19 15.7 +1.5**
YMR IAmb IAmb 11 19 16.9
comp=Z,27nm,0.9s
H17A **Grant Village** 87.47 41 P 11 19 17.1
baz=241
SMCO **Snowmass** 87.48 47 P **P** **11 19 15.7 +0.6**

EGAK Eagle 87.49 15 P 11 19 13.9
baz=215,SNR=14
EGAK Eagle 87.49 15 P P 11 19 14.0 0.0
EGAK IAmb IAmb 11 19 15.1
comp=Z,17nm,0.8s
YHH Holmes Hill 87.49 41 P P 11 19 16.5 +1.6
YHH IAmb IAmb 11 19 18.5
comp=Z,20nm,1.2s
LKWY Lake 87.67 41 P P 11 19 18.0 +2.3
LKWY IAmb IAmb 11 19 19.1
comp=Z,17nm,0.8s
COLD Coldfoot 87.73 10 P 11 19 15.4
baz=206,SNR=31
COLD Coldfoot 87.73 10 P P 11 19 15.2 +0.1
COLD IAmb IAmb 11 19 16.4
comp=Z,20nm,0.8s
WALA Waterton Lakes 87.81 36 P P 11 19 16.2 +0.1
WALA IAmb IAmb 11 19 17.6
comp=Z,9.2nm,0.8s
HRY Holter Researc 87.83 39 P P 11 19 16.8 +0.6
HHC Hu-ho-hao-te 87.84 314 *e*P P 11 19 14.3 -2.1
HHC *e*PKPbc PKPbc
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,51nm,6.0s
SDCO Great Sand Dun 87.91 49 P P 11 19 17.6 +0.6
SDCO Great Sand Dun 87.91 49 P 11 19 17.3
baz=245
FYU Fort Yukon 88.08 13 P P 11 19 16.0 -0.7
FYU IAmb IAmb 11 19 17.5
comp=Z,13nm,0.6s
YNE Yellowstone No 88.12 41 P P 11 19 19.3 +1.5
YNE IAmb IAmb 11 19 20.3
comp=Z,24nm,1.1s
MSTX Muleshoe 88.40 53 P 11 19 19.7
baz=247
MSTX Muleshoe 88.40 53 P P 11 19 19.8 +0.6
RWWY Rawlins 88.42 45 P P 11 19 18.9 -0.4
RWWY IAmb IAmb 11 19 19.9
comp=Z,22nm,1.1s
T25A Trinidad 88.45 50 P 11 19 20.0
baz=246
T25A Trinidad 88.45 50 P P 11 19 19.8 +0.4
RLMT Red Lodge 88.64 41 P P 11 19 21.3 +1.1
RLMT IAmb IAmb 11 19 22.5
comp=Z,15nm,0.9s
RLMT Red Lodge 88.64 41 P 11 19 21.4
baz=242
Q24A Divide 88.67 48 P 11 19 21.2
baz=245
ISCO Idaho Springs 88.70 47 P 11 19 21.4
baz=245
GCMT Greycliff 88.70 41 P P 11 19 21.6 +1.2
SYO Syowa Base 88.86 193⇑*e*P P 11 19 19.0 -1.5
N23A Red Feather La 88.94 46 P 11 19 22.4
baz=245
833A Chaparral WMA, 88.94 60 P 11 19 22.6
baz=249
BMAR Burnt Mountain 88.96 12 P P 11 19 21.2 +0.4
TOLK Toolik Lake Re 89.10 10 P 11 19 21.5
baz=207,SNR=7.0
TOLK Toolik Lake Re 89.10 10 P P 11 19 21.7 +0.2
TOLK IAmb IAmb 11 19 22.6
comp=Z,8.4nm,0.7s
K22A Casper 89.30 44 P 11 19 23.8
baz=244
K22A Casper 89.30 44 P P 11 19 23.9 +0.7
K22A IAmb IAmb 11 19 24.9
comp=Z,28nm,1.4s
JCT Junction City 89.40 58 P 11 19 24.1
baz=248
JCT Junction City 89.40 58 P P 11 19 24.4 +0.6
JCT IAmb IAmb 11 19 25.4
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 89.40 290 P P 11 19 25.2 +1.3
comp=Z,5.6nm,0.8s,baz=114,slow=2.7,SNR=33
CMAR Chiang Mai Arr 89.40 290 P P 11 19 25.1 +1.1
PHWY Pilot Hill 89.44 46 P P 11 19 24.6 +0.5
PHWY IAmb IAmb 11 19 25.6
comp=Z,7.1nm,1.0s
CHTO Chiang Mai 89.52 290 P P 11 19 24.7 +0.2
CHTO IAmb IAmb 11 19 26.4
comp=Z,8.8nm,0.8s
CHTO Chiang Mai 89.52 290 P P 11 19 24.5 0.0
comp=Z,7.7nm,0.8s
EPYK Eagle Plains 89.87 15 P 11 19 25.0
baz=219,SNR=14
EPYK Eagle Plains 89.88 15 P P 11 19 25.1 -0.1
YAK Yakutsk 90.09 338 P P 11 19 25.8 -0.3
comp=Z,10nm,0.5s,baz=56,slow=0.7,SNR=1.7
SNAA Sanae 90.19 178 P P 11 19 26.8 0.0
SNAA Sanae 90.19 178 P P 11 19 26.5 -0.3
comp=Z,1.7nm,0.6s,baz=203,slow=7.3,SNR=29
ABTX Abilene, Hawle 90.31 56 P P 11 19 28.3 +0.4
ABTX Abilene, Hawle 90.31 56 P 11 19 28.5
baz=248
VNA3 Neumayer Olymp 90.32 176 P P 11 19 27.7 +0.4
VNA2 Neumayer--Watz 90.76 177 P P 11 19 29.8 +0.5
baz=202,slow=3.2
PLCA Paso Flores 90.76 134 P P 11 19 31.1 +1.1
comp=Z,1.4nm,0.8s,baz=197,slow=8.4,SNR=2.8
VNA1 Neumayer--Stat 90.99 177 P P 11 19 30.8 +0.5
LAO LASA Array 91.24 41 P 11 19 33.3
baz=244
LAO LASA Array 91.24 41 P P 11 19 32.9 +1.0
435B Jarrell 91.29 58 P 11 19 33.3
baz=250
LZH Lanzhou 91.45 308 ⇓P P 11 19 33.8 +0.5
LZH pP pP 11 21 38.4 -1.5
LZH pmax pmax
comp=Z,22nm,1.4s
RSSD Black Hills 91.57 44 P 11 19 34.0
baz=246
RSSD Black Hills 91.57 44 P P 11 19 33.3 -0.4
RSSD IAmb IAmb 11 19 35.0
comp=Z,12nm,0.8s
WMOK Wichita Mounta 91.75 54 P P 11 19 35.3 +0.8
WMOK Wichita Mounta 91.75 54 P 11 19 35.0
baz=249
INK Inuvik 92.16 15 P 11 19 34.9
baz=222
INK Inuvik 92.16 15 P P 11 19 35.0 -0.5
comp=Z,13nm,0.7s,baz=219,slow=3.5,SNR=57
INK Inuvik 92.16 15 P P 11 19 35.0 -0.5
OK032 Salt Plains WL 92.91 52 P P 11 19 39.5 +0.3
R32A Long Quarter, 93.11 51 P P 11 19 41.5 +0.8
ULN Ulaanbaatar 93.72 319 P P 11 19 43.5 +0.1
SONM Songino Array 94.12 319 P P 11 19 45.5 +0.3
comp=Z,1.2nm,0.6s,baz=126,slow=3.5,SNR=5.7
YKA Yellowknife Ar 94.52 25 P P 11 19 46.2 -0.3
comp=Z,4.5nm,0.7s,baz=238,slow=4.3,SNR=23
BGNE Belgrade 94.56 48 P 11 19 48.2
baz=250
C36M Paulatuk 95.35 17 P 11 19 49.6
baz=230
ECSD EROS Data Cent 96.41 46 P P 11 19 55.9 +0.4
ECSD IAmb IAmb 11 19 56.4
comp=Z,3.5nm,0.7s
ECSD EROS Data Cent 96.41 46 P 11 19 55.8
baz=251
TIXI Tiksi 96.64 345 P P 11 19 55.0 -0.8
TIXI IAmb IAmb 11 19 55.7
comp=Z,3.2nm,0.8s
S39A Bolivar 96.89 53 P P 11 19 58.8 +1.1
S39A IAmb IAmb 11 20 00.2
comp=Z,3.7nm,0.8s
MGMO Mountain Grove 97.53 53 P P 11 20 00.7 +0.1
MGMO IAmb IAmb 11 20 02.3
comp=Z,4.0nm,0.8s
JFWS Jewell Farm 100.61 48 P 11 20 15.4
baz=255
WVT Waverly 100.68 55 P 11 20 15.3
baz=255
HDIL Hopedale 100.69 51 P 11 20 16.1
baz=255
ZALV Zalesovo Beam 108.80 322 PKiKP PKiKP 11 24 50.4 -1.0
comp=Z,1.4nm,0.6s,baz=318,slow=2.0,SNR=5.4
MKAR Makanchi Array 109.70 314 PKiKP PKiKP 11 24 52.4 -1.0
comp=Z,2.1nm,0.5s,baz=179,slow=0.7,SNR=26
MKAR PKKPbc PKKPbc 11 35 59.2 -0.6
comp=Z,0.4nm,0.7s,baz=289,slow=4.9,SNR=3.9
SCHQ Schefferville 116.93 37 PKP PKPdf 11 25 06.0 -1.0
comp=Z,1.6nm,0.7s,baz=342,slow=3.2,SNR=3.8
KK31 Karatay Array 117.88 310 PKPdf PKPdf 11 25 08.7 -0.5
KKAR Karatay Array 117.88 310 PKPdf PKPdf 11 25 08.7 -0.5
KKAR Karatay Array 117.88 310 PKPdf PKPdf 11 25 08.7 -0.5

GAR Garm 118.00 305 PKPdf PKiKP 11 25 09.8 +0.1
KBL Kabul 118.84 300 PKPdf 11 25 11.3 -0.2
SUMG Summit 121.02 13 PKPdf 11 25 14.8 0.0
ARU Arti 123.40 326 PKPdf PKPdf 11 25 19.3 -0.1
ABKAR Akbulak array 124.50 318 PKPdf PKPdf 11 25 21.2 -0.4
ABKAR Akbulak array 124.50 318 PKPdf 11 25 21.5 -0.2
SCO Scoresbysund 125.86 10 PKPdf PKiKP 11 25 24.2 +0.1
ARCES ARCESS Array B 126.78 350 PKP PKPdf 11 25 25.1 -0.4
comp=Z,7.2nm,0.6s,baz=44,slow=0.9,SNR=41
GEYT Alibeck 127.60 304 PKP PKiKP 11 25 28.6 -0.1
comp=Z,303nm,0.8s,baz=90,slow=1.4,SNR=3.8
BOSA Boshof 128.23 206 PKP PKPdf 11 25 29.5 -0.2
comp=Z,3.1nm,0.8s,baz=89,slow=2.6,SNR=4.1
BOSA Boshof 128.23 206 PKPdf 11 25 29.9 +0.2
KLMR Klimovskoe 129.88 337 *e*P PKPdf 11 25 29.9 -1.6
KLMR AMP 11 25 32.7
comp=Z,16nm,1.2s
FINES FINESS Array B 133.68 344 PKhKP PKPpre 11 25 26.5
comp=Z,1.1nm,0.7s,baz=48,slow=2.8,SNR=3.9
FINES PKP PKPdf 11 25 38.2 -0.4
comp=Z,5.8nm,0.7s,baz=62,slow=4.5,SNR=11
NOA NORSAR Array B 136.81 353 PKhKP PKPpre 11 25 35.6
comp=Z,1.5nm,0.7s,baz=22,slow=2.5,SNR=4.5
NOA PKP PKPdf 11 25 44.8 +0.2
comp=Z,1.0nm,0.5s,baz=14,slow=3.8,SNR=6.5
AKASG Malin Array Be 141.10 332 PKhKP PKPpre 11 25 46.8
comp=Z,4.5nm,0.3s,baz=43,slow=4.3,SNR=23
LAWE Loch Awe, Argy 141.70 7 *e*P PKPdf 11 25 49.0 -4.6
ESY Stoneypath 142.29 4 *e*P PKPdf 11 25 51.1 -3.6
EBL Broad Law 142.40 5 *e*P PKPdf 11 25 51.7 -3.2
NEWG New Galloway 142.94 6 *e*P PKPdf 11 25 52.8 -2.9
GAL1 Galloway 143.14 6 *e*P PKPab 11 25 53.5 -0.5
SKMB Sankelmark Bun 143.21 353 *e*PKPbc PKPbc 11 25 54.9 +0.3
baz=14,slow=2.8
SORM Soroca 143.34 330 ⇑P PKPab 11 25 55.0 0.0
BEL Belsk 143.41 340 *e*PKP PKPbc 11 25 56.0 +0.6
LNIZ Loecknitz 143.63 348 *e*PKPbc PKPbc 11 25 56.2 +0.2
baz=14,slow=2.8
IOMK Kirk Michael 143.75 7 *e*P PKPbc 11 25 55.8 -0.6
WIM Isle of Man 143.85 7 *e*P PKPbc 11 25 56.4 -0.3
BSEG Bad Segeberg 143.86 352 *e*PKPbc PKPab 11 25 57.0 +0.1
baz=14,slow=2.8
GAZ Gaziantep 143.90 309 PKPbc 11 25 56.3 -1.2
HLG Helgoland 143.90 354 *e*PKPbc PKPdf 11 25 57.3 -0.1
baz=14,slow=2.8
LODK Lodwar 144.17 250 PKPbc 11 25 57.9 -1.1
HPK Haverah Park 144.30 4 *e*P PKPbc 11 25 58.0 -0.1
DSB Dublin 144.52 9 PKPdf PKPdf 11 25 58.7 +0.1
KWP Kalwaria Pacla 144.59 337 *e*PKP PKPbc 11 25 59.5 +0.3
KWP Kalwaria Pacla 144.59 337 PKPdf 11 25 58.8 -0.1
WPS Cemaes, Angles 144.61 7 *e*P PKPdf 11 25 58.6 0.0
WME Myndd Eilian 144.63 7 *e*P PKPdf 11 25 58.7 -0.1
VASR Vaslui 144.66 329 ⇑P PKPab 11 26 00.4 +0.2
RUE Ruedersdorf 144.67 348 *e*PKPbc PKPbc 11 25 59.5 +0.3
baz=14,slow=2.8
WLF1 Llynfaes 144.73 7 *e*P PKPdf 11 25 59.1 +0.2
YRC Rhoscolyn 144.75 7 *e*P PKPdf 11 25 58.9 0.0
LBWR Ladybower, Pea 144.85 4 *e*P PKPbc 11 25 59.6 -0.2
YLL Llanberis 144.90 6 *e*P PKPdf 11 25 59.3 +0.1
OJC Ojcow 145.12 340 *e*PKP PKPbc 11 26 01.0 +0.3
OJC Ojcow 145.12 340 PKPdf PKPdf 11 25 60.0 +0.2
TLCR 145.13 326 ⇑P PKPab 11 26 01.5 -0.5
STNC Stoke 145.13 4 *e*P PKPbc 11 26 00.8 +0.2
BUR08 Bucovina Ar. S 145.14 332 PKPdf PKPbc 11 26 00.6 -0.5
BUR08 PKPbc PKPab 11 26 02.5 +0.3
BURAR Bucovina Array 145.15 332 ⇑P PKPab 11 26 01.9 -0.3
BURAR Bucovina Array 145.15 332 PKPdf PKPdf 11 26 00.0 0.0
BURAR PKPbc PKPab 11 26 02.4 +0.2
FOEL Foel Wylfa 145.25 6 *e*P PKPdf 11 25 60.0 +0.1
BIZ Bicaz 145.25 331 ⇓P PKPbc 11 26 01.4 +0.2
FLTG Flechtingen 145.28 350 *e*PKPbc PKPbc 11 26 01.2 +0.1
baz=14,slow=2.8
NRDL Niedersach Rie 145.30 351 *e*PKPbc PKPbc 11 26 01.5 +0.4
baz=14,slow=2.8
TESR Tescani 145.31 330 ⇓P PKPbc 11 26 02.1 +0.7
STHS Stebnicka Huta 145.31 338 *e*PKP PKPbc 11 26 01.2 -0.1
KOLS Kolonicke sedl 145.33 336 *e*PKP PKPab 11 26 02.2 -0.5
BR131 Keskin Array S 145.35 315 PKPdf PKPdf 11 26 00.2 -0.4
BR131 PKPbc PKPbc 11 26 02.0 +0.1
BRTR Keskin Array B 145.35 315 PKPbc PKPbc 11 26 01.8 -0.1
comp=Z,14nm,0.7s,baz=134,slow=4.2,SNR=62
BRTR Keskin Array B 145.35 315 PKPdf PKPdf 11 25 60.0 -0.7
BRTR PKPbc PKPbc 11 26 02.0 +0.1
CFR Carcaliu 145.49 327 ⇑P PKPbc 11 26 01.9 0.0
TPGR Topolog 145.56 326 ⇑P PKPbc 11 26 02.9 +0.7
ASSE Asse, Remlinge 145.56 351 *e*PKPbc PKPbc 11 26 02.3 +0.4
baz=14,slow=2.8
KSP Ksiaz 145.60 344 *e*PKP PKPbc 11 26 02.8 +0.7
WACR West Acre 145.63 2 *e*P PKPbc 11 26 01.7 -0.3
NIE Niedzica 145.64 339 *e*PKP PKPab 11 26 03.2 -0.7
HLM1 Long Mynd 145.64 5 *e*P PKPbc 11 26 01.7 -0.4
CRVS Cervenica-Dubn 145.66 337 *e*PKP PKPbc 11 26 02.8 +0.5
VRI Vrincioaia 145.73 329 ⇑P PKPbc 11 26 03.1 +0.5
IBBN Ibbenburen 145.77 354 *e*PKPbc PKPbc 11 26 02.8 +0.4
baz=14,slow=2.8
IBBN *e*PKPab PKPab 11 26 04.5 +0.2
baz=13,slow=4.1
PLOR Plostina 145.78 329 ⇑P PKPbc 11 26 03.2 +0.4
TIRR Tirgusor 145.82 325 ⇑P PKPbc 11 26 03.5 +0.6
TIRR Tirgusor 145.82 325 PKPdf PKPdf 11 26 01.7 +0.7
TIRR PKPbc PKPbc 11 26 03.5 +0.6
ANTO Ankara 145.85 315 PKPdf 11 26 01.1 -0.3
BMR Baia Mare 145.85 334 ⇑P PKPbc 11 26 03.1 +0.2
OSTC Ostas 145.88 344⇑*e*PKP PKPdf 11 26 01.6 +0.6
OSTC *ex* x 11 26 03.8
CLZ Clausthal 145.89 351 *e*PKPbc PKPbc 11 26 03.5 +0.6
baz=14,slow=2.8
CHVC Chvalec 145.90 344⇑*e*PKP PKPbc 11 26 03.4 +0.4
HARR Harsova 145.93 326 ⇑P PKPbc 11 26 04.0 +0.8
ARCR ARCALIA 145.94 332 ⇑P PKPbc 11 26 03.8 +0.7
CLL Collm 145.94 348 ⇓*i* PKPbc PKPbc 11 26 03.3 +0.3
comp=Z,85nm,0.8s
CLL Collm 145.94 348 PKPdf PKPdf 11 26 01.5 +0.4
CLL PKPbc PKPbc 11 26 03.7 +0.7
CLL Collm 145.94 348 *e*PKPbc PKPbc 11 26 03.4 +0.4
baz=14,slow=2.8
UPC Upice 145.98 344⇑*e*PKP PKPbc 11 26 03.1 -0.1
DPC Dobruska-Polom 146.04 344⇑*e*PKP PKPbc 11 26 03.4 0.0
MBAR Mbarara 146.09 239 PKPbc 11 26 05.4 +0.7
BRG Berggiesshubel 146.15 346 *i* PKP PKPbc 11 26 04.0 +0.4
BRG Amp 11 26 05.0
comp=Z,35nm,0.7s
BRG *i* x x 11 26 06.0
BRG Amp 11 26 06.7
comp=Z,23nm,0.9s
BRG Berggiesshubel 146.15 346 *e*PKPdf PKPdf 11 26 02.1 +0.7
baz=32,slow=1.4
BRG *e*PKPbc PKPbc 11 26 04.0 +0.4
baz=14,slow=2.8
BRG *e*PKPab PKiKP 11 26 06.1 +0.1
baz=13,slow=4.1
MCH1 Michaelchurch 146.15 6 *e*P PKPbc 11 26 03.0 -0.5
LANS Liptovska Anna 146.15 339 *e*PKP PKPab 11 26 05.1 -0.9
KRLC Kraliky 146.16 343⇑*e*PKP PKPbc 11 26 03.7 -0.1
MORC Moravsky Berou 146.21 342 ⇑P PKPbc 11 26 04.8 +0.9
MORC Moravsky Berou 146.21 342 *e*PKP PKPbc 11 26 04.3 +0.4
MORC Moravsky Berou 146.21 342 PKPdf PKPdf 11 26 02.1 +0.4
MORC PKPbc PKPbc 11 26 04.8 +0.9
FBE Freiberg 146.23 347 *e*PKPdf PKPdf 11 26 02.6 +1.0
baz=32,slow=1.4
FBE *e*PKPbc PKPbc 11 26 04.6 +0.8
baz=14,slow=2.8
FBE *e*PKPab PKPab 11 26 06.8 +0.6
baz=13,slow=4.1
GTTG Gottingen 146.24 351 *e*PKPbc PKPbc 11 26 04.4 +0.6
baz=14,slow=2.8
NEUB Neuenburg 146.27 349 *e*PKPbc PKPbc 11 26 04.4 +0.5
baz=14,slow=2.8
DOPR Dopca 146.30 330 ⇓P PKiKP 11 26 05.4 -1.0
PVCC Panska Ves 146.32 346⇑*e*PKP PKPbc 11 26 04.9 +0.8
KECS Kecovo 146.37 338 *e*PKP PKPbc 11 26 04.9 +0.6
MLR Muntele Rosu 146.38 329 ⇓P PKPbc 11 26 05.0 +0.3
CJR Cluj-Napoca 146.55 333 ⇓P PKPbc 11 26 05.6 +0.6
BUG Bochum--Univer 146.68 354 *e*PKPbc PKPbc 11 26 05.1 +0.1
baz=14,slow=2.8
PRA Prague 146.78 345⇑*e*PKP PKPbc 11 26 06.0 +0.7
KASTN Kahler Asten 146.78 353 *e*PKPbc PKPbc 11 26 05.7 +0.3
baz=14,slow=2.8
PRU Pruhonice 146.83 345⇑*e*PKP PKPbc 11 26 05.0 -0.5
PRU *e*PKPAB PKPab 11 26 08.7 +0.1
MOX Moxa 146.84 349 *e*PKPbc PKPbc 11 26 05.8 +0.2
baz=14,slow=2.8
MOX *e*PKPab PKPab 11 26 08.7 0.0

baz=13,slow=4.1
VOIR 146.85 330 ⇑P PKPbc 11 26 06.3 +0.5
DRGR 146.87 334 ⇑P PKPbc 11 26 06.3 +0.5
PLN Plauen 146.89 348 *e*PKPdf PKPdf 11 26 03.1 +0.4
baz=32,slow=1.4
PLN *e*PKPbc PKPbc 11 26 06.1 +0.5
baz=14,slow=2.8
TANN Tannenbergstha 146.89 348 *e*PKPdf PKPdf 11 26 03.4 +0.6
baz=32,slow=1.4
TANN *e*PKPbc PKPbc 11 26 06.2 +0.5
baz=14,slow=2.8
WERD Werda 146.89 348 *e*PKPbc PKPbc 11 26 06.2 +0.5
baz=14,slow=2.8
VRAC Vranov 146.91 342 ⇑P PKiKP 11 26 06.7 -0.9
VRAC Vranov 146.91 342 *e*PKP PKPbc 11 26 06.1 +0.4
VRAC *e* 11 26 09.3
VYHS Vyhne 146.93 339 *e*PKP PKPbc 11 26 06.3 +0.5
UBBA Unterbreizbach 146.94 351 *e*PKPbc PKPbc 11 26 05.9 +0.3
baz=14,slow=2.8
GUNZ Gunzen 146.97 348 *e*PKPdf PKPdf 11 26 03.6 +0.7
baz=32,slow=1.4
GUNZ *e*PKPbc PKPbc 11 26 06.5 +0.6
baz=14,slow=2.8
JAVC Velka Javorina 146.99 341 *e*PKP PKiKP 11 26 07.1 -0.7
WERN Wernitzgruen 147.03 348 *e*PKPdf PKPdf 11 26 03.7 +0.7
baz=32,slow=1.4
WERN *e*PKPbc PKPbc 11 26 06.8 +0.7
baz=14,slow=2.8
WERN *e*PKPab PKPab 11 26 09.9 +0.4
baz=13,slow=4.1
PSZ Piszkesteto 147.06 338 ⇑P PKPbc 11 26 06.9 +0.7
PSZ Piszkesteto 147.06 338 PKPdf PKPdf 11 26 02.8 -0.3
PSZ PKPbc 11 26 06.6 +0.4
ARR Arges 147.10 330 ⇑P PKiKP 11 26 07.9 -0.3
KRUC Moravsky 147.19 342 *e*PKP PKPbc 11 26 06.4 -0.1
KRUC *e* 11 26 10.5
PBCC Pribram 147.24 346⇑*e*PKP PKPbc 11 26 07.1 +0.5
SMOL Smolenice 147.37 341 *e*PKP PKiKP 11 26 08.2 -0.4
MANZ Manzenberg 147.37 348 *e*PKPdf PKPdf 11 26 04.0 +0.5
baz=32,slow=1.4
MANZ *e*PKPbc PKPbc 11 26 07.5 +0.6
baz=14,slow=2.8
MODS Modra-Piesok 147.54 341 *e*PKP PKPbc 11 26 07.6 +0.2
ROTZ Rotzenmuhle 147.56 348 *e*PKPbc PKPbc 11 26 08.0 +0.6
baz=14,slow=2.8
AHRW Bad Neuenahr-A 147.59 354 *e*PKPab PKPab 11 26 11.0 -0.7
baz=13,slow=4.1
MEM Membach 147.61 355 *d*PKPbc PKPbc 11 26 07.6 +0.1
BTNL Ternell 147.63 355 *d*PKPbc PKPbc 11 26 07.8 +0.2
BSTI Sart Tilman 147.67 356 *d*PKPbc PKPbc 11 26 08.1 +0.5
SIRR Siria 147.73 334 ⇑P PKPbc 11 26 08.7 +0.7
TNS Taunus Mts 147.74 352 *e*PKPdf PKPbc 11 26 06.2 -1.7
baz=32,slow=1.4
TNS *e*PKPbc PKiKP 11 26 08.4 -0.9
baz=14,slow=2.8
TNS *e*PKPab PKPab 11 26 12.6 +0.1
baz=13,slow=4.1
ZST Bratislava 147.75 341 *e*PKP PKiKP 11 26 08.9 -0.4
SNF Seneffe 147.82 357 *d*PKPbc PKPbc 11 26 08.1 +0.1
SNF *d*PKPab PKPab 11 26 12.2 -0.4
GRF Grafenberg Arr 147.82 349 *e*PKPbc PKPbc 11 26 08.7 +0.6
baz=14,slow=2.8
GRF *e*PKPab PKPab 11 26 13.1 +0.4
baz=13,slow=4.1
BCLA Clavier 147.85 356 *d*PKPbc PKPbc 11 26 08.1 0.0
BCLA *d*PKPab PKPab 11 26 12.6 -0.2
KHC Kasperske Hory 147.86 346 *e*PKPDF PKPdf 11 26 04.5 +0.1
KHC ⇑*e*PKP PKPbc 11 26 08.5 +0.3
BHOU Houvegnez 147.87 355 *d*PKPbc PKPbc 11 26 08.4 +0.2
BHOU *d*PKPab PKPab 11 26 12.9 0.0
BGES Gesves 147.90 356 *d*PKPbc PKPbc 11 26 08.0 -0.3
GZR Gura Zlata 147.94 332 ⇑P PKPbc 11 26 08.4 -0.2
CKRC Cesky Krumlov 147.97 345⇑*e*PKP PKPbc 11 26 09.1 +0.6
BMRD Maredsous 148.00 357 *d*PKPbc PKPbc 11 26 08.4 -0.1
WET Wettzell 148.01 346 *e*PKPdf PKPdf 11 26 05.2 +0.6
baz=32,slow=1.4
WET *e*PKPab PKPab 11 26 14.1 +0.6
baz=13,slow=4.1
MILB Miltenberg 148.01 351 *e*PKPdf PKPdf 11 26 05.2 +0.6
baz=32,slow=1.4
MILB *e*PKPbc PKPbc 11 26 09.1 +0.6
baz=14,slow=2.8
MILB *e*PKPab PKPab 11 26 13.2 -0.2
baz=13,slow=4.1
GEC2 GERESS Array S 148.10 345 *e*PKPbc PKPbc 11 26 09.3 +0.4
baz=14,slow=2.8
GERES GERESS Array B 148.10 345 PKPbc PKPbc 11 26 08.9 0.0
comp=Z,16nm,0.7s,baz=318,slow=1.8,SNR=18
GERES GERESS Array B 148.10 345 PKPdf PKPdf 11 26 04.8 -0.1
GERES PKPbc PKPbc 11 26 09.0 +0.1
DOU Dourbes 148.22 357 *d*PKPbc PKPbc 11 26 09.3 +0.2
BZS Buzias 148.27 333 ⇓P PKPbc 11 26 09.5 +0.1
SRE Strehaia 148.30 331 ⇑P PKiKP 11 26 10.5 -0.1
CONA Conrad Observa 148.36 342 *e*P PKPbc 11 26 10.1 +0.4
comp=Z,20nm,0.7s,SNR=18
HERR Herculane 148.50 332 ⇑P PKPbc 11 26 10.3 +0.4
WLF Walferdange 148.54 355 *d*PKPbc PKPbc 11 26 10.0 +0.1
WLF Walferdange 148.54 355 PKPdf PKPdf 11 26 06.2 +0.8
WLF PKiKP PKiKP 11 26 10.7 -0.2
WLF Walferdange 148.54 355 *e*PKPbc PKiKP 11 26 10.9 0.0
baz=14,slow=2.8
MOA Molln 148.88 344 *i* P PKPbc 11 26 11.2 +0.5
comp=Z,12nm,0.8s
MDVR Moldovita 148.89 332 ⇓P PKPbc 11 26 10.9 0.0
MORH Mrgy, Hungar 148.95 337 ⇑P PKPbc 11 26 11.2 +0.3
MORH Mrgy, Hungar 148.95 337 ⇓*i* P PKPbc 11 26 10.2 -0.8
STU Stuttgart 149.06 351 *e*PKPbc PKiKP 11 26 11.7 -0.3
baz=14,slow=2.8
ARSA Arzberg 149.07 342 *i* P PKPbc 11 26 11.2 0.0
comp=Z,12nm,1.0s
FUR Furstenfeldbru 149.27 348 *e*PKPbc PKiKP 11 26 12.3 -0.3
baz=14,slow=2.8
FUR *e*PKPab PKPab 11 26 19.2 +0.4
baz=13,slow=4.1
RJOB Jochberg 149.35 346 *e*PKPbc PKPbc 11 26 12.1 +0.1
baz=14,slow=2.8
RJOB *e*PKPab PKPab 11 26 19.9 +0.8
baz=13,slow=4.1
BEHE Becsehely 149.38 340 *e*P PKPdf 11 26 05.9 -0.9
FRGS Fruska Gora 149.39 335 ⇑P PKiKP 11 26 12.8 -0.1
FRGS Fruska Gora 149.39 335 ⇓*i* P PKPbc 11 26 12.2 +0.1
ALN Alexandroupoli 149.47 323 P PKPbc 11 26 11.1 -0.9
RDO Aldhopi 149.60 323 P PKPbc 11 26 12.3 -0.4
BFO Black Forest 149.61 352 *e*PKPbc PKPbc 11 26 12.8 +0.3
baz=14,slow=2.8
BFO *e*PKPab PKPab 11 26 20.0 -0.2
baz=13,slow=4.1
SOKA Soboth 149.74 342 *e*P PKPbc 11 26 12.5 -0.5
comp=Z,17nm,0.8s,SNR=13
BOVS Bovan 149.78 331 ⇓P PKPbc 11 26 12.8 -0.2
VTS Vitosha 149.81 328 ⇓P PKiKP 11 26 13.7 -0.3
VTS Vitosha 149.81 328 PKPbc 11 26 13.5 +0.2
VTS PKPab PKPab 11 26 22.0 +0.7
KBA Koelnbreinsper 149.83 345 *e*P PKPbc 11 26 12.7 -0.6
comp=Z,20nm,0.6s,SNR=10
UBR Ueberruh 149.96 349 *e*PKPdf PKPdf 11 26 07.9 +0.1
baz=32,slow=1.4
UBR *e*PKPbc PKPbc 11 26 13.7 +0.3
baz=14,slow=2.8
WATA Walderalm 150.00 347 *e*P PKPbc 11 26 13.5 -0.2
comp=Z,20nm,0.6s,SNR=6.4
RETA Reutte 150.03 348 *i* P PKPbc 11 26 13.6 0.0
comp=Z,8.0nm,0.6s,SNR=5.8
OBKA Obir 150.03 343 *e*P PKPbc 11 26 13.1 -0.6
comp=Z,8.9nm,0.8s
SMTH Samothraki Isl 150.04 322 P PKPbc 11 26 13.1 -0.7
WTTA Wattenberg 150.06 347 *i* P PKPbc 11 26 13.7 -0.1
comp=Z,43nm,0.5s,SNR=13
MOTA Moosalm 150.09 348 *i* P PKPbc 11 26 13.6 -0.3
comp=Z,23nm,0.8s,SNR=8.9
MYKA Terra Mystica 150.17 344 *e*P PKPbc 11 26 13.2 -0.8
comp=Z,21nm,0.6s,SNR=15
DIVS Divibare 150.18 333 ⇓*i* P PKPbc 11 26 14.1 0.0
DIVS Divibare 150.18 333 PKPdf PKPdf 11 26 08.5 +0.2
DIVS PKPbc 11 26 14.2 +0.2
KAVA Kavala 150.27 324 P PKPbc 11 26 13.9 -0.4
ABTA Abfaltersbach 150.34 345 *e*P PKPbc 11 26 13.8 -0.5
comp=Z,41nm,0.6s,SNR=18
CLF Chambon-Foret 150.35 360 PKiKP 11 26 15.1 +0.4
CLF PKPab 11 26 23.6 +0.4
CRES Cresnjev 150.38 341 ⇓*i* P PKPbc 11 26 14.2 -0.2
PRK Paraskevi 150.38 320 P PKiKP 11 26 15.2 +0.2
DAVA Damuels 150.38 349 *i* P PKPbc 11 26 14.6 0.0
comp=Z,16nm,0.6s,SNR=9.1
NVR Nevrokopi 150.38 325 P PKPbc 11 26 14.1 -0.5

THAS	**Thassos island**	**150.42**	**323**	P	**PKPbc**	**11 26 13.9**	**-0.7**
FETA	**Feichten**	**150.48**	**348**	*e*P	**PKPdf**	**11 26 08.7**	**-0.1**
	comp=Z,7.7nm,0.8s						
FETA				*e*P	**PKPbc**	**11 26 14.9**	**+0.2**
	comp=Z,22nm,0.7s,SNR=7.5						
CADS	**Cadrg**	**150.51**	**343**	*i* PKPbc	**PKPbc**	**11 26 13.8**	**-0.9**
BBLS	**Lazići**	**150.61**	**334**	⇓*i*P	**PKPbc**	**11 26 15.1**	**0.0**
MRAK	**Mrakovica**	**150.61**	**338**	*e*P	**PKiKP**	**11 26 15.6**	**+0.1**
HAPS	**Han Pijesak,BI**	**150.62**	**335**	*e*P	**PKPbc**	**11 26 14.5**	**-0.6**
LIA	**Limnos Island**	**150.62**	**322**	P	**PKPbc**	**11 26 14.5**	**-0.6**
SIGR	**SIGRI**	**150.65**	**320**	P	**PKPbc**	**11 26 14.6**	**-0.6**
BOJS	**Bojanci**	**150.73**	**341**	*i* PKPbc	**PKiKP**	**11 26 15.5**	**-0.1**
BLY	**Banja Luka**	**150.74**	**338**	⇓*i*P	**PKPbc**	**11 26 15.2**	**0.0**
STAL	**STALIGIAL**	**150.75**	**345**	PKPdf	**PKPdf**	**11 26 09.1**	**+0.1**
STAL					**PKPbc**	**11 26 14.8**	**-0.4**
CEY	**Cerknica**	**150.76**	**342**	*i* PKPbc	**PKPbc**	**11 26 15.3**	**0.0**
CEY	**Cerknica**	**150.76**	**342**	⇓*i*P	**PKPbc**	**11 26 15.1**	**-0.2**
RUDO	**Rudo**	**150.83**	**334**	*e*P	**PKPbc**	**11 26 15.1**	**-0.4**
SMG	**Samos**	**150.93**	**317**	P	**PKPbc**	**11 26 15.3**	**-0.6**
BODT	**Bodrum**	**150.98**	**315**	P	**PKPbc**	**11 26 14.5**	**-1.5**
TRI	**Trieste**	**150.98**	**343**		**PKPbc**	**11 26 15.3**	**-0.4**
CHOS	**Chios island**	**151.03**	**319**	P	**PKPbc**	**11 26 15.5**	**-0.7**
MGRS	**Mrkonjic Grad**	**151.06**	**337**	*e*P	**PKPab**	**11 26 26.8**	**+0.4**
CTI	**Castel Tesino**	**151.21**	**346**		**PKPbc**	**11 26 16.4**	**0.0**
CTI				PKPab	**PKPab**	**11 26 26.5**	**-0.5**
TUE	**Stuetta**	**151.26**	**349**	PKPdf	**PKPdf**	**11 26 10.3**	**+0.3**
TUE					**PKiKP**	**11 26 17.1**	**+0.2**
UPM	**Unac-Piva**	**151.36**	**334**	*e*P	**PKPbc**	**11 26 15.9**	**-1.0**
SENIN	**Lac Senin/Sane**	**151.68**	**352**		**PKiKP**	**11 26 18.0**	**+0.2**
BRY	**Bratogost**	**151.76**	**334**	*e*P	**PKPbc**	**11 26 17.1**	**-0.7**
PDG	**Podgorica**	**151.84**	**332**	*e*P	**PKPbc**	**11 26 17.3**	**-0.4**
PDG	**Podgorica**	**151.84**	**332**	PKPdf	**PKPdf**	**11 26 09.8**	**-0.9**
PDG					**PKPbc**	**11 26 17.2**	**-0.6**
PDG				PKPab	**PKPab**	**11 26 29.6**	**0.0**
TREB	**Trebinje**	**152.00**	**334**	*e*P	**PKPbc**	**11 26 17.4**	**-0.7**
LIT	**Litokhoron**	**152.00**	**325**	P	**PKPbc**	**11 26 16.9**	**-1.4**
LIT	**Litokhoron**	**152.00**	**325**	PKPdf	**PKPdf**	**11 26 11.8**	**+0.7**
LIT					**PKPbc**	**11 26 17.7**	**-0.6**
LIT				PKPab	**PKPab**	**11 26 30.3**	**-0.2**
DRME	**Dracevica, Mon**	**152.06**	**332**	⇓*i*P	**PKPbc**	**11 26 17.9**	**-0.4**
FNA	**Florina**	**152.10**	**327**	P	**PKPbc**	**11 26 17.9**	**-0.6**
XOR	**Xorichti**	**152.12**	**323**	P	**PKPbc**	**11 26 17.2**	**-1.3**
STON	**Ston**	**152.13**	**335**	*e*P	**PKPdf**	**11 26 13.0**	**+1.9**
HCY	**Herceg Novi**	**152.16**	**333**	*e*P	**PKPbc**	**11 26 17.3**	**-1.2**
AGG	**Agios Georgios**	**152.84**	**324**	P	**PKPbc**	**11 26 18.8**	**-1.3**
AGG	**Agios Georgios**	**152.84**	**324**		**PKPbc**	**11 26 18.9**	**-1.2**
AGG				PKPab	**PKPab**	**11 26 33.1**	**-1.0**
MAKR	**Makrakomi, Fth**	**152.96**	**324**	P	**PKPbc**	**11 26 19.8**	**-0.6**
ZCCA	**Zocca**	**152.96**	**346**	PKPdf	**PKPdf**	**11 26 12.4**	**0.0**
ZCCA					**PKiKP**	**11 26 21.3**	**+1.0**
BNI	**Bardonecchia**	**153.05**	**353**		**PKiKP**	**11 26 21.1**	**+0.5**
BNI				PKPab	**PKPab**	**11 26 35.2**	**+0.3**
LTK	**Loutraki**	**153.15**	**321**	P	**PKPbc**	**11 26 19.4**	**-1.4**
LAST	**Lasithi**	**153.26**	**314**	P	**PKPdf**	**11 26 10.8**	**-2.3**
PDO	**Prodromos**	**153.78**	**324**	P	**PKPbc**	**11 26 22.0**	**-0.1**
NRCA	**Norcia**	**153.80**	**341**		**PKPbc**	**11 26 22.0**	**-0.1**
NRCA					**PKPab**	**11 26 38.3**	**+0.2**
PBRG	**Braganca**	**155.41**	**16**	*e*PKPab	**PKPab**	**11 26 45.2**	**+0.2**
MVO	**Moncorvo**	**155.93**	**17**	*e*PKPab	**PKPab**	**11 26 47.5**	**+0.2**
PCAS	**Casmilo, Conde**	**156.50**	**21**	*e*PKPab	**PKPab**	**11 26 49.6**	**-0.1**
PMAFR	**Mafra**	**157.20**	**23**	*e*PKPab	**PKPab**	**11 26 52.9**	**+0.1**
PESTR	**Estremoz**	**157.87**	**20**	*e*PKPab	**PKPab**	**11 26 55.4**	**-0.3**
ESDC	**Sonseca Array**	**158.08**	**12**	PKP	**PKPdf**	**11 26 20.0**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=322,slow=3.9,SNR=3.2						
ESDC				PKPab	**PKPab**	**11 26 56.3**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=344,slow=4.7,SNR=16						
ESDC	**Sonseca Array**	**158.08**	**12**	PKPab	**PKPab**	**11 26 56.6**	**0.0**
PNCL	**Nicolau / Gran**	**158.22**	**23**	*e*PKPab	**PKPab**	**11 26 57.2**	**0.0**
PBAR	**Barrancos**	**158.68**	**20**	*e*PKPab	**PKPab**	**11 26 59.9**	**+0.7**
PVAQ	**Vaqueiros**	**159.14**	**22**	*e*PKPab	**PKPab**	**11 27 01.6**	**+0.3**
PVAQ	**Vaqueiros**	**159.14**	**22**		**PKPab**	**11 27 01.4**	**+0.1**
KEST	**Kesra**	**161.47**	**341**	PKPab	**PKPab**	**11 27 10.6**	**-1.0**
	comp=Z,5.7nm,0.6s,baz=326,slow=3.6,SNR=6.7						
KEST	**Kesra**	**161.47**	**341**	PKPdf	**PKPdf**	**11 26 23.7**	**+0.5**
KEST				PKPab	**PKPab**	**11 27 11.2**	**-0.4**
DBIC	**Dimbokro**	**166.63**	**149**	PKP	**PKPdf**	**11 26 27.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=241,slow=1.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**174.86**	**176**	PKP	**PKPdf**	**11 26 31.5**	**-1.0**
	comp=Z,3.8nm,1.0s,baz=252,slow=2.1,SNR=10						
TORD				PKPab	**PKPab**	**11 28 10.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=184,slow=1.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**174.86**	**176**		**PKPdf**	**11 26 31.2**	**-1.3**

*JMA **10** 11:12:08.8±0.2,39.°63N×143.°75E,h16km,M3.9*
*NIED **10** 11:12:08.9,39.°63N×143.°75E,h16km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.74; Mθθ-0.08; Mφφ-4.65; Mrθ2.90; Mθφ-1.34; Mφr1.15; Fault plane solution: M₀5.76000×10¹⁴ NP1:φs38.00000°, δ60.00000°,λ115.00000°. NP2:φs175.00000°,δ38.00000°, λ54.00000°.*
*IDC **10** 11:12:09.4±2.7,39.°54N×143.°63E,h0km,mb3.9/5, mb1 3.8/9,mb1mx3.6/46,mbtmp3.9/9,ML3.4/4,MS2.7/1, Ms1 2.7/1,ms1mx2.3/39 Error ellipse: s-maj=55.6km s-min=24.6km az=113.0*

ISC 10 11:12:10.0±1.2,39.°51N±0.°06×143.°70E±0.°08,h11km,n28, σ28.°12/32,mb3.8/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.46**	**273**	P	**Pn**	**11 12 35.4**	**-0.8**
MIYJ				S	**Sb**	**11 12 55.1**	**-0.5**
JTH	**Tanohata**	**1.48**	**287**	P	**Pn**	**11 12 35.0**	**-1.5**
JTH				S	**Sb**	**11 12 55.0**	**-1.3**
OFUJ	**Ofunato**	**1.63**	**255**	P	**Pn**	**11 12 38.4**	**-0.3**
JKEN	**Kujiedanarisaw**	**1.68**	**295**	P	**Pn**	**11 12 37.8**	**-1.5**
JOM	**Ohasama**	**1.86**	**270**	P	**Pn**	**11 12 41.8**	**0.0**
JANG	**Nango**	**1.89**	**298**	P	**Pn**	**11 12 40.6**	**-1.5**
JANG				*e*S	**Sn**	**11 13 04.1**	**-1.8**
JMK	**Ichinoseki**	**2.01**	**255**	P	**Pn**	**11 12 42.7**	**-1.1**
JYK	**Kaneyama**	**2.66**	**258**	P	**Pn**	**11 12 53.4**	**+0.6**
JOT	**Ohata**	**2.75**	**314**	P	**Pn**	**11 12 53.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.86**	**346**	P	**Pn**	**11 12 55.9**	**+0.4**
JCH	**Churui**	**3.11**	**355**	P	**Pn**	**11 12 58.5**	**-0.4**
JFT	**Otama**	**3.31**	**234**	P	**Pn**	**11 13 02.6**	**+0.9**
JAK	**Akkeshi**	**3.56**	**12**	P	**Pn**	**11 13 04.5**	**-0.6**
ASAJ	**Asahikawa**	**4.67**	**350**	Pn	**Pn**	**11 13 21.1**	**+0.7**
	1.6nm,0.3s,baz=186,slow=14,SNR=15						
ASAJ				Sn	**Sn**	**11 14 12.8**	**-1.8**
	0.3nm,0.3s,baz=77,slow=33,SNR=1.5						
MJAR	**Matsushiro Arr**	**5.25**	**237**	Pn	**Pn**	**11 13 30.1**	**+1.7**
	0.3nm,0.3s,baz=41,slow=12,SNR=37						
MJAR				Sn	**Sn**	**11 14 23.1**	**-5.9**
	baz=311,slow=44,SNR=0.9						
MAT	**Matsushiro**	**5.25**	**237**	P	**Pn**	**11 13 30.2**	**+1.8**
MAT				*e*S	**Sn**	**11 14 30.8**	**+1.8**
JHJ	**Hachijo jima 2**	**7.12**	**208**	Pn	**Pn**	**11 13 53.6**	**-0.4**
	6.8nm,0.3s,baz=139,slow=22,SNR=5.9						
JHJ				Sn	**Sn**	**11 15 09.2**	**-5.7**
	8.2nm,0.3s,baz=229,slow=24,SNR=1.4						
USRK	**Ussuriysk Ar.**	**9.91**	**302**	Pn	**Pn**	**11 14 35.8**	**+3.5**
	baz=88,slow=14,SNR=5.9						
KSRS	**Korea Array**	**12.54**	**266**	Pn	**Pn**	**11 15 12.1**	**+3.9**
	0.1nm,0.3s,baz=86,slow=13,SNR=5.6						
KSRS				LR	LR	11 19 59.4	
	comp=Z,35nm,20.1s,baz=185,slow=38						
KLR	**Kul'dur**	**12.92**	**323**	Pn	**Pn**	**11 15 12.2**	**-1.2**
	0.1nm,0.3s,baz=143,slow=15,SNR=2.3						
SEY	**Seymchan**	**24.03**	**10**	P	**P**	**11 17 26.1**	**+1.4**
	2.5nm,0.8s,baz=182,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**28.01**	**300**	P	**P**	**11 18 01.9**	**+0.9**
	1.1nm,0.8s,baz=90,slow=8.4,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**28.06**	**128**	T	T	11 47 30.3	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.07**	**128**	T	T	11 47 40.2	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.08**	**128**	T	T	11 47 36.5	
	baz=314,slow=75						
ZALV	**Zalesovo Beam**	**41.63**	**310**	P	**P**	**11 19 58.6**	**+0.7**
	0.9nm,0.5s,baz=76,slow=9.1,SNR=2.5						
MKAR	**Makanchi Array**	**44.37**	**300**	P	**P**	**11 20 20.6**	**+0.3**
	1.2nm,0.8s,baz=83,slow=9.9,SNR=8.5						
FINES	**FINESS Array B**	**67.45**	**333**	P	**P**	**11 23 06.0**	**+0.7**
	1.6nm,0.7s,baz=38,slow=7.5,SNR=3.4						

*IDC **10** 11:24:39.6±1.8,35.°72N×140.°97E,h0km,mb3.4/3, mb1 3.4/7,mb1mx3.3/34,mbtmp3.4/7,ML2.9/4,MS2.4/1, Ms1 2.4/1,ms1mx2.1/27,Error ellipse: s-maj=39.5km s-min=21.3km az=75.0*
*JMA **10** 11:24:45.5±0.1,35.°72N×140.°67E,h49km±2km,M3.2*

JMA Felt I J1.

ISC 10 11:24:46.2±1.0,35.°74N±0.°05×140.°72E±0.°07,h47km±7km, n24,σ0892/23,mb3.5/3,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**109**	⇑P	**Pn**	**11 24 53.4**	**-0.3**
CHOJ				*e*S	**Sn**	**11 24 59.2**	**+0.2**
JSMT	**Sammumatsuo**	**0.24**	**246**	⇓P	**Pn**	**11 24 54.0**	**-0.5**
JSMT				*e*S	**Sn**	**11 25 00.2**	**-0.2**
JIHU	**Itakohorinouch**	**0.28**	**325**	⇓P	**Pn**	**11 24 55.0**	**+0.2**
JCN	**Nagara**	**0.53**	**233**	P	**Pn**	**11 24 57.2**	**-0.5**
JYT	**Yasato**	**0.65**	**319**	⇓P	**Pn**	**11 24 58.3**	**-0.8**
JYT				S	**Sn**	**11 25 07.5**	**-0.9**
BSO4	**Boso 4**	**0.81**	**203**	P	**Pn**	**11 25 00.4**	**-0.8**
JHO	**Hitachi**	**0.88**	**352**	⇓P	**Pn**	**11 25 02.1**	**-0.1**
BSO3	**Boso 3**	**0.95**	**191**	P	**Pn**	**11 25 02.1**	**-0.9**
BSO1	**Boso 1**	**1.10**	**169**	P	**Pn**	**11 25 04.2**	**-0.6**
JAG	**Ashikaga**	**1.23**	**304**	⇓P	**Pn**	**11 25 06.0**	**-1.0**
MJAR	**Matsushiro Arr**	**2.19**	**292**	Pn	**Pn**	**11 25 20.1**	**0.0**
	1.5nm,0.3s,baz=102,slow=9.2,SNR=79						
MJAR				LR	LR	11 26 21.1	
	comp=Z,71nm,19.4s,baz=115,slow=43						
MAT	**Matsushiro**	**2.19**	**292**	P	**Pn**	**11 25 20.6**	**+0.5**
MAT				S	**Sn**	**11 25 46.9**	**+0.9**
JHJ	**Hachijo jima 2**	**2.73**	**197**	Pn	**Pn**	**11 25 26.0**	**-1.5**
	12nm,0.3s,baz=330,slow=18,SNR=9.3						
JHJ				Sn	**Sn**	**11 25 59.3**	**+0.1**
	23nm,0.3s,baz=87,slow=23,SNR=6.6						
ASAJ	**Asahikawa**	**8.49**	**9**	Pn	**Pn**	**11 26 44.5**	**-1.9**
	0.1nm,0.3s,baz=212,slow=19,SNR=1.7						
KSRS	**Korea Array**	**10.43**	**283**	Pn	**Pn**	**11 27 14.8**	**+1.7**
	0.2nm,0.3s,baz=96,slow=13,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**28.00**	**118**	T	T	11 59 46.5	
	baz=310,slow=75,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**28.01**	**118**	T	T	11 59 51.7	
	baz=310,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**28.02**	**118**	T	T	11 59 48.7	
	baz=310,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	12 00 33.9	
	baz=312,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	12 00 33.8	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	12 00 36.2	
	baz=312,slow=75,SNR=10						
MKAR	**Makanchi Array**	**44.34**	**303**	P	**P**	**11 32 51.8**	**+0.1**
	0.4nm,0.5s,baz=87,slow=9.4,SNR=4.1						
WRA	**Warramunga Arr**	**55.71**	**187**	P	**P**	**11 34 17.2**	**-0.7**
	0.2nm,0.4s,baz=2.7,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**59.44**	**187**	P	**P**	**11 34 44.6**	**+0.5**
	0.2nm,0.7s,baz=7.6,slow=8.4,SNR=1.3						

*IDC **10** 11:41:23.1±3.3,56.°95N×156.°70W,h54km±30km,mb3.5/11, mb1 3.7/14,mb1mx3.5/55,mbtmp3.8/14,ML3.7/3,MS3.3/2, Ms1 3.3/2,ms1mx2.6/35,Error ellipse: s-maj=40.5km s-min=18.4km az=176.0*
*NEIC **10** 11:41:23.2±1.3,56.°62N±0.°09×156.°42W±0.°09,h68km±9km, Error ellipse: s-maj=14.2km s-min=5.9km az=157.0*
*AEIC **10** 11:41:24±1.7,56.°67N±0.°07×156.°48W±0.°07,h34km±6km, ML3.6,ML3.6/18(NEIC),Error ellipse: s-maj=10.5km s-min=4.7km az=163.0*

ISC 10 11:41:23.1±0.7,56.°73N±0.°08×156.°55W±0.°05,h64km, n107,σ1930/111,mb3.7/11,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.31**	**96**		**Pn**	**11 41 44.9**	**-0.6**
SII	**Sitkinak Islan**	**1.31**	**96**	P		11 41 44.9	
	baz=276						
SII				S		11 42 01.8	
	baz=276						
VNSG	**Veniaminof 6**	**1.54**	**248**		**Pn**	**11 41 48.5**	**+0.1**
VNSG					**Sn**	**11 42 08.0**	**+0.5**
VNHG	**Veniaminof 1**	**1.54**	**252**		**Pn**	**11 41 49.1**	**+0.6**
VNFG	**Fog Glacier, M**	**1.73**	**256**		**Pn**	**11 41 51.7**	**+0.7**
VNFG	**Fog Glacier, M**	**1.73**	**256**	P		11 41 51.7	
	baz=76						
OHAK	**Old Harbor**	**1.85**	**73**		**Pn**	**11 41 52.5**	**-0.1**
OHAK					**Sn**	**11 42 14.2**	**-0.8**
OHAK				IAML		11 42 23.0	
	comp=N,500nm,0.8s						
OHAK	**Old Harbor**	**1.85**	**73**	P		11 41 52.4	
	baz=254						
OHAK				S		11 42 14.5	
	baz=254						
KDAK	**Kodiak Island**	**2.40**	**62**	P	**Pn**	**11 42 00.4**	**+0.4**
	comp=N,58nm,0.3s,baz=252,slow=8.1,SNR=4886						
KDAK				S	**Sn**	**11 42 27.9**	**-0.4**
	comp=N,12nm,0.3s,baz=14,slow=15,SNR=5.8						
KDAK	**Kodiak Island**	**2.40**	**62**	S		11 42 27.4	
	baz=244						
SDPT	**Sand Point**	**2.60**	**240**		**Pn**	**11 42 03.0**	**+0.2**
SDPT						11 42 03.4	
SDPT				IAML		11 42 42.4	
	comp=E,333nm,0.7s						
SDPT				IAML		11 42 44.2	
	comp=N,338nm,0.8s						
SDPT	**Sand Point**	**2.60**	**240**	P		11 42 03.2	
	baz=58						
SDPT				S		11 42 35.1	
	baz=58						
AU22	**Augustine Moun**	**3.15**	**31**		**Pn**	**11 42 10.7**	**+0.5**
PS4A	**Pavlof South-4**	**3.29**	**247**		**Pn**	**11 42 12.7**	**+0.6**
HAG	**Hague Volcano**	**3.32**	**247**		**Pn**	**11 42 13.4**	**+0.8**
DT1	**Dutton Round H**	**3.61**	**246**		**Pn**	**11 42 16.7**	**+0.2**
ILS	**Iliamna Low So**	**3.72**	**28**		**Pn**	**11 42 20.1**	**+2.0**
HOM	**Homer**	**3.92**	**39**		**Pn**	**11 42 22.5**	**+1.7**
HOM				IAML		11 43 10.8	
	comp=E,200nm,2.2s						
HOM				IAML		11 43 20.2	
	comp=N,213nm,1.5s						
HOM	**Homer**	**3.92**	**39**	P		11 42 22.4	
	baz=223						
HOM				S		11 43 05.0	
	baz=223						
CNPM	**China Poot**	**3.97**	**43**		**Pn**	**11 42 22.5**	**+1.0**
CNPM				IAML		11 43 17.6	
	comp=E,62nm,2.5s						
CNPM				IAML		11 43 23.8	
	comp=N,60nm,0.8s						
RED	**Redoubt Volcan**	**4.20**	**27**		**Pn**	**11 42 26.2**	**+1.6**
RSO	**Redoubt South**	**4.24**	**26**		**Pn**	**11 42 27.4**	**+2.1**
BRLK	**Bradley Lake**	**4.27**	**42**		**Pn**	**11 42 26.1**	**+0.5**
BRLK				IAML		11 43 40.6	
	comp=E,48nm,2.9s						
BRLK				IAML		11 43 51.5	
	comp=N,59nm,2.7s						
NCT	**North Crescent**	**4.28**	**25**		**Pn**	**11 42 27.6**	**+1.8**
BRSE	**Bradley Lake S**	**4.31**	**43**		**Pn**	**11 42 26.5**	**+0.4**
BRSE	**Bradley Lake S**	**4.31**	**43**	P		11 42 26.5	
	baz=227						
FALS	**False Pass**	**4.31**	**247**		**Pn**	**11 42 27.0**	**+0.9**
FALS	**False Pass**	**4.31**	**247**	P		11 42 26.7	
	baz=62						
DFR	**Drift River**	**4.37**	**26**		**Pn**	**11 42 29.0**	**+2.1**
SVW2	**Sparrevohn**	**4.41**	**6**		**Pn**	**11 42 29.4**	**+2.0**
SVW2				IAML		11 43 34.3	
	comp=E,31nm,0.4s						
SSBA	**Shishaldin**	**4.71**	**249**		**Pn**	**11 42 31.7**	**+0.1**
SLKM	**Skilak Lake**	**5.03**	**38**		**Pn**	**11 42 36.5**	**+0.5**
SEW	**Seward**	**5.04**	**45**		**Pn**	**11 42 35.7**	**-0.2**
SEW	**Seward**	**5.04**	**45**	P		11 42 35.6	
	baz=230						
SPCP	**Crater Peak Br**	**5.09**	**25**		**Pn**	**11 42 38.5**	**+1.6**
CGLM	**Cages Glacier**	**5.16**	**25**		**Pn**	**11 42 40.1**	**+2.4**
O22K	**Cooper Landing**	**5.18**	**41**		**Pn**	**11 42 38.9**	**+0.9**
STLK	**Strandline Lak**	**5.37**	**25**		**Pn**	**11 42 42.6**	**+2.0**
SUA	**Susitna One**	**5.61**	**30**		**Pn**	**11 42 45.6**	**+1.7**
SUA	**Susitna One**	**5.61**	**30**	P		11 42 45.3	
	baz=214						
RC01	**Rabbit Creek A**	**5.62**	**36**		**Pn**	**11 42 45.1**	**+1.1**
RC01	**Rabbit Creek A**	**5.62**	**36**	P		11 42 44.8	
	baz=221						
SKT	**Skwentna**	**5.86**	**24**		**Pn**	**11 42 48.9**	**+1.6**
SKT	**Skwentna**	**5.86**	**24**	P		11 42 48.2	
	baz=208						
AKUT	**Akutan**	**5.86**	**248**	Pn	**Pn**	**11 42 48.3**	**+1.0**
PWL	**Port Wells**	**5.95**	**42**		**Pn**	**11 42 48.5**	**+0.1**
M22K	**Willow**	**6.02**	**31**		**Pn**	**11 42 50.0**	**+0.6**
M22K	**Willow**	**6.02**	**31**	P		11 42 50.0	
	baz=216						
Q23K	**Middleton Isla**	**6.05**	**59**		**Pn**	**11 42 49.8**	**0.0**
Q23K	**Middleton Isla**	**6.05**	**59**	P		11 42 50.2	
	baz=247						
MID	**Middleton Isla**	**6.05**	**59**		**Pn**	**11 42 49.7**	**-0.1**
PMR	**Palmer**	**6.19**	**35**		**Pn**	**11 42 52.4**	**+0.7**
PMR	**Palmer**	**6.19**	**35**	P		11 42 52.0	
	baz=221						
TT01	**Tatalina**	**6.21**	**2**		**Pn**	**11 42 53.2**	**+1.2**
KNK	**Knik Glacier**	**6.28**	**38**		**Pn**	**11 42 53.0**	**0.0**
KNK	**Knik Glacier**	**6.28**	**38**	P		11 42 53.3	
	baz=225						
GHO	**Glory Hole Cre**	**6.39**	**35**		**Pn**	**11 42 55.4**	**+0.8**
HIN	**Hinchinbrook I**	**6.41**	**51**		**Pn**	**11 42 55.1**	**+0.2**
GLI	**Glacier Island**	**6.43**	**46**		**Pn**	**11 42 54.8**	**-0.3**
GLI	**Glacier Island**	**6.43**	**46**	P		11 42 54.2	
	baz=233						
MSW	**Makushin Switc**	**6.49**	**249**		**Pn**	**11 42 55.9**	**0.0**
CUT	**Chulitna**	**6.52**	**27**		**Pn**	**11 42 58.0**	**+1.7**
CUT	**Chulitna**	**6.52**	**27**	P		11 42 57.6	
	baz=212						
PPLA	**Purkeypile**	**6.56**	**18**		**Pn**	**11 42 59.9**	**+2.8**
PPLA	**Purkeypile**	**6.56**	**18**	P		11 42 60.0	
	baz=201						
SML	**Sawmill**	**6.61**	**36**		**Pn**	**11 42 59.1**	**+1.5**
SML	**Sawmill**	**6.61**	**36**	P		11 42 57.8	
	baz=223						
FID	**Port Fidalgo**	**6.61**	**48**		**Pn**	**11 42 56.9**	**-0.7**
MAPS	**Pakushin South**	**6.62**	**248**		**Pn**	**11 42 57.6**	**-0.1**
JPK	**Jack Peak**	**6.74**	**46**		**Pn**	**11 42 58.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**6.81**	**51**		**Pn**	**11 43 00.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**6.81**	**51**	P		11 42 59.9	
	baz=240						
SCM	**Sheep Creek Mo**	**6.96**	**39**		**Pn**	**11 43 02.5**	**+0.1**
DIV	**Divide**	**7.11**	**47**		**Pn**	**11 43 04.4**	**+0.1**
WAT7	**Susitna Watana**	**7.25**	**29**		**Pn**	**11 43 06.1**	**-0.2**
KLU	**Klutina**	**7.26**	**44**		**Pn**	**11 43 06.8**	**+0.3**
KLU	**Klutina**	**7.26**	**44**	P		11 43 06.6	
	baz=233						
WAT6	**Susitna Watana**	**7.37**	**34**		**Pn**	**11 43 07.9**	**-0.2**
WAT6	**Susitna Watana**	**7.37**	**34**	P		11 43 07.9	
	baz=221						
OKTU	**Okmok Mt. Tuli**	**7.40**	**248**		**Pn**	**11 43 09.2**	**+0.7**
WAT2	**Susitna Watana**	**7.42**	**29**		**Pn**	**11 43 08.2**	**-0.5**
WAT2	**Susitna Watana**	**7.42**	**29**	P		11 43 08.2	
	baz=216						
TRF	**Thorofare Moun**	**7.43**	**22**		**Pn**	**11 43 09.5**	**+0.6**
TRF	**Thorofare Moun**	**7.43**	**22**	P		11 43 09.5	
	baz=207						
BMRM	**Bremner River**	**7.51**	**51**		**Pn**	**11 43 09.6**	**-0.3**
BMRM	**Bremner River**	**7.51**	**51**	P		11 43 09.7	
	baz=240						
SPIA	**Saint Paul Isl**	**7.51**	**279**		**Pn**	**11 43 11.8**	**+2.0**
SPIA	**Saint Paul Isl**	**7.51**	**279**	P		11 43 11.8	
	baz=88						
M24K	**Tolsona, Glenn**	**7.55**	**40**		**Pn**	**11 43 11.5**	**+1.1**
M24K	**Tolsona, Glenn**	**7.55**	**40**	P		11 43 10.5	
	baz=229						
RND	**Reindeer**	**7.72**	**27**		**Pn**	**11 43 12.2**	**-0.6**
N25K	**Chitina, Valde**	**7.84**	**46**		**Pn**	**11 43 14.4**	**-0.1**
N25K	**Chitina, Valde**	**7.84**	**46**	P		11 43 14.7	
	baz=236						
BPAW	**Bear Paw Mtn.**	**7.89**	**18**	Pn	**Pn**	**11 43 15.7**	**+0.7**
CRQM	**Cirque**	**8.05**	**54**	Pn	**Pn**	**11 43 17.5**	**+0.1**

	comp=Z,72nm,19.5s,baz=285,slow=32						
MATP	**Matopo**	**41.41**	**105**	LR	LR	12 31 48.3	
	comp=Z,74nm,19.5s,baz=300,slow=33						
CPUP	**Villa Florida**	**41.95**	**246**	LR	LR	12 31 59.7	
	comp=Z,59nm,20.2s,baz=53,slow=32						
LPAZ	**La Paz**	**51.80**	**260**	LR	LR	12 38 52.3	
	comp=Z,19nm,20.7s,baz=110,slow=34						
KEST	**Kesra**	**54.28**	**24**	LR	LR	12 41 23.5	
	comp=Z,38nm,19.6s,baz=300,slow=36						
GERES	**GERESS Array B**	**67.29**	**20**	P	P	12 20 16.2	+0.3
	0.5nm,0.5s,baz=214,slow=4.7,SNR=3.7						
AKASG	**Malin Array Be**	**74.80**	**27**	P	P	12 21 01.4	+0.2
	2.5nm,0.8s,baz=222,slow=5.4,SNR=8.5						
NOA	**NORSAR Array B**	**77.47**	**12**	P	P	12 21 16.3	0.0
	1.7nm,0.8s,baz=203,slow=6.1,SNR=4.3						
FINES	**FINESS Array B**	**81.67**	**18**	P	P	12 21 38.8	-0.2
	2.4nm,0.6s,baz=211,slow=4.9,SNR=8.0						

*IDC **10** 12:16:27.5±1.1, 1°.34N×96°.99E, h0km, mb4.2/11, mb1 4.2/14, mb1mx4.0/46, mbtmp4.1/14, ML3.8/3, MS3.4/4, Ms1 3.5/4, ms1mx2.9/43, Error ellipse: s-maj=30.2km s-min=17.2km az=56.0*

*DJA **10** 12:16:28.9±1.8, 1°N±11°×9°7E±1°.1, h28km±8km, M4.2/6, MLv4.2/6*

*NEIC **10** 12:16:30.4±1.2, 1°.25N±0°.10×96°.95E±0°.08, h25km±4km, mb4.5/28, Error ellipse: s-maj=16.4km s-min=9.1km az=215.0*

ISC 10 12:16:30.6±0.6, 1°.29N±0°.07×96°.96E±0°.06, h28km, n81, σ1§15/75, mb4.4/23, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.61**	**89**		**Pn**	**12 16 43.3**	**-0.2**
GSI				Sg	**Sb**	**12 16 48.9**	**-2.3**
GSI	**Gunungsitoli**	**0.61**	**89**	P	**Pn**	**12 16 43.3**	**-0.2**
GSI				S	**Sn**	**12 16 53.3**	**+0.9**
TPTI		**1.97**	**6**	P	**Pn**	**12 17 00.7**	**-1.4**
RPSI	**Rantau Prapat**	**2.41**	**55**		**Pn**	**12 17 08.2**	**+0.1**
RPSI	**Rantau Prapat**	**2.41**	**55**		**Pn**	**12 17 08.3**	**+0.2**
PSI	**Prapat**	**2.47**	**53**	P	**Pn**	**12 17 08.3**	**-0.8**
	4.4nm,0.3s,baz=180,slow=6.8,SNR=24						
PSI	**Prapat**	**2.47**	**53**	P	**Pn**	**12 17 08.2**	**-0.9**
PSI				P	Pb	12 17 08.4	-6.0
MNSI	**Mandailing Nat**	**2.66**	**101**	P	**Pn**	**12 17 11.5**	**-0.2**
TSI	**Tuntungan**	**2.72**	**36**	P	**Pn**	**12 17 12.4**	**0.0**
LHMI	**Lhok Sumawe**	**3.91**	**360**	Pn	**Pn**	**12 17 28.8**	**-0.1**
LHMI	**Lhok Sumawe**	**3.91**	**360**	P	**Pn**	**12 17 27.5**	**-1.3**
PDSI	**Padang**	**4.13**	**122**	P	**Pn**	**12 17 30.7**	**-1.1**
BKNI	**Bangkinang**	**4.19**	**103**	Pn	**Pn**	**12 17 31.6**	**-1.0**
UTHA	**Uthaitani**	**14.39**	**10**	P	**P**	**12 20 02.0**	**+2.8**
	2.0nm,0.9s						
CHAI	**Chaiyaphum**	**15.34**	**19**	P	**P**	**12 20 13.0**	**+3.2**
	2.8nm,0.9s						
PHIT	**Phitsanulok**	**16.16**	**12**	P	**P**	**12 20 19.7**	**+0.9**
	384nm8.6nm,0.8s						
UBPT	**Khong Chiam**	**16.24**	**31**	P	**P**	**12 20 19.0**	**-0.8**
	12nm,1.1s						
CM05	**Chiang Mai Arr**	**17.11**	**6**	P	**P**	**12 20 32.0**	**+2.5**
	3.4nm,0.8s						
CM04	**Chiang Mai Arr**	**17.12**	**7**	P	**P**	**12 20 31.9**	**+2.4**
	68nm4.6nm,1.2s						
CM13	**Chiang Mai Arr**	**17.13**	**6**	P	**P**	**12 20 31.0**	**+1.4**
	155nm4.1nm,0.7s						
CM02	**Chiang Mai Arr**	**17.15**	**6**	P	**P**	**12 20 32.0**	**+2.2**
	5.5nm,0.9s						
CM09	**Chiang Mai Arr**	**17.16**	**7**	P	**P**	**12 20 32.0**	**+2.0**
	5.9nm,0.8s						
CM31	**Chiang Mai Arr**	**17.17**	**6**		**Pn**	**12 20 28.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.17**	**6**	P	**Pn**	**12 20 27.8**	**-0.8**
	0.5nm,0.3s,baz=198,slow=11,SNR=14						
CMAR				LR	LR	12 27 26.0	
	comp=Z,89nm,18.9s,baz=236,slow=38						
CMAR	**Chiang Mai Arr**	**17.17**	**6**	P	**Pn**	**12 20 28.4**	**-0.3**
CM36	**Chiang Mai Arr**	**17.25**	**7**	P	**P**	**12 20 32.0**	**+1.1**
PALK	**Pallekele**	**17.26**	**291**	P	**P**	**12 20 32.1**	**+0.9**
	0.2nm,0.3s,baz=159,slow=8.4,SNR=1.7						
PALK				LR	LR	12 26 33.9	
	comp=Z,84nm,18.5s,baz=229,slow=35						
CM35	**Chiang Mai Arr**	**17.41**	**7**	P	**Pn**	**12 20 32.0**	**+0.3**
CHTO	**Chiang Mai**	**17.52**	**6**	P	**Pn**	**12 20 31.8**	**-1.2**
CM34	**Chiang Mai Arr**	**17.58**	**7**	P	P	12 20 45.0	+10
NONG	**Nongkai**	**17.74**	**20**	P	**P**	**12 20 37.3**	**+0.9**
SLVN	**Son La**	**21.04**	**18**		**P**	**12 21 12.4**	**-0.1**
SLVN				IAmb	IAmb	12 21 14.4	
	comp=Z,16nm,0.8s						
TOLI2	**Tolitoli**	**23.82**	**90**	P	**P**	**12 21 40.8**	**-0.7**
TOLI2				IAmb	IAmb	12 21 42.0	
	comp=Z,8.7nm,0.7s						
SHL	**Shillong**	**24.63**	**349**	P	**P**	**12 21 48.4**	**-0.7**
H08S2	**Diego Garcia H**	**25.97**	**250**	T	T	12 49 07.6	
	baz=70,slow=76,SNR=3482						
H08S3	**Diego Garcia H**	**25.97**	**250**	T	T	12 49 07.8	
	baz=70,slow=76,SNR=2818						
H08S1	**Diego Carcia H**	**25.99**	**250**	T	T	12 49 08.9	
	baz=70,slow=76,SNR=2844						
FITZ	**Fitzroy Crossi**	**34.17**	**126**	P	**P**	**12 23 12.8**	**-0.9**
FITZ				IAmb	IAmb	12 23 14.6	
	comp=Z,10nm,1.3s						
MTN	**Manton Dam**	**36.70**	**114**	P	**P**	**12 23 34.6**	**-0.9**
H01W3	**Cape Leeuwin H**	**39.42**	**158**	T	T	13 05 50.8	
	baz=333,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**39.43**	**158**	T	T	13 05 50.0	
	baz=333,slow=76,SNR=22						
H01W1	**Cape Leeuwin H**	**39.44**	**158**	T	T	13 05 52.6	
	baz=333,slow=76,SNR=16						
WRA	**Warramunga Arr**	**42.28**	**122**	P	**P**	**12 24 22.9**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=302,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**43.64**	**127**	P	**P**	**12 24 34.3**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=298,slow=7.9,SNR=6.8						
ASAR	**Alice Springs**	**43.64**	**127**	P	**P**	**12 24 33.1**	**0.0**
AS31	**Alice Springs**	**43.64**	**127**	P	**P**	**12 24 34.6**	**+1.5**
TARG	**Taragay, Kyrgy**	**43.80**	**339**	P	**P**	**12 24 32.9**	**-1.6**
SOCY	**Socotra**	**43.95**	**286**	P	**P**	**12 24 34.7**	**-1.1**
JNU	**Nakatsue**	**44.90**	**42**	P	**P**	**12 24 43.3**	**+0.3**
JNU				IAmb	IAmb	12 25 00.8	
	comp=Z,14nm,1.3s						
KSAR	**Wonju Array Be**	**45.88**	**35**	P	**P**	**12 24 50.4**	**-0.2**
KSRS	**Korea Array**	**45.91**	**35**	P	**P**	**12 24 51.0**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=221,slow=9.0,SNR=28						
KS19	**Wonju Array Si**	**45.91**	**35**	P	**P**	**12 24 51.2**	**+0.3**
KS19				IAmb	IAmb	12 24 51.8	
	comp=Z,7.2nm,1.0s						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**12 25 00.8**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=192,slow=9.1,SNR=16						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**12 25 00.4**	**+0.4**
SONM				IAmb	IAmb	12 25 01.9	
	comp=Z,3.4nm,0.9s						
MK31	**Makanchi Array**	**47.10**	**346**	P	**P**	**12 25 00.4**	**+0.3**
MK31				IAmb	IAmb	12 25 02.4	
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**12 25 01.6**	**+1.5**
	comp=Z,2.2nm,0.5s,baz=161,slow=8.8,SNR=29						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**12 25 00.4**	**+0.3**
MAKZ	**Makanchi**	**47.19**	**346**	P	**P**	**12 25 01.8**	**+1.0**
MAKZ				IAmb	IAmb	12 25 11.7	
	comp=Z,2.4nm,0.6s						
ULN	**Ulaanbaatar**	**47.21**	**9**	P	**P**	**12 25 01.1**	**0.0**
ULN				IAmb	IAmb	12 25 22.5	
	comp=Z,5.6nm,1.4s						
JHS	**Saijyo**	**47.51**	**41**	P	**P**	**12 25 03.3**	**-0.2**
KKAR	**Karatay Array**	**47.87**	**334**	P	**P**	**12 25 06.5**	**+0.4**
JWT	**Wachi**	**49.19**	**42**	P	**P**	**12 25 16.2**	**-0.2**
JWT				IAmb	IAmb	12 25 40.1	
	comp=Z,5.7nm,0.7s						
TLY	**Talaya**	**50.53**	**5**	LR	LR	12 49 49.7	
	comp=Z,57nm,18.5s,baz=162,slow=40						
USA0B	**Ussuriysk Arra**	**52.82**	**31**	P	**P**	**12 25 44.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**52.82**	**31**	P	**P**	**12 25 44.5**	**+1.0**
	comp=Z,9.1nm,0.9s,baz=225,slow=5.4,SNR=14						
ZAA0	**Zalesovo Array**	**53.43**	**351**	P	**P**	**12 25 48.4**	**+0.5**
ZAA0				IAmb	IAmb	12 25 49.8	
	comp=Z,4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**12 25 48.9**	**+1.0**
	comp=Z,3.7nm,0.5s,baz=176,slow=6.1,SNR=14						
ZALV	**Zalesovo Beam**	**53.43**	**351**	P	**P**	**12 25 47.8**	**-0.1**
STKA	**Stephens Creek**	**53.59**	**132**	P	**P**	**12 25 51.2**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=324,slow=11,SNR=4.3						
STKA				LR	LR	12 50 59.8	
	comp=Z,54nm,19.4s,baz=354,slow=39						
BRVK	**Borovoye**	**56.15**	**341**	P	**P**	**12 26 07.6**	**0.0**
BRVK				IAmb	IAmb	12 26 09.5	
	comp=Z,1.9nm,0.6s						

ABKAR	**Akbulak array**	**57.32**	**332**	P	**P**	**12 26 14.2**	**-1.8**
ABKAR	**Akbulak array**	**57.32**	**332**	P	**P**	**12 26 13.8**	**-2.2**
ABKAR				IAmb	IAmb	12 26 26.1	
	comp=Z,3.5nm,0.9s						
PETK	**Petropavlovsk-**	**71.79**	**34**	P	**P**	**12 27 50.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=247,slow=7.4,SNR=3.1						
PETK	**Petropavlovsk-**	**71.79**	**34**	P	**P**	**12 27 50.8**	**+0.3**
PET	**Petropavlovsk**	**72.29**	**34**	P	**P**	**12 27 53.8**	**+0.3**
TIXI	**Tiksi**	**73.14**	**10**	P	**P**	**12 27 57.3**	**-0.8**
FINES	**FINESS Array B**	**79.81**	**333**	P	**P**	**12 28 37.0**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=195,slow=2.7,SNR=1.3						
ARCES	**ARCESS Array B**	**82.37**	**340**	P	**P**	**12 28 50.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=87,slow=5.0,SNR=5.5						
ARCES	**ARCESS Array B**	**82.37**	**340**	P	**P**	**12 28 50.5**	**+0.8**
ARCES				IAmb	IAmb	12 29 06.8	
	comp=Z,7.9nm,1.3s						
TXAR	**Lajitas Array**	**143.72**	**31**	PKP	**PKPdf**	**12 36 03.0**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=202,slow=0.3,SNR=3.9						
TXAR	**Lajitas Array**	**143.72**	**31**		**PKPdf**	**12 36 03.0**	**-0.9**

*IDC **10** 12:23:59.8±4.4, 35°.41N×141°.49E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/31, mbtmp3.4/4, ML2.2/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/33, Error ellipse: s-maj=129.1km s-min=28.2km az=56.0*

*JMA **10** 12:24:04.5±0.1, 35°.36N×141°.20E, h30km±2km, M3.0*

ISC 10 12:24:03.9±1.3, 35°.33N±0°.05×141°.26E±0°.09, h25km, n22, σ1§06/18, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.50**	**319**	P	**Pb**	**12 24 13.9**	**-0.2**
CHOJ				*eS*	**Sb**	**12 24 20.5**	**-0.5**
BSO1	**Boso 1**	**0.71**	**199**	P	**Pb**	**12 24 17.8**	**+0.4**
JSMT	**Sammumatsuo**	**0.73**	**295**	P	**Pb**	**12 24 18.0**	**-0.1**
KTR	**Katsuura**	**0.80**	**257**	P	**Pb**	**12 24 18.7**	**-0.4**
BSO3	**Boso 3**	**0.81**	**230**	P	**Pb**	**12 24 19.2**	**0.0**
BSO4	**Boso 4**	**0.83**	**246**	P	**Pb**	**12 24 19.4**	**-0.2**
JCN	**Nagara**	**0.87**	**276**	P	**Pn**	**12 24 20.3**	**-0.3**
JYT	**Yasato**	**1.25**	**316**	P	**Pn**	**12 24 25.1**	**-0.7**
JHO	**Hitachi**	**1.40**	**336**	P	**Pb**	**12 24 28.1**	**-1.2**
JIM2	**Oshima 3**	**1.62**	**248**	P	**Pn**	**12 24 29.3**	**-1.6**
JIM2				*eS*	**Sn**	**12 24 49.8**	**-1.3**
MJAR	**Matsushiro Arr**	**2.76**	**297**	Pn	**Pn**	**12 24 48.0**	**+1.4**
	0.4nm,0.3s,baz=108,slow=12,SNR=16						
MJAR				LR	LR	12 26 09.4	
	comp=Z,171nm,21.0s,baz=115,slow=45						
MAT	**Matsushiro**	**2.76**	**297**	P	**Pn**	**12 24 48.0**	**+1.4**
MAT				*eS*	**Sn**	**12 25 21.4**	**+2.3**
KSRS	**Korea Array**	**10.96**	**285**	LR	LR	12 31 02.9	
	comp=Z,83nm,18.3s,baz=86,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.42**	**118**	T	T	12 58 48.8	
	baz=310,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.43**	**118**	T	T	12 58 48.1	
	baz=310,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**27.44**	**118**	T	T	12 58 55.3	
	baz=310,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	12 59 39.0	
	baz=312,slow=75,SNR=114						
H11S3	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	12 59 24.1	
	baz=312,slow=75,SNR=111						
H11S2	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	12 59 35.8	
	baz=312,slow=75,SNR=130						
MKAR	**Makanchi Array**	**44.94**	**304**	P	**P**	**12 32 16.5**	**-0.3**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.5						
WRA	**Warramunga Arr**	**55.36**	**188**	P	**P**	**12 33 36.1**	**+0.3**
	1.0nm,0.6s,baz=1.9,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**59.09**	**188**	P	**P**	**12 34 02.7**	**+0.6**
	0.2nm,0.7s,baz=0.0,slow=6.1,SNR=2.2						

RSNC 10 12:33:13.5±1.0, 6°.81N×73°.13W, h147km±4km, ML3.2, Mw3.6, 5C-1D, Fault plane solution: NP1:φs48.00000°, δ88.00000°, λ-142.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**193**	*i*P	Pn	12 33 33.5	-0.3
BARC				*eS*	Sn	12 33 48.5	-0.7
BARC				*i*		12 33 49.7	
	comp=Z,369nm,0.2s						
BRRC	**Barranca, Sant**	**0.65**	**297**	*i*P	Pn	12 33 35.3	-0.1
BRRC				*eS*	Sn	12 33 51.9	-0.1
BRRC				*i*		12 33 53.5	
	comp=Z,170nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	*i*P	Pn	12 33 36.5	+0.4
PAMC				*eS*	Sn	12 33 53.1	-0.2
PAMC				*i*		12 33 55.7	
	comp=Z,457nm,0.5s						
RUSC	**La Rusia**	**0.92**	**177**	*eP*	Pn	12 33 37.6	-0.3
RUSC				*eS*	Sn	12 33 56.0	-0.5
RUSC				*i*		12 33 57.3	
	comp=Z,258nm,0.2s						
OCAC	**Ocana**	**1.43**	**353**	*eP*	Pn	12 33 41.6	-0.7
OCAC				*eS*	Sn	12 34 03.1	-1.3
OCAC				*i*		12 34 08.9	
	comp=Z,312nm,0.6s						
SPBC	**San Pablo de B**	**1.48**	**219**	*i*P	Pn	12 33 42.2	-0.6
SPBC				*eS*	Sn	12 34 04.0	-1.1
SPBC				*i*		12 34 07.1	
	comp=Z,318nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*eP*	Pn	12 33 45.8	-0.8
ZARC				*eS*	Sn	12 34 11.3	-0.7
ZARC				*i*		12 34 16.8	
	comp=Z,153nm,0.4s						
NORC	**Norcasia**	**2.13**	**234**	*eP*	Pn	12 33 49.3	-0.7
NORC				*eS*	Sn	12 34 18.0	0.0
NORC				*i*		12 34 25.4	
	comp=Z,150nm,0.2s						
SMLC	**San Martn de**	**2.18**	**335**	*eP*	Pn	12 33 49.9	-0.8
SMLC				*eS*	Sn	12 34 19.2	-0.1
SMLC				*i*		12 34 22.0	
	comp=Z,135nm,0.1s						
CHIC	**Chingaza**	**2.25**	**195**	*i*P	Pn	12 33 51.8	-0.1
CHIC				*eS*	Sn	12 34 20.7	-0.6
CHIC				*i*		12 34 24.6	
	comp=Z,123nm,0.5s						
HELC	**Santa Helena**	**2.46**	**256**	*eP*	Pn	12 33 54.9	+0.5
HELC				*eS*	Sn	12 34 24.5	-1.2
HELC				*i*		12 34 31.6	
	comp=Z,101nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**292**	*eP*	Pn	12 33 53.6	-1.6
UREC				*eS*	Sn	12 34 23.9	-3.5
UREC				*i*		12 34 36.2	
	comp=Z,102nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.72**	**235**	*eP*	Pn	12 33 57.6	-0.1
GUY2C				*eS*	Sn	12 34 32.1	+0.3
GUY2C				*i*		12 34 37.7	
	comp=Z,82nm,0.3s						
VILC	**Villavicencio,**	**2.74**	**192**	*eP*	Pn	12 33 57.3	-0.3
VILC				*eS*	Sn	12 34 31.0	-0.7
VILC				*i*		12 34 34.2	
	comp=Z,159nm,0.5s						
LL2C	**La Loma 2 Cana**	**2.74**	**354**	*eP*	Pn	12 33 57.0	-0.6
LL2C				*eS*	Sn	12 34 31.3	-0.2
LL2C				*i*		12 34 45.1	
	comp=Z,170nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.78**	**159**	*eP*	Pn	12 33 56.7	-1.3
PTGC				*eS*	Sn	12 34 29.8	-2.6
PTGC				*i*		12 34 35.0	
	comp=Z,126nm,0.3s						
RREF	**El Recreo**	**2.91**	**229**	*eP*	Pn	12 34 00.0	-0.2
RREF				*eS*	Sn	12 34 35.8	-0.4
RREF				*i*		12 34 45.8	
	comp=Z,48nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*eP*	Pn	12 34 01.5	+0.4
CBOC				*eS*	Sn	12 34 36.8	-1.0
CBOC				*i*		12 34 43.3	
	comp=Z,28nm,0.5s						
TOLC	**Tolima**	**3.10**	**225**	*eP*	Pn	12 34 02.8	+0.4
TOLC				*eS*	Sn	12 34 40.0	-0.2
TOLC				*i*		12 34 47.1	
	comp=Z,86nm,0.5s						
MOTC	**Monteria, Cord**	**3.18**	**308**	*eP*	Pn	12 34 00.6	-2.4
MOTC				*eS*	Sn	12 34 39.1	-2.3
MOTC				*i*		12 34 54.7	
	comp=Z,35nm,0.4s						
SDV	**Santo Domingo**	**3.22**	**50**	*eP*	Pn	12 34 03.2	-0.6
SDV				*eS*	Sn	12 34 41.0	-1.7
SDV				*i*		12 34 43.8	
	comp=Z,43nm,0.3s						
ANIL	**Santa Ana**	**3.23**	**225**	*eP*	Pn	12 34 04.1	+0.1
ANIL				*eS*	Sn	12 34 42.8	-0.2
PRAC	**Prado**	**3.54**	**210**	*eP*	Pn	12 34 07.5	-0.2
PRAC				*eS*	Sn	12 34 49.1	-0.7
PRAC				*i*		12 34 53.7	
	comp=Z,62nm,0.2s						
ORTC	**Ortega, Tolima**	**3.57**	**216**	*eP*	Pn	12 34 07.8	-0.3
ORTC				*eS*	Sn	12 34 50.5	0.0
ORTC				*i*		12 34 54.9	
	comp=Z,60nm,0.3s						
PLMC	**San Jos del P**	**3.66**	**239**	*eP*	Pn	12 34 08.9	-0.5
PLMC				*eS*	Sn	12 34 51.8	-0.9
PLMC				*i*		12 34 57.5	
	comp=Z,31nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**327**	*eP*	Pn	12 34 07.1	-2.4
SJCC				*eS*	Sn	12 34 48.7	-4.3
SJCC				*i*		12 34 55.9	
	comp=Z,24nm,0.6s						
YOTC	**Yotoco, Valle**	**4.26**	**229**	*eP*	Pn	12 34 16.0	-1.2
YOTC				*eS*	Sn	12 35 05.5	-1.2
YOTC				*i*		12 35 18.2	
	comp=Z,15nm,0.9s						
SMRC	**Santa Marta, M**	**4.46**	**346**	*eP*	Pn	12 34 17.7	-2.0
SMRC				*eS*	Sn	12 35 06.7	-4.6
SMRC				*i*		12 35 10.1	
	comp=Z,27nm,0.3s						
MACC	**Macarena, Meta**	**4.69**	**189**	*eP*	Pn	12 34 20.5	-2.3
MACC				*eS*	Sn	12 35 11.8	-5.1
MACC				*i*		12 35 15.7	
	comp=Z,15nm,0.5s						
MARP	**Paez Belalcaza**	**4.84**	**216**	*eP*	Pn	12 34 24.2	-0.9
MARP				*eS*	Sn	12 35 19.7	-1.1
BBAC	**Balboa, Cauca**	**6.28**	**221**	*eP*	Pn	12 34 44.4	+0.2
BBAC				*eS*	Sn	12 35 53.8	-1.4
BBAC				*i*		12 35 57.8	
	comp=Z,4.9nm,0.4s						

*NIED **10** 12:36:09.0, 39°.60N×143°.90E, h22km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.92; Mθθ0.11; Mϕϕ-1.03; Mrθ0.43; Mϕθ-0.32; Mrϕ0.25; Fault plane solution: Mo1.14000×10¹⁵ NP1:φs34.00000°, δ58.00000°, λ114.00000°. NP2:φs174.00000°, δ39.00000°, λ57.00000°.*

*JMA **10** 12:36:08.9±0.2, 39°.60N×143°.90E, h22km, M4.2*

*IDC **10** 12:36:10.7±0.7, 39°.50N×143°.59E, h0km, mb3.9/17, mb1 4.1/22, mb1mx4.0/47, mbtmp3.9/22, ML3.4/5, MS3.3/10, Ms1 3.3/10, ms1mx2.9/48, Error ellipse: s-maj=19.2km s-min=15.1km az=125.0*

*MOS **10** 12:36:12.4±1.1, 39°.57N×143°.69E, h28km, mb4.6/8, Error ellipse: s-maj=9.5km s-min=5.7km az=90.3*

*NEIC **10** 12:36:13.8±1.7, 39°.42N±0°.07×143°.7E±0°.1, h27km±5km, mb4.2/15, Error ellipse: s-maj=14.8km s-min=8.0km az=118.0*

ISC 10 12:36:10.8±0.6, 39°.54N±0°.05×143°.70E±0°.06, h11km, n111, σ1§81/97, mb4.1/28, MS3.5/7, 1C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.46**	**272**	P	**Pg**	**12 36 36.6**	**-2.1**
JTH	**Tanohata**	**1.47**	**286**	P	**Pb**	**12 36 36.5**	**-1.7**
OFUJ	**Ofunato**	**1.64**	**255**	P	**Pb**	**12 36 39.4**	**-1.7**
JKEN	**Kujiedanarisaw**	**1.67**	**294**	P	**Pb**	**12 36 39.2**	**-2.4**
JOM	**Ohasama**	**1.86**	**269**	P	**Pb**	**12 36 43.0**	**-1.9**
JANG	**Nango**	**1.88**	**297**	P	**Pb**	**12 36 42.1**	**-3.0**
JMK	**Ichinoseki**	**2.01**	**254**	P	**Pb**	**12 36 44.9**	**-2.5**
JTM	**Tenmabayashi**	**2.37**	**303**		**Pb**	**12 36 50.1**	**-3.4**
ERM	**Erimo**	**2.51**	**351**	P	**Pb**	**12 36 53.2**	**-2.7**
ERM	**Erimo**	**2.51**	**351**		**Pb**	**12 36 53.2**	**-2.7**
JYK	**Kaneyama**	**2.67**	**258**	P	**Pn**	**12 36 54.4**	**+0.7**
JOT	**Ohata**	**2.74**	**313**	P	**Pn**	**12 36 54.6**	**0.0**
JMM	**Marumori**	**2.82**	**235**	Pn	**Pn**	**12 36 55.7**	**-0.1**
JFT	**Otama**	**3.32**	**234**	P	**Pn**	**12 37 03.2**	**+0.5**
JOMM	**Oshimamatsumae**	**3.45**	**306**	P	**Pn**	**12 37 04.5**	**+0.1**
JEW	**Eniwo**	**3.71**	**333**	Pn	Pb	12 37 10.5	-5.9
NMR	**Nemuro--Hokkai**	**4.12**	**21**	*eP*	**Pn**	**12 37 13.1**	**-0.5**
NMR				*eS*	**Sn**	**12 37 58.6**	**-3.2**
JYT	**Yasato**	**4.31**	**221**	Pn	**Pn**	**12 37 16.2**	**-0.1**
GLVR	**Golovnino**	**4.41**	**17**	*eP*	**Pn**	**12 37 17.2**	**-0.5**
GLVR				*eS*	**Sn**	**12 38 07.6**	**-1.4**
GLVR				smax	smax		
	comp=N,605nm,0.4s						
GLVR				smax	smax		
	comp=E,327nm,0.4s						
JSD	**Sado**	**4.51**	**252**	Pn	**Pn**	**12 37 19.6**	**+0.6**
JKA	**Kamikawa-asahi**	**4.65**	**350**	Pn	**Pn**	**12 37 22.3**	**+1.4**
ASAJ	**Asahikawa**	**4.65**	**350**	Pn	**Pn**	**12 37 22.0**	**+1.1**
	comp=E,2.9nm,0.3s,baz=193,slow=12,SNR

MA2				IAmb	IAmb	12 41 06.8	
	comp=Z,23nm,1.0s						
SEY	**Seymchan**	**24.01**	**10**	P	**P**	**12 41 26.5**	**+1.3**
	comp=Z,3.5nm,0.7s,baz=187,slow=8.5,SNR=7.8						
YAK	**Yakutsk**	**24.10**	**344**	LR	LR	12 50 09.5	
	comp=Z,28nm,19.6s,baz=89,slow=35						
SONM	**Songino Array**	**28.00**	**300**	P	**P**	**12 42 03.2**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=110,slow=8.1,SNR=1.2						
H11N2	**WAKE ISLAND Hy**	**28.07**	**128**	T	T	13 11 31.3	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.08**	**128**	T	T	13 11 28.7	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.09**	**128**	T	T	13 11 30.4	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**28.89**	**130**	T	T	13 12 35.1	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**28.89**	**130**	T	T	13 12 34.5	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**28.91**	**130**	T	T	13 12 34.5	
	baz=322						
ENH	**Enshi**	**29.40**	**262**	P	**P**	**12 42 13.3**	**-0.8**
ENH				IAmb	IAmb	12 42 23.6	
	comp=Z,9.6nm,1.1s						
DGZ	**Jazzator, Alta**	**40.45**	**304**↓	*eP*	**P**	**12 43 51.0**	**+1.7**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAA0	**Zalesovo Array**	**41.62**	**310**	P	**P**	**12 43 59.0**	**+0.4**
ZAA0				IAmb	IAmb	12 44 02.1	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**41.62**	**310**	P	**P**	**12 43 59.6**	**+1.0**
	comp=Z,2.4nm,0.5s,baz=92,slow=7.8,SNR=5.7						
ZALV				PcP	**PcP**	**12 45 57.0**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=106,slow=3.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.62**	**310**	P	**P**	**12 43 58.9**	**+0.3**
NRIK	**Noril'sk**	**41.79**	**334**	P	**P**	**12 43 59.4**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NRIK	**Noril'sk**	**41.79**	**334**	P	**P**	**12 43 59.4**	**-0.4**
IMAR	**Indian Mountai**	**43.58**	**32**	P	P	12 44 17.7	+3.3
CMAR	**Chiang Mai Arr**	**43.88**	**255**	P	**P**	**12 44 18.6**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=42,slow=7.4,SNR=4.8						
CMAR				LR	LR	13 04 36.1	
	comp=Z,49nm,19.6s,baz=226,slow=39						
MK31	**Makanchi Array**	**44.36**	**300**	P	**P**	**12 44 21.9**	**+0.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**44.36**	**300**	P	**P**	**12 44 21.9**	**+0.9**
MKAR	**Makanchi Array**	**44.36**	**300**	P	**P**	**12 44 21.9**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=84,slow=9.8,SNR=14						
MKAR	**Makanchi Array**	**44.36**	**300**	*i* P	**P**	**12 44 21.8**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**44.36**	**300**	P	**P**	**12 44 21.6**	**+0.6**
MAKZ	**Makanchi**	**44.57**	**300**	P	**P**	**12 44 23.4**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAKZ	**Makanchi**	**44.57**	**300**	P	**P**	**12 44 23.4**	**+0.7**
MAKZ				IAmb	IAmb	12 44 28.2	
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**46.42**	**34**	P	**P**	**12 44 39.2**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=259,slow=7.4,SNR=7.5						
BMAR	**Burnt Mountain**	**47.27**	**30**	P	P	12 44 47.6	+3.9
TARG	**Taragay, Kyrgy**	**48.94**	**295**	IAmb	IAmb	12 45 04.4	
	comp=Z,2.8nm,0.8s						
BRVK	**Borovoye**	**50.30**	**311**	P	**P**	**12 45 08.7**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**50.30**	**311**	P	**P**	**12 45 08.7**	**+1.5**
INK	**Inuvik**	**51.34**	**28**	P	P	12 45 17.4	+2.8
	comp=Z,1.1nm,0.5s,baz=320,slow=7.0,SNR=7.8						
INK	**Inuvik**	**51.34**	**28**	P	**P**	**12 45 16.4**	**+1.7**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**51.34**	**28**	P	**P**	**12 45 16.4**	**+1.7**
INK				IAmb	IAmb	12 45 41.8	
	comp=Z,2.2nm,1.0s						
KKAR	**Karatay Array**	**53.45**	**299**	P	**P**	**12 45 30.1**	**-0.7**
KKAR	**Karatay Array**	**53.45**	**299**	P	**P**	**12 45 30.1**	**-0.7**
NIL	**Nilore**	**55.56**	**288**	P	**P**	**12 45 46.3**	**0.0**
NIL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NIL	**Nilore**	**55.56**	**288**	P	**P**	**12 45 46.3**	**0.0**
ARU	**Arti**	**55.70**	**318**	*d i* P	**P**	**12 45 47.9**	**+1.1**
ARU						12 47 51.6	
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**55.70**	**318**	P	**P**	**12 45 47.9**	**+1.1**
ABKAR	**Akbulak array**	**57.72**	**310**	P	**P**	**12 46 02.0**	**+0.6**
WRA	**Warramunga Arr**	**59.81**	**190**	P	**P**	**12 46 16.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=8.5,slow=6.9,SNR=3.9						
AS31	**Alice Springs**	**63.53**	**190**	P	**P**	**12 46 40.4**	**-0.8**
AS31				IAmb	IAmb	12 46 51.5	
	comp=Z,2.0nm,1.5s						
ASAR	**Alice Springs**	**63.54**	**190**	P	**P**	**12 46 42.4**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=8.9,slow=8.9,SNR=2.6						
GEYT	**Alibeck**	**64.20**	**299**	LR	LR	13 18 10.1	
	comp=Z,29nm,18.9s,baz=65,slow=39						
AFI	**Afiamalu**	**67.42**	**132**	LR	LR	13 12 43.8	
	comp=Z,98nm,20.6s,baz=166,slow=32						
FINES	**FINESS Array B**	**67.44**	**333**	P	**P**	**12 47 07.1**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=72,slow=8.9,SNR=5.5						
FINES	**FINESS Array B**	**67.44**	**333**	P	**P**	**12 47 07.3**	**+1.3**
FINES	**FINESS Array B**	**67.44**	**333**	P	**P**	**12 47 07.3**	**+1.3**
KIV	**Kislovodsk**	**70.62**	**311**	*eP*	P	12 47 28.9	+2.6
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
KIV				MLR	MLR		
	comp=Z,77nm,17.0s						
KBZ	**Khabaz**	**70.63**	**311**	P	**P**	**12 47 27.6**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=64,slow=3.3,SNR=4.7						
KBZ	**Khabaz**	**70.63**	**311**	*ce* P	P	12 47 29.0	+2.8
NVAR	**Mina Array Bea**	**72.06**	**55**	P	P	12 47 39.2	+3.9
	comp=Z,0.4nm,0.6s,baz=304,slow=6.4,SNR=1.8						
NOA	**NORSAR Array B**	**72.56**	**338**	P	**P**	**12 47 38.8**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=39,slow=4.9,SNR=2.1						
AKASG	**Malin Array Be**	**73.41**	**323**	P	**P**	**12 47 43.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.0,SNR=6.3						
PDAR	**Pinedale Array**	**74.64**	**47**	P	P	12 47 52.9	+2.5
	comp=Z,0.4nm,0.5s,baz=270,slow=1.8,SNR=5.3						
CLL	**Collm**	**79.80**	**331**	*eP*	**P**	**12 48 19.0**	**+0.1**
PPT	**Papeete**	**84.19**	**118**	LR	LR	13 17 59.7	
	comp=Z,47nm,21.6s,baz=208,slow=30						
TXAR	**Lajitas Array**	**87.18**	**54**	P	**P**	**12 48 59.2**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=299,slow=3.6,SNR=6.9						

ASRS 10 12:37:58.4±0.4, 49°N±2°×9°7E±°, h10km, MLh3.6/5, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**1.30**	**8**	Pg	Pg	12 38 24.1	+0.7
KNGR				Sg	Sg	12 38 43.3	+2.9
KZLR	**Kyzyl**	**2.98**	**324**	Pg	Pb	12 38 52.5	+0.9
KZLR				Sg	Sg	12 39 34.1	+0.1
ZAK	**Zakamensk**	**4.05**	**72**	Pg	Pb	12 39 10.5	+0.6
ZAK				Sg	Sg	12 40 06.7	-1.8
ARDR	**Aradan**	**4.06**	**325**	Pg	Pg	12 39 13.3	-2.8
ARDR				Sg	Sg	12 40 05.5	-3.2
TLY	**Talaya**	**4.72**	**58**	Sg	Sg	12 40 26.3	-3.7
TEL	**Teeli**	**4.83**	**293**	Pg	Pb	12 39 24.1	+0.9
TEL				Sg	Sg	12 40 30.1	-3.5
DJOS	**Djoyskaya Sosn**	**5.07**	**316**	Sg	Sg	12 40 36.8	-4.2
CERR	**Cheremushki**	**5.10**	**316**	Sg	Sg	12 40 39.7	-2.4
DJO	**Djoy, Khakassi**	**5.14**	**315**	Pg	Pg	12 39 33.2	-3.7
DJO				Sg	Sg	12 40 40.9	-2.6
CUR	**Chagan-Uzun**	**5.82**	**281**	Pg	Pb	12 39 43.5	+3.4
CUR				Sg	Sg	12 41 02.6	-2.5
ORY	**Orie**	**5.84**	**348**	Sg	Sg	12 41 03.6	-2.3
ULGR	**Ulagan, Altay**	**6.13**	**286**	Sg	Sg	12 41 13.6	-1.4
AKAR	**Aktash**	**6.31**	**283**	Pg	Pg	12 39 57.1	-2.0
AKAR				Sg	Sg	12 41 17.7	-3.0
CHBI	**Chibit, Altay**	**6.38**	**283**	Sg	Sg	12 41 21.0	-2.0
DGZ	**Jazzator, Alta**	**6.40**	**277**	Sg	Sg	12 41 21.0	-2.7
ULN	**Ulaanbaatar**	**6.67**	**99**	Sg	Sg	12 41 28.2	-4.2
SHRR	**Shira**	**6.78**	**323**	Sg	Sg	12 41 28.5	-7.5
TASR	**Tashtagol**	**6.83**	**304**	Sg	Sg	12 41 32.3	-5.3
SHTK	**Zheleznogorsk-**	**7.36**	**344**	Sg	Sg	12 41 46.6	-7.9

VAO 10 12:45:21.2±3.1, 16°17S×69°77W, h133km±7km, mb3.9, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.58**	**95**	*eP*	Pn	12 45 50.4	-0.7
ETMB	**Extrema**	**7.20**	**29**	*eP*	Pn	12 47 04.5	+0.6
CLDB	**Colider**	**14.57**	**71**	*eP*	Pn	12 48 40.9	-0.3
NPGB	**Novo Progresso**	**16.77**	**59**	*eP*	Pn	12 49 08.3	0.0
ITTB	**Itaituba**	**18.10**	**51**	*eP*	P	12 49 22.9	-0.1
MCPB	**Macapa, AP**	**23.50**	**50**	*eP*	P	12 50 17.7	-1.6
NBPA	**Parau_RN**	**33.64**	**76**	*eP*	P	12 51 50.8	+1.3

KRSC 10 12:54:22.5±1.6, 50°90N×157°67E, h40km±24km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.79**	**317**	*eP*	Pn	12 54 38.9	+1.9
PAU				*eS*	Sn	12 54 49.7	+2.1
KDTR	**Khodutka, Kamc**	**0.94**	**15**	*eP*	Pn	12 54 41.3	+2.1
KDTR				*eS*	Sn	12 54 53.5	+2.0
SKR	**Severo-Kuril's**	**1.01**	**258**	*eP*	Pn	12 54 41.2	+1.1
SKR				*eS*	Sn	12 54 53.4	+0.3
ALID	**Alaid**	**1.35**	**269**	*eP*	Pn	12 54 46.0	+1.1
ALID				*eS*	Sn	12 55 01.5	-0.1
MIPR	**Malaya Ipel'ka**	**1.49**	**338**	*eP*	Pn	12 54 48.5	+1.8
MIPR				*eS*	Sn	12 55 06.6	+1.6
RUS	**Russkaya**	**1.62**	**18**	*eP*	Pn	12 54 50.4	+1.9
RUS				*eS*	Sn	12 55 09.0	+0.9
GRL	**Gorelyy**	**1.67**	**8**	*eP*	Pn	12 54 52.0	+2.7
GRL				*eS*	Sn	12 55 11.6	+2.0
KRMR	**Karymshinskiy**	**1.95**	**8**	*eP*	Pn	12 54 56.3	+3.2
KRMR				*eS*	Sn	12 55 19.5	+3.2
PET	**Petropavlovsk**	**2.21**	**16**	*eP*	Pn	12 54 59.1	+2.5
PET				*eS*	Sn	12 55 24.6	+1.9
DALK	**Dalny**	**2.23**	**17**	*eP*	Pn	12 54 59.5	+2.6
DALK				*eS*	Sn	12 55 25.4	+2.1
UGLR	**Uglovaya**	**2.42**	**17**	*eP*	Pn	12 55 02.7	+3.1
AVH	**Avacha**	**2.46**	**15**	*eP*	Pn	12 55 03.5	+3.4
SMAR	**Somma**	**2.47**	**16**	*eP*	Pn	12 55 03.7	+3.4
KOK	**Koryaka**	**2.47**	**14**	*eP*	Pn	12 55 03.9	+3.7
SDLR	**Sedlovina**	**2.50**	**17**	*eP*	Pn	12 55 03.2	+2.6
KRER	**Koryakskii**	**2.50**	**15**	*eP*	Pn	12 55 04.2	+3.5
NLC	**Nalytchevo**	**2.50**	**24**	*eP*	Pn	12 55 01.9	+1.4
NLC				*eS*	Sn	12 55 29.2	-0.5
KRX	**Arik**	**2.53**	**13**	*eP*	Pn	12 55 04.7	+3.5
SPN	**Mys Shipunski**	**2.64**	**33**	*eP*	Pn	12 55 05.1	+2.7
SPN				*eS*	Sn	12 55 35.0	+1.9
GNL	**Ganaly**	**2.80**	**3**	*eP*	Pn	12 55 08.0	+3.1
MKZ	**Mys Kozlova**	**4.41**	**32**	*eP*	Pn	12 55 29.5	+2.7
KZV	**Kizimen**	**4.51**	**20**	*eP*	Pn	12 55 34.9	+6.6
TUMD	**Tumrok D**	**4.61**	**20**	*eP*	Pn	12 55 35.4	+5.8
TUMR	**Tumrok**	**4.63**	**18**	*eP*	Pn	12 55 35.1	+5.1
KMNR	**Kamenistaya**	**5.10**	**17**	*eP*	Pn	12 55 43.9	+7.5
KBTR	**Krutoberegovo**	**6.14**	**28**	*eP*	Pn	12 55 53.2	+2.7

*ANF **10** 13:05:08.7±0.5, 36°.30N×97°.53W, h4km±3km, ML4.5/19, Error ellipse: s-maj=2.7km s-min=2.2km az=3.0*
*TUL **10** 13:05:08.9±1.1, 36°.29N±0°.02×97°.52W±0°.05, h8km±1km, ML3.7, mb_Lg3.7/140(NEIC), Mwr3.4/38(NEIC), Error ellipse: s-maj=6.2km s-min=1.7km az=60.0*
*NEIC **10** 13:05:08.7, 36°.30N×97°.53W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.28; $M_{\theta\theta}$1.73; $M_{\phi\phi}$-1.46; $M_{r\theta}$0.07; $M_{r\phi}$-0.07; $M_{\theta\phi}$-0.48; Fault plane solution: $M_0$1.69000×10^{14} NP1:$\phi_1$314.58000°, δ78.18000°, λ-15.77000°. NP2:$\phi_2$47.89000°, δ74.57000°, λ-167.74000°. Principal axes: T 1.7396, Plg2.0000°, Azm2.0000°; N -0.1129, Plg70.0000°, Azm99.0000°; P -1.6267, Plg19.0000°, Azm271.0000°;*
*NEIC **10** 13:05:08.6±0.8, 36°.30N±0°.03×97°.53W±0°.05, h5km±6km Error ellipse: s-maj=7.0km s-min=1.7km az=61.0*
*IDC **10** 13:05:08.7±0.9, 36°.35N×97°.66W, h0km, mb3.6/2, mb1 3.9/8, mb1mx3.6/53, mbtmp3.6/8, ML3.4/6, Error ellipse: s-maj=13.0km s-min=9.9km az=126.0*

ISC 10 13:05:08.6±1.0, 36°.29N±0°.02×97°.53W±0°.02, h11km±8km, n148, σ1°11/131, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**300**	Pg	**Pg**	**13 05 17.2**	**+0.2**
OK029	**Liberty Lake**	**0.50**	**173**		**Pg**	**13 05 18.4**	**0.0**
OK029				Sg	**Sg**	**13 05 24.8**	**-0.2**
OK031	**S. Brethren Rd**	**0.65**	**121**		**Pg**	**13 05 21.3**	**0.0**
QUOK	**Quay**	**0.68**	**100**		**Pg**	**13 05 21.6**	**-0.2**
OK005	**Luther M Schoo**	**0.69**	**157**		**Pg**	**13 05 22.1**	**0.0**
OK030	**Cody Creek RV**	**0.71**	**121**		**Pg**	**13 05 22.2**	**0.0**
OK030				Sg	**Sg**	**13 05 31.0**	**-0.5**
OK009	**Oakdale Elemen**	**0.72**	**173**		**Pg**	**13 05 22.2**	**-0.3**
KAN13	**South Haven SW**	**0.72**	**3**		**Pg**	**13 05 22.7**	**+0.1**
KAN13				Sg	**Sg**	**13 05 31.7**	**-0.2**
OK025	**Westminster Rd**	**0.73**	**168**		**Pg**	**13 05 22.6**	**-0.1**
OK032	**Salt Plains WL**	**0.75**	**313**		**Pg**	**13 05 23.0**	**-0.1**
OK032				Sg	**Sg**	**13 05 32.5**	**-0.4**
KAN09	**Caldwell North**	**0.84**	**355**		**Pg**	**13 05 24.9**	**-0.1**
KAN09				Sg	**Sg**	**13 05 35.5**	**-0.4**
KAN05	**Bluff City Nor**	**0.86**	**341**		**Pg**	**13 05 25.1**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.89**	**175**		**Pg**	**13 05 25.4**	**-0.4**
KAN10	**Anthony SW Sta**	**0.94**	**331**		**Pg**	**13 05 26.5**	**-0.3**
KAN10				Sg	**Sg**	**13 05 39.2**	**+0.1**
KAN08	**Anthony NE Sta**	**1.00**	**339**		**Pg**	**13 05 27.6**	**-0.2**
KAN16	**Harper SW Stat**	**1.02**	**335**		**Pg**	**13 05 28.2**	**-0.2**
T35A	**Sooner Cattle**	**1.03**	**53**		**Pg**	**13 05 28.1**	**-0.3**
T35B	**Sooner Cattle**	**1.03**	**53**	P	**Pg**	**13 05 28.2**	**-0.3**
	baz=232						
T35B				S	**Sg**	**13 05 41.6**	**-0.1**
	baz=232						
T35B	**Sooner Cattle**	**1.03**	**53**	P		13 05 28.2	
	baz=232						
T35B				S		13 05 41.6	
	baz=232						
KAN12	**Harper NE Stat**	**1.07**	**340**		**Pg**	**13 05 28.9**	**-0.4**
U32A	**Winter Ranch,**	**1.19**	**275**		**Pg**	**13 05 30.8**	**-0.8**
U32A	**Winter Ranch,**	**1.19**	**275**	P	**Pg**	**13 05 31.0**	**-0.6**
	baz=94,SNR=123						
U32A				S	**Sb**	**13 05 47.6**	**+0.9**
	baz=94						
U32A	**Winter Ranch,**	**1.19**	**275**	P		13 05 31.0	
	baz=94,SNR=123						
U32A				S		13 05 47.6	
	baz=94						
TUL1	**Leonard**	**1.46**	**105**	P	**Pn**	**13 05 35.0**	**+0.1**
	baz=286						
TUL1				S	**Sb**	**13 05 55.0**	**+0.7**
	baz=286						
TUL1	**Leonard**	**1.46**	**105**	P		13 05 35.0	
	baz=286,SNR=140						
TUL1				S		13 05 54.6	
	baz=286						
TUL1	**Leonard**	**1.46**	**105**	P		13 05 35.0	
	baz=286						
TUL1				S		13 05 55.0	
	baz=286						
WMOK	**Wichita Mounta**	**1.86**	**214**		**Pn**	**13 05 41.4**	**+0.9**
WMOK	**Wichita Mounta**	**1.86**	**214**	P	**Pn**	**13 05 41.6**	**+1.1**
	baz=33,SNR=115						
WMOK				S	**Sb**	**13 06 06.4**	**+0.5**
	baz=33						
WMOK	**Wichita Mounta**	**1.86**	**214**	P		13 05 41.5	
	baz=33,SNR=236						
WMOK				S		13 06 06.2	
	baz=33						
WMOK	**Wichita Mounta**	**1.86**	**214**	P		13 05 41.6	
	baz=33,SNR=115						
WMOK				S		13 06 06.4	
	baz=33						
R32A	**Long Quarter,**	**2.32**	**336**		**Pn**	**13 05 47.7**	**+0.8**
R32A	**Long Quarter,**	**2.32**	**336**	P	**Pn**	**13 05 47.8**	**+0.9**
	baz=156						
R32A				S	**Sn**	**13 06 17.5**	**+2.0**
	baz=156						
R32A	**Long Quarter,**	**2.32**	**336**	P		13 05 47.8	
	baz=156						
R32A				S		13 06 17.5	
	baz=156						
X37A	**Clayton**	**2.45**	**133**		**Pn**	**13 05 49.4**	**+0.9**
X37A				IAmb_Lg		13 06 26.7	
	comp=Z,210nm,0.7s						
X37A	**Clayton**	**2.45**	**133**	P	**Pn**	**13 05 50.1**	**+1.5**
	baz=315,SNR=28						
X37A				Sb	**Sg**	**13 06 25.8**	**-1.5**
	baz=315						
X37A	**Clayton**	**2.45**	**133**	P		13 05 50.1	
	baz=315,SNR=28						
X37A				Sb		13 06 25.8	
	baz=315						
U38A	**Gravette**	**2.54**	**86**		**Pn**	**13 05 50.2**	**+0.4**
U38A				IAmb_Lg		13 06 29.0	
	comp=Z,214nm,0.7s						
KSU1	**Kansas State U**	**2.90**	**14**	IAmb_Lg		13 06 44.0	
	comp=Z,179nm,0.8s						
KSU1	**Kansas State U**	**2.90**	**14**	P	**Pn**	**13 05 56.5**	**+1.8**
	baz=195,SNR=17						
KSU1	**Kansas State U**	**2.90**	**14**	P		13 05 55.8	
	baz=195,SNR=21						
KSU1				Sb		13 06 39.9	
	baz=195						
KSU1	**Kansas State U**	**2.90**	**14**	P		13 05 56.5	
	baz=195,SNR=17						
HHAR	**Hobbs**	**2.90**	**89**		**Pn**	**13 05 55.7**	**+0.9**
HHAR				IAmb_Lg		13 06 43.7	
	comp=Z,163nm,0.7s						
Z35A	**Perchaven, San**	**2.96**	**176**	P	**Pn**	**13 05 57.3**	**+1.6**
	baz=356						
Z35A				S	**Sn**	**13 06 33.7**	**+2.4**
	baz=356						
Z35A	**Perchaven, San**	**2.96**	**176**	P		13 05 57.3	
	baz=356						
Z35A				S		13 06 33.7	
	baz=356						
CBKS	**Cedar Bluff**	**3.07**	**326**		**Pn**	**13 05 58.1**	**+1.0**
CBKS				IAmb_Lg		13 06 49.8	
	comp=Z,242nm,0.7s						
CBKS	**Cedar Bluff**	**3.07**	**326**	P	**Pn**	**13 05 58.4**	**+1.2**
	baz=144						
CBKS				S	**Sn**	**13 06 35.0**	**+1.2**
	baz=144						
CBKS	**Cedar Bluff**	**3.07**	**326**	P		13 05 58.3	
	baz=144,SNR=14						
CBKS				Sb		13 06 43.8	
	baz=144						
CBKS	**Cedar Bluff**	**3.07**	**326**	P		13 05 58.4	
	baz=144						
CBKS				S		13 06 35.0	
	baz=144						
W39A	**Magazine**	**3.24**	**109**	IAmb_Lg		13 06 58.7	
	comp=Z,455nm,0.7s						
W39A	**Magazine**	**3.24**	**109**	P	**Pn**	**13 06 01.4**	**+2.0**
	baz=291						
W39A				S	**Sn**	**13 06 39.9**	**+2.0**
	baz=291						
W39A	**Magazine**	**3.24**	**109**	P		13 06 00.5	
	baz=291,SNR=15						
W39A	**Magazine**	**3.24**	**109**	P		13 06 01.4	
	baz=291						
W39A				S		13 06 39.9	
	baz=291						
S39A	**Bolivar**	**3.65**	**66**		**Pn**	**13 06 05.6**	**+0.6**
S39A				IAmb_Lg		13 07 07.4	
	comp=Z,309nm,0.9s						
S39A	**Bolivar**	**3.65**	**66**	P	**Pn**	**13 06 06.2**	**+1.2**
	baz=249,SNR=19						
S39A				S	**Sn**	**13 06 49.0**	**+0.9**
	baz=249						
S39A	**Bolivar**	**3.65**	**66**	P		13 06 06.2	
	baz=249,SNR=19						
S39A				S		13 06 49.0	
	baz=249						
MIAR	**Mount Ida**	**3.67**	**117**	IAmb_Lg		13 07 09.9	
	comp=Z,120nm,0.8s						
MIAR	**Mount Ida**	**3.67**	**117**	P	**Pn**	**13 06 06.8**	**+1.4**
	baz=300,SNR=71						
MIAR	**Mount Ida**	**3.67**	**117**	P		13 06 06.9	
	baz=300,SNR=52						
MIAR				S		13 06 49.8	
	baz=300						
MIAR	**Mount Ida**	**3.67**	**117**	P		13 06 06.8	
	baz=300,SNR=71						
Z38A	**Mt. Pleasant**	**3.68**	**145**		**Pn**	**13 06 05.9**	**+0.4**
Z38A	**Mt. Pleasant**	**3.68**	**145**	P	**Pn**	**13 06 06.9**	**+1.4**
	baz=326						
Z38A	**Mt. Pleasant**	**3.68**	**145**	P		13 06 06.9	
	baz=326						
U40A	**Yellville**	**3.78**	**88**		**Pn**	**13 06 07.2**	**+0.4**
U40A	**Yellville**	**3.78**	**88**	P	**Pn**	**13 06 08.4**	**+1.6**
	baz=270,SNR=15						
U40A	**Yellville**	**3.78**	**88**	P		13 06 08.2	
	baz=270,SNR=22						
U40A				Sb		13 07 05.8	
	baz=270						
U40A	**Yellville**	**3.78**	**88**	P		13 06 08.4	
	baz=270,SNR=15						
U40A				P		13 06 08.4	
	baz=270,SNR=15						
ABTX	**Abilene, Hawle**	**4.06**	**206**	Pn	**Pn**	**13 06 11.3**	**+0.6**
ABTX				IAmb_Lg		13 07 18.7	
	comp=Z,263nm,0.9s						
ABTX	**Abilene, Hawle**	**4.06**	**206**	P		13 06 11.9	
	baz=25						
X40A	**Basin Creek Fa**	**4.24**	**114**	IAmb_Lg		13 07 24.4	
	comp=Z,196nm,0.8s						
X40A	**Basin Creek Fa**	**4.24**	**114**	P	**Pn**	**13 06 15.2**	**+2.0**
	baz=297,SNR=16						
X40A				S	**Sn**	**13 07 04.7**	**+2.0**
	baz=297						
X40A				S	**Sn**	**13 07 04.7**	**+2.0**
	baz=297						
X40A	**Basin Creek Fa**	**4.24**	**114**	P		13 06 14.8	
	baz=297,SNR=20						
X40A				S		13 07 04.5	
	baz=297						
X40A	**Basin Creek Fa**	**4.24**	**114**	P		13 06 15.2	
	baz=297,SNR=16						
X40A				P		13 06 15.2	
	baz=297,SNR=16						
X40A				S		13 07 04.7	
	baz=297						
X40A		

baz=122,SNR=7.5
MSTX Muleshoe 4.88 243 Pn 13 06 22.6 +0.4
MSTX IAmb_Lg 13 07 52.7
comp=Z,72nm,0.8s
MSTX Muleshoe 4.88 243 P 13 06 22.6
baz=60,SNR=5.9
MSTX Sb 13 07 38.6
baz=60
Z41A Richland Creek 4.93 127 P 13 06 23.5
baz=309
NATX Nacogdoches 5.11 151 IAmb_Lg 13 08 05.4
comp=Z,79nm,0.8s
BGNE Belgrade 5.13 355 Pn Pn 13 06 25.7 +0.3
BGNE IAmb_Lg 13 07 57.1
comp=Z,176nm,0.8s
BGNE Belgrade 5.13 355 P 13 06 25.8
baz=174
BGNE S 13 07 23.7
baz=174
LCAR Lake Charles 5.16 91 Pn 13 06 26.6 +0.8
LCAR IAmb_Lg 13 07 56.1
comp=Z,120nm,1.0s
T42A Van Buren 5.23 80 Pn Pn 13 06 27.2 +0.5
T42A IAmb_Lg 13 07 59.4
comp=Z,165nm,0.9s
CCAR Cane Creek 5.28 115 IAmb_Lg 13 08 02.7
comp=Z,175nm,0.8s
CCM Cathedral Cave 5.32 69 IAmb_Lg 13 07 59.1
comp=Z,167nm,0.8s
P40A Paris 5.40 52 Pn 13 06 29.6 +0.4
P40A IAmb_Lg 13 08 06.7
comp=Z,206nm,0.8s
435B Jarrell 5.50 181 Pn Pn 13 06 30.6 +0.1
435B IAmb_Lg 13 08 10.7
comp=Z,81nm,0.8s
435B Jarrell 5.50 181 P 13 06 31.2
baz=0.6
435B S 13 07 33.4
baz=0.6
T25A Trinidad 5.59 281 Pn Pn 13 06 32.4 +0.4
T25A IAmb_Lg 13 08 08.7
comp=Z,118nm,0.8s
T25A Trinidad 5.59 281 P 13 06 32.1
baz=97,SNR=13
N38A Joes South For 5.61 36 Pn 13 06 32.1 0.0
L34A Svendsen Farm, 5.74 9 Pn Pn 13 06 34.0 +0.2
L34A IAmb_Lg 13 08 15.9
comp=Z,253nm,1.0s
OGNE Ogallala 5.83 324 Pn Pn 13 06 34.2 -1.0
OGNE IAmb_Lg 13 08 17.3
comp=Z,228nm,0.7s
OGNE Ogallala 5.83 324 P 13 06 35.9
baz=141
OGNE S 13 07 40.3
baz=141
FVM French Village 5.92 71 Pn 13 06 37.0 +0.8
FVM IAmb_Lg 13 08 17.2
comp=Z,152nm,0.7s
JCT Junction City 6.10 199 P 13 06 40.0
baz=18
143A Socs Landing, 6.20 124 IAmb_Lg 13 08 29.1
comp=Z,106nm,0.8s
MET Memphis--Engin 6.29 98 IAmb_Lg 13 08 36.0
comp=Z,202nm,0.8s
SCIA State Center 6.53 30 Pn 13 06 45.0 +0.3
SCIA State Center 6.53 30 P 13 06 45.1
baz=212
SCIA S 13 07 58.6
baz=212
SDCO Great Sand Dun 6.54 285 Pn 13 06 45.6 +0.5
SDCO Great Sand Dun 6.54 285 P Pn **13 06 46.7 +1.6**
baz=100,SNR=7.4
SDCO Great Sand Dun 6.54 285 P 13 06 46.0
baz=100,SNR=25
SDCO Great Sand Dun 6.54 285 P 13 06 46.7
baz=100,SNR=7.4
Q24A Divide 6.61 296 P 13 06 46.1
baz=112
HALT Halls 6.64 91 IAmb_Lg 13 08 46.8
comp=Z,140nm,0.7s
S44A Carbondale 6.77 76 Pn 13 06 48.4 +0.5
S44A IAmb_Lg 13 08 46.4
comp=Z,205nm,0.8s
SIUC Southern Illin 6.80 75 Pn 13 06 48.8 +0.4
SIUC IAmb_Lg 13 08 44.0
comp=Z,174nm,0.8s
OXF Oxford 6.87 103 Pn 13 06 49.6 +0.4
OXF IAmb_Lg 13 08 49.1
comp=Z,82nm,0.8s
OXF Oxford 6.87 103 P 13 06 50.1
baz=287
OXF S 13 08 08.3
baz=287
W45A Hickory Valley 6.88 97 IAmb_Lg 13 08 58.6
comp=Z,124nm,0.8s
Y45A Yeager Farm, C 6.98 108 IAmb_Lg 13 09 01.8
comp=Z,71nm,0.8s
VBMS Vicksburg 7.09 123 IAmb_Lg 13 09 13.6
comp=Z,65nm,1.1s
P43A Skaggs, Pawnee 7.15 60 Pn Pn 13 06 53.6 +0.4
Q44A Meyer Farm, Va 7.24 66 Pn 13 06 55.1 +0.7
ISCO Idaho Springs 7.28 301 Pn Pn 13 06 55.8 +0.6
ISCO IAmb_Lg 13 09 11.0
comp=Z,65nm,0.8s
ISCO Idaho Springs 7.28 301 P 13 06 55.7
baz=116,SNR=5.1
ANMO Albuquerque 7.39 262 Pn Pn 13 06 58.9 +2.2
comp=Z,0.2nm,0.3s,baz=76,slow=8.3,SNR=2.7
ANMO Pg Pb 13 07 23.5 +6.4
comp=Z,1.4nm,0.3s,baz=84,slow=18,SNR=17
ANMO Lg Lg 13 08 57.2
comp=Z,3.8nm,0.3s,baz=356,slow=4.2,SNR=5.6
ANMO Albuquerque 7.39 262 P 13 06 58.2
baz=77
ECSD EROS Data Cent 7.46 5 Pn Pn 13 06 56.9 -0.6
ECSD EROS Data Cent 7.46 5 P 13 06 56.9
baz=186,SNR=16
L40A Anamosa 7.56 38 Pn Pn 13 06 58.2 -0.5
L40A IAmb_Lg 13 09 17.7
comp=Z,122nm,0.8s
HDIL Hopedale 7.74 54 Pn Pn 13 07 00.8 -0.4
HDIL Hopedale 7.74 54 P 13 07 01.8
baz=239,SNR=6.7
BNM Barren Site 7.75 257 Pn Pn 13 07 01.6 0.0
PLAL Pickwick Lake 7.81 97 IAmb_Lg 13 09 17.4
comp=Z,57nm,0.9s
WVT Waverly 7.84 88 IAmb_Lg 13 09 26.6
comp=Z,43nm,0.8s
PHWY Pilot Hill 7.96 311 Pn Pn 13 07 04.9 +0.4
PHWY IAmb_Lg 13 09 32.6
comp=Z,100nm,0.8s
MNTX Cornudas Mount 7.97 237 Pn Pn 13 07 04.5 +0.1
MNTX IAmb_Lg 13 09 24.4
comp=Z,40nm,0.7s
MNTX Cornudas Mount 7.97 237 P Pn 13 07 04.8 +0.4
baz=53,SNR=7.6
MNTX Cornudas Mount 7.97 237 P 13 07 04.5
baz=53,SNR=13
MNTX Cornudas Mount 7.97 237 P 13 07 04.8
baz=53,SNR=7.6
Y22D IRIS PASSCAL I 8.00 257 IAmb_Lg 13 09 31.3
comp=Z,139nm,0.8s
N23A Red Feather La 8.03 307 P 13 07 06.4
baz=122,SNR=7.5
833A Chaparral WMA, 8.10 192 P 13 07 08.9
baz=11
SUSD Miller 8.21 353 IAmb_Lg 13 09 36.9
comp=Z,95nm,0.8s
I37A Lemond, Waseca 8.33 21 IAmb_Lg 13 09 40.1
comp=Z,92nm,0.7s
L42A Oliver, Polo 8.35 45 Pn Pn 13 07 09.4 -0.2
T47A Sharon Grove 8.41 82 IAmb_Lg 13 09 51.5
comp=Z,136nm,1.1s
TX31 Lajitas Ar. Si 8.65 218 Pn Pn 13 07 13.4 -0.4
TX32 Lajitas Array 8.65 218 Pn Pn 13 07 13.6 -0.3
TXAR Lajitas Array 8.65 218 Pn Pn 13 07 13.3 -0.6
comp=Z,0.7nm,0.3s,baz=42,slow=12,SNR=31
TXAR Sn **Sn 13 08 47.8 -3.8**
comp=Z,1.3nm,0.3s,baz=46,slow=23,SNR=1.8
TXAR Lg Lg 13 09 32.9
comp=Z,1.9nm,0.3s,baz=36,slow=32,SNR=3.6
TXAR Lajitas Array 8.65 218 Pn Pn 13 07 14.2 +0.4
JFWS Jewell Farm 8.67 38 Pn 13 07 13.6 -0.4
JFWS Jewell Farm 8.67 38 P 13 07 13.7
baz=223,SNR=6.1
X48A Hartselle 8.76 99 IAmb_Lg 13 09 48.9
comp=Z,37nm,0.9s
M44A Midewin, Midew 8.98 53 Pn Pn 13 07 19.2 +1.0
CLTN Cedars of Leba 9.05 88 IAmb_Lg 13 10 00.5
comp=Z,36nm,0.8s
PV02 Paradox Valley 9.14 285 IAmb_Lg 13 10 12.0
comp=Z,35nm,1.3s
SFIN Lafayette 9.15 60 Pn Pn 13 07 20.1 -0.5
SFIN IAmb_Lg 13 09 55.6
comp=Z,112nm,0.7s
WCI Wyandotte Cave 9.16 74 Pn Pn 13 07 21.7 +0.9
WCI IAmb_Lg 13 10 13.9
comp=Z,72nm,0.8s
WCI Wyandotte Cave 9.16 74 P 13 07 21.7
baz=261
PV13 Radium Mtn., P 9.20 285 IAmb_Lg 13 10 12.2
comp=Z,37nm,1.0s
PV12 Saucer Basin, 9.21 286 Pn Pn 13 07 21.3 -0.3
PV12 IAmb_Lg 13 10 08.3
comp=Z,35nm,1.2s
I40A Norwalk 9.25 33 Pn Pn 13 07 22.0 0.0
I40A IAmb_Lg 13 10 02.5
comp=Z,61nm,0.9s
PV11 David Mesa, Pa 9.26 286 IAmb_Lg 13 10 16.3
comp=Z,32nm,0.9s
RWWY Rawlins 9.26 308 IAmb_Lg 13 10 12.5
comp=Z,92nm,1.0s
RSSD Black Hills 9.26 330 Pn Pn 13 07 21.6 -0.7
RSSD Black Hills 9.26 330 IAmb_Lg 13 10 08.7
comp=Z,42nm,0.7s
RSSD Black Hills 9.26 330 P 13 07 23.4
baz=145
121A Cookes Peak, D 9.27 249 IAmb_Lg 13 10 13.5
comp=Z,34nm,0.8s
PV04 Paradox Valley 9.30 286 IAmb_Lg 13 10 17.9
comp=Z,37nm,1.0s
PV20 West Nyswonger 9.34 286 IAmb_Lg 13 10 22.9
comp=Z,32nm,1.2s
K22A Casper 9.41 315 Pn Pn 13 07 24.5 +0.1
K22A IAmb_Lg 13 10 29.7
comp=Z,105nm,0.9s
Y49A Blount Mountai 9.43 102 IAmb_Lg 13 10 11.5
comp=Z,33nm,0.8s
U49A Red Boiling Sp 9.48 85 IAmb_Lg 13 10 22.1
comp=Z,49nm,1.2s
SWET Sewanee 9.49 93 IAmb_Lg 13 10 08.7
comp=Z,33nm,0.7s
F33A 5 Mile Ranch, 9.58 5 Pn Pn 13 07 24.6 -1.9
SPMN Marine on St. 9.61 20 Pn Pn 13 07 26.6 -0.3
SPMN IAmb_Lg 13 10 30.1
comp=Z,41nm,0.8s
FPAL Fort Paine 9.88 97 Pn Pn 13 07 31.0 +0.3
FPAL IAmb_Lg 13 10 28.3
comp=Z,28nm,0.8s
W50A Signal Mountai 9.99 93 IAmb_Lg 13 10 37.7
comp=Z,55nm,0.9s
F36A Milaca 10.02 16 Pn Pn 13 07 30.1 -2.4
P48A Milroy 10.08 68 Pn Pn 13 07 32.9 -0.4
N47A Urbana 10.33 60 Pn Pn 13 07 35.5 -1.3
E28A Huff 10.54 348 Pn Pn 13 07 40.4 +0.7
TKL Tuckaleechee C 11.17 89 Pn Pn 13 07 51.1 +2.9
comp=Z,0.2nm,0.3s,baz=253,slow=13,SNR=2.0
TKL Lg Lg 13 10 54.8
comp=Z,2.4nm,0.3s,baz=12,slow=17,SNR=6.1
S51A Beattyville 11.23 79 Pn Pn 13 07 49.4 +0.2
PDAR Pinedale Array 11.31 309 Pn Pn 13 07 50.1 -0.3
comp=Z,0.1nm,0.3s,baz=123,slow=15,SNR=2.7
PDAR Lg Lg 13 10 57.5
comp=Z,0.5nm,0.3s,baz=121,slow=30,SNR=2.4
ULM Lac du Bonnet 14.00 4 Pn Pn 13 08 22.2 -4.6
comp=Z,0.4nm,0.3s,baz=192,slow=14,SNR=2.2
ULM Sn Sn 13 10 49.3 -13
comp=Z,0.8nm,0.3s,baz=93,slow=21,SNR=3.4
ULM Lg Lg 13 12 20.8
comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=2.5
SADO Sadowa 16.32 53 Sn **Sn 13 11 53.0 -5.6**
comp=Z,0.5nm,0.3s,baz=274,slow=14,SNR=1.4
SADO Lg Lg 13 13 34.4
comp=Z,0.5nm,0.3s,baz=337,slow=22,SNR=6.1
NVAR Mina Array Bea 16.65 284 Pn **Pn 13 09 04.2 +1.9**
comp=Z,0.0nm,0.3s,baz=99,slow=12,SNR=8.4
YBH Yreka Blue Hor 20.27 293 P **P 13 09 44.2 -0.1**
comp=Z,3.1nm,0.9s,baz=112,slow=16,SNR=2.1
ILAR Eielson Array 40.71 330 P **P 13 12 50.0 +1.0**
comp=Z,0.8nm,0.7s,baz=110,slow=7.7,SNR=10.0

*NEIC **10** 13:05:48.2±1.6,23.7°S±0.1×175.72°W±0.10,h35km±2km, mb4.7/15, Error ellipse: s-maj=23.8km s-min=15.1km az=1.0*
*IDC **10** 13:05:51.3±4.6,23.60°S×175.98°W,h58km±38km,mb4.4/6, mb1 4.4/8,mb1mx3.8/42,mbtmp4.6/8,ML5.6/1,MS3.1/2, Ms1 3.1/2,ms1mx2.7/28, Error ellipse: s-maj=51.9km s-min=28.3km az=165.0*
ISC 10 13:05:48.6±0.7,23.6S±0.1×175.92W±0.09,h33km,n41, σ1s56/35,mb4.7/11,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.17**	**52**	Pn	**Pn**	**13 07 29.3**	**-2.0**
MSVF	**Nonsavu**	**8.12**	**315**	P	**Pn**	**13 07 47.3**	**+2.9**
	2.5nm,0.3s,baz=132,slow=12,SNR=11						
MSVF	**Nonsavu**	**8.12**	**315**		**Pn**	**13 07 45.6**	**+1.3**
AFI	**Afiamalu**	**10.41**	**23**	P	Pn	13 08 10.0	-5.8
	1.2nm,0.3s,baz=234,slow=16,SNR=1.7						
AFI				S	Sn	13 09 49.5	-22
	1.8nm,0.3s,baz=359,slow=23,SNR=1.9						
RAR	**Rarotonga**	**15.12**	**84**	P	**Pn**	**13 09 20.9**	**+1.0**
	1.7nm,0.3s,baz=266,slow=10,SNR=9.2						
RAR				S	Sn	13 11 53.4	-13
	0.8nm,0.3s,baz=171,slow=17,SNR=1.6						
RAR				LR	LR	13 13 45.8	
	comp=Z,83nm,20.6s,baz=186,slow=31						
RAR	**Rarotonga**	**15.12**	**84**	P	**Pn**	**13 09 21.9**	**+2.0**
URZ	**Urewera**	**15.78**	**201**	S	**Sn**	**13 12 20.0**	**-2.1**
	0.3nm,0.3s,baz=304,slow=23,SNR=1.0						
DZM	**Mont Dzumac**	**16.33**	**272**	P	**P**	**13 09 40.1**	**+1.8**
	0.2nm,0.3s,baz=45,slow=18,SNR=1.6						
DZM	**Mont Dzumac**	**16.33**	**272**	P	**P**	**13 09 39.2**	**+0.9**
HNR	**Honiara**	**27.03**	**297**	LR	LR	13 21 03.4	
	comp=Z,36nm,18.7s,baz=70,slow=34						
EIDS	**Eidsvold**	**30.04**	**260**	P	**P**	**13 11 54.9**	**+0.1**
EIDS				IAmb	IAmb	13 12 18.8	
	comp=Z,25nm,1.4s						
CTA	**Charters Tower**	**35.22**	**268**	P	**P**	**13 12 40.1**	**0.0**
	comp=Z,12nm,0.5s,baz=93,slow=11,SNR=30						
CTAO	**Charters Tower**	**35.22**	**268**	P	**P**	**13 12 40.0**	**-0.1**
PMG	**Port Moresby**	**37.98**	**286**	P	**P**	**13 13 02.1**	**-1.6**
	comp=Z,9.2nm,0.6s,baz=130,slow=22,SNR=2.0						
PMG	**Port Moresby**	**37.98**	**286**	P	**P**	**13 13 02.3**	**-1.3**
PMG				IAmb	IAmb	13 13 11.8	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**38.30**	**248**	P	**P**	**13 13 06.6**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=99,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**38.30**	**248**	P	**P**	**13 13 06.8**	**+0.5**
PATS	**Pohnpei**	**39.36**	**317**	P	**P**	**13 13 15.2**	**0.0**
BBOO	**Buckleboo**	**43.00**	**247**	P	**P**	**13 13 44.5**	**-0.6**
BBOO				IAmb	IAmb	13 13 51.9	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**45.77**	**259**	P	**P**	**13 14 06.1**	**-1.3**
AS31				IAmb	IAmb	13 14 08.5	
	comp=Z,1.9nm,0.4s						
ASAR	**Alice Springs**	**45.77**	**259**	P	**P**	**13 14 06.5**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=98,slow=6.7,SNR=57						
ASAR				PcP	**PcP**	**13 15 45.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=111,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**45.77**	**259**	P	**P**	**13 14 06.0**	**-1.3**
WRAB	**Tennant Creek**	**46.15**	**265**	P	**P**	**13 14 08.9**	**-1.4**
WRA	**Warramunga Arr**	**46.16**	**265**	P	**P**	**13 14 08.9**	**-1.5**
	comp=Z,6.4nm,0.4s,baz=104,slow=8.5,SNR=157						
WRA				PcP	**PcP**	**13 15 45.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=100,slow=2.8,SNR=2.1						
FORT	**Forrest**	**49.91**	**249**	P	**P**	**13 14 38.2**	**-1.1**
MTN	**Manton Dam**	**51.17**	**272**	P	**P**	**13 14 47.2**	**-1.8**
KNRA	**Kununurra**	**52.43**	**268**	P	**P**	**13 14 56.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**54.58**	**264**	P	**P**	**13 15 13.4**	**-0.7**
PSA00	**Pilbara Seismi**	**58.89**	**258**	P	**P**	**13 15 42.4**	**-2.3**
PSA00				IAmb	IAmb	13 15 48.3	
	comp=Z,7.3nm,1.4s						
MORW	**Morawa**	**60.48**	**249**	P	**P**	**13 15 56.0**	**+0.4**
CASY	**Casey**	**62.02**	**206**	P	**P**	**13 16 10.0**	**+4.7**
CASY				IAmb	IAmb	13 16 20.2	
	comp=Z,3.7nm,1.0s						
H03S2	**Juan Fernandez**	**82.66**	**124**	T	T	14 49 56.1	
	baz=245,slow=74,SNR=66						
H03S1	**Juan Fernandez**	**82.67**	**124**	T	T	14 49 57.2	
	baz=245,slow=74,SNR=91						
H03S3	**Juan Fernandez**	**82.68**	**124**	T	T	14 49 56.0	
	baz=245,slow=74,SNR=87						
H03N2	**Juan Fernandez**	**82.81**	**123**	T	T	14 50 04.6	
	baz=250,slow=72,SNR=48						
H03N3	**Juan Fernandez**	**82.81**	**123**	T	T	14 50 06.9	
	baz=250,slow=72,SNR=59						
H03N1	**Juan Fernandez**	**82.83**	**123**	T	T	14 50 05.0	
	baz=250,slow=72,SNR=67						
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P	**P**	**13 18 59.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=108,slow=2.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P	**P**	**13 18 58.4**	**-0.7**
AKASG	**Malin Array Be**	**146.65**	**331**	PKPbc	**PKPdf**	**13 25 24.8**	**-0.3**
	comp=Z,0.7nm,0.2s,baz=45,slow=4.0,SNR=4.9						
BRTR	**Keskin Array B**	**150.32**	**310**	PKPbc	**PKPbc**	**13 25 36.0**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=158,slow=4.2,SNR=2.5						

IDC 10 13:07:18.6±2.2,10.38N×92.85E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.5/41,mbtmp3.6/5,MS3.1/1,Ms1 3.1/1, ms1mx2.5/35,Error ellipse: s-maj=74.8km s-min=24.6km az=65.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.97**	**36**	Pn	Pn	13 09 43.4	+0.1
	baz=224,slow=11,SNR=6.4						
H08S3	**Diego Garcia H**	**27.03**	**229**	T	T	13 40 02.7	
	baz=48,slow=74						
H08S2	**Diego Garcia H**	**27.04**	**229**	T	T	13 40 03.2	
	baz=48,slow=74						
H08S1	**Diego Carcia H**	**27.05**	**229**	T	T	13 39 56.8	
	baz=48						
MKAR	**Makanchi Array**	**37.39**	**348**	P	P	13 14 33.5	+0.3
	0.2nm,0.4s,baz=164,slow=10.0,SNR=3.1						
MKAR				LR	LR	13 34 27.2	
	comp=Z,25nm,18.4s,baz=167,slow=44						
ZALV	**Zalesovo Beam**	**43.93**	**353**	P	P	13 15 26.6	-0.5
	0.9nm,0.3s,baz=177,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**50.76**	**126**	P	P	13 16 20.8	-0.1
	0.9nm,0.4s,baz=308,slow=8.3,SNR=9.4						
ASAR	**Alice Springs**	**52.50**	**131**	P	P	13 16 33.9	0.0
	0.2nm,0.4s,baz=302,slow=7.8,SNR=2.1						

*ANF **10** 13:14:28.9±0.4,56.63N×156.78W,h74km±10km,ML4.0/9, ML4.0/8,Error ellipse: s-maj=7.3km s-min=4.2km az=152.0,Hypocentre not reviewed by the ISC*
*NEIC **10** 13:14:28.8±1.7,56.56N±0.08×156.71W±0.08,h73km±7km, Error ellipse: s-maj=11.7km s-min=5.4km az=161.0*
*IDC **10** 13:14:28.1±3.6,56.75N×156.86W,h66km±31km,mb3.5/10, mb1 3.8/13,mb1mx3.5/55,mbtmp3.9/13,ML4.4/3,MS2.4/1, Ms1 2.4/1,ms1mx2.1/35,Error ellipse: s-maj=38.8km s-min=19.1km az=4.0*
*AEIC **10** 13:14:30.3±2.2,56.50N±0.08×156.69W±0.08,h71km±6km, ML3.7/120,mb4.1/6(NEIC),ML3.9/18(NEIC),Error ellipse: s-maj=11.5km s-min=5.5km az=162.0*
ISC 10 13:14:28.7±0.9,56.60N±0.07×156.79W±0.04,h74km±9km, n167,σ1s00/168,mb3.9/11,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNSG	**Veniaminof 6**	**1.37**	**250**		**Pn**	**13 14 52.8**	**+0.8**
VNSG					Sn	13 15 11.0	+1.4
VNHG	**Veniaminof 1**	**1.38**	**255**		**Pn**	**13 14 53.4**	**+1.2**
SII	**Sitkinak Islan**	**1.44**	**91**		**Pn**	**13 14 53.3**	**+0.3**
SII					**Sn**	**13 15 11.0**	**-0.3**
SII	**Sitkinak Islan**	**1.44**	**91**	IAML		13 15 12.4	
	comp=N,2μm,0.6s						
SII	**Sitkinak Islan**	**1.44**	**91**	P		13 14 53.3	
	baz=268,SNR=7.8						
SII				S		13 15 11.3	
	baz=268						
VNFG	**Fog Glacier, M**	**1.57**	**259**		**Pn**	**13 14 55.9**	**+1.1**
OHAK	**Old Harbor**	**2.02**	**71**		**Pn**	**13 15 00.9**	**+0.3**
OHAK					**Sn**	**13 15 23.5**	**-1.3**
OHAK	**Old Harbor**	**2.02**	**71**	IAML		13 15 24.1	
	comp=E,468nm,0.3s						
OHAK				IAML		13 15 25.0	
	comp=N,568nm,0.6s						
OHAK	**Old Harbor**	**2.02**	**71**	P		13 15 00.8	
	baz=250,SNR=30						
OHAK				S		13 15 23.6	
	baz=250						
SDPT	**Sand Point**	**2.43**	**240**		**Pn**	**13 15 06.3**	**+0.3**
SDPT					**Sn**	**13 15 35.1**	**+0.4**
SDPT	**Sand Point**	**2.43**	**240**	P		13 15 06.3	
	baz=60						
KDAK	**Kodiak Island**	**2.58**	**61**	P	**Pn**	**13 15 08.3**	**+0.3**
	comp=N,70nm,0.3s,baz=193,slow=4.3,SNR=5612						
KDAK				S	**Sn**	**13 15 36.8**	**-1.5**
	comp=N,28nm,0.3s,baz=213,slow=9.7,SNR=5.3						
KDAK				LR	LR	13 16 24.1	
	comp=N,79nm,20.0s,baz=246,slow=46						
KDAK	**Kodiak Island**	**2.58**	**61**		**Pn**	**13 15 08.4**	**+0.3**
KDAK					**Sn**	**13 15 37.2**	**-1.1**
KDAK	**Kodiak Island**	**2.58**	**61**	IAML		13 15 38.3	
	comp=N,773nm,0.3s						
KDAK				IAML		13 15 38.6	
	comp=N,434nm,0.4s						
KDAK	**Kodiak Island**	**2.58**	**61**	P		13 15 08.5	
	baz=242						
KDAK				S		13 15 36.9	
	baz=242						
PS1A	**Pavlof South-1**	**3.02**	**249**		**Pn**	**13 15 15.3**	**+1.1**
PVV	**Pavlof Volcano**	**3.07**	**248**		**Pn**	**13 15 15.5**	**+0.7**
PS4A	**Pavlof South-4**	**3.12**	**248**		**Pn**	**13 15 16.2**	**+0.8**
HAG	**Hague Volcano**	**3.15**	**248**		**Pn**	**13 15 16.7**	**+0.8**
AUW	**Augustine West**	**3.29**	**31**		**Pn**	**13 15 19.5**	**+1.8**
AUH	**Augustine H**	**3.29**	**31**		**Pn**	**13 15 19.7**	**+1.8**
AUP	**Augustine Pinn**	**3.30**	**32**		**Pn**	**13 15 19.8**	**+1.8**
DT1	**Dutton Round H**	**3.44**	**246**		**Pn**	**13 15 20.0**	**+0.1**
OPT	**Oil Point**	**3.59**	**30**		**Pn**	**13 15 23.6**	**+1.7**
ILS	**Iliamna Low So**	**3.89**	**29**		**Pn**	**13 15 27.6**	**+1.5**
HOM	**Homer**	**4.10**	**40**		**Pn**	**13 15 30.0**	**+1.2**
HOM					**Sn**	**13 16 16.1**	**+0.6**
HOM	**Homer**	**4.10**	**40**	IAML		13 16 38.4	
	comp=E,228nm,1.5s						
HOM	**Homer**	**4.10**	**40**	P		13 15 30.0	
	baz=222						
HOM				S		13 16 15.9	
	baz=222						
FALS	**False Pass**	**4.14**	**248**		**Pn**	**13 15 29.8**	**+0.5**
FALS	**False Pass**	**4.14**	**248**	P		13 15 29.5	
	baz=64						
CNPM	**China Poot**	**4.16**	**43**		**Pn**	**13 15 30.2**	**+0.6**
CNPM					**Sn**	**13 16 16.3**	**-0.6**
CNPM	**China Poot**	**4.16**	**43**	IAML		13 16 17.4	
	comp=N,133nm,0.7s						
CNPM				IAML		13 16 20.3	
	comp=E,111nm,1.7s						
RED	**Redoubt Volcan**	**4.37**	**27**		**Pn**	**13 15 34.1**	**+1.6**
RSO	**Redoubt South**	**4.41**	**27**		**Pn**	**13 15 34.8**	**+1.6**
BRLK	**Bradley Lake**	**4.45**	**42**		**Pn**	**13 15 33.7**	**+0.1**
BRLK	**Bradley Lake**	**4.45**	**42**	IAML		13 16 21.9	
	comp=E,94nm,0.7s						
BRLK				IAML		13 16 22.1	
	comp=N,133nm,0.7s						
NCT	**North Crescent**	**4.45**	**25**		**Pn**	**13 15 35.2**	**+1.5**
NCT					**Sn**	**13 16 25.7**	**+1.4**
SSLN	**Shishaldin Nor**	**4.46**	**249**		**Pn**	**13 15 34.6**	**+0.9**
BRSE	**Bradley Lake S**	**4.49**	**43**		**Pn**	**13 15 34.4**	**+0.3**
BRSE	**Bradley Lake S**	**4.49**	**43**	P		13 15 34.4	
	baz=227,SNR=11						
SSLS	**Shishaldin Sou**	**4.50**	**248**		**Pn**	**13 15 34.8**	**+0.4**
DFR	**Drift River**	**4.54**	**26**		**Pn**	**13 15 36.2**	**+1.3**
SVW2	**Sparrevohn**	**4.55**	**7**		**Pn**	**13 15 36.1**	**+1.1**
WESP	**Westdahl Peak**	**4.98**	**248**		**Pn**	**13 15 41.4**	**+0.5**
CAPN	**Captain Cook N**	**5.11**	**33**	Pn	**Pn**	**13 15 44.9**	**+2.4**
CKL	**Chakachamna La**	**5.15**	**25**		**Pn**	**13 15 44.8**	**+1.6**
SPCR	**Spurr Chakacha**	**5.18**	**25**	P		13 15 44.4	
	baz=208						
SLKM	**Skilak Lake**	**5.21**	**39**		**Pn**	**13 15 44.0**	**+0.1**
SEW	**Seward**	**5.22**	**45**		**Pn**	**13 15 43.5**	**-0.5**
SEW	**Seward**	**5.22**	**45**	P		13 15 43.4	
	baz=230						
SPCP	**Crater Peak Br**	**5.25**	**25**		**Pn**	**13 15 45.6**	**+0.9**
SPCG	**Spurr Capps Gl**	**5.31**	**26**		**Pn**	**13 15 46.9**	**+1.5**
O22K	**Cooper Landing**	**5.37**	**41**		**Pn**	**13 15 46.0**	**0.0**
O22K	**Cooper Landing**	**5.37**	**41**	P		13 15 45.8	
	baz=225						
STLK	**Strandline Lak**	**5.53**	**25**		**Pn**	**13 15 49.8**	**+1.4**
AKSA	**Akutan Strait**	**5.65**	**248**		**Pn**	**13 15 50.9**	**+0.9**
AKUT	**Akutan**	**5.69**	**248**	Pn	**Pn**	**13 15 50.5**	**0.0**

SUA	Susitna One	5.79	30			Pn	13 15 52.6	+0.7	
SUA	Susitna One	5.79	30	P			13 15 52.7		
	baz=214,SNR=6.2								
RC01	Rabbit Creek A	5.80	36			Pn	13 15 52.0	+0.1	
RC01	Rabbit Creek A	5.80	36	P			13 15 52.0		
	baz=221								
AKRB	Akutan Reef Bi	5.84	249			Pn	13 15 53.3	+0.7	
SKT	Skwentna	6.03	24			Pn	13 15 56.0	+0.9	
SKT	Skwentna	6.03	24	P			13 15 55.7		
	baz=208								
PWL	Port Wells	6.13	42			Pn	13 15 56.1	-0.4	
Q23K	Middleton Isla	6.23	59			Pn	13 15 58.0	+0.2	
Q23K	Middleton Isla	6.23	59	P			13 15 58.2		
	baz=246								
MID	Middleton Isla	6.23	59			Pn	13 15 58.0	+0.2	
MTBL	Makushin Table	6.24	249			Pn	13 15 58.8	+0.7	
MSW	Makushin Switc	6.32	249			Pn	13 15 59.0	-0.1	
TT01	Tatalina	6.34	3			Pn	13 16 00.8	+1.5	
TTA	Tatalina	6.36	3			Pn	13 16 00.9	+1.3	
TTA	Tatalina	6.36	3	P			13 16 00.9		
	baz=183								
PMR	Palmer	6.37	35			Pn	13 15 59.8	+0.1	
PMR	Palmer	6.37	35	P			13 15 59.7		
	baz=221								
MAPS	Pakushin South	6.45	249			Pn	13 16 01.4	+0.4	
KNK	Knik Glacier	6.46	38			Pn	13 16 01.2	+0.2	
KNK	Knik Glacier	6.46	38	P			13 16 00.7		
	baz=224								
GHO	Glory Hole Cre	6.57	35			Pn	13 16 02.5	-0.1	
HIN	Hinchinbrook I	6.59	51	Pn		Pn	13 16 02.6	-0.3	
GLI	Glacier Island	6.62	46			Pn	13 16 02.0	-1.1	
GLI	Glacier Island	6.62	46	P			13 16 02.1		
	baz=233								
CUT	Chulitna	6.70	27			Pn	13 16 04.8	+0.6	
CUT	Chulitna	6.70	27	P			13 16 04.9		
	baz=212								
PPLA	Purkeypile	6.72	18			Pn	13 16 06.6	+1.9	
PPLA	Purkeypile	6.72	18	P			13 16 07.2		
	baz=202								
SML	Sawmill	6.78	36			Pn	13 16 05.9	+0.4	
SML	Sawmill	6.78	36	P			13 16 05.3		
	baz=223								
FID	Port Fidalgo	6.79	48			Pn	13 16 04.0	-1.6	
JPK	Jack Peak	6.92	46			Pn	13 16 06.2	-1.1	
EYAK	Cordova Ski Ar	6.99	51			Pn	13 16 08.0	-0.3	
EYAK	Cordova Ski Ar	6.99	51	P			13 16 08.0		
	baz=239								
SCM	Sheep Creek Mo	7.14	39			Pn	13 16 10.5	+0.2	
DIV	Divide	7.29	47			Pn	13 16 11.9	-0.5	
KLU	Klutina	7.44	44			Pn	13 16 14.6	+0.2	
KLU	Klutina	7.44	44	P			13 16 14.2		
	baz=233,SNR=13								
WAT6	Susitna Watana	7.54	34			Pn	13 16 15.0	-1.0	
WAT6	Susitna Watana	7.54	34	P			13 16 15.0		
	baz=221								
HMT	Hamilton	7.55	55	Pn		Pn	13 16 15.8	-0.1	
KTH	Kantishna Hill	7.56	20			Pn	13 16 16.2	+0.1	
TRF	Thorofare Moun	7.60	23			Pn	13 16 16.6	-0.1	
TRF	Thorofare Moun	7.60	23	P			13 16 16.3		
	baz=208								
WAT2	Susitna Watana	7.60	30			Pn	13 16 15.7	-0.9	
WAT2	Susitna Watana	7.60	30	P			13 16 15.7		
	baz=216								
SUCK	Suckling Hills	7.68	58	Pn		Pn	13 16 18.7	+1.1	
BMRM	Bremner River	7.69	50			Pn	13 16 17.3	-0.5	
BMRM	Bremner River	7.69	50	P			13 16 17.0		
	baz=240								
M24K	Tolsona, Glenn	7.73	40			Pn	13 16 18.3	-0.1	
M24K	Tolsona, Glenn	7.73	40	P			13 16 18.2		
	baz=228								
PS12	TAPS Pump St12	7.73	46			Pn	13 16 18.2	-0.2	
NIKH	Nikolski High	7.87	248	Pn		Pn	13 16 19.4	-0.8	
RND	Reindeer	7.89	27			Pn	13 16 20.0	-0.6	
N25K	Chitina, Valde	8.02	46			Pn	13 16 22.5	+0.1	
N25K	Chitina, Valde	8.03	46	P			13 16 22.3		
	baz=236								
BPAW	Bear Paw Mtn.	8.05	18			Pn	13 16 22.8	+0.1	
BPAW	Bear Paw Mtn.	8.05	18	P			13 16 22.7		
	baz=203,SNR=6.6								
KHIT	Khitrov Hills	8.06	56			Pn	13 16 22.7	-0.2	
MCK	McKinley	8.15	25			Pn	13 16 23.8	-0.2	
MCK	McKinley	8.15	25	P			13 16 23.7		
	baz=212								
KULT	Kultieth River	8.23	58			Pn	13 16 24.9	-0.3	
CRQM	Cirque	8.23	54			Pn	13 16 24.9	-0.5	
CRQE	Cirque	8.25	54	P			13 16 25.1		
	baz=245								
GLB	Gilahina Butte	8.26	49			Pn	13 16 25.5	-0.1	
HARP	HAARP	8.28	41			Pn	13 16 26.1	+0.3	
HARP	HAARP	8.28	41	P			13 16 25.8		
	baz=230								
VRDI	Verde Repeater	8.30	51			Pn	13 16 26.1	-0.2	
TGL	Tana Glacier	8.37	54			Pn	13 16 26.6	-0.6	
BWN	Browne	8.41	22	Pn		Pn	13 16 28.6	+1.0	
PAX	Paxson	8.55	37			Pn	13 16 29.9	+0.3	
PAX	Paxson	8.55	37	P			13 16 29.9		
	baz=226,SNR=6.5								
MCARA	McCarthy VSAT	8.56	50			Pn	13 16 29.7	+0.1	
MCARA	McCarthy VSAT	8.56	50	P			13 16 29.6		
	baz=241								
MESA	MESA	8.57	59	Pn		Pn	13 16 30.7	+0.7	
MESA	MESA	8.57	59	P			13 16 28.0		
	baz=251								
BALM	Baldy	8.70	53			Pn	13 16 31.4	-0.3	
PTPK	Patty Peak	8.71	52			Pn	13 16 31.7	-0.3	
YAH	Yahtse	8.73	58			Pn	13 16 31.9	-0.2	
GRNC	Granite Creek	8.85	56			Pn	13 16 33.6	-0.2	
NEA2	Nenana	8.86	22			Pn	13 16 32.6	-1.1	
NEA2	Nenana	8.86	22	P			13 16 32.6		
	baz=208,SNR=13								
RKAV	Rock Avalanche	8.90	59			Pn	13 16 34.3	-0.1	
MLY	Manley	8.95	17			Pn	13 16 34.5	-0.5	
MLY	Manley	8.95	17	P			13 16 34.1		
	baz=201								
WRH	Wood River Hil	8.97	25			Pn	13 16 33.5	-1.7	
BARN	Barnard Glacie	9.02	54			Pn	13 16 35.7	-0.4	
TABL	Table Mountain	9.04	58			Pn	13 16 36.7	+0.3	
CTG	Chitna Glacier	9.13	55	P			13 16 37.5		
	baz=247								
CTGM	Chitina Glacie	9.13	55			Pn	13 16 37.7	+0.1	
CCB	Clear Creek Bu	9.19	25			Pn	13 16 36.3	-1.8	
HDA	Harding Lake	9.20	28			Pn	13 16 37.0	-1.4	
HDA	Harding Lake	9.20	28	P			13 16 37.0		
	baz=216,SNR=9.2								
HDA				P			13 16 37.0		
	baz=216,SNR=9.2								
H21K	Melozitna Rive	9.29	10			Pn	13 16 40.4	+0.9	
H21K	Melozitna Rive	9.29	10	P			13 16 40.6		
	baz=193,SNR=14								
I23K	Minto, Yukon-K	9.30	20			Pn	13 16 38.9	-0.8	
I23K	Minto, Yukon-K	9.30	20	P			13 16 38.7		
	baz=206,SNR=14								
PS08	TAPS Pump Stn8	9.34	27			Pn	13 16 38.7	-1.5	
MDM	Murphy Dome	9.36	23			Pn	13 16 39.3	-1.3	
PCA	Pinnacle	9.36	61			Pn	13 16 40.5	-0.2	
PINM	Pinnacle	9.36	61	P			13 16 40.7		
	baz=254								
TCOL	CIGO, UAF Yank	9.37	24	Pn		Pn	13 16 40.1	-0.4	
TCOL	CIGO, UAF Yank	9.37	24	P			13 16 39.4		
	baz=211								
COLA	College	9.37	24			Pn	13 16 39.5	-1.1	
COLA	College	9.37	24	P			13 16 39.3		
	baz=211								
DOT	Dot Lake	9.48	37	Pn		Pn	13 16 42.2	0.0	
IL31		9.51	26			Pn	13 16 40.6	-1.9	
ILAR	Eielson Array	9.51	26	P		Pn	13 16 40.4	-2.2	
	comp=N,1.2nm,0.3s,baz=216,slow=14,SNR=40								
ILAR				S		Sn	13 18 18.4	-9.3	
	comp=N,0.7nm,0.3s,baz=213,slow=24,SNR=7.0								
IM03		9.53	8			Pn	13 16 43.0	+0.2	
IMAR	Indian Mountai	9.53	8	Pn		Pn	13 16 43.6	+0.8	
BCPM	Bancas Point	9.63	62	Pn		Pn	13 16 44.8	+0.5	
POKR	Poker Plat Res	9.67	24			Pn	13 16 43.6	-1.2	
POKR	Poker Plat Res	9.67	24	P			13 16 43.4		
	baz=212								
YUK2	White River	9.68	51			Pn	13 16 45.0	0.0	
PNL	Peninsula	9.69	64			Pn	13 16 44.8	-0.3	
SCRK	Sand Creek	9.73	35			Pn	13 16 44.6	-1.1	
SCRK	Sand Creek	9.73	35	P			13 16 44.5		
	baz=226								
YUK3	Moose Creek	9.84	51			Pn	13 16 48.1	+0.9	
H23K	Yukon River	9.88	18			Pn	13 16 46.5	-1.2	
H23K	Yukon River	9.88	18	P			13 16 46.6		
	baz=204,SNR=6.8								
L27K	Beaver Creek,	9.91	43			Pn	13 16 48.1	0.0	
L27K	Beaver Creek,	9.91	43	P			13 16 48.3		
	baz=235								
BC03		9.93	43			Pn	13 16 47.8	-0.4	
BCAR	Beaver Creek A	9.93	43	Pn		Pn	13 16 48.4	0.0	
H24K	Noodor Dome	10.20	21	P			13 16 50.3		
	baz=208								
K27K	Chicken	10.40	38	Pn		Pn	13 16 54.6	-0.1	
HYT	Haines Junctio	10.87	59	Pn		Pn	13 17 02.1	+0.9	
ATKA	Atka Island	11.05	254	Pn		Pn	13 17 02.3	-1.4	
COLD	Coldfoot	11.10	13	Pn		Pn	13 17 03.1	-1.0	
EGAK	Eagle	11.18	37	Pn		Pn	13 17 04.5	-0.8	
DAWY	Dawson	11.38	42	Pn		Pn	13 17 08.1	+0.1	
FYU	Fort Yukon	11.38	24	Pn		Pn	13 17 06.3	-1.8	
SIT	Sitka	11.76	79	Pn		Pn	13 17 11.8	-1.4	
WHY	Whitehorse	12.09	61			Pn	13 17 18.4	+0.5	
WHY	Whitehorse	12.09	61	P			13 17 18.1		
	baz=260								
JIS	Juneau Island	12.17	73	Pn		Pn	13 17 19.2	+0.4	
BMAR	Burnt Mountain	12.25	23	Pn		Pn	13 17 16.9	-3.0	
ADK	Adak	12.54	256	Pn		Pn	13 17 22.6	-1.3	
KIWB	Kanaga Island	12.81	257	Pn		Pn	13 17 26.9	-0.6	
CRAG	Craig	13.26	85	Pn		Pn	13 17 32.5	-1.1	
WRAK	Wrangell Islan	13.48	81	Pn		Pn	13 17 37.4	+1.0	
EPYK	Eagle Plains	13.62	36	Pn		Pn	13 17 39.1	+0.7	
INK	Inuvik	15.77	33	P		Pn	13 18 06.0	0.0	
	comp=N,2.4nm,0.3s,baz=211,slow=13,SNR=41								
INK	Inuvik	15.77	33	Pn		Pn	13 18 06.0	0.0	
INK				IAmb		IAmb	13 18 10.5		
	comp=Z,9.2nm,0.5s								
INK	Inuvik	15.77	33	P			13 18 05.7		
	baz=233								
C36M	Paulatuk	19.26	36	P		P	13 18 46.9	+0.2	
C36M				IAmb		IAmb	13 19 01.1		
	comp=Z,15nm,1.4s								
C36M	Paulatuk	19.26	36	P			13 18 46.1		
	baz=245								
YKA	Yellowknife Ar	21.84	57	P		P	13 19 14.8	+0.1	
	comp=Z,0.5nm,0.3s,baz=264,slow=7.7,SNR=16								
PETK	Petropavlovsk-	26.06	282	P		P	13 19 54.0	-0.8	
	comp=Z,0.5nm,0.4s,baz=78,slow=9.7,SNR=1.8								
FXWY	Fox Creek	31.45	95	P		P	13 20 44.4	+1.2	
EUNU	Eureka	31.48	18	P		P	13 20 47.1	+4.3	
EUNU				IAmb		IAmb	13 21 13.2		
	comp=Z,4.4nm,1.4s								
KLR	Kul'dur	41.89	291	P		P	13 22 10.4	-0.9	
	comp=Z,1.4nm,0.7s,baz=12,slow=9.3,SNR=3.5								
TXAR	Lajitas Array	45.90	103	P		P	13 22 44.5	+0.7	
	comp=Z,0.4nm,0.7s,baz=318,slow=5.2,SNR=5.0								
NRIK	Noril'sk	46.06	334	P		P	13 22 43.3	-1.1	
	comp=Z,1.5nm,0.5s,baz=76,slow=4.2,SNR=3.6								
NRIK	Noril'sk	46.06	334	IAmb		IAmb	13 22 44.0		
	comp=Z,3.1nm,0.6s								
KSRS	Korea Array	51.96	282	P		P	13 23 29.8	-0.1	
	comp=Z,0.8nm,0.9s,baz=41,slow=6.9,SNR=4.9								
SONM	Songino Array	55.15	305	P		P	13 23 53.3	+0.1	
	comp=Z,1.0nm,0.6s,baz=48,slow=6.8,SNR=6.2								
SONM	Songino Array	55.15	305	IAmb		IAmb	13 23 54.0		
	comp=Z,1.1nm,0.8s								
AKTO	Aktyubinsk	69.50	337	P		P	13 25 27.9	-1.0	
	comp=Z,0.9nm,0.5s,baz=21,slow=8.6,SNR=2.8								
ABKAR	Akbulak array	70.18	335	P		P	13 25 32.0	-1.0	
CMAR	Chiang Mai Arr	82.37	292	P		P	13 26 41.4	-1.1	
	comp=Z,1.0nm,0.5s,baz=13,slow=5.4,SNR=6.6								
BRTR	Keskin Array B	83.63	352	P		P	13 26 48.6	-0.3	
	comp=Z,0.4nm,0.4s,baz=358,slow=2.9,SNR=2.4								

*NNC **10** 13:14:47.9±2.5, 38°.84N×69°.96E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=19.0km s-min=12.8km az=5.0*
*KRNET **10** 13:14:47.8±0.1, 38°.92N×70°.50E, mb3.4*
ISC 10 13:14:50.0±1.9, 39°.01N±0°.10×70°.48E±0°.06, h17km, n11, σ25.91/21, 17C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.08	14	⇑*i*P	Pb	13 15 09.7	-0.6
BTK	baz=12			⇑*i*S	Sg	13 15 25.9	+0.9
DRK	Karamyk	1.13	65	⇑*i*P	Pb	13 15 09.7	-1.6
DRK	baz=61			⇑*i*S	Sg	13 15 25.8	-0.9
SFK	Sufi-Kurgan	2.55	66	⇓*i*P	Pn	13 15 32.7	+2.0
SFK	baz=64			⇓*i*S	Sb	13 16 04.8	-1.7
TRKS	Terek-Say	2.57	11	⇑*i*P	Pn	13 15 32.6	+1.6
TRKS	baz=11			⇑*i*S	Sn	13 16 05.3	+3.4
MNAS	Manas	3.80	23	⇑*e*P	Pn	13 15 50.6	+2.7
MNAS	baz=23			⇑*i*S	Sn	13 16 36.4	+4.2
AML	Almayashu	3.96	37	⇑*e*P	Pn	13 15 52.7	+2.3
AML	baz=36			⇑*i*S	Sn	13 16 40.3	+3.6
KK31	Karatay Array	4.09	0	⇑Pn	Pn	13 15 55.3	+3.5
KK31	1.4nm,0.3s,baz=184,slow=11,SNR=30			⇑Sn	Sb	13 16 46.4	-4.2
KK31	7.8nm,0.5s			⇓Lg	Lg	13 17 02.4	
AAK	6.9nm,0.3s,baz=181,slow=28,SNR=7.1 Ala-Archa	4.73	39	⇑Pn	Pn	13 16 06.9	+6.2
AAK	8.0nm,0.6s			⇓Sn	Sb	13 17 06.8	-2.6
TKM2	7.4nm,0.6s Tokmak 2	5.50	43	⇑Pn	Pn	13 16 14.6	+3.3
TKM2	7.0nm,0.5s			⇓Sn	Sb	13 17 26.4	-5.1
AB31	6.9nm,0.8s Akbulak array	12.72	327	Pn	Pn	13 17 48.1	-1.9
AB31	0.6nm,0.5s,baz=135,slow=14,SNR=26			⇑Sn	Sn	13 20 10.0	-1.1
AKTO	1.5nm,0.5s,baz=152,slow=23,SNR=9.4 Aktyubinsk	14.43	326	⇑Pn	Pn	13 18 13.1	-0.2
AKTO	2.0nm,0.6s			⇑Sn	Sn	13 20 50.5	-2.3
	2.9nm,0.8s						

NNC 10 13:23:52.5±0.3, 50°.02N×78°.77E, h0km, mb3.8, mpv3.6, 16C-11D, Error ellipse: s-maj=6.1km s-min=1.6km az=79.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.59	344	⇑P	Pg	13 24 04.0	+0.2
KUR07				⇑S	Sg	13 24 12.6	+1.2
KUR06	Kurchatov Arra	0.61	345	⇑P	Pg	13 24 04.3	+0.1
KUR06				⇑S	Sg	13 24 13.1	+1.1
KUR14	Kurchatov Arra	0.61	349	⇑P	Pg	13 24 04.2	0.0
KUR14				⇓S	Sg	13 24 12.9	+0.9
KUR15	Kurchatov Arra	0.62	348	⇑P	Pg	13 24 04.3	0.0
KUR15				⇓S	Sg	13 24 13.6	+1.3
KURBB	Kurchatov Arra	0.62	346	⇑P	Pg	13 24 04.6	+0.1
KURBB	51nm,0.3s			⇑S	Sg	13 24 13.6	+1.0
KUR16	98nm,0.4s Kurchatov Arra	0.64	344	⇑P	Pg	13 24 04.7	0.0
KUR16				⇓S	Sg	13 24 14.0	+1.1
KUR05	Kurchatov Arra	0.64	347	⇑P	Pg	13 24 04.8	0.0
KUR05				⇑S	Sg	13 24 13.8	+0.6
KUR17	Kurchatov Arra	0.65	343	⇓P	Pg	13 24 05.0	+0.1
KUR17				⇓S	Sg	13 24 14.4	+1.2
MAKZ	Makanchi	3.86	145	⇑Pg	Pb	13 25 02.0	+0.6
MAKZ	2.6nm,0.5s			⇓Lg	Lg	13 25 52.9	
MK31	11nm,0.7s Makanchi Array	3.99	143	⇓Pn	Pn	13 24 56.7	+1.9
MK31	0.3nm,0.2s,baz=324,slow=10,SNR=57			⇑Pg	Pb	13 25 04.2	+0.6
MK31	1.8nm,0.3s,baz=319,slow=14,SNR=25			⇑Lg	Lg	13 25 58.0	
OTUK	2.4nm,0.3s,baz=325,slow=27,SNR=17 Ortayu	4.58	250	⇓Pn	Pn	13 25 03.5	+0.5
OTUK	3.5nm,0.5s			⇓Pg	Pb	13 25 16.1	+2.4
OTUK	1.4nm,0.4s			⇓Lg	Lg	13 26 17.0	
DJR	3.5nm,0.4s Jarkent	5.73	173	Pg	Pb	13 25 37.5	+4.1
DJR				Lg	Lg	13 26 52.4	
ARXS	Arharly	5.84	187	Pg	Pb	13 25 38.6	+3.4
ARXS	3.6nm,0.4s			Lg	Lg	13 26 55.2	
BRVK	30nm,0.7s Borovoye	6.11	303	⇑Pn	Pn	13 25 25.6	+1.7
BRVK	1.8nm,0.5s			⇑Sn	Sn	13 26 34.9	+0.4
BRVK	2.5nm,0.5s			⇓Lg	Lg	13 27 05.9	
KUU	1.2nm,0.5s Kurty	6.35	196	Pg	Pb	13 25 48.1	+4.3
KUU	0.8nm,0.1s			Lg	Lg	13 27 10.7	
KTBS	8.9nm,0.5s Karatobe	6.47	194	Pg	Pg	13 25 52.4	-4.0
KTBS	1.3nm,0.3s			Lg	Lg	13 27 19.5	
PDGK	29nm,0.6s Podgornoye	6.71	175	Pg	Pg	13 25 55.7	-5.2
PDGK	0.7nm,0.4s			Lg	Lg	13 27 24.5	
UZB	6.3nm,0.6s Uzynbulak	6.87	178	Pg	Pg	13 26 00.3	-3.8
UZB	1.1nm,0.1s			Lg	Lg	13 27 31.7	
SHLS	6.8nm,0.9s Shalkode	6.88	176	Pg	Pg	13 26 01.5	-2.8
SHLS	12nm,0.3s			Lg	Lg	13 27 33.9	
SATY	14nm,0.5s Saty	6.96	182	Pg	Pg	13 26 01.7	-4.1
SATY	1.7nm,0.2s			Lg	Lg	13 27 34.0	
MTBS	9.1nm,0.7s Maitube	7.08	194	Pg	Pg	13 26 03.1	-4.9
MTBS	2.0nm,0.1s			Lg	Lg	13 27 36.2	
KST	10nm,0.5s Kastek	7.24	197	Pg	Pb	13 26 04.5	+5.5
KST	1.2nm,0.3s			Lg	Lg	13 27 39.3	
	5.6nm,0.9s						

DJA 10 13:30:49.5±1.0, 8°S±38°×11°9E±1°1, h267km±28km, M3.6/7, mb3.7/1, MLv3.5/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.94	233	P	Pn	13 31 33.3	+0.4
PLAI				S	S	13 32 07.8	+0.5
WBSI	Waikabubak, Su	1.97	179	P	Pn	13 31 32.8	-0.4
TWSI	Taliwang, Sumb	2.67	246	P	Pn	13 31 39.4	-0.2
BASI	Baing, Sumba	2.82	155	P	Pn	13 31 41.5	+0.3
KHKI	Kahang-Kahang	3.77	259	P	Pn	13 31 51.7	+0.2
BATI	Baumata	4.96	121	P	Pn	13 32 05.5	+0.1
SOEI	Soe	5.29	114	P	Pn	13 32 09.3	-0.2

*IDC **10** 13:32:22.3±2.4, 4°.05S×127°.87E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.5/29, mbtmp3.8/3, ML2.8/1, Error ellipse: s-maj=200.0km s-min=30.5km az=67.0*
*DJA **10** 13:32:24.6±0.8, 4°S±7°×12°9E±°, h11km±5km, M3.0/7, MLv3.0/7*
ISC 10 13:32:22.7±1.0, 3°.64S±0°.08×128°.86E±0°.07, h10km, n8, σ0.79/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.30	14	P	Pb	13 32 30.1	-0.1
MSAI				S	Sb	13 32 35.5	+0.3
KRAI	Karang Ratu	0.56	304	P	Pn	13 32 37.5	+0.7
NLAI	Namlea	1.80	283	P	Pg	13 32 57.3	0.0
FAKI	Fak Fak	3.46	78	P	Pn	13 33 18.1	+1.4
SIJI	Sorong	3.65	41	P	Pn	13 33 18.7	-0.7
WRA	Warramunga Arr	17.07	162	P	Pn	13 36 20.8	-0.8
	0.0nm,0.3s,baz=340,slow=12,SNR=1.7						
ASAR	Alice Springs	20.50	167	P	P	13 37 00.9	-0.2
	0.4nm,0.5s,baz=345,slow=10,SNR=11						
MKAR	Makanchi Array	64.81	327	P	P	13 43 01.7	-0.1
	0.2nm,0.4s,baz=116,slow=8.3,SNR=2.9						

*NEIC **10** 13:42:27.4±1.7, 24°.46S±0°.06×66°.97W±0°.08, h156km±5km, mb4.7/264, Md4.3(SJA), Error ellipse: s-maj=11.2km s-min=8.2km az=81.0*
*SJA **10** 13:42:28.1±0.5, 24°.50S×67°.15W, h189km±4km, ML4.5, MW4.2*
*IDC **10** 13:42:28.2±1.0, 24°.37S×66°.89W, h164km±8km, mb4.2/13, mb1 4.3/19, mb1mx4.3/27, mbtmp4.6/19, MS3.1/1, Ms1 3.2/1, ms1mx2.8/32, Error ellipse: s-maj=12.5km s-min=9.9km az=42.0*
*GUC **10** 13:42:30.2±0.6, 24°.42S×67°.43W, h208km±9km, ML4.7*
*VAO **10** 13:42:31.0±0.3, 24°.40S×66°.85W, h192km, mb4.7*
ISC 10 13:42:28.1±0.6, 24°.47S±0°.03×67°.14W±0°.04, h169km±5km, n465, σ1.37/508, mb4.6/137, 38C-68D, Fault plane solution: NP1:ϕ1=163.58696°, δ54.74713°, λ-80.67162°. NP2:ϕ2=327.70081°, δ36.31112°, λ-102.91637°. Principal axes: T Plg9.3035°, Azm246.9173°; N Plg7.6064°, Azm338.1709°; P Plg77.9397°, Azm106.8553°;
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.51	100	⇑*i*P	Pn	13 43 01.8	+2.4
SLA				*i* S	Sn	13 43 26.1	+2.5
SLA	San Lorenzo	1.51	100	*e*P	Pn	13 43 01.9	+2.4
SLA				*e*S	Sn	13 43 27.0	+3.4
SLA				IAML		13 43 29.1	
	comp=Z,2μm,0.7s						
FSA	Cafayete	1.94	148	*e*P	Pn	13 43 06.0	+2.0
FSA				*e*S	Sn	13 43 33.4	+1.6
GO02	Mina Guanaco	2.33	252	⇑*i*P	Pn	13 43 10.5	+1.9
GO02				*i* S	Sn	13 43 42.1	+2.2
GO02				IAML		13 43 43.5	
	comp=E,5μm,0.6s						
GO02	Mina Guanaco	2.33	252		Pn	13 43 10.4	+1.9
LVC	Limon Verde	2.46	318	P	Pn	13 43 12.1	+2.0
	comp=E,56nm,0.3s,baz=156,slow=8.0,SNR=607						
LVC				S	Sn	13 43 43.6	+0.9
	comp=E,148nm,0.3s,baz=270,slow=20,SNR=72						
LVC	Limon Verde	2.46	318	*e*P	Pn	13 43 12.1	+2.0
LVC				*i* S	Sn	13 43 44.2	+1.5
LVC	Limon Verde	2.46	318	*e*P	Pn	13 43 12.2	+2.0
LVC				*e*S	Sn

PB09 *i* S Sn 13 44 01.4 +0.9
PB09 IPOC Station P 3.29 324 Pn 13 43 22.1 +2.0
PB04 IPOC Station P 3.49 307⇑ *i*P Pn 13 43 23.7 +1.2
PB04 *i* S Sn 13 44 03.6 -1.3
PB04 IPOC Station P 3.49 307 Pn 13 43 23.3 +0.7
AC01 Pan de Azucar 3.55 241 Pn Pn 13 43 23.4 +0.3
PB07 IPOC Station P 3.72 317⇑ *i*P Pn 13 43 26.6 +1.1
PB07 *i* S Sn 13 44 08.6 -1.7
PB07 IPOC Station P 3.72 317 Pn 13 43 26.3 +0.8
PB01 IPOC Station P 4.04 327 *i*P Pn 13 43 30.1 +0.5
PB01 *i* S Sn 13 44 16.1 -1.4
PB01 IPOC Station P 4.04 327 Pn 13 43 30.0 +0.5
CYA Choya 4.13 163 *e*P Pn 13 43 32.1 +1.5
CYA *e*S Sn 13 44 21.5 +2.0
GO03 Copiap 4.18 221⇑ *i*P Pn 13 43 30.9 -0.3
GO03 *i* S Sn 13 44 18.6 -1.9
GO03 Copiap 4.18 221 Pn 13 43 30.8 -0.4
GO03 Copiap 4.18 221 *e*P Pn 13 43 32.0 +0.8
GO03 *e*S Sn 13 44 19.6 -0.9
VCA Vinchina 4.36 192 *e*P Pn 13 43 36.2 +2.6
VCA *e*S Sn 13 44 28.7 +3.8
PATCX Punta Patache 4.58 322⇑ *e*P Pn 13 43 36.4 -0.1
PATCX *i* S Sn 13 44 20.9 -8.9
PATCX Punta Patache 4.58 322 Pn 13 43 36.2 -0.2
PB08 IPOC Station P 4.69 336 *e*P Pn 13 43 39.4 +1.1
PB08 *i* S Sn 13 44 28.3 -4.8
PB08 IPOC Station P 4.69 336 Pn Pn 13 43 39.2 +0.9
TA01 Diego Aracena 4.80 324 *e*P Pn 13 43 39.4 +0.1
TA01 Diego Aracena 4.80 324 Pn Pn 13 43 39.2 0.0
ACLC CERRO LA CRUZ 4.94 178 *e*P Pn 13 43 41.9 +0.7
ACLC IAML 13 44 40.8
comp=Z,128nm,0.6s
TA02 Huaiquique 5.01 326 Pn 13 43 42.5 +0.4
AC04 Llanos de Chal 5.13 223 Pn Pn 13 43 42.6 -0.9
AGUA GUANDACOL 5.14 193 *e*P Pn 13 43 45.0 +1.2
AGUA *e*S Sn 13 44 44.7 +1.5
AGUA IAML 13 44 48.6
comp=Z,196nm,0.4s
PB11 IPOC Station P 5.24 333 Pn Pn 13 43 44.2 -1.0
PSGCX Pisagua 5.58 330 Pn Pn 13 43 48.2 -1.4
MNMC Minye Minye 5.78 336 Pn 13 43 51.5 -1.0
ACDV Cuesta del Vie 5.95 197 *e*P Pn 13 43 55.5 +1.1
ACDV *e*S Sn 13 45 03.8 +1.6
ACDV IAML 13 45 14.1
comp=Z,85nm,0.8s
AROD Rodeo 6.04 200 *e*P Pn 13 43 56.9 +1.1
AROD *e*S Sn 13 45 04.4 -0.4
AVFE Valle Fertil 6.17 183 *e*P Pn 13 43 57.4 +0.1
AVFE *e*S Sn 13 45 04.8 -2.7
AVFE IAML 13 45 10.2
comp=Z,95nm,0.3s
ACCO Cerro Coronel 6.33 195 *e*P Pn 13 44 00.6 +1.0
ACCO *e*S Sn 13 45 11.1 -0.5
ACCO IAML 13 45 17.3
comp=Z,88nm,0.8s
PB16 IPOC Station P 6.49 340 Pn 13 44 01.9 -0.2
GO04 Tololo Observa 6.55 209 Pn Pn 13 44 00.2 -2.2
GO04 Tololo Observa 6.55 209 *e*P Pn 13 44 00.6 -1.8
GO04 *e*P Pn 13 44 01.2 -1.2
GO04 *e*S Sn 13 45 14.4 -2.2
ACHE Chepes 6.68 176 *e*P Pn 13 44 03.8 -0.3
ACHE *e*S Sn 13 45 17.2 -2.4
RTLL Cerro Villicun 6.94 190 *e*P Pn 13 44 07.6 +0.2
RTLL *e*S Sn 13 45 21.7 -3.9
RTLL IAML 13 45 29.3
comp=Z,76nm,0.4s
CO03 El Pedregal 7.08 206 Pn 13 44 07.3 -2.1
ZON Zonda 7.18 191 Pn Pn 13 44 09.2 -1.4
RTCV Cerro Valdivia 7.47 189 *e*P Pn 13 44 14.4 0.0
RTCV *e*S Sn 13 45 35.6 -2.7
RTCV IAML 13 45 43.0
comp=Z,24nm,0.5s
RTLS Leoncito 7.55 194 *e*P Pn 13 44 16.3 +0.6
RTLS IAML 13 45 44.9
comp=Z,57nm,0.4s
ACAN Cantantal 7.78 180 *e*S Sn 13 45 40.6 -5.0
ACAN IAML 13 45 44.4
comp=Z,95nm,0.4s
MRA San Martin 8.02 171 *e*P Pn 13 44 20.2 -1.5
MRA IAML 13 46 04.0
comp=Z,85nm,0.4s
LPAZ La Paz 8.19 353 P Pn 13 44 25.4 +0.7
comp=Z,7.3nm,0.3s,baz=153,slow=6.0,SNR=91
LPAZ S Sn 13 45 55.7 -0.9
comp=Z,0.5nm,0.3s,baz=74,slow=20,SNR=6.4
LPAZ LR LR 13 48 14.6
comp=Z,118nm,18.1s,baz=266,slow=43
LPAZ La Paz 8.19 353 Pn Pn 13 44 25.2 +0.6
LPAZ La Paz 8.19 353 *e*P Pn 13 44 25.5 +0.9
ASAL Salagasta 8.23 190 *e*P Pn 13 44 24.4 -0.1
ASAL *e*S Sn 13 45 54.4 -2.1
ASAL IAML 13 46 21.3
comp=Z,24nm,0.5s
AAGR Agrelo 8.71 189 *e*P Pn 13 44 30.9 0.0
AAGR IAML 13 46 43.5
comp=Z,27nm,1.6s
VA03 San Esteban 8.79 199 Pn 13 44 32.2 +0.2
CPUP Villa Florida 9.06 104 P Pn 13 44 33.2 -2.3
comp=Z,2.3nm,0.3s,baz=284,slow=11,SNR=54
CPUP Villa Florida 9.06 104 Pn Pn 13 44 33.5 -2.0
CPUP Villa Florida 9.06 104 *e*P Pn 13 44 33.3 -2.2
MT02 Curacav 9.43 201 Pn Pn 13 44 36.8 -3.5
MT09 Talagante 9.86 199 Pn 13 44 42.7 -3.4
MT01 Popeta 10.03 200 Pn 13 44 45.2 -2.9
SIV San Ignacio 10.17 35 P Pn 13 44 48.0 -2.3
comp=Z,6.9nm,0.3s,baz=224,slow=12,SNR=107
SIV S Sn 13 46 28.8 -14
comp=Z,1.0nm,0.3s,baz=231,slow=16,SNR=5.8
RFA San Rafael 10.33 186 *e*P Pn 13 44 51.0 -1.2
ITQB Itaqui 10.71 121 Pn Pn 13 44 55.1 -1.9
ITQB Itaqui 10.71 121 *e*P Pn 13 44 56.2 -0.8
BO02 Sierra Bellavi 10.76 196 Pn Pn 13 44 56.5 -1.3
AQDB Aquidauana 11.30 72 Pn Pn 13 45 03.1 -1.7
AQDB Aquidauana 11.30 72 *e*P Pn 13 45 02.9 -1.9
GO05 Huala 11.30 200 Pn Pn 13 45 03.2 -1.5
PTLB Pontes e Lacer 11.71 41 *e*P Pn 13 45 08.8 -1.4
VILB Vilhena 13.20 31 *e*P Pn 13 45 29.3 0.0
PP1B Ponte de Pedra 13.32 61 *e*P Pn 13 45 29.2 -1.6
TRCB Terra Rica 13.40 86 P P 13 45 35.4 +0.1
CPSB Cacapava Do Su 13.52 119 *e*P Pn 13 45 32.0 -1.2
SALV Santo Antonio 13.71 54 *e*P Pn 13 45 33.8 -1.9
PTCB Pitanga 13.72 94 *e*P Pn 13 45 34.9 -0.9
ITAB Concordia 13.79 105 Pn Pn 13 45 35.2 -1.4
ITAB Concordia 13.79 105 *e*P Pn 13 45 35.6 -1.0
PLTB Pedras Altas 13.97 124 Pn Pn 13 45 37.4 -1.4
PLTB Pedras Altas 13.97 124 *e*P Pn 13 45 37.5 -1.4
ETMB Extrema 14.60 4 *e*P Pn 13 45 46.1 -0.7
PCMB Pacaembu 14.89 82 *e*P Pn 13 45 48.7 -1.7
FRTB Fartura 16.11 90 *e*P Pn 13 46 03.8 -1.6
ITRB Iturama 16.25 76 *e*P P 13 46 05.9 -1.1
PLCA Paso Flores 16.47 189 P Pn 13 46 10.0 +0.5
comp=Z,1.2nm,0.3s,baz=8.7,slow=13,SNR=15
PLCA PcP PcP 13 50 51.6 +1.1
comp=Z,0.2nm,0.3s,baz=37,slow=4.8,SNR=4.2
PLCA Paso Flores 16.47 189 P 13 46 09.4 +0.2
PLCA IAmb IAmb 13 46 18.7
comp=Z,27nm,0.7s
PLCA Paso Flores 16.47 189 *e*P Pn 13 46 10.5 +0.9
TIJ01 Guaruva-PR 16.48 97 *e*P P 13 46 08.2 -1.3
TER01 Tubaro-SC 16.62 108 *e*P P 13 46 10.4 -0.5
ARAG Araguaiana, MT 16.82 62 *e*P P 13 46 13.1 -0.1
LL03 Petrohue 17.20 194 P P 13 46 16.6 -0.5
CLDB Colider 17.29 41 *e*P P 13 46 16.9 -1.5
CZSB Cruzeiro do Su 17.48 341 *e*P Pn 13 46 26.2 +4.4
BB19B Bebedouro 17.49 83 *e*P P 13 46 19.6 -1.0
LL05 Los Muermos 17.70 196 P P 13 46 21.9 -0.6
SPB Sao Paulo 18.02 91 P P 13 46 24.7 -1.6
SPB IAmb IAmb 13 46 29.3
comp=Z,33nm,0.9s
SPB Sao Paulo 18.02 91 *e*P P 13 46 25.8 -0.5
PET01 Itanhaem-SP 18.10 94 *e*P P 13 46 26.6 -0.6
RCLB Rio Claro- Sao 18.11 88 *e*P P 13 46 26.6 -0.7
LL01 San Ignacio de 18.39 192 P P 13 46 29.8 -0.3
VAO Valinhos 18.53 90 *e*P P 13 46 31.3 -0.6
IPMB Ipameri, GO 18.78 74 *e*P P 13 46 33.9 -0.7
LL07 Hotel Espejo d 19.05 194 P P 13 46 36.8 -0.5
SNDB Serra Nova Dou 19.49 53 *e*P P 13 46 40.9 -1.4
PARB Paraibuna 19.70 91 *e*P P 13 46 43.5 -1.1
BDFB Brasilia 19.98 67 P P 13 46 46.7 -0.9
comp=Z,6.6nm,0.3s,baz=242,slow=11,SNR=40
BDFB Brasilia 19.98 67 P P 13 46 46.1 -1.5
NPGB Novo Progresso 20.68 35 *e*P P 13 46 52.2 -2.8

ESAR Angra dos Reis 20.83 91 *e*P P 13 46 55.4 -1.1
PEXB Peixe 21.67 59 *e*P P 13 47 03.2 -2.4
VAS01 Vassouras-RJ 21.86 89 *e*P P 13 47 06.1 -1.4
ITTB Itaituba 22.80 31 *e*P P 13 47 14.6 -1.9
DUB01 Friburgo-RJ 22.87 89 *e*P P 13 47 15.5 -1.6
MC01 Montes Claros 23.02 75 *e*P P 13 47 16.3 -2.2
JANB Januaria 23.40 71 *e*P P 13 47 20.2 -1.8
CAM01 Campos-RJ 23.57 89 *e*P P 13 47 22.6 -0.8
SDBA SAO DESIDERIO 24.22 64 *e*P P 13 47 27.9 -1.6
SMTB Santa Maria do 24.27 54 *e*P P 13 47 28.6 -1.2
PTGA Pitinga 24.60 17 P P 13 47 31.7 -1.1
comp=Z,4.1nm,0.3s,baz=138,slow=24,SNR=10
PRPB Parauapebas 24.64 45 *e*P P 13 47 31.0 -2.3
ALF01 Guarapari-ES 24.68 86 *e*P P 13 47 32.3 -1.2
SJMB Sao Joao De Ma 24.79 82 *e*P P 13 47 33.1 -1.4
RIB01 Linhares ES 25.32 84 *e*P P 13 47 37.9 -1.5
MALB Monte Alegre 25.70 31 *e*P P 13 47 41.3 -1.4
GUA01 Guaratinga, BA 26.74 78 *e*P P 13 47 50.7 -1.4
GO09 Cerro Castillo 27.06 187 P P 13 47 54.2 -0.3
CMC01 Camacan, BA 27.46 76 *e*P P 13 47 56.8 -1.7
BOAV Boa Vista 27.47 14 *e*P P 13 47 58.5 -0.1
NBIT Itapeh - BA 27.71 75 *e*P P 13 47 59.5 -1.2
EFI East Falkland 28.04 168 P P 13 48 02.9 -0.3
MCPB Macapa, AP 28.07 34 *e*P P 13 48 02.9 -1.0
GDU01 Guandu, BA 28.10 73 *e*P P 13 48 02.1 -2.1
GO10 Punta Arenas 28.80 185 P P 13 48 10.7 +0.7
NBPN Ponto Novo - B 28.95 67 *e*P P 13 48 09.6 -2.2
RUSC La Rusia 30.73 348 P P 13 48 26.5 -1.4
RUSC IAmb IAmb 13 48 31.8
comp=Z,18nm,1.2s
ROSB Rosrio 30.87 50 *e*P P 13 48 27.6 -1.1
NBPS Pedro II - PI 31.78 55 *e*P P 13 48 34.4 -2.4
NBMA Muriti-CE 32.04 63 *e*P P 13 48 37.4 -1.6
NBPB Pedra_Branca-C 32.47 59 *e*P P 13 48 41.1 -1.7
NBAN Anadia - AL 32.87 69 *e*P P 13 48 43.7 -2.5
NBMO Morrinhos-CE 33.54 55 *e*P P 13 48 50.0 -2.0
NBCL Cascavel-CE 34.30 59 *e*P P 13 48 57.9 -0.7
NBPA Parau_RN 34.31 62 *e*P P 13 48 56.8 -1.8
NBRF Rio Formoso - 34.34 68 *e*P P 13 48 56.4 -2.5
SJCC San Jacinto, C 35.05 346 P P 13 49 04.2 -0.8
SJCC IAmb IAmb 13 49 07.5
comp=Z,8.5nm,0.5s
NBPV Pedro Velho 35.41 65 *e*P P 13 49 06.8 -1.3
HOPE Hope Point 37.50 151 P P 13 49 26.7 +1.5
HOPE IAmb IAmb 13 49 38.9
comp=Z,26nm,1.1s
ICMP Isla Caja de M 42.10 1 P P 13 50 03.9 +0.3
MLPR Magueyes Islan 42.18 0 P P 13 50 04.2 0.0
MLPR IAmb IAmb 13 50 18.5
comp=Z,20nm,1.1s
PDPR Patillas Dam, 42.24 2 P P 13 50 02.7 -2.0
OBIP Obispado Ponce 42.26 1 P P 13 50 03.1 -1.7
OBIP IAmb IAmb 13 50 04.7
comp=Z,14nm,0.5s
CUPR Culebra, Puert 42.56 3 P P 13 50 07.2 0.0
CUPR IAmb IAmb 13 50 30.1
comp=Z,18nm,0.9s
AOPR Arecibo Observ 42.56 1 P P 13 50 04.9 -2.4
AOPR IAmb IAmb 13 50 22.6
comp=Z,13nm,0.8s
BANI BANI 42.72 355 P P 13 50 07.8 -0.9
MTO3 Montecristo 44.31 328 P P 13 50 22.0 +0.4
SOR Soroa 49.44 341 P P 13 51 01.5 +0.5
SOR IAmb IAmb 13 51 02.2
comp=Z,11nm,0.8s
VNA3 Neumayer Olymp 56.75 161 P P 13 51 54.6 +0.7
VNA1 Neumayer--Stat 56.95 160 P P 13 51 56.6 +1.4
VNA2 Neumayer--Watz 57.32 160 P P 13 51 58.6 +0.7
baz=283,slow=7.5
BRAL Brewton 58.52 340 P 13 52 06.1
baz=159
SNAA Sanae 58.95 161 P P 13 52 09.8 +0.5
SNAA Sanae 58.95 161 P P 13 52 09.4 +0.1
GOGA Godfrey 59.62 344 P 13 52 13.7
baz=163
GOGA Godfrey 59.62 344 P P 13 52 13.1 -1.1
GOGA IAmb IAmb 13 52 15.1
comp=Z,23nm,1.5s
X58A Rowland 59.83 348 P P 13 52 16.1 +0.5
JSC Jenkinsville 59.95 347 P P 13 52 16.8 +0.4
JSC IAmb IAmb 13 52 17.5
comp=Z,7.5nm,0.6s
HODGE Hodges 60.12 346 P P 13 52 18.1 +0.5
HODGE IAmb IAmb 13 52 18.5
comp=Z,8.2nm,1.1s
BIRD Birdtown, Kers 60.13 347 P P 13 52 18.5 +0.8
BIRD IAmb IAmb 13 52 19.3
comp=Z,12nm,0.9s
Y52A Lilburn 60.20 344 P P 13 52 18.3 +0.1
Y52A IAmb IAmb 13 52 19.1
comp=Z,8.8nm,0.9s
W57A Gilead 60.54 348 P P 13 52 20.2 -0.1
W57A IAmb IAmb 13 52 21.8
comp=Z,12nm,0.8s
KMSC Kings Mountain 60.79 347 P 13 52 22.2
baz=165
833A Chaparral WMA, 60.99 327 P 13 52 25.0
baz=146
X51A Calhoun 61.07 343 P P 13 52 24.1 +0.1
FPAL Fort Paine 61.25 343 P P 13 52 25.1 -0.2
FPAL IAmb IAmb 13 52 26.0
comp=Z,7.5nm,0.9s
W52A Murphy 61.34 344 P P 13 52 26.1 +0.3
W52A IAmb IAmb 13 52 26.6
comp=Z,6.7nm,0.7s
V55A Taylorsville 61.45 347 P P 13 52 27.1 +0.5
X48A Hartselle 61.57 341 P P 13 52 27.3 -0.1
X48A IAmb IAmb 13 52 28.5
comp=Z,12nm,0.8s
V53A Saluda 61.62 346 P P 13 52 27.6 -0.2
V53A IAmb IAmb 13 52 28.9
comp=Z,10nm,1.0s
W50A Signal Mountai 61.79 343 P P 13 52 28.7 -0.2
W50A IAmb IAmb 13 52 30.0
comp=Z,10nm,0.8s
NATX Nacogdoches 61.80 333 P 13 52 30.3
baz=152
Y45A Yeager Farm, C 61.80 339 P P 13 52 29.3 +0.3
Y45A IAmb IAmb 13 52 29.8
comp=Z,10nm,0.9s
CPCT Cooper Cave 61.83 344 P P 13 52 29.1 0.0
CPCT IAmb IAmb 13 52 30.0
comp=Z,6.5nm,0.7s
TKL Tuckaleechee C 61.84 345 P P 13 52 28.8 -0.3
TKL IAmb IAmb 13 52 29.5
comp=Z,6.7nm,0.7s
V52A Sevierville 61.97 345 P P 13 52 30.0 -0.1
V52A IAmb IAmb 13 52 30.4
comp=Z,6.5nm,0.7s
SWET Sewanee 61.97 343 P P 13 52 30.1 -0.1
V51A Loudon 62.12 344 P P 13 52 30.8 -0.2
V51A IAmb IAmb 13 52 31.8
comp=Z,7.6nm,1.0s
U54A Nelsons Funny 62.23 347 P P 13 52 32.1 +0.3
PLAL Pickwick Lake 62.37 341 P P 13 52 32.1 -0.6
PLAL IAmb IAmb 13 52 33.2
comp=Z,7.5nm,1.0s
237A Washetta, Mont 62.48 333 P P 13 52 34.8 +1.3
BLA Blacksburg 62.61 348 P 13 52 34.8
baz=166
BLA Blacksburg 62.61 348 P P 13 52 35.1 +0.7
BLA IAmb IAmb 13 52 35.7
comp=Z,15nm,1.1s
TZTN Tazewell 62.63 345 P 13 52 34.1
baz=163
TZTN Tazewell 62.63 345 P P 13 52 34.2 -0.2
TZTN IAmb IAmb 13 52 34.6
comp=Z,8.4nm,1.1s
V48A Smith Brothers 62.71 342 P P 13 52 34.8 -0.2
V48A IAmb IAmb 13 52 35.9
comp=Z,9.8nm,0.7s
WLAR White Oak Lake 62.90 336 P P 13 52 37.5 +1.3
CLTN Cedars of Leba 62.91 343 P P 13 52 36.1 -0.1
CLTN IAmb IAmb 13 52 37.0
comp=Z,10nm,0.8s
JCT Junction City 62.98 328 P 13 52 37.7
baz=146
JCT Junction City 62.98 328 P P 13 52 37.8 +0.9
U49A Red Boiling Sp 63.16 343 P P 13 52 37.5 -0.4
U49A IAmb IAmb 13 52 38.3
comp=Z,5.3nm,0.7s
WHTX Lake Whitney, 63.18 331 P 13 52 39.0
baz=149
WHTX Lake Whitney, 63.18 331 P P 13 52 38.6 +0.5

S54A Dingess, Beckl 63.35 347 P P 13 52 39.3 +0.1
WVT Waverly 63.36 341 P 13 52 39.0
baz=159
WVT Waverly 63.37 341 P P 13 52 38.5 -0.8
T50A Nancy 63.40 344 P P 13 52 39.0 -0.4
T50A IAmb IAmb 13 52 39.9
comp=Z,5.6nm,0.8s
MIAR Mount Ida 63.83 336 P 13 52 42.9
baz=153,SNR=5.4
MIAR Mount Ida 63.83 336 P P 13 52 42.5 +0.1
MIAR IAmb IAmb 13 52 43.7
comp=Z,14nm,1.2s
W41B Gary Mavity, V 63.91 337 P 13 52 43.0
baz=154
T47A Sharon Grove 63.96 342 P P 13 52 42.2 -1.0
TXAR Lajitas Array 63.98 325 P P 13 52 44.9 +1.2
comp=Z,3.4nm,0.8s,baz=152,slow=8.2,SNR=27
TXAR Lajitas Array 63.98 325 P P 13 52 44.4 +0.8
TX31 Lajitas Ar. Si 63.99 325 P P 13 52 44.5 +0.9
TX31 IAmb IAmb 13 52 45.3
comp=Z,9.3nm,0.8s
TX32 Lajitas Array 63.99 325 P P 13 52 44.4 +0.8
WHAR Wooly Hollow 64.03 337 P P 13 52 43.9 +0.3
Q56A Snyder Ridge, 64.18 350 P P 13 52 45.1 +0.6
Q56A IAmb IAmb 13 52 46.1
comp=Z,18nm,1.4s
Z35A Perchaven, San 64.24 332 P P 13 52 45.5 +0.5
LCAR Lake Charles 64.35 339 P P 13 52 45.8 +0.1
Q54A Coxs Mills 64.41 348 P P 13 52 45.5 -0.5
Q54A IAmb IAmb 13 52 47.0
comp=Z,9.5nm,1.1s
R50A Paris 64.47 345 P P 13 52 46.2 -0.2
W39A Magazine 64.49 336 P 13 52 47.4
baz=153,SNR=7.1
W39A Magazine 64.49 336 P P 13 52 47.5 +0.8
FCAR Ozark Folk Cen 64.52 338 P P 13 52 46.6 -0.2
FCAR IAmb IAmb 13 52 47.0
comp=Z,4.6nm,0.5s
X37A Clayton 64.56 334 P P 13 52 47.9 +0.8
X37A IAmb IAmb 13 52 49.1
comp=Z,15nm,1.1s
Q52A Bidwell 64.67 347 P P 13 52 47.8 +0.1
Q52A IAmb IAmb 13 52 48.2
comp=Z,8.7nm,0.7s
ABTX Abilene, Hawle 64.69 330 P 13 52 48.9
baz=147
ABTX Abilene, Hawle 64.69 330 P P 13 52 48.6 +0.6
PBMO Poplar Bluff 64.76 339 P P 13 52 48.1 -0.3
WCI Wyandotte Cave 64.91 343 P 13 52 48.8
baz=161
WCI Wyandotte Cave 64.91 343 P P 13 52 48.7 -0.5
Q51A Peebles 64.96 346 P P 13 52 50.2 +0.6
Q51A IAmb IAmb 13 52 50.8
comp=Z,6.5nm,0.7s
P53A Whipple 65.00 348 P P 13 52 49.6 -0.3
U40A Yellville 65.19 337 P 13 52 51.6
baz=154
U40A Yellville 65.19 337 P P 13 52 51.1 -0.1
U40A IAmb IAmb 13 52 52.2
comp=Z,12nm,1.2s
T42A Van Buren 65.20 339 P P 13 52 50.7 -0.5
O56A Blue Knob Stat 65.28 350 P 13 52 51.7
baz=168
P52A Corning 65.29 347 P 13 52 51.6
baz=165
P52A Corning 65.29 347 P P 13 52 51.2 -0.5
M66A Nantucket 65.45 358 P 13 52 52.3
baz=177
HHAR Hobbs 65.51 336 P P 13 52 53.4 +0.1
HHAR IAmb IAmb 13 52 54.6
comp=Z,7.5nm,0.9s
SSPA Standing Stone 65.54 351 P 13 52 53.3
baz=169
N58A Sunbury 65.58 352 P P 13 52 54.0 +0.5
N58A IAmb IAmb 13 52 22.6
comp=Z,7.3nm,1.1s
O52A Adamsville 65.70 348 P P 13 52 54.0 -0.3
MGMO Mountain Grove 65.71 338 P P 13 52 54.6 +0.2
MGMO IAmb IAmb 13 52 55.6
comp=Z,21nm,1.4s
O53A New Philadelph 65.71 348 P 13 52 54.6
baz=166
O53A New Philadelph 65.71 348 P P 13 52 54.1 -0.2
O53A IAmb IAmb 13 52 55.4
comp=Z,18nm,1.2s
P49A Miami Univ. Ec 65.75 345 P 13 52 54.0
baz=162
P49A Miami Univ. Ec 65.75 345 P P 13 52 53.7 -1.0
U38A Gravette 65.82 336 P P 13 52 55.1 0.0
U38A IAmb IAmb 13 52 56.3
comp=Z,6.2nm,0.7s
FVM French Village 65.86 340 P P 13 52 55.0 -0.4
WMOK Wichita Mounta 66.09 332 P 13 52 57.0
baz=148
WMOK Wichita Mounta 66.09 332 P P 13 52 57.0 0.0
N54A Moraine State 66.18 349 P 13 52 58.1
baz=167
OK030 Cody Creek RV 66.29 334 P P 13 52 58.7 +0.5
O49A Covington 66.29 346 P P 13 52 57.8 -0.3
O49A IAmb IAmb 13 52 58.6
comp=Z,9.8nm,0.8s
OK031 S. Brethren Rd 66.33 334 P P 13 52 59.0 +0.6
OK029 Liberty Lake 66.44 333 P P 13 52 59.2 0.0
M55A Ridgway 66.48 350 P P 13 52 59.6 +0.3
M55A IAmb IAmb 13 53 26.7
comp=Z,7.8nm,1.1s
S39A Bolivar 66.55 338 P P 13 52 59.9 +0.1
M54A Oil Creek Stat 66.66 350 P 13 53 00.7
baz=168
M54A Oil Creek Stat 66.66 350 P P 13 53 00.5 0.0
L58A Harry Jones Me 66.67 353 P 13 53 01.3
baz=171
L59A Walton 66.72 354 P 13 53 02.0
baz=172
R40A Maddies Statio 66.73 339 P P 13 53 00.9 -0.1
MNTX Cornudas Mount 66.75 325 P 13 53 01.7
baz=142
MNTX Cornudas Mount 66.76 325 P P 13 53 01.6 +0.4
MNTX IAmb IAmb 13 53 02.6
comp=Z,7.0nm,0.9s
M53A WI Miller and 66.76 349 P 13 53 01.3
baz=166
BINY Binghamton 66.83 353 P 13 53 01.7
baz=171
K63A Dunstable 66.94 356 P 13 53 03.0
baz=176
N49A Columbus Grove 66.96 346 P P 13 53 01.9 -0.3
L56A Greenwood 66.97 352 P 13 53 02.9
baz=170
L56A Greenwood 66.97 352 P P 13 53 02.7 +0.3
L56A IAmb IAmb 13 53 03.5
comp=Z,7.1nm,0.8s
M52A Chesterland 66.98 348 P P 13 53 02.3 -0.2
T35A Sooner Cattle 67.04 335 P P 13 53 03.5 +0.5
T35A IAmb IAmb 13 53 05.1
comp=Z,16nm,1.2s
P43A Skaggs, Pawnee 67.12 341 P P 13 53 02.2 -1.1
SFIN Lafayette 67.14 344 P 13 53 02.5
baz=160
SFIN Lafayette 67.14 344 P P 13 53 02.6 -0.8
SFIN IAmb IAmb 13 53 03.4
comp=Z,8.1nm,0.6s
N47A Urbana 67.27 345 P P 13 53 03.7 -0.5
N47A IAmb IAmb 13 53 05.1
comp=Z,15nm,0.9s
MSTX Muleshoe 67.27 328 P 13 53 05.4
baz=145
MSTX Muleshoe 67.27 328 P 13 53 04.8 +0.2
ERPA Erie 67.31 350 P 13 53 05.0
baz=167
ERPA Erie 67.31 350 P P 13 53 05.0 +0.5
WVNY West Valley, N 67.38 351 P P 13 53 05.6 +0.7
WVNY IAmb IAmb 13 53 06.7
comp=Z,16nm,0.9s
K56A Middlesex 67.49 352 P 13 53 06.1
baz=170
LIC Lamto 67.70 72 *e*P P 13 53 07.7 +0.1
comp=Z,108nm,1.5s
P40A Paris 67.79 339 P P 13 53 07.5 0.0
P40A IAmb IAmb 13 53 08.6
comp=Z,12nm,0.7s
HSIG 67.84 319 P P 13 53 09.6 +1.5
HSIG IAmb IAmb 13 53 11.1
comp=Z,19nm,1.3s
HDIL Hopedale 67.90 342 P 13 53 07.7

baz=158
TIC Toumodi 67.92 71 *e*P P 13 53 10.8 +1.8
J59A Piesco 67.94 354 P 13 53 09.4
baz=173
J59A Piesco 67.94 354 P P 13 53 09.2 +0.8
J59A IAmb IAmb 13 53 10.4
comp=Z,9.0nm,0.9s
L48A N Adams 67.99 346 P P 13 53 08.3 -0.4
J56A Wolcott 68.00 352 P 13 53 09.2
baz=170
J56A Wolcott 68.00 352 P P 13 53 09.0 +0.2
J56A IAmb IAmb 13 53 09.9
comp=Z,14nm,0.7s
KIC Kosan Boka 68.02 72 *e*P P 13 53 08.1 -1.5
comp=Z,12nm,0.4s
DBIC Dimbokro 68.07 71 P P 13 53 08.6 -1.2
comp=Z,3.5nm,0.3s,baz=228,slow=2.6,SNR=22
DBIC Dimbokro 68.07 71 P P 13 53 08.6 -1.2
DBIC IAmb IAmb 13 53 22.6
comp=Z,11nm,1.1s
I58A Old Forge 68.20 354 P 13 53 10.5
baz=172
I59A Olmsteadville 68.21 355 P 13 53 10.5
baz=173
P38A Dawn 68.36 338 P P 13 53 11.1 0.0
NCB Newcomb 68.41 355 P P 13 53 11.6 +0.2
NCB IAmb IAmb 13 53 35.8
comp=Z,10nm,1.3s
I57A Carthage 68.52 353 P 13 53 12.7
baz=172
319A Douglas 68.62 322 P P 13 53 15.2 +2.1
PECO Prince Edward 68.67 352 P P 13 53 13.3 +0.5
PECO IAmb IAmb 13 53 14.3
comp=Z,11nm,0.8s
121A Cookes Peak, D 68.68 324 P 13 53 15.8
baz=140
121A Cookes Peak, D 68.68 324 P P 13 53 15.8 +2.3
121A IAmb IAmb 13 53 16.8
comp=Z,16nm,1.1s
H58A Gabriels 68.85 355 P 13 53 14.8
baz=173
KSU1 Kansas State U 68.99 336 P P 13 53 14.7 -0.3
H57A Richville 69.01 354 P 13 53 15.6
baz=172
DELO Deloro Mine 69.32 352 P P 13 53 16.7 -0.2
DELO IAmb IAmb 13 53 18.1
comp=Z,5.6nm,0.7s
BNM Barren Site 69.33 326 P 13 53 19.2 +1.6
L42A Oliver, Polo 69.35 342 P P 13 53 16.9 -0.2
L42A IAmb IAmb 13 53 17.7
comp=Z,9.0nm,0.5s
H53A Bobcaygeon 69.50 351 P 13 53 18.4
baz=169
G61A St-Isidore-de- 69.53 357 P 13 53 19.4
baz=176
G57A Newington 69.60 354 P 13 53 19.1
baz=172
K43A Burlington 69.64 343 P P 13 53 18.7 -0.2
PLVO Plevna 69.77 353 P P 13 53 20.1 +0.5
PLVO IAmb IAmb 13 53 32.4
comp=Z,10nm,1.3s
SADO Sadowa 69.77 351 P P 13 53 19.9 +0.3
SADO IAmb IAmb 13 53 20.3
comp=Z,6.2nm,0.7s
L40A Anamosa 69.85 341 P P 13 53 19.9 -0.3
ANMO Albuquerque 69.86 326 P 13 53 22.7
baz=142
ANMO Albuquerque 69.86 326 P 13 53 22.1 +1.4
ANMO IAmb IAmb 13 53 23.6
comp=Z,9.1nm,0.9s
CBKS Cedar Bluff 69.96 333 P 13 53 22.4
baz=148
CBKS Cedar Bluff 69.96 333 P P 13 53 22.3 +1.2
F64A Sherman 70.00 359 P P 13 53 21.5 +0.4
F64A IAmb IAmb 13 53 43.5
comp=Z,23nm,1.5s
TUC Tucson 70.17 322 P 13 53 24.3
baz=138
TUC Tucson 70.17 322 P 13 53 23.1 +0.5
F61A St Evariste 70.19 357 P 13 53 23.3
baz=176
G54A Lake Saint Pet 70.24 352 P 13 53 23.0
baz=169
JFWS Jewell Farm 70.35 342 P 13 53 23.4
baz=158
JFWS Jewell Farm 70.35 342 P P 13 53 23.2 -0.1
T25A Trinidad 70.62 329 P 13 53 27.1
baz=144,SNR=7.8
T25A Trinidad 70.62 329 P P 13 53 26.8 +1.5
T25A IAmb IAmb 13 53 28.1
comp=Z,8.5nm,0.7s
TRQ Mont Tremblant 70.68 355 P P 13 53 25.1 -0.1
E58A La Victoria 70.72 356 P 13 53 26.1
baz=174
ALGO Algonquin Park 70.78 352 P 13 53 26.1
baz=169
E62A Clayton Lake 70.78 358 P P 13 53 26.0 +0.2
E62A IAmb IAmb 13 53 28.5
comp=Z,20nm,1.5s
I42A Draeger Farm, 70.90 344 P P 13 53 26.6 +0.1
E56A St. Veronique 71.04 354 P 13 53 27.6
baz=172
214A Organ Pipe Nat 71.08 320 P 13 53 30.3
baz=136
214A Organ Pipe Nat 71.08 320 P P 13 53 29.1 +1.1
214A IAmb IAmb 13 53 30.8
comp=Z,6.0nm,0.7s
D63A Stockholm 71.17 359 P 13 53 28.8
baz=179
D62A Allapoint, All 71.23 359 P 13 53 29.1
baz=178
D62A Allapoint, All 71.23 359 P P 13 53 28.9 +0.5
D62A IAmb IAmb 13 53 42.5
comp=Z,17nm,1.4s
KSCO Kaye Shedlock' 71.35 331 P 13 53 30.9
baz=146
D61A St Aubert, Com 71.39 358 P 13 53 30.6
baz=177
BATG Bathurst New B 71.42 1 P P 13 53 29.7 +0.1
BATG IAmb IAmb 13 53 58.6
comp=Z,24nm,1.4s
D58A Chemin du LacG 71.42 356 P 13 53 29.9
baz=174
D56A ZEC Mazanza, M 71.51 355 P 13 53 30.0
baz=173
D55A Sainte-Anne-du 71.55 354 P 13 53 30.6
baz=172
BGNE Belgrade 71.57 336 P 13 53 31.6
baz=150
BGNE Belgrade 71.58 336 P P 13 53 31.6 +0.8
SDCO Great Sand Dun 71.62 329 P 13 53 33.3
baz=143,SNR=18
SDCO Great Sand Dun 71.62 329 P P 13 53 32.7 +1.3
W18A Petrified Fore 71.70 324 P 13 53 33.9
baz=140
W18A Petrified Fore 71.70 324 P P 13 53 33.1 +1.3
W18A IAmb IAmb 13 53 34.8
comp=Z,9.6nm,0.8s
X16A Lo Mia Camp, P 72.10 323 P P 13 53 36.0 +1.7
E46A Sault Ste Mari 72.20 348 P P 13 53 34.2 0.0
113A Mohawk Valley, 72.22 320 P P 13 53 36.1 +1.4
S22A 4UR Ranch, Cre 72.26 328 P 13 53 36.9
baz=142
I37A Lemond, Waseca 72.28 340 P P 13 53 35.0 +0.2
Q24A Divide 72.44 330 P 13 53 38.0
baz=144,SNR=5.3
Y14A Wickenburg 72.62 321 P P 13 53 39.0 +1.8
MVCO Mesa Verde 72.66 326 P 13 53 39.4
baz=141,SNR=5.5
MVCO Mesa Verde 72.66 326 P P 13 53 39.2 +1.7
MVCO IAmb IAmb 13 53 40.5
comp=Z,9.2nm,0.9s
KOWA Kowa 72.75 65 P P 13 53 37.7 -0.5
KOWA IAmb IAmb 13 53 40.1
comp=Z,7.1nm,0.5s
E43A Lone Tree Farm 72.77 346 P P 13 53 37.8 +0.1
E43A IAmb IAmb 13 53 38.6
comp=Z,14nm,0.8s
WUAZ Wupatki 72.88 323 P 13 53 41.2
baz=138,SNR=6.0
WUAZ Wupatki 72.88 323 P P 13 53 40.0 +1.3
WUAZ IAmb IAmb 13 53 42.1
comp=Z,11nm,0.8s
COWI Conover 73.02 344 P P 13 53 39.4 +0.2
COWI IAmb IAmb 13 53 42.5
comp=Z,20nm,1.3s
GLA Glamis 73.05 320 P 13 53 41.7
baz=135
ECSD EROS Data Cent 73.06 338 P 13 53 39.8
baz=152
ECSD EROS Data Cent 73.06 338 P P 13 53 39.4 -0.1
ECSD IAmb IAmb 13 53 40.8
comp=Z,14nm,1.2s
SYO Syowa Base 73.16 159 *e*P P 13 53 40.2 +0.5
SYO Syowa Base 73.16 159 *e*PcP PcP 13 53 55.6 +0.2
SPMN Marine on St. 73.20 341 P 13 53 40.5
baz=156
ISCO Idaho Springs 73.32 330 P 13 53 43.3
baz=144,SNR=5.4
ISCO Idaho Springs 73.32 330 P P 13 53 43.0 +1.6
PV01 Paradox Valley 73.41 327 P P 13 53 43.7 +1.7
SMCO Snowmass 73.46 329 P P 13 53 44.1 +1.7
SMCO IAmb IAmb 13 53 45.5
comp=Z,7.2nm,0.7s
PV15 Paradox Valley 73.53 327 P P 13 53 44.7 +2.1
PV15 IAmb IAmb 13 53 45.9
comp=Z,9.5nm,0.9s
IKP In-Ko-Pah, Jac 73.53 318 P 13 53 44.7
baz=134
PDMCI Parker Dam,Lak 73.54 321 P 13 53 44.1
baz=136
SWSC Sam W. Stewart 73.55 319 P 13 53 44.6
baz=135
PV02 Paradox Valley 73.55 327 P P 13 53 44.4 +1.6
PV02 IAmb IAmb 13 53 45.7
comp=Z,13nm,1.4s
PV13 Radium Mtn., P 73.56 327 P P 13 53 44.0 +1.2
PV05 Paradox Valley 73.64 327 P P 13 53 44.3 +1.1
PV03 Paradox Valley 73.64 327 P P 13 53 44.8 +1.6
PV18 Skein Mesa, Pa 73.67 327 P P 13 53 44.8 +1.4
PV12 Saucer Basin, 73.67 327 P P 13 53 44.5 +1.1
PV07 Paradox Valley 73.69 327 P P 13 53 44.9 +1.3
PV11 David Mesa, Pa 73.69 327 P P 13 53 44.7 +1.1
LSQQ Lebel-sur-Quev 73.72 353 P 13 53 43.4
baz=171
PV17 East Wray Mesa 73.72 327 P P 13 53 44.7 +1.0
D41A Chassel 73.78 345 P P 13 53 44.2 +0.7
PV14 Lion Creek, Pa 73.82 327 P P 13 53 45.4 +1.1
PV22 Blue Mesa, Par 73.83 327 P P 13 53 45.8 +1.4
PV22 IAmb IAmb 13 53 47.3
comp=Z,9.8nm,1.0s
BC3 Big Chuckawall 73.84 320 P 13 53 46.4
baz=135,SNR=6.5
MONP2 Monument Peak 73.89 318 P 13 53 47.0
baz=134
DRLN Deer Lake 73.89 7 P P 13 53 44.5 +0.3
W13A Hualapai Mount 73.97 322 P P 13 53 47.2 +2.0
F36A Milaca 73.99 341 P P 13 53 45.1 +0.3
F36A IAmb IAmb 13 53 45.7
comp=Z,10nm,0.7s
IRM Iron Mountain 74.02 320 P 13 53 47.3
baz=135,SNR=6.7
U15A North Rim 74.05 324 P P 13 53 48.1 +2.3
U15A IAmb IAmb 13 53 49.3
comp=Z,7.5nm,0.8s
E38A The Farm, Brul 74.11 343 P P 13 53 45.8 +0.3
E38A IAmb IAmb 13 53 46.5
comp=Z,7.3nm,0.7s
VNDA Vanda 74.22 190 P P 13 53 47.5 +1.6
comp=Z,3.3nm,0.9s,baz=137,slow=4.1,SNR=15
VNDA Vanda 74.22 190 P P 13 53 47.3 +1.4
N23A Red Feather La 74.35 330 P 13 53 48.8
baz=144
TPFO Pinon Flats 74.40 319 P 13 53 49.8
baz=134
BELC Belle Mtn. Jos 74.41 319 P 13 53 50.0
baz=135
PFO Pinyon Flats O 74.41 319 P 13 53 50.0
baz=134
PFO Pinyon Flats O 74.41 319 P P 13 53 49.4 +1.7
PHWY Pilot Hill 74.47 331 P P 13 53 49.3 +1.3
MATQ Matagami 74.48 353 P 13 53 48.1
baz=170
SUSD Miller 74.50 337 P P 13 53 48.1 +0.3
GMRC Granite Mounta 74.76 320 P 13 53 52.1
baz=135,SNR=12
KNB Kanab 74.78 324 P P 13 53 52.2 +2.4
KNB IAmb IAmb 13 53 53.5
comp=Z,22nm,1.0s
O20A White River Ci 74.81 329 P 13 53 51.7
baz=142,SNR=6.6
O20A White River Ci 74.81 329 P P 13 53 51.8 +1.8
O20A IAmb IAmb 13 53 52.9
comp=Z,13nm,0.8s
F33A 5 Mile Ranch, 74.83 339 P P 13 53 49.7 0.0
MURC Murrieta 74.85 318 P 13 53 52.2
baz=134
LCMT Little Creek M 75.00 323 P P 13 53 52.7 +1.7
SRU San Rafael Swe 75.14 326 P P 13 53 52.9 +1.0
SRU IAmb IAmb 13 53 54.5
comp=Z,13nm,0.7s
HEC Hector,Ludlow 75.19 320 P 13 53 54.6
baz=134
MTPU Mount Pierson 75.19 325 P P 13 53 53.5 +1.1
Q16A Castle Valley 75.32 326 P P 13 53 54.4 +1.5
EYMN Ely 75.33 343 P 13 53 52.8
baz=157
EYMN Ely 75.33 343 P P 13 53 52.5 -0.1
TUQ Turquoise Moun 75.37 321 P 13 53 55.3
baz=135
CCUT Cedar City 75.46 324 P P 13 53 55.9 +2.1
CCUT IAmb IAmb 13 53 57.5
comp=Z,13nm,0.8s
P17A Butcher Ranch, 75.53 327 P P 13 53 55.7 +1.7
P17A IAmb IAmb 13 53 56.9
comp=Z,10nm,0.9s
RWWY Rawlins 75.56 330 P P 13 53 55.1 +0.8
RWWY IAmb IAmb 13 53 56.1
comp=Z,14nm,1.1s
TMUT Trail Mountain 75.63 326 P P 13 53 56.2 +1.4
SUR Sutherland 75.69 119 P P 13 53 56.3 +0.9
SHPR Sheep Range 75.69 322 P P 13 53 56.7 +1.6
TCRU Three Creeks R 75.75 325 P P 13 53 57.3 +1.9
RDMU Red Mountain 75.79 328 P P 13 53 56.8 +1.2
RDMU IAmb IAmb 13 53 58.1
comp=Z,7.9nm,0.7s
GSC Goldstone, Bar 75.79 320 P 13 53 57.7
baz=134
K22A Casper 76.02 331 P 13 53 58.5
baz=143
K22A Casper 76.02 331 P P 13 53 58.1 +1.4
SNCC San Nicolas Is 76.04 317 P P 13 53 57.3 +0.5
RSSD Black Hills 76.17 334 P 13 53 58.9
baz=146
RSSD Black Hills 76.17 334 P P 13 53 58.8 +1.2
EDW2 Edwards Air Fo 76.20 319 P 13 53 59.4
baz=133
PRN Pahroc Range 76.28 323 P P 13 54 00.5 +2.2
PRN IAmb IAmb 13 54 01.9
comp=Z,12nm,1.2s
B35A Bob, Littlefor 76.32 342 P P 13 53 58.2 +0.2
B35A IAmb IAmb 13 53 59.2
comp=Z,14nm,0.7s
MPU Maple Canyon 76.39 326 P P 13 54 00.7 +1.8
LRMC Laurel Mtn Rad 76.43 320 P 13 54 00.5
baz=134
PSUT Pine Spring 76.44 324 P P 13 54 00.9 +1.7
PSUT IAmb IAmb 13 54 02.5
comp=Z,8.6nm,0.7s
TPNV Topopah Spring 76.62 322 P 13 54 02.7
baz=135,SNR=11
TPNV Topopah Spring 76.63 322 P P 13 54 02.5 +2.2
TPNV IAmb IAmb 13 54 03.7
comp=Z,17nm,1.4s
FURC Furnace Creek, 76.64 321 P 13 54 02.4
baz=134
MPMC Manual Prospec 76.72 320 P 13 54 02.7
baz=134
JLU Jordanelle 76.74 327 P P 13 54 01.7 +0.8
TOA0 Torodi Ar. Sit 76.86 69 P P 13 54 00.9 -0.9
TORD Torodi Ar. Bea 76.86 69 P P 13 54 00.9 -0.9
comp=Z,8.5nm,0.3s,baz=259,slow=5.6,SNR=85
TORD Torodi Ar. Bea 76.86 69 P P 13 54 00.9 -0.9
TORD IAmb IAmb 13 54 03.3
comp=Z,5.3nm,0.5s
AGMN Agassiz Nation 76.88 341 P 13 54 01.7
baz=153
AGMN Agassiz Nation 76.88 341 P P 13 54 01.4 +0.2
AGMN IAmb IAmb 13 54 02.6
comp=Z,12nm,1.1s
E28A Huff 76.96 337 P P 13 54 02.4 +0.7
E28A IAmb IAmb 13 54 04.7
comp=Z,16nm,0.8s
ISA Isabella, Lake 77.03 319 P 13 54 04.8
baz=133
ISA Isabella, Lake 77.03 319 P P 13 54 04.7 +2.2
SPR3 Spring Creek 3 77.04 324 P P 13 54 04.2 +1.4
SPR3 IAmb IAmb 13 54 05.1
comp=Z,6.7nm,0.7s
DUG Dugway, Tooele 77.12 326 P 13 54 04.8
baz=138
DUG Dugway, Tooele 77.12 326 P P 13 54 04.7 +1.8
R11A Troy Canyon, C 77.25 323 P 13 54 06.2
baz=136
R11A Troy Canyon, C 77.25 323 P P 13 54 05.3 +1.6
R11A IAmb IAmb 13 54 07.3
comp=Z,15nm,1.4s
GRAC Grapevine Rang 77.30 321 P 13 54 06.5
baz=134
PKM Mcpherson Peak 77.31 318 P 13 54 06.4
baz=132
CWC Cottonwood Cre 77.33 320 P 13 54 06.4
baz=134
BW06 Boulder Array 77.48 329 P 13 54 06.2
baz=141
BW06 Boulder Array 77.48 329 P P 13 54 06.0 +1.0
PD31 Pinedale Array 77.48 329 P P 13 54 05.9 +0.8
PDAR Pinedale Array 77.48 329 P P 13 54 06.2 +1.2
comp=Z,1.9nm,0.6s,baz=126,slow=17,SNR=8.7
PDAR Pinedale Array 77.48 329 P P 13 54 06.0 +0.9
HWUT Hardware Ranch 77.55 327 P P 13 54 06.3 +1.0
HWUT IAmb IAmb 13 54 08.7
comp=Z,7.3nm,0.6s
MDND Maddock 77.68 338 P 13 54 06.8
baz=150
MDND Maddock 77.68 338 P P 13 54 06.6 +0.9
SMMC Simmler 77.70 318 P 13 54 08.6
baz=132
SPUT South Promonto 77.77 327 P P 13 54 07.3 +0.7
SPUT IAmb IAmb 13 54 09.2
comp=Z,13nm,1.0s
BGU Big Grassy Mou 77.77 326 P P 13 54 07.1 +0.5
PAGB Antelope Grade 78.14 318 P P 13 54 10.1 +1.6
PAGB IAmb IAmb 13 54 11.2
comp=Z,6.6nm,0.6s
AHID Auburn Hatcher 78.21 329 P P 13 54 09.8 +0.8
AHID IAmb IAmb 13 54 11.4
comp=Z,15nm,0.8s
HVU Hansel Valley 78.28 327 P P 13 54 10.7 +1.3
REDW Red Top Meadow 78.55 329 P P 13 54 11.9 +1.0
ECR Eagle Creek 78.56 329 P P 13 54 11.9 +1.0
MLAC Mammoth, Mammo 78.58 321 P 13 54 13.2
baz=133
LOHW Long Hollow 78.62 329 P P 13 54 12.1 +0.8
ULM Lac du Bonnet 78.63 342 P P 13 54 11.1 +0.2
comp=Z,7.5nm,0.5s,baz=157,slow=3.7,SNR=10
ULM Lac du Bonnet 78.63 342 P P 13 54 10.6 -0.3
ULM IAmb IAmb 13 54 11.6
comp=Z,9.1nm,0.6s
TPAW Teton Pass 78.69 329 P P 13 54 12.3 +0.6
NV11 Mina Array Sit 78.74 322 P P 13 54 13.2 +1.3
ELK Elko 78.78 325 P P 13 54 13.4 +1.2
LHV Little Huntoon 78.82 321 P P 13 54 13.9 +1.8
NVAR Mina Array Bea 78.82 321 P P 13 54 14.0 +1.5
comp=Z,1.9nm,0.7s,baz=152,slow=6.6,SNR=17
NVAR Mina Array Bea 78.82 321 P P 13 54 13.6 +1.1
SCHQ Schefferville 78.97 0 P P 13 54 12.6 -0.1
comp=Z,2.2nm,0.6s,baz=230,slow=6.2,SNR=7.9
SCHQ Schefferville 78.97 0 P P 13 54 12.4 -0.2
SCHQ IAmb IAmb 13 54 13.7
comp=Z,17nm,1.5s
FLWY Flagg Ranch 79.03 330 P P 13 54 14.5 +1.0
FLWY IAmb IAmb 13 54 16.6
comp=Z,12nm,1.1s
RYN Ryan 79.09 321 P P 13 54 14.8 +0.9
KVN Kaiserville 79.14 322 P P 13 54 14.9 +0.7
KVN IAmb IAmb 13 54 16.6
comp=Z,7.5nm,0.7s
LAO LASA Array 79.15 334 P 13 54 15.1
baz=144
LAO LASA Array 79.16 334 P P 13 54 14.9 +1.0
LAO IAmb IAmb 13 54 16.0
comp=Z,14nm,0.7s
RLMT Red Lodge 79.19 331 P 13 54 15.9
baz=142
RLMT Red Lodge 79.19 331 P P 13 54 15.5 +1.2
RLMT IAmb IAmb 13 54 16.4
comp=Z,6.9nm,0.6s
H17A Grant Village 79.21 330 P 13 54 16.1
baz=140
YNE Yellowstone No 79.43 331 P P 13 54 16.8 +1.2
YNE IAmb IAmb 13 54 18.2
comp=Z,9.4nm,0.8s
WAKR Walker 79.52 321 P P 13 54 18.0 +1.7
YMR Madison River 79.60 330 P P 13 54 18.2 +1.6
YMR IAmb IAmb 13 54 19.9
comp=Z,14nm,0.8s
YHH Holmes Hill 79.64 330 P P 13 54 18.8 +1.9
YHH IAmb IAmb 13 54 20.1
comp=Z,12nm,0.8s
YERR Yerington 79.74 321 P P 13 54 18.9 +1.5
YHB Horse Butte 79.77 330 P P 13 54 19.3 +1.8
YHB IAmb IAmb 13 54 20.6
comp=Z,8.3nm,0.8s
YHL Hebgen Lake 79.84 330 P P 13 54 19.9 +1.9
YHL IAmb IAmb 13 54 21.1
comp=Z,7.5nm,0.6s
GCMT Greycliff 79.89 331 P P 13 54 19.0 +1.0
PNTR Pine Nut 80.01 321 P P 13 54 20.5 +1.6
PNTR IAmb IAmb 13 54 22.0
comp=Z,13nm,0.9s
PAHR Pah Rah Range 80.31 322 P P 13 54 22.0 +1.6
PAHR IAmb IAmb 13 54 23.5
comp=Z,10nm,0.9s
HLID Hailey 80.41 327 P 13 54 23.0
baz=137
HLID Hailey 80.41 327 P P 13 54 22.4 +1.5
HLID IAmb IAmb 13 54 24.1
comp=Z,14nm,0.7s
BCYI Bear Canyon 80.47 328 P P 13 54 22.6 +1.3
MCMT McKenzie Canyo 80.60 329 P P 13 54 23.2 +1.3
BOSA Boshof 80.63 117 P P 13 54 22.0 -0.4
comp=Z,7.6nm,0.8s,baz=252,slow=3.6,SNR=16
BOSA Boshof 80.63 117 P P 13 54 22.1 -0.4
BOSA IAmb IAmb 13 54 23.5
comp=Z,20nm,1.2s
DLMT Dillon 80.88 329 P P 13 54 24.7 +1.4
BEKR Beckworth 80.97 321 P P 13 54 25.0 +1.1
MFID Camas Ranch 81.01 326 P P 13 54 25.1 +1.2
MAW Mawson 81.03 163 P P 13 54 24.4 +0.7
comp=Z,11nm,0.6s,baz=215,slow=7.0,SNR=44
MAW Mawson 81.03 163 P P 13 54 24.3 +0.7
ORV Oroville 81.42 321 P P 13 54 27.6 +1.5
HRY Holter Researc 81.56 331 P P 13 54 28.2 +1.5
O03E Paynes Creek 82.08 321 P 13 54 30.1
baz=131
LBTB Lobatse 82.31 114 P P 13 54 31.4 0.0
LBTB IAmb IAmb 13 54 34.1
comp=Z,14nm,1.1s
MOD Modoc Plateau 82.31 323 P P 13 54 32.0 +1.1
J08A Circle Bar Ran 82.33 325 P P 13 54 32.3 +1.4
J08A IAmb IAmb 13 54 33.6
comp=Z,11nm,0.7s
O02D Mt. Diablo Mer 82.57 320 P 13 54 33.5
baz=131
MSO Missoula 82.60 330 P 13 54 33.8
baz=138
MSO Missoula 82.60 330 P P 13 54 33.2 +1.0
BMO Blue Mountains 82.78 327 P P 13 54 34.4 +1.3
N02D Trinity Center 83.04 321 P 13 54 36.2
baz=131
M04C Macdoel 83.08 322 P 13 54 36.3
baz=132
I07A Izee 83.37 325 P P 13 54 37.5 +1.2
M02C Callahan 83.40 321 P 13 54 37.9
baz=131
JTMT Jette 83.44 330 P P 13 54 37.6 +1.1
JTMT IAmb IAmb 13 54 38.3
comp=Z,7.9nm,0.5s
F10A Beach Ranch, E 83.54 327 P P 13 54 38.2 +1.1
F10A IAmb IAmb 13 54 43.8
comp=Z,7.1nm,0.9s
K04D Chiloquin, OR 83.60 323 P 13 54 38.8
baz=132
L04D Klamath Falls 83.63 322 P 13 54 39.4
baz=131

PINE	**Pine Mountain**	**83.94**	**324**	P	**P**	13 54 40.6	**+1.4**
PINE				IAmb	IAmb	13 54 41.7	
	comp=Z,9.4nm,0.8s						
J04D	**Umpqua Nationa**	**84.20**	**323**	P		13 54 42.0	
	baz=131						
L02E	**Cave Junction**	**84.33**	**321**	P		13 54 43.7	
	baz=130						
I05D	**Terrebonne, OR**	**84.51**	**324**	P		13 54 43.9	
	baz=132						
I04A	**Tendick Farm,**	**84.73**	**323**	P		13 54 44.6	
	baz=131						
G05D	**Wamic, OR**	**85.11**	**325**	P		13 54 47.2	
	baz=132						
D08A	**Wollman Farm,**	**85.13**	**327**	P	**P**	13 54 46.3	**+1.4**
D08A				IAmb	IAmb	13 54 47.1	
	comp=Z,5.6nm,0.7s						
I03D	**Drain, OR**	**85.18**	**323**	P		13 54 47.4	
	baz=131						
C09A	**Chrisman Ranch**	**85.34**	**328**	P	**P**	13 54 47.0	**+1.1**
ESDC	**Sonseca Array**	**86.82**	**44**	P	**P**	13 54 53.0	**-0.5**
	comp=Z,0.7nm,0.6s,baz=240,slow=4.6,SNR=4.6						
B05A	**Bryant**	**87.53**	**327**	P		13 54 57.0	
	baz=132						
CASY	**Casey**	**89.52**	**179**	P	**P**	13 55 06.6	**+0.9**
YKA	**Yellowknife Ar**	**94.52**	**340**	P	**P**	13 55 29.1	**+0.4**
	comp=Z,3.1nm,0.7s,baz=127,slow=5.1,SNR=12						
COLD	**Coldfoot**	**109.67**	**336**	P		14 00 38.9	
	baz=106						
KBZ	**Khabaz**	**120.67**	**52**	PKP	**PKiKP**	**14 00 59.9**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=179,slow=2.5,SNR=5.9						
CTA	**Charters Tower**	**125.06**	**219**	PKP	**PKPdf**	**14 01 08.9**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=169,slow=4.5,SNR=1.5						
ASAR	**Alice Springs**	**127.98**	**205**	PKP	**PKPdf**	**14 01 14.4**	**-0.1**
	comp=Z,5.4nm,0.6s,baz=134,slow=1.8,SNR=4.3						
WRA	**Warramunga Arr**	**131.15**	**207**	PKP	**PKPdf**	**14 01 20.6**	**0.0**
	comp=Z,5.1nm,0.5s,baz=158,slow=1.7,SNR=25						
WRA				SKPbc	**SKPbc**	**14 04 29.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=152,slow=3.6,SNR=5.0						
FITZ	**Fitzroy Crossi**	**135.89**	**198**	PKP	**PKPdf**	**14 01 30.2**	**+0.7**
	comp=Z,2.4nm,0.4s,baz=199,slow=5.5,SNR=9.9						
PETK	**Petropavlovsk-**	**135.91**	**322**	PKP	**PKPdf**	**14 01 29.1**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=91,slow=4.1,SNR=4.6						
KURK	**Kurchatov**	**142.83**	**36**		**PKPdf**	**14 01 39.0**	**-2.1**
KURBB	**Kurchatov Arra**	**142.83**	**36**	PKP	**PKPdf**	**14 01 39.0**	**-2.1**
	comp=Z,1.6nm,0.3s,baz=302,slow=2.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**143.87**	**28**	PKP	PKPbc	14 01 41.4	+0.4
	comp=Z,8.8nm,0.6s,baz=310,slow=4.8,SNR=36						
ZALV				SKPbc	**SKiKP**	**14 05 06.4**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=298,slow=4.2,SNR=6.6						
KSH	**Kashi**	**145.57**	**55**	PKPbc	**PKPbc**	**14 01 46.8**	**-0.1**
KSH				PP	PP	14 05 25.6	+17
KSH				PPMZ			
	comp=Z,150nm,5.2s						
MKAR	**Makanchi Array**	**146.97**	**40**	PKPbc	**PKPdf**	**14 01 49.1**	**+0.7**
	comp=Z,21nm,0.6s,baz=289,slow=1.9,SNR=124						
MKAR	**Makanchi Array**	**146.97**	**40**	PKPdf	**PKPdf**	**14 01 49.0**	**+0.6**
LEM	**Lembang**	**148.48**	**170**	PKPbc	**PKiKP**	**14 01 57.4**	**+0.1**
	comp=Z,92nm,0.7s,baz=143,slow=10,SNR=20						
JKA	**Kamikawa-asahi**	**148.83**	**316**		**PKiKP**	**14 01 56.5**	**-0.3**
ASAJ	**Asahikawa**	**148.83**	**316**	PKPbc	**PKiKP**	**14 01 56.5**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=72,slow=9.6,SNR=12						
SIJI	**Sorong**	**149.13**	**218**	PKPbc	**PKiKP**	**14 01 58.1**	**-0.4**
	comp=Z,15nm,0.6s,baz=168,slow=20,SNR=9.4						
KAPI	**Kappang**	**149.94**	**194**	PKPbc	**PKiKP**	**14 02 00.3**	**+0.2**
	comp=Z,16nm,0.4s,baz=232,slow=3.7,SNR=6.1						
KLR	**Kul'dur**	**151.19**	**334**	PKPbc	**PKPbc**	**14 02 01.3**	**+0.2**
	comp=Z,12nm,0.6s,baz=51,slow=2.5,SNR=40						
RPSI	**Rantau Prapat**	**154.51**	**146**		**PKPab**	**14 02 25.4**	**+0.9**
PSI	**Prapat**	**154.60**	**146**	PKPab	**PKPab**	**14 02 25.4**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=181,slow=7.8,SNR=4.4						
MJAR	**Matsushiro Arr**	**155.15**	**305**	PKPab	**PKPab**	**14 02 27.8**	**+1.0**
	comp=Z,6.4nm,0.9s,baz=87,slow=2.7,SNR=11						
MJAR	**Matsushiro Arr**	**155.15**	**305**	PKPab	**PKPab**	**14 02 27.7**	**+0.9**
SONM	**Songino Array**	**156.12**	**11**	PKP	**PKPdf**	**14 02 02.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=250,slow=1.4,SNR=6.0						
SONM				PKPab	**PKPab**	**14 02 30.1**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=328,slow=4.3,SNR=5.6						
KSRS	**Korea Array**	**161.75**	**319**	PKP	**PKPdf**	**14 02 09.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=90,slow=1.2,SNR=7.0						
KSRS				PKPab	**PKPab**	**14 02 56.2**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=65,slow=3.6,SNR=6.6						
JNU	**Nakatsue**	**162.03**	**303**	PKPab	**PKPab**	**14 02 58.8**	**+2.0**
	comp=Z,4.9nm,0.3s,baz=64,slow=0.3,SNR=6.9						
CMAR	**Chiang Mai Arr**	**165.73**	**112**	PKP	**PKPdf**	**14 02 12.8**	**-0.5**
CMAR				PKPab	**PKPab**	**14 03 12.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=247,slow=5.3,SNR=7.2						
LZH	**Lanzhou**	**166.06**	**32**	⇓PKP	**PKPdf**	**14 02 13.0**	**-0.2**

UPP 10 13:44:09.7±0.1, **63.41N**×**16.29E, h0**km, **ML1.7, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOLU	**Sollefteaa**	**0.47**	**110**	P		Pg	13 44 18.7	0.0
SOLU				S		Sg	13 44 25.0	+0.3
NOD	**Norderasen**	**0.64**	**274**	P		Pg	13 44 21.9	-0.1
NOD				S		Sg	13 44 30.6	+0.3
HEMU	**Hemsoen**	**1.08**	**132**	P		Pg	13 44 30.1	-0.3
HEMU				S		Sg	13 44 44.7	+0.2
HUSU	**Husum**	**1.32**	**92**	P		Pg	13 44 34.0	-1.0
HUSU				S		Sg	13 44 51.9	-0.2
ARNU	**Arnoeviken**	**1.80**	**163**	P		Pn	13 44 42.2	+0.4
UMAU	**Umeaa**	**2.02**	**74**	P		Pn	13 44 45.9	+1.0
ODEU	**Stanfors**	**2.20**	**61**	P		Pn	13 44 47.6	+0.2

*BER **10** 13:44:16.4±1.3, 68.69N×22.99E, h0km, ML0.5, Suspected explosion*

HEL 10 13:44:15.1±0.1, **68.68N**×**22.82E, h7**km±1km, **ML0.7, Confirmed Earthquake, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KTK1	**Kautokeino**	**0.36**	**24**	*i* P		Pg	13 44 22.1	-0.1
KTK1				*e*S		Sg	13 44 26.8	-0.2
KTK1				IAML			13 44 26.9	
	comp=Z,4.8nm,0.2s							
KTK1	**Kautokeino**	**0.36**	**24**	*e*P		Pg	13 44 22.2	0.0
KTK1				*e*S		Sg	13 44 26.6	-0.4
HEF	**Hetta**	**0.41**	**131**	*e*P		Pg	13 44 22.8	-0.3
HEF				*e*S		Sg	13 44 28.1	-0.4
HEF	**Hetta**	**0.41**	**131**	*e*P		Pg	13 44 22.6	-0.5
HEF				*e*S		Sg	13 44 27.8	-0.8
LANU	**Lannavaara**	**0.71**	**206**	*e*P		Pg	13 44 28.1	-0.6
LANU				*e*S		Sg	13 44 36.7	-1.1
KIF	**Kilpisjarvi**	**0.80**	**295**	*e*P		Pg	13 44 29.6	-0.8
KIF				*e*S		Sg	13 44 40.1	-0.7
ARA0	**ARCESS Array S**	**1.29**	**47**	*e*P		Pg	13 44 39.9	+0.1
ARA0				*e*S		Sb	13 44 54.6	-1.7
ARA0	**ARCESS Array S**	**1.29**	**47**	*e*P		Pn	13 44 37.6	-1.9
ARA0				*e*S		Sb	13 44 54.5	-1.9
PAJU	**Pajala**	**1.67**	**176**	*e*P		Pn	13 44 44.5	-0.2
PAJU				*e*S		Sn	13 45 05.5	-0.8
KEV	**Kevo**	**1.84**	**52**	*e*S		Sn	13 45 10.7	+0.2
KEV				MSG			13 45 13.9	
	comp=Z,0.4nm,0.1s							
SGF	**Sodankyl**	**1.87**	**130**	*e*S		Sb	13 45 12.1	-0.9
SGF				MSG			13 45 16.9	
	comp=Z,0.3nm,0.1s							
HAMF	**Hammerfest**	**1.99**	**8**	*e*S		Sn	13 45 15.2	+0.9

*IDC **10** 13:52:07.8±0.4, 22.33S×68.31W, h106km±3km, mb5.4/32, mb1 5.4/36, mb1mx5.4/38, mbtmp5.7/36, MS5.1/13, Ms1 5.0/13, ms1mx4.9/24, Error ellipse: s-maj=10.4km s-min=7.7km az=78.0*

*VAO **10** 13:52:07.8±0.3, 22.37S×68.29W, h107km, mb6.0*

*NEIC **10** 13:52:08.6, 22.40S×68.30W, h125km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; Mrr=1.26; M$_{\theta\theta}$0.74; M$_{\phi\phi}$0.52; M$_{r\theta}$0.38; M$_{\theta\phi}$-0.50; M$_{\phi r}$-0.36; Fault plane solution: M$_o$1.31000×10^{18} NP1:ϕ_s310.65000°, δ56.72000°, λ-88.21000°. NP2:ϕ_s127.39000°, δ33.32000°, λ-92.73000°. Principal axes: T 1.2507, Plg12.0000°, Azm39.0000°; N 0.1182, Plg1.0000°, Azm130.0000°; P -1.3689, Plg78.0000°, Azm227.0000°;*

*SJA **10** 13:52:08.8±0.8, 22.45S×68.61W, h131km±5km, ML5.9, MW5.8*

*MOS **10** 13:52:09.1±1.1, 22.12S×68.35W, h122km, mb5.7/65, Error ellipse: s-maj=10.1km s-min=5.3km az=104.1*

*NEIC **10** 13:52:09, 22.31S×68.11W, h130km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; Mrr-1.40; M$_{\theta\theta}$0.92; M$_{\phi\phi}$0.48; M$_{r\theta}$0.07; M$_{\theta\phi}$-0.81; M$_{\phi r}$0.13; Fault plane solution: M$_o$1.48000×10^{18} NP1:ϕ_s301.00000°, δ45.00000°, λ-99.00000°. NP2:ϕ_s134.00000°, δ46.00000°, λ-80.00000°. Principal axes: T 1.5432, Plg0.0000°, Azm217.0000°; N -0.1252, Plg7.0000°, Azm307.0000°; P -1.4180, Plg83.0000°, Azm124.0000°;*

*BJI **10** 13:52:09.8±0.0, 22.42S×68.81W, h128km, mB5.9/58*

*GUC **10** 13:52:09.4±0.9, 22.43S×68.58W, h130km±4km, ML6.0, MW6.1*

*NEIC **10** 13:52:09.8±2.3, 22.40S±0.05×68.43W±0.07, h124km±1km, mb5.8/607, Mwb6.0/48, Mww6.0, Mwc6.1(GCMT), Mwr6.1(GUC), Error ellipse: s-maj=11.4km s-min=8.6km az=267.0*

*GCMT **10** 13:52:12.8±0.1, 22.48S×68.47W, h147km, MW6.1/163, Moment Tensor Solution. s163,c364; s158,c428; Duration: 2^{s}6 Moment tensor: Scale 10^{18}Nm; Mrr-1.47±.01; M$_{\theta\theta}$0.95±.01; M$_{\phi\phi}$0.52±.01; M$_{r\theta}$0.33±.01; M$_{\theta\phi}$-0.91±.01; M$_{\phi r}$-0.04±.01; Best double couple: M$_o$1.60600×10^{18} NP1:ϕ_s136.00000°, δ40.00000°, λ-79.00000°. NP2:ϕ_s301.00000°, δ51.00000°, λ-100.00000°. Principal axes: T 1.6960, Plg5.0000°, Azm38.0000°; N -0.1730, Plg7.0000°, Azm307.0000°; P -1.5170, Plg81.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 13:52:13, 22.49S×68.57W, h147km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; Mrr-1.50; M$_{\theta\theta}$0.84; M$_{\phi\phi}$0.66; M$_{r\theta}$0.39; M$_{\theta\phi}$-0.91; M$_{\phi r}$-0.15; Fault plane solution: M$_o$1.64000×10^{18} NP1:ϕ_s139.00000°, δ38.00000°, λ-80.00000°. NP2:ϕ_s306.00000°, δ52.00000°, λ-98.00000°. Principal axes: T 1.7143, Plg7.0000°, Azm42.0000°; N -0.1503, Plg6.0000°, Azm311.0000°; P -1.5640, Plg81.0000°, Azm181.0000°;*

ISC 10 13:52:08.7±0.3, **22.41S**±0.02×**68.45W**±0.03, **h122**km±2km, **h122**km:**pP-P, n1675,** σ1^{s}**50**/1873, **mb5.8**/387, **63C-565D, Fault plane solution: NP1:**ϕ_s317.62479°, δ40.94326°, λ-76.22856°. **NP2:**ϕ_s119.64784°, δ50.47067°, λ-101.66866°. **Principal axes:** T Plg4.8223°, Azm217.8995°; N Plg8.9746°, Azm127.1361°; P Plg79.7930°, Azm335.8393°; **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**0.47**	**245**	P		**Pn**	**13 52 27.4**	**+0.3**
	baz=54,slow=6.6							
LVC				S		**Sn**	**13 52 40.1**	**-0.9**
	64μm,0.3s,baz=155,slow=19,SNR=16							
LVC	**Limon Verde**	**0.47**	**245**	*i* P		**Pn**	**13 52 27.6**	**+0.6**
LVC				*i* S		**Sn**	**13 52 40.7**	**-0.2**
LVC	**Limon Verde**	**0.47**	**245**	*e*P		**Pn**	**13 52 27.6**	**+0.6**
LVC				IAML			13 52 43.9	
	comp=Z,109μm,0.4s							
PB09	**IPOC Station P**	**0.95**	**310**	*i* P		**Pn**	**13 52 31.8**	**+1.1**
PB09				*i* S		**Sn**	**13 52 47.9**	**+0.8**
PB09				IAML			13 52 50.5	
	comp=E,324μm,0.7s							
PB09	**IPOC Station P**	**0.95**	**310**			**Pn**	**13 52 31.8**	**+1.1**
PB09	**IPOC Station P**	**0.95**	**310**	*e*P		**Pn**	**13 52 31.9**	**+1.3**
PB09				*e*S		**Sn**	**13 52 48.2**	**+1.0**
PB09				IAML			13 52 51.0	
	comp=Z,241μm,0.5s							
PB06	**IPOC Station P**	**1.08**	**254**	⇓*i* P		**Pn**	**13 52 31.9**	**+0.1**
PB06				*i* S		**Sn**	**13 52 49.0**	**-0.3**
PB06				IAML			13 52 50.3	
	comp=N,250μm,0.6s							
PB06	**IPOC Station P**	**1.08**	**254**			**Pn**	**13 52 32.1**	**+0.3**
PB06	**IPOC Station P**	**1.08**	**254**	*e*P		**Pn**	**13 52 32.3**	**+0.5**
PB06				*e*S		**Sn**	**13 52 49.0**	**-0.3**
PB06				IAML			13 52 52.2	
	comp=Z,176μm,0.4s							
PB15	**IPOC Station P**	**1.23**	**230**	⇑*i* P		**Pn**	**13 52 33.9**	**+0.4**
PB15				*i* S		**Sn**	**13 52 51.9**	**-0.3**
PB15	**IPOC Station P**	**1.23**	**230**			**Pn**	**13 52 33.8**	**+0.4**
PB15	**IPOC Station P**	**1.23**	**230**	*e*P		**Pn**	**13 52 34.0**	**+0.6**
PB15				*e*S		**Sn**	**13 52 52.2**	**0.0**
PB15				IAML			13 52 55.6	
	comp=Z,397μm,0.3s							
PB07	**IPOC Station P**	**1.49**	**297**	⇓*i* P		**Pn**	**13 52 36.8**	**+0.4**
PB07				*i* S		**Sn**	**13 52 57.1**	**-0.2**
PB07				IAML			13 52 59.4	
	comp=E,314μm,0.3s							
PB07	**IPOC Station P**	**1.49**	**297**			**Pn**	**13 52 36.7**	**+0.4**
PB07	**IPOC Station P**	**1.49**	**297**	*e*P		**Pn**	**13 52 37.0**	**+0.7**
PB07				*e*S		**Sn**	**13 52 57.2**	**-0.2**
PB07				IAML			13 53 00.5	
	comp=Z,179μm,0.4s							
PB04	**IPOC Station P**	**1.57**	**272**	⇓*i* P		**Pn**	**13 52 37.3**	**+0.1**
PB04				*i* S		**Sn**	**13 52 57.8**	**-1.1**
PB04				IAML			13 53 02.2	
	comp=E,237μm,0.4s							
PB04	**IPOC Station P**	**1.57**	**272**			**Pn**	**13 52 37.2**	**+0.1**
PB04	**IPOC Station P**	**1.57**	**272**	*e*P		**Pn**	**13 52 37.4**	**+0.1**
PB04				*e*S		**Sn**	**13 52 58.0**	**-0.9**
PB04				IAML			13 53 08.4	
	comp=Z,164μm,0.7s							
PB01	**IPOC Station P**	**1.67**	**325**	⇑*i* P		**Pn**	**13 52 38.8**	**+0.5**
PB01				*i* S		**Sn**	**13 53 01.0**	**+0.2**
PB01	**IPOC Station P**	**1.67**	**325**			**Pn**	**13 52 38.8**	**+0.5**
PB01	**IPOC Station P**	**1.67**	**325**	*e*P		**Pn**	**13 52 39.0**	**+0.7**
PB01				*e*S		**Sn**	**13 53 00.6**	**-0.2**
PB01				IAML			13 53 03.3	
	comp=Z,64μm,0.6s							
PB05	**IPOC Station P**	**1.68**	**254**	⇓*i* P		**Pn**	**13 52 38.2**	**-0.1**
PB05				*i* S		**Sn**	**13 52 59.7**	**-1.4**
PB05	**IPOC Station P**	**1.68**	**254**	*e*P		**Pn**	**13 52 38.5**	**+0.1**
PB05				*e*S		**Sn**	**13 52 59.5**	**-1.6**
PB05				IAML			13 53 05.0	
	comp=Z,104μm,0.9s							
PB10	**IPOC Station P**	**2.23**	**240**	⇑*i* P		**Pn**	**13 52 44.3**	**-0.7**
PB10				*i* S		**Sn**	**13 53 10.6**	**-2.4**
PB10	**IPOC Station P**	**2.23**	**240**			**Pn**	**13 52 44.2**	**-0.9**
PB10	**IPOC Station P**	**2.23**	**240**	*e*P		**Pn**	**13 52 44.5**	**-0.6**
PB10				*e*S		**Sn**	**13 53 10.3**	**-2.7**
PB10				IAML			13 53 20.8	
	comp=Z,28μm,0.6s							
PATCX	**Punta Patache**	**2.24**	**315**	⇑*i* P		**Pn**	**13 52 44.9**	**-0.4**
PATCX				*i* S		**Sn**	**13 53 12.3**	**-1.0**
PATCX				IAML			13 53 16.9	
	comp=E,83μm,0.4s							
PATCX	**Punta Patache**	**2.24**	**315**			**Pn**	**13 52 44.9**	**-0.4**
PATCX	**Punta Patache**	**2.24**	**315**	*e*P		**Pn**	**13 52 45.2**	**-0.1**
PB08	**IPOC Station P**	**2.35**	**344**	⇑*i* P		**Pn**	**13 52 48.5**	**+1.4**
PB08				*i* S		**Sn**	**13 53 18.2**	**+1.8**
PB08	**IPOC Station P**	**2.35**	**344**			**Pn**	**13 52 48.3**	**+1.3**
PB08	**IPOC Station P**	**2.35**	**344**	*e*P		**Pn**	**13 52 48.8**	**+1.8**
PB08				*e*S		**Sn**	**13 53 18.1**	**+1.7**
PB08				IAML			13 53 20.4	
	comp=Z,52μm,0.4s							
TA01	**Diego Aracena**	**2.44**	**318**	⇑*i* P		**Pn**	**13 52 47.1**	**-0.7**
TA01				*i* S		**Sn**	**13 53 16.9**	**-0.9**
TA01				IAML			13 53 19.6	
	comp=N,82μm,0.5s							
TA01	**Diego Aracena**	**2.44**	**318**	Pn		**Pn**	**13 52 47.0**	**-0.7**
TA02	**Huaiquique**	**2.64**	**323**	⇑*i* P		**Pn**	**13 52 50.0**	**-0.4**
TA02				*i* S		**Sn**	**13 53 22.1**	**-0.4**
TA02	**Huaiquique**	**2.64**	**323**			**Pn**	**13 52 49.5**	**-0.9**
YJA	**Yavi**	**2.73**	**86**	*e*P		**Pn**	**13 52 55.3**	**+3.3**
YJA				*e*S		**Sn**	**13 53 28.9**	**+3.7**
PB14	**IPOC Station P**	**2.84**	**219**	⇑*i* P		**Pn**	**13 52 52.1**	**-1.1**
PB14				*i* S		**Sn**	**13 53 22.4**	**-5.1**
PB14	**IPOC Station P**	**2.84**	**219**	Pn		**Pn**	**13 52 52.0**	**-1.3**
PB14	**IPOC Station P**	**2.84**	**219**	*e*P		**Pn**	**13 52 52.3**	**-1.0**
PB14				*e*S		**Sn**	**13 53 21.5**	**-6.1**
PB14				IAML			13 53 26.8	
	comp=Z,47μm,0.9s							
PB11	**IPOC Station P**	**2.87**	**337**			**Pn**	**13 52 53.2**	**-0.3**
GO02	**Mina Guanaco**	**2.93**	**201**	⇑*i* P		**Pn**	**13 52 54.1**	**-0.3**
GO02	**Mina Guanaco**	**2.93**	**201**			**Pn**	**13 52 54.0**	**-0.5**
PSGC	**Pisagua**	**3.21**	**331**	⇑*i* P		**Pn**	**13 52 56.4**	**-1.5**
PSGC				IAML			13 53 40.9	
	comp=E,41μm,0.4s							
PSGC				*e*			13 53 45.2	
PSGCX	**Pisagua**	**3.21**	**331**			**Pn**	**13 52 56.3**	**-1.5**
PSGCX	**Pisagua**	**3.21**	**331**	*e*P		**Pn**	**13 52 56.6**	**-1.2**
MNMC	**Minye Minye**	**3.43**	**342**	⇑*i* P		**Pn**	**13 53 01.0**	**-0.1**
MNMC				*i* S		**Sn**	**13 53 40.8**	**-0.6**
MNMC	**Minye Minye**	**3.43**	**342**			**Pn**	**13 53 00.9**	**-0.1**
MNMCX	**Minye Minye**	**3.43**	**342**	*e*P		**Pn**	**13 53 01.3**	**+0.3**
SLA	**San Lorenzo**	**3.55**	**131**	*e*P		**Pn**	**13 53 05.4**	**+3.0**
SLA				*e*S		**Sn**	**13 53 43.7**	**-0.3**
PB16	**IPOC Station P**	**4.17**	**346**			**Pn**	**13 53 11.7**	**+0.6**
AC01	**Pan de Azucar**	**4.21**	**207**	Pn		**Pn**	**13 53 08.8**	**-2.2**
AP01	**Chacalluta**	**4.39**	**336**	*e*P		**Pn**	**13 53 11.3**	**-2.2**
AP01	**Chacalluta**	**4.39**	**336**			**Pn**	**13 53 12.3**	**-1.2**
AC02	**Maricunga**	**4.45**	**188**	Pn		**Pn**	**13 53 14.3**	**-0.4**
GO03	**Copiap**	**5.41**	**197**			**Pn**	**13 53 24.1**	**-3.1**
GO03	**Copiap**	**5.41**	**197**	*e*P		**Pn**	**13 53 24.6**	**-2.6**
GO03				*e*S		**Sn**	**13 54 29.4**	**+1.0**
LPAZ	**La Paz**	**6.10**	**3**	P		**Pn**	**13 53 38.2**	**+1.1**
	comp=E,201nm,0.3s,baz=174,slow=10,SNR=749							
LPAZ				P3KPbc			14 31 20.0	
	baz=27,slow=4.5,SNR=1.2							
LPAZ	**La Paz**	**6.10**	**3**	P		**Pn**	**13 53 38.3**	**+1.3**
LPAZ	**La Paz**	**6.10**	**3**	Pn		**Pn**	**13 53 38.3**	**+1.3**
LPAZ	**La Paz**	**6.10**	**3**	*e*P		**Pn**	**13 53 38.6**	**+1.5**
I08BO	**LAS PENAS INFR**	**6.16**	**360**	P		**Pn**	**13 53 36.3**	**-1.6**
	baz=204,slow=26,SNR=2.2							
AC04	**Llanos de Chal**	**6.24**	**202**	Pn		**Pn**	**13 53 33.6**	**-4.7**
CYA	**Choya**	**6.47**	**159**	*e*P		**Pn**	**13 53 41.0**	**-0.4**
LCO	**Las Campanas**	**6.88**	**197**	P		**Pn**	**13 53 42.7**	**-4.5**
LCO	**Las Campanas**	**6.88**	**197**	Pn		**Pn**	**13 53 42.7**	**-4.5**
AGUA	**GUANDACOL**	**7.05**	**180**	*e*P		**Pn**	**13 53 47.7**	**-1.6**
AGUA				IAML			13 55 07.9	
	comp=Z,5μm,1.2s							
ACLC	**CERRO LA CRUZ**	**7.12**	**169**	*e*P		**Pn**	**13 53 49.3**	**-1.0**
ACLC				IAML			13 55 29.3	
	comp=Z,1μm,1.3s							
ACDV	**Cuesta del Vie**	**7.75**	**184**	*e*P		**Pn**	**13 53 57.1**	**-1.8**
AROD	**Rodeo**	**7.78**	**187**	*e*P		**Pn**	**13 53 57.9**	**-1.6**
GO04	**Tololo Observa**	**8.01**	**195**	Pn		**Pn**	13 53 57.4	-5.1
GO04	**Tololo Observa**	**8.01**	**195**	*e*P		**Pn**	**13 53 57.8**	**-4.7**
GO04				*e*S		**Sn**	**13 55 29.2**	**-2.4**
CO03	**El Pedregal**	**8.63**	**193**			**Pn**	13 54 05.8	-4.9
ACHE	**Chepes**	**8.86**	**170**	*e*P		**Pn**	**13 54 11.5**	**-2.4**
RTLL	**Cerro Villicun**	**8.88**	**180**	*e*P		**Pn**	**13 54 11.0**	**-3.1**
ZON	**Zonda**	**9.10**	**181**	P		**Pn**	**13 54 13.4**	**-3.6**
ZON	**Zonda**	**9.10**	**181**			**Pn**	**13 54 13.4**	**-3.6**
ZON	**Zonda**	**9.10**	**181**	*e*P		**Pn**	**13 54 13.7**	**-3.3**
RTLS	**Leoncito**	**9.38**	**184**	*e*P		**Pn**	**13 54 17.8**	**-3.2**
SIV	**San Ignacio**	**9.45**	**49**	P		**Pn**	**13 54 18.9**	**-3.0**
	comp=Z,313nm,0.3s,baz=242,slow=8.7,SNR=2175							
SIV				S		**Sn**	**13 55 58.1**	**-8.3**
	comp=Z,128nm,0.3s,baz=318,slow=23,SNR=7.0							
SIV				LR		LR	13 58 51.9	
	comp=Z,19μm,21.6s,baz=307,slow=43							
MRA	**San Martin**	**10.26**	**167**	*e*P		**Pn**	**13 54 28.8**	**-3.9**
VA03	**San Esteban**	**10.48**	**190**			**Pn**	13 54 30.2	-5.5
AAGR	**Agrelo**	**10.64**	**182**	*e*P		**Pn**	**13 54 34.6**	**-3.2**
CPUP	**Villa Florida**	**10.86**	**113**	P		**Pn**	**13 54 38.6**	**-2.1**
	comp=Z,3.0nm,0.3s,baz=298,slow=12,SNR=157							
CPUP				LR		LR	13 59 37.9	
	comp=Z,11μm,20.8s,baz=308,slow=42							
CPUP				P3KPbc			14 31 07.8	
	comp=Z,0.2nm,0.3s,baz=63,slow=4.5,SNR=3.1							
VA01	**Torpederas**	**10.94**	**194**			**Pn**	13 54 34.2	-7.5
MT02	**Curacav**	**11.07**	**192**	Pn		**Pn**	13 54 35.8	-7.6
MT05	**Renca**	**11.12**	**190**			**Pn**	13 54 38.1	-6.1
MT03	**Universidad Ad**	**11.19**	**189**			**Pn**	13 54 39.1	-6.1
PTLB	**Pontes e Lacer**	**11.21**	**53**	*e*P		**Pn**	**13 54 42.2**	**-3.1**
MT09	**Talagante**	**11.54**	**191**			**Pn**	13 54 42.8	-7.1
VA05	**Santo Domingo**	**11.55**	**193

SDBA SAO DESIDERIO 24.54 70 eP P 13 57 15.5 -1.7
CUSE Cuicocha Este 24.57 335 eP P 13 57 20.9 +3.0
MALB Monte Alegre 24.65 36 eP P 13 57 17.2 -0.9
PAC1 Pacto, Paraso 24.69 335 eP P 13 57 21.7 +3.1
TULM Tulcn-Chalpat 24.72 337 eP P 13 57 19.9 +0.6
CAM01 Campos-RJ 24.82 94 eP P 13 57 18.3 -1.4
FLOC Florencia 24.86 343 P P 13 57 20.7 +0.6
FLOC IAmb IAmb 13 57 35.0
comp=Z,517nm,1.0s
FLOC Florencia 24.86 343 eP P 13 57 23.6 +3.6
CFLOR Florencia 24.86 343 eP P 13 57 23.6 +3.5
MACC Macarena, Meta 24.97 347 eP P 13 57 19.0 -2.1
GCUF Volcan Galeras 25.04 339 eP P 13 57 25.0 +2.8
CCUFI Cufio, Nario 25.04 339 eP P 13 57 29.6 +7.3
GUVC San Jose del G 25.14 350 eP P 13 57 24.4 +1.9
CRUC La Cruz 25.23 340 eP P 13 57 28.9 +5.0
GARC Garzon, Huila 25.39 343 eP P 13 57 26.1 +0.9
SOTA Rioblanco 25.66 341 eP P 13 57 32.6 +4.7
BBAC Balboa, Cauca 25.76 339 eP P 13 57 29.9 +1.5
SJMB Sao Joao De Ma 25.78 87 eP P 13 57 26.5 -1.9
PCON Cinco Dias 25.78 341 eP P 13 57 30.8 +1.8
BOAV Boa Vista 25.84 18 eP P 13 57 29.8 +0.9
ALF01 Guarapari-ES 25.84 91 eP P 13 57 27.4 -1.6
BETC Betania 25.86 344 eP P 13 57 32.3 +3.2
TUMC Tumaco 26.09 336 eP P 13 57 32.6 +1.4
MARP Paez Belalcaza 26.15 343 eP P 13 57 36.2 +4.2
RIB01 Linhares ES 26.38 88 eP P 13 57 31.9 -1.9
PTGC Puerto Gaitan, 26.69 352 eP P 13 57 39.0 +2.4
PRAC Prado 26.71 346 eP P 13 57 33.5 -3.3
VILC Villavicencio, 26.85 348 eP P 13 57 39.0 +0.8
ORTC Ortega, Tolima 26.99 345 eP P 13 57 38.1 -1.2
MCPB Macapa, AP 27.11 38 eP P 13 57 39.6 -0.8
YOTC Yotoco, Valle 27.34 343 eP P 13 57 45.3 +2.8
CHIC Chingaza 27.36 348 eP P 13 57 45.6 +2.5
ANIL Santa Ana 27.59 345 eP P 13 57 47.1 +2.2
GUA01 Guaratinga, BA 27.59 83 eP P 13 57 42.9 -1.8
TOLC Tolima 27.66 345 eP P 13 57 46.2 +0.7
MALC Bahia Malaga 27.66 341 eP P 13 57 49.0 +3.7
ROSC El Rosal 27.68 347 P P 13 57 49.1 +3.2
comp=Z,71nm,0.7s,baz=114,slow=11,SNR=21
ROSC LR LR 14 10 37.1
comp=Z,9µm,18.4s,baz=201,slow=40
ROSC El Rosal 27.68 347 P P 13 57 46.4 +0.5
ROSC pmax pmax
comp=Z,136nm,0.7s
ROSC El Rosal 27.68 347 P P 13 57 46.4 +0.5
ROSC IAmb IAmb 13 58 00.1
comp=Z,136nm,0.7s
RREF El Recreo 27.97 345 eP P 13 57 51.7 +3.0
TMAB Tom-Au,PA,Br 28.06 48 eP P 13 57 48.8 0.0
PLMC San Jos del P 28.21 343 eP P 13 57 51.7 +1.5
CMC01 Camacan, BA 28.23 81 eP P 13 57 48.4 -1.9
GUY2C Guyana, Caldas 28.29 345 eP P 13 57 54.4 +3.1
SPBC San Pablo de B 28.43 348 eP P 13 57 50.8 -1.4
NBIT Itapeh - BA 28.44 80 eP P 13 57 51.1 -1.2
RUSC La Rusia 28.49 350 P P 13 57 53.6 +0.4
RUSC La Rusia 28.49 350 eP P 13 57 52.6 -0.6
NORC Norcasia 28.50 347 eP P 13 57 50.0 -2.0
PIZC Pizarro, Choco 28.57 341 eP P 13 57 55.3 +2.0
GDU01 Guandu, BA 28.74 77 eP P 13 57 53.2 -1.7
GO09 Cerro Castillo 28.97 185 P P 13 57 56.9 +0.4
CBOC Ciudad Bolivar 29.06 344 eP P 13 57 59.1 +1.3
BARC Barichara 29.19 350 eP P 13 58 00.2 +1.1
MAPC Malpelo 29.23 332 eP P 13 58 00.8 +1.6
HELC Santa Helena 29.26 345 eP P 13 57 57.1 -2.7
NBPN Ponto Novo - B 29.35 72 eP P 13 57 59.1 -1.2
SOLC Bahia Solano 29.78 342 eP P 13 58 16.2 +12
BRRC Barranca, Sant 29.78 349 eP P 13 58 06.8 +2.7
PAMC Pamplona, Colo 29.86 352 eP P 13 58 05.3 +0.1
PAYG Puerto Ayora 30.30 313 P P 13 58 08.1 -0.7
PAYG IAmb IAmb 13 58 13.4
comp=Z,106nm,0.9s
EFI East Falkland 30.30 167 d iP P 13 58 08.0 -0.3
EFI i *PP pP 13 58 36.3 +0.8
EFI pmax pmax
comp=Z,229nm,1.0s
EFI East Falkland 30.30 167 P P 13 58 07.5 -0.8
EFI IAmb IAmb 13 58 10.3
comp=Z,218nm,0.9s
ZARC Zaragoza, Cauc 30.37 347 eP P 13 58 08.9 -0.3
ROSB Rosrio 30.55 54 eP P 13 58 10.2 -0.6
SOCV Socops 30.59 355 eP P 13 58 11.7 +0.4
GO10 Punta Arenas 30.76 183 P P 13 58 13.0 +0.7
UREC San Jos de Ur 30.77 346 eP P 13 58 12.6 -0.2
SDV Santo Domingo 31.18 356 P P 13 58 15.6 -0.9
SDV IAmb IAmb 13 58 20.7
comp=Z,123nm,0.9s
SDV Santo Domingo 31.18 356 eP P 13 58 16.2 -0.3
SDV Santo Domingo 31.18 356 eP P 13 58 16.2 -0.3
MDP Montagnes des 31.42 31 P P 13 58 18.1 -0.4
comp=Z,393nm,0.9s,baz=204,slow=9.9,SNR=94
SMLC San Martn de 31.50 349 eP P 13 58 16.2 -3.0
NBPS Pedro II - PI 31.69 60 eP P 13 58 20.5 -0.5
NBMA Muriti-CE 32.26 67 eP P 13 58 25.9 -0.1
USHA Ushuaia 32.38 180 P P 13 58 26.9 +0.4
comp=Z,94nm,0.9s,baz=358,slow=3.0,SNR=9.7
NBPB Pedra_Branca-C 32.54 63 eP P 13 58 28.1 -0.3
ARGC Ariguani, Magd 32.57 349 eP P 13 58 27.3 -1.2
PCRV Puerto La Cruz 32.60 7 LR LR 14 12 54.5
comp=Z,12µm,19.4s,slow=38
SJCC San Jacinto, C 32.78 348 P P 13 58 29.4 -0.9
SJCC IAmb IAmb 13 58 57.0
comp=Z,237nm,0.9s
SJCC San Jacinto, C 32.78 348 eP P 13 58 29.8 -0.6
UPA Univ. de Panam 33.03 340 eP P 13 58 36.2 +3.6
DABV Dabajuro 33.19 356 eP P 13 58 32.9 -1.1
TPP Pointe-a-Pierr 33.24 13 eP P 13 58 38.2 +3.9
NBAN Anadia - AL 33.33 73 eP P 13 58 34.0 -1.2
NBMO Morrinhos-CE 33.45 60 eP P 13 58 35.6 -0.7
TRN Trinidad (W) 33.57 13 eP P 13 58 35.4 -1.8
SMRC Santa Marta, M 33.84 350 eP P 13 58 38.0 -1.6
URIC Uribia, Colomb 34.08 354 P P 13 58 40.0 -1.6
URIC IAmb IAmb 13 58 49.0
comp=Z,121nm,1.0s
URIC Uribia, Colomb 34.08 354 eP P 13 58 37.1 -4.5
NBCL Cascavel-CE 34.34 63 eP P 13 58 43.6 -0.4
TOSP Speyside 34.39 14 eP P 13 58 44.8 +0.5
TOSP Speyside 34.39 14 P P 13 58 44.8 +0.5
NBPA Parau_RN 34.50 66 eP P 13 58 45.0 -0.3
NBRF Rio Formoso - 34.78 72 eP P 13 58 47.1 -0.7
GRGR Grenville 34.97 12 eP P 13 58 48.9 -0.4
GRGR Grenville 34.97 12 P P 13 58 48.3 -1.0
GCMP Grenada, Carri 35.36 12 eP P 13 58 50.6 -2.0
CVTR Volcan Turrial 35.55 333 P P 13 58 56.1 +1.3
JACO JACO, Garabito 35.61 332 P P 13 58 55.9 +1.1
HDC Heredia 35.68 333 P P 13 58 55.8 +0.2
HDC IAmb IAmb 13 59 04.6
comp=Z,252nm,1.3s
NBPV Pedro Velho 35.71 69 eP P 13 58 55.9 +0.2
SVB Belmont 36.16 12 eP P 13 58 59.3 -0.2
SVB Belmont 36.16 12 P P 13 58 58.3 -1.1
SVV Soufriere Volc 36.21 12 eP P 13 58 58.9 -1.0
SSV Crater Summit 36.22 12 eP P 13 59 01.1 +1.0
JTS Las Juntas de 36.30 332 eP P 13 59 02.6 +1.9
JTS pmax pmax
comp=Z,120nm,1.2s
BBGH Gun Hill 36.39 15 eP P 13 59 03.1 +1.7
ORTG Ortega, Santa 36.59 331 P P 13 59 03.0 -0.3
ORTG IAmb IAmb 13 59 11.9
comp=Z,171nm,1.5s
MCLT Moule a Chique 36.64 12 eP P 13 59 04.4 +0.8
MCLT Moule a Chique 36.64 12 P P 13 59 03.2 -0.4
SLB Belfond 36.74 12 eP P 13 59 04.0 -0.5
SLBI Saint Lucia, B 36.94 12 eP P 13 59 03.0 -3.0
MPOM Morne Pois Mar 37.38 12 eP P 13 59 10.0 +0.3
MPOM Morne Pois Mar 37.38 12 P P 13 59 09.4 -0.3
BIM Bigot 37.41 12 eP P 13 59 06.9 -3.2
BIM Bigot 37.41 12 P P 13 59 08.8 -1.3
FDF Fort de France 37.60 12 eP P 13 59 11.3 -0.4
FDF Fort de France 37.60 12 P P 13 59 10.9 -0.8
FDF pmax pmax
comp=Z,910nm,0.7s
FDF Fort de France 37.60 12 P P 13 59 10.9 -0.8
ILAM Ilet Lapin Mar 37.69 12 eP P 13 59 12.0 -0.4
ILAM Ilet Lapin Mar 37.69 12 P P 13 59 10.7 -1.7
SVN Savane Anatole 37.70 12 P P 13 59 11.8 -0.8
ACON Acoyapa 37.90 333 P P 13 59 13.4 -0.7
DLPL La Plaine 38.17 11 eP P 13 59 22.4 +6.0
DLPL La Plaine 38.17 11 P P 13 59 15.4 -1.0
BOAB BOACO BROADBAN 38.54 332 P P 13 59 19.0 -0.5
BOAB IAmb IAmb 13 59 33.4

comp=Z,121nm,1.0s
TDBA Terre de Bas, 38.60 11 eP P 13 59 15.1 -5.0
MAGL Barre de l'ile 38.76 11 eP P 13 59 21.9 +0.5
ABD La Joyeuse, An 39.24 11 eP P 13 59 25.2 -0.1
CRIN San Cristobal 39.37 331 P P 13 59 26.7 +0.2
CRIN IAmb IAmb 13 59 53.2
comp=Z,87nm,0.8s
MLYT Lee's Yard 39.37 9 eP P 13 59 27.2 +0.7
MBFL Flemmings, Mon 39.39 9 eP P 13 59 30.4 +3.8
BPA Boggy Peak 39.74 10 eP P 13 59 32.0 +2.5
ANOC Antigua Open C 39.82 10 eP P 13 59 32.3 +2.2
HOPE Hope Point 39.88 151 P P 13 59 31.5 +1.2
HOPE pmax pmax
comp=Z,1µm,1.0s
HOPE Hope Point 39.88 151 P P 13 59 31.5 +1.2
SKI Saint Kitts 39.89 9 eP P 13 59 30.4 -0.3
SKI Saint Kitts 39.89 9 P P 13 59 28.8 -2.0
SKI pmax pmax
comp=Z,168nm,0.9s
SKI Saint Kitts 39.89 9 P P 13 59 28.8 -2.0
SKI IAmb IAmb 13 59 35.2
comp=Z,168nm,0.9s
CDVI St. Croix 40.08 5 P P 13 59 31.5 -0.8
CDVI IAmb IAmb 13 59 41.4
comp=Z,128nm,0.7s
ICMP Isla Caja de M 40.09 3 P P 13 59 31.6 -0.8
MLPR Magueyes Islan 40.16 2 P P 13 59 32.2 -0.7
OBIP Obispado Ponce 40.24 3 P P 13 59 31.7 -1.9
PDPR Patillas Dam, 40.25 4 P P 13 59 31.7 -2.0
SJG San Juan 40.34 3 P P 13 59 32.9 -1.4
comp=Z,68nm,0.6s,baz=216,slow=2.7,SNR=23
SJG PP PP 14 01 11.4 +1.6
comp=Z,111nm,0.9s,baz=183,slow=12,SNR=3.9
SJG San Juan 40.34 3 P P 13 59 32.5 -1.9
SJG San Juan 40.34 3 eP P 13 59 31.6 -2.8
MTP Monte Pirata 40.36 4 P P 13 59 32.2 -2.4
ANWB Willy Bob 40.36 10 eP P 13 59 32.7 -1.9
ANWB Willy Bob 40.36 10 P P 13 59 32.4 -2.3
HUMP Col San Antoni 40.38 4 P P 13 59 32.6 -2.2
HUMP IAmb IAmb 13 59 45.8
comp=Z,118nm,1.1s
MPR Mayaguez 40.39 2 P P 13 59 33.2 -1.6
MPR IAmb IAmb 13 59 41.0
comp=Z,214nm,0.9s
CBYP Canovanas 40.51 4 P P 13 59 34.0 -1.9
CBYP IAmb IAmb 13 59 39.0
comp=Z,284nm,1.3s
GCPR Guaynabo City 40.53 3 P P 13 59 33.9 -2.1
GCPR IAmb IAmb 13 59 46.6
comp=Z,90nm,0.6s
AOPR Arecibo Observ 40.54 2 P P 13 59 33.8 -2.3
AOPR IAmb IAmb 13 59 47.6
comp=Z,213nm,0.9s
CUPR Culebra, Puert 40.59 5 P P 13 59 34.4 -2.0
STVI Saint Thomas 40.66 5 P P 13 59 35.5 -1.5
TGUH Tegucigalpa,Un 40.67 331 P P 13 59 36.3 -1.0
TGUH IAmb IAmb 13 59 44.6
comp=Z,150nm,0.8s
TGUH Tegucigalpa,Un 40.67 331 eP P 13 59 37.9 +0.6
PCDR Punta Cana, DR 40.67 0 P P 13 59 35.8 -1.3
EMPR Esperanza - Ma 40.68 3 P P 13 59 35.4 -1.8
EMPR IAmb IAmb 13 59 46.8
comp=Z,154nm,0.8s
ABVI Anegada Island 41.09 6 P P 13 59 38.4 -2.1
ABVI IAmb IAmb 13 59 51.6
comp=Z,170nm,0.7s
MTDJ Mount Denham 41.35 347 P P 13 59 42.6 -0.3
MTO3 Montecristo 41.93 329 P P 13 59 49.4 +1.6
MTO3 IAmb IAmb 13 59 51.7
comp=Z,165nm,0.8s
PMSA Palmer Station 42.45 177 P P 13 59 52.4 +1.3
comp=Z,178nm,0.8s,baz=357,slow=7.7,SNR=16
PMSA Palmer Station 42.45 177 P P 13 59 50.7 -0.4
PMSA IAmb IAmb 13 59 54.9
comp=Z,189nm,0.8s
PMSA Palmer Station 42.45 177 eP P 13 59 52.7 +1.6
GTBY Guantanamo Bay 42.58 351 P P 13 59 52.3 -0.3
FSCY Frank Sound, G 43.29 342 P P 13 59 58.7 +0.2
GRTK Grand Turk 43.73 356 P P 14 00 01.9 0.0
PETF Flores 44.35 330 P P 14 00 06.4 -0.6
PETF IAmb IAmb 14 00 10.7
comp=Z,149nm,0.7s
CCIG Comitan 44.91 327 P P 14 00 10.4 -1.2
CMIG Matias Romero 47.02 324 P P 14 00 29.1 +1.1
comp=Z,44nm,0.8s,baz=126,slow=5.3,SNR=32
SOR Soroa 47.11 342 P P 14 00 28.1 -0.5
SOR pmax pmax
comp=Z,187nm,1.0s
SOR Soroa 47.11 342 P P 14 00 28.1 -0.5
SOR IAmb IAmb 14 00 36.4
comp=Z,187nm,1.0s
061Z Ochoppi 49.48 345 P P 14 00 45.5 -1.2
060A Indiantown 50.49 346 P P 14 00 55.1 +0.8
DWPF Disney Wildern 51.76 345 P
baz=165
DWPF S 14 08 18.3
baz=165
DWPF Disney Wildern 51.77 345 P P 14 01 02.2 -1.6
MOIG Morelia 52.66 320 P P 14 01 09.5 -1.4
MOIG IAmb IAmb 14 01 14.1
comp=Z,178nm,1.1s
656A Willston 53.24 345 P P 14 01 14.0 -0.6
656A IAmb IAmb 14 01 21.4
comp=Z,166nm,1.0s
456A Hilliard 54.41 346 P P 14 01 22.0 -1.2
553A Crawfordville 54.51 343 P P 14 01 22.6 -1.3
BBSR BB Station 54.59 4 P P 14 01 22.5 -1.9
TIGA Tifton 55.47 344 P
baz=163
TIGA S 14 09 08.0
baz=163
TIGA Tifton 55.47 344 P P 14 01 28.9 -1.9
TIGA IAmb IAmb 14 01 37.2
comp=Z,87nm,0.9s
255A Hazlehurst 55.67 346 P P 14 01 31.5 -0.7
255A IAmb IAmb 14 01 38.7
comp=Z,120nm,1.1s
ZAIG Zacatecas 55.86 321 P P 14 01 35.8 +1.7
ZAIG IAmb IAmb 14 01 38.5
comp=Z,89nm,0.8s
352A Blakely 55.86 343 P P 14 01 33.0 -0.5
RGRS Roger Stewart 56.14 348 P P 14 01 36.4 +0.9
BRAL Brewton 56.18 341 P
baz=159
BRAL S 14 09 15.5
baz=159
BRAL Brewton 56.18 341 P P 14 01 36.3 +0.5
CSU Charleston Sou 56.19 348 P P 14 01 36.2 +0.4
NHSC New Hope 56.33 348 P
baz=167,SNR=25
NHSC S 14 09 20.3
baz=167
NHSC New Hope 56.33 348 P P 14 01 37.3 +0.5
154A Montrose 56.48 345 P P 14 01 38.0 +0.1
250A Grady 56.70 342 P P 14 01 39.1 -0.4
250A IAmb IAmb 14 01 45.8
comp=Z,140nm,1.1s
Y60A Bolivia 56.87 350 P P 14 01 40.6 0.0
152A Waverly Hall 56.93 344 P P 14 01 40.6 -0.5
152A IAmb IAmb 14 01 48.2
comp=Z,82nm,1.1s
Y58A Scranton 57.01 349 P P 14 01 40.3 -1.4
346A Big Creek Wild 57.16 339 P P 14 01 42.4 -0.4
346A IAmb IAmb 14 01 50.3
comp=Z,100nm,0.9s
KVTX Kingsville 57.24 329 P P 14 01 43.4 +0.1
Y57A Sumter 57.25 348 P P 14 01 43.5 +0.1
GOGA Godfrey 57.33 345 P
baz=164,SNR=20
GOGA S 14 09 29.7
baz=164
GOGA Godfrey 57.33 345 P P 14 01 43.6 -0.3
GOGA pmax pmax
comp=Z,50nm,1.1s
GOGA Godfrey 57.33 345 P P 14 01 43.6 -0.3
SACV Santiago Islan 57.53 54 P P 14 01 44.6 -1.1
SACV IAmb IAmb 14 01 50.8
comp=Z,125nm,0.9s
X58A Rowland 57.59 349 P P 14 01 46.3 +0.6
344A Westbrook Farm 57.66 337 P P 14 01 46.7 +0.5
344A IAmb IAmb 14 01 53.1
comp=Z,106nm,1.0s
Z51A Franklin 57.67 343 P P 14 01 46.5 +0.2
JSC Jenkinsville 57.68 347 P P 14 01 46.3 0.0

JSC pmax pmax
comp=Z,45nm,0.9s
JSC Jenkinsville 57.68 347 P P 14 01 46.3 0.0
HODGE Hodges 57.84 346 P P 14 01 47.5 0.0
BIRD Birdtown, Kers 57.88 348 P P 14 01 48.0 +0.2
Y52A Lilburn 57.90 345 P P 14 01 47.8 -0.2
Y52A IAmb IAmb 14 01 54.0
comp=Z,66nm,0.9s
441A DeRidder 57.95 335 P P 14 01 48.2 -0.1
CNNC Cliffs of the 58.03 351 P
baz=170
CNNC S 14 09 40.9
baz=170
342A Flagon Creek P 58.17 336 P P 14 01 50.0 +0.2
146A Union 58.17 340 P P 14 01 50.1 +0.2
146A IAmb IAmb 14 01 57.3
comp=Z,84nm,1.1s
VBMS Vicksburg 58.28 338 P
baz=156
VBMS S 14 09 43.3
baz=156
VBMS Vicksburg 58.28 338 P P 14 01 50.5 -0.1
VBMS IAmb IAmb 14 01 58.3
comp=Z,70nm,0.8s
W57A Gilead 58.28 349 P P 14 01 50.8 +0.2
735A Kenedy 58.30 330 P P 14 01 51.0 +0.2
PAULI Pauline 58.31 347 P P 14 01 50.8 0.0
PAULI IAmb IAmb 14 01 57.0
comp=Z,106nm,1.0s
HKT Hockley 58.34 332 P P 14 01 51.3 +0.3
HKT pmax pmax
comp=Z,120nm,1.2s
HKT Hockley 58.34 332 P P 14 01 51.3 +0.3
HKT IAmb IAmb 14 01 53.2
comp=Z,120nm,1.2s
Z47A Carrollton 58.38 341 P P 14 01 50.0 -1.2
Z47A IAmb IAmb 14 01 52.0
comp=Z,66nm,0.8s
V61A Roper 58.39 352 P P 14 01 50.2 -1.1
Y49A Blount Mountai 58.51 342 P P 14 01 51.3 -0.9
Y49A IAmb IAmb 14 01 59.1
comp=Z,76nm,1.1s
KMSC Kings Mountain 58.52 348 P
baz=166,SNR=42
KMSC S 14 09 47.4
baz=166
KMSC Kings Mountain 58.53 348 P P 14 01 51.6 -0.7
KMSC IAmb IAmb 14 01 59.1
comp=Z,140nm,0.9s
833A Chaparral WMA, 58.61 328 P
baz=146,SNR=84
833A S 14 09 48.6
baz=146
BG3 Lake Jocassee 58.72 346 P P 14 01 53.9 +0.3
BG3 IAmb IAmb 14 01 59.8
comp=Z,61nm,0.9s
V58A Windy Hill, Pi 58.76 350 P P 14 01 54.1 +0.3
V58A IAmb IAmb 14 01 59.9
comp=Z,151nm,1.0s
X51A Calhoun 58.77 344 P P 14 01 53.8 -0.2
FPAL Fort Paine 58.94 343 P P 14 01 54.8 -0.4
FPAL IAmb IAmb 14 02 01.6
comp=Z,77nm,1.0s
143A Socs Landing, 59.03 337 P P 14 01 55.4 -0.3
W52A Murphy 59.04 345 P P 14 01 55.6 -0.3
W52A IAmb IAmb 14 02 02.4
comp=Z,130nm,1.1s
VNA3 Neumayer Olymp 59.08 161 P P 14 01 56.7 +1.0
VNA3 S S 14 10 07.8 +15
U59A Littleton 59.11 351 P P 14 01 55.9 -0.3
U59A IAmb IAmb 14 02 02.4
comp=Z,125nm,0.9s
V55A Taylorsville 59.19 348 P P 14 01 57.3 +0.5
SHEL Horse Pasture 59.22 96 P P 14 01 56.5 -1.1
X48A Hartselle 59.25 342 P P 14 01 57.1 -0.1
X48A IAmb IAmb 14 02 04.5
comp=Z,141nm,1.1s
VNA1 Neumayer--Stat 59.29 160 P P 14 01 58.5 +1.4
VNA1 S S 14 10 13.6 +18
V53A Saluda 59.34 346 P P 14 01 57.8 -0.2
V53A IAmb IAmb 14 02 20.5
comp=Z,86nm,0.7s
NATX Nacogdoches 59.42 334 P
baz=152,SNR=8.4
NATX S 14 10 00.1
baz=152
NATX Nacogdoches 59.42 334 P P 14 01 59.4 +0.9
Y45A Yeager Farm, C 59.46 340 P P 14 01 58.6 -0.1
W50A Signal Mountai 59.48 344 P P 14 01 58.8 -0.2
U56A King 59.52 349 P P 14 01 59.8 +0.7
CPCT Cooper Cave 59.53 345 P P 14 01 59.0 -0.2
CPCT IAmb IAmb 14 02 05.9
comp=Z,141nm,1.0s
TKL Tuckaleechee C 59.55 346 P P 14 01 59.2 -0.1
comp=Z,65nm,0.8s,baz=160,slow=9.0,SNR=46
TKL Tuckaleechee C 59.55 346 P P 14 01 59.1 -0.2
TKL pmax pmax
comp=Z,161nm,1.0s
TKL Tuckaleechee C 59.55 346 P P 14 01 59.0 -0.2
VNA2 Neumayer--Watz 59.66 161 P P 14 02 00.6 +1.0
baz=290,slow=6.9
SWET Sewanee 59.66 343 P P 14 01 59.9 -0.2
T59A Double "B" Far 59.68 352 P P 14 02 00.0 -0.1
V52A Sevierville 59.68 346 P P 14 01 59.9 -0.3
T60A Surry 59.74 352 P P 14 02 00.8 +0.3
V51A Loudon 59.82 345 P P 14 02 00.8 -0.4
V51A IAmb IAmb 14 02 06.8
comp=Z,57nm,0.8s
435B Jarrell 59.83 331 P
baz=149,SNR=10
435B S 14 10 03.5
baz=149
435B Jarrell 59.83 331 P P 14 02 01.5 +0.2
435B IAmb IAmb 14 02 04.1
comp=Z,89nm,0.7s
U54A Nelsons Funny 59.96 348 P P 14 02 02.3 +0.1
T57A Hurt 59.96 350 P P 14 02 02.7 +0.6
T57A IAmb IAmb 14 02 08.4
comp=Z,141nm,1.0s
OXF Oxford 60.01 340 P
baz=158,SNR=23
OXF S 14 10 03.9
baz=158
OXF Oxford 60.01 340 P P 14 02 01.9 -0.6
OXF pmax pmax
comp=Z,227nm,1.1s
OXF Oxford 60.01 340 P P 14 02 01.9 -0.6
Z41A Richland Creek 60.03 336 P
baz=154
Z41A S 14 10 08.0
baz=154
PLAL Pickwick Lake 60.04 341 P P 14 02 01.9 -0.7
PLAL IAmb IAmb 14 02 09.4
comp=Z,119nm,1.1s
237A Washetta, Mont 60.11 333 P P 14 02 03.9 +0.7
TZTN Tazewell 60.34 346 P
baz=164,SNR=19
TZTN S 14 10 09.2
baz=164
TZTN Tazewell 60.34 346 P P 14 02 04.1 -0.6
TZTN IAmb IAmb 14 02 27.2
comp=Z,64nm,0.8s
BLA Blacksburg 60.36 349 P
baz=167,SNR=16
BLA S 14 10 13.3
baz=167
BLA Blacksburg 60.37 349 P P 14 02 05.1 +0.2
BLA pmax pmax
comp=Z,102nm,0.9s
BLA Blacksburg 60.37 349 P P 14 02 05.1 +0.2
BLA IAmb IAmb 14 02 13.9
comp=Z,102nm,0.9s
V48A Smith Brothers 60.39 343 P P 14 02 05.0 -0.1
V48A IAmb IAmb 14 02 28.5
comp=Z,133nm,0.9s
WLAR White Oak Lake 60.53 336 P P 14 02 06.2 +0.2
W45A Hickory Valley 60.54 341 P P 14 02 05.2 -0.9
CLTN Cedars of Leba 60.59 343 P P 14 02 06.0 -0.4
CLTN IAmb IAmb 14 02 13.6
comp=Z,148nm,1.0s
JCT Junction City 60.60 329 P
baz=147,SNR=79
JCT S 14 10 14.1
baz=147
JCT Junction City 60.60 329 P P 14 02 07.0 +0.4

JCT pmax pmax
comp=Z,212nm,1.1s
JCT Junction City 60.60 329 P P 14 02 07.0 +0.4
S57A Dark Hollow, R 60.66 350 P P 14 02 07.5 +0.6
R58B Mineral 60.70 351 P P 14 02 07.7 +0.6
R58B IAmb IAmb 14 02 13.6
comp=Z,155nm,1.1s
R61A Willards 60.76 354 P P 14 02 07.9 +0.4
WHTX Lake Whitney, 60.80 332 P 14 02 08.8
baz=149,SNR=21
WHTX S 14 10 16.9
baz=149
WHTX Lake Whitney, 60.80 332 P P 14 02 08.4 +0.5
WHTX IAmb IAmb 14 02 09.6
comp=Z,146nm,1.0s
RKT Rikitea 60.83 255 *eP* **P 14 02 10.7 +2.3**
comp=Z,99nm,0.9s
RKT *eS* **S 14 10 11.5 -5.2**
comp=Z,5µm,25.8s
RKT *eLQ* LQ 14 17 23.5
comp=Z,3µm,29.2s
RKT *eLR* LR 14 19 56.0
comp=Z,5µm,34.2s
U49A Red Boiling Sp 60.85 344 P **P 14 02 07.9 -0.3**
U49A IAmb IAmb 14 02 15.1
comp=Z,73nm,1.0s
CBN Corbin Frederi 60.87 352 P 14 02 09.3
baz=171
CBN S 14 10 13.7
baz=171
Z38A Mt. Pleasant 60.87 335 P P 14 02 09.1 +0.8
Z38A IAmb IAmb 14 02 10.5
comp=Z,151nm,1.0s
WVT Waverly 61.04 342 P 14 02 09.1
baz=160
WVT S 14 10 15.6
baz=160
WVT Waverly 61.04 342 P P 14 02 09.0 -0.5
WVT pmax pmax
comp=Z,146nm,1.0s
WVT Waverly 61.04 342 P P 14 02 09.0 -0.5
WVT IAmb IAmb 14 02 16.1
comp=Z,146nm,0.9s
SLBS Sierra La Lagu 61.05 316 P P 14 02 10.4 +0.5
SLBS IAmb IAmb 14 02 13.3
comp=Z,170nm,1.4s
S54A Dingess, Beckl 61.10 348 P P 14 02 09.7 -0.2
T50A Nancy 61.10 345 P P 14 02 09.4 -0.4
X40A Basin Creek Fa 61.15 337 P 14 02 10.3
baz=154,SNR=5.7
X40A S 14 10 18.4
baz=154
X40A Basin Creek Fa 61.15 337 P P 14 02 09.8 -0.4
SNAA Sanae 61.28 161 P P 14 02 11.6 +0.8
SNAA S S 14 10 37.9 +17
SNAA Sanae 61.28 161 P **P 14 02 11.4 +0.6**
comp=Z,362nm,0.9s,baz=286,slow=5.9,SNR=420
SNAA Sanae 61.28 161 *d iP* **P 14 02 11.4 +0.6**
SNAA *i* *PP **pP 14 02 41.9 +0.9**
SNAA pmax pmax
comp=Z,535nm,1.0s
SNAA Sanae 61.28 161 P P 14 02 11.2 +0.4
Q61A Milford 61.30 354 P 14 02 12.5
baz=173
Q61A S 14 10 23.6
baz=173
R55A Marlinton 61.36 350 P P 14 02 12.8 +1.1
R55A IAmb IAmb 14 02 33.9
comp=Z,116nm,0.8s
HBAR Harrisburg 61.37 339 P P 14 02 11.9 +0.2
HBAR IAmb IAmb 14 02 18.0
comp=Z,144nm,1.2s
S51A Beattyville 61.41 346 P P 14 02 11.5 -0.4
S51A IAmb IAmb 14 02 19.0
comp=Z,73nm,1.1s
MIAR Mount Ida 61.47 336 P 14 02 12.9
baz=154,SNR=53
MIAR S 14 10 23.5
baz=154
MIAR Mount Ida 61.47 336 P P 14 02 12.5 +0.1
MIAR pmax pmax
comp=Z,123nm,1.1s
MIAR Mount Ida 61.47 336 P P 14 02 12.5 +0.1
MIAR IAmb IAmb 14 02 20.1
comp=Z,123nm,1.1s
LNXT Lenox 61.50 341 P P 14 02 12.9 +0.4
W41B Gary Mavity, V 61.56 338 P 14 02 13.1
baz=155,SNR=29
W41B S 14 10 24.6
baz=155
LPIG La Paz 61.58 316 P P 14 02 14.6 +1.3
comp=Z,18nm,0.3s,baz=197,slow=0.5,SNR=9.4
GLAT Glass 61.60 341 P P 14 02 13.0 -0.2
TXAR Lajitas Array 61.61 325 P P 14 02 14.6 +1.0
comp=Z,8.9nm,0.6s,baz=149,slow=8.1,SNR=122
TXAR PKPPKP **P'P'df 14 31 23.9 +0.6**
comp=Z,1.3nm,1.1s,baz=316,slow=3.5,SNR=5.9
TXAR PKP2ab 14 31 40.7
comp=Z,2.8nm,0.9s,baz=202,slow=0.7,SNR=6.9
TXAR P4KPbc 14 39 12.2
comp=Z,0.3nm,0.7s,baz=120,slow=5.3,SNR=3.9
TXAR Lajitas Array 61.61 325 P P 14 02 14.2 +0.6
TX31 Lajitas Ar. Si 61.62 325 P P 14 02 14.1 +0.5
TX31 IAmb IAmb 14 02 43.1
comp=Z,84nm,1.1s
TX32 Lajitas Array 61.62 325 P P 14 02 14.2 +0.6
PEBM Pemiscott Bayo 61.63 340 P P 14 02 13.4 0.0
T47A Sharon Grove 61.64 343 P P 14 02 13.2 -0.3
WHAR Wooly Hollow 61.68 338 P P 14 02 13.4 -0.3
WHAR IAmb IAmb 14 02 14.8
comp=Z,94nm,1.2s
R53A Hurricane 61.73 348 P P 14 02 14.1 0.0
HICK Hickman 61.83 341 P P 14 02 14.2 -0.5
Z35A Perchaven, San 61.86 333 P P 14 02 15.5 +0.4
PENMO Penman 61.87 341 P P 14 02 14.1 -0.9
Q56A Snyder Ridge, 61.95 351 P P 14 02 15.8 +0.3
SDMO Soldier's Deli 61.99 353 P P 14 02 15.8 0.0
LCAR Lake Charles 62.00 339 P P 14 02 15.3 -0.6
LCAR IAmb IAmb 14 02 16.6
comp=Z,81nm,1.2s
T45A Paducah 62.10 342 P P 14 02 16.2 -0.4
W39A Magazine 62.12 337 P 14 02 17.7
baz=154,SNR=65
W39A S 14 10 32.8
baz=154
W39A Magazine 62.13 337 P P 14 02 17.3 +0.6
W39A IAmb IAmb 14 02 18.7
comp=Z,119nm,1.0s
FCAR Ozark Folk Cen 62.16 338 P P 14 02 16.5 -0.5
Q54A Coxs Mills 62.16 349 P P 14 02 17.1 +0.2
Q54A IAmb IAmb 14 02 38.7
comp=Z,112nm,0.7s
R50A Paris 62.18 346 P P 14 02 16.6 -0.5
R50A IAmb IAmb 14 02 40.0
comp=Z,68nm,0.8s
X37A Clayton 62.19 335 P P 14 02 17.6 +0.3
X37A IAmb IAmb 14 02 19.1
comp=Z,171nm,1.1s
P57A Homestead Farm 62.22 352 P P 14 02 18.3 +1.0
P57A IAmb IAmb 14 02 24.2
comp=Z,157nm,1.0s
P60A Greenville 62.26 354 P 14 02 18.4
baz=172,SNR=16
P60A S 14 10 34.5
baz=172
P60A Greenville 62.26 354 P P 14 02 18.1 +0.5
P60A IAmb IAmb 14 02 23.5
comp=Z,87nm,0.9s
ABTX Abilene, Hawle 62.31 330 P 14 02 18.8
baz=147,SNR=17
ABTX S 14 10 35.4
baz=147
ABTX Abilene, Hawle 62.31 330 P P 14 02 18.4 +0.3
ABTX IAmb IAmb 14 02 26.1
comp=Z,149nm,1.0s
MBO M'Bour 62.31 59 P P 14 02 18.6 +0.2
WUPA West Chester U 62.38 354 P P 14 02 18.6 +0.3
R49A Shelbyville 62.39 345 P P 14 02 17.9 -0.6
Q52A Bidwell 62.41 348 P P 14 02 18.0 -0.5
PBMO Poplar Bluff 62.42 340 P P 14 02 18.3 -0.4
MVL Millersville 62.52 353 P P 14 02 20.0 +0.8
MVL IAmb IAmb 14 02 25.6
comp=Z,128nm,1.0s
WCI Wyandotte Cave 62.60 344 P 14 02 19.5
baz=161
WCI S 14 10 36.1
baz=161
WCI Wyandotte Cave 62.60 344 P P 14 02 19.1 -0.8
WCI pmax pmax
comp=Z,89nm,0.8s
WCI Wyandotte Cave 62.60 344 P P 14 02 19.1 -0.8
WCI IAmb IAmb 14 02 42.9
comp=Z,89nm,0.8s
MCWV Mont Chateau 62.65 350 P 14 02 21.2
baz=168,SNR=14
MCWV S 14 10 42.2
baz=168
MCWV Mont Chateau 62.66 350 P P 14 02 20.5 +0.3
MCWV IAmb IAmb 14 02 27.3
comp=Z,155nm,0.9s
Q51A Peebles 62.69 347 P P 14 02 20.3 -0.1
Q51A IAmb IAmb 14 02 43.8
comp=Z,63nm,0.7s
USIN University of 62.71 343 P P 14 02 20.0 -0.6
USIN IAmb IAmb 14 02 27.1
comp=Z,164nm,1.1s
P53A Whipple 62.75 349 P P 14 02 20.9 0.0
PAGS Pennsylvania G 62.79 353 P P 14 02 21.0 0.0
PAGS IAmb IAmb 14 02 27.2
comp=Z,90nm,1.0s
U40A Yellville 62.83 338 P 14 02 21.7
baz=155,SNR=39
U40A S 14 10 40.4
baz=155
U40A Yellville 62.84 338 P P 14 02 21.3 -0.1
U40A IAmb IAmb 14 02 22.5
comp=Z,92nm,1.1s
T42A Van Buren 62.86 340 P P 14 02 20.3 -1.3
S44A Carbondale 62.91 342 P P 14 02 21.3 -0.6
S44A IAmb IAmb 14 02 46.0
comp=Z,68nm,0.7s
SIUC Southern Illin 62.92 342 P P 14 02 21.4 -0.6
SIUC IAmb IAmb 14 02 30.6
comp=Z,114nm,1.0s
LUPA Lehigh Univers 63.01 354 P P 14 02 22.7 +0.1
BRNJ Basking Ridge 63.02 355 P P 14 02 23.2 +0.6
BRNJ IAmb IAmb 14 02 29.9
comp=Z,108nm,1.2s
P52A Corning 63.03 348 P 14 02 22.9
baz=166,SNR=9.0
P52A S 14 10 42.9
baz=166
P52A Corning 63.03 348 P P 14 02 22.3 -0.4
O56A Blue Knob Stat 63.06 351 P 14 02 24.4
baz=170,SNR=53
O56A S 14 10 46.6
baz=170
O56A Blue Knob Stat 63.06 351 P P 14 02 23.3 +0.4
O56A IAmb IAmb 14 02 31.2
comp=Z,156nm,1.1s
P51A Williamsport 63.07 347 P P 14 02 22.4 -0.5
P51A IAmb IAmb 14 02 44.9
comp=Z,52nm,0.7s
HHAR Hobbs 63.15 337 P P 14 02 23.5 -0.1
HHAR IAmb IAmb 14 02 24.8
comp=Z,145nm,1.3s
O54A Avella 63.25 350 P P 14 02 23.9 -0.3
PAL Palisades 63.29 355 P 14 02 25.4
baz=174,SNR=15
PAL S 14 10 47.8
baz=174
PAL Palisades 63.29 355 P P 14 02 24.1 -0.3
PAL pmax pmax
comp=Z,97nm,0.9s
PAL Palisades 63.29 355 P P 14 02 24.1 -0.3
PAL IAmb IAmb 14 02 42.2
comp=Z,97nm,0.8s
SSPA Standing Stone 63.33 352 P 14 02 25.8
baz=170
SSPA S 14 10 49.5
baz=170
SSPA Standing Stone 63.33 352 P P 14 02 24.4 -0.2
SSPA IAmb IAmb 14 02 31.1
comp=Z,107nm,1.1s
MGMO Mountain Grove 63.36 339 P P 14 02 24.6 -0.3
MGMO IAmb IAmb 14 02 30.7
comp=Z,120nm,1.2s
N59A State Game Lan 63.37 354 P 14 02 26.2
baz=172,SNR=16
N59A S 14 10 49.2
baz=172
N59A State Game Lan 63.37 354 P P 14 02 24.5 -0.4
N58A Sunbury 63.39 353 P P 14 02 24.8 -0.3
WSPT Westport, CT 63.42 356 P P 14 02 25.2 +0.1
WSPT IAmb IAmb 14 02 31.3
comp=Z,124nm,0.9s
ODNJ Ogdensburg 63.42 355 P P 14 02 25.1 -0.1
O52A Adamsville 63.44 349 P P 14 02 24.8 -0.6
O52A IAmb IAmb 14 02 48.0
comp=Z,127nm,0.7s
U38A Gravette 63.45 337 P P 14 02 25.3 -0.3
TRNY Table Rock, Ra 63.46 355 P P 14 02 25.4 -0.1
O53A New Philadelph 63.46 349 P 14 02 26.1
baz=167,SNR=9.3
O53A S 14 10 49.4
baz=167
O53A New Philadelph 63.46 349 P P 14 02 25.3 -0.2
P49A Miami Univ. Ec 63.47 346 P 14 02 25.1
baz=163,SNR=15
P49A S 14 10 47.8
baz=163
P49A Miami Univ. Ec 63.47 346 P P 14 02 24.7 -0.8
P49A IAmb IAmb 14 02 48.1
comp=Z,103nm,0.8s
TUL1 Leonard 63.51 335 P 14 02 26.5
baz=152,SNR=15
TUL1 S 14 10 49.9
baz=152
FVM French Village 63.53 341 P P 14 02 25.8 -0.2
FVM pmax pmax
comp=Z,172nm,1.1s
FVM French Village 63.53 341 P P 14 02 25.8 -0.2
FVM IAmb IAmb 14 02 27.0
comp=Z,172nm,1.1s
OLIL Olney 63.55 343 P P 14 02 24.9 -1.3
BLO Bloomington 63.55 344 P P 14 02 25.2 -0.9
BLO pmax pmax
comp=Z,153nm,0.7s
BLO Bloomington 63.55 344 P P 14 02 25.2 -0.9
P48A Milroy 63.56 345 P P 14 02 25.1 -1.1
P48A IAmb IAmb 14 02 48.7
comp=Z,150nm,1.5s
M64A Tiverton 63.69 358 P 14 02 27.8
baz=177
M64A S 14 10 52.0
baz=177
M64A Tiverton 63.69 358 P P 14 02 27.1 +0.2
WMOK Wichita Mounta 63.72 332 P 14 02 27.2
baz=149,SNR=38
WMOK S 14 10 51.9
baz=149
WMOK Wichita Mounta 63.72 332 P P 14 02 27.0 -0.4
WMOK pmax pmax
comp=Z,38nm,1.0s
WMOK Wichita Mounta 63.72 332 P P 14 02 27.0 -0.4
OK025 Westminster Rd 63.84 334 P P 14 02 27.7 -0.4
OK025 IAmb IAmb 14 02 30.1
comp=Z,118nm,0.7s
OK030 Cody Creek RV 63.92 335 P P 14 02 28.5 -0.1
OK030 IAmb IAmb 14 02 29.7
comp=Z,186nm,1.0s
M57A Sunshine Farm, 63.93 353 P P 14 02 28.6 0.0
M57A IAmb IAmb 14 02 49.3
comp=Z,76nm,0.7s
N53A Lisbon 63.94 350 P P 14 02 28.4 -0.2
N53A IAmb IAmb 14 02 50.0
comp=Z,97nm,0.7s
N54A Moraine State 63.95 350 P 14 02 30.0
baz=168,SNR=32
N54A S 14 10 56.8
baz=168
N54A Moraine State 63.95 350 P P 14 02 28.9 +0.1
N54A IAmb IAmb 14 02 35.3
comp=Z,141nm,1.0s
OK031 S. Brethren Rd 63.96 335 P P 14 02 28.7 -0.2
Q44A Meyer Farm, Va 63.96 342 P P 14 02 27.9 -0.9
Q44A IAmb IAmb 14 02 52.7
comp=Z,117nm,0.7s
UCCT U. Connecticut 63.97 357 P P 14 02 29.2 +0.4
UCCT IAmb IAmb 14 02 47.1
comp=Z,64nm,0.8s
KSCT Kent School, K 63.98 356 P P 14 02 29.2 +0.3
KSPA Keystone Colle 64.00 354 P P 14 02 29.6 +0.5
KSPA IAmb IAmb 14 02 48.9
comp=Z,76nm,0.8s
O49A Covington 64.01 347 P P 14 02 28.6 -0.5
O49A IAmb IAmb 14 02 51.7
comp=Z,143nm,0.8s
L63A North Scituate 64.01 357 P 14 02 30.1
baz=177,SNR=33
L63A S 14 10 57.9
baz=177
L63A North Scituate 64.01 357 P P 14 02 29.6 +0.5
L64A Middleborough 64.06 358 P 14 02 30.4
baz=178
L64A S 14 10 57.7
baz=178
BRYW Bryant College 64.06 357 P P 14 02 28.8 -0.7
SLM Saint Louis 64.07 341 P P 14 02 28.8 -0.7
SLM pmax pmax
comp=Z,60nm,0.7s
SLM Saint Louis 64.07 341 P P 14 02 28.8 -0.7
SLM IAmb IAmb 14 02 54.3
comp=Z,60nm,0.7s
OK029 Liberty Lake 64.07 334 P P 14 02 29.4 -0.2
L65A Cape Cod Natio 64.13 359 P 14 02 31.2
baz=178
P46A Rosedale 64.15 344 P P 14 02 28.8 -1.2
S39A Bolivar 64.20 338 P P 14 02 30.3 -0.1
S39A IAmb IAmb 14 02 31.6
comp=Z,138nm,1.1s
M55A Ridgway 64.27 351 P P 14 02 31.1 +0.2
M55A IAmb IAmb 14 02 37.1
comp=Z,136nm,1.0s
N51A Ashland 64.32 348 P P 14 02 30.6 -0.5
N51A IAmb IAmb 14 02 53.8
comp=Z,127nm,0.8s
MNTX Cornudas Mount 64.38 325 P 14 02 32.0
baz=142,SNR=127
MNTX S 14 11 01.8
baz=142
MNTX Cornudas Mount 64.38 325 P P 14 02 31.7 -0.1
MNTX IAmb IAmb 14 02 40.1
comp=Z,89nm,1.1s
R40A Maddies Statio 64.39 339 P P 14 02 31.1 -0.5
M54A Oil Creek Stat 64.44 351 P 14 02 32.7
baz=168,SNR=49
M54A S 14 11 02.8
baz=168
M54A Oil Creek Stat 64.44 351 P P 14 02 32.2 +0.3
M54A IAmb IAmb 14 02 38.6
comp=Z,172nm,0.9s
L58A Harry Jones Me 64.49 354 P 14 02 33.7
baz=172,SNR=60
L58A S 14 11 03.8
baz=172
WES Weston 64.52 358 P P 14 02 31.8 -0.6
WES pmax pmax
comp=Z,46nm,0.7s
WES Weston 64.52 358 P P 14 02 31.8 -0.6
M53A WI Miller and 64.53 350 P 14 02 33.1
baz=168,SNR=16
M53A S 14 11 02.4
baz=168
M53A WI Miller and 64.53 350 P P 14 02 32.1 -0.4
L59A Walton 64.56 355 P 14 02 34.1
baz=173,SNR=68
L59A S 14 11 05.0
baz=173
ALLY Alegheny Colle 64.65 350 P P 14 02 33.4 +0.1
ALLY IAmb IAmb 14 02 54.9
comp=Z,131nm,0.8s
L61B Northampton 64.65 357 P 14 02 34.1
baz=176,SNR=16
L61B S 14 11 05.1
baz=176
HRV Adam Dziewonsk 64.65 357 P 14 02 34.6
baz=177
HRV S 14 11 05.3
baz=177
HRV Adam Dziewonsk 64.65 357 P P 14 02 33.1 -0.1
HRV pmax pmax
comp=Z,151nm,0.8s
HRV Adam Dziewonsk 64.65 357 P P 14 02 33.1 -0.1
HRV IAmb IAmb 14 02 51.8
comp=Z,151nm,0.8s
BINY Binghamton 64.66 354 P 14 02 34.7
baz=172,SNR=51
BINY S 14 11 05.8
baz=172
BINY Binghamton 64.66 354 P P 14 02 33.6 +0.3
T35A Sooner Cattle 64.67 335 P P 14 02 33.4 -0.1
T35A IAmb IAmb 14 02 35.0
comp=Z,154nm,1.2s
N49A Columbus Grove 64.68 347 P P 14 02 32.8 -0.7
M52A Chesterland 64.74 349 P P 14 02 33.3 -0.6
M52A IAmb IAmb 14 02 39.6
comp=Z,83nm,0.9s
L56A Greenwood 64.77 353 P 14 02 34.9
baz=171,SNR=32
L56A S 14 11 05.9
baz=171
L56A Greenwood 64.77 353 P P 14 02 34.2 +0.1
L56A IAmb IAmb 14 02 40.4
comp=Z,124nm,1.0s
P43A Skaggs, Pawnee 64.79 342 P P 14 02 33.1 -1.1
K63A Dunstable 64.83 357 P 14 02 35.4
baz=177
K63A S 14 11 06.9
baz=177
K63A Dunstable 64.83 357 P P 14 02 34.8 +0.5
SFIN Lafayette 64.83 344 P 14 02 33.6
baz=161,SNR=11
SFIN S 14 11 02.3
baz=161
SFIN Lafayette 64.84 344 P P 14 02 32.9 -1.5
SFIN IAmb IAmb 14 02 57.5
comp=Z,94nm,0.9s
K62A Royalston 64.84 357 P 14 02 35.5
baz=176
K62A S 14 11 07.9
baz=176
K62A Royalston 64.84 357 P P 14 02 34.2 -0.3
MSTX Muleshoe 64.89 329 P 14 02 35.6
baz=145,SNR=30
MSTX S 14 11 07.5
baz=145
MSTX Muleshoe 64.89 329 P P 14 02 34.9 -0.3
CROK Carrier 64.90 334 P P 14 02 35.0 0.0
K61A Williamstown 64.90 356 P 14 02 36.2
baz=175,SNR=15
K61A S 14 11 10.0
baz=175
M50A Fremont 64.92 348 P P 14 02 34.7 -0.3
M50A IAmb IAmb 14 02 56.5
comp=Z,78nm,0.8s
N47A Urbana 64.97 346 P P 14 02 34.5 -0.9
O44A Mansfield 64.98 343 P P 14 02 34.2 -1.2
O44A IAmb IAmb 14 02 58.8
comp=Z,81nm,0.7s
TRY Troy 64.99 356 P P 14 02 35.0 -0.5
ERPA Erie 65.08 351 P 14 02 36.7
baz=168,SNR=16
ERPA S 14 11 09.3
baz=168
ERPA Erie 65.08 351 P P 14 02 36.0 0.0
SRIG Santa Rosalia 65.08 317 P P 14 02 37.4 +1.1
SRIG IAmb IAmb 14 02 39.4
comp=Z,134nm,1.3s
WVNY West Valley, N 65.17 352 P P 14 02 37.1 +0.5
WVNY IAmb IAmb 14 02 43.1
comp=Z,158nm,0.9s
U32A Winter Ranch, 65.21 333 P P 14 02 37.1 +0.1
K57A Scipio Center 65.24 353 P P 14 02 37.3 +0.2
K57A IAmb IAmb 14 02 43.1
comp=Z,142nm,1.0s
OK032 Salt Plains WL 65.25 334 P P 14 02 37.5 +0.3
OK032 IAmb IAmb 14 02 45.6
comp=Z,163nm,1.2s
K56A Middlesex 65.30 353 P 14 02 38.3
baz=171,SNR=22
K56A S 14 11 12.3
baz=171
J62A Henniker 65.38 357 P 14 02 39.5
baz=177,SNR=10
J62A S 14 11 13.3
baz=177

MMNY Mt. Morris Dam 65.40 352 P **P** **14 02 37.8 -0.2**
MMNY IAmb IAmb 14 02 58.2
comp=Z,86nm,0.7s
J63A Strafford 65.41 358 P 14 02 38.9
baz=177
J63A S 14 11 14.1
baz=177
P40A Paris 65.45 340 P **P** **14 02 38.1 -0.3**
P40A IAmb IAmb 14 02 39.4
comp=Z,137nm,1.2s
J60A Lant Hill Farm 65.48 356 P 14 02 39.9
baz=175,SNR=11
J60A S 14 11 17.2
baz=175
HSIG 65.50 319 P **P** **14 02 39.6 +0.5**
HSIG IAmb IAmb 14 02 41.8
comp=Z,194nm,1.4s
J61A Chester 65.54 357 P 14 02 40.4
baz=176,SNR=18
J61A S 14 11 17.3
baz=176
HDIL Hopedale 65.58 343 P 14 02 38.7
baz=159
HDIL S 14 11 11.6
baz=159
HDIL Hopedale 65.58 343 P **P** **14 02 38.2 -1.1**
HDIL IAmb IAmb 14 03 03.3
comp=Z,95nm,0.7s
FFD Franklin Falls 65.62 357 P **P** **14 02 39.0 -0.4**
ACCN Adirondack Com 65.64 356 P **P** **14 02 40.1 +0.4**
L48A N Adams 65.72 347 P **P** **14 02 39.4 -0.8**
L48A IAmb IAmb 14 03 03.2
comp=Z,91nm,0.7s
J58A Remsen 65.74 355 P 14 02 41.3
baz=173,SNR=12
J58A S 14 11 18.7
baz=173
J58A Remsen 65.74 355 P **P** **14 02 40.3 0.0**
J58A IAmb IAmb 14 03 00.8
comp=Z,91nm,1.0s
J59A Piesco 65.78 355 P 14 02 41.9
baz=174,SNR=104
J59A S 14 11 20.5
baz=174
J59A Piesco 65.78 355 P **P** **14 02 41.0 +0.5**
J56A Wolcott 65.81 353 P 14 02 41.2
baz=172,SNR=46
J56A S 14 11 17.2
baz=172
J56A Wolcott 65.81 353 P **P** **14 02 40.9 +0.1**
J56A IAmb IAmb 14 02 46.6
comp=Z,149nm,0.8s
NVL N'lazarevskaya 65.83 159 *e*P **P** **14 02 36.7 -3.9**
NVL pmax pmax
comp=Z,27nm,0.7s
J57A Williamstown 65.86 354 P 14 02 42.0
baz=172,SNR=31
J57A S 14 11 19.4
baz=172
J57A Williamstown 65.86 354 P **P** **14 02 41.3 +0.3**
J57A IAmb IAmb 14 02 47.2
comp=Z,136nm,1.1s
MEDO Medina 65.89 352 P **P** **14 02 41.1 -0.2**
AAM Ann Arbor 65.90 348 P 14 02 41.2
baz=165
AAM S 14 11 16.7
baz=165
J55A Hilton 65.92 353 P **P** **14 02 41.3 0.0**
I62A Tamworth 66.01 358 P 14 02 43.2
baz=177,SNR=6.7
I62A S 14 11 22.0
baz=177
I62A Tamworth 66.01 358 P **P** **14 02 42.8 +0.8**
I64A Boothbay 66.01 359 P 14 02 43.3
baz=179,SNR=8.7
I64A S 14 11 23.3
baz=179
P38A Dawn 66.01 339 P **P** **14 02 42.0 -0.1**
J54A Appleton 66.03 352 P **P** **14 02 42.1 +0.1**
M44A Midewin, Midew 66.03 344 P **P** **14 02 41.2 -0.9**
I58A Old Forge 66.04 355 P 14 02 43.4
baz=173,SNR=44
I58A S 14 11 22.7
baz=173
I59A Olmsteadville 66.06 356 P 14 02 43.6
baz=174
I59A S 14 11 23.0
baz=174
I60A Shoreham 66.08 356 P 14 02 43.7
baz=175,SNR=57
I60A S 14 11 24.5
baz=175
I61A Oroboro, Fairl 66.10 357 P 14 02 44.3
baz=176,SNR=38
I61A S 14 11 24.4
baz=176
I63A Otisfield 66.16 358 P 14 02 44.4
baz=178,SNR=13
I63A S 14 11 24.5
baz=178
I63A Otisfield 66.16 358 P **P** **14 02 44.1 +1.2**
I63A IAmb IAmb 14 02 49.9
comp=Z,99nm,1.0s
K50A Casco 66.16 349 P **P** **14 02 42.2 -0.8**
K50A IAmb IAmb 14 02 49.6
comp=Z,134nm,0.9s
N41A Harden Midland 66.16 342 P **P** **14 02 42.4 -0.7**
N41A IAmb IAmb 14 03 08.4
comp=Z,69nm,0.7s
L46A Eue Claire 66.19 346 P **P** **14 02 42.5 -0.6**
L46A IAmb IAmb 14 03 06.8
comp=Z,155nm,1.0s
319A Douglas 66.27 322 P **P** **14 02 45.5 +1.4**
319A IAmb IAmb 14 02 46.9
comp=Z,110nm,1.0s
NCB Newcomb 66.27 355 P **P** **14 02 44.3 +0.7**
NCB IAmb IAmb 14 02 50.7
comp=Z,84nm,1.0s
121A Cookes Peak, D 66.31 324 P 14 02 46.6
baz=140,SNR=45
121A S 14 11 29.3
baz=140
121A Cookes Peak, D 66.31 324 P **P** **14 02 46.0 +1.6**
121A IAmb IAmb 14 02 47.5
comp=Z,170nm,1.2s
I57A Carthage 66.35 354 P 14 02 45.3
baz=173,SNR=31
I57A S 14 11 25.6
baz=173
LBNH Lisbon 66.40 357 P 14 02 45.2
baz=176,SNR=26
LBNH S 14 11 27.9
baz=176
LBNH Lisbon 66.40 357 P **P** **14 02 45.0 +0.6**
LBNH pmax pmax
comp=Z,123nm,0.9s
LBNH Lisbon 66.40 357 P **P** **14 02 45.0 +0.6**
LBNH IAmb IAmb 14 03 04.1
comp=Z,123nm,0.8s
PECO Prince Edward 66.48 353 P **P** **14 02 44.9 0.0**
PECO IAmb IAmb 14 02 51.1
comp=Z,129nm,1.1s
KSU1 Kansas State U 66.62 336 P 14 02 46.3
baz=152
KSU1 S 14 11 27.8
baz=152
KSU1 Kansas State U 66.63 336 P **P** **14 02 45.6 -0.4**
WVL Waterville 66.66 359 P **P** **14 02 46.2 +0.2**
WVL IAmb IAmb 14 02 52.7
comp=Z,130nm,1.0s
H61A Lyndonville 66.69 357 P 14 02 48.0
baz=176,SNR=29
H61A S 14 11 30.7
baz=176
H62A Milan 66.70 358 P 14 02 47.9
baz=177,SNR=5.1
H62A S 14 11 32.0
baz=177
H62A Milan 66.70 358 P **P** **14 02 47.2 +0.8**
H58A Gabriels 66.70 356 P 14 02 47.6
baz=174,SNR=58
H58A S 14 11 30.4
baz=174
H64A Troy 66.73 359 P 14 02 47.8
baz=179,SNR=20
H64A S 14 11 31.9
baz=179
L44A Lake County Fo 66.73 344 P 14 02 46.0
baz=160
L44A S 14 11 25.0
baz=160
L44A Lake County Fo 66.74 344 P **P** **14 02 46.0 -0.6**
L44A IAmb IAmb 14 02 53.7
comp=Z,127nm,1.1s
H60A Morristown 66.75 357 P 14 02 48.1
baz=176,SNR=13
H60A S 14 11 33.5
baz=176
H63A New Sharon 66.76 359 P 14 02 48.6
baz=178,SNR=19
H65A Eastbrook 66.78 0 P 14 02 48.3
baz=180,SNR=25
H65A S 14 11 31.7
baz=180
EMMW East Machias 66.80 1 P **P** **14 02 47.2 +0.3**
EMMW IAmb IAmb 14 02 53.3
comp=Z,155nm,1.0s
R32A Long Quarter, 66.84 335 P **P** **14 02 47.8 +0.4**
R32A IAmb IAmb 14 02 55.5
comp=Z,198nm,1.0s
H57A Richville 66.85 355 P 14 02 48.1
baz=173,SNR=53
H57A S 14 11 32.0
baz=173
HAL Halifax 66.87 4 P **P** **14 02 47.9 +0.5**
HAL pmax pmax
comp=Z,141nm,0.9s
HAL Halifax 66.87 4 P **P** **14 02 47.9 +0.5**
HAL IAmb IAmb 14 02 53.5
comp=Z,141nm,0.9s
H66A Whiting 66.88 1 P 14 02 49.0
baz=181,SNR=28
H66A S 14 11 32.1
baz=181
H59A Cadyville 66.90 356 P 14 02 49.1
baz=175,SNR=36
H59A S 14 11 33.7
baz=175
BNM Barren Site 66.95 326 P **P** **14 02 49.4 +0.9**
N38A Joes South For 66.97 340 P **P** **14 02 47.5 -0.7**
L42A Oliver, Polo 67.03 343 P **P** **14 02 47.3 -1.2**
J47A Sunmer 67.04 347 P **P** **14 02 47.4 -1.1**
J47A IAmb IAmb 14 02 53.7
comp=Z,102nm,0.8s
Y22D IRIS PASSCAL I 67.04 326 P 14 02 51.0
baz=141
Y22D S 14 11 36.6
baz=141
FRNY Flat Rock 67.08 356 P **P** **14 02 49.3 +0.6**
FRNY IAmb IAmb 14 02 55.4
comp=Z,128nm,0.9s
DELO Deloro Mine 67.13 353 P **P** **14 02 49.0 0.0**
DELO IAmb IAmb 14 03 09.8
comp=Z,60nm,0.6s
LENM Lemitar 67.14 326 P **P** **14 02 50.8 +1.2**
G63A Kingsbury 67.20 359 P 14 02 50.6
baz=179,SNR=43
G63A S 14 11 37.0
baz=179
GGN Saint George 67.22 1 P **P** **14 02 50.6 +1.0**
GGN IAmb IAmb 14 02 56.1
comp=Z,179nm,0.9s
G60A Masonville 67.27 357 P 14 02 50.7
baz=176,SNR=35
G60A S 14 11 37.9
baz=176
G65A Princeton 67.29 1 P 14 02 51.3
baz=181,SNR=28
G65A S 14 11 36.8
baz=181
G65A Princeton 67.29 1 P **P** **14 02 50.5 +0.5**
H53A Bobcaygeon 67.30 352 P 14 02 50.7
baz=170,SNR=20
H53A S 14 11 35.5
baz=170
G62A West of Eustis 67.33 358 P 14 02 52.1
baz=178,SNR=104
G62A S 14 11 38.9
baz=178
G62A West of Eustis 67.33 358 P **P** **14 02 51.0 +0.6**
I49A Point Hope 67.33 349 P **P** **14 02 49.5 -0.9**
I49A IAmb IAmb 14 02 56.0
comp=Z,128nm,0.9s
G64A Maxfield 67.33 360 P 14 02 51.8
baz=180,SNR=32
G64A S 14 11 37.3
baz=180
K43A Burlington 67.34 344 P **P** **14 02 49.7 -0.7**
K43A IAmb IAmb 14 02 56.2
comp=Z,128nm,0.9s
PKME Peaks-Kenny Pk 67.35 359 P 14 02 51.8
baz=179,SNR=47
PKME S 14 11 38.8
baz=179
PKME Peaks-Kenny Pk 67.35 359 P **P** **14 02 50.4 0.0**
G61A St-Isidore-de- 67.42 358 P 14 02 52.8
baz=177,SNR=64
G61A S 14 11 40.5
baz=177
G58A Ormstown 67.42 356 P 14 02 52.2
baz=174,SNR=32
G58A S 14 11 39.1
baz=174
G57A Newington 67.45 355 P 14 02 52.1
baz=174,SNR=42
G57A S 14 11 38.8
baz=174
MOQ Mont Orford 67.48 357 P **P** **14 02 52.1 +0.8**
ANMO Albuquerque 67.49 327 P 14 02 53.7
baz=142
ANMO S 14 11 40.8
baz=142
ANMO Albuquerque 67.49 327 P **P** **14 02 53.3 +1.5**
comp=Z,64nm,0.7s,baz=141,slow=7.6,SNR=154
ANMO Albuquerque 67.49 327 *d* *i*P **P** **14 02 53.5 +1.7**
ANMO *i* *i*PP **pP** **14 03 22.2 -0.8**
ANMO pmax pmax
comp=Z,288nm,1.7s
ANMO Albuquerque 67.49 327 P **P** **14 02 53.3 +1.5**
ANMO IAmb IAmb 14 02 54.5
comp=Z,128nm,1.1s
L40A Anamosa 67.52 342 P **P** **14 02 50.8 -0.8**
L40A IAmb IAmb 14 02 57.6
comp=Z,120nm,1.0s
SADO Sadowa 67.56 352 P **P** **14 02 52.1 +0.3**
comp=Z,56nm,0.9s,baz=200,slow=6.0,SNR=18
SADO Sadowa 67.56 352 P **P** **14 02 51.6 -0.2**
SADO IAmb IAmb 14 02 57.6
comp=Z,87nm,1.1s
PLVO Plevna 67.58 353 P **P** **14 02 52.1 +0.2**
PLVO IAmb IAmb 14 02 53.7
comp=Z,131nm,1.3s
CBKS Cedar Bluff 67.59 334 P 14 02 53.4
baz=149,SNR=25
CBKS S 14 11 40.1
baz=149
CBKS Cedar Bluff 67.59 334 P **P** **14 02 52.7 +0.5**
CBKS pmax pmax
comp=Z,268nm,1.1s
CBKS Cedar Bluff 67.59 334 P **P** **14 02 52.6 +0.5**
F63A Nahmakanta, Br 67.79 360 P 14 02 54.5
baz=179,SNR=17
F63A S 14 11 43.9
baz=179
GBN Guysborough 67.79 5 P **P** **14 02 53.2 +0.1**
GBN IAmb IAmb 14 03 11.6
comp=Z,88nm,0.8s
QSPA South Pole Qui 67.79 180 P **P** **14 02 53.9 +0.7**
comp=Z,370nm,1.0s,baz=154,slow=4.5
QSPA South Pole Qui 67.79 180 P **P** **14 02 54.6 +1.4**
F63A Nahmakanta, Br 67.79 360 P **P** **14 02 53.8 +0.6**
F63A IAmb IAmb 14 03 01.5
comp=Z,102nm,1.0s
TUC Tucson 67.81 322 P 14 02 55.8
baz=138
TUC S 14 11 45.1
baz=138
TUC Tucson 67.81 322 P **P** **14 02 55.1 +1.3**
TUC pmax pmax
comp=Z,130nm,1.3s
TUC Tucson 67.81 322 P **P** **14 02 55.0 +1.3**
TUC IAmb IAmb 14 02 56.6
comp=Z,130nm,1.3s
N35A Tabor 67.83 338 P **P** **14 02 53.3 -0.3**
N35A IAmb IAmb 14 03 22.2
comp=Z,95nm,0.7s
F64A Sherman 67.94 0 P 14 02 55.5
baz=180,SNR=72
F64A S 14 11 44.2
baz=180
F64A Sherman 67.95 0 P **P** **14 02 54.7 +0.6**
SCIA State Center 67.97 340 P 14 02 54.6
baz=155
SCIA S 14 11 41.2
baz=155
SCIA State Center 67.97 340 P **P** **14 02 54.4 -0.1**
SCIA IAmb IAmb 14 03 01.7
comp=Z,130nm,1.1s
F62A Pittston Farm, 67.99 359 P 14 02 55.9
baz=178,SNR=23
F62A S 14 11 45.9
baz=178
F62A Pittston Farm, 67.99 359 P **P** **14 02 54.8 +0.3**
F62A IAmb IAmb 14 03 01.1
comp=Z,118nm,0.9s
LMN Caledonia Moun 68.02 3 P **P** **14 02 54.7 0.0**
LMN IAmb IAmb 14 03 00.5
comp=Z,179nm,0.9s
JFWS Jewell Farm 68.03 343 P 14 02 54.9
baz=158,SNR=16
JFWS S 14 11 41.8
baz=158
JFWS Jewell Farm 68.03 343 P **P** **14 02 54.2 -0.6**
JFWS pmax pmax
comp=Z,117nm,0.6s
JFWS Jewell Farm 68.03 343 P **P** **14 02 54.2 -0.6**
JFWS IAmb IAmb 14 03 18.6
comp=Z,117nm,0.6s
F59A Saint Guilaume 68.05 357 P 14 02 55.7
baz=176
F59A S 14 11 45.8
baz=176
G54A Lake Saint Pet 68.05 353 P 14 02 55.5
baz=170,SNR=28
G54A S 14 11 44.9
baz=170
F61A St Evariste 68.09 358 P 14 02 56.2
baz=178,SNR=41
F61A S 14 11 46.5
baz=178
F58A St-Lin Laurent 68.12 356 P 14 02 56.2
baz=175
F58A S 14 11 47.2
baz=175
F60A Warwick 68.12 357 P 14 02 56.2
baz=176,SNR=58
F60A S 14 11 47.6
baz=176
F57A Harrington 68.13 355 P 14 02 56.0
baz=174
F57A S 14 11 47.2
baz=174
LIC Lamto 68.24 73 *e*P **P** **14 02 56.1 -0.6**
comp=Z,500nm,1.0s
T25A Trinidad 68.24 330 P 14 02 58.1
baz=144,SNR=52
T25A S 14 11 50.2
baz=144
T25A Trinidad 68.24 330 P **P** **14 02 57.7 +1.1**
T25A IAmb IAmb 14 02 59.1
comp=Z,145nm,1.2s
N33A J Bar K, Exete 68.37 337 P **P** **14 02 57.1 +0.1**
TIC Toumodi 68.43 73 *e*P **P** **14 02 57.4 -0.6**
E64A Bridgewater 68.50 0 P 14 02 59.0
baz=181,SNR=43
E64A S 14 11 50.9
baz=181
E63A Oxbow 68.50 0 P 14 02 59.0
baz=180,SNR=45
E63A S 14 11 51.8
baz=180
E60A Ste Agathe de 68.50 358 P 14 02 58.5
baz=177,SNR=26
E60A S 14 11 51.9
baz=177
E63A Oxbow 68.50 0 P **P** **14 02 58.5 +0.8**
E63A IAmb IAmb 14 03 04.2
comp=Z,168nm,1.0s
K38A Parkersburg 68.51 341 P **P** **14 02 57.3 -0.4**
K38A IAmb IAmb 14 03 24.1
comp=Z,80nm,0.8s
GLMI Grayling 68.52 348 P 14 02 57.8
baz=164
GLMI S 14 11 47.6
baz=164
GLMI Grayling 68.52 348 P **P** **14 02 57.8 +0.1**
GLMI IAmb IAmb 14 03 04.2
comp=Z,256nm,1.2s
TRQ Mont Tremblant 68.53 355 P **P** **14 02 58.4 +0.5**
E61A Lac Etchemin 68.54 358 P 14 02 59.1
baz=178,SNR=33
E61A S 14 11 52.5
baz=178
KIC Kosan Boka 68.55 73 *e*P **P** **14 02 58.0 -0.7**
comp=Z,505nm,0.7s
DBIC Dimbokro 68.59 73 P **P** **14 02 59.2 +0.3**
comp=Z,385nm,0.9s,baz=217,slow=6.3,SNR=121
DBIC S **S** **14 11 48.8 -3.4**
comp=Z,18nm,1.1s,baz=323,slow=20,SNR=16
DBIC LR LR 14 31 52.9
comp=Z,2µm,20.3s,baz=214,slow=35
DBIC Dimbokro 68.59 73 P **P** **14 02 58.6 -0.3**
DBIC pmax pmax
comp=Z,613nm,1.1s
DBIC Dimbokro 68.59 73 P **P** **14 02 58.6 -0.3**
ALGO Algonquin Park 68.59 353 P 14 02 59.0
baz=170
ALGO S 14 11 51.3
baz=170
E58A La Victoria 68.59 356 P 14 02 59.2
baz=175,SNR=39
E58A S 14 11 52.9
baz=175
I42A Draeger Farm, 68.59 344 P **P** **14 02 57.8 -0.4**
I42A IAmb IAmb 14 02 59.3
comp=Z,178nm,1.3s
E59A St. Maurice 68.66 357 P 14 02 60.0
baz=176
E59A S 14 11 53.1
baz=176
E62A Clayton Lake 68.71 359 P 14 03 00.5
baz=179,SNR=115
E62A S 14 11 53.4
baz=179
E62A Clayton Lake 68.71 359 P **P** **14 03 00.1 +1.2**
214A Organ Pipe Nat 68.73 320 P 14 03 01.8
baz=136,SNR=52
214A S 14 11 58.2
baz=136
214A Organ Pipe Nat 68.73 320 P **P** **14 03 01.2 +1.7**
214A IAmb IAmb 14 03 02.6
comp=Z,128nm,1.1s
PQI Presque Isle 68.75 0 P **P** **14 03 00.0 +0.8**
PQI IAmb IAmb 14 03 07.8
comp=Z,179nm,1.0s
H43A Windswept, Lux 68.86 345 P **P** **14 02 59.8 -0.1**
H43A IAmb IAmb 14 03 05.8
comp=Z,95nm,0.8s
E55A Montcerf-Lytto 68.88 354 P 14 03 00.8
baz=172,SNR=15
E55A S 14 11 55.9
baz=172
E56A St. Veronique 68.88 355 P 14 03 00.9
baz=174,SNR=74
E56A S 14 11 55.6
baz=174
G45A Suttons Bay 68.94 347 P **P** **14 02 59.8 -0.5**
G45A IAmb IAmb 14 03 23.1
comp=Z,86nm,0.6s
KSCO Kaye Shedlock' 68.97 332 P 14 03 02.4
baz=146,SNR=25
KSCO S 14 11 57.5
baz=146
KSCO Kaye Shedlock' 68.97 332 P **P** **14 03 01.8 +0.9**
KSCO IAmb IAmb 14 03 03.2
comp=Z,211nm,1.1s
X18A Snowflake 69.00 324 P **P** **14 03 02.8 +1.5**
D60A Saint Jean D'O 69.03 358 P 14 03 02.3
baz=178,SNR=28
D60A S 14 11 58.2
baz=178

I40A	**Norwalk**	**69.04**	**343**	P	**P**	**14 03 00.4**	**-0.6**
L34A	**Svendsen Farm,**	**69.07**	**338**	P	**P**	**14 03 00.9**	**-0.3**
D63A	**Stockholm**	**69.12**	**0**	P		14 03 02.8	
	baz=180,SNR=42						
D63A				S		14 11 58.7	
	baz=180						
D59A	**Saint-Raymond**	**69.16**	**358**	P		14 03 03.1	
	baz=177						
D59A				S		14 11 59.4	
	baz=177						
D62A	**Allapoint, All**	**69.17**	**360**	P		14 03 02.9	
	baz=179,SNR=133						
D62A				S		14 11 59.2	
	baz=179						
D62A	**Allapoint, All**	**69.17**	**360**	P	**P**	**14 03 02.6**	**+0.9**
BGNE	**Belgrade**	**69.21**	**337**	P		14 03 03.0	
	baz=151,SNR=18						
BGNE				S		14 11 58.8	
	baz=151						
BGNE	**Belgrade**	**69.21**	**337**	P	**P**	**14 03 02.7**	**+0.5**
SDCO	**Great Sand Dun**	**69.24**	**329**	P		14 03 04.6	
	baz=144,SNR=191						
SDCO				S		14 12 02.9	
	baz=144						
SDCO	**Great Sand Dun**	**69.24**	**329**	P	**P**	**14 03 04.1**	**+1.3**
SDCO				IAmb	IAmb	14 03 05.5	
	comp=Z,169nm,1.1s						
D58A	**Chemin du LacG**	**69.29**	**357**	P		14 03 03.8	
	baz=176,SNR=129						
D58A				S		14 12 00.5	
	baz=176						
D61A	**St Aubert, Com**	**69.30**	**359**	P		14 03 04.0	
	baz=178,SNR=41						
D61A				S		14 12 00.5	
	baz=178						
SFX	**San Felipe**	**69.31**	**318**	P	**P**	**14 03 04.1**	**+1.2**
W18A	**Petrified Fore**	**69.33**	**325**	P		14 03 05.1	
	baz=139,SNR=64						
W18A				S		14 12 04.8	
	baz=139						
W18A	**Petrified Fore**	**69.33**	**325**	P	**P**	**14 03 04.9**	**+1.6**
W18A				IAmb	IAmb	14 03 06.2	
	comp=Z,164nm,1.1s						
D56A	**ZEC Mazanza, M**	**69.36**	**355**	P		14 03 03.8	
	baz=174,SNR=52						
D56A				S		14 12 00.9	
	baz=174						
D55A	**Sainte-Anne-du**	**69.39**	**355**	P		14 03 04.0	
	baz=173,SNR=87						
D55A				S		14 12 01.8	
	baz=173						
BATG	**Bathurst New B**	**69.39**	**2**	P	**P**	**14 03 04.1**	**+1.0**
BATG				IAmb	IAmb	14 03 09.5	
	comp=Z,168nm,1.0s						
LATQ	**La Tuque**	**69.58**	**357**	P		14 03 05.4	
	baz=176						
LATQ	**La Tuque**	**69.58**	**357**	P	**P**	**14 03 04.7**	**+0.5**
SPX	**San Pedro Mart**	**69.69**	**318**	P	**P**	**14 03 06.8**	**+1.0**
X16A	**Lo Mia Camp, P**	**69.74**	**323**	P	**P**	**14 03 07.7**	**+1.9**
TAOE	**Nuku Hiva Isla**	**69.81**	**269**	*e*S	**S**	**14 12 04.5**	**-2.2**
	comp=Z,2µm,28.3s						
TAOE	**Nuku Hiva Isla**	**69.81**	**269**	*e*LR	LR	14 24 08.2	
	comp=Z,2µm,31.7s						
113A	**Mohawk Valley,**	**69.88**	**320**	P	**P**	**14 03 07.5**	**+1.1**
S22A	**4UR Ranch, Cre**	**69.88**	**328**	P		14 03 08.3	
	baz=142,SNR=46						
S22A				S		14 12 09.8	
	baz=142						
E46A	**Sault Ste Mari**	**69.94**	**348**	P	**P**	**14 03 06.1**	**-0.4**
I37A	**Lemond, Waseca**	**69.95**	**341**	P	**P**	**14 03 06.2**	**-0.4**
I37A				IAmb	IAmb	14 03 32.1	
	comp=Z,124nm,0.7s						
Q24A	**Divide**	**70.06**	**330**	P		14 03 09.4	
	baz=144,SNR=50						
Q24A				S		14 12 11.9	
	baz=144						
G40A	**Rib Lake**	**70.21**	**344**	P	**P**	**14 03 07.7**	**-0.5**
Y14A	**Wickenburg**	**70.27**	**322**	P	**P**	**14 03 10.0**	**+1.1**
MVCO	**Mesa Verde**	**70.28**	**327**	P		14 03 10.9	
	baz=141,SNR=88						
MVCO				S		14 12 15.3	
	baz=141						
MVCO	**Mesa Verde**	**70.29**	**327**	P	**P**	**14 03 10.5**	**+1.3**
MVCO				IAmb	IAmb	14 03 11.9	
	comp=Z,172nm,1.1s						
OGNE	**Ogallala**	**70.33**	**334**	P		14 03 10.5	
	baz=147,SNR=11						
OGNE				S		14 12 13.8	
	baz=147						
OGNE	**Ogallala**	**70.33**	**334**	P	**P**	**14 03 10.0**	**+0.8**
OGNE				IAmb	IAmb	14 03 11.3	
	comp=Z,150nm,1.1s						
K31A	**O'Neill**	**70.49**	**337**	P	**P**	**14 03 10.2**	**+0.2**
K31A				IAmb	IAmb	14 03 11.7	
	comp=Z,223nm,1.2s						
E43A	**Lone Tree Farm**	**70.49**	**346**	P	**P**	**14 03 09.5**	**-0.3**
WUAZ	**Wupatki**	**70.51**	**324**	P		14 03 12.8	
	baz=138,SNR=103						
WUAZ				S		14 12 19.7	
	baz=138						
WUAZ	**Wupatki**	**70.51**	**324**	P	**P**	**14 03 12.5**	**+2.0**
WUAZ				IAmb	IAmb	14 03 13.7	
	comp=Z,152nm,1.1s						
CPBX	**Cerro Prieto**	**70.55**	**319**	P	**P**	**14 03 12.4**	**+1.9**
CPBX				IAmb	IAmb	14 03 21.2	
	comp=Z,223nm,1.5s						
H07S1	**FLORES T-PHASE**	**70.64**	**30**	*e*P	**P**	**14 03 12.8**	**+1.8**
VLDQ	**Val d'Or**	**70.66**	**354**	P	**P**	**14 03 11.4**	**+0.6**
VLDQ				IAmb	IAmb	14 03 17.3	
	comp=Z,118nm,1.0s						
GLA	**Glamis**	**70.70**	**320**	P		14 03 13.6	
	baz=135,SNR=7.2						
GLA				S		14 12 22.2	
	baz=135						
GLA	**Glamis**	**70.70**	**320**	P	**P**	**14 03 12.9**	**+1.4**
GLA				pmax	pmax		
	comp=Z,56nm,1.4s						
GLA	**Glamis**	**70.70**	**320**	P	**P**	**14 03 12.9**	**+1.4**
ECSD	**EROS Data Cent**	**70.71**	**339**	P		14 03 11.5	
	baz=152,SNR=37						
ECSD				S		14 12 15.2	
	baz=152						
ECSD	**EROS Data Cent**	**70.72**	**339**	P	**P**	**14 03 11.4**	**+0.1**
ECSD				IAmb	IAmb	14 03 12.5	
	comp=Z,129nm,1.4s						
COWI	**Conover**	**70.72**	**345**	P	**P**	**14 03 11.1**	**-0.2**
SPMN	**Marine on St.**	**70.88**	**342**	P		14 03 12.2	
	baz=156,SNR=13						
SPMN				S		14 12 16.0	
	baz=156						
SPMN	**Marine on St.**	**70.88**	**342**	P	**P**	**14 03 11.7**	**-0.5**
H07N1	**FLORES T-PHASE**	**70.94**	**30**	*e*P	**P**	**14 03 13.4**	**+0.6**
ISCO	**Idaho Springs**	**70.94**	**331**	P		14 03 14.8	
	baz=144,SNR=51						
ISCO				S		14 12 22.6	
	baz=144						
ISCO	**Idaho Springs**	**70.94**	**331**	P	**P**	**14 03 14.5**	**+1.3**
ISCO				pmax	pmax		
	comp=Z,106nm,1.2s						
ISCO	**Idaho Springs**	**70.94**	**331**	P	**P**	**14 03 14.4**	**+1.3**
PV01	**Paradox Valley**	**71.04**	**328**	P	**P**	**14 03 15.5**	**+1.8**
PV01				IAmb	IAmb	14 03 16.7	
	comp=Z,152nm,1.2s						
MACI	**Morro de la Ar**	**71.05**	**47**	P	**P**	**14 03 13.7**	**-0.2**
MACI				IAmb	IAmb	14 03 20.9	
	comp=Z,210nm,1.1s						
SMCO	**Snowmass**	**71.08**	**329**	P	**P**	**14 03 15.8**	**+1.6**
SMCO				IAmb	IAmb	14 03 17.1	
	comp=Z,122nm,1.1s						
RMX	**La Rumorosa**	**71.15**	**319**	P	**P**	**14 03 15.7**	**+1.4**
PV15	**Paradox Valley**	**71.15**	**328**	P	**P**	**14 03 16.2**	**+1.8**
PV15				IAmb	IAmb	14 03 17.5	
	comp=Z,230nm,1.2s						
PV02	**Paradox Valley**	**71.18**	**327**	P	**P**	**14 03 16.2**	**+1.7**
PV02				IAmb	IAmb	14 03 17.4	
	comp=Z,156nm,1.4s						
PV13	**Radium Mtn., P**	**71.18**	**327**	P	**P**	**14 03 15.8**	**+1.3**
PV13				IAmb	IAmb	14 03 17.3	
	comp=Z,149nm,1.2s						
PDMCI	**Parker Dam,Lak**	**71.19**	**321**	P		14 03 16.2	
	baz=136,SNR=7.6						
PDMCI				S		14 12 27.4	
	baz=136						
IKP	**In-Ko-Pah, Jac**	**71.20**	**319**	P		14 03 16.8	
	baz=134,SNR=16						
IKP				S		14 12 29.5	
	baz=134						
CALA	**Caldeira**	**71.20**	**32**	*e*P	**P**	**14 03 16.4**	**+1.9**
CALA				*e*S	**S**	**14 12 23.9**	**+2.0**
SWSC	**Sam W. Stewart**	**71.21**	**319**	P		14 03 16.6	
	baz=134,SNR=12						
SWSC				S		14 12 29.2	
	baz=134						
PCAN	**Candelaria**	**71.22**	**32**	*e*S	**S**	**14 12 21.9**	**0.0**
PV05	**Paradox Valley**	**71.26**	**327**	P	**P**	**14 03 16.2**	**+1.2**
PV05				IAmb	IAmb	14 03 17.5	
	comp=Z,141nm,1.2s						
PV03	**Paradox Valley**	**71.27**	**327**	P	**P**	**14 03 16.5**	**+1.5**
PICO	**Pico**	**71.28**	**32**	*e*P	**P**	**14 03 13.3**	**-1.6**
PICO				*e*S	**S**	**14 12 23.9**	**+1.2**
PV18	**Skein Mesa, Pa**	**71.29**	**327**	P	**P**	**14 03 16.4**	**+1.2**
PV12	**Saucer Basin,**	**71.30**	**327**	P	**P**	**14 03 16.4**	**+1.2**
PV12				IAmb	IAmb	14 03 19.1	
	comp=Z,112nm,1.1s						
CBX	**Cerro Bola**	**71.31**	**318**	P	**P**	**14 03 16.8**	**+1.5**
PV07	**Paradox Valley**	**71.31**	**328**	P	**P**	**14 03 16.7**	**+1.4**
PV11	**David Mesa, Pa**	**71.32**	**327**	P	**P**	**14 03 16.8**	**+1.4**
PV17	**East Wray Mesa**	**71.34**	**327**	P	**P**	**14 03 16.9**	**+1.4**
PV16	**Nyswonger Mesa**	**71.35**	**327**	P	**P**	**14 03 16.7**	**+1.2**
PV16				IAmb	IAmb	14 03 18.1	
	comp=Z,135nm,1.4s						
PV19	**Morning Glory**	**71.38**	**327**	P	**P**	**14 03 16.9**	**+1.2**
PID	**Ribeirinha**	**71.38**	**32**	*e*S	**S**	**14 12 27.7**	**+3.9**
PV20	**West Nyswonger**	**71.40**	**327**	P	**P**	**14 03 16.8**	**+1.0**
PV04	**Paradox Valley**	**71.41**	**327**	P	**P**	**14 03 16.8**	**+1.0**
PV14	**Lion Creek, Pa**	**71.45**	**327**	P	**P**	**14 03 17.1**	**+1.0**
PV14				IAmb	IAmb	14 03 18.7	
	comp=Z,126nm,1.2s						
PV22	**Blue Mesa, Par**	**71.46**	**328**	P	**P**	**14 03 17.6**	**+1.5**
PV22				IAmb	IAmb	14 03 18.9	
	comp=Z,137nm,1.1s						
PV10	**Paradox Valley**	**71.46**	**327**	P	**P**	**14 03 16.9**	**+0.6**
PV10				IAmb	IAmb	14 03 18.4	
	comp=Z,136nm,1.2s						
D41A	**Chassel**	**71.49**	**346**	P	**P**	**14 03 15.7**	**-0.2**
BC3	**Big Chuckawall**	**71.50**	**320**	P		14 03 18.4	
	baz=135,SNR=47						
BC3				S		14 12 31.8	
	baz=135						
ROSA	**Rosais**	**71.54**	**32**	*e*P	**P**	**14 03 18.0**	**+1.6**
ROSA				*e*S	**S**	**14 12 27.8**	**+2.3**
ROSA	**Rosais**	**71.54**	**32**	P	**P**	**14 03 16.7**	**+0.3**
LSQQ	**Lebel-sur-Quev**	**71.55**	**354**	P		14 03 16.7	
	baz=172						
LSQQ				S		14 12 24.9	
	baz=172						
MONP2	**Monument Peak**	**71.55**	**319**	P		14 03 19.1	
	baz=134,SNR=19						
MONP2				S		14 12 32.6	
	baz=134						
BAR	**Barrett**	**71.56**	**318**	P	**P**	**14 03 17.4**	**+0.7**
W13A	**Hualapai Mount**	**71.61**	**322**	P	**P**	**14 03 18.8**	**+1.6**
F36A	**Milaca**	**71.66**	**342**	P	**P**	**14 03 16.3**	**-0.7**
F36A				IAmb	IAmb	14 03 23.6	
	comp=Z,108nm,1.1s						
IRM	**Iron Mountain**	**71.67**	**321**	P		14 03 19.4	
	baz=135,SNR=46						
IRM				S		14 12 32.2	
	baz=135						
U15A	**North Rim**	**71.69**	**324**	P	**P**	**14 03 18.6**	**+1.0**
U15A				IAmb	IAmb	14 03 21.1	
	comp=Z,130nm,1.1s						
NEE2	**Needles Airpor**	**71.79**	**321**	P		14 03 20.1	
	baz=136						
NEE2				S		14 12 33.9	
	baz=136						
E38A	**The Farm, Brul**	**71.80**	**343**	P	**P**	**14 03 17.5**	**-0.3**
PSMA	**Santa Maria**	**71.83**	**35**	*e*P	**P**	**14 03 18.0**	**-0.1**
PSMA				*e*S	**S**	**14 12 31.2**	**+2.3**
PSMN	**Pico do Norte,**	**71.87**	**35**	*e*S	**S**	**14 12 25.6**	**-3.8**
SRBC	**Serra Branca**	**71.88**	**32**	*e*P	**P**	**14 03 18.0**	**-0.4**
PGRA	**Graciosa**	**71.91**	**32**	*e*P	**P**	**14 03 19.6**	**+1.0**
PGRA				*e*S	**S**	**14 12 27.8**	**-1.9**
109C	**Camp Elliot, M**	**71.97**	**318**	P		14 03 21.2	
	baz=133						
109C				S		14 12 36.0	
	baz=133						
109C	**Camp Elliot, M**	**71.97**	**318**	P	**P**	**14 03 19.8**	**+0.7**
N23A	**Red Feather La**	**71.97**	**331**	P		14 03 21.2	
	baz=144,SNR=50						
N23A				S		14 12 34.6	
	baz=144						
DRLN	**Deer Lake**	**72.01**	**8**	P	**P**	**14 03 18.6**	**-0.3**
DRLN				IAmb	IAmb	14 03 34.7	
	comp=Z,124nm,0.8s						
BELC	**Belle Mtn. Jos**	**72.06**	**320**	P		14 03 22.1	
	baz=134,SNR=26						
BELC				S		14 12 37.5	
	baz=134						
TPFO	**Pinon Flats**	**72.06**	**319**	P		14 03 21.9	
	baz=134,SNR=16						
TPFO				S		14 12 38.2	
	baz=134						
PFO	**Pinyon Flats O**	**72.07**	**319**	P		14 03 21.7	
	baz=134,SNR=17						
PFO				S		14 12 39.0	
	baz=134						
PFO	**Pinyon Flats O**	**72.07**	**319**	P	**P**	**14 03 21.8**	**+1.9**
	comp=Z,16nm,0.8s,baz=123,slow=6.2,SNR=21						
PFO	**Pinyon Flats O**	**72.07**	**319**	P	**P**	**14 03 21.3**	**+1.5**
PFO				pmax	pmax		
	comp=Z,67nm,1.3s						
PFO	**Pinyon Flats O**	**72.07**	**319**	P	**P**	**14 03 21.3**	**+1.5**
PSCM	**Serra do Cume**	**72.08**	**33**	*e*P	**P**	**14 03 18.8**	**-0.8**
PHWY	**Pilot Hill**	**72.09**	**332**	P	**P**	**14 03 20.4**	**+0.4**
PHWY				IAmb	IAmb	14 03 22.4	
	comp=Z,141nm,1.3s						
PAGU	**Agualva, Azore**	**72.10**	**33**	*e*P	**P**	**14 03 19.6**	**-0.1**
PAGU				*e*S	**S**	**14 12 28.9**	**-3.1**
PSET	**Sete Cidades**	**72.13**	**34**	*e*P	**P**	**14 03 18.2**	**-1.8**
SUSD	**Miller**	**72.14**	**338**	P		14 03 20.3	
	baz=150,SNR=5.6						
SUSD				S		14 12 32.2	
	baz=150						
SUSD	**Miller**	**72.14**	**338**	P	**P**	**14 03 19.7**	**-0.2**
SUSD				IAmb	IAmb	14 03 48.5	
	comp=Z,164nm,0.9s						
CHGQ	**Chibougamau**	**72.19**	**356**	P		14 03 20.6	
	baz=174						
CHGQ				S		14 12 32.6	
	baz=174						
CMLA	**Cha da Macela**	**72.19**	**35**	*e*P	**P**	**14 03 17.3**	**-3.0**
MATQ	**Matagami**	**72.31**	**354**	P		14 03 21.1	
	baz=171						
MATQ				S		14 12 33.3	
	baz=171						
BART	**Pico Bartolome**	**72.39**	**35**	*e*P	**P**	**14 03 23.1**	**+1.5**
BART				*e*S	**S**	**14 12 35.4**	**-0.1**
KNB	**Kanab**	**72.41**	**324**	P	**P**	**14 03 23.6**	**+1.8**
KNB	**Kanab**	**72.41**	**324**	P	**P**	**14 03 23.6**	**+1.8**
KNB				IAmb	IAmb	14 03 25.4	
	comp=Z,264nm,1.2s						
GMRC	**Granite Mounta**	**72.41**	**321**	P		14 03 24.2	
	baz=135,SNR=79						
GMRC				S		14 12 41.5	
	baz=135						
O20A	**White River Ci**	**72.44**	**329**	P		14 03 23.8	
	baz=142,SNR=76						
O20A				S		14 12 39.9	
	baz=142						
O20A	**White River Ci**	**72.44**	**329**	P	**P**	**14 03 23.1**	**+1.2**
O20A				IAmb	IAmb	14 03 24.7	
	comp=Z,183nm,1.1s						
PKCU	**Pink Cliffs**	**72.45**	**325**	P	**P**	**14 03 23.2**	**+1.0**
F33A	**5 Mile Ranch,**	**72.48**	**340**	P	**P**	**14 03 21.5**	**-0.4**
MURC	**Murrieta**	**72.51**	**319**	P		14 03 24.3	
	baz=133,SNR=10						
MURC				S		14 12 43.2	
	baz=133						
LCMT	**Little Creek M**	**72.64**	**324**	P	**P**	**14 03 24.9**	**+1.8**
SRU	**San Rafael Swe**	**72.77**	**327**	P	**P**	**14 03 25.2**	**+1.3**
SRU				pmax	pmax		
	comp=Z,127nm,1.0s						
SRU	**San Rafael Swe**	**72.77**	**327**	P	**P**	**14 03 25.2**	**+1.3**
SRU				IAmb	IAmb	14 03 26.5	
	comp=Z,127nm,1.0s						
BBRC	**Big Bear Solar**	**72.80**	**320**	P		14 03 26.7	
	baz=134						
BBRC				S		14 12 46.5	
	baz=134						
MTPU	**Mount Pierson**	**72.82**	**325**	P	**P**	**14 03 26.1**	**+1.6**
HEC	**Hector,Ludlow**	**72.84**	**320**	P		14 03 26.7	
	baz=134,SNR=44						
HEC				S		14 12 47.0	
	baz=134						
SCI2	**San Clemente I**	**72.92**	**318**	P		14 03 26.9	
	baz=132						
SCI2				S		14 12 47.0	
	baz=132						
Q16A	**Castle Valley**	**72.95**	**326**	P	**P**	**14 03 26.4**	**+1.4**
SZCU	**Shurtz Canyon**	**72.98**	**324**	P	**P**	**14 03 26.9**	**+1.7**
KOWA	**Kowa**	**72.99**	**66**	P	**P**	**14 03 25.5**	**0.0**
TUQ	**Turquoise Moun**	**73.02**	**321**	P		14 03 27.4	
	baz=135,SNR=22						
TUQ				S		14 12 49.0	
	baz=135						
EYMN	**Ely**	**73.03**	**344**	P		14 03 25.0	
	baz=158,SNR=30						
EYMN				S		14 12 39.5	
	baz=158						
EYMN	**Ely**	**73.03**	**344**	P	**P**	**14 03 24.4**	**-0.6**
CCUT	**Cedar City**	**73.09**	**324**	P	**P**	**14 03 28.3**	**+2.4**
CCUT				IAmb	IAmb	14 03 29.6	
	comp=Z,150nm,1.1s						
CIS	**Catalina Islan**	**73.12**	**318**	P		14 03 27.9	
	baz=132						
CIS				S		14 12 49.1	
	baz=132						
P17A	**Butcher Ranch,**	**73.15**	**327**	P	**P**	**14 03 27.7**	**+1.5**
P17A				IAmb	IAmb	14 03 28.9	
	comp=Z,173nm,1.1s						
RWWY	**Rawlins**	**73.18**	**331**	P	**P**	**14 03 26.2**	**-0.2**
RWWY				IAmb	IAmb	14 03 28.1	
	comp=Z,166nm,1.1s						
BFSC	**Mount Baldy Ra**	**73.23**	**319**	P		14 03 28.5	
	baz=133,SNR=10						
BFSC				S		14 12 50.9	
	baz=133						
TMUT	**Trail Mountain**	**73.25**	**327**	P	**P**	**14 03 28.2**	**+1.2**
FMP	**Fort Macarthur**	**73.26**	**318**	P		14 03 28.9	
	baz=133						
RRX	**Edison Barstow**	**73.26**	**320**	P		14 03 29.2	
	baz=134						
RRX				S		14 12 50.9	
	baz=134						
SHPR	**Sheep Range**	**73.34**	**322**	P	**P**	**14 03 29.1**	**+1.8**
TCRU	**Three Creeks R**	**73.38**	**325**	P	**P**	**14 03 29.2**	**+1.5**
RDMU	**Red Mountain**	**73.41**	**328**	P	**P**	**14 03 28.9**	**+1.1**
RDMU				IAmb	IAmb	14 03 30.2	
	comp=Z,118nm,1.1s						
GSC	**Goldstone, Bar**	**73.44**	**320**	P		14 03 30.1	
	baz=134,SNR=25						
GSC				S		14 12 54.1	
	baz=134						
GSC	**Goldstone, Bar**	**73.45**	**320**	P	**P**	**14 03 29.5**	**+1.6**
GSC				pmax	pmax		
	comp=Z,38nm,1.2s						
GSC	**Goldstone, Bar**	**73.45**	**320**	P	**P**	**14 03 29.5**	**+1.6**
MWC	**Mount Wilson**	**73.46**	**319**	P	**P**	**14 03 29.4**	**+1.3**
MWC				pmax	pmax		
	comp=Z,69nm,1.2s						
MWC	**Mount Wilson**	**73.46**	**319**	P	**P**	**14 03 29.4**	**+1.3**
PASC	**Pasadena Art C**	**73.50**	**319**	P	**P**	**14 03 29.7**	**+1.6**
SHOC	**Shoshone, Teco**	**73.55**	**321**	P		14 03 30.4	
	baz=134						
SHOC				S		14 12 54.5	
	baz=134						
PMOZ	**Porto Moniz, M**	**73.55**	**43**	*e*P	**P**	**14 03 30.9**	**+2.3**
PMOZ				*e*S	**S**	**14 12 52.7**	**+3.8**
PMOZ	**Porto Moniz, M**	**73.55**	**43**	P	**P**	**14 03 29.3**	**+0.7**
TBI	**Tubuai**	**73.60**	**251**	*e*P	**P**	**14 03 31.7**	**+2.6**
	comp=Z,800nm,1.6s						
TBI				*e*pP	**pP**	**14 04 00.9**	**+0.7**
	comp=Z,622nm,1.3s						
TBI				*e*S	**SKiKP**	**14 12 45.1**	**-2.1**
	comp=Z,2µm,29.8s						
TBI				*e*LQ	LQ	14 22 43.9	
	comp=Z,2µm,25.8s						
TBI				*e*LR	LR	14 25 52.4	
	comp=Z,2µm,39.8s						
K22A	**Casper**	**73.64**	**332**	P		14 03 30.5	
	baz=144,SNR=30						
K22A				S		14 12 52.1	
	baz=144						
K22A	**Casper**	**73.65**	**332**	P	**P**	**14 03 30.1**	**+1.1**
K22A				IAmb	IAmb	14 03 31.6	
	comp=Z,154nm,1.2s						
DECC	**Green Verdugo**	**73.65**	**319**	S		14 12 55.2	
	baz=133						
PMAR	**Madeira**	**73.67**	**43**	*e*P	**P**	**14 03 29.8**	**+0.5**
	comp=Z,132nm,1.3s						
PMAR				*e*pP	**pP**	**14 04 01.0**	**-0.1**
SNCC	**San Nicolas Is**	**73.71**	**317**	P		14 03 31.2	
	baz=132						
SNCC				S		14 12 55.4	
	baz=132						
RSSD	**Black Hills**	**73.80**	**334**	P		14 03 31.3	
	baz=146						
RSSD				S		14 12 53.5	
	baz=146						
RSSD	**Black Hills**	**73.80**	**334**	P	**P**	**14 03 31.0**	**+1.1**
RSSD				pmax	pmax		
	comp=Z,99nm,1.1s						
RSSD	**Black Hills**	**73.80**	**334**	P	**P**	**14 03 31.0**	**+1.1**
EDW2	**Edwards Air Fo**	**73.86**	**319**	P		14 03 32.1	
	baz=133,SNR=24						
EDW2				S		14 12 56.0	
	baz=133						
PRN	**Pahroc Range**	**73.92**	**323**	P	**P**	**14 03 32.8**	**+2.1**
B35A	**Bob, Littlefor**	**74.00**	**343**	P	**P**	**14 03 30.5**	**-0.2**
MPU	**Maple Canyon**	**74.01**	**327**	P	**P**	**14 03 31.4**	**+0.2**
MEH	**Mehetia**	**74.07**	**257**	*e*P	**P**	**14 03 34.3**	**+2.4**
	comp=Z,32nm,1.2s						
MEH				*e*pP	**pP**	**14 04 03.4**	**+0.3**
	comp=Z,68nm,1.2s						
PSUT	**Pine Spring**	**74.07**	**324**	P	**P**	**14 03 32.7**	**+1.1**
LRMC	**Laurel Mtn Rad**	**74.09**	**320**	P		14 03 33.6	
	baz=133,SNR=8.5						
LRMC				S		14 12 59.9	
	baz=133						
OSI	**Osito Audit: C**	**74.13**	**319**	P		14 03 33.5	
	baz=132						
OSI				S		14 12 58.7	
	baz=132						
OSI	**Osito Audit: C**	**74.13**	**319**	P	**P**	**14 03 32.7**	**+0.9**
NLU	**North Lily Min**	**74.19**	**327**	P	**P**	**14 03 33.8**	**+1.5**
PMPST	**Porto Santo, M**	**74.27**	**44**	*e*P	**P**	**14 03 33.9**	**+1.3**
	comp=Z,206nm,1.3s						
PMPST				*e*pP	**pP**	**14 04 05.0**	**+0.6**
PMPST				*e*S	**S**	**14 12 52.3**	**-4.4**
TPNV	**Topopah Spring**	**74.27**	**322**	P		14 03 35.3	
	baz=135,SNR=68						
TPNV				S		14 13 03.1	
	baz=135						
TPNV	**Topopah Spring**	**74.27**	**322**	P	**P**	**14 03 34.8**	**+2.1**
TPNV				pmax	pmax		
	comp=Z,119nm,1.2s						
TPNV	**Topopah Spring**	**74.27**	**322**	P	**P**	**14 03 34.8**	**+2.1**
SCZ2	**Santa Cruz Isl**	**74.28**	**318**	P		14 03 34.5	
	baz=132						
SCZ2				S		14 13 00.3	
	baz=132						
FURC	**Furnace Creek,**	**74.28**	**321**	P		14 03 34.8	
	baz=134,SNR=41						
FURC				S		14 13 02.9	
	baz=134						
JLU	**Jordanelle**	**74.36**	**327**	P	**P**	**14 03 35.0**	**+1.7**
JLU				IAmb	IAmb	14 03 36.1	
	comp=Z,135nm,1.2s						
MPMC	**Manual Prospec**	**74.37**	**321**	P		14 03 35.3	
	baz=134,SNR=43						
MPMC				S		14 13 02.7	
	baz=134						
VAH	**Vaihoa**	**74.53**	**260**	*e*P	**P**	**14 03 37.0**	**+2.5**

E28A Huff 74.60 338 P **P** **14 03 35.2 +0.9**
E28A IAmb IAmb 14 03 36.4
comp=Z,358nm,1.4s
SBC Santa Barbara 74.62 318 P 14 03 36.6
baz=132
SBC S 14 13 03.7
baz=132
SPR3 Spring Creek 3 74.67 325 P **P** **14 03 36.4 +1.2**
ISA Isabella, Lake 74.68 320 P 14 03 37.3
baz=133,SNR=54
ISA S 14 13 06.8
baz=133
ISA Isabella, Lake 74.68 320 P **P** **14 03 37.0 +1.9**
ISA pmax pmax
comp=Z,80nm,1.0s
ISA Isabella, Lake 74.68 320 P **P** **14 03 37.0 +1.9**
DUG Dugway, Tooele 74.75 326 P 14 03 37.5
baz=138,SNR=40
DUG S 14 13 06.6
baz=138
DUG Dugway, Tooele 74.75 326 P **P** **14 03 37.0 +1.6**
DUG pmax pmax
comp=Z,116nm,1.2s
DUG Dugway, Tooele 74.75 326 P **P** **14 03 37.0 +1.6**
PMOR Pomariorio Ree 74.85 260 *e*P **P** **14 03 39.0 +2.6**
comp=Z,142nm,1.0s
R11A Troy Canyon, C 74.88 323 P 14 03 38.6
baz=136,SNR=102
R11A S 14 13 09.2
baz=136
R11A Troy Canyon, C 74.88 323 P **P** **14 03 38.3 +2.0**
GRAC Grapevine Rang 74.94 321 P 14 03 38.9
baz=134,SNR=18
GRAC S 14 13 10.2
baz=134
CWC Cottonwood Cre 74.98 320 P 14 03 39.0
baz=133
CWC S 14 13 11.1
baz=133
PKM Mcpherson Peak 74.98 318 P 14 03 39.1
baz=132,SNR=44
PKM S 14 13 08.0
baz=132
SBA Scott Base 75.01 190 P **P** **14 03 38.1 +1.9**
SBA pmax pmax
comp=Z,296nm,1.5s
SBA Scott Base 75.01 190 P **P** **14 03 38.1 +1.9**
SBA IAmb IAmb 14 03 39.8
comp=Z,296nm,1.5s
BW06 Boulder Array 75.11 330 P 14 03 38.7
baz=141,SNR=42
BW06 S 14 13 06.8
baz=141
BW06 Boulder Array 75.11 330 P **P** **14 03 38.2 +0.7**
PD31 Pinedale Array 75.11 330 P **P** **14 03 38.1 +0.6**
PDAR Pinedale Array 75.11 330 P **P** **14 03 38.6 +1.1**
comp=Z,5.8nm,0.6s,baz=151,slow=6.8,SNR=81
PDAR PKKPbc **PKKPbc** **14 23 02.5 +0.5**
comp=Z,0.5nm,0.6s,baz=253,slow=2.5,SNR=3.8
PDAR PKPPKP **P'P'df** **14 30 59.6 -0.6**
comp=Z,0.3nm,0.3s,baz=349,slow=2.8,SNR=4.2
PDAR LR LR 14 40 38.2
comp=Z,387nm,18.3s,baz=130,slow=39
PDAR Pinedale Array 75.11 330 P **P** **14 03 38.3 +0.8**
VES Vestal, Richgr 75.17 319 P 14 03 39.7
baz=132,SNR=14
VES S 14 13 11.3
baz=132
HWUT Hardware Ranch 75.18 328 P **P** **14 03 38.9 +1.0**
HWUT IAmb IAmb 14 03 40.2
comp=Z,121nm,1.1s
MDND Maddock 75.33 339 P 14 03 39.6
baz=150,SNR=27
MDND S 14 13 08.2
baz=150
MDND Maddock 75.33 339 P **P** **14 03 39.4 +1.0**
SMMC Simmler 75.37 319 P 14 03 41.3
baz=132,SNR=28
SMMC S 14 13 14.3
baz=132
SPUT South Promonto 75.39 327 P **P** **14 03 40.3 +1.2**
SPUT IAmb IAmb 14 03 41.6
comp=Z,134nm,1.1s
BGU Big Grassy Mou 75.40 327 P **P** **14 03 40.1 +0.9**
TIN Tinemaha, Big 75.48 321 P 14 03 42.0
baz=133
TIN S 14 13 15.4
baz=133
PAE Paea 75.50 257 *e*P **P** **14 03 42.6 +2.5**
comp=Z,33nm,1.1s
PAE *ep*P **pP** **14 04 13.9 +2.5**
comp=Z,52nm,1.2s
SYO Syowa Base 75.50 159⇓ *i*P **P** **14 03 40.3 +1.1**
SYO Syowa Base 75.50 159⇑ *i*PcP **PcP** **14 03 50.2 -1.5**
SYO Syowa Base 75.50 159⇑ *i*pP pP 14 04 10.8 +0.3
PPTF Pamatai, Papee 75.51 257 P **P** **14 03 40.5 +0.2**
PPTF IAmb IAmb 14 03 44.2
comp=Z,220nm,1.2s
PPT2 Papeete2 75.52 257 *e*P **P** **14 03 42.9 +2.6**
comp=Z,151nm,1.3s
PPT2 *ep*P **pP** **14 04 12.3 +0.7**
comp=Z,269nm,1.3s
PPT2 *e*S **S** **14 13 08.0 -3.5**
comp=Z,2μm,25.8s
PPT2 Papeete2 75.52 257 *e*LQ LQ 14 23 37.9
comp=Z,4μm,29.8s
PPT2 *e*LR LR 14 26 42.9
comp=Z,5μm,32.0s
PPT Papeete 75.53 257 P **P** **14 03 42.2 +2.0**
comp=Z,49nm,0.7s,baz=89,slow=9.1,SNR=5.6
TPH Tonopah 75.61 322 P **P** **14 03 41.8 +1.3**
TPH pmax pmax
comp=Z,388nm,1.2s
TPH Tonopah 75.61 322 P **P** **14 03 41.8 +1.3**
VOG Valley Oaks Go 75.67 320 P 14 03 41.9
baz=132
PAGB Antelope Grade 75.80 319 P **P** **14 03 43.0 +1.6**
PAGB IAmb IAmb 14 03 44.4
comp=Z,156nm,1.3s
AHID Auburn Hatcher 75.83 329 P **P** **14 03 42.9 +1.3**
AHID IAmb IAmb 14 03 44.0
comp=Z,171nm,1.1s
HVU Hansel Valley 75.90 327 P **P** **14 03 43.0 +1.0**
HVU pmax pmax
comp=Z,112nm,1.2s
HVU Hansel Valley 75.90 327 P **P** **14 03 43.0 +1.0**
VNDA Vanda 76.03 190 P **P** **14 03 44.2 +2.1**
comp=Z,58nm,1.0s,baz=134,slow=5.1,SNR=119
VNDA PKPPKP **P'P'df** **14 31 00.8 +0.7**
comp=Z,1.8nm,1.0s,baz=313,slow=5.3,SNR=4.6
VNDA Vanda 76.03 190 P **P** **14 03 44.0 +1.9**
VNDA pmax pmax
comp=Z,171nm,1.5s
VNDA Vanda 76.03 190 P **P** **14 03 44.0 +1.9**
VNDA IAmb IAmb 14 03 45.3
comp=Z,171nm,1.4s
REDW Red Top Meadow 76.17 330 P **P** **14 03 44.7 +1.1**
REDW IAmb IAmb 14 03 46.2
comp=Z,140nm,1.1s
ECR Eagle Creek 76.18 329 P **P** **14 03 44.8 +1.2**
SNOW Snow King Moun 76.20 330 P **P** **14 03 45.1 +1.3**
MLAC Mammoth, Mammo 76.23 321 P 14 03 46.1
baz=133
MLAC S 14 13 22.9
baz=133
LOHW Long Hollow 76.25 330 P **P** **14 03 45.4 +1.4**
LOHW IAmb IAmb 14 03 46.6
comp=Z,139nm,1.2s
ULM Lac du Bonnet 76.31 342 P **P** **14 03 44.2 +0.3**
comp=Z,29nm,0.5s,baz=152,slow=5.5,SNR=61
ULM PKKPbc **PKKPbc** **14 22 58.2 -1.4**
comp=Z,1.4nm,0.5s,baz=27,slow=2.3,SNR=3.8
ULM LR LR 14 39 57.1
comp=Z,960nm,21.6s,baz=144,slow=38
ULM Lac du Bonnet 76.31 342 P **P** **14 03 43.9 0.0**
ULM pmax pmax
comp=Z,83nm,0.7s
ULM Lac du Bonnet 76.31 342 P **P** **14 03 43.9 0.0**
ULM IAmb IAmb 14 04 09.2
comp=Z,83nm,0.7s
TPAW Teton Pass 76.31 330 P **P** **14 03 45.6 +1.1**
TPAW IAmb IAmb 14 03 47.1
comp=Z,114nm,1.1s
NV11 Mina Array Sit 76.39 322 P **P** **14 03 46.0 +1.2**
ELK Elko 76.41 325 P **P** **14 03 46.4 +1.4**
comp=Z,28nm,0.9s,baz=132,slow=3.8,SNR=132
ELK Elko 76.41 325 P **P** **14 03 46.1 +1.1**
ELK pmax pmax
comp=Z,65nm,1.1s
ELK Elko 76.41 325 P **P** **14 03 46.1 +1.1**
PMPB Monarch Peak 76.46 319 P **P** **14 03 46.5 +1.4**
LHV Little Huntoon 76.46 322 P **P** **14 03 47.0 +2.0**
NVAR Mina Array Bea 76.47 322 P **P** **14 03 47.2 +1.9**
comp=Z,12nm,0.8s,baz=155,slow=6.4,SNR=124
NVAR PKKPbc **PKKPbc** **14 22 59.0 +0.4**
comp=Z,1.0nm,0.8s,baz=250,slow=3.4,SNR=5.5
NVAR PKPPKP **P'P'df** **14 31 00.5 +2.2**
comp=Z,0.9nm,0.9s,baz=267,slow=2.4,SNR=4.1
NVAR Mina Array Bea 76.47 322 P **P** **14 03 46.9 +1.5**
FLWY Flagg Ranch 76.65 330 P **P** **14 03 48.0 +1.8**
FLWY IAmb IAmb 14 03 49.4
comp=Z,240nm,1.1s
RYN Ryan 76.73 322 P **P** **14 03 47.9 +1.2**
KVN Kaiserville 76.78 322 P **P** **14 03 48.4 +1.3**
KVN pmax pmax
comp=Z,99nm,1.1s
KVN Kaiserville 76.78 322 P **P** **14 03 48.4 +1.3**
LAO LASA Array 76.78 334 P 14 03 48.2
baz=144,SNR=27
LAO S 14 13 27.5
baz=144
LAO LASA Array 76.78 334 P **P** **14 03 47.8 +1.1**
LAO IAmb IAmb 14 03 49.1
comp=Z,186nm,1.2s
RLMT Red Lodge 76.81 332 P 14 03 48.8
baz=142,SNR=54
RLMT S 14 13 27.9
baz=142
RLMT Red Lodge 76.81 332 P **P** **14 03 48.6 +1.4**
RLMT IAmb IAmb 14 03 49.8
comp=Z,192nm,1.3s
H17A Grant Village 76.83 330 P 14 03 49.6
baz=140,SNR=30
H17A S 14 13 29.4
baz=140
H17A Grant Village 76.83 330 P **P** **14 03 49.1 +1.7**
YPP Pitchstone Pla 76.84 330 P **P** **14 03 49.0 +1.6**
LKWY Lake 76.89 331 P **P** **14 03 49.5 +1.9**
LKWY pmax pmax
comp=Z,145nm,1.3s
LKWY Lake 76.89 331 P **P** **14 03 49.5 +1.9**
LKWY IAmb IAmb 14 03 51.4
comp=Z,145nm,1.2s
YMP Mirror Lake Pl 76.91 331 P **P** **14 03 48.7 +0.9**
SCHQ Schefferville 76.94 1 P **P** **14 03 47.9 +0.6**
comp=Z,58nm,1.0s,baz=161,slow=7.7
SCHQ LR LR 14 38 27.2
comp=Z,618nm,20.5s,baz=188,slow=36
SCHQ Schefferville 76.94 1 P **P** **14 03 47.1 -0.2**
SCHQ IAmb IAmb 14 04 06.4
comp=Z,102nm,0.8s
YNE Yellowstone No 77.05 331 P **P** **14 03 50.0 +1.4**
YNE IAmb IAmb 14 03 51.2
comp=Z,196nm,1.1s
YNR Norris Junctio 77.13 331 P **P** **14 03 50.7 +1.7**
WAKR Walker 77.17 321 P **P** **14 03 51.0 +1.8**
SAO San Andreas Ge 77.21 319 P **P** **14 03 50.1 +0.8**
SAO pmax pmax
comp=Z,40nm,1.1s
SAO San Andreas Ge 77.21 319 P **P** **14 03 50.1 +0.8**
YMR Madison River 77.22 330 P **P** **14 03 50.9 +1.5**
YMR IAmb IAmb 14 03 52.9
comp=Z,232nm,1.2s
TOA0 Torodi Ar. Sit 77.26 70 P **P** **14 03 49.8 -0.3**
TORD Torodi Ar. Bea 77.26 70 P **P** **14 03 50.1 +0.1**
comp=Z,324nm,1.0s,baz=257,slow=5.0,SNR=636
TORD S **S** **14 13 27.1 -3.2**
comp=Z,43nm,1.1s,baz=251,slow=9.0,SNR=30
TORD PKKPbc **PKKPbc** **14 22 56.8 +1.9**
comp=Z,0.7nm,0.7s,baz=70,slow=1.4,SNR=4.5
TORD PKP2ab 14 30 46.6
comp=Z,0.2nm,0.4s,baz=80,slow=3.3,SNR=3.7
TORD LR LR 14 38 02.3
comp=Z,2μm,19.3s,baz=245,slow=36
TORD Torodi Ar. Bea 77.26 70 P **P** **14 03 49.8 -0.3**
YHH Holmes Hill 77.26 331 P **P** **14 03 51.6 +1.8**
YHH IAmb IAmb 14 03 53.8
comp=Z,212nm,1.2s
YERR Yerington 77.38 322 P **P** **14 03 51.9 +1.5**
YERR IAmb IAmb 14 03 53.5
comp=Z,194nm,1.5s
YHB Horse Butte 77.39 330 P **P** **14 03 52.2 +1.8**
YHB IAmb IAmb 14 03 53.6
comp=Z,118nm,1.1s
CMB Columbia Colle 77.41 320 P **P** **14 03 51.2 +0.8**
CMB pmax pmax
comp=Z,25nm,1.1s
CMB Columbia Colle 77.41 320 P **P** **14 03 51.2 +0.8**
YHL Hebgen Lake 77.46 330 P **P** **14 03 52.9 +2.0**
YHL IAmb IAmb 14 03 54.2
comp=Z,190nm,1.3s
GCMT Greycliff 77.51 332 P **P** **14 03 52.1 +1.2**
QLMT Earthquake Lak 77.56 330 P **P** **14 03 53.1 +1.8**
PNTR Pine Nut 77.66 322 P **P** **14 03 53.8 +1.7**
PNTR IAmb IAmb 14 03 55.1
comp=Z,117nm,1.0s
SUR Sutherland 77.76 120 P **P** **14 03 54.1 +1.2**
VCNR Virginia City 77.83 322 P **P** **14 03 54.5 +1.6**
PAHR Pah Rah Range 77.95 322 P **P** **14 03 55.5 +2.0**
PAHR IAmb IAmb 14 03 56.6
comp=Z,182nm,1.0s
RUBR Rubicon Trail 77.95 321 P **P** **14 03 55.1 +1.4**
RUBR IAmb IAmb 14 04 06.2
comp=Z,126nm,0.9s
HLID Hailey 78.03 328 P 14 03 56.2
baz=137,SNR=179
HLID S 14 13 44.0
baz=137
HLID Hailey 78.03 328 P **P** **14 03 55.9 +2.0**
HLID IAmb IAmb 14 03 57.2
comp=Z,150nm,1.1s
BCYI Bear Canyon 78.10 329 P **P** **14 03 56.1 +1.8**
MCMT McKenzie Canyo 78.22 329 P **P** **14 03 56.9 +1.9**
DLMT Dillon 78.50 330 P **P** **14 03 57.8 +1.4**
DLMT IAmb IAmb 14 03 59.3
comp=Z,138nm,1.2s
BEKR Beckworth 78.62 322 P **P** **14 03 58.3 +1.1**
MFID Camas Ranch 78.64 327 P **P** **14 03 58.5 +1.3**
MFID IAmb IAmb 14 04 00.2
comp=Z,232nm,1.4s
LRM Limekiln Ridge 78.78 330 P **P** **14 03 59.5 +1.4**
MCCM Marconi Confer 78.97 319 P **P** **14 04 00.1 +1.2**
MCCM IAmb IAmb 14 04 01.5
comp=Z,140nm,1.1s
ORV Oroville 79.07 321 P **P** **14 04 00.8 +1.3**
ORV pmax pmax
comp=Z,204nm,1.2s
ORV Oroville 79.07 321 P **P** **14 04 00.8 +1.3**
ORV IAmb IAmb 14 04 02.3
comp=Z,204nm,1.2s
HRY Holter Researc 79.18 331 P **P** **14 04 01.2 +1.2**
EGMT Eagleton 79.30 333 P 14 04 01.9
baz=142,SNR=10
EGMT S 14 13 53.7
baz=142
EGMT Eagleton 79.30 333 P **P** **14 04 01.4 +0.8**
EGMT IAmb IAmb 14 04 02.6
comp=Z,155nm,1.2s
TSUM Tsumeb 79.38 106 P **P** **14 04 02.9 +1.0**
TSUM Tsumeb 79.38 106 *i* P **P** **14 04 05.3 +3.4**
TSUM Tsumeb 79.38 106 *i* P **P** **14 04 05.3 +3.4**
WVOR Wild Horse Val 79.41 325 P **P** **14 04 02.3 +0.9**
WVOR pmax pmax
comp=Z,71nm,1.4s
WVOR Wild Horse Val 79.41 325 P **P** **14 04 02.3 +0.9**
HOPS Hopland Field 79.63 320 P **P** **14 04 03.6 +1.1**
O03E Paynes Creek 79.73 321 P 14 04 03.8
baz=131,SNR=30
MOD Modoc Plateau 79.95 323 P **P** **14 04 05.6 +1.2**
MOD IAmb IAmb 14 04 07.0
comp=Z,153nm,1.2s
J08A Circle Bar Ran 79.96 325 P **P** **14 04 05.6 +1.3**
J08A IAmb IAmb 14 04 07.1
comp=Z,227nm,1.5s
MSO Missoula 80.22 330 P 14 04 07.5
baz=138,SNR=22
MSO S 14 13 05.4
baz=138
MSO Missoula 80.22 330 P **P** **14 04 07.1 +1.4**
O02D Mt. Diablo Mer 80.22 321 P 14 04 07.1
baz=130,SNR=18
O02D S 14 14 03.9
baz=130
AVE Averroes 80.32 48 P **P** **14 04 04.0 -2.4**
AVE S **S** **14 14 01.4 -0.8**
WDC Whiskeytown Da 80.34 321 P **P** **14 04 06.1 -0.2**
WDC pmax pmax
comp=Z,52nm,0.9s
WDC Whiskeytown Da 80.34 321 P **P** **14 04 06.1 -0.2**
KCPM Cahto Peak 80.38 320 P **P** **14 04 08.2 +1.5**
KCPM IAmb IAmb 14 04 09.8
comp=Z,162nm,1.2s
BMO Blue Mountains 80.41 327 P **P** **14 04 07.9 +1.2**
BMO pmax pmax
comp=Z,162nm,1.2s
BMO Blue Mountains 80.41 327 P **P** **14 04 07.9 +1.2**
BMO IAmb IAmb 14 04 09.2
comp=Z,162nm,1.2s
N02D Trinity Center 80.69 321 P 14 04 08.9
baz=131,SNR=24
M04C Macdoel 80.73 323 P 14 04 09.7
baz=131,SNR=44
KMRM Mail Ridge 80.79 320 P **P** **14 04 10.4 +1.6**
K05A Summer Lake 80.83 324 P **P** **14 04 10.8 +1.7**
K05A IAmb IAmb 14 04 12.1
comp=Z,266nm,1.1s
I07A Izee 81.00 325 P **P** **14 04 11.4 +1.5**
I07A IAmb IAmb 14 04 12.7
comp=Z,128nm,1.1s
M02C Callahan 81.05 322 P 14 04 11.0
baz=130,SNR=13
JTMT Jette 81.06 331 P **P** **14 04 11.3 +1.1**
JTMT IAmb IAmb 14 04 12.7
comp=Z,124nm,1.2s
F10A Beach Ranch, E 81.16 328 P **P** **14 04 11.8 +1.1**
F10A IAmb IAmb 14 04 14.5
comp=Z,233nm,1.4s
YBH Yreka Blue Hor 81.19 322 P **P** **14 04 11.2 +0.3**
comp=Z,16nm,0.7s,baz=109,slow=4.6,SNR=38
YBH Yreka Blue Hor 81.19 322 P **P** **14 04 10.7 -0.2**
YBH pmax pmax
comp=Z,37nm,1.0s
YBH Yreka Blue Hor 81.19 322 P **P** **14 04 10.7 -0.2**
KHMM Horse Mountain 81.22 321 P **P** **14 04 12.8 +1.6**
K04D Chiloquin, OR 81.23 323 P 14 04 12.8
baz=132
L04D Klamath Falls 81.27 323 P 14 04 12.3
baz=131,SNR=11
G08A Pilot Rock 81.55 327 P **P** **14 04 13.8 +1.1**
PINE Pine Mountain 81.57 324 P **P** **14 04 14.4 +1.4**
PINE IAmb IAmb 14 04 16.0
comp=Z,194nm,1.0s
PFVI Vila Bisbo 81.60 44⇓ *i*P **P** **14 04 14.4 +1.3**
comp=Z,264nm,1.2s
PFVI *ep*P **pP** **14 04 46.2 +0.7**
PFVI *e*S **S** **14 14 06.3 -8.9**
PFVI Vila Bisbo 81.60 44 P **P** **14 04 14.1 +1.0**
PFVI IAmb IAmb 14 04 16.0
comp=Z,204nm,1.1s
KRMB Red Mountain 81.74 321 P **P** **14 04 14.7 +0.9**
KRMB IAmb IAmb 14 04 16.5
comp=Z,134nm,1.2s
J04D Umpqua Nationa 81.83 324 P 14 04 15.8
baz=131,SNR=24
J04D S 14 14 21.3
baz=131
WALA Waterton Lakes 81.87 332 P **P** **14 04 15.3 +1.0**
WALA IAmb IAmb 14 04 16.5
comp=Z,117nm,1.1s
HUMO Hull Mountain 81.89 323 P **P** **14 04 14.4 -0.1**
PTEO Sao Teotonio 81.91 44 *e*P **P** **14 04 16.5 +1.8**
comp=Z,475nm,1.3s
PTEO *ep*P **pP** **14 04 48.1 +1.0**
L02E Cave Junction 81.97 322 P 14 04 16.7
baz=130,SNR=10
L02E S 14 14 23.6
baz=130
E09A Wood Farm, Sta 82.00 328 P **P** **14 04 15.3 +0.4**
FFC Flin Flon 82.03 341 P **P** **14 04 14.9 0.0**
FFC pmax pmax
comp=Z,118nm,1.4s
FFC Flin Flon 82.03 341 P **P** **14 04 14.9 0.0**
IFR Ifrane 82.03 49 P **P** **14 04 14.4 -1.2**
IFR S **S** **14 14 19.4 -0.8**
I05D Terrebonne, OR 82.14 325 P 14 04 17.9
baz=132,SNR=50
I05D S 14 14 25.9
baz=132
PBDV Barranco-do-Ve 82.24 45⇓ *i*P **P** **14 04 18.1 +1.6**
comp=Z,249nm,1.2s
PBDV *ep*P **pP** **14 04 49.8 +0.9**
PBDV *e*S **S** **14 14 27.5 +5.6**
LIS Lisbon 82.33 43 *e*P **P** **14 04 18.5 +1.7**
LIS IAmb IAmb 14 04 19.8
comp=Z,455nm,1.7s
LIS *e*S **S** **14 14 24.6 +1.9**
LIS Lisbon 82.33 43 *e*P **P** **14 04 18.5 +1.7**
LIS *e*S **S** **14 14 24.6 +1.9**
K02D Willamette Mer 82.35 322 P 14 04 18.9
baz=130,SNR=22
K02D S 14 14 27.6
baz=130
KBO Bosley Butte 82.36 322 P **P** **14 04 18.6 +1.5**
KBO IAmb IAmb 14 04 20.0
comp=Z,284nm,1.4s
I04A Tendick Farm, 82.36 324 P 14 04 17.9
baz=131,SNR=16
PNCL Nicolau / Gran 82.37 44⇓ *i*P **P** **14 04 18.5 +1.5**
comp=Z,132nm,1.3s
PNCL *ep*P **pP** **14 04 50.4 +0.9**
PNCL *e*S **S** **14 14 16.5 -6.5**
PMAFR Mafra 82.39 42⇓ *i*P **P** **14 04 18.6 +1.4**
comp=Z,258nm,1.2s
PMAFR *ep*P **pP** **14 04 50.0 +0.3**
PMAFR *e*S **S** **14 14 28.0 +4.7**
PCVE Castro Verde 82.40 44⇓ *i*P **P** **14 04 18.9 +1.7**
comp=Z,174nm,1.1s
PCVE *ep*P **pP** **14 04 51.0 +1.3**
PCVE *e*S **S** **14 14 17.8 -5.6**
MESJ Messejana 82.40 44 *e*P **P** **14 04 18.8 +1.6**
MESJ IAmb IAmb 14 04 20.9
comp=Z,157nm,1.1s
MESJ *e*S **S** **14 14 25.4 +1.9**
MESJ Messejana 82.40 44 *e*P **P** **14 04 18.8 +1.6**
MESJ *e*S **S** **14 14 25.4 +1.9**
E08A Dider Farm, El 82.43 327 P **P** **14 04 17.7 +0.5**
F07A Phinny Hill Vi 82.46 327 P **P** **14 04 18.0 +0.7**
PVAQ Vaqueiros 82.47 44⇓ *i*P **P** **14 04 19.2 +1.6**
comp=Z,127nm,1.9s
PVAQ *ep*P **pP** **14 04 50.8 +0.7**
PVAQ *e*S S 14 14 14.5 -10
PVAQ Vaqueiros 82.47 44 P **P** **14 04 18.1 +0.5**
PVAQ IAmb IAmb 14 04 20.0
comp=Z,135nm,1.3s
HAWA Hanford 82.60 327 P **P** **14 04 19.2 +1.1**
HAWA IAmb IAmb 14 04 20.6
comp=Z,121nm,1.1s
BOSA Boshof 82.65 118 P **P** **14 04 19.6 +0.6**
comp=Z,377nm,0.9s,baz=248,slow=4.6,SNR=197
BOSA S **S** **14 14 26.0 -0.9**
comp=Z,1.4nm,0.4s,baz=184,slow=20,SNR=1.9
BOSA Boshof 82.65 118 P **P** **14 04 19.2 +0.1**
BOSA pmax pmax
comp=Z,544nm,1.1s
BOSA Boshof 82.65 118 P **P** **14 04 19.2 +0.1**
BOSA Boshof 82.65 118 *i* P **P** **14 04 19.9 +0.8**
BOSA Boshof 82.65 118 *i* P **P** **14 04 19.9 +0.8**
G05D Wamic, OR 82.74 325 P 14 04 20.9
baz=132,SNR=18
G05D S 14 14 30.4
baz=132
PBEJ Beja 82.74 44 *e*P **P** **14 04 20.5 +1.5**
comp=Z,115nm,1.2s
PBEJ *ep*P **pP** **14 04 52.4 +0.9**
NEW Newport 82.74 330 P 14 04 19.5
baz=136,SNR=17
NEW S 14 14 29.7
baz=136
NEW Newport 82.74 330 P **P** **14 04 19.3 +0.5**
comp=Z,17nm,0.8s,baz=126,slow=6.1,SNR=36
NEW S **S** **14 14 26.8 +0.2**
comp=Z,1.3nm,0.5s,baz=60,slow=20,SNR=1.3
NEW LR LR 14 42 47.5
comp=Z,441nm,21.9s,baz=130,slow=37
NEW Newport 82.74 330 P **P** **14 04 19.0 +0.2**
NEW pmax pmax

comp=Z,81nm,1.4s
NEW Newport 82.74 330 P P 14 04 19.0 +0.2
D08A Wollman Farm, 82.76 328 P P 14 04 19.8 +0.9
D08A IAmb IAmb 14 04 21.3
comp=Z,158nm,1.4s
J01E Myrtle Point 82.80 323 P 14 04 21.1
baz=130,SNR=7.8
J01E S 14 14 31.3
baz=130
I03D Drain, OR 82.82 323 P 14 04 20.9
baz=130,SNR=8.0
I03D S 14 14 31.0
baz=130
H04A Detroit Lake 82.83 325 P P 14 04 19.5 +0.1
KEBM Edson Butte 82.84 322 P P 14 04 21.2 +1.7
KEBM IAmb IAmb 14 04 28.9
comp=Z,182nm,1.1s
E07A Sunnyside 82.88 327 P P 14 04 20.4 +0.9
SFS San Fernando 82.93 46 P P 14 04 20.4 +0.4
SFS S S 14 14 33.2 +4.3
EVO Evora 82.94 43 P P 14 04 19.1 -0.9
EVO S S 14 14 30.0 +1.1
EVO Evora 82.94 43⇓*i*P P 14 04 21.4 +1.4
comp=Z,107nm,1.8s
EVO *ep*P **pP 14 04 53.1 +0.6**
ARNO Arenosillo 82.94 45 P P 14 04 19.4 -0.6
ARNO S S 14 14 31.2 +2.2
C09A Chrisman Ranch 82.96 329 P P 14 04 21.0 +1.1
C09A IAmb IAmb 14 04 22.2
comp=Z,142nm,0.8s
H04D Lebanon 83.02 324 P 14 04 21.5
baz=131
H04D S 14 14 32.0
baz=131
PSBE So Bento 83.03 42⇓*i*P P 14 04 22.3 +1.8
comp=Z,292nm,1.3s
PSBE *ep*P **pP 14 04 53.2 +0.2**
PSBE *e*S **SKSac 14 14 36.9 +5.8**
PMTG Montargil 83.12 43 *e*S SKSac 14 14 39.2 +7.6
CEU Ceuta 83.17 47 P P 14 04 20.4 -0.9
CEU S S 14 14 33.0 +1.7
F05D White Salmon 83.24 326 P 14 04 22.8
baz=132,SNR=7.7
F05D S 14 14 34.8
baz=132
RAR Rarotonga 83.31 250 LR LR 14 30 07.1
comp=Z,131nm,20.9s,baz=125,slow=27
MAW Mawson 83.34 163 P P 14 04 22.8 +1.2
comp=Z,127nm,0.6s,baz=211,slow=6.1,SNR=172
MAW PKKPbc **PKKPbc 14 22 41.2 -1.1**
comp=Z,4.2nm,0.8s,baz=28,slow=1.4,SNR=6.7
MAW Mawson 83.34 163 P P 14 04 22.5 +0.9
I02D Swisshome 83.36 323 P 14 04 23.7
baz=130,SNR=5.2
I02D S 14 14 36.3
baz=130
PBAR Barrancos 83.36 44⇓*i*P P 14 04 23.5 +1.3
comp=Z,112nm,1.5s
PBAR Barrancos 83.36 44 *e*S S 14 14 34.8 +1.7
COR Corvallis 83.37 324 P P 14 04 23.2 +1.2
COR pmax pmax
comp=Z,199nm,1.1s
COR Corvallis 83.37 324 P P 14 04 23.2 +1.2
COR IAmb IAmb 14 04 24.9
comp=Z,199nm,1.1s
PESTR Estremoz 83.40 43⇓*i*P P 14 04 23.9 +1.5
comp=Z,226nm,1.5s
PESTR *ep*P **pP 14 04 55.5 +0.5**
PESTR *e*S **S 14 14 29.2 -4.4**
PESTR Estremoz 83.40 43 P P 14 04 23.0 +0.6
PVLZ Peæn de 83.50 48 P P 14 04 22.2 -0.7
PVLZ S S 14 14 32.8 -1.8
PCAS Casmilo, Conde 83.53 42⇓*e*P P 14 04 24.3 +1.3
comp=Z,177nm,1.4s
PCAS *ep*P **pP 14 04 56.5 +0.9**
PCAS *e*S **S 14 14 41.7 +6.9**
FCC Fort Churchill 83.61 347 P 14 04 23.5 +0.6
FCC pmax pmax
comp=Z,128nm,1.1s
FCC Fort Churchill 83.61 347 P P 14 04 23.5 +0.6
FCC IAmb IAmb 14 04 24.7
comp=Z,128nm,1.1s
COI Coimbra 83.67 42 P P 14 04 24.0 +0.2
COI pmax pmax
comp=Z,245nm,1.2s
COI Coimbra 83.67 42⇓*i*P P 14 04 25.1 +1.4
comp=Z,324nm,1.3s
COI Coimbra 83.67 42 *e*S S 14 14 31.4 -4.8
COI Coimbra 83.67 42 P P 14 04 23.9 +0.2
G03D McMinnville, O 83.75 324 P 14 04 25.8
baz=131
G03D S 14 14 39.7
baz=131
LTY Liberty 83.76 327 P P 14 04 24.6 +0.5
LTY IAmb IAmb 14 04 26.1
comp=Z,108nm,1.1s
PMRV Marv??o 83.86 43⇓*i*P P 14 04 25.3 +0.6
comp=Z,116nm,1.4s
PMRV *ep*P **pP 14 04 57.3 0.0**
PMRV *e*S **SKSac 14 14 29.2 -7.3**
B08A Colville Reser 83.86 329 P P 14 04 24.8 +0.3
B08A IAmb IAmb 14 04 26.2
comp=Z,117nm,1.4s
LON Longmire 84.00 326 P P 14 04 25.2 -0.1
LON pmax pmax
comp=Z,50nm,1.2s
LON Longmire 84.00 326 P P 14 04 25.2 -0.1
PCBR Castelo Branco 84.04 43 *e*P P 14 04 26.6 +1.0
comp=Z,145nm,1.5s
PCBR *ep*P **pP 14 04 58.5 +0.3**
F04D Rainier, OR 84.18 325 P 14 04 27.8
baz=131
LBTB Lobatse 84.25 115 P P 14 04 27.5 +0.2
LBTB pmax pmax
comp=Z,537nm,1.1s
LBTB Lobatse 84.25 115 P P 14 04 27.5 +0.2
LBTB Lobatse 84.25 115 *i*P P 14 04 28.4 +1.0
LBTB Lobatse 84.25 115 *i*P P 14 04 28.4 +1.0
E04D Cinebar 84.26 326 P 14 04 27.3
baz=131,SNR=5.7
EMAL Malaga-Limoner 84.28 47 P P 14 04 24.9 -2.0
EMAL S S 14 14 42.4 0.0
PVIS Viseu 84.29 42 *e*P P 14 04 27.8 +0.9
comp=Z,219nm,1.7s
PVIS *ep*P **pP 14 04 59.8 +0.2**
C06D Leavenworth 84.32 328 P 14 04 27.4
baz=133
MTE Manteigas 84.32 42⇓*i*P P 14 04 28.2 +1.1
comp=Z,246nm,1.3s
MTE *ep*P **pP 14 05 00.1 +0.3**
MTE *e*S **S 14 14 41.5 -1.4**
MTE Manteigas 84.32 42 P P 14 04 27.6 +0.5
MTE IAmb IAmb 14 04 29.5
comp=Z,174nm,1.1s
D05A Enumclaw 84.38 327 P P 14 04 27.1 -0.1
D05A IAmb IAmb 14 04 29.0
comp=Z,127nm,1.0s
MELI Melilla 84.51 48 P P 14 04 26.0 -2.1
MELI S S 14 14 43.6 -1.1
PVRL Vila Real 84.73 41 *e*P P 14 04 30.1 +1.0
comp=Z,265nm,1.9s
PVRL *e*LQ LQ 14 05 01.2
POLO Lamas de Olo 84.74 41 *e*P P 14 04 30.2 +1.0
comp=Z,104nm,1.6s
POLO *ep*P **pP 14 05 01.7 -0.2**
POLO *e*S SKSac 14 14 29.4 -13
D04E Lakebay 84.78 326 P 14 04 31.0
baz=131,SNR=6.4
E03A Lebam 84.78 325 P P 14 04 29.4 +0.3
E03A IAmb IAmb 14 04 31.4
comp=Z,138nm,1.2s
PCAB Cabril 84.80 41 *e*P P 14 04 30.4 +1.0
comp=Z,208nm,1.9s
B06A Marblemount 85.02 328 P P 14 04 30.3 +0.1
B06A IAmb IAmb 14 04 31.6
comp=Z,112nm,1.0s
MVO Moncorvo 85.09 42⇓*i*P P 14 04 32.0 +1.1
comp=Z,296nm,1.4s
MVO *ep*P **pP 14 05 03.7 +0.1**
MVO *e*S **S 14 14 46.2 -4.2**
B05A Bryant 85.15 327 P 14 04 31.5
baz=132,SNR=18
D03D Eldon 85.17 326 P 14 04 32.3
baz=131,SNR=13
NRS Narsarsuaq 85.33 11⇓*i*P P 14 04 32.5 +0.9
NRS IAmb IAmb 14 04 33.5
comp=Z,106nm,1.0s
NRS *i* 14 05 04.4
NRS Narsarsuaq 85.33 11⇓*i*P P 14 04 32.4 +0.9
NRS *i* 14 05 04.3
NRS pmax pmax
comp=Z,110nm,1.0s
NRS Narsarsuaq 85.33 11 P P 14 04 31.7 +0.2
NRS IAmb IAmb 14 04 33.9
comp=Z,94nm,1.0s
NLWA Neilton Lookou 85.48 326 P P 14 04 33.5 +0.8
NLWA IAmb IAmb 14 04 35.0
comp=Z,115nm,1.2s
PBRG Braganca 85.63 41⇓*e*P P 14 04 34.7 +1.1
comp=Z,192nm,1.7s
PBRG *ep*P **pP 14 05 06.4 +0.1**
PBRG *e*S **S 14 14 56.5 +0.8**
A05A Maple Falls 85.63 328 P P 14 04 33.5 +0.2
A05A IAmb IAmb 14 04 34.9
comp=Z,178nm,1.2s
A04D Lummi Island 85.76 327 P 14 04 35.2
baz=131
A04D S 14 14 59.5
baz=131
PAB San Pablo 85.86 44 P P 14 04 35.5 +0.6
PAB pmax pmax
comp=Z,323nm,1.2s
PAB San Pablo 85.86 44 P P 14 04 35.5 +0.6
PGC Sidney 86.08 327 P P 14 04 36.3 +0.7
PGC IAmb IAmb 14 04 37.7
comp=Z,154nm,1.2s
ESDC Sonseca Array 86.18 44 P P 14 04 37.3 +0.9
comp=Z,134nm,1.2s,baz=236,slow=5.2,SNR=198
ESDC LR LR 14 40 24.7
comp=Z,1µm,21.0s,baz=235,slow=34
ESDC Sonseca Array 86.18 44 P P 14 04 36.9 +0.5
ESDC IAmb IAmb 14 04 38.4
comp=Z,187nm,1.4s
ESBB Sonseca Array 86.19 44 P P 14 04 36.8 +0.4
ODJA Bouhanifia 86.47 50 P P 14 04 42.0 +4.1
OJBR Djebel Berber 86.95 50 P P 14 04 40.0 -0.2
UCM Universidad Co 86.99 44 P P 14 04 39.0 -1.3
UCM S S 14 15 01.4 -7.5
CART Cartagena 87.04 47 P P 14 04 37.8 -2.7
CART S SKSac 14 14 55.0 -1.5
CART Cartagena 87.04 47 P P 14 04 40.0 -0.5
CART IAmb IAmb 14 04 41.7
comp=Z,211nm,1.5s
OJGS Djebel Guires 87.19 50 P P 14 04 41.0 -0.5
OKGL Djebel Kef Gue 87.39 49 P P 14 04 39.0 -3.3
ETRT Tiaret 87.53 50 P P 14 04 44.8 +1.7
EANR 'Ain N'Sour 87.66 50 P P 14 04 44.6 +0.9
ECHA Ech Chlef 87.95 49 P P 14 04 45.3 +0.4
EBNR Beni Rached 88.13 49 P P 14 04 47.4 +1.5
BLWY Bulawayo 88.69 111 *i*P P 14 04 51.0 +1.9
BLWY Bulawayo 88.69 111 *i*P P 14 04 51.0 +1.9
ADJB Djebel Djouab 89.42 50 P P 14 04 53.4 +1.4
ABA Alger-Bouzarea 89.44 50 P P 14 04 50.4 -1.5
AKET Djebel Ketaf 89.68 51 P P 14 04 54.4 +1.1
ABMS Boumerdes 89.73 50 P P 14 04 52.5 -0.8
ATAF Djebel Tarf 89.89 51 P P 14 04 55.6 +1.5
SFJD Kangerlussuaq 90.13 7 P P 14 04 55.0 +0.6
comp=Z,10.0nm,1.0s,baz=230,slow=7.6
SFJD Kangerlussuaq 90.13 7⇓*i*P P 14 04 55.0 +0.6
SFJD IAmb IAmb 14 04 56.1
comp=Z,23nm,1.2s
SFJD ⇑*e* 14 04 56.1
SFJD *i* 14 05 24.1
SFJD Kangerlussuaq 90.13 7⇓*i*P P 14 04 54.9 +0.6
SFJD *i* 14 05 24.1
SFJD pmax pmax
comp=Z,23nm,1.2s
SFJD Kangerlussuaq 90.13 7 P P 14 04 53.9 -0.5
DY2G Dye2 90.18 9⇓*i*P P 14 04 56.2 +1.2
DY2G IAmb IAmb 14 04 57.4
comp=Z,666nm,1.4s
DY2G *i* 14 05 27.8
LSZ Lusaka 90.23 107 *i*P P 14 04 58.9 +2.6
LSZ Lusaka 90.23 107 *i*P P 14 04 58.9 +2.6
ISOG Isortoq, Green 90.53 12⇓*i*P P 14 04 57.3 +1.0
ISOG IAmb IAmb 14 04 58.2
comp=Z,124nm,1.2s
ISOG *i* 14 05 28.5
ANGG Ammassalik, Gr 90.85 12⇓*i*P P 14 04 58.8 +1.0
ANGG IAmb IAmb 14 04 59.1
comp=Z,85nm,1.0s
ANGG *i* 14 05 24.7
ANGG Ammassalik, Gr 90.85 12 P P 14 04 57.9 +0.2
ANGG IAmb IAmb 14 04 59.9
comp=Z,93nm,1.1s
CASY Casey 91.58 180 P P 14 05 02.6 +1.2
MAHO Mahon 91.76 47 P P 14 05 00.8 -1.7
MAHO S **SKSac 14 15 26.1 +2.1**
YKA Yellowknife Ar 92.18 340 P P 14 05 04.8 +0.8
comp=Z,48nm,0.8s,baz=134,slow=5.0,SNR=192
YKA PKKP **PKKPdf 14 22 19.3 -0.3**
comp=Z,2.7nm,0.9s,baz=317,slow=2.3,SNR=5.9
YKA LR LR 14 50 05.3
comp=Z,1µm,19.8s,baz=0.0,slow=38
ILULI Ilulissat 92.22 6⇓*i*P P 14 05 04.9 +0.9
ILULI IAmb IAmb 14 05 05.9
comp=Z,127nm,1.3s
ILULI *i* 14 05 36.7
ILULI Ilulissat 92.22 6⇓*i*P P 14 05 04.9 +0.9
ILULI *i* 14 05 36.7
ILULI pmax pmax
comp=Z,130nm,1.3s
ILULI Ilulissat 92.22 6 P P 14 05 03.6 -0.4
DIB Dawson Inlet, 93.38 327 P P 14 05 09.5 -0.2
KEST Kesra 93.51 53 P P 14 05 11.6 +0.7
comp=Z,50nm,0.9s,baz=211,slow=2.3,SNR=34
KEST PKKP **PKKPbc 14 22 18.4 +1.1**
comp=Z,3.5nm,0.7s,baz=348,slow=8.5,SNR=4.0
KEST Kesra 93.51 53 P P 14 05 10.8 -0.2
KEST IAmb IAmb 14 05 13.5
comp=Z,67nm,1.1s
ICESG Greenland Ices 93.59 10⇓*i*P P 14 05 11.7 +0.8
ICESG IAmb IAmb 14 05 12.4
comp=Z,16nm,0.9s
ICESG *i* 14 05 42.5
CLF Chambon-Foret 94.34 39 P P 14 05 14.1 -0.2
CRAG Craig 94.94 329 P 14 05 17.8
baz=123
CRAG S 14 15 42.9
baz=123
KHLU Kahalu`u 95.01 289 P P 14 05 18.7 +0.5
WRAK Wrangell Islan 95.10 330 P 14 05 18.4
baz=124
WRAK S 14 15 44.3
baz=124
WRAK Wrangell Islan 95.10 330 P P 14 05 18.5 +0.9
WRAK IAmb IAmb 14 05 19.2
comp=Z,32nm,1.1s
VSL Villasalto 95.12 49 P P 14 05 18.5 +0.4
ESK Eskdalemuir 95.14 31 P P 14 05 17.4 -0.4
ESK pmax pmax
comp=Z,66nm,1.4s
ESK Eskdalemuir 95.14 31 P P 14 05 17.4 -0.4
ESK IAmb IAmb 14 05 18.5
comp=Z,66nm,1.4s
BNI Bardonecchia 95.68 44 P P 14 05 20.3 -0.4
BNI pmax pmax
comp=Z,45nm,1.4s
BNI Bardonecchia 95.68 44 P P 14 05 20.3 -0.4
BNI IAmb IAmb 14 05 22.6
comp=Z,45nm,1.4s
SENIN Lac Senin/Sane 96.64 43 P P 14 05 24.4 -0.7
DOU Dourbes 96.67 38 *d*P P 14 05 25.0 +0.1
DOU *dp*P **pP 14 05 57.8 0.0**
SNF Seneffe 96.68 38 *d*P P 14 05 24.9 0.0
SNF *dp*P **pP 14 05 58.0 +0.2**
SIT Sitka 96.83 330 P 14 05 26.9
baz=121
BMRD Maredsous 96.86 38 *d*P P 14 05 25.2 -0.5
BMRD *dp*P **pP 14 05 58.6 0.0**
SUMG Summit 96.89 9⇓*i*P P 14 05 27.1 +1.2
SUMG IAmb IAmb 14 05 30.1
comp=Z,77nm,1.3s
SUMG *i* 14 05 58.6
SUMG Summit 96.89 9⇓*i*P P 14 05 27.1 +1.2
SUMG *i* 14 05 58.6
SUMG pmax pmax
comp=Z,77nm,1.3s
SUMG Summit 96.89 9 P P 14 05 25.9 0.0
BGES Gesves 97.08 38 *d*P Pdif 14 05 26.8 0.0
BGES *dp*P pP 14 05 59.7 0.0
BGES *ds*P sP 14 06 10.3 -2.7
MSSA Maissana 97.21 45 P P 14 05 26.9 -0.7
BCLA Clavier 97.22 38 *d*P Pdif 14 05 27.9 +0.5
BCLA *dp*P pP 14 05 59.1 -1.2
ECH Echery 97.35 41 P P 14 05 27.5 -0.6
ECH pmax pmax
comp=Z,31nm,1.2s
ECH Echery 97.35 41 P P 14 05 27.5 -0.6
ECH IAmb IAmb 14 05 29.0
comp=Z,31nm,1.2s
WLF Walferdange 97.38 39 *d*P Pdif 14 05 28.7 +0.5
WLF *dp*P pP 14 06 01.3 +0.2
WLF Walferdange 97.38 39 P Pdif 14 05 28.2 0.0
WLF pmax pmax
comp=Z,70nm,1.1s
WLF Walferdange 97.38 39 P Pdif 14 05 28.2 0.0
WLF Walferdange 97.38 39 *e*P Pdif 14 05 28.9 +0.8
comp=Z,93nm,1.3s,baz=248,slow=4.5
WLF *ep*P pP 14 06 00.9 -0.1
baz=248,slow=4.7
BHOU Houvegnez 97.60 39 *d*P P 14 05 28.9 -0.2
BHOU *dp*P **pP 14 06 00.7 -1.3**
MEM Membach 97.71 38 *d*P P 14 05 29.1 -0.5
VLC Villacollemand 97.71 45 P P 14 05 29.3 -0.5
VLC IAmb IAmb 14 05 31.1
comp=Z,57nm,1.2s
BTNL Ternell 97.77 38 *d*P P 14 05 29.7 -0.1
BTNL *dp*P **pP 14 06 01.6 -1.2**
RAFF Raffo Rosso 97.81 53 P Pdif 14 05 31.5 +1.1
RAFF IAmb IAmb 14 05 34.6
comp=Z,35nm,0.9s
TUE Stuetta 97.98 43 P P 14 05 30.9 -0.2
TUE IAmb IAmb 14 05 33.2
comp=Z,56nm,1.2s
OSSC Osservatorio P 98.03 46 P P 14 05 31.0 -0.2
OSSC IAmb IAmb 14 05 33.3
comp=Z,31nm,1.0s
BFO Black Forest 98.11 41 P P 14 05 30.5 -1.0
BFO pmax pmax
comp=Z,15nm,1.2s
BFO Black Forest 98.11 41 P P 14 05 30.5 -1.0
BFO Black Forest 98.11 41 *e*P Pdif 14 05 31.6 +0.1
comp=Z,18nm,1.3s,baz=248,slow=4.5
BFO *ep*P pP 14 06 03.5 -1.0
baz=248,slow=4.7
ZCCA Zocca 98.18 45 P P 14 05 31.9 0.0
SCO Scoresbysund 98.22 14 *i*P Pdif 14 05 32.2 +0.9
SCO Scoresbysund 98.22 14 P P 14 05 31.3 0.0
SCO pmax pmax
comp=Z,17nm,1.2s
SCO Scoresbysund 98.22 14 P P 14 05 31.3 0.0
AHRW Bad Neuenahr-A 98.30 39 *e*P Pdif 14 05 33.0 +0.8
comp=Z,45nm,1.1s,baz=248,slow=4.5
SALO Salr 98.39 44 P P 14 05 31.9 -0.9
WHY Whitehorse 98.49 333 Pdiff 14 05 33.1
baz=121
WHY S 14 16 01.7
baz=121
DAVA Damuels 98.64 42 *i*P Pdif 14 05 34.9 +0.8
comp=Z,28nm,1.2s,SNR=8.4
TULEG Thule 98.72 360⇓*i*P Pdif 14 05 34.4 +0.9
TULEG IAmb IAmb 14 05 34.8
comp=Z,16nm,1.1s
TULEG *i* 14 06 05.2
TULEG Thule 98.72 360 P P 14 05 33.1 -0.4
TULEG IAmb IAmb 14 05 35.1
comp=Z,26nm,1.2s
BUG Bochum--Univer 98.79 38 *e*P Pdif 14 05 34.8 +0.5
comp=Z,78nm,1.4s,baz=248,slow=4.5
BUG *ep*P pP 14 06 06.9 -0.4
baz=248,slow=4.7
MURB Monte Urbino 98.79 47 P P 14 05 34.3 -0.3
MURB IAmb IAmb 14 05 35.8
comp=Z,32nm,1.2s
UBR Ueberruh 98.94 42 *e*P Pdif 14 05 36.1 +0.9
comp=Z,49nm,1.3s,baz=248,slow=4.5
TNS Taunus Mts 98.96 39 *e*P Pdif 14 05 35.8 +0.6
comp=Z,56nm,1.4s,baz=248,slow=4.5
TNS *ep*P pP 14 06 08.4 +0.1
baz=248,slow=4.7
TEOL Teolo 99.03 45 Pdif 14 05 35.0 -0.6
NRCA Norcia 99.03 47 P Pdif 14 05 35.0 -0.8
NRCA IAmb IAmb 14 05 38.2
comp=Z,25nm,1.1s
AQU L'Aquila 99.05 48 P Pdif 14 05 36.0 +0.2
AQU L'Aquila 99.05 48 Pdif 14 05 36.0 +0.2
FETA Feichten 99.07 43 *i*P Pdif 14 05 36.7 +0.7
comp=Z,42nm,1.1s,SNR=16
INTR Introdacqua 99.27 48 Pdif 14 05 36.5 -0.3
INTR IAmb IAmb 14 05 38.0
comp=Z,38nm,1.3s
RETA Reutte 99.27 42 *i*P Pdif 14 05 37.5 +0.8
comp=Z,32nm,1.1s,SNR=9.3
CTI Castel Tesino 99.28 44 P Pdif 14 05 36.9 +0.1
CTI pmax pmax
comp=Z,57nm,1.3s
CTI Castel Tesino 99.28 44 Pdif 14 05 36.9 +0.1
MILB Miltenberg 99.30 40 *e*P Pdif 14 05 37.0 +0.3
comp=Z,33nm,1.5s,baz=248,slow=4.5
KASTN Kahler Asten 99.34 38 *e*P Pdif 14 05 37.1 +0.3
comp=Z,18nm,1.2s,baz=248,slow=4.5
KASTN *e*PKKPab PKKPdf 14 22 29.7 +24
baz=66,slow=4.6
IBBN Ibbenburen 99.42 37 *e*P Pdif 14 05 38.0 +0.8
comp=Z,87nm,1.2s,baz=248,slow=4.5
IBBN *ep*P **pP 14 06 09.9 -0.3**
baz=248,slow=4.7
MOTA Moosalm 99.43 43 *i*P Pdif 14 05 38.1 +0.6
comp=Z,49nm,1.1s,SNR=18
WATA Walderalm 99.72 43 *i*P Pdif 14 05 39.6 +0.8
comp=Z,54nm,1.3s,SNR=9.5
C36M Paulatuk 99.73 343 Pdiff 14 05 38.1
baz=129
WTTA Wattenberg 99.73 43 *i*P Pdif 14 05 39.8 +0.8
comp=Z,76nm,1.1s,SNR=22
FUR Furstenfeldbru 99.85 42 *e*P Pdif 14 05 39.9 +0.7
comp=Z,34nm,0.8s,baz=248,slow=4.5
ABTA Abfaltersbach 100.09 44 *e*P Pdif 14 05 41.4 +1.0
comp=Z,42nm,1.1s,SNR=15
UBBA Unterbreizbach 100.11 39 *e*P Pdif 14 05 40.9 +0.8
comp=Z,51nm,1.9s,baz=248,slow=4.5
UBBA *ep*P pP 14 06 13.3 +0.1
baz=248,slow=4.7
NEEM North Greenlan 100.18 4⇓*i*P Pdif 14 05 41.3 +0.9
NEEM IAmb IAmb 14 05 45.3
comp=Z,17nm,0.9s
NEEM *i* 14 06 13.1
GTTG Gottingen 100.37 38 *e*P Pdif 14 05 42.3 +0.9
comp=Z,24nm,1.1s,baz=248,slow=4.5
GTTG *ep*P pP 14 06 14.8 +0.4
baz=248,slow=4.7
GRF Grafenberg Arr 100.40 41 *e*P Pdif 14 05 42.4 +0.8
comp=Z,35nm,1.4s,baz=248,slow=4.5
GRF *ep*P pP 14 06 14.8 +0.1
baz=248,slow=4.7
GRF *ePP* **PP 14 09 48.2 -1.7**
RJOB Jochberg 100.64 43 *e*P Pdif 14 05 43.2 +0.5
comp=Z,113nm,1.4s,baz=248,slow=4.5
RJOB *ep*P pP 14 06 15.8 0.0
baz=248,slow=4.7
CADS Cadrg 100.69 44 *i* Pdiff Pdif 14 05 43.9 +0.8
CADS *e*PP **PP 14 09 48.9 -3.3**
CADS *ep*PP 14 10 19.1
CADS *e*SKSac **SKSac 14 16 13.5 +2.8**
CADS *e* 14 16 48.4
CADS *e* 14 17 12.4
CADS *e* 14 18 45.2
CADS *e* 14 24 06.8
CLZ Clausthal 100.72 38 *e*P Pdif 14 05 43.7 +0.7
comp=Z,24nm,1.2s,baz=248,slow=4.5
CLZ *ep*P pP 14 06 16.6 +0.5
baz=248,slow=4.7
CLZ *e*PKKPab PKKPdf 14 22 23.8 +20
baz=66,slow=4.6
KBA Koelnbreinsper 100.75 44 *i*P Pdif 14 05 43.8 +0.4
comp=Z,23nm,1.1s,SNR=8.2
MYKA Terra Mystica 100.77 44 *i*P Pdif 14 05 44.3 +0.8
comp=Z,32nm,1.1s,SNR=13
NRDL Niedersach Rie 100.82 38 *e*P Pdif 14 05 44.6 +1.4
comp=Z,44nm,1.4s,baz=248,slow=4.5
NRDL *ep*P pP 14 06 16.6 +0.2
baz=248,slow=4.7
NRDL *e*PKKPab PKKPdf 14 22 23.1 +20
baz=66,slow=4.6

MOX Moxa 100.99 40 *e*P **Pdif** **14 05 45.1 +0.9**
comp=Z,15nm,1.3s,baz=248,slow=4.5
MOX *e*pP pP 14 06 17.5 +0.2
baz=248,slow=4.7
ASSE Asse, Remlinge 101.00 38 *e*P **Pdif** **14 05 45.3 +1.2**
comp=Z,49nm,1.6s,baz=248,slow=4.5
ASSE *e*pP pP 14 06 17.7 +0.5
baz=248,slow=4.7
ASSE *e*PKKPab PKKPdf 14 22 21.9 +19
baz=66,slow=4.6
ROTZ Rotzenmuhle 101.02 41 *e*P **Pdif** **14 05 45.1 +0.8**
comp=Z,28nm,1.7s,baz=248,slow=4.5
ROTZ *e*pP pP 14 06 17.6 +0.1
baz=248,slow=4.7
ROTZ *e*PKKPab PKKPdf 14 22 22.4 +19
baz=66,slow=4.6
MANZ Manzenberg 101.04 40 *e*P **Pdif** **14 05 45.5 +1.1**
comp=Z,24nm,1.3s,baz=248,slow=4.5
MANZ *e*pP pP 14 06 17.8 +0.2
baz=248,slow=4.7
MANZ *e*PKKPab PKKPdf 14 22 22.5 +20
baz=66,slow=4.6
LJU Ljubljana 101.14 45 *i* Pdiff **Pdif** **14 05 45.9 +1.0**
LJU *ep*Pdiff pP 14 06 18.1 -0.1
LJU *i* SKSac **SKSac** **14 16 15.6 +2.8**
GBRS Gornja Briga 101.14 45 *i* Pdiff **Pdif** **14 05 46.1 +1.0**
GBRS *ep*Pdiff pP 14 06 18.3 +0.1
GBRS *e*SKSac **SKSac** **14 16 15.6 +2.8**
WET Wettzell 101.20 41 *e*P **Pdif** **14 05 45.8 +0.6**
comp=Z,23nm,1.3s,baz=248,slow=4.5
WET *e*pP **pPdif** **14 06 18.0 -0.2**
baz=248,slow=4.7
WET *e*PKKPab PKKPdf 14 22 21.6 +19
baz=66,slow=4.6
PLN Plauen 101.25 40 *e*P **Pdif** **14 05 46.3 +0.9**
comp=Z,14nm,1.3s,baz=248,slow=4.5
PLN *e*pP pP 14 06 18.6 +0.1
baz=248,slow=4.7
PLN *e*PKKPab PKKPdf 14 22 20.9 +18
baz=66,slow=4.6
NEUB Neuenburg 101.29 39 *e*P **Pdif** **14 05 46.8 +1.3**
comp=Z,40nm,1.5s,baz=248,slow=4.5
NEUB *e*pP pP 14 06 18.9 +0.3
baz=248,slow=4.7
WERN Wernitzgruen 101.31 40 *e*P **Pdif** **14 05 46.9 +1.2**
comp=Z,23nm,1.4s,baz=248,slow=4.5
WERN *e*pP pP 14 06 19.5 +0.7
baz=248,slow=4.7
GUNZ Gunzen 101.31 40 *e*P **Pdif** **14 05 46.8 +1.1**
comp=Z,121nm,2.8s,baz=248,slow=4.5
GUNZ *e*pP pP 14 06 18.9 0.0
baz=248,slow=4.7
GUNZ *e*PKKPab PKKPdf 14 22 20.9 +18
baz=66,slow=4.6
OBKA Obir 101.32 44 *i* P **Pdif** **14 05 47.4 +1.5**
comp=Z,28nm,1.1s,SNR=7.5
WERD Werda 101.33 40 *e*pP pP 14 06 19.2 +0.3
baz=248,slow=4.7
NKC Novy Kostel 101.34 40 *i* P **Pdif** **14 05 46.1 +0.3**
NKC *e* 14 16 16.5
NKC Novy Kostel 101.34 40 *e*PDIFF **Pdif** **14 05 46.1 +0.3**
NKC *e*SKS 14 16 16.5
DBG Daneborg 101.36 12 *i* P **Pdif** **14 05 47.0 +1.7**
DBG IAmb IAmb 14 05 48.7
comp=Z,4.8nm,1.0s
FLTG Flechtingen 101.40 38 *e*P **Pdif** **14 05 46.4 +0.5**
comp=Z,47nm,1.8s,baz=248,slow=4.5
FLTG *e*pP **pPdif** **14 06 18.9 0.0**
baz=248,slow=4.7
FLTG *e*PKKPab PKKPdf 14 22 19.8 +18
baz=66,slow=4.6
TANN Tannenbergstha 101.41 40 *e*P **Pdif** **14 05 47.3 +1.1**
comp=Z,32nm,1.6s,baz=248,slow=4.5
TANN *e*pP pP 14 06 19.7 +0.4
baz=248,slow=4.7
BSEG Bad Segeberg 101.48 36 *e*P **Pdif** **14 05 46.8 +0.5**
comp=Z,36nm,1.4s,baz=248,slow=4.5
BSEG *e*pP pP 14 06 19.4 0.0
baz=248,slow=4.7
GEC2 GERESS Array S 101.60 42 *e*P **Pdif** **14 05 47.6 +0.6**
comp=Z,20nm,1.4s,baz=248,slow=4.5
GEC2 *e*pP **pPdif** **14 06 19.9 -0.2**
baz=248,slow=4.7
GEC2 *e*PKKPab PKKPdf 14 22 19.7 +18
baz=66,slow=4.6
GERES GERESS Array B 101.60 42 P **Pdif** **14 05 47.0 -0.1**
comp=Z,2.7nm,0.9s,baz=238,slow=2.5,SNR=15
GERES PP **PP** **14 09 59.9 +0.8**
comp=Z,0.6nm,0.5s,baz=232,slow=6.1,SNR=3.8
GERES PKKPbc **PKKPbc** **14 21 54.2 -1.3**
comp=Z,0.3nm,0.2s,baz=85,slow=2.4,SNR=4.5
MOA Molln 101.61 43 *e*P **Pdif** **14 05 47.7 +0.7**
comp=Z,17nm,1.0s
KHC Kasperske Hory 101.63 42 *i* P **Pdif** **14 05 45.7 -1.4**
KHC *e* 14 16 17.4
KHC Kasperske Hory 101.63 42 *e*PDIFF **Pdif** **14 05 45.7 -1.4**
KHC *ep*P **pPdif** **14 06 19.5 -0.6**
KHC *es*P **sPdif** **14 06 31.5 -1.9**
KHC *e*SKS 14 16 17.4
SOKA Soboth 101.69 44 *i* P **Pdif** **14 05 48.1 +0.6**
comp=Z,14nm,1.3s,SNR=6.9
INK Inuvik 101.94 340 Pdiff 14 05 48.9
baz=121
INK Inuvik 101.94 340 P **Pdif** **14 05 48.5 +0.5**
comp=Z,8.4nm,1.0s,baz=98,slow=6.1,SNR=17
INK Inuvik 101.94 340 P **Pdif** **14 05 48.3 +0.3**
INK Inuvik 101.94 340 Pdif **Pdif** **14 05 48.3 +0.3**
CKRC Cesky Krumlov 101.97 42 *e*PDIFF **Pdif** **14 05 49.1 +0.5**
CKRC *e*SKS **SKSac** **14 16 15.6 -1.0**
EPYK Eagle Plains 102.05 337 Pdiff 14 05 49.4
baz=118
CLL Collm 102.05 39 *i* Pdif **Pdif** **14 05 49.7 +0.8**
comp=Z,24nm,1.4s
CLL *ep*Pdif **pPdif** **14 06 22.0 +0.2**
CLL *e* 14 09 47.0
CLL *i* PP **PP** **14 09 59.0 -3.2**
comp=Z,85nm,2.4s
CLL *ep*PP 14 10 28.0
CLL *es*PP 14 10 44.0
CLL *ep*PPP 14 12 42.0
CLL *e*SKSac **SKSac** **14 16 19.0 +2.2**
CLL *e*Sdif SKKSac 14 17 20.0 +25
CLL *e*SP **SP** **14 18 51.0 -3.7**
CLL *e*PPS PPS 14 20 04.0
CLL *e* 14 23 24.0
CLL *e*SS **SS** **14 24 24.0 -4.6**
CLL *e*SSS SSS 14 28 18.0
CLL *e* 14 29 42.0
CLL *e*SSSS 14 31 48.0
CLL LmV 14 48 00.0
comp=Z,1μm,21.9s
CLL Collm 102.05 39 *i* P **Pdif** **14 05 49.7 +0.8**
CLL *i* 14 09 59.0
CLL *e* 14 16 19.0
CLL *e*S **Sdif** **14 17 20.0 -0.8**
CLL pmax pmax
comp=Z,24nm,1.4s
CLL pmax pmax
comp=Z,85nm,2.4s
CLL MLR MLR
comp=Z,1μm,21.9s
CLL Collm 102.05 39 *e*P **Pdif** **14 05 49.8 +1.0**
comp=Z,24nm,1.4s,baz=248,slow=4.5
CLL *ep*P **pPdif** **14 06 22.4 +0.6**
baz=248,slow=4.7
CLL *e*PKKPab PKKPdf 14 22 17.3 +16
baz=66,slow=4.6
FBE Freiberg 102.12 40 *e*P **Pdif** **14 05 50.3 +1.1**
comp=Z,21nm,1.3s,baz=248,slow=4.5
FBE *ep*P **pPdif** **14 06 23.1 +0.9**
baz=248,slow=4.7
FBE *e*PKKPab PKKPdf 14 22 17.5 +17
baz=66,slow=4.6
ARSA Arzberg 102.20 44 *e*P **Pdif** **14 05 50.4 +0.7**
comp=Z,11nm,1.1s,SNR=6.7
BRG Berggiesshubel 102.45 40⇓ *e*Piff 14 05 51.3
BRG Amp 14 05 53.1
comp=Z,20nm,1.5s
BRG ⇓pPiff 14 06 24.5
BRG Amp 14 06 26.1
comp=Z,70nm,2.3s
BRG PP **PP** **14 10 02.5 -2.8**
BRG Amp 14 10 05.6
comp=Z,34nm,1.9s
BRG Berggiesshubel 102.45 40 SP SP 14 19 01.0 +2.0
BRG PKKP 14 22 15.5
BRG Amp 14 22 18.6
comp=Z,43nm,2.1s
BRG Berggiesshubel 102.45 40 SS SS 14 24 31.0 -3.2
BRG PKPPKP 14 30 10.3
BRG Amp 14 30 14.0
comp=Z,34nm,2.2s
BRG Berggiesshubel 102.45 40 *e*P **Pdif** **14 05 51.5 +0.8**
comp=Z,20nm,1.6s,baz=248,slow=4.5
BRG *ep*P **pPdif** **14 06 24.3 +0.7**
baz=248,slow=4.7
BRG *e*PKKPab PKKPdf 14 22 15.7 +15
baz=66,slow=4.6
PRA Prague 102.47 41 *e*SKS **SKSac** **14 16 20.2 +1.4**
PRU Pruhonice 102.51 41 *i* P **Pdif** **14 05 52.1 +1.1**
PRU *e* 14 16 21.4
PRU Pruhonice 102.51 41 *e*PDIFF **Pdif** **14 05 52.1 +1.1**
PRU *e*SKS **SKSac** **14 16 21.4 +2.4**
CONA Conrad Observa 102.64 43 *i* P **Pdif** **14 05 52.7 +0.9**
comp=Z,13nm,1.4s,SNR=6.9
EGAK Eagle 102.98 335 Pdiff 14 05 53.1
baz=115
Q23K Middleton Isla 103.10 329 Pdiff 14 05 54.0
baz=112
KRUC Moravsky 103.35 42 *e*PDIFF **Pdif** **14 05 55.3 +0.6**
KRUC *e*PP **PP** **14 10 08.4 -3.6**
KRUC *e*SKS **SKSac** **14 16 25.4 +2.4**
KRUC *e*SP **SP** **14 19 06.6 -1.9**
KRUC *e*PKKP **PKKPbc** **14 21 50.4 +0.2**
KRUC *e* 14 22 11.5
VRAC Vranov 103.55 42 *e*PP **PKiKP** **14 10 09.5 -4.1**
VRAC *e*SKS **SKSac** **14 16 27.8 +3.9**
VRAC *e*SP **SP** **14 19 09.0 -1.6**
VRAC *e*PKKP **PKKPbc** **14 21 47.1 -2.5**
VRAC *e* 14 22 10.1
UPC Upice 103.58 41 *e*SKS **SKSac** **14 16 21.2 -2.8**
KLU Klutina 103.67 331 Pdiff 14 05 56.8
baz=112
MODS Modra-Piesok 103.68 43 *e*P **Pdif** **14 05 56.3 0.0**
MODS Modra-Piesok 103.68 43 *e*PDIFF **Pdif** **14 05 56.3 0.0**
DPC Dobruska-Polom 103.71 41 *i* P **Pdif** **14 05 57.7 +1.3**
DPC *e* 14 16 22.6
DPC Dobruska-Polom 103.71 41 *e*PDIFF **Pdif** **14 05 57.7 +1.3**
DPC *e*SKS **SKSac** **14 16 22.6 -2.1**
OSTC Ostas 103.71 41 *e*SKS **SKSac** **14 16 28.5 +3.8**
SCRK Sand Creek 103.78 334 Pdiff 14 05 56.8
baz=113
MORH Mrgy, Hungar 103.90 46⇓ P **PKiKP** **14 10 16.8 +2.5**
KRLC Kraliky 103.91 41 *i* P **Pdif** **14 05 58.5 +1.3**
KRLC *e* 14 16 25.7
KRLC Kraliky 103.91 41 *e*PDIFF **Pdif** **14 05 58.5 +1.3**
KRLC *e*SKS **SKSac** **14 16 25.7 +0.1**
GLI Glacier Island 103.97 330 Pdiff 14 05 57.7
baz=111
M24K Tolsona, Glenn 104.00 332 Pdiff 14 05 57.8
baz=111
JAVC Velka Javorina 104.08 43 *e*PDIFF **Pdif** **14 05 59.7 +1.6**
JAVC *e*SKS **SKSac** **14 16 31.2 +4.7**
JAVC *e*PKKP **PKKPbc** **14 21 49.6 +1.5**
JAVC *e* 14 22 09.1
MORC Moravsky Berou 104.28 42 *e*PDIFF **Pdif** **14 06 00.1 +1.2**
MORC *e*SKS **SKSac** **14 16 30.1 +2.7**
MORC *e*PKKP **PKKPbc** **14 21 44.6 -2.9**
MORC *e* 14 22 07.6
NB2 NORSAR Subarra 104.50 30 P **Pdif** **14 06 00.6 +1.0**
baz=250,slow=4.0
NOA NORSAR Array B 104.50 30 Pdiff **Pdif** **14 06 00.6 +1.0**
comp=Z,2.3nm,0.9s,baz=252,slow=4.2,SNR=4.2
NOA PP **PP** **14 10 22.7 +2.4**
comp=Z,5.2nm,1.0s,baz=246,slow=7.5,SNR=3.4
NOA PKKP **PKKPab** **14 22 01.0 -1.2**
comp=Z,3.0nm,1.0s,baz=72,slow=4.5,SNR=3.7
OKC Ostrava-Krasne 104.67 42 *e*SKS **SKSac** **14 16 31.5 +2.5**
VYHS Vyhne 104.71 43 *e*P **Pdif** **14 06 00.8 0.0**
VYHS Vyhne 104.71 43 *e*PDIFF **Pdif** **14 06 00.8 0.0**
KNK Knik Glacier 104.78 331 Pdiff 14 10 16.1
baz=110
SML Sawmill 104.85 331 Pdiff 14 06 01.8
baz=110
PRP Porcupine Dome 104.97 335 Pdiff 14 06 02.5
baz=111
O22K Cooper Landing 105.06 330 Pdiff 14 06 03.1
baz=109
HDA Harding Lake 105.14 334 Pdiff 14 06 02.2
baz=110
HDA Pdiff 14 06 02.2
baz=110
BOVS Bovan 105.22 49⇓ P **PKiKP** **14 10 17.3 +0.5**
ILAR Eielson Array 105.25 334 Pdiff **Pdif** **14 06 01.4 -1.4**
comp=Z,0.8nm,0.8s,baz=128,slow=2.8,SNR=7.2
ILAR PP **PP** **14 10 25.1 -0.5**
comp=Z,3.7nm,1.0s,baz=104,slow=5.7,SNR=4.1
ILAR PKKPbc **PKKPbc** **14 21 43.0 -2.1**
comp=Z,4.4nm,0.8s,baz=293,slow=3.3,SNR=18
ILAR Eielson Array 105.25 334 PKKPbc 14 21 42.8 -2.3
RC01 Rabbit Creek A 105.26 330 Pdiff 14 06 03.2
baz=109
BRSE Bradley Lake S 105.31 329 Pdiff 14 06 03.4
baz=108
WAT2 Susitna Watana 105.35 332 Pdiff 14 06 03.8
baz=109
POKR Poker Plat Res 105.58 334 Pdiff 14 06 04.8
baz=110
KDAK Kodiak Island 105.63 326 Pdiff 14 06 06.2
baz=107
M22K Willow 105.64 331 Pdiff 14 06 05.0
baz=108
COLA College 105.67 334 Pdiff 14 06 05.1
baz=109
TCOL CIGO, UAF Yank 105.67 334 Pdiff 14 06 05.2
baz=109
BZS Buzias 105.71 47⇑ P **PKiKP** **14 10 18.5 +0.9**
OHAK Old Harbor 105.83 326 Pdiff 14 06 06.6
baz=107
SIRR Siria 105.92 46⇓ P **PKiKP** **14 10 19.3 +1.2**
H24K Noodor Dome 105.99 335 Pdiff 14 06 07.2
baz=109
VTS Vitosha 106.01 50⇓ P **PKiKP** **14 10 19.6 +1.1**
HERR Herculane 106.05 48⇑ P **PKiKP** **14 10 19.6 +1.3**
NEA2 Nenana 106.07 334 Pdiff 14 06 07.5
baz=108
SII Sitkinak Islan 106.11 325 Pdiff 14 06 08.4
baz=106
TRF Throfofare Moun 106.23 332 Pdiff 14 06 08.0
baz=108
SKT Skwentna 106.35 331 Pdiff 14 06 08.5
baz=107
I23K Minto, Yukon-K 106.36 334 Pdiff 14 06 08.3
baz=108
GZR Gura Zlata 106.44 47⇓ P **PKiKP** **14 10 20.0 +0.9**
H23K Yukon River 106.64 335 Pdiff 14 06 09.6
baz=107
BPAW Bear Paw Mtn. 106.72 333 Pdiff 14 06 09.9
baz=107
DRGR 106.76 46⇑ P **PKiKP** **14 10 20.8 +1.2**
MLY Manley 106.89 334 Pdiff 14 06 10.3
baz=107
PPLA Purkeypile 106.90 332 Pdiff 14 06 10.4
baz=106
COLD Coldfoot 107.30 336 PKiKP 14 10 21.5
baz=106
TOLK Toolik Lake Re 107.48 338 PKiKP 14 10 21.8
baz=107
H21K Melozitna Rive 107.89 334 PKiKP 14 10 22.6
baz=105
MLR Muntele Rosu 108.62 48⇓ P **PKiKP** **14 10 24.6 +1.3**
VRI Vrincioaia 109.24 47⇑ P **PKiKP** **14 10 23.5 -0.7**
TESR Tescani 109.33 47⇑ P **PKiKP** **14 10 25.1 +0.7**
CFR Carcaliu 110.06 48⇑ P **PKiKP** **14 10 25.4 -0.4**
TIRR Tirgusor 110.11 49⇓ P **PKiKP** **14 10 23.9 -2.0**
DZM Mont Dzumac 110.61 234 *e*PP **PP** **14 11 02.0 -3.2**
comp=Z,590nm,26.9s
DZM *e*SKSac **SKSac** **14 16 58.0 +1.7**
comp=Z,540nm,36.4s
DZM Mont Dzumac 110.61 234 *e*PS PS 14 20 32.2 -5.3
comp=Z,1μm,30.6s
DZM *e*SS SS 14 26 17.9 -7.1
comp=Z,2μm,23.9s
DZM Mont Dzumac 110.61 234 *e*LR LR 14 43 02.5
comp=Z,2μm,35.5s
NACGM Naroch 110.99 38 *i* PKP **PKiKP** **14 10 25.4 -1.9**
MNK Minsk 111.56 39 *i* PKiKP **PKiKP** **14 10 28.5 +0.2**
MNK *i* 14 11 12.3
MNK *i* SS SS 14 26 40.6 +3.3
MNK *i* SSS SSS 14 30 47.8
MNK pmax pmax
comp=Z,26nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,27nm,1.0s
MNK MLR MLR
comp=E,94nm,19.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,276nm,19.0s
MNK Minsk 111.56 39 *i* PKP **PKiKP** **14 10 28.5 +0.2**
comp=E,3.0nm,1.0s
MNK *i* PKP **PKiKP** **14 10 28.5 +0.2**
comp=N,27nm,1.0s
MNK *i* PKP **PKiKP** **14 10 28.5 +0.2**
comp=Z,26nm,1.0s,baz=82
MNK *i* PP **PP** **14 11 12.4 +0.6**
MNK *i* PP **PP** **14 11 12.4 +0.6**
MNK *i* PP **PP** **14 11 12.4 +0.6**
MNK *i* PPP PPP 14 13 46.0
MNK *i* SKP 14 14 50.5
MNK *i* PKS 14 15 55.1
MNK *i* SKS SKSdf 14 17 17.5 -11
MNK *i* SKKS **SKKSac** **14 18 03.5 +1.7**
MNK *i* SP SP 14 19 48.9 -42
MNK *i* PS PS 14 20 12.5 -33
MNK *i* SS **SS** **14 26 40.6 +3.4**
MNK *i* SSS SSS 14 30 47.9
MNK *i* LRM MLR 14 56 53.8
comp=E,94nm,18.5s
MNK *i* LRM MLR 14 56 56.0
comp=Z,1μm,18.5s
MNK *i* LRM MLR 14 56 56.6
comp=N,276nm,18.5s
FINES FINESS Array B 111.56 31 PKiKP **PKiKP** **14 10 29.0 +0.9**
comp=N,3.0nm,0.9s,baz=310,slow=3.8,SNR=4.0
FINES PKKPbc **PKKPbc** **14 21 24.0 -0.8**
comp=N,4.2nm,0.7s,baz=85,slow=5.1,SNR=8.4
AKASG Malin Array Be 111.79 43 PKiKP **PKiKP** **14 10 28.1 -0.7**
comp=N,3.2nm,0.4s,baz=265,slow=2.7,SNR=14
AKASG PP **PP** **14 11 11.9 -1.6**
comp=N,14nm,1.1s,baz=257,slow=7.3,SNR=6.5
AKASG PKKPbc **PKKPbc** **14 21 23.9 +0.2**
comp=N,2.1nm,0.5s,baz=64,slow=3.6,SNR=11
AKASG Malin Array Be 111.79 43*c* PKiKP **PKiKP** **14 10 28.7 -0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 111.79 43*c* PKiKP **PKiKP** **14 10 29.0 +0.1**
ARCES ARCESS Array B 112.17 22 PKiKP **PKiKP** **14 10 30.7 +1.6**
comp=Z,2.6nm,1.0s,baz=268,slow=2.4,SNR=3.8
ARCES PKKPbc **PKKPbc** **14 21 21.9 -1.1**
comp=Z,4.1nm,0.7s,baz=90,slow=3.8,SNR=16
ARCES PKKPab **PKKPab** **14 21 30.4 +2.5**
comp=Z,12nm,0.7s,baz=95,slow=4.1,SNR=22
ARCES ARCESS Array B 112.17 22 PKKPbc 14 21 21.5 -1.5
ARCES PKKPab **PKKPab** **14 21 29.8 +1.9**
BRTR Keskin Array B 113.00 55 PKiKP **PKiKP** **14 10 32.4 +0.6**
comp=Z,14nm,0.9s,baz=190,slow=3.5,SNR=34
BRTR PP **PP** **14 11 23.1 +0.3**
comp=Z,9.8nm,1.0s,baz=233,slow=6.7,SNR=5.5
BRTR PKKPbc **PKKPbc** **14 21 20.8 +1.4**
comp=Z,0.8nm,0.5s,baz=142,slow=3.7,SNR=4.9
BRTR Keskin Array B 113.00 55 PKiKP **PKiKP** **14 10 31.5 -0.3**
SPIA Saint Paul Isl 114.89 324 PKiKP 14 10 36.2
baz=93
GAZ Gaziantep 115.32 58 **PKPdf** **14 10 36.0 -0.1**
LVZ Lovozero 115.48 24⇑ *i* PKiKP **PKPdf** **14 10 36.6 +1.1**
LVZ pmax pmax
comp=Z,53nm,2.5s
GAMB Gambell 115.71 331 PKiKP 14 10 37.5
baz=89
ANN Anapa 116.52 50 *i* PKiKP **PKPdf** **14 10 37.2 -0.9**
ANN *e* 14 11 47.8
ANN *e* 14 17 15.6
ANN *e*SP SP 14 21 12.1 -4.3
ANN pmax pmax
comp=Z,78nm,1.0s
ANN MLR MLR
comp=Z,601nm,18.0s
OBN Obninsk 116.62 38⇓ *i* PKiKP **PKiKP** **14 10 38.5 +0.5**
OBN *i* 14 11 44.4
OBN *i* 14 17 22.8
OBN *i* PS **PS** **14 21 22.4 -9.2**
OBN *i* SS SS 14 27 34.6 -9.1
OBN pmax pmax
comp=Z,150nm,1.3s
OBN MLR MLR
comp=Z,1μm,18.0s
MOS Moscow 117.23 38 *i* PKiKP **PKPdf** **14 10 37.7 -1.4**
MOS pmax pmax
comp=Z,83nm,1.0s
KTUT Trabzon 117.82 54⇓ P **PKiKP** **14 10 41.6 +0.8**
LPSR Galich'ya Gora 117.97 41 *e*PKiKP **PKiKP** **14 10 41.2 +0.5**
LPSR *e* 14 11 53.9
LPSR pmax pmax
comp=Z,100nm,1.0s
SOC Sochi 118.04 51 *i* PKiKP **PKiKP** **14 10 41.4 +0.3**
SOC *e* 14 11 58.8
SOC *e*PPP PPP 14 14 33.7
SOC *e* 14 17 15.2
SOC *e*PS **PKKPdf** **14 21 33.3 +2.7**
SOC *e*SSS SSS 14 32 19.3
SOC pmax pmax
comp=Z,50nm,0.7s
KLMR Klimovskoe 118.05 32 *e*PKiKP **PKPdf** **14 10 38.9 -1.6**
KLMR pmax pmax
comp=Z,86nm,1.0s
KLMR Klimovskoe 118.05 32 *e*PKPdf **PKPdf** **14 10 39.0 -1.6**
KLMR AMP 14 10 42.7
comp=Z,86nm,1.0s
KLMR *e*PKKPbc **PKKPab** **14 20 58.5 -3.7**
VSR Storozhevoye 118.09 43 *e*PKiKP **PKPdf** **14 10 40.2 -0.7**
VSR pmax pmax
comp=Z,70nm,1.3s
VORD Divnogorie 118.16 43 *e*PKiKP **PKiKP** **14 10 41.5 +0.4**
VORD *e* 14 11 55.0
VORD pmax pmax
comp=Z,50nm,1.1s
STKA Stephens Creek 118.83 209 PKP **PKiKP** **14 10 43.9 +0.7**
comp=Z,14nm,0.9s,baz=100,slow=2.8,SNR=17
STKA PKKPbc **PKKPbc** **14 20 59.2 +0.3**
comp=Z,3.6nm,0.8s,baz=317,slow=6.1,SNR=4.9
STKA Stephens Creek 118.83 209 PKiKP **PKPdf** **14 10 43.1 -0.1**
STKA Stephens Creek 118.83 209 PKPdf **PKPdf** **14 10 43.1 -0.1**
VRH Novokhopyorsk 119.70 43 *e*PKiKP **PKiKP** **14 10 44.3 +0.2**
VRH *e* 14 12 05.7
VRH pmax pmax
comp=Z,70nm,1.0s
NEY Neytrino 120.20 52*d* PKiKP **PKiKP** **14 10 46.7 +1.1**
KIV Kislovodsk 120.21 51⇑ P **PKiKP** **14 10 46.6 +1.1**
KIV Kislovodsk 120.21 51 *i* PKiKP **PKiKP** **14 10 46.2 +0.7**
SNR=13
KIV Kislovodsk 120.21 51 *i* PKiKP **PKiKP** **14 10 45.8 +0.3**
KIV *e* 14 12 13.2
KIV *e* 14 17 31.7
KIV *e*PS **PS** **14 22 05.5 +0.9**
KIV *e*SS SS 14 28 34.7 +3.6
KIV pmax pmax
comp=Z,218nm,1.1s
KIV Kislovodsk 120.21 51 PKPdf **PKiKP** **14 10 45.6 +0.1**
KIV Kislovodsk 120.21 51 P **PKiKP** **14 10 45.9 +0.4**
BBOO Buckleboo 120.31 204 **PKiKP** **14 10 46.2 +0.2**
KBZ Khabaz 120.35 51 PKP **PKiKP** **14 10 46.3 +0.7**
comp=Z,78nm,0.9s,baz=233,slow=2.7,SNR=83
KBZ PKKPab **PKKPbc** **14 20 55.8 +2.4**
comp=Z,1.6nm,0.8s,baz=65,slow=8.5,SNR=4.4
KBZ Khabaz 120.35 51*c* PKiKP **PKiKP** **14 10 46.8 +1.2**
GOF Gofitskoye 120.51 50⇑ *e*PKiKP **PKiKP** **14 10 46.7 +0.8**
GOF pmax pmax
comp=Z,162nm,0.9s
PRGR Permogore 120.89 31 *e*PKiKP **PKiKP** **14 10 46.7 +0.6**
PRGR *e* 14 11 19.5
PRGR pmax pmax
comp=Z,83nm,1.0s
ZEI Tsey 121.04 53 *i* PKiKP **PKiKP** **14 10 47.9 +0.6**
ZEI pmax pmax
comp=Z,46nm,1.0s
GNI Garni 121.52 56 PKiKP **PKiKP** **14 10 49.3 +0.9**
GNI Garni 121.52 56*d* PKiKP **PKiKP** **14 10 49.2 +0.9**
GNI pmax pmax
comp=Z,67nm,0.8s
GNI Garni 121.52 56 PKPdf **PKiKP** **14 10 48.4 +0.1**
GNI Garni 121.52 56 P **PKiKP** **14 10 49.5 +1.2**
GROC Groznyy 122.44 52 *i* PKiKP **PKiKP** **14 10 50.3 +0.5**

GROC *e* 14 11 21.8
GROC *e* 14 11 36.4
GROC *e* 14 12 31.5
GROC pmax pmax
comp=Z,94nm,1.1s
MIB Mutribah 122.51 68 *e*P **PKiKP 14 10 50.2 -0.1**
RDF Al-Radifah 122.55 69 *e*P **PKPdf 14 10 50.2 0.0**
UMR Umm Al-Rimmam 122.79 68 *e*P **PKPdf 14 10 50.5 -0.2**
QRN Al-Qurain 122.84 69 *e*P **PKiKP 14 10 50.9 -0.1**
KIRV Kirov 123.33 34 *d* PKiKP **PKiKP 14 10 51.4 +0.4**
BILL Bilibino 123.52 338 *c* PKiKP **PKiKP 14 10 51.7 +0.5**
BILL *e*PS PS 14 22 21.2 -12
BILL *i* 14 22 26.1
BILL *e*SS SS 14 29 12.7 +1.3
BILL pmax pmax
comp=Z,47nm,1.7s
BILL Bilibino 123.52 338 PKPdf **PKiKP 14 10 51.2 0.0**
MAK Makhachkala 123.69 52 *e*P **Pdif 14 07 27.5 +2.2**
MAK *i* 14 10 51.0
MAK *e* 14 12 38.3
MAK *e*PPP PPP 14 15 16.1
MAK *e* 14 17 43.1
MAK *e*SSS SSS 14 33 48.2
MAK pmax pmax
comp=Z,137nm,1.2s
SOCY Socotra 124.39 90 P **PKiKP 14 10 56.1 +1.5**
SAKB Bahrain 124.67 73 P **PKPdf 14 10 53.9 -0.5**
NWAO Narrogin (SO) 124.71 186 PKP **PKiKP 14 10 54.8 0.0**
comp=Z,25nm,0.8s,baz=204,slow=2.6,SNR=10
NWAO Narrogin (SO) 124.71 186 PKiKP **PKPdf 14 10 54.5 +0.1**
NWAO Narrogin (SO) 124.71 186 PKPdf **PKPdf 14 10 54.5 +0.1**
NWAO Narrogin (SO) 124.71 186 PKPdf **PKiKP 14 10 54.6 -0.1**
FORT Forrest 124.79 197 PKPdf **PKPdf 14 10 54.6 0.0**
SHMA Al-Shehemyia 125.03 73 P **PKPdf 14 10 47.9 -7.1**
TRNA Turayna 125.04 75 P **PKiKP 14 10 55.8 +0.3**
ABTO Aybut 125.27 84 P **PKiKP 14 10 56.7 +0.5**
SLWR Sila 125.34 76 P **PKiKP 14 10 56.8 +0.7**
CTA Charters Tower 125.85 221 PKP **PKiKP 14 10 57.2 -0.2**
comp=Z,31nm,1.0s,baz=229,slow=2.3,SNR=9.2
CTAO Charters Tower 125.85 221 PKiKP **PKiKP 14 10 57.1 -0.2**
CTAO Charters Tower 125.85 221 PKPdf **PKiKP 14 10 57.1 -0.2**
WHFO Wadi Hawf 125.85 84 P **PKPdf 14 10 57.0 +0.1**
RBK Rabkut 126.14 84 P **PKiKP 14 10 58.5 +0.6**
DOK Doka 126.36 83 P **PKiKP 14 10 58.6 +0.3**
GHWR Ruwais 126.39 76 P **PKiKP 14 10 58.7 +0.6**
JRN Qarnain Island 126.54 75 P **PKPdf 14 10 56.9 -1.1**
DMTO DMTO 126.88 84 P **PKPdf 14 10 58.4 -0.4**
SHAO Shalim 127.58 84 P **PKiKP 14 11 01.8 +1.0**
UMZA Um Al Zommool 128.21 78 P **PKiKP 14 11 02.4 +0.5**
MORW Morawa 128.64 185 PKPdf **PKPdf 14 11 01.6 -0.5**
ARU Arti 128.66 35 *i* PKiKP **PKiKP 14 11 02.5 +0.8**
ARU 14 13 12.3
ARU SS SS 14 30 07.8 -8.3
ARU MLR MLR
comp=Z,1μm,21.0s
ARU Arti 128.66 35 PKPdf **PKiKP 14 11 01.8 0.0**
ASUD Al Ashush, Dub 128.71 76 *i* PKiKP **PKiKP 14 11 04.0 +1.2**
SNR=14
ASUD Al Ashush, Dub 128.71 76 P **PKiKP 14 11 03.6 +0.7**
SNR=6.1
FAQ Al Faqa, Dubai 128.96 76 *i* PKiKP **PKiKP 14 11 03.0 -0.3**
SNR=18
FAQ Al Faqa, Dubai 128.96 76 P **PKiKP 14 11 03.4 +0.1**
SNR=5.9
ALNE Al Ain 128.99 77 *i* PKiKP **PKiKP 14 11 04.1 +0.7**
SNR=11
ALNE Al Ain 128.99 77 P **PKiKP 14 11 04.3 +0.8**
SNR=5.7
NAZ Nazwa, Dubai 129.06 75 *i* PKiKP **PKiKP 14 11 03.7 +0.2**
SNR=7.1
NAZ Nazwa, Dubai 129.06 75 P **PKiKP 14 11 04.1 +0.6**
ASAR Alice Springs 129.30 207 PKhKP PKPpre 14 10 42.1
comp=Z,0.8nm,0.7s,baz=168,slow=1.8,SNR=7.3
ASAR PKP **PKPdf 14 11 03.5 0.0**
comp=Z,89nm,0.9s,baz=148,slow=2.2,SNR=87
ASAR PKKP **PKKPdf 14 21 08.1 +0.1**
comp=Z,1.5nm,0.8s,baz=354,slow=1.5,SNR=7.4
ASAR SKKPbc SKKPbc 14 23 56.4 -1.8
comp=Z,3.7nm,1.0s,baz=326,slow=4.9,SNR=4.8
ASAR Alice Springs 129.30 207 PKiKP **PKPdf 14 11 03.2 -0.3**
ASAR Alice Springs 129.30 207 PKPdf **PKPdf 14 11 03.2 -0.3**
AS31 Alice Springs 129.30 207 PKPdf **PKPdf 14 11 03.2 -0.2**
ASHO Ashiyiah 129.37 76 PKiKP **PKPdf 14 11 03.7 +0.2**
ASHO Ashiyiah 129.37 76 P **PKiKP 14 11 04.1 -0.1**
HATD Hatta, Dubai 129.46 76 *i* PKiKP **PKPdf 14 11 03.9 +0.4**
SNR=9.3
HATD Hatta, Dubai 129.46 76 P **PKPdf 14 11 04.0 +0.4**
UOSS Minazif 129.54 76 *i* PKiKP **PKPdf 14 11 03.5 -0.3**
SNR=7.3
UOSS Minazif 129.54 76 PKPdf **PKPdf 14 11 03.4 -0.3**
UOSS Minazif 129.54 76 P **PKPdf 14 11 02.2 -1.6**
ARQ Araqi 129.56 78 P **PKiKP 14 11 04.8 +0.2**
MSFE Esma-Masafi 129.57 75 *i* PKiKP **PKiKP 14 11 04.4 -0.2**
SNR=6.6
MASF Masafi 129.57 75 P **PKiKP 14 11 04.9 +0.3**
SVE Sverdlovsk 129.60 34 *e*PKiKP **PKiKP 14 11 04.3 +0.7**
SVE pmax pmax
comp=Z,85nm,1.4s
SHME Shamm 129.66 74 *i* PKiKP **PKPdf 14 11 04.1 +0.2**
SNR=24
SHME Shamm 129.66 74 P **PKPdf 14 11 04.1 +0.2**
SNR=5.8
MDH Madha 129.68 75 PKiKP **PKiKP 14 11 04.6 -0.2**
MDH Madha 129.68 75 P **PKiKP 14 11 05.0 +0.2**
SOHO SOHO 129.71 77 *i* PKiKP **PKPdf 14 11 04.0 0.0**
SNR=35
SOHO SOHO 129.71 77 P **PKiKP 14 11 04.9 +0.1**
TIXI Tiksi 129.74 353 *d* PKiKP **PKPdf 14 11 02.5 -0.2**
TIXI Tiksi 129.74 353 PKPdf **PKPdf 14 11 02.4 -0.2**
BANOM Banah 129.78 74 PKiKP **PKPdf 14 11 04.5 +0.3**
BANOM Banah 129.78 74 P **PKiKP 14 11 05.3 +0.3**
DQM DQM 129.80 82 P **PKiKP 14 11 05.5 +0.3**
HOQ Hoqain 130.31 78 P **PKPdf 14 11 05.6 +0.3**
MHTO MHTO 130.42 81 P **PKiKP 14 11 06.4 +0.1**
JMDO Jabal Madar 130.81 79 P **PKPdf 14 11 06.5 +0.3**
NRIK Noril'sk 130.88 11 PKP **PKiKP 14 11 06.1 +0.2**
comp=Z,21nm,1.0s,baz=41,slow=1.2,SNR=31
NRIK SKKPbc SKKPbc 14 23 59.8 +2.8
comp=Z,4.2nm,0.7s,baz=196,slow=3.0,SNR=3.6
NRIK Noril'sk 130.88 11 *d* PKiKP **PKiKP 14 11 06.2 +0.4**
NRIK Noril'sk 130.88 11 PKPdf **PKiKP 14 11 05.6 -0.3**
SMDO Samad 130.89 78 P **PKiKP 14 11 07.1 -0.3**
SNR=8.1
BIDO Bidbid 131.04 78 P **PKiKP 14 11 07.7 +0.1**
WSAR Wadi Sarin 131.45 78 P **PKiKP 14 11 08.3 0.0**
ABKAR Akbulak array 131.52 43 PKPdf **PKPdf 14 11 07.1 +0.3**
ABKAR Akbulak array 131.52 43 PKPdf **PKiKP 14 11 07.2 -0.5**
WBK Wadi Bani Khal 131.65 79 P **PKiKP 14 11 09.1 +0.3**
GEYT Alibeck 131.91 59 PKP **PKiKP 14 11 09.4 +0.5**
comp=Z,232nm,0.8s,baz=242,slow=8.2,SNR=33
GEYT PP **PP 14 13 32.1 +1.6**
comp=Z,8.7nm,0.9s,baz=252,slow=10.0,SNR=3.6
GEYT SKPbc **SKPab 14 14 25.7 +1.9**
comp=Z,9.6nm,0.9s,baz=254,slow=4.4,SNR=4.2
GYA0B ALIBECK ARRAY 131.91 59 PKPdf **PKPdf 14 11 07.8 -0.1**
JLN Jalan Bani Buh 131.96 80 P **PKiKP 14 11 09.1 -0.3**
RABL Rabaul 132.31 241 **PKPdf 14 11 09.4 +0.1**
WRA Warramunga Arr 132.38 210 PKhKP PKPpre 14 10 54.9
comp=Z,3.1nm,0.6s,baz=144,slow=1.2,SNR=24
WRA PKP **PKiKP 14 11 10.0 -0.5**
comp=Z,36nm,0.6s,baz=156,slow=1.8,SNR=60
WRA PP **PP 14 13 31.3 -1.0**
comp=Z,3.3nm,0.9s,baz=156,slow=6.0,SNR=7.1
WRA SKPbc **SKPab 14 14 27.5 +1.2**
comp=Z,10nm,1.1s,baz=162,slow=3.5,SNR=5.5
WRA Warramunga Arr 132.38 210 PKiKP **PKiKP 14 11 10.0 -0.5**
WRAB Tennant Creek 132.38 210 *d* PKiKP **PKiKP 14 11 10.1 -0.4**
WRAB Tennant Creek 132.38 210 PKPdf **PKPdf 14 11 08.7 -0.7**
PMG Port Moresby 132.91 232 PKP **PKiKP 14 11 12.3 +0.7**
comp=Z,22nm,0.8s,baz=70,slow=4.7,SNR=8.9
PMG Port Moresby 132.91 232 *d* PKiKP **PKiKP 14 11 11.5 -0.1**
PMG pmax pmax
comp=Z,189nm,2.5s
PMG Port Moresby 132.91 232 PKPdf **PKiKP 14 11 11.4 -0.2**
PMG Port Moresby 132.91 232 PKP **PKiKP 14 11 13.8 +2.2**
PET Petropavlovsk 133.04 323 *e*PKHKP PKPpre 14 10 50.5
PET *i* 14 11 10.5
PET *e* 14 13 37.7
PET *e* 14 18 11.8
PET *e*PS PS 14 23 48.4 -7.7
PET *e*PPS PPS 14 25 34.8
PET *e*SS SS 14 31 06.5 -3.3
PET *e*SSS SSS 14 36 07.2
PET pmax pmax
comp=Z,38nm,1.3s
PEA0B Petropavlovsk- 133.54 323 PKHKP PKPpre 14 11 00.0
PEA0B PKP **PKiKP 14 11 11.5 -0.2**
PEA0B Petropavlovsk- 133.54 323 PKPpre PKPpre 14 11 00.0
PEA0B PKPdf **PKiKP 14 11 11.5 -0.2**
PETK Petropavlovsk- 133.54 323 PKhKP PKPpre 14 10 59.7
comp=Z,6.9nm,0.7s,baz=102,slow=6.7,SNR=15
PETK PKP **PKiKP 14 11 12.0 +0.3**
comp=Z,17nm,0.8s,baz=94,slow=4.6,SNR=18
PETK Petropavlovsk- 133.54 323 PKHKP PKPpre 14 10 59.3
PETK PKP **PKiKP 14 11 11.3 -0.4**
PETK Petropavlovsk- 133.54 323 PKPpre PKPpre 14 10 59.3
PETK PKPdf **PKiKP 14 11 11.3 -0.4**
MA2 Magadan 133.72 334 *d* PKiKP **PKiKP 14 11 11.7 -0.2**
MA2 pmax pmax
comp=Z,55nm,1.7s
SKR Severo-Kuril's 135.38 321 *i* PKIKP **PKPdf 14 11 09.9 -4.0**
SKR *e* 14 13 48.3
SKR MLR MLR
comp=Z,100nm,19.0s
HRA Herat 135.41 63 PKPdf **PKPdf 14 11 14.4 -0.4**
PSA00 Pilbara Seismi 135.54 191 PKPdf **PKPdf 14 11 15.2 0.0**
PSA00 Pilbara Seismi 135.54 191 PKPdf **PKPdf 14 11 15.1 -0.1**
BRVK Borovoye 136.22 35 *d* PKiKP **PKiKP 14 11 17.2 +0.1**
BRVK pmax pmax
comp=Z,143nm,2.5s
BRVK Borovoye 136.22 35 PKPdf **PKiKP 14 11 16.3 -0.8**
FITZ Fitzroy Crossi 137.45 200 PKhKP PKPpre 14 11 08.7
comp=Z,9.1nm,0.7s,baz=191,slow=6.4,SNR=15
FITZ PKP **PKiKP 14 11 20.1 -0.6**
comp=Z,48nm,0.9s,baz=202,slow=2.9,SNR=26
FITZ PP **PP 14 14 07.6 +3.7**
comp=Z,3.3nm,0.7s,baz=176,slow=6.2,SNR=4.0
FITZ Fitzroy Crossi 137.45 200 PKPdf **PKPdf 14 11 19.5 +0.7**
YAK Yakutsk 138.49 347 ǁ *e*PKiKP **PKPdf 14 11 20.0 +0.7**
YAK Yakutsk 138.49 347 PKPdf **PKPdf 14 11 19.6 +0.3**
KNRA Kununurra 138.56 206 PKPpre 14 11 09.8
BRZS Berezniki 138.99 38 ǁ PKP **PKPdf 14 11 21.3 +0.6**
baz=38
BRZS *i* SKP 14 14 44.3
baz=38
BRZS Berezniki 138.99 38 *d* PKiKP **PKPdf 14 11 21.2 +0.6**
OTUK Ortayu 139.57 41 PKiKP **PKiKP 14 11 23.2 -1.0**
MTN Manton Dam 140.05 211 PKPdf **PKPdf 14 11 21.9 -1.7**
KK31 Karatay Array 140.29 49 PKiKP **PKPdf 14 11 22.0 -1.3**
KK31 Karatay Array 140.29 49 PKPdf **PKPdf 14 11 22.0 -1.3**
KKAR Karatay Array 140.29 49 PKiKP **PKPdf 14 11 21.8 -1.4**
KKAR Karatay Array 140.29 49 PKPdf **PKPdf 14 11 21.8 -1.4**
KKAR Karatay Array 140.29 49 **PKPdf 14 11 21.9 -1.4**
DZA Taraz 140.93 49 *e*PKP **PKPdf 14 11 25.1 +0.7**
baz=49
DZA *e*PP **PP 14 14 25.3 -1.3**
baz=49
DZA Taraz 140.93 49 *e*PKiKP **PKPdf 14 11 25.1 +0.7**
DZA *e* 14 14 25.2
GAR Garm 141.25 55 PKPpre 14 11 18.8
KURK Kurchatov 141.85 34 PP 14 14 37.7 +6.1
KURBB Kurchatov Arra 141.85 34 PP PP 14 14 37.7 +6.1
comp=Z,13nm,1.0s,baz=295,slow=6.8,SNR=4.8
KURBB Kurchatov Arra 141.85 34 PKHKP PKPpre 14 11 21.6
BTLS Baital 141.98 44 ǁ PKP **PKPdf 14 11 20.1 -6.1**
baz=44
BTLS *e*PP **PP 14 14 31.1 -1.7**
baz=44
BTLS *e*SKP 14 14 51.7
baz=44
BTLS Baital 141.98 44 *d* PKHKP PKPpre 14 11 20.9
BTLS *e* 14 14 31.1
ZAA0 Zalesovo Array 142.59 26 PKPpre 14 11 23.2
ZALV Zalesovo Beam 142.59 26 PKhKP PKPpre 14 11 23.5
comp=Z,45nm,1.0s,baz=329,slow=4.4,SNR=56
ZALV PKP **PKPdf 14 11 28.4 +1.4**
comp=Z,138nm,0.8s,baz=299,slow=3.4,SNR=40
ZALV Zalesovo Beam 142.59 26 PKHKP PKPpre 14 11 23.0
ZALV PKP **PKPdf 14 11 28.4 +1.4**
ZALV Zalesovo Beam 142.59 26 PKPpre 14 11 23.0
GENI Genyem 142.60 232 PKP **PKPdf 14 11 25.5 -2.8**
GENI PKP **PKiKP 14 11 26.5 -4.9**
EKS2 Erkin-Say 142.70 48 P **PKPdf 14 11 27.5 -0.2**
SNR=30
AML Almayashu 142.83 49 P **PKPdf 14 11 26.6 -1.8**
SNR=12
AML Almayashu 142.83 49 *i* PKPdf **PKPdf 14 11 25.2 -3.2**
SNR=24
SEM Semipalatinsk 142.87 33 ǁ PKP **PKPdf 14 11 24.4 -3.6**
baz=33
SEM Semipalatinsk 142.87 33 *d* PKiKP **PKPdf 14 11 24.3 -3.6**
SGDS Sogindy 142.99 47 *e*PKP **PKPdf 14 11 25.0 -3.2**
baz=47
SGDS *e*SKP 14 14 52.8
baz=47
SGDS Sogindy 142.99 47 *e*PKHKP PKPpre 14 11 24.9
AAK Ala-Archa 143.20 48 P PKPbc 14 11 27.0 +0.9
SNR=25
AAK Ala-Archa 143.20 48 *i* PKPdf PKPbc 14 11 26.7 +0.7
SNR=38
AAK Ala-Archa 143.20 48 *d* PKiKP PKPbc 14 11 27.3 +1.3
AAK Ala-Archa 143.20 48 PKPdf PKPbc 14 11 27.0 +1.0
FRU1 Bishkek 143.23 48 PKiKP **PKPdf 14 11 27.3 -1.3**
FRU1 Bishkek 143.23 48 **PKPdf 14 11 27.3 -1.3**
CHMS Chumysh 143.25 47 P PKPbc 14 11 26.9 +0.9
SNR=8.6
KBK Karagaybulak 143.51 48 P **PKPdf 14 11 28.1 -1.1**
SNR=50
TKM2 Tokmak 2 143.85 47 P PKPbc 14 11 28.6 +0.7
SNR=62
TKM2 Tokmak 2 143.85 47 PKiKP PKPbc 14 11 28.5 +0.6
KUU Kurty 143.95 45 ǁ PKP PKPbc 14 11 28.5 +0.6
baz=45
KUU Kurty 143.95 45 *d* PKiKP PKPbc 14 11 28.4 +0.5
TRD Trivandrum 144.02 107 *e*P **PKPdf 14 11 30.4 -0.4**
TRD IAmb IAmb 14 11 31.5
comp=Z,298nm,1.2s
UGL Uglegorsk 144.07 325 *e*PKiKP **PKPab 14 11 27.4 -0.1**
UGL *e* 14 11 59.4
UGL *e* 14 14 47.1
UGL pmax pmax
comp=Z,100nm,1.4s
UGL pmax pmax
comp=E,840nm,4.0s
UGL pmax pmax
comp=Z,2μm,3.0s
UGL pmax pmax
comp=Z,1μm,5.5s
BOOM Boomskoye usch 144.25 47 PKiKP **PKPdf 14 11 30.0 -0.6**
BOOM Boomskoye usch 144.25 47 PKPdf **PKPdf 14 11 30.0 -0.6**
MTBS Maitube 144.32 46 ǁ PKP **PKPdf 14 11 30.2 -0.3**
baz=46
MTBS Maitube 144.32 46 *d* PKiKP **PKPdf 14 11 30.2 -0.3**
CHKK Chushkaly 144.39 45 ǁ *e*PKP **PKPdf 14 11 30.0 -0.5**
baz=45
CHKK Chushkaly 144.39 45 ǁ *e*PKiKP **PKPdf 14 11 30.0 -0.5**
YUK Yuzh-Kuril'sk 144.47 316 *d* PKiKP PKPbc 14 11 29.9 +0.5
YUK *i* 14 12 02.0
YUK *e* 14 14 45.2
YUK *e*SS SS 14 33 29.8 +5.1
YUK SSS SSS 14 38 49.9
YUK pmax pmax
comp=Z,892nm,1.4s
ULHL Ulahol 144.55 48 P **PKPdf 14 11 32.1 +1.0**
SNR=78
NIL Nilore 144.57 63 PKiKP **PKPab 14 11 30.0 0.0**
NIL Nilore 144.57 63 PKPdf **PKPab 14 11 30.0 0.0**
BOD Bodaibo 144.58 358 *e*PKiKP PKPbc 14 11 29.6 +0.2
BOD pmax pmax
comp=Z,632nm,1.8s
AAA Alma-Ata 144.62 46 ǁ PKP **PKPdf 14 11 31.6 +0.5**
baz=46
AAA Alma-Ata 144.62 46 *d* PKiKP **PKPdf 14 11 31.5 +0.5**
MDOK Medeo 144.72 46 *i* PKP PKPbc 14 11 30.6 +0.1
baz=46
MDOK Medeo 144.72 46 *i* PKiKP PKPbc 14 11 30.5 0.0
TDK Taldyqorghan 144.77 42 ǁ PKP **PKPdf 14 11 31.6 +0.4**
baz=42
TDK Taldyqorghan 144.77 42 *c* PKiKP **PKPdf 14 11 31.5 +0.4**
YSS Yuzh-Sakhalins 144.92 322 *k* PKiKP **PKPdf 14 11 32.2 +0.9**
YSS *e* 14 14 52.8
YSS *e*PPP PPP 14 18 03.8
YSS *e*SS SS 14 33 31.0 +1.7
YSS *e*SSS SSS 14 38 51.0
YSS pmax pmax
comp=Z,270nm,0.8s
YSS pmax pmax
comp=Z,500nm,2.1s
YSS pmax pmax
comp=Z,1μm,7.0s
YSS pmax pmax
comp=N,300nm,6.5s
YSS Yuzh-Sakhalins 144.92 322 **PKPab 14 11 30.9 +0.2**
KDJ Kajisay 145.24 47 PKIKP **PKPab 14 11 33.5 +1.1**
KDJ Kajisay 145.24 47 **PKPab 14 11 33.5 +1.1**
KSH Kashi 145.33 52 ǁ PKPbc **PKPab 14 11 33.1 +0.3**
KSH pPKP pPKPab 14 12 05.6 -0.4
KSH SKKS 14 21 32.9
KSH SS **SS 14 33 32.6 -2.7**
KSH PPMZ
comp=N,1μm,8.1s
KSH L L
comp=N,1μm,13.5s
KSH L L
comp=N,810nm,12.3s
KSH L L
comp=N,670nm,12.8s
BATI Baumata 145.48 201 PKPbc **PKPab 14 11 35.1 +1.3**
comp=N,526nm,1.1s,baz=140,slow=1.2,SNR=42
BATI Baumata 145.48 201 PKP **PKPab 14 11 35.1 +1.3**
KPKS Kokpek 145.66 44 ǁ PKP **PKPab 14 11 34.4 +0.5**
baz=44
KPKS *e*pPKP **pPKPdf 14 12 06.6 -0.2**
baz=44
KPKS Kokpek 145.66 44 *d* PKP2 **PKPab 14 11 34.3 +0.5**
SATY Saty 145.67 45 ǁ PKP **PKPab 14 11 34.0 0.0**
baz=45
SATY *e*pPKP **pPKPdf 14 12 06.3 -0.5**
baz=45
SATY Saty 145.67 45 *d* PKP2 **PKPab 14 11 33.9 0.0**
GRNR Gornyy 145.68 332 ǁ PKP2 **PKiKP 14 11 35.1 -1.5**
GRNR pmax pmax
comp=E,30nm,1.0s
GRNR pmax pmax
comp=N,40nm,1.2s
GRNR pmax pmax
comp=Z,280nm,1.1s
SOEI Soe 145.69 203 PKP **PKPab 14 11 35.7 +1.0**
TARG Taragay, Kyrgy 145.82 48 PKPbc **PKPab 14 11 35.1 +0.2**
SRPI Serui, Papua 145.90 228 PKP **PKiKP 14 11 37.2 -1.0**
MAKZ Makanchi 145.93 37 PKP2 **PKPbc 14 11 34.2 +0.2**
MAKZ Makanchi 145.93 37 PKPbc **PKPbc 14 11 34.2 +0.2**
UZB Uzynbulak 146.03 45 ǁ PKP **PKPab 14 11 35.1 -0.2**
baz=45
UZB *e*pPKP **pPKPdf 14 12 07.7 +0.3**
baz=45
UZB Uzynbulak 146.03 45 *d* PKP2 **PKPab 14 11 35.1 -0.2**
MK31 Makanchi Array 146.11 37 PKP2 **PKPbc 14 11 34.4 -0.1**
MK31 Makanchi Array 146.11 37 **PKPbc 14 11 34.4 -0.1**
MKAR Makanchi Array 146.11 37 PKPbc **PKPbc 14 11 34.7 +0.1**
comp=Z,298nm,0.9s,baz=305,slow=2.5,SNR=504
MKAR Makanchi Array 146.11 37 PKP2 **PKPbc 14 11 34.5 0.0**
MKAR Makanchi Array 146.11 37 **PKPbc 14 11 34.5 0.0**
AJM Ajmer 146.23 76 ǁ PKP **PKPbc 14 11 35.0 -0.5**
PDGK Podgornoye 146.25 44 PKP2 **PKPab 14 11 35.7 -0.5**
SHLS Shalkode 146.31 44 ǁ PKP **PKPab 14 11 36.3 -0.2**
baz=44
SHLS *e*pPKP pPKPab 14 12 09.8 +0.2
baz=44
SHLS Shalkode 146.31 44 *d* PKP2 **PKPab 14 11 36.2 -0.2**
BASI Baing, Sumba 146.39 196 PKP **PKPbc 14 11 36.3 +0.1**
BAKI Biak 146.48 229 PKP **PKPab 14 11 37.6 -0.1**
JKA Kamikawa-asahi 146.51 318 **PKPbc 14 11 35.4 -0.3**
ASAJ Asahikawa 146.51 318 PKPbc **PKPbc 14 11 36.0 +0.2**
comp=Z,193nm,1.0s,baz=340,slow=2.5,SNR=9.1
ASAJ Asahikawa 146.51 318 PKIKP **PKPbc 14 11 35.4 -0.3**
ZEA Zeya 146.53 343 *e*PKP2 **PKPbc 14 11 34.9 -0.6**
ZEA *e* 14 33 41.4
ZEA pmax pmax
comp=N,40nm,1.6s
ZEA pmax pmax
comp=Z,180nm,1.5s
ZEA pmax pmax
comp=E,300nm,2.9s
ZEA pmax pmax
comp=Z,3μm,4.4s
PALK Pallekele 146.70 112 PKIKP **PKPdf 14 11 36.0 +0.6**
PALK Pallekele 146.70 112 **PKPdf 14 11 36.0 +0.6**
DGZ Jazzator, Alta 146.79 29 *d* PKP2 **PKPbc 14 11 36.1 -0.5**
THN Thein Dam 146.80 65 *e*P **PKPab 14 11 38.0 -0.4**
XMIS Christmas Isla 146.81 169 **PKPdf 14 11 35.8 +0.3**
WSI Waingapu 146.99 196 PKP **PKPab 14 11 39.4 -0.1**
ZSN Zaisan 147.09 34 ǁ PKP **PKPbc 14 11 36.4 -1.0**
baz=34
ZSN *e*pPKP **pPKPbc 14 12 11.5 +0.5**
baz=34
ZSN Zaisan 147.09 34 *d* PKiKP **PKPbc 14 11 36.3 -1.0**
ZSN *e* 14 12 11.4
ERM Erimo 147.15 314 ǁ *e*PKiKP **PKPdf 14 11 36.0 +0.8**
ERM *i* 14 11 39.0
ERM pmax pmax
comp=Z,647nm,1.7s
WBSI Waikabubak, Su 147.23 194 PKP **PKPbc 14 11 37.8 -0.9**
WBSI PKP **PKPab 14 11 38.9 -1.7**
DHRM DHARAMSHALA 147.31 65 ǁ *e*P **PKPdf 14 11 36.4 +0.2**
DHRM IAML 14 11 39.0
comp=Z,391nm,1.4s
MMRI Maumere 147.42 200 PKPbc **PKPdf 14 11 36.8 +0.3**
MMRI Maumere 147.42 200 PKP **PKPdf 14 11 37.4 +0.8**
FAKI Fak Fak 147.71 221 **PKPdf 14 11 38.4 +1.3**
FAKI Fak Fak 147.71 221 PKP **PKPbc 14 11 39.2 -0.8**
BNDI Bandanaira 147.77 216 PKP **PKPbc 14 11 39.7 -0.4**
JEW Eniwo 147.87 316 **PKPbc 14 11 39.5 -0.1**
MWPI Manokwari, Pap 148.08 226 PKP **PKPbc 14 11 41.3 +0.3**
SMLA Simla 148.20 67 *e*P **PKPdf 14 11 38.6 +1.3**
SMLA IAmb IAmb 14 11 46.6
comp=Z,240nm,0.9s
PLAI Plampang 148.36 192 PKP **PKPbc 14 11 41.1 -0.6**
NDI New Delhi 148.47 71 *e*P **PKPdf 14 11 39.0 +1.1**
BHPL Bhopal 148.58 82 *e*P **PKPdf 14 11 38.2 0.0**
BHPL IAmb IAmb 14 11 46.3
comp=Z,133nm,1.1s
TWSI Taliwang, Sumb 148.61 190 PKP **PKPdf 14 11 38.8 +0.3**
HYB Hyderabad 148.62 93 *i* PKP **PKPdf 14 11 39.5 +1.1**
HYB *e*pPKP **pPKPdf 14 12 13.0 +0.5**
HYB Hyderabad 148.62 93 *e*P **PKPdf 14 11 38.7 +0.2**
HYB IAmb IAmb 14 11 42.3
comp=Z,336nm,1.3s
KLR Kul'dur 148.82 334 PKP **PKPdf 14 11 38.4 +0.6**
comp=Z,55nm,0.9s,baz=33,slow=2.3,SNR=14
KLR PKPbc **PKPbc 14 11 42.2 +0.5**
comp=Z,55nm,0.9s,baz=25,slow=3.5,SNR=18
KLR Kul'dur 148.82 334 *d* PKiKP **PKPdf 14 11 38.7 +0.9**
MDRS Chennai 148.83 102 *e*P **PKPdf 14 11 39.8 +1.0**
DNP Denpasar 148.90 187 PKP **PKiKP 14 11 44.3 0.0**
DDI Dehra Dun 149.06 68 *e*P **PKPdf 14 11 40.4 +1.6**
DDI IAmb IAmb 14 11 46.9
comp=Z,669nm,0.8s
JTM Tenmabayashi 149.10 313 PKPdf **PKPdf 14 11 39.0 +0.5**
KHKI Kahang-Kahang 149.16 188 PKP **PKPbc 14 11 43.2 -0.5**
JAGI Jajag, Banyuwa 149.21 185 PKPbc **PKPbc 14 11 43.2 -0.6**
MSAI Masohi 149.28 216 PKP **PKPbc 14 11 43.4 -0.6**
BYJI Banyuwangi 149.44 185 PKP **PKPbc 14 11 42.2 -2.2**
SRBI Singaraja 149.48 187 PKP **PKPdf 14 11 40.7 +0.8**
TEY Ternei 149.50 324 ǁ *e*PKHKP PKPpre 14 11 40.4
TEY pmax pmax
comp=N,10.0nm,1.5s
TEY pmax pmax
comp=Z,50nm,1.5s
TEY pmax pmax
comp=Z,400nm,3.2s
KRAI Karang Ratu 149.59 215 PKP **PKPbc 14 11 44.3 -0.5**
MOY Mondy 149.67 13 *e*PKHKP PKPpre 14 11 41.4
MOY pmax pmax
comp=Z,890nm,2.4s
IRK Irkutsk 149.69 9 *e*PKHKP PKPpre 14 11 40.1
IRK pmax pmax
comp=Z,971nm,2.6s
PWJI Pagerwojo 149.75 181 PKP **PKPdf 14 11 41.7 +1.4**
UGM Wanagama 149.85 178 PKP **PKPbc 14 11 43.0 -2.4**
ABJI Asem Bagus 149.87 185 PKP **PKPdf 14 11 42.4 +1.9**
SIJI Sorong 149.92 222 PKP **PKPdf 14 11 41.4 +0.7**
comp=Z,171nm,1.0s,baz=72,slow=2.1,SNR=16
SIJI PKPbc **PKiKP 14 11 46.5 0.0**
comp=Z,140nm,0.7s,baz=68,slow=0.8,SNR=41
SIJI Sorong 149.92 222 PKP **PKPdf 14 11 42.4 +1.8**
SWI Sorong 149.93 222 PKP **PKPdf 14 11 42.2 +1.6**
SJI Sawahan 150.04 180 PKP **PKPdf 14 11 41.7 +0.8**
TLY Talaya 150.15 10 PKPbc **PKiKP 14 11 45.8 0.0**
comp=Z,16nm,0.4s,baz=333,slow=1.2,SNR=7.6
TLY Talaya 150.15 10 *d* PKHKP **PKPdf 14 11 41.7 +1.9**

TLY					pmax	pmax			
	comp=Z,673nm,1.9s								
TLY	**Talaya**	**150.15**	**10**	PKPdf	**PKPdf**	**14 11 40.7**	**+0.8**		
NLAI	**Namlea**	**150.32**	**213**	PKP	**PKPbc**	**14 11 45.9**	**-0.6**		
KPJI	**Karang Pucung**	**150.33**	**175**	PKP	**PKiKP**	**14 11 47.2**	**-0.1**		
CIT	**Chita**	**150.40**	**357**	*e*PKIKP	**PKPdf**	**14 11 42.2**	**+1.9**		
CIT				*e*		14 12 19.4			
CIT				*e*		14 15 17.6			
CIT				pmax	pmax				
	comp=Z,871nm,2.4s								
JMM	**Marumori**	**150.54**	**308**	PKPbc	**PKPbc**	**14 11 45.9**	**-0.4**		
KMMI	**Kalianget**	**150.63**	**185**	PKP	**PKPdf**	**14 11 44.0**	**+2.3**		
CTJI	**Waduk Cacaban**	**150.67**	**175**	PKP	**PKPdf**	**14 11 43.0**	**+1.2**		
LEM	**Lembang**	**150.69**	**172**	PKP	**PKPdf**	**14 11 43.2**	**+1.2**		
	comp=Z,86nm,0.9s,baz=247,slow=1.7,SNR=13								
LEM				PKPbc	**PKiKP**	**14 11 49.0**	**+0.7**		
	comp=Z,1μm,0.7s,baz=168,slow=3.3,SNR=114								
LEM				PP	**PP**	**14 15 25.6**	**+2.5**		
	comp=Z,37nm,0.8s,baz=179,slow=5.9,SNR=4.4								
LEM	**Lembang**	**150.69**	**172**	PKP	**PKPdf**	**14 11 44.3**	**+2.3**		
SMRI	**Semarang**	**150.70**	**178**	PKP	**PKPbc**	**14 11 46.3**	**-1.1**		
WMQ	**Urumqi**	**150.94**	**37**	*e*PKPbc	**PKPdf**	**14 11 42.1**	**+0.7**		
WMQ				pPKP	pPKPdf	14 12 17.3	+1.9		
WMQ				L	L				
	comp=Z,1μm,22.9s								
WMQ				L	L				
	comp=Z,1μm,19.5s								
WMQ				L	L				
	comp=Z,2μm,20.1s								
EGSI	**Enggano, Bengk**	**150.96**	**161**	PKP	**PKPdf**	**14 11 44.5**	**+2.3**		
EGSI				PKP	**PKiKP**	**14 11 49.5**	**+0.9**		
TNG	**Tangerang**	**151.19**	**170**	PKP	**PKPbc**	**14 11 44.3**	**-4.3**		
TNG				PKP	**PKPdf**	**14 11 44.1**	**+1.5**		
ZAK	**Zakamensk**	**151.34**	**11**	*e*PKIKP	**PKPdf**	**14 11 42.6**	**+0.8**		
ZAK				pmax	pmax				
	comp=Z,110nm,1.7s								
KASI	**Kota Agung**	**151.39**	**165**	PKP	**PKPdf**	**14 11 44.5**	**+1.6**		
MKS	**Makassar**	**151.47**	**197**	PKP	**PKiKP**	**14 11 51.1**	**+1.4**		
KAPI	**Kappang**	**151.59**	**197**	PKP	**PKPdf**	**14 11 44.3**	**+1.2**		
	comp=Z,11nm,0.4s,baz=192,slow=1.0,SNR=7.1								
KAPI				PKPbc	**PKiKP**	**14 11 50.4**	**+0.5**		
	comp=Z,270nm,0.9s,baz=224,slow=2.1,SNR=38								
KAPI	**Kappang**	**151.59**	**197**	PKP	**PKPdf**	**14 11 45.8**	**+2.6**		
JYT	**Yasato**	**151.60**	**305**	PKPdf	**PKPdf**	**14 11 42.0**	**-0.5**		
JYT				PKPbc	**PKiKP**	**14 11 49.3**	**+0.1**		
BLSI	**Bandar Lampung**	**151.71**	**167**	PKP	**PKPdf**	**14 11 44.4**	**+1.0**		
BLSI				PKP	**PKiKP**	**14 11 51.1**	**+0.9**		
LWLI	**Liwa**	**151.77**	**164**	PKP	**PKPdf**	**14 11 44.9**	**+1.3**		
KKSI	**Kolaka, Sulawe**	**151.79**	**202**	PKP	**PKPdf**	**14 11 45.8**	**+2.3**		
JCJ	**Chichijima**	**151.83**	**286**	PKPbc	**PKiKP**	**14 11 49.8**	**-0.2**		
	comp=Z,155nm,1.0s,baz=62,slow=2.4,SNR=10.0								
JCJ				PKPab	**PKPab**	**14 12 00.1**	**+0.9**		
	comp=Z,92nm,0.8s,baz=95,slow=16,SNR=6.5								
JCJ	**Chichijima**	**151.83**	**286**		**PKPbc**	**14 11 49.1**	**-0.5**		
SANI	**Sanana**	**151.90**	**212**	PKP	**PKPdf**	**14 11 45.5**	**+1.8**		
BNSI	**Bone**	**152.07**	**198**	PKP	**PKPdf**	**14 11 45.7**	**+1.8**		
JSD	**Sado**	**152.29**	**310**	PKPbc	**PKPbc**	**14 11 50.3**	**0.0**		
MDSI	**Maura Dua**	**152.31**	**164**	PKP	**PKPdf**	**14 11 44.6**	**+0.3**		
HIA	**Hailar**	**152.42**	**348**	PKIKP	**PKPdf**	**14 11 43.4**	**0.0**		
HIA	**Hailar**	**152.42**	**348**		**PKPdf**	**14 11 43.4**	**0.0**		
HIA				PKPbc	**PKiKP**	**14 11 50.6**	**0.0**		
USA0B	**Ussuriysk Arra**	**152.50**	**327**	PKIKP	**PKPdf**	**14 11 43.8**	**+0.2**		
USA0B	**Ussuriysk Arra**	**152.50**	**327**	PKPdf	**PKPdf**	**14 11 43.8**	**+0.2**		
USA0B				PKPbc	**PKiKP**	**14 11 51.2**	**+0.4**		
USRK	**Ussuriysk Ar.**	**152.50**	**327**	PKP	**PKPdf**	**14 11 44.3**	**+0.7**		
	comp=Z,19nm,1.0s,baz=315,slow=0.8,SNR=29								
USRK				PKPbc	**PKiKP**	**14 11 51.7**	**+0.9**		
	comp=Z,48nm,0.9s,baz=312,slow=1.2,SNR=39								
USRK	**Ussuriysk Ar.**	**152.50**	**327**	PKIKP	**PKPdf**	**14 11 43.9**	**+0.3**		
USRK	**Ussuriysk Ar.**	**152.50**	**327**	PKPdf	**PKPdf**	**14 11 43.9**	**+0.3**		
USRK				PKPbc	**PKiKP**	**14 11 51.0**	**+0.2**		
KSI	**Kapahiang**	**152.66**	**160**	PKP	**PKPdf**	**14 11 46.3**	**+1.4**		
LHSI	**Lahat**	**152.77**	**162**	PKP	**PKPdf**	**14 11 45.3**	**+0.4**		
JHJ2	**Mitsune**	**152.89**	**299**		**PKPbc**	**14 11 51.8**	**0.0**		
JHJ	**Hachijo jima 2**	**152.91**	**299**	PKPbc	**PKiKP**	**14 11 52.6**	**+0.6**		
	comp=Z,220nm,0.9s,baz=129,slow=4.2,SNR=10.0								
MJAR	**Matsushiro Arr**	**152.96**	**307**	PKP	**PKPdf**	**14 11 45.5**	**+0.9**		
	comp=Z,6.4nm,1.1s,baz=119,slow=0.0,SNR=18								
MJAR				PKPbc	**PKiKP**	**14 11 52.6**	**+0.5**		
	comp=Z,23nm,0.5s,baz=90,slow=1.6,SNR=41								
MJAR				PKPab	**PKPab**	**14 12 04.4**	**+0.8**		
	comp=Z,34nm,0.9s,baz=100,slow=2.5,SNR=8.4								
MJAR	**Matsushiro Arr**	**152.96**	**307**	PKIKP	**PKPdf**	**14 11 44.7**	**+0.1**		
MJAR						14 12 04.2			
MJAR	**Matsushiro Arr**	**152.96**	**307**	PKPdf	**PKPdf**	**14 11 44.6**	**+0.1**		
MJAR				PKPbc	**PKPbc**	**14 11 52.0**	**0.0**		
MJAR				PKPab	**PKPab**	**14 12 04.2**	**+0.5**		
MAJO	**Matsushiro**	**152.96**	**307**	PKIKP	**PKiKP**	**14 11 52.0**	**-0.1**		
MAJO						14 12 04.5			
MAJO	**Matsushiro**	**152.96**	**307**	PKPdf	**PKPdf**	**14 11 44.3**	**-0.3**		
MAJO				PKPbc	**PKiKP**	**14 11 52.0**	**-0.1**		
MAJO				PKPab	**PKPab**	**14 12 04.5**	**+0.8**		
MAT	**Matsushiro**	**152.96**	**307**	PKP	**PKPdf**	**14 11 44.5**	**-0.1**		
PMSI	**Majene**	**153.26**	**197**	PKP	**PKPdf**	**14 11 48.4**	**+2.7**		
MDJ	**Mudanjiang**	**153.34**	**330**	PKPbc	**PKPdf**	**14 11 45.2**	**+0.4**		
MDJ	**Mudanjiang**	**153.34**	**330**		**PKPdf**	**14 11 44.6**	**-0.3**		
TTSI	**Tana Toraja**	**153.44**	**199**	PKP	**PKPdf**	**14 11 47.6**	**+1.7**		
TNTI	**Ternate**	**153.55**	**218**		**PKPdf**	**14 11 45.3**	**-0.8**		
TNTI	**Ternate**	**153.55**	**218**	PKP	**PKPdf**	**14 11 46.6**	**+0.5**		
JGF	**Kuroka**	**153.97**	**306**		**PKPdf**	**14 11 46.1**	**0.0**		
JGF				PKPbc	**PKPbc**	**14 11 54.0**	**-0.1**		
JGF				PKPab	**PKPab**	**14 12 07.6**	**-0.4**		
GAMI	**Galela, Maluku**	**154.17**	**220**	PKP	**PKPdf**	**14 11 48.2**	**+1.2**		
LUWI	**Luwuk**	**154.25**	**207**		**PKPdf**	**14 11 46.7**	**-0.3**		
LUWI	**Luwuk**	**154.25**	**207**	PKP	**PKPdf**	**14 11 49.2**	**+2.1**		
SONM	**Songino Array**	**154.30**	**8**	PKP	**PKPdf**	**14 11 47.4**	**+1.1**		
	comp=Z,29nm,0.9s,baz=294,slow=0.5,SNR=118								
SONM				PKPbc	**PKiKP**	**14 11 55.5**	**+0.9**		
	comp=Z,13nm,0.9s,baz=328,slow=1.3,SNR=6.8								
SONM				PKPab	**PKPab**	**14 12 10.1**	**+1.1**		
	comp=Z,27nm,1.0s,baz=343,slow=5.1,SNR=5.8								
SONM	**Songino Array**	**154.30**	**8**	PKPdf	**PKPdf**	**14 11 47.1**	**+0.9**		
INU	**Inuyama**	**154.33**	**306**	PKPdf	**PKPdf**	**14 11 46.5**	**0.0**		
ULN	**Ulaanbaatar**	**154.35**	**7**	PKIKP	**PKPdf**	**14 11 47.1**	**+0.7**		
ULN	**Ulaanbaatar**	**154.35**	**7**	PKPdf	**PKPdf**	**14 11 47.1**	**+0.7**		
ULN	**Ulaanbaatar**	**154.35**	**7**	PKP	**PKPdf**	**14 11 48.1**	**+1.7**		
PDSI	**Padang**	**154.42**	**154**	PKP	**PKPdf**	**14 11 48.0**	**+0.6**		
TPI	**Tanjungpandan**	**154.70**	**171**	PKP	**PKPdf**	**14 11 49.5**	**+1.8**		
APSI	**Ampana**	**154.81**	**204**	PKP	**PKPdf**	**14 11 50.0**	**+2.1**		
GSI	**Gunungsitoli**	**155.00**	**145**	PKPbc	PKPdf	14 11 57.8	+10		
GSI	**Gunungsitoli**	**155.00**	**145**	PKP	**PKPdf**	**14 11 50.1**	**+2.0**		
PPBI	**Pangkal Pinang**	**155.01**	**167**	PKP	**PKPdf**	**14 11 49.4**	**+1.3**		
PBKI	**Pangkalan Bun**	**155.04**	**180**	PKP	**PKPdf**	**14 11 50.4**	**+2.2**		
KMSI	**Cibinong**	**155.15**	**211**	PKP	**PKPdf**	**14 11 50.1**	**+1.8**		
PKKI	**Palangkaraya**	**155.38**	**186**	PKP	**PKPdf**	**14 11 50.8**	**+2.2**		
PKKI				PKP	**PKPdf**	**14 11 50.9**	**+2.3**		
JWT	**Wachi**	**155.56**	**307**	PKPdf	**PKPdf**	**14 11 48.0**	**-0.2**		
JWT				PKPab	**PKPab**	**14 12 15.5**	**+0.8**		
MNSI	**Mandailing Nat**	**155.56**	**150**	PKP	**PKPdf**	**14 11 49.8**	**+0.9**		
MNSI				PKP	PKPab	14 11 49.9	-25		
CN2	**Changchun**	**155.76**	**335**	*e*PKP	**PKPdf**	**14 11 48.1**	**-0.1**		
CN2				SS	SS	14 35 26.6	-2.2		
CN2				PPMZ					
	comp=Z,600nm,10.0s								
CN2				L	L				
	comp=Z,300nm,23.0s								
CN2				L	L				
	comp=Z,300nm,23.0s								
CN2				L	L				
	comp=Z,300nm,24.0s								
BKNI	**Bangkinang**	**155.78**	**154**	PKPdf	**PKPdf**	**14 11 47.9**	**-1.2**		
BKNI					**PKPab**	**14 12 15.9**	**-0.1**		
BKNI	**Bangkinang**	**155.78**	**154**	PKP	**PKPdf**	**14 11 49.5**	**+0.3**		
BKNI				PKP	PKPab	14 11 59.9	-16		
SBSI	**Sibolga**	**155.89**	**148**	PKP	**PKPdf**	**14 11 50.2**	**+0.9**		
BKB	**Balikpapan**	**155.90**	**193**	PKP	**PKPdf**	**14 11 52.9**	**+3.6**		
MRSI	**Marisa**	**155.97**	**206**	PKP	**PKPdf**	**14 11 48.6**	**-0.8**		
BOK	**Bokaro**	**156.36**	**82**⇑	*e*P	**PKPdf**	**14 11 50.5**	**+0.9**		
BOK				IAmb	IAmb	14 12 01.8			
	comp=Z,58nm,0.9s								
MTKI	**Muara Teweh, K**	**156.56**	**188**	PKP	**PKPdf**	**14 11 52.2**	**+2.0**		
MTKI				PKP	**PKPdf**	**14 11 52.3**	**+2.0**		
RPSI	**Rantau Prapat**	**156.89**	**146**	PKPdf	**PKPdf**	**14 11 50.4**	**-0.2**		
PSI	**Prapat**	**156.98**	**146**	PKP	**PKPdf**	**14 11 51.4**	**+0.5**		
	comp=Z,31nm,1.1s,baz=180,slow=3.4,SNR=38								
PSI				PKPab	**PKPab**	**14 12 21.6**	**+0.2**		
	comp=Z,120nm,0.8s,baz=180,slow=3.0,SNR=33								
PSI				PP	**PP**	**14 15 56.9**	**-2.2**		
	comp=Z,4.8nm,0.5s,baz=180,slow=9.5,SNR=3.8								
PSI	**Prapat**	**156.98**	**146**	PKP	**PKPdf**	**14 11 51.8**	**+0.9**		
PSI				PKP	**PKPdf**	**14 11 51.7**	**+0.9**		
SGSI	**Sangihe**	**156.98**	**218**	PKP	**PKPdf**	**14 11 51.8**	**+1.1**		
TOLI2	**Tolitoli**	**157.00**	**204**	PKPdf	**PKPdf**	**14 11 49.8**	**-1.0**		
TOLI2				PKPab	**PKPab**	**14 12 20.5**	**-0.7**		
JMN	**Monobe**	**157.35**	**305**	PKPdf	**PKPdf**	**14 11 50.7**	**+0.1**		
JHS	**Saijyo**	**157.36**	**308**	PKPdf	**PKPdf**	**14 11 51.1**	**+0.5**		
TSI	**Tuntungan**	**157.38**	**144**	PKP	**PKPdf**	**14 11 52.9**	**+1.7**		
BTDF	**Bukit Timah Da**	**157.75**	**159**	PKP	**PKPdf**	**14 11 52.9**	**+1.2**		
STKI	**Sintang**	**157.79**	**180**	PKP	**PKPdf**	**14 11 54.3**	**+2.6**		
LASI	**Langsa, Aceh**	**157.83**	**142**	PKP	**PKPdf**	**14 11 53.1**	**+1.3**		
LHMI	**Lhok Sumawe**	**157.84**	**138**	PKPdf	**PKPdf**	**14 11 52.0**	**+0.2**		
LHMI	**Lhok Sumawe**	**157.84**	**138**	PKP	**PKPdf**	**14 11 53.5**	**+1.7**		
SNY	**Shenyang**	**158.16**	**335**	⇓PKP	**PKPdf**	**14 11 51.5**	**+0.2**		
SNY				SS	SS	14 35 55.8	+1.4		
SNY				PPMZ					
	comp=Z,940nm,5.1s								
SNY				L	L				
	comp=Z,290nm,18.1s								
SNY				L	L				
	comp=Z,280nm,33.3s								
SNY				L	L				
	comp=Z,930nm,50.0s								
PBA	**Port Blair**	**159.11**	**118**⇑	*e*P	PKPdf	14 11 53.7	+0.5		
PBA				IAmb	IAmb	14 11 55.3			
	comp=Z,218nm,1.2s								
PBA	**Port Blair**	**159.11**	**118**	PKPdf	PKPdf	14 11 53.2	0.0		
KSRS	**Korea Array**	**159.40**	**320**	PKP	**PKPdf**	**14 11 54.2**	**+1.3**		
	comp=Z,37nm,1.0s,baz=66,slow=0.9,SNR=171								
KSRS				PKPab	**PKPab**	**14 12 32.6**	**+1.5**		
	comp=Z,14nm,0.8s,baz=58,slow=4.3,SNR=18								
KS19	**Wonju Array Si**	**159.41**	**321**		**PKPdf**	**14 11 53.2**	**+0.2**		
KSAR	**Wonju Array Be**	**159.43**	**320**	PKIKP	**PKPdf**	**14 11 53.9**	**+0.9**		
KSAR	**Wonju Array Be**	**159.43**	**320**	PKPdf	**PKPdf**	**14 11 53.9**	**+0.9**		
JNU	**Nakatsue**	**159.87**	**306**	PP	PP	14 16 16.6	+0.9		
	comp=Z,6.1nm,1.0s,baz=48,slow=6.4,SNR=4.2								
INCN	**Inchon**	**160.13**	**322**	PKIKP	**PKPdf**	**14 11 54.1**	**+0.3**		
INCN						14 12 34.9			
INCN	**Inchon**	**160.13**	**322**		**PKPdf**	**14 11 54.1**	**+0.3**		
INCN					**PKPab**	**14 12 34.9**	**+0.5**		
JTU	**Tsushima**	**160.24**	**312**	PKPdf	**PKPdf**	**14 11 53.5**	**-0.5**		
JTU				PKPab	**PKPab**	**14 12 35.4**	**+0.4**		
LSA	**Lhasa**	**160.30**	**64**	PKP	**PKPdf**	**14 11 56.3**	**+1.5**		
LSA	**Lhasa**	**160.30**	**64**	*i* PKPdf	**PKPdf**	**14 11 56.7**	**+1.9**		
SNR=40									
LSA	**Lhasa**	**160.30**	**64**	PKIKP	**PKPdf**	**14 11 55.6**	**+0.8**		
LSA	**Lhasa**	**160.30**	**64**	PKPdf	**PKPdf**	**14 11 55.6**	**+0.8**		
GTA	**Gaotai**	**160.32**	**28**	⇓PKP	**PKPdf**	**14 11 55.5**	**+1.4**		
GTA				pPKP	pPKPdf	14 12 28.3	+0.1		
GTA				PKPab	**PKPab**	**14 12 36.3**	**+1.0**		
GTA				sPKP		14 12 40.5			
GTA				PP	**PP**	**14 16 16.5**	**-0.7**		
GTA				SKKS		14 22 53.8			
GTA				SS	**SS**	**14 36 15.8**	**-1.9**		
GTA				PPMZ					
	comp=Z,300nm,6.9s								
GTA				L	L				
	comp=Z,340nm,20.4s								
GTA				L	L				
	comp=Z,350nm,22.9s								
GTA				L	L				
	comp=Z,620nm,22.2s								
PKDT	**Phuket**	**160.76**	**137**	P	**PKPab**	**14 12 37.6**	**-0.1**		
PKDT	**Phuket**	**160.76**	**137**	P	**PKPdf**	**14 11 55.5**	**+0.3**		
DL2	**Dalian**	**161.43**	**335**	PKP	**PKPdf**	**14 11 55.6**	**+0.5**		
DL2				PP	**PP**	**14 16 23.6**	**+0.7**		
DL2				SS	SS	14 36 29.4	+0.5		
DL2				PPMZ					
	comp=Z,890nm,11.7s								
HHC	**Hu-ho-hao-te**	**161.62**	**360**	*e*PKP	**PKPdf**	**14 11 57.2**	**+1.8**		
HHC				PP	**PP**	**14 16 24.6**	**+1.0**		
HHC				SKKS		14 23 05.1			
HHC				SS	**SS**	**14 36 30.4**	**+0.1**		
HHC				PPMZ					
	comp=Z,760nm,10.9s								
SHL	**Shillong**	**161.76**	**76**	PKIKP	**PKPdf**	**14 11 55.5**	**-0.6**		
SHL						14 12 42.2			
SHL	**Shillong**	**161.76**	**76**	PKPdf	**PKPdf**	**14 11 55.5**	**-0.6**		
SHL				PKPab	**PKPab**	**14 12 42.2**	**0.0**		
BJI	**Beijing**	**161.99**	**348**	PKP	**PKPdf**	**14 11 56.9**	**+1.3**		
BJI				pPKP	**pPKPdf**	**14 12 27.4**	**-2.2**		
BJI				sPKP		14 12 40.9			
BJI				PP	**PP**	**14 16 25.5**	**0.0**		
BJI				SKS	**SKSdf**	**14 18 41.7**	**-7.6**		
BJI				SS	**SS**	**14 36 34.9**	**+0.8**		
BJI				L	L				
	comp=Z,290nm,25.0s								
BJI				L	L				
	comp=Z,400nm,17.7s								
BJI				L	L				
	comp=Z,620nm,28.4s								
BJT	**Baijiatuan**	**162.01**	**348**	PKIKP	**PKPdf**	**14 11 55.8**	**+0.1**		
BJT	**Baijiatuan**	**162.01**	**348**		**PKPdf**	**14 11 55.8**	**+0.1**		
JOW	**Kunigami**	**164.17**	**290**	PKP	**PKPdf**	**14 11 59.2**	**+1.0**		
	comp=Z,15nm,0.8s,baz=81,slow=9.0,SNR=7.6								
JOW				PKPab	**PKPab**	**14 12 53.4**	**+0.9**		
	comp=Z,14nm,0.8s,baz=72,slow=10,SNR=2.0								
LZH	**Lanzhou**	**164.81**	**24**	⇓PKP	**PKPdf**	**14 12 00.7**	**+2.0**		
LZH				pPKP	pPKPdf	14 12 37.3	+4.6		
LZH				SKKS		14 23 19.3			
LZH				SS	**SS**	**14 37 10.0**	**+5.9**		
LZH				PPMZ					
	comp=Z,1μm,9.3s								
LZH				L	L				
	comp=Z,660nm,18.0s								
LZH				L	L				
	comp=Z,480nm,18.5s								
LZH				L	L				
	comp=Z,530nm,20.7s								
BATP	**Bataraza**	**165.19**	**205**	*e*P	**PKPdf**	**14 12 01.5**	**+2.2**		
PHET	**Kaeng Krachan**	**165.24**	**128**	P	**PKPdf**	**14 12 01.0**	**+1.6**		
	comp=Z,262nmcomp=Z,15nm,1.1s								
TIA	**Tai'an**	**165.42**	**342**	⇓PKP	**PKPdf**	**14 12 00.3**	**+1.3**		
TIA				pPKP	**pPKPdf**	**14 12 31.5**	**-1.5**		
TIA				L	L				
	comp=Z,830nm,32.8s								
TIA				L	L				
	comp=Z,590nm,26.0s								
UMPA	**Umpang Tak**	**166.53**	**115**	P	**PKPdf**	**14 12 02.0**	**+1.6**		
	comp=Z,247nmcomp=Z,18nm,1.8s								
UTHA	**Uthaitani**	**166.68**	**119**	P	**PKPdf**	**14 12 01.7**	**+1.2**		
	comp=Z,172nmcomp=Z,14nm,0.9s								
PGP	**Puerto Galera**	**167.41**	**227**⇓	*e*P	**PKPdf**	**14 12 00.0**	**-1.1**		
CM13	**Chiang Mai Arr**	**167.50**	**106**	P	**PKPdf**	**14 12 02.1**	**+1.0**		
	comp=Z,386nmcomp=Z,32nm,1.1s								
CM13	**Chiang Mai Arr**	**167.50**	**106**	P	**PKPab**	**14 13 08.0**	**+0.6**		
	comp=Z,439nmcomp=Z,51nm,1.0s								
CM15	**Chiang Mai Arr**	**167.53**	**106**	P	**PKPdf**	**14 12 02.1**	**+1.0**		
	comp=Z,347nmcomp=Z,30nm,1.1s								
CM15	**Chiang Mai Arr**	**167.53**	**106**	P	**PKPab**	**14 13 08.6**	**+1.0**		
	comp=Z,417nmcomp=Z,48nm,1.0s								
CM05	**Chiang Mai Arr**	**167.53**	**106**	P	**PKPdf**	**14 12 02.0**	**+0.9**		
	comp=Z,370nmcomp=Z,31nm,1.1s								
CM05	**Chiang Mai Arr**	**167.53**	**106**	P	**PKPab**	**14 13 08.0**	**+0.5**		
	comp=Z,422nmcomp=Z,50nm,1.0s								
CM02	**Chiang Mai Arr**	**167.54**	**106**	P	**PKPdf**	**14 12 02.0**	**+0.9**		
	comp=Z,424nmcomp=Z,38nm,1.1s								
CM02	**Chiang Mai Arr**	**167.54**	**106**	P	**PKPab**	**14 13 08.0**	**+0.4**		
	comp=Z,491nmcomp=Z,62nm,1.0s								
CM31	**Chiang Mai Arr**	**167.55**	**106**	P	**PKPdf**	**14 12 02.0**	**+0.9**		
	comp=Z,12μmcomp=Z,801nm,1.3s								
CM31	**Chiang Mai Arr**	**167.55**	**106**	P	**PKPab**	**14 13 08.3**	**+0.7**		
	comp=Z,17μmcomp=Z,1μm,0.8s								
CM31	**Chiang Mai Arr**	**167.55**	**106**		**PKPdf**	**14 12 01.0**	**-0.1**		
CM31					**PKPab**	**14 13 07.7**	**0.0**		
CMAR	**Chiang Mai Arr**	**167.55**	**106**	PKP	**PKPdf**	**14 12 01.6**	**+0.5**		
	comp=Z,21nm,0.9s,baz=268,slow=2.0,SNR=118								
CMAR				PKPab	**PKPab**	**14 13 08.0**	**+0.3**		
	comp=Z,41nm,0.9s,baz=250,slow=6.1,SNR=34								
CMAR				PP	**PP**	**14 16 57.3**	**+0.8**		
	comp=Z,29nm,1.2s,baz=244,slow=5.8,SNR=16								
CMAR	**Chiang Mai Arr**	**167.55**	**106**	PKIKP	**PKPdf**	**14 12 01.0**	**-0.1**		
CMAR						14 13 07.3			
CMAR	**Chiang Mai Arr**	**167.55**	**106**		**PKPdf**	**14 12 01.0**	**-0.1**		
CMAR					**PKPab**	**14 13 07.3**	**-0.3**		
CM01	**Chiang Mai Arr**	**167.55**	**106**	P	**PKPdf**	**14 12 02.4**	**+1.3**		
	comp=Z,466nmcomp=Z,39nm,1.1s								
CM01	**Chiang Mai Arr**	**167.55**	**106**	P	**PKPab**	**14 13 08.8**	**+1.1**		
	comp=Z,551nmcomp=Z,65nm,1.0s								
CM04	**Chiang Mai Arr**	**167.56**	**106**	P	**PKPdf**	**14 12 02.3**	**+1.2**		
	comp=Z,473nmcomp=Z,43nm,1.1s								
CM04	**Chiang Mai Arr**	**167.56**	**106**	P	**PKPab**	**14 13 08.8**	**+1.1**		
	comp=Z,540nmcomp=Z,67nm,0.9s								
CM09	**Chiang Mai Arr**	**167.59**	**106**	P	**PKPdf**	**14 12 02.0**	**+0.9**		
	comp=Z,435nmcomp=Z,38nm,1.1s								
CM09	**Chiang Mai Arr**	**167.59**	**106**	P	**PKPab**	**14 13 08.0**	**+0.2**		
	comp=Z,526nmcomp=Z,61nm,0.9s								
CHTO	**Chiang Mai**	**167.67**	**105**	PKIKP	**PKPdf**	**14 12 00.9**	**-0.3**		
CHTO	**Chiang Mai**	**167.67**	**105**		**PKPdf**	**14 12 00.9**	**-0.3**		
CHTO	**Chiang Mai**	**167.67**	**105**	PKP	**PKPdf**	**14 12 02.4**	**+1.2**		
CMMT	**Chiang Mai**	**167.67**	**105**	P	**PKPab**	**14 13 07.0**	**-1.2**		
	comp=Z,2μmcomp=Z,77nm,1.5s								
SSE	**Sheshan**	**167.80**	**317**	PKP	**PKPdf**	**14 12 02.2**	**+1.3**		
SSE				pPKP	**pPKPdf**	**14 12 34.5**	**-0.5**		
CM34	**Chiang Mai Arr**	**167.87**	**105**	P	**PKPdf**	**14 12 02.0**	**+0.7**		
CM34	**Chiang Mai Arr**	**167.87**	**105**	P	**PKPab**	**14 13 10.0**	**+1.0**		
LUBP	**Lubang**	**168.05**	**225**	*e*P	**PKPdf**	**14 12 04.3**	**+2.8**		
MACP	**Maragondon, Ca**	**168.11**	**229**	*e*P	**PKPdf**	**14 12 01.6**	**+0.1**		
XAN	**Xi'an**	**168.19**	**11**	PKP	**PKPdf**	**14 12 02.6**	**+1.4**		
XAN				PP	**PP**	**14 16 58.6**	**+0.8**		
XAN				L	L				
	comp=Z,1μm,25.0s								
XAN				L	L				
	comp=Z,590nm,18.0s								
XAN				L	L				
	comp=Z,880nm,25.0s								
PHIT	**Phitsanulok**	**168.31**	**114**	P	**PKPab**	**14 13 11.0**	**+0.1**		
	comp=Z,586nmcomp=Z,86nm,0.9s								
NJ2	**Nanjing**	**168.41**	**327**	*i* PKP	**PKPdf**	**14 12 02.5**	**+1.2**		
NJ2				pPKP	**pPKPdf**	**14 12 35.0**	**-0.3**		
NJ2				PKPab	**PKPab**	**14 13 10.8**	**0.0**		
NJ2				PP	**PP**	**14 16 59.9**	**+0.5**		
NJ2				PPMZ					
	comp=Z,1μm,6.3s								
UTTA	**Uttaradit**	**168.68**	**112**	P	**PKPab**	**14 13 13.7**	**+1.1**		
	comp=Z,183nmcomp=Z,15nm,1.2s								
CAUP	**Cauayan**	**168.90**	**242**	*e*P	**PKPdf**	**14 11 58.0**	**-

ROSC	**El Rosal**	**2.36 218**	*P*	**Pn**	**14 06 25.1**	**+1.9**
	comp=Z,5.6nm,0.3s,baz=90,slow=18,SNR=2.4					
ROSC			*S*	**S**	**14 06 58.8**	**+1.1**
	comp=Z,48nm,0.3s,baz=250,slow=22,SNR=14					
SMLC	**San Martn de**	**2.40 330**	*eP*	**Pn**	**14 06 24.2**	**+1.0**
SMLC			*eS*	**S**	**14 06 59.0**	**+1.2**
SMLC			*i*		14 07 00.9	
	comp=Z,211nm,0.1s					
HELC	**Santa Helena**	**2.70 259**	*eP*	**Pn**	**14 06 28.2**	**+1.4**
HELC			*eS*	**S**	**14 07 03.3**	**-0.9**
HELC			*i*		14 07 06.5	
	comp=Z,93nm,0.2s					
VILC	**Villavicencio,**	**2.71 198**	*eP*	**Pn**	**14 06 27.9**	**+1.2**
VILC			*eS*	**S**	**14 07 02.7**	**-1.5**
VILC			*i*		14 07 04.3	
	comp=Z,76nm,0.3s					
UREC	**San Jos de Ur**	**2.85 291**	*eP*	**Pn**	**14 06 28.1**	**0.0**
UREC			*eS*	**S**	**14 07 05.2**	**-1.3**
UREC			*i*		14 07 07.7	
	comp=Z,150nm,0.1s					
LL2C	**La Loma 2 Cana**	**2.88 349**	*eP*	**Pn**	**14 06 29.5**	**+1.0**
LL2C			*eS*	**S**	**14 07 07.7**	**+0.4**
LL2C			*i*		14 07 12.5	
	comp=Z,163nm,0.3s					
GUY2C	**Guyana, Caldas**	**2.90 240**	*eP*	**Pn**	**14 06 30.7**	**+1.6**
GUY2C			*eS*	**S**	**14 07 08.4**	**+0.1**
GUY2C			*i*		14 07 12.0	
	comp=Z,59nm,0.5s					
RREF	**El Recreo**	**3.06 234**	*eP*	**Pn**	**14 06 32.7**	**+1.6**
RREF			*eS*	**S**	**14 07 10.7**	**-1.1**
TOLC	**Tolima**	**3.23 229**	*eP*	**Pn**	**14 06 34.4**	**+1.6**
TOLC			*eS*	**S**	**14 07 13.6**	**-1.4**
TOLC			*i*		14 07 19.5	
	comp=Z,40nm,0.4s					
CBOC	**Ciudad Bolivar**	**3.25 255**	*eP*	**Pn**	**14 06 34.3**	**+1.6**
CBOC			*eS*	**S**	**14 07 13.5**	**-1.3**
CBOC			*i*		14 07 19.1	
	comp=Z,48nm,0.5s					
MOTC	**Monteria, Cord**	**3.46 307**	*eP*	**Pn**	**14 06 35.4**	**+0.3**
MOTC			*eS*	**S**	**14 07 19.1**	**-0.1**
MOTC			*i*		14 07 20.6	
	comp=Z,44nm,0.2s					
PRAC	**Prado**	**3.60 214**	*eP*	**Pn**	**14 06 37.1**	**+0.3**
PRAC			*eS*	**S**	**14 07 19.9**	**-2.3**
PRAC			*i*		14 07 23.6	
	comp=Z,103nm,0.4s					
ORTC	**Ortega, Tolima**	**3.66 221**	*eP*	**Pn**	**14 06 38.5**	**+0.9**
ORTC			*eS*	**S**	**14 07 21.0**	**-2.5**
ORTC			*i*		14 07 25.3	
	comp=Z,36nm,0.2s					
PLMC	**San Jos del P**	**3.85 242**	*eP*	**Pn**	**14 06 41.2**	**+1.4**
PLMC			*eS*	**S**	**14 07 26.9**	**-0.8**
PLMC			*i*		14 07 31.9	
	comp=Z,34nm,0.3s					
SJCC	**San Jacinto, C**	**3.91 324**	*eP*	**Pn**	**14 06 40.8**	**+0.2**
SJCC			*eS*	**S**	**14 07 27.1**	**-2.0**
SJCC			*i*		14 07 32.5	
	comp=Z,31nm,0.3s					
SMRC	**Santa Marta, M**	**4.63 343**	*eP*	**Pn**	**14 06 50.1**	**+0.9**
SMRC			*eS*	**S**	**14 07 40.0**	**-4.8**
SMRC			*i*		14 07 43.1	
	comp=Z,20nm,0.2s					
ASAR	**Alice Springs**	**149.26 234**	PKPbc	**PKPbc**	**14 25 02.0**	**0.0**
	comp=Z,0.7nm,0.9s,baz=125,slow=3.1,SNR=1.5					
WRA	**Warramunga Arr**	**150.51 241**	PKPbc	**PKPbc**	**14 25 05.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=105,slow=2.5,SNR=5.5					

*IDC **10** 14:14:51.0±1.7,39°.64N×143°.78E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.7/41, mbtmp3.9/11, ML3.4/4, MS4.2/3, Ms1 4.3/3, ms1mx3.4/44, Error ellipse: s-maj=40.5km s-min=20.9km az=86.0*

*JMA **10** 14:14:51.7±0.2, 39°.64N×143°.71E, h23km, M4.0*

*NEIC **10** 14:14:55.6±1.7, 39°.55N±0°.07×143°.7E±0°.2, h35km±2km, mb3.9/1, Error ellipse: s-maj=24.6km s-min=11.0km az=102.0*

ISC 10 14:14:52.8±0.9, 39°.65N±0°.05×143°.64E±0°.08, h11km, n48, σ1§11/48, mb3.9/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.40**	**282**	P	**Pn**	**14 15 16.8**	**-1.5**
JTH				S	**Sb**	**14 15 35.5**	**-1.4**
MIYJ	**Miyakonagasawa**	**1.41**	**268**	P	**Pn**	**14 15 17.2**	**-1.3**
JKEN	**Kujiedanarisaw**	**1.59**	**291**	P	**Pn**	**14 15 19.4**	**-1.5**
OFUJ	**Ofunato**	**1.63**	**250**	P	**Pn**	**14 15 20.3**	**-1.2**
JANG	**Nango**	**1.79**	**294**	P	**Pn**	**14 15 22.4**	**-1.2**
JOM	**Ohasama**	**1.83**	**265**	P	**Pn**	**14 15 23.6**	**-0.6**
JMK	**Ichinoseki**	**2.01**	**250**	P	**Pn**	**14 15 25.7**	**-0.9**
JIO	**Ouri**	**2.15**	**237**	P	**Pn**	**14 15 27.3**	**-1.3**
JTM	**Tenmabayashi**	**2.27**	**301**		**Pn**	**14 15 30.0**	**-0.4**
ERM	**Erimo**	**2.39**	**351**	Pn	**Pn**	**14 15 33.0**	**+1.1**
JYK	**Kaneyama**	**2.65**	**255**	P	**Pn**	**14 15 35.4**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.71**	**346**	P	**Pn**	**14 15 37.6**	**+1.3**
JMM	**Marumori**	**2.85**	**232**		**Pn**	**14 15 36.8**	**-1.5**
JCH	**Churui**	**2.97**	**356**	P	**Pn**	**14 15 40.3**	**+0.4**
JCH				*eS*	**Sn**	**14 16 14.6**	**-0.8**
JFT	**Otama**	**3.35**	**232**	P	**Pn**	**14 15 44.7**	**-0.5**
JFT				*eS*	**Sn**	**14 16 22.6**	**-2.4**
JAK	**Akkeshi**	**3.43**	**13**	P	**Pn**	**14 15 46.7**	**+0.4**
JAK				*eS*	**Sn**	**14 16 26.3**	**-0.6**
JEW	**Eniwo**	**3.59**	**333**	Pn	**Pn**	**14 15 48.4**	**0.0**
JYT	**Yasato**	**4.37**	**220**		**Pn**	**14 15 58.2**	**-1.0**
JSD	**Sado**	**4.50**	**251**		**Pn**	**14 16 00.1**	**-0.9**
JKA	**Kamikawa-asahi**	**4.53**	**350**		**Pn**	**14 16 02.2**	**+0.9**
ASAJ	**Asahikawa**	**4.53**	**350**	Pn	**Pn**	**14 16 02.2**	**+0.9**
	2.0nm,0.3s,baz=202,slow=14,SNR=20						
ASAJ				Sn	**Sn**	**14 16 53.1**	**-0.8**
	0.9nm,0.3s,baz=172,slow=19,SNR=1.8						
MJAR	**Matsushiro Arr**	**5.29**	**236**	Pn	**Pn**	**14 16 12.3**	**+0.5**
	0.3nm,0.3s,baz=38,slow=12,SNR=19						
MJAR	**Matsushiro Arr**	**5.29**	**236**		**Pn**	**14 16 12.4**	**+0.6**
MAJO	**Matsushiro**	**5.29**	**236**		**Pn**	**14 16 12.2**	**+0.3**
MAT	**Matsushiro**	**5.29**	**236**	P	**Pn**	**14 16 12.1**	**+0.2**
MAT				*eS*	**Sn**	**14 17 15.4**	**+2.5**
JGF	**Kuroka**	**6.42**	**233**	Pn	**Pn**	**14 16 27.1**	**-0.2**
INU	**Inuyama**	**6.80**	**233**	Pn	**Pn**	**14 16 33.5**	**+1.0**
JHJ2	**Mitsune**	**7.22**	**206**	Pn	**Pn**	**14 16 37.0**	**-1.3**
JHJ	**Hachijo jima 2**	**7.22**	**207**	Pn	**Pn**	**14 16 37.5**	**-0.9**
	8.2nm,0.3s,baz=99,slow=22,SNR=8.1						
JHJ				Sn	Sn	14 17 50.9	-9.5
	12nm,0.3s,baz=65,slow=19,SNR=3.0						
JWT	**Wachi**	**7.87**	**239**		**Pn**	**14 16 48.3**	**+1.0**
JHS	**Saijyo**	**9.58**	**244**	Pn	**Pn**	**14 17 10.3**	**-0.4**
JNU	**Nakatsue**	**12.17**	**242**	LR	LR	14 22 31.2	
	comp=Z,245nm,19.0s,baz=178,slow=38						
KSRS	**Korea Array**	**12.50**	**265**	Pn	**Pn**	**14 17 54.1**	**+3.5**
	0.1nm,0.3s,baz=76,slow=14,SNR=3.0						
SONM	**Songino Array**	**27.91**	**299**	P	**P**	**14 20 43.2**	**+0.3**
	1.2nm,0.6s,baz=98,slow=5.3,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.18**	**128**	T	T	14 50 27.4	
	baz=323						
H11N1	**WAKE ISLAND Hy**	**28.19**	**128**	T	T	14 50 23.8	
	baz=323						
H11N3	**WAKE ISLAND Hy**	**28.20**	**128**	T	T	14 50 19.1	
	baz=323						
ZALV	**Zalesovo Beam**	**41.51**	**310**	P	**P**	**14 22 40.1**	**+0.3**
	1.2nm,0.4s,baz=98,slow=6.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**43.87**	**254**	P	**P**	**14 22 59.9**	**+0.4**
	0.3nm,0.5s,baz=45,slow=9.0,SNR=1.8						
MKAR	**Makanchi Array**	**44.27**	**300**	P	**P**	**14 23 02.2**	**-0.1**
	1.0nm,0.7s,baz=78,slow=7.5,SNR=2.2						
ABKAR	**Akbulak array**	**57.61**	**310**	P	**P**	**14 24 42.4**	**-0.2**
WRA	**Warramunga Arr**	**59.92**	**190**	P	**P**	**14 24 58.6**	**-0.3**
	0.8nm,0.9s,baz=6.5,slow=7.6,SNR=1.4						
ARCES	**ARCESS Array B**	**62.16**	**339**	LR	LR	14 54 39.7	
	comp=Z,355nm,19.6s,baz=225,slow=38						
ASAR	**Alice Springs**	**63.64**	**190**	P	**P**	**14 25 24.4**	**+0.4**
	0.8nm,0.9s,baz=14,slow=7.7,SNR=1.5						
DZM	**Mont Dzumac**	**64.99**	**157**	LR	LR	14 48 53.8	
	comp=Z,585nm,21.7s,baz=156,slow=32						
FINES	**FINESS Array B**	**67.31**	**333**	P	**P**	**14 25 47.6**	**+0.4**
	2.6nm,0.8s,baz=90,slow=5.6,SNR=4.1						
FINES	**FINESS Array B**	**67.31**	**333**	P	**P**	**14 25 47.1**	**-0.2**
BURAR	**Bucovina Array**	**77.33**	**322**	P	**P**	**14 26 47.5**	**+0.1**
BURAR				IAmb	IAmb	14 26 49.1	
	comp=Z,1.0nm,0.8s						

IDC 10 14:27:45.4±2.2, 33°.25S×179°.26W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/31, mbtmp3.6/3, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx3.0/22, Error ellipse: s-maj=50.8km s-min=44.3km az=73.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.80**	**210**	Pn	Pn	14 29 13.8	+1.1
	0.8nm,0.3s,baz=301,slow=19,SNR=16						
URZ				Sn	Sn	14 30 11.0	-8.9
	3.1nm,0.3s,baz=305,slow=23,SNR=1.8						
AFI	**Afiamalu**	**20.43**	**21**	LR	LR	14 39 30.7	
	comp=Z,236nm,21.6s,baz=138,slow=34						
ASAR	**Alice Springs**	**41.97**	**271**	P	P	14 35 37.6	-0.8
	0.2nm,0.4s,baz=112,slow=7.9,SNR=7.8						
WRA	**Warramunga Arr**	**43.22**	**276**	P	P	14 35 48.7	+0.2
	0.7nm,0.5s,baz=117,slow=7.5,SNR=7.1						
FINES	**FINESS Array B**	**147.41**	**338**	PKPbc	PKPbc	14 47 30.5	+0.1
	1.0nm,0.7s,baz=46,slow=6.0,SNR=1.7						
TORD	**Torodi Ar. Bea**	**159.97**	**183**	PKPab	PKPab	14 48 25.0	-1.3
	0.4nm,0.6s,baz=178,slow=5.1,SNR=2.2						

*NEIC **10** 14:48:23.3±1.6, 4°.1S±0°.1×152°.83E±0°.05, h13km±1km, mb4.4/5, Error ellipse: s-maj=19.3km s-min=5.9km az=171.0*

*IDC **10** 14:48:26.3±1.0, 3°.71S×151°.93E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/33, mbtmp3.8/7, MS3.7/1, Ms1 3.7/1, ms1mx3.1/36, Error ellipse: s-maj=34.3km s-min=8.8km az=80.0*

ISC 10 14:48:22.9±0.9, 4°.1S±0°.1×152°.81E±0°.09, h10km, n18, σ1§47/17, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.65**	**264**		**Pb**	**14 48 36.5**	**+0.2**
RABL				Sg	**Sg**	**14 48 43.8**	**-0.1**
PMG	**Port Moresby**	**7.68**	**227**	Pn	**Pn**	**14 50 15.3**	**+0.4**
FAKI	**Fak Fak**	**20.56**	**273**	P	**P**	**14 53 01.0**	**-1.0**
FAKI				IAmb	IAmb	14 53 01.5	
	comp=Z,19nm,0.8s						
TARA	**Tarawa**	**20.82**	**75**	P	**P**	**14 53 03.7**	**-1.1**
WRA	**Warramunga Arr**	**23.90**	**227**	P	**P**	**14 53 37.1**	**0.0**
	comp=Z,3.9nm,0.8s,baz=50,slow=9.3,SNR=8.8						
AS31	**Alice Springs**	**26.65**	**221**		**P**	**14 54 00.5**	**-1.7**
ASAR	**Alice Springs**	**26.66**	**221**	P	**P**	**14 54 03.2**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=57,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**26.66**	**221**	P	**P**	**14 54 00.4**	**-1.8**
MSVF	**Nonsavu**	**28.18**	**121**	LR	LR	15 05 38.0	
	comp=Z,142nm,18.6s,baz=132,slow=35						
KSRS	**Korea Array**	**47.40**	**333**	P	**P**	**14 56 56.5**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=148,slow=8.7,SNR=4.8						
PETK	**Petropavlovsk-**	**57.17**	**4**	P	**P**	**14 58 09.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**57.60**	**295**	P	**P**	**14 58 13.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=99,slow=5.6,SNR=1.7						
KIWB	**Kanaga Island**	**61.34**	**21**	P	**P**	**14 58 37.0**	**-1.8**
ULN	**Ulaanbaatar**	**65.43**	**328**	P	**P**	**14 59 05.7**	**-0.4**
ULN				IAmb	IAmb	14 59 06.4	
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**65.76**	**328**	P	**P**	**14 59 09.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=142,slow=6.0,SNR=4.2						
SONM	**Songino Array**	**65.76**	**328**	IAmb	IAmb	14 59 10.8	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**79.82**	**319**	P	**P**	**15 00 32.8**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=107,slow=3.9,SNR=3.2						
ILAR	**Eielson Array**	**81.53**	**22**	P	**P**	**15 00 44.1**	**+3.7**
	comp=Z,0.8nm,0.6s,baz=247,slow=5.7,SNR=15						

IDC 10 14:53:20.3±2.8, 3°.38S×151°.08E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.4/3, Error ellipse: s-maj=287.3km s-min=32.7km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.19**	**223**	P	P	14 58 28.1	-0.9
	0.9nm,0.8s,baz=49,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**26.12**	**218**	P	P	14 58 57.3	+1.0
	0.6nm,0.7s,baz=58,slow=9.0,SNR=3.0						
ILAR	**Eielson Array**	**81.50**	**23**	P	P	15 05 39.2	-0.2
	0.3nm,0.7s,baz=238,slow=6.2,SNR=2.7						

IDC 10 14:54:20.5±2.0, 3°.87S×152°.23E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/31, mbtmp3.5/5, Error ellipse: s-maj=77.2km s-min=26.9km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.66**	**226**	P	P	14 59 33.8	0.0
	2.0nm,0.9s,baz=49,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**26.47**	**220**	P	P	14 59 59.9	+0.2
	0.3nm,0.7s,baz=57,slow=7.8,SNR=1.6						
SONM	**Songino Array**	**65.24**	**328**	P	P	15 05 04.6	+0.5
	0.4nm,0.5s,baz=116,slow=6.5,SNR=1.8						
MKAR	**Makanchi Array**	**79.25**	**319**	P	P	15 06 27.9	0.0
	0.3nm,0.9s,baz=114,slow=6.0,SNR=2.1						
ILAR	**Eielson Array**	**81.51**	**22**	P	P	15 06 39.2	-0.4
	0.4nm,0.6s,baz=248,slow=5.7,SNR=6.5						

*ATH **10** 15:05:19.0, 35°.12N×26°.83E, h10km±3km, ML2.7/3, Error ellipse: s-maj=6.5km s-min=2.8km az=158.0*

*THE **10** 15:05:20.7, 35°.03N×26°.64E, h0km±4km, ML2.5/3, Error ellipse: s-maj=8.4km s-min=1.8km az=176.0*

ISC 10 15:05:18.8±3.6, 35°.1N±0°.1×26°.8E±0°.2, h11km±14km, n9, σ0§38/16, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.45**	**267**	P	**Pb**	**15 05 28.7**	**-0.2**
ZKR				S	**Sb**	**15 05 35.1**	**-0.5**
ZKR				AML	AML	15 05 36.0	
	comp=N,2072µm,0.4s						
ZKR				AML	AML	15 05 36.4	
	comp=E,2896µm,0.3s						
ZKR	**Zakros**	**0.45**	**267**	P	**Pb**	**15 05 28.7**	**-0.2**
ZKR				S	**Sb**	**15 05 35.2**	**-0.4**
	comp=E,1µm,0.3s						
STIA	**Sitia Lasithi**	**0.56**	**277**	P	**Pg**	**15 05 29.8**	**+0.1**
STIA				S	**Sb**	**15 05 38.0**	**-0.6**
NPS	**Neapolis**	**0.95**	**278**	P	**Pn**	**15 05 38.3**	**+0.1**
NPS				S	**Sn**	**15 05 51.8**	**-0.1**
NPS				AML	AML	15 05 54.2	
	comp=N,1015µm,0.4s						
NPS				AML	AML	15 05 54.5	
	comp=E,1553µm,0.6s						
NPS	**Neapolis**	**0.95**	**278**	P	**Pn**	**15 05 38.3**	**+0.1**
NPS				S	**Sb**	**15 05 50.8**	**+0.7**
	comp=E,625nm,0.7s						
LAST	**Lasithi**	**1.06**	**272**	P	**Pb**	**15 05 39.3**	**+0.1**
LAST				S	**Sn**	**15 05 55.0**	**+0.5**
LAST				AML	AML	15 05 55.9	
	comp=N,413µm,0.7s						
LAST				AML	AML	15 06 02.2	
	comp=E,421µm,0.7s						
LAST	**Lasithi**	**1.06**	**272**	P	**Pb**	**15 05 39.1**	**-0.1**
LAST				S	**Sn**	**15 05 54.6**	**+0.1**
	comp=E,290nm,1.0s						
THR3	**Thira Island,**	**1.69**	**319**	P	**Pg**	**15 05 51.2**	**0.0**
APE	**Apeiranthos**	**2.17**	**333**	P	**Pb**	**15 05 58.1**	**-0.1**

*SJA **10** 15:06:37.9±0.6, 20°.58S×71°.20W, h20km±6km, ML4.1, MW4.3*

*IDC **10** 15:06:40.4±0.7, 20°.50S×71°.00W, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.0/30, mbtmp4.1/10, ML3.8/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/26, Error ellipse: s-maj=24.2km s-min=18.8km az=68.0*

*NEIC **10** 15:06:41.6±1.9, 20°.55S±0°.04×71°.046W±0°.008, h8km±4km, mb4.5/26, Mwr4.1/42, ML3.9(GUC), Error ellipse: s-maj=5.1km s-min=1.1km az=179.0*

*NEIC **10** 15:06:41.6, 20°.55S×71°.05W, h18km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.59; Mθθ0.45; Mφφ-1.04; Mrθ-0.58; Mθφ-0.06; Mrφ-1.71; Fault plane solution: M0 2.02000×10¹⁵ NP1:φ331.83000°, δ16.28000°, λ43.41000°. NP2:φ99.59000°, δ78.89000°, λ101.98000°. Principal axes: T 1.8244, Plg55.0000°, Azm124.0000°; N 0.3450, Plg12.0000°, Azm17.0000°; P -2.1694, Plg33.0000°, Azm280.0000°;*

*GUC **10** 15:06:43.8±0.7, 20°.65S×70°.99W, h36km±3km, ML3.9*

*VAO **10** 15:06:56.1±0.7, 21°.03S×70°.22W, h73km±6km, mb4.1*

ISC 10 15:06:42.3±1.0, 20°.59S±0°.03×71°.02W±0°.04, h19km±3km, n142, σ1§54/152, mb4.5/17, 9C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.79**	**89**	↑*iP*	**Pn**	**15 06 57.4**	**-1.1**
TA01				*i* S	**Sn**	**15 07 07.7**	**-2.1**
TA01	**Diego Aracena**	**0.79**	**89**		**Pn**	**15 06 57.3**	**-1.1**
TA01					**Sn**	**15 07 07.8**	**-2.0**
PATCX	**Punta Patache**	**0.85**	**106**	*eP*	**Pg**	**15 06 58.0**	**-1.0**
PATCX				↑*iS*	**Sg**	**15 07 08.6**	**-1.7**
PATCX				IAML		15 07 12.0	
	comp=E,6µm,0.7s						
PATCX	**Punta Patache**	**0.85**	**106**		**Pn**	**15 06 58.4**	**-0.9**
PATCX					**Sn**	**15 07 09.9**	**-1.4**
PATCX	**Punta Patache**	**0.85**	**106**	*eP*	**Pn**	**15 06 58.7**	**-0.7**
PATCX				IAML		15 07 11.8	
	comp=Z,8µm,1.4s						
TA02	**Huaiquique**	**0.90**	**70**	*eP*	**Pn**	**15 06 58.9**	**-1.0**
TA02				*i* S	**Sn**	**15 07 10.8**	**-1.6**
TA02				IAML		15 07 13.0	
	comp=N,8µm,0.2s						
TA02	**Huaiquique**	**0.90**	**70**		**Pg**	**15 06 58.8**	**-1.1**
TA02					**Sn**	**15 07 10.4**	**-1.9**
HMBC	**Humberstone**	**1.11**	**74**	↑*iP*	**Pb**	**15 07 02.0**	**-1.0**
HMBC				*i* S	**Sb**	**15 07 15.1**	**-2.0**
HMBC				IAML		15 07 20.4	
	comp=E,3µm,0.7s						
PSGC	**Pisagua**	**1.30**	**41**	*eP*	**Pn**	**15 07 04.3**	**-1.2**
PSGC				*eS*	**Sg**	**15 07 22.4**	**-2.2**
PSGCX	**Pisagua**	**1.30**	**41**		**Pn**	**15 07 04.4**	**-1.2**
PSGCX	**Pisagua**	**1.30**	**41**	*eP*	**Pn**	**15 07 04.4**	**-1.2**
PB01	**IPOC Station P**	**1.51**	**108**	↑*iP*	**Pn**	**15 07 08.3**	**-0.1**
PB01				*i* S	**Sn**	**15 07 26.6**	**-1.1**
PB01				IAML		15 07 30.5	
	comp=N,5µm,0.3s						
PB01	**IPOC Station P**	**1.51**	**108**		**Pn**	**15 07 08.0**	**-0.4**
PB01	**IPOC Station P**	**1.51**	**108**	*eP*	**Pn**	**15 07 08.3**	**-0.1**
PB01				*eS*	**Sn**	**15 07 26.4**	**-1.2**
PB01				IAML		15 07 31.3	
	comp=Z,2µm,0.3s						
PB11	**IPOC Station P**	**1.53**	**58**	Pn	**Pn**	**15 07 08.1**	**-0.7**
PB07	**IPOC Station P**	**1.55**	**137**	↑*iP*	**Pn**	**15 07 08.8**	**-0.3**
PB07				*i* S	**Sn**	**15 07 27.9**	**-1.0**
PB07				IAML		15 07 29.5	
	comp=N,4µm,0.6s						
PB07	**IPOC Station P**	**1.55**	**137**		**Pn**	**15 07 08.8**	**-0.3**
PB07	**IPOC Station P**	**1.55**	**137**	*eP*	**Pn**	**15 07 09.0**	**-0.2**
PB07				*eS*	**Sn**	**15 07 27.8**	**-1.1**
PB07				IAML		15 07 28.7	
	comp=Z,4µm,0.5s						
PB08	**IPOC Station P**	**1.81**	**76**	↑*iP*	**Pn**	**15 07 12.8**	**-0.1**
PB08				*i* S	**Sb**	**15 07 35.6**	**-2.0**
PB08				IAML		15 07 48.9	
	comp=N,1µm,0.6s						
PB08	**IPOC Station P**	**1.81**	**76**	Pn	**Pn**	**15 07 12.5**	**-0.3**
PB08	**IPOC Station P**	**1.81**	**76**	*eP*	**Pn**	**15 07 12.7**	**-0.2**
PB08				IAML		15 07 45.3	
	comp=Z,1µm,0.8s						
PB04	**IPOC Station P**	**1.92**	**155**	*eP*	**Pn**	**15 07 13.4**	**-0.8**
PB04				*eS*	**Sn**	**15 07 36.4**	**-1.6**
PB04	**IPOC Station P**	**1.92**	**155**		**Pn**	**15 07 13.2**	**-1.0**
PB04	**IPOC Station P**	**1.92**	**155**	*eP*	**Pn**	**15 07 13.6**	**-0.6**
PB04				*eS*	**Sn**	**15 07 37.1**	**-0.8**
PB04				IAML		15 07 44.5	
	comp=Z,2µm,0.5s						
MNMC	**Minye Minye**	**1.98**	**43**	*eP*	**Pn**	**15 07 14.8**	**-0.3**
MNMC				*eS*	**Sb**	**15 07 41.3**	**-1.0**
MNMC				IAML		15 07 51.0	
	comp=N,2µm,0.8s						
MNMC	**Minye Minye**	**1.98**	**43**		**Pn**	**15 07 14.8**	**-0.3**
MNMCX	**Minye Minye**	**1.98**	**43**	*eP*	**Pn**	**15 07 14.9**	**-0.2**
MNMCX				*eS*	Sn	15 07 21.0	-18
MNMCX				IAML		15 07 55.0	
	comp=Z,892nm,0.8s						
PB09	**IPOC Station P**	**2.05**	**126**	↑*iP*	**Pb**	**15 07 17.2**	**-1.9**
PB09				*i* S	**Sn**	**15 07 40.9**	**-0.3**
PB09				IAML		15 07 53.5	
	comp=E,2µm,0.6s						
PB09	**IPOC Station P**	**2.05**	**126**		**Pn**	**15 07 17.1**	**+1.0**
PB09	**IPOC Station P**	**2.05**	**126**	*eP*	**Pn**	**15 07 17.3**	**-1.9**
PB09				*eS*	**Sg**	**15 07 46.0**	**-2.6**
PB09				*eS*	**Sb**	**15 07 47.1**	**+2.7**
PB09				IAML		15 07 54.5	
	comp=Z,2µm,0.6s						
AP01	**Chacalluta**	**2.30**	**16**	Pn	**Pn**	**15 07 18.7**	**-0.5**
PB05	**IPOC Station P**	**2.38**	**161**	↑*iP*	**Pn**	**15 07 19.4**	**-1.1**
PB05				IAML		15 08 12.3	
	comp=E,622nm,0.3s						
PB05	**IPOC Station P**	**2.38**	**161**	*eP*	**Pn**	**15 07 19.4**	**-1.1**
PB05				IAML		15 08 02.8	
	comp=Z,458nm,0.5s						
PB06	**IPOC Station P**	**2.50**	**148**	*iP*	**Pn**	**15 07 21.7**	**-0.5**
PB06				IAML		15 07 58.2	
	comp=E,990nm,0.3s						
PB06	**IPOC Station P**	**2.50**	**148**		**Pn**	**15 07 21.4**	**-0.8**
PB06	**IPOC Station P**	**2.50**	**148**	*eP*	**Pn**	**15 07 21.7**	**-0.5**
PB06				IAML		15 08 10.7	
	comp=Z,907nm,0.8s	

CPSB	Cacapava Do Su	18.62	125	*e*P	P	15 10 58.6	-0.2	
PLTB	Pedras Altas	19.16	129	*e*P	P	15 11 04.5	-0.3	
ITRB	Iturama	19.42	91	*e*P	P	15 11 07.3	-0.4	
PLCA	Paso Flores	20.09	179	P	Pn	15 11 16.9	+0.2	
	comp=Z,5.1nm,0.8s,baz=347,slow=13,SNR=7.8							
PLCA	Paso Flores	20.09	179	P	P	15 11 15.9	+1.0	
PLCA	Paso Flores	20.09	179	*e*P	Pn	15 11 17.4	+0.7	
FRTB	Fartura	20.09	102	*e*P	Pn	15 11 15.4	-1.4	
NPGB	Novo Progresso	20.29	51	*e*P	Pn	15 11 22.9	+3.8	
TIJ01	Guaruva-PR	20.81	107	*e*P	P	15 11 21.4	-1.4	
BB19B	Bebedouro	21.03	95	*e*P	P	15 11 25.4	+0.2	
RCLB	Rio Claro- Sao	21.93	99	*e*P	P	15 11 34.6	-0.3	
OTAV	Otavalo	21.94	340	P	P	15 11 33.1	-2.3	
SPB	Sao Paulo	22.06	102	*e*P	P	15 11 36.5	+0.3	
PET01	Itanhaem-SP	22.25	104	*e*P	P	15 11 38.5	+0.2	
BDFB	Brasilia	22.41	81	P	P	15 11 42.2	+2.0	
	comp=Z,2.4nm,0.5s,baz=239,slow=12,SNR=3.6							
BDFB				LR	LR	15 21 52.5		
	comp=Z,294nm,20.7s,baz=177,slow=41							
PTGA	Pitinga	22.50	30	P	P	15 11 40.1	-0.8	
	comp=Z,3.1nm,0.3s,baz=211,slow=18,SNR=10.0							
PTGA	Pitinga	22.50	30	P	P	15 11 40.2	-0.8	
SMTB	Santa Maria do	25.45	66	*e*P	P	15 12 13.5	+4.3	
RUSC	La Rusia	26.39	355	P	P	15 12 18.6	+0.3	
RUSC				IAmb	IAmb	15 12 28.2		
	comp=Z,14nm,1.0s							
NAN01	Guarapari, ES	29.28	90	*e*P	P	15 12 43.6	-0.1	
SJCC	San Jacinto, C	30.57	352	P	P	15 12 55.4	+0.3	
SJCC				IAmb	IAmb	15 12 56.7		
	comp=Z,11nm,1.0s							
NBRF	Rio Formoso -	36.60	76	*e*P	P	15 13 50.7	+3.0	
WVT	Waverly	58.61	344	P	P	15 16 37.0	-1.1	
WVT				IAmb	IAmb	15 16 37.9		
	comp=Z,4.9nm,0.8s							
TXAR	Lajitas Array	58.77	327	P	P	15 16 40.0	+0.6	
	comp=Z,0.4nm,0.4s,baz=150,slow=7.3,SNR=4.7							
TXAR	Lajitas Array	58.77	327	P	P	15 16 38.8	-0.6	
MIAR	Mount Ida	58.88	338	P	P	15 16 40.6	+0.7	
W39A	Magazine	59.54	338	P	P	15 16 44.7	+0.2	
ABTX	Abilene, Hawle	59.57	332	P	P	15 16 45.0	+0.1	
ABTX				IAmb	IAmb	15 16 46.3		
	comp=Z,5.2nm,0.9s							
U40A	Yellville	60.28	340	P	P	15 16 50.0	+0.3	
MNTX	Cornudas Mount	61.54	327	P	P	15 16 58.4	0.0	
MNTX				IAmb	IAmb	15 16 59.3		
	comp=Z,1.8nm,0.8s							
VNA3	Neumayer Olymp	61.57	161	P	P	15 17 00.2	+2.2	
S39A	Bolivar	61.65	340	P	P	15 16 58.7	-0.2	
SNAA	Sanae	63.78	161	P	P	15 17 14.7	+1.8	
SNAA	Sanae	63.78	161	P	P	15 17 14.5	+1.7	
	comp=Z,1.5nm,0.6s,baz=264,slow=7.6,SNR=12							
SNAA	Sanae	63.78	161	P	P	15 17 14.1	+1.2	
SNAA				IAmb	IAmb	15 17 25.1		
	comp=Z,4.2nm,0.9s							
BNM	Barren Site	64.12	328	P	P	15 17 16.9	+1.2	
LENM	Lemitar	64.31	327	P	P	15 17 17.9	+0.9	
SDCO	Great Sand Dun	66.47	331	P	P	15 17 31.9	+0.9	
SDCO				IAmb	IAmb	15 17 33.3		
	comp=Z,2.8nm,0.9s							
KNB	Kanab	69.54	325	P	P	15 17 52.9	+2.7	
QSPA	South Pole Qui	69.60	180	P	P	15 17 51.6	+1.7	
QSPA				IAmb	IAmb	15 18 03.6		
	comp=Z,3.0nm,0.8s							
CCUT	Cedar City	70.23	325	P	P	15 17 57.0	+2.5	
CCUT				IAmb	IAmb	15 17 58.2		
	comp=Z,4.5nm,1.1s							
TPNV	Topopah Spring	71.37	323	P	P	15 18 03.1	+1.8	
TPNV				IAmb	IAmb	15 18 07.7		
	comp=Z,6.3nm,1.4s							
SPR3	Spring Creek 3	71.81	326	P	P	15 18 05.6	+1.5	
NVAR	Mina Array Bea	73.57	323	P	P	15 18 16.4	+1.9	
	comp=Z,0.8nm,0.7s,baz=162,slow=7.2,SNR=7.1							
NVAR	Mina Array Bea	73.57	323	P	P	15 18 15.9	+1.4	
KVN	Kaiserville	73.89	324	P	P	15 18 17.1	+0.8	
RLMT	Red Lodge	74.09	333	P	P	15 18 17.3	-0.1	
BCYI	Bear Canyon	75.32	330	P	P	15 18 24.9	+0.4	
ORV	Oroville	76.16	322	P	P	15 18 30.9	+1.7	
ORV				IAmb	IAmb	15 18 32.4		
	comp=Z,8.4nm,1.4s							
HRY	Holter Researc	76.45	332	P	P	15 18 30.3	-0.5	
TORD	Torodi Ar. Bea	78.92	71	P	P	15 18 44.6	-0.5	
	comp=Z,1.7nm,0.7s,baz=254,slow=4.8,SNR=4.6							
TORD	Torodi Ar. Bea	78.92	71	P	P	15 18 44.3	-0.8	
YKA	Yellowknife Ar	89.68	341	P	P	15 19 39.0	+0.4	
	comp=Z,1.1nm,0.8s,baz=134,slow=5.3,SNR=4.4							
H11S2	WAKE ISLAND Hyl	25.80	278	T	T	17 45 04.8		
	baz=102							
H11S1	WAKE ISLAND Hyl	25.81	278	T	T	17 45 07.7		
	baz=102							
H11S3	WAKE ISLAND Hyl	25.81	278	T	T	17 44 42.5		
	baz=102							
ASAR	Alice Springs	129.75	210	PKP	PKPdf	15 25 51.7	+0.5	
	comp=Z,0.7nm,0.7s,baz=122,slow=1.8,SNR=9.3							
ASAR	Alice Springs	129.75	210		PKPdf	15 25 50.3	-0.9	
WRA	Warramunga Arr	132.68	213	PKP	PKPdf	15 25 57.6	+0.8	
	comp=Z,0.5nm,0.5s,baz=155,slow=1.9,SNR=9.8							
ZALV	Zalesovo Beam	141.93	23	PKP	PKPdf	15 26 14.1	+1.3	
	comp=Z,1.1nm,0.6s,baz=348,slow=3.5,SNR=4.0							
ZALV	Zalesovo Beam	141.93	23	PKPdf	PKPdf	15 26 11.5	-1.2	
MKAR	Makanchi Array	146.01	34	PKPbc	PKPab	15 26 21.4	-0.1	
	comp=Z,1.5nm,0.6s,baz=326,slow=2.5,SNR=15							
MKAR	Makanchi Array	146.01	34	PKPdf	PKPbc	15 26 20.6	-0.3	
USRK	Ussuriysk Ar.	149.67	326	PKPbc	PKiKP	15 26 32.2	+0.3	
	comp=Z,2.1nm,0.7s,baz=64,slow=3.4,SNR=3.4							
MJAR	Matsushiro Arr	149.39	308	PKPbc	PKiKP	15 26 32.6	-0.1	
	comp=Z,2.3nm,0.7s,baz=98,slow=1.8,SNR=6.9							
SONM	Songino Array	152.74	4	PKPbc	PKiKP	15 26 38.8	+0.5	
	comp=Z,0.4nm,0.7s,baz=58,slow=2.1,SNR=2.1							

IDC 10 15:15:54.2±2.0,1.°90N×124.°61E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/33,mbtmp3.4/3,Error ellipse: s-maj=190.7km s-min=27.8km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.72	157	P	P	15 21 08.2	+0.1
	0.6nm,0.4s,baz=336,slow=10,SNR=12						
ASAR	Alice Springs	26.98	161	P	P	15 21 37.8	0.0
	0.4nm,0.8s,baz=335,slow=7.7,SNR=5.0						
MKAR	Makanchi Array	57.88	327	P	P	15 25 47.8	-0.2
	0.2nm,0.4s,baz=127,slow=7.2,SNR=2.4						

IDC 10 15:15:58.1±3.5,24.°50N×101.°85E,h0km,mb3.2/2, mb1 3.2/2,mb1mx3.0/36,mbtmp3.2/2,MS4.1/1,Ms1 4.1/1, ms1mx3.3/20,Error ellipse: s-maj=91.3km s-min=36.2km az=106.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	6.59	205	Pg	Pb	15 17 57.9	+4.2
	0.2nm,0.3s,baz=16,slow=17,SNR=7.5						
CMAR				Lg	Lg	15 19 20.5	
	baz=22,slow=27,SNR=5.8						
SONM	Songino Array	23.57	8	P	P	15 21 09.9	-0.5
	0.3nm,0.4s,baz=192,slow=10,SNR=2.0						
TLY	Talaya	27.18	2	LR	LR	15 33 47.8	
	comp=Z,406nm,20.3s,baz=212,slow=39						
MKAR	Makanchi Array	27.20	330	P	P	15 21 43.9	+0.4
	0.3nm,0.6s,baz=132,slow=9.9,SNR=4.4						

*IDC **10** 15:17:56.0±1.7,50.°55S×72.°36W,h0km,mb4.1/5, mb1 4.2/6,mb1mx3.9/22,mbtmp4.1/6,ML3.7/1,Error ellipse: s-maj=68.3km s-min=21.1km az=91.0*
*NEIC **10** 15:17:59.4±1.9,50.°62S±0.°03×72.°3W±0.°2,h17km±5km, mb4.2/6,Error ellipse: s-maj=20.3km s-min=4.4km az=92.0*

ISC 10 15:18:01.3±0.7,50.°64S±0.°07×72.°4W±0.°1,h35km,n22, σ1s06/23,mb4.1/5,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO09	Cerro Castillo	0.63	177		Pn	15 18 11.9	-1.9
GO10	Punta Arenas	2.65	162	Pn	Pn	15 18 40.9	-0.6
USHA	Ushuaia	4.83	152	Pn	Pn	15 19 09.8	-1.7
	3.1nm,0.3s,baz=352,slow=12,SNR=22						
USHA				Sn	Sn	15 20 05.8	-0.4
	3.6nm,0.3s,baz=133,slow=18,SNR=7.9						
EFI	East Falkland	9.06	102	Pn	Pn	15 20 09.1	-0.4
MT09	Talagante	16.89	4	P	P	15 21 57.2	+0.5
MT09				IAmb	IAmb	15 22 03.8	
	comp=Z,26nm,1.4s						
VA01	Torpederas	17.62	2	P	Pn	15 22 03.2	-0.6
CPUP	Villa Florida	26.88	31	P	P	15 23 38.2	-0.5
	comp=Z,0.7nm,0.3s,baz=180,slow=14,SNR=1.7						
CPUP	Villa Florida	26.88	31	P	P	15 23 38.4	-0.3
LPAZ	La Paz	34.44	7	P	P	15 24 44.7	-1.5
	comp=Z,1.7nm,0.6s,baz=196,slow=8.0,SNR=3.7						
LPAZ	La Paz	34.44	7	P	P	15 24 45.9	-0.3
LPAZ				IAmb	IAmb	15 24 47.2	
	comp=Z,1.7nm,0.8s						
VNA3	Neumayer Olymp	34.51	150	P	P	15 24 46.2	+0.7
SNAA	Sanae	36.69	150	P	P	15 25 05.4	+1.1
SNAA	Sanae	36.69	150	P	P	15 25 04.9	+0.6
	comp=Z,4.5nm,0.8s,baz=274,slow=7.9,SNR=19						
SNAA	Sanae	36.69	150	P	P	15 25 05.3	+1.1
SNAA				IAmb	IAmb	15 25 08.1	
	comp=Z,5.5nm,0.8s						
QSPA	South Pole Qui	39.60	180	P	P	15 25 30.0	+1.0
	comp=Z,3.1nm,0.9s,baz=150,slow=9.3,SNR=7.3						
QSPA	South Pole Qui	39.60	180	P	P	15 25 31.1	+2.1
QSPA				IAmb	IAmb	15 25 31.6	
	comp=Z,4.4nm,1.1s						
TXAR	Lajitas Array	84.30	333	P	P	15 30 29.6	+0.3
TORD	Torodi Ar. Bea	90.24	70	P	P	15 30 58.9	+0.6
	comp=Z,0.5nm,0.7s,baz=224,slow=5.8,SNR=2.1						
TORD	Torodi Ar. Bea	90.24	70	P	P	15 30 58.4	+0.2
CMAR	Chiang Mai Arr	147.15	165	PKPbc	PKPdf	15 37 39.5	+1.1
	comp=Z,0.4nm,0.6s,baz=201,slow=4.8,SNR=3.7						
CMAR	Chiang Mai Arr	147.15	165		PKPbc	15 37 40.6	0.0
MKAR	Makanchi Array	162.88	93	PKPab	PKPab	15 38 47.0	-1.4
	comp=Z,0.4nm,0.8s,baz=251,slow=4.4,SNR=2.6						

*VAO **10** 15:20:09.3±1.6,23.°58S×68.°65W,h106km±13km,mb3.8*
*IDC **10** 15:20:13.8±0.9,22.°69S×68.°65W,h98km±15km,mb3.7/4, mb1 3.8/5,mb1mx3.4/23,mbtmp4.1/5,MS3.1/1,Ms1 3.1/1, ms1mx2.9/24,Error ellipse: s-maj=56.6km s-min=21.3km az=119.0*
*GUC **10** 15:20:14.1±0.8,22.°93S×68.°68W,h109km±4km,ML3.5*

ISC 10 15:20:13.3±0.7,22.°91S±0.°04×68.°59W±0.°07,h104km±7km, n37,σ2s10/49,mb4.0/4,8C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.42	315	P	Pn	15 20 29.9	+0.4
	278nm,0.3s,baz=116,slow=7.5,SNR=1244						
LVC				S	Sn	15 20 40.8	-0.7
	348nm,0.3s,baz=229,slow=23,SNR=18						
LVC	Limon Verde	0.42	315	↓*i*P	Pn	15 20 30.0	+0.6
LVC				*i* S	Sn	15 20 41.2	-0.3
LVC	Limon Verde	0.42	315	*e*P	Pn	15 20 30.1	+0.6
PB15	IPOC Station P	0.86	250	↑*i*P	Pn	15 20 33.7	+0.8
PB15				*i* S	Sn	15 20 47.8	+0.2
PB06	IPOC Station P	0.93	282	↑*i*P	Pn	15 20 33.9	+0.4
PB06				*i* S	Sn	15 20 48.5	-0.2
PB09	IPOC Station P	1.26	331	↓*i*P	Pn	15 20 38.4	+1.2
PB09				*i* S	Sn	15 20 56.3	+1.1
PB09				IAML		15 21 02.9	
	comp=N,822nm,0.7s						
PB05	IPOC Station P	1.49	272	↑*i*P	Pn	15 20 39.6	-0.2
PB05				*i* S	Sn	15 20 59.0	-0.9
PB05				IAML		15 20 59.8	
	comp=N,704nm,0.2s						
PB04	IPOC Station P	1.55	291	↑*i*P	Pn	15 20 40.6	0.0
PB04				*i* S	Sn	15 20 59.0	-2.3
PB04				IAML		15 21 14.1	
	comp=N,867nm,0.2s						
PB07	IPOC Station P	1.68	314	↑*i*P	Pn	15 20 42.7	+0.5
PB07				*i* S	Sn	15 21 04.1	-0.1
PB07				IAML		15 21 05.3	
	comp=E,1μm,0.4s						
PB10	IPOC Station P	1.91	251	↓*i*P	Pn	15 20 45.0	+0.2
PB10				*i* S	Sn	15 21 08.6	-0.3
PB10				IAML		15 21 29.1	
	comp=N,254nm,0.4s						
PB01	IPOC Station P	2.04	336	↑*e*P	Pn	15 20 47.6	+1.0
PB01				*i* S	Sn	15 21 12.8	+0.8
PB01				IAML		15 21 16.2	
	comp=E,696nm,0.3s						
PB14	IPOC Station P	2.38	224	↑*e*P	Pn	15 20 51.8	+0.5
PB14				*i* S	Sn	15 21 17.2	-3.3
PB14				IAML		15 21 30.2	
	comp=E,166nm,0.6s						
GO02	Mina Guanaco	2.42	202	↑*i*P	Pn	15 20 52.8	+1.0
GO02				*i* S	Sn	15 21 22.2	+0.9
PATCX	Punta Patache	2.54	325	*e*P	Pn	15 20 53.2	+0.1
PATCX				IAML		15 21 32.9	
	comp=E,265nm,0.4s						
TA01	Diego Aracena	2.76	327	*e*P	Pn	15 20 56.6	+0.6
TA01				IAML		15 21 35.4	
	comp=E,179nm,0.5s						
PB08	IPOC Station P	2.80	349	*e*P	Pn	15 20 58.6	+1.7
PB08				IAML		15 21 39.1	
	comp=N,84nm,0.5s						
HMBC	Humberstone	2.88	335	*e*P	Pn	15 20 58.2	+0.5
HMBC				*i* S	Sn	15 21 24.9	-7.1
HMBC				IAML		15 22 01.5	
GO03	Copiap	4.90	197	*e*P	Pn	15 21 23.8	-0.9
LPAZ	La Paz	6.60	4	P	Pn	15 21 50.2	+1.8
	comp=N,0.5nm,0.3s,baz=189,slow=6.3,SNR=7.7						
LPAZ	La Paz	6.60	4	*e*P	Pn	15 21 53.0	+4.6
SIV	San Ignacio	9.88	47	P	Pn	15 22 31.2	-1.2
	comp=N,1.6nm,0.3s,baz=243,slow=15,SNR=24						
SIV				LR	LR	15 27 10.7	
	comp=N,110nm,18.3s,baz=205,slow=43						
CPUP	Villa Florida	10.79	111	*e*P	Pn	15 22 38.9	-5.9
VILB	Vilhena	12.71	40	*e*P	Pn	15 23 12.7	+2.3
CLDB	Colider	17.10	48	*e*P	Pn	15 24 08.1	+2.0
ARAG	Araguaiana, MT	17.37	69	*e*P	P	15 24 08.9	-0.2
FRTB	Fartura	17.51	95	*e*P	P	15 24 06.6	-3.9
TIJ01	Guaruva-PR	18.04	102	*e*P	P	15 24 11.5	-5.0
IPMB	Ipameri, GO	19.71	79	*e*P	P	15 24 33.0	-1.7
SNDB	Serra Nova Dou	19.74	59	*e*P	P	15 24 34.4	-0.5
VAO	Valinhos	19.91	94	*e*P	P	15 24 31.6	-5.3
PEXB	Peixe	22.10	64	*e*P	P	15 24 60.0	-0.3
PTGA	Pitinga	23.59	22	P	P	15 25 13.9	-0.9
	comp=N,1.7nm,0.3s,baz=292,slow=24,SNR=2.2						
QSPA	South Pole Qui	67.29	180	P	P	15 30 59.1	+2.5
	comp=N,0.8nm,0.4s,baz=76,slow=12,SNR=16						
TORD	Torodi Ar. Bea	77.55	70	P	P	15 31 58.9	+0.6
	comp=N,0.3nm,0.4s,baz=256,slow=5.3,SNR=1.9						
MAW	Mawson	82.90	163	P	P	15 32 27.6	+1.6
	comp=N,1.8nm,0.8s,baz=235,slow=12,SNR=2.6						
WRA	Warramunga Arr	131.89	209	PKP	PKiKP	15 39 16.8	+0.6
	comp=N,0.3nm,0.6s,baz=134,slow=1.3,SNR=1.3						
MKAR	Makanchi Array	146.58	37	PKPbc	PKPbc	15 39 43.0	+0.4
	comp=N,0.3nm,0.8s,baz=316,slow=2.3,SNR=2.8						

*ECX **10** 15:26:03.3±0.7,32.°33N×115.°40W,h13km±5km,MD2.6, ML2.8,Fault plane solution: NP1:φs58.00000°, δ57.00000°,λ-22.00000°.*
*MEX **10** 15:26:06.8±1.2,32.°28N×115.°36W,h5km,MD3.8*

ISC 10 15:26:03.6±0.9,32.°32N±0.°03×115.°29W±0.°03,h28km±5km, n28,σ0s85/48,7C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.10	351	↓*e*P	Pb	15 26 08.1	-0.6
CPBX				*e*S	Sb	15 26 11.0	-1.1
CPBX				⇑*e*		15 26 13.2	
CPBX				IAML		15 26 13.2	
	comp=N,13μm,0.2s						
MBIG	Mexicali	0.12	40	*e*P	Pb	15 26 08.1	-0.6
MBIG				*i* P	Pb	15 26 09.3	+0.6
MBIG				*e*S	Sb	15 26 11.0	-1.2
MBIG				*i* S	Sb	15 26 13.5	+1.3
MBIG	Mexicali	0.12	40	⇑*i*P	Pb	15 26 09.3	+0.6
MBIG				*i* S	Sb	15 26 13.5	+1.3
GUVIX	Guadalupe Vict	0.18	95	⇑*i*P	Pb	15 26 10.7	+0.2
CTLX	Tlaxcala, TLX	0.20	37	*e*P	Pn	15 26 10.9	+0.2
EMSC	East Mesa	0.49	31	*e*P	Pn	15 26 15.1	+0.3
SGL	Mount Signal	0.50	312	*i* P	Pb	15 26 13.8	-0.1
COA	Coachella	0.56	14	↓*i*P	Pn	15 26 16.4	+0.6
YUH2	Yuha Desert	0.63	302	⇑*i*P	Pb	15 26 15.9	-0.3
YUH2				*e*S	Sb	15 26 23.7	-0.9
COK2	Cook Ranch 2	0.65	325	⇑*i*P	Pn	15 26 17.1	+0.1
RMX	La Rumorosa	0.73	293	*e*P	Pb	15 26 16.6	-1.2
RMX				*e*S	Sb	15 26 25.0	-2.6
IKP	In-Ko-Pah, Jac	0.77	296	⇑*i*P	Pb	15 26 18.4	-0.1
IKP				*e*S	Sb	15 26 27.9	-0.8
GLA	Glamis	0.83	28	*e*P	Pb	15 26 19.7	+0.2
ECBX	El Chinero	0.87	167	*e*P	Pb	15 26 19.4	-0.6
ECBX				*e*S	Sn	15 26 32.6	+1.0
MONP2	Monument Peak	1.12	301	⇑*e*P	Pb	15 26 24.8	+0.3
MONP2				*e*S	Sn	15 26 38.2	0.0
CBX	Cerro Bola	1.17	270	*e*P	Pb	15 26 25.2	-0.1
CBX				*e*S	Sb	15 26 40.0	-0.1
CBX	Cerro Bola	1.17	270	*e*P	Pb	15 26 25.4	+0.1
CBX				*e*S	Sb	15 26 40.2	+0.2
CBX				⇓*e*		15 26 43.0	
CBX				IAML		15 26 43.0	
	comp=E,166nm,0.3s						
TJIG	Tijuana	1.18	276	*i* P	Pb	15 26 25.3	-0.1
TJIG				*i* S	Sn	15 26 39.8	+0.2
TJIG	Tijuana	1.18	276	*e*P	Pb	15 26 25.2	-0.1
TJIG				*e*S	Sn	15 26 39.7	+0.2
SLH	Sleepy Hollow	1.20	317	*e*P	Pb	15 26 25.8	+0.2
SLH				*e*S	Sb	15 26 42.0	+1.3
BAR	Barrett	1.23	288	*e*P	Pb	15 26 26.1	-0.1
BAR				*e*S	Sb	15 26 41.5	-0.1
CCX	Cicese	1.25	249	*e*P	Pb	15 26 27.4	+0.8
CCX				*e*S	Sb	15 26 42.6	+0.3
SPIG	San Pedro Mart	1.28	187	*e*P	Pb	15 26 27.1	-0.1
SPIG				*i* S	Sn	15 26 41.6	-0.7
SPX	San Pedro Mart	1.29	187	*e*P	Pb	15 26 27.2	-0.2
SPX				*e*S	Sb	15 26 43.7	+0.1
SPX	San Pedro Mart	1.29	187	*e*P	Pb	15 26 27.3	-0.1
OLP	Otay Lakes Par	1.42	282	*e*P	Pb	15 26 29.6	+0.1
MATG	Mataguay Scout	1.45	308	*e*P	Pb	15 26 30.4	+0.4
214A	Organ Pipe Nat	2.13	99	*e*P	Pn	15 26 38.5	+1.1
214A				*e*S	Sn	15 27 00.1	-2.8

*ECX **10** 15:27:59.1±0.5,32.°34N×115.°38W,h17km±4km,MD2.0, ML2.2*
*MEX **10** 15:28:02.6±1.1,32.°24N×115.°34W,h6km,MD3.6*

ISC 10 15:27:59.7±0.9,32.°27N±0.°03×115.°38W±0.°03,h14km±8km, n17,σ0s88/31,3C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.16	23	*e*P	Pg	15 28 03.6	0.0
CPBX				*e*		15 28 07.9	
CPBX				IAML		15 28 07.9	
	comp=E,4μm,0.2s						
CPBX				⇑*e*		15 28 08.8	
CPBX				IAML		15 28 08.8	
	comp=N,4μm,0.2s						
MBIG	Mexicali	0.21	48	*e*P	Pg	15 28 03.6	-0.7
MBIG				*e*S	Sg	15 28 06.4	-1.0
MBIG				*e*P	Pb	15 28 06.8	+1.5
MBIG				*e*S	Sb	15 28 09.0	0.0
MBIG	Mexicali	0.21	48	*i* P	Pg	15 28 04.9	+0.6
MBIG				*i* S	Sb	15 28 08.9	-0.1
MBIG	Mexicali	0.21	48	*e*P	Pb	15 28 06.8	+1.5
MBIG	Mexicali	0.21	48	*e*S	Sb	15 28 09.0	0.0
GUVIX	Guadalupe Vict	0.26	82	*e*P	Pb	15 28 06.3	+0.2
GUVIX				*e*S	Sb	15 28 11.1	+0.6
YUH2	Yuha Desert	0.59	310	⇑*e*P	Pg	15 28 11.3	0.0
YUH2				*e*S	Sg	15 28 19.4	+0.1
IKP	In-Ko-Pah, Jac	0.72	302	*e*P	Pg	15 28 13.7	-0.1
IKP				*e*S	Sg	15 28 23.7	+0.3
ECBX	El Chinero	0.84	161	*e*P	Pb	15 28 16.2	+0.2
ECBX				*e*S	Sg	15 28 28.3	+1.3
GLA	Glamis	0.91	31	*e*P	Pb	15 28 15.4	-1.9
MONP2	Monument Peak	1.08	306	*e*P	Pb	15 28 20.3	0.0
CBX	Cerro Bola	1.09	273	*e*P	Pg	15 28 21.1	+0.4
CBX				*e*S	Sg	15 28 36.0	+1.1
CBX	Cerro Bola	1.09	273	*e*P	Pg	15 28 20.9	+0.3
CBX				*e*S	Sg	15 28 35.9	+1.1
CBX				⇑*e*		15 28 37.4	
CBX				IAML		15 28 37.4	
	comp=N,36nm,0.5s						
CBX				IAML		15 28 38.5	
	comp=E,41nm,0.3s						
TJIG	Tijuana	1.11	279	*e*P	Pn	15 28 20.9	+0.1
TJIG				*e*S	Sn	15 28 35.4	-0.5
BAR	Barrett	1.17	291	*e*P	Pb	15 28 22.0	+0.3
BAR				*e*S	Sn	15 28 36.9	-0.6
SPIG	San Pedro Mart	1.22	183	*e*P	Pn	15 28 22.8	+0.2
SPIG				*e*S	Sb	15 28 37.1	-1.4
SPX	San Pedro Mart	1.23	183	*e*P	Pn	15 28 22.8	0.0
SPX				*e*S	Sb	15 28 37.0	-1.8

*ECX **10** 15:28:33.2±1.6,32.°38N×115.°36W,h20km±8km,ML2.6*
*MEX **10** 15:28:35.5±26.0,32.°37N×115.°30W,h6km,MD3.6*

ISC 10 15:28:33.1±0.8,32.°31N±0.°03×115.°37W±0.°03,h14km,n13, σ0s85/25,1C,California-Baja California border region

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

LVC					Sn	**Sn**	15 34 29.0	-0.3
LVC	**Limon Verde**	**0.36**	**244**	*e*P	**Pn**	**15 34 16.2**	**+0.6**
PB09	**IPOC Station P**	**0.91**	**315**	⇓*i*P	**Pn**	**15 34 20.1**	**+0.9**
PB09				*i* S	**Sn**	**15 34 36.5**	**+0.9**
PB09	**IPOC Station P**	**0.91**	**315**		**Pn**	**15 34 20.0**	**+0.9**
PB09				Sn	**Sn**	**15 34 36.2**	**+0.7**
PB06	**IPOC Station P**	**0.97**	**255**	⇓*i*P	**Pn**	**15 34 20.2**	**+0.6**
PB06				*i* S	**Sn**	**15 34 37.2**	**+0.7**
PB06				IAML		15 34 38.7	
	comp=E,4μm,0.3s						
PB06	**IPOC Station P**	**0.97**	**255**		**Pn**	**15 34 20.3**	**+0.6**
PB06				Sn	**Sn**	**15 34 36.7**	**+0.1**
PB15	**IPOC Station P**	**1.13**	**228**	⇑*i*P	**Pn**	**15 34 22.3**	**+1.0**
PB15				*i* S	**Sn**	**15 34 40.6**	**+1.1**
PB15	**IPOC Station P**	**1.13**	**228**		**Pn**	**15 34 22.3**	**+1.0**
PB15				Sn	**Sn**	**15 34 40.4**	**+0.9**
PB07	**IPOC Station P**	**1.43**	**300**	⇓*i*P	**Pn**	**15 34 25.0**	**+0.6**
PB07				*i* S	**Sn**	**15 34 45.2**	**+0.2**
PB07				IAML		15 34 46.3	
	comp=E,5μm,0.3s						
PB07	**IPOC Station P**	**1.43**	**300**		**Pn**	**15 34 24.8**	**+0.4**
PB07				Sn	**Sn**	**15 34 44.8**	**-0.2**
PB04	**IPOC Station P**	**1.48**	**274**	⇓*i*P	**Pn**	**15 34 25.5**	**+0.5**
PB04				*i* S	**Sn**	**15 34 46.2**	**+0.2**
PB04				IAML		15 34 49.3	
	comp=N,3μm,0.2s						
PB04	**IPOC Station P**	**1.48**	**274**		**Pn**	**15 34 25.5**	**+0.5**
PB04				Sn	**Sn**	**15 34 45.9**	**-0.1**
PB05	**IPOC Station P**	**1.57**	**255**	⇓*i*P	**Pn**	**15 34 26.5**	**+0.5**
PB05				*i* S	**Sn**	**15 34 48.0**	**+0.2**
PB05				IAML		15 34 51.0	
	comp=N,2μm,0.4s						
PB01	**IPOC Station P**	**1.65**	**328**	⇓*i*P	**Pn**	**15 34 27.1**	**+0.3**
PB01				*i* S	**Sn**	**15 34 49.2**	**-0.1**
PB01				IAML		15 34 50.5	
	comp=N,2μm,0.4s						
PB01	**IPOC Station P**	**1.65**	**328**		**Pn**	**15 34 27.0**	**+0.1**
PB01				Sn	**Sn**	**15 34 48.9**	**-0.5**
PB10	**IPOC Station P**	**2.12**	**240**	⇑*i*P	**Pn**	**15 34 32.6**	**+0.1**
PB10				*i* S	**Sn**	**15 34 58.7**	**-0.9**
PB10	**IPOC Station P**	**2.12**	**240**		**Pn**	**15 34 32.4**	**-0.2**
PATCX	**Punta Patache**	**2.20**	**317**	⇓*i*P	**Pn**	**15 34 33.3**	**-0.3**
PATCX				*i* S	**Sn**	**15 35 00.6**	**-0.7**
PATCX				IAML		15 35 03.2	
	comp=E,1μm,0.3s						
PATCX	**Punta Patache**	**2.20**	**317**		**Pn**	**15 34 33.3**	**-0.3**
PB08	**IPOC Station P**	**2.36**	**346**	⇑*i*P	**Pn**	**15 34 36.9**	**+0.9**
PB08	**IPOC Station P**	**2.36**	**346**	Pn	**Pn**	**15 34 36.9**	**+0.9**
TA01	**Diego Aracena**	**2.41**	**321**	*e*P	**Pn**	**15 34 35.8**	**-0.3**
TA01				*i* S	**Sn**	**15 35 05.0**	**-0.9**
TA01				IAML		15 35 06.0	
	comp=N,632nm,0.4s						
TA01	**Diego Aracena**	**2.41**	**321**	Pn	**Pn**	**15 34 36.0**	**-0.2**
PB14	**IPOC Station P**	**2.75**	**218**		**Pn**	**15 34 40.6**	**-0.2**
GO02	**Mina Guanaco**	**2.86**	**199**	⇑*i*P	**Pn**	**15 34 42.7**	**+0.4**
GO02	**Mina Guanaco**	**2.86**	**199**		**Pn**	**15 34 42.7**	**+0.4**
PB11	**IPOC Station P**	**2.87**	**339**	Pn	**Pn**	**15 34 41.7**	**-0.5**
PSGCX	**Pisagua**	**3.19**	**332**	Pn	**Pn**	**15 34 45.8**	**-0.7**
MNMC	**Minye Minye**	**3.44**	**343**	Pn	**Pn**	**15 34 50.5**	**+0.6**
AC01	**Pan de Azucar**	**4.13**	**206**	Pn	**Pn**	**15 34 57.4**	**-1.3**
PB16	**IPOC Station P**	**4.19**	**348**	Pn	**Pn**	**15 34 59.9**	**-0.2**
AP01	**Chacalluta**	**4.39**	**337**	Pn	**Pn**	**15 35 03.7**	**+1.5**
AC02	**Maricunga**	**4.40**	**187**	Pn	**Pn**	**15 35 03.1**	**+0.4**
GO03	**Copiap**	**5.34**	**196**		**Pn**	**15 35 13.0**	**-2.0**
LPAZ	**La Paz**	**6.14**	**4**	P	**Pn**	**15 35 28.2**	**+1.8**
	comp=N,8.9nm,0.3s,baz=176,slow=4.0,SNR=95						
LPAZ	**La Paz**	**6.14**	**4**	Pn	**Pn**	**15 35 27.9**	**+1.5**
LPAZ	**La Paz**	**6.14**	**4**	*e*P	**Pn**	**15 35 26.0**	**-0.3**
AC04	**Llanos de Chal**	**6.17**	**201**	Pn	**Pn**	**15 35 22.4**	**-3.7**
LCO	**Las Campanas**	**6.81**	**196**		**Pn**	**15 35 32.1**	**-2.9**
GO04	**Tololo Observa**	**7.95**	**194**	Pn	**Pn**	**15 35 46.1**	**-4.2**
CO03	**El Pedregal**	**8.57**	**192**	Pn	**Pn**	**15 35 54.5**	**-4.1**
CO02	**Combarbal**	**8.99**	**194**	Pn	Pn	15 35 59.3	-4.9
SIV	**San Ignacio**	**9.55**	**49**	P	**Pn**	**15 36 08.5**	**-3.3**
	comp=N,5.9nm,0.3s,baz=245,slow=9.1,SNR=63						
SIV				S	Sn	15 37 46.3	-11
	comp=N,0.3nm,0.3s,baz=304,slow=23,SNR=1.8						
MT02	**Curacav**	**11.01**	**191**	Pn	**Pn**	**15 36 30.6**	**-0.6**
AQDB	**Aquidauana**	**12.13**	**83**	*e*P	**Pn**	**15 36 46.7**	**+0.5**
VILB	**Vilhena**	**12.35**	**41**	*e*P	**Pn**	**15 36 47.6**	**-1.4**
ETMB	**Extrema**	**12.76**	**11**	*e*P	**Pn**	**15 36 54.2**	**-0.2**
CZSB	**Cruzeiro do Su**	**15.17**	**344**	*e*P	**Pn**	**15 37 26.6**	**+1.4**
PTGB	**Pitanga**	**15.29**	**102**	*e*P	**P**	**15 37 28.6**	**-0.1**
ITAB	**Concordia**	**15.65**	**111**	P	**P**	**15 37 32.4**	**-0.2**
ITAB				IAmb	IAmb	15 37 41.8	
	comp=Z,33nm,1.5s						
CPSB	**Cacapava Do Su**	**15.68**	**124**	*e*P	**P**	**15 37 32.7**	**-0.2**
PCMB	**Pacaembu**	**16.06**	**90**	*e*P	**P**	**15 37 37.4**	**+0.2**
PLTB	**Pedras Altas**	**16.21**	**128**	P	**P**	**15 37 38.1**	**-0.7**
PLTB				IAmb	IAmb	15 37 50.9	
	comp=Z,13nm,1.4s						
CLDB	**Colider**	**16.77**	**49**	*e*P	**Pn**	**15 37 43.8**	**-1.3**
FRTB	**Fartura**	**17.52**	**97**	*e*P	**Pn**	**15 37 54.0**	**-0.1**
NPGB	**Novo Progresso**	**19.91**	**42**	*e*P	**P**	**15 38 18.7**	**-0.7**
VAO	**Valinhos**	**19.92**	**96**	*e*P	**P**	**15 38 19.1**	**-0.4**
ITTB	**Itaituba**	**21.85**	**36**	*e*P	**P**	**15 38 38.4**	**-1.7**
PTGA	**Pitinga**	**23.15**	**22**	P	**P**	**15 38 51.8**	**-1.2**
	comp=Z,3.6nm,0.3s,baz=209,slow=16,SNR=6.7						
PTGA	**Pitinga**	**23.15**	**22**	P	**P**	**15 38 53.3**	**+0.4**
PTGA				IAmb	IAmb	15 39 09.8	
	comp=Z,8.8nm,1.3s						
MALB	**Monte Alegre**	**24.74**	**36**	*e*P	**P**	**15 39 08.3**	**+0.9**
TKL	**Tuckaleechee C**	**59.56**	**346**	P	**P**	**15 43 47.1**	**-0.7**
SNAA	**Sanae**	**61.28**	**161**	P	**P**	**15 44 00.1**	**+0.9**
SNAA				IAmb	IAmb	15 44 01.6	
	comp=Z,3.0nm,1.1s						
O44A	**Mansfield**	**64.99**	**343**	P	**P**	**15 44 21.7**	**-2.1**
QSPA	**South Pole Qui**	**67.75**	**180**	P	**P**	**15 44 43.5**	**+2.1**
QSPA				IAmb	IAmb	15 44 43.9	
	comp=Z,1.7nm,0.7s						
TOA0	**Torodi Ar. Sit**	**77.37**	**70**	P	**P**	**15 45 39.1**	**+0.1**
TOA0				IAmb	IAmb	15 45 55.3	
	comp=Z,7.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**77.37**	**70**	P	**P**	**15 45 38.6**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=256,slow=5.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**77.37**	**70**	P	**P**	**15 45 38.8**	**-0.2**
MAW	**Mawson**	**83.33**	**163**	P	**P**	**15 46 11.6**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=256,slow=4.2,SNR=6.6						
MAW	**Mawson**	**83.33**	**163**	P	**P**	**15 46 11.8**	**+1.8**
ZALV	**Zalesovo Beam**	**142.66**	**26**	PKP	**PKPdf**	**15 53 15.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=324,slow=3.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**142.66**	**26**	PKPpre	15 53 11.2		
MAKZ	**Makanchi**	**146.01**	**37**	PKPbc	**PKPab**	**15 53 23.6**	**+0.2**
MK31	**Makanchi Array**	**146.20**	**37**	PKPbc	**PKPbc**	**15 53 23.3**	**+0.1**
MKAR	**Makanchi Array**	**146.20**	**37**	PKPbc	**PKPbc**	**15 53 23.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=308,slow=2.9,SNR=13						
MKAR	**Makanchi Array**	**146.20**	**37**	PKPbc	**PKPbc**	**15 53 23.7**	**+0.5**

IDC 10 15:45:51.4±2.1, 3.75S×152.17E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.4/38, mbtmp3.3/5, MS4.1/1, Ms1 4.1/1, ms1mx3.2/16, Error ellipse: s-maj=69.5km s-min=30.7km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**226**	P	P	15 51 04.7	-0.4
	0.7nm,0.8s,baz=50,slow=9.8,SNR=2.2						
ASAR	**Alice Springs**	**26.52**	**220**	P	P	15 51 31.5	+0.5
	0.2nm,0.7s,baz=53,slow=9.1,SNR=1.3						
KAPI	**Kappang**	**32.35**	**267**	LR	LR	16 07 20.0	
	comp=Z,392nm,19.9s,baz=91,slow=40						
CMAR	**Chiang Mai Arr**	**56.87**	**295**	P	P	15 55 39.1	+0.6
	0.2nm,0.4s,baz=114,slow=4.4,SNR=2.0						
MKAR	**Makanchi Array**	**79.13**	**319**	P	P	15 57 57.6	-0.4
	0.2nm,0.7s,baz=105,slow=4.6,SNR=2.0						
ILAR	**Eielson Array**	**81.43**	**22**	P	P	15 58 09.7	-0.3
	0.3nm,0.7s,baz=248,slow=4.8,SNR=2.3						

*IDC **10** 15:46:46.5±0.7, 3.61S×152.22E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.5/38, mbtmp4.5/19, ML3.0/2, MS4.4/25, Ms1 4.4/25, ms1mx4.2/33, Error ellipse: s-maj=23.7km s-min=13.3km az=83.0*

*BJI **10** 15:46:46.1±0.0, 3.27S×152.46E, h10km, mB5.1/40, mb4.7/58, Ms4.8/35, Ms7 4.5/32*

*NEIC **10** 15:46:47.2±2.0, 3.69S±0.03×152.17E±0.07, h10km±1km, mb5.0/56, Error ellipse: s-maj=11.5km s-min=5.4km az=89.0*

*MOS **10** 15:46:48.5±1.4, 3.65S×152.17E, h33km, mb5.0/26, Error ellipse: s-maj=10.3km s-min=6.8km az=101.9*

*DJA **10** 15:46:50.6±1.3, 4.3S±11.1×15.2E±1.4, h10km, M5.0/8, mB5.3/5, mb5.0/8, MLv5.2/2, Mw(mB)4.7/5*

*GCMT **10** 15:46:51.2±0.2, 3.71S±0.01×152.10E±0.01, h12km, MW5.1/110, Moment Tensor Solution. s34,c41; s110,c173; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.86±.18; Mθθ6.17±.14; Mφφ-5.31±.15; Mrθ3.07±.45; Mrφ1.51±.15; Mθφ0.39±.48; Best double couple: M◎6.50700×10^16 NP1:φs36.00000°, δ76.00000°, λ165.00000°. NP2:φs129.00000°, δ76.00000°, λ15.00000°. Principal axes: T 7.5090, Plg20.0000°, Azm353.0000°; N -2.0070, Plg70.0000°, Azm172.0000°; P -5.5050, Plg0.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 15:46:47.3±0.3, 3.68S±0.04×152.20E±0.06, h10km, n225, σ1s90/222, mb4.9/74, MS4.4/37, 8C-8D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.51**	**184**		**Pg**	**15 46 55.8**	**-1.4**
RABL				Sg	**Sg**	**15 47 03.2**	**-0.9**
MANU	**Manus Island**	**5.10**	**288**	Pn	**Pn**	**15 48 03.2**	**-0.6**
PMG	**Port Moresby**	**7.58**	**221**	Pn	**Pn**	**15 48 38.4**	**+0.4**
	3.3nm,0.3s,baz=38,slow=8.6,SNR=5.4						
PMG				Sn	**Sn**	**15 50 05.0**	**+1.0**
	baz=137,slow=19,SNR=0.7						
PMG	**Port Moresby**	**7.58**	**221**	P	**Pn**	**15 48 38.0**	**+0.1**
PMG	**Port Moresby**	**7.58**	**221**	Pn	**Pn**	**15 48 38.0**	**+0.1**
PMG	**Port Moresby**	**7.58**	**221**	P	**Pn**	**15 48 38.1**	**+0.1**
	1.5nm5μm445nm,0.9s						
PMG	**Port Moresby**	**7.58**	**221**	P	**Pn**	**15 48 41.9**	**+3.9**
HNR	**Honiara**	**9.58**	**127**	LR	LR	15 53 00.5	
	comp=Z,5μm,18.4s,baz=290,slow=39						
HNR	**Honiara**	**9.58**	**127**	P	**Pn**	**15 49 05.8**	**+0.4**
HNR	**Honiara**	**9.58**	**127**	Pn	**Pn**	**15 49 05.8**	**+0.4**
GENI	**Genyem**	**12.07**	**275**	P	Pn	15 49 52.0	+13
PATS	**Pohnpei**	**12.09**	**30**	Pn	**Pn**	**15 49 37.6**	**-2.2**
CTA	**Charters Tower**	**17.31**	**199**	P	**P**	**15 50 51.2**	**+0.5**
	0.1nm,0.3s,baz=22,slow=5.4,SNR=4.0						
CTA				LR	LR	15 57 19.4	
	comp=Z,2μm,18.5s,baz=19,slow=36						
CTAO	**Charters Tower**	**17.31**	**199**	P	**P**	**15 50 51.2**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,79nm,1.5s						
CTAO	**Charters Tower**	**17.31**	**199**	P	**P**	**15 50 51.2**	**+0.5**
MWPI	**Manokwari, Pap**	**18.35**	**278**	P	**Pn**	**15 51 01.5**	**-0.7**
	comp=Z,1μmcomp=Z,79nm,1.5s						
FAKI	**Fak Fak**	**19.94**	**272**		**P**	**15 51 18.1**	**-1.5**
FAKI				IAmb	IAmb	15 51 24.1	
	comp=Z,153nm,1.2s						
FAKI	**Fak Fak**	**19.94**	**272**	P	**Pn**	**15 51 23.8**	**+2.5**
QIS	**Mount Isa**	**20.79**	**215**	P	**P**	**15 51 27.1**	**-1.7**
	baz=20,SNR=10						
SIJI	**Sorong**	**21.10**	**277**	P	**P**	**15 51 33.7**	**+1.4**
	comp=Z,55nm,1.0s,baz=70,slow=8.5,SNR=11						
SIJI				LR	LR	15 58 22.0	
	comp=Z,2μm,20.3s,baz=78,slow=33						
SIJI	**Sorong**	**21.10**	**277**	P	**P**	**15 51 34.5**	**+2.2**
	comp=Z,39nmcomp=Z,40nm,1.1s						
SWI	**Sorong**	**21.11**	**277**	P	**P**	**15 51 34.7**	**+2.3**
SAUI	**Saumlaki**	**21.23**	**257**	P	**P**	**15 51 31.8**	**-1.8**
KDU	**Kakadu**	**21.46**	**244**	P	**P**	**15 51 34.2**	**-1.9**
	baz=21,SNR=8.6						
EIDS	**Eidsvold**	**21.59**	**183**	P	**P**	**15 51 38.1**	**+0.6**
MTN	**Manton Dam**	**22.73**	**245**	P	**P**	**15 51 47.1**	**-2.7**
	baz=22,SNR=4.3						
MTN	**Manton Dam**	**22.73**	**245**	P	**P**	**15 51 49.6**	**-0.2**
MTN				IAmb	IAmb	15 51 54.9	
	comp=Z,73nm,1.4s						
DZM	**Mont Dzumac**	**22.92**	**144**	*e*P	**P**	**15 51 52.5**	**+0.8**
	comp=Z,108nm,0.9s						
DZM				*e*S	**S**	**15 55 55.8**	**-6.1**
	comp=Z,2μm,25.9s						
DZM				*e*LR	LR	15 57 32.0	
	comp=Z,3μm,25.8s						
DZM	**Mont Dzumac**	**22.92**	**144**	P	**P**	**15 51 52.8**	**+1.0**
	comp=Z,42nm,0.8s,baz=290,slow=7.4,SNR=18						
DZM				LR	LR	15 59 46.2	
	comp=Z,1μm,19.9s,baz=318,slow=34						
DZM	**Mont Dzumac**	**22.92**	**144**	P	**P**	**15 51 52.5**	**+0.8**
DZM				IAmb	IAmb	15 51 59.4	
	comp=Z,50nm,0.8s						
RMQ	**Roma**	**22.92**	**188**	P	**P**	**15 51 51.2**	**-0.4**
	baz=22,SNR=11						
WRAB	**Tennant Creek**	**23.75**	**226**	P	**P**	**15 51 58.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s						
WRAB	**Tennant Creek**	**23.75**	**226**	P	**P**	**15 51 58.7**	**-1.4**
WRAB				IAmb	IAmb	15 52 10.4	
	comp=Z,43nm,0.9s						
KRAI	**Karang Ratu**	**23.77**	**270**	P	**P**	**15 52 07.0**	**+6.7**
WRA	**Warramunga Arr**	**23.77**	**226**	P	**P**	**15 51 56.7**	**-3.5**
	comp=Z,16nm,1.0s,baz=50,slow=8.9,SNR=20						
WRA				S	**S**	**15 56 13.4**	**-2.4**
	comp=Z,2.6nm,1.2s,baz=43,slow=15,SNR=2.6						
WRA				LR	LR	16 02 11.8	
	comp=Z,1μm,18.2s,baz=35,slow=39						
QLP	**Quilpie**	**24.02**	**198**	P	**P**	**15 52 01.5**	**-1.0**
	baz=24,SNR=9.4						
GAMI	**Galela, Maluku**	**25.01**	**282**	P	P	15 52 22.1	+10
NLAI	**Namlea**	**25.06**	**270**	P	P	15 52 22.9	+11
TNTI	**Ternate**	**25.21**	**280**	P	**P**	**15 52 11.5**	**-2.0**
TNTI				IAmb	IAmb	15 52 18.0	
	comp=Z,43nm,1.0s						
TNTI	**Ternate**	**25.21**	**280**	P	**P**	**15 52 12.6**	**-0.9**
KNRA	**Kununurra**	**25.96**	**241**	P	**P**	**15 52 20.1**	**-0.2**
	baz=25,SNR=4.2						
KNRA	**Kununurra**	**25.96**	**241**	P	**P**	**15 52 18.4**	**-1.9**
KNRA				IAmb	IAmb	15 52 31.3	
	comp=Z,63nm,1.2s						
SANI	**Sanana**	**26.23**	**273**	P	**P**	**15 52 28.5**	**+5.7**
AS31	**Alice Springs**	**26.59**	**220**	P	**P**	**15 52 23.9**	**-2.1**
ASAR	**Alice Springs**	**26.60**	**220**	P	**P**	**15 52 23.4**	**-2.6**
	comp=Z,1.3nm,0.6s,baz=53,slow=8.3,SNR=18						
ASAR				LR	LR	16 03 00.8	
	comp=Z,857nm,19.7s,baz=38,slow=37						
ASAR	**Alice Springs**	**26.60**	**220**	P	**P**	**15 52 25.9**	**-0.2**
ASAR	**Alice Springs**	**26.60**	**220**	P	**P**	**15 52 25.9**	**-0.2**
CMSA	**Cobar Meteorol**	**28.38**	**192**	P	**P**	**15 52 39.5**	**-2.4**
	baz=28,SNR=6.8						
KMSI	**Cibinong**	**28.52**	**278**	P	**P**	**15 52 46.4**	**+3.1**
BATI	**Baumata**	**29.05**	**256**	LR	LR	16 06 53.9	
	comp=Z,1μm,19.2s,baz=75,slow=42						
GTOI	**Gorontalo**	**29.49**	**278**	P	**P**	**15 52 52.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**29.69**	**239**	P	**P**	**15 52 55.0**	**+1.2**
	comp=Z,8.1nm,1.1s,baz=57,slow=11,SNR=5.6						
FITZ				LR	LR	16 06 18.2	
	comp=Z,727nm,18.7s,baz=67,slow=39						
FITZ	**Fitzroy Crossi**	**29.69**	**239**	P	**P**	**15 52 51.3**	**-2.4**
	baz=29,SNR=5.1						
STKA	**Stephens Creek**	**29.77**	**198**	P	**P**	**15 52 53.6**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=21,slow=13,SNR=6.0						
STKA				LR	LR	16 04 06.6	
	comp=Z,1μm,21.6s,baz=14,slow=35						
STKA	**Stephens Creek**	**29.77**	**198**	P	**P**	**15 52 53.5**	**-0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**29.77**	**198**	P	**P**	**15 52 53.5**	**-0.7**
MRSI	**Marisa**	**30.52**	**277**	P	**P**	**15 53 04.8**	**+3.7**
APSI	**Ampana**	**30.65**	**274**	P	**P**	**15 53 02.3**	**+0.1**
WRKA	**Warakurna**	**31.30**	**225**	P	**P**	**15 53 04.9**	**-3.1**
	baz=31,SNR=6.6						
TOLI2	**Tolitoli**	**31.76**	**278**	P	**P**	**15 53 08.6**	**-3.5**
TOLI2				IAmb	IAmb	15 53 24.1	
	comp=Z,18nm,1.0s						
JCJ	**Chichijima**	**32.09**	**343**	LR	LR	16 05 15.9	
	comp=Z,493nm,20.9s,baz=138,slow=35						
HTT	**Hallett**	**32.09**	**201**	P	**P**	**15 53 14.9**	**+0.1**
	baz=32,SNR=5.9						
ARPS	**Mount Arapiles**	**34.29**	**195**	P	**P**	**15 53 33.2**	**-0.6**
	baz=34,SNR=6.6						
TOO	**Toolangi**	**34.29**	**189**	P	**P**	**15 53 33.4**	**-0.5**
TOO				pmax	pmax		
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**34.29**	**189**	P	**P**	**15 53 33.4**	**-0.5**
TOO				IAmb	IAmb	15 53 54.6	
	comp=Z,20nm,1.2s						
JOW	**Kunigami**	**38.14**	**324**	LR	LR	16 06 28.2	
	comp=Z,633nm,21.9s,baz=124,slow=31						
TAU	**Tasmania Unive**	**39.31**	**186**	P	**P**	**15 54 18.6**	**+2.1**
TAU				pmax	pmax		
	comp=Z,59nm,1.4s						
TAU	**Tasmania Unive**	**39.31**	**186**	P	**P**	**15 54 18.6**	**+2.1**
TAU				IAmb	IAmb	15 54 47.6	
	comp=Z,59nm,1.4s						
MEEK	**Meekatharra**	**39.42**	**231**	P	**P**	**15 54 14.6**	**-3.1**
	baz=39,SNR=4.5						
YOJ	**Yonaguni jima**	**39.85**	**316**	P	**P**	**15 54 20.4**	**-0.9**
YOJ				pmax	pmax		
	comp=Z,183nm,1.5s						
YOJ	**Yonaguni jima**	**39.85**	**316**	P	**P**	**15 54 20.4**	**-0.9**
YULB	**Yu-li**	**40.40**	**313**	P	**P**	**15 54 24.4**	**-1.5**
YULB				IAmb	IAmb	15 54 32.0	
	comp=Z,36nm,1.2s						
SBUM	**Sibu**	**40.42**	**278**	P	**P**	**15 54 27.0**	**+0.8**
NACB	**Ninganchiao**	**40.67**	**314**	P	**P**	**15 54 27.8**	**-0.3**
NACB				IAmb	IAmb	15 54 33.1	
	comp=Z,40nm,1.1s						
BKZ	**Black Stump Fm**	**41.65**	**151**	P	**P**	**15 54 37.7**	**+1.6**
BKZ				IAmb	IAmb	15 54 50.5	
	comp=Z,28nm,1.1s						
JNU	**Nakatsue**	**41.80**	**333**	P	**P**	**15 54 37.1**	**-0.1**
	comp=Z,23nm,1.0s,baz=137,slow=5.3,SNR=11						
JNU	**Nakatsue**	**41.80**	**333**	P	**P**	**15 54 37.7**	**+0.4**
JNU				IAmb	IAmb	15 54 47.3	
	comp=Z,67nm,1.3s						
MJAR	**Matsushiro Arr**	**42.09**	**343**	P	**P**	**15 54 40.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=160,slow=10,SNR=2.5						
MJAR				LR	LR	16 10 19.8	
	comp=Z,387nm,21.8s,baz=180,slow=34						
MAJO	**Matsushiro**	**42.09**	**343**	⇑*e*P	**P**	**15 54 37.1**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,11nm,1.4s						
KSM	**Kuching**	**42.19**	**276**	P	**P**	**15 54 40.0**	**-0.7**
TUWZ	**Tuamarina**	**42.35**	**156**	P	**P**	**15 54 42.7**	**+1.1**
JHS	**Saijyo**	**42.45**	**337**	P	**P**	**15 54 41.2**	**-1.3**
MORW	**Morawa**	**42.60**	**230**	P	**P**	**15 54 43.2**	**-0.7**
KLBR	**Kellerberrin**	**42.65**	**225**	P	**P**	**15 54 42.4**	**-1.9**
	baz=42,SNR=6.9						
SSE	**Sheshan**	**45.50**	**322**	P	**P**	**15 55 07.8**	**+0.7**
SSE				S	**S**	**16 01 49.1**	**+0.1**
SSE				pmax	pmax		
	comp=Z,13nm,0.7s						
SSE				pmax	pmax		
	comp=Z,65nm,4.2s						
SSE				L	L		
	comp=Z,140nm,14.0s						
SSE				L	L		
	comp=Z,150nm,15.3s						
TJN	**Taejon**	**46.11**	**332**	*ce*P	**P**	**15 55 11.3**	**-0.5**
KSRS	**Korea Array**	**46.74**	**333**	P	**P**	**15 55 16.9**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=152,slow=8.8,SNR=16						
KSAR	**Wonju Array Be**	**46.74**	**333**	P	**P**	**15 55 15.7**	**-1.1**
KSAR	**Wonju Array Be**	**46.74**	**333**	P	**P**	**15 55 15.7**	**-1.1**
KS19	**Wonju Array Si**	**46.80**	**333**	P	**P**	**15 55 16.0**	**-1.3**
INCN	**Inchon**	**47.35**	**332**	P	**P**	**15 55 20.9**	**-0.6**
INCN				pmax	pmax		
	comp=Z,72nm,1.1s						
INCN	**Inchon**	**47.35**	**332**	P	**P**	**15 55 20.9**	**-0.6**
QIZ	**Qiongzhong**	**47.39**	**300**	P	**P**	**15 55 21.2**	**-1.0**
QIZ				S	**S**	**16 02 13.9**	**-2.7**
QIZ				L	L		
	comp=Z,390nm,15.3s						
QIZ				L	L		
	comp=Z,280nm,11.0s						
QIZ				L	L		
	comp=Z,230nm,14.2s						
NJ2	**Nanjing**	**47.60**	**321**	*e*P	**P**	**15 55 23.8**	**+0.2**
NJ2				pP	**sP**	**15 55 28.9**	**+1.4**
NJ2				sP	**pP**	**15 55 33.4**	**+7.0**
NJ2				S	**S**	**16 02 20.7**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,270nm,3.5s						
NJ2				L	L		
	comp=Z,560nm,19.9s						
NJ2				L	L		
	comp=Z,270nm,19.9s						
NJ2				L	L		
	comp=Z,860nm,17.5s						
ASAJ	**Asahikawa**	**48.35**	**351**	LR	LR	16 15 49.6	
	comp=Z,154nm,18.1s,baz=190,slow=36

CM05	**Chiang Mai Arr**	**56.85**	**295**	P	**P**	**15**	**56**	**34.0 +1.4**
CM02	**Chiang Mai Arr**	**56.86**	**295**	P	**P**	**15**	**56**	**34.5 +1.8**
CM31	**Chiang Mai Arr**	**56.87**	**295**	P	**P**	**15**	**56**	**35.2 +2.4**
CM31	**Chiang Mai Arr**	**56.87**	**295**	P	**P**	**15**	**56**	**32.9 +0.1**
CM31				IAmb	IAmb	15	56	40.0
	comp=Z,28nm,1.2s							
CMAR	**Chiang Mai Arr**	**56.87**	**295**	P	**P**	**15**	**56**	**33.3 +0.6**
	comp=Z,4.8nm,0.9s,baz=114,slow=5.0,SNR=25							
CMAR	**Chiang Mai Arr**	**56.87**	**295**	*ce*P	**P**	**15**	**56**	**33.7 +0.9**
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**56.87**	**295**	P	**P**	**15**	**56**	**33.0 +0.2**
CM15	**Chiang Mai Arr**	**56.88**	**295**	P	**P**	**15**	**56**	**34.7 +1.8**
CM13	**Chiang Mai Arr**	**56.89**	**295**	P	**P**	**15**	**56**	**34.0 +1.1**
CMMT	**Chiang Mai**	**56.97**	**295**	P	**P**	**15**	**56**	**34.0 +0.5**
CM33	**Chiang Mai Arr**	**56.97**	**295**	P	**P**	**15**	**56**	**35.0 +1.5**
CHTO	**Chiang Mai**	**56.97**	**295**	P	**P**	**15**	**56**	**33.7 +0.2**
CHTO				pmax	pmax			
	comp=Z,21nm,1.3s							
CHTO	**Chiang Mai**	**56.97**	**295**	P	**P**	**15**	**56**	**33.7 +0.2**
CHTO				IAmb	IAmb	15	56	40.4
	comp=Z,21nm,1.3s							
CHTO	**Chiang Mai**	**56.97**	**295**	P	**P**	**15**	**56**	**35.3 +1.8**
CM32	**Chiang Mai Arr**	**57.01**	**295**	P	**P**	**15**	**56**	**35.0 +1.2**
CD2	**Chengdu**	**57.56**	**310**	⇓*i*P	**P**	**15**	**56**	**37.9 +0.4**
CD2				pP	pP	15	56	39.9 -0.5
CD2				PcP	**PcP**	**15**	**57**	**33.0 +2.1**
CD2				PP	**PP**	**15**	**58**	**47.8 +2.5**
CD2				S	**S**	**16**	**04**	**34.0 -1.7**
CD2				pmax	pmax			
	comp=Z,20nm,0.7s							
CD2				pmax	pmax			
	comp=Z,270nm,5.9s							
CD2				L	L			
	comp=Z,450nm,20.3s							
CD2				L	L			
	comp=Z,720nm,21.3s							
CD2				L	L			
	comp=Z,790nm,19.5s							
HHC	**Hu-ho-hao-te**	**57.79**	**324**	*e*P	**P**	**15**	**56**	**37.7 -1.4**
HHC				S	**S**	**16**	**04**	**39.5 +1.0**
HHC				sS	sS	16	04	43.2 +0.5
HHC				pmax	pmax			
	comp=Z,31nm,0.9s							
HHC				pmax	pmax			
	comp=Z,140nm,5.1s							
HHC				L	L			
	comp=Z,230nm,19.2s							
HHC				L	L			
	comp=Z,360nm,16.5s							
HHC				L	L			
	comp=Z,430nm,19.5s							
BTO	**Baotou**	**58.55**	**323**	*e*P	**P**	**15**	**56**	**43.3 -1.1**
PPT	**Papeete**	**58.63**	**108**	LR	LR	16	17	45.6
	comp=Z,107nm,21.5s,baz=313,slow=32							
PPT2	**Papeete2**	**58.64**	**108**	*e*LR	LR	16	14	06.3
	comp=Z,271nm,24.0s							
TBI	**Tubuai**	**59.56**	**115**	*e*LQ	LQ	16	11	53.3
	comp=Z,2µm,29.0s							
TBI				*e*LR	LR	16	14	25.6
	comp=Z,418nm,25.2s							
HIA	**Hailar**	**59.77**	**336**	P	**P**	**15**	**56**	**52.8 +0.2**
HIA				pmax	pmax			
	comp=Z,23nm,1.2s							
HIA	**Hailar**	**59.77**	**336**	P	**P**	**15**	**56**	**52.8 +0.2**
HIA				IAmb	IAmb	15	56	59.3
	comp=Z,23nm,1.2s							
LZH	**Lanzhou**	**60.02**	**316**	*e*P	**P**	**15**	**56**	**58.0 +3.3**
LZH				sP	sP	15	57	01.3 +2.6
LZH				S	**S**	**16**	**05**	**07.8 +0.1**
LZH				sS	sS	16	05	21.1 +9.2
LZH				pmax	pmax			
	comp=Z,33nm,1.3s							
LZH				pmax	pmax			
	comp=Z,150nm,6.0s							
LZH				L	L			
	comp=Z,370nm,16.4s							
LZH				L	L			
	comp=Z,280nm,15.5s							
LZH				L	L			
	comp=Z,300nm,17.8s							
ZEA	**Zeya**	**60.91**	**343**	*e*P	**P**	**15**	**57**	**00.4 +0.2**
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.9s							
GTA	**Gaotai**	**64.43**	**317**	⇓P	**P**	**15**	**57**	**25.3 +1.1**
GTA				pP	sP	15	57	29.9 +1.7
GTA				sP	pP	15	57	32.2 +5.1
GTA				S	**S**	**16**	**05**	**59.9 -3.3**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.5s							
GTA				pmax	pmax			
	comp=Z,160nm,5.7s							
GTA				L	L			
	comp=Z,170nm,17.8s							
GTA				L	L			
	comp=Z,260nm,20.7s							
GTA				L	L			
	comp=Z,310nm,19.6s							
ULN	**Ulaanbaatar**	**64.73**	**328**	P	**P**	**15**	**57**	**25.1 -0.9**
ULN				pmax	pmax			
	comp=Z,37nm,1.6s							
ULN	**Ulaanbaatar**	**64.73**	**328**	P	**P**	**15**	**57**	**25.1 -0.9**
SONM	**Songino Array**	**65.06**	**328**	P	**P**	**15**	**57**	**28.9 +0.7**
	comp=Z,2.9nm,0.6s,baz=144,slow=6.2,SNR=16							
SONM				LR	LR	16	23	30.8
	comp=Z,429nm,21.4s,baz=120,slow=34							
SONM	**Songino Array**	**65.06**	**328**	P	**P**	**15**	**57**	**27.5 -0.7**
SONM				pmax	pmax			
	comp=Z,19nm,1.3s							
SONM	**Songino Array**	**65.06**	**328**	P	**P**	**15**	**57**	**27.4 -0.7**
SONM				IAmb	IAmb	15	57	38.3
	comp=Z,19nm,1.3s							
SHL	**Shillong**	**65.23**	**300**	P	**P**	**15**	**57**	**29.4 -0.3**
SHL				pmax	pmax			
	comp=Z,39nm,1.1s							
SHL	**Shillong**	**65.23**	**300**	P	**P**	**15**	**57**	**29.4 -0.3**
LSA	**Lhasa**	**67.12**	**304**	P	**P**	**15**	**57**	**42.7 +0.6**
LSA				pmax	pmax			
	comp=Z,30nm,1.4s							
LSA	**Lhasa**	**67.12**	**304**	P	**P**	**15**	**57**	**42.7 +0.6**
TAOE	**Nuku Hiva Isla**	**67.37**	**98**	*e*LR	LR	16	18	11.4
	comp=Z,3µm,34.9s							
YAK	**Yakutsk**	**67.76**	**349**	*e*P	**P**	**15**	**57**	**45.4 +0.5**
YAK				*e**PP	**sP**	**15**	**57**	**51.1 +2.3**
YAK				*e*		15	58	11.7
YAK				*e*		16	00	12.7
YAK				*e*S	**S**	**16**	**06**	**43.8 +1.2**
YAK				*e**SS	sS	16	06	59.4 +12
YAK				*e*SS	**SS**	**16**	**10**	**55.5 -8.6**
YAK				pmax	pmax			
	comp=Z,18nm,1.2s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.2s							
YAK				pmax	pmax			
	comp=Z,102nm,4.8s							
YAK				pmax	pmax			
	comp=N,48nm,3.7s							
YAK				pmax	pmax			
	comp=E,29nm,3.5s							
YAK				smax	smax			
	comp=E,73nm,5.9s							
YAK				smax	smax			
	comp=N,51nm,4.0s							
YAK	**Yakutsk**	**67.76**	**349**	P	**P**	**15**	**57**	**45.0 +0.1**
ZAK	**Zakamensk**	**68.23**	**329**	*e*P	**P**	**15**	**57**	**47.6 -0.7**
ZAK				pmax	pmax			
	comp=Z,16nm,1.3s							
TLY	**Talaya**	**68.82**	**330**	⇓*e*P	**P**	**15**	**57**	**49.3 -2.5**
TLY				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MOY	**Mondy**	**70.15**	**329**	*e*P	**P**	**15**	**58**	**00.8 +0.6**
MOY				pmax	pmax			
	comp=Z,29nm,1.7s							
BILL	**Bilibino**	**72.24**	**6**	⇑*e*P	**P**	**15**	**58**	**12.9 +0.6**
BILL				*e*		16	00	51.7
BILL				pmax	pmax			
	comp=Z,5.0nm,1.2s							
RKT	**Rikitea**	**72.77**	**113**	*e*LR	LR	16	20	39.9
	comp=Z,591nm,24.8s							
VNDA	**Vanda**	**73.97**	**178**	P	**P**	**15**	**58**	**23.7 +1.2**
	comp=Z,2.2nm,1.1s,baz=325,slow=7.0,SNR=8.8							
VNDA				LR	LR	16	28	05.9
	comp=Z,164nm,19.6s,baz=338,slow=34							
VNDA	**Vanda**	**73.97**	**178**	P	**P**	**15**	**58**	**22.2 -0.3**
VNDA				pmax	pmax			
	comp=Z,12nm,1.3s							
VNDA	**Vanda**	**73.97**	**178**	P	**P**	**15**	**58**	**22.2 -0.3**
WMQ	**Urumqi**	**74.52**	**317**	*e*P	**P**	**15**	**58**	**27.3 +0.9**
WMQ				pmax	pmax			
	comp=Z,23nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.1s							
KDAK	**Kodiak Island**	**75.45**	**27**	LR	LR	16	25	08.7
	comp=Z,145nm,20.7s,baz=256,slow=30							
HYB	**Hyderabad**	**75.57**	**289**	*i* P	**P**	**15**	**58**	**34.0 +1.1**
TIXI	**Tiksi**	**76.71**	**353**	⇓*e*P	**P**	**15**	**58**	**39.4 +1.1**
TIXI	**Tiksi**	**76.71**	**353**	P	**P**	**15**	**58**	**37.6 -0.6**
DGZ	**Jazzator, Alta**	**76.84**	**323**	⇓*e*P	**P**	**15**	**58**	**39.3 -0.4**
DGZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
CHUM	**Lake Minchumin**	**78.86**	**22**	P		15	58	52.0
	baz=237							
MKAR	**Makanchi Array**	**79.09**	**319**	LR	LR	16	32	06.6
	comp=Z,212nm,21.4s,baz=88,slow=34							
MKAR	**Makanchi Array**	**79.09**	**319**	P	**P**	**15**	**58**	**48.8 -3.3**
MKAR	**Makanchi Array**	**79.09**	**319**	P	**P**	**15**	**58**	**48.8 -3.3**
MAKZ	**Makanchi**	**79.30**	**319**	P	**P**	**15**	**58**	**49.7 -3.6**
MAKZ				pmax	pmax			
	comp=Z,12nm,1.1s							
MAKZ	**Makanchi**	**79.30**	**319**	P	**P**	**15**	**58**	**49.7 -3.6**
SML	**Sawmill**	**79.35**	**25**	P		15	58	54.3
	baz=241							
BPAW	**Bear Paw Mtn.**	**79.47**	**22**	P	**P**	**15**	**58**	**53.6 -0.2**
BPAW				IAmb	IAmb	15	59	05.5
	comp=Z,18nm,1.3s							
BPAW	**Bear Paw Mtn.**	**79.47**	**22**	P		15	58	53.9
	baz=238							
IMAR	**Indian Mountai**	**79.53**	**20**	P	**P**	**15**	**58**	**54.4 +0.4**
H21K	**Melozitna Rive**	**79.67**	**20**	P		15	58	55.8
	baz=236							
I21K	**Tanana**	**79.69**	**21**	P		15	58	55.6
	baz=237							
ZAA0	**Zalesovo Array**	**79.89**	**326**	P	**P**	**15**	**58**	**55.7 -0.6**
ZAA0				IAmb	IAmb	15	59	06.4
	comp=Z,23nm,1.8s							
ZALV	**Zalesovo Beam**	**79.89**	**326**	P	**P**	**15**	**58**	**55.5 -0.7**
	comp=Z,2.1nm,0.6s,baz=109,slow=6.3,SNR=8.7							
ZALV				LR	LR	16	32	45.3
	comp=Z,170nm,21.7s,baz=94,slow=34							
ZALV	**Zalesovo Beam**	**79.89**	**326**	*i* P	**P**	**15**	**58**	**56.0 -0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**79.89**	**326**	P	**P**	**15**	**58**	**55.7 -0.6**
MLY	**Manley**	**80.06**	**21**	P	**P**	**15**	**58**	**56.9 -0.1**
MLY				IAmb	IAmb	15	59	04.8
	comp=Z,18nm,1.2s							
MLY	**Manley**	**80.06**	**21**	P		15	58	57.7
	baz=238							
MCK	**McKinley**	**80.06**	**23**	P		15	58	57.6
	baz=240							
M24K	**Tolsona, Glenn**	**80.40**	**25**	P		15	59	00.7
	baz=243							
NEA2	**Nenana**	**80.44**	**22**	P	**P**	**15**	**58**	**58.5 -0.5**
NEA2	**Nenana**	**80.44**	**22**	P		15	58	59.5
	baz=240							
I23K	**Minto, Yukon-K**	**80.62**	**21**	P	**P**	**15**	**59**	**00.5 +0.6**
I23K				IAmb	IAmb	15	59	09.9
	comp=Z,25nm,1.8s							
I23K	**Minto, Yukon-K**	**80.62**	**21**	P		15	59	00.7
	baz=240							
WRH	**Wood River Hil**	**80.75**	**22**	P	**P**	**15**	**59**	**00.1 -0.5**
H23K	**Yukon River**	**80.90**	**21**	P		15	59	02.0
	baz=239							
CCB	**Clear Creek Bu**	**80.94**	**22**	P	**P**	**15**	**59**	**00.6 -1.1**
COLA	**College**	**81.04**	**22**	⇑*e*P	**P**	**15**	**59**	**01.9 -0.2**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
HDA	**Harding Lake**	**81.16**	**23**	P		15	59	02.7
	baz=242							
HDA				P		15	59	02.7
	baz=242							
IL31		**81.35**	**22**	P	**P**	**15**	**59**	**02.8 -1.0**
IL31				IAmb	IAmb	15	59	10.9
	comp=Z,40nm,2.0s							
ILAR	**Eielson Array**	**81.35**	**22**	P	**P**	**15**	**59**	**03.9 0.0**
	comp=Z,2.5nm,0.6s,baz=244,slow=5.5,SNR=30							
ILAR				LR	LR	16	32	26.8
	comp=Z,192nm,19.4s,baz=272,slow=34							
H24K	**Noodor Dome**	**81.50**	**21**	P		15	59	06.1
	baz=241							
KSH	**Kashi**	**81.76**	**311**	P	P	15	59	14.4 +7.7
KSH				pmax	pmax			
	comp=Z,4.0nm,0.3s							
KSH				pmax	pmax			
	comp=Z,190nm,4.1s							
DOT	**Dot Lake**	**81.95**	**24**	P	**P**	**15**	**59**	**07.7 +0.6**
DOT				IAmb	IAmb	15	59	19.9
	comp=Z,11nm,1.1s							
SCRK	**Sand Creek**	**82.12**	**24**	P		15	59	08.6
	baz=245							
TOLK	**Toolik Lake Re**	**82.34**	**18**	P	**P**	**15**	**59**	**08.9 -0.1**
TOLK				IAmb	IAmb	15	59	21.8
	comp=Z,28nm,1.6s							
TOLK	**Toolik Lake Re**	**82.34**	**18**	P		15	59	09.8
	baz=239							
L27K	**Beaver Creek,**	**82.62**	**25**	P		15	59	11.8
	baz=247							
K27K	**Chicken**	**82.91**	**24**	P		15	59	12.5
	baz=246							
AAK	**Ala-Archa**	**83.47**	**313**	⇑*e*P	**P**	**15**	**59**	**12.1 -3.5**
AAK				pmax	pmax			
	comp=Z,35nm,1.1s							
AAK	**Ala-Archa**	**83.47**	**313**	P	**P**	**15**	**59**	**15.7 0.0**
AAK				IAmb	IAmb	15	59	32.5
	comp=Z,9.3nm,0.8s							
NRIK	**Noril'sk**	**84.72**	**341**	P	**P**	**15**	**59**	**21.8 +0.6**
	comp=Z,3.1nm,0.6s,baz=106,slow=5.5,SNR=7.3							
NRIK	**Noril'sk**	**84.72**	**341**	⇑*e*P	**P**	**15**	**59**	**21.5 +0.3**
NRIK				pmax	pmax			
	comp=Z,27nm,1.4s							
NRIK	**Noril'sk**	**84.72**	**341**	P	**P**	**15**	**59**	**20.8 -0.4**
EPYK	**Eagle Plains**	**85.86**	**22**	P	**P**	**15**	**59**	**27.5 +0.4**
EPYK	**Eagle Plains**	**85.86**	**22**	P		15	59	27.7
	baz=251							
QSPA	**South Pole Qui**	**86.28**	**180**	P	**P**	**15**	**59**	**31.3 +2.1**
	comp=Z,4.6nm,1.0s,baz=286,slow=1.1,SNR=8.6							
QSPA	**South Pole Qui**	**86.28**	**180**	P	**P**	**15**	**59**	**30.5 +1.2**
MAW	**Mawson**	**86.37**	**203**	P	**P**	**15**	**59**	**31.4 +1.9**
	comp=Z,9.6nm,1.1s,baz=108,slow=3.8,SNR=7.6							
MAW				LR	LR	16	34	14.6
	comp=Z,295nm,21.9s,baz=68,slow=33							
MAW	**Mawson**	**86.37**	**203**	P	**P**	**15**	**59**	**29.0 -0.5**
	baz=86,SNR=5.2							
MAW	**Mawson**	**86.37**	**203**	P	**P**	**15**	**59**	**30.9 +1.5**
MAW				pmax	pmax			
	comp=Z,4.0nm,1.4s							
MAW	**Mawson**	**86.37**	**203**	P	**P**	**15**	**59**	**30.9 +1.5**
KKAR	**Karatay Array**	**86.43**	**313**	P	**P**	**15**	**59**	**30.6 +0.2**
KKAR	**Karatay Array**	**86.43**	**313**	P	**P**	**15**	**59**	**30.6 +0.2**
INK	**Inuvik**	**87.62**	**21**	P		15	59	35.6
	baz=254							
BRVK	**Borovoye**	**88.06**	**323**	*de*P	**P**	**15**	**59**	**37.6 -0.4**
BRVK				pmax	pmax			
	comp=Z,11nm,1.7s							
BRVK	**Borovoye**	**88.06**	**323**	P	**P**	**15**	**59**	**36.8 -1.1**
BRVK				IAmb	IAmb	15	59	44.2
	comp=Z,11nm,1.2s							
NVAR	**Mina Array Bea**	**91.86**	**52**	LR	LR	16	35	35.5
	comp=Z,177nm,19.4s,baz=272,slow=32							
YKA	**Yellowknife Ar**	**94.72**	**28**	LR	LR	16	41	43.8
	comp=Z,62nm,18.8s,baz=0.0,slow=35							
PDAR	**Pinedale Array**	**98.53**	**47**	LR	LR	16	38	28.8
	comp=Z,130nm,20.9s,baz=303,slow=32							
VYHS	**Vyhne**	**120.23**	**326**	*e*P	**Pdif**	**16**	**01**	**58.2 -4.6**
VYHS	**Vyhne**	**120.23**	**326**	*e*PDIFF	**Pdif**	**16**	**01**	**58.2 -4.6**
ESDC	**Sonseca Array**	**138.16**	**332**	PP	PP	16	09	01.7 +0.8
	comp=Z,0.9nm,0.9s,baz=23,slow=10,SNR=4.2							
CPUP	**Villa Florida**	**138.69**	**138**	PKP	**PKiKP**	**16**	**06**	**15.7 -0.9**
	comp=Z,0.7nm,0.3s,baz=270,slow=20,SNR=3.1							
TORD	**Torodi Ar. Bea**	**149.38**	**290**	PKPbc	**PKiKP**	**16**	**06**	**39.4 +0.5**
	comp=Z,3.3nm,1.1s,baz=88,slow=2.7,SNR=6.3							

*IDC **10** 15:50:15.0±1.0,27.°96S×177.°97W,h174km±10km, mb3.4/6, mb1 3.7/7, mb1mx3.4/36, mbtmp4.0/7, Error ellipse: s-maj=27.1km s-min=22.8km az=84.0*
ISC 10 15:50:14.1±0.8,**27.82S**±0.°10×**178.°0W**±0.°2,**h150km,n19,** σ2ş**47**/15,**mb3.7/6,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
RAO	**Raoul Island**	**1.43**	**176**	P	**Pn**	**15**	**50**	**44.6**	**+1.6**
	1µm,0.3s,baz=76,slow=7.8,SNR=54								
RAO				S	**Sn**	**15**	**51**	**07.3**	**+2.2**
	659nm,0.3s,baz=261,slow=23,SNR=9.2								
MSVF	**Nonsavu**	**10.67**	**339**	P	**Pn**	**15**	**52**	**45.9**	**+2.8**
	1.2nm,0.3s,baz=152,slow=16,SNR=12								
MSVF	**Nonsavu**	**10.67**	**339**	pmax	pmax				
	comp=Z,72nm,0.9s								
MSVF	**Nonsavu**	**10.67**	**339**	P	**Pn**	**15**	**52**	**45.7**	**+2.6**
MSVF	**Nonsavu**	**10.67**	**339**	P	**Pn**	**15**	**52**	**45.7**	**+2.6**
URZ	**Urewera**	**11.19**	**200**	P	Pn	15	52	41.2	-8.5
	comp=Z,0.3nm,0.3s,baz=302,slow=23,SNR=1.5								
URZ				S	Sn	15	54	42.0	-11
	comp=Z,3.4nm,0.3s,baz=246,slow=16,SNR=6.7								
AFI	**Afiamalu**	**15.01**	**24**	P	Pn	15	53	32.6	-6.2
	comp=Z,1.5nm,0.3s,baz=296,slow=21,SNR=2.1								
AFI				S	Sn	15	56	06.3	-19
	comp=Z,1.5nm,0.3s,baz=198,slow=19,SNR=2.2								
RAR	**Rarotonga**	**17.85**	**72**	S	S	15	57	15.1	-14
	comp=Z,1.7nm,0.3s,baz=9.5,slow=17,SNR=1.4								
ASAR	**Alice Springs**	**43.29**	**264**	P	**P**	**15**	**57**	**59.9**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=79,slow=6.8,SNR=5.6								
WRA	**Warramunga Arr**	**44.04**	**269**	P	**P**	**15**	**58**	**06.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=106,slow=6.2,SNR=4.6								
MJAR	**Matsushiro Arr**	**76.12**	**325**	P	**P**	**16**	**01**	**43.5**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=173,slow=6.0,SNR=4.8								
SNAA	**Sanae**	**80.73**	**178**	P	**P**	**16**	**02**	**08.3**	**-2.0**
	comp=Z,2.2nm,1.2s,baz=222,slow=12,SNR=1.7								
PETK	**Petropavlovsk-**	**83.31**	**346**	P	**P**	**16**	**02**	**22.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=116,slow=8.5,SNR=5.3								
NVAR	**Mina Array Bea**	**86.36**	**43**	P	**P**	**16**	**02**	**38.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=215,slow=7.7,SNR=5.7								
MKAR	**Makanchi Array**	**116.08**	**311**	PKP	**PKPdf**	**16**	**08**	**35.7**	**-3.4**
	comp=Z,0.1nm,0.4s,baz=107,slow=1.5,SNR=2.9								
FINES	**FINESS Array B**	**142.71**	**341**	PKhKP	PKPpre	16	09	23.0	
	comp=Z,1.9nm,0.8s,baz=46,slow=4.2,SNR=7.4								
NOA	**NORSAR Array B**	**146.20**	**352**	PKPbc	**PKPdf**	**16**	**09**	**33.7**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=12,slow=4.1,SNR=2.2								
AKASG	**Malin Array Be**	**149.21**	**325**	PKPbc	**PKPdf**	**16**	**09**	**42.1**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=44,slow=3.4,SNR=5.4								
BRTR	**Keskin Array B**	**151.28**	**303**	PKPbc	**PKPdf**	**16**	**09**	**47.9**	**+4.0**
	comp=Z,0.3nm,0.4s,baz=74,slow=5.1,SNR=3.4								

*KRNET **10** 15:57:25.1±0.1,41.°86N×79.°15E,h11km,mb3.4*
*SOME **10** 15:57:25.3,41.°97N×79.°10E,h0km*
*NNC **10** 15:57:26.3±0.7,41.°95N×79.°16E,h0km,mb4.0,mpv3.9,*
Error ellipse: s-maj=5.1km s-min=2.7km az=150.0
ISC 10 15:57:27.6±1.4,**41.°97N**±0.°06×**79.°14E**±0.°04,**h10km,n66,** σ1ş**49**/105,**35C-7D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PRZ	**Przheval'sk**	**0.75**	**313**	⇓*i*P	**Pg**	**15**	**57**	**41.5**	**-0.6**
	baz=19								
PRZ				⇓*i*S	**Sb**	**15**	**57**	**53.5**	**+0.3**
	baz=19								
UZB	**Uzynbulak**	**1.18**	**356**	*e*P	**Pb**	**15**	**57**	**48.6**	**-1.5**
	26nm,0.2s								
UZB				*e*S	**Sn**	**15**	**58**	**05.7**	**-0.8**
	91nm,0.3s								
UZB	**Uzynbulak**	**1.18**	**356**	P	**Pb**	**15**	**57**	**48.6**	**-1.5**
	26nm,0.2s								
UZB				S	**Sn**	**15**	**58**	**05.7**	**-0.8**
	91nm,0.3s								
SHLS	**Shalkode**	**1.21**	**11**	*e*P	**Pg**	**15**	**57**	**50.9**	**+0.1**
	56nm,0.1s								
SHLS				*e*S	**Sn**	**15**	**58**	**09.5**	**+2.3**
	125nm,0.5s								
SHLS	**Shalkode**	**1.21**	**11**	P	**Pg**	**15**	**57**	**50.9**	**+0.1**
	56nm,0.1s								
SHLS				S	**Sn**	**15**	**58**	**09.5**	**+2.3**
	125nm,0.5s								
SATY	**Saty**	**1.21**	**334**	*e*P	**Pn**	**15**	**57**	**49.6**	**-1.2**
	29nm,0.2s								
SATY				*e*S	**Sn**	**15**	**58**	**07.1**	**-0.2**
	225nm,0.1s								
SATY	**Saty**	**1.21**	**334**	P	**Pn**	**15**	**57**	**49.6**	**-1.2**
	29nm,0.2s								
SATY				S	**Sn**	**15**	**58**	**07.1**	**-0.2**
	225nm,0.1s								
ANVS	**Anan'yevo**	**1.36**	**307**	*e*P	**Pb**	**15**	**57**	**52.5**	**-0.7**
	baz=11								
ANVS				*i* S	**Sg**	**15**	**58**	**12.4**	**+1.1**
	baz=11								
PDGK	**Podgornoye**	**1.38**	**11**	P	**Pn**	**15**	**57**	**52.0**	**-1.1**
	14nm,0.3s								
PDGK				S	**Sg**	**15**	**58**	**11.3**	**-0.7**
	28nm,0.3s								
PDGK	**Podgornoye**	**1.38**	**11**	⇑P	**Pn**	**15**	**57**	**52.0**	**-1.1**
	18nm,0.5s								
PDGK				⇑S	**Sg**	**15**	**58**	**11.4**	**-0.7**
	52nm,0.3s								
KDJ	**Kajisay**	**1.47**	**277**	⇑*i*P	**Pn**	**15**	**57**	**53.2**	**-1.1**
	baz=81								
KDJ				⇑*i*S	**Sg**	**15**	**58**	**13.7**	**-1.1**
	baz=81								
KPKS	**Kokpek**	**1.53**	**348**	*e*P	**Pb**	**15**	**57**	**55.2**	**-0.9**
	256nm,0.2s								
KPKS				*e*S	**Sg**	**15**	**58**	**16.8**	**0.0**
	134nm,0.2s								
KURS	**Kuram**	**1.67**	**335**	*e*P	**Pb

	3.0nm,0.3s								
DJR					Lg	Lg	15 58 42.5		
	9.5nm,0.4s								
BOOM	**Boomskoye usch**	**2.43**	**283**	⇑*iP*	**Pb**	**15 58 08.9**	**-2.6**		
	baz=86								
BOOM				⇑*iS*	**Sb**	**15 58 40.8**	**-0.8**		
	baz=86								
ARXS	**Arharly**	**2.44**	**337**	*eP*	**Pb**	**15 58 11.7**	**+0.2**		
	38nm,0.3s								
ARXS				*eS*	**Sg**	**15 58 45.0**	**-0.9**		
	131nm,0.3s								
ARXS	**Arharly**	**2.44**	**337**	Pg	**Pb**	**15 58 11.7**	**+0.2**		
	38nm,0.3s								
ARXS				Lg	Lg	15 58 45.0			
	131nm,0.3s								
CHKK	**Chushkaly**	**2.46**	**321**	*eP*	**Pb**	**15 58 11.9**	**0.0**		
	73nm,0.3s								
CHKK				*eS*	**Sg**	**15 58 45.4**	**-1.1**		
	217nm,0.3s								
CHKK	**Chushkaly**	**2.46**	**321**	Pg	**Pb**	**15 58 11.9**	**0.0**		
	73nm,0.3s								
CHKK				Lg	Lg	15 58 45.3			
	217nm,0.3s								
KTBS	**Karatobe**	**2.51**	**315**	*eP*	**Pb**	**15 58 12.5**	**-0.2**		
	32nm,0.4s								
KTBS				*eS*	**Sg**	**15 58 46.3**	**-1.8**		
	130nm,0.7s								
KTBS	**Karatobe**	**2.51**	**315**	Pg	**Pb**	**15 58 12.5**	**-0.2**		
	32nm,0.4s								
KTBS				Lg	Lg	15 58 46.3			
	130nm,0.7s								
KST	**Kastek**	**2.58**	**296**	*eP*	**Pb**	**15 58 12.8**	**-1.2**		
	25nm,0.3s								
KST				*eS*	**Sb**	**15 58 47.0**	**+1.2**		
	56nm,0.5s								
KST	**Kastek**	**2.58**	**296**	Pg	**Pb**	**15 58 12.8**	**-1.2**		
	25nm,0.3s								
KST				Lg	Lg	15 58 47.0			
	56nm,0.5s								
TKM2	**Tokmak 2**	**2.79**	**291**	⇑*iP*	**Pn**	**15 58 14.1**	**+1.6**		
	baz=93								
TKM2				⇑*iS*	**Sb**	**15 58 49.7**	**-2.2**		
	baz=93								
TKM2	**Tokmak 2**	**2.79**	**291**	⇑Pg	**Pb**	**15 58 16.1**	**-1.5**		
	4.8nm,0.3s								
TKM2				⇑Lg	Lg	15 58 53.2			
	35nm,0.3s								
DGS	**Degeres**	**2.79**	**298**	*eP*	**Pb**	**15 58 16.5**	**-1.1**		
	15nm,0.3s								
DGS				*eS*	**Sb**	**15 58 53.3**	**+1.5**		
	77nm,0.5s								
DGS	**Degeres**	**2.79**	**298**	Pg	**Pb**	**15 58 16.5**	**-1.1**		
	15nm,0.3s								
DGS				Lg	Lg	15 58 53.3			
	77nm,0.5s								
KUU	**Kurty**	**2.81**	**314**	*eP*	**Pb**	**15 58 18.0**	**+0.1**		
	10nm,0.2s								
KUU				*eS*	**Sg**	**15 58 55.7**	**-2.2**		
	53nm,0.4s								
KUU	**Kurty**	**2.81**	**314**	Pg	**Pb**	**15 58 18.0**	**+0.1**		
	10nm,0.2s								
KUU				Lg	Lg	15 58 55.7			
	53nm,0.4s								
TDK	**Taldyqorghan**	**3.08**	**350**	*eP*	**Pb**	**15 58 22.7**	**+0.3**		
	44nm,0.3s								
TDK				*eS*	**Sg**	**15 59 03.8**	**-2.6**		
	136nm,0.4s								
TDK	**Taldyqorghan**	**3.08**	**350**	Pg	**Pb**	**15 58 22.7**	**+0.3**		
	44nm,0.3s								
TDK				Lg	Lg	15 59 03.8			
	136nm,0.4s								
KBK	**Karagaybulak**	**3.18**	**284**	⇑*iP*	**Pn**	**15 58 19.2**	**+1.3**		
	baz=86								
KBK				⇑*iS*	**Sn**	**15 58 58.8**	**+2.9**		
	baz=86								
KAPS	**Kapalarasan**	**3.31**	**3**	*eP*	**Pb**	**15 58 26.6**	**0.0**		
	0.7nm,0.3s								
KAPS				*eS*	**Sg**	**15 59 10.5**	**-3.6**		
	3.2nm,0.3s								
KAPS	**Kapalarasan**	**3.31**	**3**	Pg	**Pb**	**15 58 26.6**	**0.0**		
	0.7nm,0.3s								
KAPS				Lg	Lg	15 59 10.5			
	3.2nm,0.3s								
CHMS	**Chumysh**	**3.40**	**289**	⇑*eP*	**Pn**	**15 58 22.3**	**+1.5**		
	baz=91								
CHMS				⇑*iS*	**Sn**	**15 59 04.3**	**+3.1**		
	baz=91								
FRU1	**Bishkek**	**3.44**	**286**	⇑*iP*	**Pn**	**15 58 23.1**	**+1.8**		
	baz=88								
FRU1				⇑*iS*	**Sn**	**15 59 05.4**	**+3.2**		
	baz=88								
AAK	**Ala-Archa**	**3.51**	**282**	⇑*eP*	**Pn**	**15 58 23.8**	**+1.5**		
	baz=84								
AAK				⇑*iS*	**Sn**	**15 59 06.7**	**+2.7**		
	baz=84								
AAK	**Ala-Archa**	**3.51**	**282**	⇓Pg	**Pg**	**15 58 31.7**	**-3.1**		
	2.4nm,0.4s								
AAK				⇑Lg	Lg	15 59 16.6			
	16nm,0.8s								
ARLS	**Aral**	**3.59**	**270**	⇑*iP*	**Pn**	**15 58 24.5**	**+1.0**		
	baz=72								
ARLS				⇑*iS*	**Sn**	**15 59 07.9**	**+1.8**		
	baz=72								
SGDS	**Sogindy**	**3.64**	**296**	Pg	**Pb**	**15 58 31.4**	**-0.6**		
	5.6nm,0.2s								
SGDS				Lg	Lg	15 59 18.7			
	11nm,0.4s								
EKS2	**Erkin-Say**	**4.03**	**282**	⇑*eP*	**Pn**	**15 58 31.2**	**+1.7**		
	baz=83								
EKS2				⇑*iS*	**Sn**	**15 59 19.1**	**+2.2**		
	baz=83								
AML	**Almayashu**	**4.06**	**274**	⇑*eP*	**Pn**	**15 58 31.4**	**+1.3**		
	baz=76								
AML				⇑*iS*	**Sn**	**15 59 19.9**	**+2.1**		
	baz=76								
MRKS	**Merke**	**4.45**	**282**	*eP*	**Pb**	**15 58 47.4**	**+1.6**		
	5.6nm,0.5s								
MRKS				*eS*	**Sg**	**15 59 46.5**	**-3.8**		
	8.3nm,0.4s								
MRKS	**Merke**	**4.45**	**282**	Pg	**Pb**	**15 58 47.4**	**+1.6**		
	5.6nm,0.5s								
MRKS				Lg	Lg	15 59 46.5			
	8.3nm,0.4s								
MAKZ	**Makanchi**	**5.25**	**22**	⇑Pn	**Pn**	**15 58 47.1**	**+1.0**		
	12nm,1.4s								
MAKZ				⇑Sn	**Sn**	**15 59 49.0**	**+2.4**		
	1.0nm,0.3s								
MAKZ				⇑Lg	Lg	16 00 10.4			
	2.0nm,0.5s								
MK31	**Makanchi Array**	**5.32**	**24**	Pn	**Pn**	**15 58 48.2**	**+1.1**		
	1.6nm,0.6s,baz=201,slow=12,SNR=55								
MK31				⇓Sn	**Sn**	**15 59 50.8**	**+2.3**		
	2.3nm,0.6s,baz=206,slow=24,SNR=4.4								
MK31				⇑Lg	Lg	16 00 14.7			
	4.3nm,0.5s								
MK31	**Makanchi Array**	**5.32**	**24**	P	**Pn**	**15 58 48.2**	**+1.1**		
MK31	**Makanchi Array**	**5.32**	**24**	P	**Pn**	**15 58 48.2**	**+1.1**		
KK31	**Karatay Array**	**6.47**	**283**	Pg	Pb	15 59 24.8	+4.6		
	8.3nm,1.1s,baz=94,slow=14,SNR=18								
KK31				⇑Lg	Lg	16 00 52.3			
	2.9nm,0.7s,baz=100,slow=26,SNR=5.8								
OTUK	**Ortayu**	**7.90**	**325**	⇑Pn	**Pn**	**15 59 25.3**	**+2.8**		
	3.9nm,0.9s								
OTUK				⇓Lg	Lg	16 01 39.4			
	3.7nm,1.1s								
KURBB	**Kurchatov Arra**	**8.66**	**357**	Lg	Lg	16 02 01.1			
	8.1nm,0.8s								

*NEIC **10** 15:57:52.5±1.7,5.77N±0.09×127.0E±0.1,h116km±10km, mb4.1/11, Error ellipse: s-maj=20.8km s-min=12.6km az=74.0*
*IDC **10** 15:57:54.8±4.6,5.90N×127.39E,h161km±49km,mb3.3/8, mb1 3.5/9,mb1mx3.2/33,mbtmp3.8/9, Error ellipse: s-maj=94.5km s-min=15.5km az=72.0*

ISC 10 15:57:49.9±0.6, 5.87N±0.07×127.1E±0.1, h100km, n25, σ1§40/27, mb4.0/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**5.07**	**177**	Pn	**Pn**	**15 59 04.1**	**+0.5**
TOLI2	**Tolitoli**	**7.88**	**233**	Pn	**Pn**	**15 59 42.8**	**+1.0**
SIJI	**Sorong**	**7.88**	**148**	P	**Pn**	**15 59 44.5**	**+2.5**
	0.9nm,0.3s,baz=310,slow=20,SNR=1.3						
SIJI				S	**Sn**	**16 01 06.7**	**-2.9**
	0.7nm,0.3s,baz=172,slow=23,SNR=1.7						
MTN	**Manton Dam**	**19.02**	**168**	P	**P**	**16 02 04.7**	**+0.6**
MTN				IAmb	IAmb	16 02 16.8	
	comp=Z,32nm,1.4s						
KNRA	**Kununurra**	**21.47**	**176**	P	**P**	**16 02 30.6**	**+0.1**
KNRA				IAmb	IAmb	16 02 49.0	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**23.86**	**183**	P	**P**	**16 02 53.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=10.0,slow=11,SNR=1.4						
FITZ	**Fitzroy Crossi**	**23.86**	**183**	P	**P**	**16 02 54.0**	**-0.2**
FITZ				IAmb	IAmb	16 03 06.4	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**26.62**	**165**	P	**P**	**16 03 18.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=345,slow=10,SNR=7.9						
WRA				pP	**sP**	**16 03 53.1**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=342,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**30.10**	**167**	P	**P**	**16 03 48.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=345,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**30.10**	**167**	P	**P**	**16 03 50.1**	**-0.1**
JWT	**Wachi**	**30.26**	**14**	P	**P**	**16 03 52.4**	**+1.0**
JWT				IAmb	IAmb	16 04 03.8	
	comp=Z,7.7nm,1.3s						
BBOO	**Buckleboo**	**39.40**	**168**	P	**P**	**16 05 09.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**39.70**	**193**	P	**P**	**16 05 12.1**	**-0.4**
STKA	**Stephens Creek**	**40.00**	**161**	P	**P**	**16 05 14.1**	**-0.9**
	comp=Z,2.2nm,1.0s,baz=328,slow=15,SNR=4.8						
STKA	**Stephens Creek**	**40.00**	**161**	P	**P**	**16 05 14.3**	**-0.7**
STKA				IAmb	IAmb	16 05 18.5	
	comp=Z,3.2nm,1.5s						
SONM	**Songino Array**	**45.41**	**340**	P	**P**	**16 05 59.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=148,slow=8.4,SNR=3.5						
SONM	**Songino Array**	**45.41**	**340**	P	**P**	**16 06 00.3**	**+1.6**
SONM				IAmb	IAmb	16 06 00.3	
	comp=Z,3.5nm,1.5s						
PETK	**Petropavlovsk-**	**53.33**	**23**	P	**P**	**16 06 59.9**	**+1.2**
MK31	**Makanchi Array**	**56.03**	**324**	P	**P**	**16 07 18.3**	**-0.1**
MKAR	**Makanchi Array**	**56.03**	**324**	P	**P**	**16 07 17.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=113,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**56.03**	**324**	P	**P**	**16 07 18.2**	**-0.2**
MAKZ	**Makanchi**	**56.22**	**324**	P	**P**	**16 07 19.6**	**-0.2**
MAKZ				IAmb	IAmb	16 07 20.1	
	comp=Z,1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**58.87**	**332**	P	**P**	**16 07 37.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=122,slow=4.5,SNR=2.9						
ABKAR	**Akbulak array**	**70.74**	**320**	P	**P**	**16 08 54.8**	**-0.5**
ARCES	**ARCESS Array B**	**88.58**	**340**	P	**P**	**16 10 27.7**	**-3.5**
	comp=Z,2.9nm,1.1s,baz=79,slow=4.7,SNR=2.2						

*JMA **10** 16:15:39.4±0.3,39.62N×143.74E,h12km±5km,M3.9*
*IDC **10** 16:15:41.9±0.9,39.74N×143.45E,h0km,mb3.8/11, mb1 3.9/15,mb1mx3.8/47,mbtmp3.8/15,ML3.3/4,MS3.4/1, Ms1 3.4/1,ms1mx2.7/53, Error ellipse: s-maj=24.1km s-min=17.1km az=104.0*
*NEIC **10** 16:15:46.2±1.7,39.61N±0.06×143.4E±0.1,h32km±7km, mb4.0/7, Error ellipse: s-maj=15.9km s-min=8.5km az=104.0*

ISC 10 16:15:42.5±0.7, 39.63N±0.04×143.60E±0.05, h11km, n58, σ1§37/69, mb4.0/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.38**	**284**	P	**Pn**	**16 15 15.9**	**-1.7**
JTH				*eS*	**Sg**	**16 16 26.1**	**-0.7**
MIYJ	**Miyakonagasawa**	**1.38**	**268**	P	**Pn**	**16 16 06.2**	**-1.5**
MIYJ				*eS*	**Sn**	**16 16 25.0**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.57**	**292**	P	**Pn**	**16 16 08.4**	**-1.8**
OFUJ	**Ofunato**	**1.59**	**251**	P	**Pn**	**16 16 09.2**	**-1.5**
JANG	**Nango**	**1.77**	**296**	P	**Pn**	**16 16 11.0**	**-2.0**
JOM	**Ohasama**	**1.79**	**266**	P	**Pn**	**16 16 12.5**	**-0.9**
JOM				*eS*	**Sb**	**16 16 36.7**	**-1.1**
JMK	**Ichinoseki**	**1.97**	**251**	P	**Pn**	**16 16 14.8**	**-1.0**
JIO	**Ouri**	**2.11**	**237**	P	**Pn**	**16 16 16.2**	**-1.5**
JTM	**Tenmabayashi**	**2.26**	**302**	P	**Pn**	**16 16 19.2**	**-0.6**
JTM				*eS*	**Sb**	**16 16 49.9**	**-1.4**
JTM	**Tenmabayashi**	**2.26**	**302**		**Pn**	**16 16 19.5**	**-0.3**
ERM	**Erimo**	**2.41**	**352**	Pn	**Pn**	**16 16 22.4**	**+0.5**
JYK	**Kaneyama**	**2.62**	**255**	P	**Pn**	**16 16 24.5**	**-0.2**
JOT	**Ohata**	**2.62**	**313**	*eS*	**Sn**	**16 16 57.0**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.73**	**347**	P	**Pn**	**16 16 26.7**	**+0.5**
JNBK				*eS*	**Sn**	**16 16 59.5**	**+0.3**
JMM	**Marumori**	**2.81**	**232**		**Pn**	**16 16 25.8**	**-1.6**
JKB	**Kayabe**	**2.98**	**320**	*eS*	**Sn**	**16 17 06.7**	**+1.2**
JCH	**Churui**	**2.99**	**357**	P	**Pn**	**16 16 29.4**	**-0.4**
JCH				*eS*	**Sn**	**16 17 03.7**	**-1.9**
JFT	**Otama**	**3.31**	**232**	P	**Pn**	**16 16 33.6**	**-0.7**
JFT				*eS*	**Sn**	**16 17 14.6**	**+0.9**
JEW	**Eniwo**	**3.60**	**334**	Pn	**Pn**	**16 16 40.9**	**+2.7**
JYT	**Yasato**	**4.33**	**220**	Pn	**Pn**	**16 16 47.9**	**-0.4**
JSD	**Sado**	**4.46**	**251**		**Pn**	**16 16 49.5**	**-0.6**
JKA	**Kamikawa-asahi**	**4.55**	**351**	Pn	**Pn**	**16 16 51.6**	**+0.3**
ASAJ	**Asahikawa**	**4.55**	**351**	Pn	**Pn**	**16 16 51.2**	**0.0**
	1.2nm,0.3s,baz=185,slow=15,SNR=14						
ASAJ				Sn	**Sn**	**16 17 42.3**	**-1.8**
	1.2nm,0.3s,baz=108,slow=20,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.25**	**236**	Pn	**Pn**	**16 17 01.2**	**+0.2**
	0.3nm,0.3s,baz=42,slow=12,SNR=38						
MJAR	**Matsushiro Arr**	**5.25**	**236**	Pn	**Pn**	**16 17 01.4**	**+0.4**
MAJO	**Matsushiro**	**5.25**	**236**	Pn	**Pn**	**16 17 01.2**	**+0.2**
MAT	**Matsushiro**	**5.25**	**236**	P	**Pn**	**16 17 01.2**	**+0.2**
MAT				*eS*	**Sn**	**16 18 03.2**	**+1.7**
JGF	**Kuroka**	**6.38**	**233**	Pn	**Pn**	**16 17 16.2**	**-0.3**
INU	**Inuyama**	**6.75**	**233**	Pn	**Pn**	**16 17 22.5**	**+0.9**
JHJ2	**Mitsune**	**7.18**	**206**	Pn	**Pn**	**16 17 28.0**	**+0.5**
JHJ	**Hachijo jima 2**	**7.19**	**207**	Pn	**Pn**	**16 17 26.8**	**-0.7**
	7.4nm,0.3s,baz=156,slow=23,SNR=6.4						
JHJ				Sn	**Sn**	**16 18 43.5**	**-5.7**
	8.1nm,0.3s,baz=52,slow=19,SNR=2.1						
JWT	**Wachi**	**7.83**	**239**	Pn	**Pn**	**16 17 37.2**	**+0.9**
USA0B	**Ussuriysk Arra**	**9.79**	**302**	Pn	**Pn**	**16 18 05.4**	**+2.3**
USRK	**Ussuriysk Ar.**	**9.79**	**302**	Pn	**Pn**	**16 18 05.1**	**+2.0**
	baz=96,slow=13,SNR=11						
USRK	**Ussuriysk Ar.**	**9.79**	**302**	Pn	**Pn**	**16 18 06.0**	**+2.9**
KSRS	**Korea Array**	**12.47**	**265**	Pn	**Pn**	**16 18 40.7**	**+0.8**
	0.1nm,0.3s,baz=88,slow=12,SNR=4.9						
KSRS				LR	LR	16 23 07.0	
	comp=Z,159nm,18.2s,baz=160,slow=36						
SEY	**Seymchan**	**23.93**	**10**	P	**P**	**16 20 56.5**	**+0.2**
	3.5nm,0.8s,baz=201,slow=8.8,SNR=4.0						
ULN	**Ulaanbaatar**	**27.45**	**300**	P	**P**	**16 21 28.4**	**-0.1**
ULN				IAmb	IAmb	16 21 29.4	
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**27.89**	**299**	P	**P**	**16 21 32.2**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=94,slow=9.1,SNR=6.6						
SONM	**Songino Array**	**27.89**	**299**	P	**P**	**16 21 31.5**	**-0.9**
ENSH	**Enshi**	**29.33**	**262**	P	**P**	**16 21 44.1**	**-1.2**
ZALV	**Zalesovo Beam**	**41.50**	**310**	P	**P**	**16 23 29.1**	**-0.2**
	comp=Z,4.0nm,1.1s,baz=81,slow=9.2,SNR=6.1						
ZALV				PcP	**PcP**	**16 25 27.1**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=114,slow=3.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**41.50**	**310**	P	**P**	**16 23 28.5**	**-0.8**
MK31	**Makanchi Array**	**44.25**	**300**	P	**P**	**16 23 51.0**	**-0.9**
MK31				IAmb	IAmb	16 23 52.4	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**44.25**	**300**	P	**P**	**16 23 51.6**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=82,slow=8.9,SNR=16						
MKAR	**Makanchi Array**	**44.25**	**300**	P	**P**	**16 23 50.7**	**-1.2**
MAKZ	**Makanchi**	**44.46**	**300**	P	**P**	**16 23 52.2**	**-1.3**
MAKZ				IAmb	IAmb	16 23 54.6	
	comp=Z,2.2nm,0.9s						
ILAR	**Eielson Array**	**46.38**	**34**	P	**P**	**16 24 09.3**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=270,slow=7.8,SNR=2.8						
ABKAR	**Akbulak array**	**57.60**	**310**	P	**P**	**16 25 32.1**	**-0.2**
ABKAR				IAmb	IAmb	16 25 32.8	
	comp=Z,2.6nm,0.9s						
WRA	**Warramunga Arr**	**59.89**	**190**	P	**P**	**16 25 51.2**	**+2.8**
	comp=Z,0.5nm,0.9s,baz=12,slow=7.2,SNR=2.2						
ASAR	**Alice Springs**	**63.61**	**190**	P	**P**	**16 26 14.9**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=14,slow=7.4,SNR=1.6						
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**16 26 36.7**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=150,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**16 26 37.5**	**+0.5**
KBZ	**Khabaz**	**70.51**	**311**	P	**P**	**16 26 57.8**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=45,slow=2.9,SNR=5.4						
NVAR	**Mina Array Bea**	**72.07**	**55**	P	**P**	**16 27 08.6**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=290,slow=10,SNR=1.5						
NVAR	**Mina Array Bea**	**72.07**	**55**	P	**P**	**16 27 08.2**	**+1.2**
NOA	**NORSAR Array B**	**72.45**	**338**	P	**P**	**16 27 08.6**	**0.0**
	comp=Z,1.1nm,0.8s,baz=37,slow=6.1,SNR=4.2						
BURAR	**Bucovina Array**	**77.33**	**322**	P	**P**	**16 27 37.1**	**-0.1**
BURAR				IAmb	IAmb	16 27 38.7	
	comp=Z,1.2nm,0.8s						

*IDC **10** 16:18:36.5±1.0, 15.56S×173.10W, h0km, mb3.7/7, mb1 4.1/8,mb1mx3.8/25,mbtmp3.8/8,ML4.5/1, Error ellipse: s-maj=55.1km s-min=19.9km az=138.0*
*NOU **10** 16:18:56.9, 14.07S×172.01W, h94km, MLv3.1, Samoa Islands*

ISC 10 16:18:40.9±1.0, 15.4S±0.3×173.0W±0.3, h29km, n10, σ1§86/11, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.91**	**40**	Pn	**Pn**	**16 19 12.0**	**+0.5**
	149nm,0.3s,baz=197,slow=2.2,SNR=194						
AFI				Sn	**Sn**	**16 19 30.8**	**-3.8**
	87nm,0.3s,baz=34,slow=22,SNR=6.4						
AFI	**Afiamalu**	**1.91**	**40**	P	**Pn**	**16 19 11.9**	**+0.4**
URZ	**Urewera**	**24.39**	**199**	P	**P**	**16 23 54.6**	**-2.0**
	11nm,0.9s,baz=307,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**50.19**	**257**	P	**P**	**16 27 33.7**	**-0.8**
	0.5nm,0.9s,baz=90,slow=9.4,SNR=2.2						
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**16 27 35.0**	**-1.4**
	0.6nm,0.6s,baz=87,slow=7.0,SNR=5.5						
NVAR	**Mina Array Bea**	**74.08**	**42**	P	**P**	**16 30 16.1**	**+1.4**
	0.9nm,0.8s,baz=228,slow=8.5,SNR=5.8						
TXAR	**Lajitas Array**	**80.31**	**56**	P	**P**	**16 30 51.0**	**+1.2**
	0.6nm,0.9s,baz=223,slow=6.8,SNR=5.5						
PDAR	**Pinedale Array**	**82.02**	**42**	P	**P**	**16 30 59.7**	**+1.1**
	0.2nm,0.3s,baz=270,slow=2.7,SNR=3.6						
ILAR	**Eielson Array**	**82.36**	**11**	P	**P**	**16 31 00.7**	**+1.1**
	0.3nm,0.6s,baz=220,slow=6.4,SNR=2.5						
BRTR	**Keskin Array B**	**146.37**	**321**	PKPbc	**PKPbc**	**16 38 20.1**	**+0.5**
	0.4nm,0.7s,baz=64,slow=2.9,SNR=4.5						

*IDC **10** 16:42:32.3±1.0,25.81S×176.76W,h0km,mb4.3/8, mb1 4.5/11,mb1mx4.2/27,mbtmp4.4/11,ML4.5/3,MS3.5/1, Ms1 3.5/1,ms1mx2.7/25, Error ellipse: s-maj=33.8km s-min=17.8km az=98.0*
*NEIC **10** 16:42:34.0±1.9,25.91S±0.09×176.6W±0.2,h10km±2km, mb4.5/11, Error ellipse: s-maj=25.5km s-min=10.3km az=112.0*

ISC 10 16:42:33.5±0.6, 25.84S±0.07×176.7W±0.2, h10km, n38, σ1§18/37, mb4.4/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.58**	**198**	Pn	**Pn**	**16 43 30.4**	**+1.3**
	138nm,0.3s,baz=75,slow=19,SNR=4.2						
RAO				Sn	**Sn**	**16 44 12.1**	**+0.7**
	631nm,0.3s,baz=86,slow=23,SNR=13						
RAO	**Raoul Island**	**3.58**	**198**		**Pn**	**16 43 29.4**	**+0.4**
RAO				Sn	**Sn**	**16 44 11.5**	**+0.1**
NIUE	**Niue**	**9.17**	**44**		**Pn**	**16 44 45.2**	**-0.7**
MSVF	**Nonsavu**	**9.44**	**328**	Pn	Pn	16 44 55.3	+5.6
	4.4nm,0.3s,baz=272,slow=23,SNR=11						
AFI	**Afiamalu**	**12.72**	**22**	Pn	**Pn**	**16 45 33.6**	**-1.0**
	4.9nm,0.3s,baz=256,slow=4.5,SNR=7.2						
AFI				Sn	Sn	16 47 42.7	-14
	3.0nm,0.3s,baz=52,slow=19,SNR=1.5						
AFI	**Afiamalu**	**12.72**	**22**	Pn	**Pn**	**16 45 34.1**	**-0.6**
URZ	**Urewera**	**13.46**	**202**	Pn	**Pn**	**16 45 44.0**	**-0.5**
	0.5nm,0.3s,baz=128,slow=20,SNR=1.8						
URZ				Sn	Sn	16 48 00.9	-13
	1.2nm,0.3s,baz=128,slow=20,SNR=2.1						
URZ				LR	LR	16 49 22.5	
	comp=Z,170nm,18.6s,baz=31,slow=30						
BKZ	**Black Stump Fm**	**14.48**	**202**	Pn	**Pn**	**16 45 55.6**	**-3.0**
THZ	**Tophouse**	**18.07**	**206**		**Pn**	**16 46 44.1**	**-0.6**
THZ				IAmb	IAmb	16 46 49.7	
	comp=Z,33nm,1.1s						
AS31	**Alice Springs**	**44.74**	**262**	P	**P**	**16 50 45.7**	**-1.6**
ASAR	**Alice Springs**	**44.74**	**262**	P	**P**	**16 50 46.6**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=88,slow=6.7,SNR=20						
ASAR	**Alice Springs**	**44.74**	**262**	P	**P**	**16 50 46.3**	**-1.1**
WRAB	**Tennant Creek**	**45.31**	**267**	P	**P**	**16 50 54.1**	**+2.2**
WRA	**Warramunga Arr**	**45.32**	**267**	P	**P**	**16 50 51.2**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=104,slow=7.9,SNR=18						
KNRA	**Kununurra**	**51.72**	**270**	P	**P**	**16 51 40.9**	**-0.4**
KNRA				IAmb	IAmb	16 51 55.1	
	comp=Z,4.0nm,0.8s						
SBA	**Scott Base**	**52.66**	**184**	P	**P**	**16 51 49.5**	**+2.1**
SBA				IAmb	IAmb	16 51 54.0	
	comp=Z,6.9n

PB04	**IPOC Station P**	**1.51 252**	⇑*iP*		**Pn**	**17 09 47.0**	**+0.4**
PB04			*i* S		**Sn**	**17 10 07.6**	**-0.4**
PB04			IAML			17 10 10.3	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**1.51 252**			**Pn**	**17 09 46.9**	**+0.2**
PB15	**IPOC Station P**	**1.56 211**	⇑*iP*		**Pn**	**17 09 48.1**	**+0.9**
PB15			*i* S		**Sn**	**17 10 09.7**	**+0.6**
PB15	**IPOC Station P**	**1.56 211**			**Pn**	**17 09 47.8**	**+0.5**
PB15			Sn		**Sn**	**17 10 10.0**	**+0.9**
PB05	**IPOC Station P**	**1.78 236**	⇑*iP*		**Pn**	**17 09 50.0**	**+0.3**
PB05			*i* S		**Sn**	**17 10 12.6**	**-1.0**
PATCX	**Punta Patache**	**1.79 306**	⇑*iP*		**Pn**	**17 09 50.1**	**+0.4**
PATCX			*i* S		**Sn**	**17 10 13.8**	**+0.1**
PATCX			IAML			17 10 15.7	
	comp=E,2μm,0.2s						
PATCX	**Punta Patache**	**1.79 306**			**Pn**	**17 09 50.0**	**+0.2**
PATCX			Sn		**Sn**	**17 10 13.9**	**+0.1**
PB08	**IPOC Station P**	**1.80 343**	⇑*iP*		**Pn**	**17 09 51.5**	**+1.3**
PB08			*i* S		**Sn**	**17 10 15.8**	**+1.4**
PB08			IAML			17 10 18.5	
	comp=E,1μm,0.5s						
PB08	**IPOC Station P**	**1.80 343**			**Pn**	**17 09 51.6**	**+1.3**
TA01	**Diego Aracena**	**1.97 311**	⇑*iP*		**Pn**	**17 09 51.9**	**0.0**
TA01			*i* S		**Sn**	**17 10 17.1**	**-0.3**
TA01			IAML			17 10 19.6	
	comp=E,2μm,0.4s						
TA01	**Diego Aracena**	**1.97 311**			**Pn**	**17 09 51.8**	**0.0**
TA01			Sn		**Sn**	**17 10 16.3**	**-1.1**
HMBC	**Humberstone**	**1.99 323**	⇑*iP*		**Pn**	**17 09 52.3**	**0.0**
HMBC			*i* S		**Sn**	**17 10 17.8**	**-0.4**
HMBC			IAML			17 10 20.2	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**2.14 318**	*eP*		**Pn**	**17 09 52.5**	**-1.5**
TA02			*i* S		**Sn**	**17 10 20.6**	**-0.7**
TA02			IAML			17 10 28.8	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**2.14 318**			**Pn**	**17 09 53.5**	**-0.5**
PB11	**IPOC Station P**	**2.32 335**	Pn		**Pn**	**17 09 56.5**	**0.0**
PB11			Sn		**Sn**	**17 10 25.8**	**+0.2**
PB10	**IPOC Station P**	**2.44 227**	*eP*		**Pn**	**17 09 57.8**	**0.0**
PB10			*i* S		**Sn**	**17 10 26.1**	**-1.8**
PB10			IAML			17 10 38.3	
	comp=N,206nm,0.2s						
PB10	**IPOC Station P**	**2.44 227**			**Pn**	**17 09 57.7**	**0.0**
PSGC	**Pisagua**	**2.67 327**	⇑*iP*		**Pn**	**17 10 00.1**	**-0.8**
PSGC			*i* S		**Sn**	**17 10 32.0**	**-1.5**
PSGC			IAML			17 10 35.0	
	comp=E,404nm,0.3s						
PSGCX	**Pisagua**	**2.67 327**			**Pn**	**17 10 00.0**	**-0.9**
MNMC	**Minye Minye**	**2.88 341**	⇑*iP*		**Pn**	**17 10 04.3**	**+0.5**
MNMC			*i* S		**Sn**	**17 10 39.2**	**+0.7**
MNMC	**Minye Minye**	**2.88 341**			**Pn**	**17 10 04.1**	**+0.4**
PB14	**IPOC Station P**	**3.21 211**	*eP*		**Pn**	**17 10 07.9**	**-0.1**
PB14	**IPOC Station P**	**3.21 211**			**Pn**	**17 10 07.7**	**-0.3**
GO02	**Mina Guanaco**	**3.40 195**	⇑*iP*		**Pn**	**17 10 10.7**	**+0.1**
GO02			IAML			17 10 54.3	
GO02	**Mina Guanaco**	**3.40 195**			**Pn**	**17 10 10.5**	**0.0**
PB16	**IPOC Station P**	**3.62 346**			**Pn**	**17 10 14.8**	**+1.1**
AP01	**Chacalluta**	**3.85 335**	Pn		**Pn**	**17 10 15.4**	**-0.7**
AC01	**Pan de Azucar**	**4.63 203**	Pn		**Pn**	**17 10 25.0**	**-1.6**
AC02	**Maricunga**	**4.97 185**	*eP*		**Pn**	**17 10 31.7**	**+0.1**
AC02	**Maricunga**	**4.97 185**			**Pn**	**17 10 31.6**	**+0.1**
LPAZ	**La Paz**	**5.57 5**	P		**Pn**	**17 10 42.1**	**+2.3**
	comp=E,1.5nm,0.3s,baz=196,slow=5.6,SNR=30						
LPAZ	**La Paz**	**5.57 5**	Pn		**Pn**	**17 10 41.8**	**+2.0**
GO03	**Copiap**	**5.89 194**			**Pn**	**17 10 41.8**	**-1.7**
AC04	**Llanos de Chal**	**6.69 199**	Pn		**Pn**	**17 10 50.7**	**-3.6**
GO04	**Tololo Observa**	**8.50 193**	Pn		**Pn**	**17 11 15.2**	**-3.7**
CO03	**El Pedregal**	**9.13 191**	Pn		**Pn**	**17 11 25.5**	**-1.7**
SIV	**San Ignacio**	**9.21 52**	P		**Pn**	**17 11 26.6**	**-1.8**
	comp=E,0.4nm,0.3s,baz=239,slow=14,SNR=4.7						
SIV			S		**Sn**	**17 13 06.8**	**-3.6**
	comp=E,0.2nm,0.3s,baz=167,slow=19,SNR=1.4						
CO02	**Combarbal**	**9.54 193**	Pn		Pn	17 11 27.8	-4.9
CPUP	**Villa Florida**	**11.21 116**	P		**Pn**	**17 11 54.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz=292,slow=12,SNR=4.2						
CPUP	**Villa Florida**	**11.21 116**			**Pn**	**17 11 53.0**	**-2.0**
MT02	**Curacav**	**11.56 191**	Pn		**Pn**	**17 11 59.2**	**-0.5**
TRCB	**Terra Rica**	**14.80 97**	P		P	**17 12 42.9**	**-1.4**
ITAB	**Concordia**	**15.90 113**	P		P	**17 12 56.9**	**+0.6**
PLTB	**Pedras Altas**	**16.60 130**	P		P	**17 13 03.5**	**-0.5**
PLTB			IAmb		IAmb	17 13 05.1	
	comp=Z,13nm,1.4s						
PLCA	**Paso Flores**	**18.88 185**	P		**Pn**	**17 13 30.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=4.8						
PLCA	**Paso Flores**	**18.88 185**			**P**	**17 13 28.4**	**-0.6**
VNA2	**Neumayer--Watz**	**60.21 161**	P		P	17 19 18.8	+6.1
SNAA	**Sanae**	**61.84 161**	P		P	**17 19 25.9**	**+2.2**
SNAA	**Sanae**	**61.84 161**	P		P	**17 19 25.5**	**+1.7**
QSPA	**South Pole Qui**	**68.32 180**	P		**P**	**17 20 08.4**	**+2.6**
	comp=Z,1.2nm,0.9s,baz=168,slow=1.7,SNR=8.5						
QSPA	**South Pole Qui**	**68.32 180**	IAmb		IAmb	17 20 10.7	
	comp=Z,5.0nm,1.4s						
SRU	**San Rafael Swe**	**72.24 327**	P		**P**	**17 20 29.1**	**-1.0**
SRU			IAmb		IAmb	17 20 34.1	
	comp=Z,2.8nm,0.7s						
TMUT	**Trail Mountain**	**72.73 327**	P		**P**	**17 20 29.3**	**-3.8**
TMUT			IAmb		IAmb	17 20 44.4	
	comp=Z,1.4nm,0.9s						
SBA	**Scott Base**	**75.52 190**	P		**P**	**17 20 46.2**	**-2.2**
NVAR	**Mina Array Bea**	**75.96 322**	P		**P**	**17 20 55.8**	**+4.0**
	comp=Z,0.4nm,0.7s,baz=177,slow=7.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.21 70**	P		**P**	**17 21 00.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=249,slow=5.7,SNR=6.4						

*IDC **10** 17:19:46.6±0.8, 9.°35S×148.°88E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/37, mbtmp4.0/12, ML3.6/2, MS3.5/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=21.2km s-min=17.0km az=110.0*
*NEIC **10** 17:19:51.0±2.1, 9.°55S±0.°1×148.°84E±0.°07, h25km±6km, mb4.2/6, Error ellipse: s-maj=16.7km s-min=9.5km az=183.0*
ISC 10 17:19:49.9±0.6, **9.°50S**±0.°07×**148.°75E**±0.°08, **h22**km, **n29,**
σ1**80**/31, **mb4.1**/11, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PMG	**Port Moresby**	**1.57 273**		Pn		**Pb**	**17 20 17.9**	**-0.3**
	66nm,0.3s,baz=84,slow=4.6,SNR=139							
PMG				Sn		**Sb**	**17 20 41.1**	**+3.5**
	57nm,0.3s,baz=184,slow=18,SNR=5.8							
PMG				LR		LR	17 21 04.6	
	comp=Z,441nm,18.3s,baz=186,slow=46							
PMG	**Port Moresby**	**1.57 273**				**Pb**	**17 20 18.2**	**-0.1**
PMG	**Port Moresby**	**1.57 273**	P			**Pb**	**17 20 18.4**	**+0.2**
CTA	**Charters Tower**	**10.80 193**	Pn			**Pn**	**17 22 25.7**	**+2.4**
	0.3nm,0.3s,baz=24,slow=16,SNR=2.2							
CTA				Sn		**Sn**	**17 24 23.7**	**+0.1**
	0.3nm,0.3s,baz=121,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**17.36 232**	P			**P**	**17 23 53.1**	**+0.9**
	0.2nm,0.3s,baz=58,slow=13,SNR=7.5							
WRA				S		**Sn**	**17 26 57.2**	**-6.5**
	0.1nm,0.3s,baz=46,slow=24,SNR=2.3							
AS31	**Alice Springs**	**19.99 223**	P			**P**	**17 24 20.9**	**-0.2**
ASAR	**Alice Springs**	**19.99 223**	P			**Pn**	**17 24 23.8**	**+0.8**
	7.3nm,0.8s,baz=60,slow=10,SNR=57							
ASAR				S		**S**	**17 28 01.7**	**-3.4**
	0.4nm,0.8s,baz=45,slow=23,SNR=2.6							
ASAR	**Alice Springs**	**19.99 223**	P			**P**	**17 24 20.0**	**-1.1**
STKA	**Stephens Creek**	**23.23 196**	P			**P**	**17 24 57.2**	**+1.5**
	3.9nm,0.9s,baz=4.4,slow=13,SNR=3.3							
STKA				LR		LR	17 34 04.4	
	comp=Z,133nm,18.7s,baz=25,slow=37							
FITZ	**Fitzroy Crossi**	**23.99 247**	P			**P**	**17 25 03.9**	**+0.7**
	5.4nm,0.7s,baz=61,slow=7.5,SNR=21							
FITZ				LR		LR	17 34 56.9	
	comp=Z,80nm,21.9s,baz=125,slow=38							
FITZ	**Fitzroy Crossi**	**23.99 247**	IAmb			IAmb	17 25 05.1	
	comp=Z,5.6nm,0.8s							
TPUB	**Ta-pu**	**42.66 320**	P			**P**	**17 27 44.0**	**-1.1**
KSRS	**Korea Array**	**50.62 339**	P			**P**	**17 28 47.2**	**0.0**
	comp=Z,1.5nm,0.6s,baz=155,slow=8.5,SNR=12							
CM31	**Chiang Mai Arr**	**56.45 300**	P			**P**	**17 29 31.3**	**+0.8**
CM31			IAmb			IAmb	17 29 32.3	
	comp=Z,3.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**56.45 300**	P			**P**	**17 29 31.2**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=127,slow=5.2,SNR=15							
PETK	**Petropavlovsk-**	**62.83 6**	P			**P**	**17 30 13.9**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=169,slow=8.4,SNR=2.5							
VNDA	**Vanda**	**68.34 177**	P			**P**	**17 30 50.5**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=330,slow=6.8,SNR=12							
VNDA	**Vanda**	**68.34 177**	IAmb			IAmb	17 30 52.4	
	comp=Z,1.5nm,0.8s							
BILL	**Bilibino**	**78.35 7**	P			**P**	**17 31 48.7**	**+0.6**
BILL			IAmb			IAmb	17 31 50.1	
	comp=Z,2.2nm,0.8s							
MKAR	**Makanchi Array**	**81.28 320**	P			**P**	**17 32 04.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=107,slow=6.6,SNR=5.5							
KURK	**Kurchatov**	**85.03 323**	P			**P**	**17 32 23.3**	**-0.4**
KURBB	**Kurchatov Arra**	**85.05 323**	P			**P**	**17 32 23.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=113,slow=4.2,SNR=4.1							
ILAR	**Eielson Array**	**88.01 23**	P			**P**	**17 32 36.5**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=250,slow=5.1,SNR=16							
LPAZ	**La Paz**	**135.41 125**	PKP			**PKPdf**	**17 39 09.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=252,slow=3.2,SNR=2.1							
LPAZ	**La Paz**	**135.41 125**				**PKPdf**	**17 39 07.7**	**-2.3**
TORD	**Torodi Ar. Bea**	**147.50 280**	PKPbc			**PKPbc**	**17 39 33.0**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=53,slow=2.4,SNR=15							
TORD	**Torodi Ar. Bea**	**147.50 280**				**PKPbc**	**17 39 33.4**	**0.0**
BDFB	**Brasilia**	**150.01 146**	PKPbc			**PKiKP**	**17 39 40.4**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=83,slow=1.6,SNR=4.7							
BDFB	**Brasilia**	**150.01 146**				**PKPbc**	**17 39 39.7**	**-0.2**

IDC 10 17:25:09.6±1.8, **2.°18N**×**124.°66E**, **h0**km, **mb3.6**/4, **mb1 3.9**/4, **mb1mx3.5**/39, **mbtmp3.7**/4, **MS1.6**/1, **Ms1 1.6**/1, **ms1mx1.6**/40, **Error ellipse: s-maj=128.2km s-min=24.0km az=66.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.94 11**		LR		LR	17 28 33.4	
	comp=Z,6.6nm,20.2s,baz=14,slow=41							
FITZ	**Fitzroy Crossi**	**20.17 177**		P		Pn	17 29 47.4	-0.3
	1.6nm,0.8s,baz=344,slow=7.4,SNR=1.5							
WRA	**Warramunga Arr**	**23.95 157**		P		P	17 30 25.7	-0.1
	2.2nm,0.3s,baz=333,slow=10,SNR=44							
ASAR	**Alice Springs**	**27.22 161**		P		P	17 30 55.0	-0.5
	0.2nm,0.4s,baz=341,slow=7.6,SNR=13							
MKAR	**Makanchi Array**	**57.67 327**		P		P	17 35 01.8	-0.2
	0.3nm,0.3s,baz=126,slow=7.8,SNR=5.7							

*IDC **10** 17:35:08.8±1.3, 48.°58N×155.°77E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/51, mbtmp3.6/7, ML2.6/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/48, Error ellipse: s-maj=41.9km s-min=21.8km az=135.0*
*KRSC **10** 17:35:10.6±1.6, 48.°76N×156.°35E, h17km±27km, ML3.9*
ISC 10 17:35:10.3±1.0, **48.°68N**±0.°09×**155.°8E**±0.°1, **h10**km, **n42,**
σ1**57**/45, **mb3.6**/4, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	**Severo-Kuril's**	**2.01 5**		P		**Pn**	**17 35 42.5**	**-1.8**
SKR				S		**Sn**	**17 36 07.1**	**-2.3**
ALID	**Alaid**	**2.19 356**		P		**Pn**	**17 35 46.6**	**-0.4**
PAU	**Pauzhetka**	**2.86 13**		P		**Pn**	**17 35 55.7**	**-0.2**
PAU				S		**Sn**	**17 36 28.8**	**-1.6**
KDTR	**Khodutka, Kamc**	**3.45 24**		P		**Pn**	**17 36 04.1**	**+0.1**
KDTR				S		**Sn**	**17 36 43.6**	**-1.3**
MIPR	**Malaya Ipel'ka**	**3.65 9**		P		**Pn**	**17 36 07.1**	**+0.3**
MTVR	**Mutnovka**	**4.09 21**		P		**Pn**	**17 36 13.6**	**+0.6**
MTVR				S		**Sn**	**17 37 00.1**	**-0.9**
RUS	**Russkaya**	**4.13 24**		P		**Pn**	**17 36 13.5**	**+0.1**
RUS				S		**Sn**	**17 37 00.1**	**-1.5**
GRL	**Gorelyy**	**4.13 19**		P		**Pn**	**17 36 15.0**	**+1.5**
GRL				S		**Sn**	**17 37 02.2**	**+0.3**
KRMR	**Karymshinskiy**	**4.40 19**		P		**Pn**	**17 36 19.7**	**+2.6**
PETK	**Petropavlovsk-**	**4.59 14**	Pn			**Pn**	**17 36 21.3**	**+1.6**
	1.5nm,0.3s,baz=169,slow=13,SNR=29							
PETK				Sn		**Sn**	**17 37 17.8**	**+4.8**
	baz=161,slow=15,SNR=1.3							
PET	**Petropavlovsk**	**4.70 21**		P		**Pn**	**17 36 22.5**	**+1.3**
PET				S		**Sn**	**17 37 15.2**	**-0.6**
DALK	**Dalny**	**4.73 22**		P		**Pn**	**17 36 22.6**	**+0.9**
DALK				S		**Sn**	**17 37 15.5**	**-1.0**
UGLR	**Uglovaya**	**4.91 22**		P		**Pn**	**17 36 25.9**	**+1.6**
AVH	**Avacha**	**4.94 21**		P		**Pn**	**17 36 26.8**	**+2.1**
KOK	**Koryaka**	**4.95 20**		P		**Pn**	**17 36 26.5**	**+1.8**
SMAR	**Somma**	**4.96 21**		P		**Pn**	**17 36 26.6**	**+1.6**
KRER	**Koryakskii**	**4.98 21**		P		**Pn**	**17 36 27.1**	**+1.8**
KRER				S		**Sn**	**17 37 23.5**	**+0.5**
SDLR	**Sedlovina**	**4.99 22**		P		**Pn**	**17 36 26.4**	**+1.1**
SDLR				S		**Sn**	**17 37 22.2**	**-0.9**
KRX	**Arik**	**5.01 20**		P		**Pn**	**17 36 27.6**	**+2.0**
KRX				S		**Sn**	**17 37 24.0**	**+0.4**
SPN	**Mys Shipunski**	**5.16 29**		P		**Pn**	**17 36 27.7**	**+0.2**
SPN				S		**Sn**	**17 37 24.4**	**-2.6**
GNL	**Ganaly**	**5.19 14**		P		**Pn**	**17 36 29.7**	**+1.9**
MKZ	**Mys Kozlova**	**6.93 30**		P		**Pn**	**17 36 52.2**	**+0.3**
KZV	**Kizimen**	**7.01 22**		P		**Pn**	**17 36 52.8**	**-0.2**
TUMR	**Tumrok**	**7.13 20**		P		**Pn**	**17 36 56.5**	**+1.9**
KMNR	**Kamenistaya**	**7.58 19**		P		**Pn**	**17 37 03.2**	**+2.3**
ASAJ	**Asahikawa**	**10.21 248**		Pn		**Pn**	**17 37 39.0**	**+2.2**
	1.5nm,0.3s,baz=59,slow=13,SNR=19							
USRK	**Ussuriysk Ar.**	**17.00 264**		Pn		**Pn**	**17 39 08.3**	**+0.3**
	baz=58,slow=18,SNR=4.2							
USRK				LR		LR	17 44 59.0	
	comp=Z,41nm,19.1s,baz=96,slow=35							
MJAR	**Matsushiro Arr**	**17.70 233**		P		**Pn**	**17 39 16.2**	**-0.7**
	0.0nm,0.3s,baz=41,slow=11,SNR=2.2							
KSRS	**Korea Array**	**23.14 251**		P		**P**	**17 40 16.1**	**-0.3**
	1.4nm,0.7s,baz=47,slow=9.4,SNR=8.7							
H11N2	**WAKE ISLAND Hy**	**30.23 159**		T		T	18 13 24.6	
	baz=345,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy**	**30.25 159**		T		T	18 13 34.8	
	baz=345,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**30.25 159**		T		T	18 13 25.8	
	baz=345,slow=76,SNR=19							
H11S1	**WAKE ISLAND Hy**	**31.37 160**		T		T	18 14 44.1	
	baz=345,slow=76,SNR=150							
H11S3	**WAKE ISLAND Hy**	**31.38 160**		T		T	18 14 50.6	
	baz=345,slow=76,SNR=180							
H11S2	**WAKE ISLAND Hy**	**31.39 160**		T		T	18 14 56.7	
	baz=345,slow=76,SNR=70							
MKAR	**Makanchi Array**	**47.68 297**		LR		LR	18 04 21.3	
	comp=Z,45nm,19.1s,baz=352,slow=37							
CMAR	**Chiang Mai Arr**	**54.59 257**		P		**P**	**17 44 37.8**	**-1.2**
	0.7nm,0.7s,baz=29,slow=7.1,SNR=6.7							
ASAR	**Alice Springs**	**74.64 201**		P		**P**	**17 46 49.5**	**-0.2**
	0.4nm,0.7s,baz=19,slow=4.8,SNR=5.8							
TXAR	**Lajitas Array**	**74.96 63**		P		**P**	**17 46 52.3**	**+0.5**
	0.3nm,0.5s,baz=284,slow=3.6,SNR=2.9							
H03N2	**Juan Fernandez**	**136.93 90**		T		T	20 27 46.2	
	baz=310,slow=77,SNR=6.1							
H03N1	**Juan Fernandez**	**136.95 90**		T		T	20 27 47.6	
	baz=310,slow=77,SNR=8.1							
H03N3	**Juan Fernandez**	**136.95 90**		T		T	20 27 47.2	
	baz=310,slow=77,SNR=6.9							

*IDC **10** 17:40:15.4±2.4, 6.°14S×154.°61E, h383km±29km, mb3.1/9, mb1 3.2/10, mb1mx3.0/40, mbtmp3.9/10, Error ellipse: s-maj=30.3km s-min=17.1km az=116.0*
ISC 10 17:40:11.4±1.9, **6.°2S**±0.°2×**154.°8E**±0.°4, **h350**km, **n11,**
σ0**57**/12, **mb3.3**/9, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**6.04 123**		P		Pn	17 41 49.9	+7.1
	3.7nm,0.3s,baz=205,slow=5.0,SNR=1.4							
WRA	**Warramunga Arr**	**24.11 234**		P		**P**	**17 44 57.7**	**+0.8**
	0.5nm,0.7s,baz=55,slow=9.9,SNR=1.8							
WRA				PcP		**PcP**	**17 48 27.4**	**-0.2**
	0.7nm,1.0s,baz=56,slow=2.2,SNR=2.3							
ASAR	**Alice Springs**	**26.56 227**		P		**P**	**17 45 19.6**	**+0.8**
	0.3nm,0.4s,baz=56,slow=9.2,SNR=15							
ASAR				PcP		**PcP**	**17 48 33.0**	**-0.1**
	0.3nm,0.5s,baz=68,slow=1.9,SNR=5.2							
FITZ	**Fitzroy Crossi**	**30.79 245**		P		**P**	**17 45 55.8**	**-0.3**
	1.2nm,0.3s,baz=44,slow=6.0,SNR=9.4							
JNU	**Nakatsue**	**45.21 331**		P		**P**	**17 47 54.9**	**-0.2**
	3.2nm,0.7s,baz=117,slow=6.8,SNR=2.2							
KSRS	**Korea Array**	**50.13 332**		P		**P**	**17 48 32.5**	**+0.1**
	0.8nm,0.6s,baz=142,slow=6.7,SNR=4.4							
PETK	**Petropavlovsk-**	**59.12 2**		P		**P**	**17 49 36.5**	**+0.4**
	1.0nm,0.8s,baz=150,slow=6.7,SNR=1.8							
CMAR	**Chiang Mai Arr**	**60.25 295**		P		**P**	**17 49 44.3**	**-0.1**
	0.3nm,0.3s,baz=111,slow=5.3,SNR=5.9							
SONM	**Songino Array**	**68.55 327**		P		**P**	**17 50 37.7**	**+0.4**
	0.4nm,0.5s,baz=99,slow=4.5,SNR=3.3							
MKAR	**Makanchi Array**	**82.67 319**		P		**P**	**17 51 56.5**	**-0.1**
	1.1nm,0.8s,baz=105,slow=5.1,SNR=12							
TORD	**Torodi Ar. Bea**	**152.60 287**		PKPbc		**PKiKP**	**17 59 27.0**	**-1.1**
	0.4nm,0.3s,baz=89,slow=1.4,SNR=4.5							

IDC 10 17:43:25.4±1.7, **2.°78N**×**128.°58E**, **h0**km, **mb3.6**/5, **mb1 3.8**/5, **mb1mx3.5**/44, **mbtmp3.6**/5, **Error ellipse: s-maj=136.1km s-min=19.8km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.27 166**		P		P	17 48 35.2	+0.4
	0.6nm,0.3s,baz=346,slow=11,SNR=19							
ASAR	**Alice Springs**	**26.79 169**		P		P	17 49 07.2	-0.2
	0.3nm,0.5s,baz=351,slow=7.7,SNR=11							
STKA	**Stephens Creek**	**36.61 161**		P		P	17 50 33.1	-0.5
	0.7nm,0.3s,baz=337,slow=7.7,SNR=3.6							
MKAR	**Makanchi Array**	**59.39 325**		P		P	17 53 30.0	+0.3
	0.2nm,0.4s,baz=115,slow=8.4,SNR=4.9							
KURBB	**Kurchatov Arra**	**63.54 327**		P		P	17 53 57.5	-0.1
	0.3nm,0.4s,baz=127,slow=5.9,SNR=5.9							

*IDC **10** 17:46:22.9±0.7, 38.°28N×144.°86E, h0km, mb3.9/13, mb1 4.1/19, mb1mx4.0/48, mbtmp4.0/19, ML3.8/4, MS2.9/6, Ms1 2.9/6, ms1mx2.7/41, Error ellipse: s-maj=18.4km s-min=15.5km az=126.0*
*NEIC **10** 17:46:26.2±1.9, 38.°35N±0.°07×144.°8E±0.°1, h22km±5km, mb4.1/10, Error ellipse: s-maj=15.6km s-min=10.2km az=109.0*
*NIED **10** 17:46:26.9, 38.°40N×144.°60E, h44km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=6.04; Mθθ3.36; Mφφ2.68; Mrθ4.46; Mθφ2.72; Mφr3.02; Fault plane solution: M0 7.99000×10¹⁴ NP1: φs233.00000°, δ66.00000°, λ-86.00000°. NP2:φs44.00000°, δ24.00000°, λ-98.00000°.*
*JMA **10** 17:46:26.9±0.2, 38.°40N×144.°60E, h44km, M4.4*
ISC 10 17:46:27.8±0.6, **38.°38N**±0.°05×**144.°76E**±0.°06, **h35**km, **n74,**
σ2**°03**/83, **mb4.0**/19, **MS3.4**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.52 287**		P		**Pn**	**17 47 05.1**	**-1.1**
OFUJ				*e*S		**Sn**	**17 47 33.4**	**-2.2**
MIYJ	**Miyakonagasawa**	**2.59 298**		P		**Pn**	**17 47 05.8**	**-1.3**
MIYJ				*e*S		**Sn**	**17 47 34.6**	**-2.7**
JIKH	**Ishinomakikobu**	**2.59 270**		P		**Pn**	**17 47 05.8**	**-1.4**
JIKH				S		**Sn**	**17 47 34.4**	**-3.0**
JKMT	**Kesennumamotoy**	**2.61 281**		P		**Pn**	**17 47 06.2**	**-1.2**
JKMT				S		**Sn**	**17 47 35.3**	**-2.6**
JMK	**Ichinoseki**	**2.83 283**		P		**Pn**	**17 47 09.7**	**-0.8**
JMK				S		**Sn**	**17 47 41.3**	**-2.0**
JOM	**Ohasama**	**2.92 293**		P		**Pn**	**17 47 10.9**	**-0.8**
JOM				S		**Sn**	**17 47 43.4**	**-2.1**
JMM	**Marumori**	**3.17 262**	Pn			**Pn**	**17 47 14.0**	**-1.2**
JANG	**Nango**	**3.21 309**	P			**Pn**	**17 47 14.0**	**-1.7**
JYK	**Kaneyama**	**3.49 280**	P			**Pn**	**17 47 19.0**	**-0.5**
JYK				*e*S		**Sn**	**17 47 57.8**	**-1.8**
JFT	**Otama**	**3.60 258**	P			**Pn**	**17 47 20.9**	**-0.2**
JFT				S		**Sn**	**17 48 00.7**	**-1.7**
JTM	**Tenmabayashi**	**3.73 311**				**Pn**	**17 47 21.7**	**-1.1**
ERM	**Erimo**	**3.83 342**	Pn

FINES				LR	LR	18 29 52.0
	comp=Z,24nm,18.3s,baz=26,slow=38					
KBZ	**Khabaz**	**72.02**	**312**	P	**P**	**17 57 49.9 +2.0**
	comp=Z,3.2nm,0.8s,baz=54,slow=6.3,SNR=7.1					
NVAR	**Mina Array Bea**	**72.05**	**55**	P	**P**	**17 57 49.2 +0.7**
	comp=Z,0.7nm,0.7s,baz=280,slow=5.8,SNR=5.5					
R11A	**Troy Canyon, C**	**73.83**	**54**	P	**P**	**17 57 59.7 +0.6**
R11A				IAmb	IAmb	17 58 00.9
	comp=Z,1.5nm,0.8s					
NOA	**NORSAR Array B**	**73.94**	**338**	LR	LR	18 33 50.7
	comp=Z,9.9nm,21.3s,baz=0.0,slow=38					
PDAR	**Pinedale Array**	**74.82**	**47**	P	**P**	**17 58 05.8 +1.0**
	comp=Z,0.7nm,0.6s,baz=226,slow=4.8,SNR=3.9					
AKASG	**Malin Array Be**	**74.83**	**324**	P	**P**	**17 58 05.2 +0.9**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.3,SNR=4.2					
TCRU	**Three Creeks R**	**75.65**	**52**	P	**P**	**17 58 09.2 -0.4**
CLL	**Collm**	**81.21**	**332**	*e*P	**P**	**17 58 41.0 +1.3**
NNZ	**Nelson**	**83.42**	**159**	P	**P**	**17 58 51.2 +0.1**

*TUL **10** 17:54:31.7±0.7, 36°.29N±0'.01×97°.52W±0'.03, h8km±7km, ML2.6, mb_Lg2.6/33(NEIC), Error ellipse: s-maj=4.1km s-min=0.9km az=67.0*

NEIC 10 17:54:31.5±0.7, 36°.29N±0'.02×97°.53W±0'.02, h5km±7km, Error ellipse: s-maj=3.4km s-min=0.5km az=223.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.49**	**173**	Pg	Pg	17 54 41.1	+0.1
OK031	**S. Brethren Rd**	**0.65**	**121**	Pg	Pg	17 54 44.1	+0.2
OK031				Sg	Sg	17 54 52.9	+0.5
OK030	**Cody Creek RV**	**0.70**	**121**	Pg	Pg	17 54 44.9	0.0
OK030				Sg	Sg	17 54 54.6	+0.6
OK025	**Westminster Rd**	**0.72**	**168**		Pg	17 54 45.4	+0.1
KAN13	**South Haven SW**	**0.72**	**3**		Pg	17 54 45.3	-0.1
OK032	**Salt Plains WL**	**0.76**	**313**		Pg	17 54 46.0	0.0
OK032				Sg	Sg	17 54 56.5	+0.7
KAN09	**Caldwell North**	**0.85**	**355**	Pg	Pg	17 54 47.0	-0.8
KAN05	**Bluff City Nor**	**0.87**	**341**	Pg	Pg	17 54 48.0	-0.2
KS20	**Mayfield South**	**0.94**	**359**	Pg	Pg	17 54 49.3	-0.3
KS20				lAmb_Lg		17 55 01.1	
	comp=Z,55nm,0.9s						
T35A	**Sooner Cattle**	**1.03**	**52**		Pg	17 54 51.2	0.0
KAN16	**Harper SW Stat**	**1.03**	**335**	Pg	Pg	17 54 51.1	-0.2
U32A	**Winter Ranch,**	**1.20**	**275**		Pg	17 54 53.9	-0.5
WMOK	**Wichita Mounta**	**1.85**	**214**		Pn	17 55 03.7	-0.2
U38A	**Gravette**	**2.54**	**86**	Pn	Pn	17 55 12.9	-0.5
HHAR	**Hobbs**	**2.90**	**89**		Pn	17 55 18.5	+0.2
W39A	**Magazine**	**3.23**	**109**		Pg	17 55 32.2	-1.3
S39A	**Bolivar**	**3.64**	**66**	Pn	Pn	17 55 27.4	-1.1
S39A					Pb	17 55 38.4	+2.0
MIAR	**Mount Ida**	**3.66**	**117**	Pn	Pn	17 55 27.0	-1.8
U40A	**Yellville**	**3.77**	**88**		Pn	17 55 30.4	+0.1
ABTX	**Abilene, Hawle**	**4.05**	**206**	lAmb_Lg		17 56 42.0	
	comp=Z,10nm,0.7s						
X40A	**Basin Creek Fa**	**4.23**	**114**	lAmb_Lg		17 56 47.6	
	comp=Z,12nm,0.8s						
MGMO	**Mountain Grove**	**4.31**	**77**	lAmb_Lg		17 56 49.3	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**102**	lAmb_Lg		17 56 53.7	
	comp=Z,12nm,0.7s						
P38A	**Dawn**	**4.59**	**42**	lAmb_Lg		17 56 57.6	
	comp=Z,7.4nm,0.7s						
N35A	**Tabor**	**4.80**	**17**	lAmb_Lg		17 57 06.9	
	comp=Z,15nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.88**	**305**	lAmb_Lg		17 57 17.9	
	comp=Z,7.3nm,0.7s						
P40A	**Paris**	**5.41**	**52**	lAmb_Lg		17 57 29.0	
	comp=Z,8.9nm,0.7s						
N38A	**Joes South For**	**5.62**	**35**	lAmb_Lg		17 57 32.8	
	comp=Z,13nm,0.8s						
PBMO	**Poplar Bluff**	**5.73**	**83**	lAmb_Lg		17 57 37.3	
	comp=Z,13nm,0.7s						
FVM	**French Village**	**5.92**	**71**	lAmb_Lg		17 57 45.9	
	comp=Z,6.7nm,0.7s						
S44A	**Carbondale**	**6.77**	**76**	lAmb_Lg		17 58 08.6	
	comp=Z,6.8nm,0.7s						
SIUC	**Southern Illin**	**6.80**	**75**	lAmb_Lg		17 58 06.4	
	comp=Z,8.4nm,0.7s						
344A	**Westbrook Farm**	**7.43**	**129**	lAmb_Lg		17 58 49.3	
	comp=Z,7.4nm,0.7s						
PHWY	**Pilot Hill**	**7.96**	**311**	lAmb_Lg		17 58 55.8	
	comp=Z,4.5nm,0.9s						
O44A	**Mansfield**	**8.11**	**59**	lAmb_Lg		17 58 49.6	
	comp=Z,8.0nm,0.7s						

*IDC **10** 18:07:02.3±2.1, 5°.33S×151°.82E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/32, mbtmp3.8/7, ML1.5/1, Error ellipse: s-maj=76.4km s-min=21.0km az=121.0*

ISC 10 18:07:08.4±1.9, 5°.4S±0°.3×151°.9E±0°.4, h45km, n8, σ0s67/9, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.13**	**229**	Pn	**Pn**	**18 08 36.6**	**0.0**
	0.7nm,0.3s,baz=18,slow=9.6,SNR=1.2						
PMG				Sn	**Sn**	**18 09 46.4**	**+0.9**
	6.8nm,0.3s,baz=189,slow=14,SNR=7.2						
WRA	**Warramunga Arr**	**22.35**	**228**	P	**P**	**18 12 02.3**	**-0.5**
	1.3nm,0.4s,baz=52,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**25.08**	**222**	P	**P**	**18 12 29.4**	**+0.4**
	1.9nm,0.5s,baz=57,slow=8.3,SNR=53						
FITZ	**Fitzroy Crossi**	**28.56**	**242**	P	**P**	**18 12 59.3**	**-1.0**
	0.9nm,0.3s,baz=48,slow=8.3,SNR=11						
SONM	**Songino Array**	**66.36**	**328**	P	**P**	**18 17 52.8**	**+0.1**
	0.5nm,0.6s,baz=148,slow=6.1,SNR=4.6						
MKAR	**Makanchi Array**	**80.18**	**319**	P	**P**	**18 19 14.3**	**+0.1**
	0.3nm,0.8s,baz=98,slow=5.0,SNR=3.0						
ILAR	**Eielson Array**	**83.07**	**22**	P	**P**	**18 19 29.4**	**+0.5**
	0.3nm,0.5s,baz=232,slow=4.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**149.61**	**287**	PKPbc	**PKPbc**	**18 26 53.8**	**-0.4**
	1.5nm,0.7s,baz=72,slow=3.4,SNR=7.0						

IDC 10 18:15:38.1±3.3, 27°.75N×85°.73E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.2/40, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=95.8km s-min=28.5km az=68.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.27**	**124**	Pn	Pn	18 19 16.5	+1.5
	baz=307,slow=11,SNR=1.5						
MKAR	**Makanchi Array**	**19.20**	**353**	P	P	18 20 03.5	0.0
	0.1nm,0.3s,baz=176,slow=10,SNR=6.7						
SONM	**Songino Array**	**25.72**	**33**	P	P	18 21 10.0	-0.2
	0.4nm,0.6s,baz=227,slow=8.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**26.18**	**359**	P	P	18 21 14.5	+0.3
	0.2nm,0.3s,baz=172,slow=12,SNR=2.0						
WRA	**Warramunga Arr**	**66.78**	**130**	P	P	18 26 31.3	-0.3
	0.5nm,0.9s,baz=322,slow=6.6,SNR=2.2						

*IDC **10** 18:23:32.1±2.0, 8°.04S×119°.99E, h194km±18km, mb3.0/3, mb1 3.1/7, mb1mx2.9/32, mbtmp3.5/7, Error ellipse: s-maj=55.6km s-min=12.8km az=51.0*

ISC 10 18:23:31.9±1.2, 7°.9S±0°.1×120°.0E±0°.2, h201km, n7, σ1s85/10, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.90**	**355**	P	**Pn**	**18 24 22.4**	**+2.0**
	2.7nm,0.3s,baz=153,slow=13,SNR=5.5						
KAPI				S	**S**	**18 24 54.2**	**-3.5**
	3.1nm,0.3s,baz=292,slow=19,SNR=2.9						
BATI	**Baumata**	**4.26**	**123**	P	**Pn**	**18 24 36.8**	**-0.2**
	1.3nm,0.3s,baz=260,slow=12,SNR=5.4						
BATI				S	**S**	**18 25 27.3**	**-0.3**
	4.3nm,0.3s,baz=150,slow=22,SNR=6.7						
FITZ	**Fitzroy Crossi**	**11.50**	**152**	P	**Pn**	**18 26 08.4**	**-2.1**
	0.1nm,0.3s,baz=337,slow=9.1,SNR=8.2						
FITZ				S	S	18 28 07.5	-11
	0.2nm,0.3s,baz=349,slow=15,SNR=1.4						
WRA	**Warramunga Arr**	**18.31**	**132**	P	**P**	**18 27 31.5**	**+0.2**
	0.2nm,0.3s,baz=301,slow=13,SNR=6.5						
WRA				S	**S**	**18 30 51.4**	**+1.3**
	0.1nm,0.3s,baz=311,slow=29,SNR=1.4						
ASAR	**Alice Springs**	**20.55**	**141**	P	**P**	**18 27 55.1**	**-0.2**
	0.4nm,0.4s,baz=320,slow=9.1,SNR=15						
STKA	**Stephens Creek**	**31.17**	**143**	P	**P**	**18 29 32.5**	**+0.3**
	1.2nm,0.5s,baz=314,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**63.97**	**332**	P	**P**	**18 33 44.7**	**+1.0**
	0.3nm,0.8s,baz=155,slow=7.2,SNR=2.0						

*IDC **10** 18:46:40.5±1.4, 38°.63N×23°.36E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/32, mbtmp3.4/5, ML2.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/31, Error ellipse: s-maj=57.1km s-min=22.5km az=156.0*

*ISK **10** 18:46:41.6, 38°.69N×23°.45E, h14km, ML3.3/16*

*ATH **10** 18:46:41.9, 38°.66N×23°.42E, h17km±1km, ML3.4/45, Error ellipse: s-maj=1.8km s-min=0.8km az=16.0*

*THE **10** 18:46:42.1, 38°.64N×23°.41E, h6km±1km, ML3.5/15, Error ellipse: s-maj=1.2km s-min=0.3km az=156.0*

ISC 10 18:46:42.0±0.9, 38°.64N±0°.02×23°.40E±0°.02, h13km±6km, n154, σ0s80/187, mb3.4/4, 4C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.28**	**327**	P	**Pb**	**18 46 48.6**	**-0.5**
SMIA				S	**Sg**	**18 46 52.5**	**+0.5**
SMIA				AML	AML	18 46 53.8	
SMIA				AML	AML	18 46 54.0	
	comp=E,98731μm,0.3s						
SMIA	**Simia**	**0.28**	**327**	P	**Pb**	**18 46 48.5**	**-0.5**
SMIA				S	**Sg**	**18 46 52.4**	**+0.5**
	comp=E,50μm,0.3s						
ATAL	**Atalanti**	**0.30**	**280**	P	**Pg**	**18 46 48.1**	**-0.2**
ATAL				S	**Sg**	**18 46 53.0**	**+0.4**
ATAL				AML	AML	18 46 53.2	
	comp=N,15699μm,0.3s						
ATAL				AML	AML	18 46 59.2	
	comp=E,15812μm,0.4s						
ATAL	**Atalanti**	**0.30**	**280**	P	**Pg**	**18 46 48.1**	**-0.2**
ATAL				S	**Sg**	**18 46 52.5**	**0.0**
	comp=E,8μm,0.3s						
LKR	**Lokris**	**0.32**	**272**	P	**Pg**	**18 46 48.3**	**-0.3**
LKR				S	**Sg**	**18 46 53.1**	**+0.2**
LKR				AML	AML	18 46 54.1	
	comp=E,26948μm,0.2s						
LKR				AML	AML	18 46 54.7	
	comp=N,18287μm,0.1s						
LKR	**Lokris**	**0.32**	**272**	P	**Pg**	**18 46 48.2**	**-0.3**
LKR				S	**Sg**	**18 46 53.1**	**+0.2**
	comp=N,12μm,0.1s						
VIL2	**Platees**	**0.44**	**194**	P	**Pg**	**18 46 51.2**	**+0.4**
VIL2				S	**Sb**	**18 46 58.9**	**+0.7**
VIL2				AML	AML	18 46 59.4	
	comp=N,32620μm,0.5s						
VIL2				AML	AML	18 46 59.6	
	comp=E,64176μm,0.5s						
EREA	**Eretria**	**0.47**	**118**	P	**Pg**	**18 46 51.3**	**0.0**
EREA				S	**Sb**	**18 46 58.3**	**-0.7**
EREA				AML	AML	18 47 00.3	
	comp=E,18135μm,0.3s						
EREA				AML	AML	18 47 03.1	
	comp=N,14012μm,0.3s						
EREA	**Eretria**	**0.47**	**118**	P	**Pg**	**18 46 51.2**	**-0.1**
EREA				S	**Sb**	**18 46 58.3**	**-0.7**
	comp=N,8μm,0.3s						
VILL	**Villia**	**0.48**	**189**	P	**Pg**	**18 46 51.2**	**-0.3**
VILL				S	**Sg**	**18 46 58.7**	**+0.7**
	comp=N,27μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.55**	**91**	P	**Pg**	**18 46 52.4**	**-0.3**
KYMI				S	**Sb**	**18 47 00.3**	**-0.9**
KYMI				AML	AML	18 47 01.8	
	comp=E,8226μm,0.4s						
KYMI				AML	AML	18 47 03.5	
	comp=N,6634μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.55**	**91**	P	**Pg**	**18 46 52.4**	**-0.3**
KYMI				S	**Sb**	**18 47 00.2**	**-1.0**
	comp=N,4μm,0.5s						
ALNA	**Alonissos**	**0.62**	**35**	P	**Pb**	**18 46 54.0**	**-0.7**
ALNA				S	**Sb**	**18 47 02.8**	**-0.6**
ALNA				AML	AML	18 47 07.2	
	comp=E,11572μm,0.4s						
ALNA				AML	AML	18 47 07.3	
	comp=N,15224μm,0.6s						
NEO	**Neokhori**	**0.68**	**348**	P	**Pb**	**18 46 55.4**	**-0.4**
NEO				S	**Sg**	**18 47 03.9**	**-0.4**
NEO				AML	AML	18 47 07.5	
	comp=E,21926μm,0.3s						
NEO				AML	AML	18 47 07.6	
	comp=N,22350μm,0.2s						
NEO	**Neokhori**	**0.68**	**348**	P	**Pb**	**18 46 55.4**	**-0.4**
NEO				S	**Sb**	**18 47 04.9**	**-0.2**
	comp=N,11μm,0.3s						
PTL	**Penteli**	**0.69**	**148**	P	**Pg**	**18 46 55.2**	**-0.3**
PTL				S	**Sb**	**18 47 05.7**	**+0.3**
PTL	**Penteli**	**0.69**	**148**	P	**Pg**	**18 46 55.1**	**-0.4**
PTL				S	**Sb**	**18 47 05.8**	**+0.4**
DION	**Dionisos Attik**	**0.70**	**143**	P	**Pg**	**18 46 55.5**	**-0.2**
DION				S	**Sb**	**18 47 05.8**	**+0.2**
DION				AML	AML	18 47 08.6	
	comp=E,19958μm,0.3s						
DION				AML	AML	18 47 08.7	
	comp=N,21738μm,0.3s						
DION	**Dionisos Attik**	**0.70**	**143**	P	**Pg**	**18 46 55.3**	**-0.3**
DION				S	**Sb**	**18 47 06.0**	**+0.4**
	comp=N,16μm,0.3s						
LTK	**Loutraki**	**0.71**	**209**	P	**Pg**	**18 46 55.2**	**-0.6**
LTK				S	**Sg**	**18 47 05.8**	**+0.7**
LTK				AML	AML	18 47 09.3	
	comp=E,5451μm,0.4s						
LTK				AML	AML	18 47 09.8	
	comp=N,6468μm,0.3s						
LTK	**Loutraki**	**0.71**	**209**	P	**Pg**	**18 46 55.1**	**-0.6**
LTK				S	**Sg**	**18 47 05.8**	**+0.7**
	comp=N,3μm,0.3s						
ATH	**Athens Observa**	**0.71**	**160**	P	**Pg**	**18 46 56.0**	**+0.1**
ATH				S	**Sg**	**18 47 05.3**	**+0.2**
ATH				AML	AML	18 47 08.7	
	comp=E,13269μm,0.2s						
ATH				AML	AML	18 47 10.1	
	comp=N,10748μm,0.2s						
ATH	**Athens Observa**	**0.71**	**160**	P	**Pg**	**18 46 55.7**	**-0.1**
ATH				S	**Sg**	**18 47 05.4**	**+0.2**
	comp=N,7μm,0.3s						
DLFA	**Delphi**	**0.73**	**258**	P	**Pg**	**18 46 55.1**	**-1.1**
DLFA				S	**Sg**	**18 47 05.8**	**-0.1**
LOUT	**Loutraki**	**0.73**	**208**	P	**Pg**	**18 46 55.6**	**-0.7**
LOUT				AML	AML	18 47 10.2	
	comp=E,1274μm,0.4s						
LOUT				AML	AML	18 47 13.3	
	comp=N,1099μm,0.3s						
LOUT	**Loutraki**	**0.73**	**208**	P	**Pg**	**18 46 55.5**	**-0.7**
ATHU	**Athens Univers**	**0.74**	**156**	P	**Pg**	**18 46 56.3**	**0.0**
ATHU				AML	AML	18 47 08.8	
	comp=N,5632μm,0.3s						
ATHU				AML	AML	18 47 09.4	
	comp=E,3676μm,0.4s						
ATHU	**Athens Univers**	**0.74**	**156**	P	**Pg**	**18 46 56.1**	**-0.2**
ATHU				S	**Sg**	**18 47 06.4**	**+0.4**
	comp=E,2μm,0.3s						
XOR	**Xorichti**	**0.74**	**347**	P	**Pb**	**18 46 56.5**	**-0.3**
XOR				S	**Sb**	**18 47 06.1**	**-0.8**
XOR				AML	AML	18 47 09.6	
	comp=E,6939μm,0.5s						
XOR				AML	AML	18 47 09.7	
	comp=N,9284μm,0.3s						
XOR	**Xorichti**	**0.74**	**347**	P	**Pb**	**18 46 56.4**	**-0.5**
XOR				S	**Sb**	**18 47 06.5**	**-0.4**
	comp=N,4μm,0.4s						
THAL	**Thalero**	**0.84**	**224**	P	**Pg**	**18 46 57.8**	**-0.4**
THAL				AML	AML	18 47 12.8	
	comp=E,12766μm,0.4s						
THAL				AML	AML	18 47 15.5	
	comp=N,15586μm,0.4s						
THAL	**Thalero**	**0.84**	**224**	P	**Pg**	**18 46 57.6**	**-0.7**
VLY	**Voula,Athens**	**0.84**	**159**	P	**Pg**	**18 46 58.4**	**+0.1**
VLY				S	**Sg**	**18 47 09.0**	**-0.4**
VLY				AML	AML	18 47 12.0	
	comp=E,16118μm,0.4s						
VLY				AML	AML	18 47 12.7	
	comp=N,10631μm,0.3s						
VLY	**Voula,Athens**	**0.84**	**159**	P	**Pg**	**18 46 58.2**	**-0.2**
AGG	**Agios Georgios**	**0.92**	**295**	P	**Pb**	**18 46 59.5**	**-0.4**
AGG				AML	AML	18 47 16.0	
	comp=N,1999μm,0.6s						
AGG				AML	AML	18 47 18.3	
	comp=E,2174μm,0.4s						
AGG	**Agios Georgios**	**0.92**	**295**	P	**Pb**	**18 46 59.4**	**-0.5**
AGG				S	**Sn**	**18 47 12.9**	**-0.9**
	comp=E,1μm,0.7s						
AGG	**Agios Georgios**	**0.92**	**295**	PG	**Pb**	**18 46 59.4**	**-0.5**
AGG				SG	**Sn**	**18 47 13.6**	**-0.2**
SKY	**Skiros Island**	**0.93**	**75**	P	**Pb**	**18 46 59.4**	**-0.6**
SKY				AML	AML	18 47 15.5	
	comp=N,17942μm,0.3s						
SKY				AML	AML	18 47 15.6	
	comp=E,12850μm,0.2s						
SKY	**Skiros Island**	**0.93**	**75**	P	**Pb**	**18 46 59.4**	**-0.6**
SKY				S	**Sn**	**18 47 12.8**	**-1.1**
	comp=E,8μm,0.2s						
KARY	**Karystos**	**1.01**	**126**	P	**Pb**	**18 47 00.8**	**-0.6**
KARY				AML	AML	18 47 19.7	
	comp=N,1468μm,0.3s						
KARY				AML	AML	18 47 20.5	
	comp=E,1460μm,0.5s						
KARY	**Karystos**	**1.01**	**126**	P	**Pb**	**18 47 00.7**	**-0.7**
KARY				S	**Sg**	**18 47 14.9**	**+0.1**
	comp=E,690nm,0.4s						
MAKR	**Makrakomi, Fth**	**1.06**	**291**	P	**Pn**	**18 47 02.6**	**0.0**
MAKR				AML	AML	18 47 21.5	
	comp=N,1181μm,0.6s						
MAKR				AML	AML	18 47 23.7	
	comp=E,876μm,0.3s						
MAKR	**Makrakomi, Fth**	**1.06**	**291**	P	**Pg**	**18 47 02.5**	**0.0**
TRIZ	**Trizonia**	**1.08**	**256**	P	**Pb**	**18 47 01.3**	**-1.2**
SERG	**Sergoula**	**1.08**	**258**	P	**Pb**	**18 47 01.1**	**-1.5**
SERG				S	AML	18 47 19.3	
	comp=N,5054μm,0.3s						
SERG				AML	AML	18 47 24.2	
	comp=E,4069μm,0.3s						
ALIK	**Aliki, Aigiali**	**1.08**	**250**	P	**Pg**	**18 47 03.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.15**	**239**	P	**Pn**	**18 47 03.1**	**-0.8**
KLV				S	AML	18 47 22.2	
	comp=N,1756μm,0.4s						
KLV				AML	AML	18 47 28.0	
	comp=E,1426μm,0.7s						
KLV	**Kalavryta, Ach**	**1.15**	**239**	P	**Pn**	**18 47 03.0**	**-0.8**
ANX	**Ano Chora**	**1.16**	**268**	P	**Pn**	**18 47 03.4**	**-0.7**
ANX				S	AML	18 47 24.6	
	comp=N,4591μm,0.4s						
ANX				AML	AML	18 47 25.3	
	comp=E,2748μm,0.5s						
ANX	**Ano Chora**	**1.16**	**268**	P	**Pn**	**18 47 03.6**	**-0.5**
LAKA	**Lakka**	**1.19**	**251**	P	**Pn**	**18 47 04.3**	**-0.1**
LAKA				S	AML	18 47 25.6	
	comp=E,4954μm,0.5s						
LAKA				AML	AML	18 47 29.9	
	comp=N,4030μm,0.7s						
LAKA	**Lakka**	**1.19**	**251**	P	**Pn**	**18 47 03.9**	**-0.5**
EFP	**Efpalio**	**1.19**	**260**	P	**Pn**	**18 47 03.2**	**-1.2**
EFP				S	AML	18 47 24.3	
	comp=E,2538μm,0.6s						
EFP				AML	AML	18 47 26.8	
	comp=N,3275μm,0.7s						
KRND	**KRANIDI**	**1.27**	**189**	P	**Pn**	**18 47 05.5**	**0.0**
KRND				AML	AML	18 47 28.0	
	comp=N,2900μm,0.6s						
KRND				AML	AML	18 47 29.1	
	comp=E,4258μm,0.6s						
KRND	**KRANIDI**	**1.27**	**189**	P	**Pn**	**18 47 05.4**	**0.0**
EVR	**Evrytania**	**1.28**	**283**	P	**Pg**	**18 47 06.6**	**0.0**
EVR				AML	AML	18 47 30.2	
	comp=N,791μm,0.8s						
EVR				AML	AML	18 47 33.2	
	comp=E,1106μm,0.5s						
EVR	**Evrytania**	**1.28**	**283**	P	**Pb**	**18 47 06.2**	**+0.2**
PAIG	**Paliouri**	**1.30**	**9**	P	**Pn**	**18 47 05.6**	**-0.4**
PAIG				AML	AML	18 47 29.0	
	comp=N,1327μm,0.5s						
PAIG				AML	AML	18 47 29.3	
	comp=E,1161μm,0.5s						
PAIG	**Paliouri**	**1.30**	**9**	P	**Pn**	**18 47 05.5**	**-0.4**
THL	**Klokotos Trika**	**1.42**	**311**	P	**Pn**	**18 47 07.7**	**+0.1**
THL				AML	AML	18 47 35.2	
	comp=N,416μm,0.5s						
THL				AML	AML	18 47 36.6	
	comp=E,407μm,0.4s						
THL	**Klokotos Trika**	**1.42**	**311**	P	**Pn**	**18 47 07.6**	**+0.1**
PVO	**Paravola**	**1.47**	**270**	P	**Pb**	**18 47 09.7**	**+0.5**
PVO				AML	AML	18 47 37.3	
	comp=N,991μm,0.5s						
PVO				AML	AML	18 47 39.0	
	comp=E,1081μm,0.9s						
DRO	**Drossia**	**1.50**	**243**	P	**Pn**	**18 47 09.2**	**+0.6**
DRO				AML	AML	18 47 39.0	
	comp=N,2461μm,0.5s						
DRO				AML	AML	18 47 39.7	
	comp=E,2490μm,0.5s						
DRO	**Drossia**	**1.50**	**243**	P	**Pb**	**18 47 09.3**	**-0.4**
VLX	**Vlachokerasia**	**1.50**	**213**	P	**Pn**	**18 47 09.3**	**+0.6**
VLX				AML	AML	18 47 34.4	
	comp=N,1924μm,0.5s						
VLX				AML	AML	18 47 35.8	
	comp=E,2608μm,0.5s						
VLX	**Vlachokerasia**	**1.50**	**213**	P	**Pn**	**18 47 09.3**	**+0.6**
EFSA	**Agios Efstrati**	**1.53**	**53**	P	**Pn**	**18 47 08.5**	**-0.4**
LIT	**Litokhoron**	**1.62**	**334**	P	**Pn**	**18 47 10.3**	**0.0**
LIT				AML	AML	18 47 38.8	
	comp=N,1496μm,0.4s						
LIT				AML	AML	18 47 40.9	
	comp=E,1055μm,0.4s						
LIT	**Litokhoron**	**1.62**	**334**	P	**Pn**	**18 47 10.3**	**0.0**
RLS	**Riolos of Patr**	**1.63**	**250**	P	**Pb**	**18 47 11.4**	**-0.5**
PSRA	**Psara**	**1.69**	**93**	P	**Pb**	**18 47 12.4**	**-0.7**
PLG	**Polygyros**	**1.73**	**1**	P	**Pn**	**18 47 11.7**	**-0.2**
PLG				AML	AML	18 47 33.3	
	comp=N,733μm,0.5s						
PLG				AML	AML	18 47 37.8	
	comp=E,637μm,0.6s						
PLG	**Polygyros**	**1.73**	**1**	P	**Pn**	**18 47 11.6**	**-0.2**
AMT	**Artemida-Makis**	**1.74**	**231**	P	**Pb**	**18 47 13.1**	**-0.7**
AMT	**Artemida-Makis**	**1.74**	**231**	P	**Pb**	**18 47 13.1**	**-0.7**
PDO	**Prodromos**	**1.74**	**269**	P	**Pb**	**18 47 14.1**	**+0.3**
PDO				AML	AML	18 47 44.3	
	comp=N,2232μm,0.4s						
PDO				AML	AML	18 47 45.1	
	comp=E,848μm,0.3s						
OUR	**Ouranopolis**	**1.75**	**15**	P	**Pn**	**18 47 12.1**	**0.0**
OUR				AML	AML	18 47 34.0	
	comp=E,1397μm,0.3s						
OUR				AML	AML	18 47 34.2	
	comp=N,1128μm,0.8s						
OUR	**Ouranopolis**	**1.75**	**15**	P	**Pn**	**18 47 12.1**	**0.0**
OUR	**Ouranopolis**	**1.75**	**15**	PN	**Pn**	**18 47 12.0**	**0.0**
OUR				SN	**Sn**	**18 47 33.4**	**-0.8**
LIA	**Limnos Island**	**1.87**	**47**	P	**Pn**	**18 47 13.1**	**-0

NYDR	Nydri-Lefkada	2.12 273	P	Pb	18 47 19.9	-0.3
LKD2	Lefkada island	2.15 275	P	Pb	18 47 21.0	+0.1
LKD2	comp=N,604μm,0.7s		AML	AML	18 48 03.2	
LKD2	comp=E,483μm,0.8s		AML	AML	18 48 09.6	
TSLK	Tsoukalades, L	2.16 276	P	Pb	18 47 21.3	+0.4
SOH	Sokhos	2.18 359	P	Pn	18 47 18.4	+0.4
SOH	comp=N,418μm,0.6s		AML	AML	18 47 46.6	
SOH	comp=E,701μm,0.6s		AML	AML	18 47 50.2	
PYL	PYLOS	2.18 218	P	Pb	18 47 20.2	-1.2
PYL	PYLOS	2.18 218	P	Pb	18 47 20.2	-1.2
THAS	Thassos island	2.21 27	P	Pn	18 47 17.4	-1.0
DRAG	Dragano-Lefkad	2.21 272	P	Pb	18 47 21.0	-0.9
LTHK	Lithakia	2.23 246	P	Pb	18 47 21.8	-0.3
LTHK	comp=E,781μm,0.6s		AML	AML	18 48 04.8	
LTHK	comp=N,859μm,0.8s		AML	AML	18 48 04.9	
JAN	Janina	2.23 298	P	Pb	18 47 22.2	0.0
FSK	Fiskardo	2.23 266	P	Pb	18 47 20.8	-1.5
VLS	Valsamata	2.26 259	P	Pb	18 47 21.3	-1.4
PSDA	Pessada-Kefalo	2.28 258	P	Pb	18 47 21.7	-1.2
VLMS	Volimes, Zakyn	2.29 251	P	Pb	18 47 21.8	-1.3
APE	Apeiranthos	2.30 132	PN	Pn	18 47 20.1	+0.4
KEF5	Kardakata, Kep	2.33 262	P	Pb	18 47 22.3	-1.7
KEF4	Livadi, Kephal	2.37 262	P	Pb	18 47 22.7	-1.9
BOZC	Bozcaada	2.38 59	PN	Pn	18 47 20.5	-0.2
KTHA	Kythira Island	2.40 187	PN	Pn	18 47 21.4	+0.5
DMLN	Damoulianata-K	2.41 261	P	Pb	18 47 23.3	-2.0
GRG	Griva	2.44 342	PN	Pn	18 47 21.9	+0.3
KEF3	Kipouria, Keph	2.44 261	P	Pn	18 47 23.5	+1.9
GADA	Gvkgeada	2.48 51	PN	Pn	18 47 21.9	-0.1
URLA	Izmir	2.52 95	PN	Pn	18 47 22.9	+0.2
NEST	Nestorio	2.54 315	P	Pn	18 47 24.7	+1.7
KNT	Kendrikon	2.55 351	P	Pn	18 47 24.0	+1.0
IGT	Igoumenitsa	2.55 291	P	Pb	18 47 26.3	-1.3
EZN	Ezine	2.56 62	PN	Pn	18 47 23.3	+0.1
FNA	Florina	2.65 324	PN	Pn	18 47 25.1	+0.6
DKL	Dikili	2.77 80	PN	Pn	18 47 26.6	+0.6
GELI	Tayfur-Gelibol	2.95 53	PN	Pn	18 47 28.7	+0.1
ALN	Alexandroupoli	3.04 41	PN	Pn	18 47 30.2	+0.5
STIP	Stip	3.19 343 *i*	Pn	Pn	18 47 32.7	+0.8
IMMV	Iera Moni Meta	3.21 172	PN	Pn	18 47 33.6	+1.5
KNDR	Palaiochora Ch	3.41 176	PN	Pn	18 47 36.9	+2.1
BODT	Bodrum	3.47 116	PN	Pn	18 47 35.8	+0.1
KRBG	Karabiga-Canak	3.48 59	PN	Pn	18 47 36.4	+0.5
IDI	Anoyia	3.55 160	PN	Pn	18 47 38.6	+1.7
MAR3	Marsite Statio	3.66 54	PN	Pn	18 47 38.9	+0.5
GZKV	Gazikoy-Tekird	3.69 54	PN	Pn	18 47 39.1	+0.4
MAR4	Marsite Statio	3.69 53	PN	Pn	18 47 39.4	+0.6
TIP	Timpagrande	5.21 278 ⇑	P	Pn	18 48 01.3	+1.6
MDVR	Moldovita	6.26 349 ⇑	P	Pn	18 48 14.5	+0.3
HERR	Herculane	6.28 354 ⇓	P	Pn	18 48 14.5	+0.2
GZR	Gura Zlata	6.76 356 ⇓	P	Pn	18 48 22.3	+1.3
VOIR		6.90 10 ⇑	P	Pn	18 48 24.7	+1.8
MLR	Muntele Rosu	7.10 15 ⇑	P	Pn	18 48 27.2	+1.5
DOPR	Dopca	7.47 11 ⇓	P	Pn	18 48 32.2	+1.6
PLOR	Plostina	7.60 17 ⇓	P	Pn	18 48 35.3	+2.9
VRI	Vrincioaia	7.63 18 ⇓	P	Pn	18 48 36.0	+3.1
BRTR	Keskin Array B	8.02 79	Pn	Pn	18 48 40.5	+2.1
ESDC	comp=N,0.1nm,0.3s,baz=267,slow=12,SNR=2.1 Sonseca Array	21.22 281	P	P	18 51 27.4	-0.2
TORD	comp=N,1.3nm,1.1s,baz=78,slow=11,SNR=4.6 Torodi Ar. Bea	31.86 223	P	P	18 53 07.2	+0.3
BORG	comp=N,0.4nm,0.6s,baz=27,slow=10,SNR=4.7 Borgarnes	36.83 330	LR	LR	19 09 33.9	
MKAR	comp=N,18nm,18.6s,baz=86,slow=37 Makanchi Array	43.12 59	P	P	18 54 42.9	+0.9
ZALV	comp=N,0.4nm,0.6s,baz=283,slow=7.0,SNR=4.9 Zalesovo Beam	43.69 49	P	P	18 54 47.2	+0.9
	comp=N,0.6nm,0.6s,baz=274,slow=8.5,SNR=2.3					

*IDC **10** 19:36:00.4±1.2,31°.00S×178°.32W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/36, mbtmp4.2/4, MS4.5/3, Ms1 4.5/3, ms1mx3.3/34, Error ellipse: s-maj=36.9km s-min=21.5km az=120.0*

*NEIC **10** 19:36:05.7±1.6,31°.05S±0°.1×178°.2W±0°.2, h38km±10km, mb4.5/5, Error ellipse: s-maj=25.8km s-min=11.2km az=116.0*

ISC 10 19:36:03.5±0.8,31°.17S±0°.08×178°.0W±0°.2, h35km, n30, σ1s89/22, mb4.4/5, MS4.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.91	1	Pn	Pn	19 36 33.5	-0.1
RAO	93nm,0.3s,baz=167,slow=19,SNR=6.6			Sn	Sn	19 36 56.0	-0.5
RAO	245nm,0.3s,baz=94,slow=23,SNR=7.5				Pn	19 36 32.5	-1.1
OUZ	Omahuta	8.13	238	Pn	Pn	19 38 00.9	+1.8
URZ	Urewera	8.14	208	Pn	Pn	19 37 56.4	-2.8
URZ	0.5nm,0.3s,baz=121,slow=23,SNR=8.1			Sn	Sn	19 39 26.5	-3.5
URZ	2.5nm,0.3s,baz=306,slow=19,SNR=2.5	8.14	208		Pn	19 37 59.0	-0.2
BKZ	Black Stump Fm	9.17	208	Pn	Pn	19 38 13.6	+0.3
CTAO	Charters Tower	33.95	280	P	P	19 42 42.9	-0.8
CTAO	comp=Z,19nm,1.2s			IAmb	IAmb	19 43 07.3	
STKA	Stephens Creek	34.33	258	P	P	19 42 47.7	+0.8
STKA	comp=Z,1.7nm,0.8s,baz=120,slow=13,SNR=4.0 Stephens Creek	34.33	258	IAmb	IAmb	19 43 07.1	
AS31	comp=Z,1.5nm,1.3s Alice Springs	43.09	268	P	P	19 43 59.3	-1.2
ASAR	Alice Springs	43.09	268	P	P	19 43 59.8	-0.7
WRA	comp=Z,5.1nm,0.8s,baz=104,slow=7.3,SNR=43 Warramunga Ar	44.15	273	P	P	19 44 08.3	-0.7
NWAO	comp=Z,6.4nm,0.6s,baz=113,slow=7.8,SNR=36 Narrogin (SRO)	54.15	250	LR	LR	20 06 25.1	
HATHI	comp=Z,58nm,20.3s,baz=134,slow=34 Halema'uma'u T	54.83	26	P	P	19 45 27.3	-3.1
SIJI	Sorong	56.64	292	LR	LR	20 09 51.8	
QSPA	comp=Z,2μm,18.9s,baz=303,slow=36 South Pole Qui	58.94	180	P	P	19 46 02.6	+3.6
QSPA	comp=Z,1.6nm,1.0s,baz=26,slow=5.7,SNR=3.1 South Pole Qui	58.94	180	P	P	19 46 01.8	+2.7
QSPA	comp=Z,8.2nm,1.4s			IAmb	IAmb	19 46 17.9	
JHJ	Hachijo jima 2	75.38	324	LR	LR	20 13 34.8	
H03S2	comp=Z,520nm,20.0s,baz=50,slow=30 Juan Fernandez	80.02	123	T	T	21 17 12.5	
H03S1	baz=237,slow=74,SNR=18 Juan Fernandez	80.03	123	T	T	21 17 11.8	
H03S3	baz=237,slow=74,SNR=18 Juan Fernandez	80.04	123	T	T	21 17 12.8	
H03N3	baz=237,slow=74,SNR=21 Juan Fernandez	80.22	123	T	T	21 17 16.6	
H03N2	baz=241,slow=72,SNR=8.2 Juan Fernandez	80.22	123	T	T	21 17 27.2	
H03N1	baz=241,slow=72,SNR=7.0 Juan Fernandez	80.23	123	T	T	21 17 23.1	
FINES	baz=241,slow=72,SNR=6.2 FINESS Array B	145.87	340	PKPbc	PKPdf	19 55 38.5	+0.7
FINES	comp=Z,4.5nm,0.6s,baz=53,slow=2.2,SNR=17 FINESS Array B	145.87	340	PKPbc	PKPab	19 55 40.8	+1.9
NOA	NORSAR Array B	149.51	351	PKPbc	PKiKP	19 55 50.5	+1.0
AKASG	comp=Z,0.7nm,0.6s,baz=15,slow=4.2,SNR=3.8 Malin Array Be	151.92	322	PKPbc	PKiKP	19 55 55.5	+0.8
AKASG	comp=Z,0.7nm,0.4s,baz=51,slow=2.7,SNR=6.4 Malin Array Be	151.92	322		PKPbc	19 55 53.4	-1.0
BRTR	Keskin Array B	152.98	297	PKPbc	PKiKP	19 55 59.2	+1.8
	comp=Z,0.7nm,0.5s,baz=136,slow=3.9,SNR=5.8						

*NEIC **10** 19:36:45.6±1.5,1°.4N±0°.1×97°.08E±0°.05, h10km±2km, mb4.2/8, Error ellipse: s-maj=21.8km s-min=8.6km az=187.0*

*IDC **10** 19:36:50.9±2.4,2°.38N×97°.14E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/46, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=53.9km s-min=25.5km az=41.0*

ISC 10 19:36:46.3±1.8,1°.3N±0°.2×97°.2E±0°.1, h28km, n25, σ1s37/17, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.41	92		Pn	19 36 56.3	-0.1
RPSI	Rantau Prapat	2.23	52	Pn	Pn	19 37 21.7	+0.3
PSI	Prapat	2.30	50	Pn	Pn	19 37 23.8	+1.3
	4.1nm,0.3s,baz=180,slow=5.4,SNR=15						
PSI	comp=Z,292nm,18.5s,baz=87,slow=44			LR	LR	19 38 10.1	
LHMI	Lhok Sumawe	3.89	357	Pn	Pn	19 37 45.0	+0.7
CMAR	Chiang Mai Arr	17.12	6	Pn	Pn	19 40 39.6	-4.2
SLVN	0.1nm,0.3s,baz=197,slow=12,SNR=1.5 Son La	20.95	18		P	19 41 27.6	+0.4
SLVN	comp=Z,8.5nm,0.8s			IAmb	IAmb	19 41 29.5	
SHL	Shillong	24.64	349	P	P	19 42 05.2	+0.4
H08S2	Diego Garcia H	26.17	250	T	T	20 09 19.6	
H08S3	baz=71,slow=75,SNR=526 Diego Garcia H	26.17	250	T	T	20 09 08.9	
H08S1	baz=71,slow=75,SNR=552 Diego Garcia H	26.18	250	T	T	20 09 15.7	
ENH	baz=71,slow=75,SNR=739 Enshi	31.08	21	P	P	19 43 01.9	-0.4
H01W3	Cape Leeuwin H	39.37	158	T	T	20 25 46.4	
H01W2	baz=333,slow=76,SNR=8.5 Cape Leeuwin H	39.38	158	T	T	20 25 47.0	
H01W1	baz=333,slow=76,SNR=7.4 Cape Leeuwin H	39.38	158	T	T	20 25 46.6	
WRA	baz=333,slow=76,SNR=8.1 Warramunga Ar	42.13	122	P	P	19 44 50.1	+13
KDJ	comp=Z,0.5nm,0.7s,baz=301,slow=8.8,SNR=1.6 Kajisay	44.42	339	P	P	19 44 53.3	-1.6
KDJ	comp=Z,3.6nm,0.9s			IAmb	IAmb	19 44 54.4	
KSRS	Korea Array	45.77	35	P	P	19 45 06.5	+1.0
SONM	comp=Z,1.3nm,0.8s,baz=220,slow=9.9,SNR=5.7 Songino Array	47.02	8	P	P	19 45 16.0	+0.7
SONM	comp=Z,0.4nm,0.4s,baz=188,slow=9.5,SNR=5.3 Songino Array	47.02	8	IAmb	IAmb	19 45 18.1	
MK31	comp=Z,0.7nm,0.8s Makanchi Array	47.12	346	P	P	19 45 16.0	0.0
MK31	comp=Z,3.4nm,1.4s			IAmb	IAmb	19 45 25.5	
MKAR	Makanchi Array	47.12	346	P	P	19 45 16.9	+1.0
ZAA0	comp=Z,0.9nm,0.5s,baz=162,slow=8.6,SNR=19 Zalesovo Array	53.44	351	P	P	19 46 04.0	+0.4
ZAA0	comp=Z,2.9nm,1.1s			IAmb	IAmb	19 46 13.1	
ZALV	Zalesovo Beam	53.44	351	P	P	19 46 04.5	+0.8
ABKAR	comp=Z,2.0nm,0.6s,baz=168,slow=7.6,SNR=6.7 Akbulak array	57.39	332	P	P	19 46 32.1	-0.1
ABKAR	Akbulak array	57.39	332	P	P	19 46 32.3	+0.1
ABKAR	comp=Z,2.1nm,1.0s			IAmb	IAmb	19 46 33.3	

IDC 10 19:37:34.4±5.9,64°.65S×174°.69E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.6/32, mbtmp3.4/4, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/13, Error ellipse: s-maj=206.3km s-min=29.5km az=71.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.52	192	Pn	Pn	19 40 46.5	-0.7
VNDA	0.1nm,0.3s,baz=44,slow=12,SNR=9.3			LR	LR	19 44 54.2	
QSPA	comp=Z,74nm,19.7s,baz=218,slow=32 South Pole Qui	25.44	180	P	P	19 43 03.8	+0.2
H01W1	0.8nm,0.7s,baz=70,slow=2.8,SNR=2.4 Cape Leeuwin H	46.52	280	T	T	20 36 58.3	
H01W2	baz=148,slow=76,SNR=8.6 Cape Leeuwin H	46.53	279	T	T	20 36 58.4	
H01W3	baz=148,slow=76,SNR=8.4 Cape Leeuwin H	46.54	279	T	T	20 36 59.5	
ASAR	baz=148,slow=76,SNR=8.0 Alice Springs	48.77	307	P	P	19 46 20.9	0.0
WRA	0.4nm,0.7s,baz=158,slow=8.0,SNR=2.2 Warramunga Arr	52.07	309	P	P	19 46 45.6	-0.3
H03S2	0.8nm,0.8s,baz=157,slow=6.5,SNR=2.2 Juan Fernandez	66.47	119	T	T	21 00 37.0	
H03S1	baz=205,slow=74,SNR=3.0 Juan Fernandez	66.47	119	T	T	21 00 38.3	
H03S3	baz=205,slow=74,SNR=3.8 Juan Fernandez	66.49	119	T	T	21 00 37.7	
	baz=205,slow=74,SNR=3.9						

*IDC **10** 19:41:34.8±0.8,29°.13S×178°.98W, h211km±11km, mb3.2/5, mb1 3.3/6, mb1mx3.2/28, mbtmp3.8/6, Error ellipse: s-maj=33.0km s-min=20.5km az=53.0*

ISC 10 19:41:34.6±1.1,29°.1S±0°.1×179°.2W±0°.1, h200km, n7, σ0s82/9, mb3.2/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.11	98	P	Pn	19 42 05.6	+0.4
RAO	69nm,0.3s,baz=14,slow=7.5,SNR=5.6			S	Sn	19 42 29.4	+0.6
URZ	453nm,0.3s,baz=43,slow=21,SNR=11 Urewera	9.64	198	P	Pn	19 43 49.6	+0.5
URZ	0.4nm,0.3s,baz=307,slow=20,SNR=1.0			S	Sn	19 45 37.3	+0.5
ASAR	1.8nm,0.3s,baz=301,slow=19,SNR=1.6 Alice Springs	42.16	266	P	P	19 49 08.5	+0.7
WRA	0.4nm,0.6s,baz=98,slow=6.6,SNR=9.4 Warramunga Arr	43.03	271	P	P	19 49 15.1	+0.3
VNDA	0.7nm,0.9s,baz=110,slow=7.5,SNR=2.4 Vanda	49.28	185	P	P	19 50 02.2	-0.5
FITZ	0.4nm,0.7s,baz=14,slow=9.4,SNR=6.4 Fitzroy Crossi	51.34	269	P	P	19 50 18.6	-0.3
QSPA	1.8nm,0.9s,baz=90,slow=5.1,SNR=1.4 South Pole Qui	61.00	180	P	P	19 51 25.2	-1.5
	1.6nm,0.7s,baz=166,slow=0.2,SNR=16						

*TUL **10** 19:47:46.2±0.9,36°.29N±0°.02×97°.52W±0°.02, h8km±7km, ML2.6, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=3.6km s-min=0.7km az=219.0*

NEIC 10 19:47:45.9±0.6,36°.29N±0°.01×97°.52W±0°.02, h9km±7km, Error ellipse: s-maj=1.9km s-min=1.7km az=102.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.50	174		Pg	19 47 55.7	+0.1
OK031	S. Brethren Rd	0.64	122	Pg	Pg	19 47 58.3	-0.1
OK031				Sg	Sg	19 48 07.2	+0.4
OK030	Cody Creek RV	0.69	121	Pg	Pg	19 47 59.4	0.0
OK030				Sg	Sg	19 48 09.2	+0.7
KAN13	South Haven SW	0.72	2	Pg	Pg	19 47 59.8	0.0
OK025	Westminster Rd	0.72	169		Pg	19 47 59.9	0.0
OK032	Salt Plains WL	0.76	313		Pg	19 48 00.5	0.0
KAN09	Caldwell North	0.85	354	Pg	Pg	19 48 02.2	-0.1
KAN05	Bluff City Nor	0.86	341	Pg	Pg	19 48 02.4	-0.2
KS20	Mayfield South	0.94	358	Pg	Pg	19 48 03.8	-0.1
T35A	Sooner Cattle	1.02	52	Pg	Pg	19 48 05.6	+0.1
KAN12	Harper NE Stat	1.07	339	Pg	Pg	19 48 06.6	0.0
KAN12	comp=Z,79nm,1.0s			IAmb_Lg		19 48 21.7	
U32A	Winter Ranch,	1.20	275		Pb	19 48 08.4	-0.5
WMOK	Wichita Mounta	1.86	214	Pn	Pn	19 48 18.6	+0.6
R32A	Long Quarter,	2.33	336	Pn	Pn	19 48 24.1	-0.4
X37A	Clayton	2.44	134	Pn	Pn	19 48 24.5	-1.4
U38A	Gravette	2.53	86		Pn	19 48 27.9	+0.7
HHAR	Hobbs	2.89	89		Pn	19 48 32.4	+0.3
W39A	Magazine	3.23	109	IAmb_Lg		19 49 33.1	
S39A	comp=Z,20nm,0.9s Bolivar	3.63	66		Pn	19 48 42.0	-0.4
MIAR	Mount Ida	3.66	117	Pn	Pn	19 48 42.3	-0.4
U40A	Yellville	3.76	88	Pn	Pn	19 48 44.1	-0.1
U40A	comp=Z,17nm,1.0s			IAmb_Lg		19 49 47.2	
ABTX	Abilene, Hawle	4.06	206	IAmb_Lg		19 49 56.5	
X40A	comp=Z,8.2nm,0.8s Basin Creek Fa	4.23	114	IAmb_Lg		19 50 04.4	
WHAR	comp=Z,16nm,0.7s Wooly Hollow	4.37	102		Pn	19 48 51.5	-0.8
WHAR				IAmb_Lg		19 50 06.9	
FCAR	comp=Z,8.9nm,0.7s Ozark Folk Cen	4.38	94	IAmb_Lg		19 50 04.6	
R40A	comp=Z,7.2nm,0.7s Maddies Statio	4.63	63	IAmb_Lg		19 50 13.5	
T42A	comp=Z,14nm,0.8s Van Buren	5.21	80	IAmb_Lg		19 50 44.0	
CCM	comp=Z,5.3nm,0.8s Cathedral Cave	5.31	69	IAmb_Lg		19 50 32.9	
P40A	comp=Z,5.4nm,0.8s Paris	5.40	52	IAmb_Lg		19 50 38.8	
T25A	comp=Z,7.4nm,0.7s Trinidad	5.60	281	IAmb_Lg		19 50 46.0	
N38A	comp=Z,5.1nm,0.7s Joes South For	5.61	35	IAmb_Lg		19 50 48.5	
	comp=Z,12nm,0.7s						
PBMO	Poplar Bluff	5.72	83	IAmb_Lg		19 50 51.9	
S44A	comp=Z,14nm,0.8s Carbondale	6.76	76	IAmb_Lg		19 51 26.0	
SIUC	comp=Z,6.7nm,0.7s Southern Illin	6.79	75	IAmb_Lg		19 51 26.6	
N41A	comp=Z,11nm,1.1s Harden Midland	6.83	48	IAmb_Lg		19 51 22.5	
	comp=Z,12nm,0.7s						

*IDC **10** 19:56:07.2±2.8,6°.64S×129°.83E, h132km±37km, mb3.4/1, mb1 3.8/5, mb1mx3.3/29, mbtmp4.1/5, MS4.0/1, Ms1 4.0/1, ms1mx2.8/22, Error ellipse: s-maj=67.0km s-min=20.4km az=89.0*

*NEIC **10** 19:56:09.7±0.8,6°.49S±0°.09×129°.9E±0°.1, h157km±16km, mb4.0/2, Error ellipse: s-maj=15.9km s-min=12.3km az=88.0*

ISC 10 19:56:07.6±0.9,6°.57S±0°.07×129°.94E±0°.08, h150km, n16, σ2s43/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.95	136	Pn	Pn	19 56 46.3	+4.1
FAKI	Fak Fak	4.30	33	Pn	Pn	19 57 12.8	+0.9
SIJI	Sorong	5.82	13	P	Pn	19 57 32.9	+0.9
SIJI	6.4nm,0.3s,baz=214,slow=11,SNR=48			S	Sn	19 58 34.7	-3.3
MTN	7.8nm,0.3s,baz=229,slow=23,SNR=12 Manton Dam	6.34	169		Pn	19 57 40.3	+1.4
SOEI	Soe	6.44	240	Pn	Pn	19 57 42.7	+2.3
BATI	Baumata	7.18	239	P	Pn	19 57 52.3	+2.2
BATI	5.1nm,0.3s,baz=72,slow=3.2,SNR=8.7			S	Sn	19 59 09.4	-1.1
KNRA	5.6nm,0.3s,baz=14,slow=13,SNR=7.9 Kununurra	9.12	187		Pn	19 58 15.5	-0.5
FITZ	Fitzroy Crossi	12.20	200	P	Pn	19 58 54.9	-1.6
FITZ	1.2nm,0.3s,baz=26,slow=10,SNR=49			S	Sn	20 01 02.2	-9.2
FITZ	0.9nm,0.3s,baz=60,slow=16,SNR=2.9 Fitzroy Crossi	12.20	200	Pn	Pn	19 58 55.4	-1.1
WRA	Warramunga Arr	13.96	163	P	Pn	19 59 17.4	-1.7
WRA	0.9nm,0.3s,baz=347,slow=12,SNR=43			S	Sn	20 01 46.8	-7.1
JAGI	0.9nm,0.3s,baz=339,slow=20,SNR=6.8 Jajag, Banyuwa	15.76	262	Pn	Pn	19 59 39.8	-1.8
JAGI	comp=Z,33nm,1.3s			IAmb	IAmb	20 00 03.9	
AS31	Alice Springs	17.42	168	P	P	20 00 02.3	+1.7
AS31	comp=Z,1.4nm,0.5s			IAmb	IAmb	20 00 07.3	
ASAR	Alice Springs	17.42	168	P	P	20 00 02.8	+2.2
ASAR	comp=Z,0.5nm,0.3s,baz=340,slow=9.8,SNR=35			S	S	20 03 10.0	-4.4
ASAR	comp=Z,0.2nm,0.3s,baz=358,slow=28,SNR=4.0 Alice Springs	17.42	168		P	20 00 02.4	+1.8
JCJ	Chichijima	35.51	19	LR	LR	20 16 40.7	
MKAR	comp=Z,251nm,21.1s,baz=110,slow=35 Makanchi Array	67.84	327	P	P	20 06 51.0	+1.4
	comp=Z,0.7nm,0.6s,baz=120,slow=7.7,SNR=8.9						

*IDC **10** 20:05:27.8±2.8,41°.91N×140°.77E, h136km±32km, mb3.1/3, mb1 3.1/5, mb1mx2.9/40, mbtmp3.4/5, Error ellipse: s-maj=35.0km s-min=28.5km az=20.0*

*JMA **10** 20:05:27.9±0.1,41°.98N×140°.66E, h126km±1km, M2.3*

ISC 10 20:05:27.8±1.0,41°.94N±0°.05×140°.65E±0°.05, h128km±6km, n20, σ0s56/28, mb3.5/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYM2	Yakumo 2	0.28	310	P	Pn	20 05 45.6	+0.1
JKB	Kayabe	0.29	100	P	Pn	20 05 45.4	-0.1
JKB				eS	Sn	20 05 59.3	+0.4
JSR	Shiriuchi	0.45	203	P	Pn	20 05 46.4	+0.2
JSR				eS	Sn	20 06 00.2	0.0
JNB	Noboribetsu	0.60	28	P	Pn	20 05 46.8	-0.3
JNB				eS	Sn	20 06 01.4	-0.5
JOT	Ohata	0.63	152	P	Pn	20 05 47.6	+0.2
JOMM	Oshimamatsumae	0.64	230	P	Pn	20 05 47.7	+0.3
JOMM				eS	Sn	20 06 02.7	+0.5
JHST	Hiyamasetana	0.75	310	P	Pn	20 05 48.2	0.0
JOSM	Okushiri--Mats	0.89	280	P	Pn	20 05 49.2	-0.2
JOSM				eS	Sn	20 06 05.4	-0.4
JIAM	Iburiatsuma	1.16	54	P	Pn	20 05 52.5	+0.5
JIAM				eS	Sn	20 06 11.6	+1.2
JTM	Tenmabayashi	1.19	165	P	Pn	20 05 52.8	+0.4
JTM				eS	Sn	20 06 11.8	+0.8
JSK	Shakotan	1.42	355	P	Pn	20 05 54.8	+0.1
JIW	Iwasaki	1.43	200	P	Pn	20 05 55.8	+0.9
JBT2	Biratori 2	1.52	56	P	Pn	20 05 56.1	+0.2
JNBK	Urakawa-nobuka	1.60	77	P	Pn	20 05 56.8	0.0
JANG	Nango	1.69	157	P	Pn	20 05 57.7	-0.2
ASAJ	Asahikawa	2.60	33	P	Pn	20 06 09.3	+0.2
ASAJ	2.2nm,0.3s,baz=220,slow=10,SNR=21			S	Sn	20 06 41.6	+0.7
USRK	0.9nm,0.3s,baz=90,slow=20,SNR=4.7 Ussuriysk Ar.	6.74	292	P	Pn	20 07 05.2	+1.1
ZALV	baz=91,slow=14,SNR=1.4 Zalesovo Beam	38.30	308	P	P	20 12 35.6	0.0
MKAR	0.4nm,0.4s,baz=92,slow=7.9,SNR=2.0 Makanchi Array	41.17	297	P	P	20 12 59.4	-0.1
WRA	0.2nm,0.5s,baz=85,slow=9.6,SNR=5.6 Warramunga Arr	61.85	187	P	P	20 15 32.3	-1.0
	0.5nm,0.9s,baz=7.9,slow=7.4,SNR=1.5						

JMA 10 20:06:39.4±0.1,31°.12N×130°.38E, h136km±1km, M2.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.39	9	P	Pn	20 06 58.8	+0.2
JSU				eS	Sn	20 07 13.7	+0.4
JTSR	Tashiro 2	0.47	84	P	Pn	20 06 58.9	-0.1
JTSR				eS	Sn	20 07 13.6	-0.2
JKC	Kuchinoerabu	0.68	194	P	Pn	20 07 00.3	+0.1
JKC				eS	Sn	20 07 16.2	+0.2
JTN	Tanegashima 3	0.69	132	P	Pn	20 07 00.5	+0.1
JTN				eS	Sn	20 07 16.4	+0.2
JSJ	Shimokoshiki	0.80	315	P	Pn	20 07 00.8	-0.3
JSJ				eS	Sn	20 07 17.9	+0.3
JMTN	Minamitane	0.85	148	P	Pn	20 07 01.9	+0.2
JMTN				eS	Sn	20 07 19.0	+0.7
JYAK	Yakushimahirau	0.89	173	P	Pn	20 07 01.8	-0.1
JYAK				e

ERM	**Erimo**	**0.89**	**289**			**Pn**	**20 07 15.4**	**+0.9**
JEM	**Erimo**	**0.89**	**290**	⇑	*i*P	**Pn**	**20 07 15.3**	**+0.8**
JTHR	**Tokachihiroo**	**0.93**	**308**	⇑	P	**Pg**	**20 07 15.5**	**+1.1**
JTHR					*e*S	**Sn**	**20 07 29.0**	**+1.0**
JCH	**Churui**	**1.12**	**323**	⇑	P	**Pb**	**20 07 18.3**	**+0.7**
JCH					*e*S	**Sg**	**20 07 33.9**	**+1.1**
JOB	**Onbets**	**1.22**	**344**	⇑	P	**Pb**	**20 07 19.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.27**	**297**	⇑	P	**Pb**	**20 07 21.0**	**+0.9**
JAK	**Akkeshi**	**1.31**	**14**	⇑	P	**Pb**	**20 07 20.8**	**0.0**
JAK					*e*S	**Sg**	**20 07 38.3**	**-0.4**
JKHN	**Kushirohamanak**	**1.51**	**25**		P	**Pb**	**20 07 24.0**	**-0.2**
JKHN					*e*S	**Sb**	**20 07 43.2**	**+0.1**
JSHD	**Hidakashinhida**	**1.51**	**298**	⇑	P	**Pb**	**20 07 24.9**	**+0.6**
JAR	**Ashorobuto**	**1.62**	**347**	⇑	P	**Pn**	**20 07 24.9**	**+0.4**
JAR					*e*S	**Sb**	**20 07 45.6**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.96**	**33**		*e*P	**Pn**	**20 07 29.1**	**-0.2**
NMR					*e*S	**Sn**	**20 07 51.5**	**-2.1**
GLVR	**Golovnino**	**2.21**	**24**		*e*P	**Pn**	**20 07 33.8**	**+1.1**
GLVR					*e*S	**Sn**	**20 07 59.4**	**-0.4**
GLVR					pmax	pmax		
	comp=Z,799nm,0.5s							
GLVR					pmax	pmax		
	comp=N,246nm,0.3s							
GLVR					pmax	pmax		
	comp=E,177nm,0.2s							
GLVR					smax	smax		
	comp=N,7μm,0.3s							
GLVR					smax	smax		
	comp=E,6μm,0.4s							
JEW	**Eniwo**	**2.38**	**299**			**Pn**	**20 07 37.2**	**+2.3**
RUSJ	**Misakicho**	**2.48**	**16**	⇓	*i*P	**Pn**	**20 07 38.2**	**+1.8**
RUSJ					*e*S	**Sb**	**20 08 08.5**	**-2.7**
GRPR	**Tuman**	**2.52**	**25**		*e*P	**Pn**	**20 07 38.3**	**+1.4**
GRPR					*e*S	**Sn**	**20 08 06.6**	**-0.8**
GRPR					pmax	pmax		
	comp=Z,363nm,0.4s							
GRPR					pmax	pmax		
	comp=N,156nm,0.2s							
GRPR					smax	smax		
	comp=N,1μm,0.4s							
GRPR					smax	smax		
	comp=E,3μm,0.3s							
GRPR					MLR	MLR		
	comp=Z,1μm,8.0s							
YUK	**Yuzh-Kuril'sk**	**2.58**	**26**	⇑	*i*P	**Pn**	**20 07 39.0**	**+1.2**
YUK					*i* S	**Sn**	**20 08 08.6**	**-0.4**
YUK					pmax	pmax		
	comp=E,226nm,0.3s							
YUK					pmax	pmax		
	comp=Z,999nm,0.3s							
YUK					pmax	pmax		
	comp=N,410nm,0.4s							
YUK					smax	smax		
	comp=N,2μm,0.5s							
YUK					smax	smax		
	comp=E,2μm,0.3s							
YUK					MLR	MLR		
	comp=Z,1μm,9.0s							
JTM	**Tenmabayashi**	**2.60**	**250**			**Pn**	**20 07 38.3**	**+0.3**
JKA	**Kamikawa-asahi**	**2.69**	**333**		Pn	**Pn**	**20 07 40.3**	**+1.0**
JKA	**Kamikawa-asahi**	**2.69**	**333**			**Sb**	**20 08 16.6**	**-0.6**
ASAJ	**Asahikawa**	**2.69**	**333**		Pn	**Pn**	**20 07 40.3**	**+1.0**
	comp=Z,36nm,0.3s,baz=184,slow=15,SNR=158							
ASAJ					Sn	**Sb**	**20 08 16.6**	**-0.6**
	comp=Z,126nm,0.3s,baz=146,slow=22,SNR=6.7							
ASAJ					LR	LR	20 09 05.7	
	comp=Z,3μm,18.6s,baz=180,slow=49							
ASAJ	**Asahikawa**	**2.69**	**333**		P	**Pn**	**20 07 40.3**	**+1.0**
ASAJ							20 08 16.6	
KUR	**Kuril'sk**	**4.37**	**35**	⇑	*i*P	**Pn**	**20 08 04.9**	**+2.5**
KUR					*e*S	**Sn**	**20 08 54.3**	**+1.3**
KUR					pmax	pmax		
	comp=N,51nm,0.5s							
KUR					pmax	pmax		
	comp=E,104nm,0.5s							
KUR					pmax	pmax		
	comp=Z,291nm,0.5s							
KUR					smax	smax		
	comp=N,383nm,0.6s							
KUR					smax	smax		
	comp=E,329nm,0.6s							
KUR					MLR	MLR		
	comp=Z,3μm,13.0s							
JMM	**Marumori**	**4.70**	**216**		Pn	**Pn**	**20 08 04.7**	**-2.1**
YSS	**Yuzh-Sakhalins**	**5.34**	**349**		*e*P	**Pn**	**20 08 17.2**	**+1.5**
YSS					*e*S	**Sn**	**20 09 16.9**	**0.0**
YSS					pmax	pmax		
	comp=Z,30nm,1.0s							
YSS					smax	smax		
	comp=N,120nm,0.7s							
YSS					MLR	MLR		
	comp=Z,2μm,10.0s							
YSS					MLR	MLR		
	comp=N,1μm,17.0s							
YSS	**Yuzh-Sakhalins**	**5.34**	**349**		Pn	**Pn**	**20 08 15.9**	**+0.2**
JSD	**Sado**	**5.92**	**233**		Pn	**Pn**	**20 08 23.6**	**0.0**
JYT	**Yasato**	**6.34**	**211**		Pn	**Pn**	**20 08 27.0**	**-2.5**
TEY	**Ternei**	**6.50**	**303**	⇓	*e*P	**Pn**	**20 08 32.8**	**+1.2**
TEY					pmax	pmax		
	comp=N,10.0nm,0.8s							
TEY					pmax	pmax		
	comp=E,40nm,0.8s							
TEY					pmax	pmax		
	comp=Z,30nm,0.9s							
MJB9	**Matsu-Tunnel**	**7.00**	**224**			**Pn**	**20 08 38.0**	**-0.6**
MAJO	**Matsushiro**	**7.00**	**224**	*c*	*i*P	**Pn**	**20 08 38.7**	**+0.1**
MAJO	**Matsushiro**	**7.00**	**224**		Pn	**Pn**	**20 08 38.4**	**-0.1**
MAT	**Matsushiro**	**7.00**	**224**		S	**Sn**	**20 09 56.8**	**-1.1**
MAT	**Matsushiro**	**7.00**	**224**		P	**Pn**	**20 08 38.7**	**+0.1**
MJAR	**Matsushiro Arr**	**7.00**	**224**		Pn	**Pn**	**20 08 38.9**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=27,slow=14,SNR=115							
MJAR					Sn	**Sn**	**20 09 58.4**	**+0.5**
	baz=83,slow=35,SNR=1.0							
MJAR					LR	LR	20 11 49.7	
	comp=Z,1μm,21.5s,baz=60,slow=43							
MJAR	**Matsushiro Arr**	**7.00**	**224**		P	**Pn**	**20 08 38.9**	**+0.3**
MJAR							20 09 58.4	
MJAR	**Matsushiro Arr**	**7.00**	**224**		Pn	**Pn**	**20 08 38.6**	**0.0**
UGL	**Uglegorsk**	**7.52**	**349**		*e*P	**Pn**	**20 08 47.8**	**+2.3**
UGL					*e*S	**Sn**	**20 10 13.2**	**+2.7**
UGL					pmax	pmax		
	comp=Z,40nm,1.0s							
UGL					smax	smax		
	comp=E,300nm,3.0s							
UGL					smax	smax		
	comp=N,330nm,2.0s							
UGL					MLR	MLR		
	comp=E,1μm,12.0s							
UGL					MLR	MLR		
	comp=N,1μm,15.0s							
UGL					MLR	MLR		
	comp=Z,2μm,15.0s							
JGF	**Kuroka**	**8.16**	**224**			**Pn**	**20 08 54.2**	**-0.3**
JSG	**Sagara**	**8.52**	**216**			**Pn**	**20 08 58.1**	**-1.2**
INU	**Inuyama**	**8.54**	**224**		Pn	**Pn**	**20 08 58.8**	**-0.8**
TYV	**Tymovskoe**	**9.21**	**354**		*e*P	**Pn**	**20 09 10.6**	**+1.9**
TYV					*e*S	**Sn**	**20 11 00.2**	**+8.1**
TYV					pmax	pmax		
	comp=Z,100nm,3.8s							
TYV					pmax	pmax		
	comp=Z,22nm,1.0s							
TYV					smax	smax		
	comp=N,12nm,1.0s							
TYV					MLR	MLR		
	comp=N,2μm,15.0s							
TYV					MLR	MLR		
	comp=Z,2μm,15.0s							
VLA	**Vladivostok**	**9.27**	**283**	*c*	*i*P	**Pn**	**20 09 11.6**	**+1.9**
JHJ2	**Mitsune**	**9.30**	**204**		Pn	**Pn**	**20 09 07.7**	**-2.4**
JHJ	**Hachijo jima 2**	**9.30**	**204**		Pn	**Pn**	**20 09 08.0**	**-2.1**
	comp=Z,18nm,0.3s,baz=29,slow=2.6,SNR=8.7							
JHJ					Sn	Sn	20 10 45.1	-9.4
	comp=Z,56nm,0.3s,baz=230,slow=20,SNR=9.0							
JHJ	**Hachijo jima 2**	**9.30**	**204**			**Pn**	**20 09 08.0**	**-2.1**
USA0B	**Ussuriysk Arra**	**9.35**	**289**		P	**Pn**	**20 09 12.8**	**+2.1**
USA0B	**Ussuriysk Arra**	**9.35**	**289**		Pn	**Pn**	**20 09 12.8**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.35**	**289**		Pn	**Pn**	**20 09 12.3**	**+1.6**
	baz=98,slow=14,SNR=37							
USRK					LR	LR	20 13 07.0	
	comp=Z,1μm,19.3s,baz=70,slow=40							
USRK	**Ussuriysk Ar.**	**9.35**	**289**		P	**Pn**	**20 09 12.6**	**+2.0**
USRK	**Ussuriysk Ar.**	**9.35**	**289**		Pn	**Pn**	**20 09 12.6**	**+2.0**
JWT	**Wachi**	**9.47**	**230**		Pn	**Pn**	**20 09 12.6**	**+0.2**
MSHR	**Mys Shultsa**	**9.79**	**279**	*de*	P	**Pn**	**20 09 19.3**	**+2.6**
MSHR					pmax	pmax		
	comp=Z,48nm,0.9s							
GRNR	**Gornyy**	**10.55**	**332**		*e*P	Pn	20 09 18.9	-8.2
GRNR					MLR	MLR		
	comp=E,950nm,18.0s							
GRNR					MLR	MLR		
	comp=N,800nm,17.0s							
GRNR					MLR	MLR		
	comp=Z,1μm,16.0s							
JHS	**Saijyo**	**11.04**	**236**		Pn	**Pn**	**20 09 34.1**	**+0.2**
MDJ	**Mudanjiang**	**11.11**	**290**		P	**Pn**	**20 09 37.9**	**+3.1**
MDJ					pmax	pmax		
	comp=Z,13nm,0.8s							
MDJ					L	L		
	comp=Z,500nm,13.4s							
MDJ					L	L		
	comp=Z,1μm,19.0s							
MDJ					L	L		
	comp=Z,2μm,19.3s							
MDJ	**Mudanjiang**	**11.11**	**290**		Pn	**Pn**	**20 09 32.9**	**-1.9**
JMN	**Monobe**	**11.46**	**229**		Pn	**Pn**	**20 09 38.8**	**-0.9**
KLR	**Kul'dur**	**11.55**	**315**	*de*	P	**Pn**	**20 09 42.4**	**+1.6**
KLR					pmax	pmax		
	comp=Z,19nm,1.0s							
OKH	**Okha**	**11.87**	**356**	*de*	P	**Pn**	**20 09 45.7**	**+0.6**
OKH					*e*S	**Sn**	**20 11 54.2**	**-2.9**
OKH					MLR	MLR		
	comp=N,1μm,14.0s							
OKH					MLR	MLR		
	comp=Z,500nm,15.0s							
KSRS	**Korea Array**	**13.31**	**257**		Pn	**Pn**	**20 10 05.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=71,slow=13,SNR=31							
KSRS					Sn	**Sn**	**20 12 34.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=68,slow=38,SNR=1.5							
KSRS					LR	LR	20 15 20.4	
	comp=Z,608nm,18.0s,baz=76,slow=38							
KSRS	**Korea Array**	**13.31**	**257**		P	**Pn**	**20 10 05.6**	**+0.7**
KSRS	**Korea Array**	**13.31**	**257**			**Pn**	**20 10 05.6**	**+0.7**
KS19	**Wonju Array Si**	**13.34**	**257**			**Pn**	**20 10 04.5**	**-0.8**
KSAR	**Wonju Array Be**	**13.35**	**257**		P	**Pn**	**20 10 03.8**	**-1.6**
KSAR	**Wonju Array Be**	**13.35**	**257**		Pn	**Pn**	**20 10 03.8**	**-1.6**
JNU	**Nakatsue**	**13.67**	**235**		Pn	**Pn**	**20 10 08.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=181,slow=23,SNR=9.2							
JNU	**Nakatsue**	**13.67**	**235**			**Pn**	**20 10 07.5**	**-2.3**
CN2	**Changchun**	**13.99**	**285**		*e*P	**Pn**	**20 10 13.3**	**-0.9**
CN2					*e*S	**Sn**	**20 12 47.5**	**-1.7**
CN2					pmax	pmax		
	comp=Z,20nm,1.2s							
CN2					pmax	pmax		
	comp=Z,100nm,7.0s							
CN2					L	L		
	comp=Z,500nm,15.0s							
CN2					L	L		
	comp=Z,2μm,15.0s							
CN2					L	L		
	comp=Z,2μm,14.0s							
TJN	**Taejon**	**14.18**	**253**	*de*	P	**Pn**	**20 10 17.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**14.54**	**34**	*de*	P	**Pn**	**20 10 23.9**	**+2.3**
PEA0B	**Petropavlovsk-**	**14.54**	**34**		Pn	**Pn**	**20 10 21.5**	**-0.1**
PETK	**Petropavlovsk-**	**14.54**	**34**		Pn	**Pn**	**20 10 23.2**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=207,slow=12,SNR=8.9							
PETK					LR	LR	20 16 07.9	
	comp=Z,288nm,19.5s,baz=186,slow=38							
PETK	**Petropavlovsk-**	**14.54**	**34**		P	**Pn**	**20 10 23.2**	**+1.6**
PETK	**Petropavlovsk-**	**14.54**	**34**			**Pn**	**20 10 21.7**	**+0.1**
JCJ	**Chichijima**	**14.69**	**187**		Pn	Pn	20 10 19.1	-4.7
	comp=Z,4.2nm,0.3s,baz=305,slow=20,SNR=1.3							
JCJ					Sn	Sn	20 12 53.6	-13
	comp=Z,8.7nm,0.3s,baz=241,slow=24,SNR=6.6							
JCJ	**Chichijima**	**14.69**	**187**		Pn	**Pn**	**20 10 22.1**	**-1.8**
ZEA	**Zeya**	**16.55**	**322**		*e*P	**Pn**	**20 10 46.2**	**-1.7**
ZEA					pmax	pmax		
	comp=N,20nm,0.7s							
ZEA					pmax	pmax		
	comp=E,20nm,0.8s							
ZEA					pmax	pmax		
	comp=Z,50nm,0.8s							
ZEA					MLR	MLR		
	comp=E,400nm,14.0s							
ZEA					MLR	MLR		
	comp=N,500nm,19.0s							
ZEA					MLR	MLR		
	comp=Z,400nm,15.0s							
DL2	**Dalian**	**17.50**	**268**		P	**Pn**	**20 10 59.2**	**-0.7**
DL2					S	**Sn**	**20 14 11.3**	**-3.1**
DL2					pmax	pmax		
	comp=Z,61nm,0.8s							
DL2					L	L		
	comp=Z,650nm,12.5s							
DL2					L	L		
	comp=Z,320nm,16.1s							
DL2					L	L		
	comp=Z,570nm,13.3s							
MA2	**Magadan**	**18.32**	**11**	*de*	P	**Pn**	**20 11 08.6**	**-1.3**
MA2					pmax	pmax		
	comp=Z,21nm,0.8s							
MA2	**Magadan**	**18.32**	**11**		P	**Pn**	**20 11 08.9**	**-1.1**
HIA	**Hailar**	**18.73**	**302**		P	**P**	**20 11 12.5**	**-2.1**
HIA					pmax	pmax		
	comp=Z,106nm,1.1s							
HIA	**Hailar**	**18.73**	**302**		P	**P**	**20 11 12.5**	**-2.1**
HIA					IAmb	IAmb	20 11 15.6	
	comp=Z,106nm,1.1s							
JOW	**Kunigami**	**19.84**	**227**		P	**P**	**20 11 26.8**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=1.2,slow=4.0,SNR=4.8							
JOW	**Kunigami**	**19.84**	**227**			**P**	**20 11 23.4**	**-3.4**
JOW					IAmb	IAmb	20 11 27.6	
	comp=Z,53nm,1.2s							
BJI	**Beijing**	**21.28**	**275**		P	**P**	**20 11 40.2**	**-2.2**
BJI					pP	**pP**	**20 11 44.4**	**-1.6**
BJI					S	**S**	**20 15 41.2**	**+2.9**
BJI					pmax	pmax		
	comp=Z,28nm,0.9s							
BJI					L	L		
	comp=Z,510nm,14.3s							
BJI					L	L		
	comp=Z,1μm,14.7s							
BJI					L	L		
	comp=Z,620nm,16.1s							
BJT	**Baijiatuan**	**21.29**	**275**		P	**P**	**20 11 39.7**	**-2.8**
BJT					pmax	pmax		
	comp=Z,23nm,0.9s							
BJT	**Baijiatuan**	**21.29**	**275**		P	**P**	**20 11 39.7**	**-2.8**
TIA	**Tai'an**	**21.77**	**264**	⇓	P	**P**	**20 11 45.3**	**-2.4**
TIA					S	**S**	**20 15 49.8**	**+1.7**
TIA					pmax	pmax		
	comp=Z,26nm,1.0s							
TIA					L	L		
	comp=Z,350nm,12.8s							
TIA					L	L		
	comp=Z,450nm,14.7s							
TIA					L	L		
	comp=Z,520nm,16.2s							
YAK	**Yakutsk**	**22.14**	**342**	*c*	*i*P	**P**	**20 11 46.6**	**-4.8**
YAK					*e**PP	**pP**	**20 11 56.7**	**+1.6**
YAK					*e*S	**S**	**20 15 45.3**	**-9.4**
YAK					*e*		20 15 48.2	
YAK					*e**SS	**pS**	**20 15 59.9**	**+0.2**
YAK					*e*		20 23 08.7	
YAK					pmax	pmax		
	comp=Z,118nm,0.9s							
YAK					pmax	pmax		
	comp=E,11nm,1.0s							
YAK					pmax	pmax		
	comp=N,35nm,1.1s							
YAK					smax	smax		
	comp=N,252nm,1.6s							
YAK					smax	smax		
	comp=E,126nm,1.4s							
YAK					MLR	MLR		
	comp=Z,439nm,14.0s							
YAK					MLR	MLR		
	comp=E,170nm,13.0s							
YAK					MLR	MLR		
	comp=N,204nm,14.0s							
YAK	**Yakutsk**	**22.14**	**342**			**P**	**20 11 46.9**	**-4.5**
NJ2	**Nanjing**	**22.44**	**253**		*e*P	**P**	**20 11 54.2**	**-0.7**
NJ2					pmax	pmax		
	comp=N,9.0nm,0.5s							
NJ2	**Nanjing**	**22.44**	**253**		*e*P	**P**	**20 11 53.7**	**-1.2**
NJ2					pP	**pP**	**20 11 56.4**	**-2.2**
NJ2					sP	**pwP**	**20 12 03.9**	**+3.3**
NJ2					S	**S**	**20 16 02.3**	**+1.5**
NJ2					pmax	pmax		
	comp=N,9.0nm,0.5s							
NJ2					pmax	pmax		
	comp=N,130nm,4.9s							
NJ2					L	L		
	comp=N,580nm,17.1s							
NJ2					L	L		
	comp=N,1μm,15.2s							
NJ2					L	L		
	comp=N,1μm,16.1s							
CIT	**Chita**	**23.23**	**307**		*e*P	**P**	**20 12 00.0**	**-3.0**
CIT					*e*		20 12 07.7	
CIT					*e*		20 12 26.4	
CIT					pmax	pmax		
	comp=Z,131nm,1.4s							
HHC	**Hu-ho-hao-te**	**24.52**	**279**		*e*P	**P**	**20 12 16.2**	**+0.7**
HHC					pmax	pmax		
	comp=Z,16nm,0.9s							
HHC					pmax	pmax		
	comp=Z,140nm,8.1s							
HHC					L	L		
	comp=Z,140nm,12.7s							
HHC					L	L		
	comp=Z,580nm,16.7s							
HHC					L	L		
	comp=Z,710nm,16.6s							
TIY	**Taiyuan**	**24.74**	**271**		*e*P	**P**	**20 12 21.7**	**+4.2**
TIY					SS	S	20 17 33.4	+54
TIY					pmax	pmax		
	comp=Z,66nm,5.7s							
TIY					L	L		
	comp=Z,410nm,13.8s							
TIY					L	L		
	comp=Z,310nm,13.7s							
TIY					L	L		
	comp=Z,570nm,15.8s							
SSLB	**Suanglung**	**26.41**	**235**		P	**P**	**20 12 30.2**	**-2.5**
WHN	**Wuhan**	**26.50**	**255**	⇑	P	**P**	**20 12 33.6**	**+0.3**
WHN					pmax	pmax		
	comp=Z,120nm,0.9s							
YULB	**Yu-li**	**26.50**	**234**		P	**P**	**20 12 32.6**	**-0.8**
ULN	**Ulaanbaatar**	**26.93**	**296**	*c*	*i*P	**P**	**20 12 36.9**	**-0.3**
ULN					pmax	pmax		
	comp=Z,80nm,1.3s							
ULN	**Ulaanbaatar**	**26.93**	**296**		P	**P**	**20 12 36.7**	**-0.6**
ULN	**Ulaanbaatar**	**26.93**	**296**		P	**P**	**20 12 37.0**	**-0.3**
	comp=Z,3μmcomp=Z,219nm,1.1s							
TPUB	**Ta-pu**	**26.97**	**234**		P	**P**	**20 12 36.1**	**-1.6**
TPUB					IAmb	IAmb	20 12 49.5	
	comp=Z,16nm,0.9s							
SONM	**Songino Array**	**27.37**	**296**		P	**P**	**20 12 41.2**	**0.0**
	comp=Z,62nm,1.2s,baz=94,slow=7.1,SNR=80							
SONM					LR	LR	20 24 52.4	
	comp=Z,574nm,18.8s,baz=98,slow=40							
SONM	**Songino Array**	**27.37**	**296**		P	**P**	**20 12 40.8**	**-0.5**
SONM					pmax	pmax		
	comp=Z,55nm,1.1s							
SONM	**Songino Array**	**27.37**	**296**		P	**P**	**20 12 40.8**	**-0.5**
SONM					IAmb	IAmb	20 12 44.5	
	comp=Z,55nm,1.1s							
XAN	**Xi'an**	**28.79**	**266**		P	**P**	**20 12 54.0**	**+0.1**
XAN					pP	pwP	20 13 05.2	+4.7
XAN					pmax	pmax		
	comp=Z,7.0nm,0.8s							
XAN					pmax	pmax		
	comp=Z,100nm,5.8s							
XAN					L	L		
	comp=Z,160nm,14.6s							
XAN					L	L		
	comp=Z,570nm,14.9s							
XAN					L	L		
	comp=Z,600nm,15.9s							
IRK	**Irkutsk**	**28.90**	**305**		*e*P	**P**	**20 12 54.7**	**0.0**
IRK					pmax	pmax		
	comp=Z,64nm,1.2s							
BILL	**Bilibino**	**28.90**	**17**	⇑	*e*P	**P**	**20 12 54.2**	**-0.3**
BILL					*e*		20 13 44.5	
BILL					pmax	pmax		
	comp=Z,4.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,266nm,16.0s							
H11N2	**WAKE ISLAND Hy**	**29.14**	**132**		T	T	20 44 04.7	
	baz=324,slow=75,SNR=323							
H11N1	**WAKE ISLAND Hy**	**29.15**	**132**		T	T	20 43 55.0	
	baz=324,slow=75,SNR=279							
H11N3	**WAKE ISLAND Hy**	**29.16**	**132**		T	T	20 43 52.8	
	baz=324,slow=75,SNR=310							
TLY	**Talaya**	**29.25**	**304**		*e*P	**P**	**20 12 58.6**	**+0.9**
TLY					pmax	pmax		
	comp=Z,101nm,0.9s							
TLY					MLR	MLR		
	comp=Z,921nm,16.0s							
TLY	**Talaya**	**29.25**	**304**		P	**P**	**20 12 57.5**	**-0.2**
ZAK	**Zakamensk**	**29.42**	**301**		*e*P	**P**	**20 12 59.4**	**0.0**
ZAK					pmax	pmax		
	comp=Z,25nm,1.2s							
H11S1	**WAKE ISLAND Hy**	**30.02**	**134**		T	T	20 45 03.4	
	baz=325,slow=76,SNR=313							
H11S3	**WAKE ISLAND Hy**	**30.02**	**134**		T	T	20 44 57.1	
	baz=325,slow=76,SNR=291							
H11S2	**WAKE ISLAND Hy**	**30.04**	**134**		T	T	20 44 56.1	
	baz=325,slow=76,SNR=326							
ENH	**Enshi**	**30.19**	**259**		P	**P**	**20 13 05.3**	**-1.0**
ENH					IAmb	IAmb	20 13 07.5	
	comp=Z,35nm,1.0s							
MOY	**Mondy**	**30.89**	**304**		*e*P	**P**	**20 13 12.6**	**+0.2**
MOY					pmax	pmax		
	comp=Z,56nm,1.5s							
TIXI	**Tiksi**	**30.96**	**351**	*i*	P	**P**	**20 13 09.6**	**-3.0**
TIXI	**Tiksi**	**30.96**	**351**		P	**P**	**20 13 09.7**	**-2.9**
LZH	**Lanzhou**	**31.75**	**273**		*e*P	**P**	**20 13 21.5**	**+1.3**
LZH					sP	pP	20 13 26.5	+2.5
LZH					*e*S	**S**	**20 18 25.3**	**-4.4**
LZH					sS	sS	20 18 37.7	+1.4
LZH					pmax	pmax		
	comp=Z,35nm,1.2s							
LZH					pmax	pmax		
	comp=Z,140nm,5.4s							
LZH					L	L		
	comp=Z,600nm,13.2s							
LZH					L	L		
	comp=Z,630nm,13.0s							
LZH					L	L		
	comp=Z,680nm,14.7s							
NIKH	**Nikolski High**	**33.12**	**54**		P		20 13 31.7	
	baz=269							
GAMB	**Gambell**	**33.57**	**34**		P		20 13 36.1	
	baz=250							
GTA	**Gaotai**	**33.58**	**281**	⇑	P	**P**	**20 13 36.6**	**+0.5**
GTA					pP	pP	20 13 40.8	+0.9
GTA					sP	sP	20 13 43.3	+1.9
GTA					PcP	**PcP**	**20 16 17.8**	**+1.4**
GTA					sS	sS	20 19 11.9	+7.1
GTA					PcS	**PcS**	**20 20 03.3**	**+1.1**
GTA					pmax	pmax		
	comp=Z,15nm,1.2s							
GTA					pmax	pmax		
	comp=Z,100nm,4.2s							
GTA					L	L		
	comp=Z,250nm,15.3s							
GTA					L	L		
	comp=Z,710nm,16.0s							
GTA					L	L		
	comp=Z,920nm,16.7s							
CD2	**Chengdu**	**34.11**	**265**	⇓	*i*P	**P**	**20 13 40.9**	**+0.2**
CD2					S	**S**	**20 19 06.1**	**-0.1**
CD2					sS	sS	20 19 13.9	+1.1
CD2					pmax	pmax		
	comp=Z,50nm,0.8s							
CD2					pmax	pmax		
	comp=Z,120nm,11.0s							
CD2					L	L		
	comp=Z,640nm,12.6s							
CD2					L	L		
	comp=Z,530nm,14.1s							
CD2					L	L		
	comp=Z,680nm,12.9s							
GYA	**Guiyang**	**

baz=252
QIZ Qiongzhong 36.97 243 P **P** **20 14 04.6 -0.7**
QIZ S **S** **20 19 50.8 +0.6**
QIZ pmax pmax
comp=Z,26nm,2.3s
QIZ L L
comp=Z,210nm,11.4s
QIZ L L
comp=Z,270nm,12.9s
QIZ L L
comp=Z,310nm,13.0s
KMI Kunming 38.01 257 ⇑P **P** **20 14 14.4 0.0**
KMI pP pP 20 14 19.4 +1.1
KMI S **S** **20 20 04.5 -1.9**
KMI pmax pmax
comp=Z,25nm,1.1s
KMI L L
comp=Z,470nm,16.7s
KMI L L
comp=Z,330nm,17.5s
KMI L L
comp=Z,380nm,18.3s
SLVN Son La 39.51 252 P **P** **20 14 25.5 -1.3**
DGZ Jazzator, Alta 39.64 302*c iP* **P** **20 14 28.5 +0.8**
DGZ pmax pmax
comp=Z,16nm,1.1s
NRIK Noril'sk 40.03 333 P **P** **20 14 29.0 -1.6**
comp=Z,6.0nm,0.7s,baz=112,slow=10,SNR=6.5
NRIK LR LR 20 32 46.1
comp=Z,696nm,18.1s,baz=98,slow=39
NRIK Noril'sk 40.03 333*d iP* **P** **20 14 28.9 -1.6**
NRIK pmax pmax
comp=Z,12nm,1.1s
NRIK Noril'sk 40.03 333 P **P** **20 14 28.7 -1.8**
TTA Tatalina 40.33 38 P **P** **20 14 33.2 0.0**
TTA pmax pmax
comp=Z,11nm,1.2s
TTA Tatalina 40.33 38 P **P** **20 14 33.2 0.0**
SVW2 Sparrevohn 40.48 40 P **P** **20 14 33.2 -1.2**
ZAA0 Zalesovo Array 40.57 308 P **P** **20 14 34.4 -0.8**
ZAA0 IAmb IAmb 20 14 36.2
comp=Z,24nm,0.9s
ZALV Zalesovo Beam 40.57 308 P **P** **20 14 35.0 -0.1**
comp=Z,14nm,0.5s,baz=87,slow=7.6,SNR=63
ZALV PcP **PcP** **20 16 37.7 +0.6**
comp=Z,4.1nm,0.6s,baz=76,slow=3.8,SNR=3.6
ZALV LR LR 20 32 50.5
comp=Z,255nm,18.4s,baz=72,slow=38
ZALV Zalesovo Beam 40.57 308 P **P** **20 14 35.0 -0.1**
ZALV 20 16 37.7
ZALV Zalesovo Beam 40.57 308 P **P** **20 14 34.6 -0.5**
WMQ Urumqi 40.90 293 *eP* **P** **20 14 38.5 +0.4**
WMQ pP pP 20 14 43.1 +1.2
WMQ pmax pmax
comp=Z,48nm,0.7s
WMQ pmax pmax
comp=Z,140nm,5.1s
WMQ L L
comp=Z,860nm,14.7s
WMQ L L
comp=Z,990nm,17.9s
WMQ L L
comp=Z,1μm,17.9s
IMAR Indian Mountai 41.50 33 P **P** **20 14 43.6 +0.9**
ZSN Zaisan 41.80 299 *eP* **P** **20 14 44.4 -1.1**
baz=299
ZSN Zaisan 41.80 299 *eP* **P** **20 14 44.3 -1.1**
H21K Melozitna Rive 41.87 34 P 20 14 46.0
baz=267
KDAK Kodiak Island 42.18 45 P **P** **20 14 49.1 +0.8**
comp=Z,4.2nm,0.5s,baz=276,slow=4.0,SNR=10
KDAK Kodiak Island 42.18 45 P **P** **20 14 49.1 +0.8**
KDAK pmax pmax
comp=Z,13nm,1.1s
KDAK Kodiak Island 42.18 45 P **P** **20 14 49.1 +0.8**
NONG Nongkai 42.21 249 P **P** **20 14 50.1 +1.1**
UBPT Khong Chiam 42.56 243 P **P** **20 14 53.8 +2.0**
comp=Z,16nm,1.4s
UBPT Khong Chiam 42.56 243 P **P** **20 14 52.9 +1.1**
UBPT IAmb IAmb 20 14 54.1
comp=Z,18nm,1.3s
UBPT Khong Chiam 42.56 243 P **P** **20 14 53.3 +1.5**
comp=Z,15nm,1.4s
KTH Kantishna Hill 42.64 37 P **P** **20 14 53.4 +1.3**
KTH IAmb IAmb 20 15 11.8
comp=Z,24nm,1.0s
MLY Manley 42.72 35 P **P** **20 14 53.3 +0.6**
SUA Susitna One 42.81 40 P 20 14 54.2
baz=274
TRF Thorofare Moun 42.93 37 P 20 14 55.7
baz=272
COLD Coldfoot 42.99 31 P **P** **20 14 56.1 +1.3**
COLD Coldfoot 42.99 31 P 20 14 55.1
baz=268,SNR=6.8
H23K Yukon River 43.22 33 P 20 14 57.2
baz=270,SNR=7.5
TOLK Toolik Lake Re 43.29 29 P **P** **20 14 57.8 +0.5**
TOLK Toolik Lake Re 43.29 29 P 20 14 58.1
baz=267
I23K Minto, Yukon-K 43.30 34 P **P** **20 14 58.5 +1.2**
I23K IAmb IAmb 20 15 08.0
comp=Z,19nm,1.4s
I23K Minto, Yukon-K 43.30 34 P 20 14 57.9
baz=271
NEA2 Nenana 43.43 35 P **P** **20 14 59.8 +1.4**
NEA2 IAmb IAmb 20 15 16.8
comp=Z,9.6nm,0.6s
NEA2 Nenana 43.43 35 P 20 14 59.5
baz=272,SNR=8.2
MCK McKinley 43.52 36 P 20 14 59.1
baz=273
KHON Khomkaen 43.61 247 P **P** **20 15 01.0 +0.6**
comp=Z,14nm,0.8s
MK31 Makanchi Array 43.67 299 *i* P **P** **20 15 00.2 -0.4**
MK31 pmax pmax
comp=Z,69nm,1.2s
MK31 Makanchi Array 43.67 299 P **P** **20 14 60.0 -0.6**
MK31 IAmb IAmb 20 15 07.3
comp=Z,33nm,1.1s
MKAR Makanchi Array 43.67 299 P **P** **20 15 00.6 0.0**
comp=Z,13nm,0.8s,baz=80,slow=9.3,SNR=124
MKAR PcP **PcP** **20 16 47.9 +0.3**
comp=Z,1.7nm,0.6s,baz=44,slow=1.1,SNR=1.8
MKAR LR LR 20 34 26.2
comp=Z,239nm,19.4s,baz=84,slow=38
MKAR Makanchi Array 43.67 299 P **P** **20 15 00.6 0.0**
MKAR 20 16 47.9
MKAR Makanchi Array 43.67 299 P **P** **20 15 00.3 -0.3**
WAT2 Susitna Watana 43.72 38 P 20 15 01.4
baz=274
MDM Murphy Dome 43.78 35 P **P** **20 15 00.7 -0.6**
MAKZ Makanchi 43.87 299 P **P** **20 15 02.0 -0.2**
MAKZ pmax pmax
comp=Z,38nm,1.0s
MAKZ Makanchi 43.87 299 P **P** **20 15 02.0 -0.2**
MAKZ IAmb IAmb 20 15 09.1
comp=Z,38nm,0.9s
H24K Noodor Dome 43.91 33 P 20 15 03.3
baz=271,SNR=6.6
SML Sawmill 43.93 39 P **P** **20 15 03.9 +1.4**
SML IAmb IAmb 20 15 16.7
comp=Z,21nm,1.0s
SML Sawmill 43.93 39 P 20 15 03.1
baz=275
TCOL CIGO, UAF Yank 43.94 35 P **P** **20 15 02.5 +0.1**
TCOL IAmb IAmb 20 15 21.7
comp=Z,17nm,0.9s
TCOL CIGO, UAF Yank 43.94 35 P 20 15 02.6
baz=272
COLA College 43.95 35⇑ *eP* **P** **20 15 03.5 +1.0**
COLA pmax pmax
comp=Z,7.0nm,0.7s
COLA College 43.95 35 P **P** **20 15 01.0 -1.5**
COLA IAmb IAmb 20 15 21.7
comp=Z,20nm,1.0s
CCB Clear Creek Bu 43.98 35 **P** **20 15 02.9 +0.2**
SEM Semipalatinsk 44.00 304 *eP* **P** **20 15 02.0 -1.4**
baz=304
SEM Semipalatinsk 44.00 304 *eP* **P** **20 15 02.0 -1.4**
POKR Poker Plat Res 44.11 34 P **P** **20 15 03.9 0.0**
POKR IAmb IAmb 20 15 16.6
comp=Z,16nm,0.6s
POKR Poker Plat Res 44.12 34 P 20 15 04.5
baz=272
WAT6 Susitna Watana 44.14 38 P 20 15 05.2
baz=275

LSA Lhasa 44.14 272 P **P** **20 15 06.6 +1.5**
LSA pP **pP** **20 15 11.9 +2.9**
LSA pmax pmax
comp=Z,110nm,1.0s
LSA Lhasa 44.14 272 P **P** **20 15 05.3 +0.2**
LSA pmax pmax
comp=Z,28nm,1.0s
LSA Lhasa 44.14 272 P **P** **20 15 05.2 +0.2**
LSA IAmb IAmb 20 15 08.4
comp=Z,28nm,1.0s
UTTA Uttaradit 44.24 251 P **P** **20 15 06.3 +0.9**
comp=Z,66nmcomp=Z,8.5nm,0.8s
HDA Harding Lake 44.36 35 P **P** **20 15 05.7 -0.1**
HDA Harding Lake 44.36 35 P 20 15 07.0
baz=274
HDA P 20 15 07.0
baz=274
IL31 44.36 35 P **P** **20 15 05.8 0.0**
IL31 IAmb IAmb 20 15 23.7
comp=Z,23nm,1.4s
ILAR Eielson Array 44.36 35 P **P** **20 15 07.0 +1.2**
comp=Z,3.7nm,0.7s,baz=260,slow=6.1,SNR=17
ILAR S **S** **20 21 44.5 +5.0**
comp=Z,0.4nm,0.5s,baz=249,slow=13,SNR=4.3
ILAR LR LR 20 35 28.7
comp=Z,102nm,19.1s,baz=314,slow=39
ILAR Eielson Array 44.36 35 P **P** **20 15 07.1 +1.2**
ILAR S **S** **20 21 44.5 +5.0**
ILAR Eielson Array 44.36 35 P **P** **20 15 06.3 +0.4**
CHAI Chaiyaphum 44.49 248 P **P** **20 15 08.1 +0.6**
comp=Z,122nmcomp=Z,14nm,0.8s
CM34 Chiang Mai Arr 44.51 253 P **P** **20 15 08.0 +0.4**
CM35 Chiang Mai Arr 44.62 253 P **P** **20 15 09.0 +0.5**
CM33 Chiang Mai Arr 44.68 253 P **P** **20 15 09.0 0.0**
CMMT Chiang Mai 44.68 253 P **P** **20 15 08.6 -0.4**
comp=Z,435nmcomp=Z,26nm,0.8s
CMMT Chiang Mai 44.68 253 P **P** **20 15 08.6 -0.4**
comp=Z,415nmcomp=Z,25nm,0.8s
CHTO Chiang Mai 44.69 253 P **P** **20 15 09.4 +0.4**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 44.69 253 P **P** **20 15 09.3 +0.4**
CHTO IAmb IAmb 20 15 10.7
comp=Z,16nm,0.8s
CHTO Chiang Mai 44.69 253 P **P** **20 15 09.6 +0.6**
comp=Z,194nmcomp=Z,14nm,0.8s
PHIT Phitsanulok 44.71 250 P **P** **20 15 10.3 +1.2**
comp=Z,14nm,0.9s
CM36 Chiang Mai Arr 44.77 253 P **P** **20 15 10.0 +0.3**
CM32 Chiang Mai Arr 44.86 253 P **P** **20 15 11.0 +0.6**
CM09 Chiang Mai Arr 44.89 253 P **P** **20 15 11.8 +1.1**
comp=Z,106nmcomp=Z,11nm,0.9s
PRP Porcupine Dome 44.89 34 P **P** **20 15 11.8 +1.5**
PRP IAmb IAmb 20 15 24.4
comp=Z,19nm,1.0s
PRP Porcupine Dome 44.89 34 P 20 15 11.8
baz=274
M24K Tolsona, Glenn 44.91 39 P 20 15 11.4
baz=277
CM31 Chiang Mai Arr 44.92 253 P **P** **20 15 11.8 +1.0**
comp=Z,4μmcomp=Z,345nm,0.8s
CM31 Chiang Mai Arr 44.92 253 P **P** **20 15 10.1 -0.7**
CM31 IAmb IAmb 20 15 12.3
comp=Z,8.9nm,0.7s
CMAR Chiang Mai Arr 44.92 253 P **P** **20 15 11.8 +0.9**
comp=Z,6.3nm,0.7s,baz=44,slow=7.1,SNR=64
CMAR LR LR 20 34 02.2
comp=Z,143nm,20.1s,baz=94,slow=36
CMAR Chiang Mai Arr 44.92 253 P **P** **20 15 11.8 +0.9**
CMAR Chiang Mai Arr 44.92 253 P **P** **20 15 10.8 -0.1**
CM02 Chiang Mai Arr 44.93 253 P **P** **20 15 12.0 +1.1**
comp=Z,85nmcomp=Z,10nm,0.9s
CM04 Chiang Mai Arr 44.93 253 P **P** **20 15 12.1 +1.1**
comp=Z,102nmcomp=Z,10nm,0.9s
CM01 Chiang Mai Arr 44.93 253 P **P** **20 15 12.0 +1.1**
comp=Z,81nmcomp=Z,9.4nm,0.8s
CM15 Chiang Mai Arr 44.93 253 P **P** **20 15 12.0 +1.0**
comp=Z,72nmcomp=Z,11nm,0.8s
FYU Fort Yukon 44.95 32 P **P** **20 15 12.1 +1.6**
FYU IAmb IAmb 20 15 23.8
comp=Z,25nm,0.8s
CM05 Chiang Mai Arr 44.95 253 P **P** **20 15 12.2 +1.1**
comp=Z,78nmcomp=Z,8.7nm,0.8s
CM13 Chiang Mai Arr 44.97 253 P **P** **20 15 12.0 +0.8**
comp=Z,82nmcomp=Z,9.1nm,0.7s
BMAR Burnt Mountain 45.16 31 P **P** **20 15 13.2 +0.9**
SCRK Sand Creek 45.69 36 P **P** **20 15 17.4 +0.8**
SCRK IAmb IAmb 20 15 28.1
comp=Z,8.6nm,0.7s
SCRK Sand Creek 45.69 36 P 20 15 16.5
baz=277,SNR=8.5
DOT Dot Lake 45.69 36 P **P** **20 15 17.1 +0.6**
DOT IAmb IAmb 20 15 32.6
comp=Z,7.0nm,0.6s
MRSI Marisa 45.74 212 P **P** **20 15 18.7 +1.3**
comp=Z,358nmcomp=Z,31nm,1.2s
SHL Shillong 45.80 266 P **P** **20 15 17.0 -1.0**
SHL pmax pmax
comp=Z,26nm,1.2s
SHL Shillong 45.80 266 P **P** **20 15 17.0 -1.0**
SHL IAmb IAmb 20 15 20.7
comp=Z,26nm,1.2s
MHMT Maesarieng 45.83 254 P **P** **20 15 18.4 +0.4**
comp=Z,470nmcomp=Z,52nm,0.8s
MENT Mentasta 45.94 37 P **P** **20 15 18.0 -0.5**
MENT IAmb IAmb 20 15 28.5
comp=Z,17nm,0.8s
UMPA Umpang Tak 46.47 251 P **P** **20 15 26.0 +2.8**
comp=Z,6.4nm,0.9s
UTHA Uthaitani 46.50 250 P **P** **20 15 25.9 +2.5**
comp=Z,2.6nm,0.8s
MCARA McCarthy VSAT 46.50 39 P **P** **20 15 22.6 -0.2**
MCARA IAmb IAmb 20 15 36.8
comp=Z,33nm,1.3s
K27K Chicken 46.52 36 P 20 15 23.8
baz=278
PDGK Podgornoye 46.68 295 *i* P **P** **20 15 23.7 -1.0**
PDGK pmax pmax
comp=Z,17nm,0.8s
SHLS Shalkode 46.77 295⇑ *iP* **P** **20 15 22.6 -2.7**
comp=Z,5.7nm,0.6s,baz=295
SHLS Shalkode 46.77 295*c iP* **P** **20 15 22.6 -2.7**
SHLS pmax pmax
comp=Z,6.0nm,0.6s
L27K Beaver Creek, 46.77 37 P **P** **20 15 27.0 +2.0**
L27K IAmb IAmb 20 15 38.4
comp=Z,14nm,0.8s
L27K Beaver Creek, 46.77 37 P 20 15 26.5
baz=279,SNR=12
BCAR Beaver Creek A 46.79 37 P **P** **20 15 27.3 +2.1**
EGAK Eagle 46.80 35 P **P** **20 15 25.6 +0.5**
EGAK IAmb IAmb 20 15 33.8
comp=Z,11nm,1.1s
TDK Taldyorghan 46.81 297 *i* P **P** **20 15 25.8 +0.2**
comp=Z,300nm,0.7s,baz=298
TDK Taldyqorghan 46.81 297 *i* P **P** **20 15 25.7 +0.2**
TDK pmax pmax
comp=Z,31nm,0.7s
UZB Uzynbulak 47.07 295 *eP* **P** **20 15 26.7 -1.0**
comp=Z,11nm,1.4s,baz=295
UZB Uzynbulak 47.07 295 *eP* **P** **20 15 26.7 -1.0**
UZB pmax pmax
comp=Z,11nm,1.4s
APSI Ampana 47.13 212 P **P** **20 15 28.5 +0.3**
comp=Z,15nm,1.2s
KPKS Kokpek 47.18 295⇑ *iP* **P** **20 15 28.5 -0.1**
comp=Z,9.8nm,0.7s,baz=296
KPKS Kokpek 47.18 295*c iP* **P** **20 15 28.4 -0.1**
KPKS pmax pmax
comp=Z,10.0nm,0.7s
MESA MESA 47.24 41 P **P** **20 15 27.1 -1.8**
ARXS Arharly 47.48 297 *eP* **P** **20 15 30.8 -0.1**
SATY Saty 47.52 295⇑ *iP* **P** **20 15 31.0 -0.2**
comp=Z,5.4nm,0.8s,baz=295
SATY Saty 47.52 295*c iP* **P** **20 15 31.0 -0.2**
SATY pmax pmax
comp=Z,5.0nm,0.8s
PRZ Przheval'sk 47.74 294 P **P** **20 15 33.7 +0.7**
PRZ pmax pmax
comp=Z,14nm,0.9s
PRZ Przheval'sk 47.74 294 P **P** **20 15 33.7 +0.7**
PRZ IAmb IAmb 20 15 34.9
comp=Z,14nm,0.8s
TAPN Taplejung 47.95 271 *eP* **P** **20 15 35.9 +1.0**
comp=Z,65nm,0.8s
CHKK Chushkaly 48.18 296 *eP* **P** **20 15 35.1 -1.1**
baz=297
CHKK Chushkaly 48.18 296 *eP* **P** **20 15 35.1 -1.1**
PHET Kaeng Krachan 48.21 247 P **P** **20 15 38.0 +1.4**
comp=Z,120nmcomp=Z,12nm,0.8s
EPYK Eagle Plains 48.37 32 P **P** **20 15 37.8 +0.4**
EPYK Eagle Plains 48.37 32 P 20 15 38.2
baz=281,SNR=7.6
MDOK Medeo 48.40 296 *eP* **P** **20 15 38.1 0.0**
baz=296
MDOK Medeo 48.40 296 *eP* **P** **20 15 38.1 0.0**
ODAN Odare 48.45 271 *eP* **P** **20 15 39.5 +0.8**
comp=Z,65nm,0.9s
AAA Alma-Ata 48.47 296 *eP* **P** **20 15 38.2 -0.3**
baz=296
AAA Alma-Ata 48.47 296 *eP* **P** **20 15 38.2 -0.3**
KUU Kurty 48.60 297⇑ *iP* **P** **20 15 38.6 -0.8**
comp=Z,12nm,0.6s,baz=297
KUU Kurty 48.60 297*c iP* **P** **20 15 38.6 -0.8**
KUU pmax pmax
comp=Z,12nm,0.6s
KDJ Kajisay 48.71 294 P **P** **20 15 40.6 +0.1**
KDJ pmax pmax
comp=Z,13nm,0.9s
KDJ Kajisay 48.71 294 P **P** **20 15 40.6 +0.1**
KDJ IAmb IAmb 20 15 41.8
comp=Z,13nm,0.8s
BRZS Berezniki 48.78 305⇑ *iP* **P** **20 15 40.5 -0.3**
comp=Z,2.8nm,0.4s,baz=306
BRZS Berezniki 48.78 305*c iP* **P** **20 15 40.4 -0.3**
BRZS pmax pmax
comp=Z,3.0nm,0.4s
MTBS Maitube 48.83 296⇑ *iP* **P** **20 15 41.3 0.0**
baz=296
MTBS Maitube 48.83 296*c iP* **P** **20 15 41.3 0.0**
JIRN Jiri 48.92 273 *eP* **P** **20 15 43.3 +0.8**
RAMN Ramite 48.99 272 *eP* **P** **20 15 43.4 +0.5**
comp=Z,98nm,0.8s
GUN Gumba 49.02 273 *eP* **P** **20 15 43.9 +0.7**
comp=Z,229nm,0.7s
INK Inuvik 49.21 29 P **P** **20 15 45.1 +1.5**
comp=Z,12nm,0.5s,baz=294,slow=7.7,SNR=32
INK Inuvik 49.21 29 P **P** **20 15 44.7 +1.0**
INK pmax pmax
comp=Z,29nm,1.2s
INK Inuvik 49.21 29 P **P** **20 15 44.7 +1.0**
INK Inuvik 49.21 29 P 20 15 44.5
baz=282,SNR=20
BRVK Borovoye 49.22 310 P **P** **20 15 44.3 +0.3**
BRVK pmax pmax
comp=Z,46nm,1.5s
BRVK Borovoye 49.22 310 P **P** **20 15 44.3 +0.3**
HYT Haines Junctio 49.24 39 P **P** **20 15 43.9 -0.4**
ULHL Ulahol 49.31 295 P **P** **20 15 45.4 +0.2**
SNR=7.7
BOOM Boomskoye usch 49.41 295 P **P** **20 15 45.8 -0.1**
BOOM pmax pmax
comp=Z,25nm,0.8s
BOOM Boomskoye usch 49.41 295 P **P** **20 15 45.8 -0.1**
TKM2 Tokmak 2 49.47 296 P **P** **20 15 47.1 +0.7**
SNR=23
TKM2 Tokmak 2 49.47 296 *i* P **P** **20 15 46.1 -0.3**
TKM2 pmax pmax
comp=Z,33nm,0.8s
KKN Kakani 49.53 273 *eP* **P** **20 15 48.0 +1.0**
PKI Pulchoki 49.55 273 *eP* **P** **20 15 47.5 +0.2**
comp=Z,58nm,0.9s
PKIN Phulchoki 49.55 273 *eP* **P** **20 15 47.4 +0.2**
comp=Z,24nm,0.5s
BTLS Baital 49.68 299⇑ *iP* **P** **20 15 46.9 -0.7**
baz=299
BTLS Baital 49.68 299*c iP* **P** **20 15 46.9 -0.7**
DMN Daman 49.75 273 *eP* **P** **20 15 49.3 +0.5**
comp=Z,85nm,0.8s
GKN Gorkha 49.89 274 *eP* **P** **20 15 50.0 +0.3**
comp=Z,56nm,0.7s
SGDS Sogindy 49.91 297⇑ *iP* **P** **20 15 49.2 -0.3**
baz=297
SGDS Sogindy 49.91 297*c iP* **P** **20 15 49.2 -0.3**
KBK Karagaybulak 50.02 296 P **P** **20 15 50.9 +0.4**
SNR=19
USP Ospenovka 50.07 297 P **P** **20 15 51.0 +0.2**
SNR=12
MTKJ Muara Teweh, K 50.11 220 P **P** **20 15 51.2 0.0**
FRU1 Bishkek 50.17 296 P **P** **20 15 51.7 +0.2**
FRU1 pmax pmax
comp=Z,13nm,0.7s
FRU1 Bishkek 50.17 296 P **P** **20 15 51.7 +0.2**
FRU1 IAmb IAmb 20 15 52.4
comp=Z,13nm,0.7s
AAK Ala-Archa 50.33 296*c iP* **P** **20 15 52.6 -0.3**
AAK pmax pmax
comp=Z,23nm,0.9s
AAK Ala-Archa 50.33 296 P **P** **20 15 52.5 -0.3**
DANN Dangsing 50.36 275 *eP* **P** **20 15 54.4 +1.0**
comp=Z,306nm,0.8s
KSH Kashi 50.64 292 P **P** **20 15 58.5 +3.4**
KSH sP pwP 20 16 08.0 +6.1
KSH S S 20 23 18.6 +9.1
KSH pmax pmax
comp=Z,6.0nm,1.2s
KSH pmax pmax
comp=Z,110nm,4.4s
KSH L L
comp=Z,340nm,10.2s
KSH L L
comp=Z,440nm,10.9s
KSH L L
comp=Z,650nm,8.6s
KOLN Koldanda 50.79 274 *eP* **P** **20 15 57.3 +0.7**
comp=Z,64nm,0.7s
EKS2 Erkin-Say 50.80 296 P **P** **20 15 56.6 +0.2**
SNR=14
AML Almayashu 51.08 296 P **P** **20 15 59.8 +1.0**
SNR=8.9
SURT Suratani 51.61 244 P **P** **20 16 07.1 +4.6**
KAPI Kappang 51.62 212 LR LR 20 37 11.4
comp=Z,45nm,18.8s,baz=16,slow=35
ARSB Arslanbob 51.91 295 P **P** **20 16 05.0 +0.3**
ARSB pmax pmax
comp=Z,35nm,0.9s
ARSB Arslanbob 51.91 295 P **P** **20 16 05.0 +0.3**
C36M Paulatuk 52.25 27 P **P** **20 16 07.2 +0.6**
C36M Paulatuk 52.25 27 P 20 16 07.6
baz=289,SNR=5.1
PKDT Phuket 52.69 244 P **P** **20 16 12.0 +1.4**
KK31 Karatay Array 52.79 298 P **P** **20 16 10.7 -0.4**
KK31 pmax pmax
comp=Z,21nm,0.8s
KK31 Karatay Array 52.79 298 P **P** **20 16 10.7 -0.4**
KK31 IAmb IAmb 20 16 11.9
comp=Z,21nm,0.8s
KKAR Karatay Array 52.79 298 P **P** **20 16 10.5 -0.6**
KKAR pmax pmax
comp=Z,21nm,0.8s
KKAR Karatay Array 52.79 298 P **P** **20 16 10.5 -0.6**
KKAR Karatay Array 52.79 298 P **P** **20 16 10.8 -0.3**
KKAR IAmb IAmb 20 16 11.9
comp=Z,21nm,0.8s
SVE Sverdlovsk 53.17 317*de* P **P** **20 16 14.0 +0.4**
SVE pmax pmax
comp=Z,49nm,0.9s
BTK Batken 53.94 294 P **P** **20 16 19.4 -0.3**
BTK pmax pmax
comp=Z,14nm,1.1s
BTK Batken 53.94 294 P **P** **20 16 19.4 -0.3**
BTK IAmb IAmb 20 16 33.1
comp=Z,14nm,1.1s
ARU Arti 54.38 317*c iP* **P** **20 16 22.3 -0.2**
ARU 20 17 24.1
ARU 20 18 20.4
ARU PPP PPP 20 19 31.9
ARU S **S** **20 24 02.8 +2.8**
ARU SS **SS** **20 27 42.4 +0.8**
ARU pmax pmax
comp=Z,41nm,0.9s
ARU MLR MLR
comp=Z,297nm,14.0s
ARU Arti 54.38 317 P **P** **20 16 22.1 -0.4**
GAR Garm 54.78 294 P **P** **20 16 25.6 -0.2**
EUNU Eureka 55.21 9 P **P** **20 16 28.3 0.0**
NIL Nilore 55.34 286 P **P** **20 16 29.7 -0.1**
NIL pmax pmax
comp=Z,34nm,1.2s
NIL Nilore 55.34 286 P **P** **20 16 29.7 -0.1**
CHGR Chuyangaron 55.74 294 P **P** **20 16 31.9 -0.8**

PSI Prapat 56.11 239 P P 20 16 35.5 -0.1
PSI pmax pmax
comp=Z,7.0nm,0.7s
PSI Prapat 56.11 239 P P 20 16 36.6 +1.0
comp=Z,11nm,0.9s
RPSI Rantau Prapat 56.19 239 P P 20 16 35.5 -0.5
RPSI IAmb IAmb 20 16 36.9
comp=Z,7.2nm,0.7s
SPA0 Spitsbergen Ar 56.36 349 *e*P **P 20 16 36.7 +0.2**
KBS Kingsbay 56.42 350 P P 20 16 36.9 0.0
KBS pmax pmax
comp=Z,26nm,1.2s
KBS Kingsbay 56.42 350 P P 20 16 36.9 0.0
KBS IAmb IAmb 20 16 39.9
comp=Z,26nm,1.2s
NOR Nord 56.51 357 *i* P **P 20 16 36.0 -1.5**
NOR Nord 56.51 357 *i* P **P 20 16 36.0 -1.5**
AB31 Akbulak array 56.68 309 *i* P **P 20 16 39.5 +0.4**
AB31 pmax pmax
comp=Z,21nm,0.7s
ABKAR Akbulak array 56.68 309 P P 20 16 39.2 +0.1
ABKAR Akbulak array 56.68 309 P P 20 16 38.9 -0.2
RES Resolute Bay 57.50 16 P P 20 16 45.1 +0.6
comp=Z,30nm,0.7s,baz=300,slow=7.9,SNR=9.4
RES Resolute Bay 57.50 16 P P 20 16 44.7 +0.2
RES pmax pmax
comp=Z,29nm,0.8s
RES Resolute Bay 57.50 16 P P 20 16 44.7 +0.2
KBL Kabul 57.88 290 P P 20 16 47.4 -0.7
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 57.88 290 P P 20 16 47.4 -0.7
KBL IAmb IAmb 20 16 48.1
comp=Z,14nm,0.9s
KIRV Kirov 57.89 322*c i* P **P 20 16 47.3 -0.1**
PRGR Permogore 58.08 326 *e*P **P 20 16 48.1 -0.6**
PRGR pmax pmax
comp=Z,37nm,0.9s
YKA Yellowknife Ar 58.65 32 P P 20 16 53.9 +1.1
comp=Z,0.9nm,0.6s,baz=305,slow=6.4,SNR=3.1
YKA LR LR 20 44 02.9
comp=Z,70nm,20.7s,baz=0.0,slow=38
YKA Yellowknife Ar 58.65 32 P P 20 16 53.9 +1.1
YKA Yellowknife Ar 58.65 32 P P 20 16 53.9 +1.1
LVZ Lovozero 58.76 335⇑ *e*P **P 20 16 53.5 0.0**
LVZ pmax pmax
comp=Z,35nm,1.7s
LVZ Lovozero 58.76 335 P P 20 16 53.1 -0.4
APA Apatity 59.34 335⇑ *i* P **P 20 16 54.2 -3.3**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,400nm,16.0s
KEV Kevo 59.85 339 P P 20 17 01.0 0.0
KEV pmax pmax
comp=Z,14nm,0.6s
KEV Kevo 59.85 339 P P 20 17 01.0 0.0
HAMF Hammerfest 60.13 341 *e*P **P 20 17 03.1 +0.2**
TULEG Thule 60.15 8 *i* P **pP 20 17 02.5 -4.5**
TULEG IAmb IAmb 20 17 03.3
comp=Z,27nm,0.8s
TULEG Thule 60.15 8 P P 20 17 02.7 -0.2
ARA0 ARCESS Array S 60.40 339 *e*P **P 20 17 05.7 +1.0**
ARCES ARCESS Array B 60.40 339 P P 20 17 05.4 +0.7
comp=Z,5.6nm,0.8s,baz=49,slow=8.2,SNR=26
ARCES LR LR 20 48 11.9
comp=Z,128nm,18.4s,baz=40,slow=41
ARCES ARCESS Array B 60.40 339 P P 20 17 05.3 +0.5
ARCES pmax pmax
comp=Z,15nm,1.1s
ARCES ARCESS Array B 60.40 339 P P 20 17 05.2 +0.5
ARCES IAmb IAmb 20 17 06.3
comp=Z,15nm,1.1s
HYB Hyderabad 60.59 268 *i* P **P 20 17 07.0 +0.2**
NEEM North Greenlan 60.72 4 *i* P **P 20 17 07.3 +0.2**
NEEM IAmb IAmb 20 17 10.2
comp=Z,44nm,0.8s
KLMR Klimovskoe 61.00 327 *e*P **P 20 17 07.7 -1.2**
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR Klimovskoe 61.00 327 *e*P **P 20 17 07.7 -1.2**
KLMR AMP 20 17 09.8
comp=Z,39nm,1.3s
DAG Danmarks Havn 61.29 356 *i* P **P 20 17 10.4 -0.3**
DAG IAmb IAmb 20 17 11.7
comp=Z,12nm,0.9s
DAG Danmarks Havn 61.29 356 *i* P **P 20 17 10.3 -0.3**
DAG pmax pmax
comp=Z,12nm,0.9s
KTK1 Kautokeino 61.35 339 *e*P **P 20 17 11.5 +0.3**
JETT Jettan, Norway 61.69 341 *e*P **P 20 17 14.7 +1.1**
TRO Tromso 62.00 341 *e*P **P 20 17 16.0 +0.4**
WRA Warramunga Arr 62.04 191 P P 20 17 16.1 -0.3
comp=Z,3.8nm,0.7s,baz=7.9,slow=6.8,SNR=49
WRA Warramunga Arr 62.04 191 P P 20 17 16.1 -0.3
WRA Warramunga Arr 62.04 191 P P 20 17 16.1 -0.3
HRA Herat 62.71 293 P P 20 17 20.7 -0.5
HRA IAmb IAmb 20 17 22.6
comp=Z,11nm,0.9s
KULLO Kullorsuaq 63.09 6 *i* P **P 20 17 22.4 -0.4**
KULLO IAmb IAmb 20 17 26.0
comp=Z,22nm,0.9s
KULLO Kullorsuaq 63.09 6 *i* P **P 20 17 22.3 -0.4**
KULLO pmax pmax
comp=Z,22nm,0.9s
GEYT Alibeck 63.55 298 P P 20 17 26.6 +0.1
comp=Z,55nm,0.7s,baz=11,slow=1.5,SNR=14
GYA0 ALIBECK ARRAY 63.55 298 P P 20 17 26.3 -0.1
GYA0 pmax pmax
comp=Z,22nm,1.2s
GYA0B ALIBECK ARRAY 63.55 298 P P 20 17 26.3 -0.1
GYA0B IAmb IAmb 20 17 27.7
comp=Z,22nm,1.2s
DBG Daneborg 63.79 355 *i* P **P 20 17 27.2 -0.1**
DBG IAmb IAmb 20 17 27.9
comp=Z,6.4nm,1.0s
B08A Colville Reser 63.99 48 P P 20 17 28.9 -0.3
FAUS Fauske 64.58 341 *e*P **P 20 17 34.6 +2.0**
MOS Moscow 64.82 323 *e*P **P 20 17 33.4 -1.0**
MOS pmax pmax
comp=Z,40nm,0.8s
C09A Chrisman Ranch 64.89 48 P P 20 17 34.7 -0.4
C09A IAmb IAmb 20 17 43.2
comp=Z,8.7nm,1.3s
NEW Newport 65.26 47 P P 20 17 35.6 -1.9
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW Newport 65.26 47 P P 20 17 35.5 -1.9
NEW IAmb IAmb 20 17 52.0
comp=Z,7.3nm,1.2s
VRH Novokhopyorsk 65.61 318 *e*P **P 20 17 38.8 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
PINE Pine Mountain 65.66 52 P P 20 17 41.8 +1.4
PINE IAmb IAmb 20 17 44.3
comp=Z,5.1nm,0.9s
OBN Obninsk 65.68 323*ce*P **P 20 17 39.7 -0.3**
OBN *e* 20 20 05.9
OBN pmax pmax
comp=Z,35nm,1.3s
OBN MLR MLR
comp=Z,294nm,17.0s
OBN Obninsk 65.68 323 P P 20 17 39.3 -0.7
FIA1 FINESS Array S 65.70 332 P P 20 17 39.6 -0.4
FINES FINESS Array B 65.70 332 P P 20 17 39.9 -0.1
comp=Z,17nm,0.5s,baz=50,slow=7.3,SNR=87
FINES LR LR 20 49 17.7
comp=Z,379nm,18.7s,baz=55,slow=39
FINES FINESS Array B 65.70 332 P P 20 17 39.9 -0.1
FINES FINESS Array B 65.70 332 P P 20 17 39.4 -0.6
MOR8 Moi Rana 65.73 340 *e*P **P 20 17 39.2 -1.0**
AS31 Alice Springs 65.76 190 P P 20 17 40.7 -0.2
ASAR Alice Springs 65.77 190 P P 20 17 41.1 +0.2
comp=Z,1.8nm,0.7s,baz=360,slow=4.5,SNR=30
ASAR Alice Springs 65.77 190 P P 20 17 41.1 +0.2
ASAR Alice Springs 65.77 190 P P 20 17 40.1 -0.7
SUMG Summit 65.98 1 *i* P **P 20 17 43.1 +0.9**
SUMG IAmb IAmb 20 17 46.6
comp=Z,34nm,0.6s
SUMG Summit 65.98 1 *i* P **P 20 17 43.1 +0.9**
SUMG pmax pmax
comp=Z,34nm,0.6s
SUMG Summit 65.98 1 P P 20 17 42.8 +0.6

LPSR Galich'ya Gora 66.14 320 *e*P **P 20 17 42.8 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
DZM Mont Dzumac 66.71 158 *e*LR LR 20 37 48.7
comp=Z,123nm,22.6s
VSR Storozhevoye 66.88 319 *e*P **P 20 17 46.4 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
RAF Rauma 67.47 334 *e*P **P 20 17 51.4 +0.1**
VSU Vasula 67.53 330 *e*P **P 20 17 52.1 +0.3**
VSU Vasula 67.53 330*de*P **P 20 17 52.1 +0.3**
VSU pmax pmax
comp=Z,46nm,1.0s
SCO Scoresbysund 67.66 355 *i* P **P 20 17 52.7 +0.3**
SCO IAmb IAmb 20 17 57.0
comp=Z,9.5nm,1.0s
SCO Scoresbysund 67.66 355 P P 20 17 52.7 +0.3
SCO pmax pmax
comp=Z,8.0nm,0.9s
SCO Scoresbysund 67.66 355 P P 20 17 52.7 +0.3
SCO IAmb IAmb 20 17 57.3
comp=Z,8.4nm,0.9s
PLID Pearl Lake 67.76 49 P P 20 17 54.0 +0.2
ORV Oroville 67.79 56 P P 20 17 51.9 -1.9
ORV pmax pmax
comp=Z,2.0nm,0.8s
ORV Oroville 67.79 56 P P 20 17 51.9 -1.9
WVOR Wild Horse Val 67.83 52 P P 20 17 51.9 -2.2
WVOR pmax pmax
comp=Z,3.0nm,0.6s
WVOR Wild Horse Val 67.83 52 P P 20 17 51.9 -2.2
GROC Groznyy 68.19 309 *eP* **P 20 17 55.7 -0.5**
GROC *e* 20 18 19.8
GROC *e* 20 20 24.4
GROC pmax pmax
comp=Z,14nm,0.6s
BEKR Beckworth 68.31 56 P P 20 17 57.6 +0.3
FFC Flin Flon 68.58 35 P P 20 17 59.0 +0.6
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 68.58 35 P P 20 17 59.0 +0.6
FFC IAmb IAmb 20 18 12.9
comp=Z,6.9nm,0.9s
GOF Gofitskoye 68.63 312⇑ *e*P **P 20 17 59.7 +0.8**
GOF pmax pmax
comp=Z,63nm,0.8s
AAL Aland 68.68 334 *e*P **P 20 17 58.9 -0.1**
PAHR Pah Rah Range 69.01 55 P P 20 18 02.2 +0.6
DDFL Dedoflistskaro 69.06 307 P P 20 18 05.5 +3.7
EGMT Eagleton 69.31 44 P P 20 18 03.2 -0.1
EGMT IAmb IAmb 20 18 16.5
comp=Z,8.3nm,0.7s
ICESG Greenland Ices 69.47 2 *i* P **P 20 18 05.2 +1.0**
ICESG IAmb IAmb 20 18 06.8
comp=Z,18nm,0.9s
DLMT Dillon 69.49 47 P P 20 18 05.2 +0.7
DLMT IAmb IAmb 20 18 19.3
comp=Z,8.1nm,1.3s
KIV Kislovodsk 69.52 311⇑ P **P 20 18 05.7 +1.2**
KIV Kislovodsk 69.52 311 *e*P **P 20 18 05.4 +0.8**
KIV pmax pmax
comp=Z,179nm,1.0s
KIV MLR MLR
comp=Z,421nm,17.0s
KIV Kislovodsk 69.52 311 P P 20 18 05.1 +0.5
KBZ Khabaz 69.54 311 P P 20 18 05.7 +1.2
comp=Z,24nm,0.8s,baz=68,slow=4.1,SNR=57
KBZ LR LR 20 54 39.4
comp=Z,167nm,18.2s,baz=31,slow=41
KBZ Khabaz 69.54 311*ce*P **P 20 18 05.8 +1.3**
KBZ Khabaz 69.54 311 P P 20 18 05.7 +1.2
YERR Yerington 69.54 56 P P 20 18 04.6 -0.3
ZEI Tsey 69.54 309 *e*P **P 20 18 04.5 -0.4**
ZEI pmax pmax
comp=Z,15nm,0.8s
UPP Uppsala 69.70 334 *e*P **P 20 18 05.3 +0.1**
WAKR Walker 69.71 56 P P 20 18 05.2 -0.8
IDID Didziasalis 69.75 327 *e*P **P 20 18 06.5 +0.8**
ISAL Salakas 69.81 328 *e*P **P 20 18 07.0 +0.9**
MNK Minsk 69.85 326 *i* P **P 20 18 03.9 -2.4**
MNK *i* 20 18 25.7
MNK *i* 20 20 38.8
MNK *i* PPP PPP 20 22 20.6
MNK *i* S **S 20 27 15.1 0.0**
MNK *i* 20 27 59.5
MNK *i* SS **SS 20 31 46.2 +3.3**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=E,25nm,18.0s
MNK MLR MLR
comp=Z,257nm,18.0s
MNK MLR MLR
comp=N,155nm,18.0s
MNK Minsk 69.85 326 *i* P **P 20 18 04.0 -2.3**
comp=E,2.0nm,0.9s
MNK *i* P **P 20 18 04.0 -2.3**
comp=N,7.0nm,0.9s
MNK *i* P **P 20 18 04.0 -2.3**
comp=Z,19nm,0.9s,baz=46
MNK *i* PcP **PcP 20 18 25.8 -3.0**
MNK *i* PP **PP 20 20 38.8 -1.4**
MNK *i* PPP PPP 20 22 20.7
MNK *i* S **S 20 27 15.2 0.0**
MNK *i* ScS **SKSac 20 27 59.5 -6.9**
MNK *i* SS **SS 20 31 46.2 +3.4**
MNK *i* SSS SSS 20 35 04.2
MNK *i* LQ LQ 20 42 30.6
MNK *i* LR LR 20 45 25.9
MNK *i* LRM MLR 20 51 24.6
comp=E,25nm,18.1s
MNK *i* LRM MLR 20 51 24.6
comp=N,155nm,18.1s
MNK *i* LRM MLR 20 51 24.6
comp=Z,257nm,18.1s
ONI Oni 69.93 309 P **P 20 18 08.1 +1.0**
ONI pmax pmax
comp=Z,23nm,0.9s
ONI Oni 69.93 309 P **P 20 18 08.1 +1.0**
NEY Neytrino 69.94 310*de*P **P 20 18 08.6 +1.3**
NEY pmax pmax
comp=Z,4.0nm,0.9s
NACGM Naroch 70.02 327 *i* P **P 20 18 07.5 +0.2**
RYN Ryan 70.20 56 P P 20 18 08.7 -0.3
KVN Kaiserville 70.20 55 P P 20 18 09.0 0.0
KVN pmax pmax
comp=Z,7.0nm,1.3s
KVN Kaiserville 70.20 55 P P 20 18 09.0 0.0
LHV Little Huntoon 70.44 56 P P 20 18 10.2 0.0
LHV IAmb IAmb 20 18 24.8
comp=Z,11nm,1.3s
NVAR Mina Array Bea 70.46 56 P P 20 18 12.7 +2.1
comp=Z,1.6nm,0.7s,baz=283,slow=7.4,SNR=8.6
NVAR Mina Array Bea 70.46 56 P P 20 18 10.7 +0.1
DOMB Dombas 70.46 339 *e*P **P 20 18 09.7 -0.3**
NC405 NORSAR Array S 70.50 338 P P 20 18 10.3 +0.1
NC303 NORSAR Array S 70.51 338 P P 20 18 10.3 +0.1
NC303 IAmb IAmb 20 18 26.2
comp=Z,16nm,1.1s
NC204 NORSAR Array S 70.64 338 P P 20 18 11.4 +0.3
AKH Akhalkalaki 70.64 308⇑ P **P 20 18 12.8 +1.2**
AKH Akhalkalaki 70.64 308 P P 20 18 12.8 +1.2
NB201 NORSAR Array S 70.67 338 P P 20 18 11.2 -0.1
GNI Garni 70.69 307 LR LR 20 52 19.5
comp=Z,105nm,18.8s,baz=20,slow=39
NB2 NORSAR Subarra 70.70 338 P **P 20 18 11.1 -0.4**
baz=32,slow=6.9
NOA NORSAR Array B 70.70 338 P **P 20 18 11.5 0.0**
comp=Z,7.9nm,0.9s,baz=36,slow=6.1,SNR=18
NOA LR LR 20 53 25.2
comp=Z,175nm,18.8s,baz=35,slow=40
NOA NORSAR Array B 70.70 338 P **P 20 18 11.5 0.0**
PABE Paberze 70.71 329 *e*P **P 20 18 12.1 +0.5**
PABE Paberze 70.71 329 P **P 20 18 11.5 0.0**
NBO00 NORSAR Array S 70.83 338 P **P 20 18 12.0 -0.2**
NC602 NORSAR Array S 70.86 338 *e*P **P 20 18 12.7 +0.3**
AKN Aaknes 70.88 340 *e*P **P 20 18 12.8 +0.3**
SFJD Kangerlussuaq 71.01 6 P **P 20 18 13.0 -0.2**
SFJD pmax pmax
comp=Z,20nm,1.4s

SFJD Kangerlussuaq 71.01 6 P **P 20 18 13.0 -0.2**
SFJD IAmb IAmb 20 18 14.6
comp=Z,20nm,1.4s
KARS Kars 71.37 308 P P 20 18 17.1 +1.0
KARS pmax pmax
comp=Z,73nm,0.9s
KARS Kars 71.37 308 P P 20 18 17.1 +1.0
RLMT Red Lodge 71.45 46 P P 20 18 16.1 -0.4
TPAW Teton Pass 71.59 48 P P 20 18 17.7 +0.3
FRB Frobisher Bay 71.69 15 P P 20 18 17.5 +0.2
comp=Z,6.7nm,0.7s,baz=317,slow=6.9,SNR=5.0
FRB Frobisher Bay 71.69 15 P P 20 18 17.5 +0.2
WSAR Wadi Sarin 71.80 285 LR LR 20 55 43.7
comp=Z,72nm,19.1s,baz=53,slow=41
SKAR Skarslia 71.80 339 *e*P **P 20 18 18.2 0.0**
DY2G Dye2 71.83 4 *i* P **P 20 18 18.9 +0.4**
DY2G IAmb IAmb 20 18 21.0
comp=Z,9.9nm,0.7s
AKASG Malin Array Be 71.93 323 P P 20 18 19.0 -0.1
comp=Z,22nm,0.7s,baz=43,slow=6.1,SNR=48
AKASG LR LR 20 53 02.2
comp=Z,195nm,18.7s,baz=55,slow=38
AKASG Malin Array Be 71.93 323 P P 20 18 18.9 -0.1
AKASG pmax pmax
comp=Z,7.0nm,1.2s
AKASG Malin Array Be 71.93 323 P P 20 18 18.9 -0.1
AKBB Malin Array Si 71.93 323 P P 20 18 18.6 -0.4
AKBB pmax pmax
comp=Z,17nm,0.8s
AKBB Malin Array Si 71.93 323 P P 20 18 18.6 -0.4
AKBB IAmb IAmb 20 18 19.9
comp=Z,17nm,0.8s
UOSS Minazif 72.49 288 P P 20 18 22.8 0.0
SPR3 Spring Creek 3 72.52 53 P P 20 18 19.8 -3.4
DUG Dugway, Tooele 72.65 51 P P 20 18 22.7 -1.0
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 72.65 51 P P 20 18 22.7 -1.0
TPNV Topopah Spring 72.65 56 P P 20 18 25.4 +1.6
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 72.65 56 P P 20 18 25.4 +1.6
DUG Dugway, Tooele 72.65 51 P
baz=310
20 18 23.9
TPNV Topopah Spring 72.65 56 P
baz=310
20 18 24.6
PD31 Pinedale Array 72.83 48 P P 20 18 24.5 -0.4
PDAR Pinedale Array 72.83 48 P P 20 18 25.9 +1.0
comp=Z,0.9nm,0.6s,baz=298,slow=3.2,SNR=6.0
PDAR Pinedale Array 72.83 48 P P 20 18 24.8 -0.1
BER Bergen 72.84 340 *e*P **P 20 18 24.6 +0.4**
PRN Pahroc Range 73.10 55 P P 20 18 24.9 -1.5
PSUT Pine Spring 73.10 53 P P 20 18 28.6 +2.0
NLU North Lily Min 73.24 51 P P 20 18 27.9 +0.6
STKA Stephens Creek 73.28 182 LR LR 20 57 39.7
comp=Z,38nm,18.0s,baz=24,slow=42
SORM Soroca 74.15 321⇑ P **P 20 18 32.3 +0.1**
SORM Soroca 74.15 321⇑ P **P 20 18 32.3 +0.1**
RDMU Red Mountain 74.28 49 P P 20 18 33.0 -0.4
RDMU IAmb IAmb 20 18 47.1
comp=Z,8.0nm,1.0s
P17A Butcher Ranch, 74.33 51 P P 20 18 33.7 +0.1
P17A IAmb IAmb 20 18 47.0
comp=Z,8.6nm,1.1s
BSD Bornholm Skovb 74.34 333 *e*P **P 20 18 33.2 0.0**
BSD Bornholm Skovb 74.34 333 *i* P **P 20 18 33.4 +0.3**
BSD Bornholm Skovb 74.34 333 *i* P **P 20 18 33.4 +0.3**
ULM Lac du Bonnet 74.38 35 LR LR 20 54 10.6
comp=Z,75nm,18.5s,baz=329,slow=38
SRU San Rafael Swe 74.70 51 P P 20 18 34.7 -1.1
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 74.70 51 P P 20 18 34.7 -1.1
SRU IAmb IAmb 20 18 39.7
comp=Z,8.1nm,0.8s
BEL Belsk 74.71 328 *e*P **P 20 18 36.3 +0.9**
LVV L'vov 74.88 325 *e*P **P 20 18 36.6 +0.2**
GKP Gorka Klasztor 74.97 330 *e*P **P 20 18 37.5 +0.6**
GKP Gorka Klasztor 74.97 330 *e*P **P 20 18 37.8 +0.9**
U15A North Rim 75.42 54 P **P 20 18 42.1 +2.0**
VASR Vaslui 75.49 320⇑ P **P 20 18 41.0 +1.0**
KWP Kalwaria Pacla 75.59 325 *e*P **P 20 18 41.6 +1.1**
KWP Kalwaria Pacla 75.59 325 P P 20 18 41.1 +0.6
KWP Kalwaria Pacla 75.59 325 P P 20 18 41.1 +0.6
AGMN Agassiz Nation 75.84 37 P
baz=318
20 18 42.3
LNIZ Loecknitz 75.89 332 *e*P **P 20 18 43.0 +0.9**
comp=Z,31nm,0.6s,baz=33,slow=5.5
BUR08 Bucovina Ar. S 75.97 322 P P 20 18 43.1 +0.3
BUR08 IAmb IAmb 20 18 44.5
comp=Z,8.5nm,0.8s
BURAR Bucovina Array 75.98 322⇓ P **P 20 18 43.9 +0.9**
BURAR Bucovina Array 75.98 322 P P 20 18 43.2 +0.3
BURAR pmax pmax
comp=Z,13nm,0.8s
BURAR Bucovina Array 75.98 322 P P 20 18 43.2 +0.3
BURAR IAmb IAmb 20 18 44.9
comp=Z,13nm,0.8s
TLCR 76.04 319⇑ P **P 20 18 44.4 +1.2**
TLCR 76.04 319⇑ P **P 20 18 44.4 +1.2**
PV10 Paradox Valley 76.05 51 P P 20 18 43.6 -0.1
PV10 IAmb IAmb 20 18 47.7
comp=Z,17nm,0.8s
PV14 Lion Creek, Pa 76.06 51 P P 20 18 44.5 +0.7
PV14 IAmb IAmb 20 18 58.0
comp=Z,6.2nm,0.9s
BIZ Bicaz 76.07 322⇑ P **P 20 18 44.2 +0.9**
PV22 Blue Mesa, Par 76.09 51 P P 20 18 43.9 +0.1
PV20 West Nyswonger 76.12 51 P P 20 18 44.4 +0.4
PV20 IAmb IAmb 20 18 55.9
comp=Z,6.3nm,0.7s
TESR Tescani 76.13 321⇑ P **P 20 18 44.1 +0.4**
PV19 Morning Glory 76.13 51 P P 20 18 43.3 -0.8
PV19 IAmb IAmb 20 19 01.1
comp=Z,8.5nm,0.8s
PV17 East Wray Mesa 76.16 51 P P 20 18 43.1 -1.2
PV17 IAmb IAmb 20 18 48.3
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 76.17 51 P P 20 18 44.6 +0.3
PV11 David Mesa, Pa 76.20 51 P P 20 18 43.7 -0.7
PV11 IAmb IAmb 20 18 57.5
comp=Z,7.4nm,0.8s
PV18 Skein Mesa, Pa 76.21 51 P P 20 18 44.8 +0.2
PV18 IAmb IAmb 20 18 48.2
comp=Z,5.8nm,0.8s
PV12 Saucer Basin, 76.23 51 P P 20 18 44.0 -0.7
PV12 IAmb IAmb 20 18 60.0
comp=Z,7.0nm,1.0s
PV07 Paradox Valley 76.24 51 P P 20 18 45.3 +0.6
PV03 Paradox Valley 76.24 51 P P 20 18 44.1 -0.6
KOLS Kolonicke sedl 76.30 325 *e*P **P 20 18 45.5 +0.9**
KOLS Kolonicke sedl 76.30 325 *e*P **P 20 18 45.5 +0.9**
PV13 Radium Mtn., P 76.33 51 P P 20 18 43.1 -2.2
PV02 Paradox Valley 76.34 51 P P 20 18 44.7 -0.6
OJC Ojcow 76.36 327 *e*P **P 20 18 45.7 +0.9**
OJC Ojcow 76.36 327 P P 20 18 45.0 +0.1
OJC pmax pmax
comp=Z,25nm,1.0s
OJC Ojcow 76.36 327 P P 20 18 45.0 +0.1
CFR Carcaliu 76.38 319⇑ P **P 20 18 45.1 0.0**
CFR Carcaliu 76.38 319⇑ P **P 20 18 45.1 0.0**
TPGR Topolog 76.47 319⇑ P **P 20 18 46.2 +0.5**
UZH Uzhgorod 76.52 325 *eP* **P 20 18 46.6 +0.8**
UZH *e* 20 18 55.4
UZH *e* 20 19 01.0
VRI Vrincioaia 76.56 320⇑ P **P 20 18 46.7 +0.6**
VRI Vrincioaia 76.56 320⇑ P **P 20 18 46.7 +0.6**
WUAZ Wupatki 76.58 54 P P 20 18 48.0 +1.4
WUAZ Wupatki 76.58 54 P
baz=312
20 18 47.1
PLOR Plostina 76.61 320⇑ P **P 20 18 47.4 +0.9**
PLOR Plostina 76.61 320⇑ P **P 20 18 47.4 +0.9**
Y14A Wickenburg 76.61 56 P P 20 18 45.2 -1.5
CRVS Cervenica-Dubn 76.67 325 *eP* **P 20 18 47.5 +0.8**
CRVS Cervenica-Dubn 76.67 325 *eP* **P 20 18 47.5 +0.8**
TIRR Tirgusor 76.77 319⇑ P **P 20 18 47.8 +0.5**
TIRR Tirgusor 76.77 319 P **P 20 18 47.4 +0.1**
TIRR pmax pmax
comp=Z,24nm,0.9s
TIRR Tirgusor 76.77 319 P P 20 18 47.4 +0.1
NIE Niedzica 76.77 326 *eP* **P 20 18 48.6 +1.4**
HARR Harsova 76.84 319⇑ P **P 20 18 46.0 -1.7**
HARR Harsova 76.84 319⇑ P **P 20 18 46.0 -1.7**

OZUR 76.84 321 ⇓P P 20 18 48.5 +0.7
BSEG Bad Segeberg 76.85 334 *e*P P 20 18 48.5 +0.9
comp=Z,23nm,1.1s,baz=33,slow=5.5
ISCO Idaho Springs 77.03 48 P 20 18 49.4
baz=314
GAZ Gaziantep 77.09 308 P P 20 18 48.5 -0.9
GAZ IAmb IAmb 20 18 50.6
comp=Z,17nm,1.1s
DOPR Dopca 77.12 321 ⇑P P 20 18 50.2 +0.9
MLR Muntele Rosu 77.21 321 ⇑P P 20 18 50.0 +0.1
MLR Muntele Rosu 77.21 321 P P 20 18 50.4 +0.5
MLR pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 77.21 321 P P 20 18 50.4 +0.5
KSP Ksiaz 77.25 329 *e*P P 20 18 50.8 +0.9
X16A Lo Mia Camp, P 77.27 55 P P 20 18 50.0 -0.5
ICOR Ion Corvin 77.32 319 ⇑P P 20 18 50.6 +0.2
LANS Liptovska Anna 77.32 326 *e*P P 20 18 51.8 +1.4
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 77.32 326 *e*P P 20 18 51.8 +1.4
OKC Ostrava-Krasne 77.32 328 *e*P P 20 18 51.9 +1.6
OKC Ostrava-Krasne 77.32 328 *e*P P 20 18 51.9 +1.6
BR131 Keskin Array S 77.38 312 P P 20 18 51.0 0.0
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 77.38 312 P P 20 18 51.0 0.0
BR131 IAmb IAmb 20 18 52.1
comp=Z,6.8nm,0.8s
BRTR Keskin Array B 77.38 312 P P 20 18 51.5 +0.6
comp=Z,3.6nm,0.7s,baz=80,slow=3.4,SNR=23
BRTR PP PP 20 21 46.8 +2.0
comp=Z,2.2nm,1.0s,baz=77,slow=6.5,SNR=5.1
BRTR LR LR 20 57 52.4
comp=Z,95nm,19.0s,baz=30,slow=40
BRTR Keskin Array B 77.38 312 P P 20 18 51.6 +0.6
BRTR Keskin Array B 77.38 312 P P 20 18 51.0 0.0
OSTC Ostas 77.51 329 *e*P P 20 18 52.2 +0.8
CHVC Chvalec 77.55 329 *e*P P 20 18 52.1 +0.5
MORC Moravsky Berou 77.61 328 ⇑P P 20 18 52.9 +0.9
MORC Moravsky Berou 77.61 328 *e*P P 20 18 52.7 +0.7
MORC Moravsky Berou 77.61 328 P P 20 18 52.0 0.0
MORC pmax pmax
comp=Z,15nm,0.9s
MORC Moravsky Berou 77.61 328 P P 20 18 52.0 0.0
MORC IAmb IAmb 20 18 54.1
comp=Z,16nm,0.9s
UPC Upice 77.63 329 *e*P P 20 18 52.9 +0.9
UPC Upice 77.63 329 *e*P P 20 18 52.9 +0.9
DPC Dobruska-Polom 77.63 329 *e*P P 20 18 53.2 +1.1
KRLC Kraliky 77.67 328 *e*P P 20 18 53.1 +0.7
VOIR 77.67 321 ⇑P P 20 18 53.2 +0.7
VOIR 77.67 321 ⇑P P 20 18 53.2 +0.7
ANTO Ankara 77.74 313 P P 20 18 53.2 +0.3
ANTO pmax pmax
comp=Z,21nm,0.8s
ANTO Ankara 77.74 313 P P 20 18 53.2 +0.3
BR231 Keskin MP Arra 77.77 313 P P 20 18 53.9 +0.8
BR231 IAmb IAmb 20 18 55.1
comp=Z,17nm,0.8s
FLTG Flechtingen 77.88 333 *e*P P 20 18 53.6 +0.3
comp=Z,26nm,0.9s,baz=33,slow=5.5
ARR Arges 77.92 321 ⇑P P 20 18 54.1 +0.2
EYMN Ely 78.01 35 P 20 18 54.7
baz=321
VYHS Vyhne 78.09 326 *e*P P 20 18 56.0 +1.3
VYHS pmax pmax
comp=Z,7.0nm,0.8s
VYHS Vyhne 78.09 326 *e*P P 20 18 56.0 +1.3
PSZ Piszkesteto 78.10 325 ⇑P P 20 18 55.2 +0.5
PSZ Piszkesteto 78.10 325 P P 20 18 56.1 +1.3
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 78.10 325 P P 20 18 56.1 +1.3
PSZ IAmb IAmb 20 18 57.0
comp=Z,10nm,0.9s
CLL Collm 78.10 331 ⇑ *i*P P 20 18 54.8 +0.2
comp=Z,28nm,0.9s
CLL *e*PcP PcP 20 19 05.0 +0.8
CLL *e*(SS) 20 34 30.0
CLL *e* 20 35 06.0
CLL LmV 20 57 00.0
comp=N,200nm,19.0s
CLL LmV 20 57 00.0
comp=E,200nm,18.9s
CLL LmV 20 57 00.0
comp=Z,300nm,19.8s
CLL Collm 78.10 331 ⇑ *i*P P 20 18 54.8 +0.2
CLL *e* 20 19 05.0
CLL pmax pmax
comp=Z,28nm,0.9s
CLL Collm 78.10 331 P P 20 18 54.4 -0.3
CLL Collm 78.10 331 *e*P P 20 18 55.0 +0.4
comp=Z,28nm,0.9s,baz=33,slow=5.5
BRG Berggiesshubel 78.11 330 *e*P P 20 18 55.2 +0.6
BRG Amp 20 18 56.3
comp=Z,8.0nm,0.9s
BRG *ex* x 20 19 04.6
BRG Amp 20 19 05.9
comp=Z,7.3nm,1.2s
BRG Amp 20 57 37.0
comp=Z,0.4nm,16.4s
BRG Amp 20 57 50.0
comp=E,0.2nm,21.1s
BRG Amp 20 57 51.0
comp=N,0.3nm,14.7s
BRG Berggiesshubel 78.11 330 *e*P P 20 18 55.3 +0.6
comp=N,8.0nm,0.9s,baz=33,slow=5.5
NRDL Niedersach Rie 78.13 333 *e*P P 20 18 55.4 +0.8
comp=N,6.5nm,0.8s,baz=33,slow=5.5
PVCC Panska Ves 78.16 330 *e*P P 20 18 55.7 +0.7
PVCC Panska Ves 78.16 330 *e*P P 20 18 55.7 +0.7
ASSE Asse, Remlinge 78.24 333 *e*P P 20 18 56.0 +0.7
comp=N,14nm,1.0s,baz=33,slow=5.5
LOT Lotru 78.26 322 ⇑P P 20 18 55.9 +0.1
JAVC Velka Javorina 78.28 327 *e*P P 20 18 57.5 +1.7
FBE Freiberg 78.29 331 *e*P P 20 18 56.5 +0.9
comp=N,18nm,0.8s,baz=33,slow=5.5
VRAC Vranov 78.36 328 ⇑P P 20 18 56.7 +0.6
VRAC Vranov 78.36 328 *e*P P 20 18 56.9 +0.8
VRAC Vranov 78.36 328 ⇑P P 20 18 56.7 +0.6
COPA Copaceanca 78.56 320 ⇑P P 20 18 56.9 -0.4
PRA Prague 78.58 330 *e*P P 20 18 58.4 +1.1
PRA Prague 78.58 330 *e*P P 20 18 58.4 +1.1
CLZ Clausthal 78.58 333 *e*P P 20 18 58.2 +0.9
comp=N,20nm,0.8s,baz=33,slow=5.5
SIRR Siria 78.60 323 ⇑P P 20 18 57.8 +0.3
PRU Pruhonice 78.61 330 *e*P P 20 18 58.0 +0.5
PRU Pruhonice 78.61 330 *e*P P 20 18 58.0 +0.5
NEUB Neuenburg 78.62 332 *e*P P 20 18 58.2 +0.7
comp=N,27nm,0.8s,baz=33,slow=5.5
KRUC Moravsky 78.63 328 *e*P P 20 18 58.3 +0.7
SMOL Smolenice 78.66 327 *e*P P 20 18 59.2 +1.4
SMOL Smolenice 78.66 327 *e*P P 20 18 59.2 +1.4
GZR Gura Zlata 78.76 322 ⇑P P 20 18 59.1 +0.6
GZR Gura Zlata 78.76 322 ⇑P P 20 18 59.1 +0.6
MODS Modra-Piesok 78.83 327 *e*P P 20 18 59.2 +0.5
MODS pmax pmax
comp=Z,17nm,1.1s
MODS Modra-Piesok 78.83 327 *e*P P 20 18 59.2 +0.5
ECSD EROS Data Cent 78.88 40 P P 20 18 59.8 +0.6
ECSD EROS Data Cent 78.88 40 P 20 18 59.6
baz=318
GTTG Gottingen 78.97 333 *e*P P 20 19 00.2 +0.8
comp=Z,17nm,0.9s,baz=33,slow=5.5
TANN Tannenbergstha 79.03 331 *e*P P 20 19 00.5 +0.7
comp=Z,5.1nm,1.0s,baz=33,slow=5.5
VLAD Vladila 79.06 320 ⇑P P 20 18 59.9 -0.1
IBBN Ibbenburen 79.06 335 *e*P P 20 19 00.5 +0.6
comp=Z,30nm,1.2s,baz=33,slow=5.5
PBCC Pribram 79.06 330 *e*P P 20 19 00.8 +0.8
WERD Werda 79.06 331 *e*P P 20 19 00.7 +0.7
comp=Z,6.9nm,0.8s,baz=33,slow=5.5
PLN Plauen 79.08 331 *e*P P 20 19 00.8 +0.7
comp=Z,7.3nm,0.8s,baz=33,slow=5.5
BZS Buzias 79.12 323 ⇑P P 20 19 00.7 +0.4
BZS Buzias 79.12 323 ⇑P P 20 19 00.7 +0.4
GUNZ Gunzen 79.12 331 *e*P P 20 19 01.1 +0.7
comp=Z,8.6nm,0.8s,baz=33,slow=5.5
MOX Moxa 79.15 332 *e*P P 20 19 01.1 +0.6
comp=Z,10nm,0.9s,baz=33,slow=5.5
MOX *e*L L 20 57 41.9
comp=Z,222nm,19.8s
WERN Wernitzgruen 79.17 331 *e*P P 20 19 01.4 +0.8
comp=Z,11nm,0.8s,baz=33,slow=5.5
NKC Novy Kostel 79.19 331 *e*P P 20 19 01.3 +0.6
NKC Novy Kostel 79.19 331 *e*P P 20 19 01.3 +0.6
HERR Herculane 79.32 322 ⇑P P 20 19 01.6 +0.2
ESK Eskdalemuir 79.44 342 P P 20 19 02.6 +0.7
ESK pmax pmax
comp=Z,13nm,1.0s
ESK Eskdalemuir 79.44 342 P P 20 19 02.6 +0.7
ESK IAmb IAmb 20 19 03.4
comp=Z,12nm,1.0s
MANZ Manzenberg 79.51 331 *e*P P 20 19 03.1 +0.7
comp=Z,8.6nm,1.0s,baz=33,slow=5.5
CKRC Cesky Krumlov 79.64 329 *e*P P 20 19 03.2 0.0
ROTZ Rotzenmuhle 79.66 331 *e*P P 20 19 04.2 +0.9
comp=Z,11nm,1.0s,baz=33,slow=5.5
KHC Kasperske Hory 79.67 330 *e*P P 20 19 03.9 +0.5
KHC Kasperske Hory 79.67 330 *e*P P 20 19 03.9 +0.5
KHC *ex* x 20 19 33.0
CONA Conrad Observa 79.75 328 *i*P P 20 19 05.2 +1.3
comp=Z,9.1nm,0.9s,SNR=6.4
KASTN Kahler Asten 79.78 334 *e*P P 20 19 04.4 +0.5
comp=Z,8.1nm,0.9s,baz=33,slow=5.5
GEC2 GERESS Array S 79.86 329 P P 20 19 04.5 +0.1
GEC2 IAmb IAmb 20 19 05.9
comp=Z,8.4nm,1.0s
GEC2 GERESS Array S 79.86 329 *e*P P 20 19 04.9 +0.5
comp=Z,9.9nm,1.1s,baz=33,slow=5.5
GERES GERESS Array B 79.86 329 P P 20 19 05.0 +0.6
comp=Z,3.9nm,0.8s,baz=35,slow=5.1,SNR=31
GERES LR LR 20 57 41.7
comp=Z,137nm,19.0s,baz=40,slow=38
GERES GERESS Array B 79.86 329 P P 20 19 05.1 +0.6
GERES GERESS Array B 79.86 329 P P 20 19 04.2 -0.2
ANMO Albuquerque 79.91 52 P P 20 19 05.3 +0.2
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 79.91 52 P P 20 19 05.3 +0.2
WET Wettzell 79.92 330 *e*P P 20 19 05.7 +1.0
comp=Z,18nm,1.0s,baz=33,slow=5.5
BUG Bochum--Univer 79.96 334 *e*P P 20 19 05.2 +0.4
comp=Z,24nm,0.9s,baz=33,slow=5.5
MORH Mrgy, Hungar 79.96 325 ⇑P P 20 19 04.9 0.0
GRA1 Grafenberg Arr 80.08 331 P P 20 19 05.7 +0.2
GRF Grafenberg Arr 80.08 331 P P 20 19 05.7 +0.2
GRF pmax pmax
comp=Z,28nm,0.9s
GRF Grafenberg Arr 80.08 331 *e*P P 20 19 06.6 +1.1
comp=Z,30nm,1.0s,baz=33,slow=5.5
GRF *e*L L 20 58 20.6
comp=Z,260nm,20.1s
GRFO Grafenberg 80.08 331 P P 20 19 06.1 +0.6
GRFO pmax pmax
comp=Z,25nm,0.9s
GRFO Grafenberg 80.08 331 P P 20 19 06.1 +0.6
I37A Lemond, Waseca 80.19 38 P P 20 19 06.5 +0.2
I37A IAmb IAmb 20 19 23.9
comp=Z,11nm,0.8s
SCHQ Schefferville 80.21 18 P P 20 19 06.7 +0.6
comp=Z,3.6nm,0.9s,baz=5.6,slow=10,SNR=4.1
SCHQ LR LR 20 57 41.9
comp=Z,46nm,18.2s,baz=324,slow=38
FRGS Fruska Gora 80.28 324 ⇑P P 20 19 06.8 +0.1
BNM Barren Site 80.36 53 P P 20 19 09.1 +1.4
TNS Taunus Mts 80.60 333 *e*P P 20 19 08.9 +0.5
comp=Z,17nm,1.3s,baz=33,slow=5.5
MILB Miltenberg 80.65 332 *e*P P 20 19 09.0 +0.4
comp=Z,14nm,1.0s,baz=33,slow=5.5
VTS Vitosha 80.66 320 ⇑P P 20 19 08.5 -0.4
VTS Vitosha 80.66 320 P P 20 19 09.6 +0.7
VTS pmax pmax
comp=Z,16nm,0.9s
VTS Vitosha 80.66 320 P P 20 19 09.6 +0.7
VTS IAmb IAmb 20 19 11.1
comp=Z,16nm,0.9s
AHRW Bad Neuenahr-A 80.79 334 *e*P P 20 19 09.9 +0.7
comp=Z,16nm,1.0s,baz=33,slow=5.5
DIVS Divibare 81.03 323 P P 20 19 10.8 0.0
BTNL Ternell 81.06 334 *d*P P 20 19 10.8 0.0
comp=Z,9.1nm,1.0s
MEM Membach 81.08 335 *d*P P 20 19 10.1 -0.7
comp=Z,12nm,0.9s
GROS Grobnik 81.08 327 *i*P P 20 19 11.4 +0.4
SOKA Soboth 81.10 327 *i*P P 20 19 11.9 +0.8
comp=Z,15nm,0.9s,SNR=16
RJOB Jochberg 81.11 329 *e*P P 20 19 12.3 +1.1
comp=Z,63nm,0.9s,baz=33,slow=5.5
FUR Furstenfeldbru 81.33 330 *e*P P 20 19 13.3 +1.0
comp=Z,31nm,0.8s,baz=33,slow=5.5
KBA Koelnbreinsper 81.44 329 *i*P P 20 19 14.0 +0.9
comp=Z,14nm,1.1s,SNR=11
BCLA Clavier 81.47 335 *d*P P 20 19 12.8 -0.1
BGES Gesves 81.57 335 *d*P P 20 19 13.7 +0.3
comp=Z,9.8nm,1.0s
STU Stuttgart 81.58 332 *e*P P 20 19 14.2 +0.7
comp=Z,24nm,0.8s,baz=33,slow=5.5
CRES Cresnjev 81.61 327 *i*P P 20 19 14.0 +0.2
BMRD Maredsous 81.74 335 *d*P P 20 19 14.8 +0.4
comp=Z,15nm,1.0s
MATQ Matagami 81.75 26 P 20 19 14.6
baz=330
WATA Walderalm 81.91 330 *i*P P 20 19 16.3 +0.8
comp=Z,18nm,0.9s,SNR=9.8
WTTA Wattenberg 81.95 330 *i*P P 20 19 16.6 +0.9
comp=Z,14nm,0.9s,SNR=7.0
DOU Dourbes 81.97 335 *d*P P 20 19 15.5 -0.1
ZOU Zoufplan 82.02 328 P P 20 19 15.9 -0.3
MOTA Moosalm 82.08 330 *i*P P 20 19 17.2 +0.8
comp=Z,34nm,0.9s,SNR=14
RETA Reutte 82.09 330 *i*P P 20 19 17.1 +0.8
comp=Z,19nm,1.0s,SNR=10
JAVS Javornik 82.13 327 *i*P P 20 19 16.1 -0.4
BFO Black Forest 82.25 332 P P 20 19 17.1 0.0
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 82.25 332 P P 20 19 17.1 0.0
BFO IAmb IAmb 20 19 18.2
comp=Z,7.4nm,0.9s
BFO Black Forest 82.25 332 *e*P P 20 19 17.5 +0.4
comp=Z,10nm,1.0s,baz=33,slow=5.5
STAL STALIGIAL 82.36 328 P P 20 19 16.7 -1.0
STAL IAmb IAmb 20 19 18.0
comp=Z,12nm,0.8s
TRI Trieste 82.40 327 P P 20 19 17.2 -0.7
TRI pmax pmax
comp=Z,14nm,0.9s
TRI Trieste 82.40 327 P P 20 19 17.2 -0.7
TRI IAmb IAmb 20 19 18.4
comp=Z,14nm,0.9s
FETA Feichten 82.49 330 *i*P P 20 19 19.4 +0.8
comp=Z,11nm,0.8s,SNR=7.2
LSQQ Lebel-sur-Quev 82.58 26 P 20 19 18.9
baz=330
DAVA Damuels 82.58 331 *i*P P 20 19 20.0 +1.0
comp=Z,22nm,1.1s,SNR=7.1
CHGQ Chibougamau 82.65 24 P 20 19 19.3
baz=332
PDG Podgorica 82.67 322 P P 20 19 19.4 0.0
ECH Echery 82.76 333 P P 20 19 20.0 +0.2
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 82.76 333 P P 20 19 20.0 +0.2
ECH IAmb IAmb 20 19 21.0
comp=Z,12nm,1.0s
LIT Litokhoron 82.94 319 P P 20 19 20.4 -0.5
LIT pmax pmax
comp=Z,13nm,0.9s
LIT Litokhoron 82.94 319 P P 20 19 20.4 -0.5
LIT IAmb IAmb 20 19 22.9
comp=Z,13nm,0.9s
CTI Castel Tesino 82.95 329 P P 20 19 19.9 -1.0
CTI pmax pmax
comp=Z,10.0nm,0.8s
CTI Castel Tesino 82.95 329 P P 20 19 19.9 -1.0
CTI IAmb IAmb 20 19 21.3
comp=Z,10.0nm,0.8s
FNA Florina 82.95 320 P P 20 19 20.9 -0.1
FNA pmax pmax
comp=Z,8.0nm,0.9s
FNA Florina 82.95 320 P P 20 19 20.9 -0.1
FNA IAmb IAmb 20 19 22.1
comp=Z,7.5nm,0.9s
VLDQ Val d'Or 83.24 27 P P 20 19 21.0 -1.1
VLDQ IAmb IAmb 20 19 33.2
comp=Z,6.8nm,0.7s
TUE Stuetta 83.47 330 P P 20 19 24.1 +0.4
TUE IAmb IAmb 20 19 26.4
comp=Z,9.8nm,0.9s
P38A Dawn 83.50 41 P P 20 19 23.4 -0.3
P38A IAmb IAmb 20 19 25.4
comp=Z,10nm,0.8s
AGG Agios Georgios 83.85 318 P P 20 19 24.5 -1.1
AGG pmax pmax
comp=Z,8.0nm,0.8s
AGG Agios Georgios 83.85 318 P P 20 19 24.5 -1.1
AGG IAmb IAmb 20 19 25.7
comp=Z,8.0nm,0.8s
PMOR Pomariorio Ree 84.12 116 *e*T T 21 52 03.4
comp=Z,6.3nm,0.2s
P40A Paris 84.30 40 P P 20 19 27.8 0.0
P40A IAmb IAmb 20 19 39.6
comp=Z,10.0nm,1.0s
SENIN Lac Senin/Sane 84.30 332 P P 20 19 28.4 +0.4
SENIN IAmb IAmb 20 19 29.4
comp=Z,8.7nm,1.1s
WMOK Wichita Mounta 84.44 48 P 20 19 28.9
baz=318
ZCCA Zocca 84.63 328 P P 20 19 30.3 +0.8
SGRT San Giovanni R 84.78 324 P P 20 19 30.1 -0.2
PPT Papeete 84.84 119 LR LR 20 48 03.8
comp=Z,67nm,21.3s,baz=222,slow=29
D55A Sainte-Anne-du 84.85 26 P 20 19 30.8
baz=331
PPT2 Papeete2 84.86 119 *e*LR LR 20 46 14.6
comp=Z,135nm,24.8s
MURB Monte Urbino 84.92 327 P P 20 19 31.3 +0.4
NRCA Norcia 85.03 326 P P 20 19 32.1 +0.6
D56A ZEC Mazanza, M 85.06 26 P 20 19 31.8
baz=332
S39A Bolivar 85.09 42 P P 20 19 31.7 -0.2
S39A IAmb IAmb 20 19 33.2
comp=Z,5.0nm,0.9s
R40A Maddies Statio 85.16 41 P P 20 19 32.5 +0.4
R40A IAmb IAmb 20 19 33.1
comp=Z,4.4nm,0.6s
OSSC Osservatorio P 85.22 328 P P 20 19 31.9 -0.5
OSSC IAmb IAmb 20 19 33.2
comp=Z,7.2nm,0.8s
MSSA Maissana 85.22 329 P P 20 19 31.5 -1.0
MSSA IAmb IAmb 20 19 33.0
comp=Z,18nm,1.3s
TAOE Nuku Hiva Isla 85.24 106 *e*LR LR 20 46 33.3
comp=Z,338nm,27.0s
AQU L'Aquila 85.30 326 P P 20 19 33.4 +0.5
AQU pmax pmax
comp=Z,20nm,1.1s
AQU L'Aquila 85.30 326 P P 20 19 33.4 +0.5
IDI Anoyia 85.37 314 ⇑P P 20 19 31.9 -1.5
IDI Anoyia 85.37 314 P P 20 19 30.9 -2.4
INTR Introdacqua 85.37 325 P P 20 19 32.8 -0.5
E56A St. Veronique 85.41 26 P 20 19 33.4
baz=332
ITM Ithomi 85.47 317 P P 20 19 33.1 -0.6
TX31 Lajitas Ar. Si 85.54 54 P P 20 19 35.6 +1.2
TX31 IAmb IAmb 20 19 47.0
comp=Z,14nm,0.9s
TX32 Lajitas Array 85.54 54 P P 20 19 35.6 +1.2
TX32 IAmb IAmb 20 19 47.0
comp=Z,5.3nm,1.0s
TXAR Lajitas Array 85.54 54 P P 20 19 35.5 +1.1
comp=Z,1.3nm,0.3s,baz=319,slow=4.0,SNR=44
TXAR Lajitas Array 85.54 54 P P 20 19 35.5 +1.1
TXAR Lajitas Array 85.54 54 P P 20 19 35.5 +1.1
BNI Bardonecchia 85.65 331 P P 20 19 34.7 0.0
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 85.65 331 P P 20 19 34.7 0.0
BNI IAmb IAmb 20 19 36.5
comp=Z,10nm,0.9s
E58A La Victoria 86.13 25 P 20 19 37.3
baz=333
U40A Yellville 86.36 43 P P 20 19 38.6 +0.4
U40A IAmb IAmb 20 19 50.2
comp=Z,8.9nm,0.8s
U40A Yellville 86.36 43 P 20 19 38.5
baz=321
TIP Timpagrande 86.40 322 P P 20 19 38.2 -0.2
TIP IAmb IAmb 20 19 39.8
comp=Z,17nm,1.4s
P46A Rosedale 86.50 37 P P 20 19 39.8 +1.0
E60A Ste Agathe de 86.70 24 P 20 19 39.5
baz=334
G58A Ormstown 86.97 26 P 20 19 40.8
baz=332
SIUC Southern Illin 87.09 40 P P 20 19 41.9 +0.2
FCAR Ozark Folk Cen 87.10 43 P P 20 19 42.0 +0.2
FCAR IAmb IAmb 20 19 53.1
comp=Z,5.4nm,0.9s
F61A St Evariste 87.19 24 P 20 19 41.7
baz=334
PBMO Poplar Bluff 87.25 41 P P 20 19 43.1 +0.6
PBMO IAmb IAmb 20 19 55.3
comp=Z,8.9nm,0.8s
MIAR Mount Ida 87.39 44 P P 20 19 44.1 +0.9
MIAR pmax pmax
comp=Z,5.0nm,0.9s
MIAR Mount Ida 87.39 44 P P 20 19 44.0 +0.9
MIAR IAmb IAmb 20 19 55.8
comp=Z,5.4nm,0.8s
MIAR Mount Ida 87.39 44 P 20 19 43.1
baz=321
WHAR Wooly Hollow 87.48 43 P P 20 19 43.8 +0.2
WHAR IAmb IAmb 20 19 45.6
comp=Z,7.9nm,0.9s
I57A Carthage 87.49 28 P 20 19 43.7
baz=331
E63A Oxbow 87.53 22 P 20 19 43.4
baz=336
G60A Masonville 87.57 25 P 20 19 43.9
baz=334
F62A Pittston Farm, 87.57 23 P 20 19 43.6
baz=335
W41B Gary Mavity, V 87.59 43 P 20 19 44.3
baz=322
J56A Wolcott 87.64 29 P 20 19 43.9
baz=331
G61A St-Isidore-de- 87.65 24 P 20 19 44.6
baz=334
E64A Bridgewater 87.70 22 P 20 19 44.3
baz=337
M53A WI Miller and 87.77 32 P 20 19 44.3
baz=328
PKME Peaks-Kenny Pk 88.34 23 P 20 19 47.3
baz=336
I60A Shoreham 88.37 26 P 20 19 47.3
baz=333
G63A Kingsbury 88.38 23 P 20 19 48.5
baz=335
H62A Milan 88.41 24 P 20 19 48.3
baz=334
N54A Moraine State 88.45 32 P 20 19 47.5
baz=329
G64A Maxfield 88.51 23 P 20 19 48.6
baz=336
I61A Oroboro, Fairl 88.65 25 P 20 19 49.0
baz=334
H63A New Sharon 88.67 24 P 20 19 49.1
baz=335
TBI Tubuai 89.10 123 *e*T T 21 58 14.8
comp=Z,6.0nm,0.3s
M57A Sunshine Farm, 89.23 30 P P 20 19 52.1 +0.3
SSPA Standing Stone 89.55 31 P 20 19 53.1
baz=330
O56A Blue Knob Stat 89.60 31 P 20 19 53.5
baz=330
T50A Nancy 89.69 37 P P 20 19 52.1 -2.0
T50A IAmb IAmb 20 20 13.5
comp=Z,9.7nm,0.8s
N59A State Game Lan 90.10 29 P 20 19 56.0
baz=331
V51A Loudon 90.92 38 P P 20 19 57.8 -2.0
V51A IAmb IAmb 20 20 07.6
comp=Z,9.9nm,0.8s
M64A Tiverton 91.11 26 P 20 20 00.8
baz=334
CPCT Cooper Cave 91.13 38 P P 20 20 00.6 -0.2
CPCT IAmb IAmb 20 20 06.5
comp=Z,5.9nm,0.6s
TKL Tuckaleechee C 91.30 37 LR LR 21 02 24.4
comp=Z,77nm,21.6s,baz=340,slow=36
KEST Kesra 92.56 325 LR LR 21 07 22.6
comp=Z,202nm,18.5s,baz=301,slow=39
ESDC Sonseca Array 93.99 336 P P 20 20 14.3 +0.3

comp=Z,0.8nm,0.8s,baz=15,slow=4.4,SNR=4.8
ESDC LR LR 21 08 40.9
comp=Z,182nm,18.1s,baz=35,slow=39
TORD Torodi Ar. Bea 115.42 319 PKP **PKiKP 20 25 36.8 -1.4**
comp=Z,0.2nm,0.4s,baz=21,slow=1.6,SNR=1.6
TORD PP **PP 20 26 36.6 -2.1**
comp=Z,5.2nm,1.2s,baz=29,slow=8.2,SNR=3.9
TORD Torodi Ar. Bea 115.42 319 PP **PP 20 26 36.1 -2.5**
TORD Torodi Ar. Bea 115.42 319 PiKP PKiKP 20 25 36.8 -1.4
VNDA Vanda 119.47 176 PKP **PKPdf 20 25 43.1 -0.9**
comp=Z,0.5nm,0.8s,baz=308,slow=7.1,SNR=2.6
VNDA Vanda 119.47 176 PKIKP **PKPdf 20 25 43.1 -0.9**
BOAV Boa Vista 130.65 34 *eP* **PKiKP 20 26 11.2 +2.9**
MCPB Macapa, AP 136.26 24 *eP* **PKiKP 20 26 22.5 +2.9**
MALB Monte Alegre 136.94 28 *eP* **PKiKP 20 26 22.7 +1.7**
LPAZ La Paz 142.35 57 PKP **PKPdf 20 26 28.4 -1.3**
comp=Z,0.7nm,0.8s,baz=315,slow=4.3,SNR=1.8
LPAZ La Paz 142.35 57 PKIKP **PKPdf 20 26 28.4 -1.3**
LPAZ La Paz 142.35 57 *eP* **PKiKP 20 26 33.6 +0.9**
H03N2 Juan Fernandez 145.07 91 T T 23 09 31.5
baz=300,slow=77,SNR=27
H03N3 Juan Fernandez 145.08 91 T T 23 09 10.1
baz=300,slow=77,SNR=26
H03N1 Juan Fernandez 145.09 91 T T 23 09 36.3
baz=300,slow=77,SNR=33
SMTB Santa Maria do 145.63 21 *eP* **PKPab 20 26 36.2 +1.0**
NBMA Muriti-CE 145.68 5 *eP* **PKPab 20 26 35.6 +0.1**
SNAA Sanae 145.88 198 PKPbc **PKPbc 20 26 34.8 +0.6**
LVC Limon Verde 146.34 66 *eP* **PKPab 20 26 39.2 +1.0**
PTLB Pontes e Lacer 146.92 45 *eP* **PKPbc 20 26 39.2 +0.5**
NBRF Rio Formoso - 147.09 359 *eP* **PKPab 20 26 41.2 +0.5**
SNDB Serra Nova Dou 147.38 29 *eP* **PKPbc 20 26 40.7 +0.6**
VNA2 Neumayer--Watz 147.44 197 PKPbc **PKPbc 20 26 38.4 -0.2**
VNA3 Neumayer Olymp 147.67 195 PKPbc **PKPbc 20 26 39.1 -0.1**
VNA1 Neumayer--Stat 147.84 197 PKPbc **PKPbc 20 26 39.9 +0.2**
NBAN Anadia - AL 148.07 1 *eP* **PKPbc 20 26 41.2 -0.8**
PEXB Peixe 148.51 24 *eP* **PKPbc 20 26 43.5 +0.4**
SALV Santo Antonio 149.04 40 *eP* **PKPbc 20 26 44.1 -0.2**
SDBA SAO DESIDERIO 149.71 18 *eP* **PKPbc 20 26 46.1 -0.1**
ARAG Araguaiana, MT 150.59 33 *eP* **PKPbc 20 26 46.5 -1.7**
PP1B Ponte de Pedra 150.89 40 *eP* **PKPbc 20 26 47.2 -1.7**
PMSA Palmer Station 151.82 154 *eP* **PKPbc 20 26 48.5 -1.0**
GDU01 Guandu, BA 151.90 8 *eP* **PKPbc 20 26 48.5 -2.7**
BDFB Brasilia 151.92 26 PKPbc **PKPbc 20 26 51.8 +0.4**
comp=Z,1.5nm,0.5s,baz=72,slow=3.2,SNR=1.8
BDFB Brasilia 151.92 26 PKIKP **PKPbc 20 26 51.8 +0.4**
JANB Januaria 152.41 18 *eP* **PKPdf 20 26 49.1 +3.5**
AQDB Aquidauana 152.90 45 *eP* **PKPbc 20 26 50.4 -3.0**
CMC01 Camacan, BA 153.52 8 *eP* **PKPdf 20 26 51.1 +3.9**
IPMB Ipameri, GO 154.03 28 *eP* **PKPdf 20 26 51.6 +3.7**
MC01 Montes Claros 154.09 18 *eP* **PKPdf 20 26 52.0 +4.0**
GUA01 Guaratinga, BA 154.70 9 *eP* **PKPdf 20 26 52.4 +3.6**
PCMB Pacaembu 156.05 38 *eP* **PKPdf 20 26 54.8 +4.3**
TRCB Terra Rica 156.40 42 *eP* **PKPdf 20 26 54.7 +3.7**
CPUP Villa Florida 156.50 56 *eP* **PKPdf 20 26 55.4 +4.5**
SJMB Sao Joao De Ma 156.58 13 *eP* **PKPdf 20 26 55.5 +4.3**
BB19B Bebedouro 156.74 32 *eP* **PKPdf 20 26 56.0 +4.6**
RCLB Rio Claro- Sao 158.35 31 *eP* **PKPdf 20 26 56.9 +3.4**
ITQB Itaqui 159.25 61 *eP* **PKPdf 20 26 59.0 +4.8**
VAS01 Vassouras-RJ 159.56 21 *eP* **PKPdf 20 26 59.2 +4.4**
DUB01 Friburgo-RJ 159.63 18 *eP* **PKPdf 20 26 59.1 +4.2**
ESAR Angra dos Reis 159.97 24 *eP* **PKPdf 20 26 59.6 +4.4**
PET01 Itanhaem-SP 160.13 33 *eP* **PKPdf 20 27 00.0 +4.6**
CPSB Cacapava Do Su 161.80 57 *eP* **PKPdf 20 27 01.9 +4.8**

JMA 10 20:10:03.3±0.1, 35°.92N×141°.01E, h17km±2km, M3.8,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.25**	**210**	P	Pg	20 10 08.8	-0.1
CHOJ				S	Sg	20 10 12.8	+0.1
JIHU	**Itakohorinouch**	**0.40**	**277**	P	Pb	20 10 11.9	+0.1
JSMT	**Sammumatsuo**	**0.53**	**239**	P	Pb	20 10 14.5	+0.3
JHYU	**Hitachinakayam**	**0.54**	**321**	P	Pg	20 10 14.1	0.0
JHYU				S	Sg	20 10 21.4	0.0
JYT	**Yasato**	**0.73**	**295**	P	Pb	20 10 16.9	-0.6
JYT				*eS*	Sb	20 10 26.2	-1.0
JHO	**Hitachi**	**0.78**	**333**	P	Pb	20 10 17.9	-0.5
MAT	**Matsushiro**	**2.35**	**286**	P	Pn	20 10 41.5	+0.4
MAT				S	Sn	20 11 10.2	+0.6

*IDC **10** 20:11:28.6±2.4, 41°.71N×144°.71E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/37, mbtmp3.5/6, ML2.2/1, Error ellipse: s-maj=62.6km s-min=25.3km az=77.0*
*JMA **10** 20:11:33.2±0.2, 41°.69N×144°.26E, h29km±2km, M3.4*
ISC 10 20:11:34.7±1.2, 41°.71N±0°.07×144°.4E±0°.1, h35km, n18,
σ1s47/16, mb3.4/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.94**	**290**	P	**Pn**	**20 11 50.2**	**-1.3**
JTHR	**Tokachihiroo**	**0.98**	**307**	P	**Pn**	**20 11 50.3**	**-1.7**
JTHR				*eS*	**Sn**	**20 12 04.0**	**-0.6**
JCH	**Churui**	**1.17**	**321**	P	**Pn**	**20 11 53.2**	**-1.4**
JCH				*eS*	**Sn**	**20 12 08.5**	**-0.8**
JOB	**Onbets**	**1.26**	**342**	P	**Pn**	**20 11 54.9**	**-0.9**
JAK	**Akkeshi**	**1.31**	**11**	P	**Pn**	**20 11 55.4**	**-1.2**
JAR	**Ashorobuto**	**1.65**	**345**	P	**Pn**	**20 11 59.8**	**-1.4**
JAR				*eS*	**Sn**	**20 12 20.3**	**-0.8**
ASAJ	**Asahikawa**	**2.73**	**332**	Pn	**Pn**	**20 12 15.7**	**-0.4**
ASAJ	baz=169,slow=13,SNR=6.6			Sn	**Sn**	**20 12 51.2**	**+3.3**
MJAR	**Matsushiro Arr**	**7.03**	**225**	Pn	**Pn**	**20 13 14.5**	**-0.6**
SONM	**Songino Array**	**27.43**	**296**	P	**P**	**20 17 17.6**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**29.09**	**132**	T	T	20 48 20.5	
H11N1	**WAKE ISLAND Hy**	**29.10**	**132**	T	T	20 48 17.0	
H11N3	**WAKE ISLAND Hy**	**29.10**	**132**	T	T	20 48 15.3	
H11S1	**WAKE ISLAND Hy**	**29.97**	**134**	T	T	20 49 22.4	
H11S3	**WAKE ISLAND Hy**	**29.97**	**134**	T	T	20 49 20.5	
H11S2	**WAKE ISLAND Hy**	**29.99**	**134**	T	T	20 49 21.3	
MKAR	**Makanchi Array**	**43.73**	**299**	P	**P**	**20 19 38.4**	**+2.0**
WRA	**Warramunga Arr**	**62.03**	**191**	P	**P**	**20 21 51.2**	**-0.4**
FINES	**FINESS Array B**	**65.74**	**332**	P	**P**	**20 22 15.0**	**-0.5**

0.3nm,0.6s,baz=75,slow=10.0,SNR=2.0
0.8nm,0.9s,baz=77,slow=9.0,SNR=3.0
2.7nm,0.9s,baz=50,slow=7.4,SNR=1.6

*IDC **10** 20:12:14.0±0.8, 41°.62N×144°.10E, h0km, mb3.8/16, mb1 4.0/18, mb1mx3.9/34, mbtmp3.8/18, ML3.2/2, Error ellipse: s-maj=20.0km s-min=18.2km az=120.0*
*MOS **10** 20:12:17.4±1.2, 41°.62N×144°.16E, h37km, mb4.6/5, Error ellipse: s-maj=11.2km s-min=8.6km az=109.5*
*JMA **10** 20:12:17.8±0.2, 41°.70N×144°.27E, h27km±2km, M4.2*
*NIED **10** 20:12:17.8, 41°.70N×144°.27E, h27km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.73; Mθθ-0.58; Mφφ-0.15; Mrθ-0.07; Mθφ-1.45; Mφr1.33; Fault plane solution: M0 2.08000×10^15 NP1:φs 12.00000°, δ75.00000°, λ46.00000°. NP2:φs 267.00000°, δ46.00000°, λ159.00000°.*
*NEIC **10** 20:12:19.9±1.3, 41°.96N±0°.08×144°.1E±0°.1, h32km±2km, mb4.3/22 Error ellipse: s-maj=12.5km s-min=9.7km az=130.0*
ISC 10 20:12:19.0±0.6, 41°.72N±0°.06×144°.21E±0°.06, h35km, n104,
σ1s51/98, mb4.2/32, 5C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.84**	**291**	P	**Pn**	**20 12 33.5**	**-0.8**
ERM	**Erimo**	**0.84**	**291**	Pn	**Pn**	**20 12 33.5**	**-0.8**
JEM	**Erimo**	**0.84**	**291**	P	**Pn**	**20 12 34.6**	**+0.3**
JTHR	**Tokachihiroo**	**0.89**	**310**	P	**Pn**	**20 12 34.8**	**-0.1**
JTHR				*eS*	**Sn**	**20 12 47.8**	**+1.2**
JCH	**Churui**	**1.09**	**325**	P	**Pn**	**20 12 37.2**	**-0.6**
JOB	**Onbets**	**1.22**	**347**	P	**Pn**	**20 12 39.4**	**0.0**
JAK	**Akkeshi**	**1.32**	**16**	*eS*	**Sn**	**20 12 56.8**	**-0.6**
JAR	**Ashorobuto**	**1.61**	**348**	P	**Pn**	**20 12 44.1**	**-0.8**
JAR				*eS*	**Sn**	**20 13 04.5**	**+0.1**
JEW	**Eniwo**	**2.33**	**300**		**Pn**	**20 12 51.7**	**-3.2**
JTM	**Tenmabayashi**	**2.55**	**250**		**Pn**	**20 12 57.5**	**-0.3**
JKA	**Kamikawa-asahi**	**2.67**	**334**		**Pn**	**20 12 56.8**	**-2.7**
ASAJ	**Asahikawa**	**2.67**	**334**	Pn	**Pn**	**20 13 00.1**	**+0.6**
ASAJ	4.7nm,0.3s,baz=151,slow=19,SNR=2.8			Sn	**Sn**	**20 13 35.5**	**+4.8**
KUR	**Kuril'sk**	**4.41**	**36**	P	**Pn**	**20 13 24.1**	**+0.8**
KUR	15nm,0.3s,baz=145,slow=21,SNR=3.8			S	**Sn**	**20 14 14.1**	**+0.8**
JMM	**Marumori**	**4.66**	**215**	Pn	**Pn**	**20 13 29.0**	**+2.2**
JSD	**Sado**	**5.87**	**233**	Pn	**Pn**	**20 13 43.0**	**-0.5**
JYT	**Yasato**	**6.31**	**211**	Pn	**Pn**	**20 13 49.3**	**-0.3**
MAJO	**Matsushiro**	**6.96**	**224**	P	**Pn**	**20 13 58.1**	**-0.4**
MAJO	**Matsushiro**	**6.96**	**224**	Pn	**Pn**	**20 13 58.1**	**-0.4**
MJAR	**Matsushiro Arr**	**6.96**	**224**	Pn	**Pn**	**20 13 57.5**	**-1.0**
MJAR	0.1nm,0.3s,baz=27,slow=14,SNR=5.0 **Matsushiro Arr**	**6.96**	**224**	P	**Pn**	**20 13 58.1**	**-0.4**
MJAR	**Matsushiro Arr**	**6.96**	**224**	Pn	**Pn**	**20 13 58.1**	**-0.4**
JGF	**Kuroka**	**8.13**	**223**	Pn	**Pn**	**20 14 15.5**	**+1.0**
INU	**Inuyama**	**8.50**	**224**	Pn	**Pn**	**20 14 20.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.30**	**290**	Pn	**Pn**	**20 14 33.0**	**+2.5**
JWT	**Wachi**	**9.43**	**230**	Pn	**Pn**	**20 14 34.1**	**+1.8**
JHS	**Saijyo**	**10.99**	**236**	Pn	**Pn**	**20 14 51.4**	**-2.3**
KLR	**Kul'dur**	**11.52**	**315**	*eP*	**Pn**	**20 15 04.6**	**+3.8**
KLR	comp=Z,3.0nm,1.0s			pmax	pmax		
KSRS	**Korea Array**	**13.26**	**257**	Pn	**Pn**	**20 15 25.0**	**+0.3**
KSRS	comp=Z,0.1nm,0.3s,baz=70,slow=15,SNR=3.0 **Korea Array**	**13.26**	**257**	P	**Pn**	**20 15 25.0**	**+0.3**
HIA	**Hailar**	**18.68**	**302**	P	**P**	**20 16 31.3**	**-2.7**
HIA	comp=Z,13nm,1.0s			pmax	pmax		
HIA	**Hailar**	**18.68**	**302**	P	**P**	**20 16 31.3**	**-2.7**
YAK	**Yakutsk**	**22.13**	**342**	*i* P	**P**	**20 17 06.4**	**-4.7**
YAK	**Yakutsk**	**22.13**	**342**	P	**P**	**20 17 06.8**	**-4.3**
ULN	**Ulaanbaatar**	**26.89**	**296**	*de*P	**P**	**20 17 57.5**	**+0.9**
ULN	comp=Z,7.0nm,0.8s			pmax	pmax		
ULN	**Ulaanbaatar**	**26.89**	**296**	P	**P**	**20 17 57.4**	**+0.9**
ULN	comp=Z,8.2nm,1.1s			IAmb	IAmb	20 17 59.1	
SONM	**Songino Array**	**27.33**	**296**	P	**P**	**20 18 00.7**	**+0.2**
SONM	comp=Z,7.9nm,1.2s,baz=84,slow=8.5,SNR=11			pmax	pmax		
SONM	**Songino Array**	**27.33**	**296**	P	**P**	**20 18 00.7**	**+0.2**
SONM	comp=Z,5.0nm,1.1s			IAmb	IAmb	20 18 03.3	
SONM	comp=Z,5.2nm,1.1s **Songino Array**	**27.33**	**296**	P	**P**	**20 18 00.7**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**29.17**	**132**	T	T	20 48 57.6	
H11N1	baz=324 **WAKE ISLAND Hy**	**29.18**	**132**	T	T	20 49 00.0	
H11N3	baz=324 **WAKE ISLAND Hy**	**29.19**	**132**	T	T	20 49 00.2	
ZAK	baz=324 **Zakamensk**	**29.38**	**301**	*eP*	**P**	**20 18 16.4**	**-2.3**
ZAK	comp=Z,3.0nm,1.1s			pmax	pmax		
H11S1	**WAKE ISLAND Hy**	**30.05**	**134**	T	T	20 50 01.7	
H11S3	baz=329 **WAKE ISLAND Hy**	**30.06**	**134**	T	T	20 50 05.4	
H11S2	baz=329 **WAKE ISLAND Hy**	**30.07**	**134**	T	T	20 50 05.6	
ZAA0	baz=329 **Zalesovo Array**	**40.53**	**308**	P	**P**	**20 19 54.7**	**+0.3**
ZAA0	comp=Z,5.1nm,1.2s			IAmb	IAmb	20 19 55.5	
ZALV	**Zalesovo Beam**	**40.53**	**308**	P	**P**	**20 19 54.4**	**0.0**
ZALV	comp=Z,1.8nm,0.5s,baz=94,slow=7.6,SNR=5.5 **Zalesovo Beam**	**40.53**	**308**	P	**P**	**20 19 54.6**	**+0.2**
IMAR	**Indian Mountai**	**41.53**	**33**	P	**P**	**20 20 02.8**	**+0.2**
HOM	**Homer**	**42.53**	**43**	P	**P**	**20 20 09.7**	**-1.0**
MK31	**Makanchi Array**	**43.63**	**299**	P	**P**	**20 20 19.6**	**-0.2**
MK31	comp=Z,3.0nm,0.9s			pmax	pmax		
MK31	**Makanchi Array**	**43.63**	**299**	P	**P**	**20 20 19.6**	**-0.2**
MKAR	**Makanchi Array**	**43.63**	**299**	P	**P**	**20 20 19.7**	**-0.2**
MKAR	comp=Z,0.9nm,0.6s,baz=75,slow=9.9,SNR=6.6 **Makanchi Array**	**43.63**	**299**	*ce*P	**P**	**20 20 23.7**	**+3.9**
MKAR	comp=Z,13nm,1.3s			pmax	pmax		
MKAR	**Makanchi Array**	**43.63**	**299**	P	**P**	**20 20 19.6**	**-0.3**
MAKZ	**Makanchi**	**43.83**	**299**	P	**P**	**20 20 20.9**	**-0.5**
MAKZ	comp=Z,4.0nm,1.0s			pmax	pmax		
MAKZ	**Makanchi**	**43.83**	**299**	P	**P**	**20 20 20.9**	**-0.5**
MAKZ	comp=Z,4.5nm,0.9s			IAmb	IAmb	20 20 27.9	
ILAR	**Eielson Array**	**44.40**	**35**	P	**P**	**20 20 28.5**	**+2.8**
CHTO	comp=Z,0.5nm,0.8s,baz=262,slow=6.3,SNR=2.4 **Chiang Mai**	**44.63**	**253**	P	**P**	**20 20 28.6**	**+0.5**
CHTO	comp=Z,3.0nm,1.0s			pmax	pmax		
CHTO	**Chiang Mai**	**44.63**	**253**	P	**P**	**20 20 28.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**44.87**	**253**	P	**P**	**20 20 30.2**	**+0.2**
CMAR	comp=Z,0.7nm,0.8s,baz=44,slow=6.9,SNR=6.2 **Chiang Mai Arr**	**44.87**	**253**	*i* P	**P**	**20 20 31.0**	**+1.0**
CMAR	comp=Z,1.0nm,0.7s			pmax	pmax		
INK	**Inuvik**	**49.24**	**29**	P	**P**	**20 21 04.3**	**+0.9**
KK31	comp=Z,1.3nm,0.7s,baz=277,slow=10,SNR=2.2 **Karatay Array**	**52.75**	**298**	P	**P**	**20 21 29.1**	**-1.2**
KK31	comp=Z,2.0nm,0.8s			pmax	pmax		
KK31	**Karatay Array**	**52.75**	**298**	P	**P**	**20 21 29.1**	**-1.2**
KK31	comp=Z,2.2nm,0.8s			IAmb	IAmb	20 21 30.8	
KKAR	**Karatay Array**	**52.75**	**298**	P	**P**	**20 21 29.4**	**-0.8**
KKAR	comp=Z,2.0nm,0.8s			pmax	pmax		
KKAR	**Karatay Array**	**52.75**	**298**	P	**P**	**20 21 29.4**	**-0.8**
KKAR	**Karatay Array**	**52.75**	**298**	P	**P**	**20 21 29.5**	**-0.8**
KKAR	comp=Z,2.2nm,0.8s			IAmb	IAmb	20 21 30.8	
ARU	**Arti**	**54.35**	**317**	*eP*	**P**	**20 21 41.2**	**-0.6**
ARU	comp=Z,6.0nm,1.0s			pmax	pmax		
ARU	**Arti**	**54.35**	**317**	P	**P**	**20 21 41.2**	**-0.6**
EUNU	**Eureka**	**55.23**	**9**	P	**P**	**20 21 47.9**	**+0.1**
EUNU	comp=Z,6.4nm,1.4s			IAmb	IAmb	20 21 59.8	
ABKAR	**Akbulak array**	**56.64**	**309**	P	**P**	**20 21 58.5**	**+0.2**
ABKAR	comp=Z,2.7nm,0.6s			IAmb	IAmb	20 21 59.2	
KIRV	**Kirov**	**57.86**	**322**	*e*P	**P**	**20 22 07.0**	**+0.3**
WRA	**Warramunga Arr**	**62.03**	**191**	P	**P**	**20 22 35.3**	**-0.4**
FINES	comp=Z,0.5nm,0.8s,baz=7.9,slow=6.9,SNR=2.4 **FINESS Array B**	**65.68**	**332**	P	**P**	**20 22 59.0**	**-0.3**
ASAR	comp=Z,4.5nm,0.8s,baz=35,slow=7.0,SNR=7.0 **Alice Springs**	**65.75**	**190**	P	**P**	**20 22 58.9**	**-1.4**
SUMG	comp=Z,0.2nm,0.7s,baz=14,slow=8.7,SNR=1.5 **Summit**	**65.99**	**1**	P	**P**	**20 23 01.8**	**+0.1**
VSU	**Vasula**	**67.51**	**330**	*i* P	**P**	**20 23 08.0**	**-3.1**
KIV	**Kislovodsk**	**69.48**	**311**	*e*P	**P**	**20 23 25.1**	**+1.3**
KIV	comp=Z,32nm,1.1s			pmax	pmax		
KIV	**Kislovodsk**	**69.48**	**311**	P	**P**	**20 23 23.9**	**+0.1**
KBZ	**Khabaz**	**69.50**	**311**	P	**P**	**20 23 24.9**	**+1.2**
KBZ	comp=Z,3.4nm,0.8s,baz=43,slow=4.4,SNR=5.4 **Khabaz**	**69.50**	**311**	*ce*P	**P**	**20 23 25.7**	**+2.0**
NVAR	**Mina Array Bea**	**70.50**	**56**	P	**P**	**20 23 31.4**	**+1.1**
NOA	comp=Z,0.2nm,0.3s,baz=332,slow=5.1,SNR=2.0 **NORSAR Array B**	**70.69**	**338**	P	**P**	**20 23 30.6**	**-0.2**
AKASG	comp=Z,1.0nm,0.9s,baz=37,slow=6.1,SNR=2.5 **Malin Array Be**	**71.91**	**323**	P	**P**	**20 23 38.0**	**-0.3**
AKASG	comp=Z,1.5nm,0.5s,baz=40,slow=6.1,SNR=4.3 **Malin Array Be**	**71.91**	**323**	IAmb	IAmb	20 23 44.4	
AKBB	comp=Z,2.1nm,1.3s **Malin Array Si**	**71.91**	**323**	P	**P**	**20 23 37.4**	**-0.8**
AKBB	comp=Z,3.0nm,0.7s			pmax	pmax		
AKBB	**Malin Array Si**	**71.91**	**323**	P	**P**	**20 23 37.4**	**-0.8**
AKBB	comp=Z,2.8nm,0.7s			IAmb	IAmb	20 23 38.8	
PDAR	**Pinedale Array**	**72.88**	**48**	P	**P**	**20 23 46.4**	**+1.8**
MTPU	comp=Z,0.2nm,0.6s,baz=286,slow=6.5,SNR=1.8 **Mount Pierson**	**74.47**	**53**	P	**P**	**20 23 54.5**	**+0.4**
MTPU	comp=Z,3.8nm,1.2s			IAmb	IAmb	20 23 59.6	
BURAR	**Bucovina Array**	**75.95**	**322**	P	**P**	**20 23 59.8**	**-2.3**
MORC	**Moravsky Berou**	**77.58**	**328**	P	**P**	**20 24 10.7**	**-0.6**
MORC	comp=Z,2.0nm,0.8s			pmax	pmax		
MORC	**Moravsky Berou**	**77.58**	**328**	P	**P**	**20 24 10.7**	**-0.6**
MORC				IAmb	IAmb	20 24 12.9	
CLL	comp=Z,2.0nm,0.8s **Collm**	**78.08**	**331**	*i* P	**P**	**20 24 13.6**	**-0.3**
CLL	comp=Z,4.0nm,0.9s **Collm**	**78.08**	**331**	P	**P**	**20 24 14.4**	**+0.5**
CLL	comp=Z,3.0nm,0.8s			pmax	pmax		
CLL	**Collm**	**78.08**	**331**	P	**P**	**20 24 14.4**	**+0.5**
CLL	comp=Z,3.5nm,0.8s			IAmb	IAmb	20 24 14.8	
KHC	**Kasperske Hory**	**79.65**	**330**	*eP*	**P**	**20 24 23.5**	**+0.9**
KHC	**Kasperske Hory**	**79.65**	**330**	*eP*	**P**	**20 24 23.5**	**+0.9**
GERES	**GERESS Array B**	**79.83**	**329**	P	**P**	**20 24 24.1**	**+0.4**
GERES	comp=Z,0.2nm,0.3s,baz=40,slow=7.0,SNR=3.7 **GERESS Array B**	**79.83**	**329**	P	**P**	**20 24 23.9**	**+0.2**
TXAR	**Lajitas Array**	**85.58**	**54**	P	**P**	**20 24 55.6**	**+1.6**
H03N2	comp=Z,0.2nm,0.6s,baz=282,slow=4.5,SNR=2.9 **Juan Fernandez**	**145.12**	**91**	T	T	23 14 17.2	
H03N3	baz=290,slow=76,SNR=7.7 **Juan Fernandez**	**145.14**	**91**	T	T	23 14 17.6	
H03N1	baz=290,slow=76,SNR=8.0 **Juan Fernandez**	**145.14**	**91**	T	T	23 14 18.4	
	baz=290,slow=76,SNR=6.4						

*JMA **10** 20:51:36.2±0.8, 46°.67N×152°.82E, h30km, M4.3*
*IDC **10** 20:51:42.7±3.0, 46°.78N×152°.58E, h84km±25km, mb3.4/10, mb1 3.5/14, mb1mx3.4/48, mbtmp3.7/14, MS2.0/1, Ms1 2.0/1, ms1mx1.9/25, Error ellipse: s-maj=30.4km s-min=18.9km az=127.0*
ISC 10 20:51:37.5±0.9, 46°.3N±0°.1×152°.8E±0°.1, h50km, n41,
σ2s17/36, mb3.5/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.82**	**242**	P	**Pn**	**20 53 01.9**	**+0.7**
NEM2				*eS*	**Sn**	**20 54 05.7**	**-0.9**
JRA	**Rausu**	**5.93**	**249**	P	**Pn**	**20 53 06.4**	**+3.7**
JNK	**Nakash**	**6.35**	**248**	P	**Pn**	**20 53 10.9**	**+2.4**
JAK	**Akkeshi**	**6.66**	**243**	P	**Pn**	**20 53 13.6**	**+0.8**
JAK				*eS*	**Sn**	**20 54 25.7**	**-1.6**
JTKR	**Abashiri--Toko**	**6.71**	**253**	P	**Pn**	**20 53 16.5**	**+3.1**
JMP	**Maruseppu**	**7.06**	**254**	P	**Pn**	**20 53 21.9**	**+3.6**
JAR	**Ashorobuto**	**7.10**	**248**	P	**Pn**	**20 53 20.1**	**+1.4**
JOB	**Onbets**	**7.25**	**245**	P	**Pn**	**20 53 22.8**	**+2.0**
PETK	**Petropavlovsk-**	**7.51**	**23**	P	**Pn**	**20 53 24.6**	**+0.2**
JKK2	0.3nm,0.3s,baz=213,slow=10,SNR=2.4 **Kamakawa 2**	**7.52**	**255**	P	**Pn**	**20 53 27.7**	**+3.1**
ASAJ	**Asahikawa**	**7.54**	**257**	P	**Pn**	**20 53 28.6**	**+3.8**
ASAJ	0.7nm,0.3s,baz=81,slow=17,SNR=7.2			LR	LR	20 56 55.5	
JCH	comp=Z,9.4nm,18.6s,baz=356,slow=42 **Churui**	**7.70**	**245**	P	**Pn**	**20 53 28.1**	**+1.2**
JCH				*eS*	**Sn**	**20 54 51.3**	**-1.4**
JRBN	**Rebuntou**	**8.25**	**268**	P	**Pn**	**20 53 37.9**	**+3.5**
JBT2	**Biratori 2**	**8.25**	**248**	P	**Pn**	**20 53 36.5**	**+2.0**
JNB	**Noboribetsu**	**9.26**	**250**	P	**Pn**	**20 53 50.5**	**+2.2**
JKB	**Kayabe**	**9.55**	**247**	P	**Pn**	**20 53 53.3**	**+1.0**
JKB				*eS*	**Sn**	**20 55 34.4**	**-3.7**
JANG	**Nango**	**10.13**	**238**	P	**Pn**	**20 53 59.0**	**-1.3**
JTM	**Tenmabayashi**	**10.15**	**241**	P	**Pn**	**20 54 00.1**	**-0.4**
JOSM	**Okushiri--Mats**	**10.46**	**251**	P	**Pn**	**20 54 05.3**	**+0.6**
JRG	**Rokugo**	**11.28**	**237**	P	**Pn**	**20 54 16.3**	**+0.3**
MJAR	**Matsushiro Arr**	**14.64**	**233**	P	**P**	**20 55 08.1**	**+1.3**
USRK	0.0nm,0.3s,baz=37,slow=9.3,SNR=2.1 **Ussuriysk Ar.**	**14.81**	**269**	P	**Pn**	**20 55 06.2**	**+2.4**
KSRS	baz=80,slow=14,SNR=1.1 **Korea Array**	**20.46**	**253**	P	Pn	20 56 15.3	+2.0
H11N2	0.8nm,0.5s,baz=57,slow=8.9,SNR=1.8 **WAKE ISLAND Hy**	**28.92**	**152**	T	T	21 28 55.6	
H11N1	baz=340,slow=76,SNR=88 **WAKE ISLAND Hy**	**28.93**	**152**	T	T	21 28 56.7	
H11N3	baz=340,slow=76,SNR=69 **WAKE ISLAND Hy**	**28.94**	**152**	T	T	21 29 01.5	
H11S1	baz=340,slow=76,SNR=62 **WAKE ISLAND Hy**	**30.00**	**153**	T	T	21 30 25.5	
H11S3	baz=340,slow=76,SNR=59 **WAKE ISLAND Hy**	**30.01**	**153**	T	T	21 30 20.3	
H11S2	baz=340,slow=76,SNR=68 **WAKE ISLAND Hy**	**30.02**	**153**	T	T	21 30 28.2	
MKAR	baz=340,slow=76,SNR=62 **Makanchi Array**	**46.96**	**298**	P	**P**	**21 00 01.2**	**-2.1**
MKAR	0.3nm,0.5s,baz=69,slow=7.4,SNR=6.8			PcP	**PcP**	**21 01 34.8**	**-0.1**
CMAR	0.3nm,0.7s,baz=62,slow=4.3,SNR=2.5 **Chiang Mai Arr**	**52.06**	**256**	P	**P**	**21 00 43.3**	**+1.0**
FINES	0.6nm,0.8s,baz=34,slow=7.1,SNR=6.4 **FINESS Array B**	**64.36**	**335**	P	**P**	**21 02 05.2**	**-2.4**
NOA	1.4nm,0.5s,baz=27,slow=9.2,SNR=12 **NORSAR Array B**	**68.58**	**341**	P	**P**	**21 02 33.3**	**-1.4**
ASAR	0.5nm,0.5s,baz=28,slow=6.5,SNR=4.2 **Alice Springs**	**71.72**	**198**	P	**P**	**21 02 57.5**	**+3.3**
AKASG	0.3nm,0.6s,baz=16,slow=4.7,SNR=4.7 **Malin Array Be**	**71.80**	**326**	P	**P**	**21 02 52.6**	**-1.8**
TXAR	1.6nm,0.4s,baz=38,slow=6.2,SNR=7.6 **Lajitas Array**	**77.89**	**60**	P	**P**	**21 03 31.1**	**+0.9**
BRTR	0.2nm,0.6s,baz=309,slow=4.5,SNR=1.4 **Keskin Array B**	**78.57**	**317**	P	**P**	**21 03 33.8**	**0.0**
GERES	0.4nm,0.7s,baz=28,slow=7.0,SNR=3.0 **GERESS Array B**	**78.77**	**334**	P	**P**	**21 03 33.4**	**-1.2**
H03N2	0.3nm,0

BOOM	**Boomskoye usch**	**66.99**	**311**			**P**		**21 27 12.9**	**+0.5**
BOOM					IAmb	IAmb		21 27 14.2	
	comp=Z,2.8nm,0.5s								
ILAR	**Eielson Array**	**68.53**	**25**	P		**P**		**21 27 22.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=247,slow=7.0,SNR=4.5								
NIL	**Nilore**	**68.99**	**301**	P		**P**		**21 27 25.4**	**+0.3**
BMAR	**Burnt Mountain**	**70.13**	**23**	P		**P**		**21 27 32.5**	**+1.0**
L27K	**Beaver Creek,**	**70.31**	**27**	P		**P**		**21 27 33.4**	**+0.8**
BCAR	**Beaver Creek A**	**70.33**	**27**	P		**P**		**21 27 34.0**	**+1.2**
KK31	**Karatay Array**	**71.00**	**311**	P		**P**		**21 27 37.5**	**+0.3**
KK31					IAmb	IAmb		21 27 38.5	
	comp=Z,2.5nm,0.9s								
KKAR	**Karatay Array**	**71.00**	**311**	P		**P**		**21 27 37.5**	**+0.3**
KKAR	**Karatay Array**	**71.00**	**311**	P		**P**		**21 27 37.2**	**0.0**
KKAR					IAmb	IAmb		21 27 38.5	
	comp=Z,2.5nm,0.9s								
CHGR	**Chuyangaron**	**72.12**	**307**	P		**P**		**21 27 44.2**	**0.0**
KBL	**Kabul**	**72.44**	**302**	P		**P**		**21 27 46.2**	**-0.1**
ABKAR	**Akbulak array**	**78.02**	**318**	P		**P**		**21 28 17.7**	**-0.1**
ABKAR	**Akbulak array**	**78.02**	**318**	P		**P**		**21 28 17.5**	**-0.3**
HRA	**Herat**	**78.04**	**303**	P		**P**		**21 28 18.5**	**0.0**
HRA					IAmb	IAmb		21 28 35.0	
	comp=Z,4.9nm,0.9s								
NVAR	**Mina Array Bea**	**86.16**	**52**	P		**P**		**21 29 00.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=264,slow=7.2,SNR=4.1								
NVAR	**Mina Array Bea**	**86.16**	**52**	P		**P**		**21 29 00.7**	**-0.4**
FINES	**FINESS Array B**	**92.37**	**335**	P		**P**		**21 29 28.2**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=42,slow=2.3,SNR=5.9								
DBIC	**Dimbokro**	**145.43**	**303**	PKPbc		**PKPab**		**21 35 58.9**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=64,slow=7.3,SNR=5.0								
LPAZ	**La Paz**	**146.45**	**100**	PKPbc		**PKPab**		**21 36 03.7**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=180,slow=5.1,SNR=2.1								

IDC ***10*** *21:17:05.2±1.4, 12°.71N×146°.51E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/37, mbtmp4.0/7, MS2.7/1, Ms1 2.7/1, ms1mx2.4/35, Error ellipse: s-maj=41.4km s-min=29.9km az=100.0*

ISC 10 21:17:10.3±1.4, 12°.7N±0°.2×146°.5E±0°.3, h35km, n9, σ0§47/8, mb4.1/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JCJ	**Chichijima**	**14.90**	**345**	LR		LR	21	24	45.9	
	comp=Z,28nm,20.1s,baz=128,slow=31									
KSRS	**Korea Array**	**29.74**	**329**	P		**P**	**21**	**23**	**13.0**	**-0.4**
	1.0nm,0.6s,baz=139,slow=9.4,SNR=5.0									
ASAR	**Alice Springs**	**38.16**	**199**	P		**P**	**21**	**24**	**26.4**	**-0.2**
	0.3nm,0.6s,baz=24,slow=7.1,SNR=1.7									
CMAR	**Chiang Mai Arr**	**46.07**	**283**	P		**P**	**21**	**25**	**31.6**	**+0.5**
	1.5nm,0.6s,baz=84,slow=6.2,SNR=7.5									
MKAR	**Makanchi Array**	**63.24**	**316**	P		**P**	**21**	**27**	**35.5**	**+0.2**
	0.9nm,0.3s,baz=93,slow=8.3,SNR=12									
ZALV	**Zalesovo Beam**	**63.28**	**324**	P		**P**	**21**	**27**	**35.4**	**0.0**
	1.4nm,0.6s,baz=92,slow=7.6,SNR=4.9									
ILAR	**Eielson Array**	**68.72**	**25**	P		**P**	**21**	**28**	**10.6**	**+0.4**
	0.9nm,0.5s,baz=250,slow=5.9,SNR=6.5									
FINES	**FINESS Array B**	**92.65**	**335**	P		**P**	**21**	**30**	**17.6**	**-0.6**
	1.6nm,0.5s,baz=68,slow=4.2,SNR=9.1									
DBIC	**Dimbokro**	**145.65**	**302**	PKPbc		**PKPab**	**21**	**36**	**46.9**	**+0.3**
	3.9nm,0.6s,baz=66,slow=6.2,SNR=5.9									

IDC 10 21:27:36.7±2.9, 12°.94N×146°.45E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/42, mbtmp3.5/5, Error ellipse: s-maj=87.3km s-min=34.8km az=85.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**34.78**	**200**	P		P	21	34	29.5	+0.2
	0.4nm,0.8s,baz=22,slow=8.3,SNR=1.4									
CMAR	**Chiang Mai Arr**	**45.97**	**283**	P		P	21	36	01.4	-0.6
	0.5nm,0.6s,baz=92,slow=5.7,SNR=5.1									
SONM	**Songino Array**	**48.15**	**324**	P		P	21	36	20.1	+1.3
	0.2nm,0.5s,baz=135,slow=8.0,SNR=1.9									
MKAR	**Makanchi Array**	**63.03**	**316**	P		P	21	38	05.6	-0.2
	0.1nm,0.3s,baz=93,slow=7.9,SNR=6.0									
FINES	**FINESS Array B**	**92.39**	**335**	P		P	21	40	48.1	-1.0
	1.6nm,0.9s,baz=82,slow=5.0,SNR=3.3									

BJI ***10*** *21:34:29.5±0.0, 49°.10N×156°.10E, h47km, mB4.8/17, mb4.3/19, Ms4.0/8, Ms7 3.8/8*
KRSC ***10*** *21:34:30.7±3.1, 48°.99N×156°.48E, h16km±46km, ML5.1*
SKHL ***10*** *21:34:33.9±0.5, 49°.00N×156°.10E, h64km±6km, mb5.0/11*
MOS ***10*** *21:34:35.9±1.1, 49°.32N×155°.50E, h63km, mb4.6/20, Error ellipse: s-maj=9.8km s-min=3.4km az=71.9*
NEIC ***10*** *21:34:38.5±1.4, 49°.43N±0°.10×155°.3E±0°.2, h69km±6km, mb4.6/70, Error ellipse: s-maj=17.1km s-min=10.4km az=135.0*
IDC ***10*** *21:34:39.1±2.2, 49°.35N×155°.41E, h75km±19km, mb3.6/18, mb1 3.9/22, mb1mx3.8/44, mbtmp4.0/22, MS3.4/16, Ms1 3.4/16, ms1mx3.2/47, Error ellipse: s-maj=19.3km s-min=10.4km az=140.0*

ISC 10 21:34:36.4±1.0, 49°.17N±0°.06×155°.70E±0°.05, h59km±8km, n270, σ1§68/300, mb4.5/69, MS3.5/17, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SKR	**Severo-Kuril's**	**1.54**	**10**	*e*PN		**Pn**	**21**	**34**	**59.2**	**-2.4**
SKR				*e*S		**Sn**	**21**	**35**	**17.1**	**-3.5**
SKR				pmax		pmax				
	comp=Z,2µm,0.5s									
SKR				smax		smax				
	comp=E,17µm,0.6s									
SKR				smax		smax				
	comp=N,19µm,0.5s									
SKR	**Severo-Kuril's**	**1.54**	**10**	*e*P		**Pn**	**21**	**35**	**00.1**	**-1.5**
SKR				*e*S		**Sn**	**21**	**35**	**18.8**	**-1.8**
SKR	**Severo-Kuril's**	**1.54**	**10**	*e*P		**Pn**	**21**	**34**	**59.7**	**-1.9**
SKR				AMB		AMB	21	35	02.6	
	comp=N,400nm,0.3s									
SKR				*e*S		**Sn**	**21**	**35**	**18.8**	**-1.8**
SKR				A		A	21	35	22.5	
	comp=N,1µm,0.5s									
SKR				A		A	21	35	22.5	
	comp=N,4µm,0.5s									
ALID	**Alaid**	**1.71**	**357**	PN		**Pn**	**21**	**35**	**03.5**	**-0.5**
ALID	**Alaid**	**1.71**	**357**	*e*P		**Pn**	**21**	**35**	**03.5**	**-0.5**
PAU	**Pauzhetka**	**2.41**	**17**	PN		**Pn**	**21**	**35**	**12.5**	**-0.9**
PAU				S		**Sn**	**21**	**35**	**41.5**	**-0.2**
PAU	**Pauzhetka**	**2.41**	**17**	*e*P		**Pn**	**21**	**35**	**12.5**	**-0.9**
PAU				*e*S		**Sn**	**21**	**35**	**41.5**	**-0.2**
PAU	**Pauzhetka**	**2.41**	**17**	*e*P		**Pn**	**21**	**35**	**12.1**	**-1.3**
PAU				AMB		AMB	21	35	13.3	
	comp=N,410nm,0.4s									
PAU				*e*S		**Sn**	**21**	**35**	**41.2**	**-0.5**
PAU				A		A	21	35	45.4	
	comp=N,3µm,0.7s									
PAU				A		A	21	35	45.4	
	comp=N,3µm,0.7s									
KDTR	**Khodutka, Kamc**	**3.05**	**29**	PN		**Pn**	**21**	**35**	**20.3**	**-1.8**
KDTR				S		**Sn**	**21**	**35**	**56.6**	**-0.7**
KDTR	**Khodutka, Kamc**	**3.05**	**29**	*e*P		**Pn**	**21**	**35**	**20.3**	**-1.8**
KDTR				*e*S		**Sn**	**21**	**35**	**56.6**	**-0.7**
MIPR	**Malaya Ipel'ka**	**3.19**	**12**	PN		**Pn**	**21**	**35**	**23.7**	**-0.3**
MIPR	**Malaya Ipel'ka**	**3.19**	**12**	*e*P		**Pn**	**21**	**35**	**23.7**	**-0.3**
MTVR	**Mutnovka**	**3.67**	**24**	PN		**Pn**	**21**	**35**	**30.5**	**-0.3**
MTVR	**Mutnovka**	**3.67**	**24**	*e*P		**Pn**	**21**	**35**	**30.5**	**-0.3**
GRL	**Gorelyy**	**3.71**	**23**	PN		**Pn**	**21**	**35**	**31.4**	**+0.2**
GRL				S		**Sn**	**21**	**36**	**16.8**	**+3.1**
GRL	**Gorelyy**	**3.71**	**23**	*e*P		**Pn**	**21**	**35**	**31.4**	**+0.2**
GRL				*e*S		**Sn**	**21**	**36**	**16.8**	**+3.1**
RUS	**Russkaya**	**3.73**	**28**	PN		**Pn**	**21**	**35**	**30.3**	**-1.0**
RUS				S		**Sn**	**21**	**36**	**13.7**	**-0.2**
RUS	**Russkaya**	**3.73**	**28**	*e*P		**Pn**	**21**	**35**	**30.3**	**-1.0**
RUS				*e*S		**Sn**	**21**	**36**	**13.7**	**-0.2**
KRMR	**Karymshinskiy**	**3.98**	**22**	PN		**Pn**	**21**	**35**	**36.4**	**+1.6**
KRMR				S		**Sn**	**21**	**36**	**24.9**	**+4.8**
KRMR	**Karymshinskiy**	**3.98**	**22**	*e*P		**Pn**	**21**	**35**	**36.4**	**+1.6**
KRMR				*e*S		**Sn**	**21**	**36**	**24.9**	**+4.8**
PEA0B	**Petropavlovsk-**	**4.14**	**17**	PN		**Pn**	**21**	**35**	**37.3**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.14**	**17**			**Pn**	**21**	**35**	**37.3**	**+0.2**
PETK	**Petropavlovsk-**	**4.14**	**17**	P		**Pn**	**21**	**35**	**37.5**	**+0.5**
	comp=N,18nm,0.3s,baz=165,slow=11,SNR=166									
PETK				S		**Sn**	**21**	**36**	**25.1**	**+0.9**
	comp=N,3.4nm,0.3s,baz=200,slow=18,SNR=1.6									
PETK	**Petropavlovsk-**	**4.14**	**17**			**Pn**	**21**	**35**	**37.3**	**+0.2**
PET	**Petropavlovsk**	**4.29**	**25**	PN		**Pn**	**21**	**35**	**39.7**	**+0.7**
PET				S		**Sn**	**21**	**36**	**29.7**	**+2.0**
PET	**Petropavlovsk**	**4.29**	**25**			**Pn**	**21**	**35**	**39.1**	**+0.1**
PET	**Petropavlovsk**	**4.29**	**25**	*e*P		**Pn**	**21**	**35**	**39.1**	**+0.1**
PET				AMB		AMB	21	35	40.7	
	comp=N,400nm,0.7s									
PET				*e*S		**Sn**	**21**	**36**	**26.1**	**-1.6**
PET				A		A	21	36	33.4	
	comp=N,320nm,0.5s									
PET				A		A	21	36	33.4	
	comp=N,570nm,0.5s									
DALK	**Dalny**	**4.32**	**25**	PN		**Pn**	**21**	**35**	**39.2**	**-0.3**
DALK				S		**Sn**	**21**	**36**	**29.1**	**+0.6**
DALK	**Dalny**	**4.32**	**25**	*e*P		**Pn**	**21**	**35**	**39.2**	**-0.3**
DALK				*e*S		**Sn**	**21**	**36**	**29.1**	**+0.6**
UGLR	**Uglovaya**	**4.50**	**25**	PN		**Pn**	**21**	**35**	**43.0**	**+1.0**
UGLR				S		**Sn**	**21**	**36**	**37.3**	**+4.2**
UGLR	**Uglovaya**	**4.50**	**25**	*e*P		**Pn**	**21**	**35**	**43.0**	**+1.0**
UGLR				*e*S		**Sn**	**21**	**36**	**37.3**	**+4.2**
KOK	**Koryaka**	**4.53**	**23**	PN		**Pn**	**21**	**35**	**44.0**	**+1.6**
KOK				S		**Sn**	**21**	**36**	**35.5**	**+1.8**
KOK	**Koryaka**	**4.53**	**23**	*e*P		**Pn**	**21**	**35**	**44.0**	**+1.6**
KOK				*e*S		**Sn**	**21**	**36**	**35.5**	**+1.8**
AVH	**Avacha**	**4.53**	**24**	PN		**Pn**	**21**	**35**	**44.0**	**+1.6**
AVH				S		**Sn**	**21**	**36**	**36.3**	**+2.6**
AVH	**Avacha**	**4.53**	**24**	*e*P		**Pn**	**21**	**35**	**44.0**	**+1.6**
AVH				*e*S		**Sn**	**21**	**36**	**36.3**	**+2.6**
SMAR	**Somma**	**4.54**	**24**	PN		**Pn**	**21**	**35**	**43.8**	**+1.1**
SMAR				S		**Sn**	**21**	**36**	**40.2**	**+5.9**
SMAR	**Somma**	**4.54**	**24**	*e*P		**Pn**	**21**	**35**	**43.8**	**+1.1**
SMAR				*e*S		**Sn**	**21**	**36**	**40.2**	**+5.9**
KRER	**Koryakskii**	**4.56**	**24**	PN		**Pn**	**21**	**35**	**44.3**	**+1.3**
KRER				S		**Sn**	**21**	**36**	**35.8**	**+1.0**
KRER	**Koryakskii**	**4.56**	**24**	*e*P		**Pn**	**21**	**35**	**44.3**	**+1.3**
KRER				*e*S		**Sn**	**21**	**36**	**35.8**	**+1.0**
SDLR	**Sedlovina**	**4.58**	**25**	PN		**Pn**	**21**	**35**	**43.6**	**+0.5**
SDLR				S		**Sn**	**21**	**36**	**38.0**	**+3.0**
SDLR	**Sedlovina**	**4.58**	**25**	*e*P		**Pn**	**21**	**35**	**43.6**	**+0.5**
SDLR				*e*S		**Sn**	**21**	**36**	**38.0**	**+3.0**
KRX	**Arik**	**4.59**	**23**	PN		**Pn**	**21**	**35**	**44.7**	**+1.4**
KRX				S		**Sn**	**21**	**36**	**40.8**	**+5.5**
KRX	**Arik**	**4.59**	**23**	*e*P		**Pn**	**21**	**35**	**44.7**	**+1.4**
KRX				*e*S		**Sn**	**21**	**36**	**40.8**	**+5.5**
NLC	**Nalytchevo**	**4.62**	**28**	PN		**Pn**	**21**	**35**	**42.1**	**-1.4**
NLC				S		**Sn**	**21**	**36**	**31.4**	**-4.4**
NLC	**Nalytchevo**	**4.62**	**28**	*e*P		**Pn**	**21**	**35**	**42.1**	**-1.4**
NLC				*e*S		**Sn**	**21**	**36**	**31.4**	**-4.4**
GNL	**Ganaly**	**4.75**	**16**	PN		**Pn**	**21**	**35**	**46.7**	**+1.3**
GNL	**Ganaly**	**4.75**	**16**	*e*P		**Pn**	**21**	**35**	**46.7**	**+1.3**
SPN	**Mys Shipunski**	**4.79**	**33**	PN		**Pn**	**21**	**35**	**45.1**	**-0.7**
SPN				S		**Sn**	**21**	**36**	**38.1**	**-1.8**
SPN	**Mys Shipunski**	**4.79**	**33**	*e*P		**Pn**	**21**	**35**	**45.1**	**-0.7**
SPN				*e*S		**Sn**	**21**	**36**	**38.1**	**-1.8**
MKZ	**Mys Kozlova**	**6.56**	**32**	PN		**Pn**	**21**	**36**	**08.8**	**-1.3**
MKZ	**Mys Kozlova**	**6.56**	**32**	*e*P		**Pn**	**21**	**36**	**08.8**	**-1.3**
KZV	**Kizimen**	**6.59**	**24**	PN		**Pn**	**21**	**36**	**11.0**	**+0.3**
KZV	**Kizimen**	**6.59**	**24**	*e*P		**Pn**	**21**	**36**	**11.0**	**+0.3**
KUR	**Kuril'sk**	**6.63**	**237**	*e*PN		**Pn**	**21**	**36**	**15.3**	**+4.2**
KUR				*e*S		**Sn**	**21**	**37**	**29.1**	**+3.9**
KUR				pmax		pmax				
	comp=Z,108nm,0.5s									
KUR				pmax		pmax				
	comp=N,30nm,0.3s									
KUR				pmax		pmax				
	comp=E,39nm,0.1s									
KUR	**Kuril'sk**	**6.63**	**237**	*e*P		**Pn**	**21**	**36**	**12.0**	**+0.9**
KUR				AMB		AMB	21	36	16.7	
	comp=E,210nm,0.7s									
KUR				*e*S		**Sn**	**21**	**37**	**25.2**	**0.0**
KUR				A		A	21	37	42.7	
	comp=E,320nm,0.7s									
KUR				A		A	21	37	42.7	
	comp=E,290nm,0.7s									
TUMD	**Tumrok D**	**6.70**	**24**	*e*P		**Pn**	**21**	**36**	**12.4**	**+0.3**
TUMR	**Tumrok**	**6.71**	**22**	PN		**Pn**	**21**	**36**	**12.4**	**+0.2**
TUMR	**Tumrok**	**6.71**	**22**	*e*P		**Pn**	**21**	**36**	**13.4**	**+1.2**
KMNR	**Kamenistaya**	**7.16**	**21**	PN		**Pn**	**21**	**36**	**19.7**	**+1.3**
KMNR	**Kamenistaya**	**7.16**	**21**	*e*P		**Pn**	**21**	**36**	**19.7**	**+1.3**
BZWR	**Bezymyannyi-We**	**7.41**	**21**	PN		**Pn**	**21**	**36**	**23.1**	**+1.2**
BZWR	**Bezymyannyi-We**	**7.41**	**21**	*e*P		**Pn**	**21**	**36**	**23.1**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**7.43**	**22**	PN		**Pn**	**21**	**36**	**23.4**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**7.43**	**22**	*e*P		**Pn**	**21**	**36**	**23.4**	**+1.2**
ZLN	**Zelenaya**	**7.53**	**22**	PN		**Pn**	**21**	**36**	**25.2**	**+1.7**
ZLN	**Zelenaya**	**7.53**	**22**	*e*P		**Pn**	**21**	**36**	**25.2**	**+1.7**
BDR	**Baidarnaya**	**8.13**	**22**	PN		**Pn**	**21**	**36**	**31.4**	**-0.2**
BDR	**Baidarnaya**	**8.13**	**22**	*e*P		**Pn**	**21**	**36**	**31.4**	**-0.2**
SRKR	**Sorokina**	**8.19**	**22**	PN		**Pn**	**21**	**36**	**32.7**	**+0.2**
SRKR	**Sorokina**	**8.19**	**22**	*e*P		**Pn**	**21**	**36**	**32.7**	**+0.2**
SMKR	**Semkarok**	**8.20**	**23**	PN		**Pn**	**21**	**36**	**31.9**	**-0.8**
SMKR	**Semkarok**	**8.20**	**23**	*e*P		**Pn**	**21**	**36**	**31.9**	**-0.8**
KBTR	**Krutoberegovo**	**8.27**	**29**	PN		**Pn**	**21**	**36**	**32.7**	**-0.8**
KBTR	**Krutoberegovo**	**8.27**	**29**	*e*P		**Pn**	**21**	**36**	**32.7**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**8.50**	**237**	*i*PN		**Pn**	**21**	**36**	**36.0**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**8.50**	**237**	*e*P		**Pn**	**21**	**36**	**36.4**	**-0.2**
YUK				AMB		AMB	21	36	40.3	
	comp=E,30nm,0.4s									
UGL	**Uglegorsk**	**8.95**	**275**	*e*PN		**Pn**	**21**	**36**	**45.2**	**+2.4**
UGL				pmax		pmax				
	comp=Z,40nm,0.7s									
UGL	**Uglegorsk**	**8.95**	**275**	*e*P		**Pn**	**21**	**36**	**45.2**	**+2.4**
UGL				AMB		AMB	21	36	45.9	
	comp=Z,10.0nm,0.4s									
YSS	**Yuzh-Sakhalins**	**8.95**	**261**	*e*PN		**Pn**	**21**	**36**	**44.1**	**+1.3**
YSS				pmax		pmax				
	comp=Z,20nm,0.9s									
YSS				MLR		MLR				
	comp=Z,400nm,14.0s									
YSS	**Yuzh-Sakhalins**	**8.95**	**261**	Pn		**Pn**	**21**	**36**	**43.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**8.95**	**261**	*e*P		**Pn**	**21**	**36**	**44.1**	**+1.3**
YSS				AMB		AMB	21	36	45.1	
	comp=Z,20nm,0.5s									
YSS				*e*S		**Sn**	**21**	**38**	**21.9**	**-0.2**
YSS				A		A	21	38	24.0	
	comp=Z,50nm,0.6s									
NMR	**Nemuro--Hokkai**	**9.01**	**234**	*i*PN		Pn	21	36	41.5	-2.2
OKH	**Okha**	**9.11**	**304**	*e*P		**Pn**	**21**	**36**	**47.7**	**+2.7**
OKH				AMB		AMB	21	36	49.6	
	comp=Z,70nm,0.6s									
JKA	**Kamikawa-asahi**	**10.32**	**246**			**Pn**	**21**	**37**	**03.3**	**+1.7**
JKA	**Kamikawa-asahi**	**10.32**	**246**	*e*P		**Pn**	**21**	**37**	**03.7**	**+2.1**
ASAJ	**Asahikawa**	**10.33**	**246**	P		**Pn**	**21**	**37**	**03.7**	**+2.0**
	comp=Z,2.2nm,0.3s,baz=56,slow=10,SNR=18									
MA2	**Magadan**	**10.82**	**347**	*i*PN		**Pn**	**21**	**37**	**06.9**	**-1.4**
MA2	**Magadan**	**10.82**	**347**	Pn		**Pn**	**21**	**37**	**05.8**	**-2.4**
MA2	**Magadan**	**10.82**	**347**	*e*P		**Pn**	**21**	**37**	**06.9**	**-1.4**
ERM	**Erimo**	**11.32**	**236**	PN		**Pn**	**21**	**37**	**14.4**	**-0.8**
ERM	**Erimo**	**11.32**	**236**	Pn		**Pn**	**21**	**37**	**14.4**	**-0.8**
TEY	**Ternei**	**13.64**	**260**	*e*P		**Pn**	**21**	**37**	**45.8**	**-1.0**
EKMR	**Ekimchan**	**14.79**	**294**	*e*P		**Pn**	**21**	**37**	**59.2**	**-2.8**
EKMR				AMB		AMB	21	38	10.0	
	comp=Z,6.0nm,0.8s									
JSD	**Sado**	**16.79**	**235**	Pn		**Pn**	**21**	**38**	**26.7**	**-0.7**
USA0B	**Ussuriysk Arra**	**16.98**	**262**	P		**Pn**	**21**	**38**	**27.7**	**-2.1**
USA0B				pmax		pmax				
	comp=Z,10.0nm,1.1s									
USA0B	**Ussuriysk Arra**	**16.98**	**262**	Pn		**Pn**	**21**	**38**	**27.7**	**-2.1**
USRK	**Ussuriysk Ar.**	**16.98**	**262**	P		**Pn**	**21**	**38**	**31.3**	**+1.5**
	baz=71,slow=20,SNR=2.9									
USRK				LR		LR	21	44	32.4	
	comp=Z,72nm,19.6s,baz=27,slow=35									
USRK	**Ussuriysk Ar.**	**16.98**	**262**	Pn		**Pn**	**21**	**38**	**27.6**	**-2.1**
BMKR	**Bomnak**	**17.41**	**299**	*e*P		**Pn**	**21**	**38**	**33.7**	**-1.2**
MJAR	**Matsushiro Arr**	**17.93**	**232**	P		**P**	**21**	**38**	**40.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=12,SNR=7.5									
MJAR				LR		LR	21	45	52.3	
	comp=Z,128nm,20.7s,baz=35,slow=38									
MAJO	**Matsushiro**	**17.94**	**232**	*i*P		**P**	**21**	**38**	**42.0**	**+0.6**
MAJO				pmax		pmax				
	comp=Z,10.0nm,1.2s									
MAJO	**Matsushiro**	**17.94**	**232**	P		**P**	**21**	**38**	**41.4**	**0.0**
ZEA	**Zeya**	**18.25**	**295**	*e*P		**P**	**21**	**38**	**45.3**	**+0.6**
MDJ	**Mudanjiang**	**18.38**	**266**			**P**	**21**	**38**	**45.9**	**-0.3**
KROS	**Kirovskiy**	**18.46**	**298**	*e*P		**Pn**	**21**	**38**	**49.0**	**+1.3**
KROS				AMB		AMB	21	38	49.9	
	comp=Z,5.0nm,0.8s									
JGF	**Kuroka**	**19.10**	**232**	P		**P**	**21**	**38**	**54.6**	**+0.4**
YAK	**Yakutsk**	**19.37**	**321**	*e*P		**P**	**21**	**38**	**58.3**	**+1.5**
YAK				*e*S		**S**	**21**	**42**	**32.6**	**+0.1**
YAK				pmax		pmax				
	comp=Z,16nm,1.0s									
YAK				pmax		pmax				
	comp=N,4.0nm,1.1s									
YAK				pmax		pmax				
	comp=E,7.0nm,1.3s									
YAK				smax		smax				
	comp=E,35nm,1.9s									
YAK				smax		smax				
	comp=N,30nm,1.9s									
YAK	**Yakutsk**	**19.37**	**321**	P		**P**	**21**	**38**	**53.3**	**-3.5**
YAK				IAmb		IAmb	21	39	07.8	
	comp=Z,20nm,0.5s									
YAK	**Yakutsk**	**19.37**	**321**	*e*P		**P**	**21**	**38**	**58.3**	**+1.5**
INU	**Inuyama**	**19.47**	**232**	P		**P**	**21**	**38**	**58.9**	**+0.7**
BILL	**Bilibino**	**19.66**	**12**	*c*e*i*P		**P**	**21**	**38**	**58.3**	**-1.7**
BILL				pmax		pmax				
	comp=Z,3µm,0.8s									
BILL	**Bilibino**	**19.66**	**12**	P		**P**	**21**	**38**	**58.6**	**-1.4**
JWT	**Wachi**	**20.37**	**235**	P		**P**	**21**	**39**	**08.3**	**+0.3**
JHS	**Saijyo**	**21.83**	**238**	P		**P**	**21**	**39**	**23.6**	**0.0**
KSRS	**Korea Array**	**23.22**	**250**	P		**P**	**21**	**39**	**38.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=51,slow=9.6,SNR=2.3									
KSRS				LR		LR	21	47	55.6	
	comp=Z,108nm,19.7s,baz=37,slow=34									
KSAR	**Wonju Array Be**	**23.25**	**250**	P		**P**	**21**	**39**	**37.9**	**-0.5**
KSAR	**Wonju Array Be**	**23.25**	**250**	P		**P**	**21**	**39**	**37.9**	**-0.5**
KSAR	**Wonju Array Be**	**23.25**	**250**	*e*P		**P**	**21**	**39**	**37.9**	**-0.5**
HIA	**Hailar**	**23.36**	**284**	*i*e*i*P		**P**	**21**	**39**	**37.7**	**-1.7**
HIA				pmax		pmax				
	comp=Z,1.0nm,0.8s									
JNU	**Nakatsue**	**24.46**	**238**	P		**P**	**21**	**39**	**50.6**	**+1.0**
	comp=Z,4.1nm,0.8s,baz=104,slow=8.3,SNR=2.2									
TIXI	**Tiksi**	**25.70**	**341**	*i*eP		**P**	**21**	**39**	**58.5**	**-1.9**
TIXI	**Tiksi**	**25.70**	**341**	P		**P**	**21**	**39**	**57.3**	**-3.1**
IMAR	**Indian Mountai**	**30.79**	**38**	P		**P**	**21**	**40**	**45.5**	**-0.4**
IMAR				PcP		**PcP**	**21**	**43**	**43.4**	**+1.6**
CNPM	**China Poot**	**31.77**	**51**	P		**P**	**21**	**40**	**54.8**	**+0.1**
KTH	**Kantishna Hill**	**31.80**	**43**	P		**P**	**21**	**40**	**56.0**	**+1.1**
KTH				IAmb		IAmb	21	40	58.4	
	comp=Z,18nm,1.4s									
H11S1	**WAKE ISLAND Hy**	**31.85**	**160**	T	

ARU IAmb IAmb 21 43 57.1
comp=Z,2.7nm,0.6s
ARU Arti 54.41 317 *eP* **P 21 43 55.2 -1.7**
CM31 Chiang Mai Arr 54.62 257 P **P 21 43 58.5 -0.5**
CM31 IAmb IAmb 21 44 00.4
comp=Z,5.3nm,0.9s
CMAR Chiang Mai Arr 54.62 257 P **P 21 43 59.8 +0.8**
comp=Z,2.3nm,0.8s,baz=30,slow=7.0,SNR=22
CMAR Chiang Mai Arr 54.62 257 P **P 21 43 58.0 -1.0**
E09A Wood Farm, Sta 54.83 57 P **P 21 44 01.1 +1.0**
E09A IAmb IAmb 21 44 02.6
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 55.10 65 LR LR 22 03 59.5
comp=Z,20nm,21.5s,baz=323,slow=32
I07A Izee 55.53 61 P **P 21 44 06.6 +1.2**
I07A IAmb IAmb 21 44 08.6
comp=Z,7.1nm,1.2s
ARCES ARCESS Array B 56.14 341 P **P 21 44 08.6 -0.6**
comp=Z,2.2nm,0.9s,baz=30,slow=9.4,SNR=1.9
MSO Missoula 56.93 55 P **P 21 44 16.7 +1.4**
MSO IAmb IAmb 21 44 17.9
comp=Z,5.6nm,1.1s
WVOR Wild Horse Val 57.05 62 P **P 21 44 17.9 +1.7**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 57.05 62 P **P 21 44 17.9 +1.7**
WVOR IAmb IAmb 21 44 19.6
comp=Z,9.0nm,1.2s
SUMG Summit 58.16 5 P **P 21 44 23.6 -0.2**
SUMG pmax pmax
comp=Z,8.0nm,1.3s
SUMG Summit 58.16 5 P **P 21 44 23.6 -0.2**
SUMG IAmb IAmb 21 44 26.9
comp=Z,8.0nm,1.3s
ABKAR Akbulak array 58.21 310 P **P 21 44 22.5 -1.6**
HLID Hailey 58.73 58 P **P 21 44 29.9 +1.8**
HLID IAmb IAmb 21 44 31.4
comp=Z,5.2nm,1.2s
KVN Kaiserville 59.52 64 P **P 21 44 35.2 +1.7**
KVN pmax pmax
comp=Z,8.0nm,1.2s
KVN Kaiserville 59.52 64 P **P 21 44 35.2 +1.7**
KVN IAmb IAmb 21 44 36.7
comp=Z,8.0nm,1.2s
QLMT Earthquake Lak 59.55 56 P **P 21 44 35.8 +2.0**
NVAR Mina Array Bea 59.80 65 P **P 21 44 37.5 +1.9**
comp=Z,1.1nm,0.6s,baz=294,slow=6.8,SNR=5.1
NVAR Mina Array Bea 59.80 65 P **P 21 44 37.2 +1.7**
GCMT Greycliff 59.87 54 P **P 21 44 38.1 +2.3**
ELK Elko 60.09 61 LR LR 22 06 44.1
comp=Z,19nm,21.5s,baz=310,slow=32
H17A Grant Village 60.30 55 P **P 21 44 41.4 +2.5**
YMP Mirror Lake PI 60.30 55 P **P 21 44 41.1 +2.2**
RLMT Red Lodge 60.52 54 P **P 21 44 42.4 +2.0**
TPH Tonopah 60.68 65 P **P 21 44 43.2 +1.7**
TPH pmax pmax
comp=Z,28nm,1.2s
TPH Tonopah 60.68 65 P **P 21 44 43.2 +1.7**
LOHW Long Hollow 60.80 56 P **P 21 44 44.4 +2.1**
REDW Red Top Meadow 60.83 56 P **P 21 44 44.8 +2.3**
DGMT Dagmar 60.89 49 P **P 21 44 44.4 +1.8**
SPR3 Spring Creek 3 61.76 62 P **P 21 44 51.0 +2.0**
SPR3 IAmb IAmb 21 44 52.5
comp=Z,9.7nm,1.4s
DUG Dugway, Tooele 61.84 60 P **P 21 44 51.1 +1.9**
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG Dugway, Tooele 61.84 60 P **P 21 44 51.1 +1.9**
BW06 Boulder Array 61.94 56 P **P 21 44 51.6 +1.6**
PDAR Pinedale Array 61.94 56 P **P 21 44 52.0 +2.0**
comp=Z,4.8nm,1.0s,baz=321,slow=3.8,SNR=24
PDAR Pinedale Array 61.94 56 P **P 21 44 51.2 +1.2**
PRN Pahroc Range 62.41 64 P **P 21 44 54.9 +1.8**
PRN IAmb IAmb 21 44 56.9
comp=Z,11nm,1.4s
FINES FINESS Array B 62.58 335 P **P 21 44 51.1 -2.5**
comp=Z,0.8nm,0.5s,baz=33,slow=7.7,SNR=7.0
P17A Butcher Ranch, 63.50 60 P **P 21 45 02.1 +1.7**
P17A IAmb IAmb 21 45 03.5
comp=Z,13nm,1.5s
ULM Lac du Bonnet 63.56 43 LR LR 22 14 58.1
comp=Z,27nm,18.5s,baz=230,slow=38
LCMT Little Creek M 63.73 63 P **P 21 45 04.1 +2.2**
LCMT IAmb IAmb 21 45 05.1
comp=Z,6.1nm,1.1s
RSSD Black Hills 63.95 52 P **P 21 45 04.2 +0.9**
RSSD pmax pmax
comp=Z,13nm,1.2s
RSSD Black Hills 63.95 52 P **P 21 45 04.2 +0.9**
PFO Pinyon Flats O 64.13 68 LR LR 22 07 18.7
comp=Z,23nm,21.3s,baz=237,slow=30
SMCO Snowmass 65.82 58 P **P 21 45 16.6 +0.9**
SMCO IAmb IAmb 21 45 18.5
comp=Z,6.7nm,1.2s
ISCO Idaho Springs 66.13 56 P **P 21 45 19.5 +1.9**
ISCO pmax pmax
comp=Z,9.0nm,1.1s
ISCO Idaho Springs 66.13 56 P **P 21 45 19.5 +1.9**
ISCO IAmb IAmb 21 45 20.9
comp=Z,8.8nm,1.1s
NOA NORSAR Array B 66.48 342 P **P 21 45 18.7 -0.5**
comp=Z,1.2nm,0.9s,baz=14,slow=7.3,SNR=2.6
F33A 5 Mile Ranch, 66.57 46 P **P 21 45 20.1 +0.2**
F33A IAmb IAmb 21 45 21.9
comp=Z,7.9nm,1.1s
GEYT Alibeck 66.84 302 P **P 21 45 22.3 +0.5**
comp=Z,195nm,1.1s,baz=62,slow=3.4,SNR=1.9
T25A Trinidad 68.69 58 P **P 21 45 35.7 +2.0**
T25A IAmb IAmb 21 45 36.4
comp=Z,6.7nm,1.1s
ANMO Albuquerque 69.11 61 P **P 21 45 37.4 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 69.11 61 P **P 21 45 37.4 +1.1**
KIV Kislovodsk 70.34 315 *eP* **P 21 45 45.4 +1.8**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,78nm,17.0s
KIV Kislovodsk 70.34 315 *eP* **P 21 45 45.4 +1.8**
AKASG Malin Array Be 70.48 327 LR LR 22 19 21.3
comp=Z,32nm,18.2s,baz=275,slow=38
WRA Warramunga Arr 71.38 201 P **P 21 45 50.3 +0.3**
comp=Z,0.7nm,0.7s,baz=16,slow=6.5,SNR=3.9
MNTX Cornudas Mount 72.08 62 P **P 21 45 55.1 +1.0**
MNTX IAmb IAmb 21 45 57.0
comp=Z,5.4nm,1.2s
TX31 Lajitas Ar. Si 74.81 63 P **P 21 46 11.9 +1.5**
TXAR Lajitas Array 74.81 63 P **P 21 46 12.2 +1.8**
comp=Z,3.5nm,0.9s,baz=298,slow=4.6,SNR=27
TXAR Lajitas Array 74.81 63 P **P 21 46 11.8 +1.3**
CLL Collm 74.96 337 *eP* **P 21 46 10.0 -0.7**
CLL LmV 22 23 00.0
comp=Z,100nm,19.4s
CLL Collm 74.96 337 *eP* **P 21 46 10.0 -0.7**
ASAR Alice Springs 75.07 201 P **P 21 46 12.8 +1.1**
comp=Z,0.8nm,0.7s,baz=14,slow=5.3,SNR=6.4
U40A Yellville 75.43 51 P **P 21 46 13.9 +0.2**
U40A IAmb IAmb 21 46 15.1
comp=Z,8.6nm,1.1s
VYHS Vyhne 75.84 332 *eP* **P 21 46 12.2 -3.7**
VYHS Vyhne 75.84 332 *eP* **P 21 46 12.2 -3.7**
KHC Kasperske Hory 76.79 336 *eP* **P 21 46 21.1 -0.2**
KHC Kasperske Hory 76.79 336 *eP* **P 21 46 21.1 -0.2**
GERES GERESS Array B 77.02 335 P **P 21 46 22.3 -0.4**
comp=Z,0.3nm,0.4s,baz=29,slow=6.1,SNR=4.6
CONA Conrad Observa 77.24 334 *eP* **P 21 46 21.9 -2.0**
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 77.79 318 P **P 21 46 26.8 -0.4**
comp=Z,1.1nm,1.1s,baz=0.0,slow=1.6,SNR=5.1
BRTR Keskin Array B 77.79 318 P **P 21 46 26.2 -1.0**
SOKA Soboth 78.61 334 *eP* **P 21 46 31.5 0.0**
comp=Z,6.8nm,1.4s
KBA Koelnbreinsper 78.73 335 *eP* **P 21 46 32.9 +0.6**
comp=Z,7.2nm,0.8s
OBKA Obir 78.90 334 *eP* **P 21 46 33.0 -0.1**
comp=Z,4.5nm,1.0s
WATA Walderalm 78.97 336 *eP* **P 21 46 33.7 +0.1**
comp=Z,8.3nm,1.4s
WTTA Wattenberg 79.02 336 *eP* **P 21 46 35.0 +1.1**
comp=Z,5.6nm,0.9s
MOTA Moosalm 79.09 336 *eP* **P 21 46 34.3 0.0**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 79.26 335 *eP* **P 21 46 35.0 -0.1**
comp=Z,6.1nm,1.3s
VTS Vitosha 79.52 326 P **P 21 46 35.7 -1.0**
VTS pmax pmax
comp=Z,5.0nm,1.2s
VTS Vitosha 79.52 326 P **P 21 46 35.7 -1.0**
VTS IAmb IAmb 21 46 37.0
comp=Z,5.4nm,1.2s
TUE Stuetta 80.35 337 P **P 21 46 39.4 -1.8**
TUE IAmb IAmb 21 46 44.8
comp=Z,8.4nm,1.0s
ZAIG Zacatecas 80.38 66 P **P 21 46 42.8 +1.1**
BNI Bardonecchia 82.34 338 P **P 21 46 52.0 +0.4**
BNI pmax pmax
comp=Z,3.0nm,0.9s
BNI Bardonecchia 82.34 338 P **P 21 46 52.0 +0.4**
NRCA Norcia 82.67 333 P **P 21 46 52.8 -0.5**
TIP Timpagrande 84.84 329 P **P 21 47 03.0 -1.5**
TIP IAmb IAmb 21 47 05.0
comp=Z,5.5nm,1.2s
ESDC Sonseca Array 89.73 344 P **P 21 47 26.6 -1.4**
comp=Z,0.7nm,0.8s,baz=359,slow=3.3,SNR=4.8
ESDC LR LR 22 33 27.3
comp=Z,36nm,18.1s,baz=0.0,slow=39
ESDC Sonseca Array 89.73 344 P **P 21 47 26.8 -1.2**
SIV San Ignacio 135.42 55 PKP **PKiKP 21 53 52.0 +0.8**
comp=Z,0.6nm,0.6s,baz=242,slow=5.1,SNR=3.8
H03N2 Juan Fernandez 137.01 90 T T 00 27 02.8
baz=310,slow=77,SNR=66
H03N1 Juan Fernandez 137.02 90 T T 00 27 07.8
baz=310,slow=77,SNR=63
H03N3 Juan Fernandez 137.02 90 T T 00 27 07.5
baz=310,slow=77,SNR=68
CPUP Villa Florida 145.76 60 PKPbc **PKPdf 21 54 09.0 +1.0**
comp=Z,2.4nm,1.1s,baz=356,slow=7.0,SNR=2.7
USHA Ushuaia 152.61 119 PKPbc **PKiKP 21 54 26.3 +1.1**
comp=Z,27nm,0.3s,baz=340,slow=0.5,SNR=5.2

*IDC **10** 21:42:56.5±0.8, 12.84N×146.12E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/44, mbtmp3.8/13, Error ellipse: s-maj=26.0km s-min=20.9km az=91.0*
*NEIC **10** 21:42:58.5±1.4, 12.95N±0.08×146.2E±0.1, h10km±1km, mb4.7/25, Error ellipse: s-maj=22.9km s-min=11.9km az=72.0*
ISC 10 21:42:57.6±0.6, 12.9N±0.1×146.2E±0.1, h10km, n45, σ0 81/44, mb4.4/26, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**13.35**	**115**	Pn		**Pn**		**21 46 05.6**	**-1.8**
JGF	**Kuroka**	**24.01**	**342**	P		**P**		**21 48 11.7**	**-1.1**
MJAR	**Matsushiro Arr**	**24.65**	**344**	P		**P**		**21 48 19.3**	**+0.7**
	0.9nm,0.6s,baz=215,slow=35,SNR=2.0								
MJAR	**Matsushiro Arr**	**24.65**	**344**	P		**P**		**21 48 17.4**	**-1.2**
JHS	**Saijyo**	**25.02**	**334**	P		**P**		**21 48 21.4**	**-0.6**
JHS				IAmb	IAmb			21 48 35.6	
	comp=Z,10nm,0.9s								
KSRS	**Korea Array**	**29.44**	**329**	P		**P**		**21 49 02.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=150,slow=11,SNR=2.5								
WRA	**Warramunga Arr**	**34.62**	**200**	P		**P**		**21 49 47.2**	**0.0**
	comp=Z,1.1nm,0.9s,baz=24,slow=9.6,SNR=5.0								
FITZ	**Fitzroy Crossi**	**36.84**	**214**	P		**P**		**21 50 06.9**	**+0.6**
ASAR	**Alice Springs**	**38.24**	**198**	P		**P**		**21 50 17.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=19,slow=8.8,SNR=2.2								
DZM	**Mont Dzumac**	**39.99**	**150**	P		**P**		**21 50 34.0**	**+1.1**
DZM				IAmb	IAmb			21 50 48.4	
	comp=Z,16nm,0.9s								
CMAR	**Chiang Mai Arr**	**45.74**	**283**	P		**P**		**21 51 19.2**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=87,slow=5.6,SNR=11								
SONM	**Songino Array**	**48.07**	**325**	P		**P**		**21 51 36.3**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=144,slow=7.3,SNR=4.8								
SONM	**Songino Array**	**48.07**	**325**	P		**P**		**21 51 36.3**	**-1.2**
PBA	**Port Blair**	**52.17**	**275**	P		P		21 52 09.1	+0.1
LSA	**Lhasa**	**53.48**	**297**	P		**P**		**21 52 19.3**	**+0.3**
LSA				IAmb	IAmb			21 52 20.2	
	comp=Z,4.5nm,0.8s								
BILL	**Bilibino**	**56.67**	**9**	P		**P**		**21 52 41.5**	**+0.6**
BILL				IAmb	IAmb			21 52 55.2	
	comp=Z,11nm,1.0s								
MK31	**Makanchi Array**	**62.91**	**316**	P		**P**		**21 53 24.0**	**-0.2**
MKAR	**Makanchi Array**	**62.91**	**316**	P		**P**		**21 53 24.0**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=97,slow=8.9,SNR=17								
MKAR	**Makanchi Array**	**62.91**	**316**	P		**P**		**21 53 24.1**	**-0.1**
ZALV	**Zalesovo Beam**	**62.97**	**324**	P		**P**		**21 53 26.0**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=108,slow=9.3,SNR=2.6								
ZALV	**Zalesovo Beam**	**62.97**	**324**	P		**P**		**21 53 25.0**	**+0.5**
MAKZ	**Makanchi**	**63.12**	**316**	P		**P**		**21 53 25.4**	**-0.3**
MAKZ				IAmb	IAmb			21 53 26.7	
	comp=Z,3.8nm,0.8s								
PRZ	**Przheval'sk**	**65.08**	**311**	P		**P**		**21 53 38.9**	**+0.1**
PRZ				IAmb	IAmb			21 53 41.2	
	comp=Z,10.0nm,1.1s								
KDJ	**Kajisay**	**65.95**	**310**	P		**P**		**21 53 44.1**	**-0.4**
KDJ				IAmb	IAmb			21 53 46.2	
	comp=Z,4.5nm,0.9s								
BOOM	**Boomskoye usch**	**66.89**	**311**	P		**P**		**21 53 50.5**	**0.0**
BOOM				IAmb	IAmb			21 54 06.4	
	comp=Z,2.6nm,0.9s								
ILAR	**Eielson Array**	**68.68**	**25**	P		**P**		**21 54 02.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=240,slow=6.3,SNR=2.8								
ILAR	**Eielson Array**	**68.68**	**25**	P		**P**		**21 54 01.6**	**+0.6**
NIL	**Nilore**	**68.86**	**301**	P		**P**		**21 54 02.0**	**-0.8**
KK31	**Karatay Array**	**70.90**	**311**	P		**P**		**21 54 14.5**	**-0.8**
KKAR	**Karatay Array**	**70.90**	**311**	P		**P**		**21 54 14.2**	**-1.0**
GAR	**Garm**	**71.09**	**307**	P		**P**		**21 54 16.2**	**-0.5**
BRVK	**Borovoye**	**71.36**	**322**			**P**		**21 54 17.4**	**-0.4**
BRVK				IAmb	IAmb			21 54 33.6	
	comp=Z,15nm,1.4s								
CHGR	**Chuyangaron**	**72.01**	**307**	P		**P**		**21 54 21.2**	**-0.9**
KBL	**Kabul**	**72.31**	**302**	P		**P**		**21 54 23.3**	**-0.8**
KBL				IAmb	IAmb			21 54 27.4	
	comp=Z,14nm,1.3s								
INK	**Inuvik**	**74.55**	**22**	P		**P**		**21 54 37.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=310,slow=7.9,SNR=2.6								
HRA	**Herat**	**77.92**	**303**	P		**P**		**21 54 56.1**	**-0.4**
HRA				IAmb	IAmb			21 54 58.7	
	comp=Z,10nm,1.1s								
ABKAR	**Akbulak array**	**77.95**	**318**	P		**P**		**21 54 55.0**	**-1.1**
ABKAR				IAmb	IAmb			21 54 57.8	
	comp=Z,4.6nm,1.1s								
ABKAR	**Akbulak array**	**77.95**	**318**	P		**P**		**21 54 55.4**	**-0.6**
GEYT	**Alibeck**	**80.72**	**307**	P		**P**		**21 55 12.6**	**+1.0**
	comp=Z,21nm,0.6s,baz=42,slow=16,SNR=4.2								
NVAR	**Mina Array Bea**	**86.37**	**52**	P		**P**		**21 55 41.7**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=316,slow=3.8,SNR=3.1								
ELK	**Elko**	**88.09**	**49**	P		**P**		**21 55 48.8**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=329,slow=6.2,SNR=5.3								
ELK	**Elko**	**88.09**	**49**	P		**P**		**21 55 49.3**	**+0.2**
ELK				IAmb	IAmb			21 56 04.4	
	comp=Z,2.8nm,1.1s								
FINES	**FINESS Array B**	**92.36**	**335**	P		**P**		**21 56 09.1**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=39,slow=9.0,SNR=3.7								
DBIC	**Dimbokro**	**145.30**	**302**	PKPbc		**PKPab**		**22 02 36.6**	**-0.1**
	comp=Z,5.7nm,1.0s,baz=180,slow=5.1,SNR=2.5								
LPAZ	**La Paz**	**146.63**	**100**	PKPbc		**PKPbc**		**22 02 42.0**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=270,slow=6.1,SNR=1.8								

*IDC **10** 21:46:08.4±0.6, 13.06N×146.14E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.2/49, mbtmp4.3/25, MS3.5/6, Ms1 3.5/6, ms1mx3.1/35, Error ellipse: s-maj=18.2km s-min=15.9km az=84.0*
*NEIC **10** 21:46:09.9±1.4, 12.98N±0.08×146.2E±0.1, h10km±1km, mb4.7/57, Error ellipse: s-maj=20.1km s-min=12.3km az=74.0*
ISC 10 21:46:09.3±0.5, 12.99N±0.08×146.23E±0.09, h10km, n110, σ0 87/108, mb4.6/55, MS3.7/9, 2C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**3.37**	**352**	Pn		**Pn**		**21 47 01.5**	**-0.5**
PATS	**Pohnpei**	**13.38**	**116**	Pn		**Pn**		**21 49 17.3**	**-2.1**
JCJ	**Chichijima**	**14.54**	**345**	LR		LR		21 54 04.5	
	comp=Z,94nm,21.8s,baz=131,slow=33								
SIJI	**Soroq**	**20.25**	**228**	P		**P**		**21 50 45.7**	**+0.8**
	23nm,0.9s,baz=46,slow=14,SNR=1.4								
JOW	**Kunigami**	**21.75**	**312**	P		**P**		**21 51 01.3**	**+0.2**
	19nm,0.8s,baz=172,slow=20,SNR=2.9								
JOW				LR		LR		21 58 10.0	
	comp=Z,145nm,20.2s,baz=96,slow=33								
INU	**Inuyama**	**23.77**	**341**	P		**P**		**21 51 20.0**	**-1.9**
JNU	**Nakatsue**	**24.46**	**328**	P		**P**		**21 51 27.9**	**-0.6**
	8.0nm,0.9s,baz=124,slow=7.3,SNR=3.1								
JNU	**Nakatsue**	**24.46**	**328**	P		**P**		**21 51 27.0**	**-1.5**
JNU				IAmb	IAmb			21 51 31.6	
	comp=Z,21nm,1.2s								
MJAR	**Matsushiro Arr**	**24.53**	**344**	P		**P**		**21 51 26.9**	**-2.2**
	comp=Z,1.7nm,0.9s,baz=166,slow=9.3,SNR=4.4								
JHS	**Saijyo**	**24.92**	**334**	P		**P**		**21 51 30.4**	**-2.2**
HNR	**Honiara**	**26.11**	**148**	LR		LR		22 02 26.7	
	comp=Z,91nm,18.7s,baz=311,slow=37								
KSRS	**Korea Array**	**29.34**	**329**	P		**P**		**21 52 10.7**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=152,slow=9.2,SNR=2.6								
KSRS				LR		LR		22 03 10.1	
	comp=Z,78nm,18.8s,baz=126,slow=35								
KSAR	**Wonju Array Be**	**29.35**	**329**	P		**P**		**21 52 11.0**	**-1.4**
NJ2	**Nanjing**	**31.46**	**312**	*eP*		**P**		**21 52 33.1**	**+2.0**
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
BATI	**Baumata**	**32.14**	**225**	LR		LR		22 05 08.4	
	comp=Z,5μm,21.9s,baz=256,slow=36								
USRK	**Ussuriysk Ar.**	**33.41**	**341**	P		**P**		**21 52 48.8**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=124,slow=8.3,SNR=5.1								
USRK				LR		LR		22 05 01.1	
	comp=Z,81nm,20.5s,baz=130,slow=34								
WRA	**Warramunga Arr**	**34.76**	**200**	P		**P**		**21 52 59.0**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=20,slow=9.5,SNR=4.6								
BJT	**Baijiatuau**	**37.73**	**321**	P		**P**		**21 53 24.9**	**-0.3**
BJI	**Beijing**	**37.74**	**321**	P		**P**		**21 53 25.7**	**+0.4**
BJI				pP		**pwP**		**21 53 38.3**	**+0.3**
BJI				sP		sP		21 53 41.5	+16
BJI				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ENH	**Enshi**	**38.02**	**303**	P		**P**		**21 53 27.3**	**-0.6**
ENH				IAmb	IAmb			21 53 29.3	
	comp=Z,11nm,0.9s								
ASAR	**Alice Springs**	**38.38**	**198**	P		**P**		**21 53 31.2**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=13,slow=10,SNR=1.8								
XAN	**Xi'an**	**39.80**	**308**	P		**P**		**21 53 43.3**	**+0.5**
XAN				pP	pwP			21 53 57.3	+1.8
XAN				pmax	pmax				
	comp=Z,12nm,0.9s								
DZM	**Mont Dzumac**	**40.09**	**150**	P		**P**		**21 53 46.8**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=332,slow=7.7,SNR=1.9								
DZM	**Mont Dzumac**	**40.09**	**150**	P		**P**		**21 53 45.3**	**-0.1**
DZM				IAmb	IAmb			21 54 02.2	
	comp=Z,43nm,1.3s								
HHC	**Hu-ho-hao-te**	**41.09**	**319**	*eP*		**P**		**21 53 54.7**	**+1.3**
HHC				pmax	pmax				
	comp=Z,15nm,0.9s								
HHC				pmax	pmax				
	comp=Z,86nm,8.4s								
HIA	**Hailar**	**42.25**	**334**	P		**P**		**21 54 02.5**	**-0.3**
CD2	**Chengdu**	**42.94**	**302**	*iP*		**P**		**21 54 08.7**	**+0.1**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CD2				L	L				
	comp=Z,200nm,24.5s								
CD2				L	L				
	comp=Z,230nm,14.2s								
CD2				L	L				
	comp=Z,250nm,23.0s								
LZH	**Lanzhou**	**44.42**	**309**	⇑P		**P**		**21 54 21.6**	**+0.9**
LZH				pP	pwP			21 54 34.5	+1.1
LZH				sP	sP			21 54 39.8	+19
LZH				S	S			22 00 33.0	-23
LZH				sS	pS			22 00 47.1	-8.9
LZH				pmax	pmax				
	comp=Z,26nm,1.2s								
LZH				pmax	pmax				
	comp=Z,92nm,5.2s								
LZH				L	L				
	comp=Z,160nm,15.2s								
LZH				L	L				
	comp=Z,190nm,15.4s								
LZH				L	L				
	comp=Z,150nm,17.5s								
CM31	**Chiang Mai Arr**	**45.74**	**283**	P		**P**		**21 54 30.7**	**-0.5**
CM31				IAmb	IAmb			21 54 32.4	
	comp=Z,4.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**45.74**	**283**	P		**P**		**21 54 31.8**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=86,slow=6.0,SNR=15								
CMAR	**Chiang Mai Arr**	**45.74**	**283**	P		**P**		**21 54 31.0**	**-0.2**
ULN	**Ulaanbaatar**	**47.63**	**325**	P		**P**		**21 54 44.8**	**-0.9**
RPSI	**Rantau Prapat**	**47.88**	**262**	P		**P**		**21 54 46.9**	**-1.1**
RPSI				IAmb	IAmb			21 54 50.2	
	comp=Z,11nm,1.3s								
SONM	**Songino Array**	**47.98**	**324**	P		**P**		**21 54 48.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=135,slow=7.9,SNR=8.2								
SONM				LR		LR		22 15 16.7	
	comp=Z,79nm,19.5s,baz=146,slow=36								
SONM	**Songino Array**	**47.98**	**324**	P		**P**		**21 54 47.7**	**-0.8**
GTA	**Gaotai**	**48.56**	**312**	⇑P		**P**		**21 54 53.7**	**+0.6**
GTA				pP	pwP			21 55 03.7	-2.1
GTA				sP	sP			21 55 08.4	+15
GTA				pmax	pmax				
	comp=Z,11nm,1.3s								
GTA				pmax	pmax				
	comp=Z,58nm,5.6s								
GTA				L	L				
	comp=Z,58nm,19.6s								
GTA				L	L				
	comp=Z,87nm,19.6s								
GTA				L	L				
	comp=Z,78nm,18.9s								
YAK	**Yakutsk**	**50.40**	**350**	P		**P**		**21 55 05.7**	**-0.8**
TLY	**Talaya**	**51.57**	**327**	P		**P**		**21 55 16.4**	**+0.9**
SHL	**Shillong**	**52.48**	**292**	P		**P**		**21 55 22.3**	**-0.7**
SHL				IAmb	IAmb			21 55 23.4	
	comp=Z,6.5nm,0.7s								
LSA	**Lhasa**	**53.45**	**297**	P		**P**		**21 55 30.6**	**+0.2**
LSA				IAmb	IAmb			21 55 32.6	
	comp=Z,8.6nm,0.7s								
BILL	**Bilibino**	**56.54**	**9**	P		**P**		**21 55 51.7**	**+0.1**
BILL				IAmb	IAmb			21 55 53.0	
	comp=Z,8.4nm,0.9s								
WMQ	**Urumqi**	**58.51**	**314**	*eP*		**P**		**21 56 07.0**	**+1.0**
WMQ				pP		pwP		21 56 22.6	+3.9
WMQ				pmax	pmax				
	comp=Z,15nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,110nm,4.3s								
MK31	**Makanchi Array**	**62.84**	**316**	P		**P**		**21 56 35.5**	**+0.1**
MK31				IAmb	IAmb			21 56 37.8	
	comp=Z,4.1nm,0.8s								
MKAR	**Makanchi Array**	**62.84**	**316**	P		**P**		**21 56 36.0**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=95,slow=8.8,SNR=41								
MKAR	**Makanchi Array**	**62.84**	**316**	P		**P**		**21 56 35.3**	**-0.1**
ZAA0	**Zalesovo Array**	**62.88**	**324**	P		**P**		**21 56 35.3**	**-0.2**
ZALV	**Zalesovo Beam**	**62.88**	**324**	P		**P**		**21 56 34.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=90,slow=6.9,SNR=7.2								
ZALV	**Zalesovo Beam**	**62.88**	**324**	P		**P**		**21 56 35.5**	**0.0**
MAKZ	**Makanchi**	**63.05**	**316**	P		**P**		**21 56 37.0**	**+0.2**
KDAK	**Kodiak Island**	**63.88**	**32**	P		**P**		**21 56 42.2**	**+0.2**
	comp=Z,7.1nm,1.0s,baz=241,slow=6.3,SNR=2.4								
PRZ	**Przheval'sk**	**65.01**	**311**	P		**P**		**21 56 50.7**	**+0.7**
TARG	**Taragay, Kyrgy**	**65.39**	**310**	P		**P**		**21 56 53.0**	**+0.2**
PPLA	**Purkeypile**	**65.73**	**26**	P		**P**		**21 56 55.5**	**+1.3**
PPLA				IAmb	IAmb			21 56 58.0	
	comp=Z,

BTK				IAmb	IAmb	21 57 42.7		
	comp=Z,5.1nm,1.1s							
KK31	**Karatay Array**	**70.84**	**311**	P	**P**	**21 57 26.5**	**+0.1**
KK31				IAmb	IAmb	21 57 27.8		
	comp=Z,6.5nm,0.9s							
KKAR	**Karatay Array**	**70.84**	**311**	P	**P**	**21 57 26.4**	**-0.1**
KKAR	**Karatay Array**	**70.84**	**311**	P	**P**	**21 57 26.4**	**-0.1**
KKAR				IAmb	IAmb	21 57 27.8		
	comp=Z,6.5nm,0.9s							
GAR	**Garm**	**71.04**	**307**		**P**	**21 57 27.9**	**0.0**
BRVK	**Borovoye**	**71.28**	**322**	P	**P**	**21 57 29.0**	**+0.1**
CHGR	**Chuyangaron**	**71.96**	**307**	P	**P**	**21 57 33.8**	**+0.4**
HYT	**Haines Junctio**	**72.06**	**30**	P	**P**	**21 57 35.2**	**+1.6**
HYT				IAmb	IAmb	21 57 36.7		
	comp=Z,10nm,1.0s							
KBL	**Kabul**	**72.27**	**302**	P	**P**	**21 57 35.4**	**-0.1**
INK	**Inuvik**	**74.41**	**22**	P	**P**	**21 57 47.6**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=74,slow=2.3,SNR=4.5							
INK	**Inuvik**	**74.41**	**22**	P	**P**	**21 57 47.6**	**+0.5**
INK				IAmb	IAmb	21 57 50.5		
	comp=Z,6.2nm,1.1s							
DLBC	**Dease Lake**	**75.77**	**33**	P	**P**	**21 57 57.1**	**+1.8**
	comp=Z,9.9nm,1.0s,baz=190,slow=23,SNR=6.9							
DLBC	**Dease Lake**	**75.77**	**33**	P	**P**	**21 57 56.2**	**+0.9**
DLBC				IAmb	IAmb	21 57 58.4		
	comp=Z,12nm,1.1s							
ABKAR	**Akbulak array**	**77.87**	**318**	P	**P**	**21 58 07.0**	**-0.3**
ABKAR				IAmb	IAmb	21 58 08.2		
	comp=Z,6.1nm,0.8s							
ABKAR	**Akbulak array**	**77.87**	**318**	P	**P**	**21 58 06.8**	**-0.5**
HRA	**Herat**	**77.88**	**303**	P	**P**	**21 58 08.0**	**+0.1**
ARU	**Arti**	**78.01**	**325**	P	**P**	**21 58 07.7**	**-0.2**
ARU				IAmb	IAmb	21 58 09.0		
	comp=Z,7.5nm,0.8s							
GEYT	**Alibeck**	**80.67**	**307**	P	**P**	**21 58 24.2**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=39,slow=5.0,SNR=6.3							
GYA0B	**ALIBECK ARRAY**	**80.67**	**307**	P	**P**	**21 58 23.0**	**+0.2**
GYA0B				IAmb	IAmb	21 58 27.0		
	comp=Z,6.3nm,0.9s							
YKA	**Yellowknife Ar**	**82.78**	**28**	P	**P**	**21 58 33.5**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=283,slow=4.9,SNR=4.0							
NEW	**Newport**	**84.79**	**42**	P	**P**	**21 58 45.5**	**+1.4**
	comp=Z,2.9nm,0.9s,baz=81,slow=20,SNR=3.9							
NVAR	**Mina Array Bea**	**86.25**	**52**	P	**P**	**21 58 53.3**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=286,slow=5.9,SNR=4.2							
NVAR	**Mina Array Bea**	**86.25**	**52**	P	**P**	**21 58 51.7**	**-0.1**
WALA	**Waterton Lakes**	**86.65**	**40**	P	**P**	**21 58 53.8**	**+0.4**
WALA				IAmb	IAmb	21 58 56.3		
	comp=Z,11nm,1.4s							
MFID	**Camas Ranch**	**86.86**	**46**	P	**P**	**21 58 55.4**	**+0.8**
MFID				IAmb	IAmb	21 58 57.8		
	comp=Z,8.6nm,1.3s							
ELK	**Elko**	**87.97**	**49**	P	**P**	**21 59 01.9**	**+1.8**
	comp=Z,3.4nm,1.0s,baz=272,slow=4.6,SNR=7.3							
ELK	**Elko**	**87.97**	**49**		**P**	**21 59 00.9**	**+0.8**
ELK				IAmb	IAmb	21 59 02.9		
	comp=Z,5.0nm,1.1s							
ARCES	**ARCESS Array B**	**88.05**	**342**	P	**P**	**21 59 00.0**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=67,slow=7.0,SNR=3.9							
BCYI	**Bear Canyon**	**88.30**	**45**	P	**P**	**21 59 01.9**	**+0.3**
MCMT	**McKenzie Canyo**	**88.54**	**44**	P	**P**	**21 59 03.4**	**+0.6**
SPR3	**Spring Creek 3**	**89.12**	**50**	P	**P**	**21 59 06.4**	**+0.7**
SPR3				IAmb	IAmb	21 59 09.2		
	comp=Z,4.5nm,1.2s							
YHL	**Hebgen Lake**	**89.66**	**44**	P	**P**	**21 59 07.8**	**-0.3**
YHL				IAmb	IAmb	21 59 35.4		
	comp=Z,5.0nm,0.8s							
YHH	**Holmes Hill**	**89.91**	**44**	P	**P**	**21 59 10.0**	**+0.7**
FINES	**FINESS Array B**	**92.26**	**335**	P	**P**	**21 59 18.2**	**-1.2**
	comp=Z,3.1nm,0.6s,baz=75,slow=4.7,SNR=14							
FINES	**FINESS Array B**	**92.26**	**335**	P	**P**	**21 59 18.5**	**-0.8**
NOA	**NORSAR Array B**	**98.07**	**340**	P	**P**	**21 59 46.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=52,slow=4.3,SNR=3.2							
DBIC	**Dimbokro**	**145.26**	**303**	PKPbc	**PKPbc**	**22 05 48.5**	**+0.4**
	comp=Z,10nm,0.8s,baz=33,slow=2.5,SNR=9.7							
DBIC	**Dimbokro**	**145.26**	**303**		**PKPbc**	**22 05 47.8**	**-0.3**
LPAZ	**La Paz**	**146.62**	**100**	PKPbc	**PKPbc**	**22 05 54.0**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=202,slow=5.4,SNR=3.7							

*MOS **10** 22:01:28.1±0.9, 10.35S×120.90E, h41km, mb5.3/26, Error ellipse: s-maj=10.4km s-min=5.3km az=115.5*
*BJI **10** 22:01:29.0±0.0, 10.60S×120.90E, h55km, mB4.9/38, mb5.0/63, Ms4.4/20, Ms7 4.1/20*
*NEIC **10** 22:01:30.0±2.3, 10.52S±0.05×120.73E±0.06, h35km±1km, mb5.1/71, Error ellipse: s-maj=10.6km s-min=8.2km az=255.0*
*IDC **10** 22:01:31.5±1.9, 10.31S×120.82E, h52km±16km, mb4.6/17, mb1 4.7/19, mb1mx4.5/28, mbtmp4.9/19, ML4.9/3, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=14.0km s-min=10.8km az=40.0*
*DJA **10** 22:01:31.6±0.4, 11˚S±2˚×12˚1E±˚, h36km±4km, M5.1/49, mB5.5/35, mb5.3/49, MLv5.5/16, Mw(mB)5.0/35, MwMwp4.8/2, Mwp5.1/2*
*GCMT **10** 22:01:34.0±0.2, 10.63S±0.01×120.89E±0.01, h51km±1km, MW5.1/113, Moment Tensor Solution. s75,c96; s113,c169; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.46±.16; Mθθ-4.90±.12; Mϕϕ5.36±.14; Mrθ1.41±.12; Mθϕ1.48±.12; Mϕr-2.80±.14; Best double couple: M₀6.16800×10¹⁶ NP1:ϕs234.00000°, δ60.00000°, λ0.00000°. NP2:ϕs144.00000°, δ90.00000°, λ150.00000°. Principal axes: T 6.5530, Plg21.0000°, Azm95.0000°; N -0.7680, Plg60.0000°, Azm323.0000°; P -5.7840, Plg21.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 22:01:30.6±0.3, 10.59S±0.03×120.78E±0.04, h50km, n369, σ1§60/356, mb4.9/111, MS4.0/19, 10C-11D, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.42**	**331**	P	**Pn**	**22 01 44.0**	**+3.0**
BASI				S	**Sn**	**22 01 50.4**	**+2.0**
WSI	**Waingapu**	**1.03**	**332**	P	**Pn**	**22 01 50.8**	**+2.0**
WBSI	**Waikabubak, Su**	**1.66**	**304**	P	**Pn**	**22 01 59.9**	**+2.5**
MMRI	**Maumere**	**2.41**	**37**	Pn	**Pn**	**22 02 07.1**	**-0.5**
MMRI	**Maumere**	**2.41**	**37**	P	**Pn**	**22 02 07.4**	**-0.3**
BATI	**Baumata**	**2.86**	**83**	P	**Pn**	**22 02 15.3**	**+1.5**
	475nm,0.3s,baz=285,slow=2.6,SNR=526						
BATI				S	**Sn**	**22 02 47.5**	**+0.5**
	961nm,0.3s,baz=24,slow=20,SNR=20						
BATI	**Baumata**	**2.86**	**83**	P	**Pn**	**22 02 15.3**	**+1.5**
PLAI	**Plampang**	**3.44**	**300**	P	**Pn**	**22 02 24.6**	**+2.8**
SOEI	**Soe**	**3.53**	**77**	Pn	**Pn**	**22 02 24.1**	**+1.1**
SOEI	**Soe**	**3.53**	**77**	P	**Pn**	**22 02 24.5**	**+1.4**
TWSI	**Taliwang, Sumb**	**4.26**	**295**	P	**Pn**	**22 02 35.5**	**+2.4**
MKS	**Makassar**	**5.49**	**346**	P	**Pn**	**22 02 51.3**	**+1.4**
	2.2nm5µm407nm,0.7s						
KHKI	**Kahang-Kahang**	**5.56**	**293**	P	**Pn**	**22 02 53.0**	**+2.1**
	3.8nm5µm308nm,1.0s						
KAPI	**Kappang**	**5.63**	**349**	P	**Pn**	**22 02 52.8**	**+1.0**
	33nm,0.3s,baz=170,slow=9.3,SNR=94						
KAPI				S	**Sn**	**22 03 54.2**	**-1.0**
	43nm,0.3s,baz=104,slow=22,SNR=5.8						
KAPI				LR	LR	22 04 50.3	
	comp=Z,920nm,20.0s,baz=184,slow=37						
KAPI	**Kappang**	**5.63**	**349**	P	**Pn**	**22 02 53.0**	**+1.2**
	1.3nm3µm366nm,0.8s						
DNP	**Denpasar**	**5.81**	**289**	P	**Pn**	**22 02 56.9**	**+2.6**
	34nm29µm1µm,0.5s						
SRBI	**Singaraja**	**6.04**	**294**	P	**Pn**	**22 02 58.9**	**+1.5**
	1.9nm4µm5µm258nm,0.7s						
BNSI	**Bone**	**6.18**	**354**	P	**Pn**	**22 03 02.1**	**+2.7**
	1.4nm4µm348nm,0.9s						
KKSI	**Kolaka, Sulawe**	**6.43**	**8**	P	**Pn**	**22 03 03.1**	**+0.3**
	0.9nm3µm237nm,0.8s						
BYJI	**Banyuwangi**	**6.77**	**290**	P	**Pn**	**22 03 09.5**	**+2.1**
	1.9nm5µm207nm,0.7s						
JAGI	**Jajag, Banyuwa**	**6.87**	**287**		**Pn**	**22 03 08.1**	**-0.8**
JAGI	**Jajag, Banyuwa**	**6.87**	**287**	P	**Pn**	**22 03 08.1**	**-0.8**
ABJI	**Asem Bagus**	**7.04**	**293**	P	**Pn**	**22 03 13.6**	**+2.5**
	1.7nm183nm,0.9s						
PMSI	**Majene**	**7.28**	**345**	P	**Pn**	**22 03 16.6**	**+2.1**
	0.8nm2µm215nm,0.6s						
TTSI	**Tana Toraja**	**7.56**	**353**	P	Pn	22 03 21.9	+3.7
	0.7nm3µm270nm,1.0s						
KMMI	**Kalianget**	**7.60**	**297**	P	Pn	22 03 22.7	+3.9
	0.6nm92nm,0.9s						
FITZ	**Fitzroy Crossi**	**8.82**	**148**	P	**Pn**	**22 03 35.5**	**0.0**
	15nm,0.3s,baz=333,slow=7.5,SNR=321						
FITZ				S	**Sn**	**22 05 06.5**	**-7.1**
	72nm,0.3s,baz=184,slow=18,SNR=12						
FITZ	**Fitzroy Crossi**	**8.82**	**148**	P	**Pn**	**22 03 35.6**	**0.0**
	baz=8.9,SNR=167						
FITZ				S	**Sn**	**22 05 08.0**	**-5.7**
	baz=8.9						
FITZ	**Fitzroy Crossi**	**8.82**	**148**	Pn	**Pn**	**22 03 35.0**	**-0.6**
BBKI	**Banjar Baru**	**9.21**	**320**	P	Pn	22 03 45.5	+4.5
	159nm,1.0s						
PWJI	**Pagerwojo**	**9.22**	**285**	P	**Pn**	**22 03 41.2**	**+0.1**
	6µm180nm,0.6s						
KNRA	**Kununurra**	**9.27**	**124**	P	**Pn**	**22 03 42.4**	**+0.6**
	baz=9.3,SNR=306						
KNRA	**Kununurra**	**9.27**	**124**	Pn	**Pn**	**22 03 41.3**	**-0.5**
SJI	**Sawahan**	**9.34**	**287**	P	**Pn**	**22 03 44.9**	**+2.1**
	6µm194nm,0.7s						
NLAI	**Namlea**	**9.62**	**41**	P	Pn	22 03 53.6	+7.0
APSI	**Ampana**	**9.65**	**5**	P	**Pn**	**22 03 48.1**	**+1.1**
	1µm64nm,1.0s						
LUWI	**Luwuk**	**9.69**	**12**		**Pn**	**22 03 46.8**	**-0.6**
LUWI	**Luwuk**	**9.69**	**12**	P	**Pn**	**22 03 50.1**	**+2.6**
	6µm308nm,1.2s						
SANI	**Sanana**	**9.93**	**32**	P	**Pn**	**22 03 52.8**	**+2.0**
	1µm79nm,1.4s						
MTN	**Manton Dam**	**10.38**	**103**	P	**Pn**	**22 03 55.9**	**-1.0**
	baz=10,SNR=66						
MTN	**Manton Dam**	**10.38**	**103**	Pn	**Pn**	**22 03 55.6**	**-1.4**
UGM	**Wanagama**	**10.47**	**284**		**Pn**	**22 03 58.1**	**-0.1**
UGM	**Wanagama**	**10.47**	**284**	P	**Pn**	**22 03 59.8**	**+1.6**
	331nm,1.2s						
SAUI	**Saumlaki**	**10.70**	**77**	Pn	**Pn**	**22 04 01.2**	**-0.1**
SAUI	**Saumlaki**	**10.70**	**77**	P	**Pn**	**22 04 01.9**	**+0.6**
	831nm,0.6s						
PKKI	**Palangkaraya**	**10.70**	**320**	P	Pn	22 04 17.2	+16
SMRI	**Semarang**	**10.81**	**288**	Pn	**Pn**	**22 04 03.0**	**+0.1**
SMRI	**Semarang**	**10.81**	**288**	P	**Pn**	**22 04 05.5**	**+2.7**
	224nm,0.7s						
MSAI	**Masohi**	**10.82**	**49**	P	Pn	22 04 19.3	+16
PSA00	**Pilbara Seismi**	**10.96**	**185**	Pn	**Pn**	**22 04 03.7**	**-1.1**
PSA00	**Pilbara Seismi**	**10.96**	**185**	Pn	**Pn**	**22 04 04.1**	**-0.8**
MRSI	**Marisa**	**11.05**	**6**	P	**Pn**	**22 04 07.2**	**+1.1**
	1µm106nm,1.2s						
MTKI	**Muara Teweh, K**	**11.23**	**328**	P	Pn	22 04 19.6	+11
GTOI	**Gorontalo**	**11.37**	**11**	P	**Pn**	**22 04 12.4**	**+1.9**
	448nm34nm,1.0s						
TOLI2	**Tolitoli**	**11.62**	**360**	Pn	**Pn**	**22 04 13.8**	**-0.1**
KDU	**Kakadu**	**11.64**	**101**	P	Pn	22 04 12.0	-2.2
	baz=12,SNR=341						
CTJI	**Waduk Cacaban**	**12.00**	**286**	P	**Pn**	**22 04 20.3**	**+1.2**
	69nm,1.0s						
KPJI	**Karang Pucung**	**12.15**	**284**	P	**Pn**	**22 04 21.7**	**+0.6**
	152nm,0.5s						
TNTI	**Ternate**	**13.05**	**31**		**Pn**	**22 04 33.6**	**+0.2**
TNTI	**Ternate**	**13.05**	**31**	P	**P**	**22 04 42.1**	**-0.3**
GIRL	**Giralia**	**13.53**	**207**	P	**Pn**	**22 04 39.3**	**-0.6**
	baz=14,SNR=127						
GIRL	**Giralia**	**13.53**	**207**		**Pn**	**22 04 40.0**	**+0.2**
LEM	**Lembang**	**13.54**	**285**	P	**Pn**	**22 04 40.4**	**+0.2**
	3.1nm,0.3s,baz=85,slow=16,SNR=12						
LEM				S	**Sn**	**22 07 08.0**	**-1.4**
	2.8nm,0.3s,baz=342,slow=23,SNR=2.4						
LEM	**Lembang**	**13.54**	**285**	P	**Pn**	**22 04 40.5**	**+0.2**
	942nm55nm,0.7s						
FAKI	**Fak Fak**	**13.69**	**57**		**Pn**	**22 04 40.4**	**-1.9**
FAKI	**Fak Fak**	**13.69**	**57**	P	**Pn**	**22 04 40.0**	**-2.2**
	2µm262nm,0.7s						
STKI	**Sintang**	**14.06**	**318**	P	**Pn**	**22 04 48.6**	**+1.4**
	4µm33nm,1.0s						
GAMI	**Galela, Maluku**	**14.18**	**30**	P	**Pn**	**22 04 50.2**	**+1.4**
	1µm97nm,1.2s						
SIJI	**Sorong**	**14.20**	**48**	P	**Pn**	**22 04 47.1**	**-2.0**
	5.6nm,0.3s,baz=212,slow=7.2,SNR=24						
SIJI				S	**Sn**	**22 07 29.1**	**+3.7**
	3.2nm,0.3s,baz=316,slow=20,SNR=9.2						
SIJI	**Sorong**	**14.20**	**48**	P	**Pn**	**22 04 47.2**	**-2.0**
	730nm78nm,0.9s						
SWI	**Sorong**	**14.20**	**48**	P	**Pn**	**22 04 47.2**	**-1.9**
	2µm257nm,0.8s						
CBJI	**Citeko**	**14.39**	**286**	P	**P**	**22 04 58.7**	**+1.4**
XMIS	**Christmas Isla**	**14.88**	**269**	Pn	**Pn**	**22 04 57.9**	**-0.2**
SGSI	**Sangihe**	**14.95**	**19**	P	**P**	**22 05 02.1**	**-1.4**
	4µm124nm,0.8s						
TPI	**Tanjungpandan**	**15.18**	**300**	P	**P**	**22 05 03.8**	**-2.3**
	19nm,0.9s						
SBUM	**Sibu**	**15.51**	**326**	P	**P**	**22 05 12.0**	**+2.3**
SPMM	**Sapulut**	**15.79**	**344**	P	**P**	**22 05 12.0**	**-0.9**
KSM	**Kuching**	**15.88**	**318**	P	**P**	**22 05 15.0**	**+1.1**
WRA	**Warramunga Arr**	**16.04**	**127**	P	**Pn**	**22 05 10.4**	**-2.6**
	9.1nm,0.3s,baz=305,slow=14,SNR=278						
WRA				S	Sn	22 07 57.0	-13
	14nm,0.3s,baz=307,slow=22,SNR=11						
WRA				LR	LR	22 12 17.4	
	comp=Z,772nm,18.1s,baz=305,slow=40						
WRAB	**Tennant Creek**	**16.04**	**127**	P	**Pn**	**22 05 10.9**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,165nm,0.7s						
WRAB	**Tennant Creek**	**16.04**	**127**		**Pn**	**22 05 10.9**	**-2.0**
WRAB				IAmb	IAmb	22 05 13.7	
	comp=Z,164nm,0.7s						
WRKA	**Warakurna**	**16.04**	**155**	P	**Pn**	**22 05 11.6**	**-1.4**
	baz=16,SNR=102						
WC3	**Warramunga Arr**	**16.07**	**127**	P	**Pn**	**22 05 11.0**	**-2.3**
	baz=16						
MEEK	**Meekatharra**	**16.09**	**187**	P	**Pn**	**22 05 13.3**	**-0.3**
	baz=16,SNR=132						
PPBI	**Pangkal Pinang**	**16.78**	**299**	P	**P**	**22 05 23.5**	**-0.4**
	comp=Z,35nm,0.8s						
KASI	**Kota Agung**	**16.89**	**286**	P	**P**	**22 05 23.4**	**-1.7**
	comp=Z,2µmcomp=Z,266nm,0.9s						
MDSI	**Maura Dua**	**17.54**	**289**	P	**P**	**22 05 32.7**	**+0.5**
	comp=Z,910nmcomp=Z,24nm,0.9s						
BAKI	**Biak**	**17.86**	**59**	P	**P**	**22 05 35.6**	**-0.2**
	comp=Z,5µmcomp=Z,546nm,1.4s						
ASPA	**Alice Springs**	**18.04**	**138**	P	**Pn**	**22 05 38.6**	**+0.7**
	baz=18						
AS31	**Alice Springs**	**18.05**	**138**		**P**	**22 05 38.1**	**+0.3**
ASAR	**Alice Springs**	**18.05**	**138**	P	**Pn**	**22 05 38.5**	**+0.5**
	comp=Z,5.8nm,0.3s,baz=319,slow=13,SNR=284						
ASAR				S	Sn	22 08 44.8	-14
	comp=Z,8.3nm,0.3s,baz=321,slow=25,SNR=8.2						
ASAR				LR	LR	22 13 06.5	
	comp=Z,621nm,20.5s,baz=316,slow=38						
ASAR				ScP	**ScP**	**22 13 41.2**	**-0.8**
	baz=348,slow=1.5,SNR=4.3						
ASAR	**Alice Springs**	**18.05**	**138**	P	**P**	**22 05 37.8**	**0.0**
ASAR	**Alice Springs**	**18.05**	**138**		**P**	**22 05 37.8**	**0.0**
LHSI	**Lahat**	**18.39**	**290**	P	**Pn**	**22 05 44.8**	**+2.7**
	comp=Z,2µmcomp=Z,140nm,0.9s						
MORW	**Morawa**	**18.91**	**193**	P	**Pn**	**22 05 49.0**	**+0.7**
	baz=19,SNR=30						
MORW	**Morawa**	**18.91**	**193**	P	**Pn**	**22 05 48.1**	**-0.2**
WAMI	**Wamena**	**18.98**	**71**	P	**Pn**	**22 05 50.2**	**+0.9**
EGSI	**Enggano, Bengk**	**19.05**	**284**	P	**Pn**	**22 05 49.1**	**-0.9**
	comp=Z,154nm,0.9s						
KSI	**Kapahiang**	**19.31**	**290**	P	**Pn**	**22 05 54.7**	**+1.4**
	comp=Z,218nm,0.9s						
BLDU	**Ballidu**	**20.28**	**190**	P	Pn	22 06 03.6	-0.9
	baz=20,SNR=58						
QIS	**Mount Isa**	**20.64**	**121**	P	**P**	**22 06 07.6**	**+1.4**
	baz=21,SNR=42						
GENI	**Genyem**	**20.82**	**69**	P	**P**	**22 06 08.0**	**-0.1**
	comp=Z,4µmcomp=Z,246nm,0.6s						
MYKOM	**Kota Tinggi**	**20.86**	**305**	P	Pn	22 06 13.0	+1.5
KLBR	**Kellerberrin**	**21.09**	**187**	P	**P**	**22 06 12.7**	**+1.8**
	baz=21,SNR=75						
FORT	**Forrest**	**21.20**	**162**	P	**P**	**22 06 14.1**	**+2.1**
	baz=21,SNR=37						
FORT	**Forrest**	**21.20**	**162**	P	**P**	**22 06 13.1**	**+1.1**
MUN	**Mundaring**	**21.70**	**191**	P	**P**	**22 06 18.9**	**+1.4**
	baz=22,SNR=6.9						
PDSI	**Padang**	**22.37**	**294**	P	**P**	**22 06 24.0**	**-0.8**
	comp=Z,25nm,0.6s						
BKNI	**Bangkinang**	**22.43**	**298**	P	**P**	**22 06 26.7**	**+1.2**
BKNI	**Bangkinang**	**22.43**	**298**	P	**P**	**22 06 27.1**	**+1.6**
	comp=Z,1µmcomp=Z,145nm,1.1s						
NWAO	**Narrogin (SRO)**	**22.47**	**188**	P	**P**	**22 06 26.6**	**+0.8**
	comp=Z,31nm,0.6s,baz=22,slow=7.3,SNR=25						
NWAO				S	**S**	**22 10 23.9**	**-5.2**
	comp=Z,39nm,0.6s,baz=274,slow=20,SNR=9.8						
NWAO				LR	LR	22 16 29.5	
	comp=Z,722nm,18.0s,baz=18,slow=40						
NWAO	**Narrogin (SRO)**	**22.47**	**188**	P	**P**	**22 06 26.6**	**+0.9**
	baz=23,SNR=15						
NWAO	**Narrogin (SRO)**	**22.47**	**188**	P	**P**	**22 06 26.3**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,47nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.47**	**188**	P	**P**	**22 06 26.6**	**+0.9**
NWAO				IAmb	IAmb	22 06 27.2	
	comp=Z,37nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.47**	**188**	P	**P**	**22 06 26.3**	**+0.6**
NWAO				IAmb	IAmb	22 06 27.2	
	comp=Z,47nm,0.8s						
MTSU	**Mount Surprise**	**23.98**	**111**	P	**P**	**22 06 42.6**	**+1.9**
	baz=24,SNR=16						
RPSI	**Rantau Prapat**	**25.45**	**300**	P	**P**	**22 06 54.9**	**+0.8**
RPSI				IAmb	IAmb	22 07 16.4	
	comp=Z,46nm,0.9s						
PSI	**Prapat**	**25.50**	**300**	P	**P**	**22 06 54.5**	**-0.2**
	comp=Z,26nm,1.1s,baz=180,slow=9.1,SNR=22						
PSI				LR	LR	22 18 32.4	
	comp=Z,332nm,19.8s,baz=91,slow=40						
PSI	**Prapat**	**25.50**	**300**	P	**P**	**22 06 54.9**	**+0.2**
PSI				pmax	pmax		
	comp=Z,46nm,0.9s						
PSI	**Prapat**	**25.50**	**300**	P	pP	22 06 56.1	-11
	comp=Z,648nmcomp=Z,62nm,1.0s,comp=Z,298nm,1.0s, comp=Z,30nm,1.0s						
PSI				P	**P**	**22 06 56.0**	**+1.3**
	comp=Z,648nmcomp=Z,62nm,1.0s,comp=Z,298nm,1.0s, comp=Z,30nm,1.0s						
KULM	**Kulim**	**25.51**	**307**	P	P	22 07 01.0	+6.4
GSI	**Gunungsitoli**	**25.94**	**296**	P	**P**	**22 06 57.9**	**-0.7**
GSI				IAmb	IAmb	22 07 40.3	
	comp=Z,60nm,1.4s						
PMG	**Port Moresby**	**26.00**	**90**	P	**P**	**22 06 59.4**	**+0.3**
	comp=Z,18nm,0.7s,baz=289,slow=5.3,SNR=2.4						
PMG				LR	LR	22 19 23.8	
	comp=Z,289nm,18.8s,baz=279,slow=41						
PMG	**Port Moresby**	**26.00**	**90**	P	**P**	**22 06 58.7**	**-0.4**
PMG				pmax	pmax		
	comp=Z,69nm,0.8s						
PMG	**Port Moresby**	**26.00**	**90**	P	**P**	**22 06 58.7**	**-0.4**
PMG				IAmb	IAmb	22 07 23.6	
	comp=Z,70nm,0.8s						
BBOO	**Buckleboo**	**26.21**	**150**	P	**P**	**22 07 02.1**	**+1.3**
	baz=26,SNR=11						
BBOO	**Buckleboo**	**26.21**	**150**	P	**P**	**22 07 01.5**	**+0.7**
CTA	**Charters Tower**	**26.28**	**114**	P	**P**	**22 07 03.3**	**+1.6**
	comp=Z,16nm,0.9s,baz=277,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**26.28**	**114**	P	**P**	**22 07 03.0**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,29nm,0.9s						
CTAO	**Charters Tower**	**26.28**	**114**	P	**P**	**22 07 03.0**	**+1.4**
CTAO				IAmb	IAmb	22 07 25.1	
	comp=Z,29nm,0.9s						
HTT	**Hallett**	**28.18**	**147**	P	**P**	**22 07 20.6**	**+2.0**
	baz=28,SNR=13						
STKA	**Stephens Creek**	**28.62**	**141**	P	**P**	**22 07 24.1**	**+1.7**
	comp=Z,12nm,0.6s,baz=310,slow=9.5,SNR=24						
STKA	**Stephens Creek**	**28.62**	**141**	P	**P**	**22 07 23.3**	**+0.9**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**28.62**	**141**	P	**P**	**22 07 23.3**	**+0.9**
UBPT	**Khong Chiam**	**29.84**	**329**	P	**P**	**22 07 33.3**	**-0.1**
UBPT	**Khong Chiam**	**29.84**	**329**	P	**P**	**22 07 34.7**	**+1.3**
RMQ	**Roma**	**30.77**	**125**	P	**P**	**22 07 43.5**	**+1.9**
	baz=31,SNR=5.2						
CMSA	**Cobar Meteorol**	**31.08**	**136**	P	**P**	**22 07 46.6**	**+2.4**
	baz=31,SNR=8.2						
QIZ	**Qiongzhong**	**31.35**	**340**	P	**P**	**22 07 46.2**	**-0.4**
QIZ				S	**S**	**22 12 52.2**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,35nm,1.5s						
QIZ	**Qiongzhong**	**31.35**	**340**	P	**P**	**22 07 47.0**	**+0.4**
QIZ				IAmb	IAmb	22 07 48.0	
	comp=Z,37nm,0.9s						
KHON	**Khomkaen**	**32.12**	**326**	P	**P**	**22 07 55.1**	**+1.6**
	comp=Z,12nm,0.8s						
CHAI	**Chaiyaphum**	**32.23**	**324**	P	**P**	**22 07 56.3**	**+1.8**
	comp=Z,81nmcomp=Z,11nm,0.8s						
ARPS	**Mount Arapiles**	**32.27**	**147**	P	**P**	**22 07 56.9**	**+2.3**
	baz=32,SNR=30						
SRDT	**SRDT**	**32.79**	**319**	P	P	22 08 09.5	+10
	comp=Z,6µ

	comp=Z,16nm,0.7s								
XAN	**Xi'an**	**45.79**	**346**		P	**P**	**22 09 46.1**	**-1.4**	
XAN					pP	pP	22 10 02.3	+1.6	
XAN					pmax	pmax			
	comp=Z,21nm,0.7s								
GUWA	**GUWAHATI**	**46.23**	**323**	*e*	P	**P**	**22 09 50.1**	**-0.9**	
JHS	**Saijyo**	**46.82**	**14**		P	**P**	**22 09 55.1**	**-0.4**	
JWT	**Wachi**	**47.67**	**16**		P	**P**	**22 10 00.1**	**-2.0**	
JWT					lAmb	lAmb	22 10 02.0		
	comp=Z,12nm,0.8s								
H08S2	**Diego Garcia H**	**47.73**	**269**		T	T	23 00 40.6		
	baz=96,slow=75,SNR=38								
H08S3	**Diego Garcia H**	**47.75**	**269**		T	T	23 00 41.4		
	baz=96,slow=75,SNR=33								
H08S1	**Diego Garcia H**	**47.75**	**269**		T	T	23 00 51.8		
	baz=96,slow=75,SNR=37								
DGAR	**Diego Garcia**	**47.80**	**270**	*ce*	P	**P**	**22 10 00.0**	**-3.6**	
DGAR					pmax	pmax			
	comp=Z,200nm,1.7s								
KSAR	**Wonju Array Be**	**48.24**	**8**		P	**P**	**22 10 04.8**	**-1.7**	
KSAR	**Wonju Array Be**	**48.24**	**8**		P	**P**	**22 10 04.8**	**-1.7**	
KSRS	**Korea Array**	**48.26**	**8**		P	**P**	**22 10 04.8**	**-1.7**	
	comp=Z,1.9nm,0.8s,baz=184,slow=8.6,SNR=8.1								
KSRS					LR	LR	22 32 40.2		
	comp=Z,30nm,19.4s,baz=188,slow=39								
GTK	**Tadong**	**48.93**	**321**	*e*	P	**P**	**22 10 11.5**	**-0.7**	
GTK					lAmb	lAmb	22 10 17.5		
	comp=Z,18nm,0.9s								
LZH	**Lanzhou**	**49.10**	**342**	*e*	P	**P**	**22 10 13.4**	**+0.1**	
LZH					pP	pP	22 10 27.1	+0.5	
LZH					sP	sP	22 10 32.5	+0.2	
LZH					sS	sS	22 17 38.6	+1.6	
LZH					pmax	pmax			
	comp=Z,24nm,1.3s								
LZH					pmax	pmax			
	comp=Z,140nm,5.6s								
LZH					L	L			
	comp=Z,160nm,14.0s								
LZH					L	L			
	comp=Z,200nm,14.2s								
LZH					L	L			
	comp=Z,210nm,16.8s								
LSA	**Lhasa**	**49.19**	**325**		P	**P**	**22 10 14.1**	**-0.4**	
LSA					pmax	pmax			
	comp=Z,34nm,1.0s								
LSA	**Lhasa**	**49.19**	**325**		P	**P**	**22 10 14.1**	**-0.4**	
LSA					pmax	pmax			
	comp=Z,47nm,1.3s								
LSA	**Lhasa**	**49.19**	**325**		P	**P**	**22 10 14.1**	**-0.4**	
MAJO	**Matsushiro**	**49.67**	**18**	*d i*	P	**P**	**22 10 15.7**	**-1.8**	
MAJO					pmax	pmax			
	comp=Z,20nm,1.2s								
MAJO	**Matsushiro**	**49.67**	**18**		P	**P**	**22 10 15.6**	**-1.9**	
MAJO					lAmb	lAmb	22 10 16.5		
	comp=Z,22nm,1.1s								
MAT	**Matsushiro**	**49.67**	**18**		P	**P**	**22 10 14.4**	**-3.1**	
MJAR	**Matsushiro Arr**	**49.67**	**18**		P	**P**	**22 10 14.6**	**-2.9**	
	comp=Z,18nm,1.0s,baz=190,slow=8.0,SNR=32								
MJAR					pP	**pP**	**22 10 29.6**	**-1.1**	
	comp=Z,2.1nm,0.5s,baz=190,slow=9.7,SNR=3.1								
MJAR					LR	LR	22 29 13.9		
	comp=Z,24nm,20.7s,baz=215,slow=34								
MJAR	**Matsushiro Arr**	**49.67**	**18**		P	**P**	**22 10 15.2**	**-2.3**	
MJAR					pmax	pmax			
	comp=Z,15nm,1.3s								
MJAR	**Matsushiro Arr**	**49.67**	**18**		P	**P**	**22 10 15.2**	**-2.3**	
MJAR					lAmb	lAmb	22 10 16.4		
	comp=Z,15nm,1.2s								
HYB	**Hyderabad**	**50.15**	**303**	*i*	P	**P**	**22 10 22.0**	**+0.5**	
HYB	**Hyderabad**	**50.15**	**303**	*e*	P	**P**	**22 10 20.2**	**-1.3**	
HYB					lAmb	lAmb	22 10 31.8		
	comp=Z,18nm,0.9s								
BJT	**Baijiatuau**	**50.53**	**355**		P	**P**	**22 10 22.4**	**-1.5**	
BJT					pmax	pmax			
	comp=Z,26nm,0.7s								
BJT	**Baijiatuau**	**50.53**	**355**		P	**P**	**22 10 22.4**	**-1.5**	
BJI	**Beijing**	**50.55**	**355**		P	**P**	**22 10 22.8**	**-1.3**	
BJI					S	**S**	**22 17 37.8**	**+3.0**	
BJI					pmax	pmax			
	comp=Z,33nm,0.7s								
BJI					L	L			
	comp=Z,99nm,9.9s								
BJI					L	L			
	comp=Z,79nm,10.7s								
JSD	**Sado**	**51.06**	**18**		P	**P**	**22 10 26.0**	**-2.0**	
JSD					lAmb	lAmb	22 10 27.6		
	comp=Z,35nm,1.0s								
JMM	**Marumori**	**51.72**	**20**		P	**P**	**22 10 32.1**	**-0.8**	
HHC	**Hu-ho-hao-te**	**51.88**	**351**	*e*	P	**P**	**22 10 35.9**	**+1.7**	
HHC					pmax	pmax			
	comp=Z,12nm,0.9s								
HHC					pmax	pmax			
	comp=Z,99nm,5.2s								
GTA	**Gaotai**	**53.43**	**340**	*e*	P	**P**	**22 10 46.2**	**+0.5**	
GTA					pP	pP	22 10 59.3	+0.2	
GTA					sP	sP	22 11 05.0	+0.2	
GTA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
GTA					pmax	pmax			
	comp=Z,60nm,5.7s								
GTA					L	L			
	comp=Z,61nm,17.8s								
GTA					L	L			
	comp=Z,77nm,17.1s								
GTA					L	L			
	comp=Z,84nm,20.4s								
JTM	**Tenmabayashi**	**54.45**	**19**		P	**P**	**22 10 50.9**	**-2.0**	
THZ	**Tophouse**	**55.06**	**134**		P	**P**	**22 10 59.6**	**+2.0**	
USA0B	**Ussuriysk Arra**	**55.47**	**10**		P	**P**	**22 10 58.6**	**-1.6**	
USA0B					pmax	pmax			
	comp=Z,13nm,0.7s								
USA0B	**Ussuriysk Arra**	**55.47**	**10**		P	**P**	**22 10 58.6**	**-1.6**	
USA0B					lAmb	lAmb	22 10 59.8		
	comp=Z,13nm,0.7s								
USRK	**Ussuriysk Ar.**	**55.47**	**10**		P	**P**	**22 10 58.2**	**-2.0**	
	comp=Z,12nm,0.6s,baz=192,slow=7.1,SNR=27								
USRK					LR	LR	22 36 00.4		
	comp=Z,38nm,20.0s,baz=183,slow=38								
USRK	**Ussuriysk Ar.**	**55.47**	**10**		P	**P**	**22 10 58.4**	**-1.8**	
USRK	**Ussuriysk Ar.**	**55.47**	**10**		P	**P**	**22 10 58.4**	**-1.8**	
MDJ	**Mudanjiang**	**55.52**	**8**		P	**P**	**22 10 59.0**	**-1.6**	
MDJ					pmax	pmax			
	comp=Z,34nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,120nm,2.6s								
MDJ	**Mudanjiang**	**55.52**	**8**		P	**P**	**22 10 59.0**	**-1.6**	
MDJ					lAmb	lAmb	22 11 00.4		
	comp=Z,25nm,0.8s								
CASY	**Casey**	**56.06**	**185**		P	**P**	**22 11 05.1**	**+0.9**	
CASY					lAmb	lAmb	22 11 06.3		
	comp=Z,10.0nm,0.8s								
TEY	**Ternei**	**57.18**	**13**	*e*	P	**P**	**22 11 11.3**	**-1.1**	
TEY					pmax	pmax			
	comp=N,10.0nm,1.0s								
TEY					pmax	pmax			
	comp=Z,30nm,1.0s								
SMLA	**Simla**	**58.90**	**316**	*e*	P	**P**	**22 11 23.9**	**-0.9**	
SMLA					lAmb	lAmb	22 11 34.8		
	comp=Z,25nm,0.5s								
ULN	**Ulaanbaatar**	**59.46**	**349**		P	**P**	**22 11 28.1**	**-0.4**	
ULN					pmax	pmax			
	comp=Z,12nm,1.0s								
ULN	**Ulaanbaatar**	**59.46**	**349**		P	**P**	**22 11 28.1**	**-0.4**	
ULN					lAmb	lAmb	22 11 50.4		
	comp=Z,12nm,0.9s								
SONM	**Songino Array**	**59.55**	**349**		P	**P**	**22 11 28.3**	**-0.8**	
	comp=Z,4.7nm,0.7s,baz=164,slow=8.6,SNR=31								
SONM	**Songino Array**	**59.55**	**349**		P	**P**	**22 11 28.3**	**-0.8**	
SONM					pmax	pmax			
	comp=Z,14nm,0.9s								
SONM	**Songino Array**	**59.55**	**349**		P	**P**	**22 11 28.3**	**-0.8**	
SONM					lAmb	lAmb	22 11 50.4		
	comp=Z,14nm,0.9s								
HIA	**Hailar**	**59.60**	**359**	*i*	P	**P**	**22 11 28.1**	**-1.2**	
HIA					pmax	pmax			
	comp=Z,3.0nm,0.6s								
DHRM	**DHARAMSHALA**	**60.17**	**317**	*e*	P	**P**	**22 11 31.7**	**-2.1**	
KLR	**Kul'dur**	**60.34**	**8**	*de*	P	**P**	**22 11 32.2**	**-2.1**	
KLR					pmax	pmax			
	comp=Z,9.0nm,1.4s								
YSS	**Yuzh-Sakhalins**	**60.55**	**17**	*c i*	P	**P**	**22 11 34.9**	**-0.9**	
YSS					pmax	pmax			
	comp=Z,43nm,1.3s								
YSS	**Yuzh-Sakhalins**	**60.55**	**17**		P	**P**	**22 11 34.7**	**-1.1**	
WMQ	**Urumqi**	**61.95**	**333**	*e*	P	**P**	**22 11 47.6**	**+2.2**	
WMQ					pP	pP	22 11 59.7	+0.6	
WMQ					pmax	pmax			
	comp=Z,30nm,0.8s								
WMQ					pmax	pmax			
	comp=Z,110nm,5.1s								
GRNR	**Gornyy**	**62.60**	**11**	*i*	P	**P**	**22 11 49.3**	**-0.2**	
GRNR					pmax	pmax			
	comp=Z,20nm,1.2s								
ZAK	**Zakamensk**	**62.61**	**347**	*e*	P	**P**	**22 11 48.6**	**-1.1**	
ZAK					pmax	pmax			
	comp=Z,11nm,1.0s								
NIL	**Nilore**	**63.06**	**316**		P	**P**	**22 11 51.9**	**-1.1**	
NIL					pmax	pmax			
	comp=Z,31nm,1.1s								
NIL	**Nilore**	**63.06**	**316**		P	**P**	**22 11 51.9**	**-1.1**	
TLY	**Talaya**	**63.76**	**348**	*e*	P	**P**	**22 11 58.0**	**+0.8**	
TLY					pmax	pmax			
	comp=Z,27nm,0.9s								
TLY					MLR	MLR			
	comp=Z,153nm,15.0s								
TLY	**Talaya**	**63.76**	**348**		P	**P**	**22 11 56.8**	**-0.5**	
TLY					lAmb	lAmb	22 12 07.6		
	comp=Z,12nm,1.0s								
ZEA	**Zeya**	**64.31**	**4**	*e*	P	**P**	**22 11 59.9**	**-0.8**	
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MOY	**Mondy**	**64.32**	**346**	*e*	P	**P**	**22 12 00.1**	**-0.9**	
MOY					pmax	pmax			
	comp=Z,14nm,1.8s								
KSH	**Kashi**	**64.92**	**323**		P	**P**	**22 12 05.2**	**0.0**	
KSH					sP	sP	22 12 26.2	+1.8	
KSH					pmax	pmax			
	comp=Z,10.0nm,0.4s								
KSH					pmax	pmax			
	comp=Z,210nm,2.6s								
KSH					L	L			
	comp=Z,180nm,6.6s								
KSH					L	L			
	comp=Z,140nm,8.8s								
KSH					L	L			
	comp=Z,150nm,6.2s								
PRZ	**Przheval'sk**	**65.52**	**327**		P	**P**	**22 12 10.0**	**+0.9**	
PRZ					pmax	pmax			
	comp=Z,12nm,1.0s								
PRZ	**Przheval'sk**	**65.52**	**327**		P	**P**	**22 12 10.0**	**+0.9**	
PRZ					lAmb	lAmb	22 12 15.3		
	comp=Z,12nm,0.9s								
UZB	**Uzynbulak**	**65.65**	**328**	*e*	P	**P**	**22 12 07.8**	**-2.1**	
	baz=328								
UZB	**Uzynbulak**	**65.65**	**328**	*e*	P	**P**	**22 12 07.8**	**-2.1**	
SATY	**Saty**	**65.91**	**327**	*e*	P	**P**	**22 12 10.7**	**-0.9**	
	baz=327								
SATY	**Saty**	**65.91**	**327**	*e*	P	**P**	**22 12 10.6**	**-0.9**	
KDJ	**Kajisay**	**65.95**	**326**		P	**P**	**22 12 11.5**	**-0.4**	
KDJ					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KDJ	**Kajisay**	**65.95**	**326**		P	**P**	**22 12 11.5**	**-0.4**	
ZSN	**Zaisan**	**66.03**	**334**	*e*	P	**P**	**22 12 10.5**	**-1.6**	
	baz=334								
ZSN	**Zaisan**	**66.03**	**334**	*e*	P	**P**	**22 12 10.4**	**-1.6**	
KPKS	**Kokpek**	**66.05**	**328**	*e*	P	**P**	**22 12 10.0**	**-2.4**	
	baz=328								
KPKS	**Kokpek**	**66.05**	**328**	*e*	P	**P**	**22 12 10.0**	**-2.4**	
KBL	**Kabul**	**66.45**	**315**		P	**P**	**22 12 14.4**	**-0.9**	
KBL					pmax	pmax			
	comp=Z,28nm,0.7s								
KBL	**Kabul**	**66.45**	**315**		P	**P**	**22 12 14.4**	**-0.9**	
MK31	**Makanchi Array**	**66.67**	**332**		P	**P**	**22 12 15.6**	**-0.6**	
MK31					pmax	pmax			
	comp=Z,10.0nm,1.0s								
MK31	**Makanchi Array**	**66.67**	**332**		P	**P**	**22 12 15.6**	**-0.6**	
MK31					lAmb	lAmb	22 12 35.3		
	comp=Z,9.6nm,0.9s								
MKAR	**Makanchi Array**	**66.67**	**332**		P	**P**	**22 12 15.2**	**-1.0**	
	comp=Z,5.2nm,0.5s,baz=149,slow=7.1,SNR=52								
MKAR	**Makanchi Array**	**66.67**	**332**	*ce*	P	**P**	**22 12 15.6**	**-0.6**	
MKAR					pmax	pmax			
	comp=Z,8.0nm,0.4s								
MKAR	**Makanchi Array**	**66.67**	**332**		P	**P**	**22 12 15.5**	**-0.7**	
DGZ	**Jazzator, Alta**	**66.77**	**337**	*de*	P	**P**	**22 12 16.3**	**-0.6**	
DGZ					pmax	pmax			
	comp=Z,24nm,0.9s								
MAKZ	**Makanchi**	**66.82**	**332**		P	**P**	**22 12 16.5**	**-0.7**	
MAKZ					pmax	pmax			
	comp=Z,6.0nm,0.9s								
MAKZ	**Makanchi**	**66.82**	**332**		P	**P**	**22 12 16.5**	**-0.7**	
ARXS	**Arharly**	**67.01**	**328**	*e*	P	**P**	**22 12 22.0**	**+3.5**	
MTBS	**Maitube**	**67.03**	**326**	*e*	P	**P**	**22 12 17.9**	**-0.8**	
	baz=326								
MTBS	**Maitube**	**67.03**	**326**	*e*	P	**P**	**22 12 17.8**	**-0.8**	
TDK	**Taldyqorghan**	**67.26**	**329**	*e*	P	**P**	**22 12 19.6**	**-0.4**	
	baz=329								
TDK	**Taldyqorghan**	**67.26**	**329**	*e*	P	**P**	**22 12 19.6**	**-0.4**	
DRK	**Karamyk**	**67.43**	**321**		P	**P**	**22 12 21.8**	**+0.3**	
DRK					lAmb	lAmb	22 12 47.6		
	comp=Z,18nm,0.8s								
KUU	**Kurty**	**67.58**	**327**	*e*	P	**P**	**22 12 21.2**	**-0.8**	
	baz=327								
KUU	**Kurty**	**67.58**	**327**	*e*	P	**P**	**22 12 21.2**	**-0.8**	
AAK	**Ala-Archa**	**67.78**	**325**	*e*	P	**P**	**22 12 24.1**	**+0.6**	
AAK					pmax	pmax			
	comp=Z,31nm,1.0s								
AAK	**Ala-Archa**	**67.78**	**325**		P	**P**	**22 12 23.6**	**+0.1**	
ARSB	**Arslanbob**	**67.83**	**323**		P	**P**	**22 12 23.7**	**-0.2**	
ARSB	**Arslanbob**	**67.83**	**323**		P	**P**	**22 12 23.6**	**-0.2**	
GAR	**Garm**	**68.09**	**320**		P	**P**	**22 12 25.3**	**-0.2**	
SGDS	**Sogindy**	**68.23**	**326**	*e*	P	**P**	**22 12 24.9**	**-1.4**	
	baz=326								
SGDS	**Sogindy**	**68.23**	**326**	*e*	P	**P**	**22 12 24.8**	**-1.4**	
MAW	**Mawson**	**68.36**	**200**		P	**P**	**22 12 28.4**	**+1.9**	
	comp=Z,9.2nm,0.7s,baz=76,slow=7.3,SNR=35								
MAW	**Mawson**	**68.36**	**200**		P	**P**	**22 12 29.1**	**+2.6**	
	baz=68,SNR=13								
MAW	**Mawson**	**68.36**	**200**		P	**P**	**22 12 28.0**	**+1.5**	
MAW					pmax	pmax			
	comp=Z,2.0nm,0.8s								
MAW	**Mawson**	**68.36**	**200**		P	**P**	**22 12 28.0**	**+1.5**	
BTK	**Batken**	**68.39**	**321**		P	**P**	**22 12 27.9**	**+0.7**	
BTK					pmax	pmax			
	comp=Z,30nm,1.4s								
BTK	**Batken**	**68.39**	**321**		P	**P**	**22 12 27.9**	**+0.7**	
BTK					lAmb	lAmb	22 12 59.7		
	comp=Z,30nm,1.4s								
CHGR	**Chuyangaron**	**68.64**	**319**		P	**P**	**22 12 29.0**	**+0.1**	
BTLS	**Baital**	**69.58**	**327**	*e*	P	**P**	**22 12 33.7**	**-0.7**	
	baz=326								
BTLS	**Baital**	**69.58**	**327**	*e*	P	**P**	**22 12 33.7**	**-0.7**	
VNDA	**Vanda**	**70.16**	**171**		P	**P**	**22 12 39.8**	**+2.3**	
	comp=Z,6.5nm,0.8s,baz=316,slow=5.6,SNR=38								
VNDA					LR	LR	22 43 01.4		
	comp=Z,88nm,18.7s,baz=305,slow=35								
VNDA	**Vanda**	**70.16**	**171**		P	**P**	**22 12 39.2**	**+1.7**	
VNDA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
VNDA	**Vanda**	**70.16**	**171**		P	**P**	**22 12 39.2**	**+1.7**	
SEM	**Semipalatinsk**	**70.25**	**334**	*e*	P	**P**	**22 12 37.1**	**-1.7**	
	baz=334								
SEM	**Semipalatinsk**	**70.25**	**334**	*e*	P	**P**	**22 12 37.0**	**-1.7**	
KK31	**Karatay Array**	**70.37**	**323**		P	**P**	**22 12 40.2**	**+0.8**	
KK31					pmax	pmax			
	comp=Z,11nm,1.5s								
KK31	**Karatay Array**	**70.37**	**323**		P	**P**	**22 12 40.2**	**+0.8**	
KKAR	**Karatay Array**	**70.37**	**323**		P	**P**	**22 12 39.9**	**+0.5**	
KKAR	**Karatay Array**	**70.37**	**323**		P	**P**	**22 12 39.9**	**+0.5**	
PEA0B	**Petropavlovsk-**	**70.84**	**23**		P	**P**	**22 12 42.1**	**+0.1**	
PEA0B					pmax	pmax			
	comp=Z,19nm,1.0s								
PEA0B	**Petropavlovsk-**	**70.84**	**23**		P	**P**	**22 12 42.1**	**+0.1**	
PEA0B					lAmb	lAmb	22 12 59.9		
	comp=Z,19nm,1.0s								
PETK	**Petropavlovsk-**	**70.84**	**23**		P	**P**	**22 12 41.8**	**-0.1**	
	comp=Z,11nm,0.9s,baz=196,slow=4.6,SNR=13								
PETK					LR	LR	22 44 11.0		
	comp=Z,12nm,21.8s,baz=212,slow=36								
PETK	**Petropavlovsk-**	**70.84**	**23**		P	**P**	**22 12 42.1**	**+0.1**	
PETK	**Petropavlovsk-**	**70.84**	**23**		P	**P**	**22 12 42.1**	**+0.1**	
PET	**Petropavlovsk**	**71.14**	**23**	*e*	P	**P**	**22 12 41.6**	**-2.1**	
PET					*e*S	**S**	**22 21 54.4**	**-2.2**	
PET					MLR	MLR			
	comp=Z,100nm,17.0s								
SBA	**Scott Base**	**71.14**	**171**		P	**P**	**22 12 45.5**	**+2.0**	
SBA					pmax	pmax			
	comp=Z,12nm,1.3s								
SBA	**Scott Base**	**71.14**	**171**		P	**P**	**22 12 45.5**	**+2.0**	
ZAA0	**Zalesovo Array**	**71.15**	**338**		P	**P**	**22 12 42.2**	**-1.6**	
ZALV	**Zalesovo Beam**	**71.15**	**338**		P	**P**	**22 12 42.2**	**-1.6**	
	comp=Z,23nm,0.6s,baz=136,slow=4.5,SNR=29								
ZALV	**Zalesovo Beam**	**71.15**	**338**	*i*	P	**P**	**22 12 44.5**	**+0.7**	
ZALV					pmax	pmax			
	comp=Z,23nm,0.6s								
YAK	**Yakutsk**	**72.73**	**4**	*d i*	P	**P**	**22 12 52.0**	**-1.1**	
YAK					pmax	pmax			
	comp=Z,37nm,1.3s								
YAK	**Yakutsk**	**72.73**	**4**		P	**P**	**22 12 52.0**	**-1.1**	
YAK					lAmb	lAmb	22 13 02.7		
	comp=Z,23nm,0.7s								
BRZS	**Berezniki**	**73.48**	**330**	*e*	P	**P**	**22 12 56.7**	**-1.1**	
	baz=330								
BRZS	**Berezniki**	**73.48**	**330**	*e*	P	**P**	**22 12 56.7**	**-1.1**	
MA2	**Magadan**	**73.96**	**15**	*ce*	P	**P**	**22 12 59.9**	**-0.5**	
MA2					pmax	pmax			
	comp=Z,18nm,0.8s								
MA2	**Magadan**	**73.96**	**15**		P	**P**	**22 13 00.6**	**+0.1**	
MA2					lAmb	lAmb	22 13 03.1		
	comp=Z,19nm,0.8s								
GEYT	**Alibeck**	**75.80**	**314**		P	**P**	**22 13 13.2**	**+1.6**	
	comp=Z,1.3nm,0.7s,baz=185,slow=8.1,SNR=1.8								
BRVK	**Borovoye**	**76.59**	**331**		P	**P**	**22 13 15.2**	**-0.5**	
BRVK					pmax	pmax			
	comp=Z,29nm,1.6s								
BRVK	**Borovoye**	**76.59**	**331**		P	**P**	**22 13 15.2**	**-0.5**	
BRVK					lAmb	lAmb	22 13 33.5		
	comp=Z,29nm,1.6s								
SYO	**Syowa Base**	**77.02**	**201**	*e*	PcP	**PcP**	**22 13 27.0**	**-1.7**	
SYO	**Syowa Base**	**77.02**	**201**	*e*	pP	pP	22 13 32.0	+0.2	
QSPA	**South Pole Qui**	**79.41**	**180**		P	**P**	**22 13 32.2**	**+0.8**	
ABKAR	**Akbulak array**	**79.87**	**324**		P	**P**	**22 13 33.0**	**-0.9**	
ABKAR					lAmb	lAmb	22 13 52.6		
	comp=Z,14nm,1.1s								
ABKAR	**Akbulak array**	**79.87**	**324**		P	**P**	**22 13 33.5**	**-0.4**	
QRN	**Al-Qurain**	**80.39**	**302**	*e*	P	P	22 13 44.2	+7.1	
UMR	**Umm Al-Rimmam**	**80.80**	**302**	*e*	P	P	22 13 46.0	+6.7	
RAYN	**Ar Rayn**	**80.98**	**296**		P	**P**	**22 13 40.8**	**+0.3**	
RAYN					pmax	pmax			
	comp=Z,11nm,0.9s								
RAYN	**Ar Rayn**	**80.98**	**296**		P	**P**	**22 13 40.8**	**+0.3**	
RAYN					lAmb	lAmb	22 14 01.6		
	comp=Z,10nm,0.8s								
MIB	**Mutribah**	**81.19**	**303**	*e*	P	P	22 13 47.8	+6.4	
TIXI	**Tiksi**	**82.23**	**3**		P	**P**	**22 13 44.8**	**-1.2**	
TIXI					pmax	pmax			
	comp=Z,19nm,1.0s								
TIXI	**Tiksi**	**82.23**	**3**		P	**P**	**22 13 44.8**	**-1.2**	
TIXI					lAmb	lAmb	22 14 08.3		
	comp=Z,19nm,1.0s								
NRIK	**Noril'sk**	**83.04**	**349**		P	**P**	**22 13 50.5**	**+0.2**	
	comp=Z,2.0nm,0.4s,baz=156,slow=5.8,SNR=3.6								
ARU	**Arti**	**84.10**	**330**	*e*	P	**P**	**22 13 55.3**	**-0.7**	
ARU					pmax	pmax			
	comp=Z,4.0nm,1.2s								
ARU	**Arti**	**84.10**	**330**			**P**	**22 13 56.0**	**+0.1**	
AKT	**Akhty**	**84.56**	**314**	*e*	P	**P**	**22 14 00.4**	**+1.6**	
AKT				*e*	*e*PP	**pP**	**22 14 14.5**	**+1.5**	
AKT				*e*	*e*SP	**sP**	**22 14 21.3**	**+2.9**	
AKT					pmax	pmax			
	comp=Z,6.0nm,0.8s								
BILL	**Bilibino**	**84.83**	**16**	*e*	P	**P**	**22 13 58.3**	**-1.1**	
BILL					pmax	pmax			
	comp=Z,8.0nm,1.6s								
BILL					MLR	MLR			
	comp=Z,78nm,19.0s								
GROC	**Groznyy**	**86.46**	**315**	*e*	P	**P**	**22 14 11.4**	**+3.3**	
GROC				*e*	*e*PP	**sP**	**22 14 27.3**	**-0.4**	
GROC				*e*			22 17 32.8		
GROC				*e*	S	**S**	**22 24 33.3**	**-7.3**	
GROC					pmax	pmax			
	comp=Z,11nm,0.6s								
PPT	**Papeete**	**86.52**	**107**		LR	LR	22 46 11.7		
	comp=Z,80nm,21.9s,baz=245,slow=31								
ZEI	**Tsey**	**87.67**	**314**	*e*	P	P	22 14 21.2	+7.0	
ZEI					pmax	pmax			
	comp=Z,26nm,1.3s								
KBZ	**Khabaz**	**88.64**	**315**		P	P	22 14 22.6	+4.1	
	comp=Z,4.5nm,0.9s,baz=101,slow=1.2,SNR=4.2								
KIV	**Kislovodsk**	**88.84**	**315**	*e*	P	**P**	**22 14 18.6**	**-1.0**	
KIV					pmax	pmax			
	comp=Z,14nm,1.0s								
KIV					MLR	MLR			
	comp=Z,117nm,20.0s								
GOF	**Gofitskoye**	**88.90**	**316**	*e*	P	P	22 14 27.2	+7.5	
GOF					pmax	pmax			
	comp=Z,13nm,0.6s								
BOSA	**Boshof**	**89.79**	**241**		LR	LR	22 47 13.6		
	comp=Z,64nm,21.9s,baz=154,slow=30								
BOSA	**Boshof**	**89.79**	**241**		P	**P**	**22 14 25.2**	**+0.7**	
BOSA					pmax	pmax			
	comp=Z,34nm,1.8s								
BOSA	**Boshof**	**89.79**	**241**		P	**P**	**22 14 25.2**	**+0.7**	
SNAA	**Sanae**	**89.95**	**195**		P	**P**	**22 14 26.5**	**+2.2**	
SNAA	**Sanae**	**89.95**	**195**	*e*	P	**P**	**22 14 27.0**	**+2.7**	
SNAA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
SNAA	**Sanae**	**89.95**	**195**		P	**P**	**22 14 26.4**	**+2.2**	
VRH	**Novokhopyorsk**	**91.41**	**322

HEF	**Hetta**	**1.42**	**64**	*eP*		Pn	23 38 59.4	-0.9
HARU	**Harads**	**1.70**	**169**	P		Pn	23 39 04.6	+0.5

HEL 10 23:39:27.0±0.1, **67.85N**×**20.06E**, **h0**km, **ML2.0, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.19**	**13**	PN	Pn	23 39 51.3	+0.4
	baz=183						
KIF				MSG		23 40 04.3	
	comp=Z,17nm,0.2s						
KIF				SG	Sg	23 40 04.9	-0.4
PAJU	**Pajala**	**1.44**	**124**	PG	Pn	23 39 52.8	-1.5
PAJU				SG	Sg	23 40 11.3	-1.8
HEF	**Hetta**	**1.46**	**66**	PG	Pn	23 39 53.4	-1.2
	baz=245						
HEF				MSG		23 40 10.8	
	comp=Z,7.3nm,0.2s						
HEF				SG	Sg	23 40 11.7	-2.2
TOF	**Tornio**	**2.44**	**135**	PB	Pn	23 40 09.3	+1.3
	baz=309						
TOF				MSG		23 40 39.3	
	comp=Z,8.7nm,0.2s						
TOF				SG	Sb	23 40 41.9	-0.4
SGF	**Sodankyl**	**2.50**	**96**	SG	Sb	23 40 44.4	+0.3
RNF	**Rovaniemi**	**2.63**	**115**	PG	Pb	23 40 12.8	-2.1
	baz=299						
RNF				SN	Sn	23 40 41.6	-1.5
KEV	**Kevo**	**3.17**	**50**	SN	Sn	23 40 56.6	+0.2
KEV				MSG		23 41 00.0	
	comp=Z,4.2nm,0.2s						
OUL	**Oulu**	**3.63**	**137**	SG	Sb	23 41 15.7	-0.7
OLKF	**Oulanka, Finla**	**3.96**	**108**	SG	Sg	23 41 32.2	-1.9

*IDC **10** 23:45:59.8±0.7, 6.74N×72.91W, h166km±8km, mb3.4/8, mb1 3.7/11, mb1mx3.4/29, mbtmp4.0/11, Error ellipse: s-maj=22.0km s-min=7.9km az=134.0*
*RSNC **10** 23:46:00.6±1.1, 6.79N×73.07W, h151km±4km, ML3.9, Mw4.0*
*NEIC **10** 23:46:00.2±1.7, 6.82N±0.06×73.07W±0.07, h150km±8km, Error ellipse: s-maj=11.2km s-min=7.7km az=120.0*

ISC 10 23:45:59.5±0.6, **6.82N**±0.03×**73.06W**±0.04, **h157**km±5km, **n85**, σ1f**30**/123, **mb4.2**/18, **2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**208**	⇓*iP*	Pn	**23 46 21.2**	**+0.1**
BARC				*eS*	Sn	**23 46 36.1**	**-1.3**
BARC				*i*		23 46 38.8	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**35**	*eP*	Pn	**23 46 23.9**	**+1.0**
PAMC				*eS*	Sn	**23 46 41.1**	**+0.4**
PAMC				*i*		23 46 43.2	
	comp=Z,1μm,0.2s						
BRRC	**Barranca, Sant**	**0.70**	**294**	*eP*	Pn	**23 46 23.1**	**+0.3**
BRRC				*eS*	Sn	**23 46 40.3**	**-0.2**
BRRC				*i*		23 46 42.6	
	comp=Z,774nm,0.2s						
RUSC	**La Rusia**	**0.92**	**181**		Pn	**23 46 24.9**	**+0.1**
RUSC				Sn	Sn	**23 46 43.7**	**-0.6**
RUSC	**La Rusia**	**0.92**	**181**	⇓*eP*	Pn	**23 46 25.0**	**+0.1**
RUSC				*eS*	Sn	**23 46 43.6**	**-0.7**
RUSC				*i*		23 46 44.9	
	comp=Z,603nm,0.4s						
OCAC	**Ocana**	**1.43**	**350**	*eP*	Pn	**23 46 29.3**	**+0.2**
OCAC				*eS*	Sn	**23 46 51.4**	**-0.5**
OCAC				*i*		23 46 57.6	
	comp=Z,2μm,0.3s						
SPBC	**San Pablo de B**	**1.53**	**221**	*eP*	Pn	**23 46 30.0**	**-0.1**
SPBC				*eS*	Sn	**23 46 52.8**	**-0.7**
SPBC				*i*		23 46 58.0	
	comp=Z,2μm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*eP*	Pn	**23 46 33.6**	**-0.3**
ZARC				*eS*	Sn	**23 46 59.8**	**-0.6**
ZARC				*i*		23 47 05.5	
	comp=Z,1μm,0.2s						
NORC	**Norcasia**	**2.19**	**235**	*eP*	Pn	**23 46 37.0**	**-0.2**
NORC				*eS*	Sn	**23 47 05.7**	**-0.7**
NORC				*i*		23 47 08.8	
	comp=Z,915nm,0.7s						
SMLC	**San Martn de**	**2.21**	**333**	*eP*	Pn	**23 46 37.6**	**+0.2**
SMLC				*eS*	Sn	**23 47 07.0**	**+0.2**
CHIC	**Chingaza**	**2.28**	**197**	*eP*	Pn	**23 46 38.8**	**+0.1**
CHIC				*eS*	Sn	**23 47 08.2**	**-0.7**
CHIC				*i*		23 47 14.4	
	comp=Z,299nm,0.4s						
ROSC	**El Rosal**	**2.33**	**213**	P	Pn	**23 46 40.6**	**+1.3**
	comp=Z,236nm,0.3s,baz=246,slow=4.2,SNR=120						
ROSC				S	Sn	**23 47 11.9**	**+1.9**
	comp=Z,193nm,0.3s,baz=82,slow=18,SNR=7.9						
ROSC	**El Rosal**	**2.33**	**213**		Pn	**23 46 40.4**	**+1.1**
ROSC				Sn	Sn	**23 47 11.2**	**+1.1**
UREC	**San Jos de Ur**	**2.62**	**291**	*eP*	Pn	**23 46 42.0**	**-0.4**
UREC				*eS*	Sn	**23 47 13.2**	**-2.3**
UREC				*i*		23 47 21.8	
	comp=Z,466nm,0.2s						
SOCV	**Socops**	**2.63**	**56**	*eP*	Pn	**23 46 43.6**	**+1.1**
SOCV				*eS*	Sn	**23 47 15.3**	**-0.5**
LL2C	**La Loma 2 Cana**	**2.74**	**352**	*eP*	Pn	**23 46 45.5**	**+1.6**
LL2C				*eS*	Sn	**23 47 19.9**	**+1.5**
LL2C				*i*		23 47 25.8	
	comp=Z,688nm,0.3s						
LL1C	**La Loma 1 Cana**	**2.75**	**350**	*eP*	Pn	**23 46 45.7**	**+1.7**
LL1C				*eS*	Sn	**23 47 19.9**	**+1.4**
VILC	**Villavicencio,**	**2.76**	**193**	*eP*	Pn	**23 46 44.1**	**-0.2**
VILC				*eS*	Sn	**23 47 19.1**	**0.0**
VILC				*i*		23 47 29.7	
	comp=Z,473nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.76**	**160**	*eP*	Pn	**23 46 44.0**	**-0.2**
PTGC				*eS*	Sn	**23 47 17.4**	**-1.5**
PTGC				*i*		23 47 24.3	
	comp=Z,228nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.79**	**235**	*eP*	Pn	**23 46 45.5**	**+0.6**
GUY2C				*eS*	Sn	**23 47 21.0**	**+1.1**
GUY2C				*i*		23 47 27.9	
	comp=Z,888nm,0.8s						
RREF	**El Recreo**	**2.97**	**230**	*eP*	Pn	**23 46 48.4**	**+1.0**
RREF				*eS*	Sn	**23 47 23.8**	**-0.4**
RREF				*i*		23 47 29.7	
	comp=Z,205nm,0.3s						
TOLC	**Tolima**	**3.16**	**225**	*eP*	Pn	**23 46 50.5**	**+1.1**
TOLC				*eS*	Sn	**23 47 28.9**	**+0.8**
SDV	**Santo Domingo**	**3.16**	**49**	P	Pn	**23 46 50.3**	**+0.9**
	comp=Z,160nm,0.3s,baz=216,slow=5.1,SNR=104						
SDV				S	Sn	**23 47 27.8**	**-0.2**
	comp=Z,39nm,0.3s,baz=40,slow=17,SNR=9.0						
SDV	**Santo Domingo**	**3.16**	**49**	*eP*	Pn	**23 46 50.4**	**+1.1**
SDV				*eS*	Sn	**23 47 28.1**	**+0.1**
MOTC	**Monteria, Cord**	**3.23**	**307**	*eP*	Pn	**23 46 48.3**	**-1.7**
MOTC				*eS*	Sn	**23 47 26.9**	**-2.4**
MOTC				*i*		23 47 41.6	
	comp=Z,188nm,0.5s						
ARGC	**Ariguani, Magd**	**3.24**	**339**	*eP*	Pn	**23 46 51.1**	**+1.0**
ARGC				*eS*	Sn	**23 47 29.5**	**0.0**
ARGC				*i*		23 47 41.9	
	comp=Z,263nm,0.4s						
ANIL	**Santa Ana**	**3.28**	**225**	*eP*	Pn	**23 46 52.0**	**+1.0**
ANIL				*eS*	Sn	**23 47 32.0**	**+1.1**
PRAC	**Prado**	**3.58**	**211**	*eP*	Pn	**23 46 54.5**	**0.0**
PRAC				*eS*	Sn	**23 47 37.6**	**+0.2**
PRAC				*i*		23 47 41.7	
	comp=Z,398nm,0.4s						
SJCC	**San Jacinto, C**	**3.71**	**326**	Pn	Pn	**23 46 54.8**	**-1.4**
SJCC	**San Jacinto, C**	**3.71**	**326**	*eP*	Pn	**23 46 55.4**	**-0.8**
SJCC				*eS*	Sn	**23 47 36.4**	**-3.9**
SJCC				*i*		23 47 48.9	
	comp=Z,120nm,0.3s						
PLMC	**San Jos del P**	**3.73**	**239**	*eP*	Pn	**23 46 56.6**	**+0.2**
PLMC				*eS*	Sn	**23 47 40.1**	**-0.6**
PLMC				*i*		23 47 51.5	
	comp=Z,165nm,0.6s						
YOTC	**Yotoco, Valle**	**4.32**	**229**	*eP*	Pn	**23 47 03.7**	**-0.5**
YOTC				*eS*	Sn	**23 47 54.0**	**-0.5**
SMRC	**Santa Marta, M**	**4.47**	**345**	*eP*	Pn	**23 47 06.2**	**+0.2**
SMRC				*eS*	Sn	**23 47 54.1**	**-3.8**
SMRC				*i*		23 48 00.5	
	comp=Z,127nm,0.4s						
MACC	**Macarena, Meta**	**4.71**	**190**	*eP*	Pn	**23 47 07.6**	**-1.6**
MACC				*eS*	Sn	**23 47 59.6**	**-4.1**
MACC				*i*		23 48 07.7	
	comp=Z,57nm,0.6s						
MARP	**Paez Belalcaza**	**4.89**	**216**	*eP*	Pn	**23 47 11.9**	**+0.1**
MARP				*eS*	Sn	**23 48 07.3**	**-1.1**
URIC	**Uribia, Colomb**	**4.96**	**12**		Pn	**23 47 11.2**	**-1.3**
URIC	**Uribia, Colomb**	**4.96**	**12**	*eP*	Pn	**23 47 11.3**	**-1.3**
URIC				*eS*	Sn	**23 48 07.2**	**-2.5**
URIC				*i*		23 48 13.1	
	comp=Z,42nm,0.6s						
GARC	**Garzon, Huila**	**5.20**	**208**	*eP*	Pn	**23 47 15.3**	**-0.7**
GARC				*eS*	Sn	**23 48 13.1**	**-2.6**
GARC				*i*		23 48 13.8	
	comp=Z,93nm,0.3s						
POPC	**Popayan, Colom**	**5.57**	**220**	*eP*	Pn	**23 47 16.6**	**-4.2**
POPC				*eS*	Sn	23 48 13.3	-11
FLOC	**Florencia**	**5.81**	**207**	Pn	Pn	**23 47 23.4**	**-0.3**
FLOC	**Florencia**	**5.81**	**207**	*eP*	Pn	**23 47 23.3**	**-0.5**
FLOC				*eS*	Sn	**23 48 28.6**	**-1.1**
FLOC				*i*		23 48 57.9	
	comp=Z,66nm,0.9s						
CRUC	**La Cruz**	**6.50**	**217**	*eP*	Pn	**23 47 34.4**	**+1.1**
BCIP	**Isla Barro Col**	**7.10**	**290**	Pn	Pn	**23 47 39.1**	**-1.8**
OTAV	**Otavalo**	**8.46**	**220**		Pn	**23 47 59.2**	**-0.4**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	Pn	**23 48 06.1**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=339,slow=1.9,SNR=14						
PLCV	**Puerto La Cruz**	**9.02**	**68**		Pn	**23 48 06.1**	**-0.3**
DRK0	**Durika**	**10.37**	**284**	Pn	Pn	**23 48 24.5**	**0.0**
SRBA	**San Rafael, Bu**	**10.47**	**284**	Pn	Pn	**23 48 26.3**	**+0.5**
MTDJ	**Mount Denham**	**12.15**	**339**	Pn	Pn	**23 48 49.5**	**+1.9**
SDDR	**Presa de Saban**	**12.21**	**8**	Pn	Pn	**23 48 50.8**	**+2.4**
PDPR	**Patillas Dam,**	**13.08**	**31**	Pn	Pn	**23 48 58.7**	**-0.8**
GCPR	**Guaynabo City**	**13.29**	**30**	Pn	Pn	**23 49 02.0**	**-0.2**
SAML	**Samuel**	**18.50**	**148**	P	**P**	**23 50 04.2**	**+0.4**
PB16	**IPOC Station P**	**25.24**	**172**	P	**P**	**23 51 11.5**	**-0.2**
Y49A	**Blount Mountai**	**29.61**	**337**	P	**P**	**23 51 51.4**	**+1.5**
Y49A				IAmb	IAmb	23 51 52.0	
	comp=Z,3.4nm,0.4s						
PLAL	**Pickwick Lake**	**31.25**	**336**	P	**P**	**23 52 06.3**	**+2.0**
PLAL				IAmb	IAmb	23 52 06.7	
	comp=Z,3.7nm,0.8s						
WVT	**Waverly**	**32.16**	**337**	P	**P**	**23 52 13.3**	**+1.0**
WVT				IAmb	IAmb	23 52 14.6	
	comp=Z,5.2nm,1.1s						
WHAR	**Wooly Hollow**	**33.40**	**331**	P	**P**	**23 52 23.4**	**+0.3**
WHAR				IAmb	IAmb	23 52 25.1	
	comp=Z,3.9nm,0.9s						
LCAR	**Lake Charles**	**33.50**	**333**	P	**P**	**23 52 25.1**	**+1.2**
LCAR				IAmb	IAmb	23 52 25.2	
	comp=Z,5.2nm,1.3s						
FCAR	**Ozark Folk Cen**	**33.80**	**332**	P	**P**	**23 52 26.6**	**0.0**
FCAR				IAmb	IAmb	23 52 27.3	
	comp=Z,3.8nm,0.5s						
T42A	**Van Buren**	**34.27**	**334**	P	**P**	**23 52 31.2**	**+0.5**
T42A				IAmb	IAmb	23 52 32.1	
	comp=Z,3.2nm,0.6s						
U40A	**Yellville**	**34.52**	**331**	P	**P**	**23 52 33.7**	**+0.8**
KSPA	**Keystone Colle**	**34.67**	**356**	P	**P**	**23 52 35.8**	**+1.8**
KSPA				IAmb	IAmb	23 52 50.5	
	comp=Z,11nm,1.3s						
FVM	**French Village**	**34.79**	**336**	P	**P**	**23 52 36.1**	**+1.0**
FVM				IAmb	IAmb	23 52 36.8	
	comp=Z,8.3nm,1.2s						
M54A	**Oil Creek Stat**	**35.04**	**351**	P	**P**	**23 52 38.1**	**+0.9**
CCM	**Cathedral Cave**	**35.20**	**335**	P	**P**	**23 52 39.2**	**+0.6**
SFIN	**Lafayette**	**35.70**	**341**	P	**P**	**23 52 43.7**	**+0.9**
S39A	**Bolivar**	**35.82**	**332**	P	**P**	**23 52 44.0**	**+0.1**
R40A	**Maddies Statio**	**35.84**	**334**	P	**P**	**23 52 44.3**	**+0.3**
R40A				IAmb	IAmb	23 52 44.7	
	comp=Z,3.6nm,0.6s						
TX32	**Lajitas Array**	**36.51**	**312**	P	**P**	**23 52 50.8**	**+0.8**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**23 52 50.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=123,slow=9.2,SNR=13						
TXAR				PcP	**PcP**	**23 55 11.0**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=122,slow=4.4,SNR=2.5						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**23 52 50.6**	**+0.6**
MDND	**Maddock**	**46.72**	**336**	P	**P**	**23 54 16.6**	**+4.0**
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**23 54 16.7**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=136,slow=8.9,SNR=6.6						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**23 54 24.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=121,slow=8.9,SNR=5.1						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**23 54 23.9**	**+0.1**
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**23 54 23.9**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=168,slow=8.3,SNR=6.1						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**23 54 23.9**	**+0.4**
SCHQ				IAmb	IAmb	23 54 30.6	
	comp=Z,5.1nm,1.1s						
NVAR	**Mina Array Bea**	**51.52**	**315**	P	**P**	**23 54 49.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=94,slow=5.4,SNR=2.3						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**23 56 11.3**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=133,slow=6.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**73.68**	**78**	P	**P**	**23 57 14.1**	**-2.6**
	comp=Z,0.8nm,1.0s,baz=283,slow=6.7,SNR=2.0						
ILAR	**Eielson Array**	**76.99**	**335**	P	**P**	**23 57 34.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=74,slow=4.8,SNR=2.5						
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	**PKPdf**	**00 04 35.3**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=351,slow=3.6,SNR=2.3						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**00 05 29.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=108,slow=2.5,SNR=7.2						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**00 05 32.5**	**-0.8**

*IDC **10** 23:53:34.3±3.0, 39.79N×143.39E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, ML2.5/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/31, Error ellipse: s-maj=65.9km s-min=32.6km az=148.0*
*JMA **10** 23:53:35.4±0.2, 39.62N×143.49E, h31km, M3.6*
*NIED **10** 23:53:35.5, 39.62N×143.49E, h31km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.90; Mθθ0.02; Mϕϕ-1.93; Mrθ1.62; Mθϕ-0.85; Mϕr1.41; Fault plane solution: M0 3.00000×10^14^ NP1:φs41.00000°, δ69.00000°, λ107.00000°. NP2:φs180.00000°, δ27.00000°, λ52.00000°.*

ISC 10 23:53:38.2±1.3, **39.64N**±0.06×**143.42E**±0.09, **h35**km, **n25**, σ0f**98**/28, **mb3.5**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.24**	**285**	P	Pn	**23 53 57.8**	**-1.2**
JTH				*eS*	Sn	**23 54 14.2**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.24**	**268**	P	Pn	**23 53 58.0**	**-1.0**
MIYJ				*eS*	Sn	**23 54 14.2**	**-0.3**
JKEN	**Kujiedanarisaw**	**1.43**	**294**	P	Pn	**23 54 00.6**	**-1.0**
OFUJ	**Ofunato**	**1.47**	**248**	P	Pn	**23 54 01.0**	**-1.1**
OFUJ				*eS*	Sn	**23 54 19.6**	**-0.5**
JANG	**Nango**	**1.64**	**297**	P	Pn	**23 54 03.5**	**-1.0**
JOM	**Ohasama**	**1.65**	**265**	P	Pn	**23 54 04.4**	**-0.3**
JMK	**Ichinoseki**	**1.84**	**249**	P	Pn	**23 54 06.7**	**-0.5**
JIO	**Ouri**	**2.00**	**234**	P	Pn	**23 54 08.2**	**-1.2**
JIO				*eS*	Sn	**23 54 30.8**	**-2.4**
JTM	**Tenmabayashi**	**2.14**	**303**	P	Pn	**23 54 11.3**	**0.0**
JRG	**Rokugo**	**2.17**	**265**	P	Pn	**23 54 12.0**	**+0.2**
JYK	**Kaneyama**	**2.48**	**254**	P	Pn	**23 54 16.3**	**+0.2**
JYK				*eS*	Sn	**23 54 46.1**	**+0.9**
JOT	**Ohata**	**2.51**	**315**	P	Pn	**23 54 16.3**	**-0.2**
JNBK	**Urakawa-nobuka**	**2.69**	**349**	P	Pn	**23 54 19.0**	**+0.1**
JNBK				*eS*	Sn	**23 54 51.6**	**+1.4**
JCH	**Churui**	**2.98**	**359**	P	Pn	**23 54 21.9**	**-0.9**
JCH				*eS*	Sn	**23 54 55.0**	**-2.3**
MJAR	**Matsushiro Arr**	**5.14**	**235**	Pn	Pn	**23 54 53.5**	**+0.8**
	0.2nm,0.3s,baz=42,slow=12,SNR=14						
MAT	**Matsushiro**	**5.14**	**235**	P	**P**	**23 54 53.2**	**+0.5**
MAT				*eS*	Sn	**23 55 51.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**9.66**	**302**	LR	LR	23 59 39.6	
	comp=Z,46nm,19.5s,baz=329,slow=38						
KSRS	**Korea Array**	**12.33**	**265**	LR	LR	00 01 07.6	
	comp=Z,24nm,19.0s,baz=210,slow=37						
SONM	**Songino Array**	**27.76**	**299**	P	**P**	**23 59 24.2**	**+0.6**
	0.7nm,0.7s,baz=82,slow=9.0,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.30**	**128**	T	T	00 30 18.3	
	baz=319,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.31**	**128**	T	T	00 30 24.1	
	baz=319,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**28.32**	**128**	T	T	00 30 23.6	
	baz=319,slow=75,SNR=18						
ZALV	**Zalesovo Beam**	**41.38**	**310**	P	**P**	**00 01 20.9**	**+0.3**
	0.6nm,0.4s,baz=92,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**44.13**	**300**	P	**P**	**00 01 43.3**	**+0.3**
	0.7nm,0.8s,baz=88,slow=9.1,SNR=6.0						
ILAR	**Eielson Array**	**46.45**	**34**	P	**P**	**00 02 01.6**	**+0.4**
	0.4nm,0.7s,baz=270,slow=7.2,SNR=3.3						

*AEIC **11** 00:10:31±1.4, 67.86N±0.08×164.78W±0.1, h14km±7km, ML3.6, ML3.7/8(NEIC), Error ellipse: s-maj=12.5km s-min=5.3km az=157.0*
*IDC **11** 00:10:34.4±3.8, 68.42N×164.41W, h0km, mb3.5/3, mb1 4.1/5, mb1mx3.5/42, mbtmp3.7/5, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/34, Error ellipse: s-maj=60.4km s-min=47.3km az=161.0*
*NEIC **11** 00:10:34.2±1.6, 67.85N±0.06×164.76W±0.2, h28km±7km, Error ellipse: s-maj=11.2km s-min=7.1km az=135.0*

ISC 11 00:10:33.1±1.5, **67.8N**±0.11×**164.54W**±0.10, **h10**km, **n37**, σ1f**13**/37, **mb3.6**/3, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.67**	**65**	Pg	**Pg**	**00 10 44.9**	**-1.2**
RDOG					**Sg**	**00 10 54.7**	**-0.2**
RDOG				IAML		00 10 58.0	
	comp=N,3μm,0.7s						
RDOG	**Red Dog Mine**	**0.67**	**65**	P		00 10 45.0	
	baz=262						
RDOG				S		00 10 54.8	
	baz=262						
TNA	**Tin City**	**2.61**	**213**	Pn	**Pn**	**00 11 13.3**	**-1.8**
TNA	**Tin City**	**2.61**	**213**		**Sn**	**00 11 45.0**	**-1.8**
TNA	**Tin City**	**2.61**	**213**	P		00 11 13.3	
	baz=26						
ANM	**Nome**	**3.25**	**186**	Pn	**Pn**	**00 11 23.3**	**-0.7**
ANM				IAML		00 12 20.0	
	comp=E,130nm,0.7s						
ANM	**Nome**	**3.25**	**186**	P		00 11 23.7	
	baz=3.6						
ANM				S		00 12 02.9	
	baz=3.6						
A21K	**Barrow**	**4.51**	**34**	Pn	**Pn**	**00 11 39.9**	**-1.4**
A21K				IAML		00 13 10.6	
	comp=E,111nm,1.2s						
A21K				IAML		00 13 11.5	
	comp=N,110nm,1.1s						
IM03		**4.62**	**108**		**Pn**	**00 11 42.3**	**-0.5**
IMAR	**Indian Mountai**	**4.62**	**108**	Pn	**Pn**	**00 11 42.1**	**-0.7**
H21K	**Melozitna Rive**	**5.12**	**109**		**Pn**	**00 11 49.2**	**-0.5**
H21K	**Melozitna Rive**	**5.12**	**109**	P		00 11 49.2	
	baz=301						
COLD	**Coldfoot**	**5.53**	**89**	Pn	**Pn**	**00 11 54.9**	**-0.5**
COLD	**Coldfoot**	**5.53**	**89**	P		00 11 55.3	
	baz=284						
TOLK	**Toolik Lake Re**	**5.64**	**74**	Pn	**Pn**	**00 11 56.9**	**0.0**
TTA	**Tatalina**	**6.03**	**140**	Pn	**Pn**	**00 12 03.3**	**+1.1**
TTA	**Tatalina**	**6.03**	**140**	P		00 12 03.5	
	baz=328						
TT01	**Tatalina**	**6.05**	**140**		**Pn**	**00 12 02.4**	**-0.1**
MLY	**Manley**	**6.18**	**110**		**Pn**	**00 12 04.8**	**+0.4**
MLY	**Manley**	**6.18**	**110**	P		00 12 05.7	
	baz=304						
I23K	**Minto, Yukon-K**	**6.62**	**106**		**Pn**	**00 12 11.6**	**+1.3**
BPAW	**Bear Paw Mtn.**	**6.65**	**117**		**Pn**	**00 12 09.4**	**-1.3**
BPAW	**Bear Paw Mtn.**	**6.65**	**117**	P		00 12 08.7	
	baz=311						
H24K	**Noodor Dome**	**6.86**	**99**		**Pn**	**00 12 12.8**	**-0.8**
H24K	**Noodor Dome**	**6.86**	**99**	P		00 12 12.8	
	baz=295						
NEA2	**Nenana**	**7.02**	**110**		**Pn**	**00 12 15.5**	**-0.3**
NEA2	**Nenana**	**7.02**	**110**	P		00 12 16.5	
	baz=305						
PPLA	**Purkeypile**	**7.11**	**128**	Pn	**Pn**	**00 12 17.3**	**+0.2**
MDM	**Murphy Dome**	**7.13**	**106**		**Pn**	**00 12 17.1**	**-0.2**
WRH	**Wood River Hil**	**7.44**	**109**		**Pn**	**00 12 21.4**	**-0.1**
CCB	**Clear Creek Bu**	**7.45**	**107**		**Pn**	**00 12 21.6**	**-0.1**
FYU	**Fort Yukon**	**7.60**	**90**	Pn	**Pn**	**00 12 24.2**	**+0.6**
BMAR	**Burnt Mountain**	**7.62**	**83**		**Pn**	**00 12 23.1**	**-0.9**
IL31		**7.72**	**105**		**Pn**	**00 12 24.9**	**-0.4**
ILAR	**Eielson Array**	**7.72**	**105**	Pn	**Pn**	**00 12 25.6**	**+0.2**
	comp=N,1.3nm,0.3s,baz=301,slow=14,SNR=31						
ILAR				Sn	**Sn**	**00 13 50.3**	**-2.4**
	comp=N,0.5nm,0.3s,baz=308,slow=26,SNR=0.6						
SVW2	**Sparrevohn**	**7.74**	**146**		**Pn**	**00 12 25.9**	**+0.3**
HDA	**Harding Lake**	**7.89**	**107**		**Pn**	**00 12 27.8**	**+0.1**
SPBG	**Spurr Blockage**	**8.37**	**136**		**Pn**	**00 12 33.4**	**-1.0**
SCRK	**Sand Creek**	**9.21**	**105**		**Pn**	**00 12 46.5**	**+0.6**
K27K	**Chicken**	**9.89**	**102**	Pn	**Pn**	**00 12 56.0**	**+1.0**
L27K	**Beaver Creek,**	**10.53**	**106**	Pn	**Pn**	**00 13 05.5**	**+1.6**
BCAR	**Beaver Creek A**	**10.54**	**106**	Pn	**Pn**	**00 13 05.4**	**+1.4**
INK	**Inuvik**	**11.55**	**73**	Pn	**Pn**	**00 13 16.5**	**-1.2**
	comp=N,0.6nm,0.3s,baz=301,slow=9.0,SNR=4.5						
INK				Sn	Sn	00 15 16.9	-10
	comp=N,0.3nm,0.3s,baz=261,slow=16,SNR=2.0						
YKA	**Yellowknife Ar**	**21.13**	**80**	P	**P**	**00 15 18.2**	**+0.7**
	comp=N,1.7nm,0.7s,baz=306,slow=9.8,SNR=4.2						
BBB	**Bella Bella**	**23.48**	**113**	LR	LR	00 25 11.5	
	comp=N,53n

JMM				Sn		Sn	00 29 36.1	-0.5
JYS	**Shirataka**	**1.41**	**247**	⇑P		**Pn**	**00 29 24.4**	**+0.3**
JFK	**Kawauchi**	**1.57**	**205**	P		**Pn**	**00 29 26.8**	**+0.6**
JFK				S		**Sn**	**00 29 46.3**	**+0.4**
JYA	**Atsumi**	**1.57**	**263**	⇑P		**Pn**	**00 29 26.1**	**-0.1**
JANG	**Nango**	**1.58**	**355**	P		**Pn**	**00 29 25.8**	**-0.6**
JANG				*e*S		**Sn**	**00 29 44.4**	**-1.8**
JAH	**Hinai**	**1.62**	**330**	⇑P		**Pn**	**00 29 26.9**	**+0.1**
JTM	**Tenmabayashi**	**2.05**	**346**	Pn		**Pn**	**00 29 32.4**	**-0.2**
JSD	**Sado**	**2.81**	**255**			**Pn**	**00 29 42.7**	**-0.1**
JYT	**Yasato**	**2.83**	**206**	Pn		**Pn**	**00 29 43.3**	**+0.2**
JYT				Sn		**Sn**	**00 30 13.7**	**-2.3**
ERM	**Erimo**	**3.40**	**19**	Pn		**Pn**	**00 29 50.7**	**-0.1**
MAJO	**Matsushiro**	**3.57**	**232**			**Pn**	**00 29 55.1**	**+2.0**
MAT	**Matsushiro**	**3.57**	**232**	P		**Pn**	**00 29 55.1**	**+1.9**
MAT				*e*S		**Sn**	**00 30 35.9**	**+1.7**
MJAR	**Matsushiro Arr**	**3.57**	**232**	P		**Pn**	**00 29 54.0**	**+0.8**
	1.5nm,0.3s,baz=36,slow=12,SNR=70							
MJAR				LR		LR	00 31 08.2	
	comp=Z,37nm,18.1s,baz=50,slow=37							
MJAR	**Matsushiro Arr**	**3.57**	**232**			**Pn**	**00 29 55.0**	**+1.9**
JGF	**Kuroka**	**4.71**	**229**			**Pn**	**00 30 10.7**	**+1.9**
INU	**Inuyama**	**5.09**	**229**			**Pn**	**00 30 15.0**	**+1.2**
JKA	**Kamikawa-asahi**	**5.36**	**7**	Pn		**Pn**	**00 30 16.2**	**-1.3**
JHJ	**Hachijo jima 2**	**5.87**	**196**	P		**Pn**	**00 30 24.4**	**-0.2**
	8.8nm,0.3s,baz=66,slow=18,SNR=1.9							
JHJ				S		**Sn**	**00 31 27.4**	**-3.1**
	26nm,0.3s,baz=279,slow=23,SNR=6.4							
JWT	**Wachi**	**6.14**	**237**			**Pn**	**00 30 30.8**	**+2.5**
JHS	**Saijyo**	**7.85**	**244**	Pn		**Pn**	**00 30 53.8**	**+2.2**
JMN	**Monobe**	**8.09**	**234**	Pn		**Pn**	**00 30 57.1**	**+2.2**
USA0B	**Ussuriysk Arra**	**9.07**	**310**	Pn		**Pn**	**00 31 09.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.07**	**310**	P		**Pn**	**00 31 09.2**	**+1.0**
	baz=117,slow=14,SNR=6.3							
USRK	**Ussuriysk Ar.**	**9.07**	**310**			**Pn**	**00 31 08.6**	**+0.5**
JNU	**Nakatsue**	**10.44**	**240**	LR		LR	00 34 59.0	
	comp=Z,60nm,21.8s,baz=26,slow=35							
KSRS	**Korea Array**	**10.94**	**267**	P		**Pn**	**00 31 37.6**	**+3.9**
	0.7nm,0.3s,baz=78,slow=14,SNR=11							
KSRS				LR		LR	00 35 20.2	
	comp=Z,43nm,21.8s,baz=44,slow=35							
ANA2	**Anatahan**	**22.64**	**170**	P		**P**	**00 33 53.1**	**-2.0**
YULB	**Yu-li**	**23.18**	**234**	P		**P**	**00 33 58.6**	**-1.9**
YULB				IAmb		IAmb	00 34 27.4	
	comp=Z,10nm,1.0s							
ULN	**Ulaanbaatar**	**26.60**	**301**	P		**P**	**00 34 31.2**	**-0.2**
SONM	**Songino Array**	**27.04**	**301**	P		**P**	**00 34 36.4**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=99,slow=8.2,SNR=6.9							
SONM	**Songino Array**	**27.04**	**301**	P		**P**	**00 34 35.2**	**-0.1**
ENH	**Enshi**	**27.76**	**262**	P		**P**	**00 34 41.5**	**-0.3**
ENH				IAmb		IAmb	00 34 43.1	
	comp=Z,14nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**28.89**	**124**	T		T	01 05 25.2	
	baz=317,slow=75,SNR=625							
H11N1	**WAKE ISLAND Hy**	**28.90**	**124**	T		T	01 05 23.8	
	baz=317,slow=75,SNR=1358							
H11N3	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	01 05 26.6	
	baz=317,slow=75,SNR=1234							
H11S1	**WAKE ISLAND Hy**	**29.66**	**126**	T		T	01 06 14.5	
	baz=318,slow=76,SNR=315							
H11S3	**WAKE ISLAND Hy**	**29.66**	**126**	T		T	01 06 19.0	
	baz=318,slow=76,SNR=486							
H11S2	**WAKE ISLAND Hy**	**29.68**	**126**	T		T	01 06 15.7	
	baz=318,slow=76,SNR=295							
ZAA0	**Zalesovo Array**	**40.92**	**311**	P		**P**	**00 36 34.2**	**-0.7**
ZAA0				IAmb		IAmb	00 36 35.6	
	comp=Z,8.0nm,1.1s							
ZALV	**Zalesovo Beam**	**40.92**	**311**	P		**P**	**00 36 34.5**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=85,slow=7.3,SNR=21							
ZALV				pP		**pP**	**00 36 52.9**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=91,slow=7.4,SNR=2.3							
ZALV	**Zalesovo Beam**	**40.92**	**311**	P		**P**	**00 36 34.1**	**-0.8**
NRIK	**Noril'sk**	**41.77**	**334**	P		**P**	**00 36 41.0**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=86,slow=5.9,SNR=4.6							
NRIK	**Noril'sk**	**41.77**	**334**	P		**P**	**00 36 40.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**42.19**	**254**	P		**P**	**00 36 44.7**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=19,slow=18,SNR=4.6							
MK31	**Makanchi Array**	**43.40**	**301**	P		**P**	**00 36 54.7**	**-0.5**
MK31				IAmb		IAmb	00 36 55.7	
	comp=Z,9.3nm,0.8s							
MKAR	**Makanchi Array**	**43.40**	**301**	P		**P**	**00 36 54.9**	**-0.3**
	comp=Z,8.2nm,0.7s,baz=86,slow=9.7,SNR=72							
MKAR				pP		**pP**	**00 37 12.6**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=95,slow=18,SNR=2.4							
MAKZ	**Makanchi**	**43.61**	**301**	P		**P**	**00 36 56.5**	**-0.3**
MAKZ				IAmb		IAmb	00 36 57.5	
	comp=Z,11nm,0.9s							
PRZ	**Przheval'sk**	**47.19**	**296**	P		**P**	**00 37 25.6**	**+0.2**
TARG	**Taragay, Kyrgy**	**47.85**	**295**	P		**P**	**00 37 30.6**	**-0.2**
TARG				IAmb		IAmb	00 37 32.6	
	comp=Z,5.4nm,0.8s							
ILAR	**Eielson Array**	**47.89**	**33**	P		**P**	**00 37 31.4**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=268,slow=6.9,SNR=11							
ILAR				pP		**pP**	**00 37 49.5**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=267,slow=6.2,SNR=3.9							
ILAR				sP		**sP**	**00 37 57.5**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=266,slow=6.5,SNR=8.2							
KDJ	**Kajisay**	**48.16**	**296**	P		**P**	**00 37 32.6**	**-0.4**
KDJ				IAmb		IAmb	00 37 33.2	
	comp=Z,2.6nm,0.7s							
BMAR	**Burnt Mountain**	**48.69**	**30**	P		**P**	**00 37 37.9**	**+1.5**
BOOM	**Boomskoye usch**	**48.91**	**297**	P		**P**	**00 37 38.7**	**0.0**
BOOM				IAmb		IAmb	00 37 41.5	
	comp=Z,9.6nm,1.4s							
BRVK	**Borovoye**	**49.63**	**311**	P		**P**	**00 37 43.0**	**-0.8**
BRVK				IAmb		IAmb	00 37 44.6	
	comp=Z,2.2nm,0.7s							
AAK	**Ala-Archa**	**49.88**	**297**	P		**P**	**00 37 45.7**	**-0.3**
AAK				IAmb		IAmb	00 37 46.0	
	comp=Z,2.4nm,0.8s							
ARSB	**Arslanbob**	**51.39**	**296**	P		**P**	**00 37 58.3**	**+0.9**
KK31	**Karatay Array**	**52.46**	**299**	P		**P**	**00 38 04.7**	**-0.5**
KK31				IAmb		IAmb	00 38 05.5	
	comp=Z,3.8nm,0.8s							
KKAR	**Karatay Array**	**52.46**	**299**	P		**P**	**00 38 04.6**	**-0.6**
KKAR	**Karatay Array**	**52.46**	**299**	P		**P**	**00 38 04.7**	**-0.4**
KKAR				IAmb		IAmb	00 38 05.5	
	comp=Z,3.8nm,0.8s							
NIL	**Nilore**	**54.30**	**287**	P		**P**	**00 38 18.9**	**+0.1**
ARU	**Arti**	**55.20**	**318**	P		**P**	**00 38 24.7**	**-0.2**
ABKAR	**Akbulak array**	**56.99**	**309**	P		**P**	**00 38 37.0**	**-0.7**
ABKAR				IAmb		IAmb	00 38 37.9	
	comp=Z,4.2nm,0.8s							
ABKAR	**Akbulak array**	**56.99**	**309**	P		**P**	**00 38 37.1**	**-0.7**
EUNU	**Eureka**	**58.41**	**9**	P		**P**	**00 38 48.5**	**+1.1**
EUNU				IAmb		IAmb	00 39 12.2	
	comp=Z,6.2nm,1.4s							
WB0	**Warramunga Arr**	**58.65**	**188**	P		**P**	**00 38 49.7**	**+0.1**
WRA	**Warramunga Arr**	**58.83**	**188**	P		**P**	**00 38 50.9**	**0.0**
	comp=Z,2.2nm,0.7s,baz=5.4,slow=7.0,SNR=18							
WRA				pP		**pP**	**00 39 09.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=5.3,slow=7.5,SNR=3.1							
ARCES	**ARCESS Array B**	**62.44**	**339**	P		**P**	**00 39 13.6**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=21,slow=7.8,SNR=4.4							
ASAR	**Alice Springs**	**62.56**	**188**	P		**P**	**00 39 16.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=11,slow=6.1,SNR=7.7							
ASAR				pP		**pP**	**00 39 35.1**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=12,slow=6.1,SNR=2.1							
ASAR	**Alice Springs**	**62.56**	**188**	P		**P**	**00 39 16.9**	**+0.8**
FINES	**FINESS Array B**	**67.37**	**332**	P		**P**	**00 39 46.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=23,slow=10,SNR=6.1							
FINES	**FINESS Array B**	**67.37**	**332**	P		**P**	**00 39 46.2**	**-0.7**
KIV	**Kislovodsk**	**69.93**	**311**	P		**P**	**00 40 03.1**	**-0.2**
KIV				IAmb		IAmb	00 40 05.1	
	comp=Z,9.9nm,1.0s							
KBZ	**Khabaz**	**69.94**	**310**	P		**P**	**00 40 03.6**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=355,slow=1.2,SNR=5.7							
JTMT	**Jette**	**70.56**	**44**	P		**P**	**00 40 08.5**	**+1.3**
JTMT				IAmb		IAmb	00 40 09.1	
	comp=Z,2.1nm,0.5s							
DLMT	**Dillon**	**72.94**	**45**	P		**P**	**00 40 22.7**	**+1.3**
DLMT				IAmb		IAmb	00 40 23.7	
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**73.05**	**322**	P		**P**	**00 40 21.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=44,slow=5.9,SNR=5.3							
KVN	**Kaiserville**	**73.51**	**53**	P		**P**	**00 40 26.4**	**+1.4**
NVAR	**Mina Array Bea**	**73.75**	**54**	P		**P**	**00 40 28.4**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=283,slow=5.0,SNR=6.6							
NVAR	**Mina Array Bea**	**73.75**	**54**	P		**P**	**00 40 27.6**	**+1.1**
PD31	**Pinedale Array**	**76.27**	**46**	P		**P**	**00 40 41.9**	**+1.0**
PDAR	**Pinedale Array**	**76.27**	**46**	P		**P**	**00 40 42.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=45,slow=0.4,SNR=7.3							
PDAR	**Pinedale Array**	**76.27**	**46**	P		**P**	**00 40 41.9**	**+1.0**
KWP	**Kalwaria Pacla**	**76.84**	**324**	P		**P**	**00 40 44.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**77.06**	**322**	P		**P**	**00 40 45.1**	**-0.1**
BURAR	**Bucovina Array**	**77.08**	**322**	P		**P**	**00 40 45.0**	**-0.2**
CCUT	**Cedar City**	**77.37**	**52**	P		**P**	**00 40 48.5**	**+1.3**
BRTR	**Keskin Array B**	**77.86**	**311**	P		**P**	**00 40 49.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=104,slow=4.4,SNR=4.5							
BRTR	**Keskin Array B**	**77.86**	**311**	P		**P**	**00 40 49.4**	**-0.4**
GERES	**GERESS Array B**	**81.34**	**328**	P		**P**	**00 41 07.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=36,slow=8.5,SNR=2.3							
TXAR	**Lajitas Array**	**88.87**	**53**	P		**P**	**00 41 46.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=296,slow=3.1,SNR=8.3							
TXAR	**Lajitas Array**	**88.87**	**53**	P		**P**	**00 41 47.3**	**+0.9**
LPAZ	**La Paz**	**145.58**	**58**	PKPbc		**PKPab**	**00 48 31.9**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=2.1,slow=5.3,SNR=5.6							

JMA 11 00:31:09.3, 40.06N×142.19E, h50km±1km, M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.28**	**244**	P	Pn	00 31 18.4	+0.2
JTH				S	Sn	00 31 24.8	+0.2
JKEN	**Kujiedanarisaw**	**0.40**	**292**	P	Pn	00 31 19.3	-0.1
JKEN				S	Sn	00 31 26.5	-0.1
MIYJ	**Miyakonagasawa**	**0.56**	**211**	P	Pn	00 31 21.1	-0.2
MIYJ				S	Sn	00 31 29.6	-0.3
JANG	**Nango**	**0.60**	**301**	P	Pn	00 31 21.8	0.0
JANG				S	Sn	00 31 30.7	-0.2
JKZ	**Kuzumaki**	**0.67**	**264**	P	Pn	00 31 22.8	+0.2
JKZ				*e*S	Sn	00 31 32.3	0.0
JOM	**Ohasama**	**0.91**	**230**	P	Pn	00 31 25.8	0.0
JOM				S	Sn	00 31 37.7	-0.1
OFUJ	**Ofunato**	**1.06**	**203**	P	Pn	00 31 27.7	-0.1
OFUJ				*e*S	Sn	00 31 41.0	-0.5
JTM	**Tenmabayashi**	**1.12**	**311**	P	Pn	00 31 28.8	+0.1
JTM				S	Sn	00 31 43.1	+0.1
JAH	**Hinai**	**1.20**	**277**	P	Pn	00 31 30.0	+0.3
JAH				*e*S	Sn	00 31 45.0	+0.1
JMK	**Ichinoseki**	**1.34**	**214**	P	Pn	00 31 31.8	+0.2
JMK				*e*S	Sn	00 31 48.0	-0.2
JRG	**Rokugo**	**1.37**	**242**	P	Pn	00 31 32.6	+0.6
MAT	**Matsushiro**	**4.71**	**223**	P	Pn	00 32 19.4	+1.6
MAT				*e*S	Sn	00 33 14.7	+3.6

*DJA **11** 00:41:58.5±1.9, 12.7°S±18.1°×11.8°E±0.7°, h10km, M4.3/6, mb4.8/2, MLv4.1/6*

ISC 11 00:42:00.9±3.4, 11.6°S±0.3°×117.6°E±0.1, h34km, n8, σ0°53'/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.57**	**42**	P	**Pn**	**00 42 40.1**	**0.0**
PLAI	**Plampang**	**2.71**	**3**	P	**Pn**	**00 42 42.1**	**0.0**
TWSI	**Taliwang, Sumb**	**2.90**	**345**	P	**Pn**	**00 42 44.5**	**-0.1**
KHKI	**Kahang-Kahang**	**3.75**	**328**	P	**Pn**	**00 42 56.7**	**+0.4**
SRBI	**Singaraja**	**4.20**	**325**	P	**Pn**	**00 43 02.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.60**	**311**	P	**Pn**	**00 43 07.1**	**-1.0**
PWJI	**Pagerwojo**	**6.74**	**301**	P	**Pn**	**00 43 37.5**	**+0.1**
	0.2nm29nm,0.5s						
UGM	**Wanagama**	**7.89**	**297**	P	**Pn**	**00 43 53.7**	**+0.4**

*IDC **11** 00:50:41.8±1.0, 53.6°N×163.8°W, h0km, mb4.0/20, mb1 4.2/21, mb1mx4.0/43, mbtmp4.0/21, ML3.6/1, MS3.4/17, Ms1 3.4/17, ms1mx3.2/41, Error ellipse: s-maj=29.6km s-min=14.6km az=179.0*

*AEIC **11** 00:50:43.5±1.6, 53.38N±0.07×163.65W±0.06, h20km±5km, ML3.7/45, mb4.4/33(NEIC), Error ellipse: s-maj=11.2km s-min=4.7km az=162.0*

*NEIC **11** 00:50:44.4±1.7, 53.42N±0.03×163.68W±0.05, h25km±5km, Error ellipse: s-maj=5.0km s-min=3.8km az=121.0*

ISC 11 00:50:43.9±0.7, 53.42N±0.08×163.65W±0.04, h21km±4km, n156, σ1°09/152, mb4.2/40, MS3.4/19, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**1.23**	**357**		**Pn**	**00 51 05.2**	**-0.8**
BRPK					**Sb**	**00 51 23.0**	**+1.1**
WESP	**Westdahl Peak**	**1.25**	**330**		**Pn**	**00 51 05.7**	**-0.6**
WESP					**Sb**	**00 51 23.3**	**+0.8**
WECS	**Westdahl Cape**	**1.30**	**329**		**Pn**	**00 51 06.7**	**-0.2**
SSLS	**Shishaldin Sou**	**1.31**	**351**		**Pn**	**00 51 07.1**	**-0.1**
SSLS					**Sb**	**00 51 25.4**	**+1.1**
SSBA	**Shishaldin**	**1.39**	**348**		**Pn**	**00 51 07.7**	**-0.4**
SSLN	**Shishaldin Nor**	**1.41**	**352**		**Pn**	**00 51 08.9**	**+0.5**
AKSA	**Akutan Strait**	**1.41**	**301**		**Pn**	**00 51 07.8**	**-0.7**
AKSA					**Sn**	**00 51 26.3**	**-0.5**
FAL	**False Pass**	**1.45**	**5**	Pn	**Pn**	**00 51 08.3**	**-0.5**
AKUT	**Akutan**	**1.45**	**300**	Pn	**Pn**	**00 51 08.4**	**-0.6**
AKUT					**Sn**	**00 51 26.4**	**-1.0**
AHB	**Akutan Harbor**	**1.47**	**299**		**Pn**	**00 51 08.7**	**-0.4**
ZRO	**Akutan Zero**	**1.54**	**297**		**Pn**	**00 51 09.8**	**-0.4**
ZRO					**Sb**	**00 51 31.7**	**+0.9**
AKMO	**Akutan Morgan**	**1.56**	**297**		**Pn**	**00 51 09.8**	**-0.6**
AKLV	**Akutan Long Va**	**1.56**	**299**		**Pn**	**00 51 09.7**	**-0.8**
AKGG	**Akutan Green G**	**1.60**	**300**		**Pn**	**00 51 10.6**	**-0.4**
AKGG					**Sn**	**00 51 31.1**	**+0.2**
LVA	**Lava Point**	**1.60**	**299**		**Pn**	**00 51 10.9**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.61**	**297**		**Pn**	**00 51 11.0**	**-0.1**
MNAT	**Makushin Natee**	**1.87**	**286**		**Pn**	**00 51 14.4**	**-0.3**
MNAT					**Sb**	**00 51 38.9**	**-1.3**
DT1	**Dutton Round H**	**1.87**	**25**		**Pn**	**00 51 15.2**	**+0.5**
MTBL	**Makushin Table**	**1.89**	**288**		**Pn**	**00 51 15.2**	**+0.2**
MREP	**Makushin Rep't**	**1.89**	**283**		**Pn**	**00 51 14.9**	**-0.1**
MSW	**Makushin Switc**	**1.93**	**286**		**Pn**	**00 51 15.1**	**-0.5**
MSW					**Sn**	**00 51 39.7**	**+0.5**
MGOD	**Makushin Gods**	**1.96**	**282**		**Pn**	**00 51 16.2**	**+0.2**
MAPS	**Pakushin South**	**2.00**	**283**		**Pn**	**00 51 16.4**	**-0.1**
MAPS					**Sn**	**00 51 42.4**	**+1.4**
HAG	**Hague Volcano**	**2.16**	**27**		**Pn**	**00 51 18.8**	**+0.1**
PS4A	**Pavlof South-4**	**2.20**	**28**		**Pn**	**00 51 20.4**	**+1.2**
OKFG	**Magazine Ridge**	**2.55**	**272**		**Pn**	**00 51 24.1**	**0.0**
OKFG					**Sn**	**00 51 54.5**	**0.0**
SDPT	**Sand Point**	**2.68**	**42**	Pn	**Pn**	**00 51 26.3**	**+0.5**
OKSO	**Okmok South**	**2.71**	**271**		**Pn**	**00 51 26.2**	**0.0**
NIKH	**Nikolski High**	**3.17**	**264**	Pn	**Pn**	**00 51 31.9**	**-0.6**
NIKH	**Nikolski High**	**3.17**	**264**		**Sn**	**00 52 06.5**	**-3.0**
VNHG	**Veniaminof 1**	**3.82**	**41**		**Pn**	**00 51 42.9**	**+1.3**
ATKA	**Atka Island**	**6.51**	**263**	Pn	**Pn**	**00 52 18.8**	**+0.4**
OHAK	**Old Harbor**	**7.03**	**53**	Pn	**Pn**	**00 52 24.0**	**-1.5**
KDAK	**Kodiak Island**	**7.64**	**51**	Pn	**Pn**	**00 52 32.8**	**-1.1**
	0.9nm,0.3s,baz=210,slow=4.7,SNR=15						
KDAK				Sn	**Sn**	**00 53 53.9**	**-5.7**
	0.5nm,0.3s,baz=357,slow=23,SNR=1.5						
KDAK				Lg	Lg	00 54 38.1	
	baz=184,slow=23,SNR=1.7						
KDAK	**Kodiak Island**	**7.64**	**51**		**Pn**	**00 52 32.0**	**-1.8**
GSTR	**Great Sitkin T**	**7.65**	**265**	Pn	**Pn**	**00 52 35.6**	**+1.5**
GSTD	**Great Sitkin T**	**7.71**	**265**		**Pn**	**00 52 35.5**	**+0.6**
ADK	**Adak**	**8.08**	**264**	Pn	**Pn**	**00 52 39.1**	**-0.8**
KIWB	**Kanaga Island**	**8.37**	**265**	Pn	**Pn**	**00 52 44.1**	**+0.2**
TAPA	**Tanaga Point A**	**8.77**	**265**		**Pn**	**00 52 51.2**	**+1.7**
SVW2	**Sparrevohn**	**8.85**	**26**	Pn	**Pn**	**00 52 50.9**	**+0.4**
CNPM	**China Poot**	**9.19**	**43**	Pn	**Pn**	**00 52 55.4**	**+0.3**
SEW	**Seward**	**10.26**	**44**	Pn	**Pn**	**00 53 09.5**	**-0.2**
AMKA	**Amchitka**	**10.62**	**266**	Pn	**Pn**	**00 53 13.9**	**-0.8**
SKT	**Skwentna**	**10.73**	**32**	Pn	**Pn**	**00 53 18.1**	**+1.9**
PWL	**Port Wells**	**11.15**	**42**	Pn	**Pn**	**00 53 23.5**	**+1.6**
HIN	**Hinchinbrook I**	**11.66**	**46**	Pn	**Pn**	**00 53 27.9**	**-1.0**
FID	**Port Fidalgo**	**11.85**	**45**	Pn	**Pn**	**00 53 29.5**	**-2.0**
SCM	**Sheep Creek Mo**	**12.11**	**39**	Pn	**Pn**	**00 53 34.2**	**-1.0**
KLU	**Klutina**	**12.47**	**43**		**Pn**	**00 53 38.5**	**-1.6**
M24K	**Tolsona, Glenn**	**12.71**	**40**	Pn	**Pn**	**00 53 42.5**	**-0.9**
N25K	**Chitina, Valde**	**13.07**	**44**	Pn	**Pn**	**00 53 47.4**	**-0.9**
GLB	**Gilahina Butte**	**13.32**	**45**	Pn	**Pn**	**00 53 51.5**	**-0.1**
MLY	**Manley**	**13.35**	**24**		**Pn**	**00 53 51.3**	**-0.7**
VRDI	**Verde Repeater**	**13.38**	**46**	Pn	**Pn**	**00 53 51.7**	**-0.8**
CCB	**Clear Creek Bu**	**13.84**	**29**	Pn	**Pn**	**00 53 56.6**	**-2.0**
GRNC	**Granite Creek**	**13.93**	**50**	Pn	**Pn**	**00 53 59.3**	**-0.7**
TABL	**Table Mountain**	**14.10**	**51**	Pn	**Pn**	**00 54 02.0**	**-0.4**
CTGM	**Chitina Glacie**	**14.20**	**49**	Pn	**Pn**	**00 54 03.6**	**-0.1**
IL31		**14.21**	**30**	Pn	**Pn**	**00 54 02.9**	**-0.7**
ILAR	**Eielson Array**	**14.21**	**30**	Pn	**Pn**	**00 54 05.7**	**+2.1**
	0.1nm,0.3s,baz=224,slow=10,SNR=6.3						
ILAR	**Eielson Array**	**14.21**	**30**		**Pn**	**00 54 02.2**	**-1.4**
SCRK	**Sand Creek**	**14.63**	**36**	Pn	**Pn**	**00 54 08.7**	**-0.8**
L27K	**Beaver Creek,**	**14.93**	**41**	Pn	**Pn**	**00 54 12.8**	**-0.6**
BCAR	**Beaver Creek A**	**14.95**	**41**	Pn	**Pn**	**00 54 12.6**	**-1.1**
COLD	**Coldfoot**	**15.31**	**20**	Pn	**Pn**	**00 54 18.0**	**-0.5**
K27K	**Chicken**	**15.35**	**38**	Pn	**Pn**	**00 54 18.4**	**-0.6**
DAWY	**Dawson**	**16.37**	**40**	Pn	**Pn**	**00 54 32.6**	**+0.3**
BMAR	**Burnt Mountain**	**16.79**	**26**	Pn	**Pn**	**00 54 37.7**	**+0.2**
JIS	**Juneau Island**	**17.05**	**62**		**Pn**	**00 54 41.6**	**+0.8**
JIS				IAmb	IAmb	00 54 51.9	
	comp=Z,13nm,0.4s						
WHY	**Whitehorse**	**17.14**	**54**	Pn	**Pn**	**00 54 41.5**	**-0.5**
EPYK	**Eagle Plains**	**18.52**	**35**	P	**P**	**00 54 58.1**	**-0.5**
DLBC	**Dease Lake**	**19.35**	**61**	P	**Pn**	**00 55 13.8**	**+4.7**
	comp=Z,0.0nm,0.3s,baz=228,slow=14,SNR=3.5						
BILL	**Bilibino**	**20.43**	**327**	P	**P**	**00 55 17.5**	**-2.0**
INK	**Inuvik**	**20.59**	**32**	P	**P**	**00 55 21.8**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=233,slow=9.6,SNR=5.8						
INK	**Inuvik**	**20.59**	**32**	P	**P**	**00 55 20.2**	**-0.9**
PEA0B	**Petropavlovsk-**	**22.94**	**285**	P	**P**	**00 55 46.5**	**0.0**
PEA0B				IAmb	IAmb	00 55 52.5	
	comp=Z,19nm,1.2s						
PETK	**Petropavlovsk-**	**22.94**	**285**	P	**P**	**00 55 46.8**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=86,slow=12,SNR=7.9						
PETK				LR	LR	01 04 20.3	
	comp=Z,124nm,21.4s,baz=79,slow=36						
PETK	**Petropavlovsk-**	**22.94**	**285**	P	**P**	**00 55 47.3**	**+0.9**
C36M	**Paulatuk**	**24.12**	**34**	P	**P**	**00 55 58.4**	**+0.5**
C36M				IAmb	IAmb	00 56 20.1	
	comp=Z,19nm,1.4s						
YKA	**Yellowknife Ar**	**26.91**	**51**	P	**P**	**00 56 23.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=291,slow=11,SNR=2.6						
YKA				LR	LR	01 09 18.6	
	comp=Z,108nm,18.6s,baz=0.0,slow=42						
NEW	**Newport**	**29.40**	**81**	LR	LR	01 05 56.9	
	comp=Z,69nm,21.6s,baz=329,slow=31						
YBH	**Yreka Blue Hor**	**29.58**	**97**	LR	LR	01 06 45.9	
	comp=Z,74nm,18.5s,baz=332,slow=32						
RES	**Resolute Bay**	**33.91**	**26**	LR	LR	01 11 54.6	
	comp=Z,57nm,18.6s,baz=105,slow=38						
NVAR	**Mina Array Bea**	**34.28**	**97**	P	**P**	**00 57 31.4**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=309,slow=8.7,SNR=2.8						
NVAR				LR	LR	01 09 50.1	
	comp=Z,50nm,18.6s,baz=257,slow=33						
EUNU	**Eureka**	**35.72**	**17**	P	**P**	**00 57

TIAR	**Tiarei**	**71.75 166**	*eT*	T	02 20 28.6	
	comp=Z,1.1nm,0.3s					
FRU1	**Bishkek**	**71.89 319**	P	**P**	**01 02 06.0**	**+0.8**
AAK	**Ala-Archa**	**72.09 319**	P	**P**	**01 02 06.7**	**+0.1**
KK31	**Karatay Array**	**73.22 322**	P	**P**	**01 02 12.7**	**-0.4**
KK31			IAmb	IAmb	01 02 14.5	
	comp=Z,1.9nm,0.8s					
KKAR	**Karatay Array**	**73.22 322**	P	**P**	**01 02 12.6**	**-0.5**
KKAR			IAmb	IAmb	01 02 14.5	
	comp=Z,1.9nm,0.8s					
KKAR	**Karatay Array**	**73.22 322**	P	**P**	**01 02 12.7**	**-0.4**
ARSB	**Arslanbob**	**73.80 319**	P	**P**	**01 02 16.4**	**-0.3**
ARSB			IAmb	IAmb	01 02 18.0	
	comp=Z,6.9nm,1.2s					
AKASG	**Malin Array Be**	**75.69 352**	P	**P**	**01 02 26.3**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=15,slow=5.8,SNR=6.3					
KWP	**Kalwaria Pacla**	**77.18 356**	P	**P**	**01 02 36.3**	**+0.5**
GERES	**GERESS Array B**	**78.09 2**	P	**P**	**01 02 41.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=343,slow=3.2,SNR=5.8					
BURAR	**Bucovina Array**	**79.06 354**	P	**P**	**01 02 45.8**	**-0.5**
DZM	**Mont Dzumac**	**79.52 208**	*eLR*	LR	01 27 32.3	
	comp=Z,298nm,23.0s					
CMAR	**Chiang Mai Arr**	**79.70 287**	P	**P**	**01 02 50.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=26,slow=5.4,SNR=8.1					
CMAR			LR	LR	01 42 33.6	
	comp=Z,13nm,18.1s,baz=180,slow=39					
CMAR	**Chiang Mai Arr**	**79.70 287**	P	**P**	**01 02 49.0**	**-1.1**
NIL	**Nilore**	**80.26 315**	P	**P**	**01 02 52.7**	**-0.3**
KBZ	**Khabaz**	**80.58 341**	P	**P**	**01 02 56.0**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=306,slow=3.7,SNR=5.6					
KBZ			LR	LR	01 43 33.4	
	comp=Z,28nm,20.0s,baz=350,slow=40					
BR131	**Keskin Array S**	**86.03 347**	P	**P**	**01 03 23.1**	**+0.2**
BRTR	**Keskin Array B**	**86.03 347**	P	**P**	**01 03 23.9**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=48,slow=1.8,SNR=11					
BRTR			LR	LR	01 46 19.3	
	comp=Z,24nm,19.1s,baz=65,slow=39					
BRTR	**Keskin Array B**	**86.03 347**	P	**P**	**01 03 23.0**	**+0.2**
H03N2	**Juan Fernandez**	**113.16 115**	T	T	03 13 08.7	
	baz=321					
H03N1	**Juan Fernandez**	**113.17 115**	T	T	03 13 02.9	
	baz=321					
H03N3	**Juan Fernandez**	**113.17 115**	T	T	03 13 04.5	
	baz=321					

*IDC **11** 01:01:27.1±2.1,3˚.14S×130˚.19E, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/32, mbtmp4.2/3, ML3.9/1, Error ellipse: s-maj=112.2km s-min=27.3km az=70.0*
*DJA **11** 01:01:29.9±2.3,3˚S±9˚×13˚1E±˚, h122km±43km, M3.7/7, MLv3.7/7*
*NEIC **11** 01:01:32.8±1.4,3˚.23S±0˚.05×130˚.58E±0˚.09, h43km±6km, mb4.4/12, Error ellipse: s-maj=13.2km s-min=8.0km az=94.0*

ISC 11 01:01:29.4±0.6,**3˚.17S**±0˚.05×**130˚.54E**±0˚.05,**h24**km,**n26,** σ1§**51**/29,**mb4.5**/5,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.61**	**264**	P	**Pb**	**01 02 00.0**	**+1.5**
FAKI	**Fak Fak**	**1.73**	**82**	P	**Pn**	**01 01 59.6**	**+1.7**
FAKI				Sn	**Sn**	**01 02 19.2**	**-0.1**
FAKI	**Fak Fak**	**1.73**	**82**	P	**Pn**	**01 01 59.7**	**+1.7**
KRAI	**Karang Ratu**	**2.14**	**266**	P	**Pb**	**01 02 05.6**	**-1.9**
SIJI	**Sorong**	**2.40**	**18**	P	**Pn**	**01 02 05.7**	**-1.4**
SWI	**Sorong**	**2.40**	**18**	P	**Pn**	**01 02 05.7**	**-1.5**
NLAI	**Namlea**	**3.43**	**269**	P	**Pn**	**01 02 23.1**	**+1.7**
MTN	**Manton Dam**	**9.63**	**177**	Pn	**Pn**	**01 03 48.0**	**+1.4**
MTN				Sn	**Sn**	**01 05 33.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.60**	**198**		**P**	**01 05 10.8**	**-1.0**
WB0	**Warramunga Arr**	**16.93**	**167**	Pn	**Pn**	**01 05 25.4**	**+0.6**
WRA	**Warramunga Arr**	**17.08**	**168**	P	**P**	**01 05 29.5**	**+1.1**
	0.5nm,0.3s,baz=347,slow=11,SNR=16						
WRA				S	**Sn**	**01 08 31.0**	**-5.2**
	0.1nm,0.3s,baz=335,slow=18,SNR=2.4						
WB2	**Warramunga Arr**	**17.09**	**168**	Pn	**Pn**	**01 05 27.2**	**+0.4**
WR0	**Warramunga Arr**	**17.14**	**167**		**P**	**01 05 29.1**	**+0.1**
WR0				IAmb	IAmb	01 05 43.7	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**20.64**	**171**	P	Pn	01 06 08.3	-1.4
AS31				IAmb	IAmb	01 06 10.6	
	comp=Z,5.2nm,0.6s						
ASAR	**Alice Springs**	**20.64**	**171**	P	Pn	01 06 09.1	-0.7
	comp=Z,14nm,0.7s,baz=351,slow=10,SNR=92						
ASAR				S	**S**	**01 09 55.3**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=351,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**20.64**	**171**	P	**P**	**01 06 07.7**	**+0.3**
ASAR					**S**	**01 09 55.7**	**-1.5**
PSA00	**Pilbara Seismi**	**21.04**	**209**	P	**P**	**01 06 11.0**	**-0.8**
PSA00				IAmb	IAmb	01 06 13.9	
	comp=Z,30nm,1.4s						
ANA2	**Anatahan**	**24.51**	**37**	P	**P**	**01 06 47.8**	**+0.7**
GSI	**Gunungsitoli**	**33.24**	**277**	P	**P**	**01 08 05.0**	**-0.1**
GSI				IAmb	IAmb	01 08 18.0	
	comp=Z,26nm,1.3s						
KS19	**Wonju Array Si**	**40.54**	**357**	P	**P**	**01 09 08.0**	**+1.3**
KS19				IAmb	IAmb	01 09 09.1	
	comp=Z,14nm,0.9s						
LBZ	**Lake Benmore**	**53.88**	**146**	P	**P**	**01 10 50.3**	**-0.5**
MKAR	**Makanchi Array**	**65.35**	**326**	P	**P**	**01 12 09.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=131,slow=7.5,SNR=8.1						
MAKZ	**Makanchi**	**65.54**	**326**	P	**P**	**01 12 11.4**	**+0.4**
MAKZ				IAmb	IAmb	01 12 20.1	
	comp=Z,4.9nm,1.2s						
ATKA	**Atka Island**	**72.13**	**32**	P	**P**	**01 12 52.2**	**+0.3**
ABKAR	**Akbulak array**	**79.87**	**321**	P	**P**	**01 13 36.0**	**-0.1**
KSCO	**Kaye Shedlock'**	**120.05**	**46**		**PKPdf**	**01 20 18.6**	**-0.1**

NNC 11 01:03:53.9±3.3,**36˚.76N**×**70˚.62E, h143**km±56km,**mb2.9, mpv3.8, 2C-3D, Error ellipse: s-maj=31.2km s-min=22.7km az=41.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.34**	**359**	P	Pn	01 05 25.4	+0.4
	3.3nm,0.6s,baz=200,slow=12,SNR=29						
KK31				⇓S	Sn	01 06 36.4	+0.1
	10nm,0.7s,baz=171,slow=13,SNR=4.2						
AAK	**Ala-Archa**	**6.59**	**26**	⇑P	Pn	01 05 28.5	+0.1
	1.6nm,0.3s						
AAK				⇓S	Sn	01 06 43.4	+1.0
	5.0nm,0.5s						
TKM2	**Tokmak 2**	**7.25**	**30**	⇓P	Pn	01 05 36.6	-0.7
	5.0nm,0.6s						
AB31	**Akbulak array**	**14.71**	**331**	P	P	01 07 16.2	-1.0
	0.1nm,0.3s,baz=140,slow=12,SNR=14						
AKTO	**Aktyubinsk**	**16.41**	**330**	⇑P	Pn	01 07 34.7	-1.1
	1.7nm,0.7s						

*IDC **11** 01:18:00.6±0.8,5˚.47S×153˚.90E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/30, mbtmp4.2/13, ML2.5/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/28, Error ellipse: s-maj=29.8km s-min=16.2km az=103.0*
*NEIC **11** 01:18:06.5±1.1,5˚.53S±0˚.05×153˚.82E±0˚.09, h32km±4km, mb4.8/24, Error ellipse: s-maj=12.9km s-min=7.5km az=85.0*

ISC 11 01:18:07.6±0.5,**5˚.50S**±0˚.06×**153˚.80E**±0˚.08,**h50**km,**n60,** σ0§**80**/56,**mb4.6**/22,**MS3.5**/11,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.09**	**308**	Pn	**Pn**	**01 18 39.8**	**-0.4**
RABL				Sn	**Sn**	**01 19 05.4**	**+0.4**
HNR	**Honiara**	**7.23**	**123**	LR	LR	01 22 55.4	
	comp=Z,523nm,18.8s,baz=248,slow=41						
PMG	**Port Moresby**	**7.64**	**239**	Pn	**Pn**	**01 19 54.9**	**-1.5**
	3.5nm,0.3s,baz=56,slow=10,SNR=2.9						
PMG				Sn	**Sn**	**01 21 22.9**	**+1.1**
	7.4nm,0.3s,baz=251,slow=20,SNR=5.8						
PMG				LR	LR	01 22 46.0	
	comp=Z,536nm,21.6s,baz=44,slow=37						
PMG	**Port Moresby**	**7.64**	**239**		**Pn**	**01 19 55.1**	**-1.3**
PMG					**Sn**	**01 21 20.6**	**-1.1**
PATS	**Pohnpei**	**13.06**	**20**	Pn	**Pn**	**01 21 09.6**	**-0.9**
EIDS	**Eidsvold**	**19.93**	**187**	P	**P**	**01 22 34.5**	**-0.8**
EIDS				IAmb	IAmb	01 22 49.3	
	comp=Z,40nm,1.5s						
DZM	**Mont Dzumac**	**20.52**	**145**	P	**P**	**01 22 41.5**	**-0.3**
DZM				IAmb	IAmb	01 22 46.3	
	comp=Z,56nm,1.2s						
WR0	**Warramunga Arr**	**23.61**	**231**	P	**P**	**01 23 14.7**	**+0.4**
WB0	**Warramunga Arr**	**23.62**	**231**	P	**P**	**01 23 14.0**	**-0.4**
WB2	**Warramunga Arr**	**23.75**	**231**	P	**P**	**01 23 15.8**	**+0.2**
WRA	**Warramunga Arr**	**23.76**	**231**	P	**P**	**01 23 14.7**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=55,slow=9.8,SNR=18						
WRA				PcP	**PcP**	**01 26 59.1**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=57,slow=2.3,SNR=11						
ASAR	**Alice Springs**	**26.33**	**225**	P	**P**	**01 23 39.1**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=62,slow=8.7,SNR=12						
ASAR				PcP	**PcP**	**01 27 05.4**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=59,slow=2.9,SNR=15						
ASAR				LR	LR	01 34 08.9	
	comp=Z,137nm,19.2s,baz=92,slow=37						
ASAR	**Alice Springs**	**26.33**	**225**	P	**P**	**01 23 39.0**	**-0.1**
MSVF	**Nonsavu**	**26.63**	**119**	LR	LR	01 33 30.0	
	comp=Z,99nm,21.9s,baz=306,slow=35						
H11S3	**WAKE ISLAND Hy**	**27.02**	**28**	T	T	01 52 12.3	
	baz=208,slow=73,SNR=24						
H11S2	**WAKE ISLAND Hy**	**27.02**	**28**	T	T	01 52 06.9	
	baz=208,slow=73,SNR=28						
H11S1	**WAKE ISLAND Hy**	**27.04**	**28**	T	T	01 52 07.5	
	baz=208,slow=73,SNR=27						
STKA	**Stephens Creek**	**28.62**	**202**	P	**P**	**01 23 59.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=3.8,slow=15,SNR=3.1						
STKA				LR	LR	01 35 49.9	
	comp=Z,137nm,18.5s,baz=23,slow=37						
FITZ	**Fitzroy Crossi**	**30.22**	**243**	P	**P**	**01 24 12.9**	**-0.8**
BKZ	**Black Stump Fm**	**39.30**	**152**	P	**P**	**01 25 32.6**	**+0.8**
BKZ				IAmb	IAmb	01 25 47.8	
	comp=Z,40nm,1.4s						
BFZ	**Birch Farm**	**40.40**	**153**	P	**P**	**01 25 41.5**	**+0.6**
LTZ	**Lake Taylor**	**40.57**	**159**	P	**P**	**01 25 42.0**	**-0.3**
MJAR	**Matsushiro Arr**	**44.30**	**342**	LR	LR	01 44 40.9	
	comp=Z,30nm,18.4s,baz=65,slow=36						
KSRS	**Korea Array**	**49.08**	**333**	P	**P**	**01 26 49.9**	**0.0**
	comp=Z,2.4nm,0.8s,baz=153,slow=8.4,SNR=8.3						
KSRS				LR	LR	01 43 50.2	
	comp=Z,34nm,21.7s,baz=188,slow=32						
KS19	**Wonju Array Si**	**49.14**	**333**	P	**P**	**01 26 49.8**	**-0.7**
KS19				IAmb	IAmb	01 27 08.5	
	comp=Z,16nm,1.4s						
KIP	**Kipapa**	**54.28**	**59**	P	**P**	**01 27 28.6**	**-0.4**
PETK	**Petropavlovsk-**	**58.48**	**3**	P	**P**	**01 27 58.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=163,slow=1.5,SNR=3.7						
PETK				LR	LR	01 49 13.7	
	comp=Z,23nm,21.2s,baz=146,slow=32						
CMAR	**Chiang Mai Arr**	**59.08**	**295**	P	**P**	**01 28 04.0**	**+0.7**
	comp=Z,7.7nm,0.9s,baz=111,slow=5.0,SNR=32						
CMAR				LR	LR	01 51 51.2	
	comp=Z,20nm,21.1s,baz=190,slow=34						
CMAR	**Chiang Mai Arr**	**59.08**	**295**	P	**P**	**01 28 05.0**	**+1.7**
SONM	**Songino Array**	**67.45**	**328**	P	**P**	**01 28 59.8**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=156,slow=11,SNR=3.8						
SONM	**Songino Array**	**67.45**	**328**	P	**P**	**01 28 58.3**	**0.0**
VNDA	**Vanda**	**72.10**	**178**	P	**P**	**01 29 27.5**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=358,slow=5.6,SNR=6.7						
VNDA	**Vanda**	**72.10**	**178**	P	**P**	**01 29 27.4**	**+1.1**
MK31	**Makanchi Array**	**81.51**	**319**	P	**P**	**01 30 20.7**	**+0.8**
MK31				IAmb	IAmb	01 30 21.4	
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array**	**81.51**	**319**	P	**P**	**01 30 20.4**	**+0.6**
	comp=Z,5.4nm,0.7s,baz=96,slow=7.6,SNR=35						
MAKZ	**Makanchi**	**81.72**	**319**	P	**P**	**01 30 21.3**	**+0.4**
MAKZ				IAmb	IAmb	01 30 22.5	
	comp=Z,8.3nm,0.9s						
ZAA0	**Zalesovo Array**	**82.29**	**326**	P	**P**	**01 30 23.6**	**-0.1**
ZALV	**Zalesovo Beam**	**82.29**	**326**	P	**P**	**01 30 23.3**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=112,slow=5.2,SNR=13						
ILAR	**Eielson Array**	**82.43**	**22**	P	**P**	**01 30 22.6**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=258,slow=5.8,SNR=6.6						
ILAR				LR	LR	02 04 04.9	
	comp=Z,52nm,18.9s,baz=260,slow=34						
TARG	**Taragay, Kyrgy**	**83.27**	**313**	P	**P**	**01 30 30.5**	**+0.8**
TARG				IAmb	IAmb	01 30 32.0	
	comp=Z,4.7nm,0.9s						
KDJ	**Kajisay**	**83.82**	**313**	P	**P**	**01 30 33.2**	**+1.0**
QSPA	**South Pole Qui**	**84.46**	**180**	P	**P**	**01 30 35.5**	**+0.7**
BOOM	**Boomskoye usch**	**84.80**	**313**	P	**P**	**01 30 37.7**	**+0.6**
MAW	**Mawson**	**85.31**	**203**	P	**P**	**01 30 39.8**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=102,slow=5.9,SNR=9.5						
AAK	**Ala-Archa**	**85.87**	**313**	P	**P**	**01 30 42.7**	**+0.3**
AAK				IAmb	IAmb	01 30 44.4	
	comp=Z,7.2nm,0.8s						
ARSB	**Arslanbob**	**86.74**	**312**	P	**P**	**01 30 47.5**	**+0.8**
ARSB				IAmb	IAmb	01 30 49.7	
	comp=Z,12nm,1.1s						
BTK	**Batken**	**88.15**	**310**	P	**P**	**01 30 53.7**	**+0.2**
BTK				IAmb	IAmb	01 30 55.0	
	comp=Z,8.1nm,1.0s						
KKAR	**Karatay Array**	**88.84**	**313**	P	**P**	**01 30 56.4**	**-0.1**
BRVK	**Borovoye**	**90.47**	**323**	P	**P**	**01 31 02.5**	**-1.3**
BRVK				IAmb	IAmb	01 31 05.4	
	comp=Z,4.2nm,0.9s						
NVAR	**Mina Array Bea**	**91.73**	**52**	LR	LR	02 04 27.0	
	comp=Z,38nm,22.0s,baz=280,slow=30						
YKA	**Yellowknife Ar**	**95.58**	**28**	LR	LR	02 10 40.7	
	comp=Z,28nm,19.8s,baz=0.0,slow=33						
X16A	**Lo Mia Camp, P**	**97.00**	**56**	P	**P**	**01 31 34.6**	**0.0**
X16A				IAmb	IAmb	01 31 35.7	
	comp=Z,2.1nm,0.5s						
PDAR	**Pinedale Array**	**98.58**	**48**	LR	LR	02 11 44.1	
	comp=Z,61nm,19.0s,baz=280,slow=33						
BOSA	**Boshof**	**120.00**	**233**	PKP	**PKPdf**	**01 36 52.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=73,slow=3.0,SNR=5.0						
BOSA	**Boshof**	**120.00**	**233**	PKPdf	**PKPdf**	**01 36 53.0**	**-0.6**
GERES	**GERESS Array B**	**125.17**	**329**	PKP	**PKiKP**	**01 37 03.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=52,slow=2.2,SNR=4.4						
GERES	**GERESS Array B**	**125.17**	**329**	PKPdf	**PKPdf**	**01 37 03.1**	**+0.2**
TOA0	**Torodi Ar. Sit**	**151.47**	**287**		**PKPbc**	**01 37 57.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**151.47**	**287**	PKPbc	**PKPbc**	**01 37 57.2**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=54,slow=2.5,SNR=27						
TORD	**Torodi Ar. Bea**	**151.47**	**287**		**PKPbc**	**01 37 56.7**	**-0.4**

*NEIC **11** 01:46:15.4±2.0,0˚.06N±0˚.07×123˚.77E±0˚.04, h129km±13km, mb4.1/6, Error ellipse: s-maj=11.8km s-min=2.7km az=151.0*
*DJA **11** 01:46:16.5±0.8,0˚.5S±10˚×12˚4E±˚, h119km±12km, M4.0/6, MLv4.0/6*
*IDC **11** 01:46:17.0±8.4,0˚.01S×123˚.70E, h144km±82km, mb3.4/5, mb1 3.5/6, mb1mx3.3/36, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=71.7km s-min=17.7km az=52.0*

ISC 11 01:46:15.8±0.7,**0˚.01S**±0˚.06×**123˚.78E**±0˚.06,**h150**km,**n25,** σ1§**90**/29,**mb3.9**/9,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.61**	**20**	P	**Pn**	**01 46 38.1**	**+0.3**
KMSI				S	**Sn**	**01 46 53.0**	**-1.5**
MRSI	**Marisa**	**1.90**	**285**	P	**Pn**	**01 46 48.8**	**-0.9**
APSI	**Ampana**	**2.31**	**247**	P	**Pn**	**01 46 53.8**	**-0.7**
SANI	**Sanana**	**3.00**	**133**	P	**Pn**	**01 46 59.9**	**-3.3**
TOLI2	**Tolitoli**	**3.19**	**290**	Pn	**Pn**	**01 47 05.4**	**-0.2**
TOLI2				Sn	**Sn**	**01 47 39.7**	**-4.5**
TNTI	**Ternate**	**3.67**	**78**	Pn	**Pn**	**01 47 10.9**	**-0.9**
TNTI				Sn	**Sn**	**01 47 52.5**	**-2.8**
NLAI	**Namlea**	**4.62**	**134**	P	**Pn**	**01 47 23.7**	**-0.5**
KAPI	**Kappang**	**6.39**	**219**	P	**Pn**	**01 47 48.0**	**+0.3**
	1.5nm,0.3s,baz=17,slow=8.0,SNR=2.7						
KAPI				S	**Sn**	**01 48 59.1**	**-0.7**
	1.8nm,0.3s,baz=130,slow=18,SNR=5.9						
KAPI	**Kappang**	**6.39**	**219**		**Pn**	**01 47 48.2**	**+0.4**
KAPI					**Sn**	**01 48 58.7**	**-1.1**
FAKI	**Fak Fak**	**8.95**	**109**	Pn	**Pn**	**01 48 21.2**	**-0.7**
WB0	**Warramunga Arr**	**22.22**	**153**	P	**P**	**01 51 00.8**	**+0.5**
WB0				IAmb	IAmb	01 51 08.4	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**22.35**	**153**	P	**P**	**01 51 02.4**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=333,slow=9.9,SNR=14						
WB2	**Warramunga Arr**	**22.36**	**153**	P	**P**	**01 51 03.9**	**+2.3**
WR0	**Warramunga Arr**	**22.46**	**153**	P	**P**	**01 51 05.6**	**+3.0**
WR0				IAmb	IAmb	01 51 18.0	
	comp=Z,9.2nm,1.3s						
ASAR	**Alice Springs**	**25.49**	**158**	P	**P**	**01 51 34.0**	**+3.7**
	comp=Z,0.2nm,0.4s,baz=351,slow=15,SNR=6.0						
JOW	**Kunigami**	**27.04**	**9**	LR	LR	02 03 57.2	
	comp=Z,41nm,20.8s,baz=322,slow=39						
CMAR	**Chiang Mai Arr**	**30.53**	**308**	P	P	01 52 18.4	+3.2
	comp=Z,0.6nm,0.3s,baz=134,slow=7.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.53**	**308**	P	**P**	**01 52 15.2**	**0.0**
MAJO	**Matsushiro**	**38.76**	**19**	P	**P**	**01 53 27.5**	**+1.8**
MAJO				IAmb	IAmb	01 53 37.1	
	comp=Z,7.3nm,1.3s						
MK31	**Makanchi Array**	**59.03**	**328**	P	**P**	**01 56 01.1**	**+1.2**
MK31				IAmb	IAmb	01 56 05.5	
	comp=Z,2.1nm,1.2s						
MKAR	**Makanchi Array**	**59.03**	**328**	P	**P**	**01 56 01.4**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=128,slow=9.1,SNR=8.8						
MKAR				PcP	**sP**	**01 56 48.7**	**-3.3**
	comp=Z,0.6nm,0.6s,baz=134,slow=3.5,SNR=3.7						
MKAR	**Makanchi Array**	**59.03**	**328**	P	**P**	**01 56 00.7**	**+0.7**
MAKZ	**Makanchi**	**59.21**	**328**	P	**P**	**01 56 02.2**	**+1.0**
ZALV	**Zalesovo Beam**	**62.64**	**335**	P	**P**	**01 56 24.6**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=116,slow=8.2,SNR=2.1						
ZALV	**Zalesovo Beam**	**62.64**	**335**	P	**P**	**01 56 25.0**	**+0.9**

*NOU **11** 01:49:45.4,31˚.48S×179˚.93E, h434km, mb4.8, Kermadec Islands Region*
*NEIC **11** 01:49:45.8±1.5,31˚.42S±0˚.10×179˚.9E±0˚.1, h434km±6km, mb4.5/52, Error ellipse: s-maj=17.6km s-min=13.3km az=115.0*
*IDC **11** 01:49:46.1±0.7,31˚.30S×179˚.72E, h441km±6km, mb3.9/14, mb1 4.1/16, mb1mx3.9/29, mbtmp4.7/16, Error ellipse: s-maj=14.7km s-min=12.4km az=150.0*
*WEL **11** 01:49:49.4±0.7,32˚.5S±5˚×18˚0W±1˚.3, h350km±10km, M5.1/37, mB5.5/33, ML5.8/8, MLv5.8/37, Mw(mB)5.0/33, Error ellipse: s-maj=0.0km s-min=0.0km az=107.6*

ISC 11 01:49:45.8±0.3,**31˚.48S**±0˚.05×**179˚.93E**±0˚.07,**h450**km, **n297,** σ1§**41**/312,**mb4.5**/44,**10C-12D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.89**	**41**	P	**P**	**01 50 49.5**	**-2.5**
GLKZ				S	S	01 51 30.4	-15
RAO	**Raoul Island**	**2.90**	**40**	P	**P**	**01 50 50.1**	**-2.0**
	368nm,0.3s,baz=88,slow=8.5,SNR=20						
RAO				S	S	01 51 28.7	-17
	715nm,0.3s,baz=87,slow=23,SNR=5.5						
RAO	**Raoul Island**	**2.90**	**40**	P	**P**	**01 50 49.4**	**-2.8**
RAO				S	**S**	**01 51 41.2**	**-4.7**
RAO	**Raoul Island**	**2.90**	**40**	P	**P**	**01 50 50.2**	**-2.0**
RAO	**Raoul Island**	**2.90**	**40**	P	**P**	**01 50 50.4**	**-1.7**
RIZ	**Raoul Island**	**2.90**	**40**	P	**P**	**01 50 50.2**	**-1.9**
RIZ				S	S	01 51 32.2	-14
GRZ	**Great Barrier**	**6.04**	**217**	P	**P**	**01 51 22.1**	**+1.8**
MXZ	**Matakaoa Point**	**6.21**	**192**	P	**P**	**01 51 22.0**	**-0.1**
MXZ				S	**S**	**01 52 40.9**	**-0.1**
MXZ	**Matakaoa Point**	**6.21**	**192**	P	**P**	**01 51 22.9**	**+0.7**
MXZ				S	**S**	**01 52 36.1**	**-4.8**
KUZ	**Kuaotunu**	**6.31**	**212**	P	**P**	**01 51 26.1**	**+3.0**
WCZ	**Waipu Caves**	**6.44**	**225**	P	**P**	**01 51 26.3**	**+1.9**
WMGZ	**Waiomatatini S**	**6.45**	**191**	P	**P**	**01 51 25.4**	**+0.9**
WMGZ				S	**S**	**01 52 43.7**	**-1.7**
OUZ	**Omahuta**	**6.48**	**233**	P	**P**	**01 51 25.8**	**+0.8**
OUZ				S	**S**	**01 52 49.7**	**+3.5**
OUZ	**Omahuta**	**6.48**	**233**	P	**P**	**01 51 26.5**	**+1.6**
HAZ	**Te Kaha**	**6.51**	**195**	P	**P**	**01 51 24.5**	**-0.6**
HAZ				S	**S**	**01 52 44.2**	**-2.4**
PKGZ	**Pakihiroa**	**6.57**	**193**	P	**P**	**01 51 26.3**	**+0.3**
PKGZ				S	**S**	**01 52 45.9**	**-2.1**
WIAZ	**Waiheke Island**	**6.63**	**216**	P	**P**	**01 51 29.0**	**+2.6**
PUZ	**Puketiti**	**6.72**	**191**	P	**P**	**01 51 26.7**	**-0.7**
PUZ				S	**S**	**01 52 46.1**	**-4.6**
MBAZ	**Motutapu North**	**6.73**	**217**	P	**P**	**01 51 30.6**	**+3.1**
RUGZ	**Raukumara Rang**	**6.73**	**195**	P	**P**	**01 51 26.9**	**-0.7**
RUGZ				S	**S**	**01 52 47.3**	**-3.8**
WHRZ	**Whale Island**	**6.81**	**200**	P	**P**	**01 51 32.5**	**+4.2**
WHRZ				S	**S**	**01 52 52.5**	**+0.1**
TWGZ	**Tauwhareparae**	**6.87**	**193**	P	**P**	**01 51 28.8**	**-0.3**
TWGZ				S	**S**	**01 52 51.8**	**-1.8**
TGRZ	**Tauranga**	**6.93**	**205**	P	**P**	**01 51 32.6**	**+3.0**
OPRZ	**Ohinepanea**	**6.93**	**203**	P	**P**	**01 51 31.5**	**+1.9**
WTAZ	**Waiatarua**	**7.02**	**218**	P	**P**	**01 51 33.8**	**+3.3**
MARZ	**Manawahe**	**7.02**	**202**	P	**P**	**01 51 33.3**	**+2.7**
MWZ	**Matawai**	**7.12**	**195**	P	**P**	**01 51 31.5**	**-0.2**
CNGZ	**Carnagh Statio

comp=Z,5.4nm,0.7s,baz=106,slow=7.6,SNR=37
ASAR pP **pP** **01 58 12.9 -0.8**
comp=Z,2.1nm,0.9s,baz=112,slow=7.1,SNR=3.0
ASAR ScP **ScP** **02 01 45.9 +0.3**
comp=Z,1.1nm,0.8s,baz=112,slow=4.7,SNR=4.0
ASAR S **S** **02 02 28.1 -3.5**
comp=Z,3.6nm,1.2s,baz=107,slow=15,SNR=5.8
ASAR Alice Springs 41.30 269 P P 01 56 49.1 -1.6
ASAR ScP **ScP** **02 01 46.3 +0.7**
WB2 Warramunga Arr 42.38 274 P P 01 56 58.3 -1.0
WB2 IAmb IAmb 01 56 59.0
comp=Z,16nm,0.9s
WRA Warramunga Arr 42.39 274 P P 01 56 58.2 -1.2
comp=Z,6.1nm,0.3s,baz=111,slow=8.0,SNR=129
WRA S **S** **02 02 43.3 -4.0**
comp=Z,1.7nm,1.1s,baz=109,slow=13,SNR=3.1
WB0 Warramunga Arr 42.41 275 P P 01 56 58.8 -0.8
WB0 IAmb IAmb 01 56 59.2
comp=Z,19nm,0.9s
VNDA Vanda 46.85 185 pP pP 01 58 59.7 +0.5
comp=Z,1.0nm,0.9s,baz=4.0,slow=3.3,SNR=5.1
FITZ Fitzroy Crossi 50.60 272 P P 01 58 01.9 -0.1
comp=Z,3.4nm,0.3s,baz=171,slow=3.4,SNR=28
FITZ pP **pP** **01 59 28.1 -1.2**
comp=Z,3.8nm,1.0s,baz=163,slow=8.5,SNR=2.9
FITZ Fitzroy Crossi 50.60 272 P P 01 58 01.5 -0.5
HMH Humu'ula Sheep 56.00 28 P P 01 58 42.2 +1.3
DHH Diamond Head 56.62 25 P P 01 58 46.0 +1.2
GIRL Giralia 58.42 261 P P 01 58 57.6 +0.4
QSPA South Pole Qui 58.63 180 P P 01 59 01.5 +3.3
comp=Z,3.1nm,0.8s,baz=359,slow=2.3,SNR=11
QSPA pP **pP** **02 00 30.1 +0.9**
comp=Z,3.4nm,0.8s,baz=10,slow=2.2,SNR=4.4
QSPA South Pole Qui 58.63 180 P P 01 59 00.7 +2.5
SNAA Sanae 77.12 179 P P 02 00 52.4 +1.1
SNAA Sanae 77.12 179 pP pP 02 02 27.4 -1.5
SNAA Sanae 77.12 179 P P 02 00 52.5 +1.1
VNA3 Neumayer Olymp 77.34 177 P P 02 00 54.2 +1.8
VNA3 Neumayer Olymp 77.34 177 pP pP 02 02 29.0 -1.2
VNA2 Neumayer--Watz 77.75 178 P P 02 00 56.7 +2.0
baz=177,slow=4.3
VNA2 Neumayer--Watz 77.75 178 pP pP 02 02 31.8 -0.8
VNA1 Neumayer--Stat 77.99 177 P P 02 00 58.0 +2.1
VNA1 Neumayer--Stat 77.99 177 pP pP 02 02 33.8 0.0
MJAR Matsushiro Arr 78.14 327 P P 02 00 56.6 -0.7
comp=Z,4.7nm,0.8s,baz=165,slow=5.5,SNR=9.6
MJAR Matsushiro Arr 78.14 327 P P 02 00 56.9 -0.4
MAT Matsushiro 78.15 327 P P 02 00 56.1 -1.2
JHS Saijyo 79.44 322 P P 02 01 04.6 +0.4
JHS IAmb IAmb 02 01 05.2
comp=Z,20nm,1.0s
KSRS Korea Array 84.04 321 P P 02 01 28.6 +0.9
comp=Z,5.1nm,0.9s,baz=143,slow=5.5,SNR=15
KSAR Wonju Array Be 84.05 321 P P 02 01 28.5 +0.7
NJ2 Nanjing 85.62 312 *eP* **P 02 01 36.5 +0.9**
NJ2 pmax pmax
comp=Z,12nm,0.5s
PEA0B Petropavlovsk- 86.44 347 P P 02 01 39.9 +0.8
PETK Petropavlovsk- 86.44 347 P P 02 01 39.6 +0.6
comp=Z,13nm,0.8s,baz=131,slow=6.7,SNR=20
PETK Petropavlovsk- 86.44 347 P P 02 01 40.0 +1.0
USA0B Ussuriysk Arra 87.10 328 P P 02 01 43.6 +1.2
USRK Ussuriysk Ar. 87.10 328 P P 02 01 43.4 +1.0
comp=Z,7.1nm,0.8s,baz=68,slow=11,SNR=11
USRK Ussuriysk Ar. 87.10 328 P P 02 01 43.5 +1.1
PAGB Antelope Grade 87.28 45 P P 02 01 44.6 +1.1
PAGB IAmb IAmb 02 01 59.7
comp=Z,7.3nm,0.8s
PFO Pinyon Flats O 88.25 48 P P 02 01 50.0 +1.8
PFO IAmb IAmb 02 01 51.9
comp=Z,11nm,1.1s
ISA Isabella, Lake 88.32 46 P P 02 01 50.4 +2.0
ISA IAmb IAmb 02 01 51.9
comp=Z,13nm,1.0s
MDJ Mudanjiang 88.53 327 P P 02 01 50.0 +0.9
MDJ pmax pmax
comp=Z,11nm,0.9s
MDJ pmax pmax
comp=Z,130nm,6.0s
CMB Columbia Colle 88.75 43 P P 02 01 51.8 +1.4
CMB IAmb IAmb 02 01 53.3
comp=Z,7.0nm,0.9s
GLA Glamis 88.94 50 P P 02 01 53.4 +2.0
AFDM Forest Hills D 89.03 42 P P 02 01 53.3 +1.6
AFDM IAmb IAmb 02 01 55.1
comp=Z,7.9nm,1.1s
GSC Goldstone, Bar 89.11 47 P P 02 01 53.2 +1.0
GSC IAmb IAmb 02 01 55.6
comp=Z,7.1nm,1.1s
ORV Oroville 89.15 41 P P 02 01 53.3 +1.2
MDPB Devils Postpil 89.25 44 P P 02 01 54.6 +1.6
WDC Whiskeytown Da 89.27 40 P P 02 01 54.6 +2.0
WDC IAmb IAmb 02 01 56.6
comp=Z,13nm,1.1s
113A Mohawk Valley, 89.46 50 P P 02 01 55.5 +1.8
113A IAmb IAmb 02 01 58.4
comp=Z,8.6nm,1.0s
214A Organ Pipe Nat 89.59 52 P P 02 01 55.9 +1.5
214A IAmb IAmb 02 01 58.6
comp=Z,11nm,1.0s
WAKR Walker 89.62 43 P P 02 01 56.3 +1.7
WAKR IAmb IAmb 02 01 57.9
comp=Z,10.0nm,1.2s
CN2 Changchun 89.95 324 *eP* **P 02 01 55.2 -0.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
LHV Little Huntoon 90.00 44 P P 02 01 58.0 +2.0
LHV IAmb IAmb 02 01 59.4
comp=Z,7.8nm,0.9s
NVAR Mina Array Bea 90.24 44 P P 02 01 59.6 +2.1
comp=Z,3.7nm,0.8s,baz=222,slow=7.9,SNR=9.9
NVAR Mina Array Bea 90.24 44 P P 02 01 59.0 +1.5
NV11 Mina Array Sit 90.33 44 P P 02 01 59.4 +1.6
NV11 IAmb IAmb 02 02 00.7
comp=Z,5.2nm,1.1s
PAHR Pah Rah Range 90.45 42 P P 02 02 00.0 +1.6
PAHR IAmb IAmb 02 02 01.0
comp=Z,5.0nm,1.0s
TPH Tonopah 90.65 45 P P 02 02 01.1 +1.7
Y14A Wickenburg 90.69 50 P P 02 02 01.1 +1.6
KVN Kaiserville 90.77 43 P P 02 02 01.4 +1.5
KVN IAmb IAmb 02 02 02.5
comp=Z,4.9nm,0.9s
W13A Hualapai Mount 90.83 49 P P 02 02 01.2 +0.9
TUC Tucson 91.17 52 P P 02 02 03.4 +1.6
TUC IAmb IAmb 02 02 06.1
comp=Z,5.7nm,0.9s
MOD Modoc Plateau 91.41 40 P P 02 02 04.1 +1.4
MOD IAmb IAmb 02 02 05.4
comp=Z,7.0nm,0.8s
PRN Pahroc Range 91.55 46 P P 02 02 04.9 +1.5
PRN IAmb IAmb 02 02 07.1
comp=Z,7.2nm,1.0s
K05A Summer Lake 91.64 39 P P 02 02 05.0 +1.1
X16A Lo Mia Camp, P 92.00 50 P P 02 02 07.1 +1.4
PINE Pine Mountain 92.34 38 P P 02 02 08.3 +1.3
U15A North Rim 92.67 48 P P 02 02 10.3 +1.5
U15A IAmb IAmb 02 02 12.4
comp=Z,4.8nm,0.9s
KNB Kanab 92.69 48 P P 02 02 10.3 +1.5
WUAZ Wupatki 92.71 50 P P 02 02 10.2 +1.3
WUAZ IAmb IAmb 02 02 12.4
comp=Z,5.1nm,1.1s
I07A Izee 93.31 39 P P 02 02 12.9 +1.5
I07A IAmb IAmb 02 02 14.2
comp=Z,4.9nm,1.0s
J08A Circle Bar Ran 93.39 40 P P 02 02 13.2 +1.4
J08A IAmb IAmb 02 02 14.5
comp=Z,8.4nm,1.2s
ELK Elko 93.54 44 P P 02 02 13.8 +1.1
TXAR Lajitas Array 94.47 58 P P 02 02 19.2 +2.2
comp=Z,0.6nm,0.9s,baz=203,slow=5.4,SNR=6.4
TXAR Lajitas Array 94.47 58 P P 02 02 18.0 +1.0
PB07 IPOC Station P 94.75 119 P P 02 02 20.3 +1.7
MFID Camas Ranch 94.89 41 P P 02 02 20.2 +1.5
MFID IAmb IAmb 02 02 20.7
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 95.72 315 *eP* **P 02 02 21.4 -1.0**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,67nm,4.7s
KTH Kantishna Hill 97.50 13 P P 02 02 28.1 -1.7
PDAR Pinedale Array 98.14 45 P P 02 02 35.4 +1.9
comp=Z,0.5nm,0.7s,baz=197,slow=4.5,SNR=5.3

ILAR Eielson Array 99.38 14 P Pdif 02 02 40.1 +2.0
comp=Z,0.5nm,0.9s,baz=215,slow=4.9,SNR=4.0
ILAR PP **PP** **02 06 45.0 -3.9**
comp=Z,1.4nm,1.0s,baz=222,slow=6.9,SNR=6.9
WMQ Urumqi 112.50 308 *eP* **PKiKP 02 07 28.4 -1.4**
WMQ pmax pmax
comp=Z,56nm,4.5s
MKAR Makanchi Array 117.11 310 PKP PKPdf 02 07 38.1 -0.4
comp=Z,1.9nm,0.9s,baz=100,slow=1.4,SNR=8.0
ZALV Zalesovo Beam 117.66 318 PKP PKPdf 02 07 37.8 -1.4
comp=Z,0.7nm,0.6s,baz=326,slow=2.1,SNR=2.3
BOOM Boomskoye usch 120.17 304 PKiKP 02 07 45.5 +0.7
GAR Garm 123.31 299 PKiKP 02 07 51.0 -0.1
KK31 Karatay Array 124.19 303 PKiKP 02 07 52.9 +0.4
KKAR Karatay Array 124.19 303 PKiKP 02 07 52.5 0.0
KKAR Karatay Array 124.19 303 PKdf 02 07 52.1 -0.1
G62A West of Eustis 124.72 54 PKiKP 02 07 54.2 +0.7
E62A Clayton Lake 125.67 53 PKiKP 02 07 55.6 +0.3
BRVK Borovoye 126.00 315 PKdf 02 07 54.9 -0.4
PQI Presque Isle 126.70 53 PKdf 02 07 56.4 -0.4
ARCES ARCESS Array B 139.25 347 PKhKP PKPpre 02 08 12.6
comp=Z,0.4nm,0.3s,baz=54,slow=2.0,SNR=12
ONI Oni 143.89 300 PKPdf 02 08 29.9 +1.1
AKH Akhalkalaki 143.91 298 ⇓P **PKPdf 02 08 28.8 -0.3**
KBZ Khabaz 144.21 302 PKP **PKPdf 02 08 29.1 -0.1**
comp=Z,14nm,1.0s,baz=151,slow=1.6,SNR=21
KARS Kars 144.25 297 PKPdf 02 08 30.3 +0.7
OBN Obninsk 145.01 323 ⇓P **PKPbc 02 08 30.9 +0.2**
OBN Obninsk 145.01 323 PKPbc 02 08 30.9 +0.2
FIA1 FINESS Array S 145.51 338 PKPbc 02 08 32.0 0.0
FINES FINESS Array B 145.51 338 PKPbc **PKPbc 02 08 31.8 -0.3**
comp=Z,29nm,0.7s,baz=60,slow=4.0,SNR=85
FINES pPKPbc pPKPbc 02 10 17.7 -0.2
comp=Z,1.7nm,0.6s,baz=45,slow=4.1,SNR=2.0
FINES FINESS Array B 145.51 338 PKPdf 02 08 31.4 +0.4
MEF Metsahovi 146.98 338 *eP* **PKPbc 02 08 36.6 +0.4**
RAF Rauma 147.15 340 *eP* **PKPbc 02 08 36.4 -0.3**
VSU Vasula 147.45 334 *eP* **PKPbc 02 08 37.9 +0.4**
AAL Aland 148.34 341 *eP* **PKPbc 02 08 39.5 -0.2**
GAZ Gaziantep 148.84 291 PKPdf 02 08 38.7 +1.4
UPP Uppsala 149.25 343 *eP* **PKPbc 02 08 42.1 +0.1**
NOA NORSAR Array B 149.51 349 PKPbc **PKPbc 02 08 42.5 -0.1**
comp=Z,8.4nm,0.9s,baz=16,slow=4.2,SNR=21
NOA PKPab **PKPab** **02 08 48.8 -0.7**
comp=Z,1.8nm,0.8s,baz=21,slow=4.3,SNR=5.4
PABE Paberze 150.61 332 *eP* **PKiKP 02 08 46.0 +0.2**
AKASG Malin Array Be 151.03 320 PKPbc **PKiKP 02 08 46.7 -0.1**
comp=Z,9.8nm,0.8s,baz=57,slow=2.6,SNR=34
AKASG PKPab **PKPab** **02 08 54.9 -1.2**
comp=Z,5.2nm,0.7s,baz=43,slow=3.7,SNR=4.3
AKBB Malin Array Si 151.03 320 PKiKP 02 08 46.9 +0.1
BR131 Keskin Array S 151.52 296 PKPbc 02 08 48.0 -0.1
BRTR Keskin Array B 151.52 296 PKPbc **PKPbc 02 08 48.1 -0.1**
comp=Z,5.2nm,0.9s,baz=139,slow=3.7,SNR=26
BRTR PKPab **PKPab** **02 08 57.6 -1.1**
comp=Z,2.9nm,0.9s,baz=145,slow=3.4,SNR=4.2
BRTR Keskin Array B 151.52 296 PKPbc **PKPbc 02 08 46.8 -1.3**
SUW Suwalki 151.98 330 *eP* **PKiKP 02 08 49.3 +0.6**
SUW Suwalki 151.98 330 PKiKP 02 08 48.9 +0.2
SORM Soroca 152.77 316 ⇓P **PKPbc 02 08 50.3 -0.1**
CFR Carcaliu 154.15 310 ⇑P **PKPab 02 09 09.8 +0.3**
TESR Tescani 154.54 314 ⇓P **PKPab 02 09 11.2 0.0**
VRI Vrincioaia 154.78 312 ⇑P **PKPab 02 09 13.7 +1.5**
PLOR Plostina 154.83 312 ⇑P **PKPab 02 09 13.7 +1.2**
BUR08 Bucovina Ar. S 154.86 317 PKPab **PKPab 02 09 13.5 +0.8**
BURAR Bucovina Array 154.87 317 ⇓P **PKPab 02 09 13.4 +0.8**
BURAR Bucovina Array 154.87 317 PKPab 02 09 13.2 +0.5
KWP Kalwaria Pacla 155.10 323 PKPab 02 09 14.0 +0.5
MLR Muntele Rosu 155.43 312 ⇓P **PKPab 02 09 15.7 +0.4**
MLR Muntele Rosu 155.43 312 PKPab **PKPab 02 09 15.3 +0.1**
DOPR Dopca 155.57 314 ⇓P **PKPab 02 09 16.3 +0.7**
KOLS Kolonicke sedl 155.75 322 *e*PKP **PKPab 02 09 16.4 +0.1**
CRVS Cervenica-Dubn 156.19 323 *e*PKP **PKPab 02 09 18.6 +0.4**
ARR Arges 156.31 313 ⇓P **PKPab 02 09 20.2 +1.3**
BSEG Bad Segeberg 156.35 345 *e*PKPab **PKPab 02 09 18.7 +0.1**
baz=26,slow=4.4
HUMR Humele 156.46 311 ⇓P **PKPab 02 09 19.7 +0.2**
DRGR 156.75 318 ⇑P **PKPab 02 09 21.1 +0.3**
LOT Lotru 156.81 314 ⇓P **PKPab 02 09 22.0 +0.9**
LANS Liptovska Anna 157.02 326 *e*PKP **PKPab 02 09 21.8 0.0**
OSTC Ostas 157.42 332 *e*PKPAB **PKPab 02 09 23.4 0.0**
GZR Gura Zlata 157.45 314 ⇓P **PKPab 02 09 23.1 -0.8**
CHVC Chvalec 157.46 333 *e*PKPAB **PKPab 02 09 23.4 -0.2**
MORC Moravsky Berou 157.46 329 *e*PKP **PKPab 02 09 23.5 -0.2**
DPC Dobruska-Polom 157.54 332 *e*PKPAB **PKPab 02 09 23.8 -0.2**
UPC Upice 157.54 332 *e*PKPAB **PKPab 02 09 24.0 +0.1**
KRLC Kraliky 157.56 331 *e*PKPAB **PKPab 02 09 23.8 -0.3**
FLTG Flechtingen 157.58 342 *e*PKPab **PKPab 02 09 23.8 -0.2**
baz=26,slow=4.4
SIRR Siria 157.65 318 ⇑P **PKPab 02 09 25.1 +0.5**
VYHS Vyhne 157.77 325 *e*PKP **PKPab 02 09 25.0 -0.1**
HERR Herculane 157.93 314 ⇑P **PKPab 02 09 26.2 +0.3**
CLL Collm 157.96 338 *i* PKPab **PKPab 02 09 25.3 -0.4**
comp=Z,16nm,0.9s
CLL Collm 157.96 338 *e*PKPab **PKPab 02 09 25.8 +0.1**
baz=26,slow=4.4
BRG Berggiesshubel 158.01 336 Amp 02 09 26.8
comp=Z,10nm,1.0s
BRG Berggiesshubel 158.01 336 *e*PKPab **PKPab 02 09 26.2 +0.2**
baz=26,slow=4.4
BRG Berggiesshubel 158.01 336 *i* PKP **PKPab 02 09 26.1 +0.1**
BZS Buzias 158.03 316 ⇑P **PKPab 02 09 26.3 +0.1**
JAVC Velka Javorina 158.07 327 *e*PKP **PKPab 02 09 27.1 +0.7**
PVCC Panska Ves 158.07 334 *e*PKPAB **PKPab 02 09 26.6 +0.4**
FBE Freiberg 158.18 337 *e*PKPab **PKPab 02 09 27.2 +0.5**
baz=26,slow=4.4
VRAC Vranov 158.22 330 ⇑P **PKPab 02 09 24.9 -2.0**
VRAC Vranov 158.22 330 *e*PKP **PKPab 02 09 26.9 -0.1**
CLZ Clausthal 158.26 342 *e*PKPab **PKPab 02 09 27.3 +0.3**
baz=26,slow=4.4
MDVR Moldovita 158.41 314 ⇑P **PKPab 02 09 28.1 +0.1**
IBBN Ibbenburen 158.41 347 *e*PKPab **PKPab 02 09 27.6 0.0**
baz=26,slow=4.4
NEUB Neuenburg 158.43 339 *e*PKPab **PKPab 02 09 28.0 +0.2**
baz=26,slow=4.4
KRUC Moravsky 158.49 329 *e*PKP **PKPab 02 09 27.8 -0.3**
PRU Pruhonice 158.52 334 *e*PKPAB **PKPab 02 09 27.9 -0.3**
MODS Modra-Piesok 158.60 327 *e*PKP **PKPab 02 09 28.0 -0.7**
GTTG Gottingen 158.63 343 *e*PKPab **PKPab 02 09 28.9 +0.3**
baz=26,slow=4.4
TANN Tannenbergstha 158.90 337 *e*PKPab **PKPab 02 09 30.1 +0.1**
baz=26,slow=4.4
WERD Werda 158.93 338 *e*PKPab **PKPab 02 09 30.3 +0.3**
baz=26,slow=4.4
PLN Plauen 158.94 338 *e*PKPab **PKPab 02 09 30.3 +0.3**
baz=26,slow=4.4
MOX Moxa 158.97 339 *e*PKPab **PKPab 02 09 30.0 -0.2**
baz=26,slow=4.4
GUNZ Gunzen 158.99 337 *e*PKPab **PKPab 02 09 30.8 +0.5**
baz=26,slow=4.4
WERN Wernitzgruen 159.04 337 *e*PKPab **PKPab 02 09 31.1 +0.6**
baz=26,slow=4.4
ROTZ Rotzenmuhle 159.54 337 *e*PKPab **PKPab 02 09 33.3 +0.6**
baz=26,slow=4.4
CKRC Cesky Krumlov 159.55 332 *e*PKPAB **PKPab 02 09 32.2 -0.6**
CONA Conrad Observa 159.57 328 *e*P **PKPab 02 09 33.2 +0.2**
comp=Z,6.8nm,0.9s
KHC Kasperske Hory 159.59 334 *e*PKPAB **PKPab 02 09 32.5 -0.4**
GEC2 GERESS Array S 159.77 333 *e*PKPab **PKPab 02 09 33.6 -0.3**
baz=26,slow=4.4
GERES GERESS Array B 159.77 333 PKPab **PKPab 02 09 33.5 -0.3**
comp=Z,2.4nm,0.8s,baz=52,slow=5.2,SNR=20
DIVS Divibare 159.82 314 PKPab 02 09 33.0 -1.3
WET Wettzell 159.84 335 *e*PKPab **PKPab 02 09 34.1 +0.1**
baz=26,slow=4.4
GRF Grafenberg Arr 159.93 338 *e*PKPab **PKPab 02 09 35.1 +0.7**
baz=26,slow=4.4
TNS Taunus Mts 160.23 344 *e*PKPab **PKPab 02 09 35.4 -0.3**
baz=26,slow=4.4
MOA Molln 160.33 330 *e*P **PKPab 02 09 36.3 +0.1**
comp=Z,4.6nm,1.2s
SOKA Soboth 160.88 327 *e*P **PKPab 02 09 38.8 0.0**
comp=Z,2.4nm,0.5s
TORD Torodi Ar. Bea 161.68 185 PKP **PKPdf 02 08 56.0 +1.0**
comp=Z,1.9nm,1.0s,baz=22,slow=0.8,SNR=5.4
TORD PKPab **PKPab** **02 09 43.1 +0.4**
comp=Z,1.6nm,1.0s,baz=175,slow=3.9,SNR=4.3
TORD pPKPab **pPKPab** **02 11 23.7 -0.9**
comp=Z,1.3nm,0.8s,baz=179,slow=3.5,SNR=4.2

TORD Torodi Ar. Bea 161.68 185 PKPdf 02 08 54.6 -0.3
WTTA Wattenberg 161.86 334 *e*P **PKPab 02 09 43.1 0.0**
comp=Z,7.9nm,1.4s
ZOU Zoufplan 161.89 330 PKPab 02 09 41.1 -2.2
ABTA Abfaltersbach 161.94 331 *e*P **PKPab 02 09 42.5 -0.8**
comp=Z,4.0nm,1.0s
MOTA Moosalm 161.99 335 *e*P **PKPab 02 09 43.5 -0.1**
comp=Z,9.3nm,1.0s
RETA Reutte 161.99 336 *e*P **PKPab 02 09 43.6 +0.1**
comp=Z,9.3nm,1.1s
BFO Black Forest 162.00 342 *e*PKPab **PKPab 02 09 43.6 +0.1**
baz=26,slow=4.4
FETA Feichten 162.40 335 *e*P **PKPab 02 09 45.5 0.0**
comp=Z,8.6nm,1.1s
DAVA Damuels 162.47 337 *e*P **PKPab 02 09 45.9 +0.2**
comp=Z,15nm,1.4s
TUE Stuetta 163.36 337 PKPab **PKPab 02 09 48.9 -0.8**
SENIN Lac Senin/Sane 164.09 341 PKPab **PKPab 02 09 52.5 -0.4**
ESDC Sonseca Array 171.23 20 PKP **PKPdf 02 09 02.7 +1.1**
comp=Z,0.8nm,1.0s,baz=315,slow=1.8,SNR=5.3
ESDC PKPab **PKPab** **02 10 24.2 -0.3**
comp=Z,0.9nm,1.0s,baz=352,slow=5.2,SNR=3.7

LJU 11 02:07:49.2, 46.39N × 15.07E, h0km, Confirmed
Rockburst, Northwestern Balkan Peninsula

*IDC **11** 02:40:38.6 ± 1.8, 4.63S × 142.11E, h0km, mb3.9/3, mb1 4.4/4, mb1mx3.8/23, mbtmp4.1/4, ML3.9/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/27, Error ellipse: s-maj=108.3km s-min=28.3km az=120.0*
*NEIC **11** 02:40:44.5 ± 0.8, 4.7S ± 0.1 × 142.0E ± 0.2, h43km ± 7km, mb4.2/9, Error ellipse: s-maj=22.0km s-min=14.7km az=100.0*
ISC 11 02:40:43.3 ± 1.0, 4.7S ± 0.1 × 142.0E ± 0.1, h35km, n17, σ0.959/14, mb4.3/3, MS3.1/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0	**Warramunga Arr**	**16.72**	**206**	Pn	**Pn**	**02 44 34.3**	**-0.7**
WR0	**Warramunga Arr**	**16.83**	**205**	Pn	**Pn**	**02 44 36.2**	**-0.1**
WR0				IAmb	IAmb	02 44 42.6	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**16.89**	**206**	Pn	**Pn**	**02 44 37.1**	**-0.1**
WB2				IAmb	IAmb	02 44 41.6	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**16.90**	**206**	Pn	**Pn**	**02 44 37.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=24,slow=12,SNR=36						
WRA				Sn	**Sn**	**02 47 44.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=15,slow=24,SNR=1.5						
HNR	**Honiara**	**18.38**	**106**		**Pn**	**02 44 55.8**	**+0.2**
LUWI	**Luwuk**	**19.58**	**280**	P	**P**	**02 45 08.3**	**-0.2**
AS31	**Alice Springs**	**20.42**	**202**	P	**P**	**02 45 18.3**	**+0.7**
ASAR	**Alice Springs**	**20.42**	**202**	P	**P**	**02 45 18.1**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=30,slow=9.0,SNR=44						
ASAR				LR	LR	02 54 16.0	
	comp=Z,98nm,21.6s,baz=40,slow=40						
ASAR	**Alice Springs**	**20.42**	**202**	P	**P**	**02 45 16.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.84**	**229**	P	Pn	02 45 23.9	-0.8
	comp=Z,4.2nm,0.8s,baz=36,slow=14,SNR=4.7						
FITZ				LR	LR	02 53 54.4	
	comp=Z,140nm,19.0s,baz=90,slow=38						
FITZ	**Fitzroy Crossi**	**20.84**	**229**	P	**P**	**02 45 23.3**	**+1.1**
FITZ				IAmb	IAmb	02 45 42.2	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**27.04**	**181**	LR	LR	02 59 05.5	
	comp=Z,127nm,18.0s,baz=20,slow=41						
CAN	**Canberra**	**31.14**	**169**	P	**P**	**02 46 58.3**	**-0.6**
CAN				IAmb	IAmb	02 47 13.6	
	comp=Z,8.4nm,1.0s						
JCJ	**Chichijima**	**31.61**	**0**	LR	LR	02 58 22.5	
	comp=Z,22nm,19.6s,baz=170,slow=34						
KSRS	**Korea Array**	**43.95**	**344**	LR	LR	03 05 54.4	
	comp=Z,10nm,18.3s,baz=190,slow=34						
CHTO	**Chiang Mai**	**48.45**	**300**	P	**P**	**02 49 22.3**	**-0.4**
CHTO				IAmb	IAmb	02 49 27.8	
	comp=Z,3.4nm,1.0s						
ILAR	**Eielson Array**	**86.28**	**24**	P	**P**	**02 53 21.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=252,slow=5.0,SNR=6.9						

*REY **11** 03:08:27.4, 63.74N × 23.10W, h11km*
*NEIC **11** 03:08:29.0 ± 2.6, 63.92N ± 0.08 × 22.8W ± 0.2, h10km ± 3km, mb4.5/3, Error ellipse: s-maj=12.9km s-min=9.3km az=135.0*
*IDC **11** 03:08:28.3 ± 1.1, 63.87N × 22.92W, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.5/54, mbtmp3.5/8, ML3.8/1, MS3.5/21, Ms1 3.5/21, ms1mx3.4/36, Error ellipse: s-maj=21.6km s-min=12.7km az=117.0*
ISC 11 03:08:29.9 ± 0.8, 63.82N ± 0.04 × 22.71W ± 0.04, h12km ± 4km, n58, σ1.968/52, mb3.4/9, MS3.4/16, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.00**	**69**	P	**Pg**	**03 08 31.3**	**-0.6**
	baz=66						
IRNE				S	**Sg**	**03 08 34.3**	**+0.9**
	baz=66						
IGRV	**Grindav??k**	**0.12**	**70**	P	**Pg**	**03 08 33.4**	**+0.4**
	baz=67						
IGRV				S	**Sg**	**03 08 37.6**	**+2.5**
	baz=67						
INYL	**Nylenda**	**0.16**	**356**	P	**Pg**	**03 08 32.9**	**-0.7**
	baz=34						
INYL				S	**Sg**	**03 08 36.7**	**+0.6**
	baz=34						
IKRI	**Krysuvik**	**0.29**	**77**	P	**Pg**	**03 08 35.8**	**0.0**
	baz=72						
IVOS	**Vogsosar**	**0.45**	**85**	S	**Sb**	**03 08 47.2**	**+0.9**
	baz=79						
IVOS				P	**Pg**	**03 08 38.5**	**-0.2**
	baz=79						
ISAN	**Sandskeio**	**0.56**	**64**	P	**Pg**	**03 08 40.2**	**-0.5**
	baz=64						
ISAN				S	**Sb**	**03 08 50.6**	**+1.1**
	baz=64						
IKUD	**Kuludalsa**	**0.63**	**36**	P	**Pg**	**03 08 41.0**	**-1.1**
	baz=42						
IKUD				S	**Sb**	**03 08 51.4**	**0.0**
	baz=42						
IBJA	**Bjarnastaoir**	**0.64**	**78**	P	**Pg**	**03 08 41.7**	**-0.5**
	baz=75						
IKRO	**Krokur**	**0.76**	**67**	P	**Pg**	**03 08 43.4**	**-1.1**
	baz=67						
ISOL	**Solvholt**	**0.79**	**81**	P	**Pg**	**03 08 44.0**	**-1.1**
	baz=78						
ISOL				S	**Sb**	**03 08 56.6**	**+0.5**
	baz=78						
IASM	**Asmuli**	**0.93**	**88**	P	**Pg**	**03 08 45.5**	**-2.2**
	baz=84						
IASM				S	**Sb**	**03 09 00.4**	**+0.3**
	baz=84						
BORG	**Borgarnes**	**1.11**	**32**	Pg	**Pb**	**03 08 48.6**	**-2.4**
	215nm,0.3s,baz=233,slow=6.6,SNR=711						
BORG				Lg	Lg	03 09 05.4	
	718nm,0.3s,baz=32,slow=21,SNR=37						
BORG	**Borgarnes**	**1.11**	**32**	Pn	**Pb**	**03 08 48.6**	**-2.4**
BORG				Sn	**Sg**	**03 09 05.8**	**+0.1**
IASB	**`sbjarnarst**	**1.11**	**32**	P	**Pb**	**03 08 48.7**	**-2.3**
	baz=37						
IHAU	**Haukadalur**	**1.22**	**82**	S	**Sg**	**03 09 09.3**	**+0.1**
	baz=79						
IMID	**Miomork**	**1.27**	**96**	P	**Pn**	**03 08 50.1**	**-3.2**
	baz=92						
IFED	**Fedgar**	**1.35**	**80**	P	**Pn**	**03 08 52.5**	**-2.0**
	baz=78						
IGOD	**Go??abunga**	**1.52**	**94**	P	**Pn**	**03 08 54.2**	**-2.6**
	baz=91						
ISLY	**Slysaalda**	**1.59**	**88**	P	**Pn**	**03 08 56.2**	**-1.7**
	baz=86						
SCO	**Scoresbysund**	**6.71**	**2**	*i* P	**Pn**	**03 10 05.8**	**-2.1**
SCO				*i* S	**Sn**	**03 11 27.9**	**+3.8**
SCO				IAML		03 11 48.3	
	comp=Z,4.5nm,0.4s						
SCO	**Scoresbysund**	**6.71**	**2**	Pn	**Pn**	**03 10 05.8**	**-2.1**
SCO				Sn	**Sn**	**03 11 27.1**	**+3.0**
SUMG	**Summit**	**10.52**	**333**	*e*P	**Pn**	**03 11 02.4**	**+1.9**
SUMG	**Summit**	**10.52**	**333**		**Pn**	**03 10 58.4**	**-2.1**
SFJD	**Kangerlussuaq**	**12.00**	**298**	LR	LR	03 15 18.4	
	comp=Z,519nm,19.1s,baz=95,slow=34						
EKA	**Eskdalemuir Ar**	**13.00**	**122**	Pn	**Pn**	**03 11 35.1**	**+1.0**
	baz=314,slow=13,SNR=6.0						
KONO	**Kongsberg**	**15.75**	**91**	Pn	**Pn**	**03 12 09.8**	**-1.4**

KONO				IAmb	IAmb	03 12 28.4		
	comp=Z,34nm,1.5s							
NOA	**NORSAR Array B**	**15.83**	**85**	LR	LR	03 17 29.2		
	comp=Z,76nm,21.7s,baz=295,slow=34							
HFS	**Hagfors**	**17.33**	**86**	LR	LR	03 18 35.5		
	comp=Z,85nm,18.8s,baz=291,slow=35							
ARCES	**ARCESS Array B**	**19.45**	**52**	LR	LR	03 19 20.9		
	comp=Z,101nm,19.3s,baz=275,slow=34							
FRB	**Frobisher Bay**	**19.92**	**291**	LR	LR	03 20 11.9		
	comp=Z,202nm,18.4s,baz=32,slow=36							
FINES	**FINESS Array B**	**22.12**	**74**	LR	LR	03 21 09.2		
	comp=Z,44nm,21.1s,baz=325,slow=34							
CLL	**Collm**	**22.52**	**107**	*e*pP	**pP**	**03 13 32.0**	**-0.5**	
	comp=Z,18nm,1.8s							
CLL				LmH		03 22 00.0		
	comp=Z,100nm,21.0s							
SCHQ	**Schefferville**	**23.76**	**269**	LR	LR	03 21 45.2		
	comp=Z,126nm,19.3s,baz=78,slow=34							
KHC	**Kasperske Hory**	**24.41**	**110**	*e*P	**P**	**03 13 49.5**	**+1.7**	
DPC	**Dobruska-Polom**	**24.64**	**105**	*e*P	**P**	**03 13 51.7**	**+1.7**	
GERES	**GERESS Array B**	**24.68**	**110**	P	**P**	**03 13 52.2**	**+1.9**	
	comp=Z,0.5nm,0.8s,baz=308,slow=6.6,SNR=4.1							
GERES				LR	LR	03 23 37.9		
	comp=Z,107nm,20.9s,baz=318,slow=37							
GERES	**GERESS Array B**	**24.68**	**110**	P	**P**	**03 13 49.4**	**-0.9**	
DAVOX	**Davos/Dischmat**	**24.78**	**118**	LR	LR	03 23 06.9		
	comp=Z,116nm,20.7s,baz=294,slow=35							
TUE	**Stuetta**	**24.83**	**119**	P	**P**	**03 13 52.1**	**+0.3**	
TUE				IAmb	IAmb	03 14 02.9		
	comp=Z,7.3nm,1.2s							
KRLC	**Kraliky**	**25.05**	**105**	*e*P	**P**	**03 13 55.2**	**+1.6**	
VRAC	**Vranov**	**25.54**	**106**	LR	LR	03 25 53.0		
	comp=Z,77nm,18.1s,baz=315,slow=41							
RES	**Resolute Bay**	**25.84**	**325**	LR	LR	03 24 03.3		
	comp=Z,131nm,19.2s,baz=34,slow=36							
ESDC	**Sonseca Array**	**26.61**	**146**	P	**P**	**03 14 08.5**	**+0.7**	
	comp=Z,0.7nm,0.9s,baz=347,slow=9.2,SNR=4.9							
ESDC				LR	LR	03 23 47.3		
	comp=Z,154nm,19.2s,baz=330,slow=34							
AKASG	**Malin Array Be**	**30.05**	**91**	LR	LR	03 27 02.4		
	comp=Z,85nm,18.8s,baz=295,slow=37							
KEST	**Kesra**	**34.21**	**130**	LR	LR	03 28 19.6		
	comp=Z,109nm,19.8s,baz=269,slow=35							
YKA	**Yellowknife Ar**	**38.10**	**311**	LR	LR	03 31 09.2		
	comp=Z,254nm,18.5s,baz=0.0,slow=36							
BRTR	**Keskin Array B**	**40.53**	**99**	P	**P**	**03 16 11.2**	**+2.5**	
	comp=Z,0.4nm,0.8s,baz=339,slow=3.7,SNR=3.2							
BRTR				LR	LR	03 35 25.2		
	comp=Z,52nm,18.9s,baz=337,slow=40							
KBZ	**Khabaz**	**41.40**	**87**	LR	LR	03 33 47.1		
	comp=Z,72nm,19.0s,baz=343,slow=37							
ILAR	**Eielson Array**	**45.34**	**330**	P	**P**	**03 16 46.4**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=33,slow=10,SNR=2.5							
ILAR				LR	LR	03 39 02.6		
	comp=Z,35nm,18.8s,baz=120,slow=40							
PDAR	**Pinedale Array**	**51.37**	**290**	P	**P**	**03 17 34.0**	**-0.2**	
	comp=Z,0.3nm,0.5s,baz=52,slow=7.4,SNR=3.8							
PDAR	**Pinedale Array**	**51.37**	**290**	P	**P**	**03 17 32.8**	**-1.4**	
GEYT	**Alibeck**	**52.81**	**79**	LR	LR	03 40 47.1		
	comp=Z,35nm,18.5s,baz=60,slow=37							
TORD	**Torodi Ar. Bea**	**53.41**	**150**	P	**P**	**03 17 48.5**	**-0.7**	
	comp=Z,0.1nm,0.3s,baz=332,slow=8.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**53.41**	**150**	P	**P**	**03 17 47.8**	**-1.5**	
MKAR	**Makanchi Array**	**55.09**	**54**	P	**P**	**03 18 03.0**	**+1.8**	
	comp=Z,0.9nm,0.9s,baz=316,slow=12,SNR=3.2							
MKAR	**Makanchi Array**	**55.09**	**54**	P	**P**	**03 18 03.2**	**+1.9**	
NVAR	**Mina Array Bea**	**58.62**	**294**	LR	LR	03 43 33.7		
	comp=Z,100nm,20.1s,baz=23,slow=36							
TXAR	**Lajitas Array**	**60.15**	**276**	LR	LR	03 43 38.8		
	comp=Z,67nm,18.1s,baz=0.0,slow=35							

IDC ***11*** *03:12:12.1±0.7, 10.94N×97.22W, h0km, mb4.3/22, mb1 4.4/26, mb1mx4.3/52, mbtmp4.3/26, ML4.3/4, MS3.8/24, Ms1 3.8/24, ms1mx3.7/33, Error ellipse: s-maj=21.5km s-min=10.4km az=57.0*

GCMT ***11*** *03:12:13.4±0.4, 10.65N±0.02×97.32W±0.03, h28km±1km, MW4.9/82, Moment Tensor Solution. s27,c30; s82,c103; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.79±.15; Mθθ 1.43±.10; Mϕϕ -0.64±.10; Mrθ -0.50±.15; Mθϕ -2.03±.09; Mϕr -1.58±.19; Best double couple: Mo2.88600×1016 NP1:ϕs83.00000°, δ60.00000°, λ-158.00000°. NP2: ϕs341.00000°, δ71.00000°, λ-32.00000°. Principal axes: T 2.7250, Plg8.0000°, Azm34.0000°; N 0.3180, Plg53.0000°, Azm135.0000°; P -3.0470, Plg36.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *03:12:15.4±1.3, 10.89N±0.10×97.08W±0.10, h15km±5km, mb4.6/183 Error ellipse: s-maj=16.8km s-min=10.6km az=47.0*

ANF ***11*** *03:12:23.8±1.4, 11.02N×97.23W, h100km±9km, ML4.7/83, Error ellipse: s-maj=10.5km s-min=2.3km az=178.0, Hypocentre not reviewed by the ISC*

ISC 11 03:12:17.5±0.5, 10.92N±0.06×97.10W±0.07, h35km, n307, σ=1.51/255, **mb4.5**/100, **MS3.9**/24, **Off coast of Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
RTAL	**Retalhuleu**	**6.37**	**55**	Pn	**Pn**	**03 13 46.0**		**-2.9**
CMIG	**Matias Romero**	**6.50**	**19**	Pn	**Pn**	**03 13 47.8**		**-2.8**
	8.1nm,0.3s,baz=185,slow=9.0,SNR=56							
CMIG				Sn	**Sn**	**03 15 06.8**		**+3.2**
	4.6nm,0.3s,baz=186,slow=20,SNR=3.6							
CMIG				LR	LR	03 16 02.6		
	comp=Z,563nm,19.0s,baz=208,slow=35							
TLIG	**Tlapa**	**6.75**	**348**	Pn	**Pn**	**03 13 55.5**		**+1.2**
TLIG				Sn	**Sn**	**03 15 10.9**		**+0.9**
HUEH	**Huehuetenango**	**6.98**	**51**	Pn	**Pn**	**03 13 57.1**		**-0.4**
FUG	**Fuego 3**	**7.04**	**59**	*e*P	**Pn**	**03 13 56.5**		**-1.8**
CCIG	**Comitan**	**7.18**	**42**		**Pn**	**03 13 59.0**		**-1.2**
PCG	**Pacaya**	**7.21**	**61**	*e*P	**Pn**	**03 13 59.1**		**-1.5**
NBG	**Las Nubes**	**7.52**	**60**	*e*P	**Pn**	**03 14 04.5**		**-0.5**
APG	**El Apazote**	**7.63**	**57**	Pn	**Pn**	**03 14 04.8**		**-1.7**
	13nm,0.3s,baz=263,slow=7.6,SNR=104							
APG				Sn	**Sn**	**03 15 35.5**		**+3.7**
	1.2nm,0.3s,baz=75,slow=21,SNR=1.2							
SNET	**Serv Nac Est T**	**8.16**	**70**		**Pn**	**03 14 12.3**		**-1.3**
MTO3	**Montecristo**	**8.30**	**65**	Pn	**Pn**	**03 14 13.4**		**-2.2**
ESQI	**Esquipulas**	**8.38**	**64**	Pn	**Pn**	**03 14 15.2**		**-1.5**
PETF	**Flores**	**9.20**	**49**	Pn	**Pn**	**03 14 25.9**		**-1.9**
CRIN	**San Cristobal**	**9.99**	**79**		**Pn**	**03 14 36.8**		**-1.9**
TGUH	**Tegucigalpa,Un**	**10.08**	**71**	Pn	**Pn**	**03 14 38.8**		**-1.2**
DUNO	**Dulce Nombre,**	**11.44**	**93**	Pn	**Pn**	**03 14 57.2**		**-1.3**
ORTG	**Ortega, Santa**	**11.45**	**92**	Pn	**Pn**	**03 14 57.2**		**-1.6**
JTS	**Las Juntas de**	**11.95**	**92**	Pn	**Pn**	**03 15 04.4**		**-1.2**
	2.2nm,0.3s,baz=12,slow=22,SNR=12							
JTS				Sn	**Sn**	**03 17 10.8**		**-7.0**
	0.7nm,0.3s,baz=206,slow=18,SNR=1.8							
JTS				LR	LR	03 18 39.9		
	comp=Z,1μm,20.4s,baz=338,slow=32							
JTS	**Las Juntas de**	**11.95**	**92**		**Pn**	**03 15 05.0**		**-0.5**
JTS	**Las Juntas de**	**11.95**	**92**	*e*P	**Pn**	**03 15 06.7**		**+1.1**
JACO	**JACO, Garabito**	**12.30**	**95**	Pn	**Pn**	**03 15 10.1**		**-0.2**
ESPN	**Las Esperanzas**	**12.60**	**83**		**Pn**	**03 15 13.9**		**-0.4**
HDC	**Heredia**	**12.80**	**93**		**Pn**	**03 15 14.9**		**-2.3**
CVTR	**Volcan Turrial**	**13.15**	**93**		**Pn**	**03 15 21.6**		**-0.6**
SRBA	**San Rafael, Bu**	**13.63**	**96**	Pn	**Pn**	**03 15 28.1**		**-0.4**
DRK0	**Durika**	**13.74**	**96**		**Pn**	**03 15 30.0**		**-0.1**
BCIP	**Isla Barro Col**	**17.08**	**94**		**Pn**	**03 16 13.4**		**-0.4**
BCIP	**Isla Barro Col**	**17.08**	**94**	*e*P	**P**	**03 16 15.9**		**+0.7**
833A	**Chaparral WMA,**	**17.45**	**353**	P		03 16 20.1		
	baz=173							
SLBS	**Sierra La Lagu**	**17.63**	**318**	Pn	**Pn**	**03 16 19.7**		**-0.9**
LPIG	**La Paz**	**18.16**	**318**	LR	LR	03 21 44.3		
	comp=Z,241nm,20.3s,baz=136,slow=32							
HKT	**Hockley**	**18.97**	**3**	Pn	**Pn**	**03 16 37.5**		**+0.8**
TX31	**Lajitas Ar. Si**	**19.32**	**342**	P	**P**	**03 16 39.9**		**+0.1**
TX32	**Lajitas Array**	**19.32**	**342**	P	**P**	**03 16 40.0**		**+0.2**
TXAR	**Lajitas Array**	**19.32**	**342**	P	**P**	**03 16 39.1**		**-0.7**
	0.1nm,0.3s,baz=165,slow=3.7,SNR=3.6							
TXAR				PcP	**PcP**	**03 20 58.7**		**-2.9**
	0.0nm,0.3s,baz=212,slow=4.4,SNR=3.4							
TXAR				LR	LR	03 24 16.7		
	comp=Z,272nm,18.3s,baz=0.0,slow=38							
TXAR	**Lajitas Array**	**19.32**	**342**	P	**P**	**03 16 39.6**		**-0.3**
JCT	**Junction City**	**19.62**	**353**	P		03 16 44.7		
	baz=172							
JCT	**Junction City**	**19.62**	**353**	P	**Pn**	**03 16 43.9**		**-0.7**
435B	**Jarrell**	**19.77**	**359**	P	**Pn**	**03 16 45.7**		**-0.6**
435B				IAmb	IAmb	03 16 59.2		
	comp=Z,28nm,1.1s							
435B	**Jarrell**	**19.77**	**359**	P		03 16 46.4		
	baz=179							
SOLC	**Bahia Solano**	**20.01**	**102**	*e*P	Pn	03 16 49.7		+0.3
441A	**DeRidder**	**20.06**	**10**	P	Pn	03 16 49.0		-0.7
MTDJ	**Mount Denham**	**20.26**	**67**	P	**P**	**03 16 48.8**		**-1.4**
342A	**Flagon Creek P**	**20.83**	**12**	P	**P**	**03 16 56.8**		**+0.7**
NATX	**Nacogdoches**	**20.86**	**6**	P		03 16 58.1		
	baz=187							
WHTX	**Lake Whitney,**	**20.97**	**359**	P	**P**	**03 16 57.9**		**+0.3**
WHTX					IAmb	IAmb	03 17 14.4	
	comp=Z,32nm,1.1s							
WHTX	**Lake Whitney,**	**20.97**	**359**	P		03 16 59.3		
	baz=179							
237A	**Washetta, Mont**	**21.01**	**3**	P	**P**	**03 16 58.8**		**+0.7**
237A					IAmb	IAmb	03 17 07.7	
	comp=Z,47nm,1.1s							
PAC1	**Pacto, Paraso**	**21.05**	**119**	*e*P	**P**	**03 17 00.2**		**+1.4**
MOTC	**Monteria, Cord**	**21.22**	**94**	*e*P	**P**	**03 16 59.8**		**-0.7**
344A	**Westbrook Farm**	**21.26**	**15**	P	**P**	**03 17 01.0**		**+0.2**
OTAV	**Otavalo**	**21.36**	**119**	*e*P	**P**	**03 17 00.7**		**-1.7**
CBOC	**Ciudad Bolivar**	**21.45**	**102**	*e*P	**P**	**03 17 05.0**		**+1.8**
PLMC	**San Jos del P**	**21.45**	**105**	*e*P	**P**	**03 17 03.9**		**+0.8**
IUREC	**San Jos de Ur**	**21.51**	**97**	*e*P	**P**	**03 17 03.0**		**-0.6**
SJCC	**San Jacinto, C**	**21.58**	**91**	P	**P**	**03 17 03.0**		**-1.5**
SJCC	**San Jacinto, C**	**21.58**	**91**	*e*P	**P**	**03 16 58.2**		**-6.2**
BBAC	**Balboa, Cauca**	**21.60**	**113**	*e*P	**P**	**03 17 06.8**		**+2.0**
YOTC	**Yotoco, Valle**	**21.69**	**107**	*e*P	**P**	**03 17 07.1**		**+1.5**
TULM	**Tulcn-Chalpat**	**21.70**	**117**	*e*P	**P**	**03 17 08.7**		**+2.6**
ABTX	**Abilene, Hawle**	**21.72**	**354**	P		03 17 06.7		
	baz=174							
ABTX	**Abilene, Hawle**	**21.73**	**354**	P	**P**	**03 17 05.2**		**-0.6**
ABTX					IAmb	IAmb	03 17 19.1	
	comp=Z,21nm,1.1s							
HELC	**Santa Helena**	**21.83**	**101**	*e*P	**P**	**03 17 10.3**		**+2.8**
GCUF	**Volcan Galeras**	**21.85**	**115**	*e*P	**P**	**03 17 10.6**		**+2.8**
POPC	**Popayan, Colom**	**21.91**	**111**	*e*P	**P**	**03 17 06.2**		**-2.0**
VBMS	**Vicksburg**	**22.05**	**15**	P	**P**	**03 17 09.2**		**+0.1**
VBMS	**Vicksburg**	**22.05**	**15**	P		03 17 10.8		
	baz=198							
MNTX	**Cornudas Mount**	**22.05**	**341**	P		03 17 09.3		
	baz=158,SNR=9.5							
MNTX	**Cornudas Mount**	**22.05**	**341**	P	**P**	**03 17 08.9**		**-0.4**
CRUC	**La Cruz**	**22.06**	**114**	*e*P	**P**	**03 17 11.8**		**+2.0**
SOTA	**Rioblanco**	**22.13**	**112**	*e*P	**P**	**03 17 13.1**		**+2.2**
BRAL	**Brewton**	**22.19**	**23**	P	**P**	**03 17 11.4**		**+0.6**
BRAL	**Brewton**	**22.19**	**23**	P		03 17 13.1		
	baz=207							
ZARC	**Zaragoza, Cauc**	**22.21**	**97**	*e*P	**P**	**03 17 16.6**		**+5.4**
GUY2C	**Guyana, Caldas**	**22.24**	**103**	*e*P	**P**	**03 17 14.3**		**+2.4**
PCON	**Cinco Dias**	**22.25**	**111**	*e*P	**P**	**03 17 15.7**		**+3.6**
143A	**Socs Landing,**	**22.30**	**13**	P	**P**	**03 17 11.7**		**-0.2**
Z35A	**Perchaven, San**	**22.30**	**360**	P	**P**	**03 17 12.3**		**+0.3**
Z38A	**Mt. Pleasant**	**22.32**	**5**	P	**P**	**03 17 12.5**		**+0.4**
RREF	**El Recreo**	**22.35**	**104**	*e*P	**P**	**03 17 16.4**		**+3.1**
ANIL	**Santa Ana**	**22.41**	**105**	*e*P	**P**	**03 17 17.5**		**+3.8**
MARP	**Paez Belalcaza**	**22.45**	**109**	*e*P	**P**	**03 17 17.5**		**+3.4**
TOLC	**Tolima**	**22.46**	**105**	*e*P	**P**	**03 17 17.4**		**+3.1**
ARGC	**Ariguani, Magd**	**22.50**	**91**	*e*P	**P**	**03 17 15.6**		**+1.4**
553A	**Crawfordville**	**22.50**	**30**		**P**	**03 17 14.6**		**+0.5**
DWPF	**Disney Wildern**	**22.54**	**38**	P		03 17 15.6		
	baz=224							
Z41A	**Richland Creek**	**22.58**	**9**	P		03 17 15.8		
	baz=191							
NORC	**Nocasia**	**22.62**	**102**	*e*P	**P**	**03 17 18.4**		**+2.8**
ORTC	**Ortega, Tolima**	**22.75**	**106**	*e*P	**P**	**03 17 19.1**		**+2.2**
SMLC	**San Martn de**	**22.78**	**93**	*e*P	**P**	**03 17 17.8**		**+0.5**
WLAR	**White Oak Lake**	**22.95**	**9**	P	**P**	**03 17 19.1**		**+0.4**
GARC	**Garzon, Huila**	**23.13**	**111**	*e*P	**P**	**03 17 16.6**		**-4.5**
PRAC	**Prado**	**23.15**	**106**	*e*P	**P**	**03 17 24.4**		**+3.3**
319A	**Douglas**	**23.27**	**333**	P	**P**	**03 17 20.3**		**-1.9**
ROSC	**El Rosal**	**23.34**	**103**	P	**P**	**03 17 25.2**		**+1.8**
	comp=Z,22nm,1.0s,baz=82,slow=3.1,SNR=18							
ROSC				LR	LR	03 24 29.5		
	comp=Z,398nm,22.0s,baz=328,slow=31							
ROSC	**El Rosal**	**23.34**	**103**		**P**	**03 17 22.6**		**-0.8**
ROSC					IAmb	IAmb	03 17 42.5	
	comp=Z,13nm,0.8s							
352A	**Blakely**	**23.35**	**27**	P	**P**	**03 17 22.2**		**-0.6**
352A					IAmb	IAmb	03 17 35.0	
	comp=Z,29nm,1.1s							
SPBC	**San Pablo de B**	**23.37**	**101**	*e*P	**P**	**03 17 27.0**		**+3.7**
BRRC	**Barranca, Sant**	**23.40**	**97**	*e*P	**P**	**03 17 26.5**		**+3.0**
MSTX	**Muleshoe**	**23.52**	**348**	P	**P**	**03 17 25.3**		**+0.7**
MSTX					IAmb	IAmb	03 17 33.8	
	comp=Z,14nm,1.1s							
MSTX	**Muleshoe**	**23.52**	**348**	P		03 17 24.2		
	baz=166							
X34A	**Smith Ranch, M**	**23.58**	**358**	P	**P**	**03 17 26.0**		**+1.0**
OCAC	**Ocana**	**23.59**	**94**	*e*P	**P**	**03 17 29.1**		**+3.6**
121A	**Cookes Peak, D**	**23.65**	**337**	P		03 17 25.6		
	baz=153							
121A	**Cookes Peak, D**	**23.66**	**337**	P	**P**	**03 17 25.7**		**-0.2**
Z47A	**Carrollton**	**23.67**	**19**	P	**P**	**03 17 26.6**		**+0.7**
MIAR	**Mount Ida**	**23.73**	**7**	P		03 17 26.7		
	baz=189,SNR=7.7							
MIAR	**Mount Ida**	**23.73**	**7**	P	**P**	**03 17 27.2**		**+0.8**
WMOK	**Wichita Mounta**	**23.75**	**357**	P		03 17 26.9		
	baz=176,SNR=6.1							
WMOK	**Wichita Mounta**	**23.76**	**357**	P	**P**	**03 17 25.0**		**-1.7**
X40A	**Basin Creek Fa**	**23.78**	**9**	P		03 17 27.5		
	baz=191							
X40A	**Basin Creek Fa**	**23.78**	**9**	P	**P**	**03 17 27.6**		**+0.7**
X40A					IAmb	IAmb	03 17 40.5	
	comp=Z,14nm,1.1s							
TIGA	**Tifton**	**23.94**	**29**	P	**P**	**03 17 29.1**		**+0.7**
TIGA	**Tifton**	**23.94**	**29**	P		03 17 29.5		
	baz=215							
CHIC	**Chingaza**	**23.97**	**103**	*e*P	**P**	**03 17 32.1**		**+2.8**
BARC	**Barichara**	**24.02**	**98**	*e*P	**P**	**03 17 30.3**		**+0.7**
VILC	**Villavicencio,**	**24.15**	**104**	*e*P	**P**	**03 17 32.7**		**+1.9**
FNO	**Franklin**	**24.23**	**359**	P	**P**	**03 17 31.6**		**+0.5**
RUSC	**La Rusia**	**24.27**	**100**	P	**P**	**03 17 31.7**		**-0.5**
RUSC	**La Rusia**	**24.27**	**100**	*e*P	**P**	**03 17 35.1**		**+2.9**
PAMC	**Pamplona, Colo**	**24.34**	**96**	*e*P	**P**	**03 17 32.8**		**-0.1**
W39A	**Magazine**	**24.35**	**7**	P	**P**	**03 17 32.9**		**+0.7**
W39A					IAmb	IAmb	03 17 48.8	
	comp=Z,19nm,0.9s							
W39A	**Magazine**	**24.35**	**7**	P		03 17 33.4		
	baz=188,SNR=7.7							
152A	**Waverly Hall**	**24.46**	**26**	P	**P**	**03 17 33.4**		**+0.2**
152A					IAmb	IAmb	03 17 47.3	
	comp=Z,22nm,1.1s							
OXF	**Oxford**	**24.51**	**15**	P	**P**	**03 17 33.6**		**0.0**
OXF	**Oxford**	**24.51**	**15**	P		03 17 34.7		
	baz=199,SNR=9.7							
W41B	**Gary Mavity, V**	**24.54**	**10**	P		03 17 34.5		
	baz=192							
PTLC	**Puerto Leguiza**	**24.60**	**114**	*e*P	**P**	**03 17 36.4**		**+1.6**
BCOK	**Bluff Creek, N**	**24.63**	**359**	P	**P**	**03 17 34.7**		**0.0**
WHAR	**Wooly Hollow**	**24.65**	**9**	P	**P**	**03 17 35.6**		**+0.7**
WHAR					IAmb	IAmb	03 17 52.9	
	comp=Z,16nm,1.1s							
MACC	**Macarena, Meta**	**24.67**	**109**	*e*P	**P**	**03 17 37.6**		**+2.3**
BNM	**Barren Site**	**24.71**	**341**	P	**P**	**03 17 35.6**		**-0.1**
TUC	**Tucson**	**24.75**	**331**	P	**P**	**03 17 35.9**		**-0.1**
TUC	**Tucson**	**24.75**	**331**	P		03 17 35.9		
	baz=147							
Z51A	**Franklin**	**24.83**	**24**	P	**P**	**03 17 36.4**		**-0.2**
Z51A					IAmb	IAmb	03 17 52.1	
	comp=Z,14nm,1.1s							
Y49A	**Blount Mountai**	**24.84**	**22**	P	**P**	**03 17 37.1**		**+0.4**
Y49A					IAmb	IAmb	03 17 48.1	
	comp=Z,22nm,1.1s							
255A	**Hazlehurst**	**24.89**	**31**	P	**P**	**03 17 37.6**		**+0.6**
255A					IAmb	IAmb	03 17 52.7	
	comp=Z,27nm,1.1s							
OK030	**Cody Creek RV**	**24.89**	**1**	P	**P**	**03 17 37.0**		**-0.1**
OK030					IAmb	IAmb	03 17 46.5	
	comp=Z,13nm,1.0s							
TUL1	**Leonard**	**24.90**	**3**	P		03 17 37.0		
	baz=183							
154A	**Montrose**	**25.14**	**29**	P	**P**	**03 17 39.7**		**+0.3**
QUOK	**Quay**	**25.14**	**1**	P	**P**	**03 17 40.3**		**+1.0**
QUOK					IAmb	IAmb	03 17 59.0	
	comp=Z,18nm,0.8s							
X48A	**Hartselle**	**25.16**	**20**	P	**P**	**03 17 39.7**		**+0.2**
W45A	**Hickory Valley**	**25.18**	**15**	P	**P**	**03 17 37.7**		**-1.9**
HBAR	**Harrisburg**	**25.21**	**12**	P	**P**	**03 17 40.6**		**+0.6**
FCAR	**Ozark Folk Cen**	**25.26**	**9**	P	**P**	**03 17 41.1**		**+0.7**
PLAL	**Pickwick Lake**	**25.32**	**18**	P	**P**	**03 17 40.4**		**-0.6**
PLAL					IAmb	IAmb	03 17 44.0	
	comp=Z,14nm,1.1s							
ANMO	**Albuquerque**	**25.39**	**342**	P		03 17 42.6		
	baz=158							
ANMO	**Albuquerque**	**25.39**	**342**	P	**P**	**03 17 40.9**		**-0.9**
	comp=Z,0.3nm,0.3s,baz=164,slow=15,SNR=2.5							
ANMO				LR	LR	03 27 43.2		
	comp=Z,459nm,20.4s,baz=155,slow=37							
ANMO	**Albuquerque**	**25.39**	**342**	P	**P**	**03 17 42.3**		**+0.4**
HHAR	**Hobbs**	**25.41**	**6**	P	**P**	**03 17 42.1**		**+0.3**
HHAR					IAmb	IAmb	03 17 59.3	
	comp=Z,16nm,1.0s							
214A	**Organ Pipe Nat**	**25.47**	**328**	P		03 17 41.4		
	baz=142							
214A	**Organ Pipe Nat**	**25.47**	**328**	P	**P**	**03 17 41.8**		**-0.7**
U38A	**Gravette**	**25.52**	**5**	P	**P**	**03 17 42.9**		**+0.1**
U38A					IAmb	IAmb	03 17 46.7	
	comp=Z,20nm,1.1s							
LCAR	**Lake Charles**	**25.61**	**11**	P	**P**	**03 17 43.7**		**+0.1**
LCAR					IAmb	IAmb	03 17 51.1	
	comp=Z,11nm,1.2s							
U40A	**Yellville**	**25.61**	**8**	P	**P**	**03 17 43.5**		**-0.1**
U40A					IAmb	IAmb	03 18 02.5	
	comp=Z,16nm,0.9s							
U40A	**Yellville**	**25.61**	**8**	P		03 17 44.0		
	baz=190,SNR=8.5							
PTGC	**Puerto Gaitan,**	**25.61**	**103**	*e*P	**P**	**03 17 46.7**		**+2.8**
GOGA	**Godfrey**	**25.64**	**27**	P	**P**	**03 17 44.3**		**+0.4**
GOGA					IAmb	IAmb	03 17 59.6	
	comp=Z,17nm,1.1s							
GOGA	**Godfrey**	**25.64**	**27**	P		03 17 44.2		
	baz=213,SNR=7.0							
GUVC	**San Jose del G**	**25.66**	**107**	*e*P	**P**	**03 17 45.6**		**+1.2**
BLOK	**Blackwell**	**25.73**	**360**	P	**P**	**03 17 45.2**		**+0.6**
BLOK					IAmb	IAmb	03 17 47.1	
	comp=Z,17nm,1.1s							
FPAL	**Fort Paine**	**25.74**	**22**	P	**P**	**03 17 45.0**		**+0.1**
FPAL					IAmb	IAmb	03 17 57.6	
	comp=Z,21nm,1.0s							
Y52A	**Lilburn**	**25.77**	**26**	P	**P**	**03 17 45.5**		**+0.5**
Y52A					IAmb	IAmb	03 18 04.4	
	comp=Z,18nm,1.1s							
OK032	**Salt Plains WL**	**25.79**	**358**	P	**P**	**03 17 45.8**		**+0.6**
OK032					IAmb	IAmb	03 17 49.2	
	comp=Z,15nm,1.1s							
ATAH	**Atahualpa**	**25.85**	**133**	P	**P**	**03 17 46.7**		**+0.2**
	comp=Z,24nm,0.9s,baz=336,slow=7.8,SNR=13							
ATAH				LR	LR	03 25 51.9		
	comp=Z,460nm,18.2s,baz=307,slow=32							
T35A	**Sooner Cattle**	**25.89**	**1**	P	**P**	**03 17 46.3**		**+0.2**
SOCV	**Socops**	**26.00**	**93**	*e*P	**P**	**03 17 51.0**		**+3.6**
SDV	**Santo Domingo**	**26.14**	**92**	P	**P**	**03 17 49.9**		**+1.0**
	comp=Z,5.4nm,0.3s,baz=275,slow=9.4,SNR=7.9							
SDV				LR		03 27 27.6		
	comp=Z,468nm,21.3s,baz=285,slow=35							
SDV	**Santo Domingo**	**26.14**	**92**	*e*P	**P**	**03 17 50.1**		**+1.2**
SWET	**Sewanee**	**26.23**	**21**	P	**P**	**03 17 49.2**		**-0.1**
SWET					IAmb	IAmb	03 18 03.0	
	comp=Z,19nm,1.1s							
V48A	**Smith Brothers**	**26.41**	**19**	P	**P**	**03 17 50.6**		**-0.3**
V48A					IAmb	IAmb

comp=Z,7.0nm,1.2s
O20A White River Ci 30.73 343 P 03 18 29.0
baz=158
MPMC Manual Prospec 31.10 327 P 03 18 31.7
baz=139
O49A Covington 31.26 19 P **P** **03 18 34.0 0.0**
ISA Isabella, Lake 31.35 325 P 03 18 33.6
baz=137
T59A Double "B" Far 31.35 31 IAmb IAmb 03 18 35.7
comp=Z,12nm,1.1s
RDMU Red Mountain 31.52 342 IAmb IAmb 03 18 38.0
comp=Z,7.1nm,1.2s
P53A Whipple 31.69 24 IAmb IAmb 03 18 40.0
comp=Z,12nm,0.9s
CWC Cottonwood Cre 31.70 327 P 03 18 37.2
baz=138
VES Vestal, Richgr 31.82 325 P 03 18 38.4
baz=136
R11A Troy Canyon, C 31.93 332 P 03 18 39.3
baz=144
L44A Lake County Fo 32.16 13 P 03 18 41.9
baz=197
DUG Dugway, Tooele 32.31 337 IAmb IAmb 03 18 45.1
comp=Z,5.7nm,1.1s
DUG Dugway, Tooele 32.31 337 P 03 18 43.1
baz=150
O53A New Philadelph 32.42 23 P 03 18 44.2
baz=210
JFWS Jewell Farm 32.42 9 P 03 18 43.9
baz=193
JFWS Jewell Farm 32.42 9 IAmb IAmb 03 18 51.4
comp=Z,7.8nm,0.9s
MCWV Mont Chateau 32.46 25 P 03 18 44.6
baz=213
O54A Avella 32.69 24 IAmb IAmb 03 18 54.3
comp=Z,13nm,1.1s
ECSD EROS Data Cent 32.69 1 IAmb IAmb 03 18 59.5
comp=Z,6.5nm,0.9s
ECSD EROS Data Cent 32.69 1 P 03 18 46.5
baz=181,SNR=7.2
MDPB Devils Postpil 33.12 327 IAmb IAmb 03 18 51.9
comp=Z,7.6nm,1.1s
NV11 Mina Array Sit 33.24 329 IAmb IAmb 03 18 52.6
comp=Z,6.5nm,1.1s
NVAR Mina Array Bea 33.32 329 P **P** **03 18 52.3 0.0**
comp=Z,3.7nm,0.9s,baz=152,slow=9.5,SNR=24
N54A Moraine State 33.51 24 P 03 18 54.2
baz=212
O56A Blue Knob Stat 33.52 26 P 03 18 54.2
baz=215
BW06 Boulder Array 33.53 343 IAmb IAmb 03 19 01.8
comp=Z,8.6nm,1.1s
BW06 Boulder Array 33.53 343 P 03 18 53.1
baz=158
PDAR Pinedale Array 33.53 343 P **P** **03 18 53.8 -0.4**
comp=Z,2.7nm,1.0s,baz=152,slow=6.7,SNR=12
PDAR LR LR 03 32 16.6
comp=Z,69nm,20.4s,baz=20,slow=36
M53A WI Miller and 33.65 23 P 03 18 55.3
baz=210
KVN Kaiserville 33.69 330 IAmb IAmb 03 18 56.3
comp=Z,8.0nm,1.2s
WAKR Walker 33.96 328 IAmb IAmb 03 18 59.5
comp=Z,7.8nm,1.1s
M54A Oil Creek Stat 34.10 24 P 03 18 58.9
baz=212
SSPA Standing Stone 34.11 27 P **P** **03 18 58.6 -0.3**
SSPA IAmb IAmb 03 19 06.9
comp=Z,7.5nm,1.0s
SSPA Standing Stone 34.11 27 P 03 18 59.4
baz=215
MVL Millersville 34.30 29 IAmb IAmb 03 19 01.8
comp=Z,12nm,1.1s
PNTR Pine Nut 34.48 328 IAmb IAmb 03 19 03.9
comp=Z,11nm,1.1s
LOHW Long Hollow 34.61 343 P **P** **03 19 03.2 -0.3**
LOHW IAmb IAmb 03 19 12.0
comp=Z,6.4nm,1.1s
VCNR Virginia City 34.66 328 IAmb IAmb 03 19 05.4
comp=Z,7.7nm,1.1s
F36A Milaca 34.95 4 P **P** **03 19 05.7 -0.4**
F36A IAmb IAmb 03 19 07.1
comp=Z,8.7nm,1.1s
M57A Sunshine Farm, 35.02 27 IAmb IAmb 03 19 08.5
comp=Z,12nm,1.1s
N59A State Game Lan 35.30 28 P 03 19 09.4
baz=218
N59A State Game Lan 35.30 28 IAmb IAmb 03 19 15.2
comp=Z,7.0nm,1.1s
L56A Greenwood 35.48 25 P 03 19 11.2
baz=215
HLID Hailey 35.82 338 P 03 19 13.4
baz=150
E38A The Farm, Brul 35.87 7 IAmb IAmb 03 19 21.2
comp=Z,8.4nm,0.9s
YHL Hebgen Lake 35.91 343 IAmb IAmb 03 19 24.2
comp=Z,8.0nm,1.1s
L58A Harry Jones Me 36.15 27 P 03 19 17.3
baz=217
BINY Binghamton 36.22 27 P 03 19 17.2
baz=217
MFID Camas Ranch 36.23 337 IAmb IAmb 03 19 29.6
comp=Z,7.6nm,1.1s
PAL Palisades 36.26 30 P 03 19 17.2
baz=221
J56A Wolcott 36.72 25 P 03 19 21.4
baz=215
ETMB Extrema 36.98 123 *eP* **P** **03 19 24.4 +0.5**
H53A Bobcaygeon 37.13 22 P 03 19 24.3
baz=211
J57A Williamstown 37.19 26 P 03 19 25.2
baz=216
EYMN Ely 37.20 6 P 03 19 24.9
baz=189
EYMN Ely 37.20 6 IAmb IAmb 03 19 37.9
comp=Z,7.2nm,1.0s
BOAV Boa Vista 37.26 100 *eP* **P** **03 19 27.9 +1.6**
J08A Circle Bar Ran 37.27 334 IAmb IAmb 03 19 26.9
comp=Z,7.2nm,1.0s
AGMN Agassiz Nation 37.27 1 P 03 19 25.9
baz=182,SNR=7.5
B35A Bob, Littlefor 37.42 4 IAmb IAmb 03 19 34.3
comp=Z,9.8nm,1.1s
J58A Remsen 37.45 26 P 03 19 28.0
baz=217
K61A Williamstown 37.84 29 P 03 19 31.2
baz=220
I58A Old Forge 37.85 26 P 03 19 31.5
baz=217
M02C Callahan 37.86 328 P 03 19 30.1
baz=136
L04D Klamath Falls 38.18 329 P 03 19 33.2
baz=138
J60A Lant Hill Farm 38.20 28 P 03 19 34.2
baz=220
K62A Royalston 38.33 30 P 03 19 34.8
baz=222
I59A Olmsteadville 38.42 27 P 03 19 35.9
baz=219
ALGO Algonquin Park 38.51 21 P 03 19 36.4
baz=211
L64A Middleborough 38.51 32 P 03 19 36.5
baz=224
PTGA Pitinga 38.69 105 P **P** **03 19 38.8 +0.5**
comp=Z,23nm,0.9s,baz=300,slow=7.9,SNR=22
PTGA Pitinga 38.69 105 IAmb IAmb 03 19 43.4
comp=Z,26nm,0.9s
PTGA Pitinga 38.69 105 P **P** **03 19 39.3 +0.9**
J61A Chester 38.69 29 P 03 19 38.3
baz=221
I60A Shoreham 38.73 28 P 03 19 38.3
baz=220
H58A Gabriels 38.78 26 P 03 19 39.1
baz=218
J04D Umpqua Nationa 38.84 330 P 03 19 38.1
baz=139
J62A Henniker 38.96 30 P 03 19 40.2
baz=222
G57A Newington 38.98 25 P 03 19 40.8
baz=216
G08A Pilot Rock 39.03 335 P **P** **03 19 40.5 -0.5**
H59A Cadyville 39.17 27 P 03 19 42.5
baz=218
ULM Lac du Bonnet 39.22 1 P **P** **03 19 42.2 -0.1**
comp=Z,1.6nm,0.7s,baz=173,slow=14,SNR=2.2
ULM Lac du Bonnet 39.22 1 P **P** **03 19 42.2 -0.1**
I61A Oroboro, Fairl 39.30 29 P 03 19 43.5
baz=221

I05D Terrebonne, OR 39.31 332 P 03 19 42.4
baz=141
J63A Strafford 39.36 30 P 03 19 43.9
baz=223
LPAZ La Paz 39.40 133 P **P** **03 19 45.8 +0.9**
comp=Z,5.0nm,0.8s,baz=333,slow=9.3,SNR=24
LPAZ LR LR 03 34 03.6
comp=Z,151nm,18.6s,baz=326,slow=33
LPAZ La Paz 39.40 133 P **P** **03 19 43.2 -1.7**
LPAZ IAmb IAmb 03 19 52.3
comp=Z,12nm,1.0s
LPAZ La Paz 39.40 133 *eP* **P** **03 19 45.6 +0.7**
LPAZ La Paz 39.40 133 *eP* **P** **03 19 43.0 -1.9**
G58A Ormstown 39.41 26 P 03 19 44.3
baz=217
H60A Morristown 39.55 28 P 03 19 45.4
baz=220
LBNH Lisbon 39.66 29 P 03 19 46.4
baz=221
I62A Tamworth 39.67 29 P 03 19 46.6
baz=222
J01E Myrtle Point 39.69 329 P 03 19 45.8
baz=136
PB16 IPOC Station P 39.83 137 P **P** **03 19 47.9 -0.6**
PB16 IAmb IAmb 03 19 56.1
comp=Z,10.0nm,0.8s
H61A Lyndonville 39.89 28 P 03 19 48.1
baz=221
H04D Lebanon 40.10 331 P 03 19 49.7
baz=139
G60A Masonville 40.13 27 P 03 19 50.3
baz=220
MNMC Minye Minye 40.33 138 IAmb IAmb 03 19 56.2
comp=Z,7.0nm,0.9s
D55A Sainte-Anne-du 40.36 23 P 03 19 52.1
baz=214
D56A ZEC Mazanza, M 40.66 24 P 03 19 54.3
baz=215
E58A La Victoria 40.72 25 P 03 19 54.8
baz=218
F60A Warwick 40.97 27 P 03 19 57.0
baz=220
G62A West of Eustis 41.06 29 P 03 19 58.0
baz=222
F61A St Evariste 41.41 28 P 03 20 00.4
baz=221
G63A Kingsbury 41.42 30 P 03 20 00.7
baz=223
D58A Chemin du LacG 41.46 25 P 03 20 00.8
baz=218
E60A Ste Agathe de 41.51 27 P 03 20 01.1
baz=220
LSQQ Lebel-sur-Quev 41.55 20 P 03 20 01.8
baz=211
E04D Cinebar 41.57 333 P 03 20 01.3
baz=141
LATQ La Tuque 41.73 25 P 03 20 03.5
baz=218
F62A Pittston Farm, 41.83 29 P 03 20 03.9
baz=222
MATQ Matagami 41.94 19 P 03 20 04.3
baz=210
G64A Maxfield 41.94 30 P 03 20 05.2
baz=224
PB07 IPOC Station P 42.03 141 IAmb IAmb 03 20 07.4
comp=Z,7.0nm,0.8s
E62A Clayton Lake 42.57 28 P 03 20 10.6
baz=222
F64A Sherman 42.58 30 P 03 20 10.2
baz=224
E63A Oxbow 42.94 29 P 03 20 13.1
baz=224
D62A Allapoint, All 43.13 28 P 03 20 14.6
baz=223
E64A Bridgewater 43.23 30 P 03 20 16.2
baz=225
LVC Limon Verde 43.28 140 P **P** **03 20 16.3 -0.2**
comp=Z,4.8nm,0.8s,baz=288,slow=4.6,SNR=6.0
LVC Limon Verde 43.28 140 P **P** **03 20 16.2 -0.2**
LVC IAmb IAmb 03 20 18.4
comp=Z,6.7nm,0.8s
LVC Limon Verde 43.28 140 *eP* **P** **03 20 16.5 0.0**
D63A Stockholm 43.54 29 P 03 20 18.2
baz=224
VILB Vilhena 43.63 122 *eP* **P** **03 20 19.2 +0.2**
FFC Flin Flon 43.86 356 P **P** **03 20 20.2 -0.1**
ITTB Itaituba 43.88 108 *eP* **P** **03 20 20.4 -0.6**
MALB Monte Alegre 44.45 104 *eP* **P** **03 20 26.5 +0.9**
SIV San Ignacio 44.57 126 P **P** **03 20 26.7 +0.2**
comp=Z,4.8nm,1.0s,baz=306,slow=10,SNR=14
NPGB Novo Progresso 45.21 111 *eP* **P** **03 20 30.5 -1.2**
PTLB Pontes e Lacer 45.82 124 *eP* **P** **03 20 36.7 +0.3**
CLDB Colider 46.41 116 *eP* **P** **03 20 40.7 -0.4**
TAOE Nuku Hiva Isla 47.12 247 *eS* S 03 27 23.0 -14
comp=Z,56nm,25.0s
TAOE *e*LR LR 03 33 37.3
comp=Z,235nm,25.5s
SALV Santo Antonio 48.88 122 *eP* **P** **03 21 00.7 +0.5**
SCHQ Schefferville 49.88 22 P **P** **03 21 07.0 -0.3**
comp=Z,4.6nm,0.9s,baz=234,slow=15,SNR=3.5
SCHQ LR LR 03 44 20.2
comp=Z,108nm,19.4s,baz=116,slow=39
PRPB Parauapebas 50.03 108 *eP* **P** **03 21 08.3 -0.8**
RKT Rikitea 50.20 227 *eT* T 04 14 10.7
comp=Z,1.6nm,0.3s
PP1B Ponte de Pedra 50.42 124 *eP* **P** **03 21 11.5 -0.5**
TMAB Tom-Au,PA,Br 50.50 102 *eP* **P** **03 21 14.7 +2.0**
SNDB Serra Nova Dou 50.86 115 *eP* **P** **03 21 14.6 -0.7**
AQDB Aquidauana 51.30 127 P **P** **03 21 18.4 -0.1**
AQDB IAmb IAmb 03 21 18.8
comp=Z,5.8nm,0.9s
AQDB Aquidauana 51.30 127 *eP* **P** **03 21 18.2 -0.2**
ARAG Araguaiana, MT 52.05 120 *eP* **P** **03 21 24.5 +0.2**
CRAG Craig 52.62 335 P 03 21 27.4
baz=134
YKA Yellowknife Ar 53.02 350 P **P** **03 21 32.0 +1.4**
comp=Z,0.5nm,0.5s,baz=154,slow=7.5,SNR=2.1
SMTB Santa Maria do 53.03 110 *eP* **P** **03 21 32.2 +0.7**
CPUP Villa Florida 53.53 134 P **P** **03 21 34.6 -0.3**
comp=Z,3.1nm,0.7s,baz=302,slow=7.3,SNR=8.0
CPUP LR LR 03 44 41.7
comp=Z,120nm,19.0s,baz=304,slow=36
CPUP Villa Florida 53.53 134 P **P** **03 21 34.7 -0.3**
CPUP IAmb IAmb 03 21 35.3
comp=Z,5.2nm,0.8s
CPUP Villa Florida 53.53 134 *eP* **P** **03 21 34.8 -0.1**
PEXB Peixe 53.59 114 *eP* **P** **03 21 34.9 -0.8**
ROSB Rosrio 54.46 102 *eP* **P** **03 21 43.0 +1.0**
TRCB Terra Rica 54.95 128 *eP* **P** **03 21 44.6 -0.9**
ITRB Iturama 55.17 123 *eP* **P** **03 21 48.0 +0.9**
BDFB Brasilia 55.30 118 P **P** **03 21 49.3 +1.1**
comp=Z,2.2nm,0.6s,baz=259,slow=7.9,SNR=4.3
PCMB Pacaembu 55.40 126 *eP* **P** **03 21 48.3 -0.4**
IPMB Ipameri, GO 56.16 120 *eP* **P** **03 21 54.4 +0.2**
PTGB Pitanga 56.43 129 *eP* **P** **03 21 55.7 -0.4**
FRB Frobisher Bay 56.48 15 P **P** **03 21 55.0 -0.6**
comp=Z,2.7nm,0.7s,baz=170,slow=4.6,SNR=4.3
SDBA SAO DESIDERIO 56.77 113 *eP* **P** **03 22 00.2 +1.6**
PLCA Paso Flores 56.96 156 P **P** **03 22 01.1 +1.6**
comp=Z,4.0nm,0.9s,baz=349,slow=10,SNR=3.5
PLCA LR LR 03 40 46.9
comp=Z,57nm,20.5s,baz=342,slow=30
PLCA Paso Flores 56.96 156 *eP* **P** **03 21 58.9 -0.6**
BB19B Bebedouro 57.34 124 *eP* **P** **03 22 03.5 +0.9**
NBPS Pedro II - PI 57.44 102 *eP* **P** **03 22 05.4 +2.0**
FRTB Fartura 57.64 127 *eP* **P** **03 22 03.9 -0.7**
ITAB Concordia 57.79 132 P **P** **03 22 05.3 -0.3**
ITAB Concordia 57.79 132 *eP* **P** **03 22 04.6 -0.9**
JANB Januaria 58.31 115 *eP* **P** **03 22 09.8 +0.3**
CPSB Cacapava Do Su 58.73 136 *eP* **P** **03 22 12.0 -0.1**
PPT Papeete 59.06 242 LR LR 03 41 04.1
comp=Z,120nm,18.4s,baz=3.0,slow=29
PPT2 Papeete2 59.07 242 *e*LR LR 03 39 12.9
comp=Z,257nm,26.0s
MC01 Montes Claros 59.30 117 *eP* **P** **03 22 17.2 +0.8**
PLTB Pedras Altas 59.45 137 *eP* **P** **03 22 17.3 +0.2**
SPB Sao Paulo 59.45 126 *eP* **P** **03 22 17.3 +0.1**
NBPB Pedra_Branca-C 59.53 103 *eP* **P** **03 22 19.5 +1.5**
VAO Valinhos 59.54 125 *eP* **P** **03 22 18.2 +0.3**
PET01 Itanhaem-SP 59.92 126 *eP* **P** **03 22 22.1 +1.7**
CRQE Cirque 60.06 336 P 03 22 20.7
baz=126
MCARA McCarthy VSAT 60.40 337 P 03 22 21.3
baz=126
NBPN Ponto Novo - B 60.55 109 *eP* **P** **03 22 24.7 -0.2**
PARB Paraibuna 60.78 125 *eP* **P** **03 22 25.8 -0.7**

L27K Beaver Creek, 60.96 338 P **P** **03 22 26.8 -0.2**
L27K Beaver Creek, 60.96 338 P 03 22 26.3
baz=128
EYAK Cordova Ski Ar 61.03 335 P 03 22 26.6
baz=123
TBI Tubuai 61.51 236 *e*LR LR 03 40 31.9
comp=Z,171nm,28.5s
K27K Chicken 61.65 339 P 03 22 31.4
baz=128
INK Inuvik 62.06 346 P **P** **03 22 33.1 -1.1**
comp=Z,3.3nm,1.0s,baz=100,slow=9.0,SNR=5.7
INK Inuvik 62.06 346 IAmb IAmb 03 22 40.7
comp=Z,5.3nm,1.1s
INK Inuvik 62.06 346 P 03 22 33.3
baz=139
SCRK Sand Creek 62.29 339 P 03 22 35.1
baz=126
SJMB Sao Joao De Ma 62.50 118 *eP* **P** **03 22 39.1 +1.1**
NBIT Itapeh - BA 62.64 113 *eP* **P** **03 22 40.7 +1.8**
CMC01 Camacan, BA 62.71 114 *eP* **P** **03 22 40.5 +1.1**
SML Sawmill 62.76 335 P 03 22 38.0
baz=121
BSFB Barra de Sao F 62.84 118 *eP* **P** **03 22 41.4 +1.1**
GUA01 Guaratinga, BA 62.90 115 *eP* **P** **03 22 41.6 +0.9**
OHAK Old Harbor 62.92 329 P 03 22 38.8
baz=114
WAT6 Susitna Watana 62.92 336 P 03 22 38.7
baz=122,SNR=5.2
NAN01 Guarapari, ES 63.09 116 *eP* **P** **03 22 43.0 +1.0**
RIB01 Linhares ES 63.43 118 *eP* **P** **03 22 44.6 +0.4**
WAT2 Susitna Watana 63.45 336 P 03 22 42.2
baz=121
HDA Harding Lake 63.60 338 P 03 22 43.0
baz=123
HDA P 03 22 43.0
baz=123
ALF01 Guarapari-ES 63.67 120 *eP* **P** **03 22 48.8 +3.1**
IL31 63.78 339 P **P** **03 22 44.5 -1.2**
IL31 IAmb IAmb 03 22 45.1
comp=Z,7.8nm,1.1s
ILAR Eielson Array 63.78 339 P **P** **03 22 44.1 -1.6**
comp=Z,4.0nm,1.0s,baz=150,slow=4.6,SNR=33
ILAR Eielson Array 63.78 339 P **P** **03 22 44.4 -1.4**
CUT Chulitna 63.85 335 P 03 22 44.7
baz=119
MCK McKinley 63.98 337 P 03 22 46.0
baz=121
SKT Skwentna 64.17 335 P 03 22 47.1
baz=118
TRF Thorofare Moun 64.37 336 P 03 22 48.1
baz=119
NEA2 Nenana 64.48 338 P 03 22 48.9
baz=121
H24K Noodor Dome 64.71 339 P 03 22 50.5
baz=123,SNR=6.6
PPLA Purkeypile 64.86 335 P 03 22 51.3
baz=117
I23K Minto, Yukon-K 64.87 338 P 03 22 51.1
baz=121,SNR=8.3
BPAW Bear Paw Mtn. 64.95 337 P 03 22 51.6
baz=119
MLY Manley 65.32 338 P 03 22 54.2
baz=120,SNR=6.6
COLD Coldfoot 66.24 340 P 03 23 00.1
baz=121
H21K Melozitna Rive 66.38 338 P 03 23 00.6
baz=118
TOLK Toolik Lake Re 66.78 342 P 03 23 03.2
baz=122
FALS False Pass 67.56 325 P 03 23 08.1
baz=103
PMSA Palmer Station 79.47 166 *eP* **P** **03 24 20.0 0.0**
ESDC Sonseca Array 85.51 51 P **P** **03 24 53.3 +1.0**
comp=Z,0.7nm,1.0s,baz=305,slow=4.5,SNR=3.5
NOA NORSAR Array B 89.18 28 LR LR 04 03 24.8
comp=Z,36nm,20.5s,baz=270,slow=34
PETK Petropavlovsk- 90.29 324 LR LR 03 58 33.0
comp=Z,23nm,20.7s,baz=84,slow=31
DBIC Dimbokro 90.94 83 LR LR 04 00 29.9
comp=Z,39nm,21.9s,baz=240,slow=32
GERES GERESS Array B 95.11 38 P **P** **03 25 38.4 +1.1**
comp=Z,0.5nm,0.8s,baz=316,slow=7.5,SNR=3.4
GERES LR LR 04 05 19.6
comp=Z,55nm,20.7s,baz=300,slow=34
GERES GERESS Array B 95.11 38 P **P** **03 25 36.2 -1.1**
FINES FINESS Array B 95.34 24 LR LR 04 09 52.2
comp=Z,34nm,18.5s,baz=309,slow=36
TORD Torodi Ar. Bea 95.95 75 LR LR 04 08 13.2
comp=Z,18nm,18.4s,baz=295,slow=35
NRIK Noril'sk 99.87 358 LR LR 04 14 26.1
comp=Z,45nm,19.1s,baz=300,slow=37
DZM Mont Dzumac 99.95 249 *e*LR LR 03 58 03.6
comp=Z,89nm,23.2s
WRA Warramunga Arr 129.78 253 PKP **PKiKP** **03 31 25.3 +0.5**
comp=Z,1.1nm,1.0s,baz=78,slow=1.6,SNR=2.9
CMAR Chiang Mai Arr 146.79 331 PKPbc **PKPdf** **03 31 54.8 -0.4**
comp=Z,0.9nm,0.2s,baz=356,slow=2.6,SNR=12

KMA 11 03:14:14.1±0.1, 37.56N×128.96E, h0km±144km, Error ellipse: s-maj=1.8km s-min=0.9km az=36.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKEB	**Okgye-meyeon** SNR=53	**0.06**	**16**	P	Pg	03 14 15.2	-0.2
OKEB	**Okgye-meyeon** SNR=53	**0.06**	**16**	P	Pg	03 14 15.2	-0.2
KSDGY	**Daegwallycong** SNR=21	**0.26**	**300**	P	Pg	03 14 19.0	-0.2
KSDGY	**Daegwallycong** SNR=21	**0.26**	**300**	P	Pg	03 14 19.0	-0.2
KSJMJ	**Jumunjin** SNR=6.6	**0.36**	**334**	P	Pg	03 14 21.2	+0.2
KSJMJ	**Jumunjin** SNR=6.6	**0.36**	**334**	P	Pg	03 14 21.2	+0.2
IMWB	**Imwonan-gil**	**0.44**	**136**	P	Pg	03 14 22.2	-0.4
KSSKC	**Sokcho** SNR=5.7	**0.81**	**335**	P	Pg	03 14 30.0	+0.4
KSULJ	**Uljin** SNR=7.8	**0.93**	**157**	P	Pg	03 14 31.2	-0.7
KSCHC	**Chuncheon** SNR=13	**0.93**	**284**	P	Pg	03 14 32.0	0.0

*IDC **11** 03:25:27.2±1.2, 0.01S×98.34E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/35, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=35.8km s-min=20.8km az=67.0*
*DJA **11** 03:25:31.1±0.3, 0.7N±3.9×9.8E±., h13km±4km, M4.0/10, MLv4.0/10*
*NEIC **11** 03:25:35.5±1.0, 0.23N±0.09×98.39E±0.07, h51km±7km, mb4.4/10, Error ellipse: s-maj=14.6km s-min=8.3km az=210.0*

ISC 11 03:25:32.1±1.2, 0.07N±0.04×98.36E±0.04, h33km±5km, n43, σ1s05/46, mb4.3/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.15**	**214**	P	**Pn**	**03 25 37.2**	**0.0**
PBSI				S	**Sb**	**03 25 41.1**	**-1.3**
MNSI	**Mandailing Nat**	**1.42**	**59**	P	**Pn**	**03 25 54.8**	**-0.8**
MNSI				S	**Sn**	**03 26 13.9**	**+0.8**
GSI	**Gunungsitoli**	**1.46**	**327**	Pn	**Pn**	**03 25 57.5**	**+1.3**
GSI				Sn	**Sb**	**03 26 17.7**	**+0.7**
GSI	**Gunungsitoli**	**1.46**	**327**	P	**Pn**	**03 25 57.3**	**+1.1**
GSI				S	**Sb**	**03 26 17.2**	**+0.2**
SISI	**Saibi**	**1.56**	**152**	P	**Pn**	**03 25 59.0**	**+1.4**
SBSI	**Sibolga**	**1.56**	**20**	P	**Pn**	**03 25 58.6**	**+0.9**
SBSI				S	**Sb**	**03 26 20.6**	**+0.6**
PDSI	**Padang**	**2.31**	**115**	P	**Pn**	**03 26 08.9**	**+0.9**
RPSI	**Rantau Prapat**	**2.67**	**12**		**Pn**	**03 26 13.8**	**+0.9**
RPSI				Sn	**Sn**	**03 26 41.1**	**-3.0**
RPSI	**Rantau Prapat**	**2.67**	**12**		**Pn**	**03 26 13.8**	**+0.9**
BKNI	**Bangkinang**	**2.69**	**84**	Pn	**Pn**	**03 26 15.7**	**+2.6**
BKNI	**Bangkinang**	**2.69**	**84**	P	**Pn**	**03 26 13.2**	**+0.1**
PSI	**Prapat** 7.1nm,0.3s,baz=180,slow=1.3,SNR=18	**2.77**	**12**	P	**Pn**	**03 26 13.8**	**-0.6**
PSI				Sn	**Sn**	**03 26 48.5**	**+1.6**
	7.6nm,0.3s,baz=180,slow=14,SNR=5.1						
PSI	**Prapat**	**2.77**	**12**	P	**Pn**	**03 26 13.8**	**-0.6**
PSI				P	**Pn**	**03 26 13.6**	**-0.8**
SDSI	**Sungai Dareh**	**3.22**	**108**	P	**Pn**	**03 26 20.9**	**+0.4**
TPTI		**3.38**	**340**	P	**Pn**	**03 26 23.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.29**	**2**	P	**P**	**03 29 42.3**	**-1.1**

baz=190,slow=10,SNR=1.8
CMAR Chiang Mai Arr 18.29 2 P **P** **03 29 42.8 -0.5**
SHL Shillong 26.11 347 P **P** **03 31 02.6 -0.8**
SHL IAmb IAmb 03 31 06.0
comp=Z,8.3nm,0.6s
DGAR Diego Garcia 26.89 253 P **P** **03 31 11.3 +1.0**
H08S2 Diego Garcia H 26.91 253 T T 03 59 11.8
baz=74,slow=75,SNR=132
H08S3 Diego Garcia H 26.91 253 T T 03 59 17.5
baz=74,slow=75,SNR=137
H08S1 Diego Garcia H 26.93 253 T T 03 59 18.6
baz=74,slow=75,SNR=126
WRA Warramunga Arr 40.45 122 P **P** **03 33 06.5 -1.4**
comp=Z,0.5nm,0.8s,baz=304,slow=8.9,SNR=2.0
WR0 Warramunga Arr 40.63 121 P **P** **03 33 07.8 -1.7**
WR0 IAmb IAmb 03 33 08.2
comp=Z,8.6nm,1.3s
ASAR Alice Springs 41.79 127 P **P** **03 33 20.4 +1.5**
comp=Z,0.2nm,0.4s,baz=300,slow=8.1,SNR=2.8
ASAR Alice Springs 41.79 127 P **P** **03 33 19.4 +0.4**
KDJ Kajisay 46.02 338 P **P** **03 33 53.1 +0.3**
KDJ IAmb IAmb 03 33 55.7
comp=Z,5.5nm,0.9s
KSRS Korea Array 46.14 33 P **P** **03 33 53.0 -0.6**
comp=Z,1.4nm,0.6s,baz=219,slow=8.1,SNR=7.2
JHS Saijyo 47.53 39 P **P** **03 34 04.2 -0.4**
JHS IAmb IAmb 03 34 04.8
comp=Z,18nm,1.4s
UOSS Minazif 47.67 304 P **P** **03 34 06.4 +0.6**
MK31 Makanchi Array 48.62 345 P **P** **03 34 12.4 -0.4**
MK31 IAmb IAmb 03 34 14.5
comp=Z,2.5nm,0.7s
MKAR Makanchi Array 48.62 345 P **P** **03 34 13.9 +1.1**
comp=Z,2.8nm,0.6s,baz=154,slow=8.0,SNR=25
MKAR Makanchi Array 48.62 345 P **P** **03 34 12.8 0.0**
ZALV Zalesovo Beam 54.86 350 P **P** **03 34 59.6 +0.4**
comp=Z,1.6nm,0.5s,baz=180,slow=5.9,SNR=4.9
ABKAR Akbulak array 59.06 332 P **P** **03 35 28.9 -0.1**
ABKAR Akbulak array 59.06 332 P **P** **03 35 28.5 -0.5**
ABKAR IAmb IAmb 03 35 29.6
comp=Z,1.2nm,0.7s
LODK Lodwar 63.05 274 P **P** **03 35 57.5 +0.6**
LODK IAmb IAmb 03 36 13.7
comp=Z,3.2nm,1.1s
BR131 Keskin Array S 70.73 312 P **P** **03 36 45.5 0.0**
BRTR Keskin Array B 70.73 312 P **P** **03 36 45.6 +0.3**
comp=Z,0.8nm,0.7s,baz=129,slow=7.1,SNR=7.1
BRTR Keskin Array B 70.73 312 P **P** **03 36 45.4 0.0**
TXAR Lajitas Array 143.99 34 PKP **PKPdf** **03 45 04.2 -1.0**
comp=Z,0.2nm,0.8s,baz=308,slow=3.2,SNR=2.2
TXAR Lajitas Array 143.99 34 PKPbc PKPbc 03 45 03.7 +0.6
CPUP Villa Florida 144.92 220 PKP PKPbc 03 45 06.2 +0.3
comp=Z,1.3nm,0.8s,baz=101,slow=5.2,SNR=3.1

*VAO **11** 04:03:14.3±0.4, 18°.29S×67°.18W, h273km±4km, mb3.9*
*NEIC **11** 04:03:14.1±1.1, 18°.37S±0°.05×67°.13W±0°.09, h270km±6km, mb4.0/15, Error ellipse: s-maj=12.6km s-min=7.9km az=92.0*
*IDC **11** 04:03:17.2±3.6, 17°.58S×66°.93W, h283km±17km, mb3.5/4, mb1 3.6/5, mb1mx3.2/31, mbtmp4.2/5, Error ellipse: s-maj=105.3km s-min=37.1km az=23.0*
*SCB **11** 04:03:18.8±2.3, 18°.46S×67°.19W, h223km±27km, ML3.9/6, Error ellipse: s-maj=17.0km s-min=12.7km az=1.0*
ISC 11 04:03:13.7±0.6, **18°.36S**±0°.04×**67°.19W**±0°.07, **h272**km±8km, **n83**,σ1°**38**/99, **mb4.0**/5, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOE	**La Paz, Chanca**	**1.71**	**334**	P	**Pn**	**04 03 57.8**	**+1.4**
PB16	**IPOC Station P**	**2.20**	**270**	Pn	**Pn**	**04 04 02.2**	**+1.8**
PB16	**IPOC Station P**	**2.20**	**270**	P	**Pn**	**04 04 01.5**	**+1.1**
LPAZ	**La Paz**	**2.25**	**336**	P	**Pn**	**04 04 01.4**	**+0.5**
	4.1nm,0.3s,baz=119,slow=6.7,SNR=142						
LPAZ				S	**S**	**04 04 36.0**	**-2.3**
	5.9nm,0.3s,baz=142,slow=6.6,SNR=12						
LPAZ	**La Paz**	**2.25**	**336**		**Pn**	**04 04 01.4**	**+0.5**
LPAZ				Sn	**S**	**04 04 36.6**	**-1.7**
LPAZ	**La Paz**	**2.25**	**336**	P	**Pn**	**04 04 01.5**	**+0.5**
LPAZ				S	**S**	**04 04 34.8**	**-3.5**
LPAZ				IAML		04 04 37.5	
	20nm,0.4s						
LPAZ	**La Paz**	**2.25**	**336**	*eP*	**Pn**	**04 04 01.5**	**+0.5**
BBOB	**La Paz, Bander**	**2.38**	**338**	P	**Pn**	**04 04 02.5**	**+0.5**
MNMC	**Minye Minye**	**2.40**	**251**		**Pn**	**04 04 03.2**	**+1.4**
MNMC				Sn	**S**	**04 04 41.1**	**+1.0**
MNMC	**Minye Minye**	**2.40**	**251**	P	**Pn**	**04 04 03.4**	**+1.5**
MNMC				S	**S**	**04 04 36.6**	**-3.5**
MNMC				IAML		04 04 47.2	
	112nm,0.2s						
PB08	**IPOC Station P**	**2.56**	**226**	Pn	**Pn**	**04 04 04.5**	**+1.0**
PB08				Sn	**S**	**04 04 43.7**	**+0.6**
PB11	**IPOC Station P**	**2.71**	**239**		**Pn**	**04 04 05.5**	**+0.7**
PB11				Sn	**S**	**04 04 44.7**	**-0.7**
AP01	**Chacalluta**	**2.99**	**269**		**Pn**	**04 04 08.6**	**+1.2**
AP01				Sn	**S**	**04 04 49.5**	**-0.7**
PSGCX	**Pisagua**	**3.03**	**246**	Pn	**Pn**	**04 04 08.1**	**+0.1**
PSGCX				Sn	**S**	**04 04 49.0**	**-2.1**
PSGC	**Pisagua**	**3.03**	**246**	P	**Pn**	**04 04 09.1**	**+1.1**
MOCB	**Mochara**	**3.23**	**153**	P	**Pn**	**04 04 11.9**	**+1.5**
TA02	**Huaiquique**	**3.36**	**235**		**Pn**	**04 04 12.1**	**+0.7**
TA02				Sn	**S**	**04 04 55.1**	**-2.3**
PB01	**IPOC Station P**	**3.44**	**219**		**Pn**	**04 04 12.4**	**+0.2**
PB01				Sn	**S**	**04 04 57.8**	**-1.1**
PB01	**IPOC Station P**	**3.44**	**219**	P	**Pn**	**04 04 13.6**	**+1.4**
PB01				S	**S**	**04 04 56.1**	**-2.8**
PB01				IAML		04 05 02.1	
	202nm,0.3s						
TA01	**Diego Aracena**	**3.57**	**232**	Pn	**Pn**	**04 04 14.0**	**+0.4**
TA01				Sn	**S**	**04 04 58.5**	**-2.9**
PATCX	**Punta Patache**	**3.71**	**228**		**Pn**	**04 04 16.3**	**+1.0**
PATCX				Sn	**S**	**04 05 01.9**	**-2.6**
PB07	**IPOC Station P**	**4.20**	**217**		**Pn**	**04 04 21.3**	**+0.4**
PB03	**IPOC Station P**	**4.39**	**213**	P	**Pn**	**04 04 24.9**	**+1.8**
PB03				S	**S**	**04 05 15.7**	**-2.9**
PB03				IAML		04 05 19.5	
	118nm,0.3s						
LVC	**Limon Verde**	**4.53**	**201**	Pn	**Pn**	**04 04 25.4**	**+0.5**
LVC	**Limon Verde**	**4.53**	**201**	P	**Pn**	**04 04 26.6**	**+1.7**
LVC	**Limon Verde**	**4.53**	**201**	*eP*	**Pn**	**04 04 25.9**	**+1.0**
PB04	**IPOC Station P**	**4.83**	**215**		**Pn**	**04 04 28.7**	**+0.4**
PB06	**IPOC Station P**	**4.87**	**207**		**Pn**	**04 04 29.4**	**+0.7**
PB06	**IPOC Station P**	**4.87**	**207**	P	**Pn**	**04 04 30.0**	**+1.3**
PB06				S	**S**	**04 05 24.6**	**-4.1**
PB06				IAML		04 05 29.1	
	160nm,0.5s						
PB15	**IPOC Station P**	**5.27**	**203**		**Pn**	**04 04 33.7**	**0.0**
PB15	**IPOC Station P**	**5.27**	**203**	P	**Pn**	**04 04 35.1**	**+1.5**
PB15				S	**S**	**04 05 34.1**	**-3.6**
PB15				IAML		04 05 39.0	
	675nm,0.4s						
PB05	**IPOC Station P**	**5.29**	**212**	P	**Pn**	**04 04 34.9**	**+1.2**
PB10	**IPOC Station P**	**6.01**	**211**	Pn	**Pn**	**04 04 42.8**	**+0.4**
GO02	**Mina Guanaco**	**7.13**	**198**	Pn	**Pn**	**04 04 56.7**	**+0.3**
PTLB	**Pontes e Lacer**	**8.24**	**71**	*eP*	**Pn**	**04 05 09.0**	**-1.1**
ETMB	**Extrema**	**8.54**	**7**	*eP*	**Pn**	**04 05 13.8**	**-0.2**
VILB	**Vilhena**	**8.62**	**52**	*eP*	**Pn**	**04 05 13.9**	**-1.0**
AC02	**Maricunga**	**8.62**	**192**	Pn	**Pn**	**04 05 15.1**	**-0.2**
AQDB	**Aquidauana**	**11.05**	**103**	Pn	**Pn**	**04 05 45.0**	**-0.1**
AQDB	**Aquidauana**	**11.05**	**103**	*eP*	**Pn**	**04 05 45.3**	**+0.3**
SALV	**Santo Antonio**	**11.26**	**79**	*eP*	**Pn**	**04 05 48.1**	**+0.4**
PP1B	**Ponte de Pedra**	**11.74**	**88**	*eP*	**Pn**	**04 05 53.0**	**-0.7**
CZSB	**Cruzeiro do Su**	**11.85**	**332**	*eP*	**Pn**	**04 05 54.9**	**-0.2**
CO03	**El Pedregal**	**12.82**	**194**		**Pn**	**04 06 07.1**	**+0.2**
CO02	**Combarbal**	**13.25**	**194**		**Pn**	**04 06 12.8**	**+0.7**
CLDB	**Colider**	**13.30**	**58**	*eP*	**P**	**04 06 12.7**	**-0.9**
MT02	**Curacav**	**15.26**	**193**	Pn	**Pn**	**04 06 37.8**	**+1.7**
MT02				IAmb	IAmb	04 06 41.2	
	comp=Z,8.0nm,0.9s						
PCMB	**Pacaembu**	**15.32**	**105**	*eP*	**Pn**	**04 06 38.4**	**+1.4**
PTGB	**Pitanga**	**15.43**	**117**	*eP*	**Pn**	**04 06 39.2**	**+0.9**
MT09	**Talagante**	**15.72**	**192**	Pn	**Pn**	**04 06 42.9**	**+1.1**
MT09				IAmb	IAmb	04 06 49.5	
	comp=Z,8.8nm,1.1s						
MT01	**Popeta**	**15.86**	**192**		**P**	**04 06 42.9**	**+1.2**
MT01				IAmb	IAmb	04 06 59.1	
	comp=Z,5.1nm,1.1s						
NPGB	**Novo Progresso**	**16.10**	**47**	*eP*	**Pn**	**04 06 45.0**	**-1.3**
BO01	**Tunca**	**16.34**	**192**	Pn	**Pn**	**04 06 48.7**	**+1.9**
ITAB	**Concordia**	**16.45**	**125**	Pn	**P**	**04 06 49.1**	**+1.0**
ITAB				IAmb	IAmb	04 06 56.0	
	comp=Z,4.1nm,0.9s						
ITAB	**Concordia**	**16.45**	**125**	*eP*	**P**	**04 06 49.6**	**+1.5**
SNDB	**Serra Nova Dou**	**16.60**	**70**	*eP*	**P**	**04 06 50.2**	**+0.3**
BO02	**Sierra Bellavi**	**16.68**	**190**	P	**P**	**04 06 51.0**	**+0.4**
GO05	**Huala**	**17.11**	**193**	P	**P**	**04 06 57.1**	**+1.8**
GO05				IAmb	IAmb	04 07 07.8	
	comp=Z,7.3nm,1.1s						
FRTB	**Fartura**	**17.20**	**110**	*eP*	**P**	**04 06 57.9**	**+1.4**
CPSB	**Cacapava Do Su**	**17.32**	**136**	*eP*	**P**	**04 06 58.2**	**+0.6**
BB19B	**Bebedouro**	**17.78**	**102**	*eP*	**P**	**04 07 04.0**	**+1.2**
ITTB	**Itaituba**	**17.86**	**40**	*eP*	**P**	**04 07 03.7**	**+0.2**
IPMB	**Ipameri, GO**	**18.04**	**92**	*eP*	**P**	**04 07 06.3**	**+0.7**
PLTB	**Pedras Altas**	**18.13**	**140**	P	**P**	**04 07 06.0**	**-0.4**
PLTB				IAmb	IAmb	04 07 08.6	
	comp=Z,3.3nm,1.0s						
PLTB	**Pedras Altas**	**18.13**	**140**	*eP*	**P**	**04 07 06.1**	**-0.2**
BDFB	**Brasilia**	**18.54**	**85**	P	**P**	**04 07 11.4**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=250,slow=8.3,SNR=16						
BDFB	**Brasilia**	**18.54**	**85**	P	**P**	**04 07 10.5**	**-0.6**
BDFB				IAmb	IAmb	04 07 15.2	
	comp=Z,4.9nm,0.6s						
PEXB	**Peixe**	**19.25**	**74**	*eP*	**P**	**04 07 19.2**	**+0.6**
SMTB	**Santa Maria do**	**21.24**	**66**	*eP*	**P**	**04 07 39.9**	**+0.8**
JANB	**Januaria**	**22.16**	**85**	*eP*	**P**	**04 07 47.6**	**0.0**
PLCA	**Paso Flores**	**22.48**	**187**	P	**P**	**04 07 50.3**	**+0.1**
GDU01	**Guandu, BA**	**26.93**	**84**	*eP*	**P**	**04 08 30.2**	**-0.3**
ROSB	**Rosrio**	**27.33**	**58**	*eP*	**P**	**04 08 34.1**	**0.0**
NBPS	**Pedro II - PI**	**28.74**	**64**	*eP*	**P**	**04 08 46.6**	**-0.1**
MGMO	**Mountain Grove**	**60.06**	**337**	P	**P**	**04 12 52.3**	**-0.1**
MGMO				IAmb	IAmb	04 13 00.3	
	comp=Z,1.8nm,0.7s						
DBIC	**Dimbokro**	**66.31**	**74**	P	**P**	**04 13 32.8**	**-0.9**
	comp=Z,3.4nm,1.0s,baz=223,slow=6.1,SNR=3.7						
DBIC	**Dimbokro**	**66.31**	**74**	P	**P**	**04 13 32.8**	**-0.9**
KOWA	**Kowa**	**70.29**	**67**	P	**P**	**04 13 57.2**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=251,slow=5.6,SNR=5.4						
KOWA	**Kowa**	**70.29**	**67**	P	**P**	**04 13 57.2**	**-1.1**
KOWA				IAmb	IAmb	04 14 00.0	
	comp=Z,5.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.78**	**70**	P	**P**	**04 14 23.8**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=254,slow=5.1,SNR=19						
TORD	**Torodi Ar. Bea**	**74.78**	**70**	P	**P**	**04 14 24.1**	**-0.6**
ESDC	**Sonseca Array**	**82.47**	**44**	P	**P**	**04 15 06.3**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=241,slow=6.6,SNR=4.9						
ESDC	**Sonseca Array**	**82.47**	**44**	IAmb	IAmb	04 15 09.8	
	comp=Z,0.4nm,0.9s						

*IDC **11** 04:17:43.6±0.6, 27°.68N×85°.74E, h0km, mb4.1/23, mb1 4.2/26, mb1mx4.0/52, mbtmp4.1/26, ML3.9/2, Error ellipse: s-maj=21.4km s-min=13.1km az=43.0*
*NDI **11** 04:17:46.9±3.0, 27°.68N×85°.73E, h10km, ML4.0, mb4.2(NEIC)*
*NEIC **11** 04:17:46.3±1.4, 27°.90N±0°.10×85°.80E±0°.05, h10km±1km, mb4.2/20, Error ellipse: s-maj=17.1km s-min=5.6km az=159.0*
*DMN **11** 04:17:46.3±0.1, 27°.80N×85°.78E, h10km, Ml4.6/6, Error ellipse: s-maj=2.3km s-min=1.1km az=4.0*
ISC 11 04:17:45.4±0.9, **27°.71N**±0°.04×**85°.74E**±0°.02, **h13**km±6km, **n84**,σ1°**64**/108, **mb4.2**/27, **1C, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**0.23**	**32**	*e*Pg	**Pg**	**04 17 50.1**	**-0.6**
GUN				*e*Sg	**Sg**	**04 17 52.6**	**-1.7**
PKI	**Pulchoki**	**0.33**	**245**	*e*Pg	**Pb**	**04 17 54.5**	**+1.2**
PKI				*e*Sg	**Sb**	**04 18 00.3**	**+1.8**
PKIN	**Phulchoki**	**0.33**	**247**	*e*Pg	**Pb**	**04 17 54.5**	**+1.1**
JIRN	**Jiri**	**0.40**	**97**	*e*Pg	**Pg**	**04 17 53.5**	**-0.1**
KKN	**Kakani**	**0.42**	**281**	*e*Pg	**Pb**	**04 17 55.4**	**+0.7**
KKN				*e*Sg	**Sb**	**04 18 01.8**	**+0.8**
DMN	**Daman**	**0.57**	**260**	*e*Pg	**Pb**	**04 17 58.7**	**+1.3**
DMN				*e*Sg	**Sn**	**04 18 07.8**	**-1.1**
GKN	**Gorkha**	**1.02**	**287**	*e*Pg	**Pn**	**04 18 06.3**	**+0.8**
GKN				*e*Sg	**Sn**	**04 18 19.6**	**-0.2**
GKN				*e*Sg	**Sg**	**04 18 20.0**	**+1.5**
	1μm,0.3s						
RAMN	**Ramite**	**1.08**	**135**	*e*Pg	**Pg**	**04 18 06.3**	**+0.1**
ODAN	**Odare**	**1.69**	**120**	*e*Pg	**Pg**	**04 18 18.6**	**+0.6**
ODAN				*e*Sg	**Sg**	**04 18 40.9**	**+0.9**
	1μm,0.3s						
TAPN	**Taplejung**	**1.79**	**101**	*e*Pg	**Pg**	**04 18 19.8**	**+0.1**
TAPN				*e*Sg	**Sg**	**04 18 41.8**	**-1.1**
	2μm,0.3s						
DANN	**Dangsing**	**1.86**	**290**	*e*Pg	**Pg**	**04 18 21.3**	**+0.1**
DANN				*e*Sg	**Sg**	**04 18 45.7**	**+0.3**
	768nm,0.3s						
KOLN	**Koldanda**	**1.90**	**272**	*e*Pg	**Pg**	**04 18 22.1**	**+0.2**
KOLN				*e*Sg	**Sg**	**04 18 47.1**	**+0.5**
	433nm,0.2s						
PYUN	**Piuthan**	**2.47**	**280**	*e*Pg	**Pg**	**04 18 32.7**	**0.0**
PYUN				*e*Sg	**Sg**	**04 19 04.3**	**-0.4**
	480nm,0.3s						
BOK	**Bokaro**	**3.90**	**178**	*e*P	**Pn**	**04 18 47.9**	**+2.9**
BOK				*e*S	**Sn**	**04 19 31.4**	**+0.7**
BOK				IAML		04 19 34.6	
	comp=E,240nm,0.2s						
LSA	**Lhasa**	**5.15**	**66**	Pn	**Pn**	**04 19 06.6**	**+4.0**
LSA				Sn	**Sn**	**04 20 04.6**	**+2.6**
LSA				SMN			
	comp=E,93nm,0.6s						
LSA				SME			
	comp=E,100nm,0.7s						
LSA	**Lhasa**	**5.15**	**66**	Pn	**Pn**	**04 19 01.1**	**-1.4**
GUWA	**GUWAHATI**	**5.52**	**105**	*e*P	**Pn**	**04 19 09.8**	**+2.5**
GUWA				*e*S	**Sn**	**04 20 10.7**	**+0.1**
GUWA				IAML		04 20 16.0	
	comp=N,86nm,0.4s						
GUWA				IAML		04 20 16.4	
	comp=E,40nm,0.3s						
SHL	**Shillong**	**5.90**	**110**	*e*P	**Pn**	**04 19 13.5**	**+0.9**
SHL				*e*P	**Pn**	**04 19 14.0**	**+1.4**
SHL				*i* S	**Sn**	**04 20 17.0**	**-3.1**
SHL				*e*S	**Sn**	**04 20 17.4**	**-2.8**
SHL	**Shillong**	**5.90**	**110**	Pn	**Pn**	**04 19 13.4**	**+0.8**
NDI	**New Delhi**	**7.58**	**279**	*e*P	**Pn**	**04 19 37.0**	**+1.4**
NDI				*e*P	**Sn**	**04 20 58.0**	**-3.5**
MOKO	**MOKOCHONG**	**7.95**	**98**	*e*P	**Pn**	**04 19 42.0**	**+1.2**
MOKO				*e*S	**Sn**	**04 21 04.6**	**-6.0**
MOKO				IAML		04 21 16.4	
	comp=E,96nm,0.8s						
SMLA	**Simla**	**8.22**	**297**	*e*P	**Pn**	**04 19 45.4**	**+1.1**
SMLA				*e*S	**Sn**	**04 21 13.1**	**-3.8**
SMLA				IAML		04 21 20.8	
	comp=N,91nm,0.6s						
SMLA				IAML		04 21 23.4	
	comp=E,72nm,0.3s						
BHPL	**Bhopal**	**8.73**	**241**	*e*P	**Pn**	**04 19 49.6**	**-1.9**
BHPL				*e*S	**Sn**	**04 21 22.9**	**-6.9**
BHPL				IAML		04 21 29.0	
	comp=E,631nm,0.3s						
DHRM	**DHARAMSHALA**	**9.35**	**301**	*e*P	**Pn**	**04 20 00.1**	**+0.1**
DHRM				*e*S	**Sn**	**04 21 41.7**	**-3.6**
DHRM				IAML		04 21 49.7	
	comp=E,494nm,0.6s						
HYB	**Hyderabad**	**12.20**	**214**	*i* P	**Pn**	**04 20 37.0**	**-2.0**
CHCP	**Chirah Chowk**	**12.26**	**302**	P	**Pn**	**04 20 39.1**	**-0.6**
NIL	**Nilore**	**12.27**	**302**		**Pn**	**04 20 39.4**	**-0.4**
CEP	**Cherat**	**13.36**	**301**	P	**Pn**	**04 20 51.7**	**-3.1**
CMAR	**Chiang Mai Arr**	**15.23**	**124**	Pn	**Pn**	**04 21 18.9**	**-1.3**
	baz=292,slow=16,SNR=1.2						
KDJ	**Kajisay**	**15.99**	**336**	Pn	**Pn**	**04 21 30.1**	**-0.1**
WMQ	**Urumqi**	**16.15**	**5**	*e*P	**P**	**04 21 38.9**	**+3.6**
GTA	**Gaotai**	**16.52**	**41**	*e*P	**P**	**04 21 40.0**	**+0.5**
GTA				pP	pP	04 21 43.7	0.0
GTA				sP	sP	04 21 47.4	+1.6
GTA				pmax	pmax		
	comp=E,4.0nm,1.0s						
GAR	**Garm**	**17.09**	**315**	Pn	**Pn**	**04 21 44.2**	**+0.2**
GAR				IAmb	IAmb	04 21 59.3	
	comp=Z,25nm,1.5s						
BTK	**Batken**	**17.44**	**319**	Pn	**Pn**	**04 21 45.0**	**-3.4**
BTK				IAmb	IAmb	04 21 52.2	
	comp=Z,8.3nm,0.8s						
AAK	**Ala-Archa**	**17.48**	**331**	P	**Pn**	**04 21 48.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=217,slow=15,SNR=1.4						
MK31	**Makanchi Array**	**19.24**	**353**	P	**P**	**04 22 08.1**	**-1.2**
MKAR	**Makanchi Array**	**19.24**	**353**	P	**Pn**	**04 22 09.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=173,slow=11,SNR=17						
MKAR	**Makanchi Array**	**19.24**	**353**	P	**P**	**04 22 08.6**	**-0.8**
KK31	**Karatay Array**	**19.70**	**325**	P	**P**	**04 22 13.3**	**-1.0**
KKAR	**Karatay Array**	**19.70**	**325**	P	**P**	**04 22 13.4**	**-0.9**
KKAR	**Karatay Array**	**19.70**	**325**	P	**P**	**04 22 12.7**	**-1.6**
KURBB	**Kurchatov Arra**	**23.53**	**348**	P	**P**	**04 22 55.7**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=168,slow=9.9,SNR=13						
KURBB				PcP	**PcP**	**04 26 40.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=147,slow=1.7,SNR=2.8						
KURK	**Kurchatov**	**23.60**	**349**	P	**P**	**04 22 55.7**	**-0.1**
KURK					**PcP**	**04 26 40.6**	**+0.1**
SONM	**Songino Array**	**25.74**	**33**	P	**P**	**04 23 15.9**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=215,slow=10,SNR=4.6						
SONM	**Songino Array**	**25.74**	**33**	P	**P**	**04 23 13.8**	**-1.9**
SONM				IAmb	IAmb	04 23 19.9	
	comp=Z,3.9nm,0.7s						
ULN	**Ulaanbaatar**	**26.08**	**34**	P	**P**	**04 23 18.7**	**-0.1**
ZAA0	**Zalesovo Array**	**26.22**	**359**	P	**P**	**04 23 19.8**	**+0.1**
ZALV	**Zalesovo Beam**	**26.22**	**359**	P	**P**	**04 23 20.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=182,slow=9.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**26.22**	**359**	P	**P**	**04 23 19.3**	**-0.5**
ABKAR	**Akbulak array**	**29.26**	**324**	P	**P**	**04 23 47.3**	**+0.4**
ABKAR				IAmb	IAmb	04 23 49.4	
	comp=Z,2.1nm,0.6s						
ABKAR	**Akbulak array**	**29.26**	**324**	P	**P**	**04 23 47.0**	**0.0**
KSRS	**Korea Array**	**36.59**	**64**	P	**P**	**04 24 51.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=256,slow=7.6,SNR=2.4						
NRIK	**Noril'sk**	**41.67**	**1**	P	**P**	**04 25 34.3**	**+1.1**
	comp=Z,7.7nm,0.7s,baz=178,slow=4.4,SNR=7.5						
NRIK	**Noril'sk**	**41.67**	**1**	P	**P**	**04 25 33.7**	**+0.5**
BRTR	**Keskin Array B**	**44.40**	**300**	P	**P**	**04 25 57.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=102,slow=7.4,SNR=3.8						
BRTR	**Keskin Array B**	**44.40**	**300**	P	**P**	**04 25 56.5**	**+0.5**
AKASG	**Malin Array Be**	**48.09**	**315**	P	**P**	**04 26 24.7**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=80,slow=7.1,SNR=5.6						
AKASG	**Malin Array Be**	**48.09**	**315**	P	**P**	**04 26 23.6**	**-0.9**
AKASG				IAmb	IAmb	04 26 25.3	
	comp=Z,1.5nm,1.2s						
AKBB	**Malin Array Si**	**48.09**	**315**	P	**P**	**04 26 24.3**	**-0.3**
AKBB				IAmb	IAmb	04 26 26.6	
	comp=Z,3.5nm,0.9s						
MLR	**Muntele Rosu**	**50.02**	**308**	P	**P**	**04 26 41.3**	**+1.7**
	comp=Z,5.9nm,0.7s,baz=334,slow=1.1,SNR=13						
MLR	**Muntele Rosu**	**50.02**	**308**	P	**P**	**04 26 40.1**	**+0.5**
BUR08	**Bucovina Ar. S**	**50.53**	**310**	P	**P**	**04 26 41.9**	**-1.6**
BUR08				IAmb	IAmb	04 26 45.5	
	comp=Z,2.7nm,1.0s						
FINES	**FINESS Array B**	**51.62**	**328**	P	**P**	**04 26 52.0**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=298,slow=4.1,SNR=5.0						
FINES	**FINESS Array B**	**51.62**	**328**	P	**P**	**04 26 50.6**	**-0.7**
IDI	**Anoyia**	**51.73**	**294**	P	**P**	**04 26 52.9**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=67,slow=15,SNR=1.9						
VTS	**Vitosha**	**52.11**	**304**	P	**P**	**04 26 55.2**	**-0.2**
VTS				IAmb	IAmb	04 26 57.9	
	comp=Z,3.2nm,0.8s						
ARCES	**ARCESS Array B**	**54.00**	**338**	P	**P**	**04 27 09.5**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=98,slow=7.8,SNR=10						
ARCES	**ARCESS Array B**	**54.00**	**338**	P	**P**	**04 27 09.8**	**+1.1**
HFS	**Hagfors**	**57.50**	**326**	P	**P**	**04 27 34.3**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=98,slow=11,SNR=6.8						
GERES	**GERESS Array B**	**58.14**	**312**	P	**P**	**04 27 39.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=98,slow=8.2,SNR=5.6						
GERES	**GERESS Array B**	**58.14**	**312**	P	**P**	**04 27 39.8**	**+1.0**
NOA	**NORSAR Array B**	**58.72**	**327**	P	**P**	**04 27 42.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=6.6,SNR=4.6						
KEST	**Kesra**	**63.98**	**298**	P	**P**	**04 28 19.6**	**+0.9**
	comp=Z,6.1nm,0.9s,baz=316,slow=8.1,SNR=6.6						
KEST	**Kesra**	**63.98**	**298**	P	**P**	**04 28 19.4**	**+0.7**
WRA	**Warramunga Arr**	**66.75**	**130**	P	**P**	**04 28 37.2**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=323,slow=6.5,SNR=43						
EKA	**Eskdalemuir Ar**	**67.09**	**322**	P	**P**	**04 28 38.5**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=89,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**69.05**	**133**	P	**P**	**04 28 51.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=320,slow=6.2,SNR=18						
ESDC	**Sonseca Array**	**72.68**	**306**	P	**P**	**04 29 12.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=74,slow=5.3,SNR=2.6						

Azm198.9908°; P Plg38.0417°, Azm80.1506°; **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
MIYJ	**Miyakonagasawa**	**1.26**	**268**	⇑P	**Pn**	**04 45 52.0**	**-0.7**
MIYJ				*e*S	**Sb**	**04 46 08.8**	**-0.2**
JTH	**Tanohata**	**1.26**	**285**	⇑P	**Pn**	**04 45 51.6**	**-1.1**
JTH				*e*S	**Sb**	**04 46 08.3**	**-0.8**
JKEN	**Kujiedanarisaw**	**1.46**	**294**	⇑P	**Pn**	**04 45 53.8**	**-1.6**
JANG	**Nango**	**1.66**	**297**	⇑P	**Pn**	**04 45 56.8**	**-1.5**
JOM	**Ohasama**	**1.67**	**266**	⇑P	**Pn**	**04 45 58.5**	**+0.1**
JOM				*e*S	**Sb**	**04 46 21.1**	**+0.1**
JMK	**Ichinoseki**	**1.85**	**250**	⇑P	**Pn**	**04 46 00.8**	**0.0**
JIO	**Ouri**	**2.01**	**235**	⇑P	**Pn**	**04 46 02.4**	**-0.6**
JTM	**Tenmabayashi**	**2.16**	**303**	⇑P	**Pn**	**04 46 04.6**	**-0.5**
JTM	**Tenmabayashi**	**2.16**	**303**	Pn	**Pn**	**04 46 04.5**	**-0.6**
JTM	**Tenmabayashi**	**2.16**	**303**	⇑P	**Pn**	**04 46 04.5**	**-0.6**
JRG	**Rokugo**	**2.19**	**265**	⇑P	**Pn**	**04 46 05.8**	**+0.3**
JAH	**Hinai**	**2.23**	**286**	⇑P	**Pn**	**04 46 06.4**	**+0.3**
ERM	**Erimo**	**2.40**	**355**	*c i*P	**Pn**	**04 46 07.9**	**-0.5**
ERM	**Erimo**	**2.40**	**355**		**Pn**	**04 46 07.9**	**-0.5**
ERM	**Erimo**	**2.40**	**355**	⇓P	**Pn**	**04 46 07.6**	**-0.8**
JYK	**Kaneyama**	**2.50**	**255**	⇑P	**Pn**	**04 46 10.2**	**+0.5**
JOT	**Ohata**	**2.54**	**315**	⇑P	**Pn**	**04 46 09.5**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.71**	**349**	P	**Pn**	**04 46 12.3**	**-0.3**
JNBK				*e*S	**Sn**	**04 46 45.8**	**+0.9**
JMM	**Marumori**	**2.71**	**231**	Pn	**Pn**	**04 46 11.6**	**-1.2**
JMM	**Marumori**	**2.71**	**231**	⇑P	**Pn**	**04 46 12.0**	**-0.7**
JKB	**Kayabe**	**2.91**	**322**	P	**Pn**	**04 46 15.6**	**+0.2**
JCH	**Churui**	**2.99**	**359**	P	**Pn**	**04 46 15.3**	**-1.2**
JCH				*e*S	**Sn**	**04 46 49.7**	**-2.2**
JEW	**Eniwo**	**3.55**	**336**		**Pn**	**04 46 24.2**	**0.0**
JEW	**Eniwo**	**3.55**	**336**	⇑P	**Pn**	**04 46 23.6**	**-0.6**
NMR	**Nemuro--Hokkai**	**4.12**	**24**	*e*P	**Pn**	**04 46 29.9**	**-2.1**
NMR				*e*S	**Sn**	**04 47 15.0**	**-4.7**
JYT	**Yasato**	**4.25**	**218**	Pn	**Pn**	**04 46 32.3**	**-1.6**
JYT	**Yasato**	**4.25**	**218**	⇑P	**Pn**	**04 46 32.2**	**-1.6**
JSD	**Sado**	**4.35**	**250**	Pn	**Pn**	**04 46 35.6**	**+0.4**
JSD	**Sado**	**4.35**	**250**	⇑P	**Pn**	**04 46 35.4**	**+0.2**
GLVR	**Golovnino**	**4.40**	**20**	*e*P	**Pn**	**04 46 33.2**	**-2.6**
GLVR				*e*S	**Sn**	**04 47 22.5**	**-4.1**
GLVR	comp=Z,1μm,0.4s			pmax	pmax		
GLVR	comp=Z,4μm,1.3s			pmax	pmax		
GLVR	comp=E,3μm,0.3s			smax	smax		
GLVR	comp=N,57μm,0.4s			smax	smax		
GLVR	comp=E,34μm,1.8s			smax	smax		
GLVR	comp=N,19μm,1.6s			smax	smax		
ASAJ	**Asahikawa**	**4.54**	**352**	Pn	**Pn**	**04 46 37.2**	**-0.6**
ASAJ	comp=N,26nm,0.3s,baz=202,slow=14,SNR=68			Sn	**Sn**	**04 47 35.5**	**+5.5**
JKA	**Kamikawa-asahi**	**4.54**	**352**	Pn	**Pn**	**04 46 37.0**	**-0.7**
JKA	comp=N,32nm,0.3s,baz=211,slow=32,SNR=4.1			Sn	**Sn**	**04 47 29.1**	**-0.9**
RUSJ	**Misakicho**	**4.68**	**16**	*e*P	**Pn**	**04 46 38.1**	**-1.6**
RUSJ				*e*S	**Sn**	**04 47 31.0**	**-2.5**
GRPR	**Tuman**	**4.70**	**21**	*e*P	**Pn**	**04 46 38.1**	**-1.9**
GRPR				*e*S	**Sn**	**04 47 28.9**	**-5.2**
GRPR	comp=Z,1μm,0.5s			pmax	pmax		
GRPR	comp=Z,2μm,1.1s			pmax	pmax		
GRPR	comp=N,6μm,0.5s			smax	smax		
GRPR	comp=E,3μm,0.3s			smax	smax		
GRPR	comp=E,8μm,1.4s			smax	smax		
GRPR	comp=N,12μm,1.5s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**4.76**	**21**	*e*P	**Pn**	**04 46 39.2**	**-1.7**
YUK				*e*S	**Sn**	**04 47 30.5**	**-5.1**
YUK	comp=Z,1μm,0.3s			pmax	pmax		
YUK	comp=Z,4μm,1.1s			pmax	pmax		
YUK	comp=E,3μm,0.6s			smax	smax		
YUK	comp=N,6μm,0.5s			smax	smax		
YUK	comp=N,26μm,1.5s			smax	smax		
YUK	comp=E,16μm,0.9s			smax	smax		
YUK	comp=Z,27μm,19.0s			MLR	MLR		
YUK	comp=N,50μm,18.0s			MLR	MLR		
YUK	comp=E,25μm,18.0s			MLR	MLR		
MJAR	**Matsushiro Arr**	**5.15**	**235**	Pn	**Pn**	**04 46 46.9**	**+0.6**
MJAR	comp=E,7.3nm,0.3s,baz=43,slow=11,SNR=306 **Matsushiro Arr**	**5.15**	**235**	P	**Pn**	**04 46 46.5**	**+0.3**
MJAR	**Matsushiro Arr**	**5.15**	**235**	Pn	**Pn**	**04 46 46.5**	**+0.3**
MAJO	**Matsushiro**	**5.15**	**235**	P	**Pn**	**04 46 47.0**	**+0.8**
MAJO	**Matsushiro**	**5.15**	**235**	Pn	**Pn**	**04 46 47.0**	**+0.8**
MAJO	**Matsushiro**	**5.15**	**235**	⇑P	**Pn**	**04 46 47.1**	**+0.9**
MAT	**Matsushiro**	**5.15**	**235**	P	**Pn**	**04 46 47.5**	**+1.3**
MAT				S	**Sn**	**04 47 49.2**	**+4.0**
MJB9	**Matsu-Tunnel**	**5.15**	**235**	Pn	**Pn**	**04 46 46.9**	**+0.6**
JGF	**Kuroka**	**6.28**	**232**		**Pn**	**04 47 01.4**	**-0.4**
JGF	**Kuroka**	**6.28**	**232**	⇑P	**Pn**	**04 47 02.4**	**+0.6**
KUR	**Kuril'sk**	**6.49**	**29**	*e*P	**Pn**	**04 47 03.0**	**-1.6**
KUR				*i* S	**Sn**	**04 48 13.0**	**-5.2**
KUR	comp=Z,6μm,3.7s			pmax	pmax		
KUR	comp=Z,425nm,1.0s			pmax	pmax		
KUR	comp=N,193nm,0.5s			pmax	pmax		
KUR	comp=E,202nm,0.7s			smax	smax		
KUR	comp=E,15μm,4.4s			smax	smax		
KUR	comp=N,13μm,1.9s			smax	smax		
KUR	comp=E,1μm,0.7s			smax	smax		
KUR	comp=N,1μm,0.6s			MLR	MLR		
KUR	comp=Z,24μm,13.0s			MLR	MLR		
KUR	comp=N,30μm,12.0s			MLR	MLR		
KUR	comp=E,19μm,10.0s			MLR	MLR		
INU	**Inuyama**	**6.66**	**232**	Pn	**Pn**	**04 47 07.5**	**+0.6**
INU	**Inuyama**	**6.66**	**232**	⇑P	**Pn**	**04 47 06.9**	**0.0**
JHJ2	**Mitsune**	**7.12**	**205**	Pn	**Pn**	**04 47 10.6**	**-2.7**
JHJ2	**Mitsune**	**7.12**	**205**	⇑P	**Pn**	**04 47 11.2**	**-2.1**
JHJ	**Hachijo jima 2**	**7.13**	**206**	Pn	**Pn**	**04 47 11.1**	**-2.3**
JHJ	comp=E,48nm,0.3s,baz=294,slow=24,SNR=22			Sn	**Sn**	**04 48 27.3**	**-6.7**
JHJ	comp=E,210nm,0.3s,baz=235,slow=23,SNR=9.4			LR	LR	04 49 47.3	
YSS	comp=E,15μm,21.5s,baz=48,slow=37 **Yuzh-Sakhalins**	**7.35**	**356**	*i*P	**Pn**	**04 47 15.7**	**-0.6**
YSS				*e*S	**Sn**	**04 48 38.3**	**-0.9**
YSS	comp=Z,1μm,4.6s			pmax	pmax		
YSS	comp=N,1μm,5.4s			pmax	pmax		
YSS	comp=Z,160nm,0.8s			pmax	pmax		
YSS	comp=Z,330nm,1.5s			smax	smax		
YSS	comp=Z,38μm,15.0s			MLR	MLR		
YSS	comp=N,27μm,13.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.35**	**356**	Pn	**Pn**	**04 47 16.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.35**	**356**	⇑P	**Pn**	**04 47 16.4**	**0.0**
TEY	**Ternei**	**7.41**	**319**	⇑*i*P	**Pn**	**04 47 18.3**	**+1.1**
TEY	comp=N,70nm,1.6s			pmax	pmax		
TEY	comp=E,80nm,1.6s			pmax	pmax		
TEY	comp=Z,100nm,1.5s			pmax	pmax		
TEY	comp=E,2μm,13.0s			MLR	MLR		
TEY	comp=N,2μm,17.0s			MLR	MLR		
TEY	comp=Z,4μm,14.0s			MLR	MLR		
JWT	**Wachi**	**7.72**	**238**	Pn	**Pn**	**04 47 21.8**	**+0.2**
JWT	**Wachi**	**7.72**	**238**	⇑P	**Pn**	**04 47 22.8**	**+1.2**
VLA	**Vladivostok**	**9.37**	**296**	*c i*P	**Pn**	**04 47 46.3**	**+2.3**
VLA	comp=Z,212nm,1.2s			pmax	pmax		
JHS	**Saijyo**	**9.43**	**244**	Pn	**Pn**	**04 47 45.4**	**+0.4**
JHS	**Saijyo**	**9.43**	**244**	⇑P	**Pn**	**04 47 46.4**	**+1.4**
UGL	**Uglegorsk**	**9.51**	**354**	*e*P	**Pn**	**04 47 45.2**	**-0.7**
UGL				*e*S	**Sn**	**04 49 29.6**	**-2.6**
UGL	comp=Z,800nm,34.0s			pmax	pmax		
UGL	comp=Z,173nm,1.0s			pmax	pmax		
UGL	comp=N,3μm,3.0s			smax	smax		
UGL	comp=E,4μm,4.4s			smax	smax		
UGL	comp=Z,19μm,13.0s			MLR	MLR		
UGL	comp=E,14μm,22.0s			MLR	MLR		
UGL	comp=N,15μm,14.0s			MLR	MLR		
JMN	**Monobe**	**9.67**	**236**	Pn	**Pn**	**04 47 48.6**	**+0.3**
JMN	**Monobe**	**9.67**	**236**	⇑P	**Pn**	**04 47 47.9**	**-0.5**
USA0B	**Ussuriysk Arra**	**9.69**	**302**	P	**Pn**	**04 47 47.1**	**-1.3**
USA0B	**Ussuriysk Arra**	**9.69**	**302**	Pn	**Pn**	**04 47 47.1**	**-1.3**
USRK	**Ussuriysk Ar.**	**9.69**	**302**	Pn	**Pn**	**04 47 49.5**	**+1.0**
USRK	baz=105,slow=14,SNR=144 **Ussuriysk Ar.**	**9.69**	**302**	P	**Pn**	**04 47 47.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**9.69**	**302**	Pn	**Pn**	**04 47 47.8**	**-0.6**
MSHR	**Mys Shultsa**	**9.74**	**292**	*c i*P	**Pn**	**04 47 49.9**	**+0.8**
MSHR	comp=Z,88nm,1.3s			pmax	pmax		
ULDB	**Ullung-do Bore** SNR=28	**10.06**	**262**	P	**Pn**	**04 47 56.1**	**+2.5**
ULDB	**Ullung-do Bore** SNR=28	**10.06**	**262**	P	**Pn**	**04 47 56.1**	**+2.5**
ULDB	**Ullung-do Bore** SNR=28	**10.06**	**262**	P	**Pn**	**04 47 56.1**	**+2.5**
TYV	**Tymovskoe**	**11.26**	**357**	*e*P	**Pn**	**04 48 09.8**	**-0.1**
TYV				*e*S	**Sn**	**04 50 15.8**	**+0.7**
TYV	comp=Z,1μm,4.3s			pmax	pmax		
TYV	comp=Z,58nm,1.0s			pmax	pmax		
TYV	comp=E,43nm,1.4s			smax	smax		
TYV	comp=N,2μm,6.1s			smax	smax		
TYV	comp=Z,26μm,18.0s			MLR	MLR		
IMWB	**Imwonan-gil** SNR=11	**11.32**	**262**	P	**Pn**	**04 48 15.0**	**+4.2**
IMWB	**Imwonan-gil** SNR=11	**11.32**	**262**	P	**Pn**	**04 48 15.0**	**+4.2**
IMWB	**Imwonan-gil** SNR=25	**11.32**	**262**	P	Pn	04 48 16.0	+5.2
IMWB	**Imwonan-gil** SNR=11	**11.32**	**262**	P	**Pn**	**04 48 15.0**	**+4.2**
IMWB	**Imwonan-gil** SNR=25	**11.32**	**262**	P	Pn	04 48 16.0	+5.2
UJN	**ULJIN** SNR=28	**11.34**	**261**	P	**Pn**	**04 48 14.2**	**+3.2**
UJN	**ULJIN** SNR=28	**11.34**	**261**	P	**Pn**	**04 48 14.2**	**+3.2**
UJN	**ULJIN** SNR=7.2	**11.34**	**261**	P	Pn	04 48 16.0	+5.0
UJN	**ULJIN** SNR=28	**11.34**	**261**	P	**Pn**	**04 48 14.2**	**+3.2**
UJN	**ULJIN** SNR=7.2	**11.34**	**261**	P	Pn	04 48 16.0	+5.0
KSULJ	**Uljin** SNR=29	**11.43**	**260**	P	**Pn**	**04 48 16.0**	**+3.7**
KSULJ	**Uljin** SNR=29	**11.43**	**260**	P	**Pn**	**04 48 16.0**	**+3.7**
KSULJ	**Uljin** SNR=29	**11.43**	**260**	P	**Pn**	**04 48 16.0**	**+3.7**
MDJ	**Mudanjiang**	**11.43**	**300**	P	**Pn**	**04 48 12.7**	**+0.4**
MDJ				pP		04 48 16.6	
MDJ				sP		04 48 18.5	
MDJ				PP	**PnPn**	**04 48 20.8**	**+0.9**
MDJ				S	**Sn**	**04 50 21.3**	**+1.8**
MDJ				SS	**SnSn**	**04 50 34.6**	**+3.3**
MDJ	comp=Z,90nm,1.4s			pmax	pmax		
MDJ	comp=Z,4μm,6.0s			pmax	pmax		
MDJ	comp=Z,30μm,13.3s			L	L		
MDJ	comp=Z,48μm,13.3s			L	L		
MDJ	comp=Z,63μm,14.1s			L	L		
MDJ	**Mudanjiang**	**11.43**	**300**		**Pn**	**04 48 11.6**	**-0.7**
OKEB	**Okgye-meyeon** SNR=48	**11.49**	**265**	P	Pn	04 48 18.2	+5.0
OKEB	**Okgye-meyeon** SNR=48	**11.49**	**265**	P	Pn	04 48 18.2	+5.0
KSJMJ	**Jumunjin** SNR=51	**11.60**	**266**	P	**Pn**	**04 48 17.3**	**+2.7**
KSJMJ	**Jumunjin** SNR=51	**11.60**	**266**	P	**Pn**	**04 48 17.3**	**+2.7**
KSJMJ	**Jumunjin** SNR=13	**11.60**	**266**	P	Pn	04 48 19.9	+5.2
KSJMJ	**Jumunjin** SNR=51	**11.60**	**266**	P	**Pn**	**04 48 17.3**	**+2.7**
KSJMJ	**Jumunjin** SNR=13	**11.60**	**266**	P	Pn	04 48 19.9	+5.2
KSPHA	**Pohang** SNR=65	**11.63**	**257**	P	**Pn**	**04 48 18.0**	**+2.9**
KSPHA	**Pohang** SNR=65	**11.63**	**257**	P	**Pn**	**04 48 18.0**	**+2.9**
KSPHA	**Pohang** SNR=65	**11.63**	**257**	P	**Pn**	**04 48 18.0**	**+2.9**
KSTBA	**Taebaek** SNR=46	**11.65**	**262**	P	**Pn**	**04 48 18.7**	**+3.3**
KSTBA	**Taebaek** SNR=46	**11.65**	**262**	P	**Pn**	**04 48 18.7**	**+3.3**
KSTBA	**Taebaek** SNR=46	**11.65**	**262**	P	**Pn**	**04 48 18.7**	**+3.3**
KSSKC	**Sokcho** SNR=34	**11.70**	**268**	P	**Pn**	**04 48 18.4**	**+2.4**
KSSKC	**Sokcho** SNR=34	**11.70**	**268**	P	**Pn**	**04 48 18.4**	**+2.4**
KSSKC	**Sokcho** SNR=8.0	**11.70**	**268**	P	**Pn**	**04 48 20.5**	**+4.5**
KSSKC	**Sokcho** SNR=34	**11.70**	**268**	P	**Pn**	**04 48 18.4**	**+2.4**
KSSKC	**Sokcho** SNR=8.0	**11.70**	**268**	P	**Pn**	**04 48 20.5**	**+4.5**
KSDGY	**Daegwallycong** SNR=70	**11.71**	**265**	P	**Pn**	**04 48 19.0**	**+2.7**
KSDGY	**Daegwallycong** SNR=70	**11.71**	**265**	P	**Pn**	**04 48 19.0**	**+2.7**
KSDGY	**Daegwallycong** SNR=70	**11.71**	**265**	P	**Pn**	**04 48 19.0**	**+2.7**
KSADO	**Andong** SNR=38	**11.88**	**259**	P	**Pn**	**04 48 22.0**	**+3.6**
KSADO	**Andong** SNR=38	**11.88**	**259**	P	**Pn**	**04 48 22.0**	**+3.6**
KSADO	**Andong** SNR=38	**11.88**	**259**	P	**Pn**	**04 48 22.0**	**+3.6**
SEHB	**SEOHWA** SNR=16	**11.91**	**268**	P	**Pn**	**04 48 21.3**	**+2.4**
SEHB	**SEOHWA** SNR=65	**11.91**	**268**	P	**Pn**	**04 48 21.3**	**+2.4**
SEHB	**SEOHWA** SNR=16	**11.91**	**268**	P	**Pn**	**04 48 21.3**	**+2.4**
KSUSN	**Ulsan** SNR=11	**12.00**	**255**	P	**Pn**	**04 48 23.6**	**+3.4**
KSUSN	**Ulsan** SNR=11	**12.00**	**255**	P	**Pn**	**04 48 23.6**	**+3.4**
KSUSN	**Ulsan** SNR=11	**12.00**	**255**	P	**Pn**	**04 48 23.6**	**+3.4**
KSYOW	**Yeongwol** SNR=23	**12.01**	**263**	P	**Pn**	**04 48 23.9**	**+3.6**
KSYOW	**Yeongwol** SNR=41	**12.01**	**263**	P	**Pn**	**04 48 23.6**	**+3.3**
KSYOW	**Yeongwol** SNR=41	**12.01**	**263**	P	**Pn**	**04 48 23.6**	**+3.3**
JNU	**Nakatsue** comp=Z,1.7nm,0.3s,baz=71,slow=18,SNR=9.5	**12.02**	**241**	Pn	**Pn**	**04 48 19.4**	**-1.0**
JNU	**Nakatsue**	**12.02**	**241**	Pn	**Pn**	**04 48 20.5**	**0.0**
JNU	**Nakatsue**	**12.02**	**241**	⇑P	**Pn**	**04 48 20.1**	**-0.3**
KSYOC	**YEONGCHEON** SNR=63	**12.03**	**257**	P	**Pn**	**04 48 23.5**	**+3.0**
KSYOC	**YEONGCHEON** SNR=7.9	**12.03**	**257**	P	Pn	04 48 26.9	+6.3
KSYOC	**YEONGCHEON** SNR=63	**12.03**	**257**	P	**Pn**	**04 48 23.5**	**+3.0**
KSYOC	**YEONGCHEON** SNR=7.9	**12.03**	**257**	P	Pn	04 48 26.9	+6.3
KSIJA	**INJE** SNR=55	**12.08**	**267**	P	**Pn**	**04 48 24.3**	**+3.2**
KSIJA	**INJE** SNR=55	**12.08**	**267**	P	**Pn**	**04 48 24.3**	**+3.2**
KSIJA	**INJE** SNR=55	**12.08**	**267**	P	**Pn**	**04 48 24.3**	**+3.2**
KSEUS	**ULSEONG** SNR=47	**12.09**	**259**	P	**Pn**	**04 48 25.7**	**+4.3**
KSEUS	**ULSEONG** SNR=47	**12.09**	**259**	P	**Pn**	**04 48 25.7**	**+4.3**
KSEUS	**ULSEONG** SNR=47	**12.09**	**259**	P	**Pn**	**04 48 25.7**	**+4.3**
KSDAG	**Daegu** SNR=14	**12.15**	**256**	P	**Pn**	**04 48 26.0**	**+3.8**
KSDAG	**Daegu** SNR=14	**12.15**	**256**	P	**Pn**	**04 48 26.0**	**+3.8**
KSDAG	**Daegu** SNR=14	**12.15**	**256**	P	**Pn**	**04 48 26.0**	**+3.8**
GRNR	**Gornyy**	**12.19**	**338**	⇓*i*P	**Pn**	**04 48 22.6**	**-0.1**
GRNR				*e*S	**Sn**	**04 50 38.9**	**+0.8**
GRNR	comp=N,90nm,1.1s			pmax	pmax		
GRNR	comp=E,60nm,1.1s			pmax	pmax		
GRNR	comp=Z,90nm,1.1s			pmax	pmax		
GRNR	comp=E,10.0nm,1.1s			smax	smax		
GRNR	comp=E,22μm,16.0s			MLR	MLR		
GRNR	comp=N,9μm,18.0s			MLR	MLR		
GRNR	comp=Z,20μm,15.0s			MLR	MLR		
KSBUS	**Busan** SNR=10	**12.20**	**254**	P	**Pn**	**04 48 27.6**	**+4.8**
KSBUS	**Busan** SNR=16	**12.20**	**254**	P	**Pn**	**04 48 27.0**	**+4.1**
KSBUS	**Busan** SNR=10	**12.20**	**254**	P	**Pn**	**04 48 27.6**	**+4.8**
KSBUS	**Busan** SNR=16	**12.20**	**254**	P	**Pn**	**04 48 27.0**	**+4.1**
KSBUS	**Busan** SNR=10	**12.20**	**254**	P	**Pn**	**04 48 27.6**	**+4.8**
KSBUS	**Busan** SNR=16	**12.20**	**254**	P	**Pn**	**04 48 27.0**	**+4.1**
KSWJU	**Wonju** SNR=44	**12.26**	**264**	P	**Pn**	**04 48 28.0**	**+4.3**
KSWJU	**Wonju** SNR=44	**12.26**	**264**	P	**Pn**	**04 48 28.0**	**+4.3**
KSWJU	**Wonju** SNR=18	**12.26**	**264**	P	Pn	04 48 29.0	+5.3
KSWJU	**Wonju** SNR=44	**12.26**	**264**	P	**Pn**	**04 48 28.0**	**+4.3**
KSWJU	**Wonju** SNR=18	**12.26**	**264**	P	Pn	04 48 29.0	+5.3
JTU	**Tsushima**	**12.31**	**250**	Pn	**Pn**	**04 48 24.2**	**-0.2**
JTU	**Tsushima**	**12.31**	**250**	⇑P	**Pn**	**04 48 25.6**	**+1.2**
KSBSA	**Busan_acc** SNR=17	**12.32**	**253**	P	**Pn**	**04 48 28.8**	**+4.3**
KSBSA	**Busan_acc** SNR=17	**12.32**	**253**	P	**Pn**	**04 48 28.8**	**+4.3**
KSRS	**Korea Array**	**12.35**	**265**	Pn	**Pn**	**04 48 27.1**	**+2.3**
KSRS	comp=Z,1.3nm,0.3s,baz=81,slow=11,SNR=51 baz=73,slow=24,SNR=2.1			Sn	**Sn**	**04 50 42.4**	**+0.4**
KSCHC	**Chuncheon** SNR=26	**12.35**	**266**	P	**Pn**	**04 48 28.0**	**+3.0**
KSCHC	**Chuncheon** SNR=26	**12.35**	**266**	P	**Pn**	**04 48 28.0**	**+3.0**
KSCHC	**Chuncheon** SNR=26	**12.35**	**266**	P	**Pn**	**04 48 28.0**	**+3.0**
HWCB	**Hwacheon** SNR=32	**12.37**	**269**	P	**Pn**	**04 48 28.0**	**+2.8**
HWCB	**Hwacheon** SNR=32	**12.37**	**269**	P	**Pn**	**04 48 28.0**	**+2.8**
HWCB	**Hwacheon** SNR=32	**12.37**	**269**	P	**Pn**	**04 48 28.0**	**+2.8**
MIYA	**Miryang-si** SNR=20	**12.37**	**255**	P	**Pn**	**04 48 30.0**	**+4.8**
MIYA	**Miryang-si** SNR=20	**12.37**	**255**	P	**Pn**	**04 48 30.0**	**+4.8**
MIYA	**Miryang-si** SNR=20	**12.37**	**255**	P	**Pn**	**04 48 30.0**	**+4.8**
KS19	**Wonju Array Si**	**12.38**	**265**		**Pn**	**04 48 25.1**	**-0.2**
KSAR	**Wonju Array Be**	**12.38**	**265**	P	**Pn**	**04 48 24.9**	**-0.4**
KSAR	**Wonju Array Be**	**12.38**	**265**	Pn	**Pn**	**04 48 24.9**	**-0.4**
KSCHJ	**Chungju** SNR=31	**12.47**	**262**	P	**Pn**	**04 48 28.9**	**+2.3**
KSCHJ	**Chungju** SNR=30	**12.47**	**262**	P	**Pn**	**04 48 29.0**	**+2.4**
KSCHJ	**Chungju** SNR=20	**12.47**	**262**	P	**Pn**	**04 48 29.8**	**+3.3**
KSCHJ	**Chungju** SNR=20	**12.47**	**262**	P	**Pn**	**04 48 30.0**	**+3.4**
KSCHJ	**Chungju** SNR=20	**12.47**	**262**	P	**Pn**	**04 48 29.8**	**+3.3**
KSCHJ	**Chungju** SNR=30	**12.47**	**262**	P	**Pn**	**04 48 29.0**	**+2.4**
KSMGY	**Mungyeong** SNR=15	**12.47**	**261**	P	**Pn**	**04 48 30.2**	**+3.7**
KSMGY	**Mungyeong** SNR=34	**12.47**	**261**	P	**Pn**	**04 48 29.5**	**+2.9**
KSMGY	**Mungyeong** SNR=34	**12.47**	**261**	P	**Pn**	**04 48 29.5**	**+2.9**
KSCWO	**Cheorwon** SNR=12	**12.52**	**268**	P	**Pn**	**04 48 30.9**	**+3.7**
KSCWO	**Cheorwon** SNR=35	**12.52**	**268**	P	**Pn**	**04 48 30.8**	**+3.6**
KSCWO	**Cheorwon** SNR=35	**12.52**	**268**	P	**Pn**	**04 48 30.8**	**+3.6**
JCJ	**Chichijima**	**12.54**	**185**	Pn	**Pn**	**04 48 23.6**	**-3.9**
JCJ	comp=Z,16nm,0.3s,baz=274,slow=23,SNR=13 comp=Z,19nm,0.3s,baz=282,slow=23,SNR=2.7			Sn	Sn	04 50 33.0	-14
KSGIC	**Gimchen** SNR=27	**12.63**	**259**	P	**Pn**	**04 48 31.9**	**+3.2**
KSGIC	**Gimchen** SNR=27	**12.63**	**259**	P	**Pn**	**04 48 31.9**	**+3.2**
KSMAS	**Masan** SNR=24	**12.63**	**254**	P	**Pn**	**04 48 33.4**	**+4.6**
KSMAS	**Masan** SNR=24	**12.63**	**254**	P	**Pn**	**04 48 33.4**	**+4.6**
KSCPR	**CHUPUNGNYEONG** SNR=16	**12.68**	**259**	P	**Pn**	**04 48 32.6**	**+3.1**
KSCPR	**CHUPUNGNYEONG** SNR=36	**12.68**	**259**	P	**Pn**	**04 48 32.3**	**+2.9**
KSCPR	**CHUPUNGNYEONG** SNR=36	**12.68**	**259**	P	**Pn**	**04 48 32.3**	**+2.9**
KLR	**Kul'dur**	**12.72**	**323**	*c i*P	**Pn**	**04 48 29.4**	**-0.5**
KLR	comp=Z,131nm,1.3s			pmax	pmax		
KSBON	**Boeun** SNR=41	**12.72**	**261**	P	**Pn**	**04 48 32.5**	**+2.5**
KSBON	**Boeun** SNR=41	**12.72**	**261**	P	**Pn**	**04 48 32.5**	**+2.5**
KUJA	**Jangpyeong** SNR=16	**12.73**	**253**	P	**Pn**	**04 48 34.0**	**+3.9**
KUJA	**Jangpyeong** SNR=16	**12.73**	**253**	P	**Pn**	**04 48 34.0**	**+3.9**
OKCB	**Cheongsan-myeo** SNR=25	**12.77**	**260**	P	**Pn**	**04 48 34.0**	**+3.3**
OKCB	**Cheongsan-myeo** SNR=25	**12.77**	**260**	P	**Pn**	**04 48 34.0**	**+3.3**
OKCB	**Cheongsan-myeo** SNR=25	**12.77**	**260**	P	**Pn**	**04 48 34.0**	**+3.3**
KSICN	**Icheon** SNR=34	**12.78**	**265**	P	**Pn**	**04 48 33.9**	**+3.2**
KSICN	**Icheon** SNR=6.7	**12.78**	**265**	P	**Pn**	**04 48 35.4**	**+4.7**
KSICN	**Icheon** SNR=34	**12.78**	**265**	P	**Pn**	**04 48 33.9**	**+3.2**
KSICN	**Icheon** SNR=6.7	**12.78**	**265**	P	**Pn**	**04 48 35.4**	**+4.7**
EURB	**Uiryeong-eup** SNR=27	**12.78**	**255**	P	**Pn**	**04 48 35.0**	**+4.2**

EURB	**Uiryeong-eup**	**12.78**	**255**	P		**Pn**	**04 48 35.0**	**+4.2**
	SNR=27								
KSDDC	**Dongducheon**	**12.91**	**268**	P		**Pn**	**04 48 37.3**	**+4.7**
	SNR=13								
KSDDC	**Dongducheon**	**12.91**	**268**	P		**Pn**	**04 48 37.3**	**+4.7**
	SNR=13								
YNCB	**YEONCHEON**	**12.98**	**268**	P		**Pn**	**04 48 35.6**	**+2.1**
	SNR=27								
YNCB	**YEONCHEON**	**12.98**	**268**	P		**Pn**	**04 48 35.6**	**+2.1**
	SNR=27								
KSCEA	**Cheonan**	**13.03**	**263**	P		**Pn**	**04 48 37.4**	**+3.2**
	SNR=15								
KSCEA	**Cheonan**	**13.03**	**263**	P		**Pn**	**04 48 37.4**	**+3.2**
	SNR=15								
KSSOD	**Songwoldong**	**13.05**	**266**	P		**P**	**04 48 40.7**	**-4.1**
	SNR=18								
KSSOD	**Songwoldong**	**13.05**	**266**	P		**P**	**04 48 40.7**	**-4.1**
	SNR=18								
TJN	**Taejon**	**13.09**	**261***c*	*i*P		**Pn**	**04 48 36.5**	**+1.5**
PYTK	**Pyeongtaek**	**13.10**	**264**	P		**P**	**04 48 41.8**	**-3.5**
	SNR=11								
PYTK	**Pyeongtaek**	**13.10**	**264**	P		**P**	**04 48 41.8**	**-3.5**
	SNR=11								
HAMB	**Hamyang**	**13.11**	**257**	P		**Pn**	**04 48 40.0**	**+4.7**
	SNR=39								
HAMB	**Hamyang**	**13.11**	**257**	P		**P**	**04 48 41.0**	**-4.4**
	SNR=9.9								
HAMB	**Hamyang**	**13.11**	**257**	P		**Pn**	**04 48 40.0**	**+4.7**
	SNR=39								
HAMB	**Hamyang**	**13.11**	**257**	P		**P**	**04 48 41.0**	**-4.4**
	SNR=9.9								
KSSEO	**Seoul**	**13.11**	**266**	P		**Pn**	**04 48 38.4**	**+3.1**
	SNR=30								
KSSEO	**Seoul**	**13.11**	**266**	P		**P**	**04 48 40.8**	**-4.6**
	SNR=11								
KSSEO	**Seoul**	**13.11**	**266**	P		**Pn**	**04 48 40.0**	**+4.7**
	SNR=30								
KSSEO	**Seoul**	**13.11**	**266**	P		**Pn**	**04 48 38.4**	**+3.1**
	SNR=30								
KSSEO	**Seoul**	**13.11**	**266**	P		**P**	**04 48 40.8**	**-4.6**
	SNR=11								
KSSEO	**Seoul**	**13.11**	**266**	P		**Pn**	**04 48 40.0**	**+4.7**
	SNR=30								
KSSWO	**Suwon**	**13.13**	**265**	P		P	04 48 40.9	-4.7
	SNR=31								
KSSWO	**Suwon**	**13.13**	**265**	P		P	04 48 40.9	-4.7
	SNR=31								
KSMUS	**Musan**	**13.14**	**268**	P		**Pn**	**04 48 37.6**	**+1.9**
	SNR=25								
KSMUS	**Musan**	**13.14**	**268**	P		**Pn**	**04 48 37.6**	**+1.9**
	SNR=25								
KOJ2	**Gongju-si**	**13.23**	**261**	P		**Pn**	**04 48 41.0**	**+4.1**
	SNR=40								
KOJ2	**Gongju-si**	**13.23**	**261**	P		**Pn**	**04 48 41.0**	**+4.1**
	SNR=40								
KSNAH	**Namhae**	**13.26**	**254**	P		**Pn**	**04 48 41.0**	**+3.6**
	SNR=8.7								
KSNAH	**Namhae**	**13.26**	**254**	P		**Pn**	**04 48 41.0**	**+3.6**
	SNR=8.7								
KSJEO	**Jeonju**	**13.29**	**259**	P		**Pn**	**04 48 42.0**	**+4.2**
	SNR=18								
KSJEO	**Jeonju**	**13.29**	**259**	P		**Pn**	**04 48 42.0**	**+4.2**
	SNR=18								
JSU	**Suzuyama**	**13.31**	**237**	Pn		**Pn**	**04 48 37.5**	**-0.5**
JSU	**Suzuyama**	**13.31**	**237**	⇑P		**Pn**	**04 48 37.8**	**-0.3**
SHHB	**Siheung-si**	**13.31**	**265**	P		**Pn**	**04 48 41.0**	**+2.9**
	SNR=21								
SHHB	**Siheung-si**	**13.31**	**265**	P		**Pn**	**04 48 41.0**	**+2.9**
	SNR=21								
HAWB	**Hwaseong-si**	**13.33**	**264**	P		**Pn**	**04 48 43.0**	**+4.7**
	SNR=13								
HAWB	**Hwaseong-si**	**13.33**	**264**	P		**Pn**	**04 48 43.0**	**+4.7**
	SNR=13								
INCN	**Inchon**	**13.33**	**266**	P		**Pn**	**04 48 38.2**	**-0.1**
INCN	**Inchon**	**13.33**	**266**			**Pn**	**04 48 38.2**	**-0.1**
INCN	**Inchon**	**13.33**	**266**	P		**Pn**	**04 48 39.2**	**+0.8**
INCN				P		**Pn**	**04 48 39.2**	**+0.8**
INCN				P		**Pn**	**04 48 39.2**	**+0.8**
GWYB	**Gwangyang**	**13.38**	**255**	P		**Pn**	**04 48 43.0**	**+4.0**
	SNR=19								
GWYB	**Gwangyang**	**13.38**	**255**	P		**Pn**	**04 48 43.0**	**+4.0**
	SNR=19								
NAWB	**Namwon**	**13.41**	**257**	P		**Pn**	**04 48 43.0**	**+3.6**
	SNR=28								
NAWB	**Namwon**	**13.41**	**257**	P		**Pn**	**04 48 43.0**	**+3.6**
	SNR=28								
KSGAH	**Ganghwa**	**13.42**	**267**	P		**P**	**04 48 44.8**	**-4.1**
	SNR=16								
KSGAH	**Ganghwa**	**13.42**	**267**	P		**P**	**04 48 44.8**	**-4.1**
	SNR=16								
SUCA	**Sunchang**	**13.62**	**257**	P		**P**	**04 48 47.0**	**-4.1**
	SNR=16								
SUCA	**Sunchang**	**13.62**	**257**	P		**P**	**04 48 47.0**	**-4.1**
	SNR=16								
KSGUS	**GUNSAN**	**13.65**	**260**	P		**Pn**	**04 48 45.5**	**+2.9**
	SNR=10								
KSGUS	**GUNSAN**	**13.65**	**260**	P		**Pn**	**04 48 45.5**	**+2.9**
	SNR=10								
KSSES	**Seosan**	**13.66**	**263**	P		**Pn**	**04 48 46.0**	**+3.2**
	SNR=31								
KSSES	**Seosan**	**13.66**	**263**	P		**Pn**	**04 48 46.0**	**+3.2**
	SNR=31								
NKL	**Nikolayevsk**	**13.66**	**353**	*e*P		**Pn**	**04 48 40.1**	**-2.6**
NKL				*e*S		**Sn**	**04 51 11.1**	**-2.9**
NKL				pmax	pmax			
	comp=E,63nm,0.7s								
NKL				pmax	pmax			
	comp=Z,124nm,1.2s								
NKL				smax	smax				
	comp=E,79nm,0.6s								
NKL				MLR	MLR				
	comp=E,2μm,16.0s								
NKL				MLR	MLR				
	comp=Z,9μm,15.0s								
KSSCH	**SUNCHEON**	**13.67**	**256**	P		**Pn**	**04 48 46.1**	**+3.2**
	SNR=12								
KSSCH	**SUNCHEON**	**13.67**	**256**	P		**Pn**	**04 48 46.1**	**+3.2**
	SNR=12								
PORA	**Boryeong**	**13.72**	**261**	P		**P**	**04 48 49.0**	**-3.2**
	SNR=16								
PORA	**Boryeong**	**13.72**	**261**	P		**P**	**04 48 49.0**	**-3.2**
	SNR=16								
KSJEU	**Jeongeup**	**13.73**	**258**	P		**Pn**	**04 48 47.1**	**+3.3**
	SNR=17								
KSJEU	**Jeongeup**	**13.73**	**258**	P		**Pn**	**04 48 47.1**	**+3.3**
	SNR=17								
KSDEI	**Deokjeokdo**	**13.80**	**266**	P		**Pn**	**04 48 47.5**	**+2.9**
	SNR=12								
KSDEI	**Deokjeokdo**	**13.80**	**266**	P		**P**	**04 48 51.0**	**-2.1**
	SNR=21								
KSDEI	**Deokjeokdo**	**13.80**	**266**	P		**Pn**	**04 48 47.5**	**+2.9**
	SNR=12								
KSDEI	**Deokjeokdo**	**13.80**	**266**	P		**P**	**04 48 51.0**	**-2.1**
	SNR=21								
BOSB	**Boseong-gun**	**13.82**	**255**	P		**Pn**	**04 48 48.0**	**+3.1**
	SNR=29								
BOSB	**Boseong-gun**	**13.82**	**255**	P		**Pn**	**04 48 48.0**	**+3.1**
	SNR=29								
KSKWJ	**Gwangju**	**13.82**	**256**	P		**Pn**	**04 48 48.2**	**+3.2**
	SNR=27								
KSKWJ	**Gwangju**	**13.82**	**256**	P		**Pn**	**04 48 48.2**	**+3.2**
	SNR=27								
KOHB	**KOHEUNG**	**13.83**	**254**	P		**Pn**	**04 48 47.7**	**+2.5**
	SNR=12								
OKH	**Okha**	**13.94**	**359***c*	*i*P		**Pn**	**04 48 45.1**	**-1.4**
OKH				*i* S		**Sn**	**04 51 18.4**	**-2.2**
OKH				pmax	pmax			
	comp=Z,400nm,11.2s								
OKH				smax	smax				
	comp=E,2μm,14.6s								
OKH				smax	smax				
	comp=N,1μm,11.2s								
OKH				MLR	MLR				
	comp=Z,29μm,18.0s								
OKH				MLR	MLR				
	comp=N,46μm,17.0s								
OKH				MLR	MLR				
	comp=E,45μm,19.0s								
SMKB	**Mukjeong-gil**	**13.94**	**259**	P		**Pn**	**04 48 50.0**	**+3.4**
	SNR=8.8								
SMKB	**Mukjeong-gil**	**13.94**	**259**	P		**Pn**	**04 48 50.0**	**+3.4**
	SNR=8.8								
GOCB	**Gochang-gun**	**14.04**	**258**	P		**P**	**04 48 52.0**	**-3.7**
	SNR=13								
GOCB	**Gochang-gun**	**14.04**	**258**	P		**P**	**04 48 52.0**	**-3.7**
	SNR=13								
CN2	**Changchun**	**14.07**	**293**	*e*P		**Pn**	**04 48 48.2**	**-0.2**
CN2				*e*S		**Sn**	**04 51 23.3**	**-0.8**
CN2				pmax	pmax			
	comp=E,70nm,1.5s								
CN2				pmax	pmax				
	comp=E,4μm,10.0s								
CN2				L	L				
	comp=E,21μm,15.0s								
CN2				L	L				
	comp=E,26μm,15.0s								
CN2				L	L				
	comp=E,27μm,16.0s								
SKR	**Severo-Kuril's**	**14.20**	**35**	*e*P		**Pn**	**04 48 45.4**	**-4.6**
SKR				pmax	pmax				
	comp=Z,400nm,11.4s								
SKR				MLR	MLR				
	comp=Z,6μm,16.0s								
SKR				MLR	MLR				
	comp=Z,6μm,17.0s								
KSGBI	**Gyogryolbido**	**14.39**	**264**	P		**Pn**	**04 48 55.3**	**+2.5**
	SNR=11								
KSGBI	**Gyogryolbido**	**14.39**	**264**	P		**Pn**	**04 48 55.3**	**+2.5**
	SNR=11								
KSBAR	**Backryungdo**	**14.70**	**270**	P		**P**	**04 49 00.8**	**-2.2**
	SNR=15								
KSBAR	**Backryungdo**	**14.70**	**270**	P		**P**	**04 49 01.6**	**-1.4**
	SNR=9.6								
DACB	**Daecheong-do R**	**14.74**	**269**	P		**P**	**04 49 02.1**	**-1.4**
	SNR=13								
SNY	**Shenyang**	**15.22**	**285**	⇑P		**Pn**	**04 49 03.6**	**-0.4**
SNY				pmax	pmax				
	comp=Z,44nm,1.7s								
SNY				pmax	pmax				
	comp=Z,6μm,11.6s								
SNY				L	L				
	comp=Z,19μm,15.3s								
SNY				L	L				
	comp=Z,33μm,16.5s								
SNY				L	L				
	comp=Z,46μm,16.5s								
PEA0B	**Petropavlovsk-**	**16.65**	**31***c*	*e*P		**Pn**	**04 49 21.0**	**-1.3**
PETK	**Petropavlovsk-**	**16.65**	**31**	Pn		**Pn**	**04 49 21.7**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=206,slow=5.4,SNR=39								
PETK				LR	LR		04 55 14.8		
	comp=Z,9μm,21.4s,baz=219,slow=35								
DL2	**Dalian**	**16.91**	**275**	P		**Pn**	**04 49 25.9**	**+0.2**
DL2				pP		**pP**	**04 49 32.6**	**+0.7**
DL2				sP		**pwP**	**04 49 36.9**	**+2.1**
DL2				S		**Sn**	**04 52 32.4**	**-0.7**
DL2				pmax	pmax				
	comp=Z,360nm,1.4s								
DL2				pmax	pmax				
	comp=Z,4μm,4.1s								
DL2				L	L				
	comp=Z,18μm,12.9s								
DL2				L	L				
	comp=Z,14μm,15.7s								
DL2				L	L				
	comp=Z,28μm,16.9s								
PET	**Petropavlovsk**	**16.98**	**33***d*	*i*P		**P**	**04 49 29.6**	**+1.4**
PET				*e*S		**Sn**	**04 52 35.7**	**+1.1**
PET				pmax	pmax				
	comp=Z,2μm,4.3s								
PET				pmax	pmax				
	comp=Z,450nm,1.3s								
PET				pmax	pmax				
	comp=Z,2μm,10.8s								
PET				MLR	MLR				
	comp=Z,11μm,17.0s								
PET				MLR	MLR				
	comp=Z,11μm,15.0s								
PET	**Petropavlovsk**	**16.98**	**33**	Pn		**Pn**	**04 49 25.2**	**-1.2**
PET				IAmb	IAmb		04 49 44.5		
	comp=Z,734nm,1.4s								
PET	**Petropavlovsk**	**16.98**	**33**	⇓p		**P**	**04 49 29.2**	**+1.0**
ZEA	**Zeya**	**17.91**	**327**	*e*P		**Pn**	**04 49 34.5**	**-3.4**
ZEA				pmax	pmax				
	comp=N,150nm,0.9s								
ZEA				pmax	pmax				
	comp=E,70nm,0.9s								
ZEA				pmax	pmax				
	comp=Z,180nm,1.2s								
ZEA				pmax	pmax				
	comp=E,800nm,11.4s								
ZEA				pmax	pmax				
	comp=N,700nm,5.2s								
ZEA				pmax	pmax				
	comp=Z,2μm,12.9s								
ZEA				MLR	MLR				
	comp=E,10μm,13.0s								
ZEA				MLR	MLR				
	comp=N,15μm,14.0s								
ZEA				MLR	MLR				
	comp=Z,14μm,13.0s								
JOW	**Kunigami**	**17.96**	**229**	P		**Pn**	**04 49 37.6**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=37,slow=11,SNR=8.0								
JOW				LR	LR		04 57 00.1		
	comp=Z,10μm,21.3s,baz=72,slow=39								
JOW	**Kunigami**	**17.96**	**229**	Pn		**Pn**	**04 49 36.4**	**-2.4**
HIA	**Hailar**	**19.41**	**308***c*	*i*P		**P**	**04 49 53.0**	**-2.0**
HIA				pmax	pmax				
	comp=Z,159nm,1.1s								
HIA	**Hailar**	**19.41**	**308**	P		**P**	**04 49 52.8**	**-2.2**
SSE	**Sheshan**	**20.01**	**252**	P		**P**	**04 50 00.0**	**-1.7**
SSE				PP		**PnPn**	**04 50 18.0**	**+0.2**
SSE				S		**S**	**04 53 45.9**	**-0.1**
SSE				pmax	pmax				
	comp=Z,1μm,3.5s								
MA2	**Magadan**	**20.51**	**11***c*	*i*P		**P**	**04 50 06.8**	**-0.1**
MA2				pmax	pmax				
	comp=Z,117nm,0.9s								
MA2	**Magadan**	**20.51**	**11**	P		**P**	**04 50 05.6**	**-1.3**
MA2	**Magadan**	**20.51**	**11**	⇑P		**P**	**04 50 06.3**	**-0.6**
BJI	**Beijing**	**20.92**	**280**	P		**P**	**04 50 08.5**	**-3.0**
BJI				pP		Pn	04 50 11.9	-2.2
BJI				S		**S**	**04 54 01.2**	**-2.8**
BJI				sS		Sn	04 54 07.1	-2.8
BJI				pmax	pmax				
	comp=Z,150nm,1.5s								
BJI				pmax	pmax				
	comp=Z,1μm,3.9s								
BJI				L	L				
	comp=Z,8μm,13.0s								
BJI				L	L				
	comp=Z,22μm,16.3s								
BJI				L	L				
	comp=Z,23μm,15.2s								
BJT	**Baijiatuau**	**20.93**	**280**	P		**P**	**04 50 09.5**	**-2.2**
BJT				pmax	pmax				
	comp=Z,176nm,1.1s								
BJT				MLR	MLR				
	comp=Z,19μm,18.0s								
BJT	**Baijiatuau**	**20.93**	**280**	P		**P**	**04 50 09.4**	**-2.2**
BJT	**Baijiatuau**	**20.93**	**280**	IAms_20		IAms_20	04 58 08.9		
	comp=Z,19μm,18.0s								
TIA	**Tai'an**	**21.02**	**269**	P		**P**	**04 50 10.6**	**-2.0**
TIA				S		**S**	**04 54 02.3**	**-3.7**
TIA				pmax	pmax				
	comp=Z,160nm,1.3s								
TIA				pmax	pmax				
	comp=Z,2μm,3.5s								
TIA				L	L				
	comp=Z,14μm,11.8s								
TIA				L	L				
	comp=Z,38μm,15.2s								
TIA				L	L				
	comp=Z,52μm,15.9s								
NJ2	**Nanjing**	**21.28**	**257**	⇑*i*P		**P**	**04 50 13.7**	**-1.7**
NJ2				pP		**pP**	**04 50 18.8**	**-1.0**
NJ2				sP		**sP**	**04 50 20.7**	**-1.1**
NJ2				PP		**PnPn**	**04 50 36.3**	**+1.2**
NJ2				S		**S**	**04 54 13.0**	**+1.9**
NJ2				pmax	pmax				
	comp=Z,91nm,1.4s								
NJ2				pmax	pmax				
	comp=Z,900nm,3.5s								
NJ2				L	L				
	comp=Z,18μm,16.1s								
NJ2				L	L				
	comp=Z,14μm,15.2s								
NJ2				L	L				
	comp=Z,18μm,16.6s								
TATO	**Taipei**	**23.53**	**238**	P		**P**	**04 50 38.4**	**-0.7**
TATO	**Taipei**	**23.53**	**238**	IAms_20		IAms_20	05 01 01.6		
	comp=Z,16μm,18.0s								
TATO	**Taipei**	**23.53**	**238**	P		**P**	**04 50 36.3**	**-2.9**
TATO				P		**P**	**04 50 36.3**	**-2.9**
TATO				P		**P**	**04 50 36.3**	**-2.9**
YHNB	**Yeheng**	**23.82**	**238**	P		**P**	**04 50 40.2**	**-1.8**
YHNB				IAms_20		IAms_20	05 01 10.3		
	comp=Z,13μm,18.0s								
YAK	**Yakutsk**	**23.96**	**344***c*	*i*P		**P**	**04 50 41.7**	**-1.3**
YAK				*e**PP		**pP**	**04 50 47.7**	**+0.1**
YAK				*e*			04 51 08.2		
YAK				*e*S		**S**	**04 54 52.5**	**-6.1**
YAK				*e*SSS		SSS	04 55 46.6		
YAK				pmax	pmax				
	comp=Z,253nm,1.3s								
YAK				pmax	pmax				
	comp=N,120nm,1.2s								
YAK				pmax	pmax				
	comp=E,48nm,1.5s								
YAK				pmax	pmax				
	comp=Z,190nm,0.8s								
YAK				pmax	pmax				
	comp=N,208nm,1.1s								
YAK				pmax	pmax				
	comp=E,179nm,1.3s								
YAK				smax	smax				
	comp=E,2μm,3.0s								
YAK				smax	smax				
	comp=N,4μm,3.2s								
YAK				MLR	MLR				
	comp=Z,7μm,13.0s								
YAK				MLR	MLR				
	comp=E,5μm,15.0s								
YAK				MLR	MLR				
	comp=N,5μm,12.0s								
YAK	**Yakutsk**	**23.96**	**344**	P		**P**	**04 50 40.9**	**-2.0**
YAK				IAmb		IAmb	04 50 53.6		
	comp=Z,220nm,0.8s								
NACB	**Ninganchiao**	**24.02**	**237**	P		**P**	**04 50 40.5**	**-3.4**
CIT	**Chita**	**24.05**	**311**	*e*P		**P**	**04 50 42.1**	**-2.0**
CIT				*e*			04 50 50.1		
CIT				*e*			04 51 13.6		
CIT				*e*			04 51 22.9		
CIT				*e*S		**S**	**04 55 02.6**	**+2.1**
CIT				pmax	pmax				
	comp=Z,1μm,2.4s								
TIY	**Taiyuan**	**24.23**	**275**	*e*P		**P**	**04 50 42.1**	**-3.8**
TIY				S		**S**	**04 55 00.0**	**-3.6**
TIY				pmax	pmax				
	comp=Z,19nm,0.5s								
TIY				pmax	pmax				
	comp=Z,530nm,5.7s								
TIY				L	L				
	comp=Z,16μm,14.3s								
TIY				L	L				
	comp=Z,8μm,13.2s								
TIY				L	L				
	comp=Z,17μm,17.6s								
HHC	**Hu-ho-hao-te**	**24.30**	**283**	*e*P		**P**	**04 50 44.8**	**-1.7**
HHC				PP		**PnPn**	**04 51 17.3**	**+0.8**
HHC				S		**S**	**04 55 00.4**	**-4.4**
HHC				sS		pS	04 55 10.4	+0.5
HHC				pmax	pmax				
	comp=Z,74nm,1.0s								
HHC				pmax	pmax				
	comp=Z,3μm,7.8s								
HHC				L	L				
	comp=Z,11μm,13.0s								
HHC				L	L				
	comp=Z,32μm,17.1s								
HHC				L	L				
	comp=Z,41μm,16.5s								
SSLB	**Suanglung**	**24.71**	**237**	P		**P**	**04 50 46.7**	**-3.5**
YULB	**Yu-li**	**24.77**	**236**	P		**P**	**04 50 48.6**	**-2.1**
YULB				IAmb		IAmb	04 50 52.7		
	comp=Z,289nm,1.3s								
YULB				IAms_20		IAms_20	05 02 00.5		
	comp=Z,11μm,18.0s								
TPUB	**Ta-pu**	**25.26**	**237**	P		**P**	**04 50 53.0**	**-2.2**
TPUB				IAms_20		IAms_20	05 01 36.5		
	comp=Z,15μm,19.0s								
TWG	**Pinlang**	**25.32**	**235**	P		**P**	**04 50 55.4**	**-0.4**
WHN	**Wuhan**	**25.39**	**258**	⇓P		**P**	**04 50 55.4**	**-0.8**
WHN				S		**S**	**04 55 12.8**	**-9.2**
WHN				pmax	pmax				
	comp=Z,1μm,1.0s								
WHN				L	L				
	comp=Z,22μm,11.6s								
WHN				L	L				
	comp=Z,31μm,13.9s								
WHN				L	L				
	comp=Z,38μm,18.2s								
QZH	**Quanzhou**	**25.50**	**242**	⇑*i*P		**P**	**04 50 57.0**	**-0.3**
QZH				PP		**PnPn**	**04 51 35.4**	**+2.5**
QZH				S		**S**	**04 55 22.7**	**-1.1**
QZH				pmax	pmax				
	comp=Z,190nm,2.0s								
QZH				pmax	pmax				
	comp=Z,3μm,6.7s								
QZH				L	L				
	comp=Z,11μm,15.2s								
QZH				L	L				
	comp=Z,6μm,14.7s								
QZH				L	L				
	comp=Z,13μm,14.2s								
BTO	**Baotou**	**25.50**	**283**	*e*P		**P**	**04 50 56.3**	**-1.1**
BTO				S		S	04 55 09.7	-14	
BTO				pmax	pmax				
	comp=Z,280nm,1.5s								
BTO				L	L				
	comp=Z,45μm,14.7s								
BTO				L	L				
	comp=Z,119μm,19.1s								
BOD	**Bodaibo**	**26.30**	**324**	*e*P		**P**	**04 51 04.8**	**+0.5**
BOD				pmax	pmax				
	comp=Z,503nm,1.1s								
BBP	**Basco**	**26.55**	**230**	*e*P		**P**	**04 51 08.2**	**+1.3**
ULN	**Ulaanbaatar**	**27.35**	**300***c*	*i*P		**P**	**04 51 14.1**	**+0.1**
ULN				pmax	pmax				
	comp=Z,241nm,1.2s								
ULN	**Ulaanbaatar**	**27.35**	**300**	P		**P**	**04 51 14.2**	**+0.2**
ULN	**Ulaanbaatar**	**27.35**	**300**	P		**P**	**04 51 14.0**	**-0.1**
ULN				P		**P**	**04 51 14.0**	**-0.1**
ULN				P		**P**	**04 51 14.0**	**-0.1**
ULN	**Ulaanbaatar**	**27.35**	**300**	⇑P		**P**	**04 51 14.1**	**+0.1**
ULN	**Ulaanbaatar**	**27.35**	**300**	P		**P**	**04 51 13.8**	**-0.2**
	comp=Z,33μmcomp=Z,23μmcomp=Z,1μm,1.5s								
SONM	**Songino Array**	**27.79**	**299**	P		**P**	**04 51 17.9**	**0.0**
	comp=Z,72nm,0.8s,baz=99,slow=6.7,SNR=58								
SONM				LR	LR		05 02 59.5		
	comp=Z,21μm,19.3s,baz=91,slow=38								
SONM	**Songino Array**	**27.79**	**299**	P		**P**	**04 51 18.2**	**+0.2**
XAN	**Xi'an**	**28.08**	**269**	P		**P**	**04 51 19.7**	**-0.9**
XAN				pP		pP	04 51 25.7	+0.5
XAN				pmax	pmax				
	comp=Z,16nm,0.7s								
XAN				pmax	pmax				
	comp=Z,3μm,8.1s								
XAN				L	L				
	comp=Z,10μm,14.4s								
XAN				L	L				
	comp=Z,28μm,15.1s								
XAN				L	L				
	comp=Z,30μm,14.8s								
SGCP	**Mt. Cagua**	**28.23**	**227**	*e*P		**P**	**04 51 24.4**	**+2.4**
H11N2	**WAKE ISLAND Hy**	**28.28**	**128**	T		T	05 20 55.2		
	baz=320								
H11N1	**WAKE ISLAND Hy**	**28.29**	**128**	T		T	05 20 54.8		
	baz=320								
H11N3	**WAKE ISLAND Hy**	**28.30**	**128**	T		T	05 20 52.8		
	baz=320								
H11S1	**WAKE ISLAND Hy**	**29.10**	**130**	T		T	05 22 00.4		
	baz=321								
H11S3	**WAKE ISLAND Hy**	**29.10**	**130**	T		T	05 21 59.8		
	baz=321								
H11S2	**WAKE ISLAND Hy**	**29.11**	**130**	T		T	05 22 00.9		
	baz=321								
ENH	**Enshi**	**29.21**	**262**	P		**P**	**04 51 29.9**	**-0.7**
ENH				IAms_20		IAms_20	05 03 35.6		
	comp=Z,11μm,19.0s								
ABRA	**Dolores**	**29.46**	**229**	*e*P		P	04 51 38.1	+5.2
IRK	**Irkutsk**	**29.65**	**308**	*e*P		**P**	**04 51 34.6**	**+0.3**
IRK				pmax	pmax				
	comp=Z,286nm,2.2s								
SAMP	**Sagada Mountai**	**29.81**	**228**	*e*P		**P**	**04 51

comp=Z,26µm,13.0s
TLY Talaya 29.95 307 P P 04 51 37.2 +0.3
TLY IAmb IAmb 04 51 51.8
comp=Z,111nm,1.0s
TLY Talaya 29.95 307 P P 04 51 37.9 +0.8
TLY Talaya 29.95 307 ⇑P P 04 51 37.3 +0.3
ZAK Zakamensk 30.02 304 *eP* **P 04 51 37.6 -0.2**
ZAK pmax pmax
comp=Z,254nm,1.5s
ZAK pmax pmax
comp=Z,95nm,1.3s
GZH Guangzhou 30.35 246 P P 04 51 36.8 -3.9
GZH S **S** **04 56 33.0 -7.3**
GZH L L
comp=Z,15µm,15.1s
GZH L L
comp=Z,13µm,13.1s
SMPP San Manuel, Pa 30.68 227 *eP* **P 04 51 43.0 -0.7**
BOLP Bolinao 30.93 228 *eP* **P 04 51 45.7 -0.2**
BILL Bilibino 31.10 16 *deP* **P 04 51 46.4 -0.5**
BILL *i* *PP **pP** **04 51 51.0 -0.6**
BILL *i* *SP **pwP** **04 51 56.2 +1.6**
BILL *e* 04 52 49.3
BILL *i* S **S** **04 56 50.7 -0.5**
BILL *e* 04 57 05.8
BILL SS **ScP** **04 58 28.0 +4.2**
BILL pmax pmax
comp=Z,73nm,1.1s
BILL MLR MLR
comp=Z,5µm,16.0s
BILL Bilibino 31.10 16 P P 04 51 46.8 -0.1
JCNP Jose Panganiba 31.13 222 *eP* **P 04 51 52.1 +4.4**
LZH Lanzhou 31.29 276 ⇑⇑P P 04 51 49.4 +0.2
LZH pP pP 04 51 53.9 0.0
LZH sP pwP 04 51 56.8 -0.2
LZH PP **PnPn** **04 52 55.0 +3.6**
LZH S **S** **04 57 01.8 +6.5**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,1µm,5.1s
LZH L L
comp=Z,14µm,14.1s
LZH L L
comp=Z,31µm,15.7s
LZH L L
comp=Z,24µm,14.6s
MOY Mondy 31.59 307 *eP* **P 04 51 51.6 +0.1**
MOY pmax pmax
comp=Z,264nm,1.5s
LQP Lukban 31.88 223⇑ *eP* **P 04 51 57.2 +2.7**
MACP Maragondon, Ca 32.20 225 *eP* **P 04 51 55.8 -1.2**
PGP Puerto Galera 32.70 224⇑ *eP* **P 04 52 01.1 -0.4**
TIXI Tiksi 32.94 352 *c iP* **P 04 52 02.6 -0.4**
TIXI Tiksi 32.94 352 P **P 04 52 01.9 -1.1**
TIXI IAMs_20 IAMs_20 05 06 35.3
comp=Z,7µm,19.0s
TIXI Tiksi 32.94 352 ⇑P P 04 52 02.9 -0.1
GYA Guiyang 33.28 258 ⇓P P 04 52 06.4 -0.2
GYA S **S** **04 57 22.3 -4.0**
GYA pmax pmax
comp=Z,47nm,1.3s
CD2 Chengdu 33.33 267 P P 04 52 06.8 -0.2
CD2 sP pP 04 52 11.3 -0.3
CD2 PP **PP** **04 53 21.2 -1.1**
CD2 S **S** **04 57 24.8 -2.1**
CD2 pmax pmax
comp=Z,290nm,1.4s
CD2 pmax pmax
comp=Z,3µm,8.0s
CD2 L L
comp=Z,32µm,12.9s
CD2 L L
comp=Z,18µm,15.8s
CD2 L L
comp=Z,39µm,13.7s
GTA Gaotai 33.41 284 ⇑P P 04 52 07.8 +0.1
GTA pP sP 04 52 14.0 -0.3
GTA sP pwP 04 52 17.8 +2.3
GTA PP **PnPn** **04 53 18.8 +0.2**
GTA PcP **PcP** **04 54 50.9 +2.0**
GTA S **S** **04 57 26.7 -1.5**
GTA sS pS 04 57 34.4 +0.9
GTA pmax pmax
comp=Z,33nm,1.0s
GTA pmax pmax
comp=Z,2µm,5.5s
GTA L L
comp=Z,7µm,17.1s
GTA L L
comp=Z,30µm,16.7s
GTA L L
comp=Z,35µm,16.7s
MSLP Maasin 33.71 214 *eP* P 04 52 18.2 +7.9
NIKH Nikolski High 34.89 51 P 04 52 21.0
baz=267
CNOP Candoni, Negro 34.99 218 *eP* P 04 52 33.8 +12
PATS Pohnpei 35.27 154 IAMs_20 IAMs_20 05 09 06.3
comp=Z,9µm,20.0s
CGP Cagayan de Oro 35.28 213⇓ *eP* P 04 52 43.7 +20
ENPP El Nido 35.43 224 *eP* **P 04 52 27.6 +2.5**
QIZ Qiongzhong 35.47 244 P **P 04 52 25.6 +0.1**
QIZ PP **PP** **04 53 46.1 0.0**
QIZ S **S** **04 58 01.6 +1.7**
QIZ pmax pmax
comp=Z,1µm,8.2s
QIZ L L
comp=Z,9µm,13.9s
QIZ L L
comp=Z,4µm,17.2s
QIZ L L
comp=Z,9µm,16.3s
BUKP Musuan 35.65 212 *eP* P 04 52 38.2 +11
GAMB Gambell 35.68 32 P 04 52 27.2
baz=249
MATI Mati 36.02 210 *eP* P 04 52 38.8 +8.5
DAV Davao City (W) 36.17 211 IAMs_20 IAMs_20 05 08 52.4
comp=Z,5µm,19.0s
PAGZ Pagadian 36.39 215 *eP* P 04 52 38.6 +5.2
KMI Kunming 36.97 259 ⇑P P 04 52 38.5 -0.1
KMI pP sP 04 52 44.6 -0.6
KMI sP pwP 04 52 46.0 -0.4
KMI PP **PP** **04 54 02.9 +0.1**
KMI PcP **PcP** **04 55 02.4 +2.8**
KMI S **S** **04 58 25.1 +1.8**
KMI sS sS 04 58 34.0 +2.9
KMI pmax pmax
comp=Z,160nm,2.1s
KMI pmax pmax
comp=Z,2µm,8.3s
KMI L L
comp=Z,9µm,15.3s
KMI L L
comp=Z,12µm,12.9s
KMI L L
comp=Z,15µm,14.4s
DDMP Don Marcelino, 37.00 210 *eP* **P 04 52 38.4 -0.2**
SKMP Bagumbayan, Su 37.09 212 *eP* **P 04 52 41.8 +2.5**
KWAJ Kwajalein Atol 37.53 138 IAMs_20 IAMs_20 05 09 36.3
comp=Z,7µm,20.0s
TNA Tin City 37.82 31 ⇑P P 04 52 46.8 +1.8
TNA Tin City 37.82 31 P 04 52 45.4
baz=251,SNR=5.4
FALS False Pass 38.17 48 P 04 52 48.2
baz=269
SLVN Son La 38.27 253 P **P** **04 52 49.9 +0.4**
SLVN IAmb IAmb 04 53 08.9
comp=Z,283nm,1.9s
SLVN IAMs_20 IAMs_20 05 10 05.5
comp=Z,6µm,18.0s
BATP Bataraza 38.31 224 *eP* **P 04 52 50.9 +1.2**
ANM Nome 38.56 33 P 04 52 51.4
baz=255
SGSI Sangihe 39.29 209 P **P** **04 52 59.3 +1.4**
comp=Z,159nm,0.6s
SDPT Sand Point 39.87 48 P 04 53 03.0
baz=271
DGZ Jazzator, Alta 40.23 304 *c iP* **P 04 53 06.4 +0.7**
DGZ pmax pmax
comp=Z,443nm,1.0s
RDOG Red Dog Mine 40.48 28 P **P** **04 53 08.2 +0.9**
RDOG IAMs_20 IAMs_20 05 11 37.7
comp=Z,4µm,20.0s
RDOG Red Dog Mine 40.48 28 P 04 53 08.6
baz=253

NONG Nongkai 40.87 250 P **P** **04 53 12.3 +1.2**
comp=Z,4µmcomp=Z,183nm,1.4s
UBPT Khong Chiam 41.07 245 P **P** **04 53 14.1 +1.4**
comp=Z,5µmcomp=Z,2µmcomp=Z,56nm,1.6s
UBPT Khong Chiam 41.07 245 P **P** **04 53 13.2 +0.6**
UBPT Khong Chiam 41.07 245 P **P** **04 53 13.6 +0.9**
comp=Z,5µmcomp=Z,2µmcomp=Z,54nm,1.6s
LKP Lekhapani 41.11 268 *eP* **P** **04 53 13.9 +1.0**
LKP IAmb IAmb 04 53 28.6
comp=Z,792nm,1.4s
WMQ Urumqi 41.16 295 *eP* **P** **04 53 14.5 +1.2**
WMQ pP pwP 04 53 21.0 -0.1
WMQ S **S** **04 59 31.5 +5.8**
WMQ ScS **ScS** **05 03 20.3 +3.5**
WMQ pmax pmax
comp=Z,370nm,0.9s
WMQ pmax pmax
comp=Z,3µm,5.1s
WMQ L L
comp=Z,12µm,13.9s
WMQ L L
comp=Z,10µm,14.3s
WMQ L L
comp=Z,9µm,15.9s
TNTI Ternate 41.36 205 P **P** **04 53 16.4 +1.4**
comp=Z,75nm,1.6s
ZAA0 Zalesovo Array 41.41 310 P **P** **04 53 14.9 -0.1**
ZAA0 IAmb IAmb 04 53 34.6
comp=Z,303nm,1.5s
ZALV Zalesovo Beam 41.41 310 P **P** **04 53 15.1 0.0**
comp=Z,39nm,0.5s,baz=90,slow=7.9,SNR=77
ZALV PcP **PcP** **04 55 12.1 -0.7**
comp=Z,16nm,0.8s,baz=88,slow=3.3,SNR=3.6
ZALV LR LR 05 11 14.1
comp=Z,6µm,19.7s,baz=81,slow=37
ZALV Zalesovo Beam 41.41 310 P **P** **04 53 14.7 -0.3**
ZALV Zalesovo Beam 41.41 310 P **P** **04 53 14.7 -0.3**
NRIK Noril'sk 41.62 334 P **P** **04 53 16.3 -0.3**
comp=Z,13nm,0.6s,baz=112,slow=7.5,SNR=35
NRIK Noril'sk 41.62 334 *c iP* **P** **04 53 16.4 -0.3**
NRIK pmax pmax
comp=Z,111nm,1.5s
NRIK Noril'sk 41.62 334 P **P** **04 53 17.2 +0.6**
DIBR DIBRUGARH 41.77 268 *eP* **P** **04 53 19.6 +1.3**
DIBR IAmb IAmb 04 53 34.1
comp=Z,602nm,1.0s
SWI Sorong 41.81 198 P **P** **04 53 20.2 +1.5**
comp=Z,2µmcomp=Z,37nm,0.8s
SIJI Sorong 41.81 198 P **P** **04 53 18.5 -0.2**
comp=Z,16nm,0.8s,baz=359,slow=13,SNR=6.0
SIJI Sorong 41.81 198 P **P** **04 53 20.4 +1.7**
comp=Z,728nmcomp=Z,28nm,0.9s
GENI Genyem 42.12 185 P **P** **04 53 22.6 +1.4**
comp=Z,132nm,0.9s
ZSN Zaisan 42.29 301 *eP* **P** **04 53 22.8 +0.3**
comp=Z,285nm,1.7s,baz=300
ZSN *eS* **S** **04 59 40.4 -1.8**
baz=300
ZSN Zaisan 42.29 301 *eP* **P** **04 53 22.7 +0.3**
ZSN *eS* **S** **04 59 40.4 -1.8**
ZSN pmax pmax
comp=Z,285nm,1.7s
TTA Tatalina 42.39 36 P **P** **04 53 23.7 +0.6**
TTA pmax pmax
comp=Z,33nm,1.3s
TTA Tatalina 42.39 36 P **P** **04 53 23.7 +0.6**
TTA Tatalina 42.39 36 ⇑P P 04 53 24.6 +1.5
TTA Tatalina 42.39 36 P 04 53 22.9
baz=266,SNR=7.5
TTA S 04 59 45.4
baz=266
SVW2 Sparrevohn 42.50 39 P **P** **04 53 24.9 +1.0**
MOKO MOKOCHONG 42.65 267 *eP* **P** **04 53 26.0 +0.3**
KMSI Cibinong 42.73 209 P **P** **04 53 28.0 +1.8**
comp=Z,177nm,1.0s
ITAN ITANAGAR 42.84 269 *eP* **P** **04 53 28.3 +1.2**
UTTA Uttaradit 42.97 252 P **P** **04 53 28.9 +0.7**
comp=Z,249nmcomp=Z,25nm,1.2s
GTOI Gorontalo 43.05 211 P **P** **04 53 29.3 +0.5**
comp=Z,884nmcomp=Z,42nm,0.9s
CHAI Chaiyaphum 43.12 249 P **P** **04 53 29.5 +0.1**
comp=Z,568nmcomp=Z,43nm,1.3s
KOHI KOHIMA 43.27 267 *eP* **P** **04 53 29.6 -1.1**
KOHI IAmb IAmb 04 53 35.2
comp=Z,636nm,1.4s
CM34 Chiang Mai Arr 43.32 255 P **P** **04 53 31.0 -0.1**
SII Sitkinak Islan 43.34 46 IAMs_20 IAMs_20 05 08 48.8
comp=Z,5µm,21.0s
SII Sitkinak Islan 43.34 46 P 04 53 30.8
baz=274
PBKT Sadao Pong 43.42 250 P **P** **04 53 33.0 +1.2**
comp=Z,45nm,1.1s
PBKT Sadao Pong 43.42 250 P **P** **04 53 33.1 +1.2**
comp=Z,43nm,1.1s
CM35 Chiang Mai Arr 43.42 254 P **P** **04 53 32.0 +0.1**
PHIT Phitsanulok 43.42 252 P **P** **04 53 33.0 +1.1**
comp=Z,520nmcomp=Z,43nm,1.2s
A21K Barrow 43.45 24 P **P** **04 53 31.7 +0.3**
A21K IAmb IAmb 04 54 08.9
comp=Z,207nm,1.4s
A21K Barrow 43.45 24 P 04 53 31.5
baz=256
A21K S 04 59 54.8
baz=256
CM33 Chiang Mai Arr 43.49 255 P **P** **04 53 32.0 -0.4**
CMMT Chiang Mai 43.49 255 P **P** **04 53 31.8 -0.7**
comp=Z,2µmcomp=Z,116nm,1.2s
CMMT Chiang Mai 43.49 255 P **P** **04 53 31.2 -1.3**
comp=Z,2µmcomp=Z,111nm,1.2s
CHTO Chiang Mai 43.50 255 P **P** **04 53 32.9 +0.4**
CHTO pmax pmax
comp=Z,91nm,1.1s
CHTO MLR MLR
comp=Z,7µm,18.0s
CHTO Chiang Mai 43.50 255 P **P** **04 53 32.9 +0.4**
CHTO Chiang Mai 43.50 255 P **P** **04 53 32.8 +0.3**
CHTO P **P** **04 53 32.8 +0.3**
CHTO Chiang Mai 43.50 255 ⇑P P 04 53 32.6 +0.1
CHTO Chiang Mai 43.50 255 P **P** **04 53 32.6 +0.1**
comp=Z,3µmcomp=Z,1µmcomp=Z,66nm,1.2s
TOLI2 Tolitoli 43.55 214 P **P** **04 53 33.5 +0.7**
CM36 Chiang Mai Arr 43.57 254 P **P** **04 53 33.0 0.0**
FAKI Fak Fak 43.57 196 P **P** **04 53 34.0 +1.0**
FAKI IAMs_20 IAMs_20 05 09 17.4
comp=Z,7µm,20.0s
FAKI Fak Fak 43.57 196 P **P** **04 53 34.9 +1.9**
comp=Z,2µmcomp=Z,70nm,1.3s
LSA Lhasa 43.61 274 P **P** **04 53 35.1 +1.3**
LSA pmax pmax
comp=Z,410nm,1.5s
LSA pmax pmax
comp=Z,7µm,8.9s
LSA L L
comp=Z,6µm,13.5s
LSA L L
comp=Z,6µm,12.1s
LSA L L
comp=Z,8µm,12.8s
LSA Lhasa 43.61 274 P **P** **04 53 34.8 +1.0**
LSA Lhasa 43.61 274 P **P** **04 53 33.2 -0.6**
LSA pmax pmax
comp=Z,228nm,1.4s
LSA MLR MLR
comp=Z,14µm,18.0s
LSA Lhasa 43.61 274 P **P** **04 53 33.2 -0.6**
LSA IAmb IAmb 04 53 39.7
comp=Z,228nm,1.4s
LSA Lhasa 43.61 274 P **P** **04 53 35.1 +1.3**
LSA P **P** **04 53 35.1 +1.3**
IMAR Indian Mountai 43.61 32 P **P** **04 53 33.4 +0.5**
MRSI Marisa 43.63 212 P **P** **04 53 35.0 +1.5**
comp=Z,4µmcomp=Z,3µmcomp=Z,158nm,1.5s
CM32 Chiang Mai Arr 43.67 255 P **P** **04 53 35.7 +1.9**
CM09 Chiang Mai Arr 43.69 254 P **P** **04 53 35.8 +1.7**
comp=Z,377nmcomp=Z,36nm,0.9s
CM31 Chiang Mai Arr 43.72 254 P **P** **04 53 36.0 +1.7**
comp=Z,894nm,0.7s
CM31 Chiang Mai Arr 43.72 254 P **P** **04 53 34.4 +0.2**
CM31 Chiang Mai Arr 43.72 254 P **P** **04 53 35.5 +1.2**
SNR=18
CMAR Chiang Mai Arr 43.72 254 P **P** **04 53 34.2 0.0**
comp=Z,10nm,0.5s,baz=44,slow=6.3,SNR=12
CMAR LR LR 05 12 52.7
comp=Z,3µm,18.2s,baz=92,slow=38
CM04 Chiang Mai Arr 43.73 254 P **P** **04 53 35.0 +0.7**
comp=Z,408nmcomp=Z,45nm,0.9s

CM01 Chiang Mai Arr 43.73 254 P **P** **04 53 36.0 +1.7**
comp=Z,382nmcomp=Z,51nm,0.9s
CM02 Chiang Mai Arr 43.73 254 P **P** **04 53 35.0 +0.7**
comp=Z,348nmcomp=Z,50nm,0.9s
CM15 Chiang Mai Arr 43.73 254 P **P** **04 53 36.1 +1.7**
comp=Z,778nmcomp=Z,46nm,0.9s
CM05 Chiang Mai Arr 43.75 254 P **P** **04 53 35.0 +0.5**
comp=Z,301nmcomp=Z,32nm,0.9s
CM13 Chiang Mai Arr 43.77 254 P **P** **04 53 35.0 +0.4**
comp=Z,299nmcomp=Z,32nm,0.9s
OHAK Old Harbor 43.78 45 P 04 53 34.6
baz=274
RSO Redoubt South 43.89 40 P **P** **04 53 35.5 +0.1**
H21K Melozitna Rive 43.98 32 P 04 53 36.4
baz=266
H21K S 05 00 08.5
baz=266
CHUM Lake Minchumin 44.10 35 P 04 53 36.9
baz=268,SNR=6.8
CHUM S 05 00 09.9
baz=268
KDAK Kodiak Island 44.12 44 P **P** **04 53 36.3 -0.7**
comp=Z,29nm,0.8s,baz=280,slow=5.3,SNR=18
KDAK Kodiak Island 44.12 44 P **P** **04 53 36.9 -0.1**
KDAK Kodiak Island 44.12 44 IAMs_20 IAMs_20 05 11 02.2
comp=Z,4µm,20.0s
KDAK Kodiak Island 44.12 44 ⇓P P 04 53 36.6 -0.4
KDAK Kodiak Island 44.12 44 P 04 53 37.8
baz=274
PPLA Purkeypile 44.14 36 P **P** **04 53 38.1 +0.9**
PPLA IAmb IAmb 04 54 16.9
comp=Z,149nm,1.4s
PPLA Purkeypile 44.14 36 P 04 53 38.2
baz=270,SNR=13
PPLA S 05 00 09.4
baz=270
SPCR Spurr Chakacha 44.14 39 P 04 53 38.5
baz=271,SNR=6.0
SPCR S 05 00 10.3
baz=271
MK31 Makanchi Array 44.15 300 *i* P **P** **04 53 37.1 -0.4**
MK31 pmax pmax
comp=Z,130nm,0.9s
MK31 Makanchi Array 44.15 300 P **P** **04 53 37.4 -0.1**
MK31 IAmb IAmb 04 53 39.7
comp=Z,113nm,1.0s
MKAR Makanchi Array 44.15 300 P **P** **04 53 37.2 -0.3**
comp=Z,79nm,0.9s,baz=81,slow=9.1,SNR=152
MKAR Makanchi Array 44.15 300 P **P** **04 53 37.3 -0.1**
CAST Castle Rocks 44.19 36 P 04 53 36.5
baz=269
SPU Mount Spurr 44.21 39 P **P** **04 53 39.1 +1.3**
MAKZ Makanchi 44.35 300 P **P** **04 53 38.8 -0.3**
MAKZ pmax pmax
comp=Z,210nm,1.3s
MAKZ Makanchi 44.35 300 P **P** **04 53 38.9 -0.2**
MAKZ IAmb IAmb 04 53 41.5
comp=Z,210nm,1.2s
MAKZ Makanchi 44.35 300 ⇑P P 04 53 39.0 -0.1
MAKZ ⇓P **P** **04 53 39.4 +0.3**
SKT Skwentna 44.45 38 P **P** **04 53 40.5 +0.9**
SKT Skwentna 44.45 38 P 04 53 40.3
baz=271,SNR=6.8
SKT S 05 00 12.3
baz=271
SANI Sanana 44.46 205 P **P** **04 53 40.4 +0.3**
comp=Z,3µmcomp=Z,2µmcomp=Z,86nm,1.2s
HOM Homer 44.48 41 P 04 53 38.9
baz=273
MHMT Maeaerieng 44.64 255 P **P** **04 53 42.4 +0.7**
comp=Z,3µmcomp=Z,134nm,0.8s
CAPN Captain Cook N 44.67 39 P 04 53 38.8
baz=273
SEM Semipalatinsk 44.69 306 *eP* **P** **04 53 40.8 -1.1**
comp=Z,1µm,14.6s,baz=306
SEM Semipalatinsk 44.69 306 *eP* **P** **04 53 40.8 -1.1**
SEM pmax pmax
comp=Z,1µm,14.6s
BPAW Bear Paw Mtn. 44.69 35 P **P** **04 53 42.9 +1.3**
BPAW Bear Paw Mtn. 44.69 35 P 04 53 42.5
baz=269,SNR=14
BPAW S 05 00 18.5
baz=269
CNPM China Poot 44.70 41 P **P** **04 53 42.0 +0.4**
KTH Kantishna Hill 44.71 35 P **P** **04 53 42.4 +0.6**
KTH IAmb IAmb 04 54 06.7
comp=Z,102nm,1.1s
MLY Manley 44.81 33 P **P** **04 53 43.5 +1.0**
MLY Manley 44.81 33 P 04 53 43.5
baz=269,SNR=30
MLY S 05 00 20.8
baz=269
SUA Susitna One 44.84 38 P 04 53 42.8
baz=272
BRLK Bradley Lake 44.86 41 P **P** **04 53 42.9 -0.1**
GUWA GUWAHATI 44.89 269 *eP* **P** **04 53 43.6 0.0**
GUWA IAmb IAmb 04 53 48.5
comp=Z,163nm,0.9s
BRSE Bradley Lake S 44.93 41 P 04 53 43.4
baz=274
BRSE S 05 00 17.9
baz=274
TRF Thorofare Moun 45.00 36 P **P** **04 53 45.3 +1.1**
TRF Thorofare Moun 45.00 36 P 04 53 44.6
baz=271,SNR=8.3
TRF S 05 00 21.9
baz=271
APSI Ampana 45.01 212 P **P** **04 53 45.3 +0.8**
comp=Z,2µmcomp=Z,131nm,1.4s
CUT Chulitna 45.03 37 P **P** **04 53 44.6 +0.4**
CUT IAmb IAmb 04 54 21.0
comp=Z,124nm,1.4s
CUT Chulitna 45.03 37 P 04 53 44.0
baz=272
SHL Shillong 45.06 268 P **P** **04 53 44.9 -0.3**
SHL pmax pmax
comp=Z,95nm,0.9s
SHL Shillong 45.06 268 *eP* **P** **04 53 45.0 -0.3**
SHL *eP* **P** **04 53 45.0 -0.2**
SHL IAmb IAmb 04 54 04.3
comp=Z,175nm,1.5s
SHL *i* S **S** **05 00 24.0 +0.4**
SHL Shillong 45.06 268 P **P** **04 53 44.9 -0.2**
SHL IAmb IAmb 04 54 05.3
comp=Z,95nm,0.9s
SHL Shillong 45.06 268 P **P** **04 53 45.8 +0.6**
SNR=28
COLD Coldfoot 45.12 30 P **P** **04 53 46.4 +1.5**
COLD Coldfoot 45.12 30 P 04 53 45.4
baz=267,SNR=14
COLD S 05 00 23.2
baz=267
M22K Willow 45.12 38 P 04 53 45.0
baz=272
UTHA Uthaitani 45.19 251 P **P** **04 53 47.0 +1.0**
comp=Z,172nmcomp=Z,10nm,0.7s
UMPA Umpang Tak 45.20 252 P **P** **04 53 49.2 +3.1**
comp=Z,3µmcomp=Z,31nm,1.1s
H23K Yukon River 45.33 32 P 04 53 47.0
baz=269,SNR=48
H23K S 05 00 28.8
baz=269
RC01 Rabbit Creek A 45.34 39 P **P** **04 53 47.1 +0.4**
RC01 IAMs_20 IAMs_20 05 16 08.3
comp=Z,4µm,18.0s
RC01 Rabbit Creek A 45.34 39 P 04 53 46.6
baz=274,SNR=9.3
RC01 S 05 00 21.1
baz=274
BWN Browne 45.36 35 P **P** **04 53 48.8 +2.0**
O22K Cooper Landing 45.39 40 IAMs_20 IAMs_20 05 16 23.6
comp=Z,4µm,18.0s
O22K Cooper Landing 45.39 40 P 04 53 46.8
baz=274
I23K Minto, Yukon-K 45.40 33 P **P** **04 53 48.6 +1.5**
I23K Minto, Yukon-K 45.40 33 P 04 53 48.3
baz=270,SNR=28
I23K S 05 00 28.5
baz=270
TOLK Toolik Lake Re 45.44 28 P **P** **04 53 48.4 +0.9**
TOLK IAmb IAmb 04 54 23.5
comp=Z,110nm,1.2s
TOLK Toolik Lake Re 45.44 28 P 04 53 48.1
baz=266,SNR=24
TOLK S 05 00 28.4
baz=266
NEA2 Nenana 45.52 34 P **P** **04 53 48.9 +0.7**

NEA2 Nenana 45.52 34 P 04 53 48.6
baz=271,SNR=33
NEA2 S 05 00 30.8
baz=271
SEW Seward 45.55 40 P **P** **04 53 48.9 +0.5**
SEW IAmb IAmb 04 53 59.3
comp=Z,147nm,1.5s
SEW Seward 45.55 40 P 04 53 48.2
baz=275
SEW S 05 00 27.5
baz=275
MCK McKinley 45.60 35 P **P** **04 53 48.8 +0.1**
MCK pmax pmax
comp=Z,68nm,1.3s
MCK MLR MLR
comp=Z,2µm,21.0s
MCK McKinley 45.60 35 P **P** **04 53 48.8 +0.1**
MCK McKinley 45.60 35 P 04 53 48.4
baz=272
MCK S 05 00 28.8
baz=272
PMR Palmer 45.60 38 P **P** **04 53 49.9 +1.2**
PMR pmax pmax
comp=Z,89nm,1.4s
PMR Palmer 45.60 38 P **P** **04 53 49.9 +1.2**
PMR Palmer 45.60 38 P 04 53 48.3
baz=274
PMR S 05 00 28.4
baz=274
KURK Kurchatov 45.64 306 P **P** **04 53 49.4 +0.2**
RND Reindeer 45.65 36 P **P** **04 53 49.7 +0.5**
RND pmax pmax
comp=Z,101nm,1.3s
RND MLR MLR
comp=Z,2µm,20.0s
RND Reindeer 45.65 36 P **P** **04 53 49.7 +0.5**
RND IAmb IAmb 04 53 59.7
comp=Z,101nm,1.3s
GHO Glory Hole Cre 45.69 38 P **P** **04 53 50.1 +0.6**
GHO IAmb IAmb 04 54 03.9
comp=Z,151nm,1.4s
KURBB Kurchatov Arra 45.72 306 P **P** **04 53 49.4 -0.4**
comp=Z,144nm,1.0s,baz=79,slow=8.0,SNR=267
KURBB Kurchatov Arra 45.72 306 P **P** **04 53 49.2 -0.6**
KURBB pmax pmax
comp=Z,338nm,1.3s
WAT2 Susitna Watana 45.78 36 P 04 53 50.2
baz=273,SNR=13
WAT2 S 05 00 30.2
baz=273
MDM Murphy Dome 45.88 33 P **P** **04 53 50.5 -0.5**
MDM IAmb IAmb 04 54 02.5
comp=Z,116nm,1.2s
PATY Pattaya 45.92 247 P **P** **04 53 54.4 +2.6**
comp=Z,3µmcomp=Z,16nm,1.0s
KNK Knik Glacier 45.94 38 P 04 53 51.1
baz=274
KNK S 05 00 32.3
baz=274
WRH Wood River Hil 45.95 34 P **P** **04 53 52.5 +1.0**
SML Sawmill 45.97 38 P 04 53 52.0
baz=274,SNR=13
SML S 05 00 34.3
baz=274
H24K Noodor Dome 46.02 32 P 04 53 53.0
baz=270,SNR=25
H24K S 05 00 38.5
baz=270
TCOL CIGO, UAF Yank 46.04 34 P **P** **04 53 52.8 +0.7**
TCOL CIGO, UAF Yank 46.04 34 P 04 53 52.9
baz=271
TCOL S 05 00 37.0
baz=271
PWL Port Wells 46.04 39 P **P** **04 53 52.3 +0.1**
COLA College 46.04 34 *d* iP **P** **04 53 53.1 +0.9**
COLA pmax pmax
comp=Z,45nm,1.3s
COLA College 46.04 34 P **P** **04 53 52.7 +0.5**
COLA College 46.04 34 ⇓P **P** **04 53 53.4 +1.2**
COLA College 46.04 34 P 04 53 52.6
baz=271
COLA S 05 00 36.5
baz=271
CCB Clear Creek Bu 46.07 34 P **P** **04 53 53.1 +0.8**
WAT6 Susitna Watana 46.19 37 P 04 53 53.5
baz=274,SNR=13
WAT6 S 05 00 36.9
baz=274
POKR Poker Plat Res 46.21 33 P **P** **04 53 54.8 +1.2**
POKR IAmb IAmb 04 54 05.3
comp=Z,135nm,1.1s
POKR Poker Plat Res 46.21 33 P 04 53 54.3
baz=272,SNR=27
POKR S 05 00 39.7
baz=272
SRDT SRDT 46.21 250 P **P** **04 53 54.0 -0.1**
comp=Z,5µmcomp=Z,82nm,1.6s
SCM Sheep Creek Mo 46.44 38 P **P** **04 53 56.1 +0.6**
SCM pmax pmax
comp=Z,114nm,1.3s
SCM MLR MLR
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 46.44 38 P **P** **04 53 56.1 +0.6**
SCM IAmb IAmb 04 54 06.5
comp=Z,114nm,1.3s
HDA Harding Lake 46.45 34 P **P** **04 53 55.5 +0.1**
HDA Harding Lake 46.45 34 P 04 53 55.0
baz=273,SNR=20
HDA P 04 53 55.0
baz=273,SNR=20
HDA S 05 00 40.6
baz=273
HDA S 05 00 40.6
baz=273
IL31 46.46 34 P **P** **04 53 55.7 +0.3**
IL31 IAmb IAmb 04 54 07.0
comp=Z,140nm,1.6s
ILAR Eielson Array 46.46 34 P **P** **04 53 55.3 -0.2**
comp=Z,18nm,0.9s,baz=262,slow=6.7,SNR=82
ILAR Eielson Array 46.46 34 P **P** **04 53 54.8 -0.7**
ILAR Eielson Array 46.46 34 P **P** **04 53 54.8 -0.7**
SMKI Samarinda 46.54 218 P **P** **04 53 57.6 +1.0**
comp=Z,155nm,1.1s
TARA Tarawa 46.60 137 IAMs_20 IAMs_20 05 17 19.6
comp=Z,6µm,20.0s
SBUM Sibu 46.62 225 P **P** **04 53 59.0 +1.7**
BELO BELONIA 46.63 266 ⇑*eP* **P** **04 53 57.4 +0.1**
GLI Glacier Island 46.64 39 P 04 53 57.0
baz=276
GLI S 05 00 44.8
baz=276
BRDH Bariadhala 46.80 265 P **P** **04 53 57.5 -1.1**
comp=Z,69nm,0.3s,baz=64,slow=10,SNR=8.0
PHET Kaeng Krachan 46.81 248 P **P** **04 54 00.0 +1.2**
comp=Z,335nmcomp=Z,37nm,1.0s
M24K Tolsona, Glenn 46.96 37 P **P** **04 53 60.0 +0.5**
M24K IAmb IAmb 04 54 11.3
comp=Z,137nm,1.2s
M24K Tolsona, Glenn 46.96 37 P 04 54 00.5
baz=276,SNR=5.7
M24K S 05 00 52.4
baz=276
HIN Hinchinbrook I 46.99 40 IAMs_20 IAMs_20 05 17 22.5
comp=Z,4µm,19.0s
PRP Porcupine Dome 47.00 33 P **P** **04 54 00.1 +0.2**
PRP Porcupine Dome 47.00 33 P 04 54 00.2
baz=273,SNR=6.2
PDGK Podgornoye 47.02 296 P **P** **04 53 59.9 -0.4**
PDGK pmax pmax
comp=Z,174nm,1.4s
FYU Fort Yukon 47.07 31 P **P** **04 54 00.7 +0.4**
SHLS Shalkode 47.09 296 *eP* **P** **04 53 58.0 -2.9**
comp=Z,238nm,2.1s,baz=296
SHLS Shalkode 47.09 296 *eP* **P** **04 53 58.0 -2.9**
SHLS pmax pmax
comp=Z,238nm,2.1s
KLU Klutina 47.14 38 P **P** **04 54 01.7 +0.8**
KLU IAmb IAmb 04 54 12.2
comp=Z,114nm,1.3s
KLU Klutina 47.14 38 P 04 54 01.9
baz=276,SNR=15
KLU S 05 00 53.4
baz=276
Q23K Middleton Isla 47.19 41 P 04 54 01.5
baz=278
PAX Paxson 47.20 36 P **P** **04 54 02.5 +1.0**
PAX pmax pmax
comp=Z,45nm,1.4s
PAX Paxson 47.20 36 P **P** **04 54 02.5 +1.0**
PAX Paxson 47.20 36 P 04 54 02.3
baz=275,SNR=7.6
TDK Taldyqorghan 47.24 299 *eP* **P** **04 54 01.7 -0.3**
comp=Z,294nm,1.1s,baz=299
TDK *e*LR LR 05 13 58.2
comp=Z,12µm,18.8s,baz=299
TDK Taldyqorghan 47.24 299 *eP* **P** **04 54 01.6 -0.3**
TDK pmax pmax
comp=Z,294nm,1.1s
TDK MLR MLR
comp=Z,12µm,19.0s
BMAR Burnt Mountain 47.30 30 P **P** **04 54 03.2 +1.2**
EYAK Cordova Ski Ar 47.34 39 P **P** **04 54 03.3 +1.0**
EYAK Cordova Ski Ar 47.34 39 P 04 54 02.8
baz=277
EYAK S 05 00 57.1
baz=277
TAPN Taplejung 47.39 273 *eP* **P** **04 54 04.9 +1.3**
comp=Z,622nm,1.3s
BKB Balikpapan 47.40 217 P **P** **04 54 03.9 +0.6**
comp=Z,4µmcomp=Z,236nm,1.5s
UZB Uzynbulak 47.40 296 *eP* **P** **04 54 03.0 -0.4**
comp=Z,108nm,1.4s,baz=296
UZB Uzynbulak 47.40 296 *eP* **P** **04 54 02.9 -0.4**
UZB pmax pmax
comp=Z,108nm,1.4s
HARP HAARP 47.41 37 P 04 54 03.1
baz=276
HARP S 05 00 55.9
baz=276
KPKS Kokpek 47.53 297 *eP* **P** **04 54 03.9 -0.4**
comp=Z,185nm,1.3s,baz=297
KPKS Kokpek 47.53 297 *eP* **P** **04 54 03.9 -0.4**
KPKS pmax pmax
comp=Z,185nm,1.3s
TTSI Tana Toraja 47.69 213 P **P** **04 54 06.0 +0.4**
comp=Z,1µmcomp=Z,19nm,1.2s
N25K Chitina, Valde 47.76 38 P **P** **04 54 06.2 +0.4**
N25K IAMs_20 IAMs_20 05 17 56.3
comp=Z,3µm,18.0s
N25K Chitina, Valde 47.76 38 P 04 54 06.0
baz=277
N25K S 05 01 02.1
baz=277
SCRK Sand Creek 47.77 35 P 04 54 06.1
baz=276,SNR=46
SCRK S 05 01 00.0
baz=276
BMRM Bremner River 47.84 39 P **P** **04 54 06.9 +0.6**
BMRM IAmb IAmb 04 54 35.5
comp=Z,123nm,1.4s
BMRM Bremner River 47.84 39 P 04 54 06.8
baz=278
BMRM S 05 01 04.9
baz=278
SATY Saty 47.86 296 *eP* **P** **04 54 06.2 -0.7**
comp=Z,181nm,1.9s,baz=296
SATY Saty 47.86 296 *eP* **P** **04 54 06.1 -0.7**
SATY pmax pmax
comp=Z,181nm,1.9s
ODAN Odare 47.88 272 *eP* **P** **04 54 08.1 +0.8**
comp=Z,747nm,1.4s
KKSI Kolaka, Sulawe 47.98 210 P **P** **04 54 10.1 +2.3**
comp=Z,77nm,1.0s
MENT Mesta 48.00 36 P **P** **04 54 07.9 +0.3**
PRZ Przheval'sk 48.05 296 P **P** **04 54 08.2 -0.3**
PRZ pmax pmax
comp=Z,420nm,1.5s
PRZ Przheval'sk 48.05 296 P **P** **04 54 08.2 -0.3**
MTKI Muara Teweh, K 48.09 220 P **P** **04 54 09.7 +1.0**
comp=Z,2µmcomp=Z,6µmcomp=Z,47nm,0.7s
HMT Hamilton 48.10 40 IAMs_20 IAMs_20 05 18 16.2
comp=Z,4µm,20.0s
GLB Gilahina Butte 48.16 38 P **P** **04 54 08.4 -0.4**
VRDI Verde Repeater 48.36 38 P **P** **04 54 11.4 +0.8**
VRDI IAmb IAmb 04 54 22.0
comp=Z,96nm,1.4s
SUCK Suckling Hills 48.38 40 IAMs_20 IAMs_20 05 17 59.6
comp=Z,5µm,18.0s
JIRN Jiri 48.40 274 *eP* **P** **04 54 13.0 +1.4**
comp=Z,811nm,1.5s
RAMN Ramite 48.44 273 *eP* **P** **04 54 12.2 +0.5**
comp=Z,546nm,1.1s
KSM Kuching 48.49 227 P **P** **04 54 13.0 +1.2**
GUN Gumba 48.52 274 *eP* **P** **04 54 13.0 +0.6**
comp=Z,422nm,0.7s
MCARA McCarthy VSAT 48.54 38 P **P** **04 54 12.5 +0.8**
MCARA IAmb IAmb 04 54 23.4
comp=Z,165nm,1.3s
MCARA McCarthy VSAT 48.54 38 P 04 54 12.6
baz=279,SNR=9.8
CHKK Chushkaly 48.57 298 *eP* **P** **04 54 11.6 -0.6**
baz=298
CHKK Chushkaly 48.57 298 *eP* **P** **04 54 11.6 -0.6**
CRQM Cirque 48.58 39 P **P** **04 54 13.5 +1.3**
CRQM IAMs_20 IAMs_20 05 13 44.5
comp=Z,4µm,20.0s
K27K Chicken 48.60 34 P **P** **04 54 12.8 +0.7**
K27K Chicken 48.60 34 P 04 54 12.9
baz=277
K27K S 05 01 14.2
baz=277
CRQE Cirque 48.60 39 P 04 54 13.2
baz=279,SNR=12
TARG Taragay, Kyrgy 48.73 295 P **P** **04 54 13.5 -0.4**
TARG IAmb IAmb 04 54 16.9
comp=Z,89nm,0.9s
TGL Tana Glacier 48.73 39 P **P** **04 54 13.5 +0.2**
TGL IAMs_20 IAMs_20 05 13 56.9
comp=Z,3µm,20.0s
MDOK Medeo 48.76 297 *eP* **P** **04 54 13.5 -0.4**
baz=297
MDOK *e*LR LR 05 14 53.7
comp=Z,8µm,15.3s,baz=297
MDOK Medeo 48.76 297 *eP* **P** **04 54 13.4 -0.4**
MDOK MLR MLR
comp=Z,8µm,15.0s
BNSI Bone 48.80 212 P **P** **04 54 16.0 +1.9**
comp=Z,2µmcomp=Z,142nm,1.3s
AAA Alma-Ata 48.84 297 *eP* **P** **04 54 13.7 -0.7**
baz=297
AAA *e*LR LR 05 15 11.8
comp=Z,11µm,15.9s,baz=297
AAA Alma-Ata 48.84 297 *eP* **P** **04 54 13.6 -0.7**
AAA MLR MLR
comp=Z,11µm,16.0s
L27K Beaver Creek, 48.84 36 P **P** **04 54 14.7 +0.6**
L27K IAmb IAmb 04 54 25.9
comp=Z,92nm,1.2s
L27K Beaver Creek, 48.84 36 P 04 54 15.2
baz=278,SNR=27
L27K S 05 01 19.1
baz=278
BCAR Beaver Creek A 48.86 36 P **P** **04 54 15.1 +0.9**
EGAK Eagle 48.90 33 P **P** **04 54 14.5 +0.1**
EGAK Eagle 48.90 33 P 04 54 13.9
baz=277,SNR=18
KUU Kurty 49.00 298 ⇑*iP* **P** **04 54 14.8 -0.8**
comp=Z,216nm,1.1s,baz=298
KUU Kurty 49.00 298 *c iP* **P** **04 54 14.7 -0.8**
KUU pmax pmax
comp=Z,216nm,1.1s
STKI Sintang 49.01 225 P **P** **04 54 17.5 +1.7**
KDJ Kajisay 49.02 296 P **P** **04 54 15.6 -0.3**
KDJ pmax pmax
comp=Z,231nm,1.5s
KDJ Kajisay 49.02 296 P **P** **04 54 15.6 -0.3**
KKN Kakani 49.04 275 *eP* **P** **04 54 17.2 +0.9**
comp=Z,464nm,0.8s
PKI Pulchoki 49.05 274 *eP* **P** **04 54 17.2 +0.7**
comp=Z,681nm,1.5s
PKIN Phulchoki 49.06 274 *eP* **P** **04 54 17.1 +0.6**
comp=Z,601nm,1.5s
MTBS Maitube 49.20 297 ⇑*iP* **P** **04 54 17.0 -0.1**
baz=297
MTBS Maitube 49.20 297 *c iP* **P** **04 54 17.0 -0.1**
BARN Barnard Glacie 49.24 38 P **P** **04 54 17.4 0.0**
BARN IAmb IAmb 04 54 28.9
comp=Z,91nm,1.3s
GRNC Granite Creek 49.26 39 P **P** **04 54 18.0 +0.6**
GRNC IAmb IAmb 04 54 28.7
comp=Z,88nm,1.2s
MESA MESA 49.26 39 P 04 54 17.5
baz=281
DMN Daman 49.27 275 *eP* **P** **04 54 19.0 +1.0**
YAH Yahtse 49.33 39 P **P** **04 54 19.0 +1.0**
YAH IAmb IAmb 04 54 28.9
comp=Z,110nm,1.2s
YAH IAMs_20 IAMs_20 05 18 30.4
comp=Z,4µm,20.0s
CTG Chitna Glacier 49.41 38 P 04 54 19.2
baz=280,SNR=6.1
CTG S 05 01 25.2
baz=280
CTGM Chitina Glacie 49.41 38 P **P** **04 54 19.4 +0.8**
GKN Gorkha 49.43 275 *eP* **P** **04 54 20.1 +0.9**
comp=Z,1000nm,1.5s
KAPI Kappang 49.50 212 P **P** **04 54 20.2 +0.7**
comp=Z,27nm,0.4s,baz=210,slow=4.2,SNR=15
KAPI Kappang 49.50 212 *ceP* **P** **04 54 21.8 +2.3**
KAPI Kappang 49.50 212 P **P** **04 54 20.2 +0.7**
KAPI IAmb IAmb 04 54 43.4
comp=Z,209nm,1.4s
KAPI Kappang 49.50 212 P **P** **04 54 20.4 +0.9**
KAPI P **P** **04 54 20.4 +0.9**
KAPI P **P** **04 54 20.4 +0.9**
KAPI Kappang 49.50 212 P **P** **04 54 20.9 +1.4**
comp=Z,2µmcomp=Z,99nm,1.4s
BRZS Berezniki 49.51 307 ⇑*iP* **P** **04 54 18.7 -0.6**
comp=Z,71nm,1.0s,baz=307
BRZS *e*S **S** **05 01 26.5 +0.4**
baz=307
BRZS Berezniki 49.51 307 *c iP* **P** **04 54 18.6 -0.7**
BRZS *e*S **S** **05 01 26.4 +0.4**
BRZS pmax pmax
comp=Z,71nm,1.0s
TABL Table Mountain 49.61 39 P **P** **04 54 20.7 +0.5**
ULHL Ulahol 49.63 296 P **P** **04 54 20.6 -0.1**
SNR=39
PKKI Palangkaraya 49.67 220 P **P** **04 54 23.0 +2.2**
comp=Z,139nm,0.9s
BOOM Boomskoye usch 49.76 296 P **P** **04 54 21.0 -0.5**
BOOM pmax pmax
comp=Z,163nm,1.0s
BOOM Boomskoye usch 49.76 296 P **P** **04 54 21.0 -0.5**
DAWY Dawson 49.77 34 P **P** **04 54 22.1 +1.0**
DAWY IAMs_20 IAMs_20 05 19 25.3
comp=Z,4µm,18.0s
MKS Makassar 49.80 212 P **P** **04 54 23.3 +1.5**
comp=Z,2µmcomp=Z,128nm,1.2s
TKM2 Tokmak 2 49.84 297 P **P** **04 54 22.7 +0.5**
SNR=105
TKM2 Tokmak 2 49.84 297 P **P** **04 54 22.5 +0.3**
TKM2 pmax pmax
comp=Z,305nm,1.3s
DANN Dangsing 49.94 276 *eP* **P** **04 54 24.0 +0.8**
comp=Z,813nm,0.8s
BVAR Borovoye Array 50.05 311 P **P** **04 54 22.2 -1.2**
comp=Z,18nm,0.6s,baz=163,slow=11,SNR=54
BRVK Borovoye 50.10 311 *c iP* **P** **04 54 23.4 -0.3**
BRVK pmax pmax
comp=Z,165nm,1.3s
BRVK Borovoye 50.10 311 P **P** **04 54 24.0 +0.3**
BRVK IAmb IAmb 04 54 36.3
comp=Z,199nm,1.3s
BRVK Borovoye 50.10 311 IAMs_20 IAMs_20 05 16 30.8
comp=Z,5µm,21.0s
BRVK Borovoye 50.10 311 P **P** **04 54 24.1 +0.4**
BRVK P **P** **04 54 24.1 +0.4**
PINM Pinnacle 50.11 39 P 04 54 23.6
baz=282
SURT Suratani 50.12 245 P **P** **04 54 27.3 +3.0**
BTLS Baital 50.16 300 ⇑*iP* **P** **04 54 23.4 -1.0**
comp=Z,69nm,1.3s,baz=300
BTLS *e*S **S** **05 01 35.8 +0.5**
baz=300
BTLS Baital 50.16 300 *c iP* **P** **04 54 23.3 -1.0**
BTLS *e*S **S** **05 01 35.7 +0.5**
BTLS pmax pmax
comp=Z,69nm,1.3s
OTUK Ortayu 50.24 305 P **P** **04 54 24.5 -0.4**
OTUK pmax pmax
comp=Z,138nm,1.4s
BBKI Banjar Baru 50.30 218 P **P** **04 54 26.2 +0.6**
comp=Z,97nm,1.4s
SGDS Sogindy 50.32 298 *eP* **P** **04 54 25.1 -0.6**
comp=Z,147nm,1.9s,baz=298
SGDS Sogindy 50.32 298 *eP* **P** **04 54 25.0 -0.6**
SGDS pmax pmax
comp=Z,147nm,1.9s
KOLN Koldanda 50.34 276 *eP* **P** **04 54 27.4 +1.2**
comp=Z,1µm,1.5s
KBK Karagaybulak 50.38 297 P **P** **04 54 26.7 +0.4**
SNR=66
CHMS Chumysh 50.39 297 P **P** **04 54 26.0 -0.2**
SNR=15
USP Ospennovka 50.47 298 P **P** **04 54 26.8 0.0**
SNR=27
EPYK Eagle Plains 50.49 31 P **P** **04 54 27.7 +1.1**
EPYK IAmb IAmb 04 54 38.4
comp=Z,147nm,1.2s
EPYK IAMs_20 IAMs_20 05 18 10.3
comp=Z,3µm,19.0s
EPYK Eagle Plains 50.49 31 P 04 54 27.3
baz=280,SNR=32
EPYK S 05 01 41.1
baz=280
FRU1 Bishkek 50.55 297 P **P** **04 54 27.5 +0.1**
FRU1 pmax pmax
comp=Z,272nm,1.4s
FRU1 Bishkek 50.55 297 P **P** **04 54 27.5 +0.1**
BOK Bokaro 50.63 270 *eP* **P** **04 54 29.4 +1.2**
BOK IAmb IAmb 04 54 45.1
comp=Z,80nm,1.3s
PYUN Piuthan 50.65 276 *eP* **P** **04 54 30.3 +1.8**
AAK Ala-Archa 50.70 297 LR LR 05 17 02.6
comp=Z,11µm,19.2s,baz=76,slow=37
AAK Ala-Archa 50.70 297 P **P** **04 54 30.1 +1.5**
SNR=19
AAK Ala-Archa 50.70 297 *i* P **P** **04 54 28.4 -0.3**
SNR=21
AAK Ala-Archa 50.70 297 *c iP* **P** **04 54 28.7 0.0**
AAK pmax pmax
comp=Z,198nm,1.4s
AAK Ala-Archa 50.70 297 P **P** **04 54 28.6 0.0**
AAK IAmb IAmb 04 54 31.1
comp=Z,258nm,1.7s
AAK Ala-Archa 50.70 297 P **P** **04 54 28.6 -0.1**
AAK P **P** **04 54 28.6 -0.1**
AAK P **P** **04 54 28.6 -0.1**
KSH Kashi 50.84 293 P **P** **04 54 34.3 +4.6**
KSH pP pwP 04 54 39.0 +1.3
KSH PP **PP** **04 56 32.2 +6.4**
KSH S **S** **05 01 53.2 +8.1**
KSH pmax pmax
comp=Z,92nm,1.5s
KSH pmax pmax
comp=Z,660nm,2.8s
KSH L L
comp=Z,8µm,15.6s
KSH L L
comp=Z,14µm,14.5s
KSH L L
comp=Z,21µm,14.8s
HNR Honiara 51.15 159 IAMs_20 IAMs_20 05 19 01.7
comp=Z,4µm,20.0s
EKS2 Erkin-Say 51.18 297 P **P** **04 54 33.8 +1.6**
SNR=22
PKDT Phuket 51.20 244 P **P** **04 54 33.0 +0.6**
PBKI Pangkalan Bun 51.24 222 P **P** **04 54 34.2 +1.5**
comp=Z,159nm,0.6s
HYT Haines Junctio 51.27 38 P **P** **04 54 33.6 +1.0**
HYT IAmb IAmb 04 54 44.5
comp=Z,192nm,1.2s
INK Inuvik 51.36 28 P **P** **04 54 33.3 +0.4**
comp=Z,18nm,0.8s,baz=292,slow=7.4,SNR=24
INK LR LR 05 20 16.6
comp=Z,2µm,18.3s,baz=280,slow=41
INK Inuvik 51.36 28 P **P** **04 54 33.2 +0.3**
INK Inuvik 51.36 28 P 04 54 33.4
baz=281,SNR=27
INK S 05 01 51.9
baz=281
AML Almayashu 51.44 297 P **P** **04 54 36.6 +2.1**
SNR=21
AML Almayashu 51.44 297 *i* P **P** **04 54 34.8 +0.4**
SNR=34
KULM Kulim 51.50 240 P **P** **04 54 36.0 +1.3**
DGPR DIGLIPUR 51.52 254 *eP* **P** **04 54 36.7 +1.8**
DGPR IAmb IAmb 04 54 53.9

comp=Z,349nm,1.6s
IPM Ipoh 51.85 239 P P 04 54 39.0 +1.7
MMRI Maumere 51.88 207 P P 04 54 38.3 +0.8
MMRI IAmb IAmb 04 55 02.9
comp=Z,146nm,1.0s
MMRI Maumere 51.88 207 ⇑P P 04 54 37.7 +0.2
MMRI Maumere 51.88 207 P P 04 54 38.0 +0.5
comp=Z,2µmcomp=Z,165nm,1.5s
SOEI Soe 52.25 204 P P 04 54 40.8 +0.4
SOEI IAmb IAmb 04 55 00.3
comp=Z,171nm,1.2s
SOEI Soe 52.25 204 P P 04 54 39.8 -0.6
comp=Z,2µmcomp=Z,116nm,1.1s
BTDF Bukit Timah Da 52.46 234 P P 04 54 42.5 +0.6
comp=Z,3µmcomp=Z,1µmcomp=Z,31nm,1.5s
WHY Whitehorse 52.56 38 P P 04 54 43.0 +0.7
WHY Whitehorse 52.56 38 P 04 54 44.0
baz=286,SNR=9.9
WHY S 05 02 12.7
baz=286
KIP Kipapa 52.68 92↓ eP P 04 54 43.0 -0.5
KIP pmax pmax
comp=Z,177nm,1.0s
KIP Kipapa 52.68 92 P P 04 54 44.8 +1.4
KIP IAmb IAmb 04 54 54.8
comp=Z,171nm,1.1s
DZA Taraz 52.77 299 eP P 04 54 42.9 -1.0
baz=298
DZA Taraz 52.77 299 eP P 04 54 42.9 -1.0
BATI Baumata 52.87 205 P P 04 54 45.1 +0.3
comp=Z,20nm,0.5s,baz=155,slow=6.1,SNR=3.7
BATI Baumata 52.87 205 P P 04 54 45.1 +0.3
comp=Z,39nm,1.4s
BESE Bessie Mountai 53.17 40 P P 04 54 47.3 +0.6
KK31 Karatay Array 53.24 299 P P 04 54 46.0 -1.4
KK31 pmax pmax
comp=Z,354nm,1.8s
KK31 Karatay Array 53.24 299 P P 04 54 46.0 -1.4
KKAR Karatay Array 53.24 299 P P 04 54 46.7 -0.7
KKAR pmax pmax
comp=Z,354nm,1.8s
KKAR Karatay Array 53.24 299 P P 04 54 46.7 -0.7
KKAR Karatay Array 53.24 299 P P 04 54 46.3 -1.0
KKAR IAmb IAmb 04 54 49.3
comp=Z,354nm,1.8s
SIT Sitka 53.39 42 P 04 54 48.4
baz=288
SIT S 05 02 17.1
baz=288
DSRI Dabo 53.41 231 P P 04 54 49.5 +0.6
comp=Z,2µmcomp=Z,56nm,1.6s
MTN Manton Dam 53.44 195 P P 04 54 49.4 +0.4
MTN IAmb IAmb 04 55 18.4
comp=Z,203nm,1.6s
JIS Juneau Island 53.50 41 P P 04 54 50.0 +1.1
JIS IAMs_20 IAMs_20 05 20 19.0
comp=Z,3µm,19.0s
SMLA Simla 53.62 283 eP P 04 54 49.1 -1.1
SMLA IAmb IAmb 04 54 51.9
comp=Z,183nm,0.7s
PPBI Pangkal Pinang 53.84 229 P P 04 54 52.9 +0.9
comp=Z,61µmcomp=Z,141nm,1.4s
KMMI Kalianget 53.85 217 P P 04 54 53.7 +1.7
comp=Z,2µmcomp=Z,82nm,1.4s
TWSI Taliwang, Sumb 54.05 213 P P 04 54 53.1 -0.4
comp=Z,632nmcomp=Z,34nm,1.2s
LHMI Lhok Sumawe 54.05 243 P P 04 54 54.2 +0.6
comp=Z,7µmcomp=Z,7µmcomp=Z,109nm,1.4s
CHM Chimkent 54.16 299 eS S 05 02 30.4 +0.2
baz=298
SRBI Singaraja 54.19 215 P P 04 54 56.0 +1.5
comp=Z,3µmcomp=Z,136nm,1.6s
TSI Tuntungan 54.21 240 P P 04 54 56.1 +1.4
KHKI Kahang-Kahang 54.27 215 P P 04 54 54.9 -0.1
SVE Sverdlovsk 54.29 318 d iP P 04 54 56.1 +1.3
SVE e 04 56 58.4
SVE eS S **05 02 32.5 +1.1**
SVE pmax pmax
comp=Z,250nm,1.5s
SVE MLR MLR
comp=E,20µm,15.0s
SVE MLR MLR
comp=Z,28µm,15.0s
C36M Paulatuk 54.41 26 P P 04 54 56.2 +0.7
C36M Paulatuk 54.41 26 P 04 54 55.9
baz=288
C36M S 05 02 34.3
baz=288
PSI Prapat 54.49 239 P P 04 54 56.5 -0.4
PSI pmax pmax
comp=Z,47nm,1.0s
PSI MLR MLR
comp=Z,3µm,20.0s
PSI Prapat 54.49 239 P P 04 54 57.0 +0.1
comp=Z,2µmcomp=Z,648nmcomp=Z,27nm,1.3s,comp=Z,4µm,1.3s,
comp=Z,1µm,1.3s,comp=Z,57nm,1.3s
PSI P P **04 54 57.0 +0.1**
comp=Z,2µmcomp=Z,648nmcomp=Z,27nm,1.3s,comp=Z,4µm,1.3s,
comp=Z,1µm,1.3s,comp=Z,57nm,1.3s
RPSI Rantau Prapat 54.57 239 P P 04 54 56.5 -0.8
RPSI IAMs_20 IAMs_20 05 19 37.2
comp=Z,3µm,20.0s
BKNI Bangkinang 54.98 235 P P 04 55 00.6 +0.3
BKNI IAMs_20 IAMs_20 05 19 44.1
comp=Z,3µm,19.0s
BKNI Bangkinang 54.98 235 P P 04 55 01.8 +1.5
comp=Z,3µmcomp=Z,14µmcomp=Z,211nm,1.3s
CRAG Craig 55.08 44 P P 04 55 01.1 +0.6
CRAG IAmb IAmb 04 55 12.8
comp=Z,132nm,1.4s
CRAG Craig 55.08 44 P 04 55 01.0
baz=291
CRAG S 05 02 46.7
baz=291
WRAK Wrangell Islan 55.15 42 P 04 55 01.1
baz=291
WRAK S 05 02 48.5
baz=291
NIL Nilore 55.35 287 P P 04 55 02.7 -0.1
NIL pmax pmax
comp=Z,472nm,1.4s
NIL MLR MLR
comp=Z,4µm,18.0s
NIL Nilore 55.35 287 P P 04 55 02.7 -0.1
NIL Nilore 55.35 287 IAMs_20 IAMs_20 05 22 59.3
comp=Z,4µm,18.0s
NIL Nilore 55.35 287 P P 04 55 03.7 +0.8
NIL P P **04 55 03.7 +0.8**
SJI Sawahan 55.49 219 P P 04 55 04.3 +0.2
comp=Z,7µmcomp=Z,124nm,1.0s
ARU Arti 55.50 318 c iP P 04 55 03.4 -0.2
ARU 04 56 03.8
ARU 04 57 07.0
ARU PPP PPP 04 58 20.8
ARU S **S 05 02 49.5 +1.8**
ARU 05 04 48.6
ARU SS **SS 05 06 31.8 -0.2**
ARU pmax pmax
comp=Z,337nm,1.3s
ARU MLR MLR
comp=Z,22µm,15.0s
ARU Arti 55.50 318 P P 04 55 03.7 +0.1
POHA Pohakuloa 55.54 92 P P 04 55 05.5 +0.9
MNSI Mandailing Nat 55.56 237 P P 04 55 04.7 +0.2
comp=Z,10µmcomp=Z,31nm,1.7s
SMRI Semarang 55.56 221 P P 04 55 04.8 +0.3
SMRI Semarang 55.56 221 P P 04 55 06.3 +1.8
comp=Z,5µmcomp=Z,204nm,1.2s
DLBC Dease Lake 55.61 40 P P 04 55 06.3 +1.9
comp=Z,9.6nm,1.0s,baz=292,slow=6.8,SNR=13
DLBC Dease Lake 55.61 40 P P 04 55 05.0 +0.6
DLBC IAmb IAmb 04 55 18.1
comp=Z,118nm,1.7s
SDSI Sungai Dareh 55.70 234 P P 04 55 06.4 +0.9
comp=Z,4µmcomp=Z,200nm,1.4s
PWJI Pagerwojo 55.73 219 P P 04 55 04.2 -1.4
comp=Z,3µmcomp=Z,158nm,0.9s
KHU Kahuku 55.77 93 P P 04 55 06.5 +0.2
KHU pmax pmax
comp=Z,275nm,1.1s
KHU Kahuku 55.77 93 P P 04 55 06.5 +0.2
VIS Vishakhapatnam 56.02 265 eP P 04 55 08.3 +0.5
VIS IAmb IAmb 04 55 10.0
comp=Z,440nm,2.0s
CTJI Waduk Cacaban 56.17 222 P P 04 55 09.9 +1.0
comp=Z,2µmcomp=Z,107nm,1.4s

UGM Wanagama 56.26 220 P P 04 55 09.9 +0.4
UGM Wanagama 56.26 220 P P 04 55 10.0 +0.5
comp=Z,345nm,1.6s
PDSI Padang 56.30 235 P P 04 55 10.7 +0.9
comp=Z,2µmcomp=Z,4µmcomp=Z,20nm,1.3s
GSI Gunungsitoli 56.49 239 P P 04 55 11.1 -0.1
GSI Gunungsitoli 56.49 239 P P 04 55 12.5 +1.3
comp=Z,4µmcomp=Z,239nm,1.6s
KPJI Karang Pucung 56.58 222 P P 04 55 12.0 +0.3
comp=Z,2µmcomp=Z,92nm,1.1s
KNRA Kununurra 56.69 197 P P 04 55 13.2 +0.8
LHSI Lahat 56.71 230 P P 04 55 14.1 +1.4
comp=Z,6µmcomp=Z,357nm,1.5s
LEM Lembang 56.85 224 P P 04 55 13.8 0.0
comp=Z,65nm,0.7s,baz=65,slow=6.0,SNR=22
LEM Lembang 56.85 224 P P 04 55 13.9 0.0
comp=Z,2µmcomp=Z,2µmcomp=Z,101nm,1.2s
MDSI Maura Dua 56.85 229 P P 04 55 13.7 0.0
comp=Z,2µmcomp=Z,2µmcomp=Z,118nm,1.4s
BLSI Bandar Lampung 56.95 227 P P 04 55 14.9 +0.5
EUNU Eureka 57.39 9 P P 04 55 17.6 +0.8
ALE Alert 57.43 4 IAMs_20 IAMs_20 05 23 00.5
comp=Z,3µm,19.0s
BHPL Bhopal 57.46 274 eP P 04 55 16.9 -1.1
BHPL IAmb IAmb 04 55 18.4
comp=Z,317nm,1.5s
KASI Kota Agung 57.51 228 P P 04 55 17.6 -0.7
comp=Z,71nm,1.3s
AB31 Akbulak array 57.51 309 i P P 04 55 17.6 -0.4
AB31 pmax pmax
comp=Z,61nm,0.8s
ABKAR Akbulak array 57.51 309 P P 04 55 17.9 -0.2
ABKAR Akbulak array 57.51 309 P P 04 55 18.0 0.0
ABKAR IAmb IAmb 04 55 20.2
comp=Z,489nm,1.9s
HOPEN Hopen 57.92 346 eP P 04 55 21.8 +1.3
KBL Kabul 58.00 290 P P 04 55 21.5 -0.5
KBL pmax pmax
comp=Z,130nm,1.1s
KBL Kabul 58.00 290 P P 04 55 21.5 -0.5
KBL IAmb IAmb 04 55 23.6
comp=Z,130nm,1.1s
KBL Kabul 58.00 290 P P 04 55 21.6 -0.3
SNR=20
KBL P P **04 55 21.6 -0.3**
SNR=20
AKTO Aktyubinsk 58.15 311 P P 04 55 22.1 -0.4
AKTO pmax pmax
comp=Z,81nm,1.3s
SPA0 Spitsbergen Ar 58.30 349 eP P 04 55 23.0 -0.1
KBS Kingsbay 58.38 350↓ eP P 04 55 25.4 +1.7
KBS pmax pmax
comp=Z,57nm,1.0s
KBS Kingsbay 58.38 350 eP P 04 55 24.6 +0.9
KBS Kingsbay 58.38 350 P P 04 55 24.2 +0.5
KBS IAmb IAmb 04 55 26.8
comp=Z,82nm,1.1s
KBS IAMs_20 IAMs_20 05 24 33.1
comp=Z,3µm,20.0s
NOR Nord 58.57 357 i P P 04 55 25.0 0.0
NOR IAmb IAmb 04 55 27.0
comp=Z,22nm,1.1s
NOR Nord 58.57 357 i P P 04 55 25.0 0.0
NOR pmax pmax
comp=Z,22nm,1.1s
KNTN Kanton 58.90 125 P P 04 55 29.5 +1.5
SANVU Saraoutou 59.10 153 P P 04 55 30.7 +1.4
SANVU IAMs_20 IAMs_20 05 21 42.6
comp=Z,2µm,19.0s
BBB Bella Bella 59.11 46 P P 04 55 29.3 +0.3
BBB IAmb IAmb 04 55 40.3
comp=Z,82nm,1.4s
KIRV Kirov 59.16 323 c iP P 04 55 29.0 -0.3
HSPB Hornsund (broa 59.25 348 eP P 04 55 30.9 +1.2
CTA Charters Tower 59.45 177 P P 04 55 31.9 +0.2
comp=Z,5.5nm,0.9s,baz=337,slow=7.7,SNR=1.1
PRGR Permogore 59.48 327 eP P 04 55 30.7 -0.8
PRGR pmax pmax
comp=Z,80nm,1.0s
RES Resolute Bay 59.70 15 P P 04 55 34.0 +1.2
RES pmax pmax
comp=Z,36nm,0.9s
RES MLR MLR
comp=Z,4µm,21.0s
RES Resolute Bay 59.70 15 P P 04 55 34.0 +1.2
RES IAMs_20 IAMs_20 05 25 06.4
comp=Z,3µm,21.0s
FITZ Fitzroy Crossi 59.78 200 P P 04 55 34.5 +0.5
FITZ IAmb IAmb 04 55 48.0
comp=Z,102nm,1.2s
WRAB Tennant Creek 59.85 190 c iP P 04 55 33.8 -0.7
WRAB pmax pmax
comp=Z,34nm,0.9s
WRAB Tennant Creek 59.85 190 P P 04 55 34.2 -0.2
WRAB IAmb IAmb 04 55 45.2
comp=Z,68nm,1.1s
WRA Warramunga Arr 59.86 190 P P 04 55 33.4 -1.2
comp=Z,18nm,0.8s,baz=8.0,slow=6.9,SNR=50
WRA LR LR 05 19 14.5
comp=Z,856nm,21.4s,baz=20,slow=34
HYB Hyderabad 59.88 268 i P P 04 55 36.0 +1.1
comp=Z,200nm,1.4s
HYB Hyderabad 59.88 268 eP P 04 55 34.5 -0.4
HYB IAmb IAmb 04 55 49.7
comp=Z,254nm,1.9s
LVZ Lovozero 60.41 336↓ eP P 04 55 38.4 +0.5
LVZ pmax pmax
comp=Z,93nm,1.4s
LVZ Lovozero 60.41 336 IAMs_20 IAMs_20 05 25 45.0
comp=Z,4µm,20.0s
YKA Yellowknife Ar 60.77 31 P P 04 55 39.8 -0.5
comp=Z,14nm,1.1s,baz=298,slow=6.3,SNR=19
YKA LR LR 05 25 00.7
comp=Z,758nm,19.1s,baz=0.0,slow=39
APA Apatity 60.99 336 ⇑i iP P 04 55 37.8 -4.0
APA *i* 04 57 52.0
APA *i* S S 05 03 47.0 -12
APA pmax pmax
comp=Z,23nm,0.9s
APA MLR MLR
comp=Z,6µm,21.0s
MDRS Chennai 61.18 263⇑ eP P 04 55 45.7 +2.0
MDRS IAmb IAmb 04 55 46.8
comp=Z,163nm,1.3s
KEV Kevo 61.59 339 P P 04 55 46.2 +0.4
KEV pmax pmax
comp=Z,65nm,1.1s
KEV MLR MLR
comp=Z,4µm,22.0s
KEV Kevo 61.59 339 P P 04 55 46.2 +0.4
KEV IAmb IAmb 04 55 48.2
comp=Z,65nm,1.1s
KEV IAMs_20 IAMs_20 05 25 01.2
comp=Z,4µm,22.0s
ARA0 ARCESS Array S 62.14 339 eP P 04 55 49.8 +0.2
ARCES ARCESS Array B 62.14 339 P P 04 55 49.1 -0.4
comp=Z,10nm,0.7s,baz=45,slow=7.3,SNR=32
ARCES ARCESS Array B 62.14 339 P P 04 55 50.2 +0.7
ARCES IAmb IAmb 04 55 52.1
comp=Z,147nm,1.8s
TULEG Thule 62.32 8 eP P 04 55 49.5 -1.1
TULEG Thule 62.32 8 P P 04 55 49.5 -1.1
TULEG IAmb IAmb 04 56 02.7
comp=Z,102nm,1.5s
KLMR Klimovskoe 62.43 328 c iP P 04 55 51.9 +0.4
KLMR *e* 04 58 05.3
KLMR S **S 05 04 16.9 -0.4**
KLMR pmax pmax
comp=Z,556nm,1.8s
KLMR pmax pmax
comp=Z,202nm,1.5s
KLMR MLR MLR
comp=Z,6µm,16.0s
KLMR Klimovskoe 62.43 328 ⇑iP P 04 55 52.0 +0.4
KLMR ⇑*iP* P **04 55 52.0 +0.4**
KLMR ↓*iP* P **04 55 52.0 +0.4**
KLMR AMP 04 55 53.7
comp=Z,202nm,1.5s
KLMR *e*PP PP **04 58 05.4 -3.1**
KLMR S **S 05 04 17.0 -0.4**
KLMR S **S 05 04 17.0 -0.4**
KLMR LQ LQ 05 15 39.6
KLMR LQ LQ 05 15 39.6
KLMR LR LR 05 21 11.1
KLMR AMP 05 25 27.9

comp=Z,6µm,15.9s
NEEM North Greenlan 62.86 4 i P P 04 55 54.5 -0.1
NEEM IAmb IAmb 04 55 56.5
comp=Z,37nm,1.0s
HRA Herat 62.95 293 P P 04 55 55.0 -0.8
HRA IAmb IAmb 04 56 08.5
comp=Z,120nm,1.5s
KTK1 Kautokeino 63.10 340 eP P 04 55 56.5 +0.6
DAG Danmarks Havn 63.33 355 i P P 04 55 57.2 -0.1
DAG IAmb IAmb 04 55 59.2
comp=Z,42nm,1.0s
DAG Danmarks Havn 63.33 355 i P P 04 55 57.2 -0.1
DAG pmax pmax
comp=Z,42nm,1.0s
JETT Jettan, Norway 63.47 341 eP P 04 55 59.6 +1.2
AS31 Alice Springs 63.58 190 P P 04 55 59.9 +0.3
ASAR Alice Springs 63.59 190 P P 04 55 59.0 -0.7
comp=Z,8.8nm,0.8s,baz=9.8,slow=5.9,SNR=37
ASAR PKP2bc 05 25 00.7
comp=Z,0.5nm,0.9s,baz=176,slow=2.0,SNR=4.6
ASAR Alice Springs 63.59 190 P P 04 55 59.0 -0.7
ASAR Alice Springs 63.59 190 P P 04 55 59.3 -0.3
TRO Tromso 63.78 341 eP P 04 56 01.2 +0.8
A04D Lummi Island 63.80 47 P 04 56 01.1
baz=301
A04D S 05 04 36.3
baz=301
NLWA Neilton Lookou 63.80 49 P P 04 56 01.4 +0.4
GEYT Alibeck 63.99 299 P P 04 56 01.9 -0.5
comp=Z,40nm,1.1s,baz=202,slow=2.7,SNR=29
GYA0B ALIBECK ARRAY 63.99 299 P P 04 56 02.2 -0.1
GYA0B IAmb IAmb 04 56 24.0
comp=Z,59nm,0.9s
A05A Maple Falls 64.00 47 P P 04 56 03.1 +0.9
A05A IAmb IAmb 04 56 13.4
comp=Z,97nm,1.2s
D03D Eldon 64.19 49 P 04 56 05.1
baz=301,SNR=14
D03D S 05 04 41.0
baz=301
B05A Bryant 64.38 48 P 04 56 05.9
baz=301,SNR=6.0
B05A S 05 04 42.7
baz=301
E03A Lebam 64.42 50 P P 04 56 06.0 +1.1
PALK Pallekele 64.48 258 P P 04 56 05.3 -0.6
PALK pmax pmax
comp=Z,97nm,1.5s
PALK MLR MLR
comp=Z,3µm,19.0s
PALK Pallekele 64.48 258 P P 04 56 05.3 -0.6
PALK IAmb IAmb 04 56 08.2
comp=Z,97nm,1.5s
PALK IAMs_20 IAMs_20 05 29 01.5
comp=Z,3µm,19.0s
PALK Pallekele 64.48 258 P P 04 56 06.3 +0.4
D04E Lakebay 64.56 49 P 04 56 05.9
baz=302
B06A Marblemount 64.59 47 P P 04 56 07.2 +1.2
B06A IAmb IAmb 04 56 17.4
comp=Z,81nm,1.1s
GOA Goa 64.67 269⇑ eP P 04 56 07.8 +0.8
PSA00 Pilbara Seismi 64.75 204 P P 04 56 07.5 +0.2
PSA00 IAmb IAmb 04 56 09.1
comp=Z,107nm,1.9s
PSA00 Pilbara Seismi 64.75 204 P P 04 56 07.9 +0.6
PSA00 IAmb IAmb 04 56 09.1
comp=Z,153nm,1.9s
F04D Rainier, OR 64.99 50 P 04 56 08.6
baz=302
E04D Cinebar 65.00 49 P 04 56 10.1
baz=302,SNR=13
E04D S 05 04 53.3
baz=302
D05A Enumclaw 65.00 49 P P 04 56 09.8 +1.1
DZM Mont Dzumac 65.03 156 eP P 04 56 11.0 +1.8
comp=Z,127nm,1.2s
DZM eS S **05 04 48.5 -2.1**
comp=Z,2µm,25.6s
DZM Mont Dzumac 65.03 156 eLR LR 05 15 39.7
comp=Z,5µm,21.9s
DZM Mont Dzumac 65.03 156 P P 04 56 09.9 +0.7
comp=Z,35nm,1.2s,baz=6.5,slow=8.4,SNR=4.4
C06D Leavenworth 65.24 47 P 04 56 10.7
baz=302
G03D McMinnville, O 65.30 51 S 05 04 58.3
baz=302
LON Longmire 65.34 49 P P 04 56 11.7 +0.7
LON pmax pmax
comp=Z,31nm,1.1s
LON Longmire 65.34 49 P P 04 56 11.7 +0.7
I02D Swisshome 65.53 52 P 04 56 12.8
baz=302
I02D S 05 05 00.7
baz=302
MSVF Nonsavu 65.57 144 LR LR 05 21 35.4
comp=Z,2µm,18.7s,baz=339,slow=33
MSVF Nonsavu 65.57 144 IAMs_20 IAMs_20 05 22 41.6
comp=Z,3µm,22.0s
COR Corvallis 65.60 52 P P 04 56 13.9 +1.2
COR pmax pmax
comp=Z,270nm,1.2s
COR Corvallis 65.60 52 P P 04 56 13.9 +1.2
LTY Liberty 65.73 48 P P 04 56 14.3 +0.7
LTY IAmb IAmb 04 56 25.1
comp=Z,89nm,1.2s
DBG Daneborg 65.83 355⇑ iP P 04 56 13.9 +0.3
DBG IAmb IAmb 04 56 14.7
comp=Z,33nm,1.3s
KEBM Edson Butte 65.88 54 P P 04 56 15.8 +1.1
B08A Colville Reser 65.89 46 P P 04 56 14.8 +0.3
B08A IAmb IAmb 04 56 26.1
comp=Z,132nm,1.4s
H04D Lebanon 65.98 51 P 04 56 16.1
baz=303
H04D S 05 05 02.7
baz=303
J01E Myrtle Point 65.98 53 P 04 56 16.0
baz=302
J01E S 05 05 06.2
baz=302
F05D White Salmon 66.01 50 P 04 56 16.8
baz=303,SNR=7.4
F05D S 05 05 05.5
baz=303
I03D Drain, OR 66.05 52 P 04 56 17.1
baz=303,SNR=14
I03D S 05 05 05.0
baz=303
MOS Moscow 66.12 323 eP P 04 56 14.3 -1.5
MOS *e* 04 58 40.9
MOS eS **S 05 05 03.0 -0.2**
MOS pmax pmax
comp=Z,239nm,1.6s
MOS pmax pmax
comp=Z,600nm,2.0s
MOS MLR MLR
comp=N,7µm,16.0s
MOS MLR MLR
comp=Z,11µm,16.0s
MOS MLR MLR
comp=E,9µm,16.0s
H04A Detroit Lake 66.22 51 P P 04 56 17.7 +0.9
FAUS Fauske 66.35 341 eP P 04 56 17.2 +0.1
K02D Willamette Mer 66.39 53 P 04 56 18.8
baz=303
K02D S 05 05 11.9
baz=303
G05D Wamic, OR 66.44 50 P 04 56 19.2
baz=303,SNR=7.9
G05D S 05 05 11.3
baz=303
I04A Tendick Farm, 66.57 52 P 04 56 19.7
baz=303,SNR=13
I04A S 05 05 11.3
baz=303
E07A Sunnyside 66.58 48 P P 04 56 19.9 +0.9
L02E Cave Junction 66.72 54 P 04 56 21.4
baz=303,SNR=5.4
L02E S 05 05 14.1
baz=303
VRH Novokhopyorsk 66.73 318 eP P 04 56 19.7 -0.1
VRH eS **S 05 05 06.7 -4.1**
VRH pmax pmax
comp=Z,110nm,0.9s
VRH smax smax

comp=N,790nm,10.1s
VRH MLR MLR
comp=Z,18µm,15.0s
C09A Chrisman Ranch 66.79 47 P P 04 56 21.2 +0.9
D08A Wollman Farm, 66.84 47 P P 04 56 20.9 +0.3
D08A IAmb IAmb 04 56 32.1
comp=Z,89nm,1.1s
HAWA Hanford 66.85 48 P P 04 56 21.8 +1.1
HUMO Hull Mountain 66.88 53 P P 04 56 21.9 +0.9
HUMO IAmb IAmb 04 56 33.4
comp=Z,84nm,1.6s
F07A Phinny Hill Vi 66.90 49 P P 04 56 22.1 +1.2
I05D Terrebonne, OR 66.92 51 P 04 56 22.6
baz=303,SNR=6.8
I05D S 05 05 14.4
baz=303
OBN Obninsk 66.98 323*c* iP P **04 56 22.0 +0.7**
OBN *e**PP **pwP 04 56 30.0 +0.7**
OBN *e* 04 56 46.2
OBN PPP PPP 05 00 29.0
OBN *e*S **S 05 05 12.9 -0.7**
OBN *e* 05 05 35.5
OBN *e* 05 06 19.7
OBN *e*SS **SS 05 09 32.7 +1.3**
OBN pmax pmax
comp=Z,97nm,1.3s
OBN MLR MLR
comp=Z,10µm,16.0s
OBN Obninsk 66.98 323 P P **04 56 21.0 -0.3**
OBN IAMs_20 IAMs_20 05 25 07.9
comp=Z,2µm,18.0s
J04D Umpqua Nationa 67.06 52 P 04 56 22.9
baz=303,SNR=9.6
J04D S 05 05 18.7
baz=303
UPNV Upernavik 67.07 6 *i* P P **04 56 20.9 -0.7**
UPNV IAmb IAmb 04 56 26.1
comp=Z,38nm,1.2s
E08A Dider Farm, El 67.07 48 P P **04 56 23.1 +1.0**
E08A IAmb IAmb 04 56 33.7
comp=Z,86nm,1.1s
NEW Newport 67.17 46 P P **04 56 23.8 +1.0**
NEW pmax pmax
comp=Z,139nm,1.2s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 67.17 46 P P **04 56 23.8 +1.0**
NEW Newport 67.17 46 P 04 56 23.9
baz=304,SNR=32
NEW S 05 05 16.8
baz=304
FIA1 FINESS Array S 67.27 332 P P **04 56 22.7 -0.3**
FIA1 IAmb IAmb 04 56 25.1
comp=Z,100nm,1.0s
FINES FINESS Array B 67.27 332 P P **04 56 22.6 -0.4**
comp=Z,36nm,0.7s,baz=60,slow=5.7,SNR=65
FINES FINESS Array B 67.27 332 P P **04 56 22.4 -0.7**
FINES FINESS Array B 67.27 332 P P **04 56 22.4 -0.7**
COCO West Island 67.32 230 P P **04 56 24.5 +0.5**
COCO pmax pmax
comp=Z,416nm,1.3s
COCO West Island 67.32 230 P P **04 56 24.4 +0.5**
LPSR Galich'ya Gora 67.34 320 *e*P P **04 56 24.0 +0.3**
LPSR *e* 04 58 47.1
LPSR *e*S **S 05 05 15.2 -2.9**
LPSR pmax pmax
comp=Z,120nm,1.0s
LPSR smax smax
comp=N,2µm,13.9s
LPSR MLR MLR
comp=Z,12µm,14.0s
PINE Pine Mountain 67.46 51 P P **04 56 25.6 +0.7**
MOR8 Moi Rana 67.49 340 *e*P P **04 56 23.2 -1.2**
L04D Klamath Falls 67.50 53 P 04 56 26.7
baz=304,SNR=14
L04D S 05 05 22.4
baz=304
YBH Yreka Blue Hor 67.51 54 P P **04 56 25.9 +0.8**
YBH pmax pmax
comp=Z,69nm,1.1s
YBH Yreka Blue Hor 67.51 54 P P **04 56 25.9 +0.8**
YBH IAmb IAmb 04 56 37.5
comp=Z,69nm,1.1s
E09A Wood Farm, Sta 67.58 48 P P **04 56 26.3 +1.0**
M02C Callahan 67.61 54 P 04 56 27.9
baz=304,SNR=21
M02C S 05 05 24.9
baz=304
K04D Chiloquin, OR 67.61 53 P 04 56 26.6
baz=304
K04D S 05 05 23.6
baz=304
GIRL Giralia 67.69 209 P P **04 56 26.4 +0.3**
VORR Voronezh 67.75 319 *e*P P **04 56 24.0 -2.2**
VORR pmax pmax
comp=Z,300nm,1.2s
G08A Pilot Rock 67.80 49 P P **04 56 27.7 +0.8**
N02D Trinity Center 67.94 55 P 04 56 29.6
baz=304,SNR=10.0
N02D S 05 05 30.4
baz=304
M04C Macdoel 68.03 53 P 04 56 30.2
baz=304,SNR=18
M04C S 05 05 31.0
baz=304
VSR Storozhevoye 68.04 319 *e*P P **04 56 27.9 -0.2**
VSR *e* 04 58 52.8
VSR *e*S **S 05 05 20.9 -5.6**
VSR pmax pmax
comp=Z,160nm,1.4s
VSR smax smax
comp=N,910nm,12.9s
VSR MLR MLR
comp=Z,8µm,16.0s
K05A Summer Lake 68.08 52 P P **04 56 29.6 +0.8**
KCPM Cahto Peak 68.09 56 P P **04 56 29.7 +0.9**
SUMG Summit 68.09 1 *i* P P **04 56 29.5 +0.8**
SUMG IAmb IAmb 04 56 31.9
comp=Z,57nm,1.1s
SUMG Summit 68.09 1 *i* P P **04 56 29.4 +0.8**
SUMG pmax pmax
comp=Z,57nm,1.1s
SUMG Summit 68.09 1 P P **04 56 29.2 +0.6**
SUMG IAmb IAmb 04 56 46.0
comp=Z,59nm,1.0s
VORD Divnogorie 68.12 319 *e*P P **04 56 28.6 0.0**
VORD pmax pmax
comp=Z,150nm,1.2s
VORD MLR MLR
comp=Z,7µm,15.0s
MAK Makhachkala 68.12 308 *e*P P **04 56 24.9 -3.8**
MAK *e* 04 59 04.5
MAK *e*S **S 05 05 23.2 -4.5**
MAK *e*SS **SS 05 09 43.4 -6.2**
MAK *e*SSS SSS 05 12 54.6
MAK pmax pmax
comp=Z,240nm,1.9s
MAK MLR MLR
comp=Z,5µm,14.0s
I07A Izee 68.16 50 P P **04 56 29.9 +0.8**
I07A IAmb IAmb 04 56 41.1
comp=Z,54nm,1.2s
WDC Whiskeytown Da 68.26 55 P P **04 56 30.7 +1.0**
WDC pmax pmax
comp=Z,90nm,1.2s
WDC Whiskeytown Da 68.26 55 P P **04 56 30.7 +1.0**
WDC IAmb IAmb 04 56 41.7
comp=Z,90nm,1.1s
O02D Mt. Diablo Mer 68.33 55 P 04 56 31.4
baz=304,SNR=13
O02D S 05 05 34.6
baz=304
F10A Beach Ranch, E 68.41 48 P P **04 56 31.2 +0.5**
F10A IAmb IAmb 04 56 42.3
comp=Z,50nm,1.1s
WALA Waterton Lakes 68.46 44 P P **04 56 31.7 +0.8**
WALA IAmb IAmb 04 56 42.5
comp=Z,90nm,1.2s
MEF Metsahovi 68.71 332 *e*P P **04 56 32.9 +0.8**
HOPS Hopland Field 68.81 57 P P **04 56 34.1 +0.9**
HOPS IAMs_20 IAMs_20 05 24 22.2
comp=Z,2µm,20.0s
O03E Paynes Creek 68.89 55 P 04 56 34.6
baz=304,SNR=24
MOD Modoc Plateau 68.91 53 P P **04 56 34.5 +0.6**
MOD IAmb IAmb 04 56 45.8
comp=Z,82nm,1.1s
BMO Blue Mountains 69.01 49 P P **04 56 35.4 +1.0**
BMO pmax pmax
comp=Z,72nm,1.1s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 69.01 49 P P **04 56 35.4 +1.0**
BMO IAmb IAmb 04 56 46.2
comp=Z,72nm,1.1s
GROC Groznyy 69.02 309 *e*P P **04 56 35.0 +0.6**
GROC *e* 04 56 59.7
GROC pmax pmax
comp=Z,96nm,1.3s
JTMT Jette 69.03 45 P P **04 56 35.1 +0.6**
VSU Vasula 69.03 330 *e*P P **04 56 34.2 +0.1**
VSU Vasula 69.03 330*c e*P P **04 56 34.0 -0.1**
VSU pmax pmax
comp=Z,315nm,1.0s
RAF Rauma 69.07 334 *e*P P **04 56 34.9 +0.6**
GDXM Geysers 69.09 57 P P **04 56 35.8 +0.8**
GDXM IAmb IAmb 04 56 48.0
comp=Z,66nm,1.2s
J08A Circle Bar Ran 69.19 51 P P **04 56 36.2 +0.6**
MCCM Marconi Confer 69.41 57 P P **04 56 37.8 +1.0**
MCCM IAmb IAmb 04 56 48.3
comp=Z,89nm,1.1s
ORV Oroville 69.50 55 P P **04 56 37.7 +0.3**
ORV pmax pmax
comp=Z,88nm,1.2s
ORV Oroville 69.50 55 P P **04 56 37.7 +0.3**
ORV IAmb IAmb 04 56 48.6
comp=Z,88nm,1.2s
GOF Gofitskoye 69.56 312⇑ *i*P P **04 56 38.9 +1.2**
GOF pmax pmax
comp=Z,228nm,0.9s
WVOR Wild Horse Val 69.62 51 P P **04 56 38.9 +0.6**
WVOR pmax pmax
comp=Z,121nm,1.2s
WVOR Wild Horse Val 69.62 51 P P **04 56 38.9 +0.6**
WVOR IAmb IAmb 04 56 50.2
comp=Z,121nm,1.2s
SCO Scoresbysund 69.69 355 *i* P P **04 56 39.0 +1.0**
SCO IAmb IAmb 04 56 40.7
comp=Z,36nm,1.3s
SCO Scoresbysund 69.69 355 P P **04 56 38.9 +0.8**
SCO pmax pmax
comp=Z,73nm,1.5s
SCO MLR MLR
comp=Z,4µm,19.0s
SCO Scoresbysund 69.69 355 P P **04 56 38.9 +0.8**
MSO Missoula 69.76 46 P P **04 56 39.9 +0.8**
MSO IAmb IAmb 04 56 50.4
comp=Z,116nm,1.2s
MSO Missoula 69.76 46 P 04 56 39.6
baz=307,SNR=32
MSO S 05 05 48.1
baz=307
BEKR Beckworth 70.04 54 P P **04 56 41.8 +0.8**
BEKR IAmb IAmb 04 56 52.5
comp=Z,104nm,1.1s
ARMA Armidale 70.10 172 P P **04 56 42.1 +1.0**
AFDM Forest Hills D 70.18 56 P P **04 56 42.6 +0.9**
AFDM IAmb IAmb 04 56 53.2
comp=Z,63nm,1.2s
AAL Aland 70.29 334 *e*P P **04 56 41.8 -0.1**
ZEI Tsey 70.39 310 *e*P P **04 56 41.9 -1.2**
ZEI pmax pmax
comp=Z,85nm,1.5s
KIV Kislovodsk 70.42 311⇑ P P **04 56 44.8 +1.7**
KIV Kislovodsk 70.42 311 *i* P P **04 56 43.4 +0.3**
SNR=50
KIV Kislovodsk 70.42 311 *e*P P **04 56 43.8 +0.7**
KIV *e* 04 59 18.6
KIV *e*PPP PPP 05 01 00.1
KIV *e*S **S 05 05 56.8 +1.8**
KIV *e*SS **SS 05 10 27.4 +2.3**
KIV pmax pmax
comp=Z,723nm,1.0s
KIV pmax pmax
comp=Z,979nm,4.0s
KIV MLR MLR
comp=Z,22µm,18.0s
KIV Kislovodsk 70.42 311 P P **04 56 42.9 -0.2**
KIV Kislovodsk 70.42 311 P P **04 56 43.6 +0.5**
KBZ Khabaz 70.43 311 P P **04 56 43.6 +0.6**
comp=Z,75nm,1.0s,baz=49,slow=4.9,SNR=90
RUBR Rubicon Trail 70.64 55 P P **04 56 45.3 +0.6**
RUBR IAmb IAmb 04 56 56.4
comp=Z,86nm,1.0s
FFC Flin Flon 70.67 34 P P **04 56 44.3 0.0**
FFC pmax pmax
comp=Z,72nm,1.1s
FFC MLR MLR
comp=Z,1µm,18.0s
FFC Flin Flon 70.67 34 P P **04 56 44.3 0.0**
FFC IAmb IAmb 04 56 55.4
comp=Z,72nm,1.1s
MFID Camas Ranch 70.72 49 P P **04 56 45.4 +0.4**
MFID IAmb IAmb 04 56 56.8
comp=Z,110nm,1.3s
PAHR Pah Rah Range 70.74 54 P P **04 56 46.0 +0.8**
ONI Oni 70.77 310 P P **04 56 45.5 +0.2**
ONI pmax pmax
comp=Z,164nm,1.2s
ONI Oni 70.77 310 P P **04 56 45.5 +0.2**
NEY Neytrino 70.81 311‖ *e*P P **04 56 44.4 -1.2**
NEY pmax pmax
comp=Z,30nm,1.6s
VCNR Virginia City 70.82 55 P P **04 56 46.3 +0.5**
VCNR IAmb IAmb 04 56 57.7
comp=Z,66nm,1.1s
ILULI Ilulissat 70.95 5 *i* P P **04 56 46.6 +0.9**
ILULI Ilulissat 70.95 5 *i* P P **04 56 46.6 +0.9**
ILULI Ilulissat 70.95 5 P P **04 56 46.8 +1.0**
PNTR Pine Nut 70.97 55 P P **04 56 47.5 +0.7**
PNTR IAmb IAmb 04 56 58.7
comp=Z,107nm,1.1s
FCC Fort Churchill 70.97 28 IAMs_20 IAMs_20 05 32 19.7
comp=Z,2µm,21.0s
HRY Holter Researc 70.99 45 P P **04 56 47.4 +0.8**
CMB Columbia Colle 71.08 56 P P **04 56 48.3 +1.1**
CMB pmax pmax
comp=Z,111nm,1.2s
CMB Columbia Colle 71.08 56 P P **04 56 48.3 +1.1**
CMB IAmb IAmb 04 56 59.0
comp=Z,111nm,1.1s
SAO San Andreas Ge 71.14 58 P P **04 56 48.5 +1.0**
SAO pmax pmax
comp=Z,63nm,1.4s
SAO San Andreas Ge 71.14 58 P P **04 56 48.5 +1.0**
STKA Stephens Creek 71.16 182 P P **04 56 47.2 -0.2**
comp=Z,9.1nm,0.9s,baz=346,slow=6.9,SNR=8.7
MNK Minsk 71.24 326 *i* P P **04 56 47.1 -0.7**
MNK *i* 04 59 24.6
MNK *i* PPP PPP 05 01 07.6
MNK *i* S **S 05 06 02.3 -1.8**
MNK pmax pmax
comp=Z,144nm,1.3s
MNK pmax pmax
comp=N,83nm,1.3s
MNK pmax pmax
comp=E,16nm,1.5s
MNK MLR MLR
comp=E,259nm,16.0s
MNK MLR MLR
comp=Z,2µm,17.0s
MNK MLR MLR
comp=N,2µm,19.0s
MNK Minsk 71.24 326 *i* P P **04 56 47.1 -0.7**
comp=E,16nm,1.5s
MNK *i* P P **04 56 47.1 -0.7**
comp=N,83nm,1.3s
MNK *i* P P **04 56 47.1 -0.7**
comp=Z,144nm,1.3s,baz=48
MNK *i* PP **PP 04 59 24.6 -0.6**
MNK *i* PPP PPP 05 01 07.7
MNK *i* S **S 05 06 02.4 -1.7**
MNK *i* SS SS 05 10 50.2 +13
MNK *i* SSS SSS 05 13 58.3
MNK *i* LQ LQ 05 23 08.8
MNK *i* LR LR 05 28 17.3
MNK *i* LRM MLR 05 30 35.1
comp=E,259nm,16.0s
MNK *i* LRM MLR 05 30 35.1
comp=N,2µm,19.2s
MNK *i* LRM MLR 05 30 35.1
comp=Z,2µm,17.0s
ISAL Salakas 71.25 328 *e*P P **04 56 48.2 +0.4**
EGMT Eagleton 71.28 43 P 04 56 49.1
baz=309,SNR=27
EGMT S 05 06 06.5
baz=309
SLIT Slītere, Latvi 71.31 331 *e*P P **04 56 48.6 +0.5**
UPP Uppsala 71.32 334 *e*P P **04 56 49.0 +0.8**
WAKR Walker 71.41 55 IAmb IAmb 04 57 01.5
comp=Z,98nm,1.2s
GNI Garni 71.44 307 P P **04 56 50.8 +1.3**
GNI Garni 71.44 307*c i*P P **04 56 50.6 +1.1**
GNI pmax pmax
comp=Z,98nm,1.4s
GNI Garni 71.44 307 P P **04 56 49.3 -0.1**
GNI Garni 71.44 307 P P **04 56 50.3 +0.8**
GNI P P **04 56 50.3 +0.8**
NACGM Naroch 71.44 327 *i* P P **04 56 50.3 +1.4**
AKH Akhalkalaki 71.45 309⇑ P P **04 56 51.2 +1.6**
HLID Hailey 71.45 49 IAmb IAmb 04 57 01.4
comp=Z,82nm,1.2s
HLID Hailey 71.45 49 P 04 56 51.0
baz=307,SNR=104
HLID S 05 06 08.9
baz=307
FORT Forrest 71.49 194 IAmb IAmb 04 57 00.1
comp=Z,47nm,0.8s
ICESG Greenland Ices 71.58 1 *i* P P **04 56 50.6 +0.6**
ICESG IAmb IAmb 04 56 53.1
comp=Z,58nm,1.0s
JLN Jalan Bani Buh 71.79 284 P P **04 56 52.7 +1.1**
JLN P P **04 56 52.7 +1.1**
JLN P P **04 56 52.7 +1.1**
JLN P P **04 56 52.7 +1.1**
WBK Wadi Bani Khal 71.85 285 P P **04 56 51.1 -1.0**
WBK P P **04 56 51.1 -1.0**
PMPB Monarch Peak 71.88 58 IAmb IAmb 04 57 21.6
comp=Z,89nm,1.3s
BANOM Banah 71.89 289 P P **04 56 53.1 +0.8**
BANOM Banah 71.89 289 P P **04 56 52.1 -0.1**
BANOM P P **04 56 52.1 -0.1**
RYN Ryan 71.92 55 IAmb IAmb 04 57 04.3
comp=Z,101nm,1.2s
SHME Shamm 71.94 289 *i* P P **04 56 52.6 +0.2**
SNR=6.4
BIDO Bidbid 71.95 286 P P **04 56 53.7 +1.1**
BIDO P P **04 56 53.7 +1.1**
PABE Paberze 72.17 329 *e*P P **04 56 53.8 +0.4**
NVAR Mina Arbay Bea 72.17 55 P P **04 56 55.0 +1.0**
comp=Z,17nm,0.9s,baz=294,slow=6.0,SNR=66
NVAR LR LR 05 25 52.0
comp=Z,746nm,18.6s,baz=306,slow=34
MOL Molde 72.18 340 *e*P P **04 56 54.0 +0.8**
DOMB Dombas 72.20 339 *e*P P **04 56 53.6 +0.1**
NC303 NORSAR Array S 72.22 338 IAmb IAmb 04 56 55.8
comp=Z,83nm,1.1s
MDH Madha 72.26 288 P P **04 56 53.5 -0.9**
MDH Madha 72.26 288 P P **04 56 55.6 +1.2**
SMDO Samad 72.27 285 P P **04 56 55.7 +1.1**
SMDO P P **04 56 55.7 +1.1**
MLAC Mammoth, Mammo 72.31 56 P 04 56 55.7
baz=307,SNR=9.5
MLAC S 05 06 22.1
baz=307
MASF Masafi 72.32 288 P P **04 56 55.0 +0.2**
MASF P P **04 56 55.0 +0.2**
MSFE Esma-Masafi 72.32 288 P P **04 56 55.5 +0.7**
SOC Sochi 72.35 312 *e*P P **04 56 53.1 -1.6**
SOC *e*S **S 05 06 16.7 -0.5**
SOC *e* 05 07 00.7
SOC *e*SS **SS 05 10 54.8 +0.2**
SOC *e*SSS SSS 05 14 07.5
SOC pmax pmax
comp=Z,65nm,1.0s
NB201 NORSAR Array S 72.38 338 *e*P P **04 56 54.5 -0.1**
NB2 NORSAR Subarra 72.41 338 P P **04 56 54.5 -0.3**
baz=38,slow=6.2
NOA NORSAR Array B 72.41 338 P P **04 56 54.3 -0.5**
comp=Z,48nm,1.0s,baz=37,slow=6.0,SNR=58
YHL Hebgen Lake 72.49 46 IAmb IAmb 04 57 07.7
comp=Z,91nm,1.1s
HOQ Hoqain 72.52 286 P P **04 56 57.0 +1.0**
SNR=6.6
HOQ P P **04 56 57.0 +1.0**
SNR=6.6
HOQ P **pP 04 56 57.1 -3.9**
HOQ P **pP 04 56 57.1 -3.9**
UOSS Minazif 72.53 288 P P **04 56 56.0 0.0**
UOSS Minazif 72.53 288 P P **04 56 55.9 -0.2**
UOSS IAmb IAmb 04 56 58.0
comp=Z,61nm,0.9s
UOSS Minazif 72.53 288 IAMs_20 IAMs_20 05 32 55.8
comp=Z,2µm,20.0s
UOSS Minazif 72.53 288 P P **04 56 55.8 -0.2**
UOSS P P **04 56 55.8 -0.2**
NC602 NORSAR Array S 72.56 337 IAmb IAmb 04 57 17.1
comp=Z,90nm,1.2s
PBUR Paburge 72.61 330 *e*P P **04 56 56.7 +0.8**
JMDO Jabal Madar 72.64 285 P P **04 56 56.8 0.0**
JMDO P P **04 56 56.8 0.0**
HATD Hatta, Dubai 72.66 288 *i* P P **04 56 57.3 +0.5**
SNR=7.1
HATD Hatta, Dubai 72.66 288 P P **04 56 57.0 +0.2**
HATD P P **04 56 57.0 +0.2**
NAO01 NORSAR Array S 72.66 338 IAmb IAmb 04 56 58.4
comp=Z,131nm,1.2s
YHH Holmes Hill 72.72 46 IAmb IAmb 04 57 09.0
comp=Z,82nm,1.2s
YMR Madison River 72.73 46 IAmb IAmb 04 57 09.2
comp=Z,81nm,1.1s
VOG Valley Oaks Go 72.74 57 P 04 56 57.4
baz=307
VOG S 05 06 22.5
baz=307
SOHO SOHO 72.77 287 *i* P P **04 56 57.7 +0.2**
SNR=10
SOHO SOHO 72.77 287 P P **04 56 57.4 -0.1**
SOHO P P **04 56 57.4 -0.1**
ASHO Ashiyiah 72.79 288 *i* P P **04 56 58.5 +0.8**
SNR=8.2
ASHO Ashiyiah 72.79 288 P P **04 56 58.5 +0.8**
SNR=5.9
ASHO P P **04 56 58.5 +0.8**
SNR=5.9
YNR Norris Junctio 72.86 46 IAmb IAmb 04 57 11.2
comp=Z,95nm,1.3s
ANN Anapa 72.88 314*c* iP P **04 56 58.2 +0.4**
ANN *e*PPP PPP 05 01 24.6
ANN *e*S **S 05 06 23.6 +0.5**
ANN pmax pmax
comp=Z,184nm,1.5s
NAZ Nazwa, Dubai 72.91 288 P P **04 56 59.2 +0.9**
SMMC Simmler 72.94 58 P 04 56 59.4
baz=307
SMMC S 05 06 26.7
baz=307
TIN Tinemaha, Big 73.05 56 P 04 57 00.2
baz=307
TIN S 05 06 28.1
baz=307
BSY Bisya 73.09 286 P P **04 56 59.8 +0.4**
BSY P P **04 56 59.8 +0.4**
FAQ Al Faqa, Dubai 73.10 288 P P **04 57 00.3 +0.9**
LKWY Lake 73.11 46 IAmb IAmb 04 57 12.8
comp=Z,94nm,1.2s
LKWY IAMs_20 IAMs_20 05 34 40.1
comp=Z,3µm,18.0s
H17A Grant Village 73.12 46 P 04 57 00.6
baz=309,SNR=46
H17A S 05 06 31.0
baz=309
YMP Mirror Lake Pl 73.13 46 IAmb IAmb 04 57 11.8
comp=Z,76nm,1.2s
SFJD Kangerlussuaq 73.17 6 *i* P P **04 56 59.2 +0.2**
SFJD IAmb IAmb 04 57 01.5
comp=Z,18nm,1.1s
SFJD Kangerlussuaq 73.17 6 P P **04 56 59.0 -0.1**
SFJD pmax pmax
comp=Z,94nm,1.6s
SFJD MLR MLR
comp=Z,5µm,21.0s
SFJD Kangerlussuaq 73.17 6 P P **04 56 59.0 -0.1**
SFJD IAmb IAmb 04 57 10.9

	comp=Z,94nm,1.6s								
AKASG	**Malin Array Be**	**73.22**	**323**		P		**P**	**04 56 58.9**	**-0.8**
	comp=Z,19nm,0.6s,baz=43,slow=6.3,SNR=102								
AKASG	**Malin Array Be**	**73.22**	**323**		P		**P**		
AKBB	**Malin Array Si**	**73.22**	**323**		IAmb		IAmb	04 57 01.6	
	comp=Z,67nm,1.1s								
VES	**Vestal, Richgr**	**73.22**	**57**		P			04 57 00.9	
	baz=307,SNR=21								
ARQ	**Araqi**	**73.25**	**287**		P		**P**	**04 57 01.7**	**+1.4**
ARQ	SNR=5.6								
					P		**P**	**04 57 01.7**	**+1.4**
	SNR=5.6								
FLWY	**Flagg Ranch**	**73.25**	**46**		IAmb		IAmb	04 57 13.1	
	comp=Z,152nm,1.4s								
PKM	**Mcpherson Peak**	**73.31**	**58**		P			04 57 02.4	
	baz=307,SNR=15								
PKM					S			05 06 32.4	
	baz=307								
ASUD	**Al Ashush, Dub**	**73.36**	**288**		P		**P**	**04 57 01.5**	**+0.5**
RLMT	**Red Lodge**	**73.38**	**45**		IAmb		IAmb	04 57 13.0	
	comp=Z,96nm,1.4s								
RLMT					IAMs_20		IAMs_20	05 34 28.1	
	comp=Z,2µm,18.0s								
RLMT	**Red Lodge**	**73.38**	**45**		P			04 57 02.2	
	baz=310,SNR=20								
RLMT					S			05 06 29.9	
	baz=310								
ALNE	**Al Ain**	**73.39**	**288**		P		**P**	**04 57 01.8**	**+0.6**
ALNE	SNR=7.3								
					P		**P**	**04 57 01.8**	**+0.6**
	SNR=7.3								
MOOW	**Moose Ponds**	**73.43**	**47**		IAmb		IAmb	04 57 13.8	
	comp=Z,116nm,1.2s								
OSL	**Oslo**	**73.44**	**337**	*eP*			**P**	**04 57 01.1**	**+0.3**
TPAW	**Teton Pass**	**73.48**	**47**		IAmb		IAmb	04 57 14.2	
	comp=Z,140nm,1.3s								
HVU	**Hansel Valley**	**73.50**	**49**		IAmb		IAmb	04 57 13.8	
	comp=Z,93nm,1.1s								
CWC	**Cottonwood Cre**	**73.51**	**56**		P			04 57 02.5	
	baz=307								
CWC					S			05 06 32.2	
	baz=307								
SKAR	**Skarslia**	**73.53**	**339**	*eP*			**P**	**04 57 03.3**	**+1.8**
MHTO	**MHTO**	**73.56**	**284**		P		**P**	**04 57 02.5**	**+0.4**
MHTO	SNR=7.6								
					P		**P**	**04 57 02.5**	**+0.4**
	SNR=7.6								
SUW	**Suwalki**	**73.56**	**328**	*eP*			**P**	**04 57 02.2**	**+0.5**
LOHW	**Long Hollow**	**73.60**	**47**		IAmb		IAmb	04 57 13.9	
	comp=Z,86nm,1.4s								
REDW	**Red Top Meadow**	**73.61**	**47**		IAmb		IAmb	04 57 14.7	
	comp=Z,84nm,1.2s								
GRAC	**Grapevine Rang**	**73.63**	**55**		P			04 57 03.9	
	baz=308,SNR=34								
GRAC					S			05 06 33.3	
	baz=308								
SBC	**Santa Barbara**	**73.65**	**59**		P			04 57 02.2	
	baz=307								
SBC					S			05 06 34.4	
	baz=307								
ISA	**Isabella, Lake**	**73.72**	**57**		P			04 57 03.4	
	baz=307,SNR=17								
ISA					S			05 06 33.1	
	baz=307								
ARVC	**Arvin**	**73.82**	**58**		P			04 57 04.1	
	baz=307,SNR=8.4								
ARVC					S			05 06 35.8	
	baz=307								
DGMT	**Dagmar**	**73.83**	**40**		IAMs_20		IAMs_20	05 34 46.6	
	comp=Z,2µm,19.0s								
AHID	**Auburn Hatcher**	**73.85**	**48**		IAmb		IAmb	04 57 15.5	
	comp=Z,88nm,1.2s								
R11A	**Troy Canyon, C**	**73.93**	**53**		P			04 57 05.6	
	baz=308,SNR=52								
R11A					S			05 06 36.3	
	baz=308								
SCZ2	**Santa Cruz Isl**	**73.97**	**59**		P			04 57 04.3	
	baz=307								
SCZ2					S			05 06 37.6	
	baz=307								
DY2G	**Dye2**	**73.97**	**4**	*i*	P		**P**	**04 57 04.5**	**+0.3**
DY2G					IAmb		IAmb	04 57 06.4	
	comp=Z,66nm,1.2s								
LAO	**LASA Array**	**73.98**	**42**		IAmb		IAmb	04 57 16.1	
	comp=Z,137nm,1.2s								
LAO					IAMs_20		IAMs_20	05 35 15.9	
	comp=Z,2µm,18.0s								
LAO	**LASA Array**	**73.98**	**42**		P			04 57 04.8	
	baz=311,SNR=11								
LAO					S			05 06 36.8	
	baz=311								
KONO	**Kongsberg**	**74.01**	**338**	*c*	*i* P		**P**	**04 57 04.4**	**+0.2**
KONO					pmax		pmax		
	comp=Z,45nm,1.1s								
KONO	**Kongsberg**	**74.01**	**338**	*eP*			**P**	**04 57 02.8**	**-1.3**
KONO	**Kongsberg**	**74.01**	**338**		P		**P**	**04 57 04.3**	**+0.2**
MPMC	**Manual Prospec**	**74.12**	**56**		P			04 57 05.8	
	baz=308								
MPMC					S			05 06 38.0	
	baz=308								
OSI	**Osito Audit: C**	**74.20**	**58**		P			04 57 06.4	
	baz=307								
OSI					S			05 06 40.6	
	baz=307								
FURC	**Furnace Creek,**	**74.27**	**56**		P			04 57 07.4	
	baz=308,SNR=41								
FURC					S			05 06 41.0	
	baz=308								
SPR3	**Spring Creek 3**	**74.30**	**52**		IAmb		IAmb	04 57 19.1	
	comp=Z,136nm,1.6s								
HWUT	**Hardware Ranch**	**74.31**	**49**		IAmb		IAmb	04 57 18.6	
	comp=Z,137nm,1.2s								
LRMC	**Laurel Mtn Rad**	**74.35**	**57**		P			04 57 07.8	
	baz=308,SNR=14								
LRMC					S			05 06 40.2	
	baz=308								
TPNV	**Topopah Spring**	**74.37**	**55**		IAmb		IAmb	04 57 18.7	
	comp=Z,152nm,1.1s								
TPNV					IAMs_20		IAMs_20	05 28 09.2	
	comp=Z,2µm,19.0s								
TPNV	**Topopah Spring**	**74.37**	**55**		P			04 57 08.4	
	baz=308,SNR=36								
TPNV					S			05 06 42.8	
	baz=308								
DUG	**Dugway, Tooele**	**74.47**	**51**		IAmb		IAmb	04 57 19.5	
	comp=Z,114nm,1.1s								
DUG	**Dugway, Tooele**	**74.47**	**51**		P			04 57 09.0	
	baz=309,SNR=23								
DUG					S			05 06 43.8	
	baz=309								
SNCC	**San Nicolas Is**	**74.49**	**60**		P			04 57 08.3	
	baz=307								
SNCC					S			05 06 44.6	
	baz=307								
DQM	**DQM**	**74.51**	**283**		P		**P**	**04 57 08.6**	**+0.8**
EDW2	**Edwards Air Fo**	**74.51**	**58**		P			04 57 08.8	
	baz=308,SNR=18								
EDW2					S			05 06 43.3	
	baz=308								
SIM	**Simferopol'**	**74.59**	**316**	*d*	*i* P		**P**	**04 57 08.2**	**+0.4**
SIM					pmax		pmax		
	comp=Z,101nm,1.5s								
SIM					MLR		MLR		
	comp=Z,2µm,17.6s								
DECC	**Green Verdugo**	**74.67**	**58**		P			04 57 08.6	
	baz=308								
DECC					S			05 06 44.7	
	baz=308								
PDAR	**Pinedale Array**	**74.72**	**47**		P		**P**	**04 57 09.2**	**+0.2**
	comp=Z,13nm,1.0s,baz=266,slow=3.0,SNR=38								
BW06	**Boulder Array**	**74.72**	**47**		P			04 57 09.8	
	baz=310,SNR=28								
BW06					S			05 06 45.6	
	baz=310								
PASC	**Pasadena Art C**	**74.82**	**58**		IAmb		IAmb	04 57 20.7	
	comp=Z,100nm,1.4s								
PASC	**Pasadena Art C**	**74.82**	**58**		IAMs_20		IAMs_20	05 23 34.5	
	comp=Z,2µm,19.0s								
PRN	**Pahroc Range**	**74.84**	**54**		IAmb		IAmb	04 57 21.7	
	comp=Z,85nm,1.1s								
MWC	**Mount Wilson**	**74.87**	**58**		IAmb		IAmb	04 57 21.4	
	comp=Z,120nm,1.3s								
PSUT	**Pine Spring**	**74.88**	**52**		IAmb		IAmb	04 57 21.8	
	comp=Z,115nm,1.3s								
SHOC	**Shoshone, Teco**	**75.00**	**56**		P			04 57 11.5	
	baz=308,SNR=12								
SHOC					S			05 06 48.7	
	baz=308								
JLU	**Jordanelle**	**75.02**	**50**		IAmb		IAmb	04 57 22.7	
	comp=Z,112nm,1.4s								
GSC	**Goldstone, Bar**	**75.02**	**57**		IAmb		IAmb	04 57 22.2	
	comp=Z,90nm,1.2s								
GSC	**Goldstone, Bar**	**75.02**	**57**		P			04 57 11.8	
	baz=308,SNR=10								
GSC					S			05 06 49.3	
	baz=308								
FMP	**Fort Macarthur**	**75.03**	**59**		P			04 57 11.2	
	baz=308								
FMP					S			05 06 47.6	
	baz=308								
NLU	**North Lily Min**	**75.06**	**50**		IAmb		IAmb	04 57 22.8	
	comp=Z,78nm,1.1s								
ANGG	**Ammassalik, Gr**	**75.09**	**0**	*eP*			**P**	**04 57 10.8**	**+0.5**
ANGG					IAmb		IAmb	04 57 11.7	
	comp=Z,17nm,1.0s								
BLS5	**Blasjo**	**75.10**	**339**	*eP*			**P**	**04 57 12.3**	**+1.8**
BFSC	**Mount Baldy Ra**	**75.12**	**58**		P			04 57 12.2	
	baz=308,SNR=14								
BFSC					S			05 06 49.9	
	baz=308								
CIS	**Catalina Islan**	**75.14**	**59**		P			04 57 11.4	
	baz=308								
CIS					S			05 06 50.0	
	baz=308								
ISOG	**Isortoq, Green**	**75.15**	**1**	*i*	P		**P**	**04 57 11.3**	**+0.7**
ISOG					IAmb		IAmb	04 57 12.3	
	comp=Z,54nm,1.1s								
RRX	**Edison Barstow**	**75.16**	**57**		P			04 57 11.8	
	baz=308								
RRX					S			05 06 51.8	
	baz=308								
SCI2	**San Clemente I**	**75.31**	**59**		P			04 57 12.8	
	baz=308								
SCI2					S			05 06 53.6	
	baz=308								
SHPR	**Sheep Range**	**75.33**	**55**		IAmb		IAmb	04 57 24.6	
	comp=Z,122nm,1.1s								
SORM	**Soroca**	**75.39**	**321**	⇑	P		**P**	**04 57 11.8**	**-0.5**
TUQ	**Turquoise Moun**	**75.51**	**56**		P			04 57 14.9	
	baz=308,SNR=21								
TUQ					S			05 06 54.7	
	baz=308								
BBRC	**Big Bear Solar**	**75.59**	**57**		P			04 57 14.7	
	baz=308								
BBRC					S			05 06 54.7	
	baz=308								
HEC	**Hector,Ludlow**	**75.62**	**57**		P			04 57 15.3	
	baz=308,SNR=8.0								
HEC					S			05 06 56.6	
	baz=308								
CCUT	**Cedar City**	**75.80**	**53**		IAmb		IAmb	04 57 27.4	
	comp=Z,116nm,1.2s								
SHMA	**Al-Shehemyia**	**75.80**	**292**		P		**P**	**04 57 14.5**	**-0.5**
MURC	**Murrieta**	**75.82**	**58**		P			04 57 16.2	
	baz=308,SNR=6.2								
MURC					S			05 06 58.2	
	baz=308								
NUUK	**Nuuk**	**75.84**	**7**	*i*	P		**P**	**04 57 15.5**	**+0.8**
BSD	**Bornholm Skovb**	**75.91**	**332**	*eP*			**P**	**04 57 15.3**	**+0.2**
BSD	**Bornholm Skovb**	**75.91**	**332**	⇑	*i* P		**P**	**04 57 15.9**	**+0.6**
BSD					IAmb		IAmb	04 57 17.0	
	comp=Z,96nm,1.2s								
BSD	**Bornholm Skovb**	**75.91**	**332**	⇑	*i* P		**P**	**04 57 15.8**	**+0.6**
BSD					pmax		pmax		
	comp=Z,96nm,1.2s								
SZCU	**Shurtz Canyon**	**75.94**	**53**		IAmb		IAmb	04 57 27.9	
	comp=Z,75nm,1.2s								
KIS	**Kishinev**	**75.95**	**320**	*eP*			**P**	**04 57 14.7**	**-0.9**
KIS	**Kishinev**	**75.95**	**320**	*e*	PP		PP	05 00 06.6	+1.1
KIS	**Kishinev**	**75.95**	**320**	*eP*			**P**	**04 57 14.7**	**-0.9**
KIS				*e*				05 00 06.6	
KIS				*e*	PPP		PPP	05 01 54.5	
MIB	**Mutribah**	**75.95**	**297**	*eP*			**P**	**04 57 15.2**	**-0.8**
TMUT	**Trail Mountain**	**75.99**	**50**		IAmb		IAmb	04 57 28.3	
	comp=Z,96nm,1.3s								
GMRC	**Granite Mounta**	**76.08**	**56**		P			04 57 18.0	
	baz=309,SNR=23								
GMRC					S			05 07 00.6	
	baz=309								
BEL	**Belsk**	**76.14**	**327**	*eP*			**P**	**04 57 18.3**	**+1.7**
NWAO	**Narrogin (SRO)**	**76.16**	**202**		P		**P**	**04 57 17.6**	**+0.9**
NWAO					pmax		pmax		
	comp=Z,67nm,1.1s								
NWAO	**Narrogin (SRO)**	**76.16**	**202**		P		**P**	**04 57 17.6**	**+0.9**
NWAO					IAmb		IAmb	04 57 28.7	
	comp=Z,67nm,1.1s								
QRN	**Al-Qurain**	**76.20**	**296**	*eP*			**P**	**04 57 16.7**	**-0.6**
MTPU	**Mount Pierson**	**76.21**	**52**		IAmb		IAmb	04 57 30.2	
	comp=Z,68nm,1.1s								
LCMT	**Little Creek M**	**76.21**	**53**		IAmb		IAmb	04 57 29.6	
	comp=Z,135nm,1.1s								
LVV	**L'vov**	**76.22**	**324**	*eP*			**P**	**04 57 17.7**	**+0.6**
LVV				*e*				04 57 33.2	
LVV				*e*				05 00 10.7	
LVV				*e*	PPP		PPP	05 01 56.2	
LVV				*i*	S		**S**	**05 07 00.4**	**0.0**
LVV				*e*				05 07 21.2	
LVV				*e*	PS		**PnS**	**05 07 42.4**	**+4.4**
LVV				*e*	SS		**SS**	**05 11 57.6**	**+4.6**
LVV					pmax		pmax		
	comp=Z,120nm,1.5s								
LVV					MLR		MLR		
	comp=E,8µm,17.0s								
LVV					MLR		MLR		
	comp=N,5µm,16.0s								
LVV					MLR		MLR		
	comp=Z,7µm,17.0s								
Q16A	**Castle Valley**	**76.26**	**51**		IAmb		IAmb	04 57 29.9	
	comp=Z,154nm,1.4s								
GOET	**G??ttrup**	**76.27**	**336**	*eP*			**P**	**04 57 19.4**	**+2.2**
PFO	**Pinyon Flats O**	**76.29**	**58**		P		**P**	**04 57 18.5**	**+0.6**
PFO					pmax		pmax		
	comp=Z,61nm,1.2s								
PFO	**Pinyon Flats O**	**76.29**	**58**		P		**P**	**04 57 18.5**	**+0.6**
PFO	**Pinyon Flats O**	**76.29**	**58**		P			04 57 19.0	
	baz=309,SNR=12								
PFO					S			05 07 02.7	
	baz=309								
TPFO	**Pinon Flats**	**76.30**	**58**		P			04 57 19.1	
	baz=309,SNR=12								
TPFO					S			05 07 02.7	
	baz=309								
109C	**Camp Elliot, M**	**76.31**	**59**		IAmb		IAmb	04 57 29.4	
	comp=Z,68nm,1.1s								
109C	**Camp Elliot, M**	**76.32**	**59**		P			04 57 18.2	
	baz=308								
109C					S			05 07 03.3	
	baz=308								
COP	**Copenhagen**	**76.32**	**334**	⇑	*i* P		**P**	**04 57 18.5**	**+1.0**
COP	**Copenhagen**	**76.32**	**334**	⇑	*i* P		**P**	**04 57 18.5**	**+1.0**
RDF	**Al-Radifah**	**76.34**	**296**	*eP*			**P**	**04 57 16.9**	**-1.2**
BELC	**Belle Mtn. Jos**	**76.35**	**57**		P			04 57 19.1	
	baz=309,SNR=16								
BELC					S			05 07 03.0	
	baz=309								
KNB	**Kanab**	**76.47**	**53**		IAmb		IAmb	04 57 31.4	
	comp=Z,145nm,1.2s								
ULM	**Lac du Bonnet**	**76.47**	**35**		P		**P**	**04 57 18.3**	**-0.2**
	comp=Z,13nm,1.0s,baz=311,slow=6.1,SNR=14								
ULM	**Lac du Bonnet**	**76.47**	**35**		P		**P**	**04 57 19.0**	**+0.5**
ULM					IAMs_20		IAMs_20	05 34 37.3	
	comp=Z,2µm,19.0s								
GKP	**Gorka Klasztor**	**76.48**	**330**	*eP*			**P**	**04 57 19.5**	**+1.0**
GKP	**Gorka Klasztor**	**76.48**	**330**	*eP*			**P**	**04 57 18.9**	**+0.5**
MDND	**Maddock**	**76.49**	**38**		P			04 57 19.2	
	baz=315								
MDND					S			05 07 03.3	
	baz=315								
K22A	**Casper**	**76.49**	**45**		IAmb		IAmb	04 57 30.3	
	comp=Z,124nm,1.3s								
K22A	**Casper**	**76.49**	**45**		P			04 57 19.7	
	baz=312,SNR=38								
K22A					S			05 07 03.5	
	baz=312								
PKCU	**Pink Cliffs**	**76.51**	**52**		IAmb		IAmb	04 57 41.6	
	comp=Z,82nm,1.2s								
SRU	**San Rafael Swe**	**76.52**	**50**		IAmb		IAmb	04 57 30.9	
	comp=Z,110nm,1.0s								
VASR	**Vaslui**	**76.71**	**320**	⇑	P		**P**	**04 57 20.8**	**+0.9**
RWWY	**Rawlins**	**76.75**	**47**		IAmb		IAmb	04 57 30.8	
	comp=Z,89nm,1.1s								
NEE2	**Needles Airpor**	**76.76**	**56**		P			04 57 21.0	
	baz=309								
NEE2					S			05 07 08.3	
	baz=309								
MONP2	**Monument Peak**	**76.76**	**58**		P			04 57 20.7	
	baz=309								
MONP2					S			05 07 10.1	
	baz=309								
MUD	**Monsted U'grnd**	**76.76**	**336**	*i*	P		**P**	**04 57 20.5**	**+0.4**
MUD					IAmb		IAmb	04 57 22.4	
	comp=Z,80nm,1.2s								
MUD	**Monsted U'grnd**	**76.76**	**336**	*i*	P		**P**	**04 57 20.4**	**+0.4**
MUD					pmax		pmax		
	comp=Z,80nm,1.2s								
IRM	**Iron Mountain**	**76.81**	**57**		P			04 57 21.1	
	baz=309,SNR=21								
IRM					S			05 07 08.6	
	baz=309								
RSSD	**Black Hills**	**76.84**	**43**		P		**P**	**04 57 21.2**	**+0.2**
RSSD					pmax		pmax		
	comp=Z,48nm,1.0s								
RSSD	**Black Hills**	**76.84**	**43**		P		**P**	**04 57 21.2**	**+0.2**
RSSD	**Black Hills**	**76.84**	**43**		IAMs_20		IAMs_20	05 36 59.7	
	comp=Z,2µm,20.0s								
RSSD	**Black Hills**	**76.84**	**43**		P			04 57 21.4	
	baz=313								
RSSD					S			05 07 06.3	
	baz=313								
E28A	**Huff**	**76.85**	**40**		IAmb		IAmb	04 57 31.9	
	comp=Z,108nm,1.2s								
BC3	**Big Chuckawall**	**76.92**	**57**		P			04 57 21.7	
	baz=309,SNR=13								
BC3					S			05 07 09.2	
	baz=309								
RGN	**Rugen**	**76.92**	**333**	*eP*			**P**	**04 57 22.5**	**+1.6**
	comp=Z,137nm,1.2s,baz=35,slow=5.3								
KWP	**Kalwaria Pacla**	**76.95**	**325**	*eP*			**P**	**04 57 22.7**	**+1.4**
PRAR	**RASCA**	**76.96**	**322**	⇑	P		**P**	**04 57 22.9**	**+1.5**
SWSC	**Sam W. Stewart**	**77.14**	**58**		P			04 57 23.1	
	baz=309								
SWSC					S			05 07 13.1	
	baz=309								
O20A	**White River Ci**	**77.19**	**48**		IAmb		IAmb	04 57 34.4	
	comp=Z,105nm,1.2s								
O20A	**White River Ci**	**77.19**	**48**		P			04 57 23.8	
	baz=311,SNR=29								
O20A					S			05 07 12.3	
	baz=311								
BUR08	**Bucovina Ar. S**	**77.25**	**322**		IAmb		IAmb	04 57 50.6	
	comp=Z,65nm,1.1s								
BURAR	**Bucovina Array**	**77.26**	**322**	⇑	P		**P**	**04 57 23.5**	**+0.4**
BURAR	**Bucovina Array**	**77.26**	**322**		P		**P**	**04 57 23.2**	**+0.1**
BIZ	**Bicaz**	**77.32**	**321**	⇑	P		**P**	**04 57 23.8**	**+0.4**
TESR	**Tescani**	**77.36**	**321**	⇑	P		**P**	**04 57 23.0**	**-0.5**
PDMCI	**Parker Dam,Lak**	**77.36**	**56**		P			04 57 25.0	
	baz=310,SNR=10.0								
PDMCI					S			05 07 14.7	
	baz=310								
RAO	**Raoul Island**	**77.38**	**146**		LR		LR	05 27 42.1	
	comp=Z,1µm,19.9s,baz=349,slow=33								
RAO	**Raoul Island**	**77.38**	**146**		IAMs_20		IAMs_20	05 35 25.0	
	comp=Z,3µm,20.0s								
LNIZ	**Loecknitz**	**77.44**	**332**	*eP*			**P**	**04 57 25.3**	**+1.4**
	comp=Z,392nm,1.8s,baz=35,slow=5.3								
JURR	**Jurilovca**	**77.47**	**318**	⇑	P		**P**	**04 57 26.1**	**+1.9**
CFR	**Carcaliu**	**77.56**	**319**	⇑	P		**P**	**04 57 24.6**	**0.0**
TPGR	**Topolog**	**77.64**	**319**	⇑	P		**P**	**04 57 25.6**	**+0.4**
KOLS	**Kolonicke sedl**	**77.65**	**325**	*eP*			**P**	**04 57 26.3**	**+1.1**
KOLS					pmax		pmax		
	comp=Z,985nm,1.1s								
KOLS	**Kolonicke sedl**	**77.65**	**325**	*eP*			**P**	**04 57 26.3**	**+1.1**
GLA	**Glamis**	**77.71**	**57**		P		**P**	**04 57 26.8**	**+1.0**
GLA					pmax		pmax		
	comp=Z,77nm,1.2s								
GLA	**Glamis**	**77.71**	**57**		P		**P**	**04 57 26.8**	**+1.0**
GLA					IAmb		IAmb	04 57 37.5	
	comp=Z,77nm,1.1s								
GLA	**Glamis**	**77.71**	**57**		P			04 57 25.9	
	baz=309,SNR=11								
GLA					S			05 07 19.7	
	baz=309								
STHS	**Stebnicka Huta**	**77.75**	**326**	*eP*			**P**	**04 57 26.1**	**+0.4**
STHS	**Stebnicka Huta**	**77.75**	**326**	*eP*			**P**	**04 57 26.1**	**+0.4**
OJC	**Ojcow**	**77.77**	**327**	*eP*			**P**	**04 57 27.1**	**+1.3**
OJC	**Ojcow**	**77.77**	**327**		IAmb		IAmb	04 57 28.7	
	comp=Z,130nm,1.1s								
VRI	**Vrincioaia**	**77.78**	**320**	⇑	P		**P**	**04 57 27.1**	**+1.1**
DMTO	**DMTO**	**77.80**	**283**		P		**P**	**04 57 25.8**	**-0.7**
PLOR	**Plostina**	**77.83**	**320**	⇑	P		**P**	**04 57 27.0**	**+0.7**
DOK	**Doka**	**77.86**	**284**		P		**P**	**04 57 26.3**	**-0.5**
DOK					P		**P**	**04 57 26.3**	**-0.5**
UZH	**Uzhgorod**	**77.87**	**324**	*eP*			**P**	**04 57 25.3**	**-1.1**
UZH				*i*				04 57 30.5	
UZH				*e*				04 57 39.9	
UZH				*e*				05 00 17.6	
UZH				*i*				05 02 13.5	
UZH				*i*	S		**S**	**05 07 12.1**	**-6.2**
UZH				*i*				05 07 57.5	
UZH					MLR		MLR		
	comp=N,3µm,14.0s								
UZH					MLR		MLR		
	comp=E,2µm,14.0s								
UZH					MLR		MLR		
	comp=Z,2µm,14.0s								
GAZ	**Gaziantep**	**77.90**	**308**		IAmb		IAmb	04 57 29.5	
	comp=Z,141nm,1.4s								
AGMN	**Agassiz Nation**	**77.90**	**36**		IAmb		IAmb	04 57 37.7	
	comp=Z,90nm,1.4s								
AGMN					IAMs_20		IAMs_20	05 36 18.3	
	comp=Z,2µm,19.0s								
AGMN	**Agassiz Nation**	**77.91**	**36**		P			04 57 26.7	
	baz=317,SNR=20								
AGMN					S			05 07 16.5	
	baz=317								
TIRR	**Tirgusor**	**77.92**	**318**	⇑	P		**P**	**04 57 28.1**	**+1.3**
TIRR	**Tirgusor**	**77.92**	**318**	⇑	P		**P**	**04 57 28.1**	**+1.3**
PV22	**Blue Mesa, Par**	**77.92**	**50**		IAmb		IAmb	04 57 38.9	
	comp=Z,123nm,1.1s								
PV04	**Paradox Valley**	**77.95**	**50**		IAmb		IAmb	04 57 39.1	
	comp=Z,120nm,1.1s								
PHWY	**Pilot Hill**	**77.98**	**46**		IAmb		IAmb	04 57 34.0	
	comp=Z,140nm,2.0s								
N23A	**Red Feather La**	**77.99**	**47**		P			04 57 28.3	
	baz=312,SNR=29								
N23A					S			05 07 21.5	
	baz=312								
PV16	**Nyswonger Mesa**	**77.99**	**50**		IAmb		IAmb	04 57 39.4	
	comp=Z,118nm,1.1s								
HARR	**Harsova**	**78.00**	**319**	⇓	P		**P**	**04 57 27.6**	**+0.4**
BMR	**Baia Mare**	**78.02**	**323**	⇑	P		**P**	**04 57 28.2**	**+0.9**
CRVS	**Cervenica-Dubn**	**78.04**	**325**	*eP*			**P**	**04 57 28.4**	**+1.1**
CRVS					pmax		pmax		
	comp=Z,282nm,2.2s								
CRVS	**Cervenica-Dubn**	**78.04**	**325**	*eP*			**P**	**04 57 28.4**	**+1.1**
CRVS				*e*	S		**S**	**05 07 19.2**	**-1.0**
CRVS				*e*	L		L	05 36 49.6	
PV18	**Skein Mesa, Pa**	**78.04**	**50**		IAmb		IAmb	04 57 39.6	
	comp=Z,122nm,1.1s								
ARCR	**ARCALIA**	**78.05**	**322**	⇑	P		**P**

WUAZ **Wupatki** **78.33 54** IAmb IAmb 04 57 41.5
comp=Z,117nm,1.1s
WUAZ Wupatki **78.33 54** P 04 57 31.1
baz=311,SNR=32
WUAZ S 05 07 27.9
baz=311
DOPR Dopca **78.36 321** ⇑P **P** **04 57 30.8 +1.6**
RUE Ruedersdorf **78.41 331** *e*P **P** **04 57 30.6 +1.4**
comp=Z,112nm,1.1s,baz=35,slow=5.3
MLR Muntele Rosu **78.43 320** ⇑P **P** **04 57 30.6 +0.9**
MLR Muntele Rosu **78.43 320** IAmb IAmb 04 57 32.6
comp=Z,106nm,1.6s
BSEG Bad Segeberg **78.46 334** *e*P **P** **04 57 31.0 +1.5**
comp=Z,105nm,1.2s,baz=35,slow=5.3
ICOR Ion Corvin **78.47 318** ⇑P **P** **04 57 30.6 +0.8**
WHFO Wadi Hawf **78.56 284** P **P** **04 57 29.7 -1.0**
WHFO P **P** **04 57 29.7 -1.0**
CJR Cluj-Napoca **78.67 323** ⇑P **P** **04 57 32.7 +1.7**
ANTO Ankara **78.70 313** P **P** **04 57 31.3 0.0**
ANTO pmax pmax
comp=Z,68nm,1.0s
ANTO MLR MLR
comp=Z,2µm,20.0s
ANTO Ankara **78.70 313** P **P** **04 57 31.3 0.0**
ANTO IAmb IAmb 04 57 48.2
comp=Z,68nm,0.9s
ANTO IAMs_20 IAMs_20 05 34 27.5
comp=Z,2µm,20.0s
LANS Liptovska Anna **78.72 326** *e*P **P** **04 57 33.2 +2.1**
LANS pmax pmax
comp=Z,33nm,1.1s
LANS Liptovska Anna **78.72 326** *e*P **P** **04 57 33.2 +2.1**
KSP Ksiaz **78.73 329** *e*P **P** **04 57 32.5 +1.4**
BR231 Keskin MP Arra **78.73 313** IAmb IAmb 04 57 43.8
comp=Z,74nm,1.1s
OKC Ostrava-Krasne **78.75 327** *e*P **P** **04 57 33.3 +2.1**
OKC *e*S **S** **05 07 26.3 -1.5**
OKC MLR MLR
comp=Z,8µm,16.0s
OKC Ostrava-Krasne **78.75 327** *e*P **P** **04 57 33.3 +2.1**
OKC *e*S **S** **05 07 26.3 -1.5**
OKC AMS AMS 05 41 00.0
comp=Z,8µm,16.0s
KECS Kecovo **78.78 325** *e*P **P** **04 57 33.1 +1.7**
KECS pmax pmax
comp=Z,20nm,1.3s
KECS Kecovo **78.78 325** *e*P **P** **04 57 33.1 +1.7**
B35A Bob, Littlefor **78.81 35** IAMs_20 IAMs_20 05 36 07.4
comp=Z,2µm,18.0s
VOIR **78.91 321** ⇑P **P** **04 57 33.6 +1.3**
ISCO Idaho Springs **78.92 47** P 04 57 33.3
baz=313,SNR=14
ISCO S 05 07 31.4
baz=313
MVCO Mesa Verde **78.97 51** IAmb IAmb 04 57 44.8
comp=Z,100nm,1.1s
MVCO Mesa Verde **78.97 51** P 04 57 34.6
baz=312,SNR=36
MVCO S 05 07 33.9
baz=312
OSTC Ostas **78.98 329** *e*P **P** **04 57 33.5 +1.0**
OSTC *e*PP PP 05 00 20.5 -10
OSTC *e*S S 05 07 19.9 -10
OSTC AMS AMS 05 37 50.0
comp=Z,6µm,15.7s
X16A Lo Mia Camp, P **79.00 54** IAmb IAmb 04 57 45.3
comp=Z,89nm,1.2s
CHVC Chvalec **79.02 329** *e*P **P** **04 57 32.7 -0.1**
CHVC *ex* x 04 57 38.5
CHVC AMS AMS 05 38 00.0
comp=Z,6µm,15.2s
MORC Moravsky Berou **79.05 328** ⇑P **P** **04 57 33.7 +0.7**
MORC Moravsky Berou **79.05 328** *e*P **P** **04 57 33.4 +0.4**
MORC Moravsky Berou **79.05 328** IAmb IAmb 04 57 35.8
comp=Z,75nm,1.1s
DPC Dobruska-Polom **79.10 329** *e*P **P** **04 57 33.5 +0.3**
DPC *e* 04 57 42.3
DPC *e*S **S** **05 07 28.0 -3.7**
DPC MLR MLR
comp=Z,6µm,14.4s
DPC Dobruska-Polom **79.10 329** *e*P **P** **04 57 33.5 +0.3**
DPC *ex* x 04 57 42.3
DPC *e*PP **PP** **05 00 25.0 -6.8**
DPC *e*S **S** **05 07 28.0 -3.7**
DPC AMS AMS 05 37 50.0
comp=Z,6µm,14.4s
UPC Upice **79.10 329** *e*P **P** **04 57 33.9 +0.7**
UPC *e* 04 57 39.7
UPC *e* 05 00 30.6
UPC *e*S **S** **05 07 30.6 -1.0**
UPC MLR MLR
comp=Z,7µm,15.3s
UPC Upice **79.10 329** *e*P **P** **04 57 33.9 +0.7**
UPC *ep*P **sP** **04 57 39.7 -0.3**
UPC *e*PP **PP** **05 00 30.6 -1.2**
UPC *e*S **S** **05 07 30.6 -1.0**
UPC AMS AMS 05 37 50.0
comp=Z,7µm,15.3s
KRLC Kraliky **79.13 328** *e*P **P** **04 57 33.4 0.0**
KRLC *e*S **S** **05 07 33.5 +1.5**
KRLC Kraliky **79.13 328** *e*P **P** **04 57 33.4 0.0**
KRLC *e*PP PP 05 00 21.3 -11
KRLC *e*S **S** **05 07 33.5 +1.5**
ARR Arges **79.16 321** ⇑P **P** **04 57 35.0 +1.3**
SUSD Miller **79.23 40** IAmb IAmb 04 57 44.8
comp=Z,115nm,1.1s
SUSD Miller **79.23 40** P 04 57 34.2
baz=316,SNR=7.7
SUSD S 05 07 30.8
baz=316
ABTO Aybut **79.26 284** P **P** **04 57 34.0 -0.6**
ABTO P **P** **04 57 34.0 -0.6**
NRS Narsarsuaq **79.31 4** *i* P **P** **04 57 32.9 -1.2**
NRS IAmb IAmb 04 57 35.0
comp=Z,28nm,1.3s
NRS Narsarsuaq **79.31 4** *i* P **P** **04 57 32.8 -1.2**
NRS pmax pmax
comp=Z,28nm,1.3s
NRS Narsarsuaq **79.31 4** IAMs_20 IAMs_20 05 36 09.7
comp=Z,3µm,21.0s
FLTG Flechtingen **79.45 332** *e*P **P** **04 57 35.7 +0.7**
comp=Z,103nm,1.3s,baz=35,slow=5.3
PSZ Piszkesteto **79.47 325** ⇑P **P** **04 57 35.8 +0.5**
PSZ Piszkesteto **79.47 325** IAmb IAmb 04 57 38.4
comp=Z,102nm,1.2s
VYHS Vyhne **79.49 326** *e*P **P** **04 57 36.8 +1.5**
VYHS pmax pmax
comp=Z,85nm,1.5s
VYHS Vyhne **79.49 326** *e*P **P** **04 57 36.8 +1.5**
VYHS *e*S **S** **05 07 33.5 -2.3**
VYHS *e*L L 05 36 22.5
F33A 5 Mile Ranch, **79.51 38** P **P** **04 57 35.4 -0.1**
F33A IAmb IAmb 04 57 46.4
comp=Z,87nm,1.2s
S22A 4UR Ranch, Cre **79.60 49** P 04 57 37.3
baz=312,SNR=33
S22A S 05 07 39.9
baz=312
W18A Petrified Fore **79.60 53** P 04 57 37.1
baz=311
W18A S 05 07 40.5
baz=311
DRUM Mains of Drumt **79.62 342** *e*P **P** **04 57 36.5 +0.6**
DRUM IAmb IAmb 04 57 37.8
comp=Z,29nm,0.8s
DRUM IAMs_20 IAMs_20 05 39 32.6
comp=Z,3µm,16.4s
BRG Berggiesshubel **79.62 330** *e*P **P** **04 57 36.4 +0.4**
BRG Amp 04 57 38.6
comp=Z,53nm,1.3s
BRG *ex* x 04 57 41.9
BRG Amp 04 57 43.5
comp=Z,30nm,1.3s
BRG *ex* x 04 57 47.2
BRG Amp 04 57 48.2
comp=Z,34nm,1.1s
BRG PP **PP** **05 00 28.9 -7.2**
BRG Amp 05 00 30.5
comp=Z,14nm,1.3s
BRG Berggiesshubel **79.62 330** S **S** **05 07 37.0 -0.1**
BRG Berggiesshubel **79.62 330** *e*P **P** **04 57 37.0 +1.0**
comp=Z,54nm,1.4s,baz=35,slow=5.3
CLL Collm **79.63 331** *e*P **P** **04 57 36.0 0.0**
comp=Z,82nm,1.2s
CLL *es*P **pP** **04 57 41.0 0.0**
CLL *e*(PcP) **pwP** **04 57 46.0 +1.6**
CLL *e*PP **PP** **05 00 34.0 -2.1**
CLL *e*PPP PPP 05 02 24.0
CLL *e*S **S** **05 07 37.0 -0.1**
CLL *e*SS **SS** **05 12 36.0 -8.1**
CLL *e*SSS SSS 05 16 12.0
CLL LmH 05 37 00.0
comp=N,5µm,18.2s
CLL LmH 05 37 00.0
comp=E,6µm,19.0s
CLL LmV 05 41 00.0
comp=Z,7µm,18.3s
CLL Collm **79.63 331** *e*P **P** **04 57 36.0 0.0**
CLL *e* 04 57 41.0
CLL *e*S **S** **05 07 37.0 -0.1**
CLL pmax pmax
comp=Z,82nm,1.2s
CLL MLR MLR
comp=Z,7µm,18.3s
CLL Collm **79.63 331** *e*P **P** **04 57 36.7 +0.7**
comp=Z,82nm,1.2s,baz=35,slow=5.3
PVCC Panska Ves **79.66 330** *e*P **P** **04 57 37.4 +1.2**
PVCC *e* 05 00 35.5
PVCC *e*S **S** **05 07 30.4 -7.0**
PVCC MLR MLR
comp=Z,8µm,15.7s
PVCC Panska Ves **79.66 330** *e*P **P** **04 57 37.4 +1.2**
PVCC *e*PP **PP** **05 00 35.5 -0.8**
PVCC *e*S **S** **05 07 30.4 -7.0**
PVCC AMS AMS 05 41 50.0
comp=Z,8µm,15.7s
JAVC Velka Javorina **79.70 327** *e*P **P** **04 57 37.7 +1.1**
214A Organ Pipe Nat **79.71 57** P 04 57 36.7
baz=310,SNR=12
214A S 05 07 40.3
baz=310
NRDL Niedersach Rie **79.72 333** *e*P **P** **04 57 37.5 +1.1**
comp=Z,187nm,2.2s,baz=35,slow=5.3
Q24A Divide **79.75 48** P 04 57 37.8
baz=313
Q24A S 05 07 40.7
baz=313
VRAC Vranov **79.80 328** ⇑P **P** **04 57 38.4 +1.4**
VRAC Vranov **79.80 328** *e*P **P** **04 57 37.5 +0.5**
FBE Freiberg **79.81 331** *e*P **P** **04 57 38.3 +1.3**
comp=Z,147nm,1.6s,baz=35,slow=5.3
ASSE Asse, Remlinge **79.82 333** *e*P **P** **04 57 38.1 +1.2**
comp=Z,74nm,1.5s,baz=35,slow=5.3
SIRR Siria **79.91 323** ⇑P **P** **04 57 38.8 +1.1**
ISK Istanbul-Kandi **79.95 316** P **P** **04 57 38.7 +0.8**
GZR Gura Zlata **80.03 322** ⇑P **P** **04 57 38.6 +0.1**
ZIMR **80.03 319** ⇑P **P** **04 57 39.9 +1.5**
PRA Prague **80.07 329** *e*P **P** **04 57 40.0 +1.6**
PRA *e*S **S** **05 07 42.9 +1.1**
PRA MLR MLR
comp=Z,6µm,16.6s
PRA Prague **80.07 329** *e*P **P** **04 57 40.0 +1.6**
PRA *e*S **S** **05 07 42.9 +1.1**
PRA AMS AMS 05 42 00.0
comp=Z,6µm,16.6s
SMOL Smolenice **80.07 327** *e*P **P** **04 57 40.2 +1.7**
SMOL pmax pmax
comp=Z,45nm,1.3s
SMOL Smolenice **80.07 327** *e*P **P** **04 57 40.2 +1.7**
KRUC Moravsky **80.08 328** *e*P **P** **04 57 38.8 +0.3**
PRU Pruhonice **80.09 329** *e*P **P** **04 57 39.0 +0.4**
PRU *e* 04 57 44.8
PRU *e* 05 00 36.2
PRU *e*S **S** **05 07 41.7 -0.4**
PRU MLR MLR
comp=Z,6µm,14.3s
PRU Pruhonice **80.09 329** *e*P **P** **04 57 39.0 +0.4**
PRU *ep*P **sP** **04 57 44.8 -0.6**
PRU *e*PP **PP** **05 00 36.2 -3.8**
PRU *e*S **S** **05 07 41.7 -0.4**
PRU AMS AMS 05 38 30.0
comp=Z,6µm,14.3s
EYMN Ely **80.10 34** IAmb IAmb 04 57 50.0
comp=Z,122nm,1.4s
EYMN Ely **80.10 34** IAMs_20 IAMs_20 05 40 01.4
comp=Z,2µm,18.0s
EYMN Ely **80.10 34** P 04 57 38.0
baz=320,SNR=20
EYMN S 05 07 38.9
baz=320
OGNE Ogallala **80.11 44** IAMs_20 IAMs_20 05 36 50.2
comp=Z,1µm,18.0s
OGNE Ogallala **80.11 44** P 04 57 39.6
baz=315,SNR=7.2
OGNE S 05 07 41.3
baz=315
CLZ Clausthal **80.16 333** *e*P **P** **04 57 40.3 +1.4**
comp=Z,131nm,1.4s,baz=35,slow=5.3
NEUB Neuenburg **80.17 332** *e*P **P** **04 57 40.0 +1.1**
comp=Z,107nm,1.2s,baz=35,slow=5.3
SRO Srobarova **80.23 326** *e*P **P** **04 57 41.0 +1.7**
SRO pmax pmax
comp=Z,98nm,1.1s
SRO Srobarova **80.23 326** *e*P **P** **04 57 41.0 +1.7**
MODS Modra-Piesok **80.25 327** *e*P **P** **04 57 39.9 +0.5**
MODS pmax pmax
comp=Z,94nm,1.4s
MODS Modra-Piesok **80.25 327** *e*P **P** **04 57 39.9 +0.5**
MODS Modra-Piesok **80.25 327** *e*S **S** **05 07 43.8 0.0**
MODS *e*SS SS 05 13 35.6 +42
MODS *e*L L 05 36 36.3
TREC Trest **80.27 328** *e*P **P** **04 57 40.5 +1.0**
TREC *e*S **S** **05 07 40.2 -3.7**
TREC MLR MLR
comp=Z,9µm,14.9s
TREC Trest **80.27 328** *e*P **P** **04 57 40.5 +1.0**
TREC *e*S **S** **05 07 40.2 -3.7**
TREC AMS AMS 05 43 30.0
comp=Z,9µm,14.9s
SDCO Great Sand Dun **80.37 49** P 04 57 40.4
baz=313,SNR=41
SDCO S 05 07 47.6
baz=313
BZS Buzias **80.41 323** ⇑P **P** **04 57 39.6 -0.7**
RAR Rarotonga **80.43 128** LR LR 05 27 38.3
comp=Z,2µm,19.3s,baz=320,slow=32
INVG Invergeldie, C **80.43 342** *e*P **P** **04 57 41.4 +1.2**
INVG IAmb IAmb 04 57 42.4
comp=Z,43nm,1.3s
INVG IAMs_20 IAMs_20 05 38 54.3
comp=Z,2µm,20.3s
ZST Bratislava **80.46 327** *e*P **P** **04 57 42.8 +2.3**
ZST pmax pmax
comp=Z,702nm,2.3s
ZST Bratislava **80.46 327** *e*P **P** **04 57 42.8 +2.3**
ZST Bratislava **80.46 327** *e*S **S** **05 07 50.4 +4.5**
ZST *e*SS SS 05 13 42.4 +46
GTTG Gottingen **80.55 333** *e*P **P** **04 57 42.2 +1.2**
comp=Z,124nm,1.6s,baz=35,slow=5.3
TANN Tannenbergstha **80.56 331** *e*P **P** **04 57 42.2 +1.1**
comp=Z,102nm,1.9s,baz=35,slow=5.3
HERR Herculane **80.58 322** ⇑P **P** **04 57 41.1 -0.2**
PLN Plauen **80.61 331** *e*P **P** **04 57 42.6 +1.2**
comp=Z,120nm,1.9s,baz=35,slow=5.3
GUNZ Gunzen **80.65 331** *e*P **P** **04 57 42.8 +1.2**
comp=Z,40nm,1.1s,baz=35,slow=5.3
IBBN Ibbenburen **80.68 334** *e*P **P** **04 57 42.8 +1.2**
comp=Z,158nm,1.5s,baz=35,slow=5.3
MOX Moxa **80.69 331** *e*P **P** **04 57 42.8 +1.1**
comp=Z,140nm,1.9s,baz=35,slow=5.3
MOX *e*L L 05 38 15.6
comp=Z,4µm,20.3s
WERN Wernitzgruen **80.69 331** *e*P **P** **04 57 43.1 +1.3**
comp=Z,44nm,1.2s,baz=35,slow=5.3
NKC Novy Kostel **80.71 331** *e*P **P** **04 57 42.5 +0.6**
NKC *e* 04 57 48.0
NKC *e*S **S** **05 07 50.1 +1.5**
NKC MLR MLR
comp=Z,4µm,14.6s
NKC Novy Kostel **80.71 331** *e*P **P** **04 57 42.5 +0.6**
NKC *ep*P **sP** **04 57 48.0 -0.7**
NKC *e*PP PP 05 00 35.9 -9.2
NKC *e*S **S** **05 07 50.1 +1.5**
NKC AMS AMS 05 38 00.0
comp=Z,4µm,14.6s
EAB Aberfoyle **80.72 342** *e*P **P** **04 57 42.9 +1.1**
EBL Broad Law **80.78 342** *e*P **P** **04 57 43.2 +1.0**
F36A Milaca **80.78 36** P **P** **04 57 42.1 -0.3**
TUC Tucson **80.79 56** P **P** **04 57 43.4 +0.7**
TUC pmax pmax
comp=Z,68nm,1.3s
TUC MLR MLR
comp=Z,1µm,20.0s
TUC Tucson **80.79 56** P **P** **04 57 43.4 +0.7**
TUC Tucson **80.79 56** P 04 57 42.9
baz=311
TUC S 05 07 52.6
baz=311
ECSD EROS Data Cent **80.90 40** P 04 57 42.9
baz=317,SNR=36
ECSD S 05 07 49.4
baz=317
MDVR Moldovita **80.99 322** ⇑P **P** **04 57 44.0 +0.4**
MANZ Manzenberg **81.04 331** *e*P **P** **04 57 44.8 +1.2**
comp=Z,53nm,1.3s,baz=35,slow=5.3
PGBU Glenifferbraes **81.09 342** *e*P **P** **04 57 44.7 +0.9**
E38A The Farm, Brul **81.10 35** IAmb IAmb 04 57 54.4
comp=Z,84nm,1.1s
E38A IAMs_20 IAMs_20 05 37 28.0
comp=Z,2µm,18.0s
CKRC Cesky Krumlov **81.11 329** *e*P **P** **04 57 44.5 +0.4**
CKRC *ex* x 04 57 49.7
CKRC *e*PP **PP** **05 00 46.0 -2.5**
CKRC *e*S **S** **05 07 50.0 -2.8**
KSCO Kaye Shedlock' **81.13 46** IAmb IAmb 04 57 56.4
comp=Z,164nm,1.3s
KSCO Kaye Shedlock' **81.13 46** P 04 57 45.1
baz=314,SNR=18
KSCO S 05 07 51.6
baz=314
UBBA Unterbreizbach **81.13 332** *e*P **P** **04 57 45.0 +1.0**
comp=Z,74nm,1.7s,baz=35,slow=5.3
RAYN Ar Rayn **81.14 293** P **P** **04 57 44.5 -0.2**
RAYN pmax pmax
comp=Z,81nm,1.2s
RAYN MLR MLR
comp=Z,3µm,18.0s
RAYN Ar Rayn **81.14 293** P **P** **04 57 44.5 -0.2**
RAYN IAmb IAmb 04 57 46.9
comp=Z,81nm,1.2s
KHC Kasperske Hory **81.16 329** *e*P **P** **04 57 44.2 -0.1**
KHC *e* 04 57 53.5
KHC *e* 05 00 48.2
KHC *e*S **S** **05 07 52.7 -0.6**
KHC MLR MLR
comp=Z,8µm,14.9s
KHC Kasperske Hory **81.16 329** *e*P **P** **04 57 44.2 -0.1**
KHC *ex* x 04 57 53.5
KHC *ex* x 04 58 09.0
KHC *e*PP **PP** **05 00 48.2 -0.6**
KHC *e*S **S** **05 07 52.7 -0.6**
KHC AMS AMS 05 37 50.0
comp=Z,8µm,14.9s
ROTZ Rotzenmuhle **81.18 330** *e*P **P** **04 57 45.9 +1.5**
comp=Z,152nm,1.7s,baz=35,slow=5.3
CONA Conrad Observa **81.19 327** *i* P **P** **04 57 45.3 +0.8**
comp=Z,73nm,1.5s,SNR=41
ESK Eskdalemuir **81.24 341** *e*P **P** **04 57 45.2 +0.6**
ESK IAmb IAmb 04 57 46.9
comp=Z,29nm,0.8s
ESK IAMs_20 IAMs_20 05 40 22.9
comp=Z,3µm,19.4s
ESK Eskdalemuir **81.24 341** P **P** **04 57 45.0 +0.4**
ESK pmax pmax
comp=Z,50nm,1.3s
ESK Eskdalemuir **81.24 341** P **P** **04 57 45.0 +0.4**
MORH Mrgy, Hungar **81.32 325** ⇑P **P** **04 57 45.4 +0.2**
MORH Mrgy, Hungar **81.32 325** ⇑*i*P **P** **04 57 44.4 -0.8**
GEC2 GERESS Array S **81.34 329** *e*P **P** **04 57 46.3 +0.9**
comp=Z,151nm,2.3s,baz=35,slow=5.3
GERES GERESS Array B **81.34 329** P **P** **04 57 45.2 -0.1**
comp=Z,5.4nm,0.7s,baz=44,slow=4.4,SNR=36
GERES PP **PP** **05 00 49.2 -1.2**
comp=Z,0.5nm,0.3s,baz=46,slow=7.6,SNR=3.5
GERES GERESS Array B **81.34 329** P **P** **04 57 45.4 0.0**
KASTN Kahler Asten **81.38 333** *e*P **P** **04 57 46.4 +1.0**
comp=Z,106nm,1.9s,baz=35,slow=5.3
ISP Isparta **81.39 312** IAMs_20 IAMs_20 05 40 24.6
comp=Z,2µm,18.0s
T25A Trinidad **81.42 48** IAmb IAmb 04 57 57.8
comp=Z,90nm,1.1s
T25A IAMs_20 IAMs_20 05 40 12.3
comp=Z,2µm,19.0s
T25A Trinidad **81.42 48** P 04 57 46.3
baz=314,SNR=36
T25A S 05 07 58.4
baz=314
WET Wettzell **81.42 330** *e*P **P** **04 57 47.2 +1.5**
comp=Z,74nm,1.3s,baz=35,slow=5.3
BUG Bochum--Univer **81.57 334** *e*P **P** **04 57 47.1 +0.7**
comp=Z,86nm,1.3s,baz=35,slow=5.3
FRGS Fruska Gora **81.60 323** ⇑P **P** **04 57 46.9 +0.2**
FRGS Fruska Gora **81.60 323** ⇑*i*P **P** **04 57 46.7 0.0**
SPMN Marine on St. **81.60 36** P 04 57 47.0
baz=320
SPMN S 05 07 55.6
baz=320
GRA1 Grafenberg Arr **81.61 331** IAmb IAmb 04 57 59.9
comp=Z,111nm,1.1s
GRF Grafenberg Arr **81.61 331** *e*P **P** **04 57 47.9 +1.2**
comp=Z,140nm,1.2s,baz=35,slow=5.3
GRF *ep*P **pwP** **04 57 58.3 +3.2**
GRF *e*PP **PP** **05 00 45.8 -6.8**
baz=39,slow=7.0
GRF *e*L L 05 38 44.9
comp=Z,4µm,20.4s
GRFO Grafenberg **81.61 331** P **P** **04 57 46.8 +0.1**
GRFO pmax pmax
comp=Z,137nm,1.2s
GRFO Grafenberg **81.61 331** P **P** **04 57 46.8 +0.1**
GRFO IAmb IAmb 04 57 59.8
comp=Z,137nm,1.2s
NEWG New Galloway **81.67 342** *e*P **P** **04 57 48.1 +1.3**
ALN Alexandroupoli **81.67 317** P **P** **04 57 46.4 -0.8**
ALN Alexandroupoli **81.67 317** IAmb IAmb 04 57 49.8
comp=Z,130nm,1.8s
CSS Mathiatis **81.71 309** IAMs_20 IAMs_20 05 40 53.4
comp=Z,2µm,18.0s
ANMO Albuquerque **81.71 51** P **P** **04 57 47.7 -0.1**
ANMO pmax pmax
comp=Z,84nm,1.2s
ANMO MLR MLR
comp=Z,1µm,20.0s
ANMO Albuquerque **81.71 51** P **P** **04 57 47.7 -0.1**
ANMO IAmb IAmb 04 57 59.9
comp=Z,84nm,1.1s
ANMO Albuquerque **81.71 51** IAMs_20 IAMs_20 05 33 00.3
comp=Z,1µm,20.0s
ANMO Albuquerque **81.71 51** P 04 57 48.1
baz=313
ANMO S 05 08 02.6
baz=313
RDO Rodhopi **81.76 318** P **P** **04 57 47.8 +0.2**
BGNE Belgrade **81.83 42** P 04 57 48.4
baz=317,SNR=9.4
BGNE S 05 07 57.4
baz=317
BOVS Bovan **81.85 321** ⇑P **P** **04 57 47.8 -0.3**
VTS Vitosha **81.86 320** ⇑P **P** **04 57 49.1 +0.8**
ARSA Arzberg **81.86 327** *i* P **P** **04 57 48.2 +0.2**
comp=Z,42nm,1.5s,SNR=12
MOA Molln **81.91 328** *i* P **P** **04 57 48.9 +0.6**
comp=Z,39nm,1.6s,SNR=14
SOCY Socotra **81.93 279** P **P** **04 57 46.9 -2.1**
SOCY Socotra **81.93 279** P **P** **04 57 48.5 -0.5**
BEHE Becsehely **81.94 326** ⇑*i*P **P** **04 57 49.3 +0.8**
GAL1 Galloway **82.01 342** *e*P **P** **04 57 48.8 +0.1**
GAL1 IAmb IAmb 04 57 50.1
comp=Z,70nm,1.4s
GAL1 IAMs_20 IAMs_20 05 44 27.2
comp=Z,2µm,14.0s
Y22D IRIS PASSCAL I **82.02 52** P 04 57 49.3
baz=313
Y22D S 05 08 05.6
baz=313
D41A Chassel **82.04 33** IAmb IAmb 04 58 00.6
comp=Z,94nm,1.3s
D41A IAMs_20 IAMs_20 05 40 06.6
comp=Z,1µm,18.0s
HPK Haverah Park **82.06 340** *e*P **P** **04 57 49.7 +0.8**
HPK IAmb IAmb 04 57 51.3
comp=Z,141nm,1.6s
HPK IAMs_20 IAMs_20 05 38 26.4
comp=Z,3µm,21.5s
KOGS Kog **82.18 326** *i* P **P** **04 57 50.3 +0.5**
TNS Taunus Mts **82.18 333** *e*P **P** **04 57 50.6 +0.9**

comp=Z,42nm,1.3s,baz=35,slow=5.3
MILB Miltenberg 82.21 332 *e*P **P 04 57 50.8 +0.9**
comp=Z,44nm,1.3s,baz=35,slow=5.3
SMTH Samothraki Isl 82.25 317 P **P 04 57 49.7 -0.5**
DIVS Divibare 82.32 323⇑*i*P **P 04 57 50.4 -0.2**
319A Douglas 82.36 55 IAmb IAmb 04 58 02.9
comp=Z,101nm,1.1s
AHRW Bad Neuenahr-A 82.39 334 *e*P **P 04 57 51.8 +1.1**
comp=Z,82nm,1.6s,baz=35,slow=5.3
KAVA Kavala 82.40 318 P **P 04 57 50.5 -0.5**
SCHQ Schefferville 82.41 17 P **P 04 57 51.8 +1.0**
comp=Z,6.6nm,0.8s,baz=350,slow=7.0,SNR=7.9
SCHQ Schefferville 82.41 17 IAMs_20 IAMs_20 05 37 49.7
comp=Z,2µm,22.0s
NVR Nevrokopi 82.48 319 P **P 04 57 51.5 +0.1**
SOKA Soboth 82.52 327 *i*P **P 04 57 51.8 +0.2**
comp=Z,110nm,1.2s,SNR=67
121A Cookes Peak, D 82.53 54 IAmb IAmb 04 58 04.2
comp=Z,67nm,1.1s
121A Cookes Peak, D 82.53 54 P 04 57 52.2
baz=313,SNR=17
121A S 05 08 10.4
baz=313
COWI Conover 82.55 34 IAMs_20 IAMs_20 05 40 56.2
comp=Z,2µm,20.0s
THAS Thassos island 82.58 318 P **P 04 57 51.6 -0.3**
LBWR Ladybower, Pea 82.58 340 *e*P **P 04 57 52.1 +0.4**
LBWR IAMs_20 IAMs_20 05 41 06.9
comp=Z,3µm,19.0s
RJOB Jochberg 82.59 329 *e*P **P 04 57 53.4 +1.5**
comp=Z,305nm,1.4s,baz=35,slow=5.3
BEBN Eben Emael 82.65 335 *d*P **P 04 57 52.5 +0.4**
BEBN *d*x x 04 58 02.4
BTNL Ternell 82.68 334 *d*P **P 04 57 52.7 +0.4**
BTNL *d*x x 04 57 59.3
MEM Membach 82.70 334 *d*P **P 04 57 53.2 +0.8**
comp=Z,37nm,1.1s
MEM *d*x x 04 58 01.4
G40A Rib Lake 82.74 35 P **P 04 57 53.3 +0.6**
G40A IAMs_20 IAMs_20 05 39 03.8
comp=Z,2µm,20.0s
PRK Paraskevi 82.74 316 P **P 04 57 53.6 +0.8**
BBLS Lazići 82.77 323⇑*i*P **P 04 57 53.2 +0.3**
GHAJ Ghor Haditha 82.80 305 IAMs_20 IAMs_20 05 40 52.4
comp=Z,2µm,19.0s
HAPS Han Pijesak,Bl 82.81 323 *e*P **P 04 57 54.0 +0.8**
FUR Furstenfeldbru 82.84 330 *e*P **P 04 57 54.5 +1.3**
comp=Z,94nm,1.3s,baz=35,slow=5.3
LIA Limnos Island 82.85 317 P **P 04 57 53.9 +0.6**
OBKA Obir 82.86 327 *i*P **P 04 57 53.6 +0.2**
comp=Z,26nm,1.0s,SNR=11
CBKS Cedar Bluff 82.86 45 IAmb IAmb 04 58 04.5
comp=Z,99nm,1.2s
CBKS IAMs_20 IAMs_20 05 38 34.1
comp=Z,1µm,19.0s
CBKS Cedar Bluff 82.86 45 P 04 57 53.2
baz=316
CBKS S 05 08 08.0
baz=316
BSTI Sart Tilman 82.87 334 *d*P **P 04 57 54.1 +0.9**
KBA Koelnbreinsper 82.90 328 *i*P **P 04 57 54.7 +1.0**
comp=Z,55nm,1.1s,SNR=22
BHOU Houvegnez 82.92 334 *d*P **P 04 57 54.5 +0.9**
comp=Z,33nm,1.3s
BHOU *d*x x 04 58 03.8
BLCB Balcova 82.94 315 P **P 04 57 53.9 +0.1**
SIGR SIGRI 82.99 316 P **P 04 57 53.8 -0.3**
CRES Cresnjev 83.01 326⇑*i*P **P 04 57 53.6 -0.5**
MRAK Mrakovica 83.02 325⇑*i*P **P 04 57 54.9 +0.7**
STIP Stip 83.06 320 *i*P **P 04 57 53.5 -0.9**
CWF Charnwood Fore 83.07 339 *e*P **P 04 57 54.8 +0.6**
comp=Z,38nm,1.1s
CWF IAmb IAmb 04 57 55.2
comp=Z,23nm,0.8s
CWF IAMs_20 IAMs_20 05 39 41.4
comp=Z,4µm,20.6s
BCLA Clavier 83.10 335 *d*P **P 04 57 55.5 +1.1**
comp=Z,31nm,1.3s
BCLA *d*x x 04 58 03.2
BLY Banja Luka 83.10 325⇑*i*P **P 04 57 54.1 -0.5**
KNT Kendrikon 83.10 319 P **P 04 57 54.3 -0.4**
STU Stuttgart 83.12 331 *e*P **P 04 57 55.6 +1.0**
comp=Z,123nm,1.7s,baz=35,slow=5.3
SOH Sokhos 83.12 319 P **P 04 57 54.9 +0.1**
MYKA Terra Mystica 83.14 328 *i*P **P 04 57 55.4 +0.6**
comp=Z,65nm,1.5s,SNR=20
OUR Ouranopolis 83.16 318 P **P 04 57 55.6 +0.7**
PLE Pljevlja 83.19 322⇑*i*P **P 04 57 55.7 +0.5**
BGES Gesves 83.20 335 *d*P **P 04 57 55.1 +0.2**
comp=Z,38nm,1.5s
BGES *d*x x 04 58 04.3
MXZ Matakaoa Point 83.22 153 IAMs_20 IAMs_20 05 37 01.6
comp=Z,2µm,22.0s
SKO Skopje 83.23 320 *i*P **P 04 57 56.9 +1.7**
LJU Ljubljana 83.23 327 *i*P **P 04 57 55.3 +0.1**
E43A Lone Tree Farm 83.24 33 IAmb IAmb 04 58 05.7
comp=Z,64nm,1.4s
E43A IAMs_20 IAMs_20 05 41 01.3
comp=Z,2µm,19.0s
F42A Maple Grove Fa 83.25 34 IAMs_20 IAMs_20 05 41 25.7
comp=Z,1µm,18.0s
IVA Berane 83.30 322 *e*P **P 04 57 55.9 +0.2**
RCHB Rochefort 83.35 334 *d*P **P 04 57 56.4 +0.7**
RCHB *d*x x 04 58 01.3
SNF Seneffe 83.36 335 *d*P **P 04 57 56.7 +0.9**
SNF *d*x x 04 58 06.6
BOJS Bojanci 83.36 326 *e*P **P 04 57 56.2 +0.4**
BOJS *e*PP **PP 05 01 08.6 +1.6**
BOJS *e*S **S 05 08 14.3 -1.6**
BMRD Maredsous 83.37 335 *d*P **P 04 57 55.5 -0.3**
comp=Z,52nm,1.3s
BMRD *d*x x 04 58 04.5
WATA Walderalm 83.40 329 *i*P **P 04 57 57.9 +1.7**
comp=Z,62nm,1.4s,SNR=17
MGRS Mrkonjic Grad 83.41 324 *e*P **P 04 57 56.5 +0.3**
PLG Polygyros 83.41 318 P **P 04 57 56.0 -0.3**
CADS Cadrg 83.42 327 *i*P **P 04 57 55.8 -0.4**
HORT Hortiatis 83.42 319 P **P 04 57 55.7 -0.7**
URZ Urewera 83.43 154 IAMs_20 IAMs_20 05 38 25.1
comp=Z,2µm,20.0s
WTTA Wattenberg 83.43 329 *i*P **P 04 57 57.6 +1.1**
comp=Z,63nm,1.5s,SNR=20
FOEL Foel Wylfa 83.43 340 *e*P **P 04 57 56.0 -0.1**
FOEL IAMs_20 IAMs_20 05 41 51.1
comp=Z,3µm,16.8s
WLF Walferdange 83.45 334 *d*P **P 04 57 58.0 +1.8**
WLF *d*x x 04 58 11.8
WLF Walferdange 83.45 334 *e*P **P 04 57 57.5 +1.2**
comp=Z,159nm,1.9s,baz=35,slow=5.3
ZOU Zoufplan 83.47 328 IAmb IAmb 04 58 12.1
comp=Z,74nm,1.3s
PVY Plav 83.47 322 *e*P **P 04 57 57.5 +0.8**
CHOS Chios island 83.48 315 P **P 04 57 56.4 -0.3**
ABTA Abfaltersbach 83.50 328 *i*P **P 04 57 56.0 -0.7**
comp=Z,38nm,1.2s,SNR=17
GRG Griva 83.51 319 P **P 04 57 56.9 +0.1**
CEY Cerknica 83.52 327⇑*i*P **P 04 57 55.9 -0.9**
SMG Samos 83.54 314 P **P 04 57 57.2 +0.2**
MOTA Moosalm 83.58 330 *i*P **P 04 57 57.7 +0.6**
comp=Z,97nm,1.2s,SNR=35
K38A Parkersburg 83.58 38 IAMs_20 IAMs_20 05 41 57.2
comp=Z,2µm,18.0s
RETA Reutte 83.59 330 *i*P **P 04 57 57.5 +0.3**
comp=Z,95nm,1.3s,SNR=34
DOU Dourbes 83.61 335 *d*P **P 04 57 57.6 +0.5**
comp=Z,22nm,1.7s
DOU *d*x x 04 58 07.5
PAIG Paliouri 83.62 318 P **P 04 57 57.0 -0.3**
I40A Norwalk 83.62 36 IAmb IAmb 04 58 07.9
comp=Z,47nm,1.1s
UBR Ueberruh 83.68 330 *e*P **P 04 57 58.5 +0.9**
comp=Z,104nm,1.8s,baz=35,slow=5.3
BODT Bodrum 83.74 314 P **P 04 57 56.3 -1.7**
NKY Niksic 83.77 322⇑*i*P **P 04 57 58.5 +0.3**
PMOR Pomariorio Ree 83.79 115 *e*T T 06 30 02.3
comp=Z,8.3nm,0.3s
BFO Black Forest 83.81 332 P **P 04 57 58.4 +0.2**
BFO pmax pmax
comp=Z,165nm,1.7s
BFO MLR MLR
comp=Z,4µm,20.0s
BFO Black Forest 83.81 332 P **P 04 57 58.4 +0.2**
BFO Black Forest 83.81 332 *e*P **P 04 57 59.3 +1.1**
comp=Z,178nm,1.8s,baz=35,slow=5.3
STAL STALIGIAL 83.82 328 IAmb IAmb 04 58 09.3
comp=Z,63nm,1.1s
NKME Niksic 83.82 322 *e*P **P 04 57 58.5 +0.1**
TRI Trieste 83.82 327 IAmb IAmb 04 58 09.7
comp=Z,82nm,1.1s
ARG Arkhangelos 83.89 313 P **P 04 57 59.6 +0.9**
BRY Bratogost 83.91 323 *e*P **P 04 57 58.1 -0.9**
BRY Bratogost 83.91 323⇑*i*P **P 04 57 58.1 -0.9**
MATQ Matagami 83.92 25 P 04 57 58.9
baz=329,SNR=12
MATQ S 05 08 17.9
baz=329
SCIA State Center 83.93 39 P 04 57 59.2
baz=320
SCIA S 05 08 19.5
baz=320
PDG Podgorica 83.94 322⇑*i*P **P 04 57 59.4 +0.5**
PDG Podgorica 83.94 322⇑*i*P **P 04 57 58.6 -0.3**
TTG Podgorica 83.94 322⇑*i*P **P 04 57 59.4 +0.5**
FETA Feichten 83.99 330 *i*P **P 04 58 00.0 +0.7**
comp=Z,48nm,1.2s,SNR=20
CEME Cevo 84.01 322⇑*i*P **P 04 57 59.4 +0.1**
BKZ Black Stump Fm 84.04 155 IAMs_20 IAMs_20 05 37 34.3
comp=Z,2µm,22.0s
DAVA Damuels 84.10 330 *i*P **P 04 57 59.9 +0.1**
comp=Z,63nm,1.1s,SNR=18
LIT Litokhoron 84.10 319 P **P 04 57 59.1 -0.7**
LIT Litokhoron 84.10 319 IAmb IAmb 04 58 11.1
comp=Z,85nm,1.1s
TREB Trebinje 84.14 323 *e*P **P 04 58 00.3 +0.3**
FNA Florina 84.15 320 P **P 04 57 59.4 -0.7**
FNA Florina 84.15 320 P **P 04 58 00.0 -0.1**
FNA pmax pmax
comp=Z,52nm,1.2s
FNA Florina 84.15 320 P **P 04 58 00.0 -0.1**
FNA IAmb IAmb 04 58 12.1
comp=Z,52nm,1.2s
DRME Dracevica, Mon 84.16 322⇑*i*P **P 04 57 59.9 -0.1**
DRME Dracevica, Mon 84.16 322⇑*i*P **P 04 58 00.0 -0.1**
MCH1 Michaelchurch 84.19 340 *e*P **P 04 58 00.7 +0.7**
MCH1 IAMs_20 IAMs_20 05 45 27.4
comp=Z,3µm,15.5s
OHR Ohrid 84.19 320 *i*P **P 04 58 00.6 +0.3**
BUM Brajici-Budva 84.21 322⇑*i*P **P 04 57 59.8 -0.6**
HCY Herceg Novi 84.28 322⇑*i*P **P 04 58 00.8 +0.1**
XOR Xorichti 84.28 318 P **P 04 57 59.5 -1.3**
ULC Ulcinj 84.30 322⇑*i*P **P 04 58 00.8 0.0**
KZN Kozani 84.31 319 P **P 04 58 00.1 -0.9**
KSU1 Kansas State U 84.32 43 IAMs_20 IAMs_20 05 42 34.5
comp=Z,2µm,19.0s
KSU1 Kansas State U 84.32 43 P 04 57 60.0
baz=318
KSU1 S 05 08 22.9
baz=318
STON Ston 84.33 323⇑*i*P **P 04 57 59.5 -1.3**
E46A Sault Ste Mari 84.34 31 IAmb IAmb 04 58 12.1
comp=Z,118nm,1.4s
E46A IAMs_20 IAMs_20 05 41 36.4
comp=Z,2µm,20.0s
QRZ Quartz Range 84.34 158 IAMs_20 IAMs_20 05 35 59.5
comp=Z,2µm,21.0s
I42A Draeger Farm, 84.39 35 IAmb IAmb 04 58 11.9
comp=Z,57nm,1.1s
I42A IAMs_20 IAMs_20 05 40 05.9
comp=Z,2µm,20.0s
PPT Papeete 84.40 118 LR LR 05 28 13.5
comp=Z,2µm,20.9s,baz=293,slow=30
PPT2 Papeete2 84.41 118 *e*S **S 05 08 24.3 -2.9**
comp=Z,526nm,27.8s
PPT2 Papeete2 84.41 118 *e*LR LR 05 24 32.2
comp=Z,4µm,22.5s,baz=315
PPT2 Papeete2 84.41 118 *e*T T 06 30 49.7
comp=Z,5.2nm,0.4s
CTI Castel Tesino 84.42 329 IAmb IAmb 04 58 12.8
comp=Z,74nm,1.2s
H43A Windswept, Lux 84.43 34 IAmb IAmb 04 58 12.2
comp=Z,79nm,1.1s
H43A IAMs_20 IAMs_20 05 39 30.0
comp=Z,1µm,19.0s
TIR Tirane 84.47 321⇑P **P 04 58 02.4 +0.8**
TIAR Tirani 84.55 118 *e*T T 06 30 59.3
comp=Z,0.9nm,0.3s
JFWS Jewell Farm 84.55 36 IAmb IAmb 04 58 12.3
comp=Z,50nm,1.1s
JFWS Jewell Farm 84.55 36 IAMs_20 IAMs_20 05 40 51.2
comp=Z,2µm,19.0s
JFWS Jewell Farm 84.55 36 P 04 58 01.5
baz=321
JFWS S 05 08 24.3
baz=321
KBN Korca 84.57 320 P **P 04 58 01.7 -0.5**
MSTX Muleshoe 84.58 50 IAmb IAmb 04 58 14.3
comp=Z,91nm,1.1s
MSTX Muleshoe 84.58 50 P 04 58 02.7
baz=315,SNR=20
MSTX S 05 08 30.0
baz=315
MNTX Cornudas Mount 84.59 53 IAmb IAmb 04 58 13.9
comp=Z,52nm,1.1s
MNTX Cornudas Mount 84.59 53 P 04 58 03.3
baz=314,SNR=42
MNTX S 05 08 27.1
baz=314
NEST Nestorio 84.59 320 P **P 04 58 02.8 +0.4**
EREA Eretria 84.59 317 P **P 04 58 02.2 -0.2**
APE Apeiranthos 84.72 315 P **P 04 58 01.4 -1.6**
APE Apeiranthos 84.72 315⇑P **P 04 58 03.1 +0.1**
LSQQ Lebel-sur-Quev 84.74 25 P 04 58 03.4
baz=330
THL Klokotos Trika 84.74 319 P **P 04 58 00.8 -2.2**
L40A Anamosa 84.76 38 IAmb IAmb 04 58 14.1
comp=Z,102nm,1.1s
KPRO Kipourio 84.78 319 P **P 04 58 01.6 -1.7**
CHGQ Chibougamau 84.83 23 P 04 58 03.5
baz=332,SNR=13
CHGQ S 05 08 26.4
baz=332
DION Dionisos Attik 84.85 316 P **P 04 58 02.9 -0.7**
G45A Suttons Bay 84.87 33 IAmb IAmb 04 58 14.4
comp=Z,74nm,1.1s
G45A IAMs_20 IAMs_20 05 40 03.5
comp=Z,2µm,21.0s
ATAL Atalanti 84.87 317 P **P 04 58 02.4 -1.3**
PTL Penteli 84.90 316 P **P 04 58 03.3 -0.6**
LKR Lokris 84.92 317 P **P 04 58 03.5 -0.4**
TEOL Teolo 84.97 328 IAmb IAmb 04 58 15.5
comp=Z,72nm,1.1s
AGG Agios Georgios 84.99 318 P **P 04 58 02.5 -1.8**
ATHU Athens Univers 85.01 316 P **P 04 58 03.2 -1.2**
LSK Leskovik 85.02 320 P **P 04 58 04.7 +0.2**
VLY Voula,Athens 85.09 316 P **P 04 58 03.7 -1.1**
VILL Villia 85.11 317 P **P 04 58 03.1 -1.9**
OK032 Salt Plains WL 85.15 45 IAMs_20 IAMs_20 05 42 29.7
comp=Z,1µm,19.0s
SALO Salr 85.22 329 IAmb IAmb 04 58 17.2
comp=Z,99nm,1.2s
SANT Santorini 85.27 314 IAmb IAmb 04 58 15.7
comp=Z,57nm,1.1s
SANT IAMs_20 IAMs_20 05 41 38.2
comp=Z,2µm,18.0s
TAOE Nuku Hiva Isla 85.28 105 *e*LR LR 05 25 00.3
comp=Z,4µm,20.9s,baz=317
BFZ Birch Farm 85.34 156 IAMs_20 IAMs_20 05 30 29.4
comp=Z,2µm,20.0s
LTK Loutraki 85.40 317 P **P 04 58 04.1 -2.3**
VLDQ Val d'Or 85.40 26 IAmb IAmb 04 58 15.8
comp=Z,50nm,1.1s
VLDQ IAMs_20 IAMs_20 05 40 58.7
comp=Z,2µm,20.0s
LOUT Loutraki 85.42 317 P **P 04 58 04.8 -1.7**
GLMI Grayling 85.47 32 IAMs_20 IAMs_20 05 41 34.5
comp=Z,2µm,19.0s
GLMI Grayling 85.48 32 P 04 58 06.8
baz=325
P38A Dawn 85.50 41 IAmb IAmb 04 58 17.9
comp=Z,121nm,1.2s
ANX Ano Chora 85.52 318 P **P 04 58 05.2 -1.9**
SRN Sarande 85.52 320 P **P 04 58 06.2 -0.7**
L42A Oliver, Polo 85.53 37 IAmb IAmb 04 58 17.2
comp=Z,70nm,1.2s
SERG Sergoula 85.58 318 P **P 04 58 05.6 -1.7**
K43A Burlington 85.59 36 IAmb IAmb 04 58 18.3
comp=Z,68nm,1.2s
K43A IAMs_20 IAMs_20 05 40 52.6
comp=Z,2µm,20.0s
TRIZ Trizonia 85.61 318 P **P 04 58 05.8 -1.6**
IGT Igoumenitsa 85.62 319 P **P 04 58 06.0 -1.4**
MEH Mehetia 85.64 117 *e*T T 06 32 21.9
comp=Z,22nm,0.3s
EFP Efpalio 85.65 318 P **P 04 58 06.5 -1.1**
PVO Paravola 85.71 318 P **P 04 58 07.1 -0.8**
BLOK Blackwell 85.72 45 IAmb IAmb 04 58 19.8
comp=Z,107nm,1.2s
KEK Kerkira 85.75 320 P **P 04 58 07.0 -1.1**
LAKA Lakka 85.75 318 P **P 04 58 08.4 +0.2**
ZKR Zakros 85.76 313 P **P 04 58 08.3 +0.1**
STIA Sitia Lasithi 85.76 313 P **P 04 58 07.2 -1.0**
KLV Kalavryta, Ach 85.81 317 P **P 04 58 07.0 -1.5**
PDO Prodromos 85.90 318 P **P 04 58 07.7 -1.1**
N41A Harden Midland 85.98 38 IAmb IAmb 04 58 20.1
comp=Z,89nm,1.1s
LKD2 Lefkada island 86.02 319 P **P 04 58 08.6 -0.9**
DRO Drossia 86.11 318 P **P 04 58 09.1 -0.8**
SCTE Santa Cesarea 86.13 321 IAmb IAmb 04 58 21.8
comp=Z,102nm,1.1s
LAST Lasithi 86.14 314 P **P 04 58 10.5 +0.3**
RLS Riolos of Patr 86.16 318 P **P 04 58 09.5 -0.6**
L44A Lake County Fo 86.19 36 IAMs_20 IAMs_20 05 41 20.7
comp=Z,2µm,19.0s
L44A Lake County Fo 86.19 36 P 04 58 10.1
baz=323
L44A S 05 08 40.3
baz=323
VLX Vlachokerasia 86.20 317 P **P 04 58 08.8 -1.7**
FSK Fiskardo 86.32 319 P **P 04 58 10.5 -0.4**
MURB Monte Urbino 86.32 326 IAmb IAmb 04 58 24.8
comp=Z,118nm,1.2s
WMOK Wichita Mounta 86.34 47 IAmb IAmb 04 58 22.2
comp=Z,57nm,1.1s
WMOK Wichita Mounta 86.34 47 P 04 58 11.9
baz=317,SNR=12
WMOK S 05 08 45.6
baz=317
IDI Anoyia 86.37 314 P **P 04 58 08.6 -2.7**
IDI Anoyia 86.37 314⇑P **P 04 58 11.0 -0.3**
IDI Anoyia 86.37 314 IAmb IAmb 04 58 48.9
comp=Z,117nm,1.6s
IDI IAMs_20 IAMs_20 05 42 59.5
comp=Z,2µm,18.0s
VLI Velia 86.39 316 P **P 04 58 08.2 -3.1**
AMT Artemida-Makis 86.43 317 P **P 04 58 11.6 +0.1**
QUOK Quay 86.43 45 IAmb IAmb 04 58 23.4
comp=Z,118nm,1.3s
KEF5 Kardakata, Kep 86.50 319 P **P 04 58 11.6 -0.2**
VLS Valsamata 86.52 318 P **P 04 58 10.6 -1.3**
HQIL Hanson Quary C 86.52 36 IAMs_20 IAMs_20 05 41 21.3
comp=Z,2µm,20.0s
OK031 S. Brethren Rd 86.52 45 IAmb IAmb 04 58 23.9
comp=Z,137nm,1.4s
MATE Matera 86.53 322⇑P **P 04 58 12.1 +0.3**
OK025 Westminster Rd 86.53 45 IAMs_20 IAMs_20 05 41 39.2
comp=Z,1µm,20.0s
PSDA Pessada-Kefalo 86.57 318 P **P 04 58 10.9 -1.2**
OK030 Cody Creek RV 86.57 45 IAmb IAmb 04 58 24.1
comp=Z,118nm,1.4s
ITM Ithomi 86.58 317 P **P 04 58 08.9 -3.3**
ITM Ithomi 86.58 317 IAmb IAmb 04 58 49.1
comp=Z,134nm,1.5s
KEF3 Kipouria, Keph 86.62 319 P **P 04 58 10.1 -2.3**
KTHA Kythira Island 86.66 316 P **P 04 58 09.5 -3.2**
VAM Vamos 86.67 314 P **P 04 58 12.1 -0.6**
AQU L'Aquila 86.67 325⇑*i*P **P 04 58 12.5 -0.2**
J47A Sunmer 86.69 33 IAmb IAmb 04 58 24.0
comp=Z,98nm,1.1s
J47A IAMs_20 IAMs_20 05 41 19.2
comp=Z,1µm,18.0s
KTHR Kythira 86.69 316 P **P 04 58 09.3 -3.5**
VLMS Volimes, Zakyn 86.71 318 P **P 04 58 11.3 -1.6**
INTR Introdacqua 86.73 325 IAmb IAmb 04 58 26.0
comp=Z,55nm,1.1s
IMMV Iera Moni Meta 86.75 315 P **P 04 58 12.2 -0.9**
ANKY Antikythira Is 86.82 315 P **P 04 58 12.4 -1.0**
HDIL Hopedale 86.84 37 IAMs_20 IAMs_20 05 43 51.9
comp=Z,2µm,20.0s
HDIL Hopedale 86.84 37 P 04 58 14.3
baz=322
PYL PYLOS 86.89 317 P **P 04 58 11.8 -1.9**
D55A Sainte-Anne-du 87.02 25 P 04 58 14.2
baz=331
D55A S 05 08 47.7
baz=331
L46A Eue Claire 87.05 35 IAmb IAmb 04 58 25.9
comp=Z,78nm,1.1s
L46A IAMs_20 IAMs_20 05 42 09.2
comp=Z,2µm,20.0s
ALGO Algonquin Park 87.05 28 P 04 58 14.1
baz=329
SLBS Sierra La Lagu 87.06 62 P **P 04 58 15.2 +0.3**
SLBS Sierra La Lagu 87.06 62 IAMs_20 IAMs_20 05 44 37.0
comp=Z,2µm,18.0s
S39A Bolivar 87.08 42 IAmb IAmb 04 58 25.5
comp=Z,68nm,1.2s
TUL1 Leonard 87.12 44 P 04 58 15.0
baz=318
TUL1 S 05 08 51.6
baz=318
GVDS Gavdos 87.14 314 P **P 04 58 14.2 -0.8**
GVD Gavdhos 87.15 314 P **P 04 58 14.3 -0.7**
R40A Maddies Statio 87.16 41 IAmb IAmb 04 58 25.7
comp=Z,85nm,1.2s
D56A ZEC Mazanza, M 87.23 25 P 04 58 15.5
baz=332,SNR=15
D56A S 05 08 51.7
baz=332
TX32 Lajitas Array 87.29 54 IAmb IAmb 04 58 27.2
comp=Z,61nm,1.2s
TXAR Lajitas Array 87.29 54 P **P 04 58 16.2 +0.3**
comp=Z,4.7nm,0.9s,baz=294,slow=2.9,SNR=28
TXAR LR LR 05 32 00.9
comp=Z,739nm,20.9s,baz=0.0,slow=32
TXAR Lajitas Array 87.29 54 P **P 04 58 16.5 +0.5**
E55A Montcerf-Lytto 87.31 26 P 04 58 15.4
baz=331
E55A S 05 08 50.0
baz=331
ABTX Abilene, Hawle 87.38 49 P 04 58 16.8
baz=317,SNR=11
ABTX S 05 08 55.1
baz=317
P43A Skaggs, Pawnee 87.45 38 IAmb IAmb 04 58 28.0
comp=Z,103nm,1.4s
U38A Gravette 87.48 43 IAmb IAmb 04 58 27.4
comp=Z,52nm,1.2s
G54A Lake Saint Pet 87.52 28 P 04 58 16.4
baz=329
G54A S 05 08 51.9
baz=329
O44A Mansfield 87.55 37 IAmb IAmb 04 58 27.6
comp=Z,56nm,1.1s
LATQ La Tuque 87.56 24 S 05 08 54.6
baz=333
E56A St. Veronique 87.58 25 P 04 58 17.1
baz=331
E56A S 05 08 53.4
baz=331
TIP Timpagrande 87.65 321⇑P **P 04 58 16.6 -0.8**
TIP Timpagrande 87.65 321 IAmb IAmb 04 58 55.0
comp=Z,54nm,1.4s
SADO Sadowa 87.67 29 IAMs_20 IAMs_20 05 42 03.3
comp=Z,2µm,20.0s
D58A Chemin du LacG 87.79 24 P 04 58 16.7
baz=333
D58A S 05 08 56.6
baz=333
HHAR Hobbs 87.83 43 IAmb IAmb 04 58 28.9
comp=Z,49nm,1.2s
CCM Cathedral Cave 87.85 40 P **P 04 58 18.7 +0.3**
CCM pmax pmax
comp=Z,119nm,1.1s
CCM MLR MLR
comp=Z,2µm,21.0s
CCM Cathedral Cave 87.85 40 P **P 04 58 18.6 +0.3**
CCM Cathedral Cave 87.85 40 IAMs_20 IAMs_20 05 41 37.8
comp=Z,1µm,21.0s
AAM Ann Arbor 87.94 33 IAMs_20 IAMs_20 05 41 58.9
comp=Z,2µm,21.0s
AAM Ann Arbor 87.94 33 P 04 58 18.8
baz=326
AAM S 05 08 59.2
baz=326
SFIN Lafayette 88.00 36 IAmb IAmb 04 58 29.9
comp=Z,66nm,1.2s
SFIN Lafayette 88.00 36 P 04 58 19.1

baz=324
SFIN S 05 08 59.1
baz=324
MGMO Mountain Grove **88.03 41** IAmb IAmb 04 58 29.8
comp=Z,65nm,1.2s
H53A Bobcaygeon **88.04 29** P 04 58 19.1
baz=329
H53A S 05 08 56.6
baz=329
PLVO Plevna **88.19 27** IAmb IAmb 04 58 31.2
comp=Z,62nm,1.7s
PLVO IAMs_20 IAMs_20 05 43 52.0
comp=Z,2µm,19.0s
D59A Saint-Raymond **88.19 23** P 04 58 20.0
baz=334
D59A S 05 09 00.2
baz=334
N47A Urbana **88.23 35** IAMs_20 IAMs_20 05 41 47.4
comp=Z,2µm,19.0s
E58A La Victoria **88.30 24** P 04 58 20.2
baz=333
E58A S 05 09 01.6
baz=333
FVM French Village **88.31 40** P **P** **04 58 20.8 +0.2**
FVM pmax pmax
comp=Z,87nm,1.3s
FVM French Village **88.31 40** P **P** **04 58 20.8 +0.2**
FVM IAmb IAmb 04 58 32.3
comp=Z,87nm,1.2s
F57A Harrington **88.34 26** P 04 58 19.6
baz=332
F57A S 05 09 01.8
baz=332
U40A Yellville **88.34 42** IAMs_20 IAMs_20 05 45 51.0
comp=Z,1µm,18.0s
U40A Yellville **88.34 42** P 04 58 21.1
baz=320,SNR=42
U40A S 05 09 03.0
baz=320
DELO Deloro Mine **88.44 28** IAmb IAmb 04 58 33.3
comp=Z,68nm,1.4s
DELO IAMs_20 IAMs_20 05 45 01.8
comp=Z,2µm,20.0s
E59A St. Maurice **88.45 24** S 05 09 02.8
baz=333
D61A St Aubert, Com **88.51 22** P 04 58 21.0
baz=335
D61A S 05 09 03.9
baz=335
TBI Tubuai **88.51 122** *e*S **S** **05 09 03.5 -3.2**
comp=Z,1µm,27.2s
TBI Tubuai **88.51 122** *e*LR LR 05 26 13.5
comp=Z,2µm,27.0s,baz=315
TBI Tubuai **88.51 122** *e*T T 06 35 55.7
comp=Z,20nm,0.3s
D60A Saint Jean D'O **88.55 23** P 04 58 21.3
baz=334
D60A S 05 09 03.6
baz=334
P46A Rosedale **88.56 37** IAmb IAmb 04 58 32.7
comp=Z,72nm,1.1s
F58A St-Lin Laurent **88.58 25** P 04 58 21.8
baz=332
F58A S 05 09 03.4
baz=332
T42A Van Buren **88.72 41** IAmb IAmb 04 58 34.1
comp=Z,100nm,1.4s
W39A Magazine **88.74 44** IAMs_20 IAMs_20 05 44 03.5
comp=Z,1µm,19.0s
W39A Magazine **88.74 44** P 04 58 23.1
baz=320
W39A S 05 09 06.6
baz=320
JCT Junction City **88.83 50** P 04 58 23.3
baz=316
JCT S 05 09 09.4
baz=316
N49A Columbus Grove **88.85 34** IAmb IAmb 04 58 34.7
comp=Z,89nm,1.2s
G57A Newington **88.86 26** P 04 58 22.6
baz=331
G57A S 05 09 05.6
baz=331
E60A Ste Agathe de **88.88 23** P 04 58 22.5
baz=334
F59A Saint Guilaume **88.92 24** P 04 58 22.3
baz=333
F59A S 05 09 07.6
baz=333
D62A Allapoint, All **88.94 22** IAmb IAmb 04 58 35.2
comp=Z,72nm,1.6s
D62A Allapoint, All **88.94 22** P 04 58 22.9
baz=336
D62A S 05 09 06.3
baz=336
M50A Fremont **88.94 33** IAMs_20 IAMs_20 05 44 35.3
comp=Z,2µm,20.0s
FCAR Ozark Folk Cen **89.08 42** IAmb IAmb 04 58 35.4
comp=Z,94nm,1.2s
F60A Warwick **89.08 24** P 04 58 24.0
baz=334
F60A S 05 09 09.2
baz=334
WHTX Lake Whitney, **89.10 48** IAmb IAmb 04 58 36.3
comp=Z,85nm,1.4s
WHTX Lake Whitney, **89.10 48** P 04 58 24.5
baz=318
WHTX S 05 09 10.6
baz=318
E61A Lac Etchemin **89.11 23** P 04 58 23.9
baz=334
E61A S 05 09 08.5
baz=334
J54A Appleton **89.13 29** IAMs_20 IAMs_20 05 45 09.1
comp=Z,2µm,19.0s
G58A Ormstown **89.13 26** P 04 58 23.0
baz=332
G58A S 05 09 08.2
baz=332
PECO Prince Edward **89.17 28** IAMs_20 IAMs_20 05 44 23.1
comp=Z,2µm,20.0s
E62A Clayton Lake **89.22 22** IAmb IAmb 04 58 36.3
comp=Z,108nm,1.9s
E62A Clayton Lake **89.23 22** P 04 58 24.6
baz=335
E62A S 05 09 10.3
baz=335
BLO Bloomington **89.23 37** IAmb IAmb 04 58 36.0
comp=Z,72nm,1.4s
D63A Stockholm **89.25 21** P 04 58 24.7
baz=336
D63A S 05 09 09.9
baz=336
H57A Richville **89.28 27** P 04 58 24.6
baz=331
H57A S 05 09 09.7
baz=331
MEDO Medina **89.29 29** IAMs_20 IAMs_20 05 42 55.4
comp=Z,1µm,18.0s
MIAR Mount Ida **89.34 44** IAmb IAmb 04 58 36.7
comp=Z,68nm,1.2s
MIAR IAMs_20 IAMs_20 05 44 34.6
comp=Z,2µm,18.0s
MIAR Mount Ida **89.34 44** P 04 58 24.9
baz=320,SNR=17
MIAR S 05 09 13.4
baz=320
F61A St Evariste **89.37 23** P 04 58 24.7
baz=334
F61A S 05 09 12.3
baz=334
O49A Covington **89.39 35** IAmb IAmb 04 58 36.6
comp=Z,73nm,1.2s
O49A IAMs_20 IAMs_20 05 42 32.2
comp=Z,2µm,20.0s
LCAR Lake Charles **89.44 41** IAmb IAmb 04 58 37.4
comp=Z,77nm,1.4s
J55A Hilton **89.45 29** IAMs_20 IAMs_20 05 43 15.4
comp=Z,1µm,19.0s
P48A Milroy **89.50 36** IAmb IAmb 04 58 37.7
comp=Z,90nm,1.6s
P48A IAMs_20 IAMs_20 05 44 48.1
comp=Z,2µm,18.0s
Z38A Mt. Pleasant **89.55 46** IAmb IAmb 04 58 37.4
comp=Z,97nm,1.2s
FRNY Flat Rock **89.56 25** IAMs_20 IAMs_20 05 45 45.4
comp=Z,2µm,20.0s
W41B Gary Mavity, V **89.56 43** P 04 58 26.6
baz=320,SNR=13
W41B S 05 09 14.0
baz=320
BATG Bathurst New B **89.57 20** IAMs_20 IAMs_20 05 42 23.4
comp=Z,2µm,20.0s
ERPA Erie **89.59 31** IAMs_20 IAMs_20 05 42 34.4
comp=Z,2µm,21.0s
ERPA Erie **89.59 31** P 04 58 26.4
baz=328
ERPA S 05 09 13.9
baz=328
PQI Presque Isle **89.61 21** IAMs_20 IAMs_20 05 42 09.3
comp=Z,2µm,20.0s
N51A Ashland **89.63 33** IAMs_20 IAMs_20 05 43 40.4
comp=Z,2µm,22.0s
I57A Carthage **89.65 27** P 04 58 27.1
baz=331,SNR=8.7
I57A S 05 09 14.1
baz=331
H59A Cadyville **89.70 26** P 04 58 27.6
baz=332
H59A S 05 09 14.7
baz=332
E63A Oxbow **89.72 21** IAmb IAmb 04 58 39.3
comp=Z,63nm,1.4s
E63A IAMs_20 IAMs_20 05 45 29.3
comp=Z,2µm,19.0s
E63A Oxbow **89.72 21** P 04 58 26.5
baz=336
E63A S 05 09 14.8
baz=336
H58A Gabriels **89.74 26** P 04 58 27.1
baz=332
H58A S 05 09 14.9
baz=332
G60A Masonville **89.74 24** P 04 58 26.6
baz=333
G60A S 05 09 15.8
baz=333
F62A Pittston Farm, **89.75 23** P **P** **04 58 27.6 +0.4**
F62A IAmb IAmb 04 58 39.9
comp=Z,73nm,1.4s
F62A Pittston Farm, **89.75 23** P 04 58 26.1
baz=335
F62A S 05 09 15.8
baz=335
P49A Miami Univ. Ec **89.75 35** IAMs_20 IAMs_20 05 42 42.9
comp=Z,2µm,18.0s
P49A Miami Univ. Ec **89.76 35** P 04 58 27.8
baz=325,SNR=12
P49A S 05 09 15.6
baz=325
X40A Basin Creek Fa **89.78 43** IAmb IAmb 04 58 39.4
comp=Z,58nm,1.4s
X40A IAMs_20 IAMs_20 05 46 06.2
comp=Z,1µm,20.0s
X40A Basin Creek Fa **89.78 43** P 04 58 27.4
baz=320
X40A S 05 09 15.4
baz=320
J56A Wolcott **89.79 28** IAmb IAmb 04 58 38.9
comp=Z,91nm,1.5s
J56A IAMs_20 IAMs_20 05 45 49.5
comp=Z,2µm,19.0s
J56A Wolcott **89.79 28** P 04 58 26.8
baz=330
J56A S 05 09 15.2
baz=330
G61A St-Isidore-de- **89.83 24** P 04 58 27.5
baz=334,SNR=7.2
G61A S 05 09 16.6
baz=334
MMNY Mt. Morris Dam **89.87 29** IAmb IAmb 04 58 38.7
comp=Z,80nm,1.2s
MMNY IAMs_20 IAMs_20 05 43 11.7
comp=Z,2µm,19.0s
WVNY West Valley, N **89.89 30** IAMs_20 IAMs_20 05 43 17.1
comp=Z,2µm,20.0s
E64A Bridgewater **89.89 21** P 04 58 26.9
baz=336
E64A S 05 09 16.0
baz=336
M53A WI Miller and **89.89 32** IAMs_20 IAMs_20 05 44 58.3
comp=Z,1µm,20.0s
M53A WI Miller and **89.89 32** P 04 58 27.6
baz=328
M53A S 05 09 17.0
baz=328
435B Jarrell **89.91 49** IAMs_20 IAMs_20 05 46 36.3
comp=Z,2µm,20.0s
435B Jarll **89.92 49** P 04 58 27.3
baz=318
435B S 05 09 17.9
baz=318
ALLY Alegheny Colle **89.93 31** IAMs_20 IAMs_20 05 45 07.3
comp=Z,2µm,20.0s
J57A Williamstown **89.99 28** P 04 58 27.8
baz=331
J57A S 05 09 17.0
baz=331
WCI Wyandotte Cave **90.10 37** P **P** **04 58 29.5 +0.6**
WCI pmax pmax
comp=Z,56nm,1.2s
WCI Wyandotte Cave **90.10 37** P **P** **04 58 29.5 +0.6**
WCI IAmb IAmb 04 58 40.1
comp=Z,56nm,1.2s
WCI Wyandotte Cave **90.10 37** IAMs_20 IAMs_20 05 45 36.1
comp=Z,2µm,19.0s
WCI Wyandotte Cave **90.10 37** P 04 58 28.9
baz=324
WCI S 05 09 18.5
baz=324
H60A Morristown **90.10 25** P 04 58 28.3
baz=333
H60A S 05 09 18.8
baz=333
I58A Old Forge **90.10 27** P 04 58 27.4
baz=331
I58A S 05 09 17.9
baz=331
NCB Newcomb **90.11 26** IAMs_20 IAMs_20 05 44 38.9
comp=Z,2µm,20.0s
K56A Middlesex **90.12 29** P 04 58 28.1
baz=330
K56A S 05 09 18.0
baz=330
F63A Nahmakanta, Br **90.18 22** IAMs_20 IAMs_20 05 43 32.5
comp=Z,2µm,21.0s
F63A Nahmakanta, Br **90.18 22** P 04 58 29.5
baz=336
F63A S 05 09 19.1
baz=336
G62A West of Eustis **90.19 23** IAmb IAmb 04 58 41.7
comp=Z,82nm,1.5s
G62A West of Eustis **90.19 23** P 04 58 29.6
baz=334
G62A S 05 09 20.0
baz=334
M54A Oil Creek Stat **90.24 31** IAmb IAmb 04 58 41.5
comp=Z,105nm,1.4s
M54A IAMs_20 IAMs_20 05 42 54.5
comp=Z,2µm,21.0s
M54A Oil Creek Stat **90.24 31** P 04 58 29.6
baz=328
M54A S 05 09 19.9
baz=328
F64A Sherman **90.25 22** P **P** **04 58 30.2 +0.7**
F64A IAmb IAmb 04 58 40.5
comp=Z,65nm,1.6s
F64A IAMs_20 IAMs_20 05 41 54.4
comp=Z,2µm,20.0s
F64A Sherman **90.25 22** P 04 58 29.4
baz=336
F64A S 05 09 20.3
baz=336
J58A Remsen **90.28 27** IAmb IAmb 04 58 41.3
comp=Z,82nm,1.5s
J58A Remsen **90.28 27** P 04 58 28.7
baz=331
J58A S 05 09 18.8
baz=331
VT1 Waterbury **90.28 25** IAmb IAmb 04 58 41.8
comp=Z,89nm,1.4s
VT1 IAMs_20 IAMs_20 05 44 34.7
comp=Z,2µm,20.0s
N53A Lisbon **90.36 32** IAmb IAmb 04 58 42.1
comp=Z,109nm,1.4s
N53A IAMs_20 IAMs_20 05 44 01.7
comp=Z,2µm,20.0s
H61A Lyndonville **90.37 24** P 04 58 30.1
baz=334,SNR=6.7
H61A S 05 09 21.3
baz=334
K57A Scipio Center **90.39 28** IAmb IAmb 04 58 42.6
comp=Z,74nm,1.4s
I59A Olmsteadville **90.39 26** P 04 58 29.5
baz=332
I59A S 05 09 20.1
baz=332
J59A Piesco **90.46 27** IAmb IAmb 04 58 41.4
comp=Z,48nm,1.2s
J59A Piesco **90.46 27** P 04 58 29.6
baz=332
J59A S 05 09 20.9
baz=332
L56A Greenwood **90.52 29** IAmb IAmb 04 58 41.9
comp=Z,68nm,1.2s
L56A IAMs_20 IAMs_20 05 46 15.7
comp=Z,2µm,18.0s
L56A Greenwood **90.52 29** P 04 58 30.6
baz=330,SNR=7.1
L56A S 05 09 21.6
baz=330
O52A Adamsville **90.52 33** IAmb IAmb 04 58 42.6
comp=Z,88nm,1.4s
O52A IAMs_20 IAMs_20 05 44 17.1
comp=Z,2µm,21.0s
PKME Peaks-Kenny Pk **90.52 22** IAmb IAmb 04 58 37.1
comp=Z,117nm,1.8s
PKME Peaks-Kenny Pk **90.53 22** P 04 58 29.4
baz=335
PKME S 05 09 22.0
baz=335
P51A Williamsport **90.53 34** IAmb IAmb 04 58 42.3
comp=Z,76nm,1.2s
P51A IAMs_20 IAMs_20 05 42 39.3
comp=Z,2µm,19.0s
I60A Shoreham **90.54 26** P 04 58 30.5
baz=333
I60A S 05 09 21.2
baz=333
R49A Shelbyville **90.56 36** IAMs_20 IAMs_20 05 40 36.0
comp=Z,2µm,20.0s
G63A Kingsbury **90.56 23** P 04 58 30.2
baz=335
G63A S 05 09 23.0
baz=335
N54A Moraine State **90.57 31** IAMs_20 IAMs_20 05 45 28.3
comp=Z,2µm,20.0s
N54A Moraine State **90.57 31** P 04 58 30.2
baz=328
N54A S 05 09 23.7
baz=328
H62A Milan **90.58 24** IAmb IAmb 04 58 43.4
comp=Z,108nm,1.4s
H62A Milan **90.58 24** P 04 58 30.6
baz=334,SNR=11
H62A S 05 09 22.7
baz=334
M55A Ridgway **90.62 30** IAMs_20 IAMs_20 05 44 14.7
comp=Z,2µm,20.0s
833A Chaparral WMA, **90.63 52** P 04 58 30.4
baz=317
833A S 05 09 23.9
baz=317
LBNH Lisbon **90.64 25** IAMs_20 IAMs_20 05 42 28.7
comp=Z,2µm,21.0s
LBNH Lisbon **90.64 25** P 04 58 29.5
baz=334
LBNH S 05 09 23.8
baz=334
O53A New Philadelph **90.67 33** IAmb IAmb 04 58 43.3
comp=Z,60nm,1.2s
O53A New Philadelph **90.67 33** P 04 58 31.1
baz=327
O53A S 05 09 24.1
baz=327
G64A Maxfield **90.69 22** P 04 58 31.1
baz=336
G64A S 05 09 24.5
baz=336
T47A Sharon Grove **90.71 38** IAmb IAmb 04 58 43.7
comp=Z,81nm,1.2s
Z41A Richland Creek **90.74 44** P 04 58 31.4
baz=320
Z41A S 05 09 26.0
baz=320
ATD Arta Tunnel **90.75 286** IAMs_20 IAMs_20 05 47 16.7
comp=Z,2µm,18.0s
ATD Arta Tunnel **90.75 286** P **P** **04 58 35.0 +2.6**
Q51A Peebles **90.78 35** IAmb IAmb 04 58 43.9
comp=Z,79nm,1.2s
Q51A IAMs_20 IAMs_20 05 44 38.0
comp=Z,1µm,20.0s
P52A Corning **90.80 33** IAmb IAmb 04 58 43.5
comp=Z,52nm,1.2s
P52A IAMs_20 IAMs_20 05 47 28.5
comp=Z,1µm,18.0s
P52A Corning **90.80 33** P 04 58 30.7
baz=327
P52A S 05 09 23.9
baz=327
ACCN Adirondack Com **90.82 26** IAmb IAmb 04 58 44.0
comp=Z,76nm,1.4s
I61A Oroboro, Fairl **90.82 25** P 04 58 31.4
baz=333
I61A S 05 09 26.4
baz=333
H63A New Sharon **90.85 23** S 05 09 24.4
baz=335
NATX Nacogdoches **90.86 46** P 04 58 30.8
baz=319
R50A Paris **90.95 36** IAmb IAmb 04 58 44.8
comp=Z,58nm,1.4s
R50A IAMs_20 IAMs_20 05 42 42.7
comp=Z,1µm,21.0s
HNH Hanover **91.00 25** IAMs_20 IAMs_20 05 42 26.2
comp=Z,2µm,20.0s
J60A Lant Hill Farm **91.03 26** P 04 58 32.3
baz=332
J60A S 05 09 26.1
baz=332
BINY Binghamton **91.04 28** IAmb IAmb 04 58 44.5
comp=Z,44nm,1.1s
BINY IAMs_20 IAMs_20 05 45 50.7
comp=Z,2µm,19.0s
BINY Binghamton **91.05 28** P 04 58 32.0
baz=331
BINY S 05 09 27.1
baz=331
WVL Waterville **91.05 23** IAmb IAmb 04 58 46.1
comp=Z,72nm,1.3s
WVT Waverly **91.05 39** P **P** **04 58 33.5 +0.1**
WVT pmax pmax
comp=Z,33nm,1.2s
WVT Waverly **91.05 39** P **P** **04 58 33.5 +0.1**
WVT IAMs_20 IAMs_20 05 44 36.3
comp=Z,1µm,20.0s
WVT Waverly **91.05 39** P 04 58 31.8
baz=323
WVT S 05 09 27.8
baz=323
O54A Avella **91.07 32** IAMs_20 IAMs_20 05 44 32.6
comp=Z,2µm,18.0s
G65A Princeton **91.08 21** P 04 58 32.3
baz=337
G65A S 05 09 28.0
baz=337
H64A Troy **91.11 23** P 04 58 32.5
baz=335
H64A S 05 09 28.2
baz=335
I62A Tamworth **91.15 24** IAMs_20 IAMs_20 05 43 45.3
comp=Z,2µm,20.0s
I62A Tamworth **91.15 24** P 04 58 32.0
baz=334
I62A S 05 09 28.4
baz=334
LMN Caledonia Moun **91.22 19** IAMs_20 IAMs_20 05 47 27.9
comp=Z,2µm,19.0s
J61A Chester **91.23 25** P 04 58 32.9
baz=333
J61A S 05 09 28.8
baz=333
L58A Harry Jones Me **91.23 28** P 04 58 32.8
baz=331,SNR=7.0

L58A				S			05 09 28.8	
	baz=331							
I63A	**Otisfield**	**91.23**	**24**	P			04 58 33.2	
	baz=334							
I63A				S			05 09 28.8	
	baz=334							
P53A	**Whipple**	**91.24**	**33**	IAMs_20	IAMs_20		05 44 02.0	
	comp=Z,2µm,20.0s							
H65A	**Eastbrook**	**91.35**	**22**	P			04 58 33.7	
	baz=336							
H65A				S			05 09 29.7	
	baz=336							
GGN	**Saint George**	**91.36**	**21**	IAMs_20	IAMs_20		05 46 27.8	
	comp=Z,2µm,20.0s							
WDD	**Wied Dalam**	**91.38**	**321**	IAMs_20	IAMs_20		05 46 48.5	
	comp=Z,2µm,21.0s							
TRY	**Troy**	**91.40**	**26**	IAmb	IAmb		04 58 46.8	
	comp=Z,93nm,1.5s							
TRY				IAMs_20	IAMs_20		05 45 19.0	
	comp=Z,2µm,21.0s							
FFD	**Franklin Falls**	**91.41**	**25**	IAmb	IAmb		04 58 47.4	
	comp=Z,85nm,1.5s							
FFD				IAMs_20	IAMs_20		05 42 50.9	
	comp=Z,2µm,21.0s							
H66A	**Whiting**	**91.53**	**21**	P			04 58 34.9	
	baz=337							
H66A				S			05 09 30.1	
	baz=337							
OXF	**Oxford**	**91.54**	**41**	IAMs_20	IAMs_20		05 44 37.6	
	comp=Z,1µm,20.0s							
OXF	**Oxford**	**91.54**	**41**	P			04 58 35.2	
	baz=322							
OXF				S			05 09 32.2	
	baz=322							
HKT	**Hockley**	**91.54**	**48**	*deP*	**P**		**04 58 36.6**	**+0.9**
HKT				pmax	pmax			
	comp=Z,33nm,1.3s							
HKT	**Hockley**	**91.54**	**48**	P	**P**		**04 58 36.5**	**+0.9**
HKT	**Hockley**	**91.54**	**48**	IAMs_20	IAMs_20		05 47 14.1	
	comp=Z,1µm,18.0s							
J62A	**Henniker**	**91.58**	**25**	P			04 58 34.5	
	baz=334							
J62A				S			05 09 32.1	
	baz=334							
K61A	**Williamstown**	**91.59**	**26**	P			04 58 34.7	
	baz=333,SNR=7.0							
K61A				S			05 09 33.1	
	baz=333							
I64A	**Boothbay**	**91.64**	**23**	P			04 58 34.5	
	baz=335							
SSPA	**Standing Stone**	**91.68**	**30**	P	**P**		**04 58 37.0**	**+0.8**
SSPA				IAmb	IAmb		04 58 48.4	
	comp=Z,99nm,1.6s							
SSPA	**Standing Stone**	**91.68**	**30**	IAMs_20	IAMs_20		05 44 22.6	
	comp=Z,2µm,20.0s							
SSPA	**Standing Stone**	**91.68**	**30**	P			04 58 35.9	
	baz=329							
SSPA				S			05 09 32.2	
	baz=329							
KSPA	**Keystone Colle**	**91.68**	**28**	IAMs_20	IAMs_20		05 42 28.6	
	comp=Z,2µm,21.0s							
U49A	**Red Boiling Sp**	**91.72**	**38**	IAmb	IAmb		04 58 48.3	
	comp=Z,62nm,1.2s							
O56A	**Blue Knob Stat**	**91.73**	**31**	IAMs_20	IAMs_20		05 45 01.9	
	comp=Z,2µm,20.0s							
O56A	**Blue Knob Stat**	**91.73**	**31**	P			04 58 35.7	
	baz=329							
O56A				S			05 09 32.9	
	baz=329							
MCWV	**Mont Chateau**	**91.73**	**32**	P			04 58 35.4	
	baz=328							
MCWV				S			05 09 33.4	
	baz=328							
T50A	**Nancy**	**91.75**	**37**	IAmb	IAmb		04 58 48.3	
	comp=Z,50nm,1.2s							
J63A	**Strafford**	**91.77**	**24**	P			04 58 34.8	
	baz=334							
J63A				S			05 09 34.7	
	baz=334							
S51A	**Beattyville**	**91.81**	**36**	IAMs_20	IAMs_20		05 43 57.4	
	comp=Z,2µm,19.0s							
PLAL	**Pickwick Lake**	**91.84**	**40**	IAMs_20	IAMs_20		05 46 18.4	
	comp=Z,1µm,20.0s							
V48A	**Smith Brothers**	**91.85**	**39**	IAmb	IAmb		04 58 48.0	
	comp=Z,38nm,1.2s							
K62A	**Royalston**	**91.94**	**25**	IAMs_20	IAMs_20		05 45 35.3	
	comp=Z,2µm,20.0s							
K62A	**Royalston**	**91.94**	**25**	P			04 58 35.5	
	baz=333							
K62A				S			05 09 35.1	
	baz=333							
N58A	**Sunbury**	**91.95**	**29**	IAmb	IAmb		04 58 49.5	
	comp=Z,80nm,1.4s							
R53A	**Hurricane**	**91.96**	**34**	IAMs_20	IAMs_20		05 47 19.3	
	comp=Z,2µm,20.0s							
L61B	**Northampton**	**91.98**	**26**	P			04 58 36.7	
	baz=333							
L61B				S			05 09 34.4	
	baz=333							
K63A	**Dunstable**	**92.15**	**25**	IAmb	IAmb		04 58 50.0	
	comp=Z,46nm,1.2s							
K63A				IAMs_20	IAMs_20		05 44 11.9	
	comp=Z,2µm,19.0s							
K63A	**Dunstable**	**92.15**	**25**	P			04 58 37.6	
	baz=334							
K63A				S			05 09 36.9	
	baz=334							
N59A	**State Game Lan**	**92.24**	**29**	IAMs_20	IAMs_20		05 42 36.3	
	comp=Z,2µm,21.0s							
N59A	**State Game Lan**	**92.24**	**29**	P			04 58 39.5	
	baz=331,SNR=7.8							
N59A				S			05 09 37.0	
	baz=331							
HRV	**Adam Dziewonsk**	**92.31**	**25**	P	**P**		**04 58 39.4**	**+0.3**
HRV				pmax	pmax			
	comp=Z,65nm,1.5s							
HRV				MLR	MLR			
	comp=Z,2µm,20.0s							
HRV	**Adam Dziewonsk**	**92.31**	**25**	P	**P**		**04 58 39.4**	**+0.3**
HRV				IAmb	IAmb		04 58 51.4	
	comp=Z,65nm,1.4s							
HRV	**Adam Dziewonsk**	**92.31**	**25**	IAMs_20	IAMs_20		05 43 06.9	
	comp=Z,2µm,20.0s							
HRV	**Adam Dziewonsk**	**92.31**	**25**	P			04 58 38.4	
	baz=334							
HRV				S			05 09 38.5	
	baz=334							
PAGS	**Pennsylvania G**	**92.48**	**30**	IAMs_20	IAMs_20		05 46 39.8	
	comp=Z,2µm,20.0s							
WES	**Weston**	**92.49**	**25**	IAMs_20	IAMs_20		05 44 29.8	
	comp=Z,2µm,20.0s							
Q56A	**Snyder Ridge,**	**92.53**	**32**	IAMs_20	IAMs_20		05 44 33.1	
	comp=Z,2µm,21.0s							
BCX	**Boston College**	**92.59**	**25**	IAMs_20	IAMs_20		05 44 33.3	
	comp=Z,2µm,22.0s							
P57A	**Homestead Farm**	**92.62**	**31**	IAMs_20	IAMs_20		05 47 24.5	
	comp=Z,2µm,20.0s							
HAL	**Halifax**	**92.66**	**19**	IAMs_20	IAMs_20		05 48 42.6	
	comp=Z,2µm,19.0s							
S54A	**Dingess, Beckl**	**92.68**	**34**	IAMs_20	IAMs_20		05 48 46.3	
	comp=Z,1µm,18.0s							
SWET	**Sewanee**	**92.70**	**38**	IAmb	IAmb		04 58 51.5	
	comp=Z,39nm,1.2s							
UCCT	**U. Connecticut**	**92.72**	**26**	IAMs_20	IAMs_20		05 43 49.9	
	comp=Z,1µm,21.0s							
TZTN	**Tazewell**	**92.73**	**36**	IAmb	IAmb		04 58 54.3	
	comp=Z,44nm,1.2s							
TZTN				IAMs_20	IAMs_20		05 46 40.8	
	comp=Z,1µm,20.0s							
TZTN	**Tazewell**	**92.73**	**36**	P			04 58 40.6	
	baz=326							
TZTN				S			05 09 41.5	
	baz=326							
VBMS	**Vicksburg**	**92.76**	**43**	IAMs_20	IAMs_20		05 47 58.0	
	comp=Z,1µm,19.0s							
VBMS	**Vicksburg**	**92.76**	**43**	P			04 58 40.5	
	baz=321							
VBMS				S			05 09 44.9	
	baz=321							
R55A	**Marlinton**	**92.78**	**33**	IAmb	IAmb		04 58 52.5	
	comp=Z,35nm,1.2s							
R55A				IAMs_20	IAMs_20		05 45 08.0	
	comp=Z,2µm,21.0s							
MVL	**Millersville**	**92.82**	**29**	IAMs_20	IAMs_20		05 47 53.7	
	comp=Z,1µm,18.0s							
PAL	**Palisades**	**92.84**	**27**	S			05 09 42.3	
	baz=332							
BRYW	**Bryant College**	**92.84**	**25**	IAMs_20	IAMs_20		05 45 06.1	
	comp=Z,2µm,21.0s							
L63A	**North Scituate**	**92.86**	**25**	IAMs_20	IAMs_20		05 44 56.7	
	comp=Z,2µm,21.0s							
L63A	**North Scituate**	**92.87**	**25**	S			05 09 43.7	
	baz=334							
WSPT	**Westport, CT**	**92.90**	**27**	IAMs_20	IAMs_20		05 45 54.6	
	comp=Z,2µm,21.0s							
L64A	**Middleborough**	**93.05**	**25**	IAMs_20	IAMs_20		05 45 03.7	
	comp=Z,2µm,20.0s							
L64A	**Middleborough**	**93.05**	**25**	P			04 58 41.5	
	baz=334							
L64A				S			05 09 45.4	
	baz=334							
SDMD	**Soldier's Deli**	**93.14**	**30**	IAMs_20	IAMs_20		05 45 05.3	
	comp=Z,1µm,18.0s							
344A	**Westbrook Farm**	**93.24**	**44**	IAMs_20	IAMs_20		05 41 47.4	
	comp=Z,1µm,19.0s							
P60A	**Greenville**	**93.25**	**29**	IAMs_20	IAMs_20		05 49 17.8	
	comp=Z,2µm,20.0s							
P60A	**Greenville**	**93.25**	**29**	P			04 58 39.7	
	baz=331							
P60A				S			05 09 43.8	
	baz=331							
M64A	**Tiverton**	**93.28**	**25**	IAMs_20	IAMs_20		05 45 04.2	
	comp=Z,2µm,20.0s							
M64A	**Tiverton**	**93.28**	**25**	S			05 09 45.2	
	baz=334							
V52A	**Sevierville**	**93.29**	**37**	IAmb	IAmb		04 58 55.5	
	comp=Z,66nm,1.6s							
U54A	**Nelsons Funny**	**93.53**	**35**	IAMs_20	IAMs_20		05 45 00.8	
	comp=Z,2µm,20.0s							
BLA	**Blacksburg**	**93.56**	**34**	P			04 58 40.8	
	baz=328							
BLA				S			05 09 48.8	
	baz=328							
Y49A	**Blount Mountai**	**93.56**	**40**	IAMs_20	IAMs_20		05 44 38.6	
	comp=Z,1µm,21.0s							
S57A	**Dark Hollow, R**	**93.71**	**32**	IAMs_20	IAMs_20		05 47 16.5	
	comp=Z,2µm,18.0s							
X51A	**Calhoun**	**93.74**	**38**	IAMs_20	IAMs_20		05 49 38.3	
	comp=Z,2µm,19.0s							
W52A	**Murphy**	**93.75**	**37**	IAMs_20	IAMs_20		05 46 19.5	
	comp=Z,2µm,18.0s							
KEST	**Kesra**	**93.90**	**324**	P	**P**		**04 58 46.2**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=315,slow=4.3,SNR=2.2							
KEST				LR	LR		05 46 07.5	
	comp=Z,6µm,18.9s,baz=336,slow=39							
CBN	**Corbin Frederi**	**93.97**	**31**	S			05 09 52.8	
	baz=330							
U56A	**King**	**94.30**	**34**	IAMs_20	IAMs_20		05 46 37.9	
	comp=Z,2µm,21.0s							
PBRG	**Braganca**	**94.54**	**338**	*eP*	**P**		**04 58 53.6**	**+4.1**
Z51A	**Franklin**	**94.61**	**39**	IAMs_20	IAMs_20		05 46 36.2	
	comp=Z,1µm,20.0s							
Y52A	**Lilburn**	**94.69**	**38**	IAMs_20	IAMs_20		05 47 16.5	
	comp=Z,1µm,18.0s							
PGAV	**Gavieira, Arco**	**94.83**	**339**	*eP*	**P**		**04 58 52.0**	**+1.2**
PGAV	**Gavieira, Arco**	**94.83**	**339**	*ePP*	**PP**		**05 02 40.0**	**+1.5**
PGAV				*eS*	**S**		**05 10 03.8**	**-0.1**
PGAV	**Gavieira, Arco**	**94.83**	**339**	*eLQ*	LQ		05 41 42.4	
PGAV				A	A		05 53 51.9	
	comp=Z,2µm,18.0s							
KMSC	**Kings Mountain**	**94.90**	**35**	IAMs_20	IAMs_20		05 46 31.7	
	comp=Z,2µm,20.0s							
KMSC	**Kings Mountain**	**94.90**	**35**	S			05 09 59.7	
	baz=327							
T59A	**Double "B" Far**	**94.96**	**32**	IAMs_20	IAMs_20		05 46 44.2	
	comp=Z,2µm,20.0s							
S61A	**Accomac**	**95.10**	**30**	IAMs_20	IAMs_20		05 50 31.7	
	comp=Z,2µm,19.0s							
250A	**Grady**	**95.15**	**41**	IAMs_20	IAMs_20		05 44 42.6	
	comp=Z,1µm,22.0s							
MVO	**Moncorvo**	**95.22**	**338**	*eP*	**P**		**04 58 55.8**	**+3.2**
MVO	**Moncorvo**	**95.22**	**338**	*ePP*	**PP**		**05 02 41.1**	**-0.4**
MVO				*eS*	**S**		**05 10 10.8**	**+3.6**
MVO	**Moncorvo**	**95.22**	**338**	A	A		05 47 18.6	
	comp=Z,3µm,18.0s							
HODGE	**Hodges**	**95.23**	**37**	IAMs_20	IAMs_20		05 47 55.7	
	comp=Z,1µm,19.0s							
POLO	**Lamas de Olo**	**95.24**	**339**	*eP*	**P**		**04 58 56.6**	**+3.9**
POLO	**Lamas de Olo**	**95.24**	**339**	*eS*	**S**		**05 10 10.9**	**+3.4**
V58A	**Windy Hill, Pi**	**95.32**	**34**	IAMs_20	IAMs_20		05 46 37.7	
	comp=Z,2µm,21.0s							
GOGA	**Godfrey**	**95.35**	**38**	IAMs_20	IAMs_20		05 48 24.8	
	comp=Z,2µm,18.0s							
GOGA	**Godfrey**	**95.35**	**38**	P			04 58 51.8	
	baz=326							
GOGA				S			05 10 03.1	
	baz=326							
152A	**Waverly Hall**	**95.35**	**39**	IAMs_20	IAMs_20		05 46 51.0	
	comp=Z,1µm,19.0s							
BRAL	**Brewton**	**95.40**	**42**	IAMs_20	IAMs_20		05 48 22.3	
	comp=Z,1µm,20.0s							
W57A	**Gilead**	**95.48**	**34**	IAMs_20	IAMs_20		05 47 03.1	
	comp=Z,2µm,22.0s							
FURI	**Furi**	**95.56**	**286**	IAMs_20	IAMs_20		05 46 49.0	
	comp=Z,2µm,20.0s							
ESDC	**Sonseca Array**	**95.64**	**335**	P	**P**		**04 58 54.2**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=19,slow=4.3,SNR=7.2							
ESDC	**Sonseca Array**	**95.64**	**335**	P	**P**		**04 58 54.9**	**+0.3**
JSC	**Jenkinsville**	**95.65**	**36**	IAMs_20	IAMs_20		05 49 35.6	
	comp=Z,1µm,19.0s							
PVIS	**Viseu**	**95.88**	**339**	*eP*	**P**		**04 58 52.4**	**-3.2**
MTE	**Manteigas**	**96.07**	**338**	*eP*	**P**		**04 58 59.7**	**+3.2**
MTE	**Manteigas**	**96.07**	**338**	*ePP*	**PP**		**05 02 52.1**	**+3.9**
MTE				*eS*	**S**		**05 10 19.1**	**+4.4**
MTE	**Manteigas**	**96.07**	**338**	*eLQ*	LQ		05 40 14.4	
MTE				*eLR*	LR		05 43 10.0	
	comp=Z,3µm,18.0s							
X58A	**Rowland**	**96.27**	**34**	IAMs_20	IAMs_20		05 46 47.0	
	comp=Z,2µm,22.0s							
CNNC	**Cliffs of the**	**96.31**	**33**	IAMs_20	IAMs_20		05 48 48.9	
	comp=Z,1µm,18.0s							
COI	**Coimbra**	**96.50**	**339**	*eP*	**P**		**04 59 02.5**	**+4.2**
COI	**Coimbra**	**96.50**	**339**	*eS*	**S**		**05 10 21.4**	**+3.2**
PCAS	**Casmilo, Conde**	**96.67**	**339**	*eP*	**P**		**04 59 00.4**	**+1.3**
PCAS	**Casmilo, Conde**	**96.67**	**339**	*eS*	**S**		**05 10 17.9**	**-1.8**
V58A	**Scranton**	**96.68**	**35**	IAMs_20	IAMs_20		05 46 49.8	
	comp=Z,2µm,20.0s							
TIGA	**Tifton**	**96.91**	**39**	IAMs_20	IAMs_20		05 47 50.2	
	comp=Z,2µm,21.0s							
TIGA	**Tifton**	**96.91**	**39**	S			05 10 19.3	
	baz=325							
PMRV	**Marv??o**	**96.93**	**338**	*eP*	**P**		**04 59 03.1**	**+2.8**
PMRV	**Marv??o**	**96.93**	**338**	*ePP*	**PP**		**05 02 56.2**	**+1.5**
PMRV				*eS*	**S**		**05 10 25.9**	**+3.9**
PMRV	**Marv??o**	**96.93**	**338**	*eLQ*	LQ		05 42 14.8	
PMRV				*eLR*	LR		05 44 24.3	
	comp=Z,2µm,20.0s							
Y59A	**Loris**	**96.95**	**34**	IAMs_20	IAMs_20		05 47 17.1	
	comp=Z,2µm,22.0s							
255A	**Hazlehurst**	**97.04**	**38**	IAMs_20	IAMs_20		05 48 29.7	
	comp=Z,2µm,19.0s							
NHSC	**New Hope**	**97.12**	**36**	P			04 58 58.3	
	baz=328							
Y60A	**Bolivia**	**97.22**	**34**	IAMs_20	IAMs_20		05 51 59.2	
	comp=Z,2µm,21.0s							
PSBE	**So Bento**	**97.25**	**339**	*eP*	Pdif		04 59 05.3	+3.4
PSBE	**So Bento**	**97.25**	**339**	*eS*	**S**		**05 10 25.1**	**+0.3**
UNM	**Universidad Na**	**97.26**	**58**	IAMs_20	IAMs_20		05 43 46.0	
	comp=Z,1µm,20.0s							
PMTG	**Montargil**	**97.50**	**338**	*eP*	Pdif		04 59 06.4	+3.4
PMTG	**Montargil**	**97.50**	**338**	*eS*	**S**		**05 10 31.9**	**+5.1**
PESTR	**Estremoz**	**97.50**	**338**	*eP*	Pdif		04 59 05.2	+2.2
PESTR	**Estremoz**	**97.50**	**338**	*eS*	**S**		**05 10 22.8**	**-4.1**
553A	**Crawfordville**	**97.51**	**40**	IAMs_20	IAMs_20		05 46 27.3	
	comp=Z,1µm,21.0s							
PMAFR	**Mafra**	**97.91**	**339**	*eP*	Pdif		04 59 09.1	+4.3
PMAFR	**Mafra**	**97.91**	**339**	*eS*	**S**		**05 10 34.1**	**+3.8**
EVO	**Evora**	**97.94**	**338**	*eP*	Pdif		04 59 09.2	+4.3
PBAR	**Barrancos**	**97.98**	**337**	*eP*	Pdif		04 59 10.3	+5.2
PBAR	**Barrancos**	**97.98**	**337**	*eS*	**S**		**05 10 24.9**	**-6.0**
LIS	**Lisbon**	**98.09**	**339**	*eP*	Pdif		04 59 11.3	+5.7
456A	**Hilliard**	**98.25**	**38**	IAMs_20	IAMs_20		05 47 53.0	
	comp=Z,2µm,19.0s							
RKT	**Rikitea**	**98.27**	**113**	*e*SKSac	**SKSac**		**05 09 40.9**	**-2.6**
	comp=Z,858nm,26.5s							
RKT	**Rikitea**	**98.27**	**113**	*e*LR	LR		05 30 57.5	
	comp=Z,2µm,22.2s							
PNCL	**Nicolau / Gran**	**98.48**	**338**	*eP*	Pdif		04 59 11.8	+4.5
PNCL	**Nicolau / Gran**	**98.48**	**338**	*eS*	**S**		**05 10 34.2**	**-0.9**
MESJ	**Messejana**	**98.64**	**338**	*e*Pdif	Pdif		04 59 08.8	+0.8
MESJ				*eP*	**PP**		**05 03 09.6**	**+1.8**
MESJ				*e*SKSac	**SKSac**		**05 09 46.8**	**+1.5**
PCVE	**Castro Verde**	**98.78**	**337**	*eP*	Pdif		04 59 10.7	+2.0
PCVE	**Castro Verde**	**98.78**	**337**	*eLQ*	LQ		05 40 13.1	
PVAQ	**Vaqueiros**	**98.89**	**337**	*eP*	Pdif		04 59 11.9	+2.7
PVAQ	**Vaqueiros**	**98.89**	**337**	*e*PP	**PP**		**05 03 13.4**	**+3.6**
PVAQ				*eS*	**S**		**05 10 35.9**	**-2.8**
PVAQ	**Vaqueiros**	**98.89**	**337**	*eLQ*	LQ		05 39 24.3	
PVAQ				*eLR*	LR		05 44 21.6	
	comp=Z,6µm,18.0s							
PBDV	**Barranco-do-Ve**	**99.11**	**337**	*eP*	**Pdif**		**04 59 14.3**	**+4.1**
PBDV	**Barranco-do-Ve**	**99.11**	**337**	*eS*	S		05 10 28.6	-12
656A	**Willston**	**99.12**	**39**	IAMs_20	IAMs_20		05 47 33.2	
	comp=Z,1µm,20.0s							
PFVI	**Vila Bisbo**	**99.47**	**338**	*eP*	**Pdif**		**04 59 14.5**	**+2.7**
PFVI	**Vila Bisbo**	**99.47**	**338**	*eS*	S		05 10 34.2	-9.4
DWPF	**Disney Wildern**	**100.71**	**39**	IAMs_20	IAMs_20		05 48 21.3	
	comp=Z,2µm,20.0s							
060A	**Indiantown**	**102.12**	**39**	IAMs_20	IAMs_20		05 50 57.8	
	comp=Z,2µm,21.0s							
061Z	**Ochoppi**	**102.83**	**40**	IAMs_20	IAMs_20		05 55 49.6	
	comp=Z,1µm,19.0s							
KIBK	**Kibwezi**	**103.34**	**278**	IAMs_20	IAMs_20		05 50 36.1	
	comp=Z,1µm,18.0s							
BBSR	**BB Station**	**103.76**	**24**	IAMs_20	IAMs_20		05 56 02.2	
	comp=Z,1µm,19.0s							
SNET	**Serv Nac Est T**	**107.81**	**54**	IAMs_20	IAMs_20		05 46 11.9	
	comp=Z,963nm,21.0s							
TGUH	**Tegucigalpa,Un**	**108.74**	**52**	IAMs_20	IAMs_20		05 59 05.1	
	comp=Z,1µm,22.0s							
CRIN	**San Cristobal**	**109.92**	**53**	IAMs_20	IAMs_20		05 55 39.9	
	comp=Z,986nm,21.0s							
GTBY	**Guantanamo Bay**	**110.68**	**39**	IAMs_20	IAMs_20		05 56 17.9	
	comp=Z,1µm,21.0s							
GRTK	**Grand Turk**	**111.14**	**35**	IAMs_20	IAMs_20		05 56 51.8	
	comp=Z,1µm,20.0s							
SJG	**San Juan**	**116.26**	**32**	IAMs_20	IAMs_20		06 01 18.4	
	comp=Z,1µm,20.0s							
TORD	**Torodi Ar. Bea**	**116.57**	**318**	PKP	**PKPdf**		**05 04 12.0**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=21,slow=1.0,SNR=8.3							
TORD				PP	**PP**		**05 05 18.9**	**-0.8**
	comp=Z,16nm,1.1s,baz=21,slow=7.5,SNR=15							
TORD	**Torodi Ar. Bea**	**116.57**	**318**		**PKPdf**		**05 04 12.6**	**-0.8**
BCIP	**Isla Barro Col**	**117.04**	**49**	IAMs_20	IAMs_20		05 54 14.1	
	comp=Z,804nm,19.0s							
VNDA	**Vanda**	**117.42**	**176**	PKP	**PKPdf**		**05 04 12.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=14,slow=4.6,SNR=2.0							
VNDA	**Vanda**	**117.42**	**176**		**PKiKP**		**05 04 13.5**	**+0.4**
SEUS	**St. Eustatius**	**118.06**	**29**	IAMs_20	IAMs_20		06 02 46.6	
	comp=Z,1µm,21.0s							
ANWB	**Willy Bob**	**118.33**	**27**	IAMs_20	IAMs_20		05 59 56.8	
	comp=Z,837nm,21.0s							
LSZ	**Lusaka**	**118.97**	**274**	PKIKP	**PKPdf**		**05 04 18.0**	**-0.1**
LSZ	**Lusaka**	**118.97**	**274**		**PKPdf**		**05 04 18.0**	**-0.1**
SOLC	**Bahia Solano**	**120.82**	**49**	*eP*	**PKPdf**		**05 04 18.5**	**-3.1**
FDF	**Fort de France**	**121.26**	**28**	IAMs_20	IAMs_20		06 06 12.5	
	comp=Z,1µm,20.0s							
BIM	**Bigot**	**121.49**	**28**	IAMs_20	IAMs_20		06 06 46.6	
	comp=Z,1µm,20.0s							
MPOM	**Morne Pois Mar**	**121.64**	**28**	IAMs_20	IAMs_20		06 02 38.3	
	comp=Z,1µm,20.0s							
PLMC	**San Jos del P**	**122.54**	**49**	*eP*	**PKiKP**		**05 04 25.7**	**+0.5**
MAW	**Mawson**	**122.56**	**207**	PKP	**PKPdf**		**05 04 22.6**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=307,slow=5.1,SNR=2.6							
GUY2C	**Guyana, Caldas**	**122.82**	**48**	*eP*	**PKPdf**		**05 04 24.3**	**-1.8**
SPBC	**San Pablo de B**	**123.20**	**46**	*eP*	**PKPdf**		**05 04 25.3**	**-1.0**
TOLC	**Tolima**	**123.36**	**48**	*eP*	**PKiKP**		**05 04 28.6**	**+1.4**
ROSC	**El Rosal**	**123.72**	**47**	PKP	**PKiKP**		**05 04 27.8**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=241,slow=19,SNR=1.7							
ORTC	**Ortega, Tolima**	**123.95**	**49**	*eP*	**PKPdf**		**05 04 27.5**	**-0.2**
POPC	**Popayan, Colom**	**124.20**	**51**	*eP*	**PKPdf**		**05 04 23.5**	**-4.9**
CHIC	**Chingaza**	**124.23**	**47**	*eP*	**PKPdf**		**05 04 28.6**	**-0.1**
BBAC	**Balboa, Cauca**	**124.27**	**52**	*eP*	PKiKP		05 04 37.3	+8.5
ELOV	**Elorza**	**124.52**	**41**	*eP*	**PKPdf**		**05 04 27.6**	**-1.1**
VILC	**Villavicencio,**	**124.67**	**47**	*eP*	**PKPdf**		**05 04 28.9**	**-0.2**
OTAV	**Otavalo**	**124.91**	**55**	IAMs_20	IAMs_20		06 05 32.2	
	comp=Z,777nm,20.0s							
DBIC	**Dimbokro**	**125.41**	**320**	PKP	**PKPdf**		**05 04 29.3**	**-1.1**
	comp=Z,5.2nm,1.0s,baz=122,slow=13,SNR=2.1							
LBTB	**Lobatse**	**126.47**	**266**	PKIKP	**PKPdf**		**05 04 32.3**	**+0.1**
LBTB	**Lobatse**	**126.47**	**266**	PKPdf	**PKPdf**		**05 04 32.3**	**+0.1**
PTLC	**Puerto Leguiza**	**127.21**	**51**	*eP*	**PKiKP**		**05 04 35.8**	**+1.4**
SYO	**Syowa Base**	**131.23**	**208**	*e*Pdiff	**Pdif**		**05 01 35.0**	**+3.1**
NNA	**Nana**	**135.04**	**64**	IAMs_20	IAMs_20		06 07 26.7	
	comp=Z,973nm,19.0s							
PTGA	**Pitinga**	**135.79**	**35**	IAMs_20	IAMs_20		06 10 04.1

cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC ***11*** *04:51:28, 39.62N×143.33E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.85; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-0.94; $M_{r\theta}$1.79; $M_{r\phi}$-0.15; $M_{\theta\phi}$3.57; Fault plane solution: M_o4.10000×10^{17} NP1:ϕ_s170.00000°, δ7.00000°, λ54.00000°. NP2:ϕ_s26.00000°, δ84.00000°, λ94.00000°. Principal axes: T 4.0933, Plg51.0000°, Azm301.0000°; N 0.0071, Plg4.0000°, Azm206.0000°; P -4.1004, Plg39.0000°, Azm112.0000°;*

BGR ***11*** *04:51:29.9±0.0, 39.94N×143.72E, h33km, mb5.8, mB_BB6.1, Ms5.8*

NEIC ***11*** *04:51:29, 39.64N×143.49E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.26; $M_{\theta\theta}$1.12; $M_{\phi\phi}$-1.39; $M_{r\theta}$1.93; $M_{r\phi}$-0.39; $M_{\theta\phi}$3.95; Fault plane solution: M_o4.61000×10^{17} NP1:ϕ_s179.00000°, δ9.00000°, λ63.00000°. NP2:ϕ_s26.00000°, δ82.00000°, λ94.00000°. Principal axes: T 4.5330, Plg53.0000°, Azm301.0000°; N 0.1497, Plg4.0000°, Azm205.0000°; P -4.6826, Plg36.0000°, Azm112.0000°;*

KISR ***11*** *04:52:19.1±3.1, 40.07N×143.17E, h531km±999km*

ISC 11 04:51:24.9±0.5, **39.58N**±0.03×**143.43E**±0.03, **h19**km±1km, **h19**km:**pP-P, n1547**, σ1**.67**/1469, **mb5.7**/553, **MS5.9**/38, **397C-86D, Fault plane solution: NP1**:ϕ_s7.73969°, δ60.97345°, λ53.43348°. **NP2:**ϕ_s244.54936°, δ45.38946°, λ137.03275°. **Principal axes:** T Plg57.1072°, Azm226.8703°; N Plg31.3944°, Azm27.5341°; P Plg8.8293°, Azm122.9736°; **Fault plane solution: NP1**:ϕ_s157.74539°, δ43.84499°, λ30.60292°. **NP2:** ϕ_s44.64347°, δ69.35062°, λ129.58038°. **Principal axes:** T Plg49.4058°, Azm358.4635°; N Plg36.6001°, Azm208.3903°; P Plg15.1067°, Azm106.8253°; **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.24**	**270**	⇑P		**Pn**	**04 51 46.7**	**-0.6**
JTH	**Tanohata**	**1.26**	**287**	⇑P		**Pn**	**04 51 46.7**	**-0.8**
OFUJ	**Ofunato**	**1.45**	**250**	P		**Pn**	**04 51 49.5**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.46**	**296**	⇑P		**Pn**	**04 51 48.9**	**-1.3**
JOM	**Ohasama**	**1.66**	**267**	⇑P		**Pn**	**04 51 52.9**	**0.0**
JOM				*e*S		**Sn**	**04 52 13.5**	**-0.2**
JANG	**Nango**	**1.67**	**299**	⇑P		**Pn**	**04 51 51.8**	**-1.3**
JMK	**Ichinoseki**	**1.83**	**250**	⇑P		**Pn**	**04 51 55.3**	**0.0**
JIO	**Ouri**	**1.97**	**236**	⇑P		**Pn**	**04 51 56.7**	**-0.6**
JIO				*e*S		**Sn**	**04 52 21.3**	**-0.2**
JRG	**Rokugo**	**2.17**	**266**	⇑P		**Pn**	**04 52 00.5**	**+0.5**
JTM	**Tenmabayashi**	**2.17**	**304**	⇑P		**Pn**	**04 51 59.8**	**-0.2**
JTM	**Tenmabayashi**	**2.17**	**304**	Pn		**Pn**	**04 51 59.8**	**-0.2**
JOFO	**Osakifurukawao**	**2.19**	**244**	⇑P		**Pn**	**04 52 00.8**	**+0.5**
ERM	**Erimo**	**2.44**	**355**	P		**Pn**	**04 52 02.0**	**-1.7**
ERM	**Erimo**	**2.44**	**355**	Pn		**Pn**	**04 52 02.0**	**-1.7**
JYK	**Kaneyama**	**2.47**	**255**	P		**Pn**	**04 52 04.8**	**+0.6**
JOT	**Ohata**	**2.55**	**315**	P		**Pn**	**04 52 05.2**	**-0.1**
JMM	**Marumori**	**2.68**	**231**	P		**Pn**	**04 52 06.3**	**-0.7**
JMM	**Marumori**	**2.68**	**231**	Pn		**Pn**	**04 52 06.4**	**-0.7**
JSI2	**Shiura 2**	**2.74**	**304**	⇑P		**Pn**	**04 52 07.9**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.74**	**349**	P		**Pn**	**04 52 07.5**	**-0.4**
JNBK				*e*S		**Sn**	**04 52 39.6**	**-0.8**
JKB	**Kayabe**	**2.93**	**322**	P		**Pn**	**04 52 10.0**	**-0.5**
JYS	**Shirataka**	**2.96**	**244**	⇑P		**Pn**	**04 52 11.4**	**+0.6**
JCH	**Churui**	**3.03**	**359**	*e*S		**Sn**	**04 52 44.2**	**-3.3**
JYA	**Atsumi**	**3.06**	**252**	⇑P		**Pn**	**04 52 12.8**	**+0.6**
ONAJ	**Iwakimizuishiy**	**3.23**	**221**	P		**Pn**	**04 52 13.7**	**-0.9**
JAW	**Awa shima**	**3.44**	**252**	P		**Pn**	**04 52 18.3**	**+0.8**
JEW	**Eniwo**	**3.58**	**336**	Pn		**Pn**	**04 52 17.9**	**-1.5**
JFY	**Yanaizu**	**3.64**	**235**	P		**Pn**	**04 52 20.9**	**+0.6**
JNS	**Sasagawa**	**3.67**	**243**	⇑P		**Pn**	**04 52 21.3**	**+0.7**
NMR	**Nemuro--Hokkai**	**4.16**	**24**	⇑*i*P		**Pn**	**04 52 25.5**	**-1.8**
NMR				*i* S		**Sn**	**04 53 10.1**	**-5.2**
JYT	**Yasato**	**4.21**	**218**	Pn		**Pn**	**04 52 26.9**	**-1.2**
JSD	**Sado**	**4.32**	**251**	⇑P		**Pn**	**04 52 29.7**	**+0.1**
JSD	**Sado**	**4.32**	**251**	Pn		**Pn**	**04 52 29.2**	**-0.4**
JKT	**Katashina**	**4.33**	**231**	⇑P		**Pn**	**04 52 30.7**	**+0.9**
JAG	**Ashikaga**	**4.45**	**226**	P		**Pn**	**04 52 31.4**	**0.0**
JKA	**Kamikawa-asahi**	**4.57**	**352**	Pn		**Pn**	**04 52 32.9**	**-0.1**
ASAJ	**Asahikawa**	**4.57**	**352**	Pn		**Pn**	**04 52 33.4**	**+0.3**
	20nm,0.3s,baz=199,slow=18,SNR=25							
ASAJ					Sn	**Sn**	**04 53 24.9**	**-0.7**
	48nm,0.3s,baz=235,slow=23,SNR=4.5							
ASAJ	**Asahikawa**	**4.57**	**352**	P		**Pn**	**04 52 32.9**	**-0.1**
RUSJ	**Misakicho**	**4.72**	**16**	*e*P		**Pn**	**04 52 33.2**	**-1.8**
RUSJ				*e*S		**Sn**	**04 53 26.0**	**-3.1**
GRPR	**Tuman**	**4.74**	**21**	*e*P		**Pn**	**04 52 33.2**	**-2.1**
GRPR				*e*S		**Sn**	**04 53 24.9**	**-4.8**
GRPR					pmax	pmax		
	comp=Z,926nm,0.4s							
GRPR					smax	smax		
	comp=N,12μm,0.5s							
GRPR					smax	smax		
	comp=E,4μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.80**	**21**	*e*P		**Pn**	**04 52 34.9**	**-1.3**
YUK				*e*S		**Sn**	**04 53 25.8**	**-5.5**
YUK					pmax	pmax		
	comp=Z,1μm,0.6s							
YUK					smax	smax		
	comp=N,7μm,0.6s							
YUK					smax	smax		
	comp=E,3μm,0.5s							
JJN	**Nakama**	**4.82**	**241**	P		**Pn**	**04 52 38.6**	**+2.1**
JGK	**Kuni**	**4.83**	**233**	P		**Pn**	**04 52 38.5**	**+1.8**
JRY	**Ryogami san**	**5.05**	**227**	P		**Pn**	**04 52 39.7**	**0.0**
MAJO	**Matsushiro**	**5.12**	**235**	P		**Pn**	**04 52 41.5**	**+1.0**
MAJO	**Matsushiro**	**5.12**	**235**	Pn		**Pn**	**04 52 41.5**	**+1.0**
MAT	**Matsushiro**	**5.12**	**235**	P		**Pn**	**04 52 41.7**	**+1.1**
MAT				S		**Sn**	**04 53 42.4**	**+3.3**
MAT	**Matsushiro**	**5.12**	**235**	P		**Pn**	**04 52 41.9**	**+1.3**
MJAR	**Matsushiro Arr**	**5.12**	**235**	Pn		**Pn**	**04 52 42.0**	**+1.4**
	comp=E,5.7nm,0.3s,baz=42,slow=12,SNR=155							
MJAR					Sn	**Sn**	**04 53 36.7**	**-2.4**
	baz=101,slow=32,SNR=2.4							
MJAR	**Matsushiro Arr**	**5.12**	**235**	P		**Pn**	**04 52 40.2**	**-0.4**
MJAR	**Matsushiro Arr**	**5.12**	**235**	Pn		**Pn**	**04 52 40.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**5.12**	**235**	Pn		**Pn**	**04 52 41.3**	**+0.7**
JSZ	**Suzu**	**5.21**	**248**	⇑P		**Pn**	**04 52 42.7**	**+0.9**
JNG	**Nsakai**	**5.27**	**235**	⇑P		**Pn**	**04 52 43.9**	**+1.2**
JHG	**Hegura jima**	**5.38**	**253**	⇑P		**Pn**	**04 52 45.5**	**+1.4**
JJH	**Hakui**	**5.87**	**245**	⇑P		**Pn**	**04 52 52.1**	**+1.3**
JGN	**Niukaw**	**5.88**	**237**	P		**Pn**	**04 52 52.7**	**+1.6**
JNY	**Yasuok**	**6.11**	**228**	P		**Pn**	**04 52 55.2**	**+0.9**
JGF	**Kuroka**	**6.25**	**232**	P		**Pn**	**04 52 57.3**	**+1.2**
JGF	**Kuroka**	**6.25**	**232**	Pn		**Pn**	**04 52 55.7**	**-0.4**
JSG	**Sagara**	**6.45**	**222**			**Pn**	**04 52 57.7**	**-1.1**
JKG	**Kaga**	**6.51**	**242**	P		**Pn**	**04 53 01.6**	**+2.0**
JAO	**Obara**	**6.53**	**231**	P		**Pn**	**04 53 00.7**	**+0.7**
KUR	**Kuril'sk**	**6.53**	**29**	*e*P		**Pn**	**04 52 59.8**	**-0.1**
KUR				*e*S		**Sn**	**04 54 08.1**	**-5.7**
KUR					pmax	pmax		
	comp=Z,484nm,0.7s							
KUR					pmax	pmax		
	comp=E,140nm,0.4s							
KUR					smax	smax		
	comp=E,2μm,0.6s							
KUR					smax	smax		
	comp=N,859nm,0.7s							
KUR					MLR	MLR		
	comp=Z,18μm,16.0s							
KUR					MLR	MLR		
	comp=E,42μm,12.0s							
KUR					MLR	MLR		
	comp=N,25μm,15.0s							
INU	**Inuyama**	**6.62**	**232**	Pn		**Pn**	**04 53 01.0**	**-0.2**
JHJ	**Hachijo jima 2**	**7.09**	**206**	Pn		**Pn**	**04 53 06.3**	**-1.3**
	comp=N,108nm,0.3s,baz=77,slow=6.4,SNR=7.3							
JHJ					Sn	**Sn**	**04 54 23.2**	**-4.4**
	comp=N,228nm,0.3s,baz=44,slow=20,SNR=5.1							
JFM	**Mihama**	**7.17**	**238**	P		**Pn**	**04 53 10.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**7.38**	**356**	*e*P		**Pn**	**04 53 11.4**	**-0.2**
YSS				*e*S		**Sn**	**04 54 34.4**	**-0.4**
YSS					pmax	pmax		
	comp=Z,360nm,1.0s							
YSS					smax	smax		
	comp=E,420nm,1.2s							
YSS					MLR	MLR		
	comp=N,24μm,17.0s							
YSS					MLR	MLR		
	comp=Z,34μm,17.0s							
YSS	**Yuzh-Sakhalins**	**7.38**	**356**	Pn		**Pn**	**04 53 11.7**	**+0.1**
TEY	**Ternei**	**7.43**	**319**	⇑*e*P		**Pn**	**04 53 14.8**	**+2.5**
TEY					pmax	pmax		
	comp=N,580nm,1.0s							
TEY					pmax	pmax		
	comp=E,720nm,1.0s							
TEY					pmax	pmax		
	comp=Z,830nm,1.0s							
TEY					MLR	MLR		
	comp=E,3μm,13.0s							
TEY					MLR	MLR		
	comp=N,2μm,15.0s							
TEY					MLR	MLR		
	comp=Z,3μm,15.0s							
VLA	**Vladivostok**	**9.37**	**296**	*ce*P		**Pn**	**04 53 39.2**	**+0.3**
VLA					pmax	pmax		
	comp=Z,412nm,1.1s							
JHS	**Saijyo**	**9.40**	**244**	Pn		**Pn**	**04 53 39.3**	**-0.1**
UGL	**Uglegorsk**	**9.54**	**355**	*e*P		**Pn**	**04 53 40.4**	**-0.8**
UGL				S		**Sn**	**04 55 28.8**	**+1.0**
UGL					pmax	pmax		
	comp=Z,366nm,1.0s							
UGL					MLR	MLR		
	comp=Z,19μm,14.0s							
UGL					MLR	MLR		
	comp=N,28μm,16.0s							
UGL					MLR	MLR		
	comp=E,34μm,16.0s							
JMN	**Monobe**	**9.64**	**236**	Pn		**Pn**	**04 53 42.5**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.70**	**302**	P		**Pn**	**04 53 43.6**	**+0.3**
USA0B	**Ussuriysk Arra**	**9.70**	**302**	Pn		**Pn**	**04 53 43.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.70**	**302**	Pn		**Pn**	**04 53 45.1**	**+1.8**
	baz=114,slow=11,SNR=96							
USRK	**Ussuriysk Ar.**	**9.70**	**302**	P		**Pn**	**04 53 44.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.70**	**302**			**Pn**	**04 53 44.4**	**+1.1**
MSHR	**Mys Shultsa**	**9.74**	**292**	*ce*P		**Pn**	**04 53 44.3**	**+0.4**
MSHR					pmax	pmax		
	comp=Z,125nm,0.7s							
ULDB	**Ullung-do Bore**	**10.04**	**262**	P		**Pn**	**04 53 50.2**	**+2.1**
	SNR=15							
ULDB	**Ullung-do Bore**	**10.04**	**262**	P		**Pn**	**04 53 49.8**	**+1.8**
	SNR=11							
ULDB	**Ullung-do Bore**	**10.04**	**262**	P		**Pn**	**04 53 49.8**	**+1.8**
	SNR=11							
ULDB	**Ullung-do Bore**	**10.04**	**262**	P		**Pn**	**04 53 49.8**	**+1.8**
	SNR=11							
TYV	**Tymovskoe**	**11.29**	**358**	*e*P		**Pn**	**04 54 05.5**	**+0.4**
TYV				*e*S		**Sn**	**04 56 14.6**	**+3.9**
TYV					pmax	pmax		
	comp=Z,143nm,1.1s							
TYV					smax	smax		
	comp=E,59nm,1.2s							
IMWB	**Imwonan-gil**	**11.30**	**262**	P		**Pn**	**04 54 08.0**	**+2.7**
	SNR=18							
IMWB	**Imwonan-gil**	**11.30**	**262**	P		**Pn**	**04 54 08.0**	**+2.7**
	SNR=18							
IMWB	**Imwonan-gil**	**11.30**	**262**	P		**Pn**	**04 54 08.0**	**+2.7**
	SNR=18							
IMWB	**Imwonan-gil**	**11.30**	**262**	P		**Pn**	**04 54 08.0**	**+2.7**
	SNR=18							
UJN	**ULJIN**	**11.32**	**261**	P		**Pn**	**04 54 08.3**	**+2.8**
	SNR=18							
UJN	**ULJIN**	**11.32**	**261**	P		**Pn**	**04 54 08.3**	**+2.8**
	SNR=18							
UJN	**ULJIN**	**11.32**	**261**	P		**Pn**	**04 54 08.3**	**+2.8**
	SNR=18							
UJN	**ULJIN**	**11.32**	**261**	P		**Pn**	**04 54 08.3**	**+2.8**
	SNR=18							
KSULJ	**Uljin**	**11.41**	**260**	P		**Pn**	**04 54 09.0**	**+2.2**
	SNR=44							
KSULJ	**Uljin**	**11.41**	**260**	P		**Pn**	**04 54 09.0**	**+2.2**
	SNR=44							
KSULJ	**Uljin**	**11.41**	**260**	P		**Pn**	**04 54 09.0**	**+2.2**
	SNR=44							
KSULJ	**Uljin**	**11.41**	**260**	P		**Pn**	**04 54 09.0**	**+2.2**
	SNR=44							
MDJ	**Mudanjiang**	**11.44**	**301**	P		**Pn**	**04 54 06.1**	**-1.1**
MDJ				S		**Sn**	**04 56 14.0**	**-0.4**
MDJ					pmax	pmax		
	comp=E,180nm,1.0s							
MDJ					pmax	pmax		
	comp=E,4μm,5.7s							
MDJ					L	L		
	comp=E,30μm,9.8s							
MDJ					L	L		
	comp=E,50μm,13.5s							
MDJ					L	L		
	comp=E,65μm,14.2s							
MDJ	**Mudanjiang**	**11.44**	**301**	Pn		**Pn**	**04 54 08.1**	**+0.9**
OKEB	**Okgye-meyeon**	**11.48**	**265**	P		**Pn**	**04 54 12.0**	**+4.2**
	SNR=14							
OKEB	**Okgye-meyeon**	**11.48**	**265**	P		**Pn**	**04 54 12.0**	**+4.2**
	SNR=14							
OKEB	**Okgye-meyeon**	**11.48**	**265**	P		**Pn**	**04 54 12.0**	**+4.2**
	SNR=14							
OKEB	**Okgye-meyeon**	**11.48**	**265**	P		**Pn**	**04 54 12.0**	**+4.2**
	SNR=14							
KSJMJ	**Jumunjin**	**11.59**	**266**	P		**Pn**	**04 54 11.0**	**+1.8**
	SNR=25							
KSJMJ	**Jumunjin**	**11.59**	**266**	P		**Pn**	**04 54 11.0**	**+1.8**
	SNR=25							
KSTBA	**Taebaek**	**11.63**	**262**	P		**Pn**	**04 54 13.0**	**+3.1**
	SNR=122							
KSTBA	**Taebaek**	**11.63**	**262**	P		**Pn**	**04 54 13.0**	**+3.1**
	SNR=122							
KSTBA	**Taebaek**	**11.63**	**262**	P		**Pn**	**04 54 13.0**	**+3.1**
	SNR=122							
KSTBA	**Taebaek**	**11.63**	**262**	P		**Pn**	**04 54 13.0**	**+3.1**
	SNR=122							
KSSKC	**Sokcho**	**11.68**	**268**	P		**Pn**	**04 54 13.9**	**+3.4**
	SNR=9.4							
KSSKC	**Sokcho**	**11.68**	**268**	P		**Pn**	**04 54 13.9**	**+3.4**
	SNR=9.4							
KSSKC	**Sokcho**	**11.68**	**268**	P		**Pn**	**04 54 13.9**	**+3.4**
	SNR=9.4							
KSSKC	**Sokcho**	**11.68**	**268**	P		**Pn**	**04 54 13.9**	**+3.4**
	SNR=9.4							
KSSKC	**Sokcho**	**11.68**	**268**	P		**Pn**	**04 54 13.7**	**+3.1**
	SNR=20							
KSSKC	**Sokcho**	**11.68**	**268**	P		**Pn**	**04 54 13.9**	**+3.4**
	SNR=9.4							
KSDGY	**Daegwallycong**	**11.70**	**265**	P		**Pn**	**04 54 13.0**	**+2.2**
	SNR=24							
KSDGY	**Daegwallycong**	**11.70**	**265**	P		**Pn**	**04 54 15.0**	**+4.2**
	SNR=28							
KSDGY	**Daegwallycong**	**11.70**	**265**	P		**Pn**	**04 54 15.0**	**+4.2**
	SNR=28							
KSDGY	**Daegwallycong**	**11.70**	**265**	P		**Pn**	**04 54 15.0**	**+4.2**
	SNR=28							
KSGWL	**Sabuk**	**11.71**	**263**	P		**Pn**	**04 54 14.7**	**+3.9**
	SNR=7.2							
KSGWL	**Sabuk**	**11.71**	**263**	P		**Pn**	**04 54 14.6**	**+3.8**
	SNR=17							
KSGWL	**Sabuk**	**11.71**	**263**	P		**Pn**	**04 54 14.6**	**+3.8**
	SNR=17							
KSGWL	**Sabuk**	**11.71**	**263**	P		**Pn**	**04 54 14.6**	**+3.8**
	SNR=17							
KSADO	**Andong**	**11.85**	**259**	P		**Pn**	**04 54 16.0**	**+3.1**
	SNR=38							
KSADO	**Andong**	**11.85**	**259**	P		**Pn**	**04 54 16.0**	**+3.1**
	SNR=38							
KSADO	**Andong**	**11.85**	**259**	P		**Pn**	**04 54 16.0**	**+3.1**
	SNR=38							
KSADO	**Andong**	**11.85**	**259**	P		**Pn**	**04 54 16.0**	**+3.1**
	SNR=38							
SEHB	**SEOHWA**	**11.90**	**268**	P		Pn	04 54 18.9	+5.4
	SNR=14							
SEHB	**SEOHWA**	**11.90**	**268**	P		Pn	04 54 18.9	+5.4
	SNR=14							
SEHB	**SEOHWA**	**11.90**	**268**	P		**Pn**	**04 54 14.9**	**+1.4**
	SNR=19							
SEHB	**SEOHWA**	**11.90**	**268**	P		Pn	04 54 18.9	+5.4
	SNR=14							
KSUSN	**Ulsan**	**11.98**	**256**	P		**Pn**	**04 54 16.7**	**+2.0**
	SNR=19							
KSUSN	**Ulsan**	**11.98**	**256**	P		**Pn**	**04 54 16.7**	**+2.0**
	SNR=19							
KSUSN	**Ulsan**	**11.98**	**256**	P		**Pn**	**04 54 16.7**	**+2.0**
	SNR=19							
JNU	**Nakatsue**	**11.99**	**241**	Pn		**Pn**	**04 54 14.6**	**-0.2**
	comp=E,2.1nm,0.3s,baz=44,slow=6.2,SNR=9.3							
KSYOW	**Yeongwol**	**12.00**	**263**	P		**Pn**	**04 54 18.6**	**+3.8**
	SNR=47							
KSYOW	**Yeongwol**	**12.00**	**263**	P		**Pn**	**04 54 17.2**	**+2.4**
	SNR=24							
KSYOW	**Yeongwol**	**12.00**	**263**	P		**Pn**	**04 54 17.2**	**+2.4**
	SNR=24							
KSYOC	**YEONGCHEON**	**12.01**	**257**	P		**Pn**	**04 54 17.6**	**+2.6**
	SNR=35							
KSYOC	**YEONGCHEON**	**12.01**	**257**	P		**Pn**	**04 54 17.6**	**+2.6**
	SNR=35							
KSYOC	**YEONGCHEON**	**12.01**	**257**	P		**Pn**	**04 54 17.6**	**+2.6**
	SNR=35							
KSIJA	**INJE**	**12.06**	**267**	P		**Pn**	**04 54 19.3**	**+3.6**
	SNR=72							
KSIJA	**INJE**	**12.06**	**267**	P		**Pn**	**04 54 19.3**	**+3.6**
	SNR=72							
KSIJA	**INJE**	**12.06**	**267**	P		**Pn**	**04 54 17.2**	**+1.5**
	SNR=56							
KSIJA	**INJE**	**12.06**	**267**	P		**Pn**	**04 54 19.3**	**+3.6**
	SNR=72							
KSEUS	**ULSEONG**	**12.07**	**259**	P		**Pn**	**04 54 19.0**	**+3.1**
	SNR=18							
KSEUS	**ULSEONG**	**12.07**	**259**	P		**Pn**	**04 54 19.0**	**+3.1**
	SNR=18							
KSEUS	**ULSEONG**	**12.07**	**259**	P		**Pn**	**04 54 19.0**	**+3.1**
	SNR=18							
KSEUS	**ULSEONG**	**12.07**	**259**	P		**Pn**	**04 54 19.0**	**+3.1**
	SNR=18							
KSDAG	**Daegu**	**12.13**	**256**	P		**Pn**	**04 54 18.2**	**+1.6**
	SNR=16							
KSDAG	**Daegu**	**12.13**	**256**	P		**Pn**	**04 54 18.2**	**+1.6**
	SNR=16							
KSDAG	**Daegu**	**12.13**	**256**	P		**Pn**	**04 54 18.2**	**+1.6**
	SNR=16							
KSDAG	**Daegu**	**12.13**	**256**	P		**Pn**	**04 54 18.2**	**+1.6**
	SNR=16							
KSBUS	**Busan**	**12.18**	**254**	P		**Pn**	**04 54 19.2**	**+1.9**
	SNR=18

SNR=38
OKCB Cheongsan-myeo 12.75 260 P Pn 04 54 27.1 +1.9
SNR=38
EURB Uiryeong-eup 12.76 255 P Pn 04 54 29.1 +3.8
SNR=13
KSICN Icheon 12.76 265 P Pn 04 54 28.9 +3.6
SNR=19
KSICN Icheon 12.76 265 P Pn 04 54 28.9 +3.6
SNR=19
KSICN Icheon 12.76 265 P Pn 04 54 28.9 +3.6
SNR=19
KSKCH Geochang 12.92 257 P Pn 04 54 31.3 +3.8
SNR=11
YNCB YEONCHEON 12.97 268 P Pn 04 54 30.1 +2.0
SNR=8.1
KSCEA Cheonan 13.02 263 P Pn 04 54 30.8 +2.0
SNR=26
KSCEA Cheonan 13.02 263 P Pn 04 54 30.8 +2.0
SNR=26
KSCEA Cheonan 13.02 263 P Pn 04 54 30.8 +2.0
SNR=26
KSSOD Songwoldong 13.04 266 P Pn 04 54 33.2 +4.2
SNR=20
KSSOD Songwoldong 13.04 266 P Pn 04 54 33.2 +4.2
SNR=20
KSSOD Songwoldong 13.04 266 P Pn 04 54 33.2 +4.2
SNR=20
TJN Taejon 13.07 261⇑ *e*P Pn 04 54 30.2 +0.7
HAMB Hamyang 13.09 257 P Pn 04 54 33.0 +3.2
SNR=13
HAMB Hamyang 13.09 257 P Pn 04 54 33.0 +3.2
SNR=13
HAMB Hamyang 13.09 257 P Pn 04 54 33.0 +3.2
SNR=13
KSSEO Seoul 13.10 266 P Pn 04 54 34.1 +4.3
SNR=12
KSSEO Seoul 13.10 266 P Pn 04 54 34.0 +4.1
SNR=12
KSSEO Seoul 13.10 266 P Pn 04 54 34.1 +4.3
SNR=12
KSSEO Seoul 13.10 266 P Pn 04 54 34.0 +4.1
SNR=12
KSSEO Seoul 13.10 266 P Pn 04 54 34.1 +4.3
SNR=12
KSSEO Seoul 13.10 266 P Pn 04 54 34.0 +4.1
SNR=12
KSSWO Suwon 13.12 265 P Pn 04 54 34.2 +4.1
SNR=9.2
KSSWO Suwon 13.12 265 P Pn 04 54 34.2 +4.1
SNR=9.2
KSSWO Suwon 13.12 265 P Pn 04 54 34.2 +4.1
SNR=9.2
KOJ2 Gongju-si 13.21 262 P Pn 04 54 35.0 +3.6
SNR=33
KOJ2 Gongju-si 13.21 262 P Pn 04 54 35.0 +3.6
SNR=33
KOJ2 Gongju-si 13.21 262 P Pn 04 54 35.0 +3.6
SNR=33
KSNAH Namhae 13.24 254 P Pn 04 54 33.8 +2.0
SNR=6.8
KSNAH Namhae 13.24 254 P Pn 04 54 33.8 +2.0
SNR=6.8
KSNAH Namhae 13.24 254 P Pn 04 54 33.8 +2.0
SNR=6.8
JSU Suzuyama 13.28 237 Pn Pn 04 54 32.0 -0.4
SHHB Siheung-si 13.30 266 P Pn 04 54 36.0 +3.4
SNR=8.0
SHHB Siheung-si 13.30 266 P Pn 04 54 36.0 +3.4
SNR=8.0
SHHB Siheung-si 13.30 266 P Pn 04 54 36.0 +3.4
SNR=8.0
HAWB Hwaseong-si 13.31 264 P Pn 04 54 36.0 +3.2
SNR=48
HAWB Hwaseong-si 13.31 264 P Pn 04 54 36.0 +3.2
SNR=48
HAWB Hwaseong-si 13.31 264 P Pn 04 54 36.0 +3.2
SNR=48
INCN Inchon 13.32 266 P Pn 04 54 32.1 -0.8
INCN Inchon 13.32 266 Pn 04 54 32.1 -0.8
GWYB Gwangyang 13.36 255 P Pn 04 54 36.0 +2.5
SNR=8.0
GWYB Gwangyang 13.36 255 P Pn 04 54 36.0 +2.5
SNR=8.0
GWYB Gwangyang 13.36 255 P Pn 04 54 36.0 +2.5
SNR=8.0
NAWB Namwon 13.39 257 P Pn 04 54 37.0 +3.1
SNR=14
NAWB Namwon 13.39 257 P Pn 04 54 37.0 +3.1
SNR=14
NAWB Namwon 13.39 257 P Pn 04 54 37.0 +3.1
SNR=14
SUCA Sunchang 13.60 257 P Pn 04 54 40.0 +3.2
SNR=7.5
SUCA Sunchang 13.60 257 P Pn 04 54 40.0 +3.2
SNR=7.5
SUCA Sunchang 13.60 257 P Pn 04 54 40.0 +3.2
SNR=7.5
KSSES Seosan 13.64 264 P Pn 04 54 41.0 +3.7
SNR=12
KSSES Seosan 13.64 264 P Pn 04 54 41.0 +3.7
SNR=12
KSSES Seosan 13.64 264 P Pn 04 54 39.0 +1.7
SNR=21
KSSES Seosan 13.64 264 P Pn 04 54 41.0 +3.7
SNR=12
KSSCH SUNCHEON 13.65 256 P Pn 04 54 39.4 +2.0
SNR=20
KSSCH SUNCHEON 13.65 256 P Pn 04 54 39.4 +2.0
SNR=20
KSSCH SUNCHEON 13.65 256 P Pn 04 54 39.4 +2.0
SNR=20
PORA Boryeong 13.70 262 P Pn 04 54 41.0 +2.8
SNR=12
PORA Boryeong 13.70 262 P Pn 04 54 41.0 +2.8
SNR=12
PORA Boryeong 13.70 262 P Pn 04 54 41.0 +2.8
SNR=12
KSJEU Jeongeup 13.71 258 P Pn 04 54 40.7 +2.4
SNR=22
KSJEU Jeongeup 13.71 258 P Pn 04 54 40.7 +2.4
SNR=22
KSJEU Jeongeup 13.71 258 P Pn 04 54 40.7 +2.4
SNR=22
KSDEI Deokjeokdo 13.78 266 P Pn 04 54 42.1 +2.9
SNR=13
KSDEI Deokjeokdo 13.78 266 P Pn 04 54 42.5 +3.3
SNR=13
KSDEI Deokjeokdo 13.78 266 P Pn 04 54 42.5 +3.3
SNR=13
BOSB Boseong-gun 13.79 255 P Pn 04 54 42.0 +2.6
SNR=5.3
BOSB Boseong-gun 13.79 255 P Pn 04 54 41.0 +1.7
SNR=20
BOSB Boseong-gun 13.79 255 P Pn 04 54 41.0 +1.7
SNR=20
KSKWJ Gwangju 13.80 256 P Pn 04 54 41.4 +2.0
SNR=35
KSKWJ Gwangju 13.80 256 P Pn 04 54 41.4 +2.0
SNR=5.8
KSKWJ Gwangju 13.80 256 P Pn 04 54 41.4 +2.0
SNR=5.8
KOHB KOHEUNG 13.81 254 P Pn 04 54 41.0 +1.4
SNR=12
KOHB KOHEUNG 13.81 254 P Pn 04 54 42.0 +2.4
SNR=6.2
KOHB KOHEUNG 13.81 254 P Pn 04 54 42.0 +2.4
SNR=6.2
SMKB Mukjeong-gil 13.92 259 P Pn 04 54 43.0 +1.9
SNR=22
SMKB Mukjeong-gil 13.92 259 P Pn 04 54 43.0 +1.9
SNR=22
SMKB Mukjeong-gil 13.92 259 P Pn 04 54 43.0 +1.9
SNR=22
GOCB Gochang-gun 14.02 258 P Pn 04 54 46.0 +3.5
SNR=24
GOCB Gochang-gun 14.02 258 P Pn 04 54 46.0 +3.5
SNR=24
GOCB Gochang-gun 14.02 258 P Pn 04 54 46.0 +3.5
SNR=24
CN2 Changchun 14.08 293 *e*P Pn 04 54 42.7 -0.5
CN2 pmax pmax
comp=Z,100nm,1.3s
CN2 L L
comp=Z,17μm,12.0s
CN2 L L
comp=Z,21μm,12.0s
CN2 L L
comp=Z,24μm,13.0s

SKR Severo-Kuril's 14.24 35*c e*P Pn 04 54 44.5 -0.8
KSGBI Gyogryolbido 14.38 264 P Pn 04 54 48.7 +1.3
SNR=16
KSJDO Jindo 14.59 255 P Pn 04 54 51.9 +1.7
SNR=12
KSJDO Jindo 14.59 255 P Pn 04 54 51.9 +1.7
SNR=12
KSBAR Backryungdo 14.69 270 P P 04 54 54.6 -3.0
SNR=8.0
DACB Daecheong-do R 14.72 269 P P 04 54 58.0 -0.1
SNR=7.2
DACB Daecheong-do R 14.72 269 P P 04 54 58.0 -0.1
SNR=7.2
KSJJU Jeju 14.89 251 P Pn 04 54 54.8 +0.3
SNR=11
HALB Hallimjungang- 15.11 251 P Pn 04 54 58.0 +0.7
SNR=15
HUK2 Heuksan-myeon 15.14 257 P Pn 04 54 58.1 +0.3
SNR=17
HUK2 Heuksan-myeon 15.14 257 P Pn 04 54 59.0 +1.2
SNR=12
GOS1 Gosan-ri 15.20 251 P Pn 04 54 58.6 +0.1
SNR=14
SNY Shenyang 15.22 285 ⇓P Pn 04 54 58.1 -0.6
SNY pmax pmax
comp=Z,51nm,1.3s
PEA0B Petropavlovsk- 16.69 31 P P 04 55 18.9 -0.9
PEA0B pmax pmax
comp=Z,290nm,1.2s
PEA0B Petropavlovsk- 16.69 31 P P 04 55 18.9 -0.9
PETK Petropavlovsk- 16.69 31 Pn P 04 55 19.1 -0.7
comp=Z,0.7nm,0.3s,baz=220,slow=5.8,SNR=19
PETK Petropavlovsk- 16.69 31 P Pn 04 55 18.6 +1.0
PETK Petropavlovsk- 16.69 31 Pn Pn 04 55 18.6 +1.0
DL2 Dalian 16.90 275 P Pn 04 55 19.0 -1.3
DL2 S Sn 04 58 26.1 -1.4
DL2 pmax pmax
comp=Z,470nm,1.0s
DL2 L L
comp=Z,16μm,12.9s
DL2 L L
comp=Z,14μm,14.9s
DL2 L L
comp=Z,20μm,15.1s
PET Petropavlovsk 17.02 33 *e*P P 04 55 23.9 +0.5
PET pmax pmax
comp=Z,331nm,1.3s
JOW Kunigami 17.93 229 P Pn 04 55 30.9 -2.2
comp=Z,1.6nm,0.3s,baz=51,slow=11,SNR=6.3
JOW Kunigami 17.93 229 P Pn 04 55 33.2 0.0
ZEA Zeya 17.93 327 *e*P Pn 04 55 29.9 -3.1
ZEA pmax pmax
comp=N,270nm,0.8s
ZEA pmax pmax
comp=E,160nm,0.8s
ZEA pmax pmax
comp=Z,360nm,0.8s
ZEA MLR MLR
comp=E,16μm,14.0s
ZEA MLR MLR
comp=Z,12μm,15.0s
HIA Hailar 19.42 308*c i*P P 04 55 46.7 -3.2
HIA pmax pmax
comp=Z,370nm,0.9s
HIA Hailar 19.42 308 P P 04 55 48.2 -1.7
HIA IAmb IAmb 04 55 50.4
comp=Z,354nm,0.8s
SSE Sheshan 19.99 252 P P 04 55 54.6 -1.6
SSE pP Pn 04 55 56.8 -1.2
SSE S S 04 59 36.1 -4.0
SSE L L
comp=Z,9μm,15.4s
MA2 Magadan 20.55 11*c i*P P 04 56 02.5 +0.5
MA2 pmax pmax
comp=Z,562nm,1.7s
MA2 Magadan 20.55 11 P P 04 56 01.6 -0.5
MA2 IAmb IAmb 04 56 03.8
comp=Z,290nm,0.9s
BJI Beijing 20.91 280 P P 04 56 03.4 -2.8
BJI pmax pmax
comp=Z,230nm,1.1s
BJI L L
comp=Z,5μm,13.5s
BJI L L
comp=Z,24μm,15.1s
BJI L L
comp=Z,25μm,14.7s
BJT Baijiatuau 20.92 280 P P 04 56 04.0 -2.3
BJT pmax pmax
comp=Z,255nm,1.0s
BJT Baijiatuau 20.92 280 P P 04 56 04.0 -2.3
BJT IAmb IAmb 04 56 05.0
comp=Z,255nm,1.0s
TIA Tai'an 21.00 269 P P 04 56 04.6 -2.6
TIA pmax pmax
comp=Z,200nm,1.1s
TIA L L
comp=Z,13μm,12.6s
TIA L L
comp=Z,31μm,12.8s
TIA L L
comp=Z,47μm,12.7s
NJ2 Nanjing 21.26 257⇑ *i*P P 04 56 07.2 -2.7
NJ2 sP **pwP** 04 56 19.2 +1.4
NJ2 PP **PnPn** 04 56 34.2 +4.6
NJ2 pmax pmax
comp=Z,110nm,1.0s
NJ2 L L
comp=Z,16μm,18.0s
NJ2 L L
comp=Z,13μm,17.1s
NJ2 L L
comp=Z,19μm,18.0s
TATO Taipei 23.50 238 P P 04 56 32.4 -1.2
YHNB Yeheng 23.78 238 P P 04 56 33.7 -2.8
YHNB IAmb IAmb 04 56 35.6
comp=Z,171nm,1.0s
NACB Ninganchiao 23.99 237 P P 04 56 33.7 -4.6
NACB IAmb IAmb 04 56 36.8
comp=Z,202nm,1.0s
YAK Yakutsk 23.99 344*c i*P P 04 56 35.8 -2.2
YAK *e**PP **pP** 04 56 38.6 -4.6
YAK *e* 04 57 07.0
YAK *e*PPP PPP 04 57 21.0
YAK *e*S **S** **05 00 55.6 +1.9**
YAK *e**SS **sS** **05 01 05.3 +3.8**
YAK *e*SS **SnSn** **05 01 42.0 +7.8**
YAK *e*SSS SSS 05 02 00.6
YAK pmax pmax
comp=Z,616nm,1.0s
YAK pmax pmax
comp=E,73nm,1.1s
YAK pmax pmax
comp=N,253nm,1.0s
YAK pmax pmax
comp=Z,455nm,1.0s
YAK pmax pmax
comp=N,183nm,1.2s
YAK pmax pmax
comp=E,229nm,1.3s
YAK smax smax
comp=E,732nm,1.9s
YAK smax smax
comp=N,3μm,3.2s
YAK MLR MLR
comp=Z,12μm,14.0s
YAK MLR MLR
comp=N,6μm,12.0s
YAK MLR MLR
comp=E,4μm,13.0s
YAK Yakutsk 23.99 344 P P 04 56 36.1 -1.9
CIT Chita 24.07 311 *e*P P 04 56 35.8 -3.1
CIT *e* 04 56 45.4
CIT *e* 04 57 05.5
CIT *e* 04 57 23.9
CIT *e*S **S** **05 00 56.1 +0.9**
CIT pmax pmax
comp=Z,2μm,2.0s
TIY Taiyuan 24.22 275 *e*P P 04 56 35.3 -5.2
TIY S S 05 00 45.3 -13
TIY pmax pmax
comp=Z,3μm,7.7s
TIY L L
comp=Z,14μm,13.1s
TIY L L
comp=Z,5μm,12.7s

TIY L L
comp=Z,13μm,19.3s
HHC Hu-ho-hao-te 24.30 283 *e*P P 04 56 39.2 -2.0
HHC S S 05 00 57.3 -2.0
HHC pmax pmax
comp=Z,95nm,1.3s
HHC pmax pmax
comp=Z,3μm,6.9s
HHC L L
comp=Z,6μm,16.2s
HHC L L
comp=Z,27μm,16.7s
HHC L L
comp=Z,34μm,16.9s
SSLB Suanglung 24.67 237 P P 04 56 42.1 -2.5
SSLB IAmb IAmb 04 56 50.7
comp=Z,229nm,0.9s
YULB Yu-li 24.73 236 P P 04 56 41.3 -3.9
YULB IAmb IAmb 04 56 46.0
comp=Z,232nm,1.1s
SMY Shemya 24.76 48 P P 04 56 45.7 +0.5
SMY pmax pmax
comp=Z,382nm,1.3s
SMY Shemya 24.76 48 P P 04 56 45.7 +0.5
TPUB Ta-pu 25.23 237 P P 04 56 47.7 -2.0
TWG Pinlang 25.29 235 P P 04 56 48.6 -1.6
QZH Quanzhou 25.47 242⇑ *i*P P 04 56 50.7 -1.0
QZH S S 05 01 20.9 +3.0
QZH pmax pmax
comp=Z,130nm,1.2s
QZH L L
comp=Z,9μm,14.7s
QZH L L
comp=Z,6μm,17.1s
QZH L L
comp=Z,15μm,14.7s
KNMB Chin-men Tao 25.92 242 P P 04 56 56.0 +0.2
BOD Bodaibo 26.32 324 *e*P P 04 56 59.2 0.0
BOD pmax pmax
comp=Z,693nm,1.0s
BBP Basco 26.52 230 *e*P P 04 57 01.1 -0.2
ULN Ulaanbaatar 27.35 300*c i*P P 04 57 08.8 0.0
ULN pmax pmax
comp=Z,439nm,1.1s
ULN Ulaanbaatar 27.35 300 P P 04 57 08.9 +0.1
ULN Ulaanbaatar 27.35 300 P P 04 57 08.6 -0.2
comp=Z,27μmcomp=Z,2μm,1.4s
SONM Songino Array 27.79 300 P P 04 57 13.2 +0.4
comp=Z,166nm,0.9s,baz=87,slow=8.5,SNR=80
SONM Songino Array 27.79 300 P P 04 57 12.8 +0.1
SONM Songino Array 27.79 300 P P 04 57 12.8 +0.1
SGCP Mt. Cagua 28.20 227 *e*P P 04 57 19.3 +3.0
H11N2 WAKE ISLAND Hy 28.27 128 T T 05 26 56.0
baz=320,slow=75
H11N1 WAKE ISLAND Hy 28.28 128 T T 05 27 26.7
baz=320,slow=75
H11N3 WAKE ISLAND Hy 28.29 128 T T 05 26 51.7
baz=320,slow=75
H11S1 WAKE ISLAND Hy 29.08 130 T T 05 28 04.5
baz=321,slow=76
H11S3 WAKE ISLAND Hy 29.09 130 T T 05 28 25.0
baz=321,slow=76
H11S2 WAKE ISLAND Hy 29.10 130 T T 05 28 12.8
baz=321,slow=76
ENH Enshi 29.20 262 P P 04 57 24.8 -0.5
ABRA Dolores 29.43 229 *e*P P 04 57 29.1 +1.8
IRK Irkutsk 29.66 308 *e*P P 04 57 27.6 -1.6
IRK pmax pmax
comp=Z,305nm,2.1s
SAMP Sagada Mountai 29.77 228 *e*P P 04 57 30.8 +0.4
TLY Talaya 29.96 307*c i*P P 04 57 32.0 +0.2
TLY pmax pmax
comp=Z,413nm,1.2s
TLY MLR MLR
comp=Z,25μm,14.0s
TLY Talaya 29.96 307 P P 04 57 32.1 +0.3
TLY IAmb IAmb 04 57 35.4
comp=Z,177nm,1.2s
ZAK Zakamensk 30.03 304 *e*P P 04 57 32.3 -0.3
ZAK pmax pmax
comp=Z,162nm,1.5s
SMPP San Manuel, Pa 30.64 227 *e*P P 04 57 36.0 -2.2
BOLP Bolinao 30.90 228 *e*P P 04 57 38.5 -1.8
JCNP Jose Panganiba 31.09 222 *e*P P 04 57 45.9 +3.8
BILL Bilibino 31.14 16*d i*P P 04 57 41.8 -0.2
BILL *e**PP **sP** 04 57 48.5 -0.7
BILL *e**SP **pwP** 04 57 50.9 +0.8
BILL *i* S **S** **05 02 45.1 -1.3**
BILL pmax pmax
comp=Z,91nm,1.7s
BILL MLR MLR
comp=Z,5μm,16.0s
BILL Bilibino 31.14 16 P P 04 57 42.5 +0.5
BILL IAmb IAmb 04 57 53.0
comp=Z,87nm,1.0s
LZH Lanzhou 31.28 276 *e*P P 04 57 39.1 -4.7
LZH pP pP 04 57 43.6 -5.5
LZH pmax pmax
comp=Z,70nm,1.2s
LZH Lanzhou 31.28 276 ⇓P P 04 57 43.7 -0.1
LZH pP pP 04 57 48.2 -0.9
LZH sP pwP 04 57 52.6 +0.7
LZH pmax pmax
comp=Z,340nm,1.2s
LZH pmax pmax
comp=Z,2μm,5.4s
MOY Mondy 31.60 307 *e*P P 04 57 46.6 +0.2
MOY pmax pmax
comp=Z,313nm,1.4s
ATKA Atka Island 31.62 52 P P 04 57 46.4 +0.1
ATKA IAmb IAmb 04 57 57.2
comp=Z,115nm,1.1s
LQP Lukban 31.84 223⇑ *e*P P 04 57 49.0 +0.1
LQP Lukban 31.84 223⇑ *e*P S 05 03 00.3 +1.6
MACP Maragondon, Ca 32.16 225 *e*P P 04 57 53.6 +2.2
TIXI Tiksi 32.98 352*ce*P P 04 57 57.3 -0.7
TIXI Tiksi 32.98 352 P P 04 57 57.8 -0.2
GYA Guiyang 33.26 258 ⇓P P 04 58 01.3 +0.1
GYA S S 05 03 22.5 +2.0
CD2 Chengdu 33.31 267 P P 04 58 00.6 -1.0
CD2 pmax pmax
comp=Z,280nm,1.4s
CD2 L L
comp=Z,24μm,13.7s
CD2 L L
comp=Z,15μm,13.7s
CD2 L L
comp=Z,36μm,13.7s
GTA Gaotai 33.41 284⇑ P P 04 58 02.5 +0.1
GTA pP sP 04 58 09.3 -0.2
GTA sP pwP 04 58 12.2 +1.7
GTA PcP **PcP** **05 00 45.1 +1.5**
GTA pmax pmax
comp=Z,320nm,1.0s
GTA pmax pmax
comp=Z,1μm,4.4s
GTA L L
comp=Z,10μm,16.7s
GTA L L
comp=Z,25μm,17.8s
GTA L L
comp=Z,30μm,18.5s
MSLP Maasin 33.67 214 *e*P P 04 58 17.5 +13
NIKH Nikolski High 34.93 51 P 04 58 14.5
baz=267
CNOP Candoni, Negro 34.95 218 *e*P P 04 58 24.3 +8.6
ENPP El Nido 35.39 224 *e*P P **04 58 21.1 +1.5**
BUKP Musuan 35.61 212 *e*P P **04 58 21.2 -0.3**
MATI Mati 35.98 210 *e*P P 04 58 50.6 +26
PAGZ Pagadian 36.36 215 *e*P P 04 58 33.8 +6.0
KMI Kunming 36.95 259⇑ P P **04 58 32.9 -0.2**
KMI pP pP 04 58 36.0 -2.4
KMI sP sP 04 58 38.3 -2.1
KMI PcP **PcP** **05 00 55.7 +1.5**
KMI S S **05 04 15.4 -2.2**
KMI pmax pmax
comp=Z,250nm,1.2s
KMI pmax pmax
comp=Z,2μm,4.1s
KMI L L
comp=Z,11μm,15.0s
KMI L L
comp=Z,6μm,19.3s
KMI L L
comp=Z,12μm,15.1s

DDMP Don Marcelino, 36.96 210 *e*P P 04 58 38.0 +5.0
SKMP Bagumbayan, Su 37.05 212 *e*P **P** **04 58 35.9 +2.1**
TNA Tin City 37.86 31 P **P** **04 58 41.6 +1.6**
TNA Tin City 37.86 31 P 04 58 40.8
baz=251
TNA S 05 04 32.0
baz=251
FALS False Pass 38.21 48 P 04 58 43.5
baz=269
BATP Bataraza 38.27 224 *e*P **P** **04 58 45.5 +1.4**
ANM Nome 38.60 33 P 04 58 46.6
baz=255
ANM S 05 04 44.6
baz=255
SGSI Sangihe 39.25 209 P **P** **04 58 52.7 +0.4**
comp=Z,72nm,0.4s
SDPT Sand Point 39.90 48 P 04 58 56.4
baz=271
DGZ Jazzator, Alta 40.24 304*c i*P **P** **04 59 01.2 +0.7**
DGZ pmax pmax
comp=Z,334nm,1.1s
RDOG Red Dog Mine 40.52 28 P **P** **04 59 04.0 +1.8**
RDOG Red Dog Mine 40.52 28 P 04 59 02.1
baz=254
NONG Nongkai 40.85 250 P **P** **04 59 06.0 +0.4**
comp=Z,4µmcomp=Z,198nm,1.0s
UBPT Khong Chiam 41.04 245 P **P** **04 59 08.0 +0.9**
comp=Z,2µmcomp=Z,63nm,1.1s
UBPT Khong Chiam 41.04 245 P **P** **04 59 07.6 +0.4**
UBPT Khong Chiam 41.04 245 P **P** **04 59 07.0 -0.1**
comp=Z,9µmcomp=Z,2µmcomp=Z,60nm,1.1s
WMQ Urumqi 41.16 295 *e*P **P** **04 59 08.8 +0.8**
WMQ pP sP 04 59 14.8 -0.4
WMQ pmax pmax
comp=Z,830nm,0.9s
WMQ pmax pmax
comp=Z,3µm,5.1s
WMQ L L
comp=Z,8µm,15.9s
WMQ L L
comp=Z,8µm,13.5s
WMQ L L
comp=Z,6µm,15.5s
ZAA0 Zalesovo Array 41.42 310 P **P** **04 59 09.8 -0.1**
ZAA0 IAmb IAmb 04 59 11.1
comp=Z,137nm,0.8s
ZALV Zalesovo Beam 41.42 310 P **P** **04 59 09.8 -0.1**
comp=Z,131nm,0.8s,baz=86,slow=7.6,SNR=103
ZALV PcP **PcP** **05 01 08.1 +0.6**
comp=Z,46nm,0.9s,baz=37,slow=2.7,SNR=4.0
NRIK Noril'sk 41.65 334 P **P** **04 59 11.3 -0.3**
comp=Z,50nm,1.1s,baz=109,slow=7.2,SNR=16
NRIK Noril'sk 41.65 334*c i*P **P** **04 59 10.9 -0.7**
NRIK pmax pmax
comp=Z,159nm,1.5s
NRIK Noril'sk 41.65 334 P **P** **04 59 11.4 -0.2**
NRIK IAmb IAmb 04 59 12.8
comp=Z,202nm,1.4s
SWI Sorong 41.77 198 P **P** **04 59 13.7 +0.6**
comp=Z,3µmcomp=Z,1µmcomp=Z,65nm,1.0s
SIJI Sorong 41.77 198 P **P** **04 59 13.6 +0.5**
comp=Z,35nm,1.1s,baz=354,slow=14,SNR=5.4
SIJI Sorong 41.77 198 P **P** **04 59 13.6 +0.5**
comp=Z,625nmcomp=Z,26nm,1.0s
GENI Genyem 42.08 185 P **P** **04 59 15.8 +0.2**
comp=Z,157nm,1.5s
ZSN Zaisan 42.30 301⇑ *i*P **P** **04 59 17.7 +0.5**
comp=Z,265nm,1.3s,baz=300
ZSN Zaisan 42.30 301*c i*P **P** **04 59 17.7 +0.5**
ZSN pmax pmax
comp=Z,265nm,1.3s
TTA Tatalina 42.43 36 P **P** **04 59 19.8 +1.7**
TTA pmax pmax
comp=Z,42nm,1.2s
TTA Tatalina 42.43 36 P **P** **04 59 19.8 +1.7**
TTA Tatalina 42.43 36 P 04 59 19.0
baz=266,SNR=6.3
SVW2 Sparrevohn 42.54 39 P **P** **04 59 20.5 +1.6**
ZIRO ZIRO 42.54 269 *e*P **P** **04 59 19.8 +0.2**
ZIRO IAmb IAmb 04 59 23.6
comp=Z,533nm,1.0s
MOKO MOKOCHONG 42.63 267 *e*P **P** **04 59 20.7 +0.4**
KMSI Cibinong 42.69 209 P **P** **04 59 21.7 +1.1**
comp=Z,383nm,0.9s
ITAN ITANAGAR 42.83 269 *e*P **P** **04 59 22.6 +0.8**
UTTA Uttaradit 42.95 252 P **P** **04 59 23.0 +0.3**
comp=Z,315nmcomp=Z,39nm,1.0s
GTOI Gorontalo 43.01 211 P **P** **04 59 23.1 -0.1**
comp=Z,723nmcomp=Z,54nm,1.1s
CHAI Chaiyaphum 43.09 249 P **P** **04 59 24.1 +0.1**
comp=Z,522nmcomp=Z,58nm,1.1s
CM34 Chiang Mai Arr 43.30 255 P **P** **04 59 26.0 +0.4**
SII Sitkinak Islan 43.38 46 P 04 59 25.2
baz=275
PBKT Sadao Pong 43.39 250 P **P** **04 59 26.0 -0.3**
comp=Z,61nm,1.3s
PBKT Sadao Pong 43.39 250 P **P** **04 59 26.2 -0.1**
PBKT Sadao Pong 43.39 250 P **P** **04 59 25.7 -0.6**
comp=Z,58nm,1.3s
CM35 Chiang Mai Arr 43.40 254 P **P** **04 59 26.0 -0.4**
PHIT Phitsanulok 43.40 252 P **P** **04 59 27.2 +0.8**
comp=Z,570nmcomp=Z,71nm,1.1s
CM33 Chiang Mai Arr 43.47 255 P **P** **04 59 27.0 0.0**
CMMT Chiang Mai 43.47 255 P **P** **04 59 26.3 -0.7**
comp=Z,2µmcomp=Z,136nm,1.1s
CMMT Chiang Mai 43.47 255 P **P** **04 59 25.3 -1.7**
comp=Z,2µmcomp=Z,130nm,1.1s
CHTO Chiang Mai 43.47 255 P **P** **04 59 27.2 +0.2**
CHTO pmax pmax
comp=Z,115nm,1.1s
CHTO Chiang Mai 43.47 255 P **P** **04 59 27.2 +0.2**
CHTO IAmb IAmb 04 59 28.5
comp=Z,115nm,1.1s
CHTO Chiang Mai 43.47 255 P **P** **04 59 26.1 -0.9**
comp=Z,4µmcomp=Z,1µmcomp=Z,77nm,1.1s
A21K Barrow 43.49 24 P **P** **04 59 27.2 +0.7**
A21K IAmb IAmb 04 59 56.8
comp=Z,153nm,1.1s
A21K Barrow 43.49 24 P 04 59 26.2
baz=256,SNR=7.5
TOLI2 Tolitoli 43.51 214 P **P** **04 59 27.4 +0.1**
CM36 Chiang Mai Arr 43.54 254 P **P** **04 59 28.0 +0.4**
MRSI Marisa 43.59 212 P **P** **04 59 27.9 0.0**
comp=Z,3µmcomp=Z,150nm,1.0s
LSA Lhasa 43.59 274 P **P** **04 59 28.8 +0.3**
LSA Lhasa 43.59 274 P **P** **04 59 28.3 -0.1**
LSA pmax pmax
comp=Z,159nm,1.1s
LSA Lhasa 43.59 274 P **P** **04 59 28.3 -0.1**
LSA IAmb IAmb 04 59 32.4
comp=Z,159nm,1.1s
CM32 Chiang Mai Arr 43.65 255 P **P** **04 59 29.0 +0.6**
IMAR Indian Mountai 43.65 32 P **P** **04 59 29.4 +1.5**
CM09 Chiang Mai Arr 43.67 254 P **P** **04 59 29.4 +0.8**
comp=Z,456nmcomp=Z,35nm,0.6s
CM31 Chiang Mai Arr 43.69 254 P **P** **04 59 29.5 +0.7**
comp=Z,13µmcomp=Z,1µm,0.8s
CM31 Chiang Mai Arr 43.69 254 P **P** **04 59 29.0 +0.3**
CMAR Chiang Mai Arr 43.69 254 P **P** **04 59 29.2 +0.5**
comp=Z,27nm,0.8s,baz=47,slow=6.6,SNR=72
CMAR Chiang Mai Arr 43.69 254 P **P** **04 59 28.9 +0.1**
CMAR Chiang Mai Arr 43.69 254 P **P** **04 59 28.9 +0.1**
CM04 Chiang Mai Arr 43.70 254 P **P** **04 59 29.6 +0.8**
comp=Z,573nmcomp=Z,74nm,1.1s
CM01 Chiang Mai Arr 43.70 254 P **P** **04 59 29.7 +0.8**
comp=Z,467nmcomp=Z,61nm,0.9s
CM02 Chiang Mai Arr 43.70 254 P **P** **04 59 29.0 +0.1**
comp=Z,489nmcomp=Z,73nm,0.8s
CM15 Chiang Mai Arr 43.71 254 P **P** **04 59 29.0 +0.1**
comp=Z,435nmcomp=Z,54nm,1.0s
CM05 Chiang Mai Arr 43.73 254 P **P** **04 59 29.0 -0.1**
comp=Z,359nmcomp=Z,47nm,0.9s
CM13 Chiang Mai Arr 43.74 254 P **P** **04 59 29.9 +0.8**
comp=Z,379nmcomp=Z,43nm,0.8s
OHAK Old Harbor 43.82 45 P **P** **04 59 29.7 +0.4**
OHAK Old Harbor 43.82 45 P 04 59 29.1
baz=275
RSO Redoubt South 43.93 40 P **P** **04 59 31.7 +1.3**
H21K Melozitna Rive 44.02 32 P 04 59 30.1
baz=266
H21K S 05 06 04.8
baz=266
CHUM Lake Minchumin 44.14 35 P 04 59 30.7
baz=268,SNR=6.8
KDAK Kodiak Island 44.15 44 P **P** **04 59 32.0 +0.1**
comp=Z,25nm,0.7s,baz=284,slow=6.0,SNR=28
KDAK LR LR 05 20 03.4
comp=Z,2µm,19.3s,baz=264,slow=39
KDAK Kodiak Island 44.15 44 P **P** **04 59 32.8 +0.8**
KDAK IAmb IAmb 04 59 49.8
comp=Z,204nm,1.4s
KDAK Kodiak Island 44.16 44 P 04 59 31.7
baz=275
MK31 Makanchi Array 44.16 300 *i* P **P** **04 59 32.0 -0.2**
MK31 pmax pmax
comp=Z,304nm,0.9s
MK31 Makanchi Array 44.16 300 P **P** **04 59 32.5 +0.3**
MKAR Makanchi Array 44.16 300 P **P** **04 59 32.2 0.0**
comp=Z,216nm,0.9s,baz=82,slow=8.8,SNR=160
MKAR LR LR 05 18 51.3
comp=Z,12µm,18.7s,baz=76,slow=37
MKAR Makanchi Array 44.16 300 P **P** **04 59 32.5 +0.2**
PPLA Purkeypile 44.17 36 P **P** **04 59 33.6 +1.3**
PPLA IAmb IAmb 04 59 50.9
comp=Z,181nm,1.4s
PPLA Purkeypile 44.18 36 P 04 59 31.4
baz=270,SNR=9.6
PPLA S 05 06 06.1
baz=270
SPCR Spurr Chakacha 44.18 39 P 04 59 32.3
baz=271,SNR=8.1
SPCR S 05 06 06.5
baz=271
SPU Mount Spurr 44.25 39 P **P** **04 59 34.4 +1.6**
MAKZ Makanchi 44.36 300 P **P** **04 59 33.8 -0.1**
MAKZ pmax pmax
comp=Z,354nm,1.1s
MAKZ Makanchi 44.36 300 P **P** **04 59 34.1 +0.2**
SANI Sanana 44.42 205 P **P** **04 59 33.8 -0.7**
comp=Z,4µmcomp=Z,2µmcomp=Z,129nm,1.0s
SKT Skwentna 44.48 38 P **P** **04 59 36.3 +1.7**
SKT Skwentna 44.48 38 P 04 59 35.1
baz=271
SKT S 05 06 11.0
baz=271
HOM Homer 44.52 41 P 04 59 34.2
baz=273
MHMT Maesarieng 44.62 255 P **P** **04 59 36.0 -0.2**
comp=Z,3µmcomp=Z,196nm,0.8s
LUWI Luwuk 44.64 210 P **P** **04 59 37.8 +1.5**
comp=Z,6µmcomp=Z,112nm,0.4s
SEM Semipalatinsk 44.70 306⇑ *i*P **P** **04 59 35.7 -1.1**
comp=Z,163nm,1.2s,baz=306
SEM Semipalatinsk 44.70 306*c i*P **P** **04 59 35.6 -1.1**
SEM pmax pmax
comp=Z,163nm,1.2s
CAPN Captain Cook N 44.70 39 P 04 59 35.7
baz=273
BPAW Bear Paw Mtn. 44.73 35 P **P** **04 59 38.2 +1.7**
BPAW Bear Paw Mtn. 44.73 35 P 04 59 36.6
baz=269,SNR=12
BPAW S 05 06 13.3
baz=269
CNPM China Poot 44.73 41 P **P** **04 59 37.2 +0.6**
KTH Kantishna Hill 44.75 35 P **P** **04 59 38.3 +1.5**
KTH IAmb IAmb 04 59 56.2
comp=Z,92nm,1.0s
MSAI Masohi 44.76 201 P **P** **04 59 37.8 +0.6**
comp=Z,1µmcomp=Z,18nm,1.4s
MLY Manley 44.85 33 P **P** **04 59 39.1 +1.6**
MLY IAmb IAmb 04 59 56.4
comp=Z,70nm,1.0s
MLY Manley 44.85 33 P 04 59 37.9
baz=269,SNR=21
MLY S 05 06 15.8
baz=269
SUA Susitna One 44.87 38 P 04 59 35.8
baz=272
GUWA GUWAHATI 44.88 269 *e*P **P** **04 59 37.3 -0.8**
GUWA IAmb IAmb 04 59 42.1
comp=Z,307nm,1.0s
KRAI Karang Ratu 44.88 202 P **P** **04 59 38.7 +0.5**
comp=Z,4µmcomp=Z,51nm,0.4s
BRLK Bradley Lake 44.89 41 P **P** **04 59 38.7 +0.8**
BRLK IAmb IAmb 04 59 55.5
comp=Z,93nm,1.4s
APSI Ampana 44.97 212 P **P** **04 59 38.5 -0.4**
comp=Z,2µmcomp=Z,144nm,1.4s
BRSE Bradley Lake S 44.97 41 P 04 59 38.2
baz=274
TRF Thorofare Moun 45.04 36 P **P** **04 59 40.5 +1.3**
TRF Thorofare Moun 45.04 36 P 04 59 37.9
baz=271
SHL Shillong 45.05 268 P **P** **04 59 39.0 -0.8**
SHL pmax pmax
comp=Z,156nm,1.0s
SHL Shillong 45.05 268 *e*P **P** **04 59 38.8 -1.0**
SHL IAmb IAmb 04 59 46.3
comp=Z,100nm,0.9s
SHL Shillong 45.05 268 P **P** **04 59 39.0 -0.8**
COLD Coldfoot 45.16 30 P **P** **04 59 40.6 +0.7**
COLD Coldfoot 45.16 30 P 04 59 39.1
baz=267,SNR=8.3
COLD S 05 06 19.0
baz=267
M22K Willow 45.16 38 P 04 59 40.1
baz=273
UTHA Uthaitani 45.16 251 P **P** **04 59 41.6 +1.1**
comp=Z,258nmcomp=Z,25nm,0.9s
UMPA Umpang Tak 45.17 252 P **P** **04 59 42.0 +1.4**
comp=Z,959nmcomp=Z,41nm,1.3s
H23K Yukon River 45.37 32 P 04 59 42.0
baz=269,SNR=23
H23K S 05 06 22.7
baz=269
RC01 Rabbit Creek A 45.38 39 P **P** **04 59 42.4 +0.7**
RC01 Rabbit Creek A 45.38 39 P 04 59 41.4
baz=274,SNR=8.6
BWN Browne 45.40 35 P **P** **04 59 44.3 +2.4**
O22K Cooper Landing 45.42 40 P 04 59 43.0
baz=274
I23K Minto, Yukon-K 45.44 33 P **P** **04 59 43.4 +1.3**
I23K IAmb IAmb 05 00 00.4
comp=Z,75nm,1.1s
I23K Minto, Yukon-K 45.44 33 P 04 59 42.6
baz=270,SNR=10.0
I23K S 05 06 22.9
baz=270
TOLK Toolik Lake Re 45.48 28 P **P** **04 59 44.0 +1.5**
TOLK IAmb IAmb 05 00 00.5
comp=Z,118nm,1.1s
TOLK Toolik Lake Re 45.48 28 P 04 59 43.3
baz=266
TOLK S 05 06 23.9
baz=266
NEA2 Nenana 45.56 34 P **P** **04 59 44.4 +1.2**
NEA2 IAmb IAmb 05 00 05.6
comp=Z,87nm,1.1s
NEA2 Nenana 45.56 34 P 04 59 44.0
baz=271,SNR=20
NEA2 S 05 06 26.3
baz=271
SEW Seward 45.59 40 P **P** **04 59 44.2 +0.9**
SEW IAmb IAmb 05 00 10.1
comp=Z,132nm,1.4s
SEW Seward 45.59 40 P 04 59 43.9
baz=275
BNDI Bandanaira 45.63 199 P **P** **04 59 44.7 +0.6**
comp=Z,392nm,1.6s
MCK McKinley 45.64 35 P **P** **04 59 44.8 +1.0**
MCK pmax pmax
comp=Z,89nm,1.2s
MCK McKinley 45.64 35 P **P** **04 59 44.8 +1.0**
MCK IAmb IAmb 05 00 00.2
comp=Z,89nm,1.2s
MCK McKinley 45.64 35 P 04 59 41.8
baz=272
MCK S 05 06 23.7
baz=272
PMR Palmer 45.64 38 P **P** **04 59 44.4 +0.6**
PMR pmax pmax
comp=Z,76nm,1.3s
PMR Palmer 45.64 38 P **P** **04 59 44.4 +0.6**
PMR IAmb IAmb 04 59 59.9
comp=Z,76nm,1.3s
PMR Palmer 45.64 38 P 04 59 42.7
baz=274
KURK Kurchatov 45.65 306 P **P** **04 59 44.3 +0.3**
KURK Kurchatov 45.65 306 P **P** **04 59 44.3 +0.3**
RND Reindeer 45.68 36 P **P** **04 59 45.0 +0.8**
RND pmax pmax
comp=Z,79nm,1.1s
RND Reindeer 45.68 36 P **P** **04 59 45.0 +0.8**
RND IAmb IAmb 05 00 01.2
comp=Z,79nm,1.1s
KURBB Kurchatov Arra 45.73 306 P **P** **04 59 44.3 -0.3**
comp=Z,312nm,0.9s,baz=81,slow=8.2,SNR=208
KURBB Kurchatov Arra 45.73 306 P **P** **04 59 44.2 -0.4**
KURBB pmax pmax
comp=Z,412nm,1.0s
GHO Glory Hole Cre 45.73 38 P **P** **04 59 45.8 +1.2**
WAT2 Susitna Watana 45.82 36 P 04 59 42.9
baz=273,SNR=8.9
WAT2 S 05 06 27.5
baz=273
PATY Pattaya 45.89 247 P **P** **04 59 47.7 +1.4**
comp=Z,30nm,1.0s
MDM Murphy Dome 45.92 33 P **P** **04 59 47.5 +1.5**
MDM IAmb IAmb 05 00 04.6
comp=Z,136nm,1.2s
KNK Knik Glacier 45.97 38 P 04 59 44.9
baz=274
KNK S 05 06 28.8
baz=274
WRH Wood River Hil 45.99 34 P **P** **04 59 47.9 +1.4**
SML Sawmill 46.01 38 P **P** **04 59 48.2 +1.4**
SML Sawmill 46.01 38 P 04 59 46.3
baz=274,SNR=10
SML S 05 06 29.8
baz=274
H24K Noodor Dome 46.05 32 P 04 59 47.0
baz=271,SNR=9.7
H24K S 05 06 32.5
baz=271
TCOL CIGO, UAF Yank 46.08 34 P **P** **04 59 48.6 +1.5**
TCOL IAmb IAmb 05 00 01.0
comp=Z,65nm,1.0s
TCOL CIGO, UAF Yank 46.08 34 P 04 59 46.8
baz=272
TCOL S 05 06 33.1
baz=272
PWL Port Wells 46.08 39 P **P** **04 59 48.1 +0.8**
PWL IAmb IAmb 05 00 10.5
comp=Z,75nm,1.0s
COLA College 46.08 34*c i*P **P** **04 59 47.9 +0.7**
COLA pmax pmax
comp=Z,69nm,1.1s
COLA College 46.08 34 P **P** **04 59 48.6 +1.4**
COLA IAmb IAmb 05 00 01.0
comp=Z,60nm,0.9s
COLA College 46.08 34 P 04 59 46.8
baz=272
CCB Clear Creek Bu 46.11 34 P **P** **04 59 48.7 +1.3**
SRDT SRDT 46.19 250 P **P** **04 59 48.7 +0.1**
comp=Z,2µmcomp=Z,102nm,1.2s
WAT6 Susitna Watana 46.23 37 P 04 59 47.7
baz=274
WAT6 S 05 06 33.5
baz=274
POKR Poker Plat Res 46.25 33 P **P** **04 59 50.2 +1.7**
POKR Poker Plat Res 46.25 33 P 04 59 48.2
baz=272,SNR=14
POKR S 05 06 35.6
baz=272
SCM Sheep Creek Mo 46.48 38 P **P** **04 59 51.9 +1.4**
SCM pmax pmax
comp=Z,62nm,0.9s
SCM Sheep Creek Mo 46.48 38 P **P** **04 59 51.9 +1.4**
SCM IAmb IAmb 05 00 07.9
comp=Z,62nm,0.9s
HDA Harding Lake 46.48 34 P **P** **04 59 51.0 +0.5**
HDA IAmb IAmb 05 00 08.4
comp=Z,54nm,1.0s
HDA Harding Lake 46.49 34 P 04 59 50.1
baz=273,SNR=17
HDA P 04 59 50.1
baz=273,SNR=17
IL31 46.50 34 P **P** **04 59 51.1 +0.7**
IL31 IAmb IAmb 05 00 05.7
comp=Z,62nm,0.9s
ILAR Eielson Array 46.50 34 P **P** **04 59 51.0 +0.5**
comp=Z,17nm,0.8s,baz=261,slow=6.6,SNR=61
SMKI Samarinda 46.50 218 P P 04 59 41.9 -9.2
GLI Glacier Island 46.68 39 P 04 59 50.8
baz=276
BRDH Bariadhala 46.78 265 P **P** **04 59 51.7 -1.5**
comp=Z,70nm,0.3s,baz=63,slow=9.8,SNR=9.3
PHET Kaeng Krachan 46.78 248 P **P** **04 59 54.7 +1.4**
comp=Z,487nmcomp=Z,62nm,0.9s
FID Port Fidalgo 46.99 39 P **P** **04 59 55.6 +1.2**
FID IAmb IAmb 05 00 10.3
comp=Z,79nm,1.2s
M24K Tolsona, Glenn 47.00 37 P **P** **04 59 55.7 +1.2**
M24K IAmb IAmb 05 00 12.6
comp=Z,86nm,1.0s
M24K Tolsona, Glenn 47.00 37 P 04 59 54.9
baz=276,SNR=6.1
M24K S 05 06 47.1
baz=276
PDGK Podgornoye 47.02 296 P **P** **04 59 54.5 -0.6**
PDGK pmax pmax
comp=Z,196nm,1.1s
PRP Porcupine Dome 47.04 33 P **P** **04 59 56.0 +1.1**
PRP IAmb IAmb 05 00 11.5
comp=Z,48nm,0.8s
PRP Porcupine Dome 47.04 33 P 04 59 54.7
baz=273
SHLS Shalkode 47.10 296⇑ *i*P **P** **04 59 53.0 -2.7**
comp=Z,97nm,1.0s,baz=296
SHLS Shalkode 47.10 296*c i*P **P** **04 59 52.9 -2.7**
SHLS pmax pmax
comp=Z,97nm,1.0s
FYU Fort Yukon 47.11 31 P **P** **04 59 57.0 +1.8**
KLU Klutina 47.18 38 P **P** **04 59 57.6 +1.6**
KLU IAmb IAmb 05 00 13.7
comp=Z,107nm,1.1s
KLU Klutina 47.18 38 P 04 59 55.9
baz=276,SNR=11
KLU S 05 06 49.3
baz=276
Q23K Middleton Isla 47.22 41 P 04 59 55.9
baz=278
PAX Paxson 47.24 36 P **P** **04 59 57.9 +1.4**
PAX pmax pmax
comp=Z,36nm,1.3s
PAX Paxson 47.24 36 P **P** **04 59 57.9 +1.4**
PAX Paxson 47.24 36 P 04 59 56.4
baz=275,SNR=9.1
TDK Taldyqorghan 47.25 299 *i* P **P** **04 59 56.9 +0.1**
comp=Z,461nm,1.1s,baz=299
TDK *e*LR LR 05 20 14.1
comp=Z,9µm,13.4s,baz=299
TDK Taldyqorghan 47.25 299 *i* P **P** **04 59 56.8 +0.1**
TDK pmax pmax
comp=Z,461nm,1.1s
TDK MLR MLR
comp=Z,9µm,13.0s
BMAR Burnt Mountain 47.34 30 P **P** **04 59 58.7 +1.6**
BKB Balikpapan 47.36 217 P **P** **04 59 57.3 -0.5**
BKB Balikpapan 47.36 217 P **P** **04 59 56.9 -0.9**
comp=Z,236nm,1.1s
EYAK Cordova Ski Ar 47.37 39 P **P** **04 59 59.1 +1.7**
EYAK IAmb IAmb 05 00 15.2
comp=Z,65nm,1.1s
EYAK Cordova Ski Ar 47.38 39 P 04 59 57.8
baz=277
EYAK S 05 06 53.3
baz=277
UZB Uzynbulak 47.41 296⇑ *i*P **P** **04 59 57.9 -0.2**
comp=Z,152nm,1.5s,baz=296
UZB *e*S **S** **05 06 52.2 +0.9**
baz=296
UZB Uzynbulak 47.41 296*c i*P **P** **04 59 57.9 -0.2**
UZB *e*S **S** **05 06 52.2 +0.9**
UZB pmax pmax
comp=Z,152nm,1.5s
HARP HAARP 47.44 37 P 04 59 58.3
baz=276
KPKS Kokpek 47.54 297⇑ *i*P **P** **04 59 59.0 0.0**
comp=Z,257nm,1.3s,baz=297
KPKS *e*S **S** **05 06 54.6 +1.5**
baz=297
KPKS Kokpek 47.54 297*c i*P **P** **04 59 59.0 0.0**
KPKS *e*S **S** **05 06 54.6 +1.5**
KPKS pmax pmax
comp=Z,257nm,1.3s
TTSI Tana Toraja 47.65 213 P **P** **05 00 00.4 +0.4**
comp=Z,15nm,0.7s

N25K	Chitina, Valde	47.80	38	P		P	05 00 02.3	+1.5
N25K	Chitina, Valde	47.80	38	P			05 00 01.9	
	baz=277							
N25K				S			05 06 57.7	
	baz=277							
DOT	Dot Lake	47.81	35	P		P	05 00 01.6	+0.8
SCRK	Sand Creek	47.81	35	P		P	05 00 02.0	+1.1
SCRK				IAmb		IAmb	05 00 21.6	
	comp=Z,78nm,1.1s							
SCRK	Sand Creek	47.81	35	P			04 59 59.5	
	baz=276,SNR=16							
SCRK				S			05 06 55.8	
	baz=276							
SATY	Saty	47.86	296⇑	*i* P		P	05 00 01.7	+0.1
	comp=Z,93nm,1.3s,baz=296							
SATY	Saty	47.86	296	*c i* P		P	05 00 01.7	+0.1
SATY				pmax		pmax		
	comp=Z,93nm,1.3s							
ODAN	Odare	47.87	272	*e* P		P	05 00 02.3	+0.3
	comp=Z,671nm,1.0s							
BMRM	Bremner River	47.88	39	P		P	05 00 02.9	+1.5
BMRM				IAmb		IAmb	05 00 30.3	
	comp=Z,99nm,1.2s							
BMRM	Bremner River	47.88	39	P			05 00 01.7	
	baz=278,SNR=8.1							
BMRM				S			05 06 59.1	
	baz=278							
KKSI	Kolaka, Sulawe	47.94	210	P		P	05 00 02.6	+0.3
	comp=Z,44nm,0.7s							
MENT	Mentasta	48.04	36	P		P	05 00 04.2	+1.7
MENT				IAmb		IAmb	05 00 26.8	
	comp=Z,42nm,0.9s							
MTKI	Muara Teweh, K	48.05	220	P		P	05 00 03.4	+0.3
	comp=Z,2μmcomp=Z,5μmcomp=Z,93nm,1.0s							
PRZ	Przheval'sk	48.06	296	P		P	05 00 03.3	+0.1
PRZ				pmax		pmax		
	comp=Z,318nm,1.1s							
PRZ	Przheval'sk	48.06	296	P		P	05 00 03.3	+0.1
GLB	Gilahina Butte	48.19	38	P		P	05 00 05.4	+1.6
GLB				IAmb		IAmb	05 00 21.9	
	comp=Z,64nm,1.3s							
JIRN	Jiri	48.39	274	*e* P		P	05 00 06.5	+0.3
	comp=Z,281nm,0.7s							
VRDI	Verde Repeater	48.39	38	P		P	05 00 07.0	+1.4
VRDI				IAmb		IAmb	05 00 27.7	
	comp=Z,82nm,1.2s							
RAMN	Ramite	48.43	273	*e* P		P	05 00 06.6	+0.3
	comp=Z,820nm,1.0s							
GUN	Gumba	48.51	274	*e* P		P	05 00 07.4	+0.3
	comp=Z,1μm,0.9s							
MCARA	McCarthy VSAT	48.58	38	P		P	05 00 08.4	+1.7
CHKK	Chushkaly	48.58	298⇑	*i* P		P	05 00 06.6	-0.5
	baz=298							
CHKK	Chushkaly	48.58	298⇑	*i* P		P	05 00 06.5	-0.5
MCARA	McCarthy VSAT	48.58	38	P			05 00 07.5	
	baz=279,SNR=8.1							
CRQM	Cirque	48.62	39	P		P	05 00 08.9	+1.7
K27K	Chicken	48.64	34	P		P	05 00 08.7	+1.6
K27K				IAmb		IAmb	05 00 32.4	
	comp=Z,110nm,1.1s							
CRQE	Cirque	48.64	39	P			05 00 08.0	
	baz=279,SNR=12							
K27K	Chicken	48.64	34	P			05 00 08.3	
	baz=277							
K27K				S			05 07 09.7	
	baz=277							
TARG	Taragay, Kyrgy	48.73	295	P		P	05 00 08.6	-0.1
BNSI	Bone	48.76	212	P		P	05 00 08.9	+0.3
	comp=Z,2μmcomp=Z,146nm,1.1s							
MDOK	Medeo	48.76	297	*i* P		P	05 00 08.8	+0.2
	baz=297							
MDOK				*e*S		S	05 07 08.4	-2.2
	baz=297							
MDOK				*e*LR		LR	05 20 56.8	
	comp=Z,7μm,15.6s,baz=297							
MDOK	Medeo	48.76	297	*i* P		P	05 00 08.8	+0.2
MDOK				*e*S		S	05 07 08.3	-2.2
MDOK				MLR		MLR		
	comp=Z,7μm,16.0s							
TGL	Tana Glacier	48.77	39	P		P	05 00 09.8	+1.5
TGL				IAmb		IAmb	05 00 25.8	
	comp=Z,100nm,1.2s							
AAA	Alma-Ata	48.84	297	*e* P		P	05 00 08.3	-0.8
	baz=297							
AAA				*e*LR		LR	05 20 54.6	
	comp=Z,11μm,15.2s,baz=297							
AAA	Alma-Ata	48.84	297	*e* P		P	05 00 08.3	-0.8
AAA				MLR		MLR		
	comp=Z,11μm,15.0s							
L27K	Beaver Creek,	48.88	36	P		P	05 00 10.7	+1.6
L27K	Beaver Creek,	48.88	36	P			05 00 09.4	
	baz=278,SNR=20							
L27K				S			05 07 13.6	
	baz=278							
BCAR	Beaver Creek A	48.90	36	P		P	05 00 10.8	+1.6
EGAK	Eagle	48.94	33	P		P	05 00 11.2	+1.8
EGAK				IAmb		IAmb	05 00 22.7	
	comp=Z,60nm,1.1s							
EGAK	Eagle	48.94	33	P			05 00 09.4	
	baz=277							
STKI	Sintang	48.97	225	P		P	05 00 11.0	+0.8
KUU	Kurty	49.01	298⇑	*i* P		P	05 00 09.7	-0.6
	comp=Z,230nm,0.8s,baz=298							
KUU				*e*S		S	05 07 12.2	-1.5
	baz=298							
KUU	Kurty	49.01	298	*c i* P		P	05 00 09.7	-0.6
KUU				*e*S		S	05 07 12.1	-1.5
KUU				pmax		pmax		
	comp=Z,230nm,0.8s							
KDJ	Kajisay	49.03	296	P		P	05 00 10.8	+0.1
KDJ				pmax		pmax		
	comp=Z,192nm,1.2s							
KDJ	Kajisay	49.03	296	P		P	05 00 10.8	+0.1
KKN	Kakani	49.03	275	*e* P		P	05 00 11.2	+0.3
	comp=Z,936nm,0.8s							
PKI	Pulchoki	49.04	274	*e* P		P	05 00 11.0	-0.1
	comp=Z,319nm,1.0s							
PKIN	Phulchoki	49.05	274	*e* P		P	05 00 10.9	-0.2
	comp=Z,165nm,0.7s							
MTBS	Maitube	49.20	297⇑	*i* P		P	05 00 12.2	+0.4
	baz=297							
MTBS	Maitube	49.20	297	*c i* P		P	05 00 12.2	+0.4
DMN	Daman	49.25	275	*e* P		P	05 00 13.0	+0.3
	comp=Z,868nm,1.4s							
BARN	Barnard Glacie	49.28	38	P		P	05 00 13.9	+1.5
BARN				IAmb		IAmb	05 00 31.5	
	comp=Z,64nm,1.2s							
GRNC	Granite Creek	49.29	39	P		P	05 00 13.9	+1.4
GRNC				IAmb		IAmb	05 00 30.3	
	comp=Z,94nm,1.1s							
MESA	MESA	49.30	39	P		P	05 00 13.8	+1.4
MESA	MESA	49.30	39	P			05 00 12.6	
	baz=281							
YAH	Yahtse	49.36	39	P		P	05 00 14.6	+1.5
YAH				IAmb		IAmb	05 00 31.6	
	comp=Z,122nm,1.2s							
GKN	Gorkha	49.42	275	*e* P		P	05 00 13.9	+0.1
	comp=Z,532nm,0.9s							
CTG	Chitna Glacier	49.45	38	P			05 00 14.2	
	baz=281,SNR=6.0							
CTGM	Chitina Glacie	49.45	38	P		P	05 00 14.7	+1.1
CTGM				IAmb		IAmb	05 00 30.9	
	comp=Z,76nm,1.0s							
KAPI	Kappang	49.46	212	P		P	05 00 13.7	-0.3
	comp=Z,30nm,0.8s,baz=40,slow=7.8,SNR=8.4							
KAPI	Kappang	49.46	212	P		P	05 00 14.5	+0.6
KAPI				IAmb		IAmb	05 00 38.6	
	comp=Z,157nm,1.2s							
KAPI	Kappang	49.46	212	P		P	05 00 14.9	+1.0
	comp=Z,1μmcomp=Z,96nm,1.5s							
BRZS	Berezniki	49.52	307⇑	*i* P		P	05 00 13.6	-0.5
	comp=Z,75nm,0.9s,baz=307							
BRZS				*e*S		S	05 07 23.5	+2.8
	baz=307							
BRZS	Berezniki	49.52	307	*c i* P		P	05 00 13.6	-0.5
BRZS				*e*S		S	05 07 23.5	+2.8
BRZS				pmax		pmax		
	comp=Z,75nm,0.9s							
ULHL	Ulahol	49.64	296	P		P	05 00 15.6	+0.2
	SNR=34							
MKS	Makassar	49.76	212	P		P	05 00 17.8	+1.6
	comp=Z,2μmcomp=Z,97nm,1.3s							
BOOM	Boomskoye usch	49.76	296	P		P	05 00 16.5	+0.2
BOOM				pmax		pmax		
	comp=Z,288nm,0.9s							
BOOM	Boomskoye usch	49.76	296	P		P	05 00 16.5	+0.2
DAWY	Dawson	49.80	34	P		P	05 00 17.8	+1.7
TKM2	Tokmak 2	49.85	297	P		P	05 00 17.7	+0.7
	SNR=116							
TKM2	Tokmak 2	49.85	297	P		P	05 00 17.4	+0.4
TKM2				pmax		pmax		
	comp=Z,423nm,1.0s							
DANN	Dangsing	49.93	276	*e* P		P	05 00 18.5	+0.7
	comp=Z,2μm,0.8s							
BVAR	Borovoye Array	50.06	311	P		P	05 00 17.3	-0.9
	comp=Z,98nm,0.9s,baz=204,slow=6.3,SNR=77							
SURT	Suratani	50.10	245	P		P	05 00 21.2	+2.4
	comp=Z,58nmcomp=Z,7.0nm,1.2s							
BRVK	Borovoye	50.11	311	*c i* P		P	05 00 18.9	+0.3
BRVK				pmax		pmax		
	comp=Z,239nm,1.0s							
BRVK	Borovoye	50.11	311	P		P	05 00 18.2	-0.4
PCA	Pinnacle	50.14	39	P		P	05 00 20.3	+1.5
PINM	Pinnacle	50.15	39	P			05 00 18.3	
	baz=282							
BTLS	Baital	50.17	300⇑	*i* P		P	05 00 18.4	-0.8
	comp=Z,85nm,1.2s,baz=300							
BTLS	Baital	50.17	300	*c i* P		P	05 00 18.3	-0.8
BTLS				pmax		pmax		
	comp=Z,85nm,1.2s							
BSSI	Bau Bau, Buton	50.19	210	P		P	05 00 20.7	+1.2
	comp=Z,58nm,1.2s							
OTUK	Ortayu	50.25	305	P		P	05 00 19.3	-0.4
OTUK				pmax		pmax		
	comp=Z,149nm,0.9s							
BBKI	Banjar Baru	50.26	218	P		P	05 00 20.0	-0.1
	comp=Z,4μmcomp=Z,51nm,0.9s							
SGDS	Sogindy	50.32	298⇑	*i* P		P	05 00 20.1	-0.3
	comp=Z,100nm,1.2s,baz=298							
SGDS	Sogindy	50.32	298	*c i* P		P	05 00 20.1	-0.3
SGDS				pmax		pmax		
	comp=Z,100nm,1.2s							
KOLN	Koldanda	50.33	276	*e* P		P	05 00 21.1	+0.3
	comp=Z,1μm,1.2s							
KBK	Karagaybulak	50.39	297	P		P	05 00 21.5	+0.5
	SNR=102							
CHMS	Chumysh	50.40	298	P		P	05 00 21.2	+0.2
	SNR=20							
USP	Ospenovka	50.48	298	P		P	05 00 21.7	+0.2
	SNR=36							
EPYK	Eagle Plains	50.53	31	P		P	05 00 22.9	+1.4
EPYK				IAmb		IAmb	05 00 39.8	
	comp=Z,106nm,1.0s							
EPYK	Eagle Plains	50.53	31	P			05 00 21.4	
	baz=280,SNR=16							
EPYK				S			05 07 36.8	
	baz=280							
FRU1	Bishkek	50.55	297	P		P	05 00 22.5	+0.4
FRU1				pmax		pmax		
	comp=Z,485nm,1.5s							
FRU1	Bishkek	50.55	297	P		P	05 00 22.5	+0.4
BOK	Bokaro	50.62	270	*e* P		P	05 00 22.9	+0.1
BOK				IAmb		IAmb	05 00 23.9	
	comp=Z,90nm,1.0s							
AAK	Ala-Archa	50.71	297	P		P	05 00 23.7	+0.3
	SNR=16							
AAK	Ala-Archa	50.71	297	*i* P		P	05 00 23.4	0.0
	SNR=9.4							
AAK	Ala-Archa	50.71	297	*c i* P		P	05 00 23.2	-0.2
AAK				pmax		pmax		
	comp=Z,552nm,1.7s							
AAK	Ala-Archa	50.71	297	P		P	05 00 23.6	+0.2
AAK				IAmb		IAmb	05 00 24.9	
	comp=Z,150nm,1.2s							
KSH	Kashi	50.85	293	P		P	05 00 28.4	+4.0
KSH				sP		pwP	05 00 35.3	+2.4
KSH				pmax		pmax		
	comp=Z,120nm,1.1s							
KSH				pmax		pmax		
	comp=Z,990nm,2.6s							
PKDT	Phuket	51.17	244	P		P	05 00 27.0	+0.1
EKS2	Erkin-Say	51.19	297	P		P	05 00 27.1	+0.1
	SNR=37							
HYT	Haines Junctio	51.31	38	P		P	05 00 29.2	+1.6
INK	Inuvik	51.40	28	P		P	05 00 28.9	+0.9
	comp=Z,11nm,0.7s,baz=304,slow=8.9,SNR=15							
INK	Inuvik	51.40	28	P		P	05 00 28.6	+0.7
INK				pmax		pmax		
	comp=Z,92nm,1.4s							
INK	Inuvik	51.40	28	P		P	05 00 28.6	+0.7
INK				IAmb		IAmb	05 00 40.2	
	comp=Z,92nm,1.4s							
INK	Inuvik	51.40	28	P			05 00 27.9	
	baz=281,SNR=8.9							
INK				S			05 07 47.2	
	baz=281							
AML	Almayashu	51.44	297	P		P	05 00 30.0	+0.8
	SNR=66							
AML	Almayashu	51.44	297	*i* P		P	05 00 29.6	+0.3
	SNR=66							
DGPR	DIGLIPUR	51.50	254	*e* P		P	05 00 30.1	+0.7
DGPR				IAmb		IAmb	05 00 31.2	
	comp=Z,241nm,1.0s							
MMRI	Maumere	51.84	207	P		P	05 00 32.6	+0.7
	comp=Z,3μmcomp=Z,202nm,1.5s							
SOEI	Soe	52.21	204	P		P	05 00 35.3	+0.5
	comp=Z,3μmcomp=Z,97nm,1.2s							
ARSB	Arslanbob	52.24	296	P		P	05 00 35.2	+0.3
ARSB				pmax		pmax		
	comp=Z,410nm,1.0s							
ARSB	Arslanbob	52.24	296	P		P	05 00 35.2	+0.3
BTDF	Bukit Timah Da	52.43	234	P		P	05 00 36.6	+0.3
	comp=Z,855nmcomp=Z,56nm,1.1s							
WHY	Whitehorse	52.60	38	P		P	05 00 38.7	+1.5
WHY				IAmb		IAmb	05 00 43.2	
	comp=Z,122nm,1.9s							
WHY	Whitehorse	52.60	38	P			05 00 37.0	
	baz=286,SNR=8.1							
WHY				S			05 08 06.3	
	baz=286							
KIP	Kipapa	52.69	92	*de* P		P	05 00 38.9	+0.6
KIP				pmax		pmax		
	comp=Z,97nm,1.3s							
DZA	Taraz	52.77	299	*e* P		P	05 00 36.8	-1.9
	baz=298							
DZA	Taraz	52.77	299	*e* P		P	05 00 36.7	-1.9
BATI	Baumata	52.83	205	P		P	05 00 38.8	-0.4
	comp=Z,22nm,0.5s,baz=45,slow=4.3,SNR=2.3							
BATI	Baumata	52.83	205	P		P	05 00 39.7	+0.5
	comp=Z,68nm,1.1s							
BESE	Bessie Mountai	53.21	40	P		P	05 00 43.3	+1.6
KK31	Karatay Array	53.24	299	*i* P		P	05 00 41.4	-0.7
KK31				pmax		pmax		
	comp=Z,108nm,0.9s							
KK31	Karatay Array	53.24	299	P		P	05 00 42.2	+0.1
KK31				IAmb		IAmb	05 00 43.2	
	comp=Z,139nm,1.0s							
KKAR	Karatay Array	53.24	299	P		P	05 00 42.1	0.0
KKAR				pmax		pmax		
	comp=Z,139nm,1.0s							
KKAR	Karatay Array	53.24	299	P		P	05 00 42.2	+0.1
KKAR	Karatay Array	53.24	299	P		P	05 00 42.1	0.0
KKAR				IAmb		IAmb	05 00 43.2	
	comp=Z,139nm,1.0s							
DSRI	Dabo	53.38	231	P		P	05 00 44.3	+1.0
	comp=Z,7μmcomp=Z,24nm,1.1s							
MTN	Manton Dam	53.40	195	P		P	05 00 44.1	+0.7
MTN				IAmb		IAmb	05 00 52.6	
	comp=Z,90nm,1.2s							
TPI	Tanjungpandan	53.42	227	P		P	05 00 43.9	+0.3
	comp=Z,1μmcomp=Z,81nm,1.2s							
SMLA	Simla	53.61	283	*e* P		P	05 00 44.5	-0.4
SMLA				IAmb		IAmb	05 00 49.8	
	comp=Z,380nm,0.9s							
PLAI	Plampang	53.72	212	P		P	05 00 46.2	+0.4
	comp=Z,43nm,1.2s							
DHRM	DHARAMSHALA	53.73	284	*e* P		P	05 00 44.5	-1.6
DHRM				IAmb		IAmb	05 00 54.2	
	comp=Z,240nm,0.8s							
PPBI	Pangkal Pinang	53.80	229	P		P	05 00 46.8	+0.4
DRK	Karamyk	53.81	294	P		P	05 00 46.8	+0.1
WBSI	Waikabubak, Su	53.82	210	P		P	05 00 46.3	-0.2
	comp=Z,49nm,0.8s							
LASI	Langsa, Aceh	53.88	242	P		P	05 00 46.5	-0.6
	comp=Z,209nm,1.1s							
TWSI	Taliwang, Sumb	54.01	213	P		P	05 00 47.2	-0.7
	comp=Z,42nm,1.1s							
LHMI	Lhok Sumawe	54.03	243	P		P	05 00 48.7	+0.6
	comp=Z,8μmcomp=Z,100nm,0.4s							
SRBI	Singaraja	54.15	215	P		P	05 00 49.2	+0.3
	comp=Z,2μmcomp=Z,87nm,1.2s							
TSI	Tuntungan	54.18	240	P		P	05 00 49.4	+0.2
KHKI	Kahang-Kahang	54.23	215	P		P	05 00 49.2	-0.3
	comp=Z,235nm,1.2s							
BTK	Batken	54.26	296	P		P	05 00 49.6	-0.1
BTK				pmax		pmax		
	comp=Z,267nm,1.6s							
BTK	Batken	54.26	296	P		P	05 00 49.6	-0.1
SVE	Sverdlovsk	54.30	318	*d i* P		P	05 00 50.3	+0.7
SVE				pmax		pmax		
	comp=Z,425nm,1.1s							
SVE				MLR		MLR		
	comp=E,18μm,15.0s							
SVE				MLR		MLR		
	comp=Z,24μm,15.0s							
C36M	Paulatuk	54.45	26	P		P	05 00 52.2	+1.7
C36M	Paulatuk	54.45	26	P			05 00 50.0	
	baz=288							
C36M				S			05 08 28.4	
	baz=288							
PSI	Prapat	54.46	239	P		P	05 00 51.6	+0.2
PSI				pmax		pmax		
	comp=Z,56nm,1.0s							
PSI	Prapat	54.46	239	P		P	05 00 51.2	-0.2
	comp=Z,564nmcomp=Z,31nm,1.4s,comp=Z,1μm,1.4s							
PSI				P		P	05 00 51.4	0.0
	comp=Z,564nmcomp=Z,31nm,1.4s,comp=Z,1μm,1.4s							
RPSI	Rantau Prapat	54.54	239	P		P	05 00 51.6	-0.2
RPSI				IAmb		IAmb	05 00 52.7	
	comp=Z,56nm,1.0s							
BKNI	Bangkinang	54.95	235	P		P	05 00 55.5	+0.8
BKNI	Bangkinang	54.95	235	P		P	05 00 55.6	+0.8
	comp=Z,324nm,1.2s							
GAR	Garm	55.06	295	P		P	05 00 55.7	+0.1
CRAG	Craig	55.12	44	P			05 00 55.5	
	baz=291							
CRAG				S			05 08 39.1	
	baz=291							
WRAK	Wrangell Islan	55.19	42	P			05 00 56.0	
	baz=291							
PMBI	Palembang	55.21	229	P		P	05 00 58.0	+1.3
TPTI		55.29	241	P		P	05 00 56.4	-0.9
	comp=Z,30nm,1.1s							
NIL	Nilore	55.34	287	P		P	05 00 57.9	+0.3
NIL				pmax		pmax		
	comp=Z,436nm,1.1s							
NIL	Nilore	55.34	287	P		P	05 00 57.9	+0.3
SJI	Sawahan	55.46	219	P		P	05 00 58.4	-0.1
ARU	Arti	55.52	318	*c i* P		P	05 00 58.6	+0.2
ARU							05 01 56.5	
ARU							05 03 01.0	
ARU				PPP		PPP	05 04 13.1	
ARU				S		S	05 08 46.0	+3.5
ARU							05 10 43.9	
ARU				SS		SS	05 12 28.3	+1.5
ARU				pmax		pmax		
	comp=Z,567nm,1.1s							
ARU				MLR		MLR		
	comp=Z,19μm,15.0s							
ARU	Arti	55.52	318	P		P	05 00 59.3	+0.9
MNSI	Mandailing Nat	55.53	237	P		P	05 00 58.4	-0.6
	comp=Z,3μmcomp=Z,20nm,0.6s							
SMRI	Semarang	55.53	221	P		P	05 00 59.8	+0.9
SMRI	Semarang	55.53	221	P		P	05 00 59.8	+0.9
	comp=Z,198nm,1.2s							
DLBC	Dease Lake	55.65	39	P		P	05 00 59.1	-0.3
	comp=Z,11nm,1.1s,baz=287,slow=7.1,SNR=12							
DLBC	Dease Lake	55.65	39	P		P	05 01 01.0	+1.6
SDSI	Sungai Dareh	55.67	234	P		P	05 01 00.6	+0.6
	comp=Z,4μmcomp=Z,220nm,1.3s							
PWJI	Pagerwojo	55.69	219	P		P	05 00 59.1	-1.0
	comp=Z,168nm,0.9s							
VIS	Vishakhapatnam	56.00	265	*e* P		P	05 01 02.6	+0.2
VIS				IAmb		IAmb	05 01 03.9	
	comp=Z,123nm,1.2s							
CHGR	Chuyangaron	56.02	295	P		P	05 01 02.9	+0.4
CTJI	Waduk Cacaban	56.14	222	P		P	05 01 03.7	+0.4
	comp=Z,2μmcomp=Z,100nm,1.3s							
PDSI	Padang	56.26	235	P		P	05 01 04.2	-0.1
	comp=Z,12nm,1.1s							
DIB	Dawson Inlet,	56.30	46	P		P	05 01 05.6	+1.6
DIB				IAmb		IAmb	05 01 22.4	
	comp=Z,58nm,1.1s							
GSI	Gunungsitoli	56.46	239	P		P	05 01 05.9	+0.2
KPJI	Karang Pucung	56.55	222	P		P	05 01 05.5	-0.7
	comp=Z,106nm,1.1s							
KNRA	Kununurra	56.65	197	P		P	05 01 07.8	+1.0
KNRA				IAmb		IAmb	05 01 16.3	
	comp=Z,64nm,1.1s							
LHSI	Lahat	56.67	230	P		P	05 01 08.0	+0.9
	comp=Z,7μmcomp=Z,393nm,1.2s							
CBJI	Citeko	56.89	225	P		P	05 01 09.1	+0.4
BLSI	Bandar Lampung	56.92	227	P		P	05 01 09.0	+0.1
LWLI	Liwa	57.31	229	P		P	05 01 10.8	-1.0
	comp=Z,286μmcomp=Z,86nm,0.7s							
EUNU	Eureka	57.43	9	P		P	05 01 12.4	+0.6
EUNU				IAmb		IAmb	05 01 32.8	
	comp=Z,78nm,1.1s							
BHPL	Bhopal	57.45	274⇑	*e* P		P	05 01 10.6	-2.1
BHPL				IAmb		IAmb	05 01 12.0	
	comp=Z,359nm,1.5s							
SISI	Saibi	57.45	236	P		P	05 01 12.1	-0.6
	comp=Z,42nm,0.9s							
AB31	Akbulak array	57.53	310	*i* P		P	05 01 12.7	-0.1
AB31				pmax		pmax		
	comp=Z,110nm,0.7s							
ABKAR	Akbulak array	57.53	310	P		P	05 01 13.2	+0.4
ABKAR	Akbulak array	57.53	310	P		P	05 01 13.2	+0.4
ABKAR				IAmb		IAmb	05 01 14.1	
	comp=Z,148nm,0.8s							
KBL	Kabul	58.00	290	P		P	05 01 16.3	-0.4
KBL	Kabul	58.00	290	P		P	05 01 16.3	-0.4
SPA0	Spitsbergen Ar	58.33	349	*e* P		P	05 01 19.1	+1.0
KBS	Kingsbay	58.42	350⇓	*i* P		P	05 01 19.7	+1.1
KBS				IAmb		IAmb	05 01 20.7	
	comp=Z,285nm,1.1s							
KBS	Kingsbay	58.42	350	*ce* P		P	05 01 19.6	+1.0
KBS				pmax		pmax		
	comp=Z,168nm,1.3s							
KBS	Kingsbay	58.42	350	P		P	05 01 20.2	+1.6
NOR	Nord	58.61	357⇑	*i* P		P	05 01 20.2	+0.3
NOR				IAmb		IAmb	05 01 20.7	
	comp=Z,50nm,1.1s							
NOR	Nord	58.61	357⇑	*i* P		P	05 01 20.2	+0.3
NOR				pmax		pmax		
	comp=Z,50nm,1.1s							
EGSI	Enggano, Bengk	58.63	230	P		P	05 01 20.3	-0.6
	comp=Z,85nm,1.1s							
SANVU	Saraoutou	59.07	153	P		P	05 01 24.3	+0.5
KIRV	Kirov	59.18	323	*ce* P		P	05 01 24.1	-0.1
HSPB	Hornsund (broa	59.29	348	*e* P		P	05 01 24.8	+0.2
PRGR	Permogore	59.50	327⇑	*i* P		P	05 01 26.5	+0.2
PRGR				*e*			05 01 35.9	
PRGR				*e*			05 03 36.7	
PRGR				pmax		pmax		
	comp=Z,183nm,1.0s							
RES	Resolute Bay	59.73	15	P		P	05 01 28.6	+0.8
RES				pmax		pmax		
	comp=Z,59nm,1.0s							
RES	Resolute Bay	59.73

APA *i* S **S** **05 09 51.0 -2.9**
APA *i* SS **SS** **05 13 48.0 -4.7**
APA pmax pmax
comp=Z,58nm,0.9s
APA MLR MLR
comp=Z,6µm,15.0s
MDRS Chennai 61.16 263 *e*P **P** **05 01 39.1 +0.7**
KEV Kevo 61.62 339 P **P** **05 01 41.0 +0.3**
KEV pmax pmax
comp=Z,100nm,1.0s
KEV Kevo 61.62 339 P **P** **05 01 41.0 +0.3**
HAMF Hammerfest 61.93 341 *e*P **P** **05 01 43.1 +0.3**
ARA0 ARCESS Array S 62.17 339 *e*P **P** **05 01 45.1 +0.7**
ARCES ARCESS Array B 62.17 339 P **P** **05 01 43.6 -0.8**
comp=Z,36nm,1.0s,baz=57,slow=8.8,SNR=29
ARCES PP **PP** **05 03 59.5 -1.2**
comp=Z,23nm,1.1s,baz=45,slow=8.7,SNR=3.7
ARCES ARCESS Array B 62.17 339 P **P** **05 01 44.9 +0.5**
ARCES IAmb IAmb 05 01 45.5
comp=Z,78nm,1.1s
TULEG Thule 62.36 8⇑ *i*P **P** **05 01 45.0 -0.6**
TULEG IAmb IAmb 05 01 46.2
comp=Z,56nm,1.1s
TULEG *i* 05 01 55.2
TULEG Thule 62.36 8 P **P** **05 01 45.4 -0.2**
KLMR Klimovskoe 62.45 328*c i*P **P** **05 01 46.2 -0.2**
KLMR *e* 05 03 58.9
KLMR pmax pmax
comp=Z,274nm,1.4s
KLMR Klimovskoe 62.45 328⇑ *i*P **P** **05 01 46.2 -0.2**
KLMR ⇓ *i*P **P** **05 01 46.2 -0.2**
KLMR ⇓ *i*P **P** **05 01 46.2 -0.2**
KLMR AMP 05 01 47.8
comp=Z,274nm,1.4s
KLMR *e*PP **PP** **05 03 59.0 -4.4**
NEEM North Greenlan 62.90 4⇑ *i*P **P** **05 01 49.8 +0.2**
NEEM IAmb IAmb 05 01 50.2
comp=Z,98nm,1.1s
HRA Herat 62.95 293 P **P** **05 01 50.7 +0.2**
HRA IAmb IAmb 05 01 52.2
comp=Z,91nm,1.1s
KTK1 Kautokeino 63.13 340 *e*P **P** **05 01 51.0 +0.2**
DAG Danmarks Havn 63.37 355⇑ *i*P **P** **05 01 52.4 +0.1**
DAG IAmb IAmb 05 01 53.4
comp=Z,76nm,0.9s
DAG Danmarks Havn 63.37 355⇑ *i*P **P** **05 01 52.4 +0.1**
DAG pmax pmax
comp=Z,76nm,0.9s
JETT Jettan, Norway 63.50 341 *e*P **P** **05 01 53.0 -0.3**
AS31 Alice Springs 63.55 190 P **P** **05 01 54.5 +0.4**
ASAR Alice Springs 63.55 190 P **P** **05 01 54.0 -0.1**
comp=Z,10nm,0.9s,baz=11,slow=5.8,SNR=44
ASAR Alice Springs 63.55 190 P **P** **05 01 54.0 -0.1**
ASAR Alice Springs 63.55 190 P **P** **05 01 54.5 +0.4**
TRO Tromso 63.82 341 *e*P **P** **05 01 55.8 +0.5**
A04D Lummi Island 63.83 47 P 05 01 56.5
baz=301
NLWA Neilton Lookou 63.84 49 P **P** **05 01 56.9 +1.0**
NLWA IAmb IAmb 05 02 08.4
comp=Z,69nm,1.2s
GEYT Alibeck 63.99 299 P **P** **05 01 56.8 -0.3**
comp=Z,303nm,0.6s,baz=229,slow=1.4,SNR=38
GYA0B ALIBECK ARRAY 63.99 299 P **P** **05 01 57.4 +0.2**
A05A Maple Falls 64.04 47 P **P** **05 01 58.5 +1.4**
A05A IAmb IAmb 05 02 08.3
comp=Z,65nm,1.2s
D03D Eldon 64.22 49 P 05 01 58.7
baz=301,SNR=7.9
D03D S 05 10 35.8
baz=301
B05A Bryant 64.41 48 P 05 01 59.5
baz=302,SNR=6.0
B05A S 05 10 37.0
baz=302
E03A Lebam 64.45 50 P **P** **05 02 01.6 +1.8**
D04E Lakebay 64.59 49 P 05 02 02.7
baz=302
B06A Marblemount 64.63 47 P **P** **05 02 02.7 +1.7**
B06A IAmb IAmb 05 02 18.3
comp=Z,63nm,1.1s
GOA Goa 64.65 269 *e*P **P** **05 02 01.7 +0.1**
GOA IAmb IAmb 05 02 02.8
comp=Z,216nm,1.0s
PSA00 Pilbara Seismi 64.71 204 P **P** **05 02 02.9 +1.2**
PSA00 IAmb IAmb 05 02 16.0
comp=Z,52nm,1.4s
PSA00 Pilbara Seismi 64.71 204 P **P** **05 02 01.7 0.0**
PSA00 IAmb IAmb 05 02 09.4
comp=Z,51nm,1.6s
DZM Mont Dzumac 65.00 156 *e*P **P** **05 02 04.2 +0.5**
comp=Z,176nm,1.4s
DZM Mont Dzumac 65.00 156 LR LR 05 25 26.4
comp=Z,2µm,21.3s,baz=322,slow=32
DZM Mont Dzumac 65.00 156 P **P** **05 02 05.3 +1.6**
EIDS Eidsvold 65.01 172 P **P** **05 02 04.2 +0.6**
EIDS IAmb IAmb 05 02 10.2
comp=Z,46nm,1.2s
F04D Rainier, OR 65.02 50 P 05 02 03.6
baz=302
E04D Cinebar 65.03 49 P 05 02 03.2
baz=302,SNR=8.4
E04D S 05 10 46.7
baz=302
D05A Enumclaw 65.04 49 P **P** **05 02 05.4 +1.7**
C06D Leavenworth 65.28 47 P 05 02 04.8
baz=302
KULLO Kullorsuaq 65.29 6⇑ *i*P **P** **05 02 04.6 -0.2**
KULLO IAmb IAmb 05 02 05.6
comp=Z,59nm,1.1s
KULLO Kullorsuaq 65.29 6⇑ *i*P **P** **05 02 04.6 -0.2**
KULLO pmax pmax
comp=Z,59nm,1.1s
G03D McMinnville, O 65.33 51 P 05 02 06.0
baz=302
G03D S 05 10 51.4
baz=302
LON Longmire 65.37 49 P **P** **05 02 07.7 +1.7**
LON pmax pmax
comp=Z,37nm,1.2s
LON Longmire 65.37 49 P **P** **05 02 07.7 +1.7**
LON IAmb IAmb 05 02 28.6
comp=Z,37nm,1.1s
I02D Swisshome 65.56 52 P 05 02 06.7
baz=302
COR Corvallis 65.64 52 P **P** **05 02 09.2 +1.6**
COR pmax pmax
comp=Z,124nm,1.2s
COR Corvallis 65.64 52 P **P** **05 02 09.2 +1.6**
LTY Liberty 65.76 48 P **P** **05 02 09.9 +1.4**
LTY IAmb IAmb 05 02 20.1
comp=Z,38nm,1.1s
DBG Daneborg 65.86 355⇑ *i*P **P** **05 02 08.4 -0.2**
DBG IAmb IAmb 05 02 08.9
comp=Z,60nm,1.3s
KEBM Edson Butte 65.92 54 P **P** **05 02 10.8 +1.2**
B08A Colville Reser 65.92 46 P **P** **05 02 11.0 +1.5**
B08A IAmb IAmb 05 02 27.0
comp=Z,62nm,1.2s
STEI Steigen 65.98 341 *e*P **P** **05 02 09.3 -0.1**
H04D Lebanon 66.01 51 P 05 02 08.8
baz=303
J01E Myrtle Point 66.01 53 P 05 02 08.9
baz=302
J01E S 05 11 00.7
baz=302
F05D White Salmon 66.04 50 P 05 02 09.8
baz=303
F05D S 05 10 60.0
baz=303
I03D Drain, OR 66.08 52 P 05 02 10.5
baz=303,SNR=8.6
MOS Moscow 66.15 323 *e*P **P** **05 02 06.7 -4.0**
MOS *e* 05 04 32.6
MOS *e*S **S** **05 10 54.5 -3.5**
MOS pmax pmax
comp=Z,320nm,1.5s
MOS pmax pmax
comp=Z,1µm,2.6s
MOS MLR MLR
comp=Z,10µm,15.0s
H04A Detroit Lake 66.26 51 P **P** **05 02 13.2 +1.5**
FAUS Fauske 66.38 341 *e*P **P** **05 02 11.7 -0.3**
K02D Willamette Mer 66.43 53 P 05 02 11.5
baz=303,SNR=5.1
G05D Wamic, OR 66.47 50 P 05 02 12.9
baz=303
I04A Tendick Farm, 66.60 52 P 05 02 14.2
baz=303,SNR=11
E07A Sunnyside 66.61 48 P **P** **05 02 15.4 +1.5**
VRH Novokhopyorsk 66.75 318 *e*P **P** **05 02 13.9 -0.8**
VRH pmax pmax
comp=Z,230nm,1.0s
VRH pmax pmax
comp=Z,230nm,1.0s
VRH MLR MLR
comp=Z,15µm,15.0s
L02E Cave Junction 66.76 54 P 05 02 14.9
baz=303
PUL Pulkovo 66.80 330⇓ *e*P **P** **05 02 15.5 +0.7**
PUL pmax pmax
comp=Z,335nm,1.3s
D08A Wollman Farm, 66.87 47 P **P** **05 02 16.8 +1.3**
D08A IAmb IAmb 05 02 33.0
comp=Z,64nm,1.2s
HAWA Hanford 66.89 48 P **P** **05 02 17.0 +1.4**
HAWA IAmb IAmb 05 02 33.5
comp=Z,66nm,1.2s
HUMO Hull Mountain 66.91 53 P **P** **05 02 17.3 +1.4**
HUMO IAmb IAmb 05 02 28.4
comp=Z,76nm,1.7s
F07A Phinny Hill Vi 66.93 49 P **P** **05 02 17.6 +1.6**
F07A IAmb IAmb 05 02 34.5
comp=Z,62nm,1.0s
I05D Terrebonne, OR 66.95 51 P 05 02 16.8
baz=303,SNR=11
OBN Obninsk 67.00 323*c i*P **P** **05 02 16.1 -0.1**
OBN *e**PP **pP** **05 02 20.8 -0.9**
OBN *e**SP **pwP** **05 02 25.7 +1.0**
OBN *i* 05 02 47.2
OBN *i* S **S** **05 11 09.1 +0.7**
OBN *e*SS **SS** **05 15 30.1 +3.8**
OBN pmax pmax
comp=Z,484nm,2.5s
OBN MLR MLR
comp=Z,10µm,15.0s
J04D Umpqua Nationa 67.09 52 P 05 02 16.5
baz=303,SNR=9.0
J04D S 05 11 12.3
baz=303
E08A Dider Farm, El 67.11 48 P **P** **05 02 18.5 +1.5**
E08A IAmb IAmb 05 02 34.7
comp=Z,67nm,1.3s
UPNV Upernavik 67.11 6⇑ *i*P **P** **05 02 16.2 -0.3**
UPNV IAmb IAmb 05 02 17.4
comp=Z,48nm,1.1s
NEW Newport 67.21 46 P **P** **05 02 19.4 +1.7**
NEW pmax pmax
comp=Z,57nm,1.1s
NEW Newport 67.21 46 P **P** **05 02 19.4 +1.7**
NEW IAmb IAmb 05 02 29.2
comp=Z,57nm,1.1s
NEW Newport 67.21 46 P 05 02 17.1
baz=304,SNR=19
NEW S 05 11 12.1
baz=304
FIA1 FINESS Array S 67.29 332 P **P** **05 02 17.8 -0.1**
FINES FINESS Array B 67.30 332 P **P** **05 02 17.9 0.0**
comp=Z,104nm,0.8s,baz=46,slow=8.2,SNR=97
FINES FINESS Array B 67.30 332 P **P** **05 02 18.1 +0.2**
LPSR Galich'ya Gora 67.36 320 *e*P **P** **05 02 18.5 0.0**
LPSR pmax pmax
comp=Z,220nm,1.1s
LPSR pmax pmax
comp=Z,220nm,1.1s
LPSR MLR MLR
comp=Z,9µm,14.0s
KHMM Horse Mountain 67.38 55 P **P** **05 02 20.4 +1.4**
PINE Pine Mountain 67.50 51 P **P** **05 02 21.2 +1.4**
MOR8 Moi Rana 67.52 340 *e*P **P** **05 02 18.4 -0.9**
L04D Klamath Falls 67.53 53 P 05 02 19.0
baz=304,SNR=10
L04D S 05 11 17.6
baz=304
YBH Yreka Blue Hor 67.55 54 P **P** **05 02 21.1 +1.1**
YBH pmax pmax
comp=Z,34nm,1.1s
YBH Yreka Blue Hor 67.55 54 P **P** **05 02 21.1 +1.1**
E09A Wood Farm, Sta 67.62 48 P **P** **05 02 21.6 +1.4**
M02C Callahan 67.64 54 P 05 02 20.1
baz=304,SNR=5.1
M02C S 05 11 20.3
baz=304
K04D Chiloquin, OR 67.65 53 P 05 02 19.3
baz=304
K04D S 05 11 19.5
baz=304
VORR Voronezh 67.77 319 *e*P **P** **05 02 20.0 -1.1**
VORR pmax pmax
comp=Z,500nm,1.2s
G08A Pilot Rock 67.83 49 P **P** **05 02 23.0 +1.2**
N02D Trinity Center 67.97 55 P 05 02 21.4
baz=304,SNR=8.5
N02D S 05 11 24.0
baz=304
VSR Storozhevoye 68.06 319 *e*P **P** **05 02 21.8 -1.1**
VSR pmax pmax
comp=Z,200nm,1.2s
VSR pmax pmax
comp=Z,680nm,2.2s
VSR MLR MLR
comp=Z,10µm,15.0s
M04C Macdoel 68.06 53 P 05 02 22.3
baz=304,SNR=9.4
M04C S 05 11 25.3
baz=304
K05A Summer Lake 68.12 52 P **P** **05 02 25.0 +1.3**
KCPM Cahto Peak 68.13 56 P **P** **05 02 25.2 +1.4**
KCPM IAmb IAmb 05 02 42.6
comp=Z,75nm,1.1s
SUMG Summit 68.13 1⇑ *i*P **P** **05 02 24.6 +1.0**
SUMG IAmb IAmb 05 02 25.1
comp=Z,112nm,1.1s
SUMG Summit 68.13 1⇑ *i*P **P** **05 02 24.5 +1.0**
SUMG pmax pmax
comp=Z,110nm,1.1s
SUMG Summit 68.13 1 P **P** **05 02 24.6 +1.0**
MAK Makhachkala 68.14 308 *e*P **P** **05 02 20.1 -3.4**
MAK *e* 05 04 49.1
MAK *e*S **S** **05 11 18.2 -4.2**
MAK *e*SS **SS** **05 15 39.8 -4.6**
MAK pmax pmax
comp=Z,178nm,1.2s
MAK MLR MLR
comp=Z,10µm,13.0s
VORD Divnogorie 68.14 319 *e*P **P** **05 02 23.4 0.0**
VORD pmax pmax
comp=Z,140nm,1.0s
VORD pmax pmax
comp=Z,140nm,1.0s
VORD MLR MLR
comp=Z,7µm,16.0s
I07A Izee 68.19 50 P **P** **05 02 25.5 +1.4**
I07A IAmb IAmb 05 02 35.3
comp=Z,45nm,1.4s
WDC Whiskeytown Da 68.29 55 P **P** **05 02 26.1 +1.5**
WDC pmax pmax
comp=Z,57nm,1.2s
WDC Whiskeytown Da 68.29 55 P **P** **05 02 26.1 +1.5**
WDC IAmb IAmb 05 02 36.6
comp=Z,57nm,1.2s
O02D Mt. Diablo Mer 68.36 55 P 05 02 22.6
baz=304,SNR=6.7
O02D S 05 11 29.2
baz=304
F10A Beach Ranch, E 68.45 48 P **P** **05 02 27.1 +1.5**
F10A IAmb IAmb 05 02 42.6
comp=Z,92nm,1.9s
WALA Waterton Lakes 68.49 44 P **P** **05 02 27.2 +1.3**
WALA IAmb IAmb 05 02 37.4
comp=Z,34nm,1.1s
NUUG Nuugaatsiaq 68.55 6⇑ *i*P **P** **05 02 25.4 -0.2**
NUUG IAmb IAmb 05 02 26.0
comp=Z,42nm,1.3s
MEF Metsahovi 68.73 332 *e*P **P** **05 02 27.5 +0.5**
O03E Paynes Creek 68.92 55 P 05 02 28.1
baz=305,SNR=13
O03E S 05 11 34.3
baz=305
MOD Modoc Plateau 68.94 53 P **P** **05 02 30.1 +1.3**
MOD IAmb IAmb 05 02 46.8
comp=Z,47nm,1.2s
GROC Groznyy 69.03 309⇑ *i*P **P** **05 02 29.2 +0.1**
GROC *e* 05 02 54.0
GROC *e* 05 04 59.3
GROC *e*S **S** **05 11 27.9 -5.2**
GROC pmax pmax
comp=Z,110nm,1.0s
BMO Blue Mountains 69.05 49 P **P** **05 02 30.7 +1.3**
BMO pmax pmax
comp=Z,31nm,1.1s
BMO Blue Mountains 69.05 49 P **P** **05 02 30.7 +1.3**
VSU Vasula 69.06 330 *e*P **P** **05 02 29.6 +0.6**
VSU Vasula 69.06 330*c i*P **P** **05 02 29.0 0.0**
VSU pmax pmax
comp=Z,458nm,0.9s
JTMT Jette 69.06 45 P **P** **05 02 30.9 +1.5**
JTMT IAmb IAmb 05 02 47.2
comp=Z,57nm,1.1s
RAF Rauma 69.10 334 *e*P **P** **05 02 29.7 +0.5**
GDXM Geysers 69.12 57 P **P** **05 02 31.3 +1.4**
GDXM IAmb IAmb 05 02 47.5
comp=Z,64nm,1.3s
J08A Circle Bar Ran 69.22 51 P **P** **05 02 31.9 +1.4**
J08A IAmb IAmb 05 02 48.6
comp=Z,84nm,1.4s
NSS Namsos 69.45 340 *e*P **P** **05 02 31.0 -0.4**
ORV Oroville 69.53 55 P **P** **05 02 33.6 +1.3**
ORV pmax pmax
comp=Z,64nm,1.3s
ORV Oroville 69.53 55 P **P** **05 02 33.6 +1.3**
ORV IAmb IAmb 05 02 49.6
comp=Z,64nm,1.3s
GOF Gofitskoye 69.58 312⇑ *i*P **P** **05 02 33.3 +0.8**
GOF pmax pmax
comp=Z,427nm,0.9s
WVOR Wild Horse Val 69.65 51 P **P** **05 02 34.3 +1.1**
WVOR pmax pmax
comp=Z,101nm,1.4s
WVOR Wild Horse Val 69.65 51 P **P** **05 02 34.3 +1.1**
WVOR IAmb IAmb 05 02 51.2
comp=Z,101nm,1.4s
SCO Scoresbysund 69.73 355⇑ *i*P **P** **05 02 33.6 +0.6**
SCO IAmb IAmb 05 02 34.3
comp=Z,66nm,1.3s
SCO Scoresbysund 69.73 355 P **P** **05 02 33.9 +0.9**
SCO pmax pmax
comp=Z,55nm,1.2s
SCO Scoresbysund 69.73 355 P **P** **05 02 33.9 +0.9**
SCO IAmb IAmb 05 02 45.8
comp=Z,55nm,1.2s
MSO Missoula 69.80 46 P **P** **05 02 35.4 +1.4**
MSO IAmb IAmb 05 02 51.3
comp=Z,44nm,1.1s
MSO Missoula 69.80 46 P 05 02 32.9
baz=307,SNR=14
MSO S 05 11 42.7
baz=307
ARMA Armidale 70.06 172 P **P** **05 02 36.8 +1.2**
ARMA IAmb IAmb 05 02 43.4
comp=Z,69nm,1.4s
BEKR Beckworth 70.07 54 P **P** **05 02 37.0 +1.1**
BEKR IAmb IAmb 05 02 53.5
comp=Z,90nm,1.4s
AFDM Forest Hills D 70.21 56 P **P** **05 02 38.1 +1.6**
AFDM IAmb IAmb 05 02 53.4
comp=Z,70nm,1.6s
AAL Aland 70.31 334 *e*P **P** **05 02 36.6 -0.1**
ZEI Tsey 70.40 310 *e*P **P** **05 02 35.2 -2.7**
ZEI pmax pmax
comp=Z,107nm,1.0s
KIV Kislovodsk 70.43 311⇑ P **P** **05 02 39.1 +1.2**
KIV Kislovodsk 70.43 311 *i* P **P** **05 02 38.2 +0.4**
SNR=90
KIV Kislovodsk 70.43 311 *e*P **P** **05 02 38.7 +0.8**
KIV *e*S **S** **05 11 51.7 +2.0**
KIV pmax pmax
comp=Z,2µm,1.1s
KIV pmax pmax
comp=Z,415nm,2.6s
KIV MLR MLR
comp=Z,20µm,17.0s
KIV Kislovodsk 70.43 311 P **P** **05 02 38.6 +0.8**
KBZ Khabaz 70.44 311 P **P** **05 02 38.5 +0.8**
comp=Z,167nm,0.9s,baz=66,slow=5.0,SNR=98
KBZ LR LR 05 34 00.5
comp=Z,2µm,18.1s,baz=30,slow=36
RUBR Rubicon Trail 70.67 55 P **P** **05 02 40.7 +1.1**
RUBR IAmb IAmb 05 02 52.9
comp=Z,79nm,0.9s
FFC Flin Flon 70.71 34 P **P** **05 02 39.5 +0.2**
FFC pmax pmax
comp=Z,34nm,0.9s
FFC Flin Flon 70.71 34 P **P** **05 02 39.5 +0.2**
FFC IAmb IAmb 05 02 50.4
comp=Z,34nm,0.9s
MFID Camas Ranch 70.75 49 P **P** **05 02 41.3 +1.4**
MFID IAmb IAmb 05 02 57.7
comp=Z,52nm,1.2s
PAHR Pah Rah Range 70.78 54 P **P** **05 02 40.9 +0.8**
PAHR IAmb IAmb 05 02 57.9
comp=Z,73nm,1.3s
ONI Oni 70.79 310 P **P** **05 02 40.7 +0.6**
ONI pmax pmax
comp=Z,203nm,1.1s
ONI Oni 70.79 310 P **P** **05 02 40.7 +0.6**
NEY Neytrino 70.83 311*de*P **P** **05 02 41.5 +1.1**
NEY pmax pmax
comp=Z,27nm,1.1s
VCNR Virginia City 70.85 55 P **P** **05 02 41.6 +0.9**
TBLU Trondheim 70.93 340 *e*P **P** **05 02 39.0 -1.5**
ILULI Ilulissat 70.99 5⇑ *i*P **P** **05 02 40.7 0.0**
ILULI IAmb IAmb 05 02 41.9
comp=Z,64nm,1.2s
ILULI Ilulissat 70.99 5⇑ *i*P **P** **05 02 40.7 0.0**
ILULI pmax pmax
comp=Z,64nm,1.2s
ILULI Ilulissat 70.99 5 P **P** **05 02 41.4 +0.7**
ILULI IAmb IAmb 05 02 51.8
comp=Z,46nm,0.9s
PNTR Pine Nut 71.00 55 P **P** **05 02 42.8 +1.2**
PNTR IAmb IAmb 05 02 59.0
comp=Z,111nm,1.3s
HRY Holter Researc 71.02 45 P **P** **05 02 43.0 +1.5**
CMB Columbia Colle 71.11 56 P **P** **05 02 43.5 +1.4**
CMB pmax pmax
comp=Z,111nm,1.5s
CMB Columbia Colle 71.11 56 P **P** **05 02 43.5 +1.4**
CMB IAmb IAmb 05 02 59.1
comp=Z,111nm,1.5s
STKA Stephens Creek 71.12 182 P **P** **05 02 42.1 +0.2**
comp=Z,14nm,1.1s,baz=347,slow=7.0,SNR=10.0
STKA LR LR 05 33 24.5
comp=Z,1µm,20.7s,baz=9.2,slow=36
STKA Stephens Creek 71.12 182 P **P** **05 02 42.6 +0.8**
LRM Limekiln Ridge 71.23 46 P **P** **05 02 44.0 +1.1**
MNK Minsk 71.27 326 *i* P **P** **05 02 43.3 +0.7**
MNK *i* 05 05 22.7
MNK *i* PPP PPP 05 07 06.4
MNK *i* S **S** **05 12 02.2 +3.4**
MNK pmax pmax
comp=Z,289nm,1.2s
MNK pmax pmax
comp=E,27nm,1.5s
MNK pmax pmax
comp=N,160nm,1.3s
MNK MLR MLR
comp=N,5µm,17.0s
MNK MLR MLR
comp=Z,6µm,18.0s
MNK MLR MLR
comp=E,515nm,16.0s
MNK Minsk 71.27 326 *i* P **P** **05 02 43.4 +0.8**
comp=E,27nm,1.5s
MNK *i* P **P** **05 02 43.4 +0.8**
comp=N,160nm,1.3s
MNK *i* P **P** **05 02 43.4 +0.8**
comp=Z,289nm,1.2s,baz=48
MNK *i* PP **PP** **05 05 22.7 +2.5**
MNK *i* PPP PPP 05 07 06.4
MNK *i* S **S** **05 12 02.3 +3.4**
MNK *i* SS **SS** **05 16 42.1 +10**
MNK *i* SSS SSS 05 20 01.8
MNK *i* LQ LQ 05 29 23.6
MNK *i* LR LR 05 34 51.9
MNK *i* LRM MLR 05 36 48.9
comp=N,5µm,16.8s

MNK *i* LRM MLR 05 36 48.9
comp=Z,6µm,17.7s
MNK *i* LRM MLR 05 37 13.5
comp=E,515nm,16.3s
ISAL Salakas 71.28 328 *e*P **P 05 02 43.7 +1.1**
YERR Yerington 71.29 55 P **P 05 02 44.6 +1.3**
YERR IAmb IAmb 05 03 01.3
comp=Z,122nm,1.3s
EGMT Eagleton 71.32 43 P **P 05 02 44.6 +1.4**
EGMT IAmb IAmb 05 02 55.2
comp=Z,46nm,0.9s
EGMT Eagleton 71.32 43 P 05 02 43.3
baz=309,SNR=9.9
EGMT S 05 12 00.3
baz=309
SLIT Slitere, Latvi 71.34 331 *e*P **P 05 02 43.2 +0.2**
UPP Uppsala 71.35 334 *e*P **P 05 02 43.4 +0.4**
DLMT Dillon 71.43 46 P **P 05 02 45.3 +1.3**
DLMT IAmb IAmb 05 03 02.1
comp=Z,61nm,1.1s
WAKR Walker 71.45 55 P **P 05 02 45.6 +1.3**
FORT Forrest 71.45 194 P **P 05 02 45.0 +1.2**
FORT IAmb IAmb 05 03 05.2
comp=Z,70nm,1.1s
GNI Garni 71.45 307 P **P 05 02 44.8 +0.5**
GNI Garni 71.45 307 *c i*P **P 05 02 45.3 +1.1**
GNI pmax pmax
comp=Z,164nm,1.3s
GNI Garni 71.45 307 P **P 05 02 44.9 +0.7**
NACGM Naroch 71.46 327 *i*P **P 05 02 44.6 +0.8**
baz=222
AKH Akhalkalaki 71.46 309 ⇑P **P 05 02 45.5 +1.2**
HLID Hailey 71.49 49 P **P 05 02 45.5 +1.1**
HLID Hailey 71.49 49 P 05 02 44.9
baz=307,SNR=13
HLID S 05 12 04.2
baz=307
BCYI Bear Canyon 71.61 47 P **P 05 02 46.4 +1.1**
MCMT McKenzie Canyo 71.61 47 P **P 05 02 46.6 +1.3**
ICESG Greenland Ices 71.62 1 ⇑*i*P **P 05 02 45.8 +0.9**
ICESG IAmb IAmb 05 02 46.8
comp=Z,133nm,1.0s
BANOM Banah 71.89 289 P **P 05 02 46.5 -0.4**
SHME Shamm 71.93 289 *i*P **P 05 02 47.1 -0.1**
SNR=15
RYN Ryan 71.95 55 P **P 05 02 48.6 +1.3**
RYN IAmb IAmb 05 03 05.2
comp=Z,84nm,1.5s
KVN Kaiserville 71.97 54 P **P 05 02 48.6 +1.2**
KVN pmax pmax
comp=Z,84nm,1.2s
KVN Kaiserville 71.97 54 P **P 05 02 48.6 +1.2**
KVN IAmb IAmb 05 03 06.0
comp=Z,84nm,1.2s
KARS Kars 72.18 308 P **P 05 02 49.3 +0.7**
KARS pmax pmax
comp=Z,314nm,0.9s
KARS Kars 72.18 308 P **P 05 02 49.3 +0.7**
PABE Paberze 72.20 329 *e*P **P 05 02 49.0 +0.8**
PABE Paberze 72.20 329 P **P 05 02 48.5 +0.3**
MOL Molde 72.21 340 *e*P **P 05 02 47.8 -0.4**
NVAR Mina Array Bea 72.21 55 P **P 05 02 50.6 +1.7**
comp=Z,15nm,0.8s,baz=296,slow=5.6,SNR=45
NC405 NORSAR Array S 72.23 338 P **P 05 02 48.5 +0.2**
DOMB Dombas 72.23 339 *e*P **P 05 02 48.9 +0.5**
NC303 NORSAR Array S 72.25 338 P **P 05 02 48.8 +0.4**
NV11 Mina Array Sit 72.30 55 IAmb IAmb 05 03 07.3
comp=Z,83nm,1.3s
MSFE Esma-Masafi 72.32 288 P **P 05 02 49.3 -0.3**
MLAC Mammoth, Mammo 72.35 56 P 05 02 49.9
baz=307,SNR=5.0
MLAC S 05 12 16.0
baz=307
SOC Sochi 72.37 312 *e*P **P 05 02 48.5 -1.0**
SOC *e* 05 05 25.7
SOC *e*PPP PPP 05 07 18.8
SOC *e*S **S 05 12 12.8 +0.9**
SOC *e* 05 12 52.5
SOC *e*SS **SS 05 16 54.5 +5.1**
SOC MLR MLR
comp=Z,5µm,16.0s
NB2 NORSAR Subarra 72.44 338 P **P 05 02 49.4 -0.2**
baz=38,slow=6.2
NOA NORSAR Array B 72.44 338 P **P 05 02 49.6 0.0**
comp=Z,93nm,0.9s,baz=37,slow=6.0,SNR=144
UOSS Minazif 72.53 288 P **P 05 02 50.2 -0.5**
UOSS Minazif 72.53 288 P **P 05 02 51.2 +0.4**
PBUR Paburge 72.63 330 *e*P **P 05 02 51.5 +0.7**
HATD Hatta, Dubai 72.66 288 *i*P **P 05 02 51.5 0.0**
SNR=6.9
NAO01 NORSAR Array S 72.69 338 *e*P **P 05 02 51.3 +0.2**
YMR Madison River 72.76 46 IAmb IAmb 05 03 09.4
comp=Z,73nm,1.5s
SOHO SOHO 72.77 287 *i*P **P 05 02 51.7 -0.5**
SNR=16
VOG Valley Oaks Go 72.77 57 P 05 02 51.7
baz=307
VOG S 05 12 17.8
baz=307
ASHO Ashiyiah 72.79 288 *i*P **P 05 02 51.4 -0.9**
SNR=11
ANN Anapa 72.90 314 *c i*P **P 05 02 52.4 -0.2**
ANN *e*S **S 05 12 17.2 -0.7**
ANN pmax pmax
comp=Z,206nm,1.3s
NAZ Nazwa, Dubai 72.91 288 P **P 05 02 53.0 +0.1**
MORW Morawa 72.91 205 P **P 05 02 52.9 +0.3**
MORW IAmb IAmb 05 02 58.0
comp=Z,63nm,1.2s
SMMC Simmler 72.97 58 P 05 02 52.5
baz=307
SMMC S 05 12 22.2
baz=307
FAQ Al Faqa, Dubai 73.10 288 *i*P **P 05 02 54.0 -0.1**
SNR=9.6
LKWY Lake 73.14 46 IAmb IAmb 05 03 12.9
comp=Z,61nm,1.4s
H17A Grant Village 73.15 46 IAmb IAmb 05 03 13.8
comp=Z,65nm,1.1s
H17A Grant Village 73.15 46 P 05 02 52.8
baz=309,SNR=22
H17A S 05 12 26.1
baz=309
YMP Mirror Lake Pl 73.17 46 IAmb IAmb 05 03 12.0
comp=Z,63nm,1.4s
SFJD Kangerlussuaq 73.20 6 ⇑*i*P **P 05 02 54.3 +0.3**
SFJD IAmb IAmb 05 02 54.7
comp=Z,34nm,1.1s
SFJD Kangerlussuaq 73.20 6 ⇑*i*P **P 05 02 54.2 +0.3**
SFJD pmax pmax
comp=Z,35nm,1.1s
SFJD Kangerlussuaq 73.20 6 P **P 05 02 54.4 +0.3**
SFJD IAmb IAmb 05 03 05.6
comp=Z,68nm,1.1s
AKASG Malin Array Be 73.24 323 P **P 05 02 54.4 -0.1**
comp=Z,54nm,0.7s,baz=45,slow=6.0,SNR=120
AKASG Malin Array Be 73.24 323 IAmb IAmb 05 03 12.2
comp=Z,99nm,1.1s
AKBB Malin Array Si 73.24 323 *c e*P **P 05 02 54.6 +0.1**
VES Vestal, Richgr 73.25 57 P 05 02 55.3
baz=307,SNR=7.8
FLWY Flagg Ranch 73.28 46 IAmb IAmb 05 03 13.9
comp=Z,71nm,1.4s
PKM Mcpherson Peak 73.34 58 P 05 02 54.7
baz=307,SNR=7.4
PKM S 05 12 25.6
baz=307
ASUD Al Ashush, Dub 73.36 288 *i*P **P 05 02 56.0 +0.4**
SNR=14
ALNE Al Ain 73.39 288 *i*P **P 05 02 56.0 +0.2**
SNR=11
RLMT Red Lodge 73.41 45 IAmb IAmb 05 03 13.1
comp=Z,100nm,1.9s
RLMT Red Lodge 73.41 45 P 05 02 55.5
baz=310,SNR=6.0
RLMT S 05 12 24.4
baz=310
OSL Oslo 73.47 337 *e*P **P 05 02 56.8 +1.1**
CWC Cottonwood Cre 73.54 56 P 05 02 56.2
baz=307
CWC S 05 12 26.7
baz=307
SKAR Skarslia 73.56 339 ⇑*i*P **P 05 02 56.4 +0.1**
SUW Suwalki 73.58 328 *e*P **P 05 02 56.2 -0.2**
SUW Suwalki 73.58 328 *e*P **P 05 02 56.6 +0.1**

SNOW Snow King Moun 73.64 47 IAmb IAmb 05 03 14.9
comp=Z,97nm,1.8s
GRAC Grapevine Rang 73.66 55 P 05 02 56.5
baz=308,SNR=16
GRAC S 05 12 29.4
baz=308
SBC Santa Barbara 73.68 59 P 05 02 55.5
baz=307
SBC S 05 12 28.8
baz=307
ISA Isabella, Lake 73.76 57 P 05 02 57.1
baz=307,SNR=7.8
ISA S 05 12 27.6
baz=307
ARVC Arvin 73.85 58 P 05 02 56.4
baz=307
ARVC S 05 12 30.9
baz=307
KTUT Trabzon 73.95 310 ⇑P **P 05 02 59.4 +0.5**
R11A Troy Canyon, C 73.96 53 IAmb IAmb 05 03 17.1
comp=Z,74nm,1.4s
R11A Troy Canyon, C 73.96 53 P 05 02 58.5
baz=308,SNR=14
R11A S 05 12 31.4
baz=308
SCZ2 Santa Cruz Isl 74.00 59 P 05 02 59.0
baz=307
SCZ2 S 05 12 31.9
baz=307
DY2G Dye2 74.01 4 ⇑*i*P **P 05 02 59.6 +0.6**
DY2G IAmb IAmb 05 03 00.6
comp=Z,171nm,1.3s
LAO LASA Array 74.02 42 IAmb IAmb 05 03 16.1
comp=Z,60nm,1.2s
LAO LASA Array 74.02 42 P 05 02 59.8
baz=311
LAO S 05 12 32.7
baz=311
KONO Kongsberg 74.04 338 *c e*P **P 05 02 58.9 -0.1**
KONO pmax pmax
comp=Z,82nm,1.3s
KONO Kongsberg 74.04 338 ⇑*i*P **P 05 02 59.2 +0.1**
KONO Kongsberg 74.04 338 P **P 05 02 59.7 +0.7**
KONO IAmb IAmb 05 03 00.5
comp=Z,60nm,1.0s
STRU Stroemstad 74.06 337 *i*P **P 05 02 59.4 +0.3**
MPMC Manual Prospec 74.15 56 P 05 03 00.6
baz=308
MPMC S 05 12 34.3
baz=308
OSI Osito Audit: C 74.23 58 P 05 03 00.3
baz=308
OSI S 05 12 34.0
baz=308
FURC Furnace Creek, 74.31 56 P 05 03 01.0
baz=308,SNR=19
FURC S 05 12 34.7
baz=308
SPR3 Spring Creek 3 74.33 52 IAmb IAmb 05 03 20.1
comp=Z,76nm,1.5s
HWUT Hardware Ranch 74.35 49 IAmb IAmb 05 03 19.5
comp=Z,85nm,1.4s
LRMC Laurel Mtn Rad 74.38 57 P 05 03 01.5
baz=308,SNR=7.6
LRMC S 05 12 36.0
baz=308
TPNV Topopah Spring 74.40 55 IAmb IAmb 05 03 18.9
comp=Z,131nm,1.4s
TPNV Topopah Spring 74.40 55 P 05 03 01.6
baz=308,SNR=18
TPNV S 05 12 37.7
baz=308
DUG Dugway, Tooele 74.50 51 P 05 03 01.6
baz=309,SNR=7.5
DUG S 05 12 38.9
baz=309
SNCC San Nicolas Is 74.52 60 P 05 03 01.6
baz=308
EDW2 Edwards Air Fo 74.54 58 P 05 03 02.9
baz=308,SNR=9.9
EDW2 S 05 12 38.6
baz=308
SIM Simferopol' 74.61 316 *c i*P **P 05 03 01.9 -0.7**
SIM *e* 05 03 23.0
SIM *e*S **S 05 12 35.0 -2.2**
SIM pmax pmax
comp=Z,146nm,1.0s
SIM MLR MLR
comp=Z,2µm,19.1s
BORU Boraas 74.68 335 *i*P **P 05 03 02.4 -0.4**
BLEU Blekinge 74.69 333 *i*P **P 05 03 02.3 -0.5**
DECC Green Verdugo 74.70 58 P 05 03 03.4
baz=308
DECC S 05 12 39.5
baz=308
TJOU Tjoern 74.73 336 *i*P **P 05 03 02.9 -0.2**
BW06 Boulder Array 74.76 47 P 05 03 03.0
baz=310,SNR=10
BW06 S 05 12 39.9
baz=310
PDAR Pinedale Array 74.76 47 P **P 05 03 04.6 +0.7**
comp=Z,4.9nm,0.6s,baz=268,slow=1.6,SNR=36
CTU Camp Tracy 74.82 50 IAmb IAmb 05 03 11.0
comp=Z,116nm,1.9s
PRN Pahroc Range 74.87 54 IAmb IAmb 05 03 11.7
comp=Z,172nm,2.0s
PSUT Pine Spring 74.91 52 IAmb IAmb 05 03 22.7
comp=Z,66nm,1.3s
SHOC Shoshone, Teco 75.03 56 P 05 03 04.1
baz=308
SHOC S 05 12 44.1
baz=308
GSC Goldstone, Bar 75.06 57 P 05 03 05.4
baz=308,SNR=8.3
GSC S 05 12 43.9
baz=308
FMP Fort Macarthur 75.06 59 P 05 03 05.1
baz=308
FMP S 05 12 42.8
baz=308
ANGG Ammassalik, Gr 75.13 0 *e*P **P 05 03 05.1 -0.1**
ANGG IAmb IAmb 05 03 05.4
comp=Z,48nm,1.2s
ONAU Onsala 75.15 335 ⇑*i*P **P 05 03 05.1 -0.4**
ONAU *i*P **P 05 03 05.1 -0.4**
BFSC Mount Baldy Ra 75.15 58 P 05 03 05.6
baz=308,SNR=7.3
BFSC S 05 12 43.3
baz=308
CIS Catalina Islan 75.17 59 P 05 03 05.8
baz=308
CIS S 05 12 44.6
baz=308
ISOG Isortoq, Green 75.19 1 *i*P **P 05 03 05.5 0.0**
ISOG IAmb IAmb 05 03 06.6
comp=Z,65nm,1.1s
RRX Edison Barstow 75.19 57 P 05 03 04.7
baz=308
RRX S 05 12 44.7
baz=308
DEL Delary 75.24 334 *i*P **P 05 03 05.7 -0.3**
SCI2 San Clemente I 75.34 59 P 05 03 06.3
baz=308
SCI2 S 05 12 46.4
baz=308
SHPR Sheep Range 75.36 55 IAmb IAmb 05 03 25.5
comp=Z,56nm,1.3s
SORM Soroca 75.42 321 ⇑P **P 05 03 07.0 -0.2**
HOMB Homborsund 75.50 337 *i*P **P 05 03 07.5 0.0**
TUQ Turquoise Moun 75.54 56 P 05 03 07.8
baz=308,SNR=10
TUQ S 05 12 49.9
baz=308
BBRC Big Bear Solar 75.62 57 P 05 03 08.7
baz=308
BBRC S 05 12 49.6
baz=308
HEC Hector,Ludlow 75.65 57 P 05 03 08.1
baz=308,SNR=7.6
HEC S 05 12 51.3
baz=308
TCRU Three Creeks R 75.72 52 IAmb IAmb 05 03 27.1
comp=Z,60nm,1.3s
SNART Snartemo 75.82 338 *i*P **P 05 03 09.6 +0.2**
SNART *i*P **P 05 03 10.0 +0.6**
BJUU Bjuv 75.84 334 *i*P **P 05 03 09.8 +0.3**
MURC Murrieta 75.85 58 P 05 03 08.9
baz=308
MURC S 05 12 52.5
baz=308
UMR Umm Al-Rimmam 75.85 297 *e*P **P 05 03 08.4 -1.6**
UMR Umm Al-Rimmam 75.85 297 *e*P **P 05 03 08.9 -1.2**
NUUK Nuuk 75.88 7 ⇑*i*P **P 05 03 10.3 +0.7**
NUUK IAmb IAmb 05 03 11.3
comp=Z,51nm,1.0s
BSD Bornholm Skovb 75.94 332 *e*P **P 05 03 10.5 +0.4**
BSD Bornholm Skovb 75.94 332 ⇑*i*P **P 05 03 10.0 0.0**
BSD *i*P **P 05 03 10.1 +0.1**
BSD IAmb IAmb 05 03 11.1
comp=Z,153nm,1.1s
BSD Bornholm Skovb 75.94 332 ⇑*i*P **P 05 03 10.0 0.0**
BSD pmax pmax
comp=Z,150nm,1.1s
MIB Mutribah 75.96 297 *e*P **P 05 03 09.1 -1.5**
MIB Mutribah 75.96 297 *e*P **P 05 03 09.5 -1.1**
TMUT Trail Mountain 76.03 50 IAmb IAmb 05 03 24.8
comp=Z,81nm,1.8s
LUNU Lund 76.05 333 *i*P **P 05 03 10.8 +0.1**
GMRC Granite Mounta 76.11 56 P 05 03 09.9
baz=309,SNR=12
GMRC S 05 12 55.2
baz=309
NWAO Narrogin (SRO) 76.12 202 P **P 05 03 12.7 +1.5**
NWAO pmax pmax
comp=Z,94nm,1.7s
NWAO Narrogin (SRO) 76.12 202 P **P 05 03 12.7 +1.5**
NWAO IAmb IAmb 05 03 19.0
comp=Z,94nm,1.6s
BEL Belsk 76.17 327 *e*P **P 05 03 12.2 +0.8**
RDMU Red Mountain 76.17 49 IAmb IAmb 05 03 29.8
comp=Z,90nm,1.3s
P17A Butcher Ranch, 76.19 50 IAmb IAmb 05 03 30.0
comp=Z,65nm,1.2s
QRN Al-Qurain 76.20 296 *e*P **P 05 03 10.9 -1.1**
QRN Al-Qurain 76.20 296 *e*P **P 05 03 11.1 -1.0**
MTPU Mount Pierson 76.24 52 IAmb IAmb 05 03 30.4
comp=Z,71nm,1.5s
LCMT Little Creek M 76.24 53 IAmb IAmb 05 03 32.3
comp=Z,56nm,1.2s
LVV L'vov 76.24 324 *e*P **P 05 03 11.5 -0.4**
Q16A Castle Valley 76.29 51 IAmb IAmb 05 03 30.8
comp=Z,66nm,1.3s
GOET G??ttrup 76.30 336 ⇑*i*P **P 05 03 13.1 +1.0**
GOET IAmb IAmb 05 03 13.9
comp=Z,203nm,0.9s
PFO Pinyon Flats O 76.32 58 P **P 05 03 13.1 +0.3**
PFO pmax pmax
comp=Z,31nm,1.2s
PFO Pinyon Flats O 76.32 58 P **P 05 03 13.1 +0.3**
PFO Pinyon Flats O 76.32 58 P 05 03 11.6
baz=309,SNR=5.8
PFO S 05 12 57.2
baz=309
TPFO Pinon Flats 76.33 58 P 05 03 11.6
baz=309,SNR=6.5
TPFO S 05 12 57.2
baz=309
109C Camp Elliot, M 76.35 59 IAmb IAmb 05 03 29.6
comp=Z,56nm,1.4s
109C Camp Elliot, M 76.35 59 P 05 03 12.1
baz=308
109C S 05 12 58.2
baz=308
RDF Al-Radifah 76.35 296 *e*P **P 05 03 11.6 -1.3**
RDF Al-Radifah 76.35 296 *e*P **P 05 03 12.0 -0.9**
COP Copenhagen 76.35 334 ⇑*i*P **P 05 03 13.2 +0.7**
COP IAmb IAmb 05 03 13.9
comp=Z,132nm,1.0s
COP Copenhagen 76.35 334 ⇑*i*P **P 05 03 13.1 +0.7**
COP pmax pmax
comp=Z,130nm,1.0s
BELC Belle Mtn. Jos 76.38 57 P 05 03 12.7
baz=309,SNR=6.3
BELC S 05 12 57.1
baz=309
KNB Kanab 76.50 53 IAmb IAmb 05 03 32.3
comp=Z,69nm,1.2s
GKP Gorka Klasztor 76.51 330 *e*P **P 05 03 13.7 +0.3**
GKP Gorka Klasztor 76.51 330 *e*P **P 05 03 14.3 +1.0**
ULM Lac du Bonnet 76.51 35 P **P 05 03 13.3 -0.1**
comp=Z,83nm,0.7s,baz=314,slow=6.9,SNR=10
MDND Maddock 76.53 38 P 05 03 11.7
baz=315
MDND S 05 12 58.2
baz=315
K22A Casper 76.53 45 IAmb IAmb 05 03 40.5
comp=Z,93nm,1.6s
K22A Casper 76.53 45 P 05 03 12.7
baz=312
K22A S 05 12 58.8
baz=312
SRU San Rafael Swe 76.55 50 IAmb IAmb 05 03 27.2
comp=Z,35nm,0.8s
VASR Vaslui 76.73 320 ⇑P **P 05 03 15.0 +0.3**
NEE2 Needles Airpor 76.79 56 S 05 13 03.8
baz=309
MUD Monsted U'grnd 76.79 336 ⇑*i*P **P 05 03 15.3 +0.4**
MUD IAmb IAmb 05 03 15.9
comp=Z,101nm,1.1s
MUD Monsted U'grnd 76.79 336 ⇑*i*P **P 05 03 15.2 +0.4**
MUD pmax pmax
comp=Z,100nm,1.1s
MONP2 Monument Peak 76.80 58 P 05 03 14.6
baz=309
MONP2 S 05 13 03.9
baz=309
IRM Iron Mountain 76.84 57 P 05 03 14.4
baz=309,SNR=6.3
IRM S 05 13 03.7
baz=309
RSSD Black Hills 76.88 43 P **P 05 03 16.4 +0.5**
RSSD pmax pmax
comp=Z,21nm,1.0s
RSSD Black Hills 76.88 43 P **P 05 03 16.4 +0.5**
RSSD Black Hills 76.88 43 P 05 03 14.3
baz=313
RSSD S 05 13 01.5
baz=313
E28A Huff 76.89 40 IAmb IAmb 05 03 31.8
comp=Z,72nm,1.4s
BC3 Big Chuckawall 76.95 57 P 05 03 14.3
baz=309,SNR=6.2
BC3 S 05 13 05.5
baz=309
RGN Rugen 76.95 333 *e*P **P 05 03 16.6 +0.8**
comp=Z,301nm,1.2s,baz=36,slow=4.4
KWP Kalwaria Pacla 76.97 325 *e*P **P 05 03 16.9 +0.8**
PRAR RASCA 76.98 322 ⇑P **P 05 03 16.7 +0.5**
SWSC Sam W. Stewart 77.17 58 P 05 03 17.1
baz=309
U15A North Rim 77.20 53 IAmb IAmb 05 03 36.3
comp=Z,79nm,1.2s
O20A White River Ci 77.22 48 P 05 03 16.0
baz=311,SNR=5.6
O20A S 05 13 07.2
baz=311
TLCR 77.23 319 ⇓P **P 05 03 18.3 +0.8**
BUR08 Bucovina Ar. S 77.27 322 IAmb IAmb 05 03 19.6
comp=Z,57nm,0.8s
BURAR Bucovina Array 77.28 322 ⇑P **P 05 03 18.8 +0.8**
BURAR Bucovina Array 77.28 322 IAmb IAmb 05 03 20.0
comp=Z,73nm,0.8s
BIZ Bicaz 77.34 321 ⇑P **P 05 03 18.6 +0.4**
TESR Tescani 77.38 321 ⇑P **P 05 03 18.9 +0.5**
PDMCI Parker Dam,Lak 77.39 56 P 05 03 17.9
baz=310
PDMCI S 05 13 10.7
baz=310
LNIZ Loecknitz 77.47 332 *e*P **P 05 03 19.6 +0.8**
comp=Z,257nm,1.2s,baz=36,slow=4.4
JURR Jurilovca 77.49 318 ⇑P **P 05 03 19.9 +0.9**
CFR Carcaliu 77.58 319 ⇑P **P 05 03 19.7 +0.2**
TPGR Topolog 77.66 319 ⇑P **P 05 03 20.7 +0.7**
KOLS Kolonicke sedl 77.67 325 *e*P **P 05 03 20.8 +0.8**
KOLS Kolonicke sedl 77.67 325 *e*P **P 05 03 20.8 +0.8**
ODBI Odobesti 77.71 320 ⇑P **P 05 03 22.4 +2.2**
GLA Glamis 77.74 57 P 05 03 19.9
baz=310
GLA S 05 13 13.5
baz=310
STHS Stebnicka Huta 77.77 326 *e*P **P 05 03 21.6 +1.0**
STHS Stebnicka Huta 77.77 326 *e*P **P 05 03 21.6 +1.0**
OJC Ojcow 77.79 327 *e*P **P 05 03 21.3 +0.6**

VRI Vrincioaia 77.80 320 ⇑P **P** **05 03 21.2 +0.4**
PLOR Plostina 77.84 320 ⇑P **P** **05 03 21.8 +0.7**
UZH Uzhgorod 77.89 324 *e*P **P** **05 03 18.9 -2.3**
UZH *i* 05 03 24.2
UZH *i* S **S** **05 13 05.8 -7.3**
UZH MLR MLR
comp=N,2µm,14.0s
UZH MLR MLR
comp=E,2µm,14.0s
PV14 Lion Creek, Pa 77.92 50 IAmb IAmb 05 03 40.2
comp=Z,58nm,0.9s
TIRR Tirgusor 77.94 318 ⇑P **P** **05 03 21.4 -0.1**
TIRR Tirgusor 77.94 318 ⇑P **P** **05 03 21.4 -0.1**
AGMN Agassiz Nation 77.94 36 P 05 03 19.6
baz=317,SNR=6.3
AGMN S 05 13 11.7
baz=317
PV20 West Nyswonger 77.98 50 IAmb IAmb 05 03 40.9
comp=Z,50nm,0.9s
PV04 Paradox Valley 77.98 50 IAmb IAmb 05 03 40.6
comp=Z,61nm,1.1s
PV19 Morning Glory 77.99 50 IAmb IAmb 05 03 40.0
comp=Z,102nm,1.2s
HARR Harsova 78.02 319 ⇑P **P** **05 03 22.7 +0.7**
N23A Red Feather La 78.03 46 P 05 03 22.8
baz=312,SNR=11
N23A S 05 13 16.4
baz=312
PV16 Nyswonger Mesa 78.03 50 IAmb IAmb 05 03 40.3
comp=Z,101nm,1.4s
BISRR Bisoca 78.03 320 ⇑P **P** **05 03 22.0 -0.2**
BMR Baia Mare 78.04 323 ⇑P **P** **05 03 22.9 +0.9**
CRVS Cervenica-Dubn 78.06 325 *e*P **P** **05 03 22.6 +0.4**
CRVS pmax pmax
comp=Z,119nm,1.1s
CRVS Cervenica-Dubn 78.06 325 *e*P **P** **05 03 22.6 +0.4**
PV11 David Mesa, Pa 78.06 50 IAmb IAmb 05 03 35.9
comp=Z,64nm,1.0s
ARCR ARCALIA 78.07 322 ⇑P **P** **05 03 23.7 +1.4**
PV18 Skein Mesa, Pa 78.08 50 IAmb IAmb 05 03 40.5
comp=Z,74nm,1.1s
PV12 Saucer Basin, 78.09 50 IAmb IAmb 05 03 40.9
comp=Z,150nm,1.8s
OZUR 78.09 321 ⇑P **P** **05 03 23.7 +1.3**
PV03 Paradox Valley 78.11 50 IAmb IAmb 05 03 40.7
comp=Z,99nm,1.5s
MFTR Murfatlar 78.13 318 ⇑P **P** **05 03 23.2 +0.6**
SKMB Sankelmark Bun 78.14 335 *e*P **P** **05 03 23.9 +1.4**
comp=Z,404nm,1.4s,baz=36,slow=4.4
NIE Niedzica 78.18 326 *e*P **P** **05 03 23.6 +0.8**
PV13 Radium Mtn., P 78.19 50 IAmb IAmb 05 03 41.1
comp=Z,79nm,1.2s
PV15 Paradox Valley 78.27 50 IAmb IAmb 05 03 41.5
comp=Z,90nm,1.7s
BRTR Keskin Array B 78.33 312 P **P** **05 03 24.4 +0.3**
comp=Z,51nm,1.2s,baz=86,slow=3.8,SNR=30
BRTR PP **PP** **05 06 17.0 -3.6**
comp=Z,10nm,1.1s,baz=69,slow=2.9,SNR=3.2
PV01 Paradox Valley 78.35 50 IAmb IAmb 05 03 42.1
comp=Z,55nm,1.2s
WUAZ Wupatki 78.36 53 IAmb IAmb 05 03 44.1
comp=Z,77nm,1.2s
WUAZ Wupatki 78.36 53 P 05 03 23.6
baz=311,SNR=12
WUAZ S 05 13 21.3
baz=311
DOPR Dopca 78.38 321 ⇑P **P** **05 03 25.4 +1.4**
ISR Istrita 78.42 320 ⇑P **P** **05 03 25.0 +0.7**
RUE Ruedersdorf 78.43 331 *e*P **P** **05 03 24.9 +0.8**
comp=Z,156nm,1.0s,baz=36,slow=4.4
MLR Muntele Rosu 78.45 320 ⇑P **P** **05 03 25.1 +0.6**
MLR Muntele Rosu 78.45 320 IAmb IAmb 05 03 47.5
comp=Z,124nm,1.5s
BSEG Bad Segeberg 78.49 334 *e*P **P** **05 03 25.1 +0.8**
comp=Z,144nm,1.1s,baz=36,slow=4.4
ICOR Ion Corvin 78.49 318 ⇑P **P** **05 03 25.8 +1.2**
CJR Cluj-Napoca 78.70 323 ⇑P **P** **05 03 27.1 +1.3**
SECR 78.71 320 ⇑P **P** **05 03 27.3 +1.4**
ANTO Ankara 78.72 313 P **P** **05 03 26.8 +0.7**
ANTO pmax pmax
comp=Z,129nm,1.0s
ANTO Ankara 78.72 313 P **P** **05 03 26.8 +0.7**
LANS Liptovska Anna 78.74 326 *e*P **P** **05 03 27.6 +1.6**
LANS pmax pmax
comp=Z,59nm,1.1s
LANS Liptovska Anna 78.74 326 *e*P **P** **05 03 27.6 +1.6**
KSP Ksiaz 78.75 329 *e*P **P** **05 03 26.7 +0.7**
OKC Ostrava-Krasne 78.78 327 *e*P **P** **05 03 26.5 +0.4**
OKC Ostrava-Krasne 78.78 327 *e*P **P** **05 03 26.5 +0.4**
KECS Kecovo 78.80 325 *e*P **P** **05 03 27.1 +0.8**
KECS pmax pmax
comp=Z,24nm,1.1s
KECS Kecovo 78.80 325 *e*P **P** **05 03 27.1 +0.8**
B35A Bob, Littlefor 78.85 35 IAmb IAmb 05 03 50.9
comp=Z,72nm,1.5s
VOIR 78.93 321 ⇑P **P** **05 03 27.9 +0.8**
ISCO Idaho Springs 78.95 47 P 05 03 25.9
baz=313
ISCO S 05 13 26.7
baz=313
MVCO Mesa Verde 79.00 51 P 05 03 26.7
baz=312,SNR=13
MVCO S 05 13 27.9
baz=312
OSTC Ostas 79.01 329 *e*P **P** **05 03 27.5 +0.1**
CHVC Chvalec 79.05 329 *e*P **P** **05 03 28.0 +0.4**
DRGR 79.05 323 ⇑P **P** **05 03 28.3 +0.5**
MORC Moravsky Berou 79.07 328 ⇑P **P** **05 03 28.8 +1.0**
MORC Moravsky Berou 79.07 328 *e*P **P** **05 03 28.2 +0.4**
MORC Moravsky Berou 79.07 328 IAmb IAmb 05 03 29.9
comp=Z,114nm,1.0s
DPC Dobruska-Polom 79.13 329 *e*P **P** **05 03 29.0 +0.9**
DPC Dobruska-Polom 79.13 329 *e*P **P** **05 03 29.0 +0.9**
UPC Upice 79.13 329 *e*P **P** **05 03 28.8 +0.8**
UPC Upice 79.13 329 *e*P **P** **05 03 28.8 +0.8**
KRLC Kraliky 79.15 328 *e*P **P** **05 03 28.9 +0.7**
KRLC Kraliky 79.15 328 *e*P **P** **05 03 28.9 +0.7**
ARR Arges 79.18 321 ⇑P **P** **05 03 29.6 +1.1**
MCD Coleburn Disti 79.23 342 *e*P **P** **05 03 28.5 0.0**
SUSD Miller 79.27 40 IAmb IAmb 05 03 39.9
comp=Z,60nm,0.7s
SUSD Miller 79.27 40 P 05 03 27.9
baz=316,SNR=6.8
SUSD S 05 13 26.3
baz=316
SGRR Singureni 79.34 320 ⇑P **P** **05 03 29.6 +0.3**
FLTG Flechtingen 79.48 332 *e*P **P** **05 03 29.9 +0.1**
comp=Z,145nm,1.1s,baz=36,slow=4.4
PSZ Piszkesteto 79.49 325 ⇑P **P** **05 03 31.1 +1.0**
VYHS Vyhne 79.51 326 *e*P **P** **05 03 31.1 +0.9**
VYHS pmax pmax
comp=Z,90nm,1.2s
VYHS Vyhne 79.51 326 *e*P **P** **05 03 31.1 +0.9**
LOT Lotru 79.54 322 ⇑P **P** **05 03 30.6 +0.1**
F33A 5 Mile Ranch, 79.55 38 IAmb IAmb 05 03 55.1
comp=Z,105nm,1.7s
MDO Dochfour 79.61 343 *e*P **P** **05 03 30.7 +0.1**
HUMR Humele 79.62 320 ⇑P **P** **05 03 31.8 +1.0**
DEV Deva 79.63 322 ⇑P **P** **05 03 32.3 +1.5**
W18A Petrified Fore 79.63 53 P 05 03 31.0
baz=311
W18A S 05 13 35.0
baz=311
S22A 4UR Ranch, Cre 79.63 49 P 05 03 30.1
baz=312,SNR=9.0
S22A S 05 13 35.3
baz=312
BRG Berggiesshubel 79.65 330 ⇑*i*P **P** **05 03 31.2 +0.4**
BRG Amp 05 03 32.6
comp=Z,73nm,1.1s
BRG *ex* x 05 03 45.1
BRG Amp 05 03 46.4
comp=Z,38nm,1.1s
BRG *ex* x 05 03 54.8
BRG Amp 05 03 56.1
comp=Z,19nm,1.0s
BRG *ex* x 05 04 01.6
BRG Amp 05 04 03.0
comp=Z,47nm,1.1s
BRG PP PP 05 06 16.3 -15
BRG Amp 05 06 21.6
comp=Z,20nm,1.2s
BRG Berggiesshubel 79.65 330 *e*P **P** **05 03 31.2 +0.4**
comp=Z,73nm,1.1s,baz=36,slow=4.4
DRUM Mains of Drumt 79.65 342 *e*P **P** **05 03 31.0 +0.3**
DRUM IAmb IAmb 05 03 32.1
comp=Z,55nm,1.0s
CLL Collm 79.66 331 ⇑*i*P **P** **05 03 30.9 +0.1**
comp=Z,110nm,1.0s
CLL *e* 05 03 52.0
CLL *e* 05 06 08.0
CLL *e*PP **PP** **05 06 29.0 -2.0**
CLL *e*S **S** **05 13 36.0 +4.1**
CLL *e*PS **PnS** **05 14 16.0 -0.3**
CLL *e*SS **SS** **05 18 42.0 +2.9**
CLL Collm 79.66 331 ⇑*i*P **P** **05 03 30.9 +0.1**
CLL *e*S **S** **05 13 36.0 +4.1**
CLL pmax pmax
comp=Z,110nm,1.0s
CLL Collm 79.66 331 IAmb IAmb 05 03 32.2
comp=Z,94nm,0.9s
CLL Collm 79.66 331 *e*P **P** **05 03 31.0 +0.1**
comp=Z,110nm,1.0s,baz=36,slow=4.4
PVCC Panska Ves 79.68 330 *e*P **P** **05 03 32.0 +1.0**
PVCC Panska Ves 79.68 330 *e*P **P** **05 03 32.0 +1.0**
JAVC Velka Javorina 79.73 327 *e*P **P** **05 03 32.9 +1.5**
NRDL Niedersach Rie 79.74 333 *e*P **P** **05 03 31.8 +0.6**
comp=Z,75nm,1.2s,baz=36,slow=4.4
214A Organ Pipe Nat 79.75 57 P 05 03 30.2
baz=310,SNR=8.3
214A S 05 13 35.4
baz=310
Q24A Divide 79.78 48 P 05 03 32.1
baz=313
Q24A S 05 13 34.1
baz=313
COPA Copaceanca 79.78 320 ⇑P **P** **05 03 31.9 +0.2**
VRAC Vranov 79.83 328 ⇑P **P** **05 03 33.0 +1.1**
VRAC Vranov 79.83 328 *e*P **P** **05 03 32.7 +0.8**
FBE Freiberg 79.84 331 *e*P **P** **05 03 32.6 +0.8**
comp=Z,110nm,1.1s,baz=36,slow=4.4
ASSE Asse, Remlinge 79.84 333 *e*P **P** **05 03 32.3 +0.5**
comp=Z,88nm,1.3s,baz=36,slow=4.4
SIRR Siria 79.93 323 ⇑P **P** **05 03 33.0 +0.5**
ISK Istanbul-Kandi 79.97 316 P **P** **05 03 32.7 0.0**
GZR Gura Zlata 80.05 322 ⇑P **P** **05 03 33.1 -0.2**
ZIMR 80.05 319 ⇑P **P** **05 03 33.7 +0.6**
SMOL Smolenice 80.10 327 *e*P **P** **05 03 34.7 +1.4**
SMOL pmax pmax
comp=Z,55nm,1.1s
SMOL Smolenice 80.10 327 *e*P **P** **05 03 34.7 +1.4**
PRA Prague 80.10 329 *e*P **P** **05 03 34.0 +0.7**
PRA Prague 80.10 329 *e*P **P** **05 03 34.0 +0.7**
KRUC Moravsky 80.10 328 *e*P **P** **05 03 33.9 +0.6**
PRU Pruhonice 80.12 329 *e*P **P** **05 03 33.9 +0.5**
PRU Pruhonice 80.12 329 *e*P **P** **05 03 33.9 +0.5**
EYMN Ely 80.14 34 P 05 03 32.8
baz=320
EYMN S 05 13 32.8
baz=320
OGNE Ogallala 80.14 44 IAmb IAmb 05 03 50.9
comp=Z,110nm,1.2s
OGNE Ogallala 80.14 44 P 05 03 34.7
baz=315
OGNE S 05 13 36.7
baz=315
CLZ Clausthal 80.19 333 *e*P **P** **05 03 34.6 +0.8**
comp=Z,165nm,1.2s,baz=36,slow=4.4
NEUB Neuenburg 80.20 332 *e*P **P** **05 03 34.1 +0.4**
comp=Z,151nm,1.1s,baz=36,slow=4.4
SRO Srobarova 80.26 326 *e*P **P** **05 03 35.9 +1.7**
SRO pmax pmax
comp=Z,158nm,1.2s
SRO Srobarova 80.26 326 *e*P **P** **05 03 35.9 +1.7**
MODS Modra-Piesok 80.27 327 *e*P **P** **05 03 34.5 +0.2**
MODS pmax pmax
comp=Z,119nm,1.2s
MODS Modra-Piesok 80.27 327 *e*P **P** **05 03 34.5 +0.2**
VLAD Vladila 80.29 320 ⇑P **P** **05 03 35.2 +0.8**
TREC Trest 80.29 328 *e*P **P** **05 03 35.0 +0.6**
TREC Trest 80.29 328 *e*P **P** **05 03 35.0 +0.6**
DGAR Diego Garcia 80.30 252⇓*e*P **P** **05 03 35.4 +0.5**
DGAR pmax pmax
comp=Z,159nm,1.0s
DGAR Diego Garcia 80.30 252 P **P** **05 03 35.4 +0.5**
SDCO Great Sand Dun 80.41 49 P 05 03 34.7
baz=313,SNR=7.2
SDCO S 05 13 43.1
baz=313
BZS Buzias 80.43 323 ⇑P **P** **05 03 35.3 +0.1**
INVG Invergeldie, C 80.46 342 *e*P **P** **05 03 35.4 +0.3**
INVG IAmb IAmb 05 03 36.5
comp=Z,38nm,0.9s
ZST Bratislava 80.48 327 *e*P **P** **05 03 36.8 +1.4**
ZST pmax pmax
comp=Z,198nm,1.3s
ZST Bratislava 80.48 327 *e*P **P** **05 03 36.8 +1.4**
GTTG Gottingen 80.58 333 *e*P **P** **05 03 36.6 +0.8**
comp=Z,113nm,1.1s,baz=36,slow=4.4
PBCC Pribram 80.58 329 *e*P **P** **05 03 36.1 +0.2**
ESY Stoneypath 80.58 341 *e*P **P** **05 03 36.0 +0.2**
TANN Tannenbergstha 80.58 331 *e*P **P** **05 03 36.2 +0.3**
comp=Z,61nm,1.3s,baz=36,slow=4.4
HERR Herculane 80.60 322 ⇑P **P** **05 03 36.2 +0.1**
PLN Plauen 80.64 331 *e*P **P** **05 03 36.7 +0.5**
comp=Z,59nm,1.1s,baz=36,slow=4.4
EDRB Edirne 80.65 317 P **P** **05 03 36.7 +0.3**
GUNZ Gunzen 80.67 331 *e*P **P** **05 03 37.0 +0.6**
comp=Z,69nm,1.1s,baz=36,slow=4.4
IBBN Ibbenburen 80.70 334 *e*P **P** **05 03 36.9 +0.4**
comp=Z,132nm,1.1s,baz=36,slow=4.4
MOX Moxa 80.71 331 *e*P **P** **05 03 37.0 +0.4**
comp=Z,80nm,1.2s,baz=36,slow=4.4
WERN Wernitzgruen 80.72 331 *e*P **P** **05 03 37.4 +0.7**
comp=Z,72nm,1.1s,baz=36,slow=4.4
NKC Novy Kostel 80.73 331 *e*P **P** **05 03 37.1 +0.4**
NKC Novy Kostel 80.73 331 *e*P **P** **05 03 37.1 +0.4**
EAB Aberfoyle 80.75 342 *e*P **P** **05 03 37.1 +0.4**
BAIL Bailesti 80.79 321 ⇑P **P** **05 03 38.3 +1.2**
PUNG Punghina 80.80 321 ⇑P **P** **05 03 38.3 +1.1**
EBL Broad Law 80.81 342 *e*P **P** **05 03 37.4 +0.4**
TUC Tucson 80.82 56 P **P** **05 03 39.1 +1.5**
TUC pmax pmax
comp=Z,27nm,1.3s
TUC Tucson 80.82 56 P **P** **05 03 39.1 +1.5**
TUC Tucson 80.82 56 P 05 03 36.7
baz=311
TUC S 05 13 46.3
baz=311
BANR Banloc 80.83 323 ⇑P **P** **05 03 37.9 +0.6**
ECSD EROS Data Cent 80.94 39 P 05 03 36.1
baz=318,SNR=13
ECSD S 05 13 43.3
baz=318
MDVR Moldovita 81.01 322 ⇑P **P** **05 03 38.5 +0.1**
MANZ Manzenberg 81.06 331 *e*P **P** **05 03 39.1 +0.5**
comp=Z,66nm,1.1s,baz=36,slow=4.4
PGBU Glenifferbraes 81.12 342 *e*P **P** **05 03 39.2 +0.6**
PGBU IAmb IAmb 05 03 40.5
comp=Z,169nm,1.0s
RAYN Ar Rayn 81.14 293 P **P** **05 03 39.4 0.0**
RAYN pmax pmax
comp=Z,92nm,1.0s
RAYN Ar Rayn 81.14 293 P **P** **05 03 39.4 0.0**
RAYN IAmb IAmb 05 03 40.7
comp=Z,92nm,1.0s
CKRC Cesky Krumlov 81.14 329 *e*P **P** **05 03 38.8 -0.1**
E38A The Farm, Brul 81.14 35 IAmb IAmb 05 04 02.2
comp=Z,82nm,1.6s
UBBA Unterbreizbach 81.16 332 *e*P **P** **05 03 39.2 +0.4**
comp=Z,40nm,1.2s,baz=36,slow=4.4
KSCO Kaye Shedlock' 81.17 46 IAmb IAmb 05 03 56.5
comp=Z,78nm,1.3s
KSCO Kaye Shedlock' 81.17 46 P 05 03 38.7
baz=315
KSCO S 05 13 45.9
baz=315
KHC Kasperske Hory 81.18 329 *e*P **P** **05 03 39.7 +0.5**
KHC Kasperske Hory 81.18 329 *e*P **P** **05 03 39.7 +0.5**
ROTZ Rotzenmuhle 81.20 330 *e*P **P** **05 03 40.0 +0.8**
comp=Z,149nm,1.5s,baz=36,slow=4.4
CONA Conrad Observa 81.21 327 *i*P **P** **05 03 40.6 +1.2**
comp=Z,97nm,1.2s,SNR=20
ESK Eskdalemuir 81.27 341 *e*P **P** **05 03 39.7 +0.2**
ESK IAmb IAmb 05 03 40.3
comp=Z,42nm,1.0s
ESK Eskdalemuir 81.27 341 P **P** **05 03 40.0 +0.6**
ESK pmax pmax
comp=Z,37nm,1.0s
ESK Eskdalemuir 81.27 341 P **P** **05 03 40.0 +0.6**
MORH Mrgy, Hungar 81.34 325 ⇑P **P** **05 03 39.8 -0.1**
MORH Mrgy, Hungar 81.34 325 ⇑*i*P **P** **05 03 39.5 -0.5**
GEC2 GERESS Array S 81.36 329 *e*P **P** **05 03 40.5 +0.3**
comp=Z,47nm,1.1s,baz=36,slow=4.4
GERES GERESS Array B 81.36 329 P **P** **05 03 40.4 +0.1**
comp=Z,20nm,0.9s,baz=38,slow=5.0,SNR=39
KASTN Kahler Asten 81.40 333 *e*P **P** **05 03 40.8 +0.5**
comp=Z,66nm,1.2s,baz=36,slow=4.4
WET Wettzell 81.45 330 *e*P **P** **05 03 41.3 +0.8**
comp=Z,89nm,1.1s,baz=36,slow=4.4
T25A Trinidad 81.46 48 P 05 03 40.7
baz=314,SNR=13
T25A S 05 13 53.0
baz=314
BUG Bochum--Univer 81.60 334 *e*P **P** **05 03 41.4 +0.2**
comp=Z,109nm,1.3s,baz=36,slow=4.4
FRGS Fruska Gora 81.62 323 ⇑P **P** **05 03 42.2 +0.6**
FRGS Fruska Gora 81.62 323 ⇑*i*P **P** **05 03 41.3 -0.2**
GRF Grafenberg Arr 81.64 331 *e*P **P** **05 03 42.4 +0.8**
comp=Z,192nm,1.1s,baz=36,slow=4.4
GRF *e*PP PP 05 06 32.0 -15
baz=30,slow=6.5
SPMN Marine on St. 81.64 36 P 05 03 40.5
baz=320
SPMN S 05 13 49.7
baz=320
GRFO Grafenberg 81.64 331 P **P** **05 03 42.5 +0.9**
GRFO pmax pmax
comp=Z,162nm,1.0s
GRFO Grafenberg 81.64 331 P **P** **05 03 42.5 +0.9**
ALN Alexandroupoli 81.69 317 P **P** **05 03 41.8 -0.2**
ALN Alexandroupoli 81.69 317 IAmb IAmb 05 03 58.0
comp=Z,90nm,1.4s
NEWG New Galloway 81.70 342 *e*P **P** **05 03 42.0 +0.3**
NEWG IAmb IAmb 05 03 43.1
comp=Z,33nm,1.0s
CSS Mathiatis 81.72 309 IAmb IAmb 05 03 44.8
comp=Z,80nm,0.9s
ANMO Albuquerque 81.75 51*c i*P **P** **05 03 44.5 +1.9**
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO Albuquerque 81.75 51 P **P** **05 03 43.7 +1.1**
ANMO Albuquerque 81.75 51 P 05 03 42.7
baz=313
ANMO S 05 13 57.9
baz=313
RDO Rodhopi 81.78 318 P **P** **05 03 42.6 +0.2**
BGNE Belgrade 81.87 42 P 05 03 42.3
baz=317,SNR=7.6
BGNE S 05 13 52.2
baz=317
BOVS Bovan 81.87 321 ⇑P **P** **05 03 42.3 -0.6**
VTS Vitosha 81.88 320 ⇑P **P** **05 03 44.0 +0.9**
VTS Vitosha 81.88 320 IAmb IAmb 05 03 45.3
comp=Z,78nm,0.9s
ARSA Arzberg 81.88 327 *i*P **P** **05 03 43.7 +0.8**
comp=Z,53nm,1.1s,SNR=14
SOCY Socotra 81.92 279 P **P** **05 03 42.5 -1.2**
MOA Molln 81.93 328 *i*P **P** **05 03 43.9 +0.8**
comp=Z,51nm,1.4s,SNR=9.8
BEHE Becsehely 81.96 326 ⇑*i*P **P** **05 03 43.1 -0.2**
GAL1 Galloway 82.04 342 *e*P **P** **05 03 43.9 +0.4**
GAL1 IAmb IAmb 05 03 44.9
comp=Z,65nm,0.8s
Y22D IRIS PASSCAL I 82.06 52 P 05 03 42.8
baz=313
Y22D S 05 14 01.1
baz=313
D41A Chassel 82.08 33 IAmb IAmb 05 03 58.7
comp=Z,63nm,1.3s
HPK Haverah Park 82.09 340 *e*P **P** **05 03 44.0 +0.2**
HPK IAmb IAmb 05 03 46.7
comp=Z,97nm,0.9s
CLGH Cloghs, Cushen 82.17 343 *e*P **P** **05 03 44.7 +0.5**
CLGH IAmb IAmb 05 03 45.3
comp=Z,98nm,1.1s
TNS Taunus Mts 82.21 333 *e*P **P** **05 03 44.9 +0.3**
comp=Z,62nm,1.2s,baz=36,slow=4.4
MILB Miltenberg 82.24 332 *e*P **P** **05 03 44.8 +0.1**
comp=Z,57nm,1.0s,baz=36,slow=4.4
SMTH Samothraki Isl 82.27 317 P **P** **05 03 42.4 -2.6**
I37A Lemond, Waseca 82.28 38 IAmb IAmb 05 04 02.5
comp=Z,91nm,1.1s
DIVS Divibare 82.34 323 ⇑*i*P **P** **05 03 45.1 -0.3**
DIVS Divibare 82.34 323 IAmb IAmb 05 03 46.9
comp=Z,59nm,1.1s
L34A Svendsen Farm, 82.36 41 IAmb IAmb 05 04 17.4
comp=Z,43nm,0.7s
KAVA Kavala 82.42 318 P **P** **05 03 46.0 +0.2**
AHRW Bad Neuenahr-A 82.42 334 *e*P **P** **05 03 45.9 +0.3**
comp=Z,76nm,1.1s,baz=36,slow=4.4
SCHQ Scheiterville 82.44 17 P **P** **05 03 45.8 +0.1**
comp=Z,7.4nm,0.8s,baz=321,slow=6.3,SNR=8.4
NVR Nevrokopi 82.50 319 P **P** **05 03 45.2 -1.0**
SOKA Soboth 82.54 327 *i*P **P** **05 03 46.8 +0.4**
comp=Z,174nm,1.1s,SNR=49
IOMK Kirk Michael 82.56 342 *e*P **P** **05 03 46.1 -0.1**
IOMK IAmb IAmb 05 03 47.1
comp=Z,94nm,1.0s
121A Cookes Peak, D 82.56 54 P 05 03 47.1
baz=313,SNR=7.3
121A S 05 14 05.0
baz=313
THAS Thassos island 82.60 318 P **P** **05 03 46.2 -0.5**
RJOB Jochberg 82.61 329 *e*P **P** **05 03 47.6 +0.8**
comp=Z,409nm,1.2s,baz=36,slow=4.4
LBWR Ladybower, Pea 82.61 340 *e*P **P** **05 03 46.9 +0.3**
LBWR IAmb IAmb 05 03 49.2
comp=Z,195nm,1.0s
BEBN Eben Emael 82.68 335 *d*P **P** **05 03 47.1 +0.2**
BTNL Ternell 82.71 334 *b*P **P** **05 03 47.0 -0.1**
comp=Z,48nm,1.2s
MEM Membach 82.73 334 *b*P **P** **05 03 47.1 -0.1**
comp=Z,45nm,1.1s
PRK Paraskevi 82.76 316 P **P** **05 03 48.5 +0.9**
BBLS Lazići 82.79 323 ⇑*i*P **P** **05 03 48.3 +0.5**
HAPS Han Pijesak,Bl 82.83 323 ⇑*i*P **P** **05 03 47.8 -0.2**
FUR Furstenfeldbru 82.86 330 *e*P **P** **05 03 48.8 +0.8**
comp=Z,146nm,1.1s,baz=36,slow=4.4
LIA Limnos Island 82.87 317 P **P** **05 03 47.8 -0.3**
OBKA Obir 82.88 327 *i*P **P** **05 03 48.4 +0.2**
comp=Z,43nm,0.9s,SNR=8.5
BSTI Sart Tilman 82.90 334 *d*P **P** **05 03 47.8 -0.3**
CBKS Cedar Bluff 82.90 45 IAmb IAmb 05 04 05.2
comp=Z,72nm,1.4s
CBKS Cedar Bluff 82.90 45 P 05 03 47.3
baz=316
CBKS S 05 14 02.5
baz=316
GMM Mts of Mourne 82.91 342 *e*P **P** **05 03 48.1 +0.1**
KBA Koelnbreinsper 82.92 328 *e*P **P** **05 03 48.7 +0.1**
comp=Z,133nm,1.2s,SNR=25
BHOU Houvegnez 82.94 334 *d*P **P** **05 03 48.4 0.0**
comp=Z,44nm,1.7s
BLCB Balcova 82.96 315 P **P** **05 03 48.1 -0.5**
RUDO Rudo 83.00 323 ⇑*i*P **P** **05 03 48.2 -0.6**
SIGR SIGRI 83.01 316 P **P** **05 03 48.5 -0.4**
CRES Cresnjev 83.04 326 ⇑*i*P **P** **05 03 48.5 -0.4**
MRAK Mrakovica 83.05 325 ⇑*i*P **P** **05 03 49.6 +0.5**
STIP Stip 83.08 320 *i*P **P** **05 03 48.6 -0.6**
BCLA Clavier 83.12 335 *d*P **P** **05 03 49.0 -0.3**
comp=Z,34nm,1.1s
BLY Banja Luka 83.12 325 ⇑*i*P **P** **05 03 49.2 -0.2**
KNT Kendrikon 83.12 319 P **P** **05 03 49.0 -0.5**
SOH Sokhos 83.14 319 P **P** **05 03 48.7 -0.9**
STU Stuttgart 83.15 331 *e*P **P** **05 03 49.9 +0.4**
comp=Z,98nm,1.1s,baz=36,slow=4.4
MYKA Terra Mystica 83.16 328 *i*P **P** **05 03 49.5 -0.1**
comp=Z,102nm,1.4s,SNR=17
OUR Ouranopolis 83.18 318 P **P** **05 03 49.5 -0.2**
BGES Gesves 83.23 335 *d*P **P** **05 03 49.7 -0.1**
comp=Z,41nm,1.1s
SKO Skopje 83.25 320 *i*P **P** **05 03 51.3 +1.2**
LJU Ljubljana 83.26 327 *i*P **P** **05 03 49.7 -0.4**
E43A Lone Tree Farm 83.28 33 IAmb IAmb 05 04 14.5
comp=Z,49nm,1.5s
WPS Cemaes, Angles 83.33 341 *e*P **P** **05 03 50.2 0.0**
WPS IAmb IAmb 05 03 50.9
comp=Z,109nm,1.5s
RCHB Rochefort 83.38 334 *d*P **P** **05 03 50.5 0.0**
comp=Z,48nm,1.5s
BOJS Bojanci 83.38 326 *e*P **P** **05 03 50.6 -0.1**
BOJS *e*S **S** **05 14 08.9 -1.8**
SNF Seneffe 83.38 335 *b*P **P** **05 03 50.8 +0.2**
comp=Z,52nm,0.9s
BMRD Maredsous 83.40 335 *b*P **P** **05 03 50.5 -0.2**

comp=Z,65nm,1.3s
WLF1 Llynfaes 83.40 341 *e*P **P** **05 03 51.0 +0.4**
WLF1 IAmb IAmb 05 03 52.2
comp=Z,431nm,1.7s
WATA Walderalm 83.42 329 *i* P **P** **05 03 51.6 +0.6**
comp=Z,106nm,1.4s,SNR=17
MGRS Mrkonjic Grad 83.43 324⇑ *i*P **P** **05 03 51.3 +0.3**
PLG Polygyros 83.43 318 P **P** **05 03 50.9 -0.2**
HORT Hortiatis 83.44 319 P **P** **05 03 50.4 -0.8**
CADS Cadrg 83.44 327 *i* P **P** **05 03 49.7 -1.3**
WTTA Wattenberg 83.46 329 *i* P **P** **05 03 51.8 +0.5**
comp=Z,82nm,1.3s,SNR=10
FOEL Foel Wylfa 83.46 340 *e*P **P** **05 03 50.8 -0.2**
FOEL IAmb IAmb 05 03 51.8
comp=Z,143nm,1.1s
WLF Walferdange 83.48 334 *d*P **P** **05 03 51.5 +0.4**
WLF Walferdange 83.48 334 *e*P **P** **05 03 51.6 +0.4**
comp=Z,82nm,1.4s,baz=36,slow=4.4
YLL Llanberis 83.48 341 *e*P **P** **05 03 51.7 +0.6**
CHOS Chios island 83.50 315 P **P** **05 03 51.5 0.0**
ABTA Abfaltersbach 83.53 328 *i* P **P** **05 03 51.0 -0.5**
comp=Z,62nm,1.1s,SNR=15
GRG Griva 83.53 319 P **P** **05 03 51.4 -0.2**
UPM Unac-Piva 83.53 323⇑ *i*P **P** **05 03 51.2 -0.6**
CEY Cerknica 83.55 327⇑ *i*P **P** **05 03 50.9 -0.7**
SMG Samos 83.56 314 P **P** **05 03 51.3 -0.5**
MOTA Moosalm 83.60 330 *i* P **P** **05 03 52.3 +0.3**
comp=Z,152nm,1.1s,SNR=30
RETA Reutte 83.62 330 *i* P **P** **05 03 52.5 +0.5**
comp=Z,156nm,1.2s,SNR=33
LLW Llanuwchllyn 83.62 341 *e*P **P** **05 03 52.3 +0.6**
PAIG Paliouri 83.64 318 P **P** **05 03 50.8 -1.3**
DOU Dourbes 83.64 335 *d*P **P** **05 03 51.6 -0.2**
comp=Z,26nm,1.6s
I40A Norwalk 83.66 36 IAmb IAmb 05 04 16.6
comp=Z,62nm,1.6s
UBR Ueberruh 83.71 330 *e*P **P** **05 03 52.5 +0.1**
comp=Z,66nm,1.4s,baz=36,slow=4.4
HLM1 Long Mynd 83.72 340 *e*P **P** **05 03 52.1 -0.2**
HLM1 IAmb IAmb 05 03 53.2
comp=Z,69nm,1.3s
BODT Bodrum 83.76 314 P **P** **05 03 51.8 -1.0**
PMOR Pomariorio Ree 83.78 115 *e*T T 06 36 00.8
comp=Z,12nm,0.3s
BFO Black Forest 83.83 332 P **P** **05 03 53.2 +0.2**
BFO pmax pmax
comp=Z,189nm,1.6s
BFO Black Forest 83.83 332 P **P** **05 03 53.2 +0.2**
BFO Black Forest 83.83 332 *e*P **P** **05 03 53.2 +0.2**
comp=Z,200nm,1.7s,baz=36,slow=4.4
DSB Dublin 83.92 342 IAmb IAmb 05 03 55.2
comp=Z,59nm,1.0s
BRY Bratogost 83.93 323⇑ *i*P **P** **05 03 52.9 -0.9**
PHP Peshkopia 83.95 321 P **P** **05 03 53.5 -0.3**
PDG Podgorica 83.96 322⇑ *i*P **P** **05 03 53.9 +0.2**
PDG Podgorica 83.96 322⇑ *i*P **P** **05 03 53.7 0.0**
MATQ Matagami 83.96 25 P 05 03 51.9
baz=330,SNR=7.0
MATQ S 05 14 12.3
baz=330
SCIA State Center 83.97 39 P 05 03 53.1
baz=320
FETA Feichten 84.01 330 *i* P **P** **05 03 54.5 +0.4**
comp=Z,92nm,1.1s,SNR=18
LIT Litokhoron 84.12 319 P **P** **05 03 54.0 -0.6**
DAVA Damuels 84.12 330 *i* P **P** **05 03 55.1 +0.4**
comp=Z,129nm,1.0s,SNR=28
TREB Trebinje 84.17 323⇑ *i*P **P** **05 03 54.2 -0.6**
FNA Florina 84.17 320 P **P** **05 03 53.4 -1.5**
FNA Florina 84.17 320 IAmb IAmb 05 03 55.9
comp=Z,63nm,1.0s
DRME Dracevica, Mon 84.18 322⇑ *i*P **P** **05 03 54.8 0.0**
OHR Ohrid 84.21 320 *i* P **P** **05 03 55.2 +0.1**
MCH1 Michaelchurch 84.22 340 *e*P **P** **05 03 55.0 +0.2**
MCH1 IAmb IAmb 05 03 55.8
comp=Z,102nm,1.1s
XOR Xorichti 84.30 318 P **P** **05 03 53.0 -2.6**
KZN Kozani 84.33 319 P **P** **05 03 53.6 -2.2**
STON Ston 84.35 323⇑ *i*P **P** **05 03 53.7 -1.9**
ECH Echery 84.36 332 IAmb IAmb 05 03 57.0
comp=Z,77nm,1.1s
KSU1 Kansas State U 84.36 43 P 05 03 54.0
baz=318
KSU1 S 05 14 16.3
baz=318
KYMI Kymi, Euboea I 84.37 317 P **P** **05 03 55.2 -0.7**
PPT2 Papeete2 84.41 118 *e*T T 06 36 48.2
comp=Z,8.4nm,0.4s
CTI Castel Tesino 84.44 329 IAmb IAmb 05 03 56.6
comp=Z,84nm,1.2s
H43A Windswept, Lux 84.47 34 IAmb IAmb 05 04 07.2
comp=Z,29nm,0.8s
TIR Tirane 84.49 321 P **P** **05 03 56.6 +0.2**
TIR Tirane 84.49 321⇑ P **P** **05 03 57.0 +0.5**
TIAR Tirarei 84.54 118 *e*T T 06 36 58.0
comp=Z,1.1nm,0.3s
KBN Korca 84.59 320 P **P** **05 03 56.8 -0.2**
JFWS Jewell Farm 84.59 36 IAmb IAmb 05 04 29.3
comp=Z,70nm,1.8s
JFWS Jewell Farm 84.59 36 P 05 03 55.4
baz=322
JFWS S 05 14 19.3
baz=322
EREA Eretria 84.61 317 P **P** **05 03 56.1 -1.1**
NEST Nestorio 84.61 320 P **P** **05 03 56.4 -0.8**
MSTX Muleshoe 84.62 50 IAmb IAmb 05 04 15.1
comp=Z,43nm,1.2s
MSTX Muleshoe 84.62 50 P 05 03 54.7
baz=315,SNR=7.9
MSTX S 05 14 23.0
baz=315
MNTX Cornudas Mount 84.62 53 P 05 03 56.0
baz=314,SNR=9.5
MNTX S 05 14 23.9
baz=314
SMIA Simia 84.66 317 P **P** **05 03 56.8 -0.5**
RSBS Rosebush, Pemb 84.71 341 *e*P **P** **05 03 57.6 +0.3**
RSBS IAmb IAmb 05 03 58.8
comp=Z,105nm,1.0s
APE Apeiranthos 84.74 315 P **P** **05 03 55.8 -2.0**
APE Apeiranthos 84.74 315⇑ P **P** **05 03 56.0 -1.9**
THL Klokotos Trika 84.76 319 P **P** **05 03 54.6 -3.2**
LSQQ Lebel-sur-Quev 84.78 25 P 05 03 56.9
baz=330
L40A Anamosa 84.80 38 IAmb IAmb 05 04 22.2
comp=Z,48nm,1.1s
KPRO Kipourio 84.80 319 P **P** **05 03 55.0 -3.1**
N38A Joes South For 84.80 40 IAmb IAmb 05 04 22.6
comp=Z,46nm,0.8s
DION Dionisos Attik 84.86 316 P **P** **05 03 57.2 -1.2**
CHGQ Chibougamau 84.87 23 P 05 03 55.7
baz=332,SNR=6.7
ATAL Atalanti 84.89 317 P **P** **05 03 56.9 -1.6**
G45A Suttons Bay 84.91 33 IAmb IAmb 05 04 16.3
comp=Z,36nm,0.9s
PTL Penteli 84.92 316 P **P** **05 03 57.3 -1.4**
LKR Lokris 84.93 317 P **P** **05 03 57.4 -1.3**
AGG Agios Georgios 85.01 318 P **P** **05 03 54.7 -4.4**
AGG Agios Georgios 85.01 318 IAmb IAmb 05 03 59.1
comp=Z,48nm,1.1s
ATHU Athens Univers 85.03 316 P **P** **05 03 57.3 -1.9**
LSK Leskovik 85.04 320 P **P** **05 03 59.6 +0.3**
VLY Voula,Athens 85.10 316 P **P** **05 03 57.8 -1.8**
VILL Villia 85.13 317 P **P** **05 03 58.0 -1.8**
SANT Santorini 85.28 314⇑ P **P** **05 03 59.0 -1.6**
I45A Fountain 85.48 33 IAmb IAmb 05 04 12.6
comp=Z,42nm,0.8s
GLMI Grayling 85.51 32 IAmb IAmb 05 04 13.1
comp=Z,80nm,1.0s
GLMI Grayling 85.52 32 P 05 03 59.9
baz=325
ANX Ano Chora 85.54 318 P **P** **05 04 00.6 -1.3**
P38A Dawn 85.54 40 IAmb IAmb 05 04 26.6
comp=Z,74nm,1.4s
SRN Sarande 85.54 320 P **P** **05 04 01.1 -0.6**
THAL Thalero 85.57 317 P **P** **05 03 59.8 -2.1**
K43A Burlington 85.62 35 IAmb IAmb 05 04 25.4
comp=Z,56nm,1.4s
TRIZ Trizonia 85.63 318 P **P** **05 04 00.9 -1.3**
MEH Mehetia 85.64 117 *e*T T 06 38 19.5
comp=Z,36nm,0.3s
IGT Igoumenitsa 85.64 319 P **P** **05 04 00.4 -1.8**
PVO Paravola 85.72 318 P **P** **05 04 02.1 -0.6**
KEK Kerkira 85.77 320 P **P** **05 04 02.3 -0.6**
LAKA Lakka 85.77 318 P **P** **05 04 02.2 -0.8**

KLV Kalavryta, Ach 85.83 317 P **P** **05 03 59.3 -4.0**
SENIN Lac Senin/Sane 85.87 331 IAmb IAmb 05 04 11.4
comp=Z,36nm,0.9s
PDO Prodromos 85.92 318 P **P** **05 04 03.0 -0.6**
T35A Sooner Cattle 86.02 44 IAmb IAmb 05 04 29.6
comp=Z,49nm,1.1s
LKD2 Lefkada island 86.04 319 P **P** **05 04 03.3 -1.0**
DRO Drossia 86.13 318 P **P** **05 04 04.1 -0.6**
LAST Lasithi 86.15 313 P **P** **05 04 04.4 -0.6**
EVGI Lefkada island 86.17 319 P **P** **05 04 04.0 -0.9**
RLS Riolos of Patr 86.18 318 P **P** **05 04 04.3 -0.6**
VLX Vlachokerasia 86.21 317 P **P** **05 04 03.1 -2.1**
L44A Lake County Fo 86.23 36 P 05 04 03.6
baz=323
OK029 Liberty Lake 86.34 45 IAmb IAmb 05 04 23.0
comp=Z,37nm,0.9s
FSK Fiskardo 86.34 319 P **P** **05 04 03.1 -2.6**
P40A Paris 86.35 40 IAmb IAmb 05 04 30.7
comp=Z,110nm,1.4s
WMOK Wichita Mounta 86.37 47 P 05 04 03.8
baz=317,SNR=7.1
WMOK S 05 14 40.5
baz=317
IDI Anoyia 86.39 314 P **P** **05 04 02.2 -3.9**
IDI Anoyia 86.39 314 IAmb IAmb 05 04 21.4
comp=Z,50nm,1.0s
KEF5 Kardakata, Kep 86.52 319 P **P** **05 04 05.7 -0.9**
MATE Matera 86.55 322⇑ P **P** **05 04 06.2 -0.4**
OK025 Westminster Rd 86.56 45 IAmb IAmb 05 04 32.9
comp=Z,98nm,1.5s
ITM Ithomi 86.59 317 P **P** **05 04 05.7 -1.3**
DMLN Damoulianata-K 86.60 319 P **P** **05 04 06.3 -0.7**
KEF3 Kipouria, Keph 86.64 319 P **P** **05 04 05.8 -1.4**
OSSC Osservatorio P 86.67 327 IAmb IAmb 05 04 23.2
comp=Z,50nm,1.3s
KTHA Kythira Island 86.68 316 P **P** **05 04 04.6 -2.8**
AQU L'Aquila 86.70 325⇑ *i*P **P** **05 04 07.4 -0.1**
KTHR Kythira 86.71 316 P **P** **05 04 05.6 -2.0**
J47A Sunmer 86.72 33 IAmb IAmb 05 04 25.1
comp=Z,49nm,1.2s
VLMS Volimes, Zakyn 86.73 318 P **P** **05 04 06.1 -1.6**
INTR Introdacqua 86.75 325 IAmb IAmb 05 04 09.2
comp=Z,50nm,1.1s
IMMV Iera Moni Meta 86.77 315 P **P** **05 04 06.5 -1.4**
M44A Midewin, Midew 86.80 36 IAmb IAmb 05 04 32.4
comp=Z,70nm,1.1s
ANKY Antikythira Is 86.84 315 P **P** **05 04 04.7 -3.5**
PYL PYLOS 86.91 317 P **P** **05 04 05.7 -2.8**
X34A Smith Ranch, M 87.00 46 IAmb IAmb 05 04 27.2
comp=Z,67nm,1.3s
D55A Sainte-Anne-du 87.06 25 P 05 04 08.2
baz=331
D55A S 05 14 43.7
baz=331
S39A Bolivar 87.12 42 IAmb IAmb 05 04 33.6
comp=Z,42nm,1.2s
TUL1 Leonard 87.16 44 P 05 04 09.2
baz=319
TUL1 S 05 14 47.4
baz=319
D56A ZEC Mazanza, M 87.27 25 P 05 04 08.8
baz=332,SNR=8.9
D56A S 05 14 45.5
baz=332
TX31 Lajitas Ar. Si 87.32 54 IAmb IAmb 05 04 37.5
comp=Z,88nm,1.5s
TXAR Lajitas Array 87.32 54 P **P** **05 04 11.6 +0.8**
comp=Z,2.4nm,0.6s,baz=297,slow=3.0,SNR=26
E55A Montcerf-Lytto 87.35 26 S 05 14 44.7
baz=331
ABTX Abilene, Hawle 87.41 49 IAmb IAmb 05 04 28.4
comp=Z,65nm,1.4s
ABTX Abilene, Hawle 87.41 49 P 05 04 10.5
baz=317
ABTX S 05 14 50.0
baz=317
G54A Lake Saint Pet 87.55 28 P 05 04 09.5
baz=329
G54A S 05 14 47.7
baz=329
LATQ La Tuque 87.60 24 P 05 04 11.2
baz=333
LATQ S 05 14 49.1
baz=333
E56A St. Veronique 87.62 25 P 05 04 10.5
baz=331
E56A S 05 14 48.8
baz=331
TIP Timpagrande 87.67 321 IAmb IAmb 05 04 28.9
comp=Z,90nm,1.7s
D58A Chemin du LacG 87.83 24 P 05 04 11.9
baz=333
D58A S 05 14 51.4
baz=333
CCM Cathedral Cave 87.89 40 P **P** **05 04 13.8 +0.5**
CCM pmax pmax
comp=Z,102nm,1.4s
CCM Cathedral Cave 87.89 40 P **P** **05 04 13.8 +0.5**
L48A N Adams 87.95 34 IAmb IAmb 05 04 33.6
comp=Z,32nm,0.9s
AAM Ann Arbor 87.98 33 P 05 04 13.2
baz=326
AAM S 05 14 53.5
baz=326
SFIN Lafayette 88.04 36 IAmb IAmb 05 04 37.9
comp=Z,57nm,1.4s
SFIN Lafayette 88.04 36 P 05 04 11.6
baz=324
SFIN S 05 14 53.8
baz=324
MGMO Mountain Grove 88.07 41 IAmb IAmb 05 04 38.5
comp=Z,84nm,1.6s
H53A Bobcaygeon 88.08 29 P 05 04 12.0
baz=329
H53A S 05 14 53.9
baz=329
D59A Saint-Raymond 88.23 23 P 05 04 13.0
baz=334
D59A S 05 14 55.3
baz=334
N47A Urbana 88.26 35 IAmb IAmb 05 04 39.3
comp=Z,86nm,1.5s
Z35A Perchaven, San 88.26 47 IAmb IAmb 05 04 40.7
comp=Z,60nm,1.2s
E58A La Victoria 88.34 24 P 05 04 13.2
baz=333
E58A S 05 14 56.2
baz=333
FVM French Village 88.35 40 IAmb IAmb 05 04 40.3
comp=Z,85nm,1.4s
F57A Harrington 88.38 26 P 05 04 13.7
baz=332
F57A S 05 14 55.6
baz=332
U40A Yellville 88.38 42 IAmb IAmb 05 04 40.2
comp=Z,79nm,1.3s
U40A Yellville 88.38 42 P 05 04 14.2
baz=320,SNR=10
U40A S 05 14 58.4
baz=320
TBI Tubuai 88.50 122 *e*T T 06 41 54.9
comp=Z,39nm,0.4s
D61A St Aubert, Com 88.55 22 P 05 04 14.1
baz=335
D61A S 05 14 57.5
baz=335
D60A Saint Jean D'O 88.59 23 P 05 04 15.1
baz=334
D60A S 05 14 58.9
baz=334
P46A Rosedale 88.60 37 IAmb IAmb 05 04 28.3
comp=Z,34nm,0.9s
F58A St-Lin Laurent 88.62 25 P 05 04 14.9
baz=332
F58A S 05 14 58.7
baz=332
T42A Van Buren 88.76 41 IAmb IAmb 05 04 42.2
comp=Z,95nm,1.6s
W39A Magazine 88.77 44 P 05 04 16.1
baz=320
W39A S 05 15 02.7
baz=320
JCT Junction City 88.86 50 P 05 04 15.9
baz=317
JCT S 05 15 04.1
baz=317
N49A Columbus Grove 88.89 34 IAmb IAmb 05 04 29.6
comp=Z,44nm,1.2s
G57A Newington 88.90 26 P 05 04 17.0
baz=332
G57A S 05 15 00.9
baz=332
E60A Ste Agathe de 88.92 23 P 05 04 17.9
baz=334
F59A Saint Guilaume 88.96 24 P 05 04 16.5
baz=333
F59A S 05 15 02.3
baz=333
D62A Allapoint, All 88.98 22 P 05 04 16.5
baz=336
FCAR Ozark Folk Cen 89.11 42 IAmb IAmb 05 04 43.5
comp=Z,72nm,1.4s
F60A Warwick 89.12 24 P 05 04 18.8
baz=334
F60A S 05 15 04.3
baz=334
WHTX Lake Whitney, 89.14 48 P 05 04 19.9
baz=318
WHTX S 05 15 06.9
baz=318
E61A Lac Etchemin 89.15 23 P 05 04 18.5
baz=335
E61A S 05 15 03.6
baz=335
SIUC Southern Illin 89.15 39 IAmb IAmb 05 04 44.0
comp=Z,70nm,1.1s
G58A Ormstown 89.17 26 P 05 04 17.9
baz=332
E62A Clayton Lake 89.27 22 P 05 04 19.1
baz=335
E62A S 05 15 04.5
baz=335
D63A Stockholm 89.29 21 P 05 04 19.5
baz=336
D63A S 05 15 05.4
baz=336
H57A Richville 89.32 27 P 05 04 18.6
baz=331
H57A S 05 15 04.5
baz=331
MIAR Mount Ida 89.38 44 IAmb IAmb 05 04 45.6
comp=Z,35nm,1.2s
MIAR Mount Ida 89.38 44 P 05 04 20.9
baz=320
MIAR S 05 15 07.1
baz=320
F61A St Evariste 89.41 23 P 05 04 19.4
baz=334,SNR=5.7
F61A S 05 15 07.2
baz=334
O49A Covington 89.43 35 IAmb IAmb 05 04 43.6
comp=Z,42nm,1.4s
P48A Milroy 89.54 36 IAmb IAmb 05 04 45.6
comp=Z,74nm,1.6s
W41B Gary Mavity, V 89.60 43 P 05 04 19.9
baz=321
W41B S 05 15 09.0
baz=321
BATG Bathurst New B 89.61 20 IAmb IAmb 05 04 32.5
comp=Z,29nm,0.9s
ERPA Erie 89.63 31 P 05 04 21.8
baz=328
ERPA S 05 15 09.2
baz=328
I57A Carthage 89.69 27 P 05 04 21.1
baz=331
I57A S 05 15 08.6
baz=331
H59A Cadyville 89.74 26 P 05 04 20.5
baz=332
H59A S 05 15 09.2
baz=332
E63A Oxbow 89.76 21 P 05 04 21.0
baz=336
E63A S 05 15 08.4
baz=336
H58A Gabriels 89.78 26 P 05 04 20.3
baz=332
H58A S 05 15 09.0
baz=332
G60A Masonville 89.78 24 P 05 04 19.1
baz=333
G60A S 05 15 10.9
baz=333
F62A Pittston Farm, 89.79 23 P 05 04 20.3
baz=335,SNR=5.2
P49A Miami Univ. Ec 89.79 35 IAmb IAmb 05 04 46.0
comp=Z,34nm,1.1s
P49A Miami Univ. Ec 89.80 35 P 05 04 20.2
baz=325
P49A S 05 15 10.9
baz=325
X40A Basin Creek Fa 89.82 43 P 05 04 19.8
baz=320
X40A S 05 15 12.0
baz=320
J56A Wolcott 89.83 28 P 05 04 21.4
baz=330
J56A S 05 15 09.7
baz=330
G61A St-Isidore-de- 89.87 24 P 05 04 21.1
baz=334,SNR=6.4
G61A S 05 15 10.6
baz=334
MMNY Mt. Morris Dam 89.91 29 IAmb IAmb 05 04 33.7
comp=Z,35nm,1.0s
WVNY West Valley, N 89.92 30 IAmb IAmb 05 04 41.0
comp=Z,39nm,1.1s
E64A Bridgewater 89.93 21 P 05 04 21.4
baz=336,SNR=5.2
E64A S 05 15 10.8
baz=336
M53A WI Miller and 89.93 32 P 05 04 21.2
baz=328
M53A S 05 15 11.0
baz=328
435B Jarrell 89.95 49 P 05 04 21.7
baz=318
435B S 05 15 14.8
baz=318
J57A Williamstown 90.02 28 IAmb IAmb 05 04 47.0
comp=Z,35nm,1.1s
J57A Williamstown 90.03 28 P 05 04 21.5
baz=331
J57A S 05 15 11.0
baz=331
WCI Wyandotte Cave 90.14 37 P 05 04 21.9
baz=324
WCI S 05 15 13.3
baz=324
H60A Morristown 90.14 25 S 05 15 13.0
baz=333
I58A Old Forge 90.14 27 P 05 04 21.7
baz=332
I58A S 05 15 11.9
baz=332
NCB Newcomb 90.15 26 IAmb IAmb 05 04 41.2
comp=Z,80nm,1.9s
K56A Middlesex 90.16 29 P 05 04 17.4
baz=330
K56A S 05 15 12.8
baz=330
F63A Nahmakanta, Br 90.22 22 P 05 04 21.9
baz=336
G62A West of Eustis 90.23 23 P 05 04 22.8
baz=335
G62A S 05 15 14.2
baz=335
M54A Oil Creek Stat 90.28 31 IAmb IAmb 05 04 49.6
comp=Z,36nm,1.1s
M54A Oil Creek Stat 90.28 31 P 05 04 23.2
baz=328
M54A S 05 15 15.4
baz=328
WLAR White Oak Lake 90.28 44 IAmb IAmb 05 04 50.7
comp=Z,62nm,1.3s
F64A Sherman 90.29 22 P 05 04 23.9
baz=336
F64A S 05 15 15.7
baz=336
J58A Remsen 90.32 27 P 05 04 23.3
baz=331
J58A S 05 15 13.5
baz=331
VT1 Waterbury 90.32 25 IAmb IAmb 05 04 48.8
comp=Z,61nm,1.5s

H61A	**Lyndonville** baz=334	**90.41**	**24**	P		05 04 23.7
H61A				S		05 15 16.3
I59A	**Olmsteadville** baz=332	**90.43**	**26**	P		05 04 24.2
I59A				S		05 15 15.2
K57A	**Scipio Center** comp=Z,36nm,1.1s baz=332	**90.43**	**28**	IAmb	IAmb	05 04 50.5
J59A	**Piesco** comp=Z,46nm,1.3s	**90.50**	**27**	IAmb	IAmb	05 04 49.2
J59A	**Piesco** baz=332	**90.50**	**27**	P		05 04 24.5
J59A				S		05 15 16.4
L56A	**Greenwood** comp=Z,33nm,0.9s baz=332	**90.55**	**29**	IAmb	IAmb	05 04 36.9
L56A	**Greenwood** baz=330,SNR=6.0	**90.56**	**29**	P		05 04 24.8
L56A				S		05 15 17.1
P51A	**Williamsport** comp=Z,38nm,1.3s baz=330	**90.56**	**34**	IAmb	IAmb	05 04 48.6
PKME	**Peaks-Kenny Pk** baz=336	**90.56**	**22**	P		05 04 24.7
I60A	**Shoreham** baz=333	**90.58**	**26**	P		05 04 25.7
G63A	**Kingsbury** baz=335	**90.60**	**23**	P		05 04 24.1
G63A				S		05 15 18.7
N54A	**Moraine State** baz=328	**90.61**	**31**	P		05 04 25.5
N54A				S		05 15 19.0
H62A	**Milan** comp=Z,43nm,0.9s	**90.62**	**24**	IAmb	IAmb	05 04 37.6
H62A	**Milan** baz=334,SNR=7.3	**90.62**	**24**	P		05 04 25.8
H62A				S		05 15 18.5
M55A	**Ridgway** comp=Z,41nm,0.9s	**90.66**	**30**	IAmb	IAmb	05 04 44.6
833A	**Chaparral WMA,** baz=317	**90.67**	**52**	S		05 15 22.2
LBNH	**Lisbon** baz=334	**90.68**	**25**	P		05 04 27.3
LBNH				S		05 15 19.9
O53A	**New Philadelph** baz=327	**90.71**	**33**	P		05 04 26.0
O53A				S		05 15 18.7
G64A	**Maxfield** baz=336	**90.73**	**22**	P		05 04 26.3
G64A				S		05 15 19.7
T47A	**Sharon Grove** comp=Z,27nm,1.0s	**90.75**	**38**	IAmb	IAmb	05 04 51.0
Z41A	**Richland Creek** baz=320	**90.78**	**44**	P		05 04 25.0
Q51A	**Peebles** comp=Z,35nm,1.1s	**90.82**	**35**	IAmb	IAmb	05 04 38.8
P52A	**Corning** baz=327	**90.84**	**33**	P		05 04 25.5
P52A				S		05 15 20.5
ACCN	**Adirondack Com** comp=Z,30nm,1.1s	**90.86**	**26**	IAmb	IAmb	05 04 42.6
H63A	**New Sharon** baz=335	**90.89**	**23**	P		05 04 27.5
J60A	**Lant Hill Farm** baz=333	**91.07**	**26**	P		05 04 26.4
J60A				S		05 15 21.0
BINY	**Binghamton** baz=331	**91.08**	**28**	P		05 04 26.9
WVT	**Waverly** baz=323	**91.09**	**39**	P		05 04 28.0
WVT				S		05 15 22.6
G65A	**Princeton** baz=337	**91.12**	**21**	P		05 04 27.3
G65A				S		05 15 22.3
H64A	**Troy** baz=336	**91.15**	**23**	P		05 04 27.5
H64A				S		05 15 22.5
I62A	**Tamworth** baz=334	**91.19**	**24**	S		05 15 23.9
LMN	**Caledonia Moun** comp=Z,50nm,1.2s	**91.26**	**19**	IAmb	IAmb	05 04 44.3
L58A	**Harry Jones Me** baz=331,SNR=5.3	**91.27**	**28**	P		05 04 28.1
L58A				S		05 15 23.1
J61A	**Chester** baz=333	**91.27**	**25**	P		05 04 27.7
J61A				S		05 15 23.9
I63A	**Otisfield** comp=Z,38nm,0.9s	**91.27**	**24**	IAmb	IAmb	05 04 41.0
I63A	**Otisfield** baz=335	**91.27**	**24**	P		05 04 28.8
I63A				S		05 15 24.7
H65A	**Eastbrook** baz=336	**91.39**	**22**	P		05 04 28.6
H65A				S		05 15 24.4
TRY	**Troy** comp=Z,33nm,1.2s	**91.44**	**26**	IAmb	IAmb	05 04 54.0
FFD	**Franklin Falls** comp=Z,40nm,1.3s	**91.45**	**25**	IAmb	IAmb	05 04 45.3
H66A	**Whiting** baz=337	**91.57**	**21**	S		05 15 27.2
OXF	**Oxford** baz=322	**91.58**	**41**	P		05 04 30.3
OXF				S		05 15 26.5
J62A	**Henniker** baz=334	**91.62**	**25**	P		05 04 30.1
J62A				S		05 15 27.5
K61A	**Williamstown** baz=333	**91.63**	**26**	P		05 04 29.0
K61A				S		05 15 27.6
SSPA	**Standing Stone** baz=330	**91.72**	**30**	P		05 04 30.3
U49A	**Red Boiling Sp** comp=Z,34nm,1.3s	**91.76**	**38**	IAmb	IAmb	05 04 55.5
O56A	**Blue Knob Stat** baz=329	**91.77**	**31**	P		05 04 31.7
O56A				S		05 15 27.9
MCWV	**Mont Chateau** baz=328	**91.77**	**32**	P		05 04 31.7
T50A	**Nancy** comp=Z,33nm,1.2s	**91.79**	**37**	IAmb	IAmb	05 04 55.5
J63A	**Strafford** baz=334	**91.81**	**24**	P		05 04 31.3
J63A				S		05 15 28.8
K62A	**Royalston** baz=333	**91.98**	**25**	P		05 04 32.2
K62A				S		05 15 30.0
N58A	**Sunbury** comp=Z,30nm,1.1s	**91.99**	**29**	IAmb	IAmb	05 04 50.6
L61B	**Northampton** baz=333	**92.02**	**26**	P		05 04 31.6
L61B				S		05 15 30.6
K63A	**Dunstable** baz=334	**92.19**	**25**	P		05 04 32.7
K63A				S		05 15 31.3
N59A	**State Game Lan** comp=Z,54nm,1.3s	**92.28**	**29**	IAmb	IAmb	05 04 58.1
N59A	**State Game Lan** baz=331	**92.28**	**29**	P		05 04 32.8
N59A				S		05 15 31.4
HRV	**Adam Dziewonsk** baz=334	**92.35**	**25**	P		05 04 33.4
TZTN	**Tazewell** baz=326	**92.77**	**36**	P		05 04 35.7
TZTN				S		05 15 36.3
PAL	**Palisades** baz=332	**92.88**	**27**	S		05 15 36.1
L64A	**Middleborough** baz=334	**93.09**	**25**	P		05 04 36.5
L64A				S		05 15 40.7
P60A	**Greenville** baz=331	**93.29**	**29**	S		05 15 42.1
M64A	**Tiverton** baz=334	**93.32**	**25**	S		05 15 42.1
KEST	**Kesra** comp=Z,7.0nm,1.0s,baz=112,slow=1.1,SNR=4.6	**93.92**	**324**	P	**P**	**05 04 41.0 -0.5**
CBN	**Corbin Frederi** baz=330	**94.01**	**31**	P		05 04 40.4
PBRG	**Braganca**	**94.57**	**338**	*eP*	**P**	**05 04 44.5 +0.2**
PGAV	**Gavieira, Arco**	**94.86**	**339**	*eP*	**P**	**05 04 45.3 -0.4**
KMSC	**Kings Mountain** baz=327	**94.94**	**35**	P		05 04 46.4
PCAB	**Cabril**	**95.03**	**339**	*eP*	**P**	**05 04 44.4 -2.0**
MVO	**Moncorvo**	**95.25**	**338**	*eP*	**P**	**05 04 51.2 +3.8**
POLO	**Lamas de Olo**	**95.27**	**339**	*eP*	**P**	**05 04 47.8 +0.2**
PVRL	**Vila Real**	**95.34**	**339**	*eP*	**P**	**05 04 48.5 +0.7**
ESDC	**Sonseca Array** comp=Z,3.2nm,0.9s,baz=20,slow=4.1,SNR=7.5	**95.67**	**335**	P	**P**	**05 04 48.9 -0.5**
ESDC				LR	LR	05 53 48.4
PVIS	**Viseu** comp=Z,3µm,18.3s,baz=10.0,slow=39	**95.91**	**338**	*eP*	**P**	**05 04 53.5 +3.1**
MTE	**Manteigas**	**96.10**	**338**	*eP*	P	05 04 56.9 +5.6
PMRV	**Marv??o**	**96.96**	**338**	*eP*	**P**	**05 04 58.9 +3.7**
PSBE	**So Bento**	**97.28**	**339**	*eP*	**P**	**05 04 54.3 -2.3**
PMTG	**Montargil**	**97.53**	**338**	*eP*	**P**	**05 04 53.4 -4.3**
PESTR	**Estremoz**	**97.53**	**338**	*eP*	Pdif	05 04 58.4 +0.6
PMAFR	**Mafra**	**97.94**	**339**	*eP*	Pdif	05 05 00.2 +0.6
PBAR	**Barrancos**	**98.01**	**337**	*eP*	Pdif	05 05 03.8 +3.9
MESJ	**Messejana**	**98.67**	**338**	*e*PP	**PP**	**05 09 04.1 +1.4**
PFVI	**Vila Bisbo**	**99.50**	**338**	*eP*	**Pdif**	**05 05 05.5 -1.1**
TORD	**Torodi Ar. Bea** comp=Z,3.0nm,1.1s,baz=11,slow=1.1,SNR=5.3	**116.59**	**318**	PKP	**PKPdf**	**05 10 06.9 -1.3**
TORD				PP	**PP**	**05 11 13.2 -1.3**
TORD	**Torodi Ar. Bea** comp=Z,35nm,1.1s,baz=21,slow=7.0,SNR=18	**116.59**	**318**	PKPdf	**PKPdf**	**05 10 07.1 -1.0**
OCAC	**Ocana**	**121.50**	**44**	*eP*	**PKiKP**	**05 10 19.8 +1.9**
SDV	**Santo Domingo** comp=Z,6.0nm,0.2s,baz=330,slow=6.8	**122.36**	**41**	PKP	**PKPdf**	**05 10 19.4 -0.1**
SDV	**Santo Domingo**	**122.36**	**41**	*eP*	**PKiKP**	**05 10 22.4 +2.7**
MAW	**Mawson** comp=Z,2.3nm,1.0s,baz=0.0,slow=7.1,SNR=2.6	**122.52**	**207**	PKP	**PKPdf**	**05 10 17.2 -0.6**
SOCV	**Socops**	**122.76**	**42**	*eP*	**PKiKP**	**05 10 20.2 -0.1**
GUY2C	**Guyana, Caldas**	**122.85**	**48**	*eP*	**PKPdf**	**05 10 20.6 -0.2**
BARC	**Barichara**	**122.95**	**45**	*eP*	PKiKP	05 10 34.0 +13
SPBC	**San Pablo de B**	**123.23**	**46**	*eP*	**PKPdf**	**05 10 20.8 -0.5**
YOTC	**Yotoco, Valle**	**123.28**	**50**	*eP*	**PKPdf**	**05 10 21.0 -0.2**
RUSC	**La Rusia**	**123.58**	**45**	PKPdf	**PKiKP**	**05 10 22.4 0.0**
RUSC	**La Rusia**	**123.58**	**45**	*eP*	**PKPdf**	**05 10 21.4 -0.9**
ROSC	**El Rosal** comp=Z,4.3nm,0.5s,baz=246,slow=20,SNR=1.9	**123.76**	**47**	PKP	**PKiKP**	**05 10 22.9 +0.3**
ROSC	**El Rosal**	**123.76**	**47**	PKIKP	**PKiKP**	**05 10 23.0 +0.3**
POPC	**Popayan, Colom**	**124.23**	**51**	*eP*	**PKPdf**	**05 10 15.9 -7.3**
CHIC	**Chingaza**	**124.26**	**47**	*eP*	**PKiKP**	**05 10 24.5 +0.8**
OTAV	**Otavalo**	**124.94**	**55**	*eP*	**PKiKP**	**05 10 27.2 +2.0**
DBIC	**Dimbokro** comp=Z,12nm,1.1s,baz=107,slow=5.5,SNR=3.3	**125.43**	**320**	PKP	**PKPdf**	**05 10 23.3 -1.8**
DBIC				PP	**PP**	**05 12 12.1 -2.8**
DBIC	**Dimbokro** comp=Z,22nm,1.1s,baz=2.6,slow=7.8,SNR=5.8	**125.43**	**320**	PKPdf	**PKiKP**	**05 10 25.5 0.0**
LBTB	**Lobatse**	**126.46**	**266**	PKIKP	**PKiKP**	**05 10 27.5 +0.2**
LBTB	**Lobatse**	**126.46**	**266**	PKPdf	**PKiKP**	**05 10 27.5 +0.2**
BOSA	**Boshof** comp=Z,5.1nm,1.1s,baz=119,slow=10.0,SNR=3.1	**128.55**	**262**	PKP	**PKPdf**	**05 10 30.5 -0.3**
BOSA				PP	**PP**	**05 12 36.2 -0.5**
TSUM	**Tsumeb** comp=Z,6.9nm,0.9s,baz=90,slow=3.4,SNR=4.6	**129.43**	**277**		**PKiKP**	**05 10 33.3 -0.2**
SYO	**Syowa Base**	**131.19**	**208**	‖ *e*Pdiff	**Pdif**	**05 07 30.8 +4.3**
BOAV	**Boa Vista**	**132.79**	**34**	*eP*	**PKiKP**	**05 10 41.8 +1.5**
PTGA	**Pitinga** comp=Z,2.5nm,0.6s,baz=319,slow=8.1,SNR=4.4	**135.83**	**35**	PKP	**PKiKP**	**05 10 46.2 -0.2**
PTGA	**Pitinga**	**135.83**	**35**	PKPdf	**PKPdf**	**05 10 45.6 +0.8**
MCPB	**Macapa, AP**	**138.48**	**24**	*eP*	**PKiKP**	**05 10 52.4 +0.5**
MALB	**Monte Alegre**	**139.13**	**28**	*eP*	**PKiKP**	**05 10 53.0 -0.2**
ETMB	**Extrema**	**140.31**	**50**	*eP*	**PKiKP**	**05 10 55.7 +0.2**
ROSB	**Rosrio**	**142.84**	**13**	*eP*	**PKiKP**	**05 10 59.6 -1.2**
NPGB	**Novo Progresso**	**143.47**	**32**	*eP*	**PKiKP**	**05 11 01.0 -1.0**
SNAA	**Sanae**	**143.65**	**197**	PKPbc	PKPab	05 10 54.0 -0.1
SNAA	**Sanae**	**143.65**	**197**	PKIKP	PKPbc	05 10 54.5 -0.4
SNAA	**Sanae**	**143.65**	**197**	PKPpre	PKPpre	05 10 54.5
NBMO	**Morrinhos-CE**	**143.76**	**6**	*eP*	**PKiKP**	**05 11 01.0 -1.6**
LPAZ	**La Paz** comp=Z,4.8nm,0.8s,baz=19,slow=7.2,SNR=11	**144.03**	**59**	PKP	**PKPdf**	**05 10 59.6 -0.8**
LPAZ	**La Paz**	**144.03**	**59**	*eP*	**PKPab**	**05 10 57.9 +0.2**
PRPB	**Parauapebas**	**144.66**	**23**	*eP*	**PKPdf**	**05 11 00.7 -0.2**
NBPS	**Pedro II - PI**	**144.69**	**8**	*eP*	**PKPdf**	**05 11 00.9 0.0**
NBCL	**Cascavel-CE**	**144.77**	**3**	*eP*	**PKPdf**	**05 11 00.9 0.0**
VNA2	**Neumayer--Watz** baz=130,slow=5.0	**145.21**	**196**	PKPbc	**PKPbc**	**05 10 59.6 -0.1**
VNA3	**Neumayer Olymp**	**145.43**	**195**	PKPbc	**PKPdf**	**05 10 59.9 -0.5**
VNA1	**Neumayer--Stat**	**145.60**	**196**	PKPbc	**PKPbc**	**05 11 00.9 0.0**
NBPB	**Pedra_Branca-C**	**146.00**	**5**	*eP*	**PKPab**	**05 11 05.0 +0.6**
VILB	**Vilhena**	**146.26**	**45**	*eP*	**PKPab**	**05 11 05.8 +0.5**
CLDB	**Colider**	**146.69**	**36**	*eP*	**PKPab**	**05 11 06.6 -0.4**
LVC	**Limon Verde** comp=Z,16nm,1.0s,baz=316,slow=2.1,SNR=8.9	**147.77**	**68**	PKPbc	**PKPbc**	**05 11 08.9 -0.2**
LVC	**Limon Verde**	**147.77**	**68**		**PKiKP**	**05 11 10.4 -0.7**
LVC	**Limon Verde**	**147.77**	**68**	*eP*	**PKPbc**	**05 11 08.4 -0.7**
SMTB	**Santa Maria do**	**147.86**	**21**	*eP*	**PKPbc**	**05 11 08.1 -1.0**
NBMA	**Muriti-CE**	**147.86**	**4**	*eP*	**PKPbc**	**05 11 07.8 -1.4**
SIV	**San Ignacio** comp=Z,12nm,0.6s,baz=285,slow=1.5,SNR=33	**148.22**	**49**	PKPbc	**PKPbc**	**05 11 09.7 -0.3**
PTLB	**Pontes e Lacer**	**148.89**	**46**	*eP*	**PKPbc**	**05 11 09.9 -1.8**
NBRF	**Rio Formoso -**	**149.20**	**357**	*eP*	**PKPdf**	**05 11 10.2 +1.9**
SNDB	**Serra Nova Dou**	**149.56**	**29**	*eP*	**PKPbc**	**05 11 11.8 -1.7**
PEXB	**Peixe**	**150.73**	**24**	*eP*	**PKPbc**	**05 11 14.2 -2.1**
SALV	**Santo Antonio**	**151.09**	**41**	*eP*	**PKPdf**	**05 11 13.3 +2.1**
SDBA	**SAO DESIDERIO**	**151.95**	**18**	*eP*	**PKPdf**	**05 11 14.6 +2.0**
BO01	**Tunca**	**152.06**	**90**		**PKiKP**	**05 11 20.4 +1.3**
ARAG	**Araguaiana, MT**	**152.73**	**34**	*eP*	**PKPdf**	**05 11 16.9 +3.2**
PP1B	**Ponte de Pedra**	**152.94**	**41**	*eP*	**PKPdf**	**05 11 16.2 +2.2**
PLCA	**Paso Flores** comp=Z,5.2nm,1.1s,baz=21,slow=8.6,SNR=2.8	**154.09**	**104**	PKPbc	**PKPbc**	**05 11 22.2 -1.0**
PLCA	**Paso Flores**	**154.09**	**104**	PKIKP	**PKPdf**	**05 11 16.4 +1.3**
PLCA	**Paso Flores**	**154.09**	**104**	PKPdf	**PKPdf**	**05 11 16.4 +1.3**
GDU01	**Guandu, BA**	**154.10**	**7**	*eP*	**PKPdf**	**05 11 17.7 +2.0**
BDFB	**Brasilia** comp=Z,5.0nm,0.8s,baz=14,slow=1.7,SNR=6.9	**154.13**	**26**	PKPbc	**PKiKP**	**05 11 24.6 +0.6**
BDFB	**Brasilia**	**154.13**	**26**	PKIKP	**PKPdf**	**05 11 16.7 +0.9**
BDFB	**Brasilia**	**154.13**	**26**	PKPdf	**PKPdf**	**05 11 16.7 +0.9**
MC01	**Montes Claros**	**156.32**	**18**	*eP*	**PKPdf**	**05 11 21.6 +2.9**
CPUP	**Villa Florida** comp=Z,4.7nm,1.2s,baz=303,slow=2.2,SNR=3.0	**158.20**	**59**	PKP	**PKPdf**	**05 11 20.5 -0.3**
PTGB	**Pitanga**	**160.25**	**46**	*eP*	**PKPdf**	**05 11 25.9 +2.5**
FRTB	**Fartura**	**160.42**	**38**	*eP*	**PKPdf**	**05 11 25.7 +2.2**

IDC ***11*** *04:55:37.9±3.1, 39.°71S×177.°56E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/22, mbtmp4.0/2 Error ellipse: s-maj=249.9km s-min=50.7km az=25.0*

NEIC ***11*** *04:55:42.6±0.9, 43.°31S±0.°06×175.°50E±0.°08, h17km±5km, mb4.4/3, Error ellipse: s-maj=10.8km s-min=6.9km az=136.0*

NOU ***11*** *04:55:44.0, 43.°38S×175.°61E, h37km, MLv4.9, Off E. Coast of S. Island, N.Z.*

WEL ***11*** *04:55:45.5±0.5, 43.°5S±3.°×17.°5E±.°, h33km, M4.8/121, mB5.3/16, ML5.2/121, MLv5.0/121, Mw(mB)4.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=125.6*

ISC 11 04:55:43.6±1.6, 43.°33S±0.°05×175.°51E±0.°05, h27km±11km, n197, σ1s24/226, mb4.3/5, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**1.71**	**302**	Pn	**Pn**	**04 56 11.2**	**-0.4**
KHZ				Sn	**Sn**	**04 56 32.9**	**+0.3**
KHZ	**Kahutara**	**1.71**	**302**	P	**Pn**	**04 56 11.2**	**-0.4**
KHZ				S	**Sn**	**04 56 30.3**	**-2.3**
PLWZ	**Palliser**	**1.77**	**354**	Pn	**Pn**	**04 56 12.3**	**-0.3**
PLWZ				Sn	**Sn**	**04 56 32.3**	**-1.8**
PLWZ	**Palliser**	**1.77**	**354**	P	**Pn**	**04 56 12.2**	**-0.3**
PLWZ				S	**Sn**	**04 56 31.0**	**-3.1**
OKCZ	**Okains Bay**	**1.82**	**257**	P	**Pn**	**04 56 12.7**	**-0.5**
GVZ	**Greta Valley S**	**1.84**	**280**	P	**Pn**	**04 56 13.0**	**-0.5**

CMWZ	**Cape Campbell**	**1.85**	**328**		**Pn**	**04 56 13.2 -0.3**
CMWZ	**Cape Campbell**	**1.85**	**328**	P	**Pn**	**04 56 13.6 +0.1**
MSWZ	**Moikau Station**	**1.92**	**354**		**Pn**	**04 56 14.3 -0.3**
MSWZ				Sn	**Sn**	**04 56 35.0 -2.9**
MSWZ	**Moikau Station**	**1.92**	**354**	P	**Pn**	**04 56 14.3 -0.3**
MSWZ				S	**Sn**	**04 56 35.2 -2.7**
TRWZ	**Traveller**	**1.94**	**4**	P	**Pn**	**04 56 14.9 +0.1**
TRWZ				S	**Sn**	**04 56 36.8 -1.4**
PAWZ	**Paruwai Farm**	**1.95**	**358**	P	**Pn**	**04 56 14.8 -0.1**
PAWZ				S	**Sn**	**04 56 36.2 -2.4**
AKCZ	**Akaroa Harbour**	**1.96**	**253**	P	**Pn**	**04 56 14.5 -0.6**
AKCZ				S	**Sn**	**04 56 35.9 -3.0**
BHW	**Baring Head**	**1.98**	**346**		**Pn**	**04 56 15.0 -0.2**
BHW				Sn	**Sn**	**04 56 36.4 -2.8**
BHW	**Baring Head**	**1.98**	**346**	P	**Pn**	**04 56 15.1 -0.2**
BHW				S	**Sn**	**04 56 36.5 -2.6**
BSWZ	**Blackbirch Sta**	**2.01**	**323**	Pn	**Pn**	**04 56 15.7 -0.2**
BSWZ	**Blackbirch Sta**	**2.01**	**323**	P	**Pn**	**04 56 15.6 -0.2**
BSWZ				S	**Sn**	**04 56 38.5 -1.7**
AMCZ	**Amberley**	**2.09**	**273**	P	**Pn**	**04 56 16.7 -0.2**
SNZO	**South Karori**	**2.10**	**343**		**Pn**	**04 56 16.6 -0.4**
MQZ	**McQueen's Vall**	**2.11**	**259**	Pn	**Pn**	**04 56 16.4 -0.8**
MQZ	**McQueen's Vall**	**2.11**	**259**	P	**Pn**	**04 56 16.2 -0.9**
MQZ				S	**Sn**	**04 56 38.8 -3.7**
WEL	**Wellington**	**2.12**	**345**	P	**Pn**	**04 56 17.2 0.0**
MTW	**Mount Morrison**	**2.17**	**360**	P	**Pn**	**04 56 17.7 -0.3**
MTW				S	**Sn**	**04 56 41.4 -2.6**
TUWZ	**Tuamarina**	**2.22**	**328**		**Pn**	**04 56 18.1 -0.6**
TUWZ	**Tuamarina**	**2.22**	**328**	P	**Pn**	**04 56 18.4 -0.3**
TUWZ				S	**Sn**	**04 56 43.8 -1.5**
TMWZ	**Te Maipa**	**2.24**	**7**	P	**Pn**	**04 56 19.1 +0.1**
TMWZ				S	**Sn**	**04 56 44.2 -1.6**
CAW	**Cannon Point**	**2.25**	**351**	P	**Pn**	**04 56 19.1 +0.1**
CAW				S	**Sn**	**04 56 42.8 -3.0**
TCW	**Tory Channel**	**2.31**	**336**	P	**Pn**	**04 56 19.5 -0.3**
HOWZ	**Holdsworth Sta**	**2.43**	**0**	P	**Pn**	**04 56 21.3 -0.2**
HOWZ				S	**Sn**	**04 56 47.2 -3.2**
LTZ	**Lake Taylor**	**2.43**	**282**		**Pn**	**04 56 21.6 0.0**
LTZ	**Lake Taylor**	**2.43**	**282**	P	**Pn**	**04 56 21.4 -0.2**
CPWZ	**Castlepoint**	**2.47**	**12**	P	**Pn**	**04 56 22.7 +0.6**
CPWZ				S	**Sn**	**04 56 49.7 -1.7**
THZ	**Tophouse**	**2.48**	**308**	Pn	**Pn**	**04 56 22.3 0.0**
THZ	**Tophouse**	**2.48**	**308**	P	**Pn**	**04 56 22.3 0.0**
THZ				S	**Sn**	**04 56 50.7 -1.0**
RACZ	**Rakaia**	**2.48**	**260**	P	**Pn**	**04 56 21.9 -0.3**
KIW	**Kapiti Island**	**2.51**	**350**	P	**Pn**	**04 56 22.9 +0.2**
KIW				S	**Sn**	**04 56 49.5 -2.8**
OGWZ	**Otaki Gorge**	**2.52**	**354**	P	**Pn**	**04 56 22.9 +0.1**
OGWZ				S	**Sn**	**04 56 49.7 -3.0**
OXZ	**Oxford**	**2.53**	**269**		**Pn**	**04 56 22.1 -0.8**
OXZ	**Oxford**	**2.53**	**269**	P	**Pn**	**04 56 22.2 -0.8**
TIWZ	**Tintock**	**2.57**	**6**	P	**Pn**	**04 56 23.4 0.0**
TIWZ				S	**Sn**	**04 56 51.1 -2.8**
NNZ	**Nelson**	**2.64**	**322**		**Pn**	**04 56 24.0 -0.4**
NNZ	**Nelson**	**2.64**	**322**	P	**Pn**	**04 56 23.8 -0.6**
MRZ	**Mangatainoka R**	**2.67**	**1**	P	**Pn**	**04 56 24.6 -0.2**
MRZ				S	**Sn**	**04 56 53.3 -3.0**
BFZ	**Birch Farm**	**2.70**	**12**		**Pn**	**04 56 25.0 -0.3**
BFZ	**Birch Farm**	**2.70**	**12**	P	**Pn**	**04 56 25.3 0.0**
BFZ				S	**Sn**	**04 56 56.6 -0.6**
WACZ	**Wakanui South**	**2.73**	**256**	P	**Pn**	**04 56 25.6 -0.1**
DUWZ	**D'Urville Isla**	**2.79**	**334**	P	**Pn**	**04 56 26.6 +0.1**
DUWZ				S	**Sn**	**04 56 57.1 -2.2**
PRWZ	**Pori Road**	**2.79**	**7**	P	**Pn**	**04 56 26.8 +0.2**
PRWZ				S	**Sn**	**04 56 57.0 -2.4**
MHCZ	**Mount Hutt**	**2.88**	**265**	P	**Pn**	**04 56 27.6 -0.2**
POWZ	**Post Office Ro**	**2.94**	**4**	P	**Pn**	**04 56 28.3 +0.3**
ANWZ	**Angora Road**	**2.96**	**14**	P	**Pn**	**04 56 28.7 0.0**
INZ	**Inchbonnie**	**3.04**	**280**	P	**Pn**	**04 56 30.3 +0.4**
DVHZ	**Dannevirke**	**3.07**	**9**	P	**Pn**	**04 56 30.2 -0.2**
OHAKE	**Ohakea**	**3.12**	**357**	P	**Pn**	**04 56 32.7 +1.6**
DSZ	**Denniston Nort**	**3.16**	**299**	P	**Pn**	**04 56 32.3 +0.7**
PRHZ	**Porangahau**	**3.17**	**16**	P	**Pn**	**04 56 31.5 -0.3**
ARCZ	**Arundel**	**3.20**	**257**	P	**Pn**	**04 56 32.0 -0.2**
RPZ	**Rata Peaks**	**3.26**	**262**	Pn	**Pn**	**04 56 32.5 -0.5**
RPZ	**Rata Peaks**	**3.26**	**262**	P	**Pn**	**04 56 33.0 0.0**
TSZ	**Takapari Road**	**3.29**	**6**	P	**Pn**	**04 56 33.5 +0.1**
WPHZ	**Waipukurau**	**3.34**	**12**	P	**Pn**	**04 56 34.1 +0.1**
QRZ	**Quartz Range**	**3.34**	**317**		**Pn**	**04 56 33.8 -0.3**
QRZ	**Quartz Range**	**3.34**	**317**	P	**Pn**	**04 56 34.1 0.0**
TMZ	**Timaru**	**3.42**	**251**	P	**Pn**	**04 56 34.8 -0.4**
PXZ	**Pawanui**	**3.45**	**18**	P	**Pn**	**04 56 35.2 -0.4**
PNHZ	**Pukenui**	**3.45**	**9**	P	**Pn**	**04 56 35.8 +0.1**
WVZ	**Waitaha Valley**	**3.50**	**273**	P	**Pn**	**04 56 36.8 +0.6**
WAZ	**Wanganui**	**3.59**	**354**	P	**Pn**	**04 56 39.3 +2.0**
KAHZ	**Kahuranaki**	**3.68**	**17**	P	**Pn**	**04 56 38.3 -0.5**
KRHZ	**Kereru**	**3.74**	**10**	P	**Pn**	**04 56 39.5 -0.1**
GCSZ	**Gaunt Creek Bo**	**3.78**	**268**	P	**Pn**	**04 56 41.2 +1.1**
CKHZ	**Cape Kidnapper**	**3.85**	**18**	P	**Pn**	**04 56 40.3 -0.8**
BHHZ	**Black Hill Sta**	**3.86**	**6**	P	**Pn**	**04 56 41.8 +0.5**
ODZ	**Otahua Downs**	**3.89**	**242**		**Pn**	**04 56 41.3 -0.4**
ODZ	**Otahua Downs**	**3.89**	**242**	P	**Pn**	**04 56 41.4 -0.2**
MOVZ	**Moawhango**	**3.92**	**3**	P	**Pn**	**04 56 42.8 +0.7**
MTVZ	**Mangateitei**	**3.94**	**360**	P	**Pn**	**04 56 43.2 +0.8**
LREZ	**Lake Rotokare**	**3.95**	**348**	P	**Pn**	**04 56 44.4 +1.9**
KWHZ	**Kaweka Forest**	**3.96**	**10**	P	**Pn**	**04 56 43.0 +0.4**
MCHZ	**McNeill Hill**	**3.98**	**13**	P	**Pn**	**04 56 43.4 +0.5**
LBZ	**Lake Benmore**	**3.99**	**253**	Pn	**Pn**	**04 56 42.7 -0.3**
LBZ	**Lake Benmore**	**3.99**	**253**	P	**Pn**	**04 56 43.0 0.0**
WNVZ	**Wahianoa**	**4.00**	**1**	P	**Pn**	**04 56 44.4 +1.1**
TRVZ	**Turoa**	**4.03**	**0**	P	**Pn**	**04 56 45.1 +1.3**
PKVZ	**Pokaka**	**4.04**	**358**	P	**Pn**	**04 56 45.0 +1.3**
WHVZ	**Whangaehu Hut**	**4.04**	**1**	P	**Pn**	**04 56 45.2 +1.3**
DRZ	**Dome Shelter**	**4.05**	**1**	P	**Pn**	**04 56 45.7 +1.5**
TUVZ	**Tukino**	**4.06**	**2**	P	**Pn**	**04 56 45.5 +1.4**
FWVZ	**Far West T-bar**	**4.07**	**1**	P	**Pn**	**04 56 45.6 +1.3**
NMEZ	**Namu Road**	**4.10**	**342**	P	**Pn**	**04 56 45.9 +1.4**
PREZ	**Palmer Road**	**4.11**	**345**	P	**Pn**	**04 56 46.9 +2.2**
SNVZ	**South Ngauruho**	**4.14**	**1**	P	**Pn**	**04 56 46.4 +1.2**
FOZ	**Fox Glacier**	**4.15**	**265**		**Pn**	**04 56 45.6 +0.4**

TLZ	Tolley Road	5.00	0	P		Pn	04 56 57.5	+0.7
GRRZ	Galatos Road	5.00	5	P		Pn	04 56 57.1	+0.3
RAGZ	Rawiri	5.04	17	P		Pn	04 56 56.7	-0.8
HSRZ	Hossack Road	5.04	7	P		Pn	04 56 57.3	-0.2
TARZ	Mount Tarawera	5.14	9	P		Pn	04 56 58.6	-0.4
UTU	Utuhina	5.17	6	P		Pn	04 56 59.4	+0.1
TKGZ	Te Karaka	5.20	21	P		Pn	04 56 58.7	-0.9
URZ	Urewera	5.21	14	Pn		Pn	04 56 58.5	-1.2
URZ	Urewera	5.21	14	P		Pn	04 56 58.1	-1.7
MWZ	Matawai	5.22	18	P		Pn	04 56 58.4	-1.6
CNGZ	Carnagh Statio	5.25	24	P		Pn	04 56 59.8	-0.6
OMRZ	Omania	5.26	7	P		Pn	04 57 00.1	-0.4
EDRZ	Edgecumbe	5.30	11	P		Pn	04 57 00.2	-0.9
TWGZ	Tauwhareparae	5.48	21	P		Pn	04 57 02.1	-1.4
OPRZ	Ohinepanea	5.54	9	P		Pn	04 57 03.9	-0.4
SYZ	Scrubby Hill	5.54	232	P		Pn	04 57 04.6	+0.4
WHRZ	Whale Island	5.58	12	P		Pn	04 57 04.3	-0.6
TOZ	Tahuroa Road	5.59	360	P		Pn	04 57 05.0	0.0
RUGZ	Raukumara Rang	5.61	18	P		Pn	04 57 04.0	-1.4
MSZ	Milford Sound	5.63	254	P		Pn	04 57 05.3	-0.2
PUZ	Puketiti	5.65	23	P		Pn	04 57 03.7	-2.2
MLZ	Mavora Lakes	5.68	246	Pn		Pn	04 57 06.0	-0.2
MLZ	Mavora Lakes	5.68	246	P		Pn	04 57 06.2	0.0
CTZ	Chatham Island	5.74	97	P		Pn	04 57 07.2	+0.2
PKGZ	Pakihiroa	5.78	21	P		Pn	04 57 06.4	-1.2
HAZ	Te Kaha	5.83	18	P		Pn	04 57 07.3	-1.0
WHZ	Wether Hill Ro	5.97	242	Pn		Pn	04 57 10.0	-0.2
WHZ	Wether Hill Ro	5.97	242	P		Pn	04 57 10.2	-0.1
MXZ	Matakaoa Point	6.14	21	Pn		Pn	04 57 11.2	-1.3
MXZ						Sn	04 58 19.3	-2.6
MXZ	Matakaoa Point	6.14	21	P		Pn	04 57 11.2	-1.3
DCZ	Deep Cove	6.35	247			Pn	04 57 15.4	0.0
DCZ	Deep Cove	6.35	247	P		Pn	04 57 15.7	+0.3
APZ	The Paps	6.37	234	P		Pn	04 57 16.2	+0.5
WTAZ	Waiatarua	6.43	353	P		Pn	04 57 18.1	+1.5
EPAZ	Eden Park BICE	6.47	355	P		Pn	04 57 18.5	+1.4
HBAZ	Herne Bay Bore	6.50	354	P		Pn	04 57 18.9	+1.4
WIAZ	Waiheke Island	6.54	357	P		Pn	04 57 18.6	+0.6
MBAZ	Motutapu North	6.57	356	P		Pn	04 57 19.0	+0.6
KUZ	Kuaotunu	6.58	2	P		Pn	04 57 18.0	-0.6
RVAZ	Riverhead Bore	6.59	353	P		Pn	04 57 20.0	+1.3
ABAZ	Army Bay	6.74	355	P		Pn	04 57 21.9	+1.1
GRZ	Great Barrier	7.07	360	P		Pn	04 57 24.7	-0.6
WCZ	Waipu Caves	7.43	353	P		Pn	04 57 31.1	+0.8
OUZ	Omahuta	8.23	349			Pn	04 57 40.7	-0.5
OUZ	Omahuta	8.23	349	P		Pn	04 57 41.9	+0.7
TOO	Toolangi	23.48	274	P		P	05 00 48.4	-2.7
TOO				IAmb		IAmb	05 00 54.7	
	comp=Z,10nm,1.1s							
BBOO	Buckleboo	32.51	275	P		P	05 02 11.2	-0.9
BBOO				IAmb		IAmb	05 02 15.3	
	comp=Z,3.6nm,0.9s							
ASAR	Alice Springs	39.35	286	P		P	05 03 14.7	+3.9
	comp=Z,1.4nm,0.7s,baz=123,slow=6.9,SNR=1.2							
WRA	Warramunga Arr	41.53	291	P		P	05 03 30.2	+1.4
	comp=Z,3.1nm,0.9s,baz=127,slow=8.4,SNR=1.3							
WRA	Warramunga Arr	41.53	291	P		P	05 03 30.2	+1.4
WB0	Warramunga Arr	41.61	291	P		P	05 03 28.8	-0.7
WB0				IAmb		IAmb	05 03 32.0	
	comp=Z,14nm,1.1s							
QSPA	South Pole Qui	46.80	180	P		P	05 04 10.9	+0.3
TORD	Torodi Ar. Bea	149.46	192	PKPbc		PKPab	05 15 38.3	+3.0
	comp=Z,1.8nm,0.7s,baz=153,slow=1.8,SNR=5.0							
BRTR	Keskin Array B	151.39	276	PKPbc		PKiKP	05 15 36.5	+1.4
	comp=Z,1.0nm,0.8s,baz=144,slow=4.4,SNR=3.8							
BRTR				PKPab		pPKPbc	05 15 44.0	+0.5
	comp=Z,2.2nm,0.9s,baz=128,slow=6.1,SNR=6.3							
BRTR	Keskin Array B	151.39	276			PKiKP	05 15 36.5	+1.4

IDC ***11*** *04:56:29.5±0.5, 39.˚56N×143.˚30E, h0km, mb5.0/30, mb1 5.1/35, mb1mx5.0/40, mbtmp5.0/35, ML4.6/4, MS4.6/2, Ms1 4.6/2, ms1mx4.1/40, Error ellipse: s-maj=13.3km s-min=11.9km az=142.0*

BJI ***11*** *04:56:29.4±0.0, 39.˚54N×143.˚14E, h4km, mB5.9/27, mb5.5/73, Ms5.7/34, Ms7 5.5/34*

NIED ***11*** *04:56:30.1, 39.˚61N×143.˚59E, h25km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁷Nm; Mrr0.77; Mθθ-0.09; Mφφ-0.68; Mrθ0.32; Mθφ-0.32; Mφr0.54; Fault plane solution: M₀1.02000×10¹⁷ NP1:φs28.00000°, δ64.00000°, λ94.00000°. NP2:φs199.00000°, δ26.00000°, λ82.00000°.*

JMA ***11*** *04:56:30.1±0.2, 39.˚61N×143.˚59E, h25km, M5.6*

JMA Felt II J1.

MOS ***11*** *04:56:31.6±1.4, 39.˚69N×143.˚28E, h26km, mb5.8/92, MS4.9/17, Error ellipse: s-maj=7.9km s-min=5.0km az=87.3*

NEIC ***11*** *04:56:32.2±1.0, 39.˚61N±0.˚05×143.˚24E±0.˚08, h10km±1km, mb5.4/294, Mwc5.4(GCMT), Error ellipse: s-maj=11.2km s-min=7.1km az=112.0*

BGR ***11*** *04:56:36.9±0.0, 39.˚68N×143.˚47E, h33km, mb5.5, Ms5.8*

GCMT ***11*** *04:56:36.2±0.2, 39.˚61N±0.˚01×143.˚64E±0.˚02, h35km, MW5.3/130, Moment Tensor Solution. s27,c30; s130,c224; Duration: 1ś1 Moment tensor: Scale 10¹⁷ Nm; Mrr1.09±.06; Mθθ-0.22±.03; Mφφ-0.86±.04; Mrθ0.35±.02; Mθφ-0.22±.01; Mφr0.69±.02; Best double couple: M₀1.27600×10¹⁷ NP1:φs194.00000°, δ27.00000°, λ82.00000°. NP2:φs23.00000°, δ64.00000°, λ94.00000°. Principal axes: T 1.3560, Plg71.0000°, Azm302.0000°; N -0.1630, Plg4.0000°, Azm201.0000°; P -1.1960, Plg19.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *04:56:36, 39.˚65N×143.˚44E, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.43; Mθθ0.02; Mφφ-0.46; Mrθ0.79; Mθφ-0.18; Mφr1.33; Fault plane solution: M₀1.62000×10¹⁷ NP1:φs183.00000°, δ9.00000°, λ63.00000°. NP2:φs30.00000°, δ82.00000°, λ94.00000°. Principal axes: T 1.5907, Plg53.0000°, Azm305.0000°; N 0.0586, Plg4.0000°, Azm210.0000°; P -1.6493, Plg37.0000°, Azm117.0000°;*

ISC 11 04:56:31.1±0.7, 39.˚59N±0.˚03×143.˚36E±0.˚03, h10km±3km, n831, σ1ś36/785, mb5.5/338, MS5.6/33, 121C-20D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	1.19	270	⇑P	Pg	04 56 54.1	0.0
MIYJ				eS	Sn	04 57 11.4	+1.3
JTH	Tanohata	1.21	287	⇑P	Pg	04 56 54.1	-0.2
JTH				eS	Sn	04 57 12.5	+2.1
OFUJ	Ofunato	1.41	249	⇑P	Pn	04 56 57.1	+0.3
OFUJ				eS	Sg	04 57 17.0	+0.5
JKEN	Kujiedanarisaw	1.41	296	⇑P	Pn	04 56 56.7	-0.2
JKEN				eS	Sg	04 57 16.5	-0.1
JOM	Ohasama	1.61	266	⇑P	Pb	04 57 00.5	-0.4
JOM				eS	Sg	04 57 23.1	+0.3
JANG	Nango	1.62	299	⇑P	Pn	04 56 59.5	-0.2
JANG				eS	Sb	04 57 21.3	-0.3
JMK	Ichinoseki	1.78	250	⇑P	Pn	04 57 02.6	+0.7
JMK				eS	Sb	04 57 25.6	-0.6
JIO	Ouri	1.94	235	⇑P	Pn	04 57 04.2	+0.1
JTM	Tenmabayashi	2.12	305	⇑P	Pn	04 57 07.3	+0.6
JTM				S	Sb	04 57 36.6	+0.5
JTM	Tenmabayashi	2.12	305	Pn	Pn	04 57 07.9	+1.2
JTM				Sn	Sg	04 57 37.5	-1.9
ERM	Erimo	2.43	356	P	Pn	04 57 10.6	-0.2
ERM						04 57 40.5	
ERM	Erimo	2.43	356	Pn	Pn	04 57 10.6	-0.2
ERM				Sn	Sn	04 57 40.5	0.0
JYK	Kaneyama	2.43	255	⇑P	Pn	04 57 12.1	+1.3
JYK				eS	Sb	04 57 44.5	-0.3
JOT	Ohata	2.51	316	⇓P	Pn	04 57 12.7	+0.7
JMM	Marumori	2.65	230	Pn	Pn	04 57 14.1	+0.3
JMM				Sn	Sn	04 57 44.8	-1.1
JNBK	Urakawa-nobuka	2.73	350	P	Pn	04 57 16.0	+1.1
JNBK				eS	Sn	04 57 47.8	-0.1
JKB	Kayabe	2.90	323	P	Pn	04 57 18.7	+1.4
JKB				eS	Sn	04 57 53.9	+1.8
JCH	Churui	3.02	360	⇓P	Pn	04 57 18.8	-0.2
JCH				eS	Sn	04 57 54.3	-0.9
JFT	Otama	3.15	230	P	Pn	04 57 21.9	+1.1
NMR	Nemuro--Hokkai	4.17	24	⇓iP	Pn	04 57 33.4	-1.4
NMR				iS	Sn	04 58 18.5	-5.1
JYT	Yasato	4.19	218		Pn	04 57 35.2	+0.2
JSD	Sado	4.28	250	Pn	Pn	04 57 34.8	-1.5
GLVR	Golovnino	4.45	21	eP	Pn	04 57 38.3	-0.3
GLVR				eS	Sn	04 58 25.4	-5.0
GLVR				pmax	pmax		
	comp=Z,897nm,0.5s						
GLVR				smax	smax		
	comp=N,8μm,0.6s						
GLVR				smax	smax		
	comp=E,2μm,0.6s						
ASAJ	Asahikawa	4.56	353	Pn	Pn	04 57 40.7	+0.6
	comp=E,34nm,0.3s,baz=205,slow=17,SNR=13						
ASAJ				Sn	Sn	04 58 30.1	-3.0
	comp=E,34nm,0.3s,baz=337,slow=3.1,SNR=3.8						
ASAJ	Asahikawa	4.56	353	P	Pn	04 57 40.1	0.0
JKA	Kamikawa-asahi	4.56	353	Pn	Pn	04 57 40.1	0.0
RUSJ	Misakicho	4.72	17	eP	Pn	04 57 38.5	-3.9
RUSJ				eS	Sn	04 58 32.5	-4.7
GRPR	Tuman	4.75	21	eP	Pn	04 57 41.8	-1.0
GRPR				eS	Sn	04 58 32.2	-5.7
GRPR				pmax	pmax		
	comp=Z,1μm,0.4s						
GRPR				smax	smax		
	comp=N,14μm,0.5s						
GRPR				smax	smax		
	comp=E,2μm,0.4s						
YUK	Yuzh-Kuril'sk	4.82	22	eP	Pn	04 57 42.7	-0.9
YUK				eS	Sn	04 58 34.1	-5.3
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				smax	smax		
	comp=N,6μm,0.4s						
YUK				smax	smax		
	comp=E,3μm,0.4s						
MJAR	Matsushiro Arr	5.08	235	Pn	Pn	04 57 49.4	+2.1
	comp=E,4.5nm,0.3s,baz=36,slow=12,SNR=29						
MJAR	Matsushiro Arr	5.08	235	P	Pn	04 57 48.3	+1.0
MJAR	Matsushiro Arr	5.08	235	Pn	Pn	04 57 48.3	+1.0
MAJO	Matsushiro	5.08	235	P	Pn	04 57 48.4	+1.1
MAJO	Matsushiro	5.08	235	Pn	Pn	04 57 48.4	+1.1
MAT	Matsushiro	5.08	235	eS	Sn	04 58 50.4	+4.4
MAT	Matsushiro	5.08	235	P	Pn	04 57 49.3	+2.0
MJB9	Matsu-Tunnel	5.08	235		Pn	04 57 47.5	+0.2
JGF	Kuroka	6.21	232		Pn	04 58 04.0	+1.1
KUR	Kuril'sk	6.55	29	eP	Pn	04 58 07.4	0.0
KUR				eS	Sn	04 59 17.1	-5.0
KUR				pmax	pmax		
	comp=Z,502nm,0.5s						
KUR				pmax	pmax		
	comp=N,114nm,0.3s						
KUR				pmax	pmax		
	comp=E,137nm,0.5s						
KUR				smax	smax		
	comp=N,718nm,0.4s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
INU	Inuyama	6.59	232	Pn	Pn	04 58 09.1	+1.1
JHJ2	Mitsune	7.07	205	Pn	Pn	04 58 14.4	-0.2
JHJ	Hachijo jima 2	7.07	205	Pn	Pn	04 58 14.1	-0.6
	comp=E,71nm,0.3s,baz=114,slow=20,SNR=9.0						
JHJ				Sn	Sn	04 59 27.6	-7.5
	comp=E,80nm,0.3s,baz=29,slow=22,SNR=6.0						
YSS	Yuzh-Sakhalins	7.37	357	eP	Pn	04 58 19.7	+1.0
YSS				eS	Sn	04 59 38.7	-3.7
YSS				pmax	pmax		
	comp=Z,290nm,0.8s						
YSS				smax	smax		
	comp=N,230nm,0.7s						
YSS				MLR	MLR		
	comp=Z,14μm,16.0s						
YSS	Yuzh-Sakhalins	7.37	357	Pn	Pn	04 58 19.8	+1.0
JWT	Wachi	7.65	238	Pn	Pn	04 58 22.5	-0.1
JHS	Saijyo	9.36	244	Pn	Pn	04 58 46.3	+0.2
UGL	Uglegorsk	9.53	355	⇓iP	Pn	04 58 48.7	+0.4
UGL				S	Sn	05 00 36.7	+1.3
UGL				pmax	pmax		
	comp=Z,213nm,1.3s						
UGL				smax	smax		
	comp=N,214nm,1.0s						
UGL				MLR	MLR		
	comp=N,18μm,13.0s						
UGL				MLR	MLR		
	comp=E,18μm,13.0s						
UGL				MLR	MLR		
	comp=E,27μm,14.0s						
USA0B	Ussuriysk Arra	9.65	302	c iP	Pn	04 58 52.7	+2.8
USA0B	Ussuriysk Arra	9.65	302	Pn	Pn	04 58 50.8	+0.9
USRK	Ussuriysk Ar.	9.65	302	Pn	Pn	04 58 52.8	+2.9
	baz=97,slow=10,SNR=28						
USRK	Ussuriysk Ar.	9.65	302	P	Pn	04 58 50.2	+0.2
USRK	Ussuriysk Ar.	9.65	302	Pn	Pn	04 58 50.2	+0.2
MSHR	Mys Shultsa	9.69	292	⇑iP	Pn	04 58 52.0	+1.5
IMWB	Imwonan-gil	11.25	262	P	Pn	04 59 17.2	+5.3
	SNR=7.4						
IMWB	Imwonan-gil	11.25	262	P	Pn	04 59 17.2	+5.3
	SNR=7.4						
TYV	Tymovskoe	11.28	358	eP	Pn	04 59 11.8	-0.5
TYV				eS	Sn	05 01 19.9	+1.5
TYV				pmax	pmax		
	comp=Z,96nm,1.0s						
TYV				smax	smax		
	comp=E,38nm,1.4s						
MDJ	Mudanjiang	11.39	301	P	Pn	04 59 13.9	+0.1
MDJ				pmax	pmax		
	comp=E,230nm,1.0s						
MDJ				pmax	pmax		
	comp=E,24μm,10.0s						
MDJ	Mudanjiang	11.39	301	Pn	Pn	04 59 15.3	+1.4
KSJMJ	Jumunjin	11.54	266	P	Pn	04 59 20.4	+4.5
	SNR=14						
KSJMJ	Jumunjin	11.54	266	P	Pn	04 59 20.4	+4.5
	SNR=14						
KSPHA	Pohang	11.56	257	P	Pn	04 59 22.0	+5.8
	SNR=13						
KSPHA	Pohang	11.56	257	P	Pn	04 59 22.0	+5.8
	SNR=13						
KSTBA	Taebaek	11.58	262	P	Pn	04 59 21.4	+4.9
	SNR=10						
KSTBA	Taebaek	11.58	262	P	Pn	04 59 21.4	+4.9
	SNR=10						
KSADO	Andong	11.81	259	P	Pn	04 59 25.0	+5.5
	SNR=8.2						
KSADO	Andong	11.81	259	P	Pn	04 59 25.0	+5.5
	SNR=8.2						
KSYOW	Yeongwol	11.95	263	P	Pn	04 59 26.0	+4.5
	SNR=9.7						
KSYOW	Yeongwol	11.95	263	P	Pn	04 59 26.0	+4.5
	SNR=9.7						
JNU	Nakatsue	11.95	241	Pn	Pn	04 59 21.9	+0.3
	comp=E,1.6nm,0.3s,baz=58,slow=9.0,SNR=3.7						
KSIJA	INJE	12.01	267	P	Pn	04 59 26.8	+4.5
	SNR=18						
KSIJA	INJE	12.01	267	P	Pn	04 59 26.8	+4.5
	SNR=18						
KSWJU	Wonju	12.20	265	P	Pn	04 59 30.0	+5.1
	SNR=9.7						
KSWJU	Wonju	12.20	265	P	Pn	04 59 30.0	+5.1
	SNR=9.7						
GRNR	Gornyy	12.20	339	⇑iP	Pn	04 59 25.4	+0.6
GRNR				eS	Sn	05 01 42.3	+1.6
GRNR				pmax	pmax		
	comp=N,100nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,110nm,1.0s						
GRNR				smax	smax		
	comp=N,8.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,5μm,14.0s						
GRNR				MLR	MLR		
	comp=N,6μm,12.0s						
GRNR				MLR	MLR		
	comp=Z,9μm,11.0s						
JTU	Tsushima	12.24	250	Pn	Pn	04 59 25.4	-0.2
KSRS	Korea Array	12.28	265	Pn	Pn	04 59 27.2	+1.3
	comp=Z,1.4nm,0.3s,baz=89,slow=13,SNR=12						
KSRS				Sn	Sn	05 01 53.6	+11
	comp=Z,1.1nm,0.3s,baz=72,slow=23,SNR=5.3						
KS19	Wonju Array Si	12.31	265		Pn	04 59 26.3	-0.2
KSAR	Wonju Array Be	12.31	265	P	Pn	04 59 26.5	+0.1
KSAR	Wonju Array Be	12.31	265	Pn	Pn	04 59 26.5	+0.1
JCJ	Chichijima	12.50	185	Pn	Pn	04 59 25.4	-3.6
	comp=Z,8.4nm,0.3s,baz=288,slow=20,SNR=1.9						
JCJ				Sn	Sn	05 01 35.6	-13
	comp=Z,28nm,0.3s,baz=289,slow=23,SNR=6.6						
JCJ	Chichijima	12.50	185		Pn	04 59 25.2	-3.8
KSCPR	CHUPUNGNYEONG	12.61	259	P	Pn	04 59 35.4	+4.9
	SNR=8.6						
KSCPR	CHUPUNGNYEONG	12.61	259	P	Pn	04 59 35.4	+4.9
	SNR=8.6						
KSBON	Boeun	12.65	261	P	P	04 59 36.9	-5.6
	SNR=6.4						
KSBON	Boeun	12.65	261	P	P	04 59 36.9	-5.6
	SNR=6.4						
KLR	Kul'dur	12.71	323	⇑iP	Pn	04 59 32.1	+0.4
OKCB	Cheongsan-myeo	12.71	260	P	Pn	04 59 37.0	+5.2
	SNR=8.2						
OKCB	Cheongsan-myeo	12.71	260	P	Pn	04 59 37.0	+5.2
	SNR=8.2						
TJN	Taejon	13.02	261	⇑iP	Pn	04 59 38.0	+1.9
HAWB	Hwaseong-si	13.26	264	P	Pn	04 59 44.0	+4.6
	SNR=11						
HAWB	Hwaseong-si	13.26	264	P	Pn	04 59 44.0	+4.6
	SNR=11						
INCN	Inchon	13.27	266	P	Pn	04 59 39.0	-0.5
INCN	Inchon	13.27	266		Pn	04 59 39.0	-0.5
GOCB	Gochang-gun	13.97	258	P	P	04 59 55.0	-2.2
	SNR=6.0						
CN2	Changchun	14.03	293	eP	Pn	04 59 49.8	0.0
CN2				pmax	pmax		
	comp=Z,50nm,1.3s						
CN2				L	L		
	comp=Z,11μm,12.0s						
CN2				L	L		
	comp=Z,10μm,12.0s						
CN2				L	L		
	comp=Z,13μm,12.0s						
SKR	Severo-Kuril's	14.26	35	⇑iP	Pn	04 59 53.6	+0.7
SNY	Shenyang	15.17	285	⇑P	Pn	05 00 04.8	-0.6
PEA0B	Petropavlovsk-	16.71	31	⇑iP	P	05 00 26.6	-0.9
PEA0B	Petropavlovsk-	16.71	31	Pn	Pn	05 00 25.1	-0.1
PETK	Petropavlovsk-	16.71	31	Pn	Pn	05 00 23.7	-1.5
	comp=Z,0.2nm,0.3s,baz=203,slow=9.4,SNR=3.0						
PETK	Petropavlovsk-	16.71	31	Pn	P	05 00 26.8	-0.7
DL2	Dalian	16.85	275	P	P	05 00 28.7	-0.4
DL2				pmax	pmax		
	comp=Z,160nm,1.1s						
DL2				L	L		
	comp=Z,9μm,12.8s						
DL2				L	L		
	comp=Z,6μm,12.5s						
DL2				L	L		
	comp=Z,9μm,13.9s						
PET	Petropavlovsk	17.04	33	eP	P	05 00 32.0	+0.9
PET				pmax	pmax		
	comp=Z,222nm,1.1s						
PET	Petropavlovsk	17.04	33	P	P	05 00 31.3	+0.2
PET				IAmb	IAmb	05 00 48.8	
	comp=Z,305nm,1.3s						
ZEA	Zeya	17.90	328	eP	Pn	05 00 37.6	-2.4
ZEA				pmax	pmax		
	comp=E,140nm,1.0s						
ZEA				pmax	pmax		
	comp=N,160nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,230nm,0.8s						
HIA	Hailar	19.38	308	P	P	05 00 53.9	-3.0
HIA				pmax	pmax		
	comp=Z,148nm,0.8s						
HIA	Hailar	19.38	308	P	P	05 00 53.9	-3.0
HIA				IAmb	IAmb	05 01 06.3	
	comp=Z,148nm,0.8s						
MA2	Magadan	20.55	11	c iP	P	05 01 10.7	+1.2
MA2				pmax	pmax		
	comp=Z,251nm,0.9s						
MA2	Magadan	20.55	11	P	P	05 01 10.6	+1.0
MA2				IAmb	IAmb	05 01 11.6	
	comp=Z,224nm,0.8s						
BJI	Beijing	20.86	280	P	P	05 01 10.6	-2.5
BJI				pmax	pmax		
	comp=Z,91nm,1.1s						
BJI				L	L		
	comp=Z,5μm,13.0s						
BJI				L	L		
	comp=Z,10μm,14.0s						
BJI				L	L		
	comp=Z,8μm,14.7s						
BJT	Baijiatuan	20.87	280	P	P	05 01 10.5	-2.7
BJT				pmax	pmax		
	comp=Z,117nm,1.1s						
BJT	Baijiatuan	20.87	280	P	P	05 01 10.5	-2.7
TIA	Tai'an	20.95	269	P	P	05 01 12.6	-1.6
TIA				pmax	pmax		
	comp=Z,290nm,1.1s						
NJ2	Nanjing	21.21	257	⇓iP	P	05 01 15.4	-1.5
NJ2				pmax	pmax		
	comp=Z,41nm,0.7s						
NJ2				L	L		
	comp=Z,8μm,17.1s						
NJ2				L	L		
	comp=Z,10μm,12.3s						
NJ2				L	L		
	comp=Z,13μm,14.7s						
TATO	Taipei	23.46	238	P	P	05 01 40.0	-0.7
YHNB	Yeheng	23.75	238	P	P	05 01 41.7	-2.0
NACB	Ninganchiao	23.95	237	P	P	05 01 41.9	-3.6
YAK	Yakutsk	23.97	344	c iP	P	05 01 43.4	-2.0
YAK				e*PP	pP	05 01 46.9	-0.9
YAK				e		05 02 15.4	
YAK				ePPP	PPP	05 02 20.7	
YAK				eS	S	05 05 59.9	-1.9
YAK				e		05 12 50.5	
YAK				pmax	pmax		
	comp=Z,407nm,1.0s						
YAK				pmax	pmax		
	comp=N,162nm,1.1s						
YAK				pmax	pmax		
	comp=E,75nm,1.3s						
YAK				pmax	pmax		
	comp=Z,260nm,1.0s						
YAK				pmax	pmax		
	comp=N,111nm,0.9s						
YAK				pmax	pmax		
	comp=E,181nm,1.1s						
YAK				smax	smax		
	comp=E,437nm,1.9s						
YAK				smax	smax		
	comp=N,545nm,1.9s						
YAK				MLR	MLR		
	comp=Z,4μm,12.0s						
YAK				MLR	MLR		
	comp=N,4μm,12.0s						
YAK				MLR	MLR		
	comp=E,6μm,13.0s						
YAK	Yakutsk	23.97	344	P	P	05 01 44.2	-1.2
CIT	Chita	24.03	311	eP	P	05 01 43.4	-2.7
CIT				e		05 01 56.1	
CIT				e		05 02 15.0	
CIT				e		05 02 30.0	
CIT				e		05 06 46.5	
CIT				pmax	pmax		
	comp=Z,843nm,1.2s						
TIY	Taiyuan	24.17	275	eP	P	05 01 49.2	+1.6
TIY				pmax	pmax		
	comp=Z,180nm,1.4s						
HHC	Hu-ho-hao-te	24.25	283	eP	P	05 01 46.0	-2.3
HHC				pmax	pmax		
	comp=Z,47nm,1.0s						
SSLB	Suanglung	24.64	237	P	P	05 01 49.4	-2.5
SSLB				IAmb	IAmb	05 01 54.3	
	comp=Z,80nm,0.8s						
TWG	Pinlang	25.25	235	P	P	05 01 56.6	-0.8
WHN	Wuhan	25.32	258	⇑P	P	05 01 57.4	-0.5
WHN				pmax	pmax	

baz=320,slow=75
H11N1 WAKE ISLAND Hy 28.32 128 T T 05 32 09.7
baz=320,slow=75
H11N3 WAKE ISLAND Hy 28.33 128 T T 05 32 37.9
baz=320,slow=75
H11S1 WAKE ISLAND Hy 29.13 129 T T 05 33 20.8
baz=321,slow=76
H11S3 WAKE ISLAND Hy 29.13 129 T T 05 33 30.7
baz=321,slow=76
H11S2 WAKE ISLAND Hy 29.14 129 T T 05 33 32.9
baz=321,slow=76
ENH Enshi 29.15 262 P **P** **05 02 32.5 +0.1**
IRK Irkutsk 29.62 308 *e*P **P** **05 02 34.2 -2.1**
IRK pmax pmax
comp=Z,128nm,1.8s
TLY Talaya 29.91 307 *i* P **P** **05 02 39.6 +0.6**
TLY pmax pmax
comp=Z,78nm,1.2s
TLY Talaya 29.91 307 P **P** **05 02 39.3 +0.3**
TLY lAmb lAmb 05 02 54.4
comp=Z,66nm,1.1s
ZAK Zakamensk 29.99 304 *e*P **P** **05 02 39.8 0.0**
ZAK pmax pmax
comp=Z,69nm,1.1s
BILL Bilibino 31.14 16*d i*P **P** **05 02 50.3 +0.7**
BILL *e**PP **pwP** **05 02 56.1 +1.0**
BILL *e**SP sP 05 03 05.0 +12
BILL pmax pmax
comp=Z,54nm,1.7s
BILL MLR MLR
comp=Z,3µm,14.0s
LZH Lanzhou 31.23 276 ⇓P **P** **05 02 50.9 -0.1**
LZH pP pwP 05 02 55.9 -0.4
LZH sP sP 05 02 59.9 +5.5
LZH pmax pmax
comp=Z,85nm,1.1s
LZH pmax pmax
comp=Z,910nm,5.4s
TIXI Tiksi 32.96 352 *i* P **P** **05 03 05.1 -0.4**
GYA Guiyang 33.21 258 ⇓P **P** **05 03 07.3 -1.0**
GYA pmax pmax
comp=Z,30nm,1.0s
CD2 Chengdu 33.26 267 P **P** **05 03 07.9 -0.8**
CD2 pmax pmax
comp=Z,150nm,1.1s
GTA Gaotai 33.36 284 ⇑P **P** **05 03 10.1 +0.6**
GTA pP sP 05 03 13.6 +0.6
GTA sP pwP 05 03 17.0 +2.1
GTA PcP **PcP** **05 05 51.9 +0.7**
GTA ScP **ScP** **05 09 34.4 -1.1**
GTA PcS **PcS** **05 09 38.2 +1.3**
GTA ScS **ScS** **05 13 34.9 -1.5**
GTA pmax pmax
comp=Z,130nm,1.0s
GTA pmax pmax
comp=Z,1µm,6.2s
GTA L L
comp=Z,5µm,17.1s
GTA L L
comp=Z,12µm,16.4s
GTA L L
comp=Z,14µm,16.4s
KMI Kunming 36.90 259 ⇑P **P** **05 03 40.5 +0.2**
KMI pP pP 05 03 43.4 +0.6
KMI sP sP 05 03 44.8 +1.0
KMI PcP **PcP** **05 06 03.1 +1.3**
KMI pmax pmax
comp=Z,89nm,1.2s
KMI L L
comp=Z,3µm,10.6s
KMI L L
comp=Z,5µm,17.1s
KMI L L
comp=Z,3µm,19.0s
TNA Tin City 37.88 31 P **P** **05 03 49.2 +1.4**
TNA Tin City 37.88 31 P 05 03 50.0
baz=251
SLVN Son La 38.21 253 P **P** **05 03 50.9 -0.3**
DGZ Jazzator, Alta 40.20 304 *i* P **P** **05 04 08.9 +1.2**
DGZ pmax pmax
comp=Z,235nm,1.2s
RDOG Red Dog Mine 40.53 28 P 05 04 11.0
baz=254
NONG Nongkai 40.80 250 P **P** **05 04 14.7 +1.9**
comp=Z,7µmcomp=Z,69nm,0.9s
UBPT Khong Chiam 41.00 245 P **P** **05 04 14.8 +0.4**
WMQ Urumqi 41.11 295 P **P** **05 04 16.3 +1.1**
WMQ pP pwP 05 04 22.3 +1.7
WMQ pmax pmax
comp=Z,270nm,1.1s
WMQ pmax pmax
comp=Z,1µm,3.9s
ZAA0 Zalesovo Array 41.38 310 P **P** **05 04 17.2 0.0**
ZAA0 lAmb lAmb 05 04 18.6
comp=Z,62nm,0.8s
ZALV Zalesovo Beam 41.38 310 P **P** **05 04 17.0 -0.1**
comp=Z,57nm,0.8s,baz=87,slow=7.8,SNR=24
ZALV PcP **PcP** **05 06 14.7 -0.5**
comp=Z,26nm,0.9s,baz=60,slow=3.4,SNR=3.8
ZALV Zalesovo Beam 41.38 310 P **P** **05 04 17.4 +0.2**
NRIK Noril'sk 41.62 334 P **P** **05 04 18.8 -0.2**
comp=Z,25nm,1.1s,baz=150,slow=11,SNR=3.9
NRIK Noril'sk 41.62 334 P **P** **05 04 19.0 +0.1**
ZSN Zaisan 42.25 301 ⇑*i*P **P** **05 04 25.1 +0.6**
comp=Z,84nm,1.0s,baz=301
ZSN Zaisan 42.25 301*c i*P **P** **05 04 25.0 +0.6**
ZSN pmax pmax
comp=Z,84nm,1.0s
TTA Tatalina 42.45 36 P 05 04 26.8
baz=266
SVW2 Sparrevohn 42.57 39 P **P** **05 04 27.4 +0.6**
UTTA Uttaradit 42.90 252 P **P** **05 04 31.2 +1.3**
comp=Z,127nmcomp=Z,10nm,1.2s
CHAI Chaiyaphum 43.05 249 P **P** **05 04 32.0 +0.8**
comp=Z,203nmcomp=Z,16nm,1.0s
CM35 Chiang Mai Arr 43.35 254 P **P** **05 04 34.0 +0.4**
CM33 Chiang Mai Arr 43.42 255 P **P** **05 04 35.0 +0.8**
CMMT Chiang Mai 43.42 255 P **P** **05 04 34.3 +0.1**
comp=Z,42nm,1.3s
CHTO Chiang Mai 43.43 255 P **P** **05 04 33.8 -0.4**
CHTO pmax pmax
comp=Z,81nm,1.5s
CHTO Chiang Mai 43.43 255 P **P** **05 04 33.8 -0.4**
CHTO lAmb lAmb 05 04 35.9
comp=Z,81nm,1.4s
TOLI2 Tolitoli 43.48 214 P **P** **05 04 33.8 -0.8**
A21K Barrow 43.51 24 P **P** **05 04 34.5 +0.4**
A21K lAmb lAmb 05 04 44.2
comp=Z,86nm,1.0s
A21K Barrow 43.51 24 P 05 04 35.1
baz=257
LSA Lhasa 43.54 274 P **P** **05 04 35.3 -0.4**
LSA pmax pmax
comp=Z,153nm,1.4s
LSA Lhasa 43.54 274 P **P** **05 04 35.3 -0.4**
LSA lAmb lAmb 05 05 06.2
comp=Z,153nm,1.4s
CMAR Chiang Mai Arr 43.65 254 P **P** **05 04 36.1 +0.1**
comp=Z,6.8nm,0.7s,baz=43,slow=7.8,SNR=13
CMAR Chiang Mai Arr 43.65 254 P **P** **05 04 36.0 0.0**
CMAR Chiang Mai Arr 43.65 254 P **P** **05 04 36.0 0.0**
IMAR Indian Mountai 43.67 32 P **P** **05 04 37.2 +1.5**
H21K Melozitna Rive 44.04 32 P 05 04 39.9
baz=266
MK31 Makanchi Array 44.11 300*c i*P **P** **05 04 39.8 +0.3**
MK31 Makanchi Array 44.11 300 P **P** **05 04 40.0 +0.6**
MK31 lAmb lAmb 05 04 41.0
comp=Z,104nm,0.9s
MKAR Makanchi Array 44.11 300 P **P** **05 04 39.8 +0.4**
comp=Z,96nm,0.9s,baz=83,slow=9.2,SNR=32
CHUM Lake Minchumin 44.16 35 P 05 04 40.9
baz=269
KDAK Kodiak Island 44.18 44 P **P** **05 04 41.3 +1.5**
KDAK Kodiak Island 44.19 44 P 05 04 41.0
baz=275
PPLA Purkeypile 44.20 36 P 05 04 41.3
baz=270
SPU Mount Spurr 44.28 39 P **P** **05 04 41.9 +1.2**
MAKZ Makanchi 44.31 300 P **P** **05 04 41.2 +0.1**
MAKZ pmax pmax
comp=Z,171nm,1.1s
MAKZ Makanchi 44.31 300 P **P** **05 04 41.7 +0.6**
SKT Skwentna 44.51 38 P 05 04 43.3
baz=271
MHMT Maesarieng 44.57 255 P **P** **05 04 45.0 +1.6**

SEM Semipalatinsk 44.65 306 ⇑*i*P **P** **05 04 43.3 -0.7**
comp=Z,58nm,1.0s,baz=306
SEM Semipalatinsk 44.65 306*c i*P **P** **05 04 43.2 -0.7**
SEM pmax pmax
comp=Z,58nm,1.0s
BPAW Bear Paw Mtn. 44.75 35 P **P** **05 04 46.0 +1.6**
BPAW Bear Paw Mtn. 44.75 35 P 05 04 46.0
baz=270
KTH Kantishna Hill 44.78 35 P **P** **05 04 46.5 +1.8**
KTH lAmb lAmb 05 05 09.8
comp=Z,49nm,1.0s
MLY Manley 44.87 33 P **P** **05 04 47.0 +1.7**
MLY lAmb lAmb 05 04 58.2
comp=Z,51nm,1.3s
MLY Manley 44.87 33 P 05 04 47.0
baz=269
BRSE Bradley Lake S 45.00 41 P 05 04 47.7
baz=274
SHL Shillong 45.00 268 P **P** **05 04 46.9 -0.1**
SHL pmax pmax
comp=Z,116nm,1.3s
SHL Shillong 45.00 268 P **P** **05 04 46.9 -0.1**
SHL lAmb lAmb 05 05 08.2
comp=Z,116nm,1.3s
TRF Thorofare Moun 45.06 36 P 05 04 47.7
baz=271
COLD Coldfoot 45.17 30 P **P** **05 04 49.1 +1.4**
COLD Coldfoot 45.18 30 P 05 04 48.7
baz=267,SNR=5.7
M22K Willow 45.19 38 P 05 04 48.3
baz=273
H23K Yukon River 45.39 32 P 05 04 50.6
baz=269
RC01 Rabbit Creek A 45.41 39 P **P** **05 04 50.9 +1.3**
RC01 Rabbit Creek A 45.41 39 P 05 04 50.2
baz=274
BWN Browne 45.42 35 P **P** **05 04 51.9 +2.3**
I23K Minto, Yukon-K 45.46 33 P **P** **05 04 52.0 +2.1**
I23K lAmb lAmb 05 05 03.5
comp=Z,36nm,1.0s
I23K Minto, Yukon-K 45.46 33 P 05 04 51.2
baz=270
TOLK Toolik Lake Re 45.50 28 P **P** **05 04 49.9 -0.3**
TOLK lAmb lAmb 05 05 11.3
comp=Z,36nm,0.9s
TOLK Toolik Lake Re 45.50 28 P 05 04 51.1
baz=266,SNR=6.7
NEA2 Nenana 45.59 34 P **P** **05 04 51.7 +0.8**
NEA2 lAmb lAmb 05 05 13.3
comp=Z,47nm,0.8s
NEA2 Nenana 45.59 34 P 05 04 51.6
baz=271
SEW Seward 45.62 40 P 05 04 51.9
baz=275
MCK McKinley 45.66 35 P **P** **05 04 52.7 +1.1**
MCK pmax pmax
comp=Z,60nm,1.2s
MCK McKinley 45.66 35 P **P** **05 04 52.7 +1.1**
MCK lAmb lAmb 05 05 15.5
comp=Z,60nm,1.2s
MCK McKinley 45.66 35 P 05 04 52.6
baz=272
KURBB Kurchatov Arra 45.68 306 P **P** **05 04 51.7 -0.2**
KURBB pmax pmax
comp=Z,190nm,1.0s
RND Reindeer 45.71 36 P **P** **05 04 53.0 +1.0**
RND pmax pmax
comp=Z,44nm,1.2s
RND Reindeer 45.71 36 P **P** **05 04 53.0 +1.0**
RND lAmb lAmb 05 05 12.2
comp=Z,44nm,1.2s
GHO Glory Hole Cre 45.75 38 P **P** **05 04 53.5 +1.1**
GHO lAmb lAmb 05 05 26.9
comp=Z,54nm,1.0s
WAT2 Susitna Watana 45.85 36 P 05 04 52.8
baz=273
MDM Murphy Dome 45.94 33 P **P** **05 04 55.2 +1.5**
MDM lAmb lAmb 05 05 15.6
comp=Z,76nm,1.3s
KNK Knik Glacier 46.00 38 P **P** **05 04 55.5 +1.2**
KNK lAmb lAmb 05 05 33.0
comp=Z,78nm,1.4s
KNK Knik Glacier 46.00 38 P 05 04 53.9
baz=274
WRH Wood River Hil 46.01 34 P **P** **05 04 55.9 +1.6**
SML Sawmill 46.03 38 P **P** **05 04 55.7 +1.2**
SML Sawmill 46.03 38 P 05 04 54.7
baz=274
H24K Noodor Dome 46.08 32 P 05 04 55.6
baz=271
TCOL CIGO, UAF Yank 46.10 34 P **P** **05 04 56.2 +1.3**
TCOL lAmb lAmb 05 05 08.8
comp=Z,48nm,0.8s
TCOL CIGO, UAF Yank 46.10 34 P 05 04 56.0
baz=272
COLA College 46.10 34 *i* P **P** **05 04 55.7 +0.7**
COLA pmax pmax
comp=Z,46nm,2.5s
COLA College 46.10 34 P **P** **05 04 56.8 +1.9**
COLA lAmb lAmb 05 05 08.8
comp=Z,48nm,0.8s
COLA College 46.10 34 P 05 04 56.2
baz=272
CCB Clear Creek Bu 46.13 34 P **P** **05 04 56.7 +1.5**
POKR Poker Plat Res 46.27 33 P **P** **05 04 58.0 +1.7**
POKR Poker Plat Res 46.27 33 P 05 04 57.8
baz=272
SCM Sheep Creek Mo 46.51 38 P **P** **05 04 58.8 +0.5**
SCM pmax pmax
comp=Z,140nm,1.6s
SCM Sheep Creek Mo 46.51 38 P **P** **05 04 58.8 +0.5**
HDA Harding Lake 46.51 34 P **P** **05 04 57.9 -0.3**
HDA Harding Lake 46.51 34 P 05 04 58.8
baz=273,SNR=5.9
HDA P 05 04 58.8
baz=273,SNR=5.9
IL31 46.52 34 P **P** **05 04 57.9 -0.3**
IL31 lAmb lAmb 05 05 13.0
comp=Z,38nm,0.8s
ILAR Eielson Array 46.52 34 P **P** **05 04 58.8 +0.5**
comp=Z,6.9nm,0.8s,baz=262,slow=5.3,SNR=14
ILAR Eielson Array 46.52 34 P **P** **05 04 58.1 -0.2**
ILAR Eielson Array 46.52 34 P **P** **05 04 58.0 -0.2**
SBUM Sibu 46.55 225 P **P** **05 05 00.0 +0.9**
PDGK Podgornoye 46.98 296 P **P** **05 05 01.8 -0.5**
PDGK pmax pmax
comp=Z,116nm,1.3s
M24K Tolsona, Glenn 47.02 37 P 05 05 03.6
baz=276
SHLS Shalkode 47.05 296 ⇑*i*P **P** **05 05 00.5 -2.4**
comp=Z,62nm,1.2s,baz=296
SHLS Shalkode 47.05 296*c i*P **P** **05 05 00.5 -2.4**
SHLS pmax pmax
comp=Z,62nm,1.2s
TDK Taldyqorghan 47.20 299 *e*P **P** **05 05 04.3 +0.4**
comp=Z,173nm,0.8s,baz=299
TDK Taldyqorghan 47.20 299 *e*P **P** **05 05 04.3 +0.4**
TDK pmax pmax
comp=Z,173nm,0.8s
KLU Klutina 47.20 38 P **P** **05 04 04.9 +1.1**
KLU lAmb lAmb 05 05 21.4
comp=Z,33nm,1.0s
KLU Klutina 47.21 38 P 05 05 05.4
baz=276
PAX Paxson 47.27 36 P 05 05 06.0
baz=276
TAPN Taplejung 47.32 273 *e*P **P** **05 05 05.9 +0.5**
comp=Z,384nm,1.2s
BMAR Burnt Mountain 47.35 30 P **P** **05 05 06.5 +1.6**
UZB Uzynbulak 47.36 296 ⇑*i*P **P** **05 05 04.8 -0.5**
comp=Z,45nm,1.1s,baz=296
UZB Uzynbulak 47.36 296*c i*P **P** **05 05 04.8 -0.5**
UZB pmax pmax
comp=Z,45nm,1.1s
EYAK Cordova Ski Ar 47.40 39 P 05 05 05.9
baz=277
HARP HAARP 47.47 37 P 05 05 07.1
baz=276
KPKS Kokpek 47.49 297 ⇑*i*P **P** **05 05 06.4 +0.1**
comp=Z,66nm,0.9s,baz=297
KPKS Kokpek 47.49 297*c i*P **P** **05 05 06.3 +0.1**
KPKS pmax pmax
comp=Z,66nm,0.9s
SATY Saty 47.81 296 ⇑*i*P **P** **05 05 09.1 +0.3**
comp=Z,103nm,2.1s,baz=296
SATY Saty 47.81 296*c i*P **P** **05 05 09.1 +0.3**
SATY pmax pmax
comp=Z,103nm,2.1s
ODAN Odare 47.81 272 *e*P **P** **05 05 09.5 +0.3**
comp=Z,335nm,1.3s
N25K Chitina, Valde 47.82 38 P 05 05 10.6
baz=277
DOT Dot Lake 47.83 35 P **P** **05 05 09.3 +0.7**
DOT lAmb lAmb 05 05 19.2
comp=Z,78nm,1.9s
SCRK Sand Creek 47.83 35 P **P** **05 05 09.2 +0.5**
SCRK lAmb lAmb 05 05 31.5
comp=Z,25nm,0.8s
SCRK Sand Creek 47.83 35 P 05 05 09.3
baz=276
BMRM Bremner River 47.90 39 P **P** **05 05 11.1 +1.9**
BMRM lAmb lAmb 05 05 35.3
comp=Z,36nm,0.9s
BMRM Bremner River 47.90 39 P 05 05 11.9
baz=278
PRZ Przheval'sk 48.01 296 P **P** **05 05 10.4 0.0**
PRZ pmax pmax
comp=Z,188nm,1.3s
PRZ Przheval'sk 48.01 296 P **P** **05 05 10.4 0.0**
JIRN Jiri 48.34 274 *e*P **P** **05 05 14.1 +0.7**
comp=Z,127nm,0.6s
RAMN Ramite 48.38 273 *e*P **P** **05 05 14.1 +0.5**
comp=Z,304nm,0.9s
VRDI Verde Repeater 48.42 38 P **P** **05 05 14.8 +1.4**
VRDI lAmb lAmb 05 05 26.0
comp=Z,56nm,1.4s
KSM Kuching 48.42 227 P **P** **05 05 15.0 +1.4**
GUN Gumba 48.46 274 *e*P **P** **05 05 14.9 +0.6**
comp=Z,407nm,0.7s
CHKK Chushkaly 48.53 298 *e*P **P** **05 05 14.0 -0.2**
baz=298
CHKK Chushkaly 48.53 298 *e*P **P** **05 05 14.0 -0.2**
CRQM Cirque 48.64 39 P **P** **05 05 16.6 +1.6**
CRQM lAmb lAmb 05 05 33.7
comp=Z,61nm,1.0s
K27K Chicken 48.66 34 P **P** **05 05 16.1 +1.2**
K27K lAmb lAmb 05 05 29.9
comp=Z,68nm,1.1s
K27K Chicken 48.66 34 P 05 05 15.9
baz=277
CRQE Cirque 48.67 39 P 05 05 16.7
baz=279
TARG Taragay, Kyrgy 48.68 295 P **P** **05 05 15.7 -0.2**
MDOK Medeo 48.72 297 *e*P **P** **05 05 15.9 +0.1**
baz=297
MDOK Medeo 48.72 297 *e*P **P** **05 05 15.9 +0.1**
AAA Alma-Ata 48.79 297 *e*P **P** **05 05 15.9 -0.5**
baz=297
AAA Alma-Ata 48.79 297 *e*P **P** **05 05 15.8 -0.5**
L27K Beaver Creek, 48.91 36 P **P** **05 05 18.4 +1.6**
L27K lAmb lAmb 05 05 29.9
comp=Z,46nm,1.2s
L27K Beaver Creek, 48.91 36 P 05 05 18.0
baz=278
BCAR Beaver Creek A 48.92 36 P **P** **05 05 18.4 +1.3**
KUU Kurty 48.96 298 ⇑*i*P **P** **05 05 17.2 -0.4**
comp=Z,144nm,1.0s,baz=298
KUU Kurty 48.96 298*c i*P **P** **05 05 17.1 -0.4**
KUU pmax pmax
comp=Z,144nm,1.0s
EGAK Eagle 48.96 33 P 05 05 18.9
baz=278
KDJ Kajisay 48.98 296 P **P** **05 05 17.6 -0.3**
KDJ pmax pmax
comp=Z,118nm,1.3s
KDJ Kajisay 48.98 296 P **P** **05 05 17.6 -0.3**
KKN Kakani 48.98 275 *e*P **P** **05 05 18.8 +0.7**
comp=Z,460nm,0.8s
PKI Pulchoki 48.99 274 *e*P **P** **05 05 18.5 +0.2**
comp=Z,231nm,1.1s
PKIN Phulchoki 48.99 274 *e*P **P** **05 05 18.5 +0.2**
comp=Z,81nm,0.6s
MTBS Maitube 49.15 297 ⇑*i*P **P** **05 05 19.2 +0.1**
baz=297
MTBS Maitube 49.15 297*c i*P **P** **05 05 19.2 +0.1**
DMN Daman 49.20 275 *e*P **P** **05 05 20.3 +0.4**
GKN Gorkha 49.37 275 *e*P **P** **05 05 21.5 +0.4**
comp=Z,182nm,0.8s
KAPI Kappang 49.44 212*ce*P **P** **05 05 23.1 +1.7**
BRZS Berezniki 49.48 307 ⇑*i*P **P** **05 05 21.2 -0.3**
comp=Z,55nm,1.1s,baz=307
BRZS Berezniki 49.48 307*c i*P **P** **05 05 21.1 -0.3**
BRZS pmax pmax
comp=Z,55nm,1.1s
CTG Chitna Glacier 49.48 38 P 05 05 22.5
baz=281
BOOM Boomskoye usch 49.71 296 P **P** **05 05 23.3 -0.2**
BOOM pmax pmax
comp=Z,152nm,1.1s
BOOM Boomskoye usch 49.71 296 P **P** **05 05 23.2 -0.2**
DANN Dangsing 49.88 276 *e*P **P** **05 05 25.8 +0.7**
comp=Z,695nm,0.7s
BVAR Borovoye Array 50.02 311 P **P** **05 05 24.6 -0.9**
comp=Z,37nm,0.8s,baz=220,slow=8.9,SNR=29
BRVK Borovoye 50.07 311 P **P** **05 05 26.0 +0.1**
BRVK pmax pmax
comp=Z,126nm,1.1s
BRVK Borovoye 50.07 311 P **P** **05 05 26.3 +0.4**
BTLS Baital 50.12 300 ⇑*i*P **P** **05 05 26.0 -0.4**
comp=Z,30nm,1.2s,baz=300
BTLS Baital 50.12 300*c i*P **P** **05 05 25.9 -0.4**
BTLS pmax pmax
comp=Z,30nm,1.2s
OTUK Ortayu 50.20 305 P **P** **05 05 26.7 -0.3**
OTUK pmax pmax
comp=Z,71nm,1.0s
SGDS Sogindy 50.27 298 ⇑*i*P **P** **05 05 27.3 -0.4**
comp=Z,61nm,1.6s,baz=298
SGDS Sogindy 50.27 298*c i*P **P** **05 05 27.2 -0.4**
SGDS pmax pmax
comp=Z,61nm,1.6s
KOLN Koldanda 50.28 276 *e*P **P** **05 05 28.6 +0.5**
comp=Z,588nm,1.3s
EPYK Eagle Plains 50.55 31 P **P** **05 05 30.8 +1.5**
EPYK lAmb lAmb 05 05 57.4
comp=Z,62nm,0.8s
EPYK Eagle Plains 50.55 31 P 05 05 30.8
baz=280
PYUN Piuthan 50.59 276 *e*P **P** **05 05 31.6 +1.2**
AAK Ala-Archa 50.66 297 P **P** **05 05 29.8 -0.9**
comp=Z,32nm,1.0s,baz=89,slow=7.5,SNR=8.5
AAK Ala-Archa 50.66 297 *i* P **P** **05 05 29.5 -1.2**
AAK pmax pmax
comp=Z,235nm,1.5s
AAK Ala-Archa 50.66 297 P **P** **05 05 30.3 -0.4**
AAK lAmb lAmb 05 05 32.3
comp=Z,71nm,1.2s
KSH Kashi 50.80 293 P **P** **05 05 36.2 +4.5**
KSH sP pwP 05 05 42.5 +5.4
KSH pmax pmax
comp=Z,47nm,0.9s
KSH pmax pmax
comp=Z,520nm,3.3s
HYT Haines Junctio 51.34 38 P **P** **05 05 37.0 +1.5**
HYT lAmb lAmb 05 05 54.9
comp=Z,70nm,1.0s
INK Inuvik 51.41 28 P **P** **05 05 36.6 +0.9**
comp=Z,9.6nm,0.8s,baz=285,slow=9.0,SNR=6.7
INK Inuvik 51.41 28 P **P** **05 05 37.3 +1.6**
INK Inuvik 51.41 28 P 05 05 37.3
baz=281
KULM Kulim 51.43 240 P **P** **05 05 38.0 +1.5**
IPM Ipoh 51.78 239 P **P** **05 05 40.0 +0.8**
ARSB Arslanbob 52.20 296 P **P** **05 05 42.1 -0.1**
ARSB pmax pmax
comp=Z,190nm,1.0s
ARSB Arslanbob 52.20 296 P **P** **05 05 42.1 -0.1**
WHY Whitehorse 52.63 38 P 05 05 46.0
baz=286
BATI Baumata 52.82 205 LR LR 05 27 13.6
comp=Z,857nm,19.7s,baz=30,slow=35
KK31 Karatay Array 53.20 299 *i* P **P** **05 05 49.1 -0.3**
KK31 pmax pmax
comp=Z,57nm,1.0s
KK31 Karatay Array 53.20 299 P **P** **05 05 49.5 0.0**
KK31 lAmb lAmb 05 05 50.7
comp=Z,73nm,1.1s
KKAR Karatay Array 53.20 299 P **P** **05 05 49.1 -0.3**
KKAR pmax pmax
comp=Z,73nm,1.1s
KKAR Karatay Array 53.20 299 P **P** **05 05 49.3 -0.1**
KKAR lAmb lAmb 05 05 50.7

comp=Z,73nm,1.1s
KKAR Karatay Array 53.20 299 P **P** **05 05 49.0 -0.3**
DRK Karamyk 53.77 294 P **P** **05 05 53.6 -0.4**
BTK Batken 54.21 295 P **P** **05 05 56.9 -0.1**
BTK pmax pmax
comp=Z,99nm,1.4s
BTK Batken 54.21 295 P **P** **05 05 56.9 -0.1**
BTK IAmb IAmb 05 05 58.5
comp=Z,99nm,1.4s
SVE Sverdlovsk 54.27 318*d* *i*P **P** **05 05 58.0 +1.0**
SVE pmax pmax
comp=Z,218nm,1.1s
SVE MLR MLR
comp=E,6µm,15.0s
SVE MLR MLR
comp=Z,8µm,15.0s
PSI Prapat 54.42 239 P **P** **05 05 58.9 +0.2**
PSI pmax pmax
comp=Z,49nm,1.4s
C36M Paulatuk 54.47 26 P **P** **05 05 59.8 +1.6**
C36M IAmb IAmb 05 06 21.5
comp=Z,27nm,0.9s
C36M Paulatuk 54.47 26 P 05 05 58.9
baz=289
RPSI Rantau Prapat 54.50 239 P **P** **05 05 58.9 -0.2**
RPSI IAmb IAmb 05 06 00.8
comp=Z,49nm,1.4s
GAR Garm 55.01 295 P **P** **05 06 02.2 -0.6**
NIL Nilore 55.29 287 P **P** **05 06 04.5 -0.3**
NIL pmax pmax
comp=Z,233nm,1.2s
NIL Nilore 55.29 287 P **P** **05 06 04.5 -0.3**
ARU Arti 55.48 318*c* *i*P **P** **05 06 06.1 +0.3**
ARU 05 07 06.0
ARU 05 08 13.8
ARU PPP PPP 05 09 24.4
ARU S **S** **05 13 53.9 +3.4**
ARU SS **SS** **05 17 25.7 -9.0**
ARU pmax pmax
comp=Z,280nm,1.1s
ARU MLR MLR
comp=Z,7µm,15.0s
ARU Arti 55.48 318 P **P** **05 06 06.1 +0.3**
DLBC Dease Lake 55.67 39 P **P** **05 06 08.7 +1.5**
comp=Z,2.9nm,0.8s,baz=242,slow=17,SNR=2.5
CHGR Chuyangaron 55.98 295 P **P** **05 06 09.3 -0.5**
GSI Gunungsitoli 56.42 239 P **P** **05 06 13.0 -0.1**
EUNU Eureka 57.43 9 P **P** **05 06 19.5 +0.1**
EUNU IAmb IAmb 05 06 49.9
comp=Z,73nm,1.4s
AB31 Akbulak array 57.48 309 *i* P **P** **05 06 20.2 +0.1**
AB31 pmax pmax
comp=Z,44nm,0.7s
ABKAR Akbulak array 57.48 309 P **P** **05 06 20.6 +0.5**
KBL Kabul 57.95 290 P **P** **05 06 23.5 -0.4**
KBL pmax pmax
comp=Z,107nm,1.1s
KBL Kabul 57.95 290 P **P** **05 06 23.5 -0.4**
AKTO Aktyubinsk 58.12 311 P **P** **05 06 24.6 -0.1**
comp=Z,38nm,0.8s,baz=71,slow=13,SNR=14
SPITS Spitsbergen Ar 58.32 349 P **P** **05 06 26.2 +0.6**
comp=Z,22nm,1.0s,baz=46,slow=16,SNR=4.2
KBS Kingsbay 58.40 350 ⇑*i*P **P** **05 06 27.4 +1.2**
KBS IAmb IAmb 05 06 28.4
comp=Z,183nm,1.0s
KBS IAMs_20 IAMs_20 05 28 05.4
comp=Z,7µm,15.4s
KBS Kingsbay 58.40 350 P **P** **05 06 26.3 +0.1**
KBS pmax pmax
comp=Z,80nm,1.0s
KBS Kingsbay 58.40 350 P **P** **05 06 26.3 +0.1**
NOR Nord 58.60 357 ⇑*i*P **P** **05 06 28.0 +0.4**
NOR IAmb IAmb 05 06 28.4
comp=Z,26nm,1.0s
NOR IAMs_20 IAMs_20 05 28 42.6
comp=Z,4µm,15.9s
NOR Nord 58.60 357 ⇑*i*P **P** **05 06 27.9 +0.4**
NOR MLR MLR
comp=Z,4µm,16.0s
KIRV Kirov 59.15 323*c* *i*P **P** **05 06 31.9 +0.3**
HSPB Hornsund (broa 59.27 348 *e*P **P** **05 06 33.1 +0.9**
PRGR Permogore 59.47 327 *e*P **P** **05 06 33.7 -0.1**
PRGR *e* 05 06 44.3
PRGR *e* 05 08 43.6
PRGR pmax pmax
comp=Z,101nm,1.1s
FITZ Fitzroy Crossi 59.73 200 LR LR 05 31 52.7
comp=Z,415nm,20.4s,baz=16,slow=36
FITZ Fitzroy Crossi 59.73 200 P **P** **05 06 36.1 +0.1**
FITZ IAmb IAmb 05 06 42.1
comp=Z,92nm,1.7s
RES Resolute Bay 59.74 15 P **P** **05 06 35.9 +0.5**
RES pmax pmax
comp=Z,40nm,1.0s
RES Resolute Bay 59.74 15 P **P** **05 06 35.9 +0.5**
RES IAmb IAmb 05 06 36.9
comp=Z,40nm,1.0s
WRAB Tennant Creek 59.81 190 *i* P **P** **05 06 35.8 -0.8**
WRAB pmax pmax
comp=Z,24nm,1.2s
WRAB Tennant Creek 59.81 190 P **P** **05 06 36.4 -0.1**
WRAB IAmb IAmb 05 06 55.9
comp=Z,22nm,0.8s
HYB Hyderabad 59.81 268 *i* P **P** **05 06 34.0 -2.9**
HYB *e*PcP **PcP** **05 07 24.0 +0.5**
WRA Warramunga Arr 59.82 190 P **P** **05 06 35.7 -0.9**
comp=Z,9.4nm,0.7s,baz=7.7,slow=7.1,SNR=24
LVZ Lovozero 60.41 336 *i* P **P** **05 06 39.6 -0.7**
LVZ pmax pmax
comp=Z,24nm,0.8s
LVZ Lovozero 60.41 336 P **P** **05 06 40.8 +0.6**
LVZ IAmb IAmb 05 06 41.8
comp=Z,51nm,1.1s
YKA Yellowknife Ar 60.83 31 P **P** **05 06 43.0 -0.1**
comp=Z,9.4nm,1.0s,baz=298,slow=6.5,SNR=7.8
YKA Yellowknife Ar 60.83 31 P **P** **05 06 43.0 -0.1**
APA Apatity 60.99 336 ⇑*i*P **P** **05 06 42.8 -1.3**
APA *i* 05 06 55.0
APA *i* S S 05 14 52.0 -10
APA pmax pmax
comp=Z,29nm,0.8s
APA MLR MLR
comp=Z,4µm,14.0s
KEV Kevo 61.60 339 P **P** **05 06 48.1 -0.1**
KEV pmax pmax
comp=Z,55nm,1.0s
KEV Kevo 61.60 339 P **P** **05 06 48.1 -0.1**
ARA0 ARCESS Array S 62.15 339 *e*P **P** **05 06 52.5 +0.6**
ARCES ARCESS Array B 62.15 339 P **P** **05 06 51.7 -0.3**
comp=Z,24nm,1.0s,baz=45,slow=7.0,SNR=10
ARCES PP **PP** **05 09 12.0 +3.9**
comp=Z,9.0nm,0.9s,baz=56,slow=9.0,SNR=4.0
ARCES ARCESS Array B 62.15 339 P **P** **05 06 52.6 +0.7**
ARCES IAmb IAmb 05 06 53.1
comp=Z,41nm,1.1s
TULEG Thule 62.36 8 *i* P **P** **05 06 53.2 -0.1**
TULEG IAmb IAmb 05 06 53.9
comp=Z,34nm,0.9s
TULEG IAMs_20 IAMs_20 05 24 52.2
comp=Z,5µm,20.4s
TULEG Thule 62.36 8 P **P** **05 06 53.3 +0.1**
TULEG IAmb IAmb 05 06 54.1
comp=Z,37nm,1.0s
KLMR Klimovskoe 62.42 328 *e*P **P** **05 06 52.3 -1.5**
KLMR *e* 05 09 06.2
KLMR pmax pmax
comp=Z,136nm,1.3s
KLMR Klimovskoe 62.42 328 *e*P **P** **05 06 52.4 -1.4**
KLMR AMP 05 06 55.3
comp=Z,136nm,1.3s
KLMR *e*PP **PP** **05 09 06.2 -4.5**
NEEM North Greenlan 62.89 4 ⇑*i*P **P** **05 06 57.4 +0.2**
NEEM IAmb IAmb 05 06 58.5
comp=Z,62nm,1.0s
NEEM IAMs_20 IAMs_20 05 30 19.6
comp=Z,3µm,18.1s
HRA Herat 62.90 293 P **P** **05 06 57.9 +0.1**
HRA IAmb IAmb 05 06 59.0
comp=Z,32nm,1.1s
BELG Belogornoye 62.98 317*c* *i*P **P** **05 06 58.3 +0.6**
BELG pmax pmax
comp=Z,61nm,1.0s
KTK1 Kautokeino 63.10 340 *e*P **P** **05 06 59.0 +0.7**
DAG Danmarks Havn 63.36 355 ⇑*i*P **P** **05 07 00.1 +0.2**
DAG IAmb IAmb 05 07 01.0
comp=Z,64nm,1.0s
DAG IAMs_20 IAMs_20 05 27 46.8
comp=Z,2µm,17.2s
DAG Danmarks Havn 63.36 355 ⇑*i*P **P** **05 07 00.1 +0.2**
DAG pmax pmax
comp=Z,64nm,1.0s
DAG MLR MLR
comp=Z,2µm,17.0s
JETT Jettan, Norway 63.47 341 *e*P **P** **05 07 01.6 +0.8**
AS31 Alice Springs 63.54 190 P **P** **05 07 02.5 +0.7**
ASAR Alice Springs 63.55 190 P **P** **05 07 01.8 +0.1**
comp=Z,4.6nm,0.7s,baz=5.6,slow=5.4,SNR=14
ASAR PKP2bc 05 36 06.2
comp=Z,1.4nm,1.0s,baz=198,slow=4.2,SNR=4.7
ASAR Alice Springs 63.55 190 P **P** **05 07 02.3 +0.5**
KIF Kilpisjarvi 63.76 340 *e*P **P** **05 07 02.9 +0.3**
TRO Tromso 63.79 341 *e*P **P** **05 07 03.3 +0.5**
GEYT Alibeck 63.95 299 P **P** **05 07 04.3 -0.2**
comp=Z,34nm,1.1s,baz=204,slow=3.3,SNR=10
GYA0B ALIBECK ARRAY 63.95 299 P **P** **05 07 04.5 +0.1**
D03D Eldon 64.25 49 P **P** **05 07 07.6**
baz=301
PSA00 Pilbara Seismi 64.69 204 P **P** **05 07 10.2 +0.9**
DZM Mont Dzumac 65.02 156 *e*P **P** **05 07 15.2 +3.7**
comp=Z,90nm,1.4s
E04D Cinebar 65.07 49 P 05 07 12.1
baz=302
D05A Enumclaw 65.07 49 P **P** **05 07 12.7 +1.2**
KULLO Kullorsuaq 65.29 6 ⇑*i*P **P** **05 07 12.4 -0.1**
KULLO IAmb IAmb 05 07 13.4
comp=Z,43nm,1.1s
KULLO IAMs_20 IAMs_20 05 30 11.0
comp=Z,4µm,18.1s
KULLO Kullorsuaq 65.29 6 ⇑*i*P **P** **05 07 12.4 -0.1**
KULLO pmax pmax
comp=Z,43nm,1.1s
KULLO MLR MLR
comp=Z,4µm,18.0s
VALR Valaam 65.55 331 *i* P **P** **05 07 14.6 +0.2**
VALR pmax pmax
comp=Z,74nm,1.2s
I02D Swisshome 65.60 52 P 05 07 18.5
baz=302
DBG Daneborg 65.85 355 ⇑*i*P **P** **05 07 16.2 0.0**
DBG IAmb IAmb 05 07 17.2
comp=Z,25nm,1.1s
DBG IAMs_20 IAMs_20 05 35 06.8
comp=Z,3µm,16.8s
B08A Colville Reser 65.96 46 P **P** **05 07 18.9 +1.5**
B08A IAmb IAmb 05 07 30.0
comp=Z,77nm,1.8s
STEI Steigen 65.96 341 *e*P **P** **05 07 17.1 +0.2**
MOS Moscow 66.11 323 *e*P **P** **05 07 17.3 -0.8**
MOS *e* 05 09 41.2
MOS *e*S **S** **05 16 06.9 +0.7**
MOS pmax pmax
comp=Z,166nm,1.4s
MOS pmax pmax
comp=Z,400nm,1.9s
I03D Drain, OR 66.12 52 P 05 07 19.0
baz=303
LOF Lofoten 66.23 342 *e*P **P** **05 07 18.8 +0.1**
H04A Detroit Lake 66.29 51 P **P** **05 07 21.1 +1.6**
FAUS Fauske 66.36 341 *e*P **P** **05 07 20.1 +0.6**
G05D Wamic, OR 66.51 50 P 05 07 23.5
baz=303
I04A Tendick Farm, 66.64 52 P 05 07 21.6
baz=303
VRH Novokhopyorsk 66.72 318 *e*P **P** **05 07 21.3 -0.8**
VRH pmax pmax
comp=Z,100nm,0.9s
D08A Wollman Farm, 66.90 47 P **P** **05 07 24.7 +1.3**
D08A IAmb IAmb 05 07 36.0
comp=Z,47nm,1.4s
OBN Obninsk 66.97 323*c* *i*P **P** **05 07 23.6 0.0**
OBN *e**PP **pwP** **05 07 29.8 +0.5**
OBN *e* 05 07 57.9
OBN S **S** **05 16 22.0 +5.4**
OBN pmax pmax
comp=Z,136nm,1.4s
OBN MLR MLR
comp=Z,3µm,16.0s
I05D Terrebonne, OR 66.99 51 P 05 07 25.9
baz=304
J04D Umpqua Nationa 67.13 52 P 05 07 26.8
baz=304
NEW Newport 67.24 46 P **P** **05 07 27.0 +1.4**
NEW pmax pmax
comp=Z,79nm,1.7s
NEW Newport 67.24 46 P **P** **05 07 27.0 +1.4**
NEW IAmb IAmb 05 07 38.1
comp=Z,79nm,1.7s
NEW Newport 67.24 46 P 05 07 27.4
baz=304
FIA1 FINESS Array S 67.26 332 P **P** **05 07 25.4 0.0**
FINES FINESS Array B 67.27 332 P **P** **05 07 25.5 +0.1**
comp=Z,52nm,0.8s,baz=60,slow=9.1,SNR=23
LPSR Galich'ya Gora 67.32 320 *e*P **P** **05 07 25.5 -0.4**
LPSR pmax pmax
comp=Z,120nm,1.0s
MOR8 Moi Rana 67.49 340 *e*P **P** **05 07 25.6 -1.2**
PINE Pine Mountain 67.53 51 P **P** **05 07 28.9 +1.2**
PINE IAmb IAmb 05 07 46.0
comp=Z,34nm,0.9s
L04D Klamath Falls 67.57 53 P 05 07 29.7
baz=304
E09A Wood Farm, Sta 67.65 48 P **P** **05 07 29.5 +1.3**
M02C Callahan 67.68 54 P 05 07 31.8
baz=304
VORR Voronezh 67.73 319 *e*P **P** **05 07 27.0 -1.5**
VORR pmax pmax
comp=Z,350nm,1.2s
G08A Pilot Rock 67.87 49 P **P** **05 07 31.0 +1.4**
N02D Trinity Center 68.01 55 P 05 07 34.6
baz=304
VSR Storozhevoye 68.02 319 *e*P **P** **05 07 28.8 -1.5**
VSR pmax pmax
comp=Z,70nm,1.0s
MAK Makhachkala 68.09 308 *e*P P 05 07 24.6 -6.3
MAK *e* 05 09 55.2
MAK *e*PPP PPP 05 11 34.0
MAK *e*S **S** **05 16 22.4 -8.1**
MAK *e*SS **SS** **05 20 50.1 -2.1**
MAK pmax pmax
comp=Z,254nm,1.9s
MAK MLR MLR
comp=Z,5µm,13.0s
M04C Macdoel 68.10 53 P 05 07 33.7
baz=304
SUMG Summit 68.12 1 ⇑*i*P **P** **05 07 32.4 +1.2**
SUMG IAmb IAmb 05 07 32.8
comp=Z,60nm,0.9s
SUMG IAMs_20 IAMs_20 05 31 20.1
comp=Z,5µm,18.3s
SUMG Summit 68.12 1 ⇑*i*P **P** **05 07 32.3 +1.2**
SUMG pmax pmax
comp=Z,60nm,0.9s
SUMG MLR MLR
comp=Z,5µm,18.0s
SUMG Summit 68.12 1 P **P** **05 07 32.0 +0.8**
K05A Summer Lake 68.15 52 P **P** **05 07 32.8 +1.1**
O02D Mt. Diablo Mer 68.40 55 P 05 07 35.7
baz=304
MEF Metsahovi 68.70 332 *e*P **P** **05 07 35.0 +0.6**
O03E Paynes Creek 68.96 55 P 05 07 38.4
baz=305
VSU Vasula 69.03 330 *e*P **P** **05 07 37.4 +0.9**
VSU Vasula 69.03 330 *i* P **P** **05 07 36.5 0.0**
RAF Rauma 69.07 334 *e*P **P** **05 07 37.1 +0.5**
BMO Blue Mountains 69.08 49 P **P** **05 07 36.9 -0.4**
BMO pmax pmax
comp=Z,44nm,1.8s
BMO Blue Mountains 69.08 49 P **P** **05 07 36.9 -0.4**
BMO IAmb IAmb 05 07 49.1
comp=Z,44nm,1.8s
JTMT Jette 69.09 45 P **P** **05 07 38.1 +0.7**
JTMT IAmb IAmb 05 07 50.1
comp=Z,83nm,1.9s
J08A Circle Bar Ran 69.25 51 P **P** **05 07 39.8 +1.4**
J08A IAmb IAmb 05 07 51.6
comp=Z,63nm,1.5s
ORV Oroville 69.57 55 P **P** **05 07 41.2 +1.0**
ORV pmax pmax
comp=Z,45nm,1.7s
ORV Oroville 69.57 55 P **P** **05 07 41.2 +1.0**
ORV IAmb IAmb 05 07 51.7
comp=Z,44nm,1.6s
WVOR Wild Horse Val 69.69 51 P **P** **05 07 42.1 +1.0**
WVOR pmax pmax
comp=Z,25nm,1.2s
WVOR Wild Horse Val 69.69 51 P **P** **05 07 42.1 +1.0**
SCO Scoresbysund 69.72 355 *i* P **P** **05 07 41.4 +0.8**
SCO IAmb IAmb 05 07 42.0
comp=Z,28nm,1.2s
SCO IAMs_20 IAMs_20 05 32 44.2
comp=Z,4µm,16.9s
SCO Scoresbysund 69.72 355 P **P** **05 07 41.4 +0.8**
SCO pmax pmax
comp=Z,24nm,1.1s
SCO Scoresbysund 69.72 355 P **P** **05 07 41.4 +0.8**
MSO Missoula 69.83 46 P **P** **05 07 43.5 +1.6**
MSO Missoula 69.83 46 P 05 07 41.4
baz=307
BEKR Beckworth 70.11 54 P **P** **05 07 44.8 +1.0**
AAL Aland 70.28 334 *e*P **P** **05 07 44.4 +0.2**
ZEI Tsey 70.36 310 *e*P **P** **05 07 44.3 -1.0**
ZEI pmax pmax
comp=Z,53nm,1.0s
KIV Kislovodsk 70.39 311 ⇑P **P** **05 07 46.3 +0.9**
KIV Kislovodsk 70.39 311 *e*P **P** **05 07 46.2 +0.9**
KIV pmax pmax
comp=Z,699nm,1.1s
KIV Kislovodsk 70.39 311 P **P** **05 07 45.7 +0.4**
KBZ Khabaz 70.40 311 P **P** **05 07 45.9 +0.7**
comp=Z,74nm,0.9s,baz=69,slow=4.6,SNR=19
KBZ Khabaz 70.40 311*c* *i*P **P** **05 07 46.4 +1.2**
KBZ pmax pmax
comp=Z,131nm,1.0s
FFC Flin Flon 70.73 34 P **P** **05 07 48.0 +0.9**
FFC pmax pmax
comp=Z,22nm,1.0s
FFC Flin Flon 70.73 34 P **P** **05 07 48.0 +0.9**
FFC IAmb IAmb 05 07 48.6
comp=Z,22nm,0.9s
ONI Oni 70.74 310 P **P** **05 07 47.8 +0.3**
ONI pmax pmax
comp=Z,106nm,1.1s
ONI Oni 70.74 310 P **P** **05 07 47.8 +0.3**
MFID Camas Ranch 70.78 49 P **P** **05 07 48.5 +0.7**
MFID IAmb IAmb 05 08 00.7
comp=Z,48nm,1.6s
PAHR Pah Rah Range 70.81 54 P **P** **05 07 48.6 +0.6**
PAHR IAmb IAmb 05 08 00.9
comp=Z,60nm,1.6s
ILULI Ilulissat 70.98 5 *i* P **P** **05 07 48.8 +0.4**
ILULI IAMs_20 IAMs_20 05 37 42.6
comp=Z,3µm,17.7s
ILULI Ilulissat 70.98 5 *i* P **P** **05 07 48.7 +0.4**
ILULI MLR MLR
comp=Z,3µm,18.0s
ILULI Ilulissat 70.98 5 P **P** **05 07 49.6 +1.2**
ILULI IAmb IAmb 05 07 49.9
comp=Z,40nm,1.1s
PNTR Pine Nut 71.04 55 P **P** **05 07 50.7 +1.1**
HRY Holter Researc 71.05 45 P **P** **05 07 50.5 +1.1**
STKA Stephens Creek 71.12 182 P **P** **05 07 49.8 +0.2**
comp=Z,5.3nm,0.9s,baz=344,slow=8.3,SNR=4.7
CMB Columbia Colle 71.15 56 P **P** **05 07 52.4 +2.4**
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 71.15 56 P **P** **05 07 52.4 +2.4**
MNK Minsk 71.23 326 *i* P **P** **05 07 50.9 +0.8**
MNK *i* 05 10 28.7
MNK *i* PPP PPP 05 12 11.8
MNK *i* S **S** **05 17 07.8 +0.7**
MNK *i* SS **SS** **05 21 44.1 +4.2**
MNK pmax pmax
comp=Z,132nm,1.0s
MNK pmax pmax
comp=E,14nm,1.4s
MNK pmax pmax
comp=N,72nm,1.2s
MNK MLR MLR
comp=E,182nm,13.0s
MNK MLR MLR
comp=N,3µm,17.0s
MNK MLR MLR
comp=Z,3µm,16.0s
MNK Minsk 71.23 326 *i* P **P** **05 07 50.9 +0.8**
comp=E,14nm,1.4s
MNK *i* P **P** **05 07 50.9 +0.8**
comp=N,72nm,1.2s
MNK *i* P **P** **05 07 50.9 +0.8**
comp=Z,132nm,1.0s,baz=48
MNK *i* PP **PP** **05 10 28.7 +1.3**
MNK *i* PPP PPP 05 12 11.9
MNK *i* S **S** **05 17 07.8 +0.8**
MNK *i* SS **SS** **05 21 44.1 +4.2**
MNK *i* SSS SSS 05 25 03.3
MNK *i* LQ LQ 05 34 15.6
MNK *i* LR LR 05 39 41.1
MNK *i* LRM MLR 05 41 41.7
comp=E,182nm,13.1s
MNK *i* LRM MLR 05 41 41.7
comp=N,3µm,16.9s
MNK *i* LRM MLR 05 41 41.7
comp=Z,3µm,16.4s
ISAL Salakas 71.24 328 *e*P **P** **05 07 51.6 +1.5**
SLIT Slitere, Latvi 71.31 331 *e*P **P** **05 07 50.7 +0.3**
UPP Uppsala 71.32 334 *e*P **P** **05 07 50.9 +0.4**
YERR Yerington 71.33 55 P **P** **05 07 52.4 +1.1**
GNI Garni 71.41 307 *i* P **P** **05 07 53.1 +1.5**
GNI pmax pmax
comp=Z,107nm,1.6s
GNI Garni 71.41 307 P **P** **05 07 52.2 +0.5**
AKH Akhalkalaki 71.42 309 ⇑P **P** **05 07 52.9 +1.2**
NACGM Naroch 71.43 327 *i* P **P** **05 07 52.1 +0.9**
DLMT Dillon 71.46 46 P **P** **05 07 53.1 +1.2**
DLMT IAmb IAmb 05 08 04.4
comp=Z,46nm,1.4s
HLID Hailey 71.52 49 P **P** **05 07 53.1 +0.8**
HLID Hailey 71.52 49 P 05 07 53.2
baz=307
ICESG Greenland Ices 71.61 1 *i* P **P** **05 07 53.6 +1.0**
ICESG IAMs_20 IAMs_20 05 32 53.2
comp=Z,4µm,21.0s
RYN Ryan 71.99 55 P **P** **05 07 56.4 +1.2**
KVN Kaiserville 72.00 54 P **P** **05 07 56.3 +1.0**
KVN pmax pmax
comp=Z,20nm,0.9s
KVN Kaiserville 72.00 54 P **P** **05 07 56.3 +1.0**
KARS Kars 72.14 308 P **P** **05 07 55.9 -0.1**
KARS pmax pmax
comp=Z,174nm,1.0s
KARS Kars 72.14 308 P **P** **05 07 55.9 -0.1**
PABE Paberze 72.17 329 *e*P **P** **05 07 56.6 +0.9**
PABE Paberze 72.17 329 P **P** **05 07 56.4 +0.7**
MOL Molde 72.18 340 *e*P **P** **05 07 55.7 0.0**
NC405 NORSAR Array S 72.21 338 P **P** **05 07 56.5 +0.6**
NC303 NORSAR Array S 72.22 338 P **P** **05 07 56.0 0.0**
LHV Little Huntoon 72.22 55 P **P** **05 07 57.8 +1.4**
LHV IAmb IAmb 05 08 15.4
comp=Z,38nm,1.0s
MDPB Devils Postpil 72.23 56 P **P** **05 07 57.1 +0.3**
NVAR Mina Array Bea 72.25 55 P **P** **05 07 58.4 +1.6**
comp=Z,4.6nm,0.8s,baz=287,slow=6.3,SNR=14
NVAR Mina Array Bea 72.25 55 P **P** **05 07 57.4 +0.6**
SOC Sochi 72.33 312*c* *i*P **P** **05 07 55.2 -1.7**
SOC *e*PPP PPP 05 12 14.0
SOC *e*S **S** **05 17 18.4 -1.7**
SOC *e* 05 18 02.4
SOC *e*SSS SSS 05 25 11.2
SOC pmax pmax
comp=Z,45nm,1.0s
SOC MLR MLR
comp=Z,3µm,14.0s
NV11 Mina Array Sit 72.34 55 P **P** **05 07 58.3 +1.1**
BBOO Buckleboo 72.36 186 P **P** **05 07 58.8 +1.8**
BBOO IAmb IAmb 05 08 02.7
comp=Z,44nm,1.2s
NC204 NORSAR Array S 72.36 338 P **P** **05 07 57.4 +0.6**
HFS Hagfors 72.38 336 P **P** **05 07 57.0 +0.1**
comp=Z,58nm,0.9s,baz=51,slow=5.9,SNR=26
HFS Hagfors 72.38 336 P **P** **05 07 57.0 +0.1**
NB201 NORSAR Array S 72.38 338 P **P** **05 07 56.9 -0.1**
MLAC Mammoth, Mammo 72.38 56 P 05 08 00.1
baz=307
NB2 NORSAR Subarra 72.41 338 P **P** **05 07 57.2 0.0**
baz=37,slow=6.2

NOA **NORSAR Array B** 72.41 338 P **P** 05 07 57.2 0.0
comp=Z,52nm,0.9s,baz=37,slow=6.0,SNR=46
NBO00 **NORSAR Array S** 72.55 338 P **P** 05 07 58.6 +0.7
YHL **Hebgen Lake** 72.56 46 P **P** 05 07 59.5 +0.8
PBUR **Paburge** 72.60 330 eP **P** 05 07 59.3 +1.0
YHB **Horse Butte** 72.62 46 P **P** 05 07 59.7 +0.8
NAO01 **NORSAR Array S** 72.67 338 P **P** 05 07 59.1 +0.5
YHH **Holmes Hill** 72.78 46 P **P** 05 08 00.9 +0.9
GCMT **Greycliff** 72.80 44 P **P** 05 08 00.7 +0.8
ANN **Anapa** 72.86 314 eP **P** 05 07 59.7 -0.3
ANN eS **S** 05 17 24.9 -1.1
ANN pmax pmax
comp=Z,96nm,1.1s
MORW **Morawa** 72.89 205 P **P** 05 08 00.4 +0.1
MORW lAmb lAmb 05 08 05.8
comp=Z,83nm,1.6s
TPH **Tonopah** 73.14 54 P **P** 05 08 03.3 +1.2
TPH pmax pmax
comp=Z,167nm,1.4s
TPH **Tonopah** 73.14 54 P **P** 05 08 03.3 +1.2
H17A **Grant Village** 73.18 46 P **P** 05 08 03.0 +0.7
H17A lAmb lAmb 05 08 16.0
comp=Z,41nm,1.4s
H17A **Grant Village** 73.19 46 P 05 08 05.3
baz=309
SFJD **Kangerlussuaq** 73.20 6 i P **P** 05 08 02.3 +0.7
SFJD lAMs_20 lAMs_20 05 32 09.2
comp=Z,3µm,20.4s
SFJD **Kangerlussuaq** 73.20 6 i P **P** 05 08 02.3 +0.7
SFJD MLR MLR
comp=Z,3µm,20.0s
SFJD **Kangerlussuaq** 73.20 6 P **P** 05 08 02.6 +1.0
SFJD lAmb lAmb 05 08 03.2
comp=Z,40nm,1.1s
AKASG **Malin Array Be** 73.21 323 P **P** 05 08 01.6 -0.3
comp=Z,24nm,0.7s,baz=44,slow=6.0,SNR=24
AKASG **Malin Array Be** 73.21 323 P **P** 05 08 02.0 0.0
AKBB **Malin Array Si** 73.21 323 i P **P** 05 08 01.8 -0.2
AKBB **Malin Array Si** 73.21 323 P **P** 05 08 02.0 0.0
AKBB lAmb lAmb 05 08 03.1
comp=Z,58nm,1.1s
PKM **Mcpherson Peak** 73.39 58 P 05 08 06.8
baz=307
MOOW **Moose Ponds** 73.50 47 P **P** 05 08 05.1 +0.9
TPAW **Teton Pass** 73.55 47 P **P** 05 08 05.0 +0.5
TPAW lAmb lAmb 05 08 17.0
comp=Z,48nm,1.4s
SUW **Suwalki** 73.55 328 eP **P** 05 08 03.9 0.0
SUW **Suwalki** 73.55 328 eP **P** 05 08 04.3 +0.3
SUW **Suwalki** 73.55 328 P **P** 05 08 04.4 +0.5
SUW pmax pmax
comp=Z,149nm,1.2s
SUW **Suwalki** 73.55 328 P **P** 05 08 04.4 +0.5
CWC **Cottonwood Cre** 73.58 56 P 05 08 07.2
baz=307
SNOW **Snow King Moun** 73.67 47 P **P** 05 08 06.3 +1.0
REDW **Red Top Meadow** 73.68 47 P **P** 05 08 06.4 +1.2
GRAC **Grapevine Rang** 73.70 55 P 05 08 07.2
baz=306
ISA **Isabella, Lake** 73.79 57 P **P** 05 08 06.8 +1.0
ISA 05 08 21.0
ISA pmax pmax
comp=Z,14nm,1.3s
ISA **Isabella, Lake** 73.79 57 P **P** 05 08 06.8 +1.0
ISA **PcP** 05 08 21.0 -0.4
ISA **Isabella, Lake** 73.80 57 P 05 08 07.8
baz=307
ARVC **Arvin** 73.89 58 P 05 08 09.0
baz=307
R11A **Troy Canyon, C** 73.99 53 P **P** 05 08 08.1 +1.0
R11A lAmb lAmb 05 08 20.1
comp=Z,60nm,1.8s
R11A **Troy Canyon, C** 74.00 53 P 05 08 08.8
baz=308
DY2G **Dye2** 74.00 4 i P **P** 05 08 07.0 +0.3
DY2G lAMs_20 lAMs_20 05 33 43.3
comp=Z,3µm,18.4s
KONO **Kongsberg** 74.02 338 ceP **P** 05 08 07.8 +1.2
KONO pmax pmax
comp=Z,31nm,1.7s
LAO **LASA Array** 74.05 42 P 05 08 09.5
baz=311
MPMC **Manual Prospec** 74.19 56 P 05 08 10.8
baz=308
FURC **Furnace Creek,** 74.34 56 P 05 08 09.5
baz=308
HWUT **Hardware Ranch** 74.38 49 P **P** 05 08 09.5 +0.2
HWUT lAmb lAmb 05 08 22.5
comp=Z,69nm,1.8s
LRMC **Laurel Mtn Rad** 74.42 57 P 05 08 12.1
baz=308
TPNV **Topopah Spring** 74.44 55 P **P** 05 08 10.8 +1.1
TPNV pmax pmax
comp=Z,53nm,1.6s
TPNV **Topopah Spring** 74.44 55 P **P** 05 08 10.8 +1.1
TPNV lAmb lAmb 05 08 22.7
comp=Z,53nm,1.6s
TPNV **Topopah Spring** 74.44 55 P 05 08 11.5
baz=308
DUG **Dugway, Tooele** 74.54 51 P **P** 05 08 11.0 +0.8
DUG pmax pmax
comp=Z,68nm,1.8s
DUG **Dugway, Tooele** 74.54 51 P **P** 05 08 11.0 +0.8
DUG lAmb lAmb 05 08 22.4
comp=Z,68nm,1.8s
DUG **Dugway, Tooele** 74.54 51 P 05 08 11.9
baz=309
SNCC **San Nicolas Is** 74.56 60 P 05 08 13.1
baz=308
SIM **Simferopol'** 74.57 316 d iP **P** 05 08 09.9 -0.2
SIM eS **SKiKP** 05 17 40.0 +4.1
SIM pmax pmax
comp=Z,76nm,1.0s
EDW2 **Edwards Air Fo** 74.58 57 P 05 08 13.1
baz=308
BW06 **Boulder Array** 74.79 47 P **P** 05 08 11.9 +0.2
PDAR **Pinedale Array** 74.79 47 P **P** 05 08 12.2 +0.5
comp=Z,1.7nm,0.7s,baz=233,slow=1.6,SNR=6.5
PDAR **Pinedale Array** 74.79 47 P **P** 05 08 12.5 +0.7
BW06 **Boulder Array** 74.79 47 P 05 08 12.6
baz=310
PSUT **Pine Spring** 74.95 52 P **P** 05 08 13.6 +1.0
ANGG **Ammassalik, Gr** 75.12 0 i P **P** 05 08 13.1 +0.2
ANGG lAMs_20 lAMs_20 05 34 48.9
comp=Z,4µm,20.5s
ISOG **Isortoq, Green** 75.18 1 i P **P** 05 08 13.7 +0.5
ISOG lAMs_20 lAMs_20 05 35 02.3
comp=Z,3µm,20.8s
BFSC **Mount Baldy Ra** 75.19 58 P 05 08 16.6
baz=308
SORM **Soroca** 75.38 321 ↑P **P** 05 08 14.3 -0.3
TUQ **Turquoise Moun** 75.58 56 P 05 08 19.5
baz=309
HEC **Hector,Ludlow** 75.69 57 P 05 08 18.8
baz=308
NUUK **Nuuk** 75.88 7 i P **P** 05 08 17.8 +0.5
NUUK lAMs_20 lAMs_20 05 33 39.4
comp=Z,4µm,20.0s
BSD **Bornholm Skovb** 75.91 332 eP **P** 05 08 18.2 +0.6
MIB **Mutribah** 75.91 297 eP **P** 05 08 17.3 -0.7
BEL **Belsk** 76.13 327 eP **P** 05 08 19.9 +1.0
GMRC **Granite Mounta** 76.15 56 P 05 08 20.7
baz=309
QRN **Al-Qurain** 76.16 296 eP **P** 05 08 18.9 -0.5
RDMU **Red Mountain** 76.20 49 lAmb lAmb 05 08 53.1
comp=Z,33nm,1.1s
LVV **L'vov** 76.21 324 eP **P** 05 08 20.9 +1.5
P17A **Butcher Ranch,** 76.23 50 lAmb lAmb 05 08 32.9
comp=Z,69nm,1.6s
MTPU **Mount Pierson** 76.28 52 lAmb lAmb 05 08 33.2
comp=Z,49nm,1.6s
RDF **Al-Radifah** 76.30 296 eP **P** 05 08 19.7 -0.6
Q16A **Castle Valley** 76.33 51 lAmb lAmb 05 08 33.8
comp=Z,96nm,1.9s
PFO **Pinyon Flats O** 76.36 58 i P **P** 05 08 20.5 -0.2
PFO pmax pmax
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 76.36 58 P 05 08 21.9
baz=309
TPFO **Pinon Flats** 76.37 58 P 05 08 23.4
baz=309
BELC **Belle Mtn. Jos** 76.42 57 P 05 08 21.5
baz=309
GKP **Gorka Klasztor** 76.47 330 eP **P** 05 08 21.4 +0.6
GKP **Gorka Klasztor** 76.47 330 eP **P** 05 08 22.3 +1.5

ULM **Lac du Bonnet** 76.53 35 P **P** 05 08 20.8 -0.5
comp=Z,6.3nm,0.9s,baz=288,slow=6.7,SNR=5.5
ULM **Lac du Bonnet** 76.53 35 lAmb lAmb 05 08 32.9
comp=Z,48nm,1.8s
KNB **Kanab** 76.54 53 lAmb lAmb 05 08 35.2
comp=Z,56nm,1.6s
K22A **Casper** 76.56 45 P 05 08 23.4
baz=312
VASR **Vaslui** 76.69 320 ↑P **P** 05 08 23.6 +1.4
MONP2 **Monument Peak** 76.83 58 P 05 08 26.0
baz=309
IRM **Iron Mountain** 76.88 57 P 05 08 26.2
baz=309
RSSD **Black Hills** 76.91 43 P **P** 05 08 24.5 +0.7
RSSD pmax pmax
comp=Z,18nm,1.2s
RSSD **Black Hills** 76.91 43 P **P** 05 08 24.5 +0.7
RSSD **Black Hills** 76.91 43 P 05 08 23.1
baz=313
KWP **Kalwaria Pacla** 76.93 325 eP **P** 05 08 24.4 +0.9
BC3 **Big Chuckawall** 76.99 57 P 05 08 26.9
baz=309
BUR08 **Bucovina Ar. S** 77.23 322 lAmb lAmb 05 08 27.2
comp=Z,32nm,0.9s
U15A **North Rim** 77.24 53 lAmb lAmb 05 08 54.3
comp=Z,82nm,1.8s
BURAR **Bucovina Array** 77.24 322 ↑P **P** 05 08 26.3 +0.9
BURAR **Bucovina Array** 77.24 322 lAmb lAmb 05 08 27.5
comp=Z,34nm,0.9s
O20A **White River Ci** 77.26 48 P 05 08 24.5
baz=312
BIZ **Bicaz** 77.30 321 ↑P **P** 05 08 26.5 +0.8
TESR **Tescani** 77.34 321 ↑P **P** 05 08 26.3 +0.4
PDMCI **Parker Dam,Lak** 77.43 56 P 05 08 29.3
baz=310
LNIZ **Loecknitz** 77.44 332 eP **P** 05 08 27.1 +0.8
comp=Z,106nm,1.1s,baz=35,slow=5.3
CFR **Carcaliu** 77.54 319 ↑P **P** 05 08 27.2 +0.3
TPGR **Topolog** 77.62 319 ↑P **P** 05 08 27.6 +0.1
KOLS **Kolonicke sedl** 77.64 325 eP **P** 05 08 28.7 +1.2
KOLS **Kolonicke sedl** 77.64 325 eP **P** 05 08 28.7 +1.2
STHS **Stebnicka Huta** 77.74 326 eP **P** 05 08 29.7 +1.6
STHS **Stebnicka Huta** 77.74 326 eP **P** 05 08 29.7 +1.6
VRI **Vrincioaia** 77.76 320 ↑P **P** 05 08 30.0 +1.7
OJC **Ojcow** 77.76 327 eP **P** 05 08 28.9 +0.7
GLA **Glamis** 77.78 57 P 05 08 29.2
baz=310
UZH **Uzhgorod** 77.85 324 eP **P** 05 08 26.1 -2.6
UZH *i* 05 08 32.5
UZH *i* 05 08 35.3
TIRR **Tirgusor** 77.90 318 ↑P **P** 05 08 28.9 -0.1
PV10 **Paradox Valley** 77.95 50 lAmb lAmb 05 08 39.4
comp=Z,36nm,0.9s
PV14 **Lion Creek, Pa** 77.96 50 lAmb lAmb 05 09 03.0
comp=Z,34nm,1.0s
AGMN **Agassiz Nation** 77.97 36 P 05 08 27.5
baz=317
HARR **Harsova** 77.98 319 ↑P **P** 05 08 30.1 +0.7
PV20 **West Nyswonger** 78.01 50 lAmb lAmb 05 09 03.3
comp=Z,25nm,0.9s
PV04 **Paradox Valley** 78.02 50 lAmb lAmb 05 08 56.1
comp=Z,92nm,1.7s
PV19 **Morning Glory** 78.02 50 lAmb lAmb 05 08 49.1
comp=Z,24nm,0.8s
CRVS **Cervenica-Dubn** 78.02 325 eP **P** 05 08 30.7 +1.0
CRVS **Cervenica-Dubn** 78.02 325 eP **P** 05 08 30.7 +1.0
ARCR **ARCALIA** 78.03 322 ↑P **P** 05 08 31.5 +1.8
N23A **Red Feather La** 78.06 46 P 05 08 31.1
baz=313
OZUR 78.06 321 ↑P **P** 05 08 31.2 +1.2
PV17 **East Wray Mesa** 78.06 50 lAmb lAmb 05 08 43.1
comp=Z,30nm,1.0s
PV16 **Nyswonger Mesa** 78.06 50 lAmb lAmb 05 08 57.2
comp=Z,80nm,1.6s
PV05 **Paradox Valley** 78.11 50 lAmb lAmb 05 08 43.5
comp=Z,44nm,1.2s
PV18 **Skein Mesa, Pa** 78.11 50 lAmb lAmb 05 08 57.4
comp=Z,49nm,1.4s
SKMB **Sankelmark Bun** 78.11 335 eP **P** 05 08 31.6 +1.7
comp=Z,151nm,0.8s,baz=35,slow=5.3
PV12 **Saucer Basin,** 78.12 50 lAmb lAmb 05 08 43.7
comp=Z,74nm,1.6s
PV03 **Paradox Valley** 78.14 50 lAmb lAmb 05 08 57.5
comp=Z,38nm,1.3s
NIE **Niedzica** 78.15 326 eP **P** 05 08 31.6 +1.3
PV13 **Radium Mtn., P** 78.22 50 lAmb lAmb 05 08 44.0
comp=Z,69nm,1.6s
BR131 **Keskin Array S** 78.29 312 lAmb lAmb 05 08 33.4
comp=Z,94nm,1.5s
BRTR **Keskin Array B** 78.29 312 P **P** 05 08 31.4 -0.1
comp=Z,14nm,1.0s,baz=108,slow=4.0,SNR=9.0
BRTR PP **PP** 05 11 30.1 +2.2
comp=Z,4.2nm,0.9s,baz=90,slow=4.9,SNR=4.5
DOPR **Dopca** 78.34 321 ↑P **P** 05 08 33.2 +1.7
PV01 **Paradox Valley** 78.38 50 lAmb lAmb 05 08 45.0
comp=Z,54nm,1.7s
WUAZ **Wupatki** 78.40 53 P 05 08 34.6
baz=311
RUE **Ruedersdorf** 78.40 331 eP **P** 05 08 32.6 +1.0
comp=Z,112nm,1.3s,baz=35,slow=5.3
ICOR **Ion Corvin** 78.45 318 ↑P **P** 05 08 33.4 +1.3
BSEG **Bad Segeberg** 78.46 334 eP **P** 05 08 32.8 +0.9
comp=Z,78nm,1.1s,baz=35,slow=5.3
ANTO **Ankara** 78.68 313 P **P** 05 08 33.5 0.0
ANTO pmax pmax
comp=Z,60nm,1.0s
ANTO **Ankara** 78.68 313 P **P** 05 08 33.5 0.0
ANTO lAmb lAmb 05 08 35.6
comp=Z,60nm,0.9s
BR231 **Keskin MP Arra** 78.70 313 lAmb lAmb 05 08 35.8
comp=Z,75nm,1.1s
LANS **Liptovska Anna** 78.71 326 eP **P** 05 08 35.3 +1.8
LANS pmax pmax
comp=Z,27nm,1.1s
LANS **Liptovska Anna** 78.71 326 eP **P** 05 08 35.3 +1.8
KSP **Ksiaz** 78.72 329 eP **P** 05 08 34.3 +0.8
OKC **Ostrava-Krasne** 78.74 327 eP **P** 05 08 34.4 +0.8
OKC **Ostrava-Krasne** 78.74 327 eP **P** 05 08 34.4 +0.8
VOIR 78.89 321 ↑P **P** 05 08 35.0 +0.4
OSTC **Ostas** 78.98 329 eP **P** 05 08 34.9 0.0
ISCO **Idaho Springs** 78.98 47 P 05 08 34.8
baz=313
CHVC **Chvalec** 79.02 329 eP **P** 05 08 35.3 +0.2
DRGR 79.02 323 ↑P **P** 05 08 35.7 +0.5
MVCO **Mesa Verde** 79.04 51 P 05 08 37.4
baz=312
MORC **Moravsky Berou** 79.04 328 ↑P **P** 05 08 36.1 +0.8
MORC **Moravsky Berou** 79.04 328 eP **P** 05 08 36.1 +0.8
MORC **Moravsky Berou** 79.04 328 lAmb lAmb 05 08 37.4
comp=Z,75nm,1.1s
DPC **Dobruska-Polom** 79.09 329 eP **P** 05 08 36.2 +0.6
DPC **Dobruska-Polom** 79.09 329 eP **P** 05 08 36.2 +0.6
UPC **Upice** 79.10 329 eP **P** 05 08 35.6 +0.1
UPC **Upice** 79.10 329 eP **P** 05 08 35.6 +0.1
KRLC **Kraliky** 79.12 328 eP **P** 05 08 36.4 +0.7
KRLC **Kraliky** 79.12 328 eP **P** 05 08 36.4 +0.7
ARR **Arges** 79.14 321 ↑P **P** 05 08 37.6 +1.6
SUSD **Miller** 79.29 40 P 05 08 35.6
baz=316
FLTG **Flechtingen** 79.45 332 eP **P** 05 08 37.6 +0.2
comp=Z,85nm,1.1s,baz=35,slow=5.3
PSZ **Piszkesteto** 79.45 325 ↑P **P** 05 08 38.3 +0.7
PSZ **Piszkesteto** 79.45 325 lAmb lAmb 05 08 40.0
comp=Z,65nm,1.0s
VYHS **Vyhne** 79.48 326 eP **P** 05 08 38.7 +1.0
VYHS pmax pmax
comp=Z,45nm,1.2s
VYHS **Vyhne** 79.48 326 eP **P** 05 08 38.7 +1.0
F33A **5 Mile Ranch,** 79.57 38 lAmb lAmb 05 08 50.0
comp=Z,78nm,1.9s
DEV **Deva** 79.60 322 ↑P **P** 05 08 39.0 +0.7
BRG **Berggiesshubel** 79.62 330 i P **P** 05 08 38.7 +0.4
BRG Amp 05 08 40.2
comp=Z,36nm,1.1s
BRG *ex* x 05 08 46.9
BRG Amp 05 08 48.2
comp=Z,14nm,0.9s
BRG *ex* x 05 08 56.4
BRG Amp 05 08 58.1
comp=Z,51nm,1.6s
BRG PP **PP** 05 11 37.3 -1.0
BRG Amp 05 11 41.1
comp=Z,23nm,1.6s
BRG **Berggiesshubel** 79.62 330 eP **P** 05 08 38.9 +0.6
comp=Z,36nm,1.1s,baz=35,slow=5.3

CLL **Collm** 79.63 331 ↑i P **P** 05 08 38.7 +0.3
comp=Z,63nm,1.0s
CLL *e* 05 11 23.0
CLL *e* PP **PP** 05 11 41.0 +2.6
CLL **Collm** 79.63 331 ↑i P **P** 05 08 38.7 +0.3
CLL pmax pmax
comp=Z,63nm,1.0s
CLL **Collm** 79.63 331 lAmb lAmb 05 08 39.8
comp=Z,60nm,1.0s
CLL **Collm** 79.63 331 eP **P** 05 08 38.8 +0.3
comp=Z,63nm,1.0s,baz=35,slow=5.3
PVCC **Panska Ves** 79.65 330 eP **P** 05 08 38.9 +0.4
PVCC **Panska Ves** 79.65 330 eP **P** 05 08 38.9 +0.4
S22A **4UR Ranch, Cre** 79.67 49 P 05 08 41.5
baz=313
JAVC **Velka Javorina** 79.69 327 eP **P** 05 08 40.3 +1.4
NRDL **Niedersach Rie** 79.72 333 eP **P** 05 08 39.5 +0.8
comp=Z,39nm,1.1s,baz=35,slow=5.3
VRAC **Vranov** 79.80 328 ↑P **P** 05 08 40.6 +1.2
VRAC **Vranov** 79.80 328 eP **P** 05 08 40.3 +0.9
FBE **Freiberg** 79.81 330 eP **P** 05 08 40.2 +0.9
comp=Z,102nm,1.5s,baz=35,slow=5.3
ASSE **Asse, Remlinge** 79.81 333 eP **P** 05 08 39.8 +0.5
comp=Z,59nm,1.4s,baz=35,slow=5.3
SIRR **Siria** 79.89 323 ↑P **P** 05 08 40.8 +0.8
GZR **Gura Zlata** 80.02 322 ↑P **P** 05 08 41.0 +0.3
SMOL **Smolenice** 80.06 327 eP **P** 05 08 42.3 +1.5
SMOL pmax pmax
comp=Z,29nm,1.1s
SMOL **Smolenice** 80.06 327 eP **P** 05 08 42.3 +1.5
KRUC **Moravsky** 80.07 328 eP **P** 05 08 41.7 +0.9
PRU **Pruhonice** 80.09 329 eP **P** 05 08 41.6 +0.7
PRU **Pruhonice** 80.09 329 eP **P** 05 08 41.6 +0.7
CLZ **Clausthal** 80.16 333 eP **P** 05 08 42.2 +0.9
comp=Z,81nm,1.2s,baz=35,slow=5.3
EYMN **Ely** 80.16 34 lAmb lAmb 05 08 52.9
comp=Z,67nm,1.8s
EYMN **Ely** 80.16 34 P 05 08 40.9
baz=320
NEUB **Neuenburg** 80.17 331 eP **P** 05 08 41.8 +0.5
comp=Z,85nm,1.1s,baz=35,slow=5.3
SRO **Srobarova** 80.22 326 eP **P** 05 08 43.2 +1.5
SRO pmax pmax
comp=Z,81nm,1.2s
SRO **Srobarova** 80.22 326 eP **P** 05 08 43.2 +1.5
MODS **Modra-Piesok** 80.23 327 eP **P** 05 08 42.0 +0.2
MODS pmax pmax
comp=Z,57nm,1.2s
MODS **Modra-Piesok** 80.23 327 eP **P** 05 08 42.0 +0.2
BZS **Buzias** 80.40 323 ↑P **P** 05 08 42.7 0.0
INVG **Invergeldie, C** 80.44 342 eP **P** 05 08 42.9 +0.2
INVG lAmb lAmb 05 08 44.0
comp=Z,32nm,1.0s
SDCO **Great Sand Dun** 80.44 49 P 05 08 45.6
baz=313
ZST **Bratislava** 80.45 327 eP **P** 05 08 44.5 +1.6
ZST pmax pmax
comp=Z,88nm,1.1s
ZST **Bratislava** 80.45 327 eP **P** 05 08 44.5 +1.6
PBCC **Pribram** 80.54 329 eP **P** 05 08 43.5 +0.1
GTTG **Gottingen** 80.55 333 eP **P** 05 08 44.0 +0.7
comp=Z,79nm,1.2s,baz=35,slow=5.3
TANN **Tannenbergstha** 80.55 331 eP **P** 05 08 44.1 +0.6
comp=Z,81nm,2.0s,baz=35,slow=5.3
ESY **Stoneypath** 80.56 341 eP **P** 05 08 43.9 +0.6
HERR **Herculane** 80.57 322 ↑P **P** 05 08 43.7 +0.1
PLN **Plauen** 80.61 331 eP **P** 05 08 44.4 +0.6
comp=Z,61nm,1.7s,baz=35,slow=5.3
GUNZ **Gunzen** 80.64 331 eP **P** 05 08 44.6 +0.7
comp=Z,37nm,1.1s,baz=35,slow=5.3
IBBN **Ibbenburen** 80.68 334 eP **P** 05 08 44.6 +0.6
comp=Z,115nm,1.4s,baz=35,slow=5.3
MOX **Moxa** 80.68 331 eP **P** 05 08 44.6 +0.5
comp=Z,43nm,1.2s,baz=35,slow=5.3
WERN **Wernitzgruen** 80.69 331 eP **P** 05 08 45.0 +0.8
comp=Z,41nm,1.1s,baz=35,slow=5.3
NKC **Novy Kostel** 80.70 331 eP **P** 05 08 44.4 +0.1
NKC **Novy Kostel** 80.70 331 eP **P** 05 08 44.4 +0.1
EAB **Aberfoyle** 80.73 342 eP **P** 05 08 45.0 +0.8
TUC **Tucson** 80.86 56 P 05 08 47.4
baz=311
ECSD **EROS Data Cent** 80.97 39 P 05 08 46.8
baz=318
MDVR **Moldovita** 80.98 322 ↑P **P** 05 08 45.5 -0.3
MANZ **Manzenberg** 81.03 331 eP **P** 05 08 46.6 +0.6
comp=Z,30nm,1.0s,baz=35,slow=5.3
PGBU **Glenifferbraes** 81.10 342 eP **P** 05 08 47.0 +0.8
PGBU lAmb lAmb 05 08 48.1
comp=Z,99nm,1.0s
CKRC **Cesky Krumlov** 81.11 329 eP **P** 05 08 47.1 +0.6
UBBA **Unterbreizbach** 81.13 332 eP **P** 05 08 46.9 +0.5
comp=Z,29nm,1.4s,baz=35,slow=5.3
KHC **Kasperske Hory** 81.15 329 eP **P** 05 08 47.1 +0.4
KHC **Kasperske Hory** 81.15 329 eP **P** 05 08 47.1 +0.4
KHC *ex* x 05 09 10.0
ROTZ **Rotzenmuhle** 81.17 330 eP **P** 05 08 47.7 +1.0
comp=Z,49nm,1.2s,baz=35,slow=5.3
CONA **Conrad Observa** 81.18 327 i P **P** 05 08 48.2 +1.3
comp=Z,47nm,1.1s,SNR=7.5
KSCO **Kaye Shedlock'** 81.20 46 lAmb lAmb 05 09 12.5
comp=Z,56nm,1.5s
KSCO **Kaye Shedlock'** 81.20 46 P 05 08 47.5
baz=315
ESK **Eskdalemuir** 81.25 341 eP **P** 05 08 47.3 +0.3
ESK lAmb lAmb 05 08 48.0
comp=Z,22nm,0.9s
ESK **Eskdalemuir** 81.25 341 P **P** 05 08 47.5 +0.5
ESK pmax pmax
comp=Z,23nm,1.0s
ESK **Eskdalemuir** 81.25 341 P **P** 05 08 47.5 +0.5
MORH **Mrgy, Hungar** 81.31 325 ↑P **P** 05 08 47.3 -0.1
MORH **Mrgy, Hungar** 81.31 325 eP **P** 05 08 47.4 -0.1
GEC2 **GERESS Array S** 81.33 329 eP **P** 05 08 48.0 +0.3
comp=Z,28nm,1.2s,baz=35,slow=5.3
GERES **GERESS Array B** 81.33 329 P **P** 05 08 47.8 0.0
comp=Z,11nm,0.9s,baz=36,slow=5.0,SNR=11
KASTN **Kahler Asten** 81.38 333 eP **P** 05 08 48.4 +0.5
comp=Z,42nm,1.3s,baz=35,slow=5.3
WET **Wettzell** 81.42 330 eP **P** 05 08 49.0 +0.9
comp=Z,46nm,1.1s,baz=35,slow=5.3
T25A **Trinidad** 81.49 48 P 05 08 48.4
baz=314
BUG **Bochum--Univer** 81.57 334 eP **P** 05 08 49.3 +0.5
comp=Z,47nm,1.2s,baz=35,slow=5.3
FRGS **Fruska Gora** 81.58 323 ↑P **P** 05 08 49.3 +0.2
FRGS **Fruska Gora** 81.58 323 i P **P** 05 08 49.4 +0.4
GRF **Grafenberg Arr** 81.61 331 eP **P** 05 08 50.0 +0.9
comp=Z,96nm,0.9s,baz=35,slow=5.3
GRF ePP PP 05 11 40.8 -14
baz=30,slow=6.5
GRFO **Grafenberg** 81.61 331 P **P** 05 08 49.6 +0.5
GRFO pmax pmax
comp=Z,77nm,0.9s
GRFO **Grafenberg** 81.61 331 P **P** 05 08 49.5 +0.5
SPMN **Marine on St.** 81.66 36 P 05 08 48.2
baz=320
NEWG **New Galloway** 81.68 342 eP **P** 05 08 49.2 -0.1
NEWG lAmb lAmb 05 08 50.7
comp=Z,36nm,1.1s
ANMO **Albuquerque** 81.78 51 i P **P** 05 08 50.5 0.0
ANMO pmax pmax
comp=Z,15nm,1.5s
ANMO **Albuquerque** 81.78 51 P **P** 05 08 51.0 +0.5
ANMO **Albuquerque** 81.78 51 P 05 08 52.1
baz=313
BOVS **Bovan** 81.83 321 ↑P **P** 05 08 50.0 -0.4
VTS **Vitosha** 81.84 320 ↑P **P** 05 08 51.7 +1.1
VTS **Vitosha** 81.84 320 lAmb lAmb 05 08 52.9
comp=Z,42nm,0.9s
ARSA **Arzberg** 81.85 327 i P **P** 05 08 51.4 +1.0
comp=Z,32nm,1.3s,SNR=5.5
BGNE **Belgrade** 81.89 42 lAmb lAmb 05 09 07.6
comp=Z,32nm,0.7s
BGNE **Belgrade** 81.89 42 P 05 08 49.6
baz=317
MOA **Molln** 81.90 328 i P **P** 05 08 51.3 +0.6
comp=Z,40nm,1.4s,SNR=6.3
GAL1 **Galloway** 82.02 342 eP **P** 05 08 51.5 +0.4
GAL1 lAmb lAmb 05 08 52.5
comp=Z,41nm,0.8s
TNS **Taunus Mts** 82.18 333 eP **P** 05 08 52.6 +0.5
comp=Z,32nm,1.1s,baz=35,slow=5.3
MILB **Miltenberg** 82.21 332 eP **P** 05 08 52.7 +0.5
comp=Z,31nm,1.1s,baz=35,slow=5.3
DIVS **Divibare** 82.30 323 ↑i P **P** 05 08 52.7 -0.2

I37A	**Lemond, Waseca**	**82.30**	**38**	IAmb	IAmb	05 09 14.6		
	comp=Z,50nm,1.2s							
AHRW	**Bad Neuenahr-A**	**82.39**	**334**	*eP*	**P**	**05 08 53.7**	**+0.5**	
	comp=Z,55nm,1.3s,baz=35,slow=5.3							
SCHQ	**Schefferville**	**82.45**	**17**	P	**P**	**05 08 53.7**	**+0.3**	
	comp=Z,4.8nm,0.7s,baz=42,slow=4.6,SNR=3.8							
SOKA	**Soboth**	**82.51**	**327**	*i* P	**P**	**05 08 54.5**	**+0.6**	
	comp=Z,87nm,1.1s,SNR=21							
IOMK	**Kirk Michael**	**82.54**	**342**	*eP*	**P**	**05 08 54.2**	**+0.4**	
IOMK					IAmb	IAmb	05 08 55.3	
	comp=Z,54nm,1.0s							
RJOB	**Jochberg**	**82.58**	**329**	*eP*	**P**	**05 08 55.3**	**+1.0**	
	comp=Z,196nm,1.1s,baz=35,slow=5.3							
LBWR	**Ladybower, Pea**	**82.59**	**340**	*eP*	**P**	**05 08 54.6**	**+0.5**	
LBWR					IAmb	IAmb	05 08 56.8	
	comp=Z,140nm,1.0s							
121A	**Cookes Peak, D**	**82.60**	**54**	IAmb	IAmb	05 09 08.0		
	comp=Z,30nm,1.3s							
121A	**Cookes Peak, D**	**82.60**	**54**	P		05 08 56.5		
	baz=313							
BTNL	**Ternell**	**82.68**	**334**	*dP*	**P**	**05 08 55.0**	**+0.4**	
MEM	**Membach**	**82.70**	**334**	*dP*	**P**	**05 08 54.5**	**-0.2**	
	comp=Z,21nm,1.0s							
BBLS	**Lazići**	**82.75**	**323**	*eP*	**P**	**05 08 55.6**	**+0.3**	
FUR	**Furstenfeldbru**	**82.83**	**330**	*eP*	**P**	**05 08 56.4**	**+0.9**	
	comp=Z,70nm,1.0s,baz=35,slow=5.3							
OBKA	**Obir**	**82.85**	**327**	*eP*	**P**	**05 08 56.0**	**+0.3**	
	comp=Z,20nm,0.8s							
BSTI	**Sart Tilman**	**82.87**	**334**	*dP*	**P**	**05 08 55.8**	**+0.2**	
GMM	**Mts of Mourne**	**82.89**	**342**	*eP*	**P**	**05 08 55.9**	**+0.3**	
KBA	**Koelnbreinsper**	**82.89**	**328**	*eP*	**P**	**05 08 56.6**	**+0.5**	
	comp=Z,60nm,1.1s,SNR=8.1							
BHOU	**Houvegnez**	**82.92**	**334**	*dP*	**P**	**05 08 55.7**	**-0.2**	
CBKS	**Cedar Bluff**	**82.93**	**45**	P		05 08 56.5		
	baz=316							
RUDO	**Rudo**	**82.96**	**323**	*eP*	**P**	**05 08 55.8**	**-0.5**	
CRES	**Cresnjev**	**83.00**	**326**	⇑*i* P	**P**	**05 08 56.3**	**-0.1**	
BLY	**Banja Luka**	**83.09**	**325**	⇑*i* P	**P**	**05 08 56.9**	**0.0**	
BCLA	**Clavier**	**83.10**	**334**	*dP*	**P**	**05 08 56.9**	**+0.1**	
	comp=Z,19nm,1.1s							
STU	**Stuttgart**	**83.12**	**331**	*eP*	**P**	**05 08 57.6**	**+0.7**	
	comp=Z,52nm,1.0s,baz=35,slow=5.3							
MYKA	**Terra Mystica**	**83.13**	**328**	*i* P	**P**	**05 08 57.1**	**0.0**	
	comp=Z,34nm,1.0s,SNR=7.6							
PLE	**Pljevlja**	**83.17**	**322**	⇑*i* P	**P**	**05 08 57.6**	**+0.1**	
BGES	**Gesves**	**83.20**	**335**	*bP*	**P**	**05 08 57.3**	**0.0**	
	comp=Z,16nm,1.0s							
LJU	**Ljubljana**	**83.23**	**327**	*eP*	**P**	**05 08 57.2**	**-0.4**	
IVA	**Berane**	**83.28**	**322**	*eP*	**P**	**05 08 58.3**	**+0.3**	
BOJS	**Bojanci**	**83.34**	**326**	*eP*	**P**	**05 08 58.2**	**+0.1**	
SNF	**Seneffe**	**83.36**	**335**	*dP*	**P**	**05 08 58.3**	**+0.2**	
BMRD	**Maredsous**	**83.37**	**335**	*dP*	**P**	**05 08 58.1**	**-0.1**	
	comp=Z,34nm,1.1s							
WLF1	**Llynfaes**	**83.38**	**341**	*eP*	**P**	**05 08 58.3**	**+0.2**	
WLF1					IAmb	IAmb	05 08 59.9	
	comp=Z,130nm,1.4s							
WATA	**Walderalm**	**83.39**	**329**	*i* P	**P**	**05 08 59.3**	**+0.8**	
	comp=Z,55nm,1.6s,SNR=5.2							
MGRS	**Mrkonjic Grad**	**83.39**	**324**	*eP*	**P**	**05 08 59.5**	**+1.0**	
WTTA	**Wattenberg**	**83.43**	**329**	*i* P	**P**	**05 08 59.4**	**+0.6**	
	comp=Z,36nm,1.0s,SNR=5.8							
FOEL	**Foel Wylfa**	**83.44**	**340**	*eP*	**P**	**05 08 57.9**	**-0.7**	
FOEL					IAmb	IAmb	05 08 58.9	
	comp=Z,63nm,0.9s							
PVY	**Plav**	**83.46**	**322**	*eP*	**P**	**05 08 58.9**	**-0.1**	
YLL	**Llanberis**	**83.46**	**341**	*eP*	**P**	**05 08 59.2**	**+0.5**	
ZOU	**Zoufplan**	**83.46**	**328**	IAmb	IAmb	05 08 59.6		
	comp=Z,48nm,1.3s							
KOME	**Kolasin**	**83.48**	**322**	⇑*i* P	**P**	**05 08 58.7**	**-0.4**	
UPM	**Unac-Piva**	**83.49**	**323**	*eP*	**P**	**05 08 58.4**	**-0.9**	
ABTA	**Abfaltersbach**	**83.50**	**328**	*i* P	**P**	**05 08 58.5**	**-0.6**	
	comp=Z,35nm,1.1s,SNR=5.9							
CEY	**Cerknica**	**83.51**	**327**	⇑*i* P	**P**	**05 08 58.8**	**-0.3**	
MOTA	**Moosalm**	**83.57**	**330**	*i* P	**P**	**05 09 00.1**	**+0.6**	
	comp=Z,78nm,1.1s,SNR=12							
RETA	**Reutte**	**83.59**	**330**	*i* P	**P**	**05 09 00.3**	**+0.8**	
	comp=Z,80nm,1.1s,SNR=13							
DOU	**Dourbes**	**83.61**	**335**	*bP*	**P**	**05 08 59.5**	**+0.1**	
UBR	**Ueberruh**	**83.68**	**330**	*eP*	**P**	**05 09 00.1**	**+0.1**	
	comp=Z,57nm,1.6s,baz=35,slow=5.3							
BFO	**Black Forest**	**83.81**	**332**	P	**P**	**05 09 01.0**	**+0.4**	
BFO				pmax	pmax			
	comp=Z,162nm,1.9s							
BFO	**Black Forest**	**83.81**	**332**	P	**P**	**05 09 01.0**	**+0.4**	
BFO	**Black Forest**	**83.81**	**332**	*eP*	**P**	**05 09 00.9**	**+0.3**	
	comp=Z,119nm,1.8s,baz=35,slow=5.3							
NKME	**Niksic**	**83.81**	**322**	*eP*	**P**	**05 09 00.5**	**-0.2**	
PMOR	**Pomariorio Ree**	**83.83**	**115**	*eT*	T	06 40 55.0		
	comp=Z,13nm,0.3s							
BRY	**Bratogost**	**83.90**	**323**	*eP*	**P**	**05 09 00.8**	**-0.5**	
BRY	**Bratogost**	**83.90**	**323**	⇑*i* P	**P**	**05 09 00.7**	**-0.5**	
PDG	**Podgorica**	**83.92**	**322**	⇑P	**P**	**05 09 01.5**	**+0.3**	
PDG	**Podgorica**	**83.92**	**322**	⇑*i* P	**P**	**05 09 01.0**	**-0.2**	
TTG	**Podgorica**	**83.92**	**322**	⇑*i* P	**P**	**05 09 01.0**	**-0.2**	
MATQ	**Matagami**	**83.98**	**25**	P		05 09 00.7		
	baz=330							
FETA	**Feichten**	**83.98**	**330**	*i* P	**P**	**05 09 02.2**	**+0.5**	
	comp=Z,50nm,1.1s,SNR=5.8							
CEME	**Cevo**	**83.99**	**322**	⇑*i* P	**P**	**05 09 01.3**	**-0.4**	
DAVA	**Damuels**	**84.09**	**330**	*i* P	**P**	**05 09 02.8**	**+0.6**	
	comp=Z,76nm,1.1s,SNR=15							
DRME	**Dracevica, Mon**	**84.14**	**322**	⇑*i* P	**P**	**05 09 02.4**	**+0.1**	
DRME	**Dracevica, Mon**	**84.14**	**322**	⇑*i* P	**P**	**05 09 02.1**	**-0.2**	
BUM	**Brajici-Budva**	**84.19**	**322**	⇑*i* P	**P**	**05 09 02.5**	**-0.2**	
MCH1	**Michaelchurch**	**84.19**	**340**	*eP*	**P**	**05 09 02.7**	**+0.3**	
MCH1					IAmb	IAmb	05 09 04.4	
	comp=Z,39nm,0.9s							
HCY	**Herceg Novi**	**84.27**	**322**	*eP*	**P**	**05 09 02.2**	**-0.8**	
HCY	**Herceg Novi**	**84.27**	**322**	⇑*i* P	**P**	**05 09 02.5**	**-0.5**	
ULC	**Ulcinj**	**84.28**	**322**	⇑*i* P	**P**	**05 09 02.9**	**-0.2**	
STON	**Ston**	**84.31**	**323**	*eP*	**P**	**05 09 01.0**	**-2.2**	
ECH	**Echery**	**84.33**	**332**	IAmb	IAmb	05 09 04.6		
	comp=Z,41nm,1.1s							
PPT2	**Papeete2**	**84.46**	**118**	*eT*	T	06 41 43.8		
	comp=Z,5.9nm,0.3s							
H43A	**Windswept, Lux**	**84.49**	**34**	IAmb	IAmb	05 09 05.4		
	comp=Z,18nm,0.9s							
PAE	**Paea**	**84.50**	**118**	*eT*	T	06 41 46.4		
	comp=Z,1.0nm,0.3s							
MSTX	**Muleshoe**	**84.65**	**50**	IAmb	IAmb	05 09 31.1		
	comp=Z,25nm,1.2s							
MSTX	**Muleshoe**	**84.65**	**50**	P		05 09 06.2		
	baz=315							
MNTX	**Cornudas Mount**	**84.66**	**53**	P		05 09 06.3		
	baz=314							
LSQQ	**Lebel-sur-Quev**	**84.80**	**25**	P		05 09 05.6		
	baz=330							
L40A	**Anamosa**	**84.82**	**38**	IAmb	IAmb	05 09 17.0		
	comp=Z,24nm,1.1s							
N38A	**Joes South For**	**84.83**	**40**	IAmb	IAmb	05 09 17.5		
	comp=Z,41nm,1.3s							
CHGQ	**Chibougamau**	**84.89**	**23**	P		05 09 05.3		
	baz=332							
TUE	**Stuetta**	**84.97**	**330**	IAmb	IAmb	05 09 08.3		
	comp=Z,38nm,0.9s							
VLDQ	**Val d'Or**	**85.46**	**26**	IAmb	IAmb	05 09 08.9		
	comp=Z,24nm,1.1s							
GLMI	**Grayling**	**85.54**	**32**	P		05 09 08.0		
	baz=325							
P38A	**Dawn**	**85.57**	**40**	IAmb	IAmb	05 09 21.5		
	comp=Z,54nm,1.6s							
MEH	**Mehetia**	**85.69**	**117**	*eT*	T	06 43 14.3		
	comp=Z,33nm,0.3s							
SENIN	**Lac Senin/Sane**	**85.84**	**331**	IAmb	IAmb	05 09 19.0		
	comp=Z,21nm,0.9s							
P40A	**Paris**	**86.38**	**40**	IAmb	IAmb	05 09 25.5		
	comp=Z,33nm,1.1s							
WMOK	**Wichita Mounta**	**86.41**	**47**	P		05 09 13.5		
	baz=317							
MATE	**Matera**	**86.51**	**322**	⇑P	**P**	**05 09 13.5**	**-0.7**	
INTR	**Introdacqua**	**86.72**	**325**	IAmb	IAmb	05 09 51.6		
	comp=Z,35nm,1.1s							
J47A	**Sunmer**	**86.75**	**33**	IAmb	IAmb	05 09 34.4		
	comp=Z,23nm,1.1s							
D55A	**Sainte-Anne-du**	**87.07**	**25**	P		05 09 16.2		
	baz=331							
ALGO	**Algonquin Park**	**87.11**	**28**	P		05 09 15.7		
	baz=329							
R40A	**Maddies Statio**	**87.22**	**41**	IAmb	IAmb	05 09 28.5		
	comp=Z,26nm,1.3s							
D56A	**ZEC Mazanza, M**	**87.28**	**25**	P		05 09 16.5		
	baz=332							
TX31	**Lajitas Ar. Si**	**87.36**	**54**	IAmb	IAmb	05 09 31.0		
	comp=Z,48nm,1.3s							
TXAR	**Lajitas Array**	**87.36**	**54**	P	**P**	**05 09 20.1**	**+1.4**	
	comp=Z,2.8nm,1.0s,baz=293,slow=3.6,SNR=8.5							
G54A	**Lake Saint Pet**	**87.57**	**28**	P		05 09 17.9		
	baz=329							
E56A	**St. Veronique**	**87.64**	**25**	P		05 09 18.9		
	baz=332							
D58A	**Chemin du LacG**	**87.84**	**24**	P		05 09 19.1		
	baz=333							
CCM	**Cathedral Cave**	**87.92**	**40**	P	**P**	**05 09 21.4**	**+0.3**	
CCM				pmax	pmax			
	comp=Z,29nm,1.3s							
CCM	**Cathedral Cave**	**87.92**	**40**	P	**P**	**05 09 21.4**	**+0.3**	
CCM				IAmb	IAmb	05 09 32.8		
	comp=Z,29nm,1.2s							
SFIN	**Lafayette**	**88.06**	**36**	P		05 09 21.9		
	baz=324							
H53A	**Bobcaygeon**	**88.10**	**29**	P		05 09 20.5		
	baz=329							
N47A	**Urbana**	**88.29**	**35**	IAmb	IAmb	05 09 34.2		
	comp=Z,39nm,1.4s							
E58A	**La Victoria**	**88.36**	**24**	P		05 09 21.6		
	baz=333							
FVM	**French Village**	**88.38**	**40**	IAmb	IAmb	05 09 35.1		
	comp=Z,26nm,1.3s							
U40A	**Yellville**	**88.41**	**42**	IAmb	IAmb	05 09 35.0		
	comp=Z,36nm,1.3s							
U40A	**Yellville**	**88.41**	**42**	P		05 09 24.4		
	baz=320							
TBI	**Tubuai**	**88.55**	**122**	*eT*	T	06 46 50.7		
	comp=Z,25nm,0.3s							
D60A	**Saint Jean D'O**	**88.60**	**23**	P		05 09 24.1		
	baz=334							
P46A	**Rosedale**	**88.62**	**37**	IAmb	IAmb	05 09 46.5		
	comp=Z,28nm,1.2s							
T42A	**Van Buren**	**88.79**	**41**	IAmb	IAmb	05 09 36.9		
	comp=Z,22nm,1.2s							
G57A	**Newington**	**88.91**	**26**	P		05 09 25.0		
	baz=332							
E60A	**Ste Agathe de**	**88.93**	**23**	P		05 09 24.3		
	baz=334							
F59A	**Saint Guilaume**	**88.98**	**24**	P		05 09 25.2		
	baz=333							
D62A	**Allapoint, All**	**88.99**	**21**	P		05 09 26.0		
	baz=336							
FCAR	**Ozark Folk Cen**	**89.14**	**42**	IAmb	IAmb	05 09 38.3		
	comp=Z,22nm,1.2s							
E61A	**Lac Etchemin**	**89.17**	**23**	P		05 09 26.1		
	baz=335							
SIUC	**Southern Illin**	**89.18**	**39**	IAmb	IAmb	05 09 38.9		
	comp=Z,36nm,1.1s							
G58A	**Ormstown**	**89.19**	**25**	P		05 09 26.2		
	baz=332							
D63A	**Stockholm**	**89.30**	**21**	P		05 09 27.4		
	baz=336							
PBMO	**Poplar Bluff**	**89.32**	**40**	IAmb	IAmb	05 09 39.6		
	comp=Z,37nm,1.3s							
H57A	**Richville**	**89.34**	**27**	P		05 09 27.0		
	baz=331							
MIAR	**Mount Ida**	**89.41**	**44**	P		05 09 27.7		
	baz=320							
F61A	**St Evariste**	**89.43**	**23**	P		05 09 27.3		
	baz=334							
WHAR	**Wooly Hollow**	**89.52**	**42**	IAmb	IAmb	05 09 40.2		
	comp=Z,27nm,1.3s							
W41B	**Gary Mavity, V**	**89.63**	**43**	P		05 09 30.2		
	baz=321							
I57A	**Carthage**	**89.70**	**27**	P		05 09 28.7		
	baz=331							
H59A	**Cadyville**	**89.75**	**25**	P		05 09 29.6		
	baz=332							
E63A	**Oxbow**	**89.77**	**21**	P		05 09 28.2		
	baz=336							
H58A	**Gabriels**	**89.79**	**26**	P		05 09 29.8		
	baz=332							
F62A	**Pittston Farm,**	**89.80**	**23**	IAmb	IAmb	05 09 31.5		
	comp=Z,24nm,1.1s							
F62A	**Pittston Farm,**	**89.80**	**23**	P		05 09 30.5		
	baz=335							
P49A	**Miami Univ. Ec**	**89.82**	**35**	P		05 09 30.1		
	baz=325							
G61A	**St-Isidore-de-**	**89.88**	**24**	P		05 09 30.2		
	baz=334							
MMNY	**Mt. Morris Dam**	**89.93**	**29**	IAmb	IAmb	05 09 31.8		
	comp=Z,28nm,1.1s							
E64A	**Bridgewater**	**89.94**	**21**	P		05 09 29.7		
	baz=337							
WVNY	**West Valley, N**	**89.94**	**30**	IAmb	IAmb	05 09 49.3		
	comp=Z,30nm,1.1s							
J57A	**Williamstown**	**90.04**	**28**	P		05 09 30.3		
	baz=331							
H60A	**Morristown**	**90.16**	**25**	P		05 09 31.5		
	baz=333							
K56A	**Middlesex**	**90.18**	**29**	P		05 09 31.6		
	baz=330							
F63A	**Nahmakanta, Br**	**90.23**	**22**	P		05 09 31.8		
	baz=336							
G62A	**West of Eustis**	**90.25**	**23**	IAmb	IAmb	05 09 33.9		
	comp=Z,24nm,1.1s							
G62A	**West of Eustis**	**90.25**	**23**	P		05 09 33.3		
	baz=335							
M54A	**Oil Creek Stat**	**90.30**	**31**	P		05 09 31.6		
	baz=328							
F64A	**Sherman**	**90.30**	**22**	P		05 09 31.4		
	baz=336							
J58A	**Remsen**	**90.34**	**27**	P		05 09 33.8		
	baz=331							
VT1	**Waterbury**	**90.34**	**25**	IAmb	IAmb	05 10 09.5		
	comp=Z,24nm,1.3s							
H61A	**Lyndonville**	**90.43**	**24**	P		05 09 33.4		
	baz=334							
I59A	**Olmsteadville**	**90.44**	**26**	P		05 09 32.1		
	baz=332							
J59A	**Piesco**	**90.52**	**27**	IAmb	IAmb	05 09 51.6		
	comp=Z,22nm,1.1s							
J59A	**Piesco**	**90.52**	**27**	P		05 09 33.2		
	baz=332							
L56A	**Greenwood**	**90.57**	**29**	IAmb	IAmb	05 09 35.0		
	comp=Z,21nm,1.0s							
L56A	**Greenwood**	**90.57**	**29**	P		05 09 33.5		
	baz=330							
I60A	**Shoreham**	**90.60**	**26**	P		05 09 33.5		
	baz=333							
G63A	**Kingsbury**	**90.62**	**23**	P		05 09 33.6		
	baz=335							
H62A	**Milan**	**90.63**	**24**	IAmb	IAmb	05 09 35.7		
	comp=Z,29nm,1.0s							
H62A	**Milan**	**90.64**	**24**	P		05 09 35.1		
	baz=334							
LBNH	**Lisbon**	**90.69**	**25**	P		05 09 34.7		
	baz=334							
O53A	**New Philadelph**	**90.73**	**32**	P		05 09 34.3		
	baz=327							
I61A	**Oroboro, Fairl**	**90.87**	**25**	P		05 09 34.8		
	baz=334							
ACCN	**Adirondack Com**	**90.88**	**26**	IAmb	IAmb	05 09 35.8		
	comp=Z,20nm,1.1s							
H63A	**New Sharon**	**90.90**	**23**	P		05 09 35.6		
	baz=335							
BINY	**Binghamton**	**91.10**	**28**	P		05 09 37.4		
	baz=331							
H64A	**Troy**	**91.17**	**23**	P		05 09 37.5		
	baz=336							
I63A	**Otisfield**	**91.28**	**24**	IAmb	IAmb	05 09 39.1		
	comp=Z,32nm,1.1s							
J61A	**Chester**	**91.28**	**25**	P		05 09 37.4		
	baz=333							
I63A	**Otisfield**	**91.29**	**24**	P		05 09 38.8		
	baz=335							
L58A	**Harry Jones Me**	**91.29**	**28**	P		05 09 36.1		
	baz=331							
H65A	**Eastbrook**	**91.40**	**22**	P		05 09 37.2		
	baz=336							
M57A	**Sunshine Farm,**	**91.42**	**29**	IAmb	IAmb	05 09 39.8		
	comp=Z,26nm,1.0s							
OXF	**Oxford**	**91.61**	**41**	P		05 09 38.6		
	baz=322							
K61A	**Williamstown**	**91.65**	**26**	P		05 09 37.7		
	baz=333							
I64A	**Boothbay**	**91.69**	**23**	P		05 09 39.3		
	baz=335							
KSPA	**Keystone Colle**	**91.74**	**28**	IAmb	IAmb	05 09 56.9		
	comp=Z,21nm,1.4s							
J63A	**Strafford**	**91.82**	**24**	P		05 09 40.6		
	baz=334							
K62A	**Royalston**	**92.00**	**25**	P		05 09 40.0		
	baz=333							
K63A	**Dunstable**	**92.21**	**25**	P		05 09 41.0		
	baz=334							
N59A	**State Game Lan**	**92.30**	**29**	P		05 09 42.2		
	baz=331							
TZTN	**Tazewell**	**92.80**	**36**	P		05 09 45.4		
	baz=326							
KEST	**Kesra**	**93.89**	**324**	P	**P**	**05 09 48.6**	**-0.4**	
	comp=Z,16nm,1.1s,baz=312,slow=6.3,SNR=3.2							
ESDC	**Sonseca Array**	**95.64**	**335**	PP	**PP**	**05 13 45.4**	**-1.8**	
	comp=Z,4.2nm,1.1s,baz=17,slow=6.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**116.55**	**318**	PKP	**PKPdf**	**05 15 14.4**	**-1.4**	
	comp=Z,1.1nm,0.8s,baz=24,slow=1.0,SNR=6.3							
TORD				PP	**PP**	**05 16 19.6**	**-2.4**	
	comp=Z,14nm,1.0s,baz=24,slow=5.6,SNR=12							
TORD	**Torodi Ar. Bea**	**116.55**	**318**	PKPdf	**PKPdf**	**05 15 14.7**	**-1.1**	
LBTB	**Lobatse**	**126.41**	**266**	PKIKP	**PKPdf**	**05 15 34.7**	**+0.2**	
LBTB	**Lobatse**	**126.41**	**266**	PKPdf	**PKPdf**	**05 15 34.7**	**+0.2**	
SNAA	**Sanae**	**143.64**	**197**	PKPbc	PKPab	05 16 01.6	-0.1	
SNAA	**Sanae**	**143.64**	**197**	PP	PP	05 19 22.3	+4.4	
LPAZ	**La Paz**	**144.07**	**59**	PKP	PKPbc	05 16 06.9	+0.9	
	comp=Z,3.1nm,0.8s,baz=352,slow=4.2,SNR=3.7							
LPAZ	**La Paz**	**144.07**	**59**		PKPbc	05 16 07.0	+1.0	
VNA2	**Neumayer--Watz**	**145.20**	**196**	PKPbc	**PKPbc**	**05 16 07.2**	**-0.2**	
	baz=130,slow=3.4							
VNA2	**Neumayer--Watz**	**145.20**	**196**	PP	PP	05 19 31.5	+4.4	
VNA3	**Neumayer Olymp**	**145.43**	**195**	PKPbc	**PKPdf**	**05 16 07.6**	**-0.5**	
VNA3	**Neumayer Olymp**	**145.43**	**195**	PP	PP	05 19 32.5	+4.0	
VNA1	**Neumayer--Stat**	**145.60**	**196**	PKPbc	**PKPdf**	**05 16 08.4**	**+0.1**	
VNA1	**Neumayer--Stat**	**145.60**	**196**	PP	PP	05 19 37.9	+8.4	
CLDB	**Colider**	**146.71**	**36**	*eP*	**PKPbc**	**05 16 13.4**	**-0.3**	
LVC	**Limon Verde**	**147.82**	**68**	PKPbc	**PKPdf**	**05 16 15.4**	**+1.4**	
	comp=Z,10nm,1.1s,baz=306,slow=5.1,SNR=4.7							
LVC	**Limon Verde**	**147.82**	**68**	PKIKP	**PKPdf**	**05 16 13.7**	**-0.4**	
LVC	**Limon Verde**	**147.82**	**68**	PKPdf	**PKPdf**	**05 16 13.7**	**-0.4**	
SIV	**San Ignacio**	**148.26**	**49**	PKPbc	**PKPbc**	**05 16 17.4**	**-0.5**	
	comp=Z,12nm,1.1s,baz=322,slow=3.3,SNR=6.8							
GO04	**Tololo Observa**	**150.59**	**82**	PKPdf	**PKPdf**	**05 16 18.0**	**-0.1**	
PEXB	**Peixe**	**150.74**	**24**	*eP*	**PKPbc**	**05 16 22.4**	**-1.7**	
PLCA	**Paso Flores**	**154.15**	**104**	PKPbc	**PKPbc**	**05 16 28.8**	**-2.2**	
	comp=Z,3.8nm,1.2s,baz=327,slow=5.4,SNR=3.0							
IPMB	**Ipameri, GO**	**156.24**	**28**	*eP*	**PKPdf**	**05 16 28.8**	**+2.4**	

JMA 11 04:57:11.5, 34°49'N × 139°21'E, h3km ± 1km, M1.7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHY	**Toshimahigashi**	**0.07**	**63**	P	Pg	04 57 13.2	+0.2
JSKK	**Shikinejimakit**	**0.15**	**180**	*eS*	Sg	04 57 17.0	+0.5
JIM2	**Oshima 3**	**0.29**	**39**	P	Pg	04 57 17.4	+0.3
JIM2				*eS*	Sg	04 57 21.9	+0.9
JIZS	**Izushimoda**	**0.36**	**310**	P	Pg	04 57 18.7	+0.3
JIZS				*eS*	Sg	04 57 24.2	+1.2

IDC ***11*** *05:10:33.4±1.4, 39°.56N × 143°.57E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.8/44, mbtmp3.9/13, ML3.1/3, Error ellipse: s-maj=32.2km s-min=23.1km az=111.0*
JMA ***11*** *05:10:34.5±0.2, 39°.60N × 143°.63E, h24km±5km, M3.9*
ISC 11 05:10:37.9±3.4, 39°.58N±0°.05 × 143°.43E±0°.09, h27km±22km, n34, σ1°60/41, mb4.0/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.25**	**270**	P	**Pn**	**05 10 59.0**	**-0.5**
JTH	**Tanohata**	**1.26**	**287**	P	**Pn**	**05 10 58.8**	**-0.9**
JTH				*eS*	**Sb**	**05 11 16.7**	**-0.1**
OFUJ	**Ofunato**	**1.45**	**251**	P	**Pn**	**05 11 01.9**	**-0.5**
JKEN	**Kujiedanarisaw**	**1.47**	**296**	P	**Pn**	**05 11 01.5**	**-1.0**
JOM	**Ohasama**	**1.66**	**267**	P	**Pn**	**05 11 05.4**	**+0.2**
JANG	**Nango**	**1.67**	**299**	P	**Pn**	**05 11 04.5**	**-0.9**
JMK	**Ichinoseki**	**1.83**	**251**	P	**Pn**	**05 11 07.4**	**-0.1**
JMK				*eS*	**Sn**	**05 11 31.3**	**+1.6**
JIO	**Ouri**	**1.97**	**236**	P	**Pn**	**05 11 08.9**	**-0.6**
JRG	**Rokugo**	**2.17**	**266**	P	**Pn**	**05 11 12.7**	**+0.4**
JRG				*eS*	**Sn**	**05 11 39.5**	**+1.2**
JTM	**Tenmabayashi**	**2.17**	**304**	P	**Pn**	**05 11 12.3**	**0.0**
JTM				*eS*	**Sn**	**05 11 40.0**	**+1.6**
JAH	**Hinai**	**2.23**	**287**	P	**Pn**	**05 11 13.5**	**+0.4**
JEM	**Erimo**	**2.44**	**355**	P	**Pn**	**05 11 16.4**	**+0.4**
JEM				*eS*	**Sn**	**05 11 45.9**	**+0.9**
JOU	**Okura**	**2.47**	**242**	P	**Pn**	**05 11 16.5**	**+0.1**
JOU				*eS*	**Sn**	**05 11 46.8**	**+1.0**
JYK	**Kaneyama**	**2.47**	**256**	P	**Pn**	**05 11 16.8**	**+0.4**
JOT	**Ohata**	**2.56**	**316**	P	**Pn**	**05 11 17.2**	**-0.4**
JOT				*eS*	**Sn**	**05 11 48.8**	**+1.0**
JNBK	**

3.8nm,1.1s,baz=181,slow=3.8,SNR=6.3

IDC ***11*** *05:29:57.2±0.6,39°.51N×143°.40E,h0km,mb4.4/22, mb1 4.5/27,mb1mx4.5/38,mbtmp4.4/27,ML4.3/4,MS4.3/5, Ms1 4.3/5,ms1mx3.8/32,Error ellipse: s-maj=16.5km s-min=13.2km az=121.0*

JMA ***11*** *05:29:58.9±0.2,39°.60N×143°.61E,h39km,M4.8*

JMA Felt I J1.

NIED ***11*** *05:29:59.0,39°.60N×143°.61E,h39km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr6.27; Mϑϑ-0.50; Mϕϕ-5.77; Mrϑ3.47; Mrϕ-3.07; Mϑϕ5.66; Fault plane solution: M0 9.45000×10^15 NP1:ϕs30.00000°, δ67.00000°,λ95.00000°. NP2:ϕs198.00000°,δ23.00000°, λ79.00000°.*

BJI ***11*** *05:29:58.0±0.0,39°.56N×143°.14E,h5km,mB5.4/22, mb4.9/66,Ms4.8/14,Ms7 4.6/13*

NEIC ***11*** *05:29:59.5±2.0,39°.53N±0°.05×143°.5E±0°.1,h10km±1km, mb4.8/78,Error ellipse: s-maj=13.5km s-min=8.5km az=100.0*

MOS ***11*** *05:29:59.6±1.2,39°.60N×143°.39E,h25km,mb5.1/56, MS4.7/5,Error ellipse: s-maj=6.2km s-min=4.0km az=120.8*

ISC 11 05:29:58.8±0.9,39°.52N±0°.04×143°.58E±0°.05,h13km±5km, n347,σ1s38/365,mb4.8/125,MS4.9/7,22C-11D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.36**	**273**	P			**Pn**	**05 30 22.5**	**-1.1**
MIYJ					*eS*		**Sn**	**05 30 39.9**	**-1.6**
JTH	**Tanohata**	**1.39**	**288**	P			**Pn**	**05 30 22.5**	**-1.4**
JTH					*eS*		**Sn**	**05 30 39.6**	**-2.5**
OFUJ	**Ofunato**	**1.55**	**254**	P			**Pn**	**05 30 25.4**	**-0.7**
OFUJ					*eS*		**Sn**	**05 30 44.1**	**-1.9**
JKEN	**Kujiedanarisaw**	**1.60**	**296**	P			**Pn**	**05 30 24.8**	**-1.9**
JKEN					*eS*		**Sn**	**05 30 43.8**	**-3.4**
JOM	**Ohasama**	**1.77**	**269**	P			**Pn**	**05 30 28.9**	**-0.3**
JOM					*eS*		**Sn**	**05 30 50.7**	**-0.9**
JANG	**Nango**	**1.80**	**299**	P			**Pn**	**05 30 27.9**	**-1.7**
JMK	**Ichinoseki**	**1.92**	**254**	P			**Pn**	**05 30 30.9**	**-0.3**
JMK					*eS*		**Sn**	**05 30 54.2**	**-1.0**
JIO	**Ouri**	**2.04**	**239**	P			**Pn**	**05 30 32.2**	**-0.6**
JTM	**Tenmabayashi**	**2.31**	**304**	P			**Pn**	**05 30 35.7**	**-0.8**
JTM					*eS*		**Sn**	**05 31 03.1**	**-1.6**
JTM	**Tenmabayashi**	**2.31**	**304**				**Pn**	**05 30 36.2**	**-0.3**
ERM	**Erimo**	**2.51**	**353**	*de*P			**Pn**	**05 30 39.3**	**0.0**
ERM				pmax			pmax		
	comp=Z,131nm,1.3s								
ERM	**Erimo**	**2.51**	**353**				**Pn**	**05 30 39.4**	**0.0**
JYK	**Kaneyama**	**2.58**	**258**	P			**Pn**	**05 30 40.5**	**+0.3**
JOT	**Ohata**	**2.68**	**315**	P			**Pn**	**05 30 40.9**	**-0.8**
JOT					*eS*		**Sn**	**05 31 12.2**	**-1.8**
JMM	**Marumori**	**2.74**	**234**	Pn			**Pn**	**05 30 42.0**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.83**	**347**	P			**Pn**	**05 30 43.9**	**+0.2**
JNBK					*eS*		**Sn**	**05 31 16.2**	**-1.4**
JCH	**Churui**	**3.10**	**357**	P			**Pn**	**05 30 46.8**	**-0.6**
JCH					*eS*		**Sn**	**05 31 21.6**	**-2.6**
JFT	**Otama**	**3.24**	**233**	P			**Pn**	**05 30 49.4**	**+0.1**
JFT					*eS*		**Sn**	**05 31 28.1**	**+0.4**
JEW	**Eniwo**	**3.69**	**335**				**Pn**	**05 30 56.9**	**+1.4**
JYT	**Yasato**	**4.24**	**220**	Pn			**Pn**	**05 31 01.8**	**-1.3**
JSD	**Sado**	**4.42**	**252**	Pn			**Pn**	**05 31 05.7**	**+0.2**
JKA	**Kamikawa-asahi**	**4.65**	**351**	Pn			**Pn**	**05 31 09.1**	**+0.4**
ASAJ	**Asahikawa**	**4.65**	**351**	Pn			**Pn**	**05 31 08.8**	**0.0**
	comp=Z,6.5nm,0.3s,baz=220,slow=12,SNR=34								
ASAJ					Sn		**Sn**	**05 32 01.7**	**-0.9**
	comp=Z,23nm,0.3s,baz=152,slow=15,SNR=9.1								
ASAJ					LR		LR	05 33 06.6	
	comp=Z,2μm,18.6s,baz=174,slow=41								
YUK	**Yuzh-Kuril'sk**	**4.82**	**20**	⇓*e*P			**Pn**	**05 31 12.5**	**+1.4**
MJAR	**Matsushiro Arr**	**5.18**	**237**	Pn			**Pn**	**05 31 16.6**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=41,slow=12,SNR=258								
MJAR	**Matsushiro Arr**	**5.18**	**237**	P			**Pn**	**05 31 17.6**	**+1.6**
MJAR	**Matsushiro Arr**	**5.18**	**237**	Pn			**Pn**	**05 31 17.6**	**+1.6**
MAJO	**Matsushiro**	**5.18**	**237**	*c* i P			**Pn**	**05 31 17.5**	**+1.4**
MAJO	**Matsushiro**	**5.18**	**237**	Pn			**Pn**	**05 31 17.7**	**+1.6**
MAT	**Matsushiro**	**5.18**	**237**	P			**Pn**	**05 31 17.5**	**+1.4**
MAT					*eS*		**Sn**	**05 32 18.6**	**+2.9**
MJB9	**Matsu-Tunnel**	**5.18**	**237**				**Pn**	**05 31 17.2**	**+1.2**
JGF	**Kuroka**	**6.30**	**234**				**Pn**	**05 31 32.7**	**+1.2**
JSG	**Sagara**	**6.48**	**223**				**Pn**	**05 31 36.1**	**+2.2**
KUR	**Kuril'sk**	**6.53**	**28**	*e*P			**Pn**	**05 31 34.4**	**-0.1**
KUR				*i* S			**Sn**	**05 32 43.8**	**-5.0**
KUR				pmax			pmax		
	comp=Z,107nm,0.5s								
KUR				pmax			pmax		
	comp=N,50nm,0.3s								
KUR				pmax			pmax		
	comp=E,26nm,0.3s								
KUR				smax			smax		
	comp=N,336nm,0.5s								
KUR				smax			smax		
	comp=E,214nm,0.6s								
INU	**Inuyama**	**6.68**	**233**	Pn			**Pn**	**05 31 36.1**	**-0.5**
JHJ2	**Mitsune**	**7.08**	**207**	Pn			**Pn**	**05 31 42.0**	**-0.2**
JHJ	**Hachijo jima 2**	**7.08**	**207**	Pn			**Pn**	**05 31 41.7**	**-0.5**
	comp=E,43nm,0.3s,baz=84,slow=18,SNR=16								
JHJ					Sn		**Sn**	**05 32 56.0**	**-6.6**
	comp=E,41nm,0.3s,baz=226,slow=24,SNR=9.2								
YSS	**Yuzh-Sakhalins**	**7.46**	**356**	⇑*e*P			**Pn**	**05 31 48.4**	**+1.2**
YSS					*eS*		**Sn**	**05 33 08.5**	**-3.1**
YSS				pmax			pmax		
	comp=Z,50nm,0.7s								
YSS				smax			smax		
	comp=N,50nm,0.8s								
YSS	**Yuzh-Sakhalins**	**7.46**	**356**	Pn			**Pn**	**05 31 47.5**	**+0.3**
TEY	**Ternei**	**7.56**	**319**	⇑*i*P			**Pn**	**05 31 50.5**	**+1.9**
TEY				pmax			pmax		
	comp=Z,80nm,0.9s								
TEY				pmax			pmax		
	comp=N,60nm,0.9s								
TEY				pmax			pmax		
	comp=E,60nm,0.9s								
JWT	**Wachi**	**7.76**	**240**	Pn			**Pn**	**05 31 54.0**	**+2.5**
JHS	**Saijyo**	**9.48**	**245**	Pn			**Pn**	**05 32 16.4**	**+1.3**
VLA	**Vladivostok**	**9.51**	**296**	*ce*P			**Pn**	**05 32 17.3**	**+2.0**
UGL	**Uglegorsk**	**9.62**	**354**	*e*P			Pn	05 32 25.8	+9.0
UGL				pmax			pmax		
	comp=Z,60nm,0.7s								
UGL				MLR			MLR		
	comp=E,2μm,13.0s								
UGL				MLR			MLR		
	comp=N,3μm,11.0s								
UGL				MLR			MLR		
	comp=Z,4μm,14.0s								
JMN	**Monobe**	**9.70**	**236**	Pn			**Pn**	**05 32 19.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.83**	**302**	Pn			**Pn**	**05 32 21.1**	**+1.4**
	baz=114,slow=13,SNR=38								
USRK				LR			LR	05 36 04.8	
	comp=Z,2μm,18.4s,baz=55,slow=38								
USRK	**Ussuriysk Ar.**	**9.83**	**302**	P			**Pn**	**05 32 21.3**	**+1.5**
USRK	**Ussuriysk Ar.**	**9.83**	**302**	Pn			**Pn**	**05 32 21.3**	**+1.5**
USA0B	**Ussuriysk Arra**	**9.83**	**302**	P			**Pn**	**05 32 21.2**	**+1.4**
USA0B	**Ussuriysk Arra**	**9.83**	**302**	Pn			**Pn**	**05 32 21.2**	**+1.4**
MSHR	**Mys Shultsa**	**9.87**	**292**	⇑*e*P			**Pn**	**05 32 20.2**	**-0.2**
MSHR				pmax			pmax		
	comp=Z,29nm,1.1s								
TYV	**Tymovskoe**	**11.36**	**357**	*e*P			**Pn**	**05 32 41.7**	**+1.0**
TYV				pmax			pmax		
	comp=Z,11nm,0.7s								
MDJ	**Mudanjiang**	**11.57**	**301**	P			**Pn**	**05 32 42.9**	**-0.8**
MDJ				pmax			pmax		
	comp=Z,17nm,1.1s								
MDJ				pmax			pmax		
	comp=Z,980nm,10.2s								
MDJ	**Mudanjiang**	**11.57**	**301**	Pn			**Pn**	**05 32 44.9**	**+1.3**
JNU	**Nakatsue**	**12.07**	**242**	Pn			**Pn**	**05 32 49.6**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=270,slow=3.0,SNR=2.5								
JNU	**Nakatsue**	**12.07**	**242**	Pn			**Pn**	**05 32 49.8**	**-0.8**
KSRS	**Korea Array**	**12.45**	**265**	Pn			**Pn**	**05 32 57.8**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=88,slow=13,SNR=25								
KSRS				LR			LR	05 36 32.6	
	comp=Z,967nm,18.0s,baz=78,slow=32								
JCJ	**Chichijima**	**12.45**	**186**	Pn			**Pn**	**05 32 53.6**	**-2.1**
	comp=Z,4.3nm,0.3s,baz=104,slow=24,SNR=1.9								
JCJ					Sn		Sn	05 35 02.4	-12
	comp=Z,5.1nm,0.3s,baz=285,slow=20,SNR=1.8								
KS19	**Wonju Array Si**	**12.48**	**266**				**Pn**	**05 32 55.6**	**-0.4**
KSAR	**Wonju Array Be**	**12.48**	**265**	P			**Pn**	**05 32 56.5**	**+0.4**
KSAR	**Wonju Array Be**	**12.48**	**265**				**Pn**	**05 32 56.5**	**+0.4**
KLR	**Kul'dur**	**12.86**	**323**	*de*P			**Pn**	**05 33 00.8**	**-0.5**
TJN	**Taejon**	**13.18**	**261**	⇓*e*P			**Pn**	**05 33 06.7**	**+1.1**
CN2	**Changchun**	**14.21**	**293**	*e*P			**Pn**	**05 33 17.7**	**-2.0**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.7s								
CN2				L			L		
	comp=Z,2μm,12.0s								
CN2				L			L		
	comp=Z,2μm,12.0s								
CN2				L			L		
	comp=Z,2μm,13.0s								
PEA0B	**Petropavlovsk-**	**16.68**	**31**	⇑*e*P			**P**	**05 33 55.0**	**+0.5**
PETK	**Petropavlovsk-**	**16.68**	**31**	Pn			**Pn**	**05 33 52.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=241,slow=34,SNR=2.1								
PETK	**Petropavlovsk-**	**16.68**	**31**	P			**P**	**05 33 54.3**	**-0.2**
PET	**Petropavlovsk**	**17.01**	**32**	P			**Pn**	**05 33 54.9**	**-1.3**
DL2	**Dalian**	**17.02**	**275**	P			**Pn**	**05 33 57.2**	**+0.7**
DL2				pmax			pmax		
	comp=Z,38nm,0.8s								
DL2				L			L		
	comp=Z,700nm,11.8s								
DL2				L			L		
	comp=Z,1μm,14.0s								
DL2				L			L		
	comp=Z,2μm,14.0s								
JOW	**Kunigami**	**17.98**	**230**	P			**Pn**	**05 34 05.7**	**-2.7**
ZEA	**Zeya**	**18.05**	**327**	*e*P			**Pn**	**05 34 05.9**	**-3.2**
ZEA				pmax			pmax		
	comp=N,30nm,0.8s								
ZEA				pmax			pmax		
	comp=E,20nm,0.8s								
ZEA				pmax			pmax		
	comp=Z,40nm,0.8s								
HIA	**Hailar**	**19.55**	**308**	*d* i P			**P**	**05 34 23.5**	**-2.6**
HIA				pmax			pmax		
	comp=Z,28nm,0.9s								
HIA	**Hailar**	**19.55**	**308**	P			**P**	**05 34 23.2**	**-2.9**
HIA				IAmb			IAmb	05 34 26.1	
	comp=Z,26nm,0.7s								
MA2	**Magadan**	**20.59**	**10**	*c* i P			**P**	**05 34 38.3**	**+1.0**
MA2				pmax			pmax		
	comp=Z,27nm,0.7s								
MA2	**Magadan**	**20.59**	**10**	P			**P**	**05 34 38.2**	**+0.9**
MA2				IAmb			IAmb	05 34 39.5	
	comp=Z,41nm,0.9s								
BJI	**Beijing**	**21.04**	**280**	P			**P**	**05 34 39.8**	**-2.6**
BJI				pP			pP	05 34 41.7	-3.6
BJI				pmax			pmax		
	comp=Z,18nm,1.1s								
BJT	**Baijiatuan**	**21.05**	**280**	P			**P**	**05 34 39.7**	**-2.8**
BJT				pmax			pmax		
	comp=Z,21nm,1.1s								
BJT	**Baijiatuan**	**21.05**	**280**	P			**P**	**05 34 39.7**	**-2.8**
TIA	**Tai'an**	**21.12**	**269**	P			**P**	**05 34 40.8**	**-2.5**
TIA				pmax			pmax		
	comp=Z,59nm,0.9s								
NJ2	**Nanjing**	**21.36**	**257**	*e*P			**P**	**05 34 45.7**	**-0.1**
NJ2				sP			**pwP**	**05 34 53.9**	**+1.9**
NJ2				pmax			pmax		
	comp=Z,8.0nm,0.5s								
YHNB	**Yeheng**	**23.85**	**238**	P			**P**	**05 35 10.3**	**-1.6**
YHNB				IAmb			IAmb	05 35 17.6	
	comp=Z,22nm,0.9s								
YAK	**Yakutsk**	**24.09**	**344**	*e*P			**P**	**05 35 12.1**	**-1.6**
YAK				pmax			pmax		
	comp=Z,49nm,0.9s								
YAK				pmax			pmax		
	comp=N,22nm,1.0s								
YAK				pmax			pmax		
	comp=E,5.0nm,0.9s								
YAK	**Yakutsk**	**24.09**	**344**	P			**P**	**05 35 12.6**	**-1.1**
CIT	**Chita**	**24.20**	**311**	*e*P			**P**	**05 35 12.2**	**-2.8**
CIT				*e*				05 35 22.8	
CIT				*e*				05 35 46.8	
CIT				pmax			pmax		
	comp=Z,138nm,1.1s								
HHC	**Hu-ho-hao-te**	**24.43**	**283**	*e*P			**P**	**05 35 17.2**	**-0.1**
HHC				pmax			pmax		
	comp=Z,25nm,0.9s								
YULB	**Yu-li**	**24.80**	**236**	P			**P**	**05 35 18.5**	**-2.1**
YULB				IAmb			IAmb	05 35 30.8	
	comp=Z,21nm,0.9s								
WHN	**Wuhan**	**25.47**	**258**	⇑P			**P**	**05 35 26.3**	**-0.3**
WHN				pmax			pmax		
	comp=Z,180nm,0.9s								
ULN	**Ulaanbaatar**	**27.49**	**300**	*c* i P			**P**	**05 35 44.9**	**0.0**
ULN				pmax			pmax		
	comp=Z,44nm,1.3s								
ULN	**Ulaanbaatar**	**27.49**	**300**	P			**P**	**05 35 45.1**	**+0.2**
ULN	**Ulaanbaatar**	**27.49**	**300**	P			**P**	**05 35 44.1**	**-0.8**
	comp=Z,132nm,1.3s								
SONM	**Songino Array**	**27.93**	**300**	P			**P**	**05 35 45.0**	**-3.8**
	comp=Z,10nm,0.8s,baz=101,slow=7.5,SNR=5.6								
SONM					LR		LR	05 47 20.5	
	comp=Z,907nm,18.7s,baz=32,slow=38								
SONM	**Songino Array**	**27.93**	**300**	P			**P**	**05 35 48.9**	**+0.1**
SONM				pmax			pmax		
	comp=Z,16nm,1.0s								
SONM	**Songino Array**	**27.93**	**300**	P			**P**	**05 35 48.9**	**+0.1**
SONM				IAmb			IAmb	05 35 49.7	
	comp=Z,16nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**28.13**	**128**	T			T	06 06 41.2	
	baz=320,slow=75								
H11N1	**WAKE ISLAND Hy**	**28.14**	**128**	T			T	06 06 44.0	
	baz=320,slow=75								
H11N3	**WAKE ISLAND Hy**	**28.15**	**128**	T			T	06 06 42.3	
	baz=320,slow=75								
XAN	**Xi'an**	**28.18**	**270**	P			**P**	**05 35 50.2**	**-0.9**
XAN				pP			pP	05 35 55.6	+1.4
XAN				pmax			pmax		
	comp=Z,6.0nm,0.7s								
XAN				pmax			pmax		
	comp=Z,790nm,12.0s								
XAN	**Xi'an**	**28.18**	**270**	P			**P**	**05 35 50.6**	**-0.5**
XAN	**Xi'an**	**28.18**	**270**	P			**P**	**05 35 50.6**	**-0.5**
H11S1	**WAKE ISLAND Hy**	**28.95**	**130**	T			T	06 07 45.8	
	baz=321								
H11S3	**WAKE ISLAND Hy**	**28.95**	**130**	T			T	06 07 46.3	
	baz=321								
H11S2	**WAKE ISLAND Hy**	**28.97**	**130**	T			T	06 07 43.5	
	baz=321								
ENH	**Enshi**	**29.30**	**262**	P			**P**	**05 36 00.4**	**-0.6**
TLY	**Talaya**	**30.09**	**307**	*e*P			**P**	**05 36 08.7**	**+0.9**
TLY				pmax			pmax		
	comp=Z,24nm,0.9s								
TLY	**Talaya**	**30.09**	**307**	P			**P**	**05 36 08.2**	**+0.4**
TLY				IAmb			IAmb	05 36 09.8	
	comp=Z,14nm,1.2s								
ZAK	**Zakamensk**	**30.17**	**305**	*e*P			**P**	**05 36 08.6**	**0.0**
ZAK				pmax			pmax		
	comp=Z,11nm,1.0s								
BILL	**Bilibino**	**31.16**	**16**	*ce*P			**P**	**05 36 18.1**	**+1.0**
BILL				*e*				05 36 27.1	
BILL				pmax			pmax		
	comp=Z,11nm,1.7s								
BILL				MLR			MLR		
	comp=Z,634nm,14.0s								
BILL	**Bilibino**	**31.16**	**16**	P			**P**	**05 36 17.7**	**+0.6**
LZH	**Lanzhou**	**31.41**	**276**	⇑P			**P**	**05 36 19.2**	**-0.6**
LZH				pP			pP	05 36 23.8	+0.9
LZH				sP			pwP	05 36 27.3	+0.7
LZH				pmax			pmax		
	comp=Z,14nm,1.2s								
LZH				pmax			pmax		
	comp=Z,85nm,6.0s								
MOY	**Mondy**	**31.73**	**307**	*e*P			**P**	**05 36 20.3**	**-2.1**
MOY				pmax			pmax		
	comp=Z,21nm,1.5s								
TIXI	**Tiksi**	**33.06**	**352**	⇓*e*P			**P**	**05 36 33.5**	**-0.1**
TIXI	**Tiksi**	**33.06**	**352**	P			**P**	**05 36 33.5**	**-0.1**
GYA	**Guiyang**	**33.36**	**258**	⇓P			**P**	**05 36 36.7**	**-0.2**
GYA				pmax			pmax		
	comp=Z,6.0nm,0.9s								
GTA	**Gaotai**	**33.54**	**284**	⇓P			**P**	**05 36 39.2**	**+0.8**
GTA				pP			pwP	05 36 46.4	+1.2
GTA				sP			sP	05 36 50.7	+7.9
GTA				pmax			pmax		
	comp=Z,29nm,1.1s								
KMI	**Kunming**	**37.06**	**260**	⇑P			**P**	**05 37 08.8**	**-0.1**
KMI				pmax			pmax		
	comp=Z,17nm,1.1s								
SLVN	**Son La**	**38.35**	**254**	P			**P**	**05 37 19.6**	**-0.1**
DGZ	**Jazzator, Alta**	**40.38**	**304**	*ce*P			**P**	**05 37 37.3**	**+0.9**
DGZ				pmax			pmax		
	comp=Z,23nm,1.0s								
WMQ	**Urumqi**	**41.30**	**295**	*e*P			**P**	**05 37 44.9**	**+0.9**
WMQ				pP			sP	05 37 49.2	+0.8
WMQ				pmax			pmax		
	comp=Z,70nm,0.7s								
WMQ	**Urumqi**	**41.30**	**295**	P			**P**	**05 37 45.2**	**+1.2**
WMQ	**Urumqi**	**41.30**	**295**	P			**P**	**05 37 45.2**	**+1.2**
ZAA0	**Zalesovo Array**	**41.55**	**310**	P			**P**	**05 37 45.0**	**-0.8**
ZAA0				IAmb			IAmb	05 37 46.7	
	comp=Z,14nm,0.8s								
ZALV	**Zalesovo Beam**	**41.55**	**310**	P			**P**	**05 37 45.6**	**-0.2**
	comp=Z,14nm,0.7s,baz=88,slow=8.0,SNR=42								
ZALV				PcP			**PcP**	**05 39 43.5**	**+0.5**
	comp=Z,5.4nm,0.8s,baz=90,slow=3.3,SNR=4.8								
ZALV	**Zalesovo Beam**	**41.55**	**310**	P			**P**	**05 37 45.9**	**0.0**
NRIK	**Noril'sk**	**41.76**	**334**	P			**P**	**05 37 47.1**	**-0.2**
	comp=Z,4.1nm,0.7s,baz=77,slow=5.6,SNR=5.1								
NRIK	**Noril'sk**	**41.76**	**334**	P			**P**	**05 37 47.3**	**0.0**
ZSN	**Zaisan**	**42.43**	**301**	*i* P			**P**	**05 37 53.4**	**+0.2**
	comp=Z,10nm,0.8s,baz=301								
ZSN	**Zaisan**	**42.43**	**301**	*i* P			**P**	**05 37 53.3**	**+0.2**
ZSN				pmax			pmax		
	comp=Z,10.0nm,0.8s								
A21K	**Barrow**	**43.50**	**24**	P			**P**	**05 38 02.9**	**+1.5**
A21K				IAmb			IAmb	05 38 25.0	
	comp=Z,15nm,0.8s								
CMMT	**Chiang Mai**	**43.57**	**255**	P			**P**	**05 38 02.5**	**-0.2**
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**43.57**	**255**	P			**P**	**05 38 02.4**	**-0.2**
CHTO				pmax			pmax		
	comp=Z,8.0nm,0.8s								
CHTO	**Chiang Mai**	**43.57**	**255**	P			**P**	**05 38 02.4**	**-0.2**
CHTO	**Chiang Mai**	**43.57**	**255**	P			**P**	**05 38 02.5**	**-0.2**
	comp=Z,7.0nm,0.9s								
IMAR	**Indian Mountai**	**43.64**	**32**	P			**P**	**05 38 04.1**	**+1.4**
LSA	**Lhasa**	**43.72**	**274**	P			**P**	**05 38 03.2**	**-1.1**
LSA				pmax			pmax		
	comp=Z,15nm,1.1s								
LSA	**Lhasa**	**43.72**	**274**	P			**P**	**05 38 03.2**	**-1.1**
LSA				IAmb			IAmb	05 38 07.5	
	comp=Z,15nm,1.1s								
CM31	**Chiang Mai Arr**	**43.79**	**255**	P			**P**	**05 38 05.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**43.79**	**255**	P			**P**	**05 38 04.3**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=46,slow=6.8,SNR=17								
CMAR	**Chiang Mai Arr**	**43.79**	**255**	P			**P**	**05 38 03.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**43.79**	**255**	P			**P**	**05 38 03.4**	**-1.0**
KDAK	**Kodiak Island**	**44.12**	**44**	P			**P**	**05 38 08.0**	**+1.5**
	comp=Z,3.6nm,0.8s,baz=315,slow=9.0,SNR=5.1								
KDAK	**Kodiak Island**	**44.12**	**44**	P			**P**	**05 38 09.1**	**+2.5**
KDAK				IAmb			IAmb	05 38 31.4	
	comp=Z,31nm,1.4s								
MK31	**Makanchi Array**	**44.29**	**300**	P			**P**	**05 38 08.1**	**-0.1**
MK31				pmax			pmax		
	comp=Z,18nm,0.9s								
MK31	**Makanchi Array**	**44.29**	**300**	P			**P**	**05 38 08.1**	**-0.1**
MK31				IAmb			IAmb	05 38 09.2	
	comp=Z,18nm,0.9s								
MKAR	**Makanchi Array**	**44.29**	**300**	P			**P**	**05 38 08.2**	**0.0**
	comp=Z,13nm,0.7s,baz=83,slow=9.3,SNR=96								
MKAR	**Makanchi Array**	**44.29**	**300**	P			**P**	**05 38 08.3**	**+0.1**
MAKZ	**Makanchi**	**44.50**	**300**	P			**P**	**05 38 09.6**	**-0.2**
MAKZ				pmax			pmax		
	comp=Z,28nm,1.2s								
MAKZ	**Makanchi**	**44.50**	**300**	P			**P**	**05 38 09.9**	**+0.1**
KTH	**Kantishna Hill**	**44.73**	**35**	P			**P**	**05 38 13.6**	**+2.1**
KTH				IAmb			IAmb	05 38 27.8	
	comp=Z,8.3nm,0.9s								
SEM	**Semipalatinsk**	**44.83**	**306**	*e*P			**P**	**05 38 10.0**	**-2.6**
	baz=306								
SEM	**Semipalatinsk**	**44.83**	**306**	*e*P			**P**	**05 38 10.0**	**-2.6**
MLY	**Manley**	**44.84**	**33**	P			**P**	**05 38 14.9**	**+2.6**
SHL	**Shillong**	**45.17**	**268**	P			**P**	**05 38 14.4**	**-1.2**
SHL				pmax			pmax		
	comp=Z,20nm,1.0s								
SHL	**Shillong**	**45.17**	**268**	P			**P**	**05 38 14.3**	**-1.2**
SHL				IAmb			IAmb	05 38 21.6	
	comp=Z,20nm,1.0s								
I23K	**Minto, Yukon-K**	**45.42**	**33**	P			**P**	**05 38 20.0**	**+3.2**
NEA2	**Nenana**	**45.55**	**34**	P			**P**	**05 38 20.8**	**+2.9**
NEA2				IAmb			IAmb	05 38 33.4	
	comp=Z,11nm,0.9s								
KURBB	**Kurchatov Arra**	**45.86**	**306**	P			**P**	**05 38 20.2**	**-0.3**
KURBB				pmax			pmax		
	comp=Z,34nm,0.9s								
MDM	**Murphy Dome**	**45.91**	**33**	P			**P**	**05 38 22.7**	**+2.0**
MDM				IAmb			IAmb	05 38 36.1	
	comp=Z,9.3nm,0.9s								
COLA	**College**	**46.07**	**33**	⇑*e*P			P	05 38 26.8	+4.9
COLA				pmax			pmax		
	comp=Z,2.0nm,0.8s								
CCB	**Clear Creek Bu**	**46.09**	**34**	P			**P**	**05 38 24.0**	**+1.8**
POKR	**Po

BOOM	**Boomskoye usch**	**49.90**	**297**		P		**P**	**05 38 52.5**	**+0.3**
BRVK	**Borovoye**	**50.25**	**311**	*c i*	P		**P**	**05 38 54.5**	**+0.1**
BRVK					pmax		pmax		
	comp=Z,21nm,0.9s								
BRVK	**Borovoye**	**50.25**	**311**		P		**P**	**05 38 54.6**	**+0.1**
BTLS	**Baital**	**50.30**	**300**	*eP*			**P**	**05 38 52.4**	**-2.6**
	baz=300								
BTLS	**Baital**	**50.30**	**300**	*eP*			**P**	**05 38 52.4**	**-2.6**
SGDS	**Sogindy**	**50.46**	**298**	*eP*			**P**	**05 38 54.5**	**-1.8**
	baz=298								
SGDS	**Sogindy**	**50.46**	**298**	*eP*			**P**	**05 38 54.4**	**-1.8**
EPYK	**Eagle Plains**	**50.52**	**31**		P		**P**	**05 38 58.6**	**+2.2**
EPYK					IAmb		IAmb	05 39 12.5	
	comp=Z,12nm,1.1s								
FRU1	**Bishkek**	**50.69**	**297**		P		**P**	**05 38 58.8**	**+0.8**
FRU1					pmax		pmax		
	comp=Z,44nm,0.5s								
FRU1	**Bishkek**	**50.69**	**297**		P		**P**	**05 38 58.8**	**+0.8**
AAK	**Ala-Archa**	**50.84**	**297**	⇓ *eP*			**P**	**05 38 59.7**	**+0.4**
AAK					pmax		pmax		
	comp=Z,53nm,2.5s								
AAK	**Ala-Archa**	**50.84**	**297**		P		**P**	**05 38 59.2**	**-0.1**
INK	**Inuvik**	**51.40**	**28**		P		**P**	**05 39 03.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=287,slow=5.2,SNR=5.7								
INK	**Inuvik**	**51.40**	**28**		P		**P**	**05 39 03.4**	**+0.6**
ARSB	**Arslanbob**	**52.38**	**296**		P		**P**	**05 39 11.3**	**+0.5**
ARSB					pmax		pmax		
	comp=Z,31nm,1.0s								
ARSB	**Arslanbob**	**52.38**	**296**		P		**P**	**05 39 11.3**	**+0.5**
DZA	**Taraz**	**52.91**	**299**	*eP*			**P**	**05 39 13.3**	**-1.2**
	baz=298								
DZA	**Taraz**	**52.91**	**299**	*eP*			**P**	**05 39 13.3**	**-1.2**
KK31	**Karatay Array**	**53.38**	**299**	*i*	P		**P**	**05 39 17.6**	**-0.4**
KK31					pmax		pmax		
	comp=Z,8.0nm,0.9s								
KK31	**Karatay Array**	**53.38**	**299**		P		**P**	**05 39 17.6**	**-0.4**
KK31					IAmb		IAmb	05 39 18.8	
	comp=Z,10nm,0.9s								
KKAR	**Karatay Array**	**53.38**	**299**		P		**P**	**05 39 17.8**	**-0.2**
KKAR					pmax		pmax		
	comp=Z,10.0nm,1.0s								
KKAR	**Karatay Array**	**53.38**	**299**		P		**P**	**05 39 17.9**	**-0.2**
KKAR	**Karatay Array**	**53.38**	**299**		P		**P**	**05 39 17.8**	**-0.2**
KKAR					IAmb		IAmb	05 39 18.8	
	comp=Z,10nm,0.9s								
DRK	**Karamyk**	**53.95**	**295**		P		**P**	**05 39 23.2**	**+0.7**
BTK	**Batken**	**54.40**	**296**		P		**P**	**05 39 24.9**	**-0.7**
BTK					pmax		pmax		
	comp=Z,8.0nm,1.0s								
BTK	**Batken**	**54.40**	**296**		P		**P**	**05 39 24.9**	**-0.7**
BTK					IAmb		IAmb	05 39 42.0	
	comp=Z,8.1nm,1.0s								
SVE	**Sverdlovsk**	**54.43**	**318**	*eP*			**P**	**05 39 26.2**	**+0.8**
SVE					pmax		pmax		
	comp=Z,34nm,0.9s								
BKNI	**Bangkinang**	**55.01**	**236**		P		**P**	**05 39 30.8**	**+0.7**
NIL	**Nilore**	**55.48**	**288**		P		**P**	**05 39 33.8**	**+0.4**
NIL					pmax		pmax		
	comp=Z,26nm,1.0s								
NIL	**Nilore**	**55.48**	**288**		P		**P**	**05 39 33.8**	**+0.4**
ARU	**Arti**	**55.65**	**318**	*c i*	P		**P**	**05 39 34.5**	**+0.2**
ARU								05 41 35.1	
ARU					S		**S**	**05 47 21.8**	**+2.1**
ARU					pmax		pmax		
	comp=Z,39nm,0.9s								
ARU					MLR		MLR		
	comp=Z,922nm,15.0s								
ARU	**Arti**	**55.65**	**318**		P		**P**	**05 39 34.4**	**+0.2**
EUNU	**Eureka**	**57.47**	**9**		P		**P**	**05 39 47.8**	**+0.8**
EUNU					IAmb		IAmb	05 39 57.7	
	comp=Z,5.8nm,0.8s								
AB31	**Akbulak array**	**57.66**	**310**	*i*	P		**P**	**05 39 48.5**	**-0.1**
AB31					pmax		pmax		
	comp=Z,9.0nm,0.7s								
ABKAR	**Akbulak array**	**57.66**	**310**		P		**P**	**05 39 48.6**	**0.0**
KBL	**Kabul**	**58.13**	**290**		P		**P**	**05 39 51.7**	**-0.8**
KBL					pmax		pmax		
	comp=Z,13nm,0.9s								
KBL	**Kabul**	**58.13**	**290**		P		**P**	**05 39 51.7**	**-0.8**
KBL					IAmb		IAmb	05 39 53.0	
	comp=Z,13nm,0.9s								
AKTO	**Aktyubinsk**	**58.30**	**311**		P		**P**	**05 39 52.9**	**-0.2**
AKTO					pmax		pmax		
	comp=Z,11nm,0.9s								
KIRV	**Kirov**	**59.30**	**323**	*ce*	P		**P**	**05 40 00.0**	**+0.1**
PRGR	**Permogore**	**59.62**	**327**	*eP*			**P**	**05 40 01.9**	**-0.2**
PRGR				*e*				05 40 12.1	
PRGR					pmax		pmax		
	comp=Z,10.0nm,0.6s								
WRAB	**Tennant Creek**	**59.77**	**190**	⇑ *eP*			**P**	**05 40 05.1**	**+1.6**
WRAB					pmax		pmax		
	comp=Z,20nm,1.8s								
WRA	**Warramunga Arr**	**59.78**	**190**		P		**P**	**05 40 03.0**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=7.0,slow=7.3,SNR=9.9								
WRA	**Warramunga Arr**	**59.78**	**190**		P		**P**	**05 40 03.0**	**-0.6**
YKA	**Yellowknife Ar**	**60.80**	**31**		P		**P**	**05 40 10.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=304,slow=6.6,SNR=3.5								
ARCES	**ARCESS Array B**	**62.27**	**339**		P		**P**	**05 40 19.2**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=15,slow=11,SNR=4.8								
KLMR	**Klimovskoe**	**62.57**	**328**	*eP*			**P**	**05 40 20.4**	**-1.7**
KLMR					pmax		pmax		
	comp=Z,24nm,1.3s								
KLMR	**Klimovskoe**	**62.57**	**328**	*eP*			**P**	**05 40 20.4**	**-1.7**
KLMR					AMP			05 40 24.1	
	comp=Z,24nm,1.3s								
NEEM	**North Greenlan**	**62.95**	**4**	*i*	P		**P**	**05 40 24.6**	**-0.3**
NEEM					IAmb		IAmb	05 40 26.8	
	comp=Z,7.1nm,0.9s								
DAG	**Danmarks Havn**	**63.44**	**355**	*i*	P		**P**	**05 40 28.0**	**+0.3**
DAG					IAmb		IAmb	05 40 29.0	
	comp=Z,8.7nm,0.9s								
DAG	**Danmarks Havn**	**63.44**	**355**	*i*	P		**P**	**05 40 28.0**	**+0.3**
DAG					pmax		pmax		
	comp=Z,9.0nm,0.9s								
ASAR	**Alice Springs**	**63.50**	**190**		P		**P**	**05 40 28.9**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=11,slow=6.9,SNR=13								
GEYT	**Alibeck**	**64.13**	**299**		P		**P**	**05 40 32.5**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=54,slow=4.2,SNR=4.9								
VRH	**Novokhopyorsk**	**66.88**	**318**	*eP*			**P**	**05 40 49.7**	**-0.7**
VRH					pmax		pmax		
	comp=Z,10.0nm,1.0s								
OBN	**Obninsk**	**67.12**	**323**	⇓ *iP*			**P**	**05 40 52.2**	**+0.4**
OBN					*SP		**pP**	**05 40 56.0**	**+0.9**
OBN					S		S	05 49 35.0	-10
OBN					pmax		pmax		
	comp=Z,10.0nm,0.5s								
OBN					MLR		MLR		
	comp=Z,598nm,15.0s								
FINES	**FINESS Array B**	**67.41**	**333**		P		**P**	**05 40 53.7**	**+0.1**
	comp=Z,10nm,0.7s,baz=55,slow=7.9,SNR=24								
FINES	**FINESS Array B**	**67.41**	**333**		P		**P**	**05 40 53.4**	**-0.1**
FINES	**FINESS Array B**	**67.41**	**333**		P		**P**	**05 40 53.4**	**-0.1**
LPSR	**Galich'ya Gora**	**67.49**	**320**	*eP*			**P**	**05 40 53.9**	**-0.3**
LPSR					pmax		pmax		
	comp=Z,10.0nm,1.3s								
VSR	**Storozhevoye**	**68.18**	**319**	*eP*			**P**	**05 40 57.3**	**-1.3**
VSR					pmax		pmax		
	comp=Z,10.0nm,0.9s								
SUMG	**Summit**	**68.19**	**1**	*i*	P		**P**	**05 40 59.6**	**+0.8**
SUMG					IAmb		IAmb	05 41 01.2	
	comp=Z,8.5nm,1.0s								
SUMG	**Summit**	**68.19**	**1**	*i*	P		**P**	**05 40 59.6**	**+0.8**
SUMG					pmax		pmax		
	comp=Z,9.0nm,1.0s								
SUMG	**Summit**	**68.19**	**1**		P		**P**	**05 40 59.8**	**+1.0**
SUMG					IAmb		IAmb	05 41 13.4	
	comp=Z,7.1nm,0.7s								
VORD	**Divnogorie**	**68.27**	**319**	*eP*			**P**	**05 40 58.1**	**-1.0**
VORD					pmax		pmax		
	comp=Z,6.0nm,0.7s								
VSU	**Vasula**	**69.17**	**330**	*de*	P		**P**	**05 41 05.3**	**+0.7**
VSU					pmax		pmax		
	comp=Z,42nm,1.0s								
MSO	**Missoula**	**69.75**	**46**		P		**P**	**05 41 10.2**	**+1.5**
ZEI	**Tsey**	**70.54**	**310**	*eP*			**P**	**05 41 12.7**	**-0.9**
ZEI					pmax		pmax		
	comp=Z,9.0nm,0.9s								
KIV	**Kislovodsk**	**70.56**	**311**	*eP*			**P**	**05 41 15.1**	**+1.5**
KIV					pmax		pmax		
	comp=Z,129nm,1.1s								
KIV	**Kislovodsk**	**70.56**	**311**		P		**P**	**05 41 14.8**	**+1.2**
KBZ	**Khabaz**	**70.57**	**311**		P		**P**	**05 41 14.2**	**+0.7**
	comp=Z,14nm,0.8s,baz=52,slow=4.6,SNR=28								
KBZ	**Khabaz**	**70.57**	**311**	*ce*	P		**P**	**05 41 14.7**	**+1.2**
FFC	**Flin Flon**	**70.69**	**34**		P		**P**	**05 41 15.1**	**+1.0**
FFC					pmax		pmax		
	comp=Z,6.0nm,1.0s								
FFC	**Flin Flon**	**70.69**	**34**		P		**P**	**05 41 15.1**	**+1.0**
FFC					IAmb		IAmb	05 41 16.7	
	comp=Z,5.5nm,0.9s								
MNK	**Minsk**	**71.39**	**326**	*i*	P		**P**	**05 41 18.3**	**0.0**
MNK				*i*				05 41 37.2	
MNK				*i*				05 43 58.7	
MNK				*i*	PPP		PPP	05 45 37.5	
MNK				*i*	S		**S**	**05 50 37.0**	**+1.2**
MNK				*i*	SS		**SS**	**05 55 10.9**	**+1.6**
MNK					pmax		pmax		
	comp=N,21nm,1.0s								
MNK					pmax		pmax		
	comp=Z,24nm,1.3s								
MNK					pmax		pmax		
	comp=E,2.0nm,0.7s								
MNK					MLR		MLR		
	comp=N,756nm,20.0s								
MNK					MLR		MLR		
	comp=Z,637nm,22.0s								
MNK	**Minsk**	**71.39**	**326**	*i*	P		**P**	**05 41 18.4**	**+0.1**
	comp=E,2.0nm,0.7s								
MNK				*i*	P		**P**	**05 41 18.4**	**+0.1**
	comp=N,21nm,1.0s								
MNK				*i*	P		**P**	**05 41 18.4**	**+0.1**
	comp=Z,24nm,1.3s,baz=227								
MNK				*i*	PcP		**PcP**	**05 41 37.2**	**-0.7**
MNK				*i*	PP		**PP**	**05 43 58.7**	**+2.7**
MNK				*i*	PPP		PPP	05 45 37.6	
MNK				*i*	S		**S**	**05 50 37.1**	**+1.3**
MNK				*i*	SS		**SS**	**05 55 10.9**	**+1.6**
MNK				*i*	SSS		SSS	05 58 29.8	
MNK				*i*	LQ		LQ	06 08 03.1	
MNK				*i*	LR		LR	06 13 25.8	
MNK				*i*	LRM		MLR	06 16 46.3	
	comp=N,756nm,19.6s								
MNK				*i*	LRM		MLR	06 16 54.2	
	comp=Z,637nm,21.7s								
MNK				*i*	LRM		MLR	06 17 52.1	
	comp=E,307nm,22.4s								
GNI	**Garni**	**71.58**	**307**	⇑ *eP*			**P**	**05 41 21.0**	**+1.1**
GNI					pmax		pmax		
	comp=Z,5.0nm,0.9s								
GNI	**Garni**	**71.58**	**307**		P		**P**	**05 41 21.0**	**+1.1**
GNI					IAmb		IAmb	05 41 37.0	
	comp=Z,10nm,0.8s								
ICESG	**Greenland Ices**	**71.68**	**1**	*i*	P		**P**	**05 41 20.8**	**+0.5**
ICESG					IAmb		IAmb	05 41 22.8	
	comp=Z,10nm,1.0s								
NVAR	**Mina Array Bea**	**72.15**	**55**		P		**P**	**05 41 26.1**	**+2.6**
	comp=Z,1.2nm,0.7s,baz=297,slow=10,SNR=11								
NC204	**NORSAR Array S**	**72.48**	**338**		P		**P**	**05 41 24.6**	**-0.2**
NB201	**NORSAR Array S**	**72.51**	**338**		P		**P**	**05 41 25.9**	**+0.9**
NOA	**NORSAR Array B**	**72.54**	**338**		P		**P**	**05 41 25.0**	**-0.2**
	comp=Z,7.5nm,0.8s,baz=38,slow=6.0,SNR=22								
NOA					LR		LR	06 17 29.2	
	comp=Z,228nm,18.9s,baz=140,slow=39								
AKASG	**Malin Array Be**	**73.36**	**323**		P		**P**	**05 41 29.9**	**-0.2**
	comp=Z,7.0nm,0.7s,baz=45,slow=5.9,SNR=30								
AKASG	**Malin Array Be**	**73.36**	**323**	*ce*	P		**P**	**05 41 30.2**	**+0.1**
AKASG					pmax		pmax		
	comp=Z,7.0nm,0.7s								
AKASG	**Malin Array Be**	**73.36**	**323**		P		**P**	**05 41 30.0**	**-0.2**
AKBB	**Malin Array Si**	**73.36**	**323**	*ce*	P		**P**	**05 41 30.4**	**+0.3**
DY2G	**Dye2**	**74.06**	**4**	*i*	P		**P**	**05 41 35.2**	**+1.0**
DY2G					IAmb		IAmb	05 41 35.7	
	comp=Z,7.9nm,0.9s								
PDAR	**Pinedale Array**	**74.72**	**47**		P		**P**	**05 41 40.6**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=280,slow=2.4,SNR=8.5								
PDAR	**Pinedale Array**	**74.72**	**47**		P		**P**	**05 41 40.4**	**+1.8**
SIM	**Simferopol'**	**74.74**	**316**	*eP*			**P**	**05 41 40.7**	**+2.4**
SIM					pmax		pmax		
	comp=Z,26nm,0.8s								
RDMU	**Red Mountain**	**76.12**	**49**		P		**P**	**05 41 48.7**	**+2.1**
BUR08	**Bucovina Ar. S**	**77.39**	**322**		P		**P**	**05 41 54.2**	**+0.7**
BUR08					IAmb		IAmb	05 41 55.2	
	comp=Z,5.0nm,0.8s								
BURAR	**Bucovina Array**	**77.40**	**322**		P		**P**	**05 41 54.2**	**+0.7**
BURAR					IAmb		IAmb	05 41 55.5	
	comp=Z,6.4nm,0.8s								
KOLS	**Kolonicke sedl**	**77.80**	**325**	*eP*			**P**	**05 41 57.0**	**+1.4**
KOLS	**Kolonicke sedl**	**77.80**	**325**	*eP*			**P**	**05 41 57.0**	**+1.4**
OJC	**Ojcow**	**77.91**	**327**		P		**P**	**05 41 57.2**	**+1.0**
OJC					pmax		pmax		
	comp=Z,16nm,0.9s								
OJC	**Ojcow**	**77.91**	**327**		P		**P**	**05 41 57.2**	**+1.0**
UZH	**Uzhgorod**	**78.01**	**325**	*eP*			**P**	**05 41 53.9**	**-2.9**
UZH				*e*				05 42 10.5	
BRTR	**Keskin Array B**	**78.46**	**312**		P		**P**	**05 41 59.4**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=98,slow=5.1,SNR=11								
BRTR	**Keskin Array B**	**78.46**	**312**		P		**P**	**05 41 59.7**	**+0.1**
LANS	**Liptovska Anna**	**78.86**	**326**	*eP*			**P**	**05 42 03.5**	**+2.0**
LANS	**Liptovska Anna**	**78.86**	**326**	*eP*			**P**	**05 42 03.5**	**+2.0**
MORC	**Moravsky Berou**	**79.19**	**328**	*eP*			**P**	**05 42 04.1**	**+0.7**
MORC	**Moravsky Berou**	**79.19**	**328**		P		**P**	**05 42 04.2**	**+0.9**
MORC					pmax		pmax		
	comp=Z,10.0nm,1.0s								
MORC	**Moravsky Berou**	**79.19**	**328**		P		**P**	**05 42 04.2**	**+0.9**
MORC					IAmb		IAmb	05 42 05.4	
	comp=Z,9.9nm,1.0s								
DPC	**Dobruska-Polom**	**79.24**	**329**	*eP*			**P**	**05 42 04.4**	**+0.8**
DPC	**Dobruska-Polom**	**79.24**	**329**	*eP*			**P**	**05 42 04.4**	**+0.8**
KRLC	**Kraliky**	**79.27**	**328**	*eP*			**P**	**05 42 03.9**	**+0.1**
KRLC	**Kraliky**	**79.27**	**328**	*eP*			**P**	**05 42 03.9**	**+0.1**
PSZ	**Piszkesteto**	**79.61**	**325**		P		**P**	**05 42 05.7**	**0.0**
PSZ	**Piszkesteto**	**79.61**	**325**		P		**P**	**05 42 05.7**	**0.0**
PSZ					IAmb		IAmb	05 42 08.0	
	comp=Z,10nm,1.0s								
CLL	**Collm**	**79.77**	**331**	*eP*			**P**	**05 42 07.0**	**+0.6**
	comp=Z,11nm,1.1s								
CLL				*e*				05 42 25.0	
CLL	**Collm**	**79.77**	**331**	*eP*			**P**	**05 42 07.0**	**+0.6**
CLL					pmax		pmax		
	comp=Z,11nm,1.1s								
JAVC	**Velka Javorina**	**79.85**	**327**	*eP*			**P**	**05 42 08.9**	**+1.9**
VRAC	**Vranov**	**79.94**	**328**	*eP*			**P**	**05 42 08.6**	**+1.2**
SMOL	**Smolenice**	**80.21**	**327**	*eP*			**P**	**05 42 10.2**	**+1.3**
SMOL	**Smolenice**	**80.21**	**327**	*eP*			**P**	**05 42 10.2**	**+1.3**
KRUC	**Moravsky**	**80.22**	**328**	*eP*			**P**	**05 42 09.9**	**+1.0**
PRU	**Pruhonice**	**80.23**	**329**	*eP*			**P**	**05 42 10.4**	**+1.5**
PRU	**Pruhonice**	**80.23**	**329**	*eP*			**P**	**05 42 10.4**	**+1.5**
MODS	**Modra-Piesok**	**80.39**	**327**	*eP*			**P**	**05 42 10.8**	**+1.0**
MODS	**Modra-Piesok**	**80.39**	**327**	*eP*			**P**	**05 42 10.8**	**+1.0**
RAYN	**Ar Rayn**	**81.27**	**293**		P		**P**	**05 42 15.4**	**+0.4**
RAYN					pmax		pmax		
	comp=Z,5.0nm,0.9s								
RAYN	**Ar Rayn**	**81.27**	**293**		P		**P**	**05 42 15.4**	**+0.4**
KHC	**Kasperske Hory**	**81.30**	**329**	*eP*			**P**	**05 42 15.2**	**+0.5**
KHC	**Kasperske Hory**	**81.30**	**329**	*eP*			**P**	**05 42 15.2**	**+0.5**
CONA	**Conrad Observa**	**81.33**	**327**	*eP*			**P**	**05 42 15.9**	**+1.0**
	comp=Z,6.8nm,1.0s								
GERES	**GERESS Array B**	**81.48**	**329**		P		**P**	**05 42 15.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=45,slow=5.8,SNR=11								
GERES	**GERESS Array B**	**81.48**	**329**		P		**P**	**05 42 16.5**	**+0.7**
ARSA	**Arzberg**	**82.00**	**327**	*eP*			**P**	**05 42 19.7**	**+1.3**
	comp=Z,3.2nm,0.8s								
VTS	**Vitosha**	**82.00**	**320**		P		**P**	**05 42 19.3**	**+0.6**
VTS					pmax		pmax		
	comp=Z,7.0nm,0.9s								
VTS	**Vitosha**	**82.00**	**320**		P		**P**	**05 42 19.3**	**+0.6**
VTS					IAmb		IAmb	05 42 20.8	
	comp=Z,6.5nm,0.9s								
DIVS	**Divibare**	**82.46**	**323**		P		**P**	**05 42 21.1**	**+0.1**
SOKA	**Soboth**	**82.66**	**327**	*eP*			**P**	**05 42 22.7**	**+0.7**
	comp=Z,11nm,1.0s								
OBKA	**Obir**	**83.00**	**327**	*eP*			**P**	**05 42 24.3**	**+0.6**
	comp=Z,4.7nm,0.8s								
KBA	**Koelnbreinsper**	**83.04**	**328**	*eP*			**P**	**05 42 25.4**	**+1.3**
	comp=Z,7.3nm,0.8s								
WTTA	**Wattenberg**	**83.57**	**329**	*eP*			**P**	**05 42 28.5**	**+1.6**
	comp=Z,1.9nm,0.5s								
ABTA	**Abfaltersbach**	**83.64**	**329**	*eP*			**P**	**05 42 27.7**	**+0.6**
	comp=Z,3.1nm,0.9s								
MOTA	**Moosalm**	**83.72**	**330**	*eP*			**P**	**05 42 28.3**	**+0.7**
	comp=Z,12nm,1.1s								
RETA	**Reutte**	**83.73**	**330**	*eP*			**P**	**05 42 29.3**	**+1.8**
	comp=Z,8.9nm,1.0s								
FETA	**Feichten**	**84.13**	**330**	*eP*			**P**	**05 42 31.1**	**+1.5**
	comp=Z,8.0nm,1.1s								
DAVA	**Damuels**	**84.24**	**330**	*eP*			**P**	**05 42 31.6**	**+1.4**
	comp=Z,10nm,1.0s								
TUE	**Stuetta**	**85.12**	**330**		P		**P**	**05 42 35.2**	**+0.5**
TUE					IAmb		IAmb	05 42 36.4	
	comp=Z,7.7nm,0.9s								
TXAR	**Lajitas Array**	**87.27**	**54**		P		**P**	**05 42 45.7**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=131,slow=10,SNR=7.9								
TXAR	**Lajitas Array**	**87.27**	**54**		P		**P**	**05 42 46.2**	**+0.8**
ESDC	**Sonseca Array**	**95.78**	**335**		P		**P**	**05 43 24.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=321,slow=3.3,SNR=2.5								
SNAA	**Sanae**	**143.62**	**197**		PKPdf		**PKPdf**	**05 49 32.9**	**+0.6**
LPAZ	**La Paz**	**143.96**	**59**		PKP		**PKPdf**	**05 49 35.7**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=270,slow=8.1,SNR=2.7								
VNA2	**Neumayer--Watz**	**145.18**	**196**		PKPdf		**PKPdf**	**05 49 35.0**	**+0.1**
	baz=126,slow=4.1								
VNA3	**Neumayer Olymp**	**145.40**	**195**		PKPdf		**PKPab**	**05 49 35.5**	**0.0**
VNA1	**Neumayer--Stat**	**145.57**	**196**		PKPdf		**PKPab**	**05 49 36.4**	**+0.4**

RSNC 11 05:35:55.6±1.2,6°80N×73°13W,h142km±4km,ML3.7, Mw3.9,12C-13D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**194**	⇓ *iP*			Pn	05 36 15.4	+0.1
BARC				*eS*			Sn	05 36 29.3	-1.0
BARC				*i*				05 36 31.7	
	comp=Z,910nm,0.2s								
BRRC	**Barranca, Sant**	**0.65**	**298**	⇓ *iP*			Pn	05 36 17.2	+0.3
BRRC				*eS*			Sn	05 36 33.6	+0.4
BRRC				*i*				05 36 39.0	
	comp=Z,841nm,0.2s								
PAMC	**Pamplona, Colo**	**0.68**	**39**	⇓ *eP*			Pn	05 36 18.2	+0.4
PAMC				*eS*			Sn	05 36 34.6	0.0
PAMC				*i*				05 36 37.2	
	comp=Z,2μm,0.5s								
RUSC	**La Rusia**	**0.91**	**177**	⇓ *eP*			Pn	05 36 19.3	-0.1
RUSC				*eS*			Sn	05 36 37.3	-0.3
RUSC				*i*				05 36 39.7	
	comp=Z,798nm,0.4s								
OCAC	**Ocana**	**1.44**	**352**	⇑ *iP*			Pn	05 36 23.7	-0.5
OCAC				*eS*			Sn	05 36 44.3	-1.7
OCAC				*i*				05 36 48.5	
	comp=Z,1μm,0.4s								
SPBC	**San Pablo de B**	**1.48**	**219**	*eP*			Pn	05 36 24.4	-0.1
SPBC				*eS*			Sn	05 36 45.8	-0.8
SPBC				*i*				05 36 53.3	
	comp=Z,685nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	⇓ *eP*			Pn	05 36 28.0	-0.5
ZARC				*eS*			Sn	05 36 53.1	-0.6
ZARC				*i*				05 36 59.8	
	comp=Z,649nm,0.3s								
NORC	**Norcasia**	**2.12**	**235**	⇑ *eP*			Pn	05 36 31.1	-0.7
NORC				*eS*			Sn	05 36 59.2	-0.4
NORC				*i*				05 37 01.3	
	comp=Z,363nm,0.4s								
SMLC	**San Martn de**	**2.19**	**335**	⇑ *eP*			Pn	05 36 31.4	-1.2
SMLC				*eS*			Sn	05 37 00.0	-1.1
SMLC				*i*				05 37 03.0	
	comp=Z,355nm,0.6s								
CHIC	**Chingaza**	**2.24**	**196**	⇑ *eP*			Pn	05 36 33.4	-0.2
CHIC				*eS*			Sn	05 37 01.3	-1.5
CHIC				*i*				05 37 06.5	
	comp=Z,194nm,0.3s								
HELC	**Santa Helena**	**2.46**	**256**	*eP*			Pn	05 36 35.9	-0.4
HELC				*eS*			Sn	05 37 06.4	-1.1
HELC				*i*				05 37 15.9	
	comp=Z,280nm,0.5s								
UREC	**San Jos de Ur**	**2.56**	**292**	*eP*			Pn	05 36 35.7	-1.5
UREC				*eS*			Sn	05 37 05.8	-3.4
UREC				*i*				05 37 09.1	
	comp=Z,423nm,0.1s								
SOCV	**Socops**	**2.69**	**57**	⇑ *eP*			Pn	05 36 38.2	-0.6
SOCV				*eS*			Sn	05 37 08.9	-3.2
GUY2C	**Guyana, Caldas**	**2.72**	**235**	*eP*			Pn	05 36 39.8	+0.2
GUY2C				*eS*			Sn	05 37 13.2	-0.2
GUY2C				*i*				05 37 24.9	
	comp=Z,219nm,0.6s								
VILC	**Villavicencio,**	**2.73**	**192**	*eP*			Pn	05 36 39.0

GCUF	**Volcan Galeras**	**6.96**	**217**	*e*P		Pn	05 37 37.0	+1.4

*ATH **11** 05:44:38.5, 39°.31N×19°.88E, h43km±3km, ML3.0/24, Error ellipse: s-maj=3.8km s-min=1.2km az=314.0*
*THE **11** 05:44:39.4, 39°.29N×19°.87E, h13km±1km, ML3.0/18, Error ellipse: s-maj=1.3km s-min=0.6km az=79.0*
*TIR **11** 05:44:39.1, 39°.30N×19°.92E, h15km±1km, Md3.4, Ml3.5*

ISC 11 05:44:38.6±1.2, **39°.28N**±0°.02×**19°.84E**±0°.04, **h14**km±8km, **n77**, σ0**°57**/109, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.43**	**356**	P	**Pb**	**05 44 48.8**	**+0.7**
KEK				S	**Sb**	**05 44 54.9**	**+0.4**
KEK				AML	AML	05 44 57.4	
	comp=E,3428μm,0.3s						
KEK				AML	AML	05 44 58.8	
	comp=N,3510μm,0.5s						
KEK	**Kerkira**	**0.43**	**356**	P	**Pb**	**05 44 48.2**	**+0.1**
KEK				S	**Sb**	**05 44 54.3**	**-0.2**
	comp=N,2μm,0.5s						
IGT	**Igoumenitsa**	**0.46**	**56**	P	**Pg**	**05 44 47.7**	**0.0**
IGT				S	**Sb**	**05 44 54.5**	**-0.6**
IGT				AML	AML	05 44 55.9	
	comp=E,3476μm,0.2s						
IGT				AML	AML	05 44 56.6	
	comp=N,3505μm,0.2s						
IGT	**Igoumenitsa**	**0.46**	**56**	P	**Pg**	**05 44 47.8**	**0.0**
IGT				S	**Sb**	**05 44 54.4**	**-0.7**
	comp=N,2μm,0.2s						
IGT	**Igoumenitsa**	**0.46**	**56**	P	**Pg**	**05 44 47.7**	**0.0**
	baz=53						
IGT				S	**Sg**	**05 44 53.6**	**-0.3**
	baz=53						
KASA	**Kassiopi**	**0.47**	**9**	P	**Pb**	**05 44 48.7**	**0.0**
KASA				S	**Sb**	**05 44 56.0**	**+0.5**
KASA				AML	AML	05 44 57.2	
	comp=E,5264μm,0.2s						
KASA				AML	AML	05 44 57.6	
	comp=N,6116μm,0.3s						
SRN	**Sarande**	**0.61**	**12**	P	**Pg**	**05 44 50.6**	**0.0**
SRN				S	**Sb**	**05 44 59.9**	**+0.3**
	comp=N,3μm,0.4s						
SRN	**Sarande**	**0.61**	**12**	P	**Pg**	**05 44 50.9**	**+0.3**
	baz=6.0						
SRN				S	**Sg**	**05 44 58.6**	**-0.1**
	baz=6.0						
SRN				AMP			
	comp=N,9.4nm,0.2s,baz=6.0						
TSLK	**Tsoukalades, L**	**0.78**	**125**	P	**Pb**	**05 44 54.5**	**+0.6**
TSLK				S	**Sn**	**05 45 05.9**	**-0.8**
TSLK	**Tsoukalades, L**	**0.78**	**125**	P	**Pb**	**05 44 54.5**	**+0.6**
TSLK				S	**Sb**	**05 45 04.9**	**+0.5**
	comp=N,2μm,0.5s						
LKD2	**Lefkada island**	**0.80**	**127**	P	**Pb**	**05 44 54.8**	**+0.4**
LKD2				S	**Sb**	**05 45 05.9**	**+0.8**
LKD2				AML	AML	05 45 09.2	
	comp=E,1881μm,0.2s						
LKD2				AML	AML	05 45 12.0	
	comp=N,2022μm,0.5s						
LKD2	**Lefkada island**	**0.80**	**127**	P	**Pb**	**05 44 54.7**	**+0.4**
LKD2				S	**Sn**	**05 45 06.4**	**-0.9**
	comp=N,965nm,0.3s						
LKD2	**Lefkada island**	**0.80**	**127**	P	**Pg**	**05 44 54.6**	**+0.4**
	baz=131						
LKD2				S	**Sb**	**05 45 05.9**	**+0.8**
	baz=131						
DRAG	**Dragano-Lefkad**	**0.82**	**136**	P	**Pg**	**05 44 55.0**	**+0.4**
DRAG				S	**Sb**	**05 45 07.0**	**+1.3**
DRAG	**Dragano-Lefkad**	**0.82**	**136**	P	**Pg**	**05 44 55.0**	**+0.4**
DRAG				S	**Sn**	**05 45 07.2**	**-0.6**
	comp=N,4μm,0.2s						
JAN	**Janina**	**0.87**	**64**	P	**Pg**	**05 44 54.6**	**-0.8**
JAN				S	**Sg**	**05 45 06.1**	**-0.8**
JAN				AML	AML	05 45 07.4	
	comp=E,2804μm,0.3s						
JAN				AML	AML	05 45 07.7	
	comp=N,2536μm,0.3s						
JAN	**Janina**	**0.87**	**64**	P	**Pg**	**05 44 54.7**	**-0.7**
JAN				S	**Sb**	**05 45 07.1**	**+0.1**
	comp=N,1μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.88**	**130**	P	**Pb**	**05 44 55.6**	**+0.1**
NYDR				S	**Sg**	**05 45 07.5**	**+0.5**
NYDR	**Nydri-Lefkada**	**0.88**	**130**	P	**Pb**	**05 44 55.7**	**+0.1**
NYDR				S	**Sn**	**05 45 08.4**	**-0.6**
	comp=N,605nm,0.4s						
EVGI	**Lefkada island**	**0.92**	**136**	P	**Pb**	**05 44 56.3**	**+0.1**
EVGI	**Lefkada island**	**0.92**	**136**	P	**Pb**	**05 44 56.2**	**0.0**
EVGI				S	**Sn**	**05 45 10.0**	**0.0**
	comp=N,722nm,0.3s						
FSK	**Fiskardo**	**0.99**	**145**	P	**Pb**	**05 44 57.6**	**0.0**
FSK				S	**Sb**	**05 45 10.3**	**-0.2**
FSK				AML	AML	05 45 13.6	
	comp=E,1957μm,0.2s						
FSK				AML	AML	05 45 15.8	
	comp=N,744μm,0.2s						
FSK	**Fiskardo**	**0.99**	**145**	P	**Pb**	**05 44 57.6**	**0.0**
FSK				S	**Sb**	**05 45 10.8**	**+0.3**
	comp=N,705nm,0.2s						
LSK	**Leskovik**	**1.05**	**34**	P	**Pb**	**05 44 57.8**	**-0.8**
LSK				S	**Sg**	**05 45 12.3**	**-0.2**
	comp=N,2μm,0.7s						
LSK	**Leskovik**	**1.05**	**34**	P	**Pb**	**05 44 58.3**	**-0.3**
	baz=31						
LSK				S	**Sg**	**05 45 12.3**	**-0.2**
	baz=31						
LSK				AMP			
	comp=E,6.9nm,0.6s,baz=31						
KEF5	**Kardakata, Kep**	**1.11**	**154**	P	**Pb**	**05 44 59.6**	**0.0**
KEF5	**Kardakata, Kep**	**1.11**	**154**	P	**Pb**	**05 44 59.3**	**-0.3**
KEF4	**Livadi, Kephal**	**1.12**	**156**	P	**Pb**	**05 44 59.5**	**-0.2**
DMLN	**Damoulianata-K**	**1.12**	**158**	P	**Pb**	**05 44 59.5**	**-0.2**
DMLN	**Damoulianata-K**	**1.12**	**158**	P	**Pb**	**05 44 59.6**	**-0.2**
KEF3	**Kipouria, Keph**	**1.15**	**160**	P	**Pn**	**05 44 59.9**	**-0.3**
VLS	**Valsamata**	**1.25**	**152**	P	**Pn**	**05 45 01.1**	**-0.6**
VLS				AML	AML	05 45 28.1	
	comp=E,965μm,0.3s						
VLS				AML	AML	05 45 30.3	
	comp=N,1293μm,0.5s						
VLS	**Valsamata**	**1.25**	**152**	P	**Pn**	**05 45 01.0**	**-0.6**
PDO	**Prodromos**	**1.25**	**123**	P	**Pn**	**05 45 01.5**	**-0.2**
PDO				AML	AML	05 45 25.1	
	comp=E,1000μm,0.3s						
PDO				AML	AML	05 45 27.2	
	comp=N,1353μm,0.4s						
PDO	**Prodromos**	**1.25**	**123**	P	**Pn**	**05 45 01.4**	**-0.2**
PSDA	**Pessada-Kefalo**	**1.30**	**153**	P	**Pn**	**05 45 02.0**	**-0.3**
PSDA	**Pessada-Kefalo**	**1.30**	**153**	P	**Pn**	**05 45 02.0**	**-0.3**
KPRO	**Kipourio**	**1.36**	**60**	P	**Pn**	**05 45 03.0**	**-0.2**
KPRO				AML	AML	05 45 23.2	
	comp=E,1178μm,0.4s						
KPRO				AML	AML	05 45 29.8	
	comp=N,1128μm,0.7s						
KPRO	**Kipourio**	**1.36**	**60**	P	**Pn**	**05 45 03.0**	**-0.2**
KPRO				S	**Sg**	**05 45 21.7**	**-0.6**
	comp=N,575nm,0.5s						
PENT	**Pentalofos**	**1.36**	**47**	P	**Pb**	**05 45 03.7**	**-0.1**
PENT				AML	AML	05 45 25.6	
	comp=N,695μm,0.6s						
PENT				AML	AML	05 45 25.6	
	comp=E,516μm,0.3s						
PENT	**Pentalofos**	**1.36**	**47**	P	**Pb**	**05 45 03.9**	**+0.1**
NEST	**Nestorio**	**1.47**	**39**	P	**Pb**	**05 45 05.8**	**+0.1**
NEST				AML	AML	05 45 29.6	
	comp=E,1230μm,0.4s						
NEST				AML	AML	05 45 30.3	
	comp=N,940μm,0.4s						
NEST	**Nestorio**	**1.47**	**39**	P	**Pb**	**05 45 05.8**	**+0.1**
NEST				S	**Sb**	**05 45 24.2**	**-0.1**
	comp=N,400nm,0.6s						
PVO	**Paravola**	**1.47**	**116**	P	**Pn**	**05 45 04.7**	**+0.1**
PVO				AML	AML	05 45 27.5	
	comp=N,1047μm,0.6s						
PVO				AML	AML	05 45 29.6	
	comp=E,925μm,0.6s						
PVO	**Paravola**	**1.47**	**116**	P	**Pn**	**05 45 04.8**	**+0.1**
PVO				S	**Sb**	**05 45 24.9**	**+0.6**
	comp=E,482nm,0.6s						
KBN	**Korca**	**1.53**	**28**	P	**Pn**	**05 45 06.0**	**+0.5**
KBN				S	**Sb**	**05 45 25.6**	**-0.4**
	comp=E,398nm,0.5s						
KBN	**Korca**	**1.53**	**28**	P	**Pb**	**05 45 07.2**	**+0.5**
	baz=26						
KBN				S	**Sg**	**05 45 28.3**	**+0.5**
	baz=26						
VLMS	**Volimes, Zakyn**	**1.54**	**155**	P	**Pn**	**05 45 05.1**	**-0.6**
VLMS				AML	AML	05 45 42.3	
	comp=N,1609μm,0.5s						
VLMS				AML	AML	05 45 44.1	
	comp=E,868μm,0.4s						
VLMS	**Volimes, Zakyn**	**1.54**	**155**	P	**Pn**	**05 45 05.0**	**-0.6**
EVR	**Evrytania**	**1.57**	**103**	P	**Pb**	**05 45 07.2**	**-0.3**
EVR				AML	AML	05 45 31.4	
	comp=N,441μm,0.5s						
EVR				AML	AML	05 45 35.3	
	comp=E,302μm,0.4s						
EVR	**Evrytania**	**1.57**	**103**	P	**Pb**	**05 45 07.1**	**-0.4**
EVR				S	**Sn**	**05 45 26.5**	**+0.1**
	comp=E,188nm,0.4s						
THL	**Klokotos Trika**	**1.71**	**80**	P	**Pn**	**05 45 07.9**	**0.0**
THL				AML	AML	05 45 36.4	
	comp=E,331μm,0.3s						
THL				AML	AML	05 45 37.9	
	comp=N,258μm,0.4s						
THL	**Klokotos Trika**	**1.71**	**80**	P	**Pn**	**05 45 07.7**	**-0.2**
THL				S	**Sn**	**05 45 29.7**	**+0.1**
	comp=N,152nm,0.5s						
LTHK	**Lithakia**	**1.75**	**153**	P	**Pb**	**05 45 10.2**	**-0.3**
LTHK				AML	AML	05 45 43.1	
	comp=E,567μm,0.3s						
LTHK				AML	AML	05 45 46.8	
	comp=N,700μm,0.4s						
ANX	**Ano Chora**	**1.76**	**112**	P	**Pn**	**05 45 09.6**	**+0.9**
ANX				AML	AML	05 45 44.4	
	comp=E,668μm,0.4s						
ANX				AML	AML	05 45 44.8	
	comp=N,580μm,0.4s						
ANX	**Ano Chora**	**1.76**	**112**	P	**Pn**	**05 45 09.5**	**+0.7**
RLS	**Riolos of Patr**	**1.76**	**133**	P	**Pn**	**05 45 09.4**	**+0.7**
RLS				AML	AML	05 45 46.2	
	comp=N,285μm,0.7s						
RLS				AML	AML	05 45 46.3	
	comp=E,302μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.80**	**98**	P	**Pn**	**05 45 10.1**	**+0.8**
MAKR				AML	AML	05 45 39.5	
	comp=N,882μm,0.3s						
MAKR				AML	AML	05 45 40.6	
	comp=E,1474μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.80**	**98**	P	**Pn**	**05 45 10.4**	**+1.1**
EFP	**Efpalio**	**1.82**	**117**	P	**Pn**	**05 45 10.2**	**+0.7**
EFP				AML	AML	05 45 46.2	
	comp=E,436μm,0.6s						
EFP				AML	AML	05 45 47.8	
	comp=N,360μm,0.4s						
EFP	**Efpalio**	**1.82**	**117**	P	**Pn**	**05 45 10.2**	**+0.7**
FNA	**Florina**	**1.91**	**38**	P	**Pn**	**05 45 11.4**	**+0.6**
FNA				AML	AML	05 45 40.3	
	comp=N,864μm,0.6s						
FNA				AML	AML	05 45 44.3	
	comp=E,1432μm,0.5s						
FNA	**Florina**	**1.91**	**38**	P	**Pn**	**05 45 11.0**	**+0.2**
FNA	**Florina**	**1.91**	**38**	P	**Pb**	**05 45 14.1**	**+0.9**
	baz=36						
SERG	**Sergoula**	**1.94**	**116**	P	**Pn**	**05 45 11.3**	**+0.2**
SERG				AML	AML	05 45 49.9	
	comp=N,430μm,0.4s						
SERG				AML	AML	05 45 51.2	
	comp=E,370μm,0.4s						
AGG	**Agios Georgios**	**1.95**	**97**	P	**Pn**	**05 45 12.1**	**+0.8**
AGG				AML	AML	05 45 43.9	
	comp=N,507μm,0.5s						
AGG				AML	AML	05 45 46.0	
	comp=E,437μm,0.3s						
AGG	**Agios Georgios**	**1.95**	**97**	P	**Pn**	**05 45 12.0**	**+0.7**
AGG				S	**Sn**	**05 45 36.5**	**+0.8**
	comp=E,240nm,0.4s						
LAKA	**Lakka**	**1.97**	**121**	P	**Pn**	**05 45 12.1**	**+0.6**
LAKA	**Lakka**	**1.97**	**121**	P	**Pn**	**05 45 11.7**	**+0.2**
TRIZ	**Trizonia**	**1.97**	**117**	P	**Pn**	**05 45 12.3**	**+0.8**
TRIZ	**Trizonia**	**1.97**	**117**	P	**Pn**	**05 45 12.5**	**+1.0**
DRO	**Drossia**	**1.98**	**132**	P	**Pn**	**05 45 12.7**	**+1.1**
DRO				AML	AML	05 45 57.9	
	comp=E,452μm,0.6s						
DRO				AML	AML	05 45 57.9	
	comp=N,462μm,0.5s						
KLV	**Kalavryta, Ach**	**2.19**	**124**	P	**Pn**	**05 45 15.5**	**+0.9**
LIT	**Litokhoron**	**2.20**	**67**	P	**Pn**	**05 45 14.2**	**-0.6**
STIP	**Stip**	**3.00**	**36**	*e*Pn	**Pn**	**05 45 27.1**	**+1.4**
SOKA	**Soboth**	**8.19**	**336**	*i* Pn	**Pn**	**05 46 35.0**	**-2.0**
	comp=N,1.6nm,0.3s						
OBKA	**Obir**	**8.20**	**333**	*e*Pn	**Pn**	**05 46 37.5**	**+0.3**
	comp=N,1.2nm,0.2s						

*ISK **11** 05:55:02.7, 34°.66N×26°.56E, h38km, ML3.2/6*
*DDA **11** 05:55:02.7, 34°.94N×26°.86E, h7km±4km, MW3.4*
*ATH **11** 05:55:07.5, 35°.10N×26°.67E, h9km±4km, ML2.9/5, Error ellipse: s-maj=5.5km s-min=1.8km az=182.0*
*THE **11** 05:55:07.3, 35°.06N×26°.61E, h0km±1km, ML2.8/6, Error ellipse: s-maj=4.3km s-min=1.1km az=163.0*

ISC 11 05:55:05.4±1.5, **34°.95N**±0°.08×**26°.73E**±0°.03, **h9**km±10km, **n42**, σ1**°03**/59, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.45**	**291**	P	**Pg**	**05 55 14.5**	**+0.4**
ZKR				S	**Sg**	**05 55 20.8**	**+0.8**
ZKR				AML	AML	05 55 22.3	
	comp=N,2778μm,0.4s						
ZKR				AML	AML	05 55 24.7	
	comp=E,4356μm,0.3s						
ZKR	**Zakros**	**0.45**	**291**	P	**Pg**	**05 55 14.4**	**+0.3**
ZKR				S	**Sg**	**05 55 20.2**	**+0.2**
	comp=E,2μm,0.3s						
ZKR	**Zakros**	**0.45**	**291**	PG	**Pg**	**05 55 14.3**	**+0.2**
ZKR				SG	**Sb**	**05 55 22.7**	**+0.5**
STIA	**Sitia Lasithi**	**0.58**	**296**	P	**Pg**	**05 55 15.5**	**-1.1**
STIA				S	**Sg**	**05 55 23.9**	**-0.3**
FRMA	**Ierapetra Chan**	**0.82**	**275**	P	**Pg**	**05 55 19.1**	**-2.0**
FRMA				S	**Sg**	**05 55 30.5**	**-1.3**
	comp=E,438nm,0.4s						
NPS	**Neapolis**	**0.96**	**289**	P	**Pg**	**05 55 24.0**	**+0.1**
NPS				S	**Sb**	**05 55 36.9**	**-0.2**
NPS				AML	AML	05 55 44.3	
	comp=N,1574μm,0.9s						
NPS				AML	AML	05 55 47.1	
	comp=E,2960μm,0.6s						
NPS	**Neapolis**	**0.96**	**289**	P	**Pg**	**05 55 24.1**	**+0.1**
NPS				S	**Sb**	**05 55 37.6**	**+0.5**
	comp=E,1μm,0.6s						
LAST	**Lasithi**	**1.04**	**282**	P	**Pg**	**05 55 25.0**	**-0.5**
LAST				S	**Sg**	**05 55 39.4**	**+0.3**
LAST				AML	AML	05 55 45.6	
	comp=N,492μm,0.5s						
LAST				AML	AML	05 55 48.2	
	comp=E,1052μm,0.6s						
LAST	**Lasithi**	**1.04**	**282**	P	**Pg**	**05 55 24.8**	**-0.7**
LAST				S	**Sb**	**05 55 39.9**	**+0.4**
	comp=E,542nm,0.6s						
IDI	**Anoyia**	**1.54**	**283**	P	**Pn**	**05 55 34.2**	**+1.2**
IDI	**Anoyia**	**1.54**	**283**	P	**Pn**	**05 55 34.1**	**+1.0**
SIVA	**Sivas**	**1.57**	**273**	P	**Pn**	**05 55 34.8**	**+1.4**
SIVA				AML	AML	05 56 10.0	
	comp=E,1114μm,0.5s						
SIVA				AML	AML	05 56 17.2	
	comp=N,629μm,0.6s						
ARG	**Arkhangelos**	**1.70**	**42**	P	**Pn**	**05 55 37.0**	**+1.9**
ARG				AML	AML	05 56 01.3	
	comp=E,420μm,0.5s						
ARG				AML	AML	05 56 07.4	
	comp=N,529μm,0.6s						
ARG	**Arkhangelos**	**1.70**	**42**	P	**Pn**	**05 55 37.0**	**+1.9**
ARG				S	**Sb**	**05 55 59.7**	**+1.5**
	comp=N,278nm,0.5s						
ARG	**Arkhangelos**	**1.70**	**42**	PN	**Pn**	**05 55 35.2**	**0.0**
ARG				SN	**Sb**	**05 55 58.9**	**+0.7**
SANT	**Santorini**	**1.75**	**324**	P	**Pn**	**05 55 36.2**	**+0.3**
SANT	**Santorini**	**1.75**	**324**	PN	**Pn**	**05 55 34.0**	**-1.9**
SANT				SN	**Sn**	**05 55 57.0**	**-1.4**
THR9	**Santorini-Faro**	**1.79**	**322**	P	**Pb**	**05 55 37.7**	**-0.6**
KOSK	**Kos Island**	**1.81**	**6**	PN	**Pn**	**05 55 36.7**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.81**	**324**	P	**Pn**	**05 55 36.9**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.81**	**324**	P	**Pn**	**05 55 36.8**	**+0.2**
DAT	**Datca**	**1.90**	**21**	*i* P	**Pn**	**05 55 38.2**	**+0.2**
DAT				*i* S	**Sb**	**05 56 03.7**	**-0.5**
DAT				IAML		05 56 11.0	
	comp=E,34nm,1.0s						
DAT	**Datca**	**1.90**	**21**	PN	**Pn**	**05 55 38.3**	**+0.2**
VAM	**Vamos**	**2.12**	**283**	P	**Pb**	**05 55 44.9**	**+0.9**
BODT	**Bodrum**	**2.16**	**12**	PN	**Pn**	**05 55 41.7**	**+0.2**
BDRM	**Kayabasi**	**2.19**	**15**	*i* P	**Pn**	**05 55 42.2**	**+0.3**
TURN	**Turunc**	**2.20**	**34**	*i* P	**Pn**	**05 55 42.1**	**+0.1**
TURN				*i* S	**Sn**	**05 56 11.2**	**+1.9**
TURN				IAML		05 56 22.0	
	comp=N,42nm,0.6s						
TURN	**Turunc**	**2.20**	**34**	PN	**Pn**	**05 55 42.4**	**+0.4**
APE	**Apeiranthos**	**2.32**	**336**	P	**Pn**	**05 55 43.5**	**-0.3**
APE				S	**Sn**	**05 56 11.6**	**-0.9**
	comp=N,135nm,0.6s						
APE	**Apeiranthos**	**2.32**	**336**	PN	**Pn**	**05 55 42.9**	**-0.9**
DALY	**Dalyan (Mula)**	**2.43**	**40**	*i* P	**Pn**	**05 55 45.9**	**+0.7**
DALY				*i* S	**Sb**	**05 56 21.5**	**+2.2**
DALY				IAML		05 56 33.0	
	comp=N,50nm,0.5s						
DALY	**Dalyan (Mula)**	**2.43**	**40**	PN	**Pn**	**05 55 45.7**	**+0.5**
FETY	**Fethiye**	**2.55**	**48**	*i* P	**Pn**	**05 55 45.2**	**-1.7**
FETY	**Fethiye**	**2.55**	**48**	PN	**Pn**	**05 55 46.4**	**-0.4**
AKAS	**Kas**	**2.67**	**61**	*i* P	**Pn**	**05 55 46.7**	**-2.0**
AKAS				*i* S	**Sn**	**05 56 18.4**	**-2.8**
AKAS				IAML		05 56 42.0	
	comp=N,29nm,0.7s						
AKAS	**Kas**	**2.67**	**61**	PN	**Pn**	**05 55 48.4**	**-0.2**
AYDN	**Tasoluk**	**2.86**	**19**	*i* P	**Pn**	**05 55 51.1**	**-0.1**
CAME	**Cameli-Denizli**	**2.88**	**46**	PN	**Pn**	**05 55 51.9**	**+0.3**
TAVA	**DENIZLI_Tavas**	**3.07**	**35**	*i* P	**Pn**	**05 55 54.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.13**	**17**	PN	**Pn**	**05 55 55.7**	**+0.7**
GOLH	**Golhisar**	**3.23**	**44**	*i* P	**Pn**	**05 55 56.9**	**+0.6**
VLI	**Veliai**	**3.55**	**301**	P	**Pn**	**05 56 01.2**	**+0.6**

*DNK **11** 05:59:24.8±0.7, 60°.03N×24°.58E, h0km, ML2.4(UPP), Suspected explosion*
*UPP **11** 05:59:26.4±2.5, 60°.05N×24°.39E, h0km, ML2.4, Suspected explosion*
*HEL **11** 05:59:27.9±0.1, 59°.97N×24°.20E, h0km, ML2.0, ML2.4(UPP), Explosion*
*HEL **11** 05:59:27.9, 59°.97N×24°.21E, h0km, ML2.0, Explosion*
*IDC **11** 05:59:30.0±2.0, 60°.16N×24°.01E, h0km, mb1 3.0/3, mb1mx2.8/39, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=22.6km s-min=5.9km az=153.0*

ISC 11 05:59:26.9±0.9, **60°.05N**±0°.04×**24°.19E**±0°.03, **h0**km, **n37**, σ1**°42**/48, **Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.20**	**32**	*e*P	**Pg**	**05 59 32.5**	**+1.8**
MEF				*e*S	**Sg**	**05 59 36.2**	**+2.8**
NUR	**Nurmijrvi**	**0.52**	**26**	*e*P	**Pb**	**05 59 38.2**	**-0.6**
NUR				*e*S	**Sb**	**05 59 46.0**	**-1.0**
PVP	**Pernaja**	**0.97**	**58**	*e*P	**Pg**	**05 59 45.9**	**+0.3**
ARBE	**Arbavere**	**1.10**	**123**	*e*P	**Pg**	**05 59 46.9**	**-1.1**
MTSE	**Matsula**	**1.35**	**188**	*e*P	Pn	05 59 50.7	-2.3
RAF	**Rauma**	**1.55**	**310**	*e*P	**Pb**	**05 59 56.4**	**0.0**
RAF				*e*SG	**Sn**	**06 00 17.5**	**+1.1**
RAF				MSG		06 00 23.3	
	comp=Z,15nm,0.1s						
FINES	**FINESS Array B**	**1.68**	**33**	Pg	**Pb**	**05 59 59.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=222,slow=14,SNR=77						
FINES				Lg	Lg	06 00 21.1	
	comp=Z,2.2nm,0.3s,baz=221,slow=23,SNR=14						
FIA1	**FINESS Array S**	**1.68**	**33**	*e*PG	**Pb**	**05 59 59.0**	**+0.3**
FIA1				MSG		06 00 26.0	
	comp=Z,8.8nm,0.1s						
VJF	**Virojoki**	**1.75**	**72**	*e*P	**Pn**	**05 59 58.9**	**+0.5**
VJF				*e*SN	**Sn**	**06 00 22.9**	**+1.6**
VJF				MSG		06 00 25.6	
	comp=Z,11nm,0.1s						
VSU	**Vasula**	**2.06**	**139**	*e*PB	**Pn**	**06 00 03.2**	**+0.4**
AAL	**Aland**	**2.10**	**275**	P	**Pn**	**06 00 04.6**	**+1.3**
AAL				S	**Sb**	**06 00 32.9**	**+0.4**
AAL	**Aland**	**2.10**	**275**	*e*P	**Pn**	**06 00 04.5**	**+1.3**
KEF	**Keuruu**	**2.15**	**9**	*e*PB	**Pg**	**06 00 07.2**	**-0.9**
KEF				*e*SG	**Sg**	**06 00 36.5**	**+0.5**
KEF				MSG		06 00 39.4	
	comp=Z,8.7nm,0.1s						
KAF	**Kangasniemi**	**2.31**	**26**	*e*PB	**Pb**	**06 00 09.4**	**-0.1**
KAF				MSG		06 00 43.9	
	comp=Z,6.5nm,0.1s						
NRTU	**Norrtaelje**	**2.83**	**265**	P	**Pn**	**06 00 13.7**	**+0.4**
NRTU				S	**Sn**	**06 00 50.0**	**+2.1**
NRTU	**Norrtaelje**	**2.83**	**265**	P	**Pn**	**06 00 13.7**	**+0.4**
NRTU				S	**Sn**	**06 00 50.0**	**+2.1**
NRTU	**Norrtaelje**	**2.83**	**265**	*e*P	**Pn**	**06 00 13.7**	**+0.4**
NRTU				*e*S	**Sn**	**06 00 50.0**	**+2.1**
GRAU	**Graesoe**	**2.83**	**278**	P	**Pn**	**06 00 13.7**	**+0.3**
GRAU	**Graesoe**	**2.83**	**278**	P	**Pn**	**06 00 13.7**	**+0.3**
GRAU	**Graesoe**	**2.83**	**278**	*e*P	**Pn**	**06 00 13.7**	**+0.3**
FLYU	**Flymyra**	**3.16**	**274**	P	**Pn**	**06 00 19.1**	**+1.3**
FLYU	**Flymyra**	**3.16**	**274**	P	**Pn**	**06 00 19.1**	**+1.3**
FLYU	**Flymyra**	**3.16**	**274**	*e*P	**Pn**	**06 00 19.1**	**+1.3**
NYNU	**Nynaeshamn**	**3.32**	**254**	P	**Pn**	**06 00 20.9**	**+0.9**
NYNU	**Nynaeshamn**	**3.32**	**254**	P	**Pn**	**06 00 20.9**	**+0.9**
NYNU	**Nynaeshamn**	**3.32**	**254**	*e*P	**Pn**	**06 00 20.9**	**+0.9**
FIBU	**Brunna**	**3.44**	**271**	P	**Pn**	**06 00 22.8**	**+1.2**
FIBU	**Brunna**	**3.44**	**271**	P	**Pn**	**06 00 22.8**	**+1.2**
OSTU	**Oestervaala**	**3.53**	**276**	P	**Pn**	**06 00 23.8**	**+0.9**
OSTU	**Oestervaala**	**3.53**	**276**	P	**Pn**	**06 00 23.8**	**+0.9**
OSTU	**Oestervaala**	**3.53**	**276**	*e*P	**Pn**	**06 00 23.8**	**+0.9**
BACU	**Backbrunna**	**3.57**	**270**	P	**Pn**	**06 00 24.2**	**+0.8**
BACU	**Backbrunna**	**3.57**	**270**	P	**Pn**	**06 00 24.2**	**+0.8**
BACU	**Backbrunna**	**3.57**	**270**	*e*P	**Pn**	**06 00 24.2**	**+0.8**
HFS	**Hagfors**	**5.25**	**275**	Pn	**Pn**	**06 00 46.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=109,slow=11,SNR=6.1						
HFS				Sn	**Sn**	**06 01 45.2**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=87,slow=25,SNR=2.1						
HFS				Lg	Lg	06 02

MKAR				Lg	Lg	06 19 13.7			
	0.1nm,0.3s,baz=94,slow=14,SNR=1.5								
BVAR	**Borovoye Array**	**9.76**	**268**	Pn	**Pn**	**06 17 20.2**	**+1.0**		
	0.4nm,0.3s,baz=72,slow=26,SNR=2.4								
BVAR				Sn	**Sn**	**06 19 05.6**	**-3.8**		
	0.3nm,0.3s,baz=98,slow=11,SNR=4.2								

NEIC ***11*** *06:28:55.2±1.6, 7.°86N±0.°07×94.°2E±0.°1, h10km±1km, mb4.4/13, Error ellipse: s-maj=20.0km s-min=7.6km az=57.0*

IDC ***11*** *06:29:00.5±3.7, 7.°76N×94.°10E, h59km±33km, mb3.8/14, mb1 3.9/16, mb1mx3.7/50, mbtmp4.1/16, ML3.6/1, Error ellipse: s-maj=30.9km s-min=13.7km az=62.0*

ISC 11 06:28:57.7±0.5, 7.°82N±0.°08×94.°17E±0.°10, h35km, n40, σ1°89/33, mb4.3/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LHMI	**Lhok Sumawe**	**3.77**	**133**	Pn		**Pn**	**Pn**	**06 29 53.2**	**-0.2**
PBA	**Port Blair**	**4.06**	**340**	Pn		Pn	Pn	06 29 56.4	-1.0
SRIT	**Nakonsritamara**	**5.43**	**81**	Pn		**Pn**	**Pn**	**06 30 16.1**	**-0.1**
PSI	**Prapat**	**6.87**	**136**	P		Pn	Pn	06 30 40.6	+4.5
	1.2nm,0.3s,baz=360,slow=5.2,SNR=9.1								
RPSI	**Rantau Prapat**	**6.95**	**137**			**Pn**	**Pn**	**06 30 37.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**11.55**	**23**	P		Pn	Pn	06 31 44.6	+4.5
	baz=220,slow=14,SNR=7.5								
SLVN	**Son La**	**16.40**	**34**	Pn		**Pn**	**Pn**	**06 32 43.9**	**-1.4**
LSA	**Lhasa**	**21.95**	**353**	P		**P**	**P**	**06 33 50.3**	**+1.4**
LSA				IAmb		IAmb	IAmb	06 34 00.3	
	comp=Z,9.2nm,0.5s								
H08S3	**Diego Garcia H**	**26.51**	**235**	T		T		07 01 18.7	
	baz=54,slow=75								
H08S2	**Diego Garcia H**	**26.51**	**235**	T		T		07 01 19.0	
	baz=54,slow=75								
H08S1	**Diego Carcia H**	**26.53**	**235**	T		T		07 01 19.4	
	baz=54,slow=75								
PSA00	**Pilbara Seismi**	**38.58**	**140**	P		**P**	**P**	**06 36 17.9**	**+0.5**
PSA00				IAmb		IAmb	IAmb	06 36 27.5	
	comp=Z,11nm,1.5s								
MKAR	**Makanchi Array**	**40.15**	**347**	P		**P**	**P**	**06 36 30.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=161,slow=8.0,SNR=3.3								
KKAR	**Karatay Array**	**40.83**	**333**	P		**P**	**P**	**06 36 37.8**	**+1.9**
KKAR	**Karatay Array**	**40.83**	**333**	P		**P**	**P**	**06 36 36.4**	**+0.4**
SONM	**Songino Array**	**41.21**	**13**	P		**P**	**P**	**06 36 38.5**	**-0.6**
SONM				IAmb		IAmb	IAmb	06 37 01.2	
	comp=Z,4.7nm,1.0s								
KURBB	**Kurchatov Arra**	**44.61**	**346**	P		**P**	**P**	**06 37 06.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=167,slow=7.3,SNR=8.7								
KURBB				PcP		**PP**	**PP**	**06 38 50.0**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=159,slow=2.8,SNR=4.8								
ZAA0	**Zalesovo Array**	**46.62**	**352**	P		**P**	**P**	**06 37 23.2**	**+0.9**
ZAA0				IAmb		IAmb	IAmb	06 37 32.5	
	comp=Z,3.4nm,0.8s								
ZALV	**Zalesovo Beam**	**46.62**	**352**	P		**P**	**P**	**06 37 22.8**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=171,slow=8.3,SNR=9.1								
ZALV	**Zalesovo Beam**	**46.62**	**352**	P		**P**	**P**	**06 37 23.4**	**+1.2**
WRA	**Warramunga Arr**	**48.21**	**126**	P		**P**	**P**	**06 37 35.0**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=306,slow=8.4,SNR=23								
RAYN	**Ar Rayn**	**49.13**	**294**	P		**P**	**P**	**06 37 42.9**	**+0.5**
RAYN				IAmb		IAmb	IAmb	06 37 51.0	
	comp=Z,4.8nm,0.9s								
ASAR	**Alice Springs**	**49.86**	**130**	P		**P**	**P**	**06 37 47.8**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=302,slow=7.2,SNR=39								
ASAR				PcP		**PcP**	**PcP**	**06 39 08.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=304,slow=4.4,SNR=2.9								
ABKAR	**Akbulak array**	**50.29**	**331**	P		**P**	**P**	**06 37 50.9**	**+0.1**
AKTO	**Aktyubinsk**	**52.01**	**331**	P		**P**	**P**	**06 38 02.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=214,slow=3.6,SNR=2.1								
STKA	**Stephens Creek**	**60.05**	**134**	P		**P**	**P**	**06 39 01.8**	**+0.4**
	comp=Z,0.4nm,0.2s,baz=324,slow=8.7,SNR=1.5								
BRTR	**Keskin Array B**	**62.49**	**311**	P		P	P	06 39 22.0	+4.0
	comp=Z,1.0nm,0.7s,baz=124,slow=6.9,SNR=4.6								
BR131	**Keskin Array S**	**62.49**	**311**	P		**P**	**P**	**06 39 17.1**	**-0.9**
TIXI	**Tiksi**	**67.28**	**11**	P		**P**	**P**	**06 39 48.9**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=205,slow=3.9,SNR=5.7								
FINES	**FINESS Array B**	**72.77**	**332**	P		**P**	**P**	**06 40 22.3**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=89,slow=5.5,SNR=10								
ARCES	**ARCESS Array B**	**75.33**	**340**	P		**P**	**P**	**06 40 38.4**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=102,slow=3.8,SNR=2.2								
ARCES	**ARCESS Array B**	**75.33**	**340**	P		**P**	**P**	**06 40 36.2**	**-0.9**
BOSA	**Boshof**	**75.58**	**238**	P		**P**	**P**	**06 40 39.0**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=124,slow=2.7,SNR=6.0								
BOSA	**Boshof**	**75.58**	**238**	P		**P**	**P**	**06 40 40.0**	**+0.6**
BOSA				IAmb		IAmb	IAmb	06 40 41.2	
	comp=Z,6.7nm,1.3s								
GERES	**GERESS Array B**	**77.89**	**318**	P		**P**	**P**	**06 40 52.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=105,slow=7.4,SNR=5.6								
TORD	**Torodi Ar. Bea**	**90.64**	**283**	P		**P**	**P**	**06 41 56.6**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=66,slow=4.2,SNR=3.6								
TORD	**Torodi Ar. Bea**	**90.64**	**283**	IAmb		IAmb	IAmb	06 41 59.1	
	comp=Z,4.2nm,1.5s								
ESDC	**Sonseca Array**	**91.28**	**310**	P		**P**	**P**	**06 41 59.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=66,slow=5.7,SNR=4.1								
ESDC	**Sonseca Array**	**91.28**	**310**	IAmb		IAmb	IAmb	06 42 07.8	
	comp=Z,0.6nm,0.8s								
CPUP	**Villa Florida**	**147.25**	**232**	PKPbc		**PKPab**	**PKPab**	**06 48 37.9**	**-2.1**
	comp=Z,3.0nm,1.0s,baz=147,slow=1.4,SNR=4.3								

NNC ***11*** *06:30:52.7±2.1, 54.°35N×86.°45E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=42.5km s-min=10.5km az=163.0, Suspected Mining explosion.*

IDC ***11*** *06:30:53.9±2.6, 54.°11N×86.°45E, h0km, mb1 3.0/2, mb1mx2.9/45, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=19.9km s-min=12.8km az=58.0*

ISC 11 06:30:56.6±4.2, 54.°0N±0.°2×86.°3E±0.°2, h0km, n7, σ1°64/10, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**265**	*i*				06 37 40.0	
	baz=76,slow=309,SNR=0.8								
ZAA0	**Zalesovo Array**	**0.87**	**265**	⇑P		**Pg**	**Pg**	**06 31 12.4**	**-0.7**
	0.3nm,0.4s								
ZAA0				⇑S		**Sb**	**Sb**	**06 31 27.0**	**+0.4**
	3.3nm,0.9s								
ZAA0				⇑Rg		Rg	Rg	06 31 32.2	
ZALV	**Zalesovo Beam**	**0.87**	**265**	Pg		**Pg**	**Pg**	**06 31 11.2**	**-1.9**
	1.0nm,0.3s,baz=81,slow=18,SNR=8.0								
ZALV				Lg		Lg	Lg	06 31 27.0	
	2.1nm,0.3s,baz=80,slow=27,SNR=11								
KURBB	**Kurchatov Arra**	**5.85**	**237**	Pn		**Pn**	**Pn**	**06 32 24.7**	**+0.2**
	0.1nm,0.3s,baz=54,slow=13,SNR=10								
KURBB				Sn		**Sn**	**Sn**	**06 33 31.6**	**-0.6**
	baz=61,slow=19,SNR=1.7								
KURBB				Lg		Lg	Lg	06 34 02.9	
	0.0nm,0.3s,baz=53,slow=18,SNR=1.7								
KURBB	**Kurchatov Arra**	**5.85**	**237**	⇑Pn		**Pn**	**Pn**	**06 32 26.1**	**+1.7**
	3.1nm,0.9s								
KURBB				⇓Sn		**Sn**	**Sn**	**06 33 34.4**	**+2.2**
	2.0nm,0.6s								
KURBB				⇑Lg		Lg	Lg	06 34 04.7	
	4.2nm,0.8s								
MK31	**Makanchi Array**	**7.68**	**201**	⇓Pn		**Pn**	**Pn**	**06 32 51.5**	**+1.8**
	0.2nm,0.5s,baz=0.0,slow=0.1,SNR=7.3								
MK31				⇑Lg		Lg	Lg	06 35 04.9	
	0.9nm,0.7s,baz=23,slow=30,SNR=3.6								
MKAR	**Makanchi Array**	**7.68**	**201**	Pn		**Pn**	**Pn**	**06 32 49.8**	**+0.1**
	0.2nm,0.3s,baz=25,slow=14,SNR=6.0								
MKAR				Sn		**Sn**	**Sn**	**06 34 15.7**	**-1.7**
	0.1nm,0.3s,baz=30,slow=23,SNR=3.4								
MKAR				Lg		Lg	Lg	06 34 59.8	
	baz=33,slow=30,SNR=2.4								

IDC ***11*** *06:32:17.8±1.1, 55.°86S×28.°32W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/21, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=34.7km s-min=23.8km az=80.0*

NEIC ***11*** *06:32:28.9±0.9, 55.°9S±0.°2×27.°8W±0.°3, h89km±8km, mb4.0/5, Error ellipse: s-maj=29.4km s-min=10.3km az=222.0*

ISC 11 06:32:32.1±0.9, 56.°1S±0.°1×28.°2W±0.°1, h121km, n18, σ1°24/20, mb3.8/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HOPE	**Hope Point**	**5.05**	**287**	Pn		Pn	**Pn**	**06 33 46.6**	**+0.9**
HOPE				Sn		Sn	**Sn**	**06 34 43.2**	**+0.3**
VNA1	**Neumayer--Stat**	**17.02**	**157**	P		**P**	**Pn**	**06 36 21.9**	**-0.4**
VNA3	**Neumayer Olymp**	**17.19**	**160**	P		**P**	**P**	**06 36 23.0**	**-1.1**
VNA2	**Neumayer--Watz**	**17.41**	**157**	P		**P**	**P**	**06 36 25.8**	**-0.7**
	baz=316,slow=13								
SNAA	**Sanae**	**18.98**	**155**	P		**P**	**P**	**06 36 42.5**	**-1.2**
	1.5nm,0.3s,baz=305,slow=10.0,SNR=172								
SNAA	**Sanae**	**18.98**	**155**	P		**P**	**P**	**06 36 42.7**	**-1.1**
SNAA				IAmb		IAmb	IAmb	06 36 43.3	
	comp=Z,3.9nm,0.5s								
USHA	**Ushuaia**	**22.62**	**256**	P		**P**	**P**	**06 37 19.5**	**-2.9**
	comp=Z,21nm,0.7s,baz=28,slow=0.5,SNR=2.7								
QSPA	**South Pole Qui**	**34.20**	**180**	P		**P**	**P**	**06 39 06.1**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=153,slow=19,SNR=3.2								
QSPA	**South Pole Qui**	**34.20**	**180**	P		**P**	**P**	**06 39 06.8**	**+1.1**
QSPA				IAmb		IAmb	IAmb	06 39 10.8	
	comp=Z,5.3nm,1.4s								
VNDA	**Vanda**	**46.54**	**183**	P		**P**	**P**	**06 40 48.1**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=187,slow=6.2,SNR=8.9								
VNDA	**Vanda**	**46.54**	**183**	P		**P**	**P**	**06 40 48.6**	**+1.9**
VNDA				IAmb		IAmb	IAmb	06 40 48.8	
	comp=Z,1.2nm,0.7s								
PSGCX	**Pisagua**	**47.95**	**302**	P		**P**	**P**	**06 40 57.4**	**-1.1**
MNMC	**Minye Minye**	**48.11**	**303**	P		**P**	**P**	**06 40 59.9**	**0.0**
LPAZ	**La Paz**	**49.90**	**306**	P		**P**	**P**	**06 41 13.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=152,slow=5.6,SNR=1.6								
TORD	**Torodi Ar. Bea**	**73.35**	**30**	P		**P**	**P**	**06 43 50.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=200,slow=5.9,SNR=6.2								
ILAR	**Eielson Array**	**149.68**	**312**	PKPbc		**PKPbc**	**PKPbc**	**06 52 06.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=117,slow=2.7,SNR=4.1								
ILAR	**Eielson Array**	**149.68**	**312**	PKPdf		**PKPdf**	**PKPdf**	**06 52 02.6**	**+1.4**
ILAR						**PKiKP**	**PKiKP**	**06 52 06.4**	**-0.5**

TRN 11 06:41:06.8, 9.°82N×62.°37W, h125km, MD3.6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TRN	**Trinidad (W)**	**1.26**	**49**	*eP*		Pn		06 41 32.5	+0.6
TRN				*eS*		Sn		06 41 50.1	-0.8
GRGR	**Grenville**	**2.41**	**17**	*eP*		Pn		06 41 44.9	-0.7
GRGR				*eS*		Sn		06 42 14.6	-0.8
BAUV	**El Baul**	**5.67**	**262**	*eP*		Pn		06 42 29.0	+0.2
BAUV	**El Baul**	**5.67**	**262**	*eS*		Sn		06 43 28.5	-4.3

ISK ***11*** *07:00:41.7, 34.°91N×30.°77E, h79km, ML3.0/8*

NIC ***11*** *07:00:45.6±0.0, 35.°40N×31.°02E, h10km, ML2.9/3*

DDA ***11*** *07:00:45.1, 35.°32N×31.°15E, h21km±2km, ML2.5*

ISC 11 07:00:46.1±1.7, 35.°33N±0.°04×31.°00E±0.°04, h18km±4km, n31, σ1°52/45, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AKUM	**Antalya-Kumluc**	**1.13**	**332**	*i* P		**Pb**	**Pb**	**07 01 07.3**	**+0.4**
AKUM				*i* S		**Sg**	**Sg**	**07 01 25.6**	**+2.9**
AKUM					IAML			07 01 36.0	
	comp=E,96nm,1.0s								
AKUM					IAML			07 01 44.0	
	comp=N,87nm,0.6s								
AKMS	**Akamas**	**1.14**	**105**	P		**Pn**	**Pn**	**07 01 07.2**	**+0.2**
AKMS				S		**Sg**	**Sg**	**07 01 23.6**	**+0.7**
AKMS					AML	AML		07 01 28.2	
	comp=N,1.1nm,0.4s								
AKMS					AML	AML		07 01 28.2	
	comp=N,1.1nm,0.4s								
AKMS					AML	AML		07 01 31.8	
	comp=N,0.9nm,0.5s								
AKMS					AML	AML		07 01 31.8	
	comp=N,0.9nm,0.5s								
ALFC	**Alefka**	**1.32**	**97**	P		**Pn**	**Pn**	**07 01 09.8**	**+0.2**
ALFC				S		**Sg**	**Sg**	**07 01 28.3**	**-0.5**
ALFC					AML	AML		07 01 32.8	
	comp=N,0.9nm,0.2s								
ALFC					AML	AML		07 01 32.8	
	comp=N,0.9nm,0.2s								
ALFC					AML	AML		07 01 33.3	
	comp=N,1.1nm,0.3s								
ALFC					AML	AML		07 01 33.3	
	comp=N,1.1nm,0.3s								
GAZI	**Gazipasa**	**1.40**	**49**	*i* P		**Pn**	**Pn**	**07 01 09.4**	**-1.2**
GAZI				*i* S		**Sb**	**Sb**	**07 01 28.9**	**-0.3**
GAZI					IAML			07 01 37.0	
	comp=N,104nm,0.6s								
GAZI	**Gazipasa**	**1.40**	**49**	PN		**Pn**	**Pn**	**07 01 10.8**	**+0.1**
NATA	**Nata**	**1.40**	**113**	P		**Pn**	**Pn**	**07 01 11.0**	**+0.4**
NATA				S		**Sg**	**Sg**	**07 01 30.9**	**-0.5**
LEF	**Lefka**	**1.56**	**97**	PN		**Pn**	**Pn**	**07 01 10.9**	**-1.9**
LEF				SN		**Sn**	**Sn**	**07 01 32.0**	**-0.6**
KEPZ	**Antalya-Kepez**	**1.64**	**17**	*i* P		**Pn**	**Pn**	**07 01 13.6**	**-0.4**
KEPZ				*i* S		**Sb**	**Sb**	**07 01 36.7**	**+0.4**
KEPZ					IAML			07 01 38.0	
	comp=N,53nm,0.9s								
KEPZ					IAML			07 01 42.0	
	comp=E,58nm,0.7s								
SZAC	**Souni**	**1.65**	**110**	P		**Pn**	**Pn**	**07 01 14.3**	**+0.3**
SZAC					AML	AML		07 01 36.7	
	comp=E,0.4nm,0.6s								
SZAC					AML	AML		07 01 36.7	
	comp=E,0.4nm,0.6s								
SZAC				S		**Sb**	**Sb**	**07 01 36.8**	**+0.5**
SZAC					AML	AML		07 01 39.4	
	comp=E,0.5nm,0.6s								
SZAC					AML	AML		07 01 39.4	
	comp=E,0.5nm,0.6s								
KORT	**Korkueli**	**1.75**	**343**	PN		**Pn**	**Pn**	**07 01 16.4**	**+0.8**
OSC1	**CSNet OBS 1**	**1.84**	**173**	S		**Sb**	**Sb**	**07 01 43.3**	**+1.6**
TEKE	**Tekeli-Mersin**	**1.90**	**64**	PN		**Pn**	**Pn**	**07 01 18.5**	**+1.0**
ASGA	**Asgata**	**1.92**	**106**	P		**Pn**	**Pn**	**07 01 18.1**	**+0.3**
ASGA				S		**Sb**	**Sb**	**07 01 43.9**	**-0.2**
BERE	**Bereket-Mersin**	**2.07**	**60**	PN		**Pn**	**Pn**	**07 01 21.1**	**+1.1**
BERE				SN		**Sg**	**Sg**	**07 01 49.9**	**-2.9**
MVOU	**Mavrovouni**	**2.18**	**97**	S		**Sb**	**Sb**	**07 01 50.1**	**-1.4**
SEYD	**Seydisehir-KON**	**2.18**	**18**	PN		**Pb**	**Pb**	**07 01 23.7**	**-1.3**
SEDI	**Konya, Seydise**	**2.20**	**16**	*i* P		**Pb**	**Pb**	**07 01 23.9**	**-1.5**
SEDI				*i* S		**Sb**	**Sb**	**07 01 51.9**	**-0.5**
SEDI					IAML			07 01 57.0	
	comp=N,33nm,0.8s								
AKKU	**Akkuyu-Mersin**	**2.23**	**67**	PN		**Pn**	**Pn**	**07 01 22.9**	**+0.8**
GULN	**MERSIN_Gulnar**	**2.24**	**67**	*i* P		**Pn**	**Pn**	**07 01 22.5**	**+0.4**
GULN				*i* S		**Sn**	**Sn**	**07 01 50.5**	**+1.2**
TEVE	**Tevekalti-Mers**	**2.27**	**60**	PN		**Pn**	**Pn**	**07 01 23.9**	**+1.2**
IKL	**Isikli**	**2.36**	**67**	PN		**Pn**	**Pn**	**07 01 24.9**	**+1.0**
KKBE	**Karaman, Kazim**	**2.45**	**39**	*i* P		**Pn**	**Pn**	**07 01 26.5**	**+1.3**
KKBE				*i* S		**Sb**	**Sb**	**07 01 58.4**	**-1.1**
KKBE					IAML			07 02 07.0	
	comp=E,25nm,0.6s								
KEBE	**Keben-Mersin**	**2.47**	**62**	PN		**Pn**	**Pn**	**07 01 26.5**	**+1.1**
KRMN	**Karaman**	**2.59**	**44**	PN		**Pn**	**Pn**	**07 01 29.2**	**+2.0**
KIZK	**Mersin**	**2.80**	**65**	PN		**Pn**	**Pn**	**07 01 31.0**	**+1.1**
KERG	**Konya-Eregli**	**3.27**	**50**	*i* P		**Pn**	**Pn**	**07 01 33.2**	**-3.2**
KERG				*i* S		**Sn**	**Sn**	**07 02 15.4**	**+0.4**
KERG					IAML			07 02 34.0	
	comp=E,16nm,0.9s								
BODT	**Bodrum**	**3.45**	**301**	PN		**Pn**	**Pn**	**07 01 36.1**	**-2.8**
AYDB	**Zeytinkoy-Aydi**	**3.62**	**317**	PN		**Pn**	**Pn**	**07 01 39.9**	**-1.4**
GULE	**Gulek**	**3.62**	**56**	*i* P		**Pn**	**Pn**	**07 01 43.5**	**+2.2**
GULE				*i* S		**Sn**	**Sn**	**07 02 27.7**	**+4.1**
GULE					IAML			07 02 52.0	
	comp=N,32nm,0.6s								
ZKR	**Zakros**	**3.92**	**268**	PN		Pn		07 01 38.9	-6.4
CMRD	**Camardi-Nigde**	**3.97**	**53**	PN		**Pn**	**Pn**	**07 01 47.7**	**+1.6**

IDC ***11*** *07:11:58.6±2.9, 53.°75N×88.°08E, h0km, mb1 3.1/2, mb1mx2.9/39, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=24.2km s-min=16.3km az=55.0*

NNC ***11*** *07:11:59.6±4.9, 53.°63N×88.°06E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=45.9km s-min=29.5km az=42.0, Suspected Mining explosion.*

ISC 11 07:11:59.6±3.4, 53.°8N±0.°1×87.°9E±0.°2, h0km, n7, σ1°11/10, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**276**	*i*				07 24 30.0	
	baz=92,slow=312,SNR=4.2								
ZAA0	**Zalesovo Array**	**1.86**	**276**	⇑Pn		**Pn**	**Pn**	**07 12 32.9**	**+0.3**
	2.2nm,0.8s								
ZAA0				⇑Sn		**Sg**	**Sg**	**07 13 00.7**	**+1.5**
	7.4nm,0.8s								
ZALV	**Zalesovo Beam**	**1.86**	**276**	Pg		**Pb**	**Pb**	**07 12 33.5**	**-0.9**
	2.2nm,0.3s,baz=93,slow=14,SNR=26								
ZALV				Lg		Lg	Lg	07 13 00.6	
	4.6nm,0.3s,baz=98,slow=24,SNR=15								
KURBB	**Kurchatov Arra**	**6.59**	**245**	Pn		**Pn**	**Pn**	**07 13 38.1**	**+0.3**
	0.2nm,0.3s,baz=62,slow=14,SNR=16								
KURBB				Sn		**Sn**	**Sn**	**07 14 53.1**	**-0.5**
	0.0nm,0.3s,baz=62,slow=7.4,SNR=4.8								
KURBB				Lg		Lg	Lg	07 15 30.0	
	0.1nm,0.3s,baz=60,slow=30,SNR=8.1								
KURBB	**Kurchatov Arra**	**6.59**	**245**	⇑Pn		**Pn**	**Pn**	**07 13 38.2**	**+0.5**
	1.9nm,0.4s								
KURBB				⇓Sn		**Sn**	**Sn**	**07 14 52.6**	**-1.0**
	3.9nm,0.6s								
KURBB				⇓Lg		Lg	Lg	07 15 28.0	
	8.5nm,0.8s								
MK31	**Makanchi Array**	**7.88**	**210**	⇑Pn		**Pn**	**Pn**	**07 13 56.9**	**+1.5**
	0.7nm,0.7s,baz=26,slow=13,SNR=4.9								
MK31				⇓Lg		Lg	Lg	07 16 04.1	
	3.3nm,0.9s								
MKAR	**Makanchi Array**	**7.88**	**210**	Pn		**Pn**	**Pn**	**07 13 55.8**	**+0.4**
	0.1nm,0.3s,baz=28,slow=13,SNR=6.2								
MKAR				Sn		**Sn**	**Sn**	**07 15 24.1**	**-1.2**
	0.1nm,0.3s,baz=31,slow=25,SNR=2.5								
MKAR				Lg		Lg	Lg	07 16 07.9	
	0.1nm,0.3s,baz=23,slow=30,SNR=1.8								

TEH ***11*** *07:16:08.2, 28.°49N×61.°99E, h8km, ML3.8*

IDC ***11*** *07:16:08.3±1.0, 28.°32N×61.°99E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.6/40, mbtmp3.7/13, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/39, Error ellipse: s-maj=21.1km s-min=20.3km az=1.0*

ISC 11 07:16:09.3±0.8, 28.°24N±0.°07×61.°97E±0.°08, h10km, n30, σ1°68/29, mb3.7/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SRVN	**Saravan**	**0.92**	**155**	*e*Pg		**Pn**	**Pn**	**07 16 30.3**	**+1.8**
ZHDN	**Zahedan**	**1.54**	**319**	*e*Pg		**Pn**	**Pn**	**07 16 34.6**	**-2.4**
NHDN	**Nehbandan**	**3.56**	**333**	*e*Pn		**Pn**	**Pn**	**07 17 03.2**	**-1.5**
KHNJ	**Kahnooj**	**3.78**	**267**	*e*Pn		**Pn**	**Pn**	**07 17 09.3**	**+1.6**
CHMN	**Cheshme madani**	**4.20**	**294**	*e*Pn		**Pn**	**Pn**	**07 17 14.4**	**+0.6**
CHMN				*e*				07 18 28.6	
	comp=Z,1μm,0.8s								
IDAH	**Dahanechah**	**4.83**	**339**	*e*Pn		**Pn**	**Pn**	**07 17 22.8**	**+0.4**
IDAH				*e*				07 17 41.2	
	comp=Z,656nm,0.4s								
TVBK	**TV Kerman**	**4.88**	**292**	*e*		Pg		07 17 46.5	+3.8
	comp=Z,1μm,0.4s								
IKOO	**Kooshah**	**4.89**	**329**	*e*Pn		**Pn**	**Pn**	**07 17 22.2**	**-1.0**
IKOO				*e*				07 18 55.4	
	comp=N,1μm,1.4s								
GENO	**Geno**	**5.20**	**262**	*e*		**Pg**	**Pg**	**07 17 51.2**	**+2.2**
	comp=Z,434nm,0.7s								
KHGB	**Koh Gabri**	**5.25**	**295**	*e*Pn		**Pn**	**Pn**	**07 17 26.9**	**-1.2**
KHGB				*e*				07 19 09.2	
	comp=Z,760nm,0.8s								
AFRZ	**Afriz**	**5.76**	**335**	*e*Pn		**Pn**	**Pn**	**07 17 33.5**	**-1.5**
WSAR	**Wadi Sarin**	**5.82**	**212**	Pn		**Pn**	**Pn**	**07 17 37.6**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=71,slow=7.2,SNR=4.9								
WSAR				Sn		**Sn**	**Sn**	**07 18 38.2**	**-4.4**
	comp=Z,1.1nm,0.3s,baz=17,slow=20,SNR=2.1								
TPRV	**Parvadeh(Tabas**	**6.59**	**318**	*e*Pn		**Pn**	**Pn**	**07 17 45.3**	**-1.1**
TKDS	**Koohdasht(Taba**	**6

	5.4nm,0.3s						
KURS				Lg	Lg	07 28 51.9	
	8.2nm,0.4s						
KRBS	**Karabastau**	**6.56**	**199**	Pg	Pb	07 27 23.7	-1.0
	1.7nm,0.2s						
KRBS				Lg	Lg	07 28 50.5	
	2.7nm,0.4s						
PDGK	**Podgornoye**	**6.63**	**175**	Pg	Pb	07 27 27.9	+1.9
	0.5nm,0.4s						
PDGK				Lg	Lg	07 28 57.6	
	4.8nm,0.7s						
PDGK	**Podgornoye**	**6.63**	**175**	⇑Lg	Lg	07 29 04.7	
	9.3nm,0.7s						
UZB	**Uzynbulak**	**6.79**	**178**	Pg	Pb	07 27 30.8	+2.0
	2.5nm,0.2s						
UZB				Lg	Lg	07 29 02.2	
	7.4nm,0.5s						
MTBS	**Maitube**	**6.97**	**193**	Pg	Pb	07 27 32.9	+1.2
	1.9nm,0.3s						
MTBS				Lg	Lg	07 29 06.4	
	9.0nm,0.4s						
TKM2	**Tokmak 2**	**7.32**	**198**	⇑Lg	Lg	07 29 27.3	
	4.8nm,0.6s						

NNC ***11*** *07:32:09.5±2.6,55.˚20N×84.˚11E,h0km,mb2.8,mpv2.6, Error ellipse: s-maj=45.9km s-min=13.9km az=64.0*
IDC ***11*** *07:32:23.9±2.4,54.˚16N×86.˚22E,h0km,mb1 3.0/2, mb1mx2.9/31,mbtmp3.0/2,ML2.7/2,Error ellipse: s-maj=19.1km s-min=11.5km az=59.0*

ISC 11 07:32:11.1±4.3,55.˚3N±0.˚2×84.˚4E±0.˚2,h10km,n7,σ2.˚19/6, 2C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**170**	*i*				07 38 50.0	
	baz=74,slow=303,SNR=2.1								
ZAA0	**Zalesovo Array**	**1.33**	**170**	⇓P			**Pn**	**07 32 33.8**	**-2.0**
	0.2nm,0.5s								
ZAA0				⇑S			**Sg**	**07 32 52.5**	**-1.5**
	2.7nm,0.6s								
ZAA0				⇓Rg			Rg	07 32 57.2	
ZALV	**Zalesovo Beam**	**1.33**	**170**	Pg			**Pg**	**07 32 39.5**	**+2.7**
	2.3nm,0.3s,baz=72,slow=16,SNR=14								
ZALV				Lg			Lg	07 32 52.3	
	4.5nm,0.3s,baz=77,slow=29,SNR=19								
KURBB	**Kurchatov Arra**	**5.86**	**220**	Pn			**Pb**	**07 33 53.5**	**+0.3**
	0.1nm,0.3s,baz=52,slow=13,SNR=9.7								
KURBB	**Kurchatov Arra**	**5.86**	**220**	⇑Pg			**Pb**	**07 33 52.8**	**-0.5**
	1.1nm,0.6s								
MK31	**Makanchi Array**	**8.59**	**190**	⇓Pn			**Pn**	**07 34 14.8**	**-0.6**
	1.8nm,0.9s,baz=27,slow=14,SNR=9.0								
MK31				⇓Lg			Lg	07 36 36.9	
	4.7nm,1.2s,baz=19,slow=25,SNR=3.6								
MKAR	**Makanchi Array**	**8.59**	**190**	Pn			Pn	07 34 19.2	+3.8
	0.2nm,0.3s,baz=23,slow=14,SNR=7.1								
MKAR				Lg			Lg	07 36 30.1	
	0.0nm,0.3s,baz=19,slow=34,SNR=2.5								

JMA 11 07:43:29.2±0.1,37.˚18N×144.˚35E,h60km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JIKH	**Ishinomakikobu**	**2.55**	**297**	P			Pn	07 44 09.4	+1.3
JIKH				S			Sn	07 44 38.9	+0.9
JIO	**Ouri**	**2.70**	**299**	P			Pn	07 44 11.4	+1.3
JIO				S			Sn	07 44 42.9	+1.4
JFK	**Kawauchi**	**2.78**	**275**	P			Pn	07 44 12.5	+1.2
JFK				S			Sn	07 44 44.8	+1.1
JKMT	**Kesennumamotoy**	**2.79**	**306**	P			Pn	07 44 12.6	+1.1
JMST	**Minamisoumatoc**	**2.81**	**282**	P			Pn	07 44 12.9	+1.3
JMST				*e*S			Sn	07 44 45.6	+1.3
ONAJ	**Iwakimizuishiy**	**2.84**	**269**	P			Pn	07 44 13.3	+1.2
ONAJ				*e*S			Sn	07 44 46.1	+0.9
JMK	**Ichinoseki**	**3.04**	**307**	P			Pn	07 44 16.3	+1.5
JMK				*e*S			Sn	07 44 51.9	+2.0
JFT	**Otama**	**3.22**	**277**	P			Pn	07 44 19.0	+1.8
JFT				*e*S			Sn	07 44 56.1	+1.7
JOM	**Ohasama**	**3.32**	**315**	P			Pn	07 44 19.9	+1.2
JRY	**Ryogami san**	**4.54**	**257**	P			Pn	07 44 36.2	+0.9
JKB	**Kayabe**	**5.36**	**332**	P			Pn	07 44 47.9	+1.4

KMA 11 08:06:40.9±0.5,36.˚78N×127.˚46E,h15km±16km,Error ellipse: s-maj=8.5km s-min=3.2km az=47.0,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
EMSB	**Eumseong**	**0.23**	**34**	P			Pg	08 06 46.0	0.0
KSCHJ	**Chungju**	**0.42**	**77**	P			Pg	08 06 49.3	0.0
	SNR=6.3								
KSCHJ	**Chungju**	**0.42**	**77**	P			Pg	08 06 49.3	0.0
	SNR=7.9								
KSCHJ	**Chungju**	**0.42**	**77**	P			Pg	08 06 49.3	0.0
	SNR=6.3								
KSCHJ	**Chungju**	**0.42**	**77**	P			Pg	08 06 49.3	0.0
	SNR=7.9								
KSICN	**Icheon**	**0.51**	**356**	P			Pg	08 06 51.0	0.0
KSCHC	**Chuncheon**	**1.03**	**16**	P			Pb	08 06 59.0	-1.5
	SNR=5.4								
SEHB	**SEOHWA**	**1.61**	**23**	P			Pn	08 07 09.0	+0.2
	SNR=11								

TAP ***11*** *08:21:49.8,24.˚95N×121.˚93E,h116km,ML3.3,C*
JMA ***11*** *08:21:50.1±0.1,24.˚90N×121.˚90E,h112km±1km,M2.5*

ISC 11 08:21:49.8±1.5,24.˚97N±0.˚04×121.˚91E±0.˚03,h117km±7km, n101,σ0.˚48/180,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TWB1	**Santiao Chiao**	**0.08**	**59**	*i* P			**Pn**	**08 22 05.7**	**-0.1**
	baz=60								
TWB1				*i* S			**Sn**	**08 22 17.1**	**-0.8**
	baz=60								
TIPB	**Shuangxi**	**0.08**	**273**	*i* P			**Pn**	**08 22 05.7**	**-0.2**
	baz=291								
TIPB				*i* S			**Sn**	**08 22 17.1**	**-0.8**
	baz=291								
EGS		**0.12**	**172**	*i* P			**Pn**	**08 22 06.0**	**+0.1**
	baz=161								
EGS				*i* S			**Sn**	**08 22 18.1**	**+0.1**
	baz=161								
NTC	**Toucheng**	**0.14**	**214**	*e*P			**Pn**	**08 22 06.0**	**+0.1**
	baz=216								
NTC				*e*S			**Sn**	**08 22 17.4**	**-0.7**
	baz=216								
NWF	**Wu-fen Shan**	**0.16**	**311**	*i* P			**Pn**	**08 22 06.3**	**+0.2**
	baz=313								
NWF				*i* S			**Sn**	**08 22 19.0**	**+0.6**
	baz=313								
WFSB	**Wu-fen Shan**	**0.16**	**311**	P			**Pn**	**08 22 06.0**	**0.0**
	baz=313								
WFSB				S			**Sn**	**08 22 18.9**	**+0.7**
	baz=313								
TNOU	**National Taiwa**	**0.22**	**325**	*e*P			**Pn**	**08 22 06.0**	**-0.2**
	baz=331								
TNOU				*e*S			**Sn**	**08 22 17.9**	**-0.5**
	baz=331								
TWA	**Mucha**	**0.30**	**272**	*i* P			**Pn**	**08 22 06.6**	**+0.2**
	baz=272								
TWA				*i* S			**Sn**	**08 22 18.1**	**-0.8**
	baz=272								
TWE	**Neicheng**	**0.33**	**222**	P			**Pn**	**08 22 06.8**	**+0.3**
	baz=219								
TWE				S			**Sn**	**08 22 19.3**	**+0.2**
	baz=219								
NHDH	**Xindian Distri**	**0.35**	**269**	*i* P			**Pn**	**08 22 07.0**	**+0.3**
	baz=269								
NHDH				S			**Sn**	**08 22 18.8**	**-0.5**
	baz=269								
YM01	**YM01**	**0.36**	**300**	P			**Pn**	**08 22 06.7**	**-0.1**
	baz=307								
YM01				S			**Sn**	**08 22 19.8**	**+0.3**
	baz=307								
TWC	**Suao**	**0.36**	**189**	*i* P			**Pn**	**08 22 06.5**	**-0.3**
	baz=188								
TWC				*i* S			**Sn**	**08 22 19.9**	**+0.5**
	baz=188								
YM08	**YM08**	**0.37**	**307**	*e*P			**Pn**	**08 22 06.4**	**-0.4**
	baz=308								
YM08				*e*S			**Sn**	**08 22 19.4**	**-0.1**
	baz=308								
TAP	**Taipei**	**0.38**	**281**	P			**Pn**	**08 22 06.7**	**-0.1**
	baz=285								
TAP				S			**Sn**	**08 22 19.4**	**-0.1**
	baz=285								
NDS	**Dongshan**	**0.38**	**208**	P			**Pn**	**08 22 07.0**	**+0.2**
	baz=207								
NDS				*e*S			**Sn**	**08 22 20.2**	**+0.7**
	baz=207								
TATO	**Taipei**	**0.39**	**271**	P			**Pn**	**08 22 06.8**	**0.0**
	baz=271								
TATO				S			**Sn**	**08 22 19.1**	**-0.5**
	baz=271								
ANP	**Anpu**	**0.42**	**302**	*e*P			**Pn**	**08 22 06.7**	**-0.4**
	baz=306								
ANP				*e*S			**Sn**	**08 22 20.9**	**+0.8**
	baz=306								
NWLT	**Wulai**	**0.42**	**243**	*i* P			**Pn**	**08 22 06.9**	**-0.1**
	baz=244								
NWLT				S			**Sn**	**08 22 19.4**	**-0.5**
	baz=244								
TWY	**Chenhua**	**0.42**	**317**	*e*P			**Pn**	**08 22 06.9**	**0.0**
	baz=322								
TWY				S			**Sn**	**08 22 20.2**	**+0.3**
	baz=322								
ENTT	**Nioudou**	**0.45**	**224**	*i* P			**Pn**	**08 22 07.2**	**0.0**
	baz=235								
ENTT				*i* S			**Sn**	**08 22 20.2**	**-0.1**
	baz=235								
TWS1	**Kuangyinshan**	**0.47**	**287**	*i* P			**Pn**	**08 22 07.3**	**+0.1**
	baz=288								
TWS1				*i* S			**Sn**	**08 22 21.0**	**+0.7**
	baz=288								
NDT	**Datong Townshi**	**0.52**	**225**	*i* P			**Pn**	**08 22 07.6**	**0.0**
	baz=236								
NDT				S			**Sn**	**08 22 21.3**	**+0.4**
	baz=236								
EWUT	**Wuta**	**0.53**	**193**	P			**Pn**	**08 22 08.2**	**+0.5**
	baz=187								
EWUT				S			**Sn**	**08 22 21.2**	**+0.1**
	baz=187								
NTY	**Taoyuan**	**0.56**	**273**	P			**Pn**	**08 22 07.8**	**-0.1**
	baz=281								
NTY				S			**Sn**	**08 22 21.6**	**+0.2**
	baz=281								
YHNB	**Yeheng**	**0.57**	**239**	⇑P			**Pn**	**08 22 07.7**	**-0.4**
	baz=239								
YHNB				S			**Sn**	**08 22 21.4**	**-0.3**
	baz=239								
NCU	**National Centr**	**0.66**	**270**	*i* P			**Pn**	**08 22 08.8**	**+0.3**
	baz=262								
NCU				*i* S			**Sn**	**08 22 22.9**	**+0.2**
	baz=262								
NCUH	**Zhongli**	**0.66**	**270**	P			**Pn**	**08 22 08.7**	**+0.1**
	baz=262								
NCUH				S			**Sn**	**08 22 23.1**	**+0.4**
	baz=262								
PCYT	**Pengchaiyu**	**0.67**	**12**	*i* P			**Pn**	**08 22 08.8**	**+0.1**
	baz=5.0								
NNS	**Nan Shan**	**0.72**	**223**	*i* P			**Pn**	**08 22 09.4**	**+0.2**
	baz=227								
NNS				S			**Sn**	**08 22 24.2**	**+0.5**
	baz=227								
NNSB	**Datong**	**0.72**	**222**	⇑P			**Pn**	**08 22 09.1**	**-0.1**
	baz=215								
NNSB				S			**Sn**	**08 22 22.9**	**-1.0**
	baz=215								
NNSH	**Datong**	**0.72**	**222**	*i* P			**Pn**	**08 22 09.3**	**0.0**
	baz=227								
NNSH				S			**Sn**	**08 22 23.5**	**-0.3**
	baz=227								
NJD	**Zhudong**	**0.79**	**253**	P			**Pn**	**08 22 09.6**	**+0.1**
	baz=253								
NJD				S			**Sn**	**08 22 24.7**	**+0.2**
	baz=253								
NACB	**Ninganchiao**	**0.84**	**200**	*e*P			**Pn**	**08 22 10.2**	**+0.1**
	baz=199								
NACB				S			**Sn**	**08 22 24.8**	**-0.6**
	baz=199								
ETL	**Fush Village**	**0.85**	**198**	P			**Pn**	**08 22 09.6**	**-0.6**
	baz=205								
ETL				S			**Sn**	**08 22 24.7**	**-0.9**
	baz=205								
ETLH	**Xiulin Townshi**	**0.85**	**208**	*e*P			**Pn**	**08 22 09.9**	**-0.4**
	baz=200								
ETLH				S			**Sn**	**08 22 25.5**	**-0.3**
	baz=200								
SBCB	**Hsinchu**	**0.86**	**259**	P			**Pn**	**08 22 10.7**	**+0.5**
	baz=258								
SBCB				*e*S			**Sn**	**08 22 26.9**	**+1.2**
	baz=258								
HSN	**Hsinchu**	**0.87**	**259**	P			**Pn**	**08 22 10.2**	**-0.2**
	baz=260								
HSN				S			**Sn**	**08 22 25.6**	**-0.2**
	baz=260								
LIOB	**Emei**	**0.88**	**249**	*i* P			**Pn**	**08 22 10.3**	**-0.1**
	baz=242								
LIOB				*i* S			**Sn**	**08 22 25.9**	**-0.1**
	baz=242								
NSTT	**Nanjuang**	**0.89**	**248**	*i* P			**Pn**	**08 22 10.6**	**0.0**
	baz=241								
NSTT				*i* S			**Sn**	**08 22 25.8**	**-0.5**
	baz=241								
TWD	**Chiawan**	**0.93**	**198**	P			**Pn**	**08 22 11.3**	**+0.3**
	baz=203								
TWD				S			**Sn**	**08 22 27.3**	**+0.4**
	baz=203								
FUSS	**Fushou**	**0.94**	**221**	*i* P			**Pn**	**08 22 11.9**	**+0.6**
	baz=213								
FUSS				*e*S			**Sn**	**08 22 27.1**	**-0.4**
	baz=213								
TWT	**Tachien**	**0.98**	**224**	*i* P			**Pn**	**08 22 12.6**	**+1.0**
	baz=222								
TWT				S			**Sn**	**08 22 28.8**	**+0.7**
	baz=222								
TDCB	**Techi**	**0.99**	**224**	P			**Pn**	**08 22 12.2**	**+0.5**
	baz=223								
TDCB				S			**Sn**	**08 22 28.5**	**+0.3**
	baz=223								
WHF	**Hehuan Shan**	**1.01**	**216**	*i* P			**Pn**	**08 22 12.5**	**+0.3**
	baz=208								
WHF				S			**Sn**	**08 22 28.6**	**-0.4**
	baz=208								
NMLH	**Miaoli**	**1.11**	**247**	*i* P			**Pn**	**08 22 13.1**	**+0.4**
	baz=246								
NMLH				*e*S			**Sn**	**08 22 30.0**	**0.0**
	baz=246								
WHP	**Taichung City**	**1.12**	**232**	*i* P			**Pn**	**08 22 13.2**	**+0.3**
	baz=231								
WHP				*i* S			**Sn**	**08 22 30.1**	**-0.2**
	baz=231								
CHGB	**Renai**	**1.13**	**217**	P			**Pn**	**08 22 13.8**	**+0.7**
	baz=215								
CHGB				S			**Sn**	**08 22 31.3**	**+0.5**
	baz=215								
TEYL	**Yanliau Villag**	**1.13**	**195**	P			**Pn**	**08 22 13.0**	**+0.1**
	baz=187								
TEYL				*e*S			**Sn**	**08 22 30.0**	**-0.5**
	baz=187								
NSY	**Sanyi**	**1.18**	**243**	*i* P			**Pn**	**08 22 13.8**	**+0.3**
	baz=241								
NSY				*i* S			**Sn**	**08 22 31.9**	**+0.4**
	baz=241								
TWQ1	**Liyutan**	**1.21**	**240**	*i* P			**Pn**	**08 22 13.8**	**+0.1**
	baz=245								
TWQ1				S			**Sn**	**08 22 32.0**	**+0.1**
	baz=245								
OWD	**Renai**	**1.21**	**214**	*e*P			**Pn**	**08 22 14.3**	**+0.3**
	baz=217								
OWD				*e*S			**Sn**	**08 22 31.5**	**-0.8**
	baz=217								
ESL	**Shilin**	**1.23**	**201**	P			**Pn**	**08 22 14.2**	**+0.2**
	baz=195								
ESL				S			**Sn**	**08 22 31.7**	**-0.6**
	baz=195								
WCS	**Beigang Elemen**	**1.29**	**225**	*i* P			**Pn**	**08 22 15.1**	**+0.4**
	baz=229								
WCS				*i* S			**Sn**	**08 22 33.2**	**-0.2**
	baz=229								
WPL	**Puli Township**	**1.29**	**223**	*e*P			**Pn**	**08 22 14.9**	**+0.2**
	baz=225								
DPDB	**Guoxing**	**1.29**	**224**	P			**Pn**	**08 22 15.1**	**+0.3**
	baz=228								
DPDB				*e*S			**Sn**	**08 22 34.6**	**+0.9**
	baz=228								
TEGC	**Jichi Village**	**1.30**	**195**	P			**Pn**	**08 22 15.5**	**+0.7**
	baz=188								
WDJ	**Dajia District**	**1.31**	**242**	P			**Pn**	**08 22 15.3**	**+0.4**
	baz=241								
WDJ				*e*S			**Sn**	**08 22 33.8**	**-0.2**
	baz=241								
EGFH	**Guangfu**	**1.37**	**199**	*e*P			**Pn**	**08 22 15.2**	**-0.4**
	baz=199								
EGFH				*e*S			**Sn**	**08 22 34.4**	**-0.6**
	baz=199								
TCU	**Taichung**	**1.39**	**234**	S			**Sn**	**08 22 35.8**	**+0.3**
	baz=232								
SMLT	**Sun Moon Lake**	**1.42**	**221**	*i* P			**Pn**	**08 22 16.6**	**+0.3**
	baz=225								
SMLT				*i* S			**Sn**	**08 22 37.1**	**+0.8**
	baz=225								
TYC	**Yuchr**	**1.43**	**223**	*i* P			**Pn**	**08 22 16.3**	**0.0**
	baz=221								
TYC				S			**Sn**	**08 22 36.6**	**+0.3**
	baz=221								
WWF	**Wufeng**	**1.44**	**230**	P			**Pn**	**08 22 16.6**	**+0.2**
	baz=228								
WWF				*e*S			**Sn**	**08 22 37.0**	**+0.5**
	baz=228								
SSLB	**Suanglung**	**1.47**	**217**	P			**Pn**	**08 22 16.6**	**-0.2**
	baz=223								
SSLB				S			**Sn**	**08 22 37.4**	**+0.3**
	baz=223								
HGSD	**Ruisui**	**1.54**	**197**	P			**Pn**	**08 22 17.8**	**+0.3**
	baz=195								
HGSD				S			**Sn**	**08 22 39.5**	**+0.9**
	baz=195								
WNT1	**Nantou City**	**1.54**	**227**	*e*P			**Pn**	**08 22 18.0**	**+0.5**
	baz=229								
EHY	**Hungye**	**1.55**	**200**	P			**Pn**	**08 22 17.9**	**+0.2**
	baz=192								
EHY				S			**Sn**	**08 22 38.4**	**-0.5**
	baz=192								
WJS	**Zhushan**	**1.57**	**224**	*e*P			**Pn**	**08 22 18.4**	**+0.5**
	baz=229								
WJS				*e*S			**Sn**	**08 22 39.3**	**0.0**
	baz=229								
YULB	**Yu-li**	**1.67**	**200**	P			**Pn**	**08 22 18.6**	**-0.5**
	baz=193								
YULB				*e*S			**Sn**	**08 22 40.8**	**-0.5**
	baz=193								
EYUL	**Yuli**	**1.70**	**199**	*e*P			**Pn**	**08 22 20.4**	**+0.8**
	baz=196								
EYUL				*e*S			**Sn**	**08 22 42.0**	**-0.1**
	baz=196								
TWF1	**Yuli**	**1.70**	**199**	P			**Pn**	**08 22 19.1**	**-0.4**
	baz=201								
ALS	**Alishan**	**1.77**	**215**	*i* P			**Pn**	**08 22 20.9**	**+0.3**
	baz=211								
ALS				S			**Sn**	**08 22 44.3**	**+0.3**
	baz=211								
IRIF	**Iriomote-Funau**	**1.77**	**110**	P			**Pn**	**08 22 20.5**	**+0.2**
IRIF				*e*S			**Sn**	**08 22 42.6**	**-0.9**
CHN5	**Tsauling**	**1.77**	**220**	P			**Pn**	**08 22 21.0**	**+0.6**
	baz=225								
CHN5				S			**Sn**	**08 22 44.1**	**+0.4**
	baz=225								
FULB	**Fuli**	**1.85**	**198**	*e*P			**Pn**	**08 22 21.6**	**+0.2**
	baz=200								
FULB				S			**Sn**	**08 22 46.1**	**+0.7**
	baz=200								
HATJ	**Hateruma jima**	**1.95**	**117**	P			**Pn**	**08 22 22.9**	**+0.4**
HATJ				*e*S			**Sn**	**08 22 47.4**	**0.0**
ELDTW	**Lidau**	**1.95**	**205**	P			**Pn**	**08 22 22.6**	**0.0**
	baz=194								
ELDTW				*e*S			**Sn**	**08 22 48.3**	**+0.5**
	baz=194								
CHY	**Chiayi**	**2.00**	**223**	*e*P			**Pn**	**08 22 23.3**	**+0.2**
	baz=233								
CHN4	**Tsaushan**	**2.01**	**217**	P			**Pn**	**08 22 23.7**	**+0.4**
	baz=213								
CHN4				S			**Sn**	**08 22 49.9**	**+1.0**
	baz=213								
TPUB	**Ta-pu**	**2.03**	**216**	*e*P			**Pn**	**08 22 23.7**	**+0.1**
	baz=217								
JKRS	**Kuro-shima**	**2.04**	**110**	P			**Pn**	**08 22 24.1**	**+0.5**
JKRS				*e*S			**Sn**	**08 22 49.0**	**-0.5**
EDH	**Donghe**	**2.06**	**196**	*e*P			**Pn**	**08 22 23.5**	**-0.5**
	baz=193								
EDH				*e*S			**Sn**	**08 22 49.1**	**-1.0**
	baz=193								
STYH	**Taoyuan**	**2.07**	**210**	*e*P			**Pn**	**08 22 23.9**	**-0.2**
	baz=212								
WTP	**Ta-pu**	**2.08**	**215**	*e*P			**Pn**	**08 22 23.9**	**-0.4**
	baz=211								
WTP				*e*S			**Sn**	**08 22 49.5**	**-1.1**
	baz=211								
JIJ	**Ishigaki jima**	**2.12**	**106**	P			**Pn**	**08 22 24.6**	**0.0**
JIJ				*e*S			**Sn**	**08 22 50.5**	**-0.7**
MATB	**Ma-tsu**	**2.13**	**304**	*e*P			**Pn**	**08 22 24.4**	**-0.4**
	baz=303								
TWK	**Hsinying**	**2.14**	**218**	P			**Pn**	**08 22 24.8**	**-0.1**
	baz=213								
TWK				S			**Sn**	**08 22 52.1**	**+0.3**
	baz=213								
CHN1	**Nanshi**	**2.18**	**216**	P			**Pn**	**08 22 25.5**	**0.0**
	baz=212								
CHN1				S			**Sn**	**08 22 52.3**	**-0.4**
	baz=212								
JISG	**Ishigakijimahi**	**2.21**	**99**	P			**Pn**	**08 22 26.5**	**+0.7**
JISG				S			**Sn**	**08 22 53.0**	**-0.3**
TWG	**Pinlang**	**2.27**	**200**	*e*P			**Pn**	**08 22 27.1**	**+0.5**
	baz=195								
TWGBT	**Beinan**	**2.27**	**200**	*e*P			**Pn**	**08 22 27.0**	**+0.4**
	baz=195								
SLGT	**Liugui**	**2.28**	**211**	*e*P			**Pn**	**08 22 27.9**	**+1.2**
	baz=212								
LDUT	**Ludao**	**2.32**	**190**	*e*P			**Pn**	**08 22 26.4**	**-0.8**
	baz=186								
PTMZ	**Houxiangcun**	**2.54**	**272**	*e*P			**Pn**	**08 22 29.7**	**-0.2**
	baz=272								
JTJ	**Tarama**	**2.56**	**97**	P			**Pn**	**08 22 31.1**	**+0.9**
JTJ				S			**Sn**	**08 23 01.6**	**+0.4**
PNG	**Penghu**	**2.56**	**238**	*e*P			**Pn**	**08 22 29.6**	**-0.8**
	baz=239								
PHUB	**P'eng-hu**	**2.58**	**236**	*e*P			**Pn**	**08 22 29.7**	**-0.9**
	baz=238								
MASBT	**Mashibuluo**	**2.62**	**207**	*e*P			**Pn**	**08 22 30.6**	**-0.5**
	baz=208								
WDGT	**Dungji**	**2.67**	**231**	*e*P			**Pn**	**08 22 31.1**	**-0.7**
	baz=226								
EAST	**Anshuo**	**2.75**	**201**	*e*P			**Pn**	**08 22 33.0**	**+0.1**
	baz=196								
SCZT	**Fangliau**	**2.84**	**205**	*e*P			**Pn**	**08 22 34.4**	**+0.4**
	baz=206								
VCHM	**Qimei**	**2.87**	**233**	*e*P			**Pn**	**08 22 33.6**	**-0.7**
	baz=228								

IDC ***11*** *08:29:04.8±0.7,1.˚74N×90.˚78W,h0km,mb4.3/21, mb1 4.5/24,mb1mx4.4/39,mbtmp4.3/24,ML3.2/2,MS4.7/35, Ms1 4.7/35,ms1mx4.7/39,Error ellipse: s-maj=25.2km s-min=12.3km az=48.0*
IGQ ***11*** *08:29:05.2±4.2,2.˚N±13.˚9˚1W±1.˚1,h23km*
NEIC ***11*** *08:29:06.2±2.0,1.˚63N±0.˚07×90.˚8W±0.˚1,h10km±1km, mb4.8/85,Error ellipse: s-maj=18.2km s-min=11.1km az=260.0*
GCMT ***11*** *08:29:10.2±0.1,1.˚80N±0.˚01×90.˚86W±0.˚01,h14km, MW5.4/144,Moment Tensor Solution. s106,c179; s144,c268; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.17±.02; Mθθ-0.09±.02; Mϕϕ0.26±.02; Mrθ-0.16±.03; Mϕϕ-1.39±.02; Mϕr-0.11±.03; Best double couple: M0 1.41800×10^17 NP1:ϕ

PEZE Perez Zeledon, 10.46 43 Pn Pn 08 31 36.5 +0.2
CDITO Canoas 10.49 49 Pn Pn 08 31 37.3 +0.5
SRBA San Rafael, Bu 10.57 45 Pn Pn 08 31 39.0 +1.0
RIMA Rio Macho 10.61 41 Pn Pn 08 31 38.2 -0.4
HDC Heredia 10.63 39 Pn 08 31 39.3 +0.5
PPLP Puerto Lpez 10.63 108 P Pn 08 31 40.0 +1.2
DRK0 Durika 10.67 45 Pn 08 31 39.0 -0.4
CVTR Volcan Turrial 10.87 40 Pn Pn 08 31 42.9 +0.6
PTGL Punta Galera 10.91 95 P Pn 08 31 43.0 +0.5
BATAN Batan 11.18 42 Pn Pn 08 31 47.1 +1.0
FLF1 Flavio Alfaro- 11.25 101 P Pn 08 31 49.0 +1.8
MORR Playas El Morr 11.42 112 P Pn 08 31 53.0 +3.5
CRIN San Cristobal 11.54 19 Pn Pn 08 31 52.3 +1.0
ACON Acoyapa 11.64 29 Pn Pn 08 31 53.5 +0.9
BOAB BOACO BROADBAN 11.84 26 Pn Pn 08 31 56.3 +1.1
ARNL Arenillas 12.03 116 P Pn 08 32 00.0 +2.1
MATN Matagalpa 12.16 24 Pn Pn 08 31 59.6 -0.2
PAC1 Pacto, Paraso 12.19 97 P Pn 08 32 02.0 +1.8
ESPN Las Esperanzas 12.28 32 Pn Pn 08 32 03.3 +2.1
COHC Cochancay 12.37 110 P Pn 08 32 03.0 +0.5
PULU Pululahua 12.51 98 P Pn 08 32 08.0 +3.2
OTAV Otavalo 12.53 97 Pn 08 32 05.2 0.0
TAMH Tambohuasha Ch 12.55 105 P Pn 08 32 08.0 +2.6
CUIC Cuicocha-Domo 12.62 96 P Pn 08 32 07.0 +0.7
CUSW Cuicocha Oeste 12.63 96 P Pn 08 32 09.0 +2.6
MTO3 Montecristo 12.68 7 Pn Pn 08 32 08.4 +1.5
URCU Urcuqui 12.71 96 P Pn 08 32 10.0 +2.5
TGUH Tegucigalpa,Un 12.76 16 Pn 08 32 09.8 +1.8
TGUH Tegucigalpa,Un 12.76 16 eP Pn 08 32 10.2 +2.3
IMBA Imbabura, San 12.78 96 P Pn 08 32 11.0 +2.5
YAHU Yahuarcocha 12.90 96 P Pn 08 32 13.0 +2.9
ANTS Antisana-Sarah 12.92 100 P Pn 08 32 13.0 +2.4
PIAT Ana Tenorio 12.92 102 P Pn 08 32 15.0 +2.5
CHL2 Volcn Chiles 13.01 94 P Pn 08 32 11.0 -0.8
TULM Tulcn-Chalpat 13.15 94 P Pn 08 32 14.0 +0.4
APG El Apazote 13.19 2 Pn Pn 08 32 16.9 +3.0
0.1nm,0.3s,baz=225,slow=22,SNR=2.6
APG LR LR 08 35 22.4
comp=Z,342nm,18.5s,baz=192,slow=29
BCIP Isla Barro Col 13.25 56 Pn 08 32 10.8 -3.8
BCIP Isla Barro Col 13.25 56 eP Pn 08 32 16.8 +2.3
GCUF Volcan Galeras 13.56 92 eP Pn 08 32 18.2 -1.0
BBAC Balboa, Cauca 13.65 89 eP Pn 08 32 23.2 +3.0
CASC Dorado de Casc 13.65 97 P Pn 08 32 22.0 +1.9
POPC Popayan, Colom 14.23 87 eP Pn 08 32 25.1 -3.1
SOTA Rioblanco 14.29 88 eP P 08 32 34.8 -1.7
PCON Cinco Dias 14.50 87 eP P 08 32 44.2 +5.2
CCIG Comitan 14.51 355 Pn 08 32 33.7 +1.8
YOTC Yotoco, Valle 14.71 81 eP Pn 08 32 34.7 +0.1
PLMC San Jos del P 14.93 77 eP Pn 08 32 37.2 -0.4
MARP Paez Belalcaza 14.97 86 eP P 08 32 42.2 -1.7
ATAH Atahualpa 15.28 125 Pn Pn 08 32 44.5 +2.0
0.2nm,0.3s,baz=315,slow=16,SNR=7.1
ATAH LR LR 08 37 36.9
comp=Z,9µm,18.5s,baz=301,slow=34
GARC Garzon, Huila 15.40 88 eP P 08 32 48.4 -0.3
CBOC Ciudad Bolivar 15.41 74 eP Pn 08 32 42.0 -2.0
ANIL Santa Ana 15.71 80 eP Pn 08 32 42.5 -5.6
CMIG Matias Romero 15.76 346 Pn Pn 08 32 50.5 +2.1
0.1nm,0.3s,baz=174,slow=12,SNR=2.9
CMIG LR LR 08 37 32.0
comp=Z,3µm,20.6s,baz=167,slow=32
ORTC Ortega, Tolima 15.78 82 eP Pn 08 32 48.0 -0.8
TOLC Tolima 15.81 79 eP Pn 08 32 50.2 +0.8
RREF El Recreo 15.84 78 eP Pn 08 32 49.6 -0.5
GUY2C Guyana, Caldas 15.89 77 eP Pn 08 32 52.1 +1.5
HELC Santa Helena 15.96 73 eP Pn 08 32 49.6 -1.7
PRAC Prado 16.11 83 eP Pn 08 32 53.0 0.0
PTLC Puerto Leguiza 16.17 95 eP Pn 08 32 53.0 -0.8
NORC Norcasia 16.44 76 eP Pn 08 32 55.4 -1.9
MOTC Monteria, Cord 16.70 65 eP Pn 08 32 59.3 -1.2
ROSC El Rosal 16.84 79 Pn Pn 08 33 02.8 +0.2
1.7nm,0.3s,baz=278,slow=8.9,SNR=6.8
ROSC LR LR 08 38 39.6
comp=Z,4µm,21.5s,baz=270,slow=34
ROSC El Rosal 16.84 79 Pn 08 33 01.9 -0.7
ROSC IAmb IAmb 08 33 12.7
comp=Z,92nm,1.5s
ZARC Zaragoza, Cauc 16.98 70 eP Pn 08 33 02.2 -1.7
MACC Macarena, Meta 17.05 88 eP P 08 33 06.0 -0.7
SPBC San Pablo de B 17.23 77 eP Pn 08 33 07.7 +0.3
VILC Villavicencio, 17.34 82 eP P 08 33 10.6 +0.5
CHIC Chingaza 17.38 80 eP Pn 08 33 08.2 -1.2
SJCC San Jacinto, C 17.60 62 Pn 08 33 11.7 -0.2
SJCC IAmb IAmb 08 33 23.8
comp=Z,88nm,1.4s
SJCC San Jacinto, C 17.60 62 eP Pn 08 33 11.0 -0.9
BRRC Barranca, Sant 17.94 72 eP Pn 08 33 15.5 -0.5
SMLC San Martn de 18.16 67 eP Pn 08 33 17.1 -1.6
RUSC La Rusia 18.25 76 Pn 08 33 20.2 -0.1
RUSC La Rusia 18.25 76 eP Pn 08 33 19.4 -0.8
BARC Barichara 18.31 74 eP Pn 08 33 19.7 -1.1
OCAC Ocana 18.66 69 eP P 08 33 23.3 -1.4
PTGC Puerto Gaitan, 18.90 82 eP P 08 33 26.1 -1.1
PAMC Pamplona, Colo 18.97 72 eP P 08 33 27.5 -0.9
SMRC Santa Marta, M 19.02 60 eP P 08 33 26.8 -1.6
NNA Nana 19.52 135 P Pn 08 33 38.5 +3.3
comp=Z,1.2nm,0.3s,baz=277,slow=18,SNR=1.7
NNA LR LR 08 39 44.5
comp=Z,3µm,20.1s,baz=314,slow=33
CZSB Cruzeiro do Su 20.44 118 eP P 08 33 44.0 0.0
URIC Uribia, Colomb 21.21 61 eP P 08 33 51.1 -1.1
SDV Santo Domingo 21.38 70 P P 08 33 54.0 -0.4
comp=Z,7.3nm,0.3s,baz=253,slow=9.1,SNR=8.8
SDV LR LR 08 42 13.0
comp=Z,2µm,20.7s,baz=253,slow=37
SDV Santo Domingo 21.38 70 P P 08 33 53.9 -0.5
SDV Santo Domingo 21.38 70 eP P 08 33 44.9 -9.5
SDV Santo Domingo 21.38 70 eP P 08 33 54.6 +0.2
TBTG Tabatinga, AM 21.79 106 eP P 08 33 58.4 -0.1
ELOV Elorza 21.98 76 eP P 08 33 59.0 -1.5
ZAIG Zacatecas 23.78 332 P P 08 34 21.0 +1.5
ZAIG IAmb IAmb 08 34 26.4
comp=Z,33nm,1.4s
H06E1 SOCORRO T-PHAS 25.93 312 T T 09 01 40.8
SNR=16
ETMB Extrema 27.13 115 eP P 08 34 49.9 +0.2
PCRV Puerto La Cruz 27.41 71 P P 08 34 52.9 +0.5
comp=Z,12nm,1.0s,baz=277,slow=9.0,SNR=3.8
PCRV LR LR 08 45 46.9
comp=Z,2µm,20.9s,slow=37
833A Chaparral WMA, 27.66 344 P 08 34 54.6
baz=162
LPAZ La Paz 28.75 129 P P 08 35 05.2 +0.2
comp=Z,7.6nm,1.1s,baz=313,slow=6.3,SNR=14
LPAZ LR LR 08 46 02.6
comp=Z,3µm,21.4s,baz=323,slow=36
LPAZ La Paz 28.75 129 P P 08 35 04.9 0.0
LPAZ IAmb IAmb 08 35 17.0
comp=Z,14nm,1.1s
LPAZ La Paz 28.75 129 eP P 08 35 05.5 +0.6
LPAZ La Paz 28.75 129 eP P 08 35 06.3 +1.4
PB16 IPOC Station P 29.00 134 P P 08 35 04.7 -2.4
PB16 IAmb IAmb 08 35 22.9
comp=Z,16nm,1.0s
LPIG La Paz 29.11 321 LR LR 08 44 02.4
comp=Z,1µm,19.5s,baz=163,slow=31
SJG San Juan 29.24 55 LR LR 08 45 16.0
comp=Z,2µm,19.7s,baz=230,slow=33
MNMC Minye Minye 29.46 136 P P 08 35 08.1 -2.8
BRAL Brewton 29.50 7 P 08 35 10.9
baz=188
435B Jarrell 29.58 348 P 08 35 11.5
baz=166
SAML Samuel 29.59 111 P P 08 35 10.5 -1.3
SAML IAmb IAmb 08 35 13.4
comp=Z,17nm,1.3s
JCT Junction City 29.81 344 P 08 35 13.8
baz=162
TX31 Lajitas Ar. Si 30.02 337 P P 08 35 16.8 +1.4
TX32 Lajitas Array 30.02 337 P P 08 35 16.2 +0.7
TXAR Lajitas Array 30.02 337 P P 08 35 16.9 +1.4
comp=Z,1.5nm,0.9s,baz=149,slow=9.9,SNR=13
TXAR LR LR 08 46 22.7
comp=Z,3µm,18.8s,baz=0.0,slow=34
TXAR Lajitas Array 30.02 337 P P 08 35 16.7 +1.2
NATX Nacogdoches 30.07 354 P 08 35 16.2
baz=172
NATX Nacogdoches 30.08 354 P P 08 35 15.2 -0.6
VBMS Vicksburg 30.32 1 P 08 35 17.9
baz=181
TIGA Tifton 30.34 12 P 08 35 18.2
baz=194

BOAV Boa Vista 30.36 88 eP P 08 35 18.2 -0.4
PB08 IPOC Station P 30.45 137 P P 08 35 17.3 -2.5
WHTX Lake Whitney, 30.72 349 P 08 35 22.1
baz=167
WHTX Lake Whitney, 30.73 349 P P 08 35 22.5 +0.9
PB01 IPOC Station P 30.85 138 P P 08 35 22.4 -0.5
PTGA Pitinga 31.02 94 P P 08 35 23.9 -0.5
PTGA IAmb IAmb 08 35 29.4
comp=Z,34nm,1.4s
152A Waverly Hall 31.32 10 P P 08 35 26.5 -0.3
152A IAmb IAmb 08 35 33.9
comp=Z,20nm,1.3s
Z41A Richland Creek 31.41 357 P 08 35 27.5
baz=176
PB09 IPOC Station P 31.54 139 P P 08 35 26.6 -2.5
Z38A Mt. Pleasant 31.59 353 P P 08 35 30.1 +0.9
Z38A IAmb IAmb 08 35 37.0
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 31.81 346 P
baz=163 08 35 31.2
ABTX Abilene, Hawle 31.81 346 P P 08 35 31.1 -0.1
ABTX IAmb IAmb 08 35 39.3
comp=Z,14nm,1.1s
GOGA Godfrey 32.27 12 P 08 35 34.4
baz=194
LVC Limon Verde 32.33 140 eP P 08 35 37.7 +1.5
X40A Basin Creek Fa 32.63 357 P 08 35 38.3
baz=176
MIAR Mount Ida 32.74 356 P 08 35 37.6
baz=175,SNR=14
MNTX Cornudas Mount 32.79 337 P 08 35 39.2
baz=153,SNR=9.0
MNTX Cornudas Mount 32.79 337 P P 08 35 39.8 0.0
NHSC New Hope 32.79 17 P 08 35 38.4
baz=200
FPAL Fort Paine 33.01 8 P P 08 35 40.9 -0.8
FPAL IAmb IAmb 08 35 47.6
comp=Z,13nm,1.3s
X51A Calhoun 33.15 9 P P 08 35 41.7 -1.1
W41B Gary Mavity, V 33.29 358 P 08 35 43.2
baz=177
X34A Smith Ranch, M 33.33 350 P P 08 35 44.4 0.0
W39A Magazine 33.40 356 P 08 35 44.3
baz=175,SNR=5.4
WMOK Wichita Mounta 33.65 348 P 08 35 47.0
baz=166,SNR=32
WMOK Wichita Mounta 33.65 348 P P 08 35 48.1 +0.9
VILB Vilhena 33.78 116 eP P 08 35 49.2 +0.6
MSTX Muleshoe 33.94 342 P 08 35 49.6
baz=158,SNR=11
MSTX Muleshoe 33.94 342 P P 08 35 50.6 +0.7
MSTX IAmb IAmb 08 35 56.5
comp=Z,20nm,0.9s
TUL1 Leonard 34.31 353 P 08 35 52.6
baz=171
WVT Waverly 34.34 4 P 08 35 52.1
baz=185
WVT Waverly 34.34 4 P P 08 35 52.8 -0.4
WVT IAmb IAmb 08 35 59.1
comp=Z,13nm,1.2s
TKL Tuckaleechee C 34.40 10 P P 08 35 53.5 -0.2
TKL IAmb IAmb 08 35 60.0
comp=Z,18nm,1.1s
KMSC Kings Mountain 34.41 14 P 08 35 52.6
baz=197
U40A Yellville 34.50 357 P 08 35 54.7
baz=176
U40A Yellville 34.50 357 P P 08 35 54.6 0.0
U40A IAmb IAmb 08 36 00.8
comp=Z,12nm,1.2s
121A Cookes Peak, D 34.51 334 P 08 35 54.4
baz=149
121A Cookes Peak, D 34.51 334 P P 08 35 55.8 +0.8
121A IAmb IAmb 08 36 02.6
comp=Z,14nm,1.1s
U38A Gravette 34.68 355 P P 08 35 56.2 0.0
U38A IAmb IAmb 08 36 02.2
comp=Z,15nm,1.1s
T47A Sharon Grove 35.26 5 P P 08 36 00.2 -0.9
T47A IAmb IAmb 08 36 07.3
comp=Z,22nm,1.0s
TZTN Tazewell 35.30 10 P 08 36 00.9
baz=193
AC02 Maricunga 35.32 145 P P 08 36 02.0 -0.4
AC02 IAmb IAmb 08 36 07.1
comp=Z,29nm,1.4s
BNM Barren Site 35.44 337 P P 08 36 04.7 +1.7
CNNC Cliffs of the 35.46 19 P 08 36 01.8
baz=203
Y22D IRIS PASSCAL I 35.49 337 P 08 36 03.2
baz=152
ITTB Itaituba 35.66 100 eP P 08 36 05.0 +0.2
TUC Tucson 35.72 330 P 08 36 04.9
baz=144
TUC Tucson 35.72 330 P P 08 36 06.8 +1.6
PTLB Pontes e Lacer 35.75 120 eP P 08 36 05.3 -0.3
S39A Bolivar 35.85 357 P P 08 36 06.5 +0.2
KAN08 Anthony NE Sta 35.92 350 P P 08 36 07.0 +0.2
ANMO Albuquerque 36.08 338 P 08 36 08.2
baz=153
ANMO Albuquerque 36.08 338 P P 08 36 10.4 +1.9
comp=Z,5.1nm,0.9s,baz=154,slow=8.7,SNR=9.7
ANMO LR LR 08 50 11.7
comp=Z,2µm,19.7s,baz=160,slow=35
ANMO Albuquerque 36.08 338 P P 08 36 09.9 +1.4
R40A Maddies Statio 36.40 358 P P 08 36 10.9 0.0
214A Organ Pipe Nat 36.48 328 P 08 36 10.8
baz=141
WCI Wyandotte Cave 36.56 6 P P 08 36 12.0 -0.2
WCI IAmb IAmb 08 36 19.1
comp=Z,12nm,0.9s
WCI Wyandotte Cave 36.56 6 P 08 36 11.4
baz=188
BLA Blacksburg 36.60 14 P 08 36 11.7
baz=198
MALB Monte Alegre 36.80 95 eP P 08 36 15.3 +0.7
T59A Double "B" Far 37.16 18 P P 08 36 16.5 -0.9
R32A Long Quarter, 37.21 350 P P 08 36 18.3 +0.5
R32A IAmb IAmb 08 36 24.3
comp=Z,30nm,1.0s
T25A Trinidad 37.37 342 P 08 36 20.5
baz=157,SNR=13
W18A Petrified Fore 37.56 334 P 08 36 21.1
baz=148
CBKS Cedar Bluff 37.78 349 P 08 36 22.8
baz=166
P49A Miami Univ. Ec 38.04 8 P 08 36 23.4
baz=190
SDCO Great Sand Dun 38.27 341 P 08 36 26.1
baz=156,SNR=15
SDCO Great Sand Dun 38.27 341 P P 08 36 28.1 +1.0
O44A Mansfield 38.30 3 P P 08 36 26.8 -0.2
CBN Corbin Frederi 38.36 17 P 08 36 26.4
baz=202
P52A Corning 38.56 11 P 08 36 27.9
baz=194
KSCO Kaye Shedlock' 38.62 345 P 08 36 29.2
baz=161
SFIN Lafayette 38.62 5 P 08 36 28.6
baz=186
WUAZ Wupatki 38.62 333 P 08 36 28.8
baz=146,SNR=12
WUAZ Wupatki 38.62 333 P P 08 36 31.0 +1.0
WUAZ IAmb IAmb 08 36 53.1
comp=Z,16nm,1.1s
HDIL Hopedale 38.67 2 P 08 36 29.5
baz=182
S22A 4UR Ranch, Cre 38.72 340 P 08 36 30.5
baz=154,SNR=14
MVCO Mesa Verde 38.85 337 P 08 36 30.9
baz=151
SWSC Sam W. Stewart 38.87 326 P 08 36 29.9
baz=138
MCPB Macapa, AP 38.89 93 eP P 08 36 33.2 +0.9
MONP2 Monument Peak 39.18 325 P 08 36 33.2
baz=137
N35A Tabor 39.18 354 P P 08 36 34.1 -0.3
N35A IAmb IAmb 08 36 43.1
comp=Z,46nm,1.2s
BC3 Big Chuckawall 39.20 327 P 08 36 33.8
baz=139
Q24A Divide 39.28 342 P 08 36 34.0
baz=157
N33A J Bar K, Exete 39.28 352 P P 08 36 34.9 -0.3
O53A New Philadelph 39.33 12 P 08 36 35.0
baz=195

W13A Hualapai Mount 39.49 330 P P 08 36 38.0 +0.7
109C Camp Elliot, M 39.57 324 P 08 36 37.6
baz=136
TPFO Pinon Flats 39.72 326 P 08 36 38.5
baz=138
PFO Pinyon Flats O 39.73 326 P P 08 36 40.7 +1.5
comp=Z,1.9nm,0.8s,baz=143,slow=8.5,SNR=4.6
PFO Pinyon Flats O 39.73 326 P 08 36 38.8
baz=138
BELC Belle Mtn. Jos 39.76 327 P 08 36 39.1
baz=139
MT05 Renca 39.78 153 P P 08 36 39.4 -0.1
PV11 David Mesa, Pa 39.95 338 P P 08 36 41.1 0.0
PV11 IAmb IAmb 08 36 48.8
comp=Z,15nm,1.2s
O56A Blue Knob Stat 39.96 15 P 08 36 40.3
baz=199
BGNE Belgrade 40.03 352 P 08 36 41.9
baz=169
GMRC Granite Mounta 40.17 328 P 08 36 41.7
baz=140
ISCO Idaho Springs 40.19 342 P 08 36 42.7
baz=157,SNR=12
ISCO Idaho Springs 40.19 342 P P 08 36 43.2 +0.1
N54A Moraine State 40.28 13 P 08 36 42.5
baz=197
OGNE Ogallala 40.31 347 P 08 36 44.0
baz=163
L44A Lake County Fo 40.35 3 P 08 36 43.0
baz=184
PP1B Ponte de Pedra 40.35 120 eP P 08 36 45.9 +1.4
P60A Greenville 40.36 18 P 08 36 42.8
baz=204
SSPA Standing Stone 40.48 15 P 08 36 44.2
baz=200
HEC Hector,Ludlow 40.56 327 P 08 36 44.9
baz=139
M53A Wt Miller and 40.59 12 P 08 36 45.1
baz=196
CIS Catalina Islan 40.71 324 P 08 36 48.4
baz=135
LCMT Little Creek M 40.71 332 P P 08 36 47.7 +0.3
TUQ Turquoise Moun 40.80 328 P 08 36 48.6
baz=140
BFSC Mount Baldy Ra 40.87 325 P 08 36 50.5
baz=137
M54A Oil Creek Stat 40.87 13 P 08 36 49.9
baz=197
AQDB Aquidauana 40.94 124 P P 08 36 46.7 -2.6
AQDB IAmb IAmb 08 36 51.4
comp=Z,37nm,1.5s
AQDB Aquidauana 40.94 124 eP P 08 36 49.5 +0.2
JFWS Jewell Farm 41.00 1 P 08 36 48.6
baz=181,SNR=13
JFWS Jewell Farm 41.00 1 P P 08 36 48.8 -0.6
JFWS IAmb IAmb 08 36 54.1
comp=Z,27nm,1.0s
SZCU Shurtz Canyon 41.11 333 P P 08 36 51.0 +0.2
GSC Goldstone, Bar 41.17 327 P 08 36 52.4
baz=139
N59A State Game Lan 41.34 17 P 08 36 51.0
baz=203
SHOC Shoshone, Teco 41.34 328 P 08 36 53.4
baz=140
O20A White River Ci 41.34 340 P 08 36 52.9
baz=153
ERPA Erie 41.38 12 P 08 36 54.1
baz=196
EDW2 Edwards Air Fo 41.52 326 P 08 36 55.2
baz=137
SNDB Serra Nova Dou 41.64 110 eP P 08 36 53.9 -1.2
PRPB Parauapebas 41.76 101 eP P 08 36 55.9 -0.3
LRMC Laurel Mtn Rad 41.78 326 P 08 36 58.1
baz=138
L56A Greenwood 41.97 15 P 08 36 55.9
baz=200
FURC Furnace Creek, 42.08 328 P 08 36 58.7
baz=139
MPMC Manual Prospec 42.11 327 P 08 36 58.3
baz=138
ECSD EROS Data Cent 42.13 354 P 08 36 58.0
baz=171,SNR=30
TPNV Topopah Spring 42.13 329 P 08 36 58.6
baz=140
ARVC Arvin 42.17 325 P 08 37 00.1
baz=136
RDMU Red Mountain 42.20 339 P P 08 36 59.6 0.0
RDMU IAmb IAmb 08 37 09.4
comp=Z,14nm,1.2s
SBC Santa Barbara 42.21 324 P 08 37 01.4
baz=134
PSUT Pine Spring 42.23 333 P P 08 37 01.0 +1.2
ARAG Araguaiana, MT 42.34 116 eP P 08 36 59.9 -0.9
L58A Harry Jones Me 42.35 17 P 08 37 01.6
baz=202
K56A Middlesex 42.56 15 P 08 37 03.7
baz=200
PKM Mcpherson Peak 42.58 324 P 08 37 03.7
baz=135
CWC Cottonwood Cre 42.71 327 P 08 37 04.9
baz=138
GRAC Grapevine Rang 42.74 328 P 08 37 04.8
baz=139
CPUP Villa Florida 42.76 133 P P 08 37 03.8 -0.3
comp=Z,3.0nm,0.9s,baz=320,slow=10.0,SNR=6.0
CPUP LR LR 08 55 21.9
comp=Z,1µm,21.2s,baz=328,slow=37
CPUP Villa Florida 42.76 133 P P 08 37 03.8 -0.3
CPUP IAmb IAmb 08 37 11.2
comp=Z,14nm,1.2s
CPUP Villa Florida 42.76 133 eP P 08 37 04.1 -0.1
SPR3 Spring Creek 3 42.82 333 P P 08 37 04.9 +0.1
VES Vestal, Richgr 42.83 326 P 08 37 05.8
baz=136
R11A Troy Canyon, C 42.89 331 P 08 37 05.7
baz=142
JLU Jordanelle 42.94 337 P P 08 37 05.1 -0.5
TMAB Tom-Au,PA,Br 42.99 95 eP P 08 37 07.4 +1.3
K22A Casper 43.07 343 P 08 37 07.0
baz=157
SUSD Miller 43.12 352 P 08 37 06.7
baz=168
SUSD Miller 43.12 352 P P 08 37 07.0 +0.1
DUG Dugway, Tooele 43.14 335 P 08 37 08.9
baz=147
SPMN Marine on St. 43.34 358 P 08 37 08.1
baz=177
K61A Williamstown 43.71 19 P 08 37 10.6
baz=206
J58A Remsen 43.72 16 P 08 37 10.8
baz=203
RSSD Black Hills 43.79 346 P 08 37 11.3
baz=161
RSSD Black Hills 43.79 346 P P 08 37 12.4 0.0
H53A Bobcaygeon 44.03 13 P 08 37 13.0
baz=198
K62A Royalston 44.05 20 P 08 37 12.6
baz=207
BW06 Boulder Array 44.13 340 P 08 37 14.4
baz=153
PDAR Pinedale Array 44.13 340 P P 08 37 16.0 +0.8
comp=Z,4.4nm,1.1s,baz=156,slow=7.8,SNR=13
PDAR LR LR 08 55 30.4
comp=Z,2µm,18.8s,baz=170,slow=36
NV11 Mina Array Sit 44.24 329 P P 08 37 16.1 0.0
NV11 IAmb IAmb 08 37 23.5
comp=Z,12nm,1.2s
NVAR Mina Array Bea 44.31 329 P P 08 37 18.3 +1.6
comp=Z,3.9nm,0.9s,baz=152,slow=8.9,SNR=17
NVAR PcP PcP 08 39 01.4 +0.4
comp=Z,0.6nm,0.9s,baz=106,slow=2.9,SNR=2.3
NVAR LR LR 08 54 01.7
comp=Z,752nm,20.7s,baz=140,slow=34
SMTB Santa Maria do 44.43 104 eP P 08 37 19.7 +1.9
HVU Hansel Valley 44.46 337 P P 08 37 18.1 +0.3
HVU IAmb IAmb 08 37 24.9
comp=Z,14nm,1.2s
PEXB Peixe 44.49 109 eP P 08 37 18.2 0.0
I59A Olmsteadville 44.53 18 P 08 37 15.8
baz=204
TRCB Terra Rica 44.55 125 eP P 08 37 18.4 -0.2
ELK Elko 44.64 334 P P 08 37 20.3 +0.9
comp=Z,2.1nm,1.0s,baz=166,slow=6.6,SNR=7.7
J62A Henniker 44.69 20 P 08 37 16.2
baz=208
G54A Lake Saint Pet 44.92 13 P 08 37 20.0
baz=198,SNR=8.5

J63A	**Strafford**	**44.99**	**21**	P			08 37 20.1		
	baz=208								
H58A	**Gabriels**	**45.01**	**17**	P			08 37 19.6		
	baz=204								
REDW	**Red Top Meadow**	**45.11**	**339**	P		**P**	**08 37 23.0**	**0.0**	
REDW				IAmb		IAmb	08 37 27.7		
	comp=Z,25nm,1.3s								
ITRB	**Iturama**	**45.12**	**120**	*e*P		**P**	**08 37 22.4**	**-0.8**	
PCMB	**Pacaembu**	**45.15**	**123**	*e*P		**P**	**08 37 24.0**	**+0.6**	
SNOW	**Snow King Moun**	**45.16**	**340**	P		**P**	**08 37 22.9**	**-0.5**	
I61A	**Oroboro, Fairl**	**45.18**	**19**	P			08 37 21.3		
	baz=207								
ITQB	**Itaqui**	**45.25**	**136**	*e*P		**P**	**08 37 27.0**	**+3.0**	
H59A	**Cadyville**	**45.36**	**17**	P			08 37 22.8		
	baz=204								
G57A	**Newington**	**45.41**	**16**	P			08 37 23.2		
	baz=202								
I62A	**Tamworth**	**45.42**	**20**	P			08 37 23.9		
	baz=208								
ALGO	**Algonquin Park**	**45.46**	**13**	P			08 37 23.8		
	baz=198,SNR=5.9								
BDFB	**Brasilia**	**45.77**	**114**	P		**P**	**08 37 26.8**	**-1.7**	
	comp=Z,1.5nm,0.4s,baz=266,slow=2.2,SNR=3.9								
BDFB				LR		LR	08 57 26.9		
	comp=Z,1μm,20.5s,baz=292,slow=37								
H17A	**Grant Village**	**45.92**	**340**	P			08 37 28.9		
	baz=152								
EYMN	**Ely**	**46.03**	**359**	P			08 37 28.4		
	baz=179								
EYMN	**Ely**	**46.03**	**359**	P		**P**	**08 37 28.4**	**-1.6**	
EYMN				IAmb		IAmb	08 37 34.6		
	comp=Z,11nm,1.1s								
PLCA	**Paso Flores**	**46.16**	**159**	P		**P**	**08 37 31.9**	**+0.7**	
	comp=Z,10nm,1.2s,baz=359,slow=11,SNR=4.0								
PLCA				LR		LR	08 53 03.0		
	comp=Z,1μm,19.0s,baz=340,slow=31								
PLCA	**Paso Flores**	**46.16**	**159**	P		**P**	**08 37 29.1**	**-2.1**	
PLCA				IAmb		IAmb	08 37 38.1		
	comp=Z,26nm,1.4s								
PLCA	**Paso Flores**	**46.16**	**159**	*e*P		**P**	**08 37 33.0**	**+1.8**	
IPMB	**Ipameri, GO**	**46.37**	**117**	*e*P		**P**	**08 37 31.7**	**-1.4**	
YHL	**Hebgen Lake**	**46.53**	**340**	P		**P**	**08 37 33.7**	**-0.5**	
YHL				IAmb		IAmb	08 37 39.8		
	comp=Z,16nm,1.2s								
MDND	**Maddock**	**46.55**	**352**	P			08 37 33.3		
	baz=168,SNR=18								
AGMN	**Agassiz Nation**	**46.58**	**355**	P		**P**	**08 37 33.4**	**-0.9**	
	baz=173,SNR=24								
AGMN	**Agassiz Nation**	**46.58**	**355**	P		**P**	**08 37 33.4**	**-0.9**	
QLMT	**Earthquake Lak**	**46.59**	**340**	P		**P**	**08 37 35.0**	**+0.3**	
HLID	**Hailey**	**46.61**	**336**	P			08 37 34.9		
	baz=147,SNR=16								
LAO	**LASA Array**	**46.73**	**346**	P			08 37 36.8		
	baz=159								
ORV	**Oroville**	**46.83**	**327**	P		**P**	**08 37 37.4**	**+1.0**	
ORV				IAmb		IAmb	08 37 43.7		
	comp=Z,9.8nm,1.1s								
H64A	**Troy**	**46.83**	**21**	P			08 37 35.3		
	baz=210								
G62A	**West of Eustis**	**46.88**	**20**	P			08 37 35.0		
	baz=208								
ROSB	**Rosrio**	**46.98**	**96**	*e*P		**P**	**08 37 37.8**	**-0.2**	
E58A	**La Victoria**	**47.05**	**17**	P			08 37 35.3		
	baz=204								
D55A	**Sainte-Anne-du**	**47.06**	**14**	P			08 37 36.5		
	baz=201								
ITAB	**Concordia**	**47.14**	**130**	*e*P		**P**	**08 37 40.8**	**+1.8**	
BB19B	**Bebedouro**	**47.24**	**121**	*e*P		**P**	**08 37 40.8**	**+0.9**	
D56A	**ZEC Mazanza, M**	**47.27**	**15**	P			08 37 37.8		
	baz=202								
FRTB	**Fartura**	**47.31**	**124**	*e*P		**P**	**08 37 40.3**	**-0.1**	
PKME	**Peaks-Kenny Pk**	**47.34**	**21**	P			08 37 39.7		
	baz=210								
SDBA	**SAO DESIDERIO**	**47.78**	**108**	*e*P		**P**	**08 37 44.5**	**+0.3**	
D58A	**Chemin du LacG**	**47.83**	**17**	P			08 37 43.1		
	baz=204								
CPSB	**Cacapava Do Su**	**47.91**	**135**	*e*P		**P**	**08 37 45.9**	**+1.0**	
E62A	**Clayton Lake**	**48.44**	**20**	P			08 37 48.2		
	baz=209								
ULM	**Lac du Bonnet**	**48.52**	**356**	P		**P**	**08 37 48.3**	**-1.0**	
	comp=Z,16nm,0.9s,baz=170,slow=7.4,SNR=10.0								
ULM				LR		LR	09 00 15.7		
	comp=Z,461nm,19.2s,baz=171,slow=39								
PLTB	**Pedras Altas**	**48.58**	**137**	P		**P**	**08 37 48.9**	**-1.2**	
PLTB	**Pedras Altas**	**48.58**	**137**	*e*P		**P**	**08 37 51.2**	**+1.1**	
M04C	**Macdoel**	**48.61**	**329**	P			08 37 51.5		
	baz=137								
RCLB	**Rio Claro- Sao**	**48.63**	**122**	*e*P		**P**	**08 37 51.7**	**+1.0**	
TIJ01	**Guaruva-PR**	**48.66**	**126**	*e*P		**P**	**08 37 52.3**	**+1.4**	
D62A	**Allapoint, All**	**49.01**	**20**	P			08 37 52.9		
	baz=209								
JANB	**Januaria**	**49.01**	**112**	*e*P		**P**	**08 37 54.3**	**+0.5**	
MATQ	**Matagami**	**49.17**	**11**	P			08 37 53.2		
	baz=198								
SPB	**Sao Paulo**	**49.19**	**124**	*e*P		**P**	**08 37 53.3**	**-1.6**	
MSO	**Missoula**	**49.20**	**339**	P			08 37 53.2		
	baz=149								
VAO	**Valinhos**	**49.34**	**123**	*e*P		**P**	**08 37 54.9**	**-1.3**	
RKT	**Rikitea**	**49.51**	**237**	*e*S		**S**	**08 45 04.6**	**-0.6**	
	comp=Z,605nm,27.0s								
RKT				*e*LR		LR	08 52 02.4		
	comp=Z,2μm,28.0s								
RKT	**Rikitea**	**49.51**	**237**	*e*T		T	09 31 01.6		
	comp=Z,3.4nm,0.2s								
PET01	**Itanhaem-SP**	**49.61**	**124**	*e*P		**P**	**08 37 59.5**	**+1.4**	
J04D	**Umpqua Nationa**	**49.81**	**330**	P			08 37 58.5		
	baz=137								
MC01	**Montes Claros**	**49.82**	**114**	*e*P		**P**	**08 38 00.5**	**+0.6**	
CHGQ	**Chibougamau**	**50.02**	**14**	P			08 37 59.3		
	baz=202								
TAOE	**Nuku Hiva Isla**	**50.19**	**257**	*e*S		**S**	**08 45 15.8**	**+0.5**	
	comp=Z,325nm,25.1s								
TAOE				*e*LR		LR	08 52 29.0		
	comp=Z,2μm,26.6s,baz=72								
TAOE	**Nuku Hiva Isla**	**50.19**	**257**	*e*T		T	09 31 54.5		
	comp=Z,55nm,0.2s								
K02D	**Willamette Mer**	**50.21**	**329**	P			08 38 01.1		
	baz=135								
PARB	**Paraibuna**	**50.61**	**122**	*e*P		**P**	**08 38 05.5**	**-0.3**	
I03D	**Drain, OR**	**50.77**	**330**	P			08 38 02.3		
	baz=136								
NEW	**Newport**	**51.57**	**338**	P			08 38 13.7		
	baz=146								
NEW	**Newport**	**51.57**	**338**	P		**P**	**08 38 12.6**	**0.0**	
	comp=Z,2.8nm,0.9s,baz=161,slow=5.7,SNR=3.9								
E04D	**Cinebar**	**52.50**	**333**	P			08 38 22.3		
	baz=139								
NBMA	**Muriti-CE**	**52.79**	**101**	*e*P		**P**	**08 38 22.3**	**0.0**	
SJMB	**Sao Joao De Ma**	**52.91**	**115**	*e*P		**P**	**08 38 23.7**	**+0.7**	
DUB01	**Friburgo-RJ**	**52.93**	**119**	*e*P		**P**	**08 38 24.4**	**+1.2**	
BSFB	**Barra de Sao F**	**53.26**	**115**	*e*P		**P**	**08 38 26.8**	**+1.2**	
CAM01	**Campos-RJ**	**53.47**	**119**	*e*P		**P**	**08 38 27.9**	**+0.9**	
NBIT	**Itapeh - BA**	**53.54**	**110**	*e*P		**P**	**08 38 28.8**	**+1.1**	
CMC01	**Camacan, BA**	**53.56**	**110**	*e*P		**P**	**08 38 28.9**	**+1.0**	
FFC	**Flin Flon**	**53.59**	**352**	P		**P**	**08 38 27.2**	**-0.2**	
FFC				IAmb		IAmb	08 38 32.3		
	comp=Z,7.3nm,1.0s								
GUA01	**Guaratinga, BA**	**53.60**	**112**	*e*P		**P**	**08 38 29.0**	**+0.9**	
NAN01	**Guarapari, ES**	**53.63**	**114**	*e*P		**P**	**08 38 29.0**	**+0.7**	
RIB01	**Linhares ES**	**53.81**	**115**	*e*P		**P**	**08 38 30.1**	**+0.6**	
SCHQ	**Schefferville**	**56.46**	**16**	P		**P**	**08 38 46.0**	**-2.1**	
	comp=Z,3.8nm,0.9s,baz=156,slow=4.6,SNR=3.7								
SCHQ				LR		LR	09 02 02.6		
	comp=Z,646nm,21.8s,baz=206,slow=35								
SCHQ	**Schefferville**	**56.46**	**16**	P		**P**	**08 38 46.9**	**-1.3**	
SCHQ				IAmb		IAmb	08 38 54.1		
	comp=Z,14nm,1.1s								
TBI	**Tubuai**	**62.14**	**242**	*e*S		**S**	**08 47 55.5**	**+1.8**	
	comp=Z,466nm,28.0s								
TBI				*e*LQ		LQ	08 55 17.0		
	comp=Z,884nm,34.8s								
TBI				*e*LR		LR	08 57 55.5		
	comp=Z,3μm,28.0s,baz=71								
TBI	**Tubuai**	**62.14**	**242**	*e*T		T	09 46 50.0		
	comp=Z,12nm,0.2s								
YKA	**Yellowknife Ar**	**63.16**	**348**	P		**P**	**08 39 33.9**	**-0.2**	
	comp=Z,7.7nm,1.1s,baz=144,slow=7.5,SNR=4.6								
YKA				LR		LR	09 07 55.6		
	comp=Z,854nm,19.3s,baz=0.0,slow=37								
CRQE	**Cirque**	**70.91**	**336**	P			08 40 24.1		
	baz=123								
RAR	**Rarotonga**	**71.02**	**247**	LR		LR	09 03 23.8		
	comp=Z,601nm,18.3s,baz=112,slow=29								
BMRM	**Bremner River**	**71.65**	**336**	P			08 40 28.6		
	baz=122								
L27K	**Beaver Creek,**	**71.72**	**338**	P			08 40 29.4		
	baz=125								
DY2G	**Dye2**	**71.76**	**17**	*i* P		**P**	**08 40 27.3**	**-1.4**	
N25K	**Chitina, Valde**	**71.98**	**336**	P			08 40 30.2		
	baz=122								
EPYK	**Eagle Plains**	**72.04**	**342**	P			08 40 30.6		
	baz=131								
K27K	**Chicken**	**72.37**	**339**	P			08 40 33.6		
	baz=125								
INK	**Inuvik**	**72.46**	**345**	P		**P**	**08 40 32.4**	**-0.2**	
	comp=Z,5.3nm,1.1s,baz=106,slow=4.3,SNR=4.2								
INK	**Inuvik**	**72.46**	**345**	P			08 40 33.1		
	baz=135								
EGAK	**Eagle**	**72.48**	**340**	P			08 40 32.8		
	baz=126								
HARP	**HAARP**	**72.63**	**337**	P			08 40 34.8		
	baz=122								
M24K	**Tolsona, Glenn**	**72.89**	**336**	P			08 40 37.0		
	baz=121								
SCRK	**Sand Creek**	**73.03**	**338**	P			08 40 35.7		
	baz=123								
SCRK	**Sand Creek**	**73.03**	**338**	P		**P**	**08 40 36.8**	**+0.5**	
PAX	**Paxson**	**73.05**	**337**	P			08 40 37.6		
	baz=122								
KNK	**Knik Glacier**	**73.49**	**335**	P			08 40 39.4		
	baz=118								
SML	**Sawmill**	**73.62**	**335**	P			08 40 39.9		
	baz=119								
WAT6	**Susitna Watana**	**73.75**	**336**	P			08 40 40.6		
	baz=119								
HDA	**Harding Lake**	**74.36**	**338**	P			08 40 43.8		
	baz=121								
HDA				P			08 40 43.8		
	baz=121								
IL31		**74.53**	**338**	P		**P**	**08 40 44.3**	**-0.5**	
IL31				IAmb		IAmb	08 40 49.6		
	comp=Z,13nm,1.3s								
ILAR	**Eielson Array**	**74.53**	**338**	P		**P**	**08 40 44.3**	**-0.6**	
	comp=Z,2.7nm,0.9s,baz=148,slow=4.4,SNR=16								
ILAR				LR		LR	09 14 26.5		
	comp=Z,1μm,18.3s,baz=126,slow=36								
ILAR	**Eielson Array**	**74.53**	**338**	P		**P**	**08 40 44.5**	**-0.4**	
MCK	**McKinley**	**74.79**	**337**	P			08 40 45.9		
	baz=118								
BMAR	**Burnt Mountain**	**75.15**	**341**	P		**P**	**08 40 48.4**	**-0.1**	
NEA2	**Nenana**	**75.25**	**338**	P			08 40 48.2		
	baz=119								
ICESG	**Greenland Ices**	**75.36**	**17**	*i* P		**P**	**08 40 48.9**	**-1.2**	
ICESG				IAmb		IAmb	08 40 49.8		
	comp=Z,7.6nm,0.8s								
H24K	**Noodor Dome**	**75.43**	**339**	P			08 40 50.7		
	baz=120								
I23K	**Minto, Yukon-K**	**75.63**	**338**	P			08 40 51.4		
	baz=118								
PPLA	**Purkeypile**	**75.72**	**336**	P			08 40 51.2		
	baz=115								
BPAW	**Bear Paw Mtn.**	**75.76**	**337**	P			08 40 52.9		
	baz=117								
MLY	**Manley**	**76.09**	**338**	P			08 40 52.6		
	baz=117								
COLD	**Coldfoot**	**76.92**	**340**	P			08 40 58.7		
	baz=118								
COLD	**Coldfoot**	**76.92**	**340**	P		**P**	**08 40 58.9**	**+0.4**	
COLD				IAmb		IAmb	08 41 06.5		
	comp=Z,14nm,1.4s								
H21K	**Melozitna Rive**	**77.15**	**338**	P			08 40 59.6		
	baz=115								
TTA	**Tatalina**	**77.34**	**335**	P			08 40 59.2		
	baz=112								
SUMG	**Summit**	**77.75**	**14**	*i* P		**P**	**08 41 03.0**	**-0.5**	
SUMG				IAmb		IAmb	08 41 05.7		
	comp=Z,2.6nm,0.7s								
SUMG	**Summit**	**77.75**	**14**	P		**P**	**08 41 03.2**	**-0.3**	
SUMG				IAmb		IAmb	08 41 13.8		
	comp=Z,9.7nm,1.1s								
TIC	**Toumodi**	**85.71**	**84**	*e*P		**P**	**08 41 48.8**	**+2.5**	
LIC	**Lamto**	**85.71**	**84**	*e*P		P	08 41 51.3	+5.0	
	comp=Z,52nm,1.3s								
DBIC	**Dimbokro**	**85.87**	**83**	P		**P**	**08 41 47.0**	**0.0**	
	comp=Z,8.7nm,1.1s,baz=191,slow=11,SNR=3.1								
DBIC				LR		LR	09 17 49.4		
	comp=Z,247nm,19.2s,baz=244,slow=34								
DBIC	**Dimbokro**	**85.87**	**83**	IAmb		IAmb	08 41 51.9		
	comp=Z,20nm,1.4s								
JMIC	**Jan Mayen**	**85.89**	**19**	LR		LR	09 18 34.1		
	comp=Z,123nm,20.2s,baz=256,slow=35								
KIC	**Kan Boka**	**85.99**	**84**	*e*P		**P**	**08 41 48.6**	**+0.9**	
	comp=Z,58nm,1.4s								
ESDC	**Sonseca Array**	**86.54**	**51**	P		**P**	**08 41 48.8**	**-1.1**	
	comp=Z,0.8nm,0.7s,baz=280,slow=4.1,SNR=4.9								
ESDC				LR		LR	09 14 58.7		
	comp=Z,358nm,20.8s,baz=265,slow=32								
ESDC	**Sonseca Array**	**86.54**	**51**	IAmb		IAmb	08 41 49.3		
	comp=Z,3.5nm,1.2s								
VNA3	**Neumayer Olymp**	**88.81**	**161**	P		**P**	**08 42 02.9**	**+2.8**	
VNA1	**Neumayer--Stat**	**89.18**	**161**	P		**P**	**08 42 03.7**	**+2.0**	
SNAA	**Sanae**	**91.02**	**162**	P		**P**	**08 42 11.4**	**+1.0**	
TORD	**Torodi Ar. Bea**	**92.14**	**77**	P		**P**	**08 42 14.8**	**-1.9**	
	comp=Z,1.4nm,1.1s,baz=222,slow=1.9,SNR=3.9								
TORD				LR		LR	09 20 23.2		
	comp=Z,202nm,21.1s,baz=280,slow=34								
TORD	**Torodi Ar. Bea**	**92.14**	**77**	IAmb		IAmb	08 42 20.7		
	comp=Z,5.0nm,1.5s								
NOA	**NORSAR Array B**	**94.35**	**29**	LR		LR	09 23 43.4		
	comp=Z,74nm,19.0s,baz=295,slow=35								
VNDA	**Vanda**	**95.38**	**192**	LR		LR	09 17 17.1		
	comp=Z,159nm,19.2s,baz=115,slow=30								
HFS	**Hagfors**	**95.74**	**29**	LR		LR	09 24 31.3		
	comp=Z,214nm,18.6s,baz=279,slow=35								
DAVOX	**Davos/Dischmat**	**96.12**	**43**	LR		LR	09 18 33.8		
	comp=Z,319nm,22.0s,baz=270,slow=31								
KEST	**Kesra**	**97.31**	**54**	LR		LR	09 22 07.2		
	comp=Z,139nm,20.2s,baz=232,slow=33								
CLL	**Collm**	**97.31**	**38**	*e*SKSac		**SKSac**	**08 53 15.0**	**-2.2**	
CLL				*e*S		**ScS**	**08 54 06.0**	**+1.9**	
CLL				*e*PS		PS	08 55 26.0	-0.8	
CLL				*e*PPS		PPS	08 56 08.0		
CLL				*e*SS		**SS**	**09 00 42.0**	**+0.5**	
CLL				*e*SSS		SSS	09 04 30.0		
CLL				LmV			09 22 00.0		
	comp=Z,300nm,20.8s								
ARCES	**ARCESS Array B**	**97.36**	**19**	LR		LR	09 25 28.6		
	comp=Z,139nm,18.5s,baz=300,slow=35								
KHC	**Kasperske Hory**	**98.13**	**40**	AMS		AMS	09 20 50.0		
	comp=Z,700nm,18.9s								
GERES	**GERESS Array B**	**98.27**	**40**	LR		LR	09 22 09.3		
	comp=Z,594nm,20.3s,baz=296,slow=32								
PVCC	**Panska Ves**	**98.45**	**38**	AMS		AMS	09 20 50.0		
	comp=Z,400nm,24.6s								
PRU	**Pruhonice**	**98.56**	**39**	AMS		AMS	09 21 20.0		
	comp=Z,600nm,18.2s								
TREC	**Trest**	**99.32**	**40**	AMS		AMS	09 21 20.0		
	comp=Z,700nm,22.9s								
UPC	**Upice**	**99.35**	**38**	AMS		AMS	09 21 30.0		
	comp=Z,300nm,16.5s								
CHVC	**Chvalec**	**99.36**	**38**	AMS		AMS	09 21 20.0		
	comp=Z,400nm,28.3s								
OSTC	**Ostas**	**99.47**	**38**	AMS		AMS	09 21 50.0		
	comp=Z,300nm,22.9s								
DPC	**Dobruska-Polom**	**99.58**	**38**	AMS		AMS	09 21 40.0		
	comp=Z,400nm,25.4s								
KRLC	**Kraliky**	**99.94**	**39**	AMS		AMS	09 22 00.0		
	comp=Z,400nm,16.3s								
VRAC	**Vranov**	**100.02**	**39**	LR		LR	09 28 16.8		
	comp=Z,130nm,18.1s,baz=244,slow=36								
OKC	**Ostrava-Krasne**	**100.85**	**39**	AMS		AMS	09 22 40.0		
	comp=Z,500nm,19.5s								
H11S2	**WAKE ISLAND Hyl**	**101.19**	**289**	T		T	10 35 49.0		
	baz=86,slow=75,SNR=376								
H11S1	**WAKE ISLAND Hyl**	**101.20**	**289**	T		T	10 35 49.3		
	baz=86,slow=75,SNR=171								
H11S3	**WAKE ISLAND Hyl**	**101.21**	**289**	T		T	10 35 48.1		
	baz=86,slow=75,SNR=221								
DZM	**Mont Dzumac**	**102.38**	**248**	*e*LR		LR	09 16 37.2		
	comp=Z,272nm,22.9s								
KSRS	**Korea Array**	**126.98**	**321**	PKP		**PKPdf**	**08 48 10.8**	**-0.2**	
	comp=Z,0.3nm,0.3s,baz=29,slow=2.8,SNR=1.7								
KURBB	**Kurchatov Arra**	**127.06**	**8**	PKP		**PKPdf**	**08 48 09.0**	**-1.8**	
	comp=Z,0.4nm,0.9s,baz=350,slow=1.7,SNR=1.8								
ASAR	**Alice Springs**	**131.47**	**240**	PKP		**PKiKP**	**08 48 21.2**	**+0.2**	
	comp=Z,1.0nm,1.0s,baz=92,slow=3.0,SNR=3.5								
WRA	**Warramunga Arr**	**132.25**	**244**	PKP		**PKPdf**	**08 48 20.5**	**-1.1**	
	comp=Z,0.5nm,0.8s,baz=106,slow=2.3,SNR=2.0								
H01W1	**Cape Leeuwin H**	**139.59**	**212**	T		T	11 24 04.1		
	baz=139,slow=75,SNR=12								
H01W2	**Cape Leeuwin H**	**139.60**	**212**	T		T	11 24 15.4		
	baz=139,slow=75,SNR=16								
H01W3	**Cape Leeuwin H**	**139.61**	**212**	T		T	11 24 17.8		
	baz=139,slow=75,SNR=13								
CMAR	**Chiang Mai Arr**	**157.72**	**335**	PKPab		**PKPab**	**08 49 36.0**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=352,slow=4.7,SNR=4.9								

IDC 11 08:40:14.4±3.1, 54.25N×87.47E, h0km, mb1 2.8/2, mb1mx2.7/39, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.2km s-min=17.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**260**	*i*		08 49 14.1	
	baz=78,slow=311,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.59**	**260**	Pg	Pn	08 40 41.4	-2.4
	0.9nm,0.3s,baz=79,slow=15,SNR=7.3						
ZALV				Lg	Lg	08 41 05.8	
	1.3nm,0.3s,baz=79,slow=25,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.56**	**240**	Pn	Pn	08 41 52.4	+0.3
	0.1nm,0.3s,baz=56,slow=13,SNR=5.8						
KURBB				Sn	Sn	08 43 07.6	0.0
	0.0nm,0.3s,baz=51,slow=12,SNR=1.0						
KURBB				Lg	Lg	08 43 42.1	
	0.0nm,0.3s,baz=59,slow=30,SNR=6.6						
MKAR	**Makanchi Array**	**8.16**	**206**	Pn	Pn	08 42 15.9	+1.9
	0.1nm,0.3s,baz=28,slow=12,SNR=4.3						
MKAR				Sn	Sn	08 43 46.1	-0.9
	0.1nm,0.3s,baz=19,slow=23,SNR=3.0						
MKAR				Lg	Lg	08 44 32.8	
	0.0nm,0.3s,baz=27,slow=32,SNR=1.7						

HLW ***11*** *08:48:47.4, 34.98N×26.95E, h10km±11km, Md3.5, Ml3.5*
ISK ***11*** *08:48:47.4, 35.13N×26.77E, h5km, ML3.3/18*
ATH ***11*** *08:48:47.4, 35.12N×26.85E, h10km±31km, ML3.5/3, Error ellipse: s-maj=31.6km s-min=1.7km az=0.0*
NIC ***11*** *08:48:47.1±0.0, 34.99N×26.78E, h11km±3km, Ml4.1/3*
DDA ***11*** *08:48:48.1, 34.98N×27.04E, h14km±4km, MW3.4*
THE ***11*** *08:48:49.6, 35.05N×26.64E, h0km±2km, ML3.2/4, Error ellipse: s-maj=6.3km s-min=1.5km az=163.0*

ISC 11 08:48:46.4±1.3, 34.95N±0.04×26.83E±0.02, h3km±11km, n80, σ1.9 12/101, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.53**	**289**	P	**Pg**	**08 48 56.9**	**+0.3**
ZKR				S	**Sg**	**08 49 04.2**	**+0.7**
ZKR				AML	AML	08 49 04.4	
	comp=N,17822μm,0.4s						
ZKR				AML	AML	08 49 04.5	
	comp=E,24873μm,0.3s						
ZKR	**Zakros**	**0.53**	**289**	P	**Pg**	**08 48 56.9**	**+0.3**
ZKR				S	**Sg**	**08 49 03.7**	**+0.2**
	comp=E,11μm,0.3s						
ZKR	**Zakros**	**0.53**	**289**	PG	**Pg**	**08 48 57.2**	**+0.6**
ZKR				SG	**Sg**	**08 49 04.6**	**+1.1**
ZKR	**Zakros**	**0.53**	**289**	P	**Pg**	**08 48 56.6**	**0.0**
ZKR				AML	AML	08 49 03.2	
	comp=E,16nm,0.5s						
ZKR				AML	AML	08 49 03.2	
	comp=E,16nm,0.5s						
ZKR				AML	AML	08 49 03.3	
	comp=E,21nm,0.3s						
ZKR				AML	AML	08 49 03.3	
	comp=E,21nm,0.3s						
ZKR				S	**Sg**	**08 49 04.1**	**+0.5**
STIA	**Sitia Lasithi**	**0.66**	**293**	P	**Pg**	**08 48 58.4**	**-0.7**
STIA				S	**Sg**	**08 49 06.8**	**-0.8**
FRMA	**Ierapetra Chan**	**0.90**	**275**	P	**Pg**	**08 49 01.7**	**-2.1**
FRMA				S	**Sg**	**08 49 13.4**	**-2.1**
	comp=E,1μm,0.4s						
NPS	**Neapolis**	**1.05**	**288**	P	**Pg**	**08 49 06.5**	**0.0**
NPS				S	**Sg**	**08 49 20.3**	**+0.2**
NPS				AML	AML	08 49 26.9	
	comp=E,5618μm,0.6s						
NPS				AML	AML	08 49 27.2	
	comp=N,5053μm,0.8s						
NPS	**Neapolis**	**1.05**	**288**	P	**Pg**	**08 49 06.5**	**0.0**
NPS				S	**Sg**	**08 49 20.1**	**0.0**
	comp=N,4μm,0.6s						
LAST	**Lasithi**	**1.13**	**281**	P	**Pg**	**08 49 08.1**	**0.0**
LAST				S	**Sb**	**08 49 24.2**	**+0.4**
LAST				AML	AML	08 49 27.9	
	comp=E,1857μm,0.8s						
LAST				AML	AML	08 49 33.3	
	comp=N,2540μm,0.5s						
LAST	**Lasithi**	**1.13**	**281**	P	**Pg**	**08 49 07.3**	**-0.8**
LAST				S	**Sg**	**08 49 23.5**	**+0.7**
	comp=N,625nm,0.6s						
HRKL	**Herakleio**	**1.46**	**285**	PN	**Pb**	**08 49 15.1**	**+0.8**
HRKL				SN	**Sg**	**08 49 34.9**	**+1.4**
IDI	**

ALFC	**Alefka**	**4.74**	**86**	P	**Pn**	**08 49 59.4**	**+0.6**
ALFC				AML	AML	08 50 54.4	
	comp=N,0.7nm,0.7s						
ALFC				AML	AML	08 50 54.8	
	comp=N,0.6nm,0.8s						
OSC2	**CSNet OBS 4**	**4.89**	**111**	P	**Pn**	**08 50 01.2**	**+0.4**
SZAC	**Souni**	**4.98**	**90**	P	**Pn**	**08 50 02.9**	**+0.8**
ASGA	**Asgata**	**5.28**	**90**	P	**Pn**	**08 50 07.6**	**+1.3**
KIZT	**Kizilcal**	**5.64**	**44**	PN	**Pn**	**08 50 14.6**	**+3.4**
SWA2		**5.80**	**192**	P	**Pn**	**08 50 14.2**	**+0.8**
	baz=193						
SWA2				AMP		08 51 00.0	
	baz=193						
SWA2				S	**Sn**	**08 51 17.6**	**-2.9**
	baz=193						
HNAT	**Natroun**	**6.19**	**148**	P	**Pn**	**08 50 19.0**	**+0.2**
	baz=148						
HSAF	**As Saff**	**6.65**	**142**	P	**Pn**	**08 50 25.3**	**+0.2**
	baz=142						
GLL	**Jalalah**	**6.76**	**141**	P	**Pn**	**08 50 26.3**	**-0.3**
	baz=141						
SUZ	**Suez**	**7.19**	**133**	P	**Pn**	**08 50 33.0**	**+0.5**
	baz=134						
HFRF	**Wahat Farafira**	**7.88**	**170**	P	**Pn**	**08 50 42.5**	**+0.6**
	baz=171						
HFRF				AMP		08 52 00.0	
	baz=171						

IDC 11 08:50:08.0±3.2, 53°.46N×87°.59E, h0km, mb1 2.9/2, mb1mx2.9/39, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=30.8km s-min=16.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**288**	*i*		09 00 38.9	
	baz=107,slow=304,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.72**	**288**	Pg	Pn	08 50 38.4	-0.7
	1.1nm,0.3s,baz=108,slow=18,SNR=8.4						
ZALV				Lg	Lg	08 51 02.3	
	1.4nm,0.3s,baz=105,slow=22,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.27**	**247**	Pn	Pn	08 51 42.2	+0.6
	0.1nm,0.3s,baz=60,slow=13,SNR=4.6						
KURBB				Lg	Lg	08 53 29.0	
	0.1nm,0.3s,baz=63,slow=32,SNR=1.9						
MKAR	**Makanchi Array**	**7.49**	**209**	Pn	Pn	08 51 59.7	+1.2
	0.2nm,0.3s,baz=27,slow=12,SNR=6.0						

*IDC **11** 08:54:11.8±3.3, 53°.59N×90°.73E, h0km, mb1 3.2/3, mb1mx3.1/43, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=27.9km s-min=23.1km az=57.0*

*NNC **11** 08:54:13.6±4.0, 53°.62N×90°.36E, h0km±19km, mb3.5, mpv3.2, Error ellipse: s-maj=32.1km s-min=24.9km az=35.0, Suspected Mining explosion.*

ISC 11 08:54:14.4±4.1, 53°.6N±0°.1×90°.4E±0°.2, h0km, n11, σ1§96/10, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.32**	**279**	*i*		09 16 15.0	
	baz=91,slow=306,SNR=3.1						
ZAA0	**Zalesovo Array**	**3.32**	**279**	⇑Pg	**Pb**	**08 55 12.7**	**-1.4**
	1.7nm,0.6s						
ZAA0				⇓Lg	Lg	08 56 00.7	
	12nm,0.8s						
ZALV	**Zalesovo Beam**	**3.32**	**279**	Pn	**Pn**	**08 55 09.0**	**+1.4**
	0.3nm,0.3s,baz=92,slow=17,SNR=3.5						
ZALV				Lg	Lg	08 56 02.2	
	3.0nm,0.3s,baz=89,slow=27,SNR=14						
KURBB	**Kurchatov Arra**	**7.87**	**253**	Pn	**Pn**	**08 56 10.3**	**+0.3**
	0.1nm,0.3s,baz=65,slow=14,SNR=7.1						
KURBB				Sn	**Sn**	**08 57 40.9**	**+1.3**
	0.1nm,0.3s,baz=67,slow=26,SNR=1.3						
KURBB				Lg	Lg	08 58 29.6	
	0.1nm,0.3s,baz=61,slow=30,SNR=5.1						
KURBB	**Kurchatov Arra**	**7.87**	**253**	⇓Pn	**Pn**	**08 56 09.6**	**-0.4**
	1.4nm,0.4s						
KURBB				⇓Sn	**Sn**	**08 57 40.0**	**+0.4**
	15nm,0.7s						
KURBB				⇑Lg	Lg	08 58 23.5	
	56nm,0.9s						
TLY	**Talaya**	**8.29**	**98**	Lg	Lg	08 58 13.8	
	0.0nm,0.3s,baz=267,slow=18,SNR=4.7						
MK31	**Makanchi Array**	**8.53**	**221**	Pn	**Pn**	**08 56 20.2**	**+1.2**
	0.9nm,0.6s,baz=35,slow=12,SNR=8.3						
MK31				⇑Sn	**Sn**	**08 57 56.3**	**+0.4**
	1.3nm,0.6s,baz=46,slow=26,SNR=4.0						
MK31				⇓Lg	Lg	08 58 47.5	
	16nm,1.1s,baz=52,slow=32,SNR=4.2						
MKAR	**Makanchi Array**	**8.53**	**221**	Pn	**Pn**	**08 56 19.2**	**+0.2**
	0.2nm,0.3s,baz=38,slow=14,SNR=7.5						
MKAR				Sn	**Sn**	**08 57 55.4**	**-0.5**
	0.0nm,0.3s,baz=37,slow=22,SNR=1.4						
MKAR				Lg	Lg	08 58 47.4	
	0.1nm,0.3s,baz=39,slow=30,SNR=2.2						
MAKZ	**Makanchi**	**8.64**	**222**	⇑Lg	Lg	08 58 48.3	
	12nm,1.1s						
SONM	**Songino Array**	**11.65**	**113**	Lg	Lg	09 00 02.8	
	0.3nm,0.3s,baz=228,slow=26,SNR=1.7						
AAK	**Ala-Archa**	**15.19**	**230**	Lg	Lg	09 02 17.9	
	0.1nm,0.3s,baz=215,slow=14,SNR=1.1						

JMA 11 08:59:57.8±0.2, 38°.37N×144°.64E, h47km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.43**	**288**	P	Pn	09 00 36.4	+1.4
JIKH	**Ishinomakikobu**	**2.50**	**270**	P	Pn	09 00 37.0	+1.1
MIYJ	**Miyakonagasawa**	**2.51**	**300**	P	Pn	09 00 37.2	+1.1
MIYJ				*e*S	Sn	09 01 05.9	+0.5
JKMT	**Kesennumamotoy**	**2.52**	**281**	P	Pn	09 00 37.5	+1.3
JMK	**Ichinoseki**	**2.74**	**283**	P	Pn	09 00 41.0	+1.8
JOM	**Ohasama**	**2.83**	**294**	P	Pn	09 00 42.3	+1.8
JOM				*e*S	Sn	09 01 15.6	+2.2
JANG	**Nango**	**3.14**	**311**	P	Pn	09 00 45.6	+0.8
JYK	**Kaneyama**	**3.40**	**281**	P	Pn	09 00 50.5	+2.2
JFT	**Otama**	**3.51**	**257**	P	Pn	09 00 52.1	+2.3
JOT	**Ohata**	**4.08**	**319**	P	Pn	09 00 58.9	+1.2
JOT				S	Sn	09 01 44.0	-0.2
JCH	**Churui**	**4.35**	**347**	P	Pn	09 01 01.0	-0.3
JCH				*e*S	Sn	09 01 49.1	-1.6
JKB	**Kayabe**	**4.47**	**323**	*e*S	Sn	09 01 53.1	-0.6
BSO1	**Boso 1**	**4.74**	**220**	P	Pn	09 01 07.8	+1.6
BSO1				*e*S	Sn	09 02 00.3	+0.7
NEM2	**Nemuro 2**	**5.06**	**9**	P	Pn	09 01 09.3	-1.7
NEM2				*e*S	Sn	09 02 03.2	-5.0
JRY	**Ryogami san**	**5.15**	**245**	S	Sn	09 02 10.0	-0.5
JOSM	**Okushiri--Mats**	**5.42**	**315**	P	Pn	09 01 18.1	+2.1
JOD2	**Odawara 2**	**5.43**	**237**	*e*S	Sn	09 02 16.0	-1.3
JTKR	**Abashiri--Toko**	**5.62**	**355**	P	Pn	09 01 18.9	+0.1
JTKR				*e*S	Sn	09 02 18.5	-3.5

*BJI **11** 09:19:17.2±0.0, 29°.47N×131°.58E, h30km, mB4.7/44, mb4.7/67, Ms4.5/70, Ms7 4.4/66*

*IDC **11** 09:19:17.3±0.4, 29°.76N×131°.39E, h0km, mb4.8/44, mb1 4.9/51, mb1mx4.8/65, mbtmp4.8/51, ML4.3/7, MS4.1/30, Ms1 4.1/30, ms1mx3.9/58, Error ellipse: s-maj=11.7km s-min=11.1km az=123.0*

*NIED **11** 09:19:20.8, 29°.70N×131°.44E, h56km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.21; $M_{\theta\theta}$-1.31; $M_{\phi\phi}$1.51; $M_{r\theta}$-0.57; $M_{\theta\phi}$1.39; $M_{\phi r}$1.11; Fault plane solution: $M_0$2.34000×10^{16} NP1: ϕ_s159.00000°, δ86.00000°, λ-148.00000°. NP2: ϕ_s66.00000°, δ58.00000°, λ-5.00000°.*

*JMA **11** 09:19:20.7±0.1, 29°.70N×131°.44E, h56km±2km, M4.7*

JMA Felt II J1.

*GCMT **11** 09:19:21.3±0.4, 29°.75N±0°.02×131°.54E±0°.02, h23km±1km, MW5.0/103, Moment Tensor Solution. s16,c16; s103,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45±.21; $M_{\theta\theta}$-0.79±.13; $M_{\phi\phi}$2.24±.15; $M_{r\theta}$-0.75±.18; $M_{\theta\phi}$2.35±.09; $M_{\phi r}$1.47±.20; Best double couple: $M_0$3.45500×10^{16} NP1:ϕ_s67.00000°, δ54.00000°, λ-23.00000°. NP2:ϕ_s171.00000°, δ71.00000°, λ-142.00000°. Principal axes: T 3.7010, Plg11.0000°, Azm296.0000°; N -0.4950, Plg48.0000°, Azm193.0000°; P -3.2090, Plg40.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **11** 09:19:21.7±1.3, 29°.80N×131°.26E, h39km, mb5.3/51, MS4.7/8 Error ellipse: s-maj=6.7km s-min=4.0km az=109.3*

*NEIC **11** 09:19:23.3±1.5, 29°.79N±0°.06×131°.42E±0°.08, h37km±5km, mb5.1/283, Error ellipse: s-maj=10.4km s-min=8.3km az=130.0*

*BGR **11** 09:19:39.1±0.0, 32°.20N×130°.20E, h42km, mb5.0, Ms5.0*

ISC 11 09:19:22.1±0.5, 29°.68N±0°.04×131°.41E±0°.03, h41km±4km, h42km: pP-P, n738, σ1§54/570, mb5.0/267, MS4.3/46, 23C-56D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMTN	**Minamitane**	**0.84**	**328**	P	**Pn**	**09 19 36.6**	**-0.9**
JMTN				S	**Sn**	**09 19 48.7**	**0.0**
JYAK	**Yakushimahirau**	**0.96**	**305**	P	**Pn**	**09 19 38.3**	**-0.8**
JYAK				*e*S	**Sn**	**09 19 52.2**	**+0.6**
JTN	**Tanegashima 3**	**1.04**	**339**	P	**Pn**	**09 19 39.2**	**-1.1**
JTN				S	**Sn**	**09 19 52.8**	**-0.8**
JKC	**Kuchinoerabu**	**1.31**	**307**	P	**Pn**	**09 19 43.4**	**-0.5**
JKC				*e*S	**Sn**	**09 20 00.5**	**+0.3**
JNN	**Nakanoshima**	**1.35**	**277**	P	**Pn**	**09 19 44.2**	**-0.3**
JTSR	**Tashiro 2**	**1.54**	**344**	P	**Pn**	**09 19 46.3**	**-0.8**
JTSR				S	**Sn**	**09 20 05.1**	**-0.8**
JNAR	**Kushima--Naru**	**1.84**	**356**	P	**Pn**	**09 19 50.8**	**-0.5**
JNAR				*e*S	**Sn**	**09 20 12.6**	**-0.7**
JZK	**Kikaishima**	**1.86**	**223**	P	**Pn**	**09 19 51.7**	**+0.2**
JNKG	**Nichinankitago**	**1.97**	**359**	P	**Pn**	**09 19 52.7**	**-0.4**
JNKG				*e*S	**Sn**	**09 20 15.7**	**-0.9**
JSU	**Suzuyama**	**2.00**	**336**	P	**Pn**	**09 19 52.7**	**-0.7**
JSU				S	**Sn**	**09 20 16.1**	**-1.1**
JSU	**Suzuyama**	**2.00**	**336**		**Pn**	**09 19 52.7**	**-0.7**
JTAJ	**Takarajima**	**2.00**	**255**	P	**Pn**	**09 19 53.5**	**+0.1**
JAM	**Amami Oshima**	**2.03**	**232**	P	**Pn**	**09 19 53.4**	**-0.4**
JAM				S	**Sn**	**09 20 17.6**	**-0.3**
JTZ	**Takazaki**	**2.23**	**353**	P	**Pn**	**09 19 56.5**	**-0.1**
JTZ				*e*S	**Sn**	**09 20 22.1**	**-0.8**
JAMN	**Amaminishikomi**	**2.43**	**234**	P	**Pn**	**09 19 59.1**	**-0.2**
JAMN				*e*S	**Sn**	**09 20 27.0**	**-0.8**
JSJ	**Shimokoshiki**	**2.47**	**324**	P	**Pn**	**09 19 58.2**	**-1.7**
JSJ				S	**Sn**	**09 20 26.6**	**-2.2**
JZO	**Okuchi**	**2.55**	**344**	P	**Pn**	**09 20 00.6**	**-0.4**
JTSN	**Tsuno**	**2.56**	**2**	P	**Pn**	**09 20 00.1**	**-1.0**
JTSN				S	**Sn**	**09 20 28.8**	**-2.1**
JNU	**Nakatsue**	**3.46**	**353**	Pn	**Pn**	**09 20 13.2**	**-0.3**
	36nm,0.3s,baz=165,slow=3.6,SNR=58						
JNU				Sn	**Sn**	**09 20 49.9**	**-3.3**
	76nm,0.3s,baz=66,slow=22,SNR=16						
JOW	**Kunigami**	**3.96**	**225**	Pn	**Pn**	**09 20 19.5**	**-1.0**
	44nm,0.3s,baz=92,slow=23,SNR=40						
JOW				Sn	**Sn**	**09 21 03.4**	**-2.3**
	91nm,0.3s,baz=42,slow=18,SNR=5.0						
JOW	**Kunigami**	**3.96**	**225**		**Pn**	**09 20 19.7**	**-0.8**
JMN	**Monobe**	**4.55**	**27**	Pn	**Pn**	**09 20 27.6**	**-0.9**
JTU	**Tsushima**	**5.12**	**341**		**Pn**	**09 20 36.5**	**+0.2**
JHS	**Saijyo**	**5.49**	**15**	Pn	**Pn**	**09 20 40.9**	**-0.5**
KSJJU	**Jeju**	**5.58**	**313**	P	**Pn**	**09 20 43.6**	**+0.9**
	SNR=8.6						
KSJJU	**Jeju**	**5.58**	**313**	P	**Pn**	**09 20 43.6**	**+0.9**
	SNR=8.6						
KSJJU	**Jeju**	**5.58**	**313**	P	**Pn**	**09 20 43.6**	**+0.9**
	SNR=8.6						
GOS1	**Gosan-ri**	**5.72**	**310**	P	**Pn**	**09 20 44.7**	**+0.2**
	SNR=9.0						
GOS1	**Gosan-ri**	**5.72**	**310**	P	**Pn**	**09 20 44.7**	**+0.2**
	SNR=9.0						
GOS1	**Gosan-ri**	**5.72**	**310**	P	**Pn**	**09 20 44.7**	**+0.2**
	SNR=9.0						
HALB	**Hallimjungang-**	**5.74**	**312**	P	**Pn**	**09 20 46.0**	**+1.1**
	SNR=12						
HALB	**Hallimjungang-**	**5.74**	**312**	P	**Pn**	**09 20 46.0**	**+1.1**
	SNR=12						
HALB	**Hallimjungang-**	**5.74**	**312**	P	**Pn**	**09 20 46.0**	**+1.1**
	SNR=12						
KOHB	**KOHEUNG**	**6.04**	**326**	P	**Pn**	**09 20 49.9**	**+1.0**
	SNR=14						
KOHB	**KOHEUNG**	**6.04**	**326**	P	**Pn**	**09 20 49.9**	**+1.0**
	SNR=14						
KOHB	**KOHEUNG**	**6.04**	**326**	P	**Pn**	**09 20 49.9**	**+1.0**
	SNR=14						
GWYB	**Gwangyang**	**6.12**	**330**	P	**Pn**	**09 20 53.0**	**+3.0**
	SNR=5.9						
GWYB	**Gwangyang**	**6.12**	**330**	P	**Pn**	**09 20 53.0**	**+3.0**
	SNR=5.9						
GWYB	**Gwangyang**	**6.12**	**330**	P	**Pn**	**09 20 53.0**	**+3.0**
	SNR=5.9						
BOSB	**Boseong-gun**	**6.19**	**326**	P	**Pn**	**09 20 52.2**	**+1.2**
	SNR=18						
BOSB	**Boseong-gun**	**6.19**	**326**	P	**Pn**	**09 20 52.2**	**+1.2**
	SNR=18						
BOSB	**Boseong-gun**	**6.19**	**326**	P	**Pn**	**09 20 52.2**	**+1.2**
	SNR=18						
KSUSN	**Ulsan**	**6.30**	**343**	P	**Pn**	**09 20 53.1**	**+0.6**
	SNR=14						
KSUSN	**Ulsan**	**6.30**	**343**	P	**Pn**	**09 20 53.1**	**+0.6**
	SNR=14						
KSUSN	**Ulsan**	**6.30**	**343**	P	**Pn**	**09 20 53.1**	**+0.6**
	SNR=14						
KSSCH	**SUNCHEON**	**6.42**	**328**	P	**Pn**	**09 20 55.6**	**+1.5**
	SNR=11						
KSSCH	**SUNCHEON**	**6.42**	**328**	P	**Pn**	**09 20 55.6**	**+1.5**
	SNR=11						
KSSCH	**SUNCHEON**	**6.42**	**328**	P	**Pn**	**09 20 55.6**	**+1.5**
	SNR=11						
KSDAG	**Daegu**	**6.43**	**341**	P	**Pn**	**09 20 56.0**	**+1.7**
	SNR=17						
KSDAG	**Daegu**	**6.43**	**341**	P	**Pn**	**09 20 56.0**	**+1.7**
	SNR=17						
KSDAG	**Daegu**	**6.43**	**341**	P	**Pn**	**09 20 56.0**	**+1.7**
	SNR=17						
KSJDO	**Jindo**	**6.44**	**319**	P	**Pn**	**09 20 54.8**	**+0.4**
	SNR=25						
KSJDO	**Jindo**	**6.44**	**319**	P	**Pn**	**09 20 54.8**	**+0.4**
	SNR=25						
KSJDO	**Jindo**	**6.44**	**319**	P	**Pn**	**09 20 54.8**	**+0.4**
	SNR=25						
JWT	**Wachi**	**6.52**	**30**	Pn	**Pn**	**09 20 55.5**	**0.0**
NAWB	**Namwon**	**6.65**	**330**	P	**Pn**	**09 20 60.0**	**+2.7**
	SNR=7.0						
NAWB	**Namwon**	**6.65**	**330**	P	**Pn**	**09 20 60.0**	**+2.7**
	SNR=7.0						
NAWB	**Namwon**	**6.65**	**330**	P	**Pn**	**09 20 60.0**	**+2.7**
	SNR=7.0						
KSPHA	**Pohang**	**6.71**	**346**	P	**Pn**	**09 20 59.0**	**+0.9**
	SNR=15						
KSPHA	**Pohang**	**6.71**	**346**	P	**Pn**	**09 20 59.0**	**+0.9**
	SNR=15						
KSPHA	**Pohang**	**6.71**	**346**	P	**Pn**	**09 20 59.0**	**+0.9**
	SNR=15						
KSJEU	**Jeongeup**	**6.92**	**328**	P	**Pn**	**09 21 02.8**	**+1.8**
	SNR=17						
KSJEU	**Jeongeup**	**6.92**	**328**	P	**Pn**	**09 21 02.8**	**+1.8**
	SNR=17						
KSJEU	**Jeongeup**	**6.92**	**328**	P	**Pn**	**09 21 02.8**	**+1.8**
	SNR=17						
GOCB	**Gochang-gun**	**6.96**	**326**	P	**Pn**	**09 21 03.0**	**+1.5**
	SNR=8.0						
GOCB	**Gochang-gun**	**6.96**	**326**	P	**Pn**	**09 21 03.0**	**+1.5**
	SNR=8.0						
GOCB	**Gochang-gun**	**6.96**	**326**	P	**Pn**	**09 21 03.0**	**+1.5**
	SNR=8.0						
KSADO	**Andong**	**7.02**	**344**	P	**Pn**	**09 21 04.0**	**+1.6**
	SNR=15						
KSADO	**Andong**	**7.02**	**344**	P	**Pn**	**09 21 04.0**	**+1.6**
	SNR=15						
KSADO	**Andong**	**7.02**	**344**	P	**Pn**	**09 21 04.0**	**+1.6**
	SNR=15						
KSEUS	**ULSEONG**	**7.03**	**342**	P	**Pn**	**09 21 05.3**	**+2.8**
	SNR=6.2						
KSEUS	**ULSEONG**	**7.03**	**342**	P	**Pn**	**09 21 05.3**	**+2.8**
	SNR=6.2						
KSEUS	**ULSEONG**	**7.03**	**342**	P	**Pn**	**09 21 05.3**	**+2.8**
	SNR=6.2						
HUK2	**Heuksan-myeon**	**7.10**	**316**	P	**Pn**	**09 21 04.0**	**+0.5**
	SNR=6.8						
HUK2	**Heuksan-myeon**	**7.10**	**316**	P	**Pn**	**09 21 04.0**	**+0.5**
	SNR=6.8						
HUK2	**Heuksan-myeon**	**7.10**	**316**	P	**Pn**	**09 21 04.0**	**+0.5**
	SNR=6.8						
KSCPR	**CHUPUNGNYEONG**	**7.13**	**337**	P	**Pn**	**09 21 05.2**	**+1.3**
	SNR=14						
KSCPR	**CHUPUNGNYEONG**	**7.13**	**337**	P	**Pn**	**09 21 05.2**	**+1.3**
	SNR=14						
KSULJ	**Uljin**	**7.20**	**347**	P	**Pn**	**09 21 05.1**	**+0.3**
	SNR=12						
KSULJ	**Uljin**	**7.20**	**347**	P	**Pn**	**09 21 05.1**	**+0.3**
	SNR=12						
KSULJ	**Uljin**	**7.20**	**347**	P	**Pn**	**09 21 05.1**	**+0.3**
	SNR=12						
SMKB	**Mukjeong-gil**	**7.25**	**327**	P	**Pn**	**09 21 07.0**	**+1.4**
	SNR=11						
SMKB	**Mukjeong-gil**	**7.25**	**327**	P	**Pn**	**09 21 07.0**	**+1.4**
	SNR=11						
SMKB	**Mukjeong-gil**	**7.25**	**327**	P	**Pn**	**09 21 07.0**	**+1.4**
	SNR=11						
OKCB	**Cheongsan-myeo**	**7.30**	**336**	P	**Pn**	**09 21 09.1**	**+2.8**
	SNR=12						
OKCB	**Cheongsan-myeo**	**7.30**	**336**	P	**Pn**	**09 21 09.1**	**+2.8**
	SNR=12						
OKCB	**Cheongsan-myeo**	**7.30**	**336**	P	**Pn**	**09 21 09.1**	**+2.8**
	SNR=12						
INU	**Inuyama**	**7.37**	**39**	Pn	**Pn**	**09 21 07.2**	**0.0**
KSBON	**Boeun**	**7.44**	**337**	P	**Pn**	**09 21 09.9**	**+1.7**
	SNR=9.9						
KSBON	**Boeun**	**7.44**	**337**	P	**Pn**	**09 21 09.9**	**+1.7**
	SNR=9.9						
KSBON	**Boeun**	**7.44**	**337**	P	**Pn**	**09 21 09.9**	**+1.7**
	SNR=9.9						
KSMGY	**Mungyeong**	**7.50**	**339**	P	**Pn**	**09 21 11.3**	**+2.4**
	SNR=18						
KSMGY	**Mungyeong**	**7.50**	**339**	P	**Pn**	**09 21 11.3**	**+2.4**
	SNR=18						
KSMGY	**Mungyeong**	**7.50**	**339**	P	**Pn**	**09 21 11.3**	**+2.4**
	SNR=18						
JSG	**Sagara**	**7.60**	**47**	Pn	**Pn**	**09 21 10.4**	**+0.1**
KOJ2	**Gongju-si**	**7.66**	**333**	P	**Pn**	**09 21 13.0**	**+1.9**
	SNR=6.5						
KOJ2	**Gongju-si**	**7.66**	**333**	P	**Pn**	**09 21 13.0**	**+1.9**
	SNR=6.5						
KOJ2	**Gongju-si**	**7.66**	**333**	P	**Pn**	**09 21 13.0**	**+1.9**
	SNR=6.5						
KSTBA	**Taebaek**	**7.70**	**345**	P	**Pn**	**09 21 13.2**	**+1.5**
	SNR=14						
KSTBA	**Taebaek**	**7.70**	**345**	P	**Pn**	**09 21 13.2**	**+1.5**
	SNR=14						
KSTBA	**Taebaek**	**7.70**	**345**	P	**Pn**	**09 21 13.2**	**+1.5**
	SNR=14						
KSCHJ	**Chungju**	**7.72**	**339**	P	**Pn**	**09 21 14.4**	**+2.3**
	SNR=15						
KSCHJ	**Chungju**	**7.72**	**339**	P	**Pn**	**09 21 15.0**	**+2.9

comp=Z,55nm,0.8s
DL2 pmax pmax
comp=Z,200nm,7.4s
DL2 L L
comp=N,1µm,16.1s
DL2 L L
comp=E,1µm,13.3s
DL2 L L
comp=Z,1µm,16.8s
QZH Quanzhou 12.34 251 *e*P P 09 22 21.0 -5.5
QZH S Sn 09 24 40.7 +9.4
QZH L L
comp=N,2µm,19.4s
QZH L L
comp=E,690nm,20.4s
QZH L L
comp=Z,1µm,16.7s
JTM Tenmabayashi 13.59 33 **Pn** **09 22 33.4 +1.2**
TIA Tai'an 13.64 302 P **Pn** **09 22 34.5 +1.5**
TIA pmax pmax
comp=Z,13nm,0.9s
TIA L L
comp=N,790nm,18.6s
TIA L L
comp=E,1µm,16.7s
TIA L L
comp=Z,2µm,16.5s
USRK Ussuriysk Ar. 14.50 2 Pn P 09 22 45.2 -5.2
USRK LR LR 09 28 49.7
baz=140,slow=41,SNR=2.6
comp=Z,504nm,18.9s,baz=168,slow=40
WHN Wuhan 14.79 278 ⇓P **P** **09 22 52.1 -1.7**
WHN L L
comp=N,1µm,10.9s
WHN L L
comp=E,3µm,14.0s
WHN L L
comp=Z,4µm,16.5s
CN2 Changchun 14.87 343 *e*P **P** **09 22 54.9 +0.3**
CN2 *e*pP Pn 09 23 02.5 +13
CN2 *e*sP 09 23 07.0
CN2 *e*S **Sn** **09 25 31.4 -1.6**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 L L
comp=N,1µm,15.0s
CN2 L L
comp=E,800nm,15.0s
CN2 L L
comp=Z,1µm,15.0s
MDJ Mudanjiang 14.98 355 P **Pn** **09 22 50.2 -0.7**
MDJ PP **PnPn** **09 23 00.2 +0.9**
MDJ S **Sn** **09 25 36.6 +1.1**
MDJ pmax pmax
comp=Z,2.0nm,0.4s
MDJ pmax pmax
comp=Z,74nm,7.5s
MDJ L L
comp=N,660nm,24.5s
MDJ L L
comp=E,1µm,16.2s
MDJ L L
comp=Z,920nm,24.1s
JEW Eniwo 15.41 29 IAmb IAmb 09 22 57.6
comp=Z,205nm,1.2s
ERM Erimo 15.54 34 P **P** **09 22 57.9 -4.1**
ERM pmax pmax
comp=Z,60nm,1.2s
ERM Erimo 15.54 34 Pn **P** **09 22 57.9 -4.1**
TEY Ternei 15.87 14 ⇓*i*P **P** **09 23 04.8 -0.8**
TEY pmax pmax
comp=Z,70nm,1.1s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=N,80nm,1.1s
BJT Baijiatuau 16.19 314 P **P** **09 23 11.2 +1.9**
BJT pmax pmax
comp=Z,34nm,0.9s
BJT Baijiatuau 16.19 314 P **P** **09 23 11.2 +1.9**
BJI Beijing 16.20 314 P **P** **09 23 09.9 +0.6**
BJI S **Sn** **09 26 07.8 +2.5**
BJI pmax pmax
comp=Z,32nm,1.0s
BJI pmax pmax
comp=Z,280nm,7.3s
BJI L L
comp=Z,600nm,13.3s
BJI L L
comp=Z,900nm,14.0s
BJI L L
comp=Z,1µm,17.5s
ASAJ Asahikawa 16.93 29 Pn **Pn** **09 23 13.4 -2.5**
comp=Z,0.5nm,0.3s,baz=213,slow=11,SNR=11
ASAJ LR LR 09 30 29.5
comp=Z,1µm,18.6s,baz=219,slow=40
ASAJ Asahikawa 16.93 29 P **Pn** **09 23 12.9 -3.0**
ASAJ pmax pmax
comp=Z,21nm,0.8s
JKA Kamikawa-asahi 16.93 29 **Pn** **09 23 12.9 -3.0**
GZH Guangzhou 17.46 252 P **Pn** **09 23 18.9 -3.7**
TIY Taiyuan 17.69 302 *e*P **P** **09 23 24.8 -1.1**
TIY S **Sn** **09 26 51.8 +4.4**
TIY L L
comp=Z,840nm,14.1s
TIY L L
comp=Z,320nm,11.4s
TIY L L
comp=Z,800nm,16.8s
ENH Enshi 19.00 277 P **Pn** **09 23 39.4 -2.0**
YSS Yuzh-Sakhalins 19.37 24 ⇑*e*P **Pn** **09 23 44.0 -1.6**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS MLR MLR
comp=Z,600nm,13.0s
YSS Yuzh-Sakhalins 19.37 24 P **Pn** **09 23 43.5 -2.1**
YSS IAmb IAmb 09 23 47.3
comp=Z,65nm,0.9s
KLR Kul'dur 19.52 1 P **Pn** **09 23 46.0 -1.5**
comp=Z,0.8nm,0.3s,baz=190,slow=7.0,SNR=19
KLR LR LR 09 31 37.9
comp=Z,343nm,20.1s,baz=162,slow=38
KLR Kul'dur 19.52 1*ce*P **Pn** **09 23 45.7 -1.7**
KLR pmax pmax
comp=Z,23nm,0.9s
XAN Xi'an 19.58 289 P **Pn** **09 23 46.2 -2.1**
XAN pP pP 09 23 58.1 +1.8
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,92nm,3.5s
XAN L L
comp=Z,1µm,15.6s
XAN L L
comp=Z,1µm,17.1s
XAN L L
comp=Z,970nm,18.4s
XAN Xi'an 19.58 289 P **Pn** **09 23 46.8 -1.5**
XAN Xi'an 19.58 289 P **Pn** **09 23 46.8 -1.5**
HHC Hu-ho-hao-te 19.62 310 *e*P **Pn** **09 23 48.8 0.0**
HHC pP pP 09 23 55.7 -1.1
HHC S **Sn** **09 27 25.0 -3.2**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.6s
HHC L L
comp=Z,460nm,15.4s
HHC L L
comp=Z,1µm,17.4s
HHC L L
comp=Z,1µm,14.6s
BTO Baotou 20.56 308 *e*P Pn 09 23 58.6 -1.2
BTO L L
comp=Z,3µm,18.6s
BTO L L
comp=Z,2µm,18.1s
UGL Uglegorsk 21.01 20 *e*P **P** **09 24 03.3 +1.3**
UGL pmax pmax
comp=Z,230nm,1.4s
UGL pmax pmax
comp=E,80nm,1.1s
UGL pmax pmax
comp=Z,100nm,1.2s

GRNR Gornyy 21.40 9 ⇓*i*P P 09 24 10.7 +4.5
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,290nm,15.0s
GRNR MLR MLR
comp=N,230nm,20.0s
GRNR MLR MLR
comp=Z,430nm,16.0s
GYA Guiyang 22.06 268 ⇑P **P** **09 24 14.0 +0.4**
GYA pP pwP 09 24 27.1 +0.8
GYA S **S** **09 28 10.4 -4.4**
GYA pmax pmax
comp=Z,11nm,1.1s
GYA L L
comp=Z,190nm,16.8s
GYA L L
comp=Z,160nm,16.1s
GYA L L
comp=Z,250nm,16.9s
QIZ Qiongzhong 22.29 246 P **P** **09 24 16.5 +0.5**
QIZ S **S** **09 28 20.7 +1.9**
QIZ pmax pmax
comp=Z,36nm,1.1s
QIZ L L
comp=Z,660nm,19.4s
QIZ L L
comp=Z,450nm,20.1s
QIZ L L
comp=Z,600nm,20.1s
QIZ Qiongzhong 22.29 246 IAmb IAmb 09 24 17.9
comp=Z,78nm,1.1s
TYV Tymovskoe 22.78 19 *e*P **P** **09 24 22.2 +1.3**
TYV *e*S **S** **09 28 30.6 +3.8**
TYV pmax pmax
comp=Z,34nm,1.5s
TYV pmax pmax
comp=Z,100nm,4.1s
TYV smax smax
comp=N,600nm,5.8s
CD2 Chengdu 23.89 280 P **P** **09 24 31.7 -0.4**
CD2 sP pwP 09 24 44.4 -1.8
CD2 PP **PnPn** **09 25 01.6 +0.1**
CD2 S **S** **09 28 42.0 -3.6**
CD2 sS sS 09 28 59.2 -3.4
CD2 SS **SnSn** **09 29 32.7 +5.4**
CD2 pmax pmax
comp=N,230nm,2.1s
CD2 L L
comp=N,2µm,21.6s
CD2 L L
comp=N,1µm,18.0s
CD2 L L
comp=N,2µm,19.4s
LZH Lanzhou 23.97 293 ⇑P **P** **09 24 33.1 +0.2**
LZH pP pP 09 24 44.4 +1.1
LZH sP sP 09 24 50.1 +2.0
LZH S **S** **09 28 50.6 +3.6**
LZH sS sS 09 29 03.4 -0.6
LZH pmax pmax
comp=N,24nm,1.1s
LZH pmax pmax
comp=N,89nm,4.3s
LZH L L
comp=N,1µm,16.3s
LZH L L
comp=N,2µm,16.8s
LZH L L
comp=N,1µm,15.2s
ZEA Zeya 24.23 354 *e*P **P** **09 24 34.8 -0.1**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,200nm,17.0s
NKL Nikolayevsk 24.41 14 *e*P **P** **09 24 37.7 +1.2**
NKL *e*S **S** **09 28 50.9 -2.5**
NKL pmax pmax
comp=Z,31nm,1.0s
NKL pmax pmax
comp=E,41nm,0.8s
NKL smax smax
comp=E,55nm,0.8s
NKL smax smax
comp=N,1.0nm,0.9s
NKL MLR MLR
comp=E,1µm,11.0s
NKL MLR MLR
comp=N,1.0nm,20.0s
NKL MLR MLR
comp=Z,400nm,21.0s
KMI Kunming 25.82 267 ⇓P **P** **09 24 49.6 -0.3**
KMI pP pP 09 24 58.7 -1.6
KMI sP pwP 09 25 03.8 0.0
KMI S **S** **09 29 15.7 -1.2**
KMI pmax pmax
comp=Z,44nm,0.7s
KMI L L
comp=Z,420nm,15.1s
KMI L L
comp=Z,790nm,15.5s
KMI L L
comp=Z,1µm,17.4s
ULN Ulaanbaatar 26.10 321*ce*P **P** **09 24 51.6 -0.5**
ULN pmax pmax
comp=Z,50nm,1.3s
ULN Ulaanbaatar 26.10 321 P **P** **09 24 51.2 -0.9**
ULN IAmb IAmb 09 24 52.7
comp=Z,32nm,0.9s
ULN Ulaanbaatar 26.10 321 P **P** **09 24 51.0 -1.1**
comp=Z,1µmcomp=Z,158nm,1.1s
SLVN Son La 26.13 258 P **P** **09 24 53.3 +0.7**
SLVN IAmb IAmb 09 24 56.9
comp=Z,41nm,0.9s
SONM Songino Array 26.44 320 P **P** **09 24 54.9 -0.3**
comp=Z,18nm,0.7s,baz=138,slow=9.7,SNR=42
SONM LR LR 09 36 56.7
comp=Z,673nm,20.6s,baz=100,slow=40
SONM Songino Array 26.44 320 P **P** **09 24 54.3 -0.9**
SONM pmax pmax
comp=Z,18nm,0.9s
SONM Songino Array 26.44 320 P **P** **09 24 54.3 -0.9**
GTA Gaotai 27.66 299 ⇑P **P** **09 25 07.2 +1.0**
GTA pP pP 09 25 16.5 0.0
GTA sP pwP 09 25 20.5 0.0
GTA pmax pmax
comp=Z,14nm,1.1s
GTA pmax pmax
comp=Z,62nm,4.0s
GTA L L
comp=Z,430nm,16.7s
GTA L L
comp=Z,550nm,16.7s
GTA L L
comp=Z,710nm,17.5s
UBPT Khong Chiam 27.84 245 P **P** **09 25 10.3 +2.5**
comp=Z,24nm,1.3s
UBPT Khong Chiam 27.84 245 P **P** **09 25 08.0 +0.1**
UBPT IAmb IAmb 09 25 10.9
comp=Z,36nm,1.3s
UBPT Khong Chiam 27.84 245 P **P** **09 25 08.7 +0.8**
comp=Z,22nm,1.3s
NONG Nongkai 28.24 252 P P 09 25 13.8 +2.4
comp=Z,18nm,0.9s
TNTI Ternate 29.01 188 P P 09 25 21.6 +3.4
comp=Z,30nm,1.1s
TLY Talaya 30.12 325 P **P** **09 25 27.8 -0.1**
comp=Z,2.0nm,0.5s,baz=142,slow=7.2,SNR=4.7
TLY Talaya 30.12 325 *e*P **P** **09 25 28.4 +0.6**
TLY pmax pmax
comp=Z,15nm,0.9s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY Talaya 30.12 325 P **P** **09 25 27.6 -0.2**
CHAI Chaiyaphum 30.29 250 P **P** **09 25 31.0 +1.4**
comp=Z,10nm,0.9s
PEA0B Petropavlovsk- 30.29 32*ce*P **P** **09 25 29.6 +0.3**
PEA0B Petropavlovsk- 30.29 32 P **P** **09 25 30.1 +0.8**
PEA0B IAmb IAmb 09 25 31.5
comp=Z,34nm,0.9s
PETK Petropavlovsk- 30.29 32 P **P** **09 25 30.3 +1.0**
comp=Z,22nm,0.8s,baz=214,slow=5.0,SNR=29
PETK PcP **PcP** **09 28 29.9 +1.0**
comp=Z,2.6nm,0.7s,baz=190,slow=4.5,SNR=3.5
PETK LR LR 09 38 41.6
comp=Z,299nm,19.1s,baz=231,slow=38
PETK Petropavlovsk- 30.29 32 P **P** **09 25 29.5 +0.2**

PETK Petropavlovsk- 30.29 32 P **P** **09 25 29.5 +0.2**
UTTA Uttaradit 30.55 254 P **P** **09 25 33.3 +1.4**
comp=Z,158nmcomp=Z,9.1nm,0.8s
PBKT Sadao Pong 30.78 252 P **P** **09 25 34.1 +0.2**
comp=Z,24nm,0.7s
PHIT Phitsanulok 30.93 253 P **P** **09 25 36.0 +0.7**
comp=Z,18nm,0.8s
CM34 Chiang Mai Arr 31.23 257 P **P** **09 25 39.0 +1.1**
CM35 Chiang Mai Arr 31.30 257 P **P** **09 25 39.0 +0.5**
CMMT Chiang Mai 31.42 257 P **P** **09 25 39.4 -0.2**
comp=Z,37nm,0.8s
CMMT Chiang Mai 31.42 257 P **P** **09 25 39.3 -0.2**
comp=Z,35nm,0.8s
CHTO Chiang Mai 31.42 257 P **P** **09 25 39.5 -0.1**
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO Chiang Mai 31.42 257 P **P** **09 25 39.5 -0.1**
CHTO IAmb IAmb 09 25 41.5
comp=Z,25nm,0.8s
CHTO Chiang Mai 31.42 257 P **P** **09 25 40.1 +0.5**
comp=Z,21nm,0.8s
CM36 Chiang Mai Arr 31.42 257 P **P** **09 25 40.0 +0.4**
CM09 Chiang Mai Arr 31.54 257 P **P** **09 25 42.0 +1.3**
comp=Z,6.5nm,0.9s
CM32 Chiang Mai Arr 31.57 257 P **P** **09 25 42.0 +1.1**
CM04 Chiang Mai Arr 31.57 257 P **P** **09 25 42.0 +1.0**
comp=Z,8.8nm,0.8s
CM31 Chiang Mai Arr 31.58 257 P **P** **09 25 42.0 +1.0**
CMAR Chiang Mai Arr 31.58 257 P **P** **09 25 41.9 +0.9**
comp=Z,4.7nm,0.8s,baz=51,slow=7.2,SNR=34
CMAR PcP **PcP** **09 28 36.1 +3.2**
comp=Z,2.0nm,0.3s,baz=29,slow=2.1,SNR=4.5
CMAR LR LR 09 40 35.3
comp=Z,329nm,18.0s,baz=104,slow=40
CMAR Chiang Mai Arr 31.58 257 P **P** **09 25 40.7 -0.3**
CMAR Chiang Mai Arr 31.58 257 P **P** **09 25 40.7 -0.3**
CM01 Chiang Mai Arr 31.58 257 P **P** **09 25 42.6 +1.6**
comp=Z,188nmcomp=Z,11nm,0.9s
CM02 Chiang Mai Arr 31.59 257 P **P** **09 25 42.0 +0.9**
comp=Z,72nmcomp=Z,8.4nm,0.9s
CM15 Chiang Mai Arr 31.60 257 P P 09 25 55.2 +14
CM05 Chiang Mai Arr 31.60 257 P **P** **09 25 42.9 +1.7**
comp=Z,50nmcomp=Z,6.9nm,0.9s
CM13 Chiang Mai Arr 31.62 257 P **P** **09 25 43.0 +1.7**
comp=Z,80nmcomp=Z,8.9nm,0.8s
UTHA Uthaitani 32.56 251 P P 09 25 51.8 +2.3
comp=Z,4.8nm,0.9s
MHMT Maesarieng 32.56 257 P **P** **09 25 50.0 +0.4**
comp=Z,26nm,0.8s
MA2 Magadan 32.65 18*ce*P **P** **09 25 50.2 +0.3**
MA2 pmax pmax
comp=Z,30nm,0.9s
MA2 Magadan 32.65 18 P **P** **09 25 50.4 +0.4**
UMPA Umpang Tak 32.71 253 P P 09 25 54.1 +3.2
comp=Z,7.7nm,1.0s
H11N2 WAKE ISLAND Hy 33.61 99 T T 10 02 16.1
baz=296,slow=75,SNR=7.5
H11N1 WAKE ISLAND Hy 33.61 99 T T 10 02 18.0
baz=296,slow=75,SNR=5.7
H11N3 WAKE ISLAND Hy 33.63 99 T T 10 02 21.7
baz=296,slow=75,SNR=6.4
PHET Kaeng Krachan 33.84 247 P P 09 26 03.6 +2.9
comp=Z,10nm,1.1s
SHL Shillong 35.15 273 P **P** **09 26 10.2 -2.0**
SHL pmax pmax
comp=Z,23nm,0.7s
SHL Shillong 35.15 273 P **P** **09 26 10.2 -2.0**
SHL IAmb IAmb 09 26 12.3
comp=Z,23nm,0.7s
TRTT Trang 36.86 240 P **P** **09 26 28.6 +1.9**
comp=Z,22nm,0.8s
WMQ Urumqi 37.33 304 *e*P **P** **09 26 31.5 +1.0**
WMQ L L
comp=Z,700nm,13.3s
WMQ L L
comp=Z,560nm,15.9s
WMQ L L
comp=Z,680nm,18.9s
PKDT Phuket 37.85 242 P P 09 26 37.7 +2.6
DGZ Jazzator, Alta 38.62 314 *i* P **P** **09 26 39.1 -2.4**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
ZSN Zaisan 39.82 310 *e*P **P** **09 26 50.0 -1.3**
baz=309
ZSN Zaisan 39.82 310 *e*P **P** **09 26 50.0 -1.3**
PSI Prapat 40.79 235 P **P** **09 27 01.8 +2.0**
comp=Z,5.9nm,0.7s,baz=360,slow=4.7,SNR=6.3
PSI Prapat 40.79 235 P **P** **09 27 01.3 +1.5**
comp=Z,10.0nm,1.0s
RPSI Rantau Prapat 40.87 235 P **P** **09 27 01.9 +1.6**
RPSI Rantau Prapat 40.87 235 P **P** **09 27 01.8 +1.5**
ZAA0 Zalesovo Array 41.33 319 P **P** **09 27 02.2 -1.5**
ZAA0 **P** **09 27 03.2 -0.5**
ZALV Zalesovo Beam 41.33 319 P **P** **09 27 03.1 -0.5**
comp=Z,2.1nm,0.7s,baz=99,slow=9.2,SNR=6.4
ZALV PcP **PcP** **09 29 02.5 +1.0**
comp=Z,1.6nm,0.6s,baz=90,slow=2.9,SNR=2.7
MK31 Makanchi Array 41.47 308 P **P** **09 27 03.9 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 41.47 308 P **P** **09 27 03.9 -1.1**
MKAR Makanchi Array 41.47 308 P **P** **09 27 04.5 -0.4**
comp=Z,4.0nm,0.5s,baz=94,slow=11,SNR=38
MKAR PcP **PcP** **09 29 04.0 +1.9**
comp=Z,1.3nm,0.7s,baz=101,slow=2.5,SNR=3.1
PMG Port Moresby 41.72 156 LR LR 09 42 57.6
comp=Z,47nm,18.7s,baz=20,slow=34
TIXI Tiksi 42.04 359*ce*P **P** **09 27 08.9 -0.3**
TIXI Tiksi 42.04 359 P **P** **09 27 09.0 -0.3**
GSI Gunungsitoli 42.80 235 P **P** **09 27 17.8 +1.7**
GSI IAmb IAmb 09 27 37.8
comp=Z,39nm,1.0s
LEM Lembang 42.90 216 P **P** **09 27 17.1 +0.1**
comp=Z,13nm,0.3s,baz=319,slow=19,SNR=1.9
SHLS Shalkode 43.26 303 *e*P **P** **09 27 16.0 -3.7**
baz=302
SHLS Shalkode 43.26 303 *e*P **P** **09 27 16.0 -3.7**
SEM Semipalatinsk 43.30 313 *e*P **P** **09 27 17.5 -2.6**
baz=313
SEM Semipalatinsk 43.30 313 *e*P **P** **09 27 17.4 -2.6**
BILL Bilibino 43.52 18*c* *i*P **P** **09 27 22.3 +1.0**
BILL *i* *PP **pP** **09 27 32.8 +0.8**
BILL *i* *SP **pwP** **09 27 34.8 -1.2**
BILL *e* 09 29 10.9
BILL S S 09 33 55.0 +8.0
BILL SS **SS** **09 36 59.0 -3.2**
BILL pmax pmax
comp=Z,25nm,1.0s
BILL MLR MLR
comp=Z,146nm,17.0s
BILL Bilibino 43.52 18 P **P** **09 27 21.7 +0.4**
BILL **P** **09 27 22.3 +1.0**
BILL IAmb IAmb 09 27 23.8
comp=Z,23nm,1.0s
UZB Uzynbulak 43.58 303 *e*P **P** **09 27 20.3 -2.1**
baz=302
UZB Uzynbulak 43.58 303 *e*P **P** **09 27 20.2 -2.1**
KPKS Kokpek 43.83 303 *e*P **P** **09 27 22.3 -2.0**
baz=303
KPKS Kokpek 43.83 303 *e*P **P** **09 27 22.2 -2.0**
SATY Saty 44.03 303 *e*P **P** **09 27 24.2 -1.8**
baz=302
SATY Saty 44.03 303 *e*P **P** **09 27 24.1 -1.8**
KURK Kurchatov 44.37 314 P **P** **09 27 28.1 -0.2**
KURK Kurchatov 44.37 314 P **P** **09 27 28.1 -0.2**
KURBB Kurchatov Arra 44.41 313 P **P** **09 27 28.1 -0.5**
comp=Z,6.7nm,0.7s,baz=99,slow=9.0,SNR=34
KURBB PP **PP** **09 29 13.5 +0.9**
comp=Z,1.6nm,1.1s,baz=110,slow=8.3,SNR=4.9
TARG Taragay, Kyrgy 44.51 301 P **P** **09 27 30.1 +0.1**
MDOK Medeo 45.02 303 *e*P **P** **09 27 32.5 -1.4**
baz=302
MDOK Medeo 45.02 303 *e*P **P** **09 27 32.4 -1.4**
MTBS Maitube 45.48 303 *e*P **P** **09 27 36.4 -1.1**
baz=302
MTBS Maitube 45.48 303 *e*P **P** **09 27 36.3 -1.1**
KUU Kurty 45.53 304 *e*P **P** **09 27 35.9 -1.8**
baz=304
KUU Kurty 45.53 304 *e*P **P** **09 27 35.9 -1.8**
KSH Kashi 46.04 298 P P 09 27 46.5 +4.5
KSH pmax pmax
comp=Z,4.0nm,0.4s
KSH pmax pmax
comp=Z,110nm,5.5s
TKM2 Tokmak 2 46.09 302 P **P** **09 27 43.2 +0.8**
SNR=22

KBK Karagaybulak 46.59 302 P **P** 09 27 47.0 +0.7
SNR=6.7
CHMS Chumysh 46.71 303 P **P** 09 27 47.5 +0.5
SNR=5.5
SGDS Sogindy 46.78 303 *e*P **P** 09 27 45.5 -2.1
baz=303
SGDS Sogindy 46.78 303 *e*P **P** 09 27 45.5 -2.1
USP Ospenovka 46.88 303 P **P** 09 27 48.4 0.0
SNR=7.4
NRIK Noril'sk 46.90 340 P **P** 09 27 48.2 +0.2
comp=Z,4.7nm,0.7s,baz=107,slow=7.9,SNR=5.5
NRIK LR LR 09 49 59.4
comp=Z,525nm,19.1s,baz=128,slow=39
NRIK Noril'sk 46.90 340*ce*P **P** 09 27 46.8 -1.2
NRIK pmax pmax
comp=Z,5.0nm,0.8s
NRIK Noril'sk 46.90 340 P **P** 09 27 47.6 -0.4
AAK Ala-Archa 46.92 302 P **P** 09 27 49.2 +0.3
comp=Z,3.7nm,0.4s,baz=142,slow=7.0,SNR=9.2
AAK Ala-Archa 46.92 302*ce*P **P** 09 27 49.1 +0.3
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 46.92 302 P **P** 09 27 48.2 -0.7
NDI New Delhi 46.96 283 *e*P **P** 09 27 48.0 -1.1
BTLS Baital 47.14 305 *e*P **P** 09 27 48.6 -1.7
baz=305
BTLS Baital 47.14 305 *e*P **P** 09 27 48.6 -1.7
AML Almayashu 47.55 302 P **P** 09 27 55.0 +1.1
SNR=5.9
FITZ Fitzroy Crossi 47.83 187 P P 09 27 58.1 +2.3
BRZS Berezniki 48.10 312 *e*P **P** 09 27 55.8 -1.9
baz=312
BRZS Berezniki 48.10 312 *e*P **P** 09 27 55.7 -1.9
SPIA Saint Paul Isl 48.55 38 P 09 27 59.8
baz=261
NIKH Nikolski High 48.88 44 P 09 28 02.3
baz=266
NIL Nilore 49.10 290 P **P** 09 28 07.1 +1.4
NIL pmax pmax
comp=Z,8.0nm,0.6s
NIL Nilore 49.10 290 P **P** 09 28 07.1 +1.4
NIL IAmb IAmb 09 28 09.4
comp=Z,8.5nm,0.6s
WB0 Warramunga Arr 49.25 176 P **P** 09 28 08.1 +1.4
GAMB Gambell 49.26 29 P 09 28 06.4
baz=254
WRAB Tennant Creek 49.41 176 P P 09 28 11.6 +3.7
WRAB pmax pmax
comp=Z,10.0nm,1.2s
WRAB Tennant Creek 49.41 176 P P 09 28 11.6 +3.6
WRA Warramunga Arr 49.42 176 P **P** 09 28 08.9 +0.9
comp=Z,2.2nm,0.8s,baz=356,slow=8.3,SNR=15
WB2 Warramunga Arr 49.42 176 P **P** 09 28 09.5 +1.4
WR0 Warramunga Arr 49.45 176 P **P** 09 28 09.5 +1.3
WR0 IAmb IAmb 09 28 26.1
comp=Z,11nm,0.9s
HYB Hyderabad 49.59 268 *i* P **P** 09 28 10.0 +0.4
BRVK Borovoye 49.73 316*ce*P **P** 09 28 10.1 0.0
BRVK pmax pmax
comp=Z,32nm,1.7s
BRVK Borovoye 49.73 316 P **P** 09 28 10.5 +0.4
BRVK IAmb IAmb 09 28 26.9
comp=Z,15nm,0.8s
KK31 Karatay Array 49.80 303 IAmb IAmb 09 28 12.0
comp=Z,16nm,0.8s
KKAR Karatay Array 49.80 303 P **P** 09 28 10.9 +0.1
KKAR pmax pmax
comp=Z,16nm,0.8s
KKAR Karatay Array 49.80 303 P **P** 09 28 10.9 +0.1
KKAR IAmb IAmb 09 28 12.0
comp=Z,16nm,0.8s
BTK Batken 49.93 299 P **P** 09 28 11.6 -0.3
BTK pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 49.93 299 P **P** 09 28 11.6 -0.3
GAR Garm 50.47 298 P **P** 09 28 15.4 -0.7
TNA Tin City 51.29 28 P 09 28 21.4
baz=257
CHGR Chuyangaron 51.41 298 P **P** 09 28 22.8 -0.3
ANM Nome 52.14 29 P 09 28 27.6
baz=260
PSA00 Pilbara Seismi 52.16 194 P P 09 28 31.5 +2.8
FALS False Pass 52.17 42 P 09 28 28.0
baz=269
KBL Kabul 52.32 292 P **P** 09 28 30.6 +0.5
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 52.32 292 P **P** 09 28 30.6 +0.5
ASAR Alice Springs 53.10 177 P P 09 28 37.6 +2.0
comp=Z,1.6nm,0.8s,baz=9.9,slow=12,SNR=26
RDOG Red Dog Mine 53.75 25 P 09 28 38.8
baz=260
SDPT Sand Point 53.86 41 P 09 28 40.1
baz=271
TTA Tatalina 56.13 32 P 09 28 56.1
baz=270
ABKAR Akbulak array 56.40 312 P **P** 09 28 59.6 +0.4
ABKAR IAmb IAmb 09 29 01.3
comp=Z,8.6nm,0.8s
A21K Barrow 56.41 22 P **P** 09 28 59.0 0.0
A21K IAmb IAmb 09 29 01.4
comp=Z,31nm,1.1s
A21K Barrow 56.41 22 P 09 28 58.6
baz=263
ARU Arti 56.48 320 P **P** 09 29 00.4 +0.7
comp=Z,1.9nm,0.3s,baz=73,slow=4.0,SNR=24
ARU Arti 56.48 320*c i*P **P** 09 28 59.6 -0.1
ARU 09 29 54.3
ARU S **S** 09 36 47.7 -0.1
ARU SS **SS** 09 40 31.0 -4.0
ARU pmax pmax
comp=Z,41nm,1.3s
ARU MLR MLR
comp=Z,786nm,16.0s
ARU Arti 56.48 320 P **P** 09 29 00.1 +0.3
IMAR Indian Mountai 57.13 28 P **P** 09 29 05.3 +1.1
SII Sitkinak Islan 57.33 39 P 09 29 04.5
baz=275
AKTO Aktyubinsk 57.47 313 P **P** 09 29 07.7 +0.9
comp=Z,3.8nm,0.8s,baz=71,slow=11,SNR=9.6
AKTO LR LR 09 55 54.8
comp=Z,672nm,19.9s,baz=68,slow=38
H21K Melozitna Rive 57.52 28 P 09 29 07.9
baz=271,SNR=19
OHAK Old Harbor 57.76 38 P 09 29 08.9
baz=276
RSO Redoubt South 57.76 35 P **P** 09 29 10.1 +1.1
CHUM Lake Minchumin 57.78 31 P 09 29 09.6
baz=272,SNR=11
HRA Herat 57.80 294 P **P** 09 29 08.9 -0.8
HRA IAmb IAmb 09 29 12.7
comp=Z,11nm,0.7s
PPLA Purkeypile 57.88 32 P **P** 09 29 09.8 +0.1
PPLA IAmb IAmb 09 29 16.9
comp=Z,23nm,1.2s
PPLA Purkeypile 57.88 32 P 09 29 09.9
baz=273
SPCR Spurr Chakacha 57.97 34 P 09 29 11.1
baz=274
KDAK Kodiak Island 58.08 38 P **P** 09 29 11.7 +0.7
comp=Z,18nm,0.5s,baz=301,slow=5.2,SNR=31
KDAK Kodiak Island 58.08 38 IAmb IAmb 09 29 12.2
comp=Z,22nm,0.7s
KDAK Kodiak Island 58.08 38 P 09 29 11.0
baz=276
SKT Skwentna 58.24 33 IAmb IAmb 09 29 14.0
comp=Z,14nm,1.0s
SKT Skwentna 58.24 33 P 09 29 12.4
baz=274,SNR=5.3
BPAW Bear Paw Mtn. 58.35 30 IAmb IAmb 09 29 15.6
comp=Z,12nm,1.0s
BPAW Bear Paw Mtn. 58.35 30 P 09 29 13.8
baz=273,SNR=6.0
HOM Homer 58.38 36 P 09 29 13.2
baz=276
MLY Manley 58.41 29 IAmb IAmb 09 29 16.2
comp=Z,13nm,0.9s
MLY Manley 58.41 29 P 09 29 14.5
baz=273,SNR=18
KTH Kantishna Hill 58.41 31 IAmb IAmb 09 29 16.1
comp=Z,21nm,1.4s
CAPN Captain Cook N 58.52 34 P 09 29 14.1
baz=275
COLD Coldfoot 58.53 27 P **P** 09 29 15.3 +1.3
COLD Coldfoot 58.53 27 P 09 29 13.9
baz=272,SNR=6.4

CNPM China Poot 58.60 36 P **P** 09 29 14.7 +0.1
SUA Susitna One 58.66 33 P 09 29 15.3
baz=275
TOLK Toolik Lake Re 58.72 25 IAmb IAmb 09 29 18.3
comp=Z,14nm,1.0s
TOLK Toolik Lake Re 58.72 25 P 09 29 15.2
baz=272,SNR=10
CUT Chulitna 58.80 32 P 09 29 16.1
baz=275
BRSE Bradley Lake S 58.83 35 P 09 29 15.6
baz=276
H23K Yukon River 58.86 28 P 09 29 17.6
baz=274,SNR=23
M22K Willow 58.93 33 P 09 29 16.3
baz=276,SNR=5.5
I23K Minto, Yukon-K 58.98 29 P P 09 29 18.9 +1.7
I23K IAmb IAmb 09 29 20.1
comp=Z,14nm,1.3s
I23K Minto, Yukon-K 58.98 29 P 09 29 17.4
baz=274,SNR=6.8
BWN Browne 59.01 30 P **P** 09 29 18.9 +1.5
NEA2 Nenana 59.15 30 P 09 29 19.2
baz=275,SNR=22
RC01 Rabbit Creek A 59.18 34 P 09 29 17.9
baz=276
O22K Cooper Landing 59.25 34 P 09 29 18.8
baz=277
MCK McKinley 59.28 31 IAmb IAmb 09 29 22.1
comp=Z,16nm,1.0s
MCK McKinley 59.28 31 P 09 29 18.8
baz=275,SNR=7.8
PMR Palmer 59.41 33 P **P** 09 29 19.3 -0.9
PMR **P** 09 29 21.0 +0.9
PMR IAmb IAmb 09 29 21.9
comp=Z,20nm,1.0s
PMR Palmer 59.41 33 P 09 29 19.9
baz=276,SNR=7.3
SEW Seward 59.43 35 P **P** 09 29 20.8 +0.5
SEW Seward 59.43 35 P 09 29 20.3
baz=277,SNR=5.1
WAT2 Susitna Watana 59.52 31 P 09 29 21.0
baz=276
H24K Noodor Dome 59.55 28 P 09 29 22.6
baz=275,SNR=13
WRH Wood River Hil 59.58 30 **PcP** 09 30 09.9 +1.7
TCOL CIGO, UAF Yank 59.64 29 IAmb IAmb 09 29 24.8
comp=Z,10.0nm,0.8s
TCOL CIGO, UAF Yank 59.64 29 P 09 29 21.4
baz=276
COLA College 59.65 29 *i* P P 09 29 23.5 +1.8
COLA pmax pmax
comp=Z,22nm,2.1s
COLA College 59.65 29 P **P** 09 29 23.1 +1.4
COLA IAmb IAmb 09 29 24.8
comp=Z,9.8nm,0.8s
COLA College 59.65 29 P 09 29 21.6
baz=276
KNK Knik Glacier 59.76 33 P **P** 09 29 22.4 -0.1
KNK Knik Glacier 59.76 33 P 09 29 22.6
baz=277,SNR=7.9
SML Sawmill 59.77 33 P 09 29 23.0
baz=277,SNR=5.2
POKR Poker Plat Res 59.80 29 P **P** 09 29 23.8 +1.0
POKR Poker Plat Res 59.80 29 P 09 29 23.2
baz=276,SNR=5.4
WAT6 Susitna Watana 59.95 32 P 09 29 24.0
baz=277,SNR=9.6
GEYT Alibeck 60.04 299 P **P** 09 29 26.4 +1.4
comp=Z,8.4nm,0.7s,baz=122,slow=1.9,SNR=5.2
IL31 60.07 29 P **P** 09 29 24.9 +0.3
ILAR Eielson Array 60.07 29 P **P** 09 29 24.8 +0.1
comp=Z,2.7nm,0.8s,baz=271,slow=5.5,SNR=26
ILAR LR LR 09 57 38.7
comp=Z,110nm,18.2s,baz=284,slow=38
HDA Harding Lake 60.08 30 P **P** 09 29 24.4 -0.4
HDA IAmb IAmb 09 29 26.1
comp=Z,17nm,0.9s
HDA Harding Lake 60.08 30 P 09 29 24.7
baz=277,SNR=14
HDA P 09 29 24.7
baz=277,SNR=14
SCM Sheep Creek Mo 60.24 33 P **P** 09 29 26.3 +0.3
SCM pmax pmax
comp=Z,33nm,1.0s
SCM Sheep Creek Mo 60.24 33 P **P** 09 29 26.3 +0.3
GLI Glacier Island 60.48 34 P 09 29 27.4
baz=279,SNR=6.1
FYU Fort Yukon 60.54 27 P **P** 09 29 29.3 +1.5
M24K Tolsona, Glenn 60.74 32 P P 09 29 31.1 +1.7
M24K IAmb IAmb 09 29 31.6
comp=Z,16nm,0.8s
M24K Tolsona, Glenn 60.74 32 P 09 29 28.7
baz=279
FID Port Fidalgo 60.80 34 P **P** 09 29 30.3 +0.6
HIN Hinchinbrook I 60.85 34 P **P** 09 29 30.9 +0.8
HIN IAmb IAmb 09 29 32.2
comp=Z,16nm,0.8s
PAX Paxson 60.93 31 P 09 29 30.2
baz=279
KLU Klutina 60.95 33 IAmb IAmb 09 29 33.1
comp=Z,14nm,1.0s
KLU Klutina 60.95 33 P 09 29 30.5
baz=279
Q23K Middleton Isla 61.08 35 P 09 29 31.2
baz=280
KIRV Kirov 61.11 324 P **P** 09 29 32.8 +1.1
comp=Z,22nm,0.3s,baz=125,slow=2.7,SNR=9.2
KIRV Kirov 61.11 324*ce*P **P** 09 29 33.1 +1.3
HARP HAARP 61.16 32 P 09 29 32.8
baz=279,SNR=7.7
EYAK Cordova Ski Ar 61.19 34 P **P** 09 29 33.5 +1.2
EYAK IAmb IAmb 09 29 34.6
comp=Z,13nm,0.9s
EYAK Cordova Ski Ar 61.19 34 P 09 29 31.8
baz=280
SCRK Sand Creek 61.43 30 P **P** 09 29 34.1 0.0
SCRK IAmb IAmb 09 29 35.4
comp=Z,11nm,0.8s
SCRK Sand Creek 61.43 30 P 09 29 34.4
baz=280,SNR=17
N25K Chitina, Valde 61.56 33 P 09 29 35.4
baz=280
BMRM Bremner River 61.67 33 P 09 29 36.4
baz=281,SNR=8.4
MENT Mentasta 61.72 31 P **P** 09 29 36.1 +0.1
MENT IAmb IAmb 09 29 38.7
comp=Z,19nm,0.9s
GLB Gilahina Butte 61.96 33 IAmb IAmb 09 29 40.1
comp=Z,21nm,1.1s
STKA Stephens Creek 61.98 170 P P 09 29 39.8 +1.9
comp=Z,2.6nm,0.8s,baz=334,slow=8.9,SNR=8.0
STKA Stephens Creek 61.98 170 IAmb IAmb 09 29 48.8
comp=Z,1.7nm,1.2s
VRDI Verde Repeater 62.17 33 P **P** 09 29 40.2 +1.0
VRDI IAmb IAmb 09 29 41.4
comp=Z,21nm,1.0s
K27K Chicken 62.25 30 IAmb IAmb 09 29 42.2
comp=Z,20nm,1.2s
K27K Chicken 62.25 30 P 09 29 39.9
baz=281
MCARA McCarthy VSAT 62.34 33 P 09 29 40.4
baz=282,SNR=6.0
CRQE Cirque 62.44 34 P 09 29 41.6
baz=282,SNR=5.6
EGAK Eagle 62.49 29 P **P** 09 29 41.6 +0.6
EGAK Eagle 62.49 29 P 09 29 41.3
baz=282
L27K Beaver Creek, 62.55 31 IAmb IAmb 09 29 44.3
comp=Z,11nm,0.9s
L27K Beaver Creek, 62.55 31 P 09 29 42.1
baz=282,SNR=14
TGL Tana Glacier 62.56 33 IAmb IAmb 09 29 43.9
comp=Z,19nm,0.8s
BARN Barnard Glacie 63.05 33 IAmb IAmb 09 29 47.4
comp=Z,9.9nm,0.8s
GRNC Granite Creek 63.08 33 P **P** 09 29 45.9 +0.6
GRNC IAmb IAmb 09 29 47.4
comp=Z,9.9nm,0.9s
MESA MESA 63.11 34 P 09 29 45.0
baz=283
CTG Chitna Glacier 63.23 33 P 09 29 45.2
baz=283
DAWY Dawson 63.39 29 IAmb IAmb 09 29 49.5
comp=Z,13nm,1.2s
BELG Belogornoye 63.45 317 P **P** 09 29 48.4 +0.9
comp=Z,41nm,0.8s,baz=199,slow=1.7,SNR=12
EPYK Eagle Plains 63.93 27 P 09 29 50.8
baz=285
PINM Pinnacle 63.96 34 P 09 29 50.3
baz=285
INK Inuvik 64.61 24 P **P** 09 29 56.1 +1.2
comp=Z,11nm,0.9s,baz=292,slow=6.1,SNR=32
INK Inuvik 64.61 24 P **P** 09 29 55.9 +1.0
INK pmax pmax
comp=Z,19nm,1.2s
INK Inuvik 64.61 24 P **P** 09 29 55.9 +1.0
INK IAmb IAmb 09 29 57.1
comp=Z,19nm,1.2s
INK Inuvik 64.61 24 P 09 29 54.8
baz=286
HYT Haines Junctio 65.08 33 P **P** 09 29 59.7 +1.4
HYT IAmb IAmb 09 30 01.4
comp=Z,19nm,0.9s
LVZ Lovozero 65.34 336 P **P** 09 30 01.2 +1.5
LVZ pmax pmax
comp=Z,24nm,1.1s
LVZ Lovozero 65.34 336 P **P** 09 30 01.2 +1.5
LVZ IAmb IAmb 09 30 08.5
comp=Z,24nm,1.1s
APA Apatity 65.89 335 ⇑ *i*P **P** 09 30 03.4 +0.2
APA pmax pmax
comp=Z,24nm,0.8s
APA MLR MLR
comp=Z,600nm,17.0s
SPA0 Spitsbergen Ar 66.04 348 *e*P **P** 09 30 05.1 +1.1
WHY Whitehorse 66.35 32 IAmb IAmb 09 30 09.4
comp=Z,14nm,0.9s
WHY Whitehorse 66.36 32 P 09 30 07.2
baz=289,SNR=8.4
KBS Kingsbay 66.38 349 *e*P **P** 09 30 07.9 +1.6
HSPB Hornsund (broa 66.80 347 *e*P **P** 09 30 10.3 +1.4
KEV Kevo 67.26 339 P **P** 09 30 13.4 +1.5
KEV pmax pmax
comp=Z,19nm,0.7s
KEV Kevo 67.26 339 P **P** 09 30 13.4 +1.5
VRH Novokhopyorsk 67.30 317 *e*P **P** 09 30 13.0 +0.5
VRH pmax pmax
comp=Z,50nm,0.7s
SIT Sitka 67.32 36 P 09 30 12.9
baz=290
JIS Juneau Island 67.38 35 IAmb IAmb 09 30 16.5
comp=Z,25nm,1.1s
C36M Paulatuk 67.47 22 P **P** 09 30 14.1 +0.9
C36M Paulatuk 67.47 22 P 09 30 12.9
baz=294
ARA0 ARCESS Array S 67.83 339 *e*P P 09 30 17.6 +2.0
ARCES ARCESS Array B 67.83 339 P **P** 09 30 16.7 +1.1
comp=Z,9.2nm,0.8s,baz=57,slow=8.6,SNR=19
ARCES LR LR 10 06 21.4
comp=Z,270nm,18.1s,baz=45,slow=42
ARCES ARCESS Array B 67.83 339 P **P** 09 30 16.2 +0.6
ARCES pmax pmax
comp=Z,12nm,0.9s
ARCES ARCESS Array B 67.83 339 P **P** 09 30 16.2 +0.6
ARCES IAmb IAmb 09 30 18.0
comp=Z,12nm,0.9s
HAMF Hammerfest 67.91 340 *e*P **P** 09 30 17.1 +1.1
MOS Moscow 68.05 323 *e*P **P** 09 30 17.3 +0.2
MOS *e* 09 30 26.3
MOS pmax pmax
comp=Z,73nm,0.8s
MOS MLR MLR
comp=Z,500nm,17.0s
LPSR Galich'ya Gora 68.44 319 *e*P **P** 09 30 20.3 +0.6
LPSR pmax pmax
comp=Z,40nm,0.8s
GOF Gofitskoye 68.58 310 ⇑ *e*P **P** 09 30 21.8 +1.1
KTK1 Kautokeino 68.79 338 *e*P P 09 30 23.9 +2.3
VSR Storozhevoye 68.80 318 *e*P **P** 09 30 21.8 -0.1
VSR pmax pmax
comp=Z,60nm,0.9s
VORD Divnogorie 68.82 317 *e*P **P** 09 30 22.4 +0.4
VORD pmax pmax
comp=Z,30nm,0.6s
ZEI Tsey 68.82 308 *e*P **P** 09 30 22.1 -0.4
ZEI pmax pmax
comp=Z,24nm,0.9s
OBN Obninsk 68.83 322 P **P** 09 30 22.9 +0.8
comp=Z,4.5nm,0.3s,baz=49,slow=11,SNR=5.1
OBN LR LR 10 03 24.8
comp=Z,106nm,19.1s,baz=352,slow=38
OBN Obninsk 68.83 322*d i*P **P** 09 30 23.1 +1.1
OBN *e**SP **pwP** 09 30 36.2 -1.3
OBN *e* 09 30 41.9
OBN S S 09 39 31.0 +8.2
OBN pmax pmax
comp=Z,71nm,1.7s
OBN MLR MLR
comp=Z,388nm,17.0s
CRAG Craig 69.03 37 P 09 30 23.3
baz=292
WRAK Wrangell Islan 69.08 36 P 09 30 23.4
baz=292
KBZ Khabaz 69.16 309 P **P** 09 30 25.5 +1.2
comp=Z,31nm,0.9s,baz=76,slow=4.1,SNR=45
KBZ LR LR 10 03 41.9
comp=Z,172nm,20.4s,baz=58,slow=39
KBZ Khabaz 69.16 309*ce*P **P** 09 30 26.0 +1.7
GNI Garni 69.20 305 P P 09 30 27.5 +2.7
comp=Z,19nm,0.6s,baz=136,slow=2.3,SNR=7.9
GNI Garni 69.20 305*ce*P P 09 30 27.1 +2.3
GNI pmax pmax
comp=Z,48nm,1.7s
ONI Oni 69.20 308 P **P** 09 30 26.3 +1.6
ONI pmax pmax
comp=Z,22nm,0.9s
ONI Oni 69.20 308 P **P** 09 30 26.3 +1.6
ONI IAmb IAmb 09 30 29.4
comp=Z,22nm,0.9s
KVAR Kislovodsk Arr 69.22 309 P P 09 30 27.3 +2.5
comp=Z,12nm,0.7s,baz=73,slow=19,SNR=4.5
KIV Kislovodsk 69.22 309 ⇓ P P 09 30 26.7 +1.9
KIV Kislovodsk 69.22 309 *e*P **P** 09 30 26.3 +1.5
KIV pmax pmax
comp=Z,140nm,1.0s
KIV MLR MLR
comp=Z,364nm,17.0s
KIV Kislovodsk 69.22 309 P **P** 09 30 25.9 +1.1
NEY Neytrino 69.46 309 *i* P P 09 30 28.9 +2.5
NEY pmax pmax
comp=Z,4.0nm,1.0s
AKH Akhalkalaki 69.61 307 ⇓ P P 09 30 29.7 +2.4
TRO Tromso 69.82 340 *e*P P 09 30 29.6 +1.7
UMR Umm Al-Rimmam 71.03 294 *e*P **P** 09 30 36.3 +0.2
MIB Mutribah 71.23 294 *e*P **P** 09 30 37.8 +0.6
FINES FINESS Array B 71.25 331 P **P** 09 30 36.7 0.0
comp=Z,10nm,0.6s,baz=68,slow=5.0,SNR=28
FINES LR LR 10 06 21.4
comp=Z,266nm,18.3s,baz=72,slow=40
FINES FINESS Array B 71.25 331 P **P** 09 30 38.2 +1.5
SOC Sochi 71.35 310 *e*P **P** 09 30 36.9 -0.8
SOC *e* 09 33 11.6
SOC *e*PPP PPP 09 34 57.5
SOC *e*S **S** 09 39 50.9 -1.8
SOC *e*SS **SS** 09 44 21.7 -5.3
SOC *e*SSS SSS 09 47 37.3
SOC pmax pmax
comp=Z,47nm,0.7s
SOC MLR MLR
comp=Z,216nm,19.0s
RDF Al-Radifah 71.42 293 *e*P **P** 09 30 39.2 +0.8
STEI Steigen 71.87 339 *e*P **P** 09 30 41.8 +1.4
FAUS Fauske 72.17 339 *e*P **P** 09 30 43.0 +0.8
DAG Danmarks Havn 72.19 353 *i* P **P** 09 30 43.2 +1.0
DAG IAmb IAmb 09 30 43.8
comp=Z,15nm,0.9s
DAG Danmarks Havn 72.19 353 *i* P **P** 09 30 43.2 +1.0
DAG pmax pmax
comp=Z,15nm,0.9s
LOF Lofoten 72.28 340 *e*P **P** 09 30 44.0 +1.2
VSU Vasula 72.35 328 *e*P P 09 30 45.3 +1.9
NEEM North Greenlan 73.11 1 *i* P **P** 09 30 48.8 +0.7
NEEM IAmb IAmb 09 30 49.9
comp=Z,14nm,0.9s
MOR8 Moi Rana 73.15 338 *e*P **P** 09 30 48.6 +0.6
TULEG Thule 73.28 5 *i* P **P** 09 30 48.9 +0.3
TULEG IAmb IAmb 09 30 50.1
comp=Z,7.4nm,0.7s
KONS Konsvik 73.39 338 *e*P **P** 09 30 50.5 +1.1
MNK Minsk 73.65 324 *i* P **P** 09 30 48.8 -2.4
MNK *i* 09 31 05.8
MNK *i* 09 33 34.3

MNK *i* S **S** **09 40 14.1 -4.4**
MNK *i* SS **SS** **09 44 57.0 -4.5**
MNK *i* SSS SSS 09 48 19.0
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=Z,35nm,0.9s
MNK MLR MLR
comp=Z,272nm,16.0s
MNK MLR MLR
comp=E,24nm,15.0s
MNK MLR MLR
comp=N,1µm,28.0s
MNK Minsk 73.65 324 *i* P **P** **09 30 48.8 -2.4**
comp=E,1.0nm,0.7s
MNK *i* P **P** **09 30 48.8 -2.4**
comp=N,24nm,0.8s
MNK *i* P **P** **09 30 48.8 -2.4**
comp=Z,35nm,0.9s,baz=242
MNK *i* PcP **pwP** **09 31 05.8 -0.9**
MNK *i* PP **PP** **09 33 34.4 -0.9**
MNK *i* PPP PPP 09 35 04.4
MNK *i* S **S** **09 40 14.2 -4.4**
MNK *i* SS **SS** **09 44 57.0 -4.5**
MNK *i* SSS SSS 09 48 19.1
MNK *i* LQ LQ 09 56 09.0
MNK *i* LR LR 09 58 56.2
MNK *i* LRM MLR 10 06 41.2
comp=Z,272nm,16.2s
MNK *i* LRM MLR 10 06 46.2
comp=E,24nm,14.6s
MNK *i* LRM MLR 10 07 04.3
comp=N,1µm,28.5s
IDID Didziasalis 73.84 325 *eP* P 09 30 54.3 +2.0
YKA Yellowknife Ar 74.21 26 P **P** **09 30 55.6 +1.3**
comp=N,7.8nm,0.8s,baz=300,slow=5.0,SNR=14
YKA LR LR 10 06 25.8
comp=N,34nm,18.6s,baz=0.0,slow=38
SIM Simferopol' 74.43 313*d iP* **P** **09 30 56.4 +0.5**
SIM pmax pmax
comp=Z,27nm,0.5s
DBG Daneborg 74.59 352⇓ *i*P **P** **09 30 56.9 +0.6**
DBG IAmb IAmb 09 30 57.9
comp=Z,9.2nm,0.9s
AKASG Malin Array Be 74.73 320 P **P** **09 30 57.5 0.0**
comp=Z,320nm,0.8s,baz=56,slow=6.3,SNR=75
AKASG LR LR 10 06 15.5
comp=Z,195nm,19.8s,baz=80,slow=38
AKASG Malin Array Be 74.73 320 IAmb IAmb 09 30 59.8
comp=Z,24nm,0.8s
AKBB Malin Array Si 74.73 320*ce*P **P** **09 30 58.6 +1.1**
AKBB Malin Array Si 74.73 320 P **P** **09 30 57.5 -0.1**
AKBB IAmb IAmb 09 30 59.4
comp=Z,25nm,0.8s
NSS Namsos 74.97 337 *eP* **P** **09 30 59.5 +0.8**
PABE Paberze 75.12 326 *eP* **P** **09 31 01.2 +1.5**
PABE Paberze 75.12 326 P P 09 31 01.4 +1.7
RAYN Ar Rayn 75.37 289 P **P** **09 31 03.1 +1.3**
RAYN pmax pmax
comp=Z,69nm,1.2s
RAYN Ar Rayn 75.37 289 P **P** **09 31 03.1 +1.3**
UPP Uppsala 75.63 332 *eP* P 09 31 04.3 +1.8
SUW Suwalki 76.29 325 *eP* P 09 31 08.3 +1.9
SUW Suwalki 76.29 325 *eP* **P** **09 31 08.1 +1.7**
SORM Soroca 76.46 318 ⇓P **P** **09 31 08.4 +0.9**
SORM Soroca 76.46 318 ⇓P **P** **09 31 08.4 +0.9**
HFS Hagfors 77.06 333 P **P** **09 31 10.5 -0.1**
comp=Z,8.1nm,0.7s,baz=46,slow=6.2,SNR=11
HFS LR LR 10 10 48.4
comp=Z,119nm,18.1s,baz=39,slow=40
BRTR Keskin Array B 77.12 308 P **P** **09 31 12.0 +0.4**
comp=Z,35nm,0.9s,baz=105,slow=4.0,SNR=150
BRTR LR LR 10 10 37.2
comp=Z,153nm,19.7s,baz=80,slow=40
BRTR Keskin Array B 77.12 308 P **P** **09 31 12.5 +0.9**
NC303 NORSAR Array S 77.27 335 P P 09 31 13.8 +2.0
NC303 IAmb IAmb 09 31 15.0
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 77.44 334 P **P** **09 31 12.9 0.0**
baz=50,slow=5.9
NOA NORSAR Array B 77.44 334 P **P** **09 31 13.3 +0.4**
comp=Z,9.7nm,0.8s,baz=49,slow=5.5,SNR=28
NOA LR LR 10 09 47.2
comp=Z,98nm,19.6s,baz=65,slow=39
NC204 NORSAR Array S 77.46 335 IAmb IAmb 09 31 25.5
comp=Z,38nm,1.4s
DOMB Dombas 77.58 336 *eP* **P** **09 31 14.9 +1.3**
NBO00 NORSAR Array S 77.61 335 IAmb IAmb 09 31 16.3
comp=Z,24nm,0.9s
ANTO Ankara 77.63 309 P **P** **09 31 15.2 +0.8**
ANTO pmax pmax
comp=Z,31nm,1.0s
ANTO Ankara 77.63 309 P **P** **09 31 15.2 +0.8**
TLCR 77.64 315 ⇑P P 09 31 16.4 +2.2
TLCR 77.64 315 ⇑P P 09 31 16.4 +2.2
MOL Molde 77.75 337 *eP* P 09 31 16.1 +1.7
SUMG Summit 77.78 357⇓ *i*P P 09 31 16.6 +1.7
SUMG IAmb IAmb 09 31 17.5
comp=Z,24nm,1.1s
SUMG Summit 77.78 357⇓ *i*P P 09 31 16.6 +1.6
SUMG pmax pmax
comp=Z,24nm,1.1s
SUMG Summit 77.78 357 IAmb IAmb 09 31 31.0
comp=Z,33nm,1.2s
TPGR Topolog 78.04 315 ⇓P P 09 31 18.8 +2.4
LVV L'vov 78.05 321 *eP* P 09 31 19.7 +3.3
CFR Carcaliu 78.06 315 ⇓P P 09 31 18.3 +1.8
CFR Carcaliu 78.06 315 ⇓P P 09 31 18.3 +1.8
D03D Eldon 78.19 42 P 09 31 17.3
baz=301
AKN Aaknes 78.21 337 *eP* **P** **09 31 18.4 +1.3**
TIRR Tirgusor 78.25 315 ⇓P P 09 31 19.7 +2.2
TIRR Tirgusor 78.25 315 ⇓P P 09 31 19.7 +2.1
TESR Tescani 78.28 317 ⇓P P 09 31 20.0 +2.2
SCO Scoresbysund 78.31 351 *i* P P 09 31 19.1 +1.7
SCO IAmb IAmb 09 31 20.1
comp=Z,10nm,1.0s
SCO Scoresbysund 78.31 351 P **P** **09 31 18.5 +1.0**
SCO pmax pmax
comp=Z,19nm,1.3s
SCO Scoresbysund 78.31 351 P **P** **09 31 18.4 +1.0**
SCO IAmb IAmb 09 31 33.4
comp=Z,19nm,1.3s
B05A Bryant 78.38 41 P 09 31 17.8
baz=302
MFTR Murfatlar 78.38 314 ⇓P P 09 31 20.3 +2.0
BIZ Bicaz 78.38 318 ⇓P P 09 31 20.8 +2.5
ODBI Odobesti 78.42 316 ⇓P P 09 31 21.2 +2.7
HARR Harsova 78.43 315 ⇓P P 09 31 20.9 +2.3
HARR Harsova 78.43 315 ⇓P P 09 31 20.9 +2.3
BUR08 Bucovina Ar. S 78.54 319 IAmb IAmb 09 31 22.8
comp=Z,18nm,0.9s
BURAR Bucovina Array 78.55 318 ⇓P **P** **09 31 20.5 +1.2**
BURAR Bucovina Array 78.55 318 ⇓P **P** **09 31 20.5 +1.2**
BURAR Bucovina Array 78.55 318 IAmb IAmb 09 31 22.7
comp=Z,20nm,0.8s
D04E Lakebay 78.55 42 P 09 31 18.5
baz=302
VRI Vrincioaia 78.56 316 ⇓P P 09 31 22.0 +2.7
VRI Vrincioaia 78.56 316 ⇓P P 09 31 22.0 +2.7
PLOR Plostina 78.61 316 ⇓P P 09 31 22.3 +2.6
PLOR Plostina 78.61 316 ⇓P P 09 31 22.3 +2.6
SKAR Skarsila 78.76 335 *eP* **P** **09 31 21.5 +1.3**
ICOR Ion Corvin 78.80 314 ⇓P P 09 31 22.9 +2.3
KWP Kalwaria Pacla 78.88 321 *eP* P 09 31 23.8 +2.8
KWP Kalwaria Pacla 78.88 321 P **P** **09 31 22.3 +1.3**
KWP pmax pmax
comp=Z,44nm,0.9s
KWP Kalwaria Pacla 78.88 321 P **P** **09 31 22.3 +1.3**
F04D Rainier, OR 78.98 43 P 09 31 20.9
baz=302
E04D Cinebar 79.00 43 P 09 31 20.9
baz=302
OZUR 79.00 317 ⇓P P 09 31 24.5 +2.7
MMAI Mount Meron Ar 79.01 302 P P 09 31 24.6 +2.5
comp=Z,6.9nm,0.6s,baz=64,slow=9.4,SNR=11
NEHR Nehoiu 79.05 316 ⇓P P 09 31 25.8 +3.8
MLR Muntele Rosu 79.22 316 P **P** **09 31 24.7 +1.6**
comp=Z,9.5nm,0.9s,baz=104,slow=9.7,SNR=12
MLR Muntele Rosu 79.22 316 ⇓P P 09 31 25.0 +1.9
MLR Muntele Rosu 79.22 316 ⇓P P 09 31 25.0 +1.9
MLR Muntele Rosu 79.22 316 P **P** **09 31 23.9 +0.8**

MLR IAmb IAmb 09 31 26.7
comp=Z,17nm,1.1s
G03D McMinnville, O 79.28 44 P 09 31 23.2
baz=302
DOPR Dopca 79.31 317⇓ *i*P P 09 31 26.5 +3.1
KOLS Kolonicke sedl 79.50 321 *eP* P 09 31 27.0 +2.6
KOLS Kolonicke sedl 79.50 321 *eP* P 09 31 27.0 +2.6
I02D Swisshome 79.50 45 P 09 31 24.4
baz=301
BSD Bornholm Skovb 79.62 328 *i* P **P** **09 31 25.7 +0.8**
BSD IAmb IAmb 09 31 27.4
comp=Z,21nm,0.7s
BSD Bornholm Skovb 79.62 328 *i* P P 09 31 19.1 -5.8
BSD pmax pmax
comp=Z,11nm,1.0s
UZH Uzhgorod 79.66 320 *eP* **P** **09 31 25.6 +0.4**
UZH *i* 09 31 31.7
GHAJ Ghor Haditha 79.70 300 P P 09 31 27.9 +2.1
VOIR 79.79 317⇓P P 09 31 28.1 +2.0
VOIR 79.79 317⇓P P 09 31 28.1 +2.0
B08A Colville Reser 79.88 40 IAmb IAmb 09 31 28.8
comp=Z,18nm,1.4s
J01E Myrtle Point 79.94 46 P 09 31 26.3
baz=301
H04D Lebanon 79.96 44 P 09 31 26.1
baz=302
F05D White Salmon 80.01 43 P 09 31 27.4
baz=303
ASK Askoy 80.01 336 *eP* **P** **09 31 28.2 +1.3**
I03D Drain, OR 80.02 45 P 09 31 26.9
baz=302
ARR Arges 80.07 317⇓P P 09 31 30.4 +2.8
OJC Ojcow 80.11 323 *eP* P 09 31 29.4 +1.7
OJC Ojcow 80.11 323 IAmb IAmb 09 31 31.2
comp=Z,23nm,0.9s
BLS5 Blasjo 80.30 335 *eP* **P** **09 31 29.3 +0.8**
K02D Willamette Mer 80.35 46 P 09 31 28.2
baz=302
DRGR 80.43 319⇓P P 09 31 32.5 +2.9
DRGR 80.43 319⇓P P 09 31 32.5 +2.9
G05D Wamic, OR 80.44 43 P 09 31 28.9
baz=303
I04A Tendick Farm, 80.55 45 P 09 31 29.6
baz=302
L02E Cave Junction 80.67 47 P 09 31 30.4
baz=302
C09A Chrisman Ranch 80.78 40 P **P** **09 31 32.3 +0.9**
HUMO Hull Mountain 80.84 46 P P 09 31 33.3 +1.6
LANS Liptovska Anna 80.90 322 *eP* P 09 31 34.7 +2.7
LANS pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 80.90 322 *eP* P 09 31 34.7 +2.7
I05D Terrebonne, OR 80.91 44 P 09 31 32.0
baz=303
EIL Elat 80.94 299 P **P** **09 31 34.2 +1.7**
comp=Z,7.9nm,0.8s,baz=179,slow=1.6,SNR=5.8
EIL LR LR 10 13 25.2
comp=Z,109nm,19.5s,baz=66,slow=40
J04D Umpqua Nationa 81.03 45 P 09 31 31.8
baz=302
NEW Newport 81.16 39 P 09 31 31.7
baz=305
GZR Gura Zlata 81.16 317⇓P P 09 31 35.7 +2.3
GZR Gura Zlata 81.16 317⇓P P 09 31 35.7 +2.2
MUD Monsted U'grnd 81.25 332 *eP* P 09 31 36.3 +2.7
MUD Monsted U'grnd 81.25 332 *eP* P 09 31 36.3 +2.7
ICESG Greenland Ices 81.30 357 *i* P **P** **09 31 35.7 +1.5**
ICESG IAmb IAmb 09 31 36.4
comp=Z,14nm,0.8s
PSZ Piszkesteto 81.38 321 IAmb IAmb 09 31 39.0
comp=Z,22nm,1.3s
PINE Pine Mountain 81.45 44 IAmb IAmb 09 31 38.2
comp=Z,22nm,0.8s
L04D Klamath Falls 81.46 46 P 09 31 33.9
baz=303
YBH Yreka Blue Hor 81.46 47 P **P** **09 31 36.6 +1.4**
YBH pmax pmax
comp=Z,14nm,1.1s
YBH Yreka Blue Hor 81.46 47 P **P** **09 31 36.6 +1.4**
YBH IAmb IAmb 09 31 38.4
comp=Z,14nm,1.1s
M02C Callahan 81.55 47 P 09 31 34.9
baz=302
MORC Moravsky Berou 81.56 323 *eP* **P** **09 31 36.7 +1.2**
KSP Ksiaz 81.56 325 *eP* P 09 31 37.4 +2.0
ALN Alexandroupoli 81.57 312 P **P** **09 31 37.3 +1.6**
ALN pmax pmax
comp=Z,9.0nm,0.8s
ALN Alexandroupoli 81.57 312 P **P** **09 31 37.3 +1.6**
ALN IAmb IAmb 09 31 38.5
comp=Z,9.1nm,0.8s
E09A Wood Farm, Sta 81.58 41 IAmb IAmb 09 31 38.2
comp=Z,18nm,1.0s
K04D Chiloquin, OR 81.58 46 P 09 31 35.9
baz=303
VYHS Vyhne 81.62 322 *eP* P 09 31 38.3 +2.5
VYHS pmax pmax
comp=Z,15nm,1.0s
VYHS Vyhne 81.62 322 *eP* P 09 31 38.3 +2.5
KRLC Kraliky 81.77 324 *eP* P 09 31 38.3 +1.7
KRLC Kraliky 81.77 324 *eP* P 09 31 38.3 +1.7
G08A Pilot Rock 81.80 42 P **P** **09 31 36.4 -0.6**
DPC Dobruska-Polom 81.84 324 *eP* P 09 31 38.9 +1.9
DPC Dobruska-Polom 81.84 324 *eP* P 09 31 38.9 +1.9
N02D Trinity Center 81.87 47 P 09 31 36.4
baz=302
M04C Macdoel 81.98 46 P 09 31 37.0
baz=303
JAVC Velka Javorina 82.03 322 *eP* P 09 31 40.4 +2.4
K05A Summer Lake 82.06 45 P **P** **09 31 39.5 +1.1**
K05A IAmb IAmb 09 31 41.3
comp=Z,17nm,0.9s
MDVR Moldovita 82.13 317⇓P P 09 31 40.8 +2.2
O02D Mt. Diablo Mer 82.24 48 P 09 31 38.2
baz=302
VRAC Vranov 82.33 323 P P 09 31 41.3 +1.8
comp=Z,6.2nm,0.7s,baz=51,slow=6.0,SNR=9.0
VRAC Vranov 82.33 323⇓P P 09 31 41.9 +2.4
VRAC Vranov 82.33 323 *eP* P 09 31 41.3 +1.8
VRAC Vranov 82.33 323⇓P P 09 31 41.9 +2.4
SMOL Smolenice 82.37 322 *eP* P 09 31 42.4 +2.7
SMOL pmax pmax
comp=Z,7.0nm,1.0s
SMOL Smolenice 82.37 322 *eP* P 09 31 42.4 +2.7
WALA Waterton Lakes 82.41 37 P **P** **09 31 40.9 +0.8**
WALA IAmb IAmb 09 31 42.6
comp=Z,11nm,0.8s
VTS Vitosha 82.41 315⇓P P 09 31 43.3 +3.1
VTS Vitosha 82.41 315⇓P P 09 31 43.3 +3.1
VTS Vitosha 82.41 315 IAmb IAmb 09 31 44.0
comp=Z,11nm,0.9s
BSEG Bad Segeberg 82.44 329 *eP* **P** **09 31 41.4 +1.5**
comp=Z,16nm,0.8s,baz=48,slow=5.2
MODS Modra-Piesok 82.53 322 *eP* **P** **09 31 42.1 +1.5**
MODS pmax pmax
comp=Z,17nm,1.3s
MODS Modra-Piesok 82.53 322 *eP* **P** **09 31 42.1 +1.5**
KRUC Moravsky 82.58 323 *eP* **P** **09 31 42.2 +1.4**
BRG Berggiesshubel 82.71 325 *eP* P 09 31 44.3 +2.9
BRG Amp 09 31 47.5
comp=Z,7.6nm,1.1s
BRG Amp 10 13 34.0
comp=Z,0.6nm,16.7s
BOVS Bovan 82.78 316⇓P **P** **09 31 42.1 +0.2**
O03E Paynes Creek 82.81 48 P 09 31 41.7
baz=303
MOD Modoc Plateau 82.88 46 P **P** **09 31 42.8 +0.2**
MOD IAmb IAmb 09 31 45.1
comp=Z,12nm,0.8s
CLL Collm 82.90 326⇓ *i*P **P** **09 31 43.5 +1.1**
comp=Z,16nm,0.8s
CLL *es*P **sP** **09 31 59.0 +0.8**
CLL Lm MLR 10 13 00.0
comp=N,400nm,18.7s
CLL Lm MLR 10 13 00.0
comp=E,200nm,19.7s
CLL Lm MLR 10 13 00.0
comp=Z,600nm,18.0s
CLL Collm 82.90 326⇓ *i*P **P** **09 31 43.5 +1.1**
CLL *e* 09 31 59.0
CLL pmax pmax
comp=Z,16nm,0.8s
CLL Collm 82.90 326 IAmb IAmb 09 31 44.4
comp=Z,14nm,0.8s
CLL Collm 82.90 326 *eP* **P** **09 31 44.0 +1.6**
comp=Z,16nm,0.8s,baz=48,slow=5.2
FBE Freiberg 82.97 326 *eP* P 09 31 44.8 +2.0
comp=Z,20nm,1.2s,baz=48,slow=5.2
JTMT Jette 83.00 38 IAmb IAmb 09 31 45.8
comp=Z,13nm,1.1s
BMO Blue Mountains 83.01 42 IAmb IAmb 09 31 45.7
comp=Z,25nm,1.5s
FLTG Flechtingen 83.07 328 *eP* **P** **09 31 44.5 +1.3**
comp=Z,18nm,0.9s,baz=48,slow=5.2
J08A Circle Bar Ran 83.18 44 IAmb IAmb 09 31 46.9
comp=Z,14nm,0.8s
ORV Oroville 83.41 48 P **P** **09 31 46.2 +1.0**
ORV pmax pmax
comp=Z,8.0nm,1.0s
ORV Oroville 83.41 48 P **P** **09 31 46.2 +1.0**
NRDL Niedersach Rie 83.49 328 *eP* P 09 31 47.1 +1.8
comp=Z,8.6nm,1.0s,baz=48,slow=5.2
BORG Borgarnes 83.50 349 LR LR 10 09 30.4
comp=Z,27nm,20.9s,baz=16,slow=36
DIVS Divibare 83.53 318 IAmb IAmb 09 31 49.4
comp=Z,11nm,1.0s
NEUB Neuenburg 83.55 327 *eP* P 09 31 47.6 +1.8
comp=Z,29nm,1.0s,baz=48,slow=5.2
CONA Conrad Observa 83.56 322 *eP* P 09 31 48.5 +2.5
comp=Z,16nm,1.0s
SFJD Kangerlussuaq 83.61 1 *i* P **P** **09 31 46.7 +0.9**
SFJD IAmb IAmb 09 31 47.5
comp=Z,9.1nm,0.9s
SFJD Kangerlussuaq 83.61 1 *i* P **P** **09 31 46.6 +0.9**
SFJD pmax pmax
comp=Z,9.0nm,0.9s
SFJD Kangerlussuaq 83.61 1 P **P** **09 31 47.0 +1.3**
SFJD IAmb IAmb 09 31 47.7
comp=Z,13nm,0.9s
TANN Tannenbergstha 83.73 326 *eP* P 09 31 48.5 +1.7
comp=Z,7.5nm,1.2s,baz=48,slow=5.2
TANN *ep*P pwP 09 32 00.6 -1.9
MSO Missoula 83.74 39 P 09 31 47.0
baz=308
CLZ Clausthal 83.80 328 *eP* P 09 31 49.1 +2.0
comp=Z,30nm,1.1s,baz=48,slow=5.2
CKRC Cesky Krumlov 83.82 324 *eP* P 09 31 48.9 +1.7
GUNZ Gunzen 83.83 326 *eP* P 09 31 49.0 +1.8
comp=Z,12nm,0.9s,baz=48,slow=5.2
GUNZ *ep*P pwP 09 32 01.2 -1.7
PLN Plauen 83.83 326 *eP* P 09 31 49.0 +1.7
comp=Z,7.4nm,0.8s,baz=48,slow=5.2
WERN Wernitzgruen 83.86 326 *eP* P 09 31 49.3 +1.9
comp=Z,14nm,0.9s,baz=48,slow=5.2
BEKR Beckworth 83.97 47 IAmb IAmb 09 31 50.4
comp=Z,14nm,0.9s
KHC Kasperske Hory 83.99 324 *eP* **P** **09 31 49.8 +1.7**
KHC Kasperske Hory 83.99 324 *eP* **P** **09 31 49.8 +1.7**
MOX Moxa 84.00 326 *eP* **P** **09 31 49.6 +1.6**
comp=Z,7.2nm,1.0s,baz=48,slow=5.2
MOX *e*L L 10 14 19.7
comp=Z,536nm,19.0s
GEC2 GERESS Array S 84.11 324 *eP* **P** **09 31 50.3 +1.5**
comp=Z,6.5nm,0.9s,baz=48,slow=5.2
GERES GERESS Array B 84.11 324 P **P** **09 31 50.2 +1.4**
comp=Z,3.9nm,0.7s,baz=53,slow=5.2,SNR=29
GERES GERESS Array B 84.11 324 P **P** **09 31 49.4 +0.6**
GERES GERESS Array B 84.11 324 P **P** **09 31 49.4 +0.6**
DY2G Dye2 84.13 359⇓ *i*P **P** **09 31 49.9 +1.2**
DY2G IAmb IAmb 09 31 50.3
comp=Z,18nm,0.9s
ARSA Arzberg 84.16 322 *eP* P 09 31 51.2 +2.3
comp=Z,11nm,1.1s
MANZ Manzenberg 84.18 326 *eP* P 09 31 50.9 +1.9
comp=Z,8.5nm,1.0s,baz=48,slow=5.2
GTTG Gottingen 84.19 328 *eP* P 09 31 50.9 +1.9
comp=Z,30nm,1.3s,baz=48,slow=5.2
FFC Flin Flon 84.25 28 P **P** **09 31 49.8 +0.6**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC Flin Flon 84.25 28 P **P** **09 31 49.8 +0.6**
FFC IAmb IAmb 09 31 51.3
comp=Z,16nm,1.1s
ROTZ Rotzenmuhle 84.28 325 *eP* P 09 31 51.6 +2.1
comp=Z,18nm,1.4s,baz=48,slow=5.2
LIT Litokhoron 84.28 313 IAmb IAmb 09 31 52.7
comp=Z,24nm,1.2s
WET Wettzell 84.34 325 *eP* P 09 31 51.8 +1.9
comp=Z,30nm,2.2s,baz=48,slow=5.2
MOA Molln 84.45 323 *eP* P 09 31 52.5 +2.1
comp=Z,18nm,1.5s
PAHR Pah Rah Range 84.68 47 IAmb IAmb 09 31 54.2
comp=Z,19nm,1.1s
MFID Camas Ranch 84.72 42 IAmb IAmb 09 31 54.8
comp=Z,17nm,1.1s
VCNR Virginia City 84.74 47 IAmb IAmb 09 31 54.7
comp=Z,10nm,0.9s
PERS Pernice 84.75 322 *i* P **P** **09 31 53.6 +1.6**
SOKA Soboth 84.77 322 *eP* **P** **09 31 53.7 +1.5**
comp=Z,30nm,1.0s
GRF Grafenberg Arr 84.81 326 *eP* P 09 31 54.3 +2.1
comp=Z,32nm,1.2s,baz=48,slow=5.2
GRF *e*L L 10 14 48.2
comp=Z,655nm,19.1s
PNTR Pine Nut 84.89 48 IAmb IAmb 09 31 55.6
comp=Z,16nm,0.9s
PDG Podgorica 84.94 316⇓P **P** **09 31 54.3 +1.3**
PDG Podgorica 84.94 316 IAmb IAmb 09 31 56.1
comp=Z,26nm,1.3s
CMB Columbia Colle 84.97 49 IAmb IAmb 09 31 55.4
comp=Z,13nm,1.0s
AGG Agios Georgios 84.99 312 IAmb IAmb 09 31 55.4
comp=Z,10nm,0.9s
KASTN Kahler Asten 85.13 328 *eP* **P** **09 31 55.4 +1.6**
comp=Z,16nm,1.4s,baz=48,slow=5.2
OBKA Obir 85.14 322 *i* P P 09 31 56.1 +2.1
comp=Z,13nm,0.9s
YERR Yerington 85.18 48 P **P** **09 31 55.1 +0.6**
YERR IAmb IAmb 09 31 56.8
comp=Z,21nm,1.1s
EGMT Eagleton 85.21 36 P 09 31 54.7
baz=310,SNR=7.1
RJOB Jochberg 85.28 324 *eP* P 09 31 56.8 +2.1
comp=Z,39nm,1.2s,baz=48,slow=5.2
WAKR Walker 85.33 48 IAmb IAmb 09 31 57.8
comp=Z,11nm,0.8s
IDI Anoyia 85.36 308 P **P** **09 31 56.0 +0.7**
comp=Z,9.7nm,0.8s,baz=19,slow=8.9,SNR=3.9
IDI Anoyia 85.36 308⇓P **P** **09 31 55.6 +0.3**
IDI Anoyia 85.36 308 IAmb IAmb 09 31 58.0
comp=Z,12nm,0.8s
DLMT Dillon 85.38 39 IAmb IAmb 09 31 57.9
comp=Z,18nm,0.9s
KBA Koelnbreinsper 85.42 323 *eP* P 09 31 58.5 +3.0
comp=Z,4.2nm,0.8s
HLID Hailey 85.45 42 IAmb IAmb 09 31 58.8
comp=Z,16nm,1.1s
HLID Hailey 85.45 42 P 09 31 55.5
baz=307
CRNS Crni Vrh 85.56 322 *i* P **P** **09 31 57.3 +1.2**
CEY Cerknica 85.69 321 *i* P **P** **09 31 57.9 +1.2**
RYN Ryan 85.84 48 IAmb IAmb 09 32 00.3
comp=Z,15nm,0.9s
KVN Kaiserville 85.87 47 P **P** **09 31 58.5 +0.5**
KVN pmax pmax
comp=Z,20nm,0.8s
KVN Kaiserville 85.87 47 P **P** **09 31 58.5 +0.5**
ZOU Zoufplan 85.95 323 IAmb IAmb 09 32 04.6
comp=Z,23nm,1.5s
MDPB Devils Postpil 86.05 49 IAmb IAmb 09 32 01.8
comp=Z,8.4nm,1.0s
LHV Little Huntoon 86.07 48 IAmb IAmb 09 32 01.8
comp=Z,18nm,1.0s
NVAR Mina Array Bea 86.10 48 P **P** **09 32 00.6 +1.5**
comp=Z,8.5nm,0.7s,baz=300,slow=5.4,SNR=99
NVAR LR LR 10 03 50.3
comp=Z,43nm,21.4s,baz=334,slow=31
NV11 Mina Array Sit 86.19 48 IAmb IAmb 09 32 01.9
comp=Z,5.6nm,0.8s
MLAC Mammoth, Mammo 86.21 48 P 09 31 59.6
baz=305
STAL STALIGIAL 86.28 322 IAmb IAmb 09 32 06.9
comp=Z,9.7nm,0.9s
PAGB Antelope Grade 86.35 51 P **P** **09 32 01.0 +0.8**
NUUK Nuuk 86.42 1 *i* P **P** **09 32 00.9 +1.1**
NUUK IAmb IAmb 09 32 01.8
comp=Z,25nm,1.1s
YHL Hebgen Lake 86.48 39 IAmb IAmb 09 32 04.0
comp=Z,12nm,1.1s
YHB Horse Butte 86.54 39 IAmb IAmb 09 32 04.2
comp=Z,12nm,0.8s
ELK Elko 86.66 44 IAmb IAmb 09 32 04.8

comp=Z,8.4nm,1.1s
YHH **Holmes Hill** **86.70 39** IAmb IAmb 09 32 05.1
comp=Z,11nm,1.4s
YMR **Madison River** **86.72 39** IAmb IAmb 09 32 05.3
comp=Z,9.8nm,0.9s
EKA **Eskdalemuir Ar** **86.83 336** P **P** **09 32 02.5 +0.5**
comp=Z,2.6nm,0.6s,baz=39,slow=5.4,SNR=9.7
VES **Vestal, Richgr** **87.07 50** P 09 32 03.5
baz=305
LKWY **Lake** **87.09 39** P P 09 32 06.3 +2.4
LKWY pmax pmax
comp=Z,13nm,0.9s
LKWY **Lake** **87.09 39** P P 09 32 06.3 +2.4
LKWY IAmb IAmb 09 32 08.4
comp=Z,13nm,0.9s
H17A **Grant Village** **87.10 39** IAmb IAmb 09 32 08.6
comp=Z,19nm,1.1s
H17A **Grant Village** **87.11 39** P 09 32 06.5
baz=310,SNR=15
PKM **Mcpherson Peak** **87.12 51** P 09 32 04.9
baz=305
FLWY **Flagg Ranch** **87.24 40** IAmb IAmb 09 32 08.3
comp=Z,12nm,0.8s
RLMT **Red Lodge** **87.35 38** IAmb IAmb 09 32 08.8
comp=Z,9.0nm,0.9s
RLMT **Red Lodge** **87.35 38** P 09 32 05.6
baz=311,SNR=7.4
CWC **Cottonwood Cre** **87.39 49** P 09 32 04.9
baz=306
DAVOX **Davos/Dischmat** **87.41 324** P **P** **09 32 06.0 +0.6**
comp=Z,1.8nm,0.3s,baz=56,slow=11,SNR=4.3
DAVOX **Davos/Dischmat** **87.41 324** P **P** **09 32 06.0 +0.6**
SBC **Santa Barbara** **87.44 52** P 09 32 05.3
baz=305
TPAW **Teton Pass** **87.47 40** IAmb IAmb 09 32 08.9
comp=Z,9.0nm,0.8s
HVU **Hansel Valley** **87.50 42** IAmb IAmb 09 32 08.8
comp=Z,8.7nm,0.8s
GRAC **Grapevine Rang** **87.53 48** P 09 32 07.0
baz=306
ISA **Isabella, Lake** **87.58 50** P 09 32 05.3
baz=305
SNOW **Snow King Moun** **87.60 40** P **P** **09 32 07.8 +1.4**
SNOW IAmb IAmb 09 32 09.5
comp=Z,6.7nm,0.8s
SCZ2 **Santa Cruz Isl** **87.74 52** P 09 32 07.7
baz=305
AHID **Auburn Hatcher** **87.85 41** IAmb IAmb 09 32 10.1
comp=Z,6.1nm,0.9s
R11A **Troy Canyon, C** **87.88 46** P 09 32 08.9
baz=307,SNR=9.5
LAO **LASA Array** **87.90 36** P 09 32 09.0
baz=313
MPMC **Manual Prospec** **88.00 49** P 09 32 08.5
baz=306,SNR=7.8
FURC **Furnace Creek,** **88.17 49** P 09 32 09.2
baz=306
SNCC **San Nicolas Is** **88.24 52** P 09 32 09.5
baz=305
NRCA **Norcia** **88.26 320** IAmb IAmb 09 32 14.4
comp=Z,17nm,1.1s
TPNV **Topopah Spring** **88.29 48** P 09 32 10.5
baz=307,SNR=9.0
DUG **Dugway, Tooele** **88.46 44** IAmb IAmb 09 32 13.4
comp=Z,10nm,1.1s
DUG **Dugway, Tooele** **88.46 44** P 09 32 11.6
baz=309,SNR=9.7
BW06 **Boulder Array** **88.72 40** P **P** **09 32 12.0 +0.3**
BW06 IAmb IAmb 09 32 13.8
comp=Z,6.9nm,1.0s
PDAR **Pinedale Array** **88.72 40** P **P** **09 32 12.7 +1.0**
comp=Z,3.5nm,0.8s,baz=318,slow=2.0,SNR=28
BW06 **Boulder Array** **88.72 40** P 09 32 12.2
baz=311,SNR=9.6
SHOC **Shoshone, Teco** **88.89 49** P 09 32 13.1
baz=307
GSC **Goldstone, Bar** **88.89 49** P 09 32 13.1
baz=306
NLU **North Lily Min** **89.05 43** IAmb IAmb 09 32 16.2
comp=Z,8.2nm,1.0s
TUQ **Turquoise Moun** **89.40 49** P 09 32 15.6
baz=307
PPT **Papeete** **89.40 111** LR LR 10 07 00.9
comp=Z,51nm,20.6s,baz=337,slow=32
TCRU **Three Creeks R** **89.67 45** P **P** **09 32 17.1 +0.8**
ULM **Lac du Bonnet** **90.07 28** P **P** **09 32 18.5 +1.0**
comp=Z,14nm,1.0s,baz=315,slow=4.7,SNR=16
ULM LR LR 10 17 30.4
comp=Z,46nm,18.1s,baz=340,slow=39
109C **Camp Elliot, M** **90.11 52** P 09 32 17.8
baz=306
PFO **Pinyon Flats O** **90.12 51** LR LR 10 09 07.6
comp=Z,49nm,18.4s,baz=270,slow=33
PFO **Pinyon Flats O** **90.12 51** P 09 32 19.0
baz=306
TPFO **Pinon Flats** **90.13 51** P 09 32 18.8
baz=306
RDMU **Red Mountain** **90.14 42** IAmb IAmb 09 32 21.1
comp=Z,24nm,1.5s
P17A **Butcher Ranch,** **90.15 43** IAmb IAmb 09 32 21.4
comp=Z,11nm,0.8s
BELC **Belle Mtn. Jos** **90.20 50** P 09 32 19.1
baz=307
MDND **Maddock** **90.27 32** P 09 32 19.4
baz=318
KNB **Kanab** **90.42 46** IAmb IAmb 09 32 22.9
comp=Z,7.2nm,0.9s
K22A **Casper** **90.47 39** IAmb IAmb 09 32 22.1
comp=Z,8.2nm,1.1s
K22A **Casper** **90.47 39** P 09 32 18.8
baz=313
SRU **San Rafael Swe** **90.51 43** P **P** **09 32 21.0 +0.9**
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU **San Rafael Swe** **90.51 43** P **P** **09 32 21.0 +0.9**
SRU IAmb IAmb 09 32 22.7
comp=Z,9.3nm,0.7s
RWWY **Rawlins** **90.74 40** IAmb IAmb 09 32 22.7
comp=Z,8.2nm,1.1s
RSSD **Black Hills** **90.78 36** P P 09 32 23.0 +1.7
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD **Black Hills** **90.78 36** P P 09 32 23.0 +1.7
RSSD **Black Hills** **90.78 36** P 09 32 21.1
baz=314
SWSC **Sam W. Stewart** **90.96 51** P 09 32 22.0
baz=307
O20A **White River Ci** **91.19 41** IAmb IAmb 09 32 25.8
comp=Z,12nm,1.1s
O20A **White River Ci** **91.19 41** P 09 32 23.1
baz=312
PDMCI **Parker Dam,Lak** **91.25 49** P 09 32 23.8
baz=308
AGMN **Agassiz Nation** **91.58 29** IAmb IAmb 09 32 27.0
comp=Z,9.1nm,1.1s
AGMN **Agassiz Nation** **91.58 29** P 09 32 25.1
baz=320
PV14 **Lion Creek, Pa** **91.89 43** P **P** **09 32 27.4 +0.8**
PV22 **Blue Mesa, Par** **91.92 43** IAmb IAmb 09 32 29.6
comp=Z,14nm,1.2s
PHWY **Pilot Hill** **91.97 39** IAmb IAmb 09 32 29.5
comp=Z,6.1nm,1.0s
N23A **Red Feather La** **91.98 40** P 09 32 26.8
baz=313
PV11 **David Mesa, Pa** **92.02 43** P **P** **09 32 28.3 +1.1**
PV07 **Paradox Valley** **92.07 43** IAmb IAmb 09 32 29.5
comp=Z,3.8nm,0.8s
Y14A **Wickenburg** **92.21 49** IAmb IAmb 09 32 30.5
comp=Z,5.3nm,1.0s
PV15 **Paradox Valley** **92.23 43** P **P** **09 32 28.7 +0.5**
WUAZ **Wupatki** **92.28 47** IAmb IAmb 09 32 31.3
comp=Z,9.5nm,1.1s
WUAZ **Wupatki** **92.28 47** P 09 32 29.3
baz=310
SMCO **Snowmass** **92.56 41** IAmb IAmb 09 32 32.9
comp=Z,6.8nm,0.9s
ISCO **Idaho Springs** **92.91 40** P 09 32 32.0
baz=313
X16A **Lo Mia Camp, P** **92.93 47** IAmb IAmb 09 32 34.5
comp=Z,7.5nm,1.1s
MVCO **Mesa Verde** **92.96 44** IAmb IAmb 09 32 34.3
comp=Z,12nm,1.4s
MVCO **Mesa Verde** **92.96 44** P 09 32 32.1
baz=311
SUSD **Miller** **93.08 34** P 09 32 31.5
baz=318
214A **Organ Pipe Nat** **93.56 50** IAmb IAmb 09 32 36.9
comp=Z,8.1nm,1.0s
214A **Organ Pipe Nat** **93.56 50** P 09 32 35.1
baz=308
S22A **4UR Ranch, Cre** **93.60 42** P 09 32 34.1
baz=312
EYMN **Ely** **93.66 27** IAmb IAmb 09 32 36.5
comp=Z,11nm,0.9s
EYMN **Ely** **93.66 27** P 09 32 35.0
baz=324
SDCO **Great Sand Dun** **94.37 42** P **P** **09 32 38.0 -0.1**
SDCO **Great Sand Dun** **94.37 42** P 09 32 38.7
baz=313
SCHQ **Schefferville** **94.38 10** LR LR 10 17 56.1
comp=Z,173nm,20.0s,baz=24,slow=37
TUC **Tucson** **94.68 49** P P 09 32 41.4 +2.1
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC **Tucson** **94.68 49** P P 09 32 41.4 +2.1
TUC IAmb IAmb 09 32 42.1
comp=Z,7.6nm,1.1s
TUC **Tucson** **94.68 49** P 09 32 39.6
baz=310
E38A **The Farm, Brul** **94.71 28** IAmb IAmb 09 32 40.9
comp=Z,12nm,1.1s
ECSD **EROS Data Cent** **94.73 33** P 09 32 39.8
baz=320
SPMN **Marine on St.** **95.29 30** P 09 32 42.0
baz=323
T25A **Trinidad** **95.42 42** P 09 32 43.2
baz=314
ANMO **Albuquerque** **95.70 44** LR LR 10 14 37.4
comp=Z,31nm,19.0s,baz=336,slow=35
ANMO **Albuquerque** **95.70 44** *ce* P P 09 32 46.2 +2.1
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO **Albuquerque** **95.70 44** P **P** **09 32 44.4 +0.3**
ANMO **Albuquerque** **95.70 44** P 09 32 43.8
baz=312
BGNE **Belgrade** **95.74 35** P 09 32 44.6
baz=318
G40A **Rib Lake** **96.35 28** IAmb IAmb 09 32 48.7
comp=Z,7.8nm,0.9s
CHGQ **Chibougamau** **97.51 16** P 09 32 51.8
baz=338
JFWS **Jewell Farm** **98.24 30** P 09 32 54.8
baz=324
ESDC **Sonseca Array** **99.48 327** LR LR 10 24 46.3
comp=Z,18nm,18.5s,baz=45,slow=40
D55A **Sainte-Anne-du** **99.89 18** P 09 33 02.5
baz=337
G54A **Lake Saint Pet** **100.60 21** P 09 33 04.8
baz=334
TXAR **Lajitas Array** **101.23 47** P **Pdif** **09 33 10.0 +1.1**
comp=Z,0.7nm,0.9s,baz=307,slow=4.5,SNR=7.7
TXAR PP **PP** **09 37 20.2 +2.6**
comp=Z,0.4nm,0.9s,baz=312,slow=9.5,SNR=3.6
TXAR **Lajitas Array** **101.23 47** P **Pdif** **09 33 10.0 +1.1**
I63A **Otisfield** **103.91 16** P 09 33 19.4
baz=340
NHSC **New Hope** **110.75 28** P 09 37 50.7
baz=331
TORD **Torodi Ar. Bea** **115.49 304** PP PP 09 39 02.0 +0.3
comp=Z,1.3nm,1.0s,baz=33,slow=5.5,SNR=3.3
SYO **Syowa Base** **118.00 204** ||*e* Pdif **Pdif** **09 34 25.6 +3.4**
SDV **Santo Domingo** **136.17 32** *eP* **PKiKP** **09 38 40.8 -0.9**
BOAV **Boa Vista** **146.12 22** *eP* **PKiKP** **09 38 59.1 -2.7**
CZSB **Cruzeiro do Su** **148.53 51** *eP* **PKPbc** **09 39 02.4 -2.8**
PTGA **Pitinga** **149.24 23** **PKiKP** **09 39 05.1 -3.2**
ETMB **Extrema** **154.27 43** *eP* **PKPbc** **09 39 11.7 -6.9**
LPAZ **La Paz** **157.65 58** PKPab **PKPab** **09 39 47.4 -0.3**
comp=Z,0.7nm,0.4s,baz=340,slow=6.5,SNR=4.9

*IDC **11** 09:43:56.6±1.2, 11°.32N×72°.67W, h0km, mb3.7/1, mb1 3.6/2, mb1mx3.3/36, mbtmp3.6/2, ML2.3/1, MS3.7/3, Ms1 3.6/3, ms1mx2.8/47, Error ellipse: s-maj=52.0km s-min=21.9km az=44.0*
*RSNC **11** 09:44:02.1±0.9, 11°.21N×72°.75W, h19km±8km, ML3.4*
ISC 11 09:44:01.4±1.5, 11°.24N±0°.05×72°.72W±0°.04, h25km±13km, n26, σ1°79/40, MS3.9/3, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.85**	**57**	*eP*		**Pb**	**09 44 18.0**	**+0.4**
URIC				*eS*		**Sn**	**09 44 29.9**	**+0.5**
URIC	**Uribia, Colomb**	**0.85**	**57**	*eP*		**Pb**	**09 44 17.8**	**+0.3**
URIC				*eS*		**Sn**	**09 44 29.6**	**+0.2**
URIC				*i*			09 44 30.8	
	comp=Z,1μm,0.3s							
SMRC	**Santa Marta, M**	**1.48**	**267**	*eP*		**Pn**	**09 44 26.2**	**-0.2**
SMRC				*eS*		**Sn**	**09 44 45.0**	**+0.1**
SMRC				*i*			09 44 52.7	
	comp=Z,256nm,0.3s							
LL2C	**La Loma 2 Cana**	**1.82**	**203**	*eP*		**Pn**	**09 44 30.8**	**-0.3**
LL2C				*eS*		**Sn**	**09 44 53.0**	**-0.4**
LL2C				*i*			09 45 10.8	
	comp=Z,978nm,0.4s							
LL1C	**La Loma 1 Cana**	**1.88**	**206**	*eP*		**Pn**	**09 44 30.7**	**-1.2**
LL1C				*eS*		**Sn**	**09 44 55.5**	**+0.7**
ARGC	**Ariguani, Magd**	**2.03**	**228**	*eP*		**Pn**	**09 44 33.8**	**-0.3**
ARGC				*eS*		**Sn**	**09 44 58.5**	**-0.2**
ARGC				*i*			09 45 11.5	
	comp=Z,201nm,0.2s							
DABV	**Dabajuro**	**2.07**	**99**	*eP*		**Pn**	**09 44 35.5**	**+0.9**
DABV				*eS*		**Sn**	**09 45 01.0**	**+1.3**
SJCC	**San Jacinto, C**	**2.76**	**241**	*eP*		**Pn**	**09 44 45.7**	**+1.6**
SJCC				*eS*		**Sn**	**09 45 19.6**	**+2.8**
SJCC				*i*			09 45 31.4	
	comp=Z,51nm,0.5s							
SMLC	**San Martn de**	**2.76**	**209**	*eP*		**Pn**	**09 44 44.1**	**0.0**
SMLC				*eS*		**Sb**	**09 45 21.8**	**-1.8**
SMLC				*i*			09 45 29.3	
	comp=Z,366nm,0.3s							
OCAC	**Ocana**	**3.04**	**191**	*eP*		**Pn**	**09 44 46.3**	**-1.7**
OCAC				*eS*		**Sn**	**09 45 23.6**	**-0.1**
SDV	**Santo Domingo**	**3.12**	**138**	Pn		**Pn**	**09 44 47.9**	**-1.3**
	comp=Z,3.4nm,0.3s,baz=311,slow=9.3,SNR=2.4							
SDV				Sn		**Sn**	**09 45 23.7**	**-2.0**
	comp=Z,30nm,0.3s,baz=226,slow=18,SNR=16							
SDV				Lg		Lg	09 45 36.6	
	comp=Z,32nm,0.3s,baz=229,slow=20,SNR=9.2							
SDV	**Santo Domingo**	**3.12**	**138**	*eP*		**Pn**	**09 44 49.0**	**-0.2**
SDV				*eS*		**Sn**	**09 45 23.2**	**-2.5**
SDV				*i*			09 45 45.8	
	comp=Z,123nm,0.6s							
MOTC	**Monteria, Cord**	**3.79**	**230**	*eP*		**Pn**	**09 44 57.5**	**-0.8**
MOTC				*eS*		**Sn**	**09 45 41.8**	**-0.4**
PAMC	**Pamplona, Colo**	**3.88**	**180**	*eS*		**Sn**	**09 45 50.3**	**+5.5**
PAMC				*i*			09 46 06.8	
	comp=Z,79nm,0.5s							
BRRC	**Barranca, Sant**	**4.22**	**193**	*eP*		**Pn**	**09 45 05.9**	**+1.7**
BRRC				*eS*		**Sn**	**09 45 52.0**	**-0.8**
BRRC				*i*			09 46 00.1	
	comp=Z,36nm,0.5s							
ZARC	**Zaragoza, Cauc**	**4.28**	**210**	*eS*		**Sn**	**09 45 57.4**	**+3.2**
ZARC				*i*			09 46 17.3	
	comp=Z,52nm,0.3s							
LCBC	**Los crdobas,**	**4.30**	**237**	*eP*		Pn	09 45 10.1	+4.8
LCBC				*eS*		**Sn**	**09 45 56.7**	**+2.0**
LCBC				*i*			09 46 01.5	
	comp=Z,35nm,0.6s							
BARC	**Barichara**	**4.64**	**186**	*eP*		**Pn**	**09 45 11.3**	**+1.2**
BARC				*eS*		**Sn**	**09 46 01.4**	**-2.1**
BARC				*i*			09 46 11.1	
	comp=Z,42nm,0.3s							
NORC	**Norcasia**	**6.03**	**201**	*eP*		**Pn**	**09 45 32.1**	**+3.0**
NORC				*eS*		**Sn**	**09 46 40.4**	**+3.0**
NORC				*i*			09 46 49.3	
	comp=Z,13nm,0.5s							
PCRV	**Puerto La Cruz**	**8.02**	**97**	Pn		**Pn**	**09 45 59.2**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=260,slow=8.2,SNR=2.0							
PCRV				Sn		**Sn**	**09 47 26.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=121,slow=12,SNR=1.8							
PDAR	**Pinedale Array**	**44.83**	**321**	LR		LR	10 14 26.9	
	comp=Z,39nm,18.3s,baz=344,slow=41							
TORD	**Torodi Ar. Bea**	**72.51**	**80**	P		**P**	**09 55 25.7**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=288,slow=7.4,SNR=5.7							
BRTR	**Keskin Array B**	**95.16**	**48**	LR		LR	10 39 53.5	
	comp=Z,44nm,18.7s,baz=120,slow=35							
KIRV	**Kirov**	**96.22**	**26**	LR		LR	10 40 09.2	
	comp=Z,34nm,18.4s,baz=134,slow=35							
ASAR	**Alice Springs**	**151.81**	**240**	PKPbc		**PKPbc**	**10 03 54.3**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=116,slow=2.4,SNR=16							
WRA	**Warramunga Arr**	**152.57**	**248**	PKPbc		**PKPbc**	**10 03 56.2**	**-0.4**
	comp=Z,0.7nm,1.0s,baz=101,slow=2.9,SNR=11							

*IDC **11** 09:45:39.0±5.8, 23°.91N×122°.92E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/58, mbtmp3.4/4, Error ellipse: s-maj=416.2km s-min=23.6km az=61.0*
*JMA **11** 09:45:38.8±0.1, 24°.21N×123°.79E, h15km±1km, M3.2*
JMA Felt I J1.
ISC 11 09:45:38.7±0.8, 24°.23N±0°.05×123°.77E±0°.04, h16km±5km, n12, σ0°87/20, mb3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.12**	**340**	P		**Pg**	**09 45 42.5**	**+0.2**
IRIF				*eS*		**Sg**	**09 45 45.2**	**+0.6**
HATJ	**Hateruma jima**	**0.17**	**170**	P		**Pg**	**09 45 42.5**	**-0.5**
HATJ				S		**Sg**	**09 45 45.4**	**-0.4**
JKRS	**Kuro-shima**	**0.21**	**87**	P		**Pg**	**09 45 43.6**	**0.0**
JKRS				S		**Sg**	**09 45 47.2**	**+0.2**
JIJ	**Ishigaki jima**	**0.36**	**68**	P		**Pg**	**09 45 45.9**	**-0.3**
JIJ				S		**Sg**	**09 45 51.2**	**-0.1**
JISG	**Ishigakijimahi**	**0.61**	**54**	P		**Pb**	**09 45 50.6**	**-0.4**
JISG				S		**Sb**	**09 45 59.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.73**	**289**	P		**Pn**	**09 45 53.7**	**-0.8**
YOJ				S		**Sn**	**09 46 04.3**	**-1.1**
JYNG	**Yonagunijimaku**	**0.79**	**287**	P		**Pn**	**09 45 54.5**	**-0.7**
JYNG				S		**Sn**	**09 46 05.8**	**-0.9**
JTJ	**Tarama**	**0.94**	**64**	P		**Pn**	**09 45 56.7**	**-0.6**
JTJ				S		**Sn**	**09 46 09.5**	**-1.0**
MKAR	**Makanchi Array**	**39.97**	**315**	P		**P**	**09 53 13.1**	**+0.5**
	0.3nm,0.5s,baz=102,slow=9.8,SNR=4.4							
KURBB	**Kurchatov Arra**	**43.61**	**319**	P		**P**	**09 53 41.8**	**-0.4**
	0.2nm,0.4s,baz=102,slow=9.7,SNR=2.3							
WRA	**Warramunga Arr**	**45.09**	**166**	P		**P**	**09 53 55.6**	**+1.3**
	0.4nm,0.5s,baz=345,slow=8.9,SNR=6.3							
ASAR	**Alice Springs**	**48.61**	**168**	P		**P**	**09 54 24.1**	**+2.2**
	0.3nm,0.6s,baz=351,slow=8.2,SNR=6.7							

IDC 11 09:47:44.1±3.3, 54°.30N×86°.82E, h0km, mb1 2.6/2, mb1mx2.6/56, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=27.5km s-min=18.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**254**	*i*			09 56 01.4	
	baz=72,slow=299,SNR=3.7							
ZALV	**Zalesovo Beam**	**1.23**	**254**	Pg		Pg	09 48 06.5	-1.1
	0.7nm,0.3s,baz=73,slow=17,SNR=7.4							
ZALV				Lg		Lg	09 48 23.8	
	0.7nm,0.3s,baz=75,slow=22,SNR=4.7							
KURBB	**Kurchatov Arra**	**6.26**	**237**	Pn		Pn	09 49 18.8	+1.1
	0.0nm,0.3s,baz=54,slow=13,SNR=5.3							
KURBB				Lg		Lg	09 51 04.0	
	0.0nm,0.3s,baz=57,slow=33,SNR=6.0							
MKAR	**Makanchi Array**	**8.04**	**203**	Pn		Pn	09 49 43.3	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=1.3							
MKAR				Lg		Lg	09 51 59.3	
	0.1nm,0.3s,baz=15,slow=24,SNR=3.9							

*IDC **11** 09:50:27.4±1.3, 8°.00S×146°.66E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.7/38, mbtmp3.8/5, ML3.3/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/34, Error ellipse: s-maj=31.4km s-min=14.2km az=68.0*
ISC 11 09:50:29.1±3.2, 7°.95S±0°.3×146°.9E±0°.3, h35km, n8, σ0°67/5, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**1.51**	**170**	Pg		**Pn**	**09 50 53.6**	**0.0**
	36nm,0.3s,baz=353,slow=12,SNR=39							
PMG				Lg		Lg	09 51 15.9	
	106nm,0.3s,baz=96,slow=20,SNR=18							
PMG				LR		LR	09 51 33.5	
	comp=Z,157nm,22.0s,baz=114,slow=44							
WRA	**Warramunga Arr**	**17.06**	**224**	Pn		**Pn**	**09 54 24.4**	**-0.7**
	0.1nm,0.3s,baz=45,slow=11,SNR=5.3							
ASAR	**Alice Springs**	**20.02**	**217**	P		**P**	**09 54 59.6**	**+0.6**
	0.1nm,0.3s,baz=45,slow=11,SNR=13							
FITZ	**Fitzroy Crossi**	**23.03**	**242**	P		**P**	**09 55 31.6**	**+0.3**
	3.7nm,1.0s,baz=84,slow=10,SNR=2.9							
CMAR	**Chiang Mai Arr**	**54.08**	**299**	P		P	09 59 54.8	+4.0
	0.7nm,0.3s,baz=124,slow=5.6,SNR=4.8							
TLY	**Talaya**	**69.99**	**333**	LR		LR	10 29 19.8	
	comp=Z,72nm,21.3s,baz=158,slow=33							
ILAR	**Eielson Array**	**87.27**	**23**	P		P	10 03 16.8	+5.0
	0.7nm,0.7s,baz=239,slow=5.6,SNR=8.7							
TORD	**Torodi Ar. Bea**	**145.42**	**282**	PKPbc		**PKPab**	**10 10 04.5**	**-0.2**
	0.7nm,0.6s,baz=84,slow=4.1,SNR=2.7							

IDC 11 09:52:47.9±2.7, 53°.94N×86°.62E, h0km, mb1 2.8/2, mb1mx2.7/65, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=21.7km s-min=13.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**271**	*i*			10 00 01.2	
	baz=89,slow=309,SNR=1.5							
ZALV	**Zalesovo Beam**	**1.06**	**271**	Pg		Pg	09 53 07.3	-0.9
	1.0nm,0.3s,baz=86,slow=17,SNR=8.4							
ZALV				Lg		Lg	09 53 23.4	
	2.5nm,0.3s,baz=92,slow=29,SNR=14							
KURBB	**Kurchatov Arra**	**5.97**	**239**	Pn		Pn	09 54 18.1	+0.6
	0.1nm,0.3s,baz=56,slow=13,SNR=5.6							
KURBB				Lg		Lg	09 55 57.0	
	baz=55,slow=29,SNR=1.7							
MKAR	**Makanchi Array**	**7.67**	**203**	Pn		Pn	09 54 42.2	+1.3
	0.2nm,0.3s,baz=24,slow=13,SNR=5.5							
MKAR				Lg		Lg	09 56 52.1	
	0.1nm,0.3s,baz=24,slow=32,SNR=2.4							

*IDC **11** 09:59:39.6±2.7, 14°.51N×92°.89W, h0km, mb3.5/3, mb1 3.9/7, mb1mx3.7/44, mbtmp3.7/7, ML3.9/4, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=61.6km s-min=19.3km az=24.0*
*MEX **11** 09:59:43.0±1.4, 14°.35N×92°.92W, h15km±22km, MD4.5*
*GCG **11** 09:59:44.0±0.7, 14°.08N×92°.66W, h20km, MD4.3*
ISC 11 09:59:40.5±2.1, 14°.40N±0°.08×92°.94W±0°.05, h16km±12km, n21, σ1°38/29, mb3.6/3, MS3.4/3, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.83**	**52**	*eP*		**Pg**	**09 59 56.5**	**-0.1**
THIG				*eS*		**Sg**	**10 00 06.2**	**-1.4**
PCIG		**1.33**	**348**	*eP*		**Pn**	**10 00 03.8**	**-0.7**
PCIG				*eS*		**Sn**	**10 00 20.5**	**-1.3**
FUG	**Fuego 3**	**2.03**	**88**	||*e* P		**Pn**	**10 00 14.2**	**-0.1**
FUG				*eS*		**Sn**	**10 00 38.1**	**-1.4**
PCG	**Pacaya**	**2.26**	**90**	*eP*		**Pn**	**10 00 17.7**	**+0.2**
TGIG		**2.38**	**356**	*eP*		**Pn**	**10 00 20.2**	**+1.3**
TGIG				*eS*		**Sn**	**10 00 47.5**	**-0.3**
APG	**El Apazote**	**2.47**	**76**	Pn		**Pn**	**10 00 20.6**	**+0.3**
	39nm,0.3s,baz=255,slow=16,SNR=1195							
APG				Sn		**Sn**	**10 00 51.5**	**+1.2**
	36nm,0.3s,baz=217,slow=22,SNR=6.8							
APG				LR		LR	10 00 58.7	
	comp=Z,88nm,18.1s,baz=236,slow=33							
NBG	**Las Nubes**	**2.52**	**85**	*eP*		**Pn**	**10 00 22.9**	**+1.8**
CMIG	**Matias Romero**	**3.27**	**325**	Pn		**Pn**	**10 00 31.8**	**+0.7**
	10nm,0.3s,baz=144,slow=14,SNR=100							
CMIG				Sn		**Sn**	**10 01 09.9**	**+0.1**
	59nm,0.3s,baz=99,slow=18,SNR=9.8							
CMIG	**Matias Romero**	**3.27**	**325**	*eP*		**Pn**	**10 00 31.6**	**+0.5**
CMIG				*eS*		**Sn**	**10 01 07.9**	**-1.9**
HUIG	**Huatulco**	**3.35**	**294**	*eP*		**Pn**	**10 00 32.3**	**+0.1**
HUIG				*eS*		Sn	10 01 04.6	-7.2
VHO	**Vista Hermosa**	**4.52**	**307**	*eP*		**Pn**	**10 00 49.1**	**+0.6**
VHO				*eS*		**Sn**	**10 01 38.4**	**-2.5**
TOIG	**Toxpalan**	**5.41**	**313**	*eP*		**Pn**	**10 01 01.5**	**+0.8**
TOIG				*eS*		**Sn**	**10 02 02.3**	**-0.4**
HLIG	**Huajuapan de L**	**5.79**	**307**	*eP*		**Pn**	**10 01 07.7**	**+1.7**
HLIG				*eS*		**Sn**	**10 02 11.6**	**-0.7**
JTS	**Las Juntas de**	**8.80**	**117**	Pn		**Pn**	**10 01 48.2**	**+0.9**
	0.5nm,0.3s,baz=317,slow=19,SNR=5.5							
JTS				Sn		**Sn**	**10 03 22.2**	**-4.1**
	0.3nm,0.3s,baz=56,slow=22,SNR=1.3							
H06E1	**SOCORRO T-PHAS**	**17.78**	**287**	T		T	10 21 54.5	
	SNR=4.2							
TXAR	**Lajitas Array**	**17.87**	**328**	P		**Pn**	**10 03 49.3**	**+0.6**
	0.1nm,0.3s,baz=145,slow=13,SNR=8.1							

ANMO	Albuquerque	23.82	332	P		P		10 04 53.7	+0.7
	0.5nm,0.4s,baz=142,slow=13,SNR=2.8								
ATAH	Atahualpa	25.80	145	LR		LR		10 14 03.7	
	comp=Z,46nm,21.1s,baz=253,slow=33								
NVAR	Mina Array Bea	32.80	322	P		P		10 06 14.6	+1.2
	0.5nm,0.6s,baz=134,slow=7.7,SNR=5.7								
NVAR				LR		LR		10 22 13.9	
	comp=Z,74nm,18.1s,baz=46,slow=42								
ILAR	Eielson Array	62.12	337	P		P		10 10 01.3	+0.7
	0.5nm,0.9s,baz=126,slow=5.7,SNR=1.8								
ARCES	ARCESS Array B	86.05	18	LR		LR		10 51 09.4	
	comp=Z,28nm,20.1s,baz=165,slow=36								

IDC ***11*** *10:08:29.7±0.6, 7.˚23S×154.˚59E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.4/38, mbtmp4.4/20, ML3.5/3, MS3.5/4, Ms1 3.6/4, ms1mx3.0/34, Error ellipse: s-maj=18.5km s-min=14.1km az=116.0*

NEIC ***11*** *10:08:31.6±1.7, 7.˚18S±0.˚08×154.˚6E±0.˚1, h10km±1km, mb4.8/63, Error ellipse: s-maj=18.0km s-min=13.7km az=95.0*

ISC 11 10:08:31.9±0.4, 7.˚12S±0.˚06×154.˚58E±0.˚06, h10km, n117, σ1s25/111, mb4.8/57, MS3.6/3, 1C-2D,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.77**	**320**	Pn		**Pn**		**10 09 27.9**	**-2.3**
RABL						**Sb**		**10 10 22.7**	**-1.7**
HNR	**Honiara**	**5.79**	**114**	Pn		**Pn**		**10 09 57.9**	**+0.1**
	7.5nm,0.3s,baz=86,slow=9.4,SNR=2.0								
HNR				Sn		**Sn**		**10 11 05.9**	**+1.5**
	5.1nm,0.3s,baz=162,slow=7.5,SNR=1.7								
HNR				LR		LR		10 12 02.0	
	comp=Z,252nm,18.3s,baz=278,slow=37								
PMG	**Port Moresby**	**7.69**	**252**	Pn		**Pn**		**10 10 24.6**	**+0.5**
	7.2nm,0.3s,baz=71,slow=9.5,SNR=11								
PMG				Sn		**Sn**		**10 11 53.2**	**+1.9**
	2.3nm,0.3s,baz=71,slow=16,SNR=2.5								
PMG	**Port Moresby**	**7.69**	**252**	Pn		**Pn**		**10 10 24.2**	**+0.2**
PATS	**Pohnpei**	**14.35**	**15**	Pn		**Pn**		**10 11 54.9**	**-0.5**
CTA	**Charters Tower**	**15.21**	**211**	Pn		**Pn**		**10 12 05.8**	**-1.2**
	0.3nm,0.3s,baz=348,slow=13,SNR=2.0								
CTAO	**Charters Tower**	**15.21**	**211**	Pn		**Pn**		**10 12 06.5**	**-0.5**
DZM	**Mont Dzumac**	**18.76**	**144**	LR		LR		10 19 10.6	
	comp=Z,171nm,18.1s,baz=242,slow=34								
WR0	**Warramunga Arr**	**23.25**	**235**	P		**P**		**10 13 38.2**	**-1.5**
WR0				IAmb		IAmb		10 13 39.9	
	comp=Z,14nm,0.7s								
WB0	**Warramunga Arr**	**23.28**	**235**	P		**P**		**10 13 38.6**	**-1.4**
WRAB	**Tennant Creek**	**23.40**	**235**	P		**P**		**10 13 38.6**	**-2.5**
WB2	**Warramunga Arr**	**23.40**	**235**	P		**P**		**10 13 40.0**	**-1.2**
WRA	**Warramunga Arr**	**23.41**	**235**	P		**P**		**10 13 39.7**	**-1.6**
	comp=Z,11nm,0.7s,baz=58,slow=9.6,SNR=82								
WRA				PcP		**PcP**		**10 17 27.7**	**-0.2**
	comp=Z,1.8nm,1.2s,baz=55,slow=2.3,SNR=4.8								
MTN	**Manton Dam**	**23.77**	**254**	P		**P**		**10 13 45.1**	**+0.2**
MTN				IAmb		IAmb		10 13 45.6	
	comp=Z,32nm,1.4s								
AS31	**Alice Springs**	**25.78**	**228**	P		**P**		**10 14 01.8**	**-1.5**
ASAR	**Alice Springs**	**25.79**	**228**	P		**P**		**10 14 01.8**	**-1.5**
	comp=Z,3.2nm,0.7s,baz=60,slow=9.4,SNR=25								
ASAR	**Alice Springs**	**25.79**	**228**	P		**P**		**10 14 02.9**	**-0.4**
KNRA	**Kununurra**	**26.67**	**249**	P		**P**		**10 14 11.5**	**+0.1**
KNRA				IAmb		IAmb		10 14 39.1	
	comp=Z,24nm,1.2s								
STKA	**Stephens Creek**	**27.45**	**204**	P		**P**		**10 14 15.7**	**-2.5**
	comp=Z,2.7nm,0.7s,baz=29,slow=10,SNR=5.7								
STKA				LR		LR		10 24 46.9	
	comp=Z,148nm,18.8s,baz=0.7,slow=36								
STKA	**Stephens Creek**	**27.45**	**204**	P		**P**		**10 14 16.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**30.23**	**246**	P		**P**		**10 14 41.6**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=45,slow=8.8,SNR=6.8								
FITZ	**Fitzroy Crossi**	**30.23**	**246**	P		**P**		**10 14 41.9**	**-1.1**
WHZ	**Wether Hill Ro**	**40.32**	**166**	P		**P**		**10 16 07.4**	**-2.1**
UGM	**Wanagama**	**43.67**	**266**	P		**P**		**10 16 38.3**	**+0.9**
JNU	**Nakatsue**	**45.92**	**332**	P		**P**		**10 16 55.3**	**+0.3**
JNU				IAmb		IAmb		10 16 56.1	
	comp=Z,16nm,0.7s								
MJAR	**Matsushiro Arr**	**46.06**	**342**	P		**P**		**10 16 54.9**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=164,slow=7.1,SNR=4.4								
MJAR	**Matsushiro Arr**	**46.06**	**342**			**P**		**10 16 56.0**	**0.0**
MAT	**Matsushiro**	**46.07**	**342**	P		**P**		**10 16 55.1**	**-1.0**
JHS	**Saijyo**	**46.53**	**336**	P		**P**		**10 16 59.2**	**-0.5**
JHS				IAmb		IAmb		10 17 01.0	
	comp=Z,7.6nm,0.8s								
KSRS	**Korea Array**	**50.85**	**333**	P		**P**		**10 17 33.4**	**+0.4**
	comp=Z,7.0nm,0.8s,baz=147,slow=7.8,SNR=28								
KSAR	**Wonju Array Be**	**50.86**	**333**	P		**P**		**10 17 32.5**	**-0.5**
NJ2	**Nanjing**	**51.75**	**321**	*eP*		**P**		**10 17 41.2**	**+1.4**
NJ2				pmax		pmax			
	comp=Z,5.0nm,0.5s								
JKA	**Kamikawa-asahi**	**52.13**	**349**	IAmb		IAmb		10 18 04.4	
	comp=Z,32nm,1.5s								
USA0B	**Ussuriysk Arra**	**55.01**	**340**	P		**P**		**10 18 03.9**	**+0.4**
USA0B				IAmb		IAmb		10 18 04.9	
	comp=Z,20nm,1.5s								
USRK	**Ussuriysk Ar.**	**55.01**	**340**	P		**P**		**10 18 04.0**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=189,slow=6.8,SNR=10								
USRK	**Ussuriysk Ar.**	**55.01**	**340**	P		**P**		**10 18 03.2**	**-0.2**
MDJ	**Mudanjiang**	**56.20**	**339**	P		**P**		**10 18 12.9**	**+0.8**
MDJ				pmax		pmax			
	comp=Z,9.0nm,0.7s								
MDJ				pmax		pmax			
	comp=Z,96nm,3.5s								
NONG	**Nongkai**	**56.59**	**297**	P		**P**		**10 18 16.2**	**+0.9**
CN2	**Changchun**	**57.13**	**335**	*eP*		**P**		**10 18 19.5**	**+0.8**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.0s								
UTTA	**Uttaradit**	**58.78**	**296**	P		**P**		**10 18 32.3**	**+1.5**
BJI	**Beijing**	**58.79**	**326**	P		**P**		**10 18 31.8**	**+1.4**
BJI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KMI	**Kunming**	**59.74**	**304**	⇓P		**P**		**10 18 40.6**	**+3.0**
KMI				pP		pwP		10 18 45.4	-2.2
KMI				sP		sP		10 18 47.9	+8.8
KMI				pmax		pmax			
	comp=Z,6.0nm,0.6s								
PEA0B	**Petropavlovsk-**	**60.05**	**2**	P		**P**		**10 18 38.8**	**-0.1**
PETK	**Petropavlovsk-**	**60.05**	**2**	P		**P**		**10 18 39.2**	**+0.3**
	comp=Z,4.2nm,0.5s,baz=157,slow=7.0,SNR=18								
CM36	**Chiang Mai Arr**	**60.35**	**296**	P		**P**		**10 18 42.0**	**+0.4**
CM35	**Chiang Mai Arr**	**60.35**	**296**	P		**P**		**10 18 42.0**	**+0.4**
CM04	**Chiang Mai Arr**	**60.41**	**296**	P		**P**		**10 18 43.6**	**+1.5**
CM09	**Chiang Mai Arr**	**60.42**	**296**	P		**P**		**10 18 44.1**	**+2.0**
CM01	**Chiang Mai Arr**	**60.44**	**296**	P		**P**		**10 18 43.0**	**+0.8**
CM05	**Chiang Mai Arr**	**60.44**	**296**	P		P		10 18 50.0	+7.8
CM02	**Chiang Mai Arr**	**60.45**	**296**	P		**P**		**10 18 44.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**60.47**	**296**	P		**P**		**10 18 43.0**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=126,slow=5.1,SNR=19								
CMAR	**Chiang Mai Arr**	**60.47**	**296**	P		**P**		**10 18 42.1**	**-0.3**
CM13	**Chiang Mai Arr**	**60.48**	**296**	P		**P**		**10 18 44.2**	**+1.6**
CM33	**Chiang Mai Arr**	**60.58**	**296**	P		**P**		**10 18 44.0**	**+0.8**
HHC	**Hu-ho-hao-te**	**61.95**	**324**	*eP*		P		10 18 40.4	-12
HHC				pmax		pmax			
	comp=Z,23nm,0.8s								
HHC				pmax		pmax			
	comp=Z,83nm,6.9s								
LZH	**Lanzhou**	**64.11**	**316**	*eP*		**P**		**10 19 08.0**	**+1.2**
LZH				pP		sP		10 19 12.4	+4.1
LZH				sP		pwP		10 19 15.1	-1.6
LZH				pmax		pmax			
	comp=Z,16nm,1.2s								
GTA	**Gaotai**	**68.55**	**317**	⇑P		**P**		**10 19 36.2**	**+1.1**
GTA				pP		pwP		10 19 45.6	+0.6
GTA				sP		PcP		10 19 50.1	-10
GTA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,37nm,4.7s								
GTA				L		L			
	comp=Z,66nm,17.5s								
GTA				L		L			
	comp=Z,68nm,15.6s								
GTA				L		L			
	comp=Z,53nm,16.7s								
SONM	**Songino Array**	**69.22**	**328**	P		**P**		**10 19 40.2**	**+1.2**
	comp=Z,5.3nm,0.5s,baz=131,slow=5.5,SNR=21								
SONM	**Songino Array**	**69.22**	**328**	P		**P**		**10 19 39.7**	**+0.6**
SONM				IAmb		IAmb		10 19 41.2	
	comp=Z,13nm,1.1s								
VNDA	**Vanda**	**70.47**	**178**	P		**P**		**10 19 45.6**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=50,slow=11,SNR=2.9								
BILL	**Bilibino**	**75.43**	**5**	P		**P**		**10 20 16.1**	**+0.4**
WMQ	**Urumqi**	**78.63**	**317**	*eP*		**P**		**10 20 36.7**	**+2.4**
WMQ				pmax		pmax			
	comp=Z,25nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,210nm,3.9s								
CNPM	**China Poot**	**79.04**	**25**	P		**P**		**10 20 36.9**	**+0.8**
PWL	**Port Wells**	**80.99**	**25**	P		**P**		**10 20 45.7**	**-0.9**
PMR	**Palmer**	**81.06**	**24**	P		**P**		**10 20 46.0**	**-0.9**
PMR				IAmb		IAmb		10 20 47.6	
	comp=Z,9.0nm,1.0s								
GLI	**Glacier Island**	**81.51**	**25**	P		**P**		**10 20 49.5**	**+0.1**
TRF	**Thorofare Moun**	**81.66**	**22**	P		**P**		**10 20 49.0**	**-1.3**
TRF				IAmb		IAmb		10 20 52.1	
	comp=Z,4.8nm,0.8s								
ZSN	**Zaisan**	**81.77**	**320**	*eP*		**P**		**10 20 49.7**	**-1.4**
	baz=320								
IMAR	**Indian Mountai**	**81.97**	**19**	P		**P**		**10 20 51.8**	**+0.1**
RND	**Reindeer**	**82.17**	**22**	P		**P**		**10 20 52.7**	**-0.2**
RND				IAmb		IAmb		10 20 53.2	
	comp=Z,7.4nm,0.7s								
MCK	**McKinley**	**82.32**	**22**	P		**P**		**10 20 52.4**	**-1.2**
MCK				IAmb		IAmb		10 20 53.9	
	comp=Z,12nm,0.8s								
MLY	**Manley**	**82.41**	**20**	P		**P**		**10 20 54.4**	**+0.3**
MLY				IAmb		IAmb		10 20 54.8	
	comp=Z,4.7nm,0.6s								
BMRM	**Bremner River**	**82.61**	**25**	P		**P**		**10 20 55.5**	**+0.3**
NEA2	**Nenana**	**82.75**	**21**	P		**P**		**10 20 54.7**	**-1.1**
NEA2				IAmb		IAmb		10 20 55.8	
	comp=Z,5.6nm,0.8s								
MK31	**Makanchi Array**	**83.22**	**319**	P		**P**		**10 20 59.1**	**+0.5**
MK31				IAmb		IAmb		10 20 59.9	
	comp=Z,5.8nm,0.8s								
MKAR	**Makanchi Array**	**83.22**	**319**	P		**P**		**10 20 58.8**	**+0.2**
	comp=Z,5.1nm,0.7s,baz=103,slow=4.9,SNR=39								
MKAR	**Makanchi Array**	**83.22**	**319**	P		**P**		**10 20 58.6**	**0.0**
CCB	**Clear Creek Bu**	**83.24**	**21**	IAmb		IAmb		10 20 57.7	
	comp=Z,3.3nm,0.7s								
TCOL	**CIGO, UAF Yank**	**83.34**	**21**	IAmb		IAmb		10 20 58.8	
	comp=Z,10nm,0.8s								
COLA	**College**	**83.34**	**21**	P		**P**		**10 20 57.4**	**-1.4**
HDA	**Harding Lake**	**83.42**	**22**	P		**P**		**10 20 58.0**	**-1.3**
HDA				IAmb		IAmb		10 21 00.3	
	comp=Z,3.8nm,0.7s								
IL31		**83.64**	**22**	P		**P**		**10 20 58.9**	**-1.4**
IL31				IAmb		IAmb		10 21 00.1	
	comp=Z,3.8nm,0.6s								
ILAR	**Eielson Array**	**83.64**	**22**	P		**P**		**10 20 59.2**	**-1.2**
	comp=Z,3.8nm,0.8s,baz=254,slow=5.4,SNR=38								
ILAR				LR		LR		10 56 11.8	
	comp=Z,26nm,18.6s,baz=282,slow=34								
COLD	**Coldfoot**	**83.86**	**19**	P		**P**		**10 21 01.5**	**0.0**
MENT	**Mentasta**	**83.93**	**24**	P		**P**		**10 21 01.3**	**-0.7**
MENT				IAmb		IAmb		10 21 03.3	
	comp=Z,4.5nm,0.6s								
ZAA0	**Zalesovo Array**	**84.05**	**326**	P		**P**		**10 21 02.0**	**-0.7**
ZALV	**Zalesovo Beam**	**84.05**	**326**	P		**P**		**10 21 01.8**	**-0.9**
	comp=Z,9.1nm,0.5s,baz=116,slow=5.5,SNR=35								
SHLS	**Shalkode**	**84.11**	**315**	*eP*		**P**		**10 21 00.3**	**-3.1**
	baz=315								
DOT	**Dot Lake**	**84.14**	**23**	P		**P**		**10 21 02.7**	**-0.3**
DOT				IAmb		IAmb		10 21 04.1	
	comp=Z,10nm,0.8s								
SCRK	**Sand Creek**	**84.33**	**23**	P		**P**		**10 21 03.7**	**-0.4**
SCRK				IAmb		IAmb		10 21 05.1	
	comp=Z,4.9nm,0.8s								
KPKS	**Kokpek**	**84.74**	**315**	*eP*		**P**		**10 21 04.8**	**-1.8**
	baz=315								
L27K	**Beaver Creek,**	**84.75**	**24**	P		**P**		**10 21 05.6**	**-0.5**
L27K				IAmb		IAmb		10 21 08.0	
	comp=Z,4.2nm,0.8s								
SATY	**Saty**	**84.83**	**314**	*eP*		**P**		**10 21 04.4**	**-2.7**
	baz=314								
TOLK	**Toolik Lake Re**	**84.86**	**18**	P		**P**		**10 21 07.2**	**+0.6**
TOLK				IAmb		IAmb		10 21 07.9	
	comp=Z,6.0nm,0.7s								
K27K	**Chicken**	**85.09**	**23**	IAmb		IAmb		10 21 10.0	
	comp=Z,5.0nm,0.8s								
SEM	**Semipalatinsk**	**85.59**	**322**	*eP*		**P**		**10 21 08.6**	**-2.2**
	baz=322								
KSH	**Kashi**	**85.78**	**311**	P		**P**		**10 21 15.2**	**+3.3**
KSH				pmax		pmax			
	comp=Z,3.0nm,0.3s								
KSH				pmax		pmax			
	comp=Z,90nm,6.3s								
EGAK	**Eagle**	**85.79**	**23**	P		**P**		**10 21 11.1**	**-0.1**
EGAK				IAmb		IAmb		10 21 12.8	
	comp=Z,8.2nm,0.9s								
MDOK	**Medeo**	**85.82**	**314**	*eP*		**P**		**10 21 10.5**	**-1.6**
	baz=314								
DAWY	**Dawson**	**86.17**	**24**	IAmb		IAmb		10 21 16.0	
	comp=Z,6.2nm,1.1s								
KUU	**Kurty**	**86.49**	**315**	*eP*		**P**		**10 21 13.7**	**-1.6**
	baz=315								
KURK	**Kurchatov**	**86.67**	**322**	P		**P**		**10 21 15.2**	**-0.6**
KURBB	**Kurchatov Arra**	**86.70**	**322**	P		**P**		**10 21 15.2**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=105,slow=4.5,SNR=11								
WHY	**Whitehorse**	**86.81**	**28**	IAmb		IAmb		10 21 18.1	
	comp=Z,6.4nm,0.9s								
SYO	**Syowa Base**	**92.08**	**199**	⇓*eP*		**P**		**10 21 41.4**	**+0.4**
NVAR	**Mina Array Bea**	**92.12**	**52**	P		**P**		**10 21 42.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=253,slow=6.7,SNR=18								
NV11	**Mina Array Sit**	**92.23**	**52**	P		**P**		**10 21 43.1**	**+0.5**
NV11				IAmb		IAmb		10 21 44.6	
	comp=Z,3.5nm,0.9s								
KVN	**Kaiserville**	**92.36**	**51**	IAmb		IAmb		10 21 45.6	
	comp=Z,4.6nm,1.3s								
TPNV	**Topopah Spring**	**93.56**	**53**	P		**P**		**10 21 49.6**	**+0.8**
SHPR	**Sheep Range**	**94.39**	**54**	P		**P**		**10 21 54.3**	**+1.7**
SHPR				IAmb		IAmb		10 21 54.8	
	comp=Z,2.4nm,0.8s								
YKA	**Yellowknife Ar**	**96.64**	**28**	P		**P**		**10 22 02.1**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=270,slow=4.7,SNR=2.4								
AKASG	**Malin Array Be**	**117.40**	**324**	PKP		**PKPdf**		**10 27 17.1**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=82,slow=2.1,SNR=4.8								
GERES	**GERESS Array B**	**126.94**	**329**	PKP		**PKPdf**		**10 27 36.2**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=90,slow=2.7,SNR=7.0								
DAVOX	**Davos/Dischmat**	**130.24**	**329**	PKP		**PKPdf**		**10 27 42.2**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=88,slow=10,SNR=3.7								
BDFB	**Brasilia**	**148.19**	**135**	PKPbc		**PKPdf**		**10 28 17.3**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=76,slow=26,SNR=1.7								
TORD	**Torodi Ar. Bea**	**152.66**	**285**	PKPbc		**PKPbc**		**10 28 28.9**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=56,slow=2.4,SNR=20								

HEL ***11*** *10:14:56.9±0.2, 64.˚77N×30.˚72E, h0km, ML2.1, Explosion*
IDC ***11*** *10:14:59.6±1.9, 64.˚76N×30.˚32E, h0km, mb1 3.0/3, mb1mx2.9/41, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=34.2km s-min=9.6km az=108.0*

ISC 11 10:14:57.7±1.1, 64.˚75N±0.˚03×30.˚56E±0.˚05, h10km, n24, σ2s07/38, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.31**	**348**	PG		**Pn**		**10 15 20.3**	**-1.7**
	baz=163								
KU6				MSG				10 15 36.6	
	comp=Z,8.5nm,0.2s								
KU6				SG		**Sb**		**10 15 37.5**	**-1.7**
MSF	**Maaselka**	**1.33**	**332**	PG		**Pn**		**10 15 21.0**	**-1.3**
	baz=148								
MSF				SG		**Sb**		**10 15 38.2**	**-1.5**
OLKF	**Oulanka, Finla**	**1.65**	**343**	PG		**Pn**		**10 15 26.3**	**-0.3**
OLKF				SN		**Sg**		**10 15 49.2**	**-1.4**
JOF	**Joensuu**	**1.87**	**169**	PG		**Pn**		**10 15 30.0**	**+0.3**
	baz=354								
JOF				SG		**Sg**		**10 15 57.1**	**-0.6**
OUL	**Oulu**	**2.02**	**282**	PG		**Pb**		**10 15 33.9**	**-0.4**
OUL				SG		**Sb**		**10 16 00.3**	**+0.9**
OUF	**Merijarvi**	**2.55**	**264**	PB		**Pb**		**10 15 41.8**	**-1.6**
	baz=81								
OUF				MSG				10 16 14.1	
	comp=Z,10nm,0.2s								
OUF				SG		**Sb**		**10 16 16.2**	**+1.5**
RNF	**Rovaniemi**	**2.65**	**317**	PB		**Pb**		**10 15 43.0**	**-2.1**
RNF				SB		**Sb**		**10 16 17.0**	**-0.7**
OBF0	**Syolatti, Pyha**	**2.74**	**268**	PB		**Pn**		**10 15 44.2**	**+2.7**
	baz=83								
OBF0				SG		**Sg**		**10 16 24.2**	**-1.3**
SUF	**Sumiainen**	**2.83**	**226**	PB		**Pb**		**10 15 47.0**	**-1.2**
SUF				MSG				10 16 21.9	
	comp=Z,9.1nm,0.2s								
SUF				SG		**Sb**		**10 16 24.4**	**+1.5**
TOF	**Tornio**	**2.93**	**300**	PG		**Pb**		**10 15 49.1**	**-0.8**
TOF				MSG				10 16 24.5	
	comp=Z,5.4nm,0.2s								
TOF				SG		**Sb**		**10 16 26.9**	**+1.3**
VRF	**Varrio**	**3.03**	**353**	PN		**Pn**		**10 15 46.3**	**+0.6**
VRF				SB		**Sn**		**10 16 23.9**	**+1.9**
VRF				MSG				10 16 26.0	
	comp=Z,9.5nm,0.2s								
KAF	**Kangasniemi**	**3.27**	**218**	PB		**Pb**		**10 15 53.0**	**-2.7**
KEF	**Keuruu**	**3.64**	**227**	PB		**Pn**		**10 15 58.1**	**+4.1**
KEF				SB		**Sb**		**10 16 43.4**	**-2.8**
KLF	**Kolari**	**3.67**	**316**	PN		**Pn**		**10 15 56.6**	**+2.1**
	baz=124								
PAJU	**Pajala**	**3.81**	**310**	PN		**Pn**		**10 15 58.7**	**+2.3**
FIA0	**FINESS Array S**	**3.90**	**214**	PN		**Pn**		**10 15 59.4**	**+1.9**
FIA0				SG		**Sg**		**10 17 01.4**	**-1.2**
FINES	**FINESS Array B**	**3.90**	**214**	Pn		**Pn**		**10 15 59.4**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=1.8								
FINES				Pg		**Pb**		**10 16 06.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=32,slow=15,SNR=8.5								
FINES				Lg		Lg		10 17 00.0	
	comp=Z,0.7nm,0.3s,baz=31,slow=24,SNR=5.1								
BURU	**Burvik**	**3.95**	**272**	SG		**Sg**		**10 17 01.3**	**-3.1**
UMAU	**Umeaa**	**4.39**	**263**	SG		**Sg**		**10 17 16.4**	**-2.1**
VJF	**Virojoki**	**4.45**	**200**	PG		**Pb**		**10 16 18.0**	**+2.2**
VJF				SG		**Sg**		**10 17 16.6**	**-3.7**
HEF	**Hetta**	**4.59**	**326**	SG		**Sb**		**10 17 18.4**	**+5.1**
ARCES	**ARCESS Array B**	**5.19**	**340**	Pn		**Pn**		**10 16 15.2**	**-0.1**
	baz=155,slow=13,SNR=37								
I37NO	**I37NO**	**6.39**	**318**	*i*				10 55 01.0	
	baz=128,slow=328,SNR=1.9								
HFS	**Hagfors**	**9.07**	**247**	Pn		**Pn**		**10 17 08.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=53,slow=13,SNR=1.8								
HFS				Lg		Lg		10 19 38.4	
	comp=Z,0.2nm,0.3s,baz=69,slow=33,SNR=2.7								

IDC 11 10:15:05.1±3.2, 11.˚09S×112.˚14E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/48, mbtmp3.6/4, Error ellipse: s-maj=157.3km s-min=23.1km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**115**	P		P		10 20 12.3	-0.6
	2.0nm,1.0s,baz=289,slow=11,SNR=6.6								
ASAR	**Alice Springs**	**24.20**	**124**	P		P		10 20 24.1	+0.4
	0.8nm,0.8s,baz=297,slow=9.0,SNR=9.1								
CMAR	**Chiang Mai Arr**	**32.12**	**336**	P		P		10 21 35.3	+0.9
	0.6nm,0.4s,baz=172,slow=7.3,SNR=4.2								
MKAR	**Makanchi Array**	**63.51**	**338**	P		P		10 25 36.4	-0.8
	0.2nm,0.5s,baz=145,slow=8.0,SNR=2.7								

WEL 11 10:15:43.3, 43˚S±5˚×17˚3E±˚, h43km±12km, M2.8/20, ML2.9/20, MLv2.8/20, Error ellipse: s-maj=0.0km s-min=0.0km az=80.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.28**	**158**	P		P		10 15 52.2	+0.5
LTZ	**Lake Taylor**	**0.46**	**261**	P		Pn		10 15 54.1	+0.3
LTZ	**Lake Taylor**	**0.46**	**261**	P		Pn		10 15 54.0	+0.3
AMCZ	**Amberley**	**0.50**	**201**	P		Pn		10 15 55.3	+1.1
KHZ	**Kahutara**	**0.56**	**59**	P		Pn		10 15 55.2	+0.2
KHZ	**Kahutara**	**0.56**	**59**	P		Pn		10 15 55.0	0.0
OXZ	**Oxford**	**0.88**	**225**	P		Pn		10 15 59.5	+0.3
OXZ	**Oxford**	**0.88**	**225**	P		Pn		10 15 59.5	+0.3
THZ	**Tophouse**	**0.95**	**1**	P		Pn		10 16 00.5	+0.2
MQZ	**McQueen's Vall**	**1.01**	**190**	P		Pn		10 16 00.8	-0.3
OKCZ	**Okains Bay**	**1.02**	**173**	P		Pn		10 16 01.8	+0.5
INZ	**Inchbonnie**	**1.07**	**269**	P		Pn		10 16 02.8	+1.0
RACZ	**Rakaia**	**1.16**	**208**	P		Pn		10 16 03.1	+0.1
AKCZ	**Akaroa Harbour**	**1.16**	**179**	P		Pn		10 16 03.3	+0.1
BSWZ	**Blackbirch Sta**	**1.23**	**37**	P		Pn		10 16 05.1	+1.0
DSZ	**Denniston Nort**	**1.26**	**320**	P		Pn		10 16 05.0	+0.5
MHCZ	**Mount Hutt**	**1.27**	**229**	P		Pn	

baz=32
LOOK Love County 2.31 173 Pn 10 18 57.1 +1.1
LOOK IAmb_Lg 10 19 35.9
comp=Z,52nm,0.8s
R32A Long Quarter, 2.32 337 Pb 10 18 58.4 -1.4
R32A Long Quarter, 2.32 337 S Sn 10 19 26.2 +1.4
baz=157
R32A Long Quarter, 2.32 337 S 10 19 26.2
baz=157
U38A Gravette 2.54 86 Pn 10 19 00.4 +1.3
U38A Gravette 2.54 86 P Pn 10 19 00.5 +1.4
baz=267,SNR=59
U38A Gravette 2.54 86 P 10 19 00.5
baz=267,SNR=59
KSU1 Kansas State U 2.90 14 Pn Pn 10 19 04.6 +0.6
HHAR Hobbs 2.90 89 Pn 10 19 06.3 +2.2
Z35A Perchaven, San 2.97 175 Pn Pn 10 19 05.9 +1.0
CBKS Cedar Bluff 3.06 326 S Sn 10 19 43.9 +0.8
baz=146
CBKS Cedar Bluff 3.06 326 S 10 19 43.9
baz=146
W39A Magazine 3.24 109 Pn 10 19 10.7 +2.0
W39A IAmb_Lg 10 20 06.0
comp=Z,86nm,0.7s
W39A Magazine 3.24 109 P Pn 10 19 09.6 +0.9
baz=290
W39A Magazine 3.24 109 P 10 19 09.6
baz=290
S39A Bolivar 3.65 66 Pn 10 19 15.6 +1.3
S39A IAmb_Lg 10 20 20.8
comp=Z,44nm,0.7s
S39A Bolivar 3.65 66 P Pn 10 19 14.9 +0.6
baz=249,SNR=27
S39A Bolivar 3.65 66 P 10 19 14.9
baz=249,SNR=27
MIAR Mount Ida 3.67 117 Pn 10 19 15.9 +1.2
MIAR IAmb_Lg 10 20 23.9
comp=Z,31nm,0.8s
MIAR Mount Ida 3.67 117 P Pn 10 19 16.0 +1.3
baz=299,SNR=14
MIAR Mount Ida 3.67 117 P 10 19 16.0
baz=299,SNR=14
U40A Yellville 3.78 88 Pn 10 19 17.8 +1.7
U40A IAmb_Lg 10 20 19.0
comp=Z,62nm,0.8s
U40A Yellville 3.78 88 P Pn 10 19 16.8 +0.6
baz=270,SNR=15
U40A Yellville 3.78 88 P 10 19 16.8
baz=270,SNR=15
U40A P 10 19 16.8
baz=270,SNR=15
ABTX Abilene, Hawle 4.06 206 IAmb_Lg 10 20 27.4
comp=Z,47nm,1.0s
X40A Basin Creek Fa 4.24 114 Pn 10 19 23.9 +1.4
X40A Basin Creek Fa 4.24 114 P Pn 10 19 23.3 +0.8
baz=296,SNR=7.4
X40A Basin Creek Fa 4.24 114 P 10 19 23.3
baz=296,SNR=7.4
X40A P 10 19 23.3
baz=296,SNR=7.4
WHTX Lake Whitney, 4.29 179 Pn Pn 10 19 23.2 0.0
MGMO Mountain Grove 4.32 77 Pn 10 19 24.4 +0.9
MGMO IAmb_Lg 10 20 33.9
comp=Z,53nm,0.7s
WHAR Wooly Hollow 4.38 102 Pn 10 19 24.3 -0.1
WHAR IAmb_Lg 10 20 39.7
comp=Z,46nm,0.7s
FCAR Ozark Folk Cen 4.40 94 Pn 10 19 26.1 +1.4
FCAR IAmb_Lg 10 20 35.4
comp=Z,24nm,0.9s
N33A J Bar K, Exete 4.44 1 Pn Pn 10 19 25.2 0.0
W41B Gary Mavity, V 4.44 103 P Pn 10 19 26.2 +0.9
baz=286,SNR=18
W41B Gary Mavity, V 4.44 103 P 10 19 26.2
baz=286,SNR=18
WLAR White Oak Lake 4.46 124 Pn Pn 10 19 25.9 +0.4
WLAR IAmb_Lg 10 20 47.5
comp=Z,29nm,0.7s
237A Washetta, Mont 4.51 161 Pn Pn 10 19 26.1 -0.1
237A IAmb_Lg 10 20 51.0
comp=Z,23nm,0.8s
237A Washetta, Mont 4.51 161 P Pn 10 19 26.1 -0.1
baz=342
237A Washetta, Mont 4.51 161 P 10 19 26.1
baz=342
P38A Dawn 4.59 42 IAmb_Lg 10 20 50.5
comp=Z,30nm,0.7s
R40A Maddies Statio 4.65 63 Pn 10 19 28.2 +0.1
N35A Tabor 4.79 17 Pn 10 19 30.1 0.0
KSCO Kaye Shedlock' 4.87 305 Pn Pn 10 19 32.7 +1.5
KSCO IAmb_Lg 10 21 06.3
comp=Z,29nm,0.9s
NATX Nacogdoches 5.11 151 IAmb_Lg 10 21 09.4
comp=Z,21nm,0.9s
BGNE Belgrade 5.13 355 Pn Pn 10 19 34.4 -0.3
BGNE IAmb_Lg 10 21 15.2
comp=Z,48nm,0.8s
LCAR Lake Charles 5.16 91 Pn Pn 10 19 36.6 +1.5
LCAR IAmb_Lg 10 21 02.4
comp=Z,21nm,0.8s
T42A Van Buren 5.23 80 Pn Pn 10 19 38.1 +2.0
T42A IAmb_Lg 10 21 16.1
comp=Z,31nm,0.8s
CCAR Cane Creek 5.28 115 Pn Pn 10 19 38.3 +1.5
CCAR IAmb_Lg 10 21 11.4
comp=Z,40nm,0.9s
CCM Cathedral Cave 5.32 69 Pn Pn 10 19 38.6 +1.4
CCM IAmb_Lg 10 21 08.1
comp=Z,35nm,0.7s
P40A Paris 5.41 52 Pn Pn 10 19 40.1 +1.7
P40A IAmb_Lg 10 21 18.0
comp=Z,36nm,0.8s
T25A Trinidad 5.59 281 Pn 10 19 41.8 +0.6
T25A IAmb_Lg 10 21 30.5
comp=Z,17nm,0.8s
N38A Joes South For 5.61 36 Pn Pn 10 19 41.0 -0.4
L34A Svendsen Farm, 5.74 9 IAmb_Lg 10 21 33.3
comp=Z,43nm,0.8s
OGNE Ogallala 5.83 324 IAmb_Lg 10 21 27.2
comp=Z,29nm,0.7s
LPAR Lepanto 5.91 95 IAmb_Lg 10 21 41.8
comp=Z,36nm,0.7s
FVM French Village 5.92 71 Pn Pn 10 19 45.8 +0.2
FVM IAmb_Lg 10 21 31.4
comp=Z,38nm,0.9s
GNAR Gosnell 6.09 91 IAmb_Lg 10 21 35.2
comp=Z,47nm,0.8s
143A Socs Landing, 6.20 124 IAmb_Lg 10 21 37.4
comp=Z,22nm,0.9s
K31A O'Neill 6.39 352 IAmb_Lg 10 21 55.0
comp=Z,44nm,0.8s
SCIA State Center 6.53 30 IAmb_Lg 10 21 56.6
comp=Z,39nm,0.8s
SDCO Great Sand Dun 6.54 285 Pn 10 19 55.3 +1.0
S44A Carbondale 6.77 76 IAmb_Lg 10 21 53.2
comp=Z,35nm,0.7s
SIUC Southern Illin 6.80 76 IAmb_Lg 10 21 55.0
comp=Z,34nm,0.7s
OXF Oxford 6.87 103 IAmb_Lg 10 22 01.0
comp=Z,15nm,0.8s
W45A Hickory Valley 6.88 97 IAmb_Lg 10 21 59.2
comp=Z,23nm,0.8s
Y45A Yeager Farm, C 6.98 108 IAmb_Lg 10 22 06.2
comp=Z,15nm,0.9s
ECSD EROS Data Cent 7.46 5 Pn Pn 10 20 06.0 -0.7
L40A Anamosa 7.56 38 IAmb_Lg 10 22 19.8
comp=Z,32nm,1.1s
PLAL Pickwick Lake 7.81 97 IAmb_Lg 10 22 33.1
comp=Z,13nm,1.1s
OLIL Olney 7.88 69 IAmb_Lg 10 22 28.7
comp=Z,32nm,0.9s
PHWY Pilot Hill 7.95 311 IAmb_Lg 10 22 41.3
comp=Z,16nm,0.9s
Y22D IRIS PASSCAL I 8.00 257 IAmb_Lg 10 22 39.7
comp=Z,28nm,0.8s
O44A Mansfield 8.11 59 IAmb_Lg 10 22 34.8
comp=Z,28nm,0.8s
SUSD Miller 8.21 353 IAmb_Lg 10 22 56.7
comp=Z,18nm,0.9s
I37A Lemond, Waseca 8.33 21 IAmb_Lg 10 22 52.7
comp=Z,23nm,1.0s
T47A Sharon Grove 8.41 82 IAmb_Lg 10 22 48.3
comp=Z,23nm,1.0s
JFWS Jewell Farm 8.68 38 IAmb_Lg 10 22 51.3
comp=Z,27nm,0.7s
M44A Midewin, Midew 8.98 53 IAmb_Lg 10 23 02.4
comp=Z,18nm,0.8s

CLTN Cedars of Leba 9.06 88 IAmb_Lg 10 23 07.8
comp=Z,8.9nm,0.9s
SFIN Lafayette 9.16 60 IAmb_Lg 10 23 04.3
comp=Z,21nm,0.7s
WCI Wyandotte Cave 9.17 74 IAmb_Lg 10 23 07.6
comp=Z,16nm,0.9s
I40A Norwalk 9.25 33 IAmb_Lg 10 23 08.8
comp=Z,12nm,0.9s
RWWY Rawlins 9.26 309 IAmb_Lg 10 23 21.2
comp=Z,17nm,1.0s
121A Cookes Peak, D 9.26 249 IAmb_Lg 10 23 28.7
comp=Z,11nm,1.1s
HQIL Hanson Quary C 9.32 51 IAmb_Lg 10 23 17.2
comp=Z,21nm,0.7s
SWET Sewanee 9.49 93 IAmb_Lg 10 23 28.6
comp=Z,9.5nm,1.1s
W50A Signal Mountai 9.99 93 IAmb_Lg 10 23 53.7
comp=Z,9.3nm,0.8s

IDC 11 10:18:26.4±9.5, 13°.24S×167°.09E, h212km±104km, mb3.3/4, mb1 3.5/5, mb1mx3.2/35, mbtmp3.9/5, Error ellipse: s-maj=84.3km s-min=29.7km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.81**	**184**	P	Pn	10 20 30.2	0.0
DZM	0.3nm,0.3s,baz=52,slow=8.6,SNR=2.1			S	S	10 22 09.8	+0.4
STKA	0.1nm,0.3s,baz=120,slow=17,SNR=1.7 **Stephens Creek**	**29.84**	**227**	P	P	10 24 13.6	-0.3
WRA	0.6nm,0.3s,baz=76,slow=12,SNR=1.9 **Warramunga Arr**	**32.05**	**254**	P	P	10 24 33.0	-0.4
ASAR	0.6nm,0.5s,baz=86,slow=9.2,SNR=9.8 **Alice Springs**	**33.06**	**247**	P	P	10 24 42.5	+0.3
ASAR	1.0nm,0.7s,baz=69,slow=10.0,SNR=17			pP	pP	10 25 15.1	-10
ILAR	0.3nm,0.5s,baz=85,slow=7.8,SNR=2.1 **Eielson Array**	**85.17**	**18**	P	P	10 30 38.2	-0.1
	0.7nm,0.8s,baz=239,slow=4.9,SNR=6.5						

*NNC **11** 10:24:35.3±2.7, 53°.63N×88°.02E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=28.3km s-min=12.7km az=41.0, Suspected Mining explosion.*
*IDC **11** 10:24:41.8±2.8, 53°.52N×87°.57E, h0km, mb1 3.2/2, mb1mx3.0/50, mbtmp3.2/2, ML2.2/2, Error ellipse: s-maj=25.6km s-min=14.0km az=62.0*
ISC 11 10:24:40.7±5.2, 53°.6N±0°.1×87°.6E±0°.4, h0km, n7, σ2≥11/7, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**284**	*i*		10 35 50.0	
ZAA0	baz=102,slow=306,SNR=3.0 **Zalesovo Array**	**1.67**	**284**	⇑Pg	**Pn**	**10 25 10.5**	**-0.7**
ZAA0	0.9nm,0.6s			⇓Lg	Lg	10 25 36.7	
ZALV	8.0nm,0.8s **Zalesovo Beam**	**1.67**	**284**	Pg	**Pn**	**10 25 12.0**	**+0.8**
ZALV	0.6nm,0.3s,baz=105,slow=13,SNR=15			Lg	Lg	10 25 35.1	
ZALV	0.9nm,0.3s,baz=107,slow=29,SNR=9.9			*i*		10 35 48.1	
KURBB	1.0nm,0.3s,baz=152,slow=19,SNR=6.6 **Kurchatov Arra**	**6.30**	**246**	Pn	**Pn**	**10 26 16.3**	**+1.6**
KURBB	0.0nm,0.3s,baz=61,slow=14,SNR=12			Lg	Lg	10 28 02.0	
KURBB	0.0nm,0.3s,baz=62,slow=31,SNR=6.8 **Kurchatov Arra**	**6.30**	**246**	⇓Pn	**Pn**	**10 26 12.0**	**-2.7**
KURBB	2.9nm,0.7s			⇓Lg	Lg	10 28 02.6	
MK31	16nm,0.8s **Makanchi Array**	**7.58**	**209**	⇓Pn	**Pn**	**10 26 30.4**	**-1.9**
MK31	2.1nm,0.9s,baz=32,slow=11,SNR=9.6			⇑Lg	Lg	10 28 43.4	
MKAR	3.2nm,0.8s,baz=34,slow=27,SNR=7.0 **Makanchi Array**	**7.58**	**209**	Pn	**Pn**	**10 26 33.9**	**+1.6**
MKAR	0.1nm,0.3s,baz=24,slow=11,SNR=11			Sn	**Sn**	**10 27 59.6**	**+0.7**
MKAR	0.1nm,0.3s,baz=31,slow=25,SNR=3.6			Lg	Lg	10 28 38.7	
	0.1nm,0.3s,baz=22,slow=31,SNR=8.7						

IDC 11 10:31:55.9±1.9, 4°.39N×122°.13E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/62, mbtmp3.7/3, Error ellipse: s-maj=206.1km s-min=28.2km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.99**	**154**	P	P	10 37 39.3	-0.4
ASAR	0.5nm,0.3s,baz=331,slow=10,SNR=24 **Alice Springs**	**30.16**	**158**	P	P	10 38 08.3	+0.4
MKAR	0.5nm,0.3s,baz=338,slow=7.5,SNR=23 **Makanchi Array**	**54.46**	**327**	P	P	10 41 25.1	-0.1
	0.2nm,0.3s,baz=118,slow=8.1,SNR=2.6						

*RSPR **11** 10:33:24.4, 18°.06N×68°.38W, h165km±1km, MD3.8/9*
*NEIC **11** 10:33:25.0±1.0, 18°.0N±0°.3×68°.45W±0°.09, h150km±11km, Error ellipse: s-maj=42.5km s-min=10.8km az=188.0*
ISC 11 10:33:24.7±1.6, 18°.1N±0°.2×68°.47W±0°.07, h150km, n45, σ0≥55/51, 2C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.41**	**11**	Pn	**Pn**	**10 33 44.4**	**-1.3**
PCDR					**Sn**	**10 33 59.8**	**-1.9**
PCDR	comp=E,807nm,0.6s			IAML		10 34 01.6	
MPR	**Mayaguez**	**1.27**	**85**		**Pn**	**10 33 51.4**	**-0.4**
AGPR	**Aguadilla, PR**	**1.34**	**74**	⇓*e*P	**Pn**	**10 33 53.0**	**+0.4**
AGPR	**Aguadilla, PR**	**1.34**	**74**	*e*S	**Sn**	**10 34 15.2**	**+1.3**
AGPR	**Aguadilla, PR**	**1.34**	**74**		**Pn**	**10 33 53.0**	**+0.4**
AGPR					**Sn**	**10 34 15.2**	**+1.3**
AGPR	**Aguadilla, PR**	**1.34**	**74**	IAML		10 34 21.2	
AGPR	comp=E,287nm,0.5s			IAML		10 34 22.1	
MLPR	comp=N,305nm,0.3s **Magueyes Islan**	**1.36**	**95**	⇓*e*P	**Pn**	**10 33 52.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.36**	**95**	*e*S	**Sn**	**10 34 14.9**	**+0.6**
MLPR	**Magueyes Islan**	**1.36**	**95**		**Pn**	**10 33 52.6**	**-0.2**
MLPR					**Sn**	**10 34 14.9**	**+0.6**
AOPR	**Arecibo Observ**	**1.65**	**81**	⇓*e*P	**Pn**	**10 33 55.8**	**-0.1**
AOPR	**Arecibo Observ**	**1.65**	**81**	*e*S	**Sn**	**10 34 20.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.65**	**81**		**Pn**	**10 33 55.8**	**-0.1**
AOPR					**Sn**	**10 34 20.0**	**+0.3**
OBIP	**Obispado Ponce**	**1.77**	**92**	⇓*e*P	**Pn**	**10 33 57.2**	**0.0**
OBIP	**Obispado Ponce**	**1.77**	**92**	*e*S	**Sn**	**10 34 22.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.77**	**92**		**Pn**	**10 33 57.2**	**0.0**
OBIP					**Sn**	**10 34 22.4**	**+0.3**
CELP	**Cerrillos**	**1.79**	**91**	⇓*e*P	**Pn**	**10 33 57.3**	**-0.2**
CELP	**Cerrillos**	**1.79**	**91**	*e*S	**Sn**	**10 34 23.2**	**+0.6**
CELP	**Cerrillos**	**1.79**	**91**		**Pn**	**10 33 57.3**	**-0.2**
CELP					**Sn**	**10 34 23.2**	**+0.6**
ICMP	**Isla Caja de M**	**1.86**	**96**	⇓*e*P	**Pn**	**10 33 57.8**	**-0.4**
ICMP	**Isla Caja de M**	**1.86**	**96**	*e*S	**Sn**	**10 34 23.6**	**-0.3**
ICMP	**Isla Caja de M**	**1.86**	**96**		**Pn**	**10 33 57.8**	**-0.4**
ICMP					**Sn**	**10 34 23.6**	**-0.3**
ICMP	**Isla Caja de M**	**1.86**	**96**	IAML		10 34 24.9	
ICMP	comp=N,132nm,0.4s			IAML		10 34 25.0	
EMPR	comp=E,142nm,0.4s **Esperanza - Ma**	**1.88**	**78**	⇑*e*P	**Pn**	**10 33 58.4**	**0.0**
EMPR	**Esperanza - Ma**	**1.88**	**78**	*e*S	**Sn**	**10 34 24.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.88**	**78**		**Pn**	**10 33 58.4**	**0.0**
EMPR					**Sn**	**10 34 24.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.88**	**78**	IAML		10 34 30.9	
EMPR	comp=N,235nm,0.2s			IAML		10 34 33.9	
IGPR	comp=E,234nm,0.5s **InterUniversit**	**2.25**	**93**	⇓*e*P	**Pn**	**10 34 02.5**	**-0.2**
IGPR	**InterUniversit**	**2.25**	**93**	*e*S	**Sn**	**10 34 32.1**	**+0.1**
GCPR	**Guaynabo City**	**2.27**	**84**	⇑*e*P	**Pn**	**10 34 02.9**	**-0.2**
GCPR	**Guaynabo City**	**2.27**	**84**	*e*S	**Sn**	**10 34 32.8**	**+0.2**
GCPR	**Guaynabo City**	**2.27**	**84**		**Pn**	**10 34 02.9**	**-0.2**
GCPR					**Sn**	**10 34 32.8**	**+0.2**
GCPR	**Guaynabo City**	**2.27**	**84**	IAML		10 34 38.0	
PDPR	comp=E,79nm,0.3s **Patillas Dam,**	**2.33**	**92**	⇓*e*P	**Pn**	**10 34 03.6**	**-0.1**
PDPR	**Patillas Dam,**	**2.33**	**92**	*e*S	**Sn**	**10 34 34.0**	**+0.3**
PDPR	**Patillas Dam,**	**2.33**	**92**		**Pn**	**10 34 03.6**	**-0.1**
PDPR					**Sn**	**10 34 34.0**	**+0.3**
PDPR	**Patillas Dam,**	**2.33**	**92**	IAML		10 34 39.6	
	comp=E,136nm,0.4s						
CBYP	**Canovanas**	**2.49**	**86**	⇓*e*P	**Pn**	**10 34 05.2**	**-0.6**
CBYP	**Canovanas**	**2.49**	**86**	*e*S	**Sn**	**10 34 37.4**	**+0.1**
CBYP	**Canovanas**	**2.49**	**86**		**Pn**	**10 34 05.2**	**-0.6**
CBYP					**Sn**	**10 34 37.4**	**+0.1**
SDDR	**Presa de Saban**	**2.82**	**289**		**Pn**	**10 34 10.7**	**+0.8**
SDDR				IAML		10 34 51.1	
	comp=E,159nm,0.6s						
SDDR				IAML		10 36 17.7	
	comp=E,169nm,0.4s						
CUPR	**Culebra, Puert**	**3.03**	**86**	⇓*e*P	**Pn**	**10 34 12.2**	**-0.3**
CUPR	**Culebra, Puert**	**3.03**	**86**	*e*S	**Sn**	**10 34 49.5**	**0.0**
CUPR	**Culebra, Puert**	**3.03**	**86**		**Pn**	**10 34 12.2**	**-0.3**
CUPR					**Sn**	**10 34 49.5**	**0.0**
CUPR	**Culebra, Puert**	**3.03**	**86**	IAML		10 34 53.8	
	comp=E,60nm,0.7s						
STVI	**Saint Thomas**	**3.35**	**85**	Pn	**Pn**	**10 34 15.7**	**-0.8**
STVI				IAML		10 34 59.4	
	comp=E,64nm,0.4s						
STVI				IAML		10 35 00.9	
	comp=N,81nm,0.6s						

*IDC **11** 10:35:05.4±0.5, 5°.84S×105°.40E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.2/53, mbtmp4.2/22, ML4.1/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/38, Error ellipse: s-maj=21.7km s-min=11.3km az=54.0*
*DJA **11** 10:35:08.3±0.3, 6°.5S±4°×10°.5E±°, h10km, M4.4/13, mb4.5/2, MLv4.3/13*
*NEIC **11** 10:35:14.6±2.7, 5°.83S±0°.07×105°.69E±0°.10, h60km±6km, mb4.5/22, Error ellipse: s-maj=15.9km s-min=7.4km az=60.0*
ISC 11 10:35:10.0±1.4, 5°.97S±0°.05×105°.37E±0°.05, h28km±10km, n109, σ1≥63/106, mb4.4/36, MS3.2/3, 4C-12D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.61**	**348**	P	**Pb**	**10 35 21.6**	**-0.5**
BLSI				S	**Sn**	**10 35 31.6**	**0.0**
KASI	**Kota Agung**	**0.97**	**297**	P	**Pn**	**10 35 27.2**	**-0.6**
KASI				S	**Sn**	**10 35 41.6**	**+0.9**
TNG	**Tangerang**	**1.28**	**99**	P	**Pn**	**10 35 30.8**	**-1.3**
TNG				P	**Pb**	**10 35 31.1**	**-2.4**
TNG				S	**Sb**	**10 35 49.0**	**-0.6**
LWLI	**Liwa**	**1.61**	**306**	P	**Pn**	**10 35 38.1**	**+1.4**
MDSI	**Maura Dua**	**1.89**	**321**	P	**Pn**	**10 35 42.1**	**+1.7**
LEM	**Lembang**	**2.39**	**111**	Pn	**Pn**	**10 35 48.1**	**+0.6**
LEM	39nm,0.3s,baz=206,slow=8.6,SNR=69			LR	LR	10 36 18.5	
LEM	comp=Z,174nm,18.2s,baz=190,slow=30 **Lembang**	**2.39**	**111**	Pg	**Pb**	**10 35 53.3**	**+0.9**
LHSI	**Lahat**	**2.81**	**319**	P	**Pb**	**10 36 00.7**	**+1.2**
LHSI				Pg	Pn	10 36 03.3	+10
JCJI	**Jatiwangi**	**2.93**	**100**	P	Pn	10 36 03.6	+8.9
JCJI				Pg	**Pb**	**10 36 03.3**	**+1.8**
PMBI	**Palembang**	**3.08**	**349**	Pn	**Pb**	**10 36 02.5**	**-1.5**
PMBI	**Palembang**	**3.08**	**349**	P	**Pn**	**10 35 59.2**	**+2.5**
EGSI	**Enggano, Bengk**	**3.14**	**281**	P	**Pn**	**10 35 58.8**	**+1.2**
KSI	**Kapahiang**	**3.60**	**310**	P	**Pb**	**10 36 10.0**	**-3.0**
KPJI	**Karang Pucung**	**3.79**	**111**	P	**Pn**	**10 36 06.3**	**-0.2**
PPBI	**Pangkal Pinang**	**3.85**	**11**	P	**Pn**	**10 36 09.2**	**+1.8**
TPI	**Tanjungpandan**	**3.92**	**36**	P	**Pn**	**10 36 08.9**	**+0.6**
CTJI	**Waduk Cacaban**	**3.93**	**106**	P	**Pn**	**10 36 07.8**	**-0.6**
SMRI	**Semarang**	**5.15**	**102**	Pn	**Pn**	**10 36 24.6**	**-0.7**
KMMI	**Kalianget**	**8.61**	**98**	P	**Pn**	**10 37 11.6**	**-1.2**
SRBI	47nm,1.6s **Singaraja**	**9.99**	**103**	P	**Pn**	**10 37 31.9**	**+0.1**
RPSI	**Rantau Prapat**	**10.74**	**323**	Pn	Pn	10 37 47.7	+5.6
RPSI	**Rantau Prapat**	**10.74**	**323**		Pn	10 37 47.1	+5.0
PSI	**Prapat**	**10.83**	**323**	Pn	**Pn**	**10 37 47.1**	**+3.7**
SRAK	0.4nm,0.3s,baz=180,slow=14,SNR=11 **Srakaew**	**20.12**	**351**	P	Pn	10 39 48.0	+4.2
PSA00	668nm82nm,1.1s **Pilbara Seismi**	**20.91**	**139**		**P**	**10 39 50.7**	**+0.4**
UBPT	**Khong Chiam**	**21.11**	**0**	P	**P**	**10 39 57.0**	**+4.5**
CHAI	14nm,1.1s **Chaiyaphum**	**21.98**	**351**	P	P	10 40 12.6	+11
UTHA	86nm2.5nm,0.8s **Uthaitani**	**22.18**	**345**	P	P	10 40 14.0	+10
FITZ	1.7nm,0.9s **Fitzroy Crossi**	**23.17**	**123**	P	**P**	**10 40 13.1**	**-1.4**
FITZ	3.0nm,0.8s,baz=298,slow=5.6,SNR=7.0			LR	LR	10 49 59.7	
FITZ	comp=Z,78nm,18.9s,baz=295,slow=38 **Fitzroy Crossi**	**23.17**	**123**	IAmb	IAmb	10 40 21.1	
PHIT	comp=Z,14nm,1.2s **Phitsanulok**	**23.52**	**348**	P	**P**	**10 40 21.3**	**+3.4**
NONG	**Nongkai**	**23.98**	**355**	P	P	10 40 34.0	+12
KNRA	**Kununurra**	**24.89**	**115**	P	**P**	**10 40 29.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**25.08**	**345**	P	**P**	**10 40 31.4**	**-0.9**
CMAR	comp=Z,0.5nm,0.3s,baz=179,slow=10.0,SNR=5.4			LR	LR	10 51 04.3	
MORW	comp=Z,46nm,18.4s,baz=180,slow=38 **Morawa**	**25.10**	**158**	P	**P**	**10 40 32.0**	**-0.5**
MORW				IAmb	IAmb	10 40 32.9	
CM36	comp=Z,13nm,1.1s **Chiang Mai Arr**	**25.10**	**346**	P	**P**	**10 40 39.0**	**+6.4**
CM35	**Chiang Mai Arr**	**25.24**	**346**	P	**P**	**10 40 39.0**	**+5.2**
CM33	**Chiang Mai Arr**	**25.43**	**346**	P	**P**	**10 40 39.0**	**+3.5**
MTN	**Manton Dam**	**26.30**	**107**	P	**P**	**10 40 42.4**	**-1.1**
MTN				IAmb	IAmb	10 41 10.0	
WRA	comp=Z,35nm,1.4s **Warramunga Arr**	**31.39**	**119**	P	**P**	**10 41 27.8**	**-1.0**
WRA	comp=Z,1.6nm,0.5s,baz=294,slow=10,SNR=30			PcP	**PcP**	**10 44 21.6**	**-0.7**
WRAB	comp=Z,1.3nm,0.6s,baz=294,slow=2.0,SNR=5.5 **Tennant Creek**	**31.39**	**119**	P	**P**	**10 41 28.1**	**-0.7**
WRAB				IAmb	IAmb	10 41 29.3	
WB2	comp=Z,4.3nm,0.6s **Warramunga Arr**	**31.40**	**119**	P	**P**	**10 41 28.2**	**-0.7**
WB2				IAmb	IAmb	10 41 28.4	
WR0	comp=Z,4.9nm,0.8s **Warramunga Arr**	**31.57**	**119**	P	**P**	**10 41 30.1**	**-0.3**
WR0				IAmb	IAmb	10 41 30.2	
AS31	comp=Z,4.0nm,0.7s **Alice Springs**	**32.60**	**126**	P	**P**	**10 41 38.8**	**-0.7**
ASAR	**Alice Springs**	**32.60**	**126**	P	**P**	**10 41 38.9**	**-0.6**
ASAR	comp=Z,2.4nm,0.5s,baz=299,slow=8.0,SNR=53			PcP	**PcP**	**10 44 25.5**	**0.0**
ASAR	comp=Z,1.4nm,0.7s,baz=310,slow=2.5,SNR=8.8 **Alice Springs**	**32.60**	**126**	P	**P**	**10 41 38.5**	**-1.0**
H08S2	**Diego Garcia H**	**32.69**	**265**	T	T	11 15 53.7	
H08S3	baz=90,slow=75,SNR=15 **Diego Garcia H**	**32.69**	**265**	T	T	11 15 52.4	
H08S1	baz=90,slow=75,SNR=12 **Diego Garcia H**	**32.70**	**265**	T	T	11 15 55.0	
STKA	baz=90,slow=75,SNR=12 **Stephens Creek**	**42.53**	**132**	P	**P**	**10 43 03.5**	**+0.1**
KSRS	comp=Z,8.1nm,0.5s,baz=305,slow=6.8,SNR=23 **Korea Array**	**48.05**	**24**	P	**P**	**10 43 48.2**	**+1.3**
TOO	comp=Z,1.2nm,0.9s,baz=200,slow=8.8,SNR=5.1 **Toolangi**	**48.16**	**137**	P	**P**	**10 43 49.3**	**+1.3**
TOO				IAmb	IAmb	10 44 09.4	
SONM	comp=Z,8.6nm,1.1s **Songino Array**	**53.58**	**1**	P	**P**	**10 44 28.3**	**-0.3**
SONM	comp=Z,2.0nm,0.9s,baz=182,slow=8.4,SNR=6.6			PcP	**PcP**	**10 45 34.2**	**-0.8**
USRK	comp=Z,1.5nm,0.6s,baz=176,slow=5.5,SNR=4.5 **Ussuriysk Ar.**	**55.40**	**23**	P	**P**	**10 44 41.8**	**+0.1**
USRK	comp=Z,3.7nm,0.8s,baz=205,slow=6.4,SNR=4.3 **Ussuriysk Ar.**	**55.40**	**23**	P	**P**	**10 44 38.3**	**-3.4**
MKAR	**Makanchi Array**	**56.38**	**341**	P	**P**	**10 44 47.0**	**-1.8**
JKA	comp=Z,1.4nm,0.8s,baz=147,slow=7.2,SNR=7.0 **Kamikawa-asahi**	**60.08**	**30**	P	**P**	**10 45 12.7**	**-1.9**
KURBB	**Kurchatov Arra**	**60.94**	**341**	P	**P**	**10 45 18.4**	**-1.9**
KURBB	comp=Z,0.8nm,0.8s,baz=157,slow=6.2,SNR=6.1			PcP	**PcP**	**10 46 03.2**	**-0.4**
KURK	comp=Z,1.0nm,0.6s,baz=154,slow=3.2,SNR=6.8 **Kurchatov**	**60.99**	**341**	P	**P**	**10 45 18.4**	**-2.2**
KURK					**PcP**	**10 46 03.2**	**-0.6**
GEYT	**Alibeck**	**61.92**	**319**	P	**P**	**10 45 26.5**	**-0.9**
ZALV	comp=Z,3.7nm,0.7s,baz=194,slow=12,SNR=5.4 **Zalesovo Beam**	**62.14**	**346**	P	**P**	**10 45 26.9**	**-1.5**
ZALV	comp=Z,2.8nm,0.9s,baz=143,slow=3.7,SNR=8.4 **Zalesovo Beam**	**62.14**	**346**	P	**P**	**10 45 26.0**	**-2.4**
BVAR	**Borovoye Array**	**65.80**	**338**	P	**P**	**10 45 50.0**	**-2.5**
ABKAR	comp=Z,0.5nm,0.3s,baz=228,slow=16,SNR=4.7 **Akbulak array**	**67.70**	**330**	P

KBZ	Khabaz	74.80	318	P	P	10 46 47.5	-0.2
	comp=Z,5.4nm,0.8s,baz=132,slow=5.9,SNR=12						
MMAI	Mount Meron Ar	76.69	306	P	P	10 46 59.4	+0.4
	comp=Z,1.0nm,0.4s,baz=77,slow=6.5,SNR=2.3						
VNDA	Vanda	77.28	169	P	P	10 47 02.1	+0.8
	comp=Z,1.9nm,0.7s,baz=312,slow=5.8,SNR=14						
VNDA	Vanda	77.28	169	P	P	10 47 01.8	+0.4
SBA	Scott Base	78.36	169	P	P	10 47 09.0	+1.7
SBA				IAmb	IAmb	10 47 09.8	
	comp=Z,3.8nm,0.8s						
BOSA	Boshof	78.50	242	P	P	10 47 10.1	+0.8
	comp=Z,0.7nm,0.5s,baz=65,slow=4.7,SNR=4.6						
BOSA	Boshof	78.50	242	IAmb	IAmb	10 47 34.4	
	comp=Z,5.8nm,1.2s						
BRTR	Keskin Array B	79.94	312	P	P	10 47 16.1	-0.7
	comp=Z,2.1nm,0.6s,baz=122,slow=8.0,SNR=12						
BRTR				LR	LR	11 25 45.8	
	comp=Z,320nm,18.1s,baz=188,slow=38						
BR131	Keskin Array S	79.94	312	P	P	10 47 16.1	-0.7
BR131				IAmb	IAmb	10 47 17.2	
	comp=Z,14nm,1.4s						
QSPA	South Pole Qui	84.02	180	P	P	10 47 38.1	+0.3
QSPA				IAmb	IAmb	10 47 41.2	
	comp=Z,11nm,1.4s						
SORM	Soroca	85.81	319	⇓P	P	10 47 46.6	-0.3
AKASG	Malin Array Be	85.88	322	P	P	10 47 46.4	-0.9
	comp=Z,3.7nm,0.7s,baz=85,slow=4.5,SNR=11						
AKBB	Malin Array Si	85.88	322	P	P	10 47 46.4	-0.8
AKBB				IAmb	IAmb	10 47 47.0	
	comp=Z,4.6nm,0.8s						
VRI	Vrincioaia	86.39	317	⇓P	P	10 47 50.9	+1.0
PLOR	Plostina	86.44	317	⇓P	P	10 47 50.9	+0.7
TESR	Tescani	86.58	317	⇓P	P	10 47 51.4	+0.6
MLR	Muntele Rosu	86.85	316	P	P	10 47 52.5	+0.2
	comp=Z,10nm,1.0s,baz=34,slow=3.2,SNR=11						
MLR	Muntele Rosu	86.85	316	⇓P	P	10 47 52.9	+0.7
BIZ	Bicaz	87.03	318	⇑P	P	10 47 54.0	+1.0
PRAR	RASCA	87.04	318	⇑P	P	10 47 53.5	+0.5
VOIR		87.45	316	⇓P	P	10 47 55.4	+0.2
ARR	Arges	87.73	316	⇓P	P	10 47 56.4	-0.1
BURAR	Bucovina Array	87.76	318	⇑P	P	10 47 57.5	+0.8
BUR08	Bucovina Ar. S	87.78	318	P	P	10 47 56.8	+0.1
VTS	Vitosha	88.23	313	⇓P	P	10 47 58.7	-0.4
LIT	Litokhoron	88.38	310	P	P	10 47 59.8	+0.2
DEV	Deva	89.01	316	⇓P	P	10 48 03.6	+1.1
GZR	Gura Zlata	89.02	316	⇓P	P	10 48 04.0	+1.4
HERR	Herculane	89.19	315	⇓P	P	10 48 03.8	+0.6
BOVS	Bovan	89.50	314	⇑P	P	10 48 04.8	0.0
MDVR	Moldovita	89.67	315	⇓P	P	10 48 06.2	+0.6
SNAA	Sanae	90.02	197	P	P	10 48 08.9	+2.1
SNAA	Sanae	90.02	197	P	P	10 48 08.4	+1.6
SNAA				IAmb	IAmb	10 48 15.3	
	comp=Z,8.1nm,1.4s						
FINES	FINESS Array B	90.10	332	P	P	10 48 06.9	-0.2
	comp=Z,3.2nm,0.8s,baz=130,slow=9.9,SNR=6.1						
VNA1	Neumayer--Stat	92.04	198	P	P	10 48 12.6	-3.5
VNA3	Neumayer Olymp	92.21	197	P	P	10 48 18.7	+1.8
TORD	Torodi Ar. Bea	104.62	282	PKiKP	PKiKP	10 53 28.9	-1.0
	comp=Z,0.4nm,0.7s,baz=96,slow=4.3,SNR=2.5						
NVAR	Mina Array Bea	128.97	44	PKP	PKiKP	10 54 16.6	0.0
	comp=Z,0.3nm,0.6s,baz=260,slow=2.7,SNR=3.8						
ULM	Lac du Bonnet	132.40	18	PKP	PKPdf	10 54 21.5	-0.3
	comp=Z,1.9nm,0.7s,baz=331,slow=3.5,SNR=4.1						
CPUP	Villa Florida	143.78	207	PKP	PKPdf	10 54 42.6	-0.7
	comp=Z,1.7nm,0.8s,baz=131,slow=8.3,SNR=3.3						
TXAR	Lajitas Array	144.06	46	PKP	PKPbc	10 54 42.5	+0.7
	comp=Z,1.6nm,0.9s,baz=273,slow=1.3,SNR=15						
BDFB	Brasilia	146.01	231	PKPbc	PKPab	10 54 49.0	+0.1
	comp=Z,1.6nm,0.4s,baz=90,slow=6.6,SNR=5.7						

IDC ***11*** *10:35:42.3±2.7,23°.69S×179°.96W,h505km±20km, mb3.7/8, mb1 3.8/9, mb1mx3.3/34, mbtmp4.5/9, Error ellipse: s-maj=48.3km s-min=20.2km az=151.0*

NEIC ***11*** *10:35:42.5±1.0,23°.7S±0°.1×179°.9W±0°.2, h511km±12km, mb4.6/25, Error ellipse: s-maj=21.3km s-min=19.8km az=152.0*

ISC 11 10:35:43.2±0.7,**23°.6S**±0°.1×**179°.9W**±0°.1,**h532km**,**n40**, σ1§**25**/40,**mb4.5**/18,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.18	341	P	P	10 37 22.1	-0.8
	5.6nm,0.3s,baz=246,slow=23,SNR=28						
MSVF	Nonsavu	6.18	341	P	P	10 37 21.2	-1.6
NIUE	Niue	10.30	66	P	P	10 38 03.2	-0.8
URZ	Urewera	14.81	189	P	P	10 38 49.7	-1.1
BKZ	Black Stump Fm	15.80	190	P	P	10 38 58.7	-2.4
BKZ				IAmb	IAmb	10 39 00.2	
	comp=Z,31nm,1.4s						
QRZ	Quartz Range	18.30	199	P	P	10 39 24.8	+0.3
TUWZ	Tuamarina	18.50	195	P	P	10 39 24.4	-1.8
THZ	Tophouse	19.07	197	P	P	10 39 31.4	-0.1
LTZ	Lake Taylor	20.19	197	P	P	10 39 40.4	-1.3
LTZ				IAmb	IAmb	10 39 45.9	
	comp=Z,33nm,1.3s						
MLZ	Mavora Lakes	23.79	201	P	P	10 40 13.6	-0.4
ARMA	Armidale	26.24	249	P	P	10 40 36.4	+0.4
ARMA				IAmb	IAmb	10 40 50.4	
	comp=Z,18nm,1.4s						
EIDS	Eidsvold	26.48	260	P	P	10 40 37.4	-0.7
EIDS				IAmb	IAmb	10 40 49.7	
	comp=Z,30nm,1.4s						
CAN	Canberra	29.39	240	P	P	10 41 02.9	-0.5
CAN				IAmb	IAmb	10 41 05.7	
	comp=Z,19nm,1.3s						
CTAO	Charters Tower	31.61	270	P	P	10 41 23.1	+0.5
TOO	Toolangi	32.71	237	P	P	10 41 32.1	+0.4
TOO				IAmb	IAmb	10 41 56.5	
	comp=Z,12nm,1.4s						
TAU	Tasmania Unive	33.22	227	P	P	10 41 35.8	-0.1
PMG	Port Moresby	34.53	289	P	P	10 41 47.6	+0.2
	comp=Z,9.5nm,0.6s,baz=120,slow=20,SNR=2.0						
PMG	Port Moresby	34.53	289	IAmb	IAmb	10 42 02.3	
	comp=Z,28nm,1.2s						
STKA	Stephens Creek	34.95	248	P	P	10 41 51.2	+0.5
	comp=Z,2.2nm,0.5s,baz=86,slow=9.1,SNR=6.0						
STKA	Stephens Creek	34.95	248	IAmb	IAmb	10 41 51.7	
	comp=Z,0.7nm,0.7s						
AS31	Alice Springs	42.21	260	P	P	10 42 49.7	0.0
ASAR	Alice Springs	42.21	260	P	P	10 42 49.6	0.0
	comp=Z,9.1nm,0.8s,baz=96,slow=7.3,SNR=55						
ASAR				ScP	ScP	10 47 35.2	+3.7
	comp=Z,1.2nm,0.7s,baz=111,slow=4.4,SNR=11						
WR0	Warramunga Arr	42.37	266	P	P	10 42 50.5	-0.5
WR0				IAmb	IAmb	10 42 52.4	
	comp=Z,12nm,1.2s						
WB2	Warramunga Arr	42.55	266	P	P	10 42 51.9	-0.5
WB2				IAmb	IAmb	10 42 52.4	
	comp=Z,10nm,0.6s						
WB0	Warramunga Arr	42.55	266	P	P	10 42 51.9	-0.5
WB0				IAmb	IAmb	10 42 52.5	
	comp=Z,14nm,0.7s						
WRAB	Tennant Creek	42.55	266	P	P	10 42 51.9	-0.5
WRAB				IAmb	IAmb	10 42 52.4	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	42.56	266	P	P	10 42 51.9	-0.6
	comp=Z,11nm,0.5s,baz=92,slow=8.4,SNR=150						
WRA				ScP	ScP	10 47 37.0	+4.0
	comp=Z,0.7nm,0.8s,baz=102,slow=3.7,SNR=3.1						
FORT	Forrest	46.53	249	P	P	10 43 21.8	-1.1
KNRA	Kununurra	48.82	269	P	P	10 43 40.3	+0.1
KNRA				IAmb	IAmb	10 43 41.3	
	comp=Z,10nm,0.7s						
FITZ	Fitzroy Crossi	50.98	265	P	P	10 43 56.6	+0.5
	comp=Z,4.3nm,0.6s,baz=98,slow=7.8,SNR=17						
FITZ	Fitzroy Crossi	50.98	265	P	P	10 43 56.1	+0.1
SIJI	Sorong	52.47	288	P	P	10 44 06.5	-0.4
	comp=Z,15nm,0.6s,baz=109,slow=19,SNR=5.7						
PSA00	Pilbara Seismi	55.34	259	P	P	10 44 25.8	-1.3
MORW	Morawa	57.09	250	P	P	10 44 38.9	-0.1
GIRL	Giralia	60.11	257	P	P	10 44 59.1	-0.4
GIRL				IAmb	IAmb	10 45 24.7	
	comp=Z,74nm,1.4s						
QSPA	South Pole Qui	66.45	180	P	P	10 45 40.5	+1.0
CMAR	Chiang Mai Arr	89.56	290	P	P	10 47 45.8	+1.4
	comp=Z,0.5nm,0.3s,baz=144,slow=3.2,SNR=4.8						
TXAR	Lajitas Array	90.18	58	P	P	10 47 48.5	+1.4
	comp=Z,0.6nm,0.8s,baz=217,slow=7.5,SNR=8.0						
AKASG	Malin Array Be	144.81	328	PKP	PKPdf	10 54 18.3	-0.9
	comp=Z,0.7nm,0.5s,baz=42,slow=4.1,SNR=6.0						
BRTR	Keskin Array B	147.52	308	PKPbc	PKPab	10 54 31.2	-0.6
	comp=Z,0.9nm,0.6s,baz=91,slow=5.2,SNR=4.6						

IDC ***11*** *12:03:28.8±0.8, 7°.25S×154°.47E, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.3/40, mbtmp4.4/16, ML2.3/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/27, Error ellipse: s-maj=24.9km s-min=15.3km az=120.0*

NEIC ***11*** *12:03:34.9±1.7, 7°.30S±0°.08×154°.4E±0°.1, h35km±2km, mb4.7/46, Error ellipse: s-maj=18.0km s-min=14.3km az=94.0*

ISC 11 12:03:33.0±0.5,**7°.30S**±0°.07×**154°.48E**±0°.08,**h27km**,**n78**, σ0§**98**/77,**mb4.6**/37,**MS3.3**/3,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.85	323	Pn	Pn	12 04 31.1	+0.6
HNR	Honiara	5.81	112	LR	LR	12 06 29.7	
	comp=Z,26nm,19.8s,baz=340,slow=31						
PMG	Port Moresby	7.54	253	Pn	Pn	12 05 22.1	+0.9
	2.7nm,0.3s,baz=71,slow=6.6,SNR=11						
PMG				Sn	Sn	12 06 49.6	+3.8
	1.2nm,0.3s,baz=58,slow=18,SNR=4.6						
PMG				LR	LR	12 08 15.2	
	comp=Z,252nm,19.4s,baz=28,slow=38						
PMG	Port Moresby	7.54	253	Pn	Pn	12 05 19.5	-1.7
PMG	Port Moresby	7.54	253	P	Pn	12 05 26.3	+5.1
	83nm,0.8s						
CTAO	Charters Tower	15.01	211	Pn	Pn	12 07 03.0	-0.4
EIDS	Eidsvold	18.26	190	P	P	12 07 45.3	+0.7
DZM	Mont Dzumac	18.68	143	P	Pn	12 07 50.3	+0.5
	0.6nm,0.3s,baz=300,slow=16,SNR=2.4						
DZM	Mont Dzumac	18.68	143	P	Pn	12 07 51.2	+1.4
FAKI	Fak Fak	22.56	280	P	P	12 08 30.1	-1.2
FAKI				IAmb	IAmb	12 08 37.8	
	comp=Z,22nm,1.2s						
WRAB	Tennant Creek	23.21	235	P	P	12 08 37.4	-0.7
WRAB				IAmb	IAmb	12 08 39.4	
	comp=Z,16nm,0.8s						
WRA	Warramunga Arr	23.22	235	P	P	12 08 37.5	-0.7
	comp=Z,14nm,0.8s,baz=57,slow=9.4,SNR=83						
AS31	Alice Springs	25.59	228	P	P	12 08 59.0	-1.2
ASAR	Alice Springs	25.59	228	P	P	12 09 00.1	-0.1
	comp=Z,5.0nm,0.8s,baz=61,slow=8.8,SNR=36						
ASAR				LR	LR	12 18 11.0	
	comp=Z,86nm,20.0s,baz=76,slow=34						
ASAR	Alice Springs	25.59	228	P	P	12 08 57.8	-2.4
KNRA	Kununurra	26.51	249	P	P	12 09 08.5	0.0
KNRA				IAmb	IAmb	12 09 09.9	
	comp=Z,17nm,0.8s						
STKA	Stephens Creek	27.25	204	P	P	12 09 14.8	-0.1
	comp=Z,4.8nm,0.9s,baz=357,slow=13,SNR=3.8						
STKA				LR	LR	12 19 51.5	
	comp=Z,91nm,18.0s,baz=21,slow=36						
STKA	Stephens Creek	27.25	204	P	P	12 09 15.3	+0.3
FITZ	Fitzroy Crossi	30.06	246	P	P	12 09 39.2	-0.9
	comp=Z,4.8nm,0.8s,baz=89,slow=6.2,SNR=11						
FITZ				LR	LR	12 21 38.0	
	comp=Z,76nm,19.8s,baz=31,slow=36						
FITZ	Fitzroy Crossi	30.06	246	P	P	12 09 39.7	-0.5
BBOO	Buckleboo	30.61	211	P	P	12 09 43.4	-1.5
BBOO				IAmb	IAmb	12 09 54.2	
	comp=Z,13nm,1.4s						
FORT	Forrest	34.02	223	P	P	12 10 14.6	-0.2
GIRL	Giralia	41.59	244	P	P	12 11 18.1	-0.9
GIRL				IAmb	IAmb	12 11 38.2	
	comp=Z,32nm,1.1s						
MORW	Morawa	42.16	234	P	P	12 11 23.6	+0.1
MJB9	Matsu-Tunnel	46.21	342	P	P	12 11 55.6	-0.1
KSRS	Korea Array	50.97	333	P	P	12 12 31.6	-0.7
	comp=Z,3.5nm,0.8s,baz=149,slow=8.2,SNR=14						
JKA	Kamikawa-asahi	52.29	349	P	P	12 12 42.5	+0.4
ASAJ	Asahikawa	52.29	349	P	P	12 12 42.5	+0.4
	comp=Z,3.7nm,0.8s,baz=178,slow=2.9,SNR=4.2						
KLR	Kul'dur	59.70	343	P	P	12 13 34.1	-1.0
	comp=Z,2.8nm,0.8s,baz=136,slow=8.6,SNR=9.8						
PETK	Petropavlovsk-	60.23	2	P	P	12 13 38.0	-0.7
	comp=Z,2.8nm,0.9s,baz=185,slow=8.7,SNR=3.2						
PETK	Petropavlovsk-	60.23	2	P	P	12 13 38.5	-0.2
CMAR	Chiang Mai Arr	60.45	296	P	P	12 13 41.7	+0.9
	comp=Z,0.6nm,0.4s,baz=117,slow=4.7,SNR=5.7						
ADK	Adak	63.92	19	P	P	12 14 03.2	-0.2
SONM	Songino Array	69.31	328	P	P	12 14 38.7	+0.6
	comp=Z,4.3nm,0.9s,baz=132,slow=6.3,SNR=13						
SONM	Songino Array	69.31	328	P	P	12 14 38.5	+0.3
SONM				IAmb	IAmb	12 14 39.7	
	comp=Z,6.3nm,1.1s						
CNPM	China Poot	79.25	25	P	P	12 15 35.9	+0.2
TTA	Tatalina	79.49	21	P	P	12 15 37.9	+1.0
SEW	Seward	80.32	25	P	P	12 15 41.5	+0.2
RC01	Rabbit Creek A	80.75	24	P	P	12 15 43.5	-0.2
PWL	Port Wells	81.20	25	P	P	12 15 46.1	0.0
IMAR	Indian Mountai	82.18	19	P	P	12 15 50.5	-0.6
RND	Reindeer	82.38	22	P	P	12 15 52.0	-0.4
RND				IAmb	IAmb	12 15 52.0	
	comp=Z,4.4nm,0.7s						
MCK	McKinley	82.53	22	P	P	12 15 52.2	-0.9
MCK				IAmb	IAmb	12 15 52.7	
	comp=Z,6.0nm,0.8s						
MLY	Manley	82.61	20	P	P	12 15 53.2	-0.3
I23K	Minto, Yukon-K	83.16	21	P	P	12 15 55.7	-0.5
MK31	Makanchi Array	83.29	319	P	P	12 15 57.3	-0.1
MKAR	Makanchi Array	83.29	319	P	P	12 15 57.7	+0.3
	comp=Z,1.8nm,0.7s,baz=94,slow=6.0,SNR=14						
MKAR	Makanchi Array	83.29	319	P	P	12 15 57.4	0.0
GLB	Gilahina Butte	83.38	25	P	P	12 15 57.8	+0.2
GLB				IAmb	IAmb	12 15 58.5	
	comp=Z,11nm,1.1s						
VRDI	Verde Repeater	83.43	25	P	P	12 15 58.5	+0.5
VRDI				IAmb	IAmb	12 15 58.9	
	comp=Z,13nm,1.2s						
IL31		83.84	22	P	P	12 15 58.2	-1.5
ILAR	Eielson Array	83.84	22	P	P	12 15 58.2	-1.6
	comp=Z,1.9nm,0.8s,baz=253,slow=5.5,SNR=22						
ILAR	Eielson Array	83.84	22	P	P	12 15 58.6	-1.2
ZAA0	Zalesovo Array	84.14	326	P	P	12 15 59.9	-1.6
ZAA0				IAmb	IAmb	12 16 01.3	
	comp=Z,5.0nm,0.7s						
ZALV	Zalesovo Beam	84.14	326	P	P	12 16 00.7	-0.9
	comp=Z,7nm,0.5s,baz=123,slow=5.2,SNR=17						
BCAR	Beaver Creek A	84.98	24	P	P	12 16 06.3	+0.7
K27K	Chicken	85.30	23	P	P	12 16 08.1	+0.9
K27K				IAmb	IAmb	12 16 09.3	
	comp=Z,3.2nm,0.8s						
HYT	Haines Junctio	85.88	27	P	P	12 16 11.4	+1.1
EGAK	Eagle	85.99	23	P	P	12 16 10.9	+0.3
EGAK				IAmb	IAmb	12 16 11.2	
	comp=Z,4.6nm,0.9s						
BMAR	Burnt Mountain	86.01	20	P	P	12 16 11.5	+0.8
WHY	Whitehorse	87.01	28	P	P	12 16 16.6	+0.7
WHY				IAmb	IAmb	12 16 16.7	
	comp=Z,12nm,1.4s						
EPYK	Eagle Plains	88.33	22	P	P	12 16 22.4	+0.4
DLBC	Dease Lake	88.66	31	P	P	12 16 24.9	+1.2
DLBC				IAmb	IAmb	12 16 26.1	
	comp=Z,8.2nm,1.2s						
NVAR	Mina Array Bea	92.31	52	P	P	12 16 42.7	+1.3
	comp=Z,2.7nm,0.9s,baz=256,slow=6.6,SNR=17						
NVAR	Mina Array Bea	92.31	52	P	P	12 16 41.5	+0.1
NV11	Mina Array Sit	92.43	52	P	P	12 16 42.6	+0.7
NV11				IAmb	IAmb	12 16 43.8	
	comp=Z,5.5nm,1.1s						
KVN	Kaiserville	92.55	51	P	P	12 16 43.6	+1.2
KVN				IAmb	IAmb	12 16 44.3	
	comp=Z,5.2nm,1.1s						
TPH	Tonopah	93.11	52	P	P	12 16 46.5	+1.3
TPNV	Topopah Spring	93.75	53	P	P	12 16 49.0	+1.0
TPNV				IAmb	IAmb	12 16 50.0	
	comp=Z,3.1nm,0.8s						
R11A	Troy Canyon, C	94.42	52	P	P	12 16 51.7	+0.6
R11A				IAmb	IAmb	12 16 53.0	
	comp=Z,2.0nm,1.1s						
SHPR	Sheep Range	94.58	54	P	P	12 16 53.9	+2.1
SHPR				IAmb	IAmb	12 16 54.1	
	comp=Z,2.3nm,0.8s						
PRN	Pahroc Range	94.75	53	P	P	12 16 53.9	+1.3
PRN				IAmb	IAmb	12 16 55.6	
	comp=Z,3.9nm,1.2s						
SPR3	Spring Creek 3	95.46	52	P	P	12 16 56.7	+0.7
SPR3				IAmb	IAmb	12 16 58.0	
	comp=Z,3.3nm,1.0s						
W13A	Hualapai Mount	95.48	55	P	P	12 16 56.0	0.0
W13A				IAmb	IAmb	12 16 58.2	
	comp=Z,2.6nm,1.3s						
MTPU	Mount Pierson	97.07	53	P	Pdif	12 17 04.6	+1.1
MTPU				IAmb	IAmb	12 17 17.1	
	comp=Z,1.5nm,0.9s						
GERES	GERESS Array B	127.04	328	PKP	PKiKP	12 22 35.4	0.0
	comp=Z,0.6nm,0.6s,baz=141,slow=2.8,SNR=5.0						
MDT	Midelt	148.03	325	PKPbc	PKiKP	12 23 18.1	-0.6
	comp=Z,2.0nm,0.7s,baz=73,slow=1.9,SNR=6.8						
TORD	Torodi Ar. Bea	152.60	284	PKPbc	PKPbc	12 23 27.7	-0.4
	comp=Z,1.2nm,0.7s,baz=58,slow=2.2,SNR=5.7						
TORD				PKPab	sPKPbc	12 23 37.7	-0.3
	comp=Z,1.5nm,0.8s,baz=62,slow=1.9,SNR=5.6						

IDC 11 12:09:15.1±3.4,**3°.24N**×**124°.90E**,**h0km**,**mb3.4**/2, **mb1 3.7**/2,**mb1mx3.2**/49,**mbtmp3.4**/2,**Error ellipse: s-maj=197.5km s-min=47.4km az=82.0**,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.83	158	P	P	12 14 38.6	-0.7
	0.4nm,0.3s,baz=337,slow=11,SNR=16						
ASAR	Alice Springs	28.14	162	P	P	12 15 10.0	+0.9
	0.5nm,1.0s,baz=343,slow=8.2,SNR=4.1						
TXAR	Lajitas Array	123.34	52	PKP	PKPdf	12 28 14.8	-0.2
	0.2nm,0.6s,baz=309,slow=3.1,SNR=3.8						

NEIC ***11*** *12:17:54.8±2.6,30°.18S±0°.06×177°.4W±0°.1, h10km±1km, mb4.6/19, Error ellipse: s-maj=19.7km s-min=9.1km az=79.0*

IDC ***11*** *12:18:00.1±2.0,30°.17S×177°.74W, h47km±18km, mb4.1/6, mb1 4.2/6, mb1mx3.8/29, mbtmp4.3/6, MS3.4/5, Ms1 3.4/5, ms1mx3.1/27, Error ellipse: s-maj=27.3km s-min=20.3km az=93.0*

ISC 11 12:17:58.4±0.8,**30°.21S**±0°.07×**177°.5W**±0°.1,**h35km**,**n67**, σ1§**11**/44,**mb4.5**/15,**MS3.4**/4,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.02	340	P	Pn	12 18 16.7	+0.6
	579nm,0.3s,baz=91,slow=2.6,SNR=22						
RAO				S	Sn	12 18 29.7	+0.6
	2µm,0.3s,baz=77,slow=22,SNR=12						
RAO				LR	LR	12 18 33.8	
	comp=Z,186nm,20.0s,baz=202,slow=36						
RAO	Raoul Island	1.02	340	Pn	Pn	12 18 16.6	+0.5
OUZ	Omahuta	9.00	234	Pn	Pn	12 20 08.1	+2.3
URZ	Urewera	9.18	208	Pn	Pn	12 20 06.6	-1.6
BKZ	Black Stump Fm	10.20	207	Pn	Pn	12 20 23.5	+1.2
BFZ	Birch Farm	11.62	204	Pn	Pn	12 20 40.2	-1.4
MSVF	Nonsavu	13.06	341	LR	LR	12 25 19.1	
	comp=Z,167nm,19.6s,baz=186,slow=34						
NNZ	Nelson	13.23	211	Pn	Pn	12 21 05.1	+1.5
THZ	Tophouse	13.88	211	Pn	Pn	12 21 13.9	+1.3
KHZ	Kahutara	14.14	208	Pn	Pn	12 21 15.4	-0.7
DZM	Mont Dzumac	16.51	296	eLR	LR	12 25 23.0	
	comp=Z,196nm,24.5s						
DZM	Mont Dzumac	16.51	296	LR	LR	12 26 08.5	
	comp=Z,125nm,20.1s,baz=208,slow=30						
ODZ	Otahuti Downs	17.50	209	Pn	Pn	12 21 57.9	-1.6
TBI	Tubuai	25.92	81	eT	T	12 50 55.2	
	11nm,0.3s						
EIDS	Eidsvold	28.14	272	P	P	12 23 48.0	+0.6
PAE	Paea	28.34	70	eT	T	12 53 27.7	
	3.2nm,0.3s						
PPT2	Papeete2	28.38	70	eLR	LR	12 31 08.3	
	comp=Z,133nm,26.2s						
PPT2	Papeete2	28.38	70	eT	T	12 53 33.0	
	3.5nm,0.3s						
CAN	Canberra	28.53	251	P	P	12 23 50.6	-0.2
CAN				IAmb	IAmb	12 23 52.2	
	comp=Z,7.9nm,0.9s						
HNR	Honiara	29.50	310	P	P	12 23 58.5	-0.8
	comp=Z,36nm,0.3s,baz=162,slow=16,SNR=7.5						
HNR	Honiara	29.50	310	IAmb	IAmb	12 24 06.6	
	comp=Z,126nm,1.1s						
VAH	Vaihoa	31.22	68	eT	T	12 57 00.0	
	comp=Z,18nm,0.3s						
TOO	Toolangi	31.42	246	P	P	12 24 16.8	+0.5
TOO				IAmb	IAmb	12 24 31.7	
	comp=Z,16nm,1.5s						
CTAO	Charters Tower	34.18	279	P	P	12 24 41.5	+1.0
STKA	Stephens Creek	34.93	257	P	P	12 24 47.0	+0.1
	comp=Z,4.6nm,0.6s,baz=104,slow=12,SNR=11						
STKA				LR	LR	12 36 54.9	
	comp=Z,69nm,18.4s,baz=43,slow=33						
STKA	Stephens Creek	34.93	257	P	P	12 24 47.3	+0.4
STKA				IAmb	IAmb	12 24 48.8	
	comp=Z,1.6nm,0.9s						
BBOO	Buckleboo	39.42	254	P	P	12 25 23.8	-1.3
BBOO				IAmb	IAmb	12 25 26.8	
	comp=Z,26nm,1.2s						
AS31	Alice Springs	43.54	267	P	P	12 25 57.5	-1.4
ASAR	Alice Springs	43.54	267	P	P	12 25 57.5	-1.4
	comp=Z,1.7nm,0.7s,baz=102,slow=7.7,SNR=29						
WR0

mb1 4.2/19,mb1mx4.1/40,mbtmp4.1/19,Error ellipse: s-maj=22.2km s-min=15.3km az=93.0

*NEIC **11** 12:27:37.8±1.6, 13°.00N±0°.09×146°.4E±0°.1,h19km±5km, mb4.6/28,Error ellipse: s-maj=18.9km s-min=11.7km az=71.0*

ISC 11 12:27:38.8±0.5,**12°.97N**±0°.08×**146°.3E**±0°.1,**h31**km,**n55,** σ1§**05**/48,**mb4.5**/30,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**3.40**	**350**		**Pn**	**12 28 30.4**	**+0.7**
PATS	**Pohnpei**	**13.30**	**116**	Pn	**Pn**	**12 30 43.8**	**-1.8**
SIJI	**Sorong**	**20.30**	**228**	P	**P**	**12 32 12.9**	**+0.6**
	2.7nm,0.5s,baz=46,slow=14,SNR=3.3						
JOW	**Kunigami**	**21.82**	**312**	P	**P**	**12 32 27.0**	**-1.6**
	18nm,0.7s,baz=342,slow=23,SNR=2.0						
JOW	**Kunigami**	**21.82**	**312**	IAmb	IAmb	12 32 43.6	
	comp=Z,43nm,1.2s						
JWT	**Wachi**	**24.30**	**338**	P	**P**	**12 32 54.4**	**+0.8**
MJAR	**Matsushiro Arr**	**24.57**	**344**	P	**P**	**12 32 55.6**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=168,slow=9.0,SNR=4.7						
JHS	**Saijyo**	**24.97**	**334**	P	**P**	**12 32 56.7**	**-3.0**
JHS				IAmb	IAmb	12 33 02.3	
	comp=Z,13nm,0.8s						
KSRS	**Korea Array**	**29.40**	**329**	P	**P**	**12 33 37.7**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=145,slow=9.3,SNR=7.5						
USRK	**Ussuriysk Ar.**	**33.45**	**341**	P	**P**	**12 34 13.6**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=157,slow=10.0,SNR=4.2						
WB0	**Warramunga Arr**	**34.59**	**200**	P	**P**	**12 34 24.5**	**-0.6**
WB0				IAmb	IAmb	12 34 29.8	
	comp=Z,9.2nm,1.2s						
WR0	**Warramunga Arr**	**34.72**	**200**	P	**P**	**12 34 25.6**	**-0.6**
WR0				IAmb	IAmb	12 34 53.8	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**34.76**	**200**	P	**P**	**12 34 27.1**	**+0.6**
WRAB				IAmb	IAmb	12 34 44.1	
	comp=Z,7.5nm,1.1s						
WB2	**Warramunga Arr**	**34.76**	**200**	P	**P**	**12 34 27.5**	**+0.9**
WB2				IAmb	IAmb	12 34 42.5	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**34.77**	**200**	P	**P**	**12 34 26.1**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=20,slow=9.1,SNR=10						
FITZ	**Fitzroy Crossi**	**37.00**	**214**	P	**P**	**12 34 47.3**	**+1.5**
ASAR	**Alice Springs**	**38.38**	**198**	P	**P**	**12 34 57.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=15,slow=8.9,SNR=5.2						
DZM	**Mont Dzumac**	**40.04**	**150**	P	**P**	**12 35 11.5**	**+0.1**
	comp=Z,13nm,0.9s,baz=351,slow=13,SNR=3.1						
DZM	**Mont Dzumac**	**40.04**	**150**	IAmb	IAmb	12 35 14.9	
	comp=Z,26nm,1.1s						
PETK	**Petropavlovsk-**	**41.05**	**10**	P	**P**	**12 35 18.7**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=194,slow=5.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**45.85**	**285**	P	**P**	**12 35 58.3**	**0.0**
	comp=Z,2.2nm,0.8s,baz=84,slow=5.9,SNR=12						
BBOO	**Buckleboo**	**46.57**	**192**	P	**P**	**12 36 04.0**	**+0.1**
BBOO				IAmb	IAmb	12 36 32.4	
	comp=Z,14nm,1.3s						
SONM	**Songino Array**	**48.04**	**324**	P	**P**	**12 36 15.7**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=130,slow=8.1,SNR=5.8						
SONM	**Songino Array**	**48.04**	**324**	IAmb	IAmb	12 36 18.9	
	comp=Z,1.5nm,0.8s						
BILL	**Bilibino**	**56.54**	**9**	P	**P**	**12 37 18.3**	**+0.3**
BILL				IAmb	IAmb	12 37 34.5	
	comp=Z,4.9nm,0.8s						
MK31	**Makanchi Array**	**62.91**	**316**	P	**P**	**12 38 02.8**	**+0.6**
MKAR	**Makanchi Array**	**62.91**	**316**	P	**P**	**12 38 02.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=94,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**62.91**	**316**	P	**P**	**12 38 01.6**	**-0.6**
ZALV	**Zalesovo Beam**	**62.94**	**324**	P	**P**	**12 38 01.3**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=92,slow=9.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**62.94**	**324**	P	**P**	**12 38 01.5**	**-0.7**
MAKZ	**Makanchi**	**63.12**	**316**	P	**P**	**12 38 03.4**	**-0.2**
MAKZ				IAmb	IAmb	12 38 05.4	
	comp=Z,4.3nm,0.7s						
KDAK	**Kodiak Island**	**63.85**	**31**	P	**P**	**12 38 08.7**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=210,slow=8.1,SNR=2.2						
PRZ	**Przheval'sk**	**65.08**	**311**	P	**P**	**12 38 18.0**	**+1.2**
KDJ	**Kajisay**	**65.96**	**310**	P	**P**	**12 38 22.4**	**-0.1**
KDJ				IAmb	IAmb	12 38 39.0	
	comp=Z,4.5nm,0.8s						
IMAR	**Indian Mountai**	**66.21**	**23**	P	**P**	**12 38 22.0**	**-1.4**
TRF	**Thorofare Moun**	**66.71**	**26**	P	**P**	**12 38 27.5**	**+0.7**
TRF				IAmb	IAmb	12 38 44.2	
	comp=Z,6.4nm,1.4s						
PWL	**Port Wells**	**66.83**	**29**	P	**P**	**12 38 28.7**	**+1.2**
BOOM	**Boomskoye usch**	**66.90**	**311**	P	**P**	**12 38 28.8**	**+0.3**
BOOM				IAmb	IAmb	12 38 30.0	
	comp=Z,3.7nm,0.6s						
MLY	**Manley**	**67.04**	**24**	P	**P**	**12 38 28.4**	**-0.4**
NRIK	**Noril'sk**	**67.17**	**341**	P	**P**	**12 38 29.5**	**0.0**
	comp=Z,1.3nm,0.3s,baz=117,slow=7.5,SNR=1.5						
NRIK	**Noril'sk**	**67.17**	**341**	IAmb	IAmb	12 38 33.4	
	comp=Z,3.8nm,0.9s						
IL31		**68.52**	**25**	P	**P**	**12 38 38.4**	**+0.4**
IL31				IAmb	IAmb	12 38 52.3	
	comp=Z,5.9nm,1.5s						
ILAR	**Eielson Array**	**68.52**	**25**	P	**P**	**12 38 38.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=250,slow=5.9,SNR=14						
BMAR	**Burnt Mountain**	**70.12**	**23**	P	**P**	**12 38 50.0**	**+2.0**
BCAR	**Beaver Creek A**	**70.34**	**27**	P	**P**	**12 38 51.1**	**+1.8**
KKAR	**Karatay Array**	**70.91**	**311**	P	**P**	**12 38 53.7**	**+0.5**
CHGR	**Chuyangaron**	**72.03**	**307**	P	**P**	**12 39 00.4**	**+0.2**
INK	**Inuvik**	**74.39**	**22**	P	**P**	**12 39 13.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=258,slow=10,SNR=3.1						
ABKAR	**Akbulak array**	**77.94**	**318**	P	**P**	**12 39 34.7**	**+0.8**
NVAR	**Mina Array Bea**	**86.20**	**52**	P	**P**	**12 40 20.3**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=267,slow=5.4,SNR=1.7						
FINES	**FINESS Array B**	**92.31**	**335**	P	**P**	**12 40 46.0**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=90,slow=5.6,SNR=4.2						
DBIC	**Dimbokro**	**145.34**	**303**	PKPbc	**PKPbc**	**12 47 14.4**	**0.0**
	comp=Z,5.5nm,0.9s,baz=17,slow=5.9,SNR=3.6						
KIC	**Kosan Boka**	**145.41**	**302**	*e*PKP1	PKiKP	12 47 29.6	+11
	comp=Z,16nm,0.9s						
TIC	**Toumodi**	**145.49**	**303**	*e*PKP1	PKiKP	12 47 29.6	+11
LIC	**Lamto**	**145.73**	**302**	*e*PKP1	PKiKP	12 47 30.3	+11
	comp=Z,45nm,1.3s						

IDC 11 12:31:00.2±3.2,**30°.27S**×**177°.68W,h0**km,**mb3.6**/2, **mb1 3.9**/2,**mb1mx3.5**/28,**mbtmp3.6**/2,**Error ellipse: s-maj=66.8km s-min=24.9km az=103.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**348**	Pn	Pn	12 31 23.6	+1.6
	68nm,0.3s,baz=79,slow=23,SNR=2.6						
RAO				Sn	Sb	12 31 36.2	+1.0
	456nm,0.3s,baz=89,slow=20,SNR=12						
ASAR	**Alice Springs**	**43.40**	**267**	P	P	12 39 04.5	-0.3
	0.2nm,0.4s,baz=104,slow=7.6,SNR=5.8						
WRA	**Warramunga Arr**	**44.37**	**272**	P	P	12 39 12.6	-0.1
	0.6nm,0.3s,baz=110,slow=8.0,SNR=34						
FINES	**FINESS Array B**	**145.12**	**340**	PKPbc	PKPbc	12 50 37.0	-1.4
	1.7nm,0.7s,baz=29,slow=4.8,SNR=5.7						

*IDC **11** 12:35:44.1±0.6, 11°.71N×143°.18E,h0km,mb4.3/17, mb1 4.5/17,mb1mx4.3/36,mbtmp4.3/17,MS3.6/17, Ms1 3.6/17,ms1mx3.4/41,Error ellipse: s-maj=24.7km s-min=13.9km az=79.0*

*BJI **11** 12:35:44.2±0.0, 11°.51N×143°.08E,h26km,mB4.9/18, mb4.5/17*

*NEIC **11** 12:35:45.6±2.3, 11°.61N±0°.09×142°.8E±0°.1,h11km±2km, mb4.9/103,Error ellipse: s-maj=17.3km s-min=13.2km az=87.0*

ISC 11 12:35:45.5±0.5,**11°.68N**±0°.07×**142°.9E**±0°.1,**h10**km,**n132,** σ1§**09**/107,**mb4.8**/69,**MS3.5**/16,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**16.97**	**223**	LR	LR	12 45 55.0	
	comp=Z,272nm,18.4s,baz=212,slow=36						
JOW	**Kunigami**	**20.38**	**320**	LR	LR	12 48 03.7	
	comp=Z,88nm,19.3s,baz=266,slow=36						
PMG	**Port Moresby**	**21.38**	**168**	P	**P**	**12 40 33.5**	**+0.2**
	33nm,1.1s,baz=0.1,slow=8.9,SNR=4.2						
PMG				LR	LR	12 48 35.3	
	comp=Z,202nm,18.7s,baz=30,slow=36						
PMG	**Port Moresby**	**21.38**	**168**	IAmb	IAmb	12 40 36.9	
	comp=Z,52nm,1.1s						
JHJ	**Hachijo jima 2**	**21.52**	**353**	LR	LR	12 48 14.4	
	comp=Z,174nm,20.5s,baz=80,slow=35						
JNU	**Nakatsue**	**24.00**	**335**	P	**P**	**12 41 02.0**	**+1.5**
	comp=Z,4.0nm,0.6s,baz=176,slow=13,SNR=1.3						
JNU				LR	LR	12 49 02.3	
	comp=Z,118nm,20.9s,baz=216,slow=33						
MJAR	**Matsushiro Arr**	**25.11**	**351**	P	**P**	**12 41 09.8**	**-0.7**
	comp=Z,9.6nm,1.3s,baz=173,slow=10,SNR=6.8						
MJAR				LR	LR	12 50 02.5	
	comp=Z,93nm,19.2s,baz=170,slow=34						
MJAR	**Matsushiro Arr**	**25.11**	**351**	IAmb	IAmb	12 41 15.1	
	baz=2.2nm,1.0s						
MAT	**Matsushiro**	**25.11**	**351**	P	**P**	**12 41 09.4**	**-1.1**
MAT				*e*S	**S**	**12 45 34.4**	**-0.8**
HNR	**Honiara**	**26.99**	**140**	LR	LR	12 50 57.9	
	comp=Z,44nm,18.5s,baz=19,slow=34						
KSRS	**Korea Array**	**28.95**	**335**	P	**P**	**12 41 48.1**	**+3.0**
	comp=Z,1.2nm,0.9s,baz=141,slow=8.3,SNR=3.0						
NJ2	**Nanjing**	**29.99**	**316**	*e*P	**P**	**12 41 53.7**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WB0	**Warramunga Arr**	**32.34**	**195**	P	**P**	**12 42 15.6**	**+0.5**
WB0				IAmb	IAmb	12 42 23.7	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**32.49**	**195**	P	**P**	**12 42 16.5**	**+0.1**
WRAB	**Tennant Creek**	**32.51**	**195**	P	**P**	**12 42 17.8**	**+1.1**
WB2	**Warramunga Arr**	**32.52**	**195**	P	**P**	**12 42 17.3**	**+0.6**
WRA	**Warramunga Arr**	**32.52**	**195**	P	**P**	**12 42 17.4**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=19,slow=9.6,SNR=26						
WRA				LR	LR	12 56 12.3	
	comp=Z,205nm,18.0s,baz=10.0,slow=38						
USRK	**Ussuriysk Ar.**	**33.73**	**346**	P	**P**	**12 42 28.0**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=177,slow=8.7,SNR=4.3						
JAGI	**Jajag, Banyuwa**	**34.87**	**236**	P	**P**	**12 42 35.3**	**-1.9**
AS31	**Alice Springs**	**36.20**	**194**	P	**P**	**12 42 47.8**	**-0.8**
ASAR	**Alice Springs**	**36.21**	**194**	P	**P**	**12 42 49.5**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=20,slow=12,SNR=21						
ASAR				LR	LR	12 58 27.3	
	comp=Z,208nm,18.6s,baz=346,slow=38						
ASAR	**Alice Springs**	**36.21**	**194**	P	**P**	**12 42 48.5**	**-0.1**
BJT	**Baijiatuan**	**36.78**	**325**	P	**P**	**12 42 51.4**	**-2.0**
HHC	**Hu-ho-hao-te**	**40.00**	**322**	*e*P	**P**	**12 43 20.5**	**-0.1**
HHC				pmax	pmax		
	comp=Z,21nm,0.9s						
HHC				pmax	pmax		
	comp=Z,93nm,4.6s						
DZM	**Mont Dzumac**	**40.75**	**145**	P	**P**	**12 43 26.6**	**-0.4**
	comp=Z,18nm,0.9s,baz=336,slow=8.0,SNR=5.7						
DZM	**Mont Dzumac**	**40.75**	**145**	P	**P**	**12 43 26.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.85**	**285**	P	**P**	**12 43 47.9**	**+3.6**
	comp=Z,2.8nm,0.7s,baz=85,slow=6.0,SNR=13						
CMAR				LR	LR	13 03 45.9	
	comp=Z,62nm,18.0s,baz=198,slow=39						
CMAR	**Chiang Mai Arr**	**42.85**	**285**	P	**P**	**12 43 41.2**	**-3.0**
PEA0B	**Petropavlovsk-**	**43.00**	**13**	P	**P**	**12 43 46.2**	**+1.3**
PEA0B				IAmb	IAmb	12 43 53.8	
	comp=Z,24nm,1.3s						
PETK	**Petropavlovsk-**	**43.00**	**13**	LR	LR	12 59 11.6	
	comp=Z,99nm,21.5s,baz=209,slow=33						
BBOO	**Buckleboo**	**44.71**	**188**	P	**P**	**12 43 59.3**	**+0.4**
SONM	**Songino Array**	**47.20**	**327**	P	**P**	**12 44 20.3**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=139,slow=7.7,SNR=2.1						
NWAO	**Narrogin (SRO)**	**50.66**	**208**	LR	LR	13 08 04.3	
	comp=Z,64nm,18.2s,baz=332,slow=38						
WMQ	**Urumqi**	**57.06**	**315**	*e*P	**P**	**12 45 33.3**	**+1.3**
FALS	**False Pass**	**60.05**	**33**	P		12 45 52.4	
	baz=246						
TIXI	**Tiksi**	**60.54**	**355**	P	**P**	**12 45 54.6**	**-0.9**
MK31	**Makanchi Array**	**61.52**	**317**	P	**P**	**12 46 03.4**	**+0.7**
MKAR	**Makanchi Array**	**61.52**	**317**	P	**P**	**12 46 03.6**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=90,slow=7.3,SNR=8.2						
MKAR	**Makanchi Array**	**61.52**	**317**	P	**P**	**12 46 04.4**	**+1.6**
ZAA0	**Zalesovo Array**	**62.05**	**325**	P	**P**	**12 46 06.4**	**+0.3**
ZALV	**Zalesovo Beam**	**62.05**	**325**	P	**P**	**12 46 06.6**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=112,slow=6.4,SNR=4.1						
ZALV				LR	LR	13 14 04.5	
	comp=Z,38nm,19.4s,baz=149,slow=37						
ZALV	**Zalesovo Beam**	**62.05**	**325**	P	**P**	**12 46 05.5**	**-0.6**
HYB	**Hyderabad**	**62.27**	**284**	*i* P	**P**	**12 46 10.0**	**+1.7**
ANM	**Nome**	**63.69**	**22**	P		12 46 16.5	
	baz=239						
SVW2	**Sparrevohn**	**66.27**	**28**	P	**P**	**12 46 33.7**	**0.0**
SVW2				IAmb	IAmb	12 46 34.9	
	comp=Z,8.6nm,1.1s						
RDOG	**Red Dog Mine**	**66.32**	**19**	P	**P**	**12 46 35.7**	**+1.8**
RDOG				IAmb	IAmb	12 46 39.5	
	comp=Z,7.9nm,0.9s						
NIL	**Nilore**	**66.69**	**302**	P	**P**	**12 46 34.6**	**-2.4**
TTA	**Tatalina**	**66.72**	**26**	P		12 46 35.6	
	baz=249						
ARSB	**Arslanbob**	**67.28**	**310**	P	**P**	**12 46 41.2**	**+0.4**
ARSB				IAmb	IAmb	12 46 49.5	
	comp=Z,9.9nm,1.4s						
NRIK	**Noril'sk**	**67.30**	**342**	P	**P**	**12 46 40.0**	**-0.1**
NRIK				IAmb	IAmb	12 46 45.9	
	comp=Z,11nm,1.4s						
BRSE	**Bradley Lake S**	**68.16**	**30**	P		12 46 45.3	
	baz=255						
PPLA	**Purkeypile**	**68.36**	**27**	P		12 46 46.5	
	baz=253						
SKT	**Skwentna**	**68.39**	**28**	P	**P**	**12 46 46.8**	**-0.4**
SKT				IAmb	IAmb	12 46 47.5	
	comp=Z,10nm,1.0s						
SKT	**Skwentna**	**68.39**	**28**	P		12 46 46.7	
	baz=254						
SUA	**Susitna One**	**68.60**	**28**	P		12 46 48.4	
	baz=255						
CHUM	**Lake Minchumin**	**68.61**	**25**	P		12 46 48.2	
	baz=252						
IMAR	**Indian Mountai**	**68.71**	**23**	P	**P**	**12 46 49.4**	**+0.3**
O22K	**Cooper Landing**	**68.83**	**29**	P	**P**	**12 46 49.3**	**-0.6**
O22K	**Cooper Landing**	**68.84**	**29**	P		12 46 50.0	
	baz=256						
SEW	**Seward**	**68.88**	**30**	P	**P**	**12 46 48.6**	**-1.6**
SEW	**Seward**	**68.88**	**30**	P		12 46 50.0	
	baz=256						
H21K	**Melozitna Rive**	**68.97**	**24**	P		12 46 49.7	
	baz=251,SNR=8.8						
M22K	**Willow**	**68.97**	**28**	P		12 46 50.1	
	baz=255						
RC01	**Rabbit Creek A**	**68.98**	**29**	P	**P**	**12 46 49.7**	**-1.2**
RC01	**Rabbit Creek A**	**68.98**	**29**	P		12 46 49.0	
	baz=256						
KTH	**Kantishna Hill**	**69.10**	**26**	P	**P**	**12 46 51.3**	**-0.4**
BPAW	**Bear Paw Mtn.**	**69.23**	**25**	P	**P**	**12 46 52.4**	**+0.1**
BPAW	**Bear Paw Mtn.**	**69.23**	**25**	P		12 46 51.0	
	baz=253,SNR=11						
TRF	**Thorofare Moun**	**69.34**	**26**	P	**P**	**12 46 52.6**	**-0.7**
TRF				IAmb	IAmb	12 46 57.0	
	comp=Z,8.7nm,0.9s						
TRF	**Thorofare Moun**	**69.34**	**26**	P		12 46 52.1	
	baz=254						
PMR	**Palmer**	**69.39**	**28**	P	**P**	**12 46 52.7**	**-0.6**
PMR				IAmb	IAmb	12 46 53.2	
	comp=Z,9.6nm,0.8s						
PMR	**Palmer**	**69.39**	**28**	P		12 46 51.9	
	baz=256,SNR=6.0						
GHO	**Glory Hole Cre**	**69.53**	**28**	P	**P**	**12 46 53.4**	**-0.9**
PWL	**Port Wells**	**69.59**	**29**	P	**P**	**12 46 54.1**	**-0.6**
MLY	**Manley**	**69.60**	**25**	P	**P**	**12 46 54.3**	**-0.3**
MLY				IAmb	IAmb	12 46 56.2	
	comp=Z,12nm,1.0s						
MLY	**Manley**	**69.60**	**25**	P		12 46 53.9	
	baz=253,SNR=17						
KNK	**Knik Glacier**	**69.66**	**29**	P		12 46 54.5	
	baz=257						
A21K	**Barrow**	**69.77**	**17**	P		12 46 54.8	
	baz=245						
SML	**Sawmill**	**69.81**	**28**	P	**P**	**12 46 55.8**	**-0.2**
SML	**Sawmill**	**69.81**	**28**	P		12 46 54.5	
	baz=257						
RND	**Reindeer**	**69.96**	**26**	P	**P**	**12 46 57.1**	**+0.2**
RND				IAmb	IAmb	12 47 01.1	
	comp=Z,7.3nm,0.9s						
WAT2	**Susitna Watana**	**69.97**	**27**	P		12 46 55.1	
	baz=256,SNR=6.0						
MCK	**McKinley**	**70.00**	**26**	P		12 46 55.3	
	baz=255						
NEA2	**Nenana**	**70.17**	**25**	P		12 46 57.3	
	baz=255						
GLI	**Glacier Island**	**70.19**	**29**	P		12 46 57.6	
	baz=258						
I23K	**Minto, Yukon-K**	**70.19**	**25**	P	**P**	**12 46 58.7**	**+0.5**
I23K				IAmb	IAmb	12 46 59.5	
	comp=Z,13nm,1.1s						
I23K	**Minto, Yukon-K**	**70.19**	**25**	P		12 46 56.6	
	baz=255,SNR=10						
WAT6	**Susitna Watana**	**70.25**	**27**	P		12 46 57.2	
	baz=257,SNR=7.4						
SCM	**Sheep Creek Mo**	**70.28**	**28**	P	**P**	**12 46 58.3**	**-0.6**
BRVK	**Borovoye**	**70.28**	**322**	P	**P**	**12 46 58.8**	**-0.2**
H23K	**Yukon River**	**70.30**	**24**	P		12 46 58.4	
	baz=254,SNR=10						
COLD	**Coldfoot**	**70.45**	**22**	P	**P**	**12 46 59.9**	**+0.1**
COLD				IAmb	IAmb	12 47 01.9	
	comp=Z,11nm,1.0s						
COLD	**Coldfoot**	**70.45**	**22**	P		12 46 59.5	
	baz=253,SNR=14						
WRH	**Wood River Hil**	**70.55**	**25**	P	**P**	**12 46 59.2**	**-1.2**
WRH				IAmb	IAmb	12 47 03.6	
	comp=Z,10nm,0.9s						
MDM	**Murphy Dome**	**70.61**	**25**	IAmb	IAmb	12 47 02.4	
	comp=Z,7.7nm,0.9s						
CCB	**Clear Creek Bu**	**70.71**	**25**	IAmb	IAmb	12 47 01.9	
	comp=Z,7.5nm,1.0s						
TCOL	**CIGO, UAF Yank**	**70.74**	**25**	P	**P**	**12 47 00.1**	**-1.5**
TCOL				IAmb	IAmb	12 47 01.6	
	comp=Z,9.7nm,1.2s						
TCOL	**CIGO, UAF Yank**	**70.74**	**25**	P		12 47 01.0	
	baz=256						
COLA	**College**	**70.74**	**25**	P	**P**	**12 47 00.5**	**-1.1**
COLA				IAmb	IAmb	12 47 01.6	
	comp=Z,9.6nm,1.2s						
COLA	**College**	**70.74**	**25**	P		12 47 00.8	
	baz=256						
EYAK	**Cordova Ski Ar**	**70.77**	**30**	P		12 47 01.0	
	baz=260						
KLU	**Klutina**	**70.86**	**29**	P	**P**	**12 47 02.1**	**-0.4**
KLU				IAmb	IAmb	12 47 14.3	
	comp=Z,11nm,1.0s						
KLU	**Klutina**	**70.86**	**29**	P		12 47 00.7	
	baz=259,SNR=6.4						
M24K	**Tolsona, Glenn**	**70.87**	**28**	P		12 47 01.5	
	baz=259						
H24K	**Noodor Dome**	**70.97**	**24**	P		12 47 02.6	
	baz=256,SNR=13						
HDA	**Harding Lake**	**71.01**	**26**	IAmb	IAmb	12 47 04.5	
	comp=Z,6.3nm,0.8s						
HDA	**Harding Lake**	**71.01**	**26**	P		12 47 01.9	
	baz=257,SNR=7.2						
HDA				P		12 47 01.9	
	baz=257,SNR=7.2						
TOLK	**Toolik Lake Re**	**71.09**	**21**	P	**P**	**12 47 04.6**	**+0.9**
TOLK				IAmb	IAmb	12 47 07.6	
	comp=Z,8.0nm,1.1s						
TOLK	**Toolik Lake Re**	**71.09**	**21**	P		12 47 03.1	
	baz=253						
IL31		**71.12**	**25**	IAmb	IAmb	12 47 03.3	
	comp=Z,6.3nm,0.8s						
ILAR	**Eielson Array**	**71.12**	**25**	P	**P**	**12 47 02.5**	**-1.4**
	comp=Z,4.7nm,0.8s,baz=258,slow=4.8,SNR=41						
ILAR				LR	LR	13 14 57.4	
	comp=Z,26nm,21.0s,baz=270,slow=33						
ILAR	**Eielson Array**	**71.12**	**25**	P	**P**	**12 47 02.0**	**-1.9**
PAX	**Paxson**	**71.36**	**27**	P		12 47 04.7	
	baz=259						
HARP	**HAARP**	**71.39**	**28**	P		12 47 05.0	
	baz=259,SNR=5.6						
BMRM	**Bremner River**	**71.40**	**29**	P		12 47 05.4	
	baz=260						
N25K	**Chitina, Valde**	**71.51**	**29**	P		12 47 05.5	
	baz=260						
GLB	**Gilahina Butte**	**71.86**	**29**	IAmb	IAmb	12 47 09.5	
	comp=Z,15nm,1.2s						
CRQE	**Cirque**	**72.09**	**30**	P		12 47 09.1	
	baz=262						
FYU	**Fort Yukon**	**72.18**	**24**	P	**P**	**12 47 08.6**	**-1.6**
SCRK	**Sand Creek**	**72.20**	**26**	P	**P**	**12 47 10.4**	**-0.1**
SCRK	**Sand Creek**	**72.20**	**26**	P		12 47 09.9	
	baz=260,SNR=6.3						
MCARA	**McCarthy VSAT**	**72.22**	**29**	P		12 47 09.6	
	baz=262						
BMAR	**Burnt Mountain**	**72.61**	**23**	P	**P**	**12 47 13.4**	**+0.5**
CTG	**Chitna Glacier**	**72.97**	**30**	P		12 47 14.4	
	baz=263,SNR=5.0						
L27K	**Beaver Creek,**	**73.01**	**27**	P	**P**	**12 47 14.7**	**-0.6**
L27K	**Beaver Creek,**	**73.01**	**27**	P		12 47 14.8	
	baz=262,SNR=5.8						
BCAR	**Beaver Creek A**	**73.03**	**27**	P	**P**	**12 47 15.1**	**-0.4**
K27K	**Chicken**	**73.04**	**26**	IAmb	IAmb	12 47 17.7	
	comp=Z,7.5nm,1.0s						
K27K	**Chicken**	**73.04**	**26**	P		12 47 15.0	
	baz=262,SNR=9.4						
EGAK	**Eagle**	**73.54**	**26**	P		12 47 17.8	
	baz=262						
DAWY	**Dawson**	**74.21**	**27**	P	**P**	**12 47 22.5**	**+0.1**
DAWY				IAmb	IAmb	12 47 26.7	
	comp=Z,11nm,1.1s						
HYT	**Haines Junctio**	**74.83**	**30**	P	**P**	**12 47 26.9**	**+0.7**
HYT				IAmb	IAmb	12 47 28.6	
	comp=Z,12nm,1.0s						
EPYK	**Eagle Plains**	**75.53**	**24**	P	**P**	**12 47 29.6**	**-0.3**
EPYK				IAmb	IAmb

NVAR	**Mina Array Bea**	**89.64**	**51**	P	**P**	**12 48 45.2**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=267,slow=6.0,SNR=25						
NVAR	**Mina Array Bea**	**89.64**	**51**	P	**P**	**12 48 43.7**	**-0.5**
VNDA	**Vanda**	**89.70**	**176**	LR	LR	13 29 07.1	
	comp=Z,75nm,18.2s,baz=297,slow=36						
NV11	**Mina Array Sit**	**89.75**	**51**	P	**P**	**12 48 44.8**	**+0.2**
NV11				IAmb	IAmb	12 48 46.5	
	comp=Z,5.9nm,1.1s						
MFID	**Camas Ranch**	**90.13**	**46**		**P**	**12 48 46.3**	**0.0**
MFID				IAmb	IAmb	12 48 47.9	
	comp=Z,8.1nm,1.1s						
TPH	**Tonopah**	**90.55**	**51**	P	**P**	**12 48 48.0**	**-0.5**
EDW2	**Edwards Air Fo**	**90.77**	**54**	P		12 48 49.1	
	baz=285						
SCI2	**San Clemente I**	**90.81**	**56**	P		12 48 49.7	
	baz=284						
MPMC	**Manual Prospec**	**90.87**	**53**	P		12 48 48.7	
	baz=285						
HLID	**Hailey**	**91.07**	**45**		**P**	**12 48 51.3**	**+0.6**
HLID	**Hailey**	**91.07**	**45**	P		12 48 49.7	
	baz=287						
BFSC	**Mount Baldy Ra**	**91.20**	**55**	P		12 48 50.5	
	baz=285						
FURC	**Furnace Creek,**	**91.25**	**53**	P		12 48 51.7	
	baz=286						
ELK	**Elko**	**91.30**	**48**	IAmb	IAmb	12 48 57.1	
	comp=Z,8.2nm,1.4s						
BCYI	**Bear Canyon**	**91.54**	**44**	P	**P**	**12 48 53.2**	**+0.2**
TPNV	**Topopah Spring**	**91.60**	**52**		**P**	**12 48 54.0**	**+0.7**
TPNV				IAmb	IAmb	12 48 55.0	
	comp=Z,4.3nm,1.1s						
TPNV	**Topopah Spring**	**91.60**	**52**	P		12 48 52.9	
	baz=286						
GSC	**Goldstone, Bar**	**91.61**	**54**	IAmb	IAmb	12 49 06.5	
	comp=Z,5.8nm,0.9s						
GSC	**Goldstone, Bar**	**91.61**	**54**	P		12 48 52.7	
	baz=286						
R11A	**Troy Canyon, C**	**91.72**	**50**	P		12 48 54.1	
	baz=286						
MCMT	**McKenzie Canyo**	**91.76**	**44**	P	**P**	**12 48 53.7**	**-0.3**
SHOC	**Shoshone, Teco**	**91.86**	**53**	P		12 48 54.6	
	baz=286						
FINES	**FINESS Array B**	**92.05**	**335**	P	**P**	**12 48 54.0**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=199,slow=5.2,SNR=7.6						
FINES	**FINESS Array B**	**92.05**	**335**	P	**P**	**12 48 51.7**	**-2.9**
HEC	**Hector,Ludlow**	**92.10**	**54**	P		12 48 55.5	
	baz=286						
TUQ	**Turquoise Moun**	**92.26**	**53**	P		12 48 56.4	
	baz=286						
PFO	**Pinyon Flats O**	**92.33**	**55**	P		12 48 56.4	
	baz=286						
TPFO	**Pinon Flats**	**92.34**	**55**	P		12 48 56.7	
	baz=286						
MONP2	**Monument Peak**	**92.55**	**56**	P		12 48 57.6	
	baz=286						
BELC	**Belle Mtn. Jos**	**92.60**	**55**	P		12 48 58.0	
	baz=286						
GMRC	**Granite Mounta**	**92.65**	**54**	P		12 48 58.1	
	baz=286						
EGMT	**Eagleton**	**92.72**	**40**	P		12 48 58.2	
	baz=291						
YHB	**Horse Butte**	**92.90**	**43**	P	**P**	**12 48 59.4**	**+0.1**
YHB				IAmb	IAmb	12 49 01.9	
	comp=Z,4.9nm,0.9s						
YHH	**Holmes Hill**	**93.12**	**43**		**P**	**12 49 01.2**	**+0.8**
BC3	**Big Chuckawall**	**93.13**	**55**	P		12 49 00.7	
	baz=286						
DUG	**Dugway, Tooele**	**93.23**	**48**	P		12 49 01.0	
	baz=288						
H17A	**Grant Village**	**93.44**	**44**	P	**P**	**12 49 03.3**	**+1.6**
H17A				IAmb	IAmb	12 49 05.7	
	comp=Z,7.6nm,1.1s						
GCMT	**Greycliff**	**93.56**	**42**	P	**P**	**12 49 02.9**	**+0.8**
YMP	**Mirror Lake Pl**	**93.60**	**43**	P	**P**	**12 49 02.6**	**0.0**
GLA	**Glamis**	**93.80**	**55**	P		12 49 03.6	
	baz=286						
PDMCI	**Parker Dam,Lak**	**93.99**	**54**	P		12 49 04.6	
	baz=287						
RLMT	**Red Lodge**	**94.06**	**42**	P		12 49 05.1	
	baz=291						
KNB	**Kanab**	**94.20**	**51**	IAmb	IAmb	12 49 07.5	
	comp=Z,7.7nm,1.3s						
FFC	**Flin Flon**	**94.46**	**32**	P	**P**	**12 49 05.9**	**0.0**
FFC				IAmb	IAmb	12 49 06.7	
	comp=Z,4.2nm,0.9s						
BW06	**Boulder Array**	**94.69**	**45**	P		12 49 07.0	
	baz=290						
LAO	**LASA Array**	**95.44**	**40**	P		12 49 10.9	
	baz=293						
NOA	**NORSAR Array B**	**98.11**	**338**	LR	LR	13 35 52.7	
	comp=Z,9.0nm,20.3s,baz=65,slow=37						
OGNE	**Ogallala**	**100.58**	**44**	P		12 49 33.3	
	baz=296						
DBIC	**Dimbokro**	**143.07**	**298**	PKhKP	PKPpre	12 55 17.9	
	comp=Z,6.0nm,1.1s,baz=34,slow=3.6,SNR=3.4						
LPAZ	**La Paz**	**149.60**	**102**	PKPbc	**PKPdf**	**12 55 34.0**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=330,slow=6.0,SNR=2.1						

SLM ***11*** *12:51:08.9±1.1,36°.550N×0°.004×89°.56W±0°.01, h5km±5km, Md2.5/19, mb_Lg1.8/6(NEIC), Error ellipse: s-maj=1.6km s-min=0.5km az=78.0*

NEIC 11 12:51:09.2±0.9, 36°.56N±0°.01×89°.55W±0°.01, h11km±1km, Error ellipse: s-maj=1.6km s-min=1.6km az=206.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMMO	**New Madrid**	**0.03**	**4**		Pg	12 51 11.9	+0.7
WALK	**Watson Lake**	**0.03**	**157**		Pg	12 51 11.3	+0.2
CATM	**Catron**	**0.09**	**304**		Pg	12 51 11.4	-0.4
CATM					Sg	12 51 13.4	-0.2
SJMO	**Saint John's B**	**0.09**	**44**		Pg	12 51 11.5	-0.3
SJMO					Sg	12 51 13.6	0.0
MARMO	**Marston**	**0.10**	**251**		Pg	12 51 13.3	+1.4
PENMO	**Penman**	**0.13**	**208**		Pg	12 51 11.5	-0.7
PENMO					Sg	12 51 13.9	-0.5
KEWM	**Kewanee**	**0.14**	**347**		Pb	12 51 15.0	+1.1
PPLM	**Point Pleasant**	**0.16**	**188**		Pg	12 51 12.3	-0.4
PPLM					Sg	12 51 14.9	-0.3
HENM	**Henderson Moun**	**0.17**	**23**		Pg	12 51 12.8	-0.1
HENM					Sg	12 51 15.8	+0.3
PGVM	**Portageville**	**0.17**	**234**		Pg	12 51 12.5	-0.5
PGVM					Sg	12 51 15.4	-0.2
POBM	**Portage Bay**	**0.18**	**209**		Pg	12 51 12.5	-0.5
POBM					Sg	12 51 15.5	-0.2
PARMO	**Parma**	**0.19**	**302**		Pg	12 51 13.2	-0.1
PARMO					Sg	12 51 16.3	+0.2
COKM	**Charter Oak**	**0.20**	**317**		Pg	12 51 13.5	0.0
COKM					Sg	12 51 16.9	+0.4
WYBT	**Wynnburg**	**0.22**	**168**		Pg	12 51 13.6	-0.3
WYBT					Sg	12 51 16.9	0.0
EPRM	**East Prairie**	**0.22**	**46**		Pg	12 51 13.7	-0.1
EPRM					Sg	12 51 17.6	+0.6
DWDM	**Dogwood**	**0.24**	**12**		Pg	12 51 14.2	+0.1
DWDM					Sg	12 51 18.3	+0.8
FLPT	**Flippin**	**0.24**	**129**		Pg	12 51 13.9	-0.3
FLPT					Sg	12 51 17.8	+0.2
HICK	**Hickman**	**0.26**	**95**		Pg	12 51 14.2	-0.3
MLDM	**Malden**	**0.30**	**282**		Sg	12 51 19.4	+0.1
CHRM	**Charleston**	**0.33**	**28**		Pg	12 51 15.7	0.0
GLAT	**Glass**	**0.36**	**144**		Pg	12 51 16.4	-0.1
HALT	**Halls**	**0.67**	**165**		Pg	12 51 22.4	+0.1
CGM3	**Cape Girardeau**	**0.74**	**354**		Pg	12 51 23.6	+0.1
T42A	**Van Buren**	**1.32**	**291**		Pn	12 51 33.3	-0.3
T42A					Sb	12 51 50.2	-0.7
LCAR	**Lake Charles**	**1.38**	**250**		Pn	12 51 33.8	-0.6
EBZ	**Ebenezer Churc**	**1.43**	**173**		Pb	12 51 35.9	+0.1
WVT	**Waverly**	**1.46**	**107**		Pn	12 51 35.4	-0.1
WVT				Sn	Sn	12 51 54.0	-0.6
PLAL	**Pickwick Lake**	**1.98**	**142**		Pn	12 51 43.3	+0.6
PLAL	**Pickwick Lake**	**1.98**	**142**	Sn	Sn	12 52 08.6	+1.0
PLAL				IAmb_Lg		12 52 14.7	
	comp=Z,2.2nm,0.7s						
PWLA	**Pickwick Lake**	**1.99**	**142**		Pn	12 51 43.4	+0.5
T47A	**Sharon Grove**	**2.01**	**77**	Pn	Pn	12 51 44.2	+1.1
T47A				Sn	Sb	12 52 11.0	+0.2
FCAR	**Ozark Folk Cen**	**2.18**	**253**		Pn	12 51 47.1	+1.6
FCAR	**Ozark Folk Cen**	**2.18**	**253**	IAmb_Lg		12 52 19.4	
	comp=Z,6.5nm,0.8s						
MGMO	**Mountain Grove**	**2.26**	**286**	IAmb_Lg		12 52 23.5	
	comp=Z,6.6nm,1.1s						
U40A	**Yellville**	**2.67**	**267**	IAmb_Lg		12 52 32.3	
	comp=Z,3.5nm,0.8s						
GMG	**Grassy Mountai**	**4.32**	**112**		Pn	12 52 17.9	+2.9
JSC	**Jenkinsville**	**7.14**	**106**		Pn	12 52 55.5	+1.8

JMA ***11*** *12:55:47.8±0.5, 34°.10N×141°.25E, h21km±3km, M2.6*
IDC ***11*** *12:55:51.5±1.9, 33°.39N×137°.75E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/50, mbtmp3.2/3, ML1.9/1, Error ellipse: s-maj=114.1km s-min=30.9km az=96.0*

ISC 11 12:55:48.7±1.8, 34°.11N±0°.08×141°.4E±0°.2, h35km, n10, σ0°885/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64**	**328**	P	**Pn**	**12 55 59.3**	**-1.5**
BSO3	**Boso 3**	**1.00**	**314**	P	**Pn**	**12 56 05.4**	**-0.7**
BSO4	**Boso 4**	**1.24**	**315**	P	**Pn**	**12 56 09.2**	**-0.2**
JKUC	**kamogawauchiur**	**1.44**	**317**	P	**Pn**	**12 56 12.1**	**-0.2**
JMKN	**Mikurajimanish**	**1.51**	**262**	P	**Pn**	**12 56 12.7**	**-0.6**
JHJ2	**Mitsune**	**1.65**	**233**	P	**Pn**	**12 56 14.6**	**-0.6**
JIM2	**Oshima 3**	**1.73**	**291**	P	**Pn**	**12 56 16.2**	**-0.1**
MJAR	**Matsushiro Arr**	**3.56**	**314**	Pn	**Pn**	**12 56 42.5**	**+1.0**
	0.1nm,0.3s,baz=188,slow=16,SNR=7.7						
WRA	**Warramunga Arr**	**54.17**	**188**	P	**P**	**13 05 11.2**	**+0.5**
	0.2nm,0.4s,baz=2.2,slow=7.6,SNR=5.2						
ASAR	**Alice Springs**	**57.90**	**188**	P	**P**	**13 05 37.5**	**+0.2**
	0.3nm,0.7s,baz=15,slow=7.7,SNR=2.5						

IDC ***11*** *12:56:45.8±0.8, 37°.85N×70°.33E, h0km, mb3.9/19, mb1 4.1/26, mb1mx4.0/58, mbtmp4.0/26, ML3.5/7, MS3.3/13, Ms1 3.4/13, ms1mx3.1/40, Error ellipse: s-maj=13.2km s-min=10.9km az=163.0*
SOME ***11*** *12:56:47.9, 38°.13N×69°.97E, h10km*
MOS ***11*** *12:56:49.2±1.3, 38°.08N×70°.18E, h25km, mb4.4/8, Error ellipse: s-maj=9.6km s-min=5.3km az=80.2*
NEIC ***11*** *12:56:49.6±2.8, 38°.07N±0°.05×70°.20E±0°.05, h10km±1km, mb4.3/19, Error ellipse: s-maj=8.6km s-min=6.4km az=205.0*
NNC ***11*** *12:56:50.5±3.0, 38°.11N×70°.16E, h13km±12km, mb4.3, mpv4.1, Error ellipse: s-maj=20.2km s-min=11.9km az=22.0*
BJI ***11*** *12:56:52.2±0.0, 38°.18N×70°.49E, h25km, mB4.6/9, mb4.3/17, ML3.9/3*

ISC 11 12:56:48.3±0.4, 38°.08N±0°.04×70°.26E±0°.04, h10km, n143, σ2°.55/159, mb4.1/28, MS3.5/14, 22C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.92**	**3**	Pg	**Pg**	**12 57 06.0**	**0.0**
CHGR	**Chuyangaron**	**1.04**	**304**		**Pg**	**12 57 07.5**	**-0.8**
BTK	**Batken**	**2.02**	**12**	PN	**Pg**	**12 57 26.5**	**-0.6**
BTK	**Batken**	**2.02**	**12**		**Pg**	**12 57 26.5**	**-0.6**
KBL	**Kabul**	**3.67**	**196**	PN	**Pn**	**12 57 48.8**	**+3.5**
KBL	**Kabul**	**3.67**	**196**	Pn	**Pn**	**12 57 48.8**	**+3.5**
ARSB	**Arslanbob**	**3.86**	**32**	PN	**Pn**	**12 57 50.2**	**+2.4**
ARSB	**Arslanbob**	**3.86**	**32**	Pn	**Pn**	**12 57 50.2**	**+2.4**
CEP	**Cherat**	**4.45**	**162**	P	**Pn**	**12 58 00.2**	**+4.2**
AML	**Almayashu**	**4.83**	**32**	P	**Pn**	**12 58 04.0**	**+2.7**
	SNR=33						
KK31	**Karatay Array**	**5.02**	**2**	Pn	**Pn**	**12 58 06.4**	**+2.7**
	3.8nm,0.5s,baz=194,slow=14,SNR=66						
KK31				Pg	**Pg**	**12 58 21.0**	**-3.5**
	20nm,0.5s,baz=191,slow=16,SNR=21						
KK31				⇓Lg	Lg	12 59 29.2	
	82nm,0.9s,baz=178,slow=26,SNR=4.1						
KK31	**Karatay Array**	**5.02**	**2**	PN	**Pn**	**12 58 05.8**	**+2.1**
KK31	**Karatay Array**	**5.02**	**2**	Pn	**Pn**	**12 58 05.8**	**+2.1**
KKAR	**Karatay Array**	**5.02**	**2**	PN	**Pn**	**12 58 06.0**	**+2.3**
KKAR	**Karatay Array**	**5.02**	**2**	Pn	**Pn**	**12 58 06.0**	**+2.3**
KKAR	**Karatay Array**	**5.02**	**2**		**Pn**	**12 58 06.6**	**+2.9**
CHCP	**Chirah Chowk**	**5.04**	**150**	P	**Pn**	**12 58 08.6**	**+4.6**
NIL	**Nilore**	**5.04**	**150**	Pn	**Pn**	**12 58 07.1**	**+3.1**
MRKS	**Merke**	**5.18**	**25**	*e*P	**Pg**	**12 58 25.1**	**-2.4**
	21nm,0.8s						
MRKS				*e*S	**Sg**	**12 59 33.6**	**-0.9**
	72nm,0.8s						
MRKS	**Merke**	**5.18**	**25**	Pg	**Pg**	**12 58 25.1**	**-2.4**
	21nm,0.8s						
MRKS				Lg	Lg	12 59 33.6	
	72nm,0.8s						
EKS2	**Erkin-Say**	**5.30**	**29**	P	**Pn**	**12 58 10.4**	**+2.7**
	SNR=7.2						
THW	**Thamme Wali**	**5.41**	**167**	P	**Pn**	**12 58 11.6**	**+2.5**
AAK	**Ala-Archa**	**5.58**	**34**	Pn	**Pn**	**12 58 14.4**	**+2.9**
	2.4nm,0.3s,baz=216,slow=8.7,SNR=16						
AAK				Pg	**Pg**	**12 58 31.9**	**-3.3**
	7.7nm,0.3s,baz=214,slow=14,SNR=22						
AAK				Sn	**Sn**	**12 59 14.9**	**-0.9**
	0.9nm,0.3s,baz=251,slow=11,SNR=3.9						
AAK				Lg	Lg	12 59 44.2	
	0.7nm,0.3s,baz=171,slow=23,SNR=1.6						
AAK				LR	LR	13 00 48.5	
	comp=Z,184nm,20.6s,baz=232,slow=42						
AAK	**Ala-Archa**	**5.58**	**34**	P	**Pn**	**12 58 14.6**	**+3.1**
	SNR=9.2						
AAK	**Ala-Archa**	**5.58**	**34**	⇓Pn	**Pn**	**12 58 14.3**	**+2.7**
	7.8nm,0.5s						
AAK				⇑Pg	**Pg**	**12 58 30.8**	**-4.4**
	46nm,0.7s						
AAK				⇑Lg	Lg	12 59 48.6	
	91nm,1.0s						
AAK	**Ala-Archa**	**5.58**	**34**	PN	**Pn**	**12 58 14.8**	**+3.3**
AAK	**Ala-Archa**	**5.58**	**34**	Pn	**Pn**	**12 58 14.8**	**+3.3**
KBK	**Karagaybulak**	**5.80**	**37**	P	**Pn**	**12 58 18.1**	**+3.5**
	SNR=14						
CHMS	**Chumysh**	**5.98**	**33**	P	**Pn**	**12 58 19.7**	**+2.7**
	SNR=7.8						
USP	**Ospenovka**	**6.10**	**31**	P	**Pn**	**12 58 20.8**	**+2.3**
	SNR=9.6						
BOOM	**Boomskoye usch**	**6.18**	**43**	PN	**Pn**	**12 58 22.8**	**+3.0**
BOOM	**Boomskoye usch**	**6.18**	**43**	Pn	**Pn**	**12 58 22.8**	**+3.0**
SGDS	**Sogindy**	**6.31**	**30**	Pg	**Pg**	**12 58 46.3**	**-2.8**
	17nm,0.7s						
SGDS				Lg	Lg	13 00 09.7	
	44nm,2.2s						
TKM2	**Tokmak 2**	**6.32**	**38**	P	**Pn**	**12 58 25.6**	**+3.9**
	SNR=19						
TKM2	**Tokmak 2**	**6.32**	**38**	⇑Pn	**Pn**	**12 58 25.1**	**+3.4**
	14nm,1.0s						
TKM2				⇑Pg	**Pg**	**12 58 45.4**	**-3.8**
	16nm,0.7s						
TKM2				⇑Lg	Lg	13 00 11.4	
	82nm,1.2s						
DGS	**Degeres**	**6.64**	**37**	*e*P	**Pg**	**12 58 55.3**	**-0.2**
	35nm,0.7s						
DGS				*e*S	**Sg**	**13 00 25.3**	**+3.8**
	34nm,0.9s						
DGS	**Degeres**	**6.64**	**37**	Pg	**Pg**	**12 58 55.3**	**-0.2**
	35nm,0.7s						
DGS				Lg	Lg	13 00 25.3	
	34nm,0.9s						
KDJ	**Kajisay**	**6.67**	**51**	PN	**Pn**	**12 58 30.2**	**+3.7**
KDJ	**Kajisay**	**6.67**	**51**	Pn	**Pn**	**12 58 30.2**	**+3.7**
TARG	**Taragay, Kyrgy**	**6.85**	**56**		**Pn**	**12 58 32.1**	**+3.0**
MTBS	**Maitube**	**6.89**	**41**	*e*P	**Pg**	**12 58 58.7**	**-1.4**
	13nm,1.1s						
MTBS				*e*S	**Sg**	**13 00 31.5**	**+2.2**
	37nm,1.8s						
MTBS	**Maitube**	**6.89**	**41**	Pg	**Pg**	**12 58 58.7**	**-1.4**
	13nm,1.1s						
MTBS				Lg	Lg	13 00 31.5	
	37nm,1.8s						
THN	**Thein Dam**	**7.19**	**140**	*e*P	**Pn**	**12 58 35.5**	**+2.1**
THN				*e*S	Sb	13 00 08.5	-10
HRA	**Herat**	**7.45**	**243**		**Pn**	**12 58 38.4**	**+1.1**
DHRM	**DHARAMSHALA**	**7.63**	**138**	*e*P	**Pn**	**12 58 41.1**	**+1.3**
DHRM				*e*S	**Sn**	**13 00 08.3**	**+1.9**
DHRM				IAML		13 00 20.7	
	comp=E,407nm,0.5s						
PDGK	**Podgornoye**	**8.75**	**50**	⇑Pn	**Pn**	**12 58 56.8**	**+1.8**
	comp=E,6.2nm,1.0s						
PDGK				⇑Pg	**Pg**	**12 59 31.4**	**-4.4**
	comp=E,17nm,1.4s						
PDGK				⇑Lg	Lg	13 01 30.3	
	comp=E,49nm,1.2s						
SMLA	**Simla**	**8.97**	**139**	*e*P	**Pn**	**12 58 59.0**	**+1.2**
SMLA				IAML		13 00 49.9	
	comp=E,76nm,0.6s						
SMLA				IAML		13 00 53.2	
	comp=N,73nm,0.8s						
GEYT	**Alibeck**	**9.59**	**273**	Pn	**Pn**	**12 59 05.4**	**-1.0**
	comp=N,0.6nm,0.3s,baz=147,slow=14,SNR=5.2						
GEYT				Sn	**Sn**	**13 00 52.0**	**-2.2**
	comp=N,0.7nm,0.3s,baz=200,slow=12,SNR=1.6						
GEYT				Lg	Lg	13 02 00.6	
	comp=N,0.4nm,0.3s,baz=230,slow=25,SNR=1.7						
GYA0B	**ALIBECK ARRAY**	**9.59**	**273**	Pn	**Pn**	**12 59 06.5**	**+0.1**
DDI	**Dehra Dun**	**10.07**	**138**	*e*P	**Pn**	**12 59 14.9**	**+1.8**
OTUK	**Ortayu**	**10.27**	**8**	⇑Pn	**Pn**	**12 59 18.2**	**+2.5**
	comp=N,4.3nm,1.0s						
OTUK				⇓Lg	Lg	13 02 16.3	
	comp=N,17nm,1.1s						
MAKZ	**Makanchi**	**12.27**	**41**	⇑Pn	**Pn**	**12 59 44.2**	**+1.1**
	comp=N,4.5nm,1.2s						
MK31	**Makanchi Array**	**12.43**	**42**	Pn	**Pn**	**12 59 45.8**	**+0.5**
	comp=N,6.5nm,0.8s,baz=235,slow=9.7,SNR=24						
MK31	**Makanchi Array**	**12.43**	**42**	P	**Pn**	**12 59 45.7**	**+0.5**
MK31	**Makanchi Array**	**12.43**	**42**	Pn	**Pn**	**12 59 45.7**	**+0.5**
MKAR	**Makanchi Array**	**12.43**	**42**	Pn	**Pn**	**12 59 46.8**	**+1.5**
	comp=N,0.1nm,0.3s,baz=232,slow=12,SNR=24						
MKAR				Lg	Lg	13 03 21.0	
	comp=N,0.1nm,0.3s,baz=228,slow=27,SNR=1.5						
MKAR				LR	LR	13 04 53.4	
	comp=N,107nm,18.5s,baz=233,slow=39						
MKAR	**Makanchi Array**	**12.43**	**42**	P	**Pn**	**12 59 46.5**	**+1.3**
MKAR	**Makanchi Array**	**12.43**	**42**	Pn	**Pn**	**12 59 46.5**	**+1.3**
AB31	**Akbulak array**	**13.42**	**330**	Pn	**Pn**	**12 59 56.6**	**-2.1**
	comp=N,2.8nm,0.6s,baz=147,slow=12,SNR=37						
AB31				⇑Sn	**Sn**	**13 02 30.2**	**+2.4**
	comp=N,3.5nm,0.7s,baz=147,slow=23,SNR=2.9						
AB31				⇑Lg	Lg	13 03 54.6	
	comp=N,12nm,1.1s,baz=145,slow=12,SNR=4.3						
ABKAR	**Akbulak array**	**13.42**	**330**		**Pn**	**12 59 56.9**	**-1.8**
KURBB	**Kurchatov Arra**	**13.85**	**23**	Pn	**Pn**	**13 00 02.4**	**-2.2**
	comp=N,0.1nm,0.3s,baz=214,slow=12,SNR=9.6						
KURBB				Sn	**Sn**	**13 02 32.2**	**-6.2**
	comp=N,0.0nm,0.3s,baz=207,slow=30,SNR=1.7						
KURBB				Lg	Lg	13 04 13.2	
	comp=N,0.0nm,0.3s,baz=208,slow=27,SNR=2.6						
KURBB	**Kurchatov Arra**	**13.85**	**23**	⇓Pn	**Pn**	**13 00 03.0**	**-1.6**
	comp=N,7.2nm,1.1s						
KURK	**Kurchatov**	**13.96**	**23**	P	**Pn**	**13 00 02.4**	**-3.6**
KURK	**Kurchatov**	**13.96**	**23**		LR	13 04 13.2	
DANN	**Dangsing**	**14.88**	**127**	*e*P	**Pn**	**13 00 16.8**	**-2.2**
	comp=N,33nm,0.7s						
BVAR	**Borovoye Array**	**14.95**	**0**	Pn	**Pn**	**13 00 18.6**	**-0.9**
	comp=N,0.2nm,0.3s,baz=168,slow=41,SNR=3.3						
BRVK	**Borovoye**	**14.98**	**0**	⇑Pn	**P**	**13 00 23.2**	**-2.2**
	comp=N,3.7nm,0.7s						
BRVK	**Borovoye**	**14.98**	**0**	*ce*P	**Pn**	**13 00 18.8**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**14.98**	**0**	Pn	**Pn**	**13 00 19.1**	**-0.8**
AKTO	**Aktyubinsk**	**15.12**	**329**	Pn	**Pn**	**13 00 22.4**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=136,slow=9.7,SNR=46						
AKTO				Sn	**Sn**	**13 03 05.7**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=359,slow=16,SNR=1.8						
AKTO				Lg	Lg	13 04 52.5	
	comp=Z,0.1nm,0.3s,baz=241,slow=21,SNR=1.3						
AKTO	**Aktyubinsk**	**15.12**	**329**	⇑Pn	**P**	**13 00 24.8**	**-2.2**
	comp=Z,33nm,0.8s						
AKTO				⇓Sn	**Sn**	**13 03 09.9**	**+0.6**
	comp=Z,18nm,1.4s						
AKTO				⇑Lg	Lg	13 04 47.9	
	comp=Z,22nm,1.5s						
GKN	**Gorkha**	**15.68**	**126**	*e*P	**Pn**	**13 00 26.7**	**-2.7**
BHPL	**Bhopal**	**16.02**	**155**	*e*P	**Pn**	**13 00 31.4**	**-2.3**
BHPL				*e*S	**Sn**	**13 03 21.6**	**-10**
KKN	**Kakani**	**16.24**	**125**	*e*P	**Pn**	**13 00 33.2**	**-3.5**
PKIN	**Phulchoki**	**16.46**	**125**	*e*P	**Pn**	**13 00 36.1**	**-3.5**
	comp=Z,25nm,0.7s						
PKI	**Pulchoki**	**16.47**	**125**	*e*P	**Pn**	**13 00 36.3**	**-3.5**
	comp=Z,28nm,0.7s						
GUN	**Gumba**	**16.55**	**123**	*e*P	**Pn**	**13 00 37.8**	**-3.0**
	comp=Z,70nm,0.9s						
JIRN	**Jiri**	**16.92**	**123**	*e*P	**Pn**	**13 00 42.3**	**-3.2**
	comp=Z,30nm,0.6s						
DGZ	**Jazzator, Alta**	**16.93**	**41**	*i* P	**Pn**	**13 00 46.5**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
RAMN	**Ramite**	**17.67**	**124**	*e*P	**Pn**	**13 00 52.2**	**-2.5**
	comp=Z,36nm,0.6s						
ODAN	**Odare**	**18.25**	**123**	*e*P	**Pn**	**13 00 59.0**	**-2.9**
	comp=Z,54nm,0.7s						
ZAA0	**Zalesovo Array**	**18.75**	**28**	⇑Pn	**Pn**	**13 01 08.3**	**+0.7**
	comp=Z,0.9nm,0.7s						
ZAA0	**Zalesovo Array**	**18.75**	**28**	P	**P**	**13 01 06.3**	**-0.9**
ZALV	**Zalesovo Beam**	**18.75**	**28**	P	**P**	**13 01 06.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=224,slow=8.3,SNR=16						
ZALV				S	**Sn**	**13 04 39.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=200,slow=23,SNR=1.1						
ZALV				Lg	Lg	13 06 48.6	
	comp=Z,0.2nm,0.3s,baz=121,slow=26,SNR=1.0						
LSA	**Lhasa**	**19.22**	**110**	P	**Pn**	**

MNK			*i*			13 04 30.7	
MNK			*i*			13 06 06.4	
MNK			*i* S	**S**		**13 08 35.0**	**-6.0**
MNK			*i* SS	SS		13 10 34.8	-28
MNK			pmax	pmax			
	comp=N,23nm,0.9s						
MNK			pmax	pmax			
	comp=Z,3.0nm,0.7s						
MNK			pmax	pmax			
	comp=E,4.0nm,1.0s						
MNK			MLR	MLR			
	comp=Z,512nm,29.0s						
MNK			MLR	MLR			
	comp=N,915nm,24.0s						
MNK			MLR	MLR			
	comp=E,24nm,18.0s						
MNK	**Minsk**	**32.97 314**	*i* P	**P**		**13 03 21.6**	**-1.4**
	comp=E,4.0nm,1.0s						
MNK			*i* P	**P**		**13 03 21.6**	**-1.4**
	comp=N,23nm,0.8s						
MNK			*i* P	**P**		**13 03 21.6**	**-1.4**
	comp=Z,3.0nm,0.7s,baz=102						
MNK			*i* pP	**sP**		**13 03 36.0**	**+7.7**
MNK			*i* sP	pP		13 03 41.2	+14
MNK			*i* PP	**PnPn**		**13 04 30.7**	**-1.2**
MNK			*i* PcP	**PcP**		**13 06 06.5**	**-0.3**
MNK			*i* S	**S**		**13 08 35.0**	**-6.0**
MNK			*i* sS	sS		13 08 57.6	+11
MNK			*i* SS	**SnSn**		**13 10 34.8**	**-3.5**
MNK			*i* LQ	LQ		13 14 15.2	
MNK			*i* LR	LR		13 17 55.0	
MNK			*i* LRM	MLR		13 20 24.9	
	comp=Z,512nm,28.8s						
MNK			*i* LRM	MLR		13 20 30.0	
	comp=N,915nm,24.3s						
MNK			*i* LRM	MLR		13 20 33.9	
	comp=E,24nm,17.9s						
BURAR	**Bucovina Array**	**33.95 301**	P	**P**		**13 03 33.0**	**+1.2**
BURAR			IAmb	IAmb		13 03 35.6	
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**35.85 325**	P	**P**		**13 03 49.1**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=120,slow=8.3,SNR=7.0						
DIVS	**Divibare**	**37.88 296**	IAmb	IAmb		13 04 09.2	
	comp=Z,2.1nm,0.7s						
ARCES	**ARCESS Array B**	**39.46 337**	P	**P**		**13 04 20.1**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=111,slow=6.6,SNR=7.5						
ARCES	**ARCESS Array B**	**39.46 337**	IAmb	IAmb		13 04 23.6	
	comp=Z,15nm,1.4s						
NC303	**NORSAR Array S**	**42.71 322**	P	**P**		**13 04 45.7**	**+0.6**
NB201	**NORSAR Array S**	**42.73 322**	P	**P**		**13 04 46.5**	**+1.1**
NOA	**NORSAR Array B**	**42.77 322**	P	**P**		**13 04 45.7**	**0.0**
	comp=Z,3.5nm,0.7s,baz=95,slow=8.1,SNR=20						
NOA			LR	LR		13 22 48.8	
	comp=Z,22nm,20.5s,baz=35,slow=36						
NC204	**NORSAR Array S**	**43.01 322**	P	**P**		**13 04 47.9**	**+0.2**
TIXI	**Tiksi**	**44.54 23**	*ce*P	**P**		**13 04 59.7**	**0.0**
KLR	**Kul'dur**	**44.70 55**	LR	LR		13 24 10.8	
	comp=Z,51nm,18.6s,baz=261,slow=37						
KSRS	**Korea Array**	**44.94 72**	P	**P**		**13 05 03.0**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=307,slow=4.8,SNR=4.2						
KSRS			LR	LR		13 26 21.9	
	comp=Z,59nm,19.6s,baz=263,slow=40						
KSRS	**Korea Array**	**44.94 72**	P	**P**		**13 05 03.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**45.93 62**	LR	LR		13 25 37.1	
	comp=Z,60nm,18.8s,baz=299,slow=38						
MJAR	**Matsushiro Arr**	**52.94 69**	P	**P**		**13 06 04.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=293,slow=9.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**52.94 69**	IAmb	IAmb		13 06 16.2	
	comp=Z,4.4nm,1.5s						
MJA0	**Matsu Arr-Jizo**	**52.96 69**	*ep*	**P**		**13 06 07.8**	**+2.8**
MJA0			pmax	pmax			
	comp=Z,2.0nm,0.9s						
ASAJ	**Asahikawa**	**53.23 59**	LR	LR		13 29 04.0	
	comp=Z,58nm,18.4s,baz=314,slow=36						
MA2	**Magadan**	**53.49 39**	*ce*P	**P**		**13 06 09.8**	**+1.3**
MA2			pmax	pmax			
	comp=Z,31nm,1.7s						
ESDC	**Sonseca Array**	**56.21 297**	P	**P**		**13 06 29.0**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=62,slow=7.2,SNR=5.5						
ESDC	**Sonseca Array**	**56.21 297**	IAmb	IAmb		13 06 37.5	
	comp=Z,0.9nm,1.0s						
SUMG	**Summit**	**59.38 341**	P	**P**		**13 06 52.1**	**+1.4**
SUMG			pmax	pmax			
	comp=Z,8.0nm,1.0s						
SUMG	**Summit**	**59.38 341**	P	**P**		**13 06 52.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**65.18 267**	P	**P**		**13 07 29.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=40,slow=6.3,SNR=8.7						
TORD			LR	LR		13 42 47.4	
	comp=Z,23nm,18.5s,baz=150,slow=42						
TORD	**Torodi Ar. Bea**	**65.18 267**	P	**P**		**13 07 29.3**	**-0.7**
TORD			IAmb	IAmb		13 07 35.5	
	comp=Z,2.6nm,1.1s						
INK	**Inuvik**	**72.44 9**	P	**P**		**13 08 13.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=297,slow=2.5,SNR=2.1						
ILAR	**Eielson Array**	**73.42 16**	P	**P**		**13 08 20.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=304,slow=5.0,SNR=4.1						
ILAR	**Eielson Array**	**73.42 16**	P	**P**		**13 08 20.0**	**-0.3**
YKA	**Yellowknife Ar**	**79.69 2**	P	**P**		**13 08 55.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=8.3,slow=5.2,SNR=4.4						
WRA	**Warramunga Arr**	**83.32 122**	P	**P**		**13 09 14.5**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=325,slow=4.8,SNR=2.4						
ASAR	**Alice Springs**	**85.64 125**	P	**P**		**13 09 25.6**	**-1.7**
	comp=Z,0.5nm,0.9s,baz=340,slow=5.0,SNR=1.8						
PDAR	**Pinedale Array**	**99.53 360**	LR	LR		13 58 58.6	
	comp=Z,6.5nm,18.8s,baz=314,slow=37						

*DJA **11** 13:00:19.3±0.6, 7°S±15°×10°9E±°, h209km±5km, M3.8/8, mb4.4/2, mB5.6/1, MLv3.5/8, Mw(mB)5.1/1*
*IDC **11** 13:00:20.5±2.9, 7°.09S×109°.03E, h202km±55km, mb3.0/3, mb1 3.1/4, mb1mx2.9/39, mbtmp3.5/4, Error ellipse: s-maj=149.8km s-min=81.7km az=14.0*
ISC 11 13:00:21.4±0.9, 7°.5S±0°.3×108°.9E±0°.1, h197km±8km, n16, σ1§61/19, mb3.4/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.11**	**2**	P		**Pn**	**13 00 46.9**	**-0.3**
KPJI				S		**S**	**13 01 08.8**	**+1.5**
CTJI	**Waduk Cacaban**	**0.51**	**30**	P		**Pn**	**13 00 47.1**	**-1.1**
LEM	**Lembang**	**1.44**	**295**	P		**Pn**	**13 00 53.7**	**-0.7**
	4.9nm,0.3s,baz=352,slow=9.3,SNR=5.6							
LEM				S		**S**	**13 01 19.9**	**-0.1**
	7.5nm,0.3s,baz=345,slow=21,SNR=15							
LEM	**Lembang**	**1.44**	**295**	S		**S**	**13 01 21.9**	**+1.9**
UGM	**Wanagama**	**1.65**	**106**	P		**Pn**	**13 00 55.1**	**-1.1**
UGM				S		**S**	**13 01 22.6**	**-0.6**
CBJI	**Citeko**	**2.30**	**296**	P		**Pn**	**13 01 00.6**	**-2.3**
DBJI	**Dramaga**	**2.33**	**292**	P		**Pn**	**13 01 03.2**	**-0.1**
SJI	**Sawahan**	**2.83**	**96**	P		**Pn**	**13 01 06.8**	**-2.2**
PWJI	**Pagerwojo**	**2.91**	**102**	P		**Pn**	**13 01 07.9**	**-1.9**
MDSI	**Maura Dua**	**5.56**	**302**	P		**Pn**	**13 01 41.4**	**-1.6**
	0.1nm10nm,0.8s							
EGSI	**Enggano, Bengk**	**6.93**	**287**	P		**Pn**	**13 01 58.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**19.42**	**125**	P		**P**	**13 04 32.7**	**-0.2**
	0.1nm,0.3s,baz=320,slow=9.8,SNR=1.3							
WRA	**Warramunga Arr**	**27.59**	**119**	P		**P**	**13 05 49.3**	**-1.3**
	0.9nm,1.1s,baz=296,slow=9.9,SNR=2.6							
SRPI	**Serui, Papua**	**27.77**	**80**	P		**P**	**13 05 54.7**	**+2.5**
ASAR	**Alice Springs**	**28.88**	**127**	P		**P**	**13 06 03.0**	**+1.0**
	0.2nm,0.5s,baz=300,slow=7.9,SNR=5.7							
STKA	**Stephens Creek**	**38.93**	**133**	P		**P**	**13 07 27.9**	**-0.4**
	1.0nm,0.3s,baz=305,slow=10.0,SNR=8.4							

IDC 11 13:06:32.1±1.9, 3°.44S×145°.17E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/33, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=309.3km s-min=30.6km az=117.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.51**	**212**	P		P	13 11 01.1	-0.1
	0.1nm,0.3s,baz=29,slow=12,SNR=2.3							
ASAR	**Alice Springs**	**22.86**	**207**	P		P	13 11 37.2	-0.1
	0.8nm,0.8s,baz=40,slow=7.7,SNR=6.6							
ILAR	**Eielson Array**	**83.87**	**24**	P		P	13 19 03.6	+0.1
	0.4nm,0.6s,baz=259,slow=4.3,SNR=4.8							

*IDC **11** 13:23:06.3±3.2, 20°.37S×177°.87W, h512km±26km, mb3.5/7, mb1 3.7/8, mb1mx3.3/30, mbtmp4.3/8, Error ellipse: s-maj=57.8km s-min=26.5km az=149.0*
ISC 11 13:23:07.7±1.1, 20°.3S±0°.2×177°.9W±0°.2, h534km, n11, σ1§07/11, mb4.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**303**	P		**P**	**13 24 31.3**	**-1.9**
	5.5nm,0.3s,baz=287,slow=23,SNR=32							
CTA	**Charters Tower**	**33.60**	**264**	P		**P**	**13 29 04.3**	**+0.4**
	3.3nm,0.5s,baz=87,slow=11,SNR=13							
STKA	**Stephens Creek**	**37.97**	**244**	P		**P**	**13 29 40.1**	**+0.2**
	4.6nm,0.8s,baz=98,slow=10,SNR=9.3							
ASAR	**Alice Springs**	**44.66**	**256**	P		**P**	**13 30 33.2**	**+0.1**
	10nm,0.8s,baz=95,slow=8.0,SNR=98							
ASAR				PcP		**PcP**	**13 32 04.8**	**+0.4**
	0.9nm,0.7s,baz=102,slow=4.0,SNR=6.2							
WRA	**Warramunga Arr**	**44.72**	**262**	P		**P**	**13 30 33.1**	**-0.5**
	2.2nm,0.5s,baz=98,slow=8.6,SNR=29							
SIJI	**Sorong**	**53.26**	**285**	P		**P**	**13 31 37.4**	**+0.4**
	6.8nm,0.6s,baz=65,slow=10,SNR=4.8							
TXAR	**Lajitas Array**	**86.86**	**57**	P		**P**	**13 34 56.3**	**+0.3**
	0.1nm,0.3s,baz=203,slow=5.9,SNR=1.9							
VNA3	**Neumayer Olymp**	**88.36**	**176**	P		**P**	**13 35 01.2**	**-1.1**
VNA1	**Neumayer--Stat**	**89.03**	**177**	P		**P**	**13 35 04.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**90.12**	**290**	P		**P**	**13 35 13.2**	**+1.8**
	0.8nm,0.4s,baz=108,slow=2.7,SNR=8.4							
AKASG	**Malin Array Be**	**142.85**	**331**	PKhKP		PKPpre	13 41 37.1	
	1.0nm,0.5s,baz=43,slow=4.2,SNR=5.9							

*IDC **11** 13:25:30.4±1.1, 12°.87N×146°.35E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/38, mbtmp3.6/8, MS3.3/1, Ms1 3.3/1, ms1mx2.5/38, Error ellipse: s-maj=35.5km s-min=24.2km az=100.0*
ISC 11 13:25:35.2±1.0, 12°.9N±0°.2×146°.3E±0°.2, h31km, n14, σ1§05/9, mb3.7/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**20.18**	**229**	P		Pn	13 30 10.8	+1.2
	2.8nm,0.6s,baz=72,slow=13,SNR=3.8							
H11N1	**WAKE ISLAND Hy**	**20.93**	**68**	T		T	13 51 53.4	
	baz=254,slow=75,SNR=9.9							
H11N2	**WAKE ISLAND Hy**	**20.94**	**68**	T		T	13 51 53.3	
	baz=254,slow=75,SNR=7.4							
H11N3	**WAKE ISLAND Hy**	**20.95**	**68**	T		T	13 51 53.4	
	baz=254,slow=75,SNR=11							
HNR	**Honiara**	**25.98**	**148**	LR		LR	13 40 49.1	
	comp=Z,56nm,18.6s,baz=200,slow=35							
WRA	**Warramunga Arr**	**34.64**	**200**	P		**P**	**13 32 21.7**	**-0.2**
	0.8nm,0.7s,baz=25,slow=9.6,SNR=3.7							
ASAR	**Alice Springs**	**38.26**	**198**	P		**P**	**13 32 52.7**	**-0.1**
	0.4nm,0.9s,baz=23,slow=12,SNR=1.7							
CMAR	**Chiang Mai Arr**	**45.81**	**283**	P		**P**	**13 33 54.5**	**-0.1**
	0.4nm,0.3s,baz=77,slow=6.5,SNR=4.6							
SONM	**Songino Array**	**48.11**	**325**	P		**P**	**13 34 11.5**	**-0.8**
	0.4nm,0.5s,baz=132,slow=6.0,SNR=1.9							
MKAR	**Makanchi Array**	**62.96**	**316**	P		**P**	**13 35 59.6**	**+0.7**
	0.5nm,0.6s,baz=87,slow=8.9,SNR=5.0							
ZALV	**Zalesovo Beam**	**63.01**	**324**	P		**P**	**13 36 00.6**	**+1.5**
	0.5nm,0.4s,baz=96,slow=7.7,SNR=2.1							
ILAR	**Eielson Array**	**68.65**	**25**	P		**P**	**13 36 33.8**	**-1.4**
	0.4nm,0.6s,baz=254,slow=6.0,SNR=6.2							
NVAR	**Mina Array Bea**	**86.31**	**52**	P		**P**	**13 38 15.8**	**+1.1**
	0.3nm,0.7s,baz=256,slow=8.0,SNR=2.4							
DBIC	**Dimbokro**	**145.36**	**302**	PKPbc		**PKPab**	**13 45 11.2**	**+0.1**
	4.4nm,1.0s,baz=146,slow=7.3,SNR=2.4							

*IDC **11** 13:44:57.8±1.1, 12°.93N×146°.57E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/51, mbtmp3.6/9, MS3.3/1, Ms1 3.3/1, ms1mx2.4/38, Error ellipse: s-maj=32.1km s-min=23.6km az=96.0*
ISC 11 13:45:02.5±1.1, 12°.9N±0°.2×146°.5E±0°.2, h31km, n10, σ0§77/9, mb3.7/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**24.70**	**327**	LR		LR	13 57 42.6	
	comp=Z,66nm,21.4s,baz=54,slow=31							
KSRS	**Korea Array**	**29.58**	**329**	P		**P**	**13 51 05.4**	**+0.7**
	0.6nm,0.6s,baz=166,slow=6.0,SNR=2.4							
WRA	**Warramunga Arr**	**34.77**	**200**	P		**P**	**13 51 50.8**	**+0.4**
	0.6nm,1.0s,baz=14,slow=9.5,SNR=2.1							
ASAR	**Alice Springs**	**38.39**	**199**	P		**P**	**13 52 21.8**	**+0.5**
	0.2nm,0.7s,baz=10.0,slow=8.0,SNR=2.1							
CMAR	**Chiang Mai Arr**	**46.06**	**283**	P		**P**	**13 53 22.8**	**-1.1**
	0.7nm,0.7s,baz=82,slow=5.7,SNR=8.6							
SONM	**Songino Array**	**48.24**	**324**	P		**P**	**13 53 41.0**	**+0.3**
	0.6nm,0.5s,baz=159,slow=8.6,SNR=2.2							
MKAR	**Makanchi Array**	**63.12**	**316**	P		**P**	**13 55 27.4**	**+0.1**
	0.9nm,0.7s,baz=90,slow=9.1,SNR=5.4							
ZALV	**Zalesovo Beam**	**63.13**	**324**	P		**P**	**13 55 27.1**	**-0.1**
	0.4nm,0.4s,baz=97,slow=5.5,SNR=1.7							
ILAR	**Eielson Array**	**68.50**	**25**	P		**P**	**13 56 02.1**	**+0.5**
	0.3nm,0.5s,baz=246,slow=5.6,SNR=4.8							
NVAR	**Mina Array Bea**	**86.07**	**52**	P		**P**	**13 57 40.0**	**-1.0**
	1.0nm,0.8s,baz=286,slow=6.5,SNR=7.4							

*IDC **11** 13:46:02.9±0.8, 39°.59N×143°.39E, h0km, mb3.7/14, mb1 3.8/17, mb1mx3.7/59, mbtmp3.7/17, ML3.4/3, MS3.1/5, Ms1 3.1/5, ms1mx2.7/52, Error ellipse: s-maj=23.4km s-min=16.5km az=119.0*
*JMA **11** 13:46:03.1±0.2, 39°.62N×143°.65E, h28km, M3.9*
*NIED **11** 13:46:03.2, 39°.62N×143°.65E, h28km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr7.05; Mθθ-0.75; Mφφ-7.80; Mrθ-0.19; Mθφ0.75; Mrφ2.91; Fault plane solution: M₀8.01000×10¹⁴ NP1: ϕs356.00000°, δ56.00000°, λ91.00000°. NP2: ϕs174.00000°, δ34.00000°, λ89.00000°.*
ISC 11 13:46:04.1±0.7, 39°.59N±0°.05×143°.50E±0°.06, h11km, n40, σ1§63/40, mb3.7/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.29**	**270**	P		**Pb**	**13 46 27.6**	**-0.9**
JTH	**Tanohata**	**1.30**	**286**	P		**Pn**	**13 46 27.4**	**-0.9**
JTH				*e*S		**Sg**	**13 46 45.4**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.50**	**295**	P		**Pn**	**13 46 30.2**	**-0.8**
OFUJ	**Ofunato**	**1.51**	**251**	P		**Pn**	**13 46 30.7**	**-0.3**
JOM	**Ohasama**	**1.77**	**267**	P		**Pn**	**13 46 34.1**	**-1.4**
JANG	**Nango**	**1.71**	**298**	P		**Pn**	**13 46 33.0**	**-0.9**
JMK	**Ichinoseki**	**1.88**	**251**	P		**Pn**	**13 46 36.1**	**0.0**
JIO	**Ouri**	**2.02**	**236**	P		**Pn**	**13 46 37.6**	**-0.5**
JTM	**Tenmabayashi**	**2.21**	**303**	P		**Pn**	**13 46 40.9**	**+0.2**
JTM				*e*S		**Sn**	**13 47 08.0**	**0.0**
JYK	**Kaneyama**	**2.53**	**256**	P		**Pn**	**13 46 45.6**	**+0.5**
JOT	**Ohata**	**2.58**	**315**	P		**Pn**	**13 46 45.9**	**0.0**
JOT				*e*S		**Sn**	**13 47 16.1**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.74**	**348**	*e*S		**Sn**	**13 47 21.2**	**0.0**
JCH	**Churui**	**3.02**	**358**	P		**Pn**	**13 46 51.3**	**-0.6**
JCH				*e*S		**Sn**	**13 47 26.0**	**-2.0**
JFT	**Otama**	**3.23**	**231**	P		**Pn**	**13 46 54.8**	**+0.1**
ASAJ	**Asahikawa**	**4.57**	**352**	Pn		**Pn**	**13 47 13.8**	**+0.6**
	2.1nm,0.3s,baz=302,slow=11,SNR=12							
ASAJ				Sn		**Sn**	**13 48 05.0**	**-1.2**
	2.1nm,0.3s,baz=69,slow=30,SNR=4.4							
MJAR	**Matsushiro Arr**	**5.16**	**236**	Pn		**Pn**	**13 47 22.5**	**+1.1**
	0.3nm,0.3s,baz=39,slow=12,SNR=52							
MAT	**Matsushiro**	**5.17**	**236**	P		**Pn**	**13 47 22.8**	**+1.4**
MAT				*e*S		**Sn**	**13 48 25.3**	**+4.3**
JHJ	**Hachijo jima 2**	**7.12**	**206**	Pn		**Pn**	**13 47 46.9**	**-1.3**
	4.6nm,0.3s,baz=72,slow=19,SNR=1.4							
JHJ				Sn		**Sn**	**13 49 02.9**	**-6.2**
	4.0nm,0.3s,baz=62,slow=23,SNR=1.8							
USRK	**Ussuriysk Ar.**	**9.73**	**302**	Pn		**Pn**	**13 48 26.9**	**+2.9**
	baz=90,slow=14,SNR=2.4							
USRK				LR		LR	13 51 46.0	
	comp=Z,81nm,20.9s,baz=84,slow=36							
KSRS	**Korea Array**	**12.38**	**265**	Pn		Pn	13 49 04.6	+4.3
	0.1nm,0.3s,baz=78,slow=12,SNR=4.4							
KSRS				LR		LR	13 53 27.9	
	comp=Z,58nm,18.9s,baz=100,slow=36							
PETK	**Petropavlovsk-**	**16.66**	**31**	LR		LR	13 55 51.5	
	comp=Z,37nm,21.9s,baz=197,slow=35							
SEY	**Seymchan**	**23.98**	**10**	P		**P**	**13 51 20.2**	**+1.9**
	1.7nm,0.8s,baz=187,slow=12,SNR=5.2							
SONM	**Songino Array**	**27.84**	**299**	P		**P**	**13 51 53.6**	**0.0**
	1.3nm,0.7s,baz=96,slow=8.5,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**28.23**	**128**	T		T	14 22 51.9	
	baz=318,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**28.24**	**128**	T		T	14 22 54.9	
	baz=318,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**28.25**	**128**	T		T	14 23 01.0	
	baz=318,slow=75,SNR=16							
ZALV	**Zalesovo Beam**	**41.46**	**310**	P		**P**	**13 53 51.1**	**+0.4**
	0.9nm,0.5s,baz=89,slow=9.3,SNR=3.0							
NRIK	**Noril'sk**	**41.66**	**334**	LR		LR	14 12 10.6	
	comp=Z,55nm,19.9s,baz=166,slow=38							
CMAR	**Chiang Mai Arr**	**43.75**	**254**	P		**P**	**13 54 09.8**	**+0.1**
	0.3nm,0.5s,baz=49,slow=7.9,SNR=4.1							
MKAR	**Makanchi Array**	**44.20**	**300**	P		**P**	**13 54 11.7**	**-1.3**
	1.0nm,0.8s,baz=88,slow=9.8,SNR=9.4							
ILAR	**Eielson Array**	**46.46**	**34**	P		**P**	**13 54 30.2**	**-0.5**
	0.4nm,0.7s,baz=267,slow=5.4,SNR=4.8							
INK	**Inuvik**	**51.36**	**28**	P		**P**	**13 55 09.7**	**+1.5**
	0.6nm,0.7s,baz=321,slow=14,SNR=1.1							
WRA	**Warramunga Arr**	**59.84**	**190**	P		**P**	**13 56 09.2**	**-0.5**
	0.5nm,0.8s,baz=7.6,slow=7.3,SNR=2.4							
ASAR	**Alice Springs**	**63.56**	**190**	P		**P**	**13 56 35.7**	**+1.0**
	0.4nm,0.8s,baz=10,slow=5.7,SNR=2.9							
FINES	**FINESS Array B**	**67.31**	**332**	P		**P**	**13 56 58.8**	**+0.3**
	1.4nm,0.8s,baz=72,slow=8.9,SNR=1.5							
NVAR	**Mina Array Bea**	**72.16**	**55**	P		**P**	**13 57 31.1**	**+2.0**
	0.1nm,0.3s,baz=310,slow=4.2,SNR=2.5							
HFS	**Hagfors**	**72.42**	**336**	P		**P**	**13 57 30.5**	**+0.5**
	1.1nm,0.6s,baz=32,slow=8.5,SNR=2.0							
NOA	**NORSAR Array B**	**72.45**	**338**	P		**P**	**13 57 30.2**	**0.0**
	1.1nm,0.9s,baz=37,slow=6.0,SNR=3.3							
PDAR	**Pinedale Array**	**74.72**	**47**	P		**P**	**13 57 45.0**	**+0.8**
	0.2nm,0.5s,baz=302,slow=4.1,SNR=2.0							
KEST	**Kesra**	**93.95**	**324**	LR		LR	14 48 10.9	
	comp=Z,22nm,18.0s,baz=259,slow=40							

*JMA **11** 14:06:16.8±0.1, 23°.92N×122°.35E, h19km±3km, M3.5*
*NIED **11** 14:06:16.8, 23°.92N×122°.35E, h19km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr0.93; Mθθ-1.31; Mφφ0.38; Mrθ2.10; Mθφ-0.41; Mrφ2.41; Fault plane solution: M₀3.42000×10¹⁴ NP1: ϕs44.00000°, δ82.00000°, λ75.00000°. NP2: ϕs287.00000°, δ17.00000°, λ152.00000°.*
*TAP **11** 14:06:17.6, 24°.01N×122°.36E, h25km, ML3.9, D*
*IDC **11** 14:06:26.6±8.3, 24°.02N×122°.18E, h116km±86km, mb3.3/6, mb1 3.3/7, mb1mx3.1/51, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=40.0km s-min=20.3km az=66.0*
ISC 11 14:06:17.1±1.0, 23°.95N±0°.02×122°.34E±0°.02, h26km±9km, n165, σ0§89/257, mb3.5/6, 31C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.66**	**304**	*e*P		**Pb**	**14 06 30.2**	**+0.2**
	baz=308							
EHP				*e*S		**Sn**	**14 06 40.0**	**-0.2**
	baz=308							
HWA	**Hwalien**	**0.67**	**273**	P		**Pn**	**14 06 30.8**	**-0.1**
	baz=254							
HWA				*e*S		**Sn**	**14 06 41.4**	**+0.8**
	baz=254							
TEYL	**Yanliau Villag**	**0.68**	**264**	P		**Pn**	**14 06 31.1**	**+0.1**
	baz=250							
TEYL				S		**Sn**	**14 06 40.7**	**-0.2**
	baz=250							
ETL	**Fush Village**	**0.69**	**288**	P		**Pb**	**14 06 30.8**	**+0.3**
	baz=268							
ETL				*e*S		**Sn**	**14 06 40.8**	**-0.3**
	baz=268							
TWD	**Chiawan**	**0.69**	**281**	*i* P		**Pb**	**14 06 30.7**	**+0.1**
	baz=276							
TWD				S		**Sb**	**14 06 40.3**	**+0.5**
	baz=276							
EWUT	**Wuta**	**0.71**	**314**	P		**Pb**	**14 06 30.7**	**-0.2**
	baz=308							
EWUT				*e*S		**Sb**	**14 06 40.5**	**+0.1**
	baz=308							
NACB	**Ninganchiao**	**0.72**	**289**	⇑*i* P		**Pb**	**14 06 31.1**	**+0.1**
	baz=269							
NACB				*i* S		**Sn**	**14 06 41.6**	**-0.1**
	baz=269							
JYNG	**Yonagunijimaku**	**0.75**	**48**	P		**Pb**	**14 06 31.1**	**-0.4**
JYNG				S		**Sb**	**14 06 40.2**	**-1.1**
TEGC	**Jichi Village**	**0.77**	**252**	P		**Pb**	**14 06 32.1**	**+0.3**
	baz=248							
TEGC				S		**Sn**	**14 06 43.0**	**0.0**
	baz=248							
ETM	**Tongmen**	**0.78**	**272**	⇑*i* P		**Pb**	**14 06 32.0**	**0.0**
	baz=258							
ETM				*i* S		**Sn**	**14 06 42.9**	**-0.2**
	baz=258							
TWC	**Suao**	**0.80**	**326**	⇓*i* P		**Pb**	**14 06 31.7**	**-0.7**
	baz=322

YULB eS Sn 14 06 51.2 -0.1
baz=254
TWB1 Santiao Chiao 1.10 343 P Pn 14 06 36.9 0.0
baz=324
TWB1 S Sn 14 06 51.0 -0.3
baz=324
TWT Tachien 1.11 286 eP Pb 14 06 37.7 0.0
baz=272
TWT S Sb 14 06 53.2 +1.4
baz=272
EYUL Yuli 1.11 238 P Pn 14 06 37.6 +0.6
baz=236
EYUL S Sb 14 06 52.5 +0.8
baz=236
TDCB Techi 1.12 286 P Pn 14 06 37.7 +0.4
baz=272
TDCB S Sb 14 06 52.6 +0.4
baz=272
TIPB Shuangxi 1.12 335 eP Pb 14 06 37.6 -0.3
baz=331
TIPB eS Sb 14 06 51.8 -0.4
baz=331
TWF1 Yuli 1.12 238 P Pn 14 06 37.7 +0.5
baz=236
TWF1 S Sb 14 06 52.9 +0.8
baz=236
NWLT Wulai 1.13 317⇑eP Pb 14 06 37.9 -0.1
baz=313
NWLT eS Sb 14 06 52.8 +0.6
baz=313
YHNB Yeheng 1.14 310⇑iP Pb 14 06 38.0 -0.1
baz=305
YHNB S Sb 14 06 53.4 +0.8
baz=305
FULB Fuli 1.21 232 eP Pn 14 06 38.5 +0.1
baz=231
CHKT Chengkung 1.23 227 eP Pn 14 06 38.4 -0.2
baz=225
NWF Wu-fen Shan 1.23 336⇑iP Pn 14 06 39.1 +0.4
baz=331
NWF S Sb 14 06 55.5 +0.2
baz=331
WFSB Wu-fen Shan 1.23 336⇑iP Pb 14 06 39.1 -0.5
baz=331
WFSB S Sb 14 06 55.5 +0.4
baz=331
TWA Mucha 1.24 326 eP Pb 14 06 39.9 +0.1
baz=322
TWA S Sb 14 06 56.6 +1.2
baz=322
NHDH Xindian Distri 1.25 324 eP Pb 14 06 40.4 +0.3
baz=319
NHDH S Sb 14 06 57.0 +1.1
baz=319
WPL Puli Township 1.27 273 eP Pb 14 06 40.0 -0.3
baz=270
SSLB Suanglung 1.28 263 ⇑P Pn 14 06 39.8 +0.5
baz=260
SSLB eS Sb 14 06 57.2 +0.6
baz=260
TATO Taipei 1.28 323 P Pb 14 06 40.6 0.0
baz=318
TATO eS Sb 14 06 56.9 +0.1
baz=318
DPDB Guoxing 1.29 274 eP Pb 14 06 40.7 -0.2
baz=271
TNOU National Taiwa 1.30 337 eP Pn 14 06 39.8 +0.1
baz=333
WCS Beigang Elemen 1.31 275 eP Pb 14 06 40.8 -0.2
baz=272
WHP Taichung City 1.32 285 eP Pb 14 06 41.1 -0.1
baz=271
SMLT Sun Moon Lake 1.32 268 ⇑P Pb 14 06 40.9 -0.4
baz=255
SMLT eS Sb 14 06 57.9 +0.1
baz=255
TAP Taipei 1.33 325 eP Pb 14 06 41.0 -0.3
baz=321
TAP eS Sb 14 06 58.6 +0.7
baz=321
BACT New Taipei Cit 1.33 322 eP Pb 14 06 41.0 -0.4
baz=319
IRIF Iriomote-Funau 1.33 73 P Pn 14 06 40.6 +0.7
IRIF eS Sb 14 06 57.5 -0.5
ECS Chishang 1.33 231 eP Pn 14 06 41.1 +1.0
baz=219
ECS eS Sn 14 06 58.0 +1.0
baz=219
HATJ Hateruma jima 1.34 85 P Pb 14 06 41.1 -0.5
HATJ eS Sb 14 06 58.3 -0.1
EDH Donghe 1.36 225 eP Pn 14 06 40.9 +0.5
baz=215
EDH eS Sn 14 06 57.0 -0.6
baz=215
WHYT Xinyi Township 1.38 260 eP Pb 14 06 42.0 -0.3
baz=257
YM01 YM01 1.39 330 eP Pb 14 06 41.8 -0.5
baz=340
YM01 S Sb 14 07 00.2 +0.5
baz=340
NJD Zhudong 1.39 305 eP Pb 14 06 42.0 -0.3
baz=300
NJD eS Sb 14 07 00.8 +1.2
baz=300
LIOB Emei 1.39 300 eP Pb 14 06 42.9 +0.4
baz=296
LIOB eS Sb 14 07 00.9 +1.0
baz=296
NSTT Nanjuang 1.40 299 ⇑P Pb 14 06 42.5 -0.1
baz=283
NSTT S Sb 14 06 60.0 0.0
baz=283
YM08 YM08 1.41 331 eP Pb 14 06 42.2 -0.6
baz=327
YM08 eS Sb 14 06 59.8 -0.6
baz=327
NTY Taoyuan 1.42 318 eP Pb 14 06 42.6 -0.2
baz=315
TWS1 Kuangyinshan 1.42 324 P Pb 14 06 42.5 -0.4
baz=320
TWS1 S Sb 14 07 01.4 +0.7
baz=320
ELDTW Lidau 1.43 238⇑eP Pn 14 06 41.6 +0.2
baz=237
ANP Anpu 1.44 329 eP Pb 14 06 42.7 -0.7
baz=324
ANP eS Sb 14 07 01.4 +0.1
baz=324
NCU National Centr 1.46 314 eP Pb 14 06 43.1 -0.6
baz=311
NCUH Zhongli 1.46 314 eP Pb 14 06 43.1 -0.6
baz=310
ALS Alishan 1.47 253⇑iP Pb 14 06 43.5 -0.4
baz=251
ALS S Sb 14 07 02.3 -0.1
baz=251
WJS Zhushan 1.48 266 eP Pb 14 06 44.3 +0.4
baz=263
TWY Chenhua 1.48 333 eP Pb 14 06 43.6 -0.4
baz=330
TWQ1 Liyutan 1.49 286 ⇑P Pb 14 06 44.4 +0.3
baz=282
TWQ1 eS Sb 14 07 03.7 +1.2
baz=282
SBCB Hsinchu 1.50 305 P Pb 14 06 43.9 -0.3
baz=299
SBCB eS Sb 14 07 04.9 +2.1
baz=299
LDUT Ludao 1.50 212 eP Pn 14 06 42.2 -0.1
baz=212
WWF Wufeng 1.50 274 eP Pb 14 06 44.9 +0.6
baz=271
HSN Hsinchu 1.51 305 eP Pb 14 06 43.7 -0.8
baz=301
HSN eS Sb 14 07 03.4 +0.2
baz=301
NSY Sanyi 1.52 288 eP Pb 14 06 44.4 -0.2
baz=285
WNT Mingjian 1.52 268 eP Pb 14 06 44.6 +0.1
baz=265
LONT Longtian 1.52 227 eP Pn 14 06 43.0 +0.3
baz=239
LONT S Sn 14 07 02.3 +0.8
baz=239
WNT1 Nantou City 1.52 269 eP Pb 14 06 45.0 +0.3
baz=266
NJN Zhunan 1.53 299 eP Pb 14 06 44.7 -0.1
baz=296

NMLH Miaoli 1.53 293 eP Pb 14 06 44.9 +0.1
baz=289
TCU Taichung 1.53 278 eP Pb 14 06 45.2 +0.3
baz=275
JKRS Kuro-shima 1.55 79 P Pn 14 06 44.1 +1.1
JKRS eS Sb 14 07 04.0 -0.4
CHN5 Tsauling 1.56 257 ⇑P Pb 14 06 45.1 -0.3
baz=244
CHN5 eS Sb 14 07 05.4 +0.6
baz=244
WDJ Dajia District 1.60 285 eP Pb 14 06 45.6 -0.5
baz=282
TWGBT Beinan 1.61 226 eP Pn 14 06 44.0 +0.1
baz=238
TWGBT eS Sn 14 07 03.7 -0.1
baz=238
TTN Taitung 1.61 223 eP Pb 14 06 45.8 -0.5
baz=222
TWG Pinlang 1.62 226 eP Pn 14 06 44.3 +0.3
baz=238
TWG eS Sn 14 07 03.8 -0.1
baz=238
STYH Taoyuan 1.63 242 eP Pn 14 06 45.5 +1.4
baz=231
STYH S Sb 14 07 06.7 +0.1
baz=231
WCHH Zhanghua 1.63 275 eP Pb 14 06 46.6 +0.1
baz=272
STYT Tauyuan 1.65 242 ⇑P Pn 14 06 45.8 +1.4
baz=231
STYT eS Sn 14 07 06.2 +1.4
baz=231
WGK Gukeng 1.65 261 eP Pb 14 06 46.4 -0.4
baz=259
WDLH Douliu 1.67 262 eP Pb 14 06 47.2 0.0
baz=259
PCYT Pengchaiyu 1.69 352 eP Pn 14 06 45.2 +0.2
baz=349
TPUB Ta-pu 1.69 248 ⇑P Pb 14 06 47.0 -0.6
baz=246
TPUB eS Sb 14 07 08.7 +0.1
baz=246
JIJ Ishigaki jima 1.70 75 P Pn 14 06 45.6 +0.5
JIJ S Sb 14 07 07.6 -1.0
CHN4 Tsaushan 1.71 250 eP Pb 14 06 47.4 -0.5
baz=248
CHN4 eS Sb 14 07 09.8 +0.9
baz=248
WTP Ta-pu 1.73 247 ⇑P Pb 14 06 47.6 -0.7
baz=245
WTP eS Sb 14 07 09.8 +0.2
baz=245
CHN2 Minshiung 1.76 257 eP Pb 14 06 49.0 +0.3
baz=255
WTK Tuku 1.81 262 eP Pb 14 06 49.1 -0.4
baz=249
CHY Chiayi 1.81 256 eP Pb 14 06 48.6 -1.0
baz=254
SLGT Liugui 1.82 239 eP Pb 14 06 48.7 -1.0
baz=228
CHN1 Nanshi 1.83 246 eP Pb 14 06 49.1 -0.8
baz=244
CHN1 eS Sb 14 07 12.8 +0.4
baz=244
SGST Jiashian 1.83 242 eP Pn 14 06 48.5 +1.6
baz=232
SGST S Sb 14 07 12.2 -0.1
baz=232
TWK Hsinying 1.83 249 eP Pb 14 06 49.0 -0.9
baz=247
TWK eS Sb 14 07 12.3 -0.1
baz=247
SNST Tainan City 1.84 247 eP Pb 14 06 49.2 -0.9
baz=246
ECL Taimali 1.85 224 eP Pn 14 06 47.4 +0.2
baz=233
WTCT Ta-ch'eng 1.89 268 eP Pb 14 06 49.7 -1.1
baz=278
WTCT eS Sb 14 07 14.1 +0.1
baz=278
JISG Ishigakijimahi 1.91 70 P Pn 14 06 48.4 +0.5
JISG S Sn 14 07 12.0 +0.9
WSF Szhu 1.96 261 eP Pn 14 06 50.6 +2.0
baz=260
SSD Sandimen 1.97 233 eP Pn 14 06 50.8 +2.0
baz=226
SSD S Sb 14 07 15.6 -0.9
baz=226
ICHU Yijhu 1.98 253 eP Pn 14 06 50.9 +2.0
baz=252
TSMG Majia 1.99 232 eP Pb 14 06 51.3 -1.3
baz=223
SCST Cishan 2.00 238 eP Pb 14 06 52.2 -0.5
baz=229
CHN3 Shinhua 2.01 245 eP Pb 14 06 52.1 -0.8
baz=244
LAY Lan-yu 2.03 201 eP Pn 14 06 50.1 +0.4
baz=211
LAY eS Sn 14 07 12.7 -1.5
baz=211
CHN8 Yiju 2.04 253 eP Pn 14 06 51.7 +1.9
baz=251
CHN8 eS Sb 14 07 17.8 -0.7
baz=251
MASBT Mashibuluo 2.06 230 eP Pn 14 06 51.4 +1.4
baz=224
MASBT eS Sb 14 07 17.8 -1.1
baz=224
EAST Anshuo 2.08 222 eP Pn 14 06 50.6 +0.3
baz=222
TWM1 Shoushan 2.09 238 eP Pb 14 06 54.1 -0.2
baz=236
SGLT Jiouru 2.09 235 eP Pb 14 06 54.3 -0.1
baz=234
SCLT Jiali 2.11 249 eP Pb 14 06 53.4 -1.4
baz=248
TSPT Pingtung City 2.11 234 eP Pn 14 06 53.7 -1.0
baz=233
SSPT Xinbi 2.19 229 eP Pb 14 06 54.4 -1.6
baz=222
SNJT Kaohsiung City 2.19 238 eP Pb 14 06 54.5 -1.5
baz=237
SCZT Fangliau 2.23 226 eP Pn 14 06 54.3 +2.0
baz=225
SLIU Shizi 2.23 220 eP Pn 14 06 54.0 +1.6
baz=220
JTJ Tarama 2.26 72 P Pn 14 06 54.5 +1.7
JTJ eS Sn 14 07 21.6 +1.7
TWP Hsiaoliuchiu 2.42 229 eP Pb 14 06 58.7 -1.2
baz=244
HEN Hengchun 2.43 218 eP Pn 14 06 57.9 +2.8
baz=218
TSEB Hengchuen, Pin 2.43 213 eP Pb 14 06 58.4 -1.7
baz=215
TWKBT Hengchun 2.44 215 eP Pn 14 06 56.7 +1.4
baz=216
TWK1 Hengchun 2.44 216 eP Pn 14 06 56.7 +1.4
baz=216
WDGT Dungji 2.55 255 eP Pn 14 06 58.5 +1.7
baz=242
WDGT eS Sn 14 07 28.0 +1.0
baz=242
PHUB P'eng-hu 2.57 261 P Pn 14 06 58.6 +1.6
baz=259
PHUB S Sn 14 07 29.2 +1.7
baz=259
PNG Penghu 2.58 262 eP Pn 14 06 58.7 +1.5
baz=260
PNG S Sn 14 07 29.7 +2.0
baz=260
JIRB Irabujima 2.73 71 P Pn 14 07 00.5 +1.3
VCHM Qimei 2.77 255 P Pn 14 07 01.4 +1.6
baz=253
VCHM eS Sn 14 07 33.5 +1.2
baz=253
JIKM Ikemajima 2.82 69 P Pn 14 07 03.3 +2.8
JMJ Miyako jima 2 2.83 72 eP Pn 14 07 02.8 +2.2
baz=75
JMJ eS Sn 14 07 34.9 +1.1
baz=75
VWUC VWUC 2.83 292 eP Pn 14 07 01.1 +0.5
baz=289
JMJ2 Miyako jima3 2.84 73 P Pn 14 07 02.9 +2.2
JMJ2 eS Sn 14 07 36.4 +2.3
JOGS Gusukube 2.91 73 P Pn 14 07 04.5 +2.7
JOGS eS Sn 14 07 38.7 +2.8
MATB Ma-tsu 3.09 316 eP Pn 14 07 04.0 -0.2
baz=312

MSUT Lienchiang 3.11 316 eP Pn 14 07 04.3 -0.2
baz=312
PTMZ Houxiangcun 3.13 291⇑eP Pn 14 07 05.3 +0.6
baz=288
LYJJ Jianjiangzhen 3.49 319 eP Pn 14 07 09.6 -0.1
baz=315
XPSS Dashiqiu 3.55 327 eP Pn 14 07 10.6 +0.1
baz=333
KNM Kinmen 3.60 278 eP Pn 14 07 13.7 +2.5
baz=276
KNMB Chin-men Tao 3.64 279 eP Pn 14 07 12.5 +0.6
baz=277
MHZQ Yeshan 3.69 306 eP Pn 14 07 12.5 0.0
baz=301
MHZQ eS Sn 14 07 54.2 -0.9
baz=301
AXDP Jialang 4.09 284 eP Pn 14 07 18.7 +0.7
baz=282
ZPLA Ao Xicun 4.20 271 eP Pn 14 07 20.3 +0.9
baz=269
KSRS Korea Array 14.29 18 P P 14 09 43.2 -1.4
0.1nm,0.3s,baz=202,slow=12,SNR=3.9
CMAR Chiang Mai Arr 22.47 260 P P 14 11 14.9 +0.3
0.4nm,0.3s,baz=76,slow=7.5,SNR=2.1
SONM Songino Array 27.00 336 P P 14 11 56.8 -0.2
1.1nm,0.5s,baz=134,slow=10,SNR=4.7
MKAR Makanchi Array 39.24 316 P P 14 13 43.2 -0.2
0.5nm,0.4s,baz=104,slow=8.1,SNR=6.5
ZALV Zalesovo Beam 41.02 327 P P 14 13 55.8 -2.2
0.9nm,0.5s,baz=111,slow=7.9,SNR=3.8
WRA Warramunga Arr 45.16 164 P P 14 14 32.4 +0.5
0.4nm,0.8s,baz=346,slow=8.9,SNR=1.8
ASAR Alice Springs 48.64 166 P P 14 14 59.9 +0.9
0.2nm,0.5s,baz=348,slow=7.3,SNR=1.5

MEX 11 14:17:51.0±0.3, 14.03N×92.90W, h53km±365km, MD3.6, Near coast of Chiapas

IDC 11 14:35:17.4±1.6, 7.07S×120.59E, h433km±15km, mb2.9/2, mb1 3.1/6, mb1mx2.8/47, mbtmp3.7/6, Error ellipse: s-maj=122.8km s-min=16.6km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.20**	**338**	P	P		14 36 18.6	+1.0
	3.9nm,0.3s,baz=180,slow=7.1,SNR=6.3							
BATI	**Baumata**	**4.35**	**136**	P	P		14 36 35.0	+0.2
	5.5nm,0.3s,baz=348,slow=9.3,SNR=8.9							
BATI				S	S		14 37 36.5	-1.2
	2.9nm,0.3s,baz=332,slow=2.5,SNR=4.1							
FITZ	**Fitzroy Crossi**	**12.02**	**156**	P	P		14 37 55.8	-0.9
	0.1nm,0.3s,baz=344,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**18.49**	**135**	P	P		14 39 05.9	+0.2
	0.2nm,0.3s,baz=312,slow=10,SNR=14							
ASAR	**Alice Springs**	**20.88**	**144**	P	P		14 39 28.4	+0.6
	1.4nm,0.4s,baz=319,slow=8.4,SNR=79							
MKAR	**Makanchi Array**	**63.49**	**332**	P	P		14 45 02.8	-0.7
	0.3nm,0.4s,baz=130,slow=9.2,SNR=2.5							

*JMA **11** 14:40:57.5±0.1, 38.40N×142.28E, h36km±2km, M4.0*
*NIED **11** 14:40:57.5, 38.40N×142.28E, h36km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-2.40; Mθθ0.02; Mφφ2.38; Mrθ0.79; Mθφ-0.41; Mφr-0.79; Fault plane solution: M0 2.67000×10^14 NP1: φs337.00000°, δ57.00000°, λ-105.00000°. NP2: φs184.00000°, δ36.00000°, λ-68.00000°.*
*IDC **11** 14:41:00.9±3.0, 38.47N×142.28E, h65km±28km, mb3.6/4, mb1 3.7/6, mb1mx3.3/39, mbtmp3.7/6, ML2.9/2, MS2.6/2, Ms1 2.6/2, ms1mx2.2/39 Error ellipse: s-maj=45.5km s-min=17.7km az=98.0*
ISC 11 14:40:56.3±1.8, 38.40N±0.04×142.33E±0.08, h25km±12km, n28, σ1°42/33, mb4.1/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.69**	**262**	P	**Pb**		**14 41 09.9**	**+0.3**
JIKH				S	**Sb**		**14 41 18.4**	**-0.3**
JIO	**Ouri**	**0.78**	**274**	P	**Pn**		**14 41 11.5**	**-0.1**
JIO				S	**Sb**		**14 41 21.1**	**-0.1**
JKMT	**Kesennumamotoy**	**0.79**	**301**	P	**Pn**		**14 41 11.8**	**+0.1**
JKMT				S	**Sn**		**14 41 21.8**	**-0.9**
OFUJ	**Ofunato**	**0.85**	**323**	P	**Pb**		**14 41 12.9**	**+0.5**
OFUJ				S	**Sn**		**14 41 23.6**	**-0.7**
JMK	**Ichinoseki**	**1.03**	**302**	P	**Pb**		**14 41 15.5**	**+0.1**
JMK				S	**Sb**		**14 41 28.2**	**-0.3**
JOU	**Okura**	**1.31**	**269**	P	**Pn**		**14 41 19.6**	**+0.6**
JOU				S	**Sn**		**14 41 35.7**	**0.0**
JMM	**Marumori**	**1.33**	**247**	P	**Pn**		**14 41 18.9**	**-0.3**
JMM				eS	**Sn**		**14 41 34.7**	**-1.4**
JOM	**Ohasama**	**1.34**	**323**	P	**Pb**		**14 41 20.3**	**-0.4**
JOM				S	**Sb**		**14 41 37.1**	**-0.4**
JFK	**Kawauchi**	**1.55**	**229**	P	**Pn**		**14 41 21.6**	**-0.7**
JFK				S	**Sn**		**14 41 38.8**	**-2.8**
JYK	**Kaneyama**	**1.63**	**289**	P	**Pb**		**14 41 24.3**	**-1.3**
JRG	**Rokugo**	**1.66**	**307**	P	**Pb**		**14 41 25.2**	**-0.9**
JYS	**Shirataka**	**1.79**	**265**	P	**Pn**		**14 41 26.3**	**+0.7**
JFT	**Otama**	**1.81**	**241**	P	**Pn**		**14 41 26.5**	**+0.7**
JFT				S	**Sn**		**14 41 48.1**	**+0.1**
MJAR	**Matsushiro Arr**	**3.77**	**242**	P	**Pn**		**14 41 56.1**	**+3.3**
	0.2nm,0.3s,baz=66,slow=12,SNR=13							
MJAR				LR		LR	14 43 22.9	
	comp=Z,51nm,21.3s,baz=70,slow=38							
MAT	**Matsushiro**	**3.77**	**242**	P	**Pn**		**14 41 56.7**	**+3.9**
MAT				eS	**Sn**		**14 42 39.8**	**+3.4**
JHJ	**Hachijo jima 2**	**5.67**	**202**	P	**Pn**		**14 42 18.9**	**0.0**
	4.9nm,0.3s,baz=73,slow=21,SNR=1.7							
JHJ				S	**Sn**		**14 43 21.7**	**-1.4**
	9.7nm,0.3s,baz=82,slow=23,SNR=1.6							
ASAJ	**Asahikawa**	**5.71**	**2**	P	Pn		14 42 23.6	+4.1
	0.6nm,0.3s,baz=188,slow=9.3,SNR=8.6							
ASAJ				S		**Sn**	**14 43 25.5**	**+1.3**
	0.7nm,0.3s,baz=162,slow=22,SNR=1.8							
MA2	**Magadan**	**21.86**	**12**	LR	LR		14 55 12.8	
	comp=Z,24nm,19.6s,baz=10,slow=39							
H11N2	**WAKE ISLAND Hy**	**28.27**	**124**	T	T		15 16 44.4	
	baz=319							
H11N1	**WAKE ISLAND Hy**	**28.28**	**124**	T	T		15 16 40.1	
	baz=319,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.29**	**124**	T	T		15 16 35.9	
	baz=319,slow=74							
H11S1	**WAKE ISLAND Hy**	**29.04**	**126**	T	T		15 17 52.4	
	baz=318,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**29.04**	**126**	T	T		15 18 18.8	
	baz=318,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**29.05**	**126**	T	T		15 18 12.4	
	baz=318,slow=76,SNR=12							
MKAR	**Makanchi Array**	**44.02**	**301**	P	**P**		**14 49 01.1**	**-0.6**
	0.6nm,0.9s,baz=76,slow=9.0,SNR=2.9							
WRA	**Warramunga Arr**	**58.52**	**189**	P	**P**		**14 50 50.6**	**+0.1**
	1.4nm,0.7s,baz=5.4,slow=7.1,SNR=8.1							
ASAR	**Alice Springs**	**62.25**	**189**	P	**P**		**14 51 16.4**	**+0.5**
	0.8nm,0.7s,baz=14,slow=6.3,SNR=5.2							
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**		**14 51 52.3**	**-0.2**
	2.5nm,0.8s,baz=46,slow=8.0,SNR=3.1							

*BGR **11** 14:41:35.4±0.0, 17.94S×177.06W, h33km*
*NEIC **11** 14:42:33.6±1.9, 17.7S±0.1×178.7W±0.1, h541km±7km, mb4.3/37, Error ellipse: s-maj=17.9km s-min=14.8km az=131.0*
*IDC **11** 14:42:35.7±0.9, 17.71S×178.77W, h567km±7km, mb3.5/16, mb1 3.7/18, mb1mx3.5/36, mbtmp4.4/18, Error ellipse: s-maj=17.2km s-min=11.1km az=140.0*
ISC 11 14:42:33.8±0.4, 17.69S±0.07×178.64W±0.07, h550km, n126, σ0°87/131, mb4.2/35, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.15**	**269**	P	**P**		**14 43 51.3**	**+1.4**
	28nm,0.3s,baz=61,slow=4.5,SNR=134							
MSVF				S	**S**		**14 44 55.8**	**+4.0**
	baz=323,slow=21,SNR=14							
NIUE	**Niue**	**8.39**	**101**	P	**P**		**14 44 34.7**	**-0.8**
RAO	**Raoul Island**	**11.53**	**177**	S	**S**		**14 47 15.4**	**+1.7**
	14nm,0.3s,baz=77,slow=23,SNR=1.5							
PINNC	**Pines Island,**	**13.95**	**247**	P	**P**		**14 45 31.7**	**-0.7**
OUENC	**Ouen Island, N**	**14.42**	**249**	P	**P**		**14 45 36.6**	**-0.7**
DZM	**Mont Dzumac**	**14.69**	**250**	P	**P**		**14 45 38.8**	**-1.4**
	0.7nm,0.3s,baz=107,slow=23,SNR=8.1							

DZM	Mont Dzumac	14.69 250	P	P	14 45 38.2	-1.9
KNTN	Kanton	16.30 25	P	P	14 45 54.9	-1.4
URZ	Urewera	20.83 189	P	P	14 46 34.9	-2.3
EIDS	Eidsvold	29.13 250	P	P	14 47 50.6	-0.2
EIDS			IAmb	IAmb	14 47 51.0	
	comp=Z,16nm,1.1s					
ARMA	Armidale	29.86 239	P	P	14 47 57.7	+0.6
ARMA			IAmb	IAmb	14 48 00.8	
	comp=Z,11nm,1.1s					
CTAO	Charters Tower	33.26 260	P	P	14 48 26.1	-0.1
PATS	Pohnpei	33.34 315	P	P	14 48 26.4	-0.6
CAN	Canberra	33.66 232	P	P	14 48 30.6	+1.2
CAN			IAmb	IAmb	14 48 39.5	
	comp=Z,5.0nm,1.0s					
TOO	Toolangi	37.13 230	P	P	14 48 58.8	+0.6
TOO			IAmb	IAmb	14 48 59.3	
	comp=Z,8.6nm,0.8s					
STKA	Stephens Creek	38.54 241	P	P	14 49 09.8	+0.1
	comp=Z,3.8nm,0.5s,baz=80,slow=11,SNR=6.2					
STKA	Stephens Creek	38.54 241	P	P	14 49 10.3	+0.6
BBOO	Buckleboo	43.32 241	P	P	14 49 47.8	+0.2
BBOO			IAmb	IAmb	14 49 48.5	
	comp=Z,14nm,0.9s					
HMH	Humu'ula Sheep	43.48 33	P	P	14 49 49.4	0.0
WR0	Warramunga Arr	44.26 259	P	P	14 49 54.1	-1.0
WR0			IAmb	IAmb	14 50 09.7	
	comp=Z,5.2nm,1.1s					
WB0	Warramunga Arr	44.42 260	P	P	14 49 55.4	-0.9
WB0			IAmb	IAmb	14 49 57.5	
	comp=Z,5.7nm,1.0s					
WB2	Warramunga Arr	44.44 259	P	P	14 49 55.7	-0.8
WB2			IAmb	IAmb	14 49 58.5	
	comp=Z,4.3nm,0.7s					
WRA	Warramunga Arr	44.45 259	P	P	14 49 55.4	-1.2
	comp=Z,2.7nm,0.5s,baz=95,slow=7.5,SNR=107					
WRA			PcP	PcP	14 51 28.2	0.0
	comp=Z,1.5nm,0.5s,baz=92,slow=3.4,SNR=7.7					
WRA			S	S	14 55 50.3	-1.7
	comp=Z,0.5nm,0.7s,baz=106,slow=11,SNR=2.2					
AS31	Alice Springs	44.63 254	P	P	14 49 57.1	-0.8
AS31			IAmb	IAmb	14 49 58.4	
	comp=Z,9.6nm,0.6s					
ASAR	Alice Springs	44.63 254	P	P	14 49 57.8	-0.2
	comp=Z,27nm,0.4s,baz=90,slow=7.8,SNR=1388					
ASAR			PcP	PcP	14 51 28.9	0.0
	comp=Z,2.4nm,0.4s,baz=93,slow=3.3,SNR=9.2					
ASAR			S	S	14 55 52.1	-2.5
	comp=Z,1.2nm,0.9s,baz=83,slow=15,SNR=6.6					
ASAR	Alice Springs	44.63 254	P	P	14 49 56.5	-1.4
ASAR				PcP	14 51 29.1	+0.3
MTN	Manton Dam	48.58 268	P	P	14 50 27.5	-0.3
MTN			IAmb	IAmb	14 50 30.9	
	comp=Z,9.4nm,1.1s					
FORT	Forrest	49.90 244	P	P	14 50 36.9	-0.4
KNRA	Kununurra	50.29 264	P	P	14 50 40.1	-0.2
KNRA			IAmb	IAmb	14 50 40.8	
	comp=Z,13nm,0.7s					
FAKI	Fak Fak	50.31 281	P	P	14 50 40.2	-0.4
FAKI			IAmb	IAmb	14 50 46.1	
	comp=Z,16nm,1.1s					
FITZ	Fitzroy Crossi	52.84 260	P	P	14 50 59.3	+0.5
SOEI	Soe	55.85 270	P	P	14 51 21.6	+1.5
SOEI			IAmb	IAmb	14 51 22.4	
	comp=Z,25nm,0.9s					
PSA00	Pilbara Seismi	57.75 255	P	P	14 51 32.0	-0.9
PSA00	Pilbara Seismi	57.75 255	P	P	14 51 32.4	-0.5
PSA00			IAmb	IAmb	14 51 33.2	
	comp=Z,9.9nm,0.7s					
MORW	Morawa	60.36 246	P	P	14 51 48.9	-1.5
SBA	Scott Base	60.62 184	P	P	14 51 52.9	+1.8
VNDA	Vanda	60.64 185	P	P	14 51 51.9	+0.7
	comp=Z,1.4nm,0.8s,baz=352,slow=7.6,SNR=7.3					
VNDA	Vanda	60.64 185	P	P	14 51 51.7	+0.4
TOLI2	Tolitoli	62.45 281	P	P	14 52 05.6	+1.5
GIRL	Giralia	62.74 253	P	P	14 52 06.7	+0.8
JAGI	Jajag, Banyuwa	65.82 269	P	P	14 52 24.4	-1.1
CASY	Casey	66.24 205	P	P	14 52 27.1	-0.1
CASY			IAmb	IAmb	14 52 29.0	
	comp=Z,8.9nm,0.8s					
MJAR	Matsushiro Arr	67.60 323	P	P	14 52 36.0	0.0
	comp=Z,3.0nm,0.5s,baz=159,slow=6.4,SNR=8.2					
MJAR	Matsushiro Arr	67.60 323	P	P	14 52 35.9	-0.1
MAJO	Matsushiro	67.60 323	P	P	14 52 36.0	-0.1
MAJO			IAmb	IAmb	14 52 36.8	
	comp=Z,4.7nm,0.9s					
MAT	Matsushiro	67.60 323	P	P	14 52 35.9	-0.1
JSD	Sado	68.63 325	P	P	14 52 43.3	+1.0
JSD			IAmb	IAmb	14 52 43.5	
	comp=Z,14nm,1.0s					
UGM	Wanagama	69.43 268	P	P	14 52 47.7	+0.1
JHS	Saijyo	69.58 319	P	P	14 52 49.2	+1.1
JHS			IAmb	IAmb	14 52 50.0	
	comp=Z,11nm,0.7s					
ASAJ	Asahikawa	70.98 332	P	P	14 52 57.8	+1.7
	comp=Z,4.5nm,1.1s,baz=180,slow=15,SNR=5.5					
QSPA	South Pole Qui	72.36 180	P	P	14 53 04.4	+0.4
QSPA			IAmb	IAmb	14 53 05.3	
	comp=Z,12nm,0.9s					
PETK	Petropavlovsk-	73.41 345	P	P	14 53 10.2	+0.2
	comp=Z,2.1nm,0.6s,baz=128,slow=9.6,SNR=3.9					
KSRS	Korea Array	74.39 318	P	P	14 53 16.7	+0.9
	comp=Z,0.8nm,0.6s,baz=129,slow=6.0,SNR=5.5					
KDAK	Kodiak Island	78.24 14	P	P	14 53 36.3	-0.2
	comp=Z,3.1nm,0.6s,baz=184,slow=4.9,SNR=1.5					
NVAR	Mina Array Bea	79.42 44	P	P	14 53 44.0	+0.5
	comp=Z,0.3nm,0.5s,baz=218,slow=9.6,SNR=3.7					
SEY	Seymchan	83.51 347	P	P	14 54 03.4	-0.2
	comp=Z,5.6nm,0.6s,baz=155,slow=5.1,SNR=26					
MAW	Mawson	83.99 200	P	P	14 54 06.2	+0.1
	comp=Z,4.4nm,0.5s,baz=127,slow=3.0,SNR=16					
MAW	Mawson	83.99 200	P	P	14 54 06.5	+0.4
ILAR	Eielson Array	85.72 13	P	P	14 54 13.5	-0.9
	comp=Z,0.5nm,0.3s,baz=223,slow=5.3,SNR=14					
TXAR	Lajitas Array	86.07 58	P	P	14 54 18.5	+1.5
	comp=Z,1.4nm,0.7s,baz=216,slow=6.3,SNR=14					
TXAR	Lajitas Array	86.07 58	P	P	14 54 18.1	+1.1
PDAR	Pinedale Array	87.35 44	P	P	14 54 23.0	+0.1
	comp=Z,0.5nm,0.5s,baz=147,slow=1.8,SNR=1.8					
CMAR	Chiang Mai Arr	88.60 290	P	P	14 54 30.6	+1.6
	comp=Z,1.1nm,0.3s,baz=110,slow=2.7,SNR=13					
SNAA	Sanae	90.82 179	P	P	14 54 37.7	-0.7
VNA3	Neumayer Olymp	90.97 176	P	P	14 54 38.9	-0.1
VNA1	Neumayer--Stat	91.64 177	P	P	14 54 42.0	0.0
MKAR	Makanchi Array	108.82 314	PKiKP	PKiKP	15 00 00.0	-0.8
	comp=Z,0.8nm,0.5s,baz=112,slow=0.4,SNR=9.6					
ARCES	ARCESS Array B	126.06 350	PKP	PKPdf	15 00 32.6	-0.5
	comp=Z,2.7nm,0.8s,baz=335,slow=4.0,SNR=4.1					
FINES	FINESS Array B	132.92 344	PKP	PKPdf	15 00 46.3	0.0
	comp=Z,1.0nm,0.7s,baz=49,slow=6.3,SNR=4.7					
AKASG	Malin Array Be	140.26 332	PKiKP	PKPpre	15 00 53.1	
	comp=Z,0.8nm,0.4s,baz=43,slow=3.5,SNR=4.0					
AKASG			PKP	PKiKP	15 01 02.2	-0.7
	comp=Z,0.7nm,0.4s,baz=44,slow=2.8,SNR=2.4					
BSEG	Bad Segeberg	143.16 351	*e*PKPbc	PKPbc	15 01 03.4	-0.1
	baz=15,slow=2.8					
BR131	Keskin Array S	144.47 315		PKPab	15 01 08.7	0.0
BRTR	Keskin Array B	144.47 315	PKP	PKPdf	15 01 08.1	-0.1
	comp=Z,4.4nm,0.9s,baz=64,slow=0.4,SNR=24					
BRTR	Keskin Array B	144.47 315		PKPab	15 01 08.7	0.0
KOLS	Kolonicke sedl	144.51 336	*e*PKP	PKPab	15 01 09.1	+0.7
FLTG	Flechtingen	144.57 350	*e*PKPbc	PKPbc	15 01 07.7	-0.1
	baz=15,slow=2.8					
NRDL	Niedersach Rie	144.59 351	*e*PKPbc	PKPab	15 01 08.2	-0.2
	baz=15,slow=2.8					
CRVS	Cervenica-Dubn	144.85 337	*e*PKP	PKPab	15 01 09.6	-0.1
IBBN	Ibbenburen	145.09 353	*e*PKPbc	PKPbc	15 01 09.8	+0.4
	baz=15,slow=2.8					
CHVC	Chvalec	145.13 344	*e*PKP	PKPab	15 01 10.4	-0.3
CLZ	Clausthal	145.18 350	*e*PKPbc	PKPab	15 01 10.4	-0.5
	baz=15,slow=2.8					
CLL	Collm	145.20 347	*i* PKPbc	PKPbc	15 01 09.7	-0.1
	comp=Z,10.0nm,0.6s					
CLL	Collm	145.20 347	*e*PKPbc	PKPbc	15 01 10.0	+0.2
	baz=15,slow=2.8					
UPC	Upice	145.22 344	*e*PKP	PKPbc	15 01 10.3	+0.4
DPC	Dobruska-Polom	145.27 343	*e*PKP	PKPbc	15 01 09.7	-0.5
LANS	Liptovska Anna	145.35 339	*e*PKP	PKPab	15 01 11.8	+0.1
KRLC	Kraliky	145.39 342	*e*PKP	PKPdf	15 01 08.9	-0.4
BRG	Berggiesshubel	145.40 346	*i* PKP	PKPab	15 01 11.1	-0.6
BRG			Amp		15 01 11.8	
	comp=Z,4.1nm,0.7s					
BRG	Berggiesshubel	145.40 346	*e*PKPbc	PKPbc	15 01 10.9	+0.4
	baz=15,slow=2.8					
MORC	Moravsky Berou	145.43 341	*e*PKP	PKPbc	15 01 11.0	+0.4
FBE	Freiberg	145.49 347	*e*PKPbc	PKPab	15 01 11.4	-0.6
	baz=15,slow=2.8					
GTTG	Gottingen	145.53 350	*e*PKPbc	PKPbc	15 01 11.2	+0.4
	baz=15,slow=2.8					
PRU	Pruhonice	146.07 345	*e*PKP	PKPbc	15 01 12.6	+0.2
MOX	Moxa	146.11 348	*e*PKPbc	PKPbc	15 01 12.8	+0.3
	baz=15,slow=2.8					
VYHS	Vyhne	146.13 339	*e*PKP	PKPbc	15 01 13.5	+0.9
PLN	Plauen	146.16 348	*e*PKPbc	PKPbc	15 01 13.0	+0.4
	baz=15,slow=2.8					
TANN	Tannenbergstha	146.16 347	*e*PKPbc	PKPbc	15 01 13.0	+0.4
	baz=15,slow=2.8					
JAVC	Velka Javorina	146.20 341	*e*PKP	PKPab	15 01 14.6	-0.4
GUNZ	Gunzen	146.23 347	*e*PKPbc	PKPbc	15 01 13.4	+0.5
	baz=15,slow=2.8					
KRUC	Moravsky	146.41 342	*e*PKP	PKPbc	15 01 13.9	+0.6
MANZ	Manzenberg	146.64 347	*e*PKPbc	PKPbc	15 01 14.6	+0.6
	baz=15,slow=2.8					
ROTZ	Rotzenmuhle	146.82 347	*e*PKPbc	PKPbc	15 01 14.9	+0.5
	baz=15,slow=2.8					
GRF	Grafenberg Arr	147.10 348	*e*PKPbc	PKPbc	15 01 15.8	+0.6
	baz=15,slow=2.8					
KHC	Kasperske Hory	147.11 345	*e*PKP	PKPbc	15 01 15.2	-0.1
CKRC	Cesky Krumlov	147.21 344	*e*PKP	PKPbc	15 01 16.0	+0.5
MILB	Miltenberg	147.31 350	*e*PKPbc	PKPbc	15 01 16.2	+0.5
	baz=15,slow=2.8					
GEC2	GERESS Array S	147.34 345	*e*PKPbc	PKPbc	15 01 16.2	+0.3
	baz=15,slow=2.8					
GERES	GERESS Array B	147.34 345	PKPbc	PKPbc	15 01 16.1	+0.1
	comp=Z,3.5nm,0.5s,baz=29,slow=3.0,SNR=26					
GERES	GERESS Array B	147.34 345		PKPbc	15 01 16.6	+0.6
CONA	Conrad Observa	147.59 342	*e*P	PKPbc	15 01 17.3	+0.7
	comp=Z,5.7nm,0.6s					
WLF	Walferdange	147.87 354	*e*PKPbc	PKiKP	15 01 18.1	-0.4
	baz=15,slow=2.8					
BFO	Black Forest	148.91 351	*e*PKPbc	PKPbc	15 01 20.0	+0.2
	baz=15,slow=2.8					
SOKA	Soboth	148.96 342	*e*P	PKPbc	15 01 19.6	-0.5
	comp=Z,7.5nm,1.3s					
KBA	Koelnbreinsper	149.07 344	*e*P	PKPbc	15 01 20.0	-0.4
	comp=Z,4.1nm,0.4s					
UBR	Ueberruh	149.24 348	*e*PKPbc	PKPbc	15 01 20.7	0.0
	baz=15,slow=2.8					
OBKA	Obir	149.25 342	*e*P	PKPbc	15 01 20.1	-0.7
	comp=Z,1.8nm,0.6s					
RETA	Reutte	149.29 347	*e*P	PKPbc	15 01 21.0	+0.1
	comp=Z,1.6nm,0.5s					
WTTA	Wattenberg	149.31 346	*e*P	PKPbc	15 01 21.2	+0.2
	comp=Z,8.2nm,0.5s					
MOTA	Moosalm	149.35 347	*e*P	PKPbc	15 01 21.0	-0.1
	comp=Z,3.1nm,0.6s					
MYKA	Terra Mystica	149.40 343	*e*P	PKPbc	15 01 20.6	-0.5
	comp=Z,4.1nm,0.4s					
VNDS	Vrh nad Dolski	149.58 342	*i* PKPbc	PKPbc	15 01 21.4	-0.1
ABTA	Abfaltersbach	149.59 345	*e*P	PKPbc	15 01 20.8	-0.8
	comp=Z,7.4nm,0.6s					
CRNS	Crni Vrh	149.73 342	*i* PKPbc	PKPbc	15 01 21.4	-0.4
FETA	Feichten	149.74 347	*e*P	PKiKP	15 01 22.3	-0.4
	comp=Z,6.5nm,0.9s					
TUE	Stuetta	150.54 349		PKiKP	15 01 24.7	+0.2
TORD	Torodi Ar. Bea	175.47 184	PKP	PKPdf	15 01 40.1	-1.6
	comp=Z,1.3nm,1.0s,baz=203,slow=1.1,SNR=3.6					
TORD			PKPab	PKPab	15 03 22.2	-0.3
	comp=Z,0.8nm,0.5s,baz=182,slow=3.8,SNR=3.3					

*JMA **11** 14:47:35.3±0.2, 39.61N×143.71E, h12km, M3.7*
*NIED **11** 14:47:35.4, 39.61N×143.71E, h12km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr2.91; Mθθ0.60; Mϕϕ-3.52; Mrθ-0.45; Mθϕ-0.10; Mrϕ0.98; Fault plane solution: M0.3.40000×10^14^ NP1: ϕs351.00000°, δ54.00000°, λ77.00000°. NP2: ϕs192.00000°, δ38.00000°, λ107.00000°.*
*IDC **11** 14:47:40.4±1.5, 39.90N×143.01E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/34, mbtmp3.4/6, ML3.2/2 Error ellipse: s-maj=42.1km s-min=21.9km az=108.0*
ISC 11 14:47:40.8±1.1, 39.73N±0.06×143.33E±0.08, h11km, n27, σ1§62/28, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	Tanohata	1.15	281	P		Pb	14 48 01.5	-1.1
JTH				*e*S		Sn	14 48 20.7	+2.2
MIYJ	Miyakonagasawa	1.18	263	P		Pb	14 48 01.7	-1.4
MIYJ				S		Sn	14 48 20.2	+1.0
JKEN	Kujiedanarisaw	1.33	292	P		Pn	14 48 04.1	-1.2
OFUJ	Ofunato	1.44	244	P		Pn	14 48 04.7	-2.1
JANG	Nango	1.54	295	P		Pn	14 48 07.1	-1.0
JOM	Ohasama	1.59	262	P		Pn	14 48 08.1	-0.8
JMK	Ichinoseki	1.81	245	P		Pn	14 48 10.3	-1.5
JIO	Ouri	2.00	231	P		Pn	14 48 11.6	-2.8
JTM	Tenmabayashi	2.03	302	P		Pn	14 48 15.0	+0.1
JRG	Rokugo	2.11	262	P		Pn	14 48 15.5	-0.5
JAH	Hinai	2.12	283	P		Pn	14 48 16.2	0.0
JOT	Ohata	2.40	314	P		Pb	14 48 21.8	-2.2
JYK	Kaneyama	2.44	252	P		Pn	14 48 20.0	-0.6
JNBK	Urakawa-nobuka	2.59	350	P		Pn	14 48 22.7	+0.1
JNBK				S		Sn	14 48 55.4	+1.4
JCH	Churui	2.89	0	S		Sn	14 48 59.6	-1.8
ASAJ	Asahikawa	4.42	353	Pn		Pn	14 48 47.7	-0.1
	1.8nm,0.3s,baz=199,slow=14,SNR=16							
ASAJ				Sn		Sn	14 49 38.1	-1.1
	0.8nm,0.3s,baz=198,slow=20,SNR=2.2							
MJAR	Matsushiro Arr	5.14	233	Pn		Pn	14 48 56.9	-0.8
	0.3nm,0.3s,baz=40,slow=12,SNR=22							
MAT	Matsushiro	5.14	233	P		Pn	14 48 56.8	-0.9
MAT				*e*S		Sn	14 49 58.3	+1.3
JHJ	Hachijo jima 2	7.18	205	Pn		Pn	14 49 19.6	-6.1
	2.8nm,0.3s,baz=75,slow=19,SNR=1.9							
JHJ				Sn		Sn	14 50 33.5	-14
	3.7nm,0.3s,baz=189,slow=16,SNR=2.3							
USRK	Ussuriysk Ar.	9.56	302	Pn		Pn	14 50 01.9	+3.7
	baz=104,slow=16,SNR=2.9							
SEY	Seymchan	23.87	10	P		P	14 52 53.1	-0.8
	2.3nm,0.9s,baz=194,slow=17,SNR=3.4							
H11N2	WAKE ISLAND Hy	28.41	128	T		T	15 23 15.5	
	baz=320							
H11N1	WAKE ISLAND Hy	28.42	128	T		T	15 23 15.2	
	baz=320							
H11N3	WAKE ISLAND Hy	28.43	128	T		T	15 23 07.6	
	baz=320							
MKAR	Makanchi Array	44.02	300	P		P	14 55 47.0	-1.2
	0.4nm,0.6s,baz=91,slow=8.5,SNR=5.2							
ILAR	Eielson Array	46.42	34	P		P	14 56 08.1	+1.0
	0.3nm,0.9s,baz=278,slow=6.3,SNR=2.4							
WRA	Warramunga Arr	59.95	190	P		P	14 57 49.7	+2.7
	0.6nm,0.8s,baz=7.0,slow=7.0,SNR=2.6							

*IDC **11** 15:10:05.8±1.5, 5.76S×151.81E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/30, mbtmp3.9/6, ML1.9/1, Error ellipse: s-maj=69.4km s-min=24.8km az=126.0*
ISC 11 15:10:12.5±1.4, 5.85S±0.3×151.66E±0.3, h41km, n7, σ1§37/8, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.67	230	Pn		Pn	15 11 35.5	+1.4
	1.9nm,0.3s,baz=29,slow=9.6,SNR=5.3							
PMG				Sn		Sn	15 12 35.9	-2.1
	1.8nm,0.3s,baz=291,slow=20,SNR=2.5							
WRA	Warramunga Arr	21.88	228	P		P	15 15 02.0	-0.1
	0.5nm,0.4s,baz=54,slow=9.9,SNR=16							
ASAR	Alice Springs	24.60	222	P		P	15 15 30.4	+1.3
	1.5nm,0.8s,baz=54,slow=9.0,SNR=12							
STKA	Stephens Creek	27.58	199	P		P	15 15 55.2	-0.6
	2.0nm,0.9s,baz=18,slow=10,SNR=3.6							
FITZ	Fitzroy Crossi	28.12	242	P		P	15 16 01.4	+0.5
	0.9nm,0.3s,baz=66,slow=9.7,SNR=7.4							
ILAR	Eielson Array	83.53	22	P		P	15 22 35.0	-0.8
	0.5nm,0.8s,baz=254,slow=4.9,SNR=6.1							
TORD	Torodi Ar. Bea	149.44	286	PKPbc		PKPbc	15 29 57.9	-0.3
	1.1nm,1.0s,baz=74,slow=3.5,SNR=3.1							

*IDC **11** 15:14:15.7±2.1, 5.65S×151.66E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/33, mbtmp3.8/5, ML1.9/1, Error ellipse: s-maj=120.3km s-min=26.4km az=130.0*
ISC 11 15:14:24.0±2.3, 5.65S±0.7×151.3E±0.8, h57km, n6, σ0§91/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.59	227	Pn		Pn	15 15 45.2	+0.5
	1.9nm,0.3s,baz=50,slow=12,SNR=3.7							
PMG				Sn		Sn	15 16 46.3	-1.4
	1.8nm,0.3s,baz=121,slow=16,SNR=2.3							
WRA	Warramunga Arr	21.82	228	P		P	15 19 12.1	+0.5
	0.6nm,0.5s,baz=53,slow=9.9,SNR=7.4							
ASAR	Alice Springs	24.58	221	P		P	15 19 39.0	+0.1
	1.3nm,0.9s,baz=55,slow=8.6,SNR=6.5							
FITZ	Fitzroy Crossi	27.97	241	P		P	15 20 10.1	+0.6
	0.9nm,0.3s,baz=70,slow=9.2,SNR=6.5							
ILAR	Eielson Array	83.43	22	P		P	15 26 44.5	-0.6
	0.6nm,0.9s,baz=245,slow=5.4,SNR=4.7							
TORD	Torodi Ar. Bea	149.08	286	PKPbc		PKiKP	15 34 08.0	-0.2
	0.6nm,0.6s,baz=92,slow=2.7,SNR=4.5							

NNC 11 15:20:16.8±3.6, 37.78N×71.76E, h163km±61km, mb2.7, mpv3.6, 4C-1D, Error ellipse: s-maj=39.7km s-min=20.2km az=28.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.28	22	⇑P		Pn	15 21 34.0	-0.3
	3.2nm,0.3s							
AAK				⇑S		Sn	15 22 35.7	+0.8
	4.7nm,0.3s							
KK31	Karatay Array	5.40	350	P		Pn	15 21 36.1	+0.5
	4.7nm,0.5s,baz=180,slow=15,SNR=44							
KK31				S		Sn	15 22 38.0	+0.5
	13nm,0.5s,baz=160,slow=21,SNR=29							
TKM2	Tokmak 2	5.91	29	⇑P		Pn	15 21 41.8	-0.8
	1.7nm,0.5s							
AB31	Akbulak array	14.30	327	⇑P		Pn	15 23 31.9	+0.2
	0.4nm,0.3s,baz=133,slow=13,SNR=28							
AB31				S		Sn	15 26 08.3	-2.1
	0.6nm,0.5s,baz=156,slow=23,SNR=5.3							
AKTO	Aktyubinsk	16.01	327	⇓P		P	15 23 54.4	+1.3
	2.3nm,1.1s							

*VAO **11** 15:23:26.7±1.0, 15.66S×76.27W, h10km, mb4.2*
*NEIC **11** 15:23:42.6±2.6, 16.19S±0.08×75.05W±0.09, h36km±9km, mb4.3/6, Error ellipse: s-maj=15.4km s-min=8.1km az=48.0*
*IDC **11** 15:23:46.0±2.8, 15.99S×74.81W, h55km±23km, mb3.8/3, mb1 4.0/7, mb1mx3.6/35, mbtmp4.1/7, ML3.9/4, MS3.1/5, Ms1 3.1/5, ms1mx2.8/29, Error ellipse: s-maj=37.8km s-min=22.8km az=41.0*
ISC 11 15:23:42.0±0.8, 16.28S±0.07×74.95W±0.09, h35km, n59, σ2§42/57, mb3.8/3, MS3.1/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	Nana	4.64	337	P		Pn	15 24 51.5	+1.8
	17nm,0.3s,baz=133,slow=10.0,SNR=17							
NNA	Nana	4.64	337			Pn	15 24 48.3	-1.4
AP01	Chacalluta	4.87	116	Pn		Pn	15 24 54.6	+1.8
PB16	IPOC Station P	5.59	112			Pn	15 25 06.2	+3.0
PSGCX	Pisagua	5.66	126			Pn	15 25 05.4	+1.7
MNMC	Minye Minye	5.84	120			Pn	15 25 08.4	+2.0
TA02	Huaiquique	6.06	132			Pn	15 25 11.6	+2.4
PB11	IPOC Station P	6.12	125			Pn	15 25 10.9	+0.9
TA01	Diego Aracena	6.22	134			Pn	15 25 12.7	+1.3
PATCX	Punta Patache	6.42	136			Pn	15 25 17.0	+2.9
LPAZ	La Paz	6.55	91	P		Pn	15 25 19.8	+3.3
	1.9nm,0.3s,baz=279,slow=8.8,SNR=24							
LPAZ	La Paz	6.55	91	*e*P		Pn	15 25 20.1	+3.6
PB08	IPOC Station P	6.72	126			Pn	15 25 20.7	+2.2
PB01	IPOC Station P	7.02	133			Pn	15 25 24.3	+1.9
PB07	IPOC Station P	7.24	139			Pn	15 25 27.9	+2.4
PB04	IPOC Station P	7.54	144	Pn		Pn	15 25 32.5	+2.8
PB09	IPOC Station P	7.70	136			Pn	15 25 35.5	+3.6
PB06	IPOC Station P	8.16	142	Pn		Pn	15 25 40.0	+1.9
PB10	IPOC Station P	8.30	151	Pn		Pn	15 25 41.9	+1.9
LVC	Limon Verde	8.50	139	P		Pn	15 25 47.1	+4.2
	1.0nm,0.3s,baz=317,slow=10,SNR=12							
LVC				S		Sn	15 27 16.8	-0.9
	0.9nm,0.3s,baz=52,slow=20,SNR=1.5							
LVC				LR		LR	15 28 35.1	
	comp=Z,66nm,21.5s,baz=306,slow=34							
LVC	Limon Verde	8.50	139			Pn	15 25 46.4	+3.5
LVC	Limon Verde	8.50	139	*e*P		Pn	15 25 47.0	+4.1
PB15	IPOC Station P	8.61	144			Pn	15 25 47.2	+2.8
PB14	IPOC Station P	9.34	154	Pn		Pn	15 25 55.9	+1.5
ATAH	Atahualpa	9.69	339	P		Pn	15 26 06.6	+7.2
	0.6nm,0.3s,baz=250,slow=14,SNR=1.5							
ATAH				S		Sn	15 27 52.1	+4.9
	0.6nm,0.3s,baz=11,slow=18,SNR=1.9							
GO02	Mina Guanaco	10.16	151	Pn		Pn	15 26 08.9	+3.1
AC01	Pan de Azucar	10.63

INU	**Inuyama**	**17.88**	**337**	P	**Pn**	**16 02 15.0 +0.2**
INU				IAmb	IAmb	16 02 16.7
	comp=Z,26nm,1.4s					
JMN	**Monobe**	**17.89**	**327**	P	**P**	**16 02 14.1 +1.4**
JGF	**Kuroka**	**17.98**	**338**	P	**Pn**	**16 02 15.7 -0.4**
JGF				IAmb	IAmb	16 02 17.3
	comp=Z,16nm,0.6s					
JWT	**Wachi**	**18.46**	**333**	P	**P**	**16 02 19.9 +1.1**
JWT				IAmb	IAmb	16 02 22.0
	comp=Z,26nm,1.6s					
MJAR	**Matsushiro Arr**	**18.57**	**342**	P	**P**	**16 02 20.5 +0.5**
	comp=Z,0.2nm,0.3s,baz=169,slow=10,SNR=10					
MJAR	**Matsushiro Arr**	**18.57**	**342**	P	**P**	**16 02 20.6 +0.6**
MAJO	**Matsushiro**	**18.57**	**342**	P	**P**	**16 02 20.8 +0.7**
MAJO				IAmb	IAmb	16 02 25.4
	comp=Z,11nm,0.8s					
MAT	**Matsushiro**	**18.57**	**342**	P	**P**	**16 02 20.7 +0.7**
JMM	**Marumori**	**19.21**	**349**	P	**P**	**16 02 28.8 +1.9**
JHS	**Saijyo**	**19.28**	**328**	P	**P**	**16 02 28.8 +1.1**
JHS				IAmb	IAmb	16 02 49.1
	comp=Z,24nm,1.5s					
JSD	**Sado**	**19.95**	**343**	P	**P**	**16 02 36.0 +1.2**
MANU	**Manus Island**	**21.01**	**174**	P	**P**	**16 02 45.9 -0.4**
MANU				IAmb	IAmb	16 03 13.9
	comp=Z,24nm,1.2s					
JTM	**Tenmabayashi**	**22.02**	**351**	P	**P**	**16 02 57.8 +1.7**
ERM	**Erimo**	**23.01**	**356**	P	**P**	**16 03 08.5 +3.4**
ERM				IAmb	IAmb	16 03 28.9
	comp=Z,19nm,1.0s					
KSRS	**Korea Array**	**23.88**	**324**	P	**P**	**16 03 13.4 +0.3**
	comp=Z,1.6nm,0.6s,baz=149,slow=9.2,SNR=8.2					
JKA	**Kamikawa-asahi**	**25.14**	**355**	P	**P**	
JKA				IAmb	IAmb	16 03 27.3
	comp=Z,34nm,1.6s					
ASAJ	**Asahikawa**	**25.14**	**355**	P	**P**	**16 03 25.6 +1.2**
	comp=Z,3.9nm,0.5s,baz=172,slow=13,SNR=12					
MTN	**Manton Dam**	**34.62**	**205**	P	**P**	**16 04 47.5 -0.6**
PEA0B	**Petropavlovsk-**	**35.36**	**13**	P	**P**	**16 04 55.3 +1.3**
PEA0B				IAmb	IAmb	16 05 25.4
	comp=Z,20nm,1.3s					
PETK	**Petropavlovsk-**	**35.36**	**13**	P	**P**	**16 04 54.8 +0.8**
	comp=Z,1.9nm,0.7s,baz=213,slow=7.7,SNR=2.8					
PETK	**Petropavlovsk-**	**35.36**	**13**	P	**P**	**16 04 55.2 +1.2**
WRA	**Warramunga Arr**	**40.19**	**196**	P	**P**	**16 05 34.6 -0.2**
	comp=Z,0.8nm,0.3s,baz=19,slow=10,SNR=30					
MA2	**Magadan**	**40.71**	**4**	P	**P**	**16 05 40.2 +1.7**
MA2				IAmb	IAmb	16 05 50.4
	comp=Z,22nm,1.2s					
FITZ	**Fitzroy Crossi**	**41.65**	**209**	P	**P**	**16 05 46.7 0.0**
SONM	**Songino Array**	**42.71**	**321**	P	**P**	**16 05 55.0 0.0**
	comp=Z,0.8nm,0.5s,baz=151,slow=9.6,SNR=4.7					
SONM	**Songino Array**	**42.71**	**321**	P	**P**	**16 05 55.2 +0.1**
ASAR	**Alice Springs**	**43.86**	**195**	P	**P**	**16 06 03.9 -0.5**
	comp=Z,0.4nm,0.4s,baz=15,slow=6.1,SNR=15					
ASAR	**Alice Springs**	**43.86**	**195**	P	**P**	**16 06 03.5 -0.9**
CMAR	**Chiang Mai Arr**	**43.87**	**277**	P	**P**	**16 06 05.5 +0.9**
	comp=Z,0.4nm,0.4s,baz=61,slow=8.0,SNR=6.7					
SEY	**Seymchan**	**44.16**	**5**	P	**P**	**16 06 06.9 +0.7**
	comp=Z,0.7nm,0.5s,baz=153,slow=6.8,SNR=5.9					
YAK	**Yakutsk**	**44.36**	**349**	P	**P**	**16 06 07.2 -0.6**
YAK				IAmb	IAmb	16 06 08.6
	comp=Z,20nm,0.7s					
DZM	**Mont Dzumac**	**45.74**	**152**	P	**P**	**16 06 20.2 +0.9**
	comp=Z,4.9nm,0.8s,baz=300,slow=23,SNR=1.1					
BILL	**Bilibino**	**50.77**	**10**	P	**P**	**16 06 57.7 +0.7**
BILL				IAmb	IAmb	16 06 58.4
	comp=Z,8.0nm,1.0s					
AKUT	**Akutan**	**51.10**	**35**	P	**P**	**16 06 59.7 +0.1**
TIXI	**Tiksi**	**53.53**	**354**	P	**P**	**16 07 16.8 -0.4**
WMQ	**Urumqi**	**53.87**	**311**	*e*P	**P**	**16 07 22.1 +1.8**
SDPT	**Sand Point**	**54.40**	**35**	P	**P**	**16 07 23.6 -0.2**
ZALV	**Zalesovo Beam**	**57.58**	**322**	P	**P**	**16 07 45.4 -0.9**
	comp=Z,0.5nm,0.3s,baz=115,slow=7.8,SNR=2.8					
MK31	**Makanchi Array**	**58.02**	**314**	P	**P**	**16 07 48.7 -0.8**
MKAR	**Makanchi Array**	**58.02**	**314**	P	**P**	**16 07 49.4 -0.2**
	comp=Z,7.6nm,0.4s,baz=95,slow=8.8,SNR=4.7					
MAKZ	**Makanchi**	**58.24**	**314**	P	**P**	**16 07 51.0 -0.1**
SVW2	**Sparrevohn**	**58.71**	**29**	P	**P**	**16 07 54.7 +0.6**
SVW2				IAmb	IAmb	16 08 16.1
	comp=Z,13nm,1.5s					
CNPM	**China Poot**	**60.37**	**32**	P	**P**	**16 08 04.9 -0.5**
SKT	**Skwentna**	**60.83**	**29**	P	**P**	**16 08 08.0 -0.5**
IMAR	**Indian Mountai**	**61.07**	**24**	P	**P**	**16 08 10.8 +0.8**
KDJ	**Kajisay**	**61.45**	**308**	P	**P**	**16 08 13.8 +0.6**
BPAW	**Bear Paw Mtn.**	**61.62**	**27**	P	**P**	**16 08 14.1 +0.4**
BPAW				IAmb	IAmb	16 08 14.7
	comp=Z,3.4nm,0.7s					
MLY	**Manley**	**61.98**	**26**	P	**P**	**16 08 16.4 +0.3**
PWL	**Port Wells**	**62.07**	**30**	P	**P**	**16 08 15.9 -0.9**
PWL				IAmb	IAmb	16 08 19.4
	comp=Z,7.9nm,1.2s					
BOOM	**Boomskoye usch**	**62.37**	**309**	P	**P**	**16 08 19.2 0.0**
I23K	**Minto, Yukon-K**	**62.57**	**26**	P	**P**	**16 08 20.3 +0.3**
I23K				IAmb	IAmb	16 08 21.7
	comp=Z,15nm,1.6s					
GLI	**Glacier Island**	**62.67**	**31**	P	**P**	**16 08 20.4 -0.3**
GLI				IAmb	IAmb	16 08 43.6
	comp=Z,11nm,1.3s					
SCM	**Sheep Creek Mo**	**62.73**	**30**	P	**P**	**16 08 21.5 +0.3**
FID	**Port Fidalgo**	**62.94**	**31**	P	**P**	**16 08 22.3 -0.3**
MDM	**Murphy Dome**	**62.99**	**26**	P	**P**	**16 08 23.7 +0.9**
MDM				IAmb	IAmb	16 08 23.9
	comp=Z,2.5nm,0.7s					
KLU	**Klutina**	**63.33**	**30**	P	**P**	**16 08 25.3 +0.1**
TOLK	**Toolik Lake Re**	**63.43**	**22**	P	**P**	**16 08 26.1 +0.4**
TOLK				IAmb	IAmb	16 08 27.1
	comp=Z,3.2nm,0.8s					
ILAR	**Eielson Array**	**63.51**	**26**	P	**P**	**16 08 24.8 -1.4**
	comp=Z,1.6nm,0.8s,baz=261,slow=5.2,SNR=12					
PAX	**Paxson**	**63.79**	**28**	P	**P**	**16 08 27.8 -0.4**
PAX				IAmb	IAmb	16 08 28.4
	comp=Z,2.2nm,0.7s					
DOT	**Dot Lake**	**64.52**	**28**	P	**P**	**16 08 32.4 -0.5**
SCRK	**Sand Creek**	**64.61**	**27**	P	**P**	**16 08 32.9 -0.6**
BMAR	**Burnt Mountain**	**64.96**	**24**	P	**P**	**16 08 36.4 +0.8**
GRNC	**Granite Creek**	**65.24**	**31**	P	**P**	**16 08 37.9 +0.1**
GRNC				IAmb	IAmb	16 09 02.1
	comp=Z,13nm,1.3s					
L27K	**Beaver Creek,**	**65.44**	**29**	P	**P**	**16 08 38.9 +0.1**
L27K				IAmb	IAmb	16 08 53.9
	comp=Z,6.3nm,1.6s					
BCAR	**Beaver Creek A**	**65.47**	**29**	P	**P**	**16 08 38.7 -0.2**
KKAR	**Karatay Array**	**66.33**	**309**	P	**P**	**16 08 45.0 +0.3**
INK	**Inuvik**	**69.21**	**23**	P	**P**	**16 09 02.1 -0.1**
	comp=Z,1.7nm,0.4s,baz=202,slow=2.7,SNR=3.5					
INK	**Inuvik**	**69.21**	**23**	IAmb	IAmb	16 09 02.6
	comp=Z,3.0nm,0.8s					
C36M	**Paulatuk**	**72.58**	**22**	P	**P**	**16 09 21.7 -0.8**
ABKAR	**Akbulak array**	**72.90**	**317**	P	**P**	**16 09 23.5 -1.2**
ABKAR				IAmb	IAmb	16 09 24.7
	comp=Z,1.9nm,0.5s					
ABKAR	**Akbulak array**	**72.90**	**317**	P	**P**	**16 09 23.5 -1.2**
EUNU	**Eureka**	**77.47**	**8**	P	**P**	**16 09 49.9 -0.4**
EUNU				IAmb	IAmb	16 09 50.5
	comp=Z,3.1nm,0.8s					
ARCES	**ARCESS Array B**	**82.10**	**342**	P	**P**	**16 10 14.0 -1.3**
	comp=Z,3.1nm,0.9s,baz=92,slow=6.8,SNR=3.8					
ARCES	**ARCESS Array B**	**82.10**	**342**	IAmb	IAmb	16 10 32.6
	comp=Z,17nm,1.4s					
NVAR	**Mina Array Bea**	**83.20**	**52**	P	**P**	**16 10 21.5 -0.3**
	comp=Z,1.3nm,0.7s,baz=270,slow=6.4,SNR=9.7					
FINES	**FINESS Array B**	**86.47**	**335**	P	**P**	**16 10 34.9 -2.5**
	comp=Z,1.8nm,0.3s,baz=69,slow=4.6,SNR=30					

IDC ***11*** *16:04:09.6±0.4, 12°.95N×146°.26E, h0km, mb4.6/39, mb1 4.7/40, mb1mx4.7/47, mbtmp4.6/40, ML4.8/1, MS4.4/32, Ms1 4.4/32, ms1mx4.3/45, Error ellipse: s-maj=15.5km s-min=10.4km az=84.0*

BJI ***11*** *16:04:09.0±0.0, 12°.96N×146°.30E, h11km, mB4.9/54, mb4.8/73, Ms4.6/65, Ms7 4.5/59*

NEIC ***11*** *16:04:12.6±1.5, 13°.00N±0°.06×146°.28E±0°.10, h20km±1km, mb5.3/250, Error ellipse: s-maj=14.2km s-min=8.4km az=75.0*

MOS ***11*** *16:04:12.6±0.9, 12°.95N×146°.14E, h37km, mb5.3/60, MS4.7/9, Error ellipse: s-maj=8.9km s-min=5.0km az=109.0*

GCMT ***11*** *16:04:16.6±0.2, 12°.82N±0°.01×146°.17E±0°.02, h12km, MW5.0/113, Moment Tensor Solution. s56,c73; s113,c193; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr=3.35±.09; Mθθ 1.55±.08; Mϕϕ 1.80±.09; Mrθ 1.78±.28; Mθϕ 2.29±.07; Mϕr 1.92±.28; Best double couple:*

Mo4.49900×10^{16} *NP1:ϕ=44.00000°, δ27.00000°, λ-89.00000°. NP2:ϕ=223.00000°, δ63.00000°, λ-90.00000°. Principal axes: T 4.8090, Plg18.0000°, Azm313.0000°; N -0.6180, Plg0.0000°, Azm223.0000°; P -4.1900, Plg72.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***11*** *16:04:37.0±0.7, 12°.N±6°×14°.6E±°, h233km±6km, M4.8/19, mB5.3/13, mb4.8/19, MLv5.0/1, Mw(mB)4.7/13*

ISC 11 16:04:13.4±0.5, 12°.95N±0°.04×146°.32E±0°.05, h30km±3km, h30km:pP-P,n513,σ1§50/482, mb5.2/243, MS4.5/63, 11C-5D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ANA2	**Anatahan**	**3.42**	**350**	Pn		**Pn**	**16 05 05.1**	**+0.3**
ANA2	**Anatahan**	**3.42**	**350**	P		**Pn**	**16 05 06.1**	**+1.3**
SARN	**Sarigan**	**3.76**	**352**	P		**Pn**	**16 05 11.1**	**+1.6**
PATS	**Pohnpei**	**13.28**	**116**	Pn		**Pn**	**16 07 18.2**	**-1.8**
PATS						Sn	16 09 37.6	-9.2
JCJ	**Chichijima**	**14.60**	**345**	Pn		**Pn**	**16 07 35.7**	**-2.3**
	4.6nm,0.3s,baz=216,slow=14,SNR=2.2							
JCJ	**Chichijima**	**14.60**	**345**			**Pn**	**16 07 33.8**	**-4.1**
MANU	**Manus Island**	**14.94**	**176**			**Pn**	**16 07 41.8**	**-0.8**
GENI	**Genyem**	**16.61**	**202**	P		**P**	**16 08 05.9**	**-0.6**
	5μm182nm,1.7s							
GLSP	**General Luna,**	**20.05**	**263**	*e*P		**P**	**16 08 43.8**	**-0.6**
SIJI	**Sorong**	**20.29**	**229**	P		**P**	**16 08 47.7**	**+0.7**
	31nm,1.0s,baz=43,slow=9.8,SNR=12							
SIJI	**Sorong**	**20.29**	**229**	P		**P**	**16 08 47.6**	**+0.6**
	842nm81nm,1.1s							
SWI	**Sorong**	**20.29**	**229**	P		**P**	**16 08 47.7**	**+0.7**
	2μm191nm,1.1s							
MATI	**Mati**	**20.64**	**255**	*e*P		Pn	16 08 52.5	-0.7
JHJ2	**Mitsune**	**20.93**	**345**	Pn		**P**	**16 08 54.5**	**+0.7**
JHJ2				IAmb		IAmb	16 09 37.6	
	comp=Z,112nm,0.9s							
JHJ	**Hachijo jima 2**	**20.94**	**344**	P		**P**	**16 08 53.4**	**-0.6**
	comp=Z,34nm,0.3s,baz=79,slow=22,SNR=2.1							
JHJ				LR		LR	16 16 10.5	
	comp=Z,1μm,18.0s,baz=81,slow=34							
FAKI	**Fak Fak**	**21.07**	**222**	P		**P**	**16 08 55.7**	**+0.3**
FAKI	**Fak Fak**	**21.07**	**222**	P		**P**	**16 08 57.0**	**+1.6**
	comp=Z,3μmcomp=Z,257nm,1.4s							
MSLP	**Maasin**	**21.21**	**265**	*e*P		**P**	**16 08 56.8**	**-0.1**
GAMI	**Galela, Maluku**	**21.42**	**240**	P		**P**	**16 09 00.8**	**+1.6**
	comp=Z,1μmcomp=Z,110nm,1.4s							
DDMP	**Don Marcelino,**	**21.43**	**253**	*e*P		**P**	**16 08 58.3**	**-0.9**
BUKP	**Musuan**	**21.50**	**259**	*e*P		**P**	**16 09 00.2**	**+0.1**
JOW	**Kunigami**	**21.84**	**312**	P		**P**	**16 09 04.3**	**+0.7**
	comp=Z,13nm,0.4s,baz=130,slow=6.5,SNR=5.3							
JOW				LR		LR	16 16 48.1	
	comp=Z,1μm,19.4s,baz=132,slow=35							
JOW	**Kunigami**	**21.84**	**312**	P		**P**	**16 09 03.0**	**-0.6**
JOW				IAmb		IAmb	16 09 21.3	
	comp=Z,87nm,0.8s							
LLP	**Lapu-Lapu**	**22.05**	**266**	*e*P		**P**	**16 09 04.5**	**-1.5**
PMG	**Port Moresby**	**22.23**	**178**	P		**P**	**16 09 08.4**	**+0.6**
	comp=Z,82nm,1.0s,baz=9.8,slow=6.0,SNR=8.9							
PMG	**Port Moresby**	**22.23**	**178**	P		**P**	**16 09 06.3**	**-1.5**
PMG				pmax		pmax		
	comp=Z,167nm,1.1s							
PMG	**Port Moresby**	**22.23**	**178**			**P**	**16 09 06.3**	**-1.5**
PMG				IAmb		IAmb	16 09 25.7	
	comp=Z,166nm,1.1s							
PMG	**Port Moresby**	**22.23**	**178**	P		**P**	**16 09 07.7**	**-0.1**
	comp=Z,2μmcomp=Z,157nm,1.2s							
TNTI	**Ternate**	**22.35**	**239**	P		**P**	**16 09 09.0**	**-0.2**
TNTI	**Ternate**	**22.35**	**239**	P		**P**	**16 09 08.6**	**-0.5**
	comp=Z,895nmcomp=Z,38nm,1.2s							
SKMP	**Bagumbayan, Su**	**22.39**	**255**	*e*P		P	16 09 02.4	-7.2
JSG	**Sagara**	**22.85**	**343**	P		**P**	**16 09 11.8**	**-2.5**
SNPH	**Sibulan**	**22.93**	**263**	*i* P		**P**	**16 09 15.4**	**0.0**
JCNP	**Jose Panganiba**	**23.00**	**276**	*e*P		**P**	**16 09 14.7**	**-1.4**
PAGZ	**Pagadian**	**23.12**	**260**	*e*P		**P**	**16 09 19.4**	**+2.2**
CNOP	**Candoni, Negro**	**23.42**	**265**	*e*P		**P**	**16 09 19.8**	**-0.5**
JSU	**Suzuyama**	**23.54**	**324**	P		**P**	**16 09 20.9**	**-0.4**
JSU				IAmb		IAmb	16 09 40.5	
	comp=Z,69nm,0.9s							
JMN	**Monobe**	**23.58**	**333**	P		**P**	**16 09 20.3**	**-1.4**
MSAI	**Masohi**	**23.68**	**228**	P		**P**	**16 09 24.9**	**+2.2**
	comp=Z,31nm,1.4s							
JYT	**Yasato**	**23.82**	**348**	P		**P**	**16 09 23.1**	**-0.7**
INU	**Inuyama**	**23.83**	**341**	P		**P**	**16 09 23.3**	**-0.7**
INU				IAmb		IAmb	16 09 38.5	
	comp=Z,107nm,1.4s							
BOAC	**Boac**	**23.84**	**274**	*e*P		**P**	**16 09 24.1**	**-0.2**
JGF	**Kuroka**	**23.96**	**342**	P		**P**	**16 09 24.3**	**-0.9**
KRAI	**Karang Ratu**	**24.05**	**229**	P		P	16 09 42.3	+16
LQP	**Lukban**	**24.12**	**276**↑	*e*P		**P**	**16 09 27.0**	**-0.1**
JWT	**Wachi**	**24.33**	**338**	P		**P**	**16 09 27.0**	**-1.6**
JWT				IAmb		IAmb	16 09 44.0	
	comp=Z,143nm,1.7s							
JNU	**Nakatsue**	**24.54**	**327**	P		**P**	**16 09 30.6**	**+0.1**
	comp=Z,10nm,0.6s,baz=122,slow=8.4,SNR=5.3							
JNU				LR		LR	16 17 47.7	
	comp=Z,223nm,21.3s,baz=126,slow=33							
JNU	**Nakatsue**	**24.54**	**327**	P		**P**	**16 09 30.1**	**-0.5**
JNU				IAmb		IAmb	16 09 46.3	
	comp=Z,125nm,1.3s							
SJMP	**San Jose**	**24.59**	**272**	*e*P		**P**	**16 09 32.4**	**+1.3**
MJAR	**Matsushiro Arr**	**24.59**	**344**	P		**P**	**16 09 29.6**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=169,slow=9.5,SNR=9.0							
MJAR				LR		LR	16 18 40.1	
	comp=Z,2μm,19.6s,baz=170,slow=36							
MJAR	**Matsushiro Arr**	**24.59**	**344**	P		**P**	**16 09 28.9**	**-2.1**
MJAR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MJAR	**Matsushiro Arr**	**24.59**	**344**	P		**P**	**16 09 28.9**	**-2.1**
MAJO	**Matsushiro**	**24.59**	**344**	P		**P**	**16 09 28.0**	**-3.1**
MAJO				pmax		pmax		
	comp=Z,25nm,1.0s							
MAJO	**Matsushiro**	**24.59**	**344**	P		**P**	**16 09 28.0**	**-3.1**
MAT	**Matsushiro**	**24.59**	**344**	P		**P**	**16 09 29.1**	**-1.9**
MAT				S		**S**	**16 13 48.8**	**-1.5**
APYP	**Conner**	**24.66**	**285**	*e*P		**P**	**16 09 31.0**	**-0.8**
SAMP	**Sagada Mountai**	**24.88**	**283**	*e*P		**P**	**16 09 34.5**	**+0.6**
MACP	**Maragondon, Ca**	**24.92**	**276**	*e*P		**P**	**16 09 35.1**	**+1.0**
JHS	**Saijyo**	**24.99**	**334**	P		**P**	**16 09 34.2**	**-0.5**
JHS				IAmb		IAmb	16 09 49.2	
	comp=Z,70nm,0.9s							
SMPP	**San Manuel, Pa**	**25.02**	**280**	*e*P		**P**	**16 09 31.2**	**-3.9**
ABRA	**Dolores**	**25.13**	**284**	*e*P		**P**	**16 09 35.2**	**-0.9**
JMM	**Marumori**	**25.30**	**350**	P		**P**	**16 09 36.8**	**-0.5**
KMSI	**Cibinong**	**25.33**	**243**	P		**P**	**16 09 39.0**	**+1.1**
	comp=Z,2μmcomp=Z,156nm,1.2s							
BUSP	**Coron**	**25.52**	**271**	*e*P		**P**	**16 09 39.7**	**0.0**
YULB	**Yu-li**	**25.90**	**297**	P		**P**	**16 09 41.5**	**-1.6**
NACB	**Ninganchiao**	**25.91**	**299**	P		**P**	**16 09 41.2**	**-2.0**
TWG	**Pinlang**	**25.92**	**296**	P		**P**	**16 09 41.8**	**-1.4**
JSD	**Sado**	**25.99**	**345**	P		**P**	**16 09 42.1**	**-1.5**
GTOI	**Gorontalo**	**26.14**	**244**	P		**P**	**16 09 46.5**	**+1.2**
	comp=Z,446nmcomp=Z,23nm,1.1s							
SSLB	**Suanglung**	**26.33**	**298**	P		**P**	**16 09 46.0**	**-0.9**
SSLB				IAmb		IAmb	16 10 19.9	
	comp=Z,74nm,1.3s							
ENPP	**El Nido**	**26.36**	**269**	*e*P		**P**	**16 09 46.9**	**-0.3**
JTU	**Tsushima**	**26.40**	**327**	P		**P**	**16 09 46.5**	**-0.9**
JTU				IAmb		IAmb	16 10 03.6	
	comp=Z,118nm,1.3s							
TPUB	**Ta-pu**	**26.45**	**297**	P		**P**	**16 09 47.0**	**-1.1**
MRSI	**Marisa**	**27.16**	**245**	P		**P**	**16 09 54.3**	**-0.1**
	comp=Z,1μmcomp=Z,64nm,0.8s							
LUWI	**Luwuk**	**27.19**	**241**	P		**P**	**16 09 53.5**	**-1.2**
LUWI	**Luwuk**	**27.19**	**241**	P		**P**	**16 09 54.9**	**+0.2**
	comp=Z,3μmcomp=Z,170nm,1.2s							
TOLI2	**Tolitoli**	**27.90**	**247**			**P**	**16 10 00.3**	**-0.8**
BATP	**Bataraza**	**28.30**	**265**	*e*P		**P**	**16 10 05.2**	**+0.6**
QZH	**Quanzhou**	**28.75**	**299**	*e*P		**P**	**16 10 11.6**	**+3.1**
QZH				S		**S**	**16 14 58.4**	**+2.2**
				L		L		
QZH	comp=Z,360nm,14.2s							
				L		L		
QZH	comp=Z,300nm,16.6s							
				L		L		
QZH	comp=Z,510nm,15.6s							
SSE	**Sheshan**	**29.36**	**312**	P		**P**	**16 10 13.1**	**-0.8**
SSE				S		**S**	**16 15 06.6**	**+0.9**
SSE				pmax		pmax		
	comp=Z,16nm,0.7s							
SSE	comp=Z,20nm,3.7s			pmax		pmax		
				L		L		
SSE	comp=Z,130nm,15.4s							
				L		L		
SSE	comp=Z,200nm,14.7s							
KSRS	**Korea Array**	**29.42**	**329**	P		**P**	**16 10 14.2**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=139,slow=9.2,SNR=23							
KSRS				PcP		**PcP**	**16 13 21.9**	**+2.0**
	comp=Z,2.7nm,1.0s,baz=145,slow=2.7,SNR=4.7							
KSRS				LR		LR	16 21 21.2	
	comp=Z,703nm,18.6s,baz=124,slow=35							
KSAR	**Wonju Array Be**	**29.43**	**329**	P		**P**	**16 10 13.9**	**-0.5**
KSAR	**Wonju Array Be**	**29.43**	**329**	P		**P**	**16 10 13.9**	**-0.5**
KS19	**Wonju Array Si**	**29.49**	**329**	P		**P**	**16 10 13.6**	**-1.3**
MTN	**Manton Dam**	**29.73**	**211**	P		**P**	**16 10 16.1**	**-1.1**
MTN				IAmb		IAmb	16 10 18.1	
	comp=Z,74nm,1.3s							
ASAJ	**Asahikawa**	**31.22**	**355**	P		**P**	**16 10 29.8**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=157,slow=4.9,SNR=2.6							
SOEI	**Soe**	**31.44**	**225**	P		**P**	**16 10 30.2**	**-2.4**
NJ2	**Nanjing**	**31.55**	**312**	*e*P		**P**	**16 10 33.8**	**+0.5**
NJ2				S		**S**	**16 15 42.0**	**+1.9**
				pmax		pmax		
NJ2	comp=Z,10.0nm,0.5s							
				pmax		pmax		
NJ2	comp=Z,120nm,3.5s							
				L		L		
NJ2	comp=Z,550nm,15.6s							
				L		L		
NJ2	comp=Z,370nm,15.6s							
				L		L		
NJ2	comp=Z,500nm,18.0s							
KAPI	**Kappang**	**31.87**	**238**	P		**P**	**16 10 35.4**	**-0.8**
KAPI				pmax		pmax		
	comp=Z,41nm,1.1s							
KAPI	**Kappang**	**31.87**	**238**	P		**P**	**16 10 35.4**	**-0.8**
KAPI				IAmb		IAmb	16 10 51.5	
	comp=Z,41nm,1.1s							
KAPI	**Kappang**	**31.87**	**238**	P		**P**	**16 10 37.7**	**+1.5**
	comp=Z,32nm,1.1s							
CTAO	**Charters Tower**	**32.83**	**180**	P		**P**	**16 10 43.4**	**-1.2**
CTAO				pmax		pmax		
	comp=Z,132nm,2.0s							
CTAO	**Charters Tower**	**32.83**	**180**	P		**P**	**16 10 43.4**	**-1.2**
KNRA	**Kununurra**	**33.33**	**212**	P		**P**	**16 10 47.8**	**-1.1**
USA0B	**Ussuriysk Arra**	**33.48**	**341**	P		**P**	**16 10 49.6**	**-0.4**
USA0B				pmax		pmax		
	comp=Z,10.0nm,0.8s							
USA0B	**Ussuriysk Arra**	**33.48**	**341**	P		**P**	**16 10 49.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**33.48**	**341**	P		**P**	**16 10 49.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=158,slow=7.8,SNR=5.2							
USRK				LR		LR	16 23 20.5	
	comp=Z,591nm,19.2s,baz=146,slow=34							
USRK	**Ussuriysk Ar.**	**33.48**	**341**	P		**P**	**16 10 49.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**33.48**	**341**	P		**P**	**16 10 49.2**	**-0.8**
YSS	**Yuzh-Sakhalins**	**34.02**	**356**	*e*P		P	16 11 02.8	+8.1
YSS				*e*			16 11 09.9	
YSS				pmax		pmax		
	comp=Z,10.0nm,1.0s							
YSS	**Yuzh-Sakhalins**	**34.02**	**356**	P		**P**	**16 10 53.9**	**-0.8**
WHN	**Wuhan**	**34.30**	**306**	⇑P		**P**	**16 10 57.4**	**+0.1**
MDJ	**Mudanjiang**	**34.65**	**339**	P		**P**	**16 11 00.8**	**+0.7**
MDJ				S		**S**	**16 16 29.0**	**+1.1**
MDJ				pmax		pmax		
	comp=Z,12nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,210nm,7.0s							
MDJ				L		L		
	comp=Z,740nm,16.4s							
MDJ				L		L		
	comp=Z,380nm,18.1s							
MDJ				L		L		
	comp=Z,1μm,19.6s							
WRAB	**Tennant Creek**	**34.74**	**200**	*ce*P		**P**	**16 11 00.6**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,32nm,1.3s							
WRAB	**Tennant Creek**	**34.74**	**200**	P		**P**	**16 10 59.8**	**-1.4**
WRA	**Warramunga Arr**	**34.75**	**200**	P		**P**	**16 11 01.0**	**-0.3**
	comp=Z,17nm,1.1s,baz=20,slow=9.5,SNR=26							
WRA				PcP		**PcP**	**16 13 36.0**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=18,slow=3.6,SNR=4.1							
WRA				LR		LR	16 24 34.7	
	comp=Z,599n

GYA L L
comp=Z,66nm,14.2s
GYA L L
comp=Z,85nm,19.2s
GYA L L
comp=Z,100nm,19.4s
UBPT Khong Chiam 39.65 278 P **P** **16 11 43.1 +0.1**
XAN Xi'an 39.90 308 P **P** **16 11 44.4 -0.5**
XAN pP pP 16 11 51.1 +0.3
XAN PP **PP** **16 13 18.7 +1.8**
XAN S **S** **16 17 47.2 -0.9**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,130nm,6.0s
XAN L L
comp=Z,320nm,16.3s
XAN L L
comp=Z,500nm,18.4s
XAN L L
comp=Z,890nm,18.6s
DZM Mont Dzumac 40.01 150 *e*P **P** **16 11 48.0 +2.0**
comp=Z,117nm,1.1s
DZM *e*S **S** **16 17 53.6 +3.6**
comp=Z,201nm,27.4s
DZM *e*LR LR 16 22 40.4
comp=Z,693nm,23.8s
DZM Mont Dzumac 40.01 150 P **P** **16 11 45.8 -0.2**
DZM IAmb IAmb 16 12 02.3
comp=Z,62nm,0.9s
ONTNC Ouen Toro 40.22 150 P **P** **16 11 46.8 -0.7**
ONTNC IAmb IAmb 16 12 03.4
comp=Z,63nm,1.0s
OUENC Ouen Island, N 40.50 150 P **P** **16 11 49.3 -0.6**
OUENC IAmb IAmb 16 12 06.4
comp=Z,59nm,0.9s
SMRI Semarang 40.81 243 P **P** **16 11 51.5 -1.2**
PINNC Pines Island, 40.96 149 P **P** **16 11 53.3 -0.3**
PEA0B Petropavlovsk- 41.07 10 P **P** **16 11 54.1 -0.1**
PEA0B pmax pmax
comp=Z,27nm,1.2s
PEA0B Petropavlovsk- 41.07 10 P **P** **16 11 54.1 -0.1**
PETK Petropavlovsk- 41.07 10 P **P** **16 11 55.5 +1.2**
comp=Z,4.1nm,0.9s,baz=179,slow=6.6,SNR=4.9
PETK LR LR 16 28 07.5
comp=Z,541nm,21.8s,baz=196,slow=35
PETK Petropavlovsk- 41.07 10 P **P** **16 11 53.4 -0.8**
PETK Petropavlovsk- 41.07 10 P **P** **16 11 53.4 -0.8**
PET Petropavlovsk 41.17 11 *e*P **P** **16 11 53.2 -1.8**
PET *e*S **S** **16 18 06.6 +0.3**
PET *e*SS **SS** **16 21 06.6 -3.2**
PET pmax pmax
comp=Z,300nm,6.1s
PET pmax pmax
comp=Z,24nm,1.1s
PET pmax pmax
comp=Z,200nm,7.8s
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,500nm,17.0s
PET Petropavlovsk 41.17 11 P **P** **16 11 55.2 +0.2**
UGM Wanagama 41.17 242 P **P** **16 11 54.9 -0.7**
HHC Hu-ho-hao-te 41.17 319 *e*P **P** **16 11 55.0 -0.4**
HHC PP **PP** **16 13 34.4 +3.6**
HHC S **S** **16 18 07.9 +0.8**
HHC sS sS 16 18 20.2 +1.9
HHC SS **SS** **16 21 09.4 -1.2**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,190nm,5.7s
HHC L L
comp=Z,440nm,18.1s
HHC L L
comp=Z,590nm,19.1s
HHC L L
comp=Z,670nm,18.6s
SLVN Son La 41.28 288 P **P** **16 11 55.9 -0.5**
NONG Nongkai 41.84 283 P **P** **16 12 03.6 +2.6**
comp=Z,24nm,1.1s
KMI Kunming 42.76 293 ⇑P **P** **16 12 08.6 -0.2**
KMI pP pP 16 12 15.1 +0.3
KMI sP sP 16 12 17.5 +0.3
KMI PcP **PcP** **16 14 02.0 +2.0**
KMI S **S** **16 18 32.0 +0.8**
KMI sS sS 16 18 43.4 +1.6
KMI pmax pmax
comp=Z,9.0nm,1.3s
KMI pmax pmax
comp=Z,140nm,7.4s
KMI L L
comp=Z,330nm,18.1s
KMI L L
comp=Z,240nm,18.9s
KMI L L
comp=Z,410nm,20.2s
MBWA Marble Bar 42.80 218 P **P** **16 12 07.8 -0.9**
CHAI Chaiyaphum 42.98 279 P **P** **16 12 14.0 +3.6**
comp=Z,6.2nm,0.8s
CD2 Chengdu 43.03 302 P **P** **16 12 10.0 -0.7**
CD2 S **S** **16 18 34.3 -0.4**
CD2 pmax pmax
comp=Z,170nm,6.9s
CD2 L L
comp=Z,390nm,20.1s
CD2 L L
comp=Z,440nm,20.1s
CD2 L L
comp=Z,510nm,15.8s
PSA00 Pilbara Seismi 43.05 217 P **P** **16 12 10.4 -0.4**
PSA00 Pilbara Seismi 43.05 217 P **P** **16 12 10.0 -0.8**
PSA00 IAmb IAmb 16 12 26.8
comp=Z,31nm,1.4s
LEM Lembang 43.19 245 LR LR 16 34 39.0
comp=Z,162nm,18.7s,baz=38,slow=42
ZEA Zeya 43.41 344 *e*P **P** **16 12 12.2 -1.0**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
ARMA Armidale 43.42 173 P **P** **16 12 12.7 -1.0**
ARMA IAmb IAmb 16 12 29.7
comp=Z,49nm,1.2s
PMBI Palembang 44.16 252 P **P** **16 12 19.9 0.0**
UTTA Uttaradit 44.31 282 P **P** **16 12 24.3 +3.3**
comp=Z,3.1nm,0.8s
PHIT Phitsanulok 44.45 281 P **P** **16 12 24.9 +2.7**
comp=Z,14nm,0.9s
LZH Lanzhou 44.52 309 ⇓P **P** **16 12 23.4 +0.7**
LZH pP pP 16 12 29.6 +0.9
LZH sP sP 16 12 34.5 +3.4
LZH S **S** **16 18 52.7 -3.8**
LZH sS pS 16 19 04.8 +0.8
LZH SS SS 16 22 03.0 -14
LZH pmax pmax
comp=Z,32nm,1.1s
LZH pmax pmax
comp=Z,190nm,6.0s
LZH L L
comp=Z,320nm,17.4s
LZH L L
comp=Z,360nm,17.3s
LZH L L
comp=Z,280nm,16.8s
STKA Stephens Creek 44.80 186 P **P** **16 12 24.2 -0.4**
comp=Z,6.9nm,0.9s,baz=360,slow=9.3,SNR=8.6
STKA LR LR 16 32 26.7
comp=Z,567nm,18.7s,baz=4.7,slow=38
STKA Stephens Creek 44.80 186 P **P** **16 12 24.0 -0.7**
STKA pmax pmax
comp=Z,8.0nm,1.3s
STKA Stephens Creek 44.80 186 P **P** **16 12 24.0 -0.7**
MDSI Maura Dua 45.30 250 P **P** **16 12 28.5 -0.5**
comp=Z,397nmcomp=Z,20nm,1.2s
KASI Kota Agung 45.43 249 P **P** **16 12 29.8 -0.2**
comp=Z,69nm,1.3s
UTHA Uthaitani 45.44 279 P **P** **16 12 32.5 +2.4**
comp=Z,76nmcomp=Z,8.3nm,0.8s
PHET Kaeng Krachan 45.46 275 P **P** **16 12 34.0 +3.8**
SMY Shemya 45.46 23 P **P** **16 12 29.1 -0.6**
SMY pmax pmax
comp=Z,60nm,0.8s
SMY Shemya 45.46 23 P **P** **16 12 29.1 -0.6**
CM09 Chiang Mai Arr 45.79 283 P **P** **16 12 35.2 +2.4**
comp=Z,136nmcomp=Z,15nm,0.8s
CM04 Chiang Mai Arr 45.80 283 P **P** **16 12 34.9 +1.9**
comp=Z,123nmcomp=Z,15nm,0.8s
CM01 Chiang Mai Arr 45.82 283 P **P** **16 12 35.0 +1.9**
comp=Z,146nmcomp=Z,17nm,1.0s
SRDT SRDT 45.83 277 P **P** **16 12 32.2 -0.9**
comp=Z,4µmcomp=Z,41nm,2.1s
SRDT SRDT 45.83 277 P **P** **16 12 32.2 -0.9**
CMMT Chiang Mai 45.83 284 P **P** **16 12 35.0 +1.9**
comp=Z,4.1nm,1.0s
CMMT Chiang Mai 45.83 284 P **P** **16 12 35.1 +1.9**
comp=Z,3.9nm,1.0s
CM02 Chiang Mai Arr 45.84 283 P **P** **16 12 35.0 +1.8**
comp=Z,96nmcomp=Z,14nm,0.9s
CHTO Chiang Mai 45.84 284 P **P** **16 12 32.1 -1.1**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 45.84 284 P **P** **16 12 32.1 -1.1**
CHTO Chiang Mai 45.84 284 P **P** **16 12 36.1 +2.9**
comp=Z,2.3nm,1.0s
CM05 Chiang Mai Arr 45.84 283 P **P** **16 12 35.1 +1.9**
comp=Z,89nmcomp=Z,10nm,0.9s
CM31 Chiang Mai Arr 45.84 283 P **P** **16 12 32.2 -1.1**
CMAR Chiang Mai Arr 45.84 283 P **P** **16 12 33.0 -0.2**
comp=Z,4.1nm,0.7s,baz=82,slow=5.7,SNR=29
CMAR LR LR 16 30 37.7
comp=Z,400nm,21.2s,baz=126,slow=35
CMAR Chiang Mai Arr 45.84 283 P **P** **16 12 31.9 -1.3**
CMAR Chiang Mai Arr 45.84 283 P **P** **16 12 31.9 -1.3**
CM15 Chiang Mai Arr 45.86 283 P **P** **16 12 35.1 +1.8**
comp=Z,125nmcomp=Z,14nm,0.8s
CM13 Chiang Mai Arr 45.87 283 P **P** **16 12 35.4 +1.8**
comp=Z,83nmcomp=Z,12nm,0.9s
UMPA Umpang Tak 45.97 280 P **P** **16 12 38.8 +4.4**
comp=Z,66nmcomp=Z,5.9nm,0.9s
KHLT Khaolaem Dam 46.31 278 P **P** **16 12 39.9 +2.9**
comp=Z,11nm,0.7s
BBOO Buckleboo 46.55 192 P **P** **16 12 37.8 -0.7**
BBOO IAmb IAmb 16 12 39.7
comp=Z,43nm,1.1s
XMIS Christmas Isla 46.61 242 P **P** **16 12 37.5 -1.8**
MA2 Magadan 46.66 3 *i*P **P** **16 12 39.8 +0.8**
comp=Z,23nm,1.1s,baz=144,slow=13,SNR=3.7
MA2 Magadan 46.66 3 *i*P **P** **16 12 39.1 +0.1**
MA2 pmax pmax
comp=Z,15nm,1.2s
MA2 Magadan 46.66 3 P **P** **16 12 37.8 -1.2**
MA2 IAmb IAmb 16 12 54.6
comp=Z,31nm,0.8s
AMKA Amchitka 46.68 28 P **P** **16 12 38.9 -0.4**
MHMT Maesarieng 46.80 283 P **P** **16 12 42.0 +1.2**
comp=Z,26nm,0.8s
FORT Forrest 46.89 202 P **P** **16 12 40.5 -0.8**
FORT IAmb IAmb 16 13 10.6
comp=Z,33nm,0.9s
GIRL Giralia 47.33 222 P **P** **16 12 42.5 -2.3**
PKDT Phuket 47.41 269 P **P** **16 12 48.0 +2.5**
ULN Ulaanbaatar 47.71 325 *ce*P **P** **16 12 47.2 -0.4**
ULN pmax pmax
comp=Z,11nm,1.6s
ULN Ulaanbaatar 47.71 325 P **P** **16 12 46.7 -0.9**
ULN Ulaanbaatar 47.71 325 P **P** **16 12 49.3 +1.7**
PSI Prapat 47.94 262 P **P** **16 12 48.8 -1.0**
PSI pmax pmax
comp=Z,26nm,1.2s
PSI Prapat 47.94 262 P **P** **16 12 52.1 +2.3**
comp=Z,19nm,1.2s
RPSI Rantau Prapat 47.97 262 P **P** **16 12 48.8 -1.1**
RPSI IAmb IAmb 16 13 04.8
comp=Z,26nm,1.2s
SONM Songino Array 48.07 324 P **P** **16 12 51.4 +1.0**
comp=Z,4.1nm,0.6s,baz=142,slow=7.5,SNR=14
SONM LR LR 16 33 18.0
comp=Z,729nm,19.0s,baz=111,slow=36
SONM Songino Array 48.07 324 P **P** **16 12 48.5 -1.9**
SONM pmax pmax
comp=Z,16nm,1.2s
SONM Songino Array 48.07 324 P **P** **16 12 48.5 -1.9**
CAN Canberra 48.08 177 P **P** **16 12 49.6 -0.8**
CAN pmax pmax
comp=Z,56nm,1.5s
CAN Canberra 48.08 177 P **P** **16 12 49.6 -0.8**
CAN IAmb IAmb 16 13 06.5
comp=Z,56nm,1.5s
GTA Gaotai 48.65 312 ⇓P **P** **16 12 55.4 +0.4**
GTA PP **PP** **16 14 49.7 +1.6**
GTA pmax pmax
comp=Z,14nm,1.4s
GTA pmax pmax
comp=Z,85nm,4.7s
GTA L L
comp=Z,330nm,17.5s
GTA L L
comp=Z,180nm,17.1s
GTA L L
comp=Z,300nm,17.4s
KIWB Kanaga Island 48.65 29 P **P** **16 12 53.9 -0.7**
ADK Adak 48.90 30 P **P** **16 12 54.6 -1.9**
ADK pmax pmax
comp=Z,59nm,1.1s
ADK Adak 48.90 30 P **P** **16 12 54.6 -1.9**
LHMI Lhok Sumawe 49.28 266 P **P** **16 12 59.6 -0.4**
SEY Seymchan 50.09 4 P **P** **16 13 06.8 +1.4**
comp=Z,12nm,1.1s,baz=174,slow=6.8,SNR=11
TOO Toolangi 50.26 181 P **P** **16 13 07.0 0.0**
TOO pmax pmax
comp=Z,58nm,1.4s
TOO Toolangi 50.26 181 P **P** **16 13 07.0 0.0**
TOO IAmb IAmb 16 13 23.7
comp=Z,58nm,1.4s
ATKA Atka Island 50.31 31 P **P** **16 13 06.3 -0.9**
YAK Yakutsk 50.45 350 *e*P **P** **16 13 07.7 -0.4**
YAK *e*PP **sP** **16 13 20.5 +3.6**
YAK *e* 16 15 04.0
YAK *e*S **S** **16 20 14.7 -4.9**
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=Z,27nm,1.7s
YAK smax smax
comp=N,118nm,15.6s
YAK Yakutsk 50.45 350 P **P** **16 13 07.0 -1.2**
MORW Morawa 51.00 215 P **P** **16 13 12.5 -0.3**
ZAK Zakamensk 51.15 326 *e*P **P** **16 13 14.0 +0.2**
ZAK pmax pmax
comp=Z,12nm,1.2s
IRK Irkutsk 51.63 328 *e*P **P** **16 13 17.0 -0.2**
IRK pmax pmax
comp=Z,25nm,2.8s
TLY Talaya 51.65 327 P **P** **16 13 18.0 +0.7**
comp=Z,2.7nm,0.6s,baz=143,slow=6.3,SNR=13
TLY Talaya 51.65 327 *e*P **P** **16 13 16.6 -0.8**
TLY pmax pmax
comp=Z,50nm,1.2s
TLY MLR MLR
comp=Z,543nm,15.0s
TLY Talaya 51.65 327 P **P** **16 13 16.9 -0.5**
SHL Shillong 52.58 292 P **P** **16 13 25.0 +0.1**
SHL pmax pmax
comp=Z,95nm,0.7s
SHL Shillong 52.58 292 P **P** **16 13 25.0 +0.1**
MOY Mondy 53.05 326 *e*P **P** **16 13 29.4 +1.5**
MOY pmax pmax
comp=Z,22nm,2.1s
NWAO Narrogin (SRO) 53.42 211 LR LR 16 37 45.3
comp=Z,635nm,18.3s,baz=41,slow=38
NIKH Nikolski High 53.45 32 P 16 13 29.7
baz=239
LSA Lhasa 53.54 297 P **P** **16 13 32.4 +0.1**
LSA Lhasa 53.54 297 P **P** **16 13 32.4 +0.1**
BILL Bilibino 56.56 9 *gi*P **P** **16 13 53.8 +0.9**
BILL *i* S **S** **16 21 42.9 +0.5**
BILL *e* 16 23 35.3
BILL pmax pmax
comp=Z,42nm,1.2s
BILL MLR MLR
comp=Z,217nm,19.0s
BILL Bilibino 56.56 9 P **P** **16 13 53.2 +0.3**
WMQ Urumqi 58.60 314 *e*P **P** **16 14 09.7 +1.9**
WMQ pP sP 16 14 15.6 -0.7
WMQ sP pwP 16 14 22.9 -3.7
WMQ S **S** **16 22 12.5 +2.4**
WMQ ScS **ScS** **16 23 57.3 +1.6**
WMQ pmax pmax
comp=Z,49nm,1.1s
WMQ pmax pmax
comp=Z,190nm,4.3s
WMQ L L
comp=Z,380nm,17.5s
WMQ L L
comp=Z,480nm,15.1s
WMQ L L
comp=Z,660nm,20.9s
SDPT Sand Point 58.91 32 P 16 14 08.5
baz=246
TIXI Tiksi 59.61 354 *ce*P **P** **16 14 14.2 0.0**
TIXI Tiksi 59.61 354 P **P** **16 14 13.8 -0.4**
DGZ Jazzator, Alta 60.23 320 *i*P **P** **16 14 20.1 +1.0**
DGZ pmax pmax
comp=Z,10.0nm,1.3s
TNA Tin City 60.95 20 P 16 14 22.6
baz=233
ZSN Zaisan 61.33 317 *e*P **P** **16 14 26.0 -0.5**
baz=317
ZSN Zaisan 61.33 317 *e*P **P** **16 14 25.9 -0.5**
SII Sitkinak Islan 62.65 32 P 16 14 33.7
baz=251
MKAR Makanchi Array 62.93 316 P **P** **16 14 38.1 +0.9**
comp=Z,10nm,0.8s,baz=88,slow=7.5,SNR=50
MKAR Makanchi Array 62.93 316 P **P** **16 14 37.0 -0.2**
ZAA0 Zalesovo Array 62.96 324 P **P** **16 14 36.2 -0.9**
ZAA0 IAmb IAmb 16 14 53.7
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 62.96 324 P **P** **16 14 38.2 +1.0**
comp=Z,2.8nm,0.6s,baz=91,slow=7.4,SNR=13
ZALV LR LR 16 43 09.6
comp=Z,359nm,18.6s,baz=126,slow=37
ZALV Zalesovo Beam 62.96 324 P **P** **16 14 36.8 -0.3**
ZALV Zalesovo Beam 62.96 324 P **P** **16 14 36.8 -0.3**
MAKZ Makanchi 63.14 316 P **P** **16 14 38.9 +0.4**
MAKZ pmax pmax
comp=Z,28nm,0.7s
MAKZ Makanchi 63.14 316 P **P** **16 14 38.9 +0.4**
OHAK Old Harbor 63.33 32 P **P** **16 14 41.5 +2.1**
OHAK Old Harbor 63.33 32 P 16 14 39.2
baz=252
KDAK Kodiak Island 63.86 31 P **P** **16 14 44.9 +1.9**
comp=Z,20nm,1.0s,baz=188,slow=3.6,SNR=18
KDAK Kodiak Island 63.86 31 P 16 14 41.1
baz=252
RDOG Red Dog Mine 64.01 19 P 16 14 42.2
baz=237
TTA Tatalina 64.11 25 P **P** **16 14 44.9 +0.2**
TTA pmax pmax
comp=Z,9.0nm,0.9s
TTA Tatalina 64.11 25 P **P** **16 14 44.9 +0.2**
TTA Tatalina 64.11 25 P 16 14 43.7
baz=246
SHLS Shalkode 64.40 312 *e*P **P** **16 14 44.6 -2.4**
comp=Z,18nm,1.4s,baz=312
SHLS Shalkode 64.40 312 *e*P **P** **16 14 44.6 -2.4**
SHLS pmax pmax
comp=Z,18nm,1.4s
UZB Uzunbulak 64.72 312 *e*P **P** **16 14 48.2 -0.9**
comp=Z,17nm,1.4s,baz=312
UZB Uzunbulak 64.72 312 *e*P **P** **16 14 48.2 -0.9**
UZB pmax pmax
comp=Z,17nm,1.4s
SEM Semipalatinsk 64.90 320 *e*P **P** **16 14 48.1 -2.3**
baz=320
SEM Semipalatinsk 64.90 320 *e*P **P** **16 14 48.0 -2.3**
KPKS Kokpek 64.99 312 *e*P **P** **16 14 49.6 -1.3**
comp=Z,5.5nm,0.6s,baz=312
KPKS Kokpek 64.99 312 *e*P **P** **16 14 49.6 -1.3**
KPKS pmax pmax
comp=Z,6.0nm,0.6s
PRZ Przheval'sk 65.11 311 P **P** **16 14 51.3 -0.5**
PRZ pmax pmax
comp=Z,50nm,0.7s
PRZ Przheval'sk 65.11 311 P **P** **16 14 51.3 -0.5**
SATY Saty 65.16 312 *e*P **P** **16 14 51.0 -1.1**
comp=Z,13nm,1.1s,baz=312
SATY Saty 65.16 312 *e*P **P** **16 14 50.9 -1.1**
SATY pmax pmax
comp=Z,13nm,1.1s
HYB Hyderabad 65.27 283 *i*P **P** **16 14 54.0 +1.0**
TDK Taldyqorghan 65.36 314 *e*P **P** **16 14 52.4 -0.8**
comp=Z,30nm,0.9s,baz=314
TDK Taldyqorghan 65.36 314 *e*P **P** **16 14 52.3 -0.8**
TDK pmax pmax
comp=Z,30nm,0.9s
BRSE Bradley Lake S 65.37 30 P 16 14 52.0
baz=253
SKT Skwentna 65.70 27 P **P** **16 14 54.8 -0.3**
SKT Skwentna 65.70 27 P 16 14 55.1
baz=251
PPLA Purkeypile 65.72 26 IAmb IAmb 16 15 12.6
comp=Z,26nm,0.8s
PPLA Purkeypile 65.72 26 P 16 14 54.8
baz=250
SUA Susitna One 65.89 28 P 16 14 56.0
baz=252
KURK Kurchatov 65.98 320 P **P** **16 14 57.5 +0.5**
KURK Kurchatov 65.98 320 P **P** **16 14 57.5 +0.5**
KDJ Kajisay 65.98 310 P **P** **16 14 56.3 -1.1**
KDJ pmax pmax
comp=Z,27nm,0.6s
KDJ Kajisay 65.98 310 P **P** **16 14 56.3 -1.1**
CHUM Lake Minchumin 66.01 25 P 16 14 55.7
baz=250
KURBB Kurchatov Arra 66.02 320 P **P** **16 14 57.5 +0.2**
comp=Z,12nm,0.8s,baz=101,slow=6.5,SNR=64
SEW Seward 66.10 30 P **P** **16 14 58.1 +0.6**
SEW Seward 66.10 30 P 16 14 56.1
baz=254
MDOK Medeo 66.16 312 *e*P **P** **16 14 58.4 -0.1**
baz=312
MDOK Medeo 66.16 312 *e*P **P** **16 14 58.4 -0.1**
RC01 Rabbit Creek A 66.25 28 P **P** **16 14 58.6 +0.1**
RC01 Rabbit Creek A 66.25 28 P 16 14 57.6
baz=253,SNR=6.7
CHKK Chushkaly 66.25 312 *e*P **P** **16 14 57.7 -1.2**
baz=312
CHKK Chushkaly 66.25 312 *e*P **P** **16 14 57.7 -1.2**
AAA Alma-Ata 66.26 312 *e*P **P** **16 14 58.3 -0.8**
baz=312
AAA Alma-Ata 66.26 312 *e*P **P** **16 14 58.2 -0.8**
M22K Willow 66.27 28 P 16 14 58.2
baz=252
CUT Chulitna 66.40 27 P 16 14 58.4
baz=252
H21K Melozitna Rive 66.46 23 P 16 14 59.0
baz=248,SNR=10.0
KTH Kantishna Hill 66.48 26 IAmb IAmb 16 15 04.0
comp=Z,40nm,1.2s
MTBS Maitube 66.61 311 *e*P **P** **16 15 00.3 -1.0**
baz=312
MTBS Maitube 66.61 311 *e*P **P** **16 15 00.2 -1.0**
BPAW Bear Paw Mtn. 66.64 25 IAmb IAmb 16 15 05.3
comp=Z,29nm,1.3s
BPAW Bear Paw Mtn. 66.64 25 P 16 14 59.8
baz=251,SNR=12
PMR Palmer 66.67 28 P **P** **16 15 00.8 -0.4**
PMR pmax pmax
comp=Z,17nm,0.7s
PMR Palmer 66.67 28 P **P** **16 15 00.8 -0.4**
PMR IAmb IAmb 16 15 18.1
comp=Z,17nm,0.7s
PMR Palmer 66.67 28 P 16 15 00.4
baz=254
ULHL Ulahol 66.68 311 P **P** **16 15 02.9 +0.9**
SNR=8.5
TRF Thorofare Moun 66.72 26 IAmb IAmb 16 15 17.1
comp=Z,15nm,0.9s
TRF Thorofare Moun 66.72 26 P 16 15 01.1
baz=252
KUU Kurty 66.73 312 *e*P **P** **16 15 00.7 -1.3**
comp=Z,57nm,1.2s,baz=312
KUU Kurty 66.73 312 *e*P **P** **16 15 00.6 -1.3**
KUU pmax pmax
comp=Z,57nm,1.2s
KSH Kashi 66.75 308 P **P** **16 15 06.0 +3.7**
KSH pmax pmax
comp=Z,12nm,1.6s
KSH pmax pmax
comp=Z,160nm,3.8s

GHO **Glory Hole Cre** 66.82 28 P P 16 15 02.7 +0.4
GHO IAmb IAmb 16 15 18.0
comp=Z,23nm,0.8s
BOOM **Boomskoye usch** 66.92 311 IAmb IAmb 16 15 20.1
comp=Z,18nm,0.6s
KNK **Knik Glacier** 66.93 28 P P 16 15 03.2 +0.2
KNK IAmb IAmb 16 15 20.3
comp=Z,23nm,0.8s
KNK **Knik Glacier** 66.93 28 P 16 15 03.3
baz=254,SNR=10
MLY **Manley** 67.05 24 IAmb IAmb 16 15 19.9
comp=Z,17nm,0.8s
MLY **Manley** 67.05 24 P 16 15 02.6
baz=250,SNR=24
SML **Sawmill** 67.10 28 P P 16 15 04.4 +0.4
SML **Sawmill** 67.10 28 P 16 15 04.8
baz=254,SNR=14
NRIK **Noril'sk** 67.19 341 P P 16 15 05.0 +0.6
comp=Z,14nm,1.0s,baz=126,slow=7.6,SNR=10
NRIK LR LR 16 45 20.9
comp=Z,398nm,18.9s,baz=120,slow=37
NRIK **Noril'sk** 67.19 341 P P 16 15 05.0 +0.6
NRIK **Noril'sk** 67.19 341 IAmb IAmb 16 15 19.4
comp=Z,20nm,0.8s
TKM2 **Tokmak 2** 67.20 311 P P 16 15 06.1 +0.9
SNR=17
BWN **Browne** 67.29 25 P P 16 15 05.9 +0.8
WAT2 **Susitna Watana** 67.31 27 P 16 15 05.2
baz=253,SNR=7.1
RND **Reindeer** 67.32 26 P P 16 15 05.3 -0.1
RND pmax pmax
comp=Z,14nm,0.8s
RND **Reindeer** 67.32 26 P P 16 15 05.3 -0.1
RND IAmb IAmb 16 15 23.2
comp=Z,14nm,0.8s
MCK **McKinley** 67.38 26 P 16 15 05.3
baz=253
GLI **Glacier Island** 67.43 29 IAmb IAmb 16 15 10.3
comp=Z,28nm,1.2s
GLI **Glacier Island** 67.43 29 P 16 15 06.1
baz=256
Q23K **Middleton Isla** 67.45 31 P 16 15 05.7
baz=257
A21K **Barrow** 67.56 17 P 16 15 06.3
baz=242
SCM **Sheep Creek Mo** 67.56 28 P P 16 15 07.6 +0.6
SCM pmax pmax
comp=Z,83nm,1.2s
SCM **Sheep Creek Mo** 67.56 28 P P 16 15 07.6 +0.6
WAT6 **Susitna Watana** 67.58 27 P 16 15 05.5
baz=254,SNR=14
NEA2 **Nenana** 67.59 25 P 16 15 04.7
baz=252
I23K **Minto, Yukon-K** 67.64 24 IAmb IAmb 16 15 23.6
comp=Z,15nm,0.9s
I23K **Minto, Yukon-K** 67.64 24 P 16 15 05.1
baz=252,SNR=15
KBK **Karagaybulak** 67.66 311 P P 16 15 08.9 +0.8
SNR=7.1
FID **Port Fidalgo** 67.69 29 P P 16 15 07.2 -0.5
FID IAmb IAmb 16 15 23.9
comp=Z,28nm,0.8s
H23K **Yukon River** 67.78 24 P 16 15 06.3
baz=251,SNR=7.5
CHMS **Chumysh** 67.82 311 P P 16 15 09.4 +0.5
SNR=5.9
SGDS **Sogindy** 67.94 312 eP P 16 15 08.5 -1.2
baz=312
SGDS **Sogindy** 67.94 312 eP P 16 15 08.4 -1.2
WRH **Wood River Hil** 67.95 25 IAmb IAmb 16 15 24.5
comp=Z,14nm,0.8s
AAK **Ala-Archa** 68.00 311 P P 16 15 11.1 +0.9
comp=Z,2.0nm,0.4s,baz=122,slow=6.3,SNR=11
AAK **Ala-Archa** 68.00 311 ceP P 16 15 12.0 +1.8
AAK pmax pmax
comp=Z,34nm,1.3s
AAK **Ala-Archa** 68.00 311 P P 16 15 09.9 -0.3
AAK IAmb IAmb 16 16 24.2
comp=Z,43nm,1.7s
EYAK **Cordova Ski Ar** 68.00 30 P P 16 15 10.6 +1.0
EYAK IAmb IAmb 16 15 15.8
comp=Z,36nm,1.2s
EYAK **Cordova Ski Ar** 68.00 30 P 16 15 08.2
baz=257
COLD **Coldfoot** 68.00 22 P P 16 15 10.7 +1.2
COLD **Coldfoot** 68.00 22 P 16 15 10.1
baz=250,SNR=16
USP **Ospenovka** 68.02 312 P P 16 15 10.6 +0.4
SNR=9.6
CCB **Clear Creek Bu** 68.12 25 P P 16 15 10.9 +0.6
CCB IAmb IAmb 16 15 14.3
comp=Z,31nm,1.7s
KLU **Klutina** 68.13 29 P P 16 15 12.0 +1.4
KLU IAmb IAmb 16 15 15.2
comp=Z,30nm,1.1s
KLU **Klutina** 68.13 29 P 16 15 11.3
baz=256,SNR=11
M24K **Tolsona, Glenn** 68.16 28 P P 16 15 11.9 +1.2
M24K **Tolsona, Glenn** 68.16 28 P 16 15 11.5
baz=256,SNR=7.1
POKR **Poker Plat Res** 68.41 25 P 16 15 10.2
baz=254
HDA **Harding Lake** 68.41 25 P 16 15 12.1
baz=254,SNR=5.5
HDA P 16 15 12.1
baz=254,SNR=5.5
H24K **Noodor Dome** 68.44 24 P 16 15 12.8
baz=253,SNR=16
BTLS **Baital** 68.44 313 eP P 16 15 11.4 -1.3
comp=Z,18nm,1.5s,baz=313
BTLS **Baital** 68.44 313 eP P 16 15 11.4 -1.3
BTLS pmax pmax
comp=Z,18nm,1.5s
EKS2 **Erkin-Say** 68.53 311 P P 16 15 15.8 +2.3
SNR=6.7
IL31 68.54 25 P P 16 15 12.4 -0.4
ILAR **Eielson Array** 68.54 25 P P 16 15 12.9 0.0
comp=Z,2.9nm,0.5s,baz=259,slow=4.9,SNR=32
ILAR LR LR 16 45 17.4
comp=Z,155nm,20.1s,baz=268,slow=36
ILAR **Eielson Array** 68.54 25 P P 16 15 13.1 +0.2
AML **Almayashu** 68.57 310 P P 16 15 15.2 +1.1
SNR=10
BMRM **Bremner River** 68.64 29 P 16 15 13.0
baz=258,SNR=11
HMT **Hamilton** 68.67 30 P P 16 15 15.4 +1.5
PAX **Paxson** 68.69 27 IAmb IAmb 16 15 18.2
comp=Z,22nm,1.1s
PAX **Paxson** 68.69 27 P 16 15 13.5
baz=256,SNR=16
HARP **HAARP** 68.69 28 P 16 15 15.6
baz=257,SNR=8.5
TOLK **Toolik Lake Re** 68.70 21 P P 16 15 14.1 +0.2
TOLK **Toolik Lake Re** 68.70 21 P 16 15 13.8
baz=250
N25K **Chitina, Valde** 68.78 29 P P 16 15 14.4 -0.2
N25K IAmb IAmb 16 15 19.4
comp=Z,22nm,1.1s
N25K **Chitina, Valde** 68.78 29 P 16 15 14.9
baz=258,SNR=7.1
GLB **Gilahina Butte** 69.11 29 P P 16 15 16.2 -0.5
GLB IAmb IAmb 16 15 34.6
comp=Z,27nm,1.0s
PRP **Porcupine Dome** 69.29 24 P 16 15 17.4
baz=255
CRQE **Cirque** 69.32 30 P 16 15 17.0
baz=259
TGL **Tana Glacier** 69.45 30 IAmb IAmb 16 15 39.9
comp=Z,28nm,1.0s
DOT **Dot Lake** 69.46 27 P P 16 15 19.0 +0.2
DOT IAmb IAmb 16 15 34.6
comp=Z,16nm,0.8s
MCARA **McCarthy VSAT** 69.47 29 P P 16 15 19.4 +0.6
MCARA IAmb IAmb 16 15 37.7
comp=Z,29nm,0.9s
MCARA **McCarthy VSAT** 69.47 29 P 16 15 19.4
baz=259
SCRK **Sand Creek** 69.56 26 P 16 15 19.7
baz=257,SNR=17
BRZS **Berezniki** 69.68 319 eP P 16 15 19.8 -0.6
comp=Z,12nm,1.8s,baz=319
BRZS **Berezniki** 69.68 319 eP P 16 15 19.7 -0.6
BRZS pmax pmax
comp=Z,12nm,1.8s
MESA **MESA** 69.78 30 P 16 15 20.7
baz=261
YAH **Yahtse** 69.91 30 P P 16 15 22.0 +0.3

CEP **Cherat** 70.03 301 P P 16 15 23.0 0.0
BMAR **Burnt Mountain** 70.14 23 P P 16 15 23.0 +0.2
PPT **Papeete** 70.16 114 LR LR 16 38 28.3
comp=Z,468nm,19.8s,baz=293,slow=29
PPT2 **Papeete2** 70.17 114 eS S 16 24 36.4 +2.6
comp=Z,105nm,24.0s
PPT2 **Papeete2** 70.17 114 eLR LR 16 36 47.2
comp=Z,822nm,24.5s,baz=295
CTG **Chitna Glacier** 70.20 30 P 16 15 23.3
baz=261,SNR=12
TABL **Table Mountain** 70.21 30 P P 16 15 23.5 -0.1
THW **Thamme Wali** 70.22 300 P P 16 15 19.9 -4.1
L27K **Beaver Creek,** 70.33 27 P 16 15 22.7
baz=260,SNR=12
BCAR **Beaver Creek A** 70.35 27 P P 16 15 24.3 +0.1
K27K **Chicken** 70.40 26 IAmb IAmb 16 15 29.4
comp=Z,20nm,1.1s
PINM **Pinnacle** 70.60 31 P 16 15 25.2
baz=262
EGAK **Eagle** 70.93 26 IAmb IAmb 16 15 32.7
comp=Z,24nm,1.2s
EGAK **Eagle** 70.93 26 P 16 15 26.5
baz=260,SNR=14
KK31 **Karatay Array** 70.93 311 P P 16 15 27.4 -0.8
KK31 pmax pmax
comp=Z,39nm,1.4s
KK31 **Karatay Array** 70.93 311 P P 16 15 27.4 -0.8
KK31 IAmb IAmb 16 15 31.5
comp=Z,39nm,1.4s
KKAR **Karatay Array** 70.93 311 P P 16 15 27.7 -0.5
KKAR pmax pmax
comp=Z,39nm,1.4s
KKAR **Karatay Array** 70.93 311 P P 16 15 27.7 -0.5
KKAR IAmb IAmb 16 15 31.5
comp=Z,39nm,1.4s
GAR **Garm** 71.14 307 P P 16 15 29.3 -0.3
BVAR **Borovoye Array** 71.30 322 P P 16 15 30.2 0.0
comp=Z,5.1nm,0.7s,baz=243,slow=13,SNR=31
BRVK **Borovoye** 71.36 322 ceP P 16 15 30.9 +0.4
BRVK pmax pmax
comp=Z,28nm,1.4s
BRVK **Borovoye** 71.36 322 P P 16 15 30.3 -0.2
CHGR **Chuyangaron** 72.05 307 P P 16 15 34.6 -0.5
KBL **Kabul** 72.37 302 P P 16 15 36.2 -1.0
KBL pmax pmax
comp=Z,45nm,1.2s
KBL **Kabul** 72.37 302 P P 16 15 36.2 -1.0
SIT **Sitka** 72.90 34 P 16 15 38.0
baz=267
EPYK **Eagle Plains** 72.99 24 IAmb IAmb 16 15 45.4
comp=Z,84nm,2.0s
EPYK **Eagle Plains** 72.99 24 P 16 15 38.6
baz=263
WHY **Whitehorse** 73.31 30 IAmb IAmb 16 15 47.4
comp=Z,34nm,1.1s
WHY **Whitehorse** 73.31 30 P 16 15 41.3
baz=267,SNR=15
INK **Inuvik** 74.41 22 IAmb IAmb 16 15 52.1
comp=Z,23nm,1.1s
INK **Inuvik** 74.41 22 P 16 15 48.3
baz=266
TAOE **Nuku Hiva Isla** 76.17 103 eLR LR 16 39 23.0
comp=Z,420nm,22.3s
SVE **Sverdlovsk** 76.92 326 eP P 16 16 04.1 +1.3
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=Z,525nm,20.0s
ABKAR **Akbulak array** 77.96 318 P P 16 16 08.7 -0.1
ABKAR **Akbulak array** 77.96 318 IAmb IAmb 16 16 24.3
comp=Z,20nm,0.9s
HRA **Herat** 77.97 303 P P 16 16 09.7 +0.2
ARU **Arti** 78.09 325 ciP P 16 16 10.1 +0.7
ARU 16 19 04.9
ARU S S 16 26 07.9 +6.4
ARU pmax pmax
comp=Z,21nm,1.1s
ARU MLR MLR
comp=Z,410nm,18.0s
ARU **Arti** 78.09 325 P P 16 16 09.3 -0.1
ARU IAmb IAmb 16 16 25.1
comp=Z,33nm,0.9s
GEYT **Alibeck** 80.77 307 P P 16 16 25.9 +1.5
comp=Z,6.2nm,0.9s,baz=204,slow=10,SNR=6.6
GEYT LR LR 16 55 07.6
comp=Z,150nm,21.3s,baz=205,slow=38
GEYT **Alibeck** 80.77 307 P P 16 16 24.0 -0.4
GYA0B **ALIBECK ARRAY** 80.77 307 IAmb IAmb 16 16 41.0
comp=Z,22nm,0.9s
E03A **Lebam** 80.80 44 P P 16 16 25.7 +1.4
I02D **Swisshome** 80.99 47 P 16 16 24.7
baz=279
E04D **Cinebar** 81.48 44 P 16 16 29.4
baz=280
B05A **Bryant** 81.50 42 P 16 16 28.3
baz=280
H04D **Lebanon** 81.71 46 P 16 16 27.9
baz=280
H04A **Detroit Lake** 82.07 46 IAmb IAmb 16 16 36.0
comp=Z,27nm,1.3s
I04A **Tendick Farm,** 82.07 47 P 16 16 30.4
baz=280
F05D **White Salmon** 82.36 45 P 16 16 30.4
baz=281
N02D **Trinity Center** 82.36 50 P 16 16 33.1
baz=280
L04D **Klamath Falls** 82.43 49 P 16 16 32.6
baz=281
O02D **Mt. Diablo Mer** 82.44 51 P 16 16 33.3
baz=281
WDC **Whiskeytown Da** 82.55 50 P P 16 16 34.2 +0.4
WDC pmax pmax
comp=Z,24nm,1.6s
WDC **Whiskeytown Da** 82.55 50 P P 16 16 34.2 +0.4
KIRV **Kirov** 82.63 328 ceP P 16 16 34.9 +1.2
YKA **Yellowknife Ar** 82.77 28 P P 16 16 35.8 +1.3
comp=Z,11nm,0.9s,baz=284,slow=5.1,SNR=15
YKA LR LR 16 54 16.8
comp=Z,185nm,19.6s,baz=0.0,slow=36
YKA **Yellowknife Ar** 82.77 28 iP P 16 16 35.7 +1.3
YKA pmax pmax
comp=Z,13nm,1.0s
M04C **Macdoel** 82.85 49 P 16 16 35.4
baz=281
WSAR **Wadi Sarin** 82.91 292 P P 16 16 37.3 +1.3
comp=Z,7.4nm,0.7s,baz=41,slow=4.8,SNR=1.6
PNT **Penticton** 82.92 41 P P 16 16 45.2 +10
PNT pmax pmax
comp=Z,16nm,1.0s
PINE **Pine Mountain** 83.11 47 P P 16 16 37.9 +1.0
O03E **Paynes Creek** 83.16 50 P 16 16 35.8
baz=281
B08A **Colville Reser** 83.30 42 IAmb IAmb 16 16 42.1
comp=Z,31nm,1.2s
K05A **Summer Lake** 83.36 48 P P 16 16 37.9 -0.2
K05A IAmb IAmb 16 16 43.5
comp=Z,34nm,1.1s
ORV **Oroville** 83.53 51 P P 16 16 39.7 +0.8
ORV pmax pmax
comp=Z,18nm,1.3s
ORV **Oroville** 83.53 51 P P 16 16 39.7 +0.8
PRGR **Permogore** 83.73 332 eP P 16 16 39.4 +0.1
PRGR e 16 16 51.8
PRGR pmax pmax
comp=Z,63nm,1.1s
D08A **Wollman Farm,** 83.84 43 IAmb IAmb 16 16 45.0
comp=Z,22nm,1.2s
MOD **Modoc Plateau** 83.95 49 P P 16 16 41.9 +0.8
MOD IAmb IAmb 16 16 46.1
comp=Z,16nm,1.1s
AFDM **Forest Hills D** 84.06 52 IAmb IAmb 16 16 46.7
comp=Z,20nm,1.4s
I07A **Izee** 84.07 46 P P 16 16 42.9 +1.2
NEW **Newport** 84.76 42 P P 16 16 45.3 +0.3
NEW pmax pmax
comp=Z,27nm,1.1s
NEW **Newport** 84.76 42 P P 16 16 45.3 +0.3
NEW IAmb IAmb 16 16 49.8
comp=Z,27nm,1.1s
NEW **Newport** 84.76 42 P 16 16 42.4
baz=284,SNR=14
RKT **Rikitea** 84.90 115 eLR LR 16 43 31.5
comp=Z,512nm,24.8s
J08A **Circle Bar Ran** 84.96 47 IAmb IAmb 16 16 51.2
comp=Z,20nm,1.2s
WVOR **Wild Horse Val** 85.05 48 IAmb IAmb 16 16 51.7
comp=Z,15nm,1.1s
PNTR **Pine Nut** 85.07 51 P P 16 16 45.2 -1.8
PNTR IAmb IAmb 16 16 52.4
comp=Z,16nm,1.0s
PAHR **Pah Rah Range** 85.10 51 IAmb IAmb 16 16 52.0
comp=Z,22nm,1.4s
F10A **Beach Ranch, E** 85.22 44 P P 16 16 46.3 -1.1
WAKR **Walker** 85.32 52 IAmb IAmb 16 17 17.6
comp=Z,35nm,1.9s
BMO **Blue Mountains** 85.43 45 IAmb IAmb 16 16 53.3
comp=Z,21nm,1.2s
PKM **Mcpherson Peak** 85.82 55 P 16 16 49.9
baz=283
NVAR **Mina Array Bea** 86.21 52 P P 16 16 54.6 +2.0
comp=Z,2.9nm,0.7s,baz=267,slow=5.8,SNR=20
NVAR **Mina Array Bea** 86.21 52 P P 16 16 52.9 +0.2
KVN **Kaiserville** 86.22 51 IAmb IAmb 16 16 57.8
comp=Z,22nm,1.5s
NV11 **Mina Array Sit** 86.32 52 P P 16 16 52.5 -0.7
NV11 IAmb IAmb 16 17 10.2
comp=Z,28nm,1.6s
APA **Apatity** 86.56 339 pmax pmax
comp=Z,3.0nm,1.2s
APA MLR MLR
comp=Z,800nm,16.0s
ISA **Isabella, Lake** 86.72 54 P 16 16 55.5
baz=284
JTMT **Jette** 86.73 42 P P 16 16 54.7 -0.2
JTMT IAmb IAmb 16 16 59.5
comp=Z,28nm,1.3s
KLMR **Klimovskoe** 86.78 332 eP P 16 16 52.2 -2.4
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR **Klimovskoe** 86.78 332 eP P 16 16 52.2 -2.4
KLMR AMP 16 16 55.0
comp=Z,12nm,1.2s
MFID **Camas Ranch** 86.82 46 IAmb IAmb 16 17 00.4
comp=Z,28nm,1.2s
CWC **Cottonwood Cre** 86.84 53 P 16 16 56.1
baz=284
TPH **Tonopah** 87.12 52 P P 16 16 56.8 -0.3
TPH pmax pmax
comp=Z,84nm,1.5s
TPH **Tonopah** 87.12 52 P P 16 16 56.8 -0.3
MSO **Missoula** 87.21 43 P 16 16 57.7
baz=286
GRAC **Grapevine Rang** 87.27 53 P 16 16 57.8
baz=284
EDW2 **Edwards Air Fo** 87.28 55 P 16 16 58.2
baz=284
SCI2 **San Clemente I** 87.28 57 P 16 16 58.5
baz=284
CIS **Catalina Islan** 87.29 57 P 16 16 58.6
baz=284
LRMC **Laurel Mtn Rad** 87.39 54 P 16 16 58.7
baz=284,SNR=6.6
BFSC **Mount Baldy Ra** 87.70 56 P 16 16 59.1
baz=284
HLID **Hailey** 87.77 46 IAmb IAmb 16 17 05.1
comp=Z,18nm,1.2s
HLID **Hailey** 87.77 46 P 16 17 00.4
baz=286,SNR=22
FURC **Furnace Creek,** 87.79 53 P 16 17 01.2
baz=284
ELK **Elko** 87.93 49 P P 16 17 01.9 +0.9
ELK pmax pmax
comp=Z,29nm,1.2s
ELK **Elko** 87.93 49 P P 16 17 01.9 +0.9
ELK IAmb IAmb 16 17 06.1
comp=Z,29nm,1.2s
ARCES **ARCESS Array B** 88.12 342 P P 16 17 02.1 +1.1
comp=Z,9.4nm,1.0s,baz=46,slow=6.9,SNR=5.5
ARCES LR LR 17 00 02.1
comp=Z,306nm,20.0s,baz=65,slow=38
GSC **Goldstone, Bar** 88.12 54 IAmb IAmb 16 17 06.9
comp=Z,14nm,1.1s
GSC **Goldstone, Bar** 88.12 54 P 16 17 01.0
baz=284,SNR=5.9
TPNV **Topopah Spring** 88.15 53 P P 16 17 01.7 -0.3
TPNV pmax pmax
comp=Z,15nm,1.2s
TPNV **Topopah Spring** 88.15 53 P P 16 17 01.7 -0.3
TPNV IAmb IAmb 16 17 19.0
comp=Z,15nm,1.1s
TPNV **Topopah Spring** 88.15 53 P 16 17 02.0
baz=285,SNR=14
MURC **Murrieta** 88.23 56 P 16 17 02.5
baz=284
TULEG **Thule** 88.29 8 IAmb IAmb 16 17 06.5
comp=Z,20nm,1.2s
R11A **Troy Canyon, C** 88.30 51 P P 16 17 02.7 0.0
R11A IAmb IAmb 16 17 08.9
comp=Z,23nm,1.5s
R11A **Troy Canyon, C** 88.30 51 P 16 17 03.0
baz=285,SNR=12
109C **Camp Elliot, M** 88.48 57 P 16 17 03.9
baz=284
MCMT **McKenzie Canyo** 88.50 44 P P 16 17 04.3 +0.7
DLMT **Dillon** 88.52 44 IAmb IAmb 16 17 08.2
comp=Z,17nm,1.2s
HEC **Hector,Ludlow** 88.62 55 P 16 17 04.0
baz=285
HRY **Holter Researc** 88.63 42 P P 16 17 05.8 +1.8
TUQ **Turquoise Moun** 88.79 54 P 16 17 05.3
baz=285,SNR=7.4
PFO **Pinyon Flats O** 88.83 56 LR LR 16 48 54.2
comp=Z,163nm,21.8s,baz=281,slow=30
PFO **Pinyon Flats O** 88.83 56 P P 16 17 05.5 +0.3
PFO pmax pmax
comp=Z,19nm,1.3s
PFO **Pinyon Flats O** 88.83 56 P P 16 17 05.5 +0.3
PFO IAmb IAmb 16 17 10.0
comp=Z,20nm,1.2s
PFO **Pinyon Flats O** 88.83 56 P 16 17 06.8
baz=285,SNR=6.4
TPFO **Pinon Flats** 88.83 56 P 16 17 05.0
baz=285,SNR=6.9
BAR **Barrett** 88.89 57 IAmb IAmb 16 17 10.1
comp=Z,15nm,1.1s
VRH **Novokhopyorsk** 88.94 322 eP P 16 17 04.4 -0.8
VRH pmax pmax
comp=Z,20nm,0.6s
PRN **Pahroc Range** 88.95 52 IAmb IAmb 16 17 11.2
comp=Z,18nm,1.3s
TKX **Tecate** 88.97 57 P P 16 17 05.9 +0.1
TKX IAmb IAmb 16 19 10.6
comp=Z,30nm,1.2s
MONP2 **Monument Peak** 89.04 57 P 16 17 06.0
baz=285,SNR=14
SPR3 **Spring Creek 3** 89.07 50 IAmb IAmb 16 17 11.9
comp=Z,20nm,1.1s
BELC **Belle Mtn. Jos** 89.10 55 P 16 17 07.1
baz=285
SHPR **Sheep Range** 89.11 53 IAmb IAmb 16 17 12.1
comp=Z,16nm,1.1s
GMRC **Granite Mounta** 89.17 55 P 16 17 06.5
baz=285,SNR=5.7
IKP **In-Ko-Pah, Jac** 89.35 57 P 16 17 08.3
baz=285
QLMT **Earthquake Lak** 89.46 44 P P 16 17 09.3 +1.2
SWSC **Sam W. Stewart** 89.53 56 P 16 17 08.8
baz=285
EGMT **Eagleton** 89.56 41 IAmb IAmb 16 17 13.6
comp=Z,34nm,1.6s
EGMT **Eagleton** 89.56 41 P 16 17 07.6
baz=289
MOS **Moscow** 89.60 328 eP P 16 17 21.0 +13
MOS e 16 20 45.7
BC3 **Big Chuckawall** 89.62 56 P 16 17 09.6
baz=285
IRM **Iron Mountain** 89.74 55 P 16 17 09.8
baz=286,SNR=5.7
DUG **Dugway, Tooele** 89.86 49 IAmb IAmb 16 17 15.7
comp=Z,40nm,1.4s
DUG **Dugway, Tooele** 89.86 49 P 16 17 09.7
baz=287,SNR=8.8
LPSR **Galich'ya Gora** 90.07 324 eP P 16 17 09.1 -1.3
LPSR pmax pmax
comp=Z,10.0nm,0.9s
TPAW **Teton Pass** 90.20 45 P P 16 17 11.3 -0.4
TPAW IAmb IAmb 16 17 17.7
comp=Z,27nm,1.6s
GLA **Glamis** 90.29 56 IAmb IAmb 16 17 15.6
comp=Z,10nm,0.8s
GLA **Glamis** 90.29 56 P 16 17 13.3
baz=286
AHID **Auburn Hatcher** 90.32 46 P P 16 17 11.7 -0.4

AHID					IAmb	IAmb	16 17 17.7			
	comp=Z,40nm,1.5s									
HWUT	**Hardware Ranch**	**90.35**	**47**	P	**P**	**16 17 13.4**	**+1.1**			
HWUT					IAmb	IAmb	16 17 17.1			
	comp=Z,26nm,1.2s									
VSR	**Storozhevoye**	**90.44**	**323**	*e*P	**P**	**16 17 09.7**	**-2.5**			
VSR					pmax	pmax				
	comp=Z,10.0nm,1.4s									
VORD	**Divnogorie**	**90.46**	**323**	*e*P	**P**	**16 17 10.6**	**-1.7**			
VORD					pmax	pmax				
	comp=Z,9.0nm,1.3s									
PDMCI	**Parker Dam,Lak**	**90.50**	**55**	P		16 17 13.9				
	baz=286									
KBZ	**Khabaz**	**90.61**	**315**	P	**P**	**16 17 15.6**	**+2.4**			
	comp=Z,2.1nm,0.8s,baz=130,slow=14,SNR=4.6									
KBZ				LR	LR	17 02 10.7				
	comp=Z,137nm,18.3s,baz=58,slow=38									
KIV	**Kislovodsk**	**90.68**	**315**	*e*P	**P**	**16 17 15.5**	**+1.9**			
KIV					pmax	pmax				
	comp=Z,19nm,1.1s									
KIV				MLR	MLR					
	comp=Z,609nm,20.0s									
VNDA	**Vanda**	**90.75**	**177**	P	**P**	**16 17 13.8**	**+0.8**			
	comp=Z,2.6nm,1.1s,baz=328,slow=4.2,SNR=6.3									
VNDA				LR	LR	16 55 38.3				
	comp=Z,81nm,20.7s,baz=356,slow=34									
VNDA	**Vanda**	**90.75**	**177**	P	**P**	**16 17 12.6**	**-0.3**			
VNDA					pmax	pmax				
	comp=Z,24nm,1.6s									
VNDA	**Vanda**	**90.75**	**177**	P	**P**	**16 17 12.6**	**-0.3**			
VNDA					IAmb	IAmb	16 17 30.0			
	comp=Z,24nm,1.6s									
RLMT	**Red Lodge**	**90.83**	**43**	IAmb	IAmb	16 17 31.9				
	comp=Z,19nm,1.2s									
RLMT	**Red Lodge**	**90.83**	**43**	P		16 17 15.3				
	baz=289									
113A	**Mohawk Valley,**	**91.22**	**56**	IAmb	IAmb	16 17 33.1				
	comp=Z,22nm,1.7s									
U15A	**North Rim**	**91.35**	**52**	IAmb	IAmb	16 17 22.7				
	comp=Z,16nm,1.1s									
SBA	**Scott Base**	**91.39**	**176**	P	**P**	**16 17 16.9**	**+1.0**			
SBA					pmax	pmax				
	comp=Z,48nm,1.6s									
SBA	**Scott Base**	**91.39**	**176**	P	**P**	**16 17 16.9**	**+1.0**			
BW06	**Boulder Array**	**91.40**	**46**	P		16 17 17.1				
	baz=289									
PDAR	**Pinedale Array**	**91.40**	**46**	P	**P**	**16 17 18.1**	**+0.9**			
	comp=Z,2.0nm,0.9s,baz=270,slow=2.5,SNR=9.7									
PDAR				LR	LR	16 51 14.6				
	comp=Z,120nm,21.9s,baz=308,slow=31									
PDAR	**Pinedale Array**	**91.40**	**46**	P	**P**	**16 17 17.1**	**0.0**			
Y14A	**Wickenburg**	**91.51**	**55**	IAmb	IAmb	16 17 22.8				
	comp=Z,17nm,1.2s									
FFC	**Flin Flon**	**91.58**	**33**	P	**P**	**16 17 18.5**	**+1.0**			
FFC					pmax	pmax				
	comp=Z,9.0nm,0.9s									
FFC	**Flin Flon**	**91.58**	**33**	P	**P**	**16 17 18.5**	**+1.0**			
FFC					IAmb	IAmb	16 17 33.3			
	comp=Z,9.0nm,0.8s									
214A	**Organ Pipe Nat**	**92.23**	**57**	P		16 17 21.4				
	baz=287									
LAO	**LASA Array**	**92.28**	**41**	P		16 17 21.4				
	baz=292									
FINES	**FINESS Array B**	**92.33**	**335**	P	**P**	**16 17 20.8**	**0.0**			
	comp=Z,5.3nm,0.7s,baz=66,slow=5.5,SNR=23									
FINES				LR	LR	17 02 01.6				
	comp=Z,188nm,19.1s,baz=78,slow=38									
WUAZ	**Wupatki**	**92.33**	**53**	P	**P**	**16 17 21.6**	**+0.1**			
WUAZ					IAmb	IAmb	16 17 27.1			
	comp=Z,23nm,1.2s									
WUAZ	**Wupatki**	**92.33**	**53**	P		16 17 22.4				
	baz=288									
O20A	**White River Ci**	**93.21**	**48**	P		16 17 25.1				
	baz=290									
PV10	**Paradox Valley**	**93.21**	**50**	IAmb	IAmb	16 17 30.4				
	comp=Z,19nm,1.0s									
PV14	**Lion Creek, Pa**	**93.22**	**50**	P	**P**	**16 17 26.0**	**+0.3**			
PV19	**Morning Glory**	**93.27**	**50**	IAmb	IAmb	16 17 30.5				
	comp=Z,16nm,0.9s									
PV20	**West Nyswonger**	**93.27**	**50**	P	**P**	**16 17 26.9**	**+1.0**			
PV17	**East Wray Mesa**	**93.30**	**50**	IAmb	IAmb	16 17 42.5				
	comp=Z,13nm,1.0s									
PV04	**Paradox Valley**	**93.30**	**50**	IAmb	IAmb	16 17 30.7				
	comp=Z,19nm,1.1s									
PV16	**Nyswonger Mesa**	**93.32**	**50**	IAmb	IAmb	16 17 30.8				
	comp=Z,13nm,1.1s									
PV22	**Blue Mesa, Par**	**93.34**	**49**	P	**P**	**16 17 26.8**	**+0.6**			
PV18	**Skein Mesa, Pa**	**93.34**	**50**	IAmb	IAmb	16 17 30.7				
	comp=Z,13nm,1.1s									
PV11	**David Mesa, Pa**	**93.36**	**50**	P	**P**	**16 17 26.9**	**+0.6**			
PV11					IAmb	IAmb	16 17 30.9			
	comp=Z,18nm,0.9s									
PV03	**Paradox Valley**	**93.39**	**50**	IAmb	IAmb	16 17 31.0				
	comp=Z,8.9nm,1.1s									
RWWY	**Rawlins**	**93.41**	**46**	P	**P**	**16 17 26.3**	**-0.2**			
RWWY					IAmb	IAmb	16 17 29.9			
	comp=Z,15nm,1.2s									
PV13	**Radium Mtn., P**	**93.44**	**50**	P	**P**	**16 17 27.1**	**+0.4**			
PV13					IAmb	IAmb	16 17 31.1			
	comp=Z,12nm,1.1s									
PV02	**Paradox Valley**	**93.49**	**50**	IAmb	IAmb	16 17 31.4				
	comp=Z,20nm,1.4s									
K22A	**Casper**	**93.54**	**45**	P	**P**	**16 17 27.3**	**+0.3**			
K22A					IAmb	IAmb	16 17 44.4			
	comp=Z,19nm,1.2s									
K22A	**Casper**	**93.54**	**45**	P		16 17 26.3				
	baz=291									
PV01	**Paradox Valley**	**93.63**	**50**	IAmb	IAmb	16 17 32.0				
	comp=Z,8.3nm,1.0s									
W18A	**Petrified Fore**	**93.73**	**53**	P		16 17 28.2				
	baz=289									
TUC	**Tucson**	**93.77**	**56**	P		16 17 29.0				
	baz=288									
MVCO	**Mesa Verde**	**94.00**	**51**	P	**P**	**16 17 30.1**	**+0.8**			
MVCO					IAmb	IAmb	16 17 34.3			
	comp=Z,12nm,1.1s									
MVCO	**Mesa Verde**	**94.00**	**51**	P		16 17 30.6				
	baz=290									
SMCO	**Snowmass**	**94.45**	**48**	IAmb	IAmb	16 17 36.2				
	comp=Z,12nm,1.1s									
N23A	**Red Feather La**	**94.58**	**46**	P		16 17 32.0				
	baz=291									
RSSD	**Black Hills**	**94.67**	**43**	P	**P**	**16 17 33.2**	**+1.0**			
RSSD					pmax	pmax				
	comp=Z,6.0nm,1.0s									
RSSD	**Black Hills**	**94.67**	**43**	P	**P**	**16 17 33.2**	**+1.0**			
RSSD	**Black Hills**	**94.67**	**43**	P		16 17 32.9				
	baz=293									
S22A	**4UR Ranch, Cre**	**95.06**	**50**	P		16 17 34.8				
	baz=291									
MNK	**Minsk**	**95.16**	**329**	*i* P	P	16 17 28.8	-5.1			
MNK				*i*		16 21 17.8				
MNK				*i* S	**SKSac**	**16 28 04.3**	**-3.3**			
MNK				*i* PS	PS	16 30 03.2	-4.2			
MNK				*i* SS	**SS**	**16 35 11.3**	**-1.2**			
MNK				pmax	pmax					
	comp=N,5.0nm,0.6s									
MNK				pmax	pmax					
	comp=Z,4.0nm,0.6s									
MNK				pmax	pmax					
	comp=E,3.0nm,0.9s									
MNK				MLR	MLR					
	comp=N,249nm,22.0s									
MNK				MLR	MLR					
	comp=Z,341nm,18.0s									
MNK				MLR	MLR					
	comp=E,26nm,18.0s									
MNK	**Minsk**	**95.16**	**329**	*i* P	P	16 17 28.8	-5.0			
	comp=E,3.0nm,0.9s									
MNK				*i* P	P	16 17 28.8	-5.0			
	comp=N,5.0nm,0.6s									
MNK				*i* P	P	16 17 28.8	-5.0			
	comp=Z,4.0nm,0.6s,baz=239									
MNK				*i* PP	**PP**	**16 21 17.8**	**-5.5**			
MNK				*i* PPP	PPP	16 23 20.2				
MNK				*i* S	**SKSac**	**16 28 04.4**	**-3.2**			
MNK				*i* PS	**PS**	**16 30 03.3**	**-4.1**			
MNK				*i* SS	**SS**	**16 35 11.3**	**-1.2**			
MNK				*i* SSS	SSS	16 38 08.1				
MNK				*i* LQ	LQ	16 53 43.8				
MNK				*i* LR	LR	16 56 58.1				
MNK				*i* LRM	MLR	17 02 23.1				
	comp=N,249nm,21.9s									
MNK				*i* LRM	MLR	17 02 27.4				
	comp=Z,341nm,18.2s									
MNK				*i* LRM	MLR	17 02 31.0				
	comp=E,26nm,18.3s									
SDCO	**Great Sand Dun**	**96.04**	**49**	P		16 17 40.1				
	baz=291									
121A	**Cookes Peak, D**	**96.10**	**55**	P		16 17 39.6				
	baz=290									
ANMO	**Albuquerque**	**96.32**	**52**	P	**P**	**16 17 40.7**	**+0.8**			
ANMO					pmax	pmax				
	comp=Z,6.0nm,1.4s									
ANMO	**Albuquerque**	**96.32**	**52**	P	**P**	**16 17 40.7**	**+0.8**			
ANMO	**Albuquerque**	**96.32**	**52**	P		16 17 39.3				
	baz=291									
AKASG	**Malin Array Be**	**96.34**	**325**	P	**P**	**16 17 38.7**	**-0.7**			
	comp=Z,0.3nm,0.4s,baz=42,slow=4.5,SNR=1.6									
AKASG				LR	LR	17 03 48.3				
	comp=Z,474nm,19.0s,baz=55,slow=37									
ULM	**Lac du Bonnet**	**96.96**	**35**	P	**P**	**16 17 42.2**	**0.0**			
	comp=Z,4.0nm,1.0s,baz=303,slow=7.2,SNR=3.8									
ULM				LR	LR	17 05 55.5				
	comp=Z,121nm,18.0s,baz=272,slow=38									
ULM	**Lac du Bonnet**	**96.96**	**35**	IAmb	IAmb	16 17 45.6				
	comp=Z,10nm,1.3s									
NOA	**NORSAR Array B**	**98.14**	**340**	P	**P**	**16 17 46.9**	**-0.4**			
	comp=Z,1.0nm,0.8s,baz=49,slow=4.7,SNR=2.9									
NOA				LR	LR	17 04 47.4				
	comp=Z,203nm,20.1s,baz=45,slow=37									
MNTX	**Cornudas Mount**	**98.30**	**55**	P		16 17 49.4				
	baz=291									
BRTR	**Keskin Array B**	**98.52**	**314**	P	**P**	**16 17 48.8**	**-0.9**			
	comp=Z,0.3nm,0.4s,baz=111,slow=2.8,SNR=3.8									
BRTR				LR	LR	17 08 19.3				
	comp=Z,94nm,18.6s,baz=57,slow=39									
B35A	**Bob, Littlefor**	**99.13**	**36**	IAmb	IAmb	16 17 55.5				
	comp=Z,8.5nm,1.3s									
MAW	**Mawson**	**99.39**	**203**	LR	LR	16 59 15.7				
	comp=Z,157nm,21.7s,baz=58,slow=33									
TXAR	**Lajitas Array**	**100.53**	**57**	P	**Pdif**	**16 18 01.1**	**+2.3**			
	comp=Z,1.1nm,1.1s,baz=336,slow=2.7,SNR=4.4									
EYMN	**Ely**	**100.61**	**35**	P		16 17 59.4				
	baz=303									
CLL	**Collm**	**104.27**	**332**	*e*PS	PS	16 31 42.0	-3.2			
CLL				*e*PPS	PPS	16 32 30.0				
CLL				*e*SS	SS	16 37 30.0	+10			
CLL				*e*SSS	SSS	16 41 36.0				
CLL				*e*SSSS		16 44 42.0				
CLL				Lm	MLR	17 09 00.0				
	comp=N,100nm,21.0s									
CLL				Lm	MLR	17 09 00.0				
	comp=E,100nm,21.2s									
CLL				Lm	MLR	17 09 00.0				
	comp=Z,300nm,19.0s									
SYO	**Syowa Base**	**107.99**	**201**	*e*Pdiff	**Pdif**	**16 18 31.8**	**+1.0**			
SNAA	**Sanae**	**118.43**	**191**	PKiKP	**PKiKP**	**16 22 58.1**	**+0.5**			
VNA3	**Neumayer Olymp**	**119.92**	**189**	PKiKP	**PKiKP**	**16 23 01.3**	**+0.8**			
VNA1	**Neumayer--Stat**	**120.23**	**190**	PKiKP	**PKiKP**	**16 23 02.5**	**+1.5**			
TORD	**Torodi Ar. Bea**	**136.39**	**305**	PKP	**PKiKP**	**16 23 35.9**	**+0.9**			
	comp=Z,1.8nm,0.6s,baz=104,slow=6.6,SNR=16									
TORD	**Torodi Ar. Bea**	**136.39**	**305**	PKPdf	**PKiKP**	**16 23 35.6**	**+0.5**			
PB14	**IPOC Station P**	**143.46**	**114**	PKPdf	PKPbc	16 23 44.6	+1.1			
AC02	**Maricunga**	**144.06**	**118**	PKPdf	**PKPdf**	**16 23 47.2**	**-0.4**			
PB04	**IPOC Station P**	**144.09**	**110**		PKPbc	16 23 46.3	+0.9			
TA01	**Diego Aracena**	**144.30**	**107**	PKPdf	**PKPdf**	**16 23 46.6**	**-0.8**			
PSGCX	**Pisagua**	**144.45**	**106**	PKPdf	PKPbc	16 23 47.0	+0.6			
PB15	**IPOC Station P**	**144.57**	**112**		**PKPdf**	**16 23 47.9**	**-0.2**			
DBIC	**Dimbokro**	**145.36**	**303**	PKPbc	**PKPdf**	**16 23 49.9**	**+0.4**			
	comp=Z,40nm,1.0s,baz=32,slow=3.7,SNR=26									
DBIC	**Dimbokro**	**145.36**	**303**	PKIKP	**PKPbc**	**16 23 49.1**	**-0.2**			
DBIC	**Dimbokro**	**145.36**	**303**		**PKPbc**	**16 23 49.1**	**-0.2**			
KIC	**Kosan Boka**	**145.44**	**302**	*e*PKP1	**PKPab**	**16 23 50.0**	**+0.2**			
	comp=Z,63nm,1.0s									
TIC	**Toumodi**	**145.51**	**303**	*e*PKP1	**PKPab**	**16 23 50.2**	**+0.1**			
LIC	**Lamto**	**145.75**	**302**	*e*PKP1	**PKPab**	**16 23 50.9**	**-0.1**			
	comp=Z,125nm,1.3s									
LPAZ	**La Paz**	**146.52**	**100**	PKPbc	**PKPbc**	**16 23 53.9**	**+0.3**			
	comp=Z,5.3nm,0.7s,baz=340,slow=3.5,SNR=14									
CPUP	**Villa Florida**	**154.11**	**124**	PKPbc	**PKiKP**	**16 24 12.2**	**+1.0**			
	comp=Z,2.7nm,1.0s,baz=229,slow=5.4,SNR=3.4									
CPUP				PKPab	**PKPab**	**16 24 25.2**	**+0.5**			
	comp=Z,7.6nm,1.1s,baz=219,slow=4.0,SNR=5.9									
BDFB	**Brasilia**	**165.85**	**103**	PKPab	**PKPab**	**16 25 16.9**	**+0.7**			
	comp=Z,3.0nm,0.8s,baz=313,slow=3.2,SNR=3.7									

*IDC **11** 16:12:15.6±0.5,27.°73N×85.°66E, h0km, mb4.5/25, mb1 4.6/28, mb1mx4.5/41, mbtmp4.5/28, ML4.3/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/44, Error ellipse: s-maj=15.3km s-min=11.5km az=47.0*

*BJI **11** 16:12:16.4±0.0, 27.°80N×85.°71E, h12km, mB4.7/30, mb4.7/48, ML4.2/1, Ms4.1/27, Ms7 4.0/25*

*MOS **11** 16:12:17.7±1.0, 27.°87N×85.°68E, h23km, mb5.0/30, Error ellipse: s-maj=7.8km s-min=3.9km az=113.1*

*NDI **11** 16:12:19.6±3.3, 27.°79N×85.°65E, h10km, ML4.4, mb4.8(NEIC)*

*NEIC **11** 16:12:20.3±1.2, 27.°83N±0.°08×85.°58E±0.°07, h24km±1km, mb4.8/114, Error ellipse: s-maj=11.9km s-min=9.0km az=187.0*

*BGR **11** 16:12:22.1±0.0, 27.°26N×85.°09E, h33km, mb4.8*

ISC 11 16:12:18.5±0.8,**27.°81N**±0.°04×**85.°61E**±0.°03,**h19**km±2km, **n420**,σ1§**43**/452,**mb4.8**/131,**MS4.0**/7,**24C-22D**,**Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOK	**Bokaro**	**4.01**	**176**	*e*P	**Pn**	**16 13 22.1**	**+3.2**
BOK				*e*S	**Sn**	**16 14 06.0**	**+0.6**
LSA	**Lhasa**	**5.21**	**68**	Pn	**Pn**	**16 13 33.0**	**-2.9**
LSA				Sn	**Sn**	**16 14 35.9**	**+0.1**
LSA				SMN			
	300nm,0.6s						
LSA				SME			
	260nm,0.6s						
LSA	**Lhasa**	**5.21**	**68**	pmax	pmax		
	comp=Z,52nm,0.7s						
LSA	**Lhasa**	**5.21**	**68**	Pn	**Pn**	**16 13 37.2**	**+1.3**
LSA				Sn	**Sn**	**16 14 37.4**	**+1.6**
GUWA	**GUWAHATI**	**5.66**	**105**	*e*P	**Pn**	**16 13 43.1**	**+1.5**
GUWA				*e*S	**Sn**	**16 14 45.6**	**-0.5**
SHL	**Shillong**	**6.04**	**110**	*e*P	**Pn**	**16 13 47.0**	**0.0**
SHL				*e*P	**Pn**	**16 13 47.2**	**+0.2**
SHL				*i* S	**Sn**	**16 14 53.0**	**-2.7**
SHL				*e*S	**Sn**	**16 14 53.2**	**-2.5**
SHL	**Shillong**	**6.04**	**110**	Pn	**Pn**	**16 13 47.0**	**0.0**
SHL				Sn	**Sn**	**16 14 50.8**	**-5.0**
DDI	**Dehra Dun**	**7.07**	**293**	*e*P	**Pn**	**16 14 04.3**	**+3.2**
NDI	**New Delhi**	**7.46**	**279**	*e*P	**Pn**	**16 14 07.5**	**+1.2**
NDI				*e*S	**Sn**	**16 15 30.5**	**+0.1**
KOHI	**KOHIMA**	**7.87**	**103**	*e*P	**Pn**	**16 14 12.8**	**+0.6**
KOHI				*e*S	**Sn**	**16 15 37.9**	**-3.0**
KOHI				IAML		16 15 42.5	
	comp=E,212nm,0.8s						
SMLA	**Simla**	**8.07**	**296**	*e*P	**Pn**	**16 14 16.2**	**+1.5**
SMLA				*e*S	**Sn**	**16 15 44.0**	**-1.4**
SMLA				IAML		16 15 49.2	
	comp=N,298nm,0.4s						
MOKO	**MOKOCHONG**	**8.07**	**99**	*e*P	**Pn**	**16 14 15.1**	**+0.1**
MOKO				*e*S	**Sn**	**16 15 42.1**	**-3.7**
MOKO				IAML		16 15 49.0	
	comp=E,254nm,0.6s						
MOKO				IAML		16 15 49.3	
	comp=N,185nm,0.5s						
BHPL	**Bhopal**	**8.68**	**240**	*e*P	**Pn**	**16 14 23.3**	**+0.1**
BHPL				*e*S	**Sn**	**16 15 55.1**	**-5.6**
BHPL				IAML		16 16 00.1	
	comp=E,185nm,0.2s						
LKP	**Lekhapani**	**9.09**	**91**	*e*P	**Pn**	**16 14 28.8**	**0.0**
LKP				*e*S	**Sn**	**16 16 03.1**	**-7.5**
DHRM	**DHARAMSHALA**	**9.20**	**301**	*e*P	**Pn**	**16 14 30.7**	**+0.2**
DHRM				*e*S	**Sn**	**16 16 10.9**	**-2.7**
DHRM				IAML		16 16 12.9	
	comp=E,216nm,0.3s						
DHRM				IAML		16 16 13.6	
	comp=N,231nm,0.6s						
THN	**Thein Dam**	**9.73**	**301**	*e*P	**Pn**	**16 14 36.5**	**-0.9**
THN				*e*S	**Sn**	**16 16 23.0**	**-3.2**
CHCP	**Chirah Chowk**	**12.11**	**302**	P	**Pn**	**16 15 09.6**	**-0.6**
NIL	**Nilore**	**12.12**	**302**	P	**Pn**	**16 15 09.3**	**-0.9**
NIL	**Nilore**	**12.12**	**302**	Pn	**Pn**	**16 15 09.3**	**-0.9**
HYB	**Hyderabad**	**12.22**	**214**	*i* P	**Pn**	**16 15 10.5**	**-1.2**
CM33	**Chiang Mai Arr**	**15.16**	**123**	P	**P**	**16 15 57.0**	**+0.3**
CHTO	**Chiang Mai**	**15.16**	**123**	P	**P**	**16 15 56.4**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**15.16**	**123**		**P**	**16 15 56.4**	**-0.3**
CMMT	**Chiang Mai**	**15.16**	**123**	P	**P**	**16 15 56.2**	**-0.6**
	comp=Z,327nmcomp=Z,20nm,1.2s						
CM32	**Chiang Mai Arr**	**15.19**	**124**	P	**P**	**16 15 58.0**	**+1.0**
TARG	**Taragay, Kyrgy**	**15.28**	**337**		**Pn**	**16 15 53.1**	**-0.6**
CM34	**Chiang Mai Arr**	**15.29**	**123**	P	**P**	**16 15 58.0**	**-0.2**
CM15	**Chiang Mai Arr**	**15.37**	**124**	P	**P**	**16 16 00.0**	**+0.9**
	comp=Z,11nm,0.9s						
CM13	**Chiang Mai Arr**	**15.38**	**125**	P	**P**	**16 16 00.0**	**+0.8**
	comp=Z,98nmcomp=Z,14nm,0.9s						
CM31	**Chiang Mai Arr**	**15.38**	**124**	P	**P**	**16 16 00.7**	**+1.5**
	comp=Z,3umcomp=Z,278nm,0.8s						
CM31	**Chiang Mai Arr**	**15.38**	**124**	P	**P**	**16 15 59.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**15.38**	**124**	Pn	**Pn**	**16 15 52.5**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=302,slow=13,SNR=2.9						
CMAR	**Chiang Mai Arr**	**15.38**	**124**	P	**Pn**	**16 15 52.5**	**-2.2**
CMAR	**Chiang Mai Arr**	**15.38**	**124**	Pn	**Pn**	**16 15 56.6**	**+2.0**
CM02	**Chiang Mai Arr**	**15.40**	**124**	P	**P**	**16 16 00.0**	**+0.6**
	comp=Z,128nmcomp=Z,17nm,0.9s						
CM35	**Chiang Mai Arr**	**15.40**	**123**	P	**P**	**16 15 59.0**	**-0.4**
CM01	**Chiang Mai Arr**	**15.42**	**124**	P	**P**	**16 16 01.1**	**+1.6**
	comp=Z,89nmcomp=Z,11nm,0.8s						
CM05	**Chiang Mai Arr**	**15.42**	**125**	P	**P**	**16 16 01.0**	**+1.4**
	comp=Z,71nmcomp=Z,10nm,0.9s						
CM09	**Chiang Mai Arr**	**15.43**	**124**	P	**P**	**16 16 05.6**	**+5.9**
CM04	**Chiang Mai Arr**	**15.45**	**124**	P	**P**	**16 16 01.0**	**+1.1**
	comp=Z,90nmcomp=Z,12nm,0.6s						
CM36	**Chiang Mai Arr**	**15.46**	**124**	P	**P**	**16 16 00.0**	**0.0**
KMI	**Kunming**	**15.57**	**96**	⇓P	**P**	**16 15 59.4**	**-2.1**
KMI				pP	pP	16 16 04.5	-2.8
KMI				S	**Sn**	**16 18 48.8**	**-0.7**
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
KMI				L	L		
	comp=Z,190nm,11.3s						
KMI				L	L		
	comp=Z,280nm,18.3s						
KMI				L	L		
	comp=Z,280nm,11.6s						
KBL	**Kabul**	**15.68**	**299**	P	**Pn**	**16 15 58.2**	**-0.5**
KBL				pmax	pmax		
	comp=Z,45nm,1.2s						
KBL	**Kabul**	**15.68**	**299**	Pn	**Pn**	**16 15 58.2**	**-0.5**
KBL				IAmb	IAmb	16 16 09.6	
	comp=Z,45nm,1.1s						
PRZ	**Przheval'sk**	**15.77**	**340**	P	**Pn**	**16 16 00.2**	**+0.4**
PRZ				pmax	pmax		
	comp=Z,20nm,0.8s						
PRZ	**Przheval'sk**	**15.77**	**340**	Pn	**Pn**	**16 16 00.2**	**+0.4**
KDJ	**Kajisay**	**15.86**	**336**	P	**P**	**16 16 04.7**	**+0.2**
KDJ				pmax	pmax		
	comp=Z,23nm,0.7s						
KDJ	**Kajisay**	**15.86**	**336**		**P**	**16 16 04.7**	**+0.2**
KDJ				IAmb	IAmb	16 16 09.2	
	comp=Z,23nm,0.7s						
WMQ	**Urumqi**	**16.07**	**5**	*e*P	**P**	**16 16 07.8**	**+1.1**
WMQ				pP	sP	16 16 13.6	-1.4
WMQ				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.1s						
WMQ				L	L		
	comp=Z,470nm,11.3s						
WMQ				L	L		
	comp=Z,420nm,15.9s						
WMQ				L	L		
	comp=Z,330nm,12.9s						
UZB	**Uzynbulak**	**16.21**	**342**	*e*P	**Pn**	**16 16 03.9**	**-1.4**
	baz=342						
UZB	**Uzynbulak**	**16.21**	**342**	*e*P	**Pn**	**16 16 03.9**	**-1.4**
SATY	**Saty**	**16.30**	**341**	*e*P	**Pn**	**16 16 03.9**	**-2.5**
	baz=340						
SATY	**Saty**	**16.30**	**341**	*e*P	**Pn**	**16 16 03.9**	**-2.5**
DRK	**Karamyk**	**16.34**	**319**		**Pn**	**16 16 07.0**	**-0.2**
DRK				IAmb	IAmb	16 16 11.8	
	comp=Z,30nm,0.7s						
GTA	**Gaotai**	**16.52**	**42**	⇑P	**P**	**16 16 11.4**	**-0.5**
GTA				pP	sP	16 16 18.8	-1.6
GTA				sP	pP	16 16 22.5	+4.8
GTA				pmax	pmax		
	comp=Z,31nm,0.9s						
GTA				pmax	pmax		
	comp=Z,28nm,3.6s						
GTA				L	L		
	comp=Z,180nm,13.4s						
GTA				L	L		
	comp=Z,260nm,13.1s						
GTA				L	L		
	comp=Z,320nm,13.8s						
KPKS	**Kokpek**	**16.59**	**342**	*e*P	**Pn**	**16 16 08.2**	**-2.0**
	baz=341						
KPKS	**Kokpek**	**16.59**	**342**	*e*P	**Pn**	**16 16 08.2**	**-2.0**
BOOM	**Boomskoye usch**	**16.63**	**334**	P	**P**	**16 16 13.1**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,13nm,0.7s						
BOOM	**Boomskoye usch**	**16.63**	**334**		**P

KK31 Karatay Array 19.55 325 P **Pn** **16 16 46.6 +0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KK31 Karatay Array 19.55 325 P **Pn** **16 16 46.5 +0.1**
KKAR Karatay Array 19.55 325 P **Pn** **16 16 46.3 -0.1**
KKAR Karatay Array 19.55 325 P **Pn** **16 16 46.3 -0.1**
KKAR Karatay Array 19.55 325 P **Pn** **16 16 45.9 -0.6**
KKAR IAmb IAmb 16 16 51.4
comp=Z,6.5nm,0.8s
ZSN Zaisan 19.61 358 *eP* **P** **16 16 44.9 -0.8**
baz=358
ZSN Zaisan 19.61 358 *eP* **P** **16 16 44.9 -0.8**
PALK Pallekele 20.95 194 P **P** **16 16 60.0 -0.5**
comp=Z,5.5nm,0.8s,baz=331,slow=11,SNR=1.4
PALK LR LR 16 24 47.1
comp=Z,157nm,20.4s,baz=109,slow=36
PALK Pallekele 20.95 194 P **P** **16 17 00.0 -0.5**
ENH Enshi 21.01 78 P **P** **16 17 01.2 +0.1**
ENH IAmb IAmb 16 17 02.5
comp=Z,28nm,0.8s
DGZ Jazzator, Alta 21.90 3 *i* P **P** **16 17 11.4 +0.8**
DGZ pmax pmax
comp=Z,28nm,1.1s
UBPT Khong Chiam 22.24 120 P **P** **16 17 16.0 +1.6**
UBPT Khong Chiam 22.24 120 P **P** **16 17 14.7 +0.3**
SEM Semipalatinsk 22.93 351 *eP* **P** **16 17 20.2 -1.5**
baz=351
SEM Semipalatinsk 22.93 351 *eP* **P** **16 17 20.1 -1.5**
KURBB Kurchatov Arra 23.41 349 P **P** **16 17 27.3 +1.1**
comp=Z,14nm,0.6s,baz=170,slow=10,SNR=31
KURK Kurchatov 23.48 349 P **P** **16 17 27.3 +0.4**
KURK Kurchatov 23.48 349 P **P** **16 17 27.3 +0.4**
BRZS Berezniki 24.25 339 *eP* **P** **16 17 34.0 -0.3**
baz=339
BRZS Berezniki 24.25 339 *eP* **P** **16 17 33.9 -0.3**
HHC Hu-ho-hao-te 24.96 52 *eP* **P** **16 17 42.1 +1.2**
HHC sP sP 16 17 53.6 +4.0
HHC S **S** **16 22 05.1 +1.4**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,83nm,5.0s
HHC L L
comp=Z,440nm,17.4s
HHC L L
comp=Z,590nm,16.8s
HHC L L
comp=Z,670nm,17.8s
GYA0B ALIBECK ARRAY 25.12 301 P **P** **16 17 44.2 +1.9**
WHN Wuhan 25.21 77 ⇓P P 16 17 52.6 +9.5
SONM Songino Array 25.72 33 P **P** **16 17 49.0 +1.2**
comp=Z,22nm,0.8s,baz=217,slow=10,SNR=48
SONM Songino Array 25.72 33 P **P** **16 17 49.0 +1.2**
SONM Songino Array 25.72 33 P **P** **16 17 49.0 +1.2**
SONM IAmb IAmb 16 17 51.7
comp=Z,23nm,0.8s
ULN Ulaanbaatar 26.07 34 *i* P **P** **16 17 51.5 +0.6**
ULN pmax pmax
comp=Z,18nm,0.9s
ULN Ulaanbaatar 26.07 34 P **P** **16 17 51.3 +0.4**
ULN IAmb IAmb 16 17 54.8
comp=Z,29nm,0.8s
ZAA0 Zalesovo Array 26.12 359 P **P** **16 17 51.5 +0.4**
ZAA0 IAmb IAmb 16 17 54.7
comp=Z,14nm,0.7s
ZALV Zalesovo Beam 26.12 359 P **P** **16 17 52.1 +1.0**
comp=Z,15nm,0.6s,baz=178,slow=10,SNR=25
ZALV Zalesovo Beam 26.12 359 *i* P **P** **16 17 52.0 +0.9**
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 26.12 359 P **P** **16 17 51.5 +0.4**
ZAK Zakamensk 26.25 26 *eP* **P** **16 17 52.3 -0.2**
ZAK pmax pmax
comp=Z,13nm,1.0s
BVAR Borovoye Array 27.61 340 P **P** **16 18 05.3 +0.7**
comp=Z,1.1nm,0.5s,baz=165,slow=18,SNR=2.0
BVAR Borovoye Array 27.61 340 P **P** **16 18 05.3 +0.7**
BRVK Borovoye 27.67 340 *i* P **P** **16 18 05.1 0.0**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 27.67 340 P **P** **16 18 05.4 +0.3**
PSI Prapat 27.93 151 P **P** **16 18 11.5 +3.6**
PSI pmax pmax
comp=Z,6.0nm,1.1s
RPSI Rantau Prapat 28.03 151 P **P** **16 18 11.5 +2.9**
GSI Gunungsitoli 28.74 154 P **P** **16 18 17.1 +2.2**
GSI IAmb IAmb 16 18 22.0
comp=Z,37nm,1.3s
NJ2 Nanjing 29.05 73 *eP* **P** **16 18 18.3 +0.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 29.11 324 P **P** **16 18 19.1 +1.1**
ABKAR IAmb IAmb 16 18 20.5
comp=Z,6.3nm,0.6s
ABKAR Akbulak array 29.11 324 P **P** **16 18 19.4 +1.4**
YULB Yu-li 32.41 90 P **P** **16 18 48.0 +0.7**
YULB IAmb IAmb 16 18 50.0
comp=Z,21nm,1.1s
NACB Ninganchiao 32.47 88 P **P** **16 18 47.8 -0.1**
SZP Santa 33.63 100 P **P** **16 18 55.6 -2.4**
YOJ Yonaguni jima 33.66 87 P **P** **16 18 57.5 -0.8**
YOJ pmax pmax
comp=Z,182nm,1.4s
YOJ Yonaguni jima 33.66 87 P **P** **16 18 57.5 -0.8**
HIA Hailar 33.80 41 *i* P **P** **16 19 00.1 +0.8**
HIA pmax pmax
comp=Z,12nm,1.0s
SVE Sverdlovsk 33.99 335 *eP* **P** **16 19 02.4 +1.6**
ARU Arti 34.50 334 *d i* P **P** **16 19 06.3 +1.1**
ARU 16 20 15.6
ARU S **S** **16 24 37.2 +4.5**
ARU SS **SnSn** **16 26 46.2 +2.2**
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 34.50 334 P **P** **16 19 06.0 +0.8**
INCN Inchon 35.62 64 P **P** **16 19 14.7 -0.5**
INCN pmax pmax
comp=Z,43nm,1.5s
INCN Inchon 35.62 64 P **P** **16 19 14.7 -0.5**
KS19 Wonju Array Si 36.60 64 P **P** **16 19 23.0 -0.5**
KS19 IAmb IAmb 16 20 04.3
comp=Z,12nm,1.1s
KSRS Korea Array 36.65 64 P **P** **16 19 22.8 -1.1**
comp=Z,1.5nm,0.5s,baz=266,slow=8.5,SNR=16
KSRS Korea Array 36.65 64 P **P** **16 19 22.8 -1.1**
MDJ Mudanjiang 38.73 52 P **P** **16 19 41.8 +0.3**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.2s
JNU Nakatsue 39.14 71 P **P** **16 19 44.7 -0.4**
JNU IAmb IAmb 16 19 47.6
comp=Z,21nm,1.1s
KIRV Kirov 39.67 331 *i* P **P** **16 19 50.2 +1.2**
ZEA Zeya 39.95 38 *eP* **P** **16 19 52.2 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
USA0B Ussuriysk Arra 40.36 54 P **P** **16 19 54.0 -1.0**
USA0B pmax pmax
comp=Z,16nm,1.5s
USA0B Ussuriysk Arra 40.36 54 P **P** **16 19 54.0 -1.0**
USA0B IAmb IAmb 16 19 56.1
comp=Z,16nm,1.5s
USRK Ussuriysk Ar. 40.36 54 P **P** **16 19 55.0 0.0**
comp=Z,2.0nm,0.7s,baz=249,slow=8.6,SNR=4.4
USRK Ussuriysk Ar. 40.36 54 P **P** **16 19 55.0 0.0**
USRK Ussuriysk Ar. 40.36 54 P **P** **16 19 54.4 -0.6**
KLR Kul'dur 41.16 46 *i* P **P** **16 20 01.9 +0.3**
KLR pmax pmax
comp=Z,7.0nm,0.9s
GAZ Gaziantep 41.50 296 P **P** **16 20 05.5 +0.8**
GAZ IAmb IAmb 16 20 07.2
comp=Z,22nm,1.4s
NRIK Noril'sk 41.58 1 P **P** **16 20 05.7 +1.0**
comp=Z,21nm,0.9s,baz=172,slow=6.0,SNR=20
NRIK Noril'sk 41.58 1⇑ *eP* **P** **16 20 06.0 +1.3**
NRIK pmax pmax
comp=Z,36nm,1.1s
NRIK Noril'sk 41.58 1 P **P** **16 20 05.4 +0.7**
TOLI2 Tolitoli 42.87 122 P **P** **16 20 16.8 +0.9**
PRGR Permogore 42.96 333 *eP* **P** **16 20 16.1 +0.1**

PRGR pmax pmax
comp=Z,24nm,0.6s
GHAJ Ghor Haditha 43.38 287 P **P** **16 20 19.6 -0.3**
GHAJ IAmb IAmb 16 20 49.7
comp=Z,19nm,1.3s
INU Inuyama 44.03 67 P **P** **16 20 26.0 +1.0**
INU IAmb IAmb 16 20 32.4
comp=Z,14nm,1.2s
SIM Simferopol' 44.08 307 *d i* P **P** **16 20 24.7 -0.7**
SIM *eS* **S** **16 26 54.0 -2.9**
SIM pmax pmax
comp=Z,23nm,0.4s
BR131 Keskin Array S 44.25 299 P **P** **16 20 28.2 +1.2**
BR131 pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 44.25 299 P **P** **16 20 28.2 +1.2**
BRTR Keskin Array B 44.25 299 P **P** **16 20 28.4 +1.5**
comp=Z,1.1nm,0.6s,baz=122,slow=9.6,SNR=6.3
BRTR Keskin Array B 44.25 299 P **P** **16 20 28.5 +1.5**
BRTR Keskin Array B 44.25 299 P **P** **16 20 28.7 +1.7**
OBN Obninsk 44.48 322 *d i* P **P** **16 20 29.4 +1.0**
OBN *SP **pP** **16 20 35.0 +0.1**
OBN *e* 16 20 43.0
OBN *e* 16 22 12.5
OBN S S 16 27 15.0 +13
OBN SS **SS** **16 30 13.0 -8.8**
OBN SSS SSS 16 31 15.0
OBN pmax pmax
comp=Z,45nm,1.3s
OBN MLR MLR
comp=Z,39nm,16.0s
OBN Obninsk 44.48 322 P **P** **16 20 29.3 +0.9**
YAK Yakutsk 44.82 28 *eP* **P** **16 20 30.1 -0.9**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK Yakutsk 44.82 28 P **P** **16 20 30.9 0.0**
MAJO Matsushiro 44.89 65 P **P** **16 20 31.6 -0.4**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 44.89 65 P **P** **16 20 31.6 -0.4**
MJAR Matsushiro Arr 44.89 65 P **P** **16 20 31.5 -0.5**
comp=Z,3.3nm,1.1s,baz=280,slow=8.9,SNR=4.6
MJAR Matsushiro Arr 44.89 65 P **P** **16 20 31.5 -0.5**
ANTO Ankara 44.90 300 P **P** **16 20 32.3 +0.2**
ANTO pmax pmax
comp=Z,6.0nm,0.6s
ANTO Ankara 44.90 300 P **P** **16 20 32.3 +0.2**
ANTO IAmb IAmb 16 20 34.8
comp=Z,6.2nm,0.6s
KLMR Klimovskoe 45.14 330 *eP* **P** **16 20 30.8 -2.7**
KLMR *e* 16 22 13.6
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 45.14 330 *eP* **P** **16 20 30.9 -2.6**
KLMR AMP 16 20 35.1
comp=Z,14nm,0.8s
KLMR *ePcP **PcP** **16 22 13.6 -0.1**
ELL Elmali 47.36 296 P **P** **16 20 52.8 +1.2**
ELL pmax pmax
comp=Z,79nm,0.7s
ELL Elmali 47.36 296 P **P** **16 20 52.8 +1.2**
TLCR 47.84 307 ⇓P **P** **16 20 56.3 +1.3**
TLCR 47.84 307 ⇓P **P** **16 20 56.3 +1.3**
AKASG Malin Array Be 47.93 314 P **P** **16 20 55.8 +0.2**
comp=Z,5.7nm,0.7s,baz=79,slow=7.2,SNR=19
AKASG PcP **PcP** **16 22 23.6 -0.2**
comp=Z,1.3nm,0.6s,baz=76,slow=3.3,SNR=5.0
AKASG Malin Array Be 47.93 314 *i* P **P** **16 20 55.7 +0.1**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 47.93 314 P **P** **16 20 56.1 +0.4**
AKASG IAmb IAmb 16 20 57.0
comp=Z,2.2nm,0.9s
AKASG Malin Array Be 47.93 314 **PcP** **16 22 23.6 -0.2**
AKBB Malin Array Si 47.93 314 P **P** **16 20 56.1 +0.5**
AKBB pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 47.93 314 P **P** **16 20 56.1 +0.5**
AKBB IAmb IAmb 16 20 57.9
comp=Z,9.3nm,0.8s
TPGR Topolog 48.12 307 ⇑P **P** **16 20 58.3 +1.1**
SORM Soroca 48.28 311 ⇓P **P** **16 20 59.0 +0.7**
SORM Soroca 48.28 311 ⇓P **P** **16 20 59.0 +0.7**
CFR Carcaliu 48.32 307 ⇑P **P** **16 20 60.0 +1.3**
CFR Carcaliu 48.32 307 ⇑P **P** **16 21 00.0 +1.3**
HARR Harsova 48.47 306 ⇓P **P** **16 21 00.9 +1.1**
HARR Harsova 48.47 306 ⇓P **P** **16 21 00.9 +1.1**
ICOR Ion Corvin 48.56 306 ⇑P **P** **16 21 02.3 +1.8**
MNK Minsk 49.24 319 *i* P **P** **16 21 04.7 -0.9**
MNK *i* 16 22 26.5
MNK *i* S **S** **16 28 11.2 +0.7**
MNK *i* SSS SSS 16 33 05.2
MNK pmax pmax
comp=N,22nm,0.7s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=N,129nm,33.0s
MNK MLR MLR
comp=Z,965nm,24.0s
MNK MLR MLR
comp=E,10.0nm,18.0s
MNK Minsk 49.24 319 *i* P **P** **16 21 04.8 -0.9**
comp=E,3.0nm,0.9s
MNK *i* P **P** **16 21 04.8 -0.9**
comp=N,22nm,0.7s
MNK *i* P **P** **16 21 04.8 -0.9**
comp=Z,24nm,0.8s,baz=278
MNK *i* PcP **PcP** **16 22 26.6 -1.8**
MNK *i* PP **PP** **16 22 52.8 -6.5**
MNK *i* S **S** **16 28 11.3 +0.8**
MNK *i* SS **SS** **16 31 46.5 +4.8**
MNK *i* SSS SSS 16 33 05.3
MNK *i* LQ LQ 16 38 26.4
MNK *i* LR LR 16 41 59.0
MNK *i* LRM MLR 16 43 56.6
comp=N,129nm,33.1s
MNK *i* LRM MLR 16 44 01.7
comp=Z,965nm,23.8s
MNK *i* LRM MLR 16 44 22.7
comp=E,10.0nm,18.1s
VRI Vrincioaia 49.32 308 ⇑P **P** **16 21 08.6 +2.2**
VRI Vrincioaia 49.32 308 ⇑P **P** **16 21 08.6 +2.2**
PLOR Plostina 49.37 308 ⇓P **P** **16 21 08.8 +1.9**
PLOR Plostina 49.37 308 ⇓P **P** **16 21 08.8 +1.9**
BIZ Bicaz 49.76 309 ⇓P **P** **16 21 10.0 +0.3**
TIXI Tiksi 49.87 16 *i* P **P** **16 21 09.4 -0.7**
TIXI Tiksi 49.87 16 P **P** **16 21 10.1 0.0**
MLR Muntele Rosu 49.87 307 ⇑P **P** **16 21 13.2 +2.5**
MLR Muntele Rosu 49.87 307 ⇑P **P** **16 21 13.2 +2.5**
MLR Muntele Rosu 49.87 307 P **P** **16 21 11.4 +0.6**
NACGM Naroch 49.94 320 *i* P **P** **16 21 11.4 +0.5**
DOPR Dopca 50.25 308 ⇓P **P** **16 21 15.2 +1.7**
BURAR Bucovina Array 50.37 310 P **P** **16 21 15.3 +0.9**
BURAR IAmb IAmb 16 21 16.8
comp=Z,5.5nm,0.8s
BURAR *PcP **PcP** **16 22 34.7 +1.9**
VOIR 50.50 307 ⇑P **P** **16 21 16.5 +1.0**
VOIR 50.50 307 ⇑P **P** **16 21 16.5 +1.0**
LOT Lotru 51.40 307 ⇓P **P** **16 21 23.4 +1.2**
FINES FINESS Array B 51.48 328 P **P** **16 21 23.3 +0.8**
comp=Z,13nm,0.7s,baz=104,slow=8.5,SNR=38
FINES FINESS Array B 51.48 328 *i* P **P** **16 21 23.2 +0.8**
FINES pmax pmax
comp=Z,13nm,0.7s
FINES FINESS Array B 51.48 328 P **P** **16 21 23.2 +0.8**
BMR Baia Mare 51.53 310 ⇑P **P** **16 21 25.5 +2.4**
BMR Baia Mare 51.53 310 ⇑P **P** **16 21 25.5 +2.4**
VTS Vitosha 51.96 304 ⇓P **P** **16 21 27.8 +1.3**
VTS Vitosha 51.96 304 ⇓P **P** **16 21 27.8 +1.3**
VTS Vitosha 51.96 304 P **P** **16 21 26.6 0.0**
VTS IAmb IAmb 16 21 29.2
comp=Z,8.5nm,0.9s
KOLS Kolonicke sedl 52.34 312 *eP* **P** **16 21 30.5 +1.4**
KOLS *e* 16 22 42.7
KOLS Kolonicke sedl 52.34 312 *eP* **P** **16 21 30.5 +1.4**
KOLS *e* 16 22 42.7
BATI Baumata 52.78 130 P **P** **16 21 31.9 -0.8**
comp=Z,15nm,0.5s,baz=297,slow=2.3,SNR=2.3
SIRR Siria 52.84 309 ⇑P **P** **16 21 34.9 +2.1**
SOEI Soe 52.86 129 P **P** **16 21 33.0 -0.4**

CRVS Cervenica-Dubn 52.88 312 *eP* P 16 21 40.5 +7.4
CRVS Cervenica-Dubn 52.88 312 *e* P 16 21 40.5 +7.4
MDVR Moldovita 52.89 307 ⇓P **P** **16 21 34.6 +1.3**
AGG Agios Georgios 53.04 299 P **P** **16 21 34.1 -0.4**
AGG pmax pmax
comp=Z,8.0nm,0.7s
AGG Agios Georgios 53.04 299 P **P** **16 21 34.1 -0.4**
AGG IAmb IAmb 16 21 35.1
comp=Z,7.6nm,0.7s
NIE Niedzica 53.62 313 *eP* **P** **16 21 40.8 +2.2**
ARA0 ARCESS Array S 53.86 338 *eP* **P** **16 21 41.2 +1.2**
ARCES ARCESS Array B 53.86 338 P **P** **16 21 41.0 +1.1**
comp=Z,16nm,0.7s,baz=93,slow=7.0,SNR=39
ARCES ARCESS Array B 53.86 338 P **P** **16 21 40.3 +0.3**
ARCES 16 22 46.5
ARCES pmax pmax
comp=Z,19nm,0.9s
ARCES ARCESS Array B 53.86 338 P **P** **16 21 40.3 +0.3**
ARCES PcP **PcP** **16 22 46.5 +1.1**
MA2 Magadan 53.92 35 *i* P **P** **16 21 40.2 -0.3**
MA2 pmax pmax
comp=Z,13nm,0.7s
OJC Ojcow 53.93 314 *eP* **P** **16 21 42.3 +1.5**
OJC Ojcow 53.93 314 P **P** **16 21 41.0 +0.2**
OJC pmax pmax
comp=Z,8.0nm,0.8s
OJC Ojcow 53.93 314 P **P** **16 21 41.0 +0.2**
OJC IAmb IAmb 16 21 42.9
comp=Z,8.3nm,0.8s
DIVS Divibare 54.18 306 P **P** **16 21 43.0 +0.2**
FRGS Fruska Gora 54.21 307 ⇓P **P** **16 21 44.4 +1.5**
KTK1 Kautokeino 54.49 337 *eP* **P** **16 21 45.5 +0.9**
HAMF Hammerfest 54.79 339 *eP* **P** **16 21 48.3 +1.6**
PDG Podgorica 54.90 304 ⇑P **P** **16 21 48.5 +0.6**
PDG Podgorica 54.90 304 P **P** **16 21 48.3 +0.3**
MORH Mrgy, Hungar 54.93 309 ⇑P **P** **16 21 49.2 +1.1**
MORC Moravsky Berou 55.40 313 ⇑P **P** **16 21 52.7 +1.2**
MORC Moravsky Berou 55.40 313 *eP* **P** **16 21 52.5 +1.0**
MORC Moravsky Berou 55.40 313 ⇑P **P** **16 21 52.7 +1.2**
MORC Moravsky Berou 55.40 313 P **P** **16 21 52.1 +0.6**
MORC IAmb IAmb 16 21 53.6
comp=Z,5.1nm,0.8s
KRLC Kraliky 55.87 313 *eP* **P** **16 21 55.1 +0.2**
KRLC Kraliky 55.87 313 *eP* **P** **16 21 55.1 +0.2**
VRAC Vranov 56.05 313 *eP* **P** **16 21 57.3 +1.2**
TRO Tromso 56.12 337 *eP* **P** **16 21 57.2 +0.9**
KSP Ksiaz 56.13 314 *eP* **P** **16 21 57.9 +1.2**
DPC Dobruska-Polom 56.15 314 *eP* **P** **16 21 57.4 +0.5**
DPC Dobruska-Polom 56.15 314 *eP* **P** **16 21 57.4 +0.5**
KRUC Moravsky 56.20 312 *eP* **P** **16 21 58.1 +0.9**
UPC Upice 56.34 314 *eP* **P** **16 21 59.0 +0.8**
UPC Upice 56.34 314 *eP* **P** **16 21 59.0 +0.8**
CONA Conrad Observa 56.66 311 *i* P **P** **16 22 01.7 +1.1**
comp=Z,6.1nm,0.7s,SNR=5.1
ARSA Arzberg 56.96 310 *eP* **P** **16 22 03.5 +0.8**
comp=Z,3.6nm,0.6s
STEI Steigen 57.17 335 *eP* **P** **16 22 04.5 +0.8**
PRU Pruhonice 57.32 313 *eP* **P** **16 22 06.3 +1.2**
PRU Pruhonice 57.32 313 *eP* **P** **16 22 06.3 +1.2**
SOKA Soboth 57.36 310 *i* P **P** **16 22 06.8 +1.2**
comp=Z,5.1nm,0.5s,SNR=7.2
CKRC Cesky Krumlov 57.59 312 *eP* **P** **16 22 07.2 +0.1**
BRG Berggiesshubel 57.62 315 *eP* **P** **16 22 08.1 +0.9**
BRG Amp 16 22 09.2
comp=Z,8.3nm,0.9s
BRG Berggiesshubel 57.62 315 *eP* **P** **16 22 08.1 +0.9**
comp=Z,8.3nm,0.9s,baz=83,slow=6.9
PETK Petropavlovsk- 57.69 43 P **P** **16 22 07.5 -0.2**
comp=Z,0.9nm,0.6s,baz=280,slow=4.2,SNR=1.9
PETK Petropavlovsk- 57.69 43 P **P** **16 22 07.5 -0.2**
OBKA Obir 57.71 309 *eP* **P** **16 22 09.4 +1.3**
comp=Z,7.9nm,0.8s
MOA Moln 57.73 311 *eP* **P** **16 22 08.8 +0.7**
comp=Z,3.7nm,0.6s
LOF Lofoten 57.83 335 *eP* **P** **16 22 08.2 -0.2**
FBE Freiberg 57.98 315 *eP* **P** **16 22 10.9 +1.1**
comp=Z,13nm,0.9s,baz=83,slow=6.9
GEC2 GERESS Array S 57.99 312 *eP* **P** **16 22 10.8 +0.9**
comp=Z,3.0nm,0.7s,baz=83,slow=6.9
GERES GERESS Array B 57.99 312 P **P** **16 22 10.7 +0.7**
comp=Z,1.8nm,0.5s,baz=98,slow=8.2,SNR=16
GERES GERESS Array B 57.99 312 P **P** **16 22 10.9 +0.9**
GERES GERESS Array B 57.99 312 P **P** **16 22 10.9 +0.9**
KHC Kasperske Hory 58.03 313 *eP* **P** **16 22 11.0 +0.8**
KHC Kasperske Hory 58.03 313 *eP* **P** **16 22 11.0 +0.8**
CLL Collm 58.17 315 *i* P **P** **16 22 11.5 +0.5**
comp=Z,4.0nm,0.8s
CLL Collm 58.17 315 *i* P **P** **16 22 11.5 +0.5**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 58.17 315 *eP* **P** **16 22 11.6 +0.6**
comp=Z,4.3nm,0.8s,baz=83,slow=6.9
NSS Namsos 58.24 331 *eP* **P** **16 22 11.8 +0.5**
NC602 NORSAR Array S 58.42 326 *eP* **P** **16 22 13.1 +0.4**
KBA Koelnbreinsper 58.45 310 *eP* **P** **16 22 13.7 +0.3**
comp=Z,2.6nm,0.5s
WET Wettzell 58.49 313 *eP* **P** **16 22 14.3 +0.9**
comp=Z,4.7nm,0.9s,baz=83,slow=6.9
NB2 NORSAR Subarra 58.58 327 P **P** **16 22 13.4 -0.4**
baz=88,slow=6.9
NOA NORSAR Array B 58.58 327 P **P** **16 22 13.7 -0.1**
comp=Z,1.5nm,0.5s,baz=89,slow=6.8,SNR=9.9
NOA NORSAR Array B 58.58 327 P **P** **16 22 13.7 -0.1**
TANN Tannenbergstha 58.60 314 *eP* **P** **16 22 15.2 +0.9**
comp=Z,9.5nm,1.5s,baz=83,slow=6.9
WERN Wernitzgruen 58.67 314 *eP* **P** **16 22 15.6 +1.0**
comp=Z,5.9nm,1.1s,baz=83,slow=6.9
GUNZ Gunzen 58.69 314 *eP* **P** **16 22 15.8 +1.0**
comp=Z,5.8nm,0.8s,baz=83,slow=6.9
SPA0 Spitsbergen Ar 58.74 347 *eP* **P** **16 22 15.7 +1.0**
PLN Plauen 58.79 314 *eP* **P** **16 22 16.3 +0.9**
comp=Z,4.3nm,0.8s,baz=83,slow=6.9
ROTZ Rotzenmuhle 58.85 313 *eP* **P** **16 22 17.2 +1.4**
comp=Z,8.6nm,0.8s,baz=83,slow=6.9
MANZ Manzenberg 58.88 314 *eP* **P** **16 22 17.4 +1.2**
comp=Z,6.8nm,1.3s,baz=83,slow=6.9
INTR Introdacqua 58.89 304 P **P** **16 22 16.5 +0.1**
NEUB Neuenburg 58.94 315 *eP* **P** **16 22 17.3 +0.8**
comp=Z,14nm,0.7s,baz=83,slow=6.9
STAL STALIGIAL 59.01 309 P **P** **16 22 17.0 -0.1**
ABTA Abfaltersbach 59.07 310 *eP* **P** **16 22 17.2 -0.3**
comp=Z,5.5nm,1.0s
MOX Moxa 59.11 315 *eP* **P** **16 22 18.6 +0.9**
comp=Z,4.9nm,0.8s,baz=83,slow=6.9
FLTG Flechtingen 59.15 316 *eP* **P** **16 22 18.1 +0.2**
comp=Z,11nm,0.9s,baz=83,slow=6.9
NRCA Norcia 59.31 305 P **P** **16 22 19.6 +0.3**
NRCA IAmb IAmb 16 22 22.0
comp=Z,9.8nm,0.8s
KONO Kongsberg 59.44 325 *eP* **P** **16 22 20.5 +0.7**
GRF Grafenberg Arr 59.49 313 *eP* **P** **16 22 21.7 +1.4**
comp=Z,33nm,1.6s,baz=83,slow=6.9
BSEG Bad Segeberg 59.52 318 *eP* **P** **16 22 21.8 +1.4**
comp=Z,18nm,0.9s,baz=83,slow=6.9
DOMB Dombas 59.57 328 *eP* **P** **16 22 21.4 +0.7**
WTTA Wattenberg 59.58 311 *eP* **P** **16 22 20.0 -1.2**
comp=Z,10nm,0.9s
WATA Walderalm 59.61 311 *eP* **P** **16 22 21.6 +0.3**
comp=Z,7.4nm,1.0s
CLZ Clausthal 59.73 316 *eP* **P** **16 22 23.0 +1.0**
comp=Z,17nm,0.9s,baz=83,slow=6.9
KBS Kingsbay 59.77 348 *eP* **P** **16 22 22.3 +0.6**
CTI Castel Tesino 59.77 309 P **P** **16 22 22.8 +0.4**
CTI pmax pmax
comp=Z,7.0nm,0.7s
CTI Castel Tesino 59.77 309 P **P** **16 22 22.8 +0.4**
CTI IAmb IAmb 16 22 23.4
comp=Z,7.2nm,0.7s
NRDL Niedersach Rie 59.81 317 *eP* **P** **16 22 23.8 +1.4**
comp=Z,17nm,0.9s,baz=83,slow=6.9
MOTA Moosalm 59.92 311 *i* P **P** **16 22 23.4 -0.1**
comp=Z,9.1nm,0.8s,SNR=5.1
GTTG Gottingen 60.03 316 *eP* **P** **16 22 25.0 +1.1**
comp=Z,9.2nm,0.8s,baz=83,slow=6.9
RETA Reutte 60.13 311 *eP* **P** **16 22 25.0 +0.2**
comp=Z,5.4nm,0.6s
FETA Feichten 60.23 310 *eP* **P** **16 22 25.5 -0.2**
comp=Z,4.5nm,0.7s
UBR Ueberruh 60.53 311 *eP* **P** **16 22 27.8 +0.3**
comp=Z,6.5nm,0.7s,baz=83,slow=6.9
DAVA Damuels 60.75 311 *eP* **P** **16 22 29.5 +0.3**
comp=Z,12nm,0.8s
BILL Bilibino 61.05 25 *d i* P **P** **16 22 31.6 +1.0**
BILL *SP **sP** **16 22 38.0 -1.8**
BILL S **S** **16 30 45.0 -3.2**

BILL				SS	SS	16 34 46.0	-1.3	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,61nm,17.0s							
BILL	**Bilibino**	**61.05**	**25**	P	**P**	**16 22 31.8**	**+1.2**	
BILL				IAmb	IAmb	16 22 32.8		
	comp=Z,7.1nm,1.0s							
TNS	**Taunus Mts**	**61.18**	**314**	*e*P	**P**	**16 22 32.8**	**+0.9**	
	comp=Z,10nm,0.9s,baz=83,slow=6.9							
TUE	**Stuetta**	**61.26**	**310**	P	**P**	**16 22 32.7**	**0.0**	
TUE				IAmb	IAmb	16 22 34.7		
	comp=Z,8.9nm,0.8s							
MSSA	**Maissana**	**61.58**	**308**	P	**P**	**16 22 35.0**	**+0.2**	
BUG	**Bochum--Univer**	**61.71**	**316**	*e*P	**P**	**16 22 36.4**	**+1.0**	
	comp=Z,12nm,0.8s,baz=83,slow=6.9							
SENIN	**Lac Senin/Sane**	**62.67**	**310**	P	**P**	**16 22 42.5**	**+0.3**	
BNI	**Bardonecchia**	**63.39**	**309**	P	**P**	**16 22 47.0**	**+0.1**	
BNI				pmax	pmax			
	comp=Z,13nm,1.1s							
BNI	**Bardonecchia**	**63.39**	**309**	P	**P**	**16 22 47.0**	**+0.1**	
BNI				IAmb	IAmb	16 22 53.4		
	comp=Z,13nm,1.1s							
KEST	**Kesra**	**63.84**	**298**	P	**P**	**16 22 51.5**	**+1.5**	
	comp=Z,18nm,0.6s,baz=55,slow=0.9,SNR=22							
KEST	**Kesra**	**63.84**	**298**	P	**P**	**16 22 50.7**	**+0.7**	
DAG	**Danmarks Havn**	**66.34**	**346**	*i* P	**P**	**16 23 06.0**	**+0.6**	
DAG	**Danmarks Havn**	**66.34**	**346**	*i* P	**P**	**16 23 05.9**	**+0.6**	
WRA	**Warramunga Arr**	**66.90**	**130**	P	**P**	**16 23 10.5**	**+0.7**	
	comp=Z,5.6nm,0.7s,baz=323,slow=6.5,SNR=56							
WRA	**Warramunga Arr**	**66.90**	**130**	P	**P**	**16 23 10.5**	**+0.7**	
WRAB	**Tennant Creek**	**66.90**	**130**	*i* P	**P**	**16 23 10.5**	**+0.7**	
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.8s							
DBG	**Daneborg**	**67.62**	**344**	*i* P	**P**	**16 23 14.7**	**+1.2**	
DBG				IAmb	IAmb	16 23 15.3		
	comp=Z,6.3nm,1.0s							
AS31	**Alice Springs**	**69.20**	**133**	P	**P**	**16 23 24.8**	**+0.6**	
ASAR	**Alice Springs**	**69.20**	**133**	P	**P**	**16 23 24.9**	**+0.7**	
	comp=Z,4.8nm,0.9s,baz=315,slow=6.3,SNR=71							
ASAR	**Alice Springs**	**69.20**	**133**	P	**P**	**16 23 24.9**	**+0.7**	
ASAR	**Alice Springs**	**69.20**	**133**	P	**P**	**16 23 25.1**	**+0.9**	
NEEM	**North Greenlan**	**71.83**	**351**	⇑*i* P	**P**	**16 23 40.6**	**+0.7**	
NEEM				IAmb	IAmb	16 23 41.2		
	comp=Z,25nm,0.8s							
EUNU	**Eureka**	**72.27**	**359**	P	**P**	**16 23 42.8**	**+0.6**	
EUNU				IAmb	IAmb	16 23 44.3		
	comp=Z,8.9nm,0.8s							
ESDC	**Sonseca Array**	**72.53**	**306**	P	**P**	**16 23 45.5**	**+1.1**	
	comp=Z,2.3nm,0.7s,baz=57,slow=5.3,SNR=17							
ESDC	**Sonseca Array**	**72.53**	**306**	P	**P**	**16 23 44.7**	**+0.3**	
ESDC				IAmb	IAmb	16 23 50.8		
	comp=Z,6.8nm,1.4s							
SUMG	**Summit**	**72.96**	**345**	⇑*i* P	**P**	**16 23 47.9**	**+1.1**	
SUMG				IAmb	IAmb	16 23 48.8		
	comp=Z,17nm,0.8s							
SUMG	**Summit**	**72.96**	**345**	⇑*i* P	**P**	**16 23 47.9**	**+1.1**	
SUMG				pmax	pmax			
	comp=Z,17nm,0.8s							
SUMG	**Summit**	**72.96**	**345**	P	**P**	**16 23 47.1**	**+0.4**	
TULEG	**Thule**	**74.69**	**354**	⇑*i* P	**P**	**16 23 56.3**	**-0.1**	
TULEG				IAmb	IAmb	16 23 57.0		
	comp=Z,8.8nm,0.8s							
TULEG	**Thule**	**74.69**	**354**	P	**P**	**16 23 56.2**	**-0.1**	
TULEG				IAmb	IAmb	16 23 57.3		
	comp=Z,8.8nm,0.8s							
ICESG	**Greenland Ices**	**75.55**	**342**	⇑*i* P	**P**	**16 24 03.1**	**+1.3**	
ICESG				IAmb	IAmb	16 24 03.8		
	comp=Z,33nm,0.7s							
TOLK	**Toolik Lake Re**	**75.72**	**18**	P	**P**	**16 24 03.4**	**+0.8**	
TOLK				IAmb	IAmb	16 24 04.4		
	comp=Z,9.8nm,0.7s							
PVAQ	**Vaqueiros**	**76.13**	**305**	P	**P**	**16 24 06.3**	**+0.9**	
IMAR	**Indian Mountai**	**76.19**	**21**	P	**P**	**16 24 06.1**	**+0.9**	
COLD	**Coldfoot**	**76.48**	**19**	P	**P**	**16 24 07.8**	**+1.1**	
BBOO	**Buckleboo**	**77.01**	**138**	P	**P**	**16 24 10.7**	**+0.4**	
BBOO				IAmb	IAmb	16 24 51.3		
	comp=Z,18nm,1.1s							
MLY	**Manley**	**77.77**	**21**	P	**P**	**16 24 14.9**	**+0.8**	
MLY				IAmb	IAmb	16 24 16.3		
	comp=Z,10nm,1.3s							
BMAR	**Burnt Mountain**	**77.92**	**18**	P	**P**	**16 24 16.1**	**+1.2**	
LBTB	**Lobatse**	**78.08**	**233**	P	**P**	**16 24 17.7**	**+1.2**	
LBTB				pmax	pmax			
	comp=Z,12nm,0.9s							
LBTB	**Lobatse**	**78.08**	**233**	P	**P**	**16 24 17.7**	**+1.2**	
LBTB				IAmb	IAmb	16 24 22.7		
	comp=Z,12nm,0.9s							
I23K	**Minto, Yukon-K**	**78.12**	**21**	P	**P**	**16 24 17.1**	**+1.1**	
I23K				IAmb	IAmb	16 24 18.4		
	comp=Z,19nm,1.6s							
BPAW	**Bear Paw Mtn.**	**78.30**	**22**	P	**P**	**16 24 17.9**	**+0.9**	
BPAW				IAmb	IAmb	16 24 19.3		
	comp=Z,5.3nm,0.9s							
NEA2	**Nenana**	**78.59**	**21**	P	**P**	**16 24 19.2**	**+0.6**	
NEA2				IAmb	IAmb	16 24 20.4		
	comp=Z,8.5nm,0.8s							
MDM	**Murphy Dome**	**78.61**	**21**	P	**P**	**16 24 19.2**	**+0.5**	
MDM				IAmb	IAmb	16 24 21.2		
	comp=Z,6.6nm,0.9s							
PPLA	**Purkeypile**	**78.67**	**23**	P	**P**	**16 24 20.5**	**+1.2**	
PPLA				IAmb	IAmb	16 24 23.1		
	comp=Z,5.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**78.68**	**279**	P	**P**	**16 24 20.2**	**+0.2**	
	comp=Z,1.8nm,0.6s,baz=79,slow=4.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**78.68**	**279**	P	**P**	**16 24 19.6**	**-0.3**	
CCB	**Clear Creek Bu**	**78.95**	**21**	P	**P**	**16 24 20.5**	**0.0**	
IL31		**79.15**	**20**	P	**P**	**16 24 22.4**	**+0.7**	
ILAR	**Eielson Array**	**79.15**	**20**	P	**P**	**16 24 21.9**	**+0.2**	
	comp=Z,1.9nm,0.6s,baz=307,slow=4.8,SNR=19							
ILAR				PP	**PP**	**16 27 19.3**	**-1.2**	
	comp=Z,1.1nm,0.8s,baz=305,slow=7.1,SNR=9.2							
ILAR	**Eielson Array**	**79.15**	**20**	P	**P**	**16 24 21.9**	**+0.2**	
ILAR	**Eielson Array**	**79.15**	**20**	P	**P**	**16 24 21.8**	**+0.1**	
SKT	**Skwentna**	**79.50**	**24**	P	**P**	**16 24 24.2**	**+0.5**	
SKT				IAmb	IAmb	16 24 25.1		
	comp=Z,12nm,1.0s							
STKA	**Stephens Creek**	**79.77**	**134**	P	**P**	**16 24 25.3**	**-0.2**	
	comp=Z,3.2nm,0.8s,baz=325,slow=8.7,SNR=6.6							
STKA	**Stephens Creek**	**79.77**	**134**	P	**P**	**16 24 25.3**	**-0.2**	
STKA	**Stephens Creek**	**79.77**	**134**	P	**P**	**16 24 25.7**	**+0.2**	
SFJD	**Kangerlussuaq**	**79.90**	**344**	P	**P**	**16 24 26.2**	**+0.5**	
SFJD				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SFJD	**Kangerlussuaq**	**79.90**	**344**	P	**P**	**16 24 26.2**	**+0.5**	
SFJD				IAmb	IAmb	16 24 26.9		
	comp=Z,9.9nm,0.7s							
BOSA	**Boshof**	**80.56**	**231**	P	**P**	**16 24 29.9**	**0.0**	
	comp=Z,1.8nm,0.6s,baz=5.8,slow=4.4,SNR=5.0							
BOSA	**Boshof**	**80.56**	**231**	P	**P**	**16 24 30.0**	**0.0**	
BOSA	**Boshof**	**80.56**	**231**	P	**P**	**16 24 29.0**	**-0.9**	
BOSA				IAmb	IAmb	16 24 35.8		
	comp=Z,8.1nm,0.9s							
GHO	**Glory Hole Cre**	**80.56**	**23**	P	**P**	**16 24 29.9**	**+0.4**	
GHO				IAmb	IAmb	16 25 06.2		
	comp=Z,20nm,1.6s							
SCRK	**Sand Creek**	**80.60**	**20**	P	**P**	**16 24 30.1**	**+0.3**	
SCRK				IAmb	IAmb	16 24 31.3		
	comp=Z,7.6nm,1.0s							
C36M	**Paulatuk**	**80.74**	**10**	P	**P**	**16 24 30.3**	**+0.2**	
SML	**Sawmill**	**80.75**	**23**	P	**P**	**16 24 31.5**	**+1.0**	
EGAK	**Eagle**	**80.83**	**18**	P	**P**	**16 24 31.4**	**+0.6**	
EGAK				IAmb	IAmb	16 24 32.4		
	comp=Z,5.2nm,1.1s							
KNK	**Knik Glacier**	**80.97**	**23**	P	**P**	**16 24 32.5**	**+0.9**	
KNK				IAmb	IAmb	16 24 33.5		
	comp=Z,6.6nm,0.6s							
SCM	**Sheep Creek Mo**	**81.07**	**23**	P	**P**	**16 24 33.1**	**+0.9**	
SCM				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SCM	**Sheep Creek Mo**	**81.07**	**23**	P	**P**	**16 24 33.1**	**+0.9**	
SCM				IAmb	IAmb	16 24 34.0		
	comp=Z,9.6nm,0.7s							
PWL	**Port Wells**	**81.40**	**24**	P	**P**	**16 24 34.6**	**+0.8**	
PWL				IAmb	IAmb	16 24 35.5		
	comp=Z,17nm,1.4s							
KDAK	**Kodiak Island**	**81.85**	**27**	P	**P**	**16 24 37.0**	**+0.7**	
KDAK				pmax	pmax			
	comp=Z,40nm,1.5s							
KDAK	**Kodiak Island**	**81.85**	**27**	P	**P**	**16 24 37.0**	**+0.7**	
OHAK	**Old Harbor**	**81.92**	**28**	P	**P**	**16 24 37.1**	**+0.4**	
L27K	**Beaver Creek,**	**81.93**	**20**	P	**P**	**16 24 37.5**	**+0.8**	
BCAR	**Beaver Creek A**	**81.94**	**20**	P	**P**	**16 24 37.7**	**+0.9**	
N25K	**Chitina, Valde**	**82.14**	**22**	P	**P**	**16 24 38.4**	**+0.5**	
N25K				IAmb	IAmb	16 24 40.4		
	comp=Z,8.4nm,1.0s							
MCARA	**McCarthy VSAT**	**82.82**	**21**	P	**P**	**16 24 42.5**	**+1.1**	
MCARA				IAmb	IAmb	16 24 44.3		
	comp=Z,11nm,0.8s							
TXAR	**Lajitas Array**	**122.49**	**10**	PKP	**PKPdf**	**16 31 13.0**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=127,slow=1.8,SNR=5.9							
TXAR	**Lajitas Array**	**122.49**	**10**	PKIKP	**PKPdf**	**16 31 12.9**	**-0.4**	
TXAR	**Lajitas Array**	**122.49**	**10**	PKPdf	**PKPdf**	**16 31 12.9**	**-0.4**	
TOLC	**Tolima**	**142.91**	**327**	*e*P	**PKPdf**	**16 31 47.8**	**-4.3**	
ANIL	**Santa Ana**	**143.03**	**327**	*e*P	PKPab	16 31 43.8	-3.7	
PRAC	**Prado**	**143.45**	**326**	*e*P	PKPab	16 31 48.0	-0.9	
BETC	**Betania**	**144.62**	**326**	*e*P	**PKPab**	**16 31 52.2**	**-1.1**	
POPC	**Popayan, Colom**	**145.34**	**328**	*e*P	**PKPbc**	**16 31 51.2**	**-4.9**	
BBAC	**Balboa, Cauca**	**146.06**	**328**	*e*P	**PKPbc**	**16 31 58.2**	**-0.1**	
CPUP	**Villa Florida**	**147.05**	**264**	PKPbc	**PKPdf**	**16 31 57.8**	**-0.6**	
	comp=Z,1.9nm,0.9s,baz=97,slow=3.7,SNR=4.4							
CPUP	**Villa Florida**	**147.05**	**264**	PKIKP	**PKPdf**	**16 31 57.8**	**-0.6**	
CPUP	**Villa Florida**	**147.05**	**264**		**PKPdf**	**16 31 57.8**	**-0.6**	
LPAZ	**La Paz**	**153.16**	**290**	PKPbc	**PKPbc**	**16 32 14.7**	**-1.8**	
	comp=Z,1.4nm,0.6s,baz=180,slow=1.0,SNR=20							
LPAZ	**La Paz**	**153.16**	**290**	PKIKP	**PKPbc**	**16 32 14.7**	**-1.8**	
LPAZ	**La Paz**	**153.16**	**290**		**PKPbc**	**16 32 14.7**	**-1.8**	

NEIC ***11*** *16:25:48.8±2.7, 9.°02S±0.°07×122.°3E±0.°1, h101*$^{km}_{\pm 5}$*km, mb4.1/7, Error ellipse: s-maj=19.3km s-min=5.3km az=63.0*

IDC ***11*** *16:25:50.7±1.8, 9.°14S×122.°10E, h133*$^{km}_{\pm 16}$*km, mb3.5/4, mb1 3.7/7, mb1mx3.3/42, mbtmp4.0/7, Error ellipse: s-maj=43.6km s-min=18.0km az=54.0*

DJA ***11*** *16:25:50.5±0.4, 9.°5S±5.°1×12.°2E±.°, h77*$^{km}_{\pm 7}$*km, M4.2/6, mb4.8/3, mB5.3/2, MLv3.9/6, Mw(mB)4.7/2*

ISC 11 16:25:47.9±0.6, 9.°09S±0.°05×122.°25E±0.°05, h106^{km}**, n38, σ2°94/45, mb4.1/6, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.45**	**358**			**Pn**	**16 26 04.5**	**+0.4**
MMRI					Sn	**Sn**	**16 26 16.1**	**0.0**
MMRI	**Maumere**	**0.45**	**358**	P		**Pn**	**16 26 04.4**	**+0.4**
MMRI				S		**Sn**	**16 26 16.1**	**0.0**
BATI	**Baumata**	**1.78**	**129**	P		**Pn**	**16 26 21.2**	**+3.2**
	25nm,0.3s,baz=298,slow=18,SNR=45							
BATI				S		**Sn**	**16 26 49.0**	**+8.1**
	84nm,0.3s,baz=204,slow=22,SNR=5.6							
BATI	**Baumata**	**1.78**	**129**	P		**Pn**	**16 26 20.6**	**+2.6**
BASI	**Baing, Sumba**	**2.00**	**236**	P		**Pn**	**16 26 24.1**	**+3.4**
SOEI	**Soe**	**2.10**	**109**			**Pn**	**16 26 24.5**	**+2.4**
SOEI	**Soe**	**2.10**	**109**	P		**Pn**	**16 26 24.5**	**+2.4**
WBSI	**Waikabubak, Su**	**2.87**	**259**	P		**Pn**	**16 26 35.3**	**+3.1**
WBSI				S		**Sn**	**16 27 09.0**	**+2.7**
PLAI	**Plampang**	**4.43**	**273**	P		**Pn**	**16 26 57.1**	**+4.1**
KAPI	**Kappang**	**4.75**	**328**	P		**Pn**	**16 27 00.9**	**+3.6**
	3.4nm,0.3s,baz=159,slow=10,SNR=11							
KAPI	**Kappang**	**4.75**	**328**			**Pn**	**16 27 00.7**	**+3.4**
KAPI					Sn	**Sn**	**16 27 49.7**	**-1.6**
KAPI	**Kappang**	**4.75**	**328**	P		**Pn**	**16 27 01.2**	**+3.9**
KKSI	**Kolaka, Sulawe**	**4.92**	**353**	P		Pn	16 27 09.0	+9.3
BNSI	**Bone**	**5.12**	**335**	P		**Pn**	**16 27 05.0**	**+2.6**
	0.1nm32nm,0.6s							
LUWI	**Luwuk**	**8.01**	**4**	Pn		**Pn**	**16 27 40.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**8.03**	**274**	Pn		**Pn**	**16 27 41.0**	**-0.8**
KNRA	**Kununurra**	**9.13**	**136**			**Pn**	**16 27 55.7**	**-1.0**
MTN	**Manton Dam**	**9.48**	**114**			**Pn**	**16 28 00.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.54**	**160**	P		**Pn**	**16 28 03.3**	**+0.9**
	2.7nm,0.3s,baz=353,slow=7.5,SNR=76							
FITZ				S		**Sn**	**16 29 42.7**	**-5.1**
	2.4nm,0.3s,baz=141,slow=12,SNR=10							
FITZ	**Fitzroy Crossi**	**9.54**	**160**			**Pn**	**16 28 03.2**	**+0.9**
FITZ						**Sn**	**16 29 44.0**	**-3.8**
UGM	**Wanagama**	**11.66**	**275**	Pn		**Pn**	**16 28 31.9**	**+0.9**
FAKI	**Fak Fak**	**11.68**	**59**	Pn		**Pn**	**16 28 31.5**	**+0.2**
PSA00	**Pilbara Seismi**	**12.63**	**190**	Pn		**Pn**	**16 28 41.1**	**-2.7**
GIRL	**Giralia**	**15.52**	**209**	Pn		**P**	**16 29 22.3**	**-0.8**
WB0	**Warramunga Arr**	**15.83**	**133**	Pn		**Pn**	**16 29 22.1**	**-2.8**
WB0				IAmb		IAmb	16 29 29.1	
	comp=Z,14nm,1.2s							
WRA	**Warramunga Arr**	**15.91**	**134**	P		**Pn**	**16 29 23.8**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=304,slow=14,SNR=45							
WRA				S		Sn	16 32 09.8	-12
	comp=Z,0.3nm,0.3s,baz=304,slow=22,SNR=4.8							
WB2	**Warramunga Arr**	**15.91**	**134**	Pn		**Pn**	**16 29 23.1**	**-2.8**
WR0	**Warramunga Arr**	**16.06**	**134**	Pn		**Pn**	**16 29 25.2**	**-2.5**
WR0				IAmb		IAmb	16 29 49.7	
	comp=Z,8.8nm,1.2s							
AS31	**Alice Springs**	**18.29**	**144**	P		**Pn**	**16 29 56.4**	**+1.5**
AS31				IAmb		IAmb	16 30 00.0	
	comp=Z,2.7nm,0.3s							
ASAR	**Alice Springs**	**18.29**	**144**	P		**Pn**	**16 29 56.0**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=319,slow=12,SNR=55							
ASAR				S		**S**	**16 33 08.9**	**-8.6**
	comp=Z,0.3nm,0.3s,baz=320,slow=22,SNR=8.6							
ASAR	**Alice Springs**	**18.29**	**144**	P		**Pn**	**16 29 55.9**	**+1.0**
BBOO	**Buckleboo**	**26.84**	**154**	P		**P**	**16 31 20.6**	**+2.1**
BBOO				IAmb		IAmb	16 31 41.9	
	comp=Z,8.9nm,1.1s							
USRK	**Ussuriysk Ar.**	**53.77**	**9**	P		**P**	**16 34 59.1**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=199,slow=6.2,SNR=5.8							
SONM	**Songino Array**	**58.39**	**348**	P		**P**	**16 35 32.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=149,slow=5.9,SNR=2.2							
MKAR	**Makanchi Array**	**66.04**	**331**	P		**P**	**16 36 24.1**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=136,slow=7.3,SNR=4.5							
PETK	**Petropavlovsk-**	**68.91**	**22**	P		**P**	**16 36 41.5**	**+0.2**
	comp=Z,3.9nm,1.1s,baz=251,slow=4.4,SNR=1.7							
PETK	**Petropavlovsk-**	**68.91**	**22**	P		**P**	**16 36 41.7**	**+0.4**
QSPA	**South Pole Qui**	**80.90**	**180**	P		**P**	**16 37 53.6**	**+3.3**
QSPA				IAmb		IAmb	16 38 13.4	
	comp=Z,7.4nm,1.5s							

IDC 11 17:05:00.6±6.2, 20.°11S×179.°66W, h638$^{km}_{\pm 35}$**km, mb2.7/2, mb1 2.9/3, mb1mx2.6/20, mbtmp3.6/3, Error ellipse: s-maj=187.4km s-min=41.2km az=146.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.20**	**317**	P		P	17 06 24.0	-0.2
	1.2nm,0.3s,baz=99,slow=23,SNR=7.0							
ASAR	**Alice Springs**	**43.09**	**257**	P		P	17 12 06.8	-0.3
	0.9nm,0.5s,baz=90,slow=7.8,SNR=37							
ASAR				PcP		PcP	17 13 41.4	-0.6
	0.2nm,0.6s,baz=105,slow=4.2,SNR=1.2							
WRA	**Warramunga Arr**	**43.11**	**262**	P		P	17 12 07.7	+0.4
	0.4nm,0.3s,baz=96,slow=7.7,SNR=12							
AKASG	**Malin Array Be**	**141.91**	**330**	PKP		PKPdf	17 23 18.9	-2.3
	0.1nm,0.2s,baz=38,slow=3.8,SNR=5.0							
BRTR	**Keskin Array B**	**145.42**	**312**	PKPbc		PKPbc	17 23 29.1	-0.2
	0.3nm,0.5s,baz=58,slow=4.4,SNR=2.3							

TRN 11 17:06:41.8, 12.°88N×59.°31W, h63^{km}**, MD3.7, 2C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**0.26**	**327**	⇑*i* P		Pn	17 06 53.1	+1.1
BBSP				*e*S		Sn	17 07 00.1	+0.8
BBGH	**Gun Hill**	**0.35**	**317**	⇑*i* P		Pn	17 06 53.8	+1.1
BBGH				*e*S		Sn	17 07 02.7	+2.2
BCHC	**Barbados, Cave**	**0.40**	**309**	*e*P		Pn	17 06 54.5	+1.5
MCLT	**Moule a Chique**	**1.78**	**298**	*e*P		Pn	17 07 11.5	+1.2
SSVF	**Crater Summit**	**1.88**	**284**	*e*P		Pn	17 07 13.6	+1.8
SSV				*e*S		Sn	17 07 35.9	+1.3
SVV	**Soufriere Volc**	**1.90**	**283**	*e*P		Pn	17 07 14.2	+2.2
SVV				*e*S		Sn	17 07 37.2	+2.2
SLB	**Belfond**	**1.93**	**299**	*e*P		Pn	17 07 14.4	+2.1
SVB	**Belmont**	**1.93**	**282**	*e*P		Pn	17 07 13.3	+1.0
SVB				*e*S		Sn	17 07 36.6	+1.0
SLBI	**Saint Lucia, B**	**1.97**	**305**	*e*P		Pn	17 07 13.8	+0.8
SLBI				*e*S		Sn	17 07 38.6	+2.0
TOSP	**Speyside**	**1.98**	**217**	*e*P		Pn	17 07 15.0	+2.0
TOSP				*e*S		Sn	17 07 38.1	+1.3
GCMP	**Grenada, Carri**	**2.10**	**259**	*e*P		Pn	17 07 16.0	+1.4
GCMP				*e*S		Sn	17 07 40.4	+0.7
MPOM	**Morne Pois Mar**	**2.16**	**316**	*e*P		Pn	17 07 16.2	+0.7
MPOM				*e*S		Sn	17 07 42.4	+1.3
MVM	**Montagne Vaucl**	**2.26**	**317**	*e*P		Pn	17 07 18.0	+1.1
LPMF	**Morne Lapointe**	**2.32**	**316**	*e*P		Pn	17 07 18.9	+1.2
TRMF	**Trois Ilets**	**2.35**	**314**	*e*P		Pn	17 07 19.4	+1.3
BIM	**Bigot**	**2.36**	**314**	*e*P		Pn	17 07 19.5	+1.3
BIM				*e*S		Sn	17 07 47.0	+0.9
ZAM	**Aeronautique**	**2.37**	**315**	*e*P		Sn	17 07 19.4	+1.2
GRGR	**Grenville**	**2.40**	**252**	*e*P		Pn	17 07 20.2	+1.4
GRGR				*e*S		Sn	17 07 47.9	+0.7
ILAM	**Ilet Lapin Mar**	**2.41**	**321**	*e*P		Pn	17 07 20.1	+1.1
FDF	**Fort de France**	**2.56**	**316**	*e*P		Pn	17 07 22.1	+1.1
FDF				*e*S		Sn	17 07 52.9	+1.9
GBMF	**Grand Be**	**2.62**	**317**	*e*P		Pn	17 07 23.3	+1.5
PML	**Morne Lenard**	**2.62**	**316**	*e*P		Pn	17 07 23.5	+1.7
BAMF	**Morne Balai**	**2.62**	**317**	*e*P		Pn	17 07 23.4	+1.6
CXM	**Morne La Croix**	**2.63**	**317**	*e*P		Pn	17 07 23.8	+1.8
SVN	**Savane Anatole**	**2.65**	**317**	*e*P		Pn	17 07 23.9	+1.7
PCM	**Pelee Case Pet**	**2.66**	**316**	*e*P		Pn	17 07 22.9	+0.6
PCM	**Pelee Case Pet**	**2.66**	**316**	*e*P		Pn	17 07 24.1	+1.8
TRN	**Trinidad (W)**	**3.02**	**223**	*e*P		Pn	17 07 29.9	+2.7
TRN				*e*S		Sn	17 08 01.9	-0.3
DSLB	**Salisbury**	**3.26**	**321**	*e*P		Pn	17 07 32.0	+1.5
DSLB				*e*S		Sn	17 08 09.5	+1.4
MAGL	**Barre de l'ile**	**3.59**	**328**	*e*P		Pn	17 07 36.0	+0.9
MAGL				*e*S		Sn	17 08 16.2	-0.1
TDBA	**Terre de Bas,**	**3.71**	**323**	*e*P		Pn	17 07 39.4	+2.8
TDBA				*e*S		Sn	17 08 20.4	+1.3
TBG	**Guadaloupe-3**	**3.72**	**323**	*e*P		Pn	17 07 38.6	+1.9
TBG				*e*S		Sn	17 08 18.8	-0.5
ABD	**La Joyeuse, An**	**4.14**	**330**	*e*P		Pn	17 07 43.9	+1.4
ABD	**La Joyeuse, An**	**4.14**	**330**	*e*S		Sn	17 08 30.2	+0.4
ANBD	**Bethesda, Anti**	**4.77**	**331**	*e*P		Pn	17 07 52.0	+0.9
ANBD	**Bethesda, Anti**	**4.77**	**331**	*e*S		Sn	17 08 44.5	-0.7
BPA	**Boggy Peak**	**4.81**	**330**	*e*P		Pn	17 07 52.8	+1.0
BPA	**Boggy Peak**	**4.81**	**330**	*e*S		Sn	17 08 45.7	-0.5
ANWB	**Willy Bob**	**5.32**	**334**	*e*P		Pn	17 07 59.8	+1.1
ANWB	**Willy Bob**	**5.32**	**334**	*e*S		Sn	17 08 58.6	-0.1

NEIC ***11*** *17:21:08.5±1.1, 17.°6S±0.°4×178.°9W±0.°2, h573*$^{km}_{\pm 6}$*km, mb4.2/9, Error ellipse: s-maj=60.2km s-min=22.4km az=155.0*

IDC ***11*** *17:21:09.2±2.0, 17.°26S×179.°05W, h578*$^{km}_{\pm 19}$*km, mb3.2/4, mb1 3.4/5, mb1mx3.0/28, mbtmp4.1/5, Error ellipse: s-maj=108.6km s-min=26.0km az=155.0*

ISC 11 17:21:06.4±1.3, 18.°0S±0.°4×178.°6W±0.°2, h550^{km}**, n17, σ1°56/16, mb4.1/9, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.23**	**274**	P		**P**	**17 22 25.5**	**+2.5**
	3.3nm,0.3s,baz=120,slow=8.1,SNR=21							
MSVF	**Nonsavu**	**3.23**	**274**	P		**P**	**17 22 24.9**	**+1.8**
LIFNC	**LIFOU**	**13.68**	**256**	P		**P**	**17 24 02.3**	**0.0**
TAU	**Tasmania Unive**	**38.09**	**222**	P		**P**	**17 27 39.2**	**+0.8**
STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**17 27 42.0**	**+0.3**
	2.2nm,0.5s,baz=94,slow=7.7,SNR=8.7							
STKA	**Stephens Creek**

comp=N,3μm,0.5s
LIT Litokhoron 0.63 94 P **Pg** 17 43 32.4 -0.4
LIT S **Sg** 17 43 42.1 +1.2
LIT AML AML 17 43 46.9
comp=E,8854μm,0.3s
LIT AML AML 17 43 47.7
comp=N,7737μm,0.4s
LIT Litokhoron 0.63 94 P **Pg** 17 43 32.3 -0.4
LIT S **Sg** 17 43 42.2 +1.3
comp=N,4μm,0.3s
LIT Litokhoron 0.63 94 *i* Pg **Pg** 17 43 32.1 -0.6
LIT *i* Sg **Sb** 17 43 43.8 +0.1
THL Klokotos Trika 0.64 156 P **Pg** 17 43 32.2 -0.8
THL S **Sg** 17 43 42.1 +0.8
THL AML AML 17 43 45.9
comp=E,3888μm,0.3s
THL AML AML 17 43 46.0
comp=N,7520μm,0.4s
FNA Florina 0.67 340 P **Pg** 17 43 32.9 -0.7
FNA S **Sg** 17 43 41.9 -0.4
FNA AML AML 17 43 45.5
comp=E,7953μm,0.4s
FNA AML AML 17 43 46.2
comp=N,4950μm,0.3s
FNA Florina 0.67 340 P **Pg** 17 43 32.9 -0.7
FNA Florina 0.67 340 P **Pg** 17 43 32.9 -0.7
baz=335
FNA S **Sg** 17 43 42.0 -0.2
baz=335
FNA Florina 0.67 340 ⇑ *i* Pg **Pg** 17 43 32.9 -0.7
LRSO Larissa Observ 0.73 131 P **Pg** 17 43 35.2 +0.5
LRSO S **Sb** 17 43 46.1 -0.6
LRSO AML AML 17 43 50.5
comp=N,8920μm,0.4s
LRSO AML AML 17 43 52.4
comp=E,7881μm,0.4s
LRSO Larissa Observ 0.73 131 P **Pg** 17 43 34.8 +0.1
LRSO S **Sb** 17 43 45.7 -1.0
comp=E,4μm,0.4s
JAN Janina 0.80 232 P **Pb** 17 43 36.7 -0.8
JAN S **Sb** 17 43 47.9 -1.0
JAN AML AML 17 43 52.4
comp=E,1002μm,0.4s
JAN AML AML 17 43 55.4
comp=N,1188μm,0.5s
LSK Leskovik 0.82 270 P **Pg** 17 43 36.1 -0.4
LSK Leskovik 0.82 270 P **Pg** 17 43 36.6 +0.1
baz=267
LSK S **Sb** 17 43 50.2 +0.8
baz=267
LSK AMP
comp=N,5.7nm,0.7s,baz=267
KBN Korca 0.82 305 P **Pg** 17 43 36.0 -0.5
KBN S **Sb** 17 43 48.4 -1.1
comp=N,1μm,0.5s
KBN Korca 0.82 305 P **Pg** 17 43 36.2 -0.3
baz=300
KBN S **Sb** 17 43 48.7 -0.8
baz=300
KBN AMP
comp=N,6.3nm,0.5s,baz=300
GRG Griva 0.98 34 P **Pg** 17 43 38.9 -0.5
GRG S **Sb** 17 43 54.0 +0.2
comp=N,2μm,0.8s
GRG Griva 0.98 34 *i* Pg **Pg** 17 43 38.6 -0.8
GRG *i* Sg **Sn** 17 43 56.1 0.0
THE Thessaloniki 1.10 64 P **Pg** 17 43 41.8 +0.1
THE S **Sb** 17 43 57.2 0.0
THE Thessaloniki 1.10 64 *i* Pg **Pg** 17 43 42.0 +0.3
THE *i* Sg **Sn** 17 43 58.8 -0.1
OHR Ohrid 1.17 325 *i* Pg **Pg** 17 43 42.1 -1.0
OHR *i* Sg **Sn** 17 44 01.7 +0.9
OHR *e*Lg Lg 17 44 02.5
comp=E,1μm,0.6s
OHR *e*Lg Lg 17 44 02.8
comp=N,508nm,0.6s
HORT Hortiatis 1.18 67 P **Pg** 17 43 43.2 -0.1
HORT S **Sb** 17 43 59.9 +0.3
HORT AML AML 17 44 04.0
comp=N,498μm,0.5s
HORT AML AML 17 44 06.5
comp=E,366μm,0.6s
HORT Hortiatis 1.18 67 P **Pg** 17 43 42.9 -0.4
HORT S **Sn** 17 44 00.2 -0.9
MAKR Makrakomi, Fth 1.19 163 P **Pg** 17 43 42.7 -0.8
IGT Igoumenitsa 1.20 239 P **Pg** 17 43 43.2 -0.6
IGT Igoumenitsa 1.20 239 P **Pg** 17 43 43.8 0.0
baz=239
IGT S **Sn** 17 44 02.3 +0.7
baz=239
AGG Agios Georgios 1.24 156 P **Pg** 17 43 44.0 -0.4
AGG S **Sb** 17 44 01.4 +0.1
AGG Agios Georgios 1.24 156 P **Pg** 17 43 43.6 -0.8
EVR Evrytania 1.24 175 P **Pg** 17 43 43.3 -1.2
SRN Sarande 1.31 259 P **Pg** 17 43 45.6 -0.3
SRN S **Sn** 17 44 04.1 -0.2
comp=E,640nm,0.6s
SRN Sarande 1.31 259 P **Pg** 17 43 45.8 -0.1
baz=258
SRN S **Sn** 17 44 05.4 +1.1
baz=258
SRN AMP
comp=N,2.5nm,0.5s,baz=258
VAY Valandovo 1.35 30 *i* Pg **Pn** 17 43 46.0 -0.7
VAY *i* Sg **Sn** 17 44 05.9 +0.7
VAY *e*Lg Lg 17 44 06.1
comp=E,144nm,0.8s
VAY *e*Lg Lg 17 44 07.3
comp=N,182nm,0.7s
KNT Kendrikon 1.37 42 P **Pn** 17 43 46.5 -0.5
KNT Kendrikon 1.37 42 *i* Pn **Pn** 17 43 45.7 -1.3
XOR Xorichti 1.41 123 P **Pn** 17 43 46.8 -0.7
XOR Xorichti 1.41 123 P **Pn** 17 43 46.5 -1.0
SOH Sokhos 1.45 62 P **Pg** 17 43 48.5 +0.1
SOH Sokhos 1.45 62 P **Pn** 17 43 47.5 -0.5
SOH Sokhos 1.45 62 *i* Pn **Pn** 17 43 48.0 0.0
PAIG Paliouri 1.56 98 P **Pn** 17 43 48.4 -1.1
PAIG Paliouri 1.56 98 P **Pn** 17 43 48.5 -1.0
ANX Ano Chora 1.57 173 P **Pn** 17 43 49.4 -0.4
LKD2 Lefkada island 1.57 210 P **Pb** 17 43 50.4 -0.2
baz=212
STIP Stip 1.59 14 *i* Pn **Pg** 17 43 51.1 -0.1
PDO Prodromos 1.60 194 P **Pn** 17 43 49.7 -0.4
VLO Vlora 1.70 281 P **Pg** 17 43 54.1 +0.9
baz=280
OUR Ouranopolis 1.78 83 P **Pn** 17 43 52.0 -0.5
ATAL Atalanti 1.79 144 P **Pn** 17 43 52.2 -0.6
TIR Tirane 1.82 312 ⇓ P **Pb** 17 43 54.6 -0.2
TIR ⇑ S **Sb** 17 44 17.7 -0.4
TIR Tirane 1.82 312 P **Pb** 17 43 54.1 -0.7
baz=310
TIR S **Sg** 17 44 18.8 -0.4
baz=310
TIR AMP
comp=N,0.7nm,0.5s,baz=310
PUK Puka 2.32 325 P **Pn** 17 44 00.6 +0.5
baz=324
PUK S **Sb** 17 44 31.6 -0.9
baz=324
PUK AMP
comp=E,0.7nm,0.8s,baz=324
BCI Bajram Curri 2.52 332 P **Pn** 17 44 03.5 +0.7
baz=331
VTS Vitosha 2.73 25 ⇓ P **Pn** 17 44 05.8 +0.1
VTS ⇓ S **Sn** 17 44 39.7 +0.3
DRME Dracevica, Mon 2.77 318 *e*Pn **Pn** 17 44 07.7 +1.5
PDG Podgorica 2.92 322 ⇑ P **Pn** 17 44 09.5 +1.3
PDG ⇓ S **Sn** 17 44 43.2 -0.6
PDG Podgorica 2.92 322 *e*Pn **Pn** 17 44 09.6 +1.4
HCY Herceg Novi 3.32 315 *e*Pn **Pn** 17 44 14.5 +0.8
BOVS Bovan 3.48 0 ⇑ P **Pn** 17 44 15.2 -0.8
TREB Trebinje 3.58 317 *e*Pn **Pn** 17 44 18.2 +0.9
BRY Bratogost 3.62 320 *e*Pn **Pn** 17 44 18.8 +0.8
UPM Unac-Piva 3.69 327 *e*Pn **Pn** 17 44 20.8 +1.8
MATE Matera 3.83 279 ⇑ P **Pn** 17 44 21.4 +0.7
TIP Timpagrande 3.92 257 ⇑ P **Pn** 17 44 23.8 +1.8
TIP ⇓ S **Sn** 17 45 09.4 +0.8
STON Ston 4.04 314 *e*Pn **Pn** 17 44 24.0 +0.5
BBLS Lazići 4.08 336 *e*Pn **Pn** 17 44 24.3 +0.1
DIVS Divibare 4.14 343 *e*Pn **Pn** 17 44 24.9 -0.2
HAPS Han Pijesak,Bl 4.42 334 *e*Pn **Pn** 17 44 33.3 +4.3
MDVR Moldovita 4.63 0 ⇓ P **Pn** 17 44 32.3 +0.6
TEKS Tekeris 4.67 341 *e*Pn **Pn** 17 44 31.8 -0.6
HERR Herculane 4.76 6 ⇑ P **Pn** 17 44 33.5 0.0
FRGS Fruska Gora 5.19 345 ⇑ P **Pn** 17 44 39.6 +0.2
FRGS Fruska Gora 5.19 345 *e*Pn **Pn** 17 44 39.0 -0.4
GZR Gura Zlata 5.30 8 ⇓ P **Pn** 17 44 41.8 +0.8
IDI Anoyia 5.48 151 Pn **Pn** 17 44 46.3 +2.8
comp=E,0.9nm,0.3s,baz=28,slow=7.7,SNR=8.9
IDI Sn **Sn** 17 45 47.5 +0.2
comp=E,0.7nm,0.3s,baz=288,slow=20,SNR=1.4
LOT Lotru 5.51 16 ⇑ P **Pn** 17 44 45.1 +1.1
VOIR 5.83 24 ⇑ P **Pn** 17 44 49.1 +0.7
MLR Muntele Rosu 6.19 29 Pn **Pn** 17 44 57.2 +3.9
comp=E,1.8nm,0.3s,baz=248,slow=9.9,SNR=13
MLR Muntele Rosu 6.19 29 ⇑ P **Pn** 17 44 54.9 +1.6
NEHR Nehoiu 6.27 31 ⇑ P **Pn** 17 44 55.7 +1.4
MORH Mrgy, Hungar 6.45 341 ⇑ P **Pn** 17 44 56.8 0.0
MORH Mrgy, Hungar 6.45 341 *e*Pn **Pn** 17 44 56.1 -0.6
PLOR Plostina 6.76 31 ⇓ P **Pn** 17 45 02.0 +1.0
VRI Vrincioaia 6.80 31 ⇑ P **Pn** 17 45 02.4 +0.8
CRES Cresnjev 7.27 323 *e*Pn **Pn** 17 45 08.7 +0.6
CEY Cerknica 7.71 319 *e*Pn **Pn** 17 45 13.9 -0.1
VYHS Vyhne 8.58 347 *e*PN **Pn** 17 45 27.1 +1.1
KEST Kesra 10.69 250 LR LR 17 50 30.2
comp=E,41nm,19.4s,baz=294,slow=41
HFS Hagfors 20.62 349 P **P** **17 47 59.7 -1.4**
comp=E,1.4nm,0.5s,baz=160,slow=14,SNR=7.9
NOA NORSAR Array B 21.89 346 P **P** **17 48 13.2 -1.6**
comp=E,0.3nm,0.4s,baz=160,slow=10,SNR=4.5
EKA Eskdalemuir Ar 22.40 321 P **P** **17 48 18.9 -1.5**
comp=E,0.9nm,0.7s,baz=120,slow=12,SNR=3.8
TORD Torodi Ar. Bea 32.13 219 P **P** **17 49 48.4 -1.3**
comp=E,0.3nm,0.6s,baz=23,slow=8.1,SNR=1.8
MKAR Makanchi Array 43.52 60 P **P** **17 51 28.9 +3.1**
comp=E,0.1nm,0.5s,baz=291,slow=7.3,SNR=1.6

*IDC **11** 18:17:27.5±1.4, 17°.50N×94°.55W, h51km±20km, mb3.7/6, mb1 4.0/8, mb1mx3.6/41, mbtmp3.9/8, ML3.7/2, MS3.0/6, Ms1 3.0/6, ms1mx2.7/36, Error ellipse: s-maj=30.9km s-min=11.3km az=31.0*
*MEX **11** 18:17:28.8±0.5, 17°.68N×94°.67W, h54km±6km, MD4.4*
*NEIC **11** 18:17:28.8±2.1, 17°.61N±0°.08×94°.60W±0°.06, h57km±11km, mb4.1/64, Error ellipse: s-maj=12.4km s-min=8.1km az=188.0*
ISC 11 18:17:27.9±0.7, 17°.54N±0°.05×94°.66W±0°.03, h60km±9km, n112, σ1$63/133, mb4.1/28, 1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.49**	**206**	P		**Pn**	**Pn**	**18 17 40.2**	**+0.5**
73nm,0.3s,baz=29,slow=7.8,SNR=432									
CMIG				LR		LR	LR	18 17 45.2	
comp=Z,33nm,20.1s,baz=280,slow=34									
CMIG				S			**Sn**	**18 17 49.5**	**+1.0**
baz=180,slow=20									
CMIG	**Matias Romero**	**0.49**	**206**	*i* P		**Pn**	**Pn**	**18 17 40.1**	**+0.3**
CMIG				*i* S			**Sn**	**18 17 49.4**	**+1.0**
TGIG		**1.66**	**117**	*i* P		**Pn**	**Pn**	**18 17 55.3**	**+0.6**
TGIG				*i* S			**Sn**	**18 18 14.9**	**-0.1**
OXBJ	**Oaxaca**	**2.02**	**257**	*e*P		**Pn**	**Pn**	**18 18 01.1**	**+1.2**
OXBJ				*e*S			**Sn**	**18 18 25.3**	**+1.1**
VHO	**Vista Hermosa**	**2.03**	**257**	*i* P		**Pn**	**Pn**	**18 18 00.9**	**+1.0**
VHO				*i* S			**Sn**	**18 18 25.3**	**+1.0**
HUIG	**Huatulco**	**2.24**	**218**	*e*P		**Pn**	**Pn**	**18 18 03.0**	**+0.4**
HUIG				*e*S			**Sn**	**18 18 29.5**	**+0.3**
PCIG		**2.29**	**143**	*e*P		**Pn**	**Pn**	**18 18 03.9**	**+0.7**
PCIG				*e*S			**Sn**	**18 18 31.8**	**+1.5**
TOIG	**Toxpalan**	**2.35**	**284**	*e*P		**Pn**	**Pn**	**18 18 04.0**	**-0.3**
TOIG				*e*S			**Sn**	**18 18 30.8**	**-1.3**
TPIG	**Tehuac#an**	**2.71**	**289**	*e*P		**Pn**	**Pn**	**18 18 09.3**	**+0.1**
TPIG				*e*S			**Sn**	**18 18 38.6**	**-2.4**
CCIG	**Comitan**	**2.72**	**117**	Pn		**Pn**	**Pn**	**18 18 09.7**	**+0.3**
YOIG	**Yosondua**	**2.84**	**257**	*e*P		**Pn**	**Pn**	**18 18 11.5**	**+0.5**
YOIG				*e*S			**Sn**	**18 18 44.9**	**+0.6**
HLIG	**Huajuapan de L**	**3.01**	**276**	*e*P		**Pn**	**Pn**	**18 18 13.7**	**+0.4**
HLIG				*e*S			**Sn**	**18 18 47.4**	**-0.9**
FTIG	**Fresnillo de T**	**3.33**	**277**	*e*P		**Pn**	**Pn**	**18 18 18.3**	**+0.7**
FTIG				*e*S			**Sn**	**18 18 56.4**	**+0.4**
SCIG	**Sabancuy**	**3.60**	**66**	⇓ *i*P		**Pn**	**Pn**	**18 18 20.3**	**-0.9**
SCIG				*e*S			**Sn**	**18 18 57.1**	**-5.4**
TLIG	**Tlapa**	**3.73**	**271**	*e*P		**Pn**	**Pn**	**18 18 23.7**	**+0.6**
TLIG				*e*S			**Sn**	**18 19 04.5**	**-1.3**
TLIG	**Tlapa**	**3.73**	**271**	Pn		**Pn**	**Pn**	**18 18 23.3**	**+0.3**
HUEH	**Huehuetenango**	**3.75**	**126**	Pn		**Pn**	**Pn**	**18 18 24.1**	**+0.7**
PPM	**Popocatepetl**	**4.06**	**293**	*e*P		**Pn**	**Pn**	**18 18 29.9**	**+1.9**
PPM				*e*S			**Sn**	**18 19 15.9**	**+1.3**
RTAL	**Retalhuleu**	**4.14**	**136**	Pn		**Pn**	**Pn**	**18 18 29.6**	**+1.1**
CRIG	**Cruz Grande**	**4.35**	**260**	*e*P		**Pn**	**Pn**	**18 18 29.7**	**-1.7**
CRIG				*e*S			**Sn**	**18 19 17.2**	**-3.7**
YAIG	**Yautepec**	**4.39**	**288**	*e*P		**Pn**	**Pn**	**18 18 32.4**	**+0.3**
YAIG				*e*S			**Sn**	**18 19 19.5**	**-2.6**
PETF	**Flores**	**4.62**	**97**	Pn		**Pn**	**Pn**	**18 18 35.0**	**-0.3**
PETF				Sn			**Sn**	**18 19 23.9**	**-3.8**
PLIG	**Platanillo**	**4.69**	**281**	*e*P		**Pn**	**Pn**	**18 18 36.7**	**+0.5**
PLIG				*e*S			**Sn**	**18 19 22.9**	**-6.4**
MEIG	**Mezcala**	**4.74**	**275**	*e*P		**Pn**	**Pn**	**18 18 37.2**	**+0.3**
MEIG				*e*S			**Sn**	**18 19 27.4**	**-3.2**
APG	**El Apazote**	**4.75**	**121**	P		**Pn**	**Pn**	**18 18 36.0**	**-1.3**
2.8nm,0.3s,baz=312,slow=14,SNR=34									
APG				S			**Sn**	**18 19 27.9**	**-3.3**
126nm,0.3s,baz=318,slow=23,SNR=6.1									
DAIG	**Los Arroyos**	**4.79**	**265**	*e*P		**Pn**	**Pn**	**18 18 36.8**	**-0.8**
DAIG				*e*S			**Sn**	**18 19 29.9**	**-2.0**
DEIG	**Demacu**	**4.97**	**304**	*e*P		**Pn**	**Pn**	**18 18 41.7**	**+1.5**
DEIG				*e*S			**Sn**	**18 19 43.3**	**+6.8**
ARIG	**Puente Sto Nin**	**5.46**	**279**	*e*P		**Pn**	**Pn**	**18 18 47.6**	**+0.9**
ARIG				*e*S			**Sn**	**18 19 44.6**	**-3.7**
ESQI	**Esquipulas**	**5.91**	**119**	Pn		**Pn**	**Pn**	**18 18 50.8**	**-2.1**
MTO3	**Montecristo**	**5.98**	**121**	Pn		**Pn**	**Pn**	**18 18 53.6**	**-0.4**
ZIIG	**Zihuatanejo**	**6.49**	**272**	*e*P		**Pn**	**Pn**	**18 19 00.2**	**-0.6**
ZIIG				*e*S			**Sn**	**18 20 09.6**	**-3.8**
JTS	**Las Juntas de**	**11.86**	**126**	LR		LR	LR	18 25 23.8	
comp=Z,61nm,20.2s,baz=344,slow=40									
TXAR	**Lajitas Array**	**14.35**	**327**	P			**Pn**	**18 20 50.1**	**+2.1**
0.1nm,0.3s,baz=156,slow=14,SNR=8.8									
TXAR				LR			LR	18 26 46.5	
comp=Z,26nm,20.2s,baz=0.0,slow=39									
TXAR	**Lajitas Array**	**14.35**	**327**				**Pn**	**18 20 47.6**	**-0.4**
TX31	**Lajitas Ar. Si**	**14.35**	**327**				**Pn**	**18 20 48.2**	**+0.2**
TX32	**Lajitas Array**	**14.35**	**327**				**Pn**	**18 20 45.9**	**-2.1**
ABTX	**Abilene, Hawle**	**15.68**	**344**	Pn		**Pn**	**Pn**	**18 21 04.8**	**-0.3**
ABTX				IAmb		IAmb	IAmb	18 21 07.2	
comp=Z,8.7nm,0.6s									
LPIG	**La Paz**	**16.01**	**297**	LR		LR	LR	18 27 52.5	
comp=Z,68nm,20.2s,baz=89,slow=39									
250A	**Grady**	**16.26**	**26**	Pn		**Pn**	**Pn**	**18 21 11.5**	**-0.9**
250A				IAmb		IAmb	IAmb	18 21 13.8	
comp=Z,13nm,0.6s									
LOOK	**Love County**	**16.54**	**353**	Pn		**Pn**	**Pn**	**18 21 13.5**	**-2.4**
LOOK				IAmb		IAmb	IAmb	18 21 30.6	
comp=Z,16nm,0.6s									
MIAR	**Mount Ida**	**16.97**	**3**	Pn		**Pn**	**Pn**	**18 21 19.4**	**-1.8**
X37A	**Clayton**	**17.00**	**358**	P		**Pn**	**Pn**	**18 21 22.2**	**+0.7**
X37A				IAmb		IAmb	IAmb	18 21 25.2	
comp=Z,8.1nm,0.8s									
MNTX	**Cornudas Mount**	**17.12**	**327**				**Pn**	**18 21 23.6**	**+0.5**
X34A	**Smith Ranch, M**	**17.23**	**351**	P		**P**	**P**	**18 21 26.1**	**+0.9**
MSTX	**Muleshoe**	**17.91**	**338**			**Pn**	**Pn**	**18 21 32.4**	**-0.4**
U40A	**Yellville**	**18.81**	**5**	P		**P**	**P**	**18 21 43.3**	**+0.7**
121A	**Cookes Peak, D**	**19.06**	**324**	P		**P**	**P**	**18 21 45.7**	**+0.2**
KAN14	**Manchester OK**	**19.56**	**352**	P		**P**	**P**	**18 21 51.8**	**+1.0**
BNM	**Barren Site**	**19.71**	**329**	P		**P**	**P**	**18 21 52.7**	**0.0**
LENM	**Lemitar**	**19.89**	**329**	P		**P**	**P**	**18 21 55.5**	**+0.9**
ANMO	**Albuquerque**	**20.28**	**331**	P		**P**	**P**	**18 21 60.0**	**+1.2**
comp=Z,5.1nm,0.8s,baz=148,slow=12,SNR=12									
ANMO	**Albuquerque**	**20.28**	**331**	P		**P**	**P**	**18 21 59.9**	**+1.0**
ANMO				IAmb		IAmb	IAmb	18 22 00.5	
comp=Z,4.3nm,0.7s									
SJCC	**San Jacinto, C**	**20.38**	**109**	P		**P**	**P**	**18 22 01.8**	**+1.9**
SJCC				IAmb		IAmb	IAmb	18 22 06.2	
comp=Z,12nm,0.9s									
U49A	**Red Boiling Sp**	**20.47**	**21**	P		Pn		18 22 02.6	-0.6
U49A				IAmb		IAmb	IAmb	18 22 05.7	
comp=Z,8.6nm,1.4s									
T47A	**Sharon Grove**	**20.49**	**18**	P		**P**	**P**	**18 22 02.1**	**+1.2**
TUC	**Tucson**	**20.70**	**318**	P		**P**	**P**	**18 22 03.6**	**+0.4**
TUC				IAmb		IAmb	IAmb	18 22 08.8	
comp=Z,5.5nm,0.9s									
214A	**Organ Pipe Nat**	**21.81**	**315**	P		**P**	**P**	**18 22 16.5**	**+1.4**
214A				IAmb		IAmb	IAmb	18 22 22.9	
comp=Z,3.5nm,0.8s									
SDCO	**Great Sand Dun**	**22.27**	**337**	P		**P**	**P**	**18 22 20.0**	**-0.3**
URIC	**Uribia, Colomb**	**22.68**	**102**	P		**P**	**P**	**18 22 21.7**	**-2.8**
113A	**Mohawk Valley,**	**22.94**	**315**	P		**P**	**P**	**18 22 28.4**	**+1.3**
MVCO	**Mesa Verde**	**23.08**	**331**	P		**P**	**P**	**18 22 28.8**	**+0.1**
MVCO				IAmb		IAmb	IAmb	18 22 30.9	
comp=Z,8.2nm,0.8s									
ROSC	**El Rosal**	**23.57**	**120**	LR		LR	LR	18 32 45.3	
comp=Z,49nm,19.4s,baz=58,slow=39									
GLA	**Glamis**	**23.83**	**314**	P		**P**	**P**	**18 22 36.8**	**+1.3**
GLA				IAmb		IAmb	IAmb	18 22 38.5	
comp=Z,5.9nm,0.8s									
PV01	**Paradox Valley**	**23.87**	**332**	P		**P**	**P**	**18 22 37.2**	**+1.2**
PV15	**Paradox Valley**	**24.00**	**332**	P		**P**	**P**	**18 22 36.9**	**-0.3**
PV15				IAmb		IAmb	IAmb	18 22 42.0	
comp=Z,4.7nm,0.9s									
PV13	**Radium Mtn., P**	**24.00**	**332**	P		**P**	**P**	**18 22 37.5**	**+0.2**
PV13				IAmb		IAmb	IAmb	18 22 40.5	
comp=Z,9.2nm,0.8s									
PV02	**Paradox Valley**	**24.00**	**332**	P		**P**	**P**	**18 22 38.0**	**+0.8**
PV02				IAmb		IAmb	IAmb	18 22 40.6	
comp=Z,10.0nm,0.9s									
PV05	**Paradox Valley**	**24.06**	**331**	P		**P**	**P**	**18 22 37.9**	**+0.1**
PV05				IAmb		IAmb	IAmb	18 22 40.8	
comp=Z,9.5nm,0.9s									
SMCO	**Snowmass**	**24.08**	**336**	P		**P**	**P**	**18 22 38.4**	**+0.2**
PV03	**Paradox Valley**	**24.09**	**332**	P		**P**	**P**	**18 22 38.7**	**+0.7**
PV03				IAmb		IAmb	IAmb	18 22 41.3	
comp=Z,6.9nm,0.9s									
PV18	**Skein Mesa, Pa**	**24.11**	**332**	P		**P**	**P**	**18 22 38.9**	**+0.7**
PV18				IAmb		IAmb	IAmb	18 22 41.4	
comp=Z,6.9nm,0.9s									
PV12	**Saucer Basin,**	**24.12**	**332**	P		**P**	**P**	**18 22 39.8**	**+1.5**
PV11	**David Mesa, Pa**	**24.14**	**332**	P		**P**	**P**	**18 22 38.6**	**+0.2**
PV11				IAmb		IAmb	IAmb	18 22 41.7	
comp=Z,6.5nm,0.7s									
PV07	**Paradox Valley**	**24.15**	**332**	P		**P**	**P**	**18 22 39.3**	**+0.7**
PV07				IAmb		IAmb	IAmb	18 22 42.3	
comp=Z,5.9nm,0.9s									
PV16	**Nyswonger Mesa**	**24.17**	**332**	P		**P**	**P**	**18 22 39.6**	**+0.8**
PV16				IAmb		IAmb	IAmb	18 22 42.0	
comp=Z,12nm,1.2s									
PV19	**Morning Glory**	**24.20**	**332**	P		**P**	**P**	**18 22 40.2**	**+1.2**
PV19				IAmb		IAmb	IAmb	18 22 42.2	
comp=Z,7.0nm,0.8s									
PV20	**West Nyswonger**	**24.21**	**332**	P		**P**	**P**	**18 22 40.3**	**+1.1**
PV20				IAmb		IAmb	IAmb	18 22 42.0	
comp=Z,4.6nm,0.7s									
PV04	**Paradox Valley**	**24.23**	**332**	P		**P**	**P**	**18 22 40.0**	**+0.7**
PV14	**Lion Creek, Pa**	**24.27**	**332**	P		**P**	**P**	**18 22 40.5**	**+0.8**
PV22	**Blue Mesa, Par**	**24.29**	**332**	P		**P**	**P**	**18 22 40.6**	**+0.7**
U15A	**North Rim**	**24.44**	**324**	P		**P**	**P**	**18 22 42.5**	**+1.2**
PFO	**Pinyon Flats O**	**25.27**	**313**	P		**P**	**P**	**18 22 50.6**	**+1.9**
comp=Z,2.2nm,0.8s,baz=139,slow=9.3,SNR=3.8									
PFO				LR		LR	LR	18 34 08.8	
comp=Z,40nm,18.0s,baz=60,slow=40									
SRU	**San Rafael Swe**	**25.55**	**330**	P		**P**	**P**	**18 22 51.5**	**+0.2**
MTPU	**Mount Pierson**	**25.56**	**327**	P		**P**	**P**	**18 22 54.4**	**+2.8**
MTPU				IAmb		IAmb	IAmb	18 22 55.7	
comp=Z,5.5nm,0.9s									
CCUT	**Cedar City**	**25.84**	**324**	P		**P**	**P**	**18 22 55.3**	**+1.3**
TMUT	**Trail Mountain**	**26.03**	**330**	P		**P**	**P**	**18 22 56.7**	**+1.0**
TMUT				IAmb		IAmb	IAmb	18 23 01.1	
comp=Z,4.7nm,1.2s									
SHPR	**Sheep Range**	**26.18**	**320**	P		**P**	**P**	**18 22 58.0**	**+1.1**
R11A	**Troy Canyon, C**	**27.66**	**323**	P		**P**	**P**	**18 23 11.5**	**+1.2**
ELK	**Elko**	**29.15**	**327**	P		**P**	**P**	**18 23 24.9**	**+1.4**
comp=Z,0.7nm,0.5s,baz=120,slow=8.7,SNR=7.5									
ELK	**Elko**	**29.15**	**327**	P		**P**	**P**	**18 23 24.5**	**+0.9**
SNOW	**Snow King Moun**	**29.22**	**336**	P		**P**	**P**	**18 23 25.3**	**+1.1**
NV11	**Mina Array Sit**	**29.24**	**320**	P		**P**	**P**	**18 23 25.7**	**+1.4**
NV11				IAmb		IAmb	IAmb	18 23 27.1	
comp=Z,3.8nm,1.1s									
TPAW	**Teton Pass**	**29.32**	**335**	P		**P**	**P**	**18 23 25.5**	**+0.4**
TPAW				IAmb		IAmb	IAmb	18 23 28.7	
comp=Z,6.3nm,1.3s									
NVAR	**Mina Array Bea**	**29.33**	**320**	P		**P**	**P**	**18 23 27.1**	**+1.9**
comp=Z,2.5nm,0.7s,baz=136,slow=9.3,SNR=19									
NVAR				LR		LR	LR	18 36 13.5	
comp=Z,38nm,20.8s,baz=49,slow=38									
NVAR	**Mina Array Bea**	**29.33**	**320**	P		**P**	**P**	**18 23 26.6**	**+1.4**
MDPB	**Devils Postpil**	**29.33**	**318**	P		**P**	**P**	**18 23 26.7**	**+1.5**
MDPB				IAmb		IAmb	IAmb	18 23 55.5	
comp=Z,5.6nm,0.8s									
KVN	**Kaiserville**	**29.60**	**321**	P		**P**	**P**	**18 23 28.7**	**+1.2**
KVN				IAmb		IAmb	IAmb	18 23 30.5	
comp=Z,2.3nm,0.9s									
YHH	**Holmes Hill**	**30.38**	**337**	P		**P**	**P**	**18 23 35.5**	**+1.1**
YHH				IAmb		IAmb	IAmb	18 23 37.0	
comp=Z,3.9nm,1.3s									
WVOR	**Wild Horse Val**	**32.14**	**326**	P		**P**	**P**	**18 23 51.2**	**+1.3**
WVOR				IAmb		IAmb	IAmb	18 23 52.3	
comp=Z,4.8nm,0.9s									
J08A	**Circle Bar Ran**	**32.70**	**327**	P		**P**	**P**	**18 23 55.6**	**+1.0**
F10A	**Beach Ranch, E**	**33.99**	**331**	P		**P**	**P**	**18 24 05.5**	**-0.4**
F10A				IAmb		IAmb	IAmb	18 24 25.2	
comp=Z,3.3nm,0.8s									
LPAZ	**La Paz**	**42.58**	**141**	P		**P**	**P**	**18 25 19.3**	**+0.4**
comp=Z,2.8nm,0.7s,baz=333,slow=9.0,SNR=11									
LPAZ	**La Paz**	**42.58**	**141**	P		**P**	**P**	**18 25 19.0**	**+0.1**
LPAZ				IAmb		IAmb	IAmb	18 25 19.9	
comp=Z,2.8nm,0.7s									
BCAR	**Beaver Creek A**	**55.79**	**336**	P		**P**	**P**	**18 26 59.0**	**+0.5**
IL31		**58.60**	**337**	P		**P**	**P**	**18 27 18.6**	**+0.4**
ILAR	**Eielson Array**	**58.60**	**337**	P		**P**	**P**	**18 27 18.5**	**+0.2**
comp=Z,0.5nm,0.6s,baz=146,slow=5.5,SNR=9.2									
BMAR	**Burnt Mountain**	**59.11**	**340**	P		**P**	**P**	**18

	comp=Z,21nm,1.2s							
FITZ	**Fitzroy Crossi**	**25.93**	**183**	P		**P**	**18 36 04.8**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=358,slow=6.4,SNR=8.8							
FITZ	**Fitzroy Crossi**	**25.93**	**183**	IAmb		IAmb	18 36 14.7	
	comp=Z,5.8nm,1.2s							
JHJ	**Hachijo jima 2**	**27.63**	**23**	LR		LR	18 48 15.9	
	comp=Z,92nm,19.8s,baz=103,slow=38							
WB0	**Warramunga Arr**	**28.45**	**166**	P		**P**	**18 36 28.0**	**+1.9**
WB0				IAmb		IAmb	18 36 45.2	
	comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**28.61**	**166**	P		**P**	**18 36 28.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=332,slow=11,SNR=1.7							
WB2	**Warramunga Arr**	**28.61**	**166**	P		**P**	**18 36 28.4**	**+0.9**
WB2				IAmb		IAmb	18 36 52.3	
	comp=Z,8.9nm,1.4s							
WR0	**Warramunga Arr**	**28.67**	**165**	P		**P**	**18 36 30.5**	**+2.5**
WR0				IAmb		IAmb	18 36 49.2	
	comp=Z,12nm,1.5s							
KSRS	**Korea Array**	**29.37**	**1**	P		**P**	**18 36 33.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=182,slow=8.4,SNR=4.9							
AS31	**Alice Springs**	**32.11**	**168**	P		**P**	**18 37 00.6**	**+2.1**
ASAR	**Alice Springs**	**32.11**	**168**	P		**P**	**18 36 59.7**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=345,slow=7.1,SNR=30							
ASAR				PcP		**PcP**	**18 39 48.2**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=345,slow=2.6,SNR=6.0							
ASAR	**Alice Springs**	**32.11**	**168**	P		**P**	**18 37 00.5**	**+2.0**
USRK	**Ussuriysk Ar.**	**36.35**	**6**	P		**P**	**18 37 34.8**	**0.0**
	comp=Z,5.9nm,0.8s,baz=198,slow=9.1,SNR=9.2							
SHL	**Shillong**	**37.89**	**302**			**PcP**	**18 40 04.0**	**-0.4**
MORW	**Morawa**	**38.34**	**196**	P		**P**	**18 37 52.9**	**+0.9**
FORT	**Forrest**	**38.52**	**179**	P		**P**	**18 37 55.2**	**+1.8**
BBOO	**Buckleboo**	**41.41**	**169**	P		**P**	**18 38 19.0**	**+1.6**
MK31	**Makanchi Array**	**54.40**	**323**	P		**P**	**18 39 56.3**	**-1.6**
MKAR	**Makanchi Array**	**54.40**	**323**	P		**P**	**18 39 56.8**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=115,slow=7.3,SNR=14							
MKAR				PcP		**PcP**	**18 41 00.8**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=102,slow=5.0,SNR=4.0							
MKAR	**Makanchi Array**	**54.40**	**323**			**PcP**	**18 41 00.6**	**-0.8**
MAKZ	**Makanchi**	**54.60**	**323**	P		**P**	**18 39 57.7**	**-1.7**
KKAR	**Karatay Array**	**60.51**	**315**	P		**P**	**18 40 39.3**	**-1.7**
TIXI	**Tiksi**	**63.64**	**1**	P		**P**	**18 41 01.5**	**0.0**
TIXI				IAmb		IAmb	18 41 02.8	
	comp=Z,1.7nm,0.6s							
ILAR	**Eielson Array**	**81.12**	**26**	P		**P**	**18 42 46.9**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=282,slow=5.4,SNR=2.1							
ARCES	**ARCESS Array B**	**86.66**	**340**	P		**P**	**18 43 13.7**	**-0.3**
	comp=Z,4.9nm,1.0s,baz=74,slow=6.7,SNR=4.4							
ARCES	**ARCESS Array B**	**86.66**	**340**	IAmb		IAmb	18 43 21.8	
	comp=Z,4.6nm,1.4s							
FINES	**FINESS Array B**	**88.34**	**332**	P		**P**	**18 43 20.9**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=90,slow=2.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**121.94**	**291**	PKP		**PKiKP**	**18 49 25.3**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=75,slow=2.2,SNR=2.1							

*IDC **11** 18:43:46.2±3.2, 10.07°N×79.48°W, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.5/30, mbtmp3.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/26, Error ellipse: s-maj=134.9km s-min=52.2km az=79.0*

*INET **11** 18:43:56.5, 10.00°N×83.55°W, h22km, MW3.6*

*CASC **11** 18:43:59.3±3.5, 10.06°N±0.03×83.51°W±0.04, h16km±4km, ML4.5, mb4.5/10(NEIC), Error ellipse: s-maj=0.0km s-min=0.0km az=170.0*

*NEIC **11** 18:43:59.0±3.0, 10.06°N±0.03°×83.44°W±0.03, h26km±6km, Error ellipse: s-maj=5.0km s-min=4.8km az=80.0*

*UPA **11** 18:43:59.2±1.2, 9.98°N×83.53°W, h0km±7km, MW4.1*

*UCR **11** 18:44:00.5±1.6, 10.06°N×83.53°W, h16km±2km, MW4.5, mb4.5(NEIC), Fault plane solution: NP1:ϕ±56.34000°, δ50.14000°, λ22.91000°.*

ISC 11 18:43:59.1±0.8, 10.08°N±0.03°×83.52°W±0.02, h31km±5km, n97, σ1s33/112, mb4.3/8, 20C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATAN	**Batan**	**0.14**	**84**		**Pb**	**18 44 04.2**	**-0.7**
CVTR	**Volcan Turrial**	**0.25**	**255**	*i*P	**Pb**	**18 44 06.2**	**-0.2**
CVTR				*e*S	**Sb**	**18 44 10.8**	**-0.5**
CVTR	**Volcan Turrial**	**0.25**	**255**		**Pb**	**18 44 06.2**	**-0.2**
RIFO	**Rio Frio, Sara**	**0.46**	**300**	*i*P	**Pn**	**18 44 09.3**	**-0.3**
RIFO				*e*S	**Sn**	**18 44 16.4**	**-0.4**
RIMA	**Rio Macho**	**0.46**	**227**	*e*P	**Pb**	**18 44 09.3**	**+0.1**
RIMA				*e*S	**Sb**	**18 44 16.2**	**+0.1**
RIMA	**Rio Macho**	**0.46**	**227**		**Pb**	**18 44 09.3**	**+0.1**
OCM	**Ochomogo**	**0.48**	**247**	*e*P	**Pn**	**18 44 09.7**	**-0.3**
OCM				*e*S	**Sb**	**18 44 16.7**	**+0.4**
CDM	**Cerro de Muert**	**0.58**	**205**	*e*P	**Pb**	**18 44 11.2**	**0.0**
LCR2	**La Lucha 2**	**0.59**	**235**	*i*P	**Pn**	**18 44 11.3**	**-0.2**
LCR2				*e*S	**Sb**	**18 44 19.6**	**+0.2**
HDC	**Heredia**	**0.59**	**262**	*i*P	**Pn**	**18 44 11.8**	**+0.3**
HDC				*e*S	**Sn**	**18 44 21.3**	**+1.1**
HDC	**Heredia**	**0.59**	**262**	*i*P	**Pn**	**18 44 11.9**	**+0.4**
HDC				*e*S	**Sn**	**18 44 20.8**	**+0.5**
HDC	**Heredia**	**0.59**	**262**		**Pn**	**18 44 11.9**	**+0.4**
PEZE	**Perez Zeledon,**	**0.71**	**193**	*e*P	**Pb**	**18 44 13.2**	**0.0**
PEZE	**Perez Zeledon,**	**0.71**	**193**		**Pb**	**18 44 13.1**	**0.0**
DRK0	**Durika**	**0.86**	**162**	*e*P	**Pn**	**18 44 15.1**	**-0.1**
DRK0				*e*S	**Sb**	**18 44 26.9**	**0.0**
DRK0	**Durika**	**0.86**	**162**	*e*P	**Pn**	**18 44 15.1**	**-0.1**
DRK0	**Durika**	**0.86**	**162**		**Pn**	**18 44 15.3**	**+0.1**
SRBA	**San Rafael, Bu**	**0.86**	**170**		**Pn**	**18 44 15.0**	**-0.2**
SRBA					**Sn**	**18 44 26.1**	**-0.6**
EDDO	**Dominical**	**0.89**	**203**	*e*P	**Pb**	**18 44 16.9**	**+0.8**
EDBA	**Buenos Aires**	**0.94**	**165**	*e*P	**Pn**	**18 44 16.6**	**+0.3**
SRA1	**San Ramn**	**0.95**	**270**	*i*P	**Pb**	**18 44 17.5**	**+0.3**
RGM0	**Gandoca**	**1.02**	**119**	*e*P	**Pb**	**18 44 18.7**	**+0.5**
RGM0				*e*S	**Sb**	**18 44 34.5**	**+3.1**
RGM0	**Gandoca**	**1.02**	**119**	*e*P	**Pb**	**18 44 18.6**	**+0.3**
RGM0	**Gandoca**	**1.02**	**119**		**Pb**	**18 44 18.6**	**+0.3**
COVE	**Coope Vega, Sa**	**1.08**	**306**	*e*P	**Pb**	**18 44 19.4**	**+0.2**
COVE	**Coope Vega, Sa**	**1.08**	**306**		**Pb**	**18 44 19.4**	**+0.2**
FORC	**Fortuna**	**1.20**	**289**	*i* P	**Pb**	**18 44 22.1**	**+0.8**
FORC				*i* S	**Sb**	**18 44 38.9**	**+2.5**
JACO	**JACO, Garabito**	**1.20**	**250**	*e*P	**Pb**	**18 44 21.9**	**+0.6**
JACO	**JACO, Garabito**	**1.20**	**250**	Pn	**Pb**	**18 44 21.8**	**+0.5**
CNI2	**El Empalme, Bo**	**1.22**	**122**	*e*P	**Pn**	**18 44 20.6**	**+0.5**
CNI2				*e*S	**Sb**	**18 44 36.7**	**-0.4**
CEDE	**Laguna Cedeo**	**1.23**	**289**	*i*P	**Pb**	**18 44 21.6**	**-0.3**
ARE1	**Arenal 1**	**1.24**	**288**	*i*P	**Pb**	**18 44 22.7**	**+0.7**
RIOS	**Rincon, Osa**	**1.37**	**180**	*i*P	**Pb**	**18 44 23.7**	**-0.5**
RIOS	**Rincon, Osa**	**1.37**	**180**		**Pb**	**18 44 23.7**	**-0.5**
LAFE	**Finca La Fe, P**	**1.40**	**259**	*i*P	**Pb**	**18 44 25.8**	**+1.1**
JTS	**Las Juntas de**	**1.43**	**278**	*e*P	**Pb**	**18 44 25.5**	**+0.3**
JTS				*e*S	**Sb**	**18 44 45.8**	**+2.7**
JTS	**Las Juntas de**	**1.43**	**278**	*i*P	**Pb**	**18 44 25.5**	**+0.3**
JTS	**Las Juntas de**	**1.43**	**278**	Pn	**Pb**	**18 44 25.4**	**+0.3**
JTS	**Las Juntas de**	**1.43**	**278**	*e*P	**Pb**	**18 44 25.3**	**+0.1**
BRU2	**Volcan**	**1.52**	**147**	*e*P	**Pb**	**18 44 26.2**	**-0.4**
BRU2				*e*S	**Sb**	**18 44 46.1**	**+0.5**
BRU2	**Volcan**	**1.52**	**147**	*e*P	**Pb**	**18 44 26.3**	**-0.4**
PTJ1	**Puerto Jimnez**	**1.55**	**172**	*e*P	**Pb**	**18 44 27.1**	**-0.2**
PTJ1				*e*S	**Sb**	**18 44 48.0**	**+1.5**
PTJ1	**Puerto Jimnez**	**1.55**	**172**	*e*P	**Pb**	**18 44 27.0**	**-0.2**
PTEN	**Parque Tenorio**	**1.58**	**294**	*i* P	**Pb**	**18 44 27.0**	**-0.7**
ACAL	**Aguas Claras**	**1.59**	**290**	*i* P	**Pb**	**18 44 27.3**	**-0.7**
CAO2	**Cobano, Puntar**	**1.62**	**256**		**Pb**	**18 44 28.6**	**+0.3**
CDITO	**Canoas**	**1.63**	**157**	*i* P	**Pb**	**18 44 28.3**	**-0.3**
CDITO				*e*S	**Sb**	**18 44 56.0**	**+7.3**
CDITO	**Canoas**	**1.63**	**157**		**Pn**	**18 44 27.0**	**+1.3**
BCO2	**Palmira**	**1.67**	**144**	*e*P	**Pb**	**18 44 28.9**	**-0.4**
BCO2				*e*S	**Sb**	**18 44 48.9**	**-1.2**
PIRO	**Carate, Puerto**	**1.68**	**174**	*e*P	**Pb**	**18 44 29.8**	**+0.4**
PIRO				*e*S	**Sb**	**18 44 52.7**	**+2.6**
PIRO	**Carate, Puerto**	**1.68**	**174**	*e*P	**Pb**	**18 44 29.0**	**-0.4**
PTAR3	**Potrerillos Ar**	**1.71**	**144**	*e*P	**Pb**	**18 44 28.8**	**-1.2**
PTAR3				*e*S	**Sb**	**18 44 51.4**	**+0.3**
CUI	**Cuipilapa**	**1.72**	**290**	*e*P	**Pn**	**18 44 28.4**	**+1.4**
HORNC	**Hornillas**	**1.75**	**291**	*i* P	**Pb**	**18 44 29.6**	**-1.1**
PSOM3	**Paja de Sombre**	**1.82**	**140**	*e*P	**Pn**	**18 44 30.2**	**+1.8**
GPS2	**Hotel Rincn d**	**1.92**	**290**	*e*P	**Pb**	**18 44 32.8**	**-0.8**
ORTG	**Ortega, Santa**	**1.93**	**278**	Pn	**Pb**	**18 44 32.6**	**-1.1**
DUNO	**Dulce Nombre,**	**1.95**	**270**	Pn	**Pb**	**18 44 33.6**	**-0.3**
GUAI	**GUAI**	**1.97**	**276**	*i*P	**Pb**	**18 44 34.1**	**-0.3**
BUEV	**Buena Vista**	**1.99**	**291**	*e*P	**Pb**	**18 44 33.6**	**-1.1**
GRZA	**Playa Garza**	**2.09**	**266**	*e*P	**Pb**	**18 44 35.8**	**-0.6**
HZTE	**Horizontes, Gu**	**2.14**	**287**		**Pb**	**18 44 35.4**	**-1.9**
SAJU	**San Juanillo,**	**2.16**	**270**	*i*P	**Pb**	**18 44 36.4**	**-1.2**
ESPN	**Las Esperanzas**	**2.24**	**340**		**Pn**	**18 44 35.9**	**+1.9**
ACON	**Acoyapa**	**2.48**	**319**		**Pn**	**18 44 38.7**	**+1.3**
BOAB	**BOACO BROADBAN**	**2.16**	**318**		**Pn**	**18 44 48.4**	**+1.6**
MATN	**Matagalpa**	**3.69**	**320**		**Pn**	**18 44 53.3**	**-0.8**
BCIP	**Isla Barro Col**	**3.74**	**104**	Pn	**Pn**	**18 44 54.9**	**+0.2**
BCIP	**Isla Barro Col**	**3.74**	**104**	*e*P	**Pn**	**18 44 55.0**	**+0.2**
PRVC	**Isla de Provid**	**3.89**	**33**	Pn	**Pn**	**18 44 58.0**	**+1.2**
CNGN	**Cerro Negro**	**3.94**	**308**		**Pn**	**18 44 59.1**	**+1.6**
CRIN	**San Cristobal**	**4.33**	**307**		**Pn**	**18 45 00.9**	**-2.0**
TGUH	**Tegucigalpa,Un**	**5.39**	**317**	Pn	**Pn**	**18 45 16.7**	**-0.9**
TGUH	**Tegucigalpa,Un**	**5.39**	**317**	*e*P	**Pb**	**18 45 35.6**	**+2.9**
MTO3	**Montecristo**	**7.14**	**307**	Pn	**Pn**	**18 45 41.7**	**0.0**
MOTC	**Monteria, Cord**	**7.85**	**99**	*e*P	**Pn**	**18 45 53.6**	**+2.3**
SJCC	**San Jacinto, C**	**8.21**	**91**	Pn	**Pn**	**18 45 57.4**	**+1.1**
SJCC	**San Jacinto, C**	**8.21**	**91**	*e*P	**Pn**	**18 45 58.5**	**+2.2**
SMLC	**San Martn de**	**9.40**	**97**	*e*P	**Pn**	**18 46 15.9**	**+3.3**
ATAH	**Atahualpa**	**17.85**	**163**	LR	LR	18 54 21.1	
	comp=Z,5.3nm,19.6s,baz=311,slow=37						
152A	**Waverly Hall**	**22.50**	**357**	P	**P**	**18 48 55.3**	**-1.0**
152A				IAmb	IAmb	18 48 56.8	
	comp=Z,12nm,1.5s						
435B	**Jarrell**	**24.40**	**330**	P	**P**	**18 49 14.3**	**-0.6**
JCT	**Junction City**	**25.34**	**326**	P	**P**	**18 49 22.7**	**-0.7**
JCT				IAmb	IAmb	18 49 34.7	
	comp=Z,3.7nm,0.8s						
TKL	**Tuckaleechee C**	**25.46**	**360**	LR	LR	18 59 41.2	
	comp=Z,37nm,18.3s,baz=162,slow=37						
TX32	**Lajitas Array**	**26.87**	**318**	P	**P**	**18 49 36.5**	**-0.9**
TXAR	**Lajitas Array**	**26.87**	**318**	P	P	18 49 53.6	+16
	comp=Z,0.2nm,0.7s,baz=123,slow=9.8,SNR=2.4						
TXAR	**Lajitas Array**	**26.87**	**318**	P	**P**	**18 49 36.5**	**-0.9**
TX31	**Lajitas Ar. Si**	**26.87**	**318**	P	**P**	**18 49 36.5**	**-0.9**
X34A	**Smith Ranch, M**	**27.70**	**334**	P	**P**	**18 49 44.5**	**-0.1**
X34A				IAmb	IAmb	18 49 48.5	
	comp=Z,14nm,1.3s						
BBSR	**BB Station**	**28.18**	**35**	P	**P**	**18 49 46.2**	**-2.7**
BBSR				IAmb	IAmb	18 49 50.9	
	comp=Z,15nm,1.1s						
LPAZ	**La Paz**	**30.30**	**150**	LR	LR	19 02 37.3	
	comp=Z,36nm,18.7s,baz=91,slow=40						
EGMT	**Eagleton**	**43.79**	**335**	P	**P**	**18 52 02.2**	**+0.1**
EGMT				IAmb	IAmb	18 52 04.1	
	comp=Z,7.9nm,0.7s						
SUMG	**Summit**	**67.95**	**13**	P	**P**	**18 54 55.2**	**+0.1**
SUMG				IAmb	IAmb	18 55 03.7	
	comp=Z,6.9nm,1.1s						
ILAR	**Eielson Array**	**69.74**	**336**	P	**P**	**18 55 08.1**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=107,slow=4.7,SNR=6.8						
RC01	**Rabbit Creek A**	**69.82**	**332**	P	**P**	**18 55 06.6**	**+0.1**
ASAR	**Alice Springs**	**141.86**	**244**	PKPbc	**PKPdf**	**19 03 26.0**	**-2.7**
	comp=Z,0.2nm,0.7s,baz=118,slow=3.7,SNR=1.6						
WRA	**Warramunga Arr**	**142.23**	**250**	PKPbc	**PKPdf**	**19 03 27.9**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=97,slow=3.0,SNR=5.6						

*MAN **11** 18:46:20.4, 7.94N×127.38E, h35km, MS4.8*

*BJI **11** 18:46:25.3±0.0, 8.24N×126.62E, h36km, mB4.8/44, mb4.7/63, Ms4.4/52, Ms7 4.3/50*

*GCMT **11** 18:46:26.9±0.2, 8.01N±0.02×127.10E±0.02, h30km, MW5.0/97, Moment Tensor Solution. s65,c77; s97,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.72±.15; $M_{\theta\theta}$0.17±.09; $M_{\phi\phi}$-3.90±.10; $M_{r\theta}$0.55±.14; $M_{r\phi}$-0.21±.07; $M_{\theta\phi}$1.66±.15; Best double couple: $M_0$4.19900×10^{16} NP1:ϕs176.00000°, δ33.00000°, λ79.00000°. NP2: ϕs10.00000°, δ57.00000°, λ97.00000°. Principal axes: T 4.1290, Plg76.0000°, Azm302.0000°; N 0.1340, Plg6.0000°, Azm186.0000°; P -4.2690, Plg12.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **11** 18:46:26.1±0.7, 8.7N±4.4×12.7E±°, h46km±6km, M4.9/25, mB5.2/12, mb5.1/25, MLv5.2/3, Mw(mB)4.6/12*

*NEIC **11** 18:46:26.9±2.0, 8.02N±0.07×126.73E±0.09, h46km±5km, mb5.0/153, Error ellipse: s-maj=12.4km s-min=9.7km az=89.0*

*MOS **11** 18:46:27.0±1.1, 8.16N×126.51E, h61km, mb5.2/41, MS4.1/6, Error ellipse: s-maj=8.7km s-min=4.7km az=107.2*

*IDC **11** 18:46:29.3±1.5, 8.02N×126.93E, h75km±12km, mb4.5/26, mb1 4.6/28, mb1mx4.5/35, mbtmp4.8/28, MS4.0/29, Ms1 4.0/29, ms1mx3.9/41, Error ellipse: s-maj=14.4km s-min=8.0km az=91.0*

*KLM **11** 18:46:31.8, 7.15N×126.98E, h90km, mb4.9*

ISC 11 18:46:27.0±0.5, 7.99N±0.03×126.98E±0.05, h55km±4km, h55km:pP-P, n475, σ2s06/514, mb4.9/178, MS4.2/54, 86C-28D, Fault plane solution: NP1:ϕ±28.72087°, δ55.08573°, λ112.68439°. NP2:ϕs172.58011°, δ40.83673°, λ61.07805°. Principal axes: T Plg70.0000°, Azm351.5957°; N Plg18.4357°, Azm195.2665°; P Plg7.4850°, Azm102.7563°; Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.26**	**215**	*e*P	**Pn**	**18 46 44.6**	**-3.8**
MATI				*e*S	**Sn**	**18 47 01.4**	**-2.9**
BUTP	**Butuan**	**1.66**	**306**	*e*P	**Pn**	**18 46 51.9**	**-1.8**
BUTP				*e*S	**Sn**	**18 47 17.1**	**+3.2**
DAV	**Davao City (W)**	**1.66**	**237**	P	**Pn**	**18 46 55.0**	**+1.2**
	181nm,0.3s,baz=43,slow=3.3,SNR=106						
DAV				S	**Sn**	**18 47 17.4**	**+3.4**
	404nm,0.3s,baz=66,slow=22,SNR=20						
DAV	**Davao City (W)**	**1.66**	**237**		**Pn**	**18 46 50.8**	**-3.0**
DAV	**Davao City (W)**	**1.66**	**237**	P	**Pn**	**18 46 54.6**	**+0.8**
DAV				S	**Sn**	**18 47 18.5**	**+4.4**
BUKP	**Musuan**	**1.90**	**267**	*e*P	**Pn**	**18 46 56.8**	**-0.3**
BUKP				*e*S	**Sn**	**18 47 21.4**	**+1.5**
GLSP	**General Luna,**	**1.97**	**335**	*e*P	**Pn**	**18 46 54.6**	**-3.4**
GLSP				*e*S	**Sn**	**18 47 19.1**	**-2.5**
KCP	**Kidapawan**	**2.11**	**243**	*i*P	**Pn**	**18 46 59.4**	**-0.6**
KCP				*i* S	**Sn**	**18 47 27.9**	**+2.8**
DDMP	**Don Marcelino,**	**2.26**	**214**	*e*P	**Pn**	**18 46 59.7**	**-2.2**
DDMP				*e*S	**Sn**	**18 47 28.8**	**+0.2**
CGP	**Cagayan de Oro**	**2.31**	**282**	*e*P	**Pn**	**18 47 02.6**	**0.0**
CGP				*i* S	**Sn**	**18 47 31.9**	**+2.1**
SCPH	**Surigao**	**2.31**	**321**	*e*P	**Pn**	**18 47 02.6**	**0.0**
SCPH				*e*S	**Sn**	**18 47 33.9**	**+4.0**
SKMP	**Bagumbayan, Su**	**2.82**	**239**	*e*P	**Pn**	**18 47 07.6**	**-2.1**
SKMP				*e*S	**Sn**	**18 47 39.9**	**-2.6**
MSLP	**Maasin**	**2.99**	**316**	*e*P	**Pn**	**18 47 10.3**	**-1.6**
MSLP				*e*S	**Sn**	**18 47 54.4**	**+7.9**
PAGZ	**Pagadian**	**3.56**	**268**	*e*P	**Pn**	**18 47 19.8**	**-0.1**
PAGZ				*e*S	**Sn**	**18 48 05.1**	**+4.4**
DCPH	**Dipolog City**	**3.64**	**280**	*e*P	**Pn**	**18 47 22.0**	**+1.2**
LLP	**Lapu-Lapu**	**3.77**	**308**	*e*P	**Pn**	**18 47 22.9**	**+0.2**
LLP				*e*S	**Sn**	**18 48 11.1**	**+5.4**
SNPH	**Sibulan**	**3.94**	**290**	*e*P	**Pn**	**18 47 24.8**	**-0.2**
SNPH				*e*S	**Sn**	**18 48 10.8**	**+0.8**
SGSI	**Sangihe**	**4.51**	**199**	P	**Pn**	**18 47 35.6**	**+2.7**
CNOP	**Candoni, Negro**	**4.66**	**293**	*e*P	**Pn**	**18 47 34.7**	**-0.2**
CNOP				*i* S	**Sn**	**18 48 29.0**	**+1.3**
RCP	**Roxas**	**5.47**	**311**	*e*P	**Pn**	**18 47 46.4**	**+0.3**
GAMI	**Galela, Maluku**	**6.17**	**172**	P	**Pn**	**18 47 56.7**	**+1.2**
	1.6nm2µm154nm,1.2s						
TNTI	**Ternate**	**7.18**	**177**	Pn	**Pn**	**18 48 09.6**	**+0.1**
TNTI	**Ternate**	**7.18**	**177**	P	**Pn**	**18 48 10.8**	**+1.3**
	0.6nm2µm140nm,1.0s						
TNTI				S	**Sn**	**18 49 28.4**	**-1.3**
	0.6nm2µm140nm,1.0s						
KMSI	**Cibinong**	**7.95**	**202**	P	**Pn**	**18 48 21.5**	**+1.5**
	2µm157nm,0.6s						
LQP	**Lukban**	**8.09**	**319**	*e*P	**Pn**	**18 48 21.4**	**-0.7**
GTOI	**Gorontalo**	**8.31**	**209**	P	**Pn**	**18 48 25.8**	**+0.9**
	646nm79nm,0.8s						
GTOI				S	**Sn**	**18 49 59.0**	**+1.6**
	646nm79nm,0.8s						
MRSI	**Marisa**	**8.99**	**214**	P	**Pn**	**18 48 35.0**	**+0.7**
	1µm167nm,1.0s						
TOLI2	**Tolitoli**	**9.21**	**222**	Pn	**Pn**	**18 48 34.8**	**-2.5**
SWI	**Sorong**	**9.78**	**154**	P	Pn	18 48 59.2	+14
SIJI	**Sorong**	**9.79**	**154**	P	**Pn**	**18 48 45.1**	**-0.1**
	3.5nm,0.3s,baz=203,slow=18,SNR=12						
SIJI				S	**Sn**	**18 50 25.1**	**-8.6**
	baz=0.0,slow=20,SNR=1.3						
SIJI				LR	LR	18 53 57.2	
	comp=Z,684nm,18.6s,baz=334,slow=46						
SIJI	**Sorong**	**9.79**	**154**	P	**Pn**	**18 48 44.9**	**-0.3**
	428nm13nm,0.9s						
LUWI	**Luwuk**	**9.90**	**205**		**Pn**	**18 48 46.6**	**-0.2**
LUWI	**Luwuk**	**9.90**	**205**	P	Pn	18 48 52.5	+5.7
	3µm262nm,1.2s						
SANI	**Sanana**	**10.02**	**186**	P	Pn	18 48 59.4	+11
APSI	**Ampana**	**10.32**	**211**	P	Pn	18 49 01.5	+9.1
SPMM	**Sapulut**	**10.95**	**253**	P	**Pn**	**18 49 05.0**	**+4.0**
NLAI	**Namlea**	**11.16**	**179**	P	Pn	18 49 09.2	+5.3
PCI	**Palu**	**11.35**	**219**	P	Pn	18 49 25.1	+19
FAKI	**Fak Fak**	**12.05**	**154**	Pn	**Pn**	**18 49 18.7**	**+2.6**
FAKI	**Fak Fak**	**12.05**	**154**	P	**P**	**18 49 29.4**	**+2.1**
BAKI	**Biak**	**12.89**	**135**	P	P	18 49 47.4	+11
TTSI	**Tana Toraja**	**13.08**	**213**	P	**Pn**	**18 49 34.0**	**+3.8**
	2µm118nm,1.3s						
BNSI	**Bone**	**14.09**	**209**	P	**P**	**18 49 50.9**	**+0.9**
KAPI	**Kappang**	**14.79**	**209**	P	**Pn**	**18 49 53.6**	**+0.5**
	1.3nm,0.3s,baz=19,slow=11,SNR=5.2						
KAPI	**Kappang**	**14.79**	**209**	Pn	**Pn**	**18 49 52.9**	**-0.2**
KAPI	**Kappang**	**14.79**	**209**	P	P	18 50 11.6	+14
MTKI	**Muara Teweh, K**	**14.96**	**234**	P	P	18 50 08.3	+8.6
SBUM	**Sibu**	**15.69**	**250**	P	**P**	**18 50 08.0**	**+0.2**
YULB	**Yu-li**	**16.26**	**341**	Pn	**Pn**	**18 50 10.0**	**-1.9**
TPUB	**Ta-pu**	**16.40**	**339**		**Pn**	**18 50 11.2**	**-2.4**
PKKI	**Palangkaraya**	**16.48**	**232**	P	P	18 50 26.8	+10
BBKI	**Banjar Baru**	**16.61**	**227**	P	**P**	**18 50 25.2**	**+7.1**
SSLB	**Suanglung**	**16.73**	**340**	Pn	**Pn**	**18 50 16.5**	**-1.4**
GENI	**Genyem**	**16.84**	**128**	P	P	18 50 37.3	+17
MMRI	**Maumere**	**17.18**	**196**	Pn	**Pn**	**18 50 21.3**	**-2.1**
MMRI				IAmb	IAmb	18 50 40.5	
	comp=Z,66nm,0.8s						
MMRI	**Maumere**	**17.18**	**196**	P	P	18 50 33.3	+9.0
STKI	**Sintang**	**17.34**	**244**	P	**P**	**18 50 29.8**	**+3.7**
	comp=Z,2µmcomp=Z,25nm,1.3s						
YHNB	**Yeheng**	**17.43**	**343**	P	**Pn**	**18 50 26.5**	**0.0**
KSM	**Kuching**	**17.82**	**250**	P	**P**	**18 50 34.0**	**+2.6**
SOEI	**Soe**	**17.84**	**189**	P	**P**	**18 50 32.1**	**+0.4**
SOEI				IAmb	IAmb	18 50 57.9	
	comp=Z,121nm,1.0s						
SOEI	**Soe**	**17.84**	**189**	P	**P**	**18 50 36.1**	**+4.4**
BATI	**Baumata**	**18.38**	**190**	P	**Pn**	**18 50 38.3**	**+0.2**
	comp=Z,14nm,0.3s,baz=349,slow=0.3,SNR=25						
BATI				S	**Sn**	**18 54 02.2**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=218,slow=19,SNR=1.7						
BATI				LR	LR	18 58 28.9	
	comp=Z,368nm,20.8s,baz=42,slow=39						
BATI	**Baumata**	**18.38**	**190**	P	**Pn**	**18 50 39.3**	**+1.2**
	comp=Z,838nmcomp=Z,69nm,0.7s						
QZH	**Quanzhou**	**18.66**	**336**	*i*P	**P**	**18 50 37.6**	**-3.0**
QZH				*e*S	Sn	18 53 57.7	-12
QZH				sS	**S**	**18 54 13.7**	**+3.3**
QZH				pmax	pmax		
	comp

comp=Z,76nmcomp=Z,8.6nm,0.8s
SRDT SRDT 28.03 285 P **P** 18 52 11.2 -2.1
comp=Z,32nm,1.1s
JWT Wachi 28.24 15 P **P** 18 52 14.7 -0.2
JWT IAmb IAmb 18 52 20.3
comp=Z,20nm,0.8s
TJN Taejon 28.26 1*ce*P **P** 18 52 15.8 +0.8
PSI Prapat 28.39 261 P **P** 18 52 15.4 -1.3
PSI pmax pmax
comp=Z,12nm,0.9s
PSI Prapat 28.39 261 P **P** 18 52 20.6 +3.9
comp=Z,15nm,0.8s
RPSI Rantau Prapat 28.41 261 P **P** 18 52 15.4 -1.3
KHLT Khaolaem Dam 28.62 286 P **P** 18 52 18.0 -0.5
comp=Z,7.7nm,0.8s
UMPA Umpang Tak 28.65 289 P **P** 18 52 19.8 +0.9
comp=Z,6.2nm,1.0s
WRAB Tennant Creek 28.68 165*ce*P **P** 18 52 19.1 +0.1
WRAB pmax pmax
comp=Z,11nm,1.3s
WRA Warramunga Arr 28.69 165 P **P** 18 52 18.5 -0.6
comp=Z,1.5nm,0.6s,baz=334,slow=11,SNR=17
WRA PcP **PcP** 18 55 29.6 +0.8
comp=Z,2.3nm,0.7s,baz=345,slow=2.8,SNR=4.0
WRA ScP **ScP** 18 59 05.4 -0.3
comp=Z,0.8nm,0.7s,baz=331,slow=2.9,SNR=2.2
WRA LR LR 19 06 18.6
comp=Z,168nm,21.2s,baz=355,slow=41
KMI Kunming 28.72 309 ⇓P **P** 18 52 19.1 -0.5
KMI S S 18 56 51.2 -14
KMI pmax pmax
comp=Z,6.0nm,0.8s
KMI L L
comp=Z,360nm,18.4s
KMI L L
comp=Z,430nm,16.3s
KMI L L
comp=Z,680nm,16.5s
INU Inuyama 28.74 17 P **P** 18 52 20.0 +0.6
CM36 Chiang Mai Arr 29.04 294 P **P** 18 52 21.0 -1.3
CM34 Chiang Mai Arr 29.09 295 P **P** 18 52 22.0 -0.7
CM04 Chiang Mai Arr 29.11 294 P **P** 18 52 24.2 +1.3
comp=Z,104nmcomp=Z,13nm,0.8s
CM09 Chiang Mai Arr 29.11 294 P **P** 18 52 23.1 +0.2
comp=Z,125nmcomp=Z,14nm,1.1s
CM01 Chiang Mai Arr 29.14 294 P **P** 18 52 24.4 +1.3
comp=Z,96nmcomp=Z,13nm,1.0s
CM05 Chiang Mai Arr 29.14 294 P **P** 18 52 23.2 +0.1
comp=Z,62nmcomp=Z,7.2nm,0.9s
CM02 Chiang Mai Arr 29.15 294 P **P** 18 52 23.4 +0.1
comp=Z,94nmcomp=Z,12nm,0.9s
CM31 Chiang Mai Arr 29.16 294 P **P** 18 52 23.5 +0.1
comp=Z,4µmcomp=Z,338nm,0.9s
CM31 Chiang Mai Arr 29.16 294 P **P** 18 52 21.3 -2.1
CMAR Chiang Mai Arr 29.16 294 P **P** 18 52 22.8 -0.6
comp=Z,2.4nm,0.8s,baz=117,slow=7.2,SNR=5.3
CMAR PcP **PcP** 18 55 30.9 +0.9
comp=Z,4.7nm,0.8s,baz=100,slow=1.1,SNR=16
CMAR Chiang Mai Arr 29.16 294 *i* P **P** 18 52 18.7 -4.7
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 29.16 294 P **P** 18 52 21.0 -2.4
CMAR **PcP** 18 55 31.0 +0.9
CM15 Chiang Mai Arr 29.18 294 P **P** 18 52 23.0 -0.5
comp=Z,85nmcomp=Z,9.4nm,0.8s
CM13 Chiang Mai Arr 29.18 294 P **P** 18 52 23.0 -0.5
comp=Z,59nmcomp=Z,6.2nm,0.8s
CMMT Chiang Mai 29.26 294 P **P** 18 52 22.6 -1.7
comp=Z,7.4nm,1.6s
CM33 Chiang Mai Arr 29.27 294 P **P** 18 52 23.0 -1.3
CHTO Chiang Mai 29.27 294 P **P** 18 52 22.6 -1.7
CHTO **PcP** 18 55 28.5 -1.8
CHTO Chiang Mai 29.27 294 P **P** 18 52 23.6 -0.7
comp=Z,4.2nm,1.6s
CM32 Chiang Mai Arr 29.31 294 P **P** 18 52 24.0 -0.6
KSAR Wonju Array Be 29.33 1 P **P** 18 52 23.9 -0.7
KSAR Wonju Array Be 29.33 1 P **P** 18 52 23.9 -0.7
KSRS Korea Array 29.34 2 P **P** 18 52 25.2 +0.6
comp=Z,16nm,0.9s,baz=175,slow=10,SNR=52
KSRS LR LR 19 02 58.9
comp=Z,199nm,21.3s,baz=188,slow=34
KS19 Wonju Array Si 29.39 1 P **P** 18 52 25.5 +0.4
KS19 IAmb IAmb 18 52 26.5
comp=Z,16nm,0.8s
MHMT Maesarieng 30.00 293 P **P** 18 52 29.0 -1.8
GSI Gunungsitoli 30.03 259 P **P** 18 52 28.7 -2.4
GSI IAmb IAmb 18 52 33.2
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 30.20 193 P **P** 18 52 32.5 0.0
PSA00 IAmb IAmb 18 52 33.6
comp=Z,12nm,0.8s
PSA00 **PcP** 18 55 32.3 -0.2
PSA00 Pilbara Seismi 30.20 193 P **P** 18 52 32.4 0.0
PSA00 IAmb IAmb 18 52 33.6
comp=Z,31nm,0.8s
MJAR Matsushiro Arr 30.21 18 P **P** 18 52 31.9 -0.5
comp=Z,2.8nm,0.7s,baz=191,slow=9.2,SNR=8.5
MJAR LR LR 19 04 05.9
comp=Z,273nm,20.1s,baz=205,slow=35
MJAR Matsushiro Arr 30.21 18 P **P** 18 52 32.5 +0.1
MAJO Matsushiro 30.21 18 *i* P **P** 18 52 31.8 -0.6
MAJO pmax pmax
comp=Z,3.0nm,0.5s
MAJO Matsushiro 30.21 18 P **P** 18 52 32.0 -0.4
MAT Matsushiro 30.21 18 P **P** 18 52 31.5 -0.9
XAN Xi'an 30.81 330 P **P** 18 52 35.0 -2.8
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,58nm,6.4s
XAN L L
comp=Z,240nm,23.8s
XAN L L
comp=Z,410nm,21.8s
XAN L L
comp=Z,620nm,19.2s
QIS Mount Isa 30.97 157 P **P** 18 52 40.1 +0.8
baz=31,SNR=12
AS31 Alice Springs 32.18 168 P **P** 18 52 49.7 -0.2
ASAR Alice Springs 32.18 168 P **P** 18 52 49.9 0.0
comp=Z,3.3nm,0.5s,baz=348,slow=6.6,SNR=74
ASAR PcP **PcP** 18 55 38.6 +0.8
comp=Z,3.2nm,0.7s,baz=356,slow=2.3,SNR=8.0
ASAR ScP **ScP** 18 59 15.2 -1.9
comp=Z,1.4nm,0.8s,baz=358,slow=3.6,SNR=5.4
ASAR LR LR 19 07 13.1
comp=Z,120nm,20.1s,baz=345,slow=39
ASAR Alice Springs 32.18 168 P **P** 18 52 48.6 -1.3
ASAR Alice Springs 32.18 168 P **P** 18 52 48.6 -1.3
JMM Marumori 32.26 21 P **P** 18 52 51.1 +0.6
JMM IAmb IAmb 18 53 03.0
comp=Z,25nm,0.7s
WRKA Warakurna 32.85 178 P **P** 18 52 55.9 +0.1
baz=33,SNR=31
BJT Baijiatuau 33.33 345 P **P** 18 52 58.1 -1.6
BJT pmax pmax
comp=Z,6.0nm,0.7s
BJT Baijiatuau 33.33 345 P **P** 18 52 58.1 -1.6
BJI Beijing 33.34 345 P **P** 18 52 58.4 -1.4
BJI pP **pP** 18 53 14.8 +2.4
BJI S **S** 18 58 17.9 +1.1
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,54nm,4.4s
BJI L L
comp=Z,180nm,14.5s
BJI L L
comp=Z,170nm,17.6s
BJI L L
comp=Z,320nm,18.9s
SNY Shenyang 33.83 355 ⇑P **P** 18 53 04.4 +0.3
SNY S **S** 18 58 26.9 +2.6
SNY pmax pmax
comp=Z,22nm,0.6s
SNY pmax pmax
comp=Z,150nm,3.3s
SNY L L
comp=Z,210nm,17.3s
SNY L L
comp=Z,220nm,13.5s
SNY L L
comp=Z,340nm,23.5s
MSHR Mys Shultsa 34.65 5*ce*P **P** 18 53 12.5 +1.4
MSHR pmax pmax
comp=Z,28nm,0.5s

LZH Lanzhou 35.04 326 ⇓P **P** 18 53 13.8 -1.1
LZH pP pP 18 53 29.1 +1.3
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,73nm,6.0s
LZH L L
comp=Z,390nm,16.8s
LZH L L
comp=Z,550nm,16.8s
LZH L L
comp=Z,440nm,16.8s
VLA Vladivostok 35.25 6 *i* P **P** 18 53 17.5 +1.2
VLA pmax pmax
comp=Z,32nm,0.8s
MEEK Meekatharra 35.37 193 P **P** 18 53 17.7 +0.1
baz=36,SNR=18
HHC Hu-ho-hao-te 35.48 340 *e*P **P** 18 53 18.7 +0.2
HHC pP pP 18 53 30.0 -1.0
HHC S **S** 18 58 53.8 +3.8
HHC sS sS 18 59 04.5 -7.1
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,84nm,4.7s
HHC L L
comp=Z,350nm,18.4s
HHC L L
comp=Z,150nm,19.6s
HHC L L
comp=Z,410nm,19.8s
CN2 Changchun 35.70 358 *e*P **P** 18 53 20.2 +0.1
CN2 *e*S **S** 18 58 52.3 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 L L
comp=Z,300nm,17.0s
CN2 L L
comp=Z,200nm,17.0s
CN2 L L
comp=Z,300nm,16.0s
USRK Ussuriysk Ar. 36.33 6 P **P** 18 53 27.1 +1.5
comp=Z,75nm,0.7s,baz=190,slow=7.9,SNR=112
USRK LR LR 19 11 17.5
comp=Z,137nm,18.0s,baz=169,slow=41
USRK Ussuriysk Ar. 36.33 6 P **P** 18 53 26.7 +1.2
USRK pP **pP** 18 53 37.8 +0.2
USA0B Ussuriysk Arra 36.33 6 P **P** 18 53 26.9 +1.3
USA0B pmax pmax
comp=Z,90nm,0.8s
USA0B Ussuriysk Arra 36.33 6 P **P** 18 53 26.9 +1.3
MDJ Mudanjiang 36.56 3 P **P** 18 53 29.2 +1.7
MDJ S **S** 18 59 07.9 +1.8
MDJ pmax pmax
comp=Z,97nm,0.8s
MDJ L L
comp=Z,230nm,16.3s
MDJ L L
comp=Z,250nm,12.5s
MDJ L L
comp=Z,300nm,13.3s
MDJ Mudanjiang 36.56 3 P **P** 18 53 28.5 +1.0
JEW Eniwo 36.97 18 P **P** 18 53 32.4 +1.3
SHL Shillong 37.70 302 P **P** 18 53 36.4 -1.3
SHL pmax pmax
comp=Z,98nm,0.7s
SHL Shillong 37.70 302 P **P** 18 53 36.4 -1.3
TEY Ternei 37.84 11⇑*e*P **P** 18 53 39.9 +1.6
TEY *e* 18 53 50.7
TEY pmax pmax
comp=N,10.0nm,1.8s
TEY pmax pmax
comp=Z,30nm,1.8s
TEY pmax pmax
comp=Z,100nm,1.4s
MORW Morawa 38.32 196 P **P** 18 53 43.1 +0.5
baz=38,SNR=13
MORW Morawa 38.32 196 P **P** 18 53 42.7 +0.1
ASAJ Asahikawa 38.48 18 P **P** 18 53 43.8 0.0
ASAJ pmax pmax
comp=Z,36nm,1.2s
JKA Kamikawa-asahi 38.48 18 P **P** 18 53 43.8 +0.1
JKA IAmb IAmb 18 53 58.7
comp=Z,36nm,1.2s
FORT Forrest 38.56 179 P **P** 18 53 45.3 +0.7
baz=39,SNR=17
FORT Forrest 38.56 179 P **P** 18 53 44.6 +0.1
KMBL Kambalda 39.44 187 P **P** 18 53 52.6 +0.7
baz=40,SNR=19
BLDU Ballidu 39.63 194 P **P** 18 53 53.9 +0.4
baz=40,SNR=25
GTA Gaotai 39.65 326 ⇑P **P** 18 53 52.1 -1.7
GTA pP pP 18 54 06.7 -0.3
GTA PcP **PcP** 18 56 00.3 +0.4
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,48nm,4.7s
GTA L L
comp=Z,280nm,16.0s
GTA L L
comp=Z,300nm,17.1s
GTA L L
comp=Z,390nm,17.1s
LSA Lhasa 39.94 308 P **P** 18 53 55.6 -1.1
LSA pmax pmax
comp=Z,51nm,1.1s
LSA Lhasa 39.94 308 P **P** 18 53 55.8 -0.9
LSA pmax pmax
comp=Z,19nm,1.2s
LSA Lhasa 39.94 308 P **P** 18 53 55.8 -0.9
LSA IAmb IAmb 18 53 57.8
comp=Z,19nm,1.2s
KLBR Kellerberrin 40.34 192 P **P** 18 54 00.1 +0.7
baz=40,SNR=23
H11N1 WAKE ISLAND Hy 40.36 69 T T 19 37 45.0
baz=265,slow=74,SNR=51
H11N2 WAKE ISLAND Hy 40.37 69 T T 19 38 06.6
baz=265,slow=74,SNR=31
H11N3 WAKE ISLAND Hy 40.38 69 T T 19 38 00.9
baz=265,slow=74,SNR=46
MUN Mundaring 41.05 194 P **P** 18 54 05.9 +0.6
baz=41,SNR=9.4
YSS Yuzh-Sakhalins 41.10 16 *e*P **P** 18 54 06.9 +1.4
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 41.10 16 P **P** 18 54 06.5 +1.1
KLR Kul'dur 41.30 5*ce*P **P** 18 54 07.7 +0.6
KLR pmax pmax
comp=Z,16nm,0.4s
BBOO Buckleboo 41.49 168 P **P** 18 54 09.4 +0.6
baz=42,SNR=32
BBOO Buckleboo 41.49 168 P **P** 18 54 08.5 -0.3
BBOO IAmb IAmb 18 54 23.8
comp=Z,19nm,0.8s
HIA Hailar 41.59 353 P **P** 18 54 09.1 -0.4
HIA pmax pmax
comp=Z,7.0nm,0.5s
HIA Hailar 41.59 353 P **P** 18 54 09.1 -0.4
NWAO Narrogin (SRO) 41.73 192 P **P** 18 54 12.0 +1.1
baz=42,SNR=6.7
NWAO Narrogin (SRO) 41.73 192 P **P** 18 54 10.3 -0.6
NWAO pmax pmax
comp=Z,72nm,1.5s
NWAO Narrogin (SRO) 41.73 192 P **P** 18 54 10.2 -0.6
NWAO Narrogin (SRO) 41.73 192 P **P** 18 54 10.3 -0.6
NWAO IAmb IAmb 18 54 23.3
comp=Z,58nm,1.4s
STKA Stephens Creek 42.03 161 P **P** 18 54 13.8 +0.6
comp=Z,6.1nm,0.7s,baz=352,slow=7.4,SNR=9.8
STKA LR LR 19 16 47.0
comp=Z,91nm,18.6s,baz=1.7,slow=43
STKA Stephens Creek 42.03 161 P **P** 18 54 13.2 -0.1
STKA pmax pmax
comp=Z,3.0nm,1.2s
STKA Stephens Creek 42.03 161 P **P** 18 54 13.2 -0.1
HTT Hallett 42.73 165 P **P** 18 54 20.0 +1.0
baz=43,SNR=8.2
ULN Ulaanbaatar 43.19 340*ce*P **P** 18 54 21.7 -1.0
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 43.19 340 P **P** 18 54 21.5 -1.2

ULN **P** 18 54 21.7 -1.0
ULN Ulaanbaatar 43.19 340 P **P** 18 54 21.7 -1.0
comp=Z,50nm,0.7s
GRNR Gornyy 43.36 9⇑*i*P **P** 18 54 25.9 +2.1
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR MLR MLR
comp=E,90nm,17.0s
GRNR MLR MLR
comp=N,80nm,13.0s
GRNR MLR MLR
comp=Z,130nm,14.0s
SONM Songino Array 43.39 340 P **P** 18 54 23.3 -0.9
comp=Z,2.3nm,0.7s,baz=160,slow=8.9,SNR=15
SONM PcP **PcP** 18 56 12.3 +0.3
comp=Z,5.3nm,0.8s,baz=158,slow=3.6,SNR=11
SONM LR LR 19 14 13.6
comp=Z,352nm,20.3s,baz=132,slow=38
SONM Songino Array 43.39 340 P **P** 18 54 22.4 -1.9
ZEA Zeya 45.62 0 *e*P **P** 18 54 41.9 +0.1
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=N,100nm,16.0s
ZEA MLR MLR
comp=Z,100nm,16.0s
ZAK Zakamensk 46.63 339 *e*P **P** 18 54 48.5 -1.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ARPS Mount Arapiles 46.66 164 P **P** 18 54 51.4 +1.3
baz=47,SNR=9.0
TLY Talaya 47.60 340 *i* P **P** 18 54 57.0 -0.4
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY Talaya 47.60 340 P **P** 18 54 55.3 -2.1
HYB Hyderabad 48.04 286 *i* P **P** 18 55 01.0 -0.4
MOY Mondy 48.51 339 *e*P **P** 18 55 05.2 +0.7
MOY pmax pmax
comp=Z,15nm,1.5s
DZM Mont Dzumac 48.88 128 *e*P **P** 18 55 12.0 +4.2
comp=Z,10nm,0.8s
DZM Mont Dzumac 48.88 128 *e*LR LR 19 09 18.0
comp=Z,276nm,23.2s
WMQ Urumqi 49.45 323 *e*P **P** 18 55 11.5 -0.3
WMQ L L
comp=Z,370nm,21.5s
WMQ L L
comp=Z,340nm,18.9s
WMQ L L
comp=Z,390nm,19.9s
PEA0B Petropavlovsk- 51.43 23 *i* P **P** 18 55 28.4 +1.9
PEA0B Petropavlovsk- 51.43 23 P **P** 18 55 28.2 +1.7
PEA0B IAmb IAmb 18 55 29.3
comp=Z,21nm,1.0s
PETK Petropavlovsk- 51.43 23 P **P** 18 55 29.1 +2.6
comp=Z,9.1nm,0.6s,baz=192,slow=6.2,SNR=21
PETK LR LR 19 20 06.8
comp=Z,59nm,18.1s,baz=217,slow=39
PETK Petropavlovsk- 51.43 23 P **P** 18 55 28.2 +1.7
PETK Petropavlovsk- 51.43 23 P **P** 18 55 28.2 +1.7
PET Petropavlovsk 51.74 24 *e*P **P** 18 55 30.8 +2.0
PET *e*S **S** 19 02 47.3 +0.8
PET pmax pmax
comp=Z,14nm,0.8s
PET MLR MLR
comp=Z,200nm,17.0s
DGZ Jazzator, Alta 53.06 329 *i* P **P** 18 55 38.0 -0.9
DGZ pmax pmax
comp=Z,5.0nm,0.7s
ZSN Zaisan 53.12 325 *e*P **P** 18 55 35.9 -3.3
baz=326
ZSN Zaisan 53.12 325 *e*P **P** 18 55 35.9 -3.3
YAK Yakutsk 53.97 2*c i*P **P** 18 55 45.8 +0.7
YAK *e**PP **pwP** 18 56 11.9 +7.0
YAK *e*PPP PPP 18 58 55.7
YAK *e*S **S** 19 03 10.4 -6.2
YAK *e**SS **pS** 19 03 27.2 -3.1
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=N,30nm,1.2s
YAK smax smax
comp=N,11nm,1.3s
YAK Yakutsk 53.97 2 P **P** 18 55 45.2 +0.2
MK31 Makanchi Array 54.26 323 P **P** 18 55 46.2 -1.3
MK31 pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 54.26 323 P **P** 18 55 46.2 -1.3
MK31 IAmb IAmb 18 55 47.7
comp=Z,11nm,0.8s
MKAR Makanchi Array 54.26 323 P **P** 18 55 47.0 -0.5
comp=Z,13nm,0.7s,baz=123,slow=8.1,SNR=142
MKAR PcP **PcP** 18 56 51.1 -0.2
comp=Z,8.5nm,0.7s,baz=119,slow=4.4,SNR=7.0
MKAR LR LR 19 20 38.5
comp=Z,388nm,20.2s,baz=121,slow=38
MKAR Makanchi Array 54.26 323 *i* P **P** 18 55 46.7 -0.8
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 54.26 323 P **P** 18 55 46.5 -1.1
MAKZ Makanchi 54.45 323 P **P** 18 55 47.8 -1.1
MAKZ pmax pmax
comp=Z,14nm,1.0s
MAKZ Makanchi 54.45 323 P **P** 18 55 47.8 -1.1
MAKZ IAmb IAmb 18 55 49.1
comp=Z,14nm,0.9s
MA2 Magadan 54.54 15 *i* P **P** 18 55 50.7 +1.4
MA2 pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 54.54 15 P **P** 18 55 50.4 +1.1
UZB Uzynbulak 54.58 318 *e*P **P** 18 55 48.5 -1.6
comp=Z,7.6nm,0.6s,baz=318
UZB Uzynbulak 54.58 318 *e*P **P** 18 55 48.5 -1.6
UZB pmax pmax
comp=Z,8.0nm,0.6s
PRZ Przheval'sk 54.72 317 P **P** 18 55 50.9 -0.2
PRZ pmax pmax
comp=Z,29nm,0.7s
PRZ Przheval'sk 54.72 317 P **P** 18 55 50.9 -0.2
KPKS Kokpek 54.94 318 *e*P **P** 18 55 50.8 -1.8
comp=Z,10nm,0.7s,baz=318
KPKS Kokpek 54.94 318 *e*P **P** 18 55 50.8 -1.8
KPKS pmax pmax
comp=Z,10.0nm,0.7s
SATY Saty 54.95 318 *e*P **P** 18 55 50.8 -2.0
comp=Z,8.1nm,0.6s,baz=318
SATY Saty 54.95 318 *e*P **P** 18 55 50.7 -2.0
SATY pmax pmax
comp=Z,8.0nm,0.6s
KSH Kashi 55.28 313 P **P** 18 55 55.9 +0.7
KSH pmax pmax
comp=Z,7.0nm,1.5s
KSH pmax pmax
comp=Z,80nm,3.2s
KDJ Kajisay 55.40 316 P **P** 18 55 54.9 -1.2
KDJ pmax pmax
comp=Z,12nm,0.7s
KDJ Kajisay 55.40 316 P **P** 18 55 54.9 -1.2
KDJ IAmb IAmb 18 55 56.4
comp=Z,12nm,0.7s
NIL Nilore 55.60 305 P **P** 18 55 55.0 -2.5
NIL pmax pmax
comp=Z,36nm,0.8s
NIL Nilore 55.60 305 P **P** 18 55 55.0 -2.5
TDK Taldyqorghan 55.79 320 *e*P **P** 18 55 56.8 -1.8
comp=Z,25nm,0.7s,baz=320
TDK Taldyqorghan 55.79 320 *e*P **P** 18 55 56.8 -1.8
TDK pmax pmax
comp=Z,25nm,0.7s
MDOK Medeo 55.90 317 *e*P **P** 18 55 57.5 -2.1
baz=318
MDOK Medeo 55.90 317 *e*P **P** 18 55 57.5 -2.1
ULHL Ulahol 56.09 316 P **P** 18 55 59.8 -1.2
SNR=9.6
CHKK Chushkaly 56.22 318 *e*P **P** 18 55 58.5 -3.2
baz=318
CHKK Chushkaly 56.22 318 *e*P **P** 18 55 58.5 -3.2
MTBS Maitube 56.30 317 *e*P **P** 18 55 59.2 -3.2
baz=317
MTBS Maitube 56.30 317 *e*P **P** 18 55 59.2 -3.2

BOOM Boomskoye usch 56.39 316 P **P** 18 56 01.5 -1.6
BOOM pmax pmax
comp=Z,4.0nm,0.9s
BOOM Boomskoye usch 56.39 316 P **P** 18 56 01.5 -1.6
KUU Kurty 56.66 318 *eP* **P** 18 56 02.9 -2.0
comp=Z,24nm,0.8s,baz=318
KUU Kurty 56.66 318 *eP* **P** 18 56 02.9 -2.0
KUU pmax pmax
comp=Z,24nm,0.8s
TKM2 Tokmak 2 56.78 317 P **P** 18 56 05.3 -0.7
SNR=12
ZAA0 Zalesovo Array 56.95 332 P **P** 18 56 04.7 -2.0
ZAA0 IAmb IAmb 18 56 06.1
comp=Z,8.9nm,0.8s
ZALV Zalesovo Beam 56.95 332 P **P** 18 56 05.3 -1.3
comp=Z,7.6nm,0.6s,baz=119,slow=7.0,SNR=34
ZALV PcP **PcP** 18 57 00.2 -1.2
comp=Z,3.4nm,0.8s,baz=134,slow=4.3,SNR=3.9
ZALV LR LR 19 23 04.7
comp=Z,193nm,18.3s,baz=136,slow=39
ZALV Zalesovo Beam 56.95 332 *i* P **P** 18 56 05.0 -1.6
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 56.95 332 P **P** 18 56 04.7 -2.0
ZALV pP **pP** 18 56 17.0 -3.0
KBK Karagaybulak 57.13 316 P **P** 18 56 07.8 -0.6
SNR=9.3
AAK Ala-Archa 57.43 316 *ceP* **P** 18 56 09.5 -1.0
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 57.43 316 P **P** 18 56 08.9 -1.6
SGDS Sogindy 57.64 317 *eP* **P** 18 56 08.6 -3.3
baz=317
SGDS Sogindy 57.64 317 *eP* **P** 18 56 08.5 -3.3
USP Ospenovka 57.66 317 P **P** 18 56 11.0 -1.0
SNR=12
AML Almayashu 57.81 315 P **P** 18 56 13.1 -0.3
SNR=8.6
EKS2 Erkin-Say 57.94 316 P **P** 18 56 13.6 -0.4
SNR=8.3
ARSB Arslanbob 58.04 314 P **P** 18 56 12.9 -1.8
ARSB pmax pmax
comp=Z,5.0nm,0.8s
ARSB Arslanbob 58.04 314 P **P** 18 56 12.9 -1.8
DRK Karamyk 58.32 312 P **P** 18 56 14.6 -2.4
DRK IAmb IAmb 18 56 29.8
comp=Z,11nm,0.7s
BTLS Baital 58.62 319 *eP* **P** 18 56 16.6 -2.0
comp=Z,3.9nm,0.7s,baz=319
BTLS Baital 58.62 319 *eP* **P** 18 56 16.5 -2.0
BTLS pmax pmax
comp=Z,4.0nm,0.7s
KBL Kabul 59.20 305 P **P** 18 56 20.6 -2.5
KBL pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 59.20 305 P **P** 18 56 20.6 -2.5
KBL IAmb IAmb 18 56 22.5
comp=Z,9.2nm,0.7s
BTK Batken 59.21 312 P **P** 18 56 21.1 -1.8
BTK pmax pmax
comp=Z,8.0nm,0.6s
BTK Batken 59.21 312 P **P** 18 56 21.1 -1.8
BTK IAmb IAmb 18 56 40.2
comp=Z,8.1nm,0.6s
GAR Garm 59.29 311 P **P** 18 56 21.7 -1.8
CHGR Chuyangaron 60.07 310 P **P** 18 56 26.7 -2.1
KK31 Karatay Array 60.35 315 P **P** 18 56 28.7 -1.8
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 60.35 315 P **P** 18 56 28.6 -1.8
KK31 IAmb IAmb 18 56 30.2
comp=Z,7.6nm,0.8s
KKAR Karatay Array 60.35 315 P **P** 18 56 28.4 -2.1
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 60.35 315 P **P** 18 56 28.4 -2.1
KKAR Karatay Array 60.35 315 P **P** 18 56 28.4 -2.1
KKAR IAmb IAmb 18 56 30.2
comp=Z,7.6nm,0.8s
AMKA Amchitka 60.86 35 P **P** 18 56 34.4 +0.7
BRZS Berezniki 61.41 323 *eP* **P** 18 56 35.6 -2.0
comp=Z,11nm,1.7s,baz=324
BRZS Berezniki 61.41 323 *eP* **P** 18 56 35.5 -2.0
BRZS pmax pmax
comp=Z,11nm,1.7s
KIWB Kanaga Island 63.06 35 P **P** 18 56 50.3 +1.7
ADK Adak 63.34 35 P **P** 18 56 50.5 +0.1
ADK pmax pmax
comp=Z,19nm,0.9s
ADK Adak 63.34 35 P **P** 18 56 50.5 +0.1
TIXI Tiksi 63.61 1 *ceP* **P** 18 56 51.8 0.0
TIXI Tiksi 63.61 1 P **P** 18 56 51.3 -0.5
BRVK Borovoye 64.00 326 *ceP* **P** 18 56 53.2 -1.6
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 64.00 326 P **P** 18 56 53.3 -1.4
BRVK IAmb IAmb 18 57 06.4
comp=Z,11nm,0.8s
HRA Herat 64.71 304 P **P** 18 56 57.9 -2.2
ATKA Atka Island 64.89 36 P **P** 18 57 02.5 +1.9
BILL Bilibino 65.40 15 *diP* **P** 18 57 04.9 +1.3
BILL *e* 18 57 24.2
BILL *e* 18 57 33.9
BILL S **S** 19 05 50.0 +6.4
BILL SS **SS** 19 09 58.0 +0.5
BILL SSS SSS 19 12 50.0
BILL pmax pmax
comp=Z,36nm,1.7s
BILL MLR MLR
comp=Z,85nm,19.0s
BILL Bilibino 65.40 15 P **P** 18 57 04.3 +0.8
BILL IAmb IAmb 18 57 07.3
comp=Z,12nm,0.8s
NRIK Noril'sk 66.38 346 P **P** 18 57 09.7 -0.1
comp=Z,13nm,0.8s,baz=134,slow=6.3,SNR=16
NRIK LR LR 19 29 52.2
comp=Z,175nm,19.2s,baz=140,slow=39
NRIK Noril'sk 66.38 346 *ceP* **P** 18 57 09.1 -0.8
NRIK pmax pmax
comp=Z,10.0nm,0.6s
NRIK Noril'sk 66.38 346 P **P** 18 57 09.5 -0.4
NRIK IAmb IAmb 18 57 10.8
comp=Z,20nm,0.9s
NIKH Nikolski High 68.22 36 P 18 57 23.2
baz=254
GEYT Alibeck 68.47 308 P **P** 18 57 23.4 -0.4
comp=Z,6.2nm,0.7s,baz=171,slow=3.9,SNR=12
GEYT LR LR 19 32 11.6
comp=Z,182nm,18.4s,baz=170,slow=40
GEYT Alibeck 68.47 308 P **P** 18 57 19.6 -4.2
GEYT IAmb IAmb 18 57 46.5
comp=Z,15nm,1.1s
GYA0B ALIBECK ARRAY 68.47 308 P **P** 18 57 22.5 -1.3
GYA0B IAmb IAmb 18 57 24.1
comp=Z,8.5nm,0.7s
SPIA Saint Paul Isl 68.74 31 P 18 57 26.4
baz=251
ABKAR Akbulak array 69.05 320 P **P** 18 57 25.2 -1.9
SVE Sverdlovsk 70.50 328 *eP* **P** 18 57 34.7 -1.1
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 71.50 327 *ciP* **P** 18 57 40.3 -1.6
ARU 19 00 16.6
ARU PPP PPP 19 01 59.8
ARU S **S** **19 06 57.0 +0.5**
ARU SS SS 19 11 20.9 -11
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 71.50 327 P **P** 18 57 40.1 -1.8
ARU IAmb IAmb 18 57 41.1
comp=Z,10nm,0.7s
FALS False Pass 71.81 35 P 18 57 45.1
baz=258
TNA Tin City 72.60 23 P 18 57 49.6
baz=251
SDPT Sand Point 73.56 35 P 18 57 55.2
baz=260
CASY Casey 75.05 187 P **P** 18 58 02.3 -0.2
CASY IAmb IAmb 18 58 09.7
comp=Z,14nm,1.0s
RDOG Red Dog Mine 75.25 21 P **P** 18 58 04.6 +0.8
RDOG IAmb IAmb 18 58 08.1
comp=Z,12nm,0.7s
RDOG Red Dog Mine 75.25 21 P 18 58 05.8
baz=255

KIRV Kirov 76.74 328 *ceP* **P** 18 58 11.2 -1.2
SVW2 Sparrevohn 76.98 29 P **P** 18 58 16.2 +2.5
SVW2 IAmb IAmb 18 58 17.8
comp=Z,16nm,0.8s
TTA Tatalina 77.02 27 P **P** 18 58 15.7 +1.7
TTA pmax pmax
comp=Z,17nm,1.4s
TTA Tatalina 77.02 27 P **P** 18 58 15.7 +1.7
TTA IAmb IAmb 18 58 17.1
comp=Z,17nm,1.4s
TTA Tatalina 77.02 27 P 18 58 15.5
baz=262
SII Sitkinak Islan 77.22 34 P 18 58 17.4
baz=265
OHAK Old Harbor 77.77 33 P **P** 18 58 19.6 +1.4
OHAK Old Harbor 77.77 33 P 18 58 19.6
baz=266
A21K Barrow 78.13 19 P **P** 18 58 21.1 +1.2
A21K Barrow 78.13 19 P 18 58 21.1
baz=260
KDAK Kodiak Island 78.19 33 P **P** 18 58 23.0 +2.5
KDAK pmax pmax
comp=Z,22nm,0.7s
KDAK Kodiak Island 78.19 33 P **P** 18 58 23.0 +2.5
KDAK Kodiak Island 78.19 33 P 18 58 22.2
baz=266
IMAR Indian Mountai 78.38 24 P **P** 18 58 22.8 +1.3
SPCR Spurr Chakacha 78.61 29 P 18 58 24.6
baz=266
H21K Melozitna Rive 78.73 25 P 18 58 25.3
baz=265,SNR=8.0
PPLA Purkeypile 78.75 27 P 18 58 25.3
baz=266
CHUM Lake Minchumin 78.78 26 P 18 58 25.7
baz=266
PRGR Permogore 78.90 331 *eP* **P** 18 58 21.1 -3.2
PRGR pmax pmax
comp=Z,10.0nm,0.6s
GNI Garni 78.97 309 P **P** 18 58 23.9 -1.5
GNI pmax pmax
comp=Z,8.0nm,0.8s
GNI Garni 78.97 309 P **P** 18 58 23.9 -1.5
GNI IAmb IAmb 18 58 30.7
comp=Z,8.1nm,0.8s
CNPM China Poot 78.99 31 P **P** 18 58 26.3 +1.3
CNPM IAmb IAmb 18 58 28.7
comp=Z,12nm,0.8s
SKT Skwentna 78.99 28 P **P** 18 58 26.1 +1.2
SKT IAmb IAmb 18 58 27.4
comp=Z,37nm,1.4s
SKT Skwentna 78.99 28 P 18 58 25.7
baz=267,SNR=10
BRLK Bradley Lake 79.18 31 P **P** 18 58 26.8 +0.8
BRLK IAmb IAmb 18 58 31.7
comp=Z,16nm,0.8s
BRSE Bradley Lake S 79.25 31 P 18 58 26.4
baz=268
SUA Susitna One 79.33 29 P **P** 18 58 28.8 +1.9
SUA IAmb IAmb 18 58 30.6
comp=Z,28nm,1.0s
SUA Susitna One 79.33 29 P 18 58 28.1
baz=267,SNR=6.2
KTH Kantishna Hill 79.37 27 P **P** 18 58 28.8 +1.8
KTH IAmb IAmb 18 58 30.9
comp=Z,12nm,1.0s
BPAW Bear Paw Mtn. 79.38 26 P **P** 18 58 28.6 +1.6
BPAW IAmb IAmb 18 58 30.4
comp=Z,20nm,0.8s
BPAW Bear Paw Mtn. 79.38 26 P 18 58 28.9
baz=267,SNR=17
MLY Manley 79.54 25 P **P** 18 58 29.6 +1.7
MLY IAmb IAmb 18 58 31.4
comp=Z,24nm,1.4s
MLY Manley 79.54 25 P 18 58 29.9
baz=267,SNR=15
ZEI Tsey 79.55 312 *eP* **P** 18 58 24.7 -3.9
ZEI pmax pmax
comp=Z,8.0nm,1.0s
M22K Willow 79.65 29 P 18 58 30.1
baz=268
TRF Thorofare Moun 79.65 27 P **P** 18 58 30.0 +1.4
TRF IAmb IAmb 18 58 31.5
comp=Z,15nm,0.9s
TRF Thorofare Moun 79.65 27 P 18 58 30.0
baz=267,SNR=9.1
RC01 Rabbit Creek A 79.81 29 P **P** 18 58 30.4 +1.1
RC01 IAmb IAmb 18 58 31.8
comp=Z,15nm,0.7s
RC01 Rabbit Creek A 79.81 29 P 18 58 30.8
baz=268
COLD Coldfoot 79.90 23 P **P** 18 58 31.7 +2.0
COLD Coldfoot 79.90 23 P 18 58 31.4
baz=267,SNR=13
SEW Seward 79.92 30 P **P** 18 58 32.0 +2.1
SEW IAmb IAmb 18 58 32.8
comp=Z,12nm,0.6s
SEW Seward 79.92 30 P 18 58 31.2
baz=269
H23K Yukon River 80.09 25 P 18 58 33.3
baz=268,SNR=13
PMR Palmer 80.11 29 P **P** 18 58 32.2 +1.3
PMR pmax pmax
comp=Z,21nm,0.8s
PMR Palmer 80.11 29 P **P** 18 58 32.2 +1.3
PMR IAmb IAmb 18 58 33.5
comp=Z,21nm,0.8s
PMR Palmer 80.11 29 P 18 58 31.7
baz=269,SNR=5.8
I23K Minto, Yukon-K 80.13 25 P **P** 18 58 32.3 +1.4
I23K IAmb IAmb 18 58 35.0
comp=Z,12nm,0.7s
I23K Minto, Yukon-K 80.13 25 P 18 58 33.0
baz=268,SNR=18
GHO Glory Hole Cre 80.22 29 P **P** 18 58 30.0 -1.6
GHO IAmb IAmb 18 58 34.5
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 80.22 22 P **P** 18 58 33.4 +1.9
TOLK IAmb IAmb 18 58 35.4
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 80.22 22 P 18 58 32.6
baz=267,SNR=8.3
NEA2 Nenana 80.23 26 P **P** 18 58 33.2 +1.6
NEA2 Nenana 80.23 26 P 18 58 32.7
baz=268
KBZ Khabaz 80.26 313 P **P** 18 58 31.1 -1.0
comp=Z,1.8nm,0.7s,baz=105,slow=6.5,SNR=5.9
KBZ LR LR 19 39 27.3
comp=Z,158nm,18.2s,baz=62,slow=40
KBZ Khabaz 80.26 313 *ceP* **P** 18 58 30.0 -2.1
KBZ pmax pmax
comp=Z,7.0nm,1.3s
MCK McKinley 80.27 27 P **P** 18 58 32.1 +0.3
MCK pmax pmax
comp=Z,26nm,0.7s
MCK McKinley 80.27 27 P **P** 18 58 32.1 +0.3
MCK McKinley 80.27 27 P 18 58 32.5
baz=269,SNR=11
RND Reindeer 80.29 27 P **P** 18 58 32.0 0.0
RND pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 80.29 27 P **P** 18 58 32.0 0.0
RND IAmb IAmb 18 58 34.5
comp=Z,14nm,0.8s
NEY Neytrino 80.40 312 *i* P **P** 18 58 33.1 0.0
NEY pmax pmax
comp=Z,1.0nm,0.5s
WAT2 Susitna Watana 80.40 27 P 18 58 33.4
baz=269,SNR=13
KIV Kislovodsk 80.41 313 *eP* **P** 18 58 32.5 -0.5
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,462nm,19.0s
KIV Kislovodsk 80.41 313 P **P** 18 58 31.5 -1.5
KNK Knik Glacier 80.43 29 P **P** 18 58 34.2 +1.4
KNK Knik Glacier 80.43 29 P 18 58 34.5
baz=269,SNR=9.1
PWL Port Wells 80.48 30 P **P** 18 58 34.2 +1.2
SML Sawmill 80.50 29 P 18 58 34.8
baz=269,SNR=6.7
MDM Murphy Dome 80.61 25 P **P** 18 58 35.4 +1.8
WRH Wood River Hil 80.66 26 P **P** 18 58 34.9 +1.1
WRH IAmb IAmb 18 58 36.5
comp=Z,22nm,1.4s
H24K Noodor Dome 80.77 25 P 18 58 36.7
baz=269,SNR=14

CCB Clear Creek Bu 80.78 26 P **P** 18 58 35.4 +0.9
WAT6 Susitna Watana 80.79 28 P 18 58 36.3
baz=270,SNR=18
VRH Novokhopyorsk 80.86 321 *eP* **P** 18 58 33.0 -2.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
POKR Poker Plat Res 80.95 25 P 18 58 37.0
baz=270
SCM Sheep Creek Mo 80.98 29 P **P** 18 58 38.0 +2.3
SCM pmax pmax
comp=Z,28nm,0.9s
SCM Sheep Creek Mo 80.98 29 P **P** 18 58 38.0 +2.3
GLI Glacier Island 81.09 30 P **P** 18 58 37.8 +1.6
GLI Glacier Island 81.09 30 P 18 58 37.7
baz=271,SNR=9.9
HDA Harding Lake 81.15 26 P **P** 18 58 37.0 +0.5
HDA IAmb IAmb 18 58 38.5
comp=Z,11nm,0.7s
HDA Harding Lake 81.15 26 P 18 58 37.2
baz=270,SNR=10
HDA P 18 58 37.2
baz=270,SNR=10
IL31 81.18 26 P **P** 18 58 36.8 +0.3
ILAR Eielson Array 81.18 26 P **P** 18 58 37.0 +0.3
comp=Z,2.9nm,0.6s,baz=239,slow=4.8,SNR=48
ILAR Eielson Array 81.18 26 P **P** 18 58 36.8 +0.2
ILAR Eielson Array 81.18 26 P **P** 18 58 36.8 +0.2
FID Port Fidalgo 81.39 30 P **P** 18 58 39.3 +1.4
FID IAmb IAmb 18 58 41.0
comp=Z,14nm,0.8s
Q23K Middleton Isla 81.48 31 P 18 58 39.2
baz=272
M24K Tolsona, Glenn 81.52 28 P **P** 18 58 36.9 -1.7
M24K IAmb IAmb 18 58 43.6
comp=Z,17nm,0.8s
M24K Tolsona, Glenn 81.52 28 P 18 58 40.6
baz=271
KLU Klutina 81.65 29 P **P** 18 58 41.2 +1.9
KLU IAmb IAmb 18 58 43.5
comp=Z,10nm,0.8s
KLU Klutina 81.65 29 P 18 58 40.3
baz=272,SNR=6.1
EYAK Cordova Ski Ar 81.76 30 P 18 58 41.5
baz=272
PAX Paxson 81.83 27 P **P** 18 58 41.8 +1.6
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 81.83 27 P **P** 18 58 41.8 +1.6
PAX Paxson 81.83 27 P 18 58 42.1
baz=272
KLMR Klimovskoe 81.84 330 *eP* **P** 18 58 35.4 -4.7
KLMR pmax pmax
comp=Z,33nm,1.3s
KLMR Klimovskoe 81.84 330 *eP* **P** 18 58 35.5 -4.7
KLMR AMP 18 58 40.1
comp=Z,33nm,1.3s
HARP HAARP 81.99 28 P 18 58 42.8
baz=272
BMAR Burnt Mountain 82.08 23 P **P** 18 58 42.7 +1.4
N25K Chitina, Valde 82.28 29 P **P** 18 58 45.3 +2.7
N25K IAmb IAmb 18 58 46.5
comp=Z,14nm,1.1s
N25K Chitina, Valde 82.28 29 P 18 58 44.4
baz=273
BMRM Bremner River 82.31 29 P **P** 18 58 42.7 0.0
BMRM IAmb IAmb 18 58 46.4
comp=Z,18nm,1.0s
BMRM Bremner River 82.31 29 P 18 58 44.3
baz=273,SNR=5.5
DOT Dot Lake 82.44 27 P **P** 18 58 44.3 +1.0
DOT IAmb IAmb 18 58 46.4
comp=Z,8.9nm,1.0s
SCRK Sand Creek 82.46 26 P **P** 18 58 44.8 +1.3
SCRK Sand Creek 82.46 26 P 18 58 44.9
baz=273,SNR=6.6
VSR Storozhevoye 82.46 321 *eP* **P** 18 58 40.8 -2.8
VSR pmax pmax
comp=Z,6.0nm,0.5s
MENT Mentasta 82.63 27 P **P** 18 58 45.7 +1.4
MENT IAmb IAmb 18 58 48.0
comp=Z,13nm,0.6s
MCARA McCarthy VSAT 83.05 29 P **P** 18 58 47.0 +0.5
MCARA McCarthy VSAT 83.05 29 P 18 58 47.9
baz=274
CRQE Cirque 83.06 30 P 18 58 48.1
baz=274
MOS Moscow 83.09 325 *eP* P 18 58 55.3 +8.5
TGL Tana Glacier 83.18 30 P **P** 18 58 49.0 +1.7
TGL IAmb IAmb 18 58 51.0
comp=Z,14nm,0.8s
K27K Chicken 83.29 26 P **P** 18 58 50.3 +2.7
K27K Chicken 83.29 26 P 18 58 50.7
baz=275,SNR=24
L27K Beaver Creek, 83.48 27 P **P** 18 58 50.8 +2.1
L27K IAmb IAmb 18 58 52.8
comp=Z,6.2nm,0.8s
L27K Beaver Creek, 83.48 27 P 18 58 50.8
baz=275
BCAR Beaver Creek A 83.50 27 P **P** 18 58 50.9 +2.0
EGAK Eagle 83.63 26 P **P** 18 58 49.4 +0.1
EGAK IAmb IAmb 18 58 52.8
comp=Z,6.5nm,0.7s
MESA MESA 83.66 30 P 18 58 51.9
baz=275
GRNC Granite Creek 83.71 30 P **P** 18 58 50.6 +0.4
GRNC IAmb IAmb 18 58 54.3
comp=Z,18nm,0.8s
BARN Barnard Glacie 83.73 29 P **P** 18 58 51.4 +1.2
BARN IAmb IAmb 18 59 02.2
comp=Z,26nm,1.4s
OBN Obninsk 83.74 325 *eP* **P** 18 58 48.7 -1.4
OBN *SP **pP** 18 59 03.0 -1.4
OBN pmax pmax
comp=Z,23nm,1.4s
OBN MLR MLR
comp=Z,168nm,19.0s
YAH Yahtse 83.75 30 P **P** 18 58 50.1 -0.3
YAH IAmb IAmb 18 58 55.5
comp=Z,14nm,0.8s
CTG Chitna Glacier 83.89 29 P 18 58 53.8
baz=276
CTGM Chitina Glacie 83.90 29 P **P** 18 58 53.6 +2.6
TABL Table Mountain 84.04 30 P **P** 18 58 54.8 +2.9
PCA Pinnacle 84.52 30 P **P** 18 58 56.5 +2.4
PINM Pinnacle 84.52 30 P 18 58 55.8
baz=277
GAZ Gaziantep 85.05 307 P **P** 18 58 56.0 -1.3
EPYK Eagle Plains 85.26 24 P **P** 18 58 58.6 +0.9
EPYK Eagle Plains 85.27 24 P 18 58 59.2
baz=279
HYT Haines Junctio 85.77 29 P **P** 18 59 02.7 +2.3
HYT IAmb IAmb 18 59 04.7
comp=Z,6.0nm,0.7s
INK Inuvik 86.13 22 P 18 59 02.5
baz=282
PPT Papeete 86.19 108 LR LR 19 30 52.1
comp=Z,74nm,20.3s,baz=240,slow=31
PPT2 Papeete2 86.20 108 *eS* **S** **19 09 33.6 -1.0**
comp=Z,76nm,25.2s
PPT2 Papeete2 86.20 108 *eLR* LR 19 26 27.2
comp=Z,99nm,21.5s
ARCES ARCESS Array B 86.56 340 P **P** 18 59 03.2 -0.8
comp=Z,13nm,0.7s,baz=71,slow=4.4,SNR=22
ARCES LR LR 19 43 02.7
comp=Z,50nm,19.6s,baz=90,slow=39
ARCES ARCESS Array B 86.56 340 P **P** 18 59 03.2 -0.8
WHY Whitehorse 87.07 29 P **P** 18 59 09.0 +2.2
WHY IAmb IAmb 18 59 11.1
comp=Z,5.2nm,0.8s
WHY Whitehorse 87.07 29 P 18 59 09.2
baz=281
TBI Tubuai 87.27 114 *eLR* LR 19 26 57.5
comp=Z,233nm,23.5s
BR131 Keskin Array S 87.51 310 P **P** 18 59 07.6 -1.8
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 87.51 310 P **P** 18 59 07.6 -1.8
BRTR Keskin Array B 87.51 310 P **P** 18 59 07.8 -1.6
comp=Z,2.2nm,0.7s,baz=119,slow=4.4,SNR=14
BRTR LR LR 19 44 18.6
comp=Z,79nm,19.5s,baz=82,slow=40
BRTR Keskin Array B 87.51 310 *i* P **P** 18 59 07.6 -1.8
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 87.51 310 P **P** 18 59 06.8 -2.6
SIT Sitka 87.53 33 P 18 59 09.6

baz=281
VNDA **Vanda** 87.59 173 P **P** 18 59 08.8 +0.1
comp=Z,4.6nm,0.8s,baz=317,slow=6.5,SNR=20
VNDA LR LR 19 40 25.1
comp=Z,54nm,19.1s,baz=351,slow=37
VNDA **Vanda** 87.59 173 P **P** 18 59 08.9 +0.2
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA **Vanda** 87.59 173 P **P** 18 59 08.9 +0.2
VNDA IAmb IAmb 18 59 10.4
comp=Z,6.3nm,0.9s
FINES **FINESS Array B** 88.22 332 P **P** 18 59 11.0 -1.1
comp=Z,11nm,0.8s,baz=71,slow=5.0,SNR=31
FINES LR LR 19 43 16.1
comp=Z,129nm,18.8s,baz=72,slow=39
FINES **FINESS Array B** 88.22 332 P **P** 18 59 10.9 -1.2
SBA **Scott Base** 88.50 172 P **P** 18 59 14.5 +1.5
SBA pmax pmax
comp=Z,4.0nm,0.8s
SBA **Scott Base** 88.50 172 P **P** 18 59 14.4 +1.5
SBA IAmb IAmb 18 59 28.8
comp=Z,4.0nm,0.8s
AKASG **Malin Array Be** 88.76 321 P **P** 18 59 13.4 -1.5
comp=Z,4.2nm,0.8s,baz=65,slow=5.0,SNR=10
AKASG LR LR 19 43 42.1
comp=Z,102nm,19.5s,baz=70,slow=39
AKASG **Malin Array Be** 88.76 321 *i* P **P** 18 59 12.8 -2.1
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB **Malin Array Si** 88.76 321 *ce*P **P** 18 59 14.0 -0.9
AKBB **Malin Array Si** 88.76 321 P **P** 18 59 12.9 -2.0
AKBB IAmb IAmb 18 59 14.2
comp=Z,12nm,1.4s
MNK **Minsk** 88.80 325 *i* P **P** 18 59 13.8 -1.2
MNK *i* 19 02 39.5
MNK *i* PPP PPP 19 04 47.9
MNK *i* S **SKSac** 19 09 40.5 +0.7
MNK *i* PS **PS** 19 10 56.6 -12
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,20nm,1.4s
MNK MLR MLR
comp=Z,189nm,19.0s
MNK MLR MLR
comp=E,17nm,19.0s
MNK MLR MLR
comp=N,93nm,20.0s
MNK **Minsk** 88.80 325 *i* P **P** 18 59 13.8 -1.1
comp=E,2.0nm,0.9s
MNK *i* P **P** 18 59 13.8 -1.1
comp=N,20nm,1.4s
MNK *i* P **P** 18 59 13.8 -1.1
comp=Z,11nm,0.9s,baz=258
MNK *i* PP **PP** 19 02 39.6 -4.8
MNK *i* PPP PPP 19 04 48.0
MNK *i* S **SKSac** 19 09 40.6 +0.8
MNK *i* PS **PS** 19 10 56.6 -12
MNK *i* SS **SS** 19 15 58.9 +8.4
MNK *i* SSS SSS 19 19 34.9
MNK *i* LQ LQ 19 33 42.4
MNK *i* LR LR 19 37 15.3
MNK *i* LRM MLR 19 40 44.8
comp=Z,189nm,18.9s
MNK *i* LRM MLR 19 40 52.5
comp=E,17nm,19.3s
MNK *i* LRM MLR 19 41 07.2
comp=N,93nm,20.2s
C36M **Paulatuk** 89.14 20 P 18 59 17.8
baz=291
KMBO **Kilima Mbogo** 89.88 269 P **P** 18 59 21.0 -0.2
comp=N,3.0nm,0.9s,baz=45,slow=7.4,SNR=4.8
KMBO LR LR 19 33 34.0
comp=N,63nm,22.0s,baz=88,slow=31
KMBO **Kilima Mbogo** 89.88 269 *i* P **P** 18 59 21.2 0.0
KMBO pmax pmax
comp=Z,3.0nm,0.9s
UZH **Uzhgorod** 93.62 320 ⇑ *i*P **P** 18 59 36.9 -0.6
TAOE **Nuku Hiva Isla** 94.03 98 *e*LR LR 19 30 00.2
comp=Z,134nm,22.1s
CRVS **Cervenica-Dubn** 94.08 320 *e*P **P** 18 59 40.0 +0.4
CRVS pmax pmax
comp=Z,18nm,1.1s
CRVS **Cervenica-Dubn** 94.08 320 *e*P **P** 18 59 40.0 +0.4
NB2 **NORSAR Subarra** 95.10 334 P **P** 18 59 42.1 -2.0
baz=64,slow=4.4
NOA **NORSAR Array B** 95.10 334 P **P** 18 59 42.5 -1.6
comp=Z,1.8nm,0.7s,baz=64,slow=4.6,SNR=9.3
NOA LR LR 19 46 55.8
comp=Z,105nm,19.9s,baz=85,slow=38
YKA **Yellowknife Ar** 95.54 24 P **P** 18 59 46.1 +0.1
comp=Z,0.7nm,0.6s,baz=299,slow=4.8,SNR=3.5
YKA LR LR 19 42 19.0
comp=Z,32nm,21.8s,baz=0.0,slow=35
D03D **Eldon** 97.31 40 P 18 59 54.7
baz=290
D04E **Lakebay** 97.64 40 P 18 59 57.4
baz=291
CLL **Collm** 98.34 325 *i* Pdif **P** 18 59 58.0 -0.9
comp=Z,7.0nm,1.1s
CLL *e*PP **PP** 19 04 00.0 +1.1
CLL *e*SKSac **SKSac** 19 10 34.0 +1.7
CLL *e*Sdif **Sdif** 19 11 30.0 +7.1
CLL *e*PS **PS** 19 12 56.0 +2.1
CLL Lm MLR 19 50 00.0
comp=N,100nm,18.4s
CLL Lm MLR 19 50 00.0
comp=E,100nm,20.6s
CLL Lm MLR 19 50 00.0
comp=Z,200nm,20.4s
CLL **Collm** 98.34 325 *i* P **P** 18 59 58.0 -0.9
CLL *e* 19 10 34.0
CLL pmax pmax
comp=Z,7.0nm,1.1s
GEC2 **GERESS Array S** 98.91 322 P **P** 19 00 00.3 -1.4
GEC2 IAmb IAmb 19 00 01.9
comp=Z,3.4nm,1.0s
GERES **GERESS Array B** 98.91 322 P **P** 19 00 00.4 -1.2
comp=Z,1.6nm,0.8s,baz=76,slow=5.6,SNR=15
GERES **GERESS Array B** 98.91 322 P **P** 19 00 01.1 -0.5
GERES **GERESS Array B** 98.91 322 P **P** 19 00 01.1 -0.5
RKT **Rikitea** 100.46 112 *e*LR LR 19 33 03.9
comp=Z,195nm,28.0s
NVAR **Mina Array Bea** 103.87 47 Pdiff **Pdif** 19 00 25.5 +1.4
comp=Z,0.6nm,0.7s,baz=266,slow=7.1,SNR=4.4
RSSD **Black Hills** 110.67 37 P 19 04 54.7
baz=305
N23A **Red Feather La** 111.26 40 P 19 04 57.2
baz=302
ISCO **Idaho Springs** 112.05 41 P 19 04 58.4
baz=302
ANMO **Albuquerque** 113.95 46 P 19 05 02.3
baz=300
MNTX **Cornudas Mount** 116.32 49 P 19 05 06.4
baz=299
CBKS **Cedar Bluff** 116.38 39 P 19 05 07.1
baz=307
MSTX **Muleshoe** 117.07 45 P 19 05 07.7
baz=302
TXAR **Lajitas Array** 118.76 50 PKP **PKiKP** 19 05 11.0 +1.0
comp=Z,1.6nm,0.6s,baz=291,slow=0.4,SNR=33
TXAR PKKPbc **PKKPbc** 19 15 25.5 -0.7
comp=Z,0.8nm,0.8s,baz=116,slow=4.1,SNR=8.2
TXAR **Lajitas Array** 118.76 50 PKPdf **PKiKP** 19 05 10.5 +0.5
L40A **Anamosa** 119.17 32 PKPdf **PKPdf** 19 05 09.4 -0.9
TUL1 **Leonard** 120.64 40 P 19 05 15.2
baz=309
S39A **Bolivar** 121.01 37 PKPdf **PKPdf** 19 05 14.1 +0.1
JCT **Junction City** 121.05 47 P 19 05 15.7
baz=303
TOA0 **Torodi Ar. Sit** 121.74 291 PKPdf **PKPdf** 19 05 14.9 -1.0
TORD **Torodi Ar. Bea** 121.74 291 PKP **PKPdf** 19 05 15.6 -0.4
comp=Z,5.2nm,0.8s,baz=42,slow=2.0,SNR=29
TORD **Torodi Ar. Bea** 121.74 291 PKPdf **PKPdf** 19 05 15.1 -0.8
WHTX **Lake Whitney,** 121.88 44 P 19 05 16.6
baz=306
D56A **ZEC Mazanza, M** 121.90 17 P 19 05 16.1
baz=335
U40A **Yellville** 122.17 38 PKPdf **PKiKP** 19 05 16.6 +0.2
U40A **Yellville** 122.17 38 P 19 05 17.1
baz=312
W39A **Magazine** 122.36 39 P 19 05 17.3
baz=310
833A **Chaparral WMA,** 122.50 49 P 19 05 18.6
baz=302
MIAR **Mount Ida** 122.90 40 P 19 05 19.1
baz=310
G57A **Newington** 123.57 19 P 19 05 19.1
baz=334
F60A **Warwick** 123.67 16 P 19 05 19.1
baz=338
H57A **Richville** 124.02 19 P 19 05 19.7
baz=333
F62A **Pittston Farm,** 124.25 14 P 19 05 19.7
baz=340
G60A **Masonville** 124.37 16 P 19 05 18.4
baz=337
I57A **Carthage** 124.39 20 P 19 05 19.2
baz=333
G61A **St-Isidore-de-** 124.42 16 P 19 05 19.6
baz=338
H58A **Gabriels** 124.44 18 P 19 05 20.5
baz=335
J57A **Williamstown** 124.75 20 P 19 05 21.0
baz=332
M54A **Oil Creek Stat** 125.01 24 P 19 05 21.5
baz=328
J58A **Remsen** 125.03 20 P 19 05 21.5
baz=333
I59A **Olmsteadville** 125.10 18 P 19 05 21.5
baz=335
G64A **Maxfield** 125.14 14 P 19 05 21.5
baz=341
J59A **Piesco** 125.20 19 P 19 05 22.4
baz=334
WVT **Waverly** 125.26 34 PKIKP **PKiKP** 19 05 23.2 +0.7
WVT **Waverly** 125.26 34 PKPdf **PKiKP** 19 05 23.2 +0.7
WVT **Waverly** 125.26 34 P 19 05 22.6
baz=317
LBNH **Lisbon** 125.27 17 P 19 05 21.6
baz=337
L56A **Greenwood** 125.30 22 P 19 05 22.4
baz=330
H65A **Eastbrook** 125.79 13 P 19 05 22.6
baz=342
BINY **Binghamton** 125.82 21 P 19 05 23.0
baz=332
J62A **Henniker** 126.24 17 P 19 05 23.9
baz=337
SSPA **Standing Stone** 126.46 23 P 19 05 24.5
baz=329
O56A **Blue Knob Stat** 126.50 24 P 19 05 24.8
baz=328
PAL **Palisades** 127.59 20 P 19 05 26.5
baz=334
M64A **Tiverton** 127.95 17 P 19 05 27.0
baz=337
P60A **Greenville** 128.04 22 P 19 05 27.6
baz=332
KIC **Kosan Boka** 129.78 285 *e*PKIKP **PKPdf** 19 05 31.6 +0.2
comp=Z,11nm,0.7s
DBIC **Dimbokro** 129.81 286 PKP **PKPdf** 19 05 30.7 -0.7
comp=Z,2.9nm,0.7s,baz=74,slow=4.7,SNR=4.8
TIC **Toumodi** 129.97 286 *e*PKIKP **PKPdf** 19 05 32.1 +0.4
LIC **Lamto** 130.09 285 *e*PKIKP **PKPdf** 19 05 32.1 +0.1
comp=Z,16nm,0.7s
PLCA **Paso Flores** 143.85 157 PKP **PKPdf** 19 05 56.9 +0.2
comp=Z,2.6nm,0.6s,baz=305,slow=4.2,SNR=5.2
LPAZ **La Paz** 163.09 121 PKP **PKPdf** 19 06 24.8 -0.3
comp=Z,1.6nm,0.8s,baz=34,slow=1.1,SNR=5.8
LPAZ PKPab **PKPab** 19 07 16.9 +1.8
comp=Z,1.6nm,0.6s,baz=200,slow=3.7,SNR=4.0
LPAZ **La Paz** 163.09 121 **PKPdf** 19 06 24.0 -1.1

*IDC **11** 18:49:55.6±3.9, 12°.88N×146°.82E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/38, mbtmp3.9/5 Error ellipse: s-maj=107.2km s-min=58.8km az=177.0*
*NEIC **11** 18:50:01.2±1.9, 12°.9N±0°.2×147°.0E±0°.2, h35km±2km, mb4.2/5, Error ellipse: s-maj=39.8km s-min=14.8km az=41.0*
ISC 11 18:49:58.9±1.2, 12°.5N±0°.4×147°.0E±0°.2, h35km, n13, σ0s90/12, mb4.1/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**12.52**	**116**	Pn	**Pn**	**18 52 54.4**	**-0.2**
SONM	**Songino Array**	**48.80**	**324**	P	**P**	**18 58 39.9**	**-0.8**
	0.4nm,0.6s,baz=125,slow=7.2,SNR=1.5						
SONM	**Songino Array**	**48.80**	**324**	IAmb	IAmb	18 58 47.2	
	comp=Z,0.7nm,0.9s						
LSA	**Lhasa**	**54.31**	**298**	P	**P**	**18 59 22.8**	**+0.1**
MKAR	**Makanchi Array**	**63.69**	**316**	P	**P**	**19 00 27.3**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=93,slow=8.3,SNR=7.6						
ZALV	**Zalesovo Beam**	**63.69**	**324**	P	**P**	**19 00 25.2**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=96,slow=6.6,SNR=3.8						
KDJ	**Kajisay**	**66.75**	**311**	P	**P**	**19 00 47.6**	**+0.6**
KDJ				IAmb	IAmb	19 00 49.0	
	comp=Z,2.2nm,0.8s						
BOOM	**Boomskoye usch**	**67.69**	**311**	P	**P**	**19 00 53.5**	**+0.5**
BOOM				IAmb	IAmb	19 00 55.2	
	comp=Z,2.9nm,1.2s						
ILAR	**Eielson Array**	**68.68**	**25**	P	**P**	**19 00 59.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=257,slow=3.6,SNR=1.9						
BRVK	**Borovoye**	**72.11**	**322**	P	**P**	**19 01 20.9**	**+1.2**
BRVK				IAmb	IAmb	19 01 21.7	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**78.72**	**318**	P	**P**	**19 01 57.7**	**+0.1**
FINES	**FINESS Array B**	**93.00**	**336**	P	**P**	**19 03 07.4**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=57,slow=5.1,SNR=1.9						
DBIC	**Dimbokro**	**146.13**	**303**	PKPbc	**PKPab**	**19 09 37.3**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=16,slow=7.4,SNR=4.4						

*NEIC **11** 19:03:14.4±1.8, 12°.99N±0°.08×146°.4E±0°.1, h35km±3km, mb4.5/37, Error ellipse: s-maj=17.9km s-min=10.2km az=69.0*
*IDC **11** 19:03:16.5±0.9, 12°.93N×146°.23E, h53km±6km, mb3.7/13, mb1 3.9/13, mb1mx3.7/38, mbtmp4.0/13, MS3.6/2, Ms1 3.7/2, ms1mx2.9/37, Error ellipse: s-maj=25.1km s-min=15.0km az=94.0*
ISC 11 19:03:13.1±0.5, 12°.90N±0°.08×146°.35E±0°.1, h31km, n63, σ1s22/64, mb4.4/32, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**3.47**	**350**		**Pn**	**19 04 05.8**	**+0.8**
PATS	**Pohnpei**	**13.24**	**116**	Pn	**Pn**	**19 06 18.6**	**-0.5**
PATS				Sn	Sn	19 08 34.4	-11
SIJI	**Sorong**	**20.27**	**229**	P	**P**	**19 07 47.5**	**+1.2**
	14nm,0.9s,baz=147,slow=22,SNR=1.7						
MJAR	**Matsushiro Arr**	**24.65**	**344**	LR	LR	19 17 38.4	
	comp=Z,173nm,18.5s,baz=210,slow=35						
KSRS	**Korea Array**	**29.48**	**329**	P	**P**	**19 09 14.2**	**-0.1**
	1.6nm,0.8s,baz=144,slow=8.2,SNR=7.1						
WB0	**Warramunga Arr**	**34.53**	**200**	P	**P**	**19 09 59.2**	**+0.4**
WB0				IAmb	IAmb	19 10 14.3	
	comp=Z,9.7nm,1.1s						
WR0	**Warramunga Arr**	**34.66**	**200**	P	**P**	**19 09 59.6**	**-0.4**
WR0				IAmb	IAmb	19 10 22.6	
	comp=Z,9.3nm,1.3s						
WRAB	**Tennant Creek**	**34.70**	**200**	P	**P**	**19 09 58.9**	**-1.5**
WB2	**Warramunga Arr**	**34.71**	**200**	P	**P**	**19 09 59.1**	**-1.3**
WB2				IAmb	IAmb	19 10 06.7	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**34.71**	**200**	P	**P**	**19 10 00.9**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=24,slow=9.6,SNR=10.0						
FITZ	**Fitzroy Crossi**	**36.96**	**214**	P	**P**	**19 10 20.6**	**+0.9**
ENH	**Enshi**	**38.16**	**303**	P	**P**	**19 10 29.0**	**-1.0**
ENH				IAmb	IAmb	19 10 30.3	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**38.33**	**199**	P	**P**	**19 10 31.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=11,slow=8.3,SNR=6.5						
ASAR	**Alice Springs**	**38.33**	**199**	P	**P**	**19 10 31.5**	**+0.2**
PETK	**Petropavlovsk-**	**41.12**	**10**	P	**P**	**19 10 55.3**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=185,slow=8.4,SNR=2.0						
STKA	**Stephens Creek**	**44.76**	**186**	P	**P**	**19 11 24.6**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=321,slow=4.3,SNR=3.9						
STKA	**Stephens Creek**	**44.76**	**186**	IAmb	IAmb	19 11 25.0	
	comp=Z,1.2nm,1.1s						
CM31	**Chiang Mai Arr**	**45.87**	**283**	P	**P**	**19 11 33.0**	**0.0**
CMAR	**Chiang Mai Arr**	**45.87**	**283**	P	**P**	**19 11 33.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=87,slow=6.1,SNR=21						
CMAR				LR	LR	19 30 31.2	
	comp=Z,54nm,19.0s,baz=232,slow=36						
CMAR	**Chiang Mai Arr**	**45.87**	**283**	P	**P**	**19 11 32.6**	**-0.4**
SONM	**Songino Array**	**48.12**	**324**	P	**P**	**19 11 50.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=116,slow=5.5,SNR=4.0						
SONM				pP	**pwP**	**19 12 05.7**	**-1.9**
YAK	**Yakutsk**	**50.50**	**350**	P	**P**	**19 12 06.9**	**-1.0**
LSA	**Lhasa**	**53.59**	**297**	P	**P**	**19 12 32.8**	**+0.6**
LSA				IAmb	IAmb	19 12 49.5	
	comp=Z,3.3nm,0.7s						
BILL	**Bilibino**	**56.60**	**9**	P	**P**	**19 12 53.6**	**+0.9**
BILL				IAmb	IAmb	19 13 09.0	
	comp=Z,6.3nm,1.1s						
MK31	**Makanchi Array**	**62.98**	**316**	P	**P**	**19 13 37.8**	**+0.8**
MK31				IAmb	IAmb	19 13 53.8	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**62.98**	**316**	P	**P**	**19 13 37.4**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=94,slow=8.4,SNR=24						
MKAR	**Makanchi Array**	**62.98**	**316**	P	**P**	**19 13 36.9**	**0.0**
ZAA0	**Zalesovo Array**	**63.01**	**324**	P	**P**	**19 13 38.1**	**+1.2**
ZALV	**Zalesovo Beam**	**63.01**	**324**	P	**P**	**19 13 37.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=93,slow=8.9,SNR=3.8						
ZALV				pP	**pwP**	**19 13 51.6**	**-3.2**
	comp=Z,1.9nm,0.6s,baz=97,slow=6.2,SNR=5.7						
ZALV	**Zalesovo Beam**	**63.01**	**324**	P	**P**	**19 13 37.0**	**+0.1**
MAKZ	**Makanchi**	**63.19**	**316**	P	**P**	**19 13 38.7**	**+0.3**
PRZ	**Przheval'sk**	**65.16**	**311**	P	**P**	**19 13 51.6**	**0.0**
TARG	**Taragay, Kyrgy**	**65.53**	**310**		**P**	**19 13 54.9**	**+0.6**
TARG				IAmb	IAmb	19 13 56.4	
	comp=Z,5.8nm,1.5s						
KDJ	**Kajisay**	**66.03**	**310**	P	**P**	**19 13 57.4**	**+0.2**
KDJ				IAmb	IAmb	19 14 13.9	
	comp=Z,4.2nm,0.8s						
BOOM	**Boomskoye usch**	**66.97**	**311**	P	**P**	**19 14 03.9**	**+0.7**
BOOM				IAmb	IAmb	19 14 19.6	
	comp=Z,3.3nm,0.6s						
MLY	**Manley**	**67.08**	**24**	P	**P**	**19 14 04.8**	**+1.4**
ILAR	**Eielson Array**	**68.57**	**25**	P	**P**	**19 14 12.9**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=251,slow=5.9,SNR=5.5						
NIL	**Nilore**	**68.97**	**301**	P	**P**	**19 14 16.4**	**+0.7**
ARSB	**Arslanbob**	**69.13**	**309**	P	**P**	**19 14 17.5**	**+0.7**
ARSB				IAmb	IAmb	19 14 33.0	
	comp=Z,3.2nm,0.6s						
CTGM	**Chitina Glacie**	**70.24**	**30**	P	**P**	**19 14 22.3**	**-0.8**
CTGM				IAmb	IAmb	19 14 41.5	
	comp=Z,5.8nm,0.8s						
KK31	**Karatay Array**	**70.98**	**311**	P	**P**	**19 14 27.9**	**0.0**
KKAR	**Karatay Array**	**70.98**	**311**	P	**P**	**19 14 27.4**	**-0.6**
KKAR	**Karatay Array**	**70.98**	**311**	P	**P**	**19 14 28.1**	**+0.1**
GAR	**Garm**	**71.19**	**307**	P	**P**	**19 14 30.0**	**+0.6**
CHGR	**Chuyangaron**	**72.10**	**307**	P	**P**	**19 14 35.2**	**+0.4**
KBL	**Kabul**	**72.41**	**302**	P	**P**	**19 14 35.3**	**-1.6**
KBL				IAmb	IAmb	19 14 53.7	
	comp=Z,4.5nm,0.8s						
INK	**Inuvik**	**74.45**	**22**	P	**P**	**19 14 49.2**	**+1.2**
INK				IAmb	IAmb	19 14 51.6	
	comp=Z,6.9nm,1.5s						
DLBC	**Dease Lake**	**75.78**	**33**	P	**P**	**19 14 55.1**	**-0.8**
DLBC				IAmb	IAmb	19 14 59.5	
	comp=Z,4.0nm,0.8s						
ABKAR	**Akbulak array**	**78.01**	**318**	P	**P**	**19 15 08.5**	**-0.1**
HRA	**Herat**	**78.02**	**303**	P	**P**	**19 15 07.3**	**-1.9**
ARU	**Arti**	**78.14**	**325**	P	**P**	**19 15 08.5**	**-0.7**
ARU				IAmb	IAmb	19 15 25.3	
	comp=Z,4.9nm,0.8s						
NVAR	**Mina Array Bea**	**86.22**	**52**	P	**P**	**19 15 53.9**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=263,slow=4.2,SNR=4.6						
ELK	**Elko**	**87.95**	**49**		**P**	**19 16 00.2**	**-0.3**
ELK				IAmb	IAmb	19 16 06.2	
	comp=Z,4.6nm,1.3s						
PSUT	**Pine Spring**	**89.57**	**51**		**P**	**19 16 07.6**	**-0.6**
PSUT				IAmb	IAmb	19 16 21.4	
	comp=Z,3.5nm,0.9s						
YHL	**Hebgen Lake**	**89.65**	**44**	P	**P**	**19 16 08.3**	**-0.2**
YHL				IAmb	IAmb	19 16 14.8	
	comp=Z,2.5nm,1.1s						
PDAR	**Pinedale Array**	**91.42**	**46**	P	**P**	**19 16 14.8**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=5.2,slow=3.0,SNR=4.4						
PDAR	**Pinedale Array**	**91.42**	**46**	P	**P**	**19 16 14.2**	**-2.5**
FINES	**FINESS Array B**	**92.38**	**335**	P	**P**	**19 16 19.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=49,slow=3.7,SNR=8.6						
FINES				pP	**sP**	**19 16 34.8**	**+4.8**
	comp=Z,1.3nm,0.6s,baz=64,slow=4.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**136.43**	**305**	PKP	**PKPdf**	**19 22 33.7**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=48,slow=2.1,SNR=1.9						
DBIC	**Dimbokro**	**145.40**	**303**	PKPbc	**PKPbc**	**19 22 49.4**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=22,slow=3.7,SNR=4.6						
DBIC				pPKPbc	sPKPbc	19 23 04.5	+5.9
	comp=Z,6.1nm,0.8s,baz=88,slow=3.7,SNR=4.1						
DBIC	**Dimbokro**	**145.40**	**303**	PKPbc	**PKPbc**	**19 22 48.0**	**-1.0**
LPAZ	**La Paz**	**146.49**	**100**	PKPbc	**PKPbc**	**19 22 54.2**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=243,slow=2.3,SNR=3.0						
LPAZ	**La Paz**	**146.49**	**100**	PKPdf	**PKPdf**	**19 22 49.0**	**-2.5**

HEL 11 19:03:40.1±0.2, 67°.81N×20°.20E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.72**	**69**	PG	Pg	19 03 53.1	-0.7
LANU				SG	Sg	19 04 02.2	-0.9
KIF	**Kilpisjarvi**	**1.23**	**10**	*e*P	Pg	19 04 01.8	-1.7
KIF	**Kilpisjarvi**	**1.23**	**10**	PG	Pg	19 04 02.8	-0.8
KIF				MSG		19 04 18.2	
	comp=Z,5.4nm,0.2s						
KIF				SG	Sg	19 04 19.0	-0.4
PAJU	**Pajala**	**1.37**	**124**	PG	Pg	19 04 04.4	-1.9
HEF	**Hetta**	**1.43**	**63**	*e*P	Pn	19 04 05.5	-1.7
HEF	**Hetta**	**1.43**	**63**	PG	Pn	19 04 05.5	-1.8
HEF				MSG		19 04 23.1	
	comp=Z,5.1nm,0.2s						
HEF				SN	Sn	19 04 27.3	+0.5
KLF	**Kolari**	**1.56**	**110**	PG	Pn	19 04 08.3	-0.7
	baz=295						
KLF				SN	Sn	19 04 29.9	0.0
TOF	**Tornio**	**2.37**	**135**	PG	Pn	19 04 21.4	+1.2
	baz=317						
TOF				MSG		19 04 50.3	
	comp=Z,2.6nm,0.2s						
TOF				SG	Sb	19 04 54.0	+0.6
SGF	**Sodankyl**	**2.45**	**96**	PG	Pb	19 04 23.4	-1.5
	baz=286						
RNF	**Rovaniemi**	**2.56**	**115**	PG	Pb	19 04 25.0	-1.9
	baz=303						
RNF				SG	Sb	19 04 58.4	-0.4
ARA0	**ARCESS Array S**	**2.60**	**46**	PB	Pn	19 04 23.5	+0.1
	baz=228						

WEL 11 19:07:32.9, 41°.5±3°.×17°.5E±°, h39km±5km, M3.6/76, ML3.8/76, MLv3.6/76, Error ellipse: s-maj=0.0km s-min=0.0km az=80.1, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.11**	**157**	P	Pn	19 07 39.6	-4.1
KIW				S	Sn	19 07 44.4	-9.1
OGWZ	**Otaki Gorge**	**0.25**	**103**	P	Pn	19 07 40.8	-0.3
OGWZ				S	Sn	19 07 46.7	-1.4
CAW	**Cannon Point**	**0.38**	**155**	P	Pn	19 07 42.4	+0.6
CAW				S	Sn	19 07 50.0	+1.5
HOWZ	**Holdsworth Sta**	**0.52**	**105**	P	Pn	19 07 44.4	+0.5
HOWZ				S	Sn	19 07 53.5	+2.0
WEL	**Wellington**	**0.52**	**187**	P	Pn	19 07 44.2	+0.3
MRZ	**Mangatainoka R**	**0.56**	**80**	P	Pn	19 07 44.8	+0.3
MRZ				S	Sn	19 07 53.4	+0.8
TCW	**Tory Channel**	**0.62**	**224**	P	Pn	19 07 45.0	-0.3
MTW	**Mount Morrison**	**0.63**	**129**	P	Pn	19 07 45.8	+0.4
MTW				S	Sn	19 07 56.2	+2.0
BHW	**Baring Head**	**0.64**	**179**	P	Pn	19 07 45.9	+0.3
BHW				S	Sn	19 07 55.9	+1.3
OHWZ	**Ohakea**	**0.66**	**32**	P	Pn	19 07 46.1	+0.4
OHWZ				S	Sn	19 07 56.4	+1.6
DUWZ	**D'Urville Isla**	**0.71**	**267**	P	Pn	19 07 46.1	-0.4
DUWZ				S	Sn	19 07 55.9	-0.2
MSWZ	**Moikau Station**	**0.72**	**156**	P	Pn	19 07 46.9	+0.4
PAWZ	**Paruwai Farm**	**0.75**	**145**	P	Pn	19 07 47.4	+0.3
PAWZ				S	Sn	19 07 58.6	+1.4
TIWZ	**Tintock**	**0.78**	**91**	P	Pn	19 07 47.7	+0.3
TIWZ				S	Sn	19 07 59.4	+1.4
POWZ	**Post Office Ro**	**0.79**	**62**	P	Pn	19 07 47.8	+0.3
POWZ				S	Sn	19 07 59.4	+1.3
TMWZ	**Te Maipa**	**0.86**	**114**	P	Pn	19 07 48.5	+0.1
TMWZ				S	Sn	19 08 02.8	+3.0
PLWZ	**Palliser**	**0.86**	**160**	P	Pn	19 07 48.6	0.0
PRWZ	**Pori Road**	**0.88**	**77**	P	Pn	19 07 49.1	+0.4
PRWZ				S	Sn	19 08 02.2	+1.9
TRWZ	**Traveller**	**0.89**	**135**	P	Pn	19 07 48.9	-0.1

TUWZ	**Tuamarina**	**0.96**	**226**	P		Pn	19 07 50.1	+0.3
WAZ	**Wanganui**	**1.01**	**6**	P		Pn	19 07 51.3	+0.8
CPWZ	**Castlepoint**	**1.03**	**99**	P		Pn	19 07 51.3	+0.5
BFZ	**Birch Farm**	**1.06**	**86**	P		Pn	19 07 51.3	0.0
BFZ				S		Sn	19 08 05.1	+0.3
CMWZ	**Cape Campbell**	**1.10**	**206**	P		Pn	19 07 54.4	+2.7
CMWZ				S		Sn	19 08 10.8	+5.2
TSZ	**Takapari Road**	**1.10**	**51**	P		Pn	19 07 51.9	+0.1
TSZ				S		Sn	19 08 07.7	+2.0
DVHZ	**Dannevirke**	**1.10**	**66**	P		Pn	19 07 51.6	-0.2
DVHZ				S		Sn	19 08 06.3	+0.5
BSWZ	**Blackbirch Sta**	**1.20**	**218**	P		Pn	19 07 53.7	+0.5
NNZ	**Nelson**	**1.21**	**247**	P		Pn	19 07 53.8	+0.6
ANWZ	**Angora Road**	**1.27**	**77**	P		Pn	19 07 54.4	+0.3
ANWZ				S		Sn	19 08 10.7	+0.8
PNHZ	**Pukenui**	**1.33**	**51**	P		Pn	19 07 54.7	-0.3
LREZ	**Lake Rotokare**	**1.35**	**345**	P		Pn	19 07 56.2	+1.0
LREZ				S		Sn	19 08 14.5	+2.7
WPHZ	**Waipukurau**	**1.40**	**61**	P		Pn	19 07 56.8	+0.9
WPHZ				S		Sn	19 08 14.3	+1.2
PRHZ	**Porangahau**	**1.45**	**70**	P		Pn	19 07 56.0	-0.5
MTVZ	**Mangateitei**	**1.46**	**19**	P		Pn	19 07 57.8	+1.1
PREZ	**Palmer Road**	**1.52**	**339**	P		Pn	19 07 58.7	+1.2
MOVZ	**Moawhango**	**1.52**	**27**	P		Pn	19 07 57.8	+0.1
PKVZ	**Pokaka**	**1.52**	**15**	P		Pn	19 07 58.4	+0.8
NMEZ	**Namu Road**	**1.54**	**331**	P		Pn	19 07 59.2	+1.4
WNVZ	**Wahianoa**	**1.54**	**22**	P		Pn	19 07 59.0	+1.0
TRVZ	**Turoa**	**1.56**	**20**	P		Pn	19 07 59.3	+1.1
BHHZ	**Black Hill Sta**	**1.57**	**36**	P		Pn	19 07 58.6	+0.2
WHVZ	**Whangaehu Hut**	**1.58**	**21**	P		Pn	19 07 59.8	+1.2
FWVZ	**Far West T-bar**	**1.60**	**20**	P		Pn	19 07 59.9	+1.1
NEZ	**North Egmont**	**1.60**	**330**	P		Pn	19 07 59.7	+1.0
KHEZ	**Kahui Hut**	**1.60**	**336**	P		Pn	19 07 59.7	+1.0
KRHZ	**Kereru**	**1.61**	**47**	P		Pn	19 07 58.2	-0.7
TUVZ	**Tukino**	**1.61**	**23**	P		Pn	19 08 00.3	+1.3
VRZ	**Vera Road**	**1.64**	**357**	P		Pn	19 07 59.8	+0.7
VRZ				S		Sn	19 08 21.5	+2.5
DREZ	**Durham Road**	**1.65**	**342**	P		Pn	19 08 00.7	+1.3
DREZ				S		Sn	19 08 22.4	+3.1
NBEZ	**Newall Road No**	**1.68**	**333**	P		Pn	19 08 00.7	+1.0
NGZ	**Ngauruhoe**	**1.69**	**20**	P		Pn	19 08 01.3	+1.3
PXZ	**Pawanui**	**1.70**	**65**	P		Pn	19 07 59.6	-0.3
PXZ				S		Sn	19 08 20.7	+0.3
PKE	**Pukeiti**	**1.70**	**337**	P		Pn	19 08 01.1	+1.0
OTVZ	**Oturere**	**1.72**	**22**	P		Pn	19 08 01.6	+1.2
NNVZ	**North Ngauruho**	**1.73**	**20**	P		Pn	19 08 01.7	+1.1
MHEZ	**Mangahewa**	**1.73**	**346**	P		Pn	19 08 02.0	+1.5
MHEZ				S		Sn	19 08 25.4	+4.1
WTVZ	**West Tongariro**	**1.74**	**19**	P		Pn	19 08 01.7	+1.1
TWVZ	**Taurewa**	**1.75**	**15**	P		Pn	19 08 01.4	+0.6
ETVZ	**East Tongariro**	**1.75**	**22**	P		Pn	19 08 02.3	+1.4
QRZ	**Quartz Range**	**1.77**	**267**	P		Pn	19 08 00.9	0.0
KRVZ	**Karewarewa**	**1.77**	**20**	P		Pn	19 08 02.2	+1.1
THZ	**Tophouse**	**1.78**	**235**	P		Pn	19 08 01.4	+0.2
THZ				S		Sn	19 08 26.3	+3.8
NTVZ	**North Tongarir**	**1.78**	**21**	P		Pn	19 08 03.4	+2.2
KWHZ	**Kaweka Forest**	**1.80**	**42**	P		Pn	19 08 01.4	0.0
KAHZ	**Kahuranaki**	**1.82**	**59**	P		Pn	19 08 01.1	-0.7
KHZ	**Kahutara**	**1.92**	**210**	P		Pn	19 08 02.9	-0.2
MCHZ	**McNeill Hill**	**1.93**	**48**	P		Pn	19 08 09.6	+6.4
RITZ	**Rihia Road**	**1.94**	**24**	P		Pn	19 08 06.2	+2.8
RATZ	**Rangitukua**	**2.02**	**21**	P		Pn	19 08 07.4	+2.9
CKHZ	**Cape Kidnapper**	**2.03**	**58**	P		Pn	19 08 03.4	-1.1
BKZ	**Black Stump Fm**	**2.03**	**39**	P		Pn	19 08 08.4	+3.7
WATZ	**Wairara**	**2.16**	**19**	P		Pn	19 08 09.5	+3.1
ARHZ	**Aropaoanui**	**2.23**	**48**	P		Pn	19 08 06.3	-0.9
NMHZ	**Naumai**	**2.24**	**43**	P		Pn	19 08 14.1	+6.5
HIZ	**Hauiti**	**2.25**	**0**	P		Pn	19 08 08.5	+0.9
KUTZ	**Kaahu Road**	**2.39**	**19**	P		Pn	19 08 13.7	+4.1
MTHZ	**Maungataniwha**	**2.45**	**39**	P		Pn	19 08 15.6	+5.3
DSZ	**Denniston Nort**	**2.50**	**246**	P		Pn	19 08 11.0	0.0
RAHZ	**Arahi**	**2.52**	**44**	P		Pn	19 08 18.2	+6.9
PRRZ	**Plateau Road**	**2.56**	**28**	P		Pn	19 08 15.5	+3.7
GVZ	**Greta Valley S**	**2.59**	**211**	P		Pn	19 08 11.5	-0.8
LTZ	**Lake Taylor**	**2.79**	**223**	P		Pn	19 08 14.4	-0.6
LIRZ	**Lichensteins R**	**3.00**	**24**	P		Pn	19 08 25.3	+7.4
TOZ	**Tahuroa Road**	**3.07**	**10**	P		Pn	19 08 19.1	+0.3
MWZ	**Matawai**	**3.19**	**41**	P		Pn	19 08 18.5	-2.0
INZ	**Inchbonnie**	**3.22**	**231**	P		Pn	19 08 20.0	-0.8
OKCZ	**Okains Bay**	**3.24**	**204**	P		Pn	19 08 19.7	-1.6
MQZ	**McQueen's Vall**	**3.36**	**208**	P		Pn	19 08 20.3	-2.5
AKCZ	**Akaroa Harbour**	**3.42**	**204**	P		Pn	19 08 22.1	-1.6
RUGZ	**Raukumara Rang**	**3.55**	**39**	P		Pn	19 08 25.8	+0.2
RACZ	**Rakaia**	**3.58**	**213**	P		Pn	19 08 23.4	-2.4
MHCZ	**Mount Hutt**	**3.60**	**220**	P		Pn	19 08 25.5	-1.9
HAZ	**Te Kaha**	**3.77**	**38**	P		Pn	19 08 26.9	-1.5
WVZ	**Waitaha Valley**	**3.84**	**232**	P		Pn	19 08 29.3	-0.1
WACZ	**Wakanui South**	**3.88**	**214**	P		Pn	19 08 27.6	-2.4
WIAZ	**Waiheke Island**	**3.97**	**3**	P		Pn	19 08 32.0	+0.7
RPZ	**Rata Peaks**	**4.08**	**222**	P		Pn	19 08 38.2	+5.4
GCSZ	**Gaunt Creek Bo**	**4.23**	**231**	P		Pn	19 08 36.3	+1.6
TMZ	**Timaru**	**4.60**	**217**	P		Pn	19 08 38.4	-1.5
WCZ	**Waipu Caves**	**4.83**	**355**	P		Pn	19 08 44.2	+1.2
ODZ	**Otahua Downs**	**5.28**	**214**	P		Pn	19 08 46.4	-2.7

*IDC **11** 19:19:50.1±5.2, 10°.15S×161°.56E, h81km±37km, mb3.7/8, mb1 3.7/8, mb1mx3.5/25, mbtmp4.0/8, Error ellipse: s-maj=44.9km s-min=21.7km az=105.0*

*NEIC **11** 19:19:51.9±1.5, 10°.0S±0°.1×161°.5E±0°.1, h85km±10km, mb4.4/9, Error ellipse: s-maj=21.3km s-min=15.0km az=205.0*

ISC 11 19:19:50.6±1.0, **10°.0S**±0°.1×**161°.6E**±0°.1, **h85**km, **n20**, σ0**89**/21, **mb4.3**/11, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.69**	**291**	P		**Pn**	**19 20 19.3**	**+0.7**
	97nm,0.3s,baz=186,slow=3.9,SNR=37							
HNR				S		**Sn**	**19 20 40.3**	**+0.5**
	866nm,0.3s,baz=164,slow=20,SNR=56							
HNR				LR		LR	19 20 48.0	
	comp=Z,103nm,19.6s,baz=334,slow=33							
HNR	**Honiara**	**1.69**	**291**			**Pn**	**19 20 19.1**	**+0.5**
HNR				Sn		**Sn**	**19 20 39.0**	**-0.9**
PATS	**Pohnpei**	**17.07**	**349**	P		**Pn**	**19 23 42.5**	**-1.5**
WB0	**Warramunga Arr**	**27.93**	**247**	P		**P**	**19 25 32.9**	**-0.2**
WB0				IAmb		IAmb	19 25 38.3	
	comp=Z,10nm,1.3s							
WRA	**Warramunga Arr**	**28.03**	**246**	P		**P**	**19 25 34.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=75,slow=8.9,SNR=5.4							
STKA	**Stephens Creek**	**28.52**	**217**	P		**P**	**19 25 36.8**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=51,slow=14,SNR=2.5							
STKA	**Stephens Creek**	**28.52**	**217**	P		**P**	**19 25 39.2**	**+1.0**
AS31	**Alice Springs**	**29.65**	**239**	P		**P**	**19 25 47.9**	**-0.5**
ASAR	**Alice Springs**	**29.65**	**239**	P		**P**	**19 25 47.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=64,slow=9.8,SNR=2.9							
TOO	**Toolangi**	**31.00**	**205**	P		**P**	**19 26 01.0**	**+0.9**
TOO				IAmb		IAmb	19 26 12.8	
	comp=Z,20nm,1.4s							
KNRA	**Kununurra**	**32.43**	**257**	P		**P**	**19 26 12.4**	**-0.5**
BBOO	**Buckleboo**	**32.64**	**222**	P		**P**	**19 26 15.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**35.69**	**253**	P		**P**	**19 26 41.5**	**+0.4**
ASAJ	**Asahikawa**	**56.58**	**344**	P		**P**	**19 29 25.5**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=307,slow=5.2,SNR=5.1							
USRK	**Ussuriysk Ar.**	**60.27**	**336**	P		**P**	**19 29 50.7**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=172,slow=13,SNR=4.4							
ULN	**Ulaanbaatar**	**75.10**	**325**	P		**P**	**19 31 24.7**	**+1.1**
ULN				IAmb		IAmb	19 31 25.5	
	comp=Z,4.6nm,0.8s							
SONM	**Songino Array**	**75.45**	**325**	P		**P**	**19 31 26.6**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=145,slow=6.1,SNR=17							
SONM	**Songino Array**	**75.45**	**325**	IAmb		IAmb	19 31 27.3	
	comp=Z,3.8nm,0.7s							
ILAR	**Eielson Array**	**83.92**	**20**	P		**P**	**19 32 10.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=232,slow=4.4,SNR=3.8							
MKAR	**Makanchi Array**	**89.98**	**318**	P		**P**	**19 32 39.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=88,slow=6.2,SNR=5.1							

*IDC **11** 19:37:04.7±0.6, 28°.06N×84°.68E, h0km, mb4.1/20, mb1 4.2/23, mb1mx4.0/39, mbtmp4.1/23, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/38, Error ellipse: s-maj=19.3km s-min=13.1km az=46.0*

*DMN **11** 19:37:04.2±0.2, 28°.21N×84°.81E, h10km, Ml4.6/3, Error ellipse: s-maj=5.6km s-min=2.0km az=12.0*

*MOS **11** 19:37:04.4±1.3, 28°.13N×84°.68E, h10km, mb4.3/8, Error ellipse: s-maj=9.8km s-min=5.0km az=120.1*

*NEIC **11** 19:37:06.2±2.1, 28°.12N±0°.08×84°.69E±0°.08, h10km±4km, mb4.4/51, Error ellipse: s-maj=13.9km s-min=4.8km az=220.0*

*NDI **11** 19:37:08.1±2.8, 28°.29N×84°.83E, h10km, ML3.7, mb4.4(NEIC)*

ISC 11 19:37:06.2±0.5, **28°.05N**±0°.04×**84°.74E**±0°.02, **h13**km±3km, **n179**, σ1**973**/198, **mb4.3**/43, **22C-4D, Nepal**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GKN	**Gorkha**	**0.10**	**243**	*e*Pg		**Pg**	**19 37 08.7**	**-0.7**
GKN				*e*Sg		**Sb**	**19 37 13.7**	**+2.1**
DMN	**Daman**	**0.55**	**143**	*e*Pg		**Pg**	**19 37 16.6**	**-0.4**
DMN				*e*Sg		**Sb**	**19 37 25.6**	**0.0**
KKN	**Kakani**	**0.55**	**118**	*e*Pg		**Pg**	**19 37 15.7**	**-1.3**
KKN				*e*Sg		**Sg**	**19 37 24.0**	**-0.3**
PKIN	**Phulchoki**	**0.75**	**129**	*e*Pg		**Pg**	**19 37 19.7**	**-1.1**
PKI	**Pulchoki**	**0.76**	**128**	*e*Pg		**Pg**	**19 37 19.9**	**-1.2**
PKI				*e*Sg		**Sg**	**19 37 31.7**	**+0.6**
DANN	**Dangsing**	**0.91**	**290**	*e*Pg		**Pg**	**19 37 22.2**	**-1.7**
DANN				*e*Sg		**Sg**	**19 37 34.9**	**-1.0**
	1μm,0.3s							
GUN	**Gumba**	**1.02**	**97**	*e*Pg		**Pb**	**19 37 23.9**	**-2.0**
GUN				*e*Sg		**Sg**	**19 37 36.7**	**-2.6**
KOLN	**Koldanda**	**1.04**	**255**	*e*Pg		**Pb**	**19 37 25.7**	**-0.5**
JIRN	**Jiri**	**1.34**	**106**	*e*Pg		**Pn**	**19 37 30.1**	**-0.9**
PYUN	**Piuthan**	**1.54**	**272**	*e*Pg		**Pb**	**19 37 34.5**	**-0.3**
PYUN				*e*Sg		**Sg**	**19 37 55.3**	**-0.7**
RAMN	**Ramite**	**1.98**	**123**	*e*Pg		**Pb**	**19 37 42.9**	**+0.6**
ODAN	**Odare**	**2.64**	**116**	*e*Pg		**Pb**	**19 37 53.0**	**-0.5**
ODAN				*e*Sg		**Sb**	**19 38 27.9**	**+2.0**
	2μm,0.5s							
TAPN	**Taplejung**	**2.73**	**104**	*e*Pg		**Pb**	**19 37 54.1**	**-0.9**
TAPN				*e*Sg		**Sb**	**19 38 29.4**	**+0.9**
	712nm,0.4s							
BOK	**Bokaro**	**4.36**	**166**	*e*P		**Pn**	**19 38 15.7**	**+3.5**
LSA	**Lhasa**	**5.86**	**72**	Pn		**Pn**	**19 38 35.3**	**+2.1**
LSA				Sn		**Sn**	**19 39 41.8**	**+1.3**
LSA				SMN				
	67nm,0.6s							
LSA				SME				
	51nm,0.7s							
LSA	**Lhasa**	**5.86**	**72**	P		**Pn**	**19 38 34.7**	**+1.5**
LSA	**Lhasa**	**5.86**	**72**	Pn		**Pn**	**19 38 34.7**	**+1.5**
GUWA	**GUWAHATI**	**6.47**	**105**	*e*P		**Pn**	**19 38 43.7**	**+2.6**
GUWA				*e*S		**Sn**	**19 39 52.5**	**-2.3**
GUWA				IAML			19 39 58.8	
	comp=E,38nm,0.2s							
GUWA				IAML			19 40 00.1	
	comp=N,40nm,0.4s							
NDI	**New Delhi**	**6.66**	**277**	*e*P		**Pn**	**19 38 47.5**	**+3.8**
NDI				*e*S		**Sn**	**19 40 00.0**	**+0.6**
SHL	**Shillong**	**6.85**	**110**	P		**Pn**	**19 38 45.1**	**-1.4**
SHL	**Shillong**	**6.85**	**110**	*e*P		**Pn**	**19 38 46.9**	**+0.4**
SHL				*e*P		**Pn**	**19 38 47.0**	**+0.5**
SHL				*e*S		**Sn**	**19 40 01.5**	**-2.9**
SHL				*i* S		**Sn**	**19 40 03.0**	**-1.4**
SHL	**Shillong**	**6.85**	**110**	Pn		**Pn**	**19 38 45.1**	**-1.4**
SMLA	**Simla**	**7.27**	**297**	*e*P		**Pn**	**19 38 53.6**	**+1.5**
SMLA				IAML			19 40 20.3	
	comp=N,58nm,0.5s							
SMLA				IAML			19 40 25.5	
	comp=E,86nm,0.5s							
DHRM	**DHARAMSHALA**	**8.42**	**302**	*e*P		**Pn**	**19 39 07.0**	**-1.1**
DHRM				IAML			19 40 53.0	
	comp=N,50nm,0.3s							
DHRM				IAML			19 40 53.2	
	comp=E,75nm,0.7s							
MOKO	**MOKOCHONG**	**8.88**	**99**	*e*P		**Pn**	**19 39 14.8**	**+0.4**
MOKO				*e*S		**Sn**	**19 40 49.5**	**-4.8**
MOKO				IAML			19 40 58.5	
	comp=E,39nm,0.4s							
MOKO				IAML			19 40 59.4	
	comp=N,41nm,0.4s							
LKP	**Lekhapani**	**9.87**	**92**	*e*P		**Pn**	**19 39 28.0**	**+0.1**
CHCP	**Chirah Chowk**	**11.33**	**302**	P		**Pn**	**19 39 47.7**	**-0.1**
NIL	**Nilore**	**11.34**	**302**	P		**Pn**	**19 39 47.1**	**-0.8**
NIL	**Nilore**	**11.34**	**302**	Pn		**Pn**	**19 39 47.1**	**-0.8**
HYB	**Hyderabad**	**12.02**	**210**	*i* P		**Pn**	**19 39 56.0**	**-1.3**
HYB				*e*S		**Sn**	**19 42 05.0**	**-6.2**
KBL	**Kabul**	**14.89**	**300**	P		**Pn**	**19 40 33.5**	**-3.1**
KBL	**Kabul**	**14.89**	**300**	Pn		**Pn**	**19 40 33.5**	**-3.1**
PRZ	**Przheval'sk**	**15.30**	**342**	P		**Pn**	**19 40 40.2**	**-1.8**
PRZ				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PRZ	**Przheval'sk**	**15.30**	**342**			**Pn**	**19 40 40.2**	**-1.8**
PRZ				IAmb		IAmb	19 40 49.6	
	comp=E,9.8nm,0.6s							
KDJ	**Kajisay**	**15.34**	**338**	P		**P**	**19 40 46.6**	**-0.7**
KDJ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KDJ	**Kajisay**	**15.34**	**338**	P		**P**	**19 40 46.6**	**-0.7**
MHMT	**Maesarieng**	**15.60**	**126**	P		**P**	**19 40 53.4**	**+3.3**
	comp=Z,14nm,0.7s							
DRK	**Karamyk**	**15.66**	**320**			**Pn**	**19 40 44.3**	**-2.5**
DRK				IAmb		IAmb	19 40 56.5	
	comp=Z,14nm,0.6s							
WMQ	**Urumqi**	**15.92**	**8**	*e*P		**Pn**	**19 40 51.1**	**+1.1**
WMQ				pmax		pmax		
	comp=Z,26nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,140nm,4.3s							
CM33	**Chiang Mai Arr**	**15.94**	**122**	P		**P**	**19 40 55.0**	**+1.1**
CHTO	**Chiang Mai**	**15.94**	**122**	P		**Pn**	**19 40 50.4**	**+0.1**
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CHTO	**Chiang Mai**	**15.94**	**122**	Pn		**Pn**	**19 40 50.4**	**+0.1**
CMMT	**Chiang Mai**	**15.94**	**122**	P		**P**	**19 40 54.1**	**+0.2**
	comp=Z,7.4nm,1.2s							
CM34	**Chiang Mai Arr**	**16.07**	**122**	P		**P**	**19 40 56.0**	**+0.7**
BOOM	**Boomskoye usch**	**16.09**	**336**	P		**Pn**	**19 40 51.0**	**-1.2**
BOOM				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BOOM	**Boomskoye usch**	**16.09**	**336**			**Pn**	**19 40 51.0**	**-1.2**
CM15	**Chiang Mai Arr**	**16.15**	**123**	P		**P**	**19 41 01.0**	**+4.8**
	comp=Z,4.6nm,0.9s							
CM13	**Chiang Mai Arr**	**16.16**	**123**	P		**P**	**19 40 58.2**	**+2.0**
	comp=Z,36nmcomp=Z,5.1nm,1.0s							
CM31	**Chiang Mai Arr**	**16.16**	**123**	P		**P**	**19 41 01.2**	**+4.9**
	comp=Z,102nm,1.0s							
CM31	**Chiang Mai Arr**	**16.16**	**123**	Pn		**Pn**	**19 40 51.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.16**	**123**	Pn		**P**	**19 40 55.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=308,slow=11,SNR=24							
CMAR	**Chiang Mai Arr**	**16.16**	**123**	Pn		**Pn**	**19 40 52.7**	**-0.4**
CM02	**Chiang Mai Arr**	**16.18**	**123**	P		**P**	**19 40 58.7**	**+2.2**
CM35	**Chiang Mai Arr**	**16.18**	**122**	P		**P**	**19 40 57.0**	**+0.5**
CM01	**Chiang Mai Arr**	**16.19**	**123**	P		**P**	**19 41 02.4**	**+5.7**
	comp=Z,3.5nm,1.0s							
CM05	**Chiang Mai Arr**	**16.20**	**123**	P		**P**	**19 40 59.0**	**+2.2**
	comp=Z,32nmcomp=Z,2.8nm,0.7s							
CM09	**Chiang Mai Arr**	**16.20**	**123**	P		**P**	**19 40 59.0**	**+2.2**
	comp=Z,46nmcomp=Z,5.3nm,0.9s							
CM04	**Chiang Mai Arr**	**16.22**	**123**	P		**P**	**19 40 58.9**	**+1.9**
	comp=Z,4.9nm,0.8s							
GAR	**Garm**	**16.22**	**316**	Pn		**Pn**	**19 40 52.0**	**-2.0**
GAR				IAmb		IAmb	19 40 58.5	
	comp=Z,51nm,1.4s							
CM36	**Chiang Mai Arr**	**16.23**	**123**	P		**P**	**19 40 58.0**	**+0.9**
KMI	**Kunming**	**16.37**	**96**	P		**P**	**19 40 59.0**	**+0.2**
KMI				pmax		pmax		
	comp=Z,5.0nm,0.7s							
ARSB	**Arslanbob**	**16.38**	**327**	P		**Pn**	**19 40 52.6**	**-3.3**
ARSB				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ARSB	**Arslanbob**	**16.38**	**327**	Pn		**Pn**	**19 40 52.6**	**-3.3**
BTK	**Batken**	**16.60**	**320**	P		**Pn**	**19 40 55.9**	**-2.8**
BTK				pmax		pmax		
	comp=Z,5.0nm,0.5s							
BTK	**Batken**	**16.60**	**320**	P		**Pn**	**19 40 55.9**	**-2.8**
BTK				IAmb		IAmb	19 41 03.4	
	comp=Z,5.3nm,0.5s							
CHGR	**Chuyangaron**	**16.75**	**313**	P		**P**	**19 41 02.3**	**-0.5**
CHGR				IAmb		IAmb	19 41 04.3	
	comp=Z,48nm,1.0s							
AAK	**Ala-Archa**	**16.76**	**333**	Pn		**Pn**	**19 40 59.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=174,slow=6.2,SNR=1.8							
AAK				LR		LR	19 48 28.7	
	comp=Z,60nm,20.5s,baz=136,slow=41							
AAK	**Ala-Archa**	**16.76**	**333**	*ce*P		**Pn**	**19 41 00.5**	**-0.3**
AAK				pmax		pmax		
	comp=Z,30nm,2.5s							
AAK	**Ala-Archa**	**16.76**	**333**	Pn		**Pn**	**19 40 59.5**	**-1.3**
GTA	**Gaotai**	**16.88**	**44**	*e*P		**Pn**	**19 40 59.7**	**-2.6**
GTA				pP		P	19 41 05.6	+1.3
GTA				sP		sP	19 41 09.4	-0.7
GTA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
GTA				pmax		pmax		
	comp=Z,27nm,4.4s							
GTA				L		L		
	comp=Z,79nm,16.4s							
GTA				L		L		
	comp=Z,75nm,17.1s							
GTA				L		L		
	comp=Z,87nm,16.0s							
LZH	**Lanzhou**	**18.05**	**59**	*e*P		**P**	**19 41 20.2**	**+2.9**
LZH				pP		sP	19 41 23.5	+0.4
LZH				sP		pP	19 41 27.3	+5.7
LZH				pmax		pmax		
	comp=Z,7.0nm,1.1s							
MK31	**Makanchi Array**	**18.81**	**355**	P		**P**	**19 41 24.1**	**-1.4**
MK31				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MK31	**Makanchi Array**	**18.81**	**355**	P		**P**	**19 41 24.1**	**-1.4**
MKAR	**Makanchi Array**	**18.81**	**355**	P		**P**	**19 41 24.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=174,slow=12,SNR=42							
MKAR				LR		LR	19 49 59.6	
	comp=Z,65nm,18.4s,baz=188,slow=41							
MKAR	**Makanchi Array**	**18.81**	**355**	*i* P		**P**	**19 41 24.7**	**-0.8**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MKAR	**Makanchi Array**	**18.81**	**355**	P		**P**	**19 41 24.2**	**-1.2**
MAKZ	**Makanchi**	**18.85**	**354**	P		**P**	**19 41 24.8**	**-1.1**
MAKZ				pmax		pmax		
	comp=Z,4.0nm,0.8s							
MAKZ	**Makanchi**	**18.85**	**354**	P		**P**	**19 41 24.8**	**-1.1**
KK31	**Karatay Array**	**18.92**	**326**	P		**P**	**19 41 24.6**	**-2.1**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KK31	**Karatay Array**	**18.92**	**326**	P		**P**	**19 41 24.6**	**-2.1**
KKAR	**Karatay Array**	**18.92**	**326**	P		**P**	**19 41 23.9**	**-2.8**
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**18.92**	**326**	P		**P**	**19 41 23.9**	**-2.8**
KKAR	**Karatay Array**	**18.92**	**326**	P		**P**	**19 41 24.3**	**-2.4**
KKAR				IAmb		IAmb	19 41 29.8	
	comp=Z,3.5nm,0.9s							
CHAI	**Chaiyaphum**	**20.02**	**124**	P		Pn	19 41 42.3	+1.7
	comp=Z,4.0nm,0.7s							
HRA	**Herat**	**20.23**	**294**	P		**P**	**19 41 39.9**	**-1.4**
XAN	**Xi'an**	**21.54**	**68**	P		**P**	**19 41 55.0**	**-0.3**
XAN				pP		sP	19 42 04.1	+3.0
XAN				pmax		pmax		
	comp=Z,11nm,0.7s							
ENH	**Enshi**	**21.72**	**78**	P		**P**	**19 41 57.6**	**+0.4**
ENH				IAmb		IAmb	19 42 02.4	
	comp=Z,20nm,1.2s							
DGZ	**Jazzator, Alta**	**21.72**	**5**	*i* P		**P**	**19 41 58.0**	**+0.8**
DGZ				pmax		pmax		
	comp=Z,6.0nm,1.2s							
KURBB	**Kurchatov Arra**	**23.03**	**350**	P		**P**	**19 42 11.1**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=173,slow=9.7,SNR=29							
KURK	**Kurchatov**	**23.11**	**350**	P		**P**	**19 42 11.1**	**-0.6**
KURK	**Kurchatov**	**23.11**	**350**	P		**P**	**19 42 11.1**	**-0.6**
GEYT	**Alibeck**	**24.33**	**301**	P		**P**	**19 42 24.2**	**+0.4**
	comp=Z,3.1nm,0.9s,baz

FIA1 IAmb IAmb 19 46 25.6
comp=Z,8.2nm,1.1s
FINES FINESS Array B 50.87 328 P **P** **19 46 06.9 +0.5**
comp=Z,3.1nm,0.4s,baz=112,slow=7.9,SNR=56
FINES FINESS Array B 50.87 328 *i* P **P** **19 46 05.0 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 50.87 328 P **P** **19 46 06.6 +0.2**
PABE Paberze 50.93 320 P **P** **19 46 06.5 -0.5**
VTS Vitosha 51.18 304 ⇑P **P** **19 46 10.6 +1.3**
VTS Vitosha 51.18 304 ⇑P **P** **19 46 10.6 +1.3**
VTS Vitosha 51.18 304 P **P** **19 46 08.6 -0.7**
VTS IAmb IAmb 19 46 11.4
comp=Z,3.6nm,0.7s
KWP Kalwaria Pacla 51.32 313 P **P** **19 46 08.9 -1.2**
KWP pmax pmax
comp=Z,8.0nm,0.7s
KWP Kalwaria Pacla 51.32 313 P **P** **19 46 08.9 -1.2**
ARCES ARCESS Array B 53.35 338 P **P** **19 46 25.5 +0.6**
comp=Z,4.7nm,0.6s,baz=101,slow=7.6,SNR=22
GERES GERESS Array B 57.25 312 P **P** **19 46 53.8 +0.3**
comp=Z,0.5nm,0.4s,baz=85,slow=7.5,SNR=9.3
GERES GERESS Array B 57.25 312 P **P** **19 46 53.0 -0.4**
NOA NORSAR Array B 57.95 327 P **P** **19 46 57.9 -0.1**
comp=Z,0.5nm,0.6s,baz=111,slow=5.0,SNR=3.8
STAL STALIGIAL 58.26 309 P **P** **19 46 59.1 -1.3**
STAL IAmb IAmb 19 47 23.7
comp=Z,7.0nm,1.5s
NRCA Norcia 58.54 305 P **P** **19 47 02.5 -0.1**
NRCA IAmb IAmb 19 47 16.1
comp=Z,2.3nm,0.9s
MURB Monte Urbino 58.89 306 P **P** **19 47 05.2 +0.2**
BILL Bilibino 61.16 25 *d* *i* P **P** **19 47 21.4 +1.4**
BILL *e* *PP **sP** **19 47 25.9 -0.4**
BILL *i* *SP **pP** **19 47 27.6 +2.7**
BILL *e*SS SS 19 59 35.1 -3.2
BILL pmax pmax
comp=Z,2.0nm,0.6s
BILL MLR MLR
comp=Z,28nm,16.0s
BILL Bilibino 61.16 25 P **P** **19 47 21.0 +1.0**
BILL IAmb IAmb 19 47 27.7
comp=Z,3.8nm,0.9s
KEST Kesra 63.04 298 P **P** **19 47 34.0 +0.7**
comp=Z,2.2nm,0.6s,baz=0.0,slow=6.1,SNR=4.4
WRA Warramunga Arr 67.65 129 P **P** **19 48 04.3 +1.2**
comp=Z,0.9nm,0.4s,baz=322,slow=6.3,SNR=31
ASAR Alice Springs 69.93 132 P **P** **19 48 18.5 +1.2**
comp=Z,0.6nm,0.3s,baz=314,slow=6.1,SNR=24
ESDC Sonseca Array 71.77 306 P **P** **19 48 28.9 +0.5**
comp=Z,0.6nm,0.8s,baz=57,slow=5.5,SNR=5.0
TOLK Toolik Lake Re 75.74 18 P **P** **19 48 51.9 +0.7**
COLD Coldfoot 76.52 19 P **P** **19 48 56.7 +1.1**
COLD IAmb IAmb 19 49 03.9
comp=Z,4.0nm,1.0s
MLY Manley 77.83 21 P **P** **19 49 03.5 +0.5**
TORD Torodi Ar. Bea 77.88 279 P **P** **19 49 04.3 +0.2**
comp=Z,1.2nm,0.5s,baz=60,slow=4.3,SNR=9.6
BMAR Burnt Mountain 77.93 17 P **P** **19 49 05.2 +1.6**
I23K Minto, Yukon-K 78.18 20 P **P** **19 49 05.8 +0.9**
NEA2 Nenana 78.65 21 P **P** **19 49 07.3 -0.3**
MDM Murphy Dome 78.66 20 P **P** **19 49 08.4 +0.8**
ILAR Eielson Array 79.20 20 P **P** **19 49 11.0 +0.4**
comp=Z,1.5nm,0.6s,baz=301,slow=4.4,SNR=14
ILAR Eielson Array 79.20 20 P **P** **19 49 11.0 +0.4**
ILAR Eielson Array 79.20 20 P **P** **19 49 10.0 -0.6**
SKT Skwentna 79.60 24 P **P** **19 49 12.8 -0.1**
SKT IAmb IAmb 19 49 20.0
comp=Z,7.2nm,0.9s
BOSA Boshof 80.11 230 P **P** **19 49 16.5 +0.4**
comp=Z,2.0nm,0.8s,baz=90,slow=2.0,SNR=1.8
BOSA Boshof 80.11 230 IAmb IAmb 19 49 25.4
comp=Z,2.4nm,1.1s
STKA Stephens Creek 80.49 134 P **P** **19 49 18.7 +0.8**
comp=Z,0.8nm,0.4s,baz=333,slow=3.8,SNR=4.9
LPAZ La Paz 152.35 289 PKPbc **PKPbc** **19 57 03.3 -0.1**
comp=Z,0.8nm,0.5s,baz=104,slow=3.9,SNR=4.0

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*IDC **11** 19:56:45.1±8.0,35.23S×179.51E,h162km±83km,mb2.9/2, mb1 3.3/3,mb1mx3.1/24,mbtmp3.5/3,Error ellipse: s-maj=105.7km s-min=56.4km az=174.0*
*WEL **11** 19:56:48.4±1.1,35.13S×177.9E±1.5,h184km±22km, M3.9/18,ML4.0/10,MLv3.9/18,Error ellipse: s-maj=0.0km s-min=0.0km az=116.0*
ISC 11 19:56:49.4±1.8,35.4S±0.1×179.1E±0.2,h200km,n26, σ0s97/35,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
MXZ	**Matakaoa Point**	**2.25**	**197**	P	**Pn**	**19**	**57**	**29.6**	**-0.9**
MXZ				S	**Sn**	**19**	**58**	**01.7**	**-1.0**
WMGZ	**Waiomatatini S**	**2.48**	**193**	P	**Pn**	**19**	**57**	**32.5**	**-0.5**
HAZ	**Te Kaha**	**2.59**	**204**	P	**Pn**	**19**	**57**	**33.4**	**-0.7**
HAZ				S	**Sn**	**19**	**58**	**08.4**	**-0.8**
PKGZ	**Pakihiroa**	**2.62**	**198**	P	**Pn**	**19**	**57**	**34.3**	**-0.3**
PUZ	**Puketiti**	**2.75**	**194**	P	**Pn**	**19**	**57**	**35.3**	**-0.8**
PUZ				S	**Sn**	**19**	**58**	**12.7**	**-0.1**
RUGZ	**Raukumara Rang**	**2.81**	**204**	P	**Pn**	**19**	**57**	**36.2**	**-0.6**
TWGZ	**Tauwhareparae**	**2.92**	**198**	P	**Pn**	**19**	**57**	**39.4**	**+1.4**
KUZ	**Kuaotunu**	**3.06**	**243**	P	**Pn**	**19**	**57**	**38.5**	**-1.2**
CNGZ	**Carnagh Statio**	**3.16**	**193**	P	**Pn**	**19**	**57**	**40.6**	**-0.2**
MWZ	**Matawai**	**3.19**	**203**	P	**Pn**	**19**	**57**	**40.7**	**-0.5**
MWZ				S	**Sn**	**19**	**58**	**22.5**	**+0.5**
OPRZ	**Ohinepanea**	**3.19**	**219**	P	**Pn**	**19**	**57**	**40.7**	**-0.5**
TKGZ	**Te Karaka**	**3.20**	**198**	P	**Pn**	**19**	**57**	**40.5**	**-0.8**
TKGZ				S	**Sn**	**19**	**58**	**22.7**	**+0.6**
URZ	**Urewera**	**3.28**	**209**	P	**Pn**	**19**	**57**	**41.0**	**-1.2**
	7.3nm,0.3s,baz=127,slow=20,SNR=46								
URZ				S	**Sn**	**19**	**58**	**23.3**	**-0.5**
	4.0nm,0.3s,baz=304,slow=23,SNR=2.8								
URZ	**Urewera**	**3.28**	**209**	P	**Pn**	**19**	**57**	**41.2**	**-1.0**
RIGZ	**Rimuhau**	**3.47**	**198**	P	**Pn**	**19**	**57**	**44.2**	**-0.4**
MUGZ	**Murupara**	**3.60**	**211**	P	**Pn**	**19**	**57**	**45.7**	**-0.5**
MUGZ				S	**Sn**	**19**	**58**	**30.4**	**-0.5**
PRGZ	**Paritu Road**	**3.65**	**195**	P	**Pn**	**19**	**57**	**46.1**	**-0.7**
SNGZ	**Shannon Statio**	**3.66**	**202**	P	**Pn**	**19**	**57**	**46.0**	**-1.0**
SNGZ				S	**Sn**	**19**	**58**	**33.1**	**+0.9**
KNZ	**Kokohu**	**3.79**	**197**	P	**Pn**	**19**	**57**	**47.0**	**-1.5**
RAHZ	**Arahi**	**3.87**	**204**	P	**Pn**	**19**	**57**	**48.5**	**-1.0**
RAHZ				S	**Sn**	**19**	**58**	**37.4**	**+0.6**
MHGZ	**Mahia Peninsul**	**3.87**	**194**	P	**Pn**	**19**	**57**	**50.2**	**+0.8**
NMHZ	**Naumai**	**4.13**	**206**	P	**Pn**	**19**	**57**	**53.0**	**+0.3**
ARHZ	**Aropaoanui**	**4.21**	**203**	P	**Pn**	**19**	**57**	**52.5**	**-1.2**
ASAR	**Alice Springs**	**40.72**	**274**	P	**P**	**20**	**04**	**12.8**	**+2.1**
	0.2nm,0.5s,baz=115,slow=7.5,SNR=4.6								
WRA	**Warramunga Arr**	**42.18**	**279**	P	**P**	**20**	**04**	**23.9**	**+1.3**
	0.5nm,0.6s,baz=118,slow=7.5,SNR=7.2								
FINES	**FINESS Array B**	**148.83**	**335**	PKPbc	**PKiKP**	**20**	**16**	**11.7**	**-1.8**
	2.6nm,0.9s,baz=326,slow=4.0,SNR=2.5								

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*NEIC **11** 20:23:41.9±1.6,15.77S±0.10×173.6W±0.1,h10km±1km, mb4.7/108,Error ellipse: s-maj=18.3km s-min=16.6km az=87.0*
*NOU **11** 20:23:43.7,15.69S×173.44W,h9km,MLv5.3,Tonga Islands*
*IDC **11** 20:23:55.9±3.9,15.85S×173.64W,h126km±34km, mb4.1/13,mb1 4.4/15,mb1mx4.2/26,mbtmp4.5/15, MS3.6/20,Ms1 3.6/20,ms1mx3.5/41,Error ellipse: s-maj=25.1km s-min=15.3km az=141.0*
ISC 11 20:23:41.5±0.4,15.83S±0.07×173.53W±0.07,h10km, n241,σ0s98/210,mb4.7/66,MS3.7/21,11C-20D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC	h	m	s	ISC
NIUE	**Niue**	**4.71**	**134**	Pn	**Pn**	**20**	**24**	**54.8**	**+2.1**
NIUE				S	**Sn**	**20**	**25**	**42.6**	**-4.8**
NIUE	**Niue**	**4.71**	**134**	P	**Pn**	**20**	**24**	**55.0**	**+2.3**
MSVF	**Nonsavu**	**8.29**	**256**	P	Pn	20	25	53.8	+12
	2.0nm,0.3s,baz=95,slow=13,SNR=22								
MSVF				LR	LR	20	28	33.0	
	comp=Z,686nm,20.7s,baz=67,slow=34								
MSVF	**Nonsavu**	**8.29**	**256**		Pb	20	25	54.1	-11
KNTN	**Kanton**	**13.10**	**8**	Pn	**Pn**	**20**	**26**	**47.3**	**-0.3**
KNTN	**Kanton**	**13.10**	**8**	P	**Pn**	**20**	**26**	**47.8**	**+0.1**
RAO	**Raoul Island**	**13.96**	**196**	LR	LR	20	31	17.0	
	comp=Z,120nm,19.6s,baz=324,slow=32								
RAR	**Rarotonga**	**14.10**	**114**	P	**Pn**	**20**	**27**	**02.0**	**+0.6**
	4.5nm,0.3s,baz=259,slow=5.2,SNR=2.3								
RAR				S	Sn	20	29	26.2	-12
	1.4nm,0.3s,baz=195,slow=20,SNR=1.4								
RAR	**Rarotonga**	**14.10**	**114**	Pn	**Pn**	**20**	**27**	**01.3**	**0.0**
RAR	**Rarotonga**	**14.10**	**114**	P	**Pn**	**20**	**27**	**04.2**	**+2.9**
SANVU	**Saraoutou**	**18.56**	**269**	P	**Pn**	**20**	**27**	**59.6**	**+0.8**
SANVU					IAmb	IAmb	20	28	04.5
	comp=Z,52nm,1.0s								
DZM	**Mont Dzumac**	**19.93**	**249**	*e*LR	LR	20	32	51.5	
	comp=Z,768nm,27.9s								
DZM	**Mont Dzumac**	**19.93**	**249**	P	**Pn**	**20**	**28**	**16.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=97,slow=20,SNR=3.1								
DZM					LR	LR	20	34	57.2
	comp=Z,246nm,21.2s,baz=70,slow=33								
DZM	**Mont Dzumac**	**19.93**	**249**	P	**Pn**	**20**	**28**	**17.0**	**+1.6**
DZM					IAmb	IAmb	20	28	24.3
	comp=Z,87nm,1.5s								
DZM	**Mont Dzumac**	**19.93**	**249**	P	**Pn**	**20**	**28**	**17.5**	**+2.1**
PAE	**Paea**	**23.00**	**98**	*e*T	T	20	52	06.4	
	comp=Z,5.5nm,0.3s								
PPT	**Papeete**	**23.00**	**98**	LR	LR	20	35	13.2	
	comp=Z,90nm,19.1s,baz=244,slow=29								
PPT2	**Papeete2**	**23.00**	**98**	*e*LQ	LQ	20	33	20.0	
	comp=Z,525nm,27.0s								
PPT2					*e*LR	LR	20	34	07.4
	comp=Z,591nm,28.0s,baz=254								
PPT2	**Papeete2**	**23.00**	**98**	*e*T	T	20	52	07.2	
	comp=Z,9.0nm,0.3s								
TIAR	**Tiarei**	**23.22**	**98**	*e*T	T	20	52	22.9	
	comp=Z,2.3nm,0.3s								
URZ	**Urewera**	**23.82**	**198**	P	**P**	**20**	**28**	**56.7**	**+2.0**
	comp=Z,6.5nm,0.5s,baz=307,slow=20,SNR=2.3								
URZ					LR	LR	20	37	06.6
	comp=Z,150nm,18.8s,baz=31,slow=33								
URZ	**Urewera**	**23.82**	**198**	P	**P**	**20**	**28**	**53.8**	**-0.8**
XMAS	**Kiritimati**	**23.84**	**43**	P	**P**	**20**	**28**	**54.9**	**-0.1**
TBI	**Tubuai**	**23.85**	**112**	*e*LQ	LQ	20	33	41.8	
	comp=Z,275nm,28.0s								
TBI					*e*LR	LR	20	34	38.4
	comp=Z,588nm,28.0s								
TBI	**Tubuai**	**23.85**	**112**	*e*T	T	20	53	16.3	
	comp=Z,21nm,0.3s								
PMOR	**Pomariorio Ree**	**24.72**	**92**	*e*T	T	20	54	24.9	
	comp=Z,6.6nm,0.3s								
VAH	**Vaihoa**	**24.96**	**92**	*e*T	T	20	54	42.1	
	comp=Z,9.9nm,0.3s								
TAOE	**Nuku Hiva Isla**	**33.30**	**82**	*e*LR	LR	20	38	48.8	
	comp=Z,402nm,29.4s								
TAOE	**Nuku Hiva Isla**	**33.30**	**82**	*e*T	T	21	04	50.7	
	comp=Z,65nm,0.2s								
RKT	**Rikitea**	**36.98**	**107**	*e*LR	LR	20	40	33.2	
	comp=Z,422nm,28.5s								
RKT	**Rikitea**	**36.98**	**107**	*e*T	T	21	09	38.2	
	comp=Z,12nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**39.27**	**330**	T	T	21	12	02.0	
	baz=146,slow=75,SNR=20								
H11S3	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	21	12	03.0	
	baz=146,slow=75,SNR=24								
H11S1	**WAKE ISLAND Hy**	**39.29**	**330**	T	T	21	12	09.9	
	baz=146,slow=75,SNR=9.4								
STKA	**Stephens Creek**	**43.72**	**240**	P	**P**	**20**	**31**	**47.3**	**+0.2**
	comp=Z,10nm,0.8s,baz=74,slow=9.1,SNR=20								
STKA					LR	LR	20	47	30.0
	comp=Z,78nm,20.6s,baz=25,slow=32								
STKA	**Stephens Creek**	**43.72**	**240**	P	**P**	**20**	**31**	**46.1**	**-1.0**
BBOO	**Buckleboo**	**48.49**	**240**	P	**P**	**20**	**32**	**23.8**	**-1.0**
WRA	**Warramunga Arr**	**49.63**	**257**	P	**P**	**20**	**32**	**33.0**	**-0.6**
	comp=Z,3.8nm,0.5s,baz=96,slow=7.7,SNR=25								
AS31	**Alice Springs**	**49.86**	**252**	P	**P**	**20**	**32**	**34.3**	**-1.1**
AS31					IAmb	IAmb	20	32	36.4
	comp=Z,9.8nm,0.8s								
ASAR	**Alice Springs**	**49.86**	**252**	P	**P**	**20**	**32**	**34.8**	**-0.6**
	comp=Z,41nm,0.7s,baz=85,slow=7.5,SNR=219								
ASAR					LR	LR	20	52	32.4
	comp=Z,151nm,19.1s,baz=102,slow=34								
ASAR	**Alice Springs**	**49.86**	**252**	P	**P**	**20**	**32**	**34.0**	**-1.4**
KNRA	**Kununurra**	**55.38**	**262**	P	**P**	**20**	**33**	**14.2**	**-2.1**
KNRA					IAmb	IAmb	20	33	15.9
	comp=Z,10nm,0.8s								
FITZ	**Fitzroy Crossi**	**58.00**	**258**	LR	LR	20	56	25.9	
	comp=Z,63nm,21.9s,baz=97,slow=34								
JCJ	**Chichijima**	**60.57**	**314**	LR	LR	20	55	16.8	
	comp=Z,28nm,19.9s,baz=124,slow=31								
SOEI	**Soe**	**60.79**	**268**	P	**P**	**20**	**33**	**54.3**	**-0.1**
PSA00	**Pilbara Seismi**	**62.97**	**254**	P	**P**	**20**	**34**	**08.0**	**-0.9**
PSA00	**Pilbara Seismi**	**62.97**	**254**	P	**P**	**20**	**34**	**07.0**	**-1.8**
PSA00					IAmb	IAmb	20	34	09.1
	comp=Z,7.5nm,0.7s								
MJAR	**Matsushiro Arr**	**69.19**	**320**	P	**P**	**20**	**34**	**48.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=155,slow=4.8,SNR=3.4								
MJAR					LR	LR	20	58	51.8
	comp=Z,16nm,21.5s,baz=195,slow=30								
MJAR	**Matsushiro Arr**	**69.19**	**320**	IAmb	IAmb	20	34	54.5	
	comp=Z,1.4nm,0.8s								
JEW	**Eniwo**	**71.53**	**327**	P	**P**	**20**	**35**	**01.9**	**-0.8**
PKM	**Mcpherson Peak**	**71.70**	**44**	P		20	35	04.4	
	baz=235								
JNU	**Nakatsue**	**72.00**	**313**	P	**P**	**20**	**35**	**04.4**	**-1.3**
VES	**Vestal, Richgr**	**72.73**	**44**	P		20	35	10.4	
	baz=235								
MURC	**Murrieta**	**72.78**	**47**	P		20	35	10.4	
	baz=237								
BFSC	**Mount Baldy Ra**	**72.81**	**46**	P		20	35	10.5	
	baz=236								
EDW2	**Edwards Air Fo**	**72.93**	**45**	P		20	35	11.8	
	baz=236,SNR=6.4								
MONP2	**Monument Peak**	**72.94**	**48**	P		20	35	11.7	
	baz=238,SNR=6.5								
O02D	**Mt. Diablo Mer**	**72.99**	**38**	P		20	35	12.2	
	baz=231								
PETK	**Petropavlovsk-**	**73.00**	**342**	P	**P**	**20**	**35**	**11.2**	**0.0**
	comp=Z,2.6nm,0.6s,baz=145,slow=8.3,SNR=4.7								
PETK	**Petropavlovsk-**	**73.00**	**342**	P	**P**	**20**	**35**	**10.6**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**73.04**	**48**	P		20	35	12.2	
	baz=238								
ISA	**Isabella, Lake**	**73.04**	**44**	P	**P**	**20**	**35**	**12.6**	**+0.6**
ISA	**Isabella, Lake**	**73.04**	**44**	P		20	35	12.4	
	baz=236								
PFO	**Pinyon Flats O**	**73.30**	**47**	P	**P**	**20**	**35**	**11.6**	**-2.0**
PFO	**Pinyon Flats O**	**73.30**	**47**	P		20	35	13.6	
	baz=237								
TPFO	**Pinon Flats**	**73.30**	**47**	P		20	35	13.8	
	baz=238								
AFDM	**Forest Hills D**	**73.34**	**40**	P	**P**	**20**	**35**	**12.1**	**-1.5**
AFDM					IAmb	IAmb	20	35	15.5
	comp=Z,8.6nm,1.1s								
SWSC	**Sam W. Stewart**	**73.41**	**48**	P		20	35	14.5	
	baz=238								
LRMC	**Laurel Mtn Rad**	**73.47**	**45**	P		20	35	15.0	
	baz=236,SNR=6.6								
N02D	**Trinity Center**	**73.54**	**38**	P		20	35	15.6	
	baz=231								
M02C	**Callahan**	**73.71**	**37**	P		20	35	15.6	
	baz=231								
CWC	**Cottonwood Cre**	**73.74**	**44**	P		20	35	16.2	
	baz=236								
MDPB	**Devils Postpil**	**73.77**	**42**	P	**P**	**20**	**35**	**15.8**	**-0.6**
MDPB					IAmb	IAmb	20	35	18.0
	comp=Z,12nm,1.2s								
YSS	**Yuzh-Sakhalins**	**73.80**	**330**	P	**P**	**20**	**35**	**15.0**	**-1.0**
BELC	**Belle Mtn. Jos**	**73.83**	**47**	P		20	35	16.9	
	baz=238,SNR=6.7								
GSC	**Goldstone, Bar**	**73.97**	**45**	P		20	35	17.1	
	baz=237								
GSC	**Goldstone, Bar**	**73.97**	**45**	P	**P**	**20**	**35**	**16.6**	**-0.9**
GSC					IAmb	IAmb	20	35	18.9
	comp=Z,11nm,1.1s								
BC3	**Big Chuckawall**	**74.03**	**47**	P		20	35	18.1	
	baz=238,SNR=5.4								
HEC	**Hector,Ludlow**	**74.04**	**46**	P		20	35	17.8	
	baz=237,SNR=8.2								
WAKR	**Walker**	**74.05**	**41**	P	**P**	**20**	**35**	**16.6**	**-1.4**
WAKR					IAmb	IAmb	20	35	19.8
	comp=Z,13nm,1.2s								
K02D	**Willamette Mer**	**74.08**	**36**	P		20	35	18.0	
	baz=230								
GLA	**Glamis**	**74.17**	**48**	P		20	35	19.3	
	baz=239								
GLA	**Glamis**	**74.17**	**48**	P	**P**	**20**	**35**	**18.7**	**+0.1**
GLA					IAmb	IAmb	20	35	21.1
	comp=Z,8.9nm,0.9s								
BEKR	**Beckworth**	**74.27**	**40**	P	**P**	**20**	**35**	**18.8**	**-0.4**
BEKR					IAmb	IAmb	20	35	20.7
	comp=Z,9.3nm,1.0s								
PNTR	**Pine Nut**	**74.28**	**41**	P	**P**	**20**	**35**	**19.6**	**+0.2**
VCNR	**Virginia City**	**74.38**	**41**	P	**P**	**20**	**35**	**18.4**	**-1.5**
VCNR					IAmb	IAmb	20	35	24.3
	comp=Z,18nm,1.5s								
YERR	**Yerington**	**74.45**	**41**	P	**P**	**20**	**35**	**19.7**	**-0.6**
YERR					IAmb	IAmb	20	35	21.8
	comp=Z,12nm,1.1s								
GMRC	**Granite Mounta**	**74.49**	**46**	P		20	35	20.7	
	baz=238,SNR=5.4								
LHV	**Little Huntoon**	**74.50**	**42**	P	**P**	**20**	**35**	**19.9**	**-0.3**
LHV					IAmb	IAmb	20	35	22.4
	comp=Z,14nm,1.1s								
IRM	**Iron Mountain**	**74.52**	**47**	P		20	35	21.1	
	baz=238,SNR=9.2								
GRAC	**Grapevine Rang**	**74.53**	**44**	P		20	35	21.1	
	baz=236								
M04C	**Macdoel**	**74.55**	**38**	P		20	35	21.6	
	baz=232								
L04D	**Klamath Falls**	**74.55**	**37**	P		20	35	20.9	
	baz=231								
FURC	**Furnace Creek,**	**74.57**	**44**	P		20	35	21.2	
	baz=236								
TUQ	**Turquoise Moun**	**74.65**	**46**	P		20	35	21.6	
	baz=237								
SHOC	**Shoshone, Teco**	**74.66**	**45**	P		20	35	21.6	
	baz=237								
RYN	**Ryan**	**74.70**	**42**	P	**P**	**20**	**35**	**21.0**	**-0.7**
RYN					IAmb	IAmb	20	35	23.3
	comp=Z,10.0nm,1.1s								
NVAR	**Mina Array Bea**	**74.73**	**42**	P	**P**	**20**	**35**	**22.8**	**+0.8**
	comp=Z,7.4nm,1.0s,baz=229,slow=9.1,SNR=30								
NVAR					LR	LR	21	00	19.5
	comp=Z,50nm,20.3s,baz=270,slow=29								
NVAR	**Mina Array Bea**	**74.73**	**42**	P	**P**	**20**	**35**	**21.7**	**-0.3**
PAHR	**Pah Rah Range**	**74.78**	**40**	P	**P**	**20**	**35**	**22.1**	**0.0**
PAHR					IAmb	IAmb	20	35	23.8
	comp=Z,9.1nm,1.1s								
113A	**Mohawk Valley,**	**74.79**	**49**	P	**P**	**20**	**35**	**20.6**	**-1.6**
113A					IAmb	IAmb	20	35	23.6
	comp=Z,7.4nm,0.9s								
NV11	**Mina Array Sit**	**74.82**	**42**	P	**P**	**20**	**35**	**21.7**	**-0.7**
NV11					IAmb	IAmb	20	35	24.1
	comp=Z,14nm,1.1s								
214A	**Organ Pipe Nat**	**75.08**	**50**	P		20	35	24.3	
	baz=240								
214A	**Organ Pipe Nat**	**75.08**	**50**	P	**P**	**20**	**35**	**24.1**	**+0.2**
214A					IAmb	IAmb	20	35	25.6
	comp=Z,11nm,1.2s								
K04D	**Chiloquin, OR**	**75.12**	**37**	P		20	35	24.7	
	baz=231								
KVN	**Kaiserville**	**75.21**	**42**	P	**P**	**20**	**35**	**24.8**	**+0.1**
KVN					IAmb	IAmb	20	35	26.2
	comp=Z,11nm,1.1s								
TPH	**Tonopah**	**75.23**	**43**	P	**P**	**20**	**35**	**25.2**	**+0.4**
TPNV	**Topopah Spring**	**75.25**	**44**	P	**P**	**20**	**35**	**24.7**	**-0.2**
TPNV					IAmb	IAmb	20	35	26.6
	comp=Z,13nm,1.4s								
TPNV	**Topopah Spring**	**75.25**	**44**	P		20	35	25.2	
	baz=237								
PDMCI	**Parker Dam,Lak**	**75.30**	**47**	P		20	35	25.3	
	baz=239								
J04D	**Umpqua Nationa**	**75.31**	**36**	P		20	35	25.7	
	baz=231								
K05A	**Summer Lake**	**75.69**	**37**	P	**P**	**20**	**35**	**27.2**	**-0.2**
SHPR	**Sheep Range**	**75.75**	**45**	P	**P**	**20**	**35**	**28.3**	**+0.5**
H04D	**Lebanon**	**75.77**	**35**	P		20	35	28.3	
	baz=230								
W13A	**Hualapai Mount**	**75.89**	**47**	P	**P**	**20**	**35**	**28.5**	**-0.2**
W13A					IAmb	IAmb	20	35	30.4
	comp=Z,6.9nm,1.0s								
Y14A	**Wickenburg**	**75.93**	**48**	P	**P**	**20**	**35**	**28.2**	**-0.5**
Y14A					IAmb	IAmb	20	35	30.3
	comp=Z,10nm,1.0s								
PRN	**Pahroc Range**	**76.30**	**44**	P	**P**	**20**	**35**	**30.8**	**-0.1**
PRN					IAmb	IAmb	20	35	32.9
	comp=Z,14nm,1.3s								
PINE	**Pine Mountain**	**76.32**	**36**	P	**P**	**20**	**35**	**31.2**	**+0.3**
KSRS	**Korea Array**	**76.38**	**316**	P	**P**	**20**	**35**	**31.0**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=123,slow=5.5,SNR=2.9								
KSRS					LR	LR	21	08	30.5
	comp=Z,20nm,18.5s,baz=192,slow=35								
R11A	**Troy Canyon, C**	**76.45**	**43**	P	**P**	**20**	**35**	**31.3**	**-0.5**
R11A	**Troy Canyon, C**	**76.45**	**43**	P		20	35	31.9	
	baz=237,SNR=7.3								
TUC	**Tucson**	**76.75**	**51**	P	**P**	**20**	**35**	**34.0**	**+0.5**
TUC					IAmb	IAmb	20	35	35.5
	comp=Z,6.9nm,0.9s								
TUC	**Tucson**	**76.75**	**51**	P		20	35	33.9	
	baz=242								
WVOR	**Wild Horse Val**	**76.84**	**38**	P	**P**	**20**	**35**	**33.5**	**-0.3**
WVOR					IAmb	IAmb	20	35	35.3
	comp=Z,7.1nm,1.1s								
G05D	**Wamic, OR**	**77.00**	**35**	P		20	35	35.1	
	baz=231								

baz=203
HVU Hansel Valley 80.11 41 P P 20 35 51.4 -0.5
KLU Klutina 80.13 13 P 20 35 51.2
baz=207
SRU San Rafael Swe 80.23 45 P P 20 35 52.6 -0.1
NJ2 Nanjing 80.33 307 eP P 20 35 54.4 +1.3
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
N25K Chitina, Valde 80.53 14 P 20 35 53.2
baz=208
N25K Chitina, Valde 80.53 14 P P 20 35 53.5 -0.2
MNTX Cornudas Mount 80.58 53 P 20 35 53.6
baz=245
MNTX Cornudas Mount 80.58 53 P P 20 35 54.4 -0.2
MNTX IAmb IAmb 20 35 56.1
comp=Z,9.4nm,1.2s
M24K Tolsona, Glenn 80.63 13 P 20 35 53.6
baz=207
BNM Baren Site 80.69 51 P P 20 35 55.1 -0.2
WAT6 Susitna Watana 80.74 12 P 20 35 54.4
baz=205
WAT2 Susitna Watana 80.92 11 P 20 35 55.2
baz=204
TX31 Lajitas Ar. Si 80.95 56 P P 20 35 56.6 0.0
TX32 Lajitas Array 80.95 56 P P 20 35 56.5 -0.2
TX32 IAmb IAmb 20 35 58.6
comp=Z,12nm,1.3s
TXAR Lajitas Array 80.95 56 P P 20 35 57.3 +0.6
comp=Z,4.3nm,1.0s,baz=224,slow=5.2,SNR=29
TXAR LR LR 21 04 57.3
comp=Z,26nm,20.5s,baz=0.0,slow=30
TXAR Lajitas Array 80.95 56 P P 20 35 56.5 -0.2
TRF Thorofare Moun 81.07 10 P 20 35 55.5
baz=203
TRF Thorofare Moun 81.07 10 P P 20 35 57.0 +0.4
TRF IAmb IAmb 20 36 00.9
comp=Z,6.8nm,1.0s
ANMO Albuquerque 81.17 50 P 20 35 56.8
baz=244
ANMO Albuquerque 81.17 50 P P 20 35 57.9 +0.1
ANMO IAmb IAmb 20 35 59.5
comp=Z,10nm,1.4s
TNA Tin City 81.25 2 P 20 35 57.8
baz=186
RND Reindeer 81.28 11 P P 20 35 58.7 +1.1
RND IAmb IAmb 20 36 01.6
comp=Z,5.2nm,0.7s
CN2 Changchun 81.34 320 eP P 20 35 58.0 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 81.55 13 P 20 35 58.1
baz=207
BPAW Bear Paw Mtn. 81.55 10 P 20 35 58.6
baz=202
MCK McKinley 81.56 11 P 20 35 58.3
baz=204
MCK McKinley 81.57 11 P P 20 35 58.3 -0.8
MCK IAmb IAmb 20 36 01.5
comp=Z,8.2nm,0.8s
MCMT McKenzie Canyo 81.66 39 P P 20 35 60.0 -0.3
S22A 4UR Ranch, Cre 82.15 47 P 20 36 02.3
baz=243
NEA2 Nenana 82.33 10 P 20 36 02.4
baz=204
NEA2 Nenana 82.33 10 P P 20 36 04.2 +1.2
WRH Wood River Hil 82.39 11 P P 20 36 02.2 -1.1
L27K Beaver Creek, 82.43 14 P 20 36 03.1
baz=211
MLY Manley 82.46 10 P 20 36 02.9
baz=202,SNR=7.7
MLY Manley 82.46 10 P P 20 36 02.6 -1.2
MLY IAmb IAmb 20 36 05.9
comp=Z,4.2nm,0.8s
HDA Harding Lake 82.55 11 P 20 36 03.2
baz=206
HDA P 20 36 03.2
baz=206
HDA Harding Lake 82.55 11 P P 20 36 03.3 -0.9
HDA IAmb IAmb 20 36 07.0
comp=Z,7.2nm,0.8s
FLWY Flagg Ranch 82.60 40 P P 20 36 04.1 -1.1
FLWY IAmb IAmb 20 36 06.8
comp=Z,5.4nm,1.0s
CCB Clear Creek Bu 82.61 11 P P 20 36 03.5 -1.0
BW06 Boulder Array 82.66 42 P 20 36 04.6
baz=241
BW06 Boulder Array 82.67 42 P P 20 36 05.2 -0.3
PD31 Pinedale Array 82.67 42 P P 20 36 04.7 -0.9
PDAR Pinedale Array 82.67 42 P P 20 36 05.7 +0.1
comp=Z,2.5nm,0.9s,baz=219,slow=3.8,SNR=17
PDAR LR LR 21 04 12.3
comp=Z,30nm,21.9s,baz=251,slow=29
PDAR Pinedale Array 82.67 42 P P 20 36 04.7 -0.9
YHL Hebgen Lake 82.69 39 P P 20 36 06.0 +0.3
SMCO Snowmass 82.70 46 P P 20 36 05.8 -0.2
SMCO IAmb IAmb 20 36 06.9
comp=Z,3.7nm,0.8s
H21K Melozitna Rive 82.73 9 P 20 36 05.4
baz=200
SCRK Sand Creek 82.75 13 P 20 36 05.0
baz=209,SNR=6.6
SCRK Sand Creek 82.75 13 P P 20 36 04.5 -0.9
SCRK IAmb IAmb 20 36 07.8
comp=Z,3.4nm,0.7s
I23K Minto, Yukon-K 82.79 10 P 20 36 05.1
baz=203
I23K Minto, Yukon-K 82.79 10 P P 20 36 04.2 -1.2
MDM Murphy Dome 82.81 11 P P 20 36 04.3 -1.3
H17A Grant Village 82.83 40 P 20 36 06.7
baz=240
YHH Holmes Hill 82.86 40 P P 20 36 07.8 +1.1
IL31 82.89 11 P P 20 36 04.8 -1.1
ILAR Eielson Array 82.89 11 P P 20 36 05.5 -0.5
comp=Z,2.4nm,0.8s,baz=227,slow=6.1,SNR=22
ILAR Eielson Array 82.89 11 P P 20 36 04.5 -1.4
IMAR Indian Mountai 82.91 8 P P 20 36 05.7 -0.3
SDCO Great Sand Dun 83.09 48 P 20 36 07.1
baz=244
SDCO Great Sand Dun 83.09 48 P P 20 36 07.6 -0.4
POKR Poker Plat Res 83.10 11 P 20 36 06.3
baz=205
POKR Poker Plat Res 83.10 11 P P 20 36 05.5 -1.6
K27K Chicken 83.21 13 P 20 36 07.6
baz=210
HRY Holter Researc 83.26 38 P P 20 36 08.4 -0.1
H23K Yukon River 83.39 10 P 20 36 08.6
baz=203
MSTX Muleshoe 83.52 52 P 20 36 09.9
baz=246
MSTX Muleshoe 83.52 52 P P 20 36 09.7 -0.4
T25A Trinidad 83.61 49 P 20 36 10.2
baz=245
H24K Noodor Dome 83.68 10 P 20 36 10.0
baz=205
DAWY Dawson 83.87 14 P P 20 36 10.9 -0.1
DAWY IAmb IAmb 20 36 18.6
comp=Z,7.4nm,1.1s
Q24A Divide 83.87 47 P 20 36 11.3
baz=244
ISCO Idaho Springs 83.92 46 P 20 36 12.0
baz=244
RLMT Red Lodge 84.00 40 P 20 36 12.4
baz=241
RDOG Red Dog Mine 84.01 4 P 20 36 12.3
baz=190
833A Chaparral WMA, 84.03 59 P 20 36 12.3
baz=248
N23A Red Feather La 84.17 45 P 20 36 13.3
baz=243
COLD Coldfoot 84.58 9 P 20 36 15.1
baz=203
COLD Coldfoot 84.58 9 P P 20 36 14.3 -0.3
COLD IAmb IAmb 20 36 18.3
comp=Z,5.3nm,1.0s
H03S2 Juan Fernandez 85.07 124 T T 22 10 15.3
baz=252,slow=75,SNR=5.2
H03S1 Juan Fernandez 85.08 124 T T 22 10 18.4
baz=252,slow=75,SNR=4.0
H03S3 Juan Fernandez 85.08 124 T T 22 10 13.5
baz=252,slow=75,SNR=3.1
ABTX Abilene, Hawle 85.41 54 P 20 36 19.4
baz=248
ABTX Abilene, Hawle 85.41 54 P P 20 36 19.0 -0.6
BMAR Burnt Mountain 85.69 11 P P 20 36 19.4 -0.8
TOLK Toolik Lake Re 85.98 9 P 20 36 21.8
baz=203
TOLK Toolik Lake Re 85.99 9 P P 20 36 22.2 +0.6
TOLK IAmb IAmb 20 36 24.9
comp=Z,4.7nm,1.0s
EPYK Eagle Plains 86.41 14 P 20 36 23.4
baz=215
LAO LASA Array 86.61 40 P 20 36 25.4
baz=243
MAW Mawson 87.35 199 P P 20 36 27.6 -0.8
comp=Z,1.7nm,0.6s,baz=129,slow=6.5,SNR=2.4
CROK Carrier 88.11 51 P P 20 36 30.5 -2.1
INK Inuvik 88.71 14 P 20 36 35.1
baz=218
PLCA Paso Flores 89.31 132 LR LR 21 07 56.3
comp=Z,62nm,19.3s,baz=185,slow=30
KMI Kunming 91.10 296 ⇓P P 20 36 50.1 +2.9
KMI pP sP 20 36 59.1 +8.0
KMI pmax pmax
comp=Z,3.0nm,0.5s
SYO Syowa Base 92.16 191 ⇓eP P 20 36 52.0 +1.1
CMAR Chiang Mai Arr 92.63 288 P P 20 36 54.6 +0.5
comp=Z,1.0nm,0.6s,baz=88,slow=3.0,SNR=11
CMAR LR LR 21 18 13.0
comp=Z,7.4nm,18.6s,baz=265,slow=35
CMAR Chiang Mai Arr 92.63 288 P P 20 36 53.5 -0.6
CHTO Chiang Mai 92.73 289 P P 20 36 54.1 -0.5
CHTO IAmb IAmb 20 36 58.5
comp=Z,2.7nm,0.8s
ULM Lac du Bonnet 94.34 39 LR LR 21 11 47.2
comp=Z,35nm,21.5s,baz=219,slow=30
SONM Songino Array 95.08 318 LR LR 21 19 06.0
comp=Z,16nm,19.1s,baz=108,slow=35
LPAZ La Paz 99.78 110 LR LR 21 13 10.2
comp=Z,31nm,21.6s,baz=211,slow=30
ARCES ARCESS Array B 125.02 352 PKP PKPdf 20 42 40.3 -1.1
comp=Z,2.6nm,0.8s,baz=11,slow=1.5,SNR=11
FINES FINESS Array B 132.33 347 PKP PKPdf 20 42 54.0 -1.5
comp=Z,1.8nm,0.8s,baz=99,slow=1.8,SNR=2.5
CLL Collm 144.22 353 ePKPdf PKPbc 20 43 16.0 +0.3
comp=Z,4.0nm,0.7s
CLL e 20 43 23.0
CLL Collm 144.22 353 ePKPab PKPbc 20 43 16.8 +1.1
baz=8.3,slow=3.3
KOLS Kolonicke sedl 144.54 342 ePKP PKPdf 20 43 19.2 +0.9
DPC Dobruska-Polom 144.66 349 ePKP PKPab 20 43 17.3 +0.2
CRVS Cervenica-Dubn 144.81 343 ePKP PKPdf 20 43 20.0 +1.2
CRVS e 20 43 34.0
KRLC Kraliky 144.84 348 ePKP PKPab 20 43 17.0 -0.8
MORC Moravsky Berou 144.97 347 ⇓P PKPbc 20 43 18.6 +0.3
MORC Moravsky Berou 144.97 347 ePKP PKPab 20 43 18.0 -0.2
LANS Liptovska Anna 145.11 345 ePKP PKPdf 20 43 19.6 +0.3
PLN Plauen 145.13 354 ePKPab PKPdf 20 43 19.8 +0.5
baz=8.3,slow=3.3
TANN Tannenbergstha 145.16 353 ePKPab PKPdf 20 43 19.9 +0.5
baz=8.3,slow=3.3
GUNZ Gunzen 145.23 353 ePKPab PKPdf 20 43 20.1 +0.6
baz=8.3,slow=3.3
KMBO Kilima Mbogo 145.24 244 PKPbc PKPbc 20 43 20.6 +0.1
comp=Z,2.9nm,0.8s,baz=153,slow=4.5,SNR=6.9
MEM Membach 145.31 1 dPKiKP PKPdf 20 43 20.8 +1.3
PRU Pruhonice 145.31 351 ePKP PKPbc 20 43 18.6 -0.7
ARCR ARCALIA 145.48 338 ⇑P PKPab 20 43 20.4 +0.2
BCLA Clavier 145.49 1 dPKiKP PKPab 20 43 21.3 +1.3
BCLA dsPKiKP sPKiKP 20 43 39.1 +11
BGES Gesves 145.52 2 dPKiKP PKPab 20 43 21.2 +1.1
CFR Carcaliu 145.52 333 ⇑P PKPbc 20 43 20.0 -0.1
ODBI Odobesti 145.53 334 ⇑P PKPab 20 43 21.0 +0.6
VRI Vrincioaia 145.58 335 ⇑P PKPdf 20 43 20.1 -0.1
BMRD Maredsous 145.59 2 dPKiKP PKPab 20 43 22.2 +1.7
BMRD dsPKiKP sPKiKP 20 43 39.7 +12
VRAC Vranov 145.60 348 ⇑P PKPdf 20 43 19.5 -0.6
VRAC Vranov 145.60 348 ePKP PKPbc 20 43 20.6 +0.3
PLOR Plostina 145.62 335 ⇑P PKPdf 20 43 20.0 -0.3
MANZ Manzenberg 145.63 354 ePKPab PKPab 20 43 21.3 +0.7
baz=8.3,slow=3.3
JAVC Velka Javorina 145.81 347 ePKP PKPab 20 43 21.9 +0.5
ROTZ Rotzenmuhle 145.83 353 ePKPab PKPab 20 43 22.2 +0.8
baz=8.3,slow=3.3
KRUC Moravsky 145.88 348 ePKP PKPdf 20 43 21.0 +0.4
VYHS Vyhne 145.88 345 ePKP PKPab 20 43 22.8 +1.2
TIRR Tirgusor 145.96 331 ⇓P PKPdf 20 43 21.2 +0.4
HARR Harsova 146.00 332 ⇑P PKPbc 20 43 22.0 +0.4
GRF Grafenberg Arr 146.01 354 ePKPab PKPab 20 43 23.0 +0.9
baz=8.3,slow=3.3
GRF epPKPab sPKPab 20 43 40.6 +15
MILB Miltenberg 146.01 357 epPKPab PKPab 20 43 22.6 +0.6
DOPR Dopca 146.03 336 ⇓P PKPab 20 43 22.4 +0.1
TLBR Topalu 146.06 332 ⇓P PKPbc 20 43 22.1 +0.3
SMOL Smolenice 146.19 347 ePKP PKPab 20 43 24.2 +1.5
MLR Muntele Rosu 146.21 335 ⇓P PKPbc 20 43 22.7 +0.3
WLF Walferdange 146.25 0 dPKiKP PKPab 20 43 24.3 +1.3
WLF dsPKiKP sPKiKP 20 43 42.4 +13
KHC Kasperske Hory 146.28 352 ePKP PKPbc 20 43 22.9 +0.5
KHC ex x 20 43 40.0
MODS Modra-Piesok 146.35 347 ePKP PKPab 20 43 23.7 +0.3
MODS e 20 43 43.1
BRTR Keskin Array B 146.41 320 PKPbc PKPdf 20 43 22.5 +0.5
comp=Z,4.7nm,0.8s,baz=97,slow=2.1,SNR=27
BRTR Keskin Array B 146.41 320 PKPdf PKPdf 20 43 21.6 -0.4
CKRC Cesky Krumlov 146.48 351 ePKP PKPab 20 43 24.6 +0.7
GERES GERESS Array B 146.55 351 PKPbc PKPdf 20 43 22.5 +0.6
comp=Z,1.2nm,0.7s,baz=34,slow=3.4,SNR=9.5
GERES GERESS Array B 146.55 351 PKPdf 20 43 21.3 -0.6
VOIR 146.61 336 ⇓P PKPbc 20 43 23.7 +0.2
KALB Balgarevo 146.75 330 ⇓P PKiKP 20 43 31.8 +5.2
ARR Arges 146.83 336 ⇑P PKPab 20 43 25.1 -0.4
CONA Conrad Observa 147.07 348 eP PKPab 20 43 27.0 +0.7
comp=Z,6.0nm,1.0s
SIRR Siria 147.11 340 ⇑P PKPbc 20 43 24.2 -0.6
MOA Molln 147.43 350 eP PKPab 20 43 27.6 0.0
comp=Z,4.3nm,1.1s
GZR Gura Zlata 147.49 338 ⇑P PKPbc 20 43 25.1 -1.0
BZS Buzias 147.69 340 ⇓P PKPbc 20 43 26.7 +0.2
HERR Herculane 148.06 338 ⇓P PKPbc 20 43 27.5 0.0
RETA Reutte 148.24 354 P PKiKP 20 43 30.3 +0.6
comp=Z,3.0nm,1.1s
MOTA Moosalm 148.34 354 eP PKiKP 20 43 30.0 0.0
comp=Z,6.5nm,0.9s
WTTA Wattenberg 148.37 353 eP PKiKP 20 43 30.1 0.0
comp=Z,3.5nm,0.6s
MDVR Moldovita 148.40 339 ⇓P PKPdf 20 43 25.8 +0.8
SOKA Soboth 148.43 349 eP PKiKP 20 43 30.0 -0.2
comp=Z,4.9nm,1.1s
DAVA Damuels 148.51 356 eP PKiKP 20 43 30.5 +0.1
comp=Z,7.5nm,1.0s
FRGS Fruska Gora 148.68 342 ⇑P PKPbc 20 43 29.6 +0.5
FETA Feichten 148.70 354 eP PKiKP 20 43 31.4 +0.6
comp=Z,5.5nm,1.1s
MYKA Terra Mystica 148.72 350 i P PKiKP 20 43 30.3 -0.4
comp=Z,4.2nm,0.9s
ABTA Abfaltersbach 148.77 352 eP PKiKP 20 43 30.5 -0.3
comp=Z,4.6nm,0.8s
ESDC Sonseca Array 154.55 19 PKPbc PKPbc 20 43 42.3 -0.6
comp=Z,0.4nm,0.6s,baz=329,slow=4.5,SNR=2.9
ESDC PKPab PKPab 20 43 57.1 -0.2
comp=Z,0.6nm,0.7s,baz=316,slow=3.5,SNR=3.3
TORD Torodi Ar. Bea 174.66 119 PKP PKPdf 20 43 51.9 -0.6
comp=Z,0.2nm,0.4s,baz=321,slow=0.9,SNR=3.9
TORD PKPab PKPab 20 45 25.8 -0.4
comp=Z,0.2nm,0.4s,baz=257,slow=4.7,SNR=3.9

IDC 11 20:26:11.5±5.4, 5°02S×132°68E, h0km, mb3.7/1, mb 4.1/3, mb1mx3.6/23, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=341.0km s-min=32.1km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.92	174	Pn	Pn	20 29 42.5	-1.3
	0.2nm,0.3s,baz=354,slow=13,SNR=12						
WRA				Sn	Sn	20 32 25.0	-5.0
	0.3nm,0.3s,baz=0.4,slow=22,SNR=7.5						
ASAR	Alice Springs	18.57	176	P	Pn	20 30 30.6	+0.2
	0.2nm,0.3s,baz=354,slow=11,SNR=22						
MKAR	Makanchi Array	68.09	325	P	P	20 37 13.2	0.0
	0.7nm,0.8s,baz=128,slow=8.0,SNR=3.9						

NEIC 11 20:47:60.0±1.8, 20°49S×0°05×69°0W±0°1, h131km±9km, Error ellipse: s-maj=16.1km s-min=6.8km az=86.0
VAO 11 20:47:59.6±0.3, 20°52S×68°02W, h10km, mb4.3
GUC 11 20:48:00.7±0.6, 20°47S×68°76W, h109km±3km, ML3.9
IDC 11 20:48:00.5±1.6, 20°54S×68°58W, h130km±17km, mb3.6/2, mb1 3.7/6, mb1mx3.4/29, mbtmp4.0/6, Error ellipse: s-maj=43.2km s-min=16.1km az=102.0

ISC 11 20:47:59.0±0.8, 20°46S±0°04×68°84W±0°07, h122km±8km, n69, σ1°45/79, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	IPOC Station P	0.43	317	⇑iP	Pn	20 48 17.6	+0.3
PB08				i S	Sn	20 48 30.7	-0.2
PB08	IPOC Station P	0.43	317		Pn	20 48 17.3	0.0
PB01	IPOC Station P	0.84	226	⇑iP	Pn	20 48 20.4	+0.5
PB01				i S	Sn	20 48 35.8	+0.2
PB01				IAML		20 48 36.9	
	comp=E,6μm,0.2s						
PB01	IPOC Station P	0.84	226		Pn	20 48 20.3	+0.5
HMBC	Humberstone	1.00	280	⇑iP	Pn	20 48 21.6	+0.3
HMBC				i S	Sn	20 48 38.6	+0.5
HMBC				IAML		20 48 39.0	
	comp=N,5μm,0.3s						
PB11	IPOC Station P	1.03	312	⇑iP	Pn	20 48 22.3	+0.6
PB11				i S	Sn	20 48 39.3	+0.5
PB11				IAML		20 48 42.0	
	comp=E,4μm,0.2s						
PB11	IPOC Station P	1.03	312		Pn	20 48 21.9	+0.3
TA02	Huaiquique	1.23	278	eP	Pn	20 48 24.0	+0.6
TA02				i S	Sn	20 48 42.8	+0.8
TA02	Huaiquique	1.23	278		Pn	20 48 24.2	+0.7
TA01	Diego Aracena	1.26	265	⇑iP	Pn	20 48 24.3	+0.5
TA01				i S	Sn	20 48 42.9	+0.2
TA01	Diego Aracena	1.26	265		Pn	20 48 24.2	+0.4
PATCX	Punta Patache	1.28	253	⇑iP	Pn	20 48 24.8	+0.7
PATCX				i S	Sn	20 48 43.9	+0.6
PATCX				IAML		20 48 48.8	
	comp=E,2μm,0.4s						
PATCX	Punta Patache	1.28	253		Pn	20 48 24.9	+0.8
PB09	IPOC Station P	1.39	196	eP	Pn	20 48 26.7	+1.3
PB09				i S	Sn	20 48 47.9	+2.3
PB09	IPOC Station P	1.39	196		Pn	20 48 26.8	+1.3
PSGC	Pisagua	1.48	305	⇑iP	Pn	20 48 26.9	+0.5
PSGC				i S	Sn	20 48 47.8	+0.6
PSGC				IAML		20 48 52.8	
	comp=E,1μm,0.2s						
PSGCX	Pisagua	1.48	305		Pn	20 48 26.9	+0.5
MNMC	Minye Minye	1.50	332	⇑iP	Pn	20 48 27.9	+1.1
MNMC				i S	Sn	20 48 49.4	+1.4
MNMC	Minye Minye	1.50	332		Pn	20 48 28.1	+1.3
PB07	IPOC Station P	1.60	217	eP	Pn	20 48 28.5	+0.7
PB07				i S	Sn	20 48 50.3	+0.4
PB07	IPOC Station P	1.60	217		Pn	20 48 28.9	+1.0
PB03	IPOC Station P	1.80	208	eP	Pn	20 48 31.1	+0.8
PB03				i S	Sn	20 48 54.2	+0.1
PB03				IAML		20 48 58.6	
	comp=E,715nm,0.3s						
LVC	Limon Verde	2.15	182	P	Pn	20 48 36.3	+1.6
	comp=E,22nm,0.3s,baz=5.4,slow=12,SNR=97						
LVC				S	Sn	20 49 03.4	+1.4
	comp=E,51nm,0.3s,baz=300,slow=20,SNR=32						
LVC	Limon Verde	2.15	182	eP	Pn	20 48 36.5	+1.8
LVC				i S	Sn	20 49 03.7	+1.7
LVC	Limon Verde	2.15	182	eP	Pn	20 48 36.7	+1.9
PB16	IPOC Station P	2.20	343	P	Pn	20 48 37.4	+1.9
PB04	IPOC Station P	2.23	213	eP	Pn	20 48 36.7	+1.1
PB04				i S	Sn	20 49 03.1	-0.6
PB04				IAML		20 49 12.7	
	comp=E,531nm,0.3s						
PB04	IPOC Station P	2.23	213		Pn	20 48 36.8	+1.1
PB06	IPOC Station P	2.34	197	eP	Pn	20 48 38.1	+1.1
PB06				i S	Sn	20 49 06.5	+0.3
PB06				IAML		20 49 07.5	
	comp=E,505nm,0.3s						
PB06	IPOC Station P	2.34	197		Pn	20 48 38.5	+1.5
AP01	Chacalluta	2.51	325	Pn	Pn	20 48 39.1	+0.1
PB05	IPOC Station P	2.70	208	eP	Pn	20 48 42.5	+0.9
PB05				i S	Sn	20 49 11.3	-3.0
PB15	IPOC Station P	2.80	192	eP	Pn	20 48 44.4	+1.5
PB15				eS	Sn	20 49 17.9	+1.1
PB15	IPOC Station P	2.80	192		Pn	20 48 44.2	+1.2
PB10	IPOC Station P	3.43	207	Pn	Pn	20 48 50.7	-0.3
LPAZ	La Paz	4.20	9	P	Pn	20 49 04.7	+2.8
	comp=E,5.8nm,0.3s,baz=183,slow=4.5,SNR=72						
LPAZ	La Paz	4.20	9		Pn	20 49 04.2	+2.4
LPAZ	La Paz	4.20	9	eP	Pn	20 49 04.1	+2.2
PB14	IPOC Station P	4.39	199		Pn	20 49 03.7	-0.5
GO02	Mina Guanaco	4.74	188		Pn	20 49 08.3	-0.4
AC01	Pan de Azucar	5.89	196	Pn	Pn	20 49 22.3	-1.7
AC02	Maricunga	6.36	182		Pn	20 49 30.6	-0.1
GO03	Copiap	7.22	190	Pn	Pn	20 49 40.8	-1.1
AC04	Llanos de Chal	7.98	194	Pn	Pn	20 49 48.2	-3.9
SIV	San Ignacio	8.61	60	P	Pn	20 49 59.1	-1.7
	comp=E,1.3nm,0.3s,baz=260,slow=12,SNR=13						
GO04	Tololo Observa	9.84	190	Pn	Pn	20 50 13.8	-3.6
CO03	El Pedregal	10.47	189	Pn	Pn	20 50 22.6	-3.2
PTLB	Pontes e Lacer	10.49	63	eP	Pn	20 50 21.6	-4.5
CO02	Combarbal	10.88	190	Pn	Pn	20 50 26.0	-5.3
CPUP	Villa Florida	12.08	121	P	Pn	20 50 46.0	-1.2
	comp=E,0.1nm,0.3s,baz=308,slow=14,SNR=7.9						
TRCB	Terra Rica	15.25	102	eP	Pn	20 51 25.3	-2.7
CLDB	Colider	15.75	55	eP	Pn	20 51 34.2	0.0
PTGB	Pitanga	16.06	108	eP	Pn	20 51 37.0	-1.1
PCMB	Pacaembu	16.45	97	eP	Pn	20 51 41.3	-1.5
ITAB	Concordia	16.70	117	P	Pn	20 51 46.4	+0.6
ITAB				IAmb	IAmb	20 51 47.7	
	comp=Z,16nm,0.6s						
ITAB	Concordia	16.70	117	eP	Pn	20 51 45.3	-0.5
ARAG	Araguaiana, MT	16.86	77	eP	Pn	20 51 46.8	-1.0
PLTB	Pedras Altas	17.70	133	P	Pn	20 51 57.4	-0.4
PLTB				IAmb	IAmb	20 52 09.5	
	comp=Z,29nm,1.5s						
BB19B	Bebedouro	19.01	95	eP	P	20 52 11.2	-0.2
IPMB	Ipameri, GO	19.63	86	eP	P	20 52 18.1	-0.1
TER01	Tubaro-SC	19.64	118	eP	P	20 52 20.0	+1.8
PLCA	Paso Flores	20.27	184	eP	Pn	20 52 35.4	+7.4
PET01	Itanhaem-SP	20.30	105	eP	P	20 52 27.8	+2.4
VAO	Valinhos	20.48	101	eP	P	20 52 29.8	+2.4
MC01	Montes Claros	23.89	85	eP	P	20 53 06.2	+4.6
BATAN	Batan	33.56	333	P	P	20 54 23.4	-4.1
DBIC	Dimbokro	68.38	74	P	P	20 58 47.9	0.0
	comp=Z,1.2nm,0.8s,baz=270,slow=19,SNR=1.7						
DBIC	Dimbokro	68.38	74	IAmb	IAmb	20 59 03.4	
	comp=Z,12nm,1.4s						
TORD	Torodi Ar. Bea	76.95	71	P	P	20 59 37.7	-0.9
	comp=Z,0.8nm,0.7s,baz=254,slow=5.6,SNR=8.1						
TORD				pP	pP	21 00 08.8	-1.7
	comp=Z,0.4nm,0.4s,baz=253,slow=5.1,SNR=4.7						

SOME 11 21:04:03.3, 38°65N×72°08E, h15km
KRNET 11 21:04:05.6±0.1, 38°59N×71°57E, h22km, mb3.8
NNC 11 21:04:10.0±3.2, 38°41N×70°93E, h92km±78km, mb3.3, mpv3.8, Error ellipse: s-maj=31.1km s-min=20.2km az=21.0

ISC 11 21:04:07.8±1.7, 38°68N±0°10×71°43E±0°05, h10km, n21, σ2°97/27, 9C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	Karamyk	0.85	20	⇑iP	Pg	21 04 22.6	-1.7
	baz=11						
DRK				⇑iS	Sg	21 04 35.2	-0.2
	baz=11						
GAR	Garm	0.93	291	⇓eP	Pg	21 04 25.1	-0.6
	baz=93						
GAR				⇓iS	Sg	21 04 39.8	+2.0
	baz=93						
BTK	Batken	1.46	341	⇑iP	Pn	21 04 34.3	0.0
	baz=38						
BTK				⇑iS	Sn	21 04 55.5	+2.0
	baz=38						
CHGR	Chuyangaron	1.78	270	⇓iP	Pn	21 04 39.6	+0.9
	baz=73						
CHGR				⇓iS	Sn	21 05 04.2	+2.7
	baz=73						
ARSB	Arslanbob	2.90	24	⇑iP	Pn	21 04 54.1	-0.1
	baz=21						
ARSB				⇑iS	Sn	21 05 29.2	0.0
	baz=21						
AML	Almayashu	3.86	26	P	Pn	21 05 09.9	+2.3
	SNR=8.5						
MRKS	Merke	4.29	18	eP	Pn	21 05 15.7	+2.5
	14nm,1.1s						
MRKS				eS	Sn	21 06 08.2	+4.9
	26nm,0.8s						
EKS2	Erkin-Say	4.36	23	P	Pb	21 05 19.2	-5.4

SNR=13
KK31 **Karatay Array** 4.47 351 ⇓P Pn 21 05 18.9 +3.1
6.4nm,0.6s,baz=179,slow=13,SNR=71
KK31 ⇓S Sn 21 06 13.6 +5.8
4.6nm,0.5s,baz=177,slow=23,SNR=4.6
AAK **Ala-Archa** 4.59 30 P Pb 21 05 22.9 -5.6
SNR=5.2
AAK **Ala-Archa** 4.59 30 ⇑P Pb 21 05 22.5 -6.1
21nm,0.7s
AAK ⇑S Sb 21 06 20.1 -3.8
20nm,0.8s
CHMS **Chumysh** 5.00 29 P Pn 21 05 25.5 +2.6
SNR=14
USP **Ospenovka** 5.14 26 P Pn 21 05 27.0 +2.1
SNR=14
TKM2 **Tokmak 2** 5.29 35 P Pn 21 05 30.4 +3.3
SNR=5.6
TKM2 **Tokmak 2** 5.29 35 ⇑P Pn 21 05 31.5 +4.4
8.1nm,0.8s
KST **Kastek** 5.55 37 eP Pb 21 05 41.0 -3.9
4.6nm,0.5s
KST eS Sb 21 06 51.6 +0.1
6.3nm,0.8s
DGS **Degeres** 5.62 34 eP Pb 21 05 43.1 -2.9
3.7nm,0.6s
DGS eS Sb 21 06 55.8 +2.3
8.6nm,1.1s
MDOK **Medeo** 6.18 42 eP Pb 21 05 54.3 -1.3
1.7nm,0.8s
MDOK eS Sb 21 07 15.1 +5.5
8.1nm,1.2s
PDGK **Podgornoye** 7.66 50 ⇓P Pn 21 06 07.4 +7.8
3.4nm,1.2s
MK31 **Makanchi Array** 11.37 41 P Pn 21 06 56.6 +6.3
1.4nm,0.9s,baz=217,slow=12,SNR=6.2
AB31 **Akbulak array** 13.41 326 P Pn 21 07 16.2 -1.8
0.8nm,0.6s,baz=163,slow=10,SNR=9.8
AB31 S Sn 21 09 43.5 -3.6
1.5nm,0.7s,baz=153,slow=22,SNR=4.5

*NNC **11** 21:21:08.3±3.2,53.52N×81.11E,h0km,mb2.6,mpv2.2, Error ellipse: s-maj=45.8km s-min=12.4km az=138.0*
*ASRS **11** 21:21:09.4±0.6,54.1°N×81.1°E±°,h5km,MLh3.0/11, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 11 21:21:05.5±1.5,53.95N±0.04×80.66E±0.07,h10km,n20, σ2s34/32,4C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSTK	**Bystrovka, Nov**	**1.32**	**61**	Pg	**Pn**	**21 21 28.8**	**-1.2**
BSTK				Sg	**Sb**	**21 21 46.0**	**-1.4**
ALXA	**Alekseevka, NS**	**1.49**	**48**	Pg	**Pn**	**21 21 31.4**	**-0.9**
ALXA				Sg	**Sn**	**21 21 50.5**	**-1.3**
NHES	**Novosibirsk, N**	**1.64**	**55**	Sg	**Sn**	**21 21 53.0**	**-2.4**
NVS	**Novosibirsk**	**1.75**	**58**	Pg	**Pn**	**21 21 37.1**	**+1.2**
NVS				S	**Sn**	**21 21 55.1**	**-3.1**
NVS				Sg	**Sb**	**21 21 59.5**	**-0.2**
NVSII	**Novosibirsk**	**1.75**	**58**	Pg	**Pn**	**21 21 37.1**	**+1.2**
NVSII				Sg	**Sn**	**21 21 59.8**	**+1.5**
KHAR	**Kharino, NSO,**	**1.84**	**68**	Sg	**Sn**	**21 21 56.9**	**-3.5**
ZAA0	**Zalesovo Array**	**2.46**	**88**	⇑Pn	**Pn**	**21 21 46.1**	**+0.5**
ZAA0	0.4nm,0.8s			⇑Lg	Lg	21 22 19.5	
	0.3nm,0.2s						
SALR	**Pechorkino, Sa**	**3.00**	**79**	Sg	**Sn**	**21 22 28.8**	**-0.2**
ELT	**Eltsovka**	**3.39**	**99**	Pg	**Pb**	**21 22 08.7**	**+3.0**
ELT				Sg	**Sb**	**21 22 50.5**	**+3.6**
KEM	**Kemerovo**	**3.45**	**64**	Sg	**Sb**	**21 22 53.8**	**+5.3**
KURBB	**Kurchatov Array**	**3.58**	**202**	⇑Pn	**Pn**	**21 22 03.4**	**+2.3**
KURBB	0.9nm,0.6s			⇓Sn	**Sn**	**21 22 40.9**	**-2.4**
	1.3nm,0.4s						
KURBB				⇓Lg	Lg	21 22 54.9	
	5.4nm,0.5s						
UKR	**Ust'-Kan**	**3.93**	**139**	Pn	**Pn**	**21 22 04.3**	**-1.6**
UKR				Pg	**Pg**	**21 22 20.2**	**-0.5**
UKR				S	**Sn**	**21 22 51.7**	**-0.3**
UKR				Sg	**Sg**	**21 23 10.5**	**-1.1**
ARTR	**Artybash**	**4.55**	**116**	Pg	**Pg**	**21 22 32.3**	**-0.3**
ARTR				Sg	**Sg**	**21 23 29.1**	**-2.5**
BRCR	**Berchikul'**	**4.74**	**66**	Sg	**Sg**	**21 23 34.1**	**-3.6**
CHBI	**Chibit, Altay**	**5.57**	**128**	Sg	**Sg**	**21 24 04.3**	**+0.2**
ULGR	**Ulagan, Altay**	**5.58**	**124**	Sg	**Sg**	**21 24 03.5**	**-1.1**
AKAR	**Aktash**	**5.62**	**128**	Sg	**Sg**	**21 24 05.7**	**0.0**
CUR	**Chagan-Uzun**	**6.11**	**126**	Sg	**Sg**	**21 24 22.7**	**+1.1**
TEL	**Teeli**	**6.52**	**113**	Sg	**Sg**	**21 24 32.6**	**-2.1**
MK31	**Makanchi Array**	**7.24**	**171**	Pn	**Pn**	**21 22 50.8**	**-0.5**
MK31	0.2nm,0.5s,baz=344,slow=14,SNR=7.1			⇑Sn	**Sn**	**21 24 08.2**	**-5.4**
	0.1nm,0.3s						
MK31				⇓Lg	Lg	21 24 46.4	
	0.6nm,0.5s						

*IDC **11** 21:24:57.7±2.0,0.67N×67.32E,h0km,mb3.6/6,mb1 3.9/7, mb1mx3.6/32,mbtmp3.7/7,ML4.2/1,MS3.5/9,Ms1 3.5/9, ms1mx2.9/57,Error ellipse: s-maj=54.8km s-min=31.2km az=67.0*
*NEIC **11** 21:24:59.5±0.5,0.7N±0.1×67.3E±0.1,h10km±1km, mb4.4/4,Error ellipse: s-maj=22.8km s-min=17.1km az=118.0*
ISC 11 21:24:58.7±0.8,0.7N±0.1×67.2E±0.1,h10km,n23, σ0s86/15,mb3.9/8,MS3.5/8,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.89**	**245**	Pn	**Pn**	**21 28 01.0**	**-1.2**
PALK	**Pallekele**	**14.94**	**64**	Pn	**Pn**	**21 28 29.3**	**-0.9**
PALK	1.1nm,0.3s,baz=276,slow=19,SNR=7.6			LR	LR	21 33 03.1	
	comp=Z,190nm,20.7s,baz=341,slow=33						
PALK	**Pallekele**	**14.94**	**64**		**Pn**	**21 28 29.2**	**-1.0**
RER	**Riviere de l'E**	**24.45**	**207**	P	**P**	**21 30 19.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**35.79**	**59**	P	**P**	**21 31 59.0**	**+0.5**
CMAR	0.3nm,0.3s,baz=228,slow=8.0,SNR=2.7			LR	LR	21 45 36.1	
	comp=Z,51nm,18.4s,baz=220,slow=35						
CMAR	**Chiang Mai Arr**	**35.79**	**59**	P	**P**	**21 31 58.1**	**-0.4**
GEYT	**Alibeck**	**37.99**	**348**	LR	LR	21 47 27.4	
	comp=Z,43nm,18.2s,baz=155,slow=36						
AAK	**Ala-Archa**	**42.27**	**8**	LR	LR	21 49 02.3	
	comp=Z,51nm,19.2s,baz=212,slow=34						
BNN	**Bunyan**	**47.62**	**327**	P	**P**	**21 33 35.3**	**0.0**
BNN				IAmb	IAmb	21 33 40.3	
	comp=Z,7.3nm,1.0s						
MKAR	**Makanchi Array**	**47.77**	**14**	P	**P**	**21 33 35.9**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=198,slow=8.7,SNR=4.0						
ABKAR	**Akbulak array**	**48.78**	**354**	P	**P**	**21 33 43.8**	**0.0**
BOSA	**Boshof**	**49.62**	**231**	LR	LR	21 51 47.3	
	comp=Z,67nm,19.8s,baz=57,slow=32						
ZAA0	**Zalesovo Array**	**55.03**	**13**	P	**P**	**21 34 30.3**	**-0.1**
ZAA0				IAmb	IAmb	21 34 40.0	
	comp=Z,1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**55.03**	**13**	P	**P**	**21 34 30.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=201,slow=7.9,SNR=4.2						
ZALV				LR	LR	21 58 59.7	
	comp=Z,38nm,18.2s,baz=142,slow=37						
H01W3	**Cape Leeuwin H**	**56.30**	**134**	T	T	22 35 12.5	
	baz=300,slow=75,SNR=3.8						
H01W2	**Cape Leeuwin H**	**56.31**	**134**	T	T	22 35 14.2	
	baz=300,slow=75,SNR=4.7						
H01W1	**Cape Leeuwin H**	**56.32**	**134**	T	T	22 35 15.2	
	baz=300,slow=75,SNR=4.8						
SONM	**Songino Array**	**57.91**	**30**	P	**P**	**21 34 52.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=225,slow=3.9,SNR=2.0						
SONM				LR	LR	21 59 55.2	
	comp=Z,91nm,18.7s,baz=250,slow=36						
TLY	**Talaya**	**59.31**	**25**	LR	LR	22 01 10.2	
	comp=Z,39nm,18.4s,baz=202,slow=37						
WRA	**Warramunga Arr**	**68.78**	**112**	P	**P**	**21 36 03.2**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=292,slow=5.7,SNR=3.6						
ASAR	**Alice Springs**	**69.01**	**116**	P	**P**	**21 36 05.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=282,slow=5.5,SNR=5.7						
MJAR	**Matsushiro Arr**	**74.36**	**52**	LR	LR	22 12 20.6	
	comp=Z,9.1nm,18.6s,baz=215,slow=38						
TXAR	**Lajitas Array**	**148.90**	**344**	PKPbc	**PKPbc**	**21 44 48.7**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=64,slow=2.1,SNR=3.7						

IDC 11 21:38:24.1±2.8,29.82S×178.19W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.6/30,mbtmp3.8/2,Error ellipse: s-maj=107.0km s-min=48.6km az=19.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.98**	**266**	P	P	21 46 25.1	-0.1
	0.6nm,0.7s,baz=98,slow=7.8,SNR=7.5						
WRA	**Warramunga Arr**	**43.91**	**272**	P	P	21 46 32.6	-0.2
	1.5nm,0.7s,baz=111,slow=7.6,SNR=12						
H03S2	**Juan Fernandez**	**80.92**	**124**	T	T	23 19 36.0	
	baz=238,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**80.93**	**124**	T	T	23 19 36.2	
	baz=238,slow=74,SNR=9.3						
H03S3	**Juan Fernandez**	**80.94**	**124**	T	T	23 19 40.0	
	baz=238,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**81.11**	**123**	T	T	23 19 48.1	
	baz=242,slow=73,SNR=8.3						
H03N2	**Juan Fernandez**	**81.11**	**123**	T	T	23 19 49.2	
	baz=242,slow=73,SNR=6.3						
H03N1	**Juan Fernandez**	**81.13**	**123**	T	T	23 19 48.8	
	baz=242,slow=73,SNR=6.0						
H10S3	**ASCENSION HYDR**	**38.32**	**155**	T	T	00 32 00.4	
	baz=204,slow=74,SNR=50						
H10S2	**ASCENSION HYDR**	**38.32**	**155**	T	T	00 32 00.8	
	baz=16,slow=74,SNR=20						
H10N3	**ASCENSION HYDR**	**39.40**	**155**	T	T	00 33 21.2	
	baz=203,slow=75,SNR=706						
H10N1	**ASCENSION HYDR**	**39.41**	**155**	T	T	00 33 21.6	
	baz=203,slow=75,SNR=319						
H10N2	**ASCENSION HYDR**	**39.42**	**155**	T	T	00 33 22.5	
	baz=203,slow=75,SNR=472						
FINES	**FINESS Array B**	**144.55**	**340**	PKP	PKPdf	21 58 02.3	+0.5
	1.4nm,0.7s,baz=29,slow=3.2,SNR=6.3						
TORD	**Torodi Ar. Bea**	**163.41**	**180**	PKPab	PKPab	21 59 19.1	-1.0
	0.6nm,0.7s,baz=183,slow=5.2,SNR=3.2						

WEL 11 21:41:17.8,42.2S±4.1°×17.4E±.1°,h13km±7km,M2.1/9,ML2.4/9, MLv2.1/9,Error ellipse: s-maj=0.0km s-min=0.0km az=127.1,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**196**	P	Pb	21 41 22.2	-0.4
TUWZ	**Tuamarina**	**0.30**	**304**	P	Pb	21 41 24.7	-0.2
BSWZ	**Blackbirch Sta**	**0.32**	**248**	P	Pg	21 41 24.7	+0.4
TCW	**Tory Channel**	**0.39**	**1**	P	Pb	21 41 26.2	-0.4
PLWZ	**Palliser**	**0.74**	**88**	P	Pb	21 41 32.7	+0.1
MSWZ	**Moikau Station**	**0.76**	**76**	P	Pb	21 41 33.0	+0.1
NNZ	**Nelson**	**0.77**	**299**	P	Pb	21 41 33.0	-0.1
CAW	**Cannon Point**	**0.78**	**51**	P	Pb	21 41 33.1	0.0
KIW	**Kapiti Island**	**0.88**	**33**	P	Pg	21 41 34.9	0.0
KHZ	**Kahutara**	**0.98**	**213**	P	Pg	21 41 36.9	+0.1
QRZ	**Quartz Range**	**1.52**	**300**	P	Pb	21 41 46.5	+0.6
BHHZ	**Black Hill Sta**	**2.51**	**34**	P	Pb	21 42 00.6	-2.1
WHZ	**Wether Hill Ro**	**6.28**	**225**	P	Pn	21 42 52.8	+2.8

*IDC **11** 21:44:25.4±2.3,2.32N×126.17E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.2/52,mbtmp3.3/3,Error ellipse: s-maj=200.0km s-min=28.9km az=65.0*
*DJA **11** 21:44:27.4±0.6,2.1°N±8.8×12.5E±.1°,h10km,M3.6/6,MLv3.6/6*
ISC 11 21:44:28.4±1.2,1.7N±0.1×124.67E±0.07,h10km,n9, σ2s84/11,mb3.4/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.99**	**236**	P	**Pn**	**21 45 02.0**	**-0.1**
GTOI				S	**Sn**	**21 45 26.9**	**-0.2**
TNTI	**Ternate**	**2.87**	**110**	P	**Pn**	**21 45 14.2**	**0.0**
MRSI	**Marisa**	**3.00**	**245**	S	**Sn**	**21 45 52.6**	**+0.5**
GAMI	**Galela, Maluku**	**3.12**	**88**	P	**Pn**	**21 45 19.7**	**+2.0**
LUWI	**Luwuk**	**3.35**	**214**	P	**Pn**	**21 45 24.9**	**+4.0**
APSI	**Ampana**	**4.01**	**229**	P	**Pb**	**21 45 35.3**	**-3.8**
APSI				S	**Sn**	**21 46 21.0**	**+4.0**
WRA	**Warramunga Arr**	**23.55**	**157**	P	**P**	**21 49 35.9**	**-3.3**
	0.9nm,0.6s,baz=339,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**26.81**	**161**	P	**P**	**21 50 10.3**	**+1.3**
	0.3nm,0.5s,baz=351,slow=15,SNR=1.6						
MKAR	**Makanchi Array**	**58.04**	**327**	P	**P**	**21 54 22.6**	**+0.9**
	0.2nm,0.5s,baz=126,slow=8.0,SNR=2.4						

*MAN **11** 21:55:34.9,13.87N×120.56E,h193km,MS2.9*
*NEIC **11** 21:55:36.5±0.9,13.78N±0.08×120.7E±0.2,h215km±8km, mb4.2/17,Error ellipse: s-maj=28.4km s-min=11.4km az=85.0*
*IDC **11** 21:55:38.2±14.0,13.76N×120.77E,h241km±160km, mb3.3/7,mb1 3.5/7,mb1mx3.1/54,mbtmp3.9/7,Error ellipse: s-maj=36.9km s-min=12.2km az=67.0*
ISC 11 21:55:34.9±0.7,13.81N±0.05×120.65E±0.08,h203km±6km, n37,σ1s01/44,mb4.1/15,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**259**	eP	**Pn**	**21 56 01.6**	**-0.3**
LUBP				eS	**S**	**21 56 21.5**	**-1.4**
MACP	**Maragondon, Ca**	**0.45**	**8**	eP	**Pn**	**21 56 01.5**	**-0.6**
MACP				eS	**S**	**21 56 23.4**	**-0.1**
LQP	**Lukban**	**0.91**	**71**	⇑iP	**Pn**	**21 56 06.3**	**+1.7**
LQP				iS	**S**	**21 56 25.8**	**-1.6**
BOAC	**Boac**	**1.21**	**107**	eP	**Pn**	**21 56 07.4**	**+1.0**
BOAC				eS	**S**	**21 56 32.1**	**+1.5**
SJMP	**San Jose**	**1.42**	**161**	eP	**Pn**	**21 56 08.7**	**+0.6**
SJMP				eS	**S**	**21 56 33.1**	**-0.5**
BUSP	**Coron**	**1.85**	**194**	eP	**Pn**	**21 56 13.1**	**+0.9**
BUSP				eS	**S**	**21 56 41.3**	**+0.6**
ENPP	**El Nido**	**2.85**	**205**	eP	**Pn**	**21 56 23.8**	**+0.8**
ENPP				eS	**S**	**21 57 00.6**	**+0.6**
CNOP	**Candoni, Negro**	**4.41**	**154**	eP	**Pn**	**21 56 42.6**	**+0.6**
TOLI2	**Tolitoli**	**12.62**	**179**	Pn	**Pn**	**21 58 27.4**	**-0.3**
KAPI	**Kappang**	**18.73**	**183**	P	**P**	**21 59 39.7**	**+1.1**
KAPI				IAmb	IAmb	21 59 44.3	
	comp=Z,10nm,1.1s						
CM31	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**22 00 08.0**	**+1.4**
CM31				IAmb	IAmb	22 00 09.2	
	comp=Z,2.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**22 00 08.3**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=93,slow=7.9,SNR=11						
CMAR	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**22 00 07.3**	**+0.7**
KNRA	**Kununurra**	**30.38**	**164**	P	**P**	**22 01 27.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**32.09**	**171**	P	**P**	**22 01 42.1**	**-0.9**
FITZ				IAmb	IAmb	22 01 55.3	
	comp=Z,7.1nm,1.4s						
MBWA	**Marble Bar**	**34.77**	**182**	P	**P**	**22 02 07.9**	**+1.7**
PSA00	**Pilbara Seismi**	**35.17**	**181**	P	**P**	**22 02 08.9**	**-0.8**
PSA00				IAmb	IAmb	22 02 25.9	
	comp=Z,8.7nm,1.2s						
PSA00	**Pilbara Seismi**	**35.17**	**181**	P	**P**	**22 02 09.4**	**-0.3**
PSA00				IAmb	IAmb	22 02 26.0	
	comp=Z,2.3nm,1.1s						
SONM	**Songino Array**	**35.94**	**344**	P	**P**	**22 02 16.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=165,slow=9.1,SNR=5.8						
SONM	**Songino Array**	**35.94**	**344**	P	**P**	**22 02 16.6**	**+0.6**
WB0	**Warramunga Arr**	**36.01**	**158**	P	**P**	**22 02 15.7**	**-1.1**
WB0				IAmb	IAmb	22 02 17.0	
	comp=Z,6.2nm,1.0s						
WRA	**Warramunga Arr**	**36.15**	**158**	P	**P**	**22 02 16.7**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=331,slow=9.8,SNR=66						
WB2	**Warramunga Arr**	**36.15**	**158**	P	**P**	**22 02 17.0**	**-1.0**
WB2				IAmb	IAmb	22 02 18.0	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**36.24**	**158**	P	**P**	**22 02 17.9**	**-0.8**
KLR	**Kul'dur**	**36.48**	**12**	P	**P**	**22 02 20.7**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=246,slow=7.2,SNR=5.4						
AS31	**Alice Springs**	**39.44**	**161**	P	**P**	**22 02 44.9**	**-0.7**
AS31				IAmb	IAmb	22 02 45.4	
	comp=Z,2.1nm,0.4s						
ASAR	**Alice Springs**	**39.44**	**161**	P	**P**	**22 02 44.8**	**-0.7**
	comp=Z,3.2nm,0.4s,baz=335,slow=6.7,SNR=68						
ASAR	**Alice Springs**	**39.44**	**161**	P	**P**	**22 02 45.0**	**-0.5**
MORW	**Morawa**	**42.86**	**186**	P	**P**	**22 03 13.0**	**-0.3**
MORW				IAmb	IAmb	22 03 16.9	
	comp=Z,9.0nm,1.1s						
FORT	**Forrest**	**44.90**	**171**	P	**P**	**22 03 28.4**	**-1.1**
MK31	**Makanchi Array**	**45.91**	**324**	P	**P**	**22 03 37.6**	**+0.3**
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**22 03 38.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=110,slow=10,SNR=5.8						
MAKZ	**Makanchi**	**46.10**	**323**	P	**P**	**22 03 39.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**46.59**	**184**	P	**P**	**22 03 40.2**	**-2.4**
BBOO	**Buckleboo**	**48.64**	**163**	P	**P**	**22 03 57.6**	**-0.8**
BBOO				IAmb	IAmb	22 04 16.2	
	comp=Z,14nm,1.2s						
ZALV	**Zalesovo Beam**	**48.94**	**333**	P	**P**	**22 04 00.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=126,slow=8.6,SNR=2.7						
ABKAR	**Akbulak array**	**60.62**	**319**	P	**P**	**22 05 24.4**	**+0.1**

*CRAAG **11** 22:03:51.9,35.38N×0.06W,Ml2.5*
*MDD **11** 22:03:55.3±2.0,35.53N×0.17W,h46km±37km,mb3.6/6, Error ellipse: s-maj=15.0km s-min=8.1km az=166.0, PRXIMO*
ISC 11 22:03:53.4±1.1,35.51N±0.06×0.15W±0.06,h10km,n15, σ2s09/25,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.18**	**181**	P	**Pg**	**22 03 57.2**	**-0.1**
ODJA	**Bouhanifia**	**0.18**	**181**	P	**Pg**	**22 03 57.2**	**-0.1**
USTO	**Oran**	**0.40**	**304**	P	**Pn**	**22 04 10.0**	**+4.8**
USTO	**Oran**	**0.40**	**304**	P	**Pn**	**22 04 10.0**	**+4.8**
OKGL	**Djebel Kef Gue**	**0.83**	**50**	P	**Pg**	**22 04 10.0**	**+0.5**
OKGL	0.8nm,0.2s,SNR=4.0			S	**Sg**	**22 04 22.2**	**+1.9**
	9.1nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**2.21**	**312**	P	**Pn**	**22 04 29.0**	**-1.2**
	1.4nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**22 04 54.7**	**-3.0**
	4.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.49**	**340**	P	**Pn**	**22 04 34.3**	**+0.3**
	1.0nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**22 05 01.3**	**-3.2**
	7.6nm,0.5s,SNR=7.9						
EBER	**Berja**	**2.62**	**303**	P	**Pn**	**22 04 34.5**	**-1.4**
	3.4nm,0.2s,SNR=21						
EBER				S	**Sn**	**22 05 06.4**	**-1.4**
	1.9nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**3.12**	**297**	P	**Pn**	**22 04 40.7**	**-2.1**
	0.9nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**22 05 18.4**	**-1.8**
	1.0nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.16**	**359**	P	**Pn**	**22 04 42.8**	**-0.5**
	0.3nm,0.1s,SNR=4.0						
EBEN2				S	**Sn**	**22 05 21.4**	**+0.4**
	2.7nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.24**	**324**	P	**Pn**	**22 04 45.2**	**+0.8**
	5.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**22 05 23.4**	**+0.2**
	2.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.28**	**315**	P	**Pn**	**22 04 46.1**	**+1.1**
	1.1nm,0.1s,SNR=17						
EQES				S	**Sn**	**22 05 24.6**	**+0.4**
	0.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.32**	**341**	P	**Pn**	**22 04 45.7**	**+0.2**
	1.0nm,0.3s,SNR=7.7						
ETOB				S	**Sn**	**22 05 23.3**	**-1.8**
	2.2nm,0.3s,SNR=5.7						
EGOR	**Sierra Gorda,**	**3.58**	**298**	P	**Pn**	**22 04 48.9**	**-0.1**
	0.9nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.71**	**18**	P	**Pn**	**22 04 50.2**	**-0.5**
	1.6nm,0.1s,SNR=8.2						
EIBI				S	**Sn**	**22 05 31.7**	**-2.8**
	2.2nm,0.4s,SNR=7.9						

*NEIC **11** 22:06:26.7±2.2,23.0S±0.1×179.7W±0.2,h449km±9km, mb4.5/27,Error ellipse: s-maj=26.6km s-min=14.1km az=131.0*
*IDC **11** 22:06:35.1±2.2,23.32S×179.87W,h548km±23km, mb3.3/10,mb1 3.5/12,mb1mx3.4/34,mbtmp4.2/12,Error ellipse: s-maj=30.9km s-min=17.3km az=144.0*
ISC 11 22:06:33.1±0.7,23.39S±0.09×179.8W±0.1,h532km,n46, σ1s67/45,mb4.2/20,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.98**	**340**	P	**P**	**22 08 13.2**	**+2.3**
	1.4nm,0.3s,baz=129,slow=14,SNR=2.0						
NIUE	**Niue**	**10.14**	**67**	P	P	22 08 41.0	-11
URZ	**Urewera**	**15.06**	**189**	P	**P**	**22 09 43.5**	**+0.2**
	1.8nm,0.3s,baz=307,slow=20,SNR=8.2						
URZ				S	**S**	**22 12 15.2**	**-4.8**
	0.3nm,0.3s,baz=301,slow=24,SNR=2.1						
URZ	**Urewera**	**15.06**	**189**	P	**P**	**22 09 43.2**	**0.0**
URZ				IAmb	IAmb	22 09 46.0	
	comp=Z,16nm,1.0s						
QRZ	**Quartz Range**	**18.55**	**199**	P	**P**	**22 10 19.2**	**+2.6**
NNZ	**Nelson**	**18.68**	**196**	P	**P**	**22 10 19.6**	**+1.7**
TUWZ	**Tuamarina**	**18.74**	**195**	P	**P**	**22 10 19.7**	**+1.3**
THZ	**Tophouse**	**19.31**	**197**	P	**P**	**22 10 25.8**	**+2.1**
THZ				IAmb	IAmb	22 10 26.3	
	comp=Z,27nm,1.1s						
KHZ	**Kahutara**	**19.77**	**195**	P	**P**	**22 10 28.5**	**+0.7**
KHZ				IAmb	IAmb	22 10 36.1	
	comp=Z,15nm,1.2s						
LTZ	**Lake Taylor**	**20.43**	**197**	P	**P**	**22 10 34.1**	**+0.3**
LTZ				IAmb	IAmb	22 10 37.3	
	comp=Z,19nm,0.8s						
OXZ	**Oxford**	**21.00**	**197**	P	**P**	**22 10 40.3**	**+1.3**
OXZ				IAmb	IAmb	22 10 56.2	
	comp=Z,13nm,0.7s						
MQZ	**McQueen's Vall**	**21.20**	**195**	P	**P**	**22 10 41.2**	**+0.5**
MQZ				IAmb	IAmb	22 11 00.0	
	comp=Z,29nm,1.1s						
RPZ	**Rata Peaks**	**21.64**	**198**	P	**P**	**22 10 48.9**	**+4.3**
RPZ				IAmb	IAmb	22 11 07.7	
	comp=Z,35nm,1.1s						
FOZ	**Fox Glacier**	**21.85**	**201**	P	**P**	**22 10 48.1**	**+1.6**
MLZ	**Mavora Lakes**	**24.04**	**201**	P	**P**	**22 11 08.7**	**+2.6**
WHZ	**Wether Hill Ro**	**24.56**	**201**	P	**P**	**22 11 13.0**	**+2.3**
WHZ				IAmb	IAmb	22 11 13.5	
	comp=Z,33nm,0.9s						
TARA	**Tarawa**	**25.60**	**343**	P	P	22 11 11.0	-9.3
CTA	**Charters Tower**	**31.68**	**269**	P	**P**	**22 12 13.8**	**+0.7**
	comp=Z,7.9nm,0.5s,baz=96,slow=9.6,SNR=12

CLL *i* PKPab **PKPab** 22 25 32.7 -0.4
comp=Z,4.0nm,0.8s

UPP ***11*** *22:08:27.0±0.0,67.19N×20.67E,h0km,ML2.1,Explosion*
HEL 11 22:08:27.6±0.0,67.18N×20.67E,h0km,ML1.3, ML2.1(UPP)**,Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**213**	P		Pg	22 08 28.8	-0.1
DUNU				S		Sg	22 08 29.8	0.0
DUNU	**Dundret**	**0.07**	**213**	*i* P		Pg	22 08 28.8	-0.1
DUNU				*i* S		Sg	22 08 29.8	0.0
MASU	**Masugnsbyn**	**0.58**	**61**	P		Pg	22 08 38.2	-0.6
MASU				S		Sg	22 08 45.8	-0.6
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P		Pg	22 08 38.2	-0.6
MASU				*i* S		Sg	22 08 45.8	-0.6
RATU	**Laukkuluspa**	**0.77**	**328**	P		Pg	22 08 41.4	-0.9
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P		Pg	22 08 41.4	-0.9
KUA	**Kurravaara**	**0.79**	**351**	P		Pg	22 08 41.5	-1.2
KUA	**Kurravaara**	**0.79**	**351**	*i* P		Pg	22 08 41.5	-1.2
NIKU	**Nikkaluokta**	**0.93**	**318**	P		Pg	22 08 44.4	-1.0
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P		Pg	22 08 44.4	-1.0
PAJU	**Pajala**	**0.97**	**98**	P		Pg	22 08 44.8	-1.3
PAJU	**Pajala** baz=282	**0.97**	**98**	*e*P		Pg	22 08 44.9	-1.2
PAJU				*e*SB		Sg	22 08 57.9	-0.7
LANU	**Lannavaara**	**1.01**	**29**	P		Pg	22 08 45.6	-1.2
LANU	**Lannavaara**	**1.01**	**29**	*e*P		Pg	22 08 45.6	-1.2
HARU	**Harads**	**1.03**	**173**	P		Pg	22 08 45.8	-1.5
HARU	**Harads**	**1.03**	**173**	*e*P		Pg	22 08 45.8	-1.5
KOVU	**Salmi**	**1.06**	**350**	P		Pg	22 08 46.7	-1.3
KOVU	**Salmi**	**1.06**	**350**	*e*P		Pg	22 08 46.7	-1.3
KLF	**Kolari**	**1.28**	**86**	*e*P		Pg	22 08 50.4	-1.7
KLF				*e*S		Sg	22 09 07.0	-1.8
HEF	**Hetta**	**1.68**	**41**	*e*P		Pn	22 08 57.3	-0.9
HEF	**Hetta** baz=222	**1.68**	**41**	*e*P		Pn	22 08 57.1	-1.0
HEF				MSG			22 09 17.8	
	comp=Z,1.3nm,0.2s							
HEF				*e*SG		Sn	22 09 19.0	-1.3
SJUU	**Sjulsmark**	**1.72**	**167**	P		Pn	22 08 58.1	-0.7
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P		Pn	22 08 58.1	-0.7
TOF	**Tornio**	**1.83**	**125**	*e*P		Pn	22 08 60.0	-0.2
TOF				MSG			22 09 21.6	
	comp=Z,2.2nm,0.2s							
TOF				*e*SN		Sb	22 09 24.7	-0.6
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P		Pn	22 09 00.9	+0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P		Pn	22 09 00.5	+0.3
KIF				MSG			22 09 22.9	
	comp=Z,2.2nm,0.2s							
KIF				*e*SG		Sg	22 09 26.1	-0.3
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB		Pn	22 09 05.7	+0.6
RNF				*e*SG		Sb	22 09 34.6	-0.9
SGF	**Sodankyl**	**2.29**	**81**	*e*PB		Pn	22 09 07.5	+1.0
SGF				*e*SG		Sb	22 09 37.8	-0.6
BURU	**Burvik**	**2.62**	**173**	*e*P		Pn	22 09 11.4	+0.3
ARA0	**ARCESS Array S** baz=216	**2.97**	**35**	*e*P		Pn	22 09 15.9	0.0
ARA0				*e*SG		Sb	22 09 58.2	+0.2

IDC ***11*** *23:01:06.4±1.1,6.78N×123.83E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.4/55,mbtmp3.6/5,Error ellipse: s-maj=30.5km s-min=22.0km az=41.0*
MAN ***11*** *23:01:07.4,7.86N×126.96E,h13km,MS3.2*
ISC 11 23:01:07.9±1.6,7.97N±0.07×126.97E±0.08,h34km±3km, n13,σ2s42/19,mb3.5/5,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**1.23**	**215**	*e*P		**Pn**	**23 01 27.8**	**-1.0**
MATI				*e*S		**Sn**	**23 01 43.6**	**-0.6**
DAV	**Davao City (W)** 9.2nm,0.3s,baz=236,slow=18,SNR=1.3	**1.64**	**237**	Pn		**Pb**	**23 01 38.0**	**+0.5**
DAV				Sn		**Sb**	**23 02 02.4**	**+4.5**
	54nm,0.3s,baz=90,slow=20,SNR=8.7							
BUKP	**Musuan**	**1.89**	**268**	*e*P		**Pb**	**23 01 40.1**	**-1.7**
KCP	**Kidapawan**	**2.09**	**243⇑**	*e*P		**Pb**	**23 01 43.1**	**-2.1**
KCP				*i* S		**Sb**	**23 02 10.3**	**-0.5**
DDMP	**Don Marcelino,**	**2.23**	**214**	*e*P		**Pn**	**23 01 43.0**	**+0.5**
DDMP				*e*S		**Sn**	**23 02 10.3**	**+1.4**
CGP	**Cagayan de Oro**	**2.30**	**282⇓**	*e*P		**Pn**	**23 01 45.5**	**+2.0**
CGP				*e*S		**Sn**	**23 02 14.8**	**+4.2**
SKMP	**Bagumbayan, Su**	**2.80**	**239**	*e*P		**Pn**	**23 01 50.8**	**+0.5**
SKMP				*e*S		**Sn**	**23 02 19.1**	**-3.9**
PAGZ	**Pagadian**	**3.56**	**268**	*e*P		**Pn**	**23 01 57.4**	**-3.2**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=334,slow=11,SNR=1.5	**28.67**	**165**	P		**P**	**23 07 02.9**	**+1.2**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=342,slow=6.8,SNR=4.6	**32.16**	**168**	P		**P**	**23 07 34.0**	**+1.4**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=121,slow=7.4,SNR=3.6	**54.27**	**323**	P		**P**	**23 10 29.4**	**-1.3**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=126,slow=6.5,SNR=2.0	**58.35**	**326**	P		**P**	**23 10 58.1**	**-1.6**
FINES	**FINESS Array B** 1.7nm,0.9s,baz=83,slow=4.6,SNR=3.4	**88.23**	**332**	P		**P**	**23 13 55.9**	**+0.4**

IDC 11 23:12:28.5±1.6,7.09S×128.11E,h0km,mb3.5/2, mb1 3.7/5,mb1mx3.4/39,mbtmp3.5/5,ML3.6/3,Error ellipse: s-maj=56.3km s-min=28.9km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong** 1.0nm,0.3s,baz=180,slow=20,SNR=1.2	**6.94**	**27**	Pn		Pn	23 14 12.8	+1.3
SIJI				Sn		Sn	23 15 17.5	-14
	1.4nm,0.3s,baz=126,slow=23,SNR=1.4							
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=335,slow=13,SNR=8.6	**14.13**	**155**	Pn		Pn	23 15 48.6	-1.5
WRA				Sn		Sn	23 18 12.7	-15
	0.4nm,0.3s,baz=343,slow=23,SNR=8.6							
ASAR	**Alice Springs** 0.2nm,0.3s,baz=346,slow=11,SNR=13	**17.39**	**162**	P		P	23 16 34.0	-0.2
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=126,slow=7.3,SNR=6.6	**67.29**	**328**	P		P	23 23 25.6	+0.4
KURBB	**Kurchatov Arra** 0.2nm,0.7s,baz=122,slow=4.7,SNR=2.1	**71.62**	**329**	P		P	23 23 50.8	-1.0

SOME ***11*** *23:27:03.6,43.93N×87.82E,h10km*
NNC ***11*** *23:27:05.2±2.7,43.91N×87.88E,h1km±10km,mb3.8, mpv3.4,Error ellipse: s-maj=18.5km s-min=12.5km az=115.0*
IDC ***11*** *23:27:05.2±1.1,43.94N×87.85E,h0km,mb3.5/7, mb1 3.5/10,mb1mx3.4/44,mbtmp3.4/10,ML2.8/3,MS2.8/3, Ms1 2.8/3,ms1mx2.5/28,Error ellipse: s-maj=47.2km s-min=16.7km az=49.0*
ISC 11 23:27:07.2±1.1,43.78N±0.07×87.63E±0.07,h10km,n25, σ2s13/28,mb3.4/7,3C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ZSN	**Zaisan** 11nm,0.5s	**4.15**	**333**	*e*P		**Pb**	**23 28 22.3**	**+2.0**
ZSN				*e*S		**Sg**	**23 29 19.0**	**-1.3**
	15nm,0.9s							
ZSN	**Zaisan** 11nm,0.5s	**4.15**	**333**	Pg		**Pb**	**23 28 22.3**	**+2.0**
ZSN				Lg		Lg	23 29 19.0	
	15nm,0.9s							
MK31	**Makanchi Array** 1.8nm,0.6s,baz=125,slow=14,SNR=46	**4.82**	**311**	Pn		**Pn**	**23 28 20.3**	**+0.4**
MK31				⇓Pg		**Pb**	**23 28 35.1**	**+3.4**
	1.7nm,0.5s,baz=127,slow=16,SNR=3.6							
MK31				⇓Sn		**Sn**	**23 29 19.0**	**+3.3**
	5.3nm,0.7s,baz=117,slow=26,SNR=4.3							
MK31				Lg		Lg	23 29 43.4	
	6.8nm,0.6s,baz=134,slow=26,SNR=3.7							
MKAR	**Makanchi Array** 0.7nm,0.3s,baz=125,slow=14,SNR=47	**4.82**	**311**	Pn		**Pn**	**23 28 20.3**	**+0.4**
MKAR				Sn		**Sn**	**23 29 16.6**	**+0.9**
	0.6nm,0.3s,baz=128,slow=25,SNR=3.8							
MKAR				Lg		Lg	23 29 33.5	
	0.6nm,0.3s,baz=131,slow=32,SNR=1.9							
MAKZ	**Makanchi** 4.4nm,0.7s	**5.00**	**309**	⇑Pn		**Pn**	**23 28 22.0**	**-0.3**
MAKZ				⇑Pg		**Pb**	**23 28 39.2**	**+4.4**
	2.2nm,0.5s							
MAKZ				⇓Lg		Lg	23 29 46.1	
	16nm,1.4s							
DJR	**Jarkent** 0.1nm,0.3s	**5.67**	**278**	*e*P		**Pg**	**23 28 51.7**	**-4.2**
DJR				*e*S		**Sg**	**23 30 08.9**	**-0.4**
	1.2nm,1.1s							
DJR	**Jarkent** 0.1nm,0.3s	**5.67**	**278**	Pg		**Pg**	**23 28 51.7**	**-4.2**
DJR				Lg		Lg	23 30 08.9	
	1.2nm,1.1s							
PDGK	**Podgornoye** 1.1nm,0.6s	**5.93**	**268**	Pg		**Pg**	**23 28 57.8**	**-2.9**
PDGK				Lg		Lg	23 30 19.9	
	6.7nm,0.9s							
PDGK	**Podgornoye** 3.7nm,0.5s	**5.93**	**268**	⇓Pn		**Pn**	**23 28 36.5**	**+1.4**
PDGK				⇓Lg		Lg	23 30 21.0	
	17nm,0.8s							
KPKS	**Kokpek** 3.9nm,0.7s	**6.50**	**270**	*e*P		Pg	23 29 07.1	-4.5
KPKS				*e*S		**Sg**	**23 30 34.9**	**-0.8**
	14nm,0.6s							
ARXS	**Arharly** 3.7nm,0.3s	**7.08**	**277**	*e*P		Pg	23 29 17.3	-5.4
ARXS				*e*S		**Sg**	**23 30 52.9**	**-1.5**
	5.8nm,0.6s							
ARXS	**Arharly** 3.7nm,0.3s	**7.08**	**277**	Pg		Pg	23 29 17.3	-5.4
ARXS				Lg		Lg	23 30 52.9	
	5.8nm,0.6s							
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=134,slow=12,SNR=13	**9.22**	**321**	Pn		**Pn**	**23 29 18.3**	**-1.8**
KURBB				Lg		Lg	23 31 54.9	
	0.0nm,0.3s,baz=132,slow=29,SNR=5.1							
KURBB	**Kurchatov Arra** 1.4nm,0.6s	**9.22**	**321**	⇑Pn		**Pn**	**23 29 18.3**	**-1.8**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=167,slow=13,SNR=1.8	**10.34**	**351**	Pn		**Pn**	**23 29 33.6**	**-1.8**
ZALV				Lg		Lg	23 32 31.1	
	0.1nm,0.3s,baz=168,slow=28,SNR=1.5							
ZALV				LR		LR	23 33 55.1	
	comp=Z,26nm,20.5s,baz=144,slow=40							
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=67,slow=28,SNR=2.3	**14.68**	**315**	Pn		**Pn**	**23 30 33.8**	**-1.0**
AKTO	**Aktyubinsk** comp=Z,26nm,18.3s,baz=102,slow=38	**21.13**	**299**	LR		LR	23 40 35.6	
ARU	**Arti** 0.6nm,0.5s,baz=109,slow=8.4,SNR=4.4	**22.33**	**315**	P		**P**	**23 32 04.6**	**-0.2**
NRIK	**Noril'sk** comp=Z,51nm,21.5s,baz=144,slow=38	**25.62**	**360**	LR		LR	23 42 59.3	
FINES	**FINESS Array B** 1.3nm,0.8s,baz=99,slow=8.9,SNR=3.9	**39.60**	**318**	P		**P**	**23 34 37.7**	**-0.7**
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=74,slow=9.1,SNR=2.5	**39.89**	**283**	P		**P**	**23 34 42.3**	**+1.1**
NOA	**NORSAR Array B** 0.5nm,0.7s,baz=74,slow=7.8,SNR=2.2	**46.76**	**320**	P		**P**	**23 35 35.7**	**-0.6**
ESDC	**Sonseca Array** 0.2nm,0.7s,baz=45,slow=5.9,SNR=1.7	**64.98**	**302**	P		**P**	**23 37 47.1**	**-0.1**
WRA	**Warramunga Arr** 0.6nm,1.1s,baz=334,slow=4.5,SNR=1.6	**76.50**	**135**	P		**P**	**23 38 57.1**	**-0.3**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=330,slow=5.5,SNR=4.2	**79.41**	**138**	P		**P**	**23 39 13.2**	**-0.2**

PRE ***11*** *23:27:31.9±1.1,26.48S×27.50E,h2km,ML3.7*
IDC ***11*** *23:27:32.9±0.8,26.44S×27.40E,h0km,mb4.0/9, mb1 4.3/14,mb1mx4.0/40,mbtmp4.2/14,ML3.9/5,MS2.4/2, Ms1 2.3/2,ms1mx2.3/34,Error ellipse: s-maj=16.7km s-min=13.5km az=87.0*
EAF ***11*** *23:27:33.1±1.4,26.44S×27.45E,h10km,MD5.3(BUL)*
NEIC ***11*** *23:27:34.1±1.2,26.43S±0.06×27.49E±0.10,h5km±1km, mb4.6/16,Error ellipse: s-maj=14.8km s-min=10.7km az=277.0*
ISC 11 23:27:32.7±1.0,26.46S±0.03×27.50E±0.03,h4km±6km, n76,σ1s80/94,mb4.5/14,4C-8D,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WDLM	**Western Deep L**	**0.08**	**297**	*e*P		**Pg**	**23 27 34.4**	**-0.1**
WDLM				*e*S		**Sg**	**23 27 35.8**	**+0.1**
WDLM				AML		AML	23 27 38.9	
	comp=Z,37μm,0.3s							
KLOF	**Kloof**	**0.15**	**42**	*e*P		**Pg**	**23 27 35.8**	**+0.2**
KLOF				*e*S		**Sg**	**23 27 37.3**	**-0.3**
KLOF				AML		AML	23 27 38.5	
	comp=Z,60μm,0.3s							
PRYS	**Parys**	**0.48**	**195**	*e*P		**Pg**	**23 27 41.4**	**-0.6**
PRYS				*e*S		**Sg**	**23 27 48.0**	**-0.2**
PRYS				AML		AML	23 27 57.2	
	comp=Z,708nm,0.4s							
SLR	**Silverton**	**1.01**	**44**	*e*P		**Pg**	**23 27 52.0**	**0.0**
SLR				*e*S		**Sg**	**23 28 05.8**	**+0.7**
SLR				AML		AML	23 28 09.8	
	comp=Z,2μm,0.4s							
SWZ	**Schweizer**	**2.07**	**249**	*e*P		**Pn**	**23 28 08.6**	**+0.3**
SWZ				*e*S		**Sn**	**23 28 34.9**	**+0.3**
SWZ				AML		AML	23 28 38.7	
	comp=Z,2μm,0.6s							
LBTB	**Lobatse** comp=Z,182nm,0.3s,baz=130,slow=16,SNR=1103	**2.24**	**310**	Pn		**Pn**	**23 28 11.8**	**+1.2**
LBTB				Pg		**Pb**	**23 28 13.1**	**-0.7**
	comp=Z,181nm,0.3s,baz=123,slow=18,SNR=510							
LBTB				LR		LR	23 28 34.6	
	comp=Z,47nm,20.5s,baz=128,slow=29							
LBTB				Lg		Lg	23 28 40.5	
	comp=Z,97nm,0.3s,baz=86,slow=10,SNR=5.2							
LBTB	**Lobatse**	**2.24**	**310**	*e*P		**Pn**	**23 28 10.9**	**+0.2**
LBTB				*e*S		**Sn**	**23 28 39.4**	**+0.6**
LBTB				AML		AML	23 28 43.7	
	comp=Z,2μm,0.4s							
LBTB	**Lobatse**	**2.24**	**310**			**Pn**	**23 28 11.5**	**+0.9**
LBTB	**Lobatse**	**2.24**	**310**	*i* P		**Pn**	**23 28 10.3**	**-0.3**
LBTB	**Lobatse**	**2.24**	**310**	*i* P		**Pn**	**23 28 10.3**	**-0.3**
CRLN	**Carolina, Mapu**	**2.31**	**79**	*e*P		**Pn**	**23 28 11.5**	**-0.2**
CRLN				*e*S		**Sn**	**23 28 40.8**	**+0.1**
CRLN				AML		AML	23 28 48.7	
	comp=Z,294nm,0.4s							
BOSA	**Boshof** comp=Z,15nm,0.3s,baz=38,slow=12,SNR=633	**2.93**	**222**	Pn		**Pn**	**23 28 20.8**	**+0.7**
BOSA				Lg		Lg	23 29 03.1	
	comp=Z,64nm,0.3s,baz=323,slow=18,SNR=17							
BOSA				LR		LR	23 29 34.7	
	comp=Z,101nm,18.6s,baz=58,slow=42							
BOSA	**Boshof**	**2.93**	**222**	*e*P		**Pn**	**23 28 21.0**	**+0.9**
BOSA				*e*S		**Sn**	**23 28 55.9**	**+0.1**
BOSA				AML		AML	23 29 06.8	
	comp=Z,291nm,0.4s							
BOSA	**Boshof**	**2.93**	**222**			**Pn**	**23 28 20.7**	**+0.6**
BOSA	**Boshof**	**2.93**	**222**	*i* P		**Pn**	**23 28 19.3**	**-0.8**
BOSA	**Boshof**	**2.93**	**222**	*i* P		**Pn**	**23 28 19.3**	**-0.8**
MOPA	**Mopani**	**4.59**	**51**	*e*P		**Pn**	**23 28 42.6**	**-0.3**
MOPA				*e*S		**Sn**	**23 29 34.7**	**-2.0**
MOPA				AML		AML	23 30 01.1	
	comp=Z,264nm,0.5s							
PKA	**Prieska**	**5.27**	**232**	*e*P		**Pn**	**23 28 52.7**	**+0.4**
PKA				*e*S		**Sn**	**23 29 50.8**	**-2.8**
PKA				AML		AML	23 30 31.4	
	comp=Z,64nm,0.6s							
UPI	**Upington**	**5.87**	**250**	*e*P		**Pn**	**23 29 01.0**	**+0.5**
UPI				*e*S		**Sn**	**23 30 05.1**	**-3.2**
UPI				AML		AML	23 30 54.5	
	comp=Z,71nm,0.6s							
MATP	**Matopo** comp=Z,6.3nm,0.3s,baz=189,slow=13,SNR=157	**6.08**	**9**	Pn		**Pn**	**23 29 03.1**	**-0.3**
MATP				Sn		**Sn**	**23 30 08.5**	**-5.0**
	comp=Z,7.4nm,0.3s,baz=260,slow=11,SNR=4.1							
MATP				Lg		Lg	23 30 39.7	
	comp=Z,34nm,0.3s,baz=108,slow=15,SNR=7.6							
BLWY	**Bulawayo**	**6.37**	**9**	*i* P		**Pn**	**23 29 06.3**	**-1.2**
BLWY	**Bulawayo**	**6.37**	**9**	*i* P		**Pn**	**23 29 06.3**	**-1.2**
SOE	**Somerset East**	**6.45**	**195**	*e*P		**Pn**	**23 29 09.0**	**+0.5**
SOE				*e*S		**Sn**	**23 30 18.9**	**-3.8**
SOE				AML		AML	23 31 19.5	
	comp=Z,51nm,0.6s							
AUGR	**Augrabies**	**6.71**	**250**	*e*P		**Pn**	**23 29 12.8**	**+0.8**
AUGR				*e*S		**Sn**	**23 30 25.4**	**-3.5**
AUGR				AML		AML	23 30 59.6	
	comp=Z,153nm,0.6s							
ARMS	**Ukamas**	**7.08**	**255**	*e*P		**Pn**	**23 29 17.6**	**+0.3**
ARMS				*e*S		**Sn**	**23 30 34.8**	**-3.5**
ARMS				AML		AML	23 31 26.8	
	comp=Z,154nm,0.4s							
GRAN	**Grantham**	**7.45**	**217**	*e*P		**Pn**	**23 29 22.6**	**+0.4**
GRAN				*e*S		**Sn**	**23 30 43.6**	**-3.6**
GRAN				AML		AML	23 30 55.3	
	comp=Z,20nm,0.6s							
ROSN	**Rosenhof**	**8.04**	**198**	*e*P		**Pn**	**23 29 31.5**	**+1.3**
ROSN				*e*S		**Sn**	**23 30 57.5**	**-4.0**
ROSN				AML		AML	23 31 00.2	
	comp=Z,86nm,0.8s							
KROM	**Kromhout**	**8.05**	**197**	*e*P		**Pn**	**23 29 31.1**	**+0.8**
KROM				*e*S		**Sn**	**23 30 57.3**	**-4.6**
KROM				AML		AML	23 31 01.0	
	comp=Z,79nm,0.6s							
SUR	**Sutherland**	**8.29**	**223**	Pn		**Pn**	**23 29 34.4**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=27,slow=9.6,SNR=88							
SUR				Sn		**Sn**	**23 31 03.0**	**-5.1**
	comp=Z,2.7nm,0.3s,baz=323,slow=20,SNR=4.9							
SUR				Lg		Lg	23 31 50.1	
	comp=Z,6.3nm,0.3s,baz=132,slow=21,SNR=15							
CVNA	**Calvinia**	**8.42**	**232**	*e*P		**Pn**	**23 29 35.9**	**+0.2**
CVNA				*e*S		**Sn**	**23 31 06.3**	**-4.9**
CVNA				AML		AML	23 31 58.4	
	comp=Z,135nm,0.5s							
LSZ	**Lusaka** comp=Z,2.0nm,0.3s,baz=182,slow=13,SNR=22	**11.15**	**3**	Pn		**Pn**	**23 30 10.9**	**-2.1**
LSZ				Sn			23 32 07.7	-11
	comp=Z,0.9nm,0.3s,baz=190,slow=18,SNR=1.8							
LSZ				Lg		Lg	23 33 19.4	
	comp=Z,3.4nm,0.3s,baz=253,slow=22,SNR=5.9							
LSZ	**Lusaka**	**11.15**	**3**			**Pn**	**23 30 11.4**	**-1.6**
LSZ	**Lusaka**	**11.15**	**3**	*i* P		**Pn**	**23 30 09.1**	**-3.9**
LSZ	**Lusaka**	**11.15**	**3**	*i* P		**Pn**	**23 30 09.1**	**-3.9**
TSUM	**Tsumeb** comp=Z,4.7nm,0.3s,baz=126,slow=10.0,SNR=38	**11.65**	**306**	Pn		**Pn**	**23 30 19.0**	**-0.8**
TSUM				Sn		Sn	23 32 16.2	-14
	comp=Z,0.2nm,0.3s,baz=92,slow=21,SNR=2.2							
TSUM				Lg		Lg	23 33 28.2	
	comp=Z,1.4nm,0.3s,baz=47,slow=19,SNR=5.0							
TSUM	**Tsumeb**	**11.65**	**306**	*i* P		Pn	23 30 13.6	-6.3
TSUM	**Tsumeb**	**11.65**	**306**	*i* P		Pn	23 30 13.6	-6.3
RER	**Riviere de l'E**	**26.34**	**84**	P		**P**	**23 33 10.0**	**0.0**
PAF	**Port-aux-Franc**	**40.00**	**136**	P		**P**	**23 35 11.2**	**+2.8**
DBIC	**Dimbokro** comp=Z,1.8nm,0.5s,baz=145,slow=11,SNR=3.9	**45.49**	**312**	P		**P**	**23 35 53.1**	**-0.2**
DBIC	**Dimbokro**	**45.49**	**312**	P		**P**	**23 35 53.5**	**+0.2**
DBIC				IAmb		IAmb	23 35 53.9	
	comp=Z,14nm,1.4s							
TOA0	**Torodi Ar. Sit**	**46.69**	**324**	P		**P**	**23 36 02.7**	**-0.1**
TOA0				IAmb		IAmb	23 36 03.3	
	comp=Z,3.5nm,0.7s							
TORD	**Torodi Ar. Bea** comp=Z,3.7nm,0.7s,baz=137,slow=6.8,SNR=18	**46.69**	**324**	P		**P**	**23 36 02.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**46.69**	**324**	P		**P**	**23 36 02.6**	**-0.2**
TORD				IAmb		IAmb	23 36 03.3	
	comp=Z,2.9nm,0.8s							
SNAA	**Sanae**	**48.30**	**192**	P		**P**	**23 36 16.3**	**+1.6**
KOWA	**Kowa**	**50.95**	**319**	P		**P**	**23 36 35.8**	**+0.2**
KOWA				IAmb		IAmb	23 36 36.2	
	comp=Z,4.1nm,0.7s							
IDI	**Anoyia**	**61.46**	**358**	P		**P**	**23 37 51.3**	**+0.9**
PALK	**Pallekele**	**61.51**	**65**	P		**P**	**23 37 52.2**	**+1.1**
ITM	**Ithomi**	**63.52**	**355**	P		**P**	**23 38 04.0**	**0.0**
ITM				IAmb		IAmb	23 38 13.8	
	comp=Z,6.0nm,1.1s							
QSPA	**South Pole Qui** comp=Z,1.1nm,0.7s,baz=284,slow=4.0,SNR=6.8	**63.73**	**180**	P		**P**	**23 38 06.1**	**+0.8**
QSPA	**South Pole Qui**	**63.73**	**180**	P		**P**	**23 38 06.2**	**+0.9**
QSPA				IAmb		IAmb	23 38 07.9	
	comp=Z,7.6nm,1.4s							
BRTR	**Keskin Array B** comp=Z,0.3nm,0.6s,baz=188,slow=8.7,SNR=2.6	**66.09**	**5**	P		**P**	**23 38 22.1**	**+1.2**
ALN	**Alexandroupoli**	**67.03**	**359**	P		**P**	**23 38 27.6**	**+1.0**
ALN				IAmb		IAmb	23 38 28.3	
	comp=Z,3.1nm,0.8s							
MTUR	**Matau**	**71.38**	**358**	⇓P		**P**	**23 38 54.1**	**+0.4**
KIV	**Kislovodsk**	**71.44**	**12**	⇓P		**P**	23 38 59.5	+5.4
ARR	**Arges**	**71.53**	**358**	⇑P		**P**	**23 38 55.9**	**+1.3**
VOIR		**71.59**	**358**	⇓P		**P**	**23 38 52.7**	**-2.3**
MLR	**Muntele Rosu**	**71.62**	**359**	⇓P		**P**	**23 38 57.1**	**+1.9**
LOT	**Lotru**	**71.64**	**357**	⇑P		**P**	**23 38 56.7**	**+1.3**
PLOR	**Plostina**	**71.97**	**359**	⇓P		**P**	**23 38 58.4**	**+1.2**
VRI	**Vrincioaia**	**71.98**	**359**	⇑P		**P**	**23 38 58.7**	**+1.4**
ESDC	**Sonseca Array** comp=Z,2.0nm,0.7s,baz=146,slow=5.6,SNR=19	**72.04**	**335**	P		**P**	**23 38 58.3**	**+0.5**
ESDC	**Sonseca Array**	**72.04**	**335**	P		**P**	**23 38 58.5**	**+0.7**
ESBB	**Sonseca Array**	**72.04**	**335**	P		**P**	**23 38 58.5**	**+0.7**
ESBB				IAmb		IAmb	23 38 59.8	
	comp=Z,11nm,1.5s							
VASR	**Vaslui**	**72.76**	**0**	⇓P		**P**	**23 39 03.2**	**+1.4**
MORH	**Mrgy, Hungar**	**72.78**	**354**	⇓P		**P**	**23 39 02.9**	**+1.0**
ARCR	**ARCALIA**	**73.26**	**358**	⇓P		**P**	**23 39 06.8**	**+2.0**
BURAR	**Bucovina Array**	**73.76**	**358**	P		**P**	**23 39 10.4**	**+2.6**
SORM	**Soroca**	**74.25**	**1**	⇑P		**P**	**23 39 11.2**	**+0.7**
GERES	**GERESS Array B** comp=Z,0.3nm,0.6s,baz=170,slow=6.6,SNR=4.4	**75.97**	**351**	P		**P**	**23 39 22.0**	**+1.3

baz=356,SNR=26
OKCFA S 23 29 28.4
baz=356
OKCSW **OKLAHOMA CITY 0.88 176 Pg Pg 23 29 16.3 -0.7**
KS20 Mayfield South 0.94 358 Pg **Pg 23 29 17.5 -0.7**
KAN10 Anthony SW Sta 0.95 331 Pg **Pg 23 29 17.7 -0.8**
KAN08 Anthony NE Sta 1.01 339 Pg **Pg 23 29 18.7 -0.7**
T35A Sooner Cattle 1.03 52 Pg **Pg 23 29 19.3 -0.5**
T35B Sooner Cattle 1.03 52 P **Pg 23 29 19.3 -0.5**
baz=232
T35B S **Sg 23 29 32.5 -0.7**
baz=232
T35B Sooner Cattle 1.03 52 P 23 29 19.3
baz=232
T35B S 23 29 32.5
baz=232
FNO Franklin 1.03 175 Pg Pg 23 29 19.0 -0.9
KAN16 Harper SW Stat 1.03 335 Pg **Pg 23 29 19.2 -0.8**
KAN12 Harper NE Stat 1.08 339 Pg **Pb 23 29 20.5 -0.5**
U32A Winter Ranch, 1.20 275 Pg **Pg 23 29 22.0 -1.1**
U32A Winter Ranch, 1.20 275 P **Pg 23 29 21.8 -1.3**
baz=94
U32A S **Sb 23 29 38.8 +0.1**
baz=94
U32A Winter Ranch, 1.20 275 P 23 29 21.8
baz=94
U32A S 23 29 38.8
baz=94
TUL1 Leonard 1.45 104 P **Pn 23 29 25.9 -0.7**
baz=286,SNR=157
TUL1 S **Sb 23 29 45.6 -0.2**
baz=286
TUL1 Leonard 1.45 104 P 23 29 25.9
baz=286,SNR=116
TUL1 S 23 29 45.5
baz=286
TUL1 Leonard 1.45 104 P 23 29 25.9
baz=286,SNR=157
TUL1 S 23 29 45.6
baz=286
X34A Smith Ranch, M 1.70 189 Pn 23 29 30.9 +0.9
X34A IAmb_Lg 23 29 52.0
comp=Z,153nm,1.0s
WMOK Wichita Mounta 1.85 214 Pn 23 29 32.4 +0.2
WMOK Wichita Mounta 1.85 214 P **Pn 23 29 32.6 +0.5**
baz=33,SNR=156
WMOK S **Sb 23 29 57.4 -0.2**
baz=33
WMOK Wichita Mounta 1.85 214 P 23 29 32.8
baz=33,SNR=64
WMOK S 23 29 57.1
baz=33
WMOK Wichita Mounta 1.85 214 P 23 29 32.6
baz=33,SNR=156
WMOK S 23 29 57.4
baz=33
LOOK Love County 2.31 173 Pn 23 29 38.7 +0.4
LOOK IAmb_Lg 23 30 15.6
comp=Z,197nm,0.9s
R32A Long Quarter, 2.33 336 Pn 23 29 39.1 +0.3
R32A Long Quarter, 2.33 336 P **Pn 23 29 39.1 +0.3**
baz=156,SNR=41
R32A S **Sn 23 30 08.5 +0.9**
baz=156
R32A Long Quarter, 2.33 336 P 23 29 39.1
baz=156,SNR=41
R32A S 23 30 08.5
baz=156
X37A Clayton 2.44 133 Pn 23 29 40.3 +0.2
X37A IAmb_Lg 23 30 23.0
comp=Z,257nm,0.7s
X37A Clayton 2.44 133 P **Pn 23 29 40.6 +0.4**
baz=315,SNR=25
X37A Clayton 2.44 133 P 23 29 40.6
baz=315,SNR=25
U38A Gravette 2.54 86 Pn 23 29 41.4 -0.1
U38A IAmb_Lg 23 30 19.5
comp=Z,146nm,0.8s
HHAR Hobbs 2.89 89 Pn 23 29 46.6 +0.2
HHAR IAmb_Lg 23 30 34.5
comp=Z,105nm,0.9s
KSU1 Kansas State U 2.90 14 Pn 23 29 47.1 +0.6
KSU1 IAmb_Lg 23 30 32.2
comp=Z,112nm,0.8s
KSU1 Kansas State U 2.90 14 P **Pn 23 29 47.1 +0.6**
baz=195,SNR=9.5
KSU1 Kansas State U 2.90 14 P 23 29 47.0
baz=195,SNR=11
KSU1 Kansas State U 2.90 14 P 23 29 47.1
baz=195,SNR=9.5
Z35A Perchaven, San 2.96 176 Pn 23 29 45.0 -2.3
CBKS Cedar Bluff 3.08 326 Pn 23 29 49.1 +0.1
CBKS Cedar Bluff 3.08 326 S **Sn 23 30 25.9 -0.1**
baz=145
CBKS Cedar Bluff 3.08 326 P 23 29 48.7
baz=145
CBKS S 23 30 25.7
baz=145
CBKS Cedar Bluff 3.08 326 S 23 30 25.9
baz=145
W39A Magazine 3.23 109 Pn 23 29 51.4 +0.4
W39A IAmb_Lg 23 30 48.2
comp=Z,282nm,0.9s
W39A Magazine 3.23 109 P **Pn 23 29 51.4 +0.4**
baz=291
W39A S **Sn 23 30 31.1 +1.5**
baz=291
W39A Magazine 3.23 109 P 23 29 51.4
baz=291,SNR=10
W39A Magazine 3.23 109 P 23 29 51.4
baz=291
W39A S 23 30 31.1
baz=291
S39A Bolivar 3.64 66 Pn 23 29 57.2 +0.5
S39A IAmb_Lg 23 30 57.7
comp=Z,262nm,0.9s
S39A Bolivar 3.64 66 P **Pn 23 29 57.3 +0.5**
baz=249,SNR=24
S39A Bolivar 3.64 66 P 23 29 57.3
baz=249,SNR=24
MIAR Mount Ida 3.66 117 Pn 23 29 56.9 0.0
MIAR IAmb_Lg 23 31 05.6
comp=Z,124nm,0.8s
MIAR Mount Ida 3.66 117 P **Pn 23 29 57.3 +0.4**
baz=300,SNR=40
MIAR Mount Ida 3.66 117 P 23 29 57.5
baz=300,SNR=36
MIAR S 23 30 40.9
baz=300
MIAR Mount Ida 3.66 117 P 23 29 57.3
baz=300,SNR=40
AMTX Amarillo 3.67 249 Pn **Pn 23 29 57.3 +0.1**
AMTX IAmb_Lg 23 31 00.6
comp=Z,176nm,0.9s
Z38A Mt. Pleasant 3.67 145 Pn 23 29 57.2 +0.1
U40A Yellville 3.77 88 Pn 23 29 58.3 -0.2
U40A IAmb_Lg 23 31 00.8
comp=Z,261nm,0.9s
U40A Yellville 3.77 88 P 23 29 58.7
baz=270,SNR=16
ABTX Abilene, Hawle 4.05 206 Pn **Pn 23 30 01.3 -1.1**
ABTX IAmb_Lg 23 31 09.3
comp=Z,140nm,0.8s
X40A Basin Creek Fa 4.23 114 Pn 23 30 05.7 +0.9
X40A IAmb_Lg 23 31 15.8
comp=Z,222nm,0.8s
X40A Basin Creek Fa 4.23 114 P 23 30 05.5
baz=296
WHTX Lake Whitney, 4.28 179 Pn 23 30 05.5 -0.1
WHTX Lake Whitney, 4.28 179 P 23 30 06.2
baz=359
WHTX S 23 30 55.8
baz=359
MGMO Mountain Grove 4.31 77 Pn 23 30 06.7 +0.8
MGMO IAmb_Lg 23 31 16.0
comp=Z,158nm,0.7s
WHAR Wooly Hollow 4.37 102 Pn 23 30 08.3 +1.7
WHAR IAmb_Lg 23 31 20.6
comp=Z,143nm,0.7s
FCAR Ozark Folk Cen 4.39 94 Pn 23 30 07.8 +0.9
FCAR IAmb_Lg 23 31 18.2
comp=Z,69nm,0.7s
W41B Gary Mavity, V 4.43 103 P 23 30 07.7
baz=286,SNR=6.2
W41B S 23 30 58.5
baz=286
N33A J Bar K, Exete 4.45 1 Pn 23 30 06.7 -1.1
N33A IAmb_Lg 23 31 22.6
comp=Z,61nm,1.1s
WLAR White Oak Lake 4.45 124 Pn 23 30 07.9 +0.1
WLAR IAmb_Lg 23 31 30.3
comp=Z,140nm,0.7s
237A Washetta, Mont 4.50 161 Pn Pn 23 30 08.2 -0.3
237A IAmb_Lg 23 31 32.6
comp=Z,73nm,0.9s
237A Washetta, Mont 4.50 161 P **Pn 23 30 08.2 -0.3**
baz=342,SNR=5.5
237A Washetta, Mont 4.50 161 P 23 30 08.2
baz=342,SNR=5.5
P38A Dawn 4.59 42 Pn Pn 23 30 09.9 +0.3
P38A IAmb_Lg 23 31 28.8
comp=Z,118nm,0.7s
R40A Maddies Statio 4.64 63 Pn 23 30 10.6 +0.1
R40A Maddies Statio 4.64 63 P **Pn 23 30 10.8 +0.3**
baz=246,SNR=11
R40A Maddies Statio 4.64 63 P 23 30 10.8
baz=246,SNR=11
N35A Tabor 4.80 17 Pn 23 30 12.3 -0.3
N35A Tabor 4.80 17 P **Pn 23 30 12.5 -0.1**
baz=198,SNR=9.3
N35A Tabor 4.80 17 P 23 30 12.5
baz=198,SNR=9.3
KSCO Kaye Shedlock' 4.88 305 Pn 23 30 13.4 -0.5
KSCO IAmb_Lg 23 31 46.8
comp=Z,73nm,0.7s
KSCO Kaye Shedlock' 4.88 305 P 23 30 13.8
baz=122
MSTX Muleshoe 4.88 243 Pn Pn 23 30 13.8 -0.1
MSTX Muleshoe 4.88 243 P 23 30 13.8
baz=60
Z41A Richland Creek 4.92 127 P 23 30 14.5
baz=309
Z41A S 23 31 10.0
baz=309
NATX Nacogdoches 5.10 151 Pn Pn 23 30 15.2 -1.6
NATX IAmb_Lg 23 31 54.0
comp=Z,58nm,0.8s
BGNE Belgrade 5.14 355 Pn Pn 23 30 16.5 -0.8
BGNE Pg **Pg 23 30 35.1 -3.4**
BGNE IAmb_Lg 23 31 46.5
comp=Z,115nm,0.8s
BGNE Belgrade 5.14 355 P 23 30 16.7
baz=174
BGNE S 23 31 14.7
baz=174
LCAR Lake Charles 5.16 91 Pn Pn 23 30 18.7 +1.2
LCAR IAmb_Lg 23 31 47.1
comp=Z,59nm,0.9s
T42A Van Buren 5.22 80 Pn 23 30 18.1 -0.3
T42A IAmb_Lg 23 31 49.3
comp=Z,109nm,0.9s
CCAR Cane Creek 5.27 115 Pn 23 30 19.3 +0.2
CCAR IAmb_Lg 23 31 54.2
comp=Z,157nm,0.9s
CCM Cathedral Cave 5.31 69 IAmb_Lg 23 31 56.6
comp=Z,115nm,0.8s
P40A Paris 5.40 52 Pn 23 30 21.5 +0.6
P40A IAmb_Lg 23 31 57.2
comp=Z,133nm,0.7s
435B Jarrell 5.49 181 Pn Pn 23 30 19.8 -2.3
435B Pg **Pg 23 30 40.8 -4.4**
435B IAmb_Lg 23 31 55.1
comp=Z,57nm,0.9s
435B Jarrell 5.49 181 S 23 31 25.5
baz=0.5
T25A Trinidad 5.60 281 Pn Pn 23 30 22.3 -1.5
T25A Pg **Pb 23 30 42.1 +3.9**
T25A IAmb_Lg 23 31 59.3
comp=Z,66nm,1.0s
T25A Trinidad 5.60 281 P 23 30 23.8
baz=97
N38A Joes South For 5.62 35 Pn Pn 23 30 23.1 -0.7
N38A Pg **Pb 23 30 41.4 +3.1**
L34A Svendsen Farm, 5.74 9 Pn Pn 23 30 25.8 +0.3
OGNE Ogallala 5.84 324 Pn Pn 23 30 27.6 +0.6
OGNE IAmb_Lg 23 32 11.5
comp=Z,100nm,0.8s
OGNE Ogallala 5.84 324 S 23 31 31.7
baz=142
FVM French Village 5.92 71 IAmb_Lg 23 32 11.7
comp=Z,85nm,0.7s
143A Socs Landing, 6.19 124 IAmb_Lg 23 32 19.9
comp=Z,106nm,0.8s
SCIA State Center 6.54 30 Pn Pn 23 30 36.8 +0.3
SCIA IAmb_Lg 23 32 35.9
comp=Z,118nm,0.9s
SCIA State Center 6.54 30 P 23 30 36.4
baz=212
SCIA S 23 31 49.4
baz=212
SDCO Great Sand Dun 6.55 285 Pn 23 30 36.7 -0.2
SDCO Great Sand Dun 6.55 285 P 23 30 37.0
baz=100
GLAT Glass 6.65 88 IAmb_Lg 23 32 39.6
comp=Z,118nm,0.7s
S44A Carbondale 6.76 76 IAmb_Lg 23 32 41.1
comp=Z,106nm,0.8s
OXF Oxford 6.86 103 IAmb_Lg 23 32 39.6
comp=Z,72nm,0.8s
OXF Oxford 6.86 103 S 23 31 57.3
baz=287
W45A Hickory Valley 6.87 97 IAmb_Lg 23 32 41.3
comp=Z,97nm,0.9s
Y45A Yeager Farm, C 6.97 108 IAmb_Lg 23 32 59.6
comp=Z,71nm,0.9s
UTMT University of 6.99 87 IAmb_Lg 23 33 01.4
comp=Z,113nm,0.8s
VBMS Vicksburg 7.08 123 IAmb_Lg 23 33 03.8
comp=Z,59nm,1.1s
Q44A Meyer Farm, Va 7.24 66 Pn Pn 23 30 45.7 -0.4
ISCO Idaho Springs 7.29 301 Pn Pn 23 30 46.2 -0.8
ISCO IAmb_Lg 23 32 52.3
comp=Z,30nm,0.8s
K38A Parkersburg 7.34 29 Pn 23 30 47.0 -0.4
ANMO Albuquerque 7.40 262 Pn Pn 23 30 48.3 -0.2
735A Kenedy 7.41 182 IAmb_Lg 23 33 05.4
comp=Z,34nm,0.8s
ECSD EROS Data Cent 7.47 5 IAmb_Lg 23 32 56.6
comp=Z,29nm,1.1s
ECSD EROS Data Cent 7.47 5 P 23 30 47.7
baz=186,SNR=15
ECSD S 23 32 10.1
baz=186
L40A Anamosa 7.56 38 Pn Pn 23 30 49.4 -1.1
L40A IAmb_Lg 23 33 08.2
comp=Z,78nm,0.8s
HDIL Hopedale 7.74 54 Pn 23 30 52.9 -0.1
HDIL Hopedale 7.74 54 P 23 30 53.2
baz=239
BNM Barren Site 7.75 257 Pn 23 30 54.1 +0.7
PLAL Pickwick Lake 7.80 97 Pn Pn 23 30 53.5 -0.3
PLAL IAmb_Lg 23 33 08.1
comp=Z,39nm,0.9s
WVT Waverly 7.84 88 Pn Pn 23 30 54.8 +0.5
OLIL Olney 7.88 69 IAmb_Lg 23 33 12.4
comp=Z,106nm,0.9s
146A Union 7.88 115 Pn Pn 23 30 54.7 -0.2
PHWY Pilot Hill 7.97 311 Pn Pn 23 30 55.7 -0.7
PHWY IAmb_Lg 23 33 23.7
comp=Z,50nm,0.8s
MNTX Cornudas Mount 7.97 237 Pn Pn 23 30 55.6 -0.6
MNTX Cornudas Mount 7.97 237 P 23 30 55.6
baz=53
SMCO Snowmass 8.03 294 IAmb_Lg 23 33 25.5
comp=Z,31nm,1.2s
SUSD Miller 8.22 353 IAmb_Lg 23 33 38.6
comp=Z,83nm,1.1s
I37A Lemond, Waseca 8.34 21 IAmb_Lg 23 33 31.4
comp=Z,54nm,0.8s
TX31 Lajitas Ar. Si 8.65 218 Pn 23 31 05.3 -0.3
TX32 Lajitas Array 8.65 218 Pn 23 31 05.0 -0.6
TXAR Lajitas Array 8.65 218 Pn **Pn 23 31 05.3 -0.2**
comp=Z,0.2nm,0.3s,baz=39,slow=13,SNR=15
TXAR Lg Lg 23 33 29.4
comp=Z,1.9nm,0.3s,baz=36,slow=31,SNR=8.9
TXAR Lajitas Array 8.65 218 Pn Pn 23 31 05.9 +0.4
JFWS Jewell Farm 8.68 38 Pn 23 31 05.1 -0.7
JFWS IAmb_Lg 23 33 34.9
comp=Z,87nm,0.7s
JFWS Jewell Farm 8.68 38 P 23 31 05.0
baz=223
X48A Hartselle 8.75 99 IAmb_Lg 23 33 46.1
comp=Z,25nm,0.8s
CLTN Cedars of Leba 9.05 88 IAmb_Lg 23 33 55.5
comp=Z,40nm,1.2s
SFIN Lafayette 9.15 60 IAmb_Lg 23 33 47.4
comp=Z,74nm,0.8s
WCI Wyandotte Cave 9.16 74 Pn Pn 23 31 12.4 0.0
WCI IAmb_Lg 23 34 04.7
comp=Z,43nm,0.8s
WCI Wyandotte Cave 9.16 74 P 23 31 12.9
baz=261
BLO Bloomington 9.18 68 Pn 23 31 12.5 -0.2
PV13 Radium Mtn., P 9.21 285 IAmb_Lg 23 34 05.0
comp=Z,22nm,1.0s
PV03 Paradox Valley 9.24 286 Pn Pn 23 31 13.7 -0.1
PV22 Blue Mesa, Par 9.24 287 Pn Pn 23 31 14.4 +0.6
I40A Norwalk 9.25 33 IAmb_Lg 23 33 52.2
comp=Z,45nm,0.9s
PV11 David Mesa, Pa 9.27 286 IAmb_Lg 23 34 18.5
comp=Z,41nm,1.2s
O20A White River Ci 9.27 298 IAmb_Lg 23 34 08.3
comp=Z,25nm,1.2s
RWWY Rawlins 9.27 309 Pn Pn 23 31 14.6 +0.4
RWWY IAmb_Lg 23 34 00.3
comp=Z,41nm,1.0s
RSSD Black Hills 9.28 330 Pn Pn 23 31 14.2 0.0
RSSD IAmb_Lg 23 33 59.4
comp=Z,24nm,0.9s
PV04 Paradox Valley 9.31 286 IAmb_Lg 23 34 06.8
comp=Z,25nm,1.1s
PV20 West Nyswonger 9.35 286 Pn Pn 23 31 15.5 +0.3
PV20 IAmb_Lg 23 34 14.1
comp=Z,24nm,1.3s
K22A Casper 9.42 315 IAmb_Lg 23 34 21.2
comp=Z,76nm,1.1s
Y49A Blount Mountai 9.42 102 IAmb_Lg 23 33 59.8
comp=Z,24nm,0.9s
U49A Red Boiling Sp 9.47 85 IAmb_Lg 23 34 09.0
comp=Z,21nm,0.8s
SWET Sewanee 9.48 93 IAmb_Lg 23 34 06.0
comp=Z,23nm,0.9s
SPMN Marine on St. 9.62 20 IAmb_Lg 23 34 30.1
comp=Z,34nm,0.9s
FPAL Fort Paine 9.88 97 Pn Pn 23 31 22.9 +0.6
W50A Signal Mountai 9.98 93 Pn Pn 23 31 24.3 +0.5
W50A IAmb_Lg 23 34 32.1
comp=Z,33nm,0.8s
W18A Petrified Fore 10.00 267 Pn Pn 23 31 23.2 -1.0
F36A Milaca 10.03 16 Pn 23 31 21.4 -3.0
R49A Shelbyville 10.04 75 Pn Pn 23 31 22.5 -2.0
I42A Draeger Farm, 10.05 38 Pn Pn 23 31 23.4 -1.2
O49A Covington 11.08 65 Pn Pn 23 31 39.0 +0.3
S51A Beattyville 11.23 79 Pn Pn 23 31 39.9 -0.9
PDAR Pinedale Array 11.32 309 Pn Pn 23 31 42.0 -0.2
comp=Z,0.2nm,0.3s,baz=124,slow=14,SNR=1.6
PDAR Lg Lg 23 34 52.7
comp=Z,0.9nm,0.3s,baz=117,slow=29,SNR=5.6
L48A N Adams 11.63 57 Pn Pn 23 31 45.5 -0.8
COWI Conover 11.65 30 Pn Pn 23 31 45.2 -1.4
B35A Bob, Littlefor 12.39 12 Pn Pn 23 31 53.6 -3.0
Q52A Bidwell 12.39 73 Pn Pn 23 31 53.9 -2.8
EYMN Ely 12.47 19 Pn Pn 23 31 54.2 -3.6
ULM Lac du Bonnet 14.01 4 Pn Pn 23 32 11.4 -7.3
comp=Z,0.3nm,0.3s,baz=176,slow=11,SNR=1.3
ULM Sn Sn 23 34 40.9 -13
comp=Z,0.3nm,0.3s,baz=100,slow=16,SNR=1.9
ULM Lg Lg 23 36 10.9
comp=Z,0.4nm,0.3s,baz=143,slow=8.3,SNR=1.6
ILAR Eielson Array 40.72 330 P **P 23 36 41.9 +1.0**
comp=Z,0.4nm,0.9s,baz=97,slow=7.5,SNR=2.9

TUL ***11*** *23:31:37.9±1.2, 36°28N±0.01×97°52W±0.01, h6km±7km, ML3.9, mb3.6/1(NEIC), mb_Lg3.9/141(NEIC), Mwr3.7/54(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=126.0*

ANF ***11*** *23:31:37.6±0.3, 36°30N×97°51W, h6km, ML4.2/6, Error ellipse: s-maj=2.4km s-min=2.1km az=166.0*

NEIC ***11*** *23:31:38.1±1.0, 36°28N±0°010×97°52W±0°02, h4km±7km, Error ellipse: s-maj=1.9km s-min=1.3km az=86.0*

NEIC ***11*** *23:31:38.1, 36°28N×97°52W, h5km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.67; Mθθ4.04; Mϕϕ-3.37; Mrθ-2.16; Mrϕ0.95; Mθϕ0.56; Fault plane solution: M₀4.47000×10¹⁴ NP1:φ₁215.89000°, δ62.22000°, λ178.04000°. NP2:φ₂306.80000°, δ88.27000°, λ27.79000°. Principal axes: T 4.9431, Plg21.0000°, Azm175.0000°; N -1.1801, Plg62.0000°, Azm310.0000°; P -3.7631, Plg18.0000°, Azm78.0000°;*

IDC ***11*** *23:31:40.1±2.4, 36°47N×97°47W, h0km, mb3.7/2, mb1 4.0/6, mb1mx3.6/40, mbtmp3.8/6, ML3.5/4, MS2.8/4, Ms1 2.8/4, ms1mx2.7/32 Error ellipse: s-maj=29.3km s-min=19.4km az=162.0*

ISC 11 23:31:38.0±1.1, 36°29N±0°02×97°52W±0°02, h6km±9km, n125, σ0°96/73, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**300**	Pg	**Pg**	**23 31 46.6**	**+0.2**
CROK				Sg	**Sg**	**23 31 53.0**	**+0.9**
OK029	**Liberty Lake**	**0.49**	**174**	Pg	**Pg**	**23 31 47.6**	**0.0**
BLOK	**Blackwell**	**0.53**	**27**	Pg	**Pg**	**23 31 48.5**	**+0.3**
BLOK	comp=Z,1μm,0.7s			IAmb_Lg		23 31 55.0	
BLOK				Sg	**Sg**	**23 31 55.9**	**+0.7**
GC02	**Grant County #**	**0.62**	**334**	Pg	**Pg**	**23 31 50.0**	**0.0**
GC02				Sg	**Sg**	**23 31 58.8**	**+0.6**
BCOK	**Bluff Creek, N**	**0.64**	**187**	Pg	**Pg**	**23 31 50.1**	**-0.1**
BCOK				Sg	**Sg**	**23 31 58.8**	**+0.4**
OK031	**S. Brethren Rd**	**0.64**	**121**	Pg	**Pg**	**23 31 50.4**	**0.0**
OK031				Sg	**Sg**	**23 31 59.0**	**+0.3**
QUOK	**Quay**	**0.67**	**100**	Pg	**Pg**	**23 31 50.8**	**0.0**
QUOK				Sg	**Sg**	**23 31 59.8**	**+0.4**
OK005	**Luther M Schoo**	**0.69**	**157**	Pg	**Pg**	**23 31 51.1**	**-0.1**
OK030	**Cody Creek RV**	**0.69**	**121**	Pg	**Pg**	**23 31 51.3**	**-0.1**
OK030				Sg	**Sg**	**23 32 00.7**	**+0.4**
OK009	**Oakdale Elemen**	**0.71**	**174**	Pg	**Pg**	**23 31 51.3**	**-0.3**
OK025	**Westminster Rd**	**0.72**	**168**	Pg	**Pg**	**23 31 51.7**	**-0.1**
KAN13	**South Haven SW**	**0.72**	**2**	Pg	**Pg**	**23 31 52.0**	**+0.1**
KAN14	**Manchester OK**	**0.76**	**332**	Pg	**Pg**	**23 31 52.4**	**-0.1**
OK032	**Salt Plains WL**	**0.76**	**313**	Pg	**Pg**	**23 31 52.4**	**-0.2**
KAN17	**Caldwell West**	**0.78**	**345**	Pg	**Pg**	**23 31 52.9**	**-0.1**
KAN09	**Caldwell North**	**0.85**	**355**	Pg	**Pg**	**23 31 54.2**	**-0.1**
KAN05	**Bluff City Nor**	**0.87**	**341**	Pg	**Pg**	**23 31 54.5**	**-0.1**
OKCFA	**Oklahoma City**	**0.87**	**176**	Pg	**Pg**	**23 31 54.3**	**-0.4**
OKCFA	comp=Z,1μm,1.1s			IAmb_Lg		23 32 05.9	
OKCFA	**Oklahoma City** baz=356	**0.87**	**176**	P	**Pg**	**23 31 54.4**	**-0.4**
OKCFA	baz=356			S	**Sg**	**23 32 06.4**	**+0.3**
OKCFA	**Oklahoma City** baz=356	**0.87**	**176**	P		23 31 54.4	
OKCFA	baz=356			S		23 32 06.4	
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**	Pg	**Pg**	**23 31 54.6**	**-0.3**
KS20	**Mayfield South**	**0.94**	**358**	Pg	**Pg**	**23 31 55.8**	**-0.2**
KAN10	**Anthony SW Sta**	**0.95**	**331**	Pg	**Pg**	**23 31 56.0**	**-0.3**
KAN08	**Anthony NE Sta**	**1.00**	**339**	Pg	**Pg**	**23 31 57.0**	**-0.3**
T35A	**Sooner Cattle**	**1.02**	**52**	Pg	**Pg**	**23 31 57.3**	**-0.3**
T35B	**Sooner Cattle** baz=232	**1.02**	**52**	P	**Pg**	**23 31 57.4**	**-0.2**
T35B	baz=232			S	**Sg**	**23 32 10.8**	**-0.1**
T35B	**Sooner Cattle** baz=232	**1.02**	**52**	P		23 31 57.4	
T35B	baz=232			S		23 32 10.8	
KAN16	**Harper SW Stat**	**1.03**	**335**	Pg	**Pg**	**23 31 57.5**	**-0.3**
FNO	**Franklin**	**1.03**	**175**	Pg	**Pg**	**23 31 57.2**	**-0.6**
FNO	comp=Z,2μm,1.0s			IAmb_Lg		23 32 11.0	
OK011	**Prague**	**1.05**	**140**	Pg	**Pg**	**23 31 57.5**	**-0.6**
KAN12	**Harper NE Stat**	**1.08**	**339**	Pg	**Pg**	**23 31 58.2**	**-0.5**
U32A	**Winter Ranch,**	**1.20**	**275**	Pg	**Pg**	**23 32 00.1**	**-0.9**
U32A	**Winter Ranch,** baz=94	**1.20**	**275**	P	**Pg**	**23 32 00.2**	**-0.8**
U32A	baz=94			S	**Sb**	**23 32 17.1**	**+0.1**
U32A	**Winter Ranch,** baz=94	**1.20**	**275**	P		23 32 00.2	
U32A	baz=94			S		23 32 17.1	
TUL1	**Leonard** baz=286	**1.45**	**105**	P	**Pn**	**23 32 04.1**	**-0.6**

TUL1				S		Sb	23 32 23.9	-0.1
	baz=286							
TUL1	**Leonard**	**1.45**	**105**	P			23 32 04.1	
	baz=286							
TUL1				S			23 32 23.9	
	baz=286							
X34A	**Smith Ranch, M**	**1.70**	**189**			**Pn**	**23 32 09.1**	**+0.9**
WMOK	**Wichita Mounta**	**1.86**	**214**			**Pn**	**23 32 11.1**	**+0.6**
WMOK	**Wichita Mounta**	**1.86**	**214**	P		**Pn**	**23 32 11.0**	**+0.6**
	baz=33							
WMOK				S		**Sb**	**23 32 35.7**	**-0.3**
	baz=33							
WMOK	**Wichita Mounta**	**1.86**	**214**	P			23 32 11.0	
	baz=33							
WMOK				S			23 32 35.7	
	baz=33							
LOOK	**Love County**	**2.31**	**173**	Pn		**Pn**	**23 32 17.6**	**+1.1**
LOOK				lAmb_Lg			23 32 53.4	
	comp=Z,354nm,0.9s							
R32A	**Long Quarter,**	**2.33**	**336**			**Pn**	**23 32 18.5**	**+1.6**
R32A	**Long Quarter,**	**2.33**	**336**	S		**Sn**	**23 32 46.6**	**+0.7**
	baz=156							
R32A	**Long Quarter,**	**2.33**	**336**	S			23 32 46.6	
	baz=156							
X37A	**Clayton**	**2.44**	**133**	P			23 32 19.2	
	baz=315							
X37A				Sb			23 32 54.5	
	baz=315							
X37A	**Clayton**	**2.44**	**133**			**Pn**	**23 32 19.4**	**+1.0**
X37A				lAmb_Lg			23 32 59.5	
	comp=Z,368nm,0.7s							
X37A	**Clayton**	**2.44**	**133**	P		**Pn**	**23 32 19.2**	**+0.9**
	baz=315							
X37A				Sb		**Sb**	**23 32 54.5**	**+2.0**
	baz=315							
U38A	**Gravette**	**2.53**	**86**	Pn		**Pn**	**23 32 21.0**	**+1.3**
U38A				lAmb_Lg			23 33 03.0	
	comp=Z,274nm,0.8s							
HHAR	**Hobbs**	**2.89**	**89**	Pn		**Pn**	**23 32 25.6**	**+1.0**
KSU1	**Kansas State U**	**2.90**	**14**	Pg		**Pg**	**23 32 32.1**	**-1.4**
KSU1				lAmb_Lg			23 33 11.8	
	comp=Z,312nm,0.9s							
Z35A	**Perchaven, San**	**2.96**	**176**	Pn		**Pn**	**23 32 25.9**	**+0.4**
CBKS	**Cedar Bluff**	**3.08**	**326**	lAmb_Lg			23 33 22.6	
	comp=Z,300nm,0.7s							
S39A	**Bolivar**	**3.64**	**66**	Pn		**Pn**	**23 32 36.2**	**+1.3**
S39A				lAmb_Lg			23 33 32.6	
	comp=Z,202nm,0.8s							
MIAR	**Mount Ida**	**3.66**	**117**	Pn		**Pn**	**23 32 36.4**	**+1.2**
MIAR				lAmb_Lg			23 33 42.4	
	comp=Z,228nm,0.9s							
Z38A	**Mt. Pleasant**	**3.67**	**145**	Pn		**Pn**	**23 32 36.7**	**+1.4**
AMTX	**Amarillo**	**3.67**	**249**	lAmb_Lg			23 33 41.0	
	comp=Z,429nm,0.7s							
U40A	**Yellville**	**3.77**	**88**	lAmb_Lg			23 33 36.8	
	comp=Z,342nm,0.7s							
ABTX	**Abilene, Hawle**	**4.06**	**206**	lAmb_Lg			23 33 48.9	
	comp=Z,374nm,0.9s							
X40A	**Basin Creek Fa**	**4.23**	**114**	lAmb_Lg			23 33 53.9	
	comp=Z,302nm,0.8s							
WHTX	**Lake Whitney**	**4.29**	**179**	Pn		**Pn**	**23 32 44.6**	**+0.8**
MGMO	**Mountain Grove**	**4.30**	**77**	lAmb_Lg			23 33 56.2	
	comp=Z,293nm,0.8s							
WHAR	**Wooly Hollow**	**4.37**	**102**	lAmb_Lg			23 34 00.0	
	comp=Z,302nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.39**	**94**	lAmb_Lg			23 34 05.2	
	comp=Z,149nm,0.8s							
N33A	**J Bar K, Exete**	**4.44**	**1**	lAmb_Lg			23 34 05.3	
	comp=Z,219nm,0.8s							
WLAR	**White Oak Lake**	**4.45**	**124**	lAmb_Lg			23 34 05.4	
	comp=Z,304nm,0.9s							
237A	**Washetta, Mont**	**4.50**	**161**	Pn		**Pn**	**23 32 46.3**	**-0.4**
237A				lAmb_Lg			23 34 01.6	
	comp=Z,147nm,0.9s							
P38A	**Dawn**	**4.58**	**42**	lAmb_Lg			23 34 13.8	
	comp=Z,304nm,1.0s							
KSCO	**Kaye Shedlock'**	**4.88**	**305**	lAmb_Lg			23 34 23.7	
	comp=Z,417nm,1.0s							
NATX	**Nacogdoches**	**5.10**	**151**	lAmb_Lg			23 34 30.7	
	comp=Z,192nm,1.2s							
BGNE	**Belgrade**	**5.14**	**355**	lAmb_Lg			23 34 33.2	
	comp=Z,273nm,0.8s							
T42A	**Van Buren**	**5.22**	**80**	lAmb_Lg			23 34 30.4	
	comp=Z,206nm,1.0s							
CCAR	**Cane Creek**	**5.27**	**115**	lAmb_Lg			23 34 34.8	
	comp=Z,242nm,0.9s							
CCM	**Cathedral Cave**	**5.31**	**69**	lAmb_Lg			23 34 26.0	
	comp=Z,287nm,1.0s							
P40A	**Paris**	**5.40**	**52**	lAmb_Lg			23 34 35.8	
	comp=Z,278nm,0.7s							
435B	**Jarrell**	**5.49**	**181**	lAmb_Lg			23 34 32.8	
	comp=Z,146nm,0.9s							
T25A	**Trinidad**	**5.60**	**281**	lAmb_Lg			23 34 41.4	
	comp=Z,211nm,0.8s							
PBMO	**Poplar Bluff**	**5.73**	**83**	lAmb_Lg			23 34 41.8	
	comp=Z,373nm,0.9s							
LPAR	**Lepanto**	**5.89**	**95**	lAmb_Lg			23 34 55.5	
	comp=Z,159nm,1.1s							
FVM	**French Village**	**5.91**	**71**	lAmb_Lg			23 34 52.4	
	comp=Z,211nm,0.8s							
143A	**Socs Landing,**	**6.19**	**124**	lAmb_Lg			23 35 00.1	
	comp=Z,199nm,0.8s							
PEBM	**Pemiscott Bayo**	**6.19**	**89**	lAmb_Lg			23 35 09.0	
	comp=Z,246nm,0.8s							
MET	**Memphis--Engin**	**6.28**	**98**	lAmb_Lg			23 35 14.5	
	comp=Z,188nm,0.8s							
LNXT	**Lenox**	**6.49**	**89**	lAmb_Lg			23 35 16.8	
	comp=Z,313nm,0.9s							
HENM	**Henderson Moun**	**6.50**	**84**	lAmb_Lg			23 35 09.5	
	comp=Z,284nm,0.8s							
SDCO	**Great Sand Dun**	**6.55**	**285**	lAmb_Lg			23 35 09.0	
	comp=Z,94nm,1.1s							
S44A	**Carbondale**	**6.76**	**76**	lAmb_Lg			23 35 15.0	
	comp=Z,300nm,0.7s							
SIUC	**Southern Illin**	**6.79**	**75**	lAmb_Lg			23 35 18.1	
	comp=Z,203nm,0.9s							
OXF	**Oxford**	**6.86**	**103**	lAmb_Lg			23 35 17.9	
	comp=Z,136nm,0.8s							
W45A	**Hickory Valley**	**6.87**	**97**	lAmb_Lg			23 35 21.9	
	comp=Z,194nm,0.8s							
Y45A	**Yeager Farm, C**	**6.97**	**108**	lAmb_Lg			23 35 37.9	
	comp=Z,88nm,0.9s							
ISCO	**Idaho Springs**	**7.29**	**301**	lAmb_Lg			23 35 30.6	
	comp=Z,115nm,0.8s							
735A	**Kenedy**	**7.42**	**182**	lAmb_Lg			23 35 47.4	
	comp=Z,83nm,0.8s							
L40A	**Anamosa**	**7.56**	**38**	lAmb_Lg			23 35 46.8	
	comp=Z,225nm,0.9s							
PLAL	**Pickwick Lake**	**7.80**	**97**	lAmb_Lg			23 35 52.3	
	comp=Z,102nm,1.1s							
OLIL	**Olney**	**7.87**	**69**	lAmb_Lg			23 35 50.7	
	comp=Z,218nm,0.8s							
PHWY	**Pilot Hill**	**7.97**	**311**	lAmb_Lg			23 36 02.4	
	comp=Z,187nm,0.8s							
MNTX	**Cornudas Mount**	**7.97**	**237**	lAmb_Lg			23 35 58.0	
	comp=Z,80nm,0.9s							
Y22D	**IRIS PASSCAL I**	**8.01**	**257**	lAmb_Lg			23 36 01.0	
	comp=Z,226nm,0.9s							
SUSD	**Miller**	**8.22**	**353**	lAmb_Lg			23 36 11.1	
	comp=Z,138nm,0.9s							
TXAR	**Lajitas Array**	**8.65**	**218**	Lg		Lg	23 36 07.3	
	comp=Z,3.2nm,0.3s,baz=42,slow=27,SNR=2.0							
TXAR				LR		LR	23 37 50.6	
	comp=Z,46nm,19.7s,baz=0.0,slow=42							
JFWS	**Jewell Farm**	**8.67**	**38**	lAmb_Lg			23 36 13.2	
	comp=Z,203nm,0.8s							
MVCO	**Mesa Verde**	**8.86**	**279**	lAmb_Lg			23 36 39.7	
	comp=Z,70nm,1.1s							
SFIN	**Lafayette**	**9.15**	**60**	lAmb_Lg			23 36 34.3	
	comp=Z,160nm,0.8s							
WCI	**Wyandotte Cave**	**9.15**	**74**	lAmb_Lg			23 36 43.3	
	comp=Z,96nm,0.8s							
PV13	**Radium Mtn., P**	**9.21**	**285**	lAmb_Lg			23 36 40.6	
	comp=Z,69nm,0.9s							
PV03	**Paradox Valley**	**9.24**	**286**	lAmb_Lg			23 36 40.8	
	comp=Z,64nm,1.3s							
I40A	**Norwalk**	**9.25**	**33**	lAmb_Lg			23 36 37.2	
	comp=Z,109nm,0.9s							
PV11	**David Mesa, Pa**	**9.27**	**286**	lAmb_Lg			23 36 45.1	
	comp=Z,77nm,1.0s							
O20A	**White River Ci**	**9.27**	**298**	lAmb_Lg			23 36 50.2	
	comp=Z,75nm,1.3s							
RWWY	**Rawlins**	**9.27**	**308**	lAmb_Lg			23 36 41.8	
	comp=Z,161nm,1.1s							
121A	**Cookes Peak, D**	**9.27**	**249**	lAmb_Lg			23 36 46.7	
	comp=Z,78nm,1.1s							
RSSD	**Black Hills**	**9.27**	**330**	lAmb_Lg			23 36 38.0	
	comp=Z,72nm,0.7s							
PV16	**Nyswonger Mesa**	**9.30**	**286**	lAmb_Lg			23 36 56.5	
	comp=Z,55nm,1.1s							
PV04	**Paradox Valley**	**9.31**	**286**	lAmb_Lg			23 36 44.5	
	comp=Z,83nm,1.1s							
HQIL	**Hanson Quary C**	**9.31**	**51**	lAmb_Lg			23 36 41.2	
	comp=Z,148nm,0.8s							
F33A	**5 Mile Ranch,**	**9.59**	**5**	lAmb_Lg			23 36 52.0	
	comp=Z,55nm,0.9s							
SPMN	**Marine on St.**	**9.61**	**20**	lAmb_Lg			23 36 52.2	
	comp=Z,107nm,1.1s							
W50A	**Signal Mountai**	**9.98**	**93**	lAmb_Lg			23 37 02.0	
	comp=Z,62nm,0.8s							
PDAR	**Pinedale Array**	**11.32**	**309**	Pn		**Pn**	**23 34 22.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=12,SNR=1.9							
PDAR				Lg		Lg	23 37 30.5	
	comp=Z,1.3nm,0.3s,baz=117,slow=31,SNR=3.3							
PDAR				LR		LR	23 38 37.8	
	comp=Z,64nm,19.6s,baz=293,slow=37							
AHID	**Auburn Hatcher**	**12.31**	**306**			**Pn**	**23 34 31.1**	**-2.9**
M50A	**Fremont**	**12.38**	**61**	Pn		**Pn**	**23 34 34.7**	**0.0**
B35A	**Bob, Littlefor**	**12.38**	**12**	Pn		**Pn**	**23 34 31.3**	**-3.4**
Q52A	**Bidwell**	**12.38**	**73**	Pn		**Pn**	**23 34 34.3**	**-0.5**
LOHW	**Long Hollow**	**12.41**	**310**	Pn		**Pn**	**23 34 35.4**	**0.0**
154A	**Montrose**	**12.45**	**103**	Pn		**Pn**	**23 34 35.8**	**+0.2**
ULM	**Lac du Bonnet**	**14.01**	**4**	Pn		Pn	23 34 51.7	-5.2
	comp=Z,0.5nm,0.3s,baz=180,slow=14,SNR=2.2							
ULM				Sn		Sn	23 37 20.1	-13
	comp=Z,1.0nm,0.3s,baz=267,slow=21,SNR=1.8							
ULM				Lg		Lg	23 38 49.5	
	comp=Z,0.3nm,0.3s,baz=276,slow=21,SNR=2.8							
ULM				LR		LR	23 40 24.0	
	comp=Z,61nm,19.7s,baz=162,slow=38							
O54A	**Avella**	**14.02**	**69**	Pn		**Pn**	**23 34 56.9**	**-0.3**
SADO	**Sadowa**	**16.31**	**53**	Pn		**Pn**	**23 35 25.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=254,slow=14,SNR=2.0							
SADO	**Sadowa**	**16.31**	**53**	lAmb		lAmb	23 35 44.0	
	comp=Z,5.0nm,1.0s							
NVAR	**Mina Array Bea**	**16.66**	**284**	Pn		**P**	**23 35 36.8**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=110,slow=10,SNR=2.3							
NVAR				LR		LR	23 41 10.4	
	comp=Z,26nm,21.9s,baz=274,slow=34							
YBH	**Yreka Blue Hor**	**20.29**	**293**	P		Pn	23 36 17.9	+1.5
	comp=Z,5.8nm,1.0s,baz=76,slow=8.2,SNR=5.5							
ILAR	**Eielson Array**	**40.72**	**330**	P		**P**	**23 39 20.5**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=113,slow=7.8,SNR=8.3							

*IDC **11** 23:31:45.4±3.5, 36°.53N×141°.95E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/41, mbtmp3.3/3, ML2.0/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/19, Error ellipse: s-maj=83.9km s-min=38.7km az=52.0*

*JMA **11** 23:31:45.6±0.1, 36°.47N×141°.98E, h46km, M2.5*

ISC 11 23:31:48.2±1.8, 36°.52N±0°.08×141°.8E±0°.1, h19km, n15, σ1s40/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.99**	**306**	P		**Pn**	**Sb**	**23 32 05.4**	**-1.7**
ONAJ				*eS*		**Sb**	**23 32 19.2**		**-0.2**
JHYU	**Hitachinakayam**	**0.99**	**260**	*eS*		**Sb**	**23 32 19.9**		**+0.6**
JHO	**Hitachi**	**0.99**	**276**	P		**Pn**	**23 32 05.6**		**-1.5**
CHOJ	**Chosi**	**1.11**	**223**	*eS*		**Sb**	**23 32 21.0**		**-1.9**
MJAR	**Matsushiro Arr**	**2.89**	**272**	Pn		**Pn**	**23 32 34.1**		**+0.9**
	0.2nm,0.3s,baz=92,slow=9.6,SNR=7.8								
MAT	**Matsushiro**	**2.89**	**272**	P		**Pn**	**23 32 34.3**		**+1.1**
KSRS	**Korea Array**	**11.13**	**279**	LR		LR	23 38 20.2		
	comp=Z,19nm,21.6s,baz=210,slow=35								
H11N2	**WAKE ISLAND Hy**	**27.62**	**120**	T		T	00 05 42.3		
	baz=313,slow=75,SNR=9.4								
H11N1	**WAKE ISLAND Hy**	**27.63**	**120**	T		T	00 05 50.8		
	baz=313,slow=75,SNR=7.1								
H11N3	**WAKE ISLAND Hy**	**27.64**	**120**	T		T	00 05 44.0		
	baz=313,slow=75,SNR=7.6								
H11S1	**WAKE ISLAND Hy**	**28.33**	**123**	T		T	00 06 49.5		
	baz=314								
H11S3	**WAKE ISLAND Hy**	**28.33**	**123**	T		T	00 06 48.3		
	baz=314								
H11S2	**WAKE ISLAND Hy**	**28.34**	**123**	T		T	00 06 46.7		
	baz=314								
MKAR	**Makanchi Array**	**44.65**	**303**	P		**P**	**23 40 00.2**		**+0.7**
	0.4nm,0.8s,baz=93,slow=8.9,SNR=3.7								
WRA	**Warramunga Arr**	**56.59**	**188**	P		**P**	**23 41 30.2**		**+0.4**
	0.4nm,0.6s,baz=7.0,slow=7.6,SNR=1.7								

*JMA **11** 23:40:14.4±0.3, 36°.42N×142°.35E, h21km, M3.0*

*IDC **11** 23:40:18.6±3.5, 36°.86N×141°.93E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/30, mbtmp3.2/3, ML2.1/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/16, Error ellipse: s-maj=80.7km s-min=40.6km az=53.0*

ISC 11 23:40:17.5±2.3, 36°.5N±0°.1×142°.1E±0°.2, h19km, n16, σ1s62/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.20**	**299**	P		**Pg**	**23 40 39.5**		**-1.1**
JHO	**Hitachi**	**1.24**	**274**	P		**Pn**	**23 40 39.7**		**-0.1**
CHOJ	**Chosi**	**1.31**	**231**	P		**Pn**	**23 40 39.4**		**-1.3**
JFT	**Otama**	**1.73**	**305**	P		**Pb**	**23 40 47.5**		**-1.1**
JFT				*eS*		**Sg**	**23 41 11.7**		**-1.5**
JAG	**Ashikaga**	**2.14**	**268**	P		**Pn**	**23 40 52.6**		**+0.4**
MJAR	**Matsushiro Arr**	**3.14**	**271**	Pn		**Pn**	**23 41 07.4**		**+1.4**
	0.2nm,0.3s,baz=83,slow=9.9,SNR=3.2								
MAT	**Matsushiro**	**3.14**	**271**	P		**Pn**	**23 41 08.2**		**+2.2**
MAT				*eS*		**Sb**	**23 41 52.3**		**+1.7**
KSRS	**Korea Array**	**11.38**	**279**	LR		LR	23 47 17.7		
	comp=Z,17nm,19.3s,baz=235,slow=37								
H11N2	**WAKE ISLAND Hy**	**27.41**	**121**	T		T	00 14 13.7		
	baz=313,slow=75,SNR=3.9								
H11N1	**WAKE ISLAND Hy**	**27.42**	**121**	T		T	00 14 23.1		
	baz=313,slow=75,SNR=4.3								
H11N3	**WAKE ISLAND Hy**	**27.43**	**121**	T		T	00 14 18.0		
	baz=313,slow=75,SNR=3.9								
H11S1	**WAKE ISLAND Hy**	**28.12**	**123**	T		T	00 15 17.3		
	baz=315								
H11S3	**WAKE ISLAND Hy**	**28.12**	**123**	T		T	00 15 20.5		
	baz=315								
H11S2	**WAKE ISLAND Hy**	**28.13**	**123**	T		T	00 15 19.6		
	baz=315								
MKAR	**Makanchi Array**	**44.86**	**303**	P		**P**	**23 48 31.9**		**+1.4**
	0.3nm,0.7s,baz=95,slow=9.2,SNR=2.8								
WRA	**Warramunga Arr**	**56.64**	**189**	P		P	23 50 05.6		+6.2
	0.4nm,0.6s,baz=5.3,slow=7.8,SNR=1.9								

JMA 11 23:43:11.9±0.2, 29°.27N×139°.80E, h307km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.02**	**135**	P		Pn		23 44 08.6	+0.2
CBIJ				*eS*		S		23 44 52.8	-0.8
JHH2	**Haha-jima-NKT2**	**3.36**	**141**	P		Pn		23 44 12.0	+0.2
JHH2				*eS*		S		23 44 58.9	-0.9
BSO3	**Boso 3**	**5.55**	**6**	*eS*		S		23 45 42.9	-0.4
BSO4	**Boso 4**	**5.72**	**4**	*eS*		S		23 45 46.8	-0.4
JAG	**Ashikaga**	**7.14**	**358**	P		Pn		23 44 55.3	+0.3
JHO	**Hitachi**	**7.35**	**5**	P		Pn		23 44 58.5	+1.0

*IDC **11** 23:55:12.2±1.5, 21°.67S×33°.15E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/28, mbtmp3.8/4, ML4.4/1, MS3.1/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=42.4km s-min=25.5km az=123.0*

*PRE **11** 23:55:13.0±1.2, 21°.48S×33°.17E, h5km, ML3.1*

*NEIC **11** 23:55:13.2±1.7, 21°.47S±0°.10×33°.36E±0°.05, h10km±2km, mb4.4/5, Error ellipse: s-maj=16.9km s-min=6.8km az=160.0*

ISC 11 23:55:12.7±0.6, 21°.44S±0°.05×33°.32E±0°.06, h13km, n52, σ2s10/66, mb3.8/5, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.72**	**220**	*eP*		**Pn**		**23 55 57.5**	**+1.4**
MOPA				*eS*		**Sn**		**23 56 28.9**	**-0.1**
MOPA				AML		AML		23 56 56.6	
	comp=Z,202nm,0.5s								
MMAL	**MMAL**	**4.98**	**202**	*eP*		**Pn**		**23 56 28.5**	**+1.3**
MAGG	**Maguga Dam**	**4.98**	**202**	*eP*		**Pn**		**23 56 28.6**	**+1.4**
HAGI	**HAGI**	**5.04**	**202**	*eP*		**Pn**		**23 56 28.6**	**+0.4**
CRLN	**Carolina, Mapu**	**5.44**	**213**	*eP*		**Pn**		**23 56 34.6**	**+0.9**
CRLN				*eS*		**Sn**		**23 57 34.0**	**-2.3**
CRLN				AML		AML		23 57 39.7	
	comp=Z,20nm,0.6s								
POGA	**Pongola**	**6.06**	**194**	*eP*		**Pn**		**23 56 44.0**	**+2.0**
POGA				*eS*		**Sn**		**23 57 49.8**	**-1.4**
POGA				AML		AML		23 58 31.2	
	comp=Z,47nm,0.6s								
POGA	**Pongola**	**6.06**	**194**	*i* P		**Pn**		**23 56 43.2**	**+1.2**
POGA				*i* S		**Sn**		**23 57 50.4**	**-0.9**
POGA				IAML				23 58 44.3	
	comp=Z,68nm,0.7s								
SLR	**Silverton**	**6.29**	**226**	*eP*		**Pn**		**23 56 46.2**	**+0.8**
SLR				*eS*		**Sn**		**23 57 53.4**	**-3.8**
SLR				AML		AML		23 58 06.7	
	comp=Z,22nm,0.5s								
ZOMB	**Zomba**	**6.33**	**18**	*i* P		**Pn**		**23 56 47.1**	**+1.2**
ZOMB				S		**Sn**		**23 57 56.5**	**-1.5**
ZOMB	**Zomba**	**6.33**	**18**	*i* P		**Pn**		**23 56 47.1**	**+1.2**
ZOMB				S		**Sn**		**23 57 56.5**	**-1.5**
ZOMB	**Zomba**	**6.33**	**18**	*i* P		**Pn**		**23 56 46.8**	**+1.0**
ZOMB				*i* S		**Sn**		**23 57 52.0**	**-6.0**
PRYS	**Parys**	**7.70**	**224**	*eP*		**Pn**		**23 57 05.9**	**+1.1**
PRYS				*eS*		**Sn**		**23 58 26.9**	**-5.1**
PRYS				AML		AML		23 58 38.7	
	comp=Z,12nm,0.6s								
LSZ	**Lusaka**	**7.83**	**321**			**Pn**		**23 57 07.5**	**+1.0**
LSZ				Sn		**Sn**		**23 58 32.3**	**-2.9**
LSZ	**Lusaka**	**7.83**	**321**	*i* P		**Pn**		**23 57 08.5**	**+1.9**
LSZ				IAML				23 59 18.7	
	comp=Z,81nm,0.7s								
LBTB	**Lobatse**	**7.94**	**242**	*eP*		**Pn**		**23 57 08.8**	**+0.8**
LBTB				*eS*		**Sn**		**23 58 33.7**	**-4.0**
LBTB				AML		AML		23 58 48.1	
	comp=Z,22nm,0.8s								
LBTB	**Lobatse**	**7.94**	**242**			**Pn**		**23 57 09.3**	**+1.4**
LBTB				Sn		**Sn**		**23 58 38.2**	**+0.5**
LBTB	**Lobatse**	**7.94**	**242**	*i* P		**Pn**		**23 57 09.8**	**+1.8**
LBTB				IAML				23 59 26.6	
	comp=Z,44nm,0.5s								
SWZ	**Schweizer**	**9.25**	**230**	*eP*		**Pn**		**23 57 27.2**	**+1.1**
SWZ				*eS*		**Sn**		**23 59 04.5**	**-5.7**
SWZ				AML		AML		23 59 16.1	
	comp=Z,13nm,0.5s								
BOSA	**Boshof**	**10.21**	**224**	Pn		**Pn**		**23 57 38.3**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=51,slow=15,SNR=28								
BOSA				Sn		**Sn**		**23 59 28.1**	**-5.6**
	comp=Z,1.3nm,0.3s,baz=344,slow=19,SNR=4.8								
BOSA				Lg		Lg		00 00 25.9	
	comp=Z,1.1nm,0.3s,baz=318,slow=20,SNR=3.1								
BOSA				LR		LR		00 01 46.8	
	comp=Z,92nm,18.1s,baz=42,slow=40								
BOSA	**Boshof**	**10.21**	**224**	*eP*		**Pn**		**23 57 39.7**	**+0.5**
BOSA	**Boshof**	**10.21**	**224**			**Pn**		**23 57 39.0**	**-0.2**
BOSA	**Boshof**	**10.21**	**224**	*i* P		**Pn**		**23 57 39.1**	**0.0**
BOSA				IAML				00 00 57.3	
	comp=Z,24nm,1.1s								
ENUK	**Enukweni**	**10.22**	**3**	*i* P		**Pn**		**23 57 39.4**	**-0.2**
ENUK				IAML				00 00 43.3	
	comp=Z,18nm,0.5s								
NGON	**Ngonga**	**10.46**	**3**	*i* P		**Pn**		**23 57 43.0**	**+0.4**
NGON				IAML				00 00 55.9	
	comp=Z,17nm,0.6s								
THAZ	**Thazima**	**10.56**	**1**	*i* P		**Pn**		**23 57 44.0**	**0.0**
THAZ				IAML				00 00 47.2	
	comp=Z,19nm,0.8s								
LIVA	**Livingstonia**	**10.79**	**4**	*i* P		**Pn**		**23 57 47.0**	**-0.2**
LIVA				IAML				00 00 55.3	
	comp=Z,32nm,0.7s								
NTHA	**Nthalire**	**11.03**	**2**	*i* P		**Pn**		**23 57 50.4**	**0.0**
WENY	**Wenya**	**11.22**	**1**	*i* P		**Pn**		**23 57 53.4**	**+0.2**
SCHM	**Mlare**	**11.22**	**4**	*i* P		**Pn**		**23 57 52.6**	**-0.4**
SCHM				IAML				00 01 18.4	
	comp=Z,18nm,0.8s								
KAPK	**Kapoka**	**11.60**	**1**	*i* P		**Pn**		**23 57 58.2**	**0.0**
ISOK	**Kyela**	**11.87**	**1**	*i* P		**Pn**		**23 57 57.3**	**-4.6**
ITUM	**Tunduma**	**11.97**	**359**	*i* P		**Pn**		**23 58 03.4**	**0.0**
ITUM				IAML				00 01 29.8	
	comp=Z,17nm,1.6s								
VOI	**Vohitsoka**	**12.54**	**95**	Pn		**Pn**		**23 58 09.7**	**-1.3**
PKA	**Prieska**	**12.56**	**227**	*eP*		**Pn**		**23 58 11.9**	**+0.7**
JILO	**Lwanjilo**	**12.65**	**1**	*i* P		**Pn**		**23 58 12.1**	**-0.6**
LOSI	**Makongolosi**	**12.98**	**359**	*i* P		**Pn**		**23 58 17.3**	**+0.1**
LOSI				IAML				00 02 11.2	
	comp=Z,8.2nm,0.9s								
SOE	**Somerset East**	**13.17**	**210**	*eP*		**Pn**		**23 58

comp=E,19nm,0.3s
PKI Pulchoki 9.43 302 *e*Pn **Pn 00 26 34.2 +1.5**
PKI *e*Sn **Sn 00 28 13.8 -3.3**
comp=E,26nm,0.3s
PKIN Phulchoki 9.45 302 *e*Pn **Pn 00 26 33.5 +0.7**
PKIN *e*Sn **Sn 00 28 13.5 -3.8**
comp=E,23nm,0.3s
KKN Kakani 9.64 302 *e*Pn **Pn 00 26 36.6 +1.3**
KKN *e*Sn **Sn 00 28 18.6 -3.3**
comp=E,10.0nm,0.2s
DMN Daman 9.69 301 *e*Pn **Pn 00 26 36.8 +0.7**
DMN *e*Sn **Sn 00 28 19.7 -3.5**
comp=E,26nm,0.5s
GKN Gorkha 10.24 302 *e*Pn **Pn 00 26 43.6 +0.1**
GKN *e*Sn **Sn 00 28 32.8 -3.6**
comp=E,27nm,0.3s
KOLN Koldanda 10.96 299 *e*Pn **Pn 00 26 53.6 +0.2**
KOLN *e*Sn **Sn 00 28 49.5 -4.6**
comp=E,40nm,0.4s
DANN Dangsing 11.09 302 *e*Pn **Pn 00 26 56.3 +1.2**
DANN *e*Sn **Sn 00 28 52.3 -4.9**
comp=E,14nm,0.4s
PSI Prapat 20.41 167 P **P 00 28 48.4 -0.3**
comp=E,120nm,0.6s,baz=0.1,slow=11,SNR=4.7
RPSI Rantau Prapat 20.51 167 P **P 00 28 48.4 -1.2**
TARG Taragay, Kyrgy 23.42 327 P **P 00 29 21.8 +1.8**
KDJ Kajisay 24.03 327 P **P 00 29 28.2 +3.0**
KDJ IAmb IAmb 00 29 29.9
comp=E,5.9nm,0.9s
KBL Kabul 25.07 303 P **P 00 29 38.3 +3.5**
AAK Ala-Archa 25.78 325 P **P 00 29 43.6 +2.5**
comp=Z,1.4nm,0.3s,baz=177,slow=5.4,SNR=1.9
MK31 Makanchi Array 25.82 341 P **P 00 29 43.2 +2.0**
MK31 IAmb IAmb 00 29 43.7
comp=Z,3.6nm,1.0s
MKAR Makanchi Array 25.82 341 P **P 00 29 43.1 +1.9**
comp=Z,1.7nm,0.4s,baz=144,slow=12,SNR=31
MKAR pP **sP 00 30 10.7 -4.5**
comp=Z,2.7nm,0.7s,baz=142,slow=10,SNR=7.3
MKAR Makanchi Array 25.82 341 P **P 00 29 43.0 +1.8**
MAKZ Makanchi 25.93 340 P **P 00 29 44.5 +2.3**
ZALV Zalesovo Beam 31.88 349 P **P 00 30 35.0 +0.1**
comp=Z,0.5nm,0.3s,baz=165,slow=10,SNR=2.7
ABKAR Akbulak array 37.83 323 P **P 00 31 28.0 +1.8**
ABKAR IAmb IAmb 00 31 28.3
comp=Z,2.3nm,0.5s
ABKAR Akbulak array 37.83 323 P **P 00 31 27.4 +1.2**
FITZ Fitzroy Crossi 50.86 141 P **P 00 33 08.4 -1.8**
FITZ IAmb IAmb 00 33 24.6
comp=Z,9.0nm,1.4s
KNRA Kununurra 50.94 136 P **P 00 33 09.1 -1.7**
WB0 Warramunga Arr 57.58 134 P **P 00 33 57.5 -1.5**
WRA Warramunga Arr 57.67 134 P **P 00 33 57.7 -1.9**
comp=Z,2.0nm,0.6s,baz=323,slow=7.5,SNR=32
WB2 Warramunga Arr 57.67 134 P **P 00 33 58.4 -1.3**
WB2 IAmb IAmb 00 34 08.4
comp=Z,11nm,1.4s
WR0 Warramunga Arr 57.81 134 P **P 00 33 59.2 -1.4**
FINES FINESS Array B 59.86 329 P **P 00 34 14.3 +0.1**
comp=Z,2.5nm,1.0s,baz=90,slow=6.1,SNR=3.4
FINES FINESS Array B 59.86 329 P **P 00 34 14.7 +0.5**
AS31 Alice Springs 60.08 138 P **P 00 34 15.5 -0.8**
AS31 IAmb IAmb 00 34 18.1
comp=Z,0.7nm,0.8s
ASAR Alice Springs 60.08 138 P **P 00 34 14.8 -1.5**
comp=Z,1.4nm,0.5s,baz=320,slow=6.9,SNR=22
ARCES ARCESS Array B 61.44 338 P **P 00 34 25.5 +0.7**
comp=Z,3.7nm,1.1s,baz=111,slow=9.7,SNR=0.9
GERES GERESS Array B 67.17 315 P **P 00 35 03.6 +0.8**
comp=Z,0.1nm,0.3s,baz=79,slow=10,SNR=2.2
BOSA Boshof 84.03 236 P **P 00 36 39.1 -0.1**
comp=Z,3.4nm,1.1s,baz=74,slow=5.1,SNR=4.1

INET ***12*** *00:52:12.2, 10˚.22N×84˚.90W, h58km, MW3.5*
UCR 12 00:52:15.2±1.4, 10˚.21N×84˚.97W, h59km±3km, MW3.6, 7C-17D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**0.08**	**13**	*e*P	Pn	00 52 23.9	-0.2
JTS				*e*S	Sn	00 52 30.8	+0.3
ARE1	**Arenal 1**	**0.35**	**45↑**	*i*P	Pn	00 52 26.0	+0.3
ARE1				*e*S	Sn	00 52 34.3	+1.1
CEDE	**Laguna Cedeo**	**0.38**	**44↑**	*i*P	Pn	00 52 25.2	-0.8
CEDE				*i* S	Sn	00 52 33.6	-0.1
FORC	**Fortuna**	**0.39**	**49↑**	*i*P	Pn	00 52 26.1	+0.1
LAFE	**Finca La Fe, P**	**0.41**	**172↑**	*i*P	Pn	00 52 26.0	-0.1
LAFE				*e*S	Sn	00 52 34.6	+0.6
ACAL	**Aguas Claras**	**0.42**	**351↓**	*i*P	Pn	00 52 26.5	+0.1
ACAL				*i* S	Sn	00 52 35.1	+0.5
CUI	**Cuipilapa**	**0.48**	**337↓**	*e*P	Pn	00 52 26.1	-0.9
SRA1	**San Ramn**	**0.50**	**104↓**	*i*P	Pn	00 52 27.2	0.0
SRA1				*e*S	Sn	00 52 36.7	+0.8
GUAI	**GUAI**	**0.53**	**276↓**	*i*P	Pn	00 52 27.9	+0.5
HORNC	**Hornillas**	**0.54**	**338↓**	*i*P	Pn	00 52 27.5	-0.1
JACO	**JACO, Garabito**	**0.63**	**151↑**	*i*P	Pn	00 52 28.5	0.0
JACO				*e*S	Sn	00 52 39.1	+0.9
GPS2	**Hotel Rincn d**	**0.66**	**325↓**	*i*P	Pn	00 52 29.1	+0.1
GPS2				*e*S	Sn	00 52 39.7	+0.8
LAPC	**Finca la Perla**	**0.72**	**321↓**	*i*P	Pn	00 52 28.6	-1.1
GRZA	**Playa Garza**	**0.72**	**246↓**	*e*P	Pn	00 52 29.2	-0.3
BUEV	**Buena Vista**	**0.72**	**324↓**	*i*P	Pn	00 52 29.9	+0.1
GB1A	**Boringuen Arri**	**0.74**	**325↓**	*i*P	Pn	00 52 30.1	+0.1
GBS3	**Finca Las Img**	**0.74**	**320**	*i* P	Pn	00 52 30.0	0.0
SAJU	**San Juanillo,**	**0.74**	**259**	*e*P	Pn	00 52 29.5	-0.4
BUAI	**Buenos Aires**	**0.75**	**332↓**	*i*P	Pn	00 52 29.2	-0.8
BUAI				*i* S	Sn	00 52 41.2	+0.3
COVE	**Coope Vega, Sa**	**0.75**	**48↑**	*e*P	Pn	00 52 29.9	-0.2
COVE				*e*S	Sn	00 52 41.0	0.0
HDC	**Heredia**	**0.87**	**104↓**	*i*P	Pn	00 52 31.8	+0.2
HDC				*e*S	Sn	00 52 45.1	+1.3
RIFO	**Rio Frio, Sara**	**1.04**	**84↓**	*i*P	Pn	00 52 33.9	+0.2
RIFO				*e*S	Sn	00 52 48.0	+0.6
OCM	**Ochomogo**	**1.04**	**107↓**	*e*P	Pn	00 52 34.1	+0.1
LCR2	**La Lucha 2**	**1.06**	**116↓**	*i*P	Pn	00 52 34.3	+0.1
LCR2				*e*S	Sn	00 52 49.2	+0.9
RIMA	**Rio Macho**	**1.18**	**112↓**	*e*P	Pn	00 52 36.2	+0.5
RIMA				*e*S	Sn	00 52 52.3	+1.3
CVTR	**Volcan Turrial**	**1.21**	**99↓**	*e*P	Pn	00 52 36.8	+0.5
CDM	**Cerro de Muert**	**1.36**	**119**	*e*P	Pn	00 52 39.1	+0.8
EDDO	**Dominical**	**1.45**	**131**	*e*P	Pn	00 52 41.1	+1.9
EDDO				*e*S	Sn	00 52 57.7	+0.6
PEZE	**Perez Zeledon,**	**1.52**	**123**	*e*P	Pn	00 52 41.1	+0.9
DRK0	**Durika**	**1.94**	**119**	*e*P	Pn	00 52 46.4	+0.3
PIRO	**Carate, Puerto**	**2.41**	**138↓**	*e*P	Pn	00 52 54.1	+1.8

ISK ***12*** *01:10:05.8, 38˚.41N×45˚.33E, h8km, ML3.0/4*
NSSP ***12*** *01:10:06.1, 38˚.47N×45˚.27E, h6km, Ms3.3*
DDA ***12*** *01:10:06.1, 38˚.34N×45˚.23E, h7km±3km, ML3.0*
AZER ***12*** *01:10:06.1±0.2, 38˚.48N×45˚.20E, h10km, ml3.5/29, Error ellipse: s-maj=3.3km s-min=2.2km az=240.0*
TEH ***12*** *01:10:06.7, 38˚.36N×45˚.33E, h6km, ML3.2*
ISC 12 01:10:06.2±1.1, 38˚.45N±0˚.02×45˚.27E±0˚.02, h10km±9km, n65, σt=33/107, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.43**	**52**	*e*Pg	**Pg**	**01 10 15.7**	**+1.0**
ITBZ	**Tabriz**	**0.72**	**107**	*e*Pg	**Pg**	**01 10 19.1**	**-1.0**
ITBZ				*e*Sg	**Sg**	**01 10 29.0**	**-0.6**
ORD	**Ordubad** SNR=148	**0.74**	**50**	P	**Pg**	**01 10 21.3**	**+0.8**
ORD				S	**Sb**	**01 10 32.4**	**+1.1**
NAX	**Nakhchivan** SNR=569	**0.74**	**13**	P	**Pb**	**01 10 21.6**	**+0.4**
NAX				S	**Sn**	**01 10 32.9**	**-1.3**
SBZ	**Shahbuz** SNR=40	**0.97**	**13**	P	**Pb**	**01 10 25.3**	**+0.1**
SBZ				S	**Sn**	**01 10 39.9**	**+0.1**
OZAP	**Van, Ozalp-Mer**	**1.03**	**282**	*i* P	**Pn**	**01 10 26.1**	**-0.7**
OZAP				*i* S	**Sn**	**01 10 40.6**	**-0.8**
OZAP				IAML		01 10 46.0	
	comp=N,365nm,0.7s						
BASK	**Baskale_VAN**	**1.07**	**249**	*i* P	**Pb**	**01 10 25.5**	**-1.5**
YOVA	**Hakkari_Yksek**	**1.16**	**222**	*i* P	**Pb**	**01 10 27.1**	**-1.3**
YOVA				*i* S	**Sn**	**01 10 46.0**	**+1.4**
CLDR	**Calidiran**	**1.27**	**304**	*i* P	**Pn**	**01 10 29.0**	**-1.1**
CLDR				*i* S	**Sn**	**01 10 46.2**	**-1.1**
CLDR				IAML		01 10 50.0	
	comp=E,295nm,0.3s						
CLDR				IAML		01 10 50.0	
	comp=N,224nm,0.4s						
HYR	**Heyderabad** SNR=16	**1.31**	**346**	P	**Pb**	**01 10 30.5**	**-0.4**
HYR				S	**Sg**	**01 10 49.7**	**+1.3**
IHRS	**Heris**	**1.40**	**95**	*e*Pg	**Pb**	**01 10 32.1**	**-0.4**
IHRS				*e*		01 10 35.6	
	comp=Z,12μm,0.2s						
VMUR	**Van-Muradiye**	**1.44**	**293**	*i* P	**Pg**	**01 10 34.3**	**+0.5**
VMUR				*i* S	**Sg**	**01 10 54.1**	**+1.7**
VMUR				IAML		01 10 57.0	
	comp=N,362nm,1.0s						
VMUR				IAML		01 10 58.0	
	comp=E,469nm,0.7s						
TVAN	**Van**	**1.47**	**274**	*i* P	**Pg**	**01 10 34.6**	**+0.3**
VANB	**Van**	**1.48**	**276**	PN	**Pg**	**01 10 33.8**	**-0.9**
VANB				SN	**Sg**	**01 10 54.4**	**+0.4**
HAKT	**HAKKARI**	**1.52**	**235**	*i* P	**Pb**	**01 10 33.0**	**-1.6**
ERCV	**ERCIS-VAN**	**1.62**	**291**	PN	**Pb**	**01 10 36.1**	**-0.1**
ERCV				SN	**Sg**	**01 10 58.3**	**+0.1**
NRKZ	**NAREK**	**1.62**	**343**	*e*P	**Pb**	**01 10 35.7**	**-0.5**
NRKZ				*e*S	**Sg**	**01 10 58.0**	**-0.3**
DYDN	**Diyadin**	**1.65**	**312**	*i* P	**Pg**	**01 10 37.2**	**-0.6**
IGDI	**IGDIR**	**1.69**	**327**	*i* P	**Pb**	**01 10 37.5**	**0.0**
MAHB	**Mahabad**	**1.71**	**168**	*e*Pg	**Pb**	**01 10 36.9**	**-0.9**
MAHB				*e*		01 11 09.0	
	comp=Z,3μm,0.5s						
TASB	**TASBURUN-IGDIR**	**1.73**	**333**	PN	**Pb**	**01 10 37.7**	**-0.4**
TASB				SN	**Sg**	**01 11 01.1**	**-0.7**
GEVA	**Gevas**	**1.75**	**266**	*i* P	**Pb**	**01 10 38.0**	**-0.4**
GEVA				*i* S	**Sg**	**01 11 02.3**	**0.0**
GNI	**Garni**	**1.75**	**347**	*i* P	**Pb**	**01 10 38.2**	**-0.2**
GNI				*i* S	**Sg**	**01 11 02.4**	**0.0**
GNI	**Garni**	**1.75**	**347**	PN	**Pb**	**01 10 37.9**	**-0.5**
CUKT	**Cukurca**	**1.78**	**228**	*i* P	**Pb**	**01 10 37.8**	**-1.2**
CUKT	**Cukurca**	**1.78**	**228**	PN	**Pb**	**01 10 37.8**	**-1.2**
AKDM	**Akdamar-Van**	**1.81**	**267**	PN	**Pb**	**01 10 38.6**	**-0.8**
QRD	**Qoradiz** SNR=6.9	**1.89**	**57**	Pn	**Pb**	**01 10 41.2**	**+0.5**
QRD				Sn	**Sg**	**01 11 07.1**	**+0.2**
KAPZ	**Kaputan**	**1.92**	**347**	*e*P	**Pb**	**01 10 41.3**	**-0.1**
KAPZ				*e*S	**Sg**	**01 11 08.4**	**+0.4**
METS	**Metsamor**	**1.93**	**332**	*e*P	**Pb**	**01 10 40.6**	**-1.0**
METS				*e*S	**Sb**	**01 11 06.3**	**+0.6**
IHSH	**Hashtrud**	**1.94**	**125**	*e*Pn	**Pb**	**01 10 40.9**	**-1.0**
IHSH				*e*		01 10 44.4	
	comp=Z,4μm,0.2s						
ISRB	**Sarab**	**1.99**	**108**	*e*Pn	**Pb**	**01 10 41.7**	**-0.8**
ISRB				*e*		01 10 45.6	
	comp=Z,3μm,0.3s						
VNNZ	**Vanand**	**2.00**	**326**	*e*P	**Pb**	**01 10 42.7**	**0.0**
VNNZ				*e*S	**Sg**	**01 11 09.8**	**-0.6**
ADCV	**BITLIS_Adilcev**	**2.03**	**281**	*i* P	**Pb**	**01 10 42.7**	**-0.5**
ADCV				*i* S	**Sg**	**01 11 13.4**	**+2.0**
ADCV				IAML		01 11 17.0	
	comp=E,114nm,0.8s						
KOTA	**Agri, Merkez-K**	**2.10**	**311**	*i* P	**Pg**	**01 10 45.9**	**-0.6**
KOTA				*i* S	**Sg**	**01 11 17.8**	**+4.1**
AGDM	**Agdam** SNR=12	**2.19**	**40**	Pn	**Pb**	**01 10 46.1**	**+0.3**
AGDM				Sn	**Sg**	**01 11 16.9**	**+0.5**
BLQ	**Beylaqan** SNR=16	**2.19**	**54**	Pn	**Pb**	**01 10 44.8**	**-1.0**
BLQ				Sn	**Sg**	**01 11 15.5**	**-0.9**
PERV	**Siirt/Pervari-**	**2.21**	**258**	*i* P	**Pn**	**01 10 43.2**	**+0.2**
GDB	**GEDABAY** SNR=34	**2.30**	**9**	Pn	**Pb**	**01 10 47.1**	**-0.8**
GDB				Sn	**Sg**	**01 11 19.0**	**-1.0**
BRDA	**Brd** SNR=5.3	**2.34**	**39**	Pn	**Pb**	**01 10 48.2**	**-0.1**
BRDA				Sn	**Sg**	**01 11 21.3**	**0.0**
GANJ	**Ganja** SNR=30	**2.34**	**20**	Pn	**Pb**	**01 10 48.8**	**+0.4**
GANJ				Sn	**Sg**	**01 11 21.2**	**-0.2**
YRD	**Yardimli** SNR=37	**2.37**	**78**	Pn	**Pb**	**01 10 48.0**	**-1.0**
YRD				Sn	**Sg**	**01 11 22.1**	**-0.2**
LRK	**Lerik** SNR=53	**2.41**	**84**	Pn	**Pb**	**01 10 48.2**	**-1.6**
LRK				Sn	**Sg**	**01 11 22.2**	**-1.5**
BLIS	**Bitlis-Merkez**	**2.48**	**270**	*i* P	**Pb**	**01 10 49.4**	**-1.5**
GLBA	**Clilabad** SNR=23	**2.56**	**71**	Pn	**Pb**	**01 10 52.2**	**0.0**
GLBA				Sn	**Sg**	**01 11 27.5**	**-1.0**
QZX	**Qazax, Azerbai** SNR=30	**2.61**	**2**	Pn	**Pb**	**01 10 53.0**	**0.0**
QZX				Sn	**Sb**	**01 11 25.8**	**+0.7**
ZRD	**Zardab** SNR=6.3	**2.61**	**45**	Pn	**Pb**	**01 10 52.5**	**-0.5**
ZRD				Sn	**Sb**	**01 11 27.9**	**+2.8**
MNGR	**Mingechevir, A**	**2.71**	**31**	Pn	**Pb**	**01 10 54.1**	**-0.6**
MNGR				Sn	**Sb**	**01 11 29.9**	**+1.9**
LKRN	**Lenkeran, Azer** SNR=4.5	**2.76**	**84**	Pn	**Pb**	**01 10 55.7**	**+0.2**
LKRN				Sn	**Sb**	**01 11 32.6**	**+3.2**
ASTR	**Astara** SNR=12	**2.76**	**87**	Pn	**Pb**	**01 10 53.3**	**-2.3**
ASTR				Sn	**Sb**	**01 11 30.6**	**+1.2**
KDMR	**Kurdemir**	**2.96**	**49**	Sn	**Sb**	**01 11 36.2**	**+0.9**
SEKA	**Sheki** SNR=9.9	**3.13**	**28**	Pn	**Pb**	**01 11 01.5**	**-0.4**
SEKA				Sn	**Sb**	**01 11 41.6**	**+1.5**
QBL	**Gabala** SNR=4.7	**3.18**	**38**	Pn	**Pb**	**01 11 01.1**	**-1.7**
QBL				Sn	**Sb**	**01 11 42.8**	**+1.2**
IML	**Ismayilli**	**3.24**	**43**	Sn	**Sb**	**01 11 44.3**	**+0.9**
ZKTA	**Zakatala** SNR=4.2	**3.35**	**18**	Pn	**Pb**	**01 11 03.2**	**-2.4**
ZKTA				Sn	**Sb**	**01 11 45.0**	**-1.4**
PQL	**Pirkuli**	**3.47**	**47**	Pn	**Pb**	**01 11 05.6**	**-2.1**
PQL				Sn	**Sb**	**01 11 49.9**	**-0.1**
XNQ	**Khinaliq**	**3.50**	**38**	Pn	**Pb**	**01 11 05.4**	**-2.9**
XNQ				Sn	**Sb**	**01 11 51.4**	**+0.4**
GBS	**Qobustan**	**3.52**	**53**	Sn	**Sb**	**01 11 51.9**	**+0.5**
QSDN	**Sirdan**	**3.66**	**121**	*e*Pn	**Pn**	**01 11 04.5**	**+1.5**
QSDN				*e*		01 12 08.9	
	comp=Z,514nm,0.7s						
ILIN	**Lien**	**3.78**	**158**	*e*Pn	**Pn**	**01 11 07.4**	**+2.8**
QUBA	**Quba, Azerbaij**	**3.81**	**39**	Pn	**Pb**	**01 11 10.6**	**-3.0**
QUBA				Sn	**Sb**	**01 11 57.3**	**-2.5**
QSAR	**Qusar**	**3.83**	**36**	Pn	**Pb**	**01 11 09.4**	**-4.3**
QSAR				Sn	**Sb**	**01 11 59.4**	**-0.8**
SIZA	**Siyzn**	**3.83**	**46**	Pn	**Pb**	**01 11 11.8**	**-2.1**
SIZA				Sn	**Sb**	**01 12 01.0**	**+0.6**
QABG	**Abgarm-Qazvin**	**4.40**	**127**	*e*Pn	**Pn**	**01 11 13.1**	**-0.1**
QALM	**Alamut, Qazvin**	**4.73**	**114**	*e*Pn	**Pn**	**01 11 19.8**	**+2.1**

NEIC ***12*** *01:13:55.1±0.7, 36˚.28N±0˚.02×97˚.52W±0˚.06, h4km±7km, Error ellipse: s-maj=7.3km s-min=2.3km az=70.0*
TUL ***12*** *01:13:55.1±0.8, 36˚.28N±0˚.02×97˚.52W±0˚.05, h6km±7km, ML2.9, mb_Lg3.0/97(NEIC), Error ellipse: s-maj=5.9km s-min=2.3km az=69.0*
ANF ***12*** *01:13:55.4±0.4, 36˚.27N×97˚.50W, h6km, ML3.7/11, Error ellipse: s-maj=3.9km s-min=3.2km az=123.0*
ISC 12 01:13:55.2±1.1, 36˚.28N±0˚.02×97˚.52W±0˚.02, h7km±10km, n112, σ0s52/98, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**301**		**Pg**	**01 14 03.8**	**+0.1**
CROK				Sg	**Sg**	**01 14 10.1**	**+0.7**
OK029	**Liberty Lake**	**0.48**	**174**		**Pg**	**01 14 04.5**	**0.0**
BLOK	**Blackwell**	**0.54**	**27**	Pg	**Pg**	**01 14 05.7**	**0.0**
BLOK				Sg	**Sg**	**01 14 13.2**	**+0.5**
BCOK	**Bluff Creek, N**	**0.62**	**187**	Pg	**Pg**	**01 14 07.1**	**-0.1**
BCOK				Sg	**Sg**	**01 14 15.8**	**+0.5**
BCOK				IAmb_Lg		01 14 16.3	
	comp=Z,321nm,0.8s						
GC02	**Grant County #**	**0.63**	**334**		**Pg**	**01 14 07.3**	**-0.2**
GC02				Sg	**Sg**	**01 14 16.1**	**+0.4**
OK031	**S. Brethren Rd**	**0.64**	**120**	Pg	**Pg**	**01 14 07.4**	**-0.1**
QUOK	**Quay**	**0.66**	**99**		**Pg**	**01 14 07.9**	**-0.1**
QUOK				Sg	**Sg**	**01 14 16.5**	**-0.1**
OK030	**Cody Creek RV**	**0.69**	**120**		**Pg**	**01 14 08.4**	**-0.1**
OK030				Sg	**Sg**	**01 14 17.8**	**+0.3**
OK025	**Westminster Rd**	**0.71**	**168**		**Pg**	**01 14 08.9**	**0.0**
KAN13	**South Haven SW**	**0.73**	**3**		**Pg**	**01 14 09.2**	**-0.1**
KAN14	**Manchester OK**	**0.77**	**332**		**Pg**	**01 14 09.7**	**-0.2**
OK032	**Salt Plains WL**	**0.77**	**313**		**Pg**	**01 14 09.7**	**-0.2**
KAN17	**Caldwell West**	**0.79**	**346**		**Pg**	**01 14 10.2**	**-0.2**
KAN09	**Caldwell North**	**0.86**	**355**		**Pg**	**01 14 11.4**	**-0.3**
OKCFA	**Oklahoma City**	**0.86**	**176**		**Pg**	**01 14 11.5**	**-0.3**
OKCFA	**Oklahoma City** baz=357,SNR=12	**0.86**	**176**	P	**Pg**	**01 14 11.5**	**-0.3**
OKCFA				S	**Sg**	**01 14 23.4**	**+0.4**
	baz=357						
OKCFA	**Oklahoma City** baz=357,SNR=12	**0.86**	**176**	P		01 14 11.5	
OKCFA				S		01 14 23.4	
	baz=357						
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**		**Pg**	**01 14 11.7**	**-0.3**
KS20	**Mayfield South**	**0.95**	**358**		**Pg**	**01 14 13.1**	**-0.4**
KAN10	**Anthony SW Sta**	**0.96**	**331**		**Pg**	**01 14 13.2**	**-0.5**
KAN08	**Anthony NE Sta**	**1.01**	**339**		**Pg**	**01 14 14.2**	**-0.4**
FNO	**Franklin**	**1.02**	**175**		**Pg**	**01 14 14.3**	**-0.5**
T35A	**Sooner Cattle**	**1.03**	**52**		**Pg**	**01 14 14.5**	**-0.5**
T35B	**Sooner Cattle** baz=232,SNR=116	**1.03**	**52**	P	**Pg**	**01 14 14.4**	**-0.6**
T35B				S	**Sg**	**01 14 28.0**	**-0.4**
	baz=232						
T35B	**Sooner Cattle** baz=232,SNR=116	**1.03**	**52**	P		01 14 14.4	
T35B				S		01 14 28.0	
	baz=232						
KAN16	**Harper SW Stat**	**1.04**	**335**		**Pg**	**01 14 14.8**	**-0.5**
U32A	**Winter Ranch,**	**1.20**	**275**		**Pg**	**01 14 17.3**	**-0.9**
U32A	**Winter Ranch,** baz=94,SNR=79	**1.20**	**275**	P	**Pg**	**01 14 17.4**	**-0.8**
U32A	**Winter Ranch,** baz=94,SNR=79	**1.20**	**275**	P		01 14 17.4	
TUL1	**Leonard** baz=285,SNR=155	**1.45**	**104**	P	**Pn**	**01 14 21.1**	**-0.7**
TUL1				S	**Sb**	**01 14 40.7**	**-0.4**
	baz=285						
TUL1	**Leonard** baz=285,SNR=155	**1.45**	**104**	P		01 14 21.1	
TUL1				S		01 14 40.7	
	baz=285						
X34A	**Smith Ranch, M**	**1.69**	**189**	Pn	**Pn**	**01 14 25.8**	**+0.5**
WMOK	**Wichita Mounta**	**1.85**	**214**		**Pn**	**01 14 27.5**	**+0.1**
WMOK	**Wichita Mounta** baz=33,SNR=143	**1.85**	**214**	P	**Pn**	**01 14 27.9**	**+0.4**
WMOK				S	**Sb**	**01 14 52.8**	**0.0**
	baz=33						
WMOK	**Wichita Mounta** baz=33,SNR=143	**1.85**	**214**	P		01 14 27.9	
WMOK				S		01 14 52.8	
	baz=33						
LOOK	**Love County**	**2.30**	**173**		**Pn**	**01 14 34.5**	**+0.9**
LOOK					LR	01 15 08.0	
LOOK				IAmb_Lg		01 15 11.8	
	comp=Z,53nm,1.0s						
R32A	**Long Quarter,**	**2.34**	**336**		**Pn**	**01 14 34.8**	**+0.6**
R32A	**Long Quarter,** baz=156,SNR=21	**2.34**	**336**	P	**Pn**	**01 14 35.7**	**+1.5**
R32A				S	**Sn**	**01 15 04.3**	**+1.1**
	baz=156						
R32A	**Long Quarter,** baz=156,SNR=21	**2.34**	**336**	P		01 14 35.7	
R32A				S		01 15 04.3	
	baz=156						
X37A	**Clayton**	**2.43**	**133**		**Pn**	**01 14 35.5**	**+0.1**
X37A				IAmb_Lg		01 15 15.8	
	comp=Z,76nm,0.8s						
X37A	**Clayton** baz=315,SNR=12	**2.43**	**133**	P	**Pn**	**01 14 36.2**	**+0.8**
X37A	**Clayton** baz=315,SNR=12	**2.43**	**133**	P		01 14 36.2	
U38A	**Gravette**	**2.53**	**85**		**Pn**	**01 14 37.6**	**+0.8**
U38A	**Gravette** baz=267,SNR=50	**2.53**	**85**	P	**Pn**	**01 14 38.2**	**+1.3**
U38A	**Gravette** baz=267,SNR=50	**2.53**	**85**	P		01 14 38.2	
HHAR	**Hobbs**	**2.89**	**89**		**Pn**	**01 14 42.3**	**+0.5**
KSU1	**Kansas State U**	**2.91**	**14**	Pn	**Pn**	**01 14 41.5**	**-0.5**
KSU1				IAmb_Lg		01 15 34.9	
	comp=Z,35nm,0.8s						
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	**Pn**	**01 14 42.7**	**+0.1**
CBKS	**Cedar Bluff**	**3.08**	**326**	Pn	**Pn**	**01 14 44.2**	**-0.2**
W39A	**Magazine**	**3.23**	**108**		**Pn**	**01 14 46.3**	**0.0**
S39A	**Bolivar**	**3.64**	**66**		**Pn**	**01 14 52.6**	**+0.5**
S39A	**Bolivar** baz=248,SNR=29	**3.64**	**66**	P	**Pn**	**01 14 52.8**	**+0.7**
S39A	**Bolivar** baz=248,SNR=29	**3.64**	**66**	P		01 14 52.8	
MIAR	**Mount Ida**	**3.66**	**117**		**Pn**	**01 14 51.7**	**-0.5**
MIAR				IAmb_Lg		01 15 59.0	
	comp=Z,28nm,0.9s						
MIAR	**Mount Ida** baz=300,SNR=36	**3.66**	**117**	P	**Pn**	**01 14 53.2**	**+0.9**
MIAR	**Mount Ida** baz=300,SNR=36	**3.66**	**117**	P		01 14 53.2	
Z38A	**Mt. Pleasant**	**3.66**	**145**	Pn	**Pn**	**01 14 52.1**	**-0.2**
Z38A					Lg	01 15 55.0	
Z38A				IAmb_Lg		01 16 01.3	
	comp=Z,51nm,0.8s						
AMTX	**Amarillo**	**3.67**	**249**	Pn	**Pn**	**01 14 52.9**	**+0.4**
AMTX				IAmb_Lg		01 15 55.8	
	comp=Z,36nm,0.7s						
U40A	**Yellville**	**3.77**	**87**		**Pn**	**01 14 54.3**	**+0.5**
U40A				IAmb_Lg		01 15 57.1	
	comp=Z,47nm,0.7s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	Pn	**Pn**	**01 14 57.8**	**+0.1**
ABTX				IAmb_Lg		01 16 04.6	
	comp=Z,45nm,0.8s						
X40A	**Basin Creek Fa**	**4.22**	**114**		**Pn**	**01 14 59.3**	**-0.8**
X40A				IAmb_Lg		01 16 17.5	
	comp=Z,45nm,0.9s						
WHTX	**Lake Whitney,**	**4.28**	**179**	Pn	**Pn**	**01 15 00.9**	**+0.1**
MGMO	**Mountain Grove**	**4.31**	**77**		**Pn**	**01 15 01.2**	**0.0**
MGMO				IAmb_

comp=Z,36nm,0.8s
FVM French Village 5.92 71 Pn **Pn 01 15 23.2 -0.1**
FVM lAmb_Lg 01 17 09.8
comp=Z,22nm,0.7s
JCT Junction City 6.09 199 Pn **Pn 01 15 25.3 -0.4**
PEBM Pemiscott Bayo 6.19 89 Pn **Pn 01 15 26.8 -0.3**
K31A O'Neill 6.41 352 lAmb_Lg 01 17 32.6
comp=Z,29nm,0.9s
SDCO Great Sand Dun 6.55 285 **Pn 01 15 32.2 -0.1**
HICK Hickman 6.69 85 lAmb_Lg 01 17 38.4
comp=Z,33nm,0.7s
S44A Carbondale 6.76 75 lAmb_Lg 01 17 38.8
comp=Z,26nm,0.7s
SIUC Southern Illin 6.80 75 lAmb_Lg 01 17 39.1
comp=Z,29nm,1.0s
OXF Oxford 6.85 103 lAmb_Lg 01 17 27.6
comp=Z,27nm,0.9s
W45A Hickory Valley 6.87 97 lAmb_Lg 01 17 38.9
comp=Z,29nm,0.8s
Q44A Meyer Farm, Va 7.24 66 Pn **Pn 01 15 41.9 +0.4**
ISCO Idaho Springs 7.29 301 Pn **Pn 01 15 42.4 -0.1**
ISCO LR 01 17 42.0
ANMO Albuquerque 7.40 262 Pn **Pn 01 15 43.9 0.0**
ECSD EROS Data Cent 7.48 5 Pn **Pn 01 15 44.4 -0.4**
ECSD lAmb_Lg 01 17 52.0
comp=Z,10nm,1.1s
L40A Anamosa 7.57 38 lAmb_Lg 01 18 03.4
comp=Z,20nm,0.9s
HDIL Hopedale 7.74 54 Pn **Pn 01 15 48.2 -0.1**
BNM Barren Site 7.75 257 Pn **Pn 01 15 48.5 -0.3**
BNM LR 01 17 59.0
PLAL Pickwick Lake 7.80 97 lAmb_Lg 01 18 01.0
comp=Z,11nm,1.0s
WVT Waverly 7.83 88 Pn **Pn 01 15 50.3 +0.7**
WVT LR 01 17 59.0
OLIL Olney 7.88 69 lAmb_Lg 01 18 22.9
comp=Z,24nm,0.9s
MNTX Cornudas Mount 7.97 237 Pn **Pn 01 15 51.5 0.0**
PHWY Pilot Hill 7.97 311 lAmb_Lg 01 18 19.6
comp=Z,13nm,0.8s
SMCO Snowmass 8.03 294 Pn **Pn 01 15 53.6 +0.9**
SMCO LR 01 18 11.6
O44A Mansfield 8.11 59 lAmb_Lg 01 18 20.0
comp=Z,24nm,0.8s
I37A Lemond, Waseca 8.34 21 lAmb_Lg 01 18 31.4
comp=Z,20nm,1.0s
T47A Sharon Grove 8.40 82 lAmb_Lg 01 18 36.4
comp=Z,14nm,0.9s
TX31 Lajitas Ar. Si 8.64 218 Pn **Pn 01 16 00.5 -0.4**
TX32 Lajitas Array 8.64 218 Pn **Pn 01 15 59.9 -0.9**
JFWS Jewell Farm 8.68 38 lAmb_Lg 01 18 30.9
comp=Z,23nm,0.8s
X48A Hartselle 8.75 99 lAmb_Lg 01 18 36.6
comp=Z,10.0nm,1.1s
P46A Rosedale 8.80 65 Pn **Pn 01 16 02.8 -0.1**
WCI Wyandotte Cave 9.16 74 lAmb_Lg 01 18 54.8
comp=Z,9.5nm,0.7s
I40A Norwalk 9.26 33 lAmb_Lg 01 19 06.5
comp=Z,11nm,0.8s
RWWY Rawlins 9.28 309 lAmb_Lg 01 18 59.6
comp=Z,12nm,1.1s
F33A 5 Mile Ranch, 9.60 5 lAmb_Lg 01 18 59.9
comp=Z,7.2nm,1.1s
SPMN Marine on St. 9.62 20 lAmb_Lg 01 19 08.8
comp=Z,14nm,1.2s
W50A Signal Mountai 9.98 93 lAmb_Lg 01 19 22.2
comp=Z,11nm,1.0s

IDC ***12*** *02:03:05.5±2.8, 19.°16S×168.°80E, h84km±24km, mb3.9/15, mb1 4.2/17, mb1mx4.1/23, mbtmp4.3/17, MS3.2/8, Ms1 3.2/8, ms1mx3.0/31, Error ellipse: s-maj=20.1km s-min=17.0km az=89.0*
NEIC ***12*** *02:03:05.2±1.6, 19.°07S±0.°07×168.°8E±0.°1, h78km±6km, mb4.6/25, Error ellipse: s-maj=14.0km s-min=9.9km az=97.0*
NOU ***12*** *02:03:20.5, 20.°27S×168.°11E, h0km, MLv4.7, Loyalty Islands*
ISC 12 02:03:06.8±0.4, 19.°08S±0.°05×168.°72E±0.°08, h100km, n98, σ1°42/93, mb4.4/28, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.19**	**219**	Pn	**Pn**	**02 03 37.9**	**-3.9**
LIFNC	**LIFOU**	**2.19**	**219**	P	**Pn**	**02 03 38.9**	**-2.9**
YATNC	**Mamie plateau,**	**3.42**	**210**	P	**Pn**	**02 03 57.2**	**-1.0**
DZM	**Mont Dzumac**	**3.66**	**215**	*e*Pn	**Pn**	**02 04 00.0**	**-1.5**
	489nm,0.4s						
DZM				*e*Sn	**Sn**	**02 04 41.8**	**-2.0**
	2μm,0.4s						
DZM				*e*LR	LR	02 04 48.1	
	comp=Z,752nm,27.9s						
DZM	**Mont Dzumac**	**3.66**	**215**	P	**Pn**	**02 03 59.7**	**-1.8**
	50nm,0.3s,baz=54,slow=8.2,SNR=267						
DZM				S	**Sn**	**02 04 41.1**	**-2.8**
	151nm,0.3s,baz=134,slow=23,SNR=6.6						
DZM				LR	LR	02 05 13.3	
	comp=Z,254nm,20.6s,baz=70,slow=35						
DZM	**Mont Dzumac**	**3.66**	**215**	Pn	**Pn**	**02 04 00.0**	**-1.5**
DZM	**Mont Dzumac**	**3.66**	**215**	P	**Pn**	**02 04 00.6**	**-0.9**
PINNC	**Pines Island,**	**3.71**	**198**	Pn	**Pn**	**02 04 00.9**	**-1.2**
PINNC	**Pines Island,**	**3.71**	**198**	P	**Pn**	**02 04 01.0**	**-1.1**
OUENC	**Ouen Island, N**	**3.76**	**208**		**Pn**	**02 04 00.6**	**-2.1**
OUENC	**Ouen Island, N**	**3.76**	**208**	P	**Pn**	**02 04 01.6**	**-1.1**
NOUC	**Port Laguerre**	**3.76**	**217**	P	**Pn**	**02 04 02.0**	**-0.8**
ONTNC	**Ouen Toro**	**3.85**	**213**	Pn	**Pn**	**02 04 02.2**	**-1.7**
ONTNC	**Ouen Toro**	**3.85**	**213**	P	**Pn**	**02 04 03.1**	**-0.8**
SANVU	**Saraoutou**	**3.89**	**338**	Pn	**Pn**	**02 04 02.4**	**-2.1**
MSVF	**Nonsavu**	**8.96**	**83**	LR	LR	02 07 56.8	
	comp=Z,158nm,21.9s,baz=320,slow=33						
MSVF	**Nonsavu**	**8.96**	**83**	Pn	**Pn**	**02 05 11.2**	**-2.2**
HNR	**Honiara**	**12.81**	**317**	P	**P**	**02 06 07.5**	**-4.7**
	30nm,0.3s,baz=199,slow=6.4,SNR=4.1						
HNR				LR	LR	02 10 49.0	
	comp=Z,41nm,20.3s,baz=181,slow=36						
HNR	**Honiara**	**12.81**	**317**		**Pn**	**02 06 03.6**	**-1.6**
RAO	**Raoul Island**	**15.84**	**132**	LR	LR	02 10 36.5	
	comp=Z,123nm,20.1s,baz=33,slow=29						
URZ	**Urewera**	**20.46**	**161**	P	Pn	02 07 37.1	-2.3
	11nm,0.4s,baz=308,slow=20,SNR=15						
BKZ	**Black Stump Fm**	**21.12**	**163**	P	**P**	**02 07 44.2**	**+0.6**
BKZ				lAmb	lAmb	02 07 46.5	
	comp=Z,50nm,1.4s						
CTA	**Charters Tower**	**21.19**	**264**	P	**P**	**02 07 46.2**	**+1.8**
	comp=Z,4.7nm,0.5s,baz=81,slow=10,SNR=2.1						
CTAO	**Charters Tower**	**21.19**	**264**	P	**P**	**02 07 46.5**	**+2.1**
CTAO				lAmb	lAmb	02 07 58.5	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**27.52**	**237**	P	**P**	**02 08 45.1**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=56,slow=9.8,SNR=7.5						
STKA				PcP	**PcP**	**02 12 01.1**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=105,slow=6.6,SNR=3.5						
STKA				LR	LR	02 18 47.2	
	comp=Z,37nm,19.6s,baz=23,slow=34						
BBOO	**Buckleboo**	**32.25**	**238**	P	**P**	**02 09 25.7**	**-0.2**
BBOO				lAmb	lAmb	02 09 43.0	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**32.38**	**263**	P	**P**	**02 09 27.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=82,slow=6.9,SNR=8.9						
WRA				PcP	**PcP**	**02 12 13.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=93,slow=3.2,SNR=2.4						
AS31	**Alice Springs**	**32.69**	**256**	P	**P**	**02 09 30.6**	**+0.8**
AS31				lAmb	lAmb	02 09 31.6	
	comp=Z,5.6nm,0.5s						
ASAR	**Alice Springs**	**32.69**	**256**	P	**P**	**02 09 30.1**	**+0.3**
	comp=Z,8.1nm,0.5s,baz=83,slow=8.7,SNR=50						
ASAR				PcP	**PcP**	**02 12 12.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=127,slow=1.8,SNR=2.4						
ASAR	**Alice Springs**	**32.69**	**256**	P	**P**	**02 09 29.3**	**-0.5**
MTN	**Manton Dam**	**36.61**	**274**	P	**P**	**02 10 04.7**	**+1.1**
FORT	**Forrest**	**38.47**	**244**	P	**P**	**02 10 20.1**	**+0.9**
PPT2	**Papeete2**	**39.55**	**95**	*e*LR	LR	02 21 16.5	
	comp=Z,135nm,31.5s						
FITZ	**Fitzroy Crossi**	**40.77**	**264**	P	**P**	**02 10 40.0**	**+1.6**
FITZ				lAmb	lAmb	02 10 45.2	
	comp=Z,15nm,1.5s						
RKT	**Rikitea**	**52.42**	**105**	*e*LR	LR	02 27 17.0	
	comp=Z,174nm,36.0s						
VNDA	**Vanda**	**58.58**	**182**	P	**P**	**02 12 52.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=83,slow=4.4,SNR=1.6						
SBA	**Scott Base**	**58.82**	**180**	P	**P**	**02 12 54.9**	**+0.6**
SBA				lAmb	lAmb	02 12 56.4	
	comp=Z,3.8nm,0.8s						
MJAR	**Matsushiro Arr**	**62.38**	**333**	P	**P**	**02 13 19.5**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=152,slow=7.9,SNR=2.3						
NJ2	**Nanjing**	**69.75**	**316**	*e*P	**P**	**02 14 09.3**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QSPA	**South Pole Qui**	**70.98**	**180**	P	**P**	**02 14 12.9**	**-0.5**
QSPA				lAmb	lAmb	02 14 14.4	
	comp=Z,5.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**71.37**	**333**	P	**P**	**02 14 17.4**	**+1.6**
	comp=Z,1.4nm,0.5s,baz=112,slow=6.7,SNR=8.4						
PETK	**Petropavlovsk-**	**72.51**	**353**	P	**P**	**02 14 22.6**	**+0.2**
BJI	**Beijing**	**76.50**	**321**	P	P	02 14 49.4	+3.6
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**77.99**	**294**	P	**P**	**02 14 57.1**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=128,slow=4.6,SNR=6.7						
MAW	**Mawson**	**78.40**	**202**	P	**P**	**02 14 56.4**	**+0.4**
	comp=Z,3.6nm,1.1s,baz=44,slow=9.8,SNR=2.8						
MAW	**Mawson**	**78.40**	**202**	P	**P**	**02 14 56.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**79.78**	**320**	*e*P	**P**	**02 15 04.6**	**+0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,74nm,6.1s						
ULN	**Ulaanbaatar**	**86.44**	**324**	P	**P**	**02 15 38.6**	**+0.3**
ULN				lAmb	lAmb	02 15 40.5	
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**86.80**	**323**	P	**P**	**02 15 40.7**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=145,slow=5.3,SNR=6.5						
SONM	**Songino Array**	**86.80**	**323**	P	**P**	**02 15 40.0**	**+0.1**
BILL	**Bilibino**	**86.88**	**359**	P	**P**	**02 15 41.0**	**+1.3**
BILL				lAmb	lAmb	02 15 41.4	
	comp=Z,3.5nm,0.9s						
YBH	**Yreka Blue Hor**	**87.53**	**44**	LR	LR	02 53 27.1	
	comp=Z,19nm,18.2s,baz=229,slow=34						
ISA	**Isabella, Lake**	**87.76**	**51**	P	**P**	**02 15 43.8**	**-1.0**
WAKR	**Walker**	**88.29**	**48**	P	**P**	**02 15 47.9**	**+0.5**
NVAR	**Mina Array Bea**	**89.06**	**49**	P	**P**	**02 15 51.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=232,slow=6.7,SNR=5.2						
NVAR	**Mina Array Bea**	**89.06**	**49**	P	**P**	**02 15 50.8**	**-0.3**
SNAA	**Sanae**	**89.30**	**183**	P	**P**	**02 15 52.6**	**+1.1**
BBB	**Bella Bella**	**89.61**	**33**	LR	LR	02 50 45.7	
	comp=Z,19nm,18.9s,baz=232,slow=32						
TPH	**Tonopah**	**89.69**	**49**	P	**P**	**02 15 52.1**	**-1.9**
113A	**Mohawk Valley,**	**90.16**	**55**	P	**P**	**02 15 56.4**	**+0.4**
IL31		**90.22**	**17**	P	**P**	**02 15 56.0**	**+0.5**
IL31				lAmb	lAmb	02 15 56.2	
	comp=Z,1.4nm,0.6s						
ILAR	**Eielson Array**	**90.22**	**17**	P	**P**	**02 15 54.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=238,slow=4.8,SNR=18						
VNA1	**Neumayer--Stat**	**90.49**	**181**	P	**P**	**02 15 57.2**	**+0.3**
PRN	**Pahroc Range**	**90.99**	**51**	P	**P**	**02 16 00.8**	**+0.8**
G08A	**Pilot Rock**	**91.57**	**42**	P	**P**	**02 16 02.7**	**+0.2**
G08A				lAmb	lAmb	02 16 04.0	
	comp=Z,3.6nm,1.0s						
DLBC	**Dease Lake**	**92.12**	**27**	LR	LR	02 50 01.3	
	comp=Z,24nm,21.8s,baz=96,slow=31						
LCMT	**Little Creek M**	**92.17**	**52**	P	**P**	**02 16 06.0**	**+0.5**
LCMT				lAmb	lAmb	02 16 07.5	
	comp=Z,2.0nm,0.9s						
X16A	**Lo Mia Camp, P**	**92.57**	**55**	P	**P**	**02 16 08.2**	**+0.7**
X16A				lAmb	lAmb	02 16 09.9	
	comp=Z,2.2nm,0.8s						
U15A	**North Rim**	**92.66**	**52**	P	**P**	**02 16 08.6**	**+0.6**
WMQ	**Urumqi**	**96.74**	**314**	*e*P	**P**	**02 16 27.2**	**+1.0**
PDAR	**Pinedale Array**	**96.87**	**47**	P	**P**	**02 16 28.7**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=240,slow=9.9,SNR=2.2						
TXAR	**Lajitas Array**	**97.12**	**62**	P	Pdif	02 16 28.9	+0.5
	comp=Z,0.4nm,0.6s,baz=219,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**100.75**	**27**	P	**Pdif**	**02 16 44.5**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=249,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**101.28**	**316**	P	**Pdif**	**02 16 47.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=97,slow=6.5,SNR=4.9						
BOSA	**Boshof**	**120.89**	**218**	PKP	**PKiKP**	**02 21 48.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=95,slow=2.7,SNR=1.2						
ARCES	**ARCESS Array B**	**124.78**	**345**	PKP	**PKiKP**	**02 21 53.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=74,slow=2.5,SNR=11						
BRTR	**Keskin Array B**	**136.32**	**308**	PKP	**PKiKP**	**02 22 17.6**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=142,slow=6.3,SNR=1.6						
CONA	**Conrad Observa**	**143.75**	**329**	*e*P	**PKPdf**	**02 22 30.0**	**-0.2**
	comp=Z,3.1nm,0.5s						
CKRC	**Cesky Krumlov**	**143.86**	**331**	*e*PKP	**PKPdf**	**02 22 28.4**	**-1.9**
KHC	**Kasperske Hory**	**143.96**	**332**	*e*PKP	PKPab	02 22 26.7	-1.3
GERES	**GERESS Array B**	**144.12**	**332**	PKP	**PKPdf**	**02 22 29.6**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=63,slow=2.4,SNR=15						
ARSA	**Arzberg**	**144.38**	**328**	*e*P	**PKPdf**	**02 22 30.9**	**-0.3**
	comp=Z,2.5nm,0.5s						
GRF	**Grafenberg Arr**	**144.53**	**335**	*e*PKP	**PKPdf**	**02 22 31.1**	**-0.3**
	baz=38,slow=3.2						
MOA	**Molln**	**144.57**	**330**	*i* P	**PKPdf**	**02 22 31.2**	**-0.4**
	comp=Z,6.7nm,0.5s,SNR=7.6						
SOKA	**Soboth**	**145.01**	**328**	*i* P	**PKPdf**	**02 22 32.7**	**+0.2**
	comp=Z,8.0nm,0.5s,SNR=14						
OBKA	**Obir**	**145.37**	**328**	*e*P	**PKPab**	**02 22 32.8**	**-0.6**
	comp=Z,3.6nm,0.7s						
KBA	**Kaverainsper**	**145.56**	**330**	*e*P	**PKPab**	**02 22 34.3**	**+0.1**
	comp=Z,3.7nm,0.5s						
MEM	**Membach**	**145.66**	**340**	*d*PKiKP	**PKiKP**	**02 22 36.4**	**-1.0**
MYKA	**Terra Mystica**	**145.74**	**329**	*e*P	**PKPab**	**02 22 34.4**	**-0.3**
	comp=Z,3.6nm,0.4s						
ABTA	**Abfaltersbach**	**146.20**	**330**	*e*P	**PKPab**	**02 22 35.0**	**-1.5**
	comp=Z,4.8nm,0.5s,SNR=6.0						
WTTA	**Wattenberg**	**146.22**	**332**	*e*P	**PKiKP**	**02 22 36.5**	**-2.4**
	comp=Z,2.4nm,0.4s						
MOTA	**Moosalm**	**146.40**	**332**	*i* P	**PKPab**	**02 22 36.6**	**-0.7**
	comp=Z,5.2nm,0.7s,SNR=5.2						
WLF	**Walferdange**	**146.43**	**339**	*d*PKiKP	**PKiKP**	**02 22 37.3**	**-1.8**
RETA	**Reutte**	**146.44**	**333**	*e*P	**PKiKP**	**02 22 36.8**	**-2.4**
	comp=Z,1.6nm,0.5s						
FETA	**Feichten**	**146.81**	**332**	*e*P	**PKPab**	**02 22 38.0**	**-1.0**
	comp=Z,3.1nm,0.4s						
DAVA	**Damuels**	**146.97**	**333**	*e*P	**PKiKP**	**02 22 38.6**	**-1.8**
	comp=Z,3.5nm,0.5s						
ESDC	**Sonseca Array**	**158.52**	**344**	PKPab	**PKPab**	**02 23 28.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=12,slow=3.8,SNR=8.2						
TORD	**Torodi Ar. Bea**	**166.21**	**247**	PKP	**PKPdf**	**02 23 01.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=128,slow=1.4,SNR=2.6						
TORD				PKPab	**PKPab**	**02 24 03.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=111,slow=5.5,SNR=2.0						

INET ***12*** *02:05:49.3, 12.°26N×87.°49W, h27km, MW3.6*
SNET 12 02:05:55.9±1.4, 12.°97N×88.°92W, h23km±16km, ML3.2, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEG	**Centro de Oper**	**0.65**	**3**	lAML		02 06 24.5	
	comp=Z,469nm,0.3s						
PACA	**Pacayal**	**0.77**	**49**	*e*P	Pb	02 06 10.4	-0.3
IGN	**Direccin Gen**	**0.78**	**342**	*e*S	Sn	02 06 22.8	+0.2
BOQS	**Boqueron**	**0.84**	**335**	*e*P	Pn	02 06 12.4	-0.1
BOQS				*e*S	Sn	02 06 23.7	-0.6
JAYA	**Jayaque - finc**	**0.85**	**323**	*e*P	Pb	02 06 11.4	-0.8
JAYA				lAML		02 06 22.1	
	comp=Z,2μm,0.2s						
MTO3	**Montecristo**	**1.49**	**343**	*e*P	Pn	02 06 21.9	+0.4

ISK ***12*** *02:07:29.9, 42.°35N×40.°93E, h5km, ML3.1/12*
MOS ***12*** *02:07:31.7±0.0, 42.°47N×41.°06E, h4km, ML3.1/9, MPVA3.9*
NORS ***12*** *02:07:31.6±0.0, 42.°47N×41.°11E, h4km, MPVA3.8*
TIF ***12*** *02:07:31.4, 42.°88N×41.°02E, h25km±2km*
DDA ***12*** *02:07:33.0, 42.°15N×40.°98E, h22km±1km, ML3.0*
CFUSG ***12*** *02:07:34.0, 42.°34N×40.°91E, h34km, mb2.5/2, Black Sea Magtype MSH 2.9 from 4 stations*
ISC 12 02:07:31.1±1.1, 42.°37N±0.°02×40.°99E±0.°02, h17km±8km, n90, σ1°93/152, 4C-1D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA	**Borcka**	**1.03**	**153**	PG	**Pb**	**02 07 50.7**	**+0.1**
BCA				SG	**Sn**	**02 08 05.2**	**+0.3**
DOMR	**Dombai**	**1.03**	**26**	*i* PG	**Pb**	**02 07 49.5**	**-1.2**
DOMR	**Dombai**	**1.03**	**26**	*i* Pg	**Pb**	**02 07 49.5**	**-1.2**
DOMR				*e*Sg	**Sb**	**02 08 02.1**	**-1.9**
DOMR				*i* AML	AML	02 08 07.2	
	1μm,0.3s						
HOPA	**Hopa-Artvin**	**1.04**	**161**	PG	**Pb**	**02 07 49.5**	**-1.1**
HOPA				SG	**Sg**	**02 08 04.9**	**+0.2**
DBOC	**Borcka**	**1.14**	**154**	*i* P	**Pb**	**02 07 52.1**	**-0.2**
DBOC				*i* S	**Sb**	**02 08 06.5**	**-0.4**
DBOC				IAML		02 08 08.0	
	comp=E,628nm,0.5s						
DBOC				IAML		02 08 08.0	
	comp=Z,524nm,0.4s						
CHOM	**Cayeli-Rize**	**1.28**	**188**	PN	**Pn**	**02 07 54.0**	**-0.2**
CHOM				SN	**Sg**	**02 08 12.5**	**0.0**
CHAY	**Cayeli-Rize**	**1.30**	**189**	PN	**Pb**	**02 07 55.0**	**0.0**
RPOR	**Krasnaya Polya**	**1.44**	**338**	*i* PG	**Pb**	**02 07 57.0**	**-0.4**
RPOR				*e*S	**Sg**	**02 08 16.0**	**-1.5**
RPOR	**Krasnaya Polya**	**1.44**	**338**	*i* Pg	**Pb**	**02 07 57.0**	**-0.4**
RPOR				*e*Sg	**Sg**	**02 08 16.0**	**-1.5**
RPOR				*i* AML	AML	02 08 18.7	
	comp=Z,127nm,0.2s						
DBAD	**Bademkaya**	**1.45**	**158**	*i* P	**Pn**	**02 07 57.0**	**+0.4**
DBAD				*i* S	**Sn**	**02 08 14.4**	**-0.8**
DBAD				IAML		02 08 16.0	
	comp=N,417nm,0.2s						
DBAD				IAML		02 08 19.0	
	comp=Z,179nm,0.3s						
DAGI	**Agillar**	**1.46**	**152**	*i* P	**Pn**	**02 07 57.2**	**+0.4**
DAGI				*i* S	**Sn**	**02 08 14.8**	**-0.8**
DAGI				IAML		02 08 16.0	
	comp=E,223nm,0.3s						
DAGI				IAML		02 08 16.0	
	comp=N,227nm,0.4s						
DAGI				IAML		02 08 16.0	
	comp=Z,240nm,0.4s						
ABS	**Abastumani**	**1.49**	**114**	P	**Pb**	**02 07 57.6**	**-0.7**
ABS				S	**Sb**	**02 08 17.4**	**+0.4**
ABS	**Abastumani**	**1.49**	**114**	PG	**Pb**	**02 07 57.7**	**-0.7**
SOC	**Sochi**	**1.54**	**323**	*e*PG	**Pb**	**02 07 58.5**	**-0.6**
SOC				*e*		02 08 20.2	
SOC				pmax	pmax		
	comp=Z,108nm,0.2s						
SOC				smax	smax		
	comp=N,118nm,0.1s						
SOC				smax	smax		
	comp=E,179nm,0.2s						
SOC	**Sochi**	**1.54**	**323**	*i* Pg	**Pb**	**02 07 58.8**	**-0.3**
SOC				*i* Sg	**Sg**	**02 08 20.1**	**-0.5**
SOC				*i* AML	AML	02 08 21.6	
	comp=E,633nm,0.4s						
NEY	**Neytrino**	**1.55**	**55**	↑*i* PG	**Pb**	**02 07 58.9**	**-0.6**
NEY	**Neytrino**	**1.55**	**55**	*e*Pg	**Pb**	**02 07 58.8**	**-0.6**
NEY				*e*Sg	**Sb**	**02 08 18.8**	**0.0**
NEY				*i* AML	AML	02 08 22.2	
	comp=E,164nm,0.6s						
EPOS	**Posof**	**1.56**	**123**	*i* P	**Pn**	**02 07 58.2**	**+0.1**
EPOS				*i* S	**Sn**	**02 08 17.9**	**-0.1**
DDEM	**Demirkent**	**1.58**	**159**	*i* P	**Pb**	**02 07 59.4**	**-0.5**
DDEM				*i* S	**Sn**	**02 08 19.1**	**+0.6**
DDEM				IAML		02 08 20.0	
	comp=Z,192nm,0.3s						
DDEM				IAML		02 08 22.0	
	comp=E,577nm,0.5s						
DDEM				IAML		02 08 23.0	
	comp=N,679nm,0.2s						
KTUT	**Trabzon**	**1.66**	**214**	PN	**Pn**	**02 07 59.5**	**+0.1**
MACK	**Trabzon**	**1.69**	**213**	*i* P	**Pn**	**02 08 00.7**	**+0.7**
MACK				*i* S	**Sn**	**02 08 21.9**	**+0.7**
MACK				IAML		02 08 23.0	
	comp=N,291nm,0.2s						
MACK				IAML		02 08 23.0	
	comp=E,161nm,0.3s						
GUZR	**Guzeripl'**	**1.75**	**339**	*i* PN	**Pb**	**02 08 02.7**	**-0.1**
GUZR				*e*S	**Sb**	**02 08 25.0**	**+0.5**
GUZR	**Guzeripl'**	**1.75**	**339**	*i* Pg	**Pb**	**02 08 02.7**	**-0.1**
GUZR				*e*Sg	**Sb**	**02 08 25.0**	**+0.5**
GUZR				*i* AML	AML	02 08 29.5	
	comp=E,71nm,0.6s						
AHMR	**Akhmetovskaya**	**1.79**	**1**	*i* Pg	**Pb**	**02 08 03.1**	**-0.4**
AHMR				*i* Sg	**Sb**	**02 08 25.9**	**+0.2**
ONI	**Oni**	**1.83**	**82**	P	**Pb**	**02 08 03.9**	**-0.3**
ONI				S	**Sb**	**02 08 27.6**	**+0.7**
ONI	**Oni**	**1.83**	**82**	PN	**Pb**	**02 08 03.5**	**-0.3**
ONI	**Oni**	**1.83**	**82**	*e*Pg	**Pb**	**02 08 03.6**	**-0.6**
ONI				*e*Sg	**Sb**	**02 08 27.8**	**+0.9**
ONI				*i* AML	AML	02 08 28.1	
	comp=E,253nm,0.2s						
SHA1	**Shidzhatmaz**	**1.83**	**41**	↑*i* PN	**Pb**	**02 08 04.1**	**-0.2**
SHA1	**Shidzhatmaz**	**1.83**	**41**	*e*Pg	**Pb**	**02 08 03.8**	**-0.6**
SHA1				*e*Sg	**Sb**	**02 08 26.9**	**-0.2**
SHA1				*i* AML	AML	02 08 28.6	
	comp=E,103nm,0.4s						
KBZ	**Khabaz**	**1.95**	**45**	*e*PN	**Pb**	**02 08 05.7**	**-0.4**
KBZ	**Khabaz**	**1.95**	**45**	*e*Pg	**Pb**	**02 08 05.7**	**-0.4**
KBZ				*e*Sg	**Sb**	**02 08 29.5**	**-0.6**
BKRG	**Bakuriani**	**1.98**	**107**	P	**Pb**	**02 08 05.7**	**-1.1**
BKRG				S	**Sb**	**02 08 31.7**	**+0.5**
BKRG	**Bakuriani**	**1.98**	**107**	PN	**Pb**	**02 08 05.7**	**-1.1**
DIGR	**Digorskoe uzhe**	**1.98**	**74**	*e*PN	**Pb**	**02 08 05.8**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.98**	**74**	*e*Pg	**Pb**	**02 08 05.8**	**-1.0**
DIGR				*e*Sg	**Sb**	**02 08 31.0**	**-0.3**
KIV	**Kislovodsk**	**2.01**	**37**	↑*i* PN	**Pb**	**02 08 07.5**	**+0.2**
KIV	**Kislovodsk**	**2.01**	**37**	*i* Pg	**Pb**	**02 08 07.5**	**+0.2**
KIV				*i* Sg	**Sb**

SUDU eSn **Sn** **02 09 42.8 -0.6**
SUDU Sudak 5.03 302 eP **Pn** **02 08 47.9 +2.2**
SUDU Pm 02 08 48.7
comp=Z,3.0nm,0.2s
SUDU eS **Sn** **02 09 42.8 -0.6**
SUDU Sm 02 09 46.3
comp=N,2.0nm,0.2s,comp=E,4.0nm,0.2s
ALU Alushta 5.32 298 eP **Pn** **02 08 51.9 +2.2**
ALU eS **Sn** **02 09 49.9 -0.7**
ALU Sm 02 09 50.3
comp=N,4.0nm,0.3s,comp=E,8.0nm,0.3s
ALU Alushta 5.32 298 ePN **Pn** **02 08 51.9 +2.2**
ALU Alushta 5.32 298 ePn **Pn** **02 08 51.9 +2.2**
ALU eSn **Sn** **02 09 49.9 -0.7**
YAL Yalta 5.41 295 eP **Pn** **02 08 53.0 +2.0**
YAL eS **Sn** **02 09 53.0 +0.2**
YAL Sm 02 09 54.7
comp=N,37nm,0.5s
YAL Sm 02 09 56.1
comp=E,16nm,0.3s
YAL Yalta 5.41 295 ePN **Pn** **02 08 53.0 +2.0**
YAL Yalta 5.41 295 ePn **Pn** **02 08 53.0 +2.0**
YAL eSn **Sn** **02 09 49.9 -2.9**
SEV Sevastopol' 5.76 295 eP **Pn** **02 08 58.7 +3.0**
SEV Pm 02 09 02.9
comp=Z,2.0nm,0.3s
SEV eS **Sn** **02 10 02.4 +1.0**
SEV Sm 02 10 04.9
comp=N,4.0nm,0.3s,comp=E,3.0nm,0.3s
SEV Sevastopol' 5.76 295 eP **Pn** **02 08 58.7 +3.0**
SEV Sevastopol' 5.76 295 ePn **Pn** **02 08 58.7 +3.0**
SEV eSn **Sn** **02 10 02.4 +1.0**
MNK Minsk 14.90 329 *i* P **P** **02 11 07.2 +0.8**
MNK *i* S **S** **02 13 55.7 -7.6**
MNK pmax pmax
comp=E,1.0nm,1.1s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK MLR MLR
comp=E,8.0nm,24.0s
MNK MLR MLR
comp=N,48nm,23.0s
MNK MLR MLR
comp=Z,70nm,25.0s
MNK Minsk 14.90 329 *i* P **P** **02 11 07.2 +0.8**
comp=E,1.0nm,1.1s
MNK *i* P **P** **02 11 07.2 +0.8**
comp=N,9.0nm,0.8s
MNK *i* P **P** **02 11 07.2 +0.8**
comp=Z,7.0nm,0.8s,baz=140
MNK *i* PP **PnPn** **02 11 15.4 +6.6**
MNK *i* S **S** **02 13 55.7 -7.6**
MNK *i* SS **SnSn** **02 14 08.8 +11**
MNK *i* LQ LQ 02 15 32.2
MNK *i* LR LR 02 16 32.8
MNK *i* LRM MLR 02 16 34.3
comp=E,8.0nm,23.9s
MNK *i* LRM MLR 02 16 45.9
comp=N,48nm,23.1s
MNK *i* LRM MLR 02 17 14.8
comp=Z,70nm,24.6s

IDC **12** *02:36:21.9±0.4,21˙.00S×174˙.17W,h0km,mb4.8/31, mb1 4.8/33,mb1mx4.7/51,mbtmp4.7/33,ML4.4/2,MS4.4/28, Ms1 4.4/28,ms1mx4.3/39,Error ellipse: s-maj=16.6km s-min=10.8km az=155.0*

BJI **12** *02:36:24.6±0.0,20˙.41S×173˙.85W,h13km,mB5.5/26, mb5.2/35,Ms5.0/17,Ms7 4.6/16*

NEIC **12** *02:36:25.2±2.0,20˙.79S±0˙.08×174˙.2W±0˙.1,h10km±1km, mb5.0/154,Error ellipse: s-maj=17.3km s-min=11.3km az=117.0*

MOS **12** *02:36:25.4±3.4,20˙.90S×174˙.35W,h10km,mb5.2/44, Error ellipse: s-maj=10.9km s-min=9.1km az=64.2*

GCMT **12** *02:36:28.2±0.2,21˙.14S±0˙.02×173˙.64W±0˙.01,h19km, MW5.1/126,Moment Tensor Solution. s71,c95; s126,c179; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.31±.14; Mθθ=0.64±.10; Mϕϕ=-3.67±.10; Mrθ=1.28±.23; Mθϕ=-1.78±.07; Mϕr=2.96±.21; Best double couple: Ms=5.45600×10¹⁶ NP1=ϕs=206.00000°,δ=27.00000°, λ=92.00000°. NP2=ϕs=24.00000°,δ=63.00000°,λ=89.00000°. Principal axes: T 5.3660, Plg72.0000°, Azm292.0000°; N 0.1860, Plg1.0000°, Azm24.0000°; P -5.5460, Plg18.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU **12** *02:36:28.3,20˙.855×173˙.40W,h89km,mb5.0,Tonga Islands*

BGR **12** *02:36:29.2±0.0,20˙.58S×173˙.58W,h33km±2km,Ms4.7*

ISC 12 02:36:24.5±0.4,20˙.97S±0˙.05×173˙.94W±0˙.05,h16km±2km, h16km:pP-P,n536,σ1§41/504,mb5.0/136,MS4.5/38, 55C-63D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**4.22**	**64**	P		Pn	02 37 23.3	-4.8
NIUE	baz=4.1,SNR=46			S		Sn	02 38 05.8	-11
NIUE	**Niue**	**4.22**	**64**			Pn	02 37 22.9	-5.2
TAVE	**Taveuni**	**7.06**	**306**	P		Pn	02 38 15.8	+8.6
AFI	**Afiamalu**	**7.32**	**17**	P		**Pn**	**02 38 07.2**	**-3.6**
AFI	35nm,0.3s,baz=144,slow=19,SNR=20			Sn		Sn	02 39 21.4	-12
AFI	24nm,0.3s,baz=180,slow=20,SNR=2.4			LR		LR	02 40 55.4	
AFI	comp=Z,2μm,19.8s,baz=194,slow=37 **Afiamalu**	**7.32**	**17**	P		**Pn**	**02 38 08.0**	**-2.8**
DGTI	**Dogotuki**	**7.58**	**307**	P		Pn	02 38 21.0	+6.6
MSVF	**Nonsavu**	**8.22**	**292**	Pn		Pn	02 38 28.9	+5.8
MSVF	3.5nm,0.3s,baz=127,slow=12,SNR=64			LR		LR	02 41 14.9	
MSVF	comp=Z,9μm,18.8s,baz=129,slow=36 **Nonsavu**	**8.22**	**292**			**Pn**	**02 38 27.3**	**+4.2**
RAO	**Raoul Island**	**9.00**	**203**	Sn		Sn	02 40 02.7	-12
RAO	49nm,0.3s,baz=53,slow=20,SNR=2.2 **Raoul Island**	**9.00**	**203**	P		**Pn**	**02 38 33.7**	**-0.1**
RAO	**Raoul Island**	**9.00**	**203**	Pn		**Pn**	**02 38 33.7**	**-0.1**
RAR	**Rarotonga**	**13.23**	**94**	Pn		Pn	02 39 25.7	-6.0
RAR	15nm,0.3s,baz=272,slow=9.9,SNR=14			Sn		Sn	02 41 41.6	-17
RAR	2.7nm,0.3s,baz=111,slow=17,SNR=1.2			LR		LR	02 45 33.7	
RAR	comp=Z,2μm,18.1s,baz=248,slow=41 **Rarotonga**	**13.23**	**94**			Pn	02 39 25.8	-5.9
RAR	**Rarotonga**	**13.23**	**94**	P		Pn	02 39 26.6	-5.1
OUENC	**Ouen Island, N**	**17.92**	**262**	P		**P**	**02 40 38.4**	**+4.8**
KNTN	**Kanton**	**18.21**	**7**	Pn		**Pn**	**02 40 33.5**	**-3.3**
KNTN	comp=Z,146nm,1.1s			IAmb		IAmb	02 40 51.6	
ONTNC	**Ouen Toro**	**18.27**	**262**	P		**P**	**02 40 42.3**	**+4.7**
DZM	**Mont Dzumac**	**18.28**	**263**	*eP*		**P**	**02 40 37.9**	**+0.1**
DZM	comp=Z,185nm,1.4s			*e*LR		LR	02 44 52.9	
DZM	comp=Z,2μm,22.8s **Mont Dzumac**	**18.28**	**263**	P		**Pn**	**02 40 35.7**	**-2.0**
DZM	comp=Z,1.3nm,0.3s,baz=102,slow=16,SNR=11			LR		LR	02 46 31.7	
DZM	comp=Z,1μm,18.8s,baz=96,slow=34 **Mont Dzumac**	**18.28**	**263**	Pn		**Pn**	**02 40 32.2**	**-5.5**
DZM	comp=Z,123nm,1.4s			IAmb		IAmb	02 40 58.3	
NOUC	**Port Laguerre**	**18.41**	**263**	P		**Pn**	**02 40 40.6**	**+1.4**
SANVU	**Saraoutou**	**18.73**	**284**	P		**P**	**02 40 37.0**	**-5.6**
SANVU	comp=Z,208nm,1.1s			IAmb		IAmb	02 40 46.0	
URZ	**Urewera**	**18.89**	**202**	P		**P**	**02 40 41.9**	**-2.3**
URZ	comp=Z,1.0nm,0.3s,baz=112,slow=19,SNR=5.9			S		Sn	02 44 02.1	-14
URZ	comp=Z,0.9nm,0.3s,baz=308,slow=20,SNR=1.3 **Urewera**	**18.89**	**202**			**P**	**02 40 43.3**	**-0.9**
TBI	**Tubuai**	**22.79**	**101**	*e*S		**S**	**02 45 30.0**	**-5.1**
TBI	comp=Z,175nm,21.1s			*e*LQ		LQ	02 45 47.5	
TBI	comp=Z,1μm,27.5s			*e*LR		LR	02 46 54.3	
PAE	comp=Z,2μm,27.0s,baz=269 **Paea**	**23.22**	**86**	*e*T		T	03 05 23.6	
	comp=Z,1.9nm,0.3s							

PPT2 Papeete2 23.24 86 *e*P **P** **02 41 31.2 -0.1**
comp=Z,86nm,1.2s
PPT2 *e*S **S** **02 45 37.8 -5.2**
comp=Z,232nm,22.7s
PPT2 *e*LQ LQ 02 45 52.9
comp=Z,2μm,26.5s
PPT2 *e*LR LR 02 47 01.5
comp=Z,2μm,26.2s,baz=257
PPT Papeete 23.24 86 P **P** **02 41 31.8 +0.6**
comp=Z,95nm,1.1s,baz=155,slow=17,SNR=6.5
PPT LR LR 02 49 09.6
comp=Z,633nm,18.3s,baz=259,slow=33
PPTF Pamatai, Papee 23.25 86 P **P** **02 41 32.4 +1.0**
TIAR Tiarei 23.46 86 *e*P **P** **02 41 32.9 -0.5**
comp=Z,10nm,1.0s
MEH Mehetia 24.59 87 *e*P **P** **02 41 43.8 -0.3**
comp=Z,31nm,1.1s
MEH Mehetia 24.59 87 *e*T T 03 07 04.9
comp=Z,6.3nm,0.2s
HNR Honiara 27.64 291 LR LR 02 51 35.2
comp=Z,593nm,19.0s,baz=132,slow=33
MGCD Mangrove Creek 33.26 241 P **P** **02 43 00.6 -0.6**
baz=33,SNR=4.5
RMQ Roma 34.50 253 P **P** **02 43 11.7 -0.4**
baz=35,SNR=4.9
CAN Canberra 35.45 238 P **P** **02 43 19.0 -1.2**
CAN pmax pmax
comp=Z,24nm,1.1s
CAN Canberra 35.45 238 P **P** **02 43 19.0 -1.2**
CAN IAmb IAmb 02 43 20.1
comp=Z,24nm,1.1s
RKT Rikitea 36.11 101 *e*LR LR 02 52 54.7
comp=Z,2μm,28.8s
CTA Charters Tower 37.22 264 P **P** **02 43 32.5 -3.0**
comp=Z,9.3nm,0.7s,baz=99,slow=11,SNR=10.0
CTA Charters Tower 37.22 264 P **P** **02 43 32.8 -2.7**
baz=37
CMSA Cobar Meteorol 37.52 245 P **P** **02 43 36.3 -1.5**
baz=38,SNR=13
TOO Toolangi 38.73 236 P **P** **02 43 47.2 -0.9**
baz=39,SNR=4.8
TOO Toolangi 38.73 236 P **P** **02 43 47.1 -0.9**
TOO pmax pmax
comp=Z,11nm,1.0s
TOO Toolangi 38.73 236 P **P** **02 43 47.1 -0.9**
PMG Port Moresby 39.16 281 P **P** **02 43 49.0 -2.8**
comp=Z,36nm,0.9s,baz=106,slow=6.7,SNR=4.8
PMG LR LR 02 58 10.0
comp=Z,497nm,18.1s,baz=126,slow=34
PMG Port Moresby 39.16 281 *ce*P **P** **02 43 50.4 -1.4**
PMG pmax pmax
comp=Z,42nm,1.0s
PMG Port Moresby 39.16 281 P **P** **02 43 50.9 -0.9**
MTSU Mount Surprise 39.36 267 P **P** **02 43 52.2 -1.3**
baz=39,SNR=5.1
STKA Stephens Creek 41.02 245 P **P** **02 44 04.8 -2.4**
comp=Z,10.0nm,0.9s,baz=84,slow=8.9,SNR=15
STKA LR LR 03 00 02.1
comp=Z,570nm,18.1s,baz=70,slow=35
STKA Stephens Creek 41.02 245 P **P** **02 44 05.7 -1.4**
baz=41,SNR=10
STKA Stephens Creek 41.02 245 P **P** **02 44 05.7 -1.4**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 41.02 245 P **P** **02 44 05.7 -1.4**
ARPS Mount Arapiles 41.42 238 P **P** **02 44 09.1 -1.3**
baz=42,SNR=5.9
HTT Hallett 43.39 243 P **P** **02 44 24.7 -1.8**
baz=44,SNR=6.2
BBOO Buckleboo 45.75 244 P **P** **02 44 43.2 -2.1**
baz=46,SNR=4.8
AS31 Alice Springs 48.10 257 P **P** **02 45 01.9 -1.9**
ASAR Alice Springs 48.11 257 P **P** **02 45 00.8 -3.1**
comp=Z,16nm,0.8s,baz=89,slow=8.5,SNR=83
ASAR PcP **PcP** **02 46 32.1 +0.6**
comp=Z,4.8nm,0.8s,baz=105,slow=4.1,SNR=5.6
ASAR S **S** **02 52 02.9 +0.6**
comp=Z,0.5nm,0.9s,baz=101,slow=13,SNR=1.8
ASAR LR LR 03 05 24.3
comp=Z,702nm,18.1s,baz=101,slow=36
ASAR Alice Springs 48.11 257 P **P** **02 45 01.8 -2.1**
ASAR Alice Springs 48.11 257 P **P** **02 45 01.8 -2.1**
WRAB Tennant Creek 48.28 262 *ce*P **P** **02 45 02.6 -2.7**
WRAB pmax pmax
comp=Z,14nm,0.8s
WRAB Tennant Creek 48.28 262 P **P** **02 45 02.1 -3.2**
WRAB IAmb IAmb 02 45 17.4
comp=Z,17nm,0.8s
WRA Warramunga Arr 48.29 262 P **P** **02 45 02.0 -3.4**
comp=Z,11nm,0.8s,baz=95,slow=7.6,SNR=35
WRA PcP **PcP** **02 46 31.6 -0.6**
comp=Z,3.5nm,0.8s,baz=95,slow=3.4,SNR=2.8
WRA LR LR 03 05 06.5
comp=Z,627nm,18.1s,baz=85,slow=36
KDU Kakadu 51.75 270 P **P** **02 45 30.6 -1.0**
baz=52,SNR=4.0
FORT Forrest 52.60 247 P **P** **02 45 35.9 -1.9**
MTN Manton Dam 52.96 269 P **P** **02 45 38.6 -2.0**
baz=53
WRKA Warakurna 52.99 254 P **P** **02 45 38.4 -2.4**
baz=53,SNR=41
KNRA Kununurra 54.41 265 P **P** **02 45 50.2 -1.0**
KNRA IAmb IAmb 02 45 53.3
comp=Z,29nm,1.2s
FITZ Fitzroy Crossi 56.72 262 P **P** **02 46 05.5 -2.3**
comp=Z,3.7nm,0.9s,baz=94,slow=4.1
FITZ Fitzroy Crossi 56.72 262 P **P** **02 46 06.4 -1.5**
baz=57,SNR=3.5
SIJI Sorong 57.04 283 P **P** **02 46 08.0 -2.2**
comp=Z,51nm,1.0s,baz=47,slow=6.4,SNR=17
SBA Scott Base 57.69 185 P **P** **02 46 16.4 +2.7**
SBA pmax pmax
comp=Z,24nm,1.2s
SBA Scott Base 57.69 185 P **P** **02 46 16.4 +2.7**
SBA IAmb IAmb 02 46 34.9
comp=Z,24nm,1.2s
VNDA Vanda 57.81 186 P **P** **02 46 15.0 +0.4**
comp=Z,1.9nm,0.8s,baz=7.0,slow=7.0,SNR=6.0
VNDA LR LR 03 06 40.9
comp=Z,141nm,20.2s,baz=16,slow=32
VNDA Vanda 57.81 186 P **P** **02 46 17.3 +2.7**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
VNDA Vanda 57.81 186 P **P** **02 46 17.3 +2.7**
TNTI Ternate 61.26 283 P **P** **02 46 38.0 -1.5**
KLBR Kellerberrin 61.29 245 P **P** **02 46 38.6 -0.8**
baz=61,SNR=20
MEEK Meekatharra 61.35 250 P **P** **02 46 38.4 -1.5**
baz=61,SNR=4.8
NWAO Narrogin (SRO) 61.55 243 P **P** **02 46 39.1 -2.0**
comp=Z,18nm,1.0s,baz=123,slow=9.4,SNR=3.6
BLDU Ballidu 62.33 246 P **P** **02 46 45.3 -1.1**
baz=62,SNR=4.3
MUN Mundaring 62.54 244 P **P** **02 46 48.3 +0.5**
baz=63,SNR=6.5
MORW Morawa 63.16 247 P **P** **02 46 51.2 -0.7**
baz=63,SNR=8.6
MORW Morawa 63.16 247 P **P** **02 46 51.2 -0.7**
LUWI Luwuk 64.76 279 P **P** **02 47 01.9 -0.8**
CASY Casey 65.17 206 P **P** **02 47 06.1 +1.6**
TOLI2 Tolitoli 67.42 280 P **P** **02 47 17.7 -2.1**
QSPA South Pole Qui 69.10 180 P **P** **02 47 31.6 +1.9**
JHJ Hachijo jima 2 69.60 320 P **P** **02 47 30.4 -2.6**
comp=Z,58nm,0.3s,baz=124,slow=7.3,SNR=4.2
JYT Yasato 71.53 322 P **P** **02 47 44.1 -0.5**
JGF Kuroka 72.75 320 P **P** **02 47 50.9 -1.2**
JGF IAmb IAmb 02 48 02.6
comp=Z,20nm,1.2s
MJAR Matsushiro Arr 72.89 321 P **P** **02 47 51.6 -1.3**
comp=Z,11nm,0.8s,baz=156,slow=6.1,SNR=23
MJAR LR LR 03 20 52.6
comp=Z,114nm,18.0s,baz=240,slow=37
MJAR Matsushiro Arr 72.89 321 P **P** **02 47 52.0 -0.9**
MJAR pmax pmax
comp=Z,18nm,1.2s
MJAR Matsushiro Arr 72.89 321 P **P** **02 47 52.0 -0.9**
MJAR IAmb IAmb 02 47 53.7
comp=Z,18nm,1.2s
MAJO Matsushiro 72.89 321 *i* P **P** **02 47 52.1 -0.8**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 72.89 321 P **P** **02 47 52.3 -0.6**
MAJO IAmb IAmb 02 47 53.9
comp=Z,20nm,0.8s
MAT Matsushiro 72.89 321 P **P** **02 47 52.4 -0.5**
MAT *e*S **S** **02 57 16.6 -2.2**

JMN Monobe 73.68 317 P **P** **02 47 57.2 -0.5**
JWT Wachi 73.73 319 IAmb IAmb 02 48 02.3
comp=Z,23nm,1.0s
YUK Yuzh-Kuril'sk 74.43 331 *e*P P 02 47 56.5 -5.2
YUK S **SKiKP** **02 57 28.9 +1.0**
JHS Saijyo 74.98 317 P **P** **02 48 05.0 -0.1**
JNU Nakatsue 75.27 315 P **P** **02 48 06.7 -0.2**
comp=Z,23nm,0.9s,baz=118,slow=2.6,SNR=9.6
PAGB Antelope Grade 75.91 43 P **P** **02 48 13.1 +2.6**
PAGB IAmb IAmb 02 48 23.6
comp=Z,16nm,1.1s
JKA Kamikawa-asahi 76.01 329 IAmb IAmb 02 48 12.7
comp=Z,10nm,0.8s
ASAJ Asahikawa 76.01 329 P **P** **02 48 10.9 +0.2**
comp=Z,7.2nm,0.7s,baz=141,slow=9.8,SNR=5.6
ASAJ LR LR 03 18 07.2
comp=Z,262nm,18.9s,baz=185,slow=33
MONP2 Monument Peak 76.70 47 P 02 48 16.8
baz=234
VES Vestal, Richgr 76.72 43 P 02 48 16.9
baz=232
LEM Lembang 76.82 268 P **P** **02 48 15.2 -1.2**
comp=Z,27nm,0.4s,baz=112,slow=8.3,SNR=5.5
EDW2 Edwards Air Fo 76.84 44 P 02 48 17.5
baz=233
ISA Isabella, Lake 77.00 44 P 02 48 19.2
baz=232
ISA Isabella, Lake 77.00 44 P **P** **02 48 18.5 +1.8**
ISA pmax pmax
comp=Z,20nm,1.3s
ISA Isabella, Lake 77.00 44 P **P** **02 48 18.5 +1.8**
ISA IAmb IAmb 02 48 29.7
comp=Z,20nm,1.2s
PFO Pinyon Flats O 77.10 46 P **P** **02 48 16.7 -0.7**
comp=Z,1.9nm,0.8s,baz=275,slow=3.3,SNR=3.4
PFO Pinyon Flats O 77.10 46 P **P** **02 48 18.2 +0.8**
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 77.10 46 P **P** **02 48 18.2 +0.8**
LRMC Laurel Mtn Rad 77.40 44 P 02 48 20.6
baz=233
SSLB Suanglung 77.43 302 IAmb IAmb 02 48 18.7
comp=Z,16nm,0.9s
PET Petropavlovsk 77.43 343 *e*P P 02 48 25.8 +7.2
PET *e*S **S** **02 58 13.3 +4.9**
PET *e*SS **SS** **03 03 13.2 +5.3**
PET pmax pmax
comp=Z,100nm,13.0s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,400nm,15.0s
AFDM Forest Hills D 77.52 40 P **P** **02 48 20.9 +1.4**
BELC Belle Mtn. Jos 77.64 46 P 02 48 22.2
baz=234
CWC Cottonwood Cre 77.73 43 P 02 48 23.2
baz=232
PETK Petropavlovsk- 77.76 343 P **P** **02 48 19.9 -0.6**
comp=Z,12nm,0.8s,baz=120,slow=8.8,SNR=11
PETK LR LR 03 21 30.5
comp=Z,90nm,18.4s,baz=169,slow=35
PETK Petropavlovsk- 77.76 343 P **P** **02 48 20.3 -0.2**
PETK Petropavlovsk- 77.76 343 P **P** **02 48 20.3 -0.2**
GSC Goldstone, Bar 77.87 45 P **P** **02 48 23.1 +1.5**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 77.87 45 P **P** **02 48 23.1 +1.5**
MPMC Manual Prospec 77.88 44 P 02 48 23.9
baz=233
GLA Glamis 77.89 47 P **P** **02 48 22.7 +1.0**
GLA pmax pmax
comp=Z,26nm,1.5s
GLA Glamis 77.89 47 P **P** **02 48 22.7 +1.0**
GLA IAmb IAmb 02 48 38.9
comp=Z,26nm,1.5s
HEC Hector,Ludlow 77.90 45 P 02 48 23.6
baz=234
M02C Callahan 78.03 37 P 02 48 26.4
baz=228
YSS Yuzh-Sakhalins 78.07 331 *e*P **P** **02 48 23.0 +0.7**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,200nm,3.7s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 78.07 331 P **P** **02 48 21.3 -1.0**
IRM Iron Mountain 78.31 46 P 02 48 26.1
baz=235
BEKR Beckworth 78.47 39 P **P** **02 48 25.9 +0.9**
GRAC Grapevine Rang 78.52 43 P 02 48 27.2
baz=233
VCNR Virginia City 78.53 40 P **P** **02 48 26.3 +1.0**
VCNR IAmb IAmb 02 48 46.6
comp=Z,16nm,1.1s
214A Organ Pipe Nat 78.69 49 P **P** **02 48 28.0 +1.8**
NVAR Mina Array Bea 78.81 41 P **P** **02 48 28.7 +1.8**
comp=Z,8.4nm,0.8s,baz=224,slow=8.8,SNR=44
NVAR LR LR 03 18 15.6
comp=Z,323nm,18.4s,baz=216,slow=32
NVAR Mina Array Bea 78.81 41 P **P** **02 48 28.4 +1.5**
NV11 Mina Array Sit 78.90 41 P **P** **02 48 28.1 +0.8**
NV11 IAmb IAmb 02 48 40.2
comp=Z,19nm,1.1s
PAHR Pah Rah Range 78.95 40 P **P** **02 48 29.4 +1.9**
PAHR IAmb IAmb 02 48 40.4
comp=Z,12nm,1.0s
TPNV Topopah Spring 79.21 44 P **P** **02 48 30.1 +1.0**
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 79.21 44 P **P** **02 48 30.1 +1.0**
KVN Kaiserville 79.32 41 P **P** **02 48 31.4 +1.7**
KVN pmax pmax
comp=Z,10.0nm,1.0s
KVN Kaiserville 79.32 41 P **P** **02 48 31.4 +1.7**
TJN Taejon 79.53 315 *ce*P **P** **02 48 29.8 -0.8**
KSRS Korea Array 79.80 317 P **P** **02 48 32.9 +0.9**
comp=Z,16nm,1.1s,baz=137,slow=6.1,SNR=25
KSRS LR LR 03 20 04.9
comp=Z,119nm,19.3s,baz=134,slow=33
MOD Modoc Plateau 79.81 38 P **P** **02 48 33.3 +1.1**
PPBI Pangkal Pinang 79.82 272 P **P** **02 48 34.7 +2.0**
KASI Kota Agung 80.18 268 P **P** **02 48 34.3 -0.4**
comp=Z,70nm,1.1s
PRN Pahroc Range 80.25 44 P **P** **02 48 36.4 +1.6**
PRN IAmb IAmb 02 48 56.4
comp=Z,17nm,1.1s
TUC Tucson 80.32 50 P **P** **02 48 37.2 +2.0**
TUC pmax pmax
comp=Z,11nm,1.3s
TUC Tucson 80.32 50 P **P** **02 48 37.1 +2.0**
R11A Troy Canyon, C 80.46 43 P 02 48 37.7
baz=234
PINE Pine Mountain 80.68 36 P **P** **02 48 38.1 +1.2**
PINE IAmb IAmb 02 48 49.9
comp=Z,16nm,1.0s
MDSI Maura Dua 80.84 269 P **P** **02 48 36.9 -1.3**
TYV Tymovskoe 81.08 334 *e*P **P** **02 48 38.7 +0.1**
TYV pmax pmax
comp=Z,200nm,3.4s
TYV pmax pmax
comp=Z,17nm,1.1s
WVOR Wild Horse Val 81.11 38 IAmb IAmb 02 48 51.8
comp=Z,11nm,1.0s
CCUT Cedar City 81.43 44 P **P** **02 48 42.7 +1.5**
U15A North Rim 81.52 46 IAmb IAmb 02 48 55.4
comp=Z,10nm,1.0s
USRK Ussuriysk Ar. 81.53 324 P **P** **02 48 42.0 +0.8**
comp=Z,5.6nm,1.0s,baz=120,slow=3.1,SNR=7.0
USRK LR LR 03 22 40.1
comp=Z,253nm,18.9s,baz=124,slow=34
SPR3 Spring Creek 3 81.64 43 P **P** **02 48 43.7 +1.4**
DSRI Dabo 81.87 273 P **P** **02 48 44.5 +0.8**
comp=Z,2μmcomp=Z,9.9nm,0.5s
ELK Elko 82.09 41 P **P** **02 48 45.9 +1.4**
comp=Z,0.5nm,0.3s,baz=243,slow=5.6,SNR=5.4
ELK Elko 82.09 41 P **P** **02 48 44.9 +0.3**
ELK pmax pmax
comp=Z,10.0nm,1.3s
ELK Elko 82.09 41 P **P** **02 48 44.9 +0.3**
MAW Mawson 82.38 199 P **P** **02 48 45.4 +0.1**
comp=Z,4.8nm,0.8s,baz=122,slow=5.5,SNR=8.9
MAW LR LR 03 24 59.4
comp=Z,423nm,18.5s,baz=77,slow=36
MAW Mawson 82.38 199 P **P** **02 48 46.5 +1.1**
baz=82,SNR=4.3

MAW Mawson 82.38 199 P **P** 02 48 47.1 +1.7
MAW pmax pmax
comp=Z,4.0nm,1.3s
MAW Mawson 82.38 199 P **P** 02 48 47.0 +1.7
MTPU Mount Pierson 82.48 45 IAmb IAmb 02 49 00.9
comp=Z,14nm,1.0s
H03S2 Juan Fernandez 82.58 123 T T 04 19 58.9
baz=242,slow=75,SNR=12
H03S1 Juan Fernandez 82.59 123 T T 04 20 00.0
baz=242,slow=75,SNR=14
H03S3 Juan Fernandez 82.59 123 T T 04 19 58.7
baz=242,slow=75,SNR=11
KSI Kapahiang 82.61 269 P **P** 02 48 46.7 -1.0
comp=Z,113nm,0.9s
TCRU Three Creeks R 82.63 44 IAmb IAmb 02 49 12.7
comp=Z,9.2nm,0.9s
G08A Pilot Rock 82.73 36 P **P** 02 48 48.4 +0.7
G08A IAmb IAmb 02 49 00.2
comp=Z,16nm,1.1s
LTY Liberty 83.10 33 IAmb IAmb 02 49 01.7
comp=Z,12nm,1.1s
HAWA Hanford 83.13 35 P **P** 02 48 51.0 +1.5
HAWA IAmb IAmb 02 49 02.8
comp=Z,15nm,1.1s
MDJ Mudanjiang 83.13 323 P **P** 02 48 50.6 +1.1
MDJ pP pP 02 48 53.6 +0.3
MDJ S **S** **02 59 12.3 +3.6**
MDJ sS sS 02 59 16.9 +1.5
MDJ pmax pmax
comp=Z,250nm,5.2s
MDJ L L
comp=Z,270nm,18.5s
MDJ L L
comp=Z,280nm,19.9s
MDJ L L
comp=Z,310nm,18.9s
MDJ Mudanjiang 83.13 323 P **P** 02 48 50.5 +1.0
MDJ IAmb IAmb 02 48 54.3
comp=Z,20nm,1.0s
NJ2 Nanjing 83.13 308 *e*P **P** 02 48 50.8 +1.0
NJ2 pmax pmax
comp=Z,28nm,0.7s
MFID Camas Ranch 83.33 39 IAmb IAmb 02 49 01.6
comp=Z,9.9nm,1.2s
D08A Wollman Farm, 83.88 34 P **P** 02 48 54.8 +1.5
MPU Maple Canyon 83.93 43 IAmb IAmb 02 49 08.9
comp=Z,10nm,1.2s
MNTX Cornudas Mount 83.96 53 P **P** 02 48 54.7 +0.5
F10A Beach Ranch, E 84.11 36 P **P** 02 48 55.3 +0.7
TX31 Lajitas Ar. Si 84.14 56 IAmb IAmb 02 49 08.4
comp=Z,21nm,1.2s
TXAR Lajitas Array 84.14 56 P **P** 02 48 56.3 +1.1
comp=Z,1.1nm,0.9s,baz=203,slow=9.4,SNR=8.1
TXAR LR LR 03 20 10.8
comp=Z,183nm,19.6s,baz=0.0,slow=31
TXAR Lajitas Array 84.14 56 P **P** 02 48 57.0 +1.8
TXAR Lajitas Array 84.14 56 P **P** 02 48 57.0 +1.8
SRU San Rafael Swe 84.16 44 IAmb IAmb 02 49 08.2
comp=Z,17nm,1.1s
HVU Hansel Valley 84.21 41 IAmb IAmb 02 49 19.5
comp=Z,7.5nm,0.9s
P17A Butcher Ranch, 84.21 44 IAmb IAmb 02 49 08.7
comp=Z,12nm,1.1s
CTU Camp Tracy 84.24 43 IAmb IAmb 02 49 10.7
comp=Z,9.9nm,1.0s
HLID Hailey 84.25 39 IAmb IAmb 02 49 08.5
comp=Z,12nm,0.9s
JLU Jordanelle 84.38 43 IAmb IAmb 02 49 09.0
comp=Z,7.9nm,1.0s
GLI Glacier Island 84.40 13 P 02 48 56.2
baz=205
GLI Glacier Island 84.40 13 IAmb IAmb 02 49 07.2
comp=Z,19nm,1.1s
B08A Colville Reser 84.50 33 P **P** 02 48 56.2 -0.3
B08A IAmb IAmb 02 49 08.3
comp=Z,11nm,0.9s
PV05 Paradox Valley 84.55 46 IAmb IAmb 02 49 30.1
comp=Z,14nm,1.2s
SKT Skwentna 84.58 10 P 02 48 56.1
baz=201
KNK Knik Glacier 84.61 12 P 02 48 57.2
baz=204
PMR Palmer 84.65 12 P **P** 02 48 57.5 +0.7
PMR pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 84.65 12 P **P** 02 48 57.5 +0.7
PMR IAmb IAmb 02 49 25.0
comp=Z,9.1nm,1.0s
PV17 East Wray Mesa 84.75 46 IAmb IAmb 02 49 14.3
comp=Z,9.8nm,1.1s
PV14 Lion Creek, Pa 84.75 46 IAmb IAmb 02 49 11.2
comp=Z,8.7nm,1.1s
ANMO Albuquerque 84.77 50 P **P** 02 48 59.9 +1.5
comp=Z,4.6nm,1.0s,baz=214,slow=6.2,SNR=11
ANMO Albuquerque 84.77 50 *ce*P **P** 02 49 00.6 +2.2
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO Albuquerque 84.77 50 P **P** 02 48 59.8 +1.4
ANMO IAmb IAmb 02 49 14.9
comp=Z,15nm,1.2s
TTA Tatalina 84.81 8 P 02 48 59.2
baz=197
TTA Tatalina 84.81 8 P **P** 02 48 58.8 +1.0
TTA pmax pmax
comp=Z,23nm,1.3s
TTA Tatalina 84.81 8 P **P** 02 48 58.8 +1.0
HWUT Hardware Ranch 84.86 42 IAmb IAmb 02 49 10.9
comp=Z,7.3nm,1.1s
KLR Kul'dur 84.91 328 LR LR 03 23 44.5
comp=Z,137nm,19.4s,baz=131,slow=34
KLR Kul'dur 84.91 328 *ce*P **P** 02 48 58.9 +0.4
KLR pmax pmax
comp=Z,6.0nm,1.3s
MESA MESA 84.95 15 P 02 49 00.6
baz=210
CN2 Changchun 85.03 321 *e*S **S** 02 59 31.7 +3.9
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,80nm,5.0s
CN2 L L
comp=Z,90nm,16.0s
CN2 L L
comp=Z,160nm,16.0s
CN2 L L
comp=Z,160nm,18.0s
CRQE Cirque 85.18 15 P 02 49 02.8
baz=209
MA2 Magadan 85.30 343 LR LR 03 21 25.1
comp=Z,124nm,21.6s,baz=123,slow=32
VRDI Verde Repeater 85.51 14 IAmb IAmb 02 49 20.2
comp=Z,19nm,1.2s
GLB Gilahina Butte 85.62 14 IAmb IAmb 02 49 13.8
comp=Z,12nm,1.1s
CTG Chitna Glacier 85.78 15 P 02 49 03.9
baz=211
CTGM Chitina Glacie 85.79 15 IAmb IAmb 02 49 15.0
comp=Z,12nm,0.9s
BARN Barnard Glacie 85.79 15 P **P** 02 49 03.9 +1.0
BARN IAmb IAmb 02 49 15.6
comp=Z,15nm,0.9s
WHN Wuhan 85.81 305 ⇓P **P** 02 49 04.8 +1.4
WAT6 Susitna Watana 85.82 12 P 02 49 03.9
baz=205
S22A 4UR Ranch, Cre 85.91 47 P 02 49 06.5
baz=240
PLCA Paso Flores 86.17 132 P **P** 02 49 05.9 +0.6
comp=Z,2.5nm,1.1s,baz=236,slow=11,SNR=2.2
PLCA LR LR 03 21 43.9
comp=Z,231nm,18.5s,baz=206,slow=32
REDW Red Top Meadow 86.27 41 IAmb IAmb 02 49 20.1
comp=Z,10nm,1.4s
DLMT Dillon 86.35 38 IAmb IAmb 02 49 18.7
comp=Z,10nm,1.3s
SNOW Snow King Moun 86.38 41 IAmb IAmb 02 49 20.3
comp=Z,11nm,1.1s
TIA Tai'an 86.42 311 P **P** 02 49 07.8 +1.4
TIA pmax pmax
comp=Z,14nm,0.9s
PAX Paxson 86.63 13 IAmb IAmb 02 49 18.4
comp=Z,14nm,1.4s
BPAW Bear Paw Mtn. 86.66 10 IAmb IAmb 02 49 13.4
comp=Z,16nm,1.4s
PDAR Pinedale Array 86.74 42 P **P** 02 49 07.9 -0.2
comp=Z,3.3nm,0.8s,baz=207,slow=3.0,SNR=17
PDAR LR LR 03 23 46.3
comp=Z,152nm,18.3s,baz=286,slow=33

FLWY Flagg Ranch 86.76 40 P **P** 02 49 09.2 +1.1
FLWY IAmb IAmb 02 49 20.9
comp=Z,9.6nm,1.1s
UBPT Khong Chiam 86.89 288 P **P** 02 49 08.4 -0.7
UBPT Khong Chiam 86.89 288 P **P** 02 49 10.2 +1.2
comp=Z,23nm,1.1s
YHL Hebgen Lake 86.89 39 IAmb IAmb 02 49 21.9
comp=Z,8.9nm,1.1s
MSTX Muleshoe 86.97 52 P 02 49 11.1
baz=242
MNSI Mandailing Nat 86.99 272 P **P** 02 49 09.2 -0.5
comp=Z,37nm,0.9s
DLBC Dease Lake 87.05 21 P **P** 02 49 09.4 +0.4
comp=Z,1.0nm,0.4s,baz=208,slow=12,SNR=3.1
SYO Syowa Base 87.06 191 ⇑*e*P **P** 02 49 08.8 -0.2
SYO Syowa Base 87.06 191 ⇑*e*pP pP 02 49 13.2 +0.5
SNAA Sanae 87.40 177 P **P** 02 49 13.1 +2.4
SNAA Sanae 87.40 177 *ce*P **P** 02 49 11.5 +0.8
SNAA pmax pmax
comp=Z,18nm,1.7s
SNAA Sanae 87.40 177 P **P** 02 49 12.8 +2.1
SNAA IAmb IAmb 02 49 22.6
comp=Z,8.7nm,0.9s
NEA2 Nenana 87.43 10 IAmb IAmb 02 49 23.2
comp=Z,13nm,1.2s
L27K Beaver Creek, 87.49 14 P 02 49 12.0
baz=210
L27K Beaver Creek, 87.49 14 IAmb IAmb 02 49 29.4
comp=Z,11nm,1.4s
DOT Dot Lake 87.52 13 IAmb IAmb 02 49 16.5
comp=Z,7.9nm,1.0s
MLY Manley 87.57 10 IAmb IAmb 02 49 19.5
comp=Z,10nm,1.3s
HDA Harding Lake 87.64 11 P 02 49 12.4
baz=205
HDA P 02 49 12.4
baz=205
HDA Harding Lake 87.64 11 IAmb IAmb 02 49 16.7
comp=Z,10nm,0.9s
CCB Clear Creek Bu 87.70 11 IAmb IAmb 02 49 16.8
comp=Z,15nm,1.1s
SEY Seymchan 87.74 345 P **P** 02 49 11.7 -0.4
comp=Z,11nm,1.0s,baz=139,slow=5.9,SNR=18
SCRK Sand Creek 87.83 13 P 02 49 14.0
baz=208
SCRK Sand Creek 87.83 13 IAmb IAmb 02 49 18.3
comp=Z,7.5nm,1.1s
I23K Minto, Yukon-K 87.90 10 P 02 49 16.9
baz=203
COLA College 87.90 11 *i* P **P** 02 49 12.9 +0.1
COLA pmax pmax
comp=Z,31nm,1.6s
COLA College 87.90 11 P **P** 02 49 13.5 +0.7
IL31 87.98 11 P **P** 02 49 13.9 +0.8
IL31 IAmb IAmb 02 49 31.6
comp=Z,16nm,1.2s
ILAR Eielson Array 87.98 11 P **P** 02 49 12.8 -0.4
comp=Z,1.2nm,0.7s,baz=205,slow=5.7,SNR=15
VNA1 Neumayer--Stat 88.07 175 P **P** 02 49 14.7 +0.9
RPSI Rantau Prapat 88.28 274 P **P** 02 49 15.8 0.0
K27K Chicken 88.28 13 P 02 49 16.6
baz=210
K27K Chicken 88.28 13 IAmb IAmb 02 49 21.7
comp=Z,16nm,1.3s
PSI Prapat 88.31 274 P **P** 02 49 15.9 -0.2
PSI pmax pmax
comp=Z,31nm,1.0s
PSI Prapat 88.31 274 P **P** 02 49 16.0 -0.2
comp=Z,36nm,1.0s
BJT Baijiatuan 88.92 314 P **P** 02 49 18.6 +0.4
BJT pmax pmax
comp=Z,10.0nm,1.1s
BJT Baijiatuan 88.92 314 P **P** 02 49 18.6 +0.4
BJT IAmb IAmb 02 49 26.7
comp=Z,10nm,1.1s
BJI Beijing 88.92 314 P **P** 02 49 19.8 +1.6
BJI pP **pP** 02 49 22.6 +0.5
BJI sP **sP** 02 49 23.7 +0.3
BJI S **S** **03 00 06.2 +0.6**
BJI sS **sS** **03 00 12.6 +0.9**
BJI pmax pmax
comp=Z,12nm,1.6s
BJI pmax pmax
comp=Z,210nm,3.6s
BJI L L
comp=Z,81nm,15.5s
BJI L L
comp=Z,120nm,17.7s
BJI L L
comp=Z,220nm,18.0s
GSI Gunungsitoli 89.04 272 P **P** 02 49 21.0 +1.5
comp=Z,106nm,0.9s
EGAK Eagle 89.13 13 IAmb IAmb 02 49 25.1
comp=Z,21nm,1.4s
ENH Enshi 89.47 303 P **P** 02 49 20.8 -0.3
ZEA Zeya 89.92 329 *e*P **P** 02 49 23.7 +1.1
ZEA *e* 02 59 48.5
ZEA pmax pmax
comp=Z,10.0nm,0.7s
BILL Bilibino 89.94 353 *ce*P **P** 02 49 23.0 +0.6
BILL *e* 02 49 27.1
BILL *e* 02 52 58.7
BILL *e*PPP PPP 02 54 52.4
BILL pmax pmax
comp=Z,24nm,2.5s
BILL Bilibino 89.94 353 P **P** 02 49 22.9 +0.6
BILL IAmb IAmb 02 49 27.5
comp=Z,6.2nm,0.9s
GYA Guiyang 90.20 298 ⇓P **P** 02 49 26.0 +1.3
GYA S **S** **03 00 15.0 -3.4**
GYA pmax pmax
comp=Z,2.0nm,1.2s
GYA pmax pmax
comp=Z,32nm,12.3s
GYA L L
comp=Z,32nm,15.8s
SLVN Son La 90.56 293 IAmb IAmb 02 49 33.1
comp=Z,23nm,1.4s
RSSD Black Hills 90.89 43 P **P** 02 49 28.2 +0.5
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 90.89 43 P **P** 02 49 28.2 +0.5
HIA Hailar 91.31 323 P **P** 02 49 28.6 -0.7
HIA pmax pmax
comp=Z,4.0nm,0.7s
HIA Hailar 91.31 323 P **P** 02 49 28.6 -0.7
HIA IAmb IAmb 02 49 43.1
comp=Z,3.7nm,0.7s
XAN Xi'an 91.46 306 P **P** 02 49 32.3 +2.0
XAN pmax pmax
comp=Z,28nm,1.2s
HHC Hu-ho-hao-te 92.42 313 *e*P **P** 02 49 35.4 +0.7
HHC sP pwP 02 49 44.3 -0.3
HHC S **S** **03 00 32.4 -5.6**
HHC sS sS 03 00 46.5 +2.4
HHC pmax pmax
comp=Z,24nm,1.2s
HHC pmax pmax
comp=Z,76nm,4.4s
HHC L L
comp=Z,140nm,18.4s
HHC L L
comp=Z,140nm,15.7s
HHC L L
comp=Z,190nm,16.7s
A21K Barrow 92.83 6 P **P** 02 49 36.4 +0.7
A21K IAmb IAmb 02 49 48.1
comp=Z,9.2nm,1.0s
KMI Kunming 92.96 296 ⇑P **P** 02 49 39.6 +1.9
KMI pmax pmax
comp=Z,21nm,1.2s
KMI pmax pmax
comp=Z,87nm,3.5s
KMI L L
comp=Z,190nm,19.0s
KMI L L
comp=Z,260nm,18.5s
KMI L L
comp=Z,330nm,19.7s
CM31 Chiang Mai Arr 93.86 288 P **P** 02 49 42.0 +0.4
CMAR Chiang Mai Arr 93.86 288 P **P** 02 49 42.7 +1.0
comp=Z,11nm,0.9s,baz=117,slow=2.9,SNR=48
CMAR LR LR 03 29 19.8
comp=Z,59nm,20.5s,baz=188,slow=34
CMAR Chiang Mai Arr 93.86 288 *ce*P **P** 02 49 43.2 +1.5
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 93.86 288 P **P** 02 49 42.3 +0.6
CMMT Chiang Mai 93.98 289 P **P** 02 49 42.5 +0.3
comp=Z,22nm,1.1s
CHTO Chiang Mai 93.98 289 P **P** 02 49 42.4 +0.1
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 93.98 289 P **P** 02 49 42.4 +0.1
CHTO Chiang Mai 93.98 289 P **P** 02 49 43.9 +1.6
YAK Yakutsk 94.00 337 LR LR 03 26 10.9
comp=Z,51nm,21.4s,baz=88,slow=32
YAK Yakutsk 94.00 337 *i* P **P** 02 49 43.9 +2.6
YAK pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 95.38 24 P **P** 02 49 48.3 +0.7
comp=Z,1.2nm,0.8s,baz=224,slow=4.0,SNR=5.6
YKA LR LR 03 25 54.7
comp=Z,93nm,21.8s,baz=0.0,slow=31
LZH Lanzhou 96.09 306 *e*P P 02 49 57.4 +5.7
LZH pP pwP 02 50 01.3 -0.4
LZH sP sP 02 50 03.4 +6.5
LZH SKS **SKSac** **03 00 31.0 +3.1**
LZH S **ScS** **03 01 14.2 +3.2**
LZH sS sS 03 01 20.0 +3.4
LZH SS **SS** **03 07 43.3 +0.9**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,68nm,6.0s
LZH L L
comp=Z,120nm,20.1s
LZH L L
comp=Z,220nm,19.5s
LZH L L
comp=Z,150nm,19.0s
F33A 5 Mile Ranch, 96.58 43 IAmb IAmb 02 50 05.2
comp=Z,6.7nm,1.1s
ULN Ulaanbaatar 98.22 318 *ce*P **P** **02 50 00.6 -0.5**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 98.22 318 P **P** **02 50 00.2 -0.8**
ULN IAmb IAmb 02 50 20.1
comp=Z,5.9nm,1.1s
LPAZ La Paz 98.36 111 LR LR 03 27 28.2
comp=Z,244nm,18.5s,baz=239,slow=31
ULM Lac du Bonnet 98.55 39 LR LR 03 30 27.2
comp=Z,358nm,18.9s,baz=242,slow=33
SONM Songino Array 98.62 318 P **P** **02 50 01.8 -1.0**
comp=Z,0.5nm,0.4s,baz=115,slow=9.7,SNR=1.6
SONM Songino Array 98.62 318 P **P** **02 50 01.8 -1.0**
SONM pmax pmax
comp=Z,2.0nm,1.1s
ZALV Zalesovo Beam 113.25 321 PKiKP **PKiKP** **02 55 00.9 -0.2**
comp=Z,2.4nm,0.6s,baz=143,slow=1.4,SNR=11
ZALV Zalesovo Beam 113.25 321 *i* PKiKP **PKiKP** **02 55 00.5 -0.6**
ZALV Zalesovo Beam 113.25 321 PKiKP **PKiKP** **02 55 00.5 -0.6**
MKAR Makanchi Array 114.29 313 PKP PKPdf 02 55 02.8 -0.6
comp=Z,2.5nm,0.8s,baz=81,slow=2.0,SNR=20
NEEM North Greenlan 117.27 12 *i* P **PKiKP** **02 55 08.7 +0.1**
NEEM IAmb IAmb 02 55 09.7
comp=Z,3.3nm,0.9s
BOOM Boomskoye usch 118.50 308 PKiKP **PKiKP** **02 55 12.5 +0.7**
BOOM Boomskoye usch 118.50 308 PKPdf **PKiKP** **02 55 12.5 +0.7**
AAK Ala-Archa 119.58 308 *c i* PKiKP **PKiKP** **02 55 14.6 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 119.58 308 PKPdf **PKiKP** **02 55 14.2 +0.3**
NIL Nilore 119.89 298 PKiKP **PKiKP** **02 55 16.6 +2.0**
NIL Nilore 119.89 298 PKPdf **PKiKP** **02 55 16.6 +2.0**
BRVK Borovoye 121.94 320 *c i* PKiKP **PKiKP** **02 55 18.2 +0.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 121.94 320 PKPdf **PKiKP** **02 55 18.2 +0.3**
KK31 Karatay Array 122.51 308 PKiKP **PKiKP** **02 55 19.6 +0.1**
KK31 Karatay Array 122.51 308 PKPdf **PKiKP** **02 55 19.6 +0.1**
KKAR Karatay Array 122.51 308 PKiKP **PKPdf** **02 55 19.1 -0.2**
KKAR Karatay Array 122.51 308 PKPdf **PKPdf** **02 55 19.1 -0.2**
GAR Garm 122.63 304 PKPdf **PKiKP** **02 55 21.7 +1.7**
KBL Kabul 123.45 298 PKiKP **PKiKP** **02 55 21.9 +0.1**
KBL Kabul 123.45 298 PKPdf **PKiKP** **02 55 21.9 +0.1**
ICESG Greenland Ices 124.50 18 *i* P **PKPdf** **02 55 22.8 +0.1**
ICESG IAmb IAmb 02 55 23.9
comp=Z,5.5nm,0.8s
SVE Sverdlovsk 126.51 326 *e*PKiKP **PKiKP** **02 55 27.3 +0.4**
SVE pmax pmax
comp=Z,15nm,0.8s
BOSA Boshof 127.33 201 PKP **PKiKP** **02 55 30.2 +0.5**
comp=Z,4.0nm,0.9s,baz=118,slow=3.4,SNR=4.9
ARU Arti 127.73 326 *i* PKiKP **PKiKP** **02 55 29.3 0.0**
ARU 03 02 40.3
ARU Arti 127.73 326 PKPdf **PKPdf** **02 55 28.8 0.0**
ABKAR Akbulak array 129.03 317 **PKiKP** **02 55 33.1 +1.0**
ARCES ARCESS Array B 130.02 351 PKP **PKPdf** **02 55 32.6 -0.2**
comp=Z,4.4nm,0.9s,baz=1.4,slow=4.9,SNR=2.2
GYA0B ALIBECK ARRAY 132.24 303 PKPdf **PKiKP** **02 55 39.5 +0.4**
KLMR Klimovskoe 133.78 338 *e*PKHKP PKPpre 02 55 33.0
KLMR pmax pmax
comp=Z,31nm,2.2s
KLMR Klimovskoe 133.78 338 *e*PKPdf **PKPdf** **02 55 33.1 -7.0**
KLMR AMP 02 55 41.5
comp=Z,31nm,2.2s
FINES FINESS Array B 137.22 346 PKP **PKiKP** **02 55 48.0 -0.4**
comp=Z,3.6nm,0.8s,baz=151,slow=4.4,SNR=6.5
OBN Obninsk 138.92 334 *e*PKiKP **PKPdf** **02 55 50.4 +0.6**
OBN *e*PPP PPP 03 01 44.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
VRH Novokhopyorsk 138.96 326 *e*PKiKP **PKPdf** **02 55 48.0 -2.0**
VRH pmax pmax
comp=Z,8.0nm,0.8s
LPSR Galich'ya Gora 139.53 329 *e*PKiKP **PKPdf** **02 55 49.2 -1.8**
LPSR pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 139.80 356 PKP **PKPdf** **02 55 49.1 -2.2**
comp=Z,0.9nm,0.8s,baz=14,slow=4.1,SNR=3.7
VSR Storozhevoye 140.26 327 *e*PKiKP **PKPdf** **02 55 50.5 -1.9**
VSR pmax pmax
comp=Z,7.0nm,1.2s
KBZ Khabaz 141.93 315 PKP **PKPdf** **02 55 52.9 -2.7**
comp=Z,2.5nm,1.0s,baz=99,slow=2.6,SNR=2.9
KIV Kislovodsk 141.98 316 *i* PKiKP **PKiKP** **02 55 59.8 +1.0**
KIV pmax pmax
comp=Z,18nm,1.1s
KMBO Kilima Mbogo 142.41 238 PKP **PKPdf** **02 55 57.4 -0.4**
comp=Z,1.4nm,0.6s,baz=45,slow=4.3,SNR=4.0
AKH Akhalkalaki 142.43 311 ⇓P **PKPdf** **02 55 54.7 -2.2**
MNK Minsk 142.66 339 *i* PKiKP **PKPdf** **02 55 55.1 -1.5**
MNK *i* 03 03 03.0
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK MLR MLR
comp=Z,129nm,20.0s
MNK MLR MLR
comp=E,11nm,19.0s
MNK MLR MLR
comp=N,107nm,21.0s
MNK Minsk 142.66 339 *i* PKP **PKPdf** **02 55 55.1 -1.5**
comp=E,1.0nm,0.6s
MNK *i* PKP **PKPdf** **02 55 55.1 -1.5**
comp=N,9.0nm,0.7s
MNK *i* PKP **PKPdf** **02 55 55.1 -1.5**
comp=Z,17nm,0.7s,baz=216
MNK *i* PP **PP** **02 59 01.3 -3.0**
MNK *i* SKS **SKSdf** **03 03 03.1 -2.6**
MNK *i* SKKS **SKKSdf** **03 12 22.4 -2.9**
MNK *i* SS SS 03 17 24.5 -15
MNK *i* SSS SSS 03 22 40.3
MNK *i* LQ LQ 03 51 19.1
MNK *i* LR LR 03 55 12.8
MNK *i* LRM MLR 03 58 24.2
comp=Z,129nm,19.6s
MNK *i* LRM MLR 03 59 40.6
comp=E,11nm,18.6s
MNK *i* LRM MLR 03 59 57.9
comp=N,107nm,20.7s
NACGM Naroch 142.68 340 *i* PKP **PKPdf** **02 55 54.4 -2.2**
SOC Sochi 144.07 317 *i* PKHKP PKPpre 02 55 45.9
SOC *e*SS SS 03 18 31.1 +34
GURO Guroymak-BITLI 144.47 308 PKPdf **PKPdf** **02 56 00.0 -0.5**

MUD	**Monsted U'grnd**	**144.49**	**357**	*i* P	**PKPdf**	02 55 59.1	-0.7
MUD				IAmb	IAmb	02 55 59.8	
	comp=Z,35nm,1.1s						
MUD	**Monsted U'grnd**	**144.49**	**357**	*i* PKHKP	PKPbc	02 55 59.0	+0.7
MUD				pmax	pmax		
	comp=Z,35nm,1.1s						
SUW	**Suwalki**	**144.52**	**343**	*e*PKP	**PKPdf**	**02 55 59.4**	**-0.4**
SUW	**Suwalki**	**144.52**	**343**	*e*P	**PKPdf**	**02 55 59.5**	**-0.4**
COP	**Copenhagen**	**145.01**	**354**	*i* P	**PKPdf**	**02 56 00.6**	**0.0**
COP	**Copenhagen**	**145.01**	**354**	*i* PKIKP	**PKPdf**	**02 56 00.6**	**0.0**
AKASG	**Malin Array Be**	**145.18**	**334**	PKPbc	**PKPbc**	**02 56 00.6**	**-0.1**
	comp=Z,23nm,0.7s,baz=40,slow=4.4,SNR=94						
BSD	**Bornholm Skovb**	**145.26**	**351**	*e*P	**PKPdf**	**02 56 01.4**	**+0.3**
BSD	**Bornholm Skovb**	**145.26**	**351**	⇑*i*P	**PKPbc**	**02 56 00.9**	**0.0**
BSD				IAmb	IAmb	02 56 01.8	
	comp=Z,34nm,0.9s						
BSD	**Bornholm Skovb**	**145.26**	**351**	⇑*i*PKP2	**PKPbc**	**02 56 00.8**	**0.0**
BSD				pmax	pmax		
	comp=Z,34nm,0.9s						
RGN	**Rugen**	**146.03**	**352**	*e*PKPbc	**PKPab**	**02 56 04.2**	**+0.4**
	baz=9.2,slow=2.5						
SKMB	**Sankelmark Bun**	**146.21**	**356**	*e*PKPbc	**PKPab**	**02 56 05.3**	**+0.9**
	baz=9.2,slow=2.5						
FURI	**Furi**	**146.35**	**254**	PKPbc	**PKPab**	**02 56 06.3**	**-0.4**
LODK	**Lodwar**	**146.58**	**243**		**PKPab**	**02 56 06.8**	**-0.5**
GKP	**Gorka Klasztor**	**146.63**	**348**	*e*PKP	**PKPab**	**02 56 05.8**	**-0.3**
GKP	**Gorka Klasztor**	**146.63**	**348**	*e*P	**PKPab**	**02 56 06.0**	**-0.1**
SIM	**Simferopol'**	**146.74**	**322**	*e*PKIKP	**PKPbc**	**02 56 05.7**	**0.0**
SIM				pmax	pmax		
	comp=Z,64nm,0.9s						
HLG	**Helgoland**	**146.81**	**358**	*e*PKPbc	**PKPab**	**02 56 06.9**	**+0.1**
	baz=9.2,slow=2.5						
BSEG	**Bad Segeberg**	**146.93**	**355**	*e*PKPbc	**PKPab**	**02 56 07.0**	**-0.3**
	baz=9.2,slow=2.5						
LNIZ	**Loecknitz**	**146.94**	**351**	*e*PKPbc	**PKPab**	**02 56 06.9**	**-0.4**
	baz=9.2,slow=2.5						
BEL	**Belsk**	**147.12**	**343**	*e*PKP	**PKPab**	**02 56 07.9**	**-0.2**
SORM	**Soroca**	**147.50**	**332**	⇑P	**PKPbc**	**02 56 08.4**	**+0.7**
SORM	**Soroca**	**147.50**	**332**	⇑PKP2	**PKPbc**	**02 56 08.4**	**+0.7**
MBAR	**Mbarara**	**147.72**	**231**	*c* iPKP2	**PKiKP**	**02 56 11.6**	**0.0**
MBAR	**Mbarara**	**147.72**	**231**	PKPbc	**PKPbc**	**02 56 10.2**	**+0.6**
LVV	**L'vov**	**147.87**	**338**	*e*PKIKP	**PKPbc**	**02 56 09.3**	**+0.6**
DIKM	**Dikmen**	**147.88**	**317**	⇓P	PKPab	02 56 21.4	+10
RUE	**Ruedersdorf**	**147.98**	**351**	*e*PKPbc	**PKiKP**	**02 56 09.8**	**-0.9**
	baz=9.2,slow=2.5						
NRDL	**Niedersach Rie**	**148.38**	**355**	*e*PKPbc	**PKiKP**	**02 56 10.9**	**-0.5**
	baz=9.2,slow=2.5						
FLTG	**Flechtingen**	**148.44**	**354**	*e*PKPbc	**PKPbc**	**02 56 10.9**	**+0.8**
	baz=9.2,slow=2.5						
KWP	**Kalwaria Pacla**	**148.49**	**339**	*e*PKP	**PKiKP**	**02 56 11.4**	**-0.5**
GAZ	**Gaziantep**	**148.53**	**308**		**PKPbc**	**02 56 10.9**	**-0.1**
ASSE	**Asse, Remlinge**	**148.69**	**355**	*e*PKPbc	**PKiKP**	**02 56 11.9**	**-0.2**
	baz=9.2,slow=2.5						
IBBN	**Ibbenburen**	**148.69**	**358**	*e*PKPbc	**PKiKP**	**02 56 11.9**	**-0.3**
	baz=9.2,slow=2.5						
BNN	**Bunyan**	**148.83**	**311**	PKPbc	**PKPbc**	**02 56 11.4**	**-0.4**
OJC	**Ojcow**	**148.85**	**343**	*e*PKP	**PKiKP**	**02 56 12.4**	**-0.2**
VASR	**Vaslui**	**148.87**	**330**	⇓P	**PKiKP**	**02 56 12.6**	**-0.1**
CLZ	**Clausthal**	**149.00**	**355**	*e*PKPbc	**PKiKP**	**02 56 12.8**	**-0.2**
	baz=9.2,slow=2.5						
PRAR	**RASCA**	**149.02**	**333**	⇑P	**PKiKP**	**02 56 13.2**	**+0.1**
KSP	**Ksiaz**	**149.12**	**347**	*e*PKP	**PKiKP**	**02 56 13.3**	**+0.2**
KOLS	**Kolonicke sedl**	**149.23**	**339**	*e*PKP2	**PKiKP**	**02 56 13.4**	**-0.1**
KOLS	**Kolonicke sedl**	**149.23**	**339**	*e*PKP	**PKiKP**	**02 56 13.4**	**-0.1**
CLL	**Collm**	**149.24**	**351**	⇑*i*PKPbc	**PKiKP**	**02 56 13.1**	**-0.2**
	comp=Z,25nm,0.9s						
CLL				*i* PKPab	**pPKPbc**	**02 56 16.1**	**-0.1**
CLL				*i*		02 56 23.7	
CLL	**Collm**	**149.24**	**351**	⇑PKIKP	**PKiKP**	**02 56 13.1**	**-0.2**
CLL				*i*		02 56 16.1	
CLL				pmax	pmax		
	comp=Z,25nm,0.9s						
CLL	**Collm**	**149.24**	**351**	*e*PKPbc	**PKiKP**	**02 56 13.1**	**-0.2**
	baz=9.2,slow=2.5						
GTTG	**Gottingen**	**149.33**	**355**	*e*PKPbc	**PKiKP**	**02 56 13.5**	**0.0**
	baz=9.2,slow=2.5						
BIZ	**Bicaz**	**149.40**	**333**	⇑P	**PKiKP**	**02 56 14.2**	**+0.3**
OSTC	**Ostas**	**149.41**	**347**	⇑*e*PKP	**PKiKP**	**02 56 13.8**	**0.0**
OSTC				*ex*	x	02 56 24.2	
CHVC	**Chvalec**	**149.41**	**347**	⇑*e*PKP	**PKiKP**	**02 56 13.8**	**0.0**
NIE	**Niedzica**	**149.43**	**342**	*e*PKP	**PKiKP**	**02 56 14.0**	**+0.1**
TLCR		**149.43**	**327**	⇑P	**PKiKP**	**02 56 14.2**	**+0.3**
TLCR		**149.43**	**327**	⇑PKP2	**PKiKP**	**02 56 14.2**	**+0.3**
GHRR		**149.48**	**330**	⇑P	**PKiKP**	**02 56 15.1**	**+1.0**
UZH	**Uzhgorod**	**149.49**	**339**	⇑*e*PKIKP	**PKPbc**	**02 56 13.0**	**+0.2**
UZH				*i*		02 56 15.4	
TESR	**Tescani**	**149.49**	**331**	⇑P	**PKPbc**	**02 56 13.4**	**+0.5**
NEUB	**Neuenburg**	**149.49**	**353**	*e*PKPbc	**PKiKP**	**02 56 13.9**	**0.0**
	baz=9.2,slow=2.5						
UPC	**Upice**	**149.49**	**347**	*e*PKIKP	**PKiKP**	**02 56 14.0**	**+0.1**
UPC	**Upice**	**149.49**	**347**	⇑*e*PKP	**PKiKP**	**02 56 14.0**	**+0.1**
BRG	**Berggiesshubel**	**149.52**	**350**	*e*PKP	**PKiKP**	**02 56 13.8**	**-0.2**
BRG				Amp		02 56 15.2	
	comp=Z,24nm,1.1s						
BRG				*ex*	x	02 56 24.3	
BRG				Amp		02 56 25.5	
	comp=Z,38nm,1.1s						
BRG	**Berggiesshubel**	**149.52**	**350**	*e*PKPbc	**PKiKP**	**02 56 14.1**	**+0.2**
	baz=9.2,slow=2.5						
CRVS	**Cervenica-Dubn**	**149.53**	**340**	*e*PKP2	**PKiKP**	**02 56 14.7**	**+0.6**
CRVS	**Cervenica-Dubn**	**149.53**	**340**	*e*PKP	**PKiKP**	**02 56 14.7**	**+0.6**
FBE	**Freiberg**	**149.56**	**351**	*e*PKPbc	**PKiKP**	**02 56 14.5**	**+0.5**
	baz=9.2,slow=2.5						
BUG	**Bochum--Univer**	**149.57**	**359**	*e*PKPbc	**PKiKP**	**02 56 13.8**	**-0.2**
	baz=9.2,slow=2.5						
DPC	**Dobruska-Polom**	**149.58**	**347**	*e*PKP2	**PKiKP**	**02 56 14.5**	**+0.3**
DPC	**Dobruska-Polom**	**149.58**	**347**	⇑*e*PKP	**PKiKP**	**02 56 14.5**	**+0.3**
DPC				*ex*	x	02 56 24.8	
OKC	**Ostrava-Krasne**	**149.64**	**344**	*e*PKHKP	**PKPbc**	**02 56 13.7**	**+0.5**
OKC	**Ostrava-Krasne**	**149.64**	**344**	⇑*e*PKP	**PKPbc**	**02 56 13.7**	**+0.5**
OKC				*ex*	x	02 56 24.6	
JURR	**Jurilovca**	**149.69**	**327**	⇓P	**PKiKP**	**02 56 15.3**	**+0.9**
KRLC	**Kraliky**	**149.74**	**346**	*e*PKHKP	**PKPbc**	**02 56 14.5**	**+1.0**
KRLC				*e*		02 56 22.5	
KRLC	**Kraliky**	**149.74**	**346**	⇑*e*PKP	**PKPbc**	**02 56 14.5**	**+1.0**
KRLC				*ex*	x	02 56 22.5	
PVCC	**Panska Ves**	**149.75**	**349**	*e*PKHKP	**PKPbc**	**02 56 14.6**	**+1.2**
PVCC	**Panska Ves**	**149.75**	**349**	⇑*e*PKP	**PKPbc**	**02 56 14.6**	**+1.2**
PVCC				*ex*	x	02 56 25.6	
KASTN	**Kahler Asten**	**149.77**	**357**	*e*PKPbc	**PKiKP**	**02 56 14.5**	**0.0**
	baz=9.2,slow=2.5						
CFR	**Carcaliu**	**149.78**	**328**	⇓P	**PKiKP**	**02 56 14.9**	**+0.2**
CFR	**Carcaliu**	**149.78**	**328**	⇓PKP2	**PKiKP**	**02 56 14.9**	**+0.2**
MORC	**Moravsky Berou**	**149.84**	**345**	⇓P	**PKiKP**	**02 56 15.4**	**+0.6**
MORC	**Moravsky Berou**	**149.84**	**345**	*e*PKP	**PKiKP**	**02 56 14.8**	**+0.1**
MORC	**Moravsky Berou**	**149.84**	**345**	⇓PKP2	**PKiKP**	**02 56 15.4**	**+0.6**
BMR	**Baia Mare**	**149.86**	**336**	⇓P	**PKiKP**	**02 56 15.3**	**+0.5**
BMR	**Baia Mare**	**149.86**	**336**	⇓PKP2	**PKiKP**	**02 56 15.3**	**+0.5**
TPGR	**Topolog**	**149.86**	**327**	⇓P	**PKiKP**	**02 56 15.3**	**+0.4**
LANS	**Liptovska Anna**	**149.91**	**342**	*e*PKP2	**PKiKP**	**02 56 16.4**	**+1.5**
LANS	**Liptovska Anna**	**149.91**	**342**	*e*PKP	**PKiKP**	**02 56 16.4**	**+1.5**
BRTR	**Keskin Array B**	**149.92**	**315**	PKP	**PKPdf**	**02 56 09.7**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=54,slow=6.3,SNR=4.7						
BRTR				PKPbc	**sPKPdf**	**02 56 15.0**	**0.0**
	comp=Z,12nm,0.8s,baz=139,slow=5.0,SNR=67						
VRI	**Vrincioaia**	**149.94**	**331**	⇓P	**PKiKP**	**02 56 14.8**	**-0.2**
VRI	**Vrincioaia**	**149.94**	**331**	⇓PKHKP	**PKiKP**	**02 56 14.9**	**-0.2**
PLOR	**Plostina**	**149.99**	**331**	⇓P	**PKiKP**	**02 56 15.1**	**-0.1**
ARCR	**ARCALIA**	**150.01**	**335**	⇓P	**PKiKP**	**02 56 15.4**	**+0.3**
UBBA	**Unterbreizbach**	**150.05**	**355**	*e*PKPbc	**PKiKP**	**02 56 15.0**	**+0.1**
	baz=9.2,slow=2.5						
MOX	**Moxa**	**150.06**	**353**	*e*PKPbc	**PKiKP**	**02 56 15.3**	**+0.1**
	baz=9.2,slow=2.5						
MOX				*e*L	L	04 08 58.7	
	comp=Z,132nm,18.9s						
TIRR	**Tirgusor**	**150.15**	**327**	⇓P	**PKiKP**	**02 56 15.8**	**+0.4**
TIRR	**Tirgusor**	**150.15**	**327**	⇓PKHKP	**PKiKP**	**02 56 15.8**	**+0.4**
PLN	**Plauen**	**150.16**	**352**	*e*PKPbc	**PKiKP**	**02 56 15.6**	**+0.3**
	baz=9.2,slow=2.5						
TANN	**Tannenbergstha**	**150.18**	**352**	*e*PKPbc	**PKiKP**	**02 56 15.7**	**+0.3**
	baz=9.2,slow=2.5						
BISRR	**Bisoca**	**150.19**	**330**	⇑P	**PKPbc**	**02 56 15.1**	**+0.3**
OZUR		**150.19**	**332**	⇑P	**PKiKP**	**02 56 16.0**	**+0.4**
UCC	**Uccle**	**150.20**	**2**	*d*PKiKP	**PKiKP**	**02 56 15.2**	**-0.2**
UCC				*d*PKPab	**sPKPbc**	**02 56 20.3**	**+0.4**
UCC				*dx*	x	02 56 25.6	
UCC	**Uccle**	**150.20**	**2**	PKIKP	**PKPab**	**02 56 20.8**	**+0.3**
UCC	**Uccle**	**150.20**	**2**		**PKPab**	**02 56 20.8**	**+0.3**
HARR	**Harsova**	**150.23**	**328**	⇓P	**PKiKP**	**02 56 16.0**	**+0.4**
HARR	**Harsova**	**150.23**	**328**	⇓PKHKP	**PKiKP**	**02 56 16.0**	**+0.4**
GUNZ	**Gunzen**	**150.25**	**352**	*e*PKPbc	**PKiKP**	**02 56 16.0**	**+0.5**
	baz=9.2,slow=2.5						
TLBR	**Topalu**	**150.27**	**327**	⇓P	**PKiKP**	**02 56 15.9**	**+0.2**

PRU	**Pruhonice**	**150.27**	**349**	*e*PKIKP	**PKiKP**	**02 56 15.6**	**+0.1**
PRU				*e*		02 56 26.3	
PRU	**Pruhonice**	**150.27**	**349**	⇑*e*PKP	**PKiKP**	**02 56 15.6**	**+0.1**
PRU				*ex*	x	02 56 26.3	
WERN	**Wernitzgruen**	**150.32**	**352**	*e*PKPbc	**PKiKP**	**02 56 16.3**	**+0.6**
	baz=9.2,slow=2.5						
MFTR	**Murfatlar**	**150.34**	**326**	⇓P	**PKiKP**	**02 56 16.2**	**+0.4**
NKC	**Novy Kostel**	**150.36**	**352**	*e*PKIKP	**PKPbc**	**02 56 15.4**	**+0.4**
NKC				*e*		02 56 26.6	
NKC	**Novy Kostel**	**150.36**	**352**	⇑*e*PKP	**PKPbc**	**02 56 15.4**	**+0.4**
NKC				*ex*	x	02 56 26.6	
ANTO	**Ankara**	**150.41**	**315**	PKIKP	**PKPbc**	**02 56 15.8**	**+0.3**
ANTO						02 56 25.6	
ANTO	**Ankara**	**150.41**	**315**		**PKPbc**	**02 56 15.8**	**+0.3**
ANTO				PKPab	**pPKPab**	**02 56 25.6**	**-0.2**
MEM	**Membach**	**150.42**	**0**	*d*PKiKP	**PKPbc**	**02 56 15.1**	**0.0**
MEM				*dx*	x	02 56 26.4	
BSTI	**Sart Tilman**	**150.44**	**1**	*d*PKiKP	**PKiKP**	**02 56 16.1**	**+0.2**
BSTI				*d*PKPab	**sPKPbc**	**02 56 20.8**	**+0.2**
BSTI				*dx*	x	02 56 26.1	
BTNL	**Ternell**	**150.44**	**360**	*d*PKiKP	**PKiKP**	**02 56 15.8**	**-0.1**
BTNL				*d*PKPab	**sPKPbc**	**02 56 21.0**	**+0.5**
BTNL				*dx*	x	02 56 26.5	
DOPR	**Dopca**	**150.47**	**332**	⇓P	**PKiKP**	**02 56 17.1**	**+1.0**
NEHR	**Nehoiu**	**150.47**	**330**	⇑P	**PKiKP**	**02 56 16.7**	**+0.5**
AHRW	**Bad Neuenahr-A**	**150.48**	**359**	*e*PKPbc	**PKiKP**	**02 56 17.0**	**+1.1**
	baz=9.2,slow=2.5						
SNF	**Seneffe**	**150.49**	**2**	*d*PKiKP	**PKiKP**	**02 56 15.8**	**-0.1**
SNF				*d*PKPab	**sPKPbc**	**02 56 20.7**	**+0.1**
SNF				*dx*	x	02 56 27.2	
VRAC	**Vranov**	**150.50**	**346**	⇓P	**PKiKP**	**02 56 16.8**	**+0.8**
VRAC	**Vranov**	**150.50**	**346**	*e*PKP	**PKiKP**	**02 56 16.4**	**+0.3**
MLR	**Muntele Rosu**	**150.58**	**331**	⇓P	**PKiKP**	**02 56 16.5**	**0.0**
MLR	**Muntele Rosu**	**150.58**	**331**	PKIKP	**PKPbc**	**02 56 15.5**	**-0.3**
MLR	**Muntele Rosu**	**150.58**	**331**		**PKPbc**	**02 56 15.5**	**-0.3**
ISR	**Istrita**	**150.59**	**330**	⇓P	**PKiKP**	**02 56 16.9**	**+0.5**
ISR	**Istrita**	**150.59**	**330**	⇓PKIKP	**PKiKP**	**02 56 16.9**	**+0.5**
BCLA	**Clavier**	**150.61**	**1**	*d*PKiKP	**PKPbc**	**02 56 15.8**	**+0.3**
BCLA				*dp*PKiKP	**pPKPbc**	**02 56 19.3**	**-0.3**
CJR	**Cluj-Napoca**	**150.62**	**335**	⇑P	**PKiKP**	**02 56 17.5**	**+1.1**
CJR	**Cluj-Napoca**	**150.62**	**335**	⇑PKIKP	**PKiKP**	**02 56 17.5**	**+1.1**
BGES	**Gesves**	**150.64**	**1**	*d*PKiKP	**PKiKP**	**02 56 16.5**	**+0.2**
MANZ	**Manzenberg**	**150.65**	**352**	*e*PKPbc	**PKiKP**	**02 56 16.9**	**+0.5**
	baz=9.2,slow=2.5						
PBCC	**Pribram**	**150.66**	**349**	⇑*e*PKP	**PKiKP**	**02 56 16.8**	**+0.4**
PBCC				*ex*	x	02 56 27.3	
JAVC	**Velka Javorina**	**150.66**	**344**	*e*PKP	**PKiKP**	**02 56 18.0**	**+1.5**
SHAB	**Shabla**	**150.68**	**325**	⇑P	**PKPab**	**02 56 28.3**	**+5.6**
VYHS	**Vyhne**	**150.68**	**343**	*e*PKIKP	**PKiKP**	**02 56 17.2**	**+0.7**
VYHS	**Vyhne**	**150.68**	**343**	*e*PKP	**PKiKP**	**02 56 17.2**	**+0.7**
LTVH	**Ltavrtes, Hu**	**150.69**	**338**	⇓P	**PKiKP**	**02 56 18.0**	**+1.5**
BMRD	**Maredsous**	**150.71**	**2**	*d*PKiKP	**PKiKP**	**02 56 16.4**	**0.0**
BMRD				*dx*	x	02 56 27.0	
KOLL	**Kolacno**	**150.73**	**343**	*e*PKP	**PKiKP**	**02 56 17.8**	**+1.3**
KOLL				*e*		02 56 28.0	
TNS	**Taunus Mts**	**150.75**	**357**	*e*PKPbc	**PKiKP**	**02 56 16.9**	**+0.3**
	baz=9.2,slow=2.5						
TREC	**Trest**	**150.75**	**347**	*e*PKIKP	**PKiKP**	**02 56 16.8**	**+0.2**
TREC				*e*		02 56 27.3	
TREC	**Trest**	**150.75**	**347**	⇑*e*PKP	**PKiKP**	**02 56 16.8**	**+0.2**
TREC				*ex*	x	02 56 27.3	
KRUC	**Moravsky**	**150.78**	**346**	*e*PKP	**PKiKP**	**02 56 16.9**	**+0.3**
ROTZ	**Rotzenmuhle**	**150.85**	**352**	*e*PKPbc	**PKiKP**	**02 56 17.3**	**+0.5**
	baz=9.2,slow=2.5						
SECR		**150.87**	**330**	⇓P	**PKiKP**	**02 56 17.6**	**+0.6**
PSZ	**Piszkesteto**	**150.89**	**341**	⇓P	**PKiKP**	**02 56 17.2**	**+0.2**
DRGR		**150.89**	**336**	⇓P	**PKiKP**	**02 56 17.5**	**+0.5**
DRGR		**150.89**	**336**	⇓PKIKP	**PKiKP**	**02 56 17.5**	**+0.5**
DOU	**Dourbes**	**150.91**	**2**	*d*PKiKP	**PKiKP**	**02 56 16.8**	**-0.1**
DOU				*dx*	x	02 56 27.8	
LEHL	**Lehliu**	**150.93**	**329**	⇑P	**PKiKP**	**02 56 17.9**	**+0.8**
VOIR		**151.03**	**332**	⇓P	**PKiKP**	**02 56 18.0**	**+0.6**
VOIR		**151.03**	**332**	⇓PKIKP	**PKiKP**	**02 56 18.0**	**+0.6**
SMOL	**Smolenice**	**151.04**	**344**	*e*PKIKP	**PKiKP**	**02 56 18.2**	**+1.0**
SMOL	**Smolenice**	**151.04**	**344**	*e*PKP	**PKiKP**	**02 56 18.2**	**+1.0**
GRF	**Grafenberg Arr**	**151.05**	**353**	*e*PKPbc	**PKiKP**	**02 56 17.8**	**+0.6**
	baz=9.2,slow=2.5						
GRF				*eX*1		02 56 22.7	
GRF				*eX*2		02 56 28.3	
GRF				*eL*	L	04 08 45.1	
	comp=Z,119nm,19.6s						
GRFO	**Grafenberg**	**151.05**	**353**	PKIKP	**PKPab**	**02 56 23.3**	**-0.8**
GRFO	**Grafenberg**	**151.05**	**353**		**PKPbc**	**02 56 16.7**	**+0.1**
GRFO				PKPab	**PKPab**	**02 56 23.3**	**-0.8**
MILB	**Miltenberg**	**151.09**	**356**	*e*PKPbc	**PKiKP**	**02 56 17.7**	**+0.5**
	baz=9.2,slow=2.5						
MDUB	**Mudurnu**	**151.10**	**318**		**PKPbc**	**02 56 16.9**	**-0.3**
MODS	**Modra-Piesok**	**151.21**	**344**	*e*PKIKP	**PKiKP**	**02 56 17.6**	**0.0**
MODS	**Modra-Piesok**	**151.21**	**344**	*e*PKP	**PKiKP**	**02 56 17.6**	**0.0**
ARR	**Arges**	**151.26**	**332**	⇑P	**PKiKP**	**02 56 18.9**	**+1.0**
KHC	**Kasperske Hory**	**151.27**	**350**	*e*PKIKP	**PKiKP**	**02 56 18.2**	**+0.5**
KHC				*e*		02 56 28.5	
KHC	**Kasperske Hory**	**151.27**	**350**	⇑*e*PKP	**PKiKP**	**02 56 18.2**	**+0.5**
KHC				*ex*	x	02 56 28.5	
WET	**Wettzell**	**151.37**	**351**	*e*PKPbc	**PKiKP**	**02 56 18.5**	**+0.6**
	baz=9.2,slow=2.5						
WLF	**Walferdange**	**151.37**	**360**	*d*PKiKP	**PKiKP**	**02 56 18.8**	**+1.0**
WLF				*dx*	x	02 56 29.1	
WLF	**Walferdange**	**151.37**	**360**	*e*PKPbc	**PKiKP**	**02 56 18.8**	**+1.0**
	baz=9.2,slow=2.5						
CKRC	**Cesky Krumlov**	**151.44**	**349**	⇑*e*PKP	**PKiKP**	**02 56 18.4**	**+0.4**
CKRC				*e*PKPAB	**pPKPab**	**02 56 29.1**	**-0.6**
GEC2	**GERESS Array S**	**151.52**	**349**	*e*PKPbc	**PKiKP**	**02 56 18.7**	**+0.4**
	baz=9.2,slow=2.5						
GERES	**GERESS Array B**	**151.52**	**349**	PKPbc	**PKiKP**	**02 56 18.2**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=48,slow=2.0,SNR=42						
LOT	**Lotru**	**151.57**	**333**	⇓P	**PKPbc**	**02 56 18.2**	**+0.1**
SIRR	**Siria**	**151.73**	**337**	⇑P	**PKiKP**	**02 56 19.6**	**+0.8**
CONA	**Conrad Observa**	**151.97**	**346**	*i* P	**PKiKP**	**02 56 20.0**	**+0.8**
	comp=Z,15nm,0.9s,SNR=11						
GZR	**Gura Zlata**	**152.02**	**334**	⇑P	**PKiKP**	**02 56 19.4**	**0.0**
STU	**Stuttgart**	**152.15**	**356**	*e*PKPbc	**PKiKP**	**02 56 20.1**	**+0.6**
	baz=9.2,slow=2.5						
CSS	**Mathiatis**	**152.28**	**306**		**PKiKP**	**02 56 20.3**	**+0.1**
BZS	**Buzias**	**152.29**	**336**	⇑P	**PKiKP**	**02 56 20.2**	**+0.3**
MOA	**Molln**	**152.38**	**348**	*e*P	**PKiKP**	**02 56 20.6**	**+0.5**
	comp=Z,6.5nm,0.9s						
FUR	**Furstenfeldbru**	**152.54**	**352**	*e*PKPbc	**PKiKP**	**02 56 20.9**	**+0.5**
	baz=9.2,slow=2.5						
LEF	**Lefka**	**152.55**	**307**	⇑P	**PKiKP**	**02 56 21.1**	**+0.3**
HERR	**Herculane**	**152.59**	**334**	⇓P	**PKiKP**	**02 56 20.6**	**+0.1**
BFO	**Black Forest**	**152.64**	**357**	PKIKP	**PKPab**	**02 56 31.1**	**+0.3**
BFO	**Black Forest**	**152.64**	**357**		**PKiKP**	**02 56 21.0**	**+0.5**
BFO				PKPab	**PKPab**	**02 56 31.1**	**+0.3**
BFO	**Black Forest**	**152.64**	**357**	*e*PKPbc	**PKiKP**	**02 56 21.1**	**+0.5**
	baz=9.2,slow=2.5						
ARSA	**Arzberg**	**152.68**	**346**	*e*P	**PKiKP**	**02 56 21.9**	**+1.2**
	comp=Z,5.1nm,1.0s						
RJOB	**Jochberg**	**152.75**	**350**	*e*PKPbc	**PKiKP**	**02 56 21.2**	**+0.4**
	baz=9.2,slow=2.5						
MORH	**Mrgy, Hungar**	**152.79**	**341**	⇓P	**PKiKP**	**02 56 21.4**	**+0.6**
MDVR	**Moldovita**	**152.95**	**335**	⇑P	**PKiKP**	**02 56 21.8**	**+0.5**
UBR	**Ueberruh**	**153.15**	**354**	*e*PKPbc	**PKiKP**	**02 56 22.0**	**+0.4**
	baz=9.2,slow=2.5						
RETA	**Reutte**	**153.27**	**353**	*e*P	**PKiKP**	**02 56 23.0**	**+1.0**
	comp=Z,4.9nm,1.1s						
KBA	**Koelnbreinsper**	**153.29**	**349**	*e*P	**PKiKP**	**02 56 22.9**	**+0.8**
	comp=Z,9.1nm,1.0s						
WATA	**Walderalm**	**153.32**	**352**	*e*P	**PKiKP**	**02 56 22.9**	**+0.7**
	comp=Z,7.1nm,0.6s						
SOKA	**Soboth**	**153.33**	**346**	*e*P	**PKiKP**	**02 56 22.5**	**+0.4**
	comp=Z,6.8nm,0.9s						
FRGS	**Fruska Gora**	**153.34**	**338**	⇑P	**PKiKP**	**02 56 23.0**	**+0.9**
MOTA	**Moosalm**	**153.37**	**352**	*i* P	**PKiKP**	**02 56 22.9**	**+0.6**
	comp=Z,9.7nm,0.9s,SNR=6.2						
WTTA	**Wattenberg**	**153.38**	**352**	*e*P	**PKiKP**	**02 56 23.0**	**+0.7**
	comp=Z,9.5nm,0.8s						
DAVA	**Damuels**	**153.56**	**354**	*e*P	**PKiKP**	**02 56 23.8**	**+1.2**
	comp=Z,9.7nm,1.0s						
OBKA	**Obir**	**153.60**	**347**	*e*P	**PKiKP**	**02 56 23.0**	**+0.3**
	comp=Z,4.4nm,0.9s						
MYKA	**Terra Mystica**	**153.67**	**348**	*e*P	**PKiKP**	**02 56 22.9**	**+0.1**
	comp=Z,6.4nm,0.9s						
FETA	**Feichten**	**153.74**	**353**	*e*P	**PKiKP**	**02 56 23.3**	**+0.2**
	comp=Z,8.9nm,1.0s						
ABTA	**Abfaltersbach**	**153.75**	**350**	*e*P	**PKiKP**	**02 56 23.6**	**+0.6**
	comp=Z,7.6nm,0.6s						
VTS	**Vitosha**	**154.04**	**330**	⇓P	**PKiKP**	**02 56 24.9**	**+1.1**
VTS	**Vitosha**	**154.04**	**330**	⇓PKIKP	**PKiKP**	**02 56 24.9**	**+1.1**
LJU	**Ljubljana**	**154.04**	**346**	*e*PKPbc	**PKiKP**	**02 56 24.1**	**+0.7**
VOJS	**Vojsko**	**154.19**	**347**	*i* PKPdf	**PKPdf**	**02 56 15.4**	**-0.3**
VOJS				*e*PKPbc	**sPKPdf**	**02 56 20.6**	**-0.5**
BOJS	**Bojanci**	**154.39**	**345**	*i* PKPdf	**PKPdf**	**02 56 16.4**	**+0.5**

BOJS				*i* PKPbc	**PKiKP**	**02 56 24.9**	**+0.7**
TUE	**Stuetta**	**154.42**	**355**	PKPdf	**PKPdf**	**02 56 16.9**	**+0.8**
TUE					**PKiKP**	**02 56 25.2**	**+0.7**
TUE				PKPab	**PKPab**	**02 56 35.0**	**-3.7**
ESDC	**Sonseca Array**	**159.48**	**23**	PKP	**PKPdf**	**02 56 23.3**	**+0.7**
	comp=Z,0.5nm,1.1s,baz=332,slow=4.4,SNR=2.4						
ESDC				PKPab	**PKPab**	**02 56 59.6**	**-0.8**
	comp

comp=Z,1.1nm,0.5s,baz=75,slow=4.7,SNR=13
AKASG Malin Array Be 88.70 321 P P 02 58 53.5 -1.4
comp=Z,0.7nm,0.5s,baz=63,slow=4.9,SNR=1.0
NOA NORSAR Array B 95.07 334 P P 02 59 22.4 -2.0
comp=Z,0.3nm,0.6s,baz=104,slow=4.1,SNR=1.9
GEC2 GERESS Array S 98.85 322 P P 02 59 40.1 -1.6
GEC2 IAmb IAmb 03 00 08.4
comp=Z,3.2nm,1.4s
TXAR Lajitas Array 118.90 50 PKP PKPdf 03 04 51.6 +1.1
comp=Z,0.3nm,0.6s,baz=343,slow=1.9,SNR=4.7
TXAR Lajitas Array 118.90 50 PKPdf 03 04 50.1 -0.4
TORD Torodi Ar. Bea 121.62 291 PKP PKPdf 03 04 55.8 -0.1
comp=Z,0.8nm,0.8s,baz=54,slow=2.0,SNR=4.6
TORD Torodi Ar. Bea 121.62 291 PKPdf 03 04 54.8 -1.1

KMA 12 02:55:12.3±0.3, 38.74N×126.07E, h0km, Error ellipse: s-maj=5.4km s-min=1.0km az=2.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNCB	**YEONCHEON**	**0.97**	**136**	P	Pg	02 55 30.7	-0.2
	SNR=16						
YNCB	**YEONCHEON**	**0.97**	**136**	P	Pg	02 55 30.7	-0.2
	SNR=16						
YNCB	**YEONCHEON**	**0.97**	**136**	P	Pg	02 55 30.7	-0.2
	SNR=16						
YNCB	**YEONCHEON**	**0.97**	**136**	P	Pg	02 55 30.7	-0.2
	SNR=16						
KSBAR	**Backryungdo**	**1.31**	**235**	P	Pg	02 55 37.2	-0.3
	SNR=13						
KSBAR	**Backryungdo**	**1.31**	**235**	P	Pg	02 55 37.2	-0.3
	SNR=13						
KSBAR	**Backryungdo**	**1.31**	**235**	P	Pg	02 55 37.2	-0.3
	SNR=13						
KSBAR	**Backryungdo**	**1.31**	**235**	P	Pg	02 55 37.2	-0.3
	SNR=13						
DACB	**Daecheong-do R**	**1.41**	**230**	P	Pn	02 55 39.0	-0.2
	SNR=15						
DACB	**Daecheong-do R**	**1.41**	**230**	P	Pn	02 55 39.0	-0.2
	SNR=15						
DACB	**Daecheong-do R**	**1.41**	**230**	P	Pn	02 55 39.0	-0.2
	SNR=15						
DACB	**Daecheong-do R**	**1.41**	**230**	P	Pn	02 55 39.0	-0.2
	SNR=15						
KSDEI	**Deokjeokdo**	**1.48**	**179**	P	Pn	02 55 40.5	+0.2
	SNR=8.9						
KSDEI	**Deokjeokdo**	**1.48**	**179**	P	Pn	02 55 40.5	+0.2
	SNR=8.9						
KSDEI	**Deokjeokdo**	**1.48**	**179**	P	Pn	02 55 40.5	+0.2
	SNR=8.9						
KSDEI	**Deokjeokdo**	**1.48**	**179**	P	Pn	02 55 40.5	+0.2
	SNR=8.9						
KSCHC	**Chuncheon**	**1.68**	**125**	P	Pn	02 55 42.7	-0.2
	SNR=9.9						
KSCHC	**Chuncheon**	**1.68**	**125**	P	Pn	02 55 42.7	-0.2
	SNR=9.9						
KSCHC	**Chuncheon**	**1.68**	**125**	P	Pn	02 55 42.7	-0.2
	SNR=9.9						
KSCHC	**Chuncheon**	**1.68**	**125**	P	Pn	02 55 42.7	-0.2
	SNR=9.9						
SEHB	**SEOHWA**	**1.77**	**105**	P	Pn	02 55 43.9	-0.3
	SNR=8.2						

*IDC **12** 02:59:44.5±1.7, 37.81N×70.33E, h0km, mb3.7/10, mb1 3.8/17, mb1mx3.6/62, mbtmp3.7/17, ML3.2/7, MS3.4/2, Ms1 3.4/2, ms1mx2.5/46, Error ellipse: s-maj=30.0km s-min=13.2km az=152.0*
*NNC **12** 02:59:47.7±2.5, 37.96N×70.30E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=23.5km s-min=14.1km az=154.0*
ISC 12 02:59:48.0±1.1, 38.30N±0.10×70.19E±0.06, h10km, n27, σ1°92/30, mb3.7/10, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.81**	**3**	⇑Pn	Pb	03 01 06.4	-5.9
	2.3nm,0.5s,baz=181,slow=12,SNR=19						
KK31				⇑Pg	**Pg**	**03 01 20.5**	**+0.4**
	7.4nm,0.5s,baz=189,slow=17,SNR=17						
KK31				⇓Lg	Lg	03 02 30.5	
	9.2nm,0.5s,baz=189,slow=34,SNR=4.5						
MRKS	**Merke**	**5.01**	**27**	Pg	**Pg**	**03 01 23.4**	**-0.5**
	8.1nm,0.5s						
MRKS				Lg	Lg	03 02 35.7	
	21nm,0.7s						
AAK	**Ala-Archa**	**5.44**	**36**	Pn	Pn	03 01 14.3	+5.1
	1.6nm,0.3s,baz=192,slow=10.0,SNR=6.6						
AAK				Pg	**Pg**	**03 01 31.4**	**-0.7**
	1.9nm,0.3s,baz=219,slow=12,SNR=10						
AAK				Sn	**Sn**	**03 02 09.4**	**-2.5**
	baz=240,slow=21,SNR=1.5						
AAK				Lg	Lg	03 02 46.9	
	0.2nm,0.3s,baz=156,slow=20,SNR=1.6						
AAK	**Ala-Archa**	**5.44**	**36**	⇑Pn	Pb	03 01 17.1	-6.0
	3.1nm,0.6s						
AAK				⇑Pg	**Pg**	**03 01 32.0**	**-0.1**
	14nm,0.7s						
AAK				⇓Lg	Lg	03 03 00.3	
	23nm,0.9s						
TKM2	**Tokmak 2**	**6.18**	**40**	⇓P	Pn	03 01 27.7	+8.2
	4.1nm,0.6s						
TKM2				⇓S	**Sb**	**03 02 51.8**	**+1.8**
	13nm,0.9s						
KST	**Kastek**	**6.46**	**41**	Pg	**Pg**	**03 01 49.9**	**-1.7**
	6.2nm,0.8s						
KST				Lg	Lg	03 03 21.9	
	9.5nm,0.8s						
DGS	**Degeres**	**6.50**	**39**	Pg	**Pg**	**03 01 48.3**	**-4.3**
	9.8nm,0.6s						
DGS				Lg	Lg	03 03 21.6	
	10nm,0.9s						
KRBS	**Karabastau**	**6.80**	**36**	Pg	**Pg**	**03 01 54.6**	**-3.6**
	2.9nm,0.7s						
KRBS				Lg	Lg	03 03 33.3	
	5.9nm,0.8s						
GEYT	**Alibeck**	**9.53**	**272**	Pn	**Pn**	**03 02 03.3**	**-1.9**
	0.7nm,0.3s,baz=60,slow=17,SNR=2.4						
GEYT				Sn	**Sn**	**03 03 49.7**	**-2.6**
	0.7nm,0.3s,baz=0.0,slow=29,SNR=1.5						
GEYT				LR	LR	03 07 03.2	
	comp=Z,44nm,19.1s,baz=60,slow=45						
MKAR	**Makanchi Array**	**12.30**	**43**	Pn	**Pn**	**03 02 44.2**	**+1.0**
	0.1nm,0.3s,baz=244,slow=16,SNR=7.8						
AB31	**Akbulak array**	**13.21**	**329**	⇑P	**Pn**	**03 02 53.0**	**-2.5**
	0.4nm,0.3s,baz=137,slow=14,SNR=23						
AB31				⇓S	**Sn**	**03 05 20.5**	**-1.8**
	1.9nm,0.8s,baz=152,slow=22,SNR=3.2						
KURBB	**Kurchatov Arra**	**13.67**	**23**	Pn	**Pn**	**03 03 02.1**	**+0.3**
	0.0nm,0.3s,baz=352,slow=14,SNR=2.0						
KURBB				Lg	Lg	03 07 09.4	
	0.0nm,0.3s,baz=212,slow=27,SNR=1.7						
BVAR	**Borovoye Array**	**14.73**	**0**	Pn	**Pn**	**03 03 16.1**	**-0.1**
	0.2nm,0.3s,baz=191,slow=1.5,SNR=1.8						
AKTO	**Aktyubinsk**	**14.91**	**328**	Pn	**Pn**	**03 03 20.9**	**+2.2**
	0.1nm,0.3s,baz=124,slow=14,SNR=5.2						
AKTO	**Aktyubinsk**	**14.91**	**328**	⇑P	**P**	**03 03 25.1**	**+0.6**
	6.0nm,0.8s						
AKTO				⇓S	**Sn**	**03 06 02.1**	**-1.7**
	1.9nm,1.1s						
ZALV	**Zalesovo Beam**	**18.59**	**28**	P	**Pn**	**03 04 06.2**	**+0.9**
	0.4nm,0.3s,baz=213,slow=12,SNR=4.7						
BELG	**Belogornoye**	**21.10**	**319**	P	**P**	**03 04 34.3**	**+1.8**
	6.8nm,0.9s,baz=78,slow=18,SNR=1.8						
KBZ	**Khabaz**	**21.25**	**293**	P	**P**	**03 04 34.5**	**+0.4**
	1.9nm,0.7s,baz=162,slow=15,SNR=3.3						
SONM	**Songino Array**	**27.89**	**58**	P	**P**	**03 05 37.6**	**-0.5**
	0.3nm,0.4s,baz=243,slow=9.4,SNR=1.8						
FINES	**FINESS Array B**	**35.64**	**325**	P	**P**	**03 06 47.2**	**+1.5**
	0.7nm,0.5s,baz=115,slow=10,SNR=4.8						
ARCES	**ARCESS Array B**	**39.24**	**337**	P	**P**	**03 07 18.7**	**+2.6**
	1.6nm,0.9s,baz=112,slow=9.8,SNR=4.0						
HFS	**Hagfors**	**41.26**	**321**	P	**P**	**03 07 35.0**	**+2.0**
	2.2nm,0.6s,baz=106,slow=11,SNR=8.6						
NOA	**NORSAR Array B**	**42.57**	**322**	P	**P**	**03 07 45.0**	**+1.3**
	0.6nm,0.6s,baz=95,slow=8.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**65.14**	**267**	P	**P**	**03 10 28.4**	**-1.0**
	0.4nm,0.6s,baz=49,slow=5.9,SNR=2.2						
ILAR	**Eielson Array**	**73.23**	**16**	P	**P**	**03 11 19.6**	**+0.8**
	0.3nm,1.0s,baz=294,slow=6.8,SNR=2.8						
BOSA	**Boshof**	**78.72**	**219**	LR	LR	03 48 10.8	
	comp=Z,116nm,18.4s,baz=190,slow=37						
YKA	**Yellowknife Ar**	**79.48**	**2**	P	**P**	**03 11 56.2**	**+1.9**
	0.2nm,0.5s,baz=357,slow=5.1,SNR=4.3						

*IDC **12** 03:18:18.9±0.4, 59.55S×26.32W, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.4/24, mbtmp4.5/16, ML4.7/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/20, Error ellipse: s-maj=17.6km s-min=15.1km az=45.0*
*NEIC **12** 03:18:33.3±1.0, 59.7S±0.1×26.6W±0.2, h121km±6km, mb4.6/35, Error ellipse: s-maj=19.4km s-min=12.6km az=48.0*
ISC 12 03:18:30.8±0.4, 59.68S±0.08×26.49W±0.09, h100km, n130, σ1°35/120, mb4.6/26, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.68**	**310**		**Pn**	**03 20 22.4**	**+2.7**
VNA1	**Neumayer--Stat**	**13.33**	**153**	P	Pn	03 21 30.0	-5.5
VNA1				S	Sn	03 23 48.6	-13
SNAA	**Sanae**	**15.31**	**151**	P	**Pn**	**03 21 56.2**	**-4.9**
SNAA				S	Sn	03 24 35.6	-14
SNAA	**Sanae**	**15.31**	**151**	Pn	**Pn**	**03 21 56.3**	**-4.8**
	2.9nm,0.3s,baz=314,slow=14,SNR=43						
SNAA				Sn	Sn	03 24 30.5	-19
	0.4nm,0.3s,baz=190,slow=22,SNR=2.7						
SNAA	**Sanae**	**15.31**	**151**	Pn	**Pn**	**03 21 56.7**	**-4.4**
PMSA	**Palmer Station**	**18.02**	**238**	LR	LR	03 28 37.7	
	comp=Z,347nm,18.6s,baz=23,slow=34						
EFI	**East Falkland**	**19.36**	**280**	P	**P**	**03 22 47.1**	**-1.1**
USHA	**Ushuaia**	**22.90**	**264**	P	**P**	**03 23 25.9**	**+0.2**
	17nm,0.4s,baz=80,slow=1.3,SNR=3.7						
GO09	**Cerro Castillo**	**26.81**	**268**	P	**P**	**03 23 59.9**	**-1.3**
QSPA	**South Pole Qui**	**30.56**	**180**	P	**P**	**03 24 35.9**	**+1.4**
	5.5nm,0.6s,baz=205,slow=1.8,SNR=49						
QSPA	**South Pole Qui**	**30.56**	**180**	P	**P**	**03 24 35.0**	**+0.4**
QSPA				IAmb	IAmb	03 24 36.6	
	comp=Z,7.6nm,0.7s						
PLCA	**Paso Flores**	**33.15**	**285**	P	**P**	**03 24 58.0**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=149,slow=8.2,SNR=9.6						
PLCA	**Paso Flores**	**33.15**	**285**	P	**P**	**03 24 57.1**	**-0.3**
PLCA				IAmb	IAmb	03 24 60.0	
	comp=Z,9.1nm,1.1s						
MAW	**Mawson**	**37.05**	**141**	P	**P**	**03 25 31.2**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=267,slow=10,SNR=5.1						
MAW	**Mawson**	**37.05**	**141**	IAmb	IAmb	03 25 38.4	
	comp=Z,1.3nm,1.1s						
BO02	**Sierra Bellavi**	**37.97**	**291**	P	**P**	**03 25 39.2**	**+0.6**
BO02				IAmb	IAmb	03 25 44.6	
	comp=Z,9.4nm,0.7s						
GO05	**Huala**	**38.34**	**289**	P	**P**	**03 25 41.5**	**-0.1**
MT09	**Talagante**	**38.90**	**292**	P	**P**	**03 25 46.1**	**-0.3**
MT01	**Popeta**	**38.95**	**291**	P	**P**	**03 25 46.6**	**-0.1**
VA03	**San Esteban**	**39.53**	**293**	P	**P**	**03 25 51.5**	**-0.2**
VA03				IAmb	IAmb	03 26 10.8	
	comp=Z,18nm,0.8s						
CPUP	**Villa Florida**	**39.55**	**314**	P	**P**	**03 25 51.6**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=159,slow=6.9,SNR=8.3						
CPUP				LR	LR	03 41 52.1	
	comp=Z,73nm,18.9s,baz=216,slow=36						
CPUP	**Villa Florida**	**39.55**	**314**	P	**P**	**03 25 51.9**	**+0.2**
ZON	**Zonda**	**39.68**	**296**	P	**P**	**03 25 51.6**	**-1.3**
ZON				IAmb	IAmb	03 26 08.1	
	comp=Z,22nm,1.5s						
CO03	**El Pedregal**	**41.20**	**294**	P	**P**	**03 26 05.4**	**0.0**
RIB01	**Linhares ES**	**41.54**	**340**	*e*P	**P**	**03 26 07.0**	**-1.2**
BB19B	**Bebedouro**	**41.65**	**328**	*e*P	**P**	**03 26 06.5**	**-2.6**
PCMB	**Pacaembu**	**41.91**	**324**	*e*P	**P**	**03 26 07.8**	**-3.4**
BSFB	**Barra de Sao F**	**42.09**	**339**	*e*P	**P**	**03 26 10.9**	**-1.8**
SJMB	**Sao Joao De Ma**	**42.28**	**339**	*e*P	**P**	**03 26 12.9**	**-1.3**
SBA	**Scott Base**	**42.48**	**184**	P	**P**	**03 26 16.0**	**+0.9**
NAN01	**Guarapari, ES**	**42.94**	**341**	*e*P	**P**	**03 26 18.5**	**-1.1**
VNDA	**Vanda**	**42.96**	**183**	P	**P**	**03 26 21.3**	**+2.2**
	comp=Z,6.1nm,0.7s,baz=188,slow=7.0,SNR=19						
VNDA				LR	LR	03 43 01.4	
	comp=Z,54nm,20.6s,baz=194,slow=34						
VNDA	**Vanda**	**42.96**	**183**	P	**P**	**03 26 20.1**	**+1.1**
VNDA				IAmb	IAmb	03 26 22.2	
	comp=Z,6.2nm,0.7s						
ITRB	**Iturama**	**43.45**	**326**	*e*P	**P**	**03 26 21.4**	**-2.3**
GUA01	**Guaratinga, BA**	**44.12**	**342**	*e*P	**P**	**03 26 28.1**	**-0.9**
AQDB	**Aquidauana**	**44.37**	**319**	*e*P	**P**	**03 26 28.9**	**-2.0**
MC01	**Montes Claros**	**44.76**	**336**	*e*P	**P**	**03 26 32.7**	**-1.5**
CMC01	**Camacan, BA**	**45.27**	**342**	*e*P	**P**	**03 26 37.1**	**-1.0**
NBIT	**Itapeh - BA**	**45.68**	**342**	*e*P	**P**	**03 26 40.7**	**-0.7**
JANB	**Januaria**	**46.44**	**336**	*e*P	**P**	**03 26 46.8**	**-0.6**
BOSA	**Boshof**	**46.63**	**72**	P	**P**	**03 26 48.0**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=217,slow=12,SNR=5.3						
BDFB	**Brasilia**	**46.71**	**331**	P	**P**	**03 26 49.3**	**-0.3**
PP1B	**Ponte de Pedra**	**46.79**	**322**	*e*P	**P**	**03 26 48.1**	**-2.0**
GDU01	**Guandu, BA**	**46.89**	**342**	*e*P	**P**	**03 26 50.4**	**-0.5**
LVC	**Limon Verde**	**47.51**	**302**	P	**P**	**03 26 55.9**	**-0.2**
LVC				IAmb	IAmb	03 27 02.3	
	comp=Z,28nm,1.5s						
LVC	**Limon Verde**	**47.51**	**302**	*e*P	**P**	**03 26 55.5**	**-0.6**
ARAG	**Araguaiana, MT**	**47.66**	**326**	*e*P	**P**	**03 26 55.3**	**-1.5**
SALV	**Santo Antonio**	**48.64**	**321**	*e*P	**P**	**03 27 03.3**	**-1.0**
PB07	**IPOC Station P**	**48.70**	**302**	P	**P**	**03 27 04.3**	**-0.8**
SDBA	**SAO DESIDERIO**	**49.13**	**336**	*e*P	**P**	**03 27 07.5**	**-0.7**
PB01	**IPOC Station P**	**49.14**	**303**	P	**P**	**03 27 07.9**	**-0.4**
NBPN	**Ponto Novo - B**	**49.81**	**342**	*e*P	**P**	**03 27 13.0**	**-0.3**
PEXB	**Peixe**	**50.19**	**332**	*e*P	**P**	**03 27 16.2**	**+0.1**
PTLB	**Pontes e Lacer**	**50.20**	**317**	*e*P	**P**	**03 27 14.6**	**-1.6**
PB11	**IPOC Station P**	**50.34**	**303**	P	**P**	**03 27 17.5**	**0.0**
PB11				IAmb	IAmb	03 27 36.5	
	comp=Z,9.0nm,1.0s						
CASY	**Casey**	**50.37**	**159**	P	**P**	**03 27 17.6**	**+0.7**
CASY				IAmb	IAmb	03 27 29.7	
	comp=Z,11nm,1.2s						
NBAN	**Anadia - AL**	**50.45**	**347**	*e*P	**P**	**03 27 18.6**	**+0.4**
PSGCX	**Pisagua**	**50.69**	**303**	P	**P**	**03 27 19.6**	**-0.5**
PSGCX				IAmb	IAmb	03 27 23.3	
	comp=Z,8.9nm,0.8s						
MNMC	**Minye Minye**	**50.88**	**304**	P	**P**	**03 27 21.8**	**+0.2**
SNDB	**Serra Nova Dou**	**51.07**	**328**	*e*P	**P**	**03 27 22.5**	**-0.3**
NBRF	**Rio Formoso -**	**51.31**	**349**	*e*P	**P**	**03 27 24.4**	**-0.1**
H10S2	**ASCENSION HYDR**	**51.40**	**15**	T	T	04 23 21.1	
	baz=33,slow=74,SNR=4.1						
H10S3	**ASCENSION HYDR**	**51.40**	**15**	T	T	04 23 07.1	
	baz=187,slow=74,SNR=25						
PB16	**IPOC Station P**	**51.55**	**304**	IAmb	IAmb	03 27 30.8	
	comp=Z,4.3nm,0.6s						
H10N1	**ASCENSION HYDR**	**52.52**	**15**	T	T	04 24 30.4	
	baz=194						
H10N3	**ASCENSION HYDR**	**52.52**	**15**	T	T	04 24 37.7	
	baz=194,slow=74						
H10N2	**ASCENSION HYDR**	**52.53**	**15**	T	T	04 24 31.8	
	baz=194,slow=74						
LPAZ	**La Paz**	**52.82**	**307**	P	**P**	**03 27 37.2**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=94,slow=4.3,SNR=17						
LPAZ	**La Paz**	**52.82**	**307**	P	**P**	**03 27 36.3**	**-0.1**
LPAZ	**La Paz**	**52.82**	**307**	*e*P	**P**	**03 27 36.9**	**+0.4**
VILB	**Vilhena**	**52.89**	**317**	*e*P	**P**	**03 27 35.6**	**-0.7**
SMTB	**Santa Maria do**	**53.15**	**334**	*e*P	**P**	**03 27 38.1**	**-0.1**
CLDB	**Colider**	**53.41**	**323**	*e*P	**P**	**03 27 38.9**	**-1.1**
NBPB	**Pedra_Branca-C**	**54.93**	**344**	*e*P	**P**	**03 27 51.6**	**+0.5**
MATP	**Matopo**	**55.11**	**69**	P	**P**	**03 27 51.9**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=221,slow=6.5,SNR=13						
PRPB	**Parauapebas**	**56.27**	**332**	*e*P	**P**	**03 28 00.6**	**-0.1**
NPGB	**Novo Progresso**	**56.91**	**325**	*e*P	**P**	**03 28 04.2**	**-1.0**
NBMO	**Morrinhos-CE**	**57.19**	**344**	*e*P	**P**	**03 28 09.3**	**+2.2**
SAML	**Samuel**	**57.65**	**316**	P	**P**	**03 28 08.9**	**-1.5**
SAML				IAmb	IAmb	03 28 10.7	
	comp=Z,4.7nm,0.7s						
ETMB	**Extrema**	**57.95**	**312**	*e*P	**P**	**03 28 12.7**	**+0.1**
ROSB	**Rosrio**	**58.25**	**339**	*e*P	**P**	**03 28 15.2**	**+0.6**
LSZ	**Lusaka**	**59.42**	**66**	P	**P**	**03 28 22.4**	**-0.5**
LSZ				IAmb	IAmb	03 28 24.0	
	comp=Z,6.2nm,0.8s						
TMAB	**Tom-Au,PA,Br**	**59.55**	**335**	*e*P	**P**	**03 28 24.8**	**+1.2**
MALB	**Monte Alegre**	**61.55**	**328**	*e*P	**P**	**03 28 36.9**	**-0.3**
MCPB	**Macapa, AP**	**62.41**	**331**	*e*P	**P**	**03 28 43.2**	**+0.3**
OPO	**Ombohidratompo**	**65.92**	**86**	P	**P**	**03 29 07.6**	**+1.5**
	comp=Z,4.8nm,0.8s,baz=360,slow=19,SNR=3.8						
DBIC	**Dimbokro**	**68.34**	**23**	P	**P**	**03 29 22.0**	**+0.9**
	comp=Z,4.4nm,1.1s,baz=180,slow=5.1,SNR=1.9						
PTLC	**Puerto Leguiza**	**70.43**	**308**	*e*P	**P**	**03 29 31.7**	**-2.4**
POPC	**Popayan, Colom**	**73.34**	**307**	*e*P	**P**	**03 29 47.8**	**-4.0**
PRAC	**Prado**	**73.69**	**309**	*e*P	**P**	**03 29 53.4**	**-0.2**
ORTC	**Ortega, Tolima**	**74.02**	**309**	*e*P	**P**	**03 29 55.2**	**-0.3**
CHIC	**Chingaza**	**74.08**	**310**	*e*P	**P**	**03 29 56.3**	**+0.1**
RUSC	**La Rusia**	**74.99**	**312**	P	**P**	**03 29 59.9**	**-1.7**
RUSC				IAmb	IAmb	03 30 15.8	
	comp=Z,15nm,1.5s						
SPBC	**San Pablo de B**	**75.15**	**311**	*e*P	**P**	**03 30 00.0**	**-2.0**
GUY2C	**Guyana, Caldas**	**75.26**	**309**	*e*P	**P**	**03 30 01.6**	**-1.5**
NORC	**Norcasia**	**75.38**	**310**	*e*P	**P**	**03 30 01.7**	**-1.6**
TOA0	**Torodi Ar. Sit**	**76.06**	**28**	P	**P**	**03 30 07.0**	**0.0**
TOA0				IAmb	IAmb	03 30 08.2	
	comp=Z,6.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.06**	**28**	P	**P**	**03 30 08.0**	**+1.0**
	comp=Z,4.6nm,0.6s,baz=198,slow=6.3,SNR=24						
TORD	**Torodi Ar. Bea**	**76.06**	**28**	P	**P**	**03 30 06.7**	**-0.3**
ZARC	**Zaragoza, Cauc**	**77.14**	**311**	*e*P	**P**	**03 30 11.3**	**-1.8**
SMLC	**San Martn de**	**78.04**	**312**	*e*P	**P**	**03 30 16.7**	**-1.4**
SJCC	**San Jacinto, C**	**79.46**	**311**	P	**P**	**03 30 24.7**	**-1.3**
STKA	**Stephens Creek**	**88.25**	**170**	P	**P**	**03 31 12.1**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=179,slow=4.5,SNR=4.5						
PPT	**Papeete**	**90.33**	**233**	LR	LR	04 03 48.2	
	comp=Z,37nm,20.0s,baz=168,slow=30						
ASAR	**Alice Springs**	**95.41**	**162**	P	**P**	**03 31 44.2**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=183,slow=3.9,SNR=26						
ASAR	**Alice Springs**	**95.41**	**162**	P	**P**	**03 31 43.5**	**-0.4**
WRA	**Warramunga Arr**	**99.13**	**162**	P	**Pdif**	**03 32 00.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=191,slow=8.6,SNR=2.6						
AKASG	**Malin Array Be**	**118.90**	**37**	PKP	**PKiKP**	**03 37 06.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=226,slow=2.4,SNR=4.7						
PDAR	**Pinedale Array**	**122.54**	**300**	PKP	**PKPdf**	**03 37 13.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=123,slow=6.6,SNR=2.5						
NVAR	**Mina Array Bea**	**123.09**	**290**	PKP	**PKiKP**	**03 37 16.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=137,slow=3.0,SNR=3.8						
ULM	**Lac du Bonnet**	**123.09**	**314**	PKP	**PKPdf**	**03 37 13.7**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=160,slow=2.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**123.39**	**112**	PKP	**PKiKP**	**03 37 17.1**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=234,slow=3.4,SNR=7.9						
HFS	**Hagfors**	**123.50**	**23**	PKP	**PKPdf**	**03 37 13.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=147,slow=6.3,SNR=4.9						
NOA	**NORSAR Array B**	**123.88**	**21**	PKP	**PKiKP**	**03 37 17.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=199,slow=4.6,SNR=1.5						
FINES	**FINESS Array B**	**127.41**	**29**	PKP	**PKiKP**	**03 37 23.0**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=108,slow=4.2,SNR=12						
FINES	**FINESS Array B**	**127.41**	**29**		**PKPdf**	**03 37 22.0**	**-0.1**
ABKAR	**Akbulak array**	**129.07**	**57**	PKPdf	**PKPdf**	**03 37 25.7**	**0.0**
AKTO	**Aktyubinsk**	**129.16**	**55**	PKP	**PKiKP**	**03 37 27.3**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=124,slow=3.6,SNR=4.1						
AAK	**Ala-Archa**	**130.76**	**73**	PKP	**PKiKP**	**03 37 31.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=207,slow=2.3,SNR=1.6						
ARCES	**ARCESS Array B**	**134.17**	**23**	PKhKP	PKPpre	03 37 33.4	
	comp=Z,1.0nm,0.5s,baz=297,slow=4.0,SNR=1.2						
ARCES				PKP	**PKiKP**	**03 37 36.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=212,slow=1.6,SNR=11						
MKAR	**Makanchi Array**	**137.59**	**75**	PKhKP	PKPpre	03 37 39.1	
	comp=Z,0.4nm,0.7s,baz=256,slow=4.3,SNR=3.1						
MKAR				PKP	**PKiKP**	**03 37 43.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=252,slow=1.5,SNR=4.0						
MKAR	**Makanchi Array**	**137.59**	**75**		**PKPdf**	**03 37 42.0**	**+0.1**
KURBB	**Kurchatov Arra**	**138.42**	**68**	PKhKP	PKPpre	03 37 35.4	
	comp=Z,0.4nm,0.4s,baz=242,slow=3.6,SNR=4.3						
KURBB				PKP	**PKiKP**	**03 37 44.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=227,slow=2.4,SNR=4.4						
KURK	**Kurchatov**	**138.53**	**68**		**PKiKP**	**03 37 44.5**	**-1.0**
YKA	**Yellowknife Ar**	**139.06**	**315**	PKP	**PKPdf**	**03 37 44.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=117,slow=2.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**143.52**	**68**	PKhKP	PKPpre	03 37 49.6	
	comp=Z,1.3nm,0.4s,baz=225,slow=4.6,SNR=4.7						
SONM	**Songino Array**	**150.39**	**92**	PKPbc	**PKiKP**	**03 38 10.4**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=224,slow=2.3,SN

SGKR				*e*S	**Sg**	03 34 05.6	**+2.0**
SGKR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SGKR	**Sergokala**	**1.23**	**122**	*i* Pg	**Pb**	03 33 46.8	**+0.1**
SGKR				*e*Sg	**Sg**	03 34 05.7	**+2.0**
TRKR	**Terskaya**	**1.25**	**299**	*e*PG	**Pn**	03 33 46.4	**-0.2**
TRKR				*e*S	**Sg**	03 34 04.6	**+0.3**
TRKR	**Terskaya**	**1.25**	**299**	*e*Pg	**Pn**	03 33 46.4	**-0.2**
TRKR				*e*Sg	**Sg**	03 34 04.6	**+0.3**
BTKR	**Batakoyurt**	**1.27**	**282**	*e*PG	**Pn**	03 33 47.2	**+0.4**
BTKR				*e*S	**Sg**	03 34 06.2	**+1.4**
BTKR	**Batakoyurt**	**1.27**	**282**	*e*Pg	**Pn**	03 33 47.2	**+0.4**
BTKR				*e*Sg	**Sg**	03 34 06.2	**+1.4**
URKR	**Urkarakh**	**1.40**	**132** ⇑	*i* PG	**Pg**	03 33 50.2	**-0.5**
URKR				*e*S	**Sg**	03 34 11.6	**+2.6**
URKR				pmax	pmax		
	comp=Z,159nm,0.3s						
URKR	**Urkarakh**	**1.40**	**132**	*i* Pg	**Pg**	03 33 50.3	**-0.5**
URKR				*e*Sg	**Sg**	03 34 11.6	**+2.6**
LACR	**Lac**	**1.46**	**259**	*e*PG	**Pn**	03 33 49.9	**+0.4**
LACR				*e*S	**Sg**	03 34 09.9	**-0.9**
LACR	**Lac**	**1.46**	**259**	*e*Pg	**Pn**	03 33 49.9	**+0.4**
LACR				*e*Sg	**Sg**	03 34 09.9	**-0.9**
PRTR	**Priterechnaya**	**1.56**	**294**	*e*PG	**Pn**	03 33 51.5	**+0.7**
PRTR				*e*S	**Sg**	03 34 13.9	**-0.2**
PRTR	**Priterechnaya**	**1.56**	**294**	*e*Pg	**Pn**	03 33 51.5	**+0.7**
PRTR				*e*Sg	**Sg**	03 34 13.9	**-0.2**
KORR	**Kora**	**1.59**	**269**	*e*PN	**Pb**	03 33 53.3	**+0.5**
KORR				*e*S	**Sg**	03 34 16.1	**+1.0**
KORR	**Kora**	**1.59**	**269**	*e*Pg	**Pb**	03 33 53.3	**+0.5**
KORR				*e*Sg	**Sg**	03 34 16.1	**+1.0**
STDR	**Stavd-Durt**	**1.61**	**280**	*e*PN	**Pb**	03 33 53.4	**+0.3**
STDR				*e*S	**Sg**	03 34 16.7	**+1.0**
STDR	**Stavd-Durt**	**1.61**	**280**	*e*Pg	**Pb**	03 33 53.4	**+0.3**
STDR				*e*Sg	**Sg**	03 34 16.7	**+1.0**
ZEI	**Tsey**	**1.75**	**260**	*e*PN	**Pn**	03 33 52.9	**-0.7**
ZEI	**Tsey**	**1.75**	**260**	*e*Pg	**Pn**	03 33 52.9	**-0.7**
ZEI				*e*Sg	**Sn**	03 34 16.0	**+0.3**
DIGR	**Digorskoe uzhe**	**1.97**	**264**	*e*PN	**Pn**	03 33 57.9	**+1.3**
DIGR	**Digorskoe uzhe**	**1.97**	**264**	*e*Pg	**Pn**	03 33 57.9	**+1.3**
DIGR				*e*Sg	**Sb**	03 34 23.9	**+0.3**
NCK	**Nalchik**	**1.97**	**282**	*i* PN	**Pn**	03 33 57.3	**+0.9**
AKT	**Akhty**	**1.98**	**146**	*e*PN	**Pb**	03 33 59.0	**-0.4**
AKT	**Akhty**	**1.98**	**146**	*e*Pg	**Pb**	03 33 59.0	**-0.4**
AKT				*e*Sg	**Sb**	03 34 24.3	**+0.5**
SEA	**Sheki**	**2.04**	**159**	PN	**Pb**	03 34 00.6	**+0.2**
PYA1	**Pyatigorsk**	**2.47**	**293**	*i* PN	**Pn**	03 34 03.4	**0.0**
GANJ	**Ganja**	**2.47**	**179**	PN	**Pb**	03 34 05.6	**-2.2**
KBZ	**Khabaz**	**2.51**	**285**	*e*PN	**Pn**	03 34 02.0	**-1.8**
KBZ				*e*S	**Sn**	03 34 36.8	**+2.7**
KBZ	**Khabaz**	**2.51**	**285**	*e*Pn	**Pn**	03 34 02.0	**-1.8**
KBZ				*e*Sn	**Sn**	03 34 36.8	**+2.7**
NEY	**Neytrino**	**2.58**	**274**	*e*PN	**Pn**	03 34 05.8	**+0.8**
NEY				*e*S	**Sb**	03 34 39.5	**-1.7**
NEY	**Neytrino**	**2.58**	**274**	*e*Pn	**Pn**	03 34 05.8	**+0.8**
NEY				*e*Sn	**Sb**	03 34 39.5	**-1.7**
BEYR	**Belyy Ugol+**	**2.65**	**291**	*e*PN	**Pn**	03 34 08.4	**+2.7**
BEYR				*e*S	**Sb**	03 34 42.3	**-0.7**
BEYR	**Belyy Ugol+**	**2.65**	**291**	*e*Pn	**Pn**	03 34 08.4	**+2.7**
BEYR				*e*Sn	**Sb**	03 34 42.3	**-0.7**
SHA1	**Shidzhatmaz**	**2.68**	**285**	*i* PN	**Pn**	03 34 04.5	**-2.0**
KIV	**Kislovodsk**	**2.72**	**289**	*i* PN	**Pn**	03 34 05.9	**-0.9**
GOF	**Gofitskoye**	**3.01**	**311**	*i* PN	**Pb**	03 34 19.3	**+2.4**
GOF				*e*S	**Sb**	03 34 55.8	**+2.4**
GOF				pmax	pmax		
	comp=Z,24nm,0.5s						
GOF				smax	smax		
	comp=N,97nm,0.7s						
GNI	**Garni**	**3.17**	**201**	*i* PN	**Pn**	03 34 15.8	**+2.6**
AKTO	**Aktyubinsk**	**10.88**	**44** ⇑	PG	**Pn**	03 35 54.9	**-3.8**
	comp=N,3.1nm,1.1s						
AKTO				⇑Lg	Lg	03 37 47.5	
	comp=N,2.8nm,0.6s						
AB31	**Akbulak array**	**11.30**	**52** ⇑	PG	**Pn**	03 36 02.7	**-1.7**
	comp=N,0.2nm,0.3s,baz=242,slow=12,SNR=12						
AB31				⇑Lg	Lg	03 37 59.3	
	comp=N,1.6nm,0.5s,baz=251,slow=20,SNR=5.7						
OBN	**Obninsk**	**13.55**	**336**	*e*P	**Pn**	03 36 32.6	**-2.5**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ARU	**Arti**	**15.48**	**26**	*i* P	**Pn**	03 36 59.9	**-1.3**
ARU				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MNK	**Minsk**	**16.55**	**320**	*i* P	**Pn**	03 37 14.6	**-0.3**
MNK				*i* S	**Sn**	03 40 17.5	**-0.7**
MNK				pmax	pmax		
	comp=N,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=N,154nm,21.0s						
MNK				MLR	MLR		
	comp=E,12nm,22.0s						
MNK				MLR	MLR		
	comp=Z,111nm,28.0s						
MNK	**Minsk**	**16.55**	**320**	*i* P	**Pn**	03 37 14.6	**-0.3**
MNK				*i* P	**Pn**	03 37 14.6	**-0.3**
	comp=N,9.0nm,0.8s						
MNK				*i* P	**Pn**	03 37 14.6	**-0.3**
	comp=Z,4.0nm,0.8s,baz=128						
MNK				*i* PP	**PnPn**	03 37 23.9	**-0.2**
MNK				*i* S	**Sn**	03 40 17.6	**-0.6**
MNK				*i* SS	**SnSn**	03 40 35.9	**+4.7**
MNK				*i* LQ	LQ	03 41 35.9	
MNK				*i* LR	LR	03 43 20.6	
MNK				*i* LRM	MLR	03 43 41.9	
	comp=N,154nm,20.6s						
MNK				*i* LRM	MLR	03 43 43.3	
	comp=E,12nm,21.7s						
MNK				*i* LRM	MLR	03 44 50.6	
	comp=Z,111nm,28.2s						
BRVK	**Borovoye**	**18.80**	**50***c*	*i* P	**P**	03 37 42.5	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						

NEIC ***12*** *03:37:51.8±1.9, 20.2°S±0.1°×178.3°W±0.1°, h572*$^{km}_{\pm 3}$*, mb4.3/41, Error ellipse: s-maj=19.9km s-min=15.0km az=167.0*

IDC ***12*** *03:37:52.5±1.3, 20.0°S×178.39W, h580*$^{km}_{\pm 13}$*, mb3.7/17, mb1 3.9/19, mb1mx3.9/24, mbtmp4.6/19, Error ellipse: s-maj=18.6km s-min=12.4km az=165.0*

ISC 12 03:37:53.2±0.4, 20.23S±0.08×178.33W±0.07, h602$^{km}_{\pm 3}$, n103, σ1§21/100, mb4.3/43, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MSVF	**Nonsavu**	**4.24**	**305**	P	**P**		**03 39 18.4**	**-2.2**
	81nm,0.3s,baz=110,slow=20,SNR=120							
MSVF	**Nonsavu**	**4.24**	**305**		**P**		**03 39 18.3**	**-2.4**
NIUE	**Niue**	**8.00**	**83**	P	**P**		**03 39 49.4**	**-3.3**
AFI	**Afiamalu**	**8.87**	**46**	P	P		03 39 55.2	-6.0
	9.6nm,0.3s,baz=218,slow=2.8,SNR=6.6							
AFI				S	S		03 41 33.3	-13
	4.8nm,0.3s,baz=53,slow=22,SNR=3.9							
RAO	**Raoul Island**	**8.99**	**178**	P	**P**		**03 39 59.1**	**-2.8**
DZM	**Mont Dzumac**	**14.33**	**260**	P	**P**		**03 40 56.4**	**+1.1**
	3.3nm,0.3s,baz=313,slow=23,SNR=27							
DZM	**Mont Dzumac**	**14.33**	**260**	P	**P**		**03 40 55.0**	**-0.3**
URZ	**Urewera**	**18.39**	**191**	P	**P**		**03 41 31.1**	**-1.1**
	1.3nm,0.3s,baz=302,slow=24,SNR=1.5							
URZ				S	**S**		**03 44 26.4**	**-3.3**
	0.2nm,0.3s,baz=306,slow=23,SNR=2.0							
PPT	**Papeete**	**27.31**	**89**	P	**P**		**03 42 51.9**	**+0.1**
	24nm,0.8s,baz=4.2,slow=10,SNR=5.0							
EIDS	**Eidsvold**	**28.62**	**254**	P	**P**		**03 43 02.2**	**-0.9**
ARMA	**Armidale**	**28.91**	**243**	P	**P**		**03 43 06.0**	**+0.3**
CTAO	**Charters Tower**	**33.21**	**264**	P	**P**		**03 43 41.8**	**-0.5**
PMG	**Port Moresby**	**34.98**	**283**	P	**P**		**03 43 56.8**	**-0.2**
	35nm,0.5s,baz=121,slow=3.6,SNR=6.9							
PMG	**Port Moresby**	**34.98**	**283**	P	**P**		**03 43 56.1**	**-1.0**
PMG	**Port Moresby**	**34.98**	**283**	P	**P**		**03 43 56.7**	**-0.4**
	59nm,1.0s							
TOO	**Toolangi**	**35.81**	**233**	P	**P**		**03 44 02.9**	**-0.7**
TOO				IAmb	IAmb		03 44 05.3	
	comp=Z,16nm,1.2s							
STKA	**Stephens Creek**	**37.63**	**244**	P	**P**		**03 44 19.6**	**+1.0**
	comp=Z,11nm,0.5s,baz=87,slow=9.8,SNR=3.2							
STKA				PcP	**PcP**		**03 46 20.7**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=72,slow=6.4,SNR=1.6							
STKA	**Stephens Creek**	**37.63**	**244**	P	**P**		**03 44 18.9**	**+0.3**
STKA				IAmb	IAmb		03 44 20.2	
	comp=Z,6.1nm,1.2s							
BBOO	**Buckleboo**	**42.39**	**243**	P	**P**		**03 44 56.8**	**+0.3**
GENI	**Genyem**	**44.11**	**288**	P	**P**		**03 45 10.7**	**+0.7**
	comp=Z,3μmcomp=Z,120nm,0.7s							
AS31	**Alice Springs**	**44.28**	**257**	P	**P**		**03 45 11.3**	**0.0**
AS31				IAmb	IAmb		03 45 11.9	
	comp=Z,9.9nm,0.6s							
ASAR	**Alice Springs**	**44.28**	**257**	P	**P**		**03 45 11.4**	**+0.2**
	comp=Z,38nm,0.7s,baz=92,slow=7.7,SNR=344							
ASAR				PcP	**PcP**		**03 46 42.8**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=103,slow=3.8,SNR=4.0							
ASAR				ScP	**ScP**		**03 49 42.1**	**+4.6**
	comp=Z,1.5nm,0.7s,baz=98,slow=4.5,SNR=7.2							
ASAR				S	**S**		**03 51 02.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=96,slow=15,SNR=5.4							
ASAR	**Alice Springs**	**44.28**	**257**	P	**P**		**03 45 11.0**	**-0.3**
WB2	**Warramunga Arr**	**44.32**	**262**	P	**P**		**03 45 10.8**	**-0.8**
WRA	**Warramunga Arr**	**44.34**	**262**	P	**P**		**03 45 11.3**	**-0.4**
	comp=Z,26nm,0.3s,baz=96,slow=7.6,SNR=1027							
BAKI	**Biak**	**48.37**	**287**	P	**P**		**03 45 42.6**	**+0.5**
	comp=Z,48nm,0.8s							
MTN	**Manton Dam**	**48.85**	**270**	P	**P**		**03 45 45.1**	**-0.6**
KNRA	**Kununurra**	**50.37**	**266**	P	**P**		**03 45 56.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.76**	**262**	P	**P**		**03 46 12.9**	**-0.9**
FITZ				IAmb	IAmb		03 46 14.4	
	comp=Z,6.8nm,0.8s							
SIJI	**Sorong**	**52.87**	**285**	P	**P**		**03 46 14.8**	**0.0**
	comp=Z,1μmcomp=Z,29nm,0.9s							
SWI	**Sorong**	**52.88**	**285**	P	**P**		**03 46 14.9**	**+0.1**
	comp=Z,76nm,0.9s							
SOEI	**Soe**	**56.19**	**272**	P	**P**		**03 46 38.7**	**+0.7**
SOEI	**Soe**	**56.19**	**272**	P	**P**		**03 46 39.5**	**+1.5**
	comp=Z,78nm,0.8s							
TNTI	**Ternate**	**57.10**	**285**	P	**P**		**03 46 44.0**	**0.0**
TNTI				IAmb	IAmb		03 46 45.4	
	comp=Z,25nm,0.9s							
VNDA	**Vanda**	**58.15**	**185**	P	**P**		**03 46 53.3**	**+3.2**
	comp=Z,0.6nm,0.4s,baz=21,slow=4.5,SNR=2.5							
TOLI2	**Tolitoli**	**63.25**	**282**	P	**P**		**03 47 24.0**	**-0.7**
TOLI2				IAmb	IAmb		03 47 25.2	
	comp=Z,8.3nm,1.0s							
PCI	**Palu**	**63.35**	**280**	P	P		03 47 35.0	+10
MJAR	**Matsushiro Arr**	**69.81**	**324**	P	**P**		**03 48 03.8**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=154,slow=5.8,SNR=11							
MJAR	**Matsushiro Arr**	**69.81**	**324**	IAmb	IAmb		03 48 04.5	
	comp=Z,2.4nm,0.6s							
MAT	**Matsushiro**	**69.82**	**324**	P	**P**		**03 48 03.5**	**-1.1**
QSPA	**South Pole Qui**	**69.83**	**180**	P	**P**		**03 48 05.5**	**+1.1**
QSPA				IAmb	IAmb		03 48 06.8	
	comp=Z,4.8nm,0.8s							
PETK	**Petropavlovsk-**	**75.94**	**345**	P	**P**		**03 48 38.8**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=115,slow=6.7,SNR=4.8							
KSRS	**Korea Array**	**76.49**	**319**	P	**P**		**03 48 43.0**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=126,slow=5.8,SNR=5.1							
USRK	**Ussuriysk Ar.**	**78.57**	**326**	P	**P**		**03 48 54.5**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=92,slow=5.8,SNR=5.5							
USRK	**Ussuriysk Ar.**	**78.57**	**326**	P	**P**		**03 48 54.0**	**+0.5**
ISA	**Isabella, Lake**	**79.37**	**46**	P	**P**		**03 48 57.8**	**-0.2**
NVAR	**Mina Array Bea**	**81.04**	**44**	P	**P**		**03 49 08.0**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=221,slow=9.7,SNR=6.6							
MOD	**Modoc Plateau**	**81.81**	**40**	IAmb	IAmb		03 49 12.4	
	comp=Z,5.1nm,0.7s							
K05A	**Summer Lake**	**81.95**	**39**	P	**P**		**03 49 12.3**	**+0.9**
K05A				IAmb	IAmb		03 49 13.7	
	comp=Z,37nm,1.5s							
PINE	**Pine Mountain**	**82.56**	**38**	P	**P**		**03 49 15.3**	**+0.9**
PINE				IAmb	IAmb		03 49 16.7	
	comp=Z,7.6nm,0.8s							
TUC	**Tucson**	**83.06**	**52**	P	**P**		**03 49 18.1**	**+1.0**
319A	**Douglas**	**83.73**	**53**	IAmb	IAmb		03 49 23.2	
	comp=Z,13nm,1.2s							
J08A	**Circle Bar Ran**	**83.75**	**39**	P	**P**		**03 49 21.0**	**+0.7**
J08A				IAmb	IAmb		03 49 22.6	
	comp=Z,9.4nm,1.3s							
F10A	**Beach Ranch, E**	**85.98**	**38**		**P**		**03 49 31.3**	**+0.4**
F10A				IAmb	IAmb		03 49 32.2	
	comp=Z,8.3nm,0.8s							
MNTX	**Cornudas Mount**	**86.85**	**55**	IAmb	IAmb		03 49 37.5	
	comp=Z,4.8nm,1.1s							
TX32	**Lajitas Array**	**87.17**	**57**	IAmb	IAmb		03 49 39.5	
	comp=Z,6.6nm,1.1s							
TXAR	**Lajitas Array**	**87.17**	**57**	P	**P**		**03 49 38.6**	**+1.7**
	comp=Z,3.5nm,0.8s,baz=218,slow=6.7,SNR=36							
TXAR	**Lajitas Array**	**87.17**	**57**		**P**		**03 49 37.7**	**+0.8**
PV16	**Nyswonger Mesa**	**87.28**	**47**	IAmb	IAmb		03 49 50.1	
	comp=Z,4.1nm,0.7s							
ANMO	**Albuquerque**	**87.48**	**51**	P	**P**		**03 49 39.1**	**+0.8**
ILAR	**Eielson Array**	**88.12**	**13**	P	**P**		**03 49 39.4**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=233,slow=3.6,SNR=4.4							
SNAA	**Sanae**	**88.28**	**179**	P	**P**		**03 49 43.6**	**+2.2**
SNAA				IAmb	IAmb		03 49 45.3	
	comp=Z,5.9nm,1.5s							
REDW	**Red Top Meadow**	**88.44**	**42**	IAmb	IAmb		03 49 44.6	
	comp=Z,7.4nm,1.3s							
LOHW	**Long Hollow**	**88.72**	**42**	P	**P**		**03 49 44.1**	**+0.1**
LOHW				IAmb	IAmb		03 49 46.4	
	comp=Z,1.7nm,0.6s							
HHC	**Hu-ho-hao-te**	**88.95**	**314**	*e*P	**P**		**03 49 43.4**	**-1.6**
HHC				pmax	pmax			
	comp=Z,15nm,0.8s							
HHC				pmax	pmax			
	comp=Z,57nm,5.3s							
PDAR	**Pinedale Array**	**88.98**	**43**	P	**P**		**03 49 45.7**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=210,slow=3.4,SNR=16							
PDAR	**Pinedale Array**	**88.98**	**43**	P	**P**		**03 49 45.2**	**0.0**
YHL	**Hebgen Lake**	**88.98**	**41**	P	**P**		**03 49 46.1**	**+0.8**
YHL				IAmb	IAmb		03 49 47.8	
	comp=Z,8.9nm,1.2s							
VNA1	**Neumayer--Stat**	**89.09**	**177**	P	**P**		**03 49 45.6**	**+0.6**
PLCA	**Paso Flores**	**89.68**	**134**	P	**P**		**03 49 50.3**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=251,slow=7.1,SNR=3.6							
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P	**P**		**03 49 49.4**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=120,slow=3.1,SNR=10							
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P	**P**		**03 49 50.1**	**+1.2**
CHTO	**Chiang Mai**	**89.86**	**290**	P	**P**		**03 49 49.9**	**+0.4**
CHTO				IAmb	IAmb		03 49 51.6	
	comp=Z,3.9nm,0.8s							
SONM	**Songino Array**	**95.35**	**319**	P	**P**		**03 50 15.8**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=23,slow=19,SNR=1.5							
MKAR	**Makanchi Array**	**110.79**	**314**	PKiKP	**PKiKP**		**03 55 17.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=79,slow=2.6,SNR=4.0							
KURK	**Kurchatov**	**113.59**	**317**		**PKiKP**		**03 55 23.2**	**-0.7**
KURBB	**Kurchatov Arra**	**113.64**	**317**	PKiKP	**PKiKP**		**03 55 23.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=100,slow=1.5,SNR=4.4							
FINES	**FINESS Array B**	**135.43**	**344**	PKhKP	PKPpre		03 56 01.3	
	comp=Z,0.4nm,0.4s,baz=90,slow=3.8,SNR=3.4							
HFS	**Hagfors**	**139.23**	**351**	PKhKP	PKPpre		03 56 03.7	
	comp=Z,1.2nm,0.4s,baz=100,slow=4.5,SNR=14							
AKASG	**Malin Array Be**	**142.63**	**331**	PKhKP	PKPpre		03 56 14.9	
	comp=Z,4.1nm,0.5s,baz=42,slow=4.5,SNR=20							
AKASG				SKPbc	**SKiKP**		**03 59 03.3**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=25,slow=3.0,SNR=4.2							
AKASG	**Malin Array Be**	**142.63**	**331**	PKPdf	**PKPdf**		**03 56 15.4**	**-3.2**
LODK	**Lodwar**	**143.16**	**247**	PKPdf	**PKPdf**		**03 56 20.6**	**-0.2**
EKA	**Eskdalemuir Ar**	**144.77**	**5**	PKP	PKPbc		03 56 23.2	+0.4
	comp=Z,0.6nm,0.6s,baz=351,slow=3.6,SNR=3.8							
EKA				SKPbc	**SKiKP**		**03 59 08.8**	**+2.8**
	comp=Z,0.2nm,0.4s,baz=0.0,slow=2.8,SNR=1.7							
MBAR	**Mbarara**	**144.80**	**237**	PKPdf	**PKPab**		**03 56 25.6**	**+0.3**
BNN	**Bunyan**	**145.23**	**310**	PKPbc	**PKPbc**		**03 56 24.4**	**-0.5**
KWP	**Kalwaria Pacla**	**146.21**	**335**	PKPbc	**PKiKP**		**03 56 29.0**	**-0.4**
BR131	**Keskin Array S**	**146.43**	**312**	PKPbc	**PKPbc**		**03 56 28.8**	**+0.6**
BRTR	**Keskin Array S**	**146.43**	**312**	PKPbc	**PKPbc**		**03 56 28.2**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=140,slow=3.8,SNR=16							
BURAR	**Bucovina Array**	**146.68**	**331**	PKPbc	**PKiKP**		**03 56 29.8**	**-0.8**
KOLS	**Kolonicke sedl**	**146.94**	**335**	*e*PKP	**PKPbc**		**03 56 29.8**	**+0.7**
KOLS				*e*			03 56 33.2	
STHS	**Stebnicka Huta**	**146.95**	**336**	*e*PKP	**PKPbc**		**03 56 28.6**	**-0.5**
CRVS	**Cervenica-Dubn**	**147.28**	**336**	*e*PKP	**PKPab**		**03 56 34.4**	**+0.5**
OSTC	**Ostas**	**147.63**	**343** ⇑	*e*PKP	**PKiKP**		**03 56 31.9**	**-0.4**
CLL	**Collm**	**147.73**	**347**	*i* PKPbc	**PKPbc**		**03 56 31.3**	**+0.2**
	comp=Z,5.0nm,0.6s							
CLL				*i* PKPab	**PKPab**		**03 56 35.5**	**-0.1**
DPC	**Dobruska-Polom**	**147.78**	**342** ⇑	*e*PKP	**PKPbc**		**03 56 31.9**	**+0.6**
DPC				*e*PKPAB	**PKPab**		**03 56 36.6**	**+0.6**
MLR	**Muntele Rosu**	**147.84**	**327**	PKPbc	**PKPbc**		**03 56 31.7**	**0.0**
	comp=Z,2.3nm,0.5s,baz=1.4,slow=9.3,SNR=6.2							
KRLC	**Kraliky**	**147.89**	**342** ⇑	*e*PKP	**PKPbc**		**03 56 32.1**	**+0.5**
PRU	**Pruhonice**	**148.59**	**344** ⇑	*e*PKP	**PKPbc**		**03 56 32.9**	**-0.4**
VRAC	**Vranov**	**148.63**	**341**	PKPbc	**PKiKP**		**03 56 34.4**	**0.0**
	comp=Z,1.0nm,0.3s,baz=49,slow=11,SNR=1.4							
KHC	**Kasperske Hory**	**149.63**	**344** ⇑	*e*PKP	**PKPbc**		**03 56 35.9**	**+0.1**
KHC				*e*PKPAB	**PKPab**		**03 56 43.7**	**+0.1**
GERES	**GERESS Array B**	**149.86**	**344**	PKPbc	**PKPbc**		**03 56 36.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=48,slow=2.0,SNR=8.8							
GERES	**GERESS Array B**	**149.86**	**344**	PKPbc	**PKiKP**		**03 56 37.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**152.68**	**348**	PKPbc	**PKiKP**		**03 56 43.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=37,slow=5.1,SNR=2.8							

NNC 12 04:10:57.5±7.7, 37.06N×71.00E, h0^{km}, mb3.7, mpv3.5, 4C-2D, Error ellipse: s-maj=60.5km s-min=42.7km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KK31	**Karatay Array**	**6.05**	**357** ⇑	P	P		04 12 28.0	-0.2
	1.6nm,0.3s,baz=178,slow=12,SNR=14							
KK31				⇑S	Sn		04 13 38.8	+0.6
	1.1nm,0.3s,baz=172,slow=28,SNR=4.2							
AAK	**Ala-Archa**	**6.18**	**25** ⇑	P	P		04 12 30.6	+0.4
	2.5nm,0.5s							
AAK				⇑S	Sn		04 13 44.0	+2.3
	14nm,0.8s							
AB31	**Akbulak array**	**14.60**	**330** ⇓	P	P		04 14 23.7	-1.5
	0.2nm,0.3s,baz=172,slow=18,SNR=8.1							
AB31				⇓S	Sn		04 17 06.8	-0.8
	1.0nm,0.7s,baz=164,slow=23,SNR=3.5							

IDC ***12*** *04:16:16.7±1.5, 7.42S×154.55E, h0^{km}, mb3.8/8, mb1 4.0/8, mb1mx3.9/22, mbtmp3.8/8, MS3.2/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=56.7km s-min=24.7km az=126.0*

ISC 12 04:16:21.1±1.3, 7.4S±0.3×154.5E±0.3, h27^{km}, n9, σ1§03/9, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**23.16**	**235**	P	**P**		**04 21 24.9**	**-0.9**
	0.9nm,0.7s,baz=62,slow=10,SNR=6.6							
WRA				PcP	**PcP**		**04 25 14.2**	**+0.3**
	1.1nm,1.1s,baz=73,slow=2.2,SNR=2.7							
ASAR	**Alice Springs**	**25.52**	**228**	P	**P**		**04 21 47.9**	**+0.2**
	0.3nm,0.5s,baz=63,slow=9.4,SNR=1.9							
JNU	**Nakatsue**	**46.13**	**332**	LR	LR		04 41 02.1	
	comp=Z,27nm,19.9s,baz=273,slow=32							
PETK	**Petropavlovsk-**	**60.34**	**2**	P	**P**		**04 26 27.0**	**-0.5**
	1.0nm,0.6s,baz=186,slow=13,SNR=1.7							
SONM	**Songino Array**	**69.41**	**328**	P	**P**		**04 27 28.1**	**+1.2**
	1.3nm,0.8s,baz=132,slow=4.6,SNR=5.9							
MKAR	**Makanchi Array**	**83.38**	**319**	P	**P**		**04 28 46.4**	**+0.4**
	0.7nm,0.7s,baz=93,slow=5.0,SNR=5.9							
ILAR	**Eielson Array**	**83.94**	**22**	P	**P**		**04 28 47.0**	**-1.5**
	0.5nm,0.6s,baz=226,slow=5.9,SNR

RREF *i* 04 34 53.5
comp=Z,55nm,0.3s
CBOC Ciudad Bolivar 3.02 252 *iP* **Pn 04 34 12.3 +0.5**
CBOC *eS* **Sn 04 34 48.1 -0.9**
CBOC *i* 04 34 58.6
comp=Z,50nm,0.4s
TOLC Tolima 3.11 225 *eP* **Pn 04 34 14.1 +1.1**
TOLC *eS* **Sn 04 34 50.7 -0.5**
TOLC *i* 04 34 58.3
comp=Z,119nm,0.3s
CIBA1 Ibague, SGC 3.15 222 *eP* **Pn 04 34 10.5 -2.9**
CIBA1 *eS* **Sn 04 34 50.8 -1.1**
MOTC Monteria, Cord 3.19 308 *iP* **Pn 04 34 12.2 -1.6**
MOTC *eS* **Sn 04 34 50.9 -1.8**
MOTC *i* 04 35 08.5
comp=Z,63nm,0.5s
SDV Santo Domingo 3.21 50 *eP* **Pn 04 34 14.1 -0.1**
SDV *eS* **Sn 04 34 50.9 -2.5**
SDV *i* 04 34 53.5
comp=Z,71nm,0.4s
ARGC Ariguani, Magd 3.23 340 *eP* **Pn 04 34 15.2 +0.9**
ARGC *eS* **Sn 04 34 53.5 -0.1**
ARGC *i* 04 35 00.1
comp=Z,37nm,0.3s
ANIL Santa Ana 3.23 225 *iP* **Pn 04 34 16.5 +2.0**
ANIL *eS* **Sn 04 34 54.0 0.0**
ANIL *i* 04 35 01.2
comp=Z,235nm,0.3s
PRAC Prado 3.54 210 *eP* **Pn 04 34 18.4 +0.2**
PRAC *eS* **Sn 04 35 00.3 -0.4**
PRAC *i* 04 35 04.6
comp=Z,131nm,0.3s
ORTC Ortega, Tolima 3.57 216 *eP* **Pn 04 34 19.4 +0.8**
ORTC *eS* **Sn 04 35 01.9 +0.5**
ORTC *i* 04 35 05.5
comp=Z,67nm,0.4s
SJCC San Jacinto, C 3.69 327 *eP* **Pn 04 34 18.8 -1.4**
SJCC *eS* **Sn 04 34 59.9 -4.1**
SJCC *i* 04 35 18.6
comp=Z,49nm,0.5s
GUVC San Jose del G 4.26 173 *eP* **Pn 04 34 27.2 -0.3**
GUVC *eS* **Sn 04 35 16.7 -0.6**
GUVC *i* 04 35 20.5
comp=Z,58nm,0.2s
YOTC Yotoco, Valle 4.26 229 *eP* **Pn 04 34 28.1 +0.4**
YOTC *eS* **Sn 04 35 16.8 -0.7**
SMRC Santa Marta, M 4.47 346 *eP* **Pn 04 34 30.8 +0.6**
SMRC *eS* **Sn 04 35 18.4 -3.7**
MACC Macarena, Meta 4.69 189 *eP* **Pn 04 34 32.2 -0.9**
MACC *eS* **Sn 04 35 22.9 -4.5**
MACC *i* 04 35 31.3
comp=Z,26nm,0.5s
MARP Paez Belalcaza 4.84 216 *eP* **Pn 04 34 35.9 +0.4**
MARP *eS* **Sn 04 35 30.2 -1.3**
GARC Garzon, Huila 5.16 207 *eP* **Pn 04 34 38.2 -1.5**
GARC *eS* **Sn 04 35 36.6 -2.4**
GARC *i* 04 35 39.9
comp=Z,36nm,0.2s
POPC Popayan, Colom 5.52 220 *eP* **Pn 04 34 40.5 -4.0**
POPC *eS* **Sn 04 35 38.8 -8.7**
BBAC Balboa, Cauca 6.29 221 *eP* **Pn 04 34 56.2 +1.7**
BBAC *eS* **Sn 04 36 01.9 -3.8**
BBAC *i* 04 36 08.8
comp=Z,6.3nm,0.4s
TXAR Lajitas Array 36.47 312 P **P 04 40 15.4 +1.4**
comp=Z,0.2nm,0.4s,baz=128,slow=8.2,SNR=3.8
ASAR Alice Springs 149.10 234 PKPbc **PKPdf 04 52 53.8 +3.7**
comp=Z,0.7nm,0.5s,baz=112,slow=3.6,SNR=7.5
WRA Warramunga Arr 150.33 241 PKPbc **PKPbc 04 52 57.0 -0.5**
comp=Z,0.8nm,0.4s,baz=110,slow=2.7,SNR=17

IDC ***12*** *04:34:07.0±1.5, 27.34N×85.25E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.6/52, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=43.4km s-min=19.7km az=56.0*
NDI ***12*** *04:34:08.8±3.2, 27.62N×86.04E, h10km±17km, ML4.1, mb4.0(NEIC)*
NEIC ***12*** *04:34:10±1.6, 27.8N±0.1×86.04E±0.06, h10km±2km, mb4.0/8, Error ellipse: s-maj=17.6km s-min=8.0km az=170.0*
ISC 12 04:34:10.1±0.6, 27.67N±0.06×85.99E±0.05, h19km, n34, σ2.31/41, mb3.9/10, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**3.86**	**181**	*eP*		**Pn**	**04 35 10.3**	**+1.8**
BOK				*eS*		**Sn**	**04 35 53.7**	**+0.3**
BOK				IAML			04 35 56.1	
comp=E,2μm,0.2s								
LSA	**Lhasa**	**4.96**	**65**	Pn		**Pn**	**04 35 23.1**	**-0.9**
GUWA	**GUWAHATI**	**5.30**	**105**	*eP*		**Pn**	**04 35 28.4**	**+0.2**
GUWA				*eS*		**Sn**	**04 36 27.9**	**-0.8**
GUWA				IAML			04 36 35.0	
comp=E,95nm,0.2s								
SHL	**Shillong**	**5.67**	**110**	*eP*		**Pn**	**04 35 32.4**	**-1.2**
SHL				*eS*		**Sn**	**04 36 34.7**	**-3.6**
SHL	**Shillong**	**5.67**	**110**	Pn		**Pn**	**04 35 33.9**	**+0.3**
MOKO	**MOKOCHONG**	**7.72**	**98**	*eP*		**Pn**	**04 35 59.8**	**-1.9**
MOKO				*eS*		**Sn**	**04 37 23.1**	**-5.6**
MOKO				IAML			04 37 33.4	
comp=N,80nm,0.5s								
NDI	**New Delhi**	**7.81**	**279**	*eP*		**Pn**	**04 36 05.5**	**+2.7**
NDI				*eS*		**Sn**	**04 37 28.0**	**-2.7**
SMLA	**Simla**	**8.43**	**296**	*eP*		**Pn**	**04 36 13.8**	**+2.5**
SMLA				*eS*		**Sn**	**04 37 43.3**	**-2.6**
SMLA				IAML			04 37 47.7	
comp=E,206nm,0.5s								
BHPL	**Bhopal**	**8.91**	**242**	*eP*		**Pn**	**04 36 15.8**	**-2.1**
BHPL				*eS*		**Sn**	**04 37 51.4**	**-6.4**
BHPL				IAML			04 37 56.5	
comp=E,152nm,0.4s								
DHRM	**DHARAMSHALA**	**9.56**	**301**	*eP*		**Pn**	**04 36 27.4**	**+0.4**
DHRM				*eS*		**Sn**	**04 38 10.1**	**-4.0**
HYB	**Hyderabad**	**12.30**	**215**	*i* P		**Pn**	**04 37 07.0**	**+2.7**
NIL	**Nilore**	**12.48**	**302**	Pn		**Pn**	**04 37 07.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**15.03**	**125**	Pn		**P**	**04 37 47.0**	**+0.1**
baz=292,slow=9.6,SNR=1.6								
CMAR	**Chiang Mai Arr**	**15.03**	**125**	Pn		**Pn**	**04 37 42.1**	**+0.6**
TARG	**Taragay, Kyrgy**	**15.54**	**337**			**Pn**	**04 37 48.3**	**-0.3**
KBL	**Kabul**	**16.04**	**299**	Pn		**Pn**	**04 37 55.1**	**+0.2**
KDJ	**Kajisay**	**16.12**	**336**	Pn		**Pn**	**04 37 54.5**	**-1.3**
WMQ	**Urumqi**	**16.17**	**4**	*eP*		**P**	**04 37 59.6**	**+0.1**
WMQ				SMN				
comp=E,23nm,0.5s								
WMQ				SME				
comp=E,18nm,0.7s								
MKAR	**Makanchi Array**	**19.31**	**352**	P		**Pn**	**04 38 35.7**	**+0.6**
comp=E,0.8nm,0.3s,baz=172,slow=12,SNR=27								
MKAR	**Makanchi Array**	**19.31**	**352**	P		**Pn**	**04 38 35.3**	**+0.2**
KKAR	**Karatay Array**	**19.86**	**325**	P		**P**	**04 38 40.6**	**+0.6**
KURBB	**Kurchatov Arra**	**23.61**	**348**	P		**P**	**04 39 21.7**	**+1.9**
comp=E,2.1nm,0.7s,baz=169,slow=9.5,SNR=22								
KURK	**Kurchatov**	**23.69**	**348**	P		**P**	**04 39 21.7**	**+1.2**
SONM	**Songino Array**	**25.65**	**33**	P		**P**	**04 39 44.5**	**+5.7**
comp=E,0.8nm,0.6s,baz=220,slow=10,SNR=5.3								
SONM	**Songino Array**	**25.65**	**33**	P		**P**	**04 39 38.1**	**-0.6**
SONM				IAmb		IAmb	04 39 53.7	
comp=Z,3.4nm,1.2s								
ZAA0	**Zalesovo Array**	**26.27**	**358**	P		**P**	**04 39 45.2**	**+1.2**
ZAA0				IAmb		IAmb	04 39 48.3	
comp=Z,2.6nm,0.7s								
ZALV	**Zalesovo Beam**	**26.27**	**358**	P		**P**	**04 39 45.2**	**+1.2**
comp=Z,2.8nm,0.5s,baz=186,slow=10,SNR=11								
ZALV	**Zalesovo Beam**	**26.27**	**358**	P		**P**	**04 39 44.1**	**+0.1**
ABKAR	**Akbulak array**	**29.42**	**324**	P		**P**	**04 40 11.5**	**-0.8**
ABKAR				IAmb		IAmb	04 40 49.7	
comp=Z,3.9nm,1.5s								
AKTO	**Aktyubinsk**	**31.12**	**325**	P		**P**	**04 40 27.3**	**-0.1**
comp=Z,0.8nm,0.4s,baz=146,slow=4.4,SNR=2.5								
KSRS	**Korea Array**	**36.41**	**64**	P		P	04 41 20.6	+7.2
comp=Z,0.6nm,0.4s,baz=266,slow=7.6,SNR=1.5								
FINES	**FINESS Array B**	**51.77**	**328**	P		**P**	**04 43 16.2**	**0.0**
comp=Z,1.2nm,0.8s,baz=86,slow=7.1,SNR=1.4								
WRA	**Warramunga Arr**	**66.55**	**130**	P		**P**	**04 44 59.4**	**+0.2**
comp=Z,0.7nm,1.0s,baz=324,slow=6.3,SNR=1.9								
ASAR	**Alice Springs**	**68.86**	**133**	P		**P**	**04 45 16.2**	**+2.5**
comp=Z,0.5nm,0.6s,baz=316,slow=6.6,SNR=2.5								

ANF ***12*** *04:38:26.4±0.2, 36.31N×97.53W, h6km, ML4.5/23, Error ellipse: s-maj=3.2km s-min=3.0km az=120.0*
IDC ***12*** *04:38:26.4±0.9, 36.29N×97.45W, h0km, mb4.1/4, mb1 4.1/9, mb1mx3.7/50, mbtmp3.9/9, ML3.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/45, Error ellipse: s-maj=16.7km s-min=10.8km az=133.0*
NEIC ***12*** *04:38:26.5, 36.29N×97.54W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.70; $M_{\theta\theta}$3.13; $M_{\phi\phi}$-1.43; $M_{r\theta}$-0.09; $M_{\theta\phi}$0.17; $M_{r\phi}$0.36; Fault plane solution: M_o2.74000×10^{14} NP1:ϕ_s237.86000°, δ53.76000°, λ-135.23000°. NP2:ϕ_s117.47000°, δ55.39000°, λ-45.92000°. Principal axes: T 3.1325, Plg1.0000°, Azm178.0000°; N -1.1781, Plg35.0000°, Azm269.0000°; P -1.9544, Plg55.0000°, Azm87.0000°;*
TUL ***12*** *04:38:26.5±1.4, 36.29N±0.01×97.53W±0.03, h6km±6km, ML3.8, mb_Lg3.9/153(NEIC), Mwr3.6/64(NEIC) Error ellipse: s-maj=3.8km s-min=2.0km az=88.0*
NEIC ***12*** *04:38:26.3±1.3, 36.29N±0.02×97.54W±0.05, h1km±7km, Error ellipse: s-maj=6.8km s-min=2.0km az=70.0*
ISC 12 04:38:26.2±1.1, 36.29N±0.02×97.54W±0.02, h3km±9km, n246, σ0.92/247, mb4.0/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**301**			**Pg**	**04 38 34.8**	**+0.5**
CROK				Sg		**Sg**	**04 38 40.6**	**+0.8**
OK029	**Liberty Lake**	**0.49**	**172**			**Pg**	**04 38 36.1**	**+0.4**
OK029				Sg		**Sg**	**04 38 42.5**	**+0.4**
BLOK	**Blackwell**	**0.54**	**29**	Pg		**Pg**	**04 38 37.0**	**+0.4**
BLOK				Sg		**Sg**	**04 38 44.4**	**+0.9**
GC02	**Grant County #**	**0.62**	**335**			**Pg**	**04 38 38.2**	**+0.1**
BCOK	**Bluff Creek, N**	**0.63**	**185**			**Pg**	**04 38 38.6**	**+0.3**
BCOK				Sg		**Sg**	**04 38 47.0**	**+0.5**
OK031	**S. Brethren Rd**	**0.66**	**120**			**Pg**	**04 38 39.0**	**+0.3**
OK031				Sg		**Sg**	**04 38 47.9**	**+0.6**
QUOK	**Quay**	**0.68**	**100**			**Pg**	**04 38 39.1**	**-0.1**
QUOK				Sg		**Sg**	**04 38 48.4**	**+0.4**
OK005	**Luther M Schoo**	**0.69**	**156**			**Pg**	**04 38 39.3**	**-0.2**
OK030	**Cody Creek RV**	**0.71**	**120**			**Pg**	**04 38 39.4**	**-0.4**
OK030				Sg		**Sg**	**04 38 49.4**	**+0.5**
OK009	**Oakdale Elemen**	**0.71**	**173**			**Pg**	**04 38 39.9**	**+0.1**
OK009				Sg		**Sg**	**04 38 49.6**	**+0.5**
KAN13	**South Haven SW**	**0.72**	**4**			**Pg**	**04 38 40.4**	**+0.3**
OK025	**Westminster Rd**	**0.72**	**167**			**Pg**	**04 38 40.4**	**+0.3**
OK025				IAmb_Lg			04 38 49.2	
comp=Z,1μm,0.9s								
OK025						**Sg**	**04 38 49.9**	**+0.4**
OK032	**Salt Plains WL**	**0.75**	**314**			**Pg**	**04 38 40.6**	**+0.1**
KAN14	**Manchester OK**	**0.75**	**333**			**Pg**	**04 38 40.8**	**+0.2**
KAN17	**Caldwell West**	**0.78**	**346**			**Pg**	**04 38 41.1**	**0.0**
KAN09	**Caldwell North**	**0.85**	**356**			**Pg**	**04 38 42.5**	**0.0**
KAN05	**Bluff City Nor**	**0.86**	**342**			**Pg**	**04 38 42.7**	**0.0**
OKCFA	**Oklahoma City**	**0.87**	**175**			**Pg**	**04 38 43.1**	**+0.1**
OKCFA				IAmb_Lg			04 38 54.6	
comp=Z,1μm,0.9s								
OKCFA	**Oklahoma City**	**0.87**	**175**	P		**Pg**	**04 38 43.1**	**+0.1**
baz=356,SNR=92								
OKCFA				S		**Sg**	**04 38 55.1**	**+0.8**
baz=356								
OKCFA	**Oklahoma City**	**0.87**	**175**	P			04 38 43.1	
baz=356,SNR=92								
OKCFA				S			04 38 55.1	
baz=356								
OKCSW	**OKLAHOMA CITY**	**0.89**	**175**			**Pg**	**04 38 43.3**	**+0.1**
KS20	**Mayfield South**	**0.94**	**359**			**Pg**	**04 38 43.9**	**-0.3**
KAN10	**Anthony SW Sta**	**0.95**	**332**			**Pg**	**04 38 44.0**	**-0.4**
KAN08	**Anthony NE Sta**	**1.00**	**340**			**Pg**	**04 38 45.4**	**0.0**
KAN16	**Harper SW Stat**	**1.03**	**336**			**Pg**	**04 38 45.3**	**-0.6**
FNO	**Franklin**	**1.03**	**174**			**Pg**	**04 38 45.5**	**-0.5**
T35A	**Sooner Cattle**	**1.03**	**52**			**Pg**	**04 38 46.0**	**-0.1**
T35B	**Sooner Cattle**	**1.03**	**52**	P		**Pg**	**04 38 46.0**	**-0.1**
baz=233,SNR=312								
T35B				S		**Sg**	**04 38 59.5**	**0.0**
baz=233								
T35B	**Sooner Cattle**	**1.03**	**52**	P			04 38 46.0	
baz=233,SNR=312								
T35B				S			04 38 59.5	
baz=233								
U32A	**Winter Ranch,**	**1.19**	**275**			**Pg**	**04 38 48.3**	**-0.6**
U32A	**Winter Ranch,**	**1.19**	**275**	P		**Pg**	**04 38 48.5**	**-0.5**
baz=94,SNR=319								
U32A				S		**Sb**	**04 39 05.2**	**+0.1**
baz=94								
U32A	**Winter Ranch,**	**1.19**	**275**	P			04 38 48.5	
baz=94,SNR=319								
U32A				S			04 39 05.2	
baz=94								
TUL1	**Leonard**	**1.46**	**104**	P		**Pn**	**04 38 52.8**	**-0.7**
baz=286,SNR=438								
TUL1				S		**Sn**	**04 39 12.8**	**-0.3**
baz=286								
TUL1	**Leonard**	**1.46**	**104**	P			04 38 52.9	
baz=286,SNR=588								
TUL1				S			04 39 12.6	
baz=286								
TUL1	**Leonard**	**1.46**	**104**	P			04 38 52.8	
baz=286,SNR=438								
TUL1				S			04 39 12.8	
baz=286								
X34A	**Smith Ranch, M**	**1.70**	**188**			**Pb**	**04 38 57.9**	**-0.2**
WMOK	**Wichita Mounta**	**1.85**	**214**	Pn		**Pn**	**04 38 59.0**	**+0.2**
WMOK				IAmb_Lg			04 39 24.6	
comp=Z,349nm,1.1s								
WMOK	**Wichita Mounta**	**1.85**	**214**	P		**Pn**	**04 38 59.3**	**+0.5**
baz=33,SNR=694								
WMOK				S		**Sb**	**04 39 23.9**	**-0.3**
baz=33								
WMOK	**Wichita Mounta**	**1.85**	**214**	P			04 38 59.1	
baz=33,SNR=248								
WMOK				S			04 39 24.1	
baz=33								
WMOK	**Wichita Mounta**	**1.85**	**214**	P			04 38 59.3	
baz=33,SNR=694								
WMOK				S			04 39 23.9	
baz=33								
LOOK	**Love County**	**2.31**	**173**			**Pn**	**04 39 06.1**	**+1.0**
LOOK				IAmb_Lg			04 39 42.3	
comp=Z,450nm,0.9s								
R32A	**Long Quarter,**	**2.33**	**337**			**Pn**	**04 39 05.8**	**+0.4**
R32A				IAmb_Lg			04 39 46.6	
comp=Z,547nm,1.2s								
R32A	**Long Quarter,**	**2.33**	**337**	P		**Pn**	**04 39 05.9**	**+0.5**
baz=156,SNR=174								
R32A				S		**Sn**	**04 39 35.4**	**+0.9**
baz=156								
R32A	**Long Quarter,**	**2.33**	**337**	P			04 39 05.9	
baz=156,SNR=174								
R32A				S			04 39 35.4	
baz=156								
X37A	**Clayton**	**2.45**	**133**			**Pn**	**04 39 07.2**	**+0.2**
X37A				IAmb_Lg			04 39 49.0	
comp=Z,486nm,0.7s								
X37A	**Clayton**	**2.45**	**133**	P		**Pn**	**04 39 07.9**	**+0.8**
baz=315,SNR=112								
X37A	**Clayton**	**2.45**	**133**	P			04 39 07.9	
baz=315,SNR=112								
U38A	**Gravette**	**2.55**	**86**			**Pn**	**04 39 09.1**	**+0.7**
U38A				IAmb_Lg			04 39 47.9	
comp=Z,370nm,0.8s								
U38A	**Gravette**	**2.55**	**86**	P		**Pn**	**04 39 09.1**	**+0.7**
baz=268,SNR=111								
U38A	**Gravette**	**2.55**	**86**	P			04 39 09.1	
baz=268,SNR=111								
KSU1	**Kansas State U**	**2.90**	**14**	Pn		**Pn**	**04 39 13.3**	**0.0**
KSU1				IAmb_Lg			04 40 00.3	
comp=Z,306nm,1.0s								
KSU1	**Kansas State U**	**2.90**	**14**	P		**Pn**	**04 39 13.6**	**+0.3**
baz=195								
KSU1	**Kansas State U**	**2.90**	**14**	P			04 39 13.7	
baz=195								
KSU1	**Kansas State U**	**2.90**	**14**	P			04 39 13.6	
baz=195								
HHAR	**Hobbs**	**2.91**	**89**			**Pn**	**04 39 14.0**	**+0.7**
HHAR				IAmb_Lg			04 39 58.2	
comp=Z,202nm,0.7s								
HHAR	**Hobbs**	**2.91**	**89**	P		**Pn**	**04 39 14.0**	**+0.7**
baz=271								
HHAR	**Hobbs**	**2.91**	**89**	P			04 39 14.0	
baz=271								
Z35A	**Perchaven, San**	**2.96**	**175**			**Pn**	**04 39 14.5**	**+0.4**
Z35A	**Perchaven, San**	**2.96**	**175**	P		**Pn**	**04 39 15.0**	**+0.9**
baz=356,SNR=102								
Z35A	**Perchaven, San**	**2.96**	**175**	P			04 39 15.0	
baz=356,SNR=102								
CBKS	**Cedar Bluff**	**3.07**	**326**	Pn		**Pn**	**04 39 15.9**	**+0.3**
CBKS				IAmb_Lg			04 40 09.8	
comp=Z,334nm,0.8s								
CBKS	**Cedar Bluff**	**3.07**	**326**	P		**Pn**	**04 39 16.2**	**+0.6**
baz=145,SNR=32								
CBKS	**Cedar Bluff**	**3.07**	**326**	P			04 39 15.8	
baz=145								
CBKS	**Cedar Bluff**	**3.07**	**326**	P			04 39 16.2	
baz=145,SNR=32								
W39A	**Magazine**	**3.24**	**109**			**Pn**	**04 39 18.4**	**+0.5**
W39A				IAmb_Lg			04 40 17.5	
comp=Z,643nm,0.7s								
W39A	**Magazine**	**3.24**	**109**	P		**Pn**	**04 39 18.8**	**+0.9**
baz=291,SNR=15								
W39A	**Magazine**	**3.24**	**109**	P			04 39 18.6	
baz=291,SNR=18								
W39A	**Magazine**	**3.24**	**109**	P			04 39 18.8	
baz=291,SNR=15								
S39A	**Bolivar**	**3.65**	**66**	Pn		**Pn**	**04 39 24.2**	**+0.6**
S39A				IAmb_Lg			04 40 27.1	
comp=Z,239nm,0.8s								
S39A	**Bolivar**	**3.65**	**66**	P		**Pn**	**04 39 23.8**	**+0.2**
baz=249,SNR=76								
S39A	**Bolivar**	**3.65**	**66**	P			04 39 23.8	
baz=249,SNR=76								
AMTX	**Amarillo**	**3.66**	**249**	Pn		**Pn**	**04 39 23.8**	**+0.1**
AMTX				IAmb_Lg			04 40 21.0	
comp=Z,192nm,0.7s								
MIAR	**Mount Ida**	**3.67**	**117**	Pn		**Pn**	**04 39 24.8**	**+1.0**
MIAR				IAmb_Lg			04 40 30.6	
comp=Z,275nm,1.1s								
MIAR	**Mount Ida**	**3.67**	**117**	P		**Pn**	**04 39 24.9**	**+1.1**
baz=300,SNR=254								
MIAR	**Mount Ida**	**3.67**	**117**	P			04 39 24.6	
baz=300,SNR=112								
MIAR				S			04 40 09.3	
baz=300								
MIAR	**Mount Ida**	**3.67**	**117**	P			04 39 24.9	
baz=300,SNR=254								
Z38A	**Mt. Pleasant**	**3.68**	**144**	Pn		**Pn**	**04 39 24.6**	**+0.7**
Z38A				IAmb_Lg			04 40 33.6	
comp=Z,509nm,0.9s								
U40A	**Yellville**	**3.78**	**88**	Pn		**Pn**	**04 39 25.3**	**-0.1**
U40A				IAmb_Lg			04 40 28.0	
comp=Z,446nm,1.1s								
U40A	**Yellville**	**3.78**	**88**	P		**Pn**	**04 39 25.3**	**-0.1**
baz=270,SNR=36								
U40A	**Yellville**	**3.78**	**88**	P			04 39 25.3	
baz=270,SNR=22								
U40A	**Yellville**	**3.78**	**88**	P			04 39 25.3	
baz=270,SNR=36								
U40A				P			04 39 25.3	
baz=270,SNR=36								
ABTX	**Abilene, Hawle**	**4.05**	**206**	Pn		**Pn**	**04 39 29.6**	**+0.5**
ABTX				IAmb_Lg			04 40 36.5	
comp=Z,304nm,1.0s								
ABTX	**Abilene, Hawle**	**4.05**	**206**	P			04 39 29.6	
baz=25								
X40A	**Basin Creek Fa**	**4.24**	**114**			**Pn**	**04 39 33.1**	**+1.5**
X40A				IAmb_Lg			04 40 49.4	
comp=Z,268nm,0.8s								
X40A	**Basin Creek Fa**	**4.24**	**114**	P			04 39 32.4	
baz=297,SNR=17								
X40A				S			04 40 22.8	
baz=297								
WHTX	**Lake Whitney,**	**4.29**	**179**	Pn		**Pn**	**04 39 32.4**	**+0.1**
WHTX	**Lake Whitney,**	**4.29**	**179**	P		**Pn**	**04 39 32.9**	**+0.6**
baz=359,SNR=17								
WHTX	**Lake Whitney,**	**4.29**	**179**	P			04 39 32.7	
baz=359,SNR=6.6								
WHTX				S			04 40 23.4	
baz=359								
WHTX	**Lake Whitney,**	**4.29**	**179**	P			04 39 32.9	
baz=359,SNR=17								
MGMO	**Mountain Grove**	**4.32**	**77**			**Pn**	**04 39 33.5**	**+0.8**
MGMO				IAmb_Lg			04 40 47.6	
comp=Z,252nm,0.8s								
WHAR	**Wooly Hollow**	**4.38**	**102**	Pn		**Pn**	**04 39 34.8**	**+1.2**
WHAR				IAmb_Lg			04 40 51.3	
comp=Z,337nm,0.8s								
FCAR	**Ozark Folk Cen**	**4.40**	**94**			**Pn**	**04 39 34.6**	**+0.7**
FCAR				IAmb_Lg			04 40 54.7	
comp=Z,140nm,0.8s								
N33B	**J Bar K, Exete**	**4.44**	**1**	P		**Pn**	**04 39 34.1**	**-0.4**
baz=181,SNR=14								
N33B	**J Bar K, Exete**	**4.44**	**1**	P			04 39 34.1	
baz=181,SNR=14								
N33A	**J Bar K, Exete**	**4.44**	**1**			**Pn**	**04 39 34.1**	**-0.4**
N33A				IAmb_Lg			04 40 56.2	
comp=Z,288nm,0.7s								
W41B	**Gary Mavity, V**	**4.44**	**103**	P		**Pn**	**04 39 34.6**	**+0.2**
baz=286,SNR=28								
W41B	**Gary Mavity, V**	**4.44**	**103**	P			04 39 34.7	
baz=286,SNR=46								
W41B				S			04 40 26.9	
baz=286								
W41B	**Gary Mavity, V**	**4.44**	**103**	P			04 39 34.6	
baz=286,SNR=28								
WLAR	**White Oak Lake**	**4.46**	**124**	Pn		**Pn**	**04 39 35.1**	**+0.3**
WLAR				IAmb_Lg			04 40 51.7	
comp=Z,235nm,0.8s								
237A	**Washetta, Mont**	**4.51**	**161**	Pn		**Pn**	**04 39 35.3**	**0.0**
237A	**Washetta, Mont**	**4.51**	**161**	P		**Pn**	**04 39 35.2**	**-0.1**
baz=342,SNR=15								
237A	**Washetta, Mont**	**4.51**	**161**	P			04 39 35.2	
baz=342,SNR=15								
P38A	**Dawn**	**4.59**	**42**	Pn		**Pn**	**04 39 36.6**	**+0.1**
P38A				IAmb_Lg			04 41 01.9	
comp=Z,282nm,0.8s								
R40A	**Maddies Statio**	**4.65**	**63**			**Pn**	**04 39 37.2**	**-0.1**
R40A	**Maddies Statio**	**4.65**	**63**	P		**Pn**	**04 39 37.6**	**+0.3**
baz=246,SNR=22								
R40A	**Maddies Statio**	**4.65**	**63**	P			04 39 37.6	
baz=246,SNR=22								
N35A	**Tabor**	**4.80**	**17**			**Pn**	**04 39 38.7**	**-0.7**
N35A	**Tabor**	**4.80**	**17**	P		**Pn**	**04 39 39.5**	**+0.1**
baz=198,SNR=6.5								
N35A	**Tabor**	**4.80**	**17**	P			04 39 39.5	
baz=198,SNR=6.5								
KSCO	**Kaye Shedlock'**	**4.87**	**305**			**Pn**	**04 39 40.3**	**-0.1**
KSCO	**Kaye Shedlock'**	**4.87**	**305**	P		**Pn**	**04 39 41.0**	**+0.6**
baz=122,SNR=23								
KSCO	**Kaye Shedlock'**	**4.87**	**305**	P			04 39 39.9	
baz=122								
KSCO	**Kaye Shedlock'**	**4.87**	**305**	P			04 39 41.0	
baz=122,SNR=23								
MSTX	**Muleshoe**	**4.88**	**243**	Pn		**Pn**	**04 39 39.6**	**-0.9**
MSTX				IAmb_Lg			04 41 01.7	
comp=Z,167nm,1.

435B	**Jarrell**	**5.49**	**180**	P		**Pn**	**04 39 49.2**	**+0.4**
	baz=0.4,SNR=9.4								
435B	**Jarrell**	**5.49**	**180**	P			04 39 49.2		
	baz=0.4,SNR=6.8								
435B				S			04 40 51.1		
	baz=0.4								
435B	**Jarrell**	**5.49**	**180**	P			04 39 49.2		
	baz=0.4,SNR=9.4								
T25A	**Trinidad**	**5.59**	**281**	Pn		**Pn**	**04 39 49.9**	**-0.5**
T25A				lAmb_Lg			04 41 35.2		
	comp=Z,190nm,0.9s								
T25A	**Trinidad**	**5.59**	**281**	P			04 39 50.0		
	baz=97,SNR=17								
N38A	**Joes South For**	**5.62**	**36**	Pn		**Pn**	**04 39 49.9**	**-0.7**
L34A	**Svendsen Farm,**	**5.74**	**9**			**Pn**	**04 39 52.4**	**+0.1**
PBMO	**Poplar Bluff**	**5.74**	**83**			**Pn**	**04 39 53.0**	**+0.7**
PBMO				lAmb_Lg			04 41 35.4		
	comp=Z,275nm,0.7s								
OGNE	**Ogallala**	**5.83**	**324**	Pn		**Pn**	**04 39 54.5**	**+0.8**
OGNE	**Ogallala**	**5.83**	**324**	P		**Pn**	**04 39 54.3**	**+0.6**
	baz=142,SNR=18								
OGNE	**Ogallala**	**5.83**	**324**	P			04 39 53.9		
	baz=142,SNR=9.6								
OGNE				S			04 40 58.3		
	baz=142								
OGNE	**Ogallala**	**5.83**	**324**	P			04 39 54.3		
	baz=142,SNR=18								
LPAR	**Lepanto**	**5.91**	**95**			Lg	04 41 33.0		
LPAR				lAmb_Lg			04 41 43.9		
	comp=Z,303nm,1.1s								
FVM	**French Village**	**5.93**	**71**			**Pn**	**04 39 55.3**	**+0.5**
FVM				lAmb_Lg			04 41 34.2		
	comp=Z,236nm,0.8s								
FVM	**French Village**	**5.93**	**71**	P		**Pn**	**04 39 54.9**	**0.0**
	baz=256,SNR=14								
FVM	**French Village**	**5.93**	**71**	P			04 39 54.9		
	baz=256,SNR=14								
GNAR	**Gosnell**	**6.09**	**91**	Pn		**Pn**	**04 39 58.6**	**+1.5**
GNAR				lAmb_Lg			04 41 44.0		
	comp=Z,293nm,0.8s								
JCT	**Junction City**	**6.09**	**199**	Pn		**Pn**	**04 39 57.7**	**+0.5**
JCT	**Junction City**	**6.09**	**199**	P		**Pn**	**04 39 57.3**	**+0.1**
	baz=17,SNR=6.5								
JCT	**Junction City**	**6.09**	**199**	P			04 39 57.1		
	baz=17								
JCT	**Junction City**	**6.09**	**199**	P			04 39 57.3		
	baz=17,SNR=6.5								
143A	**Socs Landing,**	**6.20**	**123**			**Pn**	**04 39 58.2**	**-0.4**
143A				lAmb_Lg			04 41 59.4		
	comp=Z,172nm,0.9s								
PEBM	**Pemiscott Bayo**	**6.21**	**89**			Lg	04 41 42.4		
SLM	**Saint Louis**	**6.26**	**66**	Pn		**Pn**	**04 39 59.3**	**-0.1**
MET	**Memphis--Engin**	**6.29**	**98**	lAmb_Lg			04 42 01.7		
	comp=Z,217nm,0.8s								
K31A	**O'Neill**	**6.40**	**352**			**Pn**	**04 40 00.8**	**-0.5**
HKT	**Hockley**	**6.48**	**167**	Pn		**Pn**	**04 40 02.9**	**+0.5**
SDCO	**Great Sand Dun**	**6.54**	**285**			**Pn**	**04 40 03.7**	**+0.2**
SDCO	**Great Sand Dun**	**6.54**	**285**	P		**Pn**	**04 40 04.4**	**+0.9**
	baz=100,SNR=14								
SDCO	**Great Sand Dun**	**6.54**	**285**	P			04 40 03.2		
	baz=100,SNR=36								
SDCO	**Great Sand Dun**	**6.54**	**285**	P			04 40 04.4		
	baz=100,SNR=14								
SCIA	**State Center**	**6.54**	**30**			**Pn**	**04 40 03.1**	**-0.1**
SCIA	**State Center**	**6.54**	**30**	P		**Pn**	**04 40 03.1**	**-0.1**
	baz=212,SNR=8.0								
SCIA	**State Center**	**6.54**	**30**	P			04 40 02.8		
	baz=212,SNR=9.5								
SCIA				S			04 41 16.5		
	baz=212								
SCIA	**State Center**	**6.54**	**30**	P			04 40 03.1		
	baz=212,SNR=8.0								
Q24A	**Divide**	**6.61**	**296**	P			04 40 03.8		
	baz=112								
HALT	**Halls**	**6.65**	**91**	lAmb_Lg			04 42 14.0		
	comp=Z,213nm,0.9s								
HICK	**Hickman**	**6.70**	**85**	Pn		**Pn**	**04 40 05.1**	**-0.4**
HICK						LR	04 41 58.0		
HICK				lAmb_Lg			04 42 05.3		
	comp=Z,252nm,0.8s								
S44A	**Carbondale**	**6.78**	**76**			**Pn**	**04 40 06.4**	**-0.1**
SIUC	**Southern Illin**	**6.81**	**75**			**Pn**	**04 40 06.3**	**-0.6**
N41A	**Harden Midland**	**6.85**	**48**	Pn		**Pn**	**04 40 07.4**	**-0.1**
OXF	**Oxford**	**6.87**	**103**			**Pn**	**04 40 07.1**	**-0.6**
OXF				lAmb_Lg			04 42 11.4		
	comp=Z,122nm,0.9s								
OXF	**Oxford**	**6.87**	**103**	P			04 40 07.5		
	baz=287								
W45A	**Hickory Valley**	**6.89**	**97**	Pn		**Pn**	**04 40 09.0**	**+1.0**
W45A				lAmb_Lg			04 42 15.3		
	comp=Z,241nm,0.7s								
Y45A	**Yeager Farm, C**	**6.99**	**108**	Pn		**Pn**	**04 40 09.5**	**+0.2**
Y45A						Lg	04 42 11.7		
Y45A				lAmb_Lg			04 42 16.0		
	comp=Z,110nm,0.8s								
VBMS	**Vicksburg**	**7.09**	**123**	lAmb_Lg			04 42 23.2		
	comp=Z,82nm,1.1s								
P43A	**Skaggs, Pawnee**	**7.16**	**60**			**Pn**	**04 40 11.7**	**-0.1**
T45A	**Paducah**	**7.18**	**82**	Pn		**Pn**	**04 40 12.2**	**+0.2**
Q44A	**Meyer Farm, Va**	**7.25**	**66**			**Pn**	**04 40 13.0**	**0.0**
ISCO	**Idaho Springs**	**7.27**	**301**	Pn		**Pn**	**04 40 13.7**	**+0.1**
ISCO				lAmb_Lg			04 42 23.5		
	comp=Z,76nm,0.8s								
ISCO	**Idaho Springs**	**7.27**	**301**	P			04 40 13.5		
	baz=116,SNR=6.5								
K38A	**Parkersburg**	**7.34**	**29**			**Pn**	**04 40 13.8**	**-0.4**
ANMO	**Albuquerque**	**7.39**	**262**	Pn		**Pn**	**04 40 16.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=27,slow=4.9,SNR=7.2								
ANMO				Pg		Pg	04 40 42.2	-5.6	
	comp=Z,2.4nm,0.3s,baz=87,slow=16,SNR=21								
ANMO				Lg		Lg	04 42 16.8		
	comp=Z,2.8nm,0.3s,baz=81,slow=19,SNR=3.3								
ANMO				LR		LR	04 43 25.9		
	comp=Z,81nm,20.9s,baz=51,slow=40								
ANMO	**Albuquerque**	**7.39**	**262**	Pn		**Pn**	**04 40 15.4**	**+0.3**
735A	**Kenedy**	**7.42**	**182**			**Pn**	**04 40 16.1**	**+0.9**
735A				lAmb_Lg			04 42 36.1		
	comp=Z,83nm,1.0s								
344A	**Westbrook Farm**	**7.43**	**128**	Pn		**Pn**	**04 40 15.4**	**-0.1**
344A				lAmb_Lg			04 42 38.0		
	comp=Z,83nm,1.2s								
ECSD	**EROS Data Cent**	**7.47**	**5**	Pn		**Pn**	**04 40 15.0**	**-1.0**
ECSD	**EROS Data Cent**	**7.47**	**5**	P		**Pn**	**04 40 14.8**	**-1.2**
	baz=186,SNR=61								
ECSD	**EROS Data Cent**	**7.47**	**5**	P			04 40 14.7		
	baz=186,SNR=27								
ECSD	**EROS Data Cent**	**7.47**	**5**	P			04 40 14.8		
	baz=186,SNR=61								
L40A	**Anamosa**	**7.57**	**38**			**Pn**	**04 40 15.9**	**-1.4**
L40A				lAmb_Lg			04 42 28.9		
	comp=Z,158nm,0.7s								
BNM	**Barren Site**	**7.74**	**257**	Pn		**Pn**	**04 40 20.2**	**+0.3**
HDIL	**Hopedale**	**7.75**	**54**			**Pn**	**04 40 19.8**	**0.0**
HDIL	**Hopedale**	**7.75**	**54**	P			04 40 19.2		
	baz=239,SNR=21								
PLAL	**Pickwick Lake**	**7.81**	**97**			**Pn**	**04 40 20.9**	**+0.2**
PLAL				lAmb_Lg			04 42 41.8		
	comp=Z,131nm,1.1s								
WVT	**Waverly**	**7.85**	**88**	Pn		**Pn**	**04 40 21.8**	**+0.6**
WVT				lAmb_Lg			04 42 56.9		
	comp=Z,56nm,0.8s								
WVT	**Waverly**	**7.85**	**88**	P			04 40 21.3		
	baz=274								
OLIL	**Olney**	**7.89**	**69**			**Pn**	**04 40 22.9**	**+1.2**
PHWY	**Pilot Hill**	**7.96**	**311**			**Pn**	**04 40 22.4**	**-0.5**
PHWY				lAmb_Lg			04 42 46.5		
	comp=Z,113nm,0.7s								
MNTX	**Cornudas Mount**	**7.96**	**237**	Pn		**Pn**	**04 40 22.4**	**-0.4**
MNTX	**Cornudas Mount**	**7.96**	**237**	P		**Pn**	**04 40 22.5**	**-0.3**
	baz=53,SNR=11								
MNTX	**Cornudas Mount**	**7.96**	**237**	P			04 40 22.1		
	baz=53,SNR=17								
MNTX	**Cornudas Mount**	**7.96**	**237**	P			04 40 22.5		
	baz=53,SNR=11								
Y22D	**IRIS PASSCAL I**	**8.00**	**257**	Pn		**Pn**	**04 40 24.0**	**+0.6**
Y22D				lAmb_Lg			04 42 49.3		
	comp=Z,132nm,0.8s								
LENM	**Lemitar**	**8.01**	**257**	Pn		**Pn**	**04 40 24.2**	**+0.6**
SMCO	**Snowmass**	**8.01**	**294**	Pn		**Pn**	**04 40 24.5**	**+0.7**
N23A	**Red Feather La**	**8.03**	**307**	P			04 40 23.6		
	baz=122,SNR=9.6								
USIN	**University of**	**8.06**	**75**	Pn		**Pn**	**04 40 24.3**	**+0.2**
833A	**Chaparral WMA,**	**8.10**	**192**	P			04 40 25.6		
	baz=11								
O44A	**Mansfield**	**8.11**	**59**	Pn		**Pn**	**04 40 25.3**	**+0.4**
O44A				lAmb_Lg			04 42 47.3		
	comp=Z,187nm,0.7s								
SUSD	**Miller**	**8.22**	**353**	Pn		**Pn**	**04 40 25.8**	**-0.5**
SUSD						Lg	04 42 51.1		
SUSD				lAmb_Lg			04 42 59.3		
	comp=Z,158nm,0.9s								
SUSD	**Miller**	**8.22**	**353**	P			04 40 25.1		
	baz=172								
I37A	**Lemond, Waseca**	**8.34**	**21**	Pn		**Pn**	**04 40 27.8**	**-0.1**
I37A				lAmb_Lg			04 42 56.1		
	comp=Z,126nm,0.7s								
L42A	**Oliver, Polo**	**8.36**	**45**	Pn		**Pn**	**04 40 28.6**	**+0.4**
L42A				lAmb_Lg			04 42 58.9		
	comp=Z,204nm,0.8s								
Z47A	**Carrollton**	**8.38**	**109**	Pn		**Pn**	**04 40 28.1**	**-0.4**
T47A	**Sharon Grove**	**8.41**	**82**			**Pn**	**04 40 29.3**	**+0.3**
T47A				lAmb_Lg			04 43 09.9		
	comp=Z,172nm,1.1s								
T47A	**Sharon Grove**	**8.41**	**82**	P		**Pn**	**04 40 29.1**	**+0.1**
	baz=268,SNR=7.1								
T47A	**Sharon Grove**	**8.41**	**82**	P			04 40 29.1		
	baz=268,SNR=7.1								
TX31	**Lajitas Ar. Si**	**8.64**	**218**			**Pn**	**04 40 31.2**	**-0.9**
TX31	**Lajitas Ar. Si**	**8.64**	**218**	P		**Pn**	**04 40 31.3**	**-0.9**
	baz=35,SNR=13								
TX31	**Lajitas Ar. Si**	**8.64**	**218**	P			04 40 31.3		
	baz=35,SNR=13								
TX32	**Lajitas Array**	**8.64**	**218**			**Pn**	**04 40 31.3**	**-0.9**
TXAR	**Lajitas Array**	**8.64**	**218**	Pn		**Pn**	**04 40 31.1**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=38,slow=11,SNR=58								
TXAR				Pg		Pg	04 41 00.1	-12	
	comp=Z,1.8nm,0.3s,baz=39,slow=12,SNR=5.4								
TXAR				Lg		Lg	04 42 56.5		
	comp=Z,5.4nm,0.3s,baz=48,slow=20,SNR=9.5								
TXAR	**Lajitas Array**	**8.64**	**218**	Pn		**Pn**	**04 40 31.6**	**-0.6**
JFWS	**Jewell Farm**	**8.68**	**38**			**Pn**	**04 40 31.8**	**-0.8**
JFWS	**Jewell Farm**	**8.68**	**38**	P			04 40 31.6		
	baz=223,SNR=8.1								
X48A	**Hartselle**	**8.76**	**99**	lAmb_Lg			04 43 12.8		
	comp=Z,76nm,1.0s								
P46A	**Rosedale**	**8.81**	**65**	Pn		**Pn**	**04 40 35.1**	**+0.7**
MVCO	**Mesa Verde**	**8.85**	**279**	Pn		**Pn**	**04 40 34.9**	**-0.3**
PV15	**Paradox Valley**	**8.96**	**286**	Pn		**Pn**	**04 40 37.2**	**+0.5**
M44A	**Midewin, Midew**	**8.99**	**53**	Pn		**Pn**	**04 40 37.5**	**+0.7**
PV01	**Paradox Valley**	**8.99**	**285**	Pn		**Pn**	**04 40 37.2**	**0.0**
PV01				lAmb_Lg			04 43 29.7		
	comp=Z,49nm,1.3s								
CLTN	**Cedars of Leba**	**9.06**	**88**	Pn		**Pn**	**04 40 38.5**	**+0.7**
CLTN				lAmb_Lg			04 43 21.5		
	comp=Z,63nm,1.0s								
PV07	**Paradox Valley**	**9.10**	**287**	Pn		**Pn**	**04 40 38.6**	**0.0**
PV02	**Paradox Valley**	**9.13**	**285**	Pn		**Pn**	**04 40 39.4**	**+0.3**
SFIN	**Lafayette**	**9.16**	**60**	Pn		**Pn**	**04 40 40.0**	**+0.8**
SFIN				lAmb_Lg			04 43 14.8		
	comp=Z,142nm,0.7s								
SFIN	**Lafayette**	**9.16**	**60**	P		**Pn**	**04 40 39.7**	**+0.5**
	baz=247,SNR=7.1								
SFIN	**Lafayette**	**9.16**	**60**	P			04 40 39.0		
	baz=247								
SFIN	**Lafayette**	**9.16**	**60**	P			04 40 39.7		
	baz=247,SNR=7.1								
WCI	**Wyandotte Cave**	**9.17**	**74**	Pn		**Pn**	**04 40 41.0**	**+1.6**
WCI				lAmb_Lg			04 43 21.4		
	comp=Z,93nm,0.8s								
WCI	**Wyandotte Cave**	**9.17**	**74**	P		**Pn**	**04 40 39.3**	**-0.1**
	baz=261,SNR=9.0								
WCI	**Wyandotte Cave**	**9.17**	**74**	P			04 40 39.4		
	baz=261								
WCI	**Wyandotte Cave**	**9.17**	**74**	P			04 40 39.3		
	baz=261,SNR=9.0								
BLO	**Bloomington**	**9.19**	**68**			**Pn**	**04 40 40.3**	**+0.7**
PV13	**Radium Mtn., P**	**9.19**	**285**	Pn		**Pn**	**04 40 40.4**	**+0.6**
PV13				lAmb_Lg			04 43 30.3		
	comp=Z,62nm,1.1s								
PV11	**David Mesa, Pa**	**9.25**	**286**	lAmb_Lg			04 43 33.8		
	comp=Z,60nm,1.0s								
I40A	**Norwalk**	**9.26**	**33**			**Pn**	**04 40 38.8**	**-1.8**
I40A				lAmb_Lg			04 43 24.3		
	comp=Z,87nm,0.7s								
121A	**Cookes Peak, D**	**9.26**	**249**	Pn		**Pn**	**04 40 40.8**	**+0.1**
O20A	**White River Ci**	**9.26**	**298**	Pn		**Pn**	**04 40 40.8**	**+0.1**
RWWY	**Rawlins**	**9.26**	**309**	Pn		**Pn**	**04 40 40.0**	**-0.8**
RWWY				lAmb_Lg			04 43 22.6		
	comp=Z,121nm,1.1s								
RSSD	**Black Hills**	**9.27**	**330**	Pn		**Pn**	**04 40 41.6**	**+0.7**
RSSD				lAmb_Lg			04 43 31.4		
	comp=Z,57nm,0.7s								
RSSD	**Black Hills**	**9.27**	**330**	P			04 40 40.8		
	baz=146								
PV18	**Skein Mesa, Pa**	**9.27**	**286**	Pn		**Pn**	**04 40 41.3**	**+0.3**
PV16	**Nyswonger Mesa**	**9.29**	**286**	lAmb_Lg			04 43 33.0		
	comp=Z,48nm,1.1s								
PV04	**Paradox Valley**	**9.29**	**286**	lAmb_Lg			04 43 34.7		
	comp=Z,66nm,1.2s								
K22A	**Casper**	**9.41**	**315**	Pn		**Pn**	**04 40 42.5**	**-0.3**
K22A				lAmb_Lg			04 43 47.7		
	comp=Z,159nm,0.9s								
K22A	**Casper**	**9.41**	**315**	P			04 40 42.2		
	baz=130								
Y49A	**Blount Mountai**	**9.44**	**102**	Pn		**Pn**	**04 40 43.7**	**+0.7**
Y49A				lAmb_Lg			04 43 28.9		
	comp=Z,51nm,0.9s								
U49A	**Red Boiling Sp**	**9.48**	**85**			**Pn**	**04 40 44.8**	**+1.2**
SWET	**Sewanee**	**9.49**	**93**	Pn		**Pn**	**04 40 45.5**	**+1.7**
K43A	**Burlington**	**9.57**	**45**	Pn		**Pn**	**04 40 44.4**	**-0.4**
F33A	**5 Mile Ranch,**	**9.59**	**5**	Pn		**Pn**	**04 40 42.9**	**-2.1**
F33A				lAmb_Lg			04 43 35.2		
	comp=Z,59nm,1.0s								
SPMN	**Marine on St.**	**9.62**	**20**			**Pn**	**04 40 43.0**	**-2.5**
SPMN				lAmb_Lg			04 43 44.4		
	comp=Z,84nm,0.9s								
SPMN	**Marine on St.**	**9.62**	**20**	P			04 40 42.8		
	baz=203,SNR=11								
FPAL	**Fort Paine**	**9.89**	**97**	Pn		**Pn**	**04 40 49.4**	**+0.1**
W50A	**Signal Mountai**	**10.00**	**93**	lAmb_Lg			04 43 51.7		
	comp=Z,97nm,1.1s								
R49A	**Shelbyville**	**10.05**	**75**			**Pn**	**04 40 51.6**	**+0.2**
I42A	**Draeger Farm,**	**10.06**	**38**	Pn		**Pn**	**04 40 50.3**	**-1.2**
P48A	**Milroy**	**10.08**	**58**	Pn		**Pn**	**04 40 51.5**	**-0.3**
T50A	**Nancy**	**10.23**	**82**			**Pn**	**04 40 53.5**	**-0.4**
N47A	**Urbana**	**10.34**	**60**	Pn		**Pn**	**04 40 54.7**	**-0.6**
RDMU	**Red Mountain**	**10.36**	**298**	Pn		**Pn**	**04 40 56.5**	**+0.6**
L46A	**Eue Claire**	**10.43**	**53**			**Pn**	**04 40 56.7**	**+0.1**
E28A	**Huff**	**10.55**	**348**	Pn		**Pn**	**04 40 58.5**	**+0.3**
CPCT	**Cooper Cave**	**10.60**	**91**	Pn		**Pn**	**04 40 58.5**	**-0.4**
P49A	**Miami Univ. Ec**	**10.63**	**68**			**Pn**	**04 40 58.9**	**-0.5**
P49A	**Miami Univ. Ec**	**10.63**	**68**	P			04 40 57.6		
	baz=256								
SRU	**San Rafael Swe**	**10.67**	**289**	Pn		**Pn**	**04 41 00.7**	**+0.6**
V51A	**Loudon**	**10.69**	**89**			**Pn**	**04 41 00.8**	**+0.7**
R50A	**Paris**	**10.71**	**75**			**Pn**	**04 41 00.9**	**+0.4**
319A	**Douglas**	**10.92**	**247**	Pn		**Pn**	**04 41 03.9**	**+0.4**
H43A	**Windswept, Lux**	**11.05**	**39**			**Pn**	**04 41 03.5**	**-1.6**
O49A	**Covington**	**11.09**	**65**	Pn		**Pn**	**04 41 05.9**	**+0.3**
TKL	**Tuckaleechee C**	**11.17**	**89**	Pn		**Pn**	**04 41 06.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=265,slow=7.3,SNR=6.7								
TKL				Lg		Lg	04 44 14.0		
	comp=Z,1.8nm,0.3s,baz=358,slow=11,SNR=13								
TKL	**Tuckaleechee C**	**11.17**	**89**	Pn		**Pn**	**04 41 06.7**	**-0.1**
E38A	**The Farm, Brul**	**11.24**	**22**	Pn		**Pn**	**04 41 05.7**	**-2.0**
S51A	**Beattyville**	**11.24**	**79**			**Pn**	**04 41 07.0**	**-0.6**
V52A	**Sevierville**	**11.29**	**88**	Pn		**Pn**	**04 41 09.9**	**+1.5**
BW06	**Boulder Array**	**11.31**	**309**	Pn		**Pn**	**04 41 08.4**	**-0.5**
PD31	**Pinedale Array**	**11.31**	**309**	Pn		**Pn**	**04 41 09.2**	**+0.3**
PDAR	**Pinedale Array**	**11.31**	**309**	Pn		**Pn**	**04 41 08.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=111,slow=15,SNR=4.5								
PDAR				Pg			04 41 57.8		
	comp=Z,1.1nm,0.3s,baz=110,slow=16,SNR=8.0								
PDAR				Lg		Lg	04 44 23.0		
	comp=Z,2.1nm,0.3s,baz=108,slow=33,SNR=10								
N49A	**Columbus Grove**	**11.42**	**62**			**Pn**	**04 41 09.4**	**-0.8**
Q51A	**Peebles**	**11.58**	**72**			**Pn**	**04 41 11.9**	**-0.4**
L48A	**N Adams**	**11.63**	**57**			**Pn**	**04 41 11.7**	**-1.4**
COWI	**Conover**	**11.66**	**30**			**Pn**	**04 41 11.4**	**-2.0**
U15A	**North Rim**	**11.90**	**275**	Pn		**Pn**	**04 41 17.0**	**0.0**
AGMN	**Agassiz Nation**	**12.06**	**5**	Pn		**Pn**	**04 41 15.6**	**-3.3**
AGMN	**Agassiz Nation**	**12.06**	**5**	P			04 41 15.1		
	baz=186,SNR=5.6								
AHID	**Auburn Hatcher**	**12.30**	**306**	Pn		**Pn**	**04 41 21.9**	**-0.4**
AAM	**Ann Arbor**	**12.31**	**57**	Pn		**Pn**	**04 41 21.4**	**-0.9**
B35A	**Bob, Littlefor**	**12.39**	**12**	Pn		**Pn**	**04 41 20.6**	**-2.8**
Q52A	**Bidwell**	**12.40**	**73**			**Pn**	**04 41 23.0**	**-0.6**
SNOW	**Snow King Moun**	**12.42**	**309**	Pn		**Pn**	**04 41 22.2**	**-1.8**
EYMN	**Ely**	**12.48**	**19**	Pn		**Pn**	**04 41 22.3**	**-2.2**
EYMN	**Ely**	**12.48**	**19**	P		**Pn**	**04 41 21.1**	**-3.5**
	baz=203,SNR=8.4								
EYMN	**Ely**	**12.48**	**19**	P			04 41 21.1		
	baz=203,SNR=6.2								
EYMN	**Ely**	**12.48**	**19**	P			04 41 21.1		
	baz=203,SNR=8.4								
G45A	**Suttons Bay**	**12.55**	**42**	Pn		**Pn**	**04 41 24.1**	**-1.4**
P52A	**Corning**	**12.61**	**70**			**Pn**	**04 41 26.6**	**+0.2**
P52A	**Corning**	**12.61**	**70**	P			04 41 25.4		
	baz=260								
D41A	**Chassel**	**12.67**	**29**	Pn		**Pn**	**04 41 27.9**	**+0.8**
D41A	**Chassel**	**12.67**	**29**	P		**Pn**	**04 41 23.6**	**-3.6**
	baz=215,SNR=5.2								
D41A	**Chassel**	**12.67**	**29**	P			04 41 23.6		
	baz=215,SNR=5.2								
N51A	**Ashland**	**12.73**	**64**	Pn		**Pn**	**04 41 26.9**	**-1.1**
E43A	**Lone Tree Farm**	**12.80**	**35**	Pn		**Pn**	**04 41 25.3**	**-3.8**
E43A	**Lone Tree Farm**	**12.80**	**35**	P		**Pn**	**04 41 25.7**	**-3.4**
	baz=222,SNR=9.9								
E43A	**Lone Tree Farm**	**12.80**	**35**	P			04 41 25.7		
	baz=222,SNR=9.9								
YNE	**Yellowstone No**	**12.85**	**316**	Pn		**Pn**	**04 41 28.1**	**-1.9**
GLMI	**Grayling**	**12.99**	**45**	Pn		**Pn**	**04 41 27.6**	**-4.0**
O53A	**New Philadelph**	**13.42**	**68**	P			04 41 35.6		
	baz=258								
BLA	**Blacksburg**	**13.76**	**81**	P			04 41 40.3		
	baz=271								
ULM	**Lac du Bonnet**	**14.01**	**4**	Pn		Pn	04 41 40.5	-5.0	
	comp=Z,0.5nm,0.3s,baz=184,slow=9.8,SNR=4.6								
ULM				Sn		Sn	04 44 08.2	-13	
	comp=Z,0.6nm,0.3s,baz=92,slow=23,SNR=2.4								
ULM				Lg		Lg	04 45 38.4		
	comp=Z,0.7nm,0.3s,baz=291,slow=14,SNR=2.9								
N54A	**Moraine State**	**14.48**	**66**	P			04 41 49.2		
	baz=257								
ELK	**Elko**	**14.55**	**293**	Lg		Lg	04 46 04.7		
	comp=Z,0.1nm,0.3s,baz=5.6,slow=23,SNR=1.2								
M54A	**Oil Creek Stat**	**14.85**	**64**	P			04 41 54.1		
	baz=255								
SADO	**Sadowa**	**16.32**	**53**	Pn		**Pn**	**04 42 16.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=249,slow=15,SNR=1.8								
SADO				Sn		Sn	04 45 06.1	-12	
	comp=Z,0.4nm,0.3s,baz=224,slow=13,SNR=1.8								
SADO				Lg		Lg	04 46 53.3		
	comp=Z,0.8nm,0.3s,baz=46,slow=7.4,SNR=5.8								
NVAR	**Mina Array Bea**	**16.65**	**284**	Pn		**P**	**04 42 23.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=99,slow=9.4,SNR=11								
YBH	**Yreka Blue Hor**	**20.27**	**293**	P		**P**	**04 43 02.8**	**-0.1**
	comp=Z,7.1nm,1.0s,baz=90,slow=4.6,SNR=5.9								
SCHQ	**Schefferville**	**28.05**	**39**	P		**P**	**04 44 18.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=261,slow=7.4,SNR=5.2								
FRB	**Frobisher Bay**	**32.64**	**24**	LR		LR	04 58 13.3		
	comp=Z,45nm,18.4s,baz=212,slow=36								
ILAR	**Eielson Array**	**40.71**	**330**	P		**P**	**04 46 08.3**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=116,slow=11,SNR=4.2								
ARCES	**ARCESS Array B**	**66.63**	**19**	P		**P**	**04 49 19.4**	**+1.9**
	comp=Z,6.2nm,1.0s,baz=308,slow=10,SNR=2.2								

ECX ***12*** *04:42:13.3±0.6,31°.61N×116°.00W,h18km±12km,MD1.9, ML1.6*
MEX ***12*** *04:42:14.6±0.5,31°.44N×116°.16W,h16km±12km,MD3.6*
**ISC 12 04:42:11.7±1.8,31°.64N±0°.05×115°.97W±0°.06,h5km±20km,

comp=Z,4.1nm,0.9s,baz=94,slow=13,SNR=8.9
MTN Manton Dam 48.92 270 P P 04 55 49.1 -0.7
FORT Forrest 49.26 246 P P 04 55 51.5 -0.5
KNRA Kununurra 50.45 266 P P 04 56 00.2 -0.7
FITZ Fitzroy Crossi 52.85 262 P P 04 56 17.2 -1.0
FITZ IAmb IAmb 04 56 18.8
comp=Z,11nm,0.6s
SOEI Soe 56.25 272 P P 04 56 42.3 +0.2
SOEI Soe 56.25 272 P P 04 56 43.7 +1.6
comp=Z,132nm,0.8s
TNTI Ternate 57.12 285 P P 04 56 47.4 -0.5
TNTI IAmb IAmb 04 56 49.0
comp=Z,31nm,0.9s
VNDA Vanda 58.33 185 P P 04 56 57.0 +1.9
comp=Z,1.1nm,0.6s,baz=355,slow=6.5,SNR=5.7
TOLI2 Tolitoli 63.28 282 P P 04 57 28.0 -0.5
TOLI2 IAmb IAmb 04 57 29.2
comp=Z,14nm,0.8s
PCI Palu 63.39 279 P P 04 57 29.1 -0.1
comp=Z,187nmcomp=Z,12nm,0.8s
TWSI Taliwang, Sumb 63.50 270 P P 04 57 29.8 -0.1
comp=Z,33nm,0.7s
CASY Casey 64.27 205 P P 04 57 34.5 +0.7
CASY IAmb IAmb 04 58 46.2
comp=Z,13nm,1.4s
MJAR Matsushiro Arr 69.71 324 P P 04 58 07.5 -0.1
comp=Z,7.6nm,0.5s,baz=157,slow=6.1,SNR=18
MJAR Matsushiro Arr 69.71 324 P P 04 58 07.4 -0.1
MJAR IAmb IAmb 04 58 08.4
comp=Z,5.0nm,0.6s
MAJO Matsushiro 69.71 324 P P 04 58 06.9 -0.7
MAJO IAmb IAmb 04 58 08.5
comp=Z,9.2nm,0.7s
MAT Matsushiro 69.71 324 P P 04 58 07.1 -0.5
QSPA South Pole Qui 70.01 180 P P 04 58 10.0 +0.9
comp=Z,3.3nm,0.7s,baz=303,slow=0.4,SNR=29
QSPA South Pole Qui 70.01 180 P P 04 58 09.7 +0.6
QSPA IAmb IAmb 05 00 00.9
comp=Z,20nm,1.8s
JKA Kamikawa-asahi 73.22 332 P P 04 58 29.1 +1.3
JKA IAmb IAmb 04 58 30.7
comp=Z,21nm,0.9s
SSLB Suanglung 73.53 304 P P 04 58 29.1 -1.0
PETK Petropavlovsk- 75.78 345 P P 04 58 42.2 +0.3
comp=Z,9.7nm,0.7s,baz=140,slow=7.8,SNR=16
PETK Petropavlovsk- 75.78 345 P P 04 58 41.8 -0.1
KASI Kota Agung 76.17 269 P P 04 58 43.8 -1.2
comp=Z,58nm,1.7s
KSRS Korea Array 76.40 319 P P 04 58 47.0 +1.4
comp=Z,3.0nm,0.6s,baz=128,slow=5.8,SNR=10
KSAR Wonju Array Be 76.41 319 P P 04 58 46.6 +0.8
MDSI Maura Dua 76.81 270 P P 04 58 47.0 -1.5
comp=Z,15nm,0.9s
USRK Ussuriysk Ar. 78.46 326 P P 04 58 57.8 +1.2
comp=Z,9.8nm,0.7s,baz=122,slow=4.6,SNR=12
SII Sitkinak Islan 78.96 13 P 04 59 01.1
baz=203
EDW2 Edwards Air Fo 79.08 47 P 04 59 01.9
baz=236
O02D Mt. Diablo Mer 79.08 40 P 04 59 02.6
baz=232
MONP2 Monument Peak 79.09 49 P 04 59 02.7
baz=237
PFO Pinyon Flats O 79.45 48 P 04 59 04.5
baz=237
TPFO Pinon Flats 79.45 48 P 04 59 04.4
baz=237
AFDM Forest Hills D 79.46 42 P P 04 59 03.0 +0.9
SWSC Sam W. Stewart 79.56 49 P 04 59 05.2
baz=238
LRMC Laurel Mtn Rad 79.62 46 P 04 59 05.0
baz=236
N02D Trinity Center 79.62 39 P 04 59 04.8
baz=232
O03E Paynes Creek 79.75 40 P 04 59 05.3
baz=233
OHAK Old Harbor 79.77 13 P 04 59 04.1
baz=204
CWC Cottonwood Cre 79.89 45 P 04 59 06.9
baz=236
BELC Belle Mtn. Jos 79.98 48 P 04 59 07.0
baz=238
MPMC Manual Prospec 80.08 46 P 04 59 07.3
baz=236
YBH Yreka Blue Hor 80.09 39 P P 04 59 07.9 +2.5
comp=Z,4.4nm,0.6s,baz=224,slow=1.6,SNR=6.0
GSC Goldstone, Bar 80.12 47 P 04 59 07.4
baz=237
HEC Hector Ludlow 80.19 47 P 04 59 07.9
baz=237
PNTR Pine Nut 80.41 42 P P 04 59 08.4 +1.2
PNTR IAmb IAmb 04 59 10.2
comp=Z,14nm,0.9s
KDAK Kodiak Island 80.44 14 P 04 59 08.6
baz=204
L04D Klamath Falls 80.62 39 P 04 59 10.2
baz=232
GMRC Granite Mounta 80.64 48 P 04 59 10.0
baz=238
IRM Iron Mountain 80.67 49 P 04 59 10.6
baz=238
GRAC Grapevine Rang 80.68 45 P 04 59 10.5
baz=236,SNR=5.4
TUQ Turquoise Moun 80.80 47 P 04 59 11.2
baz=237
NVAR Mina Array Bea 80.86 44 P P 04 59 09.7 +0.1
comp=Z,2.6nm,0.7s,baz=226,slow=9.8,SNR=20
PAHR Pah Rah Range 80.90 42 IAmb IAmb 04 59 12.4
comp=Z,11nm,1.3s
214A Organ Pipe Nat 81.22 51 P 04 59 13.7
baz=240
J04D Umpqua Nationa 81.37 38 P 04 59 14.1
baz=232
TPNV Topopah Spring 81.40 46 P P 04 59 14.1 +1.7
TPNV Topopah Spring 81.40 46 P 04 59 14.1
baz=237,SNR=5.0
PDMCI Parker Dam,Lak 81.45 49 P 04 59 14.5
baz=239
I04A Tendick Farm, 81.53 37 P 04 59 14.8
baz=232
MOD Modoc Plateau 81.62 40 IAmb IAmb 04 59 16.0
comp=Z,6.2nm,0.8s
K05A Summer Lake 81.76 39 P P 04 59 15.6 +1.5
K05A IAmb IAmb 04 59 17.1
comp=Z,13nm,1.0s
H04D Lebanon 81.80 37 P 04 59 16.1
baz=232
HOM Homer 82.35 13 P 04 59 19.1
baz=205
PINE Pine Mountain 82.38 38 IAmb IAmb 04 59 20.3
comp=Z,11nm,0.9s
I05D Terrebonne, OR 82.48 37 P 04 59 19.3
baz=232
R11A Troy Canyon, C 82.60 45 P 04 59 19.7
baz=237
BRSE Bradley Lake S 82.62 14 P 04 59 18.5
baz=206
UBPT Khong Chiam 82.76 289 IAmb IAmb 04 59 20.7
comp=Z,5.4nm,0.6s
TUC Tucson 82.89 52 P 04 59 22.3
baz=241
TUC Tucson 82.89 52 P P 04 59 21.9 +2.0
E04D Cinebar 83.16 35 P 04 59 22.7
baz=231
SEW Seward 83.24 14 P 04 59 21.6
baz=207
I07A Izee 83.38 38 IAmb IAmb 04 59 24.9
comp=Z,6.7nm,0.9s
D03D Eldon 83.50 34 P 04 59 24.0
baz=231
319A Douglas 83.57 53 IAmb IAmb 04 59 26.9
comp=Z,9.2nm,1.1s
U15A North Rim 83.84 48 IAmb IAmb 04 59 27.8
comp=Z,6.7nm,1.0s
RC01 Rabbit Creek A 84.06 13 P 04 59 25.2
baz=207
ELK Elko 84.11 43 P P 04 59 26.8 +0.8
comp=Z,1.3nm,0.7s,baz=198,slow=7.7,SNR=6.6
SUA Susitna One 84.18 13 P 04 59 25.6
baz=206
PKCU Pink Cliffs 84.33 47 IAmb IAmb 04 59 30.7
comp=Z,5.4nm,0.9s
G08A Pilot Rock 84.41 38 P P 04 59 28.2 +1.1
G08A IAmb IAmb 04 59 29.8
comp=Z,7.5nm,1.2s
B05A Bryant 84.47 34 P 04 59 28.7
baz=232

GLI Glacier Island 84.47 15 P 04 59 27.2
baz=209
TTA Tatalina 84.55 10 P 04 59 28.3
baz=201
TTA Tatalina 84.55 10 P P 04 59 28.8 +1.5
M22K Willow 84.57 13 P 04 59 27.3
baz=206
KNK Knik Glacier 84.63 14 P 04 59 27.9
baz=208
KNK Knik Glacier 84.63 14 IAmb IAmb 04 59 28.9
comp=Z,12nm,0.9s
SML Sawmill 85.01 14 P 04 59 30.8
baz=208
CUT Chulitna 85.12 13 P 04 59 30.5
baz=206
BMRM Bremner River 85.17 16 P 04 59 30.6
baz=212
KLU Klutina 85.29 15 P 04 59 31.0
baz=210
WRAK Wrangell Islan 85.40 24 P 04 59 33.4
baz=223
D08A Wollman Farm, 85.46 36 IAmb IAmb 04 59 34.6
comp=Z,4.6nm,0.8s
ENH Enshi 85.59 304 P P 04 59 32.8 -0.3
N25K Chitina, Valde 85.72 15 P 04 59 33.4
baz=212
N25K Chitina, Valde 85.72 15 IAmb IAmb 04 59 34.0
comp=Z,7.4nm,0.6s
GRNC Granite Creek 85.72 17 IAmb IAmb 04 59 34.8
comp=Z,7.4nm,0.8s
M24K Tolsona, Glenn 85.76 15 P 04 59 34.2
baz=210
GLB Gilahina Butte 85.78 16 IAmb IAmb 04 59 34.5
comp=Z,5.0nm,0.6s
F10A Beach Ranch, E 85.79 38 P P 04 59 35.1 +1.4
WAT6 Susitna Watana 85.82 14 P 04 59 33.5
baz=209,SNR=10
MCARA McCarthy VSAT 85.93 16 P 04 59 34.0
baz=213
WAT2 Susitna Watana 85.98 13 P 04 59 34.2
baz=208
BARN Barnard Glacie 86.02 17 IAmb IAmb 04 59 36.4
comp=Z,8.6nm,0.8s
CTG Chitna Glacier 86.03 17 P 04 59 35.4
baz=214
TRF Thorofare Moun 86.06 12 P 04 59 34.3
baz=206,SNR=12
TRF Thorofare Moun 86.06 12 IAmb IAmb 04 59 35.2
comp=Z,12nm,0.8s
CHUM Lake Minchumin 86.07 11 P 04 59 34.1
baz=204
HLID Hailey 86.14 41 P P 04 59 37.0 +1.5
HLID IAmb IAmb 04 59 38.4
comp=Z,4.4nm,0.8s
HLID Hailey 86.14 41 P 04 59 37.2
baz=238
MCK McKinley 86.59 13 P 04 59 36.8
baz=208,SNR=7.5
MCK McKinley 86.59 13 IAmb IAmb 04 59 38.7
comp=Z,9.1nm,0.7s
PAX Paxson 86.68 14 P 04 59 36.6
baz=211
MNTX Cornudas Mount 86.68 55 P 04 59 40.1
baz=244
TX32 Lajitas Array 87.01 57 IAmb IAmb 04 59 43.1
comp=Z,5.1nm,1.0s
TXAR Lajitas Array 87.01 57 P P 04 59 42.1 +2.2
comp=Z,2.6nm,0.8s,baz=217,slow=6.6,SNR=29
TXAR pP **pwP 05 01 56.3 +5.3**
comp=Z,0.6nm,1.1s,baz=254,slow=6.5,SNR=2.8
ANMO Albuquerque 87.31 51 P 04 59 42.7
baz=243
ANMO Albuquerque 87.31 51 P P 04 59 42.8 +1.5
NEA2 Nenana 87.33 12 P 04 59 39.4
baz=207,SNR=5.3
NEA2 Nenana 87.33 12 IAmb IAmb 04 59 40.9
comp=Z,4.4nm,0.7s
MLY Manley 87.40 11 P 04 59 40.1
baz=206,SNR=15
MLY Manley 87.40 11 IAmb IAmb 04 59 41.0
comp=Z,6.4nm,0.6s
HDA Harding Lake 87.60 13 P 04 59 41.6
baz=209
HDA P 04 59 41.6
baz=209
HDA Harding Lake 87.60 13 P P 04 59 41.4 -0.3
H21K Melozitna Rive 87.61 10 P 04 59 42.1
baz=204
L27K Beaver Creek, 87.64 16 P 04 59 42.6
baz=214
XAN Xi'an 87.67 307 P P 04 59 43.8 +1.0
XAN pP PcP 04 59 56.3 +12
XAN pmax pmax
comp=Z,19nm,0.9s
WHY Whitehorse 87.71 20 P 04 59 43.1
baz=220
I23K Minto, Yukon-K 87.77 12 P 04 59 41.7
baz=207,SNR=8.5
I23K Minto, Yukon-K 87.77 12 IAmb IAmb 04 59 43.0
comp=Z,4.7nm,0.6s
TCOL CIGO, UAF Yank 87.82 12 P 04 59 42.1
baz=208
COLA College 87.82 12 P 04 59 42.3
baz=208
COLA College 87.82 12 P P 04 59 42.2 -0.5
SCRK Sand Creek 87.89 14 P 04 59 43.7
baz=212
SCRK Sand Creek 87.89 14 IAmb IAmb 04 59 45.7
comp=Z,3.6nm,0.8s
IL31 87.93 13 IAmb IAmb 04 59 43.8
comp=Z,13nm,1.3s
ILAR Eielson Array 87.93 13 P P 04 59 42.9 -0.3
comp=Z,3.4nm,0.4s,baz=215,slow=5.3,SNR=55
POKR Poker Plat Res 88.12 13 P 04 59 43.5
baz=209
MSO Missoula 88.16 38 P 04 59 46.3
baz=238
DLMT Dillon 88.19 40 IAmb IAmb 04 59 47.8
comp=Z,10nm,1.4s
REDW Red Top Meadow 88.26 42 IAmb IAmb 04 59 48.7
comp=Z,8.1nm,1.1s
S22A 4UR Ranch, Cre 88.30 49 P 04 59 47.2
baz=243
H23K Yukon River 88.34 11 P 04 59 44.9
baz=207
SNOW Snow King Moun 88.37 42 IAmb IAmb 04 59 48.7
comp=Z,7.5nm,1.0s
K27K Chicken 88.39 15 P 04 59 46.3
baz=214
K27K Chicken 88.39 15 IAmb IAmb 04 59 47.4
comp=Z,6.9nm,0.9s
O20A White River Ci 88.42 46 P 04 59 47.8
baz=242
MOOW Moose Ponds 88.52 42 P P 04 59 47.3 +0.6
MOOW IAmb IAmb 05 01 06.8
comp=Z,10nm,1.9s
H24K Noodor Dome 88.67 12 P 04 59 45.3
baz=208
FLWY Flagg Ranch 88.72 42 IAmb IAmb 04 59 50.6
comp=Z,5.1nm,0.9s
YHL Hebgen Lake 88.80 41 IAmb IAmb 04 59 51.9
comp=Z,11nm,1.4s
BW06 Boulder Array 88.80 43 IAmb IAmb 04 59 49.9
comp=Z,3.1nm,0.7s
BW06 Boulder Array 88.80 43 P 04 59 49.2
baz=241
PD31 Pinedale Array 88.80 43 IAmb IAmb 04 59 49.9
comp=Z,2.7nm,0.7s
PDAR Pinedale Array 88.80 43 P P 04 59 49.2 +1.1
comp=Z,2.4nm,0.6s,baz=217,slow=3.3,SNR=22
SMCO Smowass 88.85 47 P P 04 59 48.9 +0.3
HHC Hu-ho-hao-te 88.87 314 eP P 04 59 49.4 +1.1
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,66nm,6.4s
H17A Grant Village 88.95 42 P 04 59 51.4
baz=240
H17A Grant Village 88.95 42 IAmb IAmb 04 59 52.5
comp=Z,3.7nm,0.8s
DAWY Dawson 89.09 16 IAmb IAmb 04 59 50.3
comp=Z,7.6nm,0.9s
SDCO Great Sand Dun 89.24 49 P 04 59 51.6
baz=244
VNA1 Neumayer--Stat 89.27 177 P P 04 59 48.7 -0.7
COLD Coldfoot 89.48 11 P 04 59 50.7
baz=206,SNR=8.8
COLD Coldfoot 89.48 11 IAmb IAmb 04 59 52.1

comp=Z,5.1nm,0.8s
YNE Yellowstone No 89.60 41 IAmb IAmb 04 59 54.1
comp=Z,3.5nm,1.0s
CM31 Chiang Mai Arr 89.74 290 P P 04 59 52.6 -0.1
CMAR Chiang Mai Arr 89.74 290 P P 04 59 54.3 +1.6
comp=Z,5.5nm,0.7s,baz=125,slow=2.9,SNR=34
CMAR Chiang Mai Arr 89.74 290 P P 04 59 53.6 +0.9
T25A Trinidad 89.76 50 P 04 59 53.7
baz=244
CMMT Chiang Mai 89.86 290 P P 04 59 53.6 +0.3
comp=Z,17nm,0.8s
CHTO Chiang Mai 89.87 290 P P 04 59 53.5 +0.2
CHTO Chiang Mai 89.87 290 P P 04 59 54.6 +1.3
RLMT Red Lodge 90.11 41 P 04 59 55.8
baz=241
N23A Red Feather La 90.33 46 P 04 59 56.9
baz=244
BMAR Burnt Mountain 90.71 12 P P 04 59 56.9 +0.8
EPYK Eagle Plains 91.62 16 P 05 00 00.7
baz=219
EPYK Eagle Plains 91.62 16 IAmb IAmb 05 00 01.4
comp=Z,5.6nm,0.8s
INK Inuvik 93.90 15 P 05 00 11.6
baz=222
SONM Songino Array 95.26 319 P P 05 00 17.3 -0.1
comp=Z,0.6nm,0.7s,baz=92,slow=4.5,SNR=5.0
SONM Songino Array 95.26 319 P P 05 00 17.5 +0.1
SONM IAmb IAmb 05 00 18.9
comp=Z,6.2nm,1.6s
YKA Yellowknife Ar 96.21 25 P P 05 00 21.4 +0.3
comp=Z,0.7nm,0.7s,baz=232,slow=3.8,SNR=3.6
GOGA Godfrey 104.62 59 P 05 01 00.0
baz=255
M53A WI Miller and 108.54 52 P 05 05 18.4
baz=259
ZALV Zalesovo Beam 110.00 321 PKiKP PKiKP 05 05 19.4 -1.3
comp=Z,1.3nm,0.6s,baz=230,slow=1.3,SNR=5.3
MKAR Makanchi Array 110.72 314 PKiKP PKiKP 05 05 21.2 -1.1
comp=Z,1.5nm,0.8s,baz=88,slow=0.5,SNR=20
N59A State Game Lan 112.11 53 P 05 05 25.0
baz=262
J60A Lant Hill Farm 114.11 51 P 05 05 29.6
baz=265
BOSA Boshof 126.56 206 PKP PKPdf 05 05 53.8 +0.4
comp=Z,1.0nm,0.6s,baz=38,slow=4.9,SNR=3.1
NRS Narsarsuaq 127.44 27 PKPpre 05 05 44.6
GEYT Alibeck 128.34 303 PKP PKPdf 05 05 56.6 +0.3
comp=Z,20nm,0.9s,baz=5.7,slow=2.9,SNR=2.0
ARCES ARCESS Array B 128.44 350 PKP PKPdf 05 05 55.3 -0.2
comp=Z,2.6nm,0.5s,baz=76,slow=0.5,SNR=17
FINES FINESS Array B 135.28 344 PKhKP PKPpre 05 06 02.9
comp=Z,1.6nm,0.5s,baz=64,slow=3.0,SNR=6.0
FINES PKP **PKiKP 05 06 09.6 -0.7**
comp=Z,1.6nm,0.5s,baz=38,slow=3.6,SNR=10
NOA NORSAR Array B 138.51 353 PKhKP PKPpre 05 06 05.1
comp=Z,0.9nm,0.5s,baz=22,slow=3.9,SNR=6.5
NOA PKP **PKPdf 05 06 15.9 +1.2**
comp=Z,0.7nm,0.5s,baz=14,slow=3.9,SNR=3.9
MNK Minsk 140.28 336 *i* PKP **PKPdf 05 06 15.2 -2.8**
MNK comp=E,1.0nm,0.4s *i* PKP **PKPdf 05 06 15.2 -2.8**
comp=N,13nm,0.8s
MNK *i* PKP **PKPdf 05 06 15.2 -2.8**
comp=Z,3.0nm,0.7s,baz=221
MNK *i* pPKP **pPKPdf 05 08 32.4 -3.8**
MNK *i* SKP 05 08 53.7
MNK *i* PP **PP 05 09 21.8 -2.2**
MNK *i* sPKP 05 09 31.0
MNK *i* PKS PKSdf 05 09 44.8 -8.8
MNK *i* SKS **SKSdf 05 12 25.1 -6.7**
MNK *i* PPP PPP 05 12 33.9
MNK *i* sSKS 05 16 42.9
MNK *i* SKKS **SKKSdf 05 21 50.2 -10**
MNK *i* SS **SS 05 26 51.9 -8.6**
MNK *i* LQ LQ 05 55 22.8
MNK *i* LR LR 06 00 07.0
MNK *i* LRM MLR 06 07 50.4
comp=E,16nm,24.9s
MNK *i* LRM MLR 06 08 14.0
comp=Z,94nm,19.0s
MNK *i* LRM MLR 06 08 29.1
comp=N,82nm,22.3s
SUW Suwalki 142.34 339 *e*PKP **PKPdf 05 06 18.9 -2.8**
AKASG Malin Array Be 142.51 331 PKhKP PKPpre 05 06 18.8
comp=N,14nm,0.5s,baz=42,slow=4.4,SNR=121
AKBB Malin Array Si 142.51 331 PKPdf PKPdf 05 06 19.4 -2.7
LODK Lodwar 143.30 248 PKPdf PKPbc 05 06 23.8 +0.5
SORM Soroca 144.70 329 ⇑P PKPdf 05 06 26.1 +0.2
GAZ Gaziantep 144.75 307 PKPdf PKPbc 05 06 27.1 -0.1
BEL Belsk 144.96 339 *e*PKP **PKPab 05 06 28.2 0.0**
MBAR Mbarara 144.96 238 PKPdf 05 06 27.3 -0.4
BNN Bunyan 145.17 310 PKPbc PKPbc 05 06 28.1 -0.3
BSEG Bad Segeberg 145.54 351 *e*PKPbc **PKPbc 05 06 29.1 +0.4**
baz=18,slow=2.5
HLG Helgoland 145.60 354 *e*PKPab **PKiKP 05 06 32.6 +0.9**
baz=19,slow=4.0
VASR Vaslui 146.00 327 ⇑P PKPbc 05 06 30.0 -0.3
KWP Kalwaria Pacla 146.08 335 *e*PKP **PKPbc 05 06 30.2 -0.2**
RUE Ruedersdorf 146.31 347 *e*PKPbc **PKPbc 05 06 31.2 +0.3**
baz=18,slow=2.5
BRTR Keskin Array B 146.36 313 PKPbc PKPbc 05 06 31.3 -0.5
comp=N,8.2nm,0.7s,baz=138,slow=4.9,SNR=39
BRTR Keskin Array B 146.36 313 PKPbc PKPdf 05 06 30.4 +1.1
TLCR 146.41 324 ⇑P PKPbc 05 06 31.7 +0.3
GHRR 146.58 327 ⇑P PKPbc 05 06 33.1 -0.9
BIZ Bicaz 146.63 329 ⇑P PKPbc 05 06 33.1 +1.0
JURR Jurilovca 146.64 324 ⇑P PKPbc 05 06 32.2 +0.1
OJC Ojcow 146.66 339 *e*PKP **PKPbc 05 06 32.2 +0.2**
TESR Tescani 146.66 328 ⇑P PKPbc 05 06 32.3 +0.2
CFR Carcaliu 146.78 325 ⇑P PKPbc 05 06 32.7 +0.2
KOLS Kolonicke sedl 146.81 335 *e*PKP **PKPbc 05 06 32.9 +0.4**
TPGR Topolog 146.84 324 ⇑P PKPbc 05 06 33.2 +0.5
ANTO Ankara 146.88 313 PKPbc 05 06 33.2 +0.1
FLTG Flechtingen 146.94 349 *e*PKPbc **PKPbc 05 06 32.6 -0.1**
baz=18,slow=2.5
NRDL Niedersach Rie 146.97 351 *e*PKPbc **PKPbc 05 06 32.7 +0.1**
baz=18,slow=2.5
VRI Vrincioaia 147.06 327 ⇑P PKPbc 05 06 33.4 +0.2
TIRR Tirgusor 147.09 324 ⇑P PKPdf 05 06 31.6 +1.5
PLOR Plostina 147.11 327 ⇑P PKPbc 05 06 33.4 0.0
CRVS Cervenica-Dubn 147.15 336 *e*PKP **PKPbc 05 06 33.9 +0.5**
CRVS *e* 05 06 37.6
NIE Niedzica 147.16 337 *e*PKP **PKPbc 05 06 33.9 +0.5**
KSP Ksiaz 147.19 343 *e*PKP **PKPbc 05 06 33.9 +0.5**
HARR Harsova 147.21 324 ⇑P PKPbc 05 06 34.0 +0.4
ASSE Asse, Remlinge 147.23 350 *e*PKPbc **PKPbc 05 06 33.7 +0.3**
baz=18,slow=2.5
OZUR 147.38 328 ⇑P PKPbc 05 06 34.7 +0.6
IBBN Ibbenburen 147.47 353 *e*PKPbc **PKPbc 05 06 34.3 +0.3**
baz=18,slow=2.5
OSTC Ostas 147.47 343⇑ *e*PKP **PKiKP 05 06 35.2 -0.5**
CHVC Chvalec 147.49 343 *e*PKP **PKPbc 05 06 34.6 +0.4**
CLZ Clausthal 147.56 350 *e*PKPbc **PKPbc 05 06 34.7 +0.3**
baz=18,slow=2.5
CLZ *e*PKPab **PKPab 05 06 39.1 +0.4**
baz=19,slow=4.0
CLL Collm 147.57 347 ⇓ *i*PKPbc **PKPbc 05 06 34.5 +0.2**
CLL comp=Z,33nm,0.9s *i* PKPab **PKPab 05 06 38.7 0.0**
comp=Z,13nm,0.7s
CLL Collm 147.57 347 *e*PKPbc **PKPbc 05 06 34.6 +0.3**
baz=18,slow=2.5
DPC Dobruska-Polom 147.63 342⇑ *e*PKP **PKPbc 05 06 35.0 +0.4**
GHAJ Ghor Haditha 147.65 297 PKPbc 05 06 35.4 +0.2
MDUB Mudurnu 147.66 315 PKPbc 05 06 33.9 -1.1
DOPR Dopca 147.66 328 ⇑P PKiKP 05 06 35.7 -0.6
ISR Istrita 147.67 326 ⇑P PKPbc 05 06 35.2 +0.3
LANS Liptovska Anna 147.68 338 *e*PKP **PKiKP 05 06 36.1 -0.1**
LANS *e* 05 06 40.8
MLR Muntele Rosu 147.72 327 ⇑P PKPbc 05 06 35.1 0.0
KRLC Kraliky 147.74 342⇑ *e*PKP **PKPbc 05 06 35.5 +0.6**
BRG Berggiesshubel 147.77 345 *e*PKP **PKPbc 05 06 34.5 -0.4**
BRG Amp 05 06 35.8
comp=Z,15nm,0.6s
BRG *i* x x 05 06 39.8
BRG Amp 05 06 40.4
comp=Z,9.4nm,0.8s
BRG Berggiesshubel 147.77 345 *e*PKPbc **PKPbc 05 06 35.0 +0.1**
baz=18,slow=2.5
BRG *e*PKPab **PKPab 05 06 39.7 +0.2**
baz=19,slow=4.0
MORC Moravsky Berou 147.78 341 ⇑P PKPbc 05 06 35.6 +0.6
MORC Moravsky Berou 147.78 341 *e*PKP **PKPbc 05 06 35.2 +0.2**
FBE Freiberg 147.86 346 *e*PKPbc **PKPbc 05 06 35.7 +0.7**
baz=18,slow=2.5

GTTG	**Gottingen**	147.91	350	*e*PKPbc	**PKPbc**	05 06 35.6	+0.4	
	baz=18,slow=2.5							
NEUB	**Neuenburg**	147.92	348	*e*PKPbc	**PKPbc**	05 06 35.7	+0.5	
	baz=18,slow=2.5							
PVCC	**Panska Ves**	147.94	345⇑	*e*PKP	**PKPbc**	05 06 35.7	+0.4	
VOIR		148.21	328	⇑P	**PKPbc**	05 06 36.4	+0.2	
DRGR		148.30	332	⇑P	**PKPbc**	05 06 36.6	+0.1	
BUG	**Bochum--Univer**	148.38	353	*e*PKPbc	**PKPbc**	05 06 36.9	+0.6	
	baz=18,slow=2.5							
PRA	**Prague**	148.39	344⇑	*e*PKP	**PKPbc**	05 06 36.7	+0.3	
PRU	**Pruhonice**	148.44	344⇑	*e*PKP	**PKPbc**	05 06 36.4	-0.2	
CSS	**Mathiatis**	148.45	305	PKPbc	**PKPbc**	05 06 36.8	-0.4	
VYHS	**Vyhne**	148.46	338	*e*PKP	**PKiKP**	05 06 37.4	-0.4	
ARR	**Arges**	148.46	328	⇑P	**PKiKP**	05 06 37.9	-0.1	
KASTN	**Kahler Asten**	148.47	352	*e*PKPbc	**PKPbc**	05 06 36.5	-0.1	
	baz=18,slow=2.5							
VRAC	**Vranov**	148.48	341	*e*PKP	**PKPbc**	05 06 37.0	+0.3	
MOX	**Moxa**	148.49	348	*e*PKPbc	**PKPbc**	05 06 36.9	+0.2	
	baz=18,slow=2.5							
MOX				*e*PKPab	**PKPab**	05 06 42.3	-0.1	
	baz=19,slow=4.0							
PLN	**Plauen**	148.53	347	*e*PKPbc	**PKPbc**	05 06 37.1	+0.3	
	baz=18,slow=2.5							
TANN	**Tannenbergstha**	148.53	347	*e*PKPbc	**PKPbc**	05 06 37.2	+0.3	
	baz=18,slow=2.5							
TANN				*e*PKPab	**PKPab**	05 06 42.8	+0.1	
	baz=19,slow=4.0							
KOLL	**Kolacno**	148.53	339	*e*PKP	**PKiKP**	05 06 37.6	-0.3	
JAVC	**Velka Javorina**	148.54	340	*e*PKP	**PKiKP**	05 06 38.0	0.0	
GUNZ	**Gunzen**	148.61	347	*e*PKPbc	**PKPbc**	05 06 37.5	+0.5	
	baz=18,slow=2.5							
UBBA	**Unterbreizbach**	148.61	350	*e*PKPbc	**PKPbc**	05 06 37.0	+0.2	
	baz=18,slow=2.5							
WERN	**Wernitzgruen**	148.67	347	*e*PKPbc	**PKPbc**	05 06 37.7	+0.5	
	baz=18,slow=2.5							
WERN				*e*PKPab	**PKPab**	05 06 43.6	+0.3	
	baz=19,slow=4.0							
NKC	**Novy Kostel**	148.71	347⇑	*e*PKP	**PKPbc**	05 06 37.6	+0.3	
LEF	**Lefka**	148.74	305	⇑P	**PKPbc**	05 06 37.9	+0.1	
KRUC	**Moravsky**	148.76	341	*e*PKP	**PKPbc**	05 06 37.6	+0.2	
PBCC	**Pribram**	148.86	345⇑	*e*PKP	**PKPbc**	05 06 37.9	+0.3	
MANZ	**Manzenberg**	149.01	347	*e*PKPbc	**PKPbc**	05 06 38.3	+0.3	
	baz=18,slow=2.5							
MODS	**Modra-Piesok**	149.09	340	*e*PKP	**PKPbc**	05 06 38.1	-0.1	
SIRR	**Siria**	149.17	333	⇑P	**PKiKP**	05 06 39.0	-0.3	
ROTZ	**Rotzenmuhle**	149.20	347	*e*PKPbc	**PKPbc**	05 06 38.7	+0.2	
	baz=18,slow=2.5							
AHRW	**Bad Neuenahr-A**	149.28	353	*e*PKPbc	**PKiKP**	05 06 39.5	+0.1	
	baz=18,slow=2.5							
MEM	**Membach**	149.32	355	*d*PKiKP	**PKPbc**	05 06 38.9	+0.2	
BTNL	**Ternell**	149.33	355	*d*PKiKP	**PKPbc**	05 06 38.7	-0.1	
GZR	**Gura Zlata**	149.34	330	⇑P	**PKPbc**	05 06 39.0	0.0	
BSTI	**Sart Tilman**	149.38	355	*d*PKiKP	**PKPbc**	05 06 39.1	+0.2	
TNS	**Taunus Mts**	149.43	352	*e*PKPbc	**PKPbc**	05 06 39.4	+0.3	
	baz=18,slow=2.5							
GRF	**Grafenberg Arr**	149.47	348	*e*PKPbc	**PKPbc**	05 06 39.6	+0.4	
	baz=18,slow=2.5							
GRF				*e*PKPab	**PKPab**	05 06 47.0	+0.4	
	baz=19,slow=4.0							
GRFO	**Grafenberg**	149.47	348		**PKiKP**	05 06 39.9	0.0	
KHC	**Kasperske Hory**	149.47	345⇑	*e*PKP	**PKPbc**	05 06 39.1	-0.1	
KHC				*e*PKPAB	**PKPab**	05 06 47.0	+0.3	
CKRC	**Cesky Krumlov**	149.57	344	*e*PKP	**PKPbc**	05 06 39.8	+0.4	
WET	**Wettzell**	149.63	345	*e*PKPbc	**PKPbc**	05 06 39.7	+0.2	
	baz=18,slow=2.5							
WET				*e*PKPab	**PKPab**	05 06 47.8	+0.5	
	baz=19,slow=4.0							
SRE	**Strehaia**	149.67	329	⇑P	**PKiKP**	05 06 40.4	0.0	
MILB	**Miltenberg**	149.69	350	*e*PKPbc	**PKPbc**	05 06 40.0	+0.4	
	baz=18,slow=2.5							
BZS	**Buzias**	149.69	332	⇑P	**PKPbc**	05 06 39.9	+0.2	
GEC2	**GERESS Array S**	149.71	344	*e*PKPbc	**PKPbc**	05 06 39.6	-0.2	
	baz=18,slow=2.5							
GERES	**GERESS Array B**	149.71	344	PKP	**PKPdf**	05 06 35.1	+0.7	
	comp=Z,2.6nm,0.6s,baz=321,slow=1.7,SNR=4.7							
GERES				PKPbc	**PKPbc**	05 06 40.0	+0.2	
	comp=Z,6.3nm,0.8s,baz=42,slow=1.6,SNR=18							
GERES	**GERESS Array B**	149.71	344	PKPbc	**PKPbc**	05 06 39.8	0.0	
BMRD	**Maredsous**	149.72	356	*d*PKiKP	**PKPbc**	05 06 39.7	+0.1	
BMRD				*d*PKPab	**PKPab**	05 06 46.8	-0.7	
HERR	**Herculane**	149.89	330	⇑P	**PKPbc**	05 06 39.7	-0.5	
CONA	**Conrad Observa**	149.93	341	*i* P	**PKPbc**	05 06 40.7	+0.4	
	comp=Z,10nm,0.6s,SNR=8.5							
DOU	**Dourbes**	149.94	356	*d*PKiKP	**PKPbc**	05 06 40.2	+0.1	
WLF	**Walferdange**	150.24	354	*d*PKiKP	**PKiKP**	05 06 41.8	+0.4	
WLF	**Walferdange**	150.24	354	*e*PKPbc	**PKiKP**	05 06 41.8	+0.4	
	baz=18,slow=2.5							
MDVR	**Moldovita**	150.29	331	⇑P	**PKPbc**	05 06 41.3	+0.1	
MORH	**Mrgy, Hungar**	150.45	336	⇑P	**PKPbc**	05 06 41.5	0.0	
MOA	**Molln**	150.47	343	*e*P	**PKPbc**	05 06 41.4	-0.1	
	comp=Z,4.1nm,0.5s							
ARSA	**Arzberg**	150.64	341	*e*P	**PKPbc**	05 06 41.6	-0.4	
	comp=Z,4.0nm,0.9s							
STU	**Stuttgart**	150.73	350	*e*PKPbc	**PKiKP**	05 06 42.4	0.0	
	baz=18,slow=2.5							
RJOB	**Jochberg**	150.96	345	*e*PKPbc	**PKPbc**	05 06 42.3	-0.4	
	baz=18,slow=2.5							
VTS	**Vitosha**	151.12	326	⇑P	**PKPbc**	05 06 43.6	+0.2	
BOVS	**Bovan**	151.16	329	⇑P	**PKPbc**	05 06 42.6	-0.6	
BFO	**Black Forest**	151.29	351	*e*PKPbc	**PKPbc**	05 06 43.3	-0.1	
	baz=18,slow=2.5							
BFO				*e*PKPab	**PKPab**	05 06 53.9	-0.4	
	baz=19,slow=4.0							
SOKA	**Soboth**	151.30	341	*e*P	**PKPbc**	05 06 42.9	-0.6	
	comp=Z,4.9nm,0.8s							
KBA	**Koelnbreinsper**	151.43	343	*e*P	**PKPbc**	05 06 43.1	-0.8	
	comp=Z,5.2nm,0.5s							
OBKA	**Obir**	151.60	341	*e*P	**PKPbc**	05 06 43.1	-1.1	
	comp=Z,2.2nm,0.4s							
UBR	**Ueberruh**	151.61	348	*e*PKPbc	**PKPbc**	05 06 43.9	-0.2	
	baz=18,slow=2.5							
WATA	**Walderalm**	151.63	346	*e*P	**PKPbc**	05 06 44.0	-0.3	
	comp=Z,6.9nm,0.5s							
RETA	**Reutte**	151.67	347	*e*P	**PKPbc**	05 06 44.0	-0.2	
	comp=Z,2.4nm,0.5s							
WTTA	**Wattenberg**	151.68	346	*e*P	**PKPbc**	05 06 44.3	-0.2	
	comp=Z,10nm,0.4s							
MOTA	**Moosalm**	151.73	347	*e*P	**PKPbc**	05 06 44.0	-0.5	
	comp=Z,7.3nm,0.8s							
MYKA	**Terra Mystica**	151.76	343	*e*P	**PKPbc**	05 06 43.6	-0.9	
	comp=Z,6.1nm,0.5s							
ABTA	**Abfaltersbach**	151.95	344	*i* P	**PKPbc**	05 06 44.2	-0.8	
	comp=Z,12nm,0.5s,SNR=6.8							
CRNS	**Crni Vrh**	152.07	341	*i* PKPbc	**PKPbc**	05 06 44.5	-0.7	
FETA	**Feichten**	152.12	347	*i* P	**PKPbc**	05 06 45.5	+0.1	
	comp=Z,4.0nm,0.6s							
VISS	**Visnje**	152.14	340	*i* PKPbc	**PKPbc**	05 06 44.9	-0.4	
VISS				*i* PKPab	**PKPab**	05 06 57.8	-0.1	
BOJS	**Bojanci**	152.27	339	*i* PKPbc	**PKPbc**	05 06 45.6	0.0	
GBRS	**Gornja Briga**	152.39	340	*i* PKPbc	**PKPbc**	05 06 45.6	-0.2	
TIP	**Timpagrande**	156.96	329	PKPdf	**PKPdf**	05 06 44.6	-0.3	
TIP				PKPab	**PKPab**	05 07 18.6	-0.4	
ESDC	**Sonseca Array**	159.84	13		**PKPab**	05 07 31.5	+0.1	
	comp=Z,2.0nm,1.0s,baz=334,slow=3.9,SNR=7.0							
ESDC	**Sonseca Array**	159.84	13		**PKPab**	05 07 32.0	+0.7	
KEST	**Kesra**	163.01	338	PKPab	**PKPab**	05 07 45.6	+0.2	
	comp=Z,2.8nm,0.8s,baz=85,slow=12,SNR=1.9							

IDC ***12*** *05:03:21.8±1.3, 1°.35S×97°.12E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/37, mbtmp4.0/9, ML4.4/1, MS3.2/1, Ms1 3.4/1, ms1mx2.6/34, Error ellipse: s-maj=54.1km s-min=20.4km az=51.0*

DJA ***12*** *05:03:25.3±3.4, 1°.5S×97°.7E±1°.3, h17km±30km, M4.7/13, mb4.8/7, mB5.5/2, MLv4.6/13, Mw(mB)4.9/2*

NEIC ***12*** *05:03:28.4±0.8, 1°.2S±0°.1×97°.4E±0°.2, h32km±6km, mb4.3/5, Error ellipse: s-maj=25.5km s-min=6.1km az=56.0*

ISC 12 05:03:25.8±0.8, 1°.17S±0°.07×97°.41E±0°.08, h23km, n45, σ1§32/43, mb4.1/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	1.41	38	P	**Pn**	05 03 50.5	+0.4
PBSI				S	**Sn**	05 04 07.5	-0.4
SISI	**Saibi**	1.69	95	P	**Pn**	05 03 54.4	+0.5
GSI	**Gunungsitoli**	2.46	4		**Pn**	05 04 04.5	-0.1
GSI	**Gunungsitoli**	2.46	4	P	**Pn**	05 04 04.2	-0.4
GSI				S	**Sn**	05 04 31.3	-2.7
MNSI	**Mandailing Nat**	2.92	48	P	**Pn**	05 04 11.4	+0.5
MNSI				S	**Sn**	05 04 43.6	-1.6
PDSI	**Padang**	3.06	85	P	**Pn**	05 04 13.1	+0.2
PDSI				S	**Sn**	05 04 46.3	-2.6
BKNI	**Bangkinang**	3.92	68	Pn	**Pn**	05 04 26.9	+2.2
BKNI	**Bangkinang**	3.92	68	P	**Pn**	05 04 25.1	+0.4
SDSI	**Sungai Dareh**	4.03	87	P	**Pn**	05 04 27.2	+1.1
RPSI	**Rantau Prapat**	4.13	22		**Pn**	05 04 28.8	+1.4
KRJI	**Kerinci**	4.15	103	P	**Pn**	05 04 28.2	+0.2
PSI	**Prapat**	4.22	21	P	**Pn**	05 04 28.4	-0.5
MLSI	**Meulaboh, Aceh**	5.49	349	P	**Pn**	05 04 44.8	-1.5
KSI	**Kapahiang**	5.74	116	P	**Pn**	05 04 50.0	+0.3
MNAI	**Manna**	6.38	120	Pn	**Pn**	05 04 59.1	+0.6
MNAI	**Manna**	6.38	120	P	**Pn**	05 04 59.1	+0.6
	2.9nm614nm,1.6s						
EGSI	**Enggano, Bengk**	6.39	131	P	**Pn**	05 04 58.9	+0.2
	0.6nm121nm,0.5s						
LHSI	**Lahat**	6.66	113	P	**Pn**	05 05 02.3	+0.1
	0.7nm85nm,0.6s						
BTDF	**Bukit Timah Da**	6.84	68	P	**Pn**	05 05 05.6	+0.8
	0.1nm26nm,0.7s						
MDSI	**Maura Dua**	7.52	116	P	**Pn**	05 05 14.4	+0.2
	0.1nm12nm,1.5s						
MDSI				S	**Sn**	05 06 35.5	-3.3
	0.1nm12nm,1.5s						
KASI	**Kota Agung**	8.29	122	P	**Pn**	05 05 25.5	+0.8
PPBI	**Pangkal Pinang**	8.78	97	P	**Pn**	05 05 35.8	+4.4
TPI	**Tanjungpandan**	10.36	99	P	**Pn**	05 05 54.0	+0.9
MTKI	**Muara Teweh, K**	17.49	89	P	Pn	05 07 09.8	-19
CMAR	**Chiang Mai Arr**	19.56	4	P	**Pn**	05 07 53.5	-0.1
	0.5nm,0.3s,baz=198,slow=9.5,SNR=5.2						
CMAR				LR	LR	05 16 31.1	
	comp=Z,68nm,18.6s,baz=222,slow=40						
H08S2	**Diego Garcia H**	25.65	255	T	T	05 35 03.9	
	baz=75,slow=74,SNR=8.8						
H08S3	**Diego Garcia H**	25.65	255	T	T	05 35 00.2	
	baz=75,slow=74,SNR=10						
H08S1	**Diego Garcia H**	25.67	255	T	T	05 35 05.8	
	baz=75,slow=74,SNR=9.7						
H01W3	**Cape Leeuwin H**	36.99	157	T	T	05 49 51.4	
	baz=334,slow=76,SNR=9.1						
H01W2	**Cape Leeuwin H**	37.01	157	T	T	05 49 52.5	
	baz=334,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	37.01	157	T	T	05 49 53.1	
	baz=334,slow=76,SNR=10						
WB0	**Warramunga Arr**	40.63	120	P	**P**	05 11 05.0	+0.6
WB0				IAmb	IAmb	05 11 32.9	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	40.65	120	P	**P**	05 11 05.2	+0.7
	comp=Z,0.7nm,0.6s,baz=301,slow=9.0,SNR=6.6						
WB2	**Warramunga Arr**	40.66	120	P	**P**	05 11 05.1	+0.5
WB2				IAmb	IAmb	05 11 12.6	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	41.84	125	P	**P**	05 11 15.2	+0.9
	comp=Z,0.2nm,0.4s,baz=294,slow=7.6,SNR=4.1						
SONM	**Songino Array**	49.43	8	P	**P**	05 12 15.2	+1.1
	comp=Z,0.2nm,0.4s,baz=190,slow=7.5,SNR=3.6						
MK31	**Makanchi Array**	49.58	346	P	**P**	05 12 16.3	+1.2
MK31				IAmb	IAmb	05 12 16.6	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	49.58	346	P	**P**	05 12 16.0	+0.9
	comp=Z,2.6nm,0.6s,baz=156,slow=8.4,SNR=26						
ZAA0	**Zalesovo Array**	55.91	351	P	**P**	05 13 02.4	+0.6
ZALV	**Zalesovo Beam**	55.91	351	P	**P**	05 13 02.3	+0.5
	comp=Z,6.9nm,0.4s,baz=182,slow=6.1,SNR=25						
ABKAR	**Akbulak array**	59.69	333	P	**P**	05 13 28.1	-0.4
KBZ	**Khabaz**	66.00	320	P	**P**	05 14 11.0	+0.5
	comp=Z,1.3nm,0.8s,baz=90,slow=8.1,SNR=2.2						
BRTR	**Keskin Array B**	70.86	313	P	**P**	05 14 39.7	-1.5
	comp=Z,0.5nm,0.5s,baz=113,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	82.18	333	P	**P**	05 15 44.4	-0.3
	comp=Z,1.2nm,0.6s,baz=100,slow=5.8,SNR=2.4						
TXAR	**Lajitas Array**	145.54	34	PKPbc	**PKPdf**	05 23 02.7	-0.4
	comp=Z,0.4nm,0.6s,baz=212,slow=1.3,SNR=7.6						

IDC 12 05:37:02.5±2.4, 4°.81S×152°.01E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/25, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=149.3km s-min=29.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	22.85	227	P	P	05 42 08.3	+0.7
	0.5nm,1.0s,baz=55,slow=9.9,SNR=1.8						
ASAR	**Alice Springs**	25.61	221	P	P	05 42 34.5	+0.7
	0.6nm,1.0s,baz=54,slow=9.3,SNR=2.9						
FITZ	**Fitzroy Crossi**	28.96	241	P	P	05 43 02.5	-1.4
	4.5nm,1.1s,baz=58,slow=9.5,SNR=3.8						
LEM	**Lembang**	44.20	265	LR	LR	06 06 21.8	
	comp=Z,91nm,18.5s,baz=236,slow=40						
ILAR	**Eielson Array**	82.47	22	P	P	05 49 26.8	+0.2
	0.3nm,0.7s,baz=257,slow=5.4,SNR=4.9						

IDC ***12*** *05:47:47.3±2.0, 4°.42N×126°.64E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.6/3, MS4.6/1, Ms1 4.6/1, ms1mx2.9/37, Error ellipse: s-maj=167.3km s-min=26.6km az=64.0*

DJA ***12*** *05:48:07.4±1.6, 4°.N±16°×12°.6E±°, h43km±21km, M4.4/6, mb4.7/4, mB5.3/3, MLv4.3/6, Mw(mB)4.7/3*

ISC 12 05:48:00.3±1.4, 4°.0N±0°.1×126°.2E±0°.1, h100km, n10, σ2§02/10, mb3.6/3, Taluad Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	0.78	244	P	**Pn**	05 48 21.1	+2.6
SGSI				S	**Sn**	05 48 29.9	-2.2
GAMI	**Galela, Maluku**	2.68	144	P	**Pn**	05 48 43.5	+1.7
GTOI	**Gorontalo**	4.66	224	P	**Pn**	05 49 10.6	+2.1
LBMI	**Labuha**	4.81	165	P	**Pn**	05 49 12.9	+2.4
SANI	**Sanana**	6.04	182	P	**Pn**	05 49 26.2	-1.1
	0.8nm6µm118nm,0.4s						
NLAI	**Namlea**	7.27	173	P	**Pn**	05 49 44.5	+0.5
WRA	**Warramunga Arr**	25.12	162	P	**P**	05 53 16.7	+0.6
	0.4nm,0.4s,baz=343,slow=10,SNR=8.4						
STKA	**Stephens Creek**	38.59	159	P	**P**	05 55 13.4	-0.2
	0.9nm,0.4s,baz=342,slow=13,SNR=3.4						
DZM	**Mont Dzumac**	47.12	125	LR	LR	06 17 07.2	
	comp=Z,573nm,18.7s,baz=208,slow=37						
MKAR	**Makanchi Array**	57.02	325	P	**P**	05 57 34.4	-1.4
	0.3nm,0.5s,baz=121,slow=7.9,SNR=6.7						

IDC ***12*** *05:57:53.9±0.6, 20°.11N×121°.37E, h0km, mb4.2/21, mb1 4.3/23, mb1mx4.3/42, mbtmp4.2/23, ML4.2/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/31, Error ellipse: s-maj=19.5km s-min=13.9km az=77.0*

BJI ***12*** *05:57:56.9±0.0, 20°.11N×121°.20E, h26km, mB4.4/21, mb4.3/32, ML4.1/1, Ms4.1/22, Ms7 3.9/21*

MAN ***12*** *05:57:57.1, 20°.22N×121°.24E, h33km, MS3.4*

NEIC ***12*** *05:57:59.5±1.5, 20°.13N±0°.05×121°.23E±0°.10, h34km±5km, mb4.5/34, Error ellipse: s-maj=13.1km s-min=7.7km az=98.0*

JMA ***12*** *05:58:02.3±0.7, 20°.42N×121°.32E, h112km, M3.9*

ISC 12 05:57:58.0±0.6, 20°.10N±0°.03×121°.30E±0°.04, h28km±4km, n123, σ1§49/136, mb4.4/45, MS3.8/14, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBP	**Basco**	0.71	61	*e*P	**Pn**	05 58 12.2	+0.1
BBP				*i* S	**Sn**	05 58 23.1	+1.0
BBP	**Basco**	0.71	61	*e*P	**Pn**	05 58 12.5	+0.4
BBP				*e*S	**Sn**	05 58 23.2	+1.0
SGCP	**Mt. Cagua**	1.98	159	*e*P	**Pb**	05 58 31.4	-2.0
SGCP				*e*S	**Sb**	05 58 57.0	-0.7
APYP	**Conner**	2.23	181	*e*P	**Pn**	05 58 34.1	+1.0
APYP				*e*S	**Sb**	05 59 02.4	-2.5
SIPP	**Brgy, Tapao**	2.31	200	*i* P	**Pn**	05 58 35.1	+0.8
SIPP				*e*S	Sb	05 59 19.5	+12
CVP	**Callao Caves**	2.44	168	*e*P	**Pn**	05 58 37.9	+1.9
CVP				*i* S	**Sb**	05 59 07.8	-3.0
ABRA	**Dolores**	2.50	193	*e*P	**Pn**	05 58 37.4	+0.5
ABRA				*e*S	**Sn**	05 59 08.1	+1.5
SZP	**Santa**	2.66	198		**Pn**	05 58 40.0	+0.9
TWG	**Pinlang**	2.71	355		**Pn**	05 58 40.7	+0.9
SAMP	**Sagada Mountai**	3.03	187	*e*P	**Pn**	05 58 45.8	+1.7
SAMP				*e*S	**Sb**	05 59 23.9	-4.0
CAUP	**Cauayan**	3.18	171	*e*P	**Pn**	05 58 43.4	-2.9
TPUB	**Ta-pu**	3.24	349		**Pn**	05 58 46.6	-0.6
YULB	**Yu-li**	3.27	360		**Pn**	05 58 48.3	+0.8
SSLB	**Suanglung**	3.68	355		**Pn**	05 58 52.9	-0.2
BOLP	**Bolinao**	3.93	200	*e*P	**Pn**	05 58 58.7	+2.1
SMPP	**San Manuel, Pa**	3.98	189	*e*P	**Pn**	05 58 58.2	+1.0
SMPP				*e*S	**Sn**	05 59 44.3	+1.4
NACB	**Ninganchiao**	4.06	4		**Pn**	05 58 58.7	+0.3
YHNB	**Yeheng**	4.55	1		**Pn**	05 59 06.2	+1.2
HATJ	**Hateruma jima**	4.57	30	P	**Pn**	05 59 06.9	+1.6
HATJ				*e*S	**Sn**	05 59 56.2	-1.3
IRIF	**Iriomote-Funau**	4.77	28	P	**Pn**	05 59 10.1	+2.0
IRIF				*e*S	**Sn**	06 00 01.4	-1.1
JKRS	**Kuro-shima**	4.82	31	P	**Pn**	05 59 09.9	+1.2
JKRS				S	**Sn**	06 00 02.7	-0.9
JIJ	**Ishigaki jima**	4.99	31	P	**Pn**	05 59 12.3	+1.2
JIJ				*e*S	**Sn**	06 00 06.0	-1.9
KNMB	**Chin-men Tao**	5.11	329	Pn	**Pn**	05 59 10.6	-2.1
JISG	**Ishigakijimahi**	5.26	31	P	**Pn**	05 59 15.9	+1.1
JISG				*e*S	**Sn**	06 00 12.6	-1.9
JTJ	**Tarama**	5.50	34	S	**Sn**	06 00 19.2	-1.3
JIRB	**Irabujima**	5.91	37	*e*S	**Sn**	06 00 28.8	-1.7
JCNP	**Jose Panganiba**	5.93	167⇓	*e*P	**Pn**	05 59 25.3	+1.2
JCNP				*e*S	**Sn**	06 00 29.6	-1.6
LQP	**Lukban**	5.96	178⇑	*e*P	**Pn**	05 59 22.0	-2.7
JOW	**Kunigami**	9.26	42	Pn	**Pn**	06 00 09.6	-0.2
	7.8nm,0.3s,baz=187,slow=15,SNR=9.6						
JOW				Sn	Sn	06 01 42.8	-10
	0.7nm,0.3s,baz=182,slow=8.0,SNR=1.7						
JOW	**Kunigami**	9.26	42	P	**Pn**	06 00 10.7	+1.0
JOW	**Kunigami**	9.26	42	Pn	**Pn**	06 00 10.8	+1.0
QIZ	**Qiongzhong**	10.86	266	P	**Pn**	06 00 30.4	-1.3
QIZ				S	**Sn**	06 02 30.3	-2.0
QIZ				L	L		
	comp=N,310nm,13.7s						
QIZ				L	L		
	comp=E,300nm,16.9s						
QIZ				L	L		
	comp=Z,460nm,17.6s						
SSE	**Sheshan**	10.95	359	P	**Pn**	06 00 34.0	+1.2
SSE				S	**Sn**	06 02 36.4	+2.0
SSE				pmax	pmax		
	comp=Z,16nm,0.8s						
SSE				pmax	pmax		
	comp=Z,39nm,4.0s						
SSE				L	L		
	comp=N,110nm,17.8s						
SSE				L	L		
	comp=E,97nm,17.9s						
NJ2	**Nanjing**	12.10	350	*e*P	**Pn**	06 00 50.2	+1.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JNU	**Nakatsue**	15.53	31	Pn	**Pn**	06 01 37.3	+2.2
	0.2nm,0.3s,baz=4.1,slow=23,SNR=2.6						
NONG	**Nongkai**	17.28	266	P	**P**	06 02 02.2	+3.5
	11nm,0.5s						
KMI	**Kunming**	17.85	290	⇑P	**P**	06 02 04.8	-0.4
KMI				sP	pwP	06 02 16.3	+0.9
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,42nm,4.2s						
KMI				L	L		
	comp=N,230nm,14.2s						
KMI				L	L		
	comp=E,340nm,13.7s						
KMI				L	L		
	comp=Z,450nm,16.0s						
KSRS	**Korea Array**	18.23	17	P	**Pn**	06 02 08.1	-0.8
	0.4nm,0.3s,baz=201,slow=11,SNR=8.3						
KSRS				LR	LR	06 10 20.5	
	comp=Z,86nm,18.6s,baz=182,slow=41						
TOLI2	**Tolitoli**	18.88	182	P	**Pn**	06 02 16.6	-0.5
PHIT	**Phitsanulok**	20.00	265	P	**Pn**	06 02 32.4	+1.9
	565

WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,78nm,3.7s
WMQ L L
comp=Z,220nm,6.3s
WMQ L L
comp=Z,240nm,16.3s
WMQ L L
comp=Z,250nm,16.3s
MK31 Makanchi Array 41.41 319 P **P** **06 05 42.6 +0.6**
MKAR Makanchi Array 41.41 319 P **P** **06 05 43.0 +1.0**
comp=Z,2.9nm,0.6s,baz=114,slow=9.3,SNR=33
MKAR PcP **PcP** **06 07 39.8 +0.1**
comp=Z,0.9nm,0.7s,baz=90,slow=4.9,SNR=3.6
MKAR LR LR 06 24 02.3
comp=Z,75nm,18.9s,baz=131,slow=38
MKAR Makanchi Array 41.41 319 P **P** **06 05 41.9 -0.1**
PSA00 Pilbara Seismi 41.44 182 P **P** **06 05 42.4 0.0**
MAKZ Makanchi 41.61 319 P **P** **06 05 44.0 +0.3**
MAKZ IAmb IAmb 06 05 45.8
comp=Z,6.9nm,1.1s
WRAB Tennant Creek 41.79 161 P **P** **06 05 44.9 -0.5**
WRAB IAmb IAmb 06 05 46.0
comp=Z,12nm,0.8s
WRA Warramunga Arr 41.80 161 P **P** **06 05 44.8 -0.6**
comp=Z,7.6nm,0.6s,baz=344,slow=8.9,SNR=46
H11N1 WAKE ISLAND Hy 42.76 82 T T 06 51 18.5
baz=278,slow=75,SNR=11
H11N2 WAKE ISLAND Hy 42.76 82 T T 06 51 20.3
baz=278,slow=75,SNR=8.3
H11S3 WAKE ISLAND Hy 42.77 84 T T 06 51 19.3
baz=280,slow=75,SNR=17
H11S1 WAKE ISLAND Hy 42.77 84 T T 06 51 17.9
baz=280,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 42.78 82 T T 06 51 20.6
baz=278,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 42.78 84 T T 06 51 19.2
baz=280,slow=75,SNR=12
PETK Petropavlovsk- 43.23 31 P **P** **06 05 56.4 -0.2**
comp=Z,1.1nm,0.6s,baz=234,slow=4.8,SNR=4.1
ZAA0 Zalesovo Array 43.76 329 P **P** **06 06 01.4 +0.5**
ZAA0 IAmb IAmb 06 06 02.2
comp=Z,5.9nm,0.7s
ZALV Zalesovo Beam 43.76 329 P **P** **06 06 01.4 +0.4**
comp=Z,5.0nm,0.6s,baz=118,slow=7.7,SNR=18
ZALV Zalesovo Beam 43.76 329 P **P** **06 06 01.1 +0.2**
MA2 Magadan 44.72 21 LR LR 06 27 15.4
comp=Z,68nm,18.0s,baz=274,slow=39
AS31 Alice Springs 45.20 164 P **P** **06 06 12.7 -0.2**
ASAR Alice Springs 45.20 164 P **P** **06 06 13.2 +0.3**
comp=Z,2.6nm,0.4s,baz=345,slow=6.7,SNR=40
KKAR Karatay Array 48.11 310 P **P** **06 06 35.8 +0.3**
BRVK Borovoye 51.01 323 P **P** **06 06 56.9 -0.4**
BRVK IAmb IAmb 06 06 59.3
comp=Z,6.0nm,0.6s
TIXI Tiksi 51.74 3 P **P** **06 07 02.7 +0.1**
TIXI IAmb IAmb 06 07 08.6
comp=Z,3.9nm,1.0s
SMY Shemya 51.92 38 P **P** **06 07 04.7 +0.6**
NRIK Noril'sk 53.36 346 P **P** **06 07 14.9 +0.4**
comp=Z,9.9nm,0.7s,baz=134,slow=7.5,SNR=13
NRIK LR LR 06 32 12.7
comp=Z,133nm,18.5s,baz=152,slow=39
NRIK Noril'sk 53.36 346 P **P** **06 07 15.0 +0.4**
STKA Stephens Creek 55.22 159 P **P** **06 07 29.2 +0.6**
comp=Z,2.7nm,0.6s,baz=344,slow=7.7,SNR=8.4
BILL Bilibino 55.48 19 P **P** **06 07 30.0 0.0**
BILL IAmb IAmb 06 07 41.5
comp=Z,3.8nm,0.9s
ABKAR Akbulak array 56.41 316 P **P** **06 07 37.2 +0.3**
GEYT Alibeck 57.02 303 LR LR 06 36 44.0
comp=Z,61nm,18.6s,baz=70,slow=41
GYA0B ALIBECK ARRAY 57.02 303 P **P** **06 07 41.6 0.0**
GYA0B IAmb IAmb 06 07 44.2
comp=Z,5.8nm,0.8s
ARU Arti 58.45 325 LR LR 06 33 54.3
comp=Z,29nm,18.1s,baz=177,slow=37
ARU Arti 58.45 325 P **P** **06 07 50.1 -1.2**
ARU IAmb IAmb 06 07 52.5
comp=Z,6.5nm,0.8s
TOO Toolangi 61.72 158 P **P** **06 08 15.9 +2.1**
KBZ Khabaz 68.14 310 P **P** **06 08 56.4 +0.7**
comp=Z,2.9nm,1.0s,baz=117,slow=6.8,SNR=4.9
KBZ LR LR 06 43 01.0
comp=Z,48nm,18.1s,baz=66,slow=40
IMAR Indian Mountai 69.78 26 P **P** **06 09 06.5 +1.1**
OHAK Old Harbor 70.88 35 P **P** **06 09 12.3 0.0**
MLY Manley 71.12 27 P **P** **06 09 13.9 +0.1**
MLY IAmb IAmb 06 09 36.8
comp=Z,2.9nm,1.0s
BPAW Bear Paw Mtn. 71.13 28 P **P** **06 09 14.5 +0.7**
BPAW IAmb IAmb 06 09 27.1
comp=Z,6.9nm,1.4s
TRF Thorofare Moun 71.52 28 P **P** **06 09 16.6 +0.3**
TRF IAmb IAmb 06 09 40.9
comp=Z,4.3nm,1.1s
SUA Susitna One 71.59 30 P **P** **06 09 17.3 +0.6**
MDM Murphy Dome 72.19 27 P **P** **06 09 20.8 +0.7**
MDM IAmb IAmb 06 09 38.0
comp=Z,7.3nm,1.4s
ILAR Eielson Array 72.78 27 P **P** **06 09 22.9 -0.8**
comp=Z,0.4nm,0.7s,baz=263,slow=4.5,SNR=6.4
BMAR Burnt Mountain 73.19 24 P **P** **06 09 27.1 +1.0**
ARCES ARCESS Array B 73.36 339 P **P** **06 09 28.2 +1.2**
comp=Z,2.5nm,0.8s,baz=66,slow=9.7,SNR=5.6
GLB Gilahina Butte 74.86 30 P **P** **06 09 36.3 +0.3**
GLB IAmb IAmb 06 10 00.5
comp=Z,6.3nm,1.3s
FINES FINESS Array B 75.02 330 P **P** **06 09 37.4 +0.7**
comp=Z,1.7nm,0.5s,baz=43,slow=4.9,SNR=9.7
FINES FINESS Array B 75.02 330 P **P** **06 09 37.2 +0.5**
BRTR Keskin Array B 75.70 307 P **P** **06 09 41.3 0.0**
comp=Z,0.6nm,0.5s,baz=132,slow=3.5,SNR=4.3
MNK Minsk 75.83 323 *i* P **P** **06 09 37.9 -3.6**
comp=E,4.0nm,1.1s
MNK *i* P **P** **06 09 37.9 -3.6**
comp=N,35nm,1.1s
MNK *i* P **P** **06 09 37.9 -3.6**
comp=Z,7.0nm,0.8s,baz=255
MNK *i* PcP **pP** **06 09 49.0 -0.3**
MNK *i* PP **PP** **06 12 29.0 -2.5**
MNK *i* PPP PPP 06 14 14.8
MNK *i* S **S** **06 19 16.8 -5.1**
MNK *i* SS **SS** **06 24 11.6 -2.0**
MNK *i* SSS SSS 06 27 35.2
MNK *i* LQ LQ 06 35 30.8
MNK *i* LR LR 06 42 27.7
MNK *i* LRM MLR 06 47 47.5
comp=N,266nm,19.9s
MNK *i* LRM MLR 06 48 06.3
comp=Z,73nm,20.3s
MNK *i* LRM MLR 06 48 07.8
comp=E,31nm,22.4s
AKASG Malin Array Be 76.00 319 P **P** **06 09 42.1 -0.4**
comp=E,0.4nm,0.3s,baz=56,slow=5.2,SNR=4.2
DAWY Dawson 76.11 27 P **P** **06 09 43.2 +0.1**
DAWY IAmb IAmb 06 09 48.8
comp=Z,2.5nm,0.9s
NC405 NORSAR Array S 81.62 332 P **P** **06 10 14.0 +0.7**
NOA NORSAR Array B 81.87 333 P **P** **06 10 14.3 -0.3**
comp=Z,1.7nm,0.8s,baz=62,slow=5.1,SNR=4.8
KMBO Kilima Mbogo 84.80 267 P **P** **06 10 31.4 +0.5**
comp=Z,3.0nm,1.0s,baz=58,slow=9.5,SNR=2.8
GERES GERESS Array B 86.06 321 P **P** **06 10 37.6 +1.2**
comp=Z,0.4nm,0.4s,baz=64,slow=6.1,SNR=6.1
YKA Yellowknife Ar 86.67 23 P **P** **06 10 38.9 -0.1**
comp=Z,1.4nm,0.9s,baz=313,slow=3.9,SNR=4.4

*NEIC **12** 06:04:22.4±2.2,21.7°S±0.1°×179.4°W±0.1°,h593km±7km, mb4.5/21, Error ellipse: s-maj=16.7km s-min=15.6km az=98.0*
*IDC **12** 06:04:22.4±0.9,21.71°S×179.49W,h597km±10km, mb3.6/20,mb1 3.8/22,mb1mx3.7/31,mbtmp4.6/22, Error ellipse: s-maj=12.1km s-min=10.2km az=82.0*

ISC 12 06:04:22.3±0.4,21.72S±0.06×179.35W±0.07,h604km, n70,σ1s82/75,mb4.2/31,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.66**	**328**	P	**P**	**06 05 53.0**	**0.0**
	51nm,0.3s,baz=177,slow=5.0,SNR=201						
MSVF				S	**S**	**06 07 05.5**	**-1.4**
	baz=329,slow=22,SNR=0.8						
MSVF	**Nonsavu**	**4.66**	**328**		**P**	**06 05 53.0**	**0.0**
RAO	**Raoul Island**	**7.61**	**171**	P	**P**	**06 06 16.1**	**-1.9**
	141nm,0.3s,baz=70,slow=11,SNR=8.8						
RAO	**Raoul Island**	**7.61**	**171**	P	**P**	**06 06 16.2**	**-1.7**
AFI	**Afiamalu**	**10.60**	**44**	P	**P**	**06 06 44.2**	**-3.0**
	2.2nm,0.3s,baz=5.3,slow=19,SNR=1.3						
AFI				S	**S**	**06 08 39.3**	**-6.9**
	2.9nm,0.3s,baz=110,slow=21,SNR=1.9						
DZM	**Mont Dzumac**	**13.19**	**266**	*e*P	**P**	**06 07 14.5**	**+1.3**
	2.2nm,0.3s						
DZM	**Mont Dzumac**	**13.19**	**266**	P	**P**	**06 07 12.5**	**-0.7**
	1.5nm,0.3s,baz=75,slow=23,SNR=13						
SANVU	**Saraoutou**	**14.19**	**294**	P	**P**	**06 07 23.1**	**+0.1**
OUZ	**Omahuta**	**14.80**	**203**	P	**P**	**06 07 29.1**	**+0.7**
URZ	**Urewera**	**16.77**	**190**	P	**P**	**06 07 43.3**	**-2.9**
	2.9nm,0.3s,baz=301,slow=23,SNR=14						
URZ				S	**S**	**06 10 24.5**	**-7.8**
	2.6nm,0.3s,baz=83,slow=22,SNR=7.2						
STKA	**Stephens Creek**	**36.13**	**245**	P	**P**	**06 10 35.5**	**+0.2**
	2.0nm,0.5s,baz=98,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**36.13**	**245**	P	**P**	**06 10 35.8**	**+0.5**
BBOO	**Buckleboo**	**40.88**	**245**	P	**P**	**06 11 13.6**	**0.0**
BBOO				IAmb	IAmb	06 11 37.6	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**43.02**	**258**	P	**P**	**06 11 30.9**	**+0.4**
ASAR	**Alice Springs**	**43.02**	**258**	P	**P**	**06 11 30.1**	**-0.3**
	comp=Z,14nm,0.8s,baz=98,slow=7.9,SNR=106						
ASAR				ScP	**ScP**	**06 16 02.7**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=112,slow=4.3,SNR=5.7						
ASAR				S	**S**	**06 17 12.0**	**-1.8**
	comp=Z,2.6nm,0.9s,baz=95,slow=16,SNR=14						
WB0	**Warramunga Arr**	**43.18**	**264**	P	**P**	**06 11 31.1**	**-0.6**
WB0				IAmb	IAmb	06 11 31.6	
	comp=Z,16nm,0.7s						
WB2	**Warramunga Arr**	**43.19**	**264**	P	**P**	**06 11 31.1**	**-0.6**
WB2				IAmb	IAmb	06 11 31.8	
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**43.19**	**264**	P	**P**	**06 11 31.1**	**-0.7**
WRAB				IAmb	IAmb	06 11 31.7	
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**43.20**	**264**	P	**P**	**06 11 30.9**	**-0.9**
	comp=Z,13nm,0.9s,baz=98,slow=6.0,SNR=54						
WRA				ScP	**ScP**	**06 16 04.0**	**+2.3**
	comp=Z,1.3nm,0.9s,baz=96,slow=4.0,SNR=4.5						
WRA				S	**S**	**06 17 09.9**	**-6.4**
	comp=Z,1.6nm,1.0s,baz=105,slow=11,SNR=4.4						
DHH	**Diamond Head**	**47.62**	**28**	P	**P**	**06 12 06.6**	**+1.3**
FORT	**Forrest**	**47.66**	**248**	P	**P**	**06 12 05.3**	**-0.2**
FORT				IAmb	IAmb	06 12 17.2	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**49.34**	**268**	P	**P**	**06 12 17.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**51.63**	**264**	P	**P**	**06 12 35.1**	**+0.4**
SBA	**Scott Base**	**56.58**	**183**	P	**P**	**06 13 10.8**	**+2.4**
SBA				IAmb	IAmb	06 13 11.9	
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**56.59**	**185**	P	**P**	**06 13 09.8**	**+1.4**
	comp=Z,3.1nm,0.7s,baz=360,slow=7.9,SNR=18						
VNDA	**Vanda**	**56.59**	**185**	P	**P**	**06 13 10.2**	**+1.7**
JCJ	**Chichijima**	**61.16**	**321**	P	**P**	**06 13 39.7**	**-0.1**
	comp=Z,30nm,0.7s,baz=284,slow=19,SNR=2.1						
CASY	**Casey**	**62.33**	**205**	P	**P**	**06 13 46.9**	**+0.2**
JHJ	**Hachijo jima 2**	**67.04**	**323**	P	**P**	**06 14 17.4**	**+0.6**
	comp=Z,121nm,1.0s,baz=216,slow=8.7,SNR=1.9						
QSPA	**South Pole Qui**	**68.36**	**180**	P	**P**	**06 14 25.3**	**+0.9**
	comp=Z,18nm,0.8s,baz=325,slow=0.5,SNR=87						
QSPA	**South Pole Qui**	**68.36**	**180**	P	**P**	**06 14 25.2**	**+0.8**
JOW	**Kunigami**	**70.00**	**311**	P	**P**	**06 14 35.4**	**+0.7**
	comp=Z,22nm,0.7s,baz=64,slow=14,SNR=2.3						
MJAR	**Matsushiro Arr**	**70.46**	**325**	P	**P**	**06 14 37.3**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=150,slow=5.7,SNR=10						
MAT	**Matsushiro**	**70.46**	**325**	P	**P**	**06 14 37.2**	**0.0**
JSD	**Sado**	**71.55**	**326**	P	**P**	**06 14 45.2**	**+1.6**
JSD				IAmb	IAmb	06 14 59.0	
	comp=Z,20nm,1.1s						
JHS	**Saijyo**	**72.22**	**321**	P	**P**	**06 14 48.8**	**+1.3**
JNU	**Nakatsue**	**72.31**	**318**	P	**P**	**06 14 48.0**	**-0.1**
	comp=Z,7.9nm,0.9s,baz=180,slow=20						
KIWB	**Kanaga Island**	**73.28**	**1**	P	**P**	**06 14 53.0**	**-0.1**
ADK	**Adak**	**73.32**	**2**	P	**P**	**06 14 53.5**	**+0.2**
KSRS	**Korea Array**	**76.98**	**319**	P	**P**	**06 15 14.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=133,slow=5.3,SNR=4.4						
PETK	**Petropavlovsk-**	**77.13**	**346**	P	**P**	**06 15 14.8**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=130,slow=6.4,SNR=9.4						
USRK	**Urisyk Ar.**	**79.27**	**327**	P	**P**	**06 15 27.4**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=90,slow=5.9,SNR=5.3						
MAW	**Mawson**	**79.99**	**200**	P	**P**	**06 15 30.2**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=130,slow=7.6,SNR=4.5						
NVAR	**Mina Array Bea**	**82.77**	**44**	P	**P**	**06 15 45.5**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=223,slow=8.8,SNR=4.8						
GHO	**Glory Hole Cre**	**86.70**	**14**	P	**P**	**06 16 02.7**	**-0.1**
GHO				IAmb	IAmb	06 16 03.8	
	comp=Z,8.3nm,0.8s						
SNAA	**Sanae**	**86.83**	**179**	P	**P**	**06 16 02.5**	**-0.9**
SNAA	**Sanae**	**86.83**	**179**	P	**P**	**06 16 02.5**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=199,slow=9.2,SNR=3.8						
VNA1	**Neumayer--Stat**	**87.67**	**177**	P	**P**	**06 16 07.5**	**+0.2**
TRF	**Thorofare Moun**	**87.90**	**13**	P	**P**	**06 16 08.3**	**-0.2**
TRF				IAmb	IAmb	06 16 09.2	
	comp=Z,5.5nm,0.7s						
TXAR	**Lajitas Array**	**88.77**	**58**	P	**P**	**06 16 15.2**	**+1.9**
	comp=Z,1.3nm,0.9s,baz=219,slow=5.5,SNR=15						
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**06 16 16.2**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=126,slow=3.4,SNR=13						
PLCA	**Paso Flores**	**89.34**	**134**	P	**P**	**06 16 16.8**	**+1.0**
	comp=Z,5.1nm,1.1s,baz=227,slow=5.9,SNR=9.2						
PLCA	**Paso Flores**	**89.34**	**134**	P	**P**	**06 16 17.7**	**+1.9**
PLCA				IAmb	IAmb	06 16 23.4	
	comp=Z,6.7nm,1.5s						
CCB	**Clear Creek Bu**	**89.48**	**13**	P	**P**	**06 16 15.7**	**+0.2**
CCB				IAmb	IAmb	06 16 15.7	
	comp=Z,4.3nm,1.2s						
ILAR	**Eielson Array**	**89.78**	**13**	P	**P**	**06 16 16.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=216,slow=4.8,SNR=11						
ILAR	**Eielson Array**	**89.78**	**13**	P	**P**	**06 16 17.4**	**+0.4**
PDAR	**Pinedale Array**	**90.71**	**44**	P	**P**	**06 16 23.5**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=183,slow=5.4,SNR=2.7						
MKAR	**Makanchi Array**	**111.11**	**313**	PKKPbc	PKKPbc	06 32 46.7	-0.6
	comp=Z,0.4nm,0.6s,baz=288,slow=1.8,SNR=4.7						
MKAR				PKKP	**PKKPab**	**06 32 59.2**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=279,slow=2.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**114.08**	**317**	PP	PP	06 23 01.9	+1.6
	comp=Z,0.7nm,0.9s,baz=88,slow=6.3,SNR=4.8						
KIRV	**Kirov**	**129.38**	**325**	SKPbc	SKPbc	06 24 50.0	+1.1
	comp=Z,11nm,0.6s,baz=274,slow=2.3,SNR=4.0						
BELG	**Belogornoye**	**132.81**	**322**	SKPbc	**SKPbc**	**06 25 02.1**	**+0.9**
	comp=Z,8.1nm,0.7s,baz=320,slow=3.7,SNR=3.9						
FINES	**FINESS Array B**	**136.57**	**343**	PKP	**PKPdf**	**06 22 36.9**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=131,slow=5.8,SNR=4.5						
NOA	**NORSAR Array B**	**140.02**	**352**	SKPbc	**SKPbc**	**06 25 23.9**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=15,slow=4.2,SNR=3.4						
AKASG	**Malin Array Be**	**143.44**	**329**	PKP	PKPab	06 22 47.0	-0.6
	comp=Z,1.9nm,0.3s,baz=42,slow=4.5,SNR=22						
BRTR	**Keskin Array B**	**146.69**	**310**	PKPbc	**PKPbc**	**06 22 57.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=117,slow=4.0,SNR=5.8						
BRTR	**Keskin Array B**	**146.69**	**310**		**PKPdf**	**06 22 56.8**	**+1.8**
CLL	**Collm**	**148.93**	**345**	*i* PKPbc	**PKPab**	**06 23 08.7**	**-0.7**
GERES	**GERESS Array B**	**151.00**	**342**	PKPbc	**PKPbc**	**06 23 08.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=92,slow=3.0,SNR=1.4						
DBIC	**Dimbokro**	**164.12**	**160**	PKPab	**PKPab**	**06 24 16.7**	**+0.8**
	comp=Z,5.2nm,1.1s,baz=177,slow=4.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**171.42**	**187**	PKP	**PKPdf**	**06 23 22.3**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=247,slow=1.0,SNR=4.0						
TORD				PKPab	**PKPab**	**06 24 48.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=181,slow=3.4,SNR=5.3						

IDC 12 06:15:01.4±4.0,30.09S×138.79E,h0km,mb1 3.0/3, mb1mx3.0/36,mbtmp2.8/3,ML2.3/3,Error ellipse: s-maj=142.5km s-min=17.9km az=45.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.99**	**127**	Pn	Pn	06 15 49.5	-0.6
	0.2nm,0.3s,baz=310,slow=16,SNR=4.1						
STKA				Sn	Sn	06 16 27.1	+0.5
	0.7nm,0.3s,baz=343,slow=20,SNR=5.1						
STKA				Lg	Lg	06 16 37.1	
	2.1nm,0.3s,baz=246,slow=20,SNR=9.6						
ASAR	**Alice Springs**	**7.75**	**325**	Pn	Pn	06 16 55.6	+0.1
	0.0nm,0.3s,baz=145,slow=13,SNR=1.9						
ASAR				Sn	Sn	06 18 19.9	-4.1
	0.1nm,0.3s,baz=150,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**10.88**	**337**	Pn	Pn	06 17 38.7	+0.3
	0.0nm,0.3s,baz=159,slow=14,SNR=1.8						

*IDC **12** 06:15:05.4±0.7,14.63N×146.91E,h0km,mb4.1/18, mb1 4.2/18,mb1mx4.1/53,mbtmp4.1/18,MS3.2/1, Ms1 3.2/1,ms1mx2.6/36,Error ellipse: s-maj=23.8km s-min=15.6km az=93.0*
*NEIC **12** 06:15:14.3±1.1,14.7N±0.1°×146.8E±0.1°,h52km±7km, mb4.5/12,Error ellipse: s-maj=16.5km s-min=14.6km az=78.0*

ISC 12 06:15:11.2±0.7,14.73N±0.09×146.8E±0.1°,h33km,n42, σ1s21/38,mb4.1/25,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**1.94**	**326**		**Pb**	**06 15 45.6**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**19.78**	**73**	T	T	06 39 57.1	
	baz=251						
H11N2	**WAKE ISLAND Hy**	**19.79**	**73**	T	T	06 39 57.1	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**19.80**	**73**	T	T	06 39 58.3	
	baz=251						
FAKI	**Fak Fak**	**22.72**	**221**	P	**P**	**06 20 12.0**	**+1.5**
MJAR	**Matsushiro Arr**	**23.05**	**342**	P	**P**	**06 20 09.2**	**-4.6**
	1.2nm,0.5s,baz=164,slow=9.6,SNR=2.0						
KSRS	**Korea Array**	**28.19**	**327**	P	**P**	**06 21 00.8**	**+0.1**
	2.5nm,0.7s,baz=148,slow=9.9,SNR=9.0						
MTN	**Manton Dam**	**31.50**	**210**	P	**P**	**06 21 29.2**	**-1.1**
MTN				IAmb	IAmb	06 21 51.9	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**36.40**	**200**	P	**P**	**06 22 12.7**	**0.0**
WB2	**Warramunga Arr**	**36.58**	**200**	P	**P**	**06 22 14.4**	**+0.1**
WB2				IAmb	IAmb	06 22 37.4	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**36.58**	**200**	P	**P**	**06 22 12.5**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=24,slow=9.6,SNR=14						
PETK	**Petropavlovsk-**	**39.25**	**10**	P	**P**	**06 22 37.7**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=165,slow=7.4,SNR=2.3						
PETK				LR	LR	06 35 59.1	
	comp=Z,34nm,21.4s,baz=215,slow=32						
ASAR	**Alice Springs**	**40.20**	**199**	P	**P**	**06 22 42.5**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=21,slow=9.0,SNR=7.1						
CMAR	**Chiang Mai Arr**	**45.95**	**282**	P	**P**	**06 23 32.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=77,slow=6.3,SNR=6.4						
STKA	**Stephens Creek**	**46.61**	**186**	P	**P**	**06 23 35.9**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=345,slow=9.5,SNR=4.2						
SONM	**Songino Array**	**46.94**	**323**	P	**P**	**06 23 39.4**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=128,slow=7.1,SNR=7.1						
SONM	**Songino Array**	**46.94**	**323**	IAmb	IAmb	06 23 43.1	
	comp=Z,2.7nm,1.1s						
SEY	**Seymchan**	**48.30**	**3**	P	**P**	**06 23 50.0**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=166,slow=8.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**61.83**	**324**	P	**P**	**06 25 25.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=91,slow=7.2,SNR=3.7						
MK31	**Makanchi Array**	**62.02**	**315**	P	**P**	**06 25 29.4**	**+1.1**
MK31				IAmb	IAmb	06 25 29.6	
	comp=Z,2.8nm,0.6s						
MKAR	**Makanchi Array**	**62.02**	**315**	P	**P**	**06 25 28.9**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=90,slow=8.4,SNR=40						
MKAR	**Makanchi Array**	**62.02**	**315**	P	**P**	**06 25 29.3**	**+0.9**
MAKZ	**Makanchi**	**62.23**	**315**	P	**P**	**06 25 30.9**	**+1.1**
IMAR	**Indian Mountai**	**64.40**	**23**	P	**P**	**06 25 45.0**	**+1.2**
KURK	**Kurchatov**	**64.96**	**319**	P	**P**	**06 25 47.7**	**0.0**
KURBB	**Kurchatov Arra**	**65.00**	**319**	P	**P**	**06 25 47.7**	**-0.2**
	comp=Z,14nm,0.7s,baz=98,slow=6.8,SNR=91						
MLY	**Manley**	**65.24**	**24**	P	**P**	**06 25 50.4**	**+1.1**
ILAR	**Eielson Array**	**66.73**	**25**	P	**P**	**06 25 57.9**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=255,slow=6.4,SNR=7.2						
BCAR	**Beaver Creek A**	**68.55**	**28**	P	**P**	**06 26 11.1**	**+0.6**
KK31	**Karatay Array**	**70.15**	**311**	P	**P**	**06 26 20.6**	**-0.1**
KK31				IAmb	IAmb	06 26 21.6	
	comp=Z,2.5nm,0.8s						
KKAR	**Karatay Array**	**70.15**	**311**	P	**P**	**06 26 20.8**	**+0.1**
BVAR	**Borovoye Array**	**70.23**	**321**	P	**P**	**06 26 20.7**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=224,slow=14,SNR=15						
BRVK	**Borovoye**	**70.29**	**321**	P	**P**	**06 26 21.1**	**-0.2**
BRVK				IAmb	IAmb	06 26 22.4	
	comp=Z,5.1nm,0.8s						
INK	**Inuvik**	**72.59**	**23**	P	**P**	**06 26 33.2**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=252,slow=4.1,SNR=1.7						
ABKAR	**Akbulak array**	**76.99**	**318**	P	**P**	**06 27 00.5**	**-0.2**
ABKAR				IAmb	IAmb	06 27 02.1	
	comp=Z,1.6nm,0.8s						
ABKAR	**Akbulak array**	**76.99**	**318**	P	**P**	**06 27 00.7**	**0.0**
AKTO	**Aktyubinsk**	**78.06**	**319**	P	**P**	**06 27 07.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=95,slow=13,SNR=2.2						
YKA	**Yellowknife Ar**	**80.97**	**28**	P	**P**	**06 27 21.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=284,slow=5.0,SNR=4.0						
NVAR	**Mina Array Bea**	**84.72**	**52**	P	**P**	**06 27 43.5**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=258,slow=7.4,SNR=3.6						
FINES	**FINESS Array B**	**90.93**	**336**	P	**P**	**06 28 10.1**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=56,slow=5.1,SNR=5.9						
DBIC	**Dimbokro**	**144.79**	**305**	PKP	**PKPab**	**06 34 44.1**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=56,slow=6.4,SNR=4.2						
LPAZ	**La Paz**	**146.29**	**97**	PKPbc	**PKPdf**	**06 34 48.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=304,slow=3.6,SNR=3.9						

*KRNET **12** 06:19:16.8±0.1,40.71N×77.39E,h16km,mb3.2*
*SOME **12** 06:19:16.5,40.67N×77.13E,h15km*
*NNC **12** 06:19:19.9±1.1,40.78N×77.41E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=8.0km s-min=5.5km az=175.0*

ISC 12 06:19:11.9±1.6,40.53N±0.05×77.32E±0.03,h18km±4km, n63,σ1s28/100,15C-28D,Kyrgyzstan-Xinjiang border region

| Code | Station Name | Δ°

		84nm,0.2s							
	KOTS					*e*S		**Sg**	**06 20 38.9 -0.1**
		2.5nm,0.4s							
	KOTS	**Kotyrbulak**	**2.71**	**357**		Pg		**Pg**	**06 20 04.5 +0.7**
		84nm,0.2s							
	KOTS					Lg		Lg	06 20 38.9
		2.5nm,0.4s							
	KST	**Kastek**	**2.71**	**339**		*e*P		**Pg**	**06 20 04.4 +0.5**
		16nm,0.2s							
	KST					*e*S		**Sg**	**06 20 38.8 -0.2**
		38nm,0.6s							
	KST	**Kastek**	**2.71**	**339**		Pg		**Pg**	**06 20 04.4 +0.5**
		16nm,0.2s							
	KST					Lg		Lg	06 20 38.8
		38nm,0.6s							
	TKM2	**Tokmak 2**	**2.71**	**332**	⇓	*i*P		**Pb**	**06 20 01.8 +1.8**
		baz=29							
	TKM2				⇓	*i*S		**Sb**	**06 20 34.4 +1.4**
		baz=29							
	TKM2	**Tokmak 2**	**2.71**	**332**	⇓	Pn		**Pg**	**06 20 04.5 +0.5**
		12nm,0.4s							
	TKM2				⇑	Lg		Lg	06 20 40.2
		12nm,0.5s							
	KBK	**Karagaybulak**	**2.77**	**321**	⇑	*i*P		**Pb**	**06 20 02.9 +2.0**
		baz=18							
	KBK				⇑	*i*S		**Sb**	**06 20 36.7 +2.1**
		baz=18							
	UZB	**Uzynbulak**	**2.91**	**25**		*e*P		**Pg**	**06 20 08.4 +0.7**
		8.9nm,0.2s							
	UZB					*e*S		**Sg**	**06 20 45.9 +0.5**
		32nm,0.6s							
	UZB	**Uzynbulak**	**2.91**	**25**		Pg		**Pg**	**06 20 08.4 +0.7**
		8.9nm,0.2s							
	UZB					Lg		Lg	06 20 45.9
		32nm,0.6s							
	DGS	**Degeres**	**2.95**	**337**		*e*P		**Pg**	**06 20 09.6 +1.3**
		15nm,0.5s							
	DGS					*e*S		**Sg**	**06 20 48.0 +1.4**
		30nm,0.3s							
	DGS	**Degeres**	**2.95**	**337**		Pg		**Pg**	**06 20 09.6 +1.3**
		15nm,0.5s							
	DGS					Lg		Lg	06 20 48.0
		30nm,0.3s							
	SFK	**Sufi-Kurgan**	**2.96**	**261**	⇓	*i*P		**Pg**	**06 20 07.8 -0.9**
		baz=58							
	SFK				⇓	*i*S		**Sg**	**06 20 45.8 -1.3**
		baz=58							
	AAK	**Ala-Archa**	**2.99**	**316**	⇑	*e*P		**Pb**	**06 20 06.0 +1.4**
		baz=13							
	AAK				⇑	*i*S		**Sb**	**06 20 41.9 +1.1**
		baz=13							
	AAK	**Ala-Archa**	**2.99**	**316**		Pg		Pg	06 20 14.6 +5.4
		12nm,0.5s							
	AAK				⇓	Lg		Lg	06 20 50.2
		47nm,1.0s							
	KURS	**Kuram**	**3.03**	**12**	⇓	*e*P		**Pg**	**06 20 10.1 +0.3**
		10nm,0.5s							
	KURS					*e*S		**Sg**	**06 20 48.9 -0.2**
		31nm,0.4s							
	KURS	**Kuram**	**3.03**	**12**		Pg		**Pg**	**06 20 10.1 +0.3**
		10nm,0.5s							
	KURS					Lg		Lg	06 20 48.9
		31nm,0.4s							
	SHLS	**Shalkode**	**3.08**	**31**		*e*P		**Pg**	**06 20 14.4 +3.6**
		13nm,0.3s							
	SHLS					*e*S		**Sg**	**06 20 56.1 +5.3**
		63nm,0.6s							
	SHLS	**Shalkode**	**3.08**	**31**		Pg		**Pg**	**06 20 14.4 +3.6**
		13nm,0.3s							
	SHLS					Lg		Lg	06 20 56.1
		63nm,0.6s							
	KPKS	**Kokpek**	**3.11**	**19**		*e*P		**Pg**	**06 20 11.4 -0.1**
		24nm,0.4s							
	KPKS					*e*S		**Sg**	**06 20 50.8 -0.9**
		44nm,0.5s							
	CHMS	**Chumysh**	**3.13**	**323**	⇓	*e*P		**Pb**	**06 20 07.5 +0.6**
		baz=20							
	CHMS				⇓	*i*S		**Sb**	**06 20 44.8 +0.1**
		baz=20							
	AML	**Almayashu**	**3.16**	**302**	⇓	*i*P		**Pb**	**06 20 09.3 +1.6**
		baz=98							
	AML				⇓	*i*S		**Sb**	**06 20 47.6 +1.5**
		baz=98							
	KTBS	**Karatobe**	**3.22**	**352**		*e*P		**Pg**	**06 20 13.7 +0.2**
		31nm,0.5s							
	KTBS					*e*S		**Sg**	**06 20 54.9 -0.3**
		60nm,0.3s							
	KTBS	**Karatobe**	**3.22**	**352**		Pg		**Pg**	**06 20 13.7 +0.2**
		31nm,0.5s							
	KTBS					Lg		Lg	06 20 54.9
		60nm,0.3s							
	PDGK	**Podgornoye**	**3.23**	**29**		Pg		**Pg**	**06 20 14.4 +0.5**
		5.3nm,0.3s							
	PDGK					Lg		Lg	06 20 55.8
		25nm,0.7s							
	PDGK	**Podgornoye**	**3.23**	**29**	⇓	Pn		**Pb**	**06 20 07.4 -1.4**
		1.1nm,0.6s							
	PDGK				⇑	Pg		**Pg**	**06 20 13.2 -0.7**
		9.9nm,0.6s							
	PDGK				⇓	Lg		Lg	06 20 55.4
		63nm,0.8s							
	CHKK	**Chushkaly**	**3.33**	**356**		*e*P		**Pg**	**06 20 15.2 -0.5**
		17nm,0.3s							
	CHKK				⇑	*i*S		**Sg**	**06 20 57.4 -1.5**
		110nm,0.4s							
	CHKK	**Chushkaly**	**3.33**	**356**		Pg		**Pg**	**06 20 15.2 -0.5**
		17nm,0.3s							
	CHKK					Lg		Lg	06 20 57.4
		110nm,0.4s							
	ARSB	**Arslanbob**	**3.38**	**285**	⇑	*i*P		**Pb**	**06 20 13.4 +2.2**
		baz=82							
	ARSB				⇑	*i*S		**Sb**	**06 20 54.4 +2.4**
		baz=82							
	KRBS	**Karabastau**	**3.39**	**339**		*e*P		**Pg**	**06 20 16.8 -0.1**
		12nm,0.6s							
	KRBS					*e*S		**Sg**	**06 21 00.3 -0.6**
		11nm,0.3s							
	KRBS	**Karabastau**	**3.39**	**339**		Pg		**Pg**	**06 20 16.8 -0.1**
		12nm,0.6s							
	KRBS					Lg		Lg	06 21 00.3
		11nm,0.3s							
	EKS2	**Erkin-Say**	**3.40**	**310**	⇓	*i*P		**Pb**	**06 20 12.0 +0.3**
		baz=7.0							
	EKS2				⇓	*i*S		**Sb**	**06 20 52.4 -0.3**
		baz=7.0							
	USP	**Ospenovka**	**3.45**	**323**	⇑	*i*P		**Pb**	**06 20 12.1 -0.3**
		baz=21							
	USP				⇑	*e*S		**Sb**	**06 20 52.6 -1.4**
		baz=21							
	SGDS	**Sogindy**	**3.54**	**326**		Pg		**Pg**	**06 20 19.9 +0.2**
		10nm,0.3s							
	SGDS					Lg		Lg	06 21 05.7
		11nm,0.4s							
	KTMS	**Ketmen**	**3.69**	**37**		*e*P		**Pg**	**06 20 22.2 -0.3**
		0.1nm,0.1s							
	KTMS					*e*S		**Sg**	**06 21 09.6 -0.8**
		14nm,0.4s							
	KTMS	**Ketmen**	**3.69**	**37**		Pg		**Pg**	**06 20 22.2 -0.3**
		0.1nm,0.1s							
	KTMS					Lg		Lg	06 21 09.6
		14nm,0.4s							
	ARXS	**Arharly**	**3.70**	**6**		*e*P		**Pg**	**06 20 22.2 -0.6**
		13nm,0.5s							
	ARXS					*e*S		**Sg**	**06 21 09.6 -1.2**
		26nm,0.5s							
	ARXS	**Arharly**	**3.70**	**6**		Pg		**Pg**	**06 20 22.2 -0.6**
		13nm,0.5s							
	ARXS					Lg		Lg	06 21 09.6
		26nm,0.5s							
	MRKS	**Merke**	**3.78**	**307**		*e*P		**Pg**	**06 20 24.8 +0.5**
		5.1nm,0.2s							
	MRKS					*e*S		**Sg**	**06 21 13.8 +0.5**
		10nm,0.2s							
	MRKS	**Merke**	**3.78**	**307**		Pg		**Pg**	**06 20 24.8 +0.5**
		5.1nm,0.2s							
	MRKS					Lg		Lg	06 21 13.8
		10nm,0.2s							
	MNAS	**Manas**	**4.11**	**300**	⇓	*e*P		**Pb**	**06 20 22.3 -1.4**
		baz=98							
	MNAS				⇓	*e*S		**Sb**	**06 21 10.4 -2.6**
		baz=98							
	DJR	**Jarkent**	**4.22**	**25**		*e*P		**Pg**	**06 20 31.5 -1.2**
		2.6nm,0.2s							
	DJR					*e*S		**Sg**	**06 21 25.3 -2.0**
		10nm,0.3s							
	DJR	**Jarkent**	**4.22**	**25**		Pg		**Pg**	**06 20 31.5 -1.2**
		2.6nm,0.2s							
	DJR					Lg		Lg	06 21 25.3
		10nm,0.3s							
	TDK	**Taldyqorghan**	**4.54**	**10**		*e*P		**Pg**	**06 20 37.8 -1.1**
		61nm,0.2s							
	TDK					*e*S		**Sg**	**06 21 36.2 -1.4**
		68nm,0.3s							
	TDK	**Taldyqorghan**	**4.54**	**10**		Pg		**Pg**	**06 20 37.8 -1.1**
		61nm,0.2s							
	TDK					Lg		Lg	06 21 36.2
		68nm,0.3s							
	KAPS	**Kapalarasan**	**4.99**	**17**		*e*P		**Pg**	**06 20 46.3 -1.0**
		4.9nm,1.0s							
	KAPS					*e*S		**Sg**	**06 21 50.8 -1.1**
		5.6nm,0.4s							
	KAPS	**Kapalarasan**	**4.99**	**17**		Pg		**Pg**	**06 20 46.3 -1.0**
		4.9nm,1.0s							
	KAPS					Lg		Lg	06 21 50.8
		5.6nm,0.4s							
	BTLS	**Baital**	**5.11**	**333**		*e*P		**Pg**	**06 20 48.2 -1.5**
		3.1nm,0.5s							
	BTLS					*e*S		**Sg**	**06 21 53.9 -2.0**
		6.3nm,0.4s							
	BTLS	**Baital**	**5.11**	**333**		Pg		**Pg**	**06 20 48.2 -1.5**
		3.1nm,0.5s							
	BTLS					Lg		Lg	06 21 53.9
		6.3nm,0.4s							

NNC 12 06:35:06.0±9.4, 37°.52N×71°.48E, *h*0km, mb3.7, mpv3.4, 3C-3D, Error ellipse: s-maj=72.6km s-min=58.1km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.61**	**23**	⇑	P	P	Pn	06 36 31.5	+0.7
	2.5nm,0.4s								
AAK				⇑	S		Sn	06 37 36.8	+0.8
	3.7nm,0.6s								
KK31	**Karatay Array**	**5.62**	**353**	⇓	P		Pn	06 36 33.0	+2.1
	1.3nm,0.6s,baz=176,slow=12,SNR=11								
KK31				⇓	S		Sn	06 37 38.0	+1.8
	5.8nm,0.6s,baz=178,slow=22,SNR=11								
TKM2	**Tokmak 2**	**6.24**	**29**	⇑	P		Pn	06 36 37.6	-2.0
	2.2nm,0.7s								
TKM2				⇓	S		Sn	06 37 51.6	-0.2
	1.0nm,0.7s								

*IDC **12** 06:40:33.2±2.7, 41°.33N×114°.57E, *h*0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/34, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=59.1km s-min=31.7km az=12.0*

ISC 12 06:40:34.8±0.9, 41°.6N±0°.1×115°.02E±0°.08, *h*10km, n8, σ1°73/10, mb3.6/4, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Beijing**	**1.78**	**150**	Pg	**Pn**	**06 41 04.6**	**-0.9**
BJI				Sg	**Sn**	**06 41 29.3**	**+1.1**
BJI				SMN			
	680nm,0.5s						
BJI				SME			
	330nm,0.5s						
BTO	**Baotou**	**3.90**	**257**	*e*Pg	**Pn**	**06 41 35.4**	**+0.6**
BTO				Sg	**Sn**	**06 42 21.6**	**+0.8**
BTO				SMN			
	2μm,0.8s						
BTO				SME			
	750nm,0.3s						
SONM	**Songino Array**	**8.75**	**318**	Pn	**Pn**	**06 42 41.3**	**-0.2**
	1.6nm,0.3s,baz=137,slow=13,SNR=19						
SONM				Lg	Lg	06 45 09.5	
	0.9nm,0.3s,baz=141,slow=26,SNR=5.6						
WMQ	**Urumqi**	**20.17**	**286**	*e*P	**P**	**06 45 07.5**	**-1.8**
MKAR	**Makanchi Array**	**23.93**	**294**	P	**P**	**06 45 46.1**	**-2.8**
	0.5nm,0.8s,baz=80,slow=11,SNR=3.6						
KURBB	**Kurchatov Arra**	**26.63**	**302**	P	**P**	**06 46 12.3**	**-1.0**
	1.6nm,0.8s,baz=96,slow=9.4,SNR=12						
FINES	**FINESS Array B**	**54.08**	**324**	P	**P**	**06 49 59.5**	**+0.3**
	1.0nm,0.9s,baz=63,slow=6.8,SNR=3.4						
ILAR	**Eielson Array**	**56.48**	**31**	P	**P**	**06 50 18.9**	**+2.4**
	0.4nm,0.8s,baz=302,slow=5.2,SNR=5.4						

*IDC **12** 06:57:49.8±0.6, 28°.19N×57°.19E, *h*0km, mb4.3/27, mb1 4.4/31, mb1mx4.3/46, mbtmp4.3/31, ML4.5/3, MS3.4/12, Ms1 3.4/12, ms1mx3.2/34, Error ellipse: s-maj=15.2km s-min=12.1km az=171.0*

*TEH **12** 06:57:52.1, 28°.25N×57°.21E, *h*8km, ML4.4*

*NEIC **12** 06:57:52.2±1.8, 28°.27N±0°.05×57°.19E±0°.04, *h*10km±1km, Error ellipse: s-maj=9.1km s-min=6.5km az=189.0*

*MOS **12** 06:57:52.3±1.0, 28°.24N×57°.22E, *h*27km, mb4.7/36, Error ellipse: s-maj=7.1km s-min=4.6km az=101.7*

*OMAN **12** 06:57:53.2±0.2, 28°.14N×57°.29E, *h*10km, mb5.8/1, ml4.4/17, Error ellipse: s-maj=6.8km s-min=4.0km az=317.0*

*DSN **12** 06:57:56.6±1.5, 27°.72N×57°.68E, *h*10km, ML4.1/10, Error ellipse: s-maj=26.1km s-min=9.1km az=147.0*

ISC 12 06:57:51.5±0.3, 28°.24N±0°.03×57°.21E±0°.03, *h*10km, n317, σ1°59/322, mb4.5/98, MS3.4/16, 7C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.53**	**124**	Pg	**Pg**	**06 58 03.0**	**+1.2**
KHNJ	**Kahnooj**	**0.53**	**124**	*e*Pg	**Pg**	**06 58 02.7**	**+0.9**
GENO	**Geno**	**1.24**	**228**		**Pg**	**06 58 17.0**	**+1.7**
GENO	**Geno**	**1.24**	**228**	*e*Pg	**Pg**	**06 58 17.1**	**+1.7**
GENO				*e*		06 58 18.0	
	comp=Z,43μm,0.5s						
NGRK	**Negar Kerman**	**1.46**	**343**		**Pg**	**06 58 20.0**	**+0.5**
NGRK	**Negar Kerman**	**1.46**	**343**	*e*Pg	**Pg**	**06 58 20.1**	**+0.5**
NGRK				*e*		06 58 45.4	
	comp=Z,48μm,0.5s						
CHMN	**Cheshme madani**	**1.64**	**10**		**Pg**	**06 58 23.0**	**0.0**
CHMN	**Cheshme madani**	**1.64**	**10**	*e*Pg	**Pb**	**06 58 22.6**	**+0.6**
CHMN				*e*		06 58 50.1	
	comp=Z,27μm,0.5s						
TVBK	**TV Kerman**	**1.78**	**347**	*e*Pn	**Pb**	**06 58 25.5**	**+1.0**
TVBK				*e*		06 58 32.8	
	comp=Z,43μm,0.3s						
KHGB	**Koh Gabri**	**2.22**	**343**	*e*Pn	**Pb**	**06 58 32.0**	**+0.1**
KHGB				*e*		06 59 09.3	
	comp=Z,23μm,0.6s						
SHME	**Shamm**	**2.38**	**204**	*e*P	**Pn**	**06 58 31.7**	**+1.1**
	SNR=115						
SHME				S	**Sn**	**06 59 00.4**	**+0.6**
SHME	**Shamm**	**2.38**	**204**	*e*Pn	**Pn**	**06 58 31.6**	**+1.1**
SHME	**Shamm**	**2.38**	**204**	P	**Pn**	**06 58 31.6**	**+1.1**
	SNR=47						
SHME				S	**Sn**	**06 59 01.0**	**+1.1**
BANOM	**Banah**	**2.45**	**200**	*e*P	**Pn**	**06 58 32.4**	**+0.9**
	SNR=173						
BANOM	**Banah**	**2.45**	**200**	*e*Pn	**Pn**	**06 58 32.8**	**+1.3**
BANOM	**Banah**	**2.45**	**200**	P	**Pn**	**06 58 32.9**	**+1.4**
	SNR=173						
BANOM				S	**Sb**	**06 59 04.8**	**-1.0**
LAR1	**LAR**	**2.57**	**258**	*e*Pn	**Pn**	**06 58 35.9**	**+2.6**
MASF	**Masafi**	**3.01**	**198**	P	**Pn**	**06 58 41.2**	**+1.9**
	SNR=6.8						
MASF				S	**Sb**	**06 59 20.3**	**-1.7**
MSFE	**Esma-Masafi**	**3.02**	**198**	*e*P	**Pn**	**06 58 41.1**	**+1.6**
	SNR=15						
MSFE	**Esma-Masafi**	**3.02**	**198**	*e*Pn	**Pn**	**06 58 40.0**	**+0.6**
MDH	**Madha**	**3.04**	**196**	*e*P	**Pn**	**06 58 39.8**	**+0.1**
	SNR=16						
MDH	**Madha**	**3.04**	**196**	*e*Pn	**Pn**	**06 58 40.0**	**+0.4**
MDH	**Madha**	**3.04**	**196**	P	**Pn**	**06 58 40.1**	**+0.4**
	SNR=16						
JHRM	**Jahrom**	**3.21**	**276**	*e*Pn	**Pn**	**06 58 45.5**	**+3.4**
ZHDN	**Zahedan**	**3.36**	**69**	*e*Pn	**Pn**	**06 58 47.6**	**+3.3**
UOSS	**Minazif**	**3.40**	**196**	*i* P	**Pn**	**06 58 44.7**	**+0.1**
	SNR=11						
UOSS	**Minazif**	**3.40**	**196**	Pn	**Pn**	**06 58 46.3**	**+1.6**
UOSS	**Minazif**	**3.40**	**196**	*e*Pn	**Pn**	**06 58 44.6**	**-0.1**
UOSS	**Minazif**	**3.40**	**196**	P	**Pn**	**06 58 46.0**	**+1.3**
UOSS				S	**Sn**	**06 59 28.1**	**+2.9**
NAZ	**Nazwa, Dubai**	**3.52**	**203**	*i* P	**Pn**	**06 58 48.4**	**+2.1**
	SNR=10						
NAZ	**Nazwa, Dubai**	**3.52**	**203**	P	**Pn**	**06 58 49.1**	**+2.8**
	SNR=10						
NAZ				S	**Sn**	**06 59 29.1**	**+1.1**
HATD	**Hatta, Dubai**	**3.54**	**196**	*i* P	**Pn**	**06 58 47.4**	**+0.9**
	SNR=7.3						
HATD	**Hatta, Dubai**	**3.54**	**196**	*e*Pn	**Pn**	**06 58 47.1**	**+0.6**
HATD	**Hatta, Dubai**	**3.54**	**196**	P	**Pn**	**06 58 48.8**	**+2.3**
IBAF	**Bafgh**	**3.63**	**337**	*e*Pn	**Pn**	**06 58 51.8**	**+3.9**
QIR1	**Qir**	**3.68**	**275**	*e*Pn	**Pn**	**06 58 51.9**	**+3.4**
ASHO	**Ashiyiah**	**3.69**	**196**	*i* P	**Pn**	**06 58 50.2**	**+1.6**
	SNR=15						
ASHO	**Ashiyiah**	**3.69**	**196**	*e*Pn	**Pn**	**06 58 50.9**	**+2.3**
ASHO	**Ashiyiah**	**3.69**	**196**	P	**Pn**	**06 58 50.7**	**+2.0**
	SNR=21						
LMD1	**Lamerd**	**3.69**	**257**	*e*Pn	**Pn**	**06 58 51.5**	**+2.8**
FAQ	**Al Faqa, Dubai**	**3.77**	**203**	*i* P	**Pn**	**06 58 51.2**	**+1.5**
	SNR=44						
FAQ	**Al Faqa, Dubai**	**3.77**	**203**	*e*Pn	**Pn**	**06 58 51.8**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.77**	**203**	P	**Pn**	**06 58 51.2**	**+1.5**
	SNR=44						
FAQ				S	**Sn**	**06 59 35.2**	**+1.1**
IMEH	**Mehriz**	**3.86**	**325**	*e*Pn	**Pn**	**06 58 54.5**	**+3.3**
ASUD	**Al Ashush, Dub**	**3.98**	**205**	*i* P	**Pn**	**06 58 54.7**	**+2.2**
	SNR=128						
ASUD	**Al Ashush, Dub**	**3.98**	**205**	*e*Pn	**Pn**	**06 58 54.6**	**+2.1**
ASUD	**Al Ashush, Dub**	**3.98**	**205**	P	**Pn**	**06 58 54.9**	**+2.4**
	SNR=15						
ASUD				S	**Sn**	**06 59 41.6**	**+2.4**
NHDN	**Nehbandan**	**4.00**	**37**	*e*Pn	**Pn**	**06 58 55.8**	**+2.9**
SOHO	**SOHO**	**4.13**	**189**	*i* P	**Pn**	**06 58 54.0**	**-0.8**
	SNR=17						
SOHO	**SOHO**	**4.13**	**189**	*e*Pn	**Pn**	**06 58 54.2**	**-0.5**
SOHO	**SOHO**	**4.13**	**189**	P	**Pn**	**06 58 53.9**	**-0.8**
SOHO				S	**Sn**	**06 59 41.9**	**-1.2**
SHI	**Shiraz**	**4.34**	**290**	*e*Pn	**Pn**	**06 59 00.1**	**+2.3**
ALNE	**Al Ain**	**4.37**	**198**	*i* P	**Pn**	**06 58 59.8**	**+1.8**
	SNR=29						
ALNE	**Al Ain**	**4.37**	**198**	*e*Pn	**Pn**	**06 58 59.4**	**+1.4**
ALNE	**Al Ain**	**4.37**	**198**	P	**Pn**	**06 58 59.8**	**+1.8**
	SNR=30						
IKOO	**Kooshah**	**4.45**	**20**	*e*Pn	**Pn**	**06 59 02.0**	**+2.7**
HOQ	**Hoqain**	**4.64**	**179**	P	**Pn**	**06 59 01.5**	**-0.1**
	SNR=79						
ICHK	**Chekchek**	**4.67**	**329**	*e*Pn	**Pn**	**06 59 06.2**	**+4.0**
SRVN	**Saravan**	**4.67**	**99**	*e*Pn	**Pn**	**06 59 05.2**	**+3.0**
ISAD	**Sadrabad**	**4.77**	**321**	*e*Pn	**Pn**	**06 59 07.3**	**+3.7**
BIDO	**Bidbid**	**4.77**	**170**	*e*Pn	**Pn**	**06 59 03.3**	**-0.2**
BIDO	**Bidbid**	**4.77**	**170**	P	**Pn**	**06 59 03.4**	**-0.1**
	SNR=26						
ITEG	**Tejag**	**4.83**	**16**	*e*Pn	**Pn**	**06 59 05.8**	**+1.4**
ARQ	**Araqi**	**4.92**	**187**	P	**Pn**	**06 59 08.0**	**+2.4**
	SNR=314						
ARQ				S	**Sn**	**07 00 04.0**	**+1.3**
IDAH	**Dahanechah**	**5.04**	**26**	*e*Pn	**Pn**	06 59 13.3	+6.0
JRN	**Qarnain Island**	**5.10**	**231**	P	**Pn**	**06 59 09.4**	**+1.4**
WSAR	**Wadi Sarin**	**5.14**	**165**	Pn	**Pn**	**06 59 09.3**	**+0.7**
	comp=Z,61nm,0.3s,baz=341,slow=5.4,SNR=283						
WSAR				Sn	**Sn**	**07 00 05.0**	**-3.1**
	comp=Z,45nm,0.3s,baz=210,slow=16,SNR=10.0						
WSAR	**Wadi Sarin**	**5.14**	**165**	P	**Pn**	**06 59 09.5**	**+0.9**
	SNR=464						
SMDO	**Samad**	**5.22**	**171**	P	**Pn**	**06 59 10.5**	**+0.8**
	SNR=21						
TKDS	**Koohdasht(Taba**	**5.36**	**359**	*e*Pn	**Pn**	**06 59 15.3**	**+3.7**
AFRZ	**Afriz**	**5.39**	**16**	*e*Pn	Pn	06 59 17.1	+4.9
IRAM	**Ramesheh**	**5.49**	**312**	*e*Pn	**Pn**	**06 59 16.6**	**+3.0**
KLNJ	**Kolanjah**	**5.61**	**301**	*e*Pn	**Pn**	**06 59 17.5**	**+2.2**
ANAR	**Anarak**	**5.77**	**330**	*e*Pn	**Pn**	**06 59 21.0**	**+3.7**
GHWR	**Ruwais**	**5.77**	**223**	P	**Pn**	**06 59 17.2**	**0.0**
UMZA	**Um Al Zommool**	**5.81**	**199**	*e*Pn	**Pn**	**06 59 18.1**	**+0.4**
IZEF	**Zefreh**	**6.26**	**319**	*e*Pn	**Pn**	**06 59 27.1**	**+2.9**
SLWR	**Sila**	**6.47**	**231**	*e*Pn	**Pn**	**06 59 27.3**	**+0.5**
SHK1	**Shahrekord**	**6.82**	**308**	*e*Pn	**Pn**	**06 59 34.7**	**+2.9**
IPIR	**Pirpir**	**7.02**	**311**	*e*Pn	**Pn**	**06 59 37.9**	**+3.2**
ISFB	**Sefidab**	**7.43**	**326**	*e*Pn	**Pn**	**06 59 43.4**	**+3.4**
HRA	**Herat**	**7.49**	**34**	Pn	**Pn**	**06 59 42.1**	**+1.1**
IANJ	**Anjilo**	**7.73**	**340**	*e*Pn	**Pn**	**06 59 48.7**	**+4.4**
SBZV	**Sabzevar**	**8.13**	**2**	*e*Pn	**Pn**	**06 59 53.0**	**+3.2**
QRN	**Al-Qurain**	**8.19**	**276**	*e*P	**Pn**	**06 59 51.0**	**+0.6**
IVRN	**Varamin**	**8.19**	**327**	*e*Pn	**Pn**	**06 59 54.8**	**+4.3**
UMR	**Umm Al-Rimmam**	**8.42**	**281**	*e*P	**Pn**	**06 59 54.8**	**+1.2**
RDF	**Al-Radifah**	**8.52**	**277**	*e*P	**Pn**	**06 59 56.1**	**+1.1**
MIB	**Mutribah**	**8.78**	**283**	*e*P	**Pn**	**06 59 59.3**	**+0.8**
BMDN	**Meydan**	**9.00**	**309**	*e*Pn	**Pn**	**07 00 02.6**	**+0.9**
IRAZ	**Razeghan**	**9.45**	**321**	*e*Pn	**Pn**	**07 00 11.4**	**+3.5**
GEYT	**Alibeck**	**9.69**	**4**	Pn	Pn	07 00 17.9	+6.9
	comp=Z,0.9nm,0.3s,baz=196,slow=19,SNR=5.2						
GEYT				LR	LR	07 04 25.3	
	comp=Z,280nm,19.7s,baz=70,slow=41						
GYA0B	**ALIBECK ARRAY**	**9.69**	**4**	Pn	**Pn**	**07 00 11.9**	**+0.8**
SHAO	**Shalim**	**10.28**	**188**	*i* P	**Pn**	**07 00 18.0**	**-1.1**
	SNR=18						
RAYN	**Ar Rayn**	**11.54**	**249**	P	**Pn**	**07 00 33.9**	**-2.4**
RAYN	**Ar Rayn**	**11.54**	**249**		**Pn**	**07 00 33.9**	**-2.4**
CHGR	**Chuyangaron**	**14.39**	**41**	Pn	**Pn**	**07 01 16.3**	**+1.0**
GAR	**Garm**	**15.29**	**42**	Pn	**Pn**	**07 01 29.8**	**+2.3**
GNI	**Garni**	**15.71**	**322**	Pn	**Pn**	**07 01 38.6**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=146,slow=6.9,SNR=3.5						
GNI	**Garni**	**15.71**	**322**	P	**Pn**	**07 01 32.4**	**-0.7**
GNI				pmax	pmax		
	comp=Z,22nm,1.1s						
GNI	**Garni**	**15.71**	**322**	Pn	**Pn**	**07 01 32.4**	**-

BNN Bunyan 20.66 306 P P 07 02 31.6 0.0
SOC Sochi 20.79 322 eP Pn 07 02 34.9 -0.3
SOC ePPP PPP 07 02 59.9
SOC eSSS SSS 07 06 57.6
SOC MLR MLR
comp=Z,51nm,15.0s
BOOM Boomskoye usch 20.80 42 P Pn 07 02 35.3 -0.2
BOOM pmax pmax
comp=Z,39nm,1.5s
BOOM Boomskoye usch 20.80 42 P Pn 07 02 35.3 -0.3
BOOM lAmb lAmb 07 02 45.7
comp=Z,39nm,1.4s
ULHL Ulahol 20.84 43 P Pn 07 02 36.0 0.0
SNR=13
TKM2 Tokmak 2 20.87 41 P Pn 07 02 35.8 -0.6
SNR=7.7
TKM2 Tokmak 2 20.87 41 P P 07 02 35.1 +1.3
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
AB31 Akbulak array 21.09 5 iP P 07 02 37.1 +1.2
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 21.09 5 P P 07 02 37.0 +1.1
ABKAR Akbulak array 21.09 5 P P 07 02 37.2 +1.3
ABKAR lAmb lAmb 07 02 41.0
comp=Z,18nm,0.7s
KDJ Kajisay 21.34 44 P P 07 02 40.5 +1.6
KDJ pmax pmax
comp=Z,23nm,0.9s
KDJ Kajisay 21.34 44 P P 07 02 40.5 +1.6
KDJ lAmb lAmb 07 02 43.5
comp=Z,23nm,0.9s
CSS Mathiatis 21.39 294 P P 07 02 39.7 +0.4
CSS lAmb lAmb 07 02 48.3
comp=Z,17nm,0.9s
TARG Taragay, Kyrgy 21.51 46 P P 07 02 41.8 +0.8
TARG lAmb lAmb 07 02 46.2
comp=Z,12nm,0.7s
AKTO Aktyubinsk 22.17 1 P P 07 02 49.3 +1.7
comp=Z,14nm,0.5s,baz=172,slow=10.0,SNR=39
AKTO Aktyubinsk 22.17 1 P P 07 02 48.4 +0.8
AKTO pmax pmax
comp=Z,33nm,1.0s
BR131 Keskin Array S 22.58 307 P P 07 02 52.7 +0.5
BR131 pmax pmax
comp=Z,20nm,1.0s
BR131 Keskin Array S 22.58 307 P P 07 02 52.7 +0.5
BR131 lAmb lAmb 07 03 06.2
comp=Z,20nm,0.9s
BRTR Keskin Array B 22.58 307 P P 07 02 54.0 +1.7
comp=Z,8.2nm,0.9s,baz=123,slow=10,SNR=38
BRTR LR LR 07 13 28.6
comp=Z,152nm,20.6s,baz=118,slow=42
BRTR Keskin Array B 22.58 307 P P 07 02 52.7 +0.5
BRTR Keskin Array B 22.58 307 P P 07 02 52.7 +0.5
ANN Anapa 22.83 322 eP P 07 02 54.8 +0.2
ANN e*PP pP 07 02 59.0 +1.1
ANN eS S 07 07 07.4 +3.5
ANN pmax pmax
comp=Z,13nm,0.7s
ANTO Ankara 23.24 306 P P 07 02 59.9 +0.9
ANTO pmax pmax
comp=Z,16nm,0.9s
ANTO Ankara 23.24 306 P P 07 02 59.9 +0.9
ANTO lAmb lAmb 07 03 02.5
comp=Z,16nm,0.9s
ELL Elmali 24.48 297 P P 07 03 11.9 +1.0
ELL pmax pmax
comp=Z,30nm,0.7s
ELL Elmali 24.48 297 P P 07 03 11.9 +1.0
MDUB Mudurnu 24.60 307 P P 07 03 12.0 +0.1
BELG Belogornoye 25.16 346 P P 07 03 17.3 +0.6
comp=Z,17nm,0.8s,baz=93,slow=5.3,SNR=4.6
VRH Novokhopyorsk 25.74 337 eP P 07 03 21.0 -1.0
VRH pmax pmax
comp=Z,10.0nm,0.7s
BVAR Borovoye Array 26.61 18 P P 07 03 31.1 +1.1
comp=Z,3.7nm,0.7s,baz=176,slow=21,SNR=15
BRVK Borovoye 26.61 18⇑eP P 07 03 30.7 +0.8
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 26.61 18 P P 07 03 30.6 +0.6
VSR Storozhevoye 26.67 334 eP P 07 03 28.7 -1.8
VSR pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 26.83 40 P P 07 03 32.4 +0.4
MAKZ pmax pmax
comp=Z,13nm,1.4s
MAKZ Makanchi 26.83 40 P P 07 03 32.4 +0.4
MAKZ lAmb lAmb 07 03 33.8
comp=Z,13nm,1.4s
MK31 Makanchi Array 27.00 40 iP P 07 03 33.7 +0.2
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 27.00 40 P P 07 03 33.2 -0.3
MKAR Makanchi Array 27.00 40 P P 07 03 34.1 +0.6
comp=Z,2.9nm,0.6s,baz=224,slow=8.1,SNR=44
MKAR LR LR 07 15 25.5
comp=Z,77nm,18.9s,baz=238,slow=39
MKAR Makanchi Array 27.00 40 P P 07 03 34.3 +0.8
KURBB Kurchatov Arra 27.58 30 P P 07 03 39.7 +1.1
comp=Z,3.8nm,0.7s,baz=228,slow=8.6,SNR=61
KURK Kurchatov 27.68 30 P P 07 03 39.7 +0.2
LPSR Galich'ya Gora 27.87 336 eP P 07 03 40.9 -0.3
LPSR pmax pmax
comp=Z,7.0nm,0.6s
IDI Anoyia 28.27 293 P P 07 03 46.1 +1.0
comp=Z,6.0nm,0.5s,baz=56,slow=9.7,SNR=7.6
ALN Alexandroupoli 28.44 305 P P 07 03 45.8 -0.6
ALN pmax pmax
comp=Z,13nm,1.3s
ALN Alexandroupoli 28.44 305 P P 07 03 45.8 -0.6
ALN lAmb lAmb 07 04 00.5
comp=Z,13nm,1.3s
WMQ Urumqi 28.94 49 eP P 07 03 53.1 +2.1
WMQ sP sP 07 04 08.7 +13
WMQ pmax pmax
comp=Z,24nm,0.6s
WMQ pmax pmax
comp=Z,36nm,3.6s
OBN Obninsk 30.72 337 eP P 07 04 07.0 +0.5
OBN e 07 07 03.1
OBN pmax pmax
comp=Z,4.0nm,0.8s
KIRV Kirov 30.81 352⇑iP P 07 04 07.5 +0.3
AKASG Malin Array Be 30.82 324 P P 07 04 06.8 -0.7
comp=Z,3.6nm,0.6s,baz=130,slow=8.6,SNR=13
AKASG Malin Array Be 30.82 324 P P 07 04 06.3 -1.1
AKBB Malin Array Si 30.82 324 P P 07 04 06.6 -0.8
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 30.82 324 P P 07 04 06.6 -0.8
ITM Ithomi 30.85 296 P P 07 04 07.5 -0.4
ITM lAmb lAmb 07 04 08.5
comp=Z,4.7nm,0.6s
VTS Vitosha 30.95 307 P P 07 04 09.1 +0.3
VTS pmax pmax
comp=Z,9.0nm,1.4s
VTS Vitosha 30.95 307 P P 07 04 09.1 +0.3
VTS lAmb lAmb 07 04 11.2
comp=Z,8.8nm,1.4s
DGZ Jazzator, Alta 31.46 39⇑iP P 07 04 14.2 +0.9
DGZ pmax pmax
comp=Z,3.0nm,0.6s
BURAR Bucovina Array 31.47 317 P P 07 04 13.7 +0.4
ZAA0 Zalesovo Array 32.67 30 P P 07 04 24.2 +0.5
ZALV Zalesovo Beam 32.67 30 P P 07 04 24.0 +0.4
comp=Z,11nm,0.6s,baz=245,slow=9.4,SNR=36
ZALV LR LR 07 17 53.0
comp=Z,33nm,19.4s,baz=286,slow=37
ZALV Zalesovo Beam 32.67 30 P P 07 04 23.9 +0.3
DIVS Divibare 33.63 308 P P 07 04 32.0 -0.3
DIVS lAmb lAmb 07 04 46.2
comp=Z,6.0nm,1.1s
MNK Minsk 33.80 329 iP P 07 04 29.2 -4.3
MNK i 07 05 42.3
MNK iS S 07 09 53.1 -4.0
MNK iSS SnSn 07 11 58.8 -2.9
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=N,22nm,0.7s
MNK MLR MLR
comp=E,24nm,21.0s
MNK MLR MLR
comp=N,465nm,20.0s
MNK MLR MLR
comp=Z,85nm,23.0s
MNK Minsk 33.80 329 iP P 07 04 29.2 -4.2
comp=E,3.0nm,0.9s
MNK iP P 07 04 29.2 -4.2
comp=N,22nm,0.7s
MNK iP P 07 04 29.2 -4.2
comp=Z,7.0nm,0.8s,baz=129
MNK iPP PP 07 05 42.4 -7.5
MNK iPPP PPP 07 05 53.8
MNK iPcP PcP 07 07 02.8 -10
MNK iS S 07 09 53.2 -3.9
MNK iSS SnSn 07 11 58.8 -2.9
MNK iSSS SSS 07 12 11.8
MNK iLQ LQ 07 15 36.3
MNK iLR LR 07 17 40.8
MNK iLRM MLR 07 18 32.9
comp=E,24nm,21.0s
MNK iLRM MLR 07 18 32.9
comp=N,465nm,20.2s
MNK iLRM MLR 07 18 48.1
comp=Z,85nm,23.1s
KOLS Kolonicke sedl 33.81 317 eP P 07 04 35.3 +1.6
KOLS Kolonicke sedl 33.81 317 eP P 07 04 35.3 +1.6
CRVS Cervenica-Dubn 34.29 317 eP P 07 04 38.8 +0.9
CRVS Cervenica-Dubn 34.29 317 eP P 07 04 38.8 +0.9
KLMR Klimovskoe 34.72 345 eP P 07 04 36.0 -5.4
KLMR pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 34.72 345 eP P 07 04 36.0 -5.4
KLMR AMP 07 04 43.1
comp=Z,13nm,1.3s
TIP Timpagrande 35.11 299 P P 07 04 45.4 +0.2
TIP lAmb lAmb 07 04 59.9
comp=Z,5.4nm,1.0s
VYHS Vyhne 35.75 315 eP P 07 04 52.0 +1.6
VYHS Vyhne 35.75 315 eP P 07 04 52.0 +1.6
OJC Ojcow 35.81 318 P P 07 04 50.7 -0.3
OJC pmax pmax
comp=Z,23nm,0.8s
OJC Ojcow 35.81 318 P P 07 04 50.7 -0.3
JAVC Velka Javorina 36.60 315 eP P 07 04 58.7 +0.9
GTA Gaotai 36.80 61 ⇓P P 07 05 00.7 +1.0
GTA pP sP 07 05 05.0 +0.5
GTA sP pP 07 05 08.8 +5.7
GTA pmax pmax
comp=Z,11nm,0.7s
GTA pmax pmax
comp=Z,39nm,4.0s
GTA L L
comp=Z,58nm,14.9s
GTA L L
comp=Z,140nm,15.3s
GTA L L
comp=Z,86nm,16.4s
VSU Vasula 36.86 334⇓eP P 07 05 00.2 +0.5
VSU pmax pmax
comp=Z,45nm,1.0s
MORC Moravsky Berou 36.99 317 eP P 07 05 00.7 -0.4
MORC Moravsky Berou 36.99 317 P P 07 05 00.2 -0.9
MORC pmax pmax
comp=Z,7.0nm,0.7s
MORC Moravsky Berou 36.99 317 P P 07 05 00.2 -0.9
MORC lAmb lAmb 07 05 01.7
comp=Z,6.5nm,0.7s
VRAC Vranov 37.42 315 eP P 07 05 04.5 -0.2
CONA Conrad Observa 37.46 313 eP P 07 05 04.6 -0.5
comp=Z,4.2nm,1.0s
KRUC Moravsky 37.46 315 eP P 07 05 05.0 0.0
ARSA Arzberg 37.49 312 eP P 07 05 05.8 +0.4
comp=Z,3.8nm,0.7s
KLNR Kaliningrad 37.55 325⇑eP P 07 05 07.6 +1.9
KLNR pmax pmax
comp=Z,30nm,0.6s
SOKA Soboth 37.67 311 eP P 07 05 07.1 +0.2
comp=Z,2.5nm,0.7s
DPC Dobruska-Polom 37.93 317 eP P 07 05 08.7 -0.3
DPC Dobruska-Polom 37.93 317 eP P 07 05 08.7 -0.3
CHVC Chvalec 38.17 317 eP P 07 05 11.4 +0.3
NRCA Norcia 38.28 304 P P 07 05 12.4 +0.3
NRCA lAmb lAmb 07 05 31.8
comp=Z,5.5nm,0.7s
MOA Molln 38.47 312 eP P 07 05 13.6 0.0
comp=Z,6.0nm,0.6s
CKRC Cesky Krumlov 38.70 314 eP P 07 05 15.9 +0.4
MURB Monte Urbino 38.77 305 P P 07 05 16.0 -0.2
KBA Koelnbreinsper 38.89 311 iP P 07 05 17.2 -0.1
comp=Z,9.3nm,1.3s,SNR=5.9
GEC2 GERESS Array S 39.09 314 P P 07 05 18.7 -0.1
GEC2 lAmb lAmb 07 05 29.9
comp=Z,18nm,1.4s
GERES GERESS Array B 39.09 314 P P 07 05 18.8 -0.1
comp=Z,2.3nm,0.6s,baz=108,slow=8.6,SNR=18
GERES PcP PcP 07 07 28.1 -0.5
comp=Z,0.2nm,0.3s,baz=113,slow=2.0,SNR=3.6
FINES FINESS Array B 39.13 337 P P 07 05 19.1 +0.2
comp=Z,1.8nm,0.5s,baz=133,slow=9.3,SNR=24
FINES FINESS Array B 39.13 337 P P 07 05 19.0 +0.1
STAL STALIGIAL 39.14 310 P P 07 05 18.5 -0.8
STAL lAmb lAmb 07 05 19.1
comp=Z,5.6nm,0.7s
KHC Kasperske Hory 39.25 314 eP P 07 05 19.5 -0.6
KHC Kasperske Hory 39.25 314 eP P 07 05 19.5 -0.6
CMAR Chiang Mai Arr 39.37 95 LR LR 07 25 10.2
comp=Z,38nm,20.1s,baz=285,slow=42
ABTA Abfaltersbach 39.37 310 eP P 07 05 21.1 -0.1
comp=Z,6.1nm,0.6s
BRG Berggiesshubel 39.53 317 eP P 07 05 22.0 -0.4
BRG Amp 07 05 23.6
comp=Z,3.6nm,0.7s
LZH Lanzhou 39.94 67 eP P 07 05 26.8 +0.6
LZH pP sP 07 05 31.7 +0.7
LZH sP pP 07 05 37.0 +7.4
LZH pmax pmax
comp=Z,12nm,1.1s
ZCCA Zocca 40.02 306 P P 07 05 26.6 0.0
WTTA Wattenberg 40.07 311 iP P 07 05 26.6 -0.5
comp=Z,13nm,0.6s,SNR=6.6
WATA Waldstralm 40.12 311 eP P 07 05 27.2 -0.3
comp=Z,8.7nm,1.0s
CLL Collm 40.23 317 iP P 07 05 28.3 +0.1
comp=Z,11nm,1.1s
CLL i 07 05 37.7
CLL Collm 40.23 317 iP P 07 05 28.3 +0.1
CLL i 07 05 37.7
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 40.23 317 P P 07 05 27.9 -0.3
CLL lAmb lAmb 07 05 39.4
comp=Z,8.5nm,1.0s
MOTA Moosalm 40.44 311 eP P 07 05 29.6 -0.6
comp=Z,8.1nm,0.7s
BSD Bornholm Skovb 40.52 323 iP P 07 05 29.0 -1.5
BSD Bornholm Skovb 40.52 323 iP P 07 05 29.0 -1.5
KMI Kunming 40.62 84 ⇓P P 07 05 32.5 +0.4
KMI pP pP 07 05 36.0 +0.6
KMI pmax pmax
comp=Z,8.0nm,0.5s
FETA Feichten 40.63 310 eP P 07 05 31.2 -0.5
comp=Z,8.2nm,0.5s
RETA Reutte 40.69 311 eP P 07 05 31.2 -1.0
comp=Z,5.8nm,0.7s
KEST Kesra 40.95 293 P P 07 05 32.7 -1.7
comp=Z,2.1nm,0.6s,baz=142,slow=17,SNR=2.4
ZAK Zakamensk 41.11 45 eP P 07 05 42.8 +7.2
ZAK pmax pmax
comp=Z,3.0nm,0.9s
DAVA Damuels 41.24 311 iP P 07 05 36.0 -0.9
comp=Z,15nm,0.6s,SNR=6.0
SONM Songino Array 42.58 49 P P 07 05 48.6 +0.9
comp=Z,2.9nm,0.7s,baz=257,slow=8.7,SNR=16
SONM Songino Array 42.58 49 P P 07 05 47.8 +0.1
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 42.58 49 P P 07 05 47.8 +0.1
SENIN Lac Senin/Sane 42.86 309 P P 07 05 49.4 -0.7
SENIN lAmb lAmb 07 05 50.2
comp=Z,7.3nm,0.6s
ULN Ulaanbaatar 43.02 49c iP P 07 05 51.7 +0.4
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 43.02 49 P P 07 05 51.0 -0.3
ULN pP 07 05 51.3 -3.6
BNI Bardonecchia 43.15 307 P P 07 05 51.3 -1.1
BNI pmax pmax
comp=Z,12nm,0.7s
BNI Bardonecchia 43.15 307 P P 07 05 51.3 -1.1
ECH Echery 43.21 312 P P 07 05 51.4 -1.3
ECH pmax pmax
comp=Z,8.0nm,1.3s
ECH Echery 43.21 312 P P 07 05 51.4 -1.3
ECH lAmb lAmb 07 06 02.1
comp=Z,8.3nm,1.3s
NRIK Noril'sk 44.74 15 P P 07 06 05.1 +0.5
comp=Z,3.8nm,0.8s,baz=211,slow=1.3,SNR=5.4
NRIK LR LR 07 28 18.7
comp=Z,96nm,18.9s,baz=222,slow=41
NRIK Noril'sk 44.74 15⇓iP P 07 06 05.5 +0.9
NRIK pmax pmax
comp=Z,9.0nm,1.2s
NRIK Noril'sk 44.74 15 P P 07 06 05.1 +0.5
NRIK lAmb lAmb 07 06 06.3
comp=Z,8.9nm,1.1s
NOA NORSAR Array B 44.80 330 P P 07 06 04.0 -1.3
comp=Z,0.6nm,0.7s,baz=132,slow=7.1,SNR=2.3
NOA LR LR 07 27 53.6
comp=Z,19nm,21.2s,baz=120,slow=40
NOA NORSAR Array B 44.80 330 P P 07 06 04.0 -1.3
ARCES ARCESS Array B 45.20 345 P P 07 06 07.1 -1.2
comp=Z,4.8nm,0.9s,baz=120,slow=4.6,SNR=6.2
ARCES LR LR 07 28 03.5
comp=Z,32nm,18.4s,baz=135,slow=40
HHC Hu-ho-hao-te 45.83 59 eP P 07 06 14.8 +0.9
HHC S S 07 13 03.1 +5.1
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,91nm,6.1s
HHC L L
comp=Z,160nm,17.0s
HHC L L
comp=Z,140nm,15.4s
HHC L L
comp=Z,120nm,17.3s
BJI Beijing 49.40 60 P P 07 06 41.0 -0.4
BJI pmax pmax
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 51.12 300 P P 07 06 54.5 -0.1
comp=Z,1.0nm,0.5s,baz=72,slow=7.5,SNR=12
ESDC Sonseca Array 51.12 300 lAmb lAmb 07 06 55.3
comp=Z,1.7nm,1.4s
NJ2 Nanjing 52.81 70 eP P 07 07 06.0 -1.2
NJ2 pmax pmax
comp=Z,19nm,0.5s
PBRG Braganca 52.97 303 eP P 07 07 08.5 +0.2
comp=Z,12nm,1.8s
MVO Moncorvo 53.26 302 eP P 07 07 11.0 +0.5
comp=Z,16nm,1.2s
TOA0 Torodi Ar. Sit 53.63 266 P P 07 07 12.5 -0.9
TOA0 lAmb lAmb 07 07 20.3
comp=Z,7.2nm,1.0s
TORD Torodi Ar. Bea 53.63 266 P P 07 07 12.2 -1.2
comp=Z,3.0nm,0.5s,baz=63,slow=7.3,SNR=17
TORD LR LR 07 31 02.4
comp=Z,38nm,20.4s,baz=50,slow=37
TORD Torodi Ar. Bea 53.63 266 P P 07 07 12.2 -1.2
TORD lAmb lAmb 07 07 20.7
comp=Z,3.9nm,0.8s
PBAR Barrancos 53.71 298 eP P 07 07 13.6 -0.1
PMRV Marv??o 53.78 300 eP P 07 07 14.4 +0.1
PCBR Castelo Branco 53.78 300 eP P 07 07 15.6 +1.4
comp=Z,16nm,2.2s
POLO Lamas de Olo 53.80 302 eP P 07 07 15.0 +0.5
comp=Z,6.4nm,1.1s
PVIS Viseu 53.97 302 eP P 07 07 16.5 +0.8
comp=Z,13nm,1.6s
ZEA Zeya 56.11 42 eP P 07 07 41.6 +11
ZEA pmax pmax
comp=Z,10.0nm,1.1s
TIXI Tiksi 57.70 21⇓iP P 07 07 41.4 -0.4
TIXI Tiksi 57.70 21 P P 07 07 41.6 -0.2
TIXI lAmb lAmb 07 07 46.0
comp=Z,3.8nm,0.9s
KS19 Wonju Array Si 58.82 61 P P 07 07 50.0 -0.2
KSRS Korea Array 58.87 61 P P 07 07 49.4 -1.2
comp=Z,1.6nm,0.5s,baz=278,slow=6.5,SNR=7.5
KSRS LR LR 07 36 36.2
comp=Z,38nm,19.8s,baz=242,slow=40
KLR Kul'dur 59.36 47⇓eP P 07 07 52.3 -1.5
KLR pmax pmax
comp=Z,2.0nm,0.8s
VLA Vladivostok 60.57 54⇑eP P 07 08 02.4 +0.2
VLA pmax pmax
comp=Z,33nm,1.1s
DBIC Dimbokro 62.30 262 P P 07 08 15.5 +1.2
comp=Z,1.4nm,0.4s,baz=65,slow=2.3,SNR=1.2
DBIC LR LR 07 37 06.1
comp=Z,28nm,18.8s,baz=91,slow=38
BOSA Boshof 64.28 211 P P 07 08 26.9 -0.3
comp=Z,2.4nm,0.9s,baz=45,slow=2.9,SNR=2.7
BOSA Boshof 64.28 211 P P 07 08 27.0 -0.3
SUMG Summit 65.00 341 iP P 07 08 31.0 -0.7
SUMG Summit 65.00 341 iP P 07 08 31.9 +0.1
SUMG lAmb lAmb 07 08 33.0
comp=Z,4.1nm,0.8s
SUMG Summit 65.00 341 iP P 07 08 31.8 +0.1
SUMG pmax pmax
comp=Z,4.0nm,0.8s
NEEM North Greenlan 66.50 347 iP P 07 08 41.1 -0.1
NEEM lAmb lAmb 07 08 41.6
comp=Z,3.4nm,0.8s
MJAR Matsushiro Arr 67.03 60 P P 07 08 44.6 -0.4
comp=Z,1.2nm,0.3s,baz=280,slow=8.5,SNR=2.7
DY2G Dye2 69.60 335 iP P 07 09 00.8 0.0
DY2G lAmb lAmb 07 09 01.7
comp=Z,7.9nm,0.8s
BILL Bilibino 70.87 22⇓eP P 07 09 08.1 -0.1
BILL pmax pmax
comp=Z,7.0nm,1.6s
TOLK Toolik Lake Re 81.41 10 P P 07 10 08.8 +0.6
TOLK lAmb lAmb 07 10 09.1
comp=Z,3.7nm,0.6s
IMAR Indian Mountai 83.12 12 P P 07 10 16.5 -0.7
BMAR Burnt Mountain 83.22 8 P P 07 10 18.6 +0.8
BPAW Bear Paw Mtn. 85.33 12 P P 07 10 28.0 -0.5
ILAR Eielson Array 85.40 10 P P 07 10 27.4 -1.4
comp=Z,0.5nm,0.5s,baz=320,slow=4.7,SNR=12
ILAR Eielson Array 85.40 10 P P 07 10 27.7 -1.1
ILAR Eielson Array 85.40 10 P P 07 10 27.7 -1.1
K27K Chicken 86.79 8 P P 07 10 35.8 +0.1
K27K lAmb lAmb 07 10 36.5
comp=Z,3.4nm,0.7s
BCAR Beaver Creek A 87.75 9 P P 07 10 40.5 0.0
WRA Warramunga Arr 88.55 113 P P 07 10 45.3 +0.5
comp=Z,1.6nm,0.7s,baz=317,slow=4.0,SNR=17
YKA Yellowknife Ar 89.34 356 P P 07 10 47.0 -0.8
comp=Z,1.0nm,0.7s,baz=6.7,slow=5.2,SNR=7.1
YKA LR LR 07 55 20.7
comp=Z,16nm,19.5s,baz=0.0,slow=39
YKA Yellowknife Ar 89.34 356 iP P 07 10 47.5 -0.4
YKA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 90.10 117 P P 07 10 52.3 +0.2
comp=Z,0.6nm,0.5s,baz=306,slow=5.1,SNR=15
ASAR Alice Springs 90.10 117 P P 07 10 51.9 -0.2
ASAR Alice Springs 90.10 117 P P 07 10 51.9 -0.2
TXAR Lajitas Array 119.90 341 PKP PKPdf 07 16 41.5 -1.2
comp=Z,0.3nm,0.6s,baz=130,slow=1.0,SNR=4.9
TXAR Lajitas Array 119.90 341 PKPdf 07 16 42.2 -0.6

DJA 12 07:12:28.9±0.6,1°N±4°×12°1E±°,h23km±7km,M4.6/11, mb4.8/3,mB5.5/1,MLv4.5/11,Mw(mB)4.9/1,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.94	143	P	Pb	07 12 46.3	-0.3
MRSI				S	Sb	07 12 58.9	+0.3
MPSI	Mapaga	1.72	239	P	Pn	07 12 56.5	-0.9
GTOI	Gorontalo	1.74	110	P	Pn	07 12 55.2	-2.6
APSI	Ampana	2.15	173	P	Pn	07 13 02.9	-0.4
LUWI	Luwuk	2.66	148	P	Pn	07 13 11.0	+0.7
KMSI	Cibinong	2.69	104	P	Pn	07 13 11.5	+0.7
TTSI	Tana Toraja	4.52	200	P	Pn	07 13 37.2	+1.2
SGSI	Sangihe	4.82	60	P	Pn	07 13 39.1	-1.0
BNSI	Bone 0.2nm66nm,0.5s	5.73	193	P	Pn	07 13 53.3	+0.6

KAPI	Kappang	6.41	195	P	Pn	07 14 02.1	+0.1
	0.1nm15nm,0.7s						
GAMI	Galela, Maluku	6.44	85	P	Pn	07 14 03.6	+1.1

NNC ***12*** *08:24:00.1±1.5,38.81N×70.77E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=11.4km s-min=7.6km az=5.0*
KRNET ***12*** *08:24:02.7±0.1,39.15N×71.47E±0.04,h15km,mb3.4*

ISC 12 08:24:02.3±1.3,39.11N±0.05×71.47E±0.04,h2km±9km, n31,σ1§83/51,35C-12D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.45**	**35**	⇑*i*P	**Pg**	**08 24 11.2**	**+0.2**
	baz=38						
DRK				⇑*i*S	**Sg**	**08 24 17.1**	**+0.2**
	baz=38						
GAR	**Garm**	**0.91**	**263**	⇑*i*P	**Pg**	**08 24 20.1**	**+0.4**
	baz=61						
GAR				⇑*i*S	**Sg**	**08 24 32.0**	**+0.6**
	baz=61						
BTK	**Batken**	**1.07**	**332**	⇑*i*P	**Pg**	**08 24 22.3**	**-0.6**
	baz=31						
BTK				⇑*i*S	**Sg**	**08 24 36.8**	**0.0**
	baz=31						
OHH	**Osh**	**1.74**	**35**	⇑*i*P	**Pn**	**08 24 34.5**	**+0.9**
	baz=36						
OHH				⇑*i*S	**Sn**	**08 24 57.5**	**+1.1**
	baz=36						
SFK	**Sufi-Kurgan**	**1.81**	**59**	⇑*i*P	**Pn**	**08 24 35.6**	**+0.8**
	baz=60						
SFK				⇑*i*S	**Sn**	**08 24 59.7**	**+1.3**
	baz=60						
CHGR	**Chuyangaron**	**1.86**	**257**	⇑*i*P	**Pn**	**08 24 37.1**	**+1.8**
	baz=56						
CHGR				⇑*e*S	**Sb**	**08 25 02.3**	**+1.5**
	baz=56						
TRKS	**Terek-Say**	**2.43**	**354**	⇑*e*P	**Pn**	**08 24 43.9**	**+0.7**
	baz=55						
TRKS				⇑*i*S	**Sn**	**08 25 13.7**	**+0.1**
	baz=55						
ARSB	**Arslanbob**	**2.50**	**27**	⇓*i*P	**Pn**	**08 24 45.6**	**+1.5**
	baz=28						
ARSB				⇓*i*S	**Sn**	**08 25 17.0**	**+1.8**
	baz=28						
AML	**Almayashu**	**3.46**	**29**	⇑*i*P	**Pn**	**08 24 59.4**	**+1.8**
	baz=29						
AML				⇑*i*S	**Sn**	**08 25 40.5**	**+1.2**
	baz=29						
AML	**Almayashu**	**3.46**	**29**	P	**Pb**	**08 25 02.8**	**-1.8**
	SNR=16						
MNAS	**Manas**	**3.46**	**13**	⇑*i*P	**Pn**	**08 24 59.4**	**+2.0**
	baz=13						
MNAS				⇑*i*S	**Sn**	**08 25 40.5**	**+1.4**
	baz=13						
ARLS	**Aral**	**3.50**	**37**	⇑*i*P	**Pn**	**08 24 59.8**	**+1.8**
	baz=38						
ARLS				⇑*i*S	**Sn**	**08 25 41.5**	**+1.4**
	baz=38						
EKS2	**Erkin-Say**	**3.96**	**25**	⇑*i*P	**Pn**	**08 25 06.2**	**+2.1**
	baz=26						
EKS2				⇑*i*S	**Sn**	**08 25 52.2**	**+1.1**
	baz=26						
EKS2	**Erkin-Say**	**3.96**	**25**	P	**Pb**	**08 25 09.8**	**-3.1**
	SNR=9.1						
KK31	**Karatay Array**	**4.06**	**350**	P	**Pn**	**08 25 07.4**	**+2.0**
	1.9nm,0.3s,baz=182,slow=14,SNR=16						
KK31				⇓S	**Sn**	**08 25 58.6**	**+5.1**
	15nm,0.6s,baz=178,slow=24,SNR=10.0						
AAK	**Ala-Archa**	**4.20**	**32**	⇑*i*P	**Pn**	**08 25 09.5**	**+1.9**
	baz=32						
AAK				⇑*i*S	**Sn**	**08 25 58.1**	**+0.8**
	baz=32						
AAK	**Ala-Archa**	**4.20**	**32**	P	Pn	08 25 13.1	+5.5
	SNR=8.1						
AAK	**Ala-Archa**	**4.20**	**32**	P	Pn	08 25 12.8	+5.2
	5.6nm,0.4s						
AAK				S	**Sb**	**08 26 09.7**	**+1.3**
	6.8nm,0.5s						
KBK	**Karagaybulak**	**4.42**	**36**	⇓*i*P	**Pn**	**08 25 12.6**	**+2.1**
	baz=36						
KBK				⇓*i*S	**Sn**	**08 26 03.3**	**+0.7**
	baz=36						
KBK	**Karagaybulak**	**4.42**	**36**	P	Pn	08 25 16.6	+6.1
	SNR=8.9						
CHMS	**Chumysh**	**4.61**	**32**	⇑*i*P	**Pn**	**08 25 14.9**	**+1.9**
	baz=32						
CHMS				⇑*i*S	**Sn**	**08 26 07.5**	**+0.4**
	baz=32						
USP	**Ospenovka**	**4.74**	**28**	⇓*i*P	**Pn**	**08 25 16.9**	**+2.1**
	baz=28						
USP				⇓*i*S	**Sn**	**08 26 10.6**	**+0.2**
	baz=28						
USP	**Ospenovka**	**4.74**	**28**	P	**Pn**	**08 25 19.4**	**+4.5**
	SNR=7.0						
BOOM	**Boomskoye usch**	**4.79**	**44**	⇓*e*P	**Pn**	**08 25 17.5**	**+1.9**
	baz=44						
BOOM				⇓*i*S	**Sn**	**08 26 12.2**	**+0.5**
	baz=44						
ULHL	**Ulahol**	**4.79**	**48**	⇑*i*P	**Pn**	**08 25 17.2**	**+1.5**
	baz=48						
ULHL				⇑*i*S	**Sn**	**08 26 12.6**	**+0.7**
	baz=48						
TKM2	**Tokmak 2**	**4.92**	**38**	⇑*i*P	**Pn**	**08 25 19.4**	**+1.9**
	baz=38						
TKM2				⇑*i*S	**Sn**	**08 26 15.6**	**+0.5**
	baz=38						
TKM2	**Tokmak 2**	**4.92**	**38**	P	Pn	08 25 22.5	+5.0
	SNR=7.6						
TKM2	**Tokmak 2**	**4.92**	**38**	⇓P	Pn	08 25 23.0	+5.6
	2.2nm,0.4s						
TKM2				⇓S	**Sb**	**08 26 29.5**	**+0.5**
	5.0nm,0.7s						
KDJ	**Kajisay**	**5.29**	**53**	⇑*e*P	**Pn**	**08 25 24.9**	**+2.4**
	baz=54						
KDJ				⇑*i*S	**Sn**	**08 26 24.6**	**+0.5**
	baz=54						
TARG	**Taragay, Kyrgy**	**5.50**	**60**	⇑*e*P	**Pn**	**08 25 27.6**	**+2.0**
	baz=60						
TARG				⇑*e*S	**Sn**	**08 26 29.7**	**+0.2**
	baz=60						
AB31	**Akbulak array**	**13.07**	**325**	⇓P	**Pn**	**08 27 06.1**	**-2.8**
	0.6nm,0.6s,baz=136,slow=12,SNR=16						
AB31				⇑S	**Sn**	**08 29 32.1**	**-2.8**
	0.4nm,0.5s,baz=136,slow=24,SNR=7.5						

NOU ***12*** *08:30:37.9,20.10S×177.86W,h367km,mb4.5,Fiji Islands Region*
NEIC ***12*** *08:30:45.4±1.0,17.3S±0.2×178.65W±0.06,h562km±10km, mb4.4/18,Error ellipse: s-maj=25.6km s-min=8.0km az=174.0*
IDC ***12*** *08:30:48.4±2.1,17.61S×179.04W,h562km±17km,mb3.8/6, mb1 3.8/8,mb1mx3.3/33,mbtmp4.6/8,Error ellipse: s-maj=61.5km s-min=26.9km az=155.0*

ISC 12 08:30:44.9±0.7,17.5S±0.2×178.8W±0.1,h539km,n35, σ1§38/36,mb4.4/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.06**	**264**	P	**P**	**08 32 03.4**	**+3.9**
	4.0nm,0.3s,baz=98,slow=3.5,SNR=21						
MSVF	**Nonsavu**	**3.06**	**264**	P	**P**	**08 32 02.9**	**+3.4**
AFI	**Afiamalu**	**7.59**	**63**	P	**P**	**08 32 37.9**	**-0.5**
AFI	**Afiamalu**	**7.59**	**63**	P	**P**	**08 32 38.4**	**0.0**
OUENC	**Ouen Island, N**	**14.41**	**248**	P	**P**	**08 33 49.7**	**+1.2**
DZM	**Mont Dzumac**	**14.66**	**249**	P	**P**	**08 33 50.7**	**-0.6**
	0.6nm,0.3s,baz=79,slow=18,SNR=2.3						
DZM	**Mont Dzumac**	**14.66**	**249**	P	**P**	**08 33 49.8**	**-1.4**
NOUC	**Port Laguerre**	**14.80**	**249**	P	**P**	**08 33 52.3**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.33**	**256**	P	**P**	**08 34 10.4**	**+2.4**
BFZ	**Birch Farm**	**23.54**	**190**	P	**P**	**08 35 13.5**	**+0.4**
EIDS	**Eidsvold**	**29.11**	**249**	P	**P**	**08 36 01.9**	**-0.4**
ARMA	**Armidale**	**29.88**	**239**	P	**P**	**08 36 09.3**	**+0.2**
ARMA				IAmb	IAmb	08 36 09.8	
	comp=Z,12nm,0.6s						
CTA	**Charters Tower**	**33.19**	**260**	P	**P**	**08 36 35.4**	**-2.1**
	comp=Z,9.8nm,0.9s,baz=78,slow=9.3,SNR=3.7						
CAN	**Canberra**	**33.72**	**232**	P	**P**	**08 36 41.2**	**-0.5**
CAN				IAmb	IAmb	08 36 41.9	
	comp=Z,12nm,1.1s						
TOO	**Toolangi**	**37.20**	**230**	P	**P**	**08 37 10.5**	**0.0**
TOO				IAmb	IAmb	08 37 11.0	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**08 37 21.6**	**-0.1**
	comp=Z,5.7nm,0.5s,baz=90,slow=9.9,SNR=26						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**08 37 21.5**	**-0.1**
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**08 37 58.9**	**-0.7**
BBOO				IAmb	IAmb	08 37 59.7	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**44.20**	**259**	P	**P**	**08 38 05.9**	**-0.6**
WR0				IAmb	IAmb	08 38 17.8	
	comp=Z,7.7nm,1.2s						
WB0	**Warramunga Arr**	**44.35**	**259**	P	**P**	**08 38 06.8**	**-0.9**
WB0				IAmb	IAmb	08 38 08.5	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**44.38**	**259**	P	**P**	**08 38 07.5**	**-0.4**
WB2				IAmb	IAmb	08 38 22.6	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**08 38 07.0**	**-1.0**
	comp=Z,3.2nm,0.5s,baz=96,slow=7.0,SNR=17						
AS31	**Alice Springs**	**44.59**	**254**	P	**P**	**08 38 08.8**	**-0.7**
AS31				IAmb	IAmb	08 38 09.5	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**08 38 08.9**	**-0.7**
	comp=Z,36nm,0.6s,baz=88,slow=8.1,SNR=436						
ASAR				PcP	**PcP**	**08 39 40.6**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=91,slow=4.6,SNR=4.5						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**08 38 09.2**	**-0.4**
FORT	**Forrest**	**49.90**	**244**	P	**P**	**08 38 48.4**	**-0.9**
KNRA	**Kununurra**	**50.20**	**264**	P	**P**	**08 38 51.3**	**-0.4**
KNRA				IAmb	IAmb	08 38 51.6	
	comp=Z,8.1nm,0.7s						
SIJI	**Sorong**	**51.81**	**283**	P	**P**	**08 39 04.3**	**+0.9**
	comp=Z,11nm,0.5s,baz=220,slow=23,SNR=1.3						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**08 39 10.1**	**-0.2**
	comp=Z,17nm,0.4s,baz=82,slow=7.1,SNR=9.0						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**08 39 10.4**	**+0.1**
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**08 39 44.1**	**-0.5**
GIRL	**Giralia**	**62.70**	**253**	P	**P**	**08 40 17.2**	**-0.5**
QSPA	**South Pole Qui**	**72.59**	**180**	P	**P**	**08 41 16.9**	**-0.5**
KNK	**Knik Glacier**	**82.24**	**14**	P	**P**	**08 42 06.5**	**-2.9**
KNK				IAmb	IAmb	08 42 13.3	
	comp=Z,8.2nm,1.1s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**08 42 31.4**	**+2.4**
	comp=Z,0.2nm,0.8s,baz=224,slow=6.3,SNR=2.7						

IDC ***12*** *08:34:27.6±1.9,5.37S×152.67E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.9/33,mbtmp3.9/8,MS3.3/4,Ms1 3.3/4, ms1mx2.8/39,Error ellipse: s-maj=73.7km s-min=22.2km az=121.0*

ISC 12 08:34:33.2±1.8,5.5S±0.3×152.7E±0.3,h40km,n14, σ0§77/10,mb3.9/8,MS3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.78**	**234**	Pn	Pn	08 36 03.5	-6.8
	0.7nm,0.3s,baz=106,slow=20,SNR=2.3						
PMG				Sn	**Sn**	**08 37 26.8**	**+0.5**
	4.3nm,0.3s,baz=86,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**22.97**	**230**	P	**P**	**08 39 34.2**	**-0.2**
	1.0nm,0.8s,baz=52,slow=9.8,SNR=3.2						
ASAR	**Alice Springs**	**25.63**	**223**	P	**P**	**08 39 59.5**	**+0.3**
	0.7nm,0.5s,baz=55,slow=9.0,SNR=4.8						
STKA	**Stephens Creek**	**28.28**	**200**	LR	LR	08 51 51.0	
	comp=Z,40nm,20.1s,baz=25,slow=37						
FITZ	**Fitzroy Crossi**	**29.29**	**242**	P	**P**	**08 40 30.9**	**-1.1**
	3.0nm,0.8s,baz=63,slow=6.8,SNR=2.1						
PETK	**Petropavlovsk-**	**58.49**	**4**	P	**P**	**08 44 25.6**	**+0.5**
	2.8nm,0.8s,baz=144,slow=5.3,SNR=3.6						
SONM	**Sogino Array**	**66.84**	**328**	P	**P**	**08 45 21.3**	**+0.2**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=2.3						
MKAR	**Makanchi Array**	**80.77**	**319**	P	**P**	**08 46 42.0**	**-0.7**
	0.7nm,0.7s,baz=103,slow=6.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**81.66**	**326**	P	**P**	**08 46 47.3**	**+0.2**
	0.9nm,0.4s,baz=113,slow=3.7,SNR=3.1						
ILAR	**Eielson Array**	**82.78**	**22**	P	**P**	**08 46 52.3**	**-0.5**
	0.9nm,0.7s,baz=252,slow=4.2,SNR=10						
BBB	**Bella Bella**	**87.45**	**37**	LR	LR	09 24 57.3	
	comp=Z,16nm,18.4s,baz=360,slow=35						
NEW	**Newport**	**94.12**	**42**	LR	LR	09 24 05.8	
	comp=Z,15nm,19.0s,baz=279,slow=32						
YKA	**Yellowknife Ar**	**96.03**	**28**	LR	LR	09 27 08.9	
	comp=Z,15nm,20.1s,baz=0.0,slow=33						
TORD	**Torodi Ar. Bea**	**150.44**	**287**	PKPbc	**PKiKP**	**08 54 23.5**	**+1.2**
	2.9nm,1.1s,baz=80,slow=1.6,SNR=2.7						

IDC ***12*** *08:39:11.6±4.0,18.87N×105.22E,h0km,mb3.8/2, mb1 3.8/3,mb1mx3.4/36,mbtmp3.7/3,ML3.8/1,MS2.9/1, Ms1 3.2/1,ms1mx2.5/38,Error ellipse: s-maj=61.9km s-min=27.5km az=150.0*

ISC 12 08:39:17.9±1.5,19.3N±0.1×104.7E±0.1,h10km,n10, σ1§97/10,Vietnam

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NONG	**Nongkai**	**1.95**	**231**	P	**Pb**	**08 39 53.3**	**-0.3**
KHON	**Khomkaen**	**3.47**	**212**	P	**Pn**	**08 40 13.8**	**+1.9**
UBPT	**Khong Chiam**	**4.06**	**170**	P	**Pn**	**08 40 20.8**	**+0.7**
UTTA	**Uttaradit**	**4.26**	**249**	P	**Pn**	**08 40 27.0**	**+4.1**
CHAI	**Chaiyaphum**	**4.28**	**218**	P	**Pn**	**08 40 23.9**	**+0.8**
PHIT	**Phitsanulok**	**4.62**	**244**	P	**Pn**	**08 40 28.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**5.55**	**262**	Pn	**Pn**	**08 40 41.5**	**+0.8**
	0.6nm,0.3s,baz=77,slow=13,SNR=2.5						
CMAR				Pg	**Pg**	**08 41 02.3**	**-2.1**
	2.3nm,0.3s,baz=80,slow=16,SNR=18						
CMAR				Lg	Lg	08 42 19.4	
	1.3nm,0.3s,baz=87,slow=33,SNR=7.1						
CMAR				LR	LR	08 43 13.5	
	comp=Z,126nm,20.6s,baz=114,slow=41						
UTHA	**Uthaitani**	**6.28**	**234**	P	Pn	08 40 57.4	+6.8
MKAR	**Makanchi Array**	**33.02**	**331**	P	**P**	**08 45 53.9**	**+0.6**
	0.8nm,0.7s,baz=142,slow=8.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**37.83**	**341**	P	**P**	**08 46 33.9**	**-0.6**
	0.8nm,0.5s,baz=163,slow=10,SNR=4.1						

KMA 12 08:39:21.1±0.0,37.14N×127.90E,h12km,Error ellipse: s-maj=1.4km s-min=0.6km az=289.0,South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSCHJ	**Chungju**	**0.27**	**168**	P	Pg	08 39 26.7	0.0
	SNR=14						
KSCHJ	**Chungju**	**0.27**	**168**	P	Pg	08 39 26.7	0.0
	SNR=12						
KSCHJ	**Chungju**	**0.27**	**168**	P	Pg	08 39 26.7	0.0
	SNR=14						
KSWJU	**Wonju**	**0.29**	**24**	P	Pg	08 39 26.9	-0.2
	SNR=34						
KSWJU	**Wonju**	**0.29**	**24**	P	Pg	08 39 26.9	-0.2
	SNR=34						
KSMGY	**Mungyeong**	**0.50**	**165**	P	Pg	08 39 31.0	+0.1
	SNR=8.4						
KSMGY	**Mungyeong**	**0.50**	**165**	P	Pg	08 39 31.0	+0.1
	SNR=8.4						
KSCEA	**Cheonan**	**0.61**	**239**	P	Pg	08 39 32.8	-0.1
	SNR=12						
KSCEA	**Cheonan**	**0.61**	**239**	P	Pg	08 39 32.8	-0.1
	SNR=12						
KSBON	**Boeun**	**0.64**	**187**	P	Pg	08 39 32.8	-0.9
	SNR=27						
KSBON	**Boeun**	**0.64**	**187**	P	Pg	08 39 32.8	-0.9
	SNR=27						
OKCB	**Cheongsan-myeo**	**0.80**	**186**	P	Pg	08 39 36.3	-0.2
	SNR=13						
KSDGY	**Daegwallycong**	**0.82**	**48**	P	Pg	08 39 36.9	-0.1
	SNR=17						
KSDGY	**Daegwallycong**	**0.82**	**48**	P	Pg	08 39 36.9	-0.1
	SNR=17						
SEHB	**SEOHWA**	**1.16**	**14**	P	Pn	08 39 43.1	0.0
	SNR=8.3						

IDC ***12*** *08:51:58.1±3.5,35.97N×70.55E,h68km±29km,mb3.5/10, mb1 3.6/16,mb1mx3.4/60,mbtmp3.8/16,ML3.8/6,MS2.9/2, Ms1 2.9/2,ms1mx2.4/34,Error ellipse: s-maj=26.4km s-min=18.2km az=172.0*
NEIC ***12*** *08:52:01.4±1.7,36.15N±0.05×70.36E±0.09,h95km±10km, mb4.3/5,Error ellipse: s-maj=10.4km s-min=7.4km az=98.0.*
NNC ***12*** *08:52:02.2±3.9,36.72N×70.18E,h0km,mb4.4,mpv3.9, Error ellipse: s-maj=31.1km s-min=22.3km az=169.0*

ISC 12 08:52:01.3±0.6,36.14N±0.05×70.46E±0.05,h110km,n49, σ2§35/56,mb3.6/10,4C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.97**	**216**		**Pn**	**08 52 33.6**	**-0.5**
CHGR	**Chuyangaron**	**2.72**	**338**		**Pn**	**08 52 42.6**	**-1.1**
GAR	**Garm**	**2.86**	**358**		**Pn**	**08 52 45.3**	**-0.2**
NIL	**Nilore**	**3.38**	**136**		**Pn**	**08 52 52.5**	**+0.2**
DRK	**Karamyk**	**3.50**	**17**		**Pn**	**08 52 55.2**	**+1.0**
BTK	**Batken**	**3.92**	**4**		**Pn**	**08 53 00.9**	**+1.3**
ARSB	**Arslanbob**	**5.54**	**20**	Pn	**Pn**	**08 53 21.1**	**-0.5**
THN	**Thein Dam**	**5.71**	**129**	*e*P	Pn	08 53 07.0	-17
THN				*e*S	**Sn**	**08 54 26.0**	**-1.9**
DHRM	**DHARAMSHALA**	**6.20**	**127**	*e*P	**Pn**	**08 53 28.9**	**-1.6**
DHRM				*e*S	**Sn**	**08 54 35.0**	**-5.2**
DHRM				IAML		08 54 37.9	
	comp=E,360nm,0.2s						
DHRM				IAML		08 54 37.9	
	comp=N,230nm,0.2s						
KK31	**Karatay Array**	**6.96**	**0**	P	**Pn**	**08 53 39.5**	**-1.1**
	comp=N,4.1nm,0.5s,baz=189,slow=14,SNR=44						
KK31				⇓S	**Sn**	**08 54 53.8**	**-4.3**
	comp=N,7.8nm,0.4s,baz=190,slow=17,SNR=4.3						
KK31	**Karatay Array**	**6.96**	**0**	Pn	**Pn**	**08 53 38.9**	**-1.6**
KKAR	**Karatay Array**	**6.96**	**0**		**Pn**	**08 53 38.9**	**-1.6**
KKAR	**Karatay Array**	**6.96**	**0**	Pn	**Pn**	**08 53 39.2**	**-1.4**
AAK	**Ala-Archa**	**7.20**	**24**	P	**Pn**	**08 53 42.8**	**-1.3**
	comp=N,2.3nm,0.3s,baz=187,slow=14,SNR=7.2						
AAK				S	**Sn**	**08 55 02.3**	**-2.0**
	comp=N,4.0nm,0.3s,baz=14,slow=23,SNR=18						
AAK	**Ala-Archa**	**7.20**	**24**	⇑P	**Pn**	**08 53 43.9**	**-0.1**
	comp=N,3.8nm,0.5s						
AAK				⇑S	**Sn**	**08 55 02.2**	**-2.0**
	comp=N,35nm,0.7s						
AAK	**Ala-Archa**	**7.20**	**24**	Pn	**Pn**	**08 53 44.2**	**+0.2**
SMLA	**Simla**	**7.50**	**130**	*e*P	**Pn**	**08 53 46.3**	**-1.6**
SMLA				*e*S	**Sn**	**08 55 05.0**	**-6.3**
SMLA				IAML		08 55 11.0	
	comp=N,48nm,0.5s						
SMLA				IAML		08 55 12.4	
	comp=E,73nm,0.3s						
TKM2	**Tokmak 2**	**7.85**	**29**	⇑P	**Pn**	**08 53 51.9**	**-0.9**
	comp=E,4.5nm,0.5s						
TKM2				⇓S	**Sn**	**08 55 17.6**	**-2.5**
	comp=E,11nm,0.6s						
KDJ	**Kajisay**	**7.94**	**39**	Pn	**Pn**	**08 53 55.4**	**+1.4**
TARG	**Taragay, Kyrgy**	**7.99**	**43**		**Pn**	**08 53 56.4**	**+1.4**
GEYT	**Alibeck**	**10.03**	**284**	P	**Pn**	**08 54 22.0**	**-0.3**
	comp=E,0.5nm,0.3s,baz=90,slow=32,SNR=2.0						
GEYT				S	**Sn**	**08 56 09.5**	**-3.3**
	comp=E,1.1nm,0.3s,baz=92,slow=37,SNR=3.5						
MAKZ	**Makanchi**	**13.70**	**35**		**Pn**	**08 55 10.7**	**-0.2**
MK31	**Makanchi Array**	**13.84**	**36**	Pn	**Pn**	**08 55 13.9**	**+1.2**
MKAR	**Makanchi Array**	**13.84**	**36**	P	**Pn**	**08 55 14.1**	**+1.4**
	comp=E,0.5nm,0.3s,baz=224,slow=10,SNR=12						
MKAR	**Makanchi Array**	**13.84**	**36**	Pn	**Pn**	**08 55 13.6**	**+0.9**
BHPL	**Bhopal**	**14.20**	**153**	*e*P	Pn	08 55 13.0	-4.4
AB31	**Akbulak array**	**15.20**	**333**	P	**Pn**	**08 55 28.0**	**-1.8**
	comp=E,8.1nm,0.5s,baz=155,slow=11,SNR=135						
AB31				⇓S	**Sn**	**08 58 11.2**	**-6.5**
	comp=E,3.0nm,0.7s,baz=155,slow=25,SNR=7.4						
ABKAR	**Akbulak array**	**15.20**	**333**	Pn	**Pn**	**08 55 28.9**	**-0.9**
ABKAR	**Akbulak array**	**15.20**	**333**		**Pn**	**08 55 28.9**	**-0.9**
ABKAR				IAmb	IAmb	08 55 29.1	
	comp=Z,14nm,0.5s						
KURBB	**Kurchatov Arra**	**15.61**	**19**	P	**Pn**	**08 55 35.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=210,slow=10,SNR=11						
UOSS	**Minazif**	**16.57**	**232**		**Pn**	**08 55 46.9**	**-0.2**
UOSS				IAmb	IAmb	08 56 07.0	
	comp=Z,30nm,1.4s						
AKTO	**Aktyubinsk**	**16.88**	**332**	P	**P**	**08 55 52.0**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=134,slow=14,SNR=14						
AKTO	**Aktyubinsk**	**16.88**	**332**	⇑P	**P**	**08 55 51.2**	**+0.3**
	comp=Z,5.3nm,0.7s						
AKTO				⇓S	**Sn**	**08 58 52.2**	**-6.1**
	comp=Z,8.1nm,1.2s						
BVAR	**Borovoye Array**	**16.89**	**360**	P	**P**	**08 55 52.8**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=195,slow=10,SNR=7.0						
BRVK	**Borovoye**	**16.92**	**360**	P	**P**	**08 55 52.1**	**+0.9**
LSA	**Lhasa**	**18.50**	**104**	P	**P**	**08 56 10.2**	**+0.8**
LSA				IAmb	IAmb	08 56 11.0	
	comp=Z,5.5nm,0.4s						
ZAA0	**Zalesovo Array**	**20.43**	**25**	P	**P**	**08 56 31.4**	**+1.9**
ZALV	**Zalesovo Beam**	**20.43**	**25**	P	**P**	**08 56 31.1**	**+1.5**
	comp=Z,36nm,0.4s,baz=220,slow=10,SNR=127						
ARU	**Arti**	**21.84**	**342**	P	**P**	**08 56 47.5**	**+2.9**
	comp=Z,2.1nm,0.2s,baz=175,slow=14,SNR=3.7						
BELG	**Belogornoye**	**22.90**	**322**	LR	LR	09 08 04.7	
	comp=Z,23nm,20.1s,baz=207,slow=42						
AKASG	**Malin Array Be**	**32.83**	**309**	P	**P**	**08 58 26.8**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=83,slow=6.7,SNR=1.9						
AKASG				LR	LR	09 13 31.3	
	comp=Z,30nm,21.8s,baz=105,slow=39						
FINES	**FINESS Array B**	**37.54**	**327**	P	**P**	**08 59 07.1**	**+2.7**
	comp=Z,0.5nm,0.5s,baz=100,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**08 59 38.7**	**+3.1**
	comp=Z,3.1nm,0.8s,baz=90,slow=7.2,SNR=4.1						
NOA	**NORSAR Array B**	**44.41**	**323**	P	**P**	**09 00 02.0**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.8,SNR=3.7						
TIXI	**Tiksi**	**46.27**	**22**	P	**P**	**09 00 17.2**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=287,slow=3.9,SNR=3.6						

2.0nm,0.5s
BTLS Lg Lg 09 54 55.4
1.5nm,0.5s
DGS Degeres 3.42 87 *eP* **Pg 09 54 28.6 +0.5**
2.1nm,0.6s
DGS *eS* **Sg 09 55 16.2 +3.8**
4.9nm,0.8s
DGS Degeres 3.42 87 Pg **Pg 09 54 27.2 -0.9**
2.1nm,0.6s
DGS Lg Lg 09 55 11.0
4.9nm,0.8s

IDC ***12*** *09:56:33.6±2.0,8˚.38N×127˚.80E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/33, Error ellipse: s-maj=174.3km s-min=22.9km az=68.0*

ISC 12 09:56:34.5±1.3, 8˚.4N±0˚.1×127˚.8E±0˚.1, h10km, n9, σ2§12/10, mb3.7/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLSP	**General Luna,**	**2.16**	**309**	*eP*	**Pb**	**09 57 11.6**	**-2.2**
GLSP				*eS*	**Sn**	**09 57 38.1**	**+0.5**
BUTP	**Butuan**	**2.25**	**285**	*eP*	**Pg**	**09 57 20.9**	**+3.4**
BUTP				*eS*	**Sn**	**09 57 39.2**	**-0.4**
BUKP	**Musuan**	**2.78**	**259**	*eP*	**Pn**	**09 57 16.5**	**-2.6**
BUKP				*eS*	Sn	09 57 42.0	-11
DDMP	**Don Marcelino,**	**3.10**	**223**	*eP*	Pn	09 57 16.3	-7.1
WRA	**Warramunga Arr**	**28.89**	**167**	P	**P**	**10 02 35.6**	**+2.0**
	0.5nm,0.6s,baz=346,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**32.42**	**170**	P	**P**	**10 03 04.2**	**-0.7**
	0.3nm,0.8s,baz=348,slow=8.7,SNR=1.4						
ASAR				PcP	**PcP**	**10 05 52.0**	**-0.4**
	0.2nm,0.5s,baz=344,slow=2.2,SNR=4.8						
KLR	**Kul'dur**	**40.83**	**4**	LR	LR	10 23 33.3	
	comp=Z,10nm,18.0s,baz=359,slow=40						
MKAR	**Makanchi Array**	**54.43**	**323**	P	**P**	**10 06 03.8**	**+1.8**
	1.1nm,0.6s,baz=125,slow=7.8,SNR=12						
ZALV	**Zalesovo Beam**	**56.99**	**331**	P	**P**	**10 06 19.5**	**-0.7**
	0.5nm,0.4s,baz=108,slow=9.3,SNR=2.1						

IDC ***12*** *10:01:12.5±4.5,28˚.48S×67˚.58W, h111km±35km, mb3.6/2, mb1 3.5/5, mb1mx3.3/25, mbtmp3.7/5, Error ellipse: s-maj=48.3km s-min=25.9km az=42.0*

ISC 12 10:01:14.6±1.2, 28˚.4S±0˚.1×67˚.5W±0˚.2, h130km, n10, σ0§62/11, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**5.86**	**347**	P	**Pn**	**10 02 39.4**	**-0.1**
	2.6nm,0.3s,baz=163,slow=8.7,SNR=17						
LVC				S	**Sn**	**10 03 45.1**	**-0.7**
	2.2nm,0.3s,baz=264,slow=11,SNR=3.8						
CPUP	**Villa Florida**	**9.24**	**80**	P	**Pn**	**10 03 24.6**	**-0.1**
	0.1nm,0.3s,baz=276,slow=11,SNR=3.9						
LPAZ	**La Paz**	**12.02**	**357**	P	**Pn**	**10 04 03.0**	**+0.7**
	0.1nm,0.3s,baz=179,slow=8.4,SNR=1.4						
TORD	**Torodi Ar. Bea**	**78.55**	**68**	P	**P**	**10 13 02.0**	**-0.1**
	1.1nm,0.6s,baz=239,slow=5.0,SNR=2.8						
PDAR	**Pinedale Array**	**80.67**	**330**	P	**P**	**10 13 13.8**	**+0.7**
	0.3nm,0.5s,baz=134,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**124.33**	**204**	PKP	**PKPdf**	**10 19 57.9**	**-0.9**
	0.4nm,0.4s,baz=139,slow=1.8,SNR=12						
WRA	**Warramunga Arr**	**127.56**	**206**	PKP	**PKPdf**	**10 20 04.5**	**-0.5**
	0.5nm,0.5s,baz=170,slow=1.7,SNR=9.7						
KURBB	**Kurchatov Arra**	**146.06**	**40**	PKPbc	**PKPab**	**10 20 39.8**	**+0.1**
	0.1nm,0.3s,baz=297,slow=3.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**147.38**	**31**	PKPbc	**PKPbc**	**10 20 43.3**	**+0.7**
	1.7nm,0.3s,baz=295,slow=2.0,SNR=7.3						
MKAR	**Makanchi Array**	**150.05**	**44**	PKPbc	**PKPbc**	**10 20 49.4**	**-0.3**
	1.1nm,0.8s,baz=313,slow=3.2,SNR=8.8						

JMA ***12*** *10:30:02.3±0.2,30˚.55N×138˚.13E, h514km, M4.3*
NEIC ***12*** *10:30:05.6±0.9,30˚.67N±0˚.10×138˚.0E±0˚.1, h488km±9km, mb4.1/25, Error ellipse: s-maj=17.1km s-min=12.8km az=122.0*
IDC ***12*** *10:30:05.2±0.7,30˚.65N×137˚.91E, h484km±7km, mb3.3/17, mb1 3.4/25, mb1mx3.2/55, mbtmp4.2/25, Error ellipse: s-maj=15.8km s-min=9.5km az=78.0*

ISC 12 10:30:04.3±0.5, 30˚.57N±0˚.06×138˚.00E±0˚.07, h477km, n81, σ1§09/91, mb3.9/30, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.96**	**30**	P	**P**	**10 31 15.2**	**+2.1**
	20nm,0.3s,baz=157,slow=22,SNR=20						
JHJ				S	**S**	**10 32 10.9**	**+1.8**
	57nm,0.3s,baz=62,slow=23,SNR=13						
JHJ2	**Mitsune**	**2.96**	**31**	P	**P**	**10 31 15.1**	**+2.1**
JHJ2	**Mitsune**	**2.96**	**31**	P	**P**	**10 31 15.1**	**+2.1**
JTNC	**Tanabenakahech**	**3.82**	**329**	P	**P**	**10 31 21.2**	**+1.6**
JKN2	**Miekihoku**	**3.94**	**339**	P	**P**	**10 31 22.4**	**+1.9**
JIE	**Ise**	**3.96**	**344**	P	**P**	**10 31 22.9**	**+2.2**
JSG	**Sagara**	**4.09**	**2**	P	**P**	**10 31 23.3**	**+1.5**
HMMJ	**Hamamatsu 2**	**4.28**	**357**	P	**P**	**10 31 25.3**	**+1.9**
JMN	**Monobe**	**4.70**	**313**	P	**P**	**10 31 29.0**	**+1.7**
JOD2	**Odawara 2**	**4.76**	**11**	P	**P**	**10 31 28.4**	**+0.6**
JOD2				S	**S**	**10 32 36.6**	**+0.6**
JNY	**Yasuok**	**4.77**	**359**	P	**P**	**10 31 29.8**	**+1.9**
INU	**Inuyama**	**4.83**	**350**		**P**	**10 31 30.1**	**+1.8**
JGF	**Kuroka**	**5.04**	**354**	P	**P**	**10 31 31.8**	**+1.4**
CBIJ	**Chichi jima**	**5.05**	**132**	P	**P**	**10 31 30.3**	**-0.2**
CBIJ				S	**S**	**10 32 38.6**	**-2.2**
JCJ	**Chichijima**	**5.05**	**132**	P	**P**	**10 31 30.3**	**-0.3**
	13nm,0.3s,baz=296,slow=21,SNR=9.1						
JCJ				S	**S**	**10 32 39.1**	**-1.8**
	29nm,0.3s,baz=280,slow=23,SNR=12						
JWT	**Wachi**	**5.18**	**336**	P	**P**	**10 31 32.7**	**+1.2**
JRY	**Ryogami san**	**5.48**	**8**	P	**P**	**10 31 35.2**	**+0.7**
JYT	**Yasato**	**5.93**	**17**		**P**	**10 31 38.9**	**+0.1**
MJAR	**Matsushiro Arr**	**5.96**	**2**	P	**P**	**10 31 39.0**	**0.0**
	1.0nm,0.3s,baz=184,slow=9.9,SNR=51						
MJAR				S	**S**	**10 32 54.6**	**-2.1**
	baz=135,slow=9.6,SNR=1.3						
MJAR	**Matsushiro Arr**	**5.96**	**2**	P	**P**	**10 31 39.2**	**+0.1**
MAJO	**Matsushiro**	**5.96**	**2**	P	**P**	**10 31 39.4**	**+0.3**
MAT	**Matsushiro**	**5.96**	**2**	P	**P**	**10 31 39.2**	**+0.1**
MAT				S	**S**	**10 32 54.6**	**-2.1**
MJB9	**Matsu-Tunnel**	**5.96**	**2**	P	**P**	**10 31 39.4**	**+0.2**
JHS	**Saijyo**	**6.03**	**318**	P	**P**	**10 31 40.9**	**+1.0**
JHS	**Saijyo**	**6.03**	**318**	P	**P**	**10 31 40.9**	**+1.0**
JNU	**Nakatsue**	**6.57**	**295**	P	**P**	**10 31 46.5**	**+1.2**
	1.6nm,0.3s,baz=149,slow=3.0,SNR=8.6						
JNU				S	**S**	**10 33 08.4**	**+0.3**
	0.5nm,0.3s,baz=194,slow=20,SNR=1.7						
JSJ	**Shimokoshiki**	**7.19**	**281**	P	**P**	**10 31 51.9**	**+0.3**
JSD	**Sado**	**7.45**	**2**		**P**	**10 31 53.7**	**-0.5**
JMM	**Marumori**	**7.63**	**17**	P	**P**	**10 31 57.0**	**+0.9**
JOW	**Kunigami**	**9.32**	**249**	P	**P**	**10 32 15.4**	**+1.1**
	0.8nm,0.3s,baz=155,slow=20,SNR=2.2						
KSRS	**Korea Array**	**10.81**	**312**	P	**P**	**10 32 30.1**	**0.0**
	0.3nm,0.3s,baz=128,slow=9.8,SNR=4.2						
ASAJ	**Asahikawa**	**14.00**	**14**	P	**P**	**10 33 06.2**	**+2.2**
	1.8nm,0.3s,baz=201,slow=12,SNR=22						
JKA	**Kamikawa-asahi**	**14.00**	**14**	P	**P**	**10 33 05.8**	**+1.8**
USA0B	**Ussuriysk Arra**	**14.41**	**342**	P	**P**	**10 33 09.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**14.41**	**342**	P	**P**	**10 33 08.8**	**+0.4**
	baz=155,slow=11,SNR=66						
SSLB	**Suanglung**	**16.60**	**250**	P	**P**	**10 33 30.5**	**-1.4**
KLR	**Kul'dur**	**19.23**	**347**	P	**P**	**10 33 58.0**	**+1.2**
	0.2nm,0.3s,baz=158,slow=4.4,SNR=4.5						
SONM	**Songino Array**	**29.67**	**314**	P	**P**	**10 35 29.2**	**-0.9**
	0.9nm,0.5s,baz=116,slow=7.9,SNR=4.4						
SLVN	**Son La**	**31.91**	**261**	P	**P**	**10 35 49.5**	**-0.2**
SLVN				IAmb	IAmb	10 35 50.3	
	comp=Z,4.6nm,0.7s						
CHTO	**Chiang Mai**	**37.19**	**261**	P	**P**	**10 36 33.8**	**-0.3**
CHTO				IAmb	IAmb	10 36 34.2	
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.35**	**260**	P	**P**	**10 36 34.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=51,slow=7.5,SNR=9.1						
CMAR	**Chiang Mai Arr**	**37.35**	**260**	P	**P**	**10 36 36.0**	**+0.7**
ZALV	**Zalesovo Beam**	**44.46**	**317**	P	**P**	**10 37 31.2**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=102,slow=13,SNR=2.4						
ZALV				PcP	**PcP**	**10 39 04.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=102,slow=6.1,SNR=3.7						
MK31	**Makanchi Array**	**45.45**	**307**	P	**P**	**10 37 38.7**	**-0.7**
MKAR	**Makanchi Array**	**45.45**	**307**	P	**P**	**10 37 38.8**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=92,slow=10.0,SNR=27						
MKAR				PcP	**PcP**	**10 39 08.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=79,slow=5.5,SNR=6.0						
MKAR				ScP	**ScP**	**10 42 14.2**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=85,slow=6.7,SNR=2.1						
MAKZ	**Makanchi**	**45.66**	**307**	P	**P**	**10 37 40.3**	**-0.8**
KNRA	**Kununurra**	**46.84**	**192**	P	**P**	**10 37 51.1**	**+0.8**
KURK	**Kurchatov**	**47.94**	**313**	P	**P**	**10 37 57.9**	**-0.3**
KURBB	**Kurchatov Arra**	**47.99**	**312**	P	**P**	**10 37 57.9**	**-0.7**
	comp=Z,4.7nm,0.6s,baz=92,slow=7.0,SNR=37						
KURBB				PcP	**PcP**	**10 39 16.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=93,slow=3.8,SNR=2.4						
NRIK	**Noril'sk**	**48.08**	**338**	P	**P**	**10 37 58.9**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=100,slow=7.9,SNR=4.2						
KDJ	**Kajisay**	**49.38**	**301**	P	**P**	**10 38 09.2**	**-0.2**
KDJ				IAmb	IAmb	10 38 09.4	
	comp=Z,2.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**49.83**	**195**	P	**P**	**10 38 13.8**	**+1.1**
WB0	**Warramunga Arr**	**50.17**	**184**	P	**P**	**10 38 15.8**	**+0.7**
WB0				IAmb	IAmb	10 38 16.6	
	comp=Z,4.9nm,0.7s						
BOOM	**Boomskoye usch**	**50.25**	**302**	P	**P**	**10 38 15.6**	**-0.2**
BOOM				IAmb	IAmb	10 38 16.2	
	comp=Z,3.5nm,0.6s						
WRAB	**Tennant Creek**	**50.34**	**184**	P	**P**	**10 38 17.1**	**+0.6**
WRAB				IAmb	IAmb	10 38 19.0	
	comp=Z,7.2nm,1.2s						
WB2	**Warramunga Arr**	**50.35**	**184**	P	**P**	**10 38 17.1**	**+0.6**
WB2				IAmb	IAmb	10 38 36.2	
	comp=Z,9.9nm,1.3s						
WRA	**Warramunga Arr**	**50.35**	**184**	P	**P**	**10 38 17.0**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=0.4,slow=7.4,SNR=82						
WR0	**Warramunga Arr**	**50.35**	**184**	P	**P**	**10 38 17.2**	**+0.7**
WR0				IAmb	IAmb	10 38 17.4	
	comp=Z,5.1nm,0.6s						
BVAR	**Borovoye Array**	**53.00**	**316**	P	**P**	**10 38 35.0**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=154,slow=11,SNR=6.8						
AS31	**Alice Springs**	**54.07**	**185**	P	**P**	**10 38 43.9**	**+0.6**
ASAR	**Alice Springs**	**54.07**	**185**	P	**P**	**10 38 44.3**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=24,slow=11,SNR=35						
KK31	**Karatay Array**	**54.10**	**303**	P	**P**	**10 38 43.1**	**-0.3**
KK31				IAmb	IAmb	10 38 43.6	
	comp=Z,6.9nm,0.7s						
KKAR	**Karatay Array**	**54.10**	**303**	P	**P**	**10 38 43.1**	**-0.3**
KKAR				IAmb	IAmb	10 38 43.6	
	comp=Z,6.9nm,0.7s						
SPU	**Mount Spurr**	**54.12**	**34**	P	**P**	**10 38 42.4**	**-0.9**
GAR	**Garm**	**55.08**	**298**	P	**P**	**10 38 50.4**	**-0.1**
GAR				IAmb	IAmb	10 38 50.6	
	comp=Z,8.9nm,0.9s						
CHGR	**Chuyangaron**	**56.04**	**298**	P	**P**	**10 38 56.9**	**-0.3**
ARU	**Arti**	**59.43**	**321**	P	**P**	**10 39 19.0**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=54,slow=8.1,SNR=4.1						
ABKAR	**Akbulak array**	**60.05**	**312**	P	**P**	**10 39 23.6**	**-0.5**
STKA	**Stephens Creek**	**62.20**	**177**	P	**P**	**10 39 39.7**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=4.8,slow=12,SNR=3.8						
BBOO	**Buckleboo**	**63.07**	**182**	P	**P**	**10 39 45.3**	**+1.3**
BBOO				IAmb	IAmb	10 39 58.7	
	comp=Z,12nn,1.4s						
NWAO	**Narrogin (SRO)**	**66.15**	**199**	P	**P**	**10 40 04.3**	**+0.8**
EUNU	**Eureka**	**66.96**	**8**	P	**P**	**10 40 09.0**	**+0.9**
EUNU				IAmb	IAmb	10 40 13.3	
	comp=Z,4.9nm,1.5s						
ARCES	**ARCESS Array B**	**69.04**	**340**	P	**P**	**10 40 21.3**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=60,slow=8.0,SNR=26						
KBZ	**Khabaz**	**72.96**	**311**	P	**P**	**10 40 44.3**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=85,slow=5.6,SNR=7.8						
FIA1	**FINESS Array S**	**73.19**	**332**	P	**P**	**10 40 45.4**	**0.0**
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**10 40 45.0**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=74,slow=5.7,SNR=28						
FINES	**FINESS Array B**	**73.19**	**332**	P	**P**	**10 40 45.1**	**-0.3**
AKASG	**Malin Array Be**	**77.64**	**322**	P	**P**	**10 41 09.8**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=51,slow=5.3,SNR=7.2						
AKASG	**Malin Array Be**	**77.64**	**322**	IAmb	IAmb	10 41 18.0	
	comp=Z,1.8nm,1.3s						
NOA	**NORSAR Array B**	**79.00**	**337**	P	**P**	**10 41 17.0**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=45,slow=5.3,SNR=8.0						
BRTR	**Keskin Array B**	**80.96**	**311**	P	**P**	**10 41 28.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=108,slow=4.7,SNR=5.0						

IDC ***12*** *10:42:39.5±3.9,29˚.29N×137˚.98E, h326km±73km, mb2.6/2, mb1 2.8/5, mb1mx2.6/42, mbtmp3.5/5, Error ellipse: s-maj=126.5km s-min=17.7km az=69.0*
JMA ***12*** *10:42:42.7±0.3,29˚.91N×139˚.81E, h425km±5km, M3.4*

ISC 12 10:42:42.3±1.0, 29˚.78N±0˚.08×139˚.3E±0˚.2, h400km, n14, σ1§36/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.68**	**136**	P	**Pn**	**10 43 52.2**	**+0.7**
CBIJ				S	**S**	**10 44 47.2**	**-0.3**
JCJ	**Chichijima**	**3.68**	**136**	P	**Pn**	**10 43 52.2**	**+0.7**
	1.5nm,0.3s,baz=288,slow=20,SNR=1.1						
JCJ				S	**S**	**10 44 47.2**	**-0.4**
	15nm,0.3s,baz=295,slow=22,SNR=12						
JHH2	**Haha-jima-NKT2**	**4.03**	**141**	S	**S**	**10 44 53.1**	**-0.3**
JIE	**Ise**	**5.10**	**335**	P	**Pn**	**10 44 08.4**	**+3.2**
BSO3	**Boso 3**	**5.10**	**11**	S	**S**	**10 45 12.4**	**+0.1**
BSO4	**Boso 4**	**5.26**	**9**	S	**S**	**10 45 15.0**	**-0.7**
JHU	**Hanno**	**6.05**	**360**	P	**Pn**	**10 44 14.4**	**-1.0**
JHU				S	**S**	**10 45 28.2**	**-3.1**
JRY	**Ryogami san**	**6.22**	**357**	P	**Pn**	**10 44 18.6**	**+1.3**
JAG	**Ashikaga**	**6.62**	**1**	P	**Pn**	**10 44 21.7**	**0.0**
MJAR	**Matsushiro Arr**	**6.80**	**352**	P	**P**	**10 44 24.0**	**-0.3**
	0.1nm,0.3s,baz=173,slow=10,SNR=6.8						
JHO	**Hitachi**	**6.89**	**8**	P	**P**	**10 44 25.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**15.52**	**340**	P	**P**	**10 46 00.9**	**+0.6**
	baz=150,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**49.67**	**186**	P	**P**	**10 50 54.3**	**-1.3**
	0.9nm,1.2s,baz=360,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**53.40**	**186**	P	**P**	**10 51 22.7**	**-0.1**
	0.3nm,0.9s,baz=22,slow=11,SNR=6.1						

JMA ***12*** *10:44:05.8±0.2,24˚.36N×121˚.82E, h0km±2km, M3.0*
TAP ***12*** *10:44:06.4,24˚.37N×121˚.81E, h16km, ML3.2,B*

ISC 12 10:44:06.7±0.8, 24˚.35N±0˚.02×121˚.84E±0˚.02, h15km±5km, n100, σ0§88/150, 14C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.10**	**246**	P	**Pg**	**10 44 09.8**	**-0.2**
	baz=224						
EHP				S	**Sg**	**10 44 12.3**	**+0.2**
	baz=224						
EWUT	**Wuta**	**0.11**	**331**	P	**Pg**	**10 44 09.9**	**-0.3**
	baz=341						
EWUT				S	**Sg**	**10 44 12.0**	**-0.4**
	baz=341						
TWC	**Suao**	**0.26**	**3**	*i* P	**Pg**	**10 44 12.1**	**-0.2**
	baz=16						
TWC				*i* S	**Sg**	**10 44 15.7**	**-0.5**
	baz=16						
ETL	**Fush Village**	**0.27**	**226**	*i* P	**Pg**	**10 44 12.3**	**-0.3**
	baz=221						
ETL				S	**Sg**	**10 44 16.4**	**-0.2**
	baz=221						
NACB	**Ninganchiao**	**0.28**	**232**	*i* P	**Pg**	**10 44 12.3**	**-0.4**
	baz=227						
NACB				*i* S	**Sg**	**10 44 16.4**	**-0.4**
	baz=227						
NDS	**Dongshan**	**0.30**	**339**	*i* P	**Pg**	**10 44 12.9**	**-0.2**
	baz=342						
NDS				*i* S	**Sg**	**10 44 16.8**	**-0.7**
	baz=342						
TWD	**Chiawan**	**0.35**	**219**	*i* P	**Pg**	**10 44 13.7**	**-0.2**
	baz=219						
TWD				S	**Sg**	**10 44 18.5**	**-0.3**
	baz=219						
ETLH	**Xiulin Townshi**	**0.35**	**246**	*i* P	**Pg**	**10 44 13.5**	**-0.5**
	baz=244						
ETLH				*e*S	**Sg**	**10 44 18.4**	**-0.7**
	baz=244						
ENTT	**Nioudou**	**0.38**	**320**	*i* P	**Pg**	**10 44 14.0**	**-0.5**
	baz=322						
ENTT				S	**Sg**	**10 44 19.1**	**-0.7**
	baz=322						
NDT	**Datong Townshi**	**0.39**	**311**	*i* P	**Pg**	**10 44 14.2**	**-0.4**
	baz=312						
NDT				S	**Sg**	**10 44 19.3**	**-0.7**
	baz=312						
TWE	**Neicheng**	**0.40**	**337**	*i* P	**Pg**	**10 44 14.5**	**-0.3**
	baz=342						
TWE				*i* S	**Sg**	**10 44 20.0**	**-0.4**
	baz=342						
NNSB	**Datong**	**0.42**	**281**	⇓P	**Pg**	**10 44 14.8**	**-0.5**
	baz=287						
NNSB				S	**Sg**	**10 44 19.3**	**-1.8**
	baz=287						
NNSH	**Datong**	**0.42**	**281**	⇓*i*P	**Pg**	**10 44 14.8**	**-0.5**
	baz=284						
NNSH				S	**Sg**	**10 44 19.4**	**-1.7**
	baz=284						
ILA	**Ilan**	**0.42**	**349**	P	**Pg**	**10 44 15.1**	**-0.2**
	baz=353						
ILA				*i* S	**Sg**	**10 44 21.1**	**0.0**
	baz=353						
HWA	**Hwalien**	**0.43**	**210**	P	**Pb**	**10 44 15.9**	**-0.1**
	baz=212						
NNS	**Nan Shan**	**0.43**	**282**	⇓*i*P	**Pg**	**10 44 14.9**	**-0.6**
	baz=288						
NNS				*i* S	**Sg**	**10 44 19.9**	**-1.6**
	baz=288						
ETM	**Tongmen**	**0.49**	**219**	*e*P	**Pg**	**10 44 15.9**	**-0.7**
	baz=216						
EGS		**0.50**	**10**	⇓*i*P	**Pb**	**10 44 16.8**	**-0.5**
	baz=20						
EGS				*i* S	**Sg**	**10 44 22.9**	**-0.5**
	baz=20						
NTC	**Toucheng**	**0.50**	**359**	⇓P	**Pg**	**10 44 16.5**	**-0.2**
	baz=2.0						
NTC				S	**Sg**	**10 44 23.4**	**-0.1**
	baz=2.0						
NWLT	**Wulai**	**0.52**	**325**	⇑P	**Pb**	**10 44 16.6**	**-0.5**
	baz=323						
NWLT				*e*S	**Sg**	**10 44 22.6**	**-1.5**
	baz=323						
TEYL	**Yanliau Villag**	**0.53**	**204**	*e*P	**Pg**	**10 44 16.2**	**-1.0**
	baz=209						
YHNB	**Yeheng**	**0.53**	**307**	⇑*i*P	**Pg**	**10 44 16.8**	**-0.5**
	baz=308						
YHNB				S	**Sg**	**10 44 23.1**	**-1.2**
	baz=308						
FUSS	**Fushou**	**0.55**	**259**	⇓*i*P	**Pg**	**10 44 17.2**	**-0.5**
	baz=259						
FUSS				S	**Sg**	**10 44 24.1**	**-1.0**
	baz=259						
WHF	**Hehuan Shan**	**0.56**	**249**	⇓*i*P	**Pg**	**10 44 17.3**	**-0.6**
	baz=255						
WHF				*e*S	**Sg**	**10 44 24.4**	**-1.1**
	baz=255						
TIPB	**Shuangxi**	**0.62**	**359**	⇓*i*P	**Pg**	**10 44 18.7**	**-0.2**
	baz=1.0						
TIPB				*i* S	**Sg**	**10 44 25.9**	**-1.3**
	baz=1.0						
TDCB	**Techi**	**0.63**	**261**	⇓*i*P	**Pg**	**10 44 18.6**	**-0.5**
	baz=260						
TDCB				S	**Sg**	**10 44 26.0**	**-1.5**
	baz=260						
ESL	**Shilin**	**0.65**	**215**	*e*P	**Pg**	**10 44 19.1**	**-0.3**
	baz=219						
TWA	**Mucha**	**0.67**	**340**	*i* P	**Pg**	**10 44 19.2**	**-0.6**
	baz=342						
TWA				S	**Sg**	**10 44 27.5**	**-1.2**
	baz=342						
CHGB	**Renai**	**0.67**	**245**	P	**Pg**	**10 44 19.5**	**-0.5**
	baz=253						
CHGB				S	**Sg**	**10 44 28.0**	**-0.9**
	baz=253						
TWB1	**Santiao Chiao**	**0.67**	**12**	*i* P	**Pg**	**10 44 19.5**	**-0.4**
	baz=14						
TWB1				*i* S	**Sg**	**10 44 27.7**	**-1.0**
	baz=14						
NHDH	**Xindian Distri**	**0.67**	**335**	*e*P	**Pb**	**10 44 19.9**	**-0.3**
	baz=337						
NHDH				*e*S	**Sg**	**10 44 28.1**	**-0.8**
	baz=337						
TEGC	**Jichi Village**	**0.69**	**203**	*e*P	**Pb**	**10 44 21.1**	**+0.6**
	baz=188						
TATO	**Taipei**	**0.70**	**333**	⇑*i*P	**Pg**	**10 44 19.8**	**-0.6**
	baz=334						
TATO				*i* S	**Sg**	**10 44 28.0**	**-1.7**
	baz=334						
NWF	**Wu-fen Shan**	**0.72**	**356**	*i* P	**Pg**	**10 44 20.6**	**-0.2**
	baz=349						
NWF				*i* S	**Sg**	**10 44 29.7**	**-0.7**
	baz=349						
OWD	**Renai**	**0.72**	**237**	⇑P	**Pg**	**10 44 20.0**	**-0.8**
	baz=227						
WFSB	**Wu-fen Shan**	**0.72**	**356**	P	**Pb**	**10 44 20.7**	**-0.3**
	baz=351						
WFSB				S	**Sg**	**10 44 29.5**	**-0.9**
	baz=351						
EGFH	**Guangfu**	**0.77**	**209**	*e*P	**Pg**	**10 44 21.1**	**-0.7**
	baz=220						
TNOU	**National Taiwa**	**0.80**	**356**	*e*P	**Pg**	**10 44 21.9**	**-0.5**
	baz=5.0						
LIOB	**Emei**	**0.80**	**292**	*e*P	**Pb**	**10 44 22.9**	**+0.4**
	baz=280						
NSTT	**Nanjuang**	**0.81**	**290**	*e*P	**Pg**	**10 44 21.9**	**-0.6**
	baz=281						
NSTT				S	**Sg**	**10 44 31.5**	**-1.7**
	baz=281						
WHP	**Taichung City**	**0.82**	**265**	*e*P	**Pg**	**10 44 22.4**	**-0.2**
	baz=265						
WHP				S	**Sg**	**10 44 31.7**	**-1.7**
	baz=265						
YM01	**YM01**	**0.83**	**343**

	baz=10.0								
CHN5	**Tsauling**	**1.30**	**235**	*e*P		**Pn**	**10 44 30.8**	**+0.4**
	baz=220								
CHN5				S		**Sn**	**10 44 50.3**	**+2.7**
	baz=220								
CHKT	**Chengkung**	**1.32**	**199**	*e*P		**Pn**	**10 44 30.0**	**-0.6**
	baz=188								
WDLH	**Douliu**	**1.36**	**241**	*e*P		**Pg**	**10 44 32.8**	**-0.1**
	baz=241								
ELDTW	**Lidau**	**1.38**	**213**	*e*P		**Pn**	**10 44 31.1**	**-0.4**
	baz=200								
EDH	**Donghe**	**1.46**	**200**	*e*P		**Pn**	**10 44 31.3**	**-1.2**
	baz=186								
CHN4	**Tsaushan**	**1.51**	**229**⇑	*i*P		**Pg**	**10 44 34.9**	**-0.9**
	baz=218								
CHN4				*i* S		**Sg**	**10 44 56.4**	**+0.9**
	baz=218								
TPUB	**Ta-pu**	**1.52**	**227**	P		**Pn**	**10 44 34.3**	**+0.9**
	baz=218								
TPUB				*e*S		**Sg**	**10 44 56.2**	**+0.4**
	baz=218								
STYH	**Taoyuan**	**1.52**	**220**	*e*P		**Pn**	**10 44 34.1**	**+0.7**
	baz=220								
WTP	**Ta-pu**	**1.57**	**226**	*e*P		**Pb**	**10 44 35.5**	**0.0**
	baz=212								
LONT	**Longtian**	**1.58**	**204**	*e*P		**Pn**	**10 44 33.0**	**-1.2**
	baz=206								
CHN1	**Nanshi**	**1.67**	**226**	*e*P		**Pn**	**10 44 36.4**	**+1.0**
	baz=228								
CHN1				S		**Sg**	**10 45 00.2**	**-0.3**
	baz=228								
TWG	**Pinlang**	**1.68**	**205**	*e*P		**Pn**	**10 44 35.5**	**0.0**
	baz=192								
TWGBT	**Beinan**	**1.68**	**205**	*e*P		**Pn**	**10 44 34.7**	**-0.9**
	baz=192								
IRIF	**Iriomote-Funau**	**1.73**	**90**	P		**Pn**	**10 44 36.3**	**+0.1**
IRIF				*e*S		**Sn**	**10 44 58.5**	**+0.5**
ICHU	**Yijhu**	**1.73**	**236**	*e*P		**Pn**	**10 44 37.6**	**+1.3**
	baz=236								
SLGT	**Liugui**	**1.74**	**219**	*e*P		**Pb**	**10 44 38.2**	**-0.1**
	baz=220								
SSD	**Sandimen**	**1.94**	**215**	*e*P		**Pn**	**10 44 40.5**	**+1.3**
	baz=216								
TSMG	**Majia**	**1.97**	**214**	*e*P		**Pn**	**10 44 41.0**	**+1.4**
	baz=216								
JKRS	**Kuro-shima**	**1.99**	**93**	P		**Pn**	**10 44 40.7**	**+0.9**
JKRS				*e*S		**Sn**	**10 45 05.2**	**+0.8**
MASBT	**Mashibuluo**	**2.05**	**213**	*e*P		**Pn**	**10 44 42.2**	**+1.5**
	baz=215								
MASBT				*e*S		**Sb**	**10 45 08.8**	**-0.2**
	baz=215								
JIJ	**Ishigaki jima**	**2.10**	**89**	P		**Pn**	**10 44 41.9**	**+0.5**
JIJ				S		**Sn**	**10 45 07.0**	**-0.3**
PHUB	**P'eng-hu**	**2.23**	**249**	*e*P		**Pn**	**10 44 43.7**	**+0.5**
	baz=248								
JISG	**Ishigakijimahi**	**2.27**	**84**	P		**Pn**	**10 44 43.7**	**0.0**
JISG				*e*S		**Sn**	**10 45 11.8**	**+0.5**
WDGT	**Dungji**	**2.27**	**242**	*e*P		**Pn**	**10 44 44.9**	**+1.2**
	baz=242								
SLIU	**Shizi**	**2.33**	**204**	*e*P		**Pn**	**10 44 46.0**	**+1.5**
	baz=196								
MATB	**Ma-tsu**	**2.48**	**317**	*e*P		**Pn**	**10 44 47.0**	**+0.4**
	baz=315								
PTMZ	**Houxiangcun**	**2.56**	**286**	*e*P		**Pn**	**10 44 47.0**	**-0.7**
	baz=286								
JTJ	**Tarama**	**2.63**	**83**	P		**Pn**	**10 44 49.2**	**+0.6**
LYJJ	**Jianjiangzhen**	**2.88**	**320**	*e*P		**Pn**	**10 44 55.1**	**+2.9**
	baz=318								
XPSS	**Dashiqiu**	**2.97**	**330**	*e*P		**Pn**	**10 44 52.8**	**-0.5**
	baz=329								
AXDP	**Jialang**	**3.56**	**280**	*e*P		**Pn**	**10 45 01.4**	**-0.1**
	baz=280								

IDC ***12*** *11:07:01.0±0.3, 15°.60S×173°.06W, h0km, mb5.6/43, mb1 5.6/46, mb1mx5.6/49, mbtmp5.6/46, ML6.3/2, MS5.4/27, Ms1 5.4/27, ms1mx5.3/31, Error ellipse: s-maj=11.6km s-min=9.8km az=126.0*

MOS ***12*** *11:07:04.9±1.2, 15°.54S×173°.13W, h31km, mb6.0/65, MS5.3/41, Error ellipse: s-maj=7.6km s-min=6.4km az=84.3*

NOU ***12*** *11:07:05.7, 15°.64S×173°.04W, h30km, ML5.8, Tonga Islands*

BJI ***12*** *11:07:05.6±0.0, 15°.52S×172°.52W, h56km, mB5.6/73, mb5.4/74, Ms5.5/77, Ms7 5.3/71*

NEIC ***12*** *11:07:06.5, 15°.65S×173°.05W, h43km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.66; Mθθ=0.24; Mφφ=0.42; Mrθ=-0.33; Mrφ=-0.40; Mθφ=1.11; Fault plane solution: M₀1.36000×10¹⁸ NP1:φs302.68000°, δ18.45000°, λ-125.91000°. NP2:φs160.03000°, δ75.15000°, λ-78.93000°. Principal axes: T 1.3563, Plg29.0000°, Azm241.0000°; N 0.0037, Plg11.0000°, Azm337.0000°; P -1.3600, Plg58.0000°, Azm85.0000°;*

BGR ***12*** *11:07:07.2±0.0, 15°.82S×172°.44W, h39km*

NEIC ***12*** *11:07:08.0±2.4, 15°.68S±0°.06×173°.01W±0°.07, h48km±1km, mb6.0/597, Ms_20 5.8/808, Mwb6.0/105, Mwc6.0/11, Mww6.0, Mwc6.0(GCMT), Error ellipse: s-maj=10.8km s-min=10.5km az=67.0*

NEIC ***12*** *11:07:12, 15°.52S×172°.66W, h47km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.49; Mθθ=0.47; Mφφ=0.02; Mrθ=-0.38; Mrφ=-0.56; Mθφ=1.05; Fault plane solution: M₀1.34000×10¹⁸ NP1:φs271.00000°, δ27.00000°, λ-152.00000°. NP2:φs155.00000°, δ78.00000°, λ-66.00000°. Principal axes: T 1.3538, Plg29.0000°, Azm226.0000°; N -0.0348, Plg23.0000°, Azm330.0000°; P -1.3190, Plg51.0000°, Azm93.0000°;*

GCMT ***12*** *11:07:13.0±0.1, 15°.54S×172°.69W, h51km, MW6.0/161, Moment Tensor Solution. s158,c370; s161,c479; Duration: ≥≤5 Moment tensor: Scale 10¹⁸Nm; Mrr=0.47±.01; Mθθ=0.47±.01; Mφφ=0.00±.01; Mrθ=-0.38±.01; Mrφ=-0.53±.01; Mθφ=1.00±.01; Best double couple: M₀1.27800×10¹⁸ NP1:φs270.00000°, δ27.00000°, λ-152.00000°. NP2:φs154.00000°, δ78.00000°, λ-66.00000°. Principal axes: T 1.2980, Plg29.0000°, Azm225.0000°; N -0.0390, Plg23.0000°, Azm329.0000°; P -1.2590, Plg51.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *11:07:13, 15°.70S×172°.79W, h50km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.43; Mθθ=0.18; Mφφ=0.25; Mrθ=-0.20; Mrφ=-0.58; Mθφ=1.04; Fault plane solution: M₀1.27000×10¹⁸ NP1:φs282.00000°, δ26.00000°, λ-152.00000°. NP2:φs166.00000°, δ78.00000°, λ-66.00000°. Principal axes: T 1.3140, Plg30.0000°, Azm238.0000°; N -0.0992, Plg23.0000°, Azm341.0000°; P -1.2148, Plg51.0000°, Azm103.0000°;*

NEIC ***12*** *11:07:30.5, 16°.01S×173°.01W, h65km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.70; Mθθ=0.28; Mφφ=0.43; Mrθ=-0.41; Mrφ=-0.48; Mθφ=0.97; Fault plane solution: M₀1.31000×10¹⁸ NP1:φs154.23000°, δ72.50000°, λ-79.18000°. NP2:φs301.79000°, δ20.48000°, λ-120.77000°. Principal axes: T 1.3540, Plg27.0000°, Azm236.0000°; N -0.0789, Plg10.0000°, Azm331.0000°; P -1.2751, Plg61.0000°, Azm80.0000°;*

ISC 12 11:07:06.9±0.3, 15°.61S±0°.03×172°.95W±0°.03, h43km±2km, h43km:pP-P, n1590, σ1°63/1260, mb6.0/373, MS5.8/487, 102C-348D, Fault plane solution: NP1:φs318.72473°, δ12.80015°, λ-144.86298°. **NP2:φs**194.26338°, δ82.67426°, λ-79.47464°. **Principal axes:** T Plg36.8249°, Azm274.9773°; N Plg10.4385°, Azm12.9062°; P Plg51.2329°, Azm116.1682°; **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.04**	**34**	P		**Pn**	**11 07 36.9**	**-1.9**
	11μm,0.3s,baz=266,slow=0.2,SNR=4829							
AFI				Sn		**Sn**	**11 07 57.7**	**-5.3**
	6μm,0.3s,baz=154,slow=13,SNR=6.8							
AFI				LR		LR	11 08 19.9	
	comp=Z,116μm,20.9s,baz=292,slow=38							
AFI	**Afiamalu**	**2.04**	**34**	P		**Pn**	**11 07 36.9**	**-1.9**
AFI	**Afiamalu**	**2.04**	**34**	Pn		**Pn**	**11 07 37.1**	**-1.6**
AFI	**Afiamalu**	**2.04**	**34**	P		**Pn**	**11 07 37.9**	**-0.9**
NIUE	**Niue**	**4.50**	**140**	P		**Pn**	**11 08 11.6**	**-0.9**
	baz=4.6,SNR=256							
NIUE				S		**Sn**	**11 08 58.0**	**-5.7**
	baz=4.6							
NIUE	**Niue**	**4.50**	**140**	Pn		**Pn**	**11 08 11.7**	**-0.9**
NIUE	**Niue**	**4.50**	**140**	P		**Pn**	**11 08 12.3**	**-0.2**
MSVF	**Nonsavu**	**8.88**	**255**	Pn		Pn	11 09 20.0	+7.2
	23nm,0.3s,baz=88,slow=9.6,SNR=300							
MSVF				LR		LR	11 11 58.8	
	comp=Z,32μm,21.4s,baz=85,slow=34							
MSVF	**Nonsavu**	**8.88**	**255**			Pn	11 09 19.9	+7.2
FUNA	**Funafuti**	**10.41**	**312**	Pn		**Pn**	**11 09 33.1**	**-0.6**
KNTN	**Kanton**	**12.81**	**6**	Pn		**Pn**	**11 10 04.5**	**-2.0**
KNTN	**Kanton**	**12.81**	**6**	P		**Pn**	**11 10 06.4**	**-0.1**
RAR	**Rarotonga**	**13.69**	**116**	Pn		**Pn**	**11 10 16.0**	**-2.5**
	16nm,0.3s,baz=276,slow=11,SNR=20							
RAR				Sn		Sn	11 12 35.7	-14
	20nm,0.3s,baz=124,slow=19,SNR=10							
RAR				LR		LR	11 14 18.4	
	comp=Z,12μm,19.5s,baz=286,slow=32							
RAR	**Rarotonga**	**13.69**	**116**	P		**Pn**	**11 10 16.0**	**-2.5**
RAR	**Rarotonga**	**13.69**	**116**	Pn		**Pn**	**11 10 15.7**	**-2.8**
RAR	**Rarotonga**	**13.69**	**116**	P		**Pn**	**11 10 18.2**	**-0.3**
RIZ	**Raoul Island**	**14.33**	**198**	P		**Pn**	**11 10 24.2**	**-2.9**
RIZ				S		Sn	11 12 54.8	-10
RAO	**Raoul Island**	**14.33**	**198**	Pn		**Pn**	**11 10 24.5**	**-2.6**
	139nm,0.3s,baz=110,slow=21,SNR=5.9							
RAO				Sn		Sn	11 12 53.4	-11
	63nm,0.3s,baz=84,slow=23,SNR=2.8							
RAO	**Raoul Island**	**14.33**	**198**	P		**Pn**	**11 10 22.9**	**-4.2**
RAO	**Raoul Island**	**14.33**	**198**	Pn		**Pn**	**11 10 22.9**	**-4.2**
RAO	**Raoul Island**	**14.33**	**198**	P		**Pn**	**11 10 27.7**	**+0.6**
GLKZ	**Green Lake**	**14.34**	**198**	P		**Pn**	**11 10 23.5**	**-3.7**
GLKZ				S		Sn	11 12 52.6	-12
SANVU	**Saraoutou**	**19.12**	**268**	P		**P**	**11 11 27.0**	**+0.5**
SANVU				IAmb		IAmb	11 11 32.5	
	comp=Z,1μm,1.3s							
SANVU	**Saraoutou**	**19.12**	**268**	P		**P**	**11 11 26.0**	**-0.4**
LIFNC	**LIFOU**	**19.50**	**252**	P		**P**	**11 11 28.7**	**-1.9**
LIFNC				IAmb		IAmb	11 11 34.4	
	comp=Z,1μm,1.0s							
PINNC	**Pines Island,**	**19.78**	**246**	P		**P**	**11 11 32.3**	**-1.2**
PINNC	**Pines Island,**	**19.78**	**246**	P		**Pn**	**11 11 35.0**	**-0.3**
YATNC	**Mamie plateau,**	**20.12**	**248**	P		Pn	11 11 38.4	-1.0
OUENC	**Ouen Island, N**	**20.26**	**247**	P		**P**	**11 11 39.1**	**+0.3**
OUENC	**Ouen Island, N**	**20.26**	**247**	P		**P**	**11 11 39.7**	**+0.9**
DZM	**Mont Dzumac**	**20.52**	**249**	*e*P		**P**	**11 11 41.3**	**-0.5**
	comp=Z,4μm,1.2s							
DZM				*e*LR		LR	11 16 33.2	
	comp=E,81μm,27.8s							
DZM	**Mont Dzumac**	**20.52**	**249**	P		**P**	**11 11 40.0**	**-1.7**
	comp=Z,130nm,1.0s,baz=81,slow=17,SNR=21							
DZM	**Mont Dzumac**	**20.52**	**249**	P		**P**	**11 11 41.6**	**-0.2**
DZM	**Mont Dzumac**	**20.52**	**249**	P		Pn	11 11 43.1	-1.1
ONTNC	**Ouen Toro**	**20.57**	**248**	P		**P**	**11 11 40.7**	**-1.5**
ONTNC	**Ouen Toro**	**20.57**	**248**	P		**P**	**11 11 43.2**	**+1.0**
NOUC	**Port Laguerre**	**20.66**	**249**	P		Pn	11 11 44.6	-1.1
TARA	**Tarawa**	**21.89**	**319**	P		**P**	**11 11 55.6**	**-0.7**
TARA				IAmb		IAmb	11 12 00.8	
	comp=Z,1μm,1.4s							
TARA	**Tarawa**	**21.89**	**319**	P		**P**	**11 11 58.2**	**+1.8**
	comp=Z,732nm,1.4s							
NFK	**Norfolk Island**	**22.12**	**230**	P		**P**	**11 11 58.4**	**-0.4**
	baz=22,SNR=6.4							
KOUNC	**Koumac, New Ca**	**22.18**	**254**	P		**P**	**11 11 59.3**	**-0.2**
PAE	**Paea**	**22.48**	**99**	*e*P		**P**	**11 12 03.7**	**+0.9**
	comp=Z,73nm,1.0s							
PAE	**Paea**	**22.48**	**99**	*e*T		T	11 35 16.8	
	comp=Z,39nm,0.4s							
PPT	**Papeete**	**22.49**	**98**	P		**P**	**11 12 04.3**	**+1.5**
	comp=Z,273nm,0.9s,baz=267,slow=4.3,SNR=20							
PPT				S		**S**	**11 16 09.2**	**+2.2**
	comp=Z,26nm,0.8s,baz=63,slow=17,SNR=1.3							
PPT				LR		LR	11 18 18.8	
	comp=Z,7μm,18.9s,baz=270,slow=30							
PPT	**Papeete**	**22.49**	**98**	P		**P**	**11 12 04.3**	**+1.5**
PPT	**Papeete**	**22.49**	**98**	P		**P**	**11 12 04.3**	**+1.5**
PPT2	**Papeete2**	**22.49**	**98**	*e*P		**P**	**11 12 04.2**	**+1.3**
	comp=Z,318nm,1.1s							
PPT2				*e*LQ		LQ	11 16 27.7	
	comp=E,41μm,27.8s							
PPT2				*e*LR		LR	11 17 12.8	
	comp=Z,49μm,27.8s,baz=271							
PPT2	**Papeete2**	**22.49**	**98**	*e*T		T	11 35 17.7	
	comp=Z,41nm,0.4s							
PPTF	**Pamatai, Papee**	**22.50**	**98**	P		**P**	**11 12 03.3**	**+0.3**
TIAR	**Tiarei**	**22.70**	**98**	*e*P		**P**	**11 12 06.3**	**+1.1**
	comp=Z,34nm,0.9s							
TIAR	**Tiarei**	**22.70**	**98**	*e*T		T	11 35 34.4	
	comp=Z,8.3nm,0.3s							
OUZ	**Omahuta**	**22.95**	**209**	P		**P**	**11 12 06.1**	**-1.4**
OUZ				IAmb		IAmb	11 12 11.3	
	comp=Z,1μm,1.2s							
OUZ	**Omahuta**	**22.95**	**209**	P		**P**	**11 12 06.3**	**-1.2**
GRZ	**Great Barrier**	**23.01**	**205**	P		**P**	**11 12 09.2**	**+1.1**
MXZ	**Matakaoa Point**	**23.20**	**198**	P		**P**	**11 12 09.5**	**-0.4**
MXZ				IAmb		IAmb	11 12 14.4	
	comp=Z,596nm,0.6s							
MXZ	**Matakaoa Point**	**23.20**	**198**	P		**P**	**11 12 11.1**	**+1.2**
WCZ	**Waipu Caves**	**23.21**	**207**	P		**P**	**11 12 11.4**	**+1.4**
XMAS	**Kiritimati**	**23.30**	**42**	P		**P**	**11 12 12.7**	**+1.5**
XMAS	**Kiritimati**	**23.30**	**42**	P		**P**	**11 12 12.2**	**+1.1**
KUZ	**Kuaotunu**	**23.34**	**203**	P		**P**	**11 12 13.3**	**+1.0**
WMGZ	**Waiomatatini S**	**23.40**	**197**	P		**P**	**11 12 13.8**	**+1.8**
TBI	**Tubuai**	**23.43**	**113**	*e*P		**P**	**11 12 13.2**	**+0.9**
	comp=Z,559nm,0.9s							
TBI				*e*S		**S**	**11 16 20.5**	**-2.1**
	comp=Z,3μm,31.7s							
TBI				*e*LQ		LQ	11 16 54.4	
	comp=Z,28μm,33.2s							
TBI				*e*LR		LR	11 17 44.9	
	comp=Z,44μm,28.5s,baz=288							
TBI	**Tubuai**	**23.43**	**113**	*e*T		T	11 36 30.8	
	comp=Z,102nm,0.3s							
WIZ	**White Island**	**23.51**	**200**	P		**P**	**11 12 15.1**	**+2.1**
HAZ	**Te Kaha**	**23.54**	**199**	P		**P**	**11 12 14.2**	**+1.0**
HAZ				S		**S**	**11 16 25.6**	**+1.4**
PKGZ	**Pakihiroa**	**23.57**	**198**	P		**P**	**11 12 16.3**	**+2.7**
PUZ	**Puketiti**	**23.68**	**197**	P		**P**	**11 12 15.0**	**+0.3**
PUZ				S		S	11 16 05.8	-21
RUGZ	**Raukumara Rang**	**23.76**	**199**	P		**P**	**11 12 18.1**	**+2.7**
TWGZ	**Tauwhareparae**	**23.86**	**198**	P		**P**	**11 12 18.6**	**+2.2**
TWGZ				S		S	11 16 11.2	-18
WHRZ	**Whale Island**	**23.88**	**200**	P		**P**	**11 12 20.1**	**+3.6**
MEH	**Mehetia**	**23.93**	**99**	*e*P		**P**	**11 12 18.0**	**+0.8**
	comp=Z,111nm,1.1s							
MEH	**Mehetia**	**23.93**	**99**	*e*T		T	11 37 05.8	
	comp=Z,38nm,0.3s							
TGRZ	**Tauranga**	**24.01**	**201**	P		**P**	**11 12 21.0**	**+3.4**
OPRZ	**Ohinepanea**	**24.01**	**201**	P		**P**	**11 12 20.2**	**+2.5**
CNGZ	**Carnagh Statio**	**24.08**	**197**	P		**P**	**11 12 20.8**	**+2.5**
MWZ	**Matawai**	**24.14**	**199**	P		**P**	**11 12 20.1**	**+1.2**
TKGZ	**Te Karaka**	**24.14**	**198**	P		**P**	**11 12 19.9**	**+1.1**
PMOR	**Pomariorio Ree**	**24.17**	**92**	*e*P		**P**	**11 12 19.9**	**+0.5**
	comp=Z,877nm,1.0s							
PMOR	**Pomariorio Ree**	**24.17**	**92**	*e*T		T	11 37 21.9	
	comp=Z,27nm,0.3s							
EDRZ	**Edgecumbe**	**24.19**	**200**	P		**P**	**11 12 23.0**	**+3.6**
URZ	**Urewera**	**24.21**	**199**	P		**P**	**11 12 18.7**	**-0.8**
	comp=Z,1μm,0.6s,baz=301,slow=23,SNR=126							
URZ				S		**S**	**11 16 34.1**	**-0.8**
	comp=Z,7.0nm,0.5s,baz=293,slow=23,SNR=1.1							
URZ	**Urewera**	**24.21**	**199**	P		**P**	**11 12 18.2**	**-1.3**
URZ	**Urewera**	**24.21**	**199**	P		**P**	**11 12 19.6**	**+0.1**
URZ				S		**S**	**11 16 32.6**	**-2.3**
KMRZ	**Kaimai**	**24.23**	**202**	P		**P**	**11 12 23.9**	**+4.1**
KARZ	**Kaharoa**	**24.28**	**201**	P		**P**	**11 12 23.8**	**+3.6**
OMRZ	**Omania**	**24.31**	**201**	P		**P**	**11 12 23.5**	**+3.0**
RAGZ	**Rawiri**	**24.33**	**199**	P		**P**	**11 12 23.1**	**+2.4**
TARZ	**Mount Tarawera**	**24.38**	**200**	P		**P**	**11 12 25.6**	**+4.4**
VAH	**Vaihoa**	**24.41**	**93**	*e*P		**P**	**11 12 21.7**	**+0.1**
	comp=Z,520nm,1.0s							
VAH	**Vaihoa**	**24.41**	**93**	*e*T		T	11 37 39.5	
	comp=Z,34nm,0.3s							
RIGZ	**Rimuhaua**	**24.42**	**198**	P		**P**	**11 12 25.4**	**+4.0**
UTU	**Utuhina**	**24.44**	**201**	P		**P**	**11 12 25.9**	**+4.4**
HLRZ	**Highlands Stat**	**24.45**	**201**	P		**P**	**11 12 26.1**	**+4.3**
RRRZ	**Republican Roa**	**24.47**	**200**	P		**P**	**11 12 25.7**	**+3.7**
MUGZ	**Murupara**	**24.51**	**200**	P		**P**	**11 12 24.5**	**+2.2**
HSRZ	**Hossack Road**	**24.54**	**201**	P		**P**	**11 12 26.8**	**+4.2**
RTZ	**Ruatahuna**	**24.57**	**199**	P		**P**	**11 12 26.3**	**+3.4**
PRGZ	**Paritu Road**	**24.58**	**197**	P		**P**	**11 12 26.2**	**+3.3**
PRGZ				S		**S**	**11 16 46.3**	**+5.2**
HRRZ	**Handcock Road**	**24.60**	**201**	P		**P**	**11 12 27.8**	**+4.8**
GRRZ	**Galatos Road**	**24.62**	**201**	P		**P**	**11 12 27.7**	**+4.4**
PRRZ	**Plateau Road**	**24.66**	**200**	P		**P**	**11 12 26.0**	**+2.4**
ALRZ	**Allen Road**	**24.73**	**200**	P		**P**	**11 12 26.8**	**+2.5**
MHGZ	**Mahia Peninsul**	**24.79**	**197**	P		**P**	**11 12 27.8**	**+3.0**
RAHZ	**Arahi**	**24.82**	**199**	P		**P**	**11 12 27.5**	**+2.5**
MRHZ	**Matea Rd**	**24.95**	**200**	P		**P**	**11 12 21.6**	**-4.7**
NMHZ	**Naumai**	**25.07**	**199**	P		**P**	**11 12 28.9**	**+1.5**
NMHZ				S		**S**	**11 16 57.8**	**+8.8**
WATZ	**Wairara**	**25.07**	**201**	P		**P**	**11 12 31.4**	**+4.1**
HATZ	**Hinemaiaia**	**25.11**	**200**	P		**P**	**11 12 29.0**	**+1.3**
ARHZ	**Aropaoanui**	**25.16**	**199**	P		**P**	**11 12 31.2**	**+3.1**
RATZ	**Rangitukua**	**25.20**	**201**	P		**P**	**11 12 30.8**	**+2.2**
HIZ	**Hauiti**	**25.22**	**203**	P		**P**	**11 12 29.1**	**+0.4**
BKZ	**Black Stump Fm**	**25.23**	**200**	P		**P**	**11 12 28.6**	**-0.3**
BKZ				IAmb		IAmb	11 12 33.7	
	comp=Z,288nm,0.7s							
BFZ	**Birch Farm**	**26.69**	**199**	P		**P**	**11 12 42.4**	**+0.4**
BFZ				IAmb		IAmb	11 12 47.6	
	comp=Z,640nm,1.2s							
HNR	**Honiara**	**27.14**	**280**	P		**P**	**11 12 44.6**	**-1.7**
	comp=Z,139nm,1.0s,baz=227,slow=5.4,SNR=3.0							
HNR				LR		LR	11 22 03.7	
	comp=Z,18μm,21.7s,baz=121,slow=33							
HNR	**Honiara**	**27.14**	**280**	P		**P**	**11 12 44.6**	**-1.7**
HNR	**Honiara**	**27.14**	**280**	P		**P**	**11 12 44.6**	**-1.7**
HNR	**Honiara**	**27.14**	**280**	IAmb		IAmb	11 13 05.1	
	comp=Z,395nm,1.2s							
MSWZ	**Moikau Station**	**27.67**	**199**	P		**P**	**11 12 50.2**	**-0.5**
SNZO	**South Karori**	**27.75**	**200**	P		**P**	**11 12 50.0**	**-1.4**
SNZO				IAmb		IAmb	11 12 56.4	
	comp=Z,322nm,1.0s							
BHW	**Baring Head**	**27.79**	**200**	P		**P**	**11 12 51.3**	**-0.4**
PLWZ	**Palliser**	**27.81**	**199**	P		**P**	**11 12 51.3**	**-0.7**
QRZ	**Quartz Range**	**28.11**	**204**	P		**P**	**11 12 54.4**	**-0.3**
QRZ				IAmb		IAmb	11 13 00.0	
	comp=Z,523nm,0.8s							
TUWZ	**Tuamarina**	**28.12**	**201**	P		**P**	**11 12 53.5**	**-1.2**
NNZ	**Nelson**	**28.13**	**202**	P		**P**	**11 12 53.9**	**-0.9**
NNZ				IAmb		IAmb	11 12 59.0	
	comp=Z,391nm,0.9s							
CMWZ	**Cape Campbell**	**28.31**	**201**	P		**P**	**11 12 57.1**	**+0.6**
BSWZ	**Blackbirch Sta**	**28.39**	**201**	P		**P**	**11 12 57.1**	**-0.1**
THZ	**Tophouse**	**28.78**	**202**	P		**P**	**11 12 59.6**	**-1.1**
KHZ	**Kahutara**	**29.13**	**201**	P		**P**	**11 13 02.6**	**-1.1**
KHZ				IAmb		IAmb	11 13 15.7	
	comp=Z,342nm,1.3s							
LTZ	**Lake Taylor**	**29.90**	**202**	P		**P**	**11 13 08.9**	**-1.7**
LTZ				IAmb		IAmb	11 13 22.7	
	comp=Z,288nm,0.6s							
LHI	**Lord Howe Isla**	**30.02**	**233**	P		**P**	**11 13 10.2**	**-1.6**
LHI				IAmb		IAmb	11 13 53.8	
	comp=Z,348nm,1.4s							
LHI	**Lord Howe Isla**	**30.02**	**233**	P		**P**	**11 13 12.6**	**+0.8**
	comp=Z,162nm,1.3s							
OXZ	**Oxford**	**30.46**	**202**	P		**P**	**11 13 14.2**	**-1.3**
OXZ				IAmb		IAmb	11 13 24.4	
	comp=Z,333nm,0.8s							
MQZ	**McQueen's Vall**	**30.57**	**201**	P		**P**	**11 13 16.0**	**-0.5**
MQZ				IAmb		IAmb	11 13 32.2	
	comp=Z,446nm,1.7s							
RPZ	**Rata Peaks**	**31.15**	**203**	P		**P**	**11 13 20.9**	**-0.7**
RPZ				IAmb		IAmb	11 13 32.1	
	comp=Z,186nm,0.7s							
FOZ	**Fox Glacier**	**31.48**	**204**	P		**P**	**11 13 23.5**	**-0.9**
FOZ				IAmb		IAmb	11 13 25.1	
	comp=Z,310nm,1.2s							
LBZ	**Lake Benmore**	**32.05**	**203**	P		**P**	**11 13 28.1**	**-1.5**
ODZ	**Otahua Downs**	**32.45**	**202**	P		**P**	**11 13 32.2**	**-0.7**
ODZ				IAmb		IAmb	11 13 54.1	
	comp=Z,569nm,2.2s							
TAOE	**Nuku Hiva Isla**	**32.72**	**82**	*e*P		**P**	**11 13 36.2**	**+0.3**
	comp=Z,418nm,1.1s							
TAOE				*e*LR		LR	11 22 07.8	
	comp=E,28μm,26.2s							
TAOE	**Nuku Hiva Isla**	**32.72**	**82**	*e*T		T	11 48 00.3	
	comp=Z,260nm,0.2s							
TAOE	**Nuku Hiva Isla**	**32.72**	**82**	P		**P**	**11 13 35.1**	**-0.8**
TAOE				IAmb		IAmb	11 14 03.4	
	comp=Z,171nm,1.0s							
TAOE	**Nuku Hiva Isla**	**32.72**	**82**	P		**P**	**11 13 39.0**	**+3.1**
	comp=Z,226nm,1.0s							
WKZ	**Wanaka**	**32.87**	**204**	P		**P**	**11 13 35.3**	**-1.4**
WKZ				IAmb		IAmb	11 14 14.4	

baz=40,SNR=6.1
WAKE Wake Island 40.06 329 P **P** **11 14 38.9 +0.7**
WAKE IAmb IAmb 11 14 40.0
comp=Z,371nm,0.9s
H11N3 WAKE ISLAND Hy 40.31 330 T T 11 57 25.6
baz=147,slow=75
H11N1 WAKE ISLAND Hy 40.31 330 T T 11 57 25.4
baz=147,slow=74
H11N2 WAKE ISLAND Hy 40.32 330 T T 11 57 27.0
baz=147,slow=74
CMSA Cobar Meteorol 40.82 240 P **P** **11 14 42.3 -2.2**
baz=41,SNR=160
MTSU Mount Surprise 40.91 260 P **P** **11 14 43.2 -2.1**
baz=41,SNR=24
QLP Quilpie 41.24 247 P **P** **11 14 45.8 -2.2**
baz=41,SNR=28
MANU Manus Island 41.36 285 P **P** **11 14 47.8 -1.3**
TOO Toolangi 42.67 231 P **P** **11 14 57.9 -1.6**
baz=43,SNR=48
TOO Toolangi 42.67 231 P **P** **11 14 58.0 -1.6**
TOO pmax pmax
comp=Z,251nm,1.2s
TOO Toolangi 42.67 231 P **P** **11 14 58.0 -1.6**
TOO IAMs_20 IAMs_20 11 29 06.0
comp=Z,13µm,22.0s
TAU Tasmania Unive 43.46 223 IAMs_20 IAMs_20 11 29 40.1
comp=Z,11µm,20.0s
STKA Stephens Creek 44.31 240 P **P** **11 15 11.2 -1.6**
comp=Z,148nm,0.8s,baz=83,slow=9.0,SNR=314
STKA LR LR 11 31 29.9
comp=Z,5µm,20.7s,baz=80,slow=33
STKA Stephens Creek 44.31 240 P **P** **11 15 11.2 -1.6**
baz=44,SNR=161
STKA Stephens Creek 44.31 240 P **P** **11 15 11.0 -1.8**
STKA pmax pmax
comp=Z,42nm,1.0s
STKA Stephens Creek 44.31 240 P **P** **11 15 11.0 -1.8**
ARPS Mount Arapiles 45.21 233 P **P** **11 15 18.3 -1.6**
baz=45,SNR=19
QIS Mount Isa 45.25 256 P **P** **11 15 18.6 -1.9**
baz=45,SNR=13
HTT Hallett 46.80 239 P **P** **11 15 30.9 -1.7**
baz=47,SNR=88
GENI Genyem 47.93 281 P **P** **11 15 40.6 -0.9**
comp=Z,8µmcomp=Z,7µmcomp=Z,150nm,1.4s
BBOO Buckleboo 49.08 240 P **P** **11 15 48.1 -2.0**
baz=49,SNR=177
BBOO Buckleboo 49.08 240 P **P** **11 15 48.3 -1.9**
BBOO IAmb IAmb 11 15 49.4
comp=Z,142nm,0.8s
WR0 Warramunga Arr 50.03 257 P **P** **11 15 55.4 -2.2**
WB0 Warramunga Arr 50.18 257 P **P** **11 15 56.1 -2.6**
WB0 IAmb IAmb 11 16 23.9
comp=Z,136nm,1.1s
WB2 Warramunga Arr 50.21 257 P **P** **11 15 56.5 -2.5**
WB2 IAmb IAmb 11 16 24.2
comp=Z,124nm,1.1s
WRAB Tennant Creek 50.21 257 *c i* P **P** **11 15 56.5 -2.4**
WRAB pmax pmax
comp=Z,164nm,1.5s
WRAB MLR MLR
comp=Z,2µm,16.0s
WRAB Tennant Creek 50.21 257 P **P** **11 15 56.3 -2.6**
WRAB IAmb IAmb 11 16 24.1
comp=Z,171nm,1.3s
WRAB Tennant Creek 50.21 257 IAMs_20 IAMs_20 11 35 29.5
comp=Z,7µm,21.0s
WRA Warramunga Arr 50.22 257 P **P** **11 15 56.7 -2.3**
comp=Z,47nm,1.0s,baz=84,slow=6.9,SNR=131
WRA PcP **PcP** **11 17 16.4 -1.4**
comp=Z,23nm,1.0s,baz=84,slow=3.0,SNR=2.7
WRA LR LR 11 35 51.2
comp=Z,7µm,21.0s,baz=95,slow=34
WRA Warramunga Arr 50.22 257 P **P** **11 15 56.7 -2.3**
WRA 11 17 16.4
AS31 Alice Springs 50.46 252 P **P** **11 15 58.5 -2.3**
ASAR Alice Springs 50.46 252 P **P** **11 15 58.5 -2.3**
comp=Z,163nm,0.7s,baz=86,slow=8.4,SNR=1605
ASAR S **S** **11 23 05.8 -6.0**
comp=Z,3.5nm,1.0s,baz=77,slow=14,SNR=6.3
ASAR LR LR 11 35 49.6
comp=Z,19µm,21.1s,baz=98,slow=34
ASAR Alice Springs 50.46 252 P **P** **11 15 58.5 -2.3**
ASAR Alice Springs 50.46 252 P **P** **11 15 58.6 -2.2**
KDU Kakadu 52.88 266 P **P** **11 16 17.4 -1.6**
baz=53,SNR=15
MTN Manton Dam 54.15 265 P **P** **11 16 26.4 -1.8**
baz=54,SNR=7.0
MTN Manton Dam 54.15 265 P **P** **11 16 26.1 -2.1**
SAUI Saumlaki 54.97 271 IAMs_20 IAMs_20 11 37 20.7
comp=Z,6µm,22.0s
WRKA Warakurna 55.53 250 P **P** **11 16 36.3 -1.9**
baz=55,SNR=356
FORT Forrest 55.71 243 P **P** **11 16 37.2 -2.1**
baz=56,SNR=20
FORT Forrest 55.71 243 P **P** **11 16 37.0 -2.3**
FORT IAmb IAmb 11 16 38.2
comp=Z,161nm,0.9s
KNRA Kununurra 55.96 261 P **P** **11 16 39.3 -2.0**
baz=56,SNR=18
KNRA Kununurra 55.96 261 P **P** **11 16 39.9 -1.4**
KNRA IAMs_20 IAMs_20 11 38 30.7
comp=Z,5µm,20.0s
SIJI Sorong 56.92 279 P **P** **11 16 47.4 -0.8**
comp=Z,90nm,0.9s,baz=80,slow=8.3,SNR=1.9
SIJI Sorong 56.92 279 P **P** **11 16 47.4 -0.8**
FITZ Fitzroy Crossi 58.59 258 P **P** **11 16 58.8 -1.1**
baz=58,SNR=14
FITZ Fitzroy Crossi 58.59 258 P **P** **11 16 58.2 -1.6**
JCJ Chichijima 60.81 314 P **P** **11 17 15.3 +0.4**
comp=Z,29nm,0.7s,baz=184,slow=12,SNR=2.4
JCJ Chichijima 60.81 314 P **P** **11 17 15.3 +0.4**
KMBL Kambalda 61.01 243 P **P** **11 17 14.3 -2.0**
baz=61,SNR=13
TNTI Ternate 61.13 280 P **P** **11 17 16.1 -1.3**
SOEI Soe 61.35 267 P **P** **11 17 18.9 -0.1**
SBA Scott Base 63.08 185 P **P** **11 17 32.0 +2.6**
SBA pmax pmax
comp=Z,107nm,1.0s
SBA Scott Base 63.08 185 P **P** **11 17 32.0 +2.6**
SBA IAmb IAmb 11 17 39.0
comp=Z,107nm,1.0s
VNDA Vanda 63.21 186 P **P** **11 17 32.2 +1.9**
comp=Z,16nm,0.9s,baz=6.7,slow=6.6,SNR=73
VNDA S **S** **11 26 05.3 +6.9**
comp=Z,0.9nm,0.4s,baz=121,slow=1.8,SNR=18
VNDA Vanda 63.21 186 P **P** **11 17 32.1 +1.8**
VNDA pmax pmax
comp=Z,90nm,1.0s
VNDA Vanda 63.21 186 P **P** **11 17 32.1 +1.8**
VNDA IAmb IAmb 11 17 39.0
comp=Z,90nm,0.9s
MMRI Maumere 63.55 268 P **P** **11 17 31.4 -2.1**
MMRI IAmb IAmb 11 18 17.6
comp=Z,237nm,1.3s
PSA00 Pilbara Seismi 63.56 253 P **P** **11 17 31.9 -1.6**
PSA00 IAmb IAmb 11 17 51.2
comp=Z,99nm,0.7s
PSA00 Pilbara Seismi 63.56 253 P **P** **11 17 31.5 -2.0**
PSA00 IAmb IAmb 11 17 35.5
comp=Z,150nm,1.4s
PSAC3 Pilbara Seismi 63.57 253 IAMs_20 IAMs_20 11 43 55.0
comp=Z,6µm,21.0s
MBWA Marble Bar 63.72 254 IAMs_20 IAMs_20 11 45 01.5
comp=Z,5µm,18.0s
MBWA Marble Bar 63.72 254 P **P** **11 17 33.3 -1.3**
MBWA P **P** **11 17 33.3 -1.3**
MEEK Meekatharra 64.14 248 P **P** **11 17 35.8 -1.5**
baz=64,SNR=37
DDMP Don Marcelino, 64.45 285 *e*P **P** **11 17 37.2 -2.2**
KLBR Kellerberrin 64.52 242 P **P** **11 17 38.3 -1.5**
baz=64,SNR=56
NWAO Narrogin (SRO) 64.89 241 P **P** **11 17 40.9 -1.2**
baz=65,SNR=10
NWAO Narrogin (SRO) 64.89 241 P **P** **11 17 40.7 -1.4**
NWAO pmax pmax
comp=Z,220nm,1.4s
NWAO Narrogin (SRO) 64.89 241 P **P** **11 17 40.7 -1.4**
NWAO IAmb IAmb 11 17 43.0
comp=Z,220nm,1.4s
NWAO Narrogin (SRO) 64.89 241 P **P** **11 17 41.7 -0.4**
LUWI Luwuk 64.98 276 IAmb IAmb 11 18 19.4
comp=Z,194nm,1.1s
GLSP General Luna, 65.39 289 *e*P **P** **11 17 43.2 -2.3**
BLDU Ballidu 65.48 243 P **P** **11 17 44.8 -1.2**
baz=65,SNR=25

BUKP Musuan 65.67 286 *e*P **P** **11 17 47.4 -0.1**
MUN Mundaring 65.81 242 P **P** **11 17 47.3 -0.8**
baz=66,SNR=16
MORW Morawa 66.19 245 P **P** **11 17 49.5 -1.0**
baz=66,SNR=14
MSLP Maasin 66.68 288 *e*P **P** **11 17 53.5 -0.3**
KAPI Kappang 66.81 271 P **P** **11 17 53.8 -0.9**
KAPI pmax pmax
comp=Z,49nm,1.0s
KAPI Kappang 66.81 271 P **P** **11 17 53.8 -0.9**
KAPI Kappang 66.81 271 P **P** **11 17 54.1 -0.6**
KIWB Kanaga Island 67.27 357 P **P** **11 17 56.3 -0.5**
KIWB **PcP** **11 18 25.0 +0.7**
ADK Adak 67.28 357 P **P** **11 17 56.5 -0.4**
ADK pmax pmax
comp=Z,337nm,1.4s
ADK Adak 67.28 357 P **P** **11 17 56.5 -0.4**
ADK IAmb IAmb 11 18 16.7
comp=Z,337nm,1.4s
TOLI2 Tolitoli 67.50 278 P **P** **11 17 57.8 -1.4**
ATKA Atka Island 67.53 359 P **P** **11 17 57.5 -0.9**
NIKH Nikolski High 68.39 3 P
baz=184
NIKH S 11 27 00.5
baz=184
NIKH Nikolski High 68.39 3 P **P** **11 18 02.8 -0.9**
NIKH IAmb IAmb 11 18 23.2
comp=Z,351nm,1.5s
GIRL Giralia 68.57 251 P **P** **11 18 05.6 -0.1**
baz=68,SNR=5.6
MJAR Matsushiro Arr 69.38 320 P **P** **11 18 10.2 -0.2**
comp=Z,23nm,1.1s,baz=157,slow=5.7,SNR=37
MJAR S **S** **11 27 13.7 -0.6**
comp=Z,0.7nm,0.5s,baz=165,slow=26,SNR=1.2
MJAR LR LR 11 42 46.0
comp=Z,1µm,22.0s,baz=130,slow=31
MJAR PKP2bc 11 46 19.1
comp=Z,1.1nm,0.7s,baz=284,slow=4.9,SNR=4.0
MJAR Matsushiro Arr 69.38 320 P **P** **11 18 10.2 -0.2**
MJAR Matsushiro Arr 69.38 320 P **P** **11 18 10.2 -0.2**
MAJO Matsushiro 69.38 320 *c i* P **P** **11 18 10.1 -0.3**
MAJO pmax pmax
comp=Z,50nm,1.2s
MAJO MLR MLR
comp=Z,870nm,19.0s
MAJO Matsushiro 69.38 320 P **P** **11 18 10.2 -0.1**
MAT Matsushiro 69.38 320 P **P** **11 18 10.0 -0.4**
MAT S **S** **11 27 14.4 0.0**
MJB9 Matsu-Tunnel 69.38 320 P **P** **11 18 10.3 -0.1**
INU Inuyama 69.39 318 P **P** **11 18 10.4 0.0**
AKUT Akutan 69.73 4 P **P** **11 18 11.4 -0.7**
AKUT IAmb IAmb 11 18 31.3
comp=Z,498nm,1.6s
ERM Erimo 70.17 327 *ce* P **P** **11 18 17.8 +2.7**
ERM pmax pmax
comp=Z,13nm,0.8s
ERM MLR MLR
comp=Z,695nm,18.0s
ERM Erimo 70.17 327 P **P** **11 18 14.2 -0.9**
JCNP Jose Panganiba 70.20 292 ‖ *e* P **P** **11 18 13.7 -2.1**
KUR Kuril'sk 70.21 332 P **P** **11 18 16.2 +1.0**
KUR *i* S **S** **11 27 27.8 +4.1**
KUR pmax pmax
comp=Z,209nm,1.8s
KUR pmax pmax
comp=E,119nm,1.6s
KUR pmax pmax
comp=Z,1µm,5.1s
KUR MLR MLR
comp=Z,982nm,19.0s
KUR MLR MLR
comp=E,405nm,11.0s
YUK Yuzh-Kuril'sk 70.26 330 *e* P **P** **11 18 15.0 -0.5**
YUK *i* S **S** **11 27 23.0 -1.2**
YUK pmax pmax
comp=N,60nm,1.0s
YUK pmax pmax
comp=E,90nm,1.0s
YUK pmax pmax
comp=Z,278nm,1.0s
JSD Sado 70.29 321 P **P** **11 18 15.7 -0.3**
CASY Casey 70.40 205 P **P** **11 18 16.4 +0.2**
CASY IAmb IAmb 11 18 35.0
comp=Z,158nm,1.2s
JWT Wachi 70.40 317 P **P** **11 18 16.3 -0.4**
SNCC San Nicolas Is 70.41 46 IAmb IAmb 11 18 20.6
comp=Z,296nm,1.1s
SNCC IAMs_20 IAMs_20 11 40 38.6
comp=Z,6µm,22.0s
SNCC San Nicolas Is 70.41 46 P 11 18 18.3
baz=235,SNR=11
SNCC S 11 27 28.6
baz=235
JMN Monobe 70.51 315 P **P** **11 18 18.4 +1.0**
FALS False Pass 70.65 6 P 11 18 17.2
baz=190
SCZ2 Santa Cruz Isl 70.77 45 P 11 18 20.3
baz=235,SNR=23
SCZ2 S 11 27 33.4
baz=235
SCI2 San Clemente I 70.94 46 P 11 18 21.2
baz=236,SNR=13
SBC Santa Barbara 70.97 44 P 11 18 21.5
baz=235,SNR=15
SBC S 11 27 37.3
baz=235
MCCM Marconi Confer 71.15 40 IAMs_20 IAMs_20 11 42 36.1
comp=Z,5µm,20.0s
PKM Mcpherson Peak 71.16 44 P 11 18 22.9
baz=234,SNR=58
PKM S 11 27 37.7
baz=234
LQP Lukban 71.17 291 ‖ *e* P **P** **11 18 21.8 -0.2**
SAO San Andreas Ge 71.20 42 IAmb IAmb 11 18 25.3
comp=Z,226nm,1.1s
SAO IAMs_20 IAMs_20 11 42 18.2
comp=Z,7µm,20.0s
CIS Catalina Islan 71.27 46 P 11 18 22.8
baz=236,SNR=22
CIS S 11 27 38.3
baz=236
SMMC Simmler 71.28 44 P 11 18 23.7
baz=234,SNR=56
SMMC S 11 27 40.6
baz=234
PAGB Antelope Grade 71.36 43 IAmb IAmb 11 18 25.9
comp=Z,154nm,1.0s
SKR Severo-Kuril's 71.37 340 *e* P **P** **11 18 22.4 +0.3**
SKR *e** PP **pP** **11 18 34.6 +0.3**
SKR *e* 11 18 39.5
SKR *e*S **S** **11 27 39.6 +2.7**
SKR *e*SSS SSS 11 35 20.3
SKR pmax pmax
comp=Z,74nm,1.0s
SKR pmax pmax
comp=Z,200nm,2.0s
SKR MLR MLR
comp=Z,300nm,16.0s
SKR MLR MLR
comp=Z,400nm,19.0s
SDPT Sand Point 71.46 7 P 11 18 22.4
baz=193,SNR=5.9
SDPT Sand Point 71.47 7 P **P** **11 18 22.1 -0.5**
SDPT IAmb IAmb 11 18 42.0
comp=Z,170nm,1.0s
FMP Fort Macarthur 71.52 46 P 11 18 24.5
baz=236
FMP S 11 27 43.3
baz=236
HOPS Hopland Field 71.56 39 IAmb IAmb 11 18 28.4
comp=Z,438nm,1.4s
HOPS IAMs_20 IAMs_20 11 41 38.7
comp=Z,6µm,22.0s
GDXM Geysers 71.61 39 IAMs_20 IAMs_20 11 43 01.1
comp=Z,6µm,20.0s
JEW Emiwo 71.65 326 P **P** **11 18 25.6 +1.6**
CCX Cicese 71.67 48 IAmb IAmb 11 18 27.9
comp=Z,183nm,1.4s
CCX IAMs_20 IAMs_20 11 41 13.8
comp=Z,4µm,21.0s
KCPM Cahto Peak 71.69 38 IAmb IAmb 11 18 28.7
comp=Z,236nm,1.3s
KCPM IAMs_20 IAMs_20 11 42 33.2
comp=Z,7µm,20.0s
JSU Suzuyama 71.69 311 P **P** **11 18 24.6 0.0**
TJX Tijuana 71.73 47 IAMs_20 IAMs_20 11 41 49.5

comp=Z,5µm,21.0s
OSI Osito Audit: C 71.74 45 P 11 18 26.0
baz=235,SNR=12
OSI S 11 27 44.3
baz=235
OSI Osito Audit: C 71.74 45 IAmb IAmb 11 18 28.6
comp=Z,202nm,1.1s
OSI IAMs_20 IAMs_20 11 43 22.6
comp=Z,6µm,20.0s
JHS Saijyo 71.75 316 P **P** **11 18 25.3 +0.4**
DECC Green Verdugo 71.80 45 P 11 18 26.1
baz=236,SNR=8.5
PASC Pasadena Art C 71.86 45 P **P** **11 18 26.1 +0.6**
PASC IAmb IAmb 11 18 28.2
comp=Z,162nm,1.1s
PASC Pasadena Art C 71.86 45 IAMs_20 IAMs_20 11 41 32.8
comp=Z,6µm,22.0s
109C Camp Elliot, M 71.90 47 P 11 18 26.6
baz=237,SNR=14
109C S 11 27 45.5
baz=237
109C Camp Elliot, M 71.90 47 IAmb IAmb 11 18 30.0
comp=Z,165nm,1.2s
109C IAMs_20 IAMs_20 11 41 33.0
comp=Z,6µm,22.0s
CBX Cerro Bola 71.90 48 P **P** **11 18 26.8 +0.8**
JKA Kamikawa-asahi 71.94 328 IAmb IAmb 11 18 54.8
comp=Z,666nm,2.3s
ASAJ Asahikawa 71.94 328 P **P** **11 18 26.8 +1.0**
comp=Z,40nm,1.0s,baz=204,slow=7.4,SNR=34
ASAJ Asahikawa 71.94 328 P **P** **11 18 26.8 +1.0**
ARVC Arvin 71.96 44 P 11 18 27.1
baz=235,SNR=27
ARVC S 11 27 47.8
baz=235
MACP Maragondon, Ca 71.96 291 *e* P **P** **11 18 25.7 -0.8**
MWC Mount Wilson 71.97 45 IAmb IAmb 11 18 29.1
comp=Z,223nm,1.1s
MWC IAMs_20 IAMs_20 11 41 37.8
comp=Z,7µm,22.0s
CAUP Cauayan 72.00 294 *e* P P 11 18 17.0 -10
TKX Tecate 72.08 48 IAMs_20 IAMs_20 11 42 10.8
comp=Z,5µm,21.0s
BAR Barrett 72.09 47 IAMs_20 IAMs_20 11 42 01.2
comp=Z,5µm,21.0s
SPX San Pedro Mart 72.10 50 IAMs_20 IAMs_20 11 41 52.4
comp=Z,4µm,21.0s
JCC Jacoby Creek, 72.16 37 IAMs_20 IAMs_20 11 43 47.4
comp=Z,6µm,21.0s
VES Vestal, Richgr 72.19 44 P 11 18 28.4
baz=235,SNR=156
MURC Murrieta 72.22 46 P 11 18 28.6
baz=237,SNR=39
MURC S 11 27 50.9
baz=237
BFSC Mount Baldy Ra 72.25 46 P 11 18 28.7
baz=236,SNR=64
BFSC S 11 27 50.1
baz=236
JNU Nakatsue 72.25 313 P **P** **11 18 28.1 +0.1**
comp=Z,37nm,1.2s,baz=94,slow=2.6,SNR=6.6
VOG Valley Oaks Go 72.28 43 P 11 18 28.7
baz=234,SNR=11
KHMM Horse Mountain 72.36 37 P **P** **11 18 30.4 +1.8**
KHMM IAmb IAmb 11 18 32.8
comp=Z,286nm,1.3s
KHMM IAMs_20 IAMs_20 11 42 43.9
comp=Z,6µm,21.0s
EDW2 Edwards Air Fo 72.38 45 P 11 18 29.8
baz=236,SNR=222
EDW2 S 11 27 51.4
baz=236
MONP2 Monument Peak 72.39 47 P 11 18 29.9
baz=237,SNR=90
MONP2 S 11 27 52.7
baz=237
O02D Mt. Diablo Mer 72.47 38 P 11 18 31.0
baz=231,SNR=57
RMX La Rumorosa 72.48 48 P **P** **11 18 30.3 +0.9**
RMX IAMs_20 IAMs_20 11 42 24.5
comp=Z,6µm,21.0s
ISA Isabella, Lake 72.50 44 P **P** **11 18 30.6 +1.2**
ISA pmax pmax
comp=Z,301nm,1.2s
ISA Isabella, Lake 72.50 44 P **P** **11 18 30.6 +1.2**
ISA IAmb IAmb 11 18 33.1
comp=Z,301nm,1.1s
ISA IAMs_20 IAMs_20 11 42 26.8
comp=Z,7µm,21.0s
ISA Isabella, Lake 72.50 44 P 11 18 30.6
baz=235,SNR=249
ISA S 11 27 53.1
baz=235
SPIA Saint Paul Isl 72.54 2 P 11 18 29.3
baz=183
SFX San Felipe 72.55 50 IAMs_20 IAMs_20 11 42 06.3
comp=Z,3µm,20.0s
PET Petropavlovsk 72.61 342 *e* P **P** **11 18 30.1 +0.6**
PET *e* 11 18 47.5
PET *i* S **S** **11 27 53.1 +2.1**
PET *e*PS **PnS** **11 28 24.8 -1.9**
PET *e*PPS PPS 11 28 38.8
PET *e*SSS SSS 11 35 48.4
PET pmax pmax
comp=Z,700nm,13.4s
PET pmax pmax
comp=Z,95nm,1.4s
PET Petropavlovsk 72.61 342 P **P** **11 18 29.2 -0.3**
PET IAmb IAmb 11 18 49.6
comp=Z,404nm,1.8s
CMB Columbia Colle 72.64 41 IAmb IAmb 11 18 33.6
comp=Z,164nm,1.1s
CMB IAMs_20 IAMs_20 11 42 32.6
comp=Z,6µm,21.0s
KRMB Red Mountain 72.68 36 IAmb IAmb 11 18 34.7
comp=Z,359nm,1.5s
KRMB IAMs_20 IAMs_20 11 42 32.3
comp=Z,5µm,22.0s
SPMM Sapulut 72.69 280 P **P** **11 18 31.0 0.0**
SRIG Santa Rosalia 72.70 54 IAmb IAmb 11 18 33.9
comp=Z,164nm,1.2s
SRIG IAMs_20 IAMs_20 11 41 54.4
comp=Z,6µm,22.0s
SMPP San Manuel, Pa 72.70 293 *e* P **P** **11 18 29.7 -1.2**
BATP Bataraza 72.73 285 *e* P **P** **11 18 30.7 -0.4**
PFO Pinyon Flats O 72.75 47 P 11 18 31.8
baz=237,SNR=67
PFO S 11 27 55.9
baz=237
PFO Pinyon Flats O 72.75 47 P **P** **11 18 32.0 +1.0**
comp=Z,68nm,1.1s,baz=247,slow=4.4,SNR=10
PFO Pinyon Flats O 72.75 47 P **P** **11 18 31.5 +0.5**
PFO pmax pmax
comp=Z,194nm,1.4s
PFO Pinyon Flats O 72.75 47 P **P** **11 18 31.4 +0.5**
PFO IAmb IAmb 11 18 34.4
comp=Z,194nm,1.4s
PFO Pinyon Flats O 72.75 47 IAMs_20 IAMs_20 11 41 56.5
comp=Z,7µm,22.0s
TPFO Pinon Flats 72.75 47 P 11 18 31.8
baz=237,SNR=78
TPFO S 11 27 55.6
baz=237
BBRC Big Bear Solar 72.78 46 P 11 18 32.2
baz=237,SNR=18
AFDM Forest Hills D 72.82 40 IAMs_20 IAMs_20 11 42 15.1
comp=Z,5µm,22.0s
SWSC Sam W. Stewart 72.86 48 P 11 18 32.3
baz=238,SNR=38
SWSC S 11 27 59.1
baz=238
SAMP Sagada Mountai 72.86 294 *e* P **P** **11 18 30.5 -1.4**
ORV Oroville 72.86 39 IAMs_20 IAMs_20 11 42 29.2
comp=Z,4µm,22.0s
APYP Conner 72.87 295 *e* P **P** **11 18 30.8 -1.0**
WDC Whiskeytown Da 72.88 38 IAmb IAmb 11 18 35.5
comp=Z,273nm,1.3s
WDC IAMs_20 IAMs_20 11 43 32.5
comp=Z,5µm,20.0s
SLBS Sierra La Lagu 72.89 59 P **P** **11 18 32.5 +0.4**
SLBS IAmb IAmb 11 18 35.9
comp=Z,259nm,1.2s
SLBS Sierra La Lagu 72.89 59 IAMs_20 IAMs_20 11 42 09.6
comp=Z,5µm,21.0s
LRMC Laurel Mtn Rad 72.93 45 P 11 18 33.1
baz=236,SNR=41
CPBX Cerro Prieto 72.94 48 IAMs_20 IAMs_20 11 42 25.4

comp=Z,4µm,22.0s
KBO Bosley Butte 72.95 36 IAmb IAmb 11 18 37.4
comp=Z,547nm,1.7s
KBO IAMs_20 IAMs_20 11 42 40.3
comp=Z,5µm,22.0s
UABX UABC, Campus M 72.95 48 IAMs_20 IAMs_20 11 42 03.7
comp=Z,5µm,22.0s
PEA0B Petropavlovsk- 72.96 342 *c i*P **P** **11 18 32.7 +1.0**
PEA0B Petropavlovsk- 72.96 342 IAmb IAmb 11 18 52.1
comp=Z,268nm,1.2s
PETK Petropavlovsk- 72.96 342 P **P** **11 18 32.5 +0.8**
comp=Z,57nm,0.8s,baz=121,slow=7.1,SNR=71
PETK LR LR 11 46 33.6
comp=Z,638nm,20.8s,baz=141,slow=32
PETK Petropavlovsk- 72.96 342 P **P** **11 18 32.1 +0.4**
PETK Petropavlovsk- 72.96 342 P **P** **11 18 32.1 +0.4**
N02D Trinity Center 73.03 37 P 11 18 34.1
baz=231,SNR=42
N02D S 11 27 59.3
baz=231
GUVIX Guadalupe Vict 73.04 49 IAMs_20 IAMs_20 11 42 05.2
comp=Z,4µm,22.0s
RRX Edison Barstow 73.06 45 P 11 18 33.5
baz=236,SNR=7.2
O03E Paynes Creek 73.14 38 P 11 18 34.0
baz=232,SNR=72
O03E S 11 28 00.7
baz=232
CWC Cottonwood Cre 73.20 44 P 11 18 34.7
baz=235
CWC S 11 28 00.2
baz=235
M02C Callahan 73.20 37 P 11 18 35.4
baz=230,SNR=33
MDPB Devils Postpil 73.23 42 IAmb IAmb 11 18 37.5
comp=Z,198nm,1.1s
L02E Cave Junction 73.27 36 P 11 18 35.5
baz=230,SNR=17
L02E S 11 28 02.8
baz=230
BELC Belle Mtn. Jos 73.28 47 P 11 18 35.1
baz=237,SNR=69
BELC S 11 28 00.9
baz=237
KEBM Edson Butte 73.32 35 P **P** **11 18 36.4 +2.3**
KEBM IAMs_20 IAMs_20 11 42 40.1
comp=Z,4µm,20.0s
MPMC Manual Prospec 73.38 44 P 11 18 36.1
baz=236,SNR=471
MPMC S 11 28 03.6
baz=236
MLAC Mammoth, Mammo 73.39 42 P 11 18 36.3
baz=234,SNR=52
RUBR Rubicon Trail 73.39 40 P **P** **11 18 35.8 +1.0**
RUBR IAMs_20 IAMs_20 11 43 36.1
comp=Z,6µm,20.0s
GSC Goldstone, Bar 73.43 45 P 11 18 35.8
baz=236,SNR=172
GSC S 11 28 03.6
baz=236
GSC Goldstone, Bar 73.43 45 IAmb IAmb 11 18 38.3
comp=Z,242nm,1.2s
GSC IAMs_20 IAMs_20 11 42 54.3
comp=Z,6µm,21.0s
TIN Tinemaha, Big 73.45 43 P 11 18 36.4
baz=235,SNR=26
TIN S 11 28 03.8
baz=235
BC3 Big Chuckawall 73.48 47 P 11 18 36.4
baz=238,SNR=100
BC3 S 11 28 03.6
baz=238
HEC Hector,Ludlow 73.49 46 P 11 18 36.0
baz=237,SNR=72
HEC S 11 28 02.7
baz=237
YBH Yreka Blue Hor 73.50 37 P **P** **11 18 36.7 +1.4**
comp=Z,251nm,1.2s,baz=191,slow=3.2,SNR=95
YBH S **SKiKP** **11 28 01.7 -0.7**
comp=Z,2.0nm,1.0s,baz=307,slow=12,SNR=1.9
YBH Yreka Blue Hor 73.50 37 P **P** **11 18 36.7 +1.4**
YBH Yreka Blue Hor 73.50 37 IAmb IAmb 11 18 39.4
comp=Z,440nm,1.4s
YBH IAMs_20 IAMs_20 11 43 00.1
comp=Z,5µm,22.0s
WAKR Walker 73.52 41 IAmb IAmb 11 18 39.4
comp=Z,457nm,1.5s
K02D Willamette Mer 73.58 36 P 11 18 37.3
baz=230,SNR=32
K02D S 11 28 06.0
baz=230
SII Sitkinak Islan 73.59 11 P 11 18 35.5
baz=199
SII Sitkinak Islan 73.59 11 P **P** **11 18 36.0 +0.7**
SII **sP** **11 18 53.9 +1.6**
SII IAmb IAmb 11 18 55.4
comp=Z,612nm,2.0s
SII IAMs_20 IAMs_20 11 44 23.1
comp=Z,5µm,20.0s
GLA Glamis 73.61 48 P 11 18 37.2
baz=238,SNR=54
GLA S 11 28 05.6
baz=238
GLA Glamis 73.61 48 IAmb IAmb 11 18 39.8
comp=Z,316nm,1.2s
GLA IAMs_20 IAMs_20 11 42 58.2
comp=Z,5µm,22.0s
J01E Myrtle Point 73.73 35 P 11 18 37.9
baz=229,SNR=19
J01E S 11 28 10.0
baz=229
VCNR Virginia City 73.85 40 IAmb IAmb 11 18 41.1
comp=Z,278nm,1.3s
VCNR IAMs_20 IAMs_20 11 42 59.3
comp=Z,6µm,22.0s
YSS Yuzh-Sakhalins 73.88 330 α *i*P **P** **11 18 38.3 +1.1**
YSS *e**SP **pP** **11 18 45.8 -3.6**
YSS *e* 11 18 54.2
YSS *i* S **S** **11 28 08.1 +2.4**
YSS *e*SS **SS** **11 32 57.8 +6.8**
YSS pmax pmax
comp=Z,300nm,3.4s
YSS pmax pmax
comp=Z,80nm,0.9s
YSS smax smax
comp=E,1µm,11.0s
YSS Yuzh-Sakhalins 73.88 330 P **P** **11 18 38.3 +1.1**
YSS IAmb IAmb 11 18 40.4
comp=Z,364nm,1.8s
HUMO Hull Mountain 73.92 36 IAmb IAmb 11 18 41.9
comp=Z,283nm,1.2s
HUMO IAMs_20 IAMs_20 11 43 12.1
comp=Z,5µm,22.0s
YERR Yerington 73.92 41 IAmb IAmb 11 18 41.4
comp=Z,340nm,1.4s
YERR IAMs_20 IAMs_20 11 43 55.3
comp=Z,7µm,20.0s
GMRC Granite Mounta 73.94 46 P 11 18 38.8
baz=237,SNR=127
IRM Iron Mountain 73.96 47 P 11 18 39.1
baz=238,SNR=197
IRM S 11 28 09.7
baz=238
LHV Little Huntoon 73.96 42 P **P** **11 18 39.3 +1.5**
LHV IAmb IAmb 11 18 41.3
comp=Z,214nm,1.1s
GRAC Grapevine Rang 73.99 43 P 11 18 39.7
baz=236,SNR=128
GRAC S 11 28 10.6
baz=236
FURC Furnace Creek, 74.03 44 P 11 18 39.5
baz=236,SNR=189
M04C Macdoel 74.04 37 P 11 18 39.9
baz=231,SNR=66
M04C S 11 28 12.1
baz=231
L04D Klamath Falls 74.05 37 P 11 18 39.8
baz=231,SNR=81
L04D S 11 28 11.4
baz=231
TUQ Turquoise Moun 74.10 45 P 11 18 39.9
baz=237,SNR=99
SHOC Shoshone, Teco 74.11 45 P 11 18 39.9
baz=237,SNR=32
SHOC S 11 28 10.0
baz=237
RYN Ryan 74.17 41 IAmb IAmb 11 18 41.7
comp=Z,134nm,1.0s
RYN IAMs_20 IAMs_20 11 43 10.9
comp=Z,7µm,22.0s
NVAR Mina Array Bea 74.19 42 P **P** **11 18 40.5 +1.0**
comp=Z,186nm,1.0s,baz=227,slow=8.0,SNR=596
NVAR S **S** **11 28 10.0 -0.2**
comp=Z,0.1nm,0.4s,baz=57,slow=12,SNR=1.1
NVAR LR LR 11 43 58.9
comp=Z,7µm,21.2s,baz=234,slow=30
NVAR PKPPKP **P'P'df** **11 46 14.1 +4.6**
comp=Z,0.2nm,0.5s,baz=73,slow=3.0,SNR=4.4
NVAR Mina Array Bea 74.19 42 P **P** **11 18 40.5 +1.0**
113A Mohawk Valley, 74.23 49 P **P** **11 18 40.5 +1.0**
113A IAMs_20 IAMs_20 11 42 43.6
comp=Z,5µm,22.0s
PAHR Pah Rah Range 74.26 40 IAmb IAmb 11 18 43.4
comp=Z,284nm,1.2s
PAHR IAMs_20 IAMs_20 11 44 05.2
comp=Z,4µm,20.0s
OHAK Old Harbor 74.38 11 P 11 18 40.3
baz=200,SNR=7.5
I02D Swisshome 74.39 34 P 11 18 41.9
baz=229,SNR=12
I02D S 11 28 16.2
baz=229
I03D Drain, OR 74.40 35 P 11 18 41.8
baz=230,SNR=44
I03D S 11 28 15.5
baz=230
QSPA South Pole Qui 74.44 180 P **P** **11 18 41.8 +1.4**
comp=Z,88nm,1.1s,baz=35,slow=1.3,SNR=80
QSPA S **S** **11 28 12.7 +0.8**
comp=Z,1.1nm,1.0s,baz=310,slow=20,SNR=1.5
QSPA South Pole Qui 74.44 180 P **P** **11 18 40.1 -0.3**
QSPA IAmb IAmb 11 19 07.7
comp=Z,179nm,1.2s
HSIG 74.51 53 IAMs_20 IAMs_20 11 43 21.2
comp=Z,5µm,21.0s
214A Organ Pipe Nat 74.52 50 P 11 18 42.4
baz=240,SNR=57
214A S 11 28 16.6
baz=240
214A Organ Pipe Nat 74.52 50 P **P** **11 18 42.3 +1.0**
214A IAMs_20 IAMs_20 11 42 42.3
comp=Z,5µm,22.0s
K04D Chiloquin, OR 74.62 37 P 11 18 43.2
baz=231,SNR=24
K04D S 11 28 17.4
baz=231
NEE2 Needles Airpor 74.65 47 P 11 18 43.1
baz=238,SNR=10
NEE2 S 11 28 17.8
baz=238
KVN Kaiserville 74.68 41 IAmb IAmb 11 18 45.8
comp=Z,280nm,1.2s
TPNV Topopah Spring 74.71 44 P 11 18 43.5
baz=236,SNR=210
TPNV S 11 28 17.5
baz=236
PDMCI Parker Dam,Lak 74.75 47 P 11 18 43.6
baz=239,SNR=74
PDMCI S 11 28 20.0
baz=239
J04D Umpqua Nationa 74.80 36 P 11 18 44.5
baz=231,SNR=105
J04D S 11 28 19.8
baz=231
I04A Tendick Farm, 74.98 35 P 11 18 44.8
baz=230,SNR=61
I04A S 11 28 22.6
baz=230
COR Corvallis 75.00 34 P **P** **11 18 44.5 +0.7**
COR pmax pmax
comp=Z,402nm,1.3s
COR Corvallis 75.00 34 P **P** **11 18 44.5 +0.7**
COR IAmb IAmb 11 18 47.9
comp=Z,402nm,1.3s
COR Corvallis 75.00 34 IAMs_20 IAMs_20 11 45 05.6
comp=Z,4µm,20.0s
MOD Modoc Plateau 75.02 38 IAMs_20 IAMs_20 11 44 54.2
comp=Z,5µm,20.0s
KDAK Kodiak Island 75.04 11 P 11 18 44.2
baz=200
KDAK Kodiak Island 75.04 11 P **P** **11 18 44.7 +1.0**
comp=Z,177nm,1.3s,baz=256,slow=3.6,SNR=19
KDAK S **S** **11 28 14.6 -3.6**
comp=Z,4.1nm,0.9s,baz=143,slow=13,SNR=1.5
KDAK Kodiak Island 75.04 11 P **P** **11 18 44.4 +0.7**
KDAK pmax pmax
comp=Z,308nm,1.5s
KDAK Kodiak Island 75.04 11 P **P** **11 18 44.4 +0.7**
KDAK IAmb IAmb 11 19 04.1
comp=Z,308nm,1.5s
KDAK Kodiak Island 75.04 11 IAMs_20 IAMs_20 11 44 04.4
comp=Z,6µm,22.0s
NACB Ninganchiao 75.12 301 P **P** **11 18 43.6 -1.3**
K05A Summer Lake 75.18 37 IAMs_20 IAMs_20 11 45 18.4
comp=Z,5µm,20.0s
SHPR Sheep Range 75.20 45 IAmb IAmb 11 18 49.2
comp=Z,326nm,1.2s
SHPR IAMs_20 IAMs_20 11 43 40.4
comp=Z,5µm,22.0s
H04D Lebanon 75.27 35 P 11 18 46.6
baz=230,SNR=54
H04D S 11 28 24.9
baz=230
W13A Hualapai Mount 75.34 47 IAmb IAmb 11 18 49.9
comp=Z,259nm,1.4s
W13A IAMs_20 IAMs_20 11 44 44.0
comp=Z,4µm,20.0s
Y14A Wickenburg 75.37 48 P **P** **11 18 47.3 +1.0**
Y14A IAmb IAmb 11 18 49.7
comp=Z,185nm,1.1s
Y14A IAMs_20 IAMs_20 11 43 30.9
comp=Z,5µm,22.0s
G03D McMinnville, O 75.43 34 P 11 18 47.7
baz=229,SNR=63
G03D S 11 28 26.2
baz=229
TATO Taipei 75.55 301 P **P** **11 18 47.8 +0.5**
H04A Detroit Lake 75.68 35 IAMs_20 IAMs_20 11 43 54.5
comp=Z,5µm,22.0s
UGL Uglegorsk 75.72 331 *e*P **P** **11 18 46.6 -1.1**
UGL *e*S **S** **11 28 20.1 -6.0**
UGL *e* 11 33 12.4
UGL pmax pmax
comp=Z,100nm,1.3s
UGL smax smax
comp=E,2µm,7.4s
UGL smax smax
comp=N,1µm,9.0s
TEY Ternei 75.73 326 ⇑ *e*P **P** **11 18 48.6 +0.7**
TEY pmax pmax
comp=Z,10.0nm,2.0s
PINE Pine Mountain 75.81 36 IAMs_20 IAMs_20 11 45 57.1
comp=Z,4µm,20.0s
R11A Troy Canyon, C 75.92 43 P 11 18 50.3
baz=237,SNR=76
R11A S 11 28 31.5
baz=237
R11A Troy Canyon, C 75.92 43 IAmb IAmb 11 18 52.9
comp=Z,179nm,1.3s
I05D Terrebonne, OR 75.93 35 P 11 18 50.5
baz=231,SNR=154
I05D S 11 28 33.3
baz=231
SBUM Sibu 76.08 277 P **P** **11 18 50.0 -0.6**
F04D Rainier, OR 76.13 33 P 11 18 51.9
baz=229,SNR=24
F04D S 11 28 34.9
baz=229
TUC Tucson 76.19 50 P **P** **11 18 52.1 +1.1**
TUC pmax pmax
comp=Z,223nm,1.3s
TUC Tucson 76.19 50 P **P** **11 18 52.1 +1.1**
TUC IAmb IAmb 11 18 55.0
comp=Z,223nm,1.3s
TUC Tucson 76.19 50 IAMs_20 IAMs_20 11 44 26.6
comp=Z,4µm,21.0s
TUC Tucson 76.19 50 P 11 18 52.4
baz=241
TUC S 11 28 34.6
baz=241
WVOR Wild Horse Val 76.33 38 IAmb IAmb 11 18 55.2
comp=Z,344nm,1.2s
WVOR IAMs_20 IAMs_20 11 45 05.9
comp=Z,6µm,21.0s
G05D Wamic, OR 76.51 35 P 11 18 53.5
baz=231,SNR=61
G05D S 11 28 38.3
baz=231
NLWA Neilton Lookou 76.55 32 IAmb IAmb 11 18 56.6
comp=Z,272nm,1.2s
NLWA IAMs_20 IAMs_20 11 44 35.4
comp=Z,3µm,21.0s
KSRS Korea Array 76.61 315 P **P** **11 18 54.5 +1.4**
comp=Z,21nm,1.1s,baz=126,slow=5.9,SNR=44
KSRS S **S** **11 28 38.7 +2.3**
comp=Z,0.6nm,0.6s,baz=18,slow=35,SNR=2.0
KSRS LR LR 11 51 24.2
comp=Z,382nm,18.2s,baz=118,slow=35
KSRS Korea Array 76.61 315 P **P** **11 18 54.5 +1.4**
KSAR Wonju Array Be 76.63 315 P **P** **11 18 54.5 +1.3**
KSAR Wonju Array Be 76.63 315 P **P** **11 18 54.5 +1.3**
KS19 Wonju Array Si 76.67 315 IAmb IAmb 11 19 30.0
comp=Z,324nm,1.9s
E04D Cinebar 76.67 33 P 11 18 54.8
baz=230,SNR=138
E04D S 11 28 40.9
baz=230
TYV Tymovskoe 76.73 333 *e*P **P** **11 18 54.1 +0.6**
TYV *e*S **S** **11 28 39.3 +2.1**
TYV pmax pmax
comp=Z,82nm,1.3s
TYV smax smax
comp=E,1µm,3.5s
TYV smax smax
comp=E,8.0nm,1.2s
X16A Lo Mia Camp, P 76.73 48 IAmb IAmb 11 18 58.1
comp=Z,299nm,1.1s
X16A IAMs_20 IAMs_20 11 44 54.9
comp=Z,4µm,20.0s
LCMT Little Creek M 76.78 45 P **P** **11 18 55.4 +1.1**
LCMT IAmb IAmb 11 18 58.1
comp=Z,402nm,1.7s
I07A Izee 76.81 36 IAMs_20 IAMs_20 11 44 41.5
comp=Z,4µm,21.0s
F05D White Salmon 76.84 34 P 11 18 55.2
baz=231,SNR=86
F05D S 11 28 41.8
baz=231
DIB Dawson Inlet, 76.86 24 IAMs_20 IAMs_20 11 43 53.2
comp=Z,4µm,22.0s
319A Douglas 76.88 52 IAmb IAmb 11 18 58.9
comp=Z,333nm,1.3s
319A IAMs_20 IAMs_20 11 44 36.0
comp=Z,6µm,21.0s
CNPM China Poot 76.92 11 IAmb IAmb 11 19 14.8
comp=Z,416nm,1.8s
D04E Lakebay 76.97 33 P 11 18 57.0
baz=229,SNR=27
D04E S 11 28 45.3
baz=229
J08A Circle Bar Ran 76.97 38 IAMs_20 IAMs_20 11 46 28.9
comp=Z,4µm,20.0s
HOM Homer 76.97 11 P 11 18 55.4
baz=201
CCUT Cedar City 76.97 45 P **P** **11 18 57.0 +1.5**
HOM Homer 76.97 11 IAMs_20 IAMs_20 11 45 17.5
comp=Z,5µm,22.0s
D03D Eldon 77.04 32 P 11 18 56.7
baz=229,SNR=41
D03D S 11 28 44.3
baz=229
KNB Kanab 77.07 45 P **P** **11 18 57.2 +1.2**
KNB pmax pmax
comp=Z,357nm,1.4s
KNB Kanab 77.07 45 P **P** **11 18 57.2 +1.2**
SPR3 Spring Creek 3 77.09 43 IAmb IAmb 11 18 59.3
comp=Z,325nm,1.4s
U15A North Rim 77.13 46 IAMs_20 IAMs_20 11 44 38.5
comp=Z,5µm,22.0s
PSUT Pine Spring 77.16 44 IAmb IAmb 11 18 58.8
comp=Z,125nm,0.9s
SZCU Shurtz Canyon 77.18 45 P **P** **11 18 58.0 +1.3**
LON Longmire 77.20 33 IAmb IAmb 11 18 59.6
comp=Z,344nm,1.6s
BRLK Bradley Lake 77.21 11 IAmb IAmb 11 19 16.3
comp=Z,388nm,1.6s
BRLK IAMs_20 IAMs_20 11 45 21.4
comp=Z,6µm,22.0s
BRSE Bradley Lake S 77.22 11 P 11 18 56.6
baz=202,SNR=26
BRSE S 11 28 42.8
baz=202
VLA Vladivostok 77.24 322 ⇑ *e*P **P** **11 18 58.0 +1.5**
VLA pmax pmax
comp=Z,36nm,0.8s
VLA MLR MLR
comp=Z,810nm,20.0s
WUAZ Wupatki 77.32 47 IAMs_20 IAMs_20 11 44 42.5
comp=Z,4µm,22.0s
WUAZ Wupatki 77.32 47 P 11 18 58.8
baz=240,SNR=118
WUAZ S 11 28 45.3
baz=240
MSHR Mys Shultsa 77.36 321 ⇑ *e*P **P** **11 18 57.6 +0.4**
MSHR pmax pmax
comp=Z,74nm,1.4s
MSHR MLR MLR
comp=Z,446nm,22.0s
ELK Elko 77.45 41 P **P** **11 18 59.0 +0.9**
comp=Z,152nm,1.2s,baz=242,slow=5.2,SNR=157
ELK Elko 77.45 41 P **P** **11 18 59.0 +0.9**
ELK Elko 77.45 41 IAmb IAmb 11 19 01.6
comp=Z,303nm,1.4s
ELK IAMs_20 IAMs_20 11 45 04.8
comp=Z,6µm,22.0s
INCN Inchon 77.50 315 P **P** **11 18 58.2 0.0**
INCN pmax pmax
comp=Z,127nm,1.3s
INCN Inchon 77.50 315 P **P** **11 18 58.2 0.0**
INCN Inchon 77.50 315 P **P** **11 18 58.2 0.0**
PGC Sidney 77.59 31 IAmb IAmb 11 19 01.8
comp=Z,253nm,1.2s
PGC IAMs_20 IAMs_20 11 44 37.0
comp=Z,3µm,22.0s
KSM Kuching 77.64 275 P **P** **11 19 00.0 +0.6**
F07A Phinny Hill Vi 77.68 35 IAmb IAmb 11 19 02.4
comp=Z,314nm,1.2s
F07A IAMs_20 IAMs_20 11 46 00.4
comp=Z,4µm,21.0s
SVW2 Sparrevohn 77.70 9 P **P** **11 18 59.0 +0.3**
SVW2 IAmb IAmb 11 19 18.7
comp=Z,293nm,1.9s
HPIG 77.78 57 IAmb IAmb 11 19 04.4
comp=Z,320nm,1.4s
HPIG IAMs_20 IAMs_20 11 44 42.0
comp=Z,6µm,22.0s
SEW Seward 77.80 12 P 11 18 59.3
baz=203,SNR=13
SEW S 11 28 48.4
baz=203
SEW Seward 77.80 12 IAmb IAmb 11 19 19.4
comp=Z,342nm,1.9s
SEW IAMs_20 IAMs_20 11 45 36.5
comp=Z,5µm,22.0s
USRK Ussuriysk Ar. 77.81 323 P **P** **11 19 01.0 +1.3**
comp=Z,17nm,1.0s,baz=114,slow=4.6,SNR=36
USRK S **S** **11 28 49.1 -0.1**
comp=Z,0.5nm,0.7s,baz=256,slow=38,SNR=1.6
USRK LR LR 11 46 49.3
comp=Z,2µm,21.6s,baz=124,slow=31
USRK Ussuriysk Ar. 77.81 323 P **P** **11 19 00.4 +0.7**
USRK Ussuriysk Ar. 77.81 323 P **P** **11 19 00.4 +0.7**
Q23K Middleton Isla 77.84 14 P 11 18 58.7
baz=206
Q23K Middleton Isla 77.84 14 IAMs_20 IAMs_20 11 45 49.7
comp=Z,4µm,22.0s
G08A Pilot Rock 77.85 36 P **P** **11 19 00.4 +0.3**
G08A IAMs_20 IAMs_20 11 45 28.0
comp=Z,4µm,22.0s
X18A Snowflake 77.86 49 IAmb IAmb 11 19 04.3
comp=Z,203nm,1.2s
X18A IAMs_20 IAMs_20 11 44 57.9
comp=Z,4µm,22.0s
BBB Bella Bella 77.88 26 P **P** **11 19 00.9 +1.0**
comp=Z,77nm,1.1s,baz=250,slow=6.4,SNR=8.1
BBB Bella Bella 77.88 26 IAmb IAmb 11 19 03.2
comp=Z,225nm,1.4s
QZH Quanzhou 77.93 300 ⇑ *i*P **P** **11 19 00.6 -0.2**
QZH S **S** **11 28 51.8 +0.5**
QZH pmax pmax
comp=Z,46nm,2.2s
QZH pmax pmax

comp=Z,1μm,6.4s
QZH L L
comp=Z,410nm,16.5s
QZH L L
comp=Z,610nm,19.0s
QZH L L
comp=Z,740nm,21.8s
A04D Lummi Island 78.01 31 P 11 19 01.8
baz=229,SNR=7.4
B05A Bryant 78.02 32 P 11 19 01.9
baz=230,SNR=62
B05A S 11 28 52.8
baz=230
O22K Cooper Landing 78.10 12 P 11 19 01.1
baz=203,SNR=5.4
O22K S 11 28 52.4
baz=203
CAPN Captain Cook N 78.10 11 P 11 19 01.7
baz=202
O22K Cooper Landing 78.10 12 P **P** **11 19 01.4 +0.5**
O22K IAmb IAmb 11 19 33.9
comp=Z,195nm,1.2s
O22K IAMs_20 IAMs_20 11 45 47.3
comp=Z,5μm,22.0s
LTY Liberty 78.12 33 IAmb IAmb 11 19 04.7
comp=Z,236nm,1.5s
E07A Sunnyside 78.13 34 IAMs_20 IAMs_20 11 46 54.3
comp=Z,4μm,20.0s
HAWA Hanford 78.20 35 P **P** **11 19 02.9 +1.0**
HAWA IAMs_20 IAMs_20 11 46 17.2
comp=Z,4μm,20.0s
W18A Petrified Fore 78.30 48 IAMs_20 IAMs_20 11 45 55.4
comp=Z,4μm,21.0s
W18A Petrified Fore 78.30 48 P 11 19 04.1
baz=241,SNR=14
W18A S 11 28 56.1
baz=241
SPCR Spurr Chakacha 78.32 10 P 11 19 01.8
baz=200,SNR=14
SPCR S 11 28 53.3
baz=200
CRAG Craig 78.37 22 P 11 19 02.0
baz=219
CRAG Craig 78.37 22 P **P** **11 19 03.1 +0.6**
CRAG IAMs_20 IAMs_20 11 46 55.0
comp=Z,4μm,20.0s
C06D Leavenworth 78.42 33 P 11 19 03.7
baz=231
SSE Sheshan 78.43 307 P **P** **11 19 03.0 -0.4**
SSE sP **pwP** **11 19 20.3 +4.5**
SSE S **S** **11 28 56.4 0.0**
SSE pmax pmax
comp=Z,22nm,0.7s
SSE pmax pmax
comp=Z,140nm,4.8s
SSE L L
comp=Z,290nm,20.1s
B06A Marblemount 78.50 32 P **P** **11 19 03.0 -0.4**
B06A IAMs_20 IAMs_20 11 46 21.0
comp=Z,3μm,21.0s
A05A Maple Falls 78.50 31 IAmb IAmb 11 19 06.5
comp=Z,244nm,1.5s
E08A Dider Farm, El 78.52 35 IAMs_20 IAMs_20 11 46 36.7
comp=Z,4μm,21.0s
BMO Blue Mountains 78.53 37 IAmb IAmb 11 19 07.0
comp=Z,275nm,1.2s
BMO IAMs_20 IAMs_20 11 46 25.1
comp=Z,4μm,21.0s
121A Cookes Peak, D 78.54 51 P 11 19 05.7
baz=243,SNR=54
121A Cookes Peak, D 78.54 51 IAmb IAmb 11 19 08.4
comp=Z,299nm,1.6s
121A IAMs_20 IAMs_20 11 45 40.8
comp=Z,6μm,22.0s
MFID Camas Ranch 78.58 39 IAmb IAmb 11 19 06.8
comp=Z,228nm,1.1s
MFID IAMs_20 IAMs_20 11 45 31.4
comp=Z,4μm,22.0s
FIS Fire Island 78.62 11 IAMs_20 IAMs_20 11 46 32.1
comp=Z,3μm,22.0s
RC01 Rabbit Creek A 78.66 11 P 11 19 04.2
baz=203,SNR=12
RC01 S 11 28 56.8
baz=203
RC01 Rabbit Creek A 78.66 11 P **P** **11 19 04.6 +0.5**
RC01 IAMs_20 IAMs_20 11 46 28.1
comp=Z,3μm,21.0s
HIN Hinchinbrook I 78.68 13 P **P** **11 19 04.4 +0.2**
HIN IAmb IAmb 11 19 06.7
comp=Z,173nm,1.2s
DUG Dugway, Tooele 78.72 43 P 11 19 05.9
baz=238,SNR=184
DUG S 11 29 00.2
baz=238
DUG Dugway, Tooele 78.72 43 IAmb IAmb 11 19 08.4
comp=Z,288nm,1.2s
DUG IAMs_20 IAMs_20 11 45 46.4
comp=Z,6μm,22.0s
PWL Port Wells 78.72 12 IAMs_20 IAMs_20 11 45 51.7
comp=Z,4μm,22.0s
SUA Susitna One 78.82 11 P 11 19 04.8
baz=202,SNR=13
SUA S 11 28 59.7
baz=202
SUA Susitna One 78.82 11 P **P** **11 19 04.6 -0.5**
SUA IAmb IAmb 11 19 26.7
comp=Z,422nm,1.9s
SIT Sitka 78.87 20 P 11 19 05.7
baz=217,SNR=6.0
SIT Sitka 78.87 20 IAMs_20 IAMs_20 11 45 05.2
comp=Z,3μm,22.0s
D08A Wollman Farm, 78.94 34 IAMs_20 IAMs_20 11 46 59.8
comp=Z,4μm,20.0s
BGU Big Grassy Mou 78.96 42 P **P** **11 19 06.7 +0.3**
BGU IAmb IAmb 11 19 10.8
comp=Z,236nm,1.6s
EYAK Cordova Ski Ar 78.98 13 P 11 19 05.9
baz=207,SNR=16
EYAK S 11 29 00.6
baz=207
EYAK Cordova Ski Ar 78.98 13 IAmb IAmb 11 19 26.0
comp=Z,366nm,2.0s
GLI Glacier Island 78.99 13 P 11 19 05.6
baz=205
GLI S 11 29 01.0
baz=205
GLI Glacier Island 78.99 13 IAmb IAmb 11 19 26.5
comp=Z,131nm,1.0s
GLI IAMs_20 IAMs_20 11 46 53.0
comp=Z,6μm,21.0s
FID Port Fidalgo 79.01 13 IAmb IAmb 11 19 25.9
comp=Z,423nm,1.8s
SUCK Suckling Hills 79.02 14 IAmb IAmb 11 19 27.0
comp=Z,367nm,1.6s
SUCK IAMs_20 IAMs_20 11 46 03.7
comp=Z,6μm,21.0s
E09A Wood Farm, Sta 79.04 35 IAmb IAmb 11 19 09.6
comp=Z,381nm,1.3s
E09A IAMs_20 IAMs_20 11 45 59.4
comp=Z,4μm,22.0s
GAMB Gambell 79.14 1 P 11 19 07.4
baz=181,SNR=6.9
GAMB S 11 29 05.4
baz=181
GAMB Gambell 79.14 1 IAmb IAmb 11 19 32.6
comp=Z,166nm,1.2s
SKT Skwentna 79.17 10 P 11 19 05.8
baz=201,SNR=25
SKT S 11 29 01.2
baz=201
SKT Skwentna 79.17 10 IAmb IAmb 11 19 26.1
comp=Z,413nm,1.9s
SKT IAMs_20 IAMs_20 11 47 02.5
comp=Z,5μm,21.0s
EPT El Paso 79.17 53 IAMs_20 IAMs_20 11 46 50.7
comp=Z,5μm,20.0s
BGLC Bering Glacier 79.18 15 P 11 19 07.2
baz=209
KNK Knik Glacier 79.20 12 P 11 19 07.0
baz=204,SNR=22
KNK S 11 29 02.8
baz=204
KNK Knik Glacier 79.20 12 P **P** **11 19 06.9 -0.2**
KNK IAmb IAmb 11 19 27.4
comp=Z,557nm,2.0s
KNK IAMs_20 IAMs_20 11 46 31.5
comp=Z,4μm,22.0s
M22K Willow 79.20 11 P 11 19 06.8
baz=202,SNR=34
M22K S 11 29 02.8
baz=202
F10A Beach Ranch, E 79.23 36 IAmb IAmb 11 19 10.5
comp=Z,350nm,1.2s
F10A IAMs_20 IAMs_20 11 46 23.6
comp=Z,4μm,22.0s
PMR Palmer 79.24 11 P 11 19 07.2
baz=203,SNR=44
PMR S 11 29 04.0
baz=203
PMR Palmer 79.24 11 P **P** **11 19 07.1 0.0**
PMR pmax pmax
comp=Z,534nm,1.9s
PMR Palmer 79.24 11 P **P** **11 19 07.1 0.0**
PMR IAmb IAmb 11 19 27.3
comp=Z,534nm,1.9s
WRAK Wrangell Islan 79.38 22 P 11 19 09.0
baz=220,SNR=16
WRAK Wrangell Islan 79.38 22 IAMs_20 IAMs_20 11 45 30.8
comp=Z,4μm,22.0s
TTA Tatalina 79.40 8 P 11 19 09.1
baz=197,SNR=88
TTA S 11 29 07.9
baz=197
TTA Tatalina 79.40 8 IAmb IAmb 11 19 11.6
comp=Z,156nm,1.2s
MPU Maple Canyon 79.40 43 IAmb IAmb 11 19 12.5
comp=Z,181nm,1.2s
GHO Glory Hole Cre 79.44 11 P **P** **11 19 08.4 0.0**
MDJ Mudanjiang 79.45 322 P **P** **11 19 09.5 +0.8**
MDJ sP sP 11 19 26.6 +0.6
MDJ S **S** **11 29 09.7 +2.9**
MDJ sS sS 11 29 31.6 +4.2
MDJ SS **SS** **11 34 19.4 +4.0**
MDJ pmax pmax
comp=Z,39nm,1.5s
MDJ pmax pmax
comp=Z,710nm,7.4s
MDJ L L
comp=Z,990nm,22.8s
MDJ L L
comp=Z,1μm,24.2s
MDJ L L
comp=Z,3μm,24.6s
HLID Hailey 79.51 39 P 11 19 10.7
baz=237,SNR=532
HLID S 11 29 07.3
baz=237
B08A Colville Reser 79.52 33 P **P** **11 19 09.0 0.0**
B08A IAmb IAmb 11 19 11.8
comp=Z,255nm,1.2s
HLID Hailey 79.52 39 IAmb IAmb 11 19 13.1
comp=Z,303nm,1.1s
HLID IAMs_20 IAMs_20 11 46 10.2
comp=Z,4μm,22.0s
GRNR Gornyy 79.54 330⇑ *i*P **P** **11 19 10.1 +1.0**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,210nm,18.0s
GRNR MLR MLR
comp=N,100nm,16.0s
GRNR MLR MLR
comp=Z,260nm,20.0s
SPUT South Promonto 79.54 42 IAmb IAmb 11 19 13.1
comp=Z,301nm,1.4s
MESA MESA 79.56 15 P 11 19 09.6
baz=210
MESA S 11 29 08.7
baz=210
MESA MESA 79.56 15 IAmb IAmb 11 19 12.4
comp=Z,132nm,1.0s
HVU Hansel Valley 79.58 41 IAmb IAmb 11 19 13.1
comp=Z,562nm,1.8s
SML Sawmill 79.59 12 P 11 19 09.0
baz=204,SNR=25
SML S 11 29 07.5
baz=204
YKU2 Yakutat 79.59 17 IAMs_20 IAMs_20 11 48 22.9
comp=Z,5μm,20.0s
SML Sawmill 79.59 12 IAmb IAmb 11 19 29.3
comp=Z,357nm,1.8s
SML IAMs_20 IAMs_20 11 46 54.2
comp=Z,4μm,22.0s
BMRM Bremner River 79.61 14 P 11 19 09.7
baz=208,SNR=77
BMRM S 11 29 07.3
baz=208
BMRM Bremner River 79.61 14 IAmb IAmb 11 19 30.5
comp=Z,320nm,1.3s
BMRM IAMs_20 IAMs_20 11 46 03.5
comp=Z,5μm,22.0s
CTU Camp Tracy 79.67 43 P **P** **11 19 11.0 +0.8**
CTU IAmb IAmb 11 19 13.6
comp=Z,196nm,1.2s
SRU San Rafael Swe 79.69 45 IAmb IAmb 11 19 14.0
comp=Z,331nm,1.1s
C09A Chrisman Ranch 79.74 34 IAmb IAmb 11 19 13.5
comp=Z,352nm,1.3s
C09A IAMs_20 IAMs_20 11 46 51.9
comp=Z,4μm,21.0s
YAH Yahtse 79.77 15 P **P** **11 19 10.6 +0.2**
CRQM Cirque 79.77 14 IAmb IAmb 11 19 13.1
comp=Z,237nm,1.4s
CRQE Cirque 79.78 14 P 11 19 10.7
baz=209,SNR=32
CRQE S 11 29 09.6
baz=209
CUT Chulitna 79.78 11 P 11 19 10.0
baz=202,SNR=18
KLU Klutina 79.79 13 P 11 19 10.3
baz=206,SNR=49
KLU S 11 29 09.3
baz=206
KLU Klutina 79.79 13 IAMs_20 IAMs_20 11 47 06.2
comp=Z,6μm,21.0s
SCM Sheep Creek Mo 79.81 12 IAMs_20 IAMs_20 11 46 48.6
comp=Z,4μm,21.0s
JLU Jordanelle 79.82 43 IAmb IAmb 11 19 14.6
comp=Z,297nm,1.3s
TGL Tana Glacier 79.84 14 IAmb IAmb 11 19 13.5
comp=Z,213nm,1.3s
Y22D IRIS PASSCAL I 79.87 50 P **P** **11 19 12.7 +1.2**
Y22D IAmb IAmb 11 19 16.8
comp=Z,428nm,1.4s
Y22D IAMs_20 IAMs_20 11 46 25.2
comp=Z,4μm,22.0s
Y22D IRIS PASSCAL I 79.87 50 P 11 19 13.2
baz=243,SNR=23
PPLA Purkeypile 79.92 9 P 11 19 09.3
baz=200,SNR=10
PPLA S 11 29 08.3
baz=200
PPLA Purkeypile 79.92 9 IAMs_20 IAMs_20 11 48 49.4
comp=Z,4μm,20.0s
PCA Pinnacle 79.93 16 IAmb IAmb 11 19 14.9
comp=Z,196nm,1.4s
PINM Pinnacle 79.93 16 P 11 19 11.5
baz=212,SNR=19
BCPM Bancas Point 79.97 16 IAmb IAmb 11 19 32.7
comp=Z,211nm,1.4s
TABL Table Mountain 79.99 15 IAmb IAmb 11 19 14.4
comp=Z,310nm,1.6s
MNTX Cornudas Mount 80.00 53 P 11 19 13.1
baz=245,SNR=181
MNTX S 11 29 16.4
baz=245
MNTX Cornudas Mount 80.00 53 IAmb IAmb 11 19 15.8
comp=Z,311nm,1.6s
MNTX IAMs_20 IAMs_20 11 47 47.7
comp=Z,4μm,20.0s
GRNC Granite Creek 80.09 15 IAmb IAmb 11 19 33.4
comp=Z,210nm,1.3s
VRDI Verde Repeater 80.11 14 P **P** **11 19 11.9 -0.3**
VRDI IAmb IAmb 11 19 32.5
comp=Z,548nm,2.0s
VRDI IAMs_20 IAMs_20 11 47 32.6
comp=Z,4μm,21.0s
ANM Nome 80.13 3 P 11 19 13.2
baz=188,SNR=11
ANM S 11 29 15.8
baz=188
JIS Juneau Island 80.15 20 IAMs_20 IAMs_20 11 46 06.0
comp=Z,4μm,22.0s
PV05 Paradox Valley 80.16 46 IAMs_20 IAMs_20 11 46 51.9
comp=Z,4μm,20.0s
MVCO Mesa Verde 80.17 47 P 11 19 14.0
baz=242,SNR=50
MVCO S 11 29 17.0
baz=242
MVCO Mesa Verde 80.17 47 P **P** **11 19 14.1 +1.0**
MVCO IAMs_20 IAMs_20 11 46 23.9
comp=Z,5μm,22.0s
N25K Chitina, Valde 80.18 13 P 11 19 12.6
baz=208,SNR=65
N25K S 11 29 12.4
baz=208
N25K Chitina, Valde 80.18 13 IAMs_20 IAMs_20 11 46 55.5
comp=Z,6μm,22.0s
GLB Gilahina Butte 80.22 14 IAmb IAmb 11 19 15.3
comp=Z,270nm,1.5s
GLB IAMs_20 IAMs_20 11 46 33.4
comp=Z,4μm,22.0s
BESE Bessie Mountai 80.24 19 IAMs_20 IAMs_20 11 45 45.4
comp=Z,4μm,22.0s
HWUT Hardware Ranch 80.26 42 IAmb IAmb 11 19 16.5
comp=Z,254nm,1.7s
M24K Tolsona, Glenn 80.29 12 P 11 19 13.8
baz=206,SNR=44
M24K S 11 29 14.3
baz=206
M24K Tolsona, Glenn 80.29 12 P **P** **11 19 13.9 +0.9**
M24K IAMs_20 IAMs_20 11 48 15.4
comp=Z,3μm,20.0s
PV10 Paradox Valley 80.34 46 IAmb IAmb 11 19 16.7
comp=Z,295nm,1.1s
PV10 IAMs_20 IAMs_20 11 46 16.4
comp=Z,5μm,22.0s
MCARA McCarthy VSAT 80.35 14 P 11 19 13.6
baz=209,SNR=23
MCARA S 11 29 15.6
baz=209
MCARA McCarthy VSAT 80.35 14 P **P** **11 19 14.0 +0.8**
MCARA IAmb IAmb 11 19 33.8
comp=Z,457nm,1.9s
MCARA IAMs_20 IAMs_20 11 47 29.9
comp=Z,4μm,20.0s
PV19 Morning Glory 80.35 46 IAmb IAmb 11 19 17.6
comp=Z,362nm,1.2s
PV19 IAMs_20 IAMs_20 11 47 03.7
comp=Z,4μm,21.0s
PV17 East Wray Mesa 80.35 46 IAmb IAmb 11 19 17.6
comp=Z,312nm,1.1s
PV17 IAMs_20 IAMs_20 11 46 53.7
comp=Z,5μm,21.0s
PV14 Lion Creek, Pa 80.35 46 P **P** **11 19 15.1 +1.0**
PV14 IAMs_20 IAMs_20 11 46 30.7
comp=Z,5μm,22.0s
TX31 Lajitas Ar. Si 80.37 56 P **P** **11 19 15.3 +1.1**
TX32 Lajitas Array 80.37 56 P **P** **11 19 15.3 +1.1**
TX32 IAmb IAmb 11 19 18.1
comp=Z,298nm,1.3s
TXAR Lajitas Array 80.37 56 P **P** **11 19 15.3 +1.0**
comp=Z,160nm,1.1s,baz=220,slow=5.7,SNR=296
TXAR PKKPbc **PKKPbc** **11 38 04.1 +7.1**
comp=Z,0.4nm,0.8s,baz=90,slow=5.4,SNR=4.0
TXAR LR LR 11 46 48.8
comp=Z,4μm,21.6s,baz=0.0,slow=30
TXAR Lajitas Array 80.37 56 P **P** **11 19 15.2 +1.0**
TXAR Lajitas Array 80.37 56 P **P** **11 19 15.2 +1.0**
PV18 Skein Mesa, Pa 80.37 46 IAmb IAmb 11 19 17.6
comp=Z,277nm,1.1s
PV18 IAMs_20 IAMs_20 11 46 20.2
comp=Z,5μm,22.0s
TLIG Tlapa 80.37 69 P **P** **11 19 15.1 +0.6**
TLIG IAMs_20 IAMs_20 11 44 53.8
comp=Z,4μm,22.0s
CTG Chitna Glacier 80.39 15 P 11 19 14.0
baz=211,SNR=56
CTG S 11 29 15.5
baz=211
PV13 Radium Mtn., P 80.39 46 IAmb IAmb 11 19 17.8
comp=Z,336nm,1.2s
PV13 IAMs_20 IAMs_20 11 46 54.8
comp=Z,4μm,21.0s
BARN Barnard Glacie 80.39 15 IAmb IAmb 11 19 16.6
comp=Z,230nm,1.2s
PV16 Nyswonger Mesa 80.40 46 P **P** **11 19 15.3 +1.0**
PV16 IAmb IAmb 11 19 17.9
comp=Z,410nm,1.3s
PV16 IAMs_20 IAMs_20 11 46 54.9
comp=Z,4μm,22.0s
WAT6 Susitna Watana 80.41 12 P 11 19 13.8
baz=205,SNR=78
WAT6 S 11 29 15.3
baz=205
PV03 Paradox Valley 80.42 46 IAmb IAmb 11 19 18.0
comp=Z,342nm,1.2s
PV03 IAMs_20 IAMs_20 11 46 55.5
comp=Z,5μm,22.0s
PV11 David Mesa, Pa 80.42 46 IAMs_20 IAMs_20 11 46 55.6
comp=Z,6μm,22.0s
UNM Universidad Na 80.43 67 IAMs_20 IAMs_20 11 45 57.2
comp=Z,5μm,21.0s
PV04 Paradox Valley 80.44 46 IAmb IAmb 11 19 18.2
comp=Z,273nm,1.1s
PV04 IAMs_20 IAMs_20 11 47 40.2
comp=Z,4μm,20.0s
PV02 Paradox Valley 80.47 46 IAmb IAmb 11 19 18.4
comp=Z,380nm,1.3s
PV02 IAMs_20 IAMs_20 11 47 30.9
comp=Z,5μm,22.0s
PV12 Saucer Basin, 80.48 46 IAMs_20 IAMs_20 11 46 35.1
comp=Z,6μm,22.0s
MA2 Magadan 80.49 342 P **P** **11 19 14.5 +0.5**
comp=Z,34nm,0.9s,baz=158,slow=5.7,SNR=11
MA2 Magadan 80.49 342*de*P **P** **11 19 13.8 -0.2**
MA2 pmax pmax
comp=Z,152nm,2.5s
MA2 MLR MLR
comp=Z,543nm,20.0s
MA2 Magadan 80.49 342 P **P** **11 19 13.9 -0.2**
MA2 IAmb IAmb 11 19 34.2
comp=Z,223nm,1.6s
PV01 Paradox Valley 80.55 46 IAmb IAmb 11 19 18.7
comp=Z,391nm,1.3s
PV01 IAMs_20 IAMs_20 11 48 02.1
comp=Z,4μm,20.0s
PV22 Blue Mesa, Par 80.59 46 IAmb IAmb 11 19 18.9
comp=Z,194nm,1.1s
WAT2 Susitna Watana 80.60 11 P 11 19 14.6
baz=204,SNR=46
WAT2 S 11 29 16.0
baz=204
ANMO Albuquerque 80.60 50 P 11 19 16.6
baz=244
ANMO Albuquerque 80.61 50 P **P** **11 19 16.6 +1.1**
comp=Z,111nm,1.1s,baz=227,slow=5.8,SNR=8.0
ANMO S **S** **11 29 22.7 +3.0**
comp=Z,0.3nm,0.4s,baz=75,slow=6.5,SNR=1.7
ANMO Albuquerque 80.61 50*d i*P **P** **11 19 16.5 +1.1**
ANMO pmax pmax
comp=Z,159nm,1.0s
ANMO MLR MLR
comp=Z,1μm,16.0s
ANMO Albuquerque 80.61 50 P **P** **11 19 16.5 +1.1**
ANMO IAmb IAmb 11 19 21.2
comp=Z,200nm,1.2s
ANMO Albuquerque 80.61 50 IAMs_20 IAMs_20 11 46 48.5
comp=Z,3μm,21.0s
NJ2 Nanjing 80.63 307⇑ *i*P **P** **11 19 15.4 0.0**
NJ2 pP **pP** **11 19 28.6 +0.8**
NJ2 sP **sP** **11 19 33.7 +1.1**
NJ2 PP **PP** **11 22 19.7 -0.1**
NJ2 S **S** **11 29 24.0 +4.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,470nm,5.9s
NJ2 L L
comp=Z,550nm,19.0s
NJ2 L L
comp=Z,920nm,23.6s
NJ2 L L
comp=Z,2μm,23.4s
NEW Newport 80.64 34 P 11 19 15.3
baz=234,SNR=62
NEW S 11 29 18.4
baz=234
NEW Newport 80.64 34 P **P** **11 19 15.3 +0.1**
comp=Z,89nm,1.2s,baz=259,slow=3.2,SNR=42
NEW Newport 80.64 34 P **P** **11 19 15.2 +0.1**
NEW Newport 80.64 34 P **P** **11 19 15.2 +0.1**
NEW Newport 80.64 34 IAMs_20 IAMs_20 11 47 07.7

comp=Z,4µm,21.0s
PV07 Paradox Valley 80.64 46 IAmb IAmb 11 19 19.0
comp=Z,236nm,1.2s
PV07 IAMs_20 IAMs_20 11 47 12.5
comp=Z,5µm,22.0s
PV15 Paradox Valley 80.71 46 IAmb IAmb 11 19 19.5
comp=Z,324nm,1.2s
PV15 IAMs_20 IAMs_20 11 47 14.3
comp=Z,4µm,21.0s
KTH Kantishna Hill 80.74 10 IAmb IAmb 11 19 34.9
comp=Z,281nm,1.4s
KTH IAMs_20 IAMs_20 11 47 53.1
comp=Z,6µm,22.0s
TRF Thorofare Moun 80.75 10 P 11 19 15.2
baz=202,SNR=53
TRF S 11 29 18.5
baz=202
HARP HAARP 80.77 13 P 11 19 15.9
baz=207,SNR=19
HARP S 11 29 18.9
baz=207
CHUM Lake Minchumin 80.83 9 P 11 19 15.1
baz=200,SNR=40
KLR Kul'dur 80.93 327 P **P** **11 19 17.3 +0.7**
comp=Z,6.1nm,0.8s,baz=106,slow=5.0,SNR=26
KLR Kul'dur 80.93 327 *c i* P **P** **11 19 17.2 +0.7**
KLR pmax pmax
comp=Z,50nm,1.8s
KLR MLR MLR
comp=Z,475nm,18.0s
RND Reindeer 80.96 11 IAmb IAmb 11 19 36.8
comp=Z,396nm,1.4s
TNA Tin City 81.01 2 P 11 19 17.7
baz=185,SNR=17
TNA S 11 29 24.5
baz=185
TNA Tin City 81.01 2 P **P** **11 19 17.7 +1.1**
RDMU Red Mountain 81.05 44 P **P** **11 19 18.4 +0.7**
RDMU IAmb IAmb 11 19 21.0
comp=Z,174nm,1.3s
AHID Auburn Hatcher 81.15 41 IAmb IAmb 11 19 21.5
comp=Z,239nm,1.4s
AHID IAMs_20 IAMs_20 11 47 44.6
comp=Z,4µm,21.0s
PAX Paxson 81.21 12 P 11 19 17.6
baz=207,SNR=39
PAX Paxson 81.22 12 IAmb IAmb 11 19 37.9
comp=Z,331nm,1.9s
PAX IAMs_20 IAMs_20 11 47 31.7
comp=Z,5µm,22.0s
BPAW Bear Paw Mtn. 81.24 10 P 11 19 16.9
baz=201,SNR=42
BPAW S 11 29 21.4
baz=201
BPAW Bear Paw Mtn. 81.24 10 P **P** **11 19 16.8 -1.2**
BPAW IAmb IAmb 11 19 37.2
comp=Z,244nm,1.8s
BPAW IAMs_20 IAMs_20 11 48 08.3
comp=Z,4µm,22.0s
MCK McKinley 81.25 11 P 11 19 18.0
baz=203,SNR=97
MCK S 11 29 23.8
baz=203
CN2 Changchun 81.52 320 ⇑P **P** **11 19 20.3 +0.4**
CN2 *e*S **S** **11 29 32.4 +3.9**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,290nm,4.0s
CN2 L L
comp=Z,450nm,21.0s
CN2 L L
comp=Z,720nm,21.0s
CN2 L L
comp=Z,810nm,22.0s
MENT Mentasta 81.56 13 P **P** **11 19 19.9 +0.2**
MENT IAMs_20 IAMs_20 11 48 23.8
comp=Z,5µm,21.0s
DLMT Dillon 81.58 38 IAmb IAmb 11 19 24.0
comp=Z,259nm,1.3s
DLMT IAMs_20 IAMs_20 11 47 41.9
comp=Z,4µm,22.0s
MSO Missoula 81.59 37 IAMs_20 IAMs_20 11 47 38.0
comp=Z,5µm,22.0s
MSO Missoula 81.59 37 P 11 19 20.4
baz=237,SNR=253
MSO S 11 29 27.7
baz=237
S22A 4UR Ranch, Cre 81.59 47 P 11 19 22.3
baz=243,SNR=311
REDW Red Top Meadow 81.61 41 P **P** **11 19 21.4 +0.7**
REDW IAMs_20 IAMs_20 11 47 15.8
comp=Z,3µm,22.0s
TPAW Teton Pass 81.61 41 P **P** **11 19 21.2 +0.5**
TPAW IAmb IAmb 11 19 24.3
comp=Z,313nm,1.2s
TPAW IAMs_20 IAMs_20 11 47 16.8
comp=Z,3µm,22.0s
DL2 Dalian 81.64 314 ⇑*i* P **P** **11 19 21.5 +0.9**
DL2 S **S** **11 29 35.3 +5.5**
DL2 pmax pmax
comp=Z,65nm,1.4s
DL2 pmax pmax
comp=Z,300nm,5.3s
DL2 L L
comp=Z,450nm,26.1s
DL2 L L
comp=Z,510nm,20.9s
DL2 L L
comp=Z,940nm,28.6s
SNY Shenyang 81.72 317 ⇑P **P** **11 19 21.8 +0.9**
SNY S **S** **11 29 36.6 +6.0**
SNY pmax pmax
comp=Z,52nm,1.3s
SNY pmax pmax
comp=Z,440nm,5.1s
SNY L L
comp=Z,390nm,18.8s
SNY L L
comp=Z,410nm,22.1s
SNY L L
comp=Z,1µm,24.8s
SNOW Snow King Moun 81.72 41 P **P** **11 19 22.3 +1.0**
SNOW IAmb IAmb 11 19 24.9
comp=Z,323nm,1.2s
SNOW IAMs_20 IAMs_20 11 47 19.7
comp=Z,3µm,22.0s
O20A White River Ci 81.72 44 P 11 19 22.3
baz=242,SNR=58
O20A S 11 29 32.7
baz=242
O20A White River Ci 81.73 44 P **P** **11 19 21.5 +0.2**
O20A IAmb IAmb 11 19 26.0
comp=Z,234nm,1.4s
DLBC Dease Lake 81.74 21 P **P** **11 19 21.6 +0.8**
comp=Z,32nm,1.1s,baz=222,slow=6.7,SNR=28
DLBC Dease Lake 81.74 21 P **P** **11 19 21.4 +0.7**
DLBC IAMs_20 IAMs_20 11 49 10.0
comp=Z,3µm,20.0s
MOOW Moose Ponds 81.87 40 IAmb IAmb 11 19 25.6
comp=Z,161nm,1.3s
MOOW IAMs_20 IAMs_20 11 47 48.7
comp=Z,3µm,22.0s
LOHW Long Hollow 81.89 41 IAmb IAmb 11 19 25.7
comp=Z,219nm,1.2s
WHY Whitehorse 81.90 18 P 11 19 22.4
baz=217,SNR=41
WHY S 11 29 32.9
baz=217
WHY Whitehorse 81.90 18 IAmb IAmb 11 19 42.6
comp=Z,306nm,1.9s
JTMT Jette 81.90 36 IAmb IAmb 11 19 42.1
comp=Z,206nm,1.4s
JTMT IAMs_20 IAMs_20 11 48 05.3
comp=Z,3µm,22.0s
NEA2 Nenana 82.02 10 P 11 19 21.4
baz=203,SNR=41
NEA2 S 11 29 30.5
baz=203
FLWY Flagg Ranch 82.07 40 IAMs_20 IAMs_20 11 48 06.9
comp=Z,3µm,22.0s
WRH Wood River Hil 82.08 11 IAMs_20 IAMs_20 11 48 20.4
comp=Z,5µm,22.0s
L27K Beaver Creek, 82.09 14 P 11 19 23.0
baz=210,SNR=44
L27K S 11 29 33.9
baz=210
L27K Beaver Creek, 82.09 14 IAmb IAmb 11 19 43.3
comp=Z,289nm,1.9s
L27K IAMs_20 IAMs_20 11 47 56.9
comp=Z,4µm,22.0s
BCAR Beaver Creek A 82.10 14 P **P** **11 19 22.7 +0.2**
YPP Pitchstone Pla 82.10 40 IAmb IAmb 11 19 28.4
comp=Z,203nm,1.5s
BW06 Boulder Array 82.13 42 P 11 19 23.8
baz=240,SNR=146
BW06 S 11 29 34.2
baz=240
BW06 Boulder Array 82.13 42 IAmb IAmb 11 19 26.4
comp=Z,225nm,1.4s
BW06 IAMs_20 IAMs_20 11 48 59.6
comp=Z,5µm,20.0s
PD31 Pinedale Array 82.13 42 P **P** **11 19 23.3 -0.2**
PD31 IAmb IAmb 11 19 26.3
comp=Z,203nm,1.4s
PDAR Pinedale Array 82.13 42 P **P** **11 19 23.6 +0.2**
comp=Z,115nm,1.1s,baz=222,slow=2.0,SNR=242
PDAR PP **PP** **11 22 30.0 -2.2**
comp=Z,3.3nm,1.1s,baz=256,slow=7.3,SNR=2.2
PDAR S **S** **11 29 32.2 -3.2**
comp=Z,0.2nm,0.4s,baz=43,slow=51,SNR=1.5
PDAR PKKPbc **PKKPbc** **11 37 50.2 -3.8**
comp=Z,2.0nm,1.0s,baz=68,slow=2.4,SNR=8.3
PDAR PKPPKP **P'P'df** **11 46 03.0 +7.6**
comp=Z,0.2nm,0.4s,baz=66,slow=3.1,SNR=4.4
PDAR LR LR 11 49 31.3
comp=Z,5µm,20.5s,baz=230,slow=31
PDAR Pinedale Array 82.13 42 PP 11 22 30.0 -2.2
PDAR Pinedale Array 82.13 42 P **P** **11 19 23.5 0.0**
SMCO Snowmass 82.14 46 IAmb IAmb 11 19 31.1
comp=Z,285nm,1.2s
SMCO IAMs_20 IAMs_20 11 49 24.2
comp=Z,3µm,20.0s
MLY Manley 82.15 9 P 11 19 22.3
baz=202,SNR=130
MLY S 11 29 31.8
baz=202
MLY Manley 82.15 9 IAmb IAmb 11 19 42.5
comp=Z,441nm,2.0s
HDA Harding Lake 82.22 11 P 11 19 23.0
baz=205,SNR=125
HDA P 11 19 23.0
baz=205,SNR=125
HDA S 11 29 32.2
baz=205
HDA S 11 29 32.2
baz=205
CCB Clear Creek Bu 82.29 11 IAMs_20 IAMs_20 11 48 25.9
comp=Z,5µm,22.0s
H17A Grant Village 82.31 40 P 11 19 26.3
baz=239,SNR=112
H17A Grant Village 82.31 40 IAmb IAmb 11 19 29.0
comp=Z,195nm,1.3s
H17A IAMs_20 IAMs_20 11 48 15.1
comp=Z,3µm,22.0s
YHH Holmes Hill 82.34 39 P **P** **11 19 26.0 +1.4**
YNR Norris Junctio 82.41 40 IAmb IAmb 11 19 30.3
comp=Z,280nm,1.4s
SCRK Sand Creek 82.42 12 P 11 19 24.6
baz=208,SNR=76
SCRK S 11 29 36.6
baz=208
SCRK Sand Creek 82.42 12 IAMs_20 IAMs_20 11 48 31.5
comp=Z,5µm,22.0s
H21K Melozitna Rive 82.44 8 P 11 19 24.9
baz=200,SNR=101
H21K S 11 29 37.3
baz=200
I23K Minto, Yukon-K 82.48 10 P 11 19 24.2
baz=203,SNR=95
I23K S 11 29 34.9
baz=203
TCOL CIGO, UAF Yank 82.48 11 P 11 19 24.4
baz=204,SNR=54
TCOL S 11 29 35.2
baz=204
COLA College 82.48 11 P 11 19 24.4
baz=204
COLA S 11 29 36.3
baz=204
COLA College 82.49 11 *d i* P **P** **11 19 24.3 -0.1**
COLA pmax pmax
comp=Z,223nm,1.0s
COLA MLR MLR
comp=Z,442nm,18.0s
COLA College 82.49 11 P **P** **11 19 24.4 0.0**
COLA College 82.49 11 IAMs_20 IAMs_20 11 49 06.2
comp=Z,5µm,21.0s
LKWY Lake 82.50 40 IAmb IAmb 11 19 30.2
comp=Z,264nm,1.2s
SDCO Great Sand Dun 82.53 48 P 11 19 26.4
baz=244,SNR=138
SDCO S 11 29 40.9
baz=244
SDCO Great Sand Dun 82.53 48 P **P** **11 19 26.0 +0.3**
SDCO IAmb IAmb 11 19 29.2
comp=Z,160nm,1.4s
SDCO IAMs_20 IAMs_20 11 49 33.5
comp=Z,3µm,20.0s
ILAR Eielson Array 82.57 11 P **P** **11 19 24.9 0.0**
comp=Z,20nm,0.7s,baz=211,slow=5.4,SNR=140
ILAR PP **PP** **11 22 32.3 -2.7**
comp=Z,9.9nm,1.1s,baz=212,slow=8.5,SNR=4.7
ILAR S **S** **11 29 34.0 -4.4**
comp=Z,0.1nm,0.6s,baz=93,slow=9.9,SNR=1.5
ILAR PKPPKP P'P'df 11 46 02.4 +10
comp=Z,1.3nm,1.2s,baz=356,slow=2.6,SNR=5.6
ILAR LR LR 11 49 06.5
comp=Z,2µm,22.0s,baz=210,slow=31
ILAR Eielson Array 82.57 11 P **P** **11 19 24.5 -0.4**
ILAR Eielson Array 82.57 11 P **P** **11 19 24.5 -0.4**
IMAR Indian Mountai 82.62 8 P **P** **11 19 25.5 +0.4**
YMP Mirror Lake Pl 82.74 40 P **P** **11 19 27.6 +1.0**
YMP IAmb IAmb 11 20 00.8
comp=Z,353nm,1.6s
POKR Poker Plat Res 82.78 11 P 11 19 26.0
baz=205,SNR=156
POKR Poker Plat Res 82.78 11 IAMs_20 IAMs_20 11 48 52.1
comp=Z,6µm,22.0s
SEY Seymchan 82.83 345 P **P** **11 19 26.5 +0.2**
comp=Z,58nm,1.1s,baz=144,slow=5.4,SNR=52
SEY Seymchan 82.83 345 P **P** **11 19 26.5 +0.2**
WALA Waterton Lakes 82.84 35 IAmb IAmb 11 19 29.9
comp=Z,256nm,1.4s
WALA IAMs_20 IAMs_20 11 50 00.9
comp=Z,4µm,20.0s
K27K Chicken 82.87 13 P 11 19 27.3
baz=210
K27K S 11 29 43.3
baz=210
K27K Chicken 82.87 13 IAmb IAmb 11 19 47.8
comp=Z,343nm,1.8s
K27K IAMs_20 IAMs_20 11 49 25.6
comp=Z,5µm,21.0s
MSTX Muleshoe 82.94 52 P **P** **11 19 28.1 +0.3**
MSTX IAMs_20 IAMs_20 11 49 22.6
comp=Z,5µm,20.0s
MSTX Muleshoe 82.94 52 P 11 19 28.4
baz=246,SNR=107
MSTX S 11 29 45.3
baz=246
T25A Trinidad 83.05 49 P 11 19 28.9
baz=244,SNR=125
T25A S 11 29 46.9
baz=244
T25A Trinidad 83.05 49 IAmb IAmb 11 19 31.5
comp=Z,160nm,1.2s
T25A IAMs_20 IAMs_20 11 49 02.3
comp=Z,3µm,21.0s
H23K Yukon River 83.08 9 P 11 19 27.3
baz=203,SNR=9.6
H23K S 11 29 41.7
baz=203
RWWY Rawlins 83.15 43 P **P** **11 19 28.1 -0.6**
RWWY IAmb IAmb 11 19 29.6
comp=Z,279nm,1.1s
Q24A Divide 83.32 47 P 11 19 30.7
baz=244,SNR=83
Q24A S 11 29 48.0
baz=244
H24K Noodor Dome 83.36 10 P 11 19 28.1
baz=204,SNR=27
H24K S 11 29 44.5
baz=204
ISCO Idaho Springs 83.36 46 IAmb IAmb 11 19 56.0
comp=Z,203nm,1.6s
ISCO IAMs_20 IAMs_20 11 50 15.5
comp=Z,3µm,20.0s
ISCO Idaho Springs 83.36 46 P 11 19 30.9
baz=244,SNR=51
ISCO S 11 29 49.6
baz=244
QIZ Qiongzhong 83.38 292 P **P** **11 19 29.6 -0.5**
QIZ PP **PP** **11 22 41.8 -0.9**
QIZ S **S** **11 29 47.3 -1.2**
QIZ pmax pmax
comp=Z,21nm,1.5s
QIZ pmax pmax
comp=Z,370nm,5.8s
QIZ L L
comp=Z,380nm,20.7s
QIZ L L
comp=Z,1µm,22.9s
QIZ L L
comp=Z,2µm,28.6s
833A Chaparral WMA, 83.44 58 P 11 19 30.5
baz=248,SNR=16
833A S 11 29 47.4
baz=248
RLMT Red Lodge 83.48 40 P 11 19 31.4
baz=240,SNR=102
RLMT Red Lodge 83.48 40 IAmb IAmb 11 19 34.0
comp=Z,247nm,1.3s
PRP Porcupine Dome 83.49 11 P 11 19 30.2
baz=207,SNR=58
PRP S 11 29 46.8
baz=207
DAWY Dawson 83.52 14 IAmb IAmb 11 19 33.0
comp=Z,161nm,1.2s
WHN Wuhan 83.57 304 ⇑P **P** **11 19 31.1 +0.3**
WHN pP **pP** **11 19 46.7 +3.4**
WHN sP **sP** **11 19 52.8 +4.8**
WHN S **S** **11 29 53.9 +4.0**
WHN sS **sS** **11 30 12.1 +1.4**
WHN pmax pmax
comp=Z,630nm,5.0s
WHN L L
comp=Z,2µm,24.0s
N23A Red Feather La 83.63 45 P 11 19 32.2
baz=243,SNR=107
TIA Tai'an 83.67 310 P **P** **11 19 31.7 +0.4**
TIA S **S** **11 29 52.8 +2.0**
TIA pmax pmax
comp=Z,33nm,1.1s
TIA L L
comp=Z,550nm,21.6s
TIA L L
comp=Z,490nm,25.5s
TIA L L
comp=Z,800nm,25.5s
EGAK Eagle 83.72 13 P 11 19 31.4
baz=211,SNR=87
EGAK S 11 29 50.6
baz=211
EGAK Eagle 83.72 13 IAMs_20 IAMs_20 11 49 00.1
comp=Z,5µm,22.0s
RDOG Red Dog Mine 83.75 4 P 11 19 32.5
baz=190,SNR=15
RDOG S 11 29 53.1
baz=190
PMSA Palmer Station 83.81 156 P **P** **11 19 32.5 +1.0**
comp=Z,46nm,1.0s,baz=245,slow=2.9,SNR=11
PMSA Palmer Station 83.81 156 P **P** **11 19 32.5 +1.0**
PMSA Palmer Station 83.81 156 *e* P **P** **11 19 32.8 +1.4**
JCT Junction City 83.90 56 P 11 19 32.5
baz=248,SNR=23
JCT S 11 29 53.5
baz=248
JCT Junction City 83.91 56 IAMs_20 IAMs_20 11 49 21.1
comp=Z,4µm,21.0s
MYKOM Kota Tinggi 83.93 274 P **P** **11 19 34.0 +0.9**
K22A Casper 84.04 43 P 11 19 33.6
baz=243,SNR=60
K22A S 11 29 55.8
baz=243
K22A Casper 84.04 43 IAmb IAmb 11 19 36.2
comp=Z,135nm,1.1s
K22A IAMs_20 IAMs_20 11 51 07.2
comp=Z,5µm,20.0s
AMTX Amarillo 84.14 52 IAmb IAmb 11 19 35.5
comp=Z,237nm,1.0s
AMTX IAMs_20 IAMs_20 11 50 01.2
comp=Z,5µm,20.0s
PHWY Pilot Hill 84.14 44 IAMs_20 IAMs_20 11 49 03.9
comp=Z,4µm,22.0s
COLD Coldfoot 84.28 9 P 11 19 34.7
baz=202,SNR=120
COLD S 11 29 56.1
baz=202
COLD Coldfoot 84.28 9 IAmb IAmb 11 19 37.3
comp=Z,140nm,1.2s
FYU Fort Yukon 84.49 11 IAMs_20 IAMs_20 11 49 55.1
comp=Z,4µm,22.0s
EGMT Eagleton 84.63 37 P 11 19 36.4
baz=240,SNR=40
EGMT S 11 29 59.5
baz=240
EGMT Eagleton 84.64 37 IAMs_20 IAMs_20 11 51 20.6
comp=Z,4µm,21.0s
BILL Bilibino 84.77 352 *c i* P **P** **11 19 35.3 -0.8**
BILL *e* 11 22 53.7
BILL *e* PPP PPP 11 24 46.8
BILL *i* S **S** **11 29 58.2 -2.3**
BILL *e* SS **SS** **11 35 32.3 -1.3**
BILL pmax pmax
comp=Z,114nm,1.3s
BILL MLR MLR
comp=Z,270nm,19.0s
BILL Bilibino 84.77 352 P **P** **11 19 36.3 +0.2**
BILL IAmb IAmb 11 19 56.7
comp=Z,278nm,1.6s
ABTX Abilene, Hawle 84.83 54 P 11 19 37.6
baz=248,SNR=91
ABTX S 11 30 00.9
baz=248
735A Kenedy 84.93 58 IAmb IAmb 11 19 41.5
comp=Z,351nm,1.8s
735A IAMs_20 IAMs_20 11 48 43.4
comp=Z,4µm,22.0s
KSCO Kaye Shedlock' 85.12 47 P 11 19 39.0
baz=246,SNR=22
KSCO S 11 30 04.8
baz=246
KSCO Kaye Shedlock' 85.12 47 IAmb IAmb 11 19 42.8
comp=Z,281nm,1.4s
KSCO IAMs_20 IAMs_20 11 49 38.9
comp=Z,3µm,22.0s
BMAR Burnt Mountain 85.38 11 P **P** **11 19 40.4 +1.2**
TOLK Toolik Lake Re 85.69 8 P 11 19 41.4
baz=203,SNR=44
435B Jarrell 85.79 57 P 11 19 42.6
baz=249,SNR=12
435B S 11 30 08.4
baz=249
435B Jarrell 85.80 57 IAmb IAmb 11 19 44.6
comp=Z,154nm,1.1s
435B IAMs_20 IAMs_20 11 50 30.2
comp=Z,4µm,20.0s
CCIG Comitan 85.80 72 IAmb IAmb 11 19 46.0
comp=Z,130nm,1.0s
ZEA Zeya 85.82 329 *e* P **P** **11 19 42.2 +0.6**
ZEA *e* S **S** **11 30 13.5 +2.1**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA pmax pmax
comp=E,100nm,7.4s
ZEA pmax pmax
comp=N,200nm,5.8s
ZEA pmax pmax
comp=Z,300nm,7.3s
ZEA smax smax
comp=Z,200nm,15.2s
ZEA smax smax
comp=E,300nm,11.5s
ZEA smax smax
comp=N,900nm,11.8s
BJT Baijiatuau 85.92 313 IAmb IAmb 11 19 44.9
comp=Z,104nm,1.3s
BJI Beijing 85.92 313 P **P** **11 19 43.2 +0.7**

BJI pP **pP** **11 19 56.8 +1.8**
BJI PP **PP** **11 23 01.4 -1.5**
BJI SKS **SKSac** **11 30 02.7 -2.2**
BJI S **S** **11 30 13.8 +0.8**
BJI sS **sS** **11 30 33.7 +0.2**
BJI SS **SS** **11 35 55.5 +3.8**
BJI pmax pmax
comp=Z,62nm,1.4s
BJI pmax pmax
comp=Z,480nm,3.5s
BJI L L
comp=Z,460nm,20.1s
BJI L L
comp=Z,370nm,19.9s
BJI L L
comp=Z,630nm,27.5s
EPYK Eagle Plains 86.06 14 P 11 19 43.1
baz=215,SNR=59
EPYK S 11 30 14.1
baz=215
EPYK Eagle Plains 86.07 14 IAms_20 IAms_20 11 50 22.0
comp=Z,3µm,22.0s
LAO LASA Array 86.09 39 P 11 19 44.3
baz=242,SNR=36
LAO S 11 30 17.1
baz=242
LAO LASA Array 86.09 39 P **P** **11 19 44.3 +1.1**
LAO IAms_20 IAms_20 11 50 13.3
comp=Z,3µm,22.0s
WMOK Wichita Mounta 86.28 53 IAmb IAmb 11 19 46.8
comp=Z,106nm,1.4s
WMOK Wichita Mounta 86.28 53 IAms_20 IAms_20 11 51 38.1
comp=Z,3µm,20.0s
WMOK Wichita Mounta 86.28 53 P 11 19 44.1
baz=248
WMOK S 11 30 15.2
baz=248
RSSD Black Hills 86.32 42 P **P** **11 19 44.0 -0.7**
RSSD pmax pmax
comp=Z,100nm,1.4s
RSSD Black Hills 86.32 42 P **P** **11 19 44.0 -0.7**
RSSD IAmb IAmb 11 19 49.1
comp=Z,100nm,1.4s
RSSD Black Hills 86.32 42 P 11 19 44.4
baz=244
RSSD S 11 30 17.8
baz=244
WHTX Lake Whitney, 86.33 56 P 11 19 45.3
baz=249
OGNE Ogallala 86.33 46 P 11 19 44.4
baz=246
OGNE S 11 30 18.8
baz=246
WHTX Lake Whitney, 86.33 56 IAms_20 IAms_20 11 50 17.2
comp=Z,5µm,21.0s
OGNE Ogallala 86.33 46 IAms_20 IAms_20 11 50 30.8
comp=Z,3µm,22.0s
HKT Hockley 86.93 58*d* iP **P** **11 19 48.1 +0.6**
HKT pmax pmax
comp=Z,104nm,1.5s
HKT MLR MLR
comp=Z,953nm,16.0s
HKT Hockley 86.93 58 P **P** **11 19 47.9 +0.4**
HKT IAmb IAmb 11 20 13.8
comp=Z,249nm,1.8s
CBKS Cedar Bluff 87.11 48 P **P** **11 19 48.4 0.0**
CBKS pmax pmax
comp=Z,76nm,1.0s
CBKS Cedar Bluff 87.11 48 P **P** **11 19 48.4 0.0**
CBKS IAmb IAmb 11 19 51.5
comp=Z,76nm,1.0s
CBKS Cedar Bluff 87.11 48 P 11 19 48.1
baz=247,SNR=14
CBKS S 11 30 24.6
baz=247
LL01 San Ignacio de 87.19 133 IAmb IAmb 11 20 06.2
comp=Z,243nm,2.4s
IPM Ipoh 87.37 275 P **P** **11 19 51.0 +0.8**
A21K Barrow 87.43 5 P 11 19 49.0
baz=196
A21K S 11 30 27.4
baz=196
A21K Barrow 87.43 5 P **P** **11 19 49.0 -0.1**
A21K IAmb IAmb 11 20 09.8
comp=Z,119nm,1.6s
OK032 Salt Plains WL 87.48 51 P **P** **11 19 49.1 -1.0**
FNO Franklin 87.53 52 P **P** **11 19 50.8 +0.3**
CROK Carrier 87.54 51 IAmb IAmb 11 20 06.4
comp=Z,252nm,1.8s
OKCFA Oklahoma City 87.55 52 IAms_20 IAms_20 11 57 39.4
comp=Z,3µm,22.0s
HIA Hailar 87.62 323 IAmb IAmb 11 20 16.5
comp=Z,111nm,1.7s
237A Washetta, Mont 87.64 56 IAms_20 IAms_20 11 50 57.1
comp=Z,5µm,22.0s
KAN10 Anthony SW Sta 87.68 51 IAmb IAmb 11 19 54.5
comp=Z,100nm,1.4s
OK029 Liberty Lake 87.68 52 IAms_20 IAms_20 11 51 32.0
comp=Z,5µm,21.0s
OK025 Westminster Rd 87.69 52 IAms_20 IAms_20 11 52 33.3
comp=Z,4µm,20.0s
R32A Long Quarter, 87.70 49 P **P** **11 19 51.2 -0.1**
R32A IAms_20 IAms_20 11 51 26.4
comp=Z,4µm,21.0s
TIY Taiyuan 87.71 310 *e*P **P** **11 19 52.4 +1.0**
TIY pP **pP** **11 20 03.4 -0.6**
TIY SKS **SKSac** **11 30 15.5 -0.7**
TIY S **S** **11 30 30.3 -0.3**
TIY pmax pmax
comp=Z,77nm,1.1s
TIY pmax pmax
comp=Z,350nm,4.4s
TIY L L
comp=Z,270nm,15.7s
TIY L L
comp=Z,310nm,16.0s
TIY L L
comp=Z,490nm,19.5s
KAN14 Manchester OK 87.72 51 P **P** **11 19 51.1 -0.2**
KAN14 IAmb IAmb 11 19 53.8
comp=Z,420nm,2.7s
SNET Serv Nac Est T 87.73 75 IAms_20 IAms_20 11 48 52.7
comp=Z,5µm,22.0s
MAW Mawson 87.73 198 P **P** **11 19 51.9 +1.1**
comp=Z,128nm,1.1s,baz=123,slow=6.0,SNR=65
MAW LR LR 11 56 58.0
comp=Z,2µm,20.2s,baz=118,slow=34
MAW Mawson 87.73 198 P **P** **11 19 51.9 +1.1**
baz=88,SNR=50
MAW Mawson 87.73 198 P **P** **11 19 51.9 +1.1**
KAN16 Harper SW Stat 87.74 50 P **P** **11 19 51.5 +0.1**
KAN08 Anthony NE Sta 87.81 50 P **P** **11 19 51.8 +0.1**
MTO3 Montecristo 87.81 75 IAmb IAmb 11 19 55.9
comp=Z,96nm,1.1s
MTO3 IAms_20 IAms_20 11 49 51.9
comp=Z,3µm,21.0s
KULM Kulim 87.95 276 P **P** **11 19 54.0 +1.1**
KS21 Milan North St 88.06 51 IAms_20 IAms_20 11 52 18.9
comp=Z,5µm,21.0s
KAN13 South Haven SW 88.10 51 IAmb IAmb 11 19 55.5
comp=Z,153nm,1.4s
KS20 Mayfield South 88.12 51 IAmb IAmb 11 19 55.0
comp=Z,94nm,1.0s
DGMT Dagmar 88.12 38 IAmb IAmb 11 19 54.9
comp=Z,96nm,0.9s
DGMT Dagmar 88.12 38 P 11 19 53.6
baz=244,SNR=18
DGMT S 11 30 34.9
baz=244
OK031 S. Brethren Rd 88.20 52 IAms_20 IAms_20 11 52 09.8
comp=Z,5µm,21.0s
BLOK Blackwell 88.20 51 IAmb IAmb 11 19 56.0
comp=Z,131nm,1.2s
OK030 Cody Creek RV 88.24 52 P **P** **11 19 53.5 -0.3**
OK030 IAms_20 IAms_20 11 52 09.7
comp=Z,5µm,22.0s
INK Inuvik 88.37 14 P **P** **11 19 53.8 +0.2**
comp=Z,48nm,1.1s,baz=217,slow=4.5,SNR=32
INK Inuvik 88.37 14 P **P** **11 19 53.6 0.0**
INK pmax pmax
comp=Z,457nm,2.0s
INK Inuvik 88.37 14 P **P** **11 19 53.6 0.0**
INK IAms_20 IAms_20 11 52 06.9
comp=Z,4µm,21.0s
INK Inuvik 88.37 14 P 11 19 53.5
baz=218,SNR=40
INK S 11 30 34.8
baz=218
NATX Nacogdoches 88.48 57 IAms_20 IAms_20 11 51 33.3
comp=Z,4µm,21.0s
NATX Nacogdoches 88.48 57 P 11 19 56.0
baz=251,SNR=7.2
GYA Guiyang 88.52 298 ⇓P **P** **11 19 56.9 +1.4**
GYA pP pP 11 20 10.5 +2.4
GYA sP sP 11 20 15.4 +2.7
GYA PP **PP** **11 23 23.7 -0.6**
GYA SKS **SKSac** **11 30 22.1 +0.4**
GYA S **S** **11 30 39.4 +0.6**
GYA pmax pmax
comp=Z,5.0nm,1.2s
GYA pmax pmax
comp=Z,82nm,3.5s
T35A Sooner Cattle 88.79 51 IAmb IAmb 11 19 58.7
comp=Z,121nm,1.2s
X37A Clayton 88.86 54 IAms_20 IAms_20 11 52 10.3
comp=Z,5µm,20.0s
RPSI Rantau Prapat 88.91 273 IAmb IAmb 11 19 59.8
comp=Z,144nm,1.3s
TUL1 Leonard 88.98 52 P 11 19 57.2
baz=250
TUL1 S 11 30 42.8
baz=250
PLCA Paso Flores 89.05 132 P **P** **11 19 59.2 +1.4**
comp=Z,11nm,0.9s,baz=268,slow=3.0,SNR=11
PLCA LR LR 11 50 55.2
comp=Z,2µm,21.7s,baz=254,slow=30
PLCA Paso Flores 89.05 132 P **P** **11 19 59.2 +1.4**
PLCA Paso Flores 89.05 132 P **P** **11 19 59.8 +2.0**
PLCA Paso Flores 89.05 132 *e*P **P** **11 19 59.1 +1.4**
XAN Xi'an 89.10 306 P **P** **11 19 58.9 +0.9**
XAN pmax pmax
comp=Z,34nm,1.3s
XAN pmax pmax
comp=Z,490nm,5.1s
XAN L L
comp=Z,560nm,20.2s
XAN L L
comp=Z,870nm,21.9s
XAN L L
comp=Z,2µm,22.3s
BGNE Belgrade 89.21 47 IAmb IAmb 11 20 02.6
comp=Z,92nm,1.0s
BGNE IAms_20 IAms_20 11 53 51.1
comp=Z,4µm,20.0s
BGNE Belgrade 89.21 47 P 11 19 58.2
baz=248
BGNE S 11 30 44.9
baz=248
441A DeRidder 89.35 58 IAms_20 IAms_20 11 52 32.3
comp=Z,3µm,22.0s
SLVN Son La 89.40 292 IAmb IAmb 11 20 32.4
comp=Z,94nm,1.4s
N33A J Bar K, Exete 89.46 47 IAms_20 IAms_20 11 52 58.7
comp=Z,5µm,22.0s
YAK Yakutsk 89.47 337 P **P** **11 19 58.7 -0.2**
comp=Z,9.2nm,0.4s,baz=50,slow=1.2,SNR=9.4
YAK LR LR 11 55 01.7
comp=Z,370nm,21.1s,baz=132,slow=32
YAK Yakutsk 89.47 337*d* iP **P** **11 19 59.0 +0.1**
YAK *e**PP **pP** **11 20 09.1 -2.3**
YAK *e* 11 23 37.4
YAK *e*PPP PPP 11 25 29.7
YAK *e*S **SKSac** **11 30 25.8 +0.4**
YAK pmax pmax
comp=Z,72nm,1.0s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,26nm,1.4s
YAK pmax pmax
comp=Z,146nm,2.1s
YAK pmax pmax
comp=N,82nm,3.0s
YAK pmax pmax
comp=E,114nm,2.1s
YAK smax smax
comp=E,845nm,5.8s
YAK smax smax
comp=N,770nm,5.8s
YAK Yakutsk 89.47 337 P **P** **11 19 58.7 -0.2**
YAK Yakutsk 89.47 337 IAmb IAmb 11 20 00.3
comp=Z,57nm,0.9s
YAK IAms_20 IAms_20 12 01 50.0
comp=Z,552nm,21.0s
KSU1 Kansas State U 89.48 49 P 11 19 59.3
baz=249
KSU1 Kansas State U 89.48 49 IAms_20 IAms_20 11 52 53.5
comp=Z,5µm,21.0s
HHC Hu-ho-hao-te 89.48 313 *e*P **P** **11 20 00.9 +1.2**
HHC SKS **SKSac** **11 30 27.4 +0.7**
HHC SS **SS** **11 36 48.9 +5.0**
HHC pmax pmax
comp=Z,74nm,1.0s
HHC pmax pmax
comp=Z,370nm,6.0s
HHC L L
comp=Z,400nm,19.2s
HHC L L
comp=Z,430nm,19.6s
HHC L L
comp=Z,480nm,19.1s
E28A Huff 89.49 41 IAms_20 IAms_20 11 55 21.2
comp=Z,4µm,20.0s
TGUH Tegucigalpa,Un 89.66 75 IAmb IAmb 11 20 04.5
comp=Z,63nm,1.1s
TGUH IAms_20 IAms_20 11 50 01.8
comp=Z,3µm,22.0s
TGUH Tegucigalpa,Un 89.66 75 *e*P **P** **11 19 60.0 -1.1**
SUSD Miller 89.79 44 P 11 20 00.0
baz=248
SUSD S 11 30 50.3
baz=248
YKA Yellowknife Ar 90.12 23 P **P** **11 20 01.9 0.0**
comp=Z,37nm,1.1s,baz=230,slow=4.2,SNR=77
YKA PP **PP** **11 23 35.4 -0.6**
comp=Z,4.6nm,1.0s,baz=235,slow=8.4,SNR=4.6
YKA PKKPbc PKKPbc 11 37 48.3 +13
comp=Z,0.6nm,0.6s,baz=52,slow=2.8,SNR=4.3
YKA LR LR 11 53 33.3
comp=Z,4µm,21.1s,baz=0.0,slow=31
YKA Yellowknife Ar 90.12 23 P **P** **11 20 02.0 0.0**
U38A Gravette 90.23 52 P **P** **11 20 02.7 -0.5**
U38A IAmb IAmb 11 20 05.6
comp=Z,161nm,2.4s
U38A IAms_20 IAms_20 11 53 41.6
comp=Z,3µm,21.0s
MIAR Mount Ida 90.25 54 P 11 20 03.6
baz=251,SNR=14
MIAR S 11 30 55.7
baz=251
MIAR Mount Ida 90.25 54 IAms_20 IAms_20 11 53 13.0
comp=Z,5µm,22.0s
342A Flagon Creek P 90.25 58 P **P** **11 20 03.6 +0.2**
342A IAms_20 IAms_20 11 53 30.1
comp=Z,3µm,21.0s
W39A Magazine 90.29 54 P 11 20 03.7
baz=251,SNR=9.8
W39A S 11 30 54.9
baz=251
W39A Magazine 90.29 54 P **P** **11 20 03.5 0.0**
W39A IAmb IAmb 11 20 31.2
comp=Z,75nm,1.5s
WLAR White Oak Lake 90.34 55 IAmb IAmb 11 20 06.5
comp=Z,108nm,1.0s
ORTG Ortega, Santa 90.36 79 IAmb IAmb 11 20 08.4
comp=Z,96nm,1.2s
ORTG IAms_20 IAms_20 11 50 29.1
comp=Z,2µm,21.0s
Z41A Richland Creek 90.45 56 P 11 20 05.0
baz=252,SNR=5.8
Z41A S 11 30 58.0
baz=252
BTO Baotou 90.50 312 *e*P **P** **11 20 05.7 +1.3**
BTO L L
comp=Z,2µm,20.1s
BTO L L
comp=Z,2µm,23.0s
CAO2 Cobano, Puntar 90.52 80 IAmb IAmb 11 20 08.0
comp=Z,59nm,1.1s
HHAR Hobbs 90.52 52 IAms_20 IAms_20 11 54 12.3
comp=Z,3µm,20.0s
VA05 Santo Domingo 90.60 125 IAmb IAmb 11 20 07.3
comp=Z,113nm,1.4s
L34A Svendsen Farm, 90.65 47 IAms_20 IAms_20 11 53 03.2
comp=Z,4µm,21.0s
MDND Maddock 90.67 40 P 11 20 04.3
baz=247
MDND S 11 30 59.1
baz=247
MDND Maddock 90.67 40 IAms_20 IAms_20 11 53 31.4
comp=Z,4µm,22.0s
BOAB BOACO BROADBA 90.73 77 P **P** **11 20 06.1 +0.2**
BOAB IAmb IAmb 11 21 16.7
comp=Z,128nm,1.4s
BO01 Tunca 90.78 126 IAmb IAmb 11 20 30.9
comp=Z,127nm,1.7s
BO01 IAms_20 IAms_20 11 50 28.0
comp=Z,3µm,22.0s
VA01 Torpederas 90.78 125 IAms_20 IAms_20 11 50 02.5
comp=Z,4µm,22.0s
N35A Tabor 90.78 48 P **P** **11 20 05.8 +0.1**
N35A IAmb IAmb 11 20 09.3
comp=Z,95nm,1.2s
N35A IAms_20 IAms_20 11 53 39.9
comp=Z,4µm,22.0s
X40A Basin Creek Fa 90.81 54 IAmb IAmb 11 20 32.0
comp=Z,220nm,2.7s
X40A IAms_20 IAms_20 11 53 38.9
comp=Z,3µm,21.0s
X40A Basin Creek Fa 90.81 54 P 11 20 05.9
baz=252,SNR=8.1
X40A S 11 31 00.0
baz=252
MT01 Popeta 90.82 125 IAmb IAmb 11 20 08.5
comp=Z,109nm,1.0s
MT01 IAms_20 IAms_20 11 50 18.2
comp=Z,3µm,22.0s
JTS Las Juntas de 90.82 80*d* iP **P** **11 20 07.8 +1.4**
JTS pmax pmax
comp=Z,148nm,1.2s
JTS MLR MLR
comp=Z,845nm,16.0s
JTS Las Juntas de 90.82 80 P **P** **11 20 07.6 +1.2**
JTS Las Juntas de 90.82 80 IAms_20 IAms_20 11 49 45.3
comp=Z,3µm,22.0s
JTS Las Juntas de 90.82 80 *e*P **P** **11 20 07.9 +1.4**
BO02 Sierra Bellavi 90.88 126 IAms_20 IAms_20 11 50 19.6
comp=Z,2µm,19.0s
MT09 Talagante 91.06 125 IAmb IAmb 11 20 09.7
comp=Z,51nm,1.1s
MT09 IAms_20 IAms_20 11 50 24.4
comp=Z,3µm,22.0s
ECSD EROS Data Cent 91.10 45 IAmb IAmb 11 20 08.8
comp=Z,53nm,1.1s
ECSD EROS Data Cent 91.10 45 IAms_20 IAms_20 11 53 59.1
comp=Z,4µm,21.0s
ECSD EROS Data Cent 91.10 45 P 11 20 06.2
baz=249
ECSD S 11 31 02.4
baz=249
MT02 Curacav 91.11 125 IAms_20 IAms_20 11 50 24.9
comp=Z,3µm,22.0s
U40A Yellville 91.38 53 P 11 20 08.1
baz=252,SNR=30
U40A S 11 31 04.3
baz=252
U40A Yellville 91.38 53 P **P** **11 20 08.2 -0.3**
U40A IAmb IAmb 11 20 11.6
comp=Z,80nm,1.3s
U40A IAms_20 IAms_20 11 54 56.9
comp=Z,3µm,20.0s
MT05 Renca 91.38 125 IAms_20 IAms_20 11 50 33.1
comp=Z,3µm,21.0s
143A Socs Landing, 91.40 57 IAmb IAmb 11 20 11.8
comp=Z,84nm,1.0s
143A IAms_20 IAms_20 11 52 38.5
comp=Z,4µm,22.0s
C36M Paulatuk 91.44 16 P 11 20 07.8
baz=227,SNR=5.2
C36M S 11 31 01.4
baz=227
COVE Coope Vega, Sa 91.46 79 IAmb IAmb 11 20 12.2
comp=Z,114nm,1.5s
COVE IAms_20 IAms_20 11 50 07.2
comp=Z,3µm,22.0s
CCAR Cane Creek 91.47 55 P **P** **11 20 10.2 +1.2**
CCAR IAmb IAmb 11 20 11.3
comp=Z,89nm,1.0s
W41B Gary Mavity, V 91.48 54 P 11 20 09.3
baz=252,SNR=60
W41B S 11 31 07.1
baz=252
WHAR Wooly Hollow 91.48 54 P **P** **11 20 09.3 +0.3**
WHAR IAmb IAmb 11 20 11.2
comp=Z,93nm,1.1s
KMI Kunming 91.50 296 ⇑P **P** **11 20 10.8 +1.2**
KMI pP pP 11 20 20.8 -1.4
KMI S **S** **11 31 02.6 -4.1**
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,210nm,4.1s
KMI L L
comp=Z,430nm,22.0s
KMI L L
comp=Z,610nm,22.3s
KMI L L
comp=Z,1µm,23.8s
MT03 Universidad Ad 91.53 125 IAmb IAmb 11 20 35.6
comp=Z,131nm,1.5s
344A Westbrook Farm 91.57 58 P **P** **11 20 11.1 +1.6**
344A IAms_20 IAms_20 11 54 54.1
comp=Z,3µm,22.0s
RIMA Rio Macho 91.72 80 IAmb IAmb 11 20 15.9
comp=Z,75nm,1.3s
PEZE Perez Zeledon, 91.79 81 IAmb IAmb 11 20 16.6
comp=Z,72nm,1.2s
FCAR Ozark Folk Cen 91.80 53 P **P** **11 20 10.3 -0.1**
FCAR IAmb IAmb 11 20 13.0
comp=Z,96nm,1.3s
CO02 Combarbal 91.90 123 IAms_20 IAms_20 11 51 03.0
comp=Z,3µm,21.0s
P38A Dawn 91.90 49 IAmb IAmb 11 20 12.7
comp=Z,155nm,1.8s
P38A IAms_20 IAms_20 11 54 17.6
comp=Z,4µm,21.0s
VBMS Vicksburg 91.97 57 P 11 20 12.3
baz=253
VBMS S 11 31 11.4
baz=253
VBMS Vicksburg 91.97 57 IAms_20 IAms_20 11 54 23.7
comp=Z,3µm,22.0s
FFC Flin Flon 92.04 33 P **P** **11 20 10.5 -0.6**
FFC pmax pmax
comp=Z,156nm,1.7s
FFC Flin Flon 92.04 33 P **P** **11 20 10.5 -0.6**
FFC IAmb IAmb 11 20 31.1
comp=Z,156nm,1.6s
FFC Flin Flon 92.04 33 IAms_20 IAms_20 11 54 23.2
comp=Z,3µm,21.0s
F33A 5 Mile Ranch, 92.05 43 P **P** **11 20 09.7 -1.6**
MGMO Mountain Grove 92.07 52 IAms_20 IAms_20 11 54 09.2
comp=Z,4µm,21.0s
CD2 Chengdu 92.29 301 P **P** **11 20 13.5 +0.6**
CD2 SKS **SKSac** **11 30 37.2 -5.9**
CD2 S **ScS** **11 31 17.5 +2.1**
CD2 SS **SS** **11 37 25.1 +0.4**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,270nm,7.8s
CD2 L L
comp=Z,800nm,23.0s
CD2 L L
comp=Z,1µm,23.0s
CD2 L L
comp=Z,2µm,25.9s
CIT Chita 92.35 324 *e*P **P** **11 20 12.6 -0.1**
CIT *e* 11 20 21.1
CIT *e* 11 20 30.1
CIT pmax pmax
comp=Z,144nm,1.7s
GO04 Tololo Observa 92.40 122 IAmb IAmb 11 20 16.1
comp=Z,77nm,1.1s
R40A Maddies Statio 92.42 51 P **P** **11 20 12.7 -0.6**
R40A IAms_20 IAms_20 11 55 11.4
comp=Z,4µm,20.0s
SYO Syowa Base 92.48 191⇓*e*P **P** **11 20 12.8 -0.2**
SYO Syowa Base 92.48 191⇓*e*pP pP 11 20 28.5 +3.1
EFI East Falkland 92.48 146*ce*P **P** **11 20 14.6 +1.2**
EFI pmax pmax

comp=Z,109nm,1.5s
EFI MLR MLR
comp=Z,522nm,18.0s
N38A Joes South For 92.49 48 IAMs_20 IAMs_20 11 55 55.1
comp=Z,4µm,21.0s
LCAR Lake Charles 92.60 53 P **P** **11 20 13.8 -0.3**
LCAR IAmb IAmb 11 20 15.8
comp=Z,79nm,1.1s
SNAA Sanae 92.68 177 P **P** **11 20 14.3 +0.3**
SNAA Sanae 92.68 177 P **P** **11 20 14.7 +0.7**
comp=Z,32nm,1.1s,baz=191,slow=3.6,SNR=38
SNAA Sanae 92.68 177 *de*P **P** **11 20 14.2 +0.2**
SNAA pmax pmax
comp=Z,41nm,1.1s
SNAA Sanae 92.68 177 P **P** **11 20 14.2 +0.2**
AC04 Llanos de Chal 92.83 120 IAMs_20 IAMs_20 11 50 53.9
comp=Z,3µm,21.0s
SCIA State Center 92.85 47 P 11 20 15.0
baz=252
SCIA S 11 31 11.8
baz=252
SCIA State Center 92.85 47 IAMs_20 IAMs_20 11 54 54.6
comp=Z,4µm,21.0s
LCO Las Campanas 92.87 121 P **P** **11 20 17.9 +1.9**
LCO pmax pmax
comp=Z,58nm,0.9s
LCO Las Campanas 92.87 121 P **P** **11 20 17.9 +1.9**
LCO IAmb IAmb 11 20 18.6
comp=Z,58nm,0.9s
LCO Las Campanas 92.87 121 IAMs_20 IAMs_20 11 51 07.0
comp=Z,4µm,22.0s
P40A Paris 92.96 50 P **P** **11 20 14.8 -0.9**
P40A IAmb IAmb 11 20 17.6
comp=Z,73nm,1.1s
CMAR Chiang Mai Arr 93.09 288 P **P** **11 20 17.4 +0.5**
comp=Z,16nm,1.0s,baz=102,slow=2.6,SNR=60
CMAR PKKPbc **PKKPbc** **11 37 26.6 +0.9**
comp=Z,3.1nm,1.0s,baz=282,slow=4.8,SNR=13
CMAR LR LR 11 56 39.2
comp=Z,886nm,21.8s,baz=157,slow=32
CMAR Chiang Mai Arr 93.09 288 *i* P **P** **11 20 17.8 +1.0**
CMAR pmax pmax
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 93.09 288 P **P** **11 20 15.8 -1.0**
CCM Cathedral Cave 93.12 51 P **P** **11 20 15.5 -1.0**
CCM pmax pmax
comp=Z,70nm,1.2s
CCM Cathedral Cave 93.12 51 P **P** **11 20 15.5 -1.0**
CCM IAmb IAmb 11 20 18.0
comp=Z,70nm,1.2s
CCM Cathedral Cave 93.12 51 IAMs_20 IAMs_20 11 55 13.4
comp=Z,4µm,21.0s
AGMN Agassiz Nation 93.17 41 IAmb IAmb 11 20 18.8
comp=Z,79nm,1.4s
AGMN IAMs_20 IAMs_20 11 57 13.6
comp=Z,4µm,20.0s
AGMN Agassiz Nation 93.17 41 P 11 20 15.4
baz=250,SNR=19
AGMN S 11 31 13.0
baz=250
CHTO Chiang Mai 93.18 289 P **P** **11 20 17.0 -0.2**
CHTO pmax pmax
comp=Z,49nm,1.4s
CHTO Chiang Mai 93.18 289 P **P** **11 20 17.0 -0.2**
CHTO Chiang Mai 93.18 289 P **P** **11 20 17.4 +0.1**
Y45A Yeager Farm, C 93.23 56 IAmb IAmb 11 20 20.4
comp=Z,101nm,1.2s
MET Memphis--Engin 93.28 55 IAMs_20 IAMs_20 11 56 19.2
comp=Z,3µm,20.0s
VNA1 Neumayer--Stat 93.31 175 P **P** **11 20 17.4 +0.7**
PBMO Poplar Bluff 93.37 53 P **P** **11 20 16.8 -0.9**
PBMO IAmb IAmb 11 20 19.2
comp=Z,57nm,1.1s
PBMO IAMs_20 IAMs_20 11 54 41.5
comp=Z,3µm,21.0s
I37A Lemond, Waseca 93.39 45 P **P** **11 20 17.4 -0.2**
I37A IAMs_20 IAMs_20 11 56 30.6
comp=Z,3µm,20.0s
K38A Parkersburg 93.40 47 P **P** **11 20 17.1 -0.5**
K38A IAmb IAmb 11 20 19.7
comp=Z,97nm,1.1s
K38A IAMs_20 IAMs_20 11 55 02.0
comp=Z,4µm,22.0s
OXF Oxford 93.52 55 IAMs_20 IAMs_20 11 55 33.6
comp=Z,4µm,20.0s
OXF Oxford 93.52 55 P 11 20 18.2
baz=254
OXF S 11 31 17.5
baz=254
ZON Zonda 93.65 124 IAMs_20 IAMs_20 11 52 15.1
comp=Z,3µm,21.0s
LZH Lanzhou 93.69 306 ‖P **P** **11 20 20.7 +1.3**
LZH pP pP 11 20 34.1 +2.1
LZH sP sP 11 20 40.5 +3.8
LZH PP **PP** **11 24 12.7 +7.5**
LZH S **S** **11 31 25.3 -0.3**
LZH sS sS 11 31 49.4 +2.6
LZH SS **SS** **11 37 41.6 -3.3**
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,160nm,6.0s
LZH L L
comp=Z,390nm,20.1s
LZH L L
comp=Z,890nm,21.7s
LZH L L
comp=Z,730nm,20.6s
FVM French Village 93.72 52 IAmb IAmb 11 20 21.5
comp=Z,106nm,1.2s
FVM IAMs_20 IAMs_20 11 55 41.7
comp=Z,4µm,21.0s
GO03 Copiap 93.73 120 IAMs_20 IAMs_20 11 51 21.9
comp=Z,3µm,20.0s
ULM Lac du Bonnet 93.82 39 P **P** **11 20 18.4 -1.0**
comp=Z,25nm,1.0s,baz=246,slow=5.0,SNR=27
ULM PP **PP** **11 24 01.7 -3.9**
comp=Z,7.0nm,1.1s,baz=250,slow=9.8,SNR=4.4
ULM LR LR 11 55 37.8
comp=Z,5µm,21.8s,baz=251,slow=31
ULM Lac du Bonnet 93.82 39 P **P** **11 20 18.4 -1.0**
ULM Lac du Bonnet 93.82 39 P **P** **11 20 18.4 -1.0**
ULM IAmb IAmb 11 20 39.9
comp=Z,116nm,1.6s
PARMO Parma 93.86 53 IAMs_20 IAMs_20 11 55 56.5
comp=Z,4µm,20.0s
W45A Hickory Valley 93.87 55 IAMs_20 IAMs_20 11 56 57.0
comp=Z,3µm,20.0s
LNXT Lenox 93.90 54 P **P** **11 20 20.2 0.0**
SLM Saint Louis 94.05 51 IAmb IAmb 11 20 22.3
comp=Z,64nm,1.1s
SLM IAMs_20 IAMs_20 11 54 50.5
comp=Z,4µm,22.0s
PAC1 Pacto, Paraso 94.08 91 *e*P P 11 20 15.4 -6.3
HENM Henderson Moun 94.09 53 IAMs_20 IAMs_20 11 56 43.6
comp=Z,4µm,20.0s
SPMN Marine on St. 94.17 44 P 11 20 20.7
baz=252,SNR=24
SPMN Marine on St. 94.17 44 P **P** **11 20 20.6 -0.6**
SPMN IAmb IAmb 11 20 23.3
comp=Z,102nm,1.1s
N41A Harden Midland 94.19 49 P **P** **11 20 21.1 -0.3**
N41A IAMs_20 IAMs_20 11 56 59.0
comp=Z,4µm,20.0s
L40A Anamosa 94.32 48 P **P** **11 20 21.2 -0.7**
L40A IAMs_20 IAMs_20 11 56 00.4
comp=Z,3µm,21.0s
OTAV Otavalo 94.40 91 P **P** **11 20 24.0 +0.4**
OTAV pmax pmax
comp=Z,16nm,1.2s
OTAV Otavalo 94.40 91 P **P** **11 20 23.9 +0.4**
OTAV Otavalo 94.40 91 *e*P **P** **11 20 24.4 +0.8**
BRAL Brewton 94.51 59 IAMs_20 IAMs_20 11 56 56.1
comp=Z,3µm,22.0s
S44A Carbondale 94.52 52 IAmb IAmb 11 20 24.8
comp=Z,40nm,0.9s
B35A Bob, Littlefor 94.54 41 IAMs_20 IAMs_20 11 56 55.8
comp=Z,2µm,20.0s
SIUC Southern Illin 94.56 52 IAmb IAmb 11 20 24.9
comp=Z,58nm,1.1s
PB14 IPOC Station P 94.57 117 IAMs_20 IAMs_20 11 51 46.5
comp=Z,3µm,22.0s
AZU Azuero 94.62 83 *e*P **P** **11 20 22.9 -1.1**
PLAL Pickwick Lake 94.70 55 P **P** **11 20 22.9 -1.0**
PLAL IAMs_20 IAMs_20 11 56 10.0
comp=Z,3µm,20.0s

T45A Paducah 94.81 53 IAmb IAmb 11 20 25.6
comp=Z,77nm,0.9s
T45A IAMs_20 IAMs_20 11 55 23.6
comp=Z,5µm,22.0s
P43A Skaggs, Pawnee 94.86 50 IAmb IAmb 11 20 25.6
comp=Z,73nm,0.9s
ULN Ulaanbaatar 94.87 318 *c i*P **P** **11 20 24.7 +0.2**
ULN pmax pmax
comp=Z,24nm,1.5s
ULN MLR MLR
comp=Z,506nm,20.0s
ULN Ulaanbaatar 94.87 318 P **P** **11 20 24.5 0.0**
AC02 Maricunga 94.91 119 P **P** **11 20 27.0 +1.2**
AC02 IAMs_20 IAMs_20 11 52 42.2
comp=Z,3µm,20.0s
Q44A Meyer Farm, Va 95.04 51 IAMs_20 IAMs_20 11 56 43.7
comp=Z,4µm,21.0s
TULM Tulcn-Chalpat 95.17 91 *e*P **P** **11 20 28.0 +0.9**
WVT Waverly 95.20 54 P 11 20 25.6
baz=254
WVT S 11 31 40.6
baz=254
WVT Waverly 95.20 54 P **P** **11 20 25.3 -0.8**
WVT pmax pmax
comp=Z,92nm,1.9s
WVT Waverly 95.20 54 P **P** **11 20 25.3 -0.8**
WVT IAmb IAmb 11 20 46.2
comp=Z,92nm,1.9s
JFWS Jewell Farm 95.25 47 P 11 20 25.6
baz=254,SNR=16
I40A Norwalk 95.27 46 IAMs_20 IAMs_20 11 57 09.5
comp=Z,3µm,21.0s
HDIL Hopedale 95.28 50 P **P** **11 20 26.1 -0.3**
HDIL IAmb IAmb 11 20 27.6
comp=Z,105nm,1.2s
HDIL Hopedale 95.28 50 P 11 20 25.7
baz=254,SNR=5.4
SONM Songino Array 95.29 318 P **P** **11 20 26.7 +0.3**
comp=Z,1.8nm,0.8s,baz=113,slow=3.2,SNR=17
SONM PP **PP** **11 24 13.3 -3.9**
comp=Z,3.1nm,1.1s,baz=129,slow=6.1,SNR=5.3
SONM LR LR 11 58 03.4
comp=Z,442nm,21.9s,baz=112,slow=32
SONM Songino Array 95.29 318 P **P** **11 20 26.1 -0.3**
SONM pmax pmax
comp=Z,28nm,1.7s
SONM Songino Array 95.29 318 P **P** **11 20 26.1 -0.3**
TIXI Tiksi 95.32 344 P **P** **11 20 26.1 +0.3**
comp=Z,16nm,1.1s,baz=134,slow=4.0,SNR=22
TIXI Tiksi 95.32 344 *c i*P **P** **11 20 26.0 +0.2**
TIXI Tiksi 95.32 344 P **P** **11 20 25.3 -0.5**
250A Grady 95.37 58 IAmb IAmb 11 20 30.6
comp=Z,79nm,1.4s
X48A Hartselle 95.38 56 P **P** **11 20 26.1 -0.8**
BCIP Isla Barro Col 95.39 82 *e*P P 11 20 42.9 +15
L42A Oliver, Polo 95.41 48 IAMs_20 IAMs_20 11 57 04.4
comp=Z,3µm,22.0s
E38A The Farm, Brul 95.41 43 IAmb IAmb 11 20 28.6
comp=Z,83nm,1.6s
OLIL Olney 95.68 52 IAMs_20 IAMs_20 11 58 09.8
comp=Z,4µm,20.0s
USIN University of 95.81 52 IAmb IAmb 11 20 31.1
comp=Z,71nm,1.3s
USIN IAMs_20 IAMs_20 11 56 37.2
comp=Z,4µm,21.0s
EYMN Ely 95.84 42 P **P** **11 20 27.4 -1.3**
EYMN IAmb IAmb 11 20 31.1
comp=Z,65nm,1.6s
EYMN Ely 95.84 42 IAMs_20 IAMs_20 11 57 43.3
comp=Z,4µm,20.0s
EYMN Ely 95.84 42 P 11 20 27.7
baz=253,SNR=20
G40A Rib Lake 95.94 45 P **P** **11 20 29.1 -0.2**
G40A IAmb IAmb 11 20 31.3
comp=Z,82nm,1.4s
T47A Sharon Grove 95.99 53 P **P** **11 20 29.4 -0.2**
T47A IAMs_20 IAMs_20 11 57 40.9
comp=Z,4µm,20.0s
BBAC Balboa, Cauca 96.03 90 *e*P P 11 20 26.0 -4.7
CRUC La Cruz 96.20 90 *e*P P 11 20 26.7 -4.9
TA02 Huaiquique 96.24 113 IAMs_20 IAMs_20 11 53 31.0
comp=Z,2µm,19.0s
352A Blakely 96.35 59 IAmb IAmb 11 20 35.4
comp=Z,48nm,1.1s
M44A Midewin, Midew 96.42 49 IAmb IAmb 11 20 33.6
comp=Z,93nm,1.4s
M44A IAMs_20 IAMs_20 11 56 49.1
comp=Z,4µm,22.0s
I42A Draeger Farm, 96.45 46 IAmb IAmb 11 20 32.6
comp=Z,74nm,1.1s
SWET Sewanee 96.46 55 P **P** **11 20 30.9 -1.0**
SWET IAmb IAmb 11 20 33.5
comp=Z,46nm,1.3s
SWET IAMs_20 IAMs_20 11 56 42.5
comp=Z,3µm,21.0s
PSGCX Pisagua 96.46 112 IAMs_20 IAMs_20 11 53 20.0
comp=Z,2µm,20.0s
MALC Bahia Malaga 96.47 88 *e*P P 11 20 39.1 +6.7
LVC Limon Verde 96.54 116 P **P** **11 20 35.1 +2.1**
LVC pmax pmax
comp=Z,194nm,2.7s
LVC Limon Verde 96.54 116 P **P** **11 20 35.1 +2.1**
LVC IAmb IAmb 11 20 59.5
comp=Z,194nm,2.7s
LVC Limon Verde 96.54 116 *e*P **P** **11 20 34.5 +1.4**
FPAL Fort Paine 96.55 56 IAMs_20 IAMs_20 11 57 06.9
comp=Z,4µm,21.0s
K43A Burlington 96.55 48 IAMs_20 IAMs_20 11 56 46.5
comp=Z,3µm,22.0s
HQIL Hanson Quary C 96.66 49 IAMs_20 IAMs_20 11 59 19.5
comp=Z,2µm,20.0s
SOTA Rioblanco 96.68 90 *e*P **P** **11 20 34.3 +0.4**
L44A Lake County Fo 96.72 48 P 11 20 32.2
baz=255
POPC Popayan, Colom 96.72 89 *e*P P 11 20 20.0 -14
152A Waverly Hall 96.81 58 IAMs_20 IAMs_20 11 58 38.0
comp=Z,3µm,22.0s
PB11 IPOC Station P 96.83 113 P **P** **11 20 34.0 -0.1**
PB11 IAMs_20 IAMs_20 11 53 21.6
comp=Z,2µm,22.0s
SFIN Lafayette 96.85 50 IAmb IAmb 11 20 35.9
comp=Z,63nm,1.6s
SFIN Lafayette 96.85 50 P 11 20 33.0
baz=255
COWI Conover 96.88 44 IAmb IAmb 11 20 34.5
comp=Z,60nm,1.1s
U49A Red Boiling Sp 96.90 54 IAmb IAmb 11 20 35.6
comp=Z,48nm,1.1s
WCI Wyandotte Cave 96.92 52 IAMs_20 IAMs_20 11 57 42.7
comp=Z,4µm,21.0s
WCI Wyandotte Cave 96.92 52 P 11 20 33.2
baz=256
PCON Cinco Dias 96.93 90 *e*P P **11 20 35.9 +0.7**
BLO Bloomington 96.98 51 IAMs_20 IAMs_20 11 58 12.2
comp=Z,3µm,20.0s
MNMC Minye Minye 97.08 112 P **P** **11 20 35.0 -0.5**
MNMC IAmb IAmb 11 20 59.2
comp=Z,87nm,1.8s
MNMC IAMs_20 IAMs_20 11 53 29.6
comp=Z,3µm,22.0s
X51A Calhoun 97.16 56 P **P** **11 20 34.0 -1.0**
X51A IAmb IAmb 11 20 38.9
comp=Z,52nm,1.4s
X51A IAMs_20 IAMs_20 11 57 26.0
comp=Z,4µm,21.0s
H43A Windswept, Lux 97.40 46 IAMs_20 IAMs_20 11 59 13.8
comp=Z,3µm,20.0s
YOTC Yotoco, Valle 97.42 88 *e*P **P** **11 20 35.3 -1.6**
PB16 IPOC Station P 97.42 111 P **P** **11 20 37.4 +0.1**
TIGA Tifton 97.45 60 P 11 20 35.9
baz=256
F42A Maple Grove Fa 97.47 45 IAmb IAmb 11 20 37.8
comp=Z,52nm,1.2s
MARP Paez Belalcaza 97.49 89 *e*P **P** **11 20 36.2 -1.2**
D41A Chassel 97.51 43 P **P** **11 20 35.5 -0.8**
FCC Fort Churchill 97.54 31 P **P** **11 20 35.8 -0.3**
FCC pmax pmax
comp=Z,18nm,1.0s
FCC Fort Churchill 97.54 31 P **P** **11 20 35.8 -0.3**
Y52A Lilburn 97.63 57 P **P** **11 20 36.0 -1.2**
Y52A IAMs_20 IAMs_20 11 57 34.6
comp=Z,4µm,22.0s
CPCT Cooper Cave 97.63 55 IAMs_20 IAMs_20 11 57 20.6
comp=Z,3µm,21.0s
GTA Gaotai 97.65 309 ‖P **P** **11 20 37.4 +0.1**
GTA PP **PP** **11 24 34.7 -1.0**

GTA SKS **SKSac** **11 31 12.2 +0.6**
GTA S **ScS** **11 32 01.6 +1.8**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,97nm,5.1s
GTA L L
comp=Z,370nm,21.1s
GTA L L
comp=Z,780nm,21.8s
GTA L L
comp=Z,1µm,21.1s
CZSB Cruzeiro do Su 97.71 100 *e*P Pdif 11 20 39.2 +1.2
GARC Garzon, Huila 97.77 90 *e*P P 11 20 32.0 -6.6
L46A Eue Claire 97.84 49 IAMs_20 IAMs_20 11 57 53.7
comp=Z,3µm,22.0s
656A Willston 97.85 62 IAMs_20 IAMs_20 11 58 43.6
comp=Z,3µm,22.0s
P48A Milroy 97.88 51 P **P** **11 20 37.0 -1.2**
P48A IAMs_20 IAMs_20 11 58 58.9
comp=Z,3µm,20.0s
PTLC Puerto Leguiza 97.90 92 *e*P P 11 20 26.0 -13
BETC Betania 97.95 89 *e*P P 11 20 27.1 -12
ZAK Zakamensk 97.96 320 *e*P **P** **11 20 37.7 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
ZAK pmax pmax
comp=Z,8.0nm,1.6s
GOGA Godfrey 98.01 58 P 11 20 38.0
baz=257
W52A Murphy 98.02 56 IAMs_20 IAMs_20 11 58 03.0
comp=Z,3µm,21.0s
TLY Talaya 98.07 321 P **P** **11 20 38.8 +0.1**
comp=Z,2.3nm,0.5s,baz=156,slow=5.3,SNR=5.9
TLY Talaya 98.07 321 *e*P Pdif 11 20 40.2 +1.4
TLY *e* 11 24 34.7
TLY *e*PS PS 11 33 35.5 +3.5
TLY *e*SS SS 11 38 48.2 +2.4
TLY *e*SSS SSS 11 42 26.7
TLY pmax pmax
comp=Z,28nm,1.4s
TLY MLR MLR
comp=Z,953nm,16.0s
TLY Talaya 98.07 321 P **P** **11 20 38.8 +0.1**
154A Montrose 98.12 58 IAMs_20 IAMs_20 11 58 16.6
comp=Z,3µm,21.0s
CBOC Ciudad Bolivar 98.22 86 *e*P P 11 20 32.0 -8.5
TKL Tuckaleechee C 98.28 55 IAMs_20 IAMs_20 11 58 01.6
comp=Z,3µm,20.0s
P49A Miami Univ. Ec 98.43 51 Pdiff 11 20 39.6
baz=257
P49A Miami Univ. Ec 98.43 51 IAMs_20 IAMs_20 11 59 46.5
comp=Z,3µm,21.0s
R50A Paris 98.44 53 P **P** **11 20 39.4 -1.3**
ORTC Ortega, Tolima 98.45 88 *e*P Pdif 11 20 44.0 +2.6
V52A Sevierville 98.46 55 IAMs_20 IAMs_20 11 57 56.4
comp=Z,4µm,22.0s
RREF El Recreo 98.61 87 *e*P Pdif 11 20 44.0 +1.2
TZTN Tazewell 98.65 55 **P** **11 20 41.0 -0.7**
TZTN Tazewell 98.65 55 Pdiff 11 20 40.9
baz=257
GUY2C Guyana, Caldas 98.68 87 *e*P P 11 20 36.2 -6.7
HELC Santa Helena 98.77 86 *e*P **P** **11 20 42.0 -1.2**
BG3 Lake Jocassee 98.80 56 IAMs_20 IAMs_20 11 58 47.5
comp=Z,3µm,21.0s
S51A Beattyville 98.86 53 P **P** **11 20 41.1 -1.5**
O49A Covington 98.86 51 **P** **11 20 42.0 -0.6**
G45A Suttons Bay 98.99 46 P **Pdif** **11 20 42.1 -0.9**
G45A IAmb IAmb 11 20 44.2
comp=Z,68nm,1.2s
G45A IAMs_20 IAMs_20 12 00 30.1
comp=Z,2µm,20.0s
V53A Saluda 99.04 56 IAMs_20 IAMs_20 11 58 03.9
comp=Z,3µm,21.0s
UREC San Jos de Ur 99.16 84 *e*P **Pdif** **11 20 40.6 -3.9**
HODGE Hodges 99.17 57 IAMs_20 IAMs_20 11 58 42.4
comp=Z,3µm,22.0s
L48A N Adams 99.18 49 IAMs_20 IAMs_20 12 00 39.1
comp=Z,4µm,20.0s
J47A Sunmer 99.18 48 IAmb IAmb 11 20 46.1
comp=Z,96nm,1.2s
J47A IAMs_20 IAMs_20 11 58 28.1
comp=Z,4µm,22.0s
060A Indiantown 99.19 65 IAMs_20 IAMs_20 11 59 34.2
comp=Z,3µm,21.0s
NORC Norcasia 99.24 87 *e*P **Pdif** **11 20 50.0 +5.1**
MOTC Monteria, Cord 99.28 83 *e*P **Pdif** **11 20 32.0 -13**
LPAZ La Paz 99.33 110 P **Pdif** **11 20 47.5 +1.5**
comp=Z,4.9nm,1.1s,baz=217,slow=1.1,SNR=8.8
LPAZ LR LR 11 55 56.1
comp=Z,998nm,21.8s,baz=269,slow=30
LPAZ La Paz 99.33 110 P **Pdif** **11 20 46.6 +0.6**
LPAZ pmax pmax
comp=Z,13nm,1.4s
LPAZ La Paz 99.33 110 **Pdif** **11 20 46.6 +0.6**
LPAZ La Paz 99.33 110 *e*P **Pdif** **11 20 46.6 +0.6**
Q51A Peebles 99.35 52 P **Pdif** **11 20 43.2 -1.6**
Q51A IAMs_20 IAMs_20 11 59 29.0
comp=Z,3µm,21.0s
ROSC El Rosal 99.59 88 LR LR 11 56 01.7
comp=Z,2µm,21.9s,baz=244,slow=30
ROSC El Rosal 99.59 88 IAMs_20 IAMs_20 11 55 02.4
comp=Z,3µm,22.0s
PAULI Pauline 99.66 57 IAMs_20 IAMs_20 11 59 45.2
comp=Z,4µm,21.0s
GLMI Grayling 99.67 46 IAMs_20 IAMs_20 12 01 00.9
comp=Z,3µm,19.0s
GLMI Grayling 99.67 46 Pdiff 11 20 45.3
baz=258
P51A Williamsport 99.67 52 IAMs_20 IAMs_20 11 57 41.3
comp=Z,4µm,22.0s
257A Skidaway Islan 99.70 60 IAMs_20 IAMs_20 12 00 16.4
comp=Z,2µm,21.0s
ZARC Zaragoza, Cauc 99.74 85 *e*P **Pdif** **11 20 47.7 +0.6**
AAM Ann Arbor 99.82 49 IAMs_20 IAMs_20 11 59 33.0
comp=Z,3µm,20.0s
AAM Ann Arbor 99.82 49 Pdiff 11 20 45.9
baz=258
JSC Jenkinsville 99.99 57 IAMs_20 IAMs_20 11 59 17.1
comp=Z,2µm,22.0s
SPBC San Pablo de B 100.03 87 *e*P **Pdif** **11 20 46.0 -2.5**
KMSC Kings Mountain 100.11 56 IAMs_20 IAMs_20 12 00 00.2
comp=Z,4µm,21.0s
KMSC Kings Mountain 100.11 56 Pdiff 11 20 46.8
baz=258
Q52A Bidwell 100.16 52 IAMs_20 IAMs_20 12 00 23.4
comp=Z,3µm,21.0s
P52A Corning 100.40 52 IAMs_20 IAMs_20 11 58 25.7
comp=Z,4µm,22.0s
P52A Corning 100.40 52 Pdiff 11 20 48.4
baz=258
GUVC San Jose del G 100.62 90 *e*P **Pdif** **11 20 52.7 +1.6**
NHSC New Hope 100.63 59 IAMs_20 IAMs_20 12 02 07.2
comp=Z,2µm,21.0s
NHSC New Hope 100.63 59 Pdiff 11 20 48.5
baz=258
K50A Casco 100.66 49 IAMs_20 IAMs_20 12 01 01.4
comp=Z,2µm,21.0s
BIRD Birdtown, Kers 100.71 57 IAMs_20 IAMs_20 11 59 26.2
comp=Z,4µm,22.0s
O52A Adamsville 100.72 51 IAMs_20 IAMs_20 11 59 30.1
comp=Z,4µm,22.0s
P53A Whipple 100.93 52 IAMs_20 IAMs_20 11 59 27.8
comp=Z,4µm,22.0s
RUSC La Rusia 101.04 87 *e*P **Pdif** **11 20 50.0 -3.5**
W57A Gilead 101.19 57 IAMs_20 IAMs_20 11 59 18.8
comp=Z,4µm,22.0s
Y58A Scranton 101.21 58 IAMs_20 IAMs_20 12 00 04.4
comp=Z,3µm,22.0s
O53A New Philadelph 101.21 51 Pdiff 11 20 50.9
baz=259
O53A New Philadelph 101.21 51 IAMs_20 IAMs_20 12 00 08.2
comp=Z,3µm,21.0s
BLA Blacksburg 101.24 54 IAMs_20 IAMs_20 12 00 55.2
comp=Z,4µm,20.0s
BLA Blacksburg 101.24 54 Pdiff 11 20 52.8
baz=259
Q54A Coxs Mills 101.26 53 IAMs_20 IAMs_20 12 00 28.5
comp=Z,4µm,21.0s
OCAC Ocana 101.40 85 *e*P **Pdif** **11 20 56.0 +1.4**
N53A Lisbon 101.60 51 IAMs_20 IAMs_20 12 00 48.3
comp=Z,3µm,21.0s
X58A Rowland 101.60 57 IAMs_20 IAMs_20 11 59 52.7
comp=Z,4µm,22.0s
RES Resolute Bay 101.81 15 P **Pdif** **11 20 54.6 -0.3**
comp=Z,11nm,1.1s,baz=259,slow=7.2,SNR=4.3

RES Resolute Bay 101.81 15 P Pdif 11 20 54.6 -0.3
M53A WI Miller and 101.83 50 Pdiff 11 20 55.3
baz=260
Y59A Loris 101.87 58 IAMs_20 IAMs_20 12 03 11.0
comp=Z,3µm,21.0s
V58A Windy Hill, Pi 102.01 56 IAMs_20 IAMs_20 12 00 08.6
comp=Z,3µm,21.0s
MCWV Mont Chateau 102.14 52 Pdiff 11 20 56.7
baz=260
N54A Moraine State 102.26 51 IAMs_20 IAMs_20 12 01 18.8
comp=Z,3µm,20.0s
N54A Moraine State 102.26 51 Pdiff 11 20 56.9
baz=260
Y60A Bolivia 102.41 58 IAMs_20 IAMs_20 12 03 35.3
comp=Z,3µm,20.0s
ERPA Erie 102.46 50 Pdiff 11 20 57.9
baz=260
M54A Oil Creek Stat 102.59 50 Pdiff 11 20 57.9
baz=260
CNNC Cliffs of the 102.90 57 IAMs_20 IAMs_20 12 00 32.0
comp=Z,3µm,22.0s
O56A Blue Knob Stat 103.21 52 IAMs_20 IAMs_20 12 01 20.0
comp=Z,3µm,22.0s
O56A Blue Knob Stat 103.21 52 Pdiff 11 21 01.8
baz=261
J54A Appleton 103.62 49 IAMs_20 IAMs_20 12 00 53.8
comp=Z,3µm,22.0s
MEDO Medina 103.74 49 IAMs_20 IAMs_20 12 00 56.9
comp=Z,2µm,22.0s
SSPA Standing Stone 103.78 51 IAMs_20 IAMs_20 12 01 06.1
comp=Z,3µm,21.0s
SSPA Standing Stone 103.78 51 Pdiff 11 21 03.8
baz=261
H53A Bobcaygeon 103.86 47 Pdiff 11 21 03.5
baz=262
V61A Roper 104.04 56 IAMs_20 IAMs_20 12 01 19.4
comp=Z,3µm,22.0s
SDV Santo Domingo 104.13 85 eP Pdif 11 20 56.0 -11
J55A Hilton 104.22 49 IAMs_20 IAMs_20 12 01 22.5
comp=Z,3µm,22.0s
L56A Greenwood 104.25 50 Pdiff 11 21 05.7
baz=262
G54A Lake Saint Pet 104.32 46 Pdiff 11 21 05.9
baz=262
SDMD Soldier's Deli 104.39 53 IAMs_20 IAMs_20 12 01 12.4
comp=Z,2µm,22.0s
K56A Middlesex 104.50 49 Pdiff 11 21 07.0
baz=262
PAGS Pennsylvania G 104.60 52 IAMs_20 IAMs_20 12 01 41.8
comp=Z,3µm,20.0s
J56A Wolcott 104.91 49 IAMs_20 IAMs_20 12 01 53.9
comp=Z,2µm,21.0s
WUPA West Chester U 105.41 52 IAMs_20 IAMs_20 12 02 47.2
comp=Z,3µm,20.0s
BINY Binghamton 105.41 50 IAMs_20 IAMs_20 12 03 06.2
comp=Z,4µm,20.0s
KSPA Keystone Colle 105.49 51 IAMs_20 IAMs_20 12 04 16.4
comp=Z,4µm,20.0s
LUPA Lehigh Univers 105.67 52 IAMs_20 IAMs_20 12 02 37.2
comp=Z,4µm,21.0s
J58A Remsen 106.06 49 IAMs_20 IAMs_20 12 01 54.3
comp=Z,4µm,22.0s
TRNY Table Rock, Ra 106.60 51 IAMs_20 IAMs_20 12 04 44.7
comp=Z,4µm,21.0s
J59A Piesco 106.64 49 IAMs_20 IAMs_20 12 03 16.6
comp=Z,3µm,21.0s
WSPT Westport, CT 107.27 51 IAMs_20 IAMs_20 12 03 55.6
comp=Z,3µm,21.0s
PALK Pallekele 107.62 273 IAMs_20 IAMs_20 12 09 46.2
comp=Z,2µm,21.0s
NRIK Noril'sk 107.84 338 PKiKP PKiKP 11 25 28.6 -0.4
comp=Z,1.5nm,0.5s,baz=89,slow=1.6,SNR=3.7
NRIK PKKPab PKKPab 11 36 56.7 +1.2
comp=Z,1.9nm,0.6s,baz=337,slow=0.9,SNR=4.3
DGZ Jazzator, Alta 107.93 318⇑ iP Pdif 11 21 24.3 +1.4
DGZ MLR MLR
comp=Z,423nm,18.0s
ALE Alert 108.03 7 IAMs_20 IAMs_20 12 08 33.7
comp=Z,2µm,20.0s
UCCT U. Connecticut 108.16 51 IAMs_20 IAMs_20 12 04 10.9
comp=Z,3µm,21.0s
ZSN Zaisan 109.53 315 ePKiKP PKiKP 11 25 32.5 -0.4
baz=315
ZSN ePP PP 11 26 00.4 -3.6
baz=315
G62A West of Eustis 109.61 47 IAMs_20 IAMs_20 12 05 07.1
comp=Z,3µm,21.0s
ZALV Zalesovo Beam 109.65 322 PKiKP PKiKP 11 25 32.3 -0.5
comp=Z,2.8nm,0.6s,baz=154,slow=1.7,SNR=8.6
ZALV PKKPab PKKPab 11 36 46.5 -1.4
comp=Z,1.2nm,0.7s,baz=251,slow=4.4,SNR=4.0
F62A Pittston Farm, 110.03 46 IAMs_20 IAMs_20 12 06 47.2
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 110.49 47 IAMs_20 IAMs_20 12 06 24.3
comp=Z,3µm,20.0s
F63A Nahmakanta, Br 110.63 47 IAMs_20 IAMs_20 12 07 06.1
comp=Z,2µm,20.0s
E63A Oxbow 111.12 46 IAMs_20 IAMs_20 12 07 57.9
comp=Z,2µm,20.0s
F64A Sherman 111.16 46 IAMs_20 IAMs_20 12 07 32.1
comp=Z,3µm,20.0s
MK31 Makanchi Array 111.28 315 i PKiKP PKiKP 11 25 35.1 -1.1
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 111.28 315 PKiKP PKiKP 11 25 35.9 -0.3
comp=Z,4.0nm,0.7s,baz=78,slow=1.0,SNR=23
MKAR PKKPbc PKKPbc 11 36 32.8 -0.5
comp=Z,1.9nm,1.0s,baz=256,slow=3.6,SNR=7.8
MKAR PKKPab PKKPab 11 36 41.4 +0.5
comp=Z,4.1nm,1.0s,baz=268,slow=3.6,SNR=12
MKAR Makanchi Array 111.28 315 i PKiKP PKiKP 11 25 35.9 -0.3
PQI Presque Isle 111.40 46 IAMs_20 IAMs_20 12 06 10.3
comp=Z,3µm,21.0s
NEEM North Greenlan 111.86 12 i P PKiKP 11 25 36.4 -0.3
SCHQ Schefferville 111.89 37 PP PP 11 26 18.0 -2.7
comp=Z,16nm,1.1s,baz=294,slow=7.5,SNR=6.4
SCHQ Schefferville 111.89 37 IAMs_20 IAMs_20 12 06 04.5
comp=Z,3µm,22.0s
SEM Semipalatinsk 112.56 318 ePKiKP PKiKP 11 25 37.6 -1.2
baz=318
SEM Semipalatinsk 112.56 318 i PKiKP PKiKP 11 25 37.5 -1.2
SHLS Shalkode 113.28 311 ePKiKP PKiKP 11 25 38.2 -2.0
baz=311
SHLS Shalkode 113.28 311 i PKiKP PKiKP 11 25 38.2 -2.0
KURK Kurchatov 113.58 319 i PKiKP PKiKP 11 25 40.1 -0.2
UZB Uzunbulak 113.61 311 ePKiKP PKiKP 11 25 39.8 -1.1
baz=311
UZB Uzynbulak 113.61 311 i PKiKP PKiKP 11 25 39.8 -1.1
LMN Caledonia Moun 113.64 46 IAMs_20 IAMs_20 12 09 36.6
comp=Z,2µm,20.0s
KURBB Kurchatov Arra 113.64 319 PKiKP PKiKP 11 25 40.1 -0.4
comp=Z,5.1nm,0.7s,baz=83,slow=1.8,SNR=29
KURBB PP PP 11 26 30.2 -3.1
comp=Z,11nm,1.3s,baz=87,slow=6.6,SNR=6.7
KURBB PKKPbc PKKPbc 11 36 23.7 -1.8
comp=Z,3.8nm,1.1s,baz=263,slow=4.2,SNR=12
KURBB PKKP PKKPdf 11 36 45.7 -1.7
comp=Z,1.3nm,0.8s,baz=264,slow=4.1,SNR=5.0
KPKS Kokpek 113.85 311 ePKiKP PKiKP 11 25 40.4 -0.8
baz=311
KPKS ePP PP 11 26 32.2 -3.0
baz=311
KPKS Kokpek 113.85 311 i PKiKP PKiKP 11 25 40.4 -0.8
KPKS e 11 26 32.1
SPB Sao Paulo 114.03 125 IAMs_20 IAMs_20 12 06 46.0
comp=Z,2µm,20.0s
SATY Saty 114.06 310 ePKiKP PKPdf 11 25 40.8 -0.9
baz=310
SATY Saty 114.06 310 i PKiKP PKPdf 11 25 40.7 -1.0
MCLT Moule a Chique 114.45 82 IAMs_20 IAMs_20 12 02 09.8
comp=Z,2µm,21.0s
MDOK Medeo 115.05 311 ePKiKP PKiKP 11 25 42.8 -0.9
baz=311
MDOK Medeo 115.05 311 i PKiKP PKiKP 11 25 42.7 -0.9
MTBS Maitube 115.50 311 ePKiKP PKPdf 11 25 43.6 -0.9
baz=311
MTBS Maitube 115.50 311 i PKiKP PKPdf 11 25 43.5 -0.9
KUU Kurty 115.54 311 ePKiKP PKPdf 11 25 41.7 -2.8
baz=312
KUU Kurty 115.54 311 i PKiKP PKPdf 11 25 41.6 -2.8
ILULI Ilulissat 115.55 20 IAMs_20 IAMs_20 12 06 33.7
comp=Z,2µm,22.0s
KSH Kashi 115.94 307 PKP PKiKP 11 25 46.8 +1.3
KSH SS SS 11 42 53.8 +4.6
KSH PPMZ
comp=Z,420nm,6.9s
SFJD Kangerlussuaq 116.64 22 IAMs_20 IAMs_20 12 10 23.6
comp=Z,3µm,21.0s
SGDS Sogindy 116.80 311 ePKiKP PKPdf 11 25 45.1 -1.8
baz=311
SGDS Sogindy 116.80 311 i PKiKP PKPdf 11 25 45.1 -1.8
AAK Ala-Archa 116.95 310 PKP PKPdf 11 25 47.3 -0.1
comp=Z,1.4nm,0.3s,baz=114,slow=3.5,SNR=6.1
AAK PKKPbc PKKPbc 11 36 13.2 -0.8
comp=Z,3.4nm,0.5s,baz=218,slow=3.4,SNR=6.0
AAK Ala-Archa 116.95 310⇓ iPKIKP PKPdf 11 25 47.7 +0.4
AAK MLR MLR
comp=Z,1µm,21.0s
AAK Ala-Archa 116.95 310 PKPdf 11 25 47.3 -0.1
BTLS Baital 117.10 313 ePKiKP PKPdf 11 25 46.7 -0.7
baz=313
BTLS Baital 117.10 313 i PKIKP PKPdf 11 25 46.6 -0.7
SUMG Summit 117.29 14 i P PKPdf 11 25 47.1 -0.3
SUMG IAmb IAmb 11 25 49.2
comp=Z,14nm,1.1s
SUMG Summit 117.29 14 i PKIKP PKPdf 11 25 47.1 -0.3
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 117.29 14 PKPdf PKPdf 11 25 47.4 0.0
SUMG IAMs_20 IAMs_20 12 11 06.0
comp=Z,3µm,21.0s
BDFB Brasilia 117.39 117 PKP PKPdf 11 25 48.0 -0.9
comp=Z,6.0nm,1.0s,baz=147,slow=6.1,SNR=3.9
BDFB Brasilia 117.39 117 PKIKP PKPdf 11 25 48.0 -0.9
DAG Danmarks Havn 117.40 6 i P PKPdf 11 25 45.7 -1.3
DAG Danmarks Havn 117.40 6 i PKIKP PKPdf 11 25 45.7 -1.3
OTUK Ortayu 117.91 317 PKIKP PKPdf 11 25 48.2 -0.6
OTUK pmax pmax
comp=Z,24nm,1.4s
BRVK Borovoye 118.37 322 c iPKIKP PKPdf 11 25 49.4 -0.1
BRVK MLR MLR
comp=Z,378nm,20.0s
BRVK Borovoye 118.37 322 PKPdf PKPdf 11 25 48.6 -0.9
BRVK Borovoye 118.37 322 P PKPdf 11 25 49.3 -0.1
DY2G Dye2 118.42 21 i P PKPdf 11 25 49.0 -0.6
DY2G IAmb IAmb 11 25 51.2
comp=Z,10.0nm,0.8s
ICESG Greenland Ices 119.13 17 i P PKPdf 11 25 49.8 -1.1
ICESG IAmb IAmb 11 25 51.9
comp=Z,13nm,0.9s
DBG Daneborg 119.37 8 i P PKPdf 11 25 50.4 -0.4
DBG IAmb IAmb 11 25 51.4
comp=Z,10nm,1.0s
KK31 Karatay Array 119.83 311 i PKIKP PKPdf 11 25 51.9 -0.8
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 119.83 311 PKIKP PKPdf 11 25 52.2 -0.5
KKAR Karatay Array 119.83 311 PKPdf 11 25 52.2 -0.5
KKAR Karatay Array 119.83 311 PKPdf 11 25 51.5 -1.1
MC01 Montes Claros 120.32 120 eP PKPdf 11 25 54.2 -0.2
SMTB Santa Maria do 120.68 110 eP PKPdf 11 25 55.6 +0.4
JANB Januaria 120.81 119 eP PKPdf 11 25 53.8 -1.6
SDBA SAO DESIDERIO 121.54 115 eP PKPdf 11 25 56.9 0.0
SJMB Sao Joao De Ma 121.54 124 eP PKPdf 11 25 56.1 -0.5
KBL Kabul 121.63 301 PKIKP PKiKP 11 25 57.4 +0.6
KBL Kabul 121.63 301 PKPdf PKiKP 11 25 57.4 +0.6
KBL Kabul 121.63 301 P PKiKP 11 25 57.8 +1.0
RIB01 Linhares ES 121.84 125 eP PKPdf 11 25 57.5 +0.2
ANGG Ammassalik, Gr 121.85 20 IAMs_20 IAMs_20 12 15 17.1
comp=Z,2µm,21.0s
SCO Scoresbysund 122.35 11 i P PKPdf 11 25 56.9 +0.2
SCO IAmb IAmb 11 25 58.8
comp=Z,14nm,0.9s
SCO Scoresbysund 122.35 11 PKIKP PKPdf 11 25 56.8 +0.2
SCO Scoresbysund 122.35 11 PKPdf PKPdf 11 25 56.8 +0.1
SCO IAMs_20 IAMs_20 12 13 23.5
comp=Z,2µm,21.0s
SVE Sverdlovsk 122.53 328⇓ iPKIKP PKPdf 11 25 57.6 +0.2
SVE pmax pmax
comp=Z,40nm,1.4s
SVE MLR MLR
comp=Z,824nm,25.0s
TMAB Tom-Au,PA,Br 122.63 103 eP PKiKP 11 26 00.1 +1.0
NAN01 Guarapari, ES 122.85 124 eP PKiKP 11 25 58.6 -0.6
ARU Arti 123.74 328 i PKIKP PKPdf 11 25 59.5 -0.3
ARU 11 27 47.1
ARU 11 33 08.2
ARU SS SS 11 44 29.0 +1.2
ARU MLR MLR
comp=Z,689nm,20.0s
ARU Arti 123.74 328 PKPdf PKPdf 11 25 59.4 -0.3
GUA01 Guaratinga, BA 123.78 123 eP PKPdf 11 26 00.8 -0.2
CMC01 Camacan, BA 124.66 122 eP PKPdf 11 26 02.2 -0.5
LVZ Lovozero 124.80 348 i PKIKP PKPdf 11 26 01.8 +0.3
LVZ MLR MLR
comp=Z,788nm,20.0s
LVZ Lovozero 124.80 348 PKPdf 11 26 02.0 +0.5
ARCES ARCESS Array B 124.87 352 PKP PKPdf 11 26 01.4 -0.2
comp=Z,13nm,0.6s,baz=23,slow=1.2,SNR=54
ARCES ARCESS Array B 124.87 352 PKIKP PKPdf 11 26 01.3 -0.2
ARCES ARCESS Array B 124.87 352 PKPdf PKPdf 11 26 01.3 -0.2
NBIT Itapeh - BA 124.95 121 eP PKPdf 11 26 03.3 0.0
APA Apatity 125.33 348⇑ iPKIKP PKPdf 11 25 59.1 -3.3
APA pmax pmax
comp=Z,17nm,1.2s
APA MLR MLR
comp=Z,2µm,22.0s
GDU01 Guandu, BA 125.46 120 eP PKPdf 11 26 03.5 -0.7
AB31 Akbulak array 125.65 320 i PKIKP PKPdf 11 26 03.3 -0.3
AB31 pmax pmax
comp=Z,19nm,1.3s
ABKAR Akbulak array 125.65 320 PKPdf 11 26 03.0 -0.6
ABKAR Akbulak array 125.65 320 PKPdf PKPdf 11 26 03.4 -0.2
VOI Vohitsoka 126.08 227 P PKiKP 11 26 08.5 +2.6
ROSB Rosrio 126.16 106 eP PKPdf 11 26 05.6 -0.1
NBPN Ponto Novo - B 126.34 116 eP PKPdf 11 26 04.8 -1.2
PRGR Permogore 126.49 338 ePKiKP PKPdf 11 26 02.6 -2.2
KIRV Kirov 126.92 334 c iPKIKP PKPdf 11 26 05.9 +0.2
ABPO Ambohimpanom 127.58 230 IAMs_20 IAMs_20 12 17 06.3
comp=Z,2µm,20.0s
OPO Ambohidratompo 127.89 231 PKP PKiKP 11 26 10.1 +0.5
comp=Z,5.5nm,0.9s,baz=90,slow=8.2,SNR=4.4
MSEY Mahe Island 128.00 251 P PKiKP 11 26 11.1 +1.3
NBPS Pedro II - PI 128.05 109 eP PKPdf 11 26 09.1 -0.3
KLMR Klimovskoe 129.13 340 ePKiKP PKPdf 11 26 08.3 -1.6
KLMR pmax pmax
comp=Z,94nm,1.3s
KLMR Klimovskoe 129.13 340 ePKPdf PKPdf 11 26 08.3 -1.6
KLMR AMP 11 26 12.6
comp=Z,94nm,1.3s
KLMR ePP PP 11 28 13.8 -4.2
KLMR LR LR 12 06 56.4
KLMR AMP 12 16 01.5
comp=Z,727nm,17.5s
NBMA Muriti-CE 129.21 113 eP PKiKP 11 26 12.7 +0.5
NBPB Pedra_Branca-C 129.27 111 eP PKPdf 11 26 11.8 +0.2
NBMO Morrinhos-CE 129.77 108 eP PKPdf 11 26 12.8 +0.3
GEYT Alibeck 129.98 307 PKP PKPdf 11 26 13.1 +0.8
comp=Z,2.6nm,0.4s,baz=200,slow=3.0,SNR=9.9
NBAN Anadia - AL 130.28 118 eP PKPdf 11 26 13.4 -0.1
SUR Sutherland 130.50 195 PKP PKPdf 11 26 14.4 +0.6
comp=Z,9.6nm,1.1s,baz=250,slow=4.3,SNR=5.6
SUR Sutherland 130.50 195 PKPdf 11 26 14.4 +0.6
SUR Sutherland 130.50 195 IAMs_20 IAMs_20 12 11 22.1
comp=Z,2µm,21.0s
SUR Sutherland 130.50 195 P PKiKP 11 26 15.2 +0.6
NBCL Cascavel-CE 130.99 110 eP PKPdf 11 26 14.0 -0.9
NBRF Rio Formoso - 131.76 117 eP PKiKP 11 26 17.9 +0.6
HOQ Hoqain 132.18 288 P PKPdf 11 26 15.2 -1.6
FINES FINESS Array B 132.24 348 PKP PKPdf 11 26 15.6 -0.1
comp=Z,7.1nm,0.5s,baz=7,6,slow=5.8,SNR=5.1
FINES FINESS Array B 132.24 348 PKIKP PKPdf 11 26 15.6 -0.1
FINES FINESS Array B 132.24 348 PKPdf PKPdf 11 26 16.1 +0.4
BOSA Boshof 132.64 202 PKP PKiKP 11 26 18.9 0.0
comp=Z,3.8nm,0.8s,baz=162,slow=3.1,SNR=7.3
BOSA Boshof 132.64 202 PKIKP PKiKP 11 26 18.9 0.0
NBPV Pedro Velho 132.70 114 eP PKPdf 11 26 19.2 +1.1
PUL Pulkovo 132.73 344⇑ ePKiKP PKPdf 11 26 17.6 +0.9
PUL MLR MLR
comp=Z,956nm,21.0s
SOHO SOHO 132.89 289 P PKPdf 11 26 17.2 -1.0
ARQ Araqi 132.91 287 P PKPdf 11 26 18.1 -0.2
HATD Hatta, Dubai 133.24 290 P PKiKP 11 26 20.1 +0.1
ASHO Ashiyiah 133.31 289 P PKPdf 11 26 19.8 +0.8
MOS Moscow 133.61 337 ePKiKP PKiKP 11 26 20.6 +0.8
MOS e 11 26 35.5
MOS e 11 39 06.0
MOS pmax pmax
comp=Z,38nm,1.2s
ALNE Al Ain 133.61 288 P PKiKP 11 26 20.9 +0.2
OBN Obninsk 134.47 337⇓ iPKIKP PKPdf 11 26 19.5 -0.6
OBN e 11 28 53.6
OBN ePPP PPP 11 31 48.5
OBN eSS SS 11 46 41.2 +1.6
OBN pmax pmax
comp=Z,36nm,1.1s
OBN MLR MLR
comp=Z,677nm,22.0s
NB2 NORSAR Subarra 134.53 357 PKPdf PKPdf 11 26 09.9 -10
baz=23,slow=1.8
NOA NORSAR Array B 134.53 357 PKP PKPdf 11 26 19.9 -0.3
comp=Z,1.1nm,1.2s,baz=14,slow=4.1,SNR=7.3
NOA NORSAR Array B 134.53 357 PKIKP PKPdf 11 26 19.9 -0.3
VSU Vasula 134.78 346 eP PKPdf 11 26 21.5 +0.9
VSU Vasula 134.78 346⇑ ePKIKP PKPdf 11 26 21.0 +0.4
VRH Novokhopyorsk 134.94 330 ePKIKP PKPdf 11 26 20.2 -0.9
VRH pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 135.31 333 ePKIKP PKPdf 11 26 23.0 +1.2
LPSR pmax pmax
comp=Z,30nm,1.8s
KONO Kongsberg 135.99 358 PKIKP PKPdf 11 26 23.2 +0.4
KONO MLR MLR
comp=Z,1µm,21.0s
KONO Kongsberg 135.99 358 PKPdf PKPdf 11 26 23.2 +0.4
KONO Kongsberg 135.99 358 IAMs_20 IAMs_20 12 26 37.1
comp=Z,1µm,21.0s
MAK Makhachkala 136.04 317 eP Pdif 11 23 28.1 +0.3
MAK i 11 26 23.4
MAK e 11 29 01.6
MAK pmax pmax
comp=Z,85nm,1.1s
VSR Storozhevoye 136.15 331 ePKIKP PKPdf 11 26 23.3 -0.1
VSR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 136.26 331 ePKIKP PKPdf 11 26 22.2 -1.4
VORD pmax pmax
comp=Z,20nm,1.1s
GROC Groznyy 137.05 318 ePKIKP PKiKP 11 26 27.8 +0.6
GROC e 11 29 09.8
GROC pmax pmax
comp=Z,40nm,0.6s
GOF Gofitskoye 137.83 322⇑ ePKIKP PKiKP 11 26 28.9 +0.2
NACGM Naroch 137.91 343 i PKP PKPdf 11 26 27.3 +0.8
MNK Minsk 137.94 342 i PKIKP PKPdf 11 26 26.1 -0.5
MNK i 11 29 12.4
MNK i 11 33 37.5
MNK i PS PS 11 39 41.4 -1.8
MNK i SS SS 11 47 27.0 +6.2
MNK i SSS SSS 11 52 25.9
MNK Minsk 137.94 342 i PKP PKPdf 11 26 26.1 -0.5
MNK i PKP PKPdf 11 26 26.1 -0.5
MNK i PKP PKPdf 11 26 26.1 -0.5
MNK i PP PP 11 29 12.4 -1.6
MNK i SKP 11 29 55.9
MNK i PKS 11 30 00.7
MNK i SKS SKSdf 11 33 37.6 +3.8
MNK i PS PS 11 39 41.5 -1.8
MNK i SKKS SKKSdf 11 43 11.0 +0.7
MNK i SS SS 11 47 27.1 +6.3
MNK i SSS SSS 11 52 26.0
MNK i LQ LQ 12 19 54.8
MNK i LR LR 12 23 52.4
MNK i LRM MLR 12 29 42.5
comp=N,650nm,21.7s
MNK i LRM MLR 12 30 09.3
comp=E,74nm,24.3s
MNK i LRM MLR 12 30 41.3
comp=Z,826nm,21.1s
PABE Paberze 138.10 346 eP PKPdf 11 26 20.9 -5.9
PABE Paberze 138.10 346 IAMs_20 IAMs_20 12 30 30.1
comp=Z,1µm,20.0s
ZEI Tsey 138.47 318 i PKIKP PKPdf 11 26 28.2 -0.1
ZEI pmax pmax
comp=Z,8.0nm,1.2s
KBZ Khabaz 138.62 320 PKP PKPdf 11 26 26.7 -1.5
comp=Z,2.3nm,0.8s,baz=176,slow=1.4,SNR=4.3
KBZ Khabaz 138.62 320⇓ ePKIKP PKPdf 11 26 26.9 -1.3
KIV Kislovodsk 138.63 320 ePKIKP PKPdf 11 26 27.5 -0.9
KIV e 11 29 17.9
KIV eSS SS 11 47 30.6 +0.1
KIV eSSS SSS 11 52 40.2
KIV pmax pmax
comp=Z,46nm,1.1s
KIV MLR MLR
comp=Z,1µm,24.0s
NEY Neytrino 138.98 320⇑ iPKIKP PKiKP 11 26 35.1 +3.7
H07S1 FLORES T-PHASE 139.06 47 ePKP PKPdf 11 26 26.5 -2.7
GNI Garni 139.13 314⇑ iPKIKP PKiKP 11 26 31.6 -0.2
SUW Suwalki 139.66 345 eP PKPdf 11 26 23.7 -6.0
KLNR Kaliningrad 139.76 348⇓ ePKIKP PKPdf 11 26 30.6 +0.7
BSD Bornholm Skovb 140.11 353 eP PKPdf 11 26 18.8 -12
SOC Sochi 140.64 322 ePKIKP PKPdf 11 26 27.9 -4.0
SOC i 11 26 32.9
SOC ePPP PPP 11 32 37.9
SOC MLR MLR
comp=Z,622nm,18.0s
AKASG Malin Array Be 140.69 338 PKhKP PKPpre 11 26 25.4
comp=Z,2.8nm,0.6s,baz=40,slow=4.3,SNR=15
AKASG PP PP 11 29 29.4 -1.7
comp=Z,1.1nm,0.6s,baz=37,slow=6.0,SNR=4.7
CALA Caldeira 141.17 47 ePKP PKPdf 11 26 31.1 -2.0
ANN Anapa 141.22 325 i PKIKP PKPdf 11 26 32.1 -0.8
ANN e 11 33 42.7
ANN pmax pmax
comp=Z,31nm,0.8s
PICO Pico 141.40 47 ePKP PKPdf 11 26 30.3 -3.2
ROSA Rosais 141.43 46 ePKP PKPdf 11 26 30.1 -3.4
PGRA Graciosa 141.47 46 ePKP PKPdf 11 26 30.3 -3.3
GURO Guroymak-BITLI 141.72 313 PKPdf 11 26 30.0 -4.2
LSZ Lusaka 142.88 215 PKIKP PKPdf 11 26 34.0 -2.9
LSZ Lusaka 142.88 215 PKPdf 11 26 34.0 -2.9
LSZ Lusaka 142.88 215 IAMs_20 IAMs_20 12 24 10.7
comp=Z,2µm,21.0s
RAYN Ar Rayn 143.01 288 PKIKP PKPdf 11 26 34.5 -2.3
RAYN Ar Rayn 143.01 288 PKPdf 11 26 34.5 -2.3
NRDL Niedersach Rie 143.12 357 ePKPbc PKPab 11 26 32.6 +1.2
baz=6.3,slow=3.3
LVV L'vov 143.19 342 ePKIKP PKPab 11 26 33.3 +1.4
FLTG Flechtingen 143.21 356 ePKPbc PKPab 11 26 32.7 +0.8
baz=6.3,slow=3.3
IBBN Ibbenburen 143.38 359 ePKPbc PKPab 11 26 33.8 +1.2
baz=6.3,slow=3.3
ASSE Asse, Remlinge 143.45 356 ePKPbc PKPab 11 26 33.7 +0.9
baz=6.3,slow=3.3
PSET Sete Cidades 143.60 46 ePKP PKPab 11 26 35.1 +1.1
KWP Kalwaria Pacla 143.75 343 ePKP PKPab 11 26 34.8 +0.7
KWP Kalwaria Pacla 143.75 343 PKIKP PKPab 11 26 35.1 +1.0
KWP Kalwaria Pacla 143.75 343 PKPab 11 26 35.1 +1.0
CLZ Clausthal 143.76 357 ePKPbc PKPab 11 26 35.0 +0.8
baz=6.3,slow=3.3
CMLA Cha da Macela 143.77 46 ePKP PKPab 11 26 34.3 -0.3
CMLA Cha da Macela 143.77 46 IAMs_20 IAMs_20 12 25 31.9
comp=Z,2µm,19.0s
TSUM Tsumeb 143.89 197 PKPdf PKPbc 11 26 37.4 +1.1
TSUM Tsumeb 143.89 197 IAMs_20 IAMs_20 12 31 19.9
comp=Z,1µm,21.0s
OJC Ojcow 143.96 346 ePKP PKPbc 11 26 36.0 +0.5
OJC Ojcow 143.96 346 PKIKP PKPab 11 26 35.8 +0.9
OJC MLR MLR
comp=Z,1µm,20.0s
OJC Ojcow 143.96 346 PKPdf PKPab 11 26 35.8 +0.9
BART Pico Bartolome 144.01 46 ePKP PKPab 11 26 34.8 -0.8
CLL Collm 144.07 354 ePKPdf PKPab 11 26 36.0 +0.7
comp=Z,45nm,1.0s
CLL ePKPlp 11 26 43.0
comp=Z,800nm,17.8s
CLL eSKPdf SKPdf 11 30 06.0 -2.8
CLL eSKKSac SKKSac 11 36 36.0 -5.1
CLL ePSKS 11 40 16.0
CLL e 11 43 48.0
CLL eSS SS 11 48 33.0 +1.1
CLL eSSS SSS 11 54 04.0
CLL eSSSS 11 57 48.0
CLL LmV 12 35 00.0
comp=Z,2µm,20.6s
CLL Collm 144.07 354 ePKIKP PKPab 11 26 36.0 +0.7
CLL pmax pmax
comp=Z,45nm,1.0s
CLL MLR MLR
comp=Z,2µm,20.6s
CLL Collm 144.07 354 IAMs_20 IAMs_20 12 35 15.7
comp=Z,1µm,21.0s

CLL Collm 144.07 354 ePKPbc PKPab 11 26 36.2 +1.0
baz=6.3,slow=3.3
KSP Ksiaz 144.07 350 ePKP PKPab 11 26 36.3 +1.0
GTTG Gottingen 144.07 357 ePKPbc PKPab 11 26 35.9 +0.6
baz=6.3,slow=3.3
BUG Bochum--Univer 144.25 360 ePKPbc PKPab 11 26 36.4 +0.5
baz=6.3,slow=3.3
NEUB Neuenburg 144.29 355 ePKPbc PKPab 11 26 36.6 +0.5
baz=6.3,slow=3.3
STHS Stebnicka Huta 144.35 344 ePKIKP PKPab 11 26 37.2 +0.8
STHS Stebnicka Huta 144.35 344 ePKP PKPab 11 26 37.2 +0.8
CHVC Chvalec 144.36 350 ePKP PKPab 11 26 36.8 +0.4
CHVC AMS AMS 12 31 50.0
comp=Z,900nm,21.7s
OSTC Ostas 144.36 350 ePKP PKPab 11 26 37.0 +0.6
OSTC eSS SS 11 48 26.2 -9.2
OSTC AMS AMS 12 29 50.0
comp=Z,1μm,20.7s
BRG Berggiesshubel 144.39 352 ePKP PKPab 11 26 36.0 -0.5
BRG Amp 11 26 38.4
comp=Z,4.1nm,0.8s
BRG ex x 11 26 40.3
BRG Amp 11 26 42.0
comp=Z,42nm,1.3s
BRG ex x 11 26 50.2
BRG Amp 11 26 53.5
comp=Z,17nm,1.1s
BRG Berggiesshubel 144.39 352 ePKPbc PKPab 11 26 36.6 +0.1
baz=6.3,slow=3.3
PSMA Santa Maria 144.41 47 ePKP PKPab 11 26 35.3 -1.7
FBE Freiberg 144.41 353 ePKPbc PKPab 11 26 36.8 +0.3
baz=6.3,slow=3.3
DIKM Dikmen 144.43 322 ⇑P PKPdf 11 26 39.9 +1.2
UPC Upice 144.44 350 ePKIKP PKPab 11 26 36.8 +0.1
UPC MLR MLR
comp=Z,1μm,19.9s
UPC Upice 144.44 350 ePKP PKPab 11 26 36.8 +0.1
UPC AMS AMS 12 32 00.0
comp=Z,1μm,19.9s
PSMN Pico do Norte, 144.45 47 ePKP PKPab 11 26 35.8 -1.4
KASTN Kahler Asten 144.48 359 ePKPbc PKPab 11 26 37.1 +0.3
baz=6.3,slow=3.3
KOLS Kolonicke sedl 144.50 343 ePKIKP PKPab 11 26 37.8 +0.8
KOLS Kolonicke sedl 144.50 343 ePKP PKPab 11 26 37.8 +0.8
KIBK Kibwezi 144.53 242 IAMs_20 IAMs_20 12 22 30.8
comp=Z,2μm,22.0s
KIBK Kibwezi 144.53 242 P PKPdf 11 26 39.9 +0.1
SNR=32
DPC Dobruska-Polom 144.54 350 ePKIKP PKPab 11 26 38.0 +0.8
DPC e 11 26 45.4
DPC MLR MLR
comp=Z,1μm,19.8s
DPC Dobruska-Polom 144.54 350 ePKP PKPab 11 26 38.0 +0.8
DPC ex x 11 26 45.4
DPC eSS SS 11 48 31.3 -6.2
DPC AMS AMS 12 29 50.0
comp=Z,1μm,19.8s
VASR Vaslui 144.55 335 ⇓P PKPbc 11 26 38.2 +0.8
NIE Niedzica 144.59 345 ePKP PKPbc 11 26 38.8 +1.3
PVCC Panska Ves 144.64 352 ePKIKP PKPbc 11 26 38.7 +1.1
PVCC MLR MLR
comp=Z,900nm,23.3s
PVCC Panska Ves 144.64 352 ePKP PKPbc 11 26 38.7 +1.1
PVCC AMS AMS 12 29 40.0
comp=Z,900nm,23.3s
OKC Ostrava-Krasne 144.69 348 ePKIKP PKPab 11 26 38.3 +0.7
OKC e 11 26 45.0
OKC eSS SS 11 48 35.0 -4.1
OKC MLR MLR
comp=Z,800nm,17.4s
OKC Ostrava-Krasne 144.69 348 ePKP PKPab 11 26 38.3 +0.7
OKC ex x 11 26 45.0
OKC eSS SS 11 48 35.0 -4.1
OKC AMS AMS 12 28 20.0
comp=Z,800nm,17.4s
KRLC Kraliky 144.73 349 ePKIKP PKPab 11 26 38.5 +0.7
KRLC MLR MLR
comp=Z,900nm,20.9s
KRLC Kraliky 144.73 349 ePKP PKPab 11 26 38.5 +0.7
KRLC AMS AMS 12 28 00.0
comp=Z,900nm,20.9s
CRVS Cervenica-Dubn 144.76 343 ePKIKP PKPab 11 26 38.5 +0.6
CRVS Cervenica-Dubn 144.76 343 ePKP PKPab 11 26 38.5 +0.6
UZH Uzhgorod 144.77 342 ePKIKP PKPab 11 26 38.6 +0.7
UZH i 11 26 43.1
UBBA Unterbreizbach 144.80 357 ePKPbc PKPab 11 26 37.9 0.0
baz=6.3,slow=3.3
UCC Uccle 144.83 3 dPKPdf PKPab 11 26 38.0 -0.1
UCC dx x 11 26 48.3
UCC dx x 11 26 56.9
MOX Moxa 144.86 355 ePKPbc PKPab 11 26 38.5 +0.2
baz=6.3,slow=3.3
MORC Moravsky Berou 144.87 348 ⇓P PKPab 11 26 38.9 +0.5
MORC Moravsky Berou 144.87 348 i/PKP PKPab 11 26 38.7 +0.3
MORC Moravsky Berou 144.87 348 ⇓PKIKP PKPab 11 26 38.9 +0.5
BEBN Eben Emael 144.88 2 dPKPdf PKPab 11 26 38.0 -0.2
BEBN dx x 11 26 57.4
BIZ Bicaz 144.97 337 ⇓P PKPbc 11 26 39.4 +0.6
PLN Plauen 144.97 354 ePKPbc PKPbc 11 26 38.7 0.0
baz=6.3,slow=3.3
WERD Werda 144.99 354 ePKPbc PKPbc 11 26 38.8 +0.1
baz=6.3,slow=3.3
ATD Arta Tunnel 144.99 268 P PKPdf 11 26 41.2 +0.7
SNR=6.5
TANN Tannenbergstha 145.01 354 ePKPbc PKPbc 11 26 38.9 0.0
baz=6.3,slow=3.3
GUNZ Gunzen 145.07 354 ePKPbc PKPbc 11 26 39.4 +0.3
baz=6.3,slow=3.3
GUNZ epPKPbc pPKPab 11 26 51.0 -0.7
MEM Membach 145.08 1 dPKPdf PKPbc 11 26 38.9 -0.1
MEM dpPKPdf pPKPab 11 26 50.3 -1.4
MEM dx x 11 26 58.6
BSTI Sart Tilman 145.09 2 dPKP PKPbc 11 26 39.1 +0.1
BSTI dpPKPdf pPKPab 11 26 51.2 -0.5
BSTI dx x 11 26 58.3
BTNL Ternell 145.10 1 dPKP PKPbc 11 26 38.8 -0.3
BTNL dpPKPdf pPKPab 11 26 51.0 -0.8
BTNL dx x 11 26 57.5
PRA Prague 145.11 352 AMS AMS 12 32 20.0
comp=Z,2μm,25.5s
TESR Tescani 145.12 336 ⇓P PKPbc 11 26 39.5 +0.2
SNF Seneffe 145.12 3 dPKP PKPbc 11 26 38.8 -0.3
SNF dpPKPdf pPKPab 11 26 51.0 -0.8
SNF dx x 11 26 59.0
WERN Wernitzgruen 145.14 354 ePKPbc PKPbc 11 26 39.5 +0.2
baz=6.3,slow=3.3
WERN epPKPbc pPKPab 11 26 51.4 -0.6
AHRW Bad Neuenahr-A 145.16 360 ePKPbc PKPbc 11 26 39.5 +0.2
baz=6.3,slow=3.3
PRU Pruhonice 145.17 352 ePKIKP PKPbc 11 26 39.5 +0.2
PRU MLR MLR
comp=Z,1μm,18.7s
PRU Pruhonice 145.17 352 ePKP PKPbc 11 26 39.5 +0.2
PRU epPKP pPKPdf 11 26 55.9 +3.3
PRU eSS SS 11 48 35.4 -9.2
PRU AMS AMS 12 34 40.0
comp=Z,1μm,18.7s
GHRR 145.18 335 ⇓P PKPdf 11 26 40.5 +0.7
NKC Novy Kostel 145.19 354 ePKIKP PKPbc 11 26 39.4 0.0
NKC MLR MLR
comp=Z,1μm,22.1s
NKC Novy Kostel 145.19 354 ePKP PKPbc 11 26 39.4 0.0
NKC ex x 11 26 59.5
NKC AMS AMS 12 33 50.0
comp=Z,1μm,22.1s
BCLA Clavier 145.25 2 dPKP PKPbc 11 26 39.0 -0.5
BCLA dx x 11 26 58.9
BMR Baia Mare 145.25 340 ⇑P PKPdf 11 26 40.7 +0.8
BMR Baia Mare 145.25 340 ⇑PKIKP PKPdf 11 26 40.7 +0.8
TLCR 145.28 333 ⇑P PKPbc 11 26 40.4 +0.6
TLCR 145.28 333 ⇑PKIKP PKPbc 11 26 40.4 +0.6
BGES Gesves 145.28 2 dPKP PKPbc 11 26 39.2 -0.4
BGES dx x 11 26 59.5
BHOU Houvegnez 145.33 1 dPKP PKPbc 11 26 39.6 -0.2
BHOU dpPKP pPKPab 11 26 50.5 -2.1
BHOU dx x 11 26 58.4
BMRD Maredsous 145.35 3 dPKP PKPbc 11 26 39.8 0.0
BMRD dx x 11 26 48.1
BMRD dx x 11 26 59.6
KECS Kecovo 145.40 344 ePKIKP PKPab 11 26 41.0 +0.7
KECS Kecovo 145.40 344 ePKP PKPab 11 26 41.0 +0.7
SCHL Schela 145.46 334 ⇑P PKPab 11 26 41.7 +1.1
TNS Taunus Mts 145.46 358 ePKPbc PKPdf 11 26 40.7 +0.4
baz=6.3,slow=3.3
MANZ Manzenberg 145.47 354 ePKPbc PKPdf 11 26 40.6 +0.3
baz=6.3,slow=3.3
ARCR ARCALIA 145.47 339 ⇓P PKPab 11 26 41.9 +1.3
VRAC Vranov 145.50 349 ⇑P PKPab 11 26 41.3 +0.7
VRAC Vranov 145.50 349 i/PKP PKPdf 11 26 40.9 +0.6
VRAC Vranov 145.50 349 ⇑PKIKP PKPab 11 26 41.3 +0.7
DOU Dourbes 145.54 3 dPKP PKPdf 11 26 40.4 0.0
DOU dx x 11 26 59.6
PBCC Pribram 145.54 352 ePKP PKPdf 11 26 40.9 +0.5
PBCC ex x 11 26 46.7
ODBI Odobesti 145.56 335 ⇓P PKPab 11 26 42.4 +1.4
JURR Jurilovca 145.57 332 ⇑P PKPbc 11 26 41.5 +0.7
CFR Carcaliu 145.58 333 ⇓P PKPbc 11 26 41.3 +0.6
CFR Carcaliu 145.58 333 ⇓PKIKP PKPbc 11 26 41.3 +0.6
VRI Vrincioaia 145.61 335 ⇓P PKPdf 11 26 41.2 +0.6
VRI Vrincioaia 145.61 335 ⇓PKIKP PKPdf 11 26 41.2 +0.6
PLOR Plostina 145.66 335 ⇓P PKPdf 11 26 41.1 +0.4
PLOR Plostina 145.66 335 ⇓PKP2 PKPdf 11 26 41.1 +0.4
ROTZ Rotzenmuhle 145.67 354 ePKPbc PKPbc 11 26 41.5 +0.6
baz=6.3,slow=3.3
TREC Trest 145.70 350 ePKP2 PKPdf 11 26 41.5 +0.8
TREC MLR MLR
comp=Z,2μm,21.6s
TREC Trest 145.70 350 ePKP PKPdf 11 26 41.5 +0.8
TREC ex x 11 26 48.2
TREC AMS AMS 12 35 10.0
comp=Z,2μm,21.6s
TPGR Topolog 145.71 333 ⇑P PKPdf 11 26 41.4 +0.6
JAVC Velka Javorina 145.72 348 i/PKP PKPab 11 26 42.6 +1.1
BNN Bunyan 145.73 318 PKPdf 11 26 40.5 -0.7
KRUC Moravsky 145.77 349 i/PKP PKPdf 11 26 41.5 +0.7
OZUR 145.79 337 ⇑P PKPab 11 26 42.5 +0.6
VYHS Vyhne 145.80 346 ePKP2 PKPbc 11 26 42.0 +0.6
VYHS Vyhne 145.80 346 ePKP PKPbc 11 26 42.0 +0.6
MILB Miltenberg 145.82 357 ePKPbc PKPdf 11 26 41.8 +0.9
baz=6.3,slow=3.3
KMBO Kilima Mbogo 145.83 244 PKPbc PKPab 11 26 44.0 +0.7
comp=Z,108nm,1.2s,baz=93,slow=2.5,SNR=45
KMBO Kilima Mbogo 145.83 244 PKP2 PKPab 11 26 44.0 +0.7
GRA1 Grafenberg Arr 145.84 355 IAMs_20 IAMs_20 12 32 41.5
comp=Z,1μm,21.0s
GRF Grafenberg Arr 145.84 355 ePKPbc PKPbc 11 26 42.2 +0.7
baz=6.3,slow=3.3
GRF epPKPbc pPKPdf 11 26 53.5 -0.3
GRFO Grafenberg 145.84 355 PKP2 PKPbc 11 26 42.2 +0.8
GRFO MLR MLR
comp=Z,1μm,21.0s
GRFO Grafenberg 145.84 355 PKPbc PKPbc 11 26 42.2 +0.8
GRFO IAMs_20 IAMs_20 12 32 41.5
comp=Z,1μm,21.0s
BISRR Bisoca 145.88 335 ⇑P PKPdf 11 26 42.0 +0.8
GRER 145.91 335 ⇑P PKPab 11 26 43.6 +1.3
TIRR Tirgusor 146.02 332 ⇑P PKPbc 11 26 43.0 +0.9
TIRR Tirgusor 146.02 332 ⇑PKP2 PKPbc 11 26 43.0 +0.9
TIRR Tirgusor 146.02 332 PKPbc PKPdf 11 26 42.3 +1.0
TIRR IAMs_20 IAMs_20 12 45 26.2
comp=Z,2μm,20.0s
WLF Walferdange 146.03 1 dPKP PKPbc 11 26 42.6 +0.6
WLF dpP pPKPdf 11 26 54.2 +0.1
WLF dx x 11 27 02.0
WLF Walferdange 146.03 1 PKP2 PKPbc 11 26 42.7 +0.6
WLF MLR MLR
comp=Z,2μm,21.0s
WLF Walferdange 146.03 1 PKPbc PKPbc 11 26 42.7 +0.6
WLF IAMs_20 IAMs_20 12 30 15.6
comp=Z,2μm,21.0s
WLF Walferdange 146.03 1 ePKPbc PKPbc 11 26 42.9 +0.9
baz=6.3,slow=3.3
DOPR Dopca 146.05 337 ⇓P PKPbc 11 26 43.1 +0.9
HARR Harsova 146.05 333 ⇑P PKPbc 11 26 43.2 +1.0
HARR Harsova 146.05 333 ⇑PKP2 PKPbc 11 26 43.2 +1.0
CJR Cluj-Napoca 146.06 339 ⇑P PKPbc 11 26 43.0 +0.7
CJR Cluj-Napoca 146.06 339 ⇑PKP2 PKPbc 11 26 43.0 +0.7
PSZ Piszkesteto 146.08 344 ⇓P PKPdf 11 26 42.4 +0.9
PSZ Piszkesteto 146.08 344 ⇓PKP2 PKPdf 11 26 42.4 +0.9
PSZ Piszkesteto 146.08 344 IAMs_20 IAMs_20 12 39 58.1
comp=Z,1μm,20.0s
SMOL Smolenice 146.09 348 ePKP2 PKPab 11 26 43.5 +0.6
SMOL Smolenice 146.09 348 ePKP PKPab 11 26 43.5 +0.6
TLBR Topalu 146.12 333 ⇑P PKPbc 11 26 43.4 +1.0
KHC Kasperske Hory 146.14 352 ePKP2 PKPdf 11 26 41.6 +0.1
KHC eSS SS 11 48 58.9 +3.2
KHC MLR MLR
comp=Z,2μm,20.3s
KHC Kasperske Hory 146.14 352 ePKP PKPdf 11 26 41.6 +0.1
KHC ex x 11 26 50.0
KHC epPKP pPKPab 11 26 59.3 +3.5
KHC ex x 11 27 14.5
KHC eSS SS 11 48 58.9 +3.2
KHC AMS AMS 12 35 40.0
comp=Z,2μm,20.3s
NEHR Nehoiu 146.15 335 ⇓P PKPbc 11 26 43.0 +0.4
WET Wettzell 146.22 353 ePKPbc PKPbc 11 26 43.0 +0.3
baz=6.3,slow=3.3
MFTR Murfatlar 146.24 332 ⇑P PKPab 11 26 44.2 +0.6
MLR Muntele Rosu 146.24 336 IAMs_20 IAMs_20 12 36 18.6
comp=Z,1μm,20.0s
MODS Modra-Piesok 146.26 348 ePKP2 PKPdf 11 26 42.8 +1.1
MODS Modra-Piesok 146.26 348 ePKP PKPdf 11 26 42.8 +1.1
DRGR 146.28 340 ⇓P PKPdf 11 26 42.8 +1.0
DRGR 146.28 340 ⇓PKP2 PKPdf 11 26 42.8 +1.0
CVD1 Cernavoda-Powe 146.29 332 ⇓P PKPab 11 26 44.1 +0.4
ISR Istrita 146.30 335 ⇓P PKPbc 11 26 43.5 +0.4
ISR Istrita 146.30 335 ⇓PKP2 PKPbc 11 26 43.5 +0.4
CKRC Cesky Krumlov 146.35 351 ePKP PKPdf 11 26 42.0 +0.2
CKRC ex x 11 26 59.6
CKRC eSS SS 11 48 51.8 -6.2
AMRR Amara 146.38 333 ⇓P PKPbc 11 26 44.3 +1.1
AMRR Amara 146.38 333 ⇓PKP2 PKPbc 11 26 44.3 +1.1
GEC2 GERESS Array S 146.41 352 ePKPbc PKPbc 11 26 44.1 +0.8
baz=6.3,slow=3.3
GERES GERESS Array B 146.41 352 PKPbc PKPdf 11 26 43.2 +1.2
comp=Z,65nm,1.2s,baz=37,slow=2.5,SNR=72
GERES GERESS Array B 146.41 352 PKIKP PKPdf 11 26 42.2 +0.2
GERES GERESS Array B 146.41 352 PKPdf PKPdf 11 26 42.1 +0.2
ZST Bratislava 146.46 348 ePKP2 PKPab 11 26 44.9 +0.6
ZST Bratislava 146.46 348 ePKP PKPab 11 26 44.9 +0.6
ICOR Ion Corvin 146.56 332 ⇓P PKPab 11 26 45.2 +0.4
SRO Srobarova 146.56 346 ePKP2 PKPbc 11 26 44.6 +1.0
SRO Srobarova 146.56 346 ePKP PKPbc 11 26 44.6 +1.0
BRTR Keskin Array B 146.59 321 PKPbc PKPbc 11 26 44.1 -0.1
comp=Z,47nm,0.8s,baz=171,slow=3.1,SNR=76
BRTR Keskin Array B 146.59 321 PKIKP PKPdf 11 26 42.7 +0.1
BRTR Keskin Array B 146.59 321 PKPdf PKPdf 11 26 42.7 +0.1
VOIR 146.63 337 ⇓P PKPdf 11 26 43.5 +1.1
VOIR 146.63 337 ⇓PKP2 PKPdf 11 26 43.5 +1.1
LEHL Lehliu 146.71 334 ⇓P PKPbc 11 26 45.1 +1.0
SULR 146.78 335 ⇑P PKPab 11 26 46.2 +0.6
ARR Arges 146.84 337 ⇓P PKPdf 11 26 44.1 +1.3
STU Stuttgart 146.88 357 IAMs_20 IAMs_20 12 30 10.1
comp=Z,1μm,21.0s
STU Stuttgart 146.88 357 ePKPbc PKPbc 11 26 45.2 +0.6
baz=6.3,slow=3.3
CONA Conrad Observa 146.96 349 i P PKPdf 11 26 43.3 +0.3
comp=Z,126nm,0.9s,SNR=96
ANTO Ankara 147.00 322 PKP2 PKPdf 11 26 44.6 +1.3
ANTO Ankara 147.00 322 PKPdf 11 26 44.6 +1.3
ANTO Ankara 147.00 322 P PKPdf 11 26 42.5 -0.8
DEV Deva 147.02 339 ⇓P PKPbc 11 26 44.9 -0.1
DEV Deva 147.02 339 ⇓PKP2 PKPbc 11 26 44.9 -0.1
SIRR Siria 147.08 341 ⇓P PKPdf 11 26 43.9 +0.8
LOT Lotru 147.09 338 ⇓P PKPbc 11 26 45.2 -0.2
AMBH Ambrzalva 147.29 342 ⇓P PKPbc 11 26 46.9 +1.2
MOA Molln 147.30 351 i P PKPdf 11 26 43.6 +0.2
comp=Z,14nm,0.8s,SNR=63
FUR Furstenfeldbru 147.35 355 ePKPbc PKPbc 11 26 46.7 +0.8
baz=6.3,slow=3.3
BFO Black Forest 147.35 358 PKP2 PKPbc 11 26 46.4 +0.4
BFO MLR MLR
comp=Z,1μm,21.0s
BFO Black Forest 147.35 358 PKPbc PKPbc 11 26 46.4 +0.4
BFO IAMs_20 IAMs_20 12 30 01.6
comp=Z,1μm,21.0s
BFO Black Forest 147.35 358 ePKPdf PKPdf 11 26 42.9 -0.6
baz=357,slow=1.3
BFO ePKPbc PKPbc 11 26 46.4 +0.4
baz=6.3,slow=3.3
HUMR Humele 147.42 336 ⇑P PKPdf 11 26 45.1 +1.4
ECH Echery 147.48 360 PKP2 PKPbc 11 26 46.8 +0.5
ECH MLR MLR
comp=Z,1μm,21.0s
ECH Echery 147.48 360 PKPbc 11 26 46.8 +0.5
ECH IAMs_20 IAMs_20 12 31 33.1
comp=Z,1μm,21.0s
GZR Gura Zlata 147.49 339 ⇓P PKPdf 11 26 45.7 +1.8
GZR Gura Zlata 147.49 339 ⇓PKIKP PKPdf 11 26 45.7 +1.8
RJOB Jochberg 147.61 353 ePKPdf PKPdf 11 26 44.0 -0.1
baz=357,slow=1.3
RJOB ePKPbc PKPbc 11 26 47.4 +0.7
baz=6.3,slow=3.3
COPA Copaceanca 147.65 335 ⇑P PKPdf 11 26 45.3 +1.2
ARSA Arzberg 147.67 349 i P PKPdf 11 26 44.2 +0.1
comp=Z,76nm,1.3s,SNR=18
BZS Buzias 147.67 341 ⇓P PKPdf 11 26 45.0 +0.9
BZS Buzias 147.67 341 ⇓PKIKP PKPdf 11 26 45.0 +0.9
UBR Ueberruh 147.92 356 ePKPdf PKPdf 11 26 43.9 -0.6
baz=357,slow=1.3
UBR ePKPbc PKPbc 11 26 48.2 +0.6
baz=6.3,slow=3.3
SRE Strehaia 147.97 338 ⇓P PKPbc 11 26 48.6 +0.9
SRE Strehaia 147.97 338 ⇓PKP2 PKPbc 11 26 48.6 +0.9
MORH Mrgy, Hungar 147.98 345 ⇑P PKPdf 11 26 44.6 0.0
MORH Mrgy, Hungar 147.98 345 ⇓P PKPdf 11 26 44.2 -0.3
HERR Herculane 148.06 339 ⇓P PKPdf 11 26 46.6 +1.9
RETA Reutte 148.06 355 i P PKPbc 11 26 47.9 0.0
comp=Z,111nm,1.2s,SNR=30
VLAD Vladila 148.09 336 ⇓P PKPbc 11 26 49.0 +1.0
WATA Walderalm 148.14 354 i P PKPdf 11 26 45.1 +0.1
comp=Z,71nm,1.0s,SNR=15
BEHE Becsehely 148.18 347 ⇓P PKPdf 11 26 44.9 0.0
MOTA Moosalm 148.18 355 i P PKPdf 11 26 45.2 +0.1
comp=Z,100nm,1.1s,SNR=35
KBA Koelnbreinsper 148.19 352 i P PKPdf 11 26 44.8 -0.3
comp=Z,61nm,0.9s,SNR=18
WTTA Wattenberg 148.21 354 i P PKPdf 11 26 45.1 -0.1
comp=Z,96nm,0.8s,SNR=36
SOKA Soboth 148.31 350 i P PKPdf 11 26 45.2 0.0
comp=Z,42nm,1.0s,SNR=70
DAVA Damuels 148.33 356 i P PKPdf 11 26 46.7 +1.3
comp=Z,121nm,1.1s,SNR=29
MDVR Moldovita 148.38 340 ⇑P PKPdf 11 26 47.2 +1.9
FURI Furi 148.41 262 IAMs_20 IAMs_20 12 26 47.4
comp=Z,2μm,22.0s
FETA Feichten 148.53 355 i P PKPdf 11 26 46.2 +0.5
comp=Z,91nm,1.2s,SNR=39
OBKA Obir 148.56 350 i P PKPdf 11 26 46.6 +0.9
comp=Z,38nm,0.9s,SNR=19
MYKA Terra Mystica 148.59 351 eP PKPdf 11 26 45.6 -0.1
comp=Z,56nm,0.8s,SNR=19
ABTA Abfaltersbach 148.62 353 i P PKPdf 11 26 45.5 -0.3
comp=Z,106nm,1.2s,SNR=48
FRGS Fruska Gora 148.64 343 ⇑P PKPdf 11 26 47.0 +1.3
FRGS Fruska Gora 148.64 343 eP PKPdf 11 26 45.5 -0.2
ZOU Zoufplan 148.75 352 PKPbc PKPbc 11 26 49.4 -0.6
LJU Ljubljana 149.02 350 ePKPdf PKPdf 11 26 46.0 -0.3
LJU i PKPbc PKPbc 11 26 50.4 0.0
LJU i PKPab PKiKP 11 26 53.4 +1.7
LJU e 11 27 08.3
LJU i 11 27 17.4
CRES Cresnjev 149.06 349 ePKPdf PKPdf 11 26 46.2 -0.1
CRES ePKPbc PKPbc 11 26 50.4 -0.1
CRES Cresnjev 149.06 349 ⇓P PKPdf 11 26 45.9 -0.5
STAL STALIGIAL 149.07 352 PKPbc PKPbc 11 26 49.6 -0.9
TUE Stuetta 149.17 357 IAMs_20 IAMs_20 12 28 28.7
comp=Z,2μm,22.0s
CEY Cerknica 149.33 350 ⇓P PKPdf 11 26 46.4 -0.4
SENIN Lac Senin/Sane 149.34 360 IAMs_20 IAMs_20 12 32 57.2
comp=Z,2μm,20.0s
BOJS Bojanci 149.41 349 i PKPdf PKPdf 11 26 47.0 0.0
MRAK Mrakovica 149.53 346 ⇓P PKPdf 11 26 47.7 +0.5
DIVS Divibare 149.54 341 ⇓P PKPdf 11 26 46.8 -0.5
DIVS Divibare 149.54 341 IAMs_20 IAMs_20 12 40 18.9
comp=Z,1μm,20.0s
CSS Mathiatis 149.56 314 PKPbc 11 26 52.3 +0.2
LODK Lodwar 149.62 249 PKPbc PKPbc 11 26 53.7 +0.8
LODK IAMs_20 IAMs_20 12 31 47.5
comp=Z,1μm,20.0s
ISP Isparta 149.68 321 IAMs_20 IAMs_20 12 48 19.7
comp=Z,1μm,21.0s
VTS Vitosha 149.71 336 ⇓P PKPdf 11 26 48.7 +1.0
VTS Vitosha 149.71 336 ⇓PKHKP PKPpre 11 26 48.7
BLY Banja Luka 149.71 346 ⇓P PKPbc 11 26 52.3 +0.2
LEF Lefka 149.78 315 ⇓P PKPbc 11 26 53.2 +0.7
HAPS Han Pijesak,Bl 149.87 343 eP PKPbc 11 26 52.7 0.0
ALN Alexandroupoli 149.89 331 P PKPdf 11 26 45.8 -2.0
RDO Rodhopi 149.93 331 P PKPdf 11 26 46.7 -1.2
BBLS Lazići 149.93 342 ⇓P PKPdf 11 26 47.9 0.0
ENEZ Enez 149.96 330 P PKPdf 11 26 48.8 +0.9
MGRS Mrkonjic Grad 150.05 346 eP PKPbc 11 26 52.4 -0.6
RUDO Rudo 150.17 342 eP PKPbc 11 26 53.2 -0.1
PLE Pljevlja 150.43 342 ⇓i/PKP PKPbc 11 26 54.3 +0.2
SACV Santiago Islan 150.43 87 PKPbc 11 26 54.7 0.0
GADA Gvkgeada 150.51 330 P PKPdf 11 26 46.9 -1.9
NVR Nevrokopi 150.51 334 P PKPdf 11 26 48.6 -0.2
KAVA Kavala 150.51 333 P PKPdf 11 26 48.4 -0.4
EZN Ezine 150.58 329 P PKPdf 11 26 49.2 +0.3
PGAV Gavieira, Arco 150.60 24 ePKPdf PKPdf 11 26 50.2 +1.1
PGAV Gavieira, Arco 150.60 24 ePKPbc PKPbc 11 26 54.9 +0.4
PGAV Gavieira, Arco 150.60 24 i PKPab PKPab 11 27 15.4 +14
PGAV Gavieira, Arco 150.60 24 eLR LR 12 17 25.8
comp=Z,3μm,20.0s
BNI Bardonecchia 150.65 1 IAMs_20 IAMs_20 12 34 11.9
comp=Z,2μm,20.0s
IVA Berane 150.68 341 ePKP PKPbc 11 26 54.5 -0.1
UPM Unac-Piva 150.69 342 eP PKPbc 11 26 53.0 -1.8
KOME Kolasin 150.82 341 ⇓i/PKP PKPbc 11 26 55.1 +0.1
STIP Stip 150.90 336 i P PKPbc 11 26 54.5 -0.6
PVY Plav 150.91 340 ⇓i/PKP PKPbc 11 26 54.9 -0.3
PCAB Cabril 150.91 24 ePKPbc PKPbc 11 26 55.7 +0.5
SKO Skopje 150.94 338 i P PKPbc 11 26 56.0 +0.8
NKV Niksic 151.02 342 ePKP PKPbc 11 26 55.2 -0.2
VAY Valandovo 151.07 335 i P PKPbc 11 26 55.5 +0.1
KNT Kendrikon 151.07 335 P PKPdf 11 26 49.1 -0.6
BRY Bratogost 151.07 342 ⇓i/PKP PKPbc 11 26 55.1 -0.5
NKME Niksic 151.07 342 ePKP PKPbc 11 26 55.2 -0.3
LIA Limnos Island 151.08 330 P PKPdf 11 26 51.6 +1.9
CEME Cevo 151.28 342 ⇓i/PKP PKPbc 11 26 55.6 -0.4
SIGR SIGRI 151.28 329 P PKPdf 11 26 51.9 +1.9
PDG Podgorica 151.28 341 ⇓P PKPdf 11 26 50.2 +0.3
PDG Podgorica 151.28 341 ⇓i/P PKPbc 11 26 55.4 -0.5
TTG Podgorica 151.28 341 ⇓i/PKP PKPbc 11 26 55.7 -0.2
OUR Ouranopolis 151.29 332 P PKPbc 11 26 54.6 -1.4
POLO Lamas de Olo 151.29 24 ePKPbc PKPbc 11 26 56.5 +0.4
POLO Lamas de Olo 151.29 24 i PKPab PKPab 11 27 23.0 +19
TREB Trebinje 151.29 342 eP PKPdf 11 26 50.1 +0.1
PBRG Braganca 151.31 22 ePKPbc PKPbc 11 26 56.2 +0.1
STON Ston 151.34 344 ⇓i/P PKPbc 11 26 54.2 -1.8
PVRL Vila Real 151.41 24 ePKPbc PKPbc 11 26 56.9 +0.6
PVRL Vila Real 151.41 24 i PKPab PKPab 11 27 16.7 +12
GRG Griva 151.44 335 P PKPdf 11 26 49.7 -0.6
HCY Herceg Novi 151.50 342 eP PKPbc 11 26 54.7 -1.7
BUM Brajici-Budva 151.51 341 ⇓i/PKP PKPbc 11 26 56.0 -0.6
DRME Dracevica, Mon 151.53 341 eP PKPdf 11 26 50.3 0.0
DRME Dracevica, Mon 151.53 341 ⇓i/PKP PKPbc 11 26 56.5 0.0
PHP Peshkopia 151.56 339 P PKPdf 11 26 49.7 -0.8
MBAR Mbarara 151.59 238 PKP PKPdf 11 26 52.9 +1.4
comp=Z,1.2nm,0.3s,baz=204,slow=0.4,SNR=4.8
MBAR PKPbc PKiKP 11 26 58.6 +0.5
comp=Z,30nm,1.1s,baz=85,slow=3.8,SNR=23
MBAR Mbarara 151.59 238 PKIKP PKPdf 11 26 52.9 +1.4
MBAR 11 26 58.6
MBAR Mbarara 151.59 238 PKPbc PKPbc 11 26 58.2 +0.5
ULC Ulcinj 151.71 341 ⇓i/PKP PKPbc 11 26 56.1 -0.9
PAIG Paliouri 151.75 332 P PKPbc 11 26 50.9 -0.2
MVO Moncorvo 151.76 23 ePKPdf PKPdf 11 26 52.1 +1.3
MVO Moncorvo 151.76 23 ePKPbc PKPbc 11 26 57.8 +0.6
MVO Moncorvo 151.76 23 eSS SS 11 50 10.0 +11
MVO Moncorvo 151.76 23 eLR LR 12 18 10.5
comp=Z,2μm,22.0s
CHOS Chios island 151.80 327 P PKPbc 11 26 57.4 0.0
PVIS Viseu 151.81 25 ePKPdf PKPdf 11 26 51.7 +0.8
PVIS Viseu 151.81 25 ePKPbc PKPbc 11 26 57.4 +0.1
PVIS Viseu 151.81 25 i PKPab PKPab 11 27 17.1 +11
SMG Samos 151.88 325 P PKPdf 11 26 54.4 +3.4
OHR Ohrid 151.93 338 i P PKPbc 11 26 57.3 -0.2
OSSC Osservatorio P 151.95 353 PKPbc 11 26 56.5 -0.9
FNA Florina 152.00 336 P PKPdf 11 26 51.0 -0.2
COI Coimbra 152.03 26 ePKPbc PKPbc 11 26 57.9 +0.2
COI Coimbra 152.03 26 IAMs_20 IAMs_20 12 30 14.9
comp=Z,1μm,20.0s
TIR Tirane 152.05 339 IAMs_20 IAMs_20 12 41 27.5
comp=Z,2μm,21.0s
PCAS Casmilo, Conde 152.12 26 ePKPbc PKPbc 11 26 58.2 +0.2
LIT Litokhoron 152.13 334 P PKPdf 11 26 51.0 -0.3

PMOZ	**Porto Moniz, M**	**152.13**	**48**	*e*LR	LR	12 17 45.1		
	comp=Z,2µm,22.0s							
PMOZ	**Porto Moniz, M**	**152.13**	**48**		**PKPab**	**11 27 07.8**	**-0.1**	
MTE	**Manteigas**	**152.22**	**24**	*e*PKPdf	**PKPdf**	**11 26 52.6**	**+1.1**	
MTE	**Manteigas**	**152.22**	**24**	*e*PKPbc	**PKPbc**	**11 26 58.4**	**+0.1**	
MTE	**Manteigas**	**152.22**	**24**	*e*LR	LR	12 17 43.6		
	comp=Z,1µm,22.0s							
MTE	**Manteigas**	**152.22**	**24**	PKPdf	**PKPdf**	**11 26 51.8**	**+0.3**	
MTE				PKPbc	**PKPbc**	**11 26 58.4**	**+0.1**	
MTE				PKPab	**sPKPdf**	**11 27 10.2**	**+1.2**	
MTE				IAMs_20	IAMs_20	12 29 09.9		
	comp=Z,2µm,21.0s							
NRCA	**Norcia**	**152.37**	**350**		**PKPdf**	**11 26 51.4**	**-0.3**	
NRCA				PKPbc	**PKPbc**	**11 26 58.8**	**+0.3**	
NRCA				PKPab	**sPKPdf**	**11 27 10.6**	**+1.5**	
PMAR	**Madeira**	**152.39**	**48**	*e*PKPbc	**PKiKP**	**11 26 59.9**	**+0.6**	
XOR	**Xorichti**	**152.43**	**332**	P	**PKPdf**	**11 26 50.6**	**-1.2**	
PSBE	**So Bento**	**152.44**	**27**	*e*PKPbc	**PKPbc**	**11 26 59.4**	**+0.7**	
PSBE	**So Bento**	**152.44**	**27**	*i* PKPab	**PKPab**	**11 27 10.1**	**+1.2**	
NEST	**Nestorio**	**152.44**	**336**	P	**PKPdf**	**11 26 52.0**	**+0.1**	
PMPST	**Porto Santo, M**	**152.60**	**46**	*e*PKPbc	**PKiKP**	**11 27 00.5**	**+1.0**	
PMAFR	**Mafra**	**152.68**	**29**	*e*PKPbc	**PKiKP**	**11 27 00.1**	**+0.7**	
PMAFR	**Mafra**	**152.68**	**29**	*i* PKPab	**PKPab**	**11 27 11.8**	**+1.9**	
CASP	**Castiglione de**	**152.71**	**354**		**PKPbc**	**11 26 58.6**	**-0.6**	
KPRO	**Kipourio**	**152.71**	**336**	P	**PKPdf**	**11 26 52.4**	**+0.1**	
PCBR	**Castelo Branco**	**152.72**	**25**	*e*PKPdf	**PKPdf**	**11 26 52.3**	**+0.1**	
PCBR	**Castelo Branco**	**152.72**	**25**	*e*PKPbc	**PKPbc**	**11 26 59.4**	**+0.1**	
THL	**Klokotos Trika**	**152.78**	**334**	P	**PKPdf**	**11 26 51.2**	**-1.0**	
AQU	**L'Aquila**	**152.79**	**350**	IAMs_20	IAMs_20	12 37 55.5		
	comp=Z,1µm,21.0s							
LIS	**Lisbon**	**152.93**	**29**	*e*PKPdf	**PKPdf**	**11 26 51.5**	**-1.0**	
LIS				*e*PP	**PP**	**11 30 44.4**	**+1.0**	
LIS				IAMs_20	IAMs_20	12 26 03.8		
	comp=Z,5µm,28.7s							
LIS	**Lisbon**	**152.93**	**29**	*e*PKIKP	**PKPdf**	**11 26 51.5**	**-1.0**	
LIS				*e*		11 30 44.4		
ATAL	**Atalanti**	**153.05**	**332**	P	**PKPdf**	**11 26 52.6**	**-0.1**	
PMTG	**Montargil**	**153.06**	**27**	*e*PKPbc	**PKPbc**	**11 26 59.7**	**-0.3**	
PMTG	**Montargil**	**153.06**	**27**	*i* PKPab	PKPab	11 27 24.4	+13	
AGG	**Agios Georgios**	**153.09**	**333**	P	**PKPdf**	**11 26 51.8**	**-1.0**	
AGG	**Agios Georgios**	**153.09**	**333**	PKIKP	**PKPdf**	**11 26 51.6**	**-1.2**	
AGG	**Agios Georgios**	**153.09**	**333**	PKPdf	**PKPdf**	**11 26 51.6**	**-1.2**	
AGG					**PKPbc**	**11 26 59.6**	**-0.5**	
AGG				PKPab	**pPKPbc**	**11 27 14.4**	**+1.5**	
LKR	**Lokris**	**153.10**	**332**	P	**PKPdf**	**11 26 52.5**	**-0.3**	
PMRV	**Marv??o**	**153.11**	**25**	*e*PKPdf	**PKPdf**	**11 26 53.4**	**+0.6**	
PMRV	**Marv??o**	**153.11**	**25**	*e*PKPbc	**PKPbc**	**11 27 00.6**	**+0.4**	
PMRV	**Marv??o**	**153.11**	**25**	*i* PKPab	**PKPab**	**11 27 13.8**	**+2.1**	
PMRV	**Marv??o**	**153.11**	**25**	*e*LR	LR	12 18 35.3		
	comp=Z,2µm,20.0s							
VILL	**Villia**	**153.34**	**331**	P	**PKPdf**	**11 26 52.4**	**-0.8**	
EVR	**Evrytania**	**153.41**	**334**	P	**PKPdf**	**11 26 53.3**	**0.0**	
IGT	**Igoumenitsa**	**153.48**	**337**	P	**PKPdf**	**11 26 53.4**	**+0.1**	
PESTR	**Estremoz**	**153.50**	**26**	*e*PKPbc	**PKPbc**	**11 27 00.5**	**-0.6**	
PESTR	**Estremoz**	**153.50**	**26**	*i* PKPab	**PKPab**	**11 27 14.9**	**+1.5**	
PESTR	**Estremoz**	**153.50**	**26**		**PKPbc**	**11 27 01.9**	**-0.1**	
PESTR				PKPab	**sPKPdf**	**11 27 13.1**	**+2.3**	
PESTR				IAMs_20	IAMs_20	12 27 26.9		
	comp=Z,1µm,22.0s							
KEK	**Kerkira**	**153.52**	**338**	P	**PKPdf**	**11 26 53.7**	**+0.3**	
EVO	**Evora**	**153.59**	**27**	*e*PKPdf	**PKPbc**	**11 27 00.3**	**-0.9**	
EVO	**Evora**	**153.59**	**27**	*e*PKPab	**PKPab**	**11 27 15.2**	**+1.4**	
SANT	**Santorini**	**153.61**	**325**		**PKPbc**	**11 27 01.5**	**+0.1**	
ANX	**Ano Chora**	**153.62**	**333**	P	**PKPdf**	**11 26 54.6**	**+0.9**	
LOUT	**Loutraki**	**153.64**	**331**	P	**PKPdf**	**11 26 53.5**	**-0.1**	
SCTE	**Santa Cesarea**	**153.67**	**340**		**PKPbc**	**11 27 01.6**	**+0.3**	
MATE	**Matera**	**153.67**	**343**	⇑P	**PKPdf**	**11 26 53.1**	**-0.4**	
PNCL	**Nicolau / Gran**	**153.70**	**29**	*e*PKPdf	**PKPdf**	**11 26 55.0**	**+1.4**	
PNCL	**Nicolau / Gran**	**153.70**	**29**	*e*PKPbc	**PKPbc**	**11 27 01.7**	**+0.2**	
PNCL	**Nicolau / Gran**	**153.70**	**29**	*i* PKPab	**PKPab**	**11 27 13.2**	**-1.0**	
TRIZ	**Trizonia**	**153.75**	**333**	P	**PKPdf**	**11 26 53.1**	**-0.6**	
LAK	**Lakka**	**153.89**	**333**	P	**PKPdf**	**11 26 53.7**	**-0.3**	
PDO	**Prodromos**	**153.94**	**334**	P	**PKPdf**	**11 26 54.5**	**+0.5**	
KLV	**Kalavryta, Ach**	**153.98**	**332**	P	**PKPdf**	**11 26 54.2**	**+0.1**	
LKD2	**Lefkada island**	**153.99**	**335**	P	**PKPdf**	**11 26 56.3**	**+2.2**	
MESJ	**Messejana**	**154.07**	**28**	*e*PKPdf	**PKPdf**	**11 26 53.1**	**-1.1**	
MESJ				*e*PP	**PP**	**11 30 50.8**	**+1.0**	
MESJ				IAMs_20	IAMs_20	12 27 21.3		
	comp=Z,4µm,17.2s							
MESJ	**Messejana**	**154.07**	**28**	*e*PKIKP	**PKPdf**	**11 26 53.1**	**-1.1**	
MESJ				*e*		11 30 50.8		
PTEO	**Sao Teotonio**	**154.07**	**30**	*e*PKPdf	**PKPdf**	**11 26 56.2**	**+2.0**	
PTEO	**Sao Teotonio**	**154.07**	**30**	*e*PKPbc	**PKiKP**	**11 27 03.2**	**+0.9**	
PBEJ	**Beja**	**154.07**	**28**	*e*PKPdf	**PKPdf**	**11 26 56.4**	**+2.2**	
PBEJ	**Beja**	**154.07**	**28**	*e*PKPbc	**PKPbc**	**11 27 02.8**	**+0.5**	
EVGI	**Lefkada island**	**154.14**	**335**	P	**PKPdf**	**11 26 54.1**	**-0.2**	
PAB	**San Pablo**	**154.15**	**21**	PKIKP	**PKPdf**	**11 26 54.4**	**0.0**	
PAB	**San Pablo**	**154.15**	**21**	PKPdf	**PKPdf**	**11 26 54.4**	**0.0**	
PAB	**San Pablo**	**154.15**	**21**	IAMs_20	IAMs_20	12 29 55.4		
	comp=Z,2µm,21.0s							
ESBB	**Sonseca Array**	**154.16**	**20**		**PKPdf**	**11 26 53.2**	**-1.1**	
ESBB				PKPbc	**PKPbc**	**11 27 02.8**	**+0.3**	
ESBB				PKPab	**PKPab**	**11 27 17.0**	**+0.9**	
ESDC	**Sonseca Array**	**154.16**	**20**	PKP	**PKPdf**	**11 26 55.1**	**+0.8**	
	comp=Z,5.0nm,1.1s,baz=332,slow=3.0,SNR=19							
ESDC				PKPbc	**PKPbc**	**11 27 02.8**	**+0.3**	
	comp=Z,9.9nm,0.9s,baz=330,slow=2.5,SNR=26							
ESDC				PKPab	**PKPab**	**11 27 16.8**	**+0.6**	
	comp=Z,49nm,1.3s,baz=325,slow=3.4,SNR=19							
ESDC				PP	**PP**	**11 30 51.3**	**+1.2**	
	comp=Z,2.5nm,1.1s,baz=329,slow=4.5,SNR=3.6							
ESDC	**Sonseca Array**	**154.16**	**20**		PP	11 30 51.3	+1.2	
ESDC	**Sonseca Array**	**154.16**	**20**	PKPdf	**PKPdf**	**11 26 53.6**	**-0.8**	
ESDC				PKPbc	**PKPbc**	**11 27 02.9**	**+0.4**	
ESDC				PKPab	**PKPab**	**11 27 16.9**	**+0.7**	
DRO	**Drossia**	**154.25**	**333**	P	**PKPbc**	**11 27 00.0**	**-2.7**	
FSK	**Fiskardo**	**154.31**	**335**	P	**PKPdf**	**11 26 54.5**	**0.0**	
PBAR	**Barrancos**	**154.31**	**26**	*e*PKPdf	**PKPdf**	**11 26 55.4**	**+0.9**	
PBAR	**Barrancos**	**154.31**	**26**	*e*PKPab	**PKPab**	**11 27 15.4**	**-1.4**	
PCVE	**Castro Verde**	**154.32**	**28**	*e*PKPdf	**PKPdf**	**11 26 55.7**	**+1.2**	
PCVE	**Castro Verde**	**154.32**	**28**	*e*PKPbc	**PKiKP**	**11 27 04.5**	**+1.6**	
PFVI	**Vila Bisbo**	**154.35**	**30**	*e*PKPdf	**PKPdf**	**11 26 56.6**	**+2.0**	
PFVI	**Vila Bisbo**	**154.35**	**30**	*e*PKPbc	**PKPbc**	**11 27 03.5**	**+0.6**	
PFVI	**Vila Bisbo**	**154.35**	**30**	PKPdf	**PKPdf**	**11 26 53.5**	**-1.1**	
PFVI					**PKPbc**	**11 27 03.0**	**+0.1**	
PFVI				PKPab	**pPKPbc**	**11 27 17.6**	**+1.8**	
PVAQ	**Vaqueiros**	**154.65**	**28**	*e*PKPdf	**PKPdf**	**11 26 56.8**	**+1.8**	
PVAQ	**Vaqueiros**	**154.65**	**28**	*e*PKPbc	**PKiKP**	**11 27 05.0**	**+1.4**	
PVAQ	**Vaqueiros**	**154.65**	**28**	*i* PKPab	**PKPab**	**11 27 19.1**	**+0.8**	
PVAQ	**Vaqueiros**	**154.65**	**28**	*e*LR	LR	12 19 29.9		
	comp=Z,3µm,22.0s							
PBDV	**Barranco-do-Ve**	**154.69**	**29**	*e*PKPdf	**PKPdf**	**11 26 56.7**	**+1.6**	
PBDV	**Barranco-do-Ve**	**154.69**	**29**	*e*PKPab	**PKPab**	**11 27 21.1**	**+2.6**	
MACI	**Morro de la Ar**	**154.84**	**56**	PKPdf	**PKPdf**	**11 26 57.0**	**+1.2**	
TIP	**Timpagrande**	**155.02**	**342**	PKPdf	**PKPdf**	**11 26 53.6**	**-1.9**	
TIP				PKPbc	**pPKPdf**	**11 27 04.9**	**-3.6**	
TIP				PKPab	**PKPab**	**11 27 20.3**	**+0.5**	
TIP				IAMs_20	IAMs_20	12 41 39.8		
	comp=Z,1µm,22.0s							
VSL	**Villasalto**	**156.11**	**356**	IAMs_20	IAMs_20	12 33 28.5		
	comp=Z,2µm,21.0s							
CART	**Cartagena**	**156.98**	**17**	IAMs_20	IAMs_20	12 31 16.8		
	comp=Z,2µm,21.0s							
RAFF	**Raffo Rosso**	**157.51**	**345**		**PKPdf**	**11 26 59.8**	**+1.0**	
RAFF				PKPab	**PKPab**	**11 27 33.3**	**+2.8**	
WDD	**Wied Dalam**	**158.77**	**343**	IAMs_20	IAMs_20	12 38 01.1		
	comp=Z,1µm,21.0s							
KEST	**Kesra**	**159.85**	**355**	PKP	**PKPdf**	**11 27 00.9**	**-0.9**	
	comp=Z,12nm,1.1s,baz=122,slow=22,SNR=4.8							
KEST				PKPab	**PKPab**	**11 27 41.6**	**+0.8**	
	comp=Z,14nm,1.0s,baz=75,slow=3.3,SNR=4.4							
KEST	**Kesra**	**159.85**	**355**		**PKPdf**	**11 27 00.9**	**-0.9**	
LIC	**Lamto**	**164.93**	**127**	*e*PKIKP	**PKPdf**	**11 27 05.9**	**-1.4**	
	comp=Z,105nm,1.2s							
LIC	**Lamto**	**164.93**	**127**	*e*P	**PKPab**	**11 28 03.8**	**+0.2**	
	comp=Z,101nm,1.2s							
TIC	**Toumodi**	**165.19**	**126**	*e*PKIKP	**PKPdf**	**11 27 06.0**	**-1.6**	
TIC	**Toumodi**	**165.19**	**126**	*e*P	**PKPab**	**11 28 04.9**	**+0.1**	
KIC	**Kosan Boka**	**165.23**	**127**	*e*PKIKP	**PKPdf**	**11 27 06.0**	**-1.6**	
	comp=Z,71nm,1.1s							
KIC	**Kosan Boka**	**165.23**	**127**	*e*P	**PKPab**	**11 28 05.2**	**+0.2**	
	comp=Z,78nm,1.1s							
DBIC	**Dimbokro**	**165.34**	**126**	PKP	**PKPdf**	**11 27 07.0**	**-0.6**	
	comp=Z,21nm,1.1s,baz=268,slow=1.2,SNR=7.7							
DBIC				PKPab	**PKPab**	**11 28 05.8**	**+0.3**	
	comp=Z,22nm,0.9s,baz=211,slow=4.6,SNR=6.5							
DBIC	**Dimbokro**	**165.34**	**126**	PKIKP	**PKPdf**	**11 27 07.0**	**-0.6**	
DBIC						11 28 05.8		
DBIC	**Dimbokro**	**165.34**	**126**		**PKPdf**	**11 27 07.0**	**-0.6**	
KOWA	**Kowa**	**169.25**	**94**		**PKPdf**	**11 27 10.0**	**-0.4**	
KOWA				PKPab	**PKPab**	**11 28 22.9**	**0.0**	
TOA0	**Torodi Ar. Sit**	**174.26**	**115**		**PKPdf**	**11 27 11.3**	**-1.5**	
TOA0					**PKPab**	**11 28 43.9**	**-1.2**	
TOA0	**Torodi Ar. Sit**	**174.26**	**115**	P	**PKPdf**	**11 27 12.2**	**-0.6**	
	SNR=5.2							
TORD	**Torodi Ar. Bea**	**174.26**	**115**	PKP	**PKPdf**	**11 27 11.8**	**-1.0**	
	comp=Z,20nm,1.1s,baz=321,slow=2.1,SNR=31							
TORD				PKPab	**PKPab**	**11 28 44.5**	**-0.5**	
	comp=Z,19nm,1.0s,baz=260,slow=3.8,SNR=8.6							
TORD				PP	**PP**	**11 32 35.3**	**-1.9**	
	comp=Z,12nm,1.3s,baz=265,slow=5.4,SNR=6.8							
TORD	**Torodi Ar. Bea**	**174.26**	**115**		**PKPdf**	**11 27 11.3**	**-1.5**	
TORD				PKPab	**PKPab**	**11 28 44.4**	**-0.6**	

IDC ***12*** *11:22:31.2±6.4,* **32°.08S**×**179°.44E**,**h460**km±71km, **mb2.5**/2, **mb1 2.8**/3, **mb1mx2.6**/30, **mbtmp3.5**/3 **Error ellipse: s-maj=88.4km s-min=44.5km az=17.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.45**	**197**	P	P	11 24 11.3	+0.9
	1.9nm,0.3s,baz=301,slow=23,SNR=19						
URZ				S	S	11 25 30.7	-0.8
	1.9nm,0.3s,baz=121,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**40.87**	**270**	P	P	11 29 31.5	-0.6
	0.3nm,0.8s,baz=112,slow=7.9,SNR=1.5						
ASAR				PcP	PcP	11 31 22.1	0.0
	0.2nm,0.8s,baz=119,slow=3.1,SNR=1.0						
WRA	**Warramunga Arr**	**42.02**	**275**	P	P	11 29 41.2	0.0
	0.2nm,0.3s,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.91**	**337**	PKPbc	PKPdf	11 41 16.4	+0.4
	1.9nm,0.9s,baz=49,slow=4.4,SNR=2.0						

IDC ***12*** *11:50:40.8±1.9,32°.28N×141°.83E,h0km,mb3.7/3, mb1 3.7/6,mb1mx3.5/43,mbtmp3.7/6,ML3.1/3,Error ellipse: s-maj=47.5km s-min=19.3km az=64.0*
JMA ***12*** *11:50:42.8±0.3,32°.48N×141°.75E,h0km,M3.6*
ISC 12 11:50:41.7±1.0,**32°.28N**±0°.06×**141°.9E**±0°.1,**h10**km,**n14**, σ1**9**00/17,**mb3.8**/3,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.93**	**295**	P	**Pn**	**11 51 14.5**	**-0.1**
JHJ2	**Mitsune**	**1.93**	**296**	P	**Pn**	**11 51 14.7**	**+0.1**
JHJ	**Hachijo jima 2**	**1.96**	**296**	Pn	**Pn**	**11 51 14.7**	**-0.3**
	24nm,0.3s,baz=330,slow=18,SNR=52						
JHJ				Sn	**Sn**	**11 51 38.1**	**-1.6**
	28nm,0.3s,baz=268,slow=24,SNR=3.7						
BSO1	**Boso 1**	**2.49**	**343**	P	**Pn**	**11 51 22.1**	**+0.3**
BSO1				*e*S	**Sn**	**11 51 51.2**	**-0.8**
JHU	**Hanno**	**4.17**	**330**	P	**Pn**	**11 51 47.4**	**+2.0**
JAG	**Ashikaga**	**4.60**	**335**	P	**Pn**	**11 51 52.0**	**+0.7**
JFK	**Kawauchi**	**5.15**	**351**	P	**Pn**	**11 51 58.3**	**-0.6**
JCJ	**Chichijima**	**5.17**	**177**	Pn	**Pn**	**11 52 00.5**	**+1.3**
	3.4nm,0.3s,baz=330,slow=22,SNR=15						
JCJ				Sn	**Sn**	**11 52 57.9**	**-0.9**
	9.4nm,0.3s,baz=287,slow=20,SNR=5.1						
MJAR	**Matsushiro Arr**	**5.23**	**325**	Pn	**Pn**	**11 52 00.8**	**+0.9**
	0.1nm,0.3s,baz=147,slow=11,SNR=4.9						
JFT	**Otama**	**5.38**	**347**	P	**Pn**	**11 52 02.6**	**+0.5**
ASAJ	**Asahikawa**	**11.84**	**2**	Pn	**Pn**	**11 53 29.0**	**-1.5**
	0.2nm,0.3s,baz=308,slow=18,SNR=1.6						
SONM	**Songino Array**	**30.97**	**311**	P	**P**	**11 56 59.7**	**+0.5**
	0.6nm,0.5s,baz=126,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**47.10**	**306**	P	**P**	**11 59 14.0**	**+0.1**
	0.8nm,0.8s,baz=92,slow=7.5,SNR=4.0						
WRA	**Warramunga Arr**	**52.42**	**189**	P	**P**	**11 59 54.6**	**+0.1**
	0.7nm,0.6s,baz=5.1,slow=7.5,SNR=12						

KRNET ***12*** *12:14:22.8±0.1,43°.98N×69°.25E,mb2.9*
SOME ***12*** *12:14:23.3,43°.58N×69°.62E*
NNC ***12*** *12:14:24.4±1.6,43°.67N×69°.79E,h0km,mb3.6,mpv3.0, Error ellipse: s-maj=8.2km s-min=5.5km az=123.0, Suspected Mining explosion.*
ISC 12 12:14:26.5±2.5,**43°.60N**±0°.09×**69°.8E**±0°.1,**h0**km,**n14**, σ1**9**48/22,**13C-4D**,**Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.74**	**132**	⇓P	**Pg**	**12 14 39.2**	**-1.4**
	1.7nm,0.4s,baz=314,slow=17,SNR=50						
KK31				S	**Sg**	**12 14 50.2**	**0.0**
	19nm,0.5s,baz=320,slow=28,SNR=103						
MNAS	**Manas**	**2.30**	**118**	⇑*e*P	**Pn**	**12 15 06.6**	**+0.9**
	baz=21						
MNAS				⇑*i*S	**Sg**	**12 15 38.7**	**-1.6**
	baz=21						
TRKS	**Terek-Say**	**2.31**	**153**	⇑*e*P	**Pb**	**12 15 07.9**	**-1.1**
	baz=50						
TRKS				⇑*i*S	**Sg**	**12 15 40.5**	**-0.1**
	baz=50						
MRKS	**Merke**	**2.67**	**108**	Pg	**Pb**	**12 15 13.9**	**-1.3**
	3.6nm,0.2s						
MRKS				Lg	Lg	12 15 52.4	
	8.4nm,0.3s						
AML	**Almayashu**	**3.24**	**116**	⇑*i*P	**Pn**	**12 15 19.6**	**+0.6**
	baz=18						
AML				⇑*i*S	**Sn**	**12 16 01.3**	**+2.9**
	baz=18						
ARSB	**Arslanbob**	**3.29**	**133**	⇑*i*P	**Pn**	**12 15 20.5**	**+1.1**
	baz=33						
ARSB				⇑*i*S	**Sn**	**12 16 02.7**	**+3.3**
	baz=33						
USP	**Ospenovka**	**3.46**	**94**	⇓*i*P	**Pn**	**12 15 21.2**	**-0.5**
	baz=99						
USP				⇓*i*S	**Sn**	**12 16 03.9**	**+0.4**
	baz=99						
SGDS	**Sogindy**	**3.54**	**91**	Pg	**Pb**	**12 15 30.5**	**+0.5**
	2.1nm,0.5s						
SGDS				Lg	Lg	12 16 21.1	
	6.0nm,0.5s						
AAK	**Ala-Archa**	**3.59**	**104**	⇑*i*P	**Pn**	**12 15 23.8**	**+0.2**
	baz=8.0						
AAK				⇑*i*S	**Sn**	**12 16 08.6**	**+1.8**
	baz=8.0						
AAK	**Ala-Archa**	**3.59**	**104**	Pg	**Pb**	**12 15 29.1**	**-1.9**
	4.3nm,0.5s						
AAK				Lg	Lg	12 16 20.2	
	4.2nm,0.6s						
BTK	**Batken**	**3.63**	**167**	⇑*i*P	**Pn**	**12 15 24.2**	**+0.2**
	baz=63						
BTK				⇑*i*S	**Sn**	**12 16 09.3**	**+1.8**
	baz=63						
KRBS	**Karabastau**	**4.29**	**87**	Pg	**Pb**	**12 15 43.0**	**+0.2**
	2.0nm,0.6s						
KRBS				Lg	Lg	12 16 42.7	
	4.2nm,0.5s						
TKM2	**Tokmak 2**	**4.31**	**97**	⇓Pg	**Pb**	**12 15 41.8**	**-1.4**
	2.2nm,0.7s						
TKM2				⇑Lg	Lg	12 16 39.3	
	5.7nm,0.7s						
KUU	**Kurty**	**4.77**	**84**	Pg	**Pb**	**12 15 51.1**	**+0.1**
	1.0nm,0.3s						
KUU				Lg	Lg	12 16 55.9	
	7.2nm,0.6s						

HLW ***12*** *12:17:55.3,33°.33N×27°.84E,h31km±8km,Md3.6,Ml3.7*
ISK ***12*** *12:17:59.4,34°.24N×27°.65E,h2km,ML3.1/9*
ISC 12 12:17:52.2±1.2,**33°.47N**±0°.04×**27°.78E**±0°.05,**h35**km,**n26**, σ2**5**58/35,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**2.09**	**322**	PN	**Pn**	**12 18 27.8**	**+3.0**
ZKR				SN	**Sn**	**12 18 48.4**	**-1.2**
ARG	**Arkhangelos**	**2.76**	**6**	PN	**Pn**	**12 18 35.4**	**+1.5**
ARG				SN	**Sn**	**12 19 01.7**	**-4.3**
SLUM	**Salum**	**2.93**	**228**	P	**Pn**	**12 18 38.3**	**+2.0**
	baz=232						
SLUM				AMP		12 19 00.0	
	baz=232						
AKAS	**Kas**	**3.14**	**28**	PN	**Pn**	**12 18 43.0**	**+3.7**
AKAS				SN	**Sn**	**12 19 15.0**	**-0.7**
DAT	**Datca**	**3.26**	**357**	PN	**Pn**	**12 18 42.3**	**+1.4**
TURN	**Turunc**	**3.32**	**6**	PN	**Pn**	**12 18 43.6**	**+1.9**
FETY	**Fethiye**	**3.34**	**18**	PN	**Pn**	**12 18 44.7**	**+2.8**
FETY				SN	**Sn**	**12 19 17.8**	**-2.6**
DALY	**Dalyan (Mula)**	**3.42**	**12**	PN	**Pn**	**12 18 45.2**	**+2.2**
DALY				SN	**Sn**	**12 19 18.7**	**-3.6**
SANT	**Santorini**	**3.47**	**327**	PN	**Pn**	**12 18 45.9**	**+2.1**
SANT				SN	**Sn**	**12 19 20.7**	**-2.9**
BODT	**Bodrum**	**3.61**	**354**	PN	**Pn**	**12 18 47.2**	**+1.6**
BODT				SN	**Sn**	**12 19 21.9**	**-5.1**
YER	**Yerkesik**	**3.68**	**6**	PN	**Pn**	**12 18 48.7**	**+2.0**
CAME	**Cameli-Denizli**	**3.69**	**19**	PN	**Pn**	**12 18 49.8**	**+3.0**
APE	**Apeiranthos**	**4.04**	**334**	PN	**Pn**	**12 18 53.4**	**+1.8**
KORT	**Korkueli**	**4.11**	**30**	PN	**Pn**	**12 18 57.1**	**+4.5**
AYDB	**Zeytinkoy-Aydi**	**4.47**	**1**	PN	**Pn**	**12 18 59.0**	**+1.4**
HMYD	**Mayadein**	**4.47**	**144**	P	**Pn**	**12 18 59.1**	**+1.5**
	baz=143						
HNAT	**Natroun**	**4.52**	**147**	P	**Pn**	**12 18 59.7**	**+1.5**
	baz=146						
HNAT				AMP		12 19 00.0	
	baz=146						
SWA2		**4.66**	**206**	P	**Pn**	**12 19 02.1**	**+2.1**
	baz=208						
SWA2				AMP		12 19 00.0	
	baz=208						
SWA2				S	**Sn**	**12 19 50.3**	**-2.6**
	baz=208						
RYAN	**Fayoum**	**4.87**	**153**	P	**Pn**	**12 19 04.5**	**+1.5**
	baz=153						
RYAN				AMP		12 20 00.0	
	baz=153						
KOT	**Kottamia**	**4.94**	**135**	P	**Pn**	**12 19 05.5**	**+1.6**
	baz=133						
KOT				S	**Sn**	**12 19 56.5**	**-3.4**
	baz=133						
KOT				AMP		12 20 00.0	
	baz=133						
HSAF	**As Saff**	**5.01**	**139**	P	**Pn**	**12 19 06.0**	**+1.1**
	baz=138						
HHAG	**Hagoal**	**5.08**	**132**	P	**Pn**	**12 19 07.9**	**+1.9**
	baz=131						
GLL	**Jalalah**	**5.13**	**138**	P	**Pn**	**12 19 07.5**	**+1.0**
	baz=137						
SUZ	**Suez**	**5.62**	**129**	P	**Pn**	**12 19 14.7**	**+1.4**
	baz=127						
HFRF	**Wahat Farafira**	**6.32**	**176**	P	**Pn**	**12 19 24.9**	**+2.1**
	baz=176						
TAMRE	**El Minia**	**6.37**	**154**	P	**Pn**	**12 19 25.5**	**+1.9**
	baz=153						

IDC ***12*** *12:23:58.8±1.6,61°.45N×150°.21W,h47km±19km,mb3.3/5, mb1 3.6/8,mb1mx3.3/40,mbtmp3.5/8,ML3.2/3,Error ellipse: s-maj=20.6km s-min=12.9km az=116.0*
ANF ***12*** *12:23:59.2±0.1,61°.54N×149°.84W,h56km±1km,ML3.7/50, ML3.7/49,Error ellipse: s-maj=0.8km s-min=0.8km az=49.0,Hypocentre not reviewed by the ISC*
NEIC ***12*** *12:23:59.6±1.2,61°.55N±0°.03×149°.82W±0°.05,h54km±2km, Error ellipse: s-maj=4.3km s-min=3.3km az=161.0*
AEIC ***12*** *12:24:00±1.2,61°.54N±0°.03×149°.83W±0°.05,h54km±4km, ML3.4,mb3.9/1(NEIC),ML3.5/130(NEIC),Error ellipse: s-maj=4.0km s-min=3.3km az=130.0*
ISC 12 12:23:59.8±0.8,**61°.52N**±0°.03×**149°.85W**±0°.03,**h56**km±6km, **n145**,σ0**8**88/148,**mb3.3**/5,**Southern Alaska**

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

GLI	**Glacier Island**	**1.48**	**115**	P			12 24 23.6	
	baz=298							
GLI				S			12 24 42.4	
	baz=298							
WAT2	**Susitna Watana**	**1.56**	**22**			**Pn**	**12 24 24.7**	**-0.6**
WAT2	**Susitna Watana**	**1.56**	**22**	P			12 24 24.7	
	baz=203,SNR=72							
WAT2				S			12 24 44.4	
	baz=203							
VMT	**TAPS Tl Valdez**	**1.74**	**103**			**Pn**	**12 24 27.1**	**-0.4**
PPLA	**Purkeypile**	**1.76**	**323**			**Pn**	**12 24 27.4**	**-0.7**
PPLA	**Purkeypile**	**1.76**	**323**	P			12 24 27.3	
	baz=140,SNR=66							
RSO	**Redoubt South**	**1.77**	**234**			**Pn**	**12 24 28.2**	**0.0**
NCT	**North Crescent**	**1.78**	**239**			**Pn**	**12 24 28.3**	**+0.1**
RED	**Redoubt Volcan**	**1.81**	**233**			**Pn**	**12 24 28.5**	**-0.1**
FID	**Port Fidalgo**	**1.81**	**114**			**Pn**	**12 24 27.4**	**-1.1**
FID						**Sn**	**12 24 49.7**	**-0.7**
BRLK	**Bradley Lake**	**1.84**	**197**			**Pn**	**12 24 28.7**	**-0.3**
BRLK				IAML			12 24 55.2	
	comp=E,292nm,0.2s							
M24K	**Tolsona, Glenn**	**1.84**	**70**			**Pn**	**12 24 29.4**	**+0.4**
M24K				IAML			12 24 54.4	
	comp=N,613nm,0.4s							
M24K				IAML			12 24 55.3	
	comp=E,611nm,0.5s							
M24K	**Tolsona, Glenn**	**1.84**	**70**	P			12 24 29.5	
	baz=253,SNR=130							
BRSE	**Bradley Lake S**	**1.84**	**194**			**Pn**	**12 24 28.5**	**-0.5**
BRSE	**Bradley Lake S**	**1.84**	**194**	P			12 24 28.3	
	baz=14,SNR=12							
BRSE				S			12 24 51.0	
	baz=14							
KLU	**Klutina**	**1.88**	**89**			**Pn**	**12 24 29.0**	**-0.6**
KLU				IAML			12 24 53.4	
	comp=N,448nm,0.2s							
KLU				IAML			12 24 53.8	
	comp=E,370nm,0.3s							
KLU	**Klutina**	**1.88**	**89**	P			12 24 29.1	
	baz=273,SNR=94							
KLU				S			12 24 52.1	
	baz=273							
RND	**Reindeer**	**1.95**	**13**			**Pn**	**12 24 30.2**	**-0.3**
RND				IAML			12 25 08.4	
	comp=N,288nm,0.8s							
TRF	**Thorofare Moun**	**1.95**	**354**			**Pn**	**12 24 30.1**	**-0.4**
TRF				IAML			12 24 58.9	
	comp=E,370nm,0.5s							
TRF				IAML			12 25 07.9	
	comp=N,372nm,0.7s							
TRF	**Thorofare Moun**	**1.95**	**354**	P			12 24 30.2	
	baz=173,SNR=179							
TRF				S			12 24 53.6	
	baz=173							
HIN	**Hinchinbrook I**	**1.98**	**123**			**Pn**	**12 24 30.4**	**-0.6**
HIN						**Sn**	**12 24 55.1**	**+0.5**
HIN				IAML			12 25 04.5	
	comp=N,573nm,0.9s							
HIN				IAML			12 25 10.4	
	comp=E,580nm,0.6s							
DIV	**Divide**	**2.00**	**100**			**Pn**	**12 24 30.6**	**-0.7**
HOM	**Homer**	**2.07**	**206**	Pn		**Pn**	**12 24 32.1**	**+0.1**
HOM	**Homer**	**2.07**	**206**	P			12 24 32.1	
	baz=25							
KTH	**Kantishna Hill**	**2.10**	**347**			**Pn**	**12 24 32.2**	**-0.3**
KTH				IAML			12 25 11.8	
	comp=N,453nm,0.8s							
KTH				IAML			12 25 15.0	
	comp=E,286nm,0.7s							
CNPM	**China Poot**	**2.12**	**200**			**Pn**	**12 24 32.6**	**-0.1**
CNPM				IAML			12 25 02.3	
	comp=E,252nm,0.5s							
CNPM				IAML			12 25 05.7	
	comp=N,238nm,0.5s							
PS11	**TAPS Pump St11**	**2.15**	**73**			**Pn**	**12 24 33.8**	**+0.6**
CAST	**Castle Rocks**	**2.17**	**332**	Pn		**Pn**	**12 24 34.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**2.22**	**114**			**Pn**	**12 24 33.2**	**-0.9**
EYAK	**Cordova Ski Ar**	**2.22**	**114**	P			12 24 33.3	
	baz=298,SNR=23							
MCK	**McKinley**	**2.26**	**10**			**Pn**	**12 24 35.2**	**+0.6**
MCK				IAML			12 25 14.2	
	comp=N,288nm,0.7s							
MCK				IAML			12 25 15.8	
	comp=E,268nm,0.7s							
MCK	**McKinley**	**2.26**	**10**	P			12 24 34.3	
	baz=191,SNR=48							
HARP	**HAARP**	**2.38**	**66**			**Pn**	**12 24 36.8**	**+0.4**
HARP	**HAARP**	**2.38**	**66**	P			12 24 36.7	
	baz=251,SNR=148							
PAX	**Paxson**	**2.51**	**53**			**Pn**	**12 24 38.9**	**+0.7**
PAX	**Paxson**	**2.51**	**53**	P			12 24 38.0	
	baz=237,SNR=65							
N25K	**Chitina, Valde**	**2.51**	**86**			**Pn**	**12 24 37.6**	**-0.6**
N25K				IAML			12 25 18.9	
	comp=N,269nm,0.6s							
N25K	**Chitina, Valde**	**2.51**	**86**	P			12 24 37.4	
	baz=271,SNR=38							
BMRM	**Bremner River**	**2.59**	**100**			**Pn**	**12 24 38.3**	**-1.0**
BMRM				IAML			12 25 19.4	
	comp=N,349nm,0.9s							
BMRM				IAML			12 25 20.1	
	comp=E,212nm,0.5s							
BMRM	**Bremner River**	**2.59**	**100**	P			12 24 37.9	
	baz=285,SNR=50							
CHUM	**Lake Minchumin**	**2.63**	**335**	P			12 24 38.8	
	baz=153,SNR=33							
BPAW	**Bear Paw Mtn.**	**2.64**	**349**			**Pn**	**12 24 39.1**	**-0.8**
BPAW				IAML			12 25 26.3	
	comp=N,158nm,0.5s							
BPAW				IAML			12 25 27.0	
	comp=E,158nm,0.5s							
BPAW	**Bear Paw Mtn.**	**2.64**	**349**	P			12 24 38.9	
	baz=168,SNR=29							
BWN	**Browne**	**2.67**	**4**			**Pn**	**12 24 40.6**	**+0.4**
Q23K	**Middleton Isla**	**2.72**	**139**	Pn		**Pn**	**12 24 41.9**	**+1.0**
Q23K				IAML			12 25 33.3	
	comp=E,191nm,1.1s							
Q23K				IAML			12 25 34.7	
	comp=N,153nm,1.3s							
MID	**Middleton Isla**	**2.73**	**139**	Pn		**Pn**	**12 24 40.4**	**-0.6**
MID				IAML			12 25 33.2	
	comp=E,188nm,1.1s							
MID				IAML			12 25 34.7	
	comp=N,156nm,1.3s							
SVW2	**Sparrevohn**	**2.80**	**264**			**Pn**	**12 24 41.7**	**-0.4**
SVW2				IAML			12 25 36.0	
	comp=N,110nm,0.7s							
GLB	**Gilahina Butte**	**2.90**	**89**			**Pn**	**12 24 43.1**	**-0.4**
GLB				IAML			12 25 27.6	
	comp=N,143nm,0.4s							
HMT	**Hamilton**	**2.98**	**111**			**Pn**	**12 24 43.3**	**-1.2**
WRH	**Wood River Hil**	**3.07**	**14**			**Pn**	**12 24 46.1**	**+0.4**
WRH				IAML			12 25 46.1	
	comp=E,111nm,1.0s							
VRDI	**Verde Repeater**	**3.09**	**93**			**Pn**	**12 24 45.2**	**-1.0**
NEA2	**Nenana**	**3.10**	**6**			**Pn**	**12 24 45.4**	**-0.8**
NEA2	**Nenana**	**3.10**	**6**	P			12 24 45.0	
	baz=187,SNR=26							
NICHA	**Nichawak Mount**	**3.15**	**112**			**Pn**	**12 24 45.4**	**-1.4**
HDA	**Harding Lake**	**3.19**	**23**			**Pn**	**12 24 47.1**	**-0.2**
HDA				IAML			12 25 41.3	
	comp=N,164nm,0.5s							
HDA				IAML			12 25 51.0	
	comp=E,112nm,0.6s							
HDA	**Harding Lake**	**3.19**	**23**	P			12 24 46.8	
	baz=206,SNR=38							
HDA				P			12 24 46.8	
	baz=206,SNR=38							
MENT	**Mentasta**	**3.20**	**61**			**Pn**	**12 24 47.4**	**-0.2**
MENT				IAML			12 25 41.8	
	comp=E,210nm,0.6s							
MENT				IAML			12 25 42.6	
	comp=N,228nm,0.8s							
TT01	**Tatalina**	**3.21**	**298**			**Pn**	**12 24 46.9**	**-0.7**
TTA	**Tatalina**	**3.21**	**299**			**Pn**	**12 24 47.1**	**-0.6**
TTA				IAML			12 25 39.1	
	comp=E,82nm,0.5s							
TTA	**Tatalina**	**3.21**	**299**	P			12 24 46.9	
	baz=113,SNR=36							
CCB	**Clear Creek Bu**	**3.27**	**16**			**Pn**	**12 24 48.1**	**-0.4**
MCARA	**McCarthy VSAT**	**3.28**	**89**			**Pn**	**12 24 49.4**	**+0.8**
MCARA				IAML			12 25 38.5	
	comp=N,173nm,0.4s							
MCARA				IAML			12 25 48.0	
	comp=E,237nm,0.8s							
MCARA	**McCarthy VSAT**	**3.28**	**89**	P			12 24 48.3	
	baz=276,SNR=17							
CRQM	**Cirque**	**3.34**	**100**			**Pn**	**12 24 49.4**	**-0.2**
CRQM				IAML			12 25 41.7	
	comp=E,190nm,0.9s							
CRQM				IAML			12 25 45.1	
	comp=N,169nm,0.5s							
CRQE	**Cirque**	**3.37**	**100**	P			12 24 49.1	
	baz=286,SNR=15							
KHIT	**Khitrov Hills**	**3.39**	**106**			**Pn**	**12 24 48.9**	**-1.3**
DOT	**Dot Lake**	**3.42**	**49**			**Pn**	**12 24 51.5**	**+0.9**
GRIN	**Grindle Hills**	**3.42**	**108**			**Pn**	**12 24 49.5**	**-1.1**
TCOL	**CIGO, UAF Yank**	**3.48**	**14**			**Pn**	**12 24 51.8**	**+0.5**
TCOL	**CIGO, UAF Yank**	**3.48**	**14**	P			12 24 50.7	
	baz=196,SNR=20							
COLA	**College**	**3.48**	**14**			**Pn**	**12 24 51.1**	**-0.3**
COLA	**College**	**3.48**	**14**	P			12 24 50.3	
	baz=196							
TGL	**Tana Glacier**	**3.49**	**100**			**Pn**	**12 24 51.4**	**-0.1**
TGL				IAML			12 25 46.7	
	comp=N,118nm,0.5s							
TGL				IAML			12 25 50.7	
	comp=E,122nm,0.7s							
MDM	**Murphy Dome**	**3.53**	**11**			**Pn**	**12 24 51.6**	**-0.4**
MDM	**Murphy Dome**	**3.53**	**11**	IAML			12 25 52.5	
	comp=E,68nm,0.9s							
MDM				IAML			12 25 54.2	
	comp=N,68nm,0.9s							
IL31		**3.53**	**21**			**Pn**	**12 24 51.8**	**-0.1**
ILAR	**Eielson Array**	**3.53**	**21**	P		**Pn**	**12 24 52.1**	**+0.1**
	comp=N,1.3nm,0.3s,baz=198,slow=15,SNR=30							
ILAR				S		**Sn**	**12 25 30.1**	**-2.3**
	comp=N,3.5nm,0.3s,baz=199,slow=19,SNR=2.0							
ILAR	**Eielson Array**	**3.53**	**21**	Pn		**Pn**	**12 24 52.0**	**0.0**
MLY	**Manley**	**3.55**	**354**			**Pn**	**12 24 51.5**	**-0.8**
MLY	**Manley**	**3.55**	**354**	IAML			12 25 59.3	
	comp=E,62nm,0.6s							
MLY	**Manley**	**3.55**	**354**	P			12 24 51.4	
	baz=173,SNR=73							
PTPK	**Patty Peak**	**3.57**	**92**			**Pn**	**12 24 52.4**	**-0.4**
I23K	**Minto, Yukon-K**	**3.65**	**3**			**Pn**	**12 24 53.3**	**-0.3**
I23K				IAML			12 26 02.4	
	comp=N,108nm,0.9s							
I23K				IAML			12 26 02.7	
	comp=E,85nm,0.9s							
I23K	**Minto, Yukon-K**	**3.65**	**3**	P			12 24 53.1	
	baz=184,SNR=58							
SCRK	**Sand Creek**	**3.65**	**45**			**Pn**	**12 24 53.5**	**-0.4**
SCRK	**Sand Creek**	**3.65**	**45**	P			12 24 52.9	
	baz=230,SNR=29							
BALM	**Baldy**	**3.65**	**94**			**Pn**	**12 24 52.9**	**-0.9**
KIAG	**Kiagna River**	**3.67**	**96**			**Pn**	**12 24 53.0**	**-1.1**
KULT	**Kultieth River**	**3.71**	**107**			**Pn**	**12 24 53.3**	**-1.3**
POKR	**Poker Plat Res**	**3.77**	**16**			**Pn**	**12 24 55.2**	**-0.1**
POKR	**Poker Plat Res**	**3.77**	**16**	IAML			12 26 05.4	
	comp=E,55nm,0.8s							
POKR	**Poker Plat Res**	**3.77**	**16**	P			12 24 54.6	
	baz=198							
BARN	**Barnard Glacie**	**3.98**	**93**			**Pn**	**12 24 59.4**	**+1.1**
BARN				IAML			12 26 04.6	
	comp=E,59nm,0.6s							
BARN				IAML			12 26 04.8	
	comp=N,47nm,0.8s							
KDAK	**Kodiak Island**	**4.00**	**202**	P		**Pn**	**12 24 57.0**	**-1.5**
	comp=N,1.6nm,0.3s,baz=43,slow=8.5,SNR=90							
KDAK				S		**Sn**	**12 25 39.9**	**-4.1**
	comp=N,3.6nm,0.3s,baz=306,slow=22,SNR=7.9							
KDAK	**Kodiak Island**	**4.00**	**202**	Pn		**Pn**	**12 24 59.3**	**+0.8**
KDAK	**Kodiak Island**	**4.00**	**202**	P			12 24 57.6	
	baz=19							
GRNC	**Granite Creek**	**4.00**	**98**			**Pn**	**12 24 59.0**	**+0.2**
GRNC				IAML			12 26 10.7	
	comp=N,54nm,0.7s							
L27K	**Beaver Creek,**	**4.05**	**64**			**Pn**	**12 24 59.1**	**-0.1**
L27K	**Beaver Creek,**	**4.05**	**64**	P			12 24 58.9	
	baz=251,SNR=5.7							
BC03		**4.07**	**64**			**Pn**	**12 24 59.4**	**0.0**
BCAR	**Beaver Creek A**	**4.07**	**64**	Pn		**Pn**	**12 24 59.1**	**-0.4**
MESA	**MESA**	**4.09**	**106**			**Pn**	**12 24 59.3**	**-0.6**
MESA				IAML			12 26 05.3	
	comp=E,66nm,0.5s							
MESA				IAML			12 26 12.1	
	comp=N,90nm,0.6s							
MESA	**MESA**	**4.09**	**106**	P			12 24 59.0	
	baz=293							
YAH	**Yahtse**	**4.12**	**103**			**Pn**	**12 24 59.4**	**-0.9**
YAH				IAML			12 26 07.5	
	comp=N,52nm,0.7s							
YAH				IAML			12 26 10.1	
	comp=E,53nm,0.7s							
CTG	**Chitna Glacier**	**4.15**	**94**	P			12 24 59.9	
	baz=282							
CTGM	**Chitina Glacie**	**4.15**	**94**			**Pn**	**12 25 00.3**	**-0.4**
KABU	**Katmai Buttres**	**4.26**	**222**			**Pn**	**12 25 02.2**	**+0.1**
H23K	**Yukon River**	**4.32**	**2**			**Pn**	**12 25 02.9**	**-0.1**
H23K	**Yukon River**	**4.32**	**2**	P			12 25 02.3	
	baz=182,SNR=14							
RKAV	**Rock Avalanche**	**4.33**	**103**			**Pn**	**12 25 02.8**	**-0.3**
H21K	**Melozitna Rive**	**4.36**	**344**	P			12 25 02.7	
	baz=161							
K27K	**Chicken**	**4.37**	**51**			**Pn**	**12 25 03.1**	**-0.4**
K27K	**Chicken**	**4.37**	**51**	P			12 25 02.9	
	baz=238							
TABL	**Table Mountain**	**4.38**	**101**			**Pn**	**12 25 02.0**	**-1.8**
TABL				IAML			12 26 14.5	
	comp=N,41nm,0.9s							
H24K	**Noodor Dome**	**4.42**	**11**			**Pn**	**12 25 04.4**	**+0.1**
H24K	**Noodor Dome**	**4.42**	**11**	P			12 25 04.0	
	baz=192,SNR=16							
CHX	**Chaix Hills**	**4.52**	**105**			**Pn**	**12 25 05.5**	**-0.2**
SAMH	**Samovar Hills**	**4.65**	**103**			**Pn**	**12 25 07.6**	**+0.1**
OHAK	**Old Harbor**	**4.66**	**204**			**Pn**	**12 25 06.2**	**-1.2**
OHAK				IAML			12 25 56.6	
	comp=N,46nm,2.5s							
OHAK				IAML			12 26 37.8	
	comp=E,27nm,2.3s							
OHAK	**Old Harbor**	**4.66**	**204**	P			12 25 06.2	
	baz=21							
IM03		**4.80**	**341**			**Pn**	**12 25 08.7**	**-0.7**
IMAR	**Indian Mountai**	**4.80**	**341**			**Pn**	**12 25 08.4**	**-1.0**
PCA	**Pinnacle**	**4.91**	**103**			**Pn**	**12 25 11.0**	**0.0**
PINM	**Pinnacle**	**4.91**	**103**	P			12 25 10.3	
	baz=291							
EGAK	**Eagle**	**5.12**	**47**			**Pn**	**12 25 13.5**	**-0.2**
EGAK				IAML			12 26 50.8	
	comp=E,42nm,0.8s							
YKU2	**Yakutat**	**5.42**	**107**	Pn		**Pn**	**12 25 19.1**	**+1.3**
DAWY	**Dawson**	**5.43**	**57**			**Pn**	**12 25 17.9**	**-0.2**
FYU	**Fort Yukon**	**5.45**	**20**	Pn		**Pn**	**12 25 17.2**	**-1.1**
COLD	**Coldfoot**	**5.73**	**359**	Pn		**Pn**	**12 25 22.2**	**+0.1**
COLD	**Coldfoot**	**5.73**	**359**	P			12 25 21.9	
	baz=178,SNR=18							
BMAR	**Burnt Mountain**	**6.35**	**19**	Pn		**Pn**	**12 25 31.3**	**+0.6**
TOLK	**Toolik Lake Re**	**7.15**	**1**	Pn		**Pn**	**12 25 41.7**	**+0.1**
TOLK	**Toolik Lake Re**	**7.15**	**1**	P			12 25 42.0	
	baz=181							
WHY	**Whitehorse**	**7.31**	**90**	Pn		**Pn**	**12 25 42.9**	**-0.9**
WHY	**Whitehorse**	**7.31**	**90**	P			12 25 43.3	
	baz=283							
ANM	**Nome**	**7.68**	**300**	Pn		**Pn**	**12 25 48.9**	**+0.1**
ANM	**Nome**	**7.68**	**300**	P			12 25 48.7	
	baz=106							
BESE	**Bessie Mountai**	**8.06**	**105**	Pn		**Pn**	**12 25 54.3**	**+0.2**
JIS	**Juneau Island**	**8.42**	**106**	Pn		**Pn**	**12 25 58.1**	**-0.8**
SIT	**Sitka**	**8.67**	**115**	Pn		**Pn**	**12 26 01.0**	**-1.3**
TNA	**Tin City**	**9.01**	**305**	Pn		**Pn**	**12 26 08.6**	**+1.6**
INK	**Inuvik**	**9.68**	**38**	P		**Pn**	**12 26 17.4**	**+1.3**
	comp=E,0.2nm,0.3s,baz=187,slow=18,SNR=1.8							
INK				S		**Sn**	**12 28 07.7**	**+4.5**
	comp=E,0.2nm,0.3s,baz=313,slow=16,SNR=1.8							
INK	**Inuvik**	**9.68**	**38**			**Pn**	**12 26 16.7**	**+0.6**
WRAK	**Wrangell Islan**	**10.36**	**112**	Pn		**Pn**	**12 26 24.9**	**-0.6**
CRAG	**Craig**	**10.63**	**117**	Pn		**Pn**	**12 26 28.6**	**-0.5**
NVAR	**Mina Array Bea**	**30.22**	**125**	P		**P**	**12 30 06.6**	**+1.6**
	comp=E,0.3nm,0.5s,baz=312,slow=8.0,SNR=3.8							
NVAR	**Mina Array Bea**	**30.22**	**125**	P		**P**	**12 30 06.5**	**+1.4**
PDAR	**Pinedale Array**	**30.34**	**110**	P		**P**	**12 30 07.1**	**+1.0**
	comp=E,0.3nm,0.6s,baz=316,slow=6.2,SNR=3.7							
TXAR	**Lajitas Array**	**44.15**	**115**	P		**P**	**12 32 02.5**	**-0.2**
	comp=E,0.2nm,0.7s,baz=320,slow=8.3,SNR=3.5							
KSRS	**Korea Array**	**54.34**	**284**	P		**P**	**12 33 19.1**	**-1.1**
	comp=E,0.9nm,0.5s,baz=34,slow=6.7,SNR=5.1							
SONM	**Songino Array**	**55.13**	**307**	P		**P**	**12 33 25.2**	**-0.8**
	comp=E,0.8nm,0.6s,baz=17,slow=6.2,SNR=4.2							
SONM	**Songino Array**	**55.13**	**307**	IAmb		IAmb	12 33 26.3	
	comp=Z,1.2nm,0.9s							

NNC ***12*** *12:27:39.1±4.8, 40.˚15N×75.˚95E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=39.1km s-min=32.1km az=102.0
SOME ***12*** *12:27:41.6, 40.˚47N×75.˚73E, h5km*
KRNET ***12*** *12:27:44.2±0.1, 40.˚31N×75.˚83E, h35km, mb2.4*

ISC 12 12:27:42.9±3.3, 40.˚25N±0.˚08×75.˚77E±0.˚06, h7km±24km, n26, σ1§99/44, 9C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op	ISC			
SFK	**Sufi-Kurgan**	**1.75**	**263**	⇑*iP*		**Pn**	**12 28 14.9**	**+1.0**
	baz=61							
SFK				⇑*iS*		**Sn**	**12 28 37.4**	**+0.8**
	baz=61							
ARLS	**Aral**	**1.94**	**326**	⇓*iP*		**Pn**	**12 28 16.6**	**+0.1**
	baz=24							
ARLS				⇓*iS*		**Sn**	**12 28 40.1**	**-1.1**
	baz=24							
ULHL	**Ulahol**	**2.02**	**10**	⇓*iP*		**Pn**	**12 28 17.0**	**-0.6**
	baz=9.0							
ULHL				⇓*iS*		**Sn**	**12 28 41.0**	**-2.2**
	baz=9.0							
KDJ	**Kajisay**	**2.16**	**29**	⇑*eP*		**Pn**	**12 28 19.3**	**-0.1**
	baz=29							
KDJ				⇑*iS*		**Sn**	**12 28 45.6**	**-0.9**
	baz=29							
BOOM	**Boomskoye usch**	**2.24**	**3**	⇑*iP*		**Pn**	**12 28 20.1**	**-0.4**
	baz=2.0							
BOOM				⇑*iS*		**Sn**	**12 28 46.5**	**-2.0**
	baz=2.0							
ARSB	**Arslanbob**	**2.37**	**298**	⇓*iP*		**Pn**	**12 28 22.0**	**-0.3**
	baz=96							
ARSB				⇓*iS*		**Sn**	**12 28 50.4**	**-1.4**
	baz=96							
AML	**Almayashu**	**2.44**	**321**	⇓*iP*		**Pn**	**12 28 23.6**	**0.0**
	baz=19							
AML				⇓*eS*		**Sn**	**12 28 52.2**	**-1.7**
	baz=19							
AAK	**Ala-Archa**	**2.57**	**338**	⇓*iP*		**Pn**	**12 28 24.8**	**-0.3**
	baz=37							
AAK				⇓*iS*		**Sn**	**12 28 54.9**	**-1.7**
	baz=37							
AAK	**Ala-Archa**	**2.57**	**338**	⇑Pn		Pn	12 28 21.4	-3.6
	4.0nm,0.3s							
AAK				⇑Sn		**Sb**	**12 29 00.1**	**-1.1**
	5.2nm,0.7s							
TKM2	**Tokmak 2**	**2.67**	**357**	⇑Pn		**Pn**	**12 28 28.6**	**+2.2**
	1.8nm,0.5s							
TKM2				⇓Sn		**Sn**	**12 29 01.3**	**+2.1**
	3.0nm,0.5s							
KST	**Kastek**	**2.79**	**3**	*eP*		**Pn**	**12 28 31.8**	**+3.7**
	4.0nm,0.2s							
KST				*eS*		**Sb**	**12 29 08.7**	**+1.1**
	5.4nm,0.5s							
KST	**Kastek**	**2.79**	**3**	Pg		**Pn**	**12 28 31.8**	**+3.7**
	4.0nm,0.2s							
KST				Lg		Lg	12 29 08.7	
	5.4nm,0.5s							
IZV	**Izvestkoviy**	**2.85**	**13**	*eP*		**Pb**	**12 28 32.9**	**-1.3**
	6.5nm,0.4s							
IZV				*eS*		**Sb**	**12 29 10.7**	**+1.4**
	13nm,0.3s							
IZV	**Izvestkoviy**	**2.85**	**13**	Pg		**Pb**	**12 28 32.9**	**-1.3**
	6.5nm,0.4s							
IZV				Lg		Lg	12 29 10.7	
	13nm,0.3s							
ANVS	**Anan'yevo**	**2.90**	**29**	⇓*iP*		**Pn**	**12 28 29.1**	**-0.6**
	baz=29							
ANVS				⇓*iS*		**Sn**	**12 29 03.0**	**-1.9**
	baz=29							
MTBS	**Maitube**	**2.92**	**10**	*eP*		**Pn**	**12 28 33.6**	**+3.8**
	2.1nm,0.1s							
MTBS				*eS*		**Sb**	**12 29 12.0**	**+0.8**
	7.7nm,0.3s							
DGS	**Degeres**	**2.99**	**0**	*eP*		**Pb**	**12 28 35.0**	**-1.5**
	2.0nm,0.3s							
DGS				*eS*		**Sb**	**12 29 14.3**	**+1.1**
	4.7nm,0.3s							
DGS	**Degeres**	**2.99**	**0**	Pg		**Pb**	**12 28 35.0**	**-1.5**
	2.0nm,0.3s							
DGS				Lg		Lg	12 29 14.3	
	4.7nm,0.3s							
MDOK	**Medeo**	**3.06**	**18**	*eP*		**Pn**	**12 28 35.8**	**+3.9**
	3.3nm,0.3s							
MDOK				*eS*		**Sb**	**12 29 15.7**	**+0.3**
	5.5nm,0.6s							
MRKS	**Merke**	**3.14**	**323**	*eP*		**Pn**	**12 28 37.2**	**+4.3**
	0.8nm,0.1s							
MRKS				*eS*		**Sb**	**12 29 17.7**	**+0.2**
	3.8nm,0.2s							
MRKS	**Merke**	**3.14**	**323**	Pg		**Pn**	**12 28 37.2**	**+4.3**
	0.8nm,0.1s							
MRKS				Lg		Lg	12 29 17.7	
	3.8nm,0.2s							
SGDS	**Sogindy**	**3.31**	**345**	Pg		**Pb**	**12 28 41.0**	**-1.0**
	0.8nm,0.1s							
SGDS				Lg		Lg	12 29 24.3	
	1.6nm,0.4s							
KRBS	**Karabastau**	**3.44**	**359**	*eP*		**Pb**	**12 28 42.4**	**-1.8**
	2.0nm,0.3s							
KRBS				*eS*		**Sb**	**12 29 27.2**	**+0.9**
	1.9nm,0.4s							
KRBS	**Karabastau**	**3.44**	**359**	Pg		**Pb**	**12 28 42.4**	**-1.8**
	2.0nm,0.3s							
KRBS				Lg		Lg	12 29 27.2	
	1.9nm,0.4s							
KTBS	**Karatobe**	**3.52**	**11**	*eP*		**Pb**	**12 28 44.7**	**-0.9**
	3.4nm,0.4s							
KTBS				*eS*		**Sb**	**12 29 31.1**	**+2.5**
	4.7nm,0.5s							
KTBS	**Karatobe**	**3.52**	**11**	Pg		**Pb**	**12 28 44.7**	**-0.9**
	3.4nm,0.4s							
KTBS			

AKIN	**Akıncılar- Kıb**	**0.83**	**147**	PG	**Pb**	**12 29 44.4**	**+0.1**
AKMS	**Akamas**	**0.83**	**214**	P	**Pb**	**12 29 44.6**	**+0.2**
AKMS				S	**Sb**	**12 29 55.5**	**+0.2**
AKMS				AML	AML	12 29 57.7	
	comp=E,0.4nm,0.2s						
AKMS				AML	AML	12 29 57.7	
	comp=E,0.4nm,0.2s						
AKMS				AML	AML	12 29 58.5	
	comp=E,0.6nm,0.3s						
AKMS				AML	AML	12 29 58.5	
	comp=E,0.6nm,0.3s						
TEVE	**Tevekalti-Mers**	**0.84**	**31**	PG	**Pn**	**12 29 44.6**	**-0.2**
MVOU	**Mavrovouni**	**0.91**	**139**	P	**Pb**	**12 29 45.4**	**-0.3**
MVOU				AML	AML	12 29 56.1	
	comp=E,1.0nm,0.2s						
MVOU				AML	AML	12 29 56.1	
	comp=E,1.0nm,0.2s						
MVOU				AML	AML	12 29 56.2	
	comp=E,1.3nm,0.2s						
MVOU				AML	AML	12 29 56.2	
	comp=E,1.3nm,0.2s						
MVOU				S	**Sb**	**12 29 56.4**	**-1.0**
ERMK	**Ermenek**	**0.93**	**0**	*i* P	**Pn**	**12 29 47.0**	**+0.9**
SZAC	**Souni**	**0.95**	**181**	P	**Pn**	**12 29 46.6**	**+0.4**
ASGA	**Asgata**	**0.96**	**163**	P	**Pb**	**12 29 46.1**	**-0.5**
ASGA				S	**Sb**	**12 29 57.5**	**-1.4**
ASGA				AML	AML	12 29 57.8	
	comp=E,0.3nm,0.3s						
ASGA				AML	AML	12 29 57.8	
	comp=E,0.3nm,0.3s						
ASGA				AML	AML	12 29 58.2	
	comp=E,0.2nm,0.3s						
ASGA				AML	AML	12 29 58.2	
	comp=E,0.2nm,0.3s						
NATA	**Nata**	**0.97**	**197**	P	**Pb**	**12 29 46.5**	**-0.2**
KEBE	**Keben-Mersin**	**0.98**	**41**	PG	**Pn**	**12 29 46.7**	**0.0**
EREN	**Erenkoy**	**1.04**	**100**	*i* P	**Pn**	**12 29 48.5**	**+1.1**
EREN	**Erenkoy**	**1.04**	**100**	PG	**Pn**	**12 29 48.0**	**+0.6**
KIZK	**Mersin**	**1.26**	**52**	*i* P	**Pb**	**12 29 51.7**	**+0.1**
KIZK	**Mersin**	**1.26**	**52**	PN	**Pn**	**12 29 50.9**	**+0.4**
KKBE	**Karaman, Kazim**	**1.51**	**1**	*i* P	**Pb**	**12 29 55.9**	**0.0**
KONT	**Konya--Tatoy**	**2.27**	**349**	PN	**Pn**	**12 30 05.6**	**+1.2**
CMRD	**Camardi-Nigde**	**2.57**	**40**	PN	**Pn**	**12 30 09.4**	**+0.8**

*TAP **12** 12:57:53.5,24.74N×122.86E,h131km,ML2.7,C*
*JMA **12** 12:57:54.5±0.2,24.85N×122.89E,h122km±2km,M1.9*
ISC 12 12:57:53.5±1.7**,24.72N**±0.06×**122.85E**±0.03**,**
h131km±10km**,n56,σ0.85/85,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**162**	P	**Pn**	**12 58 12.2**	**+0.4**
JYNG				S	**Sn**	**12 58 25.3**	**-0.3**
YOJ	**Yonaguni jima**	**0.30**	**150**	P	**Pn**	**12 58 12.4**	**+0.5**
YOJ				*e*S	**Sn**	**12 58 25.7**	**0.0**
YOJ	**Yonaguni jima**	**0.30**	**150**	P	**Pn**	**12 58 12.1**	**+0.3**
	baz=164						
YOJ				*e*S	**Sn**	**12 58 25.6**	**0.0**
	baz=164						
TWB1	**Santiao Chiao**	**0.83**	**290**	*e*P	**Pn**	**12 58 14.2**	**-0.8**
	baz=286						
IRIF	**Iriomote-Funau**	**0.89**	**115**	P	**Pn**	**12 58 16.0**	**+0.4**
IRIF				S	**Sn**	**12 58 31.7**	**-0.6**
TWC	**Suao**	**0.92**	**263**	*e*P	**Pn**	**12 58 16.7**	**+0.9**
	baz=257						
TIPB	**Shuangxi**	**0.96**	**285**	*e*P	**Pn**	**12 58 16.6**	**+0.4**
	baz=279						
TIPB				*e*S	**Sn**	**12 58 32.7**	**-0.8**
	baz=279						
NDS	**Dongshan**	**1.03**	**265**	*e*P	**Pn**	**12 58 19.7**	**+2.8**
	baz=262						
NDS				*e*S	**Sn**	**12 58 34.1**	**-0.5**
	baz=262						
ENA	**Nanau**	**1.05**	**254**	*e*P	**Pn**	**12 58 17.1**	**+0.1**
	baz=253						
ENA				*e*S	**Sn**	**12 58 34.6**	**-0.2**
	baz=253						
HATJ	**Hateruma jima**	**1.10**	**127**	P	**Pn**	**12 58 18.6**	**+1.1**
HATJ				S	**Sn**	**12 58 35.9**	**+0.3**
JKRS	**Kuro-shima**	**1.16**	**114**	P	**Pn**	**12 58 19.1**	**+1.0**
JKRS				*e*S	**Sn**	**12 58 36.9**	**+0.1**
ENTT	**Nioudou**	**1.17**	**266**	*e*P	**Pn**	**12 58 19.3**	**+1.1**
	baz=271						
TWA	**Mucha**	**1.18**	**283**	*e*P	**Pn**	**12 58 16.8**	**-1.5**
	baz=274						
NDT	**Datong Townshi**	**1.22**	**265**	*e*P	**Pn**	**12 58 19.2**	**+0.4**
	baz=258						
NWLT	**Wulai**	**1.22**	**273**	*e*P	**Pn**	**12 58 20.9**	**+2.2**
	baz=272						
JIJ	**Ishigaki jima**	**1.23**	**107**	P	**Pn**	**12 58 19.2**	**+0.4**
JIJ				S	**Sn**	**12 58 37.0**	**-1.1**
YM01	**YM01**	**1.23**	**290**	*e*P	**Pn**	**12 58 21.0**	**+2.1**
	baz=281						
ETL	**Fush Village**	**1.25**	**244**	*e*P	**Pn**	**12 58 19.5**	**+0.4**
	baz=244						
TAP	**Taipei**	**1.26**	**285**	*e*P	**Pn**	**12 58 19.1**	**0.0**
	baz=276						
TATO	**Taipei**	**1.26**	**282**	*e*P	**Pn**	**12 58 19.0**	**-0.1**
	baz=274						
NACB	**Ninganchiao**	**1.27**	**245**	*e*P	**Pn**	**12 58 19.3**	**+0.1**
	baz=245						
BACT	**New Taipei Cit**	**1.31**	**282**	*e*P	**Pn**	**12 58 18.6**	**-1.0**
	baz=276						
TWD	**Chiawan**	**1.31**	**241**	*e*S	**Sn**	**12 58 39.1**	**-0.3**
	baz=237						
JISG	**Ishigakijimahi**	**1.34**	**95**	P	**Pn**	**12 58 20.1**	**+0.2**
JISG				S	**Sn**	**12 58 39.0**	**-1.0**
YHNB	**Yeheng**	**1.34**	**268**	*e*P	**Pn**	**12 58 20.7**	**+0.7**
	baz=273						
YHNB				*e*S	**Sn**	**12 58 40.0**	**-0.2**
	baz=273						
ETLH	**Xiulin Townshi**	**1.35**	**248**	*e*P	**Pn**	**12 58 20.5**	**+0.3**
	baz=248						
ETLH				*e*S	**Sn**	**12 58 39.9**	**-0.5**
	baz=248						
NNSB	**Datong**	**1.37**	**258**	*e*P	**Pn**	**12 58 20.8**	**+0.4**
	baz=253						
NNSB				*e*S	**Sn**	**12 58 40.5**	**-0.3**
	baz=253						
NNSH	**Datong**	**1.37**	**258**	*e*P	**Pn**	**12 58 21.2**	**+0.8**
	baz=254						
NNSH				*e*S	**Sn**	**12 58 40.7**	**-0.1**
	baz=254						
NNS	**Nan Shan**	**1.37**	**258**	*e*P	**Pn**	**12 58 19.8**	**-0.7**
	baz=253						
NNS				*e*S	**Sn**	**12 58 40.4**	**-0.5**
	baz=253						
ETM	**Tongmen**	**1.45**	**239**	*e*P	**Pn**	**12 58 21.1**	**-0.1**
	baz=234						
ETM				*e*S	**Sn**	**12 58 41.7**	**-0.5**
	baz=234						
FUSS	**Fushou**	**1.54**	**252**	*e*P	**Pn**	**12 58 22.8**	**+0.4**
	baz=250						
FUSS				*e*S	**Sn**	**12 58 43.7**	**-0.7**
	baz=250						
WHF	**Hehuan Shan**	**1.55**	**249**	*e*P	**Pn**	**12 58 21.4**	**-1.4**
	baz=249						
WHF				*e*S	**Sn**	**12 58 44.0**	**-1.0**
	baz=249						
ESL	**Shilin**	**1.58**	**235**	*e*P	**Pn**	**12 58 22.6**	**-0.1**
	baz=232						
CHGB	**Renai**	**1.66**	**247**	*e*P	**Pn**	**12 58 24.3**	**+0.5**
	baz=242						
CHGB				*e*S	**Sn**	**12 58 46.6**	**-0.3**
	baz=242						
EGFH	**Guangfu**	**1.67**	**231**	*e*P	**Pn**	**12 58 23.8**	**+0.1**
	baz=232						
EGFH				*e*S	**Sn**	**12 58 45.9**	**-0.7**
	baz=232						
LIOB	**Emei**	**1.67**	**268**	*e*P	**Pn**	**12 58 24.2**	**+0.6**
	baz=268						
NSTT	**Nanjuang**	**1.68**	**267**	*e*S	**Sn**	**12 58 46.4**	**-0.6**
	baz=267						
JTJ	**Tarama**	**1.69**	**92**	P	**Pn**	**12 58 24.2**	**+0.3**
JTJ				S	**Sn**	**12 58 46.3**	**-0.7**
OWD	**Renai**	**1.71**	**244**	*e*P	**Pn**	**12 58 25.1**	**+0.8**
	baz=240						
HGSD	**Ruisui**	**1.79**	**227**	*e*P	**Pn**	**12 58 25.8**	**+0.7**
	baz=224						
HGSD				*e*S	**Sn**	**12 58 49.1**	**0.0**
	baz=224						
WHP	**Taichung City**	**1.79**	**256**	*e*P	**Pn**	**12 58 26.3**	**+1.2**
	baz=256						
EHY	**Hungye**	**1.85**	**229**	*e*P	**Pn**	**12 58 25.4**	**-0.4**
	baz=235						
WCS	**Beigang Elemen**	**1.89**	**250**	*e*P	**Pn**	**12 58 27.5**	**+1.3**
	baz=250						
YULB	**Yu-li**	**1.94**	**227**	*e*P	**Pn**	**12 58 26.8**	**-0.1**
	baz=234						
YULB				*e*S	**Sn**	**12 58 51.0**	**-1.4**
	baz=234						
EYUL	**Yuli**	**1.96**	**226**	*e*P	**Pn**	**12 58 26.9**	**-0.2**
	baz=233						
EYUL				*e*S	**Sn**	**12 58 51.2**	**-1.5**
	baz=233						
SSLB	**Suanglung**	**1.96**	**242**	*e*P	**Pn**	**12 58 28.4**	**+1.2**
	baz=241						
SSLB				*e*S	**Sn**	**12 58 53.6**	**+0.6**
	baz=241						
TWF1	**Yuli**	**1.97**	**226**	*e*P	**Pn**	**12 58 27.5**	**+0.3**
	baz=233						
TWF1				*e*S	**Sn**	**12 58 51.6**	**-1.4**
	baz=233						
FULB	**Fuli**	**2.08**	**223**	*e*P	**Pn**	**12 58 29.1**	**+0.5**
	baz=219						
FULB				*e*S	**Sn**	**12 58 55.0**	**-0.4**
	baz=219						
CHKT	**Chengkung**	**2.11**	**220**	*e*P	**Pn**	**12 58 30.4**	**+1.4**
	baz=215						
JIRB	**Irabujima**	**2.12**	**87**	S	**Sn**	**12 58 55.1**	**-1.0**
JMJ	**Miyako jima 2**	**2.23**	**87**	*e*P	**Pn**	**12 58 31.0**	**+0.6**
	baz=87						
EDH	**Donghe**	**2.24**	**219**	*e*P	**Pn**	**12 58 30.6**	**0.0**
	baz=215						
EDH				*e*S	**Sn**	**12 58 58.3**	**-0.7**
	baz=215						
JMJ2	**Miyako jima3**	**2.25**	**89**	S	**Sn**	**12 58 58.9**	**-0.3**
JOGS	**Gusukube**	**2.33**	**89**	S	**Sn**	**12 59 00.2**	**-0.6**
LDUT	**Ludao**	**2.40**	**212**	*e*P	**Pn**	**12 58 32.5**	**-0.1**
	baz=217						
STYT	**Tauyuan**	**2.46**	**231**	*e*P	**Pn**	**12 58 35.0**	**+1.6**
	baz=239						

*NNC **12** 13:12:50.3±5.8,38.15N×70.86E,h0km,mb3.8,mpv3.4,*
Error ellipse: s-maj=44.0km s-min=36.6km az=8.0
*KRNET **12** 13:12:56.8±0.1,39.05N×70.73E,mb3.1*
ISC 12 13:12:55.1±2.4**,39.0N**±0.1×**70.81E**±0.06**,h15**km±12km**,**
n13,σ2.22/25,19C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.88**	**60**	⇓*i*P	**Pn**	**13 13 14.6**	**+1.3**
	baz=62						
DRK				⇓*e*S	**Sn**	**13 13 28.1**	**+2.1**
	baz=62						
BTK	**Batken**	**1.01**	**0**	⇑*i*P	**Pn**	**13 13 16.1**	**+1.2**
	baz=4.0						
BTK				⇑*i*S	**Sn**	**13 13 30.3**	**+1.4**
	baz=4.0						
OHH	**Osh**	**2.12**	**45**	⇑*e*P	**Pg**	**13 13 36.0**	**+0.2**
	baz=46						
OHH				⇑*i*S	**Sg**	**13 14 04.7**	**+1.4**
	baz=46						
SFK	**Sufi-Kurgan**	**2.30**	**64**	⇑*e*P	**Pg**	**13 13 39.3**	**+0.1**
	baz=65						
SFK				⇑*i*S	**Sg**	**13 14 09.5**	**+0.5**
	baz=65						
TRKS	**Terek-Say**	**2.50**	**6**	⇑*i*P	**Pb**	**13 13 40.0**	**+0.3**
	baz=8.0						
TRKS				⇑*e*S	**Sb**	**13 14 11.3**	**+1.0**
	baz=8.0						
ARSB	**Arslanbob**	**2.82**	**35**	⇑*i*P	**Pb**	**13 13 45.6**	**+0.3**
	baz=37						
ARSB				⇑*i*S	**Sb**	**13 14 21.3**	**+1.6**
	baz=37						
MNAS	**Manas**	**3.67**	**20**	⇓*i*P	**Pb**	**13 13 57.4**	**-2.4**
	baz=21						
MNAS				⇓*i*S	**Sb**	**13 14 41.7**	**-2.5**
	baz=21						
AML	**Almayashu**	**3.79**	**35**	⇓*e*P	**Pb**	**13 13 59.2**	**-2.6**
	baz=35						
AML				⇓*i*S	**Sb**	**13 14 44.7**	**-3.0**
	baz=35						
ARLS	**Aral**	**3.89**	**43**	⇑*i*P	**Pb**	**13 14 00.4**	**-3.0**
	baz=43						
ARLS				⇑*i*S	**Sb**	**13 14 47.2**	**-3.1**
	baz=43						
KK31	**Karatay Array**	**4.06**	**357**	⇑P	**Pb**	**13 14 04.0**	**-2.3**
	1.5nm,0.4s,baz=177,slow=12,SNR=33						
KK31				⇑S	**Sg**	**13 15 06.0**	**+0.6**
	3.5nm,0.3s,baz=169,slow=28,SNR=7.0						
AAK	**Ala-Archa**	**4.55**	**37**	⇑P	**Pb**	**13 14 11.5**	**-3.2**
	2.8nm,0.4s						
AAK				⇑S	**Sb**	**13 15 13.5**	**+4.2**
	10.0nm,1.1s						
TKM2	**Tokmak 2**	**5.30**	**42**	⇑P	Pb	13 14 21.9	-5.7
	2.3nm,0.4s						
TKM2				⇑S	**Sb**	**13 15 29.2**	**-1.9**
	5.6nm,0.9s						
AB31	**Akbulak array**	**12.83**	**326**	⇑P	**Pn**	**13 15 57.6**	**+0.8**
	1.3nm,0.7s,baz=149,slow=11,SNR=4.5						
AB31				⇓S	**Sn**	**13 18 17.2**	**-2.1**
	0.6nm,0.5s,baz=154,slow=22,SNR=3.1						

IDC 12 13:16:15.8±2.2**,8.76S**×**128.07E,h0**km**,mb3.5**/1**,**
mb1 3.5/4**,mb1mx3.3**/36**,mbtmp3.3**/4**,ML2.9**/3**,Error**
ellipse: s-maj=78.0km s-min=28.0km az=78.0,Timor
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.57**	**194**	Pn	Pn	13 18 34.8	-0.2
	0.1nm,0.3s,baz=9.8,slow=12,SNR=1.2						
FITZ				Sn	Sn	13 20 25.6	+2.3
	0.1nm,0.3s,baz=242,slow=16,SNR=1.2						
WRA	**Warramunga Arr**	**12.66**	**152**	Pn	Pn	13 19 17.0	-0.2
	0.1nm,0.3s,baz=327,slow=14,SNR=2.0						
WRA				Sn	Sn	13 21 45.1	+6.0
	0.1nm,0.3s,baz=334,slow=21,SNR=6.3						
ASAR	**Alice Springs**	**15.84**	**160**	Pn	Pn	13 20 00.3	0.0
	0.1nm,0.3s,baz=341,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**68.67**	**328**	P	P	13 27 21.1	0.0
	0.2nm,0.4s,baz=116,slow=6.2,SNR=2.4						

*NEIC **12** 13:17:18.4±2.8,7.08N±0.09×124.0E±0.2,h147km±5km,*
mb4.2/16,Error ellipse: s-maj=32.5km s-min=13.2km
az=83.0
*IDC **12** 13:17:46.1±23.0,6.74N×124.51E,h436km±292km,*
mb3.1/5,mb1 3.3/5,mb1mx2.8/46,mbtmp4.0/5,Error
ellipse: s-maj=169.4km s-min=17.3km az=52.0
ISC 12 13:17:17.6±0.8**,7.10N**±0.08×**124.0E**±0.2**,h150**km**,n24,**
σ1.04/22,mb4.0/11**,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**6.75**	**208**	Pn	**Pn**	**13 18 54.9**	**+0.6**
LUWI	**Luwuk**	**8.17**	**189**	Pn	**Pn**	**13 19 12.7**	**-0.7**
SZP	**Santa**	**10.95**	**342**	Pn	**Pn**	**13 19 49.5**	**-0.6**
KAPI	**Kappang**	**12.75**	**199**	Pn	**Pn**	**13 20 12.3**	**-1.4**
YULB	**Yu-li**	**16.41**	**351**	P	**P**	**13 20 59.8**	**+0.3**
YULB				IAmb	IAmb	13 21 07.9	
	comp=Z,7.8nm,0.5s						
SSLB	**Suanglung**	**16.85**	**350**	P	**Pn**	**13 21 05.4**	**+0.6**
MTN	**Manton Dam**	**21.05**	**160**	P	**P**	**13 21 49.7**	**-0.2**
MTN				IAmb	IAmb	13 22 00.3	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**23.12**	**168**	P	**P**	**13 22 12.0**	**+1.4**
KNRA				IAmb	IAmb	13 22 24.4	
	comp=Z,8.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**25.09**	**176**	P	**P**	**13 22 27.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**26.86**	**297**	P	P	13 22 55.3	+11
	comp=Z,0.3nm,0.4s,baz=120,slow=5.4,SNR=4.0						
MBWA	**Marble Bar**	**28.39**	**188**	P	**P**	**13 22 58.2**	**+0.2**
WB0	**Warramunga Arr**	**28.60**	**159**	P	**P**	**13 23 00.8**	**+0.9**
WB0				IAmb	IAmb	13 23 18.4	
	comp=Z,4.5nm,1.1s						
WRAB	**Tennant Creek**	**28.73**	**159**	P	**P**	**13 23 02.1**	**+1.0**
WRAB				IAmb	IAmb	13 23 14.6	
	comp=Z,1.9nm,0.5s						
WRA	**Warramunga Arr**	**28.74**	**159**	P	**P**	**13 23 02.0**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=341,slow=9.0,SNR=32						
WB2	**Warramunga Arr**	**28.74**	**159**	P	**P**	**13 23 02.2**	**+1.0**
WB2				IAmb	IAmb	13 23 02.7	
	comp=Z,2.3nm,0.6s						
WR0	**Warramunga Arr**	**28.83**	**159**	P	**P**	**13 23 02.6**	**+0.7**
WR0				IAmb	IAmb	13 23 19.6	
	comp=Z,3.2nm,1.0s						
AS31	**Alice Springs**	**32.08**	**163**	P	**P**	**13 23 31.5**	**+1.0**
ASAR	**Alice Springs**	**32.08**	**163**	P	**P**	**13 23 31.4**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=340,slow=6.7,SNR=17						
ASAR	**Alice Springs**	**32.08**	**163**	P	**P**	**13 23 32.5**	**+1.9**
JTM	**Tenmabayashi**	**36.85**	**22**	P	**P**	**13 24 11.2**	**-0.2**
BBOO	**Buckleboo**	**41.32**	**165**	P	**P**	**13 24 47.6**	**-1.0**
STKA	**Stephens Creek**	**42.25**	**157**	P	**P**	**13 24 55.0**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=327,slow=9.3,SNR=3.4						
STKA	**Stephens Creek**	**42.25**	**157**	P	**P**	**13 24 55.3**	**-0.9**
MKAR	**Makanchi Array**	**53.25**	**325**	P	P	13 26 26.8	+6.0
	comp=Z,1.1nm,0.6s,baz=121,slow=8.0,SNR=12						

*JMA **12** 13:20:54.9,23.82N×121.72E,h50km±1km,M2.2*
TAP 12 13:20:55.7,23.87N×121.73E,h45km±1km**,ML2.4,D,**
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.12**	**271**	*e*P	Pn	13 21 03.9	+0.9
	baz=288						
TEYL				*e*S	Sn	13 21 10.7	+2.6
	baz=288						
TEGC	**Jichi Village**	**0.23**	**227**	*e*P	Pn	13 21 04.2	+0.4
	baz=225						
TEGC				*e*S	Sn	13 21 11.3	+2.0
	baz=225						
ETM	**Tongmen**	**0.23**	**295**	P	Pn	13 21 04.1	+0.3
	baz=294						
TWD	**Chiawan**	**0.24**	**331**	P	Pn	13 21 05.0	+1.1
	baz=332						
ESL	**Shilin**	**0.27**	**259**	*e*P	Pn	13 21 04.8	+0.7
	baz=258						
ESL				*e*S	Sn	13 21 10.2	+0.1
	baz=258						
ETL	**Fush Village**	**0.30**	**342**	P	Pn	13 21 04.8	+0.3
	baz=342						
NACB	**Ninganchiao**	**0.33**	**339**	P	Pn	13 21 04.9	+0.2
	baz=338						
NACB				S	Sn	13 21 12.3	+1.3
	baz=338						
NACB	**Ninganchiao**	**0.33**	**339**	P	Pn	13 21 04.8	+0.1
EGFH	**Guangfu**	**0.34**	**234**	*e*P	Pn	13 21 05.1	+0.3
	baz=234						
EGFH				*e*S	Sn	13 21 11.2	0.0
	baz=234						
ETLH	**Xiulin Townshi**	**0.41**	**327**	P	Pn	13 21 05.7	+0.1
	baz=326						
ETLH				S	Sn	13 21 13.5	+0.8
	baz=326						
HGSD	**Ruisui**	**0.46**	**217**	P	Pn	13 21 07.2	+1.0
	baz=216						
HGSD				S	Sn	13 21 16.1	+2.4
	baz=216						
WHF	**Hehuan Shan**	**0.50**	**303**	*i* P	Pn	13 21 07.0	-0.2
	baz=303						
WHF				*i* S	Sn	13 21 15.2	0.0
	baz=303						
EHY	**Hungye**	**0.52**	**226**	*e*P	Pn	13 21 06.4	-0.5
	baz=225						
EHY				*e*S	Sn	13 21 14.2	-0.6
	baz=225						
CHGB	**Renai**	**0.54**	**291**	P	Pn	13 21 07.8	+0.4
	baz=290						
CHGB				S	Sn	13 21 16.1	+0.4
	baz=290						
EWUT	**Wuta**	**0.58**	**5**	*e*S	Sn	13 21 17.4	+1.2
	baz=4.0						
FUSS	**Fushou**	**0.58**	**311**	*i* P	Pn	13 21 08.3	+0.3
	baz=310						
FUSS				S	Sn	13 21 17.5	+0.8
	baz=310						
YULB	**Yu-li**	**0.61**	**220**	*e*P	Pn	13 21 07.3	-0.9
	baz=219						
YULB				*e*S	Sn	13 21 16.6	-0.5
	baz=219						
NNSB	**Datong**	**0.64**	**331**	P	Pn	13 21 08.8	+0.1
	baz=330						
NNSB				S	Sn	13 21 18.8	+0.9
	baz=330						
TDCB	**Techi**	**0.65**	**307**	P	Pn	13 21 08.1	-0.6
	baz=306						
TDCB				S	Sn	13 21 18.5	+0.5
	baz=306						
TWF1	**Yuli**	**0.65**	**218**	*e*S	Sn	13 21 17.4	-0.4
	baz=216						
SSLB	**Suanglung**	**0.71**	**264**	*e*P	Pn	13 21 09.4	0.0
	baz=263						
SSLB				*e*S	Sn	13 21 19.2	-0.2
	baz=263						
WPL	**Puli Township**	**0.72**	**282**	P	Pn	13 21 09.8	+0.3
	baz=281						
TWC	**Suao**	**0.75**	**9**	*e*P	Pn	13 21 11.5	+1.6
	baz=9.0						
TWC				*e*S	Sn	13 21 21.6	+1.4
	baz=9.0						
DPDB	**Guoxing**	**0.75**	**283**	*e*P	Pn	13 21 12.5	+2.5
	baz=282						
DPDB				*e*S	Sn	13 21 24.8	+4.5
	baz=282						
SMLT	**Sun Moon Lake**	**0.76**	**271**	*e*P	Pn	13 21 11.0	+0.9
	baz=271						
NDT	**Datong Townshi**	**0.76**	**345**	*e*P	Pn	13 21 10.3	+0.2
	baz=345						
NDT				*e*S	Sn	13 21 21.7	+1.2
	baz=345						
NDS	**Dongshan**	**0.76**	**359**	*e*P	Pn	13 21 10.3	+0.2
	baz=359						
NDS				*e*S	Sn	13 21 21.9	+1.3
	baz=359						
WCS	**Beigang Elemen**	**0.77**	**284**	*e*P	Pn	13 21 12.5	+2.3
	baz=284						
WCS				*e*S	Sn	13 21 25.0	+4.3
	baz=284						
FULB	**Fuli**	**0.77**	**211**	*e*P	Pn	13 21 11.2	+0.9
	baz=210						
FULB				*e*S	Sn	13 21 21.1	+0.2
	baz=210						
ENTT	**Nioudou**	**0.78**	**349**	*e*P	Pn	13 21 10.6	+0.2
	baz=349						
ENTT				*e*S	Sn	13 21 21.2	+0.1
	baz=349						
TYC	**Yuchr**	**0.80**	**273**	*e*P	Pn	13 21 11.1	+0.6
	baz=272						
TYC				*e*S	Sn	13 21 22.8	+1.5
	baz=272						
WHYT	**Xinyi Township**	**0.82**	**258**	*e*P	Pn	13 21 11.8	+0.9
	baz=257						
WHYT				*e*S	Sn	13 21 23.6	+1.7
	baz=257						
WHP	**Taichung City**	**0.82**	**300**	P	Pn	13 21 12.2	+1.2
	baz=299						
WHP				S	Sn	13 21 23.7	+1.6
	baz=299						
CHKT	**Chengkung**	**0.83**	**203**	*e*P	Pn	13 21 10.3	-0.8
	baz=202						
CHKT				*e*S	Sn	13 21 22.2	0.0
	baz=202						
TWE	**Neicheng**	**0.85**	**356**	*e*P	Pn	13 21 12.1	+0.7
	baz=357						
TWE				*e*S	Sn	13 21 24.3	+1.5
	baz=357						
YHNB	**Yeheng**	**0.86**	**338**	*e*P	Pn	13 21 11.9	+0.4
	baz=338						
YHNB				*e*S	Sn	13 21 23.8	+0.7
	baz=338						
YHNB	**Yeheng**	**0.86**	**338**	IAmb	IAmb	13 21 24.6	
	comp=Z,33nm,1.0s						
YHNB	**Yeheng**	**0.86**	**338**	P	Pn	13 21 11.9	+0.4
WJS	**Zh

WWF				*e*S		Sn	13 21 28.2	+3.0
	baz=280							
EDH	**Donghe**	**0.97**	**204**	*e*P		Pn	13 21 12.9	0.0
	baz=203							
EDH				*e*S		Sn	13 21 25.0	-0.6
	baz=203							
TWQ1	**Liyutan**	**0.99**	**299**	*e*P		Pn	13 21 14.2	+0.9
	baz=298							
TWQ1				*e*S		Sn	13 21 28.0	+1.8
	baz=298							
CHN5	**Tsauling**	**1.00**	**255**	*e*P		Pn	13 21 14.1	+0.7
	baz=254							
CHN5				*e*S		Sn	13 21 27.8	+1.4
	baz=254							
NSTT	**Nanjuang**	**1.01**	**319**	*e*S		Sn	13 21 28.4	+1.8
	baz=319							
LIOB	**Emei**	**1.01**	**320**	*e*P		Pn	13 21 15.0	+1.5
	baz=320							
WDJ	**Dajia District**	**1.10**	**296**	*e*S		Sn	13 21 30.3	+1.5
	baz=295							
TIPB	**Shuangxi**	**1.10**	**5**	*e*P		Pn	13 21 15.9	+1.1
	baz=4.0							
TIPB				*e*S		Sn	13 21 31.1	+2.2
	baz=4.0							
STYH	**Taoyuan**	**1.11**	**232**	*e*P		Pn	13 21 15.4	+0.5
	baz=231							
STYH				*e*S		Sn	13 21 29.6	+0.5
	baz=231							
TPUB	**Ta-pu**	**1.15**	**241**	*e*P		Pn	13 21 16.2	+0.7
	baz=240							
CHN4	**Tsaushan**	**1.16**	**244**	*e*P		Pn	13 21 16.6	+1.1
	baz=243							
CHN4				*e*S		Sn	13 21 33.0	+2.8
	baz=243							
WTP	**Ta-pu**	**1.19**	**239**	*e*P		Pn	13 21 16.7	+0.7
	baz=238							
WTP				*e*S		Sn	13 21 33.7	+2.6
	baz=238							
WTK	**Tuku**	**1.24**	**262**	*e*P		Pn	13 21 17.7	+1.1
	baz=261							
WTK				*e*S		Sn	13 21 35.2	+3.1
	baz=261							
TWK	**Hsinying**	**1.28**	**242**	*e*P		Pn	13 21 18.2	+1.0
	baz=241							
TWK				*e*S		Sn	13 21 36.1	+2.8
	baz=241							
CHN1	**Nanshi**	**1.29**	**239**	*e*P		Pn	13 21 18.2	+0.8
	baz=238							
CHN1				*e*S		Sn	13 21 35.6	+2.2
	baz=238							
YOJ	**Yonaguni jima**	**1.31**	**63**	P		Pn	13 21 18.0	+0.4
SLGT	**Liugui**	**1.32**	**229**	*e*P		Pn	13 21 18.4	+0.7
	baz=228							
SLGT				*e*S		Sn	13 21 36.2	+2.1
	baz=228							
IRIF	**Iriomote-Funau**	**1.89**	**75**	P		Pn	13 21 25.9	+0.4
IRIF				S		Sn	13 21 48.6	+0.4
JKRS	**Kuro-shima**	**2.12**	**80**	P		Pn	13 21 29.3	+0.6
JKRS				*e*S		Sn	13 21 55.1	+1.3
JIJ	**Ishigaki jima**	**2.26**	**77**	P		Pn	13 21 30.6	-0.1
JIJ				S		Sn	13 21 56.4	-1.0
JISG	**Ishigakijimahi**	**2.47**	**73**	P		Pn	13 21 33.4	0.0
JISG				*e*S		Sn	13 22 01.3	-1.1
JTJ	**Tarama**	**2.82**	**74**	P		Pn	13 21 38.4	+0.1
JTJ				S		Sn	13 22 11.7	+0.5

*IDC **12** 13:23:49.0±2.2, 7.°05S×129.°81E, h132km±25km, mb3.5/1, mb1 3.4/5, mb1mx3.1/32, mbtmp3.7/5, Error ellipse: s-maj=28.0km s-min=19.4km az=110.0*

ISC 12 13:23:47.7±0.9, **7.°13S**±0.°06×**130.°0E**±0.°1, **h150km, n6, σ3°47/11, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.35**	**11**	P	**Pn**	**13 25 19.7**	**+0.6**
	2.0nm,0.3s,baz=340,slow=23,SNR=66						
SIJI				S	**Sn**	**13 26 25.8**	**-4.9**
	1.0nm,0.3s,baz=220,slow=23,SNR=2.0						
BATI	**Baumata**	**6.98**	**244**	P	**Pn**	**13 25 28.6**	**+1.1**
	7.8nm,0.3s,baz=117,slow=18,SNR=4.3						
BATI				S	**Sn**	**13 26 43.3**	**-2.4**
	7.7nm,0.3s,baz=336,slow=20,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.70**	**201**	P	**Pn**	**13 26 30.4**	**+0.3**
	0.5nm,0.3s,baz=22,slow=11,SNR=30						
FITZ				S	**Sn**	**13 28 34.9**	**-4.6**
	0.9nm,0.3s,baz=199,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**13.41**	**162**	P	**P**	**13 26 55.4**	**-0.9**
	0.3nm,0.3s,baz=346,slow=13,SNR=17						
WRA				S	**Sn**	**13 29 17.6**	**-3.1**
	1.0nm,0.3s,baz=330,slow=23,SNR=14						
ASAR	**Alice Springs**	**16.86**	**168**	P	**Pn**	**13 27 40.3**	**+5.3**
	0.1nm,0.3s,baz=344,slow=9.6,SNR=5.8						
ASAR				S	**S**	**13 30 42.4**	**-0.1**
	0.3nm,0.3s,baz=352,slow=25,SNR=6.6						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**13 34 35.0**	**+2.2**
	0.4nm,0.4s,baz=122,slow=8.8,SNR=7.1						

KRNET 12 13:26:19.7±0.1, **42.°25N×76.°35E, h26km, mb1.3, 6C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.08**	**269**	⇓*i*P	Pb	13 26 25.4	+0.7
	baz=69						
ULHL				⇓*i*S	Sb	13 26 29.0	+1.0
	baz=69						
BOOM	**Boomskoye usch**	**0.39**	**308**	⇑*i*P	Pb	13 26 28.4	+0.1
	baz=9.0						
BOOM				⇑*i*S	Sb	13 26 34.9	+0.7
	baz=9.0						
BOOM	**Boomskoye usch**	**0.39**	**308**	P	Sb	13 26 35.2	+1.0
KDJ	**Kajisay**	**0.62**	**101**	⇓*i*P	Pb	13 26 32.2	0.0
	baz=1.0						
KDJ				⇓*i*S	Sb	13 26 41.4	+0.8
	baz=1.0						
TKM2	**Tokmak 2**	**0.88**	**321**	⇑*e*P	Pb	13 26 36.4	0.0
	baz=21						
TKM2				⇑*i*S	Sn	13 26 48.3	-0.3
	baz=21						
ANVS	**Anan'yevo**	**1.11**	**61**	⇑*i*P	Pb	13 26 40.4	+0.1
	baz=61						
ANVS				⇑*i*S	Sb	13 26 55.4	+1.0
	baz=61						

*DDA **12** 13:52:22.9, 36.°08N×29.°14E, h22km±1km, ML3.1*
*ISK **12** 13:52:22.0, 36.°07N×29.°16E, h14km, ML3.3/25*
*ATH **12** 13:52:22.4, 36.°52N×29.°28E, h30km±13km, ML3.2/3, Error ellipse: s-maj=14.1km s-min=1.1km az=160.0*
*NIC **12** 13:52:24.0±0.0, 36.°02N×29.°21E, h28km, Ml3.5/3*
*THE **12** 13:52:24.8, 36.°23N×29.°19E, h17km±2km, ML3.1/3, Error ellipse: s-maj=3.5km s-min=0.4km az=56.0*
*HLW **12** 13:52:28.2, 35.°67N×29.°15E, h25km±20km, Ml3.7*

ISC 12 13:52:22.6±1.1, **36.°07N**±0.°03×**29.°20E**±0.°02, **h18km**±3km, **n83, σ1°07/129, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.32**	**75**	P	**Pn**	**13 52 31.7**	**-0.7**
KSL				S	**Sn**	**13 52 38.2**	**-0.4**
KSL				AML	AML	13 52 38.3	
	comp=N,6293µm,0.4s						
KSL				AML	AML	13 52 39.3	
	comp=E,6973µm,0.3s						
KSL	**Kastellorizon**	**0.32**	**75**	P	**Pn**	**13 52 31.7**	**-0.7**
KSL				S	**Sn**	**13 52 37.4**	**-1.2**
	comp=E,3µm,0.3s						
KSL	**Kastellorizon**	**0.32**	**75**	⇑P	**Pn**	**13 52 31.8**	**-0.7**
KSL				S	**Sn**	**13 52 38.0**	**-0.6**
AKAS	**Kas**	**0.37**	**63**	*i*P	**Pb**	**13 52 31.2**	**+0.4**
AKAS				*i*S	**Sb**	**13 52 37.8**	**+1.6**
AKAS				IAML		13 52 38.0	
	comp=N,2µm,0.4s						
AKAS				IAML		13 52 42.0	
	comp=E,2µm,0.3s						
AKAS	**Kas**	**0.37**	**63**	PG	**Pg**	**13 52 30.7**	**+0.3**
AKAS				SG	**Sb**	**13 52 36.8**	**+0.6**
FETY	**Fethiye**	**0.58**	**351**	P	**Pb**	**13 52 33.2**	**-0.9**
FETY	**Fethiye**	**0.58**	**351**	PG	**Pb**	**13 52 33.4**	**-0.7**
FETY				SG	**Sb**	**13 52 41.9**	**-0.1**
DEMR	**Demre-Antalya**	**0.60**	**73**	PG	**Pb**	**13 52 34.7**	**+0.3**
DEMR				SG	**Sn**	**13 52 44.4**	**-1.0**
DALY	**Dalyan (Mula)**	**0.87**	**330**	*i*P	**Pb**	**13 52 39.3**	**+0.1**
DALY				*i*S	**Sb**	**13 52 50.5**	**+0.1**
DALY				IAML		13 52 53.0	
	comp=E,608nm,0.5s						
DALY				IAML		13 52 54.0	
	comp=N,662nm,0.3s						
DALY	**Dalyan (Mula)**	**0.87**	**330**	PG	**Pb**	**13 52 39.1**	**0.0**
DALY				SG	**Sg**	**13 52 51.0**	**-0.1**
ARG	**Arkhangelos**	**0.88**	**280**	P	**Pg**	**13 52 40.4**	**+0.6**
ARG				S	**Sn**	**13 52 53.8**	**+1.4**
ARG				AML	AML	13 52 56.9	
	comp=N,2040µm,0.4s						
ARG				AML	AML	13 52 58.2	
	comp=E,2004µm,0.3s						
ARG	**Arkhangelos**	**0.88**	**280**	P	**Pg**	**13 52 40.4**	**+0.6**
ARG				S	**Sg**	**13 52 52.5**	**+1.1**
	comp=E,1µm,0.3s						
ARG	**Arkhangelos**	**0.88**	**280**	PG	**Pb**	**13 52 40.1**	**+0.8**
ARG	**Arkhangelos**	**0.88**	**280**	P	**Pg**	**13 52 40.5**	**+0.7**
ARG				S	**Sn**	**13 52 53.5**	**+1.1**
CAME	**Cameli-Denizli**	**0.88**	**5**	PG	**Pg**	**13 52 39.7**	**-0.1**
CAME				SG	**Sn**	**13 52 52.2**	**-0.4**
ELL	**Elmali**	**0.89**	**40**	PG	**Pg**	**13 52 40.1**	**+0.1**
ELL				SG	**Sn**	**13 52 53.4**	**+0.6**
ELL	**Elmali**	**0.89**	**40**	P	**Pn**	**13 52 40.8**	**+0.5**
ELL				S	**Sn**	**13 52 53.1**	**+0.3**
AKUM	**Antalya-Kumluc**	**0.96**	**74**	*i*P	**Pg**	**13 52 42.0**	**+0.7**
AKUM				*i*S	**Sn**	**13 52 54.6**	**+0.3**
AKUM				IAML		13 52 59.0	
	comp=E,387nm,0.4s						
MRSB	**Marmaris-Mugla**	**1.04**	**309**	PG	**Pb**	**13 52 42.0**	**0.0**
MRSB				SG	**Sg**	**13 52 56.6**	**+0.2**
TURN	**Turunc**	**1.05**	**313**	PG	**Pb**	**13 52 42.1**	**0.0**
CAEL	**Denizli, Camel**	**1.06**	**5**	*i*P	**Pb**	**13 52 42.6**	**+0.1**
CAEL				*i*S	**Sn**	**13 52 57.9**	**+0.9**
CAEL				IAML		13 53 00.0	
	comp=N,369nm,0.5s						
CAEL				IAML		13 53 05.0	
	comp=E,537nm,0.7s						
GOLH	**Golhisar**	**1.21**	**14**	*i*P	**Pg**	**13 52 45.7**	**-0.2**
GOLH				*i*S	**Sg**	**13 53 02.8**	**+1.0**
GOLH				IAML		13 53 06.0	
	comp=N,242nm,0.3s						
KEMT	**Kemer-ANTALYA**	**1.22**	**63**	PN	**Pb**	**13 52 45.6**	**+0.5**
YER	**Yerkesik**	**1.30**	**326**	P	**Pn**	**13 52 45.9**	**0.0**
YER	**Yerkesik**	**1.30**	**326**	PN	**Pn**	**13 52 46.2**	**+0.3**
YER				SN	**Sg**	**13 53 03.7**	**-1.0**
KORT	**Korkueli**	**1.32**	**44**	*i*P	**Pg**	**13 52 48.5**	**+0.4**
KORT				*i*S	**Sg**	**13 53 04.3**	**-1.0**
KORT				IAML		13 53 09.0	
	comp=E,440nm,0.6s						
KORT				IAML		13 53 11.0	
	comp=N,337nm,0.5s						
KORT	**Korkueli**	**1.32**	**44**	PN	**Pb**	**13 52 47.0**	**+0.1**
KORT				SN	**Sg**	**13 53 05.3**	**0.0**
MULA	**Mugla, Merkez-**	**1.38**	**330**	*i*P	**Pb**	**13 52 48.4**	**+0.5**
MULA				*i*S	**Sn**	**13 53 04.8**	**-0.1**
MULA				IAML		13 53 07.0	
	comp=N,226nm,0.5s						
MULA				IAML		13 53 11.0	
	comp=E,426nm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.42**	**351**	*i*P	**Pb**	**13 52 48.2**	**-0.3**
TAVA				*i*S	**Sb**	**13 53 06.2**	**-0.1**
TAVA				IAML		13 53 07.0	
	comp=N,674nm,0.5s						
TAVA				IAML		13 53 08.0	
	comp=E,704nm,0.6s						
DATC	**Datca-Mugla**	**1.42**	**300**	PN	**Pn**	**13 52 47.7**	**+0.2**
DATC				SN	**Sb**	**13 53 06.4**	**+0.1**
ANTB	**Antalya**	**1.44**	**54**	PN	**Pb**	**13 52 48.7**	**-0.1**
DAT	**Datca**	**1.47**	**297**	PN	**Pn**	**13 52 48.4**	**+0.2**
DAT				SN	**Sn**	**13 53 07.7**	**+0.7**
BUCA	**Burdur, Bucak-**	**1.67**	**41**	*i*P	**Pb**	**13 52 52.7**	**-0.1**
BUCA				*i*S	**Sb**	**13 53 14.6**	**+1.0**
BUCA				IAML		13 53 26.0	
	comp=E,132nm,0.7s						
MLSB	**Milas**	**1.68**	**317**	PN	**Pn**	**13 52 51.5**	**+0.4**
MLSB				SN	**Sb**	**13 53 13.1**	**-0.6**
NIS1	**Nisyros Isl.**	**1.72**	**289**	P	**Pn**	**13 52 52.3**	**+0.7**
NIS1				S	**Sn**	**13 53 14.4**	**+1.4**
NIS1				AML	AML	13 53 16.5	
	comp=N,1996µm,0.5s						
NIS1				AML	AML	13 53 17.9	
	comp=E,2456µm,0.7s						
NIS1	**Nisyros Isl.**	**1.72**	**289**	P	**Pn**	**13 52 51.9**	**+0.3**
NIS1				S	**Sn**	**13 53 12.7**	**-0.4**
	comp=E,1µm,0.4s						
NIS1	**Nisyros Isl.**	**1.72**	**289**	PN	**Pn**	**13 52 51.9**	**+0.3**
NIS1				SN	**Sn**	**13 53 13.7**	**+0.6**
BDRM	**Kayabasi**	**1.73**	**306**	*i*P	**Pn**	**13 52 51.9**	**+0.2**
BDRM				*i*S	**Sn**	**13 53 13.8**	**+0.4**
BDRM				IAML		13 53 22.0	
	comp=E,148nm,0.4s						
BDRM				IAML		13 53 23.0	
	comp=N,188nm,0.6s						
BRDR	**BURDUR-Merkez**	**1.77**	**23**	*i*P	**Pb**	**13 52 53.7**	**-0.8**
BRDR				*i*S	**Sb**	**13 53 17.2**	**+0.7**
BRDR				IAML		13 53 20.0	
	comp=E,138nm,0.5s						
BCK	**Bucak**	**1.79**	**38**	PN	**Pn**	**13 52 53.6**	**+1.0**
BODT	**Bodrum**	**1.82**	**304**	P	**Pn**	**13 52 52.3**	**-0.7**
BODT				S	**Sn**	**13 53 13.7**	**-1.8**
AYDN	**Tasoluk**	**1.91**	**327**	*i*P	**Pn**	**13 52 55.6**	**+1.3**
AYDN				*i*S	**Sn**	**13 53 17.9**	**0.0**
AYDN				IAML		13 53 23.0	
	comp=N,287nm,0.3s						
AYDN				IAML		13 53 23.0	
	comp=E,326nm,0.3s						
BASM	**Basmaki-Afyon**	**1.97**	**20**	PN	**Pn**	**13 52 55.7**	**+0.5**
ISP	**Isparta**	**2.05**	**31**	PN	**Pn**	**13 52 57.4**	**+1.2**
DDIM	**Aydin, Didim**	**2.10**	**312**	*i*P	**Pb**	**13 52 59.1**	**-0.9**
DDIM				*i*S	**Sn**	**13 53 21.9**	**-0.5**
DDIM				IAML		13 53 23.0	
	comp=N,112nm,0.5s						
DDIM				IAML		13 53 35.0	
	comp=E,172nm,0.7s						
KEPZ	**Antalya-Kepez**	**2.11**	**66**	*i*P	**Pb**	**13 52 59.0**	**-1.3**
KEPZ				*i*S	**Sn**	**13 53 24.3**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**331**	PN	**Pn**	**13 52 58.4**	**+0.8**
GCAM	**G?zelcaml?**	**2.27**	**317**	*i*P	**Pn**	**13 52 59.8**	**+0.7**
GCAM				*i*S	**Sn**	**13 53 25.4**	**-1.2**
GCAM				IAML		13 53 27.0	
	comp=N,352nm,0.6s						
GCAM				IAML		13 53 27.0	
	comp=E,267nm,0.5s						
GCAM	**G?zelcaml?**	**2.27**	**317**	PN	**Pn**	**13 53 00.0**	**+0.9**
KZIL	**AFYON_Kizioren**	**2.31**	**19**	*i*P	**Pn**	**13 53 00.1**	**+0.2**
KZIL				*i*S	**Sb**	**13 53 29.9**	**-2.2**
MANT	**Manisa**	**2.48**	**348**	*i*P	**Pn**	**13 53 01.8**	**-0.4**
MANT				*i*S	**Sn**	**13 53 28.9**	**-3.2**
SEDI	**Konya, Seydise**	**2.48**	**55**	*i*P	**Pb**	**13 53 05.1**	**-1.5**
SEDI				*i*S	**Sn**	**13 53 34.1**	**+2.1**
SEDI				IAML		13 53 42.0	
	comp=N,71nm,0.5s						
SEDI				IAML		13 53 42.0	
	comp=E,89nm,0.5s						
KULA	**Kula-Manisa**	**2.48**	**350**	PN	**Pn**	**13 53 02.4**	**+0.2**
SMG	**Samos**	**2.50**	**312**	P	**Pn**	**13 53 02.4**	**0.0**
SMG				S	**Sn**	**13 53 31.3**	**-1.2**
GAZI	**Gazipasa**	**2.53**	**85**	*i*P	**Pn**	**13 53 02.6**	**-0.1**
GAZI				*i*S	**Sn**	**13 53 31.1**	**-2.0**
GAZI	**Gazipasa**	**2.53**	**85**	PN	**Pn**	**13 53 03.5**	**+0.8**
ZKR	**Zakros**	**2.61**	**250**	PN	**Pn**	**13 53 04.5**	**+0.7**
ZKR	**Zakros**	**2.61**	**250**	P	**Pn**	**13 53 04.5**	**+0.7**
USAK	**Uak-Merkez**	**2.65**	**357**	*i*P	**Pn**	**13 53 04.2**	**-0.2**
USAK				*i*S	**Sn**	**13 53 35.1**	**-1.0**
USAK				IAML		13 53 38.0	
	comp=N,63nm,1.1s						
SHUT	**Suhut-Afyon**	**2.71**	**23**	PN	**Pn**	**13 53 06.1**	**+0.8**
AKMS	**Akamas**	**2.76**	**111**	P	**Pn**	**13 53 06.1**	**+0.1**
AKMS				AML	AML	13 53 38.2	
	comp=N,0.7nm,0.4s						
AKMS				AML	AML	13 53 38.2	
	comp=N,0.7nm,0.4s						
AKMS				S	**Sn**	**13 53 38.4**	**-0.5**
AKMS				AML	AML	13 53 39.2	
	comp=N,0.5nm,0.3s						
AKMS				AML	AML	13 53 39.2	
	comp=N,0.5nm,0.3s						
ALFC	**Alefka**	**2.92**	**107**	P	**Pn**	**13 53 08.0**	**-0.1**
ALFC				AML	AML	13 53 41.7	
	comp=N,0.3nm,0.3s						
ALFC				AML	AML	13 53 41.9	
	comp=N,0.4nm,0.4s						
SIMA	**Simav-Kutahya**	**3.02**	**357**	PN	**Pn**	**13 53 10.9**	**+1.4**
NATA	**Nata**	**3.04**	**114**	P	**Pn**	**13 53 10.1**	**+0.4**
KONT	**Konya--Tatoy**	**3.15**	**53**	PN	**Pn**	**13 53 13.3**	**+2.0**
LEF	**Lefka**	**3.15**	**106**	PN	**Pn**	**13 53 11.9**	**+0.6**
TEKE	**Tekeli-Mersin**	**3.17**	**87**	PN	**Pn**	**13 53 13.2**	**+1.6**
BERE	**Bereket-Mersin**	**3.27**	**84**	PN	**Pn**	**13 53 14.7**	**+1.7**
SZAC	**Souni**	**3.28**	**112**	P	**Pn**	**13 53 13.3**	**+0.2**
SZAC				AML	AML	13 53 52.2	
	comp=N,0.3nm,0.1s						
SZAC				AML	AML	13 53 52.4	
	comp=N,0.5nm,0.3s						
LADK	**Ladik-KONYA**	**3.31**	**49**	PN	**Pn**	**13 53 15.3**	**+1.8**
TEVE	**Tevekalti-Mers**	**3.45**	**83**	PN	**Pn**	**13 53 17.4**	**+1.9**
ASGA	**Asgata**	**3.54**	**110**	P	**Pn**	**13 53 17.0**	**+0.3**
CSS	**Mathiatis**	**3.55**	**107**	P	**Pn**	**13 53 17.5**	**+0.7**
MVOU	**Mavrovouni**	**3.76**	**105**	P	**Pn**	**13 53 20.4**	**+0.7**
SLUM	**Salum**	**5.64**	**217**	P	**Pn**	**13 53 46.4**	**+0.9**
	baz=220						
SLUM				AMP		13 54 00.0	
	baz=220						
SLUM				S	**Sn**	**13 54 43.2**	**-6.6**
	baz=220						
HMYD	**Mayadein**	**6.39**	**167**	P	**Pn**	**13 53 56.4**	**+0.5**
	baz=166						
KOT	**Kottamia**	**6.51**	**159**	P	**Pn**	**13 53 58.4**	**+1.0**
	baz=157						
HNAT	**Natroun**	**6.52**	**169**	P	**Pn**	**13 53 58.1**	**+0.4**
	baz=167						
HNAT				AMP		13 55 00.0	
	baz=167						
HNAT				S	Sn	13 55 03.0	-8.6
	baz=167						
HSAF	**As Saff**	**6.73**	**162**	P	**Pn**	**13 54 00.7**	**+0.2**
	baz=160						
GLL	**Jalalah**	**6.80**	**161**	P	**Pn**	**13 54 01.9**	**+0.3**
	baz=159						
SUZ	**Suez**	**6.92**	**153**	P	**Pn**	**13 54 03.8**	**+0.7**
	baz=150						
SWA2		**7.50**	**206**	P	**Pn**	**13 54 10.4**	**-0.6**
	baz=207						
SWA2				AMP		13 55 00.0	
	baz=207						
TAMRE	**El Minia**	**8.48**	**170**	P	**Pn**	**13 54 24.5**	**-0.1**
	baz=168						

NNC 12 13:56:42.1±15.0, **37.°59N×71.°36E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=117.7km s-min=90.4km az=175.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.54**	**354**	⇑P	Pn	13 58 06.7	+0.9
	0.2nm,0.2s,baz=184,slow=14,SNR=11						
KK31				⇓S	Sn	13 59 11.8	+1.6
	0.7nm,0.3s,baz=173,slow=24,SNR=5.3						
AAK	**Ala-Archa**	**5.58**	**25**	⇓P	Pn	13 58 05.8	-0.6
	2.1nm,0.4s						
AAK				⇑S	Sn	13 59 11.7	+0.3
	1.8nm,0.6s						
TKM2	**Tokmak 2**	**6.23**	**30**	⇑P	Pn	13 58 13.1	-2.3
	1.3nm,0.5s						
TKM2				⇓S	Sn	13 58 57.2	-30
	0.3nm,0.5s						

*IDC **12** 13:59:10.7±2.3, 20.°54S×178.°71W, h587km±19km, mb3.1/9, mb1 3.4/11, mb1mx3.2/25, mbtmp4.0/11, Error ellipse: s-maj=59.4km s-min=14.7km az=152.0*

ISC 12 13:59:10.3±1.2, **20.°6S**±0.°3×**178.°7W**±0.°2, **h587km, n15, σ1°40/18, mb3.5/9, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.20**	**313**	P	**P**	**14 00 37.1**	**+0.6**
	0.5nm,0.3s,baz=277,slow=15,SNR=2.0						
AFI	**Afiamalu**	**9.40**	**46**	P	**P**	**14 01 21.2**	**-1.9**
	4.7nm,0.3s,baz=130,slow=2.4,SNR=5.8						
ASAR	**Alice Springs**	**43.84**	**257**	P	**P**	**14 06 26.6**	**+0.6**
	1.1nm,0.6s,baz=94,slow=7.6,SNR=35						
ASAR				PcP	**PcP**	**14 07 59.2**	**+0.1**
	0.5nm,0.6s,baz=112,slow=4.1,SNR=7.9						
ASAR				S	**S**	**14 12 12.7**	**-2.8**
	0.7nm,0.9s,baz=95,slow=16,SNR=4.0						
WRA	**Warramunga Arr**	**43.93**	**262**	P	**P**	**14 06 26.4**	**-0.2**
	0.9nm,0.6s,baz=98,slow=7.9,SNR=19						
WRA				PcP	**PcP**	**14 07 59.7**	**+0.3**
	0.3nm,0.7s,baz=104,slow=1.7,SNR=1.6						
FITZ	**Fitzroy Crossi**	**52.35**	**263**	P	**P**	**14 07 29.8**	**+0.6**
	2.1nm,1.0s,baz=164,slow=20,SNR=1.8						
PETK	**Petropavlovsk-**	**76.22**	**346**	P	**P**	**14 09 59.4**	**+0.4**
	1.0nm,0.6s,baz=119,slow=9.0,SNR=2.4						
NVAR	**Mina Array Bea**	**81.57**	**44**	P	**P**	**14 10 28.9**	**+0.9**
	0.7nm,0.7s,baz=221,slow=8.6,SNR=4.1						
TXAR	**Lajitas Array**	**87.68**	**58**	P	**P**	**14 10 59.0**	**+1.3**
	0.7nm,0.8s,baz=212,slow=4.9,SNR=9.3						
ILAR	**Eielson Array**	**88.58**	**13**	P	**P**	**14 11 00.5**	**-0.5**
	0.7nm,0.6s,baz=218,slow=5.1,SNR=8.6						
PDAR	**Pinedale Array**	**89.50**	**43**	P	**P**	**14 11 06.3**	**+0.2**
	0.6nm,0.6s,baz=219,slow=3.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**14 11 08.2**	**+1.8**
	0.7nm,0.7s,baz=120,slow=3.6,SNR=4.2						
MKAR	**Makanchi Array**	**110.80**	**313**	PKiKP	**PKiKP**	**14 16 36.6**	**-0.7**
	0.2nm,0.4s,baz=62,slow=0.9,SNR=2.4						
AKASG	**Malin Array Be**	**142.79**	**330**	PKP	**PKPdf**	**14 17 34.7**	**-2.8**
	1.1nm,0.4s,baz=41,slow=4.1,SNR=8.9						
BRTR	**Keskin Array B**	**146.42**	**312**	PKPbc	**PKPdf**	**14 17 45.8**	**+1.5**
	0.8nm,0.5s,baz=140,slow=5.4,SNR=5.0						
GERES	**GERESS Array B**	**150.13**	**343**	PKPbc	**PKPbc**	**14 17 54.8**	**-0.8**
	0.2nm,0.4s,baz=29,slow=2.2,SNR=5.0						

*ANF **12** 14:05:06.7±0.5, 37.°33N×114.°62W, h21km±3km, ML3.7/17, Error ellipse: s-maj=2.9km s-min=2.1km az=26.0, Hypocentre not reviewed by the ISC*
*REN **12** 14:05:06.1±2.5, 37.°27N±0.°03×114.°65W±0.°01, h5km±6km, ML3.4/13, ML3.3/44(NEIC), Mwr3.3/17(SL

PSUT	**Pine Spring**	**1.39**	**27**		Pn	14 05 31.7	+0.2
PSUT				IAML		14 05 53.4	
	comp=E,383nm,0.6s						
PSUT				IAML		14 05 57.8	
	comp=N,464nm,0.6s						
SPR3	**Spring Creek 3**	**1.72**	**8**	Pn	Pn	14 05 34.9	-1.2
SPR3				IAML		14 05 58.8	
	comp=E,310nm,0.5s						
SPR3				IAML		14 05 59.3	
	comp=N,262nm,0.6s						
SHOC	**Shoshone, Teco**	**1.91**	**224**	Pb		14 05 41.3	
	baz=43,SNR=54						
SHOC				Sb		14 06 06.6	
	baz=43						
FURC	**Furnace Creek,**	**1.95**	**246**	Pb		14 05 42.2	
	baz=65,SNR=87						
FURC				Sb		14 06 08.5	
	baz=65						
GWY	**Greenwater Val**	**1.96**	**236**		Pn	14 05 39.3	+0.1
U15A	**North Rim**	**2.08**	**114**		Pb	14 05 42.5	-1.4
U15A				IAML		14 06 14.7	
	comp=E,271nm,1.0s						
MTPU	**Mount Pierson**	**2.10**	**68**		Pn	14 05 42.7	+1.4
TUQ	**Turquoise Moun**	**2.12**	**209**	P		14 05 41.6	
	baz=29,SNR=216						
TUQ				Sb		14 06 13.1	
	baz=29						
TPH	**Tonopah**	**2.18**	**292**		Pn	14 05 42.2	-0.1
TPH	**Tonopah**	**2.18**	**292**	IAML		14 06 16.8	
	comp=E,267nm,0.4s						
TPH				IAML		14 06 17.0	
	comp=N,186nm,0.3s						
TCRU	**Three Creeks R**	**2.18**	**52**		Pn	14 05 43.4	+1.0
TCRU				IAML		14 06 20.3	
	comp=N,169nm,0.5s						
TCRU				IAML		14 06 23.9	
	comp=E,167nm,0.9s						
GRAC	**Grapevine Rang**	**2.19**	**263**	P		14 05 42.5	
	baz=82,SNR=20						
GRAC				Sb		14 06 14.2	
	baz=82						
W13A	**Hualapai Mount**	**2.28**	**164**		Pn	14 05 44.0	+0.3
LCH	**Last Change Ra**	**2.38**	**269**		Pn	14 05 45.2	+0.1
NEE2	**Needles Airpor**	**2.52**	**179**	P		14 05 46.8	
	baz=360						
NEE2				S		14 06 17.6	
	baz=360						
MPMC	**Manual Prospec**	**2.59**	**242**	P		14 05 47.9	
	baz=61,SNR=62						
GMRC	**Granite Mounta**	**2.63**	**198**	P		14 05 48.5	
	baz=18,SNR=9.0						
GMRC				Sb		14 06 29.2	
	baz=18						
GSC	**Goldstone, Bar**	**2.64**	**222**	Pb		14 05 54.5	
	baz=41,SNR=53						
GSC				Sb		14 06 29.4	
	baz=41						
HEC	**Hector,Ludlow**	**2.81**	**209**	P		14 05 51.1	
	baz=29,SNR=22						
NV11	**Mina Array Sit**	**2.99**	**293**		Pn	14 05 53.3	-0.2
NV11				IAML		14 06 45.0	
	comp=N,68nm,0.6s						
NVAR	**Mina Array Bea**	**3.10**	**293**		Pn	14 05 54.8	-0.2
IRM	**Iron Mountain**	**3.16**	**187**	P		14 05 55.8	
	baz=7.3,SNR=9.3						
WUAZ	**Wupatki**	**3.19**	**123**	P		14 05 55.6	
	baz=305,SNR=112						
WUAZ				Sb		14 06 43.7	
	baz=305						
LHV	**Little Huntoon**	**3.19**	**289**		Pn	14 05 56.1	+0.1
LHV				IAML		14 06 52.3	
	comp=E,101nm,0.7s						
LHV				IAML		14 06 54.6	
	comp=N,112nm,0.6s						
KVN	**Kaiserville**	**3.23**	**304**	Pn	Pn	14 05 57.0	+0.3
KVN				IAML		14 06 52.6	
	comp=E,56nm,0.6s						
RYN	**Ryan**	**3.33**	**295**		Pn	14 05 58.1	-0.1
RYN				IAML		14 06 55.8	
	comp=N,96nm,0.7s						
RYN				IAML		14 06 56.7	
	comp=E,101nm,0.8s						
BELC	**Belle Mtn. Jos**	**3.47**	**199**	S		14 06 41.9	
	baz=18						
ELK	**Elko**	**3.47**	**353**	Pn	Pn	14 06 00.1	-0.1
BC3	**Big Chuckawall**	**3.69**	**190**	P		14 06 03.8	
	baz=10						
PFO	**Pinyon Flats O**	**3.96**	**202**	P		14 06 07.3	
	baz=22						
MONP2	**Monument Peak**	**4.63**	**199**	P		14 06 16.7	
	baz=18						

*IDC **12** 14:31:45.0±10.0, 4°.18S×105°.22E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/33, mbtmp3.5/4, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/21, Error ellipse: s-maj=250.3km s-min=119.7km az=68.0*

*DJA **12** 14:31:56.7±0.5, 6°.5S×107°.5E±°, h10km, M3.1/7, MLv3.1/7*

ISC 12 14:31:57.4±0.9, 6°.0S±0°.1×105°.48E±0°.08, h10km, n13, σ2s07/15, mb3.3/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.67**	**340**	P	**Pn**	**14 32 12.1**	**-1.0**
BLSI				S	**Sn**	**14 32 22.8**	**-0.9**
KASI	**Kota Agung**	**1.09**	**296**	P	**Pb**	**14 32 17.7**	**-0.6**
TNG	**Tangerang**	**1.17**	**98**	P	**Pn**	**14 32 19.1**	**-0.8**
TNG				P	**Pg**	**14 32 19.4**	**-0.6**
DBJI	**Dramaga**	**1.38**	**113**	P	**Pn**	**14 32 20.9**	**-1.8**
LWLI	**Liwa**	**1.72**	**305**	P	**Pn**	**14 32 27.6**	**+0.1**
MDSI	**Maura Dua**	**1.99**	**319**	P	**Pb**	**14 32 32.9**	**-0.8**
LEM	**Lembang**	**2.28**	**111**	Pn	**Pg**	**14 32 41.1**	**-0.1**
	7.2nm,0.3s,baz=143,slow=20,SNR=2.6						
LEM				Sn	**Sg**	**14 33 16.7**	**+6.0**
	2.6nm,0.3s,baz=1.8,slow=23,SNR=1.2						
LEM	**Lembang**	**2.28**	**111**	P	**Pn**	**14 32 32.5**	**-2.8**
LHSI	**Lahat**	**2.91**	**318**	P	**Pg**	**14 32 53.9**	**+0.6**
WRA	**Warramunga Arr**	**31.27**	**119**	P	**P**	**14 38 17.5**	**-0.4**
	0.4nm,0.9s,baz=301,slow=8.4,SNR=1.8						
ASAR	**Alice Springs**	**32.49**	**126**	P	**P**	**14 38 28.6**	**+0.1**
	0.2nm,0.6s,baz=304,slow=8.2,SNR=6.1						
STKA	**Stephens Creek**	**42.43**	**132**	P	**P**	**14 39 52.9**	**+0.4**
	0.5nm,0.4s,baz=329,slow=12,SNR=2.9						
WSAR	**Wadi Sarin**	**54.20**	**304**	LR	LR	15 01 39.9	
	comp=Z,46nm,20.9s,baz=114,slow=34						

IDC 12 14:48:03.7±3.3, 47°.08N×154°.33E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.3/50, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=74.0km s-min=58.2km az=26.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.41**	**19**	Pn	Pn	14 49 39.2	0.0
	0.4nm,0.3s,baz=182,slow=12,SNR=13						
H11N2	**WAKE ISLAND Hy**	**29.15**	**155**	T	T	15 25 15.9	
	baz=343,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**29.17**	**155**	T	T	15 25 12.8	
	baz=343,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**29.17**	**155**	T	T	15 25 11.8	
	baz=343,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**30.26**	**156**	T	T	15 26 38.3	
	baz=343,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**30.27**	**156**	T	T	15 26 41.2	
	baz=343,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**30.28**	**156**	T	T	15 26 40.9	
	baz=343,slow=76,SNR=42						
FINES	**FINESS Array B**	**64.09**	**335**	P	P	14 58 39.0	0.0
	2.3nm,1.0s,baz=44,slow=8.3,SNR=3.6						
TXAR	**Lajitas Array**	**76.60**	**61**	P	P	14 59 56.3	0.0
	0.3nm,0.8s,baz=305,slow=3.2,SNR=3.6						

*IDC **12** 14:50:40.2±1.2, 47°.51N×27°.59W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/58, mbtmp3.5/5, ML4.2/2, MS3.3/14, Ms1 3.3/14, ms1mx3.0/40, Error ellipse: s-maj=48.1km s-min=26.1km az=27.0*

ISC 12 14:50:41.0±1.1, 47°.5N±0°.2×27°.6W±0°.2, h6km, n22, σ0s97/6, mb3.5/3, MS3.3/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.04**	**54**	P	**Pn**	**14 54 39.4**	**-0.3**
	baz=247,slow=12,SNR=2.8						
ESDC	**Sonseca Array**	**18.77**	**106**	P	**Pn**	**14 55 02.5**	**+1.3**
	0.3nm,0.3s,baz=296,slow=13,SNR=4.5						
ESDC					LR	15 00 49.7	
	comp=Z,85nm,19.0s,baz=290,slow=32						
DAVOX	**Davos/Dischmat**	**25.33**	**78**	LR	LR	15 05 10.0	
	comp=Z,67nm,19.3s,baz=98,slow=34						
NOA	**NORSAR Array B**	**25.91**	**44**	LR	LR	15 05 00.9	
	comp=Z,26nm,21.1s,baz=260,slow=33						
HFS	**Hagfors**	**26.93**	**47**	LR	LR	15 06 01.1	
	comp=Z,24nm,19.7s,baz=247,slow=34						
FINES	**FINESS Array B**	**33.08**	**45**	LR	LR	15 09 20.7	
	comp=Z,29nm,19.0s,baz=322,slow=34						
AKASG	**Malin Array Be**	**36.53**	**63**	LR	LR	15 12 20.7	
	comp=Z,57nm,21.9s,baz=305,slow=36						
TORD	**Torodi Ar. Bea**	**42.10**	**135**	P	**P**	**14 58 33.0**	**-0.9**
	1.2nm,0.8s,baz=331,slow=8.8,SNR=3.7						
BRTR	**Keskin Array B**	**43.97**	**77**	LR	LR	15 17 17.0	
	comp=Z,37nm,20.1s,baz=287,slow=36						
KBZ	**Khabaz**	**47.88**	**67**	LR	LR	15 21 56.4	
	comp=Z,37nm,18.0s,baz=272,slow=39						
H10N2	**ASCENSION HYDR**	**56.33**	**164**	T	T	16 00 52.1	
	baz=349,slow=75,SNR=7.9						
H10N3	**ASCENSION HYDR**	**56.34**	**164**	T	T	16 00 50.9	
	baz=349,slow=75,SNR=7.0						
H10N1	**ASCENSION HYDR**	**56.35**	**164**	T	T	16 00 52.4	
	baz=349,slow=75,SNR=7.2						
ROSC	**El Rosal**	**58.38**	**238**	LR	LR	15 23 44.7	
	comp=Z,27nm,21.6s,baz=130,slow=34						
ILAR	**Eielson Array**	**58.51**	**334**	P	**P**	**15 00 37.4**	**-0.2**
	0.3nm,0.8s,baz=41,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**59.95**	**282**	P	**P**	**15 00 48.6**	**+0.5**
	0.4nm,0.9s,baz=70,slow=7.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**63.86**	**38**	LR	LR	15 28 23.2	
	comp=Z,26nm,19.1s,baz=328,slow=35						
MKAR	**Makanchi Array**	**67.91**	**44**	LR	LR	15 31 33.6	
	comp=Z,17nm,19.8s,baz=254,slow=36						
SIV	**San Ignacio**	**69.99**	**214**	LR	LR	15 27 11.5	
	comp=Z,38nm,20.2s,baz=111,slow=31						
LPAZ	**La Paz**	**73.17**	**221**	LR	LR	15 31 47.5	
	comp=Z,30nm,18.1s,baz=97,slow=34						
NNA	**Nana**	**73.69**	**231**	LR	LR	15 30 11.2	
	comp=Z,21nm,21.9s,baz=359,slow=32						
ASAR	**Alice Springs**	**151.96**	**38**	PKPbc	**PKiKP**	**15 10 37.2**	**-0.2**
	0.4nm,1.0s,baz=335,slow=4.1,SNR=2.4						

NNC 12 15:42:49.1±8.1, 37°.43N×71°.07E, h0km, mb3.5, mpv3.1, 2C-4D, Error ellipse: s-maj=61.7km s-min=55.9km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.68**	**356**	⇓P	Pn	15 44 13.9	-0.8
	0.4nm,0.2s,baz=179,slow=12,SNR=12						
KK31				⇓S	Sn	15 45 22.1	+1.4
	2.0nm,0.6s,baz=183,slow=24,SNR=9.4						
AAK	**Ala-Archa**	**5.82**	**26**	⇓P	Pn	15 44 19.4	+2.5
	1.1nm,0.5s						
AAK				⇑S	Sn	15 45 27.2	+2.8
	3.2nm,0.9s						
TKM2	**Tokmak 2**	**6.48**	**31**	⇓P	Pn	15 44 24.4	-1.5
	2.7nm,1.2s						
TKM2				⇑S	Sn	15 45 39.1	-1.6
	1.8nm,1.0s						

*PRU **12** 16:01:25.0±0.0, 51°.43N×16°.09E, h0km*
*IDC **12** 16:01:25.7±1.0, 51°.47N×15°.83E, h0km, mb1 3.5/4, mb1mx3.3/29, mbtmp3.4/4, ML2.7/4, Error ellipse: s-maj=20.6km s-min=8.8km az=127.0*
*VIE **12** 16:01:26.1±1.2, 51°.34N×15°.96E, h0km, mb2.5/5, ml2.8/5, Error ellipse: s-maj=12.2km s-min=6.3km az=49.0 78 km WNW of Wroclaw Suspected Mining induced.*

ISC 12 16:01:22.9±0.8, 51°.54N±0°.03×16°.09E±0°.03, h0km, n31, σ1s12/64, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg	**Pg**	**16 01 36.7**	**+0.4**
KSP				*e*Sg	**Sg**	**16 01 45.2**	**-0.3**
CHVC	**Chvalec**	**0.95**	**181**	*e*PG	**Pg**	**16 01 40.8**	**-0.2**
CHVC				*e*SG	**Sg**	**16 01 52.9**	**-0.4**
	comp=Z,42nm,0.5s						
OSTC	**Ostas**	**0.98**	**175**	*e*PG	**Pg**	**16 01 41.7**	**0.0**
OSTC				*e*SG	**Sg**	**16 01 53.6**	**-0.8**
	comp=Z,41nm,0.4s						
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**16 01 40.9**	**-1.7**
UPC				*e*SG	**Sg**	**16 01 55.0**	**-0.9**
	comp=Z,91nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**16 01 44.4**	**-1.4**
DPC				*e*SG	**Sg**	**16 02 00.1**	**-1.1**
	comp=Z,32nm,0.6s						
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pb**	**16 01 49.8**	**0.0**
PVCC				*e*SG	**Sn**	**16 02 08.5**	**-0.1**
	comp=Z,136nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**245**	Pg	**Pg**	**16 01 52.4**	**+0.7**
BRG				Sg	**Sn**	**16 02 12.4**	**+1.0**
BRG				Amp		16 02 13.2	
	comp=Z,46nm,0.4s						
KRLC	**Kraliky**	**1.53**	**163**	*e*PG	**Pn**	**16 01 51.4**	**0.0**
KRLC				*e*SG	**Sg**	**16 02 09.5**	**-2.4**
	comp=Z,50nm,0.5s						
PRU	**Pruhonice**	**1.83**	**213**	*e*PG	**Pb**	**16 01 56.6**	**-0.7**
PRU				*e*SG	**Sb**	**16 02 20.9**	**+0.1**
	comp=Z,23nm,0.5s						
CLL	**Collm**	**1.95**	**264**	*e*PN	**Pn**	**16 01 57.0**	**-0.2**
CLL				*e*Pg	**Pg**	**16 02 00.0**	**-0.2**
CLL				*i*		16 02 04.5	
CLL				*e*Sg	**Sg**	**16 02 26.0**	**+0.6**
	comp=Z,19nm,0.7s						
CLL				Lm	MLR	17 53 00.0	
	comp=N,100nm,18.1s						
CLL				Lm	MLR	17 53 00.0	
	comp=E,100nm,18.7s						
CLL				Lm	MLR	17 53 00.0	
	comp=Z,100nm,19.4s						
MORC	**Moravsky Berou**	**1.99**	**152**	*e*PN	**Pn**	**16 01 57.4**	**-0.4**
MORC				*e*SG	**Sn**	**16 02 24.2**	**+0.8**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**16 02 02.0**	**-0.6**
OKC				*e*SG	**Sb**	**16 02 29.0**	**-0.7**
	comp=Z,35nm,0.6s						
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**16 02 01.8**	**+0.4**
VRAC				*e*SG	**Sb**	**16 02 32.5**	**-0.3**
TREC	**Trest**	**2.28**	**190**	*e*SG	**Sb**	**16 02 34.1**	**+0.6**
	comp=Z,28nm,0.3s						
PBCC	**Pribram**	**2.28**	**217**	*e*PG	**Pb**	**16 02 04.4**	**-0.5**
PBCC				*e*SG	**Sg**	**16 02 35.3**	**-0.9**
KRUC	**Moravsky**	**2.48**	**175**	*e*SG	**Sb**	**16 02 40.2**	**+0.7**
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN	**Pn**	**16 02 07.8**	**+0.9**
NKC				*e*PG	**Pg**	**16 02 12.9**	**-0.7**
NKC				*e*SG	**Sg**	**16 02 49.2**	**+1.2**
	comp=Z,31nm,0.3s						
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**16 02 15.9**	**+1.4**
OJC				*e*Sg	**Sg**	**16 02 50.1**	**+0.7**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**16 02 10.6**	**+0.3**
KHC				*e*PG	**Pb**	**16 02 16.2**	**+0.8**
KHC				*e*SN	**Sn**	**16 02 45.5**	**-0.3**
KHC				*e*SG	**Sg**	**16 02 55.2**	**-0.7**
	comp=Z,16nm,0.7s						
CKRC	**Cesky Krumlov**	**2.95**	**204**	*e*PN	**Pn**	**16 02 11.7**	**+0.7**
CKRC				*e*SG	**Sg**	**16 02 55.4**	**-2.2**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**16 02 13.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=25,slow=13,SNR=18						
GERES				Pg	**Pb**	**16 02 19.7**	**+0.8**
	comp=Z,3.2nm,0.3s,baz=30,slow=17,SNR=39						
GERES				Sn	**Sn**	**16 02 50.3**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=26,slow=26,SNR=5.7						
GERES				Lg	Lg	16 03 01.1	
	comp=Z,3.1nm,0.3s,baz=27,slow=27,SNR=4.3						
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PG	**Pg**	**16 02 26.0**	**+1.4**
LANS				*e*SG	**Sg**	**16 03 06.1**	**-0.2**
MODS	**Modra-Piesok**	**3.26**	**166**	*e*PG	**Pg**	**16 02 23.7**	**-1.6**
MODS				*e*SG	**Sb**	**16 03 03.7**	**+2.0**
VYHS	**Vyhne**	**3.52**	**149**	*e*PN	**Pn**	**16 02 19.2**	**+0.4**
VYHS				*e*PG	**Pg**	**16 02 29.0**	**-1.3**
VYHS				*e*SG	**Sg**	**16 03 14.0**	**-2.0**
CONA	**Conrad Observa**	**3.61**	**182**	*i* Pn	**Pn**	**16 02 20.8**	**+0.6**
	comp=Z,1.9nm,0.3s						
CONA				Sg	**Sg**	**16 03 17.4**	**-1.5**
	comp=Z,9.0nm,0.4s						
MOA	**Molln**	**3.88**	**198**	Pg	**Pg**	**16 02 36.7**	**-0.4**
	comp=Z,3.4nm,0.3s						
MOA				Sg	**Sg**	**16 03 26.5**	**-0.8**
	comp=Z,7.3nm,0.4s						
ARSA	**Arzberg**	**4.30**	**185**	*i* Pn	**Pn**	**16 02 32.6**	**+3.0**
	comp=Z,3.0nm,0.3s						
ARSA				*e*Sg	**Sg**	**16 03 41.7**	**+0.6**
	comp=Z,6.5nm,0.5s						
DEL	**Delary**	**5.12**	**346**	*e*	**Pn**	**16 02 40.5**	**-0.2**
	baz=162,slow=12						
DEL				*i* P	**Pn**	**16 02 41.1**	**+0.5**
DEL				*i* S	**Sn**	**16 03 36.5**	**-3.8**
DEL				IAML		16 03 41.9	
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**16 03 25.6**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=281,slow=12,SNR=5.9						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**16 04 05.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=4.7						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**Pn**	**16 05 41.8**	**+0.3**
	baz=187,slow=13,SNR=5.2						

*ISK **12** 16:28:03.7, 36°.03N×27°.19E, h5km, ML2.8/14*
*ATH **12** 16:28:03.7, 36°.12N×27°.14E, h58km±10km, ML2.8/3, Error ellipse: s-maj=10.5km s-min=1.4km az=104.0*
*DDA **12** 16:28:08.7, 36°.28N×27°.38E, h7km±5km, ML2.3*

ISC 12 16:28:03.9±1.2, 36°.10N±0°.03×27°.21E±0°.03, h10km±10km, n34, σ1s34/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.51**	**357**	P	**Pn**	**16 28 17.1**	**-0.2**
NIS1				AML	AML	16 28 29.5	
	comp=N,1962μm,0.3s						
NIS1				AML	AML	16 28 31.4	
	comp=E,1832μm,0.3s						
NIS1	**Nisyros Isl.**	**0.51**	**357**	PG	**Pn**	**16 28 16.0**	**-1.3**
NIS1				SG	**Sb**	**16 28 24.9**	**+2.5**
DAT	**Datca**	**0.70**	**25**	PG	**Pn**	**16 28 19.6**	**-0.4**
DAT				SG	**Sn**	**16 28 31.2**	**+0.3**
ARG	**Arkhangelos**	**0.75**	**80**	P	**Pn**	**16 28 20.4**	**-0.2**
ARG				S	**Sn**	**16 28 32.0**	**-0.1**
ARG				AML	AML	16 28 34.0	
	comp=E,1288μm,0.3s						
ARG				AML	AML	16 28 35.1	
	comp=N,910μm,0.3s						
ARG	**Arkhangelos**	**0.75**	**80**	PG	**Pn**	**16 28 20.3**	**-0.3**
ARG				SG	**Sn**	**16 28 31.6**	**-0.5**
DATC	**Datca-Mugla**	**0.76**	**29**	PG	**Pn**	**16 28 20.6**	**-0.1**
DATC				SG	**Sn**	**16 28 32.9**	**+0.7**
BODT	**Bodrum**	**0.97**	**5**	PG	**Pn**	**16 28 23.7**	**+0.1**
BDRM	**Kayabasi**	**0.99**	**11**	*i* P	**Pn**	**16 28 23.9**	**0.0**
BDRM				*i* S	**Sg**	**16 28 34.2**	**-1.6**
BDRM				IAML		16 28 43.0	
	comp=N,98nm,0.4s						
MRSB	**Marmaris-Mugla**	**1.01**	**52**	PG	**Pn**	**16 28 25.1**	**+0.9**
TURN	**Turunc**	**1.08**	**51**	*i* P	**Pn**	**16 28 25.6**	**+0.5**
TURN				*i* S	**Sg**	**16 28 36.8**	**-1.8**
TURN				IAML		16 28 45.0	
	comp=E,108nm,0.7s						
TURN				IAML		16 28 46.0	
	comp=N,121nm,0.6s						
TURN	**Turunc**	**1.08**	**51**	PN	**Pn**	**16 28 25.9**	**+0.9**
ZKR	**Zakros**	**1.27**	**220**	P	**Pn**	**16 28 28.0**	**+0.3**
ZKR				S	**Sb**	**16 28 44.4**	**+0.2**
ZKR				AML	AML	16 28 47.1	
	comp=N,264μm,0.6s						
ZKR				AML	AML	16 28 47.9	
	comp=E,572μm,0.4s						
ZKR	**Zakros**	**1.27**	**220**	PN	**Pn**	**16 28 28.0**	**+0.3**
ZKR				SN	**Sn**	**16 28 45.8**	**+1.0**
YER	**Yerkesik**	**1.35**	**40**	PN	**Pg**	**16 28 31.5**	**+1.6**
YER				SN	**Sn**	**16 28 51.8**	**+4.9**
DALY	**Dalyan (Mula)**	**1.37**	**58**	*i* P	**Pg**	**16 28 30.7**	**+0.5**
DALY				*i* S	**Sb**	**16 28 46.7**	**-0.5**
DALY				IAML		16 28 59.0	
	comp=N,68nm,0.8s						
DALY				IAML		16 29 06.0	
	comp=E,60nm,0.2s						
DALY	**Dalyan (Mula)**	**1.37**	**58**	PN	**Pg**	**16 28 31.6**	**+1.4**
SANT	**Santorini**	**1.44**	**282**	PN	**Pg**	**16 28 31.9**	**+0.4**
MULA	**Mugla, Merkez-**	**1.46**	**37**	*i* P	**Pg**	**16 28 34.8**	**+2.7**
MULA				*i* S	**Sg**	**16 28 51.0**	**0.0**
MULA				IAML		16 29 03.0	
	comp=E,53nm,0.9s						
THR3	**Thira Island,**	**1.49**	**283**	P	**Pn**	**16 28 30.2**	**-0.5**
SNT5	**Nea Kammeni, S**	**1.50**	**282**	P	**Pn**	**16 28 30.4**	**-0.4**
THR5	**Thira Island,**	**1.54**	**283**	P	**Pn**	**16 28 30.9**	**-0.5**
NPS	**Neapolis**	**1.54**	**238**	P	**Pn**	**16 28 31.7**	**+0.2**
NPS				S	**Sn**	**16 28 50.7**	**-0.8**
FETY	**Fethiye**	**1.61**	**70**	PN	**Pg**	**16 28 34.5**	**-0.2**
AYDN	**Tasoluk**	**1.65**	**19**	*i* P	**Pg**	**16 28 35.5**	**-0.1**
AYDN				*i* S	**Sn**	**16 28 53.0**	**-1.4**
APE	**Apeiranthos**	**1.66**	**306**	P	**Pn**	**16 28 32.7**	**-0.5**
LAST	**Lasithi**	**1.69**	**237**	P	**Pn**	**16 28 33.7**	**+0.2**
CAME	**Cameli-Denizli**	**1.89**	**63**	PN	**Pb**	**16 28 38.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.93**	**16**	PN	**Pg**	**16 28 39.8**	**-1.1**
TAVA	**DENIZLI_Tavas**	**1.94**	**45**	*i* P	**Pg**	**16 28 41.3**	**+0.3**
TAVA				*i* S	**Sn**	**16 28 57.1**	**-4.3**
AKAS	**Kas**	**1.94**	**85**	*i* P	**Pb**	**16 28 38.9**	**-0.6**
AKAS				*i* S	**Sn**	**16 28 59.8**	**-1.9**
AKAS				IAML		16 29 24.0	
	comp=N,30nm,1.1s						
AKAS	**Kas**	**1.94**	**85**	PN	**Pb**	**16 28 39.3**	**-0.2**
CAEL	**Denizli, Camel**	**1.98**	**58**	*i* P	**Pb**	**16 28 40.6**	**+0.4**
CAEL				*i* S	**Sb**	**16 29 05.6**	**+0.6**
CAEL				IAML		16 29 23.0	
	comp=N,87nm,0.7s						
CAEL				IAML		16 29 23.0	
	comp=E,74nm,1.2s						
IDI	**Anoyia**	**2.05**	**248**	P	**Pn**	**16 28 38.5**	**0.0**
GOLH	**Golhisar**	**2.21**	**58**	*i* P	**Pb**	**16 28 44.6**	**+0.6**
GOLH				*i* S	**Sn**	**16 29 06.1**	**-2.0**
GOLH				IAML		16 29 19.0	
	comp=N,22nm,0.4s						

*NEIC **12** 16:39:20.1±1.8, 5°.48S±0°.06×152°.04E±0°.08, h35km±2km, mb4.8/46, Error ellipse: s-maj=13.4km s-min=10.5km az=96.0*
*DJA **12** 16:39:21.

SWI	**Sorong**	**21.28 282**	P	**P**	**16 44 03.0**	**-0.7**
	24nm,1.0s						
DZM	**Mont Dzumac**	**21.53 141**	*e*S	**S**	**16 47 57.9**	**-5.0**
	147nm,20.4s						
DZM			*e*LQ	LQ	16 48 27.9		
	2µm,30.8s						
DZM			*e*LR	LR	16 49 16.3		
	comp=Z,888nm,24.4s						
DZM	**Mont Dzumac**	**21.53 141**	P	**P**	**16 44 09.5**	**+3.0**
	12nm,1.0s,baz=195,slow=7.7,SNR=2.3						
DZM			LR	LR	16 51 48.8		
	comp=Z,674nm,19.0s,baz=348,slow=34						
MTN	**Manton Dam**	**21.88 249**	P	**P**	**16 44 10.5**	**+0.3**
MTN			IAmb	IAmb	16 44 19.0		
	comp=Z,33nm,0.9s						
WB0	**Warramunga Arr**	**22.26 229**	P	**P**	**16 44 13.8**	**-0.5**
WB0			IAmb	IAmb	16 44 23.3		
	comp=Z,40nm,0.9s						
WR0	**Warramunga Arr**	**22.26 228**	P	**P**	**16 44 13.9**	**-0.4**
WR0			IAmb	IAmb	16 44 23.4		
	comp=Z,38nm,1.1s						
WRAB	**Tennant Creek**	**22.39 229**	P	**P**	**16 44 14.8**	**-0.8**
WRAB			IAmb	IAmb	16 44 24.5		
	comp=Z,39nm,1.1s						
WB2	**Warramunga Arr**	**22.39 229**	P	**P**	**16 44 15.1**	**-0.6**
WB2			IAmb	IAmb	16 44 24.6		
	comp=Z,39nm,1.1s						
WRA	**Warramunga Arr**	**22.40 229**	P	**P**	**16 44 15.0**	**-0.8**
	comp=Z,8.4nm,0.6s,baz=52,slow=9.9,SNR=60						
WRA			S	**S**	**16 48 16.8**	**-2.4**
	comp=Z,9.3nm,1.2s,baz=55,slow=18,SNR=8.1						
WRA	**Warramunga Arr**	**22.40 229**	P	**P**	**16 44 14.4**	**-1.3**
PINNC	**Pines Island,**	**22.56 140**	P	**P**	**16 44 16.5**	**-0.8**
KNRA	**Kununurra**	**24.98 244**	P	**P**	**16 44 40.4**	**-0.2**
AS31	**Alice Springs**	**25.10 222**	P	**P**	**16 44 41.2**	**-0.4**
ASAR	**Alice Springs**	**25.11 222**	P	**P**	**16 44 41.1**	**-0.6**
	comp=Z,21nm,0.8s,baz=58,slow=9.0,SNR=115						
ASAR			LR	LR	16 54 18.5		
	comp=Z,278nm,21.2s,baz=57,slow=36						
ASAR	**Alice Springs**	**25.11 222**	P	**P**	**16 44 39.4**	**-2.2**
SOEI	**Soe**	**27.85 260**	P	**P**	**16 45 05.3**	**-1.4**
SOEI			IAmb	IAmb	16 45 25.6		
	comp=Z,31nm,1.0s						
STKA	**Stephens Creek**	**27.97 199**	P	**P**	**16 45 07.0**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=7.7,slow=9.8,SNR=7.5						
STKA			LR	LR	16 56 44.6		
	comp=Z,279nm,18.1s,baz=17,slow=37						
STKA	**Stephens Creek**	**27.97 199**	P	**P**	**16 45 04.6**	**-2.8**
BATI	**Baumata**	**28.50 259**	P	**P**	**16 45 12.5**	**+2.0**
	comp=Z,28nm,0.7s,baz=107,slow=3.6,SNR=7.0						
BATI			LR	LR	16 59 01.5		
	comp=Z,545nm,19.5s,baz=94,slow=42						
FITZ	**Fitzroy Crossi**	**28.66 242**	P	**P**	**16 45 12.5**	**-1.1**
	comp=Z,9.2nm,0.5s,baz=56,slow=6.2,SNR=24						
FITZ	**Fitzroy Crossi**	**28.66 242**	P	**P**	**16 45 12.8**	**-0.9**
FITZ			IAmb	IAmb	16 45 40.9		
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**33.75 219**	P	**P**	**16 45 57.5**	**-0.8**
JCJ	**Chichijima**	**33.83 344**	LR	LR	16 58 13.4		
	comp=Z,133nm,21.3s,baz=135,slow=33						
GIRL	**Giralia**	**40.26 241**	P	**P**	**16 46 52.7**	**-1.0**
MORW	**Morawa**	**41.31 231**	P	**P**	**16 47 02.2**	**-0.1**
MORW			IAmb	IAmb	16 47 18.2		
	comp=Z,21nm,1.2s						
NWAO	**Narrogin (SRO)**	**42.34 225**	P	**P**	**16 47 07.4**	**-3.4**
NWAO			IAmb	IAmb	16 47 31.7		
	comp=Z,37nm,1.4s						
JMN	**Monobe**	**42.69 337**	P	**P**	**16 47 10.8**	**-2.6**
JMN			IAmb	IAmb	16 47 22.0		
	comp=Z,26nm,1.2s						
MJAR	**Matsushiro Arr**	**43.83 344**	LR	LR	17 04 20.9		
	comp=Z,103nm,21.0s,baz=195,slow=34						
LEM	**Lembang**	**44.19 266**	LR	LR	17 10 32.1		
	comp=Z,83nm,18.1s,baz=31,slow=42						
KSRS	**Korea Array**	**48.34 334**	LR	LR	17 08 59.2		
	comp=Z,57nm,18.1s,baz=192,slow=37						
NJ2	**Nanjing**	**48.97 322**	*e*P	**P**	**16 48 03.8**	**+0.8**
NJ2			pmax	pmax			
	comp=Z,8.0nm,0.5s						
NJ2			L	L			
	comp=Z,260nm,17.9s						
NJ2			L	L			
	comp=Z,230nm,17.8s						
NJ2			L	L			
	comp=Z,300nm,19.4s						
USRK	**Ussuriysk Ar.**	**52.72 342**	LR	LR	17 07 33.0		
	comp=Z,65nm,20.6s,baz=138,slow=32						
KMI	**Kunming**	**56.80 305**	⇑P	**P**	**16 49 02.3**	**+1.1**
KMI			pP	pP	16 49 16.5	+2.4	
KMI			sP	sP	16 49 21.5	+2.2	
KMI			pmax	pmax			
	comp=Z,9.0nm,0.9s						
KMI			L	L			
	comp=Z,140nm,10.3s						
KMI			L	L			
	comp=Z,140nm,11.6s						
KMI			L	L			
	comp=Z,120nm,10.2s						
CM36	**Chiang Mai Arr**	**57.41 296**	P	**P**	**16 49 05.0**	**-0.4**
CM35	**Chiang Mai Arr**	**57.42 296**	P	**P**	**16 49 05.0**	**-0.4**
CM34	**Chiang Mai Arr**	**57.48 296**	P	**P**	**16 49 07.0**	**+1.1**
CM04	**Chiang Mai Arr**	**57.48 296**	P	**P**	**16 49 08.7**	**+2.8**
	comp=Z,0.0nmcomp=Z,3.2nm,0.9s						
CM09	**Chiang Mai Arr**	**57.48 296**	P	**P**	**16 49 08.6**	**+2.6**
	comp=Z,0.0nmcomp=Z,4.5nm,1.0s						
CM05	**Chiang Mai Arr**	**57.51 296**	P	**P**	**16 49 08.0**	**+1.9**
	comp=Z,0.0nmcomp=Z,2.8nm,1.2s						
CMAR	**Chiang Mai Arr**	**57.53 296**	P	**P**	**16 49 06.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=118,slow=5.1,SNR=14						
CMAR			LR	LR	17 14 03.9		
	comp=Z,63nm,18.1s,baz=190,slow=36						
CM15	**Chiang Mai Arr**	**57.55 296**	P	**P**	**16 49 08.8**	**+2.4**
	comp=Z,0.0nmcomp=Z,149nmcomp=Z,4.6nm,1.1s						
CM13	**Chiang Mai Arr**	**57.55 296**	P	**P**	**16 49 09.0**	**+2.6**
	comp=Z,0.0nmcomp=Z,3.4nm,1.1s						
CMMT	**Chiang Mai**	**57.64 296**	P	**P**	**16 49 07.2**	**+0.2**
	comp=Z,0.0nmcomp=Z,5.3nm,1.2s						
CMMT	**Chiang Mai**	**57.64 296**	P	**P**	**16 49 04.9**	**-2.2**
	comp=Z,4.3nm,1.2s						
CM33	**Chiang Mai Arr**	**57.65 296**	P	**P**	**16 49 08.0**	**+0.9**
CHTO	**Chiang Mai**	**57.65 296**	P	**P**	**16 49 06.3**	**-0.8**
	comp=Z,7.7nm,1.4s						
CM32	**Chiang Mai Arr**	**57.68 296**	P	P	16 49 16.7	+9.4	
PPT2	**Papeete2**	**58.21 107**	*e*LR	LR	17 06 19.4		
	comp=Z,79nm,23.0s						
PETK	**Petropavlovsk-**	**58.63 4**	P	**P**	**16 49 13.2**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=154,slow=6.0,SNR=14						
PETK			LR	LR	17 10 27.9		
	comp=Z,89nm,21.3s,baz=195,slow=32						
HHC	**Hu-ho-hao-te**	**59.23 325**	*e*P	**P**	**16 49 18.5**	**+0.7**
HHC			sP	sP	16 49 38.5	+2.3	
HHC			S	**S**	**16 57 24.6**	**+1.9**
HHC			pmax	pmax			
	comp=Z,9.0nm,1.0s						
HHC			pmax	pmax			
	comp=Z,68nm,4.5s						
HHC			L	L			
	comp=Z,170nm,18.8s						
HHC			L	L			
	comp=Z,120nm,15.1s						
HHC			L	L			
	comp=Z,180nm,18.6s						
GTA	**Gaotai**	**65.70 318**	*e*P	P	16 50 08.3	+7.1	
GTA			pP	pP	16 50 11.8	-2.3	
GTA			sP	sP	16 50 14.9	-4.3	
GTA			pmax	pmax			
	comp=Z,3.0nm,0.7s						
GTA			pmax	pmax			
	comp=Z,27nm,4.0s						
GTA			L	L			
	comp=Z,72nm,16.0s						
GTA			L	L			
	comp=Z,180nm,17.4s						
GTA			L	L			
	comp=Z,97nm,18.2s						
ULN	**Ulaanbaatar**	**66.24 329**	P	**P**	**16 50 03.5**	**-1.0**
	comp=Z,20nm,1.0s						
SONM	**Songino Array**	**66.56 328**	P	**P**	**16 50 06.4**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=142,slow=4.8,SNR=20						
SONM			LR	LR	17 17 48.9		
	comp=Z,109nm,21.0s,baz=136,slow=35						
SONM	**Songino Array**	**66.56 328**	P	**P**	**16 50 06.5**	**-0.1**
SONM			IAmb	IAmb	16 50 07.4		
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**72.12 178**	P	**P**	**16 50 40.9**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=320,slow=7.5,SNR=6.0						

WMQ	**Urumqi**	**75.79 318**	*e*P	**P**	**16 51 03.1**	**+0.8**
SVW2	**Sparrevohn**	**77.80 23**	P	**P**	**16 51 13.1**	**0.0**
SVW2			IAmb	IAmb	16 51 15.2		
	comp=Z,11nm,1.0s						
CNPM	**China Poot**	**78.70 26**	P	**P**	**16 51 18.9**	**+0.7**
TTA	**Tatalina**	**78.73 22**	P	**P**	**16 51 18.4**	**0.0**
TTA			IAmb	IAmb	16 51 19.9		
	comp=Z,14nm,1.4s						
SEW	**Seward**	**79.77 26**	P	**P**	**16 51 24.1**	**+0.1**
SEW			IAmb	IAmb	16 51 24.7		
	comp=Z,12nm,0.7s						
RC01	**Rabbit Creek A**	**80.16 25**	P	**P**	**16 51 26.4**	**+0.3**
MK31	**Makanchi Array**	**80.40 319**	P	**P**	**16 51 26.9**	**-0.9**
MKAR	**Makanchi Array**	**80.40 319**	P	**P**	**16 51 27.0**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=101,slow=6.5,SNR=18						
MKAR	**Makanchi Array**	**80.40 319**	P	**P**	**16 51 26.7**	**-1.1**
PWL	**Port Wells**	**80.63 25**	P	**P**	**16 51 29.1**	**+0.4**
GLI	**Glacier Island**	**81.17 26**	P	**P**	**16 51 31.8**	**+0.3**
GLI			IAmb	IAmb	16 51 32.6		
	comp=Z,11nm,0.6s						
ZALV	**Zalesovo Beam**	**81.36 327**	P	**P**	**16 51 31.0**	**-1.7**
	comp=Z,2.3nm,0.5s,baz=113,slow=5.6,SNR=8.4						
ZALV			LR	LR	17 27 19.2		
	comp=Z,74nm,20.3s,baz=148,slow=35						
ZALV	**Zalesovo Beam**	**81.36 327**	P	**P**	**16 51 30.0**	**-2.7**
FID	**Port Fidalgo**	**81.38 26**	P	**P**	**16 51 32.6**	**0.0**
MLY	**Manley**	**81.84 21**	IAmb	IAmb	16 51 35.9		
	comp=Z,5.9nm,0.6s						
HMT	**Hamilton**	**82.17 27**	IAmb	IAmb	16 51 38.0		
	comp=Z,11nm,0.8s						
I23K	**Minto, Yukon-K**	**82.40 21**	P	**P**	**16 51 36.9**	**-1.0**
WRH	**Wood River Hil**	**82.52 22**	IAmb	IAmb	16 51 38.7		
	comp=Z,7.5nm,1.1s						
GLB	**Gilahina Butte**	**82.85 26**	P	**P**	**16 51 40.1**	**-0.3**
CRQM	**Cirque**	**82.85 27**	P	**P**	**16 51 39.3**	**-1.3**
VRDI	**Verde Repeater**	**82.91 26**	P	**P**	**16 51 40.5**	**-0.4**
VRDI			IAmb	IAmb	16 51 42.4		
	comp=Z,20nm,1.5s						
ILAR	**Eielson Array**	**83.12 22**	P	**P**	**16 51 40.4**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=245,slow=5.2,SNR=35						
BARN	**Barnard Glacie**	**83.63 27**	IAmb	IAmb	16 51 46.3		
	comp=Z,7.0nm,0.6s						
DOT	**Dot Lake**	**83.70 24**	IAmb	IAmb	16 51 45.9		
	comp=Z,16nm,1.3s						
L27K	**Beaver Creek,**	**84.37 25**	IAmb	IAmb	16 51 50.1		
	comp=Z,9.9nm,1.4s						
MAW	**Mawson**	**84.60 203**	P	**P**	**16 51 49.9**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=61,slow=12,SNR=1.9						
MAW			LR	LR	17 26 07.9		
	comp=Z,133nm,20.7s,baz=60,slow=33						
NVAR	**Mina Array Bea**	**93.12 52**	P	**P**	**16 52 32.1**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=251,slow=4.9,SNR=10						
NVAR			LR	LR	17 30 41.8		
	comp=Z,132nm,18.4s,baz=272,slow=33						
YKA	**Yellowknife Ar**	**96.42 28**	P	**P**	**16 52 45.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=265,slow=3.7,SNR=2.2						
PDAR	**Pinedale Array**	**99.89 48**	P	**Pdif**	**16 53 03.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=286,slow=3.7,SNR=1.9						
BRTR	**Keskin Array B**	**115.25 311**	PP	PP	16 58 59.1	+0.3	
	comp=Z,0.5nm,0.7s,baz=84,slow=4.5,SNR=2.9						
GERES	**GERESS Array B**	**124.30 328**	PKP	**PKPdf**	**16 58 15.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=39,slow=2.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.82 287**	PKPbc	**PKPbc**	**16 59 06.6**	**-0.5**
	comp=Z,12nm,1.0s,baz=44,slow=2.3,SNR=20						
DBIC	**Dimbokro**	**157.02 274**	PKPab	**PKPab**	**16 59 42.3**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=54,slow=5.4,SNR=2.0						

IDC ***12*** *16:44:50.1±1.3,5.7°42S×152.°11E, h0km, mb4.1/10, mb1 4.2/11,mb1mx4.0/37,mbtmp4.1/11,ML2.2/1, Error ellipse: s-maj=44.7km s-min=16.7km az=118.0*

ISC 12 16:44:56.7±1.1,5.°5S±0.°1×152.°1E±0.°2, h45km, n24, σ0s92/25, mb4.1/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.28**	**3**	P		**Pn**	**16 45 19.5**	**+1.3**
PMG	**Port Moresby**	**6.27**	**231**	Pn		**Pn**	**16 46 26.7**	**+0.1**
	3.2nm,0.3s,baz=39,slow=13,SNR=2.9							
PMG				Sn		**Sn**	**16 47 36.5**	**-0.5**
	15nm,0.3s,baz=256,slow=11,SNR=8.3							
PMG	**Port Moresby**	**6.27**	**231**	P		**Pn**	**16 46 29.1**	**+2.4**
KDU	**Kakadu**	**20.66**	**248**	P		**P**	**16 49 31.5**	**-1.4**
	baz=21,SNR=11							
MTN	**Manton Dam**	**21.95**	**249**	P		**P**	**16 49 48.1**	**+1.4**
	baz=22,SNR=4.4							
WB2	**Warramunga Arr**	**22.47**	**229**	P		**P**	**16 49 51.7**	**-0.7**
	baz=23							
WRA	**Warramunga Arr**	**22.48**	**229**	P		**P**	**16 49 51.7**	**-0.8**
	1.8nm,0.4s,baz=52,slow=9.9,SNR=12							
KNRA	**Kununurra**	**25.05**	**244**	P		**P**	**16 50 16.9**	**-0.2**
	baz=25,SNR=27							
ASAR	**Alice Springs**	**25.19**	**222**	P		**P**	**16 50 17.7**	**-0.6**
	4.3nm,0.7s,baz=58,slow=8.5,SNR=26							
ASPA	**Alice Springs**	**25.19**	**222**	P		**P**	**16 50 17.5**	**-0.8**
	baz=25							
CMSA	**Cobar Meteorol**	**26.62**	**192**	P		**P**	**16 50 31.5**	**+0.5**
	baz=27							
STKA	**Stephens Creek**	**28.05**	**199**	P		**P**	**16 50 44.7**	**+0.8**
	0.8nm,0.6s,baz=25,slow=14,SNR=1.7							
FITZ	**Fitzroy Crossi**	**28.73**	**242**	P		**P**	**16 50 49.3**	**-0.8**
	3.2nm,0.4s,baz=52,slow=10,SNR=12							
FITZ	**Fitzroy Crossi**	**28.73**	**242**	P		**P**	**16 50 50.0**	**-0.1**
	baz=29,SNR=11							
WRKA	**Warakurna**	**29.99**	**227**	P		**P**	**16 51 00.4**	**-0.9**
	baz=30,SNR=4.8							
MEEK	**Meekatharra**	**38.25**	**233**	P		**P**	**16 52 12.1**	**-0.6**
	baz=38,SNR=15							
MORW	**Morawa**	**41.38**	**231**	P		**P**	**16 52 39.2**	**+0.4**
	baz=42,SNR=3.6							
CMAR	**Chiang Mai Arr**	**57.54**	**296**	P		**P**	**16 54 41.7**	**-0.4**
	0.5nm,0.3s,baz=124,slow=6.3,SNR=6.2							
PETK	**Petropavlovsk-**	**58.55**	**4**	P		**P**	**16 54 47.9**	**-0.7**
	1.2nm,0.8s,baz=149,slow=6.7,SNR=5.1							
SONM	**Songino Array**	**66.53**	**328**	P		**P**	**16 55 42.7**	**+0.6**
	1.2nm,0.6s,baz=148,slow=5.0,SNR=5.7							
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**	**16 57 03.6**	**+0.1**
	0.9nm,0.9s,baz=92,slow=8.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**81.33**	**327**	P		**P**	**16 57 07.7**	**-0.7**
	1.0nm,0.4s,baz=115,slow=7.4,SNR=4.5							
ILAR	**Eielson Array**	**83.04**	**22**	P		**P**	**16 57 16.6**	**-0.5**
	1.2nm,0.6s,baz=243,slow=5.3,SNR=13							
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc		**PKPbc**	**17 04 43.1**	**+0.1**
	1.1nm,0.4s,baz=104,slow=3.8,SNR=3.3							

IDC ***12*** *17:13:27.8±3.3,9.°69S×119.°83E, h64km±32km, mb3.2/2, mb1 3.4/6,mb1mx3.3/30,mbtmp3.5/6,ML3.7/5, Error ellipse: s-maj=35.0km s-min=11.7km az=56.0*

ISC 12 17:13:24.1±1.1,9.°93S±0.°08×119.°6E±0.°1, h35km, n7, σ2s50/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.04**	**94**	P		**Pn**	**17 14 25.7**	**+2.2**
	29nm,0.3s,baz=284,slow=4.1,SNR=38							
BATI				S		**Sn**	**17 15 08.0**	**-1.7**
	19nm,0.3s,baz=11,slow=22,SNR=14							
KAPI	**Kappang**	**4.89**	**2**	P		**Pn**	**17 14 36.0**	**+0.8**
	9.5nm,0.3s,baz=164,slow=6.9,SNR=6.2							
KAPI				S		**Sn**	**17 15 28.5**	**-2.0**
	2.5nm,0.3s,baz=35,slow=23,SNR=9.1							
FITZ	**Fitzroy Crossi**	**10.03**	**145**	P		**Pn**	**17 15 48.1**	**+2.4**
	0.3nm,0.3s,baz=335,slow=10,SNR=16							
FITZ				S		**Sn**	**17 17 32.2**	**-4.9**
	2.4nm,0.3s,baz=175,slow=19,SNR=20							
WRA	**Warramunga Arr**	**17.39**	**127**	P		**P**	**17 17 25.4**	**+0.3**
	0.1nm,0.3s,baz=300,slow=13,SNR=9.0							
WRA				S		Sn	17 20 23.3	-13
	0.2nm,0.3s,baz=295,slow=25,SNR=4.9							
ASAR	**Alice Springs**	**19.34**	**137**	P		**Pn**	**17 17 49.1**	**+1.2**
	0.2nm,0.3s,baz=324,slow=13,SNR=13							
ASAR				S		S	17 21 12.6	-11
	0.1nm,0.3s,baz=309,slow=23,SNR=2.7							
SONM	**Songino Array**	**58.69**	**350**	P		**P**	**17 23 17.4**	**-0.8**
	0.2nm,0.4s,baz=153,slow=8.1,SNR=2.0							
MKAR	**Makanchi Array**	**65.53**	**333**	P		**P**	**17 24 03.8**	**-0.2**
	0.4nm,0.6s,baz=148,slow=6.7,SNR=5.0							

MAN 12 17:14:29.0,7.°96N×126.°90E, h2km, MS2.9,1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.83**	**268**	*e*P		Pn	17 15 02.1	+0.6
BUKP				*e*S		Sn	17 15 25.4	+0.2
GLSP	**General Luna,**	**1.96**	**337**	*e*P		Pn	17 15 01.1	-2.3
GLSP				*e*S		Sb	17 15 30.9	+0.4
DDMP	**Don Marcelino,**	**2.19**	**213**	*e*P		Pn	17 15 06.5	+0.1
DDMP				*e*S		Sn	17 15 35.1	+0.9
CGP	**Cagayan de Oro**	**2.24**	**283**	⇑*e*P		Pn	17 15 07.7	+0.6
CGP				*e*S		Sn	17 15 36.9	+1.5

IASPEI ***12*** *17:27:44.5±0.9,8.°62N×82.°79W, h18km±1km, ML3.6, MW3.9*

UCR ***12*** *17:27:45.2±1.5,8.°65N×82.°86W, h21km±3km, MW3.7*

ISC 12 17:27:44.8±0.9,8.°63N±0.°03×82.°83W±0.°02, h27km±5km, n40, σ0s62/58, 8C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.07**	**219**	*e*P		**Pb**	**17 27 49.1**	**-0.5**
CDITO				*e*S		**Sb**	**17 27 52.4**	**-0.3**
BRU2	**Volcan**	**0.22**	**39**	⇓*i*P		**Pb**	**17 27 50.8**	**-0.3**
BRU2				⇓*e*S		**Sb**	**17 27 55.4**	**+0.1**
BRU2	**Volcan**	**0.22**	**39**	*e*P		**Pb**	**17 27 50.7**	**-0.3**
BRU2				*e*S		**Sb**	**17 27 55.4**	**+0.1**
LESP3	**La Esperanza,**	**0.22**	**170**	*e*P		**Pb**	**17 27 50.6**	**-0.4**
CCOL	**Caracol de Cor**	**0.26**	**213**	*e*P		**Pb**	**17 27 51.2**	**-0.2**
BC3P	**Paso Ancho**	**0.29**	**49**	⇑*i*P		**Pb**	**17 27 51.7**	**-0.3**
BC3P				AMP			17 27 51.8	
	comp=Z,11µm,0.1s							
SBAR3	**San Bartolo, C**	**0.31**	**190**	⇓*i*P		**Pb**	**17 27 51.9**	**-0.2**
BCO2	**Palmira**	**0.31**	**73**	*i*P		**Pb**	**17 27 52.3**	**0.0**
BCO2				*e*S		**Sb**	**17 27 57.7**	**+0.3**
PTAR3	**Potrerillos Ar**	**0.34**	**78**	*e*P		**Pb**	**17 27 52.5**	**-0.1**
PTAR3				*e*S		**Sb**	**17 27 57.6**	**-0.3**
LNBQ3	**Los Naranjos,**	**0.42**	**67**	⇓*i*P		**Pb**	**17 27 53.3**	**-0.5**
LNBQ3				AMP			17 27 53.7	
	comp=Z,6µm,0.1s							
LNBQ3				⇑*e*S		**Sb**	**17 27 59.8**	**-0.3**
LPLA	**Las Palmas La**	**0.44**	**336**	⇑*i*P		**Pb**	**17 27 53.8**	**-0.4**
LPLA				*e*S		**Sb**	**17 28 00.9**	**+0.2**
LOCO3	**Loma Colorada,**	**0.46**	**118**	*e*P		**Pb**	**17 27 54.3**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.47**	**121**	⇑*i*P		**Pb**	**17 27 54.2**	**-0.3**
LOMA3	**Las Lomas, Chi**	**0.47**	**114**	⇑*i*P		**Pb**	**17 27 54.4**	**-0.2**
LOMA3				AMP			17 27 54.6	
	comp=Z,5µm,0.2s							
LOMA3				*e*S		**Sb**	**17 28 01.6**	**+0.2**
PTJ1	**Puerto Jimnez**	**0.47**	**259**	*e*S		**Sb**	**17 28 01.6**	**+0.2**
PSOM3	**Paja de Sombre**	**0.51**	**83**	*e*P		**Pb**	**17 27 54.8**	**-0.4**
PSOM3				*e*S		**Sb**	**17 28 02.1**	**-0.2**
GUAL3	**Gualaca, Chiri**	**0.53**	**100**	⇑*i*P		**Pb**	**17 27 55.2**	**-0.5**
GUAL3				AMP			17 27 55.4	
	comp=Z,4µm,0.1s							
PIRO	**Carate, Puerto**	**0.55**	**246**	*e*P		**Pb**	**17 27 55.1**	**-0.7**
EDBA	**Buenos Aires**	**0.69**	**321**	⇑*e*P		**Pb**	**17 27 58.4**	**0.0**
EDBA				*e*S		**Sn**	**17 28 09.6**	**+0.9**
EDPN	**Palmar Norte**	**0.70**	**298**	*e*P		**Pb**	**17 27 57.4**	**-1.1**
EDPN				*e*S		**Sb**	**17 28 07.6**	**-0.2**
CHGR2	**Aguacate**	**0.75**	**65**	⇓*e*P		**Pb**	**17 27 58.5**	**-0.7**
CHGR2				⇓*e*S		**Sb**	**17 28 08.5**	**-0.5**
DRK0	**Durika**	**0.76**	**327**	*e*P		**Pb**	**17 27 58.8**	**-0.6**
DRK0				*e*S		**Sb**	**17 28 10.0**	**+0.6**
SRBA	**San Rafael, Bu**	**0.80**	**319**	*e*P		**Pb**	**17 27 59.3**	**-0.9**
CNI2	**El Empalme, Bo**	**0.87**	**24**	⇓*e*P		**Pn**	**17 28 00.6**	**-0.6**
CNI2				⇑*e*S		**Sb**	**17 28 12.7**	**+0.2**
EDLM	**Las Mercedes**	**0.99**	**311**	*e*P		**Pn**	**17 28 02.6**	**-0.4**
REME3	**Remedios, Chir**	**1.06**	**112**	*e*P		**Pn**	**17 28 03.5**	**-0.4**
NANC3	**Nancito, Chiri**	**1.15**	**109**	*e*P		**Pn**	**17 28 04.7**	**-0.4**
NANC3				*e*S		**Sn**	**17 28 19.6**	**-0.4**
CDM	**Cerro de Muert**	**1.30**	**315**	*e*P		**Pn**	**17 28 07.1**	**-0.6**
CDM				*e*S		**Sn**	**17 28 24.9**	**+0.5**
MRVA	**Moravia de Chi**	**1.34**	**333**	*e*P		**Pn**	**17 28 08.1**	**+0.3**
MRVA				*e*S		**Sb**	**17 28 26.1**	**0.0**
RIMA	**Rio Macho**	**1.53**	**318**	*e*P		**Pn**	**17 28 10.4**	**0.0**
LCR2	**La Lucha 2**	**1.60**	**314**	*e*P		**Pn**	**17 28 11.2**	**-0.4**
VTCV	**VTCV, Calle Va**	**1.61**	**327**	*e*P		**Pn**	**17 28 12.6**	**+1.0**
CVTR	**Volcan Turrial**	**1.66**	**327**	*e*P		**Pn**	**17 28 13.5**	**+1.0**
VTUC	**Crater, Volcan**	**1.67**	**327**	*e*P		**Pn**	**17 28 13.6**	**+1.0**
OCM	**Ochomogo**	**1.68**	**319**	*e*P		**Pn

baz=19,SNR=20
EIDS Eidsvold 19.75 183 P Pn 17 34 42.8 0.0
baz=20,SNR=20
EIDS Eidsvold 19.75 183 P P 17 34 38.4 -2.5
EIDS IAmb IAmb 17 34 45.8
comp=Z,101nm,0.9s
FAKI Fak Fak 19.96 277 P P 17 34 42.4 -1.0
KDU Kakadu 20.63 248 P P 17 34 49.4 -1.2
baz=21,SNR=82
RMQ Roma 21.08 188 P P 17 34 56.8 +1.5
baz=21,SNR=60
SIJI Sorong 21.30 282 P P 17 34 57.4 -0.4
comp=Z,40nm,1.0s,baz=65,slow=6.9,SNR=13
SIJI Sorong 21.30 282 P P 17 34 58.6 +0.7
comp=Z,484nmcomp=Z,33nm,1.0s
SWI Sorong 21.31 282 P P 17 34 58.6 +0.7
comp=Z,1μmcomp=Z,82nm,1.0s
NOUC Port Laguerre 21.45 142 P P 17 35 09.1 +10
DZM Mont Dzumac 21.51 141 *e*P **P 17 35 01.5 +1.5**
comp=Z,126nm,1.1s
DZM *e*S **S 17 38 52.6 -3.2**
comp=Z,574nm,20.1s
DZM *e*LR LR 17 40 16.8
comp=Z,4μm,24.2s
DZM Mont Dzumac 21.51 141 P P 17 35 02.6 +2.5
comp=Z,20nm,0.9s,baz=94,slow=11,SNR=4.8
DZM Mont Dzumac 21.51 141 P P 17 35 01.6 +1.5
DZM Mont Dzumac 21.51 141 P P 17 35 11.2 +11
MTN Manton Dam 21.92 249 P P 17 35 02.9 -1.5
baz=22,SNR=22
MTN Manton Dam 21.92 249 P P 17 35 04.4 -0.1
MTN IAmb IAmb 17 35 13.9
comp=Z,115nm,1.0s
MTN **S 17 38 58.5 -5.1**
OUENC Ouen Island, N 22.02 141 P P 17 35 03.9 -1.4
OUENC IAmb IAmb 17 35 58.6
comp=Z,98nm,1.3s
QLP Quilpie 22.24 199 P P 17 35 09.0 +1.3
baz=22,SNR=5.6
WB0 Warramunga Arr 22.29 229 P P 17 35 07.5 -0.9
WB0 IAmb IAmb 17 35 18.1
comp=Z,123nm,0.9s
WR0 Warramunga Arr 22.30 228 P P 17 35 08.3 -0.1
WR0 IAmb IAmb 17 35 18.3
comp=Z,99nm,0.9s
WRAB Tennant Creek 22.42 229 P P 17 35 09.1 -0.8
WRAB pmax pmax
comp=Z,111nm,1.0s
WRAB Tennant Creek 22.42 229 P P 17 35 09.1 -0.8
WRAB IAmb IAmb 17 35 19.3
comp=Z,111nm,0.9s
WB2 Warramunga Arr 22.43 229 P P 17 35 10.0 +0.1
baz=22
WB2 Warramunga Arr 22.43 229 P P 17 35 09.0 -0.9
WB2 IAmb IAmb 17 35 19.5
comp=Z,123nm,1.0s
WRA Warramunga Arr 22.44 229 P P 17 35 09.3 -0.7
comp=Z,13nm,0.8s,baz=54,slow=10,SNR=43
WRA S **S 17 39 09.8 -3.1**
comp=Z,28nm,1.2s,baz=53,slow=18,SNR=9.6
WRA ScP **ScP 17 42 42.5 +6.3**
comp=Z,2.2nm,0.9s,baz=43,slow=3.4,SNR=5.2
WRA LR LR 17 44 13.6
comp=Z,1μm,20.5s,baz=60,slow=38
WRA Warramunga Arr 22.44 229 P P 17 35 09.0 -1.0
WRA pmax pmax
comp=Z,14nm,1.0s
WRA Warramunga Arr 22.44 229 P P 17 35 09.0 -1.0
WRA **ScP 17 42 38.0 +1.9**
ARMA Armidale 24.76 181 P P 17 35 33.0 +0.8
KNRA Kununurra 25.02 244 P P 17 35 35.1 +0.5
baz=25,SNR=196
KNRA Kununurra 25.02 244 P P 17 35 34.1 -0.5
AS31 Alice Springs 25.14 222 P P 17 35 35.5 -0.2
ASAR Alice Springs 25.14 222 P P 17 35 35.5 -0.1
comp=Z,48nm,0.9s,baz=56,slow=7.1,SNR=133
ASAR S **S 17 40 02.3 +5.4**
comp=Z,1.9nm,1.0s,baz=43,slow=19,SNR=2.0
ASAR ScP **ScP 17 42 49.7 +6.3**
comp=Z,1.3nm,0.9s,baz=48,slow=2.9,SNR=4.5
ASAR LR LR 17 45 13.7
comp=Z,987nm,22.0s,baz=55,slow=36
ASAR Alice Springs 25.14 222 P P 17 35 35.2 -0.5
ASAR Alice Springs 25.14 222 P P 17 35 35.2 -0.5
ASAR **ScP 17 42 48.1 +4.7**
ASPA Alice Springs 25.14 222 P P 17 35 36.4 +0.8
baz=25
TNTI Ternate 25.48 283 P P 17 35 38.8 0.0
TNTI Ternate 25.48 283 P P 17 35 41.3 +2.5
comp=Z,23nm,1.1s
CMSA Cobar Meteorol 26.56 192 P P 17 35 48.5 +0.2
baz=27,SNR=28
SOEI Soe 27.89 260 P P 17 35 59.8 -0.9
SOEI Soe 27.89 260 P P 17 36 00.9 +0.2
comp=Z,1μmcomp=Z,109nm,1.1s
STKA Stephens Creek 27.99 199 P P 17 36 00.9 -0.3
comp=Z,5.6nm,0.7s,baz=3.5,slow=7.7,SNR=16
STKA LR LR 17 47 20.9
comp=Z,1μm,19.8s,baz=20,slow=37
STKA Stephens Creek 27.99 199 P P 17 36 01.8 +0.6
baz=28,SNR=13
STKA Stephens Creek 27.99 199 P P 17 35 59.5 -1.7
STKA pmax pmax
comp=Z,4.0nm,1.1s
STKA Stephens Creek 27.99 199 P P 17 35 59.5 -1.7
BATI Baumata 28.54 259 P P 17 36 05.2 -1.1
comp=Z,82nm,0.8s,baz=137,slow=2.2,SNR=12
BATI LR LR 17 50 06.8
comp=Z,2μm,19.0s,baz=97,slow=42
BATI Baumata 28.54 259 P P 17 36 07.5 +1.2
comp=Z,792nmcomp=Z,66nm,1.0s
FITZ Fitzroy Crossi 28.70 242 P P 17 36 06.8 -0.8
comp=Z,21nm,0.6s,baz=56,slow=7.5,SNR=43
FITZ Fitzroy Crossi 28.70 242 P P 17 36 06.4 -1.2
baz=29,SNR=82
FITZ Fitzroy Crossi 28.70 242 P P 17 36 06.8 -0.8
FITZ IAmb IAmb 17 36 19.0
comp=Z,76nm,1.1s
MMRI Maumere 29.79 262 P P 17 36 16.0 -1.4
MMRI IAmb IAmb 17 36 25.0
comp=Z,71nm,1.0s
MMRI Maumere 29.79 262 P P 17 36 18.0 +0.6
comp=Z,882nmcomp=Z,62nm,0.9s
WRKA Warakurna 29.95 227 P P 17 36 18.1 -0.6
baz=30,SNR=42
HTT Hallett 30.34 202 P P 17 36 23.6 +1.5
baz=30,SNR=5.5
CGP Cagayan de Oro 30.66 297⇓ *e*P **P 17 36 26.8 +1.7**
BBOO Buckleboo 30.99 207 P P 17 36 29.3 +1.6
baz=31,SNR=5.4
BBOO Buckleboo 30.99 207 P P 17 36 26.0 -1.7
MSLP Maasin 31.28 300 *e*P **P 17 36 28.5 -2.0**
KAPI Kappang 32.21 269 LR LR 17 51 42.2
comp=Z,415nm,21.3s,baz=95,slow=40
ARPS Mount Arapiles 32.48 195 P P 17 36 41.6 +0.8
baz=33,SNR=18
WBSI Waikabubak, Su 32.67 261 P P 17 36 42.4 -0.4
comp=Z,948nmcomp=Z,127nm,1.0s
FORT Forrest 33.78 219 P P 17 36 53.3 +1.1
baz=34,SNR=6.7
FORT Forrest 33.78 219 P P 17 36 52.0 -0.2
JCJ Chichijima 33.83 344 P P 17 36 51.5 -1.1
comp=Z,24nm,0.8s,baz=298,slow=22,SNR=2.4
PSA00 Pilbara Seismi 35.06 240 P P 17 37 01.5 -2.0
PSA00 IAmb IAmb 17 37 11.8
comp=Z,85nm,1.6s
PSA00 Pilbara Seismi 35.06 240 P P 17 37 01.8 -1.6
PSA00 IAmb IAmb 17 37 11.8
comp=Z,56nm,1.7s
BOAC Boac 35.48 302 *e*P **P 17 37 07.3 +0.3**
SJMP San Jose 35.61 300 *e*P **P 17 37 09.1 +0.9**
KLNI Mataram 35.84 263 P P 17 37 18.8 +8.6
LQP Lukban 36.06 303⇓ *e*P **P 17 37 12.1 -0.2**
AFI Afiamalu 36.52 106 LR LR 17 49 17.8
comp=Z,383nm,19.4s,baz=328,slow=31
ENPP El Nido 36.52 297 *e*P **P 17 37 16.6 +0.5**
CAUP Cauayan 37.34 307 *e*P **P 17 37 22.9 0.0**
JAGI Jajag, Banyuwa 37.77 263 P **P 17 37 24.4 -2.2**
JAGI IAmb IAmb 17 37 32.3
comp=Z,37nm,0.9s
SMPP San Manuel, Pa 37.83 305 *e*P **P 17 37 26.5 -0.5**
SAMP Sagada Mountai 38.15 307 *e*P **P 17 37 29.6 -0.1**
MEEK Meekatharra 38.21 233 P **P 17 37 29.9 -0.3**
baz=38,SNR=67
APYP Conner 38.31 308 *e*P **P 17 37 30.5 -0.6**
JOW Kunigami 39.59 326 P **P 17 37 41.8 +0.1**

JOW IAmb IAmb 17 37 43.7
comp=Z,47nm,1.0s
URZ Urewera 39.72 149 LR LR 17 52 20.1
comp=Z,1μm,19.2s,baz=31,slow=33
PWJI Pagerwojo 40.08 264 P P 17 37 55.3 +9.3
GIRL Giralia 40.30 241 P **P 17 37 47.3 -0.4**
baz=40,SNR=4.4
KLBR Kellerberrin 41.30 227 P **P 17 37 56.4 +0.6**
baz=41,SNR=4.9
MORW Morawa 41.34 231 P **P 17 37 57.7 +1.5**
baz=41,SNR=14
MORW Morawa 41.34 231 P **P 17 37 55.6 -0.6**
MORW IAmb IAmb 17 38 13.3
comp=Z,46nm,1.2s
YULB Yu-li 41.61 315 P **P 17 37 57.0 -1.4**
TPUB Ta-pu 42.02 314 P **P 17 38 00.7 -1.1**
TPUB PcP **PcP 17 39 54.8 -1.4**
SSLB Suanglung 42.10 315 P **P 17 38 01.4 -1.0**
SSLB PcP **PcP 17 39 55.5 -0.9**
YHNB Yeheng 42.38 316 P **P 17 38 04.6 -0.1**
YHNB IAmb IAmb 17 38 06.7
comp=Z,60nm,1.3s
NWAO Narrogin (SRO) 42.38 226 LR LR 17 56 02.7
comp=Z,1μm,20.8s,baz=54,slow=37
MUN Mundaring 42.62 227 P **P 17 38 06.4 -0.3**
baz=43,SNR=4.3
JNU Nakatsue 43.40 334 P **P 17 38 12.1 -0.7**
MJAR Matsushiro Arr 43.83 344 P **P 17 38 13.8 -2.5**
comp=Z,3.6nm,0.9s,baz=165,slow=9.0,SNR=6.7
MJAR PcP **PcP 17 40 02.6 +0.7**
comp=Z,3.7nm,0.8s,baz=169,slow=3.6,SNR=5.2
MJAR ScP **ScP 17 43 52.8 +3.7**
comp=Z,2.3nm,0.9s,baz=177,slow=5.7,SNR=4.2
MJAR LR LR 17 55 15.7
comp=Z,406nm,21.0s,baz=200,slow=34
MJAR Matsushiro Arr 43.83 344 P **P 17 38 13.7 -2.5**
MJAR 17 40 00.8
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 43.83 344 P **P 17 38 13.7 -2.6**
MJAR **PcP 17 40 00.8 -1.2**
MAJO Matsushiro 43.83 344⇓ *e*P **P 17 38 15.7 -0.5**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAT Matsushiro 43.83 344 P **P 17 38 13.5 -2.7**
MAT S **S 17 44 40.4 -2.9**
JHS Saijyo 44.11 337 P **P 17 38 16.1 -2.4**
JHS IAmb IAmb 17 38 22.9
comp=Z,109nm,1.8s
QZH Quanzhou 44.50 314⇑ *i*P **P 17 38 22.6 +0.9**
QZH S **S 17 45 00.5 +7.2**
QZH L L
comp=Z,410nm,20.6s
QZH L L
comp=Z,460nm,20.6s
QZH L L
comp=Z,560nm,19.2s
SSE Sheshan 46.89 323 P **P 17 38 41.3 +0.8**
SSE S **S 17 45 29.4 +1.8**
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,63nm,4.3s
SSE L L
comp=Z,240nm,17.9s
SSE L L
comp=Z,130nm,17.9s
TJN Taejon 47.70 333⇓ *e*P **P 17 38 47.3 +0.6**
MDSI Maura Dua 47.74 269 P **P 17 38 47.5 +0.1**
comp=Z,10nm,1.1s
QIZ Qiongzhong 48.25 301 P **P 17 38 51.1 -0.2**
QIZ S **S 17 45 48.8 +1.6**
QIZ pmax pmax
comp=Z,20nm,1.8s
QIZ L L
comp=Z,180nm,27.7s
QIZ L L
comp=Z,350nm,22.6s
QIZ L L
comp=Z,520nm,24.3s
QIZ Qiongzhong 48.25 301 P **P 17 38 50.8 -0.4**
QIZ IAmb IAmb 17 38 53.5
comp=Z,37nm,1.1s
KSRS Korea Array 48.34 334 P **P 17 38 51.4 -0.3**
comp=Z,4.4nm,1.0s,baz=152,slow=9.7,SNR=14
KSRS PcP **PcP 17 40 20.1 +2.4**
comp=Z,3.2nm,1.0s,baz=158,slow=5.0,SNR=6.3
KSRS LR LR 17 55 15.7
comp=Z,189nm,21.8s,baz=196,slow=31
KSAR Wonju Array Be 48.35 334 P **P 17 38 50.5 -1.2**
KSAR Wonju Array Be 48.35 334 P **P 17 38 50.5 -1.2**
KSAR PcP **PcP 17 40 18.4 +0.7**
NJ2 Nanjing 48.98 322 *e*P **P 17 38 57.2 +0.5**
NJ2 pP **pP 17 39 09.5 -2.1**
NJ2 S **S 17 46 03.6 +6.5**
NJ2 sS **sS 17 46 22.0 +1.9**
NJ2 SS SS 17 49 16.7 -12
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,190nm,5.3s
NJ2 L L
comp=Z,750nm,18.2s
NJ2 L L
comp=Z,470nm,19.6s
NJ2 L L
comp=Z,860nm,19.1s
JKA Kamikawa-asahi 50.16 351 IAmb IAmb 17 39 16.2
comp=Z,81nm,2.0s
ASAJ Asahikawa 50.16 351 P **P 17 39 04.9 -0.5**
comp=Z,5.1nm,0.7s,baz=205,slow=10,SNR=9.5
WHN Wuhan 50.91 317⇓ P **P 17 39 12.9 +1.6**
WHN S **S 17 46 25.6 +1.5**
WHN pmax pmax
comp=Z,64nm,1.1s
WHN L L
comp=Z,810nm,17.3s
WHN L L
comp=Z,1μm,21.5s
WHN L L
comp=Z,2μm,21.5s
PDSI Padang 51.74 273 P **P 17 39 18.7 +0.8**
VLA Vladivostok 51.78 341⇓ *e*P **P 17 39 17.5 -0.1**
VLA pmax pmax
comp=Z,30nm,1.7s
DL2 Dalian 52.45 330 P **P 17 39 23.2 +0.5**
DL2 PP **PP 17 41 25.4 +3.3**
DL2 S **S 17 46 51.6 +6.6**
DL2 pmax pmax
comp=Z,19nm,1.0s
DL2 pmax pmax
comp=Z,130nm,6.2s
DL2 L L
comp=Z,300nm,21.8s
DL2 L L
comp=Z,290nm,22.8s
DL2 L L
comp=Z,450nm,23.0s
USRK Ussuriysk Ar. 52.72 342 P **P 17 39 24.0 -0.6**
comp=Z,3.9nm,0.7s,baz=145,slow=8.4,SNR=8.5
USRK LR LR 17 58 28.5
comp=Z,206nm,21.7s,baz=163,slow=32
MNSI Mandailing Nat 52.82 275 P **P 17 39 26.7 +0.8**
comp=Z,24nm,0.5s
TIA Tai'an 52.90 324 P **P 17 39 25.9 -0.2**
TIA pmax pmax
comp=Z,8.0nm,1.1s
KHON Khomkaen 53.36 295 P **P 17 39 30.0 +0.2**
comp=Z,9.1nm,0.7s
NONG Nongkai 53.68 297 P **P 17 39 32.4 +0.3**
comp=Z,33nm,1.3s
MDJ Mudanjiang 53.87 340 P **P 17 39 33.7 +0.7**
MDJ pP sP 17 39 48.4 -5.9
MDJ sS sS 17 47 35.9 +7.1
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,81nm,6.5s
MDJ L L
comp=Z,370nm,24.6s
MDJ L L
comp=Z,270nm,24.8s
MDJ L L
comp=Z,430nm,19.6s
CHAI Chaiyaphum 53.98 294 P **P 17 39 34.4 +0.1**
comp=Z,482nmcomp=Z,4.3nm,0.8s

ENH Enshi 54.15 314 P **P 17 39 34.8 -0.6**
SLVN Son La 54.27 301 P **P 17 39 37.3 +0.9**
GYA Guiyang 54.29 308⇑ P **P 17 39 37.2 +0.6**
GYA pP sP 17 39 53.8 -4.3
GYA S **S 17 47 13.2 +2.5**
GYA pmax pmax
comp=Z,3.0nm,1.0s
GYA pmax pmax
comp=Z,17nm,5.6s
CN2 Changchun 54.69 337 *e*P **P 17 39 37.0 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,110nm,6.0s
CN2 L L
comp=Z,210nm,21.0s
CN2 L L
comp=Z,150nm,21.0s
CN2 L L
comp=Z,250nm,21.0s
PHIT Phitsanulok 55.82 295 P **P 17 39 48.7 +1.1**
comp=Z,10nm,0.8s
UTTA Uttaradit 55.88 296 P **P 17 39 48.8 +0.7**
comp=Z,51nmcomp=Z,6.2nm,0.8s
SKR Severo-Kuril's 56.10 3 *e*P P 17 39 55.7 +6.7
SKR *e*S S 17 47 46.7 +13
SKR MLR MLR
comp=Z,400nm,18.0s
SKR MLR MLR
comp=Z,300nm,16.0s
BJI Beijing 56.12 327 P **P 17 39 48.2 -1.1**
BJI pP **pP 17 40 04.9 +0.3**
BJI sP **sP 17 40 12.0 +1.0**
BJI S **S 17 47 36.7 +2.3**
BJI SS **SS 17 51 23.3 +1.6**
BJI pmax pmax
comp=Z,6.0nm,0.5s
BJI L L
comp=Z,380nm,19.0s
BJI L L
comp=Z,190nm,20.2s
BJI L L
comp=Z,570nm,24.6s
SRDT SRDT 56.13 291 P **P 17 39 52.0 +2.1**
comp=Z,8μmcomp=Z,23nm,1.5s
XAN Xi'an 56.68 317 P **P 17 39 53.4 -0.1**
XAN pmax pmax
comp=Z,17nm,1.2s
KMI Kunming 56.82 305⇓ P **P 17 39 55.7 +0.8**
KMI pP sP 17 40 12.4 -4.1
KMI pmax pmax
comp=Z,20nm,1.1s
KMI pmax pmax
comp=Z,100nm,5.0s
KMI L L
comp=Z,270nm,17.7s
KMI L L
comp=Z,220nm,20.7s
KMI L L
comp=Z,230nm,20.8s
UMPA Umpang Tak 56.92 293 P **P 17 39 56.7 +1.2**
comp=Z,510nmcomp=Z,5.2nm,1.3s
KLR Kul'dur 57.35 344 *c i*P **P 17 39 57.1 -0.8**
KLR pmax pmax
comp=Z,6.0nm,0.9s
CM31 Chiang Mai Arr 57.56 296 P **P 17 39 59.7 -0.3**
CM31 IAmb IAmb 17 40 03.6
comp=Z,22nm,1.0s
CMAR Chiang Mai Arr 57.56 296 P **P 17 39 59.8 -0.2**
comp=Z,13nm,1.0s,baz=126,slow=5.4,SNR=59
CMAR LR LR 18 05 06.2
comp=Z,183nm,18.1s,baz=159,slow=37
CMAR Chiang Mai Arr 57.56 296 *ce*P **P 17 40 00.3 +0.3**
CMAR pmax pmax
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 57.56 296 P **P 17 39 59.6 -0.4**
CMMT Chiang Mai 57.67 296 P **P 17 39 59.9 -0.9**
comp=Z,18nm,1.2s
CMMT Chiang Mai 57.67 296 P **P 17 39 59.9 -0.9**
comp=Z,17nm,1.2s
CM33 Chiang Mai Arr 57.68 296 P **P 17 40 00.0 -0.8**
CHTO Chiang Mai 57.68 296 P **P 17 40 00.1 -0.7**
CHTO pmax pmax
comp=Z,30nm,1.3s
CHTO Chiang Mai 57.68 296 P **P 17 40 00.1 -0.7**
CHTO IAmb IAmb 17 40 03.4
comp=Z,30nm,1.2s
CHTO Chiang Mai 57.68 296 P **P 17 40 00.9 +0.1**
comp=Z,10nm,1.2s
CM32 Chiang Mai Arr 57.71 296 P **P 17 40 02.0 +1.0**
PPT Papeete 58.17 107 LR LR 17 59 46.5
comp=Z,135nm,21.4s,baz=292,slow=30
PPT2 Papeete2 58.17 107 *e*S **S 17 48 03.8 +1.4**
comp=Z,80nm,22.5s
PPT2 *e*LR LR 17 57 11.2
comp=Z,244nm,22.2s
MHMT Maesarieng 58.38 295 P **P 17 40 08.0 +2.3**
PET Petropavlovsk 58.60 5 *e*P **P 17 40 08.4 +1.9**
PET *e* 17 40 57.7
PET *e*S **S 17 48 09.0 +2.5**
PET pmax pmax
comp=Z,21nm,1.5s
PET pmax pmax
comp=Z,100nm,13.2s
PET MLR MLR
comp=Z,300nm,16.0s
PETK Petropavlovsk- 58.61 4 P **P 17 40 06.7 0.0**
comp=Z,5.9nm,0.8s,baz=167,slow=7.4,SNR=8.9
PETK LR LR 18 01 21.9
comp=Z,379nm,21.5s,baz=193,slow=32
CD2 Chengdu 58.69 311 P **P 17 40 07.8 +0.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
TBI Tubuai 58.90 114 *e*LQ LQ 17 55 01.5
comp=Z,711nm,35.2s
TBI *e*LR LR 17 57 36.8
comp=Z,471nm,31.5s
HHC Hu-ho-hao-te 59.24 325 *e*P **P 17 40 12.1 +0.7**
HHC pP pP 17 40 26.8 +0.2
HHC S **S 17 48 20.5 +5.0**
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.6s
HHC L L
comp=Z,480nm,18.8s
HHC L L
comp=Z,270nm,20.2s
HHC L L
comp=Z,710nm,20.1s
LZH Lanzhou 61.27 316⇑ P **P 17 40 26.6 +1.1**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,55nm,5.4s
LZH L L
comp=Z,270nm,19.0s
LZH L L
comp=Z,290nm,20.6s
LZH L L
comp=Z,240nm,20.1s
ZEA Zeya 62.65 344 *e*P **P 17 40 34.4 +0.3**
ZEA *e* 17 48 47.3
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA pmax pmax
comp=Z,100nm,9.5s
ZEA MLR MLR
comp=E,100nm,22.0s
GTA Gaotai 65.72 318⇑ P **P 17 40 55.6 +0.8**
GTA pmax pmax
comp=E,11nm,1.0s
GTA pmax pmax
comp=E,80nm,4.0s
GTA L L
comp=E,160nm,17.8s
GTA L L
comp=E,320nm,17.1s
GTA L L
comp=E,310nm,17.8s
SHL Shillong 66.08 301 P **P 17 40 56.2 -1.2**
SHL pmax pmax
comp=Z,48nm,1.1s
SHL Shillong 66.08 301 P **P 17 40 56.2 -1.2**

ULN	**Ulaanbaatar**	**66.25**	**329**	*c i*	P		**P**		**17 40 58.6**	**+0.6**
ULN	comp=Z,29nm,1.3s				pmax		pmax			
ULN	**Ulaanbaatar**	**66.25**	**329**		P		**P**		**17 40 57.9**	**-0.1**
ULN	comp=Z,21nm,1.0s				IAmb		IAmb		17 41 00.1	
ULN	**Ulaanbaatar**	**66.25**	**329**		P		**P**		**17 40 58.9**	**+0.9**
	comp=Z,1µmcomp=Z,84nm,1.0s									
SONM	**Songino Array**	**66.58**	**328**		P		**P**		**17 41 00.3**	**+0.3**
	comp=Z,11nm,0.7s,baz=138,slow=5.5,SNR=50									
SONM					LR		LR		18 08 43.4	
	comp=Z,448nm,21.1s,baz=136,slow=35									
SONM	**Songino Array**	**66.58**	**328**		P		**P**		**17 41 00.0**	**-0.1**
SONM	comp=Z,16nm,0.8s				pmax		pmax			
SONM	**Songino Array**	**66.58**	**328**		P		**P**		**17 40 60.0**	**-0.1**
SONM	comp=Z,16nm,0.8s				IAmb		IAmb		17 41 02.5	
CASY	**Casey**	**67.11**	**197**		P		**P**		**17 41 02.2**	**-0.8**
TAOE	**Nuku Hiva Isla**	**67.23**	**97**	*e*	LR		LR		18 01 28.4	
	comp=Z,317nm,25.5s									
LSA	**Lhasa**	**68.08**	**305**		P		**P**		**17 41 09.1**	**-1.3**
LSA	comp=Z,95nm,1.0s				pmax		pmax			
LSA	**Lhasa**	**68.08**	**305**		P		**P**		**17 41 08.4**	**-2.0**
LSA	comp=Z,24nm,1.0s				pmax		pmax			
LSA	**Lhasa**	**68.08**	**305**		P		**P**		**17 41 08.4**	**-2.0**
LSA	comp=Z,24nm,1.0s				IAmb		IAmb		17 41 12.2	
YAK	**Yakutsk**	**69.55**	**349**	*e*	P		**P**		**17 41 16.2**	**-2.0**
YAK	comp=Z,8.0nm,1.1s				pmax		pmax			
SPIA	**Saint Paul Isl**	**69.58**	**21**		P				17 41 19.3	
	baz=221									
ZAK	**Zakamensk**	**69.76**	**329**	*e*	P		**P**		**17 41 19.6**	**-0.3**
ZAK	comp=Z,30nm,1.8s				pmax		pmax			
TLY	**Talaya**	**70.36**	**330**	*e*	P		**P**		**17 41 23.9**	**+0.4**
TLY				*e*					17 50 52.7	
TLY	comp=Z,31nm,1.1s				pmax		pmax			
TLY	comp=Z,602nm,21.0s				MLR		MLR			
TLY	**Talaya**	**70.36**	**330**		P		**P**		**17 41 22.0**	**-1.5**
FALS	**False Pass**	**70.58**	**25**		P				17 41 25.4	
	baz=228									
MOY	**Mondy**	**71.68**	**329**	*e*	P		**P**		**17 41 31.4**	**-0.2**
MOY	comp=Z,23nm,1.4s				pmax		pmax			
VNDA	**Vanda**	**72.13**	**178**		P		**P**		**17 41 35.2**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=328,slow=7.1,SNR=8.4									
VNDA					LR		LR		18 11 34.5	
	comp=Z,241nm,18.4s,baz=336,slow=34									
VNDA	**Vanda**	**72.13**	**178**		P		**P**		**17 41 34.5**	**+0.8**
VNDA	comp=Z,8.0nm,1.0s				pmax		pmax			
VNDA	**Vanda**	**72.13**	**178**		P		**P**		**17 41 34.5**	**+0.8**
RKT	**Rikitea**	**72.16**	**112**	*e*	LR		LR		18 03 47.0	
	comp=Z,456nm,28.2s									
SDPT	**Sand Point**	**72.18**	**26**		P				17 41 34.7	
	baz=230									
PKI	**Pulchoki**	**72.21**	**301**	*e*	P		**P**		**17 41 34.8**	**-0.7**
	comp=Z,55nm,1.2s									
PKIN	**Phulchoki**	**72.22**	**301**	*e*	P		**P**		**17 41 34.9**	**-0.6**
	comp=Z,35nm,1.0s									
KKN	**Kakani**	**72.38**	**301**	*e*	P		**P**		**17 41 35.5**	**-0.9**
DMN	**Daman**	**72.48**	**301**	*e*	P		**P**		**17 41 37.2**	**+0.1**
GKN	**Gorkha**	**72.99**	**301**	*e*	P		**P**		**17 41 39.4**	**-0.5**
	comp=Z,91nm,1.1s									
KOLN	**Koldanda**	**73.81**	**301**	*e*	P		**P**		**17 41 44.3**	**-0.5**
	comp=Z,72nm,1.0s									
DANN	**Dangsing**	**73.83**	**301**	*e*	P		**P**		**17 41 44.2**	**-0.8**
	comp=Z,43nm,0.9s									
BILL	**Bilibino**	**74.08**	**5**	*de*	P		**P**		**17 41 45.2**	**-0.1**
BILL				*e*					17 42 00.6	
BILL				*e*					17 44 31.0	
BILL	comp=Z,10.0nm,1.0s				pmax		pmax			
BILL	**Bilibino**	**74.08**	**5**		P		**P**		**17 41 45.8**	**+0.5**
GAMB	**Gambell**	**74.27**	**16**		P				17 41 47.8	
	baz=218									
SII	**Sitkinak Islan**	**75.74**	**27**		P				17 41 56.2	
	baz=236									
WMQ	**Urumqi**	**75.81**	**318**	*e*	P		**P**		**17 41 56.6**	**+0.7**
WMQ					PcP		**PcP**		**17 42 08.2**	**-0.1**
WMQ	comp=Z,20nm,0.7s				pmax		pmax			
WMQ	comp=Z,140nm,3.7s				pmax		pmax			
WMQ	comp=Z,300nm,16.1s				L		L			
WMQ	comp=Z,230nm,14.9s				L		L			
WMQ	comp=Z,290nm,18.7s				L		L			
HYB	**Hyderabad**	**76.07**	**289**	*i*	P		**P**		**17 41 58.0**	**+0.1**
OHAK	**Old Harbor**	**76.52**	**27**		P		**P**		**17 42 00.1**	**+0.7**
OHAK	comp=Z,39nm,0.9s				IAmb		IAmb		17 42 01.9	
OHAK	**Old Harbor**	**76.52**	**27**		P				17 42 00.6	
	baz=237									
KDAK	**Kodiak Island**	**77.14**	**27**		P				17 42 04.1	
	baz=237									
KDAK	**Kodiak Island**	**77.14**	**27**		P		**P**		**17 42 04.2**	**+1.2**
	comp=Z,28nm,0.9s,baz=227,slow=2.5,SNR=12									
KDAK	**Kodiak Island**	**77.14**	**27**		P		**P**		**17 42 03.8**	**+0.8**
KDAK	comp=Z,28nm,1.0s				pmax		pmax			
KDAK	**Kodiak Island**	**77.14**	**27**		P		**P**		**17 42 03.8**	**+0.8**
KDAK	comp=Z,28nm,1.0s				IAmb		IAmb		17 42 05.7	
SVW2	**Sparrevohn**	**77.77**	**23**		P		**P**		**17 42 07.9**	**+1.4**
DGZ	**Jazzator, Alta**	**78.25**	**323**	*de*	P		**P**		**17 42 09.1**	**-0.5**
DGZ	comp=Z,21nm,1.0s				pmax		pmax			
TIXI	**Tiksi**	**78.53**	**353**	*de*	P		**P**		**17 42 11.9**	**+1.5**
TIXI	**Tiksi**	**78.53**	**353**		P		**P**		**17 42 10.2**	**-0.3**
HOM	**Homer**	**78.57**	**26**		P				17 42 11.7	
	baz=238									
CNPM	**China Poot**	**78.67**	**26**		P		**P**		**17 42 12.3**	**+0.7**
TTA	**Tatalina**	**78.70**	**22**		P				17 42 13.2	
	baz=233									
TTA	**Tatalina**	**78.70**	**22**		P		**P**		**17 42 12.0**	**+0.3**
TTA	comp=Z,25nm,1.0s				pmax		pmax			
TTA	**Tatalina**	**78.70**	**22**		P		**P**		**17 42 12.0**	**+0.3**
TTA	comp=Z,25nm,1.0s				IAmb		IAmb		17 42 14.6	
ZSN	**Zaisan**	**78.98**	**320**	*e*	P		**P**		**17 42 13.4**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=320									
ZSN	**Zaisan**	**78.98**	**320**	*e*	P		**P**		**17 42 13.3**	**-0.2**
ZSN	comp=Z,7.0nm,0.9s				pmax		pmax			
BRSE	**Bradley Lake S**	**79.00**	**26**		P				17 42 14.2	
	baz=238,SNR=7.7									
SPCR	**Spurr Chakacha**	**79.17**	**24**		P				17 42 15.2	
	baz=237									
CAPN	**Captain Cook N**	**79.37**	**25**		P				17 42 16.3	
	baz=238									
SEW	**Seward**	**79.75**	**26**		P				17 42 18.4	
	baz=240,SNR=22									
SEW	**Seward**	**79.75**	**26**		P		**P**		**17 42 18.1**	**+0.8**
O22K	**Cooper Landing**	**79.82**	**25**		P				17 42 18.6	
	baz=239									
SKT	**Skwentna**	**79.87**	**24**		P				17 42 17.8	
	baz=238,SNR=8.2									
SKT	**Skwentna**	**79.87**	**24**		P		**P**		**17 42 18.0**	**0.0**
SUA	**Susitna One**	**79.91**	**24**		IAmb		IAmb		17 42 20.3	
	comp=Z,36nm,0.8s									
SUA	**Susitna One**	**79.91**	**24**		P				17 42 17.9	
	baz=238,SNR=19									
PPLA	**Purkeypile**	**80.11**	**23**		P		**P**		**17 42 19.4**	**0.0**
RC01	**Rabbit Creek A**	**80.13**	**25**		P				17 42 19.6	
	baz=239,SNR=18									
M22K	**Willow**	**80.32**	**24**		P				17 42 21.2	
	baz=239									
MK31	**Makanchi Array**	**80.42**	**319**	*i*	P		**P**		**17 42 20.6**	**-0.7**
MK31	comp=Z,16nm,1.0s				pmax		pmax			
MK31	**Makanchi Array**	**80.42**	**319**		P		**P**		**17 42 20.6**	**-0.7**
MKAR	**Makanchi Array**	**80.42**	**319**		P		**P**		**17 42 21.1**	**-0.2**
	comp=Z,12nm,0.9s,baz=108,slow=5.0,SNR=66									
MKAR					LR		LR		18 16 43.3	
	comp=Z,272nm,20.6s,baz=96,slow=35									
MKAR	**Makanchi Array**	**80.42**	**319**		P		**P**		**17 42 20.6**	**-0.7**
MKAR	**Makanchi Array**	**80.42**	**319**		P		**P**		**17 42 20.6**	**-0.7**
CUT	**Chulitna**	**80.60**	**23**		P				17 42 22.4	
	baz=239									
CUT	**Chulitna**	**80.60**	**23**		IAmb		IAmb		17 42 23.4	
	comp=Z,38nm,1.1s									
PWL	**Port Wells**	**80.61**	**25**		P		**P**		**17 42 22.7**	**+0.7**
MAKZ	**Makanchi**	**80.63**	**319**		P		**P**		**17 42 22.0**	**-0.4**
MAKZ	comp=Z,20nm,1.0s				pmax		pmax			
MAKZ	**Makanchi**	**80.63**	**319**		P		**P**		**17 42 22.0**	**-0.4**
PMR	**Palmer**	**80.64**	**24**		P				17 42 23.0	
	baz=240									
PMR	**Palmer**	**80.64**	**24**		IAmb		IAmb		17 42 24.2	
	comp=Z,52nm,1.3s									
Q23K	**Middleton Isla**	**80.79**	**27**		P				17 42 24.2	
	baz=243									
GHO	**Glory Hole Cre**	**80.81**	**24**		P		**P**		**17 42 23.6**	**+0.5**
GHO	comp=Z,26nm,0.8s				IAmb		IAmb		17 42 25.4	
KNK	**Knik Glacier**	**80.83**	**25**		P				17 42 23.6	
	baz=240,SNR=14									
KTH	**Kantishna Hill**	**80.95**	**22**		IAmb		IAmb		17 42 25.3	
	comp=Z,25nm,0.9s									
SML	**Sawmill**	**81.08**	**24**		P		**P**		**17 42 24.9**	**+0.3**
SML	**Sawmill**	**81.08**	**24**		P				17 42 24.8	
	baz=240,SNR=31									
TRF	**Thorofare Moun**	**81.14**	**23**		P				17 42 24.5	
	baz=238,SNR=14									
GLI	**Glacier Island**	**81.14**	**26**		P				17 42 25.2	
	baz=242									
HIN	**Hinchinbrook I**	**81.17**	**26**		P		**P**		**17 42 26.1**	**+1.0**
BPAW	**Bear Paw Mtn.**	**81.22**	**22**		P		**P**		**17 42 25.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**81.22**	**22**		P				17 42 25.2	
	baz=238,SNR=14									
SHLS	**Shalkode**	**81.25**	**315**	*e*	P		**P**		**17 42 23.8**	**-2.2**
	comp=Z,13nm,1.1s,baz=315									
SHLS	**Shalkode**	**81.25**	**315**	*e*	P		**P**		**17 42 23.7**	**-2.2**
SHLS	comp=Z,13nm,1.1s				pmax		pmax			
PDGK	**Podgornoye**	**81.28**	**315**		P		**P**		**17 42 25.3**	**-0.8**
PDGK	comp=Z,20nm,1.1s				pmax		pmax			
IMAR	**Indian Mountai**	**81.31**	**20**		P		**P**		**17 42 25.8**	**+0.2**
FID	**Port Fidalgo**	**81.35**	**26**		IAmb		IAmb		17 42 28.3	
	comp=Z,43nm,1.0s									
ZAA0	**Zalesovo Array**	**81.38**	**327**		P		**P**		**17 42 24.8**	**-1.4**
ZALV	**Zalesovo Beam**	**81.38**	**327**		P		**P**		**17 42 25.1**	**-1.1**
	comp=Z,11nm,0.8s,baz=104,slow=5.5,SNR=35									
ZALV					LR		LR		18 18 13.8	
	comp=Z,278nm,20.3s,baz=134,slow=36									
ZALV	**Zalesovo Beam**	**81.38**	**327**		P		**P**		**17 42 24.2**	**-2.0**
ZALV	**Zalesovo Beam**	**81.38**	**327**		P		**P**		**17 42 24.2**	**-2.0**
H21K	**Melozitna Rive**	**81.44**	**20**		P				17 42 27.0	
	baz=236									
SCM	**Sheep Creek Mo**	**81.50**	**25**		IAmb		IAmb		17 42 29.5	
	comp=Z,42nm,0.9s									
WAT2	**Susitna Watana**	**81.55**	**23**		P				17 42 27.1	
	baz=240,SNR=19									
UZB	**Uzynbulak**	**81.56**	**315**	*e*	P		**P**		**17 42 27.4**	**-0.2**
	comp=Z,9.3nm,1.0s,baz=315									
UZB	**Uzynbulak**	**81.56**	**315**	*e*	P		**P**		**17 42 27.4**	**-0.2**
UZB	comp=Z,9.0nm,1.0s				pmax		pmax			
EYAK	**Cordova Ski Ar**	**81.58**	**26**		P				17 42 27.0	
	baz=243,SNR=5.4									
EYAK	**Cordova Ski Ar**	**81.58**	**26**		P		**P**		**17 42 27.2**	**+0.1**
EYAK	comp=Z,34nm,1.2s				IAmb		IAmb		17 42 30.0	
RND	**Reindeer**	**81.67**	**23**		IAmb		IAmb		17 42 29.3	
	comp=Z,39nm,0.9s									
WAT6	**Susitna Watana**	**81.70**	**24**		P				17 42 28.2	
	baz=241,SNR=15									
MCK	**McKinley**	**81.81**	**23**		P		**P**		**17 42 28.3**	**0.0**
MCK	comp=Z,59nm,0.9s				pmax		pmax			
MCK	**McKinley**	**81.81**	**23**		P		**P**		**17 42 28.3**	**0.0**
MCK	**McKinley**	**81.81**	**23**		P				17 42 28.0	
	baz=240,SNR=20									
MLY	**Manley**	**81.81**	**21**		IAmb		IAmb		17 42 30.2	
	comp=Z,19nm,0.8s									
MLY	**Manley**	**81.81**	**21**		P				17 42 28.6	
	baz=238,SNR=30									
BWN	**Browne**	**81.83**	**22**		P		**P**		**17 42 28.2**	**-0.1**
BWN	comp=Z,33nm,0.9s				IAmb		IAmb		17 42 30.5	
KPKS	**Kokpek**	**81.88**	**315**	*e*	P		**P**		**17 42 28.4**	**-0.9**
	comp=Z,12nm,1.2s,baz=315									
KPKS	**Kokpek**	**81.88**	**315**	*e*	P		**P**		**17 42 28.3**	**-0.9**
KPKS	comp=Z,13nm,1.2s				pmax		pmax			
KLU	**Klutina**	**81.94**	**25**		P				17 42 29.8	
	baz=243,SNR=32									
SATY	**Saty**	**81.97**	**315**	*e*	P		**P**		**17 42 29.7**	**-0.2**
	comp=Z,9.2nm,1.2s,baz=315									
SATY	**Saty**	**81.97**	**315**	*e*	P		**P**		**17 42 29.6**	**-0.2**
SATY	comp=Z,9.0nm,1.2s				pmax		pmax			
M24K	**Tolsona, Glenn**	**82.11**	**25**		P				17 42 31.2	
	baz=242,SNR=14									
M24K	**Tolsona, Glenn**	**82.11**	**25**		P		**P**		**17 42 31.2**	**+1.2**
NEA2	**Nenana**	**82.19**	**22**		P		**P**		**17 42 29.8**	**-0.5**
NEA2	comp=Z,24nm,0.9s				IAmb		IAmb		17 42 31.8	
NEA2	**Nenana**	**82.19**	**22**		P				17 42 30.6	
	baz=239,SNR=22									
BMRM	**Bremner River**	**82.27**	**26**		P				17 42 31.4	
	baz=244,SNR=16									
BMRM	**Bremner River**	**82.27**	**26**		IAmb		IAmb		17 42 33.7	
	comp=Z,47nm,1.2s									
I23K	**Minto, Yukon-K**	**82.37**	**21**		P		**P**		**17 42 31.6**	**+0.4**
I23K	**Minto, Yukon-K**	**82.37**	**21**		P				17 42 31.2	
	baz=239,SNR=9.5									
WRH	**Wood River Hil**	**82.50**	**22**		IAmb		IAmb		17 42 33.4	
	comp=Z,31nm,1.1s									
N25K	**Chitina, Valde**	**82.55**	**26**		P				17 42 33.0	
	baz=244,SNR=10									
N25K	**Chitina, Valde**	**82.55**	**26**		P		**P**		**17 42 33.2**	**+0.8**
KDJ	**Kajisay**	**82.61**	**314**		P		**P**		**17 42 33.2**	**0.0**
KDJ	comp=Z,46nm,1.1s				pmax		pmax			
KDJ	**Kajisay**	**82.61**	**314**		P		**P**		**17 42 33.2**	**0.0**
H23K	**Yukon River**	**82.66**	**21**		P				17 42 33.4	
	baz=239,SNR=10									
HARP	**HAARP**	**82.67**	**25**		P				17 42 33.5	
	baz=243,SNR=6.2									
ARXS	**Arharly**	**82.68**	**316**	*e*	P		**P**		**17 42 34.0**	**+0.6**
TCOL	**CIGO, UAF Yank**	**82.78**	**22**		IAmb		IAmb		17 42 34.7	
	comp=Z,26nm,0.7s									
COLA	**College**	**82.79**	**22**	*c i*	P		**P**		**17 42 33.6**	**+0.3**
COLA	comp=Z,27nm,0.8s				pmax		pmax			
COLA	**College**	**82.79**	**22**		P		**P**		**17 42 33.4**	**+0.1**
COLA	comp=Z,29nm,0.8s				IAmb		IAmb		17 42 34.7	
PAX	**Paxson**	**82.80**	**24**		P				17 42 33.8	
	baz=243,SNR=7.1									
CRQM	**Cirque**	**82.82**	**27**		P		**P**		**17 42 35.1**	**+1.3**
SEM	**Semipalatinsk**	**82.83**	**322**	*e*	P		**P**		**17 42 32.2**	**-2.1**
	baz=322									
SEM	**Semipalatinsk**	**82.83**	**322**	*e*	P		**P**		**17 42 32.1**	**-2.1**
CRQE	**Cirque**	**82.84**	**27**		P				17 42 34.5	
	baz=245,SNR=22									
KSH	**Kashi**	**82.88**	**311**		P		**P**		**17 42 37.2**	**+2.6**
KSH	comp=Z,15nm,0.4s				pmax		pmax			
KSH	comp=Z,92nm,2.9s				pmax		pmax			
VRDI	**Verde Repeater**	**82.89**	**26**		IAmb		IAmb		17 42 37.0	
	comp=Z,38nm,1.1s									
HDA	**Harding Lake**	**82.90**	**22**		P				17 42 33.4	
	baz=241,SNR=9.1									
HDA					P				17 42 33.4	
	baz=241,SNR=9.1									
MDOK	**Medeo**	**82.96**	**315**	*e*	P		**P**		**17 42 34.6**	**-0.4**
	baz=315									
MDOK	**Medeo**	**82.96**	**315**	*e*	P		**P**		**17 42 34.5**	**-0.4**
TGL	**Tana Glacier**	**82.96**	**27**		P		**P**		**17 42 35.6**	**+1.1**
TGL	comp=Z,34nm,1.0s				IAmb		IAmb		17 42 37.5	
POKR	**Poker Plat Res**	**83.06**	**22**		P				17 42 34.5	
	baz=241									
ILAR	**Eielson Array**	**83.10**	**22**		P		**P**		**17 42 34.7**	**-0.3**
	comp=Z,14nm,0.7s,baz=251,slow=5.3,SNR=89									
ILAR					LR		LR		18 17 21.7	
	comp=Z,321nm,19.8s,baz=265,slow=34									
ILAR	**Eielson Array**	**83.10**	**22**		P		**P**		**17 42 34.4**	**-0.6**
ILAR	**Eielson Array**	**83.10**	**22**		P		**P**		**17 42 34.4**	**-0.6**
MESA	**MESA**	**83.12**	**27**		IAmb		IAmb		17 42 38.1	
	comp=Z,28nm,0.8s									
MESA	**MESA**	**83.12**	**27**		P				17 42 35.8	
	baz=246,SNR=6.4									
MCARA	**McCarthy VSAT**	**83.14**	**26**		IAmb		IAmb		17 42 38.3	
	comp=Z,35nm,1.0s									
MCARA	**McCarthy VSAT**	**83.14**	**26**		P				17 42 35.9	
	baz=245,SNR=14									
CHKK	**Chushkaly**	**83.17**	**315**	*e*	P		**P**		**17 42 35.2**	**-0.7**
	baz=315									
CHKK	**Chushkaly**	**83.17**	**315**	*e*	P		**P**		**17 42 35.2**	**-0.7**
COLD	**Coldfoot**	**83.18**	**19**		P				17 42 35.8	
	baz=238,SNR=8.1									
COLD	**Coldfoot**	**83.18**	**19**		P		**P**		**17 42 35.5**	**+0.2**
H24K	**Noodor Dome**	**83.26**	**21**		P				17 42 35.8	
	baz=240,SNR=12									
YAH	**Yahtse**	**83.29**	**27**		IAmb		IAmb		17 42 39.5	
	comp=Z,28nm,1.1s									
ULHL	**Ulahol**	**83.31**	**314**		P		**P**		**17 42 37.8**	**+0.9**
	SNR=20									
MTBS	**Maitube**	**83.39**	**314**	*e*	P		**P**		**17 42 36.8**	**-0.4**
	baz=314									
MTBS	**Maitube**	**83.39**	**314**	*e*	P		**P**		**17 42 36.7**	**-0.4**
GRNC	**Granite Creek**	**83.43**	**27**		IAmb		IAmb		17 42 39.4	
	comp=Z,17nm,0.8s									
MENT	**Mentasta**	**83.51**	**24**		P		**P**		**17 42 38.5**	**+1.3**
MENT					IAmb		IAmb		17 42 39.9	
	comp=Z,20nm,1.1s									
BOOM	**Boomskoye usch**	**83.59**	**314**		P		**P**		**17 42 37.7**	**-0.5**
BOOM	comp=Z,20nm,1.0s				pmax		pmax			
BOOM	**Boomskoye usch**	**83.59**	**314**		P		**P**		**17 42 37.7**	**-0.5**
BOOM	comp=Z,20nm,0.9s				IAmb		IAmb		17 42 40.3	
KUU	**Kurty**	**83.64**	**315**	*e*	P		**P**		**17 42 37.6**	**-0.7**
	comp=Z,37nm,1.0s,baz=315									
KUU	**Kurty**	**83.64**	**315**	*e*	P		**P**		**17 42 37.5**	**-0.7**
KUU	comp=Z,37nm,1.0s				pmax		pmax			
A21K	**Barrow**	**83.69**	**15**		P				17 42 38.3	
	baz=232									
CTG	**Chitna Glacier**	**83.71**	**27**		P				17 42 39.4	
	baz=247,SNR=26									
NIL	**Nilore**	**83.81**	**305**		P		**P**		**17 42 38.8**	**-0.6**
NIL	comp=Z,39nm,1.0s				pmax		pmax			
NIL	**Nilore**	**83.81**	**305**		P		**P**		**17 42 38.8**	**-0.6**
SCRK	**Sand Creek**	**83.85**	**23**		P				17 42 39.8	
	baz=244,SNR=19									
SCRK	**Sand Creek**	**83.85**	**23**		P		**P**		**17 42 39.3**	**+0.3**
SCRK					IAmb		IAmb		17 42 41.5	
	comp=Z,19nm,1.2s									
PCA	**Pinnacle**	**83.87**	**28**		IAmb		IAmb		17 42 41.7	
	comp=Z,23nm,0.8s									
PINM	**Pinnacle**	**83.87**	**28**		P				17 42 40.0	
	baz=248,SNR=6.2									
TKM2	**Tokmak 2**	**83.94**	**314**		P		**P**		**17 42 40.0**	**-0.1**
	SNR=18									
TKM2	**Tokmak 2**	**83.94**	**314**		P		**P**		**17 42 39.4**	**-0.7**
TKM2	comp=Z,20nm,1.2s				pmax		pmax			
KURBB	**Kurchatov Arra**	**83.94**	**322**		P		**P**		**17 42 38.1**	**-1.5**
KURBB	comp=Z,18nm,1.2s				pmax		pmax			
PRP	**Porcupine Dome**	**83.96**	**22**		P				17 42 39.8	
	baz=243									
TOLK	**Toolik Lake Re**	**84.13**	**18**		P				17 42 40.7	
	baz=238									
TOLK	**Toolik Lake Re**	**84.13**	**18**		P		**P**		**17 42 41.1**	**+0.8**
KBK	**Karagaybulak**	**84.34**	**314**		P		**P**		**17 42 42.6**	**+0.5**
	SNR=8.2									
L27K	**Beaver Creek,**	**84.34**	**25**		P		**P**		**17 42 41.8**	**+0.4**
L27K					IAmb		IAmb		17 42 44.6	
	comp=Z,29nm,1.3s									
L27K	**Beaver Creek,**	**84.34**	**25**		P				17 42 42.6	
	baz=246,SNR=24									
BCAR	**Beaver Creek A**	**84.36**	**25**		P		**P**		**17 42 42.3**	**+0.8**
QSPA	**South Pole Qui**	**84.43**	**180**		P		**P**		**17 42 42.9**	**+0.9**
	comp=Z,5.3nm,0.9s,baz=38,slow=0.8,SNR=13									
QSPA	**South Pole Qui**	**84.43**	**180**		P		**P**		**17 42 43.1**	**+1.1**
QSPA					IAmb		IAmb		17 42 51.4	
	comp=Z,16nm,1.0s									
CHMS	**Chumysh**	**84.56**	**314**		P		**P**		**17 42 43.1**	**+0.2**
	SNR=17									
FRU1	**Bishkek**	**84.60**	**314**		IAmb		IAmb		17 42 45.4	
	comp=Z,32nm,1.1s									
MAW	**Mawson**	**84.63**	**203**		P		**P**		**17 42 44.4**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=24,slow=6.9,SNR=3.8									
MAW					LR		LR		18 17 35.4	
	comp=Z,400nm,21.1s,baz=66,slow=34									
MAW	**Mawson**	**84.63**	**203**		P		**P**		**17 42 43.7**	**+1.0**
MAW	comp=Z,3.0nm,1.0s				pmax		pmax			
MAW	**Mawson**	**84.63**	**203**		P		**P**		**17 42 43.7**	**+1.0**
K27K	**Chicken**	**84.64**	**24**		IAmb		IAmb		17 42 46.4	
	comp=Z,24nm,1.1s									
AAK	**Ala-Archa**	**84.66**	**314**		P		**P**		**17 42 44.4**	**+0.7**
	SNR=9.1									
AAK	**Ala-Archa**	**84.66**	**314**	*c i*	P		**P**		**17 42 44.6**	**+0.9**
AAK	comp=Z,84nm,1.3s				pmax		pmax			
AAK	**Ala-Archa**	**84.66**	**314**		P		**P**		**17 42 43.8**	**+0.1**
AAK	comp=Z,22nm,1.1s				IAmb		IAmb		17 42 45.8	
SGDS	**Sogindy**	**84.74**	**314**	*e*	P		**P**		**17 42 43.7**	**-0.3**
	comp=Z,13nm,1.4s,baz=314									
SGDS	**Sogindy**	**84.74**	**314**	*e*	P		**P**		**17 42 43.7**	**-0.3**
SGDS	comp=Z,13nm,1.4s				pmax		pmax			
USP	**Ospenovka**	**84.80**	**314**		P		**P**		**17 42 44.6**	**+0.4**
	SNR=50									
AML	**Almayashu**	**85.14**	**313**		P		**P**		**17 42 47.0**	**+0.6**
	SNR=74									
BMAR	**Burnt Mountain**	**85.17**	**20**		P		**P**		**17 42 46.6**	**+1.1**
EKS2	**Erkin-Say**	**85.19**	**314**		P		**P**		**17 42 46.4**	**+0.1

comp=Z,12nm,0.9s
KK31 Karatay Array 87.63 314 P P 17 42 58.2 +0.1
KK31 IAmb IAmb 17 43 00.5
comp=Z,18nm,1.1s
KKAR Karatay Array 87.63 314 P P 17 42 57.6 -0.5
KKAR Karatay Array 87.63 314 P P 17 42 57.5 -0.5
KKAR Karatay Array 87.63 314 IAmb IAmb 17 43 00.5
comp=Z,18nm,1.1s
DLBC Dease Lake 88.37 31 P P 17 43 03.0 +1.6
INK Inuvik 89.39 21 P P 17 43 05.8 0.0
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 89.39 21 P P 17 43 05.8 0.0
INK IAmb IAmb 17 43 08.0
comp=Z,16nm,1.1s
INK Inuvik 89.39 21 P 17 43 06.5
baz=254
BRVK Borovoye 89.48 323 *d* **iP P 17 43 05.3 -1.2**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 89.48 323 P P 17 43 04.7 -1.8
K02D Willamette Mer 89.49 47 P 17 43 07.1
baz=262
I03D Drain, OR 89.85 46 P 17 43 08.5
baz=262
M02C Callahan 89.91 49 P 17 43 10.2
baz=263
N02D Trinity Center 89.97 49 P 17 43 08.7
baz=263
YBH Yreka Blue Hor 90.06 48 P P 17 43 10.3 +0.6
YBH pmax pmax
comp=Z,18nm,1.4s
YBH Yreka Blue Hor 90.06 48 P P 17 43 10.3 +0.6
YBH IAmb IAmb 17 43 13.7
comp=Z,18nm,1.4s
L04D Klamath Falls 90.42 48 P 17 43 12.1
baz=263
I04A Tendick Farm, 90.54 46 P 17 43 12.5
baz=263
D03D Eldon 90.54 42 P 17 43 12.9
baz=263
O03E Paynes Creek 90.57 50 P 17 43 13.6
baz=263
J04D Umpqua Nationa 90.69 47 P 17 43 14.0
baz=263
M04C Macdoel 90.71 48 P 17 43 14.1
baz=263
ORV Oroville 90.71 51 P P 17 43 13.6 +1.0
ORV pmax pmax
comp=Z,5.0nm,1.1s
ORV Oroville 90.71 51 P P 17 43 13.6 +1.0
E04D Cinebar 90.77 43 P 17 43 14.3
baz=263
K04D Chiloquin, OR 90.88 47 P 17 43 15.1
baz=263
A04D Lummi Island 90.95 41 P 17 43 15.2
baz=263
AFDM Forest Hills D 91.05 51 P P 17 43 15.4 +1.1
B05A Bryant 91.30 42 P 17 43 17.0
baz=263
I05D Terrebonne, OR 91.37 46 P 17 43 17.0
baz=264
CMB Columbia Colle 91.42 52 IAmb IAmb 17 43 19.7
comp=Z,19nm,1.8s
F05D White Salmon 91.45 44 P 17 43 18.3
baz=264
G05D Wamic, OR 91.48 45 P 17 43 18.7
baz=264
K05A Summer Lake 91.52 47 P P 17 43 17.6 +1.0
PKM Mcpherson Peak 91.56 55 P 17 43 19.2
baz=264
PINE Pine Mountain 91.60 46 P P 17 43 18.4 +1.5
BEKR Beckworth 91.62 50 P P 17 43 18.0 +0.9
BEKR IAmb IAmb 17 43 20.7
comp=Z,17nm,1.5s
MOD Modoc Plateau 91.87 48 P P 17 43 19.2 +1.1
MOD IAmb IAmb 17 43 21.8
comp=Z,18nm,1.2s
PNTR Pine Nut 92.13 51 P P 17 43 20.0 +0.4
WAKR Walker 92.20 52 P P 17 43 20.7 +0.8
PAHR Pah Rah Range 92.36 51 P P 17 43 21.8 +1.3
PAHR IAmb IAmb 17 43 24.1
comp=Z,10nm,1.2s
YERR Yerington 92.40 51 IAmb IAmb 17 43 25.1
comp=Z,7.7nm,1.0s
MDPB Devils Postpil 92.41 53 P P 17 43 21.7 +0.8
MDPB IAmb IAmb 17 44 19.4
comp=Z,9.8nm,0.7s
I07A Izee 92.66 46 P P 17 43 23.6 +1.8
ISA Isabella, Lake 92.72 55 P 17 43 24.1
baz=265
ISA Isabella, Lake 92.72 55 P P 17 43 24.2 +2.0
ISA pmax pmax
comp=Z,6.0nm,1.2s
ISA Isabella, Lake 92.72 55 P P 17 43 24.2 +2.0
HAWA Hanford 92.84 44 P P 17 43 21.6 -0.7
HAWA IAmb IAmb 17 43 25.8
comp=Z,18nm,1.3s
LHV Little Huntoon 92.91 52 IAmb IAmb 17 43 35.6
comp=Z,9.6nm,0.9s
RYN Ryan 92.93 52 P P 17 43 23.5 +0.4
RYN IAmb IAmb 17 43 26.9
comp=Z,20nm,1.5s
HRA Herat 92.97 304 P P 17 43 22.5 -1.0
HRA IAmb IAmb 17 43 25.1
comp=Z,9.7nm,1.2s
PNT Penticton 93.03 41 P P 17 43 20.0 -3.2
PNT pmax pmax
comp=Z,28nm,1.5s
EDW2 Edwards Air Fo 93.05 55 P 17 43 26.2
baz=266
NVAR Mina Array Bea 93.08 52 P P 17 43 25.7 +1.7
comp=Z,4.2nm,0.9s,baz=255,slow=5.4,SNR=26
NVAR LR LR 18 21 35.8
comp=Z,463nm,18.5s,baz=272,slow=33
NVAR Mina Array Bea 93.08 52 P P 17 43 25.0 +1.1
CWC Cottonwood Cre 93.10 54 P 17 43 26.2
baz=266
B08A Colville Reser 93.14 42 P P 17 43 24.4 +0.7
B08A IAmb IAmb 17 43 26.5
comp=Z,9.5nm,1.2s
G08A Pilot Rock 93.15 45 P P 17 43 25.8 +1.9
G08A IAmb IAmb 17 43 27.2
comp=Z,20nm,1.3s
WVOR Wild Horse Val 93.15 48 P P 17 43 24.8 +0.8
WVOR pmax pmax
comp=Z,14nm,1.2s
WVOR Wild Horse Val 93.15 48 P P 17 43 24.8 +0.8
WVOR IAmb IAmb 17 43 27.7
comp=Z,14nm,1.1s
NV11 Mina Array Sit 93.20 52 IAmb IAmb 17 43 28.3
comp=Z,18nm,1.4s
BFSC Mount Baldy Ra 93.28 56 P 17 43 27.5
baz=266
KVN Kaiserville 93.29 51 P P 17 43 25.8 +1.0
KVN pmax pmax
comp=Z,14nm,1.3s
KVN Kaiserville 93.29 51 P P 17 43 25.8 +1.0
KVN IAmb IAmb 17 43 28.6
comp=Z,14nm,1.3s
J08A Circle Bar Ran 93.34 47 IAmb IAmb 17 43 29.0
comp=Z,19nm,1.3s
LRMC Laurel Mtn Rad 93.35 55 P 17 43 28.0
baz=266,SNR=11
MPMC Manual Prospec 93.55 54 P 17 43 28.5
baz=266,SNR=9.7
MURC Murrieta 93.61 57 P 17 43 28.9
baz=266
GRAC Grapevine Rang 93.72 53 P 17 43 30.0
baz=266
E09A Wood Farm, Sta 93.81 44 P P 17 43 28.4 +1.7
GSC Goldstone, Bar 94.05 55 P P 17 43 29.7 +1.4
GSC pmax pmax
comp=Z,13nm,1.5s
GSC Goldstone, Bar 94.05 55 P P 17 43 29.7 +1.4
GSC IAmb IAmb 17 43 32.3
comp=Z,13nm,1.4s
GSC Goldstone, Bar 94.05 55 P 17 43 31.2
baz=266
FURC Furnace Creek, 94.08 54 P 17 43 31.6
baz=266
MONP2 Monument Peak 94.21 57 P 17 43 32.2
baz=266
PFO Pinyon Flats O 94.22 57 P 17 43 31.7
baz=266
TPFO Pinon Flats 94.23 57 P 17 43 31.8
baz=266
F10A Beach Ranch, E 94.41 44 P P 17 43 30.2 +0.5
F10A IAmb IAmb 17 43 32.6
comp=Z,13nm,1.1s
HEC Hector,Ludlow 94.41 56 P 17 43 32.5
baz=266
IKP In-Ko-Pah, Jac 94.46 58 P 17 43 33.3
baz=266
SHOC Shoshone, Teco 94.52 55 P 17 43 33.3
baz=267
NEW Newport 94.61 42 P P 17 43 31.1 +0.6
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 94.61 42 P P 17 43 31.1 +0.6
NEW IAmb IAmb 17 43 33.4
comp=Z,11nm,1.1s
NEW Newport 94.61 42 P 17 43 32.4
baz=267
TPNV Topopah Spring 94.61 53 P P 17 43 32.4 +1.5
TPNV Topopah Spring 94.61 53 P P 17 43 32.4 +1.5
TPNV IAmb IAmb 17 43 34.9
comp=Z,16nm,1.3s
TPNV Topopah Spring 94.61 53 P 17 43 33.2
baz=267,SNR=7.9
BELC Belle Mtn. Jos 94.63 56 P 17 43 33.2
baz=267
TUQ Turquoise Moun 94.78 55 P 17 43 34.4
baz=267,SNR=6.0
BC3 Big Chuckawall 95.07 57 P 17 43 35.1
baz=267
R11A Troy Canyon, C 95.21 52 IAmb IAmb 17 43 37.5
comp=Z,14nm,1.5s
R11A Troy Canyon, C 95.21 52 P 17 43 35.4
baz=267
MFID Camas Ranch 95.27 47 P P 17 43 34.1 +0.3
MFID IAmb IAmb 17 43 37.3
comp=Z,9.4nm,1.3s
IRM Iron Mountain 95.35 56 P 17 43 36.5
baz=267
GLA Glamis 95.56 57 P 17 43 36.7
baz=267
PRN Pahroc Range 95.59 53 P P 17 43 36.8 +1.4
PRN IAmb IAmb 17 43 40.1
comp=Z,12nm,1.2s
HLID Hailey 96.30 47 P P 17 43 40.1 +1.6
HLID IAmb IAmb 17 43 43.1
comp=Z,9.7nm,1.4s
HLID Hailey 96.30 47 P 17 43 40.4
baz=268
YKA Yellowknife Ar 96.40 28 P P 17 43 39.4 +1.2
comp=Z,4.9nm,0.8s,baz=270,slow=4.6,SNR=14
YKA LR LR 18 23 38.3
comp=Z,274nm,20.0s,baz=0.0,slow=33
ARU Arti 96.53 326 *c* **iP P 17 43 37.4 -1.6**
ARU 17 47 30.7
ARU S **SKSac 17 54 09.2 -1.8**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU MLR MLR
comp=Z,616nm,22.0s
PSUT Pine Spring 96.58 52 P P 17 43 40.6 +0.7
CCUT Cedar City 96.94 53 P P 17 43 43.0 +1.4
HVU Hansel Valley 97.48 49 P Pdif 17 43 44.2 +0.3
HVU pmax pmax
comp=Z,7.0nm,1.1s
HVU Hansel Valley 97.48 49 P Pdif 17 43 44.2 +0.3
HVU IAmb IAmb 17 43 48.8
comp=Z,7.2nm,1.1s
YHL Hebgen Lake 98.64 46 P Pdif 17 43 50.2 +1.1
YHL IAmb IAmb 17 46 49.1
comp=Z,7.1nm,0.6s
PDAR Pinedale Array 99.86 48 P Pdif 17 43 55.7 +1.1
comp=Z,0.6nm,0.3s,baz=250,slow=3.0,SNR=9.6
PDAR LR LR 18 27 26.5
comp=Z,299nm,18.0s,baz=274,slow=34
PDAR Pinedale Array 99.86 48 Pdif Pdif 17 43 54.7 +0.1
TXAR Lajitas Array 105.09 61 PKKPab PKKPab 18 00 18.4 +1.5
comp=Z,0.7nm,0.9s,baz=94,slow=3.6,SNR=6.0
APA Apatity 105.78 340 *i* **iP Pdif 17 44 18.5 -1.5**
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,720nm,14.0s
MNK Minsk 113.85 328 *i* PKIKP **PKiKP 17 48 47.8 -0.2**
MNK *i* 17 49 02.6
MNK *i* 17 52 12.0
MNK *i* 17 55 47.7
MNK *i* PS **PS 17 59 12.6 -6.8**
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK MLR MLR
comp=E,37nm,22.0s
MNK MLR MLR
comp=N,280nm,24.0s
MNK MLR MLR
comp=Z,284nm,21.0s
MNK Minsk 113.85 328 *i* PKP **PKiKP 17 48 47.9 -0.1**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKiKP 17 48 47.9 -0.1**
comp=N,15nm,0.8s
MNK *i* PKP **PKiKP 17 48 47.9 -0.1**
comp=Z,6.0nm,0.6s,baz=244
MNK *i* PP **PP 17 49 34.0 -7.6**
MNK *i* PPP PPP 17 51 56.8
MNK *i* SKP 17 52 12.1
MNK *i* PKS **PKSdf 17 52 17.8 -6.7**
MNK *i* SKS **SKSdf 17 55 47.8 -7.7**
MNK *i* sSKS 17 56 15.3
MNK *i* SP SP 17 59 02.9 -9.0
MNK *i* PS **PS 17 59 12.6 -6.8**
MNK *i* SS SS 18 05 05.6 -21
MNK *i* SKKS **SKKSdf 18 06 53.3 -9.0**
MNK *i* SSS SSS 18 09 28.6
MNK *i* LQ LQ 18 27 43.0
MNK *i* LR LR 18 30 56.3
MNK *i* LRM MLR 18 37 21.8
comp=E,37nm,21.9s
MNK *i* LRM MLR 18 37 33.4
comp=N,280nm,24.5s
MNK *i* LRM MLR 18 37 56.6
comp=Z,284nm,20.6s
AKASG Malin Array Be 114.68 324 PKP PKPdf 17 48 51.6 +1.9
comp=Z,0.7nm,0.5s,baz=54,slow=2.4,SNR=4.1
NOA NORSAR Array B 117.36 340 PKP PKPdf 17 48 54.9 +0.2
comp=Z,0.6nm,0.7s,baz=47,slow=1.9,SNR=3.7
MATP Matopo 118.91 243 PKP PKiKP 17 49 00.1 +1.1
comp=Z,0.8nm,0.5s,baz=269,slow=0.9,SNR=1.9
KOLS Kolonicke sedl 119.50 324 *e*PKIKP **PKiKP 17 49 00.3 +1.1**
KOLS Kolonicke sedl 119.50 324 *e*PKP **PKiKP 17 49 00.3 +1.1**
VLDQ Val d'Or 120.26 36 PKPdf **PKPdf 17 48 59.9 -0.6**
ALGO Algonquin Park 120.91 39 P 17 49 01.8
baz=297
M53A WI Miller and 121.06 44 P 17 49 01.6
baz=292
O53A New Philadelph 121.12 46 P 17 49 02.2
baz=291
G54A Lake Saint Pet 121.13 39 P 17 49 02.5
baz=297
H53A Bobcaygeon 121.18 40 P 17 49 02.4
baz=296
VTS Vitosha 121.71 317 PKIKP **PKPdf 17 49 03.2 -0.6**
VTS Vitosha 121.71 317 PKPdf **PKPdf 17 49 03.2 -0.6**
MORC Moravsky Berou 121.72 327 *e*PKP **PKiKP 17 49 04.0 +0.5**
N54A Moraine State 121.72 45 P 17 49 03.4
baz=293
M54A Oil Creek Stat 121.73 44 P 17 49 03.9
baz=293
Q54A Coxs Mills 121.85 47 PKPdf 17 49 04.3 +0.4
D55A Sainte-Anne-du 121.96 37 P 17 49 03.8
baz=300
JAVC Velka Javorina 122.15 326 *e*PKP **PKiKP 17 49 06.3 +1.9**
D56A ZEC Mazanza, M 122.37 36 P 17 49 04.3
baz=301
E56A St. Veronique 122.46 37 P 17 49 05.1
baz=300
KRUC Moravsky 122.74 327 *e*PKP **PKiKP 17 49 05.8 +0.3**
K56A Middlesex 122.82 42 P 17 49 05.3
baz=296
J56A Wolcott 122.88 41 P 17 49 05.7
baz=297
L56A Greenwood 122.91 42 PKPdf 17 49 05.5 -0.4
L56A Greenwood 122.91 42 P 17 49 05.9
baz=296
BRG Berggiesshubel 122.95 330 *e*PKP **PKiKP 17 49 06.4 +0.5**
BRG Amp 17 49 08.2
comp=Z,4.8nm,1.1s
O56A Blue Knob Stat 122.99 45 P 17 49 06.2
baz=294
CLL Collm 123.15 331 *e*PKPdf **PKiKP 17 49 07.0 +0.8**
CLL *e*PS PS 18 00 43.0 -0.2
CLL *e*PPS PPS 18 02 11.0
CLL *e*SS SS 18 07 36.0 +10
CLL *e*SSS SSS 18 11 42.0
CLL Lm MLR 18 44 00.0
comp=N,200nm,19.3s
CLL Lm MLR 18 44 00.0
comp=E,100nm,21.9s
CLL Lm MLR 18 44 00.0
comp=Z,200nm,20.1s
CLL Collm 123.15 331 *e*PKIKP **PKiKP 17 49 07.0 +0.8**
DIVS Divibare 123.18 320 PKPpre PKPpre 17 48 54.9
DIVS PKPdf **PKPdf 17 49 06.4 0.0**
G57A Newington 123.21 38 P 17 49 07.2
baz=300
H57A Richville 123.27 39 P 17 49 06.8
baz=299
SSPA Standing Stone 123.31 44 P 17 49 07.4
baz=294
I57A Carthage 123.34 40 P 17 49 06.8
baz=298
J57A Williamstown 123.37 41 P 17 49 07.5
baz=298
D58A Chemin du LacG 123.44 35 P 17 49 07.0
baz=303
E58A La Victoria 123.59 36 P 17 49 07.3
baz=302
CONA Conrad Observa 123.67 326 *e*P **PKiKP 17 49 08.9 +1.4**
comp=Z,3.0nm,0.8s
FNA Florina 123.74 316 PKIKP **PKPdf 17 49 07.0 -0.6**
FNA Florina 123.74 316 PKPdf 17 49 07.0 -0.6
G58A Ormstown 123.76 38 P 17 49 07.8
baz=301
J58A Remsen 123.86 40 P 17 49 08.3
baz=298
I58A Old Forge 123.90 40 P 17 49 08.6
baz=299
CKRC Cesky Krumlov 124.00 328 *e*PKPDF **PKiKP 17 49 08.2 +0.2**
H58A Gabriels 124.04 39 P 17 49 08.7
baz=300
L58A Harry Jones Me 124.09 42 P 17 49 08.8
baz=297
KHC Kasperske Hory 124.20 328 *e*PKIKP **PKiKP 17 49 08.7 +0.2**
KHC Kasperske Hory 124.20 328 *e*PKPDF **PKiKP 17 49 08.7 +0.2**
H59A Cadyville 124.23 38 P 17 49 09.3
baz=301
J59A Piesco 124.31 40 PKPdf 17 49 08.9 +0.3
J59A Piesco 124.31 40 P 17 49 09.3
baz=299
GERES GERESS Array B 124.31 328 PKP **PKiKP 17 49 09.8 +1.0**
comp=Z,1.9nm,0.7s,baz=52,slow=2.2,SNR=13
GERES GERESS Array B 124.31 328 PKIKP PKPdf 17 48 56.7 -12
GERES 17 49 08.9
GERES GERESS Array B 124.31 328 PKPpre PKPpre 17 48 56.7
GERES PKPdf **PKPdf 17 49 08.8 +0.4**
I59A Olmsteadville 124.54 39 P 17 49 09.9
baz=300
F60A Warwick 124.59 36 P 17 49 09.2
baz=303
N59A State Game Lan 124.65 43 P 17 49 09.4
baz=296
E60A Ste Agathe de 124.66 35 P 17 49 09.7
baz=304
G60A Masonville 124.83 37 P 17 49 10.1
baz=302
SOKA Soboth 124.84 325 *e*P **PKiKP 17 49 10.8 +1.0**
comp=Z,4.7nm,1.6s
H60A Morristown 124.89 38 P 17 49 09.2
baz=302
I60A Shoreham 124.89 39 P 17 49 09.6
baz=300
GRF Grafenberg Arr 125.06 330 *e*PKPdf **PKiKP 17 49 10.9 +0.8**
baz=50,slow=1.4
F61A St Evariste 125.14 36 P 17 49 10.3
baz=304
E61A Lac Etchemin 125.17 35 P 17 49 10.2
baz=305
H61A Lyndonville 125.37 38 P 17 49 10.5
baz=302
LBNH Lisbon 125.53 38 P 17 49 10.9
baz=302
KBA Koelnbreinsper 125.55 326 *e*P **PKiKP 17 49 11.7 +0.3**
comp=Z,6.3nm,1.1s
J61A Chester 125.60 39 P 17 49 10.9
baz=301
D62A Allapoint, All 125.60 34 P 17 49 11.1
baz=307
E62A Clayton Lake 125.61 34 P 17 49 10.9
baz=306
F62A Pittston Farm, 125.78 35 P 17 49 11.2
baz=305
H62A Milan 125.81 37 P 17 49 11.4
baz=303
G62A West of Eustis 125.83 36 P 17 49 11.5
baz=304
L61B Northampton 125.97 40 P 17 49 11.7
baz=300
I62A Tamworth 126.08 38 P 17 49 12.3
baz=302
J62A Henniker 126.12 39 P 17 49 11.8
baz=302
K62A Royalston 126.15 40 P 17 49 11.9
baz=301
D63A Stockholm 126.15 33 P 17 49 11.7
baz=308
ABTA Abfaltersbach 126.21 326 *e*P **PKPdf 17 49 12.3 +0.2**
comp=Z,2.6nm,0.6s
E63A Oxbow 126.34 34 P 17 49 12.2
baz=307
WATA Walderalm 126.36 328 *e*P **PKiKP 17 49 13.9 +0.9**
comp=Z,2.9nm,0.6s
WTTA Wattenberg 126.37 327 *i* P **PKiKP 17 49 14.2 +1.2**
comp=Z,11nm,1.2s
F63A Nahmakanta, Br 126.38 35 P 17 49 12.4
baz=306
G63A Kingsbury 126.42 36 P 17 49 12.3
baz=305
I63A Otisfield 126.44 37 P 17 49 12.4
baz=303
PKME Peaks-Kenny Pk 126.53 36 P 17 49 12.4
baz=305
J63A Strafford 126.55 38 P 17 49 12.7
baz=302
MOTA Moosalm 126.60 328 *i* P **PKiKP 17 49 14.4 +1.0**
comp=Z,6.1nm,1.0s
E64A Bridgewater 126.67 34 P 17 49 12.2
baz=308
RETA Reutte 126.69 328 *i* P **PKiKP 17 49 15.0 +1.5**
comp=Z,2.8nm,0.8s
F64A Sherman 126.72 34 P 17 49 12.6
baz=307
G64A Maxfield 126.84 35 P 17 49 12.8
baz=306
MEM Membach 126.89 334 *d*PKP **PKPdf 17 49 13.5 +0.3**
H64A Troy 126.93 36 P 17 49 13.2
baz=305
L63A North Scituate 126.95 40 P 17 49 12.3
baz=301
FETA Feichten 127.01 328 *e*P **PKiKP 17 49 14.7 +0.4**
comp=Z,7.0nm,1.2s
I64A Boothbay 127.09 37 P 17 49 13.2
baz=304
DAVA Damuels 127.28 328 *i* P **PKPdf 17 49 14.8 +0.5**
comp=Z,3.8nm,0.6s
M64A Tiverton 127.37 40 P 17 49 13.9
baz=301
H65A Eastbrook 127.46 36 P 17 49 13.9
baz=306
G65A Princeton 127.56 35 P 17 49 14.1
baz=307
TUE Stuetta 128.09 328 PKPdf **PKPdf 17 49 11.8 -4.1**
LPAZ La Paz 134.68 119 PKP **PKiKP 17 49 31.9 +0.8**
comp=Z,3.1nm,1.2s,baz=288,slow=4.6,SNR=4.5
SDV Santo Domingo 137.49 83 PKP **PKiKP 17 49 36.0 -0.4**
comp=Z,16nm,0.3s,baz=252,slow=2.8,SNR=3.3
ESDC Sonseca Array 139.74 331 PKhKP PKPpre 17 49 35.7
comp=Z,0.7nm,0.8s,baz=60,slow=3.1,SNR=4.1
ESDC PP **PP 17 52 32.5 -0.3**
comp=Z,0.7nm,0.8s,baz=27,slow=6.4,SNR=6.5
POLO Lamas de Olo 140.05 336 *e*PKPdf **PKPdf 17 49 33.0 -5.3**

PCBR	**Castelo Branco**	**141.20**	**335**	*e*PKPdf	**PKPdf**	**17 49 39.8**	**-0.5**
PMRV	**Marv??o**	**141.51**	**334**	*e*PKPdf	**PKPdf**	**17 49 39.9**	**-1.0**
PMTG	**Montargil**	**142.16**	**335**	*e*PKPdf	**PKPdf**	**17 49 43.0**	**+1.0**
PBAR	**Barrancos**	**142.38**	**333**	*e*PKPdf	**PKPdf**	**17 49 40.7**	**-1.8**
EVO	**Evora**	**142.52**	**334**	*e*PKPdf	**PKPdf**	**17 49 41.6**	**-1.1**
PNCL	**Nicolau / Gran**	**143.09**	**334**	*e*PKPdf	PKPbc	17 49 41.9	+1.3
PCVE	**Castro Verde**	**143.28**	**333**	*e*PKPdf	PKPbc	17 49 41.8	+0.6
PTGA	**Pitinga**	**147.38**	**100**	PKPbc	**PKPab**	**17 49 55.8**	**-0.5**
	comp=Z,12nm,0.8s,baz=252,slow=2.3,SNR=9.1						
PTGA	**Pitinga**	**147.38**	**100**		**PKPab**	**17 49 56.1**	**-0.2**
TOA0	**Torodi Ar. Sit**	**149.86**	**287**		**PKPbc**	**17 49 59.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**149.86**	**287**	PKPbc	**PKPbc**	**17 50 00.8**	**+0.2**
	comp=Z,43nm,0.9s,baz=44,slow=2.1,SNR=43						
TORD	**Torodi Ar. Bea**	**149.86**	**287**	PKPdf	**PKPdf**	**17 49 55.4**	**-0.4**
TORD					**PKPbc**	**17 50 00.2**	**-0.4**
BDFB	**Brasilia**	**151.03**	**137**	PKPbc	**PiKiP**	**17 50 04.4**	**+0.4**
	comp=Z,8.7nm,0.9s,baz=190,slow=2.3,SNR=7.4						
BDFB	**Brasilia**	**151.03**	**137**	PKIKP	**PKPbc**	**17 50 04.1**	**+0.6**
BDFB	**Brasilia**	**151.03**	**137**		**PKPbc**	**17 50 04.1**	**+0.6**
KOWA	**Kowa**	**154.88**	**293**		**PKPbc**	**17 50 11.2**	**-0.7**
MACI	**Morro de la Ar**	**154.95**	**336**		**PiKiP**	**17 50 13.5**	**+1.5**
KIC	**Kosan Boka**	**156.95**	**273**	*e*P	**PKPab**	**17 50 36.2**	**-0.1**
	comp=Z,29nm,1.0s						
DBIC	**Dimbokro**	**157.06**	**274**	PKPab	**PKPab**	**17 50 37.2**	**+0.6**
	comp=Z,5.6nm,0.6s,baz=84,slow=2.4,SNR=5.0						
TIC	**Toumodi**	**157.22**	**274**	*e*P	**PKPab**	**17 50 37.4**	**0.0**
LIC	**Lamto**	**157.24**	**273**	*e*P	**PKPab**	**17 50 37.7**	**+0.2**
	comp=Z,137nm,2.1s						

IDC ***12*** *17:39:32.0±0.5,5˙.58S×151˙.66E, h0km, mb4.5/18, mb1 4.6/21,mb1mx4.5/37,mbtmp4.5/21,ML3.5/3,MS4.3/3, Ms1 4.3/3,ms1mx3.6/36,Error ellipse: s-maj=16.3km s-min=13.4km az=97.0*

NEIC ***12*** *17:39:39.5±1.9,5˙.64S±0˙.06×151˙.48E±0˙.08, h50km±5km, mb4.7/91,Error ellipse: s-maj=11.7km s-min=8.3km az=118.0*

DJA ***12*** *17:39:39.8±0.5,6˚S±5˚×15˚2E±˚, h68km±9km,M5.2/12, mB5.1/3,mb4.9/12,MLv5.4/3,Mw(mB)4.5/3*

GCMT ***12*** *17:39:44.5±0.4,5.92S±0.02×151.51E±0.03, h36km, MW5.0/51,Moment Tensor Solution. s36,c41; s51,c70; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.07±.33; Mθθ-3.48±.17; Mϕϕ-1.60±.18; Mrθ1.00±.12; Mϕθ-0.98±.09; Mϕr0.60±.18; Best double couple: M₀4.63200×10^16 NP1:ϕ248.00000°,δ38.00000°,λ92.00000°. NP2: ϕ65.00000°,δ52.00000°,λ88.00000°. Principal axes: T 5.2210, Plg83.0000°, Azm325.0000°; N -1.1890, Plg1.0000°, Azm66.0000°; P -4.0420, Plg7.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 17:39:39.8±0.3, 5˚65S±0˚05×151˚49E±0˚06, h57km, n153, σ1°15/150, mb4.7/65, MS4.5/5, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RABL	**Rabaul**	**1.59**	**25**			**Pn**	**17 40 05.0**	**-0.8**
RABL					Sn	**Sn**	**17 40 28.5**	**+3.2**
RABL	**Rabaul**	**1.59**	**25**	P		**Pn**	**17 40 05.6**	**-0.1**
PMG	**Port Moresby**	**5.69**	**229**	Pn		**Pn**	**17 41 01.6**	**-0.2**
	14nm,0.3s,baz=24,slow=5.9,SNR=34							
PMG					Sn	**Sn**	**17 42 06.9**	**+1.2**
	9.1nm,0.3s,baz=330,slow=22,SNR=2.2							
PMG	**Port Moresby**	**5.69**	**229**	Pn		**Pn**	**17 41 02.9**	**+1.1**
PMG	**Port Moresby**	**5.69**	**229**	P		**Pn**	**17 41 02.4**	**+0.7**
	1.2nm201nm,0.9s							
PMG	**Port Moresby**	**5.69**	**229**	P		**Pn**	**17 41 02.9**	**+1.2**
HNR	**Honiara**	**9.19**	**115**	Pn		Pn	17 41 43.7	-6.1
	2.3nm,0.3s,baz=126,slow=8.6,SNR=1.2							
HNR	**Honiara**	**9.19**	**115**	P		**Pn**	**17 41 49.0**	**-0.8**
HNR	**Honiara**	**9.19**	**115**	P		**Pn**	**17 41 48.7**	**-1.1**
PATS	**Pohnpei**	**14.15**	**29**	Pn		**Pn**	**17 42 57.5**	**+0.2**
CTA	**Charters Tower**	**15.23**	**199**	Pn		**Pn**	**17 43 11.7**	**+0.3**
	0.3nm,0.3s,baz=11,slow=9.6,SNR=2.2							
CTAO	**Charters Tower**	**15.23**	**199**	Pn		**Pn**	**17 43 11.6**	**+0.2**
SANVU	**Saraoutou**	**18.25**	**123**	P		**P**	**17 43 48.5**	**-0.2**
SANVU					IAmb	IAmb	17 44 04.2	
	comp=Z,92nm,1.3s							
FAKI	**Fak Fak**	**19.37**	**277**	P		**P**	**17 43 59.3**	**-1.8**
FAKI					IAmb	IAmb	17 44 30.2	
	comp=Z,84nm,1.5s							
EIDS	**Eidsvold**	**19.62**	**181**	P		**P**	**17 44 01.8**	**-1.8**
EIDS					IAmb	IAmb	17 44 06.3	
	comp=Z,47nm,1.4s							
SIJI	**Sorong**	**20.73**	**283**	P		Pn	17 44 17.7	-1.1
	comp=Z,7.0nm,0.7s,baz=94,slow=7.7,SNR=4.4							
SWI	**Sorong**	**20.74**	**283**	P		Pn	17 44 19.0	+0.2
	comp=Z,20nm,0.8s							
MTN	**Manton Dam**	**21.31**	**249**	P		**P**	**17 44 22.2**	**+0.2**
WB0	**Warramunga Arr**	**21.76**	**228**	P		**P**	**17 44 27.0**	**+0.2**
WB0					IAmb	IAmb	17 44 30.4	
	comp=Z,25nm,0.7s							
WR0	**Warramunga Arr**	**21.77**	**228**	P		**P**	**17 44 27.2**	**+0.3**
WR0					IAmb	IAmb	17 44 30.5	
	comp=Z,22nm,0.7s							
DZM	**Mont Dzumac**	**21.82**	**140**	P		**P**	**17 44 26.7**	**-0.8**
	comp=Z,8.1nm,0.6s,baz=180,slow=6.7,SNR=9.8							
DZM	**Mont Dzumac**	**21.82**	**140**	P		**P**	**17 44 27.0**	**-0.5**
WRAB	**Tennant Creek**	**21.89**	**228**	P		**P**	**17 44 28.9**	**+0.6**
WRAB					IAmb	IAmb	17 44 32.0	
	comp=Z,30nm,0.8s							
WB2	**Warramunga Arr**	**21.90**	**228**	P		**P**	**17 44 27.8**	**-0.5**
WB2					IAmb	IAmb	17 44 31.8	
	comp=Z,28nm,0.6s							
WRA	**Warramunga Arr**	**21.91**	**228**	P		**P**	**17 44 29.1**	**+0.7**
	comp=Z,27nm,0.7s,baz=52,slow=9.9,SNR=8.5							
WRA					S	**S**	**17 48 28.3**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=54,slow=15,SNR=4.6							
WRA					ScP	**ScP**	**17 52 04.9**	**+6.3**
	comp=Z,0.6nm,0.7s,baz=48,slow=3.4,SNR=2.7							
WRA	**Warramunga Arr**	**21.91**	**228**	P		**P**	**17 44 27.8**	**-0.7**
OUENC	**Ouen Island, N**	**22.32**	**140**	P		**P**	**17 44 32.1**	**-0.7**
OUENC					IAmb	IAmb	17 44 53.1	
	comp=Z,40nm,1.1s							
KNRA	**Kununurra**	**24.43**	**244**	P		**P**	**17 44 54.2**	**+0.9**
AS31	**Alice Springs**	**24.65**	**222**	P		**P**	**17 44 54.8**	**-0.5**
ASAR	**Alice Springs**	**24.65**	**222**	P		**P**	**17 44 56.0**	**+0.7**
	comp=Z,19nm,0.8s,baz=58,slow=8.7,SNR=85							
ASAR	**Alice Springs**	**24.65**	**222**	P		**P**	**17 44 55.2**	**-0.1**
SOEI	**Soe**	**27.27**	**260**	P		**P**	**17 45 16.8**	**-2.4**
STKA	**Stephens Creek**	**27.69**	**198**	P		**P**	**17 45 21.9**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=0.9,slow=9.6,SNR=6.2							
STKA	**Stephens Creek**	**27.69**	**198**	P		**P**	**17 45 22.3**	**-0.3**
BATI	**Baumata**	**27.92**	**259**	P		**P**	**17 45 26.9**	**+2.0**
	comp=Z,20nm,0.7s,baz=148,slow=5.0,SNR=5.4							
FITZ	**Fitzroy Crossi**	**28.11**	**242**	P		**P**	**17 45 27.1**	**+0.7**
	comp=Z,29nm,0.7s,baz=67,slow=7.0,SNR=64							
FITZ	**Fitzroy Crossi**	**28.11**	**242**	P		**P**	**17 45 27.0**	**+0.5**
MSVF	**Nonsavu**	**28.60**	**117**	LR		LR	17 57 11.5	
	comp=Z,346nm,18.9s,baz=7.4,slow=37							
MMRI	**Maumere**	**29.17**	**262**	P		**P**	**17 45 34.5**	**-1.5**
MMRI					IAmb	IAmb	17 45 42.6	
	comp=Z,30nm,0.9s							
BBOO	**Buckleboo**	**30.62**	**206**	P		**P**	**17 45 48.0**	**-0.5**
BBOO					IAmb	IAmb	17 46 02.3	
	comp=Z,16nm,1.1s							
WBSI	**Waikabubak, Su**	**32.05**	**261**	P		**P**	**17 46 01.5**	**+0.1**
	comp=Z,67nm,0.8s							
FORT	**Forrest**	**33.31**	**219**	P		**P**	**17 46 12.2**	**-0.1**
PSA00	**Pilbara Seismi**	**34.48**	**240**	P		**P**	**17 46 21.2**	**-1.3**
PSA00	**Pilbara Seismi**	**34.48**	**240**	P		**P**	**17 46 21.4**	**-1.1**
PSA00					IAmb	IAmb	17 46 27.8	
	comp=Z,9.5nm,0.9s							
AFI	**Afiamalu**	**37.08**	**106**	P		**P**	**17 46 44.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**37.15**	**263**	P		**P**	**17 46 44.6**	**-0.8**
TAU	**Tasmania Unive**	**37.29**	**185**	P		**P**	**17 46 46.5**	**+0.2**
GIRL	**Giralia**	**39.71**	**241**	P		**P**	**17 47 05.3**	**-1.6**
MXZ	**Matakaoa Point**	**40.08**	**146**	P		**P**	**17 47 08.7**	**-1.1**
MORW	**Morawa**	**40.80**	**231**	P		**P**	**17 47 16.4**	**+0.6**
TUWZ	**Tuamarina**	**40.88**	**154**	P		**P**	**17 47 15.3**	**-0.9**
TPUB	**Ta-pu**	**41.66**	**315**	P		**P**	**17 47 22.5**	**-0.5**
TPUB					IAmb	IAmb	17 47 29.5	
	comp=Z,19nm,1.3s							
YHNB	**Yeheng**	**42.04**	**317**	P		**P**	**17 47 24.4**	**-1.7**
YHNB					IAmb	IAmb	17 47 35.7	
	comp=Z,20nm,0.9s							
JHS	**Saijyo**	**43.98**	**338**	P		**P**	**17 47 42.1**	**+0.5**
JHS					IAmb	IAmb	17 47 46.6	
	comp=Z,52nm,1.7s							
KSRS	**Korea Array**	**48.18**	**335**	P		**P**	**17 48 14.5**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=149,slow=9.3,SNR=3.9							
NJ2	**Nanjing**	**48.69**	**322**	*e*P		**P**	**17 48 19.8**	**+1.3**
NJ2					pmax	pmax		
	comp=Z,5.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.64**	**342**	P		**P**	**17 48 47.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=156,slow=7.2,SNR=5.1							
KMI	**Kunming**	**56.38**	**305**	⇑P		**P**	**17 49 18.0**	**+2.1**
KMI					pP	pP	17 49 30.4	-1.3
KMI					pmax	pmax		
	comp=Z,6.0nm,0.5s							
KMI					L	L		
	comp=Z,220nm,19.0s							
KMI					L	L		
	comp=Z,160nm,16.6s							
KMI					L	L		
	comp=Z,340nm,15.8s							
CMAR	**Chiang Mai Arr**	**57.06**	**296**	P		**P**	**17 49 22.0**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=118,slow=6.6,SNR=7.1							
CMAR	**Chiang Mai Arr**	**57.06**	**296**	P		**P**	**17 49 20.8**	**+0.3**
HHC	**Hu-ho-hao-te**	**58.98**	**325**	*e*P		**P**	**17 49 34.9**	**+1.2**
HHC					pP	pP	17 49 51.3	+1.9
HHC					S	**S**	**17 57 30.1**	**-6.0**
HHC					sS	sS	17 58 04.1	+2.2
HHC					pmax	pmax		
	comp=Z,11nm,0.9s							
HHC					pmax	pmax		
	comp=Z,49nm,5.7s							
HHC					L	L		
	comp=Z,220nm,16.2s							
HHC					L	L		
	comp=Z,190nm,17.2s							
HHC					L	L		
	comp=Z,300nm,16.7s							
GTA	**Gaotai**	**65.39**	**318**	*e*P		**P**	**17 50 18.2**	**+1.5**
GTA					pP	pP	17 50 28.4	-4.5
GTA					sP	sP	17 50 32.3	-7.3
GTA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
SONM	**Songino Array**	**66.35**	**329**	P		**P**	**17 50 23.5**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=151,slow=5.5,SNR=13							
SONM	**Songino Array**	**66.35**	**329**	P		**P**	**17 50 23.4**	**+0.8**
SONM					IAmb	IAmb	17 50 24.9	
	comp=Z,12nm,1.6s							
CASY	**Casey**	**66.83**	**197**	P		**P**	**17 50 25.1**	**-0.1**
CASY					IAmb	IAmb	17 50 55.3	
	comp=Z,9.9nm,1.3s							
LSA	**Lhasa**	**67.64**	**305**	P		**P**	**17 50 31.3**	**-0.4**
LSA					IAmb	IAmb	17 50 34.7	
	comp=Z,3.7nm,0.6s							
VNDA	**Vanda**	**72.04**	**178**	P		**P**	**17 50 57.9**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=329,slow=6.8,SNR=29							
VNDA	**Vanda**	**72.04**	**178**	P		**P**	**17 50 57.9**	**+0.6**
SDPT	**Sand Point**	**72.55**	**26**	P		**P**	**17 51 01.6**	**+1.0**
SBA	**Scott Base**	**72.61**	**177**	P		**P**	**17 51 02.1**	**+1.5**
WMQ	**Urumqi**	**75.48**	**318**	*e*P		**P**	**17 51 18.9**	**+0.8**
WMQ					pmax	pmax		
	comp=Z,13nm,0.8s							
WMQ					pmax	pmax		
	comp=Z,110nm,3.8s							
OHAK	**Old Harbor**	**76.89**	**27**	P		**P**	**17 51 26.7**	**+1.1**
TTA	**Tatalina**	**79.03**	**22**	P		**P**	**17 51 37.7**	**+0.1**
CNPM	**China Poot**	**79.04**	**26**	P		**P**	**17 51 37.5**	**-0.1**
MK31	**Makanchi Array**	**80.10**	**319**	P		**P**	**17 51 43.7**	**0.0**
MKAR	**Makanchi Array**	**80.10**	**319**	P		**P**	**17 51 44.3**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=107,slow=6.6,SNR=8.9							
MKAR	**Makanchi Array**	**80.10**	**319**	P		**P**	**17 51 43.7**	**0.0**
MAKZ	**Makanchi**	**80.31**	**319**	P		**P**	**17 51 44.6**	**-0.3**
PPLA	**Purkeypile**	**80.45**	**23**	P		**P**	**17 51 44.9**	**-0.5**
PPLA					IAmb	IAmb	17 51 52.9	
	comp=Z,11nm,1.4s							
PWL	**Port Wells**	**80.97**	**25**	P		**P**	**17 51 48.5**	**+0.5**
PWL					IAmb	IAmb	17 52 08.9	
	comp=Z,10nm,0.9s							
ZAA0	**Zalesovo Array**	**81.13**	**327**	P		**P**	**17 51 48.4**	**-0.6**
ZALV	**Zalesovo Beam**	**81.13**	**327**	P		**P**	**17 51 48.4**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=106,slow=6.0,SNR=12							
ZALV	**Zalesovo Beam**	**81.13**	**327**	P		**P**	**17 51 48.2**	**-0.7**
KTH	**Kantishna Hill**	**81.29**	**22**	P		**P**	**17 51 48.6**	**-1.1**
SML	**Sawmill**	**81.43**	**25**	P		**P**	**17 51 50.9**	**+0.4**
SML					IAmb	IAmb	17 51 52.4	
	comp=Z,5.4nm,0.7s							
TRF	**Thorofare Moun**	**81.48**	**23**	P		**P**	**17 51 50.7**	**-0.1**
TRF					IAmb	IAmb	17 52 09.8	
	comp=Z,13nm,1.4s							
HIN	**Hinchinbrook I**	**81.54**	**26**	P		**P**	**17 51 51.8**	**+0.7**
IMAR	**Indian Mountai**	**81.61**	**20**	P		**P**	**17 51 51.2**	**-0.1**
SCM	**Sheep Creek Mo**	**81.86**	**25**	P		**P**	**17 51 52.9**	**+0.1**
SCM					IAmb	IAmb	17 52 07.0	
	comp=Z,23nm,1.6s							
MLY	**Manley**	**82.14**	**21**	P		**P**	**17 51 54.3**	**+0.2**
MLY					IAmb	IAmb	17 51 55.7	
	comp=Z,7.0nm,0.6s							
MCK	**McKinley**	**82.14**	**23**	P		**P**	**17 51 54.7**	**+0.6**
MCK					IAmb	IAmb	17 51 55.0	
	comp=Z,8.5nm,0.8s							
KDJ	**Kajisay**	**82.25**	**314**	P		**P**	**17 51 55.9**	**+0.5**
M24K	**Tolsona, Glenn**	**82.47**	**25**	P		**P**	**17 51 57.4**	**+1.4**
M24K					IAmb	IAmb	17 52 12.8	
	comp=Z,13nm,1.2s							
I23K	**Minto, Yukon-K**	**82.70**	**21**	P		**P**	**17 51 57.7**	**+0.8**
CCB	**Clear Creek Bu**	**83.03**	**22**	P		**P**	**17 51 57.6**	**-1.0**
GLB	**Gilahina Butte**	**83.19**	**26**	P		**P**	**17 51 59.9**	**+0.3**
GLB					IAmb	IAmb	17 52 17.2	
	comp=Z,9.2nm,1.6s							
CRQM	**Cirque**	**83.19**	**27**	P		**P**	**17 52 01.5**	**+1.6**
CRQM					IAmb	IAmb	17 52 22.2	
	comp=Z,9.5nm,1.2s							
BOOM	**Boomskoye usch**	**83.22**	**314**	P		**P**	**17 52 00.4**	**0.0**
HDA	**Harding Lake**	**83.24**	**23**	P		**P**	**17 51 58.8**	**-1.0**
HDA					IAmb	IAmb	17 52 00.8	
	comp=Z,3.6nm,0.6s							
VRDI	**Verde Repeater**	**83.25**	**26**	P		**P**	**17 52 01.1**	**+0.9**
NIL	**Nilore**	**83.37**	**305**	P		**P**	**17 52 00.1**	**-1.2**
NIL					IAmb	IAmb	17 52 04.7	
	comp=Z,5.3nm,0.6s							
POKR	**Poker Plat Res**	**83.39**	**22**	P		**P**	**17 51 59.6**	**-0.9**
POKR					IAmb	IAmb	17 52 04.0	
	comp=Z,3.5nm,0.6s							
IL31		**83.43**	**22**	P		**P**	**17 51 59.8**	**-0.9**
IL31					IAmb	IAmb	17 52 01.0	
	comp=Z,4.6nm,0.7s							
ILAR	**Eielson Array**	**83.43**	**22**	P		**P**	**17 52 00.2**	**-0.6**
	comp=Z,4.2nm,0.6s,baz=245,slow=5.2,SNR=54							
ILAR	**Eielson Array**	**83.43**	**22**	P		**P**	**17 51 59.8**	**-0.9**
TABL	**Table Mountain**	**83.97**	**27**	P		**P**	**17 52 03.9**	**0.0**
TABL					IAmb	IAmb	17 52 26.1	
	comp=Z,5.2nm,0.9s							
BARN	**Barnard Glacie**	**83.98**	**27**	P		**P**	**17 52 05.3**	**+1.4**
DOT	**Dot Lake**	**84.03**	**24**	P		**P**	**17 52 04.3**	**+0.5**
DOT					IAmb	IAmb	17 52 05.5	
	comp=Z,4.2nm,0.7s							
CTGM	**Chitina Glacie**	**84.09**	**27**	P		**P**	**17 52 05.6**	**+1.2**
CTGM					IAmb	IAmb	17 52 06.5	
	comp=Z,4.6nm,0.8s							
SCRK	**Sand Creek**	**84.20**	**24**	P		**P**	**17 52 05.7**	**+0.8**
PCA	**Pinnacle**	**84.25**	**28**	P		**P**	**17 52 04.9**	**-0.2**
PCA					IAmb	IAmb	17 52 11.9	
	comp=Z,13nm,1.3s							
MAW	**Mawson**	**84.29**	**203**	P		**P**	**17 52 05.4**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=113,slow=4.4,SNR=4.1							
MAW	**Mawson**	**84.29**	**203**	P		**P**	**17 52 05.0**	**-0.2**
QSPA	**South Pole Qui**	**84.32**	**180**	P		**P**	**17 52 05.9**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=348,slow=0.9,SNR=49							
QSPA	**South Pole Qui**	**84.32**	**180**	P		**P**	**17 52 06.1**	**+0.6**
QSPA					IAmb	IAmb	17 52 06.5	
	comp=Z,5.8nm,0.7s							
TOLK	**Toolik Lake Re**	**84.42**	**18**	P		**P**	**17 52 05.6**	**-0.2**
TOLK					IAmb	IAmb	17 52 30.3	
	comp=Z,10.0nm,1.6s							
L27K	**Beaver Creek,**	**84.70**	**25**	P		**P**	**17 52 08.1**	**+0.8**
BCAR	**Beaver Creek A**	**84.72**	**25**	P		**P**	**17 52 08.6**	**+1.2**
HYT	**Haines Junctio**	**85.79**	**28**	P		**P**	**17 52 14.8**	**+1.9**
HYT					IAmb	IAmb	17 52 16.3	
	comp=Z,3.6nm,0.7s							
WHY	**Whitehorse**	**86.96**	**28**	P		**P**	**17 52 20.3**	**+1.7**
WHY					IAmb	IAmb	17 52 34.3	
	comp=Z,12nm,1.8s							
KKAR	**Karatay Array**	**87.26**	**314**	P		**P**	**17 52 19.5**	**-0.9**
EPYK	**Eagle Plains**	**87.94**	**23**	P		**P**	**17 52 23.0**	**-0.1**
EPYK					IAmb	IAmb	17 52 54.4	
	comp=Z,6.8nm,1.1s							
BBB	**Bella Bella**	**88.56**	**37**	LR		LR	18 28 33.1	
	comp=Z,133nm,18.3s,baz=239,slow=33							
DLBC	**Dease Lake**	**88.78**	**31**	LR		LR	18 28 48.1	
	comp=Z,165nm,18.2s,baz=330,slow=33							
K05A	**Summer Lake**	**92.04**	**47**	P		**P**	**17 52 45.0**	**+1.9**
PINE	**Pine Mountain**	**92.11**	**46**	P		**P**	**17 52 42.9**	**-0.4**
BEKR	**Beckworth**	**92.16**	**50**	P		**P**	**17 52 44.8**	**+1.1**
BEKR					IAmb	IAmb	17 52 58.8	
	comp=Z,5.4nm,1.4s							
MOD	**Modoc Plateau**	**92.40**	**48**	P		**P**	**17 52 44.8**	**+0.1**
MOD					IAmb	IAmb	17 52 46.9	
	comp=Z,5.6nm,1.0s							
I07A	**Izee**	**93.17**	**46**	P		**P**	**17 52 48.5**	**+0.4**
LHV	**Little Huntoon**	**93.46**	**52**	P		**P**	**17 52 49.3**	**-0.1**
LHV					IAmb	IAmb	17 52 52.4	
	comp=Z,4.7nm,1.0s							
NVAR	**Mina Array Bea**	**93.63**	**52**	P		**P**	**17 52 51.2**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=254,slow=6.2,SNR=12							
NVAR	**Mina Array Bea**	**93.63**	**52**	P		**P**	**17 52 51.0**	**+0.5**
WVOR	**Wild Horse Val**	**93.68**	**48**	P		**P**	**17 52 51.6**	**+1.1**
WVOR					IAmb	IAmb	17 52 52.8	
	comp=Z,6.7nm,1.1s							
NV11	**Mina Array Sit**	**93.75**	**52**	P		**P**	**17 52 51.8**	**+0.8**
NV11					IAmb	IAmb	17 52 53.5	
	comp=Z,5.0nm,1.1s							
KVN	**Kaiserville**	**93.84**	**51**	P		**P**	**17 52 51.1**	**-0.3**
KVN					IAmb	IAmb	17 52 53.7	
	comp=Z,3.9nm,1.1s							
TPNV	**Topopah Spring**	**95.16**	**53**	P		**P**	**17 52 58.6**	**+1.0**
SHPR	**Sheep Range**	**96.02**	**54**	P		**P**	**17 53 01.1**	**-0.3**
PRN	**Pahroc Range**	**96.14**	**53**	P		**P**	**17 53 02.1**	**+0.1**
HLID	**Hailey**	**96.83**	**47**	P		**P**	**17 53 05.1**	**+0.1**
HLID					IAmb	IAmb	17 53 07.7	
	comp=Z,1.7nm,0.8s							
PDAR	**Pinedale Array**	**100.38**	**48**	P		**Pdif**	**17 53 20.4**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=5.2							
AKASG	**Malin Array Be**	**114.41**	**324**	PKP	PKPdf		17 58 12.9	-0.4
	comp=Z,0.9nm,0.5s,baz=63,slow=2.1,SNR=5.8							
BRTR	**Keskin Array B**	**114.88**	**311**	PKP	PKPdf		17 58 14.9	+0.2
	comp=Z,0.6nm,0.6s,baz=50,slow=1.9,SNR=3.6							
NOA	**NORSAR Array B**	**117.25**	**340**	PKP	**PKPdf**		**17 58 17.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=43,slow=1.8,SNR=5.2							
CLL	**Collm**	**122.94**	**330**	*i* PKPdf	**PKiKP**		**17 58 30.5**	**+0.6**
	comp=Z,4.0nm,0.7s							
CKRC	**Cesky Krumlov**	**123.76**	**327**	*e*PKPDF	**PKiKP**		**17 58 32.2**	**+0.6**
KHC	**Kasperske Hory**	**123.97**	**328**	*e*PKPDF	**PKPdf**		**17 58 31.9**	**+0.1**
GERES	**GERESS Array B**	**124.08**	**328**	PKP	**PKiKP**		**17 58 32.9**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=90,slow=2.7,SNR=21							
LPAZ	**La Paz**	**135.16**	**120**	PKP	**PKiKP**		**17 58 56.1**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=249,slow=4.2,SNR=4.3							
ESDC	**Sonseca Array**	**139.53**	**330**	PKP	**PKiKP**		**17 59 03.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=328,slow=37,SNR=2.5							
PTGA	**Pitinga**	**147.96**	**100**	PKPbc	**PKPbc**		**17 59 20.6**	**+0.7**
	comp=Z,6.6nm,0.8s,baz=234,slow=3.2,SNR=12							
PTGA	**Pitinga**	**147.96**	**100**		**PKPbc**		**17 59 20.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**149.30**	**286**	PKPbc	**PiKiP**		**17 59 23.9**	**-0.6**
	comp=Z,21nm,0.7s,baz=69,slow=3.1,SNR=32							
BDFB	**Brasilia**	**151.36**	**138**	PKPbc	**PKPbc**		**17 59 28.2**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=171,slow=5.4,SNR=4.1							

IDC ***12*** *17:46:11.6±1.9,5˙.51S×152˙.17E, h0km, mb3.8/7, mb1 4.0/8,mb1mx3.8/33,mbtmp3.9/8,ML2.3/1,Error

NNA	**Nana**	**6.09**	**307**		**Pn**	17 53 38.6	**+3.3**
PB07	**IPOC Station P**	**6.28**	**163**		**Pn**	17 53 37.3	**-0.7**
PB09	**IPOC Station P**	**6.55**	**158**		**Pn**	17 53 42.3	**+0.6**
PB04	**IPOC Station P**	**6.80**	**167**		**Pn**	17 53 43.8	**-1.3**
PB06	**IPOC Station P**	**7.30**	**163**	Pn	**Pn**	17 53 51.9	**-0.1**
LVC	**Limon Verde**	**7.42**	**158**	Pn	**Pn**	17 53 53.4	**-0.4**
	1.2nm,0.3s,baz=313,slow=8.1,SNR=7.2						
LVC				Sn	**Sn**	17 55 18.1	**-0.1**
	baz=193,slow=17,SNR=1.4						
LVC				LR	LR	17 56 52.5	
	comp=Z,171nm,19.6s,baz=322,slow=38						
LVC	**Limon Verde**	**7.42**	**158**		**Pn**	17 53 53.6	**-0.2**
PB15	**IPOC Station P**	**7.80**	**164**		**Pn**	17 53 58.8	**-0.2**
PB14	**IPOC Station P**	**8.99**	**172**	Pn	**Pn**	17 54 12.2	**-3.2**
GO02	**Mina Guanaco**	**9.65**	**168**	Pn	**Pn**	17 54 24.0	**-0.5**
SIV	**San Ignacio**	**10.38**	**93**	Pn	**Pn**	17 54 32.1	**-2.1**
	0.6nm,0.3s,baz=288,slow=11,SNR=7.0						
SIV				LR	LR	17 58 53.1	
	comp=Z,299nm,18.2s,baz=290,slow=40						
AC02	**Maricunga**	**11.37**	**168**	Pn	**Pn**	17 54 48.1	**0.0**
CPUP	**Villa Florida**	**17.18**	**130**	LR	LR	18 03 52.7	
	comp=Z,113nm,20.6s,baz=346,slow=41						
PTGA	**Pitinga**	**18.94**	**39**	LR	LR	18 04 37.9	
	comp=Z,47nm,19.3s,baz=236,slow=40						
PLCA	**Paso Flores**	**24.97**	**178**	P	**P**	17 57 29.5	**+0.6**
MASN	**Masaya**	**30.93**	**332**	P	**P**	17 58 19.6	**-2.9**
GO09	**Cerro Castillo**	**35.49**	**181**	P	**P**	17 59 01.2	**-0.6**
USHA	**Ushuaia**	**39.14**	**177**	P	**P**	17 59 34.6	**+1.9**
	35nm,0.6s,baz=334,slow=0.2,SNR=3.6						
MIAR	**Mount Ida**	**54.07**	**338**	P	**P**	18 01 30.3	**+0.4**
TXAR	**Lajitas Array**	**54.29**	**325**	P	**P**	18 01 31.9	**0.0**
	0.5nm,0.7s,baz=152,slow=7.5,SNR=4.8						
TXAR				LR	LR	18 26 24.8	
	comp=Z,388nm,19.6s,baz=0.0,slow=38						
LPIG	**La Paz**	**54.54**	**316**	LR	LR	18 20 39.9	
	comp=Z,256nm,22.0s,baz=232,slow=32						
WUAZ	**Wupatki**	**63.22**	**324**		**P**	18 02 33.0	**-1.0**
YKA	**Yellowknife Ar**	**84.82**	**342**	P	**P**	18 04 39.0	**-0.4**
	1.3nm,0.8s,baz=136,slow=5.0,SNR=3.7						
ASAR	**Alice Springs**	**133.48**	**213**	PKP	**PKPdf**	18 11 22.9	**+0.2**
	0.6nm,0.7s,baz=117,slow=2.5,SNR=5.6						
ASAR	**Alice Springs**	**133.48**	**213**		**PKPdf**	18 11 22.1	**-0.5**
WRA	**Warramunga Arr**	**136.21**	**217**	PKP	**PKPdf**	18 11 28.3	**+0.5**
	0.9nm,0.9s,baz=140,slow=1.7,SNR=3.4						
WRA	**Warramunga Arr**	**136.21**	**217**		**PKPdf**	18 11 27.7	**-0.1**
ZALV	**Zalesovo Beam**	**137.70**	**20**	PKP	**PKPdf**	18 11 29.8	**+0.4**
	1.0nm,0.7s,baz=321,slow=1.9,SNR=3.8						
MKAR	**Makanchi Array**	**142.27**	**29**	PKhKP	PKPpre	18 11 34.2	
	0.5nm,1.0s,baz=311,slow=3.8,SNR=2.9						
USRK	**Ussuriysk Ar.**	**145.13**	**329**	PKPbc	**PKPbc**	18 11 42.6	**+0.1**
	1.3nm,0.8s,baz=108,slow=2.8,SNR=4.3						
USRK	**Ussuriysk Ar.**	**145.13**	**329**		**PKPbc**	18 11 42.3	**-0.2**
MJAR	**Matsushiro Arr**	**146.17**	**314**	PKPbc	**PKPdf**	18 11 45.2	**+0.1**
	2.0nm,0.8s,baz=66,slow=1.8,SNR=4.9						
SONM	**Songino Array**	**147.92**	**2**	PKPbc	**PKPbc**	18 11 51.3	**+0.4**
	2.2nm,0.7s,baz=316,slow=1.8,SNR=14						
KSRS	**Korea Array**	**152.14**	**325**	PKPbc	**PKPbc**	18 12 01.6	**+0.4**
	1.2nm,0.7s,baz=22,slow=1.4,SNR=6.8						

*SNET **12** 17:59:59.7±1.3, 12.°90N×88.°93W, h30km±5km, ML3.5*
*UCR **12** 17:59:59.9±1.4, 12.°91N×88.°94W, h30km±5km, ML3.5*
ISC 12 18:00:00.7±2.3, 12.°9N±0.°1×88.°93W±0.°05, h35km, n17, σ0.9s96/25, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**0.71**	**33**	*eS*	**Sn**	**18 00 24.6**	**+0.5**
COEB	**Comit de Eme**	**0.71**	**33**	*eS*	**Sn**	18 00 24.6	**+0.5**
LFRS	**El Faro**	**0.73**	**350**	*eP*	**Pn**	18 00 13.9	**-0.7**
LFRS	**El Faro**	**0.73**	**350**	*eP*	**Pn**	18 00 13.9	**-0.7**
JUCU	**Jucuaŗn**	**0.75**	**62**	*eS*	**Sn**	**18 00 25.1**	**0.0**
JUCU	**Jucuaŗn**	**0.75**	**62**	*eS*	**Sn**	18 00 25.1	**0.0**
PAVA	**Las Pavas**	**0.80**	**359**	*eP*	**Pn**	18 00 14.3	**-1.4**
PAVA				*eS*	**Sn**	18 00 26.8	**+0.2**
PAVA	**Las Pavas**	**0.80**	**359**	*eP*	**Pn**	18 00 14.3	**-1.4**
PAVA				*eS*	**Sn**	18 00 26.8	**+0.2**
PACA	**Pacayal**	**0.81**	**46**	*eP*	**Pn**	18 00 16.0	**+0.1**
PACA				*eS*	**Sn**	18 00 28.0	**+1.2**
PACA	**Pacayal**	**0.81**	**46**	*eP*	**Pn**	18 00 16.0	**+0.1**
PACA				*eS*	**Sn**	18 00 28.0	**+1.2**
JAYA	**Jayaque - finc**	**0.90**	**326**	*eP*	**Pn**	18 00 16.9	**-0.2**
JAYA				*eS*	**Sn**	**18 00 28.6**	**-0.3**
JAYA				IAML		18 00 31.8	
	comp=Z,257nm,0.2s						
JAYA	**Jayaque - finc**	**0.90**	**326**	*eP*	**Pn**	18 00 16.9	**-0.2**
JAYA				*eS*	**Sn**	**18 00 28.6**	**-0.3**
JAYA				IAML		18 00 31.8	
	comp=Z,257nm,0.2s						
LCND	**La Caada**	**1.09**	**68**	*eS*	**Sn**	**18 00 34.1**	**+0.7**
CNCH	**Conchagua**	**1.13**	**71**	*eP*	**Pn**	18 00 19.1	**-1.0**
CNCH				*eS*	**Sn**	18 00 35.6	**+1.0**
CNCH				IAML		18 00 37.7	
	comp=Z,5μm,0.1s						
CNCH	**Conchagua**	**1.13**	**71**	*eP*	**Pn**	18 00 19.1	**-1.0**
CNCH				*eS*	**Sn**	**18 00 35.6**	**+1.0**
CNCH				IAML		18 00 37.7	
	comp=Z,5μm,0.1s						
CEVE	**Cerro Verde**	**1.14**	**324**	*eS*	**Sn**	**18 00 36.8**	**+1.8**
CEVE	**Cerro Verde**	**1.14**	**324**	*eS*	**Sn**	**18 00 36.8**	**+1.8**

*SOF **12** 18:25:02.2, 42.°16N×25.°65E, h20km, MD2.6*
*ATH **12** 18:25:04.1, 42.°12N×25.°68E, h9km±4km, ML2.2/2, Error ellipse: s-maj=7.9km s-min=2.6km az=220.0*
*THE **12** 18:25:05.1, 42.°08N×25.°71E, h10km±1km, ML1.9/2, Error ellipse: s-maj=3.5km s-min=1.0km az=222.0*
*DDA **12** 18:25:09.8, 41.°80N×26.°15E, h6km±5km, ML2.1*
ISC 12 18:25:02.7±1.1, 42.°17N±0.°03×25.°74E±0.°02, h12km±9km, n32, σ1°23/41, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIM	**Dimitrovgrad**	**0.19**	**232**	*i* Pg	**Pg**	**18 25 06.8**	**-0.2**
KDZ	**Kurdzhali**	**0.57**	**205**	*i* Pg	**Pg**	18 25 14.3	**+0.4**
JMB	**Yambol**	**0.69**	**64**	*i* Pg	**Pn**	18 25 17.5	**-0.8**
PLD	**Plovdiv**	**0.77**	**266**	Pg	**Pg**	18 25 16.7	**-0.9**
RZN	**Rozhen**	**0.90**	**238**	*i* Pg	**Pg**	18 25 19.1	**-1.0**
RDO	**Rodhopi**	**1.03**	**188**	P	**Pg**	18 25 22.7	**+0.1**
RDO				S	**Sg**	18 25 35.5	**-0.5**
RDO				AML	AML	18 25 38.6	
	comp=N,1061μm,0.3s						
RDO				AML	AML	18 25 38.8	
	comp=E,488μm,0.2s						
RDO	**Rodhopi**	**1.03**	**188**	P	**Pg**	18 25 22.7	**+0.1**
KIRK	**Kırklareli**	**1.09**	**110**	*i* P	**Pn**	18 25 25.7	**+2.0**
KIRK				*i* S	**Sg**	18 25 36.4	**-1.4**
SZH	**Strazhica**	**1.11**	**8**	*i* Pg	**Pn**	18 25 25.5	**+1.5**
PGB	**Panagyurishte**	**1.22**	**289**	Pg	**Pn**	18 25 25.4	**-0.3**
ALN	**Alexandroupoli**	**1.29**	**170**	P	**Pn**	18 25 27.2	**+0.7**
ALN				S	**Sb**	18 25 44.4	**+1.0**
ALN				AML	AML	18 25 47.1	
	comp=E,103μm,0.3s						
ALN				AML	AML	18 25 48.4	
	comp=N,58μm,0.4s						
ALN	**Alexandroupoli**	**1.29**	**170**	P	**Pn**	18 25 27.2	**+0.7**
ALN				S	**Sb**	18 25 44.4	**+1.0**
	comp=N,40nm,0.5s						
ARMN	**Kirklareli, Me**	**1.30**	**103**	*i* P	**Pg**	18 25 28.0	**+0.3**
ARMN				*i* S	**Sb**	18 25 42.4	**-1.2**
KAVA	**Kavala**	**1.49**	**218**	P	**Pn**	18 25 30.0	**+0.8**
KAVA	**Kavala**	**1.49**	**218**	P	**Pn**	18 25 30.0	**+0.8**
CAVK	**Edirne/Enez-Ca**	**1.51**	**167**	*i* P	**Pg**	18 25 31.9	**+0.2**
CAVK				*i* S	**Sn**	18 25 46.5	**-2.6**
CAVK				IAML		18 25 55.0	
	comp=N,31nm,0.2s						
CAVK				IAML		18 25 56.0	
	comp=E,41nm,0.2s						
KESN	**Edirne-Kesan**	**1.52**	**152**	*i* P	**Pg**	18 25 33.8	**+1.9**
KESN				*i* S	**Sn**	**18 25 45.8**	**-4.0**
KESN				IAML		18 25 56.0	
	comp=N,55nm,0.3s						
KESN				IAML		18 25 56.0	
	comp=E,58nm,0.5s						
PRD	**Provadia**	**1.60**	**49**	*i* Pg	**Pg**	18 25 34.4	**+1.0**
MMB	**Musomiste**	**1.61**	**250**	P	**Pb**	18 25 33.4	**+1.1**
NVR	**Nevrokopi**	**1.62**	**240**	P	**Pn**	18 25 31.9	**+0.8**
NVR	**Nevrokopi**	**1.62**	**240**	P	**Pn**	18 25 31.9	**+0.8**
NVR				S	**Sn**	18 25 53.1	**+1.1**
	comp=E,40nm,0.2s						
VIZE	**Kirklareli, Vi**	**1.68**	**110**	*i* P	**Pb**	**18 25 33.5**	**0.0**
VIZE				*i* S	**Sn**	18 25 52.3	**-1.0**
SMTH	**Samothraki Isl**	**1.71**	**185**	P	**Pn**	18 25 33.5	**+1.3**
SMTH	**Samothraki Isl**	**1.71**	**185**	P	**Pn**	18 25 32.8	**+0.6**
THAS	**Thassos island**	**1.74**	**206**	P	**Pb**	18 25 34.8	**+0.3**
THAS	**Thassos island**	**1.74**	**206**	P	**Pn**	18 25 33.5	**+0.8**
MPEP	**Malo Peshtene**	**1.89**	**310**	P	**Pg**	18 25 39.1	**+0.2**
VTS	**Vitosha**	**1.91**	**284**	P	**Pn**	18 25 36.1	**+1.0**
SRS	**Serrai**	**1.92**	**237**	P	**Pb**	18 25 38.3	**+0.6**
SRS	**Serrai**	**1.92**	**237**	P	**Pn**	18 25 36.2	**+1.0**
KKB	**Krupnik**	**2.00**	**262**	P	**Pb**	18 25 39.9	**+0.9**
STIP	**Stip**	**2.69**	**261**	*i* Pn	**Pn**	18 25 45.0	**-0.8**

*IDC **12** 18:25:34.4±1.2, 6.°41N×117.°39E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.4/54, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=102.5km s-min=20.1km az=57.0*
*NEIC **12** 18:25:36.9±2.7, 6.°2N±0.°2×116.°7E±0.°2, h15km±6km, mb4.4/4, Error ellipse: s-maj=39.4km s-min=5.7km az=222.0*
ISC 12 18:25:39.9±0.8, 6.°0N±0.°2×116.°6E±0.°2, h35km, n13, σ2.9s30/14, mb3.4/6, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**6.45**	**139**		**Pn**	**18 27 12.9**	**+0.5**
TOLI2				Sn	**Sn**	18 28 24.5	**-0.2**
SOEI	**Soe**	**17.46**	**154**	P	**P**	**18 29 46.8**	**+4.9**
SOEI				IAmb	IAmb	18 30 04.2	
	comp=Z,17nm,0.8s						
BATI	**Baumata**	**17.61**	**156**	P	**Pn**	**18 29 41.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=133,slow=23,SNR=1.9						
FAKI	**Fak Fak**	**18.00**	**119**		**Pn**	18 29 45.4	**-2.2**
FAKI				IAmb	IAmb	18 29 52.8	
	comp=Z,66nm,1.5s						
GSI	**Gunungsitoli**	**19.53**	**257**	P	**Pn**	**18 30 04.9**	**-1.2**
GSI				IAmb	IAmb	18 30 20.4	
	comp=Z,21nm,1.0s						
CM31	**Chiang Mai Arr**	**21.17**	**307**	P	**P**	18 30 19.3	**-3.0**
CMAR	**Chiang Mai Arr**	**21.17**	**307**	P	**P**	18 30 25.6	**+3.3**
	comp=Z,1.0nm,0.8s,baz=134,slow=8.8,SNR=9.9						
CMAR	**Chiang Mai Arr**	**21.17**	**307**	P	**P**	**18 30 21.2**	**-1.1**
WRA	**Warramunga Arr**	**31.18**	**146**	P	**P**	**18 31 55.1**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=334,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**34.03**	**151**	P	**P**	**18 32 19.0**	**-1.8**
	comp=Z,0.2nm,0.9s,baz=335,slow=8.6,SNR=1.7						
MKAR	**Makanchi Array**	**50.17**	**330**	P	**P**	**18 34 32.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=138,slow=9.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**54.59**	**331**	P	**P**	**18 35 05.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=128,slow=7.6,SNR=2.1						
FINES	**FINESS Array B**	**84.98**	**331**	P	**P**	**18 38 12.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=73,slow=4.7,SNR=1.8						

*NEIC **12** 18:29:15.9±2.2, 6.°21N±0.°05×116.°68E±0.°07, h7km±3km, mb5.3/178, Error ellipse: s-maj=10.8km s-min=7.6km az=73.0*
*MOS **12** 18:29:16.8±1.1, 6.°15N×116.°64E, h30km, mb5.2/21, MS4.2/6, Error ellipse: s-maj=8.9km s-min=5.0km az=105.7*
*BJI **12** 18:29:16.2±0.0, 5.°86N×116.°80E, h35km, mB5.0/38, mb4.8/48, Ms4.8/46, Ms7 4.6/42*
*GCMT **12** 18:29:17.9±0.2, 6.°19N±0.°01×116.°61E±0.°01, h14km±1km, MW5.2/111, Moment Tensor Solution. s54,c64; s111,c186; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-3.19±.20; $M_{\theta\theta}$-0.87±.11; $M_{\phi\phi}$4.06±.14; $M_{r\theta}$1.09±.27; $M_{\theta\phi}$1.71±.08; $M_{r\phi}$6.17±.61; Best double couple: M_o7.38700×10¹⁶ NP1:φ330.00000°, δ17.00000°, λ-71.00000°. NP2:φ190.00000°, δ74.00000°, λ-96.00000°. Principal axes: T 8.0510, Plg29.0000°, Azm285.0000°; N -1.3240, Plg5.0000°, Azm192.0000°; P -6.7230, Plg60.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **12** 18:29:18, 6.°10N×116.°64E, h10km, mb5.4*
*DJA **12** 18:29:20.6±1.4, 6.°N±3.°×11.°7E±.°, h28km±12km, M5.0/49, mb5.2/49, mB5.5/39, MLv5.6/7, Mw(mB)5.0/39, MwMwp5.0/9, Mwp5.3/9*
*IDC **12** 18:29:24.1±2.4, 6.°09N×116.°87E, h75km±22km, mb4.4/37, mb1 4.4/42, mb1mx4.3/61, mbtmp4.7/42, MS4.3/12, Ms1 4.3/12, ms1mx4.0/35, Error ellipse: s-maj=13.9km s-min=8.8km az=78.0*
ISC 12 18:29:18.7±0.8, 6.°07N±0.°03×116.°62E±0.°04, h28km±5km, n498, σ1°82/483, mb5.2/150, MS4.4/32, 34C-25D, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPMM	**Sapulut**	**1.36**	**187**	P	**Pb**	**18 29 43.0**	**-0.5**
SBUM	**Sibu**	**5.67**	**231**	P	**Pn**	18 30 41.0	**-0.1**
ENPP	**El Nido**	**5.81**	**28**	*eP*	**Pn**	18 30 40.7	**-2.3**
TOLI2	**Tolitoli**	**6.44**	**140**	Pn	**Pn**	18 30 51.8	**+0.2**
TOLI2				Sn	**Sn**	18 32 05.1	**+0.8**
BUSP	**Coron**	**6.88**	**31**	*eP*	**Pn**	18 30 56.1	**-1.6**
PAGZ	**Pagadian**	**6.94**	**75**	*eP*	**Pn**	18 30 59.6	**+1.1**
PAGZ				*eS*	**Sn**	18 32 17.2	**+0.6**
CNOP	**Candoni, Negro**	**7.03**	**58**	*eP*	**Pn**	18 30 57.5	**-2.4**
CNOP				*eS*	Sn	18 32 07.1	-12
DCPH	**Dipolog City**	**7.13**	**69**	*eP*	**Pn**	18 31 03.2	**+2.1**
MTKI	**Muara Teweh, K**	**7.17**	**194**	P	**Pn**	**18 31 03.6**	**+1.8**
	0.6nm2μm84nm,0.8s						
BKB	**Balikpapan**	**7.28**	**178**		**Pn**	18 31 03.0	**-0.3**
SNPH	**Sibulan**	**7.32**	**63**	*eP*	**Pn**	18 31 04.5	**+0.7**
MRSI	**Marisa**	**7.68**	**136**	P	**Pn**	18 31 10.4	**+1.6**
	0.9nm2μm284nm,0.9s						
SJMP	**San Jose**	**7.75**	**35**	*eP*	Pn	18 30 52.7	-17
KSM	**Kuching**	**7.78**	**234**	P	**Pn**	18 31 09.0	**-1.1**
STKI	**Sintang**	**7.87**	**221**	P	**Pn**	18 31 11.0	**-0.3**
	1.7nm3μm86nm,0.9s						
RCP	**Roxas**	**8.15**	**48**	*eP*	**Pn**	18 31 17.5	**+2.4**
CGP	**Cagayan de Oro**	**8.35**	**73**	*eP*	**Pn**	18 31 21.6	**+3.6**
LLP	**Lapu-Lapu**	**8.41**	**59**	*eP*	**Pn**	18 31 20.0	**+1.3**
LLP				*eS*	**Sn**	18 32 59.5	**+6.8**
KCP	**Kidapawan**	**8.47**	**83**	*eP*	Pn	18 31 24.8	+5.2
PGP	**Puerto Galera**	**8.53**	**30**	*eP*	Pn	18 31 28.4	+7.9
APSI	**Ampana**	**8.56**	**144**	P	Pn	18 31 26.8	+6.0
	2μm149nm,1.1s						
PKKI	**Palangkaraya**	**8.67**	**198**	P	**Pn**	**18 31 27.0**	**+4.7**
	2μm154nm,1.1s						
DAV	**Davao City (W)**	**8.96**	**83**	P	**Pn**	**18 31 28.3**	**+2.1**
	7.8nm,0.3s,baz=74,slow=5.4,SNR=1.1						
DAV				LR	LR	18 35 12.0	
	comp=Z,22nm,19.1s,baz=260,slow=40						
DAV	**Davao City (W)**	**8.96**	**83**	Pn	**Pn**	**18 31 25.4**	**-0.9**
BOAC	**Boac**	**8.97**	**35**	*eP*	**Pn**	18 31 26.8	**+0.5**
DDMP	**Don Marcelino,**	**9.04**	**89**	*eP*	**Pn**	18 31 24.4	**-3.0**
MACP	**Maragondon, Ca**	**9.09**	**26**	*eP*	**Pn**	18 31 29.9	**+1.9**
MSLP	**Maasin**	**9.10**	**63**	*eP*	**Pn**	18 31 30.1	**+1.9**
KMSI	**Cibinong**	**9.15**	**126**	P	**Pn**	18 31 32.4	**+3.5**
	2μm150nm,0.9s						
LQP	**Lukban**	**9.35**	**31**	*eP*	Pn	18 31 36.6	+4.8
LUWI	**Luwuk**	**9.36**	**139**		**Pn**	**18 31 34.7**	**+2.9**
LUWI	**Luwuk**	**9.36**	**139**	P	**Pn**	**18 31 35.2**	**+3.4**
	3μm4μm321nm,1.0s						
BUTP	**Butuan**	**9.38**	**72**	*eP*	**Pn**	**18 31 28.8**	**-3.2**
TTSI	**Tana Toraja**	**9.60**	**160**	P	**Pn**	**18 31 37.9**	**+2.9**
	3μm342nm,0.7s						
BBKI	**Banjar Baru**	**9.63**	**191**	P	Pn	18 31 41.6	+6.1
	1μm61nm,1.0s						
PBKI	**Pangkalan Bun**	**10.02**	**210**	P	**Pn**	**18 31 44.3**	**+3.5**
	45μm137nm,1.1s						
GLSP	**General Luna,**	**10.11**	**68**	*eP*	**Pn**	**18 31 42.0**	**-0.2**
JCNP	**Jose Panganiba**	**10.12**	**36**	*eP*	**Pn**	**18 31 44.9**	**+2.7**
SMPP	**San Manuel, Pa**	**10.78**	**21**	*eP*	**Pn**	**18 31 55.1**	**+3.8**
BNSI	**Bone**	**10.96**	**161**	P	Pn	18 31 59.0	+5.2
	2μm97nm,0.9s						
KKSI	**Kolaka, Sulawe**	**11.34**	**154**	P	Pn	18 32 03.9	+4.9
	804nm33nm,0.7s						
KAPI	**Kappang**	**11.44**	**164**	P	Pn	18 32 05.6	+5.3
	5.7nm,0.3s,baz=318,slow=13,SNR=6.8						
KAPI	**Kappang**	**11.44**	**164**	P	**Pn**	**18 32 04.1**	**+3.8**
KAPI	**Kappang**	**11.44**	**164**	Pn	**Pn**	**18 32 04.1**	**+3.8**
KAPI	**Kappang**	**11.44**	**164**	P	**Pn**	**18 32 04.4**	**+4.1**
	1μm102nm,1.2s						
MKS	**Makassar**	**11.56**	**166**	P	**Pn**	**18 32 03.9**	**+1.9**
	1μm92nm,1.1s						
SAMP	**Sagada Mountai**	**11.72**	**21**	*eP*	**Pn**	**18 32 05.7**	**+1.6**
TNTI	**Ternate**	**11.94**	**116**	Pn	**Pn**	**18 32 07.2**	**+0.1**
TNTI	**Ternate**	**11.94**	**116**	P	**Pn**	**18 32 09.6**	**+2.4**
	2μm2μm64nm,1.5s						
CAUP	**Cauayan**	**11.95**	**25**	*eP*	**Pn**	**18 32 11.6**	**+4.4**
SZP	**Santa**	**12.01**	**18**	Pn	**Pn**	**18 32 05.4**	**-2.7**
TPI	**Tanjungpandan**	**12.53**	**226**	P	**Pn**	**18 32 17.6**	**+2.4**
	584nm24nm,1.0s						
APYP	**Conner**	**12.56**	**21**	*eP*	**Pn**	**18 32 16.5**	**+0.9**
PPBI	**Pangkal Pinang**	**13.28**	**232**	P	**Pn**	**18 32 25.4**	**-0.1**
	3μm37nm,0.9s						
BTDF	**Bukit Timah Da**	**13.64**	**250**	P	**Pn**	**18 32 28.5**	**-1.9**
	630nm46nm,1.2s						
NLAI	**Namlea**	**13.96**	**131**	P	**Pn**	**18 32 34.0**	**-0.8**
	2μm29nm,1.2s						
SRBI	**Singaraja**	**14.13**	**186**	P	**Pn**	**18 32 39.8**	**+2.8**
	1μm152nm,0.9s						
KHKI	**Kahang-Kahang**	**14.37**	**184**	P	**P**	**18 32 46.2**	**-0.8**
	87nm,0.8s						
KLNI	**Mataram**	**14.40**	**182**	P	**Pn**	**18 32 42.0**	**+1.2**
	973nm95nm,1.0s						
QIZ	**Qiongzhong**	**14.48**	**333**	P	**Pn**	**18 32 40.3**	**-1.5**
QIZ				S	**Sn**	**18 35 21.5**	**0.0**
QIZ				pmax	pmax		
	comp=Z,12nm,2.8s						
QIZ				pmax	pmax		
	comp=Z,290nm,2.9s						
QIZ				L	L		
	comp=N,1μm,16.1s						
QIZ				L	L		
	comp=E,2μm,13.7s						
QIZ				L	L		
	comp=Z,2μm,17.4s						
QIZ	**Qiongzhong**	**14.48**	**333**	Pn	**Pn**	**18 32 42.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**14.65**	**190**	Pn	**Pn**	**18 32 46.0**	**+1.8**
JAGI	**Jajag, Banyuwa**	**14.65**	**190**	P	**Pn**	**18 32 46.1**	**+1.9**
	2μm195nm,0.9s						
TWSI	**Taliwang, Sumb**	**14.71**	**179**	P	**P**	**18 32 49.4**	**-1.4**
	727nm71nm,0.7s						
PWJI	**Pagerwojo**	**14.80**	**199**	P	**P**	**18 32 51.4**	**-0.4**
	64nm,0.9s						
PLAI	**Plampang**	**14.84**	**176**	P	**P**	**18 32 50.6**	**-1.7**
	4μm465nm,0.9s						
CTJI	**Waduk Cacaban**	**14.96**	**210**	P	**Pn**	**18 32 48.3**	**0.0**
	35nm,1.1s						
UGM	**Wanagama**	**15.16**	**204**	P	**P**	**18 32 55.9**	**0.0**
UGM				IAmb	IAmb	18 33 17.4	
	comp=Z,320nm,1.4s						
IPM	**Ipoh**	**15.61**	**265**	P	**Pn**	**18 32 57.0**	**+0.1**
MMRI	**Maumere**	**15.64**	**159**		**Pn**	**18 32 58.8**	**+1.5**
MMRI				IAmb	IAmb	18 33 20.0	
	comp=Z,163nm,1.0s						
MMRI	**Maumere**	**15.64**	**159**	P	**P**	**18 33 02.0**	**+0.8**
	comp=Z,2μmcomp=Z,181nm,1.0s						
LEM	**Lembang**	**15.64**	**215**	P	**P**	**18 33 03.0**	**+1.6**
	comp=Z,3.5nm,0.3s,baz=155,slow=7.9,SNR=17						
LEM	**Lembang**	**15.64**	**215**	P	**P**	**18 33 03.0**	**+1.6**
CBJI	**Citeko**	**15.78**	**218**	P	**P**	**18 33 04.9**	**+2.2**
	comp=Z,3μmcomp=Z,184nm,0.9s						
WBSI	**Waikabubak, Su**	**15.85**	**170**	P	**P**	**18 33 04.8**	**+1.3**
	comp=Z,1μmcomp=Z,169nm,0.9s						
KULM	**Kulim**	**15.91**	**268**	P	**P**	**18 33 03.0**	**-1.2**
DBJI	**Dramaga**	**15.95**	**218**	P	**P**	**18 33 06.7**	**+2.1**
	comp=Z,2μmcomp=Z,96nm,1.1s						
BLSI	**Bandar Lampung**	**16.06**	**225**	P	**P**	**18 33 07.7**	**+1.8**
	comp=Z,109nm,0.5s						
SWI	**Sorong**	**16.16**	**115**	P	**P**	**18 33 07.1**	**+0.2**
	comp=Z,1μmcomp=Z,44nm,1.0s						
SIJI	**Sorong**	**16.16**	**115**	P	**Pn**	**18 33 04.4**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=295,slow=9.3,SNR=8.3						
SIJI	**Sorong**	**16.16**	**115**	P	**P**	**18 33 07.3**	**+0.3**
	comp=Z,644nmcomp=Z,22nm,1.0s						
MDSI	**Maura Dua**	**16.26**	**230**	P	**P**	**18 33 08.9**	**+0.9**
	comp=Z,1μmcomp=Z,93nm,1.2s						
LHSI	**Lahat**	**16.36**	**233**	P	**P**	**18 33 08.5**	**-0.6**
	comp=Z,4μmcomp=Z,99nm,1.9s	

KMI L L
comp=Z,850nm,15.0s
KMI L L
comp=Z,700nm,16.6s
JOW Kunigami 23.45 27 P **P** **18 34 25.6 -0.2**
comp=Z,68nm,1.0s,baz=206,slow=6.4,SNR=14
JOW Kunigami 23.45 27 P **P** **18 34 24.6 -1.2**
JOW IAmb IAmb 18 34 28.1
comp=Z,175nm,1.3s
MTN Manton Dam 23.68 143 P **P** **18 34 27.6 -0.6**
baz=24,SNR=14
MTN Manton Dam 23.68 143 P **P** **18 34 27.4 -0.8**
KDU Kakadu 24.40 140 P **P** **18 34 33.6 -1.3**
baz=24,SNR=12
WHN Wuhan 24.44 355 ⇓P **P** **18 34 37.8 +2.7**
WHN S **S** **18 38 52.7 -0.7**
WHN L L
comp=Z,2μm,11.1s
WHN L L
comp=Z,2μm,13.7s
WHN L L
comp=Z,5μm,15.6s
KNRA Kununurra 24.73 151 P **P** **18 34 38.0 +0.2**
baz=25,SNR=18
KNRA Kununurra 24.73 151 P **P** **18 34 36.4 -1.4**
KNRA IAmb IAmb 18 35 02.2
comp=Z,48nm,1.1s
GENI Genyem 25.04 109 P **P** **18 34 42.2 +1.5**
comp=Z,3μmcomp=Z,3μmcomp=Z,100nm,1.3s
SSE Sheshan 25.26 9 P **P** **18 34 43.3 +0.8**
SSE S **S** **18 39 07.8 +1.2**
SSE pmax pmax
comp=Z,10.0nm,0.8s
SSE pmax pmax
comp=Z,130nm,3.7s
SSE L L
comp=Z,240nm,18.0s
SSE L L
comp=Z,270nm,18.1s
FITZ Fitzroy Crossi 25.61 160 P **P** **18 34 45.9 +0.1**
comp=Z,6.1nm,1.0s,baz=355,slow=7.2,SNR=7.0
FITZ LR LR 18 47 12.1
comp=Z,322nm,18.5s,baz=0.5,slow=42
FITZ Fitzroy Crossi 25.61 160 P **P** **18 34 46.4 +0.6**
baz=26,SNR=6.3
FITZ Fitzroy Crossi 25.61 160 P **P** **18 34 45.8 +0.1**
NJ2 Nanjing 25.94 4 ⇓*i*P **P** **18 34 49.2 +0.6**
NJ2 S **S** **18 39 18.6 +1.3**
NJ2 sS **sS** **18 39 32.3 +1.0**
NJ2 pmax pmax
comp=Z,13nm,0.8s
NJ2 pmax pmax
comp=Z,220nm,7.5s
NJ2 L L
comp=Z,1μm,17.2s
NJ2 L L
comp=Z,1μm,12.3s
NJ2 L L
comp=Z,1μm,16.2s
PSA00 Pilbara Seismi 27.65 174 P **P** **18 35 05.8 +1.6**
PSA00 IAmb IAmb 18 35 14.0
comp=Z,39nm,0.8s
PSA00 Pilbara Seismi 27.65 174 P **P** **18 35 06.7 +2.5**
PSA00 IAmb IAmb 18 35 13.9
comp=Z,16nm,0.8s
JSU Suzuyama 28.43 25 P **P** **18 35 10.8 -0.4**
JSU IAmb IAmb 18 35 47.1
comp=Z,41nm,1.3s
GIRL Giralia 28.63 185 P **P** **18 35 13.0 +0.1**
BRDH Bariadhala 29.21 307 LR LR 18 48 37.5
comp=Z,2μm,18.7s,baz=121,slow=39
TIA Tai'an 30.00 1 P **P** **18 35 29.6 +4.6**
TIA pmax pmax
comp=Z,8.0nm,0.8s
JNU Nakatsue 30.01 24 P **P** **18 35 24.0 -1.1**
comp=Z,12nm,1.1s,baz=258,slow=8.0,SNR=3.8
JNU Nakatsue 30.01 24 P **P** **18 35 23.9 -1.3**
JNU IAmb IAmb 18 35 57.4
comp=Z,70nm,1.8s
SHL Shillong 30.59 312 P **P** **18 35 29.0 -1.5**
SHL pmax pmax
comp=Z,82nm,0.8s
SHL Shillong 30.59 312 P **P** **18 35 29.0 -1.5**
WB0 Warramunga Arr 31.06 146 P **P** **18 35 32.2 -2.4**
WRAB Tennant Creek 31.17 146⇑ *e*P **P** **18 35 34.1 -1.4**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 31.17 146 P **P** **18 35 36.5 +1.0**
WRA Warramunga Arr 31.18 146 P **P** **18 35 33.6 -1.9**
comp=Z,13nm,1.1s,baz=332,slow=9.2,SNR=22
WRA PcP **PcP** **18 38 29.8 -0.5**
comp=Z,7.9nm,0.8s,baz=321,slow=2.5,SNR=8.2
WRA LR LR 18 49 47.2
comp=Z,396nm,20.2s,baz=335,slow=39
WRA Warramunga Arr 31.18 146 P **P** **18 35 32.4 -3.2**
WRA 18 38 30.1
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 31.18 146 P **P** **18 35 32.4 -3.2**
WRA **PcP** **18 38 30.1 -0.2**
WB2 Warramunga Arr 31.18 146 P **P** **18 35 34.3 -1.3**
WC3 Warramunga Arr 31.21 146 P **P** **18 35 34.7 -1.1**
baz=31
WR0 Warramunga Arr 31.30 146 P **P** **18 35 35.2 -1.4**
TIY Taiyuan 31.73 354 *e*P **P** **18 35 41.4 +1.1**
TIY S **S** **18 40 47.4 -1.1**
TIY pmax pmax
comp=Z,100nm,3.5s
TIY L L
comp=Z,1μm,15.7s
TIY L L
comp=Z,490nm,12.2s
TIY L L
comp=Z,850nm,14.2s
MANU Manus Island 31.74 104 P **P** **18 35 39.4 -1.3**
JMN Monobe 31.84 28 P **P** **18 35 38.5 -2.8**
JMN IAmb IAmb 18 35 43.1
comp=Z,60nm,1.1s
JCJ Chichijima 32.08 46 P **P** **18 35 42.0 -1.4**
comp=Z,27nm,0.7s,baz=240,slow=4.4,SNR=5.8
JCJ Chichijima 32.08 46 P **P** **18 35 41.4 -2.0**
JHS Saijyo 32.56 26 P **P** **18 35 46.1 -1.5**
JHS IAmb IAmb 18 35 49.4
comp=Z,47nm,1.0s
MEEK Meekatharra 32.57 177 P **P** **18 35 47.4 -0.3**
baz=33,SNR=4.7
INCN Inchon 32.58 15 P **P** **18 35 46.7 -0.9**
INCN pmax pmax
comp=Z,108nm,1.8s
INCN Inchon 32.58 15 P **P** **18 35 46.7 -0.9**
INCN IAmb IAmb 18 36 00.2
comp=Z,108nm,1.8s
KSAR Wonju Array Be 32.88 17 P **P** **18 35 49.8 -0.4**
KSAR Wonju Array Be 32.88 17 P **P** **18 35 49.8 -0.4**
KSRS Korea Array 32.90 17 P **P** **18 35 50.7 +0.3**
comp=Z,5.4nm,0.8s,baz=192,slow=10.0,SNR=22
KS19 Wonju Array Si 32.93 17 P **P** **18 35 49.5 -1.2**
WRKA Warakurna 32.94 160 P **P** **18 35 54.3 +3.3**
baz=33,SNR=3.9
DL2 Dalian 33.00 7 P **P** **18 35 50.7 -0.6**
DL2 S **S** **18 41 07.6 -0.5**
DL2 pmax pmax
comp=Z,67nm,4.1s
DL2 L L
comp=Z,500nm,17.3s
DL2 L L
comp=Z,430nm,25.3s
LSA Lhasa 33.60 317 P **P** **18 35 54.7 -2.6**
LSA pmax pmax
comp=Z,33nm,0.7s
LSA Lhasa 33.60 317 P **P** **18 35 54.7 -2.6**
LSA IAmb IAmb 18 36 06.9
comp=Z,33nm,0.7s
BJT Baijiatuau 33.80 359 P **P** **18 35 56.5 -1.8**
BJT Baijiatuau 33.80 359 P **P** **18 35 56.5 -1.8**
BJT IAmb IAmb 18 36 11.1
comp=Z,28nm,1.1s
BJT Baijiatuau 33.80 359 pmax pmax
comp=Z,28nm,1.1s
JWT Wachi 33.83 28 P **P** **18 35 57.6 -1.1**
JWT IAmb IAmb 18 36 08.4
comp=Z,43nm,1.2s
AS31 Alice Springs 34.03 151 P **P** **18 36 00.2 -0.3**
ASAR Alice Springs 34.03 151 P **P** **18 35 59.5 -1.0**
comp=Z,1.7nm,0.9s,baz=335,slow=9.6,SNR=17
ASAR PcP **PcP** **18 38 37.5 -0.6**
comp=Z,8.4nm,0.8s,baz=348,slow=2.2,SNR=14
ASAR LR LR 18 53 22.8
comp=Z,717nm,18.6s,baz=324,slow=42
ASAR Alice Springs 34.03 151 P **P** **18 36 01.0 +0.5**
ASAR Alice Springs 34.03 151 P **P** **18 36 01.0 +0.5**
JHJ2 Mitsune 34.49 36 P **P** **18 36 03.3 -1.1**
INU Inuyama 34.67 30 P **P** **18 36 03.6 -2.3**
JSG Sagara 34.74 32 P **P** **18 36 06.6 0.0**
QIS Mount Isa 34.79 140 P **P** **18 36 05.7 -1.4**
baz=35,SNR=4.4
HHC Hu-ho-hao-te 34.93 353 *e*P **P** **18 36 07.8 -0.4**
HHC S **S** **18 41 40.8 +2.7**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.0s
HHC L L
comp=Z,860nm,16.3s
HHC L L
comp=Z,570nm,12.6s
HHC L L
comp=Z,1μm,16.2s
MORW Morawa 34.94 181 P **P** **18 36 11.9 +3.6**
baz=35,SNR=3.5
MORW Morawa 34.94 181 P **P** **18 36 10.6 +2.3**
MORW IAmb IAmb 18 36 15.2
comp=Z,66nm,1.5s
JGF Kuroka 35.04 30 P **P** **18 36 07.2 -1.9**
PALK Pallekele 35.69 274 P **P** **18 36 19.6 +4.6**
comp=Z,15nm,0.9s,baz=135,slow=5.7,SNR=3.7
PALK Pallekele 35.69 274 P **P** **18 36 15.5 +0.5**
PALK pmax pmax
comp=Z,37nm,1.0s
PALK Pallekele 35.69 274 P **P** **18 36 15.5 +0.5**
PALK IAmb IAmb 18 36 23.1
comp=Z,36nm,0.9s
SNY Shenyang 36.15 9 ⇑P **P** **18 36 18.3 -0.2**
SNY S **S** **18 41 55.5 -0.9**
SNY pmax pmax
comp=Z,24nm,1.0s
SNY pmax pmax
comp=Z,240nm,4.4s
SNY L L
comp=Z,710nm,17.7s
SNY L L
comp=Z,440nm,14.0s
SNY L L
comp=Z,890nm,18.3s
MAJO Matsushiro 36.20 30*d i*P **P** **18 36 17.7 -1.4**
MAJO pmax pmax
comp=Z,35nm,1.9s
MAJO Matsushiro 36.20 30 P **P** **18 36 17.0 -2.0**
MAT Matsushiro 36.20 30 P **P** **18 36 17.8 -1.3**
MAT *e*S **S** **18 42 05.0 +7.4**
MJAR Matsushiro Arr 36.20 30 P **P** **18 36 18.2 -0.9**
comp=Z,5.9nm,0.9s,baz=213,slow=8.2,SNR=12
MJAR Matsushiro Arr 36.20 30 P **P** **18 36 17.9 -1.2**
MJAR pmax pmax
comp=Z,34nm,1.7s
MJAR Matsushiro Arr 36.20 30 P **P** **18 36 17.9 -1.2**
MJB9 Matsu-Tunnel 36.20 30 P **P** **18 36 16.8 -2.3**
MJB9 IAmb IAmb 18 36 26.5
comp=Z,25nm,0.7s
MTSU Mount Surprise 36.40 132 P **P** **18 36 20.4 -0.7**
baz=36
BLDU Ballidu 36.47 180 P **P** **18 36 25.6 +4.2**
baz=37,SNR=5.9
RABL Rabaul 36.92 105 P **P** **18 36 24.7 -0.8**
RABL IAmb IAmb 18 36 32.6
comp=Z,50nm,0.9s
JYT Yasato 36.99 33 P **P** **18 36 23.3 -2.4**
JYT IAmb IAmb 18 36 32.8
comp=Z,85nm,1.7s
JSD Sado 37.41 29 P **P** **18 36 26.8 -2.5**
FORT Forrest 38.24 164 P **P** **18 36 35.8 -0.6**
FORT IAmb IAmb 18 37 01.6
comp=Z,39nm,1.0s
CN2 Changchun 38.38 10 *e*P **P** **18 36 36.8 -0.6**
CN2 PP **PnPn** **18 38 13.0 +5.6**
CN2 *e*S **S** **18 42 29.5 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,70nm,4.0s
CN2 L L
comp=Z,670nm,18.0s
CN2 L L
comp=Z,440nm,18.0s
CN2 L L
comp=Z,1μm,18.0s
JMM Marumori 38.53 31 P **P** **18 36 36.2 -2.6**
JMM IAmb IAmb 18 36 39.5
comp=Z,58nm,1.0s
NWAO Narrogin (SRO) 38.78 179 P **P** **18 36 42.1 +1.2**
comp=Z,6.2nm,0.6s,baz=2.3,slow=10.0,SNR=2.2
NWAO Narrogin (SRO) 38.78 179 P **P** **18 36 44.9 +4.0**
baz=39,SNR=4.9
NWAO Narrogin (SRO) 38.78 179 P **P** **18 36 42.1 +1.2**
NWAO pmax pmax
comp=Z,58nm,1.5s
NWAO Narrogin (SRO) 38.78 179 IAmb IAmb 18 37 12.5
comp=Z,58nm,1.4s
MDJ Mudanjiang 40.04 14 P **P** **18 36 51.6 +0.3**
MDJ S **S** **18 42 58.0 +2.6**
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,210nm,3.5s
MDJ L L
comp=Z,560nm,16.8s
MDJ L L
comp=Z,510nm,14.8s
MDJ L L
comp=Z,930nm,17.2s
MDJ Mudanjiang 40.04 14 P **P** **18 36 49.8 -1.4**
USA0B Ussuriysk Arra 40.30 17 P **P** **18 36 51.7 -1.8**
USA0B pmax pmax
comp=Z,36nm,1.5s
USA0B Ussuriysk Arra 40.30 17 P **P** **18 36 51.7 -1.8**
USRK Ussuriysk Ar. 40.30 17 P **P** **18 36 54.6 +1.1**
comp=Z,5.8nm,0.8s,baz=196,slow=9.1,SNR=11
USRK Ussuriysk Ar. 40.30 17 P **P** **18 36 51.7 -1.8**
USRK Ussuriysk Ar. 40.30 17 P **P** **18 36 51.7 -1.8**
JTM Tenmabayashi 40.91 29 P **P** **18 36 57.2 -1.4**
QLP Quilpie 42.07 142 P **P** **18 37 08.0 -0.2**
baz=42,SNR=7.8
ULN Ulaanbaatar 42.44 350 P **P** **18 37 11.3 +0.1**
ULN pmax pmax
comp=Z,18nm,0.9s
ULN Ulaanbaatar 42.44 350 P **P** **18 37 11.3 +0.1**
SONM Songino Array 42.53 350 P **P** **18 37 12.9 +1.1**
comp=Z,3.8nm,0.8s,baz=189,slow=8.6,SNR=1.6
SONM Songino Array 42.53 350 P **P** **18 37 11.3 -0.6**
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM Songino Array 42.53 350 P **P** **18 37 11.3 -0.6**
TEY Ternei 42.55 21⇓ *e*P **P** **18 37 11.3 -0.6**
TEY *e* 18 37 16.0
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.2s
JEW Eniwo 42.69 27 P **P** **18 37 12.0 -1.1**
BBOO Buckleboo 42.85 156 P **P** **18 37 12.8 -1.7**
ERM Erimo 42.86 29 P **P** **18 37 13.0 -1.4**
ERM pmax pmax
comp=Z,35nm,1.2s
ERM Erimo 42.86 29 P **P** **18 37 13.0 -1.4**
ASAJ Asahikawa 44.21 27 P **P** **18 37 24.6 -0.7**
ASAJ pmax pmax
comp=Z,43nm,0.9s
JKA Kamikawa-asahi 44.21 27 P **P** **18 37 24.6 -0.7**
JKA IAmb IAmb 18 38 46.3
comp=Z,43nm,0.9s
HTT Hallett 44.62 153 P **P** **18 37 28.8 +0.1**
baz=45,SNR=13
STKA Stephens Creek 44.62 149 P **P** **18 37 28.0 -0.7**
comp=Z,5.5nm,0.6s,baz=326,slow=9.4,SNR=9.7
STKA Stephens Creek 44.62 149 P **P** **18 37 28.4 -0.3**
baz=45,SNR=19
STKA Stephens Creek 44.62 149 P **P** **18 37 28.1 -0.6**
KLR Kul'dur 44.88 14 P **P** **18 37 30.7 +0.1**
comp=Z,8.8nm,1.1s,baz=224,slow=6.9,SNR=13
KLR Kul'dur 44.88 14*ce*P **P** **18 37 29.2 -1.4**
KLR pmax pmax
comp=Z,17nm,1.2s
WMQ Urumqi 45.38 331 *e*P **P** **18 37 38.5 +3.8**
WMQ S **S** **18 44 18.9 +4.8**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,13nm,3.8s
WMQ L L
comp=Z,690nm,13.9s
WMQ L L
comp=Z,460nm,13.9s
WMQ L L
comp=Z,280nm,15.7s
YSS Yuzh-Sakhalins 46.52 25 *e*P **P** **18 37 42.9 -0.7**
YSS *e*S **S** **18 44 30.1 -0.1**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS pmax pmax
comp=Z,200nm,9.9s
YSS MLR MLR
comp=Z,300nm,19.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,200nm,17.0s
YSS Yuzh-Sakhalins 46.52 25 P **P** **18 37 42.2 -1.4**
CMSA Cobar Meteorol 46.57 145 P **P** **18 37 45.6 +1.4**
baz=47,SNR=15
TLY Talaya 46.72 349 P **P** **18 37 43.9 -1.3**
GRNR Gornyy 47.53 17⇓ *i*P **P** **18 37 51.2 -0.2**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=E,140nm,14.0s
GRNR MLR MLR
comp=N,300nm,19.0s
GRNR MLR MLR
comp=Z,220nm,16.0s
UGL Uglegorsk 47.97 22 *e*P **P** **18 37 55.6 +0.8**
UGL pmax pmax
comp=Z,100nm,1.1s
ZEA Zeya 48.31 8 *e*P **P** **18 37 58.2 +0.8**
ZEA *e* 18 39 51.9
ZEA *e*S **S** **18 45 01.1 +5.6**
ZEA *e* 18 47 49.9
ZEA pmax pmax
comp=Z,100nm,6.0s
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.0s
ZEA pmax pmax
comp=Z,100nm,8.2s
ZEA smax smax
comp=E,100nm,12.8s
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
NIL Nilore 48.63 310 P **P** **18 37 59.3 -1.0**
NIL pmax pmax
comp=Z,73nm,0.7s
NIL Nilore 48.63 310 P **P** **18 37 59.3 -1.0**
ARPS Mount Arapiles 48.71 153 P **P** **18 38 00.4 -0.3**
baz=49,SNR=11
SHLS Shalkode 49.34 324 *e*P **P** **18 38 05.5 -0.3**
baz=324
SHLS Shalkode 49.34 324 *e*P **P** **18 38 05.4 -0.3**
ZSN Zaisan 49.38 332 *e*P **P** **18 38 06.1 +0.2**
baz=332
ZSN Zaisan 49.38 332 *e*P **P** **18 38 06.0 +0.2**
ARMA Armidale 49.40 139 P **P** **18 38 07.4 +1.1**
baz=49,SNR=4.8
ARMA Armidale 49.40 139 P **P** **18 38 06.4 +0.1**
ARMA IAmb IAmb 18 38 18.7
comp=Z,39nm,1.2s
TARG Taragay, Kyrgy 49.49 322 P **P** **18 38 06.5 -0.7**
TARG IAmb IAmb 18 39 52.9
comp=Z,12nm,0.6s
UZB Uzynbulak 49.59 324 *e*P **P** **18 38 09.9 +2.3**
baz=324
UZB Uzynbulak 49.59 324 *e*P **P** **18 38 09.9 +2.3**
SATY Saty 49.90 324 *e*P **P** **18 38 11.3 +1.4**
baz=324
SATY Saty 49.90 324 *e*P **P** **18 38 11.3 +1.4**
DGZ Jazzator, Alta 49.94 336*c i*P **P** **18 38 10.1 -0.1**
DGZ pmax pmax
comp=Z,29nm,1.0s
KPKS Kokpek 49.98 324 *e*P **P** **18 38 09.0 -1.5**
baz=324
KPKS Kokpek 49.98 324 *e*P **P** **18 38 09.0 -1.5**
KDJ Kajisay 50.10 322 P **P** **18 38 10.1 -1.5**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 50.10 322 P **P** **18 38 10.1 -1.5**
MK31 Makanchi Array 50.17 330*de*P **P** **18 38 11.6 -0.2**
MK31 Makanchi Array 50.17 330 P **P** **18 38 10.3 -1.5**
MKAR Makanchi Array 50.17 330 P **P** **18 38 11.9 +0.1**
comp=Z,8.8nm,0.6s,baz=130,slow=7.1,SNR=10
MKAR PcP **PcP** **18 39 31.6 +0.7**
comp=Z,11nm,0.8s,baz=133,slow=5.1,SNR=7.2
MKAR Makanchi Array 50.17 330 P **P** **18 38 11.4 -0.4**
MKAR Makanchi Array 50.17 330 P **P** **18 38 11.4 -0.4**
MAKZ Makanchi 50.34 330 P **P** **18 38 12.5 -0.5**
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 50.34 330 P **P** **18 38 12.5 -0.5**
KWAJ Kwajalein Atol 50.61 84 P **P** **18 38 14.0 -1.6**
KWAJ pmax pmax
comp=Z,431nm,1.4s
KWAJ Kwajalein Atol 50.61 84 P **P** **18 38 14.0 -1.6**
MDOK Medeo 50.77 323 *e*P **P** **18 38 17.6 +1.1**
baz=323
MDOK Medeo 50.77 323 *e*P **P** **18 38 17.6 +1.1**
BOOM Boomskoye usch 51.06 322 P **P** **18 38 17.0 -1.8**
BOOM pmax pmax
comp=Z,9.0nm,1.0s
BOOM Boomskoye usch 51.06 322 P **P** **18 38 17.0 -1.8**
TOO Toolangi 51.08 150 P **P** **18 38 19.3 +0.5**
TOO pmax pmax
comp=Z,22nm,1.4s
TOO Toolangi 51.08 150 P **P** **18 38 19.3 +0.5**
CAN Canberra 51.22 146 P **P** **18 38 19.7 -0.2**
CAN pmax pmax
comp=Z,46nm,1.0s
CAN Canberra 51.22 146 P **P** **18 38 19.6 -0.2**
CAN IAmb IAmb 18 38 27.4
comp=Z,46nm,1.0s
KUU Kurty 51.61 323 *e*P **P** **18 38 21.2 -1.5**
comp=Z,31nm,1.2s,baz=323
KUU Kurty 51.61 323 *e*P **P** **18 38 21.2 -1.5**
KUU pmax pmax
comp=Z,31nm,1.2s
AAK Ala-Archa 52.04 321 P **P** **18 38 27.8 +1.7**
comp=Z,5.9nm,0.7s,baz=130,slow=6.6,SNR=4.8
AAK Ala-Archa 52.04 321 P **P** **18 38 24.8 -1.3**
AAK pmax pmax
comp=Z,32nm,0.5s
AAK Ala-Archa 52.04 321 P **P** **18 38 24.8 -1.3**
ARSB Arslanbob 52.33 319 P **P** **18 38 28.1 -0.2**
ARSB pmax pmax
comp=Z,22nm,0.8s
ARSB Arslanbob 52.33 319 P **P** **18 38 28.1 -0.2**
ARSB IAmb IAmb 18 40 11.2
comp=Z,22nm,0.8s
SGDS Sogindy 52.39 322 *e*P **P** **18 38 30.5 +1.8**
baz=322
SGDS Sogindy 52.39 322 *e*P **P** **18 38 30.4 +1.8**
SEM Semipalatinsk 53.63 332 *e*P **P** **18 38 39.5 +1.7**
baz=332
SEM Semipalatinsk 53.63 332 *e*P **P** **18 38 39.4 +1.7**
ZAA0 Zalesovo Array 54.25 337 P **P** **18 38 39.9 -2.1**
ZALV Zalesovo Beam 54.25 337 P **P** **18 38 41.6 -0.3**
comp=Z,8.5nm,0.8s,baz=111,slow=7.9,SNR=3.3
ZALV PcP **PcP** **18 39 46.1 +0.1**
comp=Z,8.7nm,0.8s,baz=106,slow=2.9,SNR=4.6
ZALV Zalesovo Beam 54.25 337 P **P** **18 38 40.1 -1.8**
ZALV 18 39 46.1
ZALV Zalesovo Beam 54.25 337 P **P** **18 38 40.1 -1.8**
SANVU Saraoutou 54.47 114 P **P** **18 38 43.1 -1.0**
KURBB Kurchatov Arra 54.59 331 P **P** **18 38 44.4 0.0**
comp=Z,9.8nm,0.9s,baz=122,slow=8.8,SNR=7.5
KURBB PcP **PcP** **18 39 48.2 +0.9**
comp=Z,9.8nm,1.0s,baz=142,slow=3.8,SNR=7.5

KURK Kurchatov 54.60 331 P **P** **18 38 44.4 -0.1**
KURK Kurchatov 54.60 331 P **P** **18 38 44.4 -0.1**
KK31 Karatay Array 54.80 320 P **P** **18 38 43.4 -2.8**
KK31 pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 54.80 320 P **P** **18 38 43.4 -2.8**
KKAR Karatay Array 54.80 320 P **P** **18 38 43.2 -3.0**
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 54.80 320 P **P** **18 38 43.2 -3.0**
TAU Tasmania Unive 56.15 153 P **P** **18 38 56.4 +0.6**
TAU pmax pmax
comp=Z,64nm,1.4s
TAU Tasmania Unive 56.15 153 P **P** **18 38 56.4 +0.6**
TAU IAmb IAmb 18 40 10.6
comp=Z,64nm,1.4s
DZM Mont Dzumac 56.23 122 *e*P **P** **18 39 00.2 +3.3**
comp=Z,16nm,0.8s
DZM Mont Dzumac 56.23 122 LR LR 19 02 05.1
comp=Z,138nm,21.6s,baz=42,slow=35
LIFNC LIFOU 56.40 120 P **P** **18 38 57.5 -0.5**
YAK Yakutsk 56.68 7⇓ *e*P **P** **18 39 00.2 +1.0**
YAK pmax pmax
comp=Z,45nm,0.7s
HRA Herat 57.45 307 P **P** **18 39 02.3 -3.2**
HRA IAmb IAmb 18 41 03.9
comp=Z,21nm,1.1s
PEA0B Petropavlovsk- 57.61 28⇑ *e*P **P** **18 39 06.7 +0.7**
PEA0B Petropavlovsk- 57.61 28 P **P** **18 39 04.4 -1.6**
PEA0B IAmb IAmb 18 39 23.2
comp=Z,63nm,1.3s
PETK Petropavlovsk- 57.61 28 P **P** **18 39 06.3 +0.3**
comp=Z,18nm,1.0s,baz=210,slow=5.1,SNR=19
PETK Petropavlovsk- 57.61 28 P **P** **18 39 04.0 -2.0**
PETK Petropavlovsk- 57.61 28 P **P** **18 39 04.0 -2.0**
PET Petropavlovsk 58.00 28⇓ *i*P **P** **18 39 08.8 +0.1**
PET *e* 18 39 59.5
PET *e*S **S** **18 47 04.3 -3.1**
PET *e*SS **SS** **18 50 54.7 -4.1**
PET pmax pmax
comp=Z,42nm,1.2s
PET pmax pmax
comp=Z,200nm,15.8s
PET MLR MLR
comp=Z,300nm,19.0s
PET Petropavlovsk 58.00 28 P **P** **18 39 07.1 -1.6**
PET IAmb IAmb 18 39 10.2
comp=Z,41nm,1.2s
MA2 Magadan 59.39 19 *d i*P **P** **18 39 19.1 +0.8**
MA2 pmax pmax
comp=Z,36nm,1.3s
MA2 Magadan 59.39 19 P **P** **18 39 17.6 -0.7**
BRVK Borovoye 60.12 330⇑ *e*P **P** **18 39 22.9 -0.6**
BRVK pmax pmax
comp=Z,16nm,0.9s
BRVK Borovoye 60.12 330 P **P** **18 39 22.9 -0.6**
BRVK IAmb IAmb 18 39 27.8
comp=Z,15nm,0.9s
ABKAR Akbulak array 64.07 322 P **P** **18 39 47.4 -2.7**
ABKAR IAmb IAmb 18 39 55.6
comp=Z,37nm,1.8s
ABKAR Akbulak array 64.07 322 P **P** **18 39 48.2 -1.9**
MSVF Nonsavu 65.07 113 LR LR 19 07 50.8
comp=Z,168nm,20.9s,baz=307,slow=36
AKTO Aktyubinsk 65.67 323 P **P** **18 40 01.2 +0.7**
comp=Z,3.4nm,0.7s,baz=179,slow=8.5,SNR=4.0
TIXI Tiksi 65.96 4*d i*P **P** **18 40 02.7 +0.8**
NRIK Noril'sk 66.00 349 P **P** **18 40 02.8 +0.6**
comp=Z,55nm,0.9s,baz=130,slow=5.5,SNR=14
NRIK Noril'sk 66.00 349⇓ *e*P **P** **18 40 01.9 -0.3**
NRIK pmax pmax
comp=Z,55nm,0.9s
NRIK Noril'sk 66.00 349 P **P** **18 39 58.8 -3.4**
ARU Arti 67.69 329 P **P** **18 40 14.8 +1.6**
comp=Z,2.9nm,0.8s,baz=177,slow=1.9,SNR=4.5
ARU Arti 67.69 329 *d i*P **P** **18 40 12.4 -0.8**
ARU 18 40 39.4
ARU S **S** **18 49 10.2 +1.4**
ARU SS **SS** **18 53 24.9 -5.2**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 67.69 329 P **P** **18 40 11.2 -2.1**
ARU IAmb IAmb 18 40 17.0
comp=Z,16nm,1.0s
ARU Arti 67.69 329 **P** **18 40 11.6 -1.6**
RDF Al-Radifah 68.78 299 *e*P **P** **18 40 20.2 -0.5**
MIB Mutribah 69.04 299 *e*P **P** **18 40 21.3 -0.9**
BILL Bilibino 70.16 18⇑ *e*P **P** **18 40 27.5 -0.8**
BILL pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 70.16 18 P **P** **18 40 27.3 -1.1**
BILL IAmb IAmb 18 40 35.5
comp=Z,24nm,1.1s
MAK Makhachkala 70.64 313 *e*P P 18 40 24.9 -6.9
MAK *e* 18 43 02.5
MAK *e*PPP PPP 18 44 43.0
MAK *e*S **S** **18 49 37.8 -6.3**
MAK pmax pmax
comp=Z,174nm,1.5s
MAK MLR MLR
comp=Z,145nm,17.0s
BKZ Black Stump Fm 71.22 135 P **P** **18 40 34.1 -1.3**
CASY Casey 72.30 183 P **P** **18 40 41.9 +0.7**
BELG Belogornoye 72.46 323 P **P** **18 40 43.3 +0.8**
comp=Z,12nm,0.7s,baz=85,slow=2.9,SNR=1.9
KIRV Kirov 73.07 330 P **P** **18 40 45.1 -0.8**
comp=Z,12nm,0.7s,baz=62,slow=3.9,SNR=4.7
KIRV Kirov 73.07 330⇓ *e*P **P** **18 40 45.4 -0.6**
ZEI Tsey 73.23 313 *e*P **P** **18 40 48.1 +0.5**
ZEI pmax pmax
comp=Z,14nm,1.3s
KBZ Khabaz 74.08 314 P **P** **18 40 52.5 +0.3**
comp=Z,4.5nm,0.9s,baz=105,slow=9.3,SNR=4.4
KBZ LR LR 19 18 44.6
comp=Z,181nm,19.3s,baz=88,slow=40
KBZ Khabaz 74.08 314⇓ *e*P **P** **18 40 52.3 +0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 74.25 314 *e*P **P** **18 40 51.6 -1.9**
KIV pmax pmax
comp=Z,29nm,1.0s
PRGR Permogore 75.70 332 *e*P **P** **18 40 58.9 -2.4**
NIKH Nikolski High 75.87 37 P **P** **18 41 00.5 -1.9**
NIKH Nikolski High 75.87 37 P 18 41 01.5
baz=261
SOC Sochi 76.36 313 *e*P **P** **18 41 03.9 -1.5**
SOC *e* 18 43 54.3
SOC *e*PPP PPP 18 45 43.5
SOC *e*S **S** **18 50 49.4 +0.6**
SOC *e*SS **SS** **18 55 47.5 +4.2**
SOC MLR MLR
comp=Z,80nm,17.0s
GAMB Gambell 76.53 26 P 18 41 05.3
baz=256
ANN Anapa 78.08 314 *e*P **P** **18 41 13.0 -2.0**
ANN *e* 18 44 10.9
ANN *e*S **S** **18 51 07.9 +0.5**
ANN *e*SS **SS** **18 56 10.9 +1.7**
ANN pmax pmax
comp=Z,21nm,1.2s
KLMR Klimovskoe 78.45 331 *e*P **P** **18 41 15.0 -1.7**
KLMR pmax pmax
comp=Z,40nm,1.1s
KLMR Klimovskoe 78.45 331 *e*P **P** **18 41 15.1 -1.7**
KLMR AMP 18 41 22.3
comp=Z,40nm,1.1s
TNA Tin City 78.50 24 P 18 41 16.3
baz=259
MOS Moscow 78.82 326 *e*P **P** **18 41 17.7 -1.2**
FALS False Pass 79.29 35 P 18 41 20.2
baz=265
OBN Obninsk 79.36 325 P **P** **18 41 21.5 -0.3**
comp=Z,1.7nm,0.4s,baz=24,slow=10.0,SNR=1.8
OBN Obninsk 79.36 325⇓ *e*P **P** **18 41 21.3 -0.5**
OBN pmax pmax
comp=Z,6.0nm,0.5s
MMAI Mount Meron Ar 79.37 302 P **P** **18 41 23.1 +0.6**
comp=Z,7.0nm,1.0s,baz=85,slow=13,SNR=7.6
ANM Nome 79.40 25 P 18 41 21.9
baz=262
KMBO Kilima Mbogo 79.55 268 P **P** **18 41 27.2 +3.2**
comp=Z,5.5nm,1.2s,baz=58,slow=11,SNR=4.1
EIL Elat 79.80 299 P **P** **18 41 27.6 +2.8**
comp=Z,10nm,1.0s,baz=160,slow=6.2,SNR=5.6
BR131 Keskin Array S 80.76 309 P **P** **18 41 28.8 -1.2**
BR131 pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 80.76 309 P **P** **18 41 28.8 -1.2**
BRTR Keskin Array B 80.76 309 P **P** **18 41 29.6 -0.4**
comp=Z,5.2nm,0.8s,baz=118,slow=6.5,SNR=7.2
BRTR Keskin Array B 80.76 309 P **P** **18 41 28.9 -1.1**
BRTR Keskin Array B 80.76 309 P **P** **18 41 28.9 -1.1**
RDOG Red Dog Mine 80.84 22 P 18 41 30.5
baz=263
SDPT Sand Point 81.00 35 P 18 41 29.2
baz=268
APA Apatity 81.83 337⇓ *i*P **P** **18 41 32.5 -2.4**
APA pmax pmax
comp=Z,1.0nm,1.0s
APA MLR MLR
comp=Z,600nm,10.0s
MAW Mawson 82.63 198 P **P** **18 41 38.2 -0.7**
comp=Z,1.9nm,0.4s,baz=315,slow=5.7,SNR=3.1
MAW Mawson 82.63 198 P **P** **18 41 39.3 +0.4**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 82.63 198 P **P** **18 41 39.3 +0.4**
A21K Barrow 83.25 19 P 18 41 42.4
baz=269,SNR=13
TTA Tatalina 83.44 27 P **P** **18 41 43.0 -0.4**
TTA pmax pmax
comp=Z,16nm,1.0s
TTA Tatalina 83.44 27 P **P** **18 41 43.0 -0.4**
TTA IAmb IAmb 18 42 09.3
comp=Z,16nm,1.0s
TTA Tatalina 83.44 27 P 18 41 44.0
baz=270
SVW2 Sparrevohn 83.67 29 IAmb IAmb 18 41 53.1
comp=Z,30nm,1.2s
AKASG Malin Array Be 83.70 320 P **P** **18 41 43.9 -1.0**
comp=Z,3.8nm,0.7s,baz=74,slow=4.7,SNR=8.7
AKASG LR LR 19 22 15.6
comp=Z,200nm,20.4s,baz=75,slow=38
AKASG Malin Array Be 83.70 320 *i*P **P** **18 41 42.5 -2.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 83.70 320 P **P** **18 41 43.7 -1.3**
AKBB Malin Array Si 83.70 320 P **P** **18 41 43.6 -1.3**
AKBB IAmb IAmb 18 41 53.9
comp=Z,25nm,1.4s
SORM Soroca 84.37 318 ⇑P **P** **18 41 48.0 -0.4**
TIRR Tirgusor 84.52 314 ⇑P **P** **18 41 49.2 0.0**
TIRR Tirgusor 84.52 314 IAmb IAmb 18 41 53.6
comp=Z,20nm,0.9s
SII Sitkinak Islan 84.54 34 P 18 41 48.4
baz=273
CFR Carcaliu 84.67 315 ⇑P **P** **18 41 50.0 0.0**
ARCES ARCESS Array B 84.75 339 P **P** **18 41 49.0 -0.9**
comp=Z,4.8nm,0.8s,baz=94,slow=7.3,SNR=2.3
ARCES ARCESS Array B 84.75 339 P **P** **18 41 50.3 +0.4**
ARCES pmax pmax
comp=Z,75nm,1.5s
ARCES ARCESS Array B 84.75 339 P **P** **18 41 50.3 +0.4**
VSU Vasula 84.82 328 *e*P **P** **18 41 50.8 +0.4**
VSU Vasula 84.82 328⇓ *e*P **P** **18 41 49.9 -0.5**
VSU pmax pmax
comp=Z,42nm,0.9s
HARR Harsova 84.85 314 ⇑P **P** **18 41 51.0 +0.2**
FIA1 FINESS Array S 84.98 331 IAmb IAmb 18 41 55.1
comp=Z,18nm,0.9s
FINES FINESS Array B 84.98 331 P **P** **18 41 50.3 -0.9**
comp=Z,11nm,0.8s,baz=86,slow=7.8,SNR=8.4
FINES FINESS Array B 84.98 331 *i*P **P** **18 41 52.9 +1.7**
FINES pmax pmax
comp=Z,13nm,0.8s
FINES FINESS Array B 84.98 331 P **P** **18 41 50.0 -1.1**
NACGM Naroch 84.99 325 *i*P **P** **18 41 51.6 +0.3**
baz=60
OHAK Old Harbor 85.00 33 IAmb IAmb 18 42 26.8
comp=Z,23nm,0.8s
OHAK Old Harbor 85.00 33 P 18 41 51.1
baz=273
CHUM Lake Minchumin 85.07 26 P 18 41 52.7
baz=274,SNR=9.1
PPLA Purkeypile 85.19 27 IAmb IAmb 18 42 04.3
comp=Z,30nm,1.2s
PPLA Purkeypile 85.19 27 P 18 41 52.4
baz=274,SNR=8.3
SPCR Spurr Chakacha 85.30 29 P 18 41 52.6
baz=274,SNR=9.3
KDAK Kodiak Island 85.34 33 P **P** **18 41 53.1 0.0**
KDAK pmax pmax
comp=Z,26nm,1.1s
KDAK Kodiak Island 85.34 33 P **P** **18 41 53.1 0.0**
KDAK IAmb IAmb 18 42 28.5
comp=Z,26nm,1.1s
KDAK Kodiak Island 85.34 33 P 18 41 53.2
baz=274
SKT Skwentna 85.56 28 P 18 41 53.5
baz=274,SNR=17
VRI Vrincioaia 85.62 316 ⇑P **P** **18 41 55.6 +0.9**
TESR Tescani 85.63 316 ⇑P **P** **18 41 54.3 -0.5**
BPAW Bear Paw Mtn. 85.64 26 P **P** **18 41 54.3 -0.2**
BPAW Bear Paw Mtn. 85.64 26 P 18 41 54.5
baz=275,SNR=40
BISRR Bisoca 85.65 315 ⇑P **P** **18 41 54.7 -0.3**
MLY Manley 85.66 25 P 18 41 54.9
baz=275,SNR=35
PLOR Plostina 85.67 315 ⇑P **P** **18 41 55.6 +0.5**
COLD Coldfoot 85.68 23 P 18 41 55.6
baz=275,SNR=63
GIRR Girov 85.69 317 ⇑P **P** **18 41 55.3 +0.1**
KTH Kantishna Hill 85.71 27 P **P** **18 41 54.4 -0.5**
KTH IAmb IAmb 18 42 34.8
comp=Z,21nm,1.1s
TOLK Toolik Lake Re 85.78 22 IAmb IAmb 18 42 08.6
comp=Z,30nm,0.9s
TOLK Toolik Lake Re 85.78 22 P 18 41 55.6
baz=276,SNR=12
CAPN Captain Cook N 85.84 29 P 18 41 54.5
baz=275
MEF Metsahovi 85.89 330 *e*P **P** **18 41 55.7 0.0**
NEHR Nehoiu 85.95 315 ⇑P **P** **18 41 57.0 +0.6**
BIZ Bicaz 85.97 317 ⇑P **P** **18 41 56.8 +0.4**
SUA Susitna One 85.98 29 P **P** **18 41 55.6 -0.7**
SUA Susitna One 85.98 29 P 18 41 55.8
baz=275,SNR=16
TRF Thorofare Moun 86.00 27 IAmb IAmb 18 42 39.5
comp=Z,24nm,1.0s
TRF Thorofare Moun 86.00 27 P 18 41 56.1
baz=276,SNR=18
BRLK Bradley Lake 86.06 30 P **P** **18 41 55.9 -0.8**
H23K Yukon River 86.08 24 P 18 41 57.4
baz=276,SNR=26
CUT Chulitna 86.11 28 P 18 41 56.0
baz=276
MLH Mauna Loa 86.12 71 P **P** **18 41 55.5 -2.6**
BRSE Bradley Lake S 86.14 30 P 18 41 56.3
baz=275,SNR=8.7
MLR Muntele Rosu 86.19 315 ⇑P **P** **18 41 58.3 +0.5**
MLR Muntele Rosu 86.19 315 P **P** **18 41 56.8 -1.0**
MLR pmax pmax
comp=Z,38nm,0.7s
MLR Muntele Rosu 86.19 315 P **P** **18 41 56.8 -1.0**
I23K Minto, Yukon-K 86.23 25 IAmb IAmb 18 42 05.8
comp=Z,36nm,1.2s
I23K Minto, Yukon-K 86.23 25 P 18 41 57.4
baz=276,SNR=20
M22K Willow 86.25 28 P 18 41 57.4
baz=276
NEA2 Nenana 86.42 26 IAmb IAmb 18 42 07.3
comp=Z,25nm,1.0s
NEA2 Nenana 86.42 26 P 18 41 57.1
baz=276,SNR=12
RC01 Rabbit Creek A 86.50 29 P 18 41 57.4
baz=276,SNR=8.4
BURAR Bucovina Array 86.51 317 P **P** **18 41 58.1 -1.2**
BURAR IAmb IAmb 18 42 10.2
comp=Z,22nm,0.9s
DOPR Dopca 86.54 316 ⇑P **P** **18 41 58.9 -0.5**
PABE Paberze 86.55 325 *e*P **P** **18 41 59.1 0.0**
PABE Paberze 86.55 325 P **P** **18 41 57.9 -1.2**
MCK McKinley 86.58 26 P 18 41 57.3
baz=277,SNR=16
RND Reindeer 86.65 27 IAmb IAmb 18 42 36.7
comp=Z,22nm,1.0s
MDM Murphy Dome 86.73 25 IAmb IAmb 18 42 08.2
comp=Z,30nm,1.0s
PMR Palmer 86.73 29 IAmb IAmb 18 42 25.8
comp=Z,28nm,1.0s
PMR Palmer 86.73 29 P 18 41 59.1
baz=277
SEW Seward 86.75 30 P **P** **18 41 58.3 -1.7**
SEW Seward 86.75 30 P 18 41 59.4
baz=276
H24K Noodor Dome 86.76 24 P 18 42 00.7
baz=278,SNR=27
GHO Glory Hole Cre 86.81 28 IAmb IAmb 18 42 11.4
comp=Z,41nm,1.2s
WAT2 Susitna Watana 86.82 27 P 18 41 59.7
baz=277,SNR=24
VOIR 86.83 315 ⇑P **P** **18 41 59.9 -1.0**
COPA Copaceanca 86.83 314 ⇑P **P** **18 41 59.2 -1.5**
WRH Wood River Hil 86.85 26 IAmb IAmb 18 42 07.8
comp=Z,16nm,1.1s
TCOL CIGO, UAF Yank 86.90 25 P 18 41 59.5
baz=278
COLA College 86.90 25⇑ *e*P **P** **18 42 00.8 +0.2**
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 86.90 25 P 18 41 59.7
baz=278
CCB Clear Creek Bu 86.95 25 IAmb IAmb 18 42 07.3
comp=Z,30nm,1.6s
HUMR Humele 86.96 314 ⇑P **P** **18 42 01.0 -0.4**
POKR Poker Plat Res 87.05 25 P 18 42 00.9
baz=278
KNK Knik Glacier 87.08 29 P 18 42 01.6
baz=277,SNR=7.3
SML Sawmill 87.08 28 P 18 42 01.3
baz=277,SNR=9.6
VNDA Vanda 87.14 171 P **P** **18 42 01.4 -0.1**
comp=Z,2.1nm,0.8s,baz=302,slow=6.3,SNR=10
VNDA Vanda 87.14 171 P **P** **18 42 02.7 +1.2**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 87.14 171 P **P** **18 42 02.7 +1.2**
ARCR ARCALIA 87.15 317 ⇓P **P** **18 42 01.5 -0.8**
SUW Suwalki 87.16 324 *e*P **P** **18 42 01.4 -0.7**
WAT6 Susitna Watana 87.26 27 P 18 42 01.7
baz=278,SNR=12
IL31 87.33 25 IAmb IAmb 18 42 21.4
comp=Z,9.6nm,0.9s
ILAR Eielson Array 87.33 25 P **P** **18 42 01.6 -1.2**
comp=Z,1.7nm,0.7s,baz=260,slow=4.4,SNR=13
ILAR Eielson Array 87.33 25 P **P** **18 42 01.4 -1.3**
ILAR Eielson Array 87.33 25 P **P** **18 42 01.4 -1.3**
HDA Harding Lake 87.35 26 IAmb IAmb 18 42 27.8
comp=Z,22nm,1.3s
HDA Harding Lake 87.35 26 P 18 42 01.7
baz=278
HDA P 18 42 01.7
baz=278
BMR Baia Mare 87.66 318 ⇑P **P** **18 42 04.5 -0.2**
PRP Porcupine Dome 87.78 24 P 18 42 04.1
baz=280
GLI Glacier Island 87.80 29 P 18 42 04.3
baz=278
M24K Tolsona, Glenn 88.05 28 P **P** **18 42 06.2 -0.1**
M24K IAmb IAmb 18 42 42.2
comp=Z,24nm,0.9s
M24K Tolsona, Glenn 88.05 28 P 18 42 06.5
baz=279
PAX Paxson 88.23 27 IAmb IAmb 18 42 48.1
comp=Z,14nm,1.2s
PAX Paxson 88.23 27 P 18 42 07.2
baz=280
KLU Klutina 88.27 28 IAmb IAmb 18 42 48.0
comp=Z,14nm,0.9s
KLU Klutina 88.27 28 P 18 42 06.5
baz=280
DRGR 88.30 317 ⇑P **P** **18 42 08.0 +0.2**
KOLS Kolonicke sedl 88.33 319 *e*P **P** **18 42 08.4 +0.5**
KOLS Kolonicke sedl 88.33 319 *e*P **P** **18 42 08.4 +0.5**
UZH Uzhgorod 88.35 319 *e*P **P** **18 42 10.5 +2.6**
GZR Gura Zlata 88.42 315 ⇑P **P** **18 42 08.0 -0.4**
HARP HAARP 88.47 27 P 18 42 07.9
baz=280
EYAK Cordova Ski Ar 88.51 29 P 18 42 08.4
baz=280
SCRK Sand Creek 88.70 26 P **P** **18 42 08.8 -0.7**
SCRK IAmb IAmb 18 42 29.3
comp=Z,14nm,0.8s
SCRK Sand Creek 88.70 26 P 18 42 08.3
baz=281
DOT Dot Lake 88.73 26 IAmb IAmb 18 42 29.6
comp=Z,9.6nm,0.9s
CRVS Cervenica-Dubn 88.86 319 *e*P **P** **18 42 11.3 +0.9**
CRVS Cervenica-Dubn 88.86 319 *e*P **P** **18 42 11.3 +0.9**
N25K Chitina, Valde 88.87 28 IAmb IAmb 18 42 50.4
comp=Z,16nm,0.9s
N25K Chitina, Valde 88.87 28 P 18 42 09.2
baz=281,SNR=8.7
BMRM Bremner River 88.99 29 IAmb IAmb 18 42 37.1
comp=Z,20nm,1.0s
BMRM Bremner River 88.99 29 P 18 42 09.3
baz=281
BZS Buzias 89.20 316 ⇑P **P** **18 42 10.8 -1.2**
MDVR Moldovita 89.25 315 ⇑P **P** **18 42 11.5 -0.8**
GLB Gilahina Butte 89.28 28 IAmb IAmb 18 42 21.1
comp=Z,12nm,1.0s
LIT Litokhoron 89.29 310 P **P** **18 42 11.2 -1.4**
LIT pmax pmax
comp=Z,12nm,0.8s
LIT Litokhoron 89.29 310 P **P** **18 42 11.2 -1.4**
LIT IAmb IAmb 18 42 21.4
comp=Z,12nm,0.8s
K27K Chicken 89.52 26 IAmb IAmb 18 42 34.7
comp=Z,13nm,0.9s
K27K Chicken 89.52 26 P 18 42 12.4
baz=283
MCARA McCarthy VSAT 89.66 28 P 18 42 13.6
baz=282
CRQM Cirque 89.73 29 P **P** **18 42 12.9 -1.5**
CRQM IAmb IAmb 18 42 58.9
comp=Z,18nm,1.1s
EGAK Eagle 89.73 25 P 18 42 13.8
baz=284
CRQE Cirque 89.76 29 P 18 42 14.2
baz=282
L27K Beaver Creek, 89.84 27 IAmb IAmb 18 42 23.2
comp=Z,24nm,1.1s
L27K Beaver Creek, 89.84 27 P 18 42 15.3
baz=283
BARN Barnard Glacie 90.37 28 IAmb IAmb 18 42 42.3
comp=Z,13nm,0.9s
GRNC Granite Creek 90.40 29 P **P** **18 42 17.9 +0.2**
GRNC IAmb IAmb 18 42 25.2
comp=Z,14nm,1.0s
CTG Chitna Glacier 90.55 28 P 18 42 17.6
baz=284
CTGM Chitina Glacie 90.55 28 IAmb IAmb 18 42 27.1
comp=Z,26nm,1.1s
DAWY Dawson 90.65 25 IAmb IAmb 18 42 36.6
comp=Z,15nm,0.9s
EPYK Eagle Plains 91.08 23 P 18 42 19.7
baz=288
MORC Moravsky Berou 91.25 320 *e*P **P** **18 42 25.3 +3.7**
PDG Podgorica 91.36 313 ⇑P **P** **18 42 21.6 -0.6**
PDG Podgorica 91.36 313 IAmb IAmb 18 42 26.3
comp=Z,14nm,0.9s
INK Inuvik 91.61 20 P **P** **18 42 21.3 -1.4**
INK pmax pmax
comp=Z,35nm,1.4s
INK Inuvik 91.61 20 P **P** **18 42 21.3 -1.4**
INK Inuvik 91.61 20 P 18 42 22.1
baz=291
VRAC Vranov 91.94 320 *e*P **P** **18 42 26.6 +1.8**
NOA NORSAR Array B 92.11 332 LR LR 19 27 45.7
comp=Z,130nm,18.9s,baz=80,slow=38
KRUC Moravsky 92.12 320 *e*P **P** **18 42 27.2 +1.6**
HYT Haines Junctio 92.39 28 IAmb IAmb 18 42 35.6
comp=Z,24nm,1.1s
BRG Berggiesshubel 93.27 322 *e*P **P** **18 42 29.3 -1.6**
BRG Amp 18 42 31.4
comp=Z,4.8nm,0.9s
BRG *ex* x 18 42 34.5
BRG Amp 18 42 35.4
comp=Z,12nm,1.0s
WHY Whitehorse 93.67 28 IAmb IAmb 18 42 40.9
comp=Z,25nm,1.2s
WHY Whitehorse 93.67 28 P 18 42 31.9
baz=289
C36M Paulatuk 94.28 18 P 18 42 34.4
baz=300
BESE Bessie Mountai 94.36 30 P **P** **18 42 35.8 0.0**
BESE IAmb IAmb 18 42 43.6

	comp=Z,15nm,1.0s							
SIT	**Sitka**	**94.61**	**31**	P			18 42 36.6	
	baz=288							
PPT	**Papeete**	**95.42**	**107**	LR	LR		19 18 39.5	
	comp=Z,63nm,20.9s,baz=304,slow=31							
PPT2	**Papeete2**	**95.42**	**107**	*e*LR	LR		19 13 31.0	
	comp=Z,384nm,29.2s							
TBI	**Tubuai**	**95.96**	**113**	*e*LR	LR		19 13 47.6	
	comp=Z,235nm,28.8s							
QSPA	**South Pole Qui**	**95.96**	**180**	P	**P**		**18 42 43.8**	**+0.9**
QSPA				IAmb	IAmb		18 42 50.4	
	comp=Z,12nm,1.1s							
DLBC	**Dease Lake**	**96.78**	**29**	IAmb	IAmb		18 42 54.7	
	comp=Z,9.9nm,1.2s							
TAOE	**Nuku Hiva Isla**	**103.94**	**98**	*e*LR	LR		19 17 27.1	
	comp=Z,551nm,26.8s							
ECSD	**EROS Data Cent**	**122.05**	**28**	PKPdf	**PKPdf**		**18 48 09.8**	**-1.2**
TXAR	**Lajitas Array**	**127.68**	**46**	PKP	**PKiKP**		**18 48 22.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=336,slow=2.7,SNR=6.9							
SFIN	**Lafayette**	**128.89**	**23**	P			18 48 23.2	
	baz=329							
H61A	**Lyndonville**	**129.05**	**8**	P			18 48 23.7	
	baz=349							
I58A	**Old Forge**	**129.38**	**11**	P			18 48 23.3	
	baz=345							
WVT	**Waverly**	**132.16**	**27**	PKIKP	**PKPdf**		**18 48 29.6**	**-0.8**
WVT	**Waverly**	**132.16**	**27**		**PKPdf**		**18 48 29.6**	**-0.8**
PAL	**Palisades**	**132.17**	**11**	P			18 48 30.7	
	baz=346							
KMSC	**Kings Mountain**	**135.66**	**21**	P			18 48 36.7	
	baz=334							
PLCA	**Paso Flores**	**144.89**	**171**	PKP	**PKPdf**		**18 48 53.3**	**-0.3**
	comp=Z,17nm,1.0s,baz=166,slow=4.8,SNR=7.0							
PLCA	**Paso Flores**	**144.89**	**171**	PKIKP	PKPbc		18 48 53.1	+0.4
PLCA	**Paso Flores**	**144.89**	**171**	PKPdf	PKPbc		18 48 53.1	+0.4
BO02	**Sierra Bellavi**	**150.61**	**168**		**PKPbc**		**18 49 08.9**	**+0.3**
BO01	**Tunca**	**150.93**	**167**		**PKPbc**		**18 49 09.1**	**-0.2**
MT01	**Popeta**	**151.39**	**166**		**PKPbc**		**18 49 10.0**	**-0.4**
MT09	**Talagante**	**151.54**	**167**		**PKPbc**		**18 49 10.3**	**-0.6**
MT02	**Curacav**	**152.00**	**166**		**PKPbc**		**18 49 11.8**	**0.0**
LPAZ	**La Paz**	**168.83**	**156**	PKP	**PKPdf**		**18 49 24.7**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=230,slow=7.9,SNR=2.1							
LPAZ				PKPab	**PKPab**		**18 50 33.1**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=214,slow=7.3,SNR=4.0							
LPAZ	**La Paz**	**168.83**	**156**	PKIKP	**PKPdf**		**18 49 24.8**	**-0.1**

BGR ***12*** *18:29:19.0±0.0, 12.˚73N×93.˚60E, h61km, mb5.0*

DJA ***12*** *18:29:26.6±0.4, 14.˚N±3.˚×9.˚3E±.˚, h53km±16km, M5.3/13, mb5.1/13, mB5.4/8, MLv5.8/4, Mw(mB)4.9/8, MwMwp5.3/5, Mwp5.5/5*

MOS ***12*** *18:29:27.0±0.9, 13.˚86N×93.˚59E, h47km, mb5.4/48, MS4.4/10, Error ellipse: s-maj=6.2km s-min=3.7km az=108.8*

NDI ***12*** *18:29:28.7±4.0, 14.˚03N×93.˚67E, h35km, mb5.3, ML4.7, mb5.2(NEIC)*

BJI ***12*** *18:29:28.0±0.0, 13.˚92N×93.˚61E, h50km, mB5.1/46, mb5.2/65, Ms4.6/60, Ms7 4.4/51*

GCMT ***12*** *18:29:29.3±0.3, 13.˚89N±0.˚02×93.˚49E±0.˚02, h45km±1km, MW5.1/91, Moment Tensor Solution. s34,c38; s91,c129; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.81±.30; Mθθ0.58±.18; Mϕϕ-5.39±.18; Mrθ1.75±.16; Mrϕ0.56±.13; Mθϕ-1.95±.18; Best double couple: Ms5.78000×10¹⁶ NP1:ϕs12.00000°, δ36.00000°, λ118.00000°. NP2: ϕs158.00000°, δ58.00000°, λ71.00000°. Principal axes: T 5.6910, Plg70.0000°, Azm26.0000°; N 0.1830, Plg16.0000°, Azm169.0000°; P -5.8700, Plg12.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *18:29:30.3±2.3, 14.˚01N±0.˚05×93.˚58E±0.˚06, h49km±2km, mb5.2/153 Error ellipse: s-maj=9.4km s-min=7.4km az=109.0*

IDC ***12*** *18:29:30.0±1.4, 13.˚82N×93.˚64E, h54km±11km, mb4.6/39, mb1 4.6/43, mb1mx4.5/60, mbtmp4.9/43, MS4.2/12, Ms1 4.3/12, ms1mx3.9/36, Error ellipse: s-maj=12.3km s-min=8.2km az=44.0*

ISC 12 18:29:29.0±0.4, 13°91N±0.˚04×93°60E±0.˚03, h45km±2km, h45km:pP-P, n665, σ1§41/719, mb5.1/232, MS4.4/26, 80C-20D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.97**	**222**	*e*P	**Pn**	**18 29 48.5**	**+2.2**
DGPR				*e*S	**Sn**	**18 30 03.8**	**+4.8**
DGPR				IAML		18 30 09.4	
	comp=N,21μm,0.6s						
PBA	**Port Blair**	**2.39**	**201**	*e*P	Pn	18 30 06.6	+1.0
PBA				*e*S	Sn	18 30 36.0	+2.3
PBA				IAML		18 30 48.0	
	comp=N,5μm,0.9s						
PBA	**Port Blair**	**2.39**	**201**		Pn	18 30 06.6	+0.9
PBA				Sn	Sn	18 30 39.4	+5.7
SRDT	**SRDT**	**5.38**	**85**	P	**Pn**	**18 30 46.9**	**+0.2**
SRDT	**SRDT**	**5.38**	**85**	S	**Sn**	**18 31 48.1**	**+0.7**
UMPA	**Umpang Tak**	**5.57**	**65**	P	**Pn**	**18 30 50.1**	**+0.6**
UTHA	**Uthaitani**	**5.89**	**73**	P	**Pn**	**18 30 55.4**	**+1.6**
UTHA				S	**Sn**	**18 32 00.3**	**+0.3**
MHMT	**Maesarieng**	**5.95**	**44**	P	**Pn**	**18 30 54.6**	**+0.1**
PHET	**Kaeng Krachan**	**5.95**	**99**	P	**Pn**	**18 30 56.3**	**+1.7**
CM13	**Chiang Mai Arr**	**6.79**	**48**	P	**Pn**	**18 31 07.5**	**+1.3**
CM05	**Chiang Mai Arr**	**6.81**	**48**	P	**Pn**	**18 31 08.1**	**+1.8**
CM15	**Chiang Mai Arr**	**6.83**	**48**	P	**Pn**	**18 31 08.1**	**+1.5**
CM01	**Chiang Mai Arr**	**6.83**	**48**	P	**Pn**	**18 31 08.4**	**+1.7**
CM02	**Chiang Mai Arr**	**6.83**	**48**	P	**Pn**	**18 31 08.4**	**+1.7**
CM04	**Chiang Mai Arr**	**6.83**	**48**	P	**Pn**	**18 31 08.5**	**+1.8**
CM31	**Chiang Mai Arr**	**6.84**	**48**		**Pn**	**18 31 08.3**	**+1.5**
CM31				Sn	**Sn**	**18 32 22.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**6.84**	**48**	P	**Pn**	**18 31 08.2**	**+1.4**
	comp=N,25nm,0.3s,baz=239,slow=15,SNR=1028						
CMAR				S	**Sn**	**18 32 23.4**	**-0.1**
	baz=246,slow=18,SNR=1.0						
CMAR				LR	LR	18 34 15.5	
	comp=N,2μm,21.0s,baz=230,slow=42						
CMAR				ScP	**ScP**	**18 41 24.5**	**-0.1**
	comp=N,0.1nm,0.3s,baz=258,slow=1.2,SNR=6.1						
CMAR	**Chiang Mai Arr**	**6.84**	**48**	Pn	**Pn**	**18 31 08.0**	**+1.1**
CM09	**Chiang Mai Arr**	**6.87**	**48**	P	**Pn**	**18 31 09.1**	**+1.9**
CHTO	**Chiang Mai**	**7.08**	**46**	P	**Pn**	**18 31 11.1**	**+1.0**
CHTO	**Chiang Mai**	**7.08**	**46**		**Pn**	**18 31 11.1**	**+1.0**
CHTO	**Chiang Mai**	**7.08**	**46**	P	**Pn**	**18 31 09.7**	**-0.4**
	comp=N,0.7nmcomp=N,2μmcomp=N,2μmcomp=N,207nm,0.7s						
CHTO				S	**Sn**	**18 32 27.2**	**-2.1**
	comp=N,0.7nmcomp=N,2μmcomp=N,2μmcomp=N,207nm,0.7s						
CMMT	**Chiang Mai**	**7.08**	**46**	P	**Pn**	**18 31 10.3**	**+0.1**
CMMT				S	**Sn**	**18 32 29.1**	**-0.3**
CMMT	**Chiang Mai**	**7.08**	**46**	P	**Pn**	**18 31 10.1**	**0.0**
	comp=N,1.2nmcomp=N,3μmcomp=N,359nm,0.7s						
PATY	**Pattaya**	**7.14**	**97**	P	**Pn**	**18 31 11.9**	**+1.0**
PHIT	**Phitsanulok**	**7.34**	**63**	P	**Pn**	**18 31 15.0**	**+1.4**
PKDT	**Phuket**	**7.57**	**142**	P	**Pn**	**18 31 19.9**	**+3.0**
PBKT	**Sadao Pong**	**7.59**	**69**	P	**Pn**	**18 31 18.4**	**+1.3**
PBKT	**Sadao Pong**	**7.59**	**69**		**Pn**	**18 31 17.6**	**+0.5**
PBKT	**Sadao Pong**	**7.59**	**69**	P	**Pn**	**18 31 18.0**	**+0.9**
	comp=N,1.7nmcomp=N,5μmcomp=N,516nm,0.6s						
UTTA	**Uttaradit**	**7.71**	**59**	P	**Pn**	**18 31 19.6**	**+0.9**
PHRA	**Phrae**	**7.84**	**53**	P	**Pn**	**18 31 22.4**	**+1.9**
KRAB	**Krabi**	**7.88**	**135**	P	**Pn**	**18 31 24.6**	**+3.5**
CHAI	**Chaiyaphum**	**8.35**	**75**	P	**Pn**	**18 31 30.1**	**+2.6**
BRDH	**Bariadhala**	**8.92**	**348**	P	**Pn**	**18 31 38.9**	**+3.7**
	comp=N,35nm,0.3s,baz=98,slow=19,SNR=1.5						
BRDH				S	**Sn**	**18 33 10.2**	**-4.2**
	comp=N,88nm,0.3s,baz=232,slow=22,SNR=5.7						
BRDH				LR	LR	18 35 51.1	
	comp=N,2μm,19.9s,baz=130,slow=42						
KHON	**Khomkaen**	**9.23**	**74**	P	**Pn**	**18 31 43.1**	**+3.5**
LHMI	**Lhok Sumawe**	**9.23**	**159**	Pn	**Pn**	**18 31 43.1**	**+3.5**
LHMI	**Lhok Sumawe**	**9.23**	**159**	P	**Pn**	**18 31 36.9**	**-2.7**
	comp=N,94nm,0.9s						
AGT	**Agartala**	**10.17**	**348**	*e*P	**Pn**	**18 31 51.5**	**-0.9**
AGT				IAML		18 33 42.8	
	comp=E,475nm,0.5s						
AGT				IAML		18 33 43.4	
	comp=N,285nm,0.4s						
LASI	**Langsa, Aceh**	**10.33**	**155**	P	**Pn**	**18 31 53.2**	**-1.5**
	comp=N,158nm,0.5s						
VIS	**Vishakhapatnam**	**10.59**	**292⇑**	*e*P	**Pn**	**18 31 58.3**	**+0.1**
TPTI		**11.15**	**161**	P	**Pn**	**18 32 04.6**	**-1.4**
	comp=N,33nm,1.2s						
TSI	**Tuntungan**	**11.44**	**154**	P	**Pn**	**18 32 09.1**	**-0.8**
	comp=N,2μmcomp=N,103nm,1.5s						
UBPT	**Khong Chiam**	**11.57**	**82**		**Pn**	**18 32 11.4**	**-0.3**
SHL	**Shillong**	**11.71**	**352**	P	**Pn**	**18 32 09.8**	**-3.9**
SHL	**Shillong**	**11.71**	**352**	*e*P	**Pn**	**18 32 10.9**	**-2.8**
SHL				*e*P	**Pn**	**18 32 13.0**	**-0.7**
SHL				IAML		18 34 19.1	
	comp=N,193nm,0.5s						
SHL				IAML		18 34 22.4	
	comp=E,211nm,0.2s						
SHL	**Shillong**	**11.71**	**352**	Pn	**Pn**	**18 32 09.8**	**-3.9**
PSI	**Prapat**	**12.22**	**154**	P	**Pn**	**18 32 23.3**	**+2.6**
	comp=E,2.3nm,0.3s,baz=360,slow=14,SNR=2.8						
PSI				ScP	**ScP**	**18 41 30.6**	**-0.5**
	comp=E,1.3nm,0.3s,baz=0.5,slow=4.7,SNR=4.9						
PSI	**Prapat**	**12.22**	**154**	P	P	18 32 23.0	-9.1
	comp=E,340nmcomp=E,25nm,1.2s,comp=E,3μm,1.2s, comp=E,58nm,1.2s						
PSI				P	**Pn**	**18 32 22.5**	**+1.8**
	comp=E,340nmcomp=E,25nm,1.2s,comp=E,3μm,1.2s, comp=E,58nm,1.2s						
BOK	**Bokaro**	**12.24**	**325**	*e*P	**Pn**	**18 32 19.0**	**-1.8**
SLVN	**Son La**	**12.29**	**52**	Pn	**Pn**	**18 32 21.6**	**+0.1**
RPSI	**Rantau Prapat**	**12.32**	**154**	Pn	**Pn**	**18 32 24.5**	**+2.6**
RPSI	**Rantau Prapat**	**12.32**	**154**		**Pn**	**18 32 23.3**	**+1.4**
RPSI					**ScP**	**18 41 30.6**	**-0.5**
GSI	**Gunungsitoli**	**13.13**	**162**	Pn	**Pn**	**18 32 34.5**	**+1.6**
GSI	**Gunungsitoli**	**13.13**	**162**	P	**Pn**	**18 32 31.0**	**-1.9**
	comp=E,24nm,1.8s						
KMI	**Kunming**	**14.09**	**36**	⇓P	**P**	**18 32 50.2**	**-2.7**
KMI				pP	Pn	18 32 55.5	+9.3
KMI				pmax	pmax		
	comp=E,16nm,0.9s						
KMI				pmax	pmax		
	comp=E,82nm,6.2s						
KMI				L	L		
	comp=E,2μm,12.1s						
KMI				L	L		
	comp=E,1μm,12.1s						
KMI				L	L		
	comp=E,1μm,24.3s						
ODAN	**Odare**	**14.13**	**337**	*e*P	**Pn**	**18 32 43.9**	**-2.9**
PALK	**Pallekele**	**14.28**	**244**	P	**Pn**	**18 32 47.8**	**-0.9**
	comp=E,0.9nm,0.3s,baz=178,slow=9.6,SNR=16						
PALK				S	Sn	18 35 15.1	-11
	comp=E,1.4nm,0.3s,baz=238,slow=21,SNR=6.5						
PALK				LR	LR	18 38 05.4	
	comp=E,2μm,20.1s,baz=154,slow=36						
PALK	**Pallekele**	**14.28**	**244**	P	**Pn**	**18 32 47.9**	**-0.8**
PALK	**Pallekele**	**14.28**	**244**	Pn	**Pn**	**18 32 47.9**	**-0.8**
MNSI	**Mandailing Nat**	**14.31**	**155**	P	**Pn**	**18 32 47.5**	**-1.5**
	comp=E,2μmcomp=E,28nm,0.4s						
TAPN	**Taplejung**	**14.46**	**339**	*e*P	**Pn**	**18 32 49.1**	**-2.1**
RAMN	**Ramite**	**14.53**	**334**	*e*P	**Pn**	**18 32 50.3**	**-1.9**
	comp=E,57nm,0.4s						
HYB	**Hyderabad**	**14.90**	**285**	*i* P	**Pn**	**18 32 55.0**	**-1.9**
HYB				*e*S	**Sn**	**18 35 42.0**	**+1.1**
BKNI	**Bangkinang**	**15.37**	**151**	P	**Pn**	**18 33 02.9**	**-0.1**
	comp=E,3μmcomp=E,4μmcomp=E,348nm,1.2s						
PKI	**Pulchoki**	**15.60**	**332**	*e*P	**Pn**	**18 33 04.5**	**-1.6**
PKIN	**Phulchoki**	**15.61**	**332**	*e*P	**Pn**	**18 33 04.0**	**-2.2**
	comp=E,31nm,0.2s						
DMN	**Daman**	**15.77**	**331**	*e*P	**Pn**	**18 33 07.6**	**-0.7**
	comp=E,133nm,0.7s						
KKN	**Kakani**	**15.84**	**332**	*e*P	**Pn**	**18 33 08.2**	**-1.0**
	comp=E,112nm,0.8s						
LSA	**Lhasa**	**15.88**	**352**	P	**Pn**	**18 33 07.6**	**-2.3**
LSA	**Lhasa**	**15.88**	**352**	P	**Pn**	**18 33 08.0**	**-1.9**
LSA				pmax	pmax		
	comp=Z,204nm,0.6s						
LSA	**Lhasa**	**15.88**	**352**	Pn	**Pn**	**18 33 08.0**	**-1.9**
PDSI	**Padang**	**16.22**	**155**	P	**Pn**	**18 33 13.4**	**-0.5**
GKN	**Gorkha**	**16.32**	**331**	*e*P	**Pn**	**18 33 14.2**	**-1.0**
KOLN	**Koldanda**	**16.65**	**328**	*e*P	**Pn**	**18 33 19.5**	**+0.1**
DANN	**Dangsing**	**17.04**	**329**	*e*P	**Pn**	**18 33 24.4**	**+0.1**
GYA	**Guiyang**	**17.48**	**42**	⇓P	**P**	**18 33 30.5**	**+0.1**
GYA				S	**Sn**	**18 36 45.6**	**+2.0**
CD2	**Chengdu**	**19.33**	**27**	P	**P**	**18 33 50.6**	**-0.1**
CD2				sP	sP	18 34 08.3	+1.6
CD2				PP	**PnPn**	**18 34 11.5**	**+5.4**
CD2				S	**S**	**18 37 25.6**	**-1.6**
CD2				pmax	pmax		
	comp=Z,250nm,0.9s						
CD2				pmax	pmax		
	comp=Z,580nm,5.5s						
CD2				L	L		
	comp=Z,1μm,14.4s						
CD2				L	L		
	comp=Z,1μm,14.7s						
CD2				L	L		
	comp=Z,1μm,20.1s						
POO	**Poona**	**19.51**	**286**	*e*P	**P**	**18 33 49.0**	**-3.7**
ENH	**Enshi**	**21.91**	**39**	P	**P**	**18 34 17.5**	**-1.0**
SMLA	**Simla**	**22.84**	**321**	*e*P	**P**	**18 34 30.3**	**+1.9**
SMLA				IAML		18 37 35.6	
	comp=N,41nm,0.8s						
SMLA				IAML		18 37 35.7	
	comp=E,79nm,1.0s						
LZH	**Lanzhou**	**23.93**	**21**	⇑P	**P**	**18 34 40.1**	**+1.1**
LZH				pP	pP	18 34 48.7	-1.8
LZH				sP	sP	18 34 56.9	+1.1
LZH				S	**S**	**18 38 54.2**	**+1.6**
LZH				sS	sS	18 39 13.5	+1.8
LZH				ScP	**ScP**	**18 41 56.9**	**+1.2**
LZH				pmax	pmax		
	comp=E,100nm,1.2s						
LZH				pmax	pmax		
	comp=E,410nm,4.3s						
LZH				L	L		
	comp=E,940nm,14.6s						
LZH				L	L		
	comp=E,720nm,16.8s						
LZH				L	L		
	comp=E,910nm,16.3s						
DHRM	**DHARAMSHALA**	**24.16**	**322**	*e*P	**P**	**18 34 41.2**	**0.0**
DHRM				IAmb	IAmb	18 34 42.6	
	comp=Z,124nm,1.3s						
XAN	**Xi'an**	**24.39**	**32**	P	**P**	**18 34 42.3**	**-0.9**
XAN				pP	pP	18 34 50.6	-4.2
XAN				PP	**PnPn**	**18 35 21.2**	**+6.0**
XAN				S	**S**	**18 39 04.4**	**+4.5**
XAN				pmax	pmax		
	comp=Z,29nm,0.8s						
XAN				pmax	pmax		
	comp=Z,460nm,3.5s						
XAN				L	L		
	comp=Z,740nm,17.3s						
XAN				L	L		
	comp=Z,1μm,14.5s						
XAN				L	L		
	comp=Z,2μm,17.6s						
WHN	**Wuhan**	**25.29**	**46**	⇑P	**P**	**18 34 51.8**	**+0.5**
WHN				L	L		
	comp=Z,2μm,19.1s						
WHN				L	L		
	comp=Z,2μm,12.3s						
GTA	**Gaotai**	**25.99**	**11**	⇑P	**P**	**18 34 59.0**	**+1.3**
GTA				pP	pP	18 35 09.1	-0.3
GTA				sP	sP	18 35 13.9	-0.7
GTA				sS	sS	18 39 40.6	-4.1
GTA				ScP	**ScP**	**18 42 02.7**	**+1.3**
GTA				PcS	**PcS**	**18 42 07.1**	**+0.9**
GTA				ScS	**ScS**	**18 45 50.5**	**-0.6**
GTA				pmax	pmax		
	comp=Z,120nm,0.9s						
GTA				pmax	pmax		
	comp=Z,320nm,4.4s						
GTA				L	L		
	comp=Z,380nm,18.9s						
GTA				L	L		
	comp=Z,350nm,18.9s						
GTA				L	L		
	comp=Z,370nm,18.9s						
SZP	**Santa**	**26.09**	**78**	P	**P**	**18 34 59.2**	**+0.4**
SZP				IAmb	IAmb	18 35 12.0	
	comp=Z,59nm,1.1s						
NIL	**Nilore**	**26.98**	**320**	P	**P**	**18 35 07.2**	**+0.6**
NIL				pmax	pmax		
	comp=Z,21nm,0.6s						
NIL	**Nilore**	**26.98**	**320**	P	**P**	**18 35 07.2**	**+0.6**
TWG	**Pinlang**	**27.50**	**67**	P	**P**	**18 35 12.9**	**+1.5**
TWG				IAmb	IAmb	18 35 15.3	
	comp=Z,40nm,1.0s						
SSLB	**Suanglung**	**27.64**	**65**	P	**P**	**18 35 12.8**	**+0.1**
SSLB				IAmb	IAmb	18 35 15.9	
	comp=Z,56nm,1.0s						
YULB	**Yu-li**	**27.84**	**66**	P	**P**	**18 35 16.1**	**+1.6**
YHNB	**Yeheng**	**28.26**	**64**	P	**P**	**18 35 19.7**	**+1.5**
NJ2	**Nanjing**	**29.32**	**48⇑**	*i*P	**P**	**18 35 28.0**	**+0.6**
NJ2				pP	**pP**	**18 35 39.1**	**+0.1**
NJ2				sP	**sP**	**18 35 44.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,75nm,1.0s						
KSH	**Kashi**	**29.86**	**332**	P	**P**	**18 35 32.2**	**-0.1**
KSH				pP	pP	18 35 46.7	+2.4
KSH				S	**S**	**18 40 24.3**	**-2.1**
KSH				pmax	pmax		
	comp=Z,29nm,0.6s						
KSH				pmax	pmax		
	comp=Z,120nm,4.5s						
KSH				L	L		
	comp=Z,880nm,9.1s						
KSH				L	L		
	comp=Z,580nm,10.2s						
KSH				L	L		
	comp=Z,90nm,4.6s						
H08S3	**Diego Garcia H**	**29.95**	**226**	T	T	19 07 52.9	
	baz=42,slow=76,SNR=5.1						
H08S2	**Diego Garcia H**	**29.96**	**226**	T	T	19 07 47.2	
	baz=42,slow=76,SNR=5.2						
H08S1	**Diego Garcia H**	**29.97**	**226**	T	T	19 07 49.2	
	baz=42,slow=76,SNR=5.3						
WMQ	**Urumqi**	**30.24**	**351**	*e*P	**P**	**18 35 37.1**	**+1.6**
WMQ				sP	sP	18 35 52.4	-0.3
WMQ				pmax	pmax		
	comp=Z,69nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,240nm,3.8s						
WMQ				L	L		
	comp=Z,320nm,10.1s						
WMQ				L	L		
	comp=Z,280nm,11.3s						
WMQ				L	L		
	comp=Z,630nm,24.9s						
KBL	**Kabul**	**30.24**	**317**	P	**P**	**18 35 35.7**	**-0.2**
KBL				pmax	pmax		
	comp=Z,11nm,1.0s						
KBL	**Kabul**	**30.24**	**317**	P	**P**	**18 35 35.7**	**-0.2**
TARG	**Taragay, Kyrgy**	**30.93**	**337**	P	**P**	**18 35 43.4**	**+1.3**
TARG				IAmb	IAmb	18 35 45.1	
	comp=Z,30nm,0.9s						
HHC	**Hu-ho-hao-te**	**31.09**	**27**	*e*P	**P**	**18 35 43.6**	**+0.4**
HHC				sP	sP	18 36 03.7	+3.6
HHC				S	**S**	**18 40 51.0**	**+5.4**
HHC				SS	**SnSn**	**18 42 26.1**	**-3.9**
HHC				pmax	pmax		
	comp=Z,39nm,1.0s						
HHC				pmax	pmax		
	comp=Z,91nm,4.5s						
HHC				L	L		
	comp=Z,890nm,17.7s						
HHC				L	L		
	comp=Z,570nm,13.2s						
HHC				L	L		
	comp=Z,1μm,16.5s						
KDJ	**Kajisay**	**31.52**	**336**	P	**P**	**18 35 47.4**	**+0.4**
KDJ				pmax	pmax		
	comp=Z,25nm,1.0s						
KDJ	**Kajisay**	**31.52**	**336**	P	**P**	**18 35 47.4**	**+0.4**
KDJ				IAmb	IAmb	18 35 49.8	
	comp=Z,25nm,0.9s						
SHLS	**Shalkode**	**31.59**	**340⇑**	*i*P	**P**	**18 35 47.4**	**-0.1**
	comp=Z,21nm,0.8s,baz=341						
SHLS	**Shalkode**	**31.59**	**340**	*c i*P	**P**	**18 35 47.4**	**-0.1**
SHLS				pmax	pmax		
	comp=Z,21nm,0.8s						
UZB	**Uzynbulak**	**31.73**	**339⇑**	*i*P	**P**	**18 35 49.7**	**+0.9**
	comp=Z,10nm,1.0s,baz=340						
UZB	**Uzynbulak**	**31.73**	**339**	*c i*P	**P**	**18 35 49.6**	**+0.8**
UZB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SATY	**Saty**	**31.86**	**339⇑**	*i*P	**P**	**18 35 51.2**	**+1.2**
	comp=Z,13nm,0.8s,baz=339						
SATY	**Saty**	**31.86**	**339**	*c i*P	**P**	**18 35 51.1**	**+1.2**
SATY				pmax	pmax		
	comp=Z,13nm,0.8s						
DRK	**Karamyk**	**31.89**	**327**	P	**P**	**18 35 51.0**	**+0.5**
DRK				IAmb	IAmb	18 35 53.1	
	comp=Z,43nm,1.0s						
ULHL	**Ulahol**	**31.99**	**335**	P	**P**	**18 35 52.4**	**+1.2**
	SNR=6.0						
KPKS	**Kokpek**	**32.12**	**339⇑**	*i*P	**P**	**18 35 53.3**	**+1.0**
	comp=Z,23nm,0.8s,baz=339						
KPKS	**Kokpek**	**32.12**	**339**	*c i*P	**P**	**18 35 53.2**	**+1.0**
KPKS				pmax	pmax		
	comp=Z,23nm,0.8s						
BOOM	**Boomskoye usch**	**32.31**	**335**	P	**P**	**18 35 54.4**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BOOM	**Boomskoye usch**	**32.31**	**335**	P	**P**	**18 35 54.4**	**+0.4**
GAR	**Garm**	**32.36**	**325**	P	**P**	**18 35 55.0**	**+0.6**
GAR				IAmb	IAmb	18 35 56.5	
	comp=Z,65nm,1.2s						
MDOK	**Medeo**	**32.45**	**337**	*i* P	**P**	**18 35 56.5**	**+1.4**
	baz=337						
MDOK	**Medeo**	**32.45**	**337**	*i* P	**P**	**18 35 56.5**	**+1.4**
LUWI	**Luwuk**	**32.50**	**115**	P	**P**	**18 35 56.1**	**+0.5**
MTBS	**Maitube**	**32.66**	**336**	*e*P	**P**	**18 35 56.0**	**-0.8**
	baz=336						
MTBS	**Maitube**	**32.66**	**336**	*e*P	**P**	**18 35 56.0**	**-0.8**
ARSB	**Arslanbob**	**32.69**	**331**	P	**P**	**18 35 57.6**	**+0.4**
ARSB				pmax	pmax		
	comp=Z,31nm,0.8s						
ARSB	**Arslanbob**	**32.69**	**331**	P	**P**	**18 35 57.6**	**+0.4**
ARSB				IAmb	IAmb	18 35 59.6	
	comp=Z,31nm,0.8s						
BJI	**Beijing**	**32.71**	**33**	P	**P**	**18 35 58.5**	**+1.3**
BJI				sS	**sS**	**18 41 29.6**	**-0.5**
BJI				pmax	pmax		
	comp=Z,14nm,0.8s						
BJI				pmax	pmax		
	comp=Z,130nm,3.5s						
BJI				L	L		
	comp=Z,810nm,17.5s						
BJI				L	L		
	comp=Z,650nm,17.2s						
BJI				L	L		
	comp=Z,930nm,19.9s						
CHGR	**Chuyangaron**	**32.78**	**323**	P	**P**	**18 35 57.8**

baz=340
TDK Taldyqorghan 33.58 340 *e*P **P** **18 36 03.5 -1.2**
SGDS Sogindy 33.65 335⇑ *i*P **P** **18 36 05.4 -0.1**
comp=Z,12nm,1.2s,baz=335
SGDS Sogindy 33.65 335*c i*P **P** **18 36 05.4 -0.1**
SGDS pmax pmax
comp=Z,13nm,1.2s
MK31 Makanchi Array 34.13 346*c i*P **P** **18 36 10.1 +0.5**
MK31 Makanchi Array 34.13 346 P **P** **18 36 09.3 -0.2**
MK31 lAmb lAmb 18 36 11.6
comp=Z,33nm,0.9s
MKAR Makanchi Array 34.13 346 P **P** **18 36 10.4 +0.9**
comp=Z,34nm,0.9s,baz=161,slow=8.9,SNR=181
MKAR LR LR 18 54 23.5
comp=Z,243nm,21.9s,baz=152,slow=44
MKAR Makanchi Array 34.13 346 *i* P **P** **18 36 10.3 +0.7**
MKAR pmax pmax
comp=Z,34nm,0.9s
MKAR Makanchi Array 34.13 346 P **P** **18 36 09.3 -0.2**
MAKZ Makanchi 34.22 346 P **P** **18 36 10.8 +0.5**
MAKZ pmax pmax
comp=Z,25nm,0.9s
MAKZ Makanchi 34.22 346 P **P** **18 36 10.8 +0.5**
MAKZ lAmb lAmb 18 36 12.2
comp=Z,25nm,0.8s
ZSN Zaisan 34.23 349⇑ *i*P **P** **18 36 11.5 +1.1**
comp=Z,14nm,0.8s,baz=349
ZSN Zaisan 34.23 349*c i*P **P** **18 36 11.5 +1.1**
ZSN pmax pmax
comp=Z,14nm,0.8s
DZA Taraz 34.67 331 *e*P **P** **18 36 13.6 -0.7**
baz=331
DZA Taraz 34.67 331 *e*P **P** **18 36 13.6 -0.7**
JOW Kunigami 34.84 63 P **P** **18 36 17.2 +1.3**
comp=Z,12nm,0.4s,baz=126,slow=23,SNR=14
JOW Kunigami 34.84 63 P **P** **18 36 16.3 +0.4**
JOW lAmb lAmb 18 36 17.9
comp=Z,24nm,0.7s
HRA Herat 34.91 311 P **P** **18 36 16.9 +0.1**
DL2 Dalian 35.10 40 P **P** **18 36 18.8 +0.8**
DL2 pmax pmax
comp=Z,68nm,1.0s
KK31 Karatay Array 35.23 330 P **P** **18 36 19.6 +0.5**
KK31 pmax pmax
comp=Z,21nm,1.2s
KK31 Karatay Array 35.23 330 P **P** **18 36 19.6 +0.5**
KKAR Karatay Array 35.23 330 P **P** **18 36 19.6 +0.5**
KKAR 18 38 49.7
KKAR pmax pmax
comp=Z,21nm,1.2s
KKAR Karatay Array 35.23 330 P **P** **18 36 19.5 +0.4**
KKAR **PcP** **18 38 49.7 +0.4**
KKAR Karatay Array 35.23 330 P **P** **18 36 19.6 +0.5**
KKAR lAmb lAmb 18 36 21.3
comp=Z,21nm,1.2s
SONM Songino Array 35.46 15 P **P** **18 36 22.2 +1.1**
comp=Z,27nm,0.9s,baz=198,slow=9.8,SNR=120
SONM PcP **PcP** **18 38 50.9 +0.9**
comp=Z,3.6nm,0.9s,baz=185,slow=2.0,SNR=2.5
SONM ScP **ScP** **18 42 32.7 +0.3**
comp=Z,4.6nm,0.9s,baz=198,slow=3.4,SNR=13
SONM Songino Array 35.46 15 P **P** **18 36 21.8 +0.6**
SONM lAmb lAmb 18 36 23.4
comp=Z,52nm,1.1s
ULN Ulaanbaatar 35.66 16*c i*P **P** **18 36 23.7 +0.8**
ULN pmax pmax
comp=Z,35nm,1.3s
ULN Ulaanbaatar 35.66 16 P **P** **18 36 22.7 -0.2**
ULN lAmb lAmb 18 36 24.9
comp=Z,30nm,1.1s
TNTI Ternate 35.87 108 P **P** **18 36 26.9 +2.0**
DGZ Jazzator, Alta 36.05 353*ce*P **P** **18 36 27.5 +1.3**
DGZ pmax pmax
comp=Z,33nm,0.7s
MMRI Maumere 36.19 127 P **P** **18 36 29.9 +2.3**
GWYB Gwangyang 37.17 50 P **P** **18 36 37.0 +1.2**
SNR=8.2
ZAK Zakamensk 37.22 10 *e*P **P** **18 36 36.7 +0.6**
ZAK pmax pmax
comp=Z,31nm,1.0s
ZAK pmax pmax
comp=Z,9.0nm,1.5s
KSNAH Namhae 37.29 50 P **P** **18 36 38.0 +1.2**
SNR=7.2
TJN Taejon 37.58 47*c i*P **P** **18 36 39.0 -0.2**
INCN Inchon 37.60 45 P **P** **18 36 38.5 -0.9**
INCN pmax pmax
comp=Z,25nm,1.0s
INCN Inchon 37.60 45 P **P** **18 36 38.5 -0.9**
INCN lAmb lAmb 18 36 46.9
comp=Z,25nm,1.0s
OKCB Cheongsan-myeo 37.87 48 P **P** **18 36 42.0 +0.3**
SNR=27
KSCPR CHUPUNGNYEONG 37.94 48 P **P** **18 36 42.5 +0.2**
SNR=5.1
KSBON Boeun 37.95 47 P **P** **18 36 42.9 +0.6**
SNR=16
SEM Semipalatinsk 37.99 346 *e*P **P** **18 36 42.6 -0.2**
comp=Z,23nm,1.1s,baz=346
SEM Semipalatinsk 37.99 346 *e*P **P** **18 36 42.5 -0.2**
SEM pmax pmax
comp=Z,23nm,1.1s
JSU Suzuyama 38.01 56 P **P** **18 36 42.9 -0.1**
JSU lAmb lAmb 18 36 45.5
comp=Z,29nm,1.0s
MOY Mondy 38.13 7 *e*P **P** **18 36 45.4 +1.6**
MOY pmax pmax
comp=Z,30nm,1.8s
KSSAJ Sangju 38.16 48 P **P** **18 36 44.8 +0.6**
SNR=9.1
KSMGY Mungyeong 38.20 47 P **P** **18 36 44.7 +0.2**
SNR=11
KSCHJ Chungju 38.24 47 P **P** **18 36 45.0 +0.2**
SNR=12
KSCHJ Chungju 38.24 47 P **P** **18 36 45.0 +0.2**
SNR=11
JTU Tsushima 38.28 51 P **P** **18 36 46.4 +1.3**
KSAR Wonju Array Be 38.45 46 P **P** **18 36 45.8 -0.7**
KSAR Wonju Array Be 38.45 46 P **P** **18 36 45.8 -0.7**
SOEI Soe 38.45 126 P **P** **18 36 44.5 -2.5**
SOEI lAmb lAmb 18 37 13.6
comp=Z,65nm,1.0s
KS19 Wonju Array Si 38.46 46 P **P** **18 36 46.2 -0.5**
KS19 lAmb lAmb 18 36 47.5
comp=Z,35nm,0.8s
KSRS Korea Array 38.48 46 P **P** **18 36 46.5 -0.3**
comp=Z,30nm,0.8s,baz=240,slow=8.7,SNR=44
KSRS LR LR 18 54 32.9
comp=Z,990nm,18.9s,baz=216,slow=39
KSCWO Cheorwon 38.50 45 P **P** **18 36 47.0 0.0**
SNR=6.9
TLY Talaya 38.54 10 P **P** **18 36 49.3 +2.1**
comp=Z,29nm,0.8s,baz=209,slow=8.3,SNR=54
TLY LR LR 18 54 00.1
comp=Z,131nm,20.8s,baz=220,slow=38
TLY Talaya 38.54 10*c i*P **P** **18 36 49.2 +2.1**
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 38.54 10 P **P** **18 36 48.4 +1.3**
TLY lAmb lAmb 18 36 50.3
comp=Z,51nm,1.0s
KSWJU Wonju 38.55 46 P **P** **18 36 49.0 +1.6**
SNR=7.5
KSCHC Chuncheon 38.56 46 P **P** **18 36 48.0 +0.5**
SNR=9.6
SOCY Socotra 38.60 272 P **P** **18 36 45.8 -2.4**
KURBB Kurchatov Arra 38.61 345 P **P** **18 36 48.4 +0.7**
comp=Z,38nm,1.0s,baz=162,slow=7.9,SNR=268
KURBB ScP **ScP** **18 42 44.3 +0.4**
comp=Z,3.0nm,1.0s,baz=155,slow=3.8,SNR=6.0
KURK Kurchatov 38.67 345 P **P** **18 36 48.4 +0.2**
KURK 18 42 44.3
JNU Nakatsue 38.90 54 P **P** **18 36 51.2 +0.8**
comp=Z,8.0nm,0.7s,baz=356,slow=5.4,SNR=5.3
JNU Nakatsue 38.90 54 P **P** **18 36 50.3 -0.1**
JNU lAmb lAmb 18 37 06.9
comp=Z,27nm,1.0s
IRK Irkutsk 39.19 10 *e*P **P** **18 36 53.2 +0.7**
IRK pmax pmax
comp=Z,46nm,1.6s
GEYT Alibeck 39.51 314 P **P** **18 36 57.7 +2.2**
comp=Z,6.5nm,0.7s,baz=172,slow=12,SNR=12
GEYT LR LR 18 55 38.3
comp=Z,135nm,18.2s,baz=50,slow=40
GEYT Alibeck 39.51 314 P **P** **18 36 55.3 -0.2**
GYA0B ALIBECK ARRAY 39.51 314 P **P** **18 36 56.8 +1.3**

ZAA0 Zalesovo Array 40.54 352 P **P** **18 37 04.2 +0.4**
ZALV Zalesovo Beam 40.54 352 P **P** **18 37 04.4 +0.7**
comp=Z,76nm,0.7s,baz=176,slow=8.7,SNR=374
ZALV Zalesovo Beam 40.54 352 P **P** **18 37 04.2 +0.5**
CIT Chita 41.25 19 *e*P **P** **18 37 09.9 +0.2**
CIT *e* 18 37 23.4
CIT *e* 18 38 43.8
CIT pmax pmax
comp=Z,91nm,1.4s
HIA Hailar 41.28 26 P **P** **18 37 10.0 0.0**
HIA pmax pmax
comp=Z,37nm,1.0s
HIA Hailar 41.28 26 P **P** **18 37 10.0 0.0**
HIA lAmb lAmb 18 37 11.7
comp=Z,37nm,1.0s
JHS Saijyo 41.29 52 P **P** **18 37 10.7 +0.5**
JHS lAmb lAmb 18 37 13.2
comp=Z,140nm,1.7s
JMN Monobe 41.46 54 P **P** **18 37 12.0 +0.3**
JMN lAmb lAmb 18 37 13.9
comp=Z,33nm,0.9s
GIRL Giralia 41.57 151 P **P** **18 37 13.4 +0.9**
MSHR Mys Shultsa 43.15 41*ce*P **P** **18 37 25.2 0.0**
MSHR pmax pmax
comp=Z,15nm,0.7s
JWT Wachi 43.15 53 P **P** **18 37 25.2 -0.1**
BVAR Borovoye Array 43.16 340 P **P** **18 37 25.8 +0.6**
comp=Z,3.8nm,0.8s,baz=212,slow=19,SNR=19
BVAR PcP **PcP** **18 39 12.4 -1.7**
comp=Z,2.7nm,0.7s,baz=197,slow=4.5,SNR=5.6
BRVK Borovoye 43.23 340*c i*P **P** **18 37 25.6 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 43.23 340 P **P** **18 37 25.1 -0.6**
PSA00 Pilbara Seismi 43.67 143 P **P** **18 37 28.5 -1.1**
PSA00 Pilbara Seismi 43.67 143 P **P** **18 37 28.9 -0.7**
PSA00 lAmb lAmb 18 38 22.0
comp=Z,22nm,1.2s
VLA Vladivostok 43.88 41*d i*P **P** **18 37 31.5 +0.4**
VLA pmax pmax
comp=Z,17nm,0.8s
INU Inuyama 44.43 53 P **P** **18 37 35.2 -0.4**
USA0B Ussuriysk Arra 44.49 40 P **P** **18 37 35.5 -0.4**
USA0B pmax pmax
comp=Z,19nm,1.2s
USA0B Ussuriysk Arra 44.49 40 P **P** **18 37 35.5 -0.4**
USRK Ussuriysk Ar. 44.49 40 P **P** **18 37 35.5 -0.4**
comp=Z,7.8nm,0.7s,baz=255,slow=8.0,SNR=12
USRK PcP **PcP** **18 39 17.9 -0.9**
comp=Z,6.1nm,1.0s,baz=212,slow=5.1,SNR=2.5
USRK LR LR 18 58 23.9
comp=Z,332nm,18.3s,baz=196,slow=39
USRK Ussuriysk Ar. 44.49 40 P **P** **18 37 35.7 -0.3**
USRK Ussuriysk Ar. 44.49 40 P **P** **18 37 35.6 -0.3**
ABKAR Akbulak array 44.76 329 P **P** **18 37 38.8 +0.8**
ABKAR lAmb lAmb 18 37 40.2
comp=Z,40nm,0.9s
ABKAR Akbulak array 44.76 329 P **P** **18 37 38.4 +0.4**
JGF Kuroka 44.77 53 P **P** **18 37 37.8 -0.6**
FITZ Fitzroy Crossi 44.83 134 P **P** **18 37 38.0 -1.0**
comp=Z,10nm,0.7s,baz=336,slow=7.9,SNR=20
FITZ Fitzroy Crossi 44.83 134 P **P** **18 37 38.1 -0.9**
baz=45,SNR=19
FITZ Fitzroy Crossi 44.83 134 P **P** **18 37 37.7 -1.3**
KNRA Kununurra 45.53 129 P **P** **18 37 43.5 -1.0**
baz=46,SNR=4.5
MJB9 Mau-Tunnel 45.71 52 P **P** **18 37 44.1 -1.7**
MAJO Matsushiro 45.71 52 P **P** **18 37 45.6 -0.2**
MAJO lAmb lAmb 18 37 47.5
comp=Z,41nm,0.9s
MAJO **PcP** **18 39 22.8 -0.4**
MAT Matsushiro 45.71 52 P **P** **18 37 45.4 -0.4**
MJAR Matsushiro Arr 45.71 52 P **P** **18 37 46.4 +0.6**
comp=Z,19nm,0.9s,baz=268,slow=11,SNR=24
MJAR PcP **PcP** **18 39 23.0 -0.2**
comp=Z,9.7nm,0.8s,baz=240,slow=2.5,SNR=13
MJAR LR LR 18 59 11.0
comp=Z,320nm,19.0s,baz=205,slow=39
MJAR Matsushiro Arr 45.71 52 P **P** **18 37 45.5 -0.3**
MJAR lAmb lAmb 18 37 47.3
comp=Z,24nm,1.1s
MJAR **PcP** **18 39 22.8 -0.4**
JSD Sado 46.22 50 P **P** **18 37 49.3 -0.4**
BOD Bodaibo 46.46 15 *e*P **P** **18 37 51.8 +0.5**
BOD pmax pmax
comp=Z,64nm,1.2s
AKTO Aktyubinsk 46.48 329 P **P** **18 37 52.1 +0.5**
comp=Z,17nm,0.8s,baz=123,slow=8.0,SNR=50
KLR Kul'dur 47.08 34 P **P** **18 37 56.5 +0.1**
comp=Z,7.8nm,0.8s,baz=241,slow=7.4,SNR=7.2
JCJ Chichijima 47.09 66 P **P** **18 37 56.2 -0.5**
JYT Yasato 47.15 53 P **P** **18 37 55.2 -1.8**
JYT lAmb lAmb 18 37 59.1
comp=Z,16nm,0.7s
MORW Morawa 47.91 153 P **P** **18 38 02.8 -0.1**
baz=48,SNR=3.5
MORW Morawa 47.91 153 P **P** **18 38 02.9 -0.1**
MORW lAmb lAmb 18 38 19.0
comp=Z,78nm,1.8s
JMM Marumori 48.07 51 P **P** **18 38 03.1 -1.0**
JTM Tenmabayashi 49.17 48 P **P** **18 38 11.5 -1.1**
SVE Sverdlovsk 49.65 337*d i*P **P** **18 38 16.9 +0.9**
SVE pmax pmax
comp=Z,62nm,0.9s
GNI Garni 49.98 311 P **P** **18 38 19.4 +0.4**
comp=Z,14nm,1.0s,baz=222,slow=3.9,SNR=5.6
GNI Garni 49.98 311 P **P** **18 38 19.3 +0.3**
GNI lAmb lAmb 18 38 45.3
comp=Z,60nm,1.4s
ARU Arti 50.19 335 P **P** **18 38 20.4 +0.3**
comp=Z,5.4nm,0.6s,baz=149,slow=4.2,SNR=32
ARU Arti 50.19 335*c i*P **P** **18 38 20.3 +0.3**
ARU 18 39 34.1
ARU S **S** **18 45 30.7 +2.0**
ARU SS **SS** **18 48 56.1 -6.3**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU MLR MLR
comp=Z,151nm,19.0s
ARU Arti 50.19 335 P **P** **18 38 20.7 +0.7**
ARU lAmb lAmb 18 38 21.4
comp=Z,22nm,0.8s
GROC Groznyy 50.22 315 *e*P **P** **18 38 22.3 +1.8**
GROC *e**SP **sP** **18 38 45.6 +7.4**
GROC *e* 18 39 41.2
GROC *e* 18 40 17.3
GROC pmax pmax
comp=Z,24nm,0.6s
GRNR Gornyy 50.45 34⇑ *i*P **P** **18 38 22.7 +0.5**
GRNR pmax pmax
comp=E,2.0nm,0.7s
GRNR pmax pmax
comp=N,4.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,180nm,15.0s
GRNR MLR MLR
comp=N,310nm,18.0s
GRNR MLR MLR
comp=Z,370nm,19.0s
MUN Mundaring 50.51 155 P **P** **18 38 22.8 0.0**
baz=51,SNR=7.2
ERM Erimo 51.05 47⇑ *e*P **P** **18 38 28.7 +1.9**
ERM pmax pmax
comp=Z,21nm,0.8s
ERM Erimo 51.05 47 P **P** **18 38 27.9 +1.1**
ERM lAmb lAmb 18 38 42.7
comp=Z,35nm,1.1s
JEM Erimo 51.05 47 P **P** **18 38 28.7 +1.9**
JEM lAmb lAmb 18 38 42.8
comp=Z,39nm,1.2s
ASAJ Asahikawa 51.35 44 P **P** **18 38 30.3 +1.3**
ASAJ pmax pmax
comp=Z,43nm,0.9s
JKA Kamikawa-asahi 51.35 44 P **P** **18 38 30.3 +1.3**
ZEI Tsey 51.39 314 *e*P **P** **18 38 28.7 -0.9**
ZEI pmax pmax
comp=Z,13nm,0.8s
WRKA Warakurna 51.41 139 P **P** **18 38 28.8 -1.0**
baz=52,SNR=4.6
GURO Guroymak-BITLI 51.57 308 P **P** **18 38 32.6 +1.6**
GURO lAmb lAmb 18 38 52.3
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 51.76 155 P **P** **18 38 31.8 -0.4**
comp=Z,22nm,1.0s,baz=320,slow=11,SNR=7.9
NWAO Narrogin (SRO) 51.76 155 P **P** **18 38 32.1 0.0**
NWAO pmax pmax
comp=Z,49nm,1.4s
NWAO Narrogin (SRO) 51.76 155 P **P** **18 38 32.1 0.0**
NWAO lAmb lAmb 18 38 49.9
comp=Z,49nm,1.4s
NWAO Narrogin (SRO) 51.76 155 P **P** **18 38 31.4 -0.7**
NWAO lAmb lAmb 18 38 49.9
comp=Z,61nm,1.4s
NCK Nalchik 51.83 315⇓ *e*P **P** **18 38 34.2 +1.5**
NCK pmax pmax
comp=Z,12nm,0.7s
WB0 Warramunga Arr 52.26 129 P **P** **18 38 34.5 -1.6**
WB0 lAmb lAmb 18 39 01.4
comp=Z,14nm,0.9s
WB0 PcP **PcP** **18 39 46.5 -0.6**
WRA Warramunga Arr 52.33 129 P **P** **18 38 35.8 -0.8**
comp=Z,7.6nm,0.6s,baz=302,slow=9.4,SNR=23
WRA PcP **PcP** **18 39 46.7 -0.7**
comp=Z,3.7nm,0.7s,baz=315,slow=3.1,SNR=4.8
WRA ScP **ScP** **18 43 37.7 -3.3**
comp=Z,1.6nm,1.0s,baz=317,slow=3.8,SNR=4.5
WRA Warramunga Arr 52.33 129 P **P** **18 38 35.3 -1.3**
WRAB Tennant Creek 52.33 129*ce*P **P** **18 38 35.5 -1.1**
WRAB pmax pmax
comp=Z,15nm,0.8s
WRAB Tennant Creek 52.33 129 P **P** **18 38 34.5 -2.1**
WRAB lAmb lAmb 18 38 53.8
comp=Z,21nm,1.1s
WB2 Warramunga Arr 52.33 129 P **P** **18 38 34.8 -2.0**
baz=52
WB2 Warramunga Arr 52.33 129 P **P** **18 38 34.7 -2.0**
WB2 lAmb lAmb 18 38 53.8
comp=Z,31nm,1.2s
KBZ Khabaz 52.38 315 P **P** **18 38 37.9 +1.2**
comp=Z,5.2nm,0.9s,baz=131,slow=6.7,SNR=11
KBZ Khabaz 52.38 315*c i*P **P** **18 38 37.8 +1.1**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
YSS Yuzh-Sakhalins 52.48 41 *e*P **P** **18 38 38.3 +0.9**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS Yuzh-Sakhalins 52.48 41 P **P** **18 38 36.8 -0.6**
YSS lAmb lAmb 18 38 39.0
comp=Z,35nm,0.8s
WR0 Warramunga Arr 52.49 129 P **P** **18 38 36.6 -1.2**
WR0 lAmb lAmb 18 38 37.8
comp=Z,17nm,0.9s
KVAR Kislovodsk Arr 52.59 315 P **P** **18 38 40.7 +2.3**
comp=Z,3.2nm,0.7s,baz=24,slow=20,SNR=2.6
KIV Kislovodsk 52.60 315 *e*P **P** **18 38 39.7 +1.2**
KIV *e*S **S** **18 46 04.7 +2.1**
KIV pmax pmax
comp=Z,111nm,1.0s
KIV pmax pmax
comp=Z,54nm,4.0s
KIV MLR MLR
comp=Z,253nm,17.0s
KIV Kislovodsk 52.60 315 P **P** **18 38 37.7 -0.8**
KIV lAmb lAmb 18 38 40.9
comp=Z,37nm,1.0s
GOF Gofitskoye 52.72 317⇑ *e*P **P** **18 38 40.2 +1.0**
GOF pmax pmax
comp=Z,36nm,0.9s
UGL Uglegorsk 52.89 38 *e*P **P** **18 38 41.4 +1.0**
UGL pmax pmax
comp=Z,100nm,1.0s
BELG Belogornoye 52.97 326 P **P** **18 38 40.9 0.0**
comp=Z,53nm,0.8s,baz=245,slow=0.7,SNR=36
ASAR Alice Springs 54.29 133 P **P** **18 38 50.3 -0.8**
comp=Z,3.2nm,0.4s,baz=310,slow=7.3,SNR=24
ASAR PcP **PcP** **18 39 54.6 -0.2**
comp=Z,4.5nm,0.9s,baz=322,slow=4.6,SNR=2.6
ASAR ScP **ScP** **18 43 47.4 -2.2**
comp=Z,1.5nm,0.9s,baz=317,slow=5.0,SNR=5.0
ASAR S **S** **18 46 23.0 -2.9**
comp=Z,3.6nm,1.2s,baz=305,slow=14,SNR=11
YAK Yakutsk 54.51 20*c i*P **P** **18 38 51.2 -0.8**
YAK *e**PP **pP** **18 38 59.5 -4.9**
YAK *e* 18 39 50.2
YAK *e* 18 40 53.5
YAK *e*S **S** **18 46 28.8 +1.2**
YAK *e**SS **sS** **18 46 48.9 +0.2**
YAK *e* 18 48 32.0
YAK *e*SS **SS** **18 50 16.2 +5.8**
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=N,20nm,0.9s
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=Z,59nm,3.3s
YAK pmax pmax
comp=N,75nm,2.5s
YAK pmax pmax
comp=E,59nm,2.7s
YAK smax smax
comp=E,94nm,3.5s
YAK smax smax
comp=N,91nm,2.9s
YAK MLR MLR
comp=Z,584nm,23.0s
YAK MLR MLR
comp=N,201nm,13.0s
YAK MLR MLR
comp=E,234nm,15.0s
YAK Yakutsk 54.51 20 P **P** **18 38 51.2 -0.8**
GAZ Gaziantep 55.03 306 P **P** **18 38 55.2 -1.2**
GAZ lAmb lAmb 18 39 17.7
comp=Z,21nm,0.9s
KIRV Kirov 55.38 334 P **P** **18 38 58.6 +0.4**
comp=Z,16nm,0.5s,baz=144,slow=8.7,SNR=11
KIRV Kirov 55.38 334*c i*P **P** **18 38 58.5 +0.2**
FORT Forrest 55.43 144 P **P** **18 38 59.2 +0.1**
FORT lAmb lAmb 18 39 19.8
comp=Z,25nm,0.8s
NRIK Noril'sk 55.53 357 P **P** **18 39 00.0 +0.7**
comp=Z,12nm,0.6s,baz=160,slow=6.2,SNR=20
NRIK Noril'sk 55.53 357*c i*P **P** **18 38 59.9 +0.7**
NRIK pmax pmax
comp=Z,21nm,0.8s
NRIK Noril'sk 55.53 357 P **P** **18 38 59.9 +0.6**
GHAJ Ghor Haditha 55.70 298 P **P** **18 39 00.1 -1.0**
GHAJ lAmb lAmb 18 39 39.4
comp=Z,19nm,1.1s
VRH Novokhopyorsk 55.75 323 *e*P **P** **18 39 00.7 -0.4**
VRH pmax pmax
comp=Z,50nm,0.6s
ABPO Ambohimpanom 56.18 236 P **P** **18 39 05.1 +0.2**
ABPO pmax pmax
comp=Z,17nm,1.3s
ABPO Ambohimpanom 56.18 236 P **P** **18 39 05.1 +0.2**
BNN Bunyan 56.37 308 P **P** **18 39 05.3 -0.7**
BNN lAmb lAmb 18 39 36.1
comp=Z,28nm,1.1s
ANN Anapa 56.45 315 *e*P **P** **18 39 03.6 -2.6**
ANN *e**PP **pP** **18 39 14.3 -4.6**
ANN *e*S **S** **18 46 52.6 -1.5**
ANN pmax pmax
comp=Z,12nm,0.7s
VORD Divnogorie 57.09 322 *e*P **P** **18 39 09.7 -1.0**
VORD pmax pmax
comp=Z,50nm,1.5s
VSR Storozhevoye 57.25 323 *e*P **P** **18 39 10.5 -1.3**
VSR pmax pmax
comp=Z,20nm,0.8s
KMBO Kilima Mbogo 57.77 260 LR LR 19 03 08.4
comp=Z,312nm,18.9s,baz=94,slow=35
CSS Mathiatis 57.87 303 P **P** **18 39 17.1 +0.5**
CSS lAmb lAmb 18 39 36.4
comp=Z,16nm,1.1s
LPSR Galich'ya Gora 57.88 324 *e*P **P** **18 39 15.7 -0.5**
LPSR pmax pmax
comp=Z,30nm,0.8s
BR131 Keskin Array S 58.20 308 P **P** **18 39 18.0 -0.9**
BR131 pmax pmax
comp=Z,19nm,1.0s
BR131 Keskin Array S 58.20 308 P **P** **18 39 18.0 -0.9**
BR131 lAmb lAmb 18 39 19.9
comp=Z,19nm,0.9s
BRTR Keskin Array B 58.20 308 P **P** **18 39 19.1 +0.2**
comp=Z,8.5nm,0.8s,baz=120,slow=7.2,SNR=50

BRTR Keskin Array B 58.20 308 P **P** **18 39 17.1 -1.8**
BZK Bozkurt 58.29 311 P **P** **18 39 19.9 +0.7**
LODK Lodwar 58.37 265 P **P** **18 39 21.0 +0.6**
PRGR Permogore 58.65 335 *e*P **P** **18 39 20.0 -1.4**
MOS Moscow 59.72 327 *e*P **P** **18 39 27.7 -1.2**
MOS *e* 18 39 43.1
MOS pmax pmax
comp=Z,64nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.8s
OBN Obninsk 60.06 326 P **P** **18 39 31.1 -0.1**
comp=Z,3.2nm,0.4s,baz=120,slow=20,SNR=7.8
OBN Obninsk 60.06 326*c i*P **P** **18 39 31.0 -0.2**
OBN *e* 18 40 17.0
OBN pmax pmax
comp=Z,48nm,1.3s
ELL Elmali 60.79 304 P **P** **18 39 37.1 +0.3**
ELL pmax pmax
comp=Z,104nm,0.8s
ELL Elmali 60.79 304 P **P** **18 39 37.0 +0.3**
KLMR Klimovskoe 60.85 333 *e*P **P** **18 39 34.8 -1.7**
KLMR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 60.85 333 *e*P **P** **18 39 34.9 -1.6**
KLMR AMP 18 39 37.0
comp=Z,20nm,0.9s
TIXI Tiksi 61.47 12*c i*P **P** **18 39 39.8 -0.8**
TIXI Tiksi 61.47 12 P **P** **18 39 39.5 -1.1**
MA2 Magadan 61.74 29*c i*P **P** **18 39 42.4 -0.2**
MA2 pmax pmax
comp=Z,24nm,0.7s
MA2 Magadan 61.74 29 P **P** **18 39 42.3 -0.3**
TLCR 62.52 314 ⇓P **P** **18 39 48.4 +0.3**
TIRR Tirgusor 62.71 313 ⇑P **P** **18 39 49.2 -0.2**
TIRR Tirgusor 62.71 313 P **P** **18 39 49.1 -0.2**
TIRR pmax pmax
comp=Z,46nm,0.9s
TIRR Tirgusor 62.71 313 P **P** **18 39 49.1 -0.2**
TPGR Topolog 62.75 313 ⇓P **P** **18 39 50.1 +0.4**
CFR Carcaliu 62.99 314 ⇑P **P** **18 39 51.8 +0.5**
HARR Harsova 63.08 313 ⇑P **P** **18 39 52.5 +0.6**
ICOR Ion Corvin 63.10 313 ⇑P **P** **18 39 53.1 +1.1**
AKASG Malin Array Be 63.17 320 P **P** **18 39 51.6 -0.8**
comp=Z,3.0nm,0.6s,baz=83,slow=5.1,SNR=32
AKASG Malin Array Be 63.17 320 *i* P **P** **18 39 51.5 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 63.17 320 P **P** **18 39 51.4 -0.9**
AKBB Malin Array Si 63.17 320*c*eP **P** **18 39 51.8 -0.5**
AKBB Malin Array Si 63.17 320 P **P** **18 39 51.0 -1.3**
SORM Soroca 63.28 317 ⇑P **P** **18 39 53.0 0.0**
PEA0B Petropavlovsk- 63.50 37⇑*e*P **P** **18 39 54.5 0.0**
PETK Petropavlovsk- 63.50 37 P **P** **18 39 54.0 -0.5**
comp=Z,11nm,0.8s,baz=212,slow=5.3,SNR=6.5
PETK Petropavlovsk- 63.50 37 P **P** **18 39 54.0 -0.5**
MBAR Mbarara 63.87 262 P **P** **18 39 57.2 -0.6**
MBAR pmax pmax
comp=Z,17nm,1.2s
MBAR Mbarara 63.87 262 P **P** **18 39 57.1 -0.6**
MBAR IAmb IAmb 18 40 16.3
comp=Z,17nm,1.1s
BISRR Bisoca 64.04 314 ⇓P **P** **18 39 59.7 +1.5**
PET Petropavlovsk 64.04 38 *e*P **P** **18 39 58.4 +0.4**
PET *e* 18 48 33.7
PET pmax pmax
comp=Z,40nm,0.7s
PET MLR MLR
comp=Z,300nm,17.0s
VRI Vrincioaia 64.06 314 ⇑P **P** **18 39 59.5 +1.2**
ALN Alexandroupoli 64.10 309 P **P** **18 39 57.6 -1.1**
ALN pmax pmax
comp=Z,16nm,1.1s
ALN Alexandroupoli 64.10 309 P **P** **18 39 57.6 -1.1**
ALN IAmb IAmb 18 39 60.0
comp=Z,16nm,1.1s
ISR Istrita 64.11 314 ⇑P **P** **18 39 59.8 +1.1**
PLOR Plostina 64.11 314 ⇑P **P** **18 40 00.0 +1.3**
TESR Tescani 64.19 315 ⇓P **P** **18 39 59.5 +0.3**
NEHR Nehoiu 64.31 314 ⇑P **P** **18 40 00.7 +0.7**
MLR Muntele Rosu 64.57 314 ⇑P **P** **18 40 02.8 +1.0**
MLR Muntele Rosu 64.57 314 P **P** **18 40 01.1 -0.7**
MLR pmax pmax
comp=Z,38nm,0.7s
MLR Muntele Rosu 64.57 314 P **P** **18 40 01.1 -0.7**
PRAR RASCA 64.59 316 ⇓P **P** **18 40 01.6 -0.1**
BIZ Bicaz 64.62 316 ⇓P **P** **18 40 02.7 +0.7**
PUL Pulkovo 64.73 330⇓*e*P **P** **18 40 03.3 +0.9**
PUL pmax pmax
comp=Z,78nm,0.4s
MNK Minsk 64.73 324 *i* P **P** **18 40 02.8 +0.3**
MNK *i* 18 40 35.6
MNK *i* 18 42 30.0
MNK *i* PPP PPP 18 44 02.4
MNK *i* S **S** **18 48 40.4 +0.8**
MNK *i* SS **SS** **18 52 54.7 +3.7**
MNK *i* SSS SSS 18 55 50.0
MNK pmax pmax
comp=N,9.0nm,0.6s
MNK pmax pmax
comp=Z,46nm,0.8s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=E,14nm,22.0s
MNK MLR MLR
comp=N,129nm,21.0s
MNK MLR MLR
comp=Z,171nm,24.0s
MNK Minsk 64.73 324 *i* P **P** **18 40 02.9 +0.4**
comp=E,6.0nm,1.0s
MNK *i* P **P** **18 40 02.9 +0.4**
comp=N,9.0nm,0.6s
MNK *i* P **P** **18 40 02.9 +0.4**
comp=Z,46nm,0.8s,baz=282
MNK *i* PcP **PcP** **18 40 35.7 -0.1**
MNK *i* PP **PP** **18 42 30.0 +4.9**
MNK *i* PPP PPP 18 44 02.4
MNK *i* S **S** **18 48 40.4 +0.9**
MNK *i* SS **SS** **18 52 54.8 +3.8**
MNK *i* SSS SSS 18 55 50.1
MNK *i* LQ LQ 19 03 51.9
MNK *i* LR LR 19 09 23.1
MNK *i* LRM MLR 19 12 04.3
comp=E,14nm,21.9s
MNK *i* LRM MLR 19 12 15.9
comp=N,129nm,20.6s
MNK *i* LRM MLR 19 12 27.5
comp=Z,171nm,24.2s
COPA Copaceanca 64.95 312 ⇑P **P** **18 40 04.7 +0.5**
DOPR Dopca 65.00 314 ⇑P **P** **18 40 05.2 +0.7**
HUMR Humele 65.16 313 ⇑P **P** **18 40 05.8 +0.3**
VOIR 65.19 314 ⇓P **P** **18 40 06.3 +0.5**
BURAR Bucovina Array 65.30 316 P **P** **18 40 06.5 0.0**
NACGM Naroch 65.43 324 *i* P **P** **18 40 07.4 +0.4**
baz=293
ARR Arges 65.47 314 ⇑P **P** **18 40 07.9 +0.3**
LVZ Lovozero 65.76 339⇓*e*P **P** **18 40 09.2 +0.2**
LVZ pmax pmax
comp=Z,71nm,1.8s
ARCR ARCALIA 65.83 316 ⇑P **P** **18 40 09.9 +0.1**
APA Apatity 66.06 339⇑*i*P **P** **18 40 10.0 -0.9**
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,400nm,14.0s
VSU Vasula 66.19 328 *e*P **P** **18 40 12.0 +0.1**
VSU Vasula 66.19 328⇓*e*P **P** **18 40 12.1 +0.3**
VSU pmax pmax
comp=Z,31nm,0.7s
VTS Vitosha 66.30 311 ⇓P **P** **18 40 13.7 +0.6**
VTS Vitosha 66.30 311 P **P** **18 40 12.9 -0.2**
VTS Vitosha 66.30 311 P **P** **18 40 12.9 -0.2**
VTS IAmb IAmb 18 40 14.4
comp=Z,13nm,0.9s
LVV L'vov 66.33 318 *e*P **P** **18 40 13.3 +0.4**
BMR Baia Mare 66.46 316 ⇑P **P** **18 40 14.0 +0.2**
LIT Litokhoron 66.77 308 P **P** **18 40 14.7 -1.3**
LIT pmax pmax
comp=Z,12nm,0.8s
LIT Litokhoron 66.77 308 P **P** **18 40 14.7 -1.3**
GZR Gura Zlata 66.78 314 ⇑P **P** **18 40 15.7 -0.3**
AGG Agios Georgios 66.88 307 P **P** **18 40 15.0 -1.7**
AGG pmax pmax
comp=Z,9.0nm,1.0s
AGG Agios Georgios 66.88 307 P **P** **18 40 15.0 -1.7**
DRGR 66.92 315 ⇑P **P** **18 40 17.7 +0.8**
HERR Herculane 67.00 313 ⇑P **P** **18 40 17.7 +0.4**
STIP Stip 67.04 310 *i* P **P** **18 40 16.0 -1.7**
PABE Paberze 67.13 325 *e*P **P** **18 40 18.4 +0.6**
PABE Paberze 67.13 325 P **P** **18 40 17.6 -0.3**
KWP Kalwaria Pacla 67.16 318 *e*P **P** **18 40 18.7 +0.5**
KWP Kalwaria Pacla 67.16 318 P **P** **18 40 17.9 -0.4**
KWP pmax pmax
comp=Z,368nm,1.0s
KWP Kalwaria Pacla 67.16 318 P **P** **18 40 17.9 -0.4**
FIA1 FINESS Array S 67.18 331 P **P** **18 40 18.0 -0.1**
FIA1 IAmb IAmb 18 40 19.2
comp=Z,20nm,0.9s
FINES FINESS Array B 67.18 331 P **P** **18 40 18.2 +0.1**
comp=Z,12nm,0.7s,baz=102,slow=8.0,SNR=32
FINES FINESS Array B 67.18 331 P **P** **18 40 18.0 -0.1**
ITM Ithomi 67.19 305 P **P** **18 40 17.5 -1.2**
ITM IAmb IAmb 18 40 42.6
comp=Z,18nm,0.7s
UZH Uzhgorod 67.34 317 *e*P **P** **18 40 22.8 +3.4**
UZH *i* 18 40 31.7
UZH *i* 18 40 51.0
SUW Suwalki 67.36 323 *e*P **P** **18 40 19.2 -0.3**
SUW Suwalki 67.36 323 *e*P **P** **18 40 19.4 -0.1**
SUW Suwalki 67.36 323 P **P** **18 40 19.3 -0.1**
SUW pmax pmax
comp=Z,71nm,1.0s
SUW Suwalki 67.36 323 P **P** **18 40 19.3 -0.1**
KOLS Kolonicke sedl 67.38 317 *e*P **P** **18 40 20.2 +0.5**
KOLS Kolonicke sedl 67.38 317 *e*P **P** **18 40 20.2 +0.5**
BOVS Bovan 67.46 312 ⇓P **P** **18 40 19.9 -0.3**
BZS Buzias 67.61 314 ⇑P **P** **18 40 21.7 +0.5**
FNA Florina 67.63 309 P **P** **18 40 20.5 -1.0**
FNA pmax pmax
comp=Z,10.0nm,0.7s
FNA Florina 67.63 309 P **P** **18 40 20.5 -1.0**
CRVS Cervenica-Dubn 67.91 317 *e*P **P** **18 40 24.2 +1.1**
CRVS pmax pmax
comp=Z,63nm,1.0s
CRVS Cervenica-Dubn 67.91 317 *e*P **P** **18 40 24.2 +1.1**
PBUR Paburge 68.34 325 *e*P **P** **18 40 25.9 +0.4**
KECS Kecovo 68.53 317 *e*P **P** **18 40 27.5 +0.6**
KECS Kecovo 68.53 317 *e*P **P** **18 40 27.5 +0.6**
NIE Niedzica 68.71 318 *e*P **P** **18 40 29.3 +1.3**
DIVS Divibare 68.71 312⇑*i*P **P** **18 40 27.9 -0.3**
DIVS Divibare 68.71 312 P **P** **18 40 27.1 -1.1**
FRGS Fruska Gora 68.86 313⇑*i*P **P** **18 40 28.0 -1.1**
PSZ Piszkesteto 68.90 316 ⇓P **P** **18 40 29.3 0.0**
PSZ Piszkesteto 68.90 316 P **P** **18 40 27.9 -1.4**
PSZ pmax pmax
comp=Z,17nm,1.0s
PSZ Piszkesteto 68.90 316 P **P** **18 40 27.9 -1.4**
OJC Ojcow 69.08 319 *e*P **P** **18 40 30.9 +0.6**
OJC Ojcow 69.08 319 P **P** **18 40 29.8 -0.5**
OJC pmax pmax
comp=Z,28nm,1.0s
OJC Ojcow 69.08 319 P **P** **18 40 29.8 -0.5**
OJC IAmb IAmb 18 40 31.6
comp=Z,28nm,1.0s
BBLS Lazići 69.13 312⇑*i*P **P** **18 40 30.8 0.0**
RAF Rauma 69.14 330 *e*P **P** **18 40 30.5 +0.1**
KLNR Kaliningrad 69.16 323⇑*e*P **P** **18 40 30.5 -0.1**
KLNR pmax pmax
comp=Z,42nm,0.7s
PDG Podgorica 69.23 310 ⇓P **P** **18 40 31.3 0.0**
PDG Podgorica 69.23 310 P **P** **18 40 30.1 -1.3**
LANS Liptovska Anna 69.24 318 *e*P **P** **18 40 32.6 +1.2**
LANS pmax pmax
comp=Z,5.0nm,0.8s
LANS Liptovska Anna 69.24 318 *e*P **P** **18 40 32.5 +1.2**
DRME Dracevica, Mon 69.29 310⇑*i*P **P** **18 40 30.9 -0.8**
ARCES ARCESS Array B 69.45 340 P **P** **18 40 32.7 +0.4**
comp=Z,8.5nm,0.7s,baz=338,slow=1.3,SNR=24
ARCES LR LR 19 15 25.6
comp=Z,161nm,18.5s,baz=80,slow=40
ARCES ARCESS Array B 69.45 340 IAmb IAmb 18 41 55.2
comp=Z,75nm,1.5s
UPM Unac-Piva 69.49 311⇑*i*P **P** **18 40 32.2 -1.0**
VYHS Vyhne 69.63 317 *e*P **P** **18 40 33.9 +0.2**
VYHS pmax pmax
comp=Z,14nm,1.1s
VYHS Vyhne 69.63 317 *e*P **P** **18 40 33.9 +0.2**
MORH Mrgy, Hungar 69.70 314 ⇑P **P** **18 40 34.3 +0.1**
MORH Mrgy, Hungar 69.70 314⇑*i*P **P** **18 40 32.9 -1.3**
BRY Bratogost 69.76 311⇑*i*P **P** **18 40 33.5 -1.3**
HCY Herceg Novi 69.80 310⇑*i*P **P** **18 40 32.2 -2.7**
SCTE Santa Cesarea 69.86 308 P **P** **18 40 34.5 -0.7**
TREB Trebinje 69.90 311⇑*i*P **P** **18 40 31.4 -4.1**
STON Ston 70.38 311⇑*i*P **P** **18 40 35.3 -3.1**
JAVC Velka Javorina 70.41 317 *e*P **P** **18 40 39.8 +1.2**
MORC Moravsky Berou 70.52 318 ⇓P **P** **18 40 40.3 +1.1**
MORC Moravsky Berou 70.52 318 *e*P **P** **18 40 39.9 +0.7**
MORC Moravsky Berou 70.52 318 P **P** **18 40 38.8 -0.4**
MORC pmax pmax
comp=Z,20nm,0.9s
MORC Moravsky Berou 70.52 318 P **P** **18 40 38.8 -0.4**
MORC IAmb IAmb 18 40 41.0
comp=Z,20nm,0.9s
MODS Modra-Piesok 70.66 317 *e*P **P** **18 40 39.7 -0.4**
MODS pmax pmax
comp=Z,12nm,1.0s
MODS Modra-Piesok 70.66 317 *e*P **P** **18 40 39.7 -0.4**
BLY Banja Luka 70.72 313⇑*i*P P 18 40 24.6 -16
BILL Bilibino 70.73 22 *e*P **P** **18 40 41.2 +1.1**
BILL *e* 18 41 01.4
BILL pmax pmax
comp=Z,8.0nm,1.2s
ZST Bratislava 70.78 316 *e*P **P** **18 40 41.5 +0.8**
ZST pmax pmax
comp=Z,66nm,1.4s
ZST Bratislava 70.78 316 *e*P **P** **18 40 41.5 +0.8**
MGRS Mrkonjic Grad 70.80 312⇑*i*P **P** **18 40 41.6 +0.6**
UPP Uppsala 71.04 329 *e*P **P** **18 40 42.2 +0.2**
VRAC Vranov 71.13 318 *e*P **P** **18 40 42.9 0.0**
TIP Timpagrande 71.21 307 P **P** **18 40 42.9 -0.7**
KRUC Moravsky 71.25 317 *e*P **P** **18 40 44.0 +0.4**
DPC Dobruska-Polom 71.31 319 *e*P **P** **18 40 43.9 -0.1**
DPC Dobruska-Polom 71.31 319 *e*P **P** **18 40 43.9 -0.1**
KSP Ksiaz 71.34 319 *e*P **P** **18 40 44.9 +0.8**
CHVC Chvalec 71.49 319 *e*P **P** **18 40 45.7 +0.7**
UPC Upice 71.51 319 *e*P **P** **18 40 45.6 +0.4**
UPC Upice 71.51 319 *e*P **P** **18 40 45.6 +0.4**
CONA Conrad Observa 71.61 316 *i* P **P** **18 40 46.2 +0.3**
comp=Z,5.0nm,0.8s,SNR=6.3
ARSA Arzberg 71.85 315 *i* P **P** **18 40 47.6 +0.4**
comp=Z,6.9nm,0.8s
GROS Grobnik 71.88 315 *i* P **P** **18 40 47.7 +0.2**
CRES Cresnjev 71.92 314⇑*i*P **P** **18 40 47.3 -0.4**
LEGS Legarje 72.02 314 *i* P **P** **18 40 48.7 +0.4**
BOJS Bojanci 72.08 314 *i* P **P** **18 40 48.9 +0.3**
SOKA Sobota 72.20 315 *i* P **P** **18 40 50.0 +0.5**
comp=Z,18nm,1.4s,SNR=12
PRU Pruhonice 72.46 318 *e*P **P** **18 40 51.6 +0.8**
PRU *e* 18 41 09.8
PRU Pruhonice 72.46 318 *e*P **P** **18 40 51.6 +0.8**
PRU *es*P **sP** **18 41 09.8 +0.8**
OBKA Obir 72.53 315 *i* P **P** **18 40 52.1 +0.6**
comp=Z,16nm,0.9s,SNR=6.9
CKRC Cesky Krumlov 72.63 317 *e*P **P** **18 40 52.5 +0.6**
CKRC *ex* x 18 41 10.0
LNIZ Loecknitz 72.64 322 *e*P **P** **18 40 52.5 +0.7**
comp=Z,32nm,0.8s,baz=87,slow=5.8
CEY Cerknica 72.65 314⇑*i*P **P** **18 40 51.9 -0.2**
MOA Molln 72.69 316 *i* P **P** **18 40 52.3 0.0**
comp=Z,14nm,1.0s,SNR=7.3
BRG Berggiesshubel 72.83 319 *e*P **P** **18 40 53.5 +0.5**
BRG Amp 18 40 54.8
comp=Z,17nm,0.9s
BRG *ex* x 18 41 11.7
BRG Amp 18 41 12.8
comp=Z,12nm,0.8s
BRG Berggiesshubel 72.83 319 *e*P **P** **18 40 53.6 +0.5**
comp=Z,17nm,0.9s,baz=87,slow=5.8
RUE Ruedersdorf 72.91 321 *e*P **P** **18 40 54.0 +0.6**
comp=Z,43nm,1.0s,baz=87,slow=5.8
VOJS Vojsko 73.02 314 *i* P **P** **18 40 54.3 0.0**
GEC2 GERESS Array S 73.03 317 P **P** **18 40 54.2 -0.1**
GEC2 IAmb IAmb 18 40 55.9
comp=Z,20nm,0.8s
GEC2 GERESS Array S 73.03 317 *e*P **P** **18 40 54.8 +0.4**
comp=Z,24nm,0.9s,baz=87,slow=5.8
GERES GERESS Array B 73.03 317 P **P** **18 40 54.9 +0.4**
comp=Z,13nm,0.8s,baz=77,slow=6.0,SNR=106
GERES GERESS Array B 73.03 317 P **P** **18 40 54.2 -0.1**
KHC Kasperske Hory 73.11 317 *e*P **P** **18 40 55.0 +0.3**
KHC *e* 18 41 13.3
KHC Kasperske Hory 73.11 317 *e*P **P** **18 40 55.0 +0.3**
KHC *es*P **sP** **18 41 13.3 +0.3**
MYKA Terra Mystica 73.16 315 *i* P **P** **18 40 55.3 +0.1**
comp=Z,5.6nm,1.0s
RGN Rugen 73.16 323 *e*P **P** **18 40 55.6 +0.7**
comp=Z,46nm,1.0s,baz=87,slow=5.8
FBE Freiberg 73.20 319 *e*P **P** **18 40 55.9 +0.8**
comp=Z,31nm,1.0s,baz=87,slow=5.8
KBA Koelnbreinsper 73.34 315 *i* P **P** **18 40 56.0 -0.4**
comp=Z,6.6nm,1.0s
CLL Collm 73.41 320⇑*i*P **P** **18 40 56.4 0.0**
comp=Z,13nm,1.2s
CLL *ep*P **sP** **18 41 14.0 -0.7**
CLL Collm 73.41 320⇑*i*P **P** **18 40 56.4 0.0**
CLL *e**PP **sP** **18 41 14.0 -0.7**
CLL pmax pmax
comp=Z,13nm,1.2s
CLL Collm 73.41 320 P **P** **18 40 56.5 0.0**
CLL Collm 73.41 320 *e*P **P** **18 40 56.5 +0.1**
comp=Z,13nm,1.2s,baz=87,slow=5.8
WET Wettzell 73.56 317 *e*P **P** **18 40 58.0 +0.5**
comp=Z,17nm,1.1s,baz=87,slow=5.8
ZOU Zoufplan 73.62 315 P **P** **18 40 57.5 -0.6**
RJOB Jochberg 73.68 316 *e*P **P** **18 40 58.1 -0.1**
comp=Z,43nm,0.9s,baz=87,slow=5.8
NRCA Norcia 73.75 311 P **P** **18 40 58.3 -0.4**
TANN Tannenbergstha 73.78 319 *e*P **P** **18 40 58.8 +0.1**
comp=Z,12nm,1.3s,baz=87,slow=5.8
STAL STALIGIAL 73.82 314 P **P** **18 40 58.9 -0.1**
STAL IAmb IAmb 18 40 59.9
comp=Z,36nm,1.0s
WERN Wernitzgruen 73.84 319 *e*P **P** **18 40 59.4 +0.4**
comp=Z,7.7nm,1.1s,baz=87,slow=5.8
GUNZ Gunzen 73.87 319 *e*P **P** **18 40 59.7 +0.5**
comp=Z,15nm,1.2s,baz=87,slow=5.8
WERD Werda 73.88 319 *e*P **P** **18 40 59.5 +0.3**
comp=Z,14nm,0.9s,baz=87,slow=5.8
ABTA Abfaltersbach 73.93 315 *e*P **P** **18 40 58.8 -0.8**
comp=Z,8.9nm,1.2s
PLN Plauen 73.97 319 *e*P **P** **18 41 00.3 +0.5**
comp=Z,8.0nm,0.8s,baz=87,slow=5.8
ROTZ Rotzenmuhle 73.97 318 *e*P **P** **18 41 00.6 +0.9**
comp=Z,24nm,1.2s,baz=87,slow=5.8
NC405 NORSAR Array S 74.02 330 P **P** **18 40 59.4 -0.4**
NC405 IAmb IAmb 18 41 00.3
comp=Z,62nm,1.2s
MANZ Manzenberg 74.03 318 *e*P **P** **18 41 00.7 +0.6**
comp=Z,13nm,1.0s,baz=87,slow=5.8
NC602 NORSAR Array S 74.10 330 P **P** **18 40 59.5 -0.8**
NC602 IAmb IAmb 18 41 01.0
comp=Z,23nm,0.9s
NC303 NORSAR Array S 74.18 330 P **P** **18 41 00.1 -0.7**
NC303 IAmb IAmb 18 41 25.1
comp=Z,75nm,1.8s
NEUB Neuenburg 74.18 320 *e*P **P** **18 41 01.3 +0.3**
comp=Z,20nm,1.3s,baz=87,slow=5.8
NOA NORSAR Array B 74.26 330 P **P** **18 41 00.8 -0.5**
comp=Z,5.0nm,0.7s,baz=89,slow=5.8,SNR=23
MOX Moxa 74.31 319 *e*P **P** **18 41 02.2 +0.4**
comp=Z,8.8nm,0.9s,baz=87,slow=5.8
FLTG Flechtingen 74.47 321 *e*P **P** **18 41 02.4 -0.2**
comp=Z,7.1nm,0.9s,baz=87,slow=5.8
WTTA Wattenberg 74.49 316 *e*P **P** **18 41 02.6 -0.5**
comp=Z,13nm,0.8s,SNR=6.0
WATA Walderalm 74.53 316 *e*P **P** **18 41 02.3 -0.9**
comp=Z,10.0nm,1.0s
CTI Castel Tesino 74.57 314 P **P** **18 41 03.0 -0.5**
CTI pmax pmax
comp=Z,16nm,0.9s
CTI Castel Tesino 74.57 314 P **P** **18 41 03.0 -0.5**
CTI IAmb IAmb 18 41 04.7
comp=Z,16nm,0.9s
GRA1 Grafenberg Arr 74.62 318 P **P** **18 41 04.2 +0.6**
GRF Grafenberg Arr 74.62 318 P **P** **18 41 04.2 +0.6**
GRF pmax pmax
comp=Z,16nm,1.0s
GRF Grafenberg Arr 74.62 318 *e*P **P** **18 41 04.5 +1.0**
comp=Z,32nm,1.4s,baz=87,slow=5.8
GRF *ep*P **sP** **18 41 21.4 -0.4**
GRFO Grafenberg 74.62 318 P **P** **18 41 03.8 +0.2**
GRFO pmax pmax
comp=Z,19nm,1.1s
GRFO Grafenberg 74.62 318 P **P** **18 41 03.8 +0.2**
FUR Furstenfeldbru 74.68 317 *e*P **P** **18 41 03.9 0.0**
comp=Z,20nm,0.5s,baz=87,slow=5.8
ASSE Asse, Remlinge 74.82 321 *e*P **P** **18 41 04.6 +0.1**
comp=Z,17nm,1.3s,baz=87,slow=5.8
MOTA Moosalm 74.85 316 *e*P **P** **18 41 04.2 -0.9**
comp=Z,18nm,1.0s,SNR=7.3
BSEG Bad Segeberg 74.94 323 *e*P **P** **18 41 06.2 +0.9**
comp=Z,25nm,1.0s,baz=87,slow=5.8
CLZ Clausthal 75.03 320 *e*P **P** **18 41 06.4 +0.5**
comp=Z,13nm,0.9s,baz=87,slow=5.8
RETA Reutte 75.07 316 *e*P **P** **18 41 05.9 -0.4**
comp=Z,14nm,0.8s,SNR=7.4
FETA Feichten 75.13 315 *e*P **P** **18 41 06.2 -0.5**
comp=Z,14nm,1.2s
NRDL Niedersach Rie 75.15 321 *e*P **P** **18 41 07.2 +0.8**
comp=Z,14nm,1.1s,baz=87,slow=5.8
NRDL *ep*P **sP** **18 41 23.8 -0.5**
ZCCA Zocca 75.18 313 P **P** **18 41 06.9 0.0**
ZCCA IAmb IAmb 18 41 26.2
comp=Z,28nm,0.8s
GTTG Gottingen 75.30 320 *e*P **P** **18 41 08.0 +0.6**
comp=Z,18nm,1.0s,baz=87,slow=5.8
UBBA Unterbreizbach 75.33 319 *e*P **P** **18 41 07.9 +0.4**
comp=Z,8.9nm,1.5s,baz=87,slow=5.8
UBR Ueberruh 75.50 316 *e*P **P** **18 41 08.3 -0.4**
comp=Z,13nm,1.0s,baz=87,slow=5.8
DAVA Damuels 75.68 316 *i* P **P** **18 41 09.8 -0.1**
comp=Z,22nm,1.0s,SNR=6.5
MILB Miltenberg 75.86 318 *e*P **P** **18 41 10.8 +0.2**
comp=Z,10.0nm,1.0s,baz=87,slow=5.8
STU Stuttgart 76.01 317 *e*P **P** **18 41 11.8 +0.3**
comp=Z,9.4nm,0.5s,baz=87,slow=5.8
TUE Stuetta 76.12 315 P **P** **18 41 12.3 -0.2**
KASTN Kahler Asten 76.29 320 *e*P **P** **18 41 13.3 +0.2**
comp=Z,9.6nm,1.1s,baz=87,slow=5.8
TNS Taunus Mts 76.36 319 *e*P **P** **18 41 13.9 +0.3**
comp=Z,11nm,1.1s,baz=87,slow=5.8
IBBN Ibbenburen 76.60 321 *e*P **P** **18 41 15.6 +0.8**
comp=Z,13nm,0.8s,baz=87,slow=5.8
BFO Black Forest 76.62 317 *e*P **P** **18 41 14.7 -0.4**
comp=Z,7.4nm,1.2s,baz=87,slow=5.8
BUG Bochum--Univer 76.99 320 *e*P **P** **18 41 17.3 +0.4**
comp=Z,33nm,1.4s,baz=87,slow=5.8
BUG *ep*P **sP** **18 41 34.0 -0.9**
AHRW Bad Neuenahr-A 77.20 319 *e*P **P** **18 41 18.9 +0.6**
comp=Z,22nm,1.2s,baz=87,slow=5.8
KEST Kesra 77.41 304 P **P** **18 41 20.3 +0.5**
comp=Z,13nm,0.9s,baz=283,slow=3.0,SNR=6.2
KEST Kesra 77.41 304 IAmb IAmb 18 41 36.6
comp=Z,25nm,1.1s
SENIN Lac Senin/Sane 77.54 315 P **P** **18 41 19.9 -0.6**
SENIN IAmb IAmb 18 41 44.7
comp=Z,44nm,1.8s
WLF Walferdange 77.90 318 *e*P **P** **18 41 23.0 +0.9**
comp=Z,34nm,1.8s,baz=87,slow=5.8
BNI Bardonecchia 78.14 314 P **P** **18 41 23.0 -0.8**
BNI pmax pmax
comp=Z,12nm,0.9s
BNI Bardonecchia 78.14 314 P **P** **18 41 23.0 -0.8**
BOSA Boshof 78.39 237 P **P** **18 41 26.4 +1.1**
comp=Z,2.4nm,0.6s,baz=100,slow=5.1,SNR=6.7
BOSA Boshof 78.39 237 P **P** **18 41 25.9 +0.6**
ESDC Sonseca Array 86.95 310 P **P** **18 42 10.0 +0.4**
comp=Z,3.2nm,0.8s,baz=53,slow=4.7,SNR=17
ESDC Sonseca Array 86.95 310 P **P** **18 42 08.6 -1.0**
PAB San Pablo 87.27 310 P **P** **18 42 11.0 -0.2**
PAB pmax pmax
comp=Z,11nm,1.2s
PAB San Pablo 87.27 310 P **P** **18 42 11.0 -0.2**
PAB IAmb IAmb 18 42 30.4
comp=Z,11nm,1.1s
SUMG Summit 88.18 347 P **P** **18 42 15.0 -0.3**
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG Summit 88.18 347 P **P** **18 42 15.0 -0.3**
PBRG Braganca 88.38 313 *e*P **P** **18 42 13.7 -2.7**
TOA0 Torodi Ar. Sit 88.71 283 P **P** **18 42 18.6 +0.2**
TOA0 IAmb IAmb 18 42 38.4
comp=Z,10nm,0.9s

TORD	**Torodi Ar. Bea**	**88.71**	**283**	P		**P**	18 42 19.1	+0.7
	comp=Z,2.9nm,0.7s,baz=70,slow=4.9,SNR=4.8							
MVO	**Moncorvo**	**88.77**	**312**	*e*P		**P**	18 42 19.3	+0.9
	comp=Z,24nm,1.7s							
POKR	**Poker Plat Res**	**89.00**	**22**	P		**P**	18 42 17.4	-1.4
POKR				IAmb		IAmb	18 42 35.5	
	comp=Z,17nm,1.2s							
PCAB	**Cabril**	**89.32**	**313**	*e*P		**P**	18 42 21.2	+0.3
	comp=Z,24nm,1.3s							
MTE	**Manteigas**	**89.38**	**311**	*e*P		**P**	18 42 22.7	+1.5
	comp=Z,17nm,1.1s							
ILAR	**Eielson Array**	**89.38**	**22**	P		**P**	18 42 20.1	-0.5
	comp=Z,5.9nm,0.8s,baz=312,slow=4.3,SNR=14							
ILAR				LR		LR	19 28 51.7	
	comp=Z,154nm,19.2s,baz=300,slow=40							
PGAV	**Gavieira, Arco**	**89.42**	**313**	*e*P		**P**	18 42 22.9	+1.5
PRP	**Porcupine Dome**	**89.46**	**21**	P		**P**	18 42 20.4	-0.8
PCBR	**Castelo Branco**	**89.50**	**311**	*e*P		**P**	18 42 22.5	+0.8
	comp=Z,14nm,1.5s							
PVIS	**Viseu**	**89.53**	**312**	*e*P		**P**	18 42 23.1	+1.2
	comp=Z,23nm,1.9s							
PBAR	**Barrancos**	**89.67**	**309**	*e*P		**P**	18 42 23.3	+0.8
	comp=Z,18nm,1.3s							
RC01	**Rabbit Creek A**	**90.17**	**26**	P		**P**	18 42 24.4	+0.1
RC01				IAmb		IAmb	18 42 25.8	
	comp=Z,58nm,0.9s							
PMTG	**Montargil**	**90.28**	**310**	*e*P		**P**	18 42 26.2	+0.8
	comp=Z,14nm,1.5s							
EVO	**Evora**	**90.29**	**310**	*e*P		**P**	18 42 25.8	+0.4
PVAQ	**Vaqueiros**	**90.42**	**309**	*e*P		**P**	18 42 26.9	+0.9
	comp=Z,29nm,1.3s							
KDAK	**Kodiak Island**	**90.48**	**29**	P		**P**	18 42 26.0	+0.2
KDAK				pmax		pmax		
	comp=Z,26nm,1.1s							
KDAK	**Kodiak Island**	**90.48**	**29**	P		**P**	18 42 26.0	+0.2
PBDV	**Barranco-do-Ve**	**90.63**	**309**	*e*P		**P**	18 42 24.1	-3.0
	comp=Z,34nm,1.1s							
SEW	**Seward**	**90.79**	**27**	P		**P**	18 42 26.5	-0.7
PNCL	**Nicolau / Gran**	**90.81**	**310**	*e*P		**P**	18 42 28.9	+1.1
	comp=Z,20nm,1.5s							
GLI	**Glacier Island**	**91.39**	**25**	P		**P**	18 42 29.4	-0.6
GLI				IAmb		IAmb	18 42 46.9	
	comp=Z,14nm,0.9s							
HIN	**Hinchinbrook I**	**91.89**	**26**	P		**P**	18 42 31.6	-0.8
VRDI	**Verde Repeater**	**92.67**	**24**	P		**P**	18 42 36.7	+0.5
VRDI				IAmb		IAmb	18 42 56.1	
	comp=Z,12nm,1.1s							
MCARA	**McCarthy VSAT**	**92.74**	**24**	P		**P**	18 42 35.6	-0.6
MCARA				IAmb		IAmb	18 42 38.9	
	comp=Z,39nm,1.1s							
TGL	**Tana Glacier**	**93.19**	**24**	P		**P**	18 42 38.2	-0.2
TGL				IAmb		IAmb	18 42 40.6	
	comp=Z,23nm,1.0s							
NRS	**Narsarsuaq**	**98.43**	**341**	P		Pdif	18 43 04.0	+1.9
NRS				pmax		pmax		
	comp=Z,68nm,0.9s							
NRS	**Narsarsuaq**	**98.43**	**341**	P		Pdif	18 43 04.0	+1.8
YKA	**Yellowknife Ar**	**100.71**	**13**	P		**Pdif**	18 43 11.8	-0.5
	comp=Z,1.3nm,0.8s,baz=332,slow=3.6,SNR=3.7							
YKA	**Yellowknife Ar**	**100.71**	**13**	*i* P		**Pdif**	18 43 13.1	+0.8
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KVN	**Kaiserville**	**119.57**	**28**	PKIKP		**PKiKP**	18 48 14.7	+0.1
KVN	**Kaiserville**	**119.57**	**28**			**PKiKP**	18 48 14.7	+0.1
RYN	**Ryan**	**119.71**	**29**			**PKPdf**	18 48 14.7	0.0
PDAR	**Pinedale Array**	**119.73**	**19**	PKP		**PKiKP**	18 48 15.0	+0.1
	comp=Z,2.5nm,0.9s,baz=17,slow=1.5,SNR=10							
PDAR	**Pinedale Array**	**119.73**	**19**			**PKPdf**	18 48 13.0	-1.8
NVAR	**Mina Array Bea**	**119.98**	**29**	PKP		**PKiKP**	18 48 16.6	+1.1
	comp=Z,3.0nm,0.7s,baz=288,slow=1.6,SNR=19							
NVAR	**Mina Array Bea**	**119.98**	**29**			**PKPdf**	18 48 15.3	-0.1
LHV	**Little Huntoon**	**120.03**	**29**			**PKPdf**	18 48 15.1	-0.1
NV11	**Mina Array Sit**	**120.04**	**29**			**PKiKP**	18 48 15.6	+0.1
SPR3	**Spring Creek 3**	**121.25**	**25**	PKPdf		**PKiKP**	18 48 18.0	0.0
NLU	**North Lily Min**	**121.33**	**23**			**PKPdf**	18 48 17.6	-0.3
RDMU	**Red Mountain**	**121.69**	**21**			**PKPdf**	18 48 18.2	-0.4
PSUT	**Pine Spring**	**121.85**	**25**	PKPdf		**PKPdf**	18 48 18.8	-0.2
PRN	**Pahroc Range**	**122.28**	**27**	PKPdf		**PKPdf**	18 48 18.8	-0.9
MTPU	**Mount Pierson**	**122.94**	**24**			**PKPdf**	18 48 21.0	-0.3
LCMT	**Little Creek M**	**123.39**	**26**			**PKPdf**	18 48 20.4	-1.5
PKCU	**Pink Cliffs**	**123.41**	**25**			**PKPdf**	18 48 21.8	-0.4
GLA	**Glamis**	**125.98**	**30**	PKIKP		**PKPdf**	18 48 26.9	+0.1
GLA	**Glamis**	**125.98**	**30**			**PKPdf**	18 48 26.9	+0.1
Y14A	**Wickenburg**	**126.09**	**27**	PKPpre		PKPpre	18 48 11.8	
Y14A						**PKPdf**	18 48 26.9	-0.1
T25A	**Trinidad**	**126.47**	**18**	PKPpre		PKPpre	18 48 10.3	
T25A				PKPdf		**PKPdf**	18 48 24.5	-3.4
ANMO	**Albuquerque**	**127.82**	**21**			**PKPdf**	18 48 27.3	-3.2
ANMO	**Albuquerque**	**127.82**	**21**			PKPpre	18 48 12.9	
ANMO				PKPdf		**PKPdf**	18 48 27.3	-3.2
ANMO	**Albuquerque**	**127.82**	**21**	PKIKP		PKPpre	18 48 12.9	
S39A	**Bolivar**	**128.27**	**7**			PKPpre	18 48 16.8	
S39A				PKPdf		**PKPdf**	18 48 29.9	-1.1
TUC	**Tucson**	**128.46**	**27**	PKIKP		**PKPdf**	18 48 29.0	-2.6
TUC	**Tucson**	**128.46**	**27**	PKPdf		**PKPdf**	18 48 29.0	-2.6
BNM	**Barren Site**	**128.48**	**21**	PKPdf		**PKPdf**	18 48 29.8	-2.0
121A	**Cookes Peak, D**	**129.49**	**24**	PKPdf		**PKPdf**	18 48 31.5	-2.2
U40A	**Yellville**	**129.64**	**7**			PKPpre	18 48 20.9	
U40A				PKPdf		**PKPdf**	18 48 30.6	-3.0
MSTX	**Muleshoe**	**129.90**	**18**	PKPdf		**PKPdf**	18 48 32.2	-2.1
WMOK	**Wichita Mounta**	**130.22**	**13**	PKIKP		**PKPdf**	18 48 30.1	-4.7
WMOK	**Wichita Mounta**	**130.22**	**13**			**PKPdf**	18 48 30.1	-4.7
MNTX	**Cornudas Mount**	**131.14**	**22**			PKPpre	18 48 17.4	
TX31	**Lajitas Ar. Si**	**133.89**	**21**			PKPpre	18 48 21.8	
TX32	**Lajitas Array**	**133.89**	**21**			PKPpre	18 48 22.0	
TX32				PKPdf		**PKPdf**	18 48 40.2	-1.8
TXAR	**Lajitas Array**	**133.89**	**21**	PKP		**PKiKP**	18 48 43.7	+0.4
	comp=Z,1.0nm,0.6s,baz=253,slow=0.6,SNR=8.1							
JCT	**Junction City**	**134.02**	**16**	PKIKP		**PKPdf**	18 48 39.7	-2.4
JCT	**Junction City**	**134.02**	**16**			PKPpre	18 48 24.2	
JCT				PKPdf		**PKPdf**	18 48 39.7	-2.4
ITRB	**Iturama**	**145.07**	**255**	*e*P		**PKiKP**	18 49 08.0	+1.8
PLTB	**Pedras Altas**	**145.13**	**234**			**PKPab**	18 49 01.8	+0.1
PLTB	**Pedras Altas**	**145.13**	**234**	*e*P		**PKiKP**	18 49 08.6	+2.6
ITAB	**Concordia**	**145.41**	**242**	*e*P		**PKiKP**	18 49 10.1	+3.4
SNDB	**Serra Nova Dou**	**145.75**	**269**	*e*P		**PKiKP**	18 49 09.5	+1.8
PTGB	**Pitanga**	**145.95**	**246**	*e*P		**PKiKP**	18 49 11.3	+3.3
ITTB	**Itaituba**	**148.31**	**284**	*e*P		**PKiKP**	18 49 12.5	-0.6
ITQB	**Itaqui**	**148.34**	**235**			**PKPdf**	18 49 07.5	-0.1
ITQB	**Itaqui**	**148.34**	**235**	*e*P		**PKPab**	18 49 16.7	+2.4
PLCA	**Paso Flores**	**149.90**	**204**	PKPbc		**PKPbc**	18 49 14.3	-0.4
	comp=Z,18nm,1.0s,baz=125,slow=1.0,SNR=6.8							
CPUP	**Villa Florida**	**150.11**	**241**	PKPbc		**PKPbc**	18 49 14.9	-0.6
	comp=Z,4.3nm,0.9s,baz=102,slow=4.8,SNR=6.2							
CPUP	**Villa Florida**	**150.11**	**241**	PKIKP		**PKPbc**	18 49 15.0	-0.6
SALV	**Santo Antonio**	**150.27**	**262**	*e*P		**PKiKP**	18 49 16.8	-0.2
MTO3	**Montecristo**	**151.72**	**6**			**PKPdf**	18 49 13.8	+0.2
PTLB	**Pontes e Lacer**	**153.59**	**263**	*e*P		**PKPbc**	18 49 22.9	-0.8
BOAB	**BOACO BROADBAND**	**153.80**	**358**			**PKPdf**	18 49 13.4	-3.0
ESPN	**Las Esperanzas**	**153.98**	**355**			**PKPdf**	18 49 15.8	-0.8
LVC	**Limon Verde**	**161.28**	**240**	*e*P		PKPdf	18 49 34.0	+8.0
LPAZ	**La Paz**	**162.20**	**260**	*e*P		**PKPdf**	18 49 34.0	+6.7
MNMC	**Minye Minye**	**163.07**	**250**			**PKPdf**	18 49 26.9	-0.8
OTAV	**Otavalo**	**163.89**	**330**	PKIKP		**PKPdf**	18 49 25.8	-3.1
OTAV							18 50 19.0	
OTAV	**Otavalo**	**163.89**	**330**	PKPdf		**PKPdf**	18 49 25.8	-3.1
OTAV						**PKPab**	18 50 19.0	-2.4

*IDC **12** 18:37:27.9±0.8, 36°.08N×69°.08E, h0km, mb3.9/14, mb1 4.1/19, mb1mx3.8/54, mbtmp3.9/19, ML3.9/6, Error ellipse: s-maj=18.0km s-min=14.3km az=22.0*
*NNC **12** 18:37:29.4±7.1, 36°.85N×72°.16E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=59.9km s-min=48.5km az=103.0*
*BJI **12** 18:37:31.8±0.0, 36°.35N×68°.96E, h26km, mB4.8/5, mb4.5/10, Ms4.4/1, Ms7 4.2/1*
*NEIC **12** 18:37:34.5±2.1, 36°.29N±0°.05×68°.94E±0°.04, h34km±6km, mb4.4/19, Error ellipse: s-maj=7.2km s-min=3.7km az=200.0*

ISC 12 18:37:33.5±0.5, 36°.27N±0°.07×68°.92E±0°.05, h35km, n77, σ1§61/79, mb4.1/22, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.73**	**177**		**Pn**	**18 38 03.0**	**+1.8**
CHGR	**Chuyangaron**	**2.39**	**4**		**Pn**	**18 38 11.0**	**+0.8**
GAR	**Garm**	**2.94**	**22**		**Pn**	**18 38 19.0**	**+1.1**
CEP	**Cherat**	**3.46**	**134**	P	**Pn**	**18 38 29.2**	**+4.3**
DRK	**Karamyk**	**3.93**	**35**		**Pn**	**18 38 32.8**	**+1.2**
BTK	**Batken**	**4.07**	**21**	P	**Pn**	**18 38 34.9**	**+1.6**
BTK	**Batken**	**4.07**	**21**	Pn	**Pn**	**18 38 34.9**	**+1.6**
THW	**Thamme Wali**	**4.17**	**145**	P	**Pn**	**18 38 37.6**	**+2.9**
NIL	**Nilore**	**4.41**	**125**	Pn	**Pn**	**18 38 41.6**	**+3.6**
CHCP	**Chirah Chowk**	**4.41**	**125**	P	**Pn**	**18 38 41.7**	**+3.7**
HRA	**Herat**	**5.77**	**253**	Pn	**Pn**	**18 38 57.4**	**+0.6**
ARSB	**Arslanbob**	**5.96**	**31**	Pn	**Pn**	**18 38 59.6**	**+0.2**
DZA	**Taraz**	**6.87**	**15**	Pg	**Pn**	**18 39 13.5**	**+1.7**
	27nm,0.1s						
DZA				Lg	Lg	18 40 30.9	
	101nm,0.4s						
AML	**Almayashu**	**6.93**	**31**	P	**Pn**	**18 39 13.1**	**+0.3**
	SNR=28						
KK31	**Karatay Array**	**6.94**	**10**	Pn	**Pn**	**18 39 13.2**	**+0.6**
KKAR	**Karatay Array**	**6.94**	**10**	Pn	**Pn**	**18 39 13.1**	**+0.5**
KKAR	**Karatay Array**	**6.94**	**10**	Pn	**Pn**	**18 39 13.1**	**+0.5**
MRKS	**Merke**	**7.27**	**26**	Pg	**Pn**	**18 39 17.7**	**+0.4**
	21nm,0.4s						
MRKS				Lg	Lg	18 40 38.6	
	27nm,0.4s						
EKS2	**Erkin-Say**	**7.41**	**29**	P	**Pn**	**18 39 19.9**	**+0.8**
	SNR=6.0						
AAK	**Ala-Archa**	**7.68**	**32**	Pn	**Pn**	**18 39 23.3**	**+0.3**
	7.2nm,0.3s,baz=208,slow=7.4,SNR=22						
AAK				Sn	**Sn**	**18 40 48.7**	**-0.1**
	1.4nm,0.3s,baz=142,slow=23,SNR=5.7						
AAK	**Ala-Archa**	**7.68**	**32**	P	**Pn**	**18 39 23.1**	**+0.1**
	SNR=8.6						
AAK	**Ala-Archa**	**7.68**	**32**	⇑Pg	**Pn**	**18 39 21.5**	**-1.4**
	19nm,0.5s						
AAK				⇓Lg	Lg	18 40 44.3	
	17nm,0.7s						
AAK	**Ala-Archa**	**7.68**	**32**	Pn	**Pn**	**18 39 23.6**	**+0.6**
FRU1	**Bishkek**	**7.88**	**32**		**Pn**	**18 39 25.6**	**0.0**
CHMS	**Chumysh**	**8.09**	**32**	P	**Pn**	**18 39 28.5**	**+0.1**
	SNR=19						
USP	**Ospenovka**	**8.20**	**30**	P	**Pn**	**18 39 29.5**	**-0.5**
	SNR=30						
ULHL	**Ulahol**	**8.24**	**41**	P	**Pn**	**18 39 30.4**	**-0.2**
	SNR=9.2						
BOOM	**Boomskoye usch**	**8.25**	**39**		**Pn**	**18 39 30.9**	**0.0**
TKM2	**Tokmak 2**	**8.41**	**36**	P	**Pn**	**18 39 32.9**	**0.0**
	SNR=8.3						
SGDS	**Sogindy**	**8.41**	**30**	Pg	**Pn**	**18 39 32.2**	**-0.6**
	27nm,0.6s						
SGDS				Lg	Lg	18 41 03.5	
	11nm,0.8s						
KDJ	**Kajisay**	**8.68**	**45**	Pn	**Pn**	**18 39 36.0**	**-0.6**
GEYT	**Alibeck**	**8.79**	**284**	Pn	**Pn**	**18 39 37.2**	**-0.9**
	1.2nm,0.3s,baz=151,slow=9.9,SNR=11						
GEYT				Sn	**Sn**	**18 41 16.4**	**+0.5**
	0.7nm,0.3s,baz=88,slow=19,SNR=1.4						
GYA0B	**ALIBECK ARRAY**	**8.79**	**284**	Pn	**Pn**	**18 39 37.4**	**-0.7**
MAKZ	**Makanchi**	**14.35**	**39**	Pn	**Pn**	**18 40 51.2**	**-2.8**
MK31	**Makanchi Array**	**14.50**	**39**	Pn	**Pn**	**18 40 53.8**	**-2.3**
MKAR	**Makanchi Array**	**14.50**	**39**	Pn	**Pn**	**18 40 53.3**	**-2.8**
	0.2nm,0.3s,baz=218,slow=16,SNR=2.7						
MKAR	**Makanchi Array**	**14.50**	**39**	Pn	**Pn**	**18 40 54.1**	**-1.9**
ABKAR	**Akbulak array**	**14.54**	**336**	Pn	**Pn**	**18 40 54.1**	**-2.5**
ABKAR	**Akbulak array**	**14.54**	**336**	Pn	**Pn**	**18 40 54.3**	**-2.3**
KURBB	**Kurchatov Arra**	**15.94**	**23**	Pn	**Pn**	**18 41 11.2**	**-3.6**
	0.1nm,0.3s,baz=212,slow=12,SNR=9.6						
AKTO	**Aktyubinsk**	**16.20**	**334**	Pn	**Pn**	**18 41 19.1**	**+0.9**
	0.5nm,0.3s,baz=123,slow=15,SNR=7.1						
WMQ	**Urumqi**	**16.22**	**57**	*e*P	**P**	**18 41 20.9**	**-0.5**
BVAR	**Borovoye Array**	**16.79**	**3**	Pn	**Pn**	**18 41 24.5**	**-1.1**
	0.6nm,0.3s,baz=85,slow=6.4,SNR=7.8						
BRVK	**Borovoye**	**16.82**	**3**	Pn	**Pn**	**18 41 24.4**	**-1.6**
GNI	**Garni**	**19.38**	**289**	P	**P**	**18 41 53.7**	**-2.6**
GNI				IAmb	IAmb	18 41 55.6	
	comp=Z,23nm,1.4s						
LSA	**Lhasa**	**19.74**	**103**	P	**P**	**18 42 01.4**	**+0.6**
LSA				IAmb	IAmb	18 42 05.6	
	comp=Z,8.1nm,0.8s						
ZAA0	**Zalesovo Array**	**20.86**	**27**	P	**P**	**18 42 10.1**	**-2.0**
ZAA0				IAmb	IAmb	18 42 16.9	
	comp=Z,7.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.86**	**27**	P	**P**	**18 42 11.2**	**-0.8**
	comp=Z,9.2nm,0.7s,baz=214,slow=9.9,SNR=16						
ZALV	**Zalesovo Beam**	**20.86**	**27**	P	**P**	**18 42 10.6**	**-1.5**
BELG	**Belogornoye**	**22.05**	**324**	P	**P**	**18 42 25.9**	**+0.9**
	comp=Z,16nm,0.7s,baz=280,slow=3.1,SNR=6.0						
SHL	**Shillong**	**22.35**	**112**	P	**P**	**18 42 27.0**	**-1.5**
SHL				IAmb	IAmb	18 42 32.9	
	comp=Z,11nm,0.7s						
GTA	**Gaotai**	**24.54**	**73**	⇑P	**P**	**18 42 52.4**	**+2.5**
GTA				pP	pP	18 43 00.3	0.0
GTA				sP	sP	18 43 03.4	-1.3
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,64nm,4.7s						
GTA				L	L		
	comp=Z,450nm,15.3s						
GTA				L	L		
	comp=Z,570nm,15.6s						
GTA				L	L		
	comp=Z,700nm,17.1s						
SONM	**Songino Array**	**29.85**	**55**	P	**P**	**18 43 38.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=255,slow=9.8,SNR=4.5						
AKASG	**Malin Array Be**	**31.79**	**310**	P	**P**	**18 43 56.5**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=87,slow=7.1,SNR=6.7						
CMAR	**Chiang Mai Arr**	**31.84**	**116**	P	**P**	**18 43 54.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=311,slow=10,SNR=5.7						
HHC	**Hu-ho-hao-te**	**33.41**	**69**	*e*P	**P**	**18 44 09.9**	**+1.0**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.2s						
FINES	**FINESS Array B**	**36.75**	**327**	P	**P**	**18 44 38.8**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=100,slow=9.9,SNR=3.8						
ARCES	**ARCESS Array B**	**40.73**	**338**	P	**P**	**18 45 11.3**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=125,slow=7.9,SNR=1.6						
GERES	**GERESS Array B**	**41.70**	**305**	P	**P**	**18 45 19.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=76,slow=9.2,SNR=2.0						
NC303	**NORSAR Array S**	**43.51**	**324**	P	**P**	**18 45 34.6**	**+1.4**
NC303				IAmb	IAmb	18 46 07.4	
	comp=Z,21nm,1.6s						
NB201	**NORSAR Array S**	**43.52**	**323**	P	**P**	**18 45 35.2**	**+1.9**
NOA	**NORSAR Array B**	**43.56**	**323**	P	**P**	**18 45 35.1**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=97,slow=8.1,SNR=7.4						
KSRS	**Korea Array**	**46.54**	**70**	P	**P**	**18 45 55.7**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=276,slow=7.5,SNR=2.5						
TIXI	**Tiksi**	**46.62**	**22**	P	**P**	**18 45 58.5**	**+0.8**
KLR	**Kul'dur**	**46.63**	**53**	P	**P**	**18 45 58.0**	**-0.2**
	baz=287,slow=6.4						
TORD	**Torodi Ar. Bea**	**64.03**	**267**	P	**P**	**18 48 03.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=47,slow=4.2,SNR=2.8						
TOLK	**Toolik Lake Re**	**71.56**	**14**	P	**P**	**18 48 52.2**	**+1.6**
TOLK				IAmb	IAmb	18 48 52.8	
	comp=Z,1.9nm,0.8s						
IMAR	**Indian Mountai**	**72.89**	**17**	P	**P**	**18 48 59.3**	**+0.8**
ILAR	**Eielson Array**	**75.45**	**15**	P	**P**	**18 49 13.5**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=331,slow=0.8,SNR=4.1						
PPLA	**Purkeypile**	**75.84**	**18**	P	**P**	**18 49 17.2**	**+1.4**
PPLA				IAmb	IAmb	18 49 43.8	
	comp=Z,10nm,1.4s						
SCRK	**Sand Creek**	**76.75**	**14**	P	**P**	**18 49 21.7**	**+0.8**
SCRK				IAmb	IAmb	18 49 44.9	
	comp=Z,6.8nm,1.6s						
SML	**Sawmill**	**77.71**	**17**	P	**P**	**18 49 27.7**	**+1.4**
FID	**Port Fidalgo**	**79.08**	**17**	P	**P**	**18 49 34.7**	**+0.9**
FID				IAmb	IAmb	18 49 41.4	
	comp=Z,11nm,1.4s						
HYT	**Haines Junctio**	**80.86**	**13**	P	**P**	**18 49 46.2**	**+2.6**
HYT				IAmb	IAmb	18 50 12.1	
	comp=Z,7.8nm,1.7s						
WRA	**Warramunga Arr**	**83.31**	**121**	P	**P**	**18 49 55.2**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=330,slow=4.5,SNR=7.0						
WB2	**Warramunga Arr**	**83.31**	**121**	P	**P**	**18 49 55.8**	**-1.1**
ASAR	**Alice Springs**	**85.51**	**124**	P	**P**	**18 50 07.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=321,slow=4.2,SNR=10						

PRU 12 18:50:02.9±0.0, 51°.49N×116°.14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg	Pg	18 50 15.3	-0.1
KSP				*e*Sg	Sg	18 50 24.2	+0.3
CHVC	**Chvalec**	**0.91**	**183**	*e*PG	Pg	18 50 20.2	0.0
CHVC				*e*SG	Sg	18 50 31.8	-0.1
	comp=Z,2.6nm,0.3s						
OSTC	**Ostas**	**0.94**	**177**	*e*PG	Pg	18 50 20.6	-0.2
OSTC				*e*SG	Sg	18 50 32.9	0.0
	comp=Z,3.5nm,0.6s						
UPC	**Upice**	**0.99**	**185**	*e*PG	Pg	18 50 21.1	-0.7
UPC				*e*SG	Sg	18 50 34.1	-0.5
	comp=Z,4.5nm,0.5s						
UPC	**Upice**	**0.99**	**185**	*e*	Sg	18 50 34.1	-0.5
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	Pg	18 50 24.0	-0.9
DPC				*e*SG	Sg	18 50 39.0	-0.7
	comp=Z,3.0nm,0.7s						
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*	Pg	18 50 24.0	-0.9
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*	Sg	18 50 39.0	-0.7
BRG	**Berggiesshubel**	**1.52**	**247**	Pg	Pn	18 50 31.1	-0.2
BRG				Sg	Sg	18 50 50.8	-0.8
BRG				Amp		18 50 51.9	
	comp=Z,7.9nm,0.6s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*SG	Sg	18 51 34.9	-0.4

IDC 12 18:51:04.5±5.2, 5°.66S×151°.96E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/28, mbtmp3.6/5, ML1.0/1, Error ellipse: s-maj=88.2km s-min=62.8km az=175.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**232**	Pn	Pn	18 52 33.1	-2.0
	0.2nm,0.3s,baz=258,slow=22,SNR=1.4						
PMG				Sn	Sn	18 53 47.8	+2.7
	0.9nm,0.3s,baz=341,slow=21,SNR=1.5						
WRA	**Warramunga Arr**	**22.25**	**229**	P	P	18 56 04.1	+0.9
	0.5nm,0.5s,baz=52,slow=9.9,SNR=5.1						
ASAR	**Alice Springs**	**24.95**	**222**	P	P	18 56 30.0	+0.1
	0.5nm,0.5s,baz=60,slow=8.8,SNR=16						
STKA	**Stephens Creek**	**27.83**	**199**	P	P	18 56 55.2	-0.5
	0.8nm,0.6s,baz=45,slow=11,SNR=1.9						
FITZ	**Fitzroy Crossi**	**28.51**	**242**	P	P	18 57 02.1	+0.1
	1.0nm,0.8s,baz=52,slow=12,SNR=1.3						

*TAP **12** 19:03:22.6, 22°.65N×121°.39E, h32km, ML3.5, C*
*JMA **12** 19:03:22.6, 22°.72N×121°.47E, h23km±2km, M3.6*

ISC 12 19:03:22.5±0.9, 22°.63N±0°.02×121°.41E±0°.02, h31km±5km, n134, σ0§92/236, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.07**	**50**	*i* P	**Pb**	**19 03 28.1**	**+0.3**
	baz=69						
LDUT				*i* S	**Sb**	**19 03 32.1**	**+0.6**
	baz=69						
TTN	**Taitung**	**0.27**	**298**	*i* P	**Pn**	**19 03 30.4**	**+0.1**
	baz=295						
TTN				*i* S	**Sn**	**19 03 36.0**	**+0.5**
	baz=295						
EDH	**Donghe**	**0.36**	**344**	*i* P	**Pb**	**19 03 30.6**	**-0.2**
	baz=348						
EDH				*i* S	**Sb**	**19 03 36.5**	**-0.1**
	baz=348						
TWGBT	**Beinan**	**0.36**	**302**	*i* P	**Pb**	**19 03 30.5**	**-0.4**
	baz=300						
TWGBT				S	**Sb**	**19 03 36.1**	**-0.5**
	baz=300						
TWG	**Pinlang**	**0.37**	**302**	*i* P	**Pb**	**19 03 30.5**	**-0.5**
	baz=300						
TWG				*i* S	**Sb**	**19 03 36.1**	**-0.7**
	baz=300						
LONT	**Longtian**	**0.38**	**317**	*i* P	**Pb**	**19 03 30.9**	**-0.2**
	baz

baz=212
SCST Cishan 0.88 287 *e*P Pb 19 03 39.5 +0.1
baz=286
SGST Jiashian 0.89 301 P Pn 19 03 38.7 -0.2
baz=299
SGST *e*S Sn 19 03 50.7 +0.1
baz=299
SNW Nanwan 0.90 223 *e*S Sn 19 03 50.9 -0.1
baz=223
TWM1 Shoushan 0.93 282 *e*P Pb 19 03 40.9 +0.8
baz=282
YUS Yu-Shan 0.96 334 *i* P Pb 19 03 41.0 +0.1
baz=329
WTP Ta-pu 0.96 310 *i* P Pb 19 03 40.4 -0.2
baz=314
WTP *e*S Sb 19 03 53.3 +0.3
baz=314
TPUB Ta-pu 0.98 313 *i* P Pb 19 03 40.8 -0.2
baz=312
TPUB *e*S Sn 19 03 53.0 0.0
baz=312
CHN1 Nanshi 0.98 305 *i* P Pb 19 03 41.4 +0.3
baz=309
CHN1 *e*S Sb 19 03 54.8 +1.0
baz=309
WLCH Liuqiu 0.99 254 *e*P Pb 19 03 43.1 +2.0
baz=242
SNJT Kaohsiung City 1.00 277 *e*P Pb 19 03 42.8 +1.5
baz=276
SNJT *e*S Sb 19 03 57.6 +3.5
baz=276
TWP Hsiaoliuchiu 1.01 254 *e*P Pb 19 03 42.3 +0.9
baz=242
KAU Kaohsiung 1.02 267 *e*S Sb 19 03 58.8 +4.1
baz=266
SNST Tainan City 1.03 305 P Pb 19 03 42.1 +0.4
baz=304
SNST *e*S Sb 19 03 55.9 +0.9
baz=304
EGFH Guangfu 1.04 1 P Pn 19 03 41.2 +0.3
baz=347
EGFH *e*S Sb 19 03 54.9 -0.3
baz=347
ALS Alishan 1.04 328 P Pb 19 03 42.0 -0.2
baz=327
ALS *e*S Sb 19 03 57.0 +1.4
baz=327
CHN4 Tsaushan 1.04 314 *e*P Pb 19 03 42.0 0.0
baz=312
CHN4 *e*S Sb 19 03 55.6 +0.2
baz=312
TWK Hsinying 1.06 307 *e*P Pb 19 03 42.4 0.0
baz=306
TWK *e*S Sb 19 03 55.8 -0.2
baz=306
TEGC Jichi Village 1.08 6 P Pn 19 03 41.2 -0.3
baz=13
TEGC *e*S Sb 19 03 56.8 +0.3
baz=13
CHN5 Tsauling 1.18 325 *e*P Pb 19 03 44.8 +0.5
baz=324
CHN5 *e*S Sb 19 04 00.8 +1.5
baz=324
ESL Shilin 1.18 1 *e*P Pn 19 03 42.6 -0.3
baz=351
WHYT Xinyi Township 1.18 334 *e*P Pb 19 03 44.0 -0.4
baz=338
WHYT *e*S Sb 19 03 58.8 -0.6
baz=338
SSLB Suanglung 1.23 340 *e*P Pb 19 03 44.6 -0.6
baz=345
SSLB *e*S Sb 19 04 01.3 +0.6
baz=345
CHN2 Minshiung 1.25 317 *e*P Pb 19 03 45.1 -0.3
baz=315
CHN2 *e*S Sb 19 04 02.6 +1.4
baz=315
TEYL Yanliau Villag 1.25 8 P Pb 19 03 44.5 -1.0
baz=354
TEYL *e*S Sb 19 04 01.8 +0.6
baz=354
CHY Chiayi 1.26 314 *e*P Pn 19 03 44.2 +0.4
baz=313
CHY *e*S Sb 19 04 02.0 +0.6
baz=313
ICHU Yijhu 1.27 305 *e*P Pb 19 03 45.5 -0.3
baz=304
ICHU *e*S Sb 19 04 02.4 +0.5
baz=304
WGK Gukeng 1.31 324 *e*P Pb 19 03 46.5 -0.1
baz=322
WGK *e*S Sb 19 04 04.2 +1.2
baz=322
CHN8 Yiju 1.32 303 *e*P Pb 19 03 46.1 -0.5
baz=302
CHN8 *e*S Sb 19 04 03.9 +0.8
baz=302
WDLH Douliu 1.33 323 *e*P Pb 19 03 46.9 +0.1
baz=321
WDLH *e*S Sb 19 04 04.1 +0.7
baz=321
ETM Tongmen 1.33 3 *e*P Pn 19 03 44.5 -0.5
baz=354
OWD Renai 1.34 351 *e*P Pn 19 03 45.5 +0.3
baz=359
WJS Zhushan 1.34 332 *e*P Pb 19 03 47.3 +0.2
baz=330
WJS *e*S Sb 19 04 04.9 +0.9
baz=330
TYC Yuchr 1.37 338 *e*P Pb 19 03 47.1 -0.4
baz=350
TYC *e*S Sb 19 04 06.0 +1.3
baz=350
WNT Mingjian 1.41 332 *e*P Pb 19 03 48.2 0.0
baz=330
WNT *e*S Sb 19 04 07.0 +1.0
baz=330
WTK Tuku 1.41 319 P Pb 19 03 47.2 -1.0
baz=317
WTK *e*S Sb 19 04 04.9 -1.1
baz=317
WNT1 Nantou City 1.44 332 *e*P Pn 19 03 47.1 +0.6
baz=330
WNT1 *e*S Sb 19 04 05.6 -1.1
baz=330
WPL Puli Township 1.44 343 *e*P Pn 19 03 47.1 +0.7
baz=350
WPL *e*S Sb 19 04 05.7 -1.0
baz=350
CHGB Renai 1.44 351 P Pb 19 03 47.7 -1.2
baz=359
CHGB *e*S Sn 19 04 05.0 +0.3
baz=359
TWD Chiawan 1.46 7 P Pn 19 03 46.7 0.0
baz=355
TWD *e*S Sb 19 04 06.1 -1.1
baz=355
DPDB Guoxing 1.47 342 *e*P Pb 19 03 48.4 -0.9
baz=350
DPDB *e*S Sb 19 04 07.9 +0.3
baz=350
WSF Szhu 1.49 313 *e*S Sb 19 04 07.8 -0.2
baz=311
WCS Beigang Elemen 1.50 342 *e*P Pb 19 03 48.9 -0.8
baz=351
WCS *e*S Sb 19 04 08.7 +0.4
baz=351
WHF Hehuan Shan 1.52 355 P Pn 19 03 48.1 +0.2
baz=3.0
WHF S Sn 19 04 06.6 -0.2
baz=3.0
ETL Fush Village 1.54 7 *e*P Pn 19 03 48.5 +0.6
baz=354
ETL S Sb 19 04 07.8 -1.7
baz=354
NACB Ninganchiao 1.55 6 *e*P Pn 19 03 47.7 -0.2
baz=354
NACB *e*S Sn 19 04 06.5 -0.5
baz=354
WWF Wufeng 1.55 335 *e*P Pb 19 03 50.0 -0.7
baz=335
ETLH Xiulin Townshi 1.57 2 *e*P Pn 19 03 48.1 -0.3
baz=360
ETLH *e*S Sn 19 04 08.5 +0.8
baz=360
WTCT Ta-ch'eng 1.61 320 *e*S Sb 19 04 10.5 -1.0
baz=318
FUSS Fushou 1.62 355 P Pn 19 03 49.7 +0.5
baz=1.0
FUSS *e*S Sn 19 04 10.1 +1.0
baz=1.0
TDCB Techi 1.64 352 *e*P Pn 19 03 49.9 +0.6
baz=351
TCU Taichung 1.66 336 *e*P Pb 19 03 52.0 -0.3
baz=334
TCU *e*S Sb 19 04 12.4 -0.5
baz=334
WHP Taichung City 1.70 346 *e*P Pb 19 03 52.3 -0.9
baz=351
WHP *e*S Sb 19 04 13.1 -1.0
baz=351
WDGT Dungji 1.73 292 *e*P Pn 19 03 50.9 +0.5
baz=290
WDGT *e*S Sn 19 04 11.1 -0.4
baz=290
NNSB Datong 1.79 359 *e*P Pn 19 03 52.1 +0.7
baz=356
NNSB *e*S Sn 19 04 13.5 +0.3
baz=356
NNSH Datong 1.79 359 *e*P Pn 19 03 52.2 +0.8
baz=4.0
NNSH *e*S Sn 19 04 14.3 +1.1
baz=4.0
NNS Nan Shan 1.81 359 *e*P Pn 19 03 52.3 +0.7
baz=356
NNS *e*S Sn 19 04 14.6 +1.1
baz=356
TWQ1 Liyutan 1.81 341 *e*P Pn 19 03 52.4 +0.8
baz=339
TWQ1 *e*S Sn 19 04 14.8 +1.3
baz=339
EWUT Wuta 1.84 11 *e*P Pn 19 03 51.9 0.0
baz=356
EWUT *e*S Sn 19 04 15.6 +1.4
baz=356
WDJ Dajia District 1.85 338 *e*S Sb 19 04 17.9 -0.6
baz=336
NSY Sanyi 1.88 342 *e*P Pb 19 03 55.1 -1.1
baz=339
NSY *e*S Sb 19 04 18.8 -0.4
baz=339
PHUB P'eng-hu 1.91 298 *e*P Pn 19 03 53.2 +0.4
baz=296
PHUB *e*S Sn 19 04 15.3 -0.5
baz=296
PNG Penghu 1.95 299 *e*P Pn 19 03 53.8 +0.4
baz=297
PNG *e*S Sn 19 04 16.5 -0.3
baz=297
NDT Datong Townshi 1.97 3 *e*P Pn 19 03 54.8 +1.1
baz=360
NDT *e*S Sn 19 04 18.9 +1.5
baz=360
NMLH Miaoli 1.98 344 *e*P Pb 19 03 56.5 -1.5
baz=340
NMLH *e*S Sb 19 04 21.4 -1.0
baz=340
ENTT Nioudou 2.01 4 P Pn 19 03 54.8 +0.5
baz=1.0
ENTT *e*S Sn 19 04 19.7 +1.3
baz=1.0
TWC Suao 2.02 11 *e*P Pn 19 03 55.1 +0.7
baz=357
TWC *e*S Sn 19 04 19.7 +1.2
baz=357
NDS Dongshan 2.02 8 *e*P Pn 19 03 55.4 +1.0
baz=356
NDS *e*S Sn 19 04 19.9 +1.4
baz=356
NSTT Nanjuang 2.03 349 *e*P Pn 19 03 56.0 +1.4
baz=346
NSTT *e*S Sb 19 04 21.3 -2.3
baz=346
YHNB Yeheng 2.03 359 P Pn 19 03 56.0 +1.3
baz=8.0
YHNB *e*S Sn 19 04 19.9 +0.8
baz=8.0
LIOB Emei 2.04 350 *e*P Pn 19 03 56.3 +1.6
baz=346
LIOB *e*S Sn 19 04 20.3 +1.1
baz=346
TWE Neicheng 2.10 6 *e*P Pn 19 03 56.6 +1.1
baz=3.0
TWE *e*S Sn 19 04 21.8 +1.2
baz=3.0
NJN Zhunan 2.11 347 *e*S Sn 19 04 22.4 +1.6
baz=343
NWLT Wulai 2.14 2 *e*P Pn 19 03 57.5 +1.4
baz=359
NWLT *e*S Sn 19 04 21.9 +0.2
baz=359
EGS 2.26 12 *e*P Pn 19 03 59.5 +1.8
baz=1.0
JYNG Yonaguni jima 2.30 38 P Pn 19 03 59.1 +0.9
JYNG *e*S Sn 19 04 25.3 -0.2
YOJ Yonaguni jima 2.34 38 P Pn 19 03 59.6 +0.7
YOJ Yonaguni jima 2.34 38 P Pn 19 03 59.5 +0.7
baz=48
YOJ *e*S Sn 19 04 28.0 +1.4
baz=48
TIPB Shuangxi 2.37 9 *e*P Pn 19 04 01.3 +2.1
baz=356
TIPB *e*S Sn 19 04 28.6 +1.4
baz=356
NWF Wu-fen Shan 2.46 8 *e*P Pb 19 04 03.0 -3.0
baz=4.0
NWF *e*S Sn 19 04 31.1 +1.5
baz=4.0
TWS1 Kuangyinshan 2.46 0 *e*P Pn 19 04 02.2 +1.7
baz=13
YM01 YM01 2.51 3 *e*P Pn 19 04 02.5 +1.2
baz=359
YM01 *e*S Sn 19 04 31.8 +0.9
baz=359
NTST Danshui 2.53 1 *e*S Sn 19 04 32.3 +1.2
baz=8.0
HATJ Hateruma jima 2.62 57 P Pn 19 04 03.1 +0.4
HATJ *e*S Sn 19 04 32.7 -0.7
IRIF Iriomote-Funau 2.73 51 P Pn 19 04 04.9 +0.8
JKRS Kuro-shima 2.88 56 P Pn 19 04 07.0 +0.8
JKRS *e*S Sn 19 04 39.7 0.0
JIJ Ishigaki jima 3.05 55 P Pn 19 04 08.8 +0.3
JIJ S Sn 19 04 43.3 -0.7
PTMZ Houxiangcun 3.19 319 *e*P Pn 19 04 10.9 +0.4
baz=318
JISG Ishigakijimahi 3.30 53 P Pn 19 04 12.2 +0.2
KNMB Chin-men Tao 3.32 304 *e*P Pn 19 04 12.8 +0.5
baz=302
KNMB *e*S Sn 19 04 50.0 -0.8
baz=302
ZPLA Ao Xicun 3.61 292 *e*P Pn 19 04 17.0 +0.8
baz=288
ZPLA *e*S Sn 19 04 56.7 -1.1
baz=288
JTJ Tarama 3.62 56 P Pn 19 04 17.1 +0.6
JTJ *e*S Sn 19 04 57.8 -0.4
MATB Ma-tsu 3.75 339 *e*P Pn 19 04 18.4 +0.2
baz=339
AXDP Jialang 3.88 306 *e*P Pn 19 04 20.4 +0.4
baz=305
AXDP *e*S Sn 19 05 03.5 -1.0
baz=305
MHZQ Yeshan 4.08 328 *e*P Pn 19 04 23.7 +1.0
baz=327
JIRB Irabujima 4.09 57 P Pn 19 04 23.4 +0.6
JMJ2 Miyako jima3 4.16 59 P Pn 19 04 24.5 +0.6
JMJ2 *e*S Sn 19 05 11.4 -0.1
JMJ Miyako jima 2 4.17 58 *e*P Pn 19 04 24.6 +0.6
baz=59
JMJ *e*S Sn 19 05 11.9 +0.1
baz=59
LYJJ Jianjiangzhen 4.18 339 *e*P Pn 19 04 24.9 +0.7
baz=339
JIKM Ikemajima 4.19 56 P Pn 19 04 24.9 +0.6
JOGS Gusukube 4.23 59 P Pn 19 04 25.6 +0.7
XPSS Dashiqiu 4.43 346 *e*P Pn 19 04 27.6 +0.1
baz=346

NNC 12 19:04:56.6±4.8, 37°.61N×70°.34E, h0km, mb3.7, mpv3.3, 6C-1D, Error ellipse: s-maj=36.8km s-min=32.9km az=58.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.49**	**1**	Pn	Pn	19 06 21.6	+1.9
	1.2nm,0.4s,baz=177,slow=12,SNR=31						
KK31				⇓Pg	Pb	19 06 37.3	+3.9
	2.6nm,0.6s,baz=168,slow=12,SNR=5.2						
KK31				⇑Sn	Sn	19 07 23.9	+0.4
	2.5nm,0.6s						
KK31				⇑Lg	Lg	19 07 51.3	
	4.9nm,0.6s						
AAK	**Ala-Archa**	**5.95**	**31**	⇑P	Pn	19 06 26.1	+0.1
	1.5nm,0.6s						
AAK				⇑S	Sn	19 07 36.7	+1.8
	5.3nm,0.6s						
TKM2	**Tokmak 2**	**6.65**	**35**	⇑P	Pn	19 06 33.9	-1.9
	1.6nm,0.5s						
TKM2				⇑S	Sn	19 07 53.9	+1.5
	5.2nm,0.9s						

AUST **12** *19:08:08.8±1.6, 31°.48S×117°.61E, h0km, Error ellipse: s-maj=14.4km s-min=8.6km az=43.0*

CUPWA 12 19:08:10.0±1.7, 31°.45S×117°.69E, h2km±18km, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**0.15**	**157**	P	Pg	19 08 12.5	-0.4
	baz=0.2						
KLBR				S	Sg	19 08 14.6	-0.4
	baz=0.2						
KLBR	**Kellerberrin**	**0.15**	**157**	*i* P	Pg	19 08 11.0	-1.9
KLBR				S	Sg	19 08 13.0	-2.0
BLDU	**Ballidu**	**1.18**	**315**	P	Pg	19 08 31.5	-1.2
	baz=1.2						
BLDU				S	Sg	19 08 46.4	-1.6
	baz=1.2						
BLDU	**Ballidu**	**1.18**	**315**	P	Pg	19 08 30.0	-2.6
BLDU				S	Sg	19 08 45.0	-3.0
PING	**Pingelly**	**1.21**	**209**	P	Pg	19 08 30.0	-3.1
PING				S	Sg	19 08 46.0	-2.8
AUKUL	**Kulin High Sch**	**1.28**	**162**	P	Pg	19 08 32.0	-2.5
AUKUL				S	Sg	19 08 48.0	-3.1
MUN	**Mundaring**	**1.36**	**247**	P	Pn	19 08 34.1	-2.0
	baz=1.3						
MUN				S	Sg	19 08 52.1	-1.7
	baz=1.3						
MUN	**Mundaring**	**1.36**	**247**	P	Pn	19 08 33.0	-3.1
MUN				S	Sg	19 08 51.0	-2.9
NWAO	**Narrogin (SRO)**	**1.52**	**194**	P	Pn	19 08 36.8	-1.4
	baz=1.5						
NWAO				S	Sn	19 08 56.7	-1.9
	baz=1.5						
NWAO	**Narrogin (SRO)**	**1.52**	**194**	P	Pn	19 08 35.0	-3.2
NWAO				S	Sn	19 08 55.0	-3.6

IDC **12** *19:09:52.9±2.1, 7°.60S×129°.23E, h127km±26km, mb3.1/1, mb1 3.5/6, mb1mx3.2/27, mbtmp3.8/6, Error ellipse: s-maj=25.3km s-min=19.9km az=118.0*

ISC 12 19:09:47.4±1.2, 7°.62S±0°.07×129°.4E±0°.1, h79km, n6, σ2°69/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.26**	**245**	P	Pn	19 11 21.7	+4.5
	4.9nm,0.3s,baz=127,slow=2.0,SNR=7.8						
BATI				S	**Sn**	**19 12 28.7**	**+1.4**
	4.6nm,0.3s,baz=130,slow=16,SNR=4.4						
SIJI	**Sorong**	**6.95**	**15**	P	Pn	19 11 32.7	+6.0
	0.3nm,0.3s,baz=189,slow=22,SNR=11						
SIJI				S	**Sn**	**19 12 44.9**	**+0.5**
	1.0nm,0.3s,baz=261,slow=23,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.05**	**199**	P	Pn	19 12 26.1	+3.5
	0.5nm,0.3s,baz=19,slow=14,SNR=37						
FITZ				S	**Sn**	**19 14 21.9**	**-2.5**
	0.3nm,0.3s,baz=74,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**13.13**	**159**	P	**P**	**19 12 55.4**	**-2.6**
	0.6nm,0.3s,baz=338,slow=13,SNR=37						
WRA				S	**Sn**	**19 15 17.0**	**+1.8**
	1.6nm,0.3s,baz=327,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**16.52**	**165**	P	**P**	**19 13 39.5**	**+3.9**
	0.3nm,0.3s,baz=345,slow=10,SNR=45						
ASAR				S	**Sn**	**19 16 38.5**	**+1.4**
	0.2nm,0.3s,baz=359,slow=28,SNR=3.4						
MKAR	**Makanchi Array**	**68.44**	**327**	P	**P**	**19 20 40.2**	**-0.8**
	0.2nm,0.5s,baz=131,slow=6.5,SNR=5.8						

MOS **12** *19:26:57.0±0.0, 41°.14N×47°.39E, h9km, MPVA4.0*
AZER **12** *19:26:57.5±0.0, 41°.22N×47°.29E, h10km, ml3.1/30, Error ellipse: s-maj=1.0km s-min=0.5km az=37.0*
NSSP **12** *19:26:57.9, 41°.23N×47°.25E, h11km, Ms3.0*
IASPEI **12** *19:26:58.6±0.9, 41°.21N±0°.02×47°.27E±0°.02, h11km±6km, Error ellipse: s-maj=3.3km s-min=3.2km az=97.0, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
DRS **12** *19:27:00.3±0.0, 41°.34N×47°.29E, h12km*
DDA **12** *19:27:05.6, 41°.89N×45°.37E, h7km±1km, ML1.9*

ISC 12 19:26:58.5±0.8, 41°.20N±0°.01×47°.27E±0°.01, h11km±5km, n64, σ1°66/126, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEKA	**Sheki**	**0.05**	**280**	P	**Pg**	**19 27 00.8**	**+0.1**
	SNR=4288						
SEKA				S	**Sg**	**19 27 02.9**	**+0.5**
AKT	**Akhty**	**0.45**	**51**	*i* Pg	**Pb**	**19 27 07.1**	**-1.4**
	294nm,0.5s						
AKT				*e*Sg	**Sb**	**19 27 13.4**	**-1.9**
	1μm,0.3s						
MNGR	**Mingechevir, A**	**0.45**	**198**	P	**Pb**	**19 27 08.7**	**+0.2**
	SNR=8.2						
MNGR				S	**Sb**	**19 27 17.4**	**+2.3**
QBL	**Gabala**	**0.50**	**120**	P	**Pg**	**19 27 07.7**	**-0.6**
	SNR=50						
QBL				S	**Sb**	**19 27 16.7**	**0.0**
ZKTA	**Zakatala**	**0.66**	**312**	P	**Pb**	**19 27 11.8**	**-0.2**
	SNR=38						
ZKTA				S	**Sn**	**19 27 22.7**	**-1.5**
XNQ	**Khinaliq**	**0.66**	**92**	P	**Pg**	**19 27 10.5**	**-0.8**
	SNR=36						
XNQ				S	**Sg**	**19 27 19.3**	**-0.7**
KSMR	**Kasumkent**	**0.76**	**58**	*i* Pg	**Pn**	**19 27 14.1**	**-1.2**
	1μm,0.1s						
KSMR				*e*Sg	**Sb**	**19 27 24.1**	**-0.2**
IML	**Ismayilli**	**0.80**	**120**	P	**Pg**	**19 27 13.6**	**-0.4**
	SNR=17						
IML				S	**Sb**	**19 27 25.8**	**+0.4**
QSAR	**Qusar**	**0.81**	**67**	P	**Pn**	**19 27 14.5**	**-1.5**
	SNR=25						
QSAR				S	**Sb**	**19 27 25.6**	**-0.1**
DDFL	**Dedoflistskaro**	**0.90**	**286**	*i* P	**Pn**	**19 27 19.6**	**+2.4**
DDFL				*i* S	**Sn**	**19 27 30.3**	**0.0**
GANJ	**Ganja**	**0.91**	**233**	P	**Pg**	**19 27 15.6**	**-0.4**
	SNR=36						
GANJ				S	**Sb**	**19 27 28.7**	**+0.3**
QUBA	**Quba, Azerbaij**	**0.94**	**80**	P	**Pn**	**19 27 16.7**	**-1.0**
	SNR=12						
QUBA				S	**Sn**	**19 27 29.5**	**-1.6**
BRDA	**Brd**	**0.94**	**184**	P	**Pn**	**19 27 17.4**	**-0.3**
	SNR=8.0						
BRDA				S	**Sn**	**19 27 32.9**	**+1.9**
KMKR	**Kumukh**	**0.94**	**352**	*e*Pg	**Pn**	**19 27 16.5**	**-1.4**
KMKR				*e*Sg	**Sn**	**19 27 31.5**	**0.0**
ZRD	**Zardab**	**0.97**	**161**	P	**Pb**	**19 27 17.5**	**+0.1**
	SNR=13						
ZRD				S	**Sn**	**19 27 33.4**	**+1.5**
URKR	**Urkarakh**	**1.00**	**16**	*e*Pg	**Pn**	**19 27 18.0**	**-0.7**
	65nm,0.5s						
URKR				*e*Sg	**Sn**	**19 27 32.3**	**-0.6**
	143nm,0.3s						
KDMR	**Kurdemir**	**1.08**	**140**	P	**Pn**	**19 27 19.4**	**-0.1**
KDMR				S	**Sn**	**19 27 35.6**	**+1.1**
PQL	**Pirkuli**	**1.08**	**112**	P	**Pn**	**19 27 19.3**	**-0.5**
	SNR=14						
PQL				S	**Sn**	**19 27 34.4**	**-0.5**
AGDM	**Agdam**	**1.10**	**186**	P	**Pb**	**19 27 19.3**	**-0.3**
	SNR=11						
AGDM				S	**Sn**	**19 27 36.9**	**+1.8**
GNBR	**Gunib**	**1.21**	**349**	*i* Pg	**Pg**	**19 27 21.2**	**-0.6**
	50nm,0.7s						
GNBR				*e*Sg	**Sn**	**19 27 36.6**	**-1.4**
SIZA	**Siyzn**	**1.24**	**95**	P	**Pg**	**19 27 22.7**	**+0.4**

	SNR=17								
SIZA					S		Sn	19 27 41.4	+2.8
GDB	**GEDABAY**	**1.24**	**248**		P		**Pn**	19 27 21.5	-0.5
	SNR=5.7								
GDB					S		**Sn**	19 27 41.4	+2.5
SGKR	**Sergokala**	**1.29**	**13**	*e*	Pg		**Pg**	19 27 23.9	+0.6
SGKR				*e*	Sg		**Sn**	19 27 44.0	+4.1
ATGJ	**Altiaghaj**	**1.31**	**104**		P		**Pb**	19 27 22.7	-0.5
	SNR=6.9								
ATGJ					S		**Sg**	19 27 41.7	+1.1
GBS	**Qobustan**	**1.43**	**117**		Pn		**Pg**	19 27 26.1	+0.1
GBS					Sn		**Sg**	19 27 45.6	+1.0
QZX	**Qazax, Azerbai**	**1.44**	**265**		Pn		**Pn**	19 27 24.5	-0.1
	SNR=52								
QZX					Sn		**Sg**	19 27 45.2	+0.3
BLQ	**Beylaqan**	**1.49**	**171**		Pn		**Pn**	19 27 25.1	-0.2
	SNR=19								
BLQ					Sn		**Sb**	19 27 46.1	+0.8
UNCR	**Uncukul**	**1.55**	**347**	*e*	Pg		**Pg**	19 27 30.1	+1.8
UNCR				*e*	Sg		**Sg**	19 27 54.6	+6.1
SAAT	**Saatly**	**1.60**	**146**		Pn		**Pn**	19 27 25.3	-1.4
SAAT					Sn		**Sg**	19 27 47.6	+0.2
BUJR	**Buynaksk**	**1.63**	**356**	*e*	Pg		**Pg**	19 27 29.6	-0.1
BUJR				*e*	Sg		**Sg**	19 27 53.0	+2.1
KRNR	**Karanay**	**1.65**	**351**	*e*	Pg		**Pg**	19 27 30.3	+0.2
KRNR				*e*	Sg		**Sg**	19 27 56.1	+4.5
BTLR	**Botlikh**	**1.66**	**332**	*e*	Pg		**Pg**	19 27 30.2	-0.1
BTLR				*e*	Sg		**Sg**	19 27 53.7	+1.9
QRD	**Qoradiz**	**1.74**	**179**		Pn		**Pn**	19 27 28.7	0.0
	SNR=18								
QRD					Sn		**Sb**	19 27 51.9	-0.3
ALIB	**Äli-Bayra**	**1.81**	**133**		Pn		**Pb**	19 27 30.5	-1.2
ALIB					Sn		**Sg**	19 27 56.6	-0.2
GRS	**Goris**	**1.84**	**203**	⇑ *i*	P		**Pn**	19 27 28.0	-2.2
GRS				⇓ *i*	S		**Sn**	19 27 53.0	-0.6
DBC	**Dubki**	**1.85**	**350**	*e*	Pg		**Pg**	19 27 34.1	+0.2
DBC				*e*	Sg		**Sg**	19 27 59.7	+1.8
DLMR	**Dylym**	**1.93**	**346**	*e*	Pg		**Pg**	19 27 35.2	-0.3
DLMR				*e*	Sg		**Sg**	19 28 04.0	+3.5
DVE	**Vedeno**	**1.95**	**335**	*e*	Pg		**Pg**	19 27 34.5	-1.5
DVE				*e*	Sg		**Sg**	19 28 02.6	+1.4
GLBA	**Clilabad**	**2.14**	**156**		Pn		**Pn**	19 27 34.9	+0.7
	SNR=7.2								
GLBA					Sn		**Sn**	19 28 01.7	+1.0
KAPZ	**Kaputan**	**2.14**	**247**	*e*	P		**Pb**	19 27 36.2	-1.2
KAPZ				*e*	S		**Sb**	19 28 05.6	+1.6
GNI	**Garni**	**2.19**	**242**	*i*	P		**Pb**	19 27 37.3	-1.0
GNI				*i*	S		**Sg**	19 28 08.1	-0.8
GNI	**Garni**	**2.19**	**242**	*e*	Pn		**Pb**	19 27 37.7	-0.6
GNI				*e*	Sn		**Sg**	19 28 08.3	-0.6
STE	**Stepanavan**	**2.20**	**266**	⇑ *i*	P		**Pb**	19 27 37.2	-1.2
STE				⇑ *i*	S		**Sb**	19 28 07.2	+1.5
SBZ	**Shahbuz**	**2.23**	**217**		Pg		**Pb**	19 27 38.8	-0.1
	SNR=74								
SBZ					Sg		**Sg**	19 28 09.1	-1.0
GROC	**Groznyy**	**2.28**	**332**	*e*	Pn		**Pg**	19 27 40.4	-1.9
GROC				*e*	Sn		**Sg**	19 28 12.2	+0.4
NRKZ	**NAREK**	**2.32**	**240**	*e*	P		**Pb**	19 27 38.9	-1.5
NRKZ				*e*	S		**Sb**	19 28 10.7	+1.5
YRD	**Yardimli**	**2.40**	**162**		Pn		**Pn**	19 27 37.5	-0.4
	SNR=16								
YRD					Sn		**Sn**	19 28 09.2	+1.7
NAX	**Nakhchivan**	**2.44**	**214**		Pg		**Pb**	19 27 42.2	-0.3
	SNR=6.5								
ORD	**Ordubad**	**2.47**	**204**		Pn		**Pb**	19 27 41.0	-2.0
	SNR=31								
ORD					Sn		**Sb**	19 28 12.3	-1.1
KMGR	**Komgaron**	**2.58**	**317**	*e*	Pn		**Pb**	19 27 44.0	-0.8
KMGR				*e*	Sn		**Sg**	19 28 18.5	-2.8
METS	**Metsamor**	**2.64**	**248**	*e*	P		**Pn**	19 27 42.3	+1.2
METS				*e*	S		**Sb**	19 28 16.4	-2.0
LRK	**Lerik**	**2.68**	**162**		Pn		**Pn**	19 27 42.0	+0.1
	SNR=18								
LRK					Sn		**Sn**	19 28 16.2	+1.8
LACR	**Lac**	**2.75**	**307**	*e*	Pn		**Pb**	19 27 46.2	-1.6
LACR				*e*	Sn		**Sb**	19 28 23.0	+1.5
IGDI	**IGDIR**	**2.77**	**242**	*i*	P		**Pn**	19 27 43.8	+0.8
IGDI				*i*	S		**Sn**	19 28 15.8	-0.7
IGDI					IAML			19 28 32.0	
	comp=E,8.6nm,1.0s								
IGDI					IAML			19 28 50.0	
	comp=N,6.4nm,0.5s								
EAK	**Akyaka**	**2.82**	**261**	*i*	P		**Pb**	19 27 47.6	-1.5
EAK				*i*	S		**Sn**	19 28 12.1	-5.7
EAK					IAML			19 28 34.0	
	comp=E,42nm,1.0s								
EAK					IAML			19 28 38.0	
	comp=N,41nm,0.9s								
VNNZ	**Vanand**	**2.84**	**248**	*e*	P		**Pb**	19 27 49.7	+0.3
VNNZ				*e*	S		**Sg**	19 28 29.4	-0.4
ASTR	**Astara**	**2.88**	**156**		Pn		**Pn**	19 27 45.9	+1.5
	SNR=5.4								
ASTR					Sn		**Sn**	19 28 20.1	+1.0
BTKR	**Batakoyurt**	**2.97**	**318**	*e*	Pn		**Pb**	19 27 49.0	-2.4
BTKR				*e*	Sn		**Sb**	19 28 27.6	-0.1
KORR	**Kora**	**3.04**	**309**	*e*	Pn		**Pb**	19 27 50.2	-2.4
KORR				*e*	Sn		**Sb**	19 28 28.9	-0.8
ONI	**Oni**	**3.17**	**297**	*e*	Pn		**Pb**	19 27 52.5	-2.4
ONI				*e*	Sn		**Sb**	19 28 32.7	-0.9
STDR	**Stavd-Durt**	**3.22**	**313**	*e*	Pn		**Pb**	19 27 53.1	-2.6
STDR				*e*	Sn		**Sb**	19 28 34.4	-0.5
KOTA	**Agri, Merkez-K**	**3.40**	**247**	*i*	P		**Pn**	19 27 52.8	+1.1
KOTA				*i*	S		**Sb**	19 28 36.6	-3.7
DAGI	**Agillar**	**4.05**	**270**	*i*	P		**Pb**	19 28 11.7	+1.8
DAGI				*i*	S		**Sn**	19 28 49.9	+2.0
DAGI					IAML			19 29 05.0	
	comp=N,6.2nm,0.7s								
DAGI					IAML			19 29 08.0	
	comp=E,4.7nm,1.3s								
SHA1	**Shidzhatmaz**	**4.25**	**308**	*e*	Pn		Pb	19 28 08.0	-5.5
SHA1				*e*	Sn		**Sn**	**19 28 58.0**	**+4.8**

*IDC **12** 19:28:09.3±0.8,29°.82S×68°.42W,h0km,mb3.9/5, mb1 4.1/8,mb1mx3.9/29,mbtmp3.9/8,ML3.7/3,MS3.0/3, Ms1 3.1/3,ms1mx2.8/24,Error ellipse: s-maj=27.7km s-min=25.4km az=48.0*
*SJA **12** 19:28:11.9±1.2,29°.50S×68°.33W,h15km,ML4.2,MW4.0*
*NEIC **12** 19:28:16.0±1.6,29°.63S±0°.05×68°.18W±0°.03,h42km±11km, Md4.1(SJA),Error ellipse: s-maj=7.7km s-min=4.3km az=183.0*

ISC 12 19:28:12.0±1.3,29°.67S±0°.03×68°.31W±0°.03,h8km±9km, n64,σ1¶96/87,mb4.0/5,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACDV	**Cuesta del Vie**	**0.86**	**235**	*eP*	**Pg**	**19 28 28.4**	**-0.2**
ACDV				*eS*	**Sg**	**19 28 41.6**	**+1.7**
ACCO	**Cerro Coronel**	**1.12**	**216**	*eP*	**Pg**	**19 28 33.0**	**-0.6**
ACCO				*eP*	**Pg**	**19 28 33.1**	**-0.6**
AROD	**Rodeo**	**1.13**	**244**	*eP*	**Pg**	**19 28 33.0**	**-0.7**
AROD				*eS*	**Sg**	**19 28 47.3**	**-1.1**
ACLC	**CERRO LA CRUZ**	**1.21**	**79**	*eP*	**Pb**	**19 28 35.2**	**0.0**
ACLC				*eS*	**Sn**	**19 28 52.4**	**+0.3**
ACLC				IAML		19 28 59.1	
	comp=Z,3µm,0.3s						
RTLL	**Cerro Villicun**	**1.66**	**185**	*eP*	**Pb**	**19 28 43.4**	**+0.5**
RTLL				*eS*	**Sg**	**19 29 06.1**	**+0.7**
RTLL				IAML		19 29 14.2	
	comp=Z,870nm,1.9s						
ZON	**Zonda**	**1.90**	**190**		**Pb**	**19 28 46.8**	**-0.1**
ZON	**Zonda**	**1.90**	**190**	*eP*	**Pb**	**19 28 47.6**	**+0.7**
ZON				*eS*	**Sg**	**19 29 12.6**	**-0.4**
LCO	**Las Campanas**	**2.19**	**287**	Pn	**Pn**	**19 28 50.8**	**+1.7**
LCO				Sn	**Sb**	**19 29 21.8**	**+2.2**
RTCV	**Cerro Valdivia**	**2.19**	**185**	*eP*	**Pb**	**19 28 52.4**	**+0.4**
RTCV				*eS*	**Sg**	**19 29 22.3**	**-0.2**
GO04	**Tololo Observa**	**2.22**	**256**	Pn	**Pn**	**19 28 51.5**	**+2.1**
GO04				Sn	**Sb**	**19 29 20.3**	**-0.1**
GO04	**Tololo Observa**	**2.22**	**256**	*eP*	**Pn**	**19 28 51.5**	**+2.1**
GO04				*eS*	**Sb**	**19 29 20.4**	**+0.1**
RTLS	**Leoncito**	**2.29**	**202**	*eP*	**Pb**	**19 28 53.6**	**-0.1**
RTLS				*eS*	**Sg**	**19 29 25.0**	**-0.5**
RTLS				IAML		19 29 26.5	
	comp=Z,2µm,0.4s						
CO03	**El Pedregal**	**2.37**	**240**		**Pn**	**19 28 54.2**	**+2.9**
CO03				Sn	**Sb**	**19 29 24.9**	**+0.4**
CYA	**Choya**	**2.51**	**61**	*eP*	**Pn**	**19 28 55.7**	**+2.4**
CYA				*eS*	**Sb**	**19 29 30.8**	**+2.2**
CYA				IAML		19 29 33.4	
	comp=Z,839nm,0.6s						
GO03	**Copiap**	**2.68**	**320**		**Pn**	**19 28 57.0**	**+1.5**
GO03				Sn	**Sn**	**19 29 31.1**	**+2.9**
GO03	**Copiap**	**2.68**	**320**	*eP*	**Pn**	**19 28 57.4**	**+1.8**
GO03				*eS*	**Sn**	**19 29 31.6**	**+3.4**
AUSP	**Uspallata**	**2.71**	**200**	*eP*	**Pb**	**19 29 00.2**	**-0.7**
AUSP				*eS*	**Sb**	**19 29 37.0**	**+2.6**
ACAN	**Cantantal**	**2.77**	**160**	*eP*	**Pb**	**19 29 00.5**	**-1.3**
ACAN				*eS*	**Sg**	**19 29 40.7**	**-0.2**
ACAN				IAML		19 29 45.9	
	comp=Z,420nm,0.3s						
CO02	**Combarbal**	**2.78**	**236**		**Pn**	**19 29 00.3**	**+3.2**
CO02				Sn	**Sb**	**19 29 37.3**	**+0.9**
AC04	**Llanos de Chal**	**2.83**	**300**		**Pn**	**19 28 59.4**	**+1.7**
AC02	**Maricunga**	**2.92**	**345**	Pn	**Pn**	**19 29 01.6**	**+2.4**
ASAL	**Salagasta**	**2.94**	**189**	*eP*	**Pb**	**19 29 03.2**	**-1.7**
ASAL				*eS*	**Sb**	**19 29 42.5**	**+1.4**
ASAL				IAML		19 29 45.8	
	comp=Z,750nm,0.4s						
ARCO	**CERRO ARCO**	**3.21**	**189**	*eP*	**Pb**	**19 29 06.9**	**-2.4**
ARCO				IAML		19 30 04.8	
	comp=Z,434nm,0.5s						
AAGR	**Agrelo**	**3.43**	**187**	*eP*	**Pn**	**19 29 09.7**	**+3.7**
AAGR				*eS*	**Sg**	**19 30 01.8**	**-0.5**
AAGR				IAML		19 30 09.5	
	comp=Z,385nm,0.2s						
MRA	**San Martin**	**3.53**	**142**	*eP*	**Pn**	**19 29 10.4**	**+3.1**
MRA				*eS*	**Sg**	**19 30 04.5**	**-0.8**
MRA				IAML		19 30 04.6	
	comp=Z,363nm,0.5s						
VA03	**San Esteban**	**3.63**	**211**		**Pn**	**19 29 12.4**	**+3.7**
VA03	**San Esteban**	**3.63**	**211**	*eP*	**Pn**	**19 29 12.7**	**+4.0**
VA03				*eS*	**Sb**	**19 30 05.2**	**+4.3**
VA03				IAML		19 30 07.1	
	comp=Z,984nm,0.7s						
ROC1	**El Roble**	**4.03**	**214**	*eP*	**Pn**	**19 29 17.0**	**+2.7**
FSA	**Cafayete**	**4.10**	**31**	*eP*	**Pn**	**19 29 18.4**	**+3.1**
FSA				*eS*	**Sn**	**19 30 08.4**	**+4.8**
MT03	**Universidad Ad**	**4.25**	**206**		**Pn**	**19 29 20.0**	**+2.8**
MT05	**Renca**	**4.25**	**209**	Pn	**Pn**	**19 29 20.0**	**+2.8**
MT02	**Curacav**	**4.32**	**213**		**Pn**	**19 29 20.3**	**+2.3**
VA01	**Torpederas**	**4.40**	**220**		**Pn**	**19 29 21.0**	**+1.9**
GO02	**Mina Guanaco**	**4.63**	**345**		**Pn**	**19 29 24.2**	**+1.5**
MT09	**Talagante**	**4.69**	**208**		**Pn**	**19 29 25.4**	**+2.1**
VA05	**Santo Domingo**	**4.87**	**215**		**Pn**	**19 29 27.5**	**+1.9**
MT01	**Popeta**	**4.87**	**210**		**Pn**	**19 29 27.4**	**+1.7**
RFA	**San Rafael**	**5.09**	**181**	*eP*	**Pn**	**19 29 30.6**	**+1.9**
BO01	**Tunca**	**5.26**	**206**	Pn	**Pn**	**19 29 32.3**	**+1.2**
PB14	**IPOC Station P**	**5.36**	**339**	Pn	**Pn**	**19 29 33.5**	**+0.8**
BO02	**Sierra Bellavi**	**5.52**	**202**		**Pn**	**19 29 36.9**	**+2.2**
GO05	**Huala**	**6.14**	**209**		**Pn**	**19 29 43.7**	**+0.5**
PB15	**IPOC Station P**	**6.52**	**351**	Pn	**Pn**	**19 29 49.0**	**+0.5**
PB06	**IPOC Station P**	**7.03**	**350**	Pn	**Pn**	**19 29 57.0**	**+1.5**
LVC	**Limon Verde**	**7.05**	**355**	Pn	**Pn**	**19 29 57.3**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=231,slow=5.6,SNR=0.7						
LVC				Sn	**Sn**	**19 31 14.6**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=2.5,slow=22,SNR=1.4						
LVC				Lg	Lg	19 31 50.0	
	comp=Z,1.2nm,0.3s,baz=89,slow=18,SNR=2.3						
LVC				LR	LR	19 33 02.4	
	comp=Z,87nm,21.1s,baz=179,slow=41						
LVC	**Limon Verde**	**7.05**	**355**	Pn	**Pn**	**19 29 56.5**	**+0.6**
PB09	**IPOC Station P**	**7.89**	**354**	Pn	**Pn**	**19 30 07.3**	**+0.1**
PB01	**IPOC Station P**	**8.66**	**353**	Pn	**Pn**	**19 30 17.6**	**-0.2**
ITQB	**Itaqui**	**10.16**	**93**	Pn	**Pn**	**19 30 38.0**	**-0.3**
CPUP	**Villa Florida**	**10.26**	**74**	Pn	**Pn**	**19 30 38.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=249,slow=13,SNR=7.1						
CPUP				Lg	Lg	19 33 40.2	
	comp=Z,1.3nm,0.3s,baz=172,slow=19,SNR=1.8						
CPUP				LR	LR	19 34 15.9	
	comp=Z,106nm,18.0s,baz=16,slow=35						
CPUP	**Villa Florida**	**10.26**	**74**	Pn	**Pn**	**19 30 38.5**	**-1.1**
PLCA	**Paso Flores**	**11.19**	**189**	Lg	Lg	19 34 02.5	
	comp=Z,0.2nm,0.3s,baz=89,slow=8.5,SNR=3.2						
PLTB	**Pedras Altas**	**12.82**	**103**	Pn	**Pn**	**19 31 13.5**	**-1.2**
LPAZ	**La Paz**	**13.32**	**1**	Pn	**Pn**	**19 31 24.4**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=123,slow=9.8,SNR=1.8						
LPAZ				LR	LR	19 36 29.8	
	comp=Z,68nm,19.1s,baz=108,slow=37						
EFI	**East Falkland**	**23.27**	**164**	P	**P**	**19 33 19.1**	**-0.8**
TXAR	**Lajitas Array**	**67.69**	**327**	P	**P**	**19 39 09.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=153,slow=8.4,SNR=7.2						
MAW	**Mawson**	**76.39**	**163**	P	**P**	**19 40 01.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=265,slow=5.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**79.71**	**68**	P	**P**	**19 40 19.5**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=258,slow=4.3,SNR=1.9						
PDAR	**Pinedale Array**	**81.45**	**331**	P	**P**	**19 40 28.4**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=135,slow=8.3,SNR=8.0						
NVAR	**Mina Aray Bea**	**82.27**	**323**	P	**P**	**19 40 32.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=156,slow=6.9,SNR=2.1						
ASAR	**Alice Springs**	**122.83**	**204**	PKP	**PKPdf**	**19 47 07.0**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=143,slow=1.7,SNR=9.0						
WRA	**Warramunga Arr**	**126.06**	**207**	PKP	**PKPdf**	**19 47 13.2**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=157,slow=1.8,SNR=20						
ZALV	**Zalesovo Beam**	**148.89**	**31**	PKPbc	**PKPdf**	**19 47 58.8**	**+2.8**
	comp=Z,0.0nm,0.5s,baz=312,slow=1.1,SNR=14						
MKAR	**Makanchi Array**	**151.50**	**45**	PKPbc	**PKPbc**	**19 48 04.9**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=303,slow=2.4,SNR=16						

*IDC **12** 19:29:39.9±1.3,17°.69S×178°.71W,h561km±15km,mb3.2/8, mb1 3.4/11,mb1mx3.2/34,mbtmp4.2/11,Error ellipse: s-maj=21.8km s-min=16.0km az=121.0*
*NEIC **12** 19:29:40.9±2.1,17°.8S±0°.1×178°.7W±0°.1,h566km±8km, mb4.4/39,Error ellipse: s-maj=17.9km s-min=15.5km az=106.0*

ISC 12 19:29:39.3±0.6,17°.69S±0°.08×178°.73W±0°.09,h547km, n57,σ1¶36/58,mb4.2/26,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.07**	**269**	P	**P**	**19 30 58.4**	**+3.7**
	1.2nm,0.3s,baz=161,slow=10.0,SNR=7.5						
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**19 31 33.5**	**-0.4**
	4.0nm,0.3s,baz=225,slow=16,SNR=4.3						
AFI	**Afiamalu**	**7.67**	**62**	P	**P**	**19 31 33.9**	**0.0**
NIUE	**Niue**	**8.47**	**101**	P	**P**	**19 31 42.8**	**+1.2**
SANVU	**Saraoutou**	**13.67**	**277**	P	**P**	**19 32 37.0**	**+1.7**
PINNC	**Pines Island,**	**13.88**	**247**	P	**P**	**19 32 40.3**	**+3.1**
DZM	**Mont Dzumac**	**14.62**	**250**	P	**P**	**19 32 44.3**	**-0.7**
	0.4nm,0.3s,baz=256,slow=14,SNR=1.5						
OUZ	**Omahuta**	**18.75**	**200**	P	**P**	**19 33 26.9**	**+2.8**
OUZ				IAmb	IAmb	19 33 35.7	
	comp=Z,39nm,1.3s						
URZ	**Urewera**	**20.82**	**189**	P	**P**	**19 33 41.0**	**-1.8**
	comp=Z,3.0nm,0.3s,baz=121,slow=24,SNR=7.2						
URZ	**Urewera**	**20.82**	**189**	P	**P**	**19 33 41.3**	**-1.5**
URZ				IAmb	IAmb	19 33 43.5	
	comp=Z,32nm,1.4s						
THZ	**Tophouse**	**25.05**	**195**	P	**P**	**19 34 21.3**	**+0.8**
LTZ	**Lake Taylor**	**26.16**	**195**	P	**P**	**19 34 28.5**	**-1.8**
FOZ	**Fox Glacier**	**27.53**	**198**	P	**P**	**19 34 41.4**	**-0.9**
WKZ	**Wanaka**	**28.95**	**198**	P	**P**	**19 34 53.2**	**-1.5**
EIDS	**Eidsvold**	**29.06**	**249**	P	**P**	**19 34 55.1**	**-0.8**
EIDS				IAmb	IAmb	19 34 56.7	
	comp=Z,13nm,1.1s						
MLZ	**Mavora Lakes**	**29.71**	**199**	P	**P**	**19 35 01.4**	**+0.1**
ARMA	**Armidale**	**29.79**	**239**	P	**P**	**19 35 02.7**	**+0.4**
ARMA				IAmb	IAmb	19 35 13.7	
	comp=Z,14nm,1.2s						
CTAO	**Charters Tower**	**33.19**	**260**	P	**P**	**19 35 30.7**	**-0.6**
CAN	**Canberra**	**33.60**	**232**	P	**P**	**19 35 34.6**	**0.0**
CAN				IAmb	IAmb	19 35 43.1	
	comp=Z,22nm,1.5s						
TOO	**Toolangi**	**37.08**	**230**	P	**P**	**19 36 03.9**	**+0.4**
TOO				IAmb	IAmb	19 36 04.8	
	comp=Z,5.6nm,0.9s						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**19 36 15.2**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=89,slow=10,SNR=17						
STKA	**Stephens Creek**	**38.47**	**241**	IAmb	IAmb	19 36 16.2	
	comp=Z,1.6nm,1.1s						
WAKE	**Wake Island**	**39.45**	**338**	P	**P**	**19 36 26.2**	**+3.4**
BBOO	**Buckleboo**	**43.25**	**241**	P	**P**	**19 36 52.6**	**-0.2**
BBOO				IAmb	IAmb	19 36 53.3	
	comp=Z,10nm,0.9s						
WR0	**Warramunga Arr**	**44.19**	**259**	P	**P**	**19 36 59.1**	**-1.2**
WR0				IAmb	IAmb	19 37 19.3	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**44.34**	**260**	P	**P**	**19 36 59.9**	**-1.6**
WB0				IAmb	IAmb	19 37 01.2	
	comp=Z,5.3nm,0.9s						
WB2	**Warramunga Arr**	**44.37**	**259**	P	**P**	**19 37 00.2**	**-1.5**
WB2				IAmb	IAmb	19 37 16.0	
	comp=Z,7.2nm,1.1s						
WRAB	**Tennant Creek**	**44.37**	**259**	P	**P**	**19 36 59.4**	**-2.3**
WRAB				IAmb	IAmb	19 37 12.6	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**19 37 00.5**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=86,slow=7.1,SNR=32						
WRA				PcP	**PcP**	**19 38 32.6**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=97,slow=5.5,SNR=1.2						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**19 37 00.3**	**-1.4**
AS31	**Alice Springs**	**44.56**	**254**	P	**P**	**19 37 02.6**	**-0.6**
AS31				IAmb	IAmb	19 37 03.0	
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**19 37 02.5**	**-0.7**
	comp=Z,12nm,0.6s,baz=89,slow=8.0,SNR=225						
ASAR				PcP	**PcP**	**19 38 33.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=102,slow=3.9,SNR=3.9						
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**19 37 02.0**	**-1.1**
MIDW	**Midway**	**45.65**	**2**	P	**P**	**19 37 11.6**	**+0.4**
MTN	**Manton Dam**	**48.50**	**268**	P	**P**	**19 37 31.9**	**-1.1**
MTN				IAmb	IAmb	19 37 33.4	
	comp=Z,15nm,1.2s						
FORT	**Forrest**	**49.83**	**244**	P	**P**	**19 37 41.5**	**-1.1**
FORT				IAmb	IAmb	19 37 50.5	
	comp=Z,23nm,1.1s						
KNRA	**Kununurra**	**50.21**	**264**	P	**P**	**19 37 44.8**	**-0.7**
KNRA				IAmb	IAmb	19 38 08.6	
	comp=Z,12nm,1.1s						
FAKI	**Fak Fak**	**50.24**	**281**	P	**P**	**19 37 45.5**	**-0.4**
FAKI				IAmb	IAmb	19 38 04.7	
	comp=Z,45nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**19 38 03.6**	**-0.4**
PSA00	**Pilbara Seismi**	**57.67**	**255**	P	**P**	**19 38 36.4**	**-1.7**
PSA00	**Pilbara Seismi**	**57.67**	**255**	P	**P**	**19 38 36.5**	**-1.7**
PSA00				IAmb	IAmb	19 38 41.3	
	comp=Z,6.6nm,1.0s						
MORW	**Morawa**	**60.29**	**246**	P	**P**	**19 38 54.2**	**-1.5**
MORW				IAmb	IAmb	19 38 56.2	
	comp=Z,28nm,1.4s						
SBA	**Scott Base**	**60.62**	**183**	P	**P**	**19 38 57.5**	**+0.6**
VNDA	**Vanda**	**60.64**	**185**	P	**P**	**19 38 57.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=88,slow=5.1,SNR=5.5						
TOLI2	**Tolitoli**	**62.38**	**281**	P	**P**	**19 39 09.0**	**-0.4**
GIRL	**Giralia**	**62.67**	**253**	P	**P**	**19 39 11.3**	**+0.1**
CASY	**Casey**	**66.21**	**205**	P	**P**	**19 39 32.4**	**-0.4**
CASY				IAmb	IAmb	19 39 33.7	
	comp=Z,10nm,1.4s						
MJAR	**Matsushiro Arr**	**67.55**	**323**	P	**P**	**19 39 40.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=171,slow=5.5,SNR=4.6						
MAJO	**Matsushiro**	**67.55**	**323**	P	**P**	**19 39 40.9**	**-0.7**
MAJO				IAmb	IAmb	19 39 44.8	
	comp=Z,11nm,1.4s						
JHS	**Saijyo**	**69.53**	**319**	P	**P**	**19 39 54.0**	**+0.5**
JHS				IAmb	IAmb	19 40 01.4	
	comp=Z,11nm,1.2s						
SSLB	**Suanglung**	**71.86**	**303**	P	**P**	**19 40 06.4**	**-1.2**
SSLB				IAmb	IAmb	19 40 16.2	
	comp=Z,9.3nm,1.3s						
QSPA	**South Pole Qui**	**72.37**	**180**	P	**P**	**19 40 10.3**	**+0.4**
PETK	**Petropavlovsk-**	**73.39**	**345**	P	**P**	**19 40 15.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=108,slow=6.5,SNR=1.9						
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**19 41 18.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=219,slow=5.7,SNR=4.2						
BRTR	**Keskin Array B**	**144

SNR=14
KSCEA Cheonan **0.48 297** P Pb 19 47 19.6 0.0
SNR=20
KSJEO Jeonju **0.78 211** P Pn 19 47 26.0 +0.2
SNR=7.6
KSJEO Jeonju **0.78 211** P Pn 19 47 26.0 +0.2
SNR=7.6

INET ***12*** *19:50:48.3, 9.˚45N×83.˚71W, h26km, ML2.3, MW2.8*
UPA ***12*** *19:50:50.0±2.4, 9.˚24N×83.˚71W, h14km±11km, MW4.1*
UCR ***12*** *19:50:50.5±1.6, 9.˚29N×83.˚71W, h23km±2km, MW3.6*
ISC 12 19:50:50.3±0.9, 9.˚28N±0.˚03×83.˚71W±0.˚03, h31km±6km, n37, σ0°89/55, 6C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PEZE	**Perez Zeledon,**	**0.11**	**18**	⇑*e*P		**Pb**	**19 50 55.8**	**-0.2**
PEZE				*e*S		**Sb**	**19 50 59.9**	**-0.1**
EDLM	**Las Mercedes**	**0.12**	**89**	⇓*i*P		**Pn**	**19 50 56.0**	**-0.1**
EDLM				*e*S		**Sb**	**19 51 00.2**	**+0.2**
EDDO	**Dominical**	**0.15**	**261**	⇑*i*P		**Pn**	**19 50 56.3**	**-0.2**
CDM	**Cerro de Muert**	**0.28**	**350**	⇑*i*P		**Pb**	**19 50 57.7**	**-0.4**
CDM				*e*S		**Sn**	**19 51 03.3**	**-0.8**
EDPN	**Palmar Norte**	**0.40**	**141**	*e*P		**Pb**	**19 50 59.4**	**+0.1**
EDPN				*e*S		**Sn**	**19 51 06.2**	**-0.2**
EDBA	**Buenos Aires**	**0.45**	**105**	*e*P		**Pb**	**19 50 59.0**	**-1.0**
EDBA				*e*S		**Sb**	**19 51 05.7**	**-1.0**
DRK0	**Durika**	**0.46**	**92**	*e*P		**Pb**	**19 50 59.8**	**-0.6**
DRK0	**Durika**	**0.46**	**92**	*e*P		**Pb**	**19 50 59.8**	**-0.6**
DRK0				*e*S		**Sb**	**19 51 06.9**	**-0.4**
RIMA	**Rio Macho**	**0.51**	**343**	⇑*i*P		**Pb**	**19 51 00.5**	**-0.7**
LCR2	**La Lucha 2**	**0.55**	**328**	⇑*i*P		**Pb**	**19 51 01.0**	**-0.7**
LCR2				*e*S		**Sb**	**19 51 09.1**	**-0.4**
MRVA	**Moravia de Chi**	**0.61**	**26**	*e*P		**Pb**	**19 51 02.1**	**-0.5**
MRVA				*e*S		**Sn**	**19 51 11.1**	**-0.6**
OCM	**Ochomogo**	**0.66**	**338**	⇓*e*P		**Pb**	**19 51 02.9**	**-0.8**
LPLA	**Las Palmas La**	**0.74**	**109**	*e*P		**Pb**	**19 51 04.0**	**-0.9**
LPLA				*e*S		**Sb**	**19 51 14.1**	**-0.6**
CVTR	**Volcan Turrial**	**0.74**	**356**	*e*P		**Pb**	**19 51 04.6**	**-0.5**
CVTR				*e*S		**Sb**	**19 51 14.9**	**-0.2**
HDC	**Heredia**	**0.82**	**331**	*e*P		**Pb**	**19 51 05.7**	**-0.6**
HDC				*e*S		**Sb**	**19 51 16.7**	**-0.4**
HDC	**Heredia**	**0.82**	**331**	⇑*e*P		**Pb**	**19 51 05.6**	**-0.6**
BATAN	**Batan**	**0.88**	**22**	*e*P		**Pn**	**19 51 07.3**	**+0.8**
BATAN				*e*S		**Sn**	**19 51 20.1**	**+1.8**
PIRO	**Carate, Puerto**	**0.94**	**157**	*e*P		**Pn**	**19 51 08.2**	**+0.8**
PIRO				*e*S		**Sn**	**19 51 21.3**	**+1.5**
PIRO	**Carate, Puerto**	**0.94**	**157**	*e*P		**Pb**	**19 51 07.9**	**-0.2**
JACO	**JACO, Garabito**	**1.01**	**292**	*e*P		**Pn**	**19 51 08.3**	**0.0**
BRU2	**Volcan**	**1.12**	**115**	*e*P		**Pn**	**19 51 09.8**	**-0.1**
BRU2				*e*S		**Sb**	**19 51 23.9**	**-1.5**
RGM0	**Gandoca**	**1.13**	**74**	*e*S		**Sn**	**19 51 27.3**	**+2.8**
BC3P	**Paso Ancho**	**1.18**	**113**	*e*P		**Pn**	**19 51 10.2**	**-0.6**
BC3P				*e*S		**Sn**	**19 51 26.6**	**+0.6**
CNI2	**El Empalme, Bo**	**1.23**	**83**	*e*S		**Sb**	**19 51 28.0**	**-0.6**
BCO2	**Palmira**	**1.29**	**115**	*e*P		**Pn**	**19 51 12.4**	**0.0**
BCO2				*e*S		**Sn**	**19 51 29.1**	**+0.3**
LAFE	**Finca La Fe, P**	**1.29**	**294**	⇓*i*P		**Pb**	**19 51 13.2**	**-0.9**
LNBQ3	**Los Naranjos,**	**1.34**	**111**	*e*P		**Pn**	**19 51 13.6**	**+0.6**
LNBQ3				*e*S		**Sn**	**19 51 31.2**	**+1.2**
PSOM3	**Paja de Sombre**	**1.49**	**113**	*e*P		**Pn**	**19 51 15.2**	**+0.2**
PSOM3				*e*S		**Sn**	**19 51 34.3**	**+0.9**
CEDE	**Laguna Cedeo**	**1.55**	**321**	⇓*i*P		**Pn**	**19 51 16.3**	**+0.5**
GUAL3	**Gualaca, Chiri**	**1.58**	**118**	*e*P		**Pn**	**19 51 16.2**	**0.0**
JTS	**Las Juntas de**	**1.58**	**310**	*e*P		**Pb**	**19 51 18.3**	**-0.8**
JTS	**Las Juntas de**	**1.58**	**310**	*e*P		**Pn**	**19 51 17.1**	**+0.9**
COVE	**Coope Vega, Sa**	**1.59**	**335**	*e*P		**Pn**	**19 51 16.7**	**+0.4**
PTEN	**Parque Tenorio**	**1.90**	**319**	*i* P		**Pb**	**19 51 22.6**	**-1.9**
CUI	**Cuipilapa**	**1.98**	**314**	*i* P		**Pn**	**19 51 22.8**	**+1.0**
GUAI	**GUAI**	**2.03**	**299**	*i* P		**Pn**	**19 51 23.3**	**+1.0**
HORNC	**Hornillas**	**2.03**	**315**	*i* P		**Pn**	**19 51 24.4**	**+1.9**

IDC ***12*** *19:52:22.3±1.7, 42.˚27N×78.˚49E, h0km, mb3.7/5, mb1 3.8/12, mb1mx3.6/61, mbtmp3.8/12, ML3.4/7, MS2.7/2, Ms1 2.7/2, ms1mx2.4/53, Error ellipse: s-maj=23.5km s-min=11.5km az=146.0*
SOME ***12*** *19:52:23.9, 42.˚42N×78.˚38E, h10km*
MOS ***12*** *19:52:23.9±1.1, 42.˚37N×78.˚47E, h9km, mb4.3/4, Error ellipse: s-maj=6.9km s-min=4.5km az=104.0*
MOS Felt (IV) at Karakol, Dzheti-Oguz, (III-IV) at Teploklyuchenko, Svetlaya Polyana, (III) at Kyzyl-Suu, (II-III) at Tyup.
KRNET ***12*** *19:52:23.7±0.1, 42.˚40N×78.˚43E, h18km, mb4.8*
NNC ***12*** *19:52:24.8±0.6, 42.˚47N×78.˚44E, h0km, mb4.7, mpv4.9, Error ellipse: s-maj=4.5km s-min=1.8km az=167.0*
ISC 12 19:52:25.3±1.2, 42.˚49N±0.˚03×78.˚42E±0.˚02, h4km±8km, n153, σ1°53/251, mb3.9/7, 39C-35D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SATY	**Saty**	**0.56**	**359**	⇓*i*P		**Pg**	**19 52 36.5**	**+0.4**
	baz=58							
SATY				⇑*i*S		**Sb**	**19 52 45.6**	**-0.7**
	baz=58							
SATY	**Saty**	**0.56**	**359**	⇓*i*P		**Pg**	**19 52 36.5**	**+0.4**
	505nm,0.1s							
SATY				⇑*i*S		**Sb**	**19 52 45.6**	**-0.7**
	2μm,0.2s							
SATY	**Saty**	**0.56**	**359**	P		**Pg**	**19 52 36.5**	**+0.4**
	705nm,0.1s							
SATY				S		**Sb**	**19 52 45.6**	**-0.7**
	4μm,0.1s							
SATY	**Saty**	**0.56**	**359**	*i* PG		**Pg**	**19 52 36.5**	**+0.4**
SATY				*i* S		**Sb**	**19 52 45.6**	**-0.7**
ANVS	**Anan'yevo**	**0.63**	**298**	⇓*i*P		**Pg**	**19 52 37.1**	**-0.2**
	baz=5.0							
ANVS				⇓*i*S		**Sg**	**19 52 46.5**	**+1.0**
	baz=5.0							
UZB	**Uzynbulak**	**0.79**	**34**	*e*P		**Pg**	**19 52 40.0**	**-0.4**
	baz=30							
UZB				*e*S		**Sb**	**19 52 51.5**	**-1.2**
	baz=30							
UZB	**Uzynbulak**	**0.79**	**34**	*e*P		**Pg**	**19 52 40.0**	**-0.4**
	336nm,0.1s							
UZB				*e*S		**Sb**	**19 52 51.6**	**-1.2**
	3μm,0.1s							
UZB	**Uzynbulak**	**0.79**	**34**	P		**Pg**	**19 52 40.0**	**-0.4**
	336nm,0.1s							
UZB				S		**Sb**	**19 52 51.6**	**-1.2**
	3μm,0.1s							
UZB	**Uzynbulak**	**0.79**	**34**	*e*PG		**Pg**	**19 52 40.0**	**-0.4**
UZB				*e*S		**Sb**	**19 52 51.6**	**-1.2**
KPKS	**Kokpek**	**0.99**	**11**	*e*P		**Pb**	**19 52 44.0**	**-1.1**
	baz=10.0							
KPKS				*e*S		**Sn**	**19 52 58.4**	**-2.2**
	baz=10.0							
KPKS	**Kokpek**	**0.99**	**11**	*e*P		**Pb**	**19 52 44.0**	**-1.1**
	1μm,0.1s							
KPKS				*e*S		**Sn**	**19 52 58.4**	**-2.2**
	4μm,0.3s							
KPKS	**Kokpek**	**0.99**	**11**	*e*PG		**Pb**	**19 52 44.0**	**-1.1**
KPKS				*e*S		**Sn**	**19 52 58.4**	**-2.2**
KDJ	**Kajisay**	**0.99**	**249**	⇓*i*P		Pb	19 52 41.9	-3.2
	baz=54							
KDJ				⇓*i*S		**Sb**	**19 52 54.9**	**-3.7**
	baz=54							
KURS	**Kuram**	**1.01**	**349**	⇓*e*P		**Pb**	**19 52 44.6**	**-0.8**
	baz=50							
KURS				⇓*e*S		**Sn**	**19 53 00.5**	**-0.6**
	baz=50							
KURS	**Kuram**	**1.01**	**349**	⇓*e*P		**Pb**	**19 52 44.6**	**-0.8**
	187nm,0.5s							
KURS				⇓*e*S		**Sn**	**19 53 00.5**	**-0.6**
	304nm,0.4s							
KURS	**Kuram**	**1.01**	**349**	P		**Pb**	**19 52 44.6**	**-0.8**
	187nm,0.5s							
KURS				S		**Sn**	**19 53 00.5**	**-0.6**
	304nm,0.4s							
KURS	**Kuram**	**1.01**	**349**	*e*PG		**Pb**	**19 52 44.6**	**-0.8**
KURS				*e*S		**Sn**	**19 53 00.5**	**-0.6**
SHLS	**Shalkode**	**1.01**	**49**	*e*P		**Pn**	**19 52 48.5**	**+2.1**
	baz=54							
SHLS				*e*S		**Sn**	**19 53 06.1**	**+4.9**
	baz=54							
SHLS	**Shalkode**	**1.01**	**49**	*e*P		**Pn**	**19 52 48.5**	**+2.1**
	2μm,0.2s							
SHLS				*e*S		**Sn**	**19 53 06.0**	**+4.9**
	3μm,0.4s							
SHLS	**Shalkode**	**1.01**	**49**	P		**Pn**	**19 52 48.5**	**+2.1**
	2μm,0.2s							
SHLS				S		**Sn**	**19 53 06.1**	**+4.9**
	3μm,0.4s							
SHLS	**Shalkode**	**1.01**	**49**	P		**Pn**	**19 52 48.5**	**+2.1**
	2μm,0.2s							
SHLS				S		**Sn**	**19 53 06.1**	**+4.9**
	3μm,0.4s							
PDGK	**Podgornoye**	**1.15**	**43**	P		**Pb**	**19 52 46.1**	**-1.6**
	209nm,0.1s							
PDGK				S		**Sg**	**19 53 01.9**	**-0.2**
	656nm,0.2s							
PDGK	**Podgornoye**	**1.15**	**43**	⇑P		**Pb**	**19 52 46.1**	**-1.6**
	63nm,0.2s							
PDGK				⇑S		**Sg**	**19 53 02.1**	**0.0**
	839nm,0.6s							
PDGK	**Podgornoye**	**1.15**	**43**	*i* PG		**Pb**	**19 52 46.1**	**-1.6**
PDGK				pmax		pmax		
	comp=Z,63nm,0.2s							
MDOK	**Medeo**	**1.21**	**304**	*e*P		**Pn**	**19 52 47.4**	**-1.8**
	baz=7.0							
MDOK				*e*S		**Sb**	**19 53 04.4**	**-0.6**
	baz=7.0							
MDOK	**Medeo**	**1.21**	**304**	*e*P		**Pn**	**19 52 47.4**	**-1.8**
	comp=Z,396nm,0.3s							
MDOK				*e*S		**Sb**	**19 53 04.4**	**-0.6**
	comp=Z,2μm,0.3s							
MDOK	**Medeo**	**1.21**	**304**	⇓P		**Pn**	**19 52 47.2**	**-1.9**
	comp=Z,289nm,0.5s							
MDOK				⇑S		**Sb**	**19 53 04.2**	**-0.8**
	comp=Z,1μm,0.5s							
MDOK	**Medeo**	**1.21**	**304**	Pg		**Pn**	**19 52 47.4**	**-1.8**
	comp=Z,396nm,0.3s							
MDOK				Lg		Lg	19 53 04.4	
	comp=Z,2μm,0.3s							
MDOK	**Medeo**	**1.21**	**304**	*e*PG		**Pn**	**19 52 47.4**	**-1.8**
MDOK				*e*S		**Sb**	**19 53 04.4**	**-0.6**
KOTS	**Kotyrbulak**	**1.22**	**308**	*e*P		**Pn**	**19 52 47.8**	**-1.4**
	baz=11							
KOTS				*e*S		**Sb**	**19 53 04.7**	**-0.4**
	baz=11							
KOTS	**Kotyrbulak**	**1.22**	**308**	*e*P		**Pn**	**19 52 47.8**	**-1.4**
	comp=Z,2μm,0.2s							
KOTS				*e*S		**Sb**	**19 53 04.7**	**-0.4**
	comp=Z,38nm,0.3s							
KOTS	**Kotyrbulak**	**1.22**	**308**	P		**Pn**	**19 52 47.8**	**-1.4**
	comp=Z,2μm,0.2s							
KOTS				S		**Sb**	**19 53 04.7**	**-0.4**
	comp=Z,38nm,0.3s							
KOTS	**Kotyrbulak**	**1.22**	**308**	*e*PG		**Pn**	**19 52 47.8**	**-1.4**
KOTS				*e*S		**Sb**	**19 53 04.7**	**-0.4**
KNDC	**Almaty**	**1.29**	**304**	⇑P		**Pn**	**19 52 49.2**	**-1.0**
	comp=Z,192nm,0.3s							
KNDC				⇑S		**Sb**	**19 53 07.3**	**+0.1**
	comp=Z,1μm,0.4s							
KNDC	**Almaty**	**1.29**	**304**	PG		**Pn**	**19 52 49.0**	**-1.2**
KNDC				S		**Sb**	**19 53 07.0**	**-0.2**
AAA	**Alma-Ata**	**1.32**	**303**	*e*P		**Pn**	**19 52 50.0**	**-0.6**
	baz=7.0							
AAA				*e*S		**Sn**	**19 53 08.4**	**-0.2**
	baz=7.0							
AAA	**Alma-Ata**	**1.32**	**303**	*e*P		**Pn**	**19 52 50.0**	**-0.6**
	comp=Z,2μm,0.1s							
AAA				*e*S		**Sn**	**19 53 08.5**	**-0.2**
	comp=Z,148nm,0.3s							
AAA	**Alma-Ata**	**1.32**	**303**	P		**Pn**	**19 52 50.0**	**-0.6**
	comp=Z,2μm,0.1s							
AAA				S		**Sn**	**19 53 08.5**	**-0.2**
	comp=Z,148nm,0.3s							
AAA	**Alma-Ata**	**1.32**	**303**	*e*PG		**Pn**	**19 52 49.8**	**-0.8**
IZV	**Izvestkoviy**	**1.44**	**293**	*e*P		**Pn**	**19 52 51.3**	**-1.0**
	baz=96							
IZV				*e*S		**Sn**	**19 53 11.0**	**-0.8**
	baz=96							
IZV	**Izvestkoviy**	**1.44**	**293**	*e*P		**Pn**	**19 52 51.3**	**-1.0**
	comp=Z,302nm,0.2s							
IZV				*e*S		**Sn**	**19 53 11.0**	**-0.8**
	comp=Z,1μm,0.3s							
IZV	**Izvestkoviy**	**1.44**	**293**	P		**Pn**	**19 52 51.3**	**-1.0**
	comp=Z,302nm,0.2s							
IZV				S		**Sn**	**19 53 11.0**	**-0.8**
	comp=Z,1μm,0.3s							
IZV	**Izvestkoviy**	**1.44**	**293**	*e*PG		**Pn**	**19 52 51.3**	**-1.0**
IZV				*e*S		**Sn**	**19 53 11.0**	**-0.8**
MTBS	**Maitube**	**1.60**	**294**	*e*P		**Pn**	**19 52 54.1**	**-0.3**
	baz=97							
MTBS				*e*S		**Sn**	**19 53 15.6**	**0.0**
	baz=97							
MTBS	**Maitube**	**1.60**	**294**	*e*P		**Pn**	**19 52 54.1**	**-0.3**
	comp=Z,274nm,0.2s							
MTBS				*e*S		**Sn**	**19 53 15.6**	**0.0**
	comp=Z,2μm,0.3s							
MTBS	**Maitube**	**1.60**	**294**	P		**Pn**	**19 52 54.1**	**-0.3**
	comp=Z,274nm,0.2s							
MTBS				S		**Sn**	**19 53 15.6**	**0.0**
	comp=Z,2μm,0.3s							
MTBS	**Maitube**	**1.60**	**294**	*e*PN		**Pn**	**19 52 54.1**	**-0.3**
MTBS				*e*S		**Sn**	**19 53 15.6**	**0.0**
ULHL	**Ulahol**	**1.64**	**262**	⇑*i*P		**Pn**	**19 52 53.6**	**-1.4**
	baz=65							
ULHL				⇑*i*S		**Sn**	**19 53 15.7**	**-1.0**
	baz=65							
ULHL	**Ulahol**	**1.64**	**262**	P		**Pn**	**19 52 53.7**	**-1.3**
	SNR=2603							
KTMS	**Ketmen**	**1.71**	**55**	*e*P		**Pn**	**19 52 56.0**	**0.0**
	baz=53							
KTMS				*e*S		**Sg**	**19 53 19.0**	**-1.1**
	baz=53							
KTMS	**Ketmen**	**1.71**	**55**	*e*P		**Pn**	**19 52 56.0**	**0.0**
	comp=Z,32nm,0.1s							
KTMS				*e*S		**Sg**	**19 53 19.0**	**-1.1**
	comp=Z,1μm,0.2s							
KTMS	**Ketmen**	**1.71**	**55**	P		**Pn**	**19 52 56.0**	**0.0**
	comp=Z,32nm,0.1s							
KTMS				S		**Sg**	**19 53 19.0**	**-1.1**
	comp=Z,1μm,0.2s							
KTMS	**Ketmen**	**1.71**	**55**	*e*PN		**Pn**	**19 52 56.0**	**0.0**
KTMS				*e*S		**Sg**	**19 53 19.0**	**-1.1**
CHKK	**Chushkaly**	**1.72**	**323**	*e*P		**Pn**	**19 52 57.0**	**+1.0**
	baz=25							
CHKK				*e*S		**Sg**	**19 53 20.9**	**+0.5**
	baz=25							
CHKK	**Chushkaly**	**1.72**	**323**	*e*P		**Pn**	**19 52 57.0**	**+1.0**
	comp=Z,2μm,0.2s							
CHKK				*e*S		**Sg**	**19 53 20.9**	**+0.5**
	comp=Z,988nm,0.2s							
CHKK	**Chushkaly**	**1.72**	**323**	P		**Pn**	**19 52 57.0**	**+1.0**
	comp=Z,2μm,0.2s							
CHKK				S		**Sg**	**19 53 20.9**	**+0.5**
	comp=Z,988nm,0.2s							
CHKK	**Chushkaly**	**1.72**	**323**	*e*PN		**Pn**	**19 52 57.0**	**+1.0**
CHKK				*e*S		**Sg**	**19 53 20.9**	**+0.5**
KTBS	**Karatobe**	**1.76**	**314**	*e*P		**Pn**	**19 52 57.7**	**+1.0**
	baz=16							
KTBS				*e*S		**Sb**	**19 53 21.9**	**+1.1**
	baz=16							
KTBS	**Karatobe**	**1.76**	**314**	*e*P		**Pn**	**19 52 57.6**	**+1.0**
	comp=Z,507nm,0.2s							
KTBS				*e*S		**Sb**	**19 53 21.8**	**+1.1**
	comp=Z,1μm,0.6s							
KTBS	**Karatobe**	**1.76**	**314**	P		**Pn**	**19 52 57.6**	**+1.0**
	comp=Z,507nm,0.2s							
KTBS				S		**Sb**	**19 53 21.8**	**+1.1**
	comp=Z,1μm,0.6s							
KTBS	**Karatobe**	**1.76**	**314**	*e*PN		**Pn**	**19 52 57.7**	**+1.0**
KTBS				*e*S		**Sb**	**19 53 21.8**	**+1.1**
ARXS	**Arharly**	**1.77**	**346**	*e*P		**Pb**	**19 52 58.2**	**-0.1**
	comp=Z,1μm,0.4s							
ARXS				*e*S		**Sg**	**19 53 23.0**	**+0.8**
	comp=Z,1μm,0.2s							
ARXS	**Arharly**	**1.77**	**346**	P		**Pb**	**19 52 58.2**	**-0.1**
	comp=Z,1μm,0.4s							
ARXS				S		**Sg**	**19 53 23.0**	**+0.8**
	comp=Z,1μm,0.2s							
ARXS	**Arharly**	**1.77**	**346**	*e*PN		**Pb**	**19 52 58.3**	**-0.1**
ARXS				*e*S		**Sg**	**19 53 23.0**	**+0.8**
BOOM	**Boomskoye usch**	**1.84**	**271**	⇑*i*P		**Pn**	**19 52 57.1**	**-0.7**
	baz=74							
BOOM				⇑*i*S		**Sn**	**19 53 21.9**	**+0.3**
	baz=74							
KST	**Kastek**	**1.89**	**288**	⇓*i*P		**Pn**	**19 52 59.2**	**+0.7**
	baz=90							
KST				⇓*i*S		**Sb**	**19 53 24.5**	**0.0**
	baz=90							
KST	**Kastek**	**1.89**	**288**	⇓*i*P		**Pn**	**19 52 59.2**	**+0.7**
	comp=Z,670nm,0.4s							
KST				⇓*i*S		**Sb**	**19 53 24.5**	**0.0**
	comp=Z,2μm,0.3s							
KST	**Kastek**	**1.89**	**288**	P		**Pn**	**19 52 59.2**	**+0.7**
	comp=Z,670nm,0.4s							
KST				S		**Sb**	**19 53 24.5**	**0.0**
	comp=Z,2μm,0.3s							
KST	**Kastek**	**1.89**	**288**	*i* PN		**Pn**	**19 52 59.2**	**+0.7**
KST				*i* S		**Sb**	**19 53 24.5**	**0.0**
KUU	**Kurty**	**2.07**	**313**	⇓*i*P		**Pb**	**19 53 02.9**	**-0.5**
	comp=Z,472nm,0.3s							
KUU				⇓*i*S		**Sg**	**19 53 31.8**	**+0.1**
	comp=Z,1μm,0.3s							
KUU	**Kurty**	**2.07**	**313**	Pg		**Pb**	**19 53 02.9**	**-0.5**
	comp=Z,472nm,0.3s							
KUU				Lg		Lg	19 53 31.8	
	comp=Z,1μm,0.3s							
KUU	**Kurty**	**2.07**	**313**	*i* PN		**Pb**	**19 53 02.9**	**-0.5**
KUU				*i* S		**Sg**	**19 53 31.8**	**+0.1**
DGS	**Degeres**	**2.09**	**292**	*e*P		**Pn**	**19 53 02.5**	**+1.4**
	comp=Z,221nm,0.3s							
DGS				*e*S		**Sb**	**19 53 30.6**	**+0.5**
	comp=Z,2μm,0.3s							
DGS	**Degeres**	**2.09**	**292**	Pg		**Pn**	**19 53 02.5**	**+1.4**
	comp=Z,221nm,0.3s							
DGS				Lg		Lg	19 53 30.6	
	comp=Z,2μm,0.3s							
DGS	**Degeres**	**2.09**	**292**	*e*PN		**Pn**	**19 53 02.5**	**+1.4**
DGS				*e*S		**Sb**	**19 53 30.6**	**+0.5**
DJR	**Jarkent**	**2.09**	**28**	*e*P		**Pb**	**19 53 03.3**	**-0.5**
	comp=Z,261nm,0.1s							
DJR				*e*S		**Sg**	**19 53 31.5**	**-0.9**
	comp=Z,4μm,0.2s							
DJR	**Jarkent**	**2.09**	**28**	Pg		**Pb**	**19 53 03.3**	**-0.5**
	comp=Z,261nm,0.1s							
DJR				Lg		Lg	19 53 31.5	
	comp=Z,4μm,0.2s							
DJR	**Jarkent**	**2.09**	**28**	*e*PN		**Pb**	**19 53 03.3**	**-0.5**
DJR				*e*S		**Sg**	**19 53 31.5**	**-0.9**
TKM2	**Tokmak 2**	**2.13**	**283**	⇑*i*P		**Pn**	**19 53 02.1**	**+0.3**
	baz=85							
TKM2				⇑*i*S		**Sn**	**19 53 30.0**	**+1.2**
	baz=85							
TKM2	**Tokmak 2**	**2.13**	**283**	P		**Pn**	**19 53 02.7**	**+0.9**
	SNR=533							
TKM2	**Tokmak 2**	**2.13**	**283**	⇑Pn		**Pn**	**19 53 02.6**	**+0.8**
	comp=Z,128nm,0.3s							
TKM2				⇑Sn		**Sb**	**19 53 31.5**	**+0.2**
	comp=Z,3μm,0.8s							
TKM2	**Tokmak 2**	**2.13**	**283**	*i* PN		**Pn**	**19 53 02.5**	**+0.8**
TKM2				pmax		pmax		
	comp=Z,128nm,0.3s							
KRBS	**Karabastau**	**2.34**	**302**	*e*P		**Pb**	**19 53 07.3**	**-0.8**
	comp=Z,505nm,0.2s							
KRBS				*e*S		**Sb**	**19 53 38.7**	**+1.2**
	comp=Z,2μm,0.2s							
KRBS	**Karabastau**	**2.34**	**302**	Pg		**Pb**	**19 53 07.3**	**-0.8**
	comp=Z,505nm,0.2s							
KRBS				Lg		Lg	19 53 38.7	
	comp=Z,2μm,0.2s							
KRBS	**Karabastau**	**2.34**	**302**	*e*PN		**Pb**	**19 53 07.3**	**-0.8**
KRBS				*e*S		**Sb**	**19 53 38.7**	**+1.2**
TDK	**Taldyqorghan**	**2.51**	**360**	*e*P		**Pb**	**19 53 11.3**	**+0.4**
	comp=Z,330nm,0.2s							
TDK				*e*S		**Sg**	**19 53 45.1**	**-0.7**
	comp=Z,1μm,0.3s							
TDK	**Taldyqorghan**	**2.51**	**360**	Pg		**Pb**	**19 53 11.3**	**+0.4**
	comp=Z,330nm,0.2s							
TDK				Lg		Lg	19 53 45.1	
	comp=Z,1μm,0.3s							
TDK	**Taldyqorghan**	**2.51**	**360**	*e*PN		**Pb**	**19 53 11.3**	**+0.4**
TDK				*e*S		**Sg**	**19 53 45.1**	**-0.7**
KBK	**Karagaybulak**	**2.57**	**275**	⇑*i*P		**Pn**	**19 53 08.1**	**+0.2**
	baz=77							
KBK				⇑*i*S		**Sn**	**19 53 40.5**	**+0.8**
	baz=77							
KBK	**Karagaybulak**	**2.57**	**275**	P		**Pn**	**19 53 09.3**	**+1.5**
	SNR=132							
CHMS	**Chumysh**	**2.75**	**282**	P		**Pn**	**19 53 11.6**	**+1.4**
	SNR=45							
FRU1	**Bishkek**	**2.82**	**278**	⇑*i*P		**Pn**	**19 53 11.6**	**+0.5**
	baz=80							
FRU1				⇑*i*S		**Sn**	**19 53 46.5**	**+0.9**
	baz=80							
KAPS	**Kapalarasan**	**2.87**	**13**	*e*P		**Pb**	**19 53 17.6**	**+0.5**
	comp=Z,70nm,0.2s							
KAPS				*e*S		**Sg**	**19 53 55.8**	**-1.6**
	comp=Z,469nm,0.2s							
KAPS	**Kapalarasan**	**2.87**	**13**	Pg		**Pb**	**19 53 17.6**	**+0.5**
	comp=Z,70nm,0.2s							
KAPS				Lg		Lg	19 53 55.8	
	comp=Z,469nm,0.2s							
KAPS	**Kapalarasan**	**2.87**	**13**	*e*PN		**Pb**	**19 53 17.6**	**+0.5**
KAPS				*e*S		**Sg**	**19 53 55.8**	**-1.6**
AAK	**Ala-Archa**	**2.91**	**274**	Pn		**Pn**	**19 53 13.8**	**+1.3**
	comp=Z,24nm,0.3s,baz=118,slow=9.6,SNR=45							
AAK				Lg		Lg	19 53 52.4	
	comp=Z,61nm,0.3s,baz=223,slow=23,SNR=22							
AAK				LR		LR	19 54 13.5	
	comp=Z,60nm,18.5s,baz=106,slow=37							
AAK	**Ala-Arch

MAKZ pmax pmax
comp=Z,7.0nm,0.2s
MK31 Makanchi Array 5.11 31 ⇑Pn **Pn 19 53 43.6 +1.0**
comp=Z,11nm,0.2s,baz=238,slow=13,SNR=318
MK31 ⇑Sn **Sn 19 54 43.8 +1.8**
comp=Z,14nm,0.3s,baz=60,slow=54,SNR=5.2
MK31 ⇓Lg Lg 19 55 06.0
comp=Z,9.1nm,0.2s,baz=209,slow=23,SNR=9.4
MK31 Makanchi Array 5.11 31*d* /PN **Pn 19 53 43.9 +1.3**
MKAR Makanchi Array 5.11 31 Pn **Pn 19 53 44.5 +1.9**
comp=Z,5.7nm,0.3s,baz=212,slow=16,SNR=257
MKAR Sn **Sn 19 54 43.4 +1.4**
comp=Z,16nm,0.3s,baz=211,slow=22,SNR=4.6
MKAR Lg Lg 19 55 03.9
comp=Z,18nm,0.3s,baz=210,slow=28,SNR=10
MKAR Makanchi Array 5.11 31 *i* Pn **Pn 19 53 44.0 +1.4**
MKAR pmax pmax
comp=Z,7.0nm,0.3s
DZA Taraz 5.24 277 *e*P **Pb 19 53 59.6 +2.1**
comp=Z,75nm,0.1s
DZA *e*S **Sb 19 55 08.3 +7.5**
comp=Z,190nm,0.2s
DZA Taraz 5.24 277 *e*PN **Pb 19 53 59.6 +2.1**
DZA *e*S **Sb 19 55 08.3 +7.5**
KK31 Karatay Array 5.85 279 Pg **Pb 19 54 11.4 +3.6**
comp=Z,13nm,0.6s,baz=92,slow=15,SNR=37
KK31 Lg Lg 19 55 31.1
comp=Z,44nm,0.6s,baz=94,slow=28,SNR=8.2
ZSN Zaisan 6.74 40 Pg **Pb 19 54 26.4 +3.4**
comp=Z,11nm,0.2s
OTUK Ortayu 7.17 325 ⇑Pn **Pn 19 54 10.7 -0.2**
comp=Z,18nm,0.8s
OTUK ⇓Lg Lg 19 56 12.5
comp=Z,59nm,0.8s
OTUK Ortayu 7.17 325 *i* P **Pn 19 54 10.7 -0.2**
OTUK pmax pmax
comp=Z,18nm,0.8s
KURBB Kurchatov Arra 8.13 0 Pn **Pn 19 54 24.7 +0.7**
comp=Z,0.3nm,0.3s,baz=182,slow=10,SNR=25
KURBB Sn **Sn 19 55 59.5 +3.1**
comp=Z,0.4nm,0.3s,baz=32,slow=24,SNR=3.9
KURBB Lg Lg 19 56 41.1
comp=Z,0.8nm,0.3s,baz=188,slow=27,SNR=6.9
KURBB Kurchatov Arra 8.13 0 ⇑Pn **Pn 19 54 24.6 +0.7**
comp=Z,5.1nm,0.8s
KURBB ⇓Lg Lg 19 56 41.5
comp=Z,89nm,0.7s
KURK Kurchatov 8.22 1 P **Pn 19 54 24.7 -0.6**
KURK 19 55 59.5
DGZ Jazzator, Alta 9.54 38 ⇓*e*P **Pn 19 54 45.6 +2.1**
BVAR Borovoye Array 11.83 336 Pn **Pn 19 55 13.6 -1.1**
comp=Z,0.9nm,0.3s,baz=133,slow=14,SNR=16
BVAR Lg Lg 19 58 43.6
comp=Z,0.5nm,0.3s,baz=165,slow=36,SNR=2.8
BRVK Borovoye 11.89 336 ⇑Pn **Pn 19 55 13.7 -1.8**
comp=Z,4.6nm,0.7s
BRVK ⇓Lg Lg 19 58 40.8
comp=Z,11nm,0.8s
BRVK Borovoye 11.89 336 ⇓*i* P **Pn 19 55 14.4 -1.1**
ZAA0 Zalesovo Array 12.22 18 ⇓Pn **Pn 19 55 20.5 +0.5**
comp=Z,1.0nm,0.8s
ZAA0 ⇓Lg Lg 19 58 38.1
comp=Z,6.2nm,1.6s
ZALV Zalesovo Beam 12.22 18 Pn **Pn 19 55 20.7 +0.7**
comp=Z,0.6nm,0.3s,baz=210,slow=15,SNR=22
ZALV Lg Lg 19 58 51.2
comp=Z,0.3nm,0.3s,baz=210,slow=28,SNR=2.3
ZALV Zalesovo Beam 12.22 18 *i* P **Pn 19 55 21.5 +1.5**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
AB31 Akbulak array 14.52 304 Pg **Pn 19 55 51.8 +0.3**
comp=Z,2.2nm,0.5s,baz=104,slow=13,SNR=29
AB31 ⇑Lg Lg 19 59 28.3
comp=Z,4.3nm,0.8s
AKTO Aktyubinsk 16.11 307 Pn **Pn 19 56 09.8 -2.7**
comp=Z,0.1nm,0.3s,baz=108,slow=14,SNR=2.3
AKTO Lg Lg 20 00 50.6
comp=Z,0.1nm,0.3s,baz=64,slow=20,SNR=1.7
AKTO Aktyubinsk 16.11 307 ⇓Pg **Pn 19 56 09.0 -3.5**
comp=Z,7.4nm,1.4s
AKTO ⇑Lg Lg 19 59 16.3
comp=Z,7.6nm,1.4s
ARU Arti 18.90 324 P **Pn 19 56 47.6 +0.3**
comp=Z,0.0nm,0.3s,baz=113,slow=13,SNR=5.8
ARU Lg Lg 20 02 22.7
comp=Z,0.0nm,0.3s,baz=288,slow=23,SNR=3.5
ARU LR LR 20 04 34.7
comp=Z,51nm,18.1s,baz=289,slow=38
ARU Arti 18.90 324*d* /P **Pn 19 56 47.5 +0.3**
ARU S **S 20 00 20.0 -1.8**
ARU pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 20.37 65 P **P 19 57 02.1 -0.8**
comp=Z,0.9nm,0.7s,baz=254,slow=12,SNR=7.6
ULN Ulaanbaatar 20.82 65 ⇑*e*P Pn 19 57 08.8 -1.4
ULN pmax pmax
comp=Z,7.0nm,2.4s
KIV Kislovodsk 25.96 286 *i* P **P 19 57 58.7 -0.2**
KIV pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 27.33 7 *i* P **P 19 58 13.8 +3.0**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
OBN Obninsk 29.84 310 *i* P **P 19 58 34.2 +0.9**
OBN pmax pmax
comp=Z,8.0nm,0.4s
BRTR Keskin Array B 33.56 281 P **P 19 59 05.9 -0.5**
comp=Z,0.2nm,0.5s,baz=82,slow=10,SNR=2.4
FINES FINESS Array B 36.16 320 P **P 19 59 27.3 -1.0**
comp=Z,1.9nm,1.0s,baz=104,slow=12,SNR=5.0
ARCES ARCESS Array B 38.10 333 P **P 19 59 43.4 -1.4**
comp=Z,7.6nm,1.0s,baz=101,slow=9.3,SNR=4.1
NOA NORSAR Array B 43.33 319 P **P 20 00 26.3 -1.8**
comp=Z,0.4nm,0.5s,baz=79,slow=9.9,SNR=4.6
CLL Collm 44.19 305 *e*P **P 20 00 34.0 -1.1**

DJA ***12*** *19:54:21.2±0.2, 1°S±2°×10°1E±°, h10km, M4.8/23, mb4.8/23, mB5.2/13, MLv5.2/19, Mw(mB)4.6/13, MwMwp6.1/1, Mwp6.1/1*

GCMT ***12*** *19:54:23.0±0.4, 1°48S±0°02×101°24E±0°03, h28km±1km, MW4.8/73, Moment Tensor Solution. s12,c12; s73,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.79±.17; Mθθ-1.20±.09; Mϕϕ 1.99±.12; Mrθ-0.69±.16; Mθϕ 1.09±.09; Mϕr~0.54±.18; Best double couple: Mo2.15200×10^16 NP1:ϕs154.00000°,δ60.00000°,λ-168.00000°. NP2: ϕs57.00000°,δ79.00000°,λ-30.00000°. Principal axes: T 2.4890, Plg13.0000°, Azm109.0000°; N -0.6740, Plg58.0000°, Azm220.0000°; P -1.8150, Plg29.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***12*** *19:54:25, 1°31S×101°28E, h10km, mb5.0*

IDC ***12*** *19:54:25.4±2.1, 1°49S×101°21E, h61km±19km, mb4.0/26, mb1 4.1/30, mb1mx3.9/59, mbtmp4.3/30, MS3.9/21, Ms1 3.9/21, ms1mx3.7/38, Error ellipse: s-maj=16.0km s-min=9.3km az=50.0*

NEIC ***12*** *19:54:25.0±2.0, 1°53S±0°07×101°17E±0°08, h59km±7km, mb4.7/74, Error ellipse: s-maj=12.7km s-min=8.0km az=53.0*

ISC 12 19:54:22.7±0.3,**1°53S**±0°04×**101°17E**±0°05,**h35**km,**n237,** σ1**9**69/220,**mb4.6**/65,**MS3.9**/23,**15C-3D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDSI	**Sungai Dareh**	**0.64**	**24**	P	**Pn**	**19 54 32.9**	**-2.5**
SDSI				S	**Sn**	**19 54 42.4**	**-2.0**
PDSI	**Padang**	**0.94**	**311**	P	**Pn**	**19 54 36.2**	**-3.2**
RGRI	**Rengat**	**1.65**	**45**	P	**Pn**	**19 54 50.2**	**+1.0**
BKNI	**Bangkinang**	**1.84**	**356**		**Pn**	**19 54 52.5**	**+0.6**
BKNI				Sn	**Sn**	**19 55 19.6**	**+5.5**
BKNI	**Bangkinang**	**1.84**	**356**	P	**Pn**	**19 54 52.5**	**+0.6**
JMBI	**JAMBI**	**2.47**	**93**	P	**Pn**	**19 55 01.2**	**+0.6**
UBSI	**University, Be**	**2.48**	**154**	P	**Pn**	**19 55 02.5**	**+1.9**
KSI	**Kapahiang**	**2.54**	**146**	P	**Pn**	**19 55 03.3**	**+1.7**
MNSI	**Mandailing Nat**	**2.80**	**325**	P	**Pn**	**19 55 06.5**	**+1.4**
LHSI	**Lahat**	**3.28**	**134**	P	**Pn**	**19 55 13.4**	**+1.8**
PMBI	**Palembang**	**3.86**	**111**		**Pn**	**19 55 18.0**	**-1.6**
PMBI	**Palembang**	**3.86**	**111**	P	**Pn**	**19 55 19.7**	**+0.1**
BTDF	**Bukit Timah Da**	**3.87**	**42**	P	**Pn**	**19 55 21.4**	**+1.6**
EGSI	**Enggano, Bengk**	**3.96**	**164**	P	**Pn**	**19 55 21.6**	**+0.6**
MDSI	**Maura Dua**	**4.20**	**134**	P	**Pn**	**19 55 26.4**	**+2.0**
MYKOM	**Kota Tinggi**	**4.25**	**39**	P	**Pn**	**19 55 26.0**	**+1.0**
LWLI	**Liwa**	**4.51**	**140**	P	**Pn**	**19 55 32.4**	**+3.7**
GSI	**Gunungsitoli**	**4.56**	**308**	Pn	**Pn**	**19 55 29.7**	**+0.4**
GSI	**Gunungsitoli**	**4.56**	**308**	P	**Pn**	**19 55 30.6**	**+1.2**
RPSI	**Rantau Prapat**	**4.76**	**332**		**Pn**	**19 55 33.5**	**+1.5**
RPSI	**Rantau Prapat**	**4.76**	**332**		**Pn**	**19 55 36.1**	**+4.1**
PSI	**Prapat**	**4.85**	**332**	P	**Pn**	**19 55 36.1**	**+2.8**
	6.2nm,0.3s,baz=180,slow=18,SNR=18						
PSI				LR	LR	19 57 36.2	
	comp=Z,2μm,18.7s,baz=92,slow=40						
PSI	**Prapat**	**4.85**	**332**	P	**Pn**	**19 55 33.4**	**0.0**
PSI				P	**Pn**	**19 55 33.4**	**0.0**
PPBI	**Pangkal Pinang**	**5.00**	**97**	P	**Pn**	**19 55 35.9**	**+0.5**
	2.3nm4μm369nm,0.8s						
KASI	**Kota Agung**	**5.17**	**140**	P	**Pn**	**19 55 40.2**	**+2.4**
	0.9nm3μm228nm,0.7s						
BLSI	**Bandar Lampung**	**5.58**	**133**	P	**Pn**	**19 55 47.0**	**+3.7**
	0.9nm3μm264nm,0.9s						
TSI	**Tuntungan**	**5.63**	**332**	P	Pn	19 55 52.4	+8.4
TPTI		**6.21**	**320**	P	**Pn**	**19 55 53.5**	**+1.6**
	0.7nm73nm,0.7s						
TPI	**Tanjungpandan**	**6.59**	**101**	P	**Pn**	**19 55 58.0**	**+0.8**
	727nm46nm,0.7s						
KULM	**Kulim**	**6.79**	**356**	P	**Pn**	**19 56 02.0**	**+2.0**
DBJI	**Dramaga**	**7.48**	**132**	P	**Pn**	**19 56 11.9**	**+2.5**
	0.5nm94μm4μm116nm,1.5s						
LHMI	**Lhok Sumawe**	**7.93**	**328**	Pn	**Pn**	**19 56 16.4**	**+0.8**
LEM	**Lembang**	**8.31**	**130**	P	**Pn**	**19 56 24.7**	**+3.7**
	1.6nm,0.3s,baz=274,slow=14,SNR=1.8						
LEM				LR	LR	19 59 36.5	
	comp=Z,1μm,21.3s,baz=297,slow=38						
KSM	**Kuching**	**9.61**	**72**	P	**Pn**	**19 56 39.0**	**+0.3**
KPJI	**Karang Pucung**	**9.65**	**127**	P	**Pn**	**19 56 42.6**	**+3.4**
	35nm,0.6s						
CTJI	**Waduk Cacaban**	**9.67**	**125**	P	**Pn**	**19 56 42.7**	**+3.2**
	34nm,1.5s						
PKDT	**Phuket**	**9.77**	**343**	P	**Pn**	**19 56 44.2**	**+3.3**
	44nm,0.8s						
KRAB	**Krabi**	**9.88**	**349**	P	**Pn**	**19 56 44.0**	**+1.6**
	3μm257nm,0.7s						
STKI	**Sintang**	**10.43**	**81**	P	**Pn**	**19 56 48.5**	**-1.4**
SMRI	**Semarang**	**10.75**	**121**	Pn	**Pn**	**19 56 53.4**	**-0.8**
UGM	**Wanagama**	**11.27**	**125**	Pn	**Pn**	**19 57 01.2**	**-0.3**
SBUM	**Sibu**	**11.73**	**70**	P	**Pn**	**19 57 12.0**	**+4.3**
SJI	**Sawahan**	**12.23**	**121**	P	**Pn**	**19 57 17.4**	**+2.8**
	3μm33nm,0.5s						
PWJI	**Pagerwojo**	**12.40**	**122**	P	**Pn**	**19 57 19.9**	**+3.0**
	55nm,1.7s						
MTKI	**Muara Teweh, K**	**13.73**	**88**	P	**Pn**	**19 57 37.7**	**+2.6**
	24nm,1.5s						
BBKI	**Banjar Baru**	**13.79**	**98**	P	**Pn**	**19 57 39.2**	**+3.3**
	29nm,1.3s						
PHET	**Kaeng Krachan**	**14.42**	**354**	P	**P**	**19 57 50.3**	**-0.6**
	7.1nm,1.0s						
JAGI	**Jajag, Banyuwa**	**14.65**	**119**	P	**Pn**	**19 57 48.1**	**+0.5**
KHLT	**Khaolaem Dam**	**16.42**	**351**	P	P	19 58 21.0	+7.9
UTHA	**Uthaitani**	**17.06**	**354**	P	**P**	**19 58 24.3**	**+4.1**
	66nm7.3nm,0.9s						
UBPT	**Khong Chiam**	**17.23**	**14**	P	**P**	**19 58 24.2**	**+2.2**
	1μm16nm,0.8s						
UBPT	**Khong Chiam**	**17.23**	**14**		**P**	**19 58 23.6**	**+1.5**
UBPT	**Khong Chiam**	**17.23**	**14**	P	**Pn**	**19 58 16.9**	**-3.9**
CHAI	**Chaiyaphum**	**17.34**	**3**	P	**P**	**19 58 26.0**	**+2.8**
	96nm11nm,0.9s						
PHIT	**Phitsanulok**	**18.61**	**358**	P	**Pn**	**19 58 41.0**	**+3.2**
	22nm,1.1s						
MKS	**Makassar**	**18.63**	**102**	P	**Pn**	**19 58 39.6**	**+1.6**
	1μm58nm,1.3s						
TTSI	**Tana Toraja**	**18.69**	**95**	P	**Pn**	**19 58 39.3**	**+0.5**
	562nm34nm,1.0s						
KAPI	**Kappang**	**18.87**	**101**	P	**Pn**	**19 58 42.1**	**+1.2**
	3.6nm,0.3s,baz=272,slow=8.4,SNR=11						
KAPI	**Kappang**	**18.87**	**101**		**Pn**	**19 58 41.5**	**+0.5**
KAPI				IAmb	IAmb	19 58 49.8	
	comp=Z,78nm,1.1s						
KAPI	**Kappang**	**18.87**	**101**	P	**Pn**	**19 58 41.7**	**+0.8**
BNSI	**Bone**	**19.12**	**99**	P	**Pn**	**19 58 44.4**	**+0.4**
	comp=Z,925nmcomp=Z,93nm,1.3s						
UTTA	**Uttaradit**	**19.16**	**358**	P	**Pn**	**19 58 49.2**	**+4.8**
	comp=Z,46nmcomp=Z,4.8nm,0.9s						
NONG	**Nongkai**	**19.56**	**6**	P	**Pn**	**19 58 49.4**	**+0.2**
	comp=Z,22μmcomp=Z,38nm,0.8s						
TOLI2	**Tolitoli**	**19.78**	**83**	P	**Pn**	**19 58 51.7**	**-0.2**
TOLI2				IAmb	IAmb	19 58 58.0	
	comp=Z,22nm,0.9s						
MHMT	**Maesarieng**	**19.84**	**351**	P	Pn	19 59 03.9	+11
CM04	**Chiang Mai Arr**	**19.92**	**354**	P	**Pn**	**19 58 56.5**	**+3.1**
	comp=Z,151nmcomp=Z,22nm,0.9s						
CM05	**Chiang Mai Arr**	**19.92**	**354**	P	**Pn**	**19 58 56.0**	**+2.5**
	comp=Z,91nmcomp=Z,13nm,1.1s						
CM01	**Chiang Mai Arr**	**19.94**	**354**	P	**Pn**	**19 58 57.0**	**+3.3**
	comp=Z,167nmcomp=Z,26nm,1.1s						
CM13	**Chiang Mai Arr**	**19.95**	**354**	P	**Pn**	**19 58 56.8**	**+3.0**
	comp=Z,146nmcomp=Z,22nm,1.0s						
CM02	**Chiang Mai Arr**	**19.95**	**354**	P	**Pn**	**19 58 57.0**	**+3.1**
	comp=Z,168nmcomp=Z,24nm,1.0s						
CM09	**Chiang Mai Arr**	**19.96**	**354**	P	**Pn**	**19 58 57.3**	**+3.4**
	comp=Z,199nmcomp=Z,29nm,1.0s						
CM15	**Chiang Mai Arr**	**19.98**	**354**	P	**Pn**	**19 58 57.0**	**+2.9**
	comp=Z,162nmcomp=Z,24nm,1.0s						
CM31	**Chiang Mai Arr**	**19.98**	**354**	P	**Pn**	**19 58 57.3**	**+3.1**
	comp=Z,701nm,0.9s						
CM31	**Chiang Mai Arr**	**19.98**	**354**	P	**Pn**	**19 58 54.8**	**+0.7**
CM31				IAmb	IAmb	19 59 10.0	
	comp=Z,30nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.98**	**354**	P	**Pn**	**19 58 54.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=10,SNR=19						
CMAR				LR	LR	20 06 54.1	
	comp=Z,142nm,19.8s,baz=228,slow=38						
CMAR	**Chiang Mai Arr**	**19.98**	**354**		**Pn**	**19 58 54.3**	**+0.1**
CM36	**Chiang Mai Arr**	**20.02**	**354**	P	Pn	19 58 57.0	+2.3
CM35	**Chiang Mai Arr**	**20.18**	**354**	P	Pn	19 58 59.0	+2.5
CM32	**Chiang Mai Arr**	**20.18**	**354**	P	Pn	19 59 01.0	+4.5
CMMT	**Chiang Mai**	**20.33**	**354**	P	Pn	19 59 02.8	+4.5
	comp=Z,15nm,1.0s						
CMMT	**Chiang Mai**	**20.33**	**354**	P	Pn	19 59 02.8	+4.5
CHTO	**Chiang Mai**	**20.33**	**354**	P	**P**	**19 58 57.0**	**+0.9**
CHTO	**Chiang Mai**	**20.33**	**354**	P	Pn	19 58 57.7	-0.6
	comp=Z,8.6nm,1.0s						
CM33	**Chiang Mai Arr**	**20.33**	**354**	P	Pn	19 59 02.0	+3.7
CM34	**Chiang Mai Arr**	**20.35**	**354**	P	Pn	19 59 07.0	+8.5
APSI	**Ampana**	**20.48**	**89**	P	Pn	19 59 00.2	+0.1
	comp=Z,572nmcomp=Z,51nm,1.1s						
KKSI	**Kolaka, Sulawe**	**20.62**	**98**	P	Pn	19 59 00.9	-0.9
	comp=Z,879nmcomp=Z,33nm,1.0s						
MRSI	**Marisa**	**20.86**	**85**	P	Pn	19 59 05.0	+0.4
	comp=Z,705nmcomp=Z,68nm,1.3s						
LUWI	**Luwuk**	**21.60**	**89**	P	**P**	**19 59 08.6**	**-1.2**
LUWI	**Luwuk**	**21.60**	**89**	P	**P**	**19 59 12.1**	**+2.2**
	comp=Z,3μmcomp=Z,93nm,1.2s						
GTOI	**Gorontalo**	**21.94**	**85**	P	**P**	**19 59 13.3**	**-0.2**
	comp=Z,15nm,1.1s						
QIZ	**Qiongzhong**	**22.13**	**22**	P	**P**	**19 59 15.7**	**+0.2**
QIZ				S	**S**	**20 03 18.0**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,11nm,2.1s						
QIZ				L	L		
	comp=Z,390nm,10.0s						
QIZ				L	L		
	comp=Z,550nm,12.0s						
QIZ				L	L		
	comp=Z,350nm,12.9s						
QIZ	**Qiongzhong**	**22.13**	**22**	P	**P**	**19 59 15.2**	**-0.4**
QIZ				IAmb	IAmb	19 59 24.4	
	comp=Z,32nm,1.1s						
PALK	**Pallekele**	**22.21**	**293**	P	**P**	**19 59 18.2**	**+1.7**
	comp=Z,9.6nm,0.9s,baz=192,slow=11,SNR=4.3						
PALK				LR	LR	20 08 04.7	
	comp=Z,408nm,18.7s,baz=214,slow=37						
PALK	**Pallekele**	**22.21**	**293**	P	**P**	**19 59 14.4**	**-2.1**
PALK				IAmb	IAmb	19 59 20.9	
	comp=Z,39nm,1.2s						
SLVN	**Son La**	**22.88**	**7**	P	**P**	**19 59 23.4**	**0.0**
BATI	**Baumata**	**23.96**	**112**	LR	LR	20 10 20.8	
	comp=Z,780nm,21.9s,baz=256,slow=40						
BRDH	**Bariadhala**	**25.79**	**339**	LR	LR	20 11 20.4	
	comp=Z,316nm,18.6s,baz=167,slow=39						
TNTI	**Ternate**	**26.29**	**85**	P	**P**	**19 59 54.8**	**-0.6**
TNTI				IAmb	IAmb	20 00 13.4	
	comp=Z,14nm,1.0s						
KMI	**Kunming**	**26.54**	**3**	⇑P	**P**	**19 59 59.6**	**+2.0**
KMI				pP	sP	20 00 14.0	+1.9
KMI				sP	pP	20 00 19.3	+11
KMI				S	**S**	**20 04 31.6**	**+1.7**
KMI				sS	sS	20 04 48.6	+1.7
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,82nm,6.2s						
KMI				L	L		
	comp=Z,390nm,9.5s						
KMI				L	L		
	comp=Z,400nm,11.9s						
KMI				L	L		
	comp=Z,320nm,10.2s						
SZP	**Santa**	**26.84**	**44**	P	**P**	**19 59 58.5**	**-1.7**
PSA00	**Pilbara Seismi**	**26.98**	**139**	P	**P**	**20 00 01.1**	**-0.4**
PSA00				IAmb	IAmb	20 00 20.4	
	comp=Z,24nm,1.3s						
PSA00	**Pilbara Seismi**	**26.98**	**139**	P	**P**	**20 00 01.0**	**-0.4**
PSA00				IAmb	IAmb	20 00 20.4	
	comp=Z,7.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**29.12**	**126**	P	**P**	**20 00 19.8**	**-0.8**
	comp=Z,3.5nm,1.0s,baz=264,slow=6.5,SNR=6.5						
FITZ				LR	LR	20 11 42.2	
	comp=Z,206nm,21.2s,baz=306,slow=36						
FITZ	**Fitzroy Crossi**	**29.12**	**126**	P	**P**	**20 00 20.0**	**-0.6**
	baz=29,SNR=5.4						
FITZ	**Fitzroy Crossi**	**29.12**	**126**	P	**P**	**20 00 18.9**	**-1.7**
SIJI	**Sorong**	**30.09**	**89**	P	**P**	**20 00 30.6**	**+1.3**
	comp=Z,9.3nm,0.6s,baz=282,slow=4.0,SNR=6.7						
SIJI	**Sorong**	**30.09**	**89**	P	P	20 00 37.3	+8.0
KNRA	**Kununurra**	**30.62**	**119**	P	**P**	**20 00 32.3**	**-1.6**
KNRA				IAmb	IAmb	20 00 33.3	
	comp=Z,19nm,1.4s						
MORW	**Morawa**	**30.84**	**154**	P	**P**	**20 00 36.3**	**+0.6**
MORW				IAmb	IAmb	20 01 17.3	
	comp=Z,29nm,1.4s						
TPUB	**Ta-pu**	**31.11**	**36**	P	**P**	**20 00 38.8**	**+0.7**
TPUB				IAmb	IAmb	20 00 46.9	
	comp=Z,12nm,0.9s						
MTN	**Manton Dam**	**31.73**	**112**	P	**P**	**20 00 42.5**	**-1.2**
MTN				IAmb	IAmb	20 00 52.5	
	comp=Z,14nm,1.1s						
LSA	**Lhasa**	**32.49**	**344**	P	**P**	**20 00 49.4**	**-1.3**
YHNB	**Yeheng**	**32.59**	**36**	P	**P**	**20 00 51.4**	**+0.2**
ENH	**Enshi**	**32.60**	**13**	P	**P**	**20 00 50.7**	**-0.5**
MUN	**Mundaring**	**33.45**	**156**	P	**P**	**20 00 59.8**	**+1.3**
	baz=34,SNR=4.8						
NWAO	**Narrogin (SRO)**	**34.69**	**156**	P	**P**	**20 01 10.2**	**+0.9**
	comp=Z,5.3nm,0.5s,baz=321,slow=10,SNR=7.3						
NWAO				LR	LR	20 13 53.6	
	comp=Z,380nm,20.2s,baz=324,slow=34						
NWAO	**Narrogin (SRO)**	**34.69**	**156**	P	**P**	**20 01 10.5**	**+1.2**
	baz=35,SNR=5.1						
NWAO	**Narrogin (SRO)**	**34.69**	**156**	P	**P**	**20 01 10.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**34.69**	**156**	P	**P**	**20 01 10.4**	**+1.1**
NWAO				IAmb	IAmb	20 01 45.0	
	comp=Z,62nm,1.4s						
WRKA	**Warakurna**	**35.09**	**134**	P	**P**	**20 01 12.2**	**-0.8**
	baz=35,SNR=6.0						
XAN	**Xi'an**	**36.12**	**11**	P	**P**	**20 01 25.8**	**+4.2**
XAN				pP	sP	20 01 38.5	+2.2
XAN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WB0	**Warramunga Arr**	**37.20**	**121**	P	**P**	**20 01 29.4**	**-1.6**
WB0				IAmb	IAmb	20 02 04.7	
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**37.23**	**122**	P	**P**	**20 01 30.1**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=284,slow=12,SNR=16						
WRA				PcP	**PcP**	**20 03 49.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=319,slow=2.3,SNR=1.7						
WRA	**Warramunga Arr**	**37.23**	**122**	P	**P**	**20 01 30.4**	**-0.9**
WB2	**Warramunga Arr**	**37.24**	**122**	P	**P**	**20 01 30.1**	**-1.3**
WB2				IAmb	IAmb	20 01 55.7	
	comp=Z,19nm,1.4s						
NJ2	**Nanjing**	**37.36**	**25**	*e*P	**P**	**20 01 31.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				L	L		
	comp=Z,310nm,13.5s						
NJ2				L	L		
	comp=Z,520nm,15.5s						
NJ2				L	L		
	comp=Z,340nm,11.8s						
WR0	**Warramunga Arr**	**37.41**	**122**	P	**P**	**20 01 31.7**	**-1.1**
WR0				IAmb	IAmb	20 01 32.2	
	comp=Z,25nm,1.8s						
LZH	**Lanzhou**	**37.50**	**4**	*e*P	**P**	**20 01 32.4**	**-1.1**
LZH				sP	sP	20 01 54.4	+6.3
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LZH				L	L		
	comp=Z,250nm,17.3s						
LZH				L	L		
	comp=Z,450nm,17.9s						
LZH				L	L		
	comp=Z,210nm,17.3s						
ASAR	**Alice Springs**	**38.59**	**127**	P	**P**	**20 01 42.2**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=301,slow=7.8,SNR=73						
ASAR				PcP	**PcP**	**20 03 54.5**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=311,slow=2.0,SNR=4.6						
ASAR				LR	LR	20 19 00.4	
	comp=Z,135nm,20.8s,baz=304,slow=38						
ASAR	**Alice Springs**	**38.59**	**127**	P	**P**	**20 01 42.0**	**-0.8**
AS31	**Alice Springs**	**38.60**	**127**	P	**P**	**20 01 42.5**	**-0.3**
FORT	**Forrest**	**38.66**	**141**	P	**P**	**20 01 44.0**	**+0.8**
SMLA	**Simla**	**39.69**	**327**	*e*P	**P**	**20 01 51.7**	**-0.1**
GTA	**Gaotai**	**40.76**	**358**	*e*P	**P**	**20 02 03.3**	**+2.7**
GTA				pP	pP	20 02 11.0	-0.1
GTA				sP	sP	20 02 15.0	-0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,40nm,4.0s						
GTA				L	L		
	comp=Z,180nm,16.4s						
GTA				L	L		
	comp=Z,280nm,18.2s						
GTA				L	L		
	comp=Z,190nm,17.1s						
DHRM	**DHARAMSHALA**	**41.02**	**327**	*e*P	**P**	**20 02 01.7**	**-1.3**
HHC	**Hu-ho-hao-te**	**43.23**	**12**	*e*P	**P**	**20 02 19.6**	**-1.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,50nm,6.0s						
NIL	**Nilore**	**43.76**	**326**	P	**P**	**20 02 24.7**	**-0.4**
JNU	**

CHGR	**Chuyangaron**	**49.67**	**327**	P	**P**	**20 03 08.6**	**-2.8**
ARSB	**Arslanbob**	**49.74**	**332**	P	**P**	**20 03 10.9**	**-1.0**
BTK	**Batken**	**49.83**	**329**	P	**P**	**20 03 12.2**	**-0.3**
BTK				IAmb	IAmb	20 03 41.8	
	comp=Z,11nm,0.9s						
AAK	**Ala-Archa**	**50.11**	**334**	P	**P**	**20 03 15.0**	**+0.3**
AAK				IAmb	IAmb	20 03 36.8	
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**50.90**	**343**	P	**P**	**20 03 18.9**	**-1.6**
MKAR	**Makanchi Array**	**50.90**	**343**	P	**P**	**20 03 19.0**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=154,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**50.90**	**343**	P	**P**	**20 03 18.4**	**-2.0**
MAKZ	**Makanchi**	**51.01**	**343**	P	**P**	**20 03 20.5**	**-0.7**
CMSA	**Cobar Meteorol**	**51.51**	**130**	P	**P**	**20 03 24.8**	**-0.5**
	baz=52,SNR=6.9						
KK31	**Karatay Array**	**52.28**	**332**	P	**P**	**20 03 29.4**	**-1.4**
KKAR	**Karatay Array**	**52.28**	**332**	P	**P**	**20 03 29.7**	**-1.1**
KKAR	**Karatay Array**	**52.28**	**332**	P	**P**	**20 03 30.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**53.20**	**27**	P	**P**	**20 03 38.5**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=230,slow=6.0,SNR=2.7						
USRK	**Ussuriysk Ar.**	**53.20**	**27**	P	**P**	**20 03 37.6**	**+0.1**
TOO	**Toolangi**	**54.24**	**137**	P	**P**	**20 03 43.2**	**-2.2**
TOO				IAmb	IAmb	20 04 01.8	
	comp=Z,26nm,1.8s						
OPO	**Ambohidratompo**	**55.53**	**249**	P	**P**	**20 03 54.5**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=155,slow=2.6,SNR=3.6						
ARMA	**Armidale**	**55.73**	**126**	P	**P**	**20 03 55.9**	**-0.5**
GEYT	**Alibeck**	**55.85**	**319**	P	**P**	**20 03 56.6**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=163,slow=11,SNR=16						
GEYT				LR	LR	20 30 28.3	
	comp=Z,88nm,19.0s,baz=50,slow=39						
GEYT	**Alibeck**	**55.85**	**319**	IAmb	IAmb	20 04 01.7	
	comp=Z,363nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**55.85**	**319**	P	**P**	**20 03 56.5**	**-0.4**
ZAA0	**Zalesovo Array**	**56.93**	**349**	P	**P**	**20 04 04.4**	**+0.1**
ZAA0				IAmb	IAmb	20 04 47.5	
	comp=Z,7.3nm,1.0s						
ZALV	**Zalesovo Beam**	**56.93**	**349**	P	**P**	**20 04 02.9**	**-1.4**
	comp=Z,2.8nm,0.6s,baz=178,slow=6.9,SNR=8.4						
ZALV				LR	LR	20 30 15.5	
	comp=Z,62nm,18.1s,baz=175,slow=38						
ZALV	**Zalesovo Beam**	**56.93**	**349**	P	**P**	**20 04 02.4**	**-1.9**
BRVK	**Borovoye**	**60.22**	**339**	P	**P**	**20 04 24.9**	**-2.3**
BRVK				IAmb	IAmb	20 04 31.5	
	comp=Z,4.1nm,0.6s						
YSS	**Yuzh-Sakhalins**	**60.47**	**32**	P	**P**	**20 04 27.8**	**-1.3**
ABKAR	**Akbulak array**	**61.80**	**331**	P	**P**	**20 04 35.6**	**-2.4**
ABKAR	**Akbulak array**	**61.80**	**331**	P	**P**	**20 04 35.9**	**-2.1**
ABKAR				IAmb	IAmb	20 04 45.2	
	comp=Z,8.1nm,0.8s						
AKTO	**Aktyubinsk**	**63.51**	**331**	P	**P**	**20 04 47.8**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=140,slow=7.9,SNR=3.0						
KMBO	**Kilima Mbogo**	**63.90**	**269**	P	**P**	**20 04 54.1**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=214,slow=21,SNR=1.9						
KMBO				LR	LR	20 28 24.7	
	comp=Z,32nm,20.5s,baz=92,slow=32						
ARU	**Arti**	**67.25**	**336**	P	**P**	**20 05 12.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=197,slow=11,SNR=1.5						
ARU	**Arti**	**67.25**	**336**	P	**P**	**20 05 12.8**	**-0.8**
ARU				IAmb	IAmb	20 05 31.0	
	comp=Z,7.4nm,1.1s						
GURO	**Guroymak-BITLI**	**67.32**	**313**	P	**P**	**20 05 14.0**	**-0.6**
GURO				IAmb	IAmb	20 05 20.8	
	comp=Z,7.6nm,0.8s						
AKH	**Akhalkalaki**	**67.38**	**316**	⇑P	**P**	**20 05 14.2**	**-0.7**
KBZ	**Khabaz**	**68.72**	**319**	P	**P**	**20 05 23.0**	**0.0**
	comp=Z,5.9nm,0.7s,baz=117,slow=6.4,SNR=16						
KIV	**Kislovodsk**	**68.96**	**319**	P	**P**	**20 05 23.5**	**-1.1**
KIV				IAmb	IAmb	20 05 29.8	
	comp=Z,6.9nm,0.8s						
GAZ	**Gaziantep**	**70.45**	**310**	P	**P**	**20 05 32.9**	**-1.1**
GAZ				IAmb	IAmb	20 05 39.9	
	comp=Z,10nm,0.8s						
MAW	**Mawson**	**71.03**	**195**	P	**P**	**20 05 36.9**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=93,slow=19,SNR=3.7						
MAW				LR	LR	20 29 25.1	
	comp=Z,79nm,20.9s,baz=60,slow=30						
MAW	**Mawson**	**71.03**	**195**	P	**P**	**20 05 36.4**	**-0.4**
KIRV	**Kirov**	**72.45**	**334**	P	**P**	**20 05 45.8**	**+0.4**
	comp=Z,5.8nm,0.5s,baz=90,slow=7.1,SNR=2.1						
BR131	**Keskin Array S**	**73.87**	**312**	P	**P**	**20 05 53.1**	**-1.4**
BR131				IAmb	IAmb	20 06 02.3	
	comp=Z,8.2nm,0.8s						
BRTR	**Keskin Array B**	**73.87**	**312**	P	**P**	**20 05 53.2**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=128,slow=6.7,SNR=14						
BRTR				LR	LR	20 40 58.8	
	comp=Z,54nm,19.9s,baz=128,slow=38						
BRTR	**Keskin Array B**	**73.87**	**312**	P	**P**	**20 05 52.5**	**-1.9**
TIXI	**Tiksi**	**75.21**	**9**	P	**P**	**20 05 59.5**	**-1.8**
TIXI				IAmb	IAmb	20 06 22.4	
	comp=Z,9.0nm,1.5s						
BOSA	**Boshof**	**76.91**	**241**	P	**P**	**20 06 12.8**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=94,slow=3.5,SNR=2.3						
JURR	**Jurilovca**	**78.58**	**316**	⇓P	**P**	**20 06 20.8**	**-0.1**
TIRR	**Tirgusor**	**78.83**	**316**	⇑P	**P**	**20 06 22.6**	**+0.3**
TIRR	**Tirgusor**	**78.83**	**316**	P	**P**	**20 06 20.7**	**-1.6**
TIRR				IAmb	IAmb	20 06 23.0	
	comp=Z,13nm,0.7s						
ICOR	**Ion Corvin**	**79.18**	**315**	⇑P	**P**	**20 06 24.7**	**+0.5**
CFR	**Carcaliu**	**79.19**	**316**	⇓P	**P**	**20 06 23.3**	**-0.9**
HARR	**Harsova**	**79.22**	**316**	⇓P	**P**	**20 06 23.4**	**-1.0**
SORM	**Soroca**	**79.74**	**319**	⇑P	**P**	**20 06 26.4**	**-0.8**
ALN	**Alexandroupoli**	**79.79**	**312**	P	**P**	**20 06 26.9**	**-0.7**
ALN				IAmb	IAmb	20 06 33.0	
	comp=Z,5.1nm,0.9s						
AKASG	**Malin Array Be**	**79.83**	**322**	P	**P**	**20 06 25.8**	**-1.8**
	comp=Z,2.9nm,0.9s,baz=85,slow=4.9,SNR=11						
BISRR	**Bisoca**	**80.25**	**317**	⇑P	**P**	**20 06 30.6**	**+0.5**
VRI	**Vrincioaia**	**80.31**	**317**	⇑P	**P**	**20 06 30.4**	**0.0**
PLOR	**Plostina**	**80.36**	**317**	⇑P	**P**	**20 06 30.4**	**-0.3**
TESR	**Tescani**	**80.50**	**318**	⇑P	**P**	**20 06 31.2**	**-0.1**
MLR	**Muntele Rosu**	**80.76**	**316**	⇑P	**P**	**20 06 33.2**	**+0.3**
MLR	**Muntele Rosu**	**80.76**	**316**	P	**P**	**20 06 32.0**	**-1.0**
MLR				IAmb	IAmb	20 06 43.2	
	comp=Z,8.3nm,0.9s						
VOIR		**81.37**	**316**	⇑P	**P**	**20 06 36.1**	**0.0**
BURAR	**Bucovina Array**	**81.68**	**318**	P	**P**	**20 06 37.3**	**-0.5**
VTS	**Vitosha**	**82.16**	**313**	⇑P	**P**	**20 06 40.8**	**+0.3**
VTS	**Vitosha**	**82.16**	**313**	P	**P**	**20 06 39.0**	**-1.4**
NACGM	**Naroch**	**82.31**	**326**	*i* P	**P**	**20 06 40.3**	**-0.4**
	baz=291						
LIT	**Litokhoron**	**82.33**	**311**	P	**P**	**20 06 39.4**	**-1.8**
LIT				IAmb	IAmb	20 06 46.3	
	comp=Z,8.7nm,0.6s						
VNDA	**Vanda**	**82.40**	**169**	P	**P**	**20 06 40.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=324,slow=5.6,SNR=5.6						
VNDA	**Vanda**	**82.40**	**169**	IAmb	IAmb	20 06 51.4	
	comp=Z,10nm,1.6s						
BZS	**Buzias**	**83.78**	**316**	⇑P	**P**	**20 06 48.9**	**+0.3**
KOLS	**Kolonicke sedl**	**83.86**	**319**	*eP*	**P**	**20 06 49.4**	**+0.5**
FINES	**FINESS Array B**	**84.24**	**332**	P	**P**	**20 06 49.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=112,slow=8.5,SNR=9.1						
FINES				LR	LR	20 50 26.3	
	comp=Z,41nm,18.3s,baz=102,slow=40						
PDG	**Podgorica**	**85.05**	**313**	⇑P	**P**	**20 06 55.0**	**0.0**
MORH	**Mrgy, Hungar**	**85.92**	**316**	⇑P	**P**	**20 06 59.7**	**+0.5**
ARCES	**ARCESS Array B**	**86.43**	**340**	LR	LR	20 48 53.3	
	comp=Z,71nm,21.1s,baz=120,slow=38						
BRG	**Berggiesshubel**	**89.42**	**321**	*eP*	**P**	**20 07 16.6**	**+0.7**
BRG				Amp		20 07 17.4	
	comp=Z,3.7nm,0.8s						
BRG				*ex*	x	20 07 21.1	
BRG				Amp		20 07 22.4	
	comp=Z,4.4nm,0.9s						
GERES	**GERESS Array B**	**89.47**	**319**	P	**P**	**20 07 17.2**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=76,slow=5.6,SNR=7.0						
GERES	**GERESS Array B**	**89.47**	**319**	P	**P**	**20 07 15.1**	**-1.3**
CLL	**Collm**	**90.03**	**321**	*eP*	**P**	**20 07 20.0**	**+1.2**
CTI	**Castel Tesino**	**90.75**	**316**	P	**P**	**20 07 20.8**	**-1.7**
CTI				IAmb	IAmb	20 07 32.9	
	comp=Z,7.1nm,1.1s						
NOA	**NORSAR Array B**	**91.30**	**331**	LR	LR	20 52 17.7	
	comp=Z,31nm,19.8s,baz=90,slow=38						
TORD	**Torodi Ar. Bea**	**99.57**	**283**	LR	LR	20 52 08.8	
	comp=Z,45nm,18.2s,baz=295,slow=35						
TXAR	**Lajitas Array**	**143.61**	**38**	PKP	PKPbc	20 13 52.9	+0.7
	comp=Z,0.8nm,0.7s,baz=346,slow=0.8,SNR=4.3						
BDFB	**Brasilia**	**145.09**	**240**	PKPbc	**PKPdf**	**20 13 58.0**	**+0.3**
	comp=Z,6.7nm,0.6s,baz=254,slow=7.4,SNR=2.9						
CPUP	**Villa Florida**	**145.39**	**215**	PKPbc	**PKPab**	**20 13 58.5**	**+0.7**
	comp=Z,4.8nm,1.0s,baz=54,slow=2.3,SNR=5.6						

IDC 12 19:55:03.0±4.8, 6°.64S×117°.32E, h0km, mb3.2/3,
mb1 3.5/4, mb1mx3.4/52, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=250.5km s-min=27.0km az=61.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.98**	**145**	Pn	Pn	19 58 20.8	-1.8
	0.1nm,0.3s,baz=333,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**21.16**	**130**	P	P	19 59 50.7	+0.6
	0.3nm,0.8s,baz=315,slow=9.6,SNR=1.9						
ASAR	**Alice Springs**	**23.25**	**138**	P	P	20 00 12.4	+0.1
	0.3nm,1.0s,baz=316,slow=9.2,SNR=5.1						
SONM	**Songino Array**	**55.09**	**351**	P	P	20 04 36.9	-0.1
	2.0nm,0.8s,baz=174,slow=5.8,SNR=4.3						

*IDC **12** 20:01:00.2±2.0, 17°.77S×167°.57E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/34, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=51.7km s-min=29.4km az=123.0*
*NEIC **12** 20:01:00.8±1.6, 17°.91S±0°.04×168°.0E±0°.1, h18km±6km, mb4.5/12, Error ellipse: s-maj=18.8km s-min=6.3km az=84.0*
ISC 12 20:01:02.6±0.8, 17°.89S±0°.04×167°.8E±0°.1, h32km, n26, σ1s64/30, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**2.50**	**346**		**Pn**	**20 01 39.3**	**-1.8**
SANVU				Sn	**Sn**	**20 02 07.8**	**-2.7**
LIFNC	**LIFOU**	**2.92**	**191**		**Pn**	**20 01 43.7**	**-3.1**
LIFNC				Sn	**Sn**	**20 02 15.9**	**-4.9**
DZM	**Mont Dzumac**	**4.36**	**197**	Pn	**Pn**	**20 02 06.3**	**-0.3**
	2.8nm,0.3s,baz=82,slow=5.8,SNR=31						
DZM				Sn	**Sn**	**20 02 54.5**	**-1.9**
	9.4nm,0.3s,baz=141,slow=22,SNR=11						
DZM	**Mont Dzumac**	**4.36**	**197**	Sn	**Sn**	**20 02 56.4**	**0.0**
ONTNC	**Ouen Toro**	**4.58**	**196**	Pn	**Pn**	**20 02 09.7**	**+0.1**
ONTNC				Sn	**Sn**	**20 03 01.7**	**0.0**
OUENC	**Ouen Island, N**	**4.60**	**191**	Pn	**Pn**	**20 02 09.7**	**-0.2**
PINNC	**Pines Island,**	**4.71**	**184**	Pn	**Pn**	**20 02 10.7**	**-0.7**
NIUE	**Niue**	**21.13**	**97**	P	**P**	**20 05 44.0**	**-0.9**
CAN	**Canberra**	**24.11**	**220**	P	**P**	**20 06 17.0**	**+1.5**
CAN				IAmb	IAmb	20 06 22.2	
	comp=Z,25nm,1.6s						
LBZ	**Lake Benmore**	**26.49**	**176**	P	**P**	**20 06 36.8**	**-0.1**
STKA	**Stephens Creek**	**27.48**	**235**	P	**P**	**20 06 48.0**	**+1.9**
	comp=Z,1.2nm,0.5s,baz=66,slow=10.0,SNR=3.4						
STKA	**Stephens Creek**	**27.48**	**235**	P	**P**	**20 06 46.6**	**+0.6**
WR0	**Warramunga Arr**	**31.53**	**261**	P	**P**	**20 07 22.4**	**+0.4**
WR0				IAmb	IAmb	20 07 27.8	
	comp=Z,17nm,1.6s						
WB0	**Warramunga Arr**	**31.67**	**261**		**P**	**20 07 23.1**	**-0.3**
WB0				IAmb	IAmb	20 07 23.7	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**31.70**	**261**	P	**P**	**20 07 22.4**	**-1.2**
WRA	**Warramunga Arr**	**31.72**	**261**	P	**P**	**20 07 23.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=85,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**31.72**	**261**	P	**P**	**20 07 22.8**	**-0.9**
BBOO	**Buckleboo**	**32.17**	**236**	P	**P**	**20 07 27.9**	**+0.3**
AS31	**Alice Springs**	**32.18**	**254**	P	**P**	**20 07 27.4**	**-0.4**
AS31				IAmb	IAmb	20 07 29.2	
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**32.18**	**254**	P	**P**	**20 07 28.3**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=81,slow=8.6,SNR=31						
ASAR	**Alice Springs**	**32.18**	**254**	P	**P**	**20 07 28.1**	**+0.3**
KNRA	**Kununurra**	**37.42**	**267**	P	**P**	**20 08 13.7**	**+0.6**
KNRA				IAmb	IAmb	20 08 24.4	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**40.06**	**263**	P	**P**	**20 08 36.2**	**+1.1**
	comp=Z,4.8nm,0.8s,baz=90,slow=7.5,SNR=8.4						
SONM	**Songino Array**	**85.35**	**324**	P	**P**	**20 13 37.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=143,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**85.35**	**324**	P	**P**	**20 13 36.1**	**-0.5**
SONM				IAmb	IAmb	20 13 38.1	
	comp=Z,4.0nm,1.5s						
ILAR	**Eielson Array**	**89.36**	**18**	P	**P**	**20 13 58.8**	**+3.4**
	comp=Z,0.3nm,0.7s,baz=233,slow=4.4,SNR=2.4						

MEX 12 20:33:05.7±0.5, 14°.86N×93°.25W, h16km±48km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.84**	**2**	*eP*	Pb	20 33 19.2	-2.8
PCIG				*eS*	Sb	20 33 29.3	-3.8

*JMA **12** 20:40:31.2±0.1, 23°.96N×122°.42E, h10km, M2.3*
*TAP **12** 20:40:32.1, 24°.01N×122°.46E, h33km±1km, ML2.7, D*
ISC 12 20:40:31.8±1.0, 23°.99N±0°.02×122°.45E±0°.02, h28km±12km, n91, σ0s81/160, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**44**	P	**Pn**	**20 40 44.3**	**-0.8**
JYNG				*eS*	**Sb**	**20 40 52.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.69**	**47**	P	**Pn**	**20 40 45.2**	**-0.6**
YOJ				S	**Sb**	**20 40 54.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.69**	**47**	P	**Pn**	**20 40 45.4**	**-0.4**
	baz=47						
YOJ				*eS*	**Sb**	**20 40 54.3**	**-0.3**
	baz=47						
EWUT	**Wuta**	**0.77**	**307**	P	**Pn**	**20 40 46.3**	**-0.5**
	baz=314						
ETL	**Fush Village**	**0.78**	**283**	*eP*	**Pn**	**20 40 46.5**	**-0.5**
	baz=267						
TWD	**Chiawan**	**0.79**	**277**	*eP*	**Pn**	**20 40 46.3**	**-0.8**
	baz=275						
TWD				*eS*	**Sn**	**20 40 57.0**	**-1.0**
	baz=275						
NACB	**Ninganchiao**	**0.81**	**283**	P	**Pn**	**20 40 46.7**	**-0.7**
	baz=270						
NACB				*eS*	**Sb**	**20 40 58.5**	**+0.6**
	baz=270						
TWC	**Suao**	**0.83**	**318**	*eP*	**Pn**	**20 40 46.2**	**-1.5**
	baz=317						
ETM	**Tongmen**	**0.88**	**269**	*eP*	**Pn**	**20 40 47.6**	**-0.7**
	baz=258						
ETM				*eS*	**Sn**	**20 40 59.4**	**-0.8**
	baz=258						
ETLH	**Xiulin Townshi**	**0.92**	**284**	*eP*	**Pn**	**20 40 48.4**	**-0.5**
	baz=271						
ETLH				*eS*	**Sn**	**20 41 00.8**	**-0.5**
	baz=271						
NDS	**Dongshan**	**0.93**	**314**	*eP*	**Pn**	**20 40 48.3**	**-0.8**
	baz=312						
NDS				*eS*	**Sb**	**20 41 02.0**	**+0.6**
	baz=312						
ESL	**Shilin**	**0.95**	**260**	*eP*	**Pn**	**20 40 48.2**	**-1.1**
	baz=250						
ESL				*eS*	**Sn**	**20 41 01.0**	**-1.0**
	baz=250						
EGS		**0.98**	**331**	P	**Pn**	**20 40 49.6**	**-0.1**
	baz=319						
EGS				*eS*	**Sb**	**20 41 02.8**	**+0.1**
	baz=319						
EGFH	**Guangfu**	**0.99**	**252**	*eP*	**Pn**	**20 40 49.8**	**-0.1**
	baz=250						
EGFH				S	**Sn**	**20 41 02.4**	**-0.6**
	baz=250						
TWE	**Neicheng**	**1.02**	**316**	*eP*	**Pb**	**20 40 50.7**	**-0.2**
	baz=314						
TWE				*eS*	**Sn**	**20 41 03.1**	**-0.7**
	baz=314						
NTC	**Toucheng**	**1.03**	**327**	*eP*	**Pn**	**20 40 50.6**	**+0.1**
	baz=325						
NTC				*eS*	**Sn**	**20 41 03.2**	**-0.8**
	baz=325						
ENTT	**Nioudou**	**1.04**	**309**	*eP*	**Pn**	**20 40 50.6**	**0.0**
	baz=295						
NDT	**Datong Townshi**	**1.05**	**306**	*eP*	**Pb**	**20 40 51.3**	**-0.2**
	baz=292						
NDT				*eS*	**Sn**	**20 41 03.3**	**-1.3**
	baz=292						
HGSD	**Ruisui**	**1.06**	**243**	*eP*	**Pn**	**20 40 50.3**	**-0.6**
	baz=241						
HGSD				*eS*	**Sn**	**20 41 04.0**	**-0.8**
	baz=241						
NNSB	**Datong**	**1.07**	**294**	P	**Pn**	**20 40 51.4**	**+0.2**
	baz=282						
NNSB				S	**Sb**	**20 41 05.7**	**+0.1**
	baz=282						
NNSH	**Datong**	**1.07**	**294**	P	**Pn**	**20 40 51.2**	**+0.1**
	baz=283						
NNSH				*eS*	**Sb**	**20 41 05.5**	**-0.1**
	baz=283						
NNS	**Nan Shan**	**1.08**	**295**	*eP*	**Pn**	**20 40 51.7**	**+0.4**
	baz=282						
NNS				S	**Sb**	**20 41 05.8**	**-0.1**
	baz=282						
WHF	**Hehuan Shan**	**1.10**	**278**	*eP*	**Pn**	**20 40 51.6**	**-0.1**
	baz=266						
WHF				*eS*	**Sn**	**20 41 06.1**	**-0.1**
	baz=266						
TWB1	**Santiao Chiao**	**1.10**	**337**	*eP*	**Pb**	**20 40 51.8**	**-0.5**
	baz=352						
TWB1				*eS*	**Sb**	**20 41 07.0**	**+0.7**
	baz=352						
TIPB	**Shuangxi**	**1.14**	**330**	*eP*	**Pb**	**20 40 52.5**	**-0.4**
	baz=329						
TIPB				*eS*	**Sn**	**20 41 06.3**	**-0.3**
	baz=329						
FUSS	**Fushou**	**1.14**	**283**	P	**Pn**	**20 40 52.3**	**+0.2**
	baz=281						
FUSS				*eS*	**Sb**	**20 41 07.4**	**-0.1**
	baz=281						
EHY	**Hungye**	**1.14**	**245**	*eP*	**Pn**	**20 40 51.7**	**-0.3**
	baz=257						
EHY				S	**Sn**	**20 41 06.5**	**-0.3**
	baz=257						
OWD	**Renai**	**1.17**	**269**	*eP*	**Pn**	**20 40 52.5**	**0.0**
	baz=266						
OWD				*eS*	**Sn**	**20 41 08.2**	**+0.6**
	baz=266						
NWLT	**Wulai**	**1.17**	**312**	*eP*	**Pb**	**20 40 53.0**	**-0.4**
	baz=311						
NWLT				*eS*	**Sb**	**20 41 08.7**	**+0.4**
	baz=311						
CHGB	**Renai**	**1.17**	**274**	*eP*	**Pn**	**20 40 52.7**	**+0.1**
	baz=262						
CHGB				*eS*	**Sb**	**20 41 08.4**	**-0.1**
	baz=262						
YHNB	**Yeheng**	**1.20**	**305**	*eP*	**Pb**	**20 40 53.7**	**-0.2**
	baz=303						
YHNB				*eS*	**Sb**	**20 41 08.8**	**-0.3**
	baz=303						
TWT	**Tachien**	**1.20**	**283**	*eP*	**Pb**	**20 40 53.9**	**-0.1**
	baz=271						
TWT				*eS*	**Sb**	**20 41 09.7**	**+0.5**
	baz=271						
NSK	**Sanguang**	**1.21**	**305**	*eP*	**Pb**	**20 40 53.8**	**-0.4**
	baz=303						
NSK				*eS*	**Sn**	**20 41 08.5**	**0.0**
	baz=303						
YULB	**Yu-li**	**1.22**	**241**	P	**Pn**	**20 40 52.7**	**-0.3**
	baz=254						
YULB				S	**Sn**	**20 41 08.0**	**-0.5**
	baz=254						
IRIF	**Iriomote-Funau**	**1.22**	**73**	P	**Pb**	**20 40 54.8**	**+0.6**
IRIF				*eS*	**Sb**	**20 41 11.1**	**+1.6**
EYUL	**Yuli**	**1.22**	**239**	*eP*	**Pn**	**20 40 52.9**	**-0.1**
	baz=237						
EYUL				*eS*	**Sn**	**20 41 09.0**	**+0.4**
	baz=237						
TWF1	**Yuli**	**1.23**	**239**	*eP*	**Pn**	**20 40 53.1**	**-0.1**
	baz=237						
TWF1				*eS*	**Sn**	**20 41 09.1**	**+0.1**
	baz=237						
HATJ	**Hateruma jima**	**1.24**	**87**	P	**Pb**	**20 40 55.1**	**+0.5**
NWF	**Wu-fen Shan**	**1.24**	**331**	P	**Pb**	**20 40 54.4**	**-0.3**
	baz=329						
NWF				*eS*	**Sb**	**20 41 10.5**	**+0.2**
	baz=329						
WFSB	**Wu-fen Shan**	**1.24**	**331**	*eP*	**Pb**	**20 40 54.2**	**-0.4**
	baz=329						
WFSB				*eS*	**Sb**	**20 41 10.2**	**0.0**
	baz=329						
TNOU	**National Taiwa**	**1.31**	**332**	*eP*	**Pb**	**20 40 55.0**	**-0.8**
	baz=331						
TNOU				*eS*	**Sb**	**20 41 12.6**	**+0.3**
	baz=331						
TATO	**Taipei**	**1.32**	**318**	*eP*	**Pb**	**20 40 56.4**	**+0.4**
	baz=317						
TATO				*eS*	**Sb**	**20 41 12.7**	**+0.2**
	baz=317						
FULB	**Fuli**	**1.32**	**234**	*eP*	**Pn**	**20 40 54.3**	**-0.2**
	baz=222						
FULB				*eS*	**Sn**	**20 41 11.7**	**+0.5**
	baz=222						
CHKT	**Chengkung**	**1.33**	**229**	*eS*	**Sn**	**20 41 10.1**	**-1.4**
	baz=218						
SSLB	**Suanglung**	**1.39**	**262**	*eP*	**Pn**	**20 40 55.9**	**+0.5**
	baz=261						
DPDB	**Guoxing**	**1.40**	**272**	*eP*	**Pn**	**20 40 56.2**	**+0.7**
	baz=270						
YM01	**YM01**	**1.41**	**325**	*eP*	**Pb**	**20 40 56.6**	**-0.8**
	baz=338						
YM01				*eS*	**Sb**	**20 41 15.1**	**+0.1**
	baz=338						
WHP	**Taichung City**	**1.41**	**282**	*eP*	**Pb**	**20 40 58.0**	**+0.5**
	baz=271						
WHP				*eS*	**Sb**	**20 41 14.7**	**-0.4**
	baz=271						
WCS	**Beigang Elemen**	**1.41**	**273**	*eP*	**Pn**	**20 40 56.5**	**+0.9**
	baz=271						
SMLT	**Sun Moon Lake**	**1.43**	**266**	*eP*	**Pn**	**20 40 56.5**	**+0.5**
	baz=256						
YM08	**YM08**	**1.43**	**327**	*eP*	**Pb**	**20 40 57.0**	**-0.8**
	baz=326						
YM08				*eS*	**Sb**

	baz=233								
STYT	**Tauyuan**	**1.76**	**243**	*e*P		**Pn**	**20 41 01.2**	**+0.7**
	baz=233								
STYT				*e*S		**Sn**	**20 41 22.9**	**+0.9**
	baz=233								
JISG	**Ishigakijimahi**	**1.80**	**70**	P		**Pb**	**20 41 02.7**	**-1.4**
JISG				*e*S		**Sb**	**20 41 24.8**	**-1.4**
TPUB	**Ta-pu**	**1.81**	**248**	*e*P		**Pn**	**20 41 02.6**	**+1.4**
	baz=246								
TPUB				*e*S		**Sb**	**20 41 25.6**	**-0.9**
	baz=246								
CHN4	**Tsaushan**	**1.82**	**250**	*e*P		**Pb**	**20 41 03.6**	**-0.9**
	baz=248								
CHN4				*e*S		**Sb**	**20 41 27.9**	**+1.0**
	baz=248								
WTP	**Ta-pu**	**1.84**	**247**	*e*P		**Pn**	**20 41 03.3**	**+1.7**
	baz=244								
WTP				*e*S		**Sb**	**20 41 26.4**	**-1.1**
	baz=244								
WTK	**Tuku**	**1.92**	**261**	*e*P		**Pb**	**20 41 04.9**	**-1.2**
	baz=260								
SLGT	**Liugui**	**1.93**	**240**	*e*P		**Pn**	**20 41 04.3**	**+1.5**
	baz=230								
SLGT				*e*S		**Sb**	**20 41 30.0**	**-0.1**
	baz=230								
CHN1	**Nanshi**	**1.94**	**246**	*e*P		**Pb**	**20 41 05.3**	**-1.3**
	baz=244								
CHN1				*e*S		**Sb**	**20 41 29.2**	**-1.1**
	baz=244								
TWK	**Hsinying**	**1.94**	**249**	*e*P		**Pn**	**20 41 04.8**	**+1.8**
	baz=246								
TWK				*e*S		**Sb**	**20 41 29.6**	**-0.8**
	baz=246								
ECL	**Taimali**	**1.95**	**225**	*e*S		**Sn**	**20 41 26.6**	**-0.2**
	baz=234								
SSD	**Sandimen**	**2.08**	**234**	*e*P		**Pb**	**20 41 08.1**	**-0.9**
	baz=226								
TSMG	**Majia**	**2.10**	**233**	*e*P		**Pn**	**20 41 07.1**	**+2.0**
	baz=225								
JTJ	**Tarama**	**2.15**	**72**	P		**Pb**	**20 41 08.8**	**-1.3**
JTJ				*e*S		**Sb**	**20 41 35.1**	**-1.3**
MASBT	**Mashibuluo**	**2.16**	**231**	*e*P		**Pn**	**20 41 06.9**	**+0.9**
	baz=225								
MASBT				*e*S		**Sn**	**20 41 32.9**	**+1.0**
	baz=225								
EAST	**Anshuo**	**2.18**	**223**	*e*P		**Pn**	**20 41 08.3**	**+2.1**
	baz=222								
TWK1	**Hengchun**	**2.54**	**217**	*e*S		**Sn**	**20 41 41.0**	**-0.2**
	baz=215								
PHUB	**P'eng-hu**	**2.68**	**260**	*e*P		**Pn**	**20 41 14.5**	**+1.3**
	baz=273								
PHUB				*e*S		**Sn**	**20 41 45.6**	**+0.9**
	baz=273								
PNG	**Penghu**	**2.69**	**262**	*e*P		**Pn**	**20 41 14.6**	**+1.3**
	baz=259								
PNG				*e*S		**Sn**	**20 41 46.0**	**+1.2**
	baz=259								
MATB	**Ma-tsu**	**3.13**	**314**	*e*S		**Sn**	**20 41 56.5**	**+0.6**
	baz=300								
PTMZ	**Houxiangcun**	**3.21**	**290**	*e*P		**Pn**	**20 41 21.2**	**+0.8**
	baz=287								
XPSS	**Dashiqiu**	**3.57**	**326**	*e*P		**Pn**	**20 41 27.1**	**+1.7**
	baz=323								
XPSS				*e*S		**Sn**	**20 42 08.0**	**+1.3**
	baz=323								

NEIC ***12*** *20:41:47.4±1.2, 4°.88S±0°.04×152°.45E±0°.10, h54km±6km, mb4.6/52, Error ellipse: s-maj=13.8km s-min=5.1km az=93.0*

IDC ***12*** *20:41:51.7±4.5, 5°.01S×152°.39E, h98km±41km, mb3.6/8, mb1 3.9/9, mb1mx3.6/30, mbtmp4.0/9, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=27.9km s-min=22.6km az=180.0*

ISC 12 20:41:47.1±0.5, 4°.88S±0°.07×152°.5E±0°.1, h55km, n75, σ0s93/71, mb4.5/31, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.74**	**338**			**Pn**	**20 42 02.0**	**+0.3**
PMG	**Port Moresby**	**6.91**	**229**	P		Pn	20 43 30.0	+4.2
	1.8nm,0.3s,baz=356,slow=8.1,SNR=1.6							
PMG				S		**Sn**	**20 44 44.1**	**+1.0**
	2.4nm,0.3s,baz=129,slow=14,SNR=2.3							
PMG				LR		LR	20 45 32.4	
	comp=Z,63nm,18.8s,baz=231,slow=32							
PMG	**Port Moresby**	**6.91**	**229**	Pn		**Pn**	**20 43 26.3**	**+0.5**
PATS	**Pohnpei**	**13.03**	**27**	Pn		**Pn**	**20 44 48.9**	**-0.7**
FAKI	**Fak Fak**	**20.25**	**275**	Pn		Pn	20 46 19.8	-0.6
FAKI				IAmb		IAmb	20 46 50.5	
	comp=Z,52nm,1.3s							
DZM	**Mont Dzumac**	**21.81**	**143**	P		**P**	**20 46 35.8**	**+0.8**
	comp=Z,5.7nm,0.5s,baz=280,slow=4.3,SNR=8.4							
DZM	**Mont Dzumac**	**21.81**	**143**	IAmb		IAmb	20 47 24.5	
	comp=Z,49nm,1.4s							
OUENC	**Ouen Island, N**	**22.31**	**143**	P		**P**	**20 46 42.4**	**+2.2**
MTN	**Manton Dam**	**22.48**	**248**	P		**P**	**20 46 41.9**	**-0.2**
MTN				IAmb		IAmb	20 47 28.0	
	comp=Z,38nm,1.6s							
WB0	**Warramunga Arr**	**22.98**	**228**	P		**P**	**20 46 46.2**	**-1.1**
WB0				IAmb		IAmb	20 47 05.6	
	comp=Z,29nm,1.6s							
WR0	**Warramunga Arr**	**22.99**	**228**	P		**P**	**20 46 46.0**	**-1.4**
WRAB	**Tennant Creek**	**23.11**	**228**	P		**P**	**20 46 46.1**	**-2.6**
WB2	**Warramunga Arr**	**23.12**	**228**	P		**P**	**20 46 47.5**	**-1.2**
WB2				IAmb		IAmb	20 47 12.4	
	comp=Z,22nm,1.5s							
WRA	**Warramunga Arr**	**23.13**	**228**	P		**P**	**20 46 47.6**	**-1.2**
	comp=Z,3.3nm,0.6s,baz=53,slow=10,SNR=30							
WRA	**Warramunga Arr**	**23.13**	**228**	P		**P**	**20 46 46.5**	**-2.3**
KNRA	**Kununurra**	**25.62**	**243**	P		**P**	**20 47 11.8**	**+0.1**
KNRA				IAmb		IAmb	20 47 14.6	
	comp=Z,27nm,1.5s							
AS31	**Alice Springs**	**25.85**	**222**	P		**P**	**20 47 14.2**	**+0.4**
ASAR	**Alice Springs**	**25.85**	**222**	P		**P**	**20 47 13.1**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=57,slow=8.5,SNR=17							
FITZ	**Fitzroy Crossi**	**29.31**	**241**	P		**P**	**20 47 43.2**	**-1.6**
BBOO	**Buckleboo**	**31.72**	**207**	P		**P**	**20 48 05.3**	**-0.6**
BBOO				IAmb		IAmb	20 48 18.8	
	comp=Z,18nm,1.5s							
BFZ	**Birch Farm**	**41.56**	**152**	P		**P**	**20 49 27.6**	**-1.9**
JMN	**Monobe**	**42.23**	**337**	P		**P**	**20 49 35.1**	**0.0**
JMN				IAmb		IAmb	20 49 37.2	
	comp=Z,21nm,1.3s							
JWT	**Wachi**	**43.05**	**339**	P		**P**	**20 49 41.2**	**-0.4**
JWT				IAmb		IAmb	20 50 12.9	
	comp=Z,21nm,1.5s							
RAR	**Rarotonga**	**49.07**	**114**	LR		LR	21 08 52.4	
	comp=Z,76nm,19.6s,baz=302,slow=33							
CMAR	**Chiang Mai Arr**	**57.59**	**295**	P		**P**	**20 51 32.8**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=127,slow=5.9,SNR=7.7							
PEA0B	**Petropavlovsk-**	**57.94**	**4**	P		**P**	**20 51 33.6**	**-0.1**
PETK	**Petropavlovsk-**	**57.94**	**4**	P		**P**	**20 51 33.3**	**-0.4**
VNDA	**Vanda**	**72.76**	**178**	P		**P**	**20 53 09.7**	**+0.5**
KDAK	**Kodiak Island**	**76.41**	**27**	P		**P**	**20 53 29.8**	**-0.7**
SVW2	**Sparrevohn**	**77.04**	**23**	P		**P**	**20 53 34.3**	**+0.2**
SVW2				IAmb		IAmb	20 53 55.8	
	comp=Z,10nm,1.3s							
RSO	**Redoubt South**	**77.81**	**24**	P		**P**	**20 53 38.5**	**-0.1**
CNPM	**China Poot**	**77.94**	**26**	P		**P**	**20 53 39.5**	**+0.3**
TTA	**Tatalina**	**77.97**	**21**	P		**P**	**20 53 40.3**	**+0.9**
TTA				IAmb		IAmb	20 54 02.4	
	comp=Z,5.7nm,1.4s							
BRLK	**Bradley Lake**	**78.22**	**26**	P		**P**	**20 53 41.1**	**+0.4**
SKT	**Skwentna**	**79.14**	**24**	P		**P**	**20 53 45.3**	**-0.4**
SKT				IAmb		IAmb	20 53 58.8	
	comp=Z,9.2nm,1.0s							
SUA	**Susitna One**	**79.17**	**24**	P		**P**	**20 53 46.1**	**+0.1**
SUA				IAmb		IAmb	20 53 46.9	
	comp=Z,6.2nm,0.6s							
RC01	**Rabbit Creek A**	**79.39**	**25**	P		**P**	**20 53 47.3**	**+0.2**
RC01				IAmb		IAmb	20 53 48.2	
	comp=Z,15nm,1.5s							
PWL	**Port Wells**	**79.87**	**25**	P		**P**	**20 53 49.7**	**0.0**
MKAR	**Makanchi Array**	**80.16**	**319**	P		**P**	**20 53 51.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=114,slow=4.8,SNR=8.7							
SML	**Sawmill**	**80.34**	**24**	P		**P**	**20 53 52.6**	**+0.3**
GLI	**Glacier Island**	**80.41**	**26**	P		**P**	**20 53 52.9**	**+0.3**
GLI				IAmb		IAmb	20 53 53.5	
	comp=Z,3.8nm,0.7s							
IMAR	**Indian Mountai**	**80.58**	**20**	P		**P**	**20 53 53.5**	**+0.1**
FID	**Port Fidalgo**	**80.61**	**26**	P		**P**	**20 53 53.4**	**-0.3**
FID				IAmb		IAmb	20 53 54.5	
	comp=Z,5.9nm,1.0s							
SCM	**Sheep Creek Mo**	**80.77**	**25**	P		**P**	**20 53 54.6**	**0.0**
ZALV	**Zalesovo Beam**	**81.03**	**326**	P		**P**	**20 53 56.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=103,slow=6.4,SNR=3.1							
MLY	**Manley**	**81.08**	**21**	P		**P**	**20 53 56.5**	**+0.3**
MLY				IAmb		IAmb	20 53 57.1	
	comp=Z,4.2nm,0.8s							
KLU	**Klutina**	**81.20**	**25**	P		**P**	**20 53 57.4**	**+0.5**
M24K	**Tolsona, Glenn**	**81.38**	**25**	P		**P**	**20 53 58.1**	**+0.3**
M24K				IAmb		IAmb	20 53 59.7	
	comp=Z,8.1nm,0.8s							
HMT	**Hamilton**	**81.41**	**27**	P		**P**	**20 53 58.7**	**+0.7**
NEA2	**Nenana**	**81.46**	**22**	P		**P**	**20 53 57.5**	**-0.6**
NEA2				IAmb		IAmb	20 53 58.2	
	comp=Z,4.2nm,0.9s							
I23K	**Minto, Yukon-K**	**81.64**	**21**	P		**P**	**20 53 59.1**	**+0.1**
N25K	**Chitina, Valde**	**81.82**	**25**	P		**P**	**20 54 00.9**	**+0.8**
N25K				IAmb		IAmb	20 54 01.1	
	comp=Z,9.6nm,1.6s							
CCB	**Clear Creek Bu**	**81.96**	**22**	P		**P**	**20 53 59.8**	**-1.0**
GLB	**Gilahina Butte**	**82.08**	**26**	P		**P**	**20 54 01.1**	**-0.4**
GLB				IAmb		IAmb	20 54 03.3	
	comp=Z,4.1nm,0.9s							
CRQM	**Cirque**	**82.09**	**27**	P		**P**	**20 54 01.5**	**-0.3**
CRQM				IAmb		IAmb	20 54 04.0	
	comp=Z,5.2nm,0.9s							
VRDI	**Verde Repeater**	**82.15**	**26**	P		**P**	**20 54 02.1**	**0.0**
VRDI				IAmb		IAmb	20 54 03.2	
	comp=Z,3.6nm,1.0s							
IL31		**82.37**	**22**	P		**P**	**20 54 02.9**	**+0.1**
ILAR	**Eielson Array**	**82.37**	**22**	P		**P**	**20 54 01.8**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=253,slow=5.5,SNR=26							
ILAR	**Eielson Array**	**82.37**	**22**	P		**P**	**20 54 01.2**	**-1.7**
TABL	**Table Mountain**	**82.86**	**27**	P		**P**	**20 54 06.4**	**+0.6**
TABL				IAmb		IAmb	20 54 07.8	
	comp=Z,7.0nm,0.9s							
SCRK	**Sand Creek**	**83.12**	**23**	P		**P**	**20 54 06.5**	**-0.4**
TOLK	**Toolik Lake Re**	**83.40**	**18**	P		**P**	**20 54 08.8**	**+0.6**
TOLK				IAmb		IAmb	20 54 09.6	
	comp=Z,3.2nm,0.8s							
L27K	**Beaver Creek,**	**83.61**	**25**	P		**P**	**20 54 10.8**	**+1.4**
BCAR	**Beaver Creek A**	**83.63**	**25**	P		**P**	**20 54 10.3**	**+0.8**
K27K	**Chicken**	**83.90**	**24**	P		**P**	**20 54 10.8**	**0.0**
BMAR	**Burnt Mountain**	**84.44**	**20**	P		**P**	**20 54 14.9**	**+1.3**
HYT	**Haines Junctio**	**84.67**	**28**	P		**P**	**20 54 15.1**	**+0.1**
EPYK	**Eagle Plains**	**86.87**	**22**	P		**P**	**20 54 25.6**	**-0.1**
BBB	**Bella Bella**	**87.37**	**37**	LR		LR	21 28 29.2	
	comp=Z,17nm,20.5s,baz=302,slow=32							
NVAR	**Mina Array Bea**	**92.41**	**52**	P		**P**	**20 54 54.5**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=238,slow=5.2,SNR=1.6							
NVAR	**Mina Array Bea**	**92.41**	**52**	P		**P**	**20 54 53.8**	**+1.3**
GERES	**GERESS Array B**	**123.94**	**328**	PKP		**PKPdf**	**21 00 39.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=92,slow=2.9,SNR=2.4							
GERES	**GERESS Array B**	**123.94**	**328**			**PKPdf**	**21 00 38.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.00**	**288**	PKPbc		**PKPbc**	**21 01 31.7**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=98,slow=3.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**150.00**	**288**			**PKPbc**	**21 01 30.9**	**-1.7**

SNET ***12*** *20:44:41.8±0.6, 12°.42N×87°.41W, h159km±15km, ML3.5*
INET ***12*** *20:44:42.2, 11°.93N×87°.49W, h0km, MW2.9*

UCR 12 20:44:46.9±2.1, 12°.15N×87°.75W, h10km, ML3.2, MW3.2, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**1.16**	**353**	*e*P		Pb	20 45 07.5	-1.6
LCND	**La Caada**	**1.16**	**353**	*e*P		Pb	20 45 07.5	-1.6
JUCU	**Jucuar¡n**	**1.20**	**336**	*e*P		Pb	20 45 09.6	-0.2
JUCU				*e*S		Sn	20 45 30.7	+4.5
JUCU	**Jucuar¡n**	**1.20**	**336**	*e*P		Pb	20 45 09.6	-0.2
JUCU				*e*S		Sn	20 45 30.7	+4.5
PACA	**Pacayal**	**1.42**	**337**	*e*P		Pn	20 45 11.7	-1.3
PACA	**Pacayal**	**1.42**	**337**	*e*P		Pn	20 45 11.7	-1.3
SJTE	**Alcalda de S**	**1.90**	**320**	*e*P		Pn	20 45 17.7	-1.8
SJTE	**Alcalda de S**	**1.90**	**320**	*e*P		Pn	20 45 17.7	-1.8
LFRS	**El Faro**	**1.94**	**319**	*e*P		Pn	20 45 18.2	-1.9
LFRS	**El Faro**	**1.94**	**319**	*e*P		Pn	20 45 18.2	-1.9
PMON	**Piamonte**	**2.17**	**316**	*e*S		Sb	20 45 52.3	-1.2
PMON	**Piamonte**	**2.17**	**316**	*e*S		Sb	20 45 52.3	-1.2
JAYA	**Jayaque - finc**	**2.23**	**312**	*e*P		Pn	20 45 21.9	-2.2
JAYA				*e*P		Pb	20 45 22.0	-5.4
JAYA				*e*S		Sn	20 45 53.5	+1.7
JAYA				IAML			20 45 57.5	
	comp=Z,216nm,0.2s							
JAYA	**Jayaque - finc**	**2.23**	**312**	*e*P		Pn	20 45 21.9	-2.2
JAYA				*e*P		Pb	20 45 22.0	-5.4
JAYA				*e*S		Sn	20 45 53.5	+1.7
JAYA				IAML			20 45 57.5	
	comp=Z,216nm,0.2s							
CEVE	**Cerro Verde**	**2.47**	**313**	*e*S		Sb	20 46 00.3	-1.9
CEVE				IAML			20 46 02.5	
	comp=Z,153nm,0.3s							
CEVE	**Cerro Verde**	**2.47**	**313**	*e*S		Sb	20 46 00.3	-1.9
CEVE				IAML			20 46 02.5	
	comp=Z,153nm,0.3s							
GUAI	**GUAI**	**2.89**	**130**	*i* P		Pn	20 45 33.6	+0.7
GUAI				*i* S		Sn	20 46 08.8	+1.0

BJI ***12*** *20:55:55.6±0.0, 38°.93N×142°.69E, h47km, mB4.8/44, mb4.7/64, Ms3.9/36, Ms7 3.8/36*

MOS ***12*** *20:55:59.1±1.0, 39°.06N×142°.24E, h51km, mb5.0/38, Error ellipse: s-maj=5.8km s-min=3.9km az=101.7*

NIED ***12*** *20:56:00.4, 38°.99N×142°.27E, h50km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr8.39; Mθθ0.19; Mϕϕ-8.57; Mrθ-0.23; Mϕr-1.24; Mθr-2.40; Fault plane solution: M₀8.90000×10¹⁵ NP1: ϕs187.00000°, δ53.00000°, λ89.00000°. NP2:ϕs9.00000°, δ37.00000°, λ91.00000°.*

NEIC ***12*** *20:56:00.8±2.4, 38°.98N±0°.04×142°.37E±0°.08, h46km±5km, mb5.0/156, Mwr4.5/27 Error ellipse: s-maj=9.6km s-min=5.7km az=85.0*

JMA ***12*** *20:56:00.4, 38°.99N×142°.26E, h50km±1km, M4.7*

JMA Felt III J1.

NEIC ***12*** *20:56:01.1, 38°.98N×142°.31E, h48km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr4.38; Mθθ0.67; Mϕϕ-5.05; Mrθ-0.37; Mϕθ-0.86; Mϕr-3.47; Fault plane solution: M₀5.96000×10¹⁵ NP1:ϕs10.22000°, δ26.96000°, λ93.01000°. NP2:ϕs186.84000°, δ63.08000°, λ88.47000°. Principal axes: T 5.5251, Plg72.0000°, Azm93.0000°; N 0.7889, Plg1.0000°, Azm188.0000°; P -6.3140, Plg18.0000°, Azm278.0000°;*

IDC ***12*** *20:56:01.2±1.9, 38°.96N×142°.16E, h57km±16km, mb4.4/34, mb1 4.5/40, mb1mx4.5/48, mbtmp4.7/40, ML4.2/6, MS3.6/23, Ms1 3.6/23, ms1mx3.4/45 Error ellipse: s-maj=11.6km s-min=9.4km az=112.0*

BGR ***12*** *20:56:04.0±0.0, 40°.32N×142°.31E, h33km, mb4.8*

ISC 12 20:56:00.7±0.4, 38°.97N±0°.03×142°.36E±0°.04, h58km±3km, h58km:pP-P, n647, σ1s92/701, mb4.9/215, MS3.8/30, 108C-61D, Fault plane solution: NP1:ϕs312.75595°, δ22.59709°, λ44.15694°. **NP2:**ϕs180.88123°, δ74.47389°, λ106.62544°. **Principal axes:** T Plg57.3624°, Azm112.9132°; N Plg16.0021°, Azm356.3114°; P Plg27.6161°, Azm257.6827°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**282**	P		**Pn**	**20 56 11.4**	**-1.6**
OFUJ				S		**Sn**	**20 56 19.0**	**-3.0**
JKMT	**Kesennumamotoy**	**0.71**	**257**	P		**Pn**	**20 56 13.3**	**-1.6**
JKMT				S		**Sn**	**20 56 22.3**	**-3.0**
MIYJ	**Miyakonagasawa**	**0.73**	**326**	P		**Pn**	**20 56 13.7**	**-1.6**
MIYJ				S		**Sn**	**20 56 23.3**	**-2.6**
JMK	**Ichinoseki**	**0.89**	**269**	P		**Pn**	**20 56 15.7**	**-1.5**
JMK				*e*S		**Sn**	**20 56 26.9**	**-2.4**
JIO	**Ouri**	**0.94**	**237**	P		**Pn**	**20 56 16.5**	**-1.4**
JIO				S		**Sn**	**20 56 27.9**	**-2.7**
JOM	**Ohasama**	**0.97**	**302**	P		**Pn**	**20 56 16.8**	**-1.5**
JOM				S		**Sn**	**20 56 28.8**	**-2.4**
JTH	**Tanohata**	**1.04**	**339**	P		**Pn**	**20 56 17.8**	**-1.4**
JRG	**Rokugo**	**1.41**	**288**	P		**Pn**	**20 56 22.9**	**-1.2**
JOU	**Okura**	**1.46**	**246**	P		**Pn**	**20 56 23.6**	**-1.2**
JANG	**Nango**	**1.54**	**335**	P		**Pn**	**20 56 24.7**	**-1.3**
JYK	**Kaneyama**	**1.56**	**269**	P		**Pn**	**20 56 25.1**	**-1.1**
JMM	**Marumori**	**1.65**	**229**	P		**Pn**	**20 56 26.1**	**-1.3**
JMM				*e*S		**Sn**	**20 56 45.7**	**-1.8**
JMM	**Marumori**	**1.65**	**229**			**Pn**	**20 56 25.9**	**-1.5**
JTM	**Tenmabayashi**	**2.07**	**332**			**Pn**	**20 56 32.2**	**-0.9**
ERM	**Erimo**	**3.10**	**11**	*de*P		**Pn**	**20 56 46.7**	**-0.5**
ERM	**Erimo**	**3.10**	**11**			**Pn**	**20 56 46.5**	**-0.6**
JYT	**Yasato**	**3.23**	**213**			**Pn**	**20 56 48.0**	**-1.0**
JSD	**Sado**	**3.35**	**255**	Pn		**Pn**	**20 56 49.6**	**-0.9**
JEW	**Eniwo**	**3.93**	**350**			**Pn**	**20 56 58.9**	**+0.5**
MJAR	**Matsushiro Arr**	**4.08**	**235**	P		**Pn**	**20 57 02.0**	**+1.3**
	7.7nm,0.3s,baz=36,slow=12,SNR=470							
MJAR				LR		LR	20 58 50.0	
	comp=Z,979nm,19.5s,baz=60,slow=43							
MJAR	**Matsushiro Arr**	**4.08**	**235**	P		**Pn**	**20 57 01.8**	**+1.1**
MJAR	**Matsushiro Arr**	**4.08**	**235**	Pn		**Pn**	**20 57 01.8**	**+1.1**
MAJO	**Matsushiro**	**4.09**	**235**	*d* iP		**Pn**	**20 57 01.5**	**+0.8**
MAJO	**Matsushiro**	**4.09**	**235**			**Pn**	**20 57 01.4**	**+0.7**
MAT	**Matsushiro**	**4.09**	**235**	P		**Pn**	**20 57 01.5**	**+0.8**
MAT				S		**Sn**	**20 57 47.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**4.09**	**235**			**Pn**	**20 57 01.3**	**+0.6**
NMR	**Nemuro--Hokkai**	**5.08**	**29**	¡ iP		**Pn**	**20 57 12.5**	**-1.7**
NMR				*i* S		**Sn**	**20 58 05.6**	**-5.9**
ASAJ	**Asahikawa**	**5.14**	**2**	P		**Pn**	**20 57 15.0**	**-0.2**
	12nm,0.3s,baz=211,slow=16,SNR=72							
ASAJ				S		**Sn**	**20 58 10.2**	**-3.0**
	7.5nm,0.3s,baz=52,slow=24,SNR=6.0							
ASAJ	**Asahikawa**	**5.14**	**2**	P		**Pn**	**20 57 15.0**	**-0.2**
JKA	**Kamikawa-asahi**	**5.14**	**2**			**Pn**	**20 57 15.0**	**-0.2**
JKA	**Kamikawa-asahi**	**5.14**	**2**			**Sn**	**20 58 10.2**	**-3.0**
JGF	**Kuroka**	**5.22**	**231**			**Pn**	**20 57 17.2**	**+1.0**
JSG	**Sagara**	**5.44**	**219**			**Pn**	**20 57 20.9**	**+1.7**
RUSJ	**Misakicho**	**5.57**	**22**	¡ iP		**Pn**	**20 57 20.2**	**-0.7**
RUSJ				*i* S		**Sn**	**20 58 20.5**	**-3.0**
INU	**Inuyama**	**5.59**	**231**	Pn		**Pn**	**20 57 22.0**	**+0.7**
GRPR	**Tuman**	**5.63**	**26**	¡ iP		**Pn**	**20 57 20.5**	**-1.3**
GRPR				*i* S		**Sn**	**20 58 20.3**	**-4.9**
GRPR				pmax	pmax			
	comp=E,146nm,0.2s							
GRPR				pmax	pmax			
	comp=Z,341nm,0.2s							
GRPR				pmax	pmax			
	comp=N,106nm,0.1s							
GRPR				smax	smax			
	comp=N,2µm,0.3s							
GRPR				smax	smax			
	comp=E,963nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.70**	**26**	¡ iP		**Pn**	**20 57 20.6**	**-2.1**
YUK				*i* S		**Sn**	**20 58 21.6**	**-5.2**
YUK				pmax	pmax			
	comp=N,194nm,0.2s							
YUK				pmax	pmax			
	comp=E,209nm,0.2s							
YUK				pmax	pmax			
	comp=Z,794nm,0.2s							
YUK				smax	smax			
	comp=N,2µm,0.4s							
YUK				smax	smax			
	comp=E,2µm,0.4s							
JHJ2	**Mitsune**	**6.20**	**200**	Pn		**Pn**	**20 57 28.0**	**-1.6**
JHJ	**Hachijo jima 2**	**6.20**	**200**	P		**Pn**	**20 57 28.0**	**-1.6**
	comp=E,95nm,0.3s,baz=322,slow=23,SNR=38							
JHJ				S		**Sn**	**20 58 33.4**	**-5.7**
	comp=E,209nm,0.3s,baz=49,slow=23,SNR=8.8							
JHJ				LR		LR	20 59 26.2	
	comp=E,193nm,21.9s,baz=65,slow=33							
JWT	**Wachi**	**6.67**	**239**	Pn		**Pn**	**20 57 37.7**	**+1.7**
TEY	**Ternei**	**7.42**	**327**	*e*P		**Pn**	**20 57 48.7**	**+2.4**
TEY				pmax	pmax			
	comp=E,10.0nm,1.0s							
TEY				pmax	pmax			
	comp=Z,10.0nm,1.4s							
KUR	**Kuril'sk**	**7.48**	**31**	*d* iP		**Pn**	**20 57 46.3**	**-0.7**
KUR				*i* S		**Sn**	**20 59 05.4**	**-5.0**
KUR				pmax	pmax			
	comp=Z,92nm,0.3s							
KUR				pmax	pmax			
	comp=N,52nm,0.2s							
KUR				pmax	pmax			
	comp=E,51nm,0.2s							
KUR				smax	smax			
	comp=E,334nm,0.5s							
KUR				smax	smax			
	comp=N,194nm,0.2s							
YSS	**Yuzh-Sakhalins**	**7.98**	**2**	*e*P		**Pn**	**20 57 54.2**	**+0.2**
YSS				*e*S		**Sn**	**20 59 21.1**	**-1.7**
YSS				pmax	pmax			
	comp=Z,30nm,1.2s							
YSS				MLR	MLR			
	comp=Z,200nm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.98**	**2**			**Pn**	**20 57 53.9**	**-0.1**
JHS	**Saijyo**	**8.39**	**245**	Pn		**Pn**	**20 58 00.4**	**+0.8**
JMN	**Monobe**	**8.61**	**235**	Pn		**Pn**	**20 58 02.1**	**-0.5**
VLA	**Vladivostok**	**8.93**	**301**	¡ *e*P		**Pn**	**20 58 07.2**	**+0.2**
MSHR	**Mys Shultsa**	**

SNR=10.0
KSEUS **ULSEONG** 11.15 261 P Pn 20 58 40.4 +3.1
SNR=10.0
KSEUS **ULSEONG** 11.15 261 P Pn 20 58 40.4 +3.1
SNR=10.0
JTU **Tsushima** 11.30 251 Pn Pn 20 58 38.7 -0.7
KSWJU **Wonju** 11.37 267 P Pn 20 58 44.1 +3.7
SNR=20
KSWJU **Wonju** 11.37 267 P Pn 20 58 44.1 +3.7
SNR=20
KSWJU **Wonju** 11.37 267 P Pn 20 58 44.1 +3.7
SNR=20
KSWJU **Wonju** 11.37 267 P Pn 20 58 44.1 +3.7
SNR=20
KSRS **Korea Array** 11.46 267 P Pn 20 58 44.4 +2.9
comp=Z,2.0nm,0.3s,baz=78,slow=14,SNR=49
KSRS LR LR 21 02 36.0
comp=Z,342nm,21.7s,baz=62,slow=35
KSAR **Wonju Array Be** 11.49 267 P Pn 20 58 44.2 +2.2
KSAR **Wonju Array Be** 11.49 267 Pn Pn 20 58 44.2 +2.2
KS19 **Wonju Array Si** 11.49 267 Pn 20 58 43.4 +1.4
KSSAJ **Sangju** 11.54 262 P Pn 20 58 46.4 +3.8
SNR=8.9
KSSAJ **Sangju** 11.54 262 P Pn 20 58 46.4 +3.8
SNR=8.9
KSSAJ **Sangju** 11.54 262 P Pn 20 58 46.4 +3.8
SNR=8.9
KSSAJ **Sangju** 11.54 262 P Pn 20 58 46.4 +3.8
SNR=8.9
KSMGY **Mungyeong** 11.54 263 P Pn 20 58 47.2 +4.4
SNR=9.2
KSMGY **Mungyeong** 11.54 263 P Pn 20 58 47.2 +4.4
SNR=9.2
KSMGY **Mungyeong** 11.54 263 P Pn 20 58 47.2 +4.4
SNR=9.2
KSMGY **Mungyeong** 11.54 263 P Pn 20 58 47.2 +4.4
SNR=9.2
KSMGY **Mungyeong** 11.54 263 P Pn 20 58 47.2 +4.4
SNR=9.2
KSCHJ **Chungju** 11.55 264 P Pn 20 58 45.8 +2.9
SNR=8.0
KSCHJ **Chungju** 11.55 264 P Pn 20 58 46.0 +3.1
SNR=7.4
KSCHJ **Chungju** 11.55 264 P Pn 20 58 45.8 +2.9
SNR=8.0
KSCHJ **Chungju** 11.55 264 P Pn 20 58 46.0 +3.1
SNR=7.4
KSCHJ **Chungju** 11.55 264 P Pn 20 58 45.8 +2.9
SNR=8.0
KSCHJ **Chungju** 11.55 264 P Pn 20 58 46.0 +3.1
SNR=7.4
KSCHJ **Chungju** 11.55 264 P Pn 20 58 45.8 +2.9
SNR=8.0
KSCHJ **Chungju** 11.55 264 P Pn 20 58 46.0 +3.1
SNR=7.4
KSCWO **Cheorwon** 11.66 270 P Pn 20 58 48.4 +4.1
SNR=5.7
KSCWO **Cheorwon** 11.66 270 P Pn 20 58 48.4 +4.1
SNR=5.7
KSCWO **Cheorwon** 11.66 270 P Pn 20 58 48.4 +4.1
SNR=5.7
KSCWO **Cheorwon** 11.66 270 P Pn 20 58 48.4 +4.1
SNR=5.7
KSGIC **Gimchen** 11.68 260 P Pn 20 58 48.2 +3.6
SNR=10
KSGIC **Gimchen** 11.68 260 P Pn 20 58 48.2 +3.6
SNR=10
KSGIC **Gimchen** 11.68 260 P Pn 20 58 48.2 +3.6
SNR=10
KSGIC **Gimchen** 11.68 260 P Pn 20 58 48.2 +3.6
SNR=10
KSGIC **Gimchen** 11.68 260 P Pn 20 58 48.2 +3.6
SNR=10
KSCPR **CHUPUNGNYEONG** 11.74 261 P Pn 20 58 48.8 +3.4
SNR=27
KSCPR **CHUPUNGNYEONG** 11.74 261 P Pn 20 58 48.8 +3.4
SNR=27
KSCPR **CHUPUNGNYEONG** 11.74 261 P Pn 20 58 48.8 +3.4
SNR=27
KSCPR **CHUPUNGNYEONG** 11.74 261 P Pn 20 58 48.8 +3.4
SNR=27
KSCPR **CHUPUNGNYEONG** 11.74 261 P Pn 20 58 48.8 +3.4
SNR=27
KSBON **Boeun** 11.79 262 P Pn 20 58 48.9 +2.8
SNR=15
KSBON **Boeun** 11.79 262 P Pn 20 58 48.9 +2.8
SNR=15
KSBON **Boeun** 11.79 262 P Pn 20 58 48.9 +2.8
SNR=15
KSBON **Boeun** 11.79 262 P Pn 20 58 48.9 +2.8
SNR=15
OKCB **Cheongsan-myeo** 11.84 262 P Pn 20 58 51.0 +4.3
SNR=13
OKCB **Cheongsan-myeo** 11.84 262 P Pn 20 58 51.0 +4.3
SNR=13
OKCB **Cheongsan-myeo** 11.84 262 P Pn 20 58 51.0 +4.3
SNR=13
OKCB **Cheongsan-myeo** 11.84 262 P Pn 20 58 51.0 +4.3
SNR=13
JCJ **Chichijima** 11.84 181 P Pn 20 58 42.7 -4.1
comp=Z,19nm,0.3s,baz=75,slow=15,SNR=31
JCJ S Sn 21 00 43.3 -14
comp=Z,4.8nm,0.3s,baz=302,slow=22,SNR=1.5
JCJ **Chichijima** 11.84 181 Pn 20 58 44.2 -2.6
TYV **Tymovskoe** 11.89 1 *e*P Pn 20 58 43.5 -3.9
TYV pmax pmax
comp=Z,7.0nm,1.6s
KSCEA **Cheonan** 12.12 265 P Pn 20 58 54.0 +3.4
SNR=21
KSCEA **Cheonan** 12.12 265 P Pn 20 58 54.0 +3.4
SNR=21
KSCEA **Cheonan** 12.12 265 P Pn 20 58 54.0 +3.4
SNR=21
KSCEA **Cheonan** 12.12 265 P Pn 20 58 54.0 +3.4
SNR=21
KSCEA **Cheonan** 12.12 265 P Pn 20 58 54.5 +3.9
SNR=7.7
HAMB **Hamyang** 12.15 258 P Pn 20 58 55.0 +4.1
SNR=10
HAMB **Hamyang** 12.15 258 P Pn 20 58 55.0 +4.1
SNR=10
HAMB **Hamyang** 12.15 258 P Pn 20 58 55.0 +4.1
SNR=10
HAMB **Hamyang** 12.15 258 P Pn 20 58 55.0 +4.1
SNR=10
HAMB **Hamyang** 12.15 258 P Pn 20 58 55.0 +4.1
SNR=10
TJN **Taejon** 12.16 262⇑ *e*P Pn 20 58 53.2 +2.1
JSU **Suzuyama** 12.25 236 Pn 20 58 52.3 0.0
KSJEO **Jeonju** 12.35 260 P Pn 20 58 58.0 +4.3
SNR=6.3
KSJEO **Jeonju** 12.35 260 P Pn 20 58 58.0 +4.3
SNR=6.3
KSJEO **Jeonju** 12.35 260 P Pn 20 58 58.0 +4.3
SNR=6.3
KSJEO **Jeonju** 12.35 260 P Pn 20 58 58.0 +4.3
SNR=6.3
GRNR **Gornyy** 12.52 342⇓ *i*P Pn 20 58 55.8 -0.1
GRNR pmax pmax
comp=Z,2.0nm,0.9s
GRNR MLR MLR
comp=N,60nm,14.0s
GRNR MLR MLR
comp=E,80nm,12.0s
GRNR MLR MLR
comp=Z,120nm,17.0s
KSSCH **SUNCHEON** 12.69 257 P Pn 20 59 01.4 +3.0
SNR=13
KSSCH **SUNCHEON** 12.69 257 P Pn 20 59 01.4 +3.0
SNR=13
KLR **Kul'dur** 12.76 327 P Pn 20 58 58.2 -1.1
comp=Z,0.4nm,0.3s,baz=147,slow=14,SNR=7.7
KLR LR LR 21 03 55.5
comp=Z,328nm,18.4s,baz=138,slow=37
KLR **Kul'dur** 12.76 327⇓ *e*P Pn 20 58 58.5 -0.8
KLR pmax pmax
comp=Z,6.0nm,1.3s
CN2 **Changchun** 13.58 296 *e*P Pn 20 59 12.1 +1.7
CN2 S S 21 01 51.4 -8.3
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,90nm,5.0s
CN2 L L
comp=Z,130nm,14.0s
CN2 L L
comp=Z,170nm,14.0s
CN2 L L
comp=Z,260nm,16.0s
SNY **Shenyang** 14.59 287 ⇑P P 20 59 42.7 +14
SNY S S 21 02 17.8 -2.7
SNY pmax pmax
comp=Z,9.0nm,0.7s
SNY pmax pmax
comp=Z,67nm,4.0s
SNY L L
comp=Z,160nm,18.2s
SNY L L
comp=Z,230nm,24.9s
SNY L L
comp=Z,370nm,24.5s
DL2 **Dalian** 16.13 276 P P 20 59 45.4 -0.5
DL2 S Sn 21 02 40.3 -1.2
DL2 pmax pmax
comp=Z,40nm,1.2s
DL2 pmax pmax
comp=Z,71nm,4.1s
DL2 L L
comp=Z,250nm,20.8s
DL2 L L
comp=Z,310nm,19.7s
JOW **Kunigami** 16.90 228 P P 20 59 54.3 -0.2
comp=Z,1.6nm,0.3s,baz=50,slow=14,SNR=2.4
JOW S Sn 21 02 47.4 -13
comp=Z,1.0nm,0.3s,baz=217,slow=26,SNR=1.8
JOW **Kunigami** 16.90 228 P 20 59 53.9 -0.6
PEA0B **Petropavlovsk-** 17.64 32 P Pn 21 00 01.2 -1.1
PEA0B pmax pmax
comp=Z,26nm,1.3s
PEA0B **Petropavlovsk-** 17.64 32 Pn Pn 21 00 01.2 -1.1
PETK **Petropavlovsk-** 17.64 32 P Pn 20 59 59.3 -3.0
comp=Z,0.1nm,0.3s,baz=193,slow=4.4,SNR=3.0
PETK LR LR 21 07 45.6
comp=Z,120nm,18.4s,baz=213,slow=40
PETK **Petropavlovsk-** 17.64 32 P Pn 21 00 01.5 -0.8
PETK **Petropavlovsk-** 17.64 32 Pn Pn 21 00 01.5 -0.8
PET **Petropavlovsk** 17.98 33 *e*P Pn 21 00 08.6 +2.2
PET *e*S Sn 21 03 23.7 -2.4
PET pmax pmax
comp=Z,23nm,1.3s
PET MLR MLR
comp=Z,100nm,16.0s
ZEA **Zeya** 18.02 330 *e*P P 21 00 05.6 -1.1
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=N,200nm,17.0s
ZEA MLR MLR
comp=Z,100nm,14.0s
TIA **Tai'an** 20.17 270 P P 21 00 28.5 -1.8
TIA pmax pmax
comp=Z,5.0nm,0.8s
BJI **Beijing** 20.21 281 P P 21 00 30.6 -0.1
BJI S S 21 04 14.5 +0.2
BJI pmax pmax
comp=Z,12nm,1.0s
BJI pmax pmax
comp=Z,140nm,4.9s
BJI L L
comp=Z,46nm,10.1s
BJI L L
comp=Z,170nm,12.7s
BJI L L
comp=Z,210nm,13.6s
BJT **Baijiatuau** 20.22 281 P P 21 00 27.9 -2.9
BJT pmax pmax
comp=Z,12nm,0.6s
BJT **Baijiatuau** 20.22 281 P P 21 00 27.9 -2.9
NJ2 **Nanjing** 20.31 257 ⇓P P 21 00 31.8 -0.1
NJ2 pP pP 21 00 43.4 -1.1
NJ2 S S 21 04 14.3 -2.0
NJ2 pmax pmax
comp=Z,23nm,0.9s
NJ2 L L
comp=Z,190nm,14.9s
NJ2 L L
comp=Z,160nm,15.1s
NJ2 L L
comp=Z,250nm,16.5s
MA2 **Magadan** 21.31 12 P P 21 00 42.9 +0.6
comp=Z,34nm,0.7s,baz=199,slow=9.7,SNR=31
MA2 **Magadan** 21.31 12 *ce*P P 21 00 42.6 +0.2
MA2 pmax pmax
comp=Z,34nm,1.0s
MA2 **Magadan** 21.31 12 P P 21 00 43.0 +0.6
MA2 IAmb IAmb 21 00 43.9
comp=Z,39nm,0.7s
YOJ **Yonaguni jima** 21.85 234 P P 21 00 48.8 +0.4
YOJ pmax pmax
comp=Z,102nm,1.2s
YOJ **Yonaguni jima** 21.85 234 P 21 00 48.8 +0.4
YOJ IAmb IAmb 21 01 03.6
comp=Z,102nm,1.2s
YHNB **Yeheng** 22.75 237 P P 21 00 55.1 -3.1
NACB **Ninganchiao** 22.96 236 P P 21 00 57.0 -3.2
HHC **Hu-ho-hao-te** 23.64 284 *e*P P 21 01 06.7 -0.1
HHC pmax pmax
comp=Z,19nm,1.3s
HHC pmax pmax
comp=Z,61nm,4.6s
HHC L L
comp=Z,89nm,13.8s
HHC L L
comp=Z,100nm,13.1s
HHC L L
comp=Z,130nm,12.9s
SSLB **Suanglung** 23.64 236 P P 21 01 03.6 -3.2
YULB **Yu-li** 23.70 235 P P 21 01 03.9 -3.4
CIT **Chita** 23.86 313 *e*P P 21 01 04.8 -3.8
CIT *e* 21 01 37.9
CIT *e* 21 01 49.8
CIT pmax pmax
comp=Z,27nm,1.2s
TPUB **Ta-pu** 24.20 236 P P 21 01 10.0 -1.8
TWG **Pinlang** 24.26 235 P P 21 01 11.0 -1.4
TWG IAmb IAmb 21 01 21.9
comp=Z,34nm,0.6s
YAK **Yakutsk** 24.36 345 P P 21 01 11.6 -1.4
comp=Z,11nm,0.4s,baz=356,slow=2.7,SNR=16
YAK S S 21 05 25.8 -2.3
comp=Z,2.6nm,0.4s,baz=223,slow=23,SNR=6.2
YAK **Yakutsk** 24.36 345 *e*P P 21 01 11.7 -1.3
YAK *e**PP pP 21 01 26.1 -1.1
YAK *e* 21 01 43.9
YAK *e*S S 21 05 27.9 -0.3
YAK *e*SS SnSn 21 06 35.0 +19
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,93nm,2.8s
YAK pmax pmax
comp=N,65nm,2.9s
YAK pmax pmax
comp=E,81nm,3.2s
YAK smax smax
comp=E,76nm,2.1s
YAK smax smax
comp=N,212nm,3.1s
YAK **Yakutsk** 24.36 345 P P 21 01 12.5 -0.5
YAK IAmb IAmb 21 01 14.4
comp=Z,45nm,1.0s
WHN **Wuhan** 24.43 258 ⇑P P 21 01 14.8 +0.9
WHN S S 21 05 29.1 -0.6
WHN L L
comp=Z,310nm,16.4s
WHN L L
comp=Z,830nm,20.9s
WHN L L
comp=Z,430nm,15.8s
SEY **Seymchan** 24.75 11 P P 21 01 17.8 +1.3
comp=Z,19nm,0.8s,baz=193,slow=7.3,SNR=57
SMY **Shemya** 25.79 47 P P 21 01 26.3 +0.3
SMY pmax pmax
comp=Z,243nm,1.2s
SMY **Shemya** 25.79 47 P P 21 01 26.3 +0.3
ULN **Ulaanbaatar** 26.94 301 *ce*P P 21 01 36.1 -0.6
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN **Ulaanbaatar** 26.94 301 P P 21 01 36.3 -0.4
ULN **Ulaanbaatar** 26.94 301 P P 21 01 35.8 -0.9
comp=Z,21nm,0.6s
XAN **Xi'an** 27.23 270 P P 21 01 39.5 +0.2
XAN pmax pmax
comp=Z,10.0nm,0.6s
SONM **Songino Array** 27.38 301 P P 21 01 39.9 -0.7
comp=Z,2.8nm,0.6s,baz=96,slow=9.0,SNR=24
SONM LR LR 21 12 53.9
comp=Z,151nm,19.2s,baz=92,slow=37
SONM **Songino Array** 27.38 301 P P 21 01 40.1 -0.5
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM **Songino Array** 27.38 301 P P 21 01 40.1 -0.5
ENH **Enshi** 28.29 262 P P 21 01 47.8 -0.9
ENH IAmb IAmb 21 01 57.0
comp=Z,31nm,0.8s
H11N2 **WAKE ISLAND Hy** 28.57 125 T T 21 32 19.3
baz=317,slow=76,SNR=424
H11N1 **WAKE ISLAND Hy** 28.58 125 T T 21 32 20.2
baz=317,slow=76,SNR=299
H11N3 **WAKE ISLAND Hy** 28.59 125 T T 21 32 20.9
baz=317,slow=76,SNR=403
H11S1 **WAKE ISLAND Hy** 29.36 127 T T 21 33 19.2
baz=319,slow=76,SNR=422
H11S3 **WAKE ISLAND Hy** 29.36 127 T T 21 33 17.8
baz=319,slow=76,SNR=745
H11S2 **WAKE ISLAND Hy** 29.37 127 T T 21 33 19.2
baz=319,slow=76,SNR=434
TLY **Talaya** 29.67 308 P P 21 02 00.4 -0.5
comp=Z,2.3nm,0.6s,baz=61,slow=4.0,SNR=7.9
TLY LR LR 21 14 30.1
comp=Z,169nm,19.1s,baz=106,slow=38
TLY **Talaya** 29.67 308 *e*P P 21 02 00.8 0.0
TLY *e*S S 21 06 56.9 +4.6
TLY *e*SS SnSn 21 08 26.3 +0.4
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,405nm,17.0s
TLY **Talaya** 29.67 308 P P 21 02 00.1 -0.7
ZAK **Zakamensk** 29.70 305 *e*P P 21 01 59.9 -1.3
ZAK pmax pmax
comp=Z,4.0nm,1.3s
LZH **Lanzhou** 30.53 277 *e*P P 21 02 10.6 +1.9
LZH pP pP 21 02 25.1 +2.0
LZH sP sP 21 02 30.0 +0.1
LZH S S 21 07 04.4 -1.9
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,91nm,5.4s
LZH L L
comp=Z,140nm,16.3s
LZH L L
comp=Z,170nm,16.3s
LZH L L
comp=Z,130nm,15.2s
BILL **Bilibino** 31.96 17 *de*P P 21 02 21.5 +0.8
BILL *e* 21 03 25.5
BILL *e* 21 05 10.2
BILL pmax pmax
comp=Z,16nm,1.7s
BILL **Bilibino** 31.96 17 P P 21 02 20.4 -0.4
GYA **Guiyang** 32.32 258 ⇑P P 21 02 24.1 -0.4
GYA sP sP 21 02 44.1 -1.5
GYA S S 21 07 28.7 -5.6
GYA ScP ScP 21 08 53.5 +3.5
GYA pmax pmax
comp=Z,3.0nm,1.3s
CD2 **Chengdu** 32.46 268 P P 21 02 26.4 +0.8
CD2 pmax pmax
comp=Z,30nm,0.5s
GTA **Gaotai** 32.75 284 *e*P P 21 02 28.8 +0.6
GTA pP pP 21 02 39.7 -2.9
GTA sP sP 21 02 43.0 -6.4
GTA PcP PcP 21 05 13.6 +1.3
GTA pmax pmax
comp=Z,4.0nm,0.4s
GTA pmax pmax
comp=Z,45nm,5.1s
GTA L L
comp=Z,150nm,18.2s
GTA L L
comp=Z,280nm,18.2s
GTA L L
comp=Z,250nm,18.2s
TIXI **Tiksi** 33.47 352 P P 21 02 33.2 -0.6
comp=Z,3.0nm,0.7s,baz=138,slow=5.5,SNR=8.9
TIXI **Tiksi** 33.47 352 *e*P P 21 02 33.0 -0.8
TIXI **Tiksi** 33.47 352 P P 21 02 32.8 -1.0
KMI **Kunming** 36.02 259 ⇑P P 21 02 56.9 +0.2
KMI pP pP 21 03 12.7 +1.5
KMI PP PP 21 04 19.7 +0.3
KMI S S 21 08 30.7 -1.0
KMI pmax pmax
comp=Z,14nm,0.8s
KMI pmax pmax
comp=Z,110nm,5.9s
KMI L L
comp=Z,160nm,16.3s
KMI L L
comp=Z,130nm,16.4s
KMI L L
comp=Z,200nm,17.0s
SLVN **Son La** 37.28 253 P P 21 03 10.1 +2.9
TNA **Tin City** 38.81 30 P P 21 03 21.5 +2.1
TNA **Tin City** 38.81 30 P 21 03 21.6
baz=252
ANM **Nome** 39.56 32 P P 21 03 28.5 +2.7
ANM pmax pmax
comp=Z,55nm,1.4s
ANM **Nome** 39.56 32 P P 21 03 28.5 +2.7
ANM IAmb IAmb 21 03 29.7
comp=Z,55nm,1.4s
ANM **Nome** 39.56 32 P 21 03 28.2
baz=256
NONG **Nongkai** 39.86 250 P P 21 03 37.0 +8.2
comp=Z,16nm,0.5s
DGZ **Jazzator, Alta** 39.90 304 *d*P P 21 03 30.0 +1.0
DGZ pmax pmax
comp=Z,21nm,0.8s
WMQ **Urumqi** 40.66 295 *e*P P 21 03 35.7 +0.4
WMQ pP pP 21 03 50.1 0.0
WMQ sP sP 21 03 57.4 +0.6
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,48nm,3.8s
SIJI **Sorong** 40.94 197 P P 21 03 38.5 +0.8
comp=Z,4.2nm,0.5s,baz=204,slow=19,SNR=2.3
ZAA0 **Zalesovo Array** 41.19 311 P P 21 03 38.8 -0.6
ZAA0 IAmb IAmb 21 03 40.2
comp=Z,11nm,0.6s
ZAA0 PcP PcP 21 05 37.3 -0.1
ZALV **Zalesovo Beam** 41.19 311 P P 21 03 39.6 +0.3
comp=Z,10.0nm,0.5s,baz=91,slow=8.7,SNR=46
ZALV PcP PcP 21 05 37.7 +0.3
comp=Z,4.4nm,0.6s,baz=92,slow=3.2,SNR=5.4
ZALV LR LR 21 21 24.6
comp=Z,131nm,18.5s,baz=100,slow=37
ZALV **Zalesovo Beam** 41.19 311 P P 21 03 39.0 -0.3
ZALV PcP PcP 21 05 36.8 -0.6
KHON **Khomkaen** 41.21 248 P P 21 03 43.9 +4.0
RDOG **Red Dog Mine** 41.44 28 P P 21 03 43.0 +1.8
RDOG IAmb IAmb 21 03 44.9
comp=Z,39nm,1.7s
NRIK **Noril'sk** 41.84 334 P P 21 03 43.7 -0.7
comp=Z,4.1nm,0.7s,baz=108,slow=12,SNR=5.1
NRIK PcP PcP 21 05 39.9 +0.6
comp=Z,4.5nm,0.8s,baz=170,slow=1.0,SNR=4.7
NRIK LR LR 21 21 49.6

comp=Z,139nm,21.4s,baz=118,slow=37
NRIK Noril'sk 41.84 334 *de* P **P** **21 03 43.9 -0.6**
NRIK pmax pmax
comp=Z,5.0nm,0.8s
NRIK Noril'sk 41.84 334 P **P** **21 03 43.8 -0.7**
NRIK PcP **PcP** **21 05 39.1 -0.2**
ZSN Zaisan 41.90 301 *eP* **P** **21 03 45.5 +0.2**
comp=Z,11nm,0.8s,baz=301
ZSN Zaisan 41.90 301 *eP* **P** **21 03 45.5 +0.2**
ZSN pmax pmax
comp=Z,11nm,0.8s
UTTA Uttaradit 41.97 252 P P 21 03 55.8 +10
comp=Z,1.7nm,0.6s
CHAI Chaiyaphum 42.10 248 P **P** **21 03 51.0 +3.8**
comp=Z,2.8nm,0.7s
CM33 Chiang Mai Arr 42.51 254 P **P** **21 03 53.0 +2.5**
CMMT Chiang Mai 42.51 254 P **P** **21 03 52.0 +1.4**
comp=Z,10nm,1.2s
CMMT Chiang Mai 42.51 254 P **P** **21 03 49.7 -0.9**
comp=Z,7.3nm,0.6s
CHTO Chiang Mai 42.51 254 P **P** **21 03 50.7 +0.2**
CHTO PcP **PcP** **21 05 42.5 +0.1**
CHTO Chiang Mai 42.51 254 P **P** **21 03 50.4 -0.2**
comp=Z,5.6nm,0.9s
TOLI2 Tolitoli 42.54 213 P **P** **21 03 50.1 -0.7**
CM36 Chiang Mai Arr 42.58 254 P P 21 03 59.0 +7.9
CM32 Chiang Mai Arr 42.68 254 P P 21 04 01.0 +9.1
FAKI Fak Fak 42.71 195 P **P** **21 03 51.7 -0.5**
CM31 Chiang Mai Arr 42.73 254 P P 21 03 58.6 +6.2
comp=Z,218nm,0.5s
CM31 Chiang Mai Arr 42.73 254 P **P** **21 03 52.4 0.0**
CMAR Chiang Mai Arr 42.73 254 P **P** **21 03 52.5 +0.1**
comp=Z,1.9nm,0.5s,baz=43,slow=5.9,SNR=17
CMAR PcP **PcP** **21 05 44.3 +1.2**
comp=Z,1.9nm,0.6s,baz=31,slow=1.8,SNR=9.0
CMAR LR LR 21 23 54.0
comp=Z,53nm,18.1s,baz=188,slow=39
CMAR Chiang Mai Arr 42.73 254 *ce* P **P** **21 03 55.5 +3.2**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 42.73 254 P **P** **21 03 52.0 -0.4**
CMAR **PcP** **21 05 43.8 +0.7**
CM04 Chiang Mai Arr 42.74 254 P P 21 04 01.0 +8.6
comp=Z,5.4nm,0.6s
CM02 Chiang Mai Arr 42.74 254 P P 21 04 04.8 +12
CM05 Chiang Mai Arr 42.76 254 P **P** **21 03 56.5 +3.8**
comp=Z,45nmcomp=Z,5.0nm,0.6s
LSA Lhasa 42.80 274 P **P** **21 03 54.3 +0.9**
LSA pmax pmax
comp=Z,15nm,0.5s
LSA Lhasa 42.80 274 P **P** **21 03 55.0 +1.6**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 42.80 274 P **P** **21 03 55.0 +1.6**
TTA Tatalina 43.41 36 P **P** **21 03 59.1 +1.7**
TTA pmax pmax
comp=Z,9.0nm,0.9s
TTA Tatalina 43.41 36 P **P** **21 03 59.1 +1.7**
TTA Tatalina 43.41 36 P 21 03 59.4
baz=266,SNR=11
SVW2 Sparrevohn 43.54 39 P **P** **21 04 00.9 +2.5**
SVW2 IAmb IAmb 21 04 02.2
comp=Z,28nm,0.8s
MHMT Maesarieng 43.66 255 P P 21 04 09.0 +9.1
MK31 Makanchi Array 43.75 301 *ce* **P** **21 04 00.0 -0.3**
MK31 Makanchi Array 43.75 301 P **P** **21 03 59.7 -0.6**
MKAR Makanchi Array 43.75 301 P **P** **21 04 00.1 -0.2**
comp=Z,8.9nm,0.7s,baz=86,slow=9.8,SNR=111
MKAR PcP **PcP** **21 05 46.8 +0.6**
comp=Z,2.8nm,0.9s,baz=59,slow=5.6,SNR=2.5
MKAR LR LR 21 23 04.5
comp=Z,75nm,20.9s,baz=76,slow=37
MAKZ Makanchi 43.96 301 P **P** **21 04 01.7 -0.2**
MAKZ pmax pmax
comp=Z,14nm,1.1s
MAKZ Makanchi 43.96 301 P **P** **21 04 01.7 -0.2**
SHL Shillong 44.20 268 P **P** **21 04 03.8 -0.5**
SHL pmax pmax
comp=Z,17nm,0.9s
SHL Shillong 44.20 268 P **P** **21 04 03.8 -0.5**
SHL IAmb IAmb 21 05 39.6
comp=Z,17nm,0.9s
SEM Semipalatinsk 44.38 306 *eP* **P** **21 04 03.6 -1.9**
baz=306
SEM Semipalatinsk 44.38 306 *eP* **P** **21 04 03.6 -1.9**
A21K Barrow 44.39 24 P **P** **21 04 06.2 +1.2**
A21K IAmb IAmb 21 04 07.4
comp=Z,21nm,1.1s
A21K Barrow 44.39 24 P 21 04 06.6
baz=257
IMAR Indian Mountai 44.61 32 P **P** **21 04 08.5 +1.6**
IMAR **PP** **21 05 50.5 -1.1**
OHAK Old Harbor 44.84 44 P **P** **21 04 10.1 +1.3**
OHAK IAmb IAmb 21 04 10.4
comp=Z,13nm,0.7s
OHAK Old Harbor 44.84 44 P 21 04 09.8
baz=275
RSO Redoubt South 44.93 39 P **P** **21 04 11.3 +1.6**
CHUM Lake Minchumin 45.11 35 P 21 04 13.6
baz=269,SNR=19
PPLA Purkeypile 45.16 36 P **P** **21 04 14.0 +2.5**
PPLA Purkeypile 45.16 36 P 21 04 14.3
baz=270,SNR=11
KDAK Kodiak Island 45.17 43 P **P** **21 04 12.7 +1.3**
comp=Z,20nm,0.4s,baz=318,slow=3.3,SNR=66
KDAK PcP **PcP** **21 05 52.4 +1.7**
comp=Z,5.9nm,0.8s,baz=227,slow=5.9,SNR=2.4
KDAK LR LR 21 22 47.8
comp=Z,69nm,20.2s,baz=260,slow=36
KDAK Kodiak Island 45.17 43 P **P** **21 04 12.4 +1.0**
KDAK IAmb IAmb 21 04 13.6
comp=Z,23nm,0.6s
KDAK Kodiak Island 45.17 43 P 21 04 12.6
baz=275
SPCR Spurr Chakacha 45.17 38 P 21 04 13.9
baz=272,SNR=7.7
CAST Castle Rocks 45.21 35 P 21 04 12.5
baz=270
KURK Kurchatov 45.35 307 P **P** **21 04 13.5 +0.6**
KURK Kurchatov 45.35 307 P **P** **21 04 13.5 +0.6**
KURBB Kurchatov Arra 45.42 307 P **P** **21 04 13.5 0.0**
comp=Z,29nm,0.5s,baz=81,slow=8.3,SNR=197
SKT Skwentna 45.48 37 P **P** **21 04 15.5 +1.7**
SKT PcP **PcP** **21 05 52.1 +0.3**
SKT Skwentna 45.48 37 P 21 04 15.6
baz=271,SNR=6.5
BPAW Bear Paw Mtn. 45.70 34 P **P** **21 04 17.3 +1.7**
BPAW IAmb IAmb 21 04 20.4
comp=Z,10nm,0.9s
BPAW PcP **PcP** **21 05 53.9 +1.4**
BPAW Bear Paw Mtn. 45.70 34 P 21 04 17.7
baz=270,SNR=11
KTH Kantishna Hill 45.73 35 P **P** **21 04 17.9 +2.1**
CNPM China Poot 45.74 41 P **P** **21 04 17.3 +1.4**
CNPM IAmb IAmb 21 04 21.3
comp=Z,23nm,1.0s
MLY Manley 45.82 33 P **P** **21 04 18.9 +2.4**
MLY IAmb IAmb 21 04 20.0
comp=Z,18nm,0.8s
MLY **PcP** **21 05 54.3 +1.3**
MLY Manley 45.82 33 P 21 04 18.9
baz=269,SNR=26
SUA Susitna One 45.87 38 P **P** **21 04 18.4 +1.3**
SUA PcP **PcP** **21 05 57.0 +3.7**
SUA Susitna One 45.87 38 P 21 04 19.5
baz=273,SNR=13
BRLK Bradley Lake 45.90 40 P **P** **21 04 19.1 +1.9**
BRLK IAmb IAmb 21 04 20.4
comp=Z,32nm,1.0s
BRSE Bradley Lake S 45.98 40 P 21 04 19.6
baz=274
TRF Thorofare Moun 46.02 35 P **P** **21 04 19.9 +1.7**
TRF IAmb IAmb 21 04 22.4
comp=Z,17nm,0.8s
TRF Thorofare Moun 46.02 35 P 21 04 19.9
baz=271,SNR=12
CUT Chulitna 46.05 37 P **P** **21 04 20.0 +1.7**
CUT IAmb IAmb 21 04 20.8
comp=Z,20nm,0.6s
CUT Chulitna 46.06 37 P 21 04 19.9
baz=272
COLD Coldfoot 46.10 30 P **P** **21 04 20.4 +1.8**
COLD PcP **PcP** **21 05 55.4 +1.5**
COLD Coldfoot 46.10 30 P 21 04 20.7
baz=268,SNR=6.4

FIS Fire Island 46.14 38 P **P** **21 04 21.6 +2.6**
M22K Willow 46.15 38 P 21 04 21.0
baz=273
H23K Yukon River 46.33 32 P 21 04 22.9
baz=270,SNR=22
BWN Browne 46.37 34 P **P** **21 04 23.5 +2.7**
RC01 Rabbit Creek A 46.38 38 P **P** **21 04 22.3 +1.5**
RC01 Rabbit Creek A 46.38 38 P 21 04 21.9
baz=274,SNR=16
I23K Minto, Yukon-K 46.40 33 P **P** **21 04 23.1 +2.1**
I23K PcP **21 05 56.0 +1.1**
I23K IAmb IAmb 21 05 57.7
comp=Z,10.0nm,0.6s
I23K Minto, Yukon-K 46.40 33 P 21 04 23.4
baz=270,SNR=13
TOLK Toolik Lake Re 46.41 28 P **P** **21 04 22.9 +1.8**
TOLK IAmb IAmb 21 04 24.4
comp=Z,14nm,0.9s
TOLK PcP **PcP** **21 05 56.9 +1.9**
TOLK Toolik Lake Re 46.41 28 P 21 04 23.2
baz=267,SNR=15
NEA2 Nenana 46.53 34 P **P** **21 04 23.7 +1.6**
NEA2 IAmb IAmb 21 04 24.8
comp=Z,14nm,0.7s
NEA2 PcP **PcP** **21 05 56.8 +1.3**
NEA2 Nenana 46.53 34 P 21 04 24.1
baz=271,SNR=19
PDGK Podgornoye 46.55 297 *i* P **P** **21 04 21.3 -1.4**
PDGK pmax pmax
comp=Z,11nm,1.0s
SEW Seward 46.59 40 P **P** **21 04 23.7 +1.2**
SEW IAmb IAmb 21 04 27.5
comp=Z,14nm,1.0s
SEW Seward 46.59 40 P 21 04 23.8
baz=275
MCK McKinley 46.62 35 P **P** **21 04 24.3 +1.6**
MCK 21 05 55.9
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 46.62 35 P **P** **21 04 24.3 +1.6**
MCK IAmb IAmb 21 04 25.4
comp=Z,20nm,0.9s
MCK PcP **PcP** **21 05 55.9 +0.1**
MCK McKinley 46.62 35 P 21 04 24.3
baz=272,SNR=6.5
SHLS Shalkode 46.62 296 *eP* **P** **21 04 19.9 -3.4**
comp=Z,4.6nm,0.6s,baz=296
SHLS Shalkode 46.62 296 *eP* **P** **21 04 19.8 -3.4**
SHLS pmax pmax
comp=Z,5.0nm,0.6s
PMR Palmer 46.63 38 P **P** **21 04 24.4 +1.5**
PMR pmax pmax
comp=Z,45nm,1.3s
PMR Palmer 46.63 38 P **P** **21 04 24.4 +1.5**
PMR Palmer 46.63 38 P 21 04 24.0
baz=274,SNR=7.6
RND Reindeer 46.66 35 P **P** **21 04 24.0 +0.8**
RND IAmb IAmb 21 04 25.6
comp=Z,25nm,0.8s
RND PcP **PcP** **21 05 56.3 +0.3**
GHO Glory Hole Cre 46.72 37 P **P** **21 04 25.4 +1.8**
WAT2 Susitna Watana 46.81 36 P 21 04 25.6
baz=273,SNR=25
TDK Taldyqorghan 46.82 299 *eP* **P** **21 04 24.9 +0.2**
comp=Z,11nm,0.5s,baz=299
TDK Taldyqorghan 46.82 299 *eP* **P** **21 04 24.8 +0.2**
TDK pmax pmax
comp=Z,11nm,0.5s
MDM Murphy Dome 46.88 33 P **P** **21 04 26.7 +1.9**
MDM IAmb IAmb 21 04 28.1
comp=Z,33nm,1.1s
MDM PcP **PcP** **21 05 59.0 +2.3**
UZB Uzynbulak 46.93 296 *eP* **P** **21 04 25.1 -0.7**
baz=296
UZB Uzynbulak 46.93 296 *eP* **P** **21 04 25.0 -0.7**
WRH Wood River Hil 46.96 34 P **P** **21 04 27.0 +1.6**
WRH PcP **PcP** **21 05 57.1 +0.2**
WRH IAmb IAmb 21 05 58.6
comp=Z,12nm,0.7s
KNK Knik Glacier 46.97 38 P **P** **21 04 27.1 +1.6**
KNK IAmb IAmb 21 04 28.2
comp=Z,20nm,0.8s
KNK Knik Glacier 46.97 38 P 21 04 27.1
baz=275
SML Sawmill 47.00 37 P **P** **21 04 27.4 +1.5**
SML Sawmill 47.00 37 P 21 04 27.2
baz=274,SNR=17
H24K Noodor Dome 47.01 32 P 21 04 28.7
baz=271,SNR=17
TCOL CIGO, UAF Yank 47.04 33 P **P** **21 04 27.4 +1.4**
TCOL IAmb IAmb 21 04 29.1
comp=Z,17nm,0.7s
TCOL CIGO, UAF Yank 47.05 33 P 21 04 28.1
baz=272
COLA College 47.05 33 *c i* P **P** **21 04 28.0 +2.0**
COLA pmax pmax
comp=Z,12nm,0.7s
COLA College 47.05 33 P **P** **21 04 27.4 +1.4**
COLA IAmb IAmb 21 04 29.1
comp=Z,18nm,0.6s
COLA College 47.05 33 P 21 04 28.1
baz=272
ODAN Odare 47.06 272 *eP* **P** **21 04 28.6 +1.6**
comp=Z,25nm,0.6s
KPKS Kokpek 47.07 297 *eP* **P** **21 04 26.1 -0.7**
comp=Z,2.2nm,0.4s,baz=297
KPKS Kokpek 47.07 297 *eP* **P** **21 04 26.0 -0.7**
KPKS pmax pmax
comp=Z,2.0nm,0.4s
CCB Clear Creek Bu 47.08 34 P **P** **21 04 27.9 +1.7**
CCB IAmb IAmb 21 04 30.1
comp=Z,6.8nm,0.6s
CCB PcP **PcP** **21 05 57.3 0.0**
PWL Port Wells 47.08 39 P **P** **21 04 27.4 +1.0**
PWL IAmb IAmb 21 04 28.6
comp=Z,22nm,0.7s
PWL PcP **PcP** **21 05 58.3 +0.8**
POKR Poker Plat Res 47.22 33 P **P** **21 04 29.7 +2.3**
POKR Poker Plat Res 47.22 33 P 21 04 29.8
baz=272,SNR=16
WAT6 Susitna Watana 47.22 36 P 21 04 28.8
baz=274,SNR=13
SATY Saty 47.39 297 *eP* **P** **21 04 27.6 -1.7**
baz=296
SATY Saty 47.39 297 *eP* **P** **21 04 27.5 -1.7**
HDA Harding Lake 47.46 34 P **P** **21 04 30.2 +0.9**
HDA IAmb IAmb 21 04 31.4
comp=Z,19nm,0.7s
HDA Harding Lake 47.46 34 P 21 04 30.2
baz=273,SNR=17
HDA P 21 04 30.2
baz=273,SNR=17
IL31 47.47 33 P **P** **21 04 30.4 +1.2**
IL31 PcP **PcP** **21 05 58.3 -0.4**
ILAR Eielson Array 47.47 33 P **P** **21 04 31.1 +1.7**
comp=Z,19nm,0.6s,baz=268,slow=6.4,SNR=184
ILAR PcP **PcP** **21 05 58.8 0.0**
comp=Z,2.0nm,0.6s,baz=289,slow=3.5,SNR=5.9
ILAR Eielson Array 47.47 33 P **P** **21 04 30.6 +1.2**
ILAR PcP **PcP** **21 05 58.3 -0.4**
SCM Sheep Creek Mo 47.47 37 P **P** **21 04 31.2 +1.7**
SCM pmax pmax
comp=Z,34nm,0.9s
SCM Sheep Creek Mo 47.47 37 P **P** **21 04 31.2 +1.7**
RAMN Ramite 47.63 273 *eP* **P** **21 04 32.3 +0.9**
comp=Z,19nm,0.5s
GLI Glacier Island 47.68 39 P **P** **21 04 32.2 +1.1**
GLI Glacier Island 47.68 39 P 21 04 32.4
baz=276
GUN Gumba 47.73 274 *eP* **P** **21 04 33.2 +0.9**
comp=Z,61nm,0.5s
M24K Tolsona, Glenn 47.99 37 P **P** **21 04 35.6 +2.2**
M24K Tolsona, Glenn 47.99 37 P 21 04 35.8
baz=276,SNR=12
FID Port Fidalgo 47.99 39 P **P** **21 04 34.6 +1.1**
FID IAmb IAmb 21 04 36.1
comp=Z,26nm,1.2s
FID PcP **PcP** **21 06 02.1 +1.4**
PRP Porcupine Dome 48.00 32 P **P** **21 04 36.3 +2.7**
PRP IAmb IAmb 21 04 36.7
comp=Z,20nm,0.8s
PRP PcP **PcP** **21 06 00.9 +0.1**
PRP Porcupine Dome 48.00 32 P 21 04 35.7
baz=273
HIN Hinchinbrook I 48.02 39 P **P** **21 04 35.7 +2.0**

FYU Fort Yukon 48.06 31 P **P** **21 04 36.4 +2.5**
CHKK Chushkaly 48.13 298 *eP* **P** **21 04 33.8 -1.0**
baz=298
CHKK Chushkaly 48.13 298 *eP* **P** **21 04 33.8 -1.0**
KLU Klutina 48.17 38 P **P** **21 04 37.1 +2.2**
KLU Klutina 48.17 38 P 21 04 37.1
baz=277,SNR=28
PAX Paxson 48.23 36 P **P** **21 04 36.8 +1.4**
PAX 21 06 02.9
PAX pmax pmax
comp=Z,9.0nm,0.6s
PAX Paxson 48.23 36 P **P** **21 04 36.8 +1.4**
PAX PcP **PcP** **21 06 02.9 +1.3**
PAX IAmb IAmb 21 06 04.3
comp=Z,8.6nm,0.6s
PAX Paxson 48.23 36 P 21 04 37.6
baz=276,SNR=9.0
Q23K Middleton Isla 48.23 40 P 21 04 37.5
baz=278
TARG Taragay, Kyrgy 48.24 295 P **P** **21 04 36.3 +0.1**
TARG IAmb IAmb 21 04 50.4
comp=Z,8.3nm,0.7s
KKN Kakani 48.25 275 *eP* **P** **21 04 37.7 +1.5**
comp=Z,55nm,0.6s
PKI Pulchoki 48.26 274 *eP* **P** **21 04 37.6 +1.2**
comp=Z,17nm,0.4s
PKIN Phulchoki 48.26 274 *eP* **P** **21 04 37.4 +1.1**
comp=Z,17nm,0.5s
BMAR Burnt Mountain 48.28 30 P **P** **21 04 38.6 +3.0**
MDOK Medeo 48.30 297 *eP* **P** **21 04 35.9 -0.4**
baz=297
MDOK Medeo 48.30 297 *eP* **P** **21 04 35.9 -0.4**
PMG Port Moresby 48.33 174 LR LR 21 29 43.1
comp=Z,28nm,18.0s,baz=279,slow=42
EYAK Cordova Ski Ar 48.37 39 P **P** **21 04 38.8 +2.4**
EYAK Cordova Ski Ar 48.37 39 P 21 04 38.4
baz=278,SNR=6.0
AAA Alma-Ata 48.38 297 *eP* P 21 04 29.4 -7.4
HARP HAARP 48.43 36 P 21 04 39.2
baz=276,SNR=5.3
DMN Daman 48.47 274 *eP* **P** **21 04 39.4 +1.4**
comp=Z,15nm,0.5s
KDJ Kajisay 48.54 296 P **P** **21 04 38.3 +0.1**
KDJ pmax pmax
comp=Z,4.0nm,0.7s
KDJ Kajisay 48.54 296 P **P** **21 04 38.3 +0.1**
KUU Kurty 48.56 298 *eP* **P** **21 04 37.1 -1.0**
comp=Z,6.6nm,0.5s,baz=298
KUU Kurty 48.56 298 *eP* **P** **21 04 37.1 -1.0**
KUU pmax pmax
comp=Z,7.0nm,0.5s
GKN Gorkha 48.65 275 *eP* **P** **21 04 40.4 +1.2**
comp=Z,29nm,0.6s
MTBS Maitube 48.74 297 *eP* **P** **21 04 39.0 -0.6**
baz=297
MTBS Maitube 48.74 297 *eP* **P** **21 04 39.0 -0.6**
SCRK Sand Creek 48.78 34 P **P** **21 04 40.7 +1.0**
SCRK PcP **PcP** **21 06 05.4 +1.8**
SCRK Sand Creek 48.78 34 P 21 04 40.8
baz=276,SNR=34
DOT Dot Lake 48.79 35 IAmb IAmb 21 04 41.7
comp=Z,9.7nm,0.8s
DOT PcP **PcP** **21 06 06.1 +2.6**
N25K Chitina, Valde 48.79 37 IAmb IAmb 21 04 42.5
comp=Z,7.3nm,0.6s
N25K Chitina, Valde 48.79 37 P 21 04 41.9
baz=278,SNR=12
BMRM Bremner River 48.87 38 P **P** **21 04 41.9 +1.6**
BMRM PcP **PcP** **21 06 05.2 +1.3**
BMRM Bremner River 48.87 38 P 21 04 42.4
baz=278,SNR=15
MENT Mentasta 49.02 36 IAmb IAmb 21 04 44.9
comp=Z,14nm,0.7s
HMT Hamilton 49.13 39 IAmb IAmb 21 04 45.6
comp=Z,19nm,1.1s
DANN Dangsing 49.16 276 *eP* **P** **21 04 43.6 +0.3**
comp=Z,143nm,0.5s
GLB Gilahina Butte 49.19 38 P **P** **21 04 44.4 +1.8**
GLB IAmb IAmb 21 04 46.0
comp=Z,18nm,1.3s
BOOM Boomskoye usch 49.29 297 P **P** **21 04 44.0 0.0**
BOOM IAmb IAmb 21 05 03.7
comp=Z,9.1nm,0.9s
BOOM PcP **PcP** **21 06 05.7 -0.3**
TKM2 Tokmak 2 49.39 297 *i* P **P** **21 04 44.4 -0.3**
TKM2 pmax pmax
comp=Z,12nm,0.8s
VRDI Verde Repeater 49.39 38 IAmb IAmb 21 04 47.5
comp=Z,17nm,0.9s
KOLN Koldanda 49.57 276 *eP* **P** **21 04 47.7 +1.5**
comp=Z,16nm,0.4s
MCARA McCarthy VSAT 49.57 38 PcP **PcP** **21 06 08.2 +1.8**
MCARA McCarthy VSAT 49.57 38 P 21 04 48.0
baz=279,SNR=6.0
CRQM Cirque 49.61 38 P **P** **21 04 48.1 +2.0**
K27K Chicken 49.61 34 IAmb IAmb 21 04 49.1
comp=Z,18nm,1.1s
CRQE Cirque 49.64 38 P 21 04 48.4
baz=280,SNR=13
BTLS Baital 49.76 300 *eP* **P** **21 04 46.1 -1.1**
baz=300
BTLS Baital 49.76 300 *eP* **P** **21 04 46.1 -1.1**
TGL Tana Glacier 49.76 38 P **P** **21 04 48.7 +1.5**
TGL IAmb IAmb 21 04 50.4
comp=Z,13nm,0.7s
TGL PcP **PcP** **21 06 08.9 +1.7**
L27K Beaver Creek, 49.86 35 IAmb IAmb 21 04 51.4
comp=Z,23nm,1.1s
L27K Beaver Creek, 49.86 35 P 21 04 50.3
baz=279,SNR=34
SGDS Sogindy 49.88 298 *eP* **P** **21 04 47.2 -1.1**
baz=298
SGDS Sogindy 49.88 298 *eP* **P** **21 04 47.1 -1.1**
BCAR Beaver Creek A 49.88 35 P **P** **21 04 50.2 +2.3**
BRVK Borovoye 49.89 311 *c i* P **P** **21 04 47.9 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 49.89 311 P **P** **21 04 47.7 -0.4**
BRVK IAmb IAmb 21 04 49.3
comp=Z,8.7nm,0.8s
BRVK PcP **PcP** **21 06 07.3 -0.4**
EGAK Eagle 49.91 33 IAmb IAmb 21 04 51.2
comp=Z,6.0nm,0.7s
EGAK Eagle 49.91 33 P 21 04 49.4
baz=278
OTUK Ortayu 49.91 305 *i* P **P** **21 04 47.9 -0.5**
OTUK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 50.25 297 ⇓ *i* P **P** **21 04 51.2 0.0**
AAK pmax pmax
comp=Z,9.0nm,0.7s
BARN Barnard Glacie 50.27 38 P **P** **21 04 52.6 +1.4**
BARN IAmb IAmb 21 04 53.8
comp=Z,10nm,0.6s
GRNC Granite Creek 50.29 38 P **P** **21 04 53.0 +1.7**
GRNC IAmb IAmb 21 04 54.3
comp=Z,18nm,1.0s
GRNC PcP **21 06 11.4 +2.1**
MESA MESA 50.30 39 P 21 04 53.6
baz=281
KSH Kashi 50.32 293 P **P** **21 04 56.0 +4.3**
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH pmax pmax
comp=Z,110nm,4.4s
YAH Yahtse 50.36 39 IAmb IAmb 21 04 55.1
comp=Z,20nm,1.0s
CTG Chitna Glacier 50.45 38 P 21 04 54.3
baz=281,SNR=7.6
CTGM Chitina Glacie 50.45 38 P **P** **21 04 54.3 +1.9**
CTGM IAmb IAmb 21 04 55.5
comp=Z,18nm,1.1s
CTGM PcP **PcP** **21 06 11.9 +2.1**
TABL Table Mountain 50.64 39 IAmb IAmb 21 04 56.7
comp=Z,8.5nm,0.8s
SOEI Soe 51.32 203 P **P** **21 04 59.2 -0.2**
EPYK Eagle Plains 51.48 31 P 21 05 01.9
baz=280,SNR=20
ARSB Arslanbob 51.77 296 P **P** **21 05 02.9 +0.3**
ARSB pmax pmax
comp=Z,16nm,1.1s
ARSB Arslanbob 51.77 296 P **P** **21 05 02.9 +0.3**
ARSB IAmb IAmb 21 05 16.6
comp=Z,16nm,1.1s
INK Inuvik 52.33 28 P **P** **21 05 07.7 +1.6**
comp=Z,7.8nm,0.5s,baz=292,slow=5.5,SNR=9.4

INK	**Inuvik**	**52.33**	**28**	P		**P**		**21 05 07.2**	**+1.1**
INK				IAmb		IAmb		21 05 09.0	
	comp=Z,25nm,1.2s								
INK	**Inuvik**	**52.33**	**28**	P				21 05 07.8	
	baz=282,SNR=6.9								
DZA	**Taraz**	**52.34**	**299**	*e*P		**P**		**21 05 06.2**	**-0.5**
	baz=299								
DZA	**Taraz**	**52.34**	**299**	*e*P		**P**		**21 05 06.1**	**-0.5**
KK31	**Karatay Array**	**52.82**	**299**	IAmb		IAmb		21 05 10.6	
	comp=Z,7.4nm,0.8s								
KKAR	**Karatay Array**	**52.82**	**299**	P		**P**		**21 05 09.8**	**-0.4**
KKAR	**Karatay Array**	**52.82**	**299**	P		**P**		**21 05 09.8**	**-0.4**
KKAR	**Karatay Array**	**52.82**	**299**	IAmb		IAmb		21 05 10.6	
	comp=Z,7.4nm,0.8s								
WHY	**Whitehorse**	**53.59**	**37**	P		**P**		**21 05 17.9**	**+2.2**
WHY				IAmb		IAmb		21 05 19.4	
	comp=Z,8.6nm,0.8s								
WHY				PcP		**PcP**		**21 06 23.4**	**+1.9**
WHY	**Whitehorse**	**53.59**	**37**	P				21 05 18.2	
	baz=286,SNR=7.6								
SVE	**Sverdlovsk**	**54.20**	**318**	*e*P		**P**		**21 05 20.5**	**+0.4**
SVE				pmax		pmax			
	comp=Z,28nm,0.8s								
SVE				MLR		MLR			
	comp=Z,197nm,17.0s								
NIL	**Nilore**	**54.73**	**287**	P		**P**		**21 05 24.6**	**+0.3**
NIL				pmax		pmax			
	comp=Z,21nm,0.7s								
NIL	**Nilore**	**54.73**	**287**	P		**P**		**21 05 24.6**	**+0.3**
C36M	**Paulatuk**	**55.36**	**25**	P				21 05 30.0	
	baz=289								
ARU	**Arti**	**55.42**	**318**	*d* iP		**P**		**21 05 28.5**	**-0.4**
ARU				*PP		**pP**		**21 05 42.6**	**-1.5**
ARU								21 06 26.3	
ARU								21 07 31.0	
ARU				S		**S**		**21 13 10.2**	**+1.2**
ARU				SS		**SS**		**21 16 49.5**	**-4.1**
ARU				pmax		pmax			
	comp=Z,18nm,0.7s								
ARU	**Arti**	**55.42**	**318**	P		**P**		**21 05 28.4**	**-0.4**
KNRA	**Kununurra**	**55.83**	**196**	P		**P**		**21 05 32.5**	**+0.3**
DLBC	**Dease Lake**	**56.65**	**39**	P		**P**		**21 05 40.6**	**+2.9**
	comp=Z,6.6nm,0.9s,baz=280,slow=6.2,SNR=14								
DLBC	**Dease Lake**	**56.65**	**39**	IAmb		IAmb		21 05 41.9	
	comp=Z,14nm,1.1s								
ABKAR	**Akbulak array**	**57.27**	**309**	P		**P**		**21 05 41.7**	**-0.4**
ABKAR	**Akbulak array**	**57.27**	**309**	IAmb		IAmb		21 05 42.5	
	comp=Z,12nm,0.7s								
KBL	**Kabul**	**57.43**	**290**	P		**P**		**21 05 43.4**	**-0.4**
KBL				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KBL	**Kabul**	**57.43**	**290**	P		**P**		**21 05 43.4**	**-0.4**
KBL				IAmb		IAmb		21 05 57.6	
	comp=Z,5.3nm,0.7s								
EUNU	**Eureka**	**58.16**	**9**	IAmb		IAmb		21 05 49.6	
	comp=Z,8.6nm,0.8s								
WRAB	**Tennant Creek**	**59.07**	**189**	*ce*P		**P**		**21 05 54.8**	**-0.1**
WRAB				pmax		pmax			
	comp=Z,20nm,0.9s								
WRAB	**Tennant Creek**	**59.07**	**189**	P		**P**		**21 05 54.5**	**-0.5**
WR0	**Warramunga Arr**	**59.08**	**189**	P		**P**		**21 05 54.7**	**-0.3**
WRA	**Warramunga Arr**	**59.08**	**189**	P		**P**		**21 05 54.8**	**-0.3**
	comp=Z,21nm,0.5s,baz=6.2,slow=7.1,SNR=546								
WRA	**Warramunga Arr**	**59.08**	**189**	P		**P**		**21 05 54.2**	**-0.9**
WRA				PcP		**PcP**		**21 06 43.6**	**+0.3**
KIRV	**Kirov**	**59.16**	**322**	*d* iP		**P**		**21 05 55.5**	**+0.4**
NOR	**Nord**	**59.17**	**356**	⇑*i*P		**P**		**21 05 55.2**	**+0.2**
NOR				IAmb		IAmb		21 05 56.0	
	comp=Z,9.4nm,1.0s								
NOR	**Nord**	**59.17**	**356**	⇑*i*P		**P**		**21 05 55.1**	**+0.2**
NOR				pmax		pmax			
	comp=Z,9.0nm,1.0s								
PRGR	**Permogore**	**59.55**	**327**	*e*P		**P**		**21 05 57.3**	**-0.5**
YKA	**Yellowknife Ar**	**61.76**	**31**	P		**P**		**21 06 14.1**	**+1.2**
	comp=Z,5.2nm,0.8s,baz=299,slow=6.3,SNR=16								
YKA				PcP		**PcP**		**21 06 54.5**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=298,slow=3.4,SNR=6.3								
HRA	**Herat**	**62.43**	**293**	P		**P**		**21 06 18.3**	**+0.2**
ARCES	**ARCESS Array B**	**62.45**	**339**	P		**P**		**21 06 17.6**	**+0.2**
	comp=Z,6.0nm,1.0s,baz=52,slow=8.2,SNR=15								
ARCES				LR		LR		21 36 24.7	
	comp=Z,35nm,19.3s,baz=135,slow=39								
KLMR	**Klimovskoe**	**62.52**	**327**	*e*P		**P**		**21 06 15.2**	**-2.7**
KLMR				pmax		pmax			
	comp=Z,25nm,1.5s								
KLMR	**Klimovskoe**	**62.52**	**327**	*e*P		**P**		**21 06 15.3**	**-2.7**
KLMR				AMP				21 06 18.8	
	comp=Z,25nm,1.5s								
AS31	**Alice Springs**	**62.81**	**189**	P		**P**		**21 06 20.3**	**0.0**
ASAR	**Alice Springs**	**62.81**	**189**	P		**P**		**21 06 20.4**	**+0.2**
	comp=Z,7.4nm,0.6s,baz=12,slow=6.5,SNR=142								
NEEM	**North Greenlan**	**63.56**	**3**	⇑*i*P		**P**		**21 06 25.4**	**+0.4**
NEEM				IAmb		IAmb		21 06 26.2	
	comp=Z,17nm,0.9s								
GEYT	**Alibeck**	**63.56**	**299**	P		**P**		**21 06 24.8**	**-0.5**
	comp=Z,202nm,0.7s,baz=8.5,slow=3.0,SNR=9.8								
GEYT				LR		LR		21 35 41.8	
	comp=Z,43nm,21.6s,baz=90,slow=38								
GEYT	**Alibeck**	**63.56**	**299**	P		**P**		**21 06 25.4**	**+0.1**
DAG	**Danmarks Havn**	**63.91**	**355**	*i* P		**P**		**21 06 27.0**	**+0.1**
DAG				IAmb		IAmb		21 06 27.6	
	comp=Z,6.1nm,0.6s								
DAG	**Danmarks Havn**	**63.91**	**355**	*i* P		**P**		**21 06 27.0**	**+0.1**
DAG				pmax		pmax			
	comp=Z,6.0nm,0.6s								
DZM	**Mont Dzumac**	**64.78**	**155**	*e*LR		LR		21 26 08.0	
	comp=Z,98nm,22.8s								
D03D	**Eldon**	**65.25**	**48**	P				21 06 38.7	
	baz=301								
B05A	**Bryant**	**65.44**	**47**	P				21 06 39.8	
	baz=302								
E04D	**Cinebar**	**66.06**	**49**	P				21 06 44.0	
	baz=302								
MOS	**Moscow**	**66.14**	**323**	*e*P		**P**		**21 06 42.9**	**+1.2**
VRH	**Novokhopyorsk**	**66.65**	**318**	*e*P		**P**		**21 06 43.5**	**-1.5**
VRH				pmax		pmax			
	comp=Z,9.0nm,0.6s								
B08A	**Colville Reser**	**66.95**	**46**	P		**P**		**21 06 48.4**	**+1.3**
B08A				IAmb		IAmb		21 06 49.8	
	comp=Z,17nm,1.4s								
OBN	**Obninsk**	**67.00**	**323**	*ce*P		**P**		**21 06 46.7**	**-0.4**
OBN				*e*				21 07 16.4	
OBN				*e*				21 09 14.9	
OBN				pmax		pmax			
	comp=Z,36nm,2.5s								
LPSR	**Galich'ya Gora**	**67.30**	**320**	*e*P		**P**		**21 06 47.7**	**-1.4**
LPSR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
FINES	**FINESS Array B**	**67.45**	**332**	P		**P**		**21 06 49.7**	**-0.2**
	comp=Z,11nm,0.6s,baz=41,slow=8.7,SNR=40								
FINES				LR		LR		21 38 15.6	
	comp=Z,61nm,20.6s,baz=62,slow=38								
FINES	**FINESS Array B**	**67.45**	**332**	P		**P**		**21 06 49.8**	**-0.1**
D08A	**Wollman Farm,**	**67.90**	**47**	IAmb		IAmb		21 06 55.2	
	comp=Z,6.3nm,0.7s								
VSR	**Storozhevoye**	**67.97**	**319**	*e*P		**P**		**21 06 50.6**	**-2.8**
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VORD	**Divnogorie**	**68.05**	**318**	*e*P		**P**		**21 06 52.3**	**-1.6**
VORD				pmax		pmax			
	comp=Z,10.0nm,0.7s								
NEW	**Newport**	**68.23**	**45**	IAmb		IAmb		21 06 57.9	
	comp=Z,11nm,1.1s								
NEW	**Newport**	**68.23**	**45**	P				21 06 56.9	
	baz=304								
PINE	**Pine Mountain**	**68.53**	**51**	IAmb		IAmb		21 07 01.0	
	comp=Z,20nm,1.1s								
L04D	**Klamath Falls**	**68.56**	**53**	P				21 06 59.7	
	baz=304								
M02C	**Callahan**	**68.68**	**54**	P				21 07 00.7	
	baz=304								
K04D	**Chiloquin, OR**	**68.68**	**52**	P				21 07 00.3	
	baz=304								
SUMG	**Summit**	**68.75**	**0**	⇑*i*P		**P**		**21 06 59.6**	**+1.1**
SUMG				IAmb		IAmb		21 07 00.2	
	comp=Z,18nm,1.0s								
SUMG	**Summit**	**68.75**	**0**	⇑*i*P		**P**		**21 06 59.5**	**+1.1**
SUMG				pmax		pmax			
	comp=Z,18nm,1.0s								
SUMG	**Summit**	**68.75**	**0**	P		**P**		**21 06 58.9**	**+0.4**
SUMG				IAmb		IAmb		21 07 00.4	
	comp=Z,18nm,1.0s								
N02D	**Trinity Center**	**69.00**	**54**	P				21 07 02.8	
	baz=304								
M04C	**Macdoel**	**69.09**	**53**	P				21 07 03.2	
	baz=304								
K05A	**Summer Lake**	**69.15**	**52**	IAmb		IAmb		21 07 05.0	
	comp=Z,26nm,1.2s								
VSU	**Vasula**	**69.17**	**330**	*e*P		**P**		**21 07 01.3**	**+0.6**
VSU	**Vasula**	**69.17**	**330**	*ce*P		**P**		**21 07 00.6**	**-0.1**
VSU				pmax		pmax			
	comp=Z,54nm,0.9s								
RAF	**Rauma**	**69.27**	**333**	*e*P		**P**		**21 07 00.9**	**-0.4**
O02D	**Mt. Diablo Mer**	**69.39**	**55**	P				21 07 05.1	
	baz=304								
NCK	**Nalchik**	**69.93**	**310**	⇓*e*P		**P**		**21 07 06.1**	**+0.4**
NCK				pmax		pmax			
	comp=Z,6.0nm,0.5s								
O03E	**Paynes Creek**	**69.95**	**54**	P				21 07 07.7	
	baz=304								
ZEI	**Tsey**	**70.15**	**309**	*e*P		**P**		**21 07 02.7**	**-4.6**
ZEI				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KIV	**Kislovodsk**	**70.20**	**311**	⇑P		**P**		**21 07 08.5**	**+1.0**
KIV	**Kislovodsk**	**70.20**	**311**	*e*P		**P**		**21 07 08.3**	**+0.8**
KIV				pmax		pmax			
	comp=Z,74nm,1.1s								
KIV				MLR		MLR			
	comp=Z,85nm,18.0s								
KIV	**Kislovodsk**	**70.20**	**311**	P		**P**		**21 07 08.0**	**+0.5**
KIV				IAmb		IAmb		21 07 09.6	
	comp=Z,20nm,0.9s								
KBZ	**Khabaz**	**70.21**	**311**	P		**P**		**21 07 07.6**	**+0.2**
	comp=Z,9.0nm,1.0s,baz=66,slow=4.4,SNR=15								
KBZ				LR		LR		21 41 21.4	
	comp=Z,30nm,18.6s,baz=64,slow=39								
KBZ	**Khabaz**	**70.21**	**311**	*c i*P		**P**		**21 07 07.5**	**+0.2**
KBZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
STKA	**Stephens Creek**	**70.49**	**181**	P		**P**		**21 07 08.6**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=0.4,slow=8.3,SNR=5.6								
ORV	**Oroville**	**70.56**	**55**	P		**P**		**21 07 10.8**	**+1.2**
ORV				pmax		pmax			
	comp=Z,10.0nm,1.4s								
ORV	**Oroville**	**70.56**	**55**	P		**P**		**21 07 10.8**	**+1.2**
MSO	**Missoula**	**70.82**	**45**	P				21 07 12.9	
	baz=307								
AKH	**Akhalkalaki**	**71.19**	**308**	⇑P		**P**		**21 07 13.6**	**0.0**
MNK	**Minsk**	**71.31**	**326**	*i* P		**P**		**21 07 14.7**	**+0.8**
MNK				*i* *PP		**pP**		**21 07 30.5**	**+0.9**
MNK				*i*				21 07 34.9	
MNK				*i* *SP		**sP**		**21 07 38.5**	**+2.5**
MNK				*i*				21 09 53.6	
MNK				*i* PPP		PPP		21 11 39.9	
MNK				*i* S		**S**		**21 16 27.9**	**+1.0**
MNK				*i* *SS		**sS**		**21 16 56.9**	**+3.1**
MNK				*i*				21 17 12.9	
MNK				*i* SS		**SS**		**21 21 03.4**	**+2.4**
MNK				pmax		pmax			
	comp=Z,11nm,0.8s								
MNK				pmax		pmax			
	comp=N,15nm,1.4s								
MNK				pmax		pmax			
	comp=E,1.0nm,0.9s								
MNK				MLR		MLR			
	comp=E,5.0nm,16.0s								
MNK				MLR		MLR			
	comp=Z,64nm,16.0s								
MNK				MLR		MLR			
	comp=N,66nm,19.0s								
MNK	**Minsk**	**71.31**	**326**	*i* P		**P**		**21 07 14.7**	**+0.8**
	comp=E,1.0nm,0.8s								
MNK				*i* P		**P**		**21 07 14.7**	**+0.8**
	comp=N,15nm,1.4s								
MNK				*i* P		**P**		**21 07 14.7**	**+0.8**
	comp=Z,11nm,0.8s,baz=228								
MNK				*i* pP		**pP**		**21 07 30.6**	**+0.9**
MNK				*i* PcP		**sP**		**21 07 35.0**	**-1.0**
MNK				*i* sP		**PcP**		**21 07 38.6**	**+5.2**
MNK				*i* PP		**PP**		**21 09 53.6**	**+1.6**
MNK				*i* PPP		PPP		21 11 40.0	
MNK				*i* S		**S**		**21 16 27.9**	**+1.0**
MNK				*i* sS		**sS**		**21 16 56.9**	**+3.1**
MNK				*i* ScS		**ScS**		**21 17 12.9**	**-0.4**
MNK				*i* SS		**SS**		**21 21 03.4**	**+2.4**
MNK				*i* SSS		SSS		21 24 26.1	
MNK				*i* LQ		LQ		21 31 11.7	
MNK				*i* LR		LR		21 35 59.7	
MNK				*i* LRM		MLR		21 41 12.2	
	comp=E,5.0nm,15.9s								
MNK				*i* LRM		MLR		21 41 16.7	
	comp=Z,64nm,15.9s								
MNK				*i* LRM		MLR		21 41 25.4	
	comp=N,66nm,18.8s								
ISAL	**Salakas**	**71.35**	**327**	*e*P		**P**		**21 07 15.0**	**+1.0**
NACGM	**Narooch**	**71.52**	**327**	*i* P		**P**		**21 07 15.3**	**+0.2**
	baz=277								
FFC	**Flin Flon**	**71.68**	**33**	P		**P**		**21 07 17.1**	**+1.0**
FFC				pmax		pmax			
	comp=Z,17nm,0.9s								
FFC	**Flin Flon**	**71.68**	**33**	P		**P**		**21 07 17.1**	**+1.0**
FFC				IAmb		IAmb		21 07 18.3	
	comp=Z,17nm,0.8s								
ICESG	**Greenland Ices**	**72.25**	**1**	⇑*i*P		**P**		**21 07 20.6**	**+0.9**
ICESG				IAmb		IAmb		21 07 20.9	
	comp=Z,15nm,0.6s								
PABE	**Paberze**	**72.29**	**328**	*e*P		**P**		**21 07 20.3**	**+0.6**
EGMT	**Eagleton**	**72.33**	**42**	P		**P**		**21 07 21.1**	**+0.9**
EGMT				IAmb		IAmb		21 09 26.7	
	comp=Z,12nm,0.6s								
EGMT	**Eagleton**	**72.33**	**42**	P				21 07 21.8	
	baz=309								
HLID	**Hailey**	**72.52**	**48**	P				21 07 23.6	
	baz=307								
NC204	**NORSAR Array S**	**72.64**	**338**	IAmb		IAmb		21 07 41.2	
	comp=Z,29nm,1.1s								
NB201	**NORSAR Array S**	**72.66**	**337**	P		**P**		**21 07 22.0**	**+0.1**
NB201				IAmb		IAmb		21 07 22.5	
	comp=Z,21nm,0.8s								
NOA	**NORSAR Array B**	**72.69**	**337**	P		**P**		**21 07 22.1**	**0.0**
	comp=Z,4.9nm,0.7s,baz=39,slow=5.9,SNR=24								
NOA				LR		LR		21 42 12.2	
	comp=Z,45nm,20.8s,baz=50,slow=38								
ANN	**Anapa**	**72.73**	**314**	*e*P		P		21 07 17.6	-4.9
ANN				*e* *PP		pP		21 07 34.9	-3.5
ANN				*e*PP		PPP		21 11 48.1	
ANN				*e*S		**S**		**21 16 35.4**	**-8.0**
ANN				pmax		pmax			
	comp=Z,11nm,1.3s								
PBUR	**Paburge**	**72.74**	**330**	*e*P		**P**		**21 07 22.8**	**+0.4**
AKASG	**Malin Array Be**	**73.22**	**322**	P		**P**		**21 07 25.0**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=45,slow=6.1,SNR=30								
AKASG				LR		LR		21 43 08.7	
	comp=Z,19nm,18.8s,baz=105,slow=39								
AKASG	**Malin Array Be**	**73.22**	**322**	P		**P**		**21 07 25.5**	**+0.1**
AKASG				pmax		pmax			
	comp=Z,6.0nm,1.2s								
AKASG	**Malin Array Be**	**73.22**	**322**	P		**P**		**21 07 25.5**	**+0.1**
AKBB	**Malin Array Si**	**73.22**	**322**	*ce*P		**P**		**21 07 25.3**	**0.0**
AKBB	**Malin Array Si**	**73.22**	**322**	P		**P**		**21 07 24.8**	**-0.5**
AKBB				IAmb		IAmb		21 07 25.9	
	comp=Z,12nm,0.9s								
NVAR	**Mina Array Bea**	**73.24**	**54**	P		**P**		**21 07 28.1**	**+2.1**
	comp=Z,5.5nm,0.9s,baz=288,slow=6.3,SNR=24								
NVAR	**Mina Array Bea**	**73.24**	**54**	P		**P**		**21 07 27.6**	**+1.7**
PKM	**Mcpherson Peak**	**74.37**	**58**	P				21 07 34.6	
	baz=307								
RLMT	**Red Lodge**	**74.43**	**44**	P				21 07 34.8	
	baz=310								
DY2G	**Dye2**	**74.67**	**4**	⇑*i*P		**P**		**21 07 34.5**	**+0.7**
DY2G				IAmb		IAmb		21 07 35.3	
	comp=Z,11nm,0.7s								
ISA	**Isabella, Lake**	**74.79**	**56**	P				21 07 36.1	
	baz=307								
DGMT	**Dagmar**	**74.87**	**39**	P				21 07 36.3	
	baz=312								
R11A	**Troy Canyon, C**	**74.99**	**53**	P				21 07 37.9	
	baz=308								
LAO	**LASA Array**	**75.03**	**42**	P				21 07 37.8	
	baz=311								
MPMC	**Manual Prospec**	**75.19**	**56**	P				21 07 39.0	
	baz=308								
FURC	**Furnace Creek,**	**75.34**	**55**	P				21 07 40.3	
	baz=308								
SORM	**Soroca**	**75.37**	**321**	⇓P		**P**		**21 07 37.5**	**-0.3**
LRMC	**Laurel Mtn Rad**	**75.41**	**56**	P				21 07 40.2	
	baz=308								
TPNV	**Topopah Spring**	**75.43**	**54**	P				21 07 40.6	
	baz=308								
DUG	**Dugway, Tooele**	**75.53**	**50**	P				21 07 41.2	
	baz=309								
EDW2	**Edwards Air Fo**	**75.57**	**57**	P				21 07 41.6	
	baz=308								
PDAR	**Pinedale Array**	**75.78**	**46**	P		**P**		**21 07 42.1**	**+1.4**
	comp=Z,3.2nm,0.7s,baz=261,slow=2.1,SNR=19								
PDAR	**Pinedale Array**	**75.78**	**46**	P		**P**		**21 07 41.6**	**+0.9**
BW06	**Boulder Array**	**75.78**	**46**	P				21 07 42.1	
	baz=310								
GSC	**Goldstone, Bar**	**76.09**	**56**	P				21 07 43.7	
	baz=308								
BSD	**Bornholm Skovb**	**76.09**	**332**	*e*P		**P**		**21 07 41.8**	**-0.1**
BFSC	**Mount Baldy Ra**	**76.18**	**57**	P				21 07 44.9	
	baz=308								
LVV	**L'vov**	**76.25**	**324**	*e*P		**P**		**21 07 42.9**	**0.0**
TUQ	**Turquoise Moun**	**76.57**	**55**	P				21 07 46.8	
	baz=308								
HEC	**Hector,Ludlow**	**76.68**	**56**	P				21 07 47.5	
	baz=308								
KWP	**Kalwaria Pacla**	**76.99**	**325**	*e*P		**P**		**21 07 48.0**	**+0.9**
GMRC	**Granite Mounta**	**77.14**	**56**	P				21 07 50.3	
	baz=309								
BURAR	**Bucovina Array**	**77.25**	**322**	P		**P**		**21 07 49.0**	**+0.3**
BIZ	**Bicaz**	**77.30**	**321**	⇑P		**P**		**21 07 49.4**	**+0.5**
TESR	**Tescani**	**77.32**	**320**	⇑P		**P**		**21 07 49.4**	**+0.4**
PFO	**Pinyon Flats O**	**77.35**	**57**	P				21 07 51.1	
	baz=309								
TPFO	**Pinon Flats**	**77.36**	**57**	P				21 07 51.2	
	baz=309								
JURR	**Jurilovca**	**77.39**	**318**	⇑P		**P**		**21 07 50.0**	**+0.7**
BELC	**Belle Mtn. Jos**	**77.41**	**56**	P				21 07 51.3	
	baz=309								
ULM	**Lac du Bonnet**	**77.48**	**34**	P		**P**		**21 07 50.2**	**+0.5**
	comp=Z,4.1nm,0.6s,baz=311,slow=6.1,SNR=4.3								
CFR	**Carcaliu**	**77.49**	**319**	⇑P		**P**		**21 07 49.5**	**-0.4**
K22A	**Casper**	**77.55**	**45**	P				21 07 51.7	
	baz=312								
TPGR	**Topolog**	**77.56**	**318**	⇑P		**P**		**21 07 50.3**	**-0.1**
KOLS	**Kolonicke sedl**	**77.69**	**324**	*e*P		**P**		**21 07 51.7**	**+0.7**
KOLS	**Kolonicke sedl**	**77.69**	**324**	*e*P		**P**		**21 07 51.7**	**+0.7**
VRI	**Vrincioaia**	**77.73**	**320**	⇓P		**P**		**21 07 52.1**	**+0.8**
PLOR	**Plostina**	**77.78**	**320**	⇑P		**P**		**21 07 51.1**	**-0.5**
MONP2	**Monument Peak**	**77.82**	**58**	P				21 07 54.3	
	baz=309								
TIRR	**Tirgusor**	**77.84**	**318**	⇑P		**P**		**21 07 52.3**	**+0.4**
OJC	**Ojcow**	**77.85**	**326**	*e*P		**P**		**21 07 52.5**	**+0.7**
IRM	**Iron Mountain**	**77.87**	**56**	P				21 07 54.0	
	baz=309								
RSSD	**Black Hills**	**77.89**	**42**	P				21 07 53.4	
	baz=313								
BISRR	**Bisoca**	**77.96**	**320**	⇑P		**P**		**21 07 53.8**	**+1.1**
BC3	**Big Chuckawall**	**77.98**	**56**	P				21 07 54.5	
	baz=309								
OZUR		**78.04**	**320**	⇓P		**P**		**21 07 54.3**	**+1.3**
CRVS	**Cervenica-Dubn**	**78.08**	**325**	*e*P		**P**		**21 07 53.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**78.08**	**325**	*e*P		**P**		**21 07 53.6**	**+0.4**
BRTR	**Keskin Array B**	**78.12**	**312**	P		**P**		**21 07 53.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=101,slow=3.0,SNR=12								
BRTR				LR		LR		21 47 12.5	
	comp=Z,36nm,18.9s,baz=70,slow=39								
BRTR	**Keskin Array B**	**78.12**	**312**	*ce*P		**P**		**21 07 54.0**	**+0.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**78.12**	**312**	P		**P**		**21 07 53.1**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**78.18**	**58**	P				21 07 56.1	
	baz=309								
NIE	**Niedzica**	**78.22**	**326**	*e*P		**P**		**21 07 55.1**	**+1.1**
O20A	**White River Ci**	**78.25**	**48**	P				21 07 56.1	
	baz=312								
DOPR	**Dopca**	**78.33**	**321**	⇑P		**P**		**21 07 54.8**	**+0.2**
ISR	**Istrita**	**78.35**	**319**	⇑P		**P**		**21 07 54.3**	**-0.4**
MLR	**Muntele Rosu**	**78.39**	**320**	⇑P		**P**		**21 07 54.8**	**-0.3**
ICOR	**Ion Corvin**	**78.39**	**318**	⇑P		**P**		**21 07 55.5**	**+0.6**
PDMCI	**Parker Dam,Lak**	**78.42**	**55**	P				21 07 56.9	
	baz=310								
BSEG	**Bad Segeberg**	**78.67**	**333**	*e*P		**P**		**21 07 56.8**	**+0.6**
	comp=Z,15nm,1.0s,baz=36,slow=5.3								
LANS	**Liptovska Anna**	**78.78**	**326**	*e*P		**P**		**21 07 58.6**	**+1.5**
LANS				pmax		pmax			
	comp=Z,4.0nm,1.0s								
LANS	**Liptovska Anna**	**78.78**	**326**	*e*P		**P**		**21 07 58.6**	**+1.5**
KSP	**Ksiaz**	**78.85**	**329**	*e*P		**P**		**21 07 58.3**	**+1.0**
VOIR		**78.87**	**320**	⇑P		**P**		**21 07 58.8**	**+1.1**
AGMN	**Agassiz Nation**	**78.92**	**35**	P				21 07 58.4	
	baz=318								
DRGR		**79.04**	**323**	⇓P		**P**		**21 07 58.2**	**-0.4**
N23A	**Red Feather La**	**79.05**	**46**	P				21 08 00.9	
	baz=313								
OSTC	**Ostas**	**79.10**	**328**	*e*P		**P**		**21 07 59.2**	**+0.4**
ARR	**Arges**	**79.13**	**321**	⇓P		**P**		**21 08 03.2**	**+1.1**
CHVC	**Chvalec**	**79.14**

KHC	Kasperske Hory	81.28	329	*e*P		P		21 08 10.8	+0.2
KHC	Kasperske Hory	81.28	329	*e*P		P		21 08 10.8	+0.2
ROTZ	Rotzenmuhle	81.32	330	*e*P		P		21 08 11.3	+0.5
	comp=Z,5.9nm,0.8s,baz=36,slow=5.3								
MORH	Mrgy, Hungar	81.36	324	⇑P		P		21 08 10.8	-0.1
SDCO	Great Sand Dun	81.44	48	P				21 08 13.8	
	baz=313								
GEC2	GERESS Array S	81.46	329	*e*P		P		21 08 11.6	0.0
	comp=Z,4.3nm,0.7s,baz=36,slow=5.3								
GERES	GERESS Array B	81.46	329	P		P		21 08 11.9	+0.3
	comp=Z,2.4nm,0.6s,baz=36,slow=5.3,SNR=22								
GERES	GERESS Array B	81.46	329	P		P		21 08 11.7	+0.2
WET	Wettzell	81.55	329	*e*P		P		21 08 12.3	+0.4
	comp=Z,5.4nm,1.0s,baz=36,slow=5.3								
FRGS	Fruska Gora	81.61	323	⇓P		P		21 08 12.5	+0.2
GRF	Grafenberg Arr	81.76	330	*e*P		P		21 08 13.7	+0.6
	comp=Z,20nm,1.0s,baz=36,slow=5.3								
VTS	Vitosha	81.81	319	⇑P		P		21 08 14.2	+0.7
TUC	Tucson	81.85	55	P				21 08 15.6	
	baz=311								
ECSD	EROS Data Cent	81.94	39	P				21 08 15.1	
	baz=318								
ARSA	Arzberg	81.94	327	*i* P		P		21 08 14.5	+0.5
	comp=Z,3.5nm,0.6s								
MOA	Molln	82.01	328	*e*P		P		21 08 16.0	+1.6
	comp=Z,4.6nm,1.1s								
TNS	Taunus Mts	82.37	332	*e*P		P		21 08 16.4	+0.1
	comp=Z,4.4nm,0.7s,baz=36,slow=5.3								
MILB	Miltenberg	82.38	331	*e*P		P		21 08 16.7	+0.5
	comp=Z,6.3nm,0.9s,baz=36,slow=5.3								
T25A	Trinidad	82.48	48	P				21 08 18.7	
	baz=314								
GROS	Grobnik	82.56	326	*e*P		P		21 08 17.2	-0.2
SOKA	Soboth	82.60	326	*i* P		P		21 08 17.9	+0.3
	comp=Z,19nm,1.1s,SNR=12								
RJOB	Jochberg	82.70	328	*e*P		P		21 08 19.0	+0.9
	comp=Z,51nm,0.9s,baz=36,slow=5.3								
ANMO	Albuquerque	82.78	51	*c i*P		P		21 08 20.4	+1.5
ANMO					pmax		pmax		
	comp=Z,9.0nm,1.3s								
ANMO	Albuquerque	82.78	51	P				21 08 20.8	
	baz=313								
BGNE	Belgrade	82.88	41	P				21 08 20.2	
	baz=317								
OBKA	Obir	82.94	327	*i* P		P		21 08 19.5	+0.2
	comp=Z,5.1nm,0.8s								
OBKA	Obir	82.94	327	*e*P		P		21 08 19.7	+0.3
	comp=Z,6.6nm,0.8s,baz=36,slow=5.3								
KBA	Koelnbreinsper	83.00	328	*e*P		P		21 08 21.1	+1.3
	comp=Z,8.7nm,0.8s,SNR=6.1								
KBA	Koelnbreinsper	83.00	328	*e*P		P		21 08 20.8	+1.0
	comp=Z,9.3nm,0.9s,baz=36,slow=5.3								
LEGS	Legarje	83.04	326	*i* P		P		21 08 19.6	-0.2
CRES	Cresnjev	83.08	326	*e*P		P		21 08 19.7	-0.3
URZ	Urewera	83.23	153	P		P		21 08 19.8	-0.7
	comp=Z,9.3nm,0.9s,baz=302,slow=23,SNR=4.1								
MYKA	Terra Mystica	83.23	327	*i* P		P		21 08 20.5	-0.3
	comp=Z,7.0nm,0.6s,SNR=5.3								
SCHQ	Schefferville	83.27	17	P		P		21 08 21.7	+0.9
	comp=Z,3.2nm,0.7s,baz=17,slow=8.1,SNR=5.1								
STU	Stuttgart	83.28	331	*e*P		P		21 08 21.3	+0.3
	comp=Z,13nm,0.6s,baz=36,slow=5.3								
WATA	Walderalm	83.52	329	*i* P		P		21 08 22.5	+0.1
	comp=Z,3.1nm,0.6s								
WTTA	Wattenberg	83.55	329	*i* P		P		21 08 22.8	+0.2
	comp=Z,7.6nm,0.9s								
WTTA	Wattenberg	83.55	329	*e*P		P		21 08 22.9	+0.2
	comp=Z,8.2nm,0.9s,baz=36,slow=5.3								
121A	Cookes Peak, D	83.59	53	P				21 08 25.2	
	baz=313								
BMRD	Maredsous	83.60	334	*d*P		P		21 08 22.2	-0.3
ABTA	Abfaltersbach	83.61	328	*i* P		P		21 08 22.9	+0.1
	comp=Z,8.1nm,1.2s								
MOTA	Moosalm	83.70	329	*i* P		P		21 08 23.5	+0.1
	comp=Z,15nm,1.2s,SNR=6.1								
RETA	Reutte	83.72	329	*i* P		P		21 08 23.8	+0.5
	comp=Z,16nm,1.1s,SNR=5.9								
UBR	Ueberruh	83.83	330	*e*P		P		21 08 24.9	+1.0
	comp=Z,6.5nm,1.6s,baz=36,slow=5.3								
CBKS	Cedar Bluff	83.92	44	P				21 08 25.0	
	baz=316								
PDG	Podgorica	83.92	321	⇓P		P		21 08 24.5	+0.1
BFO	Black Forest	83.97	331	*e*P		P		21 08 25.2	+0.6
	comp=Z,9.6nm,0.7s,baz=36,slow=5.3								
FETA	Feichten	84.11	329	*i* P		P		21 08 25.8	+0.3
	comp=Z,6.4nm,0.8s								
DAVA	Damuels	84.24	330	*i* P		P		21 08 26.3	+0.2
	comp=Z,19nm,0.9s,SNR=8.4								
DAVA	Damuels	84.24	330	*e*P		P		21 08 26.5	+0.4
	comp=Z,19nm,0.9s,baz=36,slow=5.3								
PMOR	Pomariorio Ree	84.28	114	*e*T		T		22 41 25.6	
	comp=Z,19nm,0.2s								
PPT	Papeete	84.84	117		LR		LR	21 38 55.5	
	comp=Z,65nm,21.3s,baz=270,slow=30								
PPT2	Papeete2	84.86	117	*e*LR			LR	21 35 24.3	
	comp=Z,89nm,22.8s								
MATQ	Matagami	84.87	25	P				21 08 29.3	
	baz=330								
JFWS	Jewell Farm	85.58	36	P				21 08 32.7	
	baz=322								
MNTX	Cornudas Mount	85.65	52	P				21 08 34.4	
	baz=314								
LSQQ	Lebel-sur-Quev	85.69	25	P				21 08 33.5	
	baz=330								
CHGQ	Chibougamau	85.76	23	P				21 08 33.9	
	baz=332								
WMOK	Wichita Mounta	87.40	46	P				21 08 42.9	
	baz=317								
HDIL	Hopedale	87.87	37	P				21 08 44.8	
	baz=322								
D55A	Sainte-Anne-du	87.96	25	P				21 08 45.0	
	baz=332								
ALGO	Algonquin Park	88.02	27	P				21 08 45.2	
	baz=330								
TXAR	Lajitas Array	88.36	53	P		P		21 08 48.1	+1.6
	comp=Z,2.4nm,0.6s,baz=294,slow=3.3,SNR=31								
TXAR	Lajitas Array	88.36	53	P		P		21 08 47.1	+0.6
E56A	St. Veronique	88.53	25	P				21 08 47.2	
	baz=332								
D58A	Chemin du LacG	88.72	23	P				21 08 48.1	
	baz=333								
TBI	Tubuai	88.89	121	*e*T		T		22 47 10.2	
	comp=Z,95nm,0.3s								
SFIN	Lafayette	89.02	35	P				21 08 50.3	
	baz=324								
E58A	La Victoria	89.24	24	P				21 08 51.0	
	baz=333								
D60A	Saint Jean D'O	89.47	22	P				21 08 51.8	
	baz=335								
W39A	Magazine	89.79	43	P				21 08 53.8	
	baz=320								
G57A	Newington	89.81	25	P				21 08 53.4	
	baz=332								
F59A	Saint Guilaume	89.86	24	P				21 08 53.7	
	baz=333								
JCT	Junction City	89.89	50	P				21 08 54.6	
	baz=317								
G58A	Ormstown	90.08	25	P				21 08 55.1	
	baz=333								
E62A	Clayton Lake	90.14	21	P				21 08 55.3	
	baz=336								
D63A	Stockholm	90.15	20	P				21 08 55.2	
	baz=337								
H57A	Richville	90.24	26	P				21 08 55.4	
	baz=332								
F61A	St Evariste	90.30	23	P				21 08 56.4	
	baz=335								
MIAR	Mount Ida	90.39	43	P				21 08 56.9	
	baz=320								
ERPA	Erie	90.58	30	P				21 08 57.6	
	baz=328								
I57A	Carthage	90.61	26	P				21 08 56.9	
	baz=331								
E63A	Oxbow	90.63	21	P				21 08 56.9	
	baz=337								
H59A	Cadyville	90.64	25	P				21 08 57.8	
	baz=333								
J56A	Wolcott	90.76	28	P				21 08 57.6	
	baz=331								
G61A	St-Isidore-de-	90.76	23	P				21 08 58.6	
	baz=334								
P49A	Miami Univ. Ec	90.77	34	P				21 08 58.4	
	baz=325								
E64A	Bridgewater	90.80	20	P				21 08 58.6	
	baz=337								
X40A	Basin Creek Fa	90.83	43	P				21 08 58.9	
	baz=320								
J57A	Williamstown	90.95	27	P				21 08 59.2	
	baz=331								
H60A	Morristown	91.04	24	P				21 08 59.3	
	baz=334								
G62A	West of Eustis	91.12	23	P				21 09 00.2	
	baz=335								
WCI	Wyandotte Cave	91.12	36	P		P		21 09 00.2	+1.0
WCI					pmax		pmax		
	comp=Z,10.0nm,0.9s								
WCI	Wyandotte Cave	91.12	36	P		P		21 09 00.2	+1.0
WCI	Wyandotte Cave	91.12	36	P				21 08 59.9	
	baz=324								
M54A	Oil Creek Stat	91.23	30	P				21 09 00.4	
	baz=329								
J58A	Remsen	91.24	26	P				21 09 00.2	
	baz=332								
H61A	Lyndonville	91.31	24	P				21 09 01.1	
	baz=334								
PKME	Peaks-Kenny Pk	91.44	22	P				21 09 01.5	
	baz=336								
G63A	Kingsbury	91.48	22	P				21 09 02.0	
	baz=336								
I60A	Shoreham	91.49	25	P				21 09 02.1	
	baz=333								
H62A	Milan	91.51	23	P				21 09 02.6	
	baz=335								
N54A	Moraine State	91.56	31	P				21 09 02.1	
	baz=328								
LBNH	Lisbon	91.58	24	P				21 09 02.9	
	baz=334								
I61A	Oroboro, Fairl	91.76	24	P				21 09 03.8	
	baz=334								
BINY	Binghamton	92.01	27	P				21 09 05.0	
	baz=331								
WVT	Waverly	92.08	38	P				21 09 05.0	
	baz=323								
I63A	Otisfield	92.16	23	P				21 09 05.6	
	baz=335								
J61A	Chester	92.17	25	P				21 09 05.6	
	baz=334								
L58A	Harry Jones Me	92.20	27	P				21 09 04.8	
	baz=331								
K61A	Williamstown	92.54	25	P				21 09 06.5	
	baz=333								
HKT	Hockley	92.61	48	⇑*e*P		P		21 09 07.5	+1.4
HKT					pmax		pmax		
	comp=Z,7.0nm,1.0s								
J63A	Strafford	92.71	24	P				21 09 07.6	
	baz=335								
O56A	Blue Knob Stat	92.72	30	P				21 09 07.5	
	baz=329								
MCWV	Mont Chateau	92.73	31	P				21 09 07.4	
	baz=328								
K63A	Dunstable	93.10	24	P				21 09 09.8	
	baz=334								
TZTN	Tazewell	93.75	35	P				21 09 12.1	
	baz=326								
L64A	Middleborough	94.00	24	P				21 09 12.8	
	baz=335								
M64A	Tiverton	94.22	25	P				21 09 13.9	
	baz=334								
ESDC	Sonseca Array	95.88	335	P		P		21 09 20.2	-0.9
	comp=Z,1.1nm,0.7s,baz=14,slow=4.6,SNR=8.7								
ESDC					LR		LR	21 57 38.3	
	comp=Z,35nm,18.7s,baz=120,slow=39								
TORD	Torodi Ar. Bea	116.47	316	PKP		PKPdf		21 14 37.7	-0.8
	comp=Z,1.3nm,0.8s,baz=22,slow=1.6,SNR=2.2								
MAW	Mawson	121.61	206	PKP		PKiKP		21 14 46.9	+0.1
	comp=Z,1.3nm,0.7s,baz=90,slow=13,SNR=2.1								
DBIC	Dimbokro	125.36	319	PKP		PKPdf		21 14 55.3	-0.3
	comp=Z,6.5nm,1.0s,baz=15,slow=3.2,SNR=4.1								
BOSA	Boshof	127.64	261	PKP		PKiKP		21 15 00.5	+0.3
	comp=Z,1.8nm,0.6s,baz=41,slow=2.9,SNR=5.8								
SNAA	Sanae	142.82	197	PKPdf		PKPdf		21 15 22.0	-4.4
VNA1	Neumayer--Stat	144.78	196	PKPdf		PKPbc		21 15 29.2	+0.2
LPAZ	La Paz	145.06	58	PKPbc		PKPdf		21 15 32.6	-0.1
	comp=Z,3.9nm,0.5s,baz=327,slow=3.0,SNR=14								
LPAZ	La Paz	145.06	58	PKIKP		PKPdf		21 15 32.8	+0.1
LPAZ	La Paz	145.06	58			PKPdf		21 15 32.8	+0.1
BDFB	Brasilia	155.04	24	PKPab		PKPab		21 16 12.4	+0.3
	comp=Z,3.6nm,0.8s,baz=210,slow=2.6,SNR=4.1								
CPUP	Villa Florida	159.23	58	PKPab		PKPab		21 16 30.5	+0.6
	comp=Z,2.3nm,0.7s,baz=330,slow=3.2,SNR=4.9								

IDC ***12*** *22:09:02.5±2.2, 14°.97S×173°.56W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/32, mbtmp3.8/4, ML3.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/34 Error ellipse: s-maj=158.7km s-min=23.1km az=154.0*

NEIC ***12*** *20:59:05.1±2.6, 14°.94S±0°.09×173°.41W±0°.09, h19km±4km, mb4.6/10, Error ellipse: s-maj=15.3km s-min=8.6km az=136.0*

ISC 12 20:59:04.8±0.6, 14°.91S±0°.07×173°.31W±0°.08, h30km, n25, σ1°.71/19, mb4.3/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.79	56	Pn		Pn	Pb	20 59 36.0	-0.9
	34nm,0.3s,baz=120,slow=0.4,SNR=35								
AFI				Sn		Sn	Sn	20 59 54.7	-0.7
	79nm,0.3s,baz=0.2,slow=23,SNR=8.2								
AFI				LR		LR	LR	21 00 26.1	
	comp=Z,126nm,21.2s,baz=66,slow=41								
NIUE	Niue	5.25	142	Pn		Pn	Pn	21 00 23.6	+2.3
NIUE				Sn		Sn	Sn	21 01 18.7	-2.1
KNTN	Kanton	12.16	8	Pn		Pn	Pn	21 01 55.6	-0.5
SANVU	Saraoutou	18.82	266			P	P	21 03 20.2	-2.0
SANVU				IAmb		IAmb	IAmb	21 03 29.9	
	comp=Z,99nm,1.5s								
PPT	Papeete	22.93	100	LR		LR	LR	21 10 37.3	
	comp=Z,35nm,19.0s,baz=148,slow=30								
URZ	Urewera	24.75	198	P		P	P	21 04 21.8	-1.9
H11S2	WAKE ISLAND Hy	38.60	329	T		T	T	21 47 25.5	
	baz=149,slow=76,SNR=8.7								
H11S3	WAKE ISLAND Hy	38.61	329	T		T	T	21 47 22.7	
	baz=149,slow=76,SNR=8.9								
H11S1	WAKE ISLAND Hy	38.61	329	T		T	T	21 47 23.2	
	baz=149,slow=76,SNR=19								
H11N3	WAKE ISLAND Hy	39.54	330	T		T	T	21 48 37.3	
	baz=150,slow=76,SNR=10								
H11N1	WAKE ISLAND Hy	39.54	330	T		T	T	21 48 31.3	
	baz=150,slow=76,SNR=13								
H11N2	WAKE ISLAND Hy	39.55	330	T		T	T	21 48 39.0	
	baz=150,slow=76,SNR=9.9								
STKA	Stephens Creek	44.36	240	P		P	P	21 07 09.4	-3.2
WB2	Warramunga Arr	50.03	256	P		P	P	21 07 58.4	+1.4
WB2				IAmb		IAmb	IAmb	21 08 06.7	
	comp=Z,12nm,1.3s								
WRAB	Tennant Creek	50.03	256	P		P	P	21 07 57.1	0.0
WRA	Warramunga Arr	50.04	256	P		P	P	21 07 57.1	0.0
	comp=Z,0.6nm,0.6s,baz=90,slow=6.9,SNR=2.0								
GUMO	Guam	50.15	302	P		P	P	21 07 59.1	+1.2
AS31	Alice Springs	50.35	252	P		P	P	21 07 59.1	-0.3
AS31				IAmb		IAmb	IAmb	21 08 00.0	
	comp=Z,5.1nm,1.8s								
ASAR	Alice Springs	50.35	252	P		P	P	21 07 59.0	-0.4
	comp=Z,3.2nm,0.7s,baz=86,slow=7.9,SNR=16								
FAKI	Fak Fak	54.95	277	P		P	P	21 08 36.2	+2.7
QSPA	South Pole Qui	75.13	180	P		P	P	21 10 46.4	+2.4
QSPA				IAmb		IAmb	IAmb	21 10 49.5	
	comp=Z,7.5nm,1.4s								
TXAR	Lajitas Array	80.27	56	P		P		21 11 18.6	+5.3
	comp=Z,0.4nm,0.9s,baz=239,slow=6.2,SNR=2.5								
GERES	GERESS Array B	145.68	352	PKPbc		PKPab		21 18 41.2	+0.1
	comp=Z,0.3nm,0.6s,baz=2.3,slow=4.9,SNR=2.0								
BRTR	Keskin Array B	145.84	322	PKPbc		PKiKP		21 18 45.0	-0.2
	comp=Z,0.6nm,0.8s,baz=31,slow=3.4,SNR=4.3								
BRTR	Keskin Array B	145.84	322			PKiKP		21 18 44.7	-0.5

PRU 12 21:12:23.9±0.0, 50°.26N×18°.85E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRLC	Kraliky	1.34	263	*e*SG		Sg	Sg	21 13 07.1	+0.1
DPC	Dobruska-Polom	1.62	274	*e*PG		Pn	Pn	21 12 52.9	-0.9
DPC				*e*SG		Sg	Sg	21 13 16.5	+0.5
DPC	Dobruska-Polom	1.62	274	*e*		Pn	Pn	21 12 52.9	-0.9
OSTC	Ostas	1.71	281	*e*SG		Sn	Sn	21 13 17.6	0.0
CHVC	Chvalec	1.82	281	*e*SG		Sb	Sb	21 13 21.5	+0.1

PRU 12 21:22:27.6±0.0, 50°.14N×19°.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.46	80	*e*Pg		Pg	Pg	21 22 35.5	-0.8
OJC				*e*Sg		Sg	Sg	21 22 41.3	-0.9
OJC	Ojcow	0.46	80	*e*PKP		Pg	Pg	21 22 36.0	-0.4
OKC	Ostrava-Krasne	0.69	244	*e*PG		Pg	Pg	21 22 41.3	+0.6
OKC				*e*SG		Sg	Sg	21 22 50.5	+0.9
	comp=Z,34nm,0.5s								
LANS	Liptovska Anna	1.02	166	*e*PG		Pg	Pg	21 22 46.5	-0.6
LANS				*e*SG		Sg	Sg	21 23 00.1	-0.2
LANS				*e*LG		Lg	Lg	21 23 00.7	
NIE	Niedzica	1.06	132	*e*Pg		Pg	Pg	21 22 46.8	-1.1
NIE				*e*Sg		Sg	Sg	21 23 01.6	-0.1
NIE	Niedzica	1.06	132	*e*PKP		Pg	Pg	21 22 47.0	-0.9
MORC	Moravsky Berou	1.07	251	*e*PG		Pb	Pb	21 22 48.7	-0.3
MORC				*e*SG		Sg	Sg	21 23 02.6	+0.7
KRLC	Kraliky	1.49	268	*e*PG		Pn	Pn	21 22 54.3	-1.4
KRLC				*e*SG		Sg	Sg	21 23 14.8	-0.8
	comp=Z,15nm,0.4s								
STHS	Stebnicka Huta	1.57	117	*e*PN		Pn	Pn	21 22 55.7	-1.0
STHS				*e*SN		Sg	Sg	21 23 18.8	+0.9
JAVC	Velka Javorina	1.58	217	*e*PN		Pb	Pb	21 22 57.6	-0.2
VYHS	Vyhne	1.66	186	*e*PN		Pn	Pn	21 22 56.5	-1.4
VYHS				*e*SN		Sn	Sn	21 23 18.1	-1.8
VYHS				*e*LG		Lg	Lg	21 23 22.3	
DPC	Dobruska-Polom	1.80	278	*e*PG		Pb	Pb	21 23 00.9	-0.5
DPC				*e*SG		Sb	Sb	21 23 24.5	+0.1
	comp=Z,14nm,0.5s								
VRAC	Vranov	1.83	244	*e*PN		Pb	Pb	21 23 01.2	-0.7
VRAC				*e*SG		Sb	Sb	21 23 25.4	+0.1
OSTC	Ostas	1.89	284	*e*PG		Pn	Pn	21 23 01.3	+0.1
OSTC				*e*SG		Sg	Sg	21 23 28.1	-0.3
	comp=Z,12nm,0.6s								
KSP	Ksiaz	1.93	293	*e*Pg		Pg	Pg	21 23 05.3	+0.8
KSP				*e*Sg		Sg	Sg	21 23 30.4	+1.0
KSP	Ksiaz	1.93	293	*e*PKP		Pg	Pg	21 23 05.7	+1.2
CRVS	Cervenica-Dubn	1.98	128	*e*PN		Pn	Pn	21 23 03.2	+0.9
CRVS				*e*SN		Sn	Sn	21 23 27.6	-0.2
CHVC	Chvalec	2.00	284	*e*PG		Pb	Pb	21 23 03.8	-1.1
CHVC				*e*SG		Sb	Sb	21 23 30.7	+0.4
	comp=Z,26nm,1.1s								
UPC	Upice	2.01	282	*e*SG		Sb	Sb	21 23 31.4	+0.7
	comp=Z,8.8nm,0.5s								
KRUC	Moravsky	2.06	240	*e*PN		Pn	Pn	21 23 04.6	+1.1
KRUC				*e*SG		Sb	Sb	21 23 32.2	+0.1
KOLS	Kolonicke sedl	2.39	119	*e*PG		Pb	Pb	21 23 12.5	+0.9
KOLS				*e*SN		Sn	Sn	21 23 35.6	-2.5
PVCC	Panska Ves	2.93	279	*e*SG		Sg	Sg	21 24 00.8	-0.8
	comp=Z,15nm,0.7s								
PRU	Prunice	2.94	269	*e*SG		Sg	Sg	21 24 00.3	-1.7
	comp=Z,5.5nm,0.6s								
BRG	Berggiesshubel	3.37	285	Sg		Sg	Sg	21 24 15.9	0.0
BRG				Amp				21 24 23.9	
	comp=Z,5.2nm,0.9s								
CKRC	Cesky Krumlov	3.39	249	*e*SG		Sg	Sg	21 24 14.4	-2.1
KHC	Kasperske Hory	3.73	256	*e*PG		Pg	Pg	21 23 37.0	-2.0
KHC				*e*SN		Sn	Sn	21 24 09.5	-1.5
KHC				*e*SG		Sg	Sg	21 24 26.1	-1.2
	comp=Z,4.1nm,0.4s								
KHC	Kasperske Hory	3.73	256	*e*		Pg	Pg	21 23 37.0	-2.0

IDC ***12*** *22:01:10.7±0.9, 26°.09S×179°.50E, h500km±11km, mb3.5/12, mb1 3.7/15, mb1mx3.6/22, mbtmp4.4/15, Error ellipse: s-maj=15.1km s-min=12.7km az=142.0*

NEIC ***12*** *22:01:12.0±2.6, 26°.2S±0°.1×179°.5E±0°.1, h506km±8km, mb4.6/38, Error ellipse: s-maj=18.3km s-min=15.6km az=97.0*

NOU ***12*** *22:01:13.7, 26°.47S×179°.14E, h479km, mb4.5, South of Fiji Islands*

ISC 12 22:01:10.7±0.4, 26°.12S±0°.05×179°.62E±0°.08, h503km, n127, σ1°.46/140, mb4.3/29, 8C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	3.80	146	P		P	P	22 02 31.0	+3.3
RAO	Raoul Island	3.81	146	P		P	P	22 02 27.6	-0.1
	136nm,0.3s,baz=96,slow=22,SNR=6.0								
RAO				S		S	S	22 03 31.7	+1.1
	31nm,0.3s,baz=272,slow=22,SNR=1.1								
RAO	Raoul Island	3.81	146	P		P	P	22 02 28.1	+0.3
RAO	Raoul Island	3.81	146	P		P	P	22 02 28.5	+0.8
GLKZ	Green Lake	3.82	146	P		P	P	22 02 27.2	-0.6
MSVF	Nonsavu	8.47	350	P		P	P	22 03 11.5	-0.7
	3.1nm,0.3s,baz=167,slow=6.7,SNR=16								
MSVF				S		S	S	22 04 50.9	-1.0
	baz=8.7,slow=23,SNR=1.5								
MSVF	Nonsavu	8.47	350	P		P	P	22 03 12.2	-0.1
OUZ	Omahuta	10.45	208	P		P	P	22 03 34.9	+2.2
OUZ	Omahuta	10.45	208	P		P	P	22 03 35.6	+2.9
WCZ	Waipu Caves	10.78	203	P		P	P	22 03 39.0	+2.7
KUZ	Kuaotunu	11.11	196	P		P	P	22 03 40.9	+1.3
MXZ	Matakaoa Point	11.47	185	P		P	P	22 03 43.3	-0.1
MXZ	Matakaoa Point	11.47	185	P		P	P	22 03 42.8	-0.7
ETAZ	East Tamaki Re	11.52	199	P		P	P	22 03 46.3	+2.3
HAZ	Te Kaha	11.71	187	P		P	P	22 03 45.6	-0.4
HAZ				S		S	S	22 05 50.5	-3.5
NIUE	Niue	11.93	56	P		P	P	22 03 55.9	+7.3
NIUE	Niue	11.93	56	P		P	P	22 03 58.1	+10
RUGZ	Raukumara Rang	11.93	187	P		P	P

CTAO	**Charters Tower**	**31.21**	**274**	P	**P**		**22 06 49.1**	**+0.5**
CTAO				IAmb	IAmb		22 06 50.0	
	comp=Z,34nm,0.8s							
STKA	**Stephens Creek**	**33.63**	**251**	P	**P**		**22 07 08.5**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=96,slow=11,SNR=12							
STKA				PcP	**PcP**		**22 09 34.7**	**0.0**
	comp=Z,0.4nm,0.2s,baz=96,slow=4.0,SNR=3.1							
STKA	**Stephens Creek**	**33.63**	**251**	P	**P**		**22 07 09.1**	**+0.2**
BBOO	**Buckleboo**	**38.30**	**249**	P	**P**		**22 07 46.7**	**-1.0**
BBOO				IAmb	IAmb		22 07 47.6	
	comp=Z,11nm,1.1s							
AS31	**Alice Springs**	**41.38**	**263**	P	**P**		**22 08 12.5**	**-0.2**
ASAR	**Alice Springs**	**41.38**	**263**	P	**P**		**22 08 12.2**	**-0.5**
	comp=Z,12nm,0.9s,baz=105,slow=8.1,SNR=60							
ASAR				PcP	**PcP**		**22 09 58.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=101,slow=3.9,SNR=3.5							
ASAR				S	**S**		**22 13 49.1**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=98,slow=16,SNR=6.8							
ASAR	**Alice Springs**	**41.38**	**263**	P	**P**		**22 08 12.8**	**+0.1**
WR0	**Warramunga Arr**	**41.77**	**269**	P	**P**		**22 08 15.1**	**-0.7**
WR0				IAmb	IAmb		22 08 16.4	
	comp=Z,11nm,0.9s							
WB2	**Warramunga Arr**	**41.95**	**269**	P	**P**		**22 08 16.4**	**-0.8**
WB2				IAmb	IAmb		22 08 17.3	
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**41.95**	**269**	P	**P**		**22 08 15.7**	**-1.5**
WRAB				IAmb	IAmb		22 08 17.3	
	comp=Z,9.8nm,0.8s							
WRA	**Warramunga Arr**	**41.96**	**269**	P	**P**		**22 08 16.3**	**-1.0**
	comp=Z,9.0nm,0.8s,baz=101,slow=7.8,SNR=74							
WRA				PcP	**PcP**		**22 10 00.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=98,slow=3.2,SNR=4.5							
WRA	**Warramunga Arr**	**41.96**	**269**	P	**P**		**22 08 16.5**	**-0.8**
WB0	**Warramunga Arr**	**41.97**	**269**	P	**P**		**22 08 16.5**	**-0.8**
WB0				IAmb	IAmb		22 08 17.3	
	comp=Z,15nm,0.9s							
FORT	**Forrest**	**45.25**	**252**	P	**P**		**22 08 41.4**	**-1.4**
FORT				IAmb	IAmb		22 08 41.8	
	comp=Z,21nm,0.8s							
KNRA	**Kununurra**	**48.37**	**272**	P	**P**		**22 09 06.5**	**-0.1**
KNRA				IAmb	IAmb		22 09 07.2	
	comp=Z,22nm,0.9s							
FITZ	**Fitzroy Crossi**	**50.35**	**268**	P	**P**		**22 09 21.0**	**-0.2**
FITZ				IAmb	IAmb		22 09 21.8	
	comp=Z,8.1nm,0.9s							
VNDA	**Vanda**	**52.15**	**185**	P	**P**		**22 09 34.3**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=2.4,slow=6.8,SNR=4.6							
VNDA	**Vanda**	**52.15**	**185**	P	**P**		**22 09 34.5**	**+1.2**
SBA	**Scott Base**	**52.16**	**183**	P	**P**		**22 09 35.8**	**+2.4**
NWAO	**Narrogin (SRO)**	**54.03**	**247**	P	**P**		**22 09 49.8**	**+2.4**
PSA00	**Pilbara Seismi**	**54.46**	**261**	P	**P**		**22 09 50.0**	**-0.7**
MORW	**Morawa**	**55.82**	**251**	P	**P**		**22 09 57.9**	**-2.2**
CASY	**Casey**	**57.98**	**206**	P	**P**		**22 10 13.9**	**-0.3**
QSPA	**South Pole Qui**	**63.98**	**180**	P	**P**		**22 10 54.7**	**+0.8**
QSPA				IAmb	IAmb		22 10 55.6	
	comp=Z,8.1nm,0.8s							
MJAR	**Matsushiro Arr**	**73.53**	**326**	P	**P**		**22 11 51.5**	**-0.4**
	comp=Z,6.6nm,0.9s,baz=158,slow=5.5,SNR=14							
MJAR	**Matsushiro Arr**	**73.53**	**326**	P	**P**		**22 11 51.6**	**-0.3**
MJAR				IAmb	IAmb		22 11 52.7	
	comp=Z,5.7nm,1.1s							
MAT	**Matsushiro**	**73.53**	**326**	P	**P**		**22 11 51.3**	**-0.6**
KSRS	**Korea Array**	**79.72**	**321**	P	**P**		**22 12 26.3**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=127,slow=5.3,SNR=7.1							
PETK	**Petropavlovsk-**	**81.17**	**347**	P	**P**		**22 12 33.4**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=108,slow=8.0,SNR=5.1							
NJ2	**Nanjing**	**81.86**	**312**	*e*P	**P**		**22 12 38.0**	**+1.0**
NJ2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**82.44**	**328**	P	**P**		**22 12 39.9**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=143,slow=3.6,SNR=7.9							
USRK	**Ussuriysk Ar.**	**82.44**	**328**	P	**P**		**22 12 40.2**	**+0.5**
SNAA	**Sanae**	**82.47**	**179**	P	**P**		**22 12 38.9**	**-0.8**
VNA1	**Neumayer--Stat**	**83.34**	**177**	P	**P**		**22 12 42.1**	**-1.8**
VNA1	**Neumayer--Stat**	**83.34**	**177**	PcP	**PcP**		**22 12 46.3**	**-0.8**
CN2	**Changchun**	**85.46**	**324**	*e*P	**P**		**22 12 55.1**	**+0.4**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
NVAR	**Mina Array Bea**	**86.58**	**44**	P	**P**		**22 13 01.7**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=220,slow=7.7,SNR=4.3							
BJI	**Beijing**	**88.39**	**317**	P	**P**		**22 13 09.4**	**+0.8**
BJI				PcP	**PcP**		**22 13 10.8**	**+1.0**
BJI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.97**	**291**	P	**P**		**22 13 18.0**	**+1.5**
	comp=Z,0.9nm,0.4s,baz=142,slow=3.7,SNR=6.8							
KMI	**Kunming**	**89.99**	**298**	⇑P	**P**		**22 13 17.2**	**+0.5**
KMI				pP	pwP		22 15 11.6	-1.5
KMI				pmax	pmax			
	comp=Z,130nm,9.2s							
TMUT	**Trail Mountain**	**91.61**	**47**	P	**P**		**22 13 24.6**	**+0.6**
TMUT				IAmb	IAmb		22 13 26.4	
	comp=Z,2.2nm,0.6s							
HHC	**Hu-ho-hao-te**	**91.74**	**315**	*e*P	**P**		**22 13 23.2**	**-1.1**
HHC				pmax	pmax			
	comp=Z,16nm,1.0s							
HHC				pmax	pmax			
	comp=Z,51nm,5.5s							
TXAR	**Lajitas Array**	**91.89**	**58**	P	**P**		**22 13 26.3**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=5.8							
PV05	**Paradox Valley**	**92.36**	**48**	P	**P**		**22 13 24.9**	**-2.5**
PV05				IAmb	IAmb		22 13 34.7	
	comp=Z,4.6nm,0.7s							
ILAR	**Eielson Array**	**94.26**	**14**	P	**P**		**22 13 33.6**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=216,slow=4.5,SNR=2.8							
ARCES	**ARCESS Array B**	**133.97**	**348**	PKhKP	PKPpre		22 19 23.9	
	comp=Z,5.4nm,1.0s,baz=43,slow=5.4,SNR=3.6							
FINES	**FINESS Array B**	**140.42**	**340**	PKhKP	PKPpre		22 19 34.3	
	comp=Z,1.8nm,0.7s,baz=41,slow=3.7,SNR=11							
NC303	**NORSAR Array S**	**144.00**	**350**		PKPbc		22 19 46.7	-0.6
NOA	**NORSAR Array B**	**144.20**	**350**	PKP	PKPbc		22 19 47.0	-0.9
	comp=Z,7.7nm,0.9s,baz=22,slow=2.6,SNR=23							
NACGM	**Naroch**	**145.02**	**333**	*i* PKP	**PKPbc**		**22 19 50.5**	**-0.1**
	baz=259							
PABE	**Paberze**	**145.69**	**335**		**PKPbc**		**22 19 52.0**	**-0.5**
AKASG	**Malin Array Be**	**146.61**	**325**	PKPbc	**PKPbc**		**22 19 54.4**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=46,slow=4.4,SNR=15							
SORM	**Soroca**	**148.56**	**322**	⇑P	**PKPbc**		**22 19 60.0**	**-0.4**
BRTR	**Keskin Array B**	**148.58**	**304**	PKPbc	**PKPbc**		**22 20 00.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=134,slow=3.6,SNR=11							
BRTR	**Keskin Array B**	**148.58**	**304**		**PKPbc**		**22 20 00.9**	**0.0**
CSS	**Mathiatis**	**149.77**	**295**		**PKPbc**		**22 20 03.9**	**+0.2**
TLCR		**149.83**	**317**	⇑P	**PKPbc**		**22 20 03.7**	**+0.2**
JURR	**Jurilovca**	**150.00**	**316**	⇑P	**PKPbc**		**22 20 04.0**	**0.0**
TPGR	**Topolog**	**150.24**	**316**	⇑P	**PKiKP**		**22 20 05.0**	**-0.2**
CFR	**Carcaliu**	**150.25**	**317**	⇑P	**PKPbc**		**22 20 04.6**	**+0.1**
BIZ	**Bicaz**	**150.49**	**322**	⇑P	**PKiKP**		**22 20 05.8**	**+0.2**
BURAR	**Bucovina Array**	**150.57**	**323**		**PKiKP**		**22 20 06.4**	**+0.6**
HARR	**Harsova**	**150.62**	**316**	⇑P	**PKiKP**		**22 20 05.9**	**0.0**
VRI	**Vrincioaia**	**150.74**	**319**	⇓P	**PKPbc**		**22 20 05.7**	**0.0**
KOLS	**Kolonicke sedl**	**151.19**	**328**	*e*PKP	**PKiKP**		**22 20 07.0**	**0.0**
DOPR	**Dopca**	**151.46**	**321**	⇓P	**PKiKP**		**22 20 07.8**	**+0.2**
ARR	**Arges**	**152.23**	**320**	⇓P	**PKiKP**		**22 20 10.5**	**+1.2**
CLL	**Collm**	**152.85**	**341**	*e*PKPbc	**PKPbc**		**22 20 10.0**	**-0.2**
CLL				*e*			22 20 16.0	
CLL				*i* PKPab	**PKPab**		**22 20 23.5**	**-0.2**
GERES	**GERESS Array B**	**154.79**	**338**	PKPbc	**PKiKP**		**22 20 13.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=15,slow=4.1,SNR=2.8							
GERES				PKPab	**PKPab**		**22 20 32.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=15,slow=4.1,SNR=4.8							
ESDC	**Sonseca Array**	**166.15**	**12**	PKPab	**PKPab**		**22 21 21.3**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=343,slow=6.6,SNR=4.2							

JMA ***12*** *22:05:51.7±0.2,23°.97N×122°.42E,h9km±4km,M3.5*
TAP ***12*** *22:05:52.2,24°.06N×122°.42E,h23km,ML3.5,D*
ISC 12 22:05:51.7±1.0,23°.99N±0°.02×122°.41E±0°.02,h14km±8km,
n124,σ0°82/202,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**47**	P		**Pb**	**22 06 04.8**	**-0.5**
JYNG				S		**Sg**	**22 06 13.3**	**-0.5**
YOJ	**Yonaguni jima**	**0.72**	**49**	P		**Pg**	**22 06 05.7**	**-0.2**
YOJ				S		**Sg**	**22 06 14.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.72**	**49**	*i* P		**Pg**	**22 06 05.5**	**-0.3**
	baz=61							
YOJ				S		**Sg**	**22 06 14.7**	**-0.8**
	baz=61							
EWUT	**Wuta**	**0.73**	**308**	*e*P		**Pg**	**22 06 05.8**	**-0.2**
	baz=303							
EWUT				S		**Sg**	**22 06 15.5**	**-0.1**
	baz=303							
HWA	**Hwalien**	**0.73**	**269**	P		**Pb**	**22 06 07.0**	**+0.7**
	baz=248							
HWA				S		**Sn**	**22 06 18.3**	**-0.3**
	baz=248							
ETL	**Fush Village**	**0.74**	**283**	P		**Pb**	**22 06 06.9**	**+0.5**
	baz=261							
TWD	**Chiawan**	**0.75**	**277**	*i* P		**Pg**	**22 06 06.7**	**+0.5**
	baz=271							
TWD				S		**Sb**	**22 06 17.1**	**+0.6**
	baz=271							
TEYL	**Yanliau Villag**	**0.75**	**261**	P		**Pb**	**22 06 07.3**	**+0.7**
	baz=245							
TEYL				S		**Sb**	**22 06 18.2**	**+1.6**
	baz=245							
NACB	**Ninganchiao**	**0.76**	**284**	P		**Pb**	**22 06 07.1**	**+0.3**
	baz=262							
NACB				*e*S		**Sb**	**22 06 18.4**	**+1.3**
	baz=262							
TWC	**Suao**	**0.80**	**321**	⇓ *i* P		**Pb**	**22 06 06.5**	**-1.0**
	baz=316							
ETM	**Tongmen**	**0.84**	**269**	P		**Pb**	**22 06 08.0**	**-0.1**
	baz=251							
ETM				*e*S		**Sg**	**22 06 20.1**	**+1.1**
	baz=251							
TEGC	**Jichi Village**	**0.84**	**251**	*e*P		**Pb**	**22 06 08.4**	**+0.3**
	baz=245							
TEGC				*e*S		**Sg**	**22 06 20.6**	**+1.5**
	baz=245							
ETLH	**Xiulin Townshi**	**0.87**	**285**	P		**Pb**	**22 06 08.8**	**+0.1**
	baz=264							
NDS	**Dongshan**	**0.90**	**316**	P		**Pb**	**22 06 08.8**	**-0.3**
	baz=304							
NDS				*e*S		**Sb**	**22 06 20.6**	**-0.3**
	baz=304							
ESL	**Shilin**	**0.91**	**259**	P		**Pb**	**22 06 08.7**	**-0.6**
	baz=244							
ESL				*e*S		**Sb**	**22 06 21.5**	**+0.3**
	baz=244							
EGFH	**Guangfu**	**0.95**	**251**	*e*P		**Pb**	**22 06 10.2**	**+0.2**
	baz=246							
EGFH				*e*S		**Sb**	**22 06 23.0**	**+0.5**
	baz=246							
EGS		**0.95**	**333**	*e*P		**Pb**	**22 06 09.9**	**-0.1**
	baz=321							
EGS				*e*S		**Sg**	**22 06 22.9**	**+0.1**
	baz=321							
ILA	**Ilan**	**0.98**	**322**	*e*P		**Pb**	**22 06 10.0**	**-0.5**
	baz=309							
ILA				*e*S		**Sb**	**22 06 22.5**	**-0.8**
	baz=309							
TWE	**Neicheng**	**0.99**	**317**	*i* P		**Pb**	**22 06 10.4**	**-0.3**
	baz=313							
ENTT	**Nioudou**	**1.00**	**310**	P		**Pb**	**22 06 10.7**	**-0.2**
	baz=305							
NTC	**Toucheng**	**1.01**	**329**	P		**Pb**	**22 06 10.6**	**-0.3**
	baz=325							
NTC				S		**Sb**	**22 06 23.7**	**-0.4**
	baz=325							
NDT	**Datong Townshi**	**1.02**	**307**	*e*P		**Pn**	**22 06 11.6**	**0.0**
	baz=302							
NDT				*e*S		**Sb**	**22 06 23.2**	**-1.2**
	baz=302							
HGSD	**Ruisui**	**1.03**	**241**	P		**Pb**	**22 06 10.5**	**-0.8**
	baz=237							
HGSD				*e*S		**Sb**	**22 06 24.2**	**-0.5**
	baz=237							
NNSB	**Datong**	**1.03**	**295**	P		**Pb**	**22 06 11.7**	**+0.2**
	baz=290							
NNSB				S		**Sg**	**22 06 25.4**	**+0.2**
	baz=290							
NNSH	**Datong**	**1.03**	**295**	*e*P		**Pb**	**22 06 11.7**	**+0.2**
	baz=290							
NNSH				*e*S		**Sg**	**22 06 25.4**	**+0.3**
	baz=290							
NNS	**Nan Shan**	**1.04**	**296**	P		**Pb**	**22 06 11.9**	**+0.2**
	baz=291							
NNS				*e*S		**Sg**	**22 06 26.0**	**+0.4**
	baz=291							
WHF	**Hehuan Shan**	**1.05**	**279**	P		**Pb**	**22 06 11.8**	**-0.2**
	baz=260							
TWB1	**Santiao Chiao**	**1.08**	**339**	*e*P		**Pb**	**22 06 11.9**	**-0.3**
	baz=356							
TWB1				*e*S		**Sg**	**22 06 26.4**	**-0.4**
	baz=356							
FUSS	**Fushou**	**1.09**	**284**	P		**Pb**	**22 06 12.7**	**+0.2**
	baz=279							
FUSS				*e*S		**Sn**	**22 06 28.3**	**+0.4**
	baz=279							
EHY	**Hungye**	**1.10**	**244**	P		**Pb**	**22 06 11.7**	**-0.9**
	baz=239							
EHY				*e*S		**Sb**	**22 06 26.6**	**-0.3**
	baz=239							
TIPB	**Shuangxi**	**1.11**	**332**	*e*P		**Pn**	**22 06 12.9**	**0.0**
	baz=329							
TIPB				*i* S		**Sb**	**22 06 26.8**	**-0.4**
	baz=329							
CHGB	**Renai**	**1.13**	**274**	P		**Pb**	**22 06 12.9**	**-0.3**
	baz=256							
CHGB				*e*S		**Sb**	**22 06 27.3**	**-0.5**
	baz=256							
NWLT	**Wulai**	**1.14**	**314**	P		**Pn**	**22 06 13.4**	**+0.2**
	baz=310							
NWLT				*e*S		**Sn**	**22 06 28.2**	**-0.5**
	baz=310							
YHNB	**Yeheng**	**1.16**	**306**	*e*P		**Pb**	**22 06 14.0**	**+0.4**
	baz=287							
YHNB				*e*S		**Sb**	**22 06 28.1**	**-0.5**
	baz=287							
TDCB	**Techi**	**1.17**	**283**	*e*P		**Pb**	**22 06 14.1**	**+0.2**
	baz=266							
YULB	**Yu-li**	**1.18**	**240**	P		**Pn**	**22 06 13.0**	**-0.8**
	baz=252							
YULB				*e*S		**Sb**	**22 06 28.3**	**-0.7**
	baz=252							
EYUL	**Yuli**	**1.18**	**238**	P		**Pn**	**22 06 13.4**	**-0.5**
	baz=233							
EYUL				*e*S		**Sb**	**22 06 28.8**	**-0.4**
	baz=233							
TWF1	**Yuli**	**1.20**	**238**	*e*P		**Pn**	**22 06 13.3**	**-0.8**
	baz=234							
TWF1				*e*S		**Sb**	**22 06 29.8**	**+0.2**
	baz=234							
NWF	**Wu-fen Shan**	**1.22**	**332**	*e*P		**Pb**	**22 06 14.5**	**-0.1**
	baz=329							
NWF				*e*S		**Sb**	**22 06 29.9**	**-0.4**
	baz=329							
WFSB	**Wu-fen Shan**	**1.22**	**332**	*e*P		**Pb**	**22 06 14.5**	**-0.1**
	baz=329							
WFSB				*e*S		**Sb**	**22 06 29.9**	**-0.3**
	baz=329							
TWA	**Mucha**	**1.24**	**323**	*e*P		**Pb**	**22 06 15.2**	**+0.3**
	baz=319							
TWA				*e*S		**Sg**	**22 06 31.5**	**-0.3**
	baz=319							
IRIF	**Iriomote-Funau**	**1.26**	**74**	P		**Pb**	**22 06 15.2**	**0.0**
IRIF				*e*S		**Sg**	**22 06 31.6**	**-0.7**
NHDH	**Xindian Distri**	**1.26**	**321**	*e*P		**Pg**	**22 06 16.4**	**+0.4**
	baz=316							
NHDH				S		**Sg**	**22 06 32.2**	**-0.2**
	baz=316							
HATJ	**Hateruma jima**	**1.28**	**87**	P		**Pb**	**22 06 15.8**	**+0.2**
HATJ				*e*S		**Sn**	**22 06 32.2**	**0.0**
FULB	**Fuli**	**1.29**	**233**	*e*P		**Pn**	**22 06 14.2**	**-1.1**
	baz=215							
FULB				*e*S		**Sn**	**22 06 30.6**	**-1.8**
	baz=215							
TATO	**Taipei**	**1.29**	**320**	P		**Pg**	**22 06 16.3**	**-0.2**
	baz=316							
TATO				S		**Sb**	**22 06 31.9**	**-0.3**
	baz=316							
TNOU	**National Taiwa**	**1.29**	**334**	*e*P		**Pn**	**22 06 14.9**	**-0.5**
	baz=331							
TNOU				*e*S		**Sb**	**22 06 31.5**	**-0.8**
	baz=331							
CHKT	**Chengkung**	**1.30**	**227**	*e*P		**Pn**	**22 06 13.4**	**-2.1**
	baz=223							
CHKT				*e*S		**Sn**	**22 06 30.3**	**-2.4**
	baz=223							
WPL	**Puli Township**	**1.33**	**271**	*e*P		**Pn**	**22 06 16.2**	**+0.4**
	baz=266							
SSLB	**Suanglung**	**1.34**	**262**	*e*P		**Pn**	**22 06 16.2**	**+0.1**
	baz=257							
WHP	**Taichung City**	**1.36**	**282**	*e*P		**Pg**	**22 06 18.2**	**+0.2**
	baz=266							
WHP				*e*S		**Sg**	**22 06 36.3**	**+0.5**
	baz=266							
WCS	**Beigang Elemen**	**1.37**	**273**	*e*P		**Pn**	**22 06 16.9**	**+0.4**
	baz=268							
YM01	**YM01**	**1.38**	**327**	*e*P		**Pn**	**22 06 16.7**	**0.0**
	baz=323							
YM01				*e*S		**Sg**	**22 06 35.6**	**-0.7**
	baz=323							
YM08	**YM08**	**1.41**	**328**	*e*P		**Pn**	**22 06 16.8**	**-0.1**
	baz=324							
ECS	**Chishang**	**1.41**	**231**	*e*P		**Pn**	**22 06 16.7**	**-0.3**
	baz=216							
ECS				*e*S		**Sn**	**22 06 35.8**	**+0.5**
	baz=216							
NJD	**Zhudong**	**1.41**	**302**	*e*P		**Pg**	**22 06 18.8**	**-0.1**
	baz=297							
TYC	**Yuchr**	**1.42**	**267**	*e*P		**Pn**	**22 06 17.1**	**0.0**
	baz=262							
NTY	**Taoyuan**	**1.43**	**315**	*e*S		**Sg**	**22 06 38.4**	**+0.6**
	baz=311							
LIOB	**Emei**	**1.43**	**298**	*e*P		**Pb**	**22 06 18.4**	**+0.2**
	baz=293							
LIOB				*e*S		**Sg**	**22 06 37.5**	**-0.3**
	baz=293							
TWS1	**Kuangyinshan**	**1.43**	**321**	*e*P		**Pb**	**22 06 17.7**	**-0.4**
	baz=335							
TWS1				*e*S		**Sg**	**22 06 37.7**	**0.0**
	baz=335							
EDH	**Donghe**	**1.43**	**225**	*e*P		**Pn**	**22 06 16.1**	**-1.1**
	baz=221							
EDH				*e*S		**Sn**	**22 06 33.2**	**-2.7**
	baz=221							
NSTT	**Nanjuang**	**1.43**	**297**	*e*P		**Pb**	**22 06 18.2**	**0.0**
	baz=292							
NSTT				*e*S		**Sb**	**22 06 37.3**	**+1.0**
	baz=292							
ANP	**Anpu**	**1.44**	**326**	*e*P		**Pn**	**22 06 16.0**	**-1.5**
	baz=322							
NTST	**Danshui**	**1.46**	**324**	*e*P		**Pn**	**22 06 17.3**	**-0.3**
	baz=336							
TWY	**Chenhua**	**1.48**	**330**	*e*P		**Pn**	**22 06 18.0**	**+0.1**
	baz=327							
JKRS	**Kuro-shima**	**1.48**	**80**	P		**Pb**	**22 06 19.1**	**0.0**
JKRS				S		**Sb**	**22 06 38.3**	**+0.5**
ELDTW	**Lidau**	**1.50**	**238**	*e*P		**Pn**	**22 06 17.1**	**-1.3**
	baz=234							
ELDTW				*e*S		**Sn**	**22 06 36.2**	**-1.6**
	baz=234							
TWQ1	**Liyutan**	**1.53**	**284**	*e*P		**Pb**	**22 06 20.5**	**+0.6**
	baz=279							
TWQ1				*e*S		**Sb**	**22 06 40.3**	**+1.1**
	baz=279							
ALS	**Alishan**	**1.54**	**252**	*e*P		**Pn**	**22 06 19.0**	**-0.1**
	baz=248							
ALS				*e*S		**Sn**	**22 06 39.2**	**+0.2**
	baz=248							
WJS	**Zhushan**	**1.54**	**264**	*e*P		**Pg**	**22 06 21.4**	**-0.1**
	baz=259							
WWF	**Wufeng**	**1.56**	**272**	P		**Pb**	**22 06 21.2**	**+0.7**
	baz=267							
LDUT	**Ludao**	**1.57**	**214**	*e*P		**Pn**	**22 06 17.7**	**-1.4**
	baz=210							
LDUT				*e*S		**Sn**	**22 06 36.2**	**-3.0**
	baz=210							
NMLH	**Miaoli**	**1.57**	**291**	*e*P		**Pb**	**22 06 20.5**	**-0.1**
	baz=285							
NMLH				*e*S		**Sb**	**22 06 40.8**	**+0.4**
	baz=285							
WNT	**Mingjian**	**1.58**	**266**	*e*P		**Pb**	**22 06 20.5**	**-0.2**
	baz=262							
TCU	**Taichung**	**1.59**	**276**	*e*S		**Sg**	**22 06 42.5**	**-0.4**
	baz=271							
LONT	**Longtian**	**1.59**	**228**	*e*P		**Pn**	**22 06 18.8**	**-0.8**
	baz=237							
LONT				*e*S		**Sn**	**22 06 38.7**	**-1.2**
	baz=237							
JIJ	**Ishigaki jima**	**1.63**	**76**	P		**Pn**	**22 06 20.3**	**+0.3**
JIJ				S		**Sn**	**22 06 40.7**	**-0.1**
CHN5	**Tsauling**	**1.63**	**256**	*e*P		**Pn**	**22 06 21.0**	**+0.9**
	baz=240							
CHN5				*e*S		**Sb**	**22 06 43.0**	**+0.9**
	baz=240							
WDJ	**Dajia District**	**1.65**	**283**	*e*P		**Pn**	**22 06 19.5**	**-0.9**
	baz=278							
WDJ				*e*S		**Sb**	**22 06 43.5**	**+0.9**
	baz=278							
PCYT	**Pengchaiyu**	**1.66**	**350**	*e*P		**Pn**	**22 06 19.9**	**-0.6**
	baz=349							
TWGBT	**Beinan**	**1.69**	**227**	P		**Pn**	**22 06 19.9**	**-0.9**
	baz=236							
TWGBT				*e*S		**Sn**	**22 06 40.5**	**-1.7**
	baz=236							
TTN	**Taitung**	**1.69**	**224**	*e*S		**Sn**	**22 06 42.5**	**+0.2**
	baz=219							
TWG	**Pinlang**	**1.69**	**227**	*e*P		**Pn**	**22 06 19.7**	**-1.2**
	baz=236							
TWG				*e*S		**Sn**	**22 06 40.4**	**-1.9**
	baz=236							
STYH	**Taoyuan**	**1.70**	**242**	*e*P		**Pn**	**22 06 20.8**	**-0.3**
	baz=227							
STYH				*e*S		**Sn**	**22 06 43.5**	**+0.9**
	baz=227							
STYT	**Tauyuan**	**1.72**	**242**	*e*P		**Pn**	**22 06 21.4**	**0.0**
	baz=227							
STYT				*e*S		**Sn**	**22 06 44.2**	**+1.0**
	baz=227							
WDLH	**Douliu**	**1.74**	**260**	*e*P		**Pn**	**22 06 22.3**	**+0.8**
	baz=256							
TPUB	**Ta-pu**	**1.77**	**248**	*e*P		**Pn**	**22 06 22.7**	**+0.8**
	baz=244							
TPUB				*e*S		**Sb**	**22 06 46.8**	**+0.8**
	baz=244							
CHN4	**Tsaushan**	**1.78**

TWK1	**Hengchun** baz=214	**2.52**	**216**	*eP*	**Pn**	**22 06 32.6**	**+0.4**
WDGT	**Dungji** baz=250	**2.62**	**254**	*eP*	**Pn**	**22 06 34.1**	**+0.4**
PHUB	**P'eng-hu** baz=257	**2.64**	**260**	*eP*	**Pn**	**22 06 34.1**	**+0.2**
PHUB	baz=257			*eS*	**Sn**	**22 07 06.1**	**+0.4**
PNG	**Penghu** baz=257	**2.65**	**261**	*eP*	**Pn**	**22 06 34.9**	**+1.0**
JIRB	**Irabujima**	**2.66**	**71**	P	**Pn**	**22 06 35.3**	**+1.2**
JIRB				*eS*	**Sn**	**22 07 07.3**	**+1.2**
JIKM	**Ikemajima**	**2.75**	**70**	P	**Pn**	**22 06 36.8**	**+1.4**
JIKM				S	**Sn**	**22 07 10.0**	**+1.5**
JMJ	**Miyako jima 2** baz=76	**2.76**	**72**	*eP*	**Pn**	**22 06 36.0**	**+0.5**
JMJ2	**Miyako jima3**	**2.77**	**74**	P	**Pn**	**22 06 37.1**	**+1.5**
JMJ2				S	**Sn**	**22 07 09.9**	**+1.0**
MATB	**Ma-tsu** baz=296	**3.10**	**314**	*eP*	**Pn**	**22 06 39.7**	**-0.6**
PTMZ	**Houxiangcun** baz=285	**3.17**	**290**	*eP*	**Pn**	**22 06 40.8**	**-0.5**
LYJJ	**Jianjiangzhen** baz=299	**3.50**	**317**	*eP*	**Pn**	**22 06 45.5**	**-0.2**
XPSS	**Dashiqiu** baz=320	**3.55**	**326**	*eP*	**Pn**	**22 06 46.1**	**-0.3**
KNMB	**Chin-men Tao** baz=273	**3.70**	**278**	*eP*	**Pn**	**22 06 48.1**	**-0.4**
AXDP	**Jialang** baz=278	**4.14**	**284**	*eP*	**Pn**	**22 06 54.3**	**-0.3**
ZPLA	**Ao Xicun** baz=265	**4.26**	**270**	*eP*	**Pn**	**22 06 56.0**	**-0.2**

IDC ***12*** *22:15:15.2±1.8, 8.°23S×129.°33E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/45, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=336.3km s-min=22.6km az=65.0*
NEIC ***12*** *22:15:20.9±2.6, 7.°94S±0.°07×130.°18E±0.°10, h120km±17km, mb4.0/4, Error ellipse: s-maj=15.4km s-min=8.0km az=64.0*

ISC 12 22:15:18.6±0.8, 8.°09S±0.°06×130.°03E±0.°07, h22km, n22, σ2.88/27, mb3.8/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.26**	**85**	Pn	**Pb**	**22 15 44.7**	**+3.0**
MTN	**Manton Dam**	**4.85**	**167**	Pn	**Pn**	**22 16 33.3**	**+2.9**
MTN				Sn	**Sn**	**22 17 30.8**	**+4.9**
FAKI	**Fak Fak**	**5.59**	**23**	Pn	**Pn**	**22 16 39.6**	**-0.9**
SOEI	**Soe**	**5.93**	**253**	Pn	**Pn**	**22 16 49.2**	**+3.9**
SOEI				Sn	**Sn**	**22 17 56.5**	**+3.8**
KNRA	**Kununurra**	**7.64**	**189**	Pn	**Pn**	**22 17 10.9**	**+2.1**
KNRA				Sn	**Sn**	**22 18 35.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**10.83**	**203**		**Pn**	**22 17 52.4**	**-0.1**
WB0	**Warramunga Arr**	**12.36**	**160**	Pn	**Pn**	**22 18 12.0**	**-1.4**
WRAB	**Tennant Creek**	**12.50**	**161**	Pn	**Pn**	**22 18 13.6**	**-1.7**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=350,slow=13,SNR=30	**12.50**	**161**	Pn	**Pn**	**22 18 14.0**	**-1.4**
WRA	2.6nm,0.3s,baz=328,slow=23,SNR=12			Sn	**Sn**	**22 20 30.2**	**-3.9**
WB2	**Warramunga Arr**	**12.51**	**161**		**Pn**	**22 18 13.5**	**-1.9**
WR0	**Warramunga Arr**	**12.59**	**160**		**Pn**	**22 18 15.3**	**-1.2**
AS31	**Alice Springs**	**15.93**	**167**	P	**Pn**	**22 19 00.3**	**-1.3**
ASAR	**Alice Springs** 0.7nm,0.3s,baz=1.5,slow=12,SNR=37	**15.93**	**167**	Pn	**Pn**	**22 19 00.4**	**-1.2**
ASAR	0.4nm,0.3s,baz=345,slow=40,SNR=3.9			Sn	**Sn**	**22 21 50.8**	**-6.9**
ASAR	**Alice Springs**	**15.93**	**167**		**Pn**	**22 19 02.2**	**+0.6**
MBWA	**Marble Bar**	**16.36**	**216**		**Pn**	**22 19 06.1**	**-1.0**
PSA00	**Pilbara Seismi**	**16.62**	**215**		**Pn**	**22 19 09.2**	**-1.2**
PSA00	comp=Z,7.7nm,1.3s			IAmb	IAmb	22 19 28.5	
PSA00	**Pilbara Seismi**	**16.62**	**215**	Pn	**Pn**	**22 19 11.1**	**+0.8**
PSA00	comp=Z,24nm,1.4s			IAmb	IAmb	22 19 28.5	
UGM	**Wanagama**	**19.32**	**269**	P	**P**	**22 19 37.5**	**-5.0**
STKA	**Stephens Creek** comp=Z,0.6nm,0.3s,baz=326,slow=19,SNR=2.9	**26.00**	**157**	P	**P**	**22 20 52.8**	**+2.7**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.3s,baz=121,slow=8.1,SNR=7.9	**69.15**	**327**	P	**P**	**22 26 23.0**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=116,slow=6.6,SNR=2.0	**72.56**	**334**	P	**P**	**22 26 41.5**	**-2.4**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.5s,baz=124,slow=5.3,SNR=3.7	**73.45**	**329**	P	**P**	**22 26 47.7**	**-1.5**

JMA ***12*** *22:19:46.9±0.3, 37.°36N×134.°63E, h409km±4km, M3.1*
IDC ***12*** *22:19:47.7±7.0, 37.°40N×134.°67E, h405km±120km, mb1 2.7/4, mb1mx2.4/51, mbtmp3.4/4, Error ellipse: s-maj=79.7km s-min=30.8km az=177.0*

ISC 12 22:19:49.0±1.6, 37.°5N±0.°1×134.°7E±0.°1, h385km, n16, σ0.°68/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.85**	**169**	P	**Pn**	**22 20 42.5**	**-0.2**
JKSM	**Kasumi**	**1.85**	**180**	P	**Pn**	**22 20 42.3**	**-0.4**
JSZ	**Suzu**	**2.14**	**89**	P	**Pn**	**22 20 45.4**	**+1.0**
JWT	**Wachi**	**2.24**	**165**	P	**Pn**	**22 20 44.9**	**-0.3**
JHS	**Saijyo**	**2.75**	**208**	P	**Pn**	**22 20 48.4**	**-0.7**
JSD	**Sado**	**2.90**	**77**	P	**Pn**	**22 20 50.8**	**+0.7**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=283,slow=9.8,SNR=11	**2.97**	**107**	P	**Pn**	**22 20 51.5**	**+0.7**
JFT	**Otama**	**4.50**	**87**	P	**Pn**	**22 21 05.8**	**+0.7**
JFK	**Kawauchi**	**4.94**	**89**	P	**Pn**	**22 21 08.7**	**-0.9**
JRG	**Rokugo**	**5.07**	**66**	P	**Pn**	**22 21 11.5**	**+0.6**
JMK	**Ichinoseki**	**5.37**	**72**	P	**Pn**	**22 21 13.9**	**-0.2**
KSRS	**Korea Array** 0.2nm,0.3s,baz=92,slow=12,SNR=3.0	**5.37**	**272**	P	**Pn**	**22 21 14.0**	**-0.1**
JOT	**Ohata**	**6.31**	**49**	P	**Pn**	**22 21 24.4**	**+0.1**
JKB	**Kayabe**	**6.61**	**46**	P	**Pn**	**22 21 27.7**	**0.0**
USRK	**Ussuriysk Ar.** baz=162,slow=11,SNR=6.8	**7.05**	**344**	P	**Pn**	**22 21 32.6**	**0.0**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=224,slow=16,SNR=3.7	**8.97**	**40**	P	**Pn**	**22 21 53.5**	**-1.2**

IDC ***12*** *22:21:53.0±1.6, 54.°34N×167.°73E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/46, mbtmp3.7/11, ML2.7/1, Error ellipse: s-maj=44.2km s-min=20.4km az=170.0*
KRSC ***12*** *22:21:57.4±1.8, 54.°08N×167.°03E, h16km±23km, ML4.1*

ISC 12 22:21:57.4±0.9, 54.°10N±0.°06×167.°65E±0.°08, h35km, n51, σ1.56/61, mb3.7/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.47**	**319**	*eP*	**Pn**	**22 22 19.2**	**-2.2**
BKI				*eS*	**Sn**	**22 22 37.3**	**-2.1**
KBTR	**Krutoberegovo**	**3.48**	**309**	*eP*	**Pn**	**22 22 48.9**	**-0.1**
KBTR				*eS*	**Sn**	**22 23 28.1**	**-0.9**
MKZ	**Mys Kozlova**	**3.50**	**280**	*eP*	**Pn**	**22 22 49.1**	**-0.1**
MKZ				*eS*	**Sn**	**22 23 28.3**	**-1.0**
SMKR	**Semkarok**	**4.32**	**308**	*eP*	**Pn**	**22 23 03.4**	**+2.9**
SMKR				*eS*	**Sn**	**22 23 51.7**	**+2.1**
TUMD	**Tumrok D**	**4.36**	**288**	*eP*	**Pn**	**22 23 02.0**	**+1.0**
TUMD				*eS*	**Sn**	**22 23 50.0**	**-0.5**
ZLN	**Zelenaya**	**4.38**	**299**	*eP*	**Pn**	**22 23 02.2**	**+0.8**
KZV	**Kizimen**	**4.40**	**286**	*eP*	**Pn**	**22 23 02.1**	**+0.4**
KZV				*eS*	**Sn**	**22 23 50.4**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**4.41**	**297**	*eP*	**Pn**	**22 23 03.4**	**+1.6**
BDR	**Baidarnaya**	**4.43**	**306**	*eP*	**Pn**	**22 23 05.3**	**+3.2**
SRKR	**Sorokina**	**4.50**	**307**	*eP*	**Pn**	**22 23 06.0**	**+3.0**
TUMR	**Tumrok**	**4.51**	**288**	*eP*	**Pn**	**22 23 04.3**	**+1.1**
BZWR	**Bezymyannyi-We**	**4.52**	**297**	*eP*	**Pn**	**22 23 04.2**	**+0.8**
KLY	**Klyuchi**	**4.58**	**302**	*eS*	**Sn**	**22 23 55.3**	**-0.7**
KMNR	**Kamenistaya**	**4.59**	**294**	*eP*	**Pn**	**22 23 04.6**	**+0.4**
KMNR				*eS*	**Sn**	**22 23 54.4**	**-1.9**
KIRR	**Kirishev**	**4.60**	**297**	*eP*	**Pn**	**22 23 06.7**	**+2.3**
SPN	**Mys Shipunski**	**4.66**	**261**	*eP*	**Pn**	**22 23 05.3**	**+0.2**
SPN				*eS*	**Sn**	**22 23 55.4**	**-2.4**
KII	**Karymskiy**	**4.83**	**273**	*eP*	**Pn**	**22 23 09.5**	**+1.9**
KII				*eS*	**Sn**	**22 24 02.3**	**0.0**
NLC	**Nalytchevo**	**5.03**	**263**	*eP*	**Pn**	**22 23 10.9**	**+0.7**
NLC				*eS*	**Sn**	**22 24 05.3**	**-1.8**
SRDR	**Sredinnyy**	**5.06**	**299**	*eP*	**Pn**	**22 23 12.7**	**+2.0**
SDLR	**Sedlovina**	**5.28**	**265**	*eP*	**Pn**	**22 23 14.8**	**+1.1**
UGLR	**Uglovaya**	**5.33**	**264**	*eP*	**Pn**	**22 23 15.3**	**+0.9**
UGLR				*eS*	**Sn**	**22 24 13.4**	**-1.2**
SMAR	**Somma**	**5.33**	**264**	*eP*	**Pn**	**22 23 16.8**	**+2.3**
KRER	**Koryakskii**	**5.35**	**265**	*eP*	**Pn**	**22 23 15.4**	**+0.6**
AVH	**Avacha**	**5.37**	**265**	*eP*	**Pn**	**22 23 15.9**	**+1.0**
KRX	**Arik**	**5.40**	**266**	*eP*	**Pn**	**22 23 15.6**	**+0.2**
KRX				*eS*	**Sn**	**22 24 13.6**	**-2.7**
DALK	**Dalny**	**5.41**	**262**	*eP*	**Pn**	**22 23 17.9**	**+2.4**
KOK	**Koryaka**	**5.42**	**265**	*eP*	**Pn**	**22 23 16.6**	**+0.9**
PET	**Petropavlovsk**	**5.47**	**262**	*eS*	**Sn**	**22 24 17.4**	**-0.5**
RUS	**Russkaya**	**5.74**	**257**	*eP*	**Pn**	**22 23 21.0**	**+1.1**
RUS				*eS*	**Sn**	**22 24 22.7**	**-1.7**
GNL	**Ganaly**	**5.76**	**270**	*eP*	**Pn**	**22 23 22.5**	**+2.2**
KRMR	**Karymshinskiy**	**5.83**	**261**	*eS*	**Sn**	**22 24 26.3**	**-0.4**
MTVR	**Mutnovka**	**5.91**	**258**	*eP*	**Pn**	**22 23 23.9**	**+1.5**
MTVR				*eS*	**Sn**	**22 24 27.1**	**-1.8**
GRL	**Gorelyy**	**5.95**	**259**	*eP*	**Pn**	**22 23 24.5**	**+1.5**
PETK	**Petropavlovsk-** 1.0nm,0.3s,baz=95,slow=19,SNR=19	**6.01**	**264**	Pn	**Pn**	**22 23 26.0**	**+2.3**
PETK	1.2nm,0.3s,baz=48,slow=16,SNR=1.3			Sn	**Sn**	**22 24 32.4**	**+1.1**
KDTR	**Khodutka, Kamc**	**6.23**	**252**	*eP*	**Pn**	**22 23 28.0**	**+1.4**
KDTR				*eS*	**Sn**	**22 24 33.9**	**-2.6**
TIXI	**Tiksi** 1.5nm,0.7s,baz=108,slow=11,SNR=4.0	**24.22**	**331**	P	**P**	**22 27 09.8**	**-0.5**
ILAR	**Eielson Array** 0.8nm,0.6s,baz=251,slow=7.0,SNR=8.0	**24.87**	**47**	P	**P**	**22 27 14.8**	**-1.4**
H11N2	**WAKE ISLAND Hy** baz=1.1,slow=76,SNR=157	**34.32**	**181**	T	T	23 05 36.9	
H11N3	**WAKE ISLAND Hy** baz=1.1,slow=76,SNR=219	**34.33**	**181**	T	T	23 05 38.9	
H11N1	**WAKE ISLAND Hy** baz=1.1,slow=76,SNR=236	**34.33**	**181**	T	T	23 05 37.6	
H11S1	**WAKE ISLAND Hy** baz=1.3,slow=76,SNR=43	**35.53**	**182**	T	T	23 07 10.0	
H11S3	**WAKE ISLAND Hy** baz=1.3,slow=76,SNR=17	**35.55**	**182**	T	T	23 07 05.9	
H11S2	**WAKE ISLAND Hy** baz=1.3,slow=76,SNR=39	**35.55**	**182**	T	T	23 07 10.7	
SONM	**Songino Array** 0.9nm,0.5s,baz=51,slow=7.9,SNR=6.2	**38.00**	**286**	P	**P**	**22 29 13.4**	**+1.6**
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=54,slow=7.8,SNR=4.5	**51.04**	**305**	P	**P**	**22 30 55.1**	**-0.4**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=54,slow=7.6,SNR=4.1	**51.69**	**299**	P	**P**	**22 30 59.5**	**-1.1**
FINES	**FINESS Array B** 1.7nm,0.9s,baz=26,slow=11,SNR=1.6	**60.85**	**340**	P	**P**	**22 32 05.1**	**-0.5**
CMAR	**Chiang Mai Arr** 1.1nm,0.4s,baz=37,slow=7.1,SNR=1.7	**62.79**	**264**	P	**P**	**22 32 19.4**	**+0.2**
NOA	**NORSAR Array B** 0.5nm,0.6s,baz=16,slow=6.7,SNR=5.0	**63.69**	**347**	P	**P**	**22 32 23.9**	**-0.7**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=302,slow=5.6,SNR=6.1	**66.06**	**73**	P	**P**	**22 32 41.5**	**+0.8**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=342,slow=5.2,SNR=1.9	**75.09**	**343**	P	**P**	**22 33 35.7**	**+0.3**

TUL ***12*** *22:35:38.8±0.8, 35.°56N±0.°02×97.°13W±0.°02, h7km±4km, ML3.5, mb_Lg3.1/87(NEIC), Error ellipse: s-maj=3.3km s-min=1.4km az=141.0*
ANF ***12*** *22:35:38.7±0.4, 35.°59N×97.°12W, h5km±3km, ML3.7/13, Error ellipse: s-maj=2.6km s-min=2.1km az=157.0*
NEIC ***12*** *22:35:39.4±0.8, 35.°58N±0.°02×97.°14W±0.°02, h6km±5km, Error ellipse: s-maj=3.4km s-min=1.9km az=137.0*

ISC 12 22:35:38.9±0.9, 35.°59N±0.°02×97.°11W±0.°03, h9km±6km, n102, σ0.°71/96, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.09**	**314**		**Pg**	**22 35 41.5**	**+0.2**
OK005				Sg	**Sg**	**22 35 43.4**	**+0.5**
OK001	**Jones High Sch**	**0.15**	**259**	Pg	**Pg**	**22 35 41.8**	**-0.3**
OK025	**Westminster Rd**	**0.19**	**267**		**Pg**	**22 35 42.7**	**-0.1**
OK025				Sg	**Sg**	**22 35 45.3**	**-0.1**
OK009	**Oakdale Elemen**	**0.26**	**268**		**Pg**	**22 35 44.0**	**-0.1**
OK009				Sg	**Sg**	**22 35 47.4**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**0.33**	**236**		**Pg**	**22 35 45.0**	**-0.4**
OKCSW				Sg	**Sg**	**22 35 49.5**	**-0.2**
OKCFA	**Oklahoma City**	**0.33**	**238**		**Pg**	**22 35 45.0**	**-0.3**
OKCFA				Sg	**Sg**	**22 35 49.6**	**-0.2**
OKCFA	**Oklahoma City** baz=62,SNR=33	**0.33**	**238**	P	**Pg**	**22 35 45.1**	**-0.3**
OKCFA	baz=62			S	**Sg**	**22 35 49.6**	**-0.2**
OKCFA	**Oklahoma City** baz=62,SNR=33	**0.33**	**238**	P		22 35 45.1	
OKCFA	baz=62			S		22 35 49.6	
OK029	**Liberty Lake**	**0.35**	**306**		**Pg**	**22 35 46.0**	**+0.2**
OK029				Sg	**Sg**	**22 35 51.2**	**+0.8**
FNO	**Franklin**	**0.41**	**216**		**Pg**	**22 35 46.5**	**-0.4**
FNO				Sg	**Sg**	**22 35 52.1**	**-0.2**
BCOK	**Bluff Creek, N**	**0.41**	**279**		**Pg**	**22 35 46.9**	**-0.1**
BCOK				Sg	**Sg**	**22 35 52.7**	**+0.3**
OK031	**S. Brethren Rd**	**0.42**	**31**		**Pb**	**22 35 48.0**	**-0.7**
OK031				Sg	**Sb**	**22 35 54.3**	**-0.8**
OK030	**Cody Creek RV**	**0.43**	**38**		**Pb**	**22 35 48.0**	**-0.7**
OK030				Sg	**Sb**	**22 35 54.4**	**-0.9**
QUOK	**Quay**	**0.67**	**29**		**Pb**	**22 35 52.2**	**-0.6**
QUOK				Sg	**Sb**	**22 36 01.7**	**-0.4**
TUL1	**Leonard** baz=252,SNR=90	**1.12**	**73**	P	**Pg**	**22 35 59.6**	**-0.8**
TUL1	baz=252			S	**Sb**	**22 36 15.4**	**+0.2**
TUL1	**Leonard** baz=252,SNR=90	**1.12**	**73**	P		22 35 59.6	
TUL1	baz=252			S		22 36 15.4	
X34A	**Smith Ranch, M**	**1.15**	**211**		**Pg**	**22 36 00.3**	**-0.7**
X34A				Sg	**Sg**	**22 36 16.1**	**+0.2**
CROK	**Carrier**	**1.16**	**322**		**Pg**	**22 36 00.8**	**-0.3**
CROK				Sg	**Sb**	**22 36 16.4**	**+0.2**
BLOK	**Blackwell**	**1.17**	**356**	Pg	**Pg**	**22 36 00.9**	**-0.5**
BLOK				Sg	**Sn**	**22 36 17.7**	**0.0**
GC02	**Grant County #**	**1.40**	**334**		**Pn**	**22 36 05.0**	**+0.3**
T35A	**Sooner Cattle**	**1.41**	**20**		**Pn**	**22 36 04.9**	**+0.1**
T35B	**Sooner Cattle** baz=200	**1.41**	**20**	P	**Pn**	**22 36 05.0**	**+0.1**
T35B	baz=200			S	**Sn**	**22 36 24.5**	**+1.0**
T35B	**Sooner Cattle** baz=200	**1.41**	**20**	P		22 36 05.0	
T35B	baz=200			S		22 36 24.5	
KAN13	**South Haven SW**	**1.45**	**348**		**Pb**	**22 36 05.8**	**-0.3**
OK032	**Salt Plains WL**	**1.50**	**324**		**Pn**	**22 36 06.7**	**+0.6**
KAN14	**Manchester OK**	**1.53**	**333**		**Pn**	**22 36 07.0**	**+0.5**
KAN17	**Caldwell West**	**1.54**	**340**		**Pn**	**22 36 07.3**	**-0.4**
LOOK	**Love County**	**1.59**	**182**		**Pn**	**22 36 07.5**	**+0.2**
KAN09	**Caldwell North**	**1.60**	**345**		**Pb**	**22 36 08.3**	**-0.3**
KAN09	comp=Z,116nm,0.8s			IAmb_Lg		22 36 30.6	
WMOK	**Wichita Mounta**	**1.61**	**239**		**Pn**	**22 36 07.5**	**-0.1**
WMOK	**Wichita Mounta** baz=58,SNR=120	**1.61**	**239**	P	**Pn**	**22 36 07.5**	**-0.1**
WMOK	baz=58			S	**Sn**	**22 36 28.2**	**-0.4**
WMOK	**Wichita Mounta** baz=58,SNR=120	**1.61**	**239**	P		22 36 07.5	
WMOK	baz=58			S		22 36 28.2	
KAN05	**Bluff City Nor**	**1.64**	**338**		**Pb**	**22 36 08.7**	**-0.6**
KS20	**Mayfield South**	**1.68**	**348**		**Pb**	**22 36 10.0**	**0.0**
KS20	comp=Z,125nm,0.7s			IAmb_Lg		22 36 33.0	
KAN10	**Anthony SW Sta**	**1.73**	**333**		**Pn**	**22 36 10.0**	**+0.8**
U32A	**Winter Ranch,**	**1.73**	**298**		**Pn**	**22 36 09.4**	**+0.2**
U32A	**Winter Ranch,** baz=118	**1.73**	**298**	P	**Pn**	**22 36 09.4**	**+0.2**
U32A	baz=118			S	**Sg**	**22 36 33.8**	**-0.6**
U32A	**Winter Ranch,** baz=118	**1.73**	**298**	P		22 36 09.4	
U32A	baz=118			S		22 36 33.8	
X37A	**Clayton**	**1.74**	**125**		**Pb**	**22 36 10.3**	**-0.7**
X37A	**Clayton** baz=304,SNR=21	**1.74**	**125**	P	**Pn**	**22 36 10.2**	**+0.9**
X37A	baz=304			S	**Sb**	**22 36 33.1**	**+0.1**
X37A	**Clayton** baz=304,SNR=21	**1.74**	**125**	P		22 36 10.2	
X37A	baz=304			S		22 36 33.1	
KS21	**Milan North St** comp=Z,109nm,0.9s	**1.75**	**345**	IAmb_Lg		22 36 39.8	
KAN08	**Anthony NE Sta**	**1.77**	**337**		**Pn**	**22 36 10.8**	**+0.9**
KAN08	comp=Z,107nm,0.9s			IAmb_Lg		22 36 39.9	
KAN16	**Harper SW Stat**	**1.81**	**335**		**Pb**	**22 36 11.4**	**-0.8**
Z35A	**Perchaven, San**	**2.26**	**183**	Pn	**Pn**	**22 36 17.4**	**+1.0**
Z35A	**Perchaven, San** baz=2.7,SNR=12	**2.26**	**183**	P	**Pn**	**22 36 17.4**	**+1.0**
Z35A	baz=2.7			S	**Sb**	**22 36 47.4**	**-0.5**
Z35A	**Perchaven, San** baz=2.7,SNR=12	**2.26**	**183**	P		22 36 17.4	
Z35A	baz=2.7			S		22 36 47.4	
U38A	**Gravette**	**2.37**	**68**		**Pn**	**22 36 19.2**	**+1.2**
HHAR	**Hobbs**	**2.66**	**74**		**Pn**	**22 36 23.0**	**+1.0**
W39A	**Magazine**	**2.75**	**97**		**Pn**	**22 36 24.0**	**+0.9**
W39A	comp=Z,43nm,0.8s			IAmb_Lg		22 37 12.7	
W39A	**Magazine** baz=278,SNR=10	**2.75**	**97**	P	**Pn**	**22 36 23.9**	**+0.7**
W39A	baz=278			S	**Sn**	**22 36 58.3**	**+1.9**
W39A	**Magazine** baz=278,SNR=10	**2.75**	**97**	P		22 36 23.9	
W39A	baz=278			S		22 36 58.3	
Z38A	**Mt. Pleasant**	**2.91**	**142**		**Pn**	**22 36 26.1**	**+0.7**
Z38A	comp=Z,62nm,0.8s			IAmb_Lg		22 37 16.9	
Z38A	**Mt. Pleasant** baz=323	**2.91**	**142**	S	**Sn**	**22 37 01.9**	**+1.3**
Z38A	**Mt. Pleasant** baz=323	**2.91**	**142**	S		22 37 01.9	
MIAR	**Mount Ida**	**3.08**	**109**	Pn	**Pn**	**22 36 28.6**	**+0.9**
MIAR	comp=Z,52nm,1.0s			IAmb_Lg		22 37 23.8	
R32A	**Long Quarter,** baz=156	**3.10**	**336**	S		22 37 06.5	
R32A	**Long Quarter,**	**3.10**	**336**	Pg	**Pg**	**22 36 37.1**	**-1.3**
R32A	**Long Quarter,** baz=156	**3.10**	**336**	S	**Sn**	**22 37 06.5**	**+1.1**
KSU1	**Kansas State U** comp=Z,53nm,0.8s	**3.53**	**6**	IAmb_Lg		22 37 34.0	
U40A	**Yellville**	**3.54**	**76**	Pn	**Pn**	**22 36 34.5**	**+0.4**
U40A	**Yellville** baz=258,SNR=12	**3.54**	**76**	P	**Pn**	**22 36 34.6**	**+0.6**
U40A	**Yellville** baz=258,SNR=12	**3.54**	**76**	P		22 36 34.6	
U40A	baz=258,SNR=12			P		22 36 34.6	
WHTX	**Lake Whitney,**	**3.60**	**185**		**Pn**	**22 36 35.2**	**+0.3**
WHTX	**Lake Whitney,** baz=4.3	**3.60**	**185**	P	**Pn**	**22 36 35.5**	**+0.6**
WHTX	baz=4.3			S	**Sn**	**22 37 18.7**	**+1.1**
WHTX	**Lake Whitney,** baz=4.3	**3.60**	**185**	P		22 36 35.5	
WHTX	baz=4.3			S		22 37 18.7	
ABTX	**Abilene, Hawle**	**3.63**	**216**		**Pn**	**22 36 35.9**	**+0.5**
X40A	**Basin Creek Fa**	**3.68**	**106**		**Pn**	**22 36 37.1**	**+1.2**
X40A	comp=Z,53nm,0.8s			IAmb_Lg		22 37 40.8	
S39A	**Bolivar**	**3.70**	**54**		**Pn**	**22 36 37.3**	**+1.0**
S39A	comp=Z,40nm,0.8s			IAmb_Lg		22 37 43.9	
237A	**Washetta, Mont**	**3.74**	**163**	IAmb_Lg		22 37 45.4	
237A	**Washetta, Mont** baz=343	**3.74**	**163**	S	**Sn**	**22 37 21.5**	**+0.5**
237A	**Washetta, Mont** baz=343	**3.74**	**163**	S		22 37 21.5	
WLAR	**White Oak Lake** comp=Z,24nm,0.8s	**3.80**	**119**	IAmb_Lg		22 37 49.4	
AMTX	**Amarillo**	**3.81**	**261**		**Pn**	**22 36 38.8**	**+0.9**
AMTX	comp=Z,41nm,0.9s			IAmb_Lg		22 37 47.4	
CBKS	**Cedar Bluff**	**3.84**	**328**		**Pn**	**22 36 39.7**	**+1.4**
WHAR	**Wooly Hollow**	**3.95**	**93**	Pn	**Pn**	**22 36 39.8**	**+0.1**
WHAR	comp=Z,32nm,1.1s			IAmb_Lg		22 37 51.7	
W41B	**Gary Mavity, V** baz=277,SNR=20	**3.99**	**95**	P	**Pn**	**22 36 41.4**	**+1.1**
W41B	**Gary Mavity, V** baz=277,SNR=20	**3.99**	**95**	P		22 36 41.4	
FCAR	**Ozark Folk Cen**	**4.07**	**84**		**Pn**	**22 36 41.9**	**+0.6**
FCAR	comp=Z,44nm,1.1s			IAmb_Lg		22 37 52.8	
MGMO	**Mountain Grove**	**4.21**	**67**		**Pn**	**22 36 44.5**	**+1.3**
MGMO	comp=Z,47nm,0.7s			IAmb_Lg		22 38 01.9	
NATX	**Nacogdoches** comp=Z,22nm,0.8s	**4.33**	**151**	IAmb_Lg		22 38 04.6	
435B	**Jarrell** comp=Z,31nm,0.7s	**4.81**	**185**	IAmb_Lg		22 38 20.6	
LCAR	**Lake Charles** comp=Z,21nm,1.0s	**4.86**	**83**	IAmb_Lg		22 38 17.6	
P38A	**Dawn** comp=Z,47nm,0.9s	**4.93**	**34**	IAmb_Lg		22 38 25.8	
T42A	**Van Buren**	**5.07**	**72**		**Pn**	**22 36 55.3**	**+0.3**
T42A	comp=Z,49nm,1.0s			IAmb_Lg		22 38 28.7	
N33A	**J Bar K, Exete**	**5.15**	**357**	Pn	**Pn**	**22 36 57.7**	**+1.5**
N33A	comp=Z,25nm,0.8s			IAmb_Lg		22 38 37.1	
N35A	**Tabor**	**5.39**	**12**	Pn	**Pn**	**22 36 58.2**	**-1.3**
PBMO	**Poplar Bluff** comp=Z,36nm,0.7s	**5.53**	**76**	IAmb_Lg		22 38 39.4	
143A	**Socs Landing,** comp=Z,24nm,1.0s	**5.54**	**120**	IAmb_Lg		22 38 46.2	
KSCO	**Kaye Shedlock'** comp=Z,33nm,0.9s	**5.57**	**309**	IAmb_Lg		22 38 44.7	
JCT	**Junction City** comp=Z,31nm,0.8s	**5.58**	**205**	IAmb_Lg		22 38 46.8	
P40A	**Paris** comp=Z,32nm,0.7s	**5.62**	**44**	IAmb_Lg		22 38 43.6	
BGNE	**Belgrade** comp=Z,27nm,0.8s	**5.87**	**352**	IAmb_Lg		22 38 58.9	
FVM	**French Village** comp=Z,39nm,0.8s	**5.87**	**64**	IAmb_Lg		22 38 49.3	
T25A	**Trinidad** comp=Z,21nm,0.7s

JCJ			Sn	Sn	22 40 52.8	-8.0	
	0.9nm,0.3s,baz=293,slow=23,SNR=1.7						
H11S3	**WAKE ISLAND Hy**	**17.53 91**	T	T	22 58 58.7		
	baz=286						
H11S1	**WAKE ISLAND Hy**	**17.54 91**	T	T	22 58 55.3		
	baz=286						
H11S2	**WAKE ISLAND Hy**	**17.55 91**	T	T	22 58 06.5		
	baz=286						
H11N1	**WAKE ISLAND Hy**	**17.61 87**	T	T	22 59 09.5		
	baz=274,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**17.61 87**	T	T	22 59 10.0		
	baz=274,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**17.63 87**	T	T	22 59 08.1		
	baz=274,slow=74,SNR=7.4						
JOW	**Kunigami**	**19.55 295**	LR	LR	22 48 00.2		
	comp=Z,74nm,20.7s,baz=93,slow=34						
WRA	**Warramunga Arr**	**41.80 200**	P	P	22 44 57.0	-0.1	
	0.6nm,0.7s,baz=21,slow=8.9,SNR=2.3						
SONM	**Songino Array**	**43.76 320**	P	P	22 45 12.9	0.0	
	0.4nm,0.4s,baz=123,slow=7.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.56 322**	P	P	22 47 03.7	-0.1	
	1.3nm,0.7s,baz=99,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**59.38 313**	P	P	22 47 09.5	-0.2	
	0.3nm,0.7s,baz=99,slow=9.1,SNR=3.5						

IDC ***12*** *22:39:46.8±51.0, 23˚.20S×175˚.77W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/35, mbtmp4.1/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/32, Error ellipse: s-maj=957.0km s-min=169.6km az=87.0*

NEIC ***12*** *22:39:50.6±1.4, 24˚.89S±0˚.04×175˚.58W±0˚.08, h10km±2km, mb4.5/15, Error ellipse: s-maj=13.9km s-min=4.3km az=68.0*

ISC 12 22:39:52.2±0.8, 24˚.9S±0˚.1×175˚.6W±0˚.1, h27km, n31, σ0s82/23, mb4.3/10, South of Tonga Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.83 205**	LR	LR	22 43 37.7	
	comp=Z,132nm,20.3s,baz=284,slow=36					
RAO	**Raoul Island**	**4.83 205**	Pn	**Pn**	**22 41 02.3**	**-0.8**
NIUE	**Niue**	**7.79 43**	Pn	**Pn**	**22 41 44.3**	**+0.4**
MSVF	**Nonsavu**	**9.29 319**	Pn	**Pn**	**22 42 04.4**	**-0.2**
AFI	**Afiamalu**	**11.49 19**	LR	LR	22 45 35.8	
	comp=Z,44nm,19.9s,baz=62,slow=35					
MXZ	**Matakaoa Point**	**13.67 201**	Pn	**Pn**	**22 43 04.0**	**-0.3**
HIZ	**Hauiti**	**15.83 209**	Pn	**Pn**	**22 43 34.3**	**+1.1**
DZM	**Mont Dzumac**	**16.76 276**	Pn	**Pn**	**22 43 45.0**	**-0.2**
DZM			IAmb	IAmb	22 43 58.8	
	comp=Z,20nm,1.1s					
MSWZ	**Moikau Station**	**18.17 203**	P	**Pn**	**22 44 02.6**	**+0.1**
SNZO	**South Karori**	**18.27 204**	P	**Pn**	**22 44 04.2**	**+0.4**
SNZO			IAmb	IAmb	22 44 14.4	
	comp=Z,69nm,1.1s					
ARMA	**Armidale**	**29.52 252**	P	**P**	**22 45 55.1**	**+0.5**
ARMA			IAmb	IAmb	22 46 12.8	
	comp=Z,6.6nm,1.1s					
TAOE	**Nuku Hiva Isla**	**37.29 71**	P	**P**	**22 47 01.9**	**-0.5**
STKA	**Stephens Creek**	**38.15 250**	P	**P**	**22 47 10.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=98,slow=7.1,SNR=3.9					
BBOO	**Buckleboo**	**42.81 248**	P	**P**	**22 47 48.2**	**+0.3**
BBOO			IAmb	IAmb	22 48 05.9	
	comp=Z,6.6nm,1.1s					
AS31	**Alice Springs**	**45.88 260**	P	**P**	**22 48 12.2**	**-0.4**
ASAR	**Alice Springs**	**45.88 260**	P	**P**	**22 48 12.0**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=93,slow=7.5,SNR=19					
WR0	**Warramunga Arr**	**46.20 266**	P	**P**		
WR0			IAmb	IAmb	22 48 25.5	
	comp=Z,4.5nm,1.1s					
WB2	**Warramunga Arr**	**46.37 266**	P	**P**	**22 48 15.4**	**-1.1**
WB2			IAmb	IAmb	22 48 23.6	
	comp=Z,4.8nm,1.1s					
WB0	**Warramunga Arr**	**46.38 266**	P	**P**	**22 48 15.5**	**-1.1**
WB0			IAmb	IAmb	22 48 15.9	
	comp=Z,3.4nm,0.8s					
WRA	**Warramunga Arr**	**46.38 266**	P	**P**	**22 48 15.4**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=101,slow=8.1,SNR=33					
WRA	**Warramunga Arr**	**46.38 266**	P	**P**	**22 48 15.4**	**-1.2**
KNRA	**Kununurra**	**52.73 260**	P	**P**	**22 49 04.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**54.79 265**	P	**P**	**22 49 19.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**58.52 245**	P	**P**	**22 49 47.0**	**+0.5**
NWAO			IAmb	IAmb	22 49 52.6	
	comp=Z,9.1nm,1.1s					
MORW	**Morawa**	**60.34 250**	P	**P**	**22 49 59.9**	**+0.8**
MORW			IAmb	IAmb	22 50 01.6	
	comp=Z,5.9nm,1.0s					
H03S2	**Juan Fernandez**	**81.67 123**	T	T	00 23 23.5	
	baz=242,slow=75,SNR=21					
H03S1	**Juan Fernandez**	**81.68 123**	T	T	00 23 24.6	
	baz=242,slow=75,SNR=26					
H03S3	**Juan Fernandez**	**81.69 123**	T	T	00 23 22.5	
	baz=242,slow=75,SNR=28					
H03N2	**Juan Fernandez**	**81.83 123**	T	T	00 23 32.3	
	baz=258,slow=73,SNR=6.3					
H03N3	**Juan Fernandez**	**81.83 123**	T	T	00 23 30.6	
	baz=258,slow=73,SNR=6.6					
H03N1	**Juan Fernandez**	**81.84 123**	T	T	00 23 31.4	
	baz=258,slow=73,SNR=7.1					

ANF ***12*** *22:42:23.8±0.3, 36˚.31N×96˚.68W, h0km±2km, ML4.6/22, Error ellipse: s-maj=1.6km s-min=1.5km az=57.0*

TUL ***12*** *22:42:23.9±1.2, 36˚.30N±0˚.02×96˚.67W±0˚.04, h0km±7km, ML4.0, mb_Lg3.8/158(NEIC), Mwr3.7/40(NEIC), Error ellipse: s-maj=4.8km s-min=2.0km az=79.0*

NEIC ***12*** *22:42:24.3±1.2, 36˚.30N±0˚.02×96˚.68W±0˚.04, h2km±6km, Error ellipse: s-maj=5.0km s-min=2.2km az=77.0*

IDC ***12*** *22:42:24.8±1.6, 36˚.41N×96˚.56W, h0km, mb3.3/1, mb1 3.8/7, mb1mx3.6/47, mbtmp3.5/7, ML3.2/5, MS2.9/9, Ms1 2.9/9, ms1mx2.7/22, Error ellipse: s-maj=26.1km s-min=11.9km az=104.0*

NEIC ***12*** *22:42:24.5, 36˚.31N×96˚.69W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.55; $M_{\theta\theta}$3.95; $M_{\phi\phi}$-4.50; $M_{r\theta}$-0.27; $M_{r\phi}$-1.56; $M_{\theta\phi}$0.12; Fault plane solution: M_o4.54000×10^{14} NP1:φ235.08000°, δ86.37000°, λ177.47000°. NP2:φ325.24000°, δ87.47000°, λ3.63000°. Principal axes: T 4.2548, Plg4.0000°, Azm190.0000°; N 0.5246, Plg86.0000°, Azm0.0000°; P -4.7793, Plg1.0000°, Azm100.0000°;*

ISC 12 22:42:24.4±1.1, 36˚.31N±0˚.02×96˚.67W±0˚.02, h3km±9km, n203, σ0s82/187, MS3.0/3, Oklahoma

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.14 192**	Pg	**Pg**	**22 42 27.2**	**+0.1**
QUOK			Sg	**Sg**	**22 42 29.5**	**+0.5**
OK031	**S. Brethren Rd**	**0.38 201**		**Pg**	**22 42 31.6**	**-0.1**
OK031			Sg	**Sg**	**22 42 36.9**	**+0.2**
OK030	**Cody Creek RV**	**0.39 194**		**Pg**	**22 42 31.8**	**-0.1**
T35A	**Sooner Cattle**	**0.62 12**	Pg	**Pg**	**22 42 36.2**	**0.0**
T35B	**Sooner Cattle**	**0.62 12**	P	**Pg**	**22 42 36.2**	**-0.1**
	baz=192,SNR=397					
T35B			S	**Sg**	**22 42 44.4**	**+0.1**
	baz=192					
T35B	**Sooner Cattle**	**0.62 12**	P		22 42 36.2	
	baz=192,SNR=397					
T35B			S		22 42 44.4	
	baz=192					
BLOK	**Blackwell**	**0.63 316**	Pg	**Pg**	**22 42 36.4**	**-0.1**
BLOK			Sg	**Sg**	**22 42 45.1**	**+0.5**
OK005	**Luther M Schoo**	**0.78 213**	Pg	**Pg**	**22 42 38.9**	**-0.4**
OK029	**Liberty Lake**	**0.82 231**		**Pg**	**22 42 39.7**	**-0.3**
TUL1	**Leonard**	**0.82 119**	P	**Pg**	**22 42 39.7**	**-0.3**
	baz=299,SNR=284					
TUL1			S	**Sg**	**22 42 50.2**	**-0.4**
	baz=299					
TUL1	**Leonard**	**0.82 119**	P		22 42 39.7	
	baz=299,SNR=296					
TUL1			S		22 42 50.5	
	baz=299					
TUL1	**Leonard**	**0.82 119**	P		22 42 39.7	
	baz=299,SNR=284					
TUL1			S		22 42 50.2	
	baz=299					
OK011	**Prague**	**0.82 181**		**Pg**	**22 42 39.9**	**-0.3**
OK025	**Westminster Rd**	**0.91 217**		**Pg**	**22 42 41.1**	**-0.6**
OK025			Sg	**Sg**	**22 42 53.8**	**+0.2**
OK009	**Oakdale Elemen**	**0.95 220**		**Pg**	**22 42 42.2**	**-0.4**
KAN13	**South Haven SW**	**0.96 317**		**Pg**	**22 42 42.5**	**-0.3**
BCOK	**Bluff Creek, N**	**1.00 230**		**Pg**	**22 42 43.2**	**-0.3**
CROK	**Carrier**	**1.08 281**		**Pg**	**22 42 44.6**	**-0.4**
CROK			Sg	**Sb**	**22 43 00.1**	**-0.1**
OKCFA	**Oklahoma City**	**1.09 216**	Pg	**Pg**	**22 42 44.3**	**-1.1**
OKCFA	**Oklahoma City**	**1.09 216**	P	**Pg**	**22 42 44.3**	**-1.1**
	baz=35,SNR=23					
OKCFA			S	**Sg**	**22 42 59.5**	**0.0**
	baz=35					
OKCFA	**Oklahoma City**	**1.09 216**	P		22 42 44.3	
	baz=35,SNR=23					
OKCFA			S		22 42 59.5	
	baz=35					
OKCSW	**OKLAHOMA CITY**	**1.10 215**		**Pg**	**22 42 44.5**	**-0.9**
GC02	**Grant County #**	**1.10 300**		**Pg**	**22 42 44.8**	**-0.6**
GC02			Sg	**Sg**	**22 42 59.9**	**+0.2**
KAN09	**Caldwell North**	**1.12 318**		**Pg**	**22 42 45.5**	**-0.4**
KAN17	**Caldwell West**	**1.15 310**		**Pg**	**22 42 45.9**	**-0.5**
KS20	**Mayfield South**	**1.16 323**		**Pg**	**22 42 46.4**	**-0.3**
FNO	**Franklin**	**1.21 210**		**Pg**	**22 42 46.3**	**-1.2**
FNO			IAmb_Lg		22 43 03.1	
	comp=Z,646nm,0.8s					
KAN14	**Manchester OK**	**1.22 302**	Pg	**Pg**	**22 42 47.3**	**-0.6**
KAN05	**Bluff City Nor**	**1.25 310**		**Pg**	**22 42 47.8**	**-0.6**
OK032	**Salt Plains WL**	**1.33 292**		**Pg**	**22 42 49.0**	**-1.0**
KAN08	**Anthony NE Sta**	**1.39 312**		**Pn**	**22 42 50.1**	**-0.6**
KAN10	**Anthony SW Sta**	**1.40 306**		**Pn**	**22 42 50.4**	**-0.6**
KAN16	**Harper SW Stat**	**1.45 310**		**Pn**	**22 42 51.4**	**-0.1**
U38A	**Gravette**	**1.85 85**		**Pn**	**22 42 57.0**	**-0.1**
U38A	**Gravette**	**1.85 85**	P	**Pn**	**22 42 57.1**	**+0.1**
	baz=266,SNR=414					
U38A			S	**Sb**	**22 43 22.2**	**-0.2**
	baz=266					
U38A	**Gravette**	**1.85 85**	P		22 42 57.1	
	baz=266,SNR=414					
U38A			S		22 43 22.2	
	baz=266					
U32A	**Winter Ranch,**	**1.88 273**		**Pn**	**22 42 58.0**	**+0.5**
U32A	**Winter Ranch,**	**1.88 273**	P	**Pn**	**22 42 58.0**	**+0.5**
	baz=92					
U32A			S	**Sb**	**22 43 23.7**	**+0.3**
	baz=92					
U32A	**Winter Ranch,**	**1.88 273**	P		22 42 58.0	
	baz=92					
U32A			S		22 43 23.7	
	baz=92					
X34A	**Smith Ranch, M**	**1.95 209**		**Pn**	**22 42 59.0**	**+0.5**
X34A			IAmb_Lg		22 43 28.5	
	comp=Z,531nm,0.8s					
X37A	**Clayton**	**2.02 148**	Pn	**Pn**	**22 42 59.5**	**+0.1**
X37A			IAmb_Lg		22 43 29.9	
	comp=Z,596nm,0.7s					
X37A	**Clayton**	**2.02 148**	P	**Pn**	**22 42 59.5**	**+0.1**
	baz=329,SNR=158					
X37A			S	**Sn**	**22 43 26.0**	**+0.9**
	baz=329					
X37A	**Clayton**	**2.02 148**	P		22 42 59.5	
	baz=329,SNR=158					
X37A			S		22 43 26.0	
	baz=329					
HHAR	**Hobbs**	**2.21 90**		**Pn**	**22 43 02.4**	**+0.4**
HHAR			IAmb_Lg		22 43 32.8	
	comp=Z,698nm,1.2s					
WMOK	**Wichita Mounta**	**2.33 228**		**Pn**	**22 43 03.8**	**+0.1**
WMOK			IAmb_Lg		22 43 40.4	
	comp=Z,340nm,0.8s					
WMOK	**Wichita Mounta**	**2.33 228**	P	**Pn**	**22 43 03.6**	**0.0**
	baz=47,SNR=94					
WMOK			S	**Sn**	**22 43 33.9**	**+1.1**
	baz=47					
WMOK	**Wichita Mounta**	**2.33 228**	P		22 43 03.4	
	baz=47,SNR=74					
WMOK			S		22 43 33.4	
	baz=47					
WMOK	**Wichita Mounta**	**2.33 228**	P		22 43 03.6	
	baz=47,SNR=94					
WMOK			S		22 43 33.9	
	baz=47					
LOOK	**Love County**	**2.35 190**		**Pn**	**22 43 04.1**	**+0.2**
LOOK			IAmb_Lg		22 43 41.1	
	comp=Z,484nm,1.0s					
W39A	**Magazine**	**2.60 114**		**Pn**	**22 43 08.4**	**+1.1**
W39A	**Magazine**	**2.60 114**	P	**Pn**	**22 43 07.3**	**-0.1**
	baz=296,SNR=60					
W39A			S	**Sn**	**22 43 40.5**	**+1.1**
	baz=296					
W39A	**Magazine**	**2.60 114**	P		22 43 07.0	
	baz=296,SNR=227					
W39A	**Magazine**	**2.60 114**	P		22 43 07.3	
	baz=296,SNR=60					
W39A			S		22 43 40.5	
	baz=296					
R32A	**Long Quarter,**	**2.66 323**		**Pn**	**22 43 08.5**	**+0.2**
R32A			IAmb_Lg		22 43 52.8	
	comp=Z,292nm,0.9s					
R32A	**Long Quarter,**	**2.66 323**	P	**Pn**	**22 43 08.3**	**0.0**
	baz=142,SNR=30					
R32A			S	**Sn**	**22 43 41.5**	**+0.4**
	baz=142					
R32A	**Long Quarter,**	**2.66 323**	P		22 43 08.3	
	baz=142,SNR=30					
R32A			S		22 43 41.5	
	baz=142					
KSU1	**Kansas State U**	**2.79 1**	Pn	**Pn**	**22 43 10.3**	**+0.4**
KSU1			IAmb_Lg		22 43 58.1	
	comp=Z,243nm,1.1s					
KSU1	**Kansas State U**	**2.79 1**	Sb		22 43 50.5	
	baz=181					
Z35A	**Perchaven, San**	**3.01 189**		**Pn**	**22 43 13.1**	**+0.1**
Z35A	**Perchaven, San**	**3.01 189**	P	**Pn**	**22 43 13.5**	**+0.5**
	baz=8.9,SNR=29					
Z35A	**Perchaven, San**	**3.01 189**	P		22 43 13.5	
	baz=8.9,SNR=29					
S39A	**Bolivar**	**3.01 62**	Pn	**Pn**	**22 43 13.8**	**+0.7**
S39A			IAmb_Lg		22 44 07.3	
	comp=Z,288nm,0.8s					
S39A	**Bolivar**	**3.01 62**	P	**Pn**	**22 43 13.6**	**+0.5**
	baz=244,SNR=67					
S39A			S	**Sn**	**22 43 50.7**	**+1.0**
	baz=244					
S39A	**Bolivar**	**3.01 62**	P		22 43 13.6	
	baz=244,SNR=67					
S39A			S		22 43 50.7	
	baz=244					
MIAR	**Mount Ida**	**3.08 124**	Pn	**Pn**	**22 43 14.4**	**+0.4**
MIAR	**Mount Ida**	**3.08 124**	P	**Pn**	**22 43 14.0**	**+0.1**
	baz=306,SNR=42					
MIAR			S	**Sn**	**22 43 52.4**	**+1.1**
	baz=306					
MIAR	**Mount Ida**	**3.08 124**	P		22 43 14.1	
	baz=306,SNR=17					
MIAR			S		22 43 51.1	
	baz=306					
MIAR	**Mount Ida**	**3.08 124**	P		22 43 14.0	
	baz=306,SNR=42					
MIAR			S		22 43 52.4	
	baz=306					
U40A	**Yellville**	**3.08 88**	Pn	**Pn**	**22 43 13.8**	**-0.2**
U40A			IAmb_Lg		22 44 04.2	
	comp=Z,234nm,0.9s					
U40A	**Yellville**	**3.08 88**	P	**Pn**	**22 43 14.0**	**0.0**
	baz=270,SNR=123					
U40A	**Yellville**	**3.08 88**	P		22 43 13.9	
	baz=270,SNR=43					
U40A	**Yellville**	**3.08 88**	P		22 43 14.0	
	baz=270,SNR=123					
U40A			P		22 43 14.0	
	baz=270,SNR=123					
Z38A	**Mt. Pleasant**	**3.34 155**		**Pn**	**22 43 18.0**	**+0.5**
Z38A			IAmb_Lg		22 44 16.4	
	comp=Z,377nm,1.0s					
CBKS	**Cedar Bluff**	**3.49 317**		**Pn**	**22 43 19.3**	**-0.4**
CBKS	**Cedar Bluff**	**3.49 317**	P	**Pn**	**22 43 19.5**	**-0.2**
	baz=135,SNR=17					
CBKS			S	**Sn**	**22 44 01.2**	**-0.4**
	baz=135					
CBKS	**Cedar Bluff**	**3.49 317**	P		22 43 19.7	
	baz=135,SNR=15					
CBKS	**Cedar Bluff**	**3.49 317**	P		22 43 19.5	
	baz=135,SNR=17					
CBKS			S		22 44 01.2	
	baz=135					
X40A	**Basin Creek Fa**	**3.62 119**	Pn	**Pn**	**22 43 21.4**	**0.0**
X40A			IAmb_Lg		22 44 28.6	
	comp=Z,308nm,0.8s					
X40A	**Basin Creek Fa**	**3.62 119**	P	**Pn**	**22 43 21.7**	**+0.2**
	baz=301,SNR=38					
X40A	**Basin Creek Fa**	**3.62 119**	P		22 43 21.8	
	baz=301,SNR=11					
X40A			S		22 44 04.3	
	baz=301					
X40A	**Basin Creek Fa**	**3.62 119**	P		22 43 21.7	
	baz=301,SNR=38					
X40A			P		22 43 21.7	
	baz=301,SNR=38					
MGMO	**Mountain Grove**	**3.63 75**		**Pn**	**22 43 22.0**	**+0.3**
WHAR	**Wooly Hollow**	**3.71 105**	Pn	**Pn**	**22 43 22.9**	**+0.3**
WHAR			IAmb_Lg		22 44 21.9	
	comp=Z,409nm,1.1s					
FCAR	**Ozark Folk Cen**	**3.71 95**	Pn	**Pn**	**22 43 22.1**	**-0.5**
FCAR			IAmb_Lg		22 44 26.4	
	comp=Z,220nm,0.8s					
W41B	**Gary Mavity, V**	**3.77 106**	P	**Pn**	**22 43 23.6**	**+0.2**
	baz=289,SNR=65					
W41B			S	**Sn**	**22 44 08.7**	**+0.3**
	baz=289					
W41B	**Gary Mavity, V**	**3.77 106**	P		22 43 23.8	
	baz=289,SNR=9.2					
W41B			S		22 44 08.2	
	baz=289					
W41B	**Gary Mavity, V**	**3.77 106**	P		22 43 23.6	
	baz=289,SNR=65					
W41B			S		22 44 08.7	
	baz=289					
WLAR	**White Oak Lake**	**3.92 131**	Pn	**Pn**	**22 43 25.5**	**0.0**
WLAR			IAmb_Lg		22 44 37.0	
	comp=Z,235nm,0.8s					
R40A	**Maddies Statio**	**4.03 59**	Pn	**Pn**	**22 43 27.3**	**+0.3**
R40A	**Maddies Statio**	**4.03 59**	P	**Pn**	**22 43 27.2**	**+0.2**
	baz=242,SNR=52					
R40A	**Maddies Statio**	**4.03 59**	P		22 43 27.2	
	baz=242,SNR=52					
P38A	**Dawn**	**4.13 36**	Pn	**Pn**	**22 43 28.7**	**+0.2**
P38A			IAmb_Lg		22 44 37.1	
	comp=Z,351nm,0.8s					
P38A	**Dawn**	**4.13 36**	P	**Pn**	**22 43 28.5**	**0.0**
	baz=218,SNR=17					
P38A	**Dawn**	**4.13 36**	P		22 43 28.5	
	baz=218,SNR=17					
AMTX	**Amarillo**	**4.32 252**		**Pn**	**22 43 31.4**	**+0.2**
AMTX			IAmb_Lg		22 44 44.3	
	comp=Z,287nm,0.8s					
AMTX	**Amarillo**	**4.32 252**	S		22 44 22.3	
	baz=69					
237A	**Washetta, Mont**	**4.36 170**		**Pn**	**22 43 29.9**	**-1.6**
237A	**Washetta, Mont**	**4.36 170**	S	**Sn**	**22 44 21.7**	**-1.1**
	baz=351					
237A	**Washetta, Mont**	**4.36 170**	S		22 44 21.7	
	baz=351					
WHTX	**Lake Whitney,**	**4.36 189**	Pn	**Pn**	**22 43 31.8**	**+0.2**
WHTX	**Lake Whitney,**	**4.36 189**	P	**Pn**	**22 43 31.3**	**-0.2**
	baz=8.3,SNR=17					
WHTX	**Lake Whitney,**	**4.36 189**	P		22 43 31.3	
	baz=8.3,SNR=6.3					
WHTX			S		22 44 21.6	
	baz=8.3					
WHTX	**Lake Whitney,**	**4.36 189**	P		22 43 31.3	
	baz=8.3,SNR=17					
Z41A	**Richland Creek**	**4.40 133**	P		22 43 31.7	
	baz=315					
Z41A			S		22 44 22.3	
	baz=315					
ABTX	**Abilene, Hawle**	**4.42 215**	Pn	**Pn**	**22 43 33.0**	**+0.5**
ABTX			IAmb_Lg		22 44 54.4	
	comp=Z,304nm,1.2s					
ABTX	**Abilene, Hawle**	**4.42 215**	P		22 43 32.5	
	baz=33,SNR=16					
ABTX			S		22 44 23.5	
	baz=33					
N33B	**J Bar K, Exete**	**4.46 352**	P	**Pn**	**22 43 32.5**	**-0.5**
	baz=172,SNR=18					
N33B	**J Bar K, Exete**	**4.46 352**	P		22 43 32.5	
	baz=172,SNR=18					
N33A	**J Bar K, Exete**	**4.46 352**	Pn	**Pn**	**22 43 32.7**	**-0.3**
N33A			IAmb_Lg		22 44 54.5	
	comp=Z,311nm,0.9s					
LCAR	**Lake Charles**	**4.47 91**	Pn	**Pn**	**22 43 32.6**	**-0.5**
LCAR			IAmb_Lg		22 44 47.2	
	comp=Z,128nm,0.7s					
T42A	**Van Buren**	**4.54 79**	Pn	**Pn**	**22 43 34.1**	**0.0**
N35A	**Tabor**	**4.62 10**	Pn	**Pn**	**22 43 34.9**	**-0.2**
N35A			IAmb_Lg		22 44 55.6	
	comp=Z,281nm,0.8s					
N35A	**Tabor**	**4.62 10**	P	**Pn**	**22 43 34.5**	**-0.6**
	baz=190,SNR=25					
N35A	**Tabor**	**4.62 10**	P		22 43 34.5	
	baz=190,SNR=25					
CCAR	**Cane Creek**	**4.67 119**	IAmb_Lg		22 45 00.0	
	comp=Z,203nm,0.8s					
NATX	**Nacogdoches**	**4.83 159**	IAmb_Lg		22 45 09.5	
	comp=Z,189nm,0.7s					
P40A	**Paris**	**4.87 47**	IAmb_Lg		22 45 04.7	
	comp=Z,346nm,0.7s					
PBMO	**Poplar Bluff**	**5.05 83**	IAmb_Lg		22 45 13.7	
	comp=Z,272nm,0.7s					
LPAR	**Lepanto**	**5.22 96**	IAmb_Lg		22 45 22.8	
	comp=Z,280nm,0.9s					
BGNE	**Belgrade**	**5.22 348**		**Pn**	**22 43 43.0**	**-0.4**
BGNE			IAmb_Lg		22 45 24.3	
	comp=Z,260nm,0.8s					
BGNE	**Belgrade**	**5.22 348**	S		22 44 42.2	
	baz=167					
N38A	**Joes South For**	**5.22 30**	Pn	**Pn**	**22 43 43.0**	**-0.4**
N38A			IAmb_Lg		22 45 15.3	
	comp=Z,285nm,0.8s					
FVM	**French Village**	**5.26 70**	P	**Pn**	**22 43 43.4**	**-0.6**
	baz=253,SNR=14					
FVM	**French Village**	**5.26 70**	P		22 43 43.4	
	baz=253,SNR=14					
GNAR	**Gosnell**	**5.39 92**	IAmb_Lg		22 45 27.6	
	comp=Z,263nm,0.8s					
KSCO	**Kaye Shedlock'**	**5.44 301**	Pn	**Pn**	**22 43 47.6**	**+1.1**
KSCO			IAmb_Lg		22 45 29.0	
	comp=Z,167nm,0.9s					
KSCO	**Kaye Shedlock'**	**5.44 301**	S		22 44 48.4	
	baz=118					
MSTX	**Muleshoe**	**5.52 247**	IAmb_Lg		22 45 24.9	
	comp=Z,92nm,0.7s					
MSTX	**Muleshoe**	**5.52 247**	S		22 44 49.8	
	baz=63					
435B	**Jarrell**	**5.56 188**	IAmb_Lg		22 45 29.8	
	comp=Z,89nm,0.8s					
435B	**Jarrell**	**5.56 188**	S		22 44 51.9	
	baz=7.6					
MET	**Memphis--Engin**	**5.61 100**	IAmb_Lg		22 45 28.0	
	comp=Z,221nm,1.0s					
SLM	**Saint Louis**	**5.62 64**	IAmb_Lg		22 45 27.6	
	comp=Z,27nm,0.7s					
143A	**Socs Landing,**	**5.64 128**	Pn	**Pn**	**22 43 49.4**	**+0.2**
143A			IAmb_Lg		22 45 29.8	
	comp=Z,192nm,0.9s					
143A	**Socs Landing,**	**5.64 128**	P	**Pn**	**22 43 49.0**	**-0.2**
	baz=311,SNR=6.3					
143A	**Socs Landing,**	**5.64 128**	P		22 43 49.0	
	baz=311,SNR=6.3					
L34A	**Svendsen Farm,**	**5.65 2**	Pn	**Pn**	**22 43 48.5**	**-0.9**
PENMO	**Penman**	**5.68 87**	IAmb_Lg		22 45 35.3	
	comp=Z,256nm,0.8s					
S44A	**Carbondale**	**6.09 75**	Pn	**Pn**	**22 43 55.2**	**-0.2**
S44A	**Carbondale**	**6.09 75**	P	**Pn**	**22 43 55.3**	**0.0**
	baz=259,SNR=10					
S44A	**Carbondale**	**6.09 75**	P		22 43 55.3	
	baz=259,SNR=10					
342A	**Flagon Creek P**	**6.11 142**	IAmb_Lg		22 45 35.6	
	comp=Z,80nm,1.2s					
SIUC	**Southern Illin**	**6.13 75**	Pn	**Pn**	**22 43 55.4**	**-0.5**
OXF	**Oxford**

OGNE					S			22 45 06.2	
	baz=136								
441A	**DeRidder**	**6.26**	**151**		IAmb_Lg			22 45 55.4	
	comp=Z,74nm,0.8s								
T25A	**Trinidad**	**6.27**	**280**		Pn		**Pn**	**22 43 58.3**	**+0.2**
T25A					IAmb_Lg			22 45 46.5	
	comp=Z,136nm,0.7s								
T25A	**Trinidad**	**6.27**	**280**		P			22 43 56.2	
	baz=95								
Y45A	**Yeager Farm, C**	**6.33**	**111**		IAmb_Lg			22 45 59.3	
	comp=Z,112nm,0.7s								
JCT	**Junction City**	**6.38**	**205**		P			22 43 57.9	
	baz=23								
JCT	**Junction City**	**6.38**	**205**		Pn		**Pn**	**22 43 58.8**	**-0.5**
JCT					IAmb_Lg			22 45 54.8	
	comp=Z,165nm,0.8s								
HKT	**Hockley**	**6.38**	**173**		Pn		**Pn**	**22 43 59.0**	**-0.3**
K31A	**O'Neill**	**6.51**	**346**		Pn		**Pn**	**22 44 00.9**	**-0.1**
VBMS	**Vicksburg**	**6.53**	**127**		IAmb_Lg			22 45 50.1	
	comp=Z,105nm,1.1s								
P43A	**Skaggs, Pawnee**	**6.55**	**57**		Pn		**Pn**	**22 44 01.8**	**+0.1**
K38A	**Parkersburg**	**7.01**	**24**		Pn		**Pn**	**22 44 06.9**	**-1.1**
K38A					IAmb_Lg			22 46 18.0	
	comp=Z,180nm,0.7s								
K38A	**Parkersburg**	**7.01**	**24**		P		**Pn**	**22 44 07.3**	**-0.6**
	baz=207,SNR=8.7								
K38A	**Parkersburg**	**7.01**	**24**		P			22 44 07.3	
	baz=207,SNR=8.7								
PLAL	**Pickwick Lake**	**7.12**	**98**		IAmb_Lg			22 46 16.9	
	comp=Z,64nm,0.9s								
L40A	**Anamosa**	**7.13**	**35**		Pn		**Pn**	**22 44 09.4**	**-0.2**
L40A					IAmb_Lg			22 46 09.7	
	comp=Z,141nm,0.8s								
WVT	**Waverly**	**7.15**	**89**		Pn		**Pn**	**22 44 08.4**	**-1.4**
WVT					IAmb_Lg			22 46 11.0	
	comp=Z,65nm,0.8s								
WVT	**Waverly**	**7.15**	**89**		P			22 44 08.5	
	baz=274								
WVT					S			22 45 27.8	
	baz=274								
HDIL	**Hopedale**	**7.17**	**52**		Pn		**Pn**	**22 44 09.3**	**-0.9**
HDIL	**Hopedale**	**7.17**	**52**		P			22 44 08.5	
	baz=236								
HDIL					S			22 45 28.0	
	baz=236								
SDCO	**Great Sand Dun**	**7.21**	**284**		Pn		**Pn**	**22 44 11.7**	**+0.7**
SDCO	**Great Sand Dun**	**7.21**	**284**		P			22 44 10.1	
	baz=99								
Q24A	**Divide**	**7.23**	**294**		P			22 44 11.1	
	baz=109								
Q24A					S			22 45 31.5	
	baz=109								
146A	**Union**	**7.28**	**118**		Pn		**Pn**	**22 44 12.1**	**+0.5**
ECSD	**EROS Data Cent**	**7.42**	**0**		Pn		**Pn**	**22 44 13.3**	**-0.3**
ECSD	**EROS Data Cent**	**7.42**	**0**		P			22 44 12.5	
	baz=180,SNR=8.5								
ECSD					S			22 45 35.9	
	baz=180								
735A	**Kenedy**	**7.50**	**188**		Pn		**Pn**	**22 44 14.6**	**-0.1**
735A					IAmb_Lg			22 46 34.3	
	comp=Z,75nm,1.0s								
T47A	**Sharon Grove**	**7.72**	**82**		Pn		**Pn**	**22 44 17.5**	**-0.2**
T47A					IAmb_Lg			22 46 39.5	
	comp=Z,161nm,1.0s								
ISCO	**Idaho Springs**	**7.87**	**299**		Pn		**Pn**	**22 44 20.3**	**+0.3**
ISCO					IAmb_Lg			22 46 39.6	
	comp=Z,69nm,0.7s								
ISCO	**Idaho Springs**	**7.87**	**299**		P			22 44 19.3	
	baz=114								
L42A	**Oliver, Polo**	**7.87**	**42**		Pn		**Pn**	**22 44 19.6**	**-0.1**
V48A	**Smith Brothers**	**8.00**	**91**		IAmb_Lg			22 46 42.8	
	comp=Z,95nm,1.1s								
ANMO	**Albuquerque**	**8.08**	**263**		Pn		**Pn**	**22 44 25.5**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=76,slow=19,SNR=1.2								
ANMO					Pg		Pb	22 44 51.0	+5.8
	comp=Z,1.9nm,0.3s,baz=92,slow=15,SNR=17								
ANMO					Lg		Lg	22 46 37.0	
	comp=Z,1.2nm,0.3s,baz=353,slow=19,SNR=1.6								
ANMO					LR		LR	22 47 47.1	
	comp=Z,84nm,20.1s,baz=75,slow=39								
I37A	**Lemond, Waseca**	**8.09**	**17**		Pn		**Pn**	**22 44 22.5**	**-0.3**
I37A					IAmb_Lg			22 46 51.5	
	comp=Z,92nm,0.9s								
P46A	**Rosedale**	**8.17**	**63**		Pn		**Pn**	**22 44 24.1**	**+0.2**
JFWS	**Jewell Farm**	**8.25**	**35**		Pn		**Pn**	**22 44 24.6**	**-0.4**
JFWS					IAmb_Lg			22 46 46.2	
	comp=Z,130nm,0.8s								
JFWS	**Jewell Farm**	**8.25**	**35**		P			22 44 23.8	
	baz=219								
833A	**Chaparral WMA,**	**8.29**	**197**		P			22 44 24.5	
	baz=15,SNR=6.3								
SUSD	**Miller**	**8.31**	**349**		Pn		**Pn**	**22 44 25.1**	**-0.7**
SUSD					IAmb_Lg			22 46 54.7	
	comp=Z,97nm,0.8s								
SUSD	**Miller**	**8.31**	**349**		P			22 44 24.3	
	baz=167								
CLTN	**Cedars of Leba**	**8.36**	**88**		Pn		**Pn**	**22 44 25.5**	**-1.0**
CLTN					IAmb_Lg			22 46 54.8	
	comp=Z,90nm,1.1s								
M44A	**Midewin, Midew**	**8.43**	**50**		IAmb_Lg			22 46 51.9	
	comp=Z,162nm,1.1s								
PHWY	**Pilot Hill**	**8.48**	**309**		IAmb_Lg			22 46 55.6	
	comp=Z,108nm,1.1s								
WCI	**Wyandotte Cave**	**8.49**	**74**		IAmb_Lg			22 46 51.6	
	comp=Z,101nm,0.9s								
BLO	**Bloomington**	**8.53**	**67**		Pn		**Pn**	**22 44 29.4**	**+0.5**
SFIN	**Lafayette**	**8.55**	**59**		Pn		**Pn**	**22 44 29.1**	**0.0**
SFIN					IAmb_Lg			22 46 56.7	
	comp=Z,152nm,1.0s								
MNTX	**Cornudas Mount**	**8.57**	**240**		Pn		**Pn**	**22 44 29.3**	**-0.1**
MNTX					IAmb_Lg			22 47 11.3	
	comp=Z,48nm,0.8s								
MNTX	**Cornudas Mount**	**8.57**	**240**		P			22 44 28.6	
	baz=55								
Y22D	**IRIS PASSCAL I**	**8.68**	**258**		IAmb_Lg			22 47 18.1	
	comp=Z,109nm,0.9s								
Y49A	**Blount Mountai**	**8.76**	**103**		Pn		**Pn**	**22 44 32.7**	**+0.7**
U49A	**Red Boiling Sp**	**8.78**	**85**		Pn		**Pn**	**22 44 32.4**	**+0.1**
U49A					IAmb_Lg			22 47 01.2	
	comp=Z,56nm,0.8s								
SWET	**Sewanee**	**8.80**	**94**		IAmb_Lg			22 47 00.1	
	comp=Z,78nm,1.1s								
I40A	**Norwalk**	**8.88**	**30**		Pn		**Pn**	**22 44 32.1**	**-1.5**
I40A					IAmb_Lg			22 47 14.6	
	comp=Z,79nm,0.9s								
K43A	**Burlington**	**9.07**	**43**		Pn		**Pn**	**22 44 36.0**	**-0.2**
TX31	**Lajitas Ar. Si**	**9.11**	**222**		Pn		**Pn**	**22 44 38.9**	**+2.0**
TX32	**Lajitas Array**	**9.11**	**222**		Pn		**Pn**	**22 44 40.0**	**+3.1**
TXAR	**Lajitas Array**	**9.11**	**222**		Pn		**Pn**	**22 44 37.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=42,slow=11,SNR=7.2								
TXAR					Pg			22 45 09.7	
	comp=Z,1.6nm,0.3s,baz=42,slow=15,SNR=8.6								
TXAR					Lg		Lg	22 47 08.8	
	comp=Z,3.4nm,0.3s,baz=43,slow=20,SNR=9.1								
TXAR	**Lajitas Array**	**9.11**	**222**		Pn		**Pn**	**22 44 38.6**	**+1.7**
FPAL	**Fort Paine**	**9.20**	**98**		Pn		**Pn**	**22 44 39.1**	**+1.1**
W50A	**Signal Mountai**	**9.30**	**94**		Pn		**Pn**	**22 44 40.4**	**+1.0**
W50A					IAmb_Lg			22 47 27.8	
	comp=Z,132nm,0.9s								
R49A	**Shelbyville**	**9.37**	**74**		Pn		**Pn**	**22 44 40.2**	**-0.2**
R49A					IAmb_Lg			22 47 20.8	
	comp=Z,67nm,0.9s								
SPMN	**Marine on St.**	**9.38**	**17**		Pn		**Pn**	**22 44 40.6**	**+0.2**
SPMN					IAmb_Lg			22 47 28.9	
	comp=Z,52nm,0.9s								
SPMN	**Marine on St.**	**9.38**	**17**		P			22 44 37.8	
	baz=200								
T50A	**Nancy**	**9.53**	**82**		Pn		**Pn**	**22 44 43.2**	**+0.6**
T50A					IAmb_Lg			22 47 44.6	
	comp=Z,58nm,0.9s								
RSSD	**Black Hills**	**9.62**	**326**		Pn		**Pn**	**22 44 44.8**	**+0.9**
RSSD					IAmb_Lg			22 47 45.1	
	comp=Z,100nm,1.0s								
I42A	**Draeger Farm,**	**9.62**	**36**		Pn		**Pn**	**22 44 43.1**	**-0.7**
I42A					IAmb_Lg			22 47 27.3	
	comp=Z,82nm,0.9s								
X51A	**Calhoun**	**9.80**	**97**		Pn		**Pn**	**22 44 45.7**	**-0.5**
X51A					IAmb_Lg			22 47 53.8	
	comp=Z,80nm,1.0s								
RWWY	**Rawlins**	**9.80**	**306**		IAmb_Lg			22 47 44.3	
	comp=Z,62nm,0.9s								
F36A	**Milaca**	**9.83**	**13**		Pn		**Pn**	**22 44 46.8**	**+0.2**
PV13	**Radium Mtn., P**	**9.86**	**284**		IAmb_Lg			22 47 57.0	
	comp=Z,49nm,1.2s								
PV12	**Saucer Basin,**	**9.87**	**285**		IAmb_Lg			22 48 05.3	
	comp=Z,39nm,1.2s								

CPCT	**Cooper Cave**	**9.90**	**91**		Pn		**Pn**	**22 44 47.5**	**-0.1**
K22A	**Casper**	**9.90**	**313**		Pn		**Pn**	**22 44 48.3**	**+0.5**
Z51A	**Franklin**	**9.91**	**104**		IAmb_Lg			22 47 42.9	
	comp=Z,43nm,1.0s								
PV11	**David Mesa, Pa**	**9.92**	**285**		IAmb_Lg			22 48 03.6	
	comp=Z,40nm,0.9s								
121A	**Cookes Peak, D**	**9.92**	**251**		Pn		**Pn**	**22 44 47.6**	**-0.5**
121A					IAmb_Lg			22 47 57.1	
	comp=Z,38nm,0.8s								
V51A	**Loudon**	**9.99**	**89**		Pn		**Pn**	**22 44 49.2**	**+0.3**
V51A					IAmb_Lg			22 47 54.3	
	comp=Z,47nm,0.8s								
G40A	**Rib Lake**	**10.20**	**27**		Pn		**Pn**	**22 44 51.1**	**-0.7**
O49A	**Covington**	**10.44**	**65**		Pn		**Pn**	**22 44 55.3**	**+0.3**
TKL	**Tuckaleechee C**	**10.47**	**90**		Sn		**Sn**	**22 46 51.2**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=282,slow=5.3,SNR=2.3								
TKL					Lg		Lg	22 47 48.7	
	comp=Z,1.4nm,0.3s,baz=170,slow=21,SNR=9.9								
TKL					LR		LR	22 48 00.8	
	comp=Z,6.9nm,19.0s,baz=309,slow=32								
TKL	**Tuckaleechee C**	**10.47**	**90**		Pn		**Pn**	**22 44 55.1**	**-0.4**
S51A	**Beattyville**	**10.55**	**79**		Pn		**Pn**	**22 44 56.6**	**+0.1**
TZTN	**Tazewell**	**10.58**	**85**		Pn		**Pn**	**22 44 56.8**	**-0.1**
V52A	**Sevierville**	**10.60**	**89**		Pn		**Pn**	**22 44 56.9**	**-0.2**
H43A	**Windswept, Lux**	**10.60**	**37**		Pn		**Pn**	**22 44 55.1**	**-2.0**
L48A	**N Adams**	**11.04**	**56**		Pn		**Pn**	**22 45 03.0**	**-0.3**
I45A	**Fountain**	**11.10**	**43**		Pn		**Pn**	**22 45 03.3**	**-0.7**
COWI	**Conover**	**11.30**	**28**		Pn		**Pn**	**22 45 06.1**	**-0.7**
J47A	**Sunmer**	**11.44**	**49**		Pn		**Pn**	**22 45 08.8**	**+0.2**
Q52A	**Bidwell**	**11.72**	**73**		Pn		**Pn**	**22 45 11.6**	**-1.0**
PDAR	**Pinedale Array**	**11.85**	**307**		Pn		**Pn**	**22 45 17.7**	**+3.2**
	baz=114,slow=15,SNR=2.0								
PDAR					Lg		Lg	22 48 31.9	
	comp=Z,0.5nm,0.3s,baz=106,slow=27,SNR=1.8								
PDAR					LR		LR	22 49 57.1	
	comp=Z,50nm,18.6s,baz=288,slow=38								
R53A	**Hurricane**	**11.89**	**76**		Pn		**Pn**	**22 45 14.3**	**-0.6**
P52A	**Corning**	**11.94**	**70**		Pn		**Pn**	**22 45 15.3**	**-0.3**
P52A	**Corning**	**11.94**	**70**		P			22 45 13.3	
	baz=258								
AGMN	**Agassiz Nation**	**11.99**	**3**		Pn		**Pn**	**22 45 13.9**	**-2.3**
AGMN	**Agassiz Nation**	**11.99**	**3**		P			22 45 12.4	
	baz=183,SNR=5.4								
EYMN	**Ely**	**12.24**	**17**		Pn		**Pn**	**22 45 16.6**	**-3.1**
EYMN	**Ely**	**12.24**	**17**		P			22 45 15.2	
	baz=200,SNR=7.6								
D41A	**Chassel**	**12.32**	**27**		Pn		**Pn**	**22 45 18.7**	**-2.0**
S54A	**Dingess, Beckl**	**12.36**	**79**		Pn		**Pn**	**22 45 19.6**	**-1.8**
E43A	**Lone Tree Farm**	**12.40**	**33**		Pn		**Pn**	**22 45 19.3**	**-2.5**
TCRU	**Three Creeks R**	**12.75**	**285**		Pn		**Pn**	**22 45 27.1**	**+0.3**
O53A	**New Philadelph**	**12.77**	**67**		Pn		**Pn**	**22 45 25.4**	**-1.4**
Q54A	**Coxs Mills**	**12.83**	**73**		Pn		**Pn**	**22 45 26.3**	**-1.4**
ULM	**Lac du Bonnet**	**13.95**	**2**		Pn		Pn	22 45 37.0	-5.9
	comp=Z,0.9nm,0.3s,baz=184,slow=15,SNR=6.4								
ULM					Sn		Sn	22 48 05.0	-13
	comp=Z,0.5nm,0.3s,baz=107,slow=13,SNR=3.5								
ULM					Lg		Lg	22 49 31.0	
	comp=Z,0.5nm,0.3s,baz=94,slow=18,SNR=1.3								
ELK	**Elko**	**15.19**	**293**		LR		LR	22 52 01.5	
	comp=Z,56nm,18.1s,baz=106,slow=38								
SADO	**Sadowa**	**15.76**	**52**		Sn		Sn	22 48 47.4	-15
	comp=Z,0.5nm,0.3s,baz=268,slow=15,SNR=1.6								
SADO					Lg		Lg	22 50 28.6	
	comp=Z,0.5nm,0.3s,baz=166,slow=21,SNR=2.4								
PFO	**Pinyon Flats O**	**16.45**	**266**		LR		LR	22 52 10.2	
	comp=Z,36nm,18.3s,baz=88,slow=35								
NVAR	**Mina Array Bea**	**17.32**	**284**		P		**Pn**	**22 46 28.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=88,slow=12,SNR=3.9								
CMIG	**Matias Romero**	**19.21**	**175**		P		**Pn**	**22 46 51.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=8.3,slow=14,SNR=3.8								
NEW	**Newport**	**19.21**	**315**		LR		LR	22 54 01.9	
	comp=Z,26nm,18.2s,baz=36,slow=36								
YBH	**Yreka Blue Hor**	**20.91**	**293**		LR		LR	22 55 59.5	
	comp=Z,48nm,19.1s,baz=67,slow=39								
BBB	**Bella Bella**	**27.27**	**315**		LR		LR	22 59 15.0	
	comp=Z,64nm,18.1s,baz=256,slow=37								
ILAR	**Eielson Array**	**41.05**	**330**		P		**P**	**22 50 09.4**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=97,slow=6.6,SNR=4.8								
NOA	**NORSAR Array B**	**66.78**	**30**		LR		LR	23 20 53.4	
	comp=Z,8.1nm,19.2s,baz=90,slow=35								

JMA ***12*** *23:05:56.8±0.2, 23.98N×122.42E, h11km, M2.0*
TAP ***12*** *23:05:57.7, 23.99N×122.42E, h20km, ML2.6, D*
ISC 12 23:05:55.3±1.1, 24.01N±0.02×122.42E±0.02, h11km±9km, n79, σ0.69/152, 12C-14D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.65**	**47**	P			**Pn**	**23 06 09.7**	**-0.8**
JYNG				*e*S			**Sb**	**23 06 18.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.70**	**50**	P			**Pn**	**23 06 10.7**	**-0.6**
YOJ				*e*S			**Sb**	**23 06 19.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.70**	**50**	⇓*e*P			**Pn**	**23 06 11.0**	**-0.2**
	baz=47								
YOJ				*e*S			**Sb**	**23 06 19.6**	**+0.3**
	baz=47								
EWUT	**Wuta**	**0.73**	**307**	*e*P			**Pn**	**23 06 10.9**	**-0.8**
	baz=308								
EWUT				*e*S			**Sb**	**23 06 19.9**	**-0.2**
	baz=308								
ETL	**Fush Village**	**0.75**	**282**	⇑*e*P			**Pb**	**23 06 10.8**	**+0.4**
	baz=283								
ETL				*e*S			**Sg**	**23 06 20.1**	**+0.6**
	baz=283								
HWA	**Hwalien**	**0.75**	**268**	⇓*e*P			**Pb**	**23 06 10.9**	**+0.5**
	baz=269								
HWA				*e*S			**Sb**	**23 06 20.4**	**-0.2**
	baz=269								
TWD	**Chiawan**	**0.76**	**276**	⇓P			**Pn**	**23 06 11.8**	**-0.2**
	baz=277								
TWD				*e*S			**Sn**	**23 06 22.6**	**-0.8**
	baz=277								
TEYL	**Yanliau Villag**	**0.77**	**260**	*e*P			**Pn**	**23 06 11.6**	**-0.5**
	baz=263								
TEYL				*e*S			**Sb**	**23 06 21.0**	**-0.1**
	baz=263								
NACB	**Ninganchiao**	**0.77**	**283**	⇑P			**Pn**	**23 06 12.1**	**-0.1**
	baz=284								
NACB				S			**Sb**	**23 06 22.5**	**+1.1**
	baz=284								
TWC	**Suao**	**0.80**	**319**	⇓P			**Pb**	**23 06 11.6**	**+0.4**
	baz=320								
TWC				*e*S			**Sg**	**23 06 20.7**	**-0.5**
	baz=320								
TEGC	**Jichi Village**	**0.86**	**250**	⇑*e*P			**Pn**	**23 06 13.2**	**-0.2**
	baz=250								
TEGC				*e*S			**Sb**	**23 06 24.3**	**+0.5**
	baz=250								
ETLH	**Xiulin Townshi**	**0.88**	**283**	⇑P			**Pn**	**23 06 13.9**	**+0.1**
	baz=284								
ETLH				*e*S			**Sn**	**23 06 26.1**	**-0.5**
	baz=284								
NDS	**Dongshan**	**0.90**	**314**	⇑P			**Pn**	**23 06 13.8**	**-0.1**
	baz=315								
NDS				S			**Sb**	**23 06 25.4**	**+0.5**
	baz=315								
ESL	**Shilin**	**0.93**	**258**	*e*S			**Sb**	**23 06 25.8**	**+0.1**
	baz=259								
EGS		**0.95**	**332**	*e*P			**Pn**	**23 06 15.2**	**+0.5**
	baz=333								
EGS				*e*S			**Sn**	**23 06 27.4**	**-0.7**
	baz=333								
EGFH	**Guangfu**	**0.97**	**250**	*e*P			**Pn**	**23 06 15.2**	**+0.3**
	baz=250								
EGFH				*e*S			**Sb**	**23 06 27.5**	**+0.5**
	baz=250								
TWE	**Neicheng**	**0.99**	**316**	⇑P			**Pn**	**23 06 15.4**	**+0.2**
	baz=317								
TWE				S			**Sn**	**23 06 28.6**	**-0.7**
	baz=317								
NTC	**Toucheng**	**1.00**	**328**	⇓*e*P			**Pn**	**23 06 16.4**	**+1.0**
	baz=328								
NTC				*e*S			**Sn**	**23 06 29.4**	**-0.1**
	baz=328								
ENTT	**Nioudou**	**1.00**	**309**	*e*P			**Pn**	**23 06 16.1**	**+0.7**
	baz=310								
ENTT				*e*S			**Sb**	**23 06 28.2**	**+0.2**
	baz=310								
NDT	**Datong Townshi**	**1.02**	**306**	⇓P			**Pn**	**23 06 16.7**	**+1.0**
	baz=306								
NDT				*e*S			**Sb**	**23 06 28.8**	**+0.3**
	baz=306								
NNSB	**Datong**	**1.04**	**294**	⇑P			**Pn**	**23 06 16.9**	**+0.9**
	baz=295								
NNSB				S			**Sn**	**23 06 31.0**	**+0.4**
	baz=295								
NNSH	**Datong**	**1.04**	**294**	*e*P			**Pn**	**23 06 16.9**	**+0.9**
	baz=295								
NNSH				*e*S			**Sn**	**23 06 30.7**	**+0.1**
	baz=295								
HGSD	**Ruisui**	**1.05**	**241**	⇓*e*P			**Pb**	**23 06 15.7**	**+0.2**
	baz=241								
HGSD				*e*S			**Sb**	**23 06 29.9**	**+0.6**
	baz=241								
NNS	**Nan Shan**	**1.05**	**295**	⇓*e*P			**Pn**	**23 06 17.1**	**+0.9**
	baz=295								
NNS				*e*S			**Sn**	**23 06 31.5**	**+0.6**
	baz=295								
WHF	**Hehuan Shan**	**1.07**	**278**	⇑*e*P			**Pn**	**23 06 16.9**	**+0.2**
	baz=278								
WHF				*e*S			**Sn**	**23 06 31.4**	**-0.3**
	baz=278								
TWB1	**Santiao Chiao**	**1.07**	**339**	*e*P			**Pn**	**23 06 16.4**	**+0.1**
	baz=339								
TWB1				*e*S			**Sg**	**23 06 29.6**	**-0.4**
	baz=339								
FUSS	**Fushou**	**1.10**	**283**	*e*P			**Pn**	**23 06 17.0**	**0.0**
	baz=283								
TIPB	**Shuangxi**	**1.10**	**331**	⇓P			**Pn**	**23 06 18.2**	**+1.3**
	baz=331								
TIPB				*e*S			**Sb**	**23 06 31.1**	**+0.2**
	baz=331								
NWLT	**Wulai**	**1.14**	**313**	⇑*e*P			**Pn**	**23 06 18.5**	**+1.2**
	baz=313								
NWLT				*e*S			**Sn**	**23 06 33.4**	**+0.5**
	baz=313								
OWD	**Renai**	**1.14**	**268**	*e*P			**Pn**	**23 06 17.8**	**+0.4**
	baz=268								
OWD				*e*S			**Sg**	**23 06 31.9**	**-0.2**
	baz=268								
CHGB	**Renai**	**1.14**	**273**	⇓*e*P			**Pn**	**23 06 18.1**	**+0.6**
	baz=273								
CHGB				*e*S			**Sg**	**23 06 31.7**	**-0.6**
	baz=273								
YHNB	**Yeheng**	**1.16**	**305**	⇑P			**Pn**	**23 06 19.2**	**+1.5**
	baz=305								
YHNB				S			**Sn**	**23 06 34.1**	**+0.5**
	baz=305								
TWT	**Tachien**	**1.17**	**282**	*e*P			**Pn**	**23 06 18.0**	**+0.2**
	baz=282								
TWT				*e*S			**Sb**	**23 06 32.3**	**-0.5**
	baz=282								
NSK	**Sanguang**	**1.18**	**305**	⇓P			**Pg**	**23 06 19.2**	**+1.2**
	baz=305								
NSK				*e*S			**Sg**	**23 06 33.3**	**-0.1**
	baz=305								
YULB	**Yu-li**	**1.20**	**240**	⇓*e*P			**Pg**	**23 06 18.2**	**-0.1**
	baz=240								
YULB				*e*S			**Sb**	**23 06 33.6**	**0.0**
	baz=240								
EYUL	**Yuli**	**1.21**	**237**	*e*P			**Pg**	**23 06 18.5**	**0.0**
	baz=237								
EYUL				*e*S			**Sg**	**23 06 34.5**	**+0.3**
	baz=237								
NWF	**Wu-fen Shan**	**1.21**	**331**	⇑P			**Pg**	**23 06 19.9**	**+1.3**
	baz=331								
NWF				*e*S			**Sn**	**23 06 35.3**	**+0.5**
	baz=331								
WFSB	**Wu-fen Shan**	**1.21**	**331**	⇑P			**Pg**	**23 06 19.9**	**+1.3**
	baz=331								
WFSB				*e*S			**Sn**	**23 06 35.3**	**+0.6**
	baz=331								
TWF1	**Yuli**	**1.22**	**238**	⇓*e*P			**Pg**	**23 06 18.6**	**-0.1**
	baz=238								
TWF1				*e*S			**Sg**	**23 06 34.9**	**+0.3**
	baz=238								
TWA	**Mucha**	**1.23**	**322**	*e*P			**Pg**	**23 06 18.8**	**-0.3**
	baz=322								
TWA				*e*S			**Sb**	**23 06 33.4**	**-1.3**
	baz=322								
IRIF	**Iriomote-Funau**	**1.24**	**74**	P			**Pg**	**23 06 20.3**	**+1.1**
IRIF				*e*S			**Sn**	**23 06 37.9**	**+2.6**
TNOU	**National Taiwa**	**1.28**	**333**	*e*P			**Pg**	**23 06 19.6**	**-0.4**
	baz=332								
TATO	**Taipei**	**1.29**	**319**	*e*P			**Pn**	**23 06 19.1**	**-0.2**
	baz=319								
TATO				*e*S			**Sb**	**23 06 35.2**	**-0.9**
	baz=319								
FULB	**Fuli**	**1.31**	**232**	*e*P			**Pb**	**23 06 20.2**	**+0.2**
	baz=232								
FULB				*e*S			**Sb**	**23 06 37.1**	**+0.2**
	baz=232								
CHKT	**Chengkung**	**1.32**	**227**	*e*P			**Pg**	**23 06 21.5**	**+0.7**
	baz=227								
CHKT				*e*S			**Sb**	**23 06 35.2**	**-2.0**
	baz=227								
TAP	**Taipei**	**

	baz=259							
STYT	**Tauyuan**	**1.74**	**242**	*eP*		**Pb**	**23 06 27.1**	**-0.2**
	baz=241							
STYT				*eS*		**Sn**	**23 06 48.4**	**+0.5**
	baz=241							
WDLH	**Douliu**	**1.75**	**260**	*eP*		**Pb**	**23 06 26.9**	**-0.6**
	baz=260							
WDLH				*eS*		**Sn**	**23 06 48.2**	**+0.1**
	baz=260							
TPUB	**Ta-pu**	**1.79**	**247**	*eP*		**Pb**	**23 06 27.5**	**-0.6**
	baz=247							
TPUB				*eS*		**Sn**	**23 06 49.5**	**+0.6**
	baz=247							
CHN4	**Tsaushan**	**1.80**	**249**	*eP*		**Pb**	**23 06 27.5**	**-0.9**
	baz=249							
CHN4				*eS*		**Sn**	**23 06 49.7**	**+0.5**
	baz=249							
JISG	**Ishigakijimahi**	**1.82**	**71**	P		**Pb**	**23 06 28.2**	**-0.4**
JISG				*eS*		**Sb**	**23 06 50.1**	**-1.3**
WTP	**Ta-pu**	**1.82**	**246**	*eP*		**Pb**	**23 06 28.3**	**-0.4**
	baz=245							
WTP				*eS*		**Sn**	**23 06 50.4**	**+0.5**
	baz=245							
WTK	**Tuku**	**1.89**	**261**	*eP*		**Pb**	**23 06 28.8**	**-1.1**
	baz=260							
WTK				*eS*		**Sn**	**23 06 51.6**	**+0.2**
	baz=260							
SLGT	**Liugui**	**1.92**	**239**	*eP*		**Pb**	**23 06 29.6**	**-0.7**
	baz=238							
SLGT				*eS*		**Sn**	**23 06 53.0**	**+0.9**
	baz=238							
CHN1	**Nanshi**	**1.92**	**245**	*eP*		**Pb**	**23 06 29.7**	**-0.7**
	baz=245							
CHN1				*eS*		**Sn**	**23 06 52.8**	**+0.6**
	baz=245							
TWK	**Hsinying**	**1.92**	**248**	*eP*		**Pb**	**23 06 29.6**	**-0.8**
	baz=247							
TWK				*eS*		**Sn**	**23 06 52.7**	**+0.5**
	baz=247							
SGST	**Jiashian**	**1.92**	**242**	*eP*		**Pb**	**23 06 29.7**	**-0.7**
	baz=241							
SGST				*eS*		**Sn**	**23 06 53.1**	**+0.8**
	baz=241							
MASBT	**Mashibuluo**	**2.15**	**230**	*eP*		**Pb**	**23 06 33.4**	**-1.0**
	baz=230							
MASBT				*eS*		**Sn**	**23 06 59.4**	**+1.5**
	baz=230							

*ATH **12** 23:09:15.9, 35˚11N×26˚67E, h13km±3km, ML2.5/4, Error ellipse: s-maj=6.9km s-min=2.2km az=161.0*
*HLW **12** 23:09:18.7, 34˚73N×26˚93E, h26km±17km, Ml3.0*
ISC 12 23:09:14.6±1.1**, 35˚01N**±0˚07×**26˚72E**±0˚05**, h29**km**, n12**, σ1§**22**/15**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.42**	**284**	P	**Pb**	**23 09 23.1**	**-0.6**
ZKR				S	**Sb**	**23 09 29.1**	**-0.8**
ZKR				AML	AML	23 09 30.6	
	comp=N,1001μm,0.4s						
ZKR				AML	AML	23 09 30.7	
	comp=E,1955μm,0.4s						
NPS	**Neapolis**	**0.94**	**286**	P	**Pb**	**23 09 32.6**	**+0.3**
NPS				S	**Sb**	**23 09 45.5**	**+1.1**
NPS				AML	AML	23 09 53.4	
	comp=E,1240μm,0.6s						
NPS				AML	AML	23 09 53.6	
	comp=N,1150μm,0.7s						
LAST	**Lasithi**	**1.02**	**279**	P	**Pb**	**23 09 33.8**	**0.0**
LAST				AML	AML	23 09 55.5	
	comp=E,448μm,0.8s						
LAST				AML	AML	23 09 55.6	
	comp=N,504μm,0.5s						
IDI	**Anoyia**	**1.52**	**281**	P	**Pb**	**23 09 43.2**	**+1.1**
SIVA	**Sivas**	**1.56**	**271**	P	**Pb**	**23 09 43.7**	**+0.9**
ARG	**Arkhangelos**	**1.66**	**43**	P	**Pb**	**23 09 45.1**	**+0.6**
ARG				AML	AML	23 10 12.8	
	comp=E,238μm,0.3s						
ARG				AML	AML	23 10 15.9	
	comp=N,252μm,0.9s						
SNT5	**Nea Kammeni, S**	**1.76**	**323**	P	**Pb**	**23 09 45.3**	**-0.8**
IMMV	**Iera Moni Meta**	**2.28**	**282**	P	**Pb**	**23 09 54.3**	**-0.8**
SLUM	**Salum**	**3.73**	**200**	P	**Pn**	**23 10 11.6**	**+1.4**
	baz=205						
SLUM				AMP		23 10 00.0	
	baz=205						
SLUM				S	**Sn**	**23 10 50.4**	**-2.8**
	baz=205						
SWA2		**5.85**	**191**	P	**Pn**	**23 10 40.7**	**+1.4**
	baz=194						
SWA2				AMP		23 11 00.0	
	baz=194						
RYAN	**Fayoum**	**6.64**	**152**	P	**Pn**	**23 10 50.8**	**+0.6**
	baz=152						
RYAN				AMP		23 12 00.0	
	baz=152						
GLL	**Jalalah**	**6.87**	**141**	P	**Pn**	**23 10 53.2**	**-0.2**
	baz=140						

*ANF **12** 23:20:03.6±0.2, 36˚30N×96˚68W, h0km, ML3.9/14, Error ellipse: s-maj=1.9km s-min=1.7km az=71.0*
*TUL **12** 23:20:03.6±1.1, 36˚30N±0˚02×96˚67W±0˚05, h1km±7km, ML3.4, mb_Lg3.3/137(NEIC), Error ellipse: s-maj=5.5km s-min=2.7km az=87.0*
*NEIC **12** 23:20:04.0±1.0, 36˚30N±0˚01×96˚69W±0˚05, h5km±2km, Error ellipse: s-maj=6.3km s-min=3.0km az=94.0*
ISC 12 23:20:03.8±1.0**, 36˚30N**±0˚02×**96˚68W**±0˚03**, h6**km±8km**, n128,** σ0§**75**/107**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.13**	**190**	Pg	**Pg**	**23 20 06.7**	**+0.2**
QUOK				Sg	**Sg**	**23 20 08.7**	**+0.4**
OK031	**S. Brethren Rd**	**0.37**	**200**		**Pg**	**23 20 11.2**	**+0.2**
OK031				Sg	**Sg**	**23 20 16.4**	**+0.5**
OK030	**Cody Creek RV**	**0.38**	**193**		**Pg**	**23 20 11.4**	**+0.1**
OK030				Sg	**Sg**	**23 20 16.7**	**+0.5**
BLOK	**Blackwell**	**0.63**	**317**	Pg	**Pg**	**23 20 16.1**	**+0.1**
BLOK				Sg	**Sg**	**23 20 24.2**	**0.0**
T35A	**Sooner Cattle**	**0.63**	**12**	Pg	**Pg**	**23 20 15.8**	**-0.2**
T35A				Sg	**Sg**	**23 20 24.2**	**0.0**
T35B	**Sooner Cattle**	**0.63**	**12**	P	**Pg**	**23 20 15.8**	**-0.2**
	baz=192,SNR=198						
T35B				S	**Sg**	**23 20 24.1**	**-0.1**
	baz=192						
T35B	**Sooner Cattle**	**0.63**	**12**	P		23 20 15.8	
	baz=192,SNR=198						
T35B				S		23 20 24.1	
	baz=192						
OK005	**Luther M Schoo**	**0.77**	**213**	Pg	**Pg**	**23 20 17.4**	**-1.1**
OK005				Sg	**Sg**	**23 20 28.8**	**+0.3**
OK029	**Liberty Lake**	**0.80**	**232**		**Pg**	**23 20 19.2**	**-0.1**
OK029				Sg	**Sg**	**23 20 29.8**	**+0.1**
OK011	**Prague**	**0.81**	**180**	Pg	**Pg**	**23 20 18.8**	**-0.6**
TUL1	**Leonard**	**0.82**	**118**	P	**Pg**	**23 20 19.1**	**-0.4**
	baz=299,SNR=206						
TUL1				S	**Sg**	**23 20 29.7**	**-0.4**
	baz=299						
TUL1	**Leonard**	**0.82**	**118**	P		23 20 19.1	
	baz=299,SNR=206						
TUL1				S		23 20 29.7	
	baz=299						
OK025	**Westminster Rd**	**0.89**	**217**		**Pg**	**23 20 20.6**	**-0.4**
OK009	**Oakdale Elemen**	**0.94**	**220**	Pg	**Pg**	**23 20 21.6**	**-0.2**
KAN13	**South Haven SW**	**0.96**	**318**		**Pg**	**23 20 22.3**	**0.0**
BCOK	**Bluff Creek, N**	**0.99**	**230**		**Pg**	**23 20 22.6**	**-0.2**
CROK	**Carrier**	**1.07**	**281**		**Pg**	**23 20 24.1**	**-0.3**
OKCFA	**Oklahoma City**	**1.08**	**216**		**Pg**	**23 20 23.6**	**-0.9**
OKCFA	**Oklahoma City**	**1.08**	**216**	P	**Pg**	**23 20 23.8**	**-0.8**
	baz=35,SNR=21						
OKCFA				S	**Sb**	**23 20 39.0**	**-0.3**
	baz=35						
OKCFA	**Oklahoma City**	**1.08**	**216**	P		23 20 23.8	
	baz=35,SNR=21						
OKCFA				S		23 20 39.0	
	baz=35						
OKCSW	**OKLAHOMA CITY**	**1.08**	**215**		**Pg**	**23 20 23.8**	**-0.8**
GC02	**Grant County #**	**1.10**	**300**		**Pg**	**23 20 24.5**	**-0.4**
KAN09	**Caldwell North**	**1.12**	**318**		**Pg**	**23 20 25.1**	**-0.3**
KAN17	**Caldwell West**	**1.15**	**311**		**Pg**	**23 20 25.5**	**-0.3**
KS20	**Mayfield South**	**1.16**	**323**		**Pg**	**23 20 25.8**	**-0.4**
FNO	**Franklin**	**1.19**	**210**		**Pg**	**23 20 25.6**	**-1.1**
FNO				IAmb_Lg		23 20 41.6	
	comp=Z,136nm,0.7s						
KAN14	**Manchester OK**	**1.22**	**303**		**Pg**	**23 20 26.7**	**-0.6**
KAN05	**Bluff City Nor**	**1.25**	**310**		**Pg**	**23 20 27.2**	**-0.7**
KAN08	**Anthony NE Sta**	**1.39**	**312**		**Pn**	**23 20 29.7**	**-0.1**
KAN10	**Anthony SW Sta**	**1.40**	**306**		**Pn**	**23 20 30.0**	**0.0**
KAN16	**Harper SW Stat**	**1.45**	**310**		**Pn**	**23 20 30.7**	**+0.1**
U38A	**Gravette**	**1.86**	**85**		**Pn**	**23 20 36.5**	**+0.3**
U38A				IAmb_Lg		23 21 05.7	
	comp=Z,160nm,1.0s						
U38A	**Gravette**	**1.86**	**85**	P	**Pn**	**23 20 36.7**	**+0.5**
	baz=266,SNR=140						
U38A	**Gravette**	**1.86**	**85**	P		23 20 36.7	
	baz=266,SNR=140						
U32A	**Winter Ranch,**	**1.88**	**273**		**Pn**	**23 20 37.4**	**+0.9**
U32A				IAmb_Lg		23 21 07.8	
	comp=Z,234nm,0.8s						
U32A	**Winter Ranch,**	**1.88**	**273**	P	**Pn**	**23 20 37.7**	**+1.2**
	baz=92						
U32A	**Winter Ranch,**	**1.88**	**273**	P		23 20 37.7	
	baz=92						
X34A	**Smith Ranch, M**	**1.94**	**209**	Pn	**Pn**	**23 20 38.5**	**+1.1**
X34A				IAmb_Lg		23 21 07.9	
	comp=Z,148nm,0.9s						
X37A	**Clayton**	**2.01**	**148**		**Pn**	**23 20 39.0**	**+0.7**
X37A				IAmb_Lg		23 21 08.6	
	comp=Z,130nm,0.7s						
X37A	**Clayton**	**2.01**	**148**	P	**Pn**	**23 20 39.0**	**+0.7**
	baz=328,SNR=46						
X37A				S	**Sb**	**23 21 06.0**	**-0.1**
	baz=328						
X37A	**Clayton**	**2.01**	**148**	P		23 20 39.0	
	baz=328,SNR=46						
X37A				S		23 21 06.0	
	baz=328						
HHAR	**Hobbs**	**2.21**	**90**	P	**Pn**	**23 20 42.5**	**+1.4**
	baz=271						
HHAR	**Hobbs**	**2.21**	**90**	P		23 20 42.5	
	baz=271						
WMOK	**Wichita Mounta**	**2.32**	**228**		**Pn**	**23 20 43.3**	**+0.8**
WMOK				IAmb_Lg		23 21 18.8	
	comp=Z,123nm,0.8s						
WMOK	**Wichita Mounta**	**2.32**	**228**	P	**Pn**	**23 20 43.4**	**+0.8**
	baz=47,SNR=52						
WMOK	**Wichita Mounta**	**2.32**	**228**	P		23 20 43.4	
	baz=47,SNR=52						
LOOK	**Love County**	**2.34**	**190**		**Pn**	**23 20 43.4**	**+0.6**
LOOK				IAmb_Lg		23 21 21.4	
	comp=Z,161nm,0.9s						
W39A	**Magazine**	**2.60**	**114**		**Pn**	**23 20 47.3**	**+0.9**
W39A	**Magazine**	**2.60**	**114**	P	**Pn**	**23 20 47.0**	**+0.6**
	baz=296						
W39A	**Magazine**	**2.60**	**114**	P		23 20 47.0	
	baz=296						
R32A	**Long Quarter,**	**2.67**	**323**		**Pn**	**23 20 48.2**	**+0.8**
R32A	**Long Quarter,**	**2.67**	**323**	P	**Pn**	**23 20 48.1**	**+0.7**
	baz=142,SNR=11						
R32A				S	**Sn**	**23 21 21.0**	**+1.0**
	baz=142						
R32A	**Long Quarter,**	**2.67**	**323**	P		23 20 48.1	
	baz=142,SNR=11						
R32A				S		23 21 21.0	
	baz=142						
KSU1	**Kansas State U**	**2.80**	**1**		**Pn**	**23 20 50.2**	**+1.1**
Z35A	**Perchaven, San**	**3.00**	**189**	Pn	**Pn**	**23 20 52.5**	**+0.6**
S39A	**Bolivar**	**3.02**	**62**		**Pn**	**23 20 54.1**	**+1.8**
S39A				IAmb_Lg		23 21 46.5	
	comp=Z,84nm,0.9s						
S39A	**Bolivar**	**3.02**	**62**	P	**Pn**	**23 20 53.0**	**+0.7**
	baz=244,SNR=30						
S39A	**Bolivar**	**3.02**	**62**	P		23 20 53.0	
	baz=244,SNR=30						
MIAR	**Mount Ida**	**3.08**	**124**	Pn	**Pn**	**23 20 54.0**	**+1.0**
MIAR	**Mount Ida**	**3.08**	**124**	P	**Pn**	**23 20 53.8**	**+0.8**
	baz=306,SNR=9.5						
MIAR				S	**Sn**	**23 21 31.8**	**+1.6**
	baz=306						
MIAR	**Mount Ida**	**3.08**	**124**	P		23 20 53.8	
	baz=306,SNR=9.5						
MIAR				S		23 21 31.8	
	baz=306						
U40A	**Yellville**	**3.09**	**88**	Pn	**Pn**	**23 20 53.4**	**+0.3**
U40A				IAmb_Lg		23 21 43.9	
	comp=Z,94nm,0.9s						
U40A	**Yellville**	**3.09**	**88**	P	**Pn**	**23 20 53.5**	**+0.3**
	baz=270,SNR=88						
U40A	**Yellville**	**3.09**	**88**	P		23 20 53.5	
	baz=270,SNR=88						
U40A				P		23 20 53.5	
	baz=270,SNR=88						
Z38A	**Mt. Pleasant**	**3.34**	**155**	Pn	**Pn**	**23 20 56.8**	**+0.3**
Z38A				IAmb_Lg		23 21 51.5	
	comp=Z,73nm,0.8s						
CBKS	**Cedar Bluff**	**3.49**	**317**	Pn	**Pn**	**23 21 00.2**	**+1.5**
CBKS				IAmb_Lg		23 22 03.8	
	comp=Z,51nm,0.8s						
X40A	**Basin Creek Fa**	**3.62**	**119**	IAmb_Lg		23 22 08.1	
	comp=Z,75nm,0.7s						
X40A	**Basin Creek Fa**	**3.62**	**119**	P	**Pn**	**23 21 00.9**	**+0.4**
	baz=301,SNR=12						
X40A	**Basin Creek Fa**	**3.62**	**119**	P		23 21 00.9	
	baz=301,SNR=12						
X40A				P		23 21 00.9	
	baz=301,SNR=12						
MGMO	**Mountain Grove**	**3.65**	**75**		**Pn**	**23 21 01.3**	**+0.5**
MGMO				IAmb_Lg		23 22 00.2	
	comp=Z,118nm,0.7s						
WHAR	**Wooly Hollow**	**3.71**	**104**	Pn	**Pn**	**23 21 02.9**	**+1.2**
WHAR				IAmb_Lg		23 22 04.4	
	comp=Z,114nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.71**	**95**		**Pn**	**23 21 02.7**	**+1.0**
FCAR				IAmb_Lg		23 22 02.6	
	comp=Z,50nm,0.7s						
W41B	**Gary Mavity, V**	**3.78**	**106**	P	**Pn**	**23 21 03.4**	**+0.9**
	baz=289,SNR=15						
W41B	**Gary Mavity, V**	**3.78**	**106**	P		23 21 03.4	
	baz=289,SNR=15						
WLAR	**White Oak Lake**	**3.92**	**131**		**Pn**	**23 21 05.4**	**+0.9**
WLAR				IAmb_Lg		23 22 13.3	
	comp=Z,56nm,0.7s						
R40A	**Maddies Statio**	**4.04**	**59**	P	**Pn**	**23 21 06.9**	**+0.7**
	baz=242,SNR=13						
R40A	**Maddies Statio**	**4.04**	**59**	P		23 21 06.9	
	baz=242,SNR=13						
P38A	**Dawn**	**4.15**	**36**	Pn	**Pn**	**23 21 07.9**	**+0.2**
P38A				IAmb_Lg		23 22 17.9	
	comp=Z,102nm,0.7s						
AMTX	**Amarillo**	**4.31**	**252**	Pn	**Pn**	**23 21 11.3**	**+1.3**
AMTX				IAmb_Lg		23 22 26.3	
	comp=Z,117nm,0.7s						
WHTX	**Lake Whitney,**	**4.34**	**189**		**Pn**	**23 21 10.4**	**0.0**
237A	**Washetta, Mont**	**4.35**	**170**	Pn	**Pn**	**23 21 10.3**	**-0.1**
ABTX	**Abilene, Hawle**	**4.41**	**215**		**Pn**	**23 21 12.2**	**+0.9**
ABTX				IAmb_Lg		23 22 33.7	
	comp=Z,107nm,1.3s						
N33A	**J Bar K, Exete**	**4.47**	**352**		**Pn**	**23 21 12.7**	**+0.5**
N33A				IAmb_Lg		23 22 35.5	
	comp=Z,84nm,0.8s						
LCAR	**Lake Charles**	**4.48**	**91**		**Pn**	**23 21 12.4**	**+0.2**
LCAR				IAmb_Lg		23 22 23.0	
	comp=Z,73nm,1.1s						
T42A	**Van Buren**	**4.55**	**79**	Pn	**Pn**	**23 21 13.4**	**+0.1**
T42A				IAmb_Lg		23 22 34.1	
	comp=Z,76nm,0.7s						
N35A	**Tabor**	**4.63**	**10**		**Pn**	**23 21 13.8**	**-0.5**
CCAR	**Cane Creek**	**4.67**	**119**	IAmb_Lg		23 22 41.9	
	comp=Z,76nm,0.9s						
NATX	**Nacogdoches**	**4.83**	**159**	IAmb_Lg		23 22 41.4	
	comp=Z,39nm,0.8s						
P40A	**Paris**	**4.88**	**47**	IAmb_Lg		23 22 44.3	
	comp=Z,92nm,0.8s						
PBMO	**Poplar Bluff**	**5.06**	**83**	IAmb_Lg		23 22 50.9	
	comp=Z,75nm,0.9s						
BGNE	**Belgrade**	**5.23**	**348**	IAmb_Lg		23 22 57.1	
	comp=Z,68nm,0.9s						
FVM	**French Village**	**5.27**	**70**	Pn	**Pn**	**23 21 23.7**	**+0.6**
FVM				IAmb_Lg		23 22 49.6	
	comp=Z,82nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.44**	**302**	Pn	**Pn**	**23 21 25.9**	**+0.3**
KSCO				IAmb_Lg		23 23 09.9	
	comp=Z,33nm,0.8s						
MSTX	**Muleshoe**	**5.51**	**247**	Pn	**Pn**	**23 21 26.5**	**0.0**
MSTX				IAmb_Lg		23 23 11.9	
	comp=Z,28nm,0.8s						
435B	**Jarrell**	**5.55**	**188**	Pn	**Pn**	**23 21 26.5**	**-0.5**
435B				IAmb_Lg		23 23 12.5	
	comp=Z,38nm,0.7s						
143A	**Socs Landing,**	**5.64**	**128**	IAmb_Lg		23 23 11.0	
	comp=Z,49nm,0.8s						
OXF	**Oxford**	**6.20**	**105**	IAmb_Lg		23 23 27.4	
	comp=Z,44nm,0.9s						
W45A	**Hickory Valley**	**6.20**	**98**	IAmb_Lg		23 23 32.5	
	comp=Z,47nm,0.9s						
SCIA	**State Center**	**6.21**	**25**		**Pn**	**23 21 37.0**	**+0.9**
SCIA				IAmb_Lg		23 23 22.5	
	comp=Z,66nm,0.8s						
OGNE	**Ogallala**	**6.25**	**320**	Pn	**Pn**	**23 21 37.3**	**+0.6**
T25A	**Trinidad**	**6.27**	**280**		**Pn**	**23 21 36.7**	**-0.3**
T25A				IAmb_Lg		23 23 26.5	
	comp=Z,52nm,0.8s						
JCT	**Junction City**	**6.36**	**205**	IAmb_Lg		23 23 36.1	
	comp=Z,61nm,0.8s						
K31A	**O'Neill**	**6.51**	**346**	IAmb_Lg		23 23 31.4	
	comp=Z,66nm,0.8s						
K38A	**Parkersburg**	**7.02**	**24**	Pn	**Pn**	**23 21 47.5**	**+0.4**
K38A				IAmb_Lg		23 24 04.5	
	comp=Z,32nm,0.8s						
PLAL	**Pickwick Lake**	**7.13**	**98**	Pn	**Pn**	**23 21 46.3**	**-2.4**
PLAL				IAmb_Lg		23 23 56.4	
	comp=Z,20nm,0.9s						
L40A	**Anamosa**	**7.15**	**35**	Pn	**Pn**	**23 21 50.7**	**+1.8**
L40A				IAmb_Lg		23 24 05.2	
	comp=Z,37nm,0.8s						
HDIL	**Hopedale**	**7.19**	**52**	Pn	**Pn**	**23 21 50.0**	**+0.6**
SDCO	**Great Sand Dun**	**7.20**	**284**	Pn	**Pn**	**23 21 51.2**	**+1.3**
146A	**Union**	**7.28**	**118**	IAmb_Lg		23 24 11.3	
	comp=Z,21nm,1.2s						
ECSD	**EROS Data Cent**	**7.43**	**0**	Pn	**Pn**	**23 21 52.8**	**0.0**
735A	**Kenedy**	**7.48**	**188**	Pn	**Pn**	**23 21 51.9**	**-1.6**
T47A	**Sharon Grove**	**7.73**	**82**	Pn	**Pn**	**23 21 56.7**	**-0.1**
Z47A	**Carrollton**	**7.73**	**111**	Pn	**Pn**	**23 21 57.0**	**+0.1**
Z47A				IAmb_Lg		23 24 20.2	
	comp=Z,21nm,1.0s						
ISCO	**Idaho Springs**	**7.87**	**299**	Pn	**Pn**	**23 21 59.3**	**+0.2**
L42A	**Oliver, Polo**	**7.88**	**42**	Pn	**Pn**	**23 21 59.6**	**+0.6**
V48A	**Smith Brothers**	**8.01**	**91**	IAmb_Lg		23 24 15.3	
	comp=Z,23nm,1.1s						
I37A	**Lemond, Waseca**	**8.10**	**17**	IAmb_Lg		23 24 32.2	
	comp=Z,30nm,1.0s						
JFWS	**Jewell Farm**	**8.26**	**35**	IAmb_Lg		23 24 25.8	
	comp=Z,38nm,0.7s						
SUSD	**Miller**	**8.32**	**349**	IAmb_Lg		23 24 50.1	
	comp=Z,29nm,0.8s						
CLTN	**Cedars of Leba**	**8.37**	**88**	IAmb_Lg		23 24 35.4	
	comp=Z,23nm,1.1s						
PHWY	**Pilot Hill**	**8.48**	**309**	IAmb_Lg		23 24 47.9	
	comp=Z,16nm,0.8s						
WCI	**Wyandotte Cave**	**8.50**	**74**	IAmb_Lg		23 24 35.2	
	comp=Z,30nm,0.9s						
MNTX	**Cornudas Mount**	**8.56**	**240**	Pn	**Pn**	**23 22 09.3**	**+1.1**
MNTX				IAmb_Lg		23 24 45.7	
	comp=Z,20nm,1.1s						
SFIN	**Lafayette**	**8.56**	**59**	IAmb_Lg		23 24 32.1	
	comp=Z,33nm,0.8s						
Y22D	**IRIS PASSCAL I**	**8.67**	**258**	IAmb_Lg		23 24 57.4	
	comp=Z,41nm,0.9s						
LENM	**Lemitar**	**8.69**	**259**	Pn	**Pn**	**23 22 09.6**	**-0.6**
U49A	**Red Boiling Sp**	**8.79**	**85**	Pn	**Pn**	**23 22 11.3**	**-0.2**
U49A				IAmb_Lg		23 24 41.2	
	comp=Z,20nm,0.8s						
SWET	**Sewanee**	**8.80**	**94**	IAmb_Lg		23 24 40.9	
	comp=Z,19nm,0.9s						
I40A	**Norwalk**	**8.89**	**30**	IAmb_Lg		23 24 50.4	
	comp=Z,23nm,0.9s						
FPAL	**Fort Paine**	**9.20**	**98**	IAmb_Lg		23 25 15.4	
	comp=Z,17nm,1.1s						
W50A	**Signal Mountai**	**9.31**	**93**	IAmb_Lg		23 25 07.3	
	comp=Z,34nm,0.9s						
R49A	**Shelbyville**	**9.38**	**74**	IAmb_Lg		23 24 54.8	
	comp=Z,23nm,1.0s						
SPMN	**Marine on St.**	**9.39**	**17**	IAmb_Lg		23 25 08.0	
	comp=Z,15nm,0.9s						
P48A	**Milroy**	**9.44**	**67**	IAmb_Lg		23 25 03.4	
	comp=Z,36nm,0.7s						
T50A	**Nancy**	**9.54**	**82**	IAmb_Lg		23 25 08.1	
	comp=Z,17nm,1.0s						
RSSD	**Black Hills**	**9.62**	**327**	Pn	**Pn**	**23 22 23.0**	**-0.1**
RSSD				IAmb_Lg		23 25 18.8	
	comp=Z,29nm,1.1s						
I42A	**Draeger Farm,**	**9.63**	**36**	IAmb_Lg		23 25 16.4	
	comp=Z,27nm,1.1s						
RWWY	**Rawlins**	**9.80**	**306**	IAmb_Lg		23 25 24.1	
	comp=Z,20nm,0.9s						
F36A	**Milaca**	**9.85**	**13**	Pn	**Pn**	**23 22 25.9**	**0.0**
121A	**Cookes Peak, D**	**9.91**	**251**	IAmb_Lg		23 25 38.3	
	comp=Z,22nm,1.2s						
P49A	**Miami Univ. Ec**	**9.99**	**68**	IAmb_Lg		23 25 26.0	
	comp=Z,32nm,0.8s						
V51A	**Loudon**	**10.00**	**89**	IAmb_Lg		23 25 39.0	
	comp=Z,27nm,1.2s						
G40A	**Rib Lake**	**10.21**	**27**	Pn	**Pn**	**23 22 30.4**	**-0.6**
S51A	**Beattyville**	**10.56**	**79**	Pn	**Pn**	**23 22 35.8**	**+0.2**

*IDC **12** 23:59:38.3±2.1, 42˚73N×142˚68E, h133km±13km, mb3.3/5, mb1 3.6/5, mb1mx3.1/33, mbtmp3.7/5, Error ellipse: s-maj=28.1km s-min=21.6km az=156.0*
*JMA **12** 23:59:38.8±0.1, 42˚79N×142˚82E, h124km±2km, M3.4*
ISC 12 23:59:37.9±0.8**, 42˚72N**±0˚05×**142˚76E**±0˚04**, h133**km±6km**, n25,** σ0§**84**/42**, mb3.5**/5**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.30**	**282**	P	**Pn**	**23 59 56.4**	**0.0**
JBT2				*eS*	**Sn**	**00 00 09.9**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.43**	**181**	P	**Pn**	**23 59 57.7**	**+0.7**
JNBK				*eS*	**Sn**	**00 00 12.8**	**+1.5**
JCH	**Churui**	**0.45**	**103**	P	**Pn**	**23 59 56.6**	**-0.4**
JCH				*eS*	**Sn**	**00 00 10.1**	**-1.3**
JFR	**Furan**	**0.47**	**345**	P	**Pn**	**23 59 56.6**	**-0.5**
JFR				*eS*	**Sn**	**00 00 10.3**	**-1.4**
JIAM	**Iburiatsuma**	**0.63**	**262**	P	**Pn**	**23 59 59.2**	**+1.2**
JIAM				*eS*	**Sn**	**00 00 15.3**	**+2.1**
JEM	**Erimo**	**0.76**	**157**	P	**Pn**	**23 59 59.6**	**+0.6**
JOB	**Onbets**	**0.81**	**76**	P	**Pn**	**23 59 59.5**	**+0.1**
JOB				*eS*	**Sn**	**00 00 15.3**	**-0.4**
JAB	**Ashibetsu**	**0.88**	**334**	P	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**4.88**	**281**	*eP*	Pg	00 28 36.7	+0.4
	1.1nm,0.0s						
KTMS				*eS*	Sg	00 29 45.0	+5.6
	8.6nm,0.3s						
ZSN	**Zaisan**	**4.95**	**344**	*eP*	Pg	00 28 37.1	-0.6
	2.5nm,0.1s						
ZSN				*eS*	Sg	00 29 45.7	+3.8
	4.1nm,0.3s						
MK31	**Makanchi Array**	**5.25**	**323**	⇑Pn	Pg	00 28 41.0	-2.4
	0.6nm,0.3s,baz=141,slow=15,SNR=96						
MK31				⇑Sn	Sg	00 29 54.3	+3.0
	0.7nm,0.3s						
MK31				⇑Lg	Lg	00 30 29.5	
	3.4nm,0.6s,baz=141,slow=29,SNR=3.6						
MAKZ	**Makanchi**	**5.40**	**321**	⇑Pn	Pg	00 28 43.4	-3.0
	0.7nm,0.5s						
MAKZ				⇑Sn	Sg	00 29 57.4	+1.1
	0.9nm,0.5s						
MAKZ				⇑Lg	Lg	00 30 31.6	
	3.0nm,0.7s						
DJR	**Jarkent**	**5.44**	**290**	*eP*	Pg	00 28 44.5	-2.6
	0.2nm,0.1s						
DJR				*eS*	Sg	00 29 59.0	+1.5
	0.3nm,0.3s						
PDGK	**Podgornoye**	**5.49**	**279**	⇓Pn	Pg	00 28 43.9	-4.2
	1.5nm,0.3s						
PDGK				⇓Sn	Sg	00 29 57.9	-1.3
	6.0nm,0.7s						
PDGK				⇑Lg	Lg	00 30 32.1	
	6.1nm,0.5s						
SHLS	**Shalkode**	**5.50**	**277**	*eP*	Pb	00 28 41.9	+2.4
SHLS				*eS*	Sg	00 29 53.9	-5.7
KAPS	**Kapalarasan**	**6.04**	**298**	*eP*	Pg	00 28 54.5	-4.0
	0.1nm,0.3s						
KAPS				*eS*	Sg	00 30 15.9	-0.8
	0.2nm,0.3s						
KPKS	**Kokpek**	**6.09**	**280**	*eP*	Pb	00 28 52.8	+3.4
	3.5nm,0.1s						
KPKS				*eS*	Sg	00 30 13.0	-5.3
	5.7nm,0.4s						

NEIC ***13*** *00:32:58.5±0.8, 19.°61S±0.°09×177.°0W±0.°1, h566km±13km, mb4.1/15, Error ellipse: s-maj=19.4km s-min=12.8km az=76.0*
IDC ***13*** *00:33:01.7±2.2, 19.°75S×177.°46W, h569km±24km, mb2.8/3, mb1 3.2/5, mb1mx2.9/22, mbtmp3.9/5, Error ellipse: s-maj=35.2km s-min=25.4km az=140.0*
ISC 13 00:32:57.3±0.9, 19.°6S±0.°2×177.°0W±0.°1, h550km, n24, σ1§13/23, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.10**	**291**	**P**	**P**	**00 34 30.3**	**+2.2**
	2.3nm,0.3s,baz=150,slow=16,SNR=10.0						
DZM	**Mont Dzumac**	**15.71**	**258**	**P**	**P**	**00 36 11.6**	**-2.5**
DZM				IAmb	IAmb	00 36 23.1	
	comp=Z,7.1nm,0.8s						
URZ	**Urewera**	**19.26**	**194**	P	**P**	**00 36 47.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=304,slow=22,SNR=1.3						
URZ	**Urewera**	**19.26**	**194**	P	**P**	**00 36 47.7**	**+1.3**
URZ				IAmb	IAmb	00 36 48.7	
	comp=Z,13nm,1.2s						
MSWZ	**Moikau Station**	**22.70**	**195**	P	**P**	**00 37 17.5**	**+0.1**
NNZ	**Nelson**	**23.04**	**199**	P	**P**	**00 37 19.4**	**-1.0**
LBZ	**Lake Benmore**	**26.91**	**201**	P	**P**	**00 37 54.8**	**+0.1**
XMAS	**Kiritimati**	**28.83**	**44**	P	**P**	**00 38 11.4**	**-0.5**
EIDS	**Eidsvold**	**30.03**	**253**	P	**P**	**00 38 21.5**	**-0.6**
ARMA	**Armidale**	**30.33**	**243**	P	**P**	**00 38 24.7**	**-0.1**
ARMA				IAmb	IAmb	00 38 26.7	
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**34.56**	**263**	P	**P**	**00 39 00.2**	**-0.5**
CTAO				IAmb	IAmb	00 39 04.6	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**43.81**	**243**	P	**P**	**00 40 16.1**	**+1.2**
BBOO				IAmb	IAmb	00 40 32.5	
	comp=Z,5.6nm,1.1s						
WR0	**Warramunga Arr**	**45.51**	**261**	P	**P**	**00 40 27.8**	**-0.4**
WR0				IAmb	IAmb	00 40 34.8	
	comp=Z,4.0nm,1.1s						
WB0	**Warramunga Arr**	**45.67**	**261**	P	**P**	**00 40 28.8**	**-0.6**
WB0				IAmb	IAmb	00 40 37.6	
	comp=Z,2.5nm,1.0s						
AS31	**Alice Springs**	**45.67**	**256**	P	**P**	**00 40 29.5**	**+0.1**
ASAR	**Alice Springs**	**45.67**	**256**	P	**P**	**00 40 29.2**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=87,slow=8.3,SNR=21						
ASAR	**Alice Springs**	**45.67**	**256**	P	**P**	**00 40 29.0**	**-0.5**
WB2	**Warramunga Arr**	**45.69**	**261**	P	**P**	**00 40 28.8**	**-0.7**
WB2				IAmb	IAmb	00 40 29.4	
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**45.70**	**261**	P	**P**	**00 40 28.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=97,slow=5.9,SNR=22						
WRA	**Warramunga Arr**	**45.70**	**261**	P	**P**	**00 40 28.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**54.12**	**261**	P	**P**	**00 41 29.9**	**-1.4**
NVAR	**Mina Array Bea**	**79.73**	**43**	P	P	00 44 13.8	+5.1
	comp=Z,0.1nm,0.3s,baz=215,slow=7.7,SNR=2.6						
HVU	**Hansel Valley**	**85.11**	**43**	**P**	**P**	**00 44 35.1**	**-0.5**
HVU				IAmb	IAmb	00 44 35.5	
	comp=Z,3.5nm,0.8s						
GERES	**GERESS Array B**	**149.62**	**346**	PKPbc	**PKiKP**	**00 51 47.0**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=15,slow=4.1,SNR=3.5						

ISK ***13*** *01:03:14.6, 38.°65N×40.°13E, h5km, ML3.7/21*
DDA ***13*** *01:03:15.9, 38.°66N×40.°20E, h25km±1km, MW4.0*
IDC ***13*** *01:03:16.1±1.1, 38.°67N×40.°15E, h0km, mb3.4/9, mb1 3.5/14, mb1mx3.4/51, mbtmp3.4/14, ML2.7/3, MS2.8/5, Ms1 2.8/5, ms1mx2.4/41, Error ellipse: s-maj=20.9km s-min=9.5km az=160.0*
ISC 13 01:03:16.3±1.1, 38.°63N±0.°02×40.°17E±0.°01, h1km±8km, n98, σ1§51/136, mb3.4/9, 10C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANI	**Diyarbakir_Han**	**0.28**	**139**	⇑*iP*	**Pg**	**01 03 21.3**	**-0.3**
HANI				*i* S	**Sb**	**01 03 28.1**	**-1.2**
KOVA	**Elazig, Kovanc**	**0.29**	**286**	⇑*iP*	**Pg**	**01 03 22.2**	**+0.4**
KOVA				*i* S	**Sb**	**01 03 29.4**	**-0.3**
BNGB	**Bingl**	**0.54**	**47**	PG	**Pg**	**01 03 26.0**	**-0.7**
BNGB				SG	**Sb**	**01 03 35.6**	**-1.5**
DYBB	**Diyarbakir**	**0.67**	**182**	PG	**Pg**	**01 03 29.9**	**+0.8**
DYBB				SG	**Sb**	**01 03 39.8**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.69**	**315**	⇑*iP*	**Pg**	**01 03 28.9**	**-0.6**
TNCL				*i* S	**Sb**	**01 03 40.3**	**-1.0**
DIYA	**Diyarbakir**	**0.70**	**183**	⇓*iP*	**Pb**	**01 03 30.7**	**-0.6**
DIYA				*i* S	**Sb**	**01 03 42.1**	**+0.6**
SLHN	**Bingol, Solhan**	**0.75**	**63**	⇓*iP*	**Pg**	**01 03 30.1**	**-0.5**
SLHN				*i* S	**Sg**	**01 03 40.4**	**+0.1**
YEDI	**Yedisu-Bingol**	**0.86**	**20**	PG	**Pg**	**01 03 31.9**	**-0.9**
YEDI				SG	**Sb**	**01 03 44.9**	**-1.5**
ELZG	**Elazig**	**0.94**	**263**	⇓*iP*	**Pg**	**01 03 33.9**	**-0.3**
ELZG				*i* S	**Sn**	**01 03 51.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.94**	**120**	⇑*iP*	**Pg**	**01 03 33.8**	**-0.5**
SVAN				*i* S	**Sg**	**01 03 47.6**	**+1.2**
SVAN	**Silvan-Diyarba**	**0.94**	**120**	PG	**Pg**	**01 03 33.7**	**-0.5**
KARO	**Karliova-Bingo**	**0.97**	**45**	PG	**Pg**	**01 03 34.1**	**-0.8**
ERZN	**Erzincan**	**1.02**	**340**	PG	**Pg**	**01 03 34.6**	**-1.2**
ERZN				SG	**Sb**	**01 03 49.3**	**-1.6**
MUSM	**Mu-Merkez**	**1.06**	**84**	⇓*iP*	**Pg**	**01 03 35.3**	**-1.2**
MUSM				*i* S	**Sb**	**01 03 52.0**	**0.0**
BTMN	**Batman**	**1.14**	**130**	⇑*iP*	**Pg**	**01 03 37.8**	**-0.2**
BTMN				*i* S	**Sb**	**01 03 54.3**	**+0.1**
VRTB	**Varto-Mus**	**1.14**	**62**	⇓*iP*	**Pg**	**01 03 37.0**	**-1.1**
VRTB				*i* S	**Sn**	**01 03 59.1**	**+3.2**
VRTB	**Varto-Mus**	**1.14**	**62**	PN	**Pg**	**01 03 37.8**	**-0.3**
EUZM	**Uzumlu**	**1.14**	**342**	⇑*iP*	**Pb**	**01 03 37.4**	**-1.5**
EUZM				*i* S	**Sn**	**01 03 54.8**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.17**	**32**	⇓*iP*	**Pg**	**01 03 37.4**	**-1.2**
ECAT				*i* S	**Sn**	**01 03 54.7**	**-2.0**
MAZI	**Mazidag**	**1.18**	**169**	PN	**Pg**	**01 03 38.7**	**-0.3**
REFA	**Refahiye_ERZN**	**1.34**	**306**	*i* P	Pb	01 03 46.9	+4.7
REFA				*i* S	Sn	01 04 08.8	+7.9
MARD	**Mardin**	**1.40**	**159**	⇑*iP*	**Pn**	**01 03 42.3**	**-0.7**
MARD				*i* S	**Sb**	**01 04 01.7**	**+0.1**
MALT	**Malatya**	**1.40**	**258**	PN	**Pn**	**01 03 41.8**	**-1.3**
KOPT	**Kop Dagi**	**1.42**	**10**	⇓*iP*	**Pg**	**01 03 43.3**	**-0.1**
KOPT				*i* S	**Sn**	**01 04 06.2**	**+3.2**
KEMA	**Kemaliye**	**1.45**	**297**	⇑*iP*	**Pn**	**01 03 42.1**	**-1.7**
KEMA				*i* S	**Sg**	**01 04 03.8**	**+0.8**
GURO	**Guroymak-BITLI**	**1.46**	**92**	PN	**Pn**	**01 03 43.6**	**-0.4**
ILIC	**ilic-Erzincan**	**1.49**	**304**	PN	**Pn**	**01 03 43.0**	**-1.4**
EJDE	**Erzurum, Palan**	**1.50**	**36**	⇓*iP*	**Pn**	**01 03 43.3**	**-1.4**
EJDE				*i* S	**Sn**	**01 04 09.2**	**+4.1**
ARPR	**Arapgir-MALATY**	**1.50**	**289**	PN	**Pn**	**01 03 43.2**	**-1.4**
SRTM	**Siirt_Merkez**	**1.52**	**114**	⇑*iP*	**Pn**	**01 03 44.0**	**-0.8**
SRTM				*i* S	**Sg**	**01 04 05.4**	**+0.3**
EMRE	**Erzurum,Aziziy**	**1.54**	**24**	*i* P	**Pg**	**01 03 45.2**	**-0.5**
EMRE				*i* S	**Sg**	**01 04 10.2**	**+4.5**
BLIS	**Bitlis-Merkez**	**1.54**	**97**	⇓*iP*	**Pn**	**01 03 44.9**	**-0.3**
BLIS				*i* S	**Sg**	**01 04 06.3**	**+0.5**
MIDY	**Mardin/Midyat-**	**1.56**	**141**	⇑*iP*	**Pn**	**01 03 44.4**	**-0.9**
MIDY				*i* S	**Sn**	**01 04 05.7**	**-0.4**
ERZM	**Erzurum**	**1.58**	**36**	⇓*iP*	**Pb**	**01 03 45.2**	**-1.3**
ERZM				*i* S	**Sg**	**01 04 10.6**	**+3.5**
URFA	**Urfa**	**1.59**	**222**	PN	**Pn**	**01 03 44.7**	**-1.0**
BAYB	**BAYBURT**	**1.63**	**2**	*i* P	**Pg**	**01 03 46.3**	**-1.3**
BAYB				*i* S	**Sg**	**01 04 11.2**	**+2.4**
KELT	**Kelkit**	**1.68**	**335**	*i* P	**Sg**	**01 03 47.0**	**-1.4**
KELT				*i* S	**Sg**	**01 04 12.3**	**+2.1**
SANL	**SANLIURFA_Merk**	**1.72**	**213**	⇓*iP*	**Pn**	**01 03 47.4**	**-0.1**
SANL				*i* S	**Sg**	**01 04 12.2**	**+0.6**
AKDA	**Akdag**	**1.74**	**32**	*i* P	**Pb**	**01 03 48.2**	**-1.1**
AKDA				*i* S	Sg	01 04 21.0	+8.7
BAYT	**Aydıntepe-Bayb**	**1.77**	**359**	PN	**Pn**	**01 03 47.2**	**-1.0**
AKCD	**Akcadag**	**1.79**	**260**	*i* P	**Pb**	**01 03 49.5**	**-0.6**
AKCD				*i* S	**Sg**	**01 04 17.5**	**+3.7**
KRIK	**Erzurum-spir**	**1.81**	**19**	*i* P	**Pg**	**01 03 49.9**	**-1.0**
KRIK				*i* S	**Sg**	**01 04 18.5**	**+4.1**
ATAB	**Bozova**	**1.87**	**233**	*i* P	**Pn**	**01 03 49.7**	**+0.1**
ATAB				*i* S	**Sg**	**01 04 16.2**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**1.89**	**43**	PN	**Pn**	**01 03 49.4**	**-0.5**
MLAZ	**Malazgirt-MUS**	**1.93**	**74**	PN	**Pn**	**01 03 50.2**	**-0.2**
HOMI	**Horasan**	**1.96**	**43**	*i* P	**Pb**	**01 03 51.2**	**-1.7**
HOMI				*i* S	**Sg**	**01 04 25.6**	**+6.5**
PERV	**Siirt/Pervari-**	**1.99**	**109**	*i* P	**Pn**	**01 03 50.8**	**-0.4**
PERV				*i* S	**Sb**	**01 04 18.6**	**-0.1**
ADCV	**BITLIS_Adilcev**	**2.01**	**84**	*i* P	**Pb**	**01 03 53.1**	**-0.6**
ADCV				*i* S	**Sg**	**01 04 23.6**	**+2.7**
ALUC	**Giresun/Alucra**	**2.03**	**328**	*i* P	**Pb**	**01 03 53.0**	**-1.0**
ALUC				*i* S	**Sg**	**01 04 21.9**	**+0.4**
SIRN	**Sırnak**	**2.10**	**122**	*i* P	**Pn**	**01 03 51.9**	**-0.9**
SIRN				*i* S	**Sg**	**01 04 23.2**	**-0.6**
DARE	**Darende-Malaty**	**2.10**	**269**	PN	**Pn**	**01 03 51.9**	**-0.9**
SIRT	**Sirnak**	**2.12**	**121**	PN	**Pn**	**01 03 53.1**	**+0.2**
SURC	**SANLIURFA_SURC**	**2.13**	**216**	*i* P	**Pn**	**01 03 53.3**	**+0.2**
SURC				*i* S	**Sg**	**01 04 25.6**	**+0.8**
SUSE	**Susehri**	**2.19**	**317**	*i* P	**Pn**	**01 03 53.9**	**-0.2**
CUKAN	**kangal_SIVAS**	**2.21**	**289**	*i* P	**Pb**	**01 03 55.4**	**-1.9**
CUKAN				*i* S	**Sg**	**01 04 28.4**	**+1.0**
AKDM	**Akdamar-Van**	**2.23**	**97**	PN	**Pn**	**01 03 54.6**	**0.0**
CUZAR	**Zara_SIVAS**	**2.25**	**305**	*i* P	**Pn**	**01 03 54.8**	**0.0**
GEVA	**Gevas**	**2.29**	**97**	*i* P	**Pb**	**01 03 57.0**	**-1.5**
GEVA				*i* S	**Sg**	**01 04 28.9**	**-1.0**
KTUT	**Trabzon**	**2.38**	**353**	PN	**Pn**	**01 03 55.9**	**-0.6**
AGRB	**Hanur-Agry**	**2.40**	**66**	PN	**Pn**	**01 03 56.7**	**-0.2**
ELBS	**KAHRAMANMARAS**	**2.40**	**264**	*i* P	**Pn**	**01 03 57.6**	**+0.8**
GZT	**Gaziantep**	**2.42**	**239**	*i* P	**Pn**	**01 03 57.4**	**+0.3**
CHOM	**Cayeli-Rize**	**2.51**	**10**	PN	**Pn**	**01 03 57.8**	**-0.5**
VANB	**Van**	**2.52**	**90**	PN	**Pn**	**01 03 59.0**	**+0.4**
TVAN	**Van**	**2.54**	**91**	*i* P	**Pb**	**01 04 00.5**	**-2.3**
TVAN				*i* S	**Sg**	**01 04 38.5**	**+0.6**
ESPY	**Espiye-Giresun**	**2.54**	**335**	PN	**Pn**	**01 03 58.0**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.57**	**40**	PN	**Pn**	**01 03 58.9**	**-0.3**
DDEM	**Demirkent**	**2.57**	**28**	*i* P	**Pb**	**01 04 00.2**	**-3.1**
KOTA	**Agri, Merkez-K**	**2.64**	**63**	*i* P	**Pb**	**01 04 01.6**	**-2.9**
DBAD	**Bademkaya**	**2.67**	**26**	*i* P	**Pb**	**01 04 01.9**	**-3.0**
CUAYA	**Sivas-Altinyay**	**2.74**	**285**	*i* P	**Pn**	**01 04 02.6**	**+1.0**
DAGI	**Agillar**	**2.79**	**28**	*i* P	**Pb**	**01 04 03.3**	**-3.5**
HCB	**Kahramanmara**	**2.87**	**245**	*i* P	**Pn**	**01 04 03.9**	**+0.6**
DBOC	**Borcka**	**2.95**	**23**	*i* P	**Pn**	**01 04 05.7**	**+1.3**
CLDR	**Caldiran**	**2.97**	**79**	PN	**Pn**	**01 04 04.9**	**+0.1**
HAKT	**HAKKARI**	**2.99**	**110**	*i* P	**Pn**	**01 04 05.0**	**-0.1**
KARS	**Kars**	**3.01**	**47**	PN	**Pn**	**01 04 05.3**	**0.0**
BCA	**Borcka**	**3.03**	**21**	PN	**Pn**	**01 04 05.4**	**0.0**
CUKT	**Cukurca**	**3.05**	**116**	*i* P	**Pn**	**01 04 05.0**	**-0.8**
ANDN	**Andirin**	**3.19**	**252**	*i* P	**Pn**	**01 04 08.3**	**+0.6**
GNI	**Garni**	**3.86**	**65**	Pn	**Pn**	**01 04 18.7**	**+1.7**
	0.4nm,0.3s,baz=201,slow=14,SNR=1.8						
GNI				Pg	**Pb**	**01 04 26.3**	**+1.0**
	1.3nm,0.3s,baz=162,slow=3.7,SNR=7.4						
BRTR	**Keskin Array B**	**5.19**	**284**	Pn	**Pn**	**01 04 36.6**	**+1.4**
	0.3nm,0.3s,baz=98,slow=14,SNR=17						
BRTR				Lg	Lg	01 06 03.6	
	baz=190,slow=27,SNR=1.1						
KBZ	**Khabaz**	**5.50**	**21**	Pn	**Pn**	**01 04 40.1**	**+0.8**
	0.2nm,0.3s,baz=213,slow=12,SNR=2.4						
KBZ				Pg	**Pb**	**01 04 51.9**	**-1.2**
	0.2nm,0.3s,baz=193,slow=14,SNR=2.7						
KBZ				LR	LR	01 06 55.2	
	comp=Z,77nm,21.8s,baz=182,slow=40						
KVAR	**Kislovodsk Arr**	**5.66**	**19**	Pn	**Pn**	**01 04 43.7**	**+2.1**
	baz=255,slow=17,SNR=1.4						
KVAR				LR	LR	01 07 04.7	
	comp=Z,181nm,19.0s,baz=66,slow=41						
MMAI	**Mount Meron Ar**	**6.80**	**216**	Pn	**Pn**	**01 04 58.7**	**+1.4**
	2.0nm,0.3s,baz=64,slow=15,SNR=28						
MMAI				Lg	Lg	01 06 50.6	
	2.8nm,0.3s,baz=37,slow=30,SNR=2.8						
MMAI				LR	LR	01 07 49.2	
	comp=Z,107nm,18.6s,baz=30,slow=40						
EIL	**Elat**	**9.92**	**207**	Lg	Lg	01 08 32.8	
	0.1nm,0.3s,baz=99,slow=17,SNR=2.0						
IDI	**Anoyia**	**12.66**	**259**	Lg	Lg	01 09 56.4	
	0.1nm,0.3s,baz=205,slow=16,SNR=1.4						
KOLS	**Kolonicke sedl**	**16.49**	**314**	*eP*	**P**	**01 07 11.5**	**-0.1**
AKTO	**Aktyubinsk**	**17.31**	**41**	LR	LR	01 15 14.8	
	comp=Z,35nm,18.2s,baz=209,slow=42						
GERES	**GERESS Array B**	**21.58**	**307**	P	**P**	**01 08 06.5**	**-0.9**
	0.5nm,0.6s,baz=106,slow=7.2,SNR=3.5						
ARU	**Arti**	**21.59**	**28**	P	**P**	**01 08 08.8**	**+1.5**
	0.4nm,0.5s,baz=253,slow=21,SNR=1.9						
FINES	**FINESS Array B**	**24.46**	**344**	P	**P**	**01 08 36.2**	**-0.3**
	1.4nm,0.9s,baz=130,slow=13,SNR=1.4						
KEST	**Kesra**	**24.67**	**273**	P	**P**	**01 08 37.8**	**-0.9**
	4.2nm,0.9s,baz=56,slow=19,SNR=2.2						
BVAR	**Borovoye Array**	**25.28**	**45**	P	**P**	**01 08 43.2**	**-0.8**
	0.3nm,0.7s,baz=237,slow=19,SNR=2.2						
NOA	**NORSAR Array B**	**28.76**	**331**	P	**P**	**01 09 15.3**	**+0.1**
	0.5nm,0.9s,baz=243,slow=20,SNR=2.1						
NOA				LR	LR	01 22 33.7	
	comp=Z,8.7nm,19.6s,baz=105,slow=40						
KURBB	**Kurchatov Arra**	**29.49**	**53**	P	**P**	**01 09 22.7**	**+0.9**
	0.2nm,0.4s,baz=265,slow=8.1,SNR=2.3						
MKAR	**Makanchi Array**	**31.70**	**61**	P	**P**	**01 09 42.1**	**+0.7**
	0.4nm,0.8s,baz=275,slow=8.5,SNR=2.2						
ESDC	**Sonseca Array**	**33.98**	**286**	P	**P**	**01 10 01.3**	**-0.2**
	0.8nm,0.8s,baz=76,slow=9.0,SNR=7.1						

SSNC ***13*** *01:11:32.7±0.4, 19.°73N×75.°38W, h12km±3km, MD3.3, ML3.0, MW3.3*
OSPL ***13*** *01:11:34.4±1.0, 19.°62N×75.°22W, h8km±18km, ML3.1*
JSN ***13*** *01:11:36.2±1.8, 19.°37N×75.°33W, h30km±999km, MD3.9*
ISC 13 01:11:31.8±1.1, 19.°75N±0.°05×75.°40W±0.°04, h30km±10km, n13, σ1§33/21, 3C-4D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.32**	**57**	*i* P	**Pb**	**01 11 40.0**	**+0.4**
GTBY				*eS*	**Sn**	**01 11 45.1**	**-0.9**
GTBY				IAML		01 11 45.4	
	comp=Z,2μm,0.2s						
RCC	**Rio Carpintero**	**0.37**	**311**	⇑*eP*	**Pb**	**01 11 40.2**	**-0.1**
RCC				*eS*	**Sb**	**01 11 45.3**	**-0.8**
RCC				IAML		01 11 45.6	
	comp=N,2μm,0.1s						
RCC				IAML		01 11 45.6	
	comp=E,3μm,0.2s						
MOAC	**Moa**	**0.99**	**24**	⇓*eP*	**Pn**	**01 11 49.5**	**-0.2**
MOAC				*eS*	**Sn**	**01 12 02.2**	**-0.4**
MOAC				IAML		01 12 12.1	
	comp=N,352nm,0.3s						
MOAC				IAML		01 12 12.1	
	comp=E,164nm,0.3s						
MASC	**Masc**	**1.17**	**69**	*eP*	**Pn**	**01 11 51.9**	**-0.2**
MASC				*eS*	**Sn**	**01 12 06.3**	**-0.8**
MASC				IAML		01 12 12.2	
	comp=E,327nm,0.3s						
MASC				IAML		01 12 12.8	
	comp=N,238nm,0.2s						
LMGC	**Las Mercedes**	**1.55**	**282**	*eP*	**Pn**	**01 11 57.9**	**+0.7**
LMGC				*eS*	**Sn**	**01 12 16.2**	**-0.1**
LMGC				IAML		01 12 17.1	
	comp=E,176nm,0.1s						
LMGC				IAML		01 12 17.4	
	comp=N,284nm,0.1s						
GWJ	**Greenwich**	**2.09**	**217**	⇑*iP*	**Pn**	**01 12 05.6**	**+0.7**
GWJ				*i* S	**Sn**	**01 12 26.6**	**-3.4**
STH	**Stony Hill**	**2.14**	**219**	⇓*iP*	**Pn**	**01 12 06.1**	**+0.7**
HOJ	**Hope**	**2.16**	**217**	⇓*iP*	**Pn**	**01 12 06.8**	**+1.0**
BBJ	**Bamboo Saint A**	**2.23**	**233**	⇓*iP*	**Pn**	**01 12 07.3**	**+0.5**
MCJ	**Malvern**	**2.83**	**230**	*i* P	**Pn**	**01 12 17.2**	**+2.2**
MCJ				⇑*i* S	**Sn**	**01 12 48.1**	**0.0**
LGNH	**Logne**	**2.91**	**115**	*i* P	**Pn**	**01 12 16.1**	**+0.1**
LGNH				IAML		01 13 08.9	
	comp=Z,24nm,2.5s						
SDDR	**Presa de Saban**	**3.95**	**100**	*i* P	**Pn**	**01 12 31.6**	**+1.2**
SDDR				IAML		01 13 39.5	
	comp=Z,27nm,2.0s						
GRTK	**Grand Turk**	**4.36**	**66**	*i* P	**Pn**	**01 12 38.4**	**+2.4**
GRTK				*eS*	**Sn**	**01 13 24.6**	**-1.2**
GRTK				IAML		01 13 38.1	
	comp=Z,103nm,1.8s						

MOS ***13*** *01:14:53.9±0.9, 56.°70N×156.°78W, h57km, mb5.6/99, Error ellipse: s-maj=7.6km s-min=3.9km az=94.2*
BJI ***13*** *01:14:54.0±0.0, 56.°70N×156.°70W, h71km, mB5.1/41, mb5.6/62, Ms4.6/20, Ms7 4.3/17*
BGR ***13*** *01:14:55.2±0.0, 56.°36N×157.°64W, h71km, mb5.7*
NEIC ***13*** *01:14:56.8±2.3, 56.°60N±0.°07×156.°59W±0.°08, h65km±4km, mb5.2/525, ML4.8/169(AEIC), Error ellipse: s-maj=10.0km s-min=5.6km az=163.0*
AEIC ***13*** *01:14:57±4.0, 56.°51N±0.°06×156.°47W±0.°07, h76km±4km, Error ellipse: s-maj=9.4km s-min=5.6km az=166.0*
GCMT ***13*** *01:14:57.8±0.2, 56.°70N±0.°02×156.°36W±0.°03, h79km±4km, MW4.9/104, Moment Tensor Solution. s37,c46; s104,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.87±.13; $M_{\theta\theta}$0.47±.16; $M_{\phi\phi}$-1.34±.13; $M_{r\theta}$1.63±.06; $M_{\theta\phi}$0.25±.11; $M_{r\phi}$1.70±.05; Best double couple: M_o2.61700×10^{16} NP1:ϕs146.00000°, δ24.00000°, λ23.00000°. NP2:ϕs35.00000°, δ81.00000°, λ112.00000°. Principal axes: T 2.8350, Plg49.0000°, Azm329.0000°; N -0.4360, Plg22.0000°, Azm211.0000°; P -2.4000, Plg33.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***13*** *01:14:57.2±0.5, 56.°82N×156.°69W, h65km±3km, mb5.0/48, mb1 5.1/52, mb1mx5.0/70, mbtmp5.3/52, MS3.7/23, Ms1 3.7/23, ms1mx3.6/39 Error ellipse: s-maj=11.5km s-min=6.4km az=1.0*
ISC 13 01:14:56.4±0.3, 56.°64N±0.°04×156.°62W±0.°03, h68km±2km, h68km:pP-P, n1257, σ1§16/1201, mb5.3/494, 442C-170D, Fault plane solution: NP1:ϕs140.29759°, δ31.26163°, λ10.12038°. NP2:ϕs41.62242°, δ84.76806°, λ120.86451°. Principal axes: T Plg41.9837°, Azm340.8321°; N Plg30.7220°, Azm218.5030°; P Plg32.6809°, Azm106.0926°; Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.35**	**92**	Pn	**Pn**	**01 15 18.7**	**-0.6**
SII	**Sitkinak Islan**	**1.35**	**92**		**Sn**	**01 15 35.9**	**-0.6**
SII	**Sitkinak Islan**	**1.35**	**92**	P		01 15 18.7	
	baz=269,SNR=493						
VNSG	**Veniaminof 6**	**1.47**	**250**		**Pn**	**01 15 21.0**	**+0.1**
VNHG	**Veniaminof 1**	**1.48**	**255**		**Pn**	**01 15 21.5**	**+0.5**
VNFG	**Fog Glacier, M**	**1.67**	**259**		**Pn**	**01 15 24.1

AKMO **Akutan Morgan** 5.93 248 Pn 01 16 21.9 +0.3
SKT **Skwentna** 5.96 24 Pn 01 16 23.1 +1.2
SKT Sn 01 17 28.2 -0.4
SKT **Skwentna** 5.96 24 P 01 16 23.0
baz=207,SNR=80
PWL **Port Wells** 6.04 42 Pn 01 16 22.8 -0.2
M22K **Willow** 6.12 30 Pn 01 16 24.4 +0.3
M22K Sn 01 17 31.7 -0.8
M22K **Willow** 6.12 30 P 01 16 24.9
baz=215,SNR=16
Q23K **Middleton Isla** 6.13 59 Pn 01 16 24.0 -0.2
Q23K **Middleton Isla** 6.13 59 P 01 16 24.4
baz=246,SNR=12
MID **Middleton Isla** 6.13 59 P Pn 01 16 23.5 -0.8
MID **Middleton Isla** 6.13 59 Pn Pn 01 16 23.5 -0.8
PMR **Palmer** 6.29 35 P 01 16 27.2
baz=220
TT01 **Tatalina** 6.30 2 Pn 01 16 28.0 +1.5
TTA **Tatalina** 6.32 3 P Pn 01 16 28.0 +1.1
TTA **Tatalina** 6.32 3 Pn 01 16 28.0 +1.1
TTA **Tatalina** 6.32 3 P 01 16 28.1
baz=182,SNR=320
MTBL **Makushin Table** 6.34 249 Pn 01 16 27.4 +0.2
KNK **Knik Glacier** 6.37 38 Pn Pn 01 16 28.0 +0.4
KNK **Knik Glacier** 6.37 38 P 01 16 27.5
baz=224,SNR=29
MNAT **Makushin Natee** 6.38 249 Pn 01 16 27.2 -0.6
MSW **Makushin Switc** 6.42 249 Pn 01 16 28.2 0.0
GHO **Glory Hole Cre** 6.49 34 Pn 01 16 29.2 0.0
HIN **Hinchinbrook I** 6.50 50 Pn 01 16 28.9 -0.4
HIN Sn 01 17 40.2 -1.8
MGOD **Makushin Gods** 6.52 248 Pn 01 16 29.3 -0.4
GLI **Glacier Island** 6.53 45 Pn 01 16 28.7 -0.9
GLI **Glacier Island** 6.53 45 P 01 16 28.7
baz=232
MAPS **Pakushin South** 6.55 249 Pn 01 16 29.8 -0.3
CUT **Chulitna** 6.62 27 Pn 01 16 31.9 +0.9
CUT **Chulitna** 6.62 27 P 01 16 31.9
baz=211,SNR=23
PPLA **Purkeypile** 6.66 18 P 01 16 33.7
baz=200,SNR=87
FID **Port Fidalgo** 6.70 48 Pn 01 16 30.8 -1.2
FID Sn 01 17 44.2 -2.5
SML **Sawmill** 6.70 36 Pn 01 16 32.1 0.0
SML **Sawmill** 6.70 36 P 01 16 32.1
baz=222,SNR=37
JPK **Jack Peak** 6.83 45 Pn 01 16 33.3 -0.5
EYAK **Cordova Ski Ar** 6.90 51 Pn 01 16 34.4 -0.3
EYAK **Cordova Ski Ar** 6.90 51 P 01 16 33.9
baz=239,SNR=80
VMT **TAPS Tl Valdez** 6.93 46 Pn 01 16 34.7 -0.5
VMT Sn 01 17 48.5 -4.0
SCM **Sheep Creek Mo** 7.05 39 P Pn 01 16 37.2 +0.2
SCM **Sheep Creek Mo** 7.05 39 Pn 01 16 37.1 +0.2
CAST **Castle Rocks** 7.17 17 Pn 01 16 39.9 +1.5
CAST **Castle Rocks** 7.17 17 P 01 16 41.0
baz=200
DIV **Divide** 7.20 47 Pn 01 16 38.5 -0.4
OKFG **Magazine Ridge** 7.25 248 Pn 01 16 39.2 -0.4
HUR **Hurricane** 7.26 26 Pn 01 16 40.1 +0.4
WAT7 **Susitna Watana** 7.34 29 Pn 01 16 40.6 -0.4
KLU **Klutina** 7.35 44 Pn 01 16 40.8 -0.2
KLU Sn 01 17 59.5 -3.3
KLU **Klutina** 7.35 44 P 01 16 40.8
baz=232,SNR=108
OKSO **Okmok South** 7.41 248 Pn 01 16 41.1 -0.7
WAT1 **Susitna Watana** 7.42 30 Pn 01 16 41.5 -0.5
HMT **Hamilton** 7.46 55 Pn 01 16 41.9 -0.5
WAT6 **Susitna Watana** 7.46 33 Pn 01 16 41.8 -0.8
WAT6 **Susitna Watana** 7.46 33 P 01 16 41.7
baz=220,SNR=58
SPIA **Saint Paul Isl** 7.48 280 Pn Pn 01 16 44.2 +1.5
SPIA **Saint Paul Isl** 7.48 280 P 01 16 45.0
baz=89,SNR=8.4
KTH **Kantishna Hill** 7.50 20 Pn 01 16 43.4 +0.4
WAT2 **Susitna Watana** 7.52 29 Pn 01 16 42.6 -0.7
WAT2 **Susitna Watana** 7.52 29 P 01 16 42.8
baz=215,SNR=95
TRF **Thorofare Moun** 7.53 22 Pn 01 16 43.5 0.0
TRF **Thorofare Moun** 7.53 22 P 01 16 43.3
baz=207,SNR=73
NICHA **Nichawak Mount** 7.55 56 Pn 01 16 43.1 -0.6
CHUM **Lake Minchumin** 7.57 15 P 01 16 45.7
baz=198,SNR=68
SUCK **Suckling Hills** 7.58 58 Pn 01 16 43.9 -0.2
SUCK Sn 01 18 05.5 -2.8
BMRM **Bremner River** 7.59 50 Pn 01 16 43.8 -0.6
BMRM **Bremner River** 7.59 50 P 01 16 43.7
baz=239,SNR=37
M24K **Tolsona, Glenn** 7.64 40 Pn 01 16 45.2 +0.2
M24K **Tolsona, Glenn** 7.64 40 P 01 16 45.1
baz=228,SNR=50
PS12 **TAPS Pump St12** 7.64 46 Pn 01 16 44.7 -0.2
RND **Reindeer** 7.82 27 Pn 01 16 46.6 -0.8
RND Sn 01 18 12.7 -1.6
BGLC **Bering Glacier** 7.83 58 P 01 16 48.7
baz=248
GRIN **Grindle Hills** 7.87 57 Pn 01 16 47.6 -0.4
N25K **Chitina, Valde** 7.93 46 Pn 01 16 48.5 -0.4
N25K **Chitina, Valde** 7.93 46 P 01 16 48.6
baz=235,SNR=34
KHIT **Khitrov Hills** 7.96 56 Pn 01 16 48.4 -1.0
NIKH **Nikolski High** 7.97 248 Pn 01 16 48.5 -0.9
NIKH **Nikolski High** 7.97 248 P 01 16 48.6
baz=59,SNR=6.2
BPAW **Bear Paw Mtn.** 7.99 18 Pn 01 16 49.6 0.0
BPAW **Bear Paw Mtn.** 7.99 18 P 01 16 49.2
baz=202,SNR=160
MCK **McKinley** 8.07 25 P Pn 01 16 50.9 +0.1
MCK **McKinley** 8.07 25 Pn 01 16 50.9 +0.1
MCK **McKinley** 8.07 25 P 01 16 50.3
baz=211,SNR=32
KULT **Kultieth River** 8.13 58 Pn 01 16 51.5 -0.2
KULT Sn 01 18 16.9 -5.1
CRQM **Cirque** 8.14 54 Pn 01 16 51.6 -0.2
CRQE **Cirque** 8.16 54 P 01 16 51.3
baz=244,SNR=39
GLB **Gilahina Butte** 8.17 49 Pn 01 16 51.6 -0.5
GLB Sn 01 18 19.6 -3.1
CYK **Cape Yakataga** 8.19 59 Pn 01 16 50.3 -2.0
HARP **HAARP** 8.20 40 P 01 16 53.7
baz=229,SNR=33
VRDI **Verde Repeater** 8.21 50 Pn 01 16 52.5 -0.4
TGL **Tana Glacier** 8.28 54 Pn 01 16 53.0 -0.6
BWN **Browne** 8.34 22 Pn 01 16 54.5 +0.1
PAX **Paxson** 8.47 37 P Pn 01 16 56.7 +0.4
PAX **Paxson** 8.47 37 Pn 01 16 56.7 +0.4
PAX **Paxson** 8.47 37 P 01 16 56.9
baz=226,SNR=23
MESA **MESA** 8.47 59 Pn 01 16 56.1 -0.4
MESA **MESA** 8.47 59 P 01 16 56.5
baz=251,SNR=32
KIAG **Kiagna River** 8.55 54 Pn 01 16 57.0 -0.5
KIAG Sn 01 18 28.3 -4.1
BALM **Baldy** 8.61 53 Pn 01 16 57.8 -0.4
NEA2 **Nenana** 8.79 22 Pn 01 16 59.2 -1.4
NEA2 **Nenana** 8.79 22 P 01 16 59.1
baz=208,SNR=205
RKAV **Rock Avalanche** 8.80 59 Sn 01 18 33.7 -4.7
MLY **Manley** 8.89 16 Pn 01 17 01.4 -0.5
MLY **Manley** 8.89 16 P 01 17 01.4
baz=201,SNR=116
WRH **Wood River Hil** 8.90 25 Pn 01 17 00.6 -1.5
TABL **Table Mountain** 8.94 58 Pn 01 17 02.7 -0.1
CTG **Chitna Glacier** 9.03 55 P 01 17 03.9
baz=247,SNR=13
ANM **Nome** 9.03 335 P Pn 01 17 06.1 +2.2
ANM **Nome** 9.03 335 Pn Pn 01 17 06.1 +2.2
ANM **Nome** 9.03 335 P 01 17 06.5
baz=148,SNR=22
MENT **Mentasta** 9.05 40 Pn 01 17 05.0 +0.8
CCB **Clear Creek Bu** 9.12 25 Pn 01 17 03.5 -1.5
HDA **Harding Lake** 9.12 27 Pn 01 17 04.4 -0.7
HDA Sn 01 18 42.0 -4.1
HDA **Harding Lake** 9.12 27 P 01 17 04.4
baz=215,SNR=123
HDA P 01 17 04.4
baz=215,SNR=123
H21K **Melozitna Rive** 9.23 10 Pn 01 17 08.1 +1.5
I23K **Minto, Yukon-K** 9.23 19 Pn 01 17 05.8 -0.8
I23K **Minto, Yukon-K** 9.23 19 P 01 17 05.0
baz=205,SNR=202
H21K **Melozitna Rive** 9.23 10 P 01 17 08.1
baz=193,SNR=392
PINM **Pinnacle** 9.27 61 P 01 17 06.7
baz=254,SNR=64
PS08 **TAPS Pump Stn8** 9.27 27 Pn 01 17 06.2 -0.8
MDM **Murphy Dome** 9.29 23 Pn 01 17 06.2 -1.2
TCOL **CIGO, UAF Yank** 9.29 24 Sn 01 18 46.0 -4.2
TCOL **CIGO, UAF Yank** 9.30 24 P 01 17 06.3
baz=211,SNR=21
COLA **College** 9.30 24 *d iP* Pn 01 17 06.0 -1.4
COLA **College** 9.30 24 Pn 01 17 06.1 -1.4
YKU2 **Yakutat** 9.42 65 Pn Pn 01 17 09.6 +0.4
IL31 9.44 26 Pn 01 17 07.8 -1.5
ILAR **Eielson Array** 9.44 26 P Pn 01 17 07.7 -1.7
14nm,0.3s,baz=216,slow=14,SNR=339
ILAR S Sn 01 18 46.8 -7.0
9.3nm,0.3s,baz=206,slow=24,SNR=7.6
ILAR ScP ScP 01 26 47.9 +0.4
0.0nm,0.3s,baz=222,slow=3.1,SNR=11
ILAR **Eielson Array** 9.44 26 P Pn 01 17 07.7 -1.7
IM03 9.48 7 Pn 01 17 11.4 +1.5
BCPM **Bancas Point** 9.53 63 Pn 01 17 09.9 -0.8
PS07 **TAPS Pump Stn7** 9.59 21 Pn 01 17 10.3 -1.1
PNL **Peninsula** 9.59 64 Pn 01 17 10.8 -0.8
POKR **Poker Plat Res** 9.60 24 Pn 01 17 10.5 -1.1
POKR **Poker Plat Res** 9.60 24 P 01 17 10.2
baz=211,SNR=63
SCRK **Sand Creek** 9.65 35 Pn 01 17 11.4 -1.0
SCRK **Sand Creek** 9.65 35 P 01 17 12.0
baz=225,SNR=36
PS06 **TAPS Pump Stn6** 9.82 17 Pn 01 17 14.2 -0.3
H23K **Yukon River** 9.82 17 Pn 01 17 13.3 -1.3
H23K **Yukon River** 9.82 17 P 01 17 13.3
baz=203,SNR=92
L27K **Beaver Creek,** 9.82 43 Pn Pn 01 17 15.0 +0.3
L27K **Beaver Creek,** 9.82 43 P 01 17 15.4
baz=235,SNR=50
H24K **Noodor Dome** 10.13 21 Pn 01 17 17.4 -1.5
H24K **Noodor Dome** 10.13 21 P 01 17 16.9
baz=208,SNR=63
K27K **Chicken** 10.31 38 P 01 17 21.4
baz=230
GAMB **Gambell** 10.35 320 Pn 01 17 23.6 +1.9
GAMB **Gambell** 10.35 320 P 01 17 23.8
baz=127
PRP **Porcupine Dome** 10.38 26 Pn 01 17 20.8 -1.6
PRP **Porcupine Dome** 10.38 26 P 01 17 20.7
baz=215,SNR=108
TNA **Tin City** 10.47 333 Pn 01 17 26.0 +2.6
TNA **Tin City** 10.47 333 P 01 17 26.7
baz=143,SNR=7.7
HYT **Haines Junctio** 10.77 59 Pn 01 17 28.1 +0.4
COLD **Coldfoot** 11.04 13 P 01 17 30.1
baz=198,SNR=38
EGAK **Eagle** 11.10 36 Pn 01 17 31.2 -0.8
EGAK **Eagle** 11.10 36 P 01 17 31.9
baz=229,SNR=21
DAWY **Dawson** 11.29 42 Pn Pn 01 17 35.6 +0.9
FYU **Fort Yukon** 11.31 24 Pn Pn 01 17 33.1 -1.8
SIT **Sitka** 11.66 79 P Pn 01 17 37.7 -2.0
SIT **Sitka** 11.66 79 Pn Pn 01 17 37.7 -2.0
SIT **Sitka** 11.66 79 P 01 17 38.2
baz=276
RDOG **Red Dog Mine** 11.81 348 Pn 01 17 44.8 +3.0
RDOG **Red Dog Mine** 11.81 348 P 01 17 45.8
baz=162,SNR=19
BESE **Bessie Mountai** 11.82 71 Pn 01 17 41.8 -0.2
WHY **Whitehorse** 11.99 61 Pn Pn 01 17 44.1 -0.2
WHY **Whitehorse** 11.99 61 P 01 17 44.3
baz=259,SNR=44
JIS **Juneau Island** 12.07 73 Pn Pn 01 17 44.8 -0.5
BMAR **Burnt Mountain** 12.18 22 Pn 01 17 43.4 -3.4
TOLK **Toolik Lake Re** 12.46 12 Pn Pn 01 17 49.9 -0.7
TOLK **Toolik Lake Re** 12.46 12 P 01 17 49.2
baz=198,SNR=15
KIWB **Kanaga Island** 12.91 257 Pn 01 17 56.0 -0.8
CRAG **Craig** 13.17 85 Pn 01 17 58.1 -2.1
CRAG **Craig** 13.17 85 P 01 17 58.7
baz=284
WRAK **Wrangell Islan** 13.38 81 Pn 01 18 02.5 -0.5
WRAK **Wrangell Islan** 13.38 81 P 01 18 03.1
baz=280
EPYK **Eagle Plains** 13.54 36 P 01 18 05.7
baz=233,SNR=40
H02S1 **DAWSON INLET T** 14.27 94 P Pn 01 18 14.5 -0.4
DLBC **Dease Lake** 14.36 72 P Pn 01 18 17.2 +1.2
5.4nm,0.3s,baz=274,slow=12,SNR=54
DLBC S Sn 01 20 47.1 -6.5
0.9nm,0.3s,baz=290,slow=26,SNR=1.7
DLBC **Dease Lake** 14.36 72 Pn Pn 01 18 16.2 +0.1
A21K **Barrow** 14.74 360 Pn Pn 01 18 19.6 -1.2
A21K **Barrow** 14.74 360 P 01 18 20.1
baz=180,SNR=25
INK **Inuvik** 15.69 33 P Pn 01 18 31.3 -1.7
5.9nm,0.3s,baz=198,slow=13,SNR=46
INK **Inuvik** 15.69 33 P Pn 01 18 31.3 -1.7
INK **Inuvik** 15.69 33 IAmb IAmb 01 18 38.1
comp=Z,162nm,1.0s
INK **Inuvik** 15.69 33 P 01 18 32.5
baz=233,SNR=128
BBB **Bella Bella** 17.11 93 P P 01 18 52.0 +0.4
comp=Z,0.6nm,0.3s,baz=273,slow=14,SNR=3.2
BBB S Sn 01 21 52.6 -7.6
comp=Z,0.2nm,0.3s,baz=326,slow=18,SNR=1.5
BBB **Bella Bella** 17.11 93 Pn Pn 01 18 49.6 -1.2
C36M **Paulatuk** 19.17 36 P 01 19 14.1 +0.1
C36M IAmb IAmb 01 19 17.6
comp=Z,104nm,0.8s
C36M **Paulatuk** 19.17 36 P 01 19 14.3
baz=244,SNR=19
BILL **Bilibino** 20.28 319 *c iP* P 01 19 26.1 +0.1
BILL *i* 01 19 43.1
BILL *eS* S 01 23 05.2 -4.1
BILL comp=Z,118nm,1.3s pmax pmax
BILL MLR MLR
comp=Z,248nm,18.0s
BILL **Bilibino** 20.28 319 P P 01 19 25.0 -1.0
BILL IAmb IAmb 01 19 29.9
comp=Z,74nm,0.9s
YKA **Yellowknife Ar** 21.75 57 P P 01 19 41.4 -0.4
comp=Z,1.9nm,0.3s,baz=261,slow=7.5,SNR=50
YKA PcP PcP 01 23 40.0 +0.5
comp=Z,3.2nm,0.6s,baz=279,slow=1.5,SNR=4.8
YKA ScP ScP 01 27 09.8 -0.6
comp=Z,3.4nm,0.8s,baz=268,slow=1.9,SNR=8.8
YKA LR LR 01 28 43.3
comp=Z,183nm,20.8s,baz=0.0,slow=38
YKA **Yellowknife Ar** 21.75 57 P P 01 19 41.4 -0.4
YKA 01 23 40.0
A04D **Lummi Island** 21.84 97 P 01 19 45.8
baz=304,SNR=8.7
NLWA **Neilton Lookou** 21.98 101 P P 01 19 43.4 -1.2
NLWA IAmb IAmb 01 19 48.2
comp=Z,86nm,0.9s
A05A **Maple Falls** 22.03 96 P P 01 19 44.5 -0.5
A05A IAmb IAmb 01 19 49.5
comp=Z,103nm,1.2s
D03D **Eldon** 22.32 100 P 01 19 50.4
baz=306,SNR=16
B05A **Bryant** 22.44 97 P 01 19 51.7
baz=305,SNR=37
B06A **Marblemount** 22.63 96 P P 01 19 51.8 +0.4
E03A **Lebam** 22.67 102 P P 01 19 52.7 +0.9
E03A IAmb IAmb 01 19 56.6
comp=Z,97nm,0.9s
D04E **Lakebay** 22.71 100 P 01 19 56.3
baz=307
D05A **Enumclaw** 23.13 99 P P 01 19 57.6 +1.2
D05A IAmb IAmb 01 20 01.5
comp=Z,81nm,1.1s
E04D **Cinebar** 23.20 101 P 01 19 59.8
baz=308,SNR=9.2
LON **Longmire** 23.49 100 P P 01 20 00.8 +0.8
LON pmax pmax
comp=Z,22nm,0.9s
LON **Longmire** 23.49 100 P P 01 20 00.8 +0.8
G03D **McMinnville, O** 23.68 105 P 01 20 04.0
baz=311
LTY **Liberty** 23.81 98 P P 01 20 03.0 +0.1
B08A **Colville Reser** 23.90 94 P P 01 20 04.0 +0.4
B08A IAmb IAmb 01 20 07.3
comp=Z,53nm,0.8s
I02D **Swisshome** 24.11 107 P 01 20 08.2
baz=313
F05D **White Salmon** 24.22 101 P 01 20 08.4
baz=309,SNR=6.2
H04D **Lebanon** 24.42 105 P 01 20 11.0
baz=312,SNR=6.4
H04A **Detroit Lake** 24.60 104 P P 01 20 10.9 +0.9
H04A IAmb IAmb 01 20 30.3
comp=Z,58nm,1.0s
I03D **Drain, OR** 24.65 107 P 01 20 13.3
baz=313,SNR=5.2
E07A **Sunnyside** 24.67 98 P P 01 20 11.5 +0.9
G05D **Wamic, OR** 24.71 102 P 01 20 13.4
baz=310
KEBM **Edson Butte** 24.71 110 P P 01 20 09.7 -1.3
KEBM IAmb IAmb 01 20 14.9
comp=Z,105nm,1.0s
J01E **Myrtle Point** 24.72 109 P 01 20 14.0
baz=314,SNR=10.0
C09A **Chrisman Ranch** 24.80 94 P P 01 20 12.5 +0.7
D08A **Wollman Farm,** 24.89 97 P P 01 20 13.1 +0.5
HAWA **Hanford** 24.95 98 P P 01 20 13.9 +0.8
F07A **Phinny Hill Vi** 25.04 100 P P 01 20 13.4 -0.6
I04A **Tendick Farm,** 25.08 106 P 01 20 16.6
baz=313,SNR=14
E08A **Dider Farm, El** 25.15 98 IAmb IAmb 01 20 19.8
comp=Z,60nm,1.0s
NEW **Newport** 25.18 93 P P 01 20 16.6 +1.4
comp=Z,40nm,0.8s,baz=312,slow=8.0,SNR=40
NEW **Newport** 25.18 93 P P 01 20 16.8 +1.4
NEW **Newport** 25.18 93 P 01 20 16.8
baz=304,SNR=25
K02D **Willamette Mer** 25.18 110 P 01 20 18.1
baz=315,SNR=7.2
I05D **Terrebonne, OR** 25.29 104 P 01 20 18.9
baz=312,SNR=8.9
L02E **Cave Junction** 25.60 110 P 01 20 21.7
baz=316,SNR=5.7
HUMO **Hull Mountain** 25.62 109 P P 01 20 19.2 0.0
J04D **Umpqua Nationa** 25.62 107 P 01 20 22.6
baz=314,SNR=10
E09A **Wood Farm, Sta** 25.64 97 P P 01 20 20.2 +0.9
E09A IAmb IAmb 01 20 22.3
comp=Z,60nm,0.9s
PET **Petropavlovsk** 25.66 281 *eP* P 01 20 18.7 -0.8
PET *eS* S 01 24 42.8 +0.1
PET pmax pmax
comp=Z,500nm,1.4s
PET pmax pmax
comp=Z,344nm,1.1s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,400nm,16.0s
PET **Petropavlovsk** 25.66 281 P P 01 20 18.7 -0.8
SEY **Seymchan** 25.81 305 P P 01 20 19.8 -0.9
comp=Z,45nm,0.7s,baz=96,slow=7.3,SNR=131
SEY PcP PcP 01 23 48.9 +0.7
comp=Z,6.1nm,0.8s,baz=73,slow=5.9,SNR=4.9
SEY **Seymchan** 25.81 305 P P 01 20 19.8 -0.9
SEY 01 23 48.9
PINE **Pine Mountain** 25.87 105 P P 01 20 23.7 +2.0
KRMB **Red Mountain** 25.90 112 P P 01 20 22.2 +0.3
G08A **Pilot Rock** 25.95 100 P P 01 20 22.5 +0.1
PEA0B **Petropavlovsk-** 26.14 282 *c iP* P 01 20 23.0 -0.8
PEA0B **Petropavlovsk-** 26.14 282 P P 01 20 23.1 -0.8
PEA0B IAmb IAmb 01 20 24.4
comp=Z,113nm,1.0s
PETK **Petropavlovsk-** 26.14 282 P P 01 20 23.3 -0.6
comp=Z,78nm,0.9s,baz=81,slow=12,SNR=95
PETK PcP PcP 01 23 49.6 +0.5
comp=Z,1.2nm,0.4s,baz=85,slow=8.0,SNR=3.7
PETK ScP ScP 01 27 22.6 +0.1
comp=Z,1.6nm,0.7s,baz=85,slow=3.5,SNR=2.9
PETK LR LR 01 30 09.9
comp=Z,153nm,21.7s,baz=82,slow=35
PETK **Petropavlovsk-** 26.14 282 P P 01 20 23.3 -0.6
PETK 01 23 49.6
L04D **Klamath Falls** 26.23 109 P 01 20 27.5
baz=315,SNR=12
YBH **Yreka Blue Hor** 26.37 110 P P 01 20 28.7 +2.6
comp=Z,21nm,0.8s,baz=344,slow=6.1,SNR=37
YBH **Yreka Blue Hor** 26.37 110 P P 01 20 28.7 +2.6
YBH **Yreka Blue Hor** 26.37 110 P P 01 20 25.5 -0.6
I07A **Izee** 26.44 102 P P 01 20 25.5 -1.3
KHMM **Horse Mountain** 26.47 113 P P 01 20 27.7 +0.6
F10A **Beach Ranch, E** 26.47 97 P P 01 20 28.7 +1.7
M02C **Callahan** 26.54 111 P 01 20 30.7
baz=316,SNR=9.1
K05A **Summer Lake** 26.62 106 P P 01 20 29.7 +1.2
K05A IAmb IAmb 01 20 32.8
comp=Z,54nm,1.0s
M04C **Macdoel** 26.79 109 P 01 20 32.8
baz=316,SNR=30
N02D **Trinity Center** 26.92 111 P 01 20 34.3
baz=317,SNR=15
KMRM **Mail Ridge** 26.96 113 P P 01 20 32.4 +1.0
JTMT **Jette** 27.04 91 P P 01 20 32.3 +0.2
JTMT IAmb IAmb 01 20 34.9
comp=Z,74nm,1.1s
BMO **Blue Mountains** 27.14 99 P P 01 20 34.3 +1.3
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO **Blue Mountains** 27.14 99 P P 01 20 34.2 +1.3
WDC **Whiskeytown Da** 27.30 111 P P 01 20 34.8 +0.5
WDC pmax pmax
comp=Z,32nm,1.1s
WDC **Whiskeytown Da** 27.30 111 P P 01 20 34.8 +0.5
MA2 **Magadan** 27.35 298 P P 01 20 34.2 -0.5
comp=Z,42nm,0.9s,baz=81,slow=8.0,SNR=22
MA2 **Magadan** 27.35 298 *c iP* P 01 20 34.4 -0.2
MA2 pmax pmax
comp=Z,54nm,1.0s
MA2 **Magadan** 27.35 298 P P 01 20 33.4 -1.2
MA2 IAmb IAmb 01 20 36.3
comp=Z,47nm,0.9s
O02D **Mt. Diablo Mer** 27.47 112 P 01 20 38.6
baz=318,SNR=7.3
J08A **Circle Bar Ran** 27.48 103 P P 01 20 37.2 +1.1
MOD **Modoc Plateau** 27.51 107 P P 01 20 38.5 +2.1
MSO **Missoula** 27.76 92 P P 01 20 38.2 -0.4
MSO **Missoula** 27.76 92 P 01 20 39.9
baz=306,SNR=18
O03E **Paynes Creek** 27.89 111 P 01 20 41.7
baz=318,SNR=25
HOPS **Hopland Field** 28.21 114 IAmb IAmb 01 20 46.3
comp=Z,68nm,1.2s
GDXM **Geysers** 28.50 114 P P 01 20 44.4 -0.7
ORV **Oroville** 28.59 112 IAmb IAmb 01 20 48.3
comp=Z,30nm,0.8s
HRY **Holter Researc** 29.00 91 P P 01 20 50.5 +0.9
RES **Resolute Bay** 29.18 29 P P 01 20 50.5 -0.2
comp=Z,12nm,0.7s,baz=255,slow=13,SNR=7.0
RES **Resolute Bay** 29.18 29 P P 01 20 51.4 +0.7
RES pmax pmax
comp=Z,14nm,0.8s
RES **Resolute Bay** 29.18 29 P P 01 20 51.4 +0.7
EGMT **Eagleton** 29.38 87 P 01 20 54.0
baz=305
HLID **Hailey** 29.55 98 P 01 20 56.6
baz=311,SNR=32
PAHR **Pah Rah Range** 29.57 109 IAmb IAmb 01 20 58.1
comp=Z,56nm,0.9s
BCYI **Bear Canyon** 29.62 96 P P 01 20 56.4 +1.1
RUBR **Rubicon Trail** 29.66 111 P P 01 20 57.2 +1.6
RUBR IAmb IAmb 01 21 01.2
comp=Z,51nm,0.8s
VCNR **Virginia City** 29.74 110 P P 01 20 58.6 +2.3
VCNR IAmb IAmb 01 20 59.9
comp=Z,63nm,0.8s
PNTR **Pine Nut** 29.92 110 P P 01 20 59.7 +1.8
YERR **Yerington** 30.18 110 IAmb IAmb 01 21 03.7
comp=Z,65nm,0.9s
FFC **Flin Flon** 30.18 70 P P 01 20 58.4 -1.4
FFC pmax pmax
comp=Z,6.0nm,1.3s
FFC **Flin Flon** 30.18 70 P P 01 20 58.4 -1.4
CMB **Columbia Colle** 30.31 112 P P 01 21 01.1 -0.1
CMB pmax pmax
comp=Z,35nm,1.4s
CMB **Columbia Colle** 30.31 112 P P 01 21 01.1 -0.1
WAKR **Walker** 30.44 111 P P 01 21 04.1 +1.6
WAKR IAmb IAmb 01 21 06.3
comp=Z,54nm,1.2s
YHL **Hebgen Lake** 30.50 93 P P 01 21 04.1 +1.1
YHL IAmb IAmb 01 21 06.2
comp=Z,39nm,0.9s
YHB **Horse Butte** 30.55 93 P P 01 21 05.2 +1.7

YHB IAmb IAmb 01 21 06.6
comp=Z,63nm,1.1s
YHH Holmes Hill 30.72 93 IAmb IAmb 01 21 08.0
comp=Z,53nm,0.8s
KVN Kaiserville 30.73 108 P **P** **01 21 06.6 +1.6**
KVN pmax pmax
comp=Z,41nm,1.1s
KVN Kaiserville 30.73 108 P **P** **01 21 06.6 +1.6**
KVN IAmb IAmb 01 21 08.5
comp=Z,41nm,1.1s
YMR Madison River 30.73 93 P **P** **01 21 05.7 +0.6**
RYN Ryan 30.82 109 IAmb IAmb 01 21 09.2
comp=Z,41nm,0.8s
YNR Norris Junctio 30.86 93 P **P** **01 21 07.6 +1.4**
YNR IAmb IAmb 01 21 09.8
comp=Z,32nm,0.9s
YNE Yellowstone No 31.05 92 IAmb IAmb 01 21 10.8
comp=Z,36nm,0.8s
NVAR Mina Array Bea 31.08 109 P **P** **01 21 10.6 +2.4**
comp=Z,40nm,0.7s,baz=303,slow=8.7,SNR=308
NVAR pP **pP** **01 21 27.0 +2.5**
comp=Z,16nm,0.7s,baz=297,slow=9.8,SNR=6.9
NVAR PcP **PcP** **01 24 04.0 +2.0**
comp=Z,0.9nm,0.6s,baz=343,slow=2.8,SNR=3.0
NVAR pPcP 01 24 21.9
comp=Z,3.4nm,0.6s,baz=318,slow=1.9,SNR=8.0
NVAR ScP **ScP** **01 27 39.4 +0.8**
comp=Z,0.1nm,0.5s,baz=336,slow=2.0,SNR=2.6
NVAR LR LR 01 31 52.3
comp=Z,380nm,19.9s,baz=296,slow=32
NVAR Mina Array Bea 31.08 109 **PcP** **01 24 04.0 +2.0**
NVAR **ScP** **01 27 39.4 +0.8**
NVAR Mina Array Bea 31.08 109 P **P** **01 21 09.7 +1.5**
LHV Little Huntoon 31.11 110 IAmb IAmb 01 21 12.1
comp=Z,57nm,1.0s
H17A Grant Village 31.12 93 P **P** **01 21 10.9 +2.4**
H17A IAmb IAmb 01 21 13.0
comp=Z,49nm,0.9s
H17A Grant Village 31.12 93 P 01 21 12.0
baz=310,SNR=12
YMP Mirror Lake Pl 31.14 92 P **P** **01 21 09.3 +0.6**
NV11 Mina Array Sit 31.16 109 P **P** **01 21 09.9 +1.2**
NV11 IAmb IAmb 01 21 12.2
comp=Z,31nm,0.8s
FLWY Flagg Ranch 31.26 94 P **P** **01 21 11.1 +1.4**
MDPB Devils Postpil 31.28 111 P **P** **01 21 11.6 +1.6**
MDPB IAmb IAmb 01 21 13.8
comp=Z,51nm,0.9s
RLMT Red Lodge 31.39 91 P 01 21 13.4
baz=309,SNR=13
MLAC Mammoth, Mammo 31.41 111 P 01 21 14.8
baz=320,SNR=12
EUNU Eureka 31.42 18 P **P** **01 21 10.5 -0.1**
MOOW Moose Ponds 31.45 94 P **P** **01 21 12.1 +0.7**
PMPB Monarch Peak 31.50 115 P **P** **01 21 11.4 -0.3**
PMPB IAmb IAmb 01 21 20.6
comp=Z,27nm,0.8s
TPAW Teton Pass 31.50 95 P **P** **01 21 13.4 +1.5**
SNOW Snow King Moun 31.63 95 P **P** **01 21 13.5 +0.5**
REDW Red Top Meadow 31.64 95 P **P** **01 21 13.3 +0.3**
HVU Hansel Valley 31.65 99 P **P** **01 21 14.8 +1.8**
HVU pmax pmax
comp=Z,30nm,1.1s
HVU Hansel Valley 31.65 99 P **P** **01 21 14.8 +1.8**
HVU IAmb IAmb 01 21 16.6
comp=Z,30nm,1.1s
AHID Auburn Hatcher 31.90 96 P **P** **01 21 16.7 +1.4**
TPH Tonopah 31.91 109 P **P** **01 21 17.2 +1.8**
TPH pmax pmax
comp=Z,189nm,0.8s
TPH Tonopah 31.91 109 P **P** **01 21 17.2 +1.8**
LAO LASA Array 32.11 86 P 01 21 18.9
baz=307
PAGB Antelope Grade 32.16 115 P **P** **01 21 19.1 +1.7**
PAGB IAmb IAmb 01 21 21.1
comp=Z,52nm,1.1s
TIN Tinemaha, Big 32.16 111 P 01 21 20.6
baz=320,SNR=13
DGMT Dagmar 32.18 82 P **P** **01 21 17.7 +0.2**
DGMT Dagmar 32.18 82 P 01 21 19.0
baz=304
HWUT Hardware Ranch 32.42 98 P **P** **01 21 21.9 +2.0**
HWUT IAmb IAmb 01 21 23.4
comp=Z,29nm,1.0s
R11A Troy Canyon, C 32.57 107 IAmb IAmb 01 21 41.4
comp=Z,31nm,0.8s
R11A Troy Canyon, C 32.57 107 P 01 21 23.4
baz=318,SNR=94
SMMC Simmler 32.62 115 P 01 21 24.6
baz=322
GRAC Grapevine Rang 32.65 110 P 01 21 24.8
baz=320,SNR=38
VES Vestal, Richgr 32.66 113 P 01 21 23.8
baz=321
CWC Cottonwood Cre 32.71 112 P 01 21 24.9
baz=320
DUG Dugway, Tooele 32.73 101 P 01 21 24.6
baz=315,SNR=16
BW06 Boulder Array 32.74 95 IAmb IAmb 01 21 25.2
comp=Z,24nm,0.7s
BW06 Boulder Array 32.74 95 P 01 21 24.4
baz=312,SNR=16
PD31 Pinedale Array 32.74 95 IAmb IAmb 01 21 25.2
comp=Z,21nm,0.7s
PDAR Pinedale Array 32.74 95 P **P** **01 21 24.3 +1.6**
comp=Z,24nm,0.6s,baz=311,slow=5.3,SNR=192
PDAR pP **pP** **01 21 41.0 +2.0**
comp=Z,9.3nm,0.7s,baz=321,slow=5.2,SNR=6.6
PDAR LR LR 01 34 36.7
comp=Z,66nm,20.5s,baz=310,slow=36
PDAR P3KPbc 01 52 42.4
comp=Z,0.3nm,0.5s,baz=104,slow=6.3,SNR=3.6
SPR3 Spring Creek 3 32.77 104 IAmb IAmb 01 21 44.9
comp=Z,57nm,1.3s
CTU Camp Tracy 32.95 100 P **P** **01 21 26.0 +1.4**
PKM Mcpherson Peak 33.04 115 P 01 21 27.8
baz=323,SNR=9.3
ISA Isabella, Lake 33.11 113 IAmb IAmb 01 21 28.6
comp=Z,26nm,0.8s
ISA Isabella, Lake 33.11 113 P 01 21 27.6
baz=321,SNR=30
TIXI Tiksi 33.14 326*c* *i*P **P** **01 21 24.6 -1.0**
TIXI Tiksi 33.14 326 P **P** **01 21 24.5 -1.1**
TIXI IAmb IAmb 01 21 25.8
comp=Z,30nm,0.6s
TIXI **PcP** **01 24 07.0 +0.2**
JLU Jordanelle 33.18 99 P **P** **01 21 28.2 +1.6**
TPNV Topopah Spring 33.27 109 P 01 21 29.7
baz=319,SNR=119
FURC Furnace Creek, 33.32 110 P 01 21 30.1
baz=320,SNR=42
ARVC Arvin 33.35 114 P 01 21 29.9
baz=322
PSUT Pine Spring 33.36 104 IAmb IAmb 01 21 31.6
comp=Z,31nm,1.2s
LRMC Laurel Mtn Rad 33.66 112 P 01 21 32.7
baz=321,SNR=45
EDW2 Edwards Air Fo 33.97 113 P 01 21 34.8
baz=322,SNR=11
SHOC Shoshone, Teco 34.06 110 P 01 21 36.5
baz=320,SNR=12
TCRU Three Creeks R 34.06 103 IAmb IAmb 01 21 38.1
comp=Z,36nm,1.0s
SHPR Sheep Range 34.17 108 IAmb IAmb 01 21 55.8
comp=Z,30nm,1.4s
RDMU Red Mountain 34.23 98 IAmb IAmb 01 21 56.6
comp=Z,42nm,1.1s
TMUT Trail Mountain 34.23 101 IAmb IAmb 01 21 39.2
comp=Z,21nm,1.0s
GSC Goldstone, Bar 34.24 111 IAmb IAmb 01 21 39.0
comp=Z,33nm,1.1s
GSC Goldstone, Bar 34.24 111 P 01 21 37.9
baz=321,SNR=21
CCUT Cedar City 34.34 105 IAmb IAmb 01 21 40.2
comp=Z,32nm,1.2s
PASC Pasadena Art C 34.43 114 P **P** **01 21 38.0 +0.9**
SZCU Shurtz Canyon 34.46 105 IAmb IAmb 01 21 57.8
comp=Z,18nm,0.8s
K22A Casper 34.50 92 P 01 21 39.1
baz=311,SNR=9.6
TUQ Turquoise Moun 34.59 110 P 01 21 41.1
baz=321,SNR=21
MTPU Mount Pierson 34.61 103 P **P** **01 21 40.4 +1.2**
MTPU IAmb IAmb 01 21 43.1
comp=Z,24nm,1.2s
BFSC Mount Baldy Ra 34.64 114 P 01 21 41.4
baz=322,SNR=13

LCMT Little Creek M 34.81 106 IAmb IAmb 01 22 01.1
comp=Z,18nm,0.8s
HEC Hector,Ludlow 34.85 111 P 01 21 43.0
baz=321,SNR=12
RSSD Black Hills 34.91 88 P **P** **01 21 41.7 +0.2**
RSSD pmax pmax
comp=Z,18nm,0.7s
RSSD Black Hills 34.91 88 P **P** **01 21 41.7 +0.2**
RSSD IAmb IAmb 01 22 01.2
comp=Z,18nm,0.7s
RSSD Black Hills 34.91 88 P 01 21 43.0
baz=310
KNB Kanab 35.03 105 P **P** **01 21 44.2 +1.7**
KNB pmax pmax
comp=Z,32nm,1.1s
KNB Kanab 35.03 105 P **P** **01 21 44.2 +1.7**
KNB IAmb IAmb 01 21 46.1
comp=Z,32nm,1.1s
MDND Maddock 35.05 80 P **P** **01 21 42.8 +0.4**
MDND Maddock 35.05 80 P 01 21 44.2
baz=306
E28A Huff 35.22 82 IAmb IAmb 01 21 46.6
comp=Z,42nm,0.8s
GMRC Granite Mounta 35.23 111 P 01 21 46.4
baz=321,SNR=28
O20A White River Ci 35.26 97 P **P** **01 21 45.7 +1.1**
O20A White River Ci 35.26 97 P 01 21 46.3
baz=314,SNR=21
TYV Tymovskoe 35.32 287 *e*P **P** **01 21 44.8 +0.2**
TYV *e*S **S** **01 27 15.5 +2.0**
TYV pmax pmax
comp=Z,134nm,0.9s
TYV smax smax
comp=E,800nm,6.1s
MURC Murrieta 35.38 114 P 01 21 46.8
baz=323
TULEG Thule 35.38 24 *i* P **P** **01 21 44.0 -0.9**
TULEG *i* P **P** **01 21 44.9 0.0**
TULEG IAmb IAmb 01 21 45.5
comp=Z,19nm,0.7s
TULEG Thule 35.38 24 P **P** **01 21 44.8 -0.1**
TULEG IAmb IAmb 01 21 45.8
comp=Z,20nm,0.7s
ULM Lac du Bonnet 35.67 74 P **P** **01 21 48.5 +0.9**
comp=Z,5.1nm,0.6s,baz=315,slow=9.8,SNR=7.5
ULM pP **pP** **01 22 04.8 +0.7**
comp=Z,6.9nm,0.5s,baz=306,slow=9.9,SNR=7.8
ULM LR LR 01 36 10.6
comp=Z,226nm,21.8s,baz=282,slow=36
ULM Lac du Bonnet 35.67 74 P **P** **01 21 48.5 +0.9**
ULM *PP **pP** **01 22 04.8 +0.7**
ULM Lac du Bonnet 35.67 74 P **P** **01 21 47.9 +0.3**
BELC Belle Mtn. Jos 35.67 112 P 01 21 49.9
baz=322,SNR=24
PFO Pinyon Flats O 35.74 113 P **P** **01 21 49.0 +0.4**
PFO pmax pmax
comp=Z,48nm,1.4s
PFO Pinyon Flats O 35.74 113 P **P** **01 21 49.0 +0.4**
PFO IAmb IAmb 01 21 51.5
comp=Z,48nm,1.4s
PFO Pinyon Flats O 35.74 113 P 01 21 50.3
baz=322,SNR=11
U15A North Rim 35.75 105 IAmb IAmb 01 21 52.4
comp=Z,28nm,1.1s
W13A Hualapai Mount 35.92 108 IAmb IAmb 01 22 11.3
comp=Z,68nm,1.3s
IRM Iron Mountain 35.99 111 P 01 21 53.0
baz=322,SNR=85
PHWY Pilot Hill 35.99 93 P **P** **01 21 51.2 +0.4**
109C Camp Elliot, M 35.99 114 P **P** **01 21 51.5 +0.9**
109C IAmb IAmb 01 21 53.9
comp=Z,63nm,1.2s
109C Camp Elliot, M 35.99 114 P 01 21 53.1
baz=323
N23A Red Feather La 36.00 94 P 01 21 52.6
baz=313,SNR=9.5
YAK Yakutsk 36.08 310*c* *i*P **P** **01 21 49.7 -1.3**
YAK *e**PP **pP** **01 22 04.9 -2.7**
YAK *e* 01 23 11.8
YAK *e* 01 24 13.7
YAK *e*S **S** **01 27 24.3 -0.7**
YAK *e**SS **sS** **01 27 51.9 -1.2**
YAK *e*SS **SnSn** **01 29 52.9 -2.8**
YAK *e* 01 32 00.9
YAK pmax pmax
comp=Z,109nm,0.8s
YAK pmax pmax
comp=N,18nm,0.9s
YAK pmax pmax
comp=E,29nm,1.0s
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,12nm,1.3s
YAK smax smax
comp=N,15nm,1.4s
YAK smax smax
comp=E,14nm,1.5s
YAK Yakutsk 36.08 310 P **P** **01 21 50.1 -0.9**
PV14 Lion Creek, Pa 36.08 100 P **P** **01 21 52.7 +1.1**
PV14 IAmb IAmb 01 22 11.6
comp=Z,66nm,1.5s
PV19 Morning Glory 36.15 100 P **P** **01 21 53.5 +1.4**
PV19 IAmb IAmb 01 22 12.8
comp=Z,74nm,1.4s
BC3 Big Chuckawall 36.22 112 P 01 21 54.3
baz=322,SNR=19
PV05 Paradox Valley 36.26 100 P **P** **01 21 54.2 +1.1**
PV05 IAmb IAmb 01 22 13.1
comp=Z,26nm,0.9s
MONP2 Monument Peak 36.33 114 P 01 21 56.2
baz=323,SNR=16
BAR Barrett 36.38 114 P **P** **01 21 55.0 +1.1**
BAR IAmb IAmb 01 21 57.1
comp=Z,34nm,1.1s
PDMCI Parker Dam,Lak 36.40 110 P 01 21 56.1
baz=321,SNR=13
SWSC Sam W. Stewart 36.61 113 P 01 21 57.8
baz=323,SNR=13
UGL Uglegorsk 36.65 285 *e*P **P** **01 21 56.2 +0.3**
UGL pmax pmax
comp=Z,600nm,1.0s
UGL pmax pmax
comp=Z,500nm,0.8s
CBX Cerro Bola 36.67 114 P **P** **01 21 57.7 +1.1**
IKP In-Ko-Pah, Jac 36.69 113 P 01 21 58.6
baz=323,SNR=8.7
AGMN Agassiz Nation 36.80 77 P **P** **01 21 57.6 +0.3**
AGMN IAmb IAmb 01 22 16.3
comp=Z,36nm,1.1s
AGMN Agassiz Nation 36.80 77 P 01 21 58.2
baz=306,SNR=7.0
D32A Dogwood Acres, 36.88 79 P **P** **01 21 57.9 -0.1**
D32A IAmb IAmb 01 22 16.6
comp=Z,19nm,0.8s
WUAZ Wupatki 36.92 105 IAmb IAmb 01 22 02.1
comp=Z,42nm,1.1s
WUAZ Wupatki 36.93 105 P 01 22 01.1
baz=319,SNR=21
ISCO Idaho Springs 36.94 95 P 01 22 00.4
baz=314
GLA Glamis 37.02 112 P **P** **01 22 00.9 +1.5**
GLA pmax pmax
comp=Z,60nm,1.1s
GLA Glamis 37.02 112 P **P** **01 22 00.9 +1.5**
GLA Glamis 37.02 112 P 01 22 01.6
baz=322,SNR=18
CCX Cicese 37.03 115 P **P** **01 21 59.8 +0.4**
CCX IAmb IAmb 01 22 02.8
comp=Z,64nm,1.4s
MVCO Mesa Verde 37.21 101 IAmb IAmb 01 22 21.4
comp=Z,36nm,1.1s
MVCO Mesa Verde 37.21 101 P 01 22 02.7
baz=317,SNR=19
Y14A Wickenburg 37.27 109 IAmb IAmb 01 22 04.7
comp=Z,39nm,1.0s
SUSD Miller 37.50 84 P **P** **01 22 04.0 +0.7**
SUSD Miller 37.50 84 P 01 22 04.6
baz=310,SNR=7.2
YSS Yuzh-Sakhalins 37.55 282*c* *i*P **P** **01 22 03.4 -0.2**
YSS *e*S **S** **01 27 44.7 -2.8**
YSS pmax pmax
comp=Z,200nm,3.5s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 37.55 282 P **P** **01 22 02.6 -1.0**
YSS IAmb IAmb 01 22 04.5
comp=Z,36nm,0.7s
YUK Yuzh-Kuril'sk 37.69 276 *e*P **P** **01 22 03.4 -1.4**
YUK *e* 01 23 30.9
YUK *e*S **S** **01 27 47.9 -1.9**
YUK pmax pmax
comp=Z,173nm,1.1s
YUK pmax pmax
comp=N,91nm,1.0s
YUK pmax pmax
comp=E,166nm,1.1s
YUK pmax pmax
comp=Z,191nm,1.1s
YUK MLR MLR
comp=Z,60nm,14.0s
YUK MLR MLR
comp=E,293nm,18.0s
X16A Lo Mia Camp, P 37.73 107 P **P** **01 22 07.7 +2.2**
X16A IAmb IAmb 01 22 09.3
comp=Z,48nm,0.9s
S22A 4UR Ranch, Cre 37.73 98 P 01 22 07.5
baz=316,SNR=11
Q24A Divide 37.78 96 P 01 22 07.6
baz=315
113A Mohawk Valley, 37.79 111 P **P** **01 22 07.2 +1.3**
113A IAmb IAmb 01 22 08.8
comp=Z,39nm,1.1s
B35A Bob, Littlefor 37.91 75 IAmb IAmb 01 22 25.6
comp=Z,22nm,0.9s
F33A 5 Mile Ranch, 38.07 80 IAmb IAmb 01 22 27.7
comp=Z,32nm,1.4s
W18A Petrified Fore 38.10 104 IAmb IAmb 01 22 11.9
comp=Z,44nm,1.2s
W18A Petrified Fore 38.10 104 P 01 22 10.9
baz=319,SNR=16
OGNE Ogallala 38.12 90 IAmb IAmb 01 22 10.6
comp=Z,17nm,0.7s
OGNE Ogallala 38.12 90 P 01 22 10.2
baz=313
SPX San Pedro Mart 38.30 114 IAmb IAmb 01 22 14.0
comp=Z,25nm,0.8s
X18A Snowflake 38.43 105 IAmb IAmb 01 22 32.2
comp=Z,25nm,0.8s
SDCO Great Sand Dun 38.46 97 IAmb IAmb 01 22 32.2
comp=Z,20nm,0.8s
SDCO Great Sand Dun 38.46 97 P 01 22 13.7
baz=316,SNR=20
SFX San Felipe 38.62 114 P **P** **01 22 13.7 +1.0**
SFX IAmb IAmb 01 22 15.7
comp=Z,29nm,1.1s
GRNR Gornyy 38.63 291⇑ *i*P **P** **01 22 12.0 -0.7**
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,40nm,0.9s
NEEM North Greenlan 38.66 20⇑ *i*P **P** **01 22 13.1 +0.2**
NEEM IAmb IAmb 01 22 13.8
comp=Z,83nm,0.7s
K31A O'Neill 38.80 86 P **P** **01 22 14.5 +0.2**
K31A IAmb IAmb 01 22 16.4
comp=Z,40nm,1.1s
KULLO Kullorsuaq 38.83 25⇑ *i*P **P** **01 22 14.6 +0.5**
KULLO IAmb IAmb 01 22 15.4
comp=Z,52nm,0.7s
KULLO Kullorsuaq 38.83 25⇑ *i*P **P** **01 22 14.5 +0.5**
KULLO pmax pmax
comp=Z,52nm,0.7s
214A Organ Pipe Nat 38.93 111 P **P** **01 22 17.4 +2.0**
214A IAmb IAmb 01 22 18.6
comp=Z,48nm,0.9s
214A Organ Pipe Nat 38.93 111 P 01 22 17.6
baz=322,SNR=22
KSCO Kaye Shedlock' 39.14 93 P **P** **01 22 18.4 +1.2**
ECSD EROS Data Cent 39.25 83 P 01 22 18.2
baz=311,SNR=16
EYMN Ely 39.35 74 P **P** **01 22 18.5 -0.3**
EYMN IAmb IAmb 01 22 37.5
comp=Z,21nm,0.9s
EYMN Ely 39.35 74 P 01 22 19.6
baz=308,SNR=13
JKA Kamikawa-asahi 39.42 278 P **P** **01 22 18.9 -0.5**
ASAJ Asahikawa 39.43 278 P **P** **01 22 18.9 -0.5**
ASAJ pmax pmax
comp=Z,100nm,1.0s
T25A Trinidad 39.50 97 IAmb IAmb 01 22 40.8
comp=Z,30nm,1.0s
T25A Trinidad 39.50 97 P 01 22 22.4
baz=317,SNR=11
F36A Milaca 39.56 78 IAmb IAmb 01 22 40.3
comp=Z,54nm,1.4s
TUC Tucson 39.70 108 P **P** **01 22 23.2 +1.2**
TUC pmax pmax
comp=Z,16nm,0.8s
TUC Tucson 39.70 108 P **P** **01 22 23.2 +1.2**
TUC IAmb IAmb 01 22 24.8
comp=Z,16nm,0.8s
TUC Tucson 39.70 108 P 01 22 24.3
baz=322
BGNE Belgrade 39.95 87 P **P** **01 22 24.1 +0.2**
ANMO Albuquerque 40.00 101*d* *i*P **P** **01 22 26.1 +1.6**
ANMO pmax pmax
comp=Z,21nm,1.7s
ANMO Albuquerque 40.00 101 P **P** **01 22 24.4 -0.1**
ANMO Albuquerque 40.00 101 P 01 22 26.4
baz=319
UPNV Upernavik 40.02 27⇑ *i*P **P** **01 22 24.6 +0.5**
UPNV IAmb IAmb 01 22 25.3
comp=Z,42nm,0.7s
E38A The Farm, Brul 40.15 76 P **P** **01 22 24.8 -0.6**
E38A IAmb IAmb 01 22 43.8
comp=Z,46nm,1.2s
LENM Lemitar 40.31 102 P **P** **01 22 29.1 +2.1**
NOR Nord 40.33 8⇑ *i*P **P** **01 22 26.8 +0.3**
NOR Nord 40.33 8⇑ *i*P **P** **01 22 26.8 +0.3**
SPMN Marine on St. 40.36 78 IAmb IAmb 01 22 46.9
comp=Z,30nm,1.0s
SPMN Marine on St. 40.36 78 P 01 22 28.0
baz=310,SNR=6.4
Y22D IRIS PASSCAL I 40.41 102 P **P** **01 22 29.9 +2.1**
Y22D IAmb IAmb 01 22 31.6
comp=Z,44nm,0.9s
BNM Barren Site 40.51 102 P **P** **01 22 29.9 +1.2**
JEM Erimo 40.51 275 P **P** 01 22 19.1 -9.3
ERM Erimo 40.51 275*c* *i*P **P** **01 22 28.1 -0.3**
ERM pmax pmax
comp=Z,105nm,1.3s
ERM Erimo 40.51 275 P **P** **01 22 28.6 +0.2**
L34A Svendsen Farm, 40.55 85 IAmb IAmb 01 22 30.1
comp=Z,45nm,0.8s
I37A Lemond, Waseca 40.82 80 IAmb IAmb 01 22 50.3
comp=Z,44nm,0.8s
CBKS Cedar Bluff 40.87 91 P **P** **01 22 32.3 +0.8**
CBKS pmax pmax
comp=Z,48nm,1.3s
CBKS Cedar Bluff 40.87 91 P **P** **01 22 32.3 +0.8**
CBKS IAmb IAmb 01 22 51.6
comp=Z,48nm,1.3s
CBKS Cedar Bluff 40.87 91 P 01 22 32.9
baz=315
121A Cookes Peak, D 41.12 105 P **P** **01 22 35.7 +1.9**
121A IAmb IAmb 01 22 54.7
comp=Z,37nm,0.9s
121A Cookes Peak, D 41.12 105 P 01 22 36.0
baz=321,SNR=19
319A Douglas 41.23 107 P **P** **01 22 37.0 +2.4**
319A IAmb IAmb 01 22 55.3
comp=Z,42nm,1.0s
D41A Chassel 41.45 73 P **P** **01 22 37.9 +1.8**
NUUG Nuugaatsiaq 41.48 28 *i* P **P** **01 22 36.8 +0.8**
NUUG IAmb IAmb 01 22 37.4
comp=Z,39nm,1.0s
ZEA Zeya 41.48 299 *e*P **P** **01 22 35.1 -1.1**
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA MLR MLR
comp=E,100nm,10.0s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,11.0s

G40A Rib Lake 41.73 76 IAmb IAmb 01 22 58.1
comp=Z,31nm,0.8s
COWI Conover 41.76 75 P **P** **01 22 38.4 -0.3**
KLR Kul'dur 41.96 291 LR LR 01 40 26.7
comp=Z,44nm,21.2s,baz=71,slow=36
KLR Kul'dur 41.96 291*c iP* **P** **01 22 39.5 -0.7**
KLR pmax pmax
comp=Z,150nm,1.1s
K38A Parkersburg 42.07 81 IAmb IAmb 01 22 42.7
comp=Z,31nm,1.0s
TEY Ternei 42.08 284⇑*e*P **P** **01 22 39.4 -1.8**
TEY pmax pmax
comp=N,10.0nm,0.9s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=Z,40nm,0.9s
HSIG 42.23 111 P **P** **01 22 43.2 +0.5**
HSIG IAmb IAmb 01 22 45.4
comp=Z,26nm,0.7s
SCIA State Center 42.33 82 IAmb IAmb 01 22 45.0
comp=Z,42nm,1.2s
SCIA State Center 42.33 82 P 01 22 44.1
baz=313
I40A Norwalk 42.41 78 IAmb IAmb 01 23 03.6
comp=Z,54nm,1.1s
JTM Tenmabayashi 42.50 276 P **P** **01 22 45.5 +0.9**
F42A Maple Grove Fa 42.52 75 IAmb IAmb 01 23 05.1
comp=Z,43nm,0.8s
AMTX Amarillo 42.65 97 IAmb IAmb 01 23 06.2
comp=Z,26nm,0.7s
AMTX Amarillo 42.65 97 P 01 22 47.4
baz=318
E43A Lone Tree Farm 42.72 73 IAmb IAmb 01 23 06.5
comp=Z,40nm,0.7s
MSTX Muleshoe 42.74 99 IAmb IAmb 01 23 06.6
comp=Z,34nm,0.8s
MSTX Muleshoe 42.74 99 P 01 22 48.2
baz=319,SNR=7.0
SRIG Santa Rosalia 42.96 114 P **P** **01 22 48.9 +0.3**
SRIG IAmb IAmb 01 22 51.2
comp=Z,35nm,1.1s
MNTX Cornudas Mount 43.05 103 IAmb IAmb 01 23 10.1
comp=Z,36nm,1.1s
MNTX Cornudas Mount 43.05 103 P 01 22 51.4
baz=321,SNR=46
N38A Joes South For 43.08 84 P **P** **01 22 49.4 0.0**
N38A IAmb IAmb 01 22 50.8
comp=Z,54nm,1.0s
KAN05 Bluff City Nor 43.12 91 IAmb IAmb 01 22 53.5
comp=Z,26nm,0.8s
KS20 Mayfield South 43.21 91 P **P** **01 22 50.9 +0.4**
JFWS Jewell Farm 43.27 79 P **P** **01 22 50.0 -0.9**
JFWS pmax pmax
comp=Z,32nm,0.9s
JFWS Jewell Farm 43.27 79 P **P** **01 22 50.0 -0.9**
JFWS IAmb IAmb 01 23 09.7
comp=Z,32nm,0.9s
JFWS Jewell Farm 43.27 79 P 01 22 50.8
baz=312,SNR=7.8
L40A Anamosa 43.31 81 IAmb IAmb 01 23 10.2
comp=Z,34nm,0.8s
I42A Draeger Farm, 43.33 77 IAmb IAmb 01 23 11.1
comp=Z,32nm,0.8s
KAN13 South Haven SW 43.41 91 IAmb IAmb 01 22 53.1
comp=Z,24nm,0.6s
ILULI Ilulissat 43.46 30 P **P** **01 22 51.6 -0.5**
ILULI pmax pmax
comp=Z,35nm,1.4s
ILULI Ilulissat 43.46 30 P **P** **01 22 51.6 -0.5**
P38A Dawn 43.73 85 IAmb IAmb 01 22 55.9
comp=Z,51nm,0.9s
T35A Sooner Cattle 44.01 90 P **P** **01 22 57.2 +0.2**
E46A Sault Ste Mari 44.14 71 IAmb IAmb 01 23 17.9
comp=Z,28nm,0.8s
L42A Oliver, Polo 44.20 80 P **P** **01 22 57.1 -1.2**
DAG Danmarks Havn 44.23 13⇑*iP* **P** **01 22 58.0 -0.2**
DAG IAmb IAmb 01 22 58.9
comp=Z,171nm,0.7s
DAG Danmarks Havn 44.23 13⇑*iP* **P** **01 22 57.9 -0.2**
DAG pmax pmax
comp=Z,170nm,0.7s
SUMG Summit 44.26 22⇑*iP* **P** **01 22 59.6 +0.6**
SUMG IAmb IAmb 01 23 00.4
comp=Z,61nm,0.9s
SUMG Summit 44.26 22⇑*iP* **P** **01 22 59.5 +0.6**
SUMG pmax pmax
comp=Z,61nm,0.9s
SUMG Summit 44.26 22 P **P** **01 22 58.8 -0.1**
SUMG IAmb IAmb 01 23 00.6
comp=Z,55nm,0.8s
OK029 Liberty Lake 44.31 92 IAmb IAmb 01 23 18.6
comp=Z,39nm,1.1s
G45A Suttons Bay 44.31 74 P **P** **01 23 00.1 +0.9**
G45A IAmb IAmb 01 23 19.1
comp=Z,26nm,0.7s
BCOK Bluff Creek, N 44.32 92 IAmb IAmb 01 23 01.0
comp=Z,46nm,0.7s
WMOK Wichita Mounta 44.35 94 IAmb IAmb 01 23 19.4
comp=Z,46nm,1.2s
WMOK Wichita Mounta 44.35 94 P 01 23 00.9
baz=318,SNR=16
N41A Harden Midland 44.44 82 IAmb IAmb 01 23 19.3
comp=Z,46nm,1.0s
QUOK Quay 44.45 91 P **P** **01 23 01.1 +0.7**
KBS Kingsbay 44.51 3⇑*iP* **P** **01 23 01.9 +1.5**
KBS Kingsbay 44.51 3*ce*P **P** **01 23 01.6 +1.2**
KBS pmax pmax
comp=Z,57nm,1.0s
KBS Kingsbay 44.51 3 *e*P **P** **01 23 02.0 +1.6**
KBS Kingsbay 44.51 3 P **P** **01 23 01.1 +0.7**
OK025 Westminster Rd 44.53 92 IAmb IAmb 01 23 02.6
comp=Z,26nm,0.9s
OK031 S. Brethren Rd 44.53 91 IAmb IAmb 01 23 02.5
comp=Z,20nm,0.7s
OKCFA Oklahoma City 44.59 92 P **P** **01 23 02.5 +0.9**
OKCFA IAmb IAmb 01 23 21.0
comp=Z,38nm,1.1s
P40A Paris 44.61 84 IAmb IAmb 01 23 20.2
comp=Z,24nm,0.6s
I45A Fountain 44.67 75 P **P** **01 23 03.0 +0.9**
JMM Marumori 44.70 273 IAmb IAmb 01 23 02.5
comp=Z,29nm,0.8s
X34A Smith Ranch, M 44.98 94 P **P** **01 23 05.6 +0.9**
BOD Bodaibo 44.98 311 *e*P **P** **01 23 02.0 -2.4**
BOD pmax pmax
comp=Z,42nm,1.0s
SFJD Kangerlussuaq 45.04 32⇑*iP* **P** **01 23 05.8 +1.1**
SFJD IAmb IAmb 01 23 06.6
comp=Z,28nm,0.7s
SFJD Kangerlussuaq 45.04 32 P **P** **01 23 05.3 +0.6**
SFJD pmax pmax
comp=Z,47nm,0.7s
SFJD Kangerlussuaq 45.04 32 P **P** **01 23 05.2 +0.6**
USRK Ussuriysk Ar. 45.10 286 P **P** **01 23 03.9 -1.6**
comp=Z,7.9nm,0.5s,baz=50,slow=9.0,SNR=37
USRK PcP **PcP** **01 24 45.5 +0.6**
comp=Z,3.6nm,0.7s,baz=42,slow=3.1,SNR=4.5
USRK pPcP 01 25 04.0
comp=Z,3.0nm,0.7s,baz=42,slow=4.7,SNR=3.3
USRK LR LR 01 41 44.4
comp=Z,162nm,20.8s,baz=45,slow=36
USRK Ussuriysk Ar. 45.10 286 P **P** **01 23 03.9 -1.6**
USRK 01 24 45.6
TUL1 Leonard 45.14 91 P 01 23 06.3
baz=317
MATQ Matagami 45.34 64 P 01 23 07.5
baz=310
R40A Maddies Statio 45.37 85 IAmb IAmb 01 23 25.6
comp=Z,19nm,0.6s
HDIL Hopedale 45.40 81 P 01 23 08.0
baz=314,SNR=12
ABTX Abilene, Hawle 45.47 97 P 01 23 09.7
baz=319,SNR=8.2
M44A Midewin, Midew 45.50 79 P **P** **01 23 09.7 +1.0**
M44A IAmb IAmb 01 23 28.0
comp=Z,44nm,0.9s
U38A Gravette 45.53 89 IAmb IAmb 01 23 09.3
comp=Z,15nm,0.6s
LOOK Love County 45.79 94 IAmb IAmb 01 23 31.0
comp=Z,53nm,1.1s
TX32 Lajitas Array 45.82 104 IAmb IAmb 01 23 31.9
comp=Z,26nm,0.8s
TXAR Lajitas Array 45.82 104 P **P** **01 23 12.4 +1.0**
comp=Z,20nm,0.8s,baz=312,slow=6.0,SNR=95
TXAR pP **pP** **01 23 29.6 +1.1**
comp=Z,14nm,0.6s,baz=314,slow=5.2,SNR=13
TXAR PcP **PcP** **01 24 48.5 +0.7**
comp=Z,1.4nm,0.6s,baz=270,slow=1.3,SNR=1.4
TXAR pPcP 01 25 07.6
comp=Z,2.3nm,0.6s,baz=218,slow=0.6,SNR=3.7
TXAR ScP **ScP** **01 28 34.6 +0.2**
comp=Z,1.6nm,1.0s,baz=270,slow=5.0,SNR=4.4
TXAR LR LR 01 41 34.7
comp=Z,185nm,18.8s,baz=0.0,slow=35
TXAR Lajitas Array 45.82 104 P **P** **01 23 12.5 +1.0**
TXAR *PP **pP** **01 23 29.6 +1.1**
TXAR 01 24 48.5
TXAR Lajitas Array 45.82 104 P **P** **01 23 12.7 +1.2**
P43A Skaggs, Pawnee 45.92 82 IAmb IAmb 01 23 30.7
comp=Z,66nm,1.4s
JSD Sado 45.98 275 P **P** **01 23 12.0 -0.5**
JSD IAmb IAmb 01 23 14.1
comp=Z,63nm,1.2s
L46A Eue Claire 46.02 77 P **P** **01 23 12.6 -0.1**
L46A IAmb IAmb 01 23 32.3
comp=Z,30nm,0.7s
NRIK Noril'sk 46.07 334 P **P** **01 23 12.8 0.0**
comp=Z,164nm,0.7s,baz=58,slow=6.5,SNR=303
NRIK PcP **PcP** **01 24 48.5 +0.6**
comp=Z,6.6nm,0.7s,baz=30,slow=8.1,SNR=1.5
NRIK LR LR 01 46 08.9
comp=Z,110nm,18.0s,baz=24,slow=41
NRIK Noril'sk 46.07 334*c iP* **P** **01 23 12.6 -0.2**
NRIK pmax pmax
comp=Z,160nm,0.8s
MDJ Mudanjiang 46.09 288 P **P** **01 23 12.0 -1.3**
MDJ pP pP 01 23 31.0 +0.7
MDJ sP sP 01 23 43.5 +5.4
MDJ S **S** **01 29 50.7 -2.9**
MDJ sS sS 01 30 23.9 +1.4
MDJ ScS **ScS** **01 33 00.6 -1.2**
MDJ pmax pmax
comp=Z,63nm,1.0s
MDJ pmax pmax
comp=Z,140nm,5.3s
MDJ L L
comp=Z,90nm,5.7s
MDJ L L
comp=Z,77nm,7.0s
MDJ L L
comp=Z,140nm,13.5s
MDJ Mudanjiang 46.09 288 P **P** **01 23 11.9 -1.4**
DBG Daneborg 46.12 15⇑*iP* **P** **01 23 13.1 0.0**
DBG IAmb IAmb 01 23 13.9
comp=Z,96nm,0.8s
LSQQ Lebel-sur-Quev 46.12 64 P 01 23 13.7
baz=311
O44A Mansfield 46.13 81 P **P** **01 23 13.4 -0.3**
O44A IAmb IAmb 01 23 32.2
comp=Z,14nm,0.6s
X37A Clayton 46.35 91 IAmb IAmb 01 23 35.0
comp=Z,26nm,1.0s
U40A Yellville 46.44 88 P 01 23 15.4
baz=317,SNR=6.9
ICESG Greenland Ices 46.53 26⇑*iP* **P** **01 23 17.2 +0.4**
ICESG IAmb IAmb 01 23 18.9
comp=Z,80nm,0.8s
NUUK Nuuk 46.59 36⇑*iP* **P** **01 23 18.5 +1.6**
NUUK IAmb IAmb 01 23 19.3
comp=Z,60nm,0.7s
FVM French Village 46.60 84 IAmb IAmb 01 23 36.5
comp=Z,45nm,1.2s
MSHR Mys Shultsa 46.65 285*c iP* **P** **01 23 17.1 -0.6**
MSHR pmax pmax
comp=Z,171nm,0.8s
HPIG 46.66 108 P **P** **01 23 19.1 +0.8**
DY2G Dye2 46.66 31⇑*iP* **P** **01 23 18.1 +0.3**
DY2G *i* 01 23 36.5
Q44A Meyer Farm, Va 46.72 82 IAmb IAmb 01 23 19.3
comp=Z,24nm,0.9s
SFIN Lafayette 46.72 79 IAmb IAmb 01 23 37.4
comp=Z,27nm,0.7s
SFIN Lafayette 46.72 79 P 01 23 18.4
baz=315
W39A Magazine 46.77 90 IAmb IAmb 01 23 38.2
comp=Z,41nm,1.4s
W39A Magazine 46.78 90 P 01 23 18.9
baz=318,SNR=7.4
JCT Junction City 47.02 99 P 01 23 21.9
baz=321,SNR=28
SCHQ Schefferville 47.07 52 P **P** **01 23 21.0 +0.1**
comp=Z,4.8nm,0.5s,baz=310,slow=7.2,SNR=21
SCHQ Schefferville 47.07 52 P **P** **01 23 21.5 +0.6**
MJAR Matsushiro Arr 47.08 274 P **P** **01 23 20.6 -0.6**
comp=Z,6.1nm,0.4s,baz=36,slow=6.0,SNR=27
MJAR PcP **PcP** **01 24 52.2 +0.2**
comp=Z,1.2nm,0.3s,baz=59,slow=4.4,SNR=4.9
MJAR ScP **ScP** **01 28 40.1 +0.5**
comp=Z,1.0nm,0.3s,baz=146,slow=3.2,SNR=1.6
MJAR LR LR 01 42 17.4
comp=Z,83nm,21.8s,baz=40,slow=35
MJAR Matsushiro Arr 47.08 274 P **P** **01 23 20.6 -0.6**
MJAR 01 24 52.2
MJAR Matsushiro Arr 47.08 274 **ScP** **01 28 40.1 +0.5**
MJAR Matsushiro Arr 47.08 274 P **P** **01 23 20.1 -1.1**
MJAR **PcP** **01 24 52.5 +0.4**
MAJO Matsushiro 47.08 274*c iP* **P** **01 23 20.4 -0.8**
MAJO pmax pmax
comp=Z,39nm,0.8s
MAJO Matsushiro 47.08 274 P **P** **01 23 20.9 -0.3**
MAJO IAmb IAmb 01 23 23.2
comp=Z,38nm,0.8s
MAT Matsushiro 47.08 274 P **P** **01 23 20.7 -0.5**
HOPEN Hopen 47.11 359 *e*P **P** **01 23 21.1 +0.3**
FCAR Ozark Folk Cen 47.18 88 P **P** **01 23 20.8 -1.2**
P46A Rosedale 47.20 80 P **P** **01 23 22.3 +0.3**
P46A IAmb IAmb 01 23 41.1
comp=Z,30nm,0.7s
MIAR Mount Ida 47.37 90 IAmb IAmb 01 23 43.1
comp=Z,36nm,1.1s
MIAR Mount Ida 47.37 90 P 01 23 23.8
baz=318,SNR=13
S44A Carbondale 47.45 84 IAmb IAmb 01 23 42.6
comp=Z,18nm,0.8s
SIUC Southern Illin 47.46 84 IAmb IAmb 01 23 42.6
comp=Z,30nm,0.9s
WHAR Wooly Hollow 47.53 88 P **P** **01 23 24.7 +0.1**
W41B Gary Mavity, V 47.64 88 P 01 23 24.6
baz=318
ALGO Algonquin Park 47.66 68 P 01 23 25.4
baz=313
X40A Basin Creek Fa 47.82 89 P 01 23 26.9
baz=318
BLO Bloomington 47.89 80 IAmb IAmb 01 23 46.2
comp=Z,32nm,0.7s
N49A Columbus Grove 47.91 77 P **P** **01 23 27.7 +0.1**
N49A IAmb IAmb 01 23 46.8
comp=Z,42nm,1.0s
HIA Hailar 47.94 299 P **P** **01 23 27.0 -0.7**
HIA pmax pmax
comp=Z,15nm,0.9s
HIA Hailar 47.94 299 P **P** **01 23 27.0 -0.7**
435B Jarrell 48.00 97 P 01 23 29.4
baz=320
D55A Sainte-Anne-du 48.24 65 P 01 23 30.0
baz=313,SNR=11
JGF Kuroka 48.24 273 IAmb IAmb 01 23 31.5
comp=Z,25nm,0.6s
WLAR White Oak Lake 48.27 90 P **P** **01 23 30.9 +0.6**
O49A Covington 48.35 78 P **P** **01 23 31.2 +0.3**
O49A IAmb IAmb 01 23 49.2
comp=Z,12nm,0.6s
D56A ZEC Mazanza, M 48.57 65 P 01 23 32.8
baz=313,SNR=11
P49A Miami Univ. Ec 48.61 78 IAmb IAmb 01 23 51.0
comp=Z,49nm,1.3s
P49A Miami Univ. Ec 48.61 78 P 01 23 32.2
baz=316
INU Inuyama 48.61 273 IAmb IAmb 01 23 32.9
comp=Z,14nm,0.5s
WCI Wyandotte Cave 48.69 81 P **P** **01 23 33.1 -0.4**
WCI pmax pmax
comp=Z,12nm,0.6s
WCI Wyandotte Cave 48.69 81 P **P** **01 23 33.1 -0.4**
WCI IAmb IAmb 01 23 52.3
comp=Z,12nm,0.6s
CN2 Changchun 48.81 290 *e*P **P** **01 23 33.2 -1.2**
CN2 S **S** **01 30 29.6 -2.7**
CN2 pmax pmax
comp=Z,80nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,100nm,15.0s
CN2 L L
comp=Z,100nm,15.0s
CN2 L L
comp=Z,200nm,17.0s
CCAR Cane Creek 48.83 89 P **P** **01 23 35.6 +0.9**
NATX Nacogdoches 48.86 93 P **P** **01 23 36.2 +1.3**
NATX Nacogdoches 48.86 93 P 01 23 36.1
baz=320
833A Chaparral WMA, 48.92 100 P 01 23 36.9
baz=322
SCO Scoresbysund 49.12 18⇑*iP* **P** **01 23 37.1 +0.8**
SCO IAmb IAmb 01 23 38.5
comp=Z,20nm,0.6s
T47A Sharon Grove 49.14 83 IAmb IAmb 01 23 56.1
comp=Z,22nm,0.7s
J54A Appleton 49.20 71 P **P** **01 23 38.3 +0.9**
R49A Shelbyville 49.25 80 P **P** **01 23 38.1 +0.3**
LATQ La Tuque 49.32 63 P **P** **01 23 39.0 +0.8**
ISOG Isortoq, Green 49.37 29 *i* P **P** **01 23 38.0 -0.3**
ISOG IAmb IAmb 01 23 40.0
comp=Z,24nm,0.7s
WVT Waverly 49.37 84 P **P** **01 23 38.3 -0.5**
WVT pmax pmax
comp=Z,35nm,0.9s
WVT Waverly 49.37 84 P **P** **01 23 38.3 -0.5**
WVT IAmb IAmb 01 23 57.9
comp=Z,35nm,0.8s
WVT Waverly 49.37 84 P 01 23 39.1
baz=317
D58A Chemin du LacG 49.47 63 P 01 23 39.3
baz=314
JWT Wachi 49.55 275 IAmb IAmb 01 23 40.9
comp=Z,20nm,0.7s
PECO Prince Edward 49.59 69 P **P** **01 23 41.0 +0.7**
PECO IAmb IAmb 01 24 00.3
comp=Z,17nm,0.8s
ANGG Ammassalik, Gr 49.67 28⇑*iP* **P** **01 23 40.3 -0.3**
ANGG IAmb IAmb 01 23 40.7
comp=Z,24nm,0.7s
OXF Oxford 49.70 87 P 01 23 41.3
baz=318
O52A Adamsville 49.75 76 P **P** **01 23 41.4 -0.2**
O52A IAmb IAmb 01 24 00.3
comp=Z,22nm,1.2s
N53A Lisbon 49.79 74 P **P** **01 23 42.7 +0.8**
N53A IAmb IAmb 01 24 01.2
comp=Z,16nm,0.9s
G57A Newington 49.80 67 P 01 23 43.1
baz=314
143A Socs Landing, 49.95 90 P **P** **01 23 44.1 +0.9**
V48A Smith Brothers 50.21 83 IAmb IAmb 01 23 45.8
comp=Z,10nm,0.6s
G58A Ormstown 50.24 66 P 01 23 45.4
baz=314
I57A Carthage 50.28 68 P 01 23 46.0
baz=315
F59A Saint Guilaume 50.39 64 P 01 23 48.2
baz=314
P53A Whipple 50.44 76 P **P** **01 23 48.0 +1.2**
P53A IAmb IAmb 01 24 05.8
comp=Z,14nm,0.6s
342A Flagon Creek P 50.45 92 P **P** **01 23 47.4 +0.5**
342A IAmb IAmb 01 24 06.1
comp=Z,26nm,0.8s
J57A Williamstown 50.48 69 P **P** **01 23 47.4 +0.4**
J57A IAmb IAmb 01 24 06.6
comp=Z,14nm,0.8s
J57A Williamstown 50.48 69 P 01 23 48.5
baz=315
O54A Avella 50.48 75 IAmb IAmb 01 24 06.3
comp=Z,28nm,0.8s
L56A Greenwood 50.57 71 P 01 23 48.2
baz=315
S51A Beattyville 50.59 79 IAmb IAmb 01 24 07.3
comp=Z,21nm,0.7s
E60A Ste Agathe de 50.69 63 P 01 23 49.7
baz=314
FRNY Flat Rock 50.70 66 IAmb IAmb 01 24 07.7
comp=Z,12nm,0.7s
F60A Warwick 50.72 64 P 01 23 49.1
baz=315
H59A Cadyville 50.78 66 P 01 23 50.0
baz=315
NRS Narsarsuaq 50.79 36⇑*iP* **P** **01 23 49.9 +0.7**
NRS IAmb IAmb 01 23 50.5
comp=Z,30nm,0.6s
NRS Narsarsuaq 50.79 36⇑*iP* **P** **01 23 49.9 +0.7**
NRS pmax pmax
comp=Z,30nm,0.6s
NRS Narsarsuaq 50.79 36 IAmb IAmb 01 23 50.7
comp=Z,40nm,1.0s
VBMS Vicksburg 50.80 89 P **P** **01 23 50.5 +0.9**
I58A Old Forge 50.80 68 P 01 23 50.1
baz=315
J58A Remsen 50.88 68 IAmb IAmb 01 24 10.2
comp=Z,31nm,0.8s
J58A Remsen 50.88 68 P 01 23 50.8
baz=315,SNR=5.1
JHS Saijyo 51.02 276 IAmb IAmb 01 23 51.9
comp=Z,13nm,0.8s
X48A Hartselle 51.04 85 IAmb IAmb 01 24 10.0
comp=Z,38nm,1.3s
Q54A Coxs Mills 51.10 76 P **P** **01 23 53.8 +2.0**
Q54A IAmb IAmb 01 24 10.5
comp=Z,11nm,0.6s
G60A Masonville 51.14 65 P 01 23 53.8
baz=315
F61A St Evariste 51.19 63 P 01 23 53.3
baz=315
J59A Piesco 51.20 68 P **P** **01 23 53.7 +1.1**
J59A Piesco 51.20 68 P 01 23 53.7
baz=315
I59A Olmsteadville 51.29 67 P 01 23 54.2
baz=315
BINY Binghamton 51.34 70 P 01 23 54.4
baz=316
D62A Allapoint, All 51.35 61 P 01 23 53.1
baz=315
M57A Sunshine Farm, 51.37 71 IAmb IAmb 01 24 13.6
comp=Z,21nm,0.8s
O56A Blue Knob Stat 51.38 73 P 01 23 53.1
baz=316
TZTN Tazewell 51.41 80 IAmb IAmb 01 24 13.3
comp=Z,17nm,1.0s
TZTN Tazewell 51.41 80 P 01 23 54.2
baz=317,SNR=5.8
G61A St-Isidore-de- 51.41 64 P 01 23 54.2
baz=315
W50A Signal Mountai 51.44 83 IAmb IAmb 01 24 13.3
comp=Z,29nm,1.1s
E62A Clayton Lake 51.45 62 P 01 23 54.7
baz=315
SSPA Standing Stone 51.47 73 P **P** **01 23 54.0 -0.6**
SSPA IAmb IAmb 01 23 55.9
comp=Z,22nm,1.4s
SSPA Standing Stone 51.47 73 P 01 23 54.6
baz=316
VT1 Waterbury 51.48 66 P **P** **01 23 55.2 +0.7**
L58A Harry Jones Me 51.53 70 P 01 23 58.7
baz=316
ZAIG Zacatecas 51.67 108 P **P** **01 23 57.1 +0.5**
CPCT Cooper Cave 51.69 82 IAmb IAmb 01 24 15.5
comp=Z,24nm,1.3s
F62A Pittston Farm, 51.75 63 P 01 23 56.9
baz=315
H61A Lyndonville 51.75 65 P 01 23 57.6
baz=315
FPAL Fort Paine 51.77 84 IAmb IAmb 01 24 15.6
comp=Z,33nm,1.2s
Y49A Blount Mountai 51.84 85 IAmb IAmb 01 24 15.7
comp=Z,59nm,1.4s
D63A Stockholm 51.84 60 P 01 23 57.4
baz=315
V52A Sevierville 51.90 81 IAmb IAmb 01 24 17.5
comp=Z,41nm,1.4s
J60A Lant Hill Farm 51.91 67 P 01 23 58.9
baz=316,SNR=5.7
TKL Tuckaleechee C 51.94 81 IAmb IAmb 01 24 17.4
comp=Z,33nm,1.5s
G62A West of Eustis 51.95 64 IAmb IAmb 01 24 18.1
comp=Z,12nm,0.8s
G62A West of Eustis 51.95 64 P 01 23 58.9
baz=316
R55A Marlinton 51.99 76 P **P** **01 23 59.2 +0.6**

I61A Oroboro, Fairl 52.04 66 P 01 23 59.9
baz=316
KSRS Korea Array 52.04 282 P **P** **01 23 59.1 +0.3**
comp=Z,23nm,0.7s,baz=49,slow=6.8,SNR=61
KSRS pP **pP** **01 24 16.2 0.0**
comp=Z,6.8nm,0.7s,baz=47,slow=6.2,SNR=3.9
KSRS PcP **PcP** **01 25 10.9 +0.8**
comp=Z,4.0nm,0.6s,baz=43,slow=4.6,SNR=2.0
KSRS Korea Array 52.04 282 P **P** **01 23 59.1 +0.3**
KSRS *PP **pP** **01 24 16.2 0.0**
KSRS 01 25 10.9
KSAR Wonju Array Be 52.07 282 P **P** **01 23 58.5 -0.5**
KSAR Wonju Array Be 52.07 282 P **P** **01 23 58.5 -0.5**
H62A Milan 52.10 65 IAmb IAmb 01 24 19.1
comp=Z,12nm,0.8s
H62A Milan 52.10 65 P 01 23 59.5
baz=316
E63A Oxbow 52.13 61 P 01 23 59.2
baz=316
X51A Calhoun 52.16 83 IAmb IAmb 01 24 18.7
comp=Z,23nm,1.1s
W52A Murphy 52.28 82 IAmb IAmb 01 24 20.1
comp=Z,16nm,0.8s
J61A Chester 52.28 67 P 01 24 02.3
baz=316
F63A Nahmakanta, Br 52.31 62 P 01 24 00.8
baz=316
U54A Nelsons Funny 52.37 79 IAmb IAmb 01 24 21.4
comp=Z,22nm,0.6s
K61A Williamstown 52.41 68 P 01 24 05.1
baz=316
E64A Bridgewater 52.42 61 P 01 24 00.9
baz=316
V53A Saluda 52.46 80 IAmb IAmb 01 24 21.3
comp=Z,22nm,0.8s
F64A Sherman 52.56 62 P 01 24 02.8
baz=316
BATG Bathurst New B 52.64 59 IAmb IAmb 01 24 21.8
comp=Z,18nm,1.0s
INCN Inchon 52.71 283 P **P** **01 24 03.5 -0.3**
INCN pmax pmax
comp=Z,39nm,0.9s
INCN Inchon 52.71 283 P **P** **01 24 03.5 -0.3**
Z51A Franklin 52.92 84 IAmb IAmb 01 24 24.1
comp=Z,21nm,0.9s
K62A Royalston 52.94 67 P **P** **01 24 05.2 -0.2**
K62A IAmb IAmb 01 24 24.4
comp=Z,15nm,0.9s
HAMF Hammerfest 53.02 360 *eP* **P** **01 24 05.2 -0.3**
TJN Taejon 53.13 282 *c iP* **P** **01 24 06.5 -0.4**
WUPA West Chester U 53.18 72 P **P** **01 24 06.8 -0.4**
U56A King 53.27 78 IAmb IAmb 01 24 27.1
comp=Z,16nm,0.6s
K63A Dunstable 53.28 66 P **P** **01 24 09.8 +2.0**
K63A IAmb IAmb 01 24 27.6
comp=Z,26nm,1.1s
PAL Palisades 53.28 69 P **P** **01 24 09.7 +1.7**
PAL pmax pmax
comp=Z,21nm,0.9s
PAL Palisades 53.28 69 P **P** **01 24 09.7 +1.7**
PAL IAmb IAmb 01 24 28.0
comp=Z,21nm,0.9s
250A Grady 53.33 86 P **P** **01 24 07.7 -0.7**
250A IAmb IAmb 01 24 27.0
comp=Z,23nm,0.7s
JTU Tsushima 53.41 279 P **P** **01 24 07.9 -1.1**
R58B Mineral 53.42 75 P **P** **01 24 11.0 +2.0**
TLY Talaya 53.55 310 P **P** **01 24 10.1 +0.2**
comp=Z,17nm,0.7s,baz=36,slow=8.1,SNR=17
TLY PcP **PcP** **01 25 16.7 +1.1**
comp=Z,5.2nm,0.5s,baz=96,slow=10,SNR=1.7
TLY Talaya 53.55 310 *eP* **P** **01 24 09.7 -0.1**
TLY pmax pmax
comp=Z,66nm,0.8s
TLY Talaya 53.55 310 P **P** **01 24 09.8 -0.1**
TLY IAmb IAmb 01 24 11.2
comp=Z,24nm,0.8s
WES Weston 53.60 67 IAmb IAmb 01 24 30.2
comp=Z,21nm,0.7s
KMSC Kings Mountain 53.66 80 P 01 24 10.6
baz=318,SNR=5.7
GOGA Godfrey 53.79 83 P 01 24 10.8
baz=319
EMMW East Machias 53.83 62 P **P** **01 24 12.4 +0.5**
HODGE Hodges 53.83 81 IAmb IAmb 01 24 31.1
comp=Z,20nm,1.0s
KEV Kevo 53.88 358 P **P** **01 24 11.8 -0.1**
KEV pmax pmax
comp=Z,71nm,0.7s
KEV Kevo 53.88 358 P **P** **01 24 11.8 -0.1**
JETT Jettan, Norway 54.09 1 *eP* **P** **01 24 13.8 +0.3**
ARA0 ARCESS Array S 54.12 359 *eP* **P** **01 24 13.6 -0.1**
ARCES ARCESS Array B 54.12 359 P **P** **01 24 13.3 -0.4**
comp=Z,25nm,0.5s,baz=17,slow=7.8,SNR=184
ARCES PcP **PcP** **01 25 17.6 +0.1**
comp=Z,5.8nm,0.6s,baz=5.7,slow=3.7,SNR=3.8
ARCES LR LR 01 48 01.5
comp=Z,28nm,20.9s,baz=185,slow=37
ARCES ARCESS Array B 54.12 359 P **P** **01 24 13.3 -0.4**
ARCES 01 25 17.6
LMN Caledonia Moun 54.27 59 IAmb IAmb 01 24 35.4
comp=Z,13nm,0.7s
DL2 Dalian 54.33 288 P **P** **01 24 15.4 -0.2**
DL2 pmax pmax
comp=Z,39nm,1.1s
W57A Gilead 54.38 79 P **P** **01 24 15.6 -0.4**
W57A IAmb IAmb 01 24 34.7
comp=Z,11nm,0.6s
BIRD Birdtown, Kers 54.50 80 P **P** **01 24 16.8 -0.1**
KTK1 Kautokeino 54.66 0 *eP* **P** **01 24 17.3 -0.3**
ULN Ulaanbaatar 54.88 305 *c iP* **P** **01 24 19.9 +0.2**
ULN pmax pmax
comp=Z,36nm,1.1s
SONM Songino Array 55.20 305 P **P** **01 24 22.4 +0.4**
comp=Z,40nm,0.6s,baz=39,slow=6.2,SNR=73
SONM PcP **PcP** **01 25 23.2 +1.0**
comp=Z,18nm,0.6s,baz=60,slow=2.7,SNR=11
SONM ScP **ScP** **01 29 16.3 +1.8**
comp=Z,1.4nm,0.9s,baz=60,slow=3.6,SNR=3.6
SONM LR LR 01 50 02.6
comp=Z,292nm,19.7s,baz=68,slow=38
SONM Songino Array 55.20 305 P **P** **01 24 22.4 +0.4**
SONM 01 25 23.2
LOF Lofoten 55.33 4 *eP* **P** **01 24 22.1 -0.3**
LVZ Lovozero 55.49 355 *c iP* **P** **01 24 23.5 -0.1**
LVZ pmax pmax
comp=Z,98nm,0.9s
LVZ Lovozero 55.49 355 P **P** **01 24 23.6 -0.1**
BJI Beijing 56.30 293 P **P** **01 24 29.7 -0.1**
BJI S **S** **01 32 13.2 -1.3**
BJI pmax pmax
comp=Z,40nm,0.8s
BJI pmax pmax
comp=Z,130nm,5.4s
BJI L L
comp=Z,110nm,13.9s
BJI L L
comp=Z,60nm,11.0s
BJI L L
comp=Z,100nm,16.8s
BJT Baijiatuau 56.33 293 P **P** **01 24 29.6 -0.3**
BJT pmax pmax
comp=Z,31nm,0.8s
BJT Baijiatuau 56.33 293 P **P** **01 24 29.6 -0.3**
BJT IAmb IAmb 01 24 30.7
comp=Z,31nm,0.8s
KONS Konsvik 56.94 5 *eP* **P** **01 24 34.3 +0.4**
MOR8 Moi Rana 57.32 4 *eP* **P** **01 24 35.8 -0.9**
HHC Hu-ho-hao-te 58.01 297 *eP* **P** **01 24 42.3 +0.3**
HHC pmax pmax
comp=Z,140nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.2s
HHC L L
comp=Z,280nm,20.6s
HHC L L
comp=Z,200nm,21.6s
HHC L L
comp=Z,170nm,16.7s
TLIG Tlapa 58.07 107 IAmb IAmb 01 24 44.5
comp=Z,26nm,0.8s
ZAA0 Zalesovo Array 58.92 323 P **P** **01 24 47.1 -0.8**
ZAA0 IAmb IAmb 01 24 48.9
comp=Z,32nm,1.0s
ZALV Zalesovo Beam 58.92 323 P **P** **01 24 47.9 -0.1**
comp=Z,20nm,0.8s,baz=37,slow=7.6,SNR=26
ZALV PcP **PcP** **01 25 36.7 +0.2**
comp=Z,14nm,0.7s,baz=44,slow=4.5,SNR=6.9
ZALV LR LR 01 52 41.5
comp=Z,130nm,20.0s,baz=44,slow=38
ZALV Zalesovo Beam 58.92 323 P **P** **01 24 47.9 -0.1**
ZALV 01 25 36.7
ZALV Zalesovo Beam 58.92 323 P **P** **01 24 47.6 -0.4**
MOL Molde 60.49 8 *eP* **P** **01 24 57.9 -0.7**
PRGR Permogore 60.78 348 *i iP* **P** **01 25 00.4 -0.1**
AKN Aaknes 60.83 9 *eP* **P** **01 25 02.0 +1.0**
NJ2 Nanjing 60.99 285 *eP* **P** **01 25 02.2 -0.2**
NJ2 pmax pmax
comp=Z,36nm,0.5s
DOMB Dombas 61.13 8 *i iP* **P** **01 25 03.2 +0.3**
FOO Floro 61.23 10 *eP* **P** **01 25 04.1 +0.5**
DGZ Jazzator, Alta 61.52 318 *c iP* **P** **01 25 06.3 +0.4**
DGZ pmax pmax
comp=Z,15nm,0.7s
HYA Hoyanger 61.76 9 *eP* **P** **01 25 07.9 +0.7**
LRW Lerwick 61.96 14 *eP* **P** **01 25 09.5 +1.0**
LRW IAmb IAmb 01 25 10.4
comp=Z,72nm,0.8s
NC300 NORSAR Array S 62.06 7 P **P** **01 25 09.0 -0.2**
KLMR Klimovskoe 62.16 351 *c iP* **P** **01 25 09.4 -0.4**
KLMR pmax pmax
comp=Z,52nm,0.9s
KLMR Klimovskoe 62.16 351 *i iP* **P** **01 25 09.5 -0.4**
KLMR *i iP* **P** **01 25 09.5 -0.4**
KLMR *i iP* **P** **01 25 09.5 -0.4**
KLMR AMP 01 25 10.5
comp=Z,52nm,0.9s
FINES FINESS Array B 62.24 359 P **P** **01 25 10.2 -0.2**
comp=Z,53nm,0.8s,baz=19,slow=7.2,SNR=134
FINES FINESS Array B 62.24 359 *i* P **P** **01 25 10.1 -0.3**
FINES pmax pmax
comp=Z,53nm,0.8s
FINES FINESS Array B 62.24 359 P **P** **01 25 09.6 -0.8**
NB2 NORSAR Subarra 62.27 7 P **P** **01 25 10.8 +0.1**
baz=353,slow=6.9
NOA NORSAR Array B 62.27 7 P **P** **01 25 11.0 +0.3**
comp=Z,29nm,0.7s,baz=352,slow=6.7,SNR=192
NOA NORSAR Array B 62.27 7 P **P** **01 25 11.0 +0.3**
ASK Askoy 62.34 10 *eP* **P** **01 25 12.1 +1.0**
BER Bergen 62.45 10 *eP* **P** **01 25 12.6 +0.8**
CCIG Comitan 62.56 102 P **P** **01 25 13.9 +0.6**
CCIG IAmb IAmb 01 25 33.8
comp=Z,22nm,0.8s
NC602 NORSAR Array S 62.59 7 IAmb IAmb 01 25 13.4
comp=Z,27nm,0.8s
RAF Rauma 62.67 1 *eP* **P** **01 25 13.3 +0.1**
SVE Sverdlovsk 62.97 338 *d iP* **P** **01 25 15.3 0.0**
SVE pmax pmax
comp=Z,75nm,1.2s
LEWI Lewis, Hebride 63.03 17 *eP* **P** **01 25 16.7 +1.0**
LEWI IAmb IAmb 01 25 17.4
comp=Z,69nm,1.0s
BIGH Upper Bighouse 63.16 16 *eP* **P** **01 25 17.5 +1.0**
BIGH IAmb IAmb 01 25 18.3
comp=Z,139nm,1.1s
KIRV Kirov 63.26 345 P **P** **01 25 16.5 -0.6**
comp=Z,42nm,0.6s,baz=22,slow=3.1,SNR=46
KIRV pP **pP** **01 25 34.4 -0.8**
comp=Z,14nm,0.6s,baz=0.0,slow=8.1,SNR=3.3
KIRV Kirov 63.26 345 *c iP* **P** **01 25 16.3 -0.8**
LINV Loch Inver, As 63.30 16 *eP* **P** **01 25 18.4 +1.0**
LINV IAmb IAmb 01 25 19.2
comp=Z,152nm,1.4s
HFS Hagfors 63.32 5 P **P** **01 25 17.6 0.0**
comp=Z,42nm,0.7s,baz=6.7,slow=4.9,SNR=8.4
HFS Hagfors 63.32 5 P **P** **01 25 17.6 0.0**
SEM Semipalatinsk 63.43 323 *eP* **P** **01 25 17.0 -1.7**
baz=323
SEM Semipalatinsk 63.43 323 *eP* **P** **01 25 17.0 -1.7**
MEF Metsahovi 63.48 359 *eP* **P** **01 25 19.0 +0.4**
AAL Aland 63.50 2 *eP* **P** **01 25 18.8 +0.1**
BLS5 Blasjo 63.50 10 *eP* **P** **01 25 19.7 +0.9**
KONO Kongsberg 63.54 8 P **P** **01 25 19.2 +0.2**
KONO pmax pmax
comp=Z,39nm,0.8s
KONO Kongsberg 63.54 8 *eP* **P** **01 25 19.9 +0.8**
KONO Kongsberg 63.54 8 P **P** **01 25 19.2 +0.2**
KMY Karmoy 63.60 10 *eP* **P** **01 25 20.9 +1.5**
KURK Kurchatov 63.70 324 P **P** **01 25 20.8 +0.6**
KURK 01 25 56.8
ARU Arti 63.76 339 *d iP* **P** **01 25 19.7 -0.8**
ARU *PP **pP** **01 25 38.2 -0.2**
ARU 01 25 56.0
ARU S **S** **01 33 48.0 -1.6**
ARU SS **SS** **01 37 56.0 -1.4**
ARU pmax pmax
comp=Z,49nm,0.8s
ARU Arti 63.76 339 P **P** **01 25 20.1 -0.5**
UPP Uppsala 63.76 3 *eP* **P** **01 25 20.9 +0.5**
PUL Pulkovo 63.80 356 *i eP* **P** **01 25 21.2 +0.5**
PUL pmax pmax
comp=Z,62nm,0.5s
KURBB Kurchatov Arra 63.80 324 P **P** **01 25 20.8 -0.2**
comp=Z,20nm,0.8s,baz=26,slow=6.3,SNR=26
KURBB PcP **PcP** **01 25 56.8 +0.5**
comp=Z,9.0nm,0.6s,baz=35,slow=3.8,SNR=11
KURBB Kurchatov Arra 63.80 324 P **P** **01 25 19.8 -1.1**
KURBB pmax pmax
comp=Z,16nm,0.6s
KPL Plockton 64.00 17 *eP* **P** **01 25 22.7 +0.7**
KPL IAmb IAmb 01 25 23.8
comp=Z,36nm,0.9s
MDO Dochfour 64.10 16 *eP* **P** **01 25 23.6 +0.8**
BRVK Borovoye 64.11 331 *c iP* **P** **01 25 22.5 -0.4**
BRVK pmax pmax
comp=Z,27nm,0.6s
BRVK Borovoye 64.11 331 P **P** **01 25 22.5 -0.4**
BRVK IAmb IAmb 01 25 23.6
comp=Z,35nm,0.8s
BVAR Borovoye Array 64.11 331 P **P** **01 25 21.2 -1.7**
comp=Z,26nm,0.6s,baz=313,slow=3.0,SNR=54
BVAR Borovoye Array 64.11 331 P **P** **01 25 21.2 -1.7**
MCD Coleburn Disti 64.14 16 *eP* **P** **01 25 24.1 +1.1**
STRU Stroemstad 64.26 7 *i* P **P** **01 25 24.3 +0.5**
ZSN Zaisan 64.33 319 *i iP* **P** **01 25 24.8 +0.2**
comp=Z,21nm,0.8s,baz=318
ZSN Zaisan 64.33 319 *c iP* **P** **01 25 24.7 +0.2**
ZSN pmax pmax
comp=Z,21nm,0.8s
WHN Wuhan 64.56 287 *i* P **P** **01 25 25.8 -0.4**
WHN pmax pmax
comp=Z,70nm,0.7s
XAN Xi'an 64.61 294 P **P** **01 25 26.4 -0.1**
XAN pmax pmax
comp=Z,47nm,1.0s
SNART Snartemo 64.64 9 *i* P **P** **01 25 27.2 +1.0**
GTA Gaotai 64.75 304 *i* P **P** **01 25 27.4 0.0**
GTA pmax pmax
comp=Z,92nm,1.1s
GTA pmax pmax
comp=Z,140nm,4.0s
GTA L L
comp=Z,130nm,18.9s
GTA L L
comp=Z,220nm,18.5s
GTA L L
comp=Z,190nm,18.2s
HOMB Homborsund 64.82 9 *i* P **P** **01 25 27.0 -0.4**
HOMB *i* P **P** **01 25 28.3 +0.9**
HOMB Homborsund 64.82 9 *eP* **P** **01 25 28.7 +1.3**
DRUM Mains of Drumt 64.89 15 *eP* **P** **01 25 28.9 +1.0**
INVG Invergeldie, C 65.13 16 *eP* **P** **01 25 30.3 +0.8**
INVG IAmb IAmb 01 25 30.7
comp=Z,38nm,0.7s
ELO Logie Almond 65.14 16 *eP* **P** **01 25 30.3 +0.8**
EDU Dundee 65.17 16 *eP* **P** **01 25 30.5 +0.8**
VSU Vasula 65.22 358 *eP* **P** **01 25 30.8 +0.8**
VSU Vasula 65.22 358 *c iP* **P** **01 25 30.1 +0.1**
VSU pmax pmax
comp=Z,234nm,0.9s
TJOU Tjoern 65.29 7 *i* P **P** **01 25 31.1 +0.6**
EAB Aberfoyle 65.31 17 *eP* **P** **01 25 31.8 +1.1**
EBH Black Hill 65.38 16 *eP* **P** **01 25 32.1 +1.0**
LZH Lanzhou 65.50 299 *i* P **P** **01 25 32.7 +0.3**
LZH pP pP 01 25 50.3 -0.1
LZH sP PcP 01 26 03.3 -0.4
LZH pmax pmax
comp=Z,160nm,1.1s
LZH pmax pmax
comp=Z,140nm,5.4s
MTO3 Montecristo 65.61 101 IAmb IAmb 01 25 52.7
comp=Z,20nm,0.9s
PGBU Glenifferbraes 65.65 17 *i eP* **P** **01 25 33.7 +0.8**
EDI Edinburgh 65.75 16 *eP* **P** **01 25 34.4 +0.9**
BORU Boraas 65.76 6 *i* P **P** **01 25 33.9 +0.4**
MK31 Makanchi Array 65.82 320 *c iP* **P** **01 25 33.5 -0.7**
MK31 Makanchi Array 65.82 320 P **P** **01 25 33.0 -1.1**
MKAR Makanchi Array 65.82 320 P **P** **01 25 33.6 -0.6**
comp=Z,13nm,0.7s,baz=43,slow=6.5,SNR=17
MKAR LR LR 01 57 57.2
comp=Z,130nm,18.4s,baz=34,slow=39
MKAR P4KPbc 02 01 58.1
comp=Z,0.5nm,0.8s,baz=331,slow=4.6,SNR=3.6
MKAR Makanchi Array 65.82 320 *i* P **P** **01 25 33.5 -0.6**
MKAR pmax pmax
comp=Z,13nm,0.7s
EBL Broad Law 65.91 16 *i eP* **P** **01 25 35.6 +1.1**
MAKZ Makanchi 65.92 320 P **P** **01 25 33.7 -1.1**
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ Makanchi 65.92 320 P **P** **01 25 33.7 -1.1**
ONAU Onsala 65.94 7 *i* P **P** **01 25 35.0 +0.3**
CLGH Cloghs, Cushen 66.08 18 *i eP* **P** **01 25 36.5 +0.9**
CLGH IAmb IAmb 01 25 38.2
comp=Z,57nm,1.1s
SLIT Slitere, Latvi 66.08 1 *eP* **P** **01 25 36.1 +0.6**
GOET G??ttrup 66.11 8 *i iP* **P** **01 25 37.1 +1.4**
GOET IAmb IAmb 01 25 38.6
comp=Z,65nm,0.7s
WMQ Urumqi 66.31 315 *eP* **P** **01 25 37.6 +0.2**
WMQ PcP **PcP** **01 26 07.4 +0.6**
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ pmax pmax
comp=Z,54nm,3.6s
ESK Eskdalemuir 66.33 16 P **P** **01 25 37.6 +0.4**
ESK pmax pmax
comp=Z,61nm,0.9s
ESK Eskdalemuir 66.33 16 P **P** **01 25 37.6 +0.4**
NEWG New Galloway 66.36 17 *i eP* **P** **01 25 38.2 +0.8**
NEWG IAmb IAmb 01 25 39.0
comp=Z,39nm,0.9s
SSLB Suanglung 66.36 278 P **P** **01 25 37.3 -0.7**
SSLB IAmb IAmb 01 25 38.7
comp=Z,42nm,1.1s
FABU Falkenberg 66.39 6 *i* P **P** **01 25 37.8 +0.3**
GAL1 Galloway 66.52 17 *i eP* **P** **01 25 39.4 +1.0**
GAL1 IAmb IAmb 01 25 40.1
comp=Z,80nm,0.8s
MUD Monsted U'grnd 66.68 9 *i iP* **P** **01 25 40.6 +1.3**
MUD IAmb IAmb 01 25 41.5
comp=Z,74nm,0.9s
MUD Monsted U'grnd 66.68 9 *i iP* **P** **01 25 40.6 +1.3**
MUD pmax pmax
comp=Z,74nm,0.9s
GMM Mts of Mourne 66.92 18 *i eP* **P** **01 25 41.7 +0.8**
EDMD Edmundbyers 66.99 16 *i eP* **P** **01 25 42.4 +1.0**
EDMD IAmb IAmb 01 25 43.3
comp=Z,58nm,1.0s
TGUH Tegucigalpa,Un 67.03 100 P **P** **01 25 42.2 -0.1**
TGUH IAmb IAmb 01 25 45.3
comp=Z,27nm,0.8s
TGUH Tegucigalpa,Un 67.03 100 *eP* **P** **01 25 44.8 +2.5**
ILTH Belurgan, Co L 67.05 19 *i eP* **P** **01 25 42.5 +0.7**
IGLA Glengowla, Co 67.07 21 *i eP* **P** **01 25 42.9 +1.0**
IOMK Kirk Michael 67.13 17 *eP* **P** **01 25 43.1 +0.8**
IOMK IAmb IAmb 01 25 43.5
comp=Z,64nm,0.6s
WIM Isle of Man 67.22 17 *i eP* **P** **01 25 43.8 +0.9**
BLEU Blekinge 67.25 5 *i* P **P** **01 25 43.1 +0.1**
BJUU Bjuv 67.33 6 *i* P **P** **01 25 44.1 +0.6**
MOS Moscow 67.39 351 *eP* **P** **01 25 42.7 -1.2**
MOS *e* 01 26 07.2
MOS pmax pmax
comp=Z,52nm,0.6s
GDLE Glaisdale, N Y 67.55 15 *i eP* **P** **01 25 45.9 +0.9**
COP Copenhagen 67.68 7 *i* P **P** **01 25 46.6 +0.9**
COP *i* P **P** **01 25 46.7 +0.9**
COP IAmb IAmb 01 25 47.4
comp=Z,26nm,0.6s
COP Copenhagen 67.68 7 *i* P **P** **01 25 46.6 +0.9**
COP pmax pmax
comp=Z,26nm,0.6s
LUNU Lund 67.80 6 *i* P **P** **01 25 46.0 -0.5**
LUNU *i* P **P** **01 25 47.1 +0.6**
HPK Haverah Park 67.88 16 *i eP* **P** **01 25 48.4 +1.3**
WPS Cemaes, Angles 67.97 18 *eP* **P** **01 25 48.4 +0.8**
WME Myndd Eilian 68.00 17 *i eP* **P** **01 25 48.4 +0.6**
OBN Obninsk 68.09 352 P **P** **01 25 48.0 -0.3**
comp=Z,9.6nm,0.6s,baz=72,slow=5.8,SNR=13
OBN Obninsk 68.09 352 *c iP* **P** **01 25 47.5 -0.8**
OBN *e* 01 26 14.2
OBN *eS* **S** **01 34 47.9 +5.7**
OBN pmax pmax
comp=Z,86nm,1.4s
OBN Obninsk 68.09 352 P **P** **01 25 48.1 -0.2**
WLF1 Llynfaes 68.09 18 *eP* **P** **01 25 49.0 +0.6**
ISAL Salakas 68.12 358 *eP* **P** **01 25 50.0 +1.4**
PABE Paberze 68.21 360 *eP* **P** **01 25 50.0 +0.9**
YLL Llanberis 68.27 17 *eP* **P** **01 25 50.8 +1.3**
IDID Didziasalis 68.37 358 *eP* **P** **01 25 51.2 +1.1**
BSD Bornholm Skovb 68.39 5 *eP* **P** **01 25 51.2 +1.0**
BSD Bornholm Skovb 68.39 5 *i* P **P** **01 25 50.8 +0.5**
BSD IAmb IAmb 01 25 51.1
comp=Z,24nm,0.8s
BSD Bornholm Skovb 68.39 5 *i* P **P** **01 25 50.7 +0.5**
BSD pmax pmax
comp=Z,24nm,0.8s
LBWR Ladybower, Pea 68.41 16 *eP* **P** **01 25 51.3 +1.0**
LBWR IAmb IAmb 01 25 52.2
comp=Z,69nm,1.0s
SKMB Sankelmark Bun 68.42 9 *eP* **P** **01 25 52.0 +1.6**
comp=Z,92nm,0.9s,baz=354,slow=5.9
IWEX Carrickbyrne, 68.55 19 *eP* **P** **01 25 52.3 +1.0**
STNC Stoke 68.63 16 *eP* **P** **01 25 53.2 +1.4**
STNC IAmb IAmb 01 25 54.0
comp=Z,121nm,1.3s
LLW Llanuwchllyn 68.64 17 *i eP* **P** **01 25 52.8 +1.0**
FOEL Foel Wylfa 68.67 17 *eP* **P** **01 25 52.2 +0.2**
FOEL IAmb IAmb 01 25 53.0
comp=Z,103nm,1.0s
TDK Taldyqorghan 68.73 321 *eP* **P** **01 25 52.0 -0.6**
baz=321
TDK Taldyqorghan 68.73 321 *eP* **P** **01 25 52.0 -0.6**
NACGM Naroch 68.78 358 *i* P **P** **01 25 52.9 +0.2**
baz=187
RGN Rugen 68.87 6 *eP* **P** **01 25 54.6 +1.5**
comp=Z,108nm,0.8s,baz=354,slow=5.9
HLM1 Long Mynd 69.08 17 *i eP* **P** **01 25 55.7 +1.1**
HLM1 IAmb IAmb 01 25 56.1
comp=Z,39nm,1.2s
KLNR Kaliningrad 69.09 2 *c iP* **P** **01 25 54.8 +0.3**
KLNR pmax pmax
comp=Z,168nm,0.8s
CWF Charnwood Fore 69.11 16 *i eP* **P** **01 25 54.9 +0.1**
MNK Minsk 69.16 357 *i* P **P** **01 25 55.2 +0.2**
MNK *i* *PP **pP** **01 26 13.7 +0.6**
MNK *i* 01 26 18.5
MNK *i* 01 28 28.3
MNK *i* PPP PPP 01 30 09.3
MNK *i* S **S** **01 34 58.5 +3.6**
MNK *i* *SS **sS** **01 35 27.8 +2.1**
MNK *i* 01 35 49.3
MNK *i* SS **SS** **01 39 23.7 +2.8**
MNK pmax pmax
comp=Z,87nm,0.9s
MNK pmax pmax
comp=N,51nm,1.0s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=E,7.0nm,19.0s
MNK MLR MLR
comp=Z,56nm,22.0s
MNK MLR MLR
comp=N,76nm,23.0s
MNK Minsk 69.16 357 *i* P **P** **01 25 55.2 +0.2**
comp=E,4.0nm,0.9s
MNK *i* P **P** **01 25 55.2 +0.2**
comp=N,51nm,1.0s
MNK *i* P **P** **01 25 55.2 +0.2**
comp=Z,87nm,0.9s,baz=183
MNK *i* pP **pP** **01 26 13.8 +0.7**
MNK *i* PcP **PcP** **01 26 18.6 +0.1**

MNK *i* PP **PP** **01 28 28.4 +0.6**
MNK *i* PPP PPP 01 30 09.3
MNK *i* S **S** **01 34 58.6 +3.6**
MNK *i* sS **sS** **01 35 27.8 +2.1**
MNK *i* ScS **ScS** **01 35 49.4 +0.1**
MNK *i* SS **SS** **01 39 23.8 +2.8**
MNK *i* SSS SSS 01 42 41.3
MNK *i* LR LR 01 54 24.0
MNK *i* LRM MLR 01 59 57.5
comp=E,7.0nm,18.8s
MNK *i* LRM MLR 02 00 30.7
comp=Z,56nm,21.7s
MNK *i* LRM MLR 02 00 51.2
comp=N,76nm,23.1s
BSEG Bad Segeberg 69.27 8 *e*P **P** **01 25 57.0 +1.4**
comp=N,69nm,0.9s,baz=354,slow=5.9
RSBS Rosebush, Pemb 69.32 18 *e*P **P** **01 25 57.0 +1.0**
RSBS IAmb IAmb 01 25 57.9
comp=Z,63nm,0.8s
WACR West Acre 69.41 15⇑ *e*P **P** **01 25 57.5 +0.9**
AKTO Aktyubinsk 69.51 337 P **P** **01 25 57.0 -0.2**
comp=Z,57nm,0.7s,baz=17,slow=5.3,SNR=54
AKTO Aktyubinsk 69.51 337 P **P** **01 25 57.0 -0.2**
BELG Belogornoye 69.52 344 P **P** **01 25 56.9 -0.3**
comp=Z,51nm,0.6s,baz=36,slow=1.8,SNR=18
BELG Belogornoye 69.52 344 P **P** **01 25 56.9 -0.3**
MCH1 Michaelchurch 69.57 17⇑ *e*P **P** **01 25 58.7 +1.1**
MCH1 IAmb IAmb 01 25 59.4
comp=Z,44nm,0.9s
SUW Suwalki 69.71 0 *e*P **P** **01 25 58.3 -0.1**
SUW Suwalki 69.71 0 *e*P **P** **01 25 58.1 -0.2**
CD2 Chengdu 69.72 295 P **P** **01 25 59.2 +0.3**
CD2 pmax pmax
comp=Z,190nm,0.9s
PDGK Podgornoye 69.81 320 P **P** **01 25 58.4 -1.0**
PDGK pmax pmax
comp=Z,42nm,1.1s
OLDB Oldbury-Upon-S 69.97 17 *e*P **P** **01 26 00.8 +0.9**
OLDB IAmb IAmb 01 26 01.4
comp=Z,49nm,0.7s
LNIZ Loecknitz 69.97 6 *e*P **P** **01 26 01.1 +1.2**
comp=Z,53nm,0.8s,baz=354,slow=5.9
SHLS Shalkode 69.97 320⇑ *i*P **P** **01 25 60.0 -0.5**
comp=Z,30nm,0.8s,baz=319
SHLS Shalkode 69.97 320 *c i*P **P** **01 25 59.9 -0.5**
SHLS pmax pmax
comp=Z,30nm,0.8s
KPKS Kokpek 69.98 320⇑ *i*P **P** **01 26 00.7 +0.3**
comp=Z,16nm,0.4s,baz=320
KPKS Kokpek 69.98 320 *c i*P **P** **01 26 00.6 +0.2**
KPKS pmax pmax
comp=Z,16nm,0.4s
UZB Uzynbulak 70.14 320 *e*P **P** **01 26 01.4 -0.1**
comp=Z,7.4nm,1.0s,baz=320
UZB Uzynbulak 70.14 320 *e*P **P** **01 26 01.3 -0.1**
UZB pmax pmax
comp=Z,7.0nm,1.0s
BTLS Baital 70.15 324⇑ *i*P **P** **01 26 01.5 +0.1**
comp=Z,23nm,0.6s,baz=324
BTLS Baital 70.15 324 *c i*P **P** **01 26 01.4 +0.1**
BTLS pmax pmax
comp=Z,23nm,0.6s
AB31 Akbulak array 70.19 335 *i*P **P** **01 26 01.1 -0.3**
AB31 pmax pmax
comp=Z,34nm,0.5s
ABKAR Akbulak array 70.19 335 P **P** **01 26 01.3 -0.1**
CHKK Chushkaly 70.23 322 *e*P **P** **01 26 01.0 -0.9**
baz=322
CHKK Chushkaly 70.23 322 *e*P **P** **01 26 00.9 -0.9**
GKP Gorka Klasztor 70.34 4 *e*P **P** **01 26 03.2 +1.0**
GKP Gorka Klasztor 70.34 4 *e*P **P** **01 26 03.3 +1.1**
LPSR Galich'ya Gora 70.38 350 *e*P **P** **01 26 00.8 -1.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
KUU Kurty 70.41 322⇑ *i*P **P** **01 26 02.2 -0.7**
comp=Z,26nm,1.2s,baz=322
KUU Kurty 70.41 322 *c i*P **P** **01 26 02.2 -0.7**
KUU pmax pmax
comp=Z,26nm,1.2s
SATY Saty 70.43 320⇑ *i*P **P** **01 26 03.5 +0.2**
comp=Z,12nm,1.2s,baz=320
SATY Saty 70.43 320 *c i*P **P** **01 26 03.4 +0.2**
SATY pmax pmax
comp=Z,12nm,1.2s
IBBN Ibbenburen 70.66 10 *e*P **P** **01 26 05.5 +1.3**
comp=Z,107nm,1.1s,baz=354,slow=5.9
NRDL Niedersach Rie 70.68 9 *e*P **P** **01 26 05.5 +1.2**
comp=Z,75nm,0.9s,baz=354,slow=5.9
MDOK Medeo 70.81 321 *i*P **P** **01 26 05.5 0.0**
baz=321
MDOK Medeo 70.81 321 *i*P **P** **01 26 05.5 0.0**
DYA Yadsworthy 70.92 18 *e*P **P** **01 26 06.6 +0.8**
DYA IAmb IAmb 01 26 07.6
comp=Z,58nm,0.9s
CCA1 Carnmenellis 70.93 19⇑ *e*P **P** **01 26 07.1 +1.2**
CCA1 IAmb IAmb 01 26 07.5
comp=Z,63nm,0.6s
FLTG Flechtingen 70.94 8 *e*P **P** **01 26 06.5 +0.6**
comp=Z,46nm,0.9s,baz=354,slow=5.9
RUE Ruedersdorf 70.96 6 *e*P **P** **01 26 07.1 +1.1**
comp=Z,111nm,1.0s,baz=354,slow=5.9
MTBS Maitube 71.06 322⇑ *i*P **P** **01 26 06.7 -0.2**
baz=322
MTBS Maitube 71.06 322 *c i*P **P** **01 26 06.7 -0.2**
ASSE Asse, Remlinge 71.09 8 *e*P **P** **01 26 07.8 +1.0**
comp=Z,46nm,1.0s,baz=354,slow=5.9
CLZ Clausthal 71.35 8 *e*P **P** **01 26 09.9 +1.4**
comp=Z,71nm,0.9s,baz=354,slow=5.9
SGDS Sogindy 71.38 323⇑ *i*P **P** **01 26 09.2 +0.4**
comp=Z,22nm,1.5s,baz=323
SGDS Sogindy 71.38 323 *c i*P **P** **01 26 09.2 +0.4**
SGDS pmax pmax
comp=Z,22nm,1.5s
VRH Novokhopyorsk 71.46 348 *e*P **P** **01 26 07.5 -1.6**
VRH pmax pmax
comp=Z,30nm,0.6s
BUG Bochum-Univer 71.47 11 *e*P **P** **01 26 10.2 +1.1**
comp=Z,112nm,0.9s,baz=354,slow=5.9
TKM2 Tokmak 2 71.53 322 P **P** **01 26 10.4 +0.5**
SNR=19
USP Ospenovka 71.58 323 P **P** **01 26 10.7 +0.7**
SNR=16
GTTG Gottingen 71.61 9 *e*P **P** **01 26 11.5 +1.4**
comp=Z,109nm,1.0s,baz=354,slow=5.9
KDJ Kajisay 71.68 321 IAmb IAmb 01 26 12.5
comp=Z,28nm,0.9s
VSR Storozhevoye 71.72 350 *e*P **P** **01 26 09.1 -1.6**
VSR pmax pmax
comp=Z,50nm,0.5s
CHMS Chumysh 71.74 323 P **P** **01 26 11.9 +1.0**
SNR=18
PMOR Pomariorio Ree 71.74 171 *e*T T 02 43 15.9
comp=Z,111nm,0.3s
UCC Uccle 71.78 13 *d*P **P** **01 26 11.9 +0.9**
UCC *d*pP **PcP** **01 26 30.8 +1.2**
BOOM Boomskoye usch 71.79 322 P **P** **01 26 11.9 +0.4**
BOOM pmax pmax
comp=Z,36nm,0.8s
BOOM Boomskoye usch 71.79 322 P **P** **01 26 11.9 +0.4**
BOOM IAmb IAmb 01 26 13.2
comp=Z,36nm,0.8s
KASTN Kahler Asten 71.81 10 *e*P **P** **01 26 12.4 +1.1**
comp=Z,57nm,1.0s,baz=354,slow=5.9
TARG Taragay, Kyrgy 71.81 320 IAmb IAmb 01 26 14.2
comp=Z,18nm,0.6s
GYA Guiyang 71.86 290 ⇓P **P** **01 26 12.5 +0.5**
GYA pmax pmax
comp=Z,13nm,0.8s
BEL Belsk 71.87 2 *e*P **P** **01 26 12.5 +1.0**
ULHL Ulahol 71.90 321 P **P** **01 26 12.9 +0.7**
SNR=6.6
BEBN Eben Emael 71.93 12 *d*P **P** **01 26 12.8 +0.9**
BEBN *d*PcP **pP** **01 26 30.1 -0.1**
FRU1 Bishkek 71.95 323 P **P** **01 26 12.5 +0.2**
FRU1 pmax pmax
comp=Z,79nm,1.2s
FRU1 Bishkek 71.95 323 P **P** **01 26 12.5 +0.2**
VORD Divnogorie 71.96 349 *e*P **P** **01 26 10.1 -1.9**
VORD pmax pmax
comp=Z,20nm,0.8s
KBK Karagaybulak 71.98 323 P **P** **01 26 13.7 +1.0**
SNR=17
SNF Seneffe 72.05 13 *d*P **P** **01 26 13.7 +1.0**
comp=Z,48nm,0.8s
CLL Collm 72.08 7⇑ *i*P **P** **01 26 13.3 +0.5**
comp=Z,49nm,0.9s

CLL *e* 01 26 28.0
CLL Collm 72.08 7⇑ *i*P **P** **01 26 13.3 +0.5**
CLL *e* 01 26 28.0
CLL pmax pmax
comp=Z,49nm,0.9s
CLL Collm 72.08 7 IAmb IAmb 01 26 14.4
comp=Z,47nm,0.9s
CLL Collm 72.08 7 *e*P **P** **01 26 13.4 +0.6**
comp=Z,49nm,0.9s,baz=354,slow=5.9
BSTI Sart Tilman 72.13 12 *b*P **P** **01 26 14.4 +1.3**
BSTI *d*PcP **PcP** **01 26 30.9 -0.2**
AAK Ala-Archa 72.15 323 P **P** **01 26 13.8 +0.2**
comp=Z,30nm,0.8s,baz=82,slow=3.4,SNR=20
AAK Ala-Archa 72.15 323 P **P** **01 26 14.3 +0.7**
SNR=11
AAK Ala-Archa 72.15 323 *c i*P **P** **01 26 14.1 +0.5**
AAK pmax pmax
comp=Z,103nm,1.0s
AAK Ala-Archa 72.15 323 P **P** **01 26 14.3 +0.7**
AAK IAmb IAmb 01 26 15.4
comp=Z,31nm,0.9s
MEM Membach 72.15 12 *b*P **P** **01 26 14.4 +1.1**
comp=Z,36nm,0.8s
BTNL Ternell 72.19 11 *d*P **P** **01 26 14.5 +1.0**
comp=Z,40nm,1.2s
BTNL *d*PcP **PcP** **01 26 30.3 -1.1**
BCLA Clavier 72.26 12 *b*P **P** **01 26 14.4 +0.5**
comp=Z,26nm,1.1s
BGES Gesves 72.27 12 *d*P **P** **01 26 14.9 +0.9**
comp=Z,30nm,1.2s
BGES *d*PcP **PcP** **01 26 31.0 -0.8**
BMRD Maredsous 72.31 12 *b*P **P** **01 26 15.4 +1.2**
comp=Z,64nm,1.1s
BMRD *d*pP **pP** **01 26 33.9 +1.4**
AHRW Bad Neuenahr-A 72.34 11 *e*P **P** **01 26 15.5 +1.2**
comp=Z,49nm,1.1s,baz=354,slow=5.9
UBBA Unterbreizbach 72.34 9 *e*P **P** **01 26 15.3 +1.1**
comp=Z,21nm,1.1s,baz=354,slow=5.9
EKS2 Erkin-Say 72.36 323 P **P** **01 26 15.8 +1.0**
SNR=19
BHOU Houygnez 72.41 12 *d*P **P** **01 26 16.0 +1.2**
comp=Z,20nm,1.1s
BHOU *d*pP **pP** **01 26 34.4 +1.3**
JSA Saint Aubin 72.42 17 *e*P **P** **01 26 15.9 +1.1**
JSA IAmb IAmb 01 26 16.6
comp=Z,56nm,0.7s
JQE Queens East 72.43 17⇑ *e*P **P** **01 26 15.8 +0.9**
FBE Freiberg 72.48 7 *e*P **P** **01 26 16.4 +1.1**
comp=Z,80nm,0.9s,baz=354,slow=5.9
DOU Dourbes 72.50 13 *b*P **P** **01 26 16.1 +0.8**
comp=Z,30nm,1.1s
RCHB Rochefort 72.51 12 *d*P **P** **01 26 16.2 +0.8**
comp=Z,40nm,1.2s
BRG Berggiesshubel 72.57 6⇑ *i*P **P** **01 26 16.6 +0.8**
BRG Amp 01 26 17.8
comp=Z,57nm,1.0s
BRG *ex* x 01 26 22.9
BRG Amp 01 26 24.0
comp=Z,12nm,0.9s
BRG Berggiesshubel 72.57 6 *e*P **P** **01 26 16.6 +0.8**
comp=Z,57nm,1.0s,baz=354,slow=5.9
BRG *e*pP **pP** **01 26 35.5 +1.5**
MOX Moxa 72.64 8 *e*P **P** **01 26 17.3 +1.1**
comp=Z,104nm,1.2s,baz=354,slow=5.9
KSP Ksiaz 72.72 5 *e*P **P** **01 26 17.6 +0.9**
TNS Taunus Mts 72.79 10 *e*P **P** **01 26 18.2 +1.1**
comp=Z,66nm,0.9s,baz=354,slow=5.9
PLN Plauen 72.84 7 *e*P **P** **01 26 18.3 +1.0**
comp=Z,45nm,1.0s,baz=354,slow=5.9
AML Almayashu 72.86 323 P **P** **01 26 19.4 +1.2**
SNR=13
WERD Werda 72.89 7 *e*P **P** **01 26 18.4 +0.8**
comp=Z,26nm,0.9s,baz=354,slow=5.9
AKASG Malin Array Be 72.92 356 P **P** **01 26 17.2 -0.6**
comp=Z,22nm,0.4s,baz=7.7,slow=5.7,SNR=42
AKASG LR LR 02 00 27.4
comp=Z,13nm,21.7s,baz=25,slow=38
AKASG Malin Array Be 72.92 356 *i*P **P** **01 26 16.2 -1.6**
AKASG pmax pmax
comp=Z,22nm,0.4s
TANN Tannenbergstha 72.93 7 *e*P **P** **01 26 19.0 +1.0**
comp=Z,31nm,1.2s,baz=354,slow=5.9
DZA Taraz 72.94 325 *e*P **P** **01 26 17.5 -0.7**
baz=325
DZA Taraz 72.94 325 *e*P **P** **01 26 17.5 -0.7**
PVCC Panska Ves 72.95 6 *e*P **P** **01 26 18.9 +0.9**
PVCC Panska Ves 72.95 6 *e*P **P** **01 26 18.9 +0.9**
CHVC Chvalec 72.97 5 *e*P **P** **01 26 19.0 +0.9**
GUNZ Gunzen 72.97 7 *e*P **P** **01 26 19.3 +1.1**
comp=Z,26nm,0.8s,baz=354,slow=5.9
OSTC Ostas 73.01 5 *e*P **P** **01 26 18.8 +0.4**
KK31 Karatay Array 73.01 326 *i*P **P** **01 26 18.4 -0.1**
KK31 pmax pmax
comp=Z,34nm,0.7s
KKAR Karatay Array 73.01 326 P **P** **01 26 18.5 0.0**
KKAR Karatay Array 73.01 326 P **P** **01 26 18.5 0.0**
UPC Upice 73.05 5 *e*P **P** **01 26 18.9 +0.3**
UPC Upice 73.05 5 *e*P **P** **01 26 18.9 +0.3**
WERN Wernitzgruen 73.05 7 *e*P **P** **01 26 19.8 +1.2**
comp=Z,82nm,1.4s,baz=354,slow=5.9
WLF Walferdange 73.10 12 *d*P **P** **01 26 20.5 +1.6**
comp=Z,48nm,1.1s
WLF Walferdange 73.10 12 *e*P **P** **01 26 20.5 +1.6**
comp=Z,83nm,1.2s,baz=354,slow=5.9
NKC Novy Kostel 73.11 7 *e*P **P** **01 26 19.8 +0.8**
NKC Novy Kostel 73.11 7 *e*P **P** **01 26 19.8 +0.8**
DPC Dobruska-Polom 73.22 5 *e*P **P** **01 26 20.7 +1.0**
DPC Dobruska-Polom 73.22 5 *e*P **P** **01 26 20.7 +1.0**
MILB Miltenberg 73.26 9 *e*P **P** **01 26 21.1 +1.3**
comp=Z,116nm,0.8s,baz=354,slow=5.9
MANZ Manzenberg 73.33 8 *e*P **P** **01 26 21.1 +0.8**
comp=Z,24nm,1.0s,baz=354,slow=5.9
PRA Prague 73.40 6 *e*P **P** **01 26 21.6 +1.0**
PRA Prague 73.40 6 *e*P **P** **01 26 21.6 +1.0**
OJC Ojcow 73.47 2 *e*P **P** **01 26 21.6 +0.5**
OJC Ojcow 73.47 2 IAmb IAmb 01 26 22.1
comp=Z,17nm,0.7s
PRU Pruhonice 73.49 6 *e*P **P** **01 26 21.8 +0.6**
PRU Pruhonice 73.49 6 *e*P **P** **01 26 21.8 +0.6**
KRLC Kraliky 73.51 4 *e*P **P** **01 26 21.8 +0.4**
KRLC Kraliky 73.51 4 *e*P **P** **01 26 21.8 +0.4**
GRF Grafenberg Arr 73.56 8 *e*P **P** **01 26 22.9 +1.3**
comp=Z,53nm,0.7s,baz=354,slow=5.9
ROTZ Rotzenmuhle 73.56 8 *e*P **P** **01 26 22.7 +1.1**
comp=Z,53nm,1.0s,baz=354,slow=5.9
GRFO Grafenberg 73.56 8 P **P** **01 26 22.1 +0.5**
GRFO pmax pmax
comp=Z,45nm,0.8s
GRFO Grafenberg 73.56 8 P **P** **01 26 22.1 +0.5**
PBCC Pribram 73.76 6 *e*P **P** **01 26 23.2 +0.4**
OKC Ostrava-Krasne 73.80 4 *e*P **P** **01 26 23.5 +0.5**
OKC Ostrava-Krasne 73.80 4 *e*P **P** **01 26 23.5 +0.5**
ARSB Arslanbob 73.82 323 IAmb IAmb 01 26 25.6
comp=Z,31nm,0.8s
MORC Moravsky Berou 73.84 4⇑ *i*P **P** **01 26 23.9 +0.6**
MORC Moravsky Berou 73.84 4 IAmb IAmb 01 26 25.0
comp=Z,27nm,0.7s
LVV L'vov 73.91 360 *e*P **P** **01 26 23.8 +0.2**
KWP Kalwaria Pacla 74.10 0 *e*P **P** **01 26 25.8 +1.1**
PPT Papeete 74.16 173 LR LR 01 53 27.1
comp=Z,66nm,19.1s,baz=360,slow=31
TIAR Tiarei 74.16 173 *e*T T 02 46 23.3
comp=Z,4.1nm,0.4s
PPT2 Papeete2 74.18 173 *e*LR LR 01 48 58.8
comp=Z,266nm,31.8s
PPT2 Papeete2 74.18 173 *e*T T 02 46 30.1
comp=Z,4.6nm,0.4s
WET Wettzell 74.22 7 *e*P **P** **01 26 26.6 +1.0**
comp=Z,34nm,1.1s,baz=354,slow=5.9
CLF Chambon-Foret 74.23 15 P **P** **01 26 26.0 +0.5**
TREC Trest 74.23 5 *e*P **P** **01 26 26.3 +0.7**
TREC Trest 74.23 5 *e*P **P** **01 26 26.3 +0.7**
VRAC Vranov 74.27 5 P **P** **01 26 26.8 +1.0**
comp=Z,27nm,0.7s,baz=354,slow=5.5,SNR=61
VRAC Vranov 74.27 5⇑ *i*P **P** **01 26 26.7 +1.0**
VRAC Vranov 74.27 5 P **P** **01 26 26.8 +1.0**
NIE Niedzica 74.28 2 *e*P **P** **01 26 27.0 +1.2**
KHC Kasperske Hory 74.28 7 *e*P **P** **01 26 26.8 +0.9**
KHC *e* 01 26 35.0
KHC Kasperske Hory 74.28 7 *e*P **P** **01 26 26.8 +0.9**
KHC *ex* x 01 26 35.0
STU Stuttgart 74.30 10 IAmb IAmb 01 26 27.9
comp=Z,46nm,0.9s
STU Stuttgart 74.30 10 *e*P **P** **01 26 26.9 +1.0**
comp=Z,67nm,1.2s,baz=354,slow=5.9

STHS Stebnicka Huta 74.30 1 *e*P **P** **01 26 26.6 +0.7**
STHS Stebnicka Huta 74.30 1 *e*P **P** **01 26 26.6 +0.7**
KSH Kashi 74.42 320 P **P** **01 26 30.6 +3.6**
KSH pmax pmax
comp=Z,48nm,0.9s
KSH pmax pmax
comp=Z,70nm,3.1s
KRUC Moravsky 74.51 5⇑ *i*P **P** **01 26 27.8 +0.7**
LANS Liptovska Anna 74.53 3 *e*P **P** **01 26 28.9 +1.6**
LANS pmax pmax
comp=Z,28nm,0.8s
LANS Liptovska Anna 74.53 3 *e*P **P** **01 26 28.8 +1.5**
GEC2 GERESS Array S 74.58 7 IAmb IAmb 01 26 29.5
comp=Z,39nm,0.8s
GEC2 GERESS Array S 74.58 7 *e*P **P** **01 26 28.4 +0.8**
comp=Z,41nm,0.8s,baz=354,slow=5.9
GERES GERESS Array B 74.58 7 P **P** **01 26 28.5 +0.8**
comp=Z,30nm,0.7s,baz=0.0,slow=4.4,SNR=262
GERES GERESS Array B 74.58 7 P **P** **01 26 28.5 +0.8**
CKRC Cesky Krumlov 74.64 6 *e*P **P** **01 26 28.3 +0.4**
BFO Black Forest 74.65 10 P **P** **01 26 28.5 +0.5**
BFO pmax pmax
comp=Z,22nm,0.7s
BFO Black Forest 74.65 10 P **P** **01 26 28.5 +0.5**
BFO IAmb IAmb 01 26 29.9
comp=Z,22nm,0.7s
BFO Black Forest 74.65 10 *e*P **P** **01 26 28.9 +0.8**
comp=Z,28nm,0.8s,baz=354,slow=5.9
BFO *e*pP **pP** **01 26 47.7 +1.4**
JAVC Velka Javorina 74.76 4⇑ *i*P **P** **01 26 30.6 +1.9**
KOLS Kolonicke sedl 74.79 1 *e*P **P** **01 26 29.8 +1.0**
KOLS Kolonicke sedl 74.79 1 *e*P **P** **01 26 29.8 +1.0**
CRVS Cervenica-Dubn 74.81 1 *e*P **P** **01 26 29.9 +1.0**
CRVS pmax pmax
comp=Z,40nm,1.2s
CRVS Cervenica-Dubn 74.81 1 *e*P **P** **01 26 29.8 +0.9**
FUR Furstenfeldbru 75.08 8 *e*P **P** **01 26 31.6 +1.1**
comp=Z,72nm,0.8s,baz=354,slow=5.9
UZH Uzhgorod 75.09 1⇑ *i*P **P** **01 26 31.3 +0.8**
UZH *e* 01 26 43.1
SMOL Smolenice 75.10 4 *e*P **P** **01 26 31.9 +1.3**
SMOL pmax pmax
comp=Z,22nm,0.9s
SMOL Smolenice 75.10 4 *e*P **P** **01 26 31.9 +1.3**
VYHS Vyhne 75.17 3 *e*P **P** **01 26 32.0 +1.0**
VYHS pmax pmax
comp=Z,59nm,1.2s
VYHS Vyhne 75.17 3 *e*P **P** **01 26 32.0 +1.0**
KECS Kecovo 75.22 2 *e*P **P** **01 26 32.4 +1.1**
KECS pmax pmax
comp=Z,25nm,0.7s
KECS Kecovo 75.22 2 *e*P **P** **01 26 32.4 +1.1**
MODS Modra-Piesok 75.23 4 *e*P **P** **01 26 31.7 +0.3**
MODS pmax pmax
comp=Z,77nm,1.2s
MODS Modra-Piesok 75.23 4 *e*P **P** **01 26 31.7 +0.3**
ZST Bratislava 75.40 4 *e*P **P** **01 26 33.7 +1.4**
ZST pmax pmax
comp=Z,132nm,1.1s
ZST Bratislava 75.40 4 *e*P **P** **01 26 33.7 +1.4**
UBR Ueberruh 75.46 9 *e*P **P** **01 26 33.8 +1.0**
comp=Z,46nm,1.0s,baz=354,slow=5.9
SORM Soroca 75.51 357 ⇑P **P** **01 26 32.6 -0.3**
MOA Molln 75.60 6 *i*P **P** **01 26 34.2 +0.7**
comp=Z,13nm,0.8s,SNR=15
CONA Conrad Observa 75.61 5 *i*P **P** **01 26 34.8 +1.2**
comp=Z,40nm,0.8s,SNR=30
RJOB Jochberg 75.62 7 *e*P **P** **01 26 34.7 +1.1**
comp=Z,375nm,0.8s,baz=354,slow=5.9
RETA Reutte 75.71 9 *i*P **P** **01 26 35.1 +0.9**
comp=Z,34nm,1.4s,SNR=14
PSZ Piszkesteto 75.77 2 IAmb IAmb 01 26 36.9
comp=Z,53nm,1.1s
DAVA Damuels 75.83 9 *i*P **P** **01 26 35.8 +0.8**
comp=Z,16nm,0.8s,SNR=13
SRO Srobarova 75.83 4 *e*P **P** **01 26 36.1 +1.4**
SRO pmax pmax
comp=Z,24nm,0.9s
SRO Srobarova 75.83 4 *e*P **P** **01 26 36.1 +1.4**
MOTA Moosalm 75.88 9 *i*P **P** **01 26 36.2 +1.0**
comp=Z,65nm,1.0s,SNR=31
SRO2 Moca 75.88 3 *e*P **P** **01 26 35.3 +0.2**
SRO2 pmax pmax
comp=Z,29nm,0.7s
SRO2 Moca 75.88 3 *e*P **P** **01 26 35.2 +0.2**
WATA Walderalm 75.92 8 *i*P **P** **01 26 36.6 +1.1**
comp=Z,87nm,1.1s,SNR=43
WTTA Wattenberg 76.00 8 *i*P **P** **01 26 37.3 +1.3**
comp=Z,78nm,0.8s,SNR=38
AZU Azuero 76.02 97 *e*P P 01 26 51.6 +15
BMR Baia Mare 76.06 360 ⇑P **P** **01 26 36.8 +0.8**
BURAR Bucovina Array 76.10 359 IAmb IAmb 01 26 37.9
comp=Z,20nm,0.7s
FETA Feichten 76.17 9 *i*P **P** **01 26 38.2 +1.3**
comp=Z,58nm,1.0s,SNR=26
QIZ Qiongzhong 76.24 284 IAmb IAmb 01 26 40.0
comp=Z,56nm,1.4s
ARSA Arzberg 76.27 6 *i*P **P** **01 26 38.6 +1.3**
comp=Z,24nm,0.8s,SNR=16
KBA Koelnbreinsper 76.31 7 *i*P **P** **01 26 39.3 +1.5**
comp=Z,60nm,0.6s,SNR=40
DAVOX Davos/Dischmat 76.33 10 P **P** **01 26 39.2 +1.3**
comp=Z,29nm,0.6s,baz=338,slow=5.2,SNR=49
DAVOX Davos/Dischmat 76.33 10 P **P** **01 26 39.2 +1.3**
BSZH Besenyszg 76.40 2 ⇓P **P** **01 26 39.7 +1.8**
SENIN Lac Senin/Sane 76.49 11 P **P** **01 26 39.0 +0.2**
ABTA Abfaltersbach 76.58 8 *i*P **P** **01 26 39.8 +0.7**
comp=Z,24nm,0.7s,SNR=17
ARCR ARCALIA 76.64 359 ⇑P **P** **01 26 40.5 +1.1**
BIZ Bicaz 76.77 358 ⇓P **P** **01 26 40.6 +0.5**
MYKA Terra Mystica 76.78 7 *i*P **P** **01 26 40.8 +0.5**
comp=Z,20nm,0.7s,SNR=12
GAR Garm 76.79 324 P **P** **01 26 40.5 -0.1**
ZOU Zoufplan 76.81 7 IAmb IAmb 01 26 42.7
comp=Z,24nm,0.6s
SOKA Soboth 76.81 6 *i*P **P** **01 26 41.4 +0.9**
comp=Z,80nm,1.3s,SNR=44
DRGR 76.94 0 ⇑P **P** **01 26 41.6 +0.5**
OBKA Obir 76.95 6 *i*P **P** **01 26 42.3 +1.1**
comp=Z,103nm,0.5s,SNR=89
CJR Cluj-Napoca 77.02 360 ⇑P **P** **01 26 42.3 +0.8**
BEHE Becsehely 77.11 5⇑ *i*P **P** **01 26 43.1 +1.1**
TESR Tescani 77.18 358 ⇑P **P** **01 26 42.3 -0.2**
CADS Cadrg 77.18 7⇑ *i*P **P** **01 26 42.6 +0.1**
CTI Castel Tesino 77.21 8 IAmb IAmb 01 26 44.0
comp=Z,36nm,1.3s
GOF Gofitskoye 77.34 346⇑ *i*P **P** **01 26 43.4 +0.1**
GOF pmax pmax
comp=Z,253nm,0.7s
LJU Ljubljana 77.42 6⇑ *i*P **P** **01 26 44.1 +0.4**
comp=Z,27nm,0.9s
MORH Mrgy. Hungar 77.44 3⇑ *i*P **P** **01 26 44.2 +0.4**
SLVN Son La 77.49 290 IAmb IAmb 01 26 46.6
comp=Z,38nm,0.8s
SALO Salr 77.54 9 IAmb IAmb 01 26 45.9
comp=Z,38nm,0.8s
GHRR 77.61 357 ⇓P **P** **01 26 45.5 +0.7**
CRES Cresnjev 77.69 6⇑ *i*P **P** **01 26 45.4 +0.1**
TRI Trieste 77.70 7 IAmb IAmb 01 26 46.2
comp=Z,18nm,0.7s
BNI Bardonecchia 77.71 12 P **P** **01 26 46.5 +0.9**
BNI pmax pmax
comp=Z,32nm,0.8s
BNI Bardonecchia 77.71 12 P **P** **01 26 46.5 +0.9**
BNI IAmb IAmb 01 26 48.8
comp=Z,32nm,0.8s
CEY Cerknica 77.72 6⇑ *i*P **P** **01 26 45.6 +0.1**
MOTC Monteria, Cord 77.75 93 *e*P **P** **01 26 45.0 -1.0**
DOPR Dopca 77.75 359 ⇑P **P** **01 26 46.9 +1.3**
VRI Vrincioaia 77.83 358 ⇑P **P** **01 26 46.5 +0.5**
PLOR Plostina 77.84 358 ⇑P **P** **01 26 46.5 +0.3**
BOJS Bojanci 78.00 6⇑ *i*P **P** **01 26 47.5 +0.5**
comp=Z,63nm,1.0s
BZS Buzias 78.10 1 ⇑P **P** **01 26 48.3 +0.8**
BISRR Bisoca 78.14 358 ⇑P **P** **01 26 48.8 +0.9**
SCHL Schela 78.16 357 ⇑P **P** **01 26 48.7 +0.9**
PGAV Gavieira, Arco 78.20 24 *e*P **P** **01 26 50.3 +2.0**
comp=Z,36nm,1.5s
MLR Muntele Rosu 78.22 358 P **P** **01 26 49.0 +0.6**
comp=Z,12nm,0.6s,baz=8.2,slow=3.9,SNR=23
MLR Muntele Rosu 78.22 358 P **P** **01 26 49.0 +0.6**
MLR Muntele Rosu 78.22 358 IAmb IAmb 01 26 51.4
comp=Z,57nm,1.4s
ANN Anapa 78.24 350 *e*P **P** **01 26 47.2 -1.1**
ANN *e**PP **pP** **01 27 04.4 -2.4**

ANN pmax pmax
comp=Z,37nm,1.1s
GZR Gura Zlata 78.34 0 ⇑P P 01 26 49.6 +0.7
ARR Arges 78.36 359 ⇑P P 01 26 49.9 +0.9
PRMA PARMA 78.37 9 P P 01 26 49.3 +0.3
KVAR Kislovodsk Arr 78.47 346 P P 01 26 50.7 +0.9
comp=Z,14nm,0.7s,baz=11,slow=17,SNR=10
KIV Kislovodsk 78.47 346 *eP* **P 01 26 50.2 +0.5**
KIV pmax pmax
comp=Z,216nm,1.1s
KIV MLR MLR
comp=Z,90nm,18.0s
KIV Kislovodsk 78.47 346 P P 01 26 49.9 +0.2
CFR Carcaliu 78.47 357 ⇑P P 01 26 50.0 +0.4
PCAB Cabril 78.50 23 *eP* **P 01 26 51.5 +1.7**
comp=Z,44nm,1.9s
FRGS Fruska Gora 78.53 3 ⇑P P 01 26 50.7 +0.7
FRGS Fruska Gora 78.53 3 *⇑iP* **P 01 26 50.4 +0.5**
MRAK Mrakovica 78.57 5 *⇑iP* **P 01 26 51.4 +1.2**
KBZ Khabaz 78.66 346 P P 01 26 51.2 +0.6
comp=Z,36nm,0.9s,baz=33,slow=4.7,SNR=40
KBZ LR LR 02 07 26.0
comp=Z,29nm,18.1s,baz=20,slow=40
KBZ Khabaz 78.66 346 *c iP* **P 01 26 51.4 +0.8**
KBZ pmax pmax
comp=Z,53nm,0.9s
SECR 78.67 358 ⇑P P 01 26 51.3 +0.6
PBRG Braganca 78.68 22 *eP* **P 01 26 52.5 +1.6**
comp=Z,20nm,1.7s
GROC Groznyy 78.75 343 *eP* **P 01 26 49.6 -1.6**
GROC *eS* **S 01 36 41.4 -1.6**
GROC pmax pmax
comp=Z,27nm,0.9s
NCK Nalchik 78.79 345 *c iP* **P 01 26 52.4 +1.0**
NCK pmax pmax
comp=Z,116nm,0.9s
ZCCA Zocca 78.84 9 IAmb IAmb 01 26 55.8
comp=Z,30nm,0.8s
HERR Herculane 78.85 1 ⇓P P 01 26 52.0 +0.3
BLY Banja Luka 78.85 4 *⇑iP* **P 01 26 52.1 +0.4**
POLO Lamas de Olo 78.87 23 *eP* **P 01 26 53.5 +1.5**
comp=Z,15nm,2.3s
HARR Harsova 78.97 357 ⇓P P 01 26 52.8 +0.5
VLC Villacollemand 78.98 9 IAmb IAmb 01 26 55.2
comp=Z,39nm,0.8s
PVRL Vila Real 78.98 23 *eP* **P 01 26 54.2 +1.7**
comp=Z,36nm,1.0s
NEY Neytrino 79.16 346 *⇑eP* **P 01 26 55.6 +2.0**
NEY pmax pmax
comp=Z,6.0nm,1.2s
MGRS Mrkonjic Grad 79.17 5 *⇑iP* **P 01 26 54.7 +1.2**
TIRR Tirgusor 79.18 356 ⇑P P 01 26 53.8 +0.3
TIRR Tirgusor 79.18 356 ⇑P P 01 26 53.8 +0.3
HUMR Humele 79.19 359 ⇑P P 01 26 53.2 -0.4
SOC Sochi 79.20 348 *eP* **P 01 26 52.8 -0.8**
SOC *e*PP **pP 01 27 10.9 -1.2**
SOC *e*SP **sP 01 27 18.8 -0.8**
SOC *e* 01 29 50.1
SOC *e*PPP PPP 01 31 40.6
SOC *eS* **S 01 36 47.7 -0.1**
SOC *e*SS **SS 01 41 54.0 +0.2**
SOC *e*SSS SSS 01 45 13.7
SOC pmax pmax
comp=Z,58nm,0.7s
SOC MLR MLR
comp=Z,39nm,17.0s
MVO Moncorvo 79.23 23 *eP* **P 01 26 55.7 +1.8**
comp=Z,47nm,1.2s
ZARC Zaragoza, Cauc 79.25 93 *eP* P 01 27 10.6 +16
ZEI Tsey 79.44 345 *eP* **P 01 26 53.0 -2.2**
ZEI pmax pmax
comp=Z,33nm,1.0s
PVIS Viseu 79.47 24 *eP* **P 01 26 56.8 +1.6**
comp=Z,50nm,1.4s
SGRR Singureni 79.48 358 ⇑P P 01 26 55.1 0.0
ICOR Ion Corvin 79.55 357 ⇑P P 01 26 56.5 +1.0
HAPS Han Pijesak,BI 79.58 3 *eP* **P 01 26 55.8 0.0**
COPA Copaceanca 79.58 359 ⇓P P 01 26 55.5 -0.2
DIVS Divibare 79.59 2 *⇑iP* **P 01 26 56.2 +0.3**
DIVS Divibare 79.59 2 IAmb IAmb 01 26 57.5
comp=Z,34nm,1.0s
ONI Oni 79.70 345 P P 01 26 58.0 +1.5
ONI pmax pmax
comp=Z,18nm,0.9s
ONI Oni 79.70 345 P P 01 26 58.0 +1.5
ONI IAmb IAmb 01 26 59.6
comp=Z,18nm,0.9s
BBLS Lazići 79.81 3 *⇑iP* **P 01 26 58.2 +1.2**
MTE Manteigas 79.85 23 *eP* **P 01 26 59.0 +1.7**
comp=Z,56nm,1.2s
MTE Manteigas 79.85 23 P P 01 26 57.9 +0.6
MTE IAmb IAmb 01 26 60.0
comp=Z,29nm,0.9s
TBI Tubuai 79.90 173 *eLR* LR 01 51 44.0
comp=Z,160nm,32.8s
SHL Shillong 79.93 301 P P 01 26 56.7 -1.4
SHL pmax pmax
comp=Z,25nm,0.9s
SHL Shillong 79.93 301 P P 01 26 56.7 -1.4
SHL IAmb IAmb 01 26 57.9
comp=Z,25nm,0.9s
CBOC Ciudad Bolivar 79.96 95 *eP* P 01 27 13.5 +15
PCAS Casmilo, Conde 79.97 24 *eP* **P 01 26 59.2 +1.3**
RUDO Rudo 80.06 3 *⇑iP* **P 01 26 58.6 +0.3**
PCBR Castelo Branco 80.40 24 *eP* **P 01 27 01.3 +1.1**
comp=Z,32nm,1.1s
PSBE So Bento 80.42 25 *eP* **P 01 27 02.3 +2.0**
UPM Unac-Piva 80.46 3 *⇑iP* **P 01 27 01.0 +0.3**
NRCA Norcia 80.52 8 IAmb IAmb 01 27 03.0
comp=Z,34nm,0.8s
PAMC Pamplona, Colo 80.57 91 *eP* P 01 27 06.9 +4.9
NIL Nilore 80.64 320 P P 01 27 02.4 +0.8
NIL pmax pmax
comp=Z,123nm,0.8s
NIL Nilore 80.64 320 P P 01 27 02.4 +0.8
STON Ston 80.74 4 *⇑iP* **P 01 27 00.8 -1.1**
BRY Bratogost 80.74 4 *⇑iP* **P 01 27 02.4 +0.3**
BRY Bratogost 80.74 4 *⇑iP* **P 01 27 02.5 +0.3**
IVA Berane 80.81 3 *eP* **P 01 27 03.1 +0.6**
PMRV Marv??o 80.82 24 *eP* **P 01 27 03.6 +1.2**
comp=Z,24nm,1.5s
KOME Kolasin 80.83 3 *⇑iP* **P 01 27 02.5 0.0**
PMAFR Mafra 80.83 25 *eP* **P 01 27 04.0 +1.5**
comp=Z,84nm,0.9s
NORC Norcasia 80.84 94 *eP* **P 01 26 59.2 -3.7**
GUY2C Guyana, Caldas 80.85 94 *eP* **P 01 27 00.3 -3.1**
NKY Niksic 80.85 3 *⇑iP* **P 01 27 03.1 +0.4**
NKME Niksic 80.89 3 *eP* **P 01 27 03.1 +0.3**
BARC Barichara 80.92 92 *eP* **P 01 27 02.5 -1.0**
TREB Trebinje 80.92 4 *⇑iP* **P 01 27 02.9 0.0**
SIJI Sorong 80.96 254 P P 01 27 03.9 +0.4
comp=Z,45nm,0.7s,baz=42,slow=4.8,SNR=4.4
PMTG Montargil 80.97 24 *eP* **P 01 27 04.0 +0.8**
comp=Z,24nm,1.3s
AQU L'Aquila 81.02 7 *⇑iP* **P 01 27 04.4 +0.9**
AQU L'Aquila 81.02 7 IAmb IAmb 01 27 10.9
comp=Z,29nm,0.8s
PVY Plav 81.09 3 *eP* **P 01 27 04.3 +0.3**
CEME Cevo 81.11 3 *⇑iP* **P 01 27 04.2 +0.2**
VTS Vitosha 81.11 0 ⇑P P 01 27 04.5 +0.3
VTS Vitosha 81.11 0 IAmb IAmb 01 27 05.4
comp=Z,32nm,0.9s
HCY Herceg Novi 81.20 4 *⇑iP* **P 01 27 04.2 -0.2**
HCY Herceg Novi 81.20 4 *⇑iP* **P 01 27 04.4 0.0**
SNOP Sinop 81.20 351 IAmb IAmb 01 27 05.3
comp=Z,36nm,1.0s
PDG Podgorica 81.24 3 ⇑P P 01 27 04.8 +0.3
PDG Podgorica 81.24 3 *⇑iP* **P 01 27 04.9 +0.3**
TTG Podgorica 81.24 3 *⇑iP* **P 01 27 05.0 +0.4**
KBL Kabul 81.28 323 P P 01 27 04.6 -0.6
KBL pmax pmax
comp=Z,35nm,1.0s
KBL Kabul 81.28 323 P P 01 27 04.6 -0.6
KBL IAmb IAmb 01 27 05.3
comp=Z,35nm,0.9s
ESBB Sonseca Array 81.30 21 IAmb IAmb 01 27 07.6
comp=Z,21nm,0.9s
ESDC Sonseca Array 81.30 21 P P 01 27 06.5 +1.4
comp=Z,15nm,0.7s,baz=343,slow=5.2,SNR=116
ESDC pP **pP 01 27 24.4 +0.9**
comp=Z,7.4nm,0.7s,baz=342,slow=4.8,SNR=5.2
ESDC LR LR 02 03 31.4
comp=Z,19nm,21.5s,baz=10.0,slow=36
ESDC Sonseca Array 81.30 21 IAmb IAmb 01 27 07.6
comp=Z,20nm,0.9s
GEYT Alibeck 81.31 333 P P 01 27 06.1 +1.0
comp=Z,40nm,0.8s,baz=328,slow=2.8,SNR=42
GEYT LR LR 02 09 14.8
comp=Z,52nm,18.2s,baz=165,slow=40
GYA0B ALIBECK ARRAY 81.31 333 P P 01 27 05.5 +0.4
PAB San Pablo 81.35 21 P P 01 27 05.6 +0.2
PAB pmax pmax
comp=Z,20nm,1.2s
PAB San Pablo 81.35 21 P P 01 27 05.5 +0.2
BUM Brajici-Budva 81.36 3 *⇑iP* **P 01 27 05.5 +0.2**
INTR Introdacqua 81.39 7 IAmb IAmb 01 27 08.0
comp=Z,27nm,0.9s
TOLC Tolima 81.40 95 *eP* **P 01 27 06.7 +0.4**
DRME Dracevica, Mon 81.48 3 *⇑iP* **P 01 27 06.4 +0.6**
DRME Dracevica, Mon 81.48 3 *⇑iP* **P 01 27 06.5 +0.6**
RKT Rikitea 81.53 160 *eT* T 02 55 38.3
comp=Z,4.4nm,0.3s
EVO Evora 81.53 24 *eP* **P 01 27 07.5 +1.3**
comp=Z,21nm,1.4s
RUSC La Rusia 81.55 92 *eP* **P 01 27 03.6 -3.6**
DIKM Dikmen 81.57 351 ⇑P P 01 27 07.6 +1.3
UBPT Khong Chiam 81.67 285 IAmb IAmb 01 27 08.4
comp=Z,31nm,0.8s
ULC Ulcinj 81.70 3 *⇑iP* **P 01 27 07.4 +0.3**
ROSC El Rosal 81.74 94 LR LR 02 05 23.3
comp=Z,46nm,21.9s,baz=20,slow=37
SKO Skopje 81.74 1 *i P* **P 01 27 08.4 +1.1**
PNCL Nicolau / Gran 81.82 25 *eP* **P 01 27 09.1 +1.4**
comp=Z,29nm,1.0s
GNI Garni 81.90 344 P P 01 27 09.7 +1.3
comp=Z,21nm,0.6s,baz=280,slow=1.0,SNR=13
GNI Garni 81.90 344 *deP* **P 01 27 09.6 +1.3**
GNI pmax pmax
comp=Z,29nm,0.7s
GNI Garni 81.90 344 P P 01 27 09.4 +1.1
GNI IAmb IAmb 01 27 10.5
comp=Z,28nm,0.8s
STIP Stip 82.03 1 *i P* **P 01 27 08.9 +0.2**
PBAR Barrancos 82.09 24 *eP* **P 01 27 10.5 +1.3**
comp=Z,81nm,1.4s
CHTO Chiang Mai 82.14 292 P P 01 27 09.2 -0.5
CHTO pmax pmax
comp=Z,38nm,1.3s
CHTO Chiang Mai 82.14 292 P P 01 27 09.2 -0.5
CHTO IAmb IAmb 01 27 10.3
comp=Z,38nm,1.3s
ILGA Ilgaz 82.28 352 IAmb IAmb 01 27 12.9
comp=Z,46nm,1.0s
TIR Tirane 82.34 3 ⇑P P 01 27 11.0 +0.6
POPC Popayan, Colom 82.35 97 *eP* P 01 27 03.6 -7.5
PRAC Prado 82.36 95 *eP* **P 01 27 06.9 -4.0**
NVR Nevrokopi 82.38 360 P P 01 27 11.8 +1.1
VAY Valandovo 82.41 1 *i P* **P 01 27 11.9 +1.1**
PAOL Paiisi 82.41 7 IAmb IAmb 01 27 12.4
comp=Z,47nm,1.4s
CM31 Chiang Mai Arr 82.44 292 P P 01 27 10.7 -0.6
CMAR Chiang Mai Arr 82.44 292 P P 01 27 11.1 -0.2
comp=Z,40nm,0.9s,baz=14,slow=5.5,SNR=88
CMAR pP **pP 01 27 29.1 -0.7**
comp=Z,14nm,0.8s,baz=12,slow=5.9,SNR=4.5
CMAR LR LR 02 05 19.9
comp=Z,47nm,20.9s,baz=122,slow=37
CMAR Chiang Mai Arr 82.44 292 P P **01 27 11.1 -0.2**
CMAR *PP **pP 01 27 29.2 -0.7**
BBAC Balboa, Cauca 82.47 98 *eP* P 01 27 27.7 +16
BRDH Bariadhala 82.50 300 P P 01 27 11.9 +0.4
comp=Z,92nm,0.5s,baz=156,slow=2.2,SNR=3.6
KNT Kendrikon 82.57 0 P P 01 27 12.9 +1.3
RDO Rodhopi 82.57 358 P P 01 27 12.6 +1.0
OHR Ohrid 82.59 2 *i P* **P 01 27 12.5 +0.7**
SRS Serrai 82.61 360 P P 01 27 12.5 +0.7
KOPT Kop Dagi 82.63 347 P P 01 27 13.1 +0.8
KOPT IAmb IAmb 01 27 17.1
comp=Z,29nm,0.9s
PVAQ Vaqueiros 82.68 25 *eP* **P 01 27 14.0 +1.8**
comp=Z,46nm,1.5s
PVAQ Vaqueiros 82.68 25 IAmb IAmb 01 27 15.1
comp=Z,19nm,0.9s
VILC Villavicencio, 82.69 94 *eP* P 01 27 26.2 +13
SOTA Rioblanco 82.72 97 *eP* **P 01 27 12.5 -0.8**
KAVA Kavala 82.73 359 P P 01 27 13.4 +1.0
GRG Griva 82.77 1 P P 01 27 14.0 +1.3
ALN Alexandroupoli 82.81 358 P P 01 27 13.3 +0.5
SOH Sokhos 82.91 0 P P 01 27 14.2 +0.8
MATE Matera 82.92 5 ⇑P P 01 27 14.2 +0.8
FNA Florina 82.93 2 P P 01 27 14.0 +0.4
KBN Korca 83.08 2 P P 01 27 15.0 +0.6
THAS Thassos island 83.11 359 P P 01 27 15.1 +0.7
NEST Nestorio 83.29 2 P P 01 27 16.2 +0.7
OTAV Otavalo 83.30 100 P P 01 27 16.5 +0.2
OTAV pmax pmax
comp=Z,5.0nm,0.8s
OTAV Otavalo 83.30 100 P P 01 27 16.5 +0.2
OTAV Otavalo 83.30 100 *eP* **P 01 27 18.9 +2.7**
OUR Ouranopolis 83.39 360 P P 01 27 16.4 +0.6
HRA Herat 83.52 329 IAmb IAmb 01 27 18.7
comp=Z,43nm,1.1s
ANTO Ankara 83.53 353 P P 01 27 17.4 +0.7
ANTO pmax pmax
comp=Z,102nm,0.8s
ANTO Ankara 83.53 353 P P 01 27 17.4 +0.7
LSK Leskovik 83.55 2 P P 01 27 17.9 +1.1
BRTR Keskin Array B 83.61 352 P P 01 27 18.0 +0.8
comp=Z,35nm,0.8s,baz=29,slow=2.9,SNR=142
BRTR LR LR 02 11 23.5
comp=Z,25nm,18.6s,baz=33,slow=41
BRTR Keskin Array B 83.61 352 P P 01 27 18.0 +0.8
BRTR Keskin Array B 83.61 352 P P 01 27 17.8 +0.6
LIT Litokhoron 83.62 1 P P 01 27 17.6 +0.5
FLOC Florencia 83.71 97 P P 01 27 18.4 +0.6
KPRO Kipourio 83.76 2 P P 01 27 18.4 +0.6
SRN Sarande 83.81 3 P P 01 27 18.7 +0.7
GURO Guroymak-BITLI 83.87 345 P P 01 27 19.1 +0.6
GEVA Gevas 83.95 345 IAmb IAmb 01 27 21.3
comp=Z,37nm,0.9s
KEK Kerа 83.97 3 P P 01 27 19.5 +0.7
BALB Balikesir 84.01 357 IAmb IAmb 01 27 20.4
comp=Z,39nm,0.9s
JAN Janina 84.05 2 P P 01 27 20.6 +1.3
THL Klokotos Trika 84.16 1 P P 01 27 19.9 +0.1
IGT Igoumenitsa 84.16 2 P P 01 27 20.5 +0.7
MACC Macarena, Meta 84.23 95 *eP* **P 01 27 17.9 -2.7**
XOR Xorichti 84.36 0 P P 01 27 21.1 +0.2
TIP Timpagrande 84.38 5 ⇑P P 01 27 21.6 +0.6
TIP Timpagrande 84.38 5 IAmb IAmb 01 27 22.8
comp=Z,40nm,1.0s
PMOZ Porto Moniz, M 84.47 33 *eP* **P 01 27 23.9 +2.3**
comp=Z,60nm,1.6s
PMAR Madeira 84.65 33 *eP* **P 01 27 24.4 +1.8**
comp=Z,78nm,1.3s
AGG Agios Georgios 84.70 1 P P 01 27 22.5 -0.1
MAKR Makrakomi, Fth 84.71 1 P P 01 27 23.4 +0.8
EVR Evrytania 84.80 1 P P 01 27 24.1 +0.9
TSLK Tsoukalades, L 84.87 2 P P 01 27 24.0 +0.6
LKD2 Lefkada island 84.91 2 P P 01 27 24.1 +0.5
NYDR Nydri-Lefkada 84.98 2 P P 01 27 24.3 +0.4
TOLI2 Tolitoli 85.00 264 P P 01 27 22.5 -1.8
TOLI2 IAmb IAmb 01 27 23.8
comp=Z,20nm,0.7s
DRAG Dragano-Lefkad 85.01 2 P P 01 27 24.3 +0.2
EVGI Lefkada island 85.08 2 P P 01 27 25.0 +0.6
PVO Paravola 85.10 1 P P 01 27 25.4 +0.9
KULA Kula-Manisa 85.11 356 P P 01 27 25.9 +1.2
PDO Prodromos 85.11 2 P P 01 27 25.2 +0.6
ANX Ano Chora 85.12 1 P P 01 27 25.6 +0.8
FSK Fiskardo 85.24 2 P P 01 27 25.4 +0.2
MARD Mardin 85.25 346 P P 01 27 26.4 +0.9
SERG Sergoula 85.31 1 P P 01 27 26.0 +0.4
TRIZ Trizonia 85.35 1 P P 01 27 26.1 +0.3
KEF5 Kardakata, Kep 85.42 2 P P 01 27 26.6 +0.5
DMLN Damoulianata-K 85.45 2 P P 01 27 26.7 +0.4
LAKA Lakka 85.48 1 P P 01 27 27.6 +1.1
KEF3 Kipouria, Keph 85.49 2 P P 01 27 26.9 +0.4
VLS Valsamata 85.52 2 P P 01 27 27.1 +0.4
PSDA Pessada-Kefalo 85.58 2 P P 01 27 27.4 +0.5
RLS Riolos of Patr 85.65 2 P P 01 27 28.5 +1.2
PTL Penteli 85.67 360 P P 01 27 27.2 -0.3
KLV Kalavryta, Ach 85.68 1 P P 01 27 28.1 +0.6
THAL Thalero 85.69 1 P P 01 27 27.3 -0.2
LTK Loutraki 85.70 0 P P 01 27 27.1 -0.5
LOUT Loutraki 85.74 0 P P 01 27 27.2 -0.5
DRO Drossia 85.76 1 P P 01 27 28.9 +1.0
VLMS Volimes, Zakyn 85.82 2 P P 01 27 28.3 +0.1
VLY Voula,Athens 85.87 360 P P 01 27 27.8 -0.6
LTHK Lithakia 85.99 2 P P 01 27 29.1 +0.1
AMT Artemida-Makis 86.18 1 P P 01 27 30.4 +0.4
KRND KRANIDI 86.34 0 P P 01 27 29.7 -1.0
VLX Vlachokerasia 86.35 1 P P 01 27 31.2 +0.3
YER Yerkesik 86.50 356 P P 01 27 32.1 +0.5
ITM Ithomi 86.54 1 P P 01 27 32.0 +0.3
PYL PYLOS 86.82 1 P P 01 27 33.0 -0.1
VLI Veliai 87.00 0 P P 01 27 33.4 -0.6
KEST Kesra 87.22 11 P P 01 27 35.9 +0.7
comp=Z,16nm,0.8s,baz=300,slow=6.5,SNR=12
KEST Kesra 87.22 11 IAmb IAmb 01 27 38.7
comp=Z,26nm,1.1s
AKAS Kas 87.34 355 P P 01 27 35.0 -0.8
AKAS IAmb IAmb 01 27 36.0
comp=Z,32nm,1.1s
ARG Arkhangelos 87.42 356 P P 01 27 35.5 -0.5
KTHR Kythira 87.46 0 P P 01 27 36.8 +0.6
ANKY Antikythira Is 87.85 0 P P 01 27 38.3 +0.3
IMMV Iera Moni Meta 88.26 360 P P 01 27 40.2 +0.2
VAM Vamos 88.31 359 P P 01 27 40.2 0.0
LAST Lasithi 88.54 358 P P 01 27 41.2 -0.2
GVDS Gavdos 88.87 359 P P 01 27 43.1 +0.2
MMAI Mount Meron Ar 90.12 350 P P 01 27 49.2 +0.4
comp=Z,17nm,0.8s,baz=357,slow=5.9,SNR=24
MIB Mutribah 91.53 339 *eP* **P 01 27 55.0 -0.3**
UMR Umm Al-Rimmam 91.70 339 *eP* **P 01 27 55.9 -0.2**
RDF Al-Radifah 92.34 339 *eP* **P 01 27 59.0 -0.1**
HYB Hyderabad 93.06 308 *i P* **P 01 28 02.0 -0.6**
EIL Elat 93.47 350 P P 01 28 03.5 -0.8
comp=Z,3.1nm,0.8s,baz=63,slow=9.0,SNR=3.2
WSAR Wadi Sarin 95.05 328 P P 01 28 11.7 0.0
comp=Z,18nm,0.8s,baz=343,slow=3.0,SNR=11
KMBO Kilima Mbogo 123.54 343 PKP **PKiKP 01 33 47.6 +1.0**
comp=Z,7.4nm,0.8s,baz=19,slow=2.8,SNR=20
KMBO pPKP **pPKPdf 01 34 06.6 +0.8**
comp=Z,2.1nm,0.7s,baz=80,slow=1.6,SNR=3.1
KMBO Kilima Mbogo 123.54 343 PKIKP **PKiKP 01 33 47.6 +1.0**
KMBO 01 34 06.6
SBA Scott Base 136.11 191 PKIKP **PKPdf 01 34 06.8 -1.0**
SBA Scott Base 136.11 191 PKPdf 01 34 06.8 -1.0
TSUM Tsumeb 142.37 9 PKPdf **PKPdf 01 34 18.4 -2.8**
QSPA South Pole Qui 146.42 180 PKPbc 01 34 28.0 -0.1
LBTB Lobatse 148.37 356 PKP2 **PKPbc 01 34 34.8 0.0**
LBTB Lobatse 148.37 356 PKPbc **PKPbc 01 34 34.8 0.0**
BOSA Boshof 151.96 356 PKPbc **PKPbc 01 34 43.4 0.0**
comp=Z,17nm,0.8s,baz=0.9,slow=2.1,SNR=3.7
BOSA PKPab **PKPab 01 34 53.4 +0.5**
comp=Z,10nm,0.6s,baz=350,slow=5.1,SNR=8.5
BOSA Boshof 151.96 356 PKIKP **PKPbc 01 34 43.4 0.0**
BOSA 01 34 53.4
BOSA Boshof 151.96 356 PKPbc 01 34 43.5 +0.2
BOSA PKPab **PKPab 01 34 52.9 0.0**
SYO Syowa Base 165.62 204 *⇓eX* **PKPdf 01 34 48.8 -2.6**

IDC ***13*** *01:18:27.5±0.7,27.64N×86.08E, h0km, mb4.4/31, mb1 4.5/35, mb1mx4.4/66, mbtmp4.4/35, ML4.4/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/44 Error ellipse: s-maj=16.0km s-min=13.0km az=172.0*
MOS ***13*** *01:18:27.0±1.1,27.57N×86.03E, h9km, mb4.9/24, Error ellipse: s-maj=8.4km s-min=4.8km az=115.3*
BJI ***13*** *01:18:27.8±0.0,27.68N×86.06E, h8km, mB4.6/34, mb4.7/54, Ms4.2/41, Ms7 4.1/37*
DMN ***13*** *01:18:29.0±0.1,27.73N×86.16E, h20km, Ml5.2/6, Error ellipse: s-maj=4.1km s-min=1.3km az=20.0*
NDI ***13*** *01:18:30.4±4.3,27.55N×86.04E, h10km±20km, ML4.5, mb4.8(NEIC)*
NEIC ***13*** *01:18:30.2±1.4,27.63N±0.08×86.07E±0.05, h10km±1km, mb4.8/94, Error ellipse: s-maj=13.6km s-min=7.4km az=190.0*

ISC 13 01:18:30.0±0.8, 27.61N±0.03×86.03E±0.03, h18km±4km, n242, σ1.996/258, mb4.7/97, MS3.7/14, 9C-9D, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**0.33**	**336**	*eP*g	**Pg**	**01 18 36.3**	**-1.0**
GUN				*eS*g	**Sg**	**01 18 41.2**	**-1.0**
	86μm,0.4s						
PKI	**Pulchoki**	**0.55**	**266**	*eP*g	**Pn**	**01 18 42.6**	**-0.7**
PKI				*eS*g	**Sn**	**01 18 52.4**	**+0.2**
	23μm,0.4s						
PKIN	**Phulchoki**	**0.56**	**267**	*eP*g	**Pn**	**01 18 42.8**	**-0.6**
KKN	**Kakani**	**0.69**	**285**	*eP*g	**Pn**	**01 18 44.5**	**-0.6**
KKN				*eS*g	**Sn**	**01 18 54.6**	**-0.8**
	11μm,0.4s						
DMN	**Daman**	**0.82**	**270**	*eP*g	**Pn**	**01 18 47.4**	**+0.5**
DMN				*eS*g	**Sn**	**01 19 00.6**	**+1.9**
	7μm,0.4s						
RAMN	**Ramite**	**0.83**	**142**	*eP*g	**Pb**	**01 18 45.5**	**-0.6**
GKN	**Gorkha**	**1.29**	**288**	*eP*g	**Pg**	**01 18 55.3**	**+0.2**
GKN				*eS*g	**Sg**	**01 19 13.5**	**+1.5**
	8μm,0.4s						
ODAN	**Odare**	**1.42**	**121**	*eP*g	**Pb**	**01 18 56.0**	**-0.2**
ODAN				*eS*g	**Sb**	**01 19 14.0**	**-0.1**
	3μm,0.3s						
TAPN	**Taplejung**	**1.52**	**99**	*eP*g	**Pn**	**01 18 56.3**	**-0.2**
TAPN				*eS*g	**Sn**	**01 19 14.3**	**-1.7**
	6μm,0.5s						
DANN	**Dangsing**	**2.14**	**291**	*eP*g	**Pg**	**01 19 10.5**	**-0.6**
DANN				*eS*g	**Sg**	**01 19 39.5**	**+0.6**
	13μm,0.5s						
KOLN	**Koldanda**	**2.16**	**275**	*eP*g	**Pg**	**01 19 11.1**	**-0.4**
PYUN	**Piuthan**	**2.73**	**281**	*eP*g	**Pg**	**01 19 21.5**	**-1.0**
PYUN				*eS*g	**Sg**	**01 19 59.0**	**+1.0**
	5μm,0.4s						
BOK	**Bokaro**	**3.80**	**182**	*eP*	**Pn**	**01 19 31.0**	**+3.3**
BOK				IAML		01 20 31.6	
	comp=N,632nm,0.5s						
LSA	**Lhasa**	**4.96**	**64**	Pn	**Pn**	**01 19 46.0**	**+2.0**
LSA				Sn	**Sn**	**01 20 46.6**	**+5.4**
LSA				L	L		
	comp=N,8μm,10.7s						
LSA				L	L		
	comp=N,7μm,8.9s						
LSA				L	L		
	comp=N,14μm,8.9s						
LSA	**Lhasa**	**4.96**	**64**	P	**Pn**	**01 19 46.1**	**+2.0**
LSA	**Lhasa**	**4.96**	**64**	Pn	**Pn**	**01 19 46.1**	**+2.0**
GUWA	**GUWAHATI**	**5.25**	**104**	*eP*	**Pn**	**01 19 48.3**	**+0.7**
GUWA				*eS*	**Sn**	**01 20 48.1**	**+0.5**
GUWA				IAML		01 20 53.3	
	comp=E,218nm,0.5s						
SHL	**Shillong**	**5.62**	**110**	P	**Pn**	**01 19 52.7**	**-0.2**
SHL	**Shillong**	**5.62**	**110**	*eP*	**Pn**	**01 19 52.3**	**-0.6**
SHL				*eP*	**Pn**	**01 19 54.0**	**+1.1**
SHL				*eS*	**Sn**	**01 20 54.4**	**-2.8**
SHL				*eS*	**Sn**	**01 21 00.0**	**+2.8**
SHL	**Shillong**	**5.62**	**110**		**Pn**	**01 19 52.7**	**-0.2**
BRDH	**Bariadhala**	**7.07**	**133**	Pn	**Pn**	**01 20 12.4**	**-0.3**
	comp=E,14nm,0.3s,baz=249,slow=20,SNR=1.5						
BRDH				Sn	**Sn**	**01 21 31.6**	**-0.9**
	comp=E,17nm,0.3s,baz=256,slow=18,SNR=1.4						
DDI	**Dehra Dun**	**7.49**	**293**	*eP*	**Pn**	**01 20 22.1**	**+3.7**
DDI				*eS*	**Sn**	**01 21 43.0**	**0.0**
DDI				IAML		01 21 47.5	
	comp=E,2μm,0.4s						
NDI	**New Delhi**	**7.85**	**280**	*eP*	**Pn**	**01 20 26.0**	**+2.6**
NDI				*eS*	**Sn**	**01 21 50.0**	**-1.8**
SMLA	**Simla**	**8.49**	**297**	*eP*	**Pn**	**01 20 33.0**	**+0.9**
SMLA				*eS*	**Sn**	**01 22 05.2**	**-2.2**
SMLA				IAML		01 22 10.1	
	comp=E,854nm,0.5s						
BHPL	**Bhopal**	**8.91**	**243**	*eP*	**Pn**	**01 20 36.6**	**-1.3**
BHPL				*eS*	**Sn**	**01 22 13.1**	**-4.9**
BHPL				IAML		01 22 22.2	
	comp=E,138nm,0.3s						
DHRM	**DHARAMSHALA**	**9.62**	**301**	*eP*	**Pn**	**01 20 48.3**	**+0.5**
DHRM				*eS*	**Sn**	**01 22 32.9**	**-2.8**
DHRM				IAML		01 22 36.6	
	comp=E,615nm,0.7s						
DHRM				IAML		01 22 39.2	
	comp=N,569nm,0.5s						
THN	**Thein Dam**	**10.15**	**301**	*eP*	**Pn**	**01 20 57.5**	**+2.7**
THN				*eS*	**Sn**	**01 22 46.0**	**-2.1**
VIS	**Vishakhapatnam**	**10.15**	**195**	*eP*	**Pn**	**01 20 56.7**	**+1.8**
VIS				*eS*	**Sn**	**01 22 43.4**	**-5.0**
VIS				IAML		01 23 18.7	
	comp=E,99nm,1.4s						
AJM	**Ajmer**	**10.21**	**266**	*⇑iP*	**Pn**	**01 20 56.0**	**+0.2**
AJM				*i* S	**Sn**	**01 22 44.0**	**-5.9**

HYB **Hyderabad** 12.27 216 *i* P **Pn** **01 21 22.5 -1.5**
HYB *eS* **Sn** **01 23 49.0 +8.7**
CHCP Chirah Chowk 12.53 302 P **Pn** **01 21 27.5 0.0**
NIL Nilore 12.54 302 P **Pn** **01 21 27.1 -0.5**
NIL Nilore 12.54 302 Pn **Pn** **01 21 27.1 -0.5**
THW Thamme Wali 13.39 296 P **Pn** **01 21 37.5 -1.7**
CEP Cherat 13.63 300 P **Pn** **01 21 41.0 -1.6**
KSH Kashi 14.52 327 P **Pn** **01 21 52.1 -2.7**
KSH pP P 01 21 58.2 -3.1
KSH pmax pmax
comp=E,18nm,0.9s
KSH pmax pmax
comp=E,91nm,3.8s
KSH L L
comp=E,240nm,6.6s
KSH L L
comp=E,480nm,10.8s
KSH L L
comp=E,130nm,5.7s
CHTO Chiang Mai 14.74 124 P **Pn** **01 21 56.9 -0.9**
CHTO Chiang Mai 14.74 124 Pn **Pn** **01 21 56.9 -0.9**
CHTO Chiang Mai 14.74 124 P **Pn** **01 21 54.4 -3.3**
comp=E,7.2nm,0.9s
CM33 Chiang Mai Arr 14.74 124 P **Pn** **01 21 57.0 -0.7**
CMMT Chiang Mai 14.74 124 P **Pn** **01 21 56.0 -1.8**
CMMT Chiang Mai 14.74 124 P **Pn** **01 21 53.1 -4.7**
comp=E,12nm,0.9s
CM32 Chiang Mai Arr 14.77 124 P **P** **01 22 05.0 +1.0**
CM13 Chiang Mai Arr 14.96 125 P **Pn** **01 21 58.9 -1.8**
CMAR Chiang Mai Arr 14.96 125 Pn **Pn** **01 21 58.5 -2.3**
baz=302,slow=13,SNR=21
CMAR LR LR 01 29 40.6
comp=E,55nm,19.5s,baz=210,slow=45
CM02 Chiang Mai Arr 14.98 125 P **Pn** **01 21 59.6 -1.3**
CM01 Chiang Mai Arr 15.00 125 P **Pn** **01 21 59.9 -1.4**
CM05 Chiang Mai Arr 15.00 125 P **Pn** **01 21 59.0 -2.3**
CM09 Chiang Mai Arr 15.01 125 P **Pn** **01 22 00.0 -1.4**
CM04 Chiang Mai Arr 15.03 125 P **Pn** **01 22 00.0 -1.6**
KMI Kunming 15.18 96 ⇓P **Pn** **01 22 02.3 -1.5**
KMI sP P 01 22 10.1 +1.3
KMI pmax pmax
comp=E,17nm,0.7s
KMI pmax pmax
comp=E,130nm,5.5s
KMI L L
comp=E,260nm,13.0s
KMI L L
comp=E,380nm,14.3s
KMI L L
comp=E,360nm,14.2s
TARG Taragay, Kyrgy 15.61 337 **Pn** **01 22 09.2 -0.4**
CD2 Chengdu 15.82 74 P **Pn** **01 22 10.1 -1.8**
CD2 S **Sn** **01 25 04.5 -2.4**
CD2 pmax pmax
comp=E,30nm,1.0s
CD2 L L
comp=E,860nm,10.1s
CD2 L L
comp=E,1µm,10.8s
CD2 L L
comp=E,2µm,10.8s
KBL Kabul 16.10 300 P **Pn** **01 22 15.3 -0.4**
KBL pmax pmax
comp=Z,40nm,0.8s
KBL Kabul 16.10 300 Pn **Pn** **01 22 15.3 -0.4**
KBL IAmb IAmb 01 22 27.1
comp=Z,40nm,0.8s
KDJ Kajisay 16.19 336 P **Pn** **01 22 18.1 +1.4**
KDJ pmax pmax
comp=Z,17nm,0.8s
KDJ Kajisay 16.19 336 Pn **Pn** **01 22 18.1 +1.4**
WMQ Urumqi 16.23 4 *eP* **Pn** **01 22 17.0 -0.2**
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ pmax pmax
comp=Z,64nm,3.6s
WMQ L L
comp=Z,470nm,14.9s
WMQ L L
comp=Z,260nm,10.9s
WMQ L L
comp=Z,220nm,13.7s
GTA Gaotai 16.43 41 ⇓P **Pn** **01 22 16.8 -3.0**
GTA pP P 01 22 22.3 -0.2
GTA sP pP 01 22 25.0 -3.0
GTA pmax pmax
comp=Z,40nm,4.4s
GTA L L
comp=Z,360nm,12.4s
GTA L L
comp=Z,560nm,12.4s
GTA L L
comp=Z,570nm,13.1s
PDGK Podgornoye 16.55 343 P **Pn** **01 22 20.0 -1.3**
PDGK pmax pmax
comp=Z,15nm,1.1s
PHIT Phitsanulok 16.85 125 P **Pn** **01 22 26.0 +0.9**
BOOM Boomskoye usch 16.97 334 P **Pn** **01 22 26.0 -0.7**
BOOM pmax pmax
comp=Z,19nm,1.2s
BOOM Boomskoye usch 16.97 334 Pn **Pn** **01 22 25.9 -0.7**
MDOK Medeo 17.14 337 P **P** **01 22 32.1 +1.7**
MDOK pmax pmax
comp=Z,18nm,0.7s
LZH Lanzhou 17.32 56 ⇑P **Pn** **01 22 31.6 +0.6**
LZH pP pP 01 22 35.9 -2.1
LZH sP sP 01 22 37.8 -2.8
LZH S **Sn** **01 25 41.8 -1.6**
LZH sS S 01 25 49.0 -3.0
LZH SS **SnSn** **01 26 07.1 +10**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,67nm,4.9s
LZH L L
comp=Z,440nm,13.6s
LZH L L
comp=Z,680nm,13.6s
LZH L L
comp=Z,600nm,14.6s
GAR Garm 17.34 315 Pn **Pn** **01 22 30.1 -1.1**
ARSB Arslanbob 17.38 325 P **Pn** **01 22 29.7 -2.0**
ARSB pmax pmax
comp=Z,11nm,0.7s
ARSB Arslanbob 17.38 325 Pn **Pn** **01 22 29.7 -2.0**
SLVN Son La 17.42 107 Pn **Pn** **01 22 29.7 -2.6**
TKM2 Tokmak 2 17.47 334 P **Pn** **01 22 32.1 -0.8**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s
BTK Batken 17.68 318 P **Pn** **01 22 34.0 -1.5**
BTK pmax pmax
comp=Z,24nm,0.6s
BTK Batken 17.68 318 **Pn** **01 22 34.0 -1.5**
AAK Ala-Archa 17.69 331 P **P** **01 22 36.2 -0.2**
comp=Z,0.2nm,0.3s,baz=150,slow=10,SNR=11
AAK LR LR 01 30 50.2
comp=Z,78nm,18.6s,baz=140,slow=42
AAK Ala-Archa 17.69 331 ⇓*eP* **P** **01 22 37.7 +1.3**
AAK pmax pmax
comp=Z,28nm,0.9s
CHGR Chuyangaron 17.89 312 Pn **Pn** **01 22 35.6 -2.4**
CHGR IAmb IAmb 01 22 54.0
comp=Z,108nm,0.9s
NONG Nongkai 18.40 117 P **P** **01 22 44.0 -0.2**
GYA Guiyang 18.42 89 ⇓P **P** **01 22 42.3 -2.3**
GYA pP Pn 01 22 45.5 +0.8
GYA S **Sn** **01 26 07.8 -2.4**
GYA pmax pmax
comp=Z,27nm,12.7s
CHAI Chaiyaphum 18.83 125 P **Pn** **01 22 51.0 +1.5**
MK31 Makanchi Array 19.38 352 *i* P **Pn** **01 22 55.4 -0.5**
MK31 pmax pmax
comp=Z,14nm,0.7s
MK31 Makanchi Array 19.38 352 P **Pn** **01 22 55.5 -0.5**
MKAR Makanchi Array 19.38 352 P **Pn** **01 22 55.7 -0.3**
comp=Z,2.4nm,0.3s,baz=171,slow=12,SNR=14
MKAR Makanchi Array 19.38 352 P **Pn** **01 22 55.4 -0.5**
MAKZ Makanchi 19.43 352 P **Pn** **01 22 56.3 -0.3**
MAKZ pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 19.43 352 P **Pn** **01 22 56.3 -0.3**
KK31 Karatay Array 19.93 325 *i* P **Pn** **01 23 02.0 -0.5**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 19.93 325 **Pn** **01 23 02.0 -0.5**
KKAR Karatay Array 19.93 325 P **Pn** **01 23 02.0 -0.5**
KKAR Karatay Array 19.93 325 P **Pn** **01 23 02.0 -0.5**
XAN Xi'an 20.66 66 P **P** **01 23 07.8 -1.1**
XAN pP sP 01 23 16.4 -0.8
XAN pmax pmax
comp=Z,15nm,0.9s
ENH Enshi 20.69 77 P **P** **01 23 09.3 0.0**
ENH IAmb IAmb 01 23 13.0
comp=Z,34nm,0.7s
PALK Pallekele 20.85 195 P **P** **01 23 11.8 +0.8**
comp=Z,6.3nm,0.8s,baz=3,6,slow=16,SNR=1.9
HRA Herat 21.45 294 P **P** **01 23 18.5 +0.9**
UBPT Khong Chiam 21.82 120 P **P** **01 23 22.4 +0.9**
UBPT Khong Chiam 21.82 120 P **P** **01 23 21.3 -0.2**
comp=Z,882nmcomp=Z,18nm,1.0s
DGZ Jazzator, Alta 22.09 2 *ceP* **P** **01 23 24.3 +0.1**
DGZ pmax pmax
comp=Z,33nm,0.8s
KURBB Kurchatov Arra 23.68 348 P **P** **01 23 40.9 +0.4**
comp=Z,11nm,0.7s,baz=169,slow=9.4,SNR=68
KURBB Kurchatov Arra 23.68 348 P **P** **01 23 41.3 +0.8**
KURBB pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 23.75 348 P **P** **01 23 40.9 -0.3**
HHC Hu-ho-hao-te 24.80 51 *eP* **P** **01 23 50.6 -0.5**
HHC sP sP 01 24 00.5 +1.0
HHC S **S** **01 28 14.9 +2.0**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC L L
comp=Z,350nm,11.2s
HHC L L
comp=Z,460nm,12.4s
HHC L L
comp=Z,580nm,12.3s
WHN Wuhan 24.90 76 ⇑P **P** **01 23 51.4 -0.5**
WSAR Wadi Sarin 25.10 266 P **P** **01 23 55.4 +1.5**
comp=Z,14nm,1.1s,baz=90,slow=9.9,SNR=2.0
GEYT Alibeck 25.54 301 P **P** **01 24 01.4 +3.6**
comp=Z,6.2nm,0.6s,baz=128,slow=9.3,SNR=10
GEYT LR LR 01 36 28.3
comp=Z,48nm,21.2s,baz=65,slow=42
GYA0B ALIBECK ARRAY 25.54 301 P **P** **01 24 00.6 +2.8**
SONM Songino Array 25.69 33 P **P** **01 23 59.4 +0.3**
comp=Z,8.6nm,0.6s,baz=219,slow=10,SNR=46
SONM Songino Array 25.69 33 P **P** **01 23 59.9 +0.8**
SONM IAmb IAmb 01 24 02.6
comp=Z,14nm,0.8s
ULN Ulaanbaatar 26.03 33 *ceP* **P** **01 24 02.7 +0.5**
ULN pmax pmax
comp=Z,20nm,1.4s
ULN Ulaanbaatar 26.03 33 P **P** **01 24 01.9 -0.4**
ULN IAmb IAmb 01 24 21.4
comp=Z,33nm,1.1s
ULN Ulaanbaatar 26.03 33 P **P** **01 24 00.5 -1.7**
comp=Z,2µmcomp=Z,138nm,0.7s
ZAK Zakamensk 26.27 25 *eP* **P** **01 24 04.8 +0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
ZAK pmax pmax
comp=Z,12nm,1.2s
ZAA0 Zalesovo Array 26.33 358 P **P** **01 24 05.0 +0.4**
ZAA0 IAmb IAmb 01 24 12.0
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 26.33 358 P **P** **01 24 05.4 +0.8**
comp=Z,11nm,0.6s,baz=180,slow=10.0,SNR=49
MOY Mondy 26.54 21 *eP* **P** **01 24 08.7 +1.9**
MOY pmax pmax
comp=Z,29nm,2.2s
TLY Talaya 27.46 24 LR LR 01 36 11.4
comp=Z,96nm,19.0s,baz=228,slow=39
TIA Tal'an 27.66 64 P **P** **01 24 17.5 +0.6**
TIA pmax pmax
comp=Z,6.0nm,0.4s
BJI Beijing 27.81 56 P **P** **01 24 19.0 +0.9**
BJI pP **pP** **01 24 20.3 -3.8**
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI pmax pmax
comp=Z,67nm,4.7s
BJI L L
comp=Z,180nm,10.7s
BJI L L
comp=Z,230nm,11.0s
BJI L L
comp=Z,330nm,11.5s
BVAR Borovoye Array 27.92 340 P **P** **01 24 19.0 0.0**
comp=Z,2.4nm,0.4s,baz=110,slow=11,SNR=15
BVAR Borovoye Array 27.92 340 P **P** **01 24 19.0 0.0**
BRVK Borovoye 27.98 340 *i* P **P** **01 24 20.8 +1.2**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 27.98 340 P **P** **01 24 21.2 +1.6**
GSI Gunungsitoli 28.40 155 P **P** **01 24 24.6 +1.0**
GSI IAmb IAmb 01 24 32.8
comp=Z,18nm,0.8s
GSI Gunungsitoli 28.40 155 P **P** **01 24 24.1 +0.5**
comp=Z,33nm,0.8s
NJ2 Nanjing 28.75 73 *eP* **P** **01 24 25.0 -1.6**
NJ2 S **S** **01 29 15.2 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 L L
comp=Z,170nm,11.4s
NJ2 L L
comp=Z,450nm,11.4s
NJ2 L L
comp=Z,580nm,11.3s
AB31 Akbulak array 29.49 324 *eP* **P** **01 24 34.7 +1.7**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 29.49 324 P **P** **01 24 34.6 +1.6**
AKTO Aktyubinsk 31.19 325 P **P** **01 24 48.2 +0.1**
comp=Z,4.8nm,0.5s,baz=119,slow=8.8,SNR=14
AKTO LR LR 01 38 02.5
comp=Z,38nm,18.9s,baz=138,slow=38
AKTO Aktyubinsk 31.19 325 P **P** **01 24 49.1 +1.0**
AKTO pmax pmax
comp=Z,8.0nm,0.9s
PDSI Padang 31.57 152 P **P** **01 24 52.0 +0.3**
HIA Hailar 33.71 41 P **P** **01 25 10.7 +0.6**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 33.71 41 P **P** **01 25 10.7 +0.6**
HIA IAmb IAmb 01 25 11.5
comp=Z,10nm,0.6s
ARU Arti 34.84 333 LR LR 01 39 38.9
comp=Z,34nm,22.0s,baz=152,slow=36
CN2 Changchun 35.48 52 *eP* **P** **01 25 25.6 +0.1**
CN2 S **S** **01 30 57.4 -2.5**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,7.0s
CN2 L L
comp=Z,100nm,15.0s
CN2 L L
comp=Z,100nm,15.0s
CN2 L L
comp=Z,100nm,12.0s
GROC Groznyy 35.92 306 *eP* **P** **01 25 30.4 +1.1**
GROC *e* 01 26 50.7
GROC pmax pmax
comp=Z,18nm,0.6s
GNI Garni 36.18 301 P **P** **01 25 31.8 0.0**
comp=Z,2.0nm,0.4s,baz=156,slow=10.0,SNR=1.6
KS19 Wonju Array Si 36.36 63 P **P** **01 25 33.0 -0.1**
KS19 IAmb IAmb 01 25 33.5
comp=Z,14nm,0.7s
KSRS Korea Array 36.41 64 P **P** **01 25 32.8 -0.7**
comp=Z,12nm,0.6s,baz=260,slow=8.4,SNR=27
ZEI Tsey 37.20 305 *eP* **P** **01 25 41.2 +0.7**
ZEI pmax pmax
comp=Z,5.0nm,0.5s
ONI Oni 37.49 305 P **P** **01 25 45.3 +2.5**
ONI pmax pmax
comp=Z,6.0nm,1.0s
ONI Oni 37.49 305 P **P** **01 25 45.3 +2.5**
KARS Kars 37.50 302 P **P** **01 25 45.0 +2.0**
KARS pmax pmax
comp=Z,49nm,0.9s
KARS Kars 37.50 302 P **P** **01 25 45.0 +2.0**
NCK Nalchik 37.55 306 ⇓*eP* **P** **01 25 45.9 +2.7**
BELG Belogornoye 37.77 322 P **P** **01 25 43.5 -1.4**
comp=Z,14nm,0.8s,baz=78,slow=9.3,SNR=2.4
KBZ Khabaz 38.09 307 P **P** **01 25 48.4 +0.7**
comp=Z,1.7nm,0.7s,baz=136,slow=7.4,SNR=6.8
KBZ Khabaz 38.09 307 ⇓*iP* **P** **01 25 51.5 +3.8**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
GURO Guroymak-BITLI 38.12 298 P **P** **01 25 49.6 +1.3**
KVAR Kislovodsk Arr 38.28 307 P **P** **01 25 49.3 -0.1**
comp=Z,1.0nm,0.3s,baz=72,slow=9.6,SNR=2.0
KIV Kislovodsk 38.28 307 *eP* **P** **01 25 50.1 +0.6**
KIV pmax pmax
comp=Z,13nm,1.0s
MDJ Mudanjiang 38.56 52 P **P** **01 25 51.1 -0.6**
MDJ S **S** **01 31 46.5 -0.3**
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,88nm,3.7s
MDJ L L
comp=Z,97nm,10.5s
MDJ L L
comp=Z,130nm,16.8s
MDJ L L
comp=Z,310nm,24.5s
JNU Nakatsue 38.86 71 LR LR 01 43 38.5
comp=Z,286nm,18.5s,baz=106,slow=39
VLA Vladivostok 39.96 55 *eP* **P** **01 26 03.1 -0.2**
VLA pmax pmax
comp=Z,18nm,0.8s
KIRV Kirov 40.02 331 P **P** **01 26 03.9 +0.2**
comp=Z,8.1nm,0.5s,baz=121,slow=5.9,SNR=1.9
USRK Ussuriysk Ar. 40.18 53 P **P** **01 26 05.0 -0.2**
comp=Z,2.8nm,0.6s,baz=263,slow=8.6,SNR=6.7
USRK Ussuriysk Ar. 40.18 53 P **P** **01 26 05.3 +0.1**
USRK Ussuriysk Ar. 40.18 53 P **P** **01 26 05.3 +0.1**
KLR Kul'dur 41.04 46 *deP* **P** **01 26 12.8 +0.6**
KLR pmax pmax
comp=Z,7.0nm,0.8s
JMN Monobe 41.32 69 P **P** **01 26 15.9 +1.1**
NRIK Noril'sk 41.77 1 P **P** **01 26 18.9 +1.0**
comp=Z,9.3nm,0.4s,baz=183,slow=5.4,SNR=12
NRIK Noril'sk 41.77 1 *cP* **P** **01 26 18.7 +0.8**
NRIK pmax pmax
comp=Z,32nm,1.4s
NRIK Noril'sk 41.77 1 P **P** **01 26 19.2 +1.3**
NRIK IAmb IAmb 01 26 20.2
comp=Z,41nm,1.4s
GAZ Gaziantep 41.92 296 P **P** **01 26 21.4 +1.7**
JWT Wachi 42.45 67 P **P** **01 26 24.5 +0.5**
JWT IAmb IAmb 01 26 26.2
comp=Z,48nm,1.5s
PRGR Permogore 43.30 333 *eP* **P** **01 26 26.6 -3.9**
MMAI Mount Meron Ar 43.70 290 P **P** **01 26 35.8 +1.6**
comp=Z,2.1nm,0.8s,baz=100,slow=7.9,SNR=4.5
MAJO Matsushiro 44.64 65 ⇑*eP* **P** **01 26 41.2 -0.4**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MAT Matsushiro 44.64 65 P **P** **01 26 40.7 -0.9**
MJAR Matsushiro Arr 44.64 65 P **P** **01 26 41.6 0.0**
comp=Z,3.8nm,0.8s,baz=277,slow=10.0,SNR=9.4
MJAR Matsushiro Arr 44.64 65 P **P** **01 26 42.1 +0.5**
BRTR Keskin Array B 44.67 300 P **P** **01 26 42.1 +0.1**
comp=Z,0.5nm,0.5s,baz=79,slow=7.5,SNR=4.6
OBN Obninsk 44.87 322 *eP* **P** **01 26 46.2 +3.1**
OBN pmax pmax
comp=Z,9.0nm,1.0s
YSS Yuzh-Sakhalins 47.98 50 *ciP* **P** **01 27 08.8 +1.1**
YSS pmax pmax
comp=Z,28nm,1.2s
YSS Yuzh-Sakhalins 47.98 50 P **P** **01 27 08.1 +0.4**
MNK Minsk 49.64 319 *i* P **P** **01 27 15.7 -4.6**
MNK *i* 01 28 37.2
MNK *i* 01 29 10.1
MNK *i* S **S** **01 34 23.4 -4.4**
MNK *i* 01 37 07.5
MNK *i* SS **SS** **01 37 58.1 -1.7**
MNK *i* SSS SSS 01 39 17.5
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,53nm,25.0s
MNK MLR MLR
comp=Z,92nm,19.0s
MNK MLR MLR
comp=E,6.0nm,15.0s
MNK Minsk 49.64 319 *i* P **P** **01 27 15.7 -4.6**
comp=E,2.0nm,0.9s
MNK *i* P **P** **01 27 15.7 -4.6**
comp=N,14nm,0.8s
MNK *i* P **P** **01 27 15.7 -4.6**
comp=Z,5.0nm,0.8s,baz=277
MNK *i* PcP **PcP** **01 28 37.2 -4.3**
MNK *i* PP **PP** **01 29 10.1 -4.5**
MNK *i* PPP PPP 01 30 02.7
MNK *i* ScP **ScP** **01 32 32.7 -3.6**
MNK *i* PcS **PcS** **01 32 34.0 -4.0**
MNK *i* S **S** **01 34 23.4 -4.3**
MNK *i* ScS **ScS** **01 37 07.6 -3.4**
MNK *i* SS **SS** **01 37 58.1 -1.7**
MNK *i* SSS SSS 01 39 17.6
MNK *i* LQ LQ 01 44 18.3
MNK *i* LRM MLR 01 51 12.4
comp=N,53nm,24.8s
MNK *i* LRM MLR 01 51 40.4
comp=Z,92nm,19.1s
MNK *i* LRM MLR 01 51 48.6
comp=E,6.0nm,15.3s
TIXI Tiksi 49.96 16 *ceP* **P** **01 27 22.4 -0.1**
TIXI Tiksi 49.96 16 P **P** **01 27 22.4 -0.1**
TIXI IAmb IAmb 01 27 23.4
comp=Z,8.2nm,0.7s
FINES FINESS Array B 51.84 328 P **P** **01 27 36.7 -0.1**
comp=Z,2.7nm,0.6s,baz=102,slow=7.7,SNR=2.7
PABE Paberze 52.00 320 P **P** **01 27 39.0 +0.9**
IDI Anoyia 52.01 295 P **P** **01 27 39.5 +1.0**
comp=Z,17nm,0.7s,baz=21,slow=8.6,SNR=10
IDI Anoyia 52.01 295 IAmb IAmb 01 27 44.4
comp=Z,18nm,0.8s
MA2 Magadan 53.87 35 LR LR 01 52 20.7
comp=Z,83nm,19.3s,baz=266,slow=38
ARCES ARCESS Array B 54.19 338 P **P** **01 27 54.9 +0.9**
comp=Z,4.2nm,0.6s,baz=100,slow=8.0,SNR=7.1
ARCES ARCESS Array B 54.19 338 IAmb IAmb 01 28 03.3
comp=Z,3.8nm,0.8s
KMBO Kilima Mbogo 54.85 247 P **P** **01 28 01.1 +1.2**
comp=Z,1.5nm,0.9s,baz=53,slow=4.9,SNR=2.6
KMBO LR LR 01 51 07.7
comp=Z,43nm,19.6s,baz=90,slow=36
PETK Petropavlovsk- 57.59 43 P **P** **01 28 20.8 +2.2**
comp=Z,1.3nm,0.6s,baz=270,slow=10,SNR=1.3
HFS Hagfors 57.73 326 P **P** **01 28 18.3 -1.2**
comp=Z,3.6nm,0.6s,baz=105,slow=5.2,SNR=4.0
GERES GERESS Array B 58.40 312 P **P** **01 28 23.9 -0.6**
comp=Z,0.6nm,0.4s,baz=82,slow=7.5,SNR=4.1
NOA NORSAR Array B 58.95 327 P **P** **01 28 26.8 -1.3**
comp=Z,1.2nm,0.6s,baz=88,slow=7.0,SNR=6.1
STAL STALIGIAL 59.42 309 P **P** **01 28 32.3 +0.7**
STAL IAmb IAmb 01 28 47.4
comp=Z,14nm,1.3s
BILL Bilibino 61.07 25 *deP* **P** **01 28 43.6 +1.1**
BILL pmax pmax
comp=Z,11nm,0.9s
BILL Bilibino 61.07 25 P **P** **01 28 43.5 +1.1**
BILL IAmb IAmb 01 28 44.6
comp=Z,10nm,0.9s
KEST Kesra 64.26 298 P **P** **01 29 05.5 +1.1**
comp=Z,8.7nm,1.0s,baz=117,slow=9.0,SNR=2.4
LSZ Lusaka 70.42 240 P **P** **01 29 44.9 +1.3**
LSZ pmax pmax
comp=Z,3.0nm,0.8s
LSZ Lusaka 70.42 240 P **P** **01 29 44.9 +1.3**
EUNU Eureka 72.48 359 P **P** **01 29 56.0 +0.9**
EUNU IAmb IAmb 01 30 13.7
comp=Z,10nm,1.2s
ESDC Sonseca Array 72.95 306 P **P** **01 29 58.5 -0.1**
comp=Z,0.9nm,0.7s,baz=47,slow=4.6,SNR=5.6
ESDC Sonseca Array 72.95 306 P **P** **01 30 00.2 +1.6**
SUMG Summit 73.25 345 P **P** **01 30 00.4 +0.2**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 73.25 345 P **P** **01 30 00.4 +0.2**
SUMG IAmb IAmb 01 30 02.5

comp=Z,5.8nm,0.7s
TOLK Toolik Lake Re 75.80 18 P **P 01 30 15.6 +1.0**
TOLK IAmb IAmb 01 30 16.7
comp=Z,8.5nm,0.8s
TOLK Toolik Lake Re 75.80 18 P 01 30 15.7
baz=311
IMAR Indian Mountai 76.24 21 P **P 01 30 18.1 +1.0**
COLD Coldfoot 76.55 19 P **P 01 30 20.6 +1.7**
COLD IAmb IAmb 01 30 21.1
comp=Z,5.9nm,0.9s
COLD Coldfoot 76.55 19 P 01 30 20.2
baz=311
H21K Melozitna Rive 76.75 21 P 01 30 21.2
baz=309
H23K Yukon River 77.67 20 P 01 30 27.1
baz=312,SNR=5.8
MLY Manley 77.82 21 P **P 01 30 27.6 +1.5**
MLY IAmb IAmb 01 30 28.3
comp=Z,7.9nm,0.8s
MLY Manley 77.82 21 P 01 30 27.3
baz=311,SNR=10.0
BMAR Burnt Mountain 78.00 18 P **P 01 30 28.8 +1.7**
H24K Noodor Dome 78.17 20 P 01 30 29.5
baz=313,SNR=5.8
I23K Minto, Yukon-K 78.18 21 P **P 01 30 29.4 +1.5**
I23K IAmb IAmb 01 30 30.3
comp=Z,5.3nm,0.8s
I23K Minto, Yukon-K 78.18 21 P 01 30 29.3
baz=312,SNR=8.6
BPAW Bear Paw Mtn. 78.35 22 **P 01 30 29.4 +0.4**
BPAW IAmb IAmb 01 30 31.4
comp=Z,8.1nm,0.8s
BPAW Bear Paw Mtn. 78.35 22 P 01 30 30.0
baz=310,SNR=7.6
FYU Fort Yukon 78.44 19 IAmb IAmb 01 30 32.4
comp=Z,10.0nm,1.0s
NEA2 Nenana 78.65 21 P 01 30 31.2
baz=312
POKR Poker Plat Res 78.80 20 IAmb IAmb 01 30 33.6
comp=Z,9.5nm,0.7s
POKR Poker Plat Res 78.80 20 P 01 30 32.8
baz=313
COLA College 78.84 21 *d i* P **P 01 30 32.7 +1.1**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 78.84 21 P **P 01 30 31.5 -0.1**
COLA IAmb IAmb 01 30 33.5
comp=Z,12nm,1.0s
CCB Clear Creek Bu 79.01 21 IAmb IAmb 01 30 33.6
comp=Z,4.3nm,0.7s
TORD Torodi Ar. Bea 79.07 279 P **P 01 30 34.3 +0.5**
comp=Z,0.9nm,0.8s,baz=48,slow=4.2,SNR=3.4
PRP Porcupine Dome 79.10 19 IAmb IAmb 01 30 35.8
comp=Z,8.6nm,0.8s
PRP Porcupine Dome 79.10 19 P 01 30 34.9
baz=315,SNR=14
IL31 79.21 20 IAmb IAmb 01 30 34.7
comp=Z,5.9nm,0.8s
ILAR Eielson Array 79.21 20 P **P 01 30 33.4 -0.3**
comp=Z,4.1nm,0.8s,baz=305,slow=4.3,SNR=39
ILAR Eielson Array 79.21 20 P **P 01 30 33.8 +0.1**
ILAR Eielson Array 79.21 20 **P 01 30 33.8 +0.1**
SKT Skwentna 79.54 24 P 01 30 35.7
baz=310,SNR=8.3
WAT2 Susitna Watana 79.91 22 P 01 30 37.6
baz=313
INK Inuvik 80.00 14 P 01 30 38.7
baz=325
SUA Susitna One 80.16 24 IAmb IAmb 01 30 40.8
comp=Z,11nm,0.8s
SUA Susitna One 80.16 24 P 01 30 39.9
baz=311
WAT6 Susitna Watana 80.46 22 P 01 30 41.3
baz=314
GHO Glory Hole Cre 80.60 23 IAmb IAmb 01 30 45.8
comp=Z,6.3nm,0.7s
SCRK Sand Creek 80.67 20 IAmb IAmb 01 30 43.5
comp=Z,12nm,0.7s
SCRK Sand Creek 80.67 20 P 01 30 42.6
baz=316,SNR=16
BOSA Boshof 80.72 231 P **P 01 30 43.6 +1.2**
comp=Z,1.9nm,0.8s,baz=27,slow=6.6,SNR=4.7
BOSA Boshof 80.72 231 IAmb IAmb 01 30 50.5
comp=Z,10nm,1.4s
RC01 Rabbit Creek A 80.78 24 IAmb IAmb 01 30 44.0
comp=Z,13nm,1.0s
RC01 Rabbit Creek A 80.78 24 P 01 30 43.2
baz=312
SML Sawmill 80.78 23 P **P 01 30 43.4 +1.1**
SML Sawmill 80.79 23 P 01 30 43.5
baz=313,SNR=8.7
EPYK Eagle Plains 80.84 16 IAmb IAmb 01 30 43.9
comp=Z,8.4nm,0.7s
EPYK Eagle Plains 80.84 16 P 01 30 43.0
baz=322
EGAK Eagle 80.90 19 IAmb IAmb 01 30 44.6
comp=Z,6.3nm,0.9s
EGAK Eagle 80.90 19 P 01 30 43.7
baz=319
TSUM Tsumeb 80.94 243 P **P 01 30 44.4 +0.5**
TSUM IAmb IAmb 01 30 46.4
comp=Z,12nm,1.5s
KNK Knik Glacier 81.01 23 P 01 30 45.0
baz=313,SNR=7.3
K27K Chicken 81.20 19 IAmb IAmb 01 30 47.0
comp=Z,20nm,1.4s
K27K Chicken 81.20 19 P 01 30 46.0
baz=318
M24K Tolsona, Glenn 81.31 22 P 01 30 46.7
baz=315
HARP HAARP 81.44 22 P 01 30 47.7
baz=316,SNR=5.3
KLU Klutina 81.83 22 IAmb IAmb 01 30 51.0
comp=Z,7.0nm,0.8s
KLU Klutina 81.83 22 P 01 30 49.5
baz=315,SNR=6.1
KDAK Kodiak Island 81.86 28 P **P 01 30 48.4 +0.4**
KDAK pmax pmax
comp=Z,14nm,0.6s
KDAK Kodiak Island 81.86 28 P **P 01 30 48.4 +0.4**
KDAK Kodiak Island 81.86 28 P 01 30 49.1
baz=310
GLI Glacier Island 81.86 23 IAmb IAmb 01 30 49.7
comp=Z,7.4nm,0.7s
GLI Glacier Island 81.86 23 P 01 30 48.6
baz=314
OHAK Old Harbor 81.92 28 P 01 30 49.5
baz=310
DAWY Dawson 81.94 18 IAmb IAmb 01 30 50.2
comp=Z,5.3nm,0.9s
L27K Beaver Creek, 82.00 20 IAmb IAmb 01 30 51.3
comp=Z,13nm,1.2s
L27K Beaver Creek, 82.00 20 P 01 30 50.4
baz=318,SNR=11
BCAR Beaver Creek A 82.01 20 **P 01 30 50.3 +1.5**
N25K Chitina, Valde 82.19 22 P 01 30 51.8
baz=316,SNR=7.5
EYAK Cordova Ski Ar 82.56 23 IAmb IAmb 01 30 54.1
comp=Z,9.1nm,0.9s
EYAK Cordova Ski Ar 82.56 23 P 01 30 53.4
baz=315
GLB Gilahina Butte 82.57 22 IAmb IAmb 01 30 53.6
comp=Z,4.9nm,0.9s
BMRM Bremner River 82.65 22 IAmb IAmb 01 30 54.4
comp=Z,8.9nm,0.8s
BMRM Bremner River 82.65 22 P 01 30 53.8
baz=316,SNR=5.4
MCARA McCarthy VSAT 82.87 21 P 01 30 55.2
baz=318
CRQE Cirque 83.32 22 P 01 30 57.4
baz=318
CTG Chitna Glacier 83.73 21 P 01 30 60.0
baz=319
CTGM Chitina Glacie 83.73 21 IAmb IAmb 01 31 00.6
comp=Z,7.7nm,0.8s
PINM Pinnacle 84.74 21 P 01 31 04.9
baz=320
WHY Whitehorse 85.93 19 IAmb IAmb 01 31 10.6
comp=Z,7.3nm,0.7s
WHY Whitehorse 85.93 19 P 01 31 09.7
baz=324
SUR Sutherland 86.04 230 P **P 01 31 10.1 +0.2**
YKA Yellowknife Ar 88.70 9 P **P 01 31 21.9 -0.2**
comp=Z,1.9nm,0.8s,baz=337,slow=4.6,SNR=6.3
YKA Yellowknife Ar 88.70 9 *i* P **P 01 31 22.5 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s

BJI ***13*** *01:22:46.0±0.0, 8.˝70S×118.˝40E, h140km, mB4.8/30, mb4.9/44*
NEIC ***13*** *01:22:46.2±2.6, 8.˝63S±0.˝06×118.˝33E±0.˝06, h124km, mb4.9/50, Error ellipse: s-maj=9.5km s-min=8.5km az=46.0*
DJA ***13*** *01:22:47.5±0.1, 9.˚S±2.˚×11.˚8E±.˚, h122km±3km, M4.9/47, mB5.3/23, mb5.1/47, MLv5.2/18, Mw(mB)4.8/23*
IDC ***13*** *01:22:47.3±0.9, 8.˝51S×118.˝49E, h139km±7km, mb4.4/28, mb1 4.5/34, mb1mx4.3/58, mbtmp4.8/34, MS3.3/5, Ms1 3.4/5, ms1mx2.9/35, Error ellipse: s-maj=10.9km s-min=6.1km az=59.0*
KLM ***13*** *01:22:48, 8.˝89S×118.˝48E, h150km, mb5.2*
ISC 13 01:22:46.4±0.6, 8.˝66S±0.˝04×118.˝39E±0.˝04, h132km±4km, n228, σ1%69/251, mb4.8/58, 3D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PLAI	**Plampang**	**0.63**	**255**	P	P	**Pn**	**01 23 07.0**	**+0.5**
WBSI	**Waikabubak, Su**	**1.39**	**135**	P	P	**Pn**	**01 23 13.7**	**+0.2**
TWSI	**Taliwang, Sumb**	**1.49**	**267**	P	P	**Pn**	**01 23 14.9**	**+0.4**
KLNI	**Mataram**	**2.28**	**276**	P	P	**Pn**	**01 23 23.9**	**-0.1**
KLNI				S	S	**Sn**	**01 23 52.8**	**0.0**
BASI	**Baing, Sumba**	**2.66**	**126**	P	P	**Pn**	**01 23 30.0**	**+1.3**
KHKI	**Kahang-Kahang**	**2.77**	**276**	P	P	**Pn**	**01 23 30.4**	**+0.3**
DNP	**Denpasar**	**3.14**	**270**	P	P	**Pn**	**01 23 37.6**	**+2.7**
SRBI	**Singaraja**	**3.19**	**280**	P	P	**Pn**	**01 23 36.2**	**+0.6**
MKS	**Makassar**	**3.59**	**17**	P	P	**Pn**	**01 23 42.1**	**+1.3**
MMRI	**Maumere**	**3.81**	**90**		P	**Pn**	**01 23 44.8**	**+1.2**
MMRI	**Maumere**	**3.81**	**90**	P	P	**Pn**	**01 23 45.2**	**+1.6**
KAPI	**Kappang**	**3.87**	**21**	P	P	**Pn**	**01 23 44.4**	**-0.1**
	85nm,0.3s,baz=197,slow=7.9,SNR=202							
KAPI				S	S	**Sn**	**01 24 28.5**	**-1.1**
	19nm,0.3s,baz=163,slow=14,SNR=7.8							
KAPI	**Kappang**	**3.87**	**21**			**Pn**	**01 23 45.3**	**+0.8**
KAPI	**Kappang**	**3.87**	**21**	P	P	**Pn**	**01 23 45.5**	**+1.0**
BYJI	**Banyuwangi**	**4.01**	**276**	P	P	**Pn**	**01 23 47.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.20**	**272**			**Pn**	**01 23 47.3**	**-1.5**
ABJI	**Asem Bagus**	**4.20**	**282**		P	**Pn**	**01 23 50.7**	**+1.8**
BNSI	**Bone**	**4.57**	**22**		P	**Pn**	**01 23 55.9**	**+2.1**
KMMI	**Kalianget**	**4.67**	**290**	P	P	**Pn**	**01 23 56.8**	**+1.7**
PMSI	**Majene**	**5.16**	**6**	P	P	**Pn**	**01 24 02.9**	**+1.2**
	1.1nm3μm316nm,0.8s							
BATI	**Baumata**	**5.42**	**107**	P	P	**Pn**	**01 24 06.1**	**+0.8**
	253nm,0.3s,baz=308,slow=3.9,SNR=46							
BATI				S	S	**Sn**	**01 25 06.1**	**-0.7**
	318nm,0.3s,baz=0.0,slow=20,SNR=14							
BATI	**Baumata**	**5.42**	**107**	P	P	**Pn**	**01 24 06.5**	**+1.2**
	4.0nm8μm320nm,0.4s							
KKSI	**Kolaka, Sulawe**	**5.51**	**36**	P	P	**Pn**	**01 24 07.7**	**+1.2**
	1.1nm260nm,0.6s							
TTSI	**Tana Toraja**	**5.76**	**14**	P	P	**Pn**	**01 24 12.7**	**+3.0**
	1.3nm3μm339nm,0.9s							
SOEI	**Soe**	**5.90**	**101**			**Pn**	**01 24 12.5**	**+0.7**
SOEI	**Soe**	**5.90**	**101**	P	P	**Pn**	**01 24 13.0**	**+1.2**
	5.7nm7μm442nm,0.7s							
BBKI	**Banjar Baru**	**6.26**	**325**	P	P	**Pn**	**01 24 19.3**	**+2.9**
	0.7nm140nm,0.9s							
PWJI	**Pagerwojo**	**6.55**	**275**	P	P	**Pn**	**01 24 21.4**	**+1.1**
	1.4nm3μm154nm,0.6s							
SJI	**Sawahan**	**6.62**	**278**	P	P	**Pn**	**01 24 23.6**	**+2.2**
	1.4nm5μm179nm,0.6s							
UGM	**Wanagama**	**7.82**	**275**	Pn	Pn	**Pn**	**01 24 36.8**	**-0.7**
SMRI	**Semarang**	**8.04**	**281**	Pn	Pn	**Pn**	**01 24 38.9**	**-1.5**
APSI	**Ampana**	**8.36**	**23**	P	P	**Pn**	**01 24 47.7**	**+3.0**
	1μm107nm,1.0s							
MTKI	**Muara Teweh, K**	**8.42**	**335**	P	P	**Pn**	**01 24 48.5**	**+2.9**
	0.9nm114nm,1.0s							
LUWI	**Luwuk**	**8.74**	**30**			**Pn**	**01 24 47.2**	**-2.6**
LUWI	**Luwuk**	**8.74**	**30**	P	P	**Pn**	**01 24 49.8**	**0.0**
	11μm103nm,0.8s							
PBKI	**Pangkalan Bun**	**8.93**	**311**	P	P	**Pn**	**01 24 54.6**	**+2.2**
	7μm161nm,0.6s							
KPJI	**Karang Pucung**	**9.46**	**277**	P	P	**Pn**	**01 25 01.0**	**+1.5**
	74nm,0.8s							
MRSI	**Marisa**	**9.74**	**21**	P	P	**Pn**	**01 25 05.7**	**+2.4**
	83nm,0.9s							
TOLI2	**Tolitoli**	**10.00**	**14**			**Pn**	**01 25 06.7**	**0.0**
SANI	**Sanana**	**10.02**	**49**	P	P	**Pn**	**01 25 09.2**	**+2.2**
	955nm98nm,1.3s							
NLAI	**Namlea**	**10.20**	**59**	P	P	**Pn**	**01 25 12.1**	**+2.7**
	1μm49nm,0.7s							
GTOI	**Gorontalo**	**10.32**	**27**	P	P	**Pn**	**01 25 14.2**	**+3.1**
	273nm19nm,0.5s							
LEM	**Lembang**	**10.83**	**279**	P	P	**Pn**	**01 25 18.1**	**+0.1**
	5.0nm,0.3s,baz=23,slow=14,SNR=4.5							
LEM				LR	LR		01 30 22.8	
	comp=Z,77nm,21.1s,baz=65,slow=42							
STKI	**Sintang**	**11.07**	**321**	P		**Pn**	**01 25 23.9**	**+2.8**
KRAI	**Kang Ratu**	**11.28**	**63**	P	P	**Pn**	**01 25 36.7**	**+4.2**
CBJI	**Citeko**	**11.65**	**280**	P	P	**Pn**	**01 25 26.5**	**-2.3**
	101nm,0.5s							
FITZ	**Fitzroy Crossi**	**11.73**	**144**	P	P	**Pn**	**01 25 29.6**	**-0.1**
	6.1nm,0.3s,baz=333,slow=8.7,SNR=206							
FITZ				S	S	**Sn**	**01 27 31.3**	**-7.8**
	25nm,0.3s,baz=170,slow=21,SNR=17							
FITZ				LR	LR		01 30 12.8	
	comp=Z,87nm,21.2s,baz=315,slow=38							
FITZ	**Fitzroy Crossi**	**11.73**	**144**	P	P	**Pn**	**01 25 29.3**	**-0.4**
	baz=12,SNR=181							
FITZ	**Fitzroy Crossi**	**11.73**	**144**	Pn	Pn	**Pn**	**01 25 29.4**	**-0.4**
MSAI	**Masohi**	**11.73**	**64**	P	P	**Pn**	**01 25 31.7**	**+1.9**
	1μm12nm,0.4s							
KNRA	**Kununurra**	**12.30**	**126**	P	P	**Pn**	**01 25 36.6**	**-0.6**
	baz=12,SNR=109							
KNRA	**Kununurra**	**12.30**	**126**	Pn	Pn	**Pn**	**01 25 36.7**	**-0.6**
SBUM	**Sibu**	**12.64**	**331**	P	P	**Pn**	**01 25 51.0**	**+3.3**
KSM	**Kuching**	**12.89**	**321**	P	P	**Pn**	**01 25 54.0**	**+3.5**
PSA00	**Pilbara Seismi**	**12.91**	**174**	Pn	Pn	**Pn**	**01 25 44.4**	**-0.7**
TNTI	**Ternate**	**12.96**	**44**	Pn	Pn	**Pn**	**01 25 45.9**	**+0.2**
TNTI	**Ternate**	**12.96**	**44**	P	Pn	**Pn**	**01 25 47.3**	**+1.6**
	71nm,1.2s							
MTN	**Manton Dam**	**13.19**	**109**	P	P	**Pn**	**01 25 47.0**	**-1.7**
	baz=13,SNR=232							
MTN	**Manton Dam**	**13.19**	**109**	Pn	Pn	**Pn**	**01 25 47.8**	**-1.0**
GAMI	**Galela, Maluku**	**14.02**	**42**	P	P	**Pn**	**01 26 00.7**	**+1.3**
	109nm,0.7s							
KASI	**Kota Agung**	**14.13**	**282**	P	P	**P**	**01 26 04.2**	**-0.1**
	71nm,0.5s							
SGSI	**Sangihe**	**14.18**	**30**	P	P	**Pn**	**01 26 03.0**	**+1.5**
	20μm118nm,0.7s							
KDU	**Kakadu**	**14.40**	**107**	P	P	**Pn**	**01 26 03.2**	**-1.1**
	baz=14,SNR=92							
GIRL	**Giralia**	**14.46**	**196**	P	P	**Pn**	**01 26 05.3**	**+0.4**
	baz=14,SNR=69							
GIRL	**Giralia**	**14.46**	**196**	Pn	Pn	**Pn**	**01 26 04.8**	**-0.1**
MDSI	**Maura Dua**	**14.71**	**285**	P	P	**P**	**01 26 10.3**	**-0.4**
	8.1nm,0.6s							
FAKI	**Fak Fak**	**14.92**	**68**	Pn	Pn	**Pn**	**01 26 09.5**	**-1.3**
FAKI	**Fak Fak**	**14.92**	**68**	P	Pn	**Pn**	**01 26 08.5**	**-2.2**
	115nm,0.7s							
SWI	**Sorong**	**14.98**	**60**	P	P	**P**	**01 26 13.5**	**-0.2**
	1μm144nm,0.7s							
SIJI	**Sorong**	**14.98**	**60**	P	Pn	**Pn**	**01 26 08.3**	**-3.2**
	6.7nm,0.3s,baz=253,slow=6.2,SNR=13							
SIJI	**Sorong**	**14.98**	**60**	P	P	**P**	**01 26 14.1**	**+0.4**
	549nm46nm,0.7s							
LHSI	**Lahat**	**15.54**	**287**	P	P	**P**	**01 26 19.8**	**-0.1**
	64nm,0.6s							
KSI	**Kapahiang**	**16.47**	**287**	P	P	**P**	**01 26 33.1**	**+2.8**
	78nm,0.4s							
MEEK	**Meekatharra**	**17.88**	**179**	P	P	**Pn**	**01 26 48.2**	**+1.3**
	baz=18,SNR=103							
RGRI	**Rengat**	**18.00**	**296**	P	Pn		01 27 05.7	+17
WRKA	**Warakurna**	**18.82**	**151**	P	P	**Pn**	**01 26 58.7**	**+0.7**
	baz=19,SNR=232							
WB0	**Warramunga Arr**	**19.02**	**127**	P	P	**P**	**01 26 58.9**	**+0.7**
WRA	**Warramunga Arr**	**19.07**	**128**	P	P	**P**	**01 26 59.4**	**+0.6**
	8.1nm,0.3s,baz=301,slow=13,SNR=336							
WRA				S		**S**	**01 30 25.5**	**-2.7**
	2.6nm,0.3s,baz=304,slow=22,SNR=10							
WRA				ScP	ScP	**ScP**	**01 34 40.4**	**-1.4**
	0.7nm,0.3s,baz=314,slow=1.4,SNR=5.3							
WRAB	**Tennant Creek**	**19.08**	**128**	P	P	**P**	**01 26 59.5**	**+0.7**
WB2	**Warramunga Arr**	**19.08**	**128**	P	P	**P**	**01 26 59.5**	**+0.6**
BAKI	**Biak**	**19.14**	**68**	P	Pn	**Pn**	**01 27 02.4**	**+0.6**
	1μm136nm,0.9s							
MORW	**Morawa**	**20.42**	**186**	P	Pn		01 27 15.0	-1.6
	baz=20,SNR=21							
MORW	**Morawa**	**20.42**	**186**	P	P	**P**	**01 27 13.8**	**+0.7**
MORW					IAmb	IAmb	01 27 29.9	
	comp=Z,27nm,0.6s							
AS31	**Alice Springs**	**21.05**	**137**		P	**P**	**01 27 21.1**	**+1.0**
AS31					IAmb	IAmb	01 27 24.2	
	comp=Z,23nm,0.4s							
ASAR	**Alice Springs**	**21.05**	**137**	P	P	**P**	**01 27 21.6**	**+1.5**
	comp=Z,40nm,0.5s,baz=310,slow=9.1,SNR=773							
ASAR				S	S	**S**	**01 31 06.5**	**-0.6**
	comp=Z,13nm,0.9s,baz=314,slow=18,SNR=9.0							
ASAR				ScP	ScP	**ScP**	**01 34 46.1**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=328,slow=2.1,SNR=4.0							
ASAR	**Alice Springs**	**21.05**	**137**	P	P		**01 27 21.3**	**+1.3**
BLDU	**Ballidu**	**21.90**	**184**	P	P		**01 27 29.9**	**+0.9**
	baz=22,SNR=19							
RPSI	**Rantau Prapat**	**22.45**	**299**	P	P		**01 27 33.8**	**-0.9**
RPSI	**Rantau Prapat**	**22.45**	**299**	P	P		**01 27 34.5**	**-0.2**
PSI	**Prapat**	**22.50**	**300**	P	P		**01 27 34.5**	**-0.8**
	comp=Z,3.8nm,0.5s,baz=180,slow=8.1,SNR=4.2							
KLBR	**Kellerberrin**	**22.82**	**181**	P	P		**01 27 39.3**	**+1.2**
	baz=23,SNR=12							
KMBL	**Kambalda**	**22.82**	**172**	P	P		**01 27 39.2**	**+1.1**
	baz=23,SNR=29							
MUN	**Mundaring**	**23.29**	**185**	P	P		**01 27 44.0**	**+1.6**
	baz=23,SNR=3.7							
QIS	**Mount Isa**	**23.66**	**122**	P	P		**01 27 47.2**	**+1.3**
	baz=24,SNR=116							
FORT	**Forrest**	**23.79**	**159**	P	P		**01 27 48.2**	**+1.3**
	baz=24,SNR=151							
FORT	**Forrest**	**23.79**	**159**		P		**01 27 47.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**24.17**	**182**	P	P		**01 27 51.9**	**+1.5**
	baz=24,SNR=16							
NWAO	**Narrogin (SRO)**	**24.17**	**182**	P	P		**01 27 51.4**	**+1.0**
NWAO					IAmb	IAmb	01 27 52.6	
	comp=Z,32nm,0.8s							
MTSU	**Mount Surprise**	**26.89**	**113**	P	P		**01 28 16.7**	**+1.6**
	baz=27,SNR=10							
BBOO	**Buckleboo**	**29.07**	**148**	P	P		**01 28 35.6**	**+1.3**
	baz=29,SNR=58							
BBOO	**Buckleboo**	**29.07**	**148**	P	P		**01 28 35.7**	**+1.3**
BBOO					IAmb	IAmb	01 28 36.6	
	comp=Z,32nm,0.8s							
CTA	**Charters Tower**	**29.23**	**116**	P	P		**01 28 37.4**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=282,slow=13,SNR=8.4							
QLP	**Quilpie**	**30.29**	**129**	P	P		**01 28 47.6**	**+2.3**
	baz=30,SNR=15							
HTT	**Hallett**	**31.09**	**145**	P	P		**01 28 54.3**	**+2.1**
	baz=31,SNR=24							
STKA	**Stephens Creek**	**31.59**	**140**	P	P		**01 28 58.4**	**+1.8**
	comp=Z,23nm,0.5s,baz=314,slow=9.2,SNR=76							
STKA				PcP	PcP		**01 31 47.0**	**+0.9**
	comp=Z,14nm,0.6s,baz=337,slow=6.0,SNR=5.8							
STKA				ScP	ScP		**01 35 15.9**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=333,slow=4.5,SNR=4.9							
STKA	**Stephens Creek**	**31.59**	**140**	P	P		**01 28 58.5**	**+1.9**
	baz=32,SNR=35							
STKA	**Stephens Creek**	**31.59**	**140**	P	P		**01 28 57.6**	**+1.0**
STKA				PcP	PcP		**01 31 46.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**33.08**	**325**	P	P		**01 29 10.1**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=154,slow=7.4,SNR=6.3							
CMAR				ScP	ScP		**01 35 19.9**	**-2.6**
	comp=Z,1.4nm,0.3s,baz=166,slow=3.6,SNR=5.8							
CMAR				LR	LR		01 43 14.7	
	comp=Z,85nm,18.1s,baz=210,slow=37							
RMQ	**Roma**	**33.81**	**125**	P	P		**01 29 18.8**	**+2.7**
	baz=34,SNR=6.6							
CMSA	**Cobar Meteorol**	**34.10**	**136**	P	P		**01 29 20.7**	**+2.2**
	baz=34,SNR=20							
ARPS	**Mount Arapiles**	**35.16**	**146**	P	P		**01 29 29.7**	**+2.2**
	baz=35,SNR=43							
GYA	**Guiyang**	**36.72**	**342**	⇓P	P		**01 29 40.8**	**-0.2**
GYA				pP	pP		01 30 08.7	-0.8
GYA				S	S		**01 35 17.3**	**+2.2**
GYA				pmax	pmax			
	comp=Z,43nm,12.0s							
GYA				L	L			
	comp=Z,17nm,10.2s							
KMI	**Kunming**	**36.88**	**336**	⇓P	P		**01 29 44.6**	**+2.1**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.7s							
YNG	**Young**	**37.55**	**137**	P	P		**01 29 50.7**	**+2.7**
	baz=38,SNR=9.8							
TOO	**Toolangi**	**37.79**	**144**	P	P		**01 29 53.1**	**+3.2**
	baz=38,SNR=11							
TOO	**Toolangi**	**37.79**	**144**	P	P		**01 29 52.2**	**+2.3**
TOO				IAmb	IAmb		01 29 54.0	
	comp=Z,26nm,0.8s							
ARMA	**Armidale**	**37.84**	**129**	P	P		**01 29 54.0**	**+3.5**
	baz=38,SNR=6.1							
ARMA	**Armidale**	**37.84**	**129**	P	P		**01 29 52.0**	**+1.5**
MGCD	**Mangrove Creek**	**38.84**	**134**	P	P		**01 30 02.3**	**+3.7**
	baz=39,SNR=12							
ENH	**Enshi**	**39.65**	**348**	P	P		**01 30 04.8**	**-0.6**
ENH				IAmb	IAmb		01 30 18.8	
	comp=Z,13nm,0.6s							
NJ2	**Nanjing**	**40.49**	**1**	*e* P	P		**01 30 12.7**	**+0.5**
NJ2				pmax	pmax			
	comp=Z,24nm,0.6s							
CD2	**Chengdu**	**41.77**	**341**	P	P		**01 30 23.4**	**+0.5**
CD2				pmax	pmax			
	comp=Z,30nm,1.0s							
JCJ	**Chichijima**	**42.38**	**32**	P	P		**01 30 26.7**	**-1.1**
	comp=Z,29nm,0.4s,baz=285,slow=12,SNR=7.2							
JNU	**Nakatsue**	**43.22**	**15**	P	P		**01 30 33.4**	**-1.2**
	comp=Z,10nm,0.6s,baz=186,slow=2.6,SNR=8.2							
JHS	**Saijyo**	**45.60**	**17**	P	P		**01 30 52.7**	**-0.7**
JHS				IAmb	IAmb		01 30 55.8	
	comp=Z,10nm,0.6s							
LSA	**Lhasa**	**46.28**	**327**	P	P		**01 30 58.1**	**-1.3**
JWT	**Wachi**	**46.57**	**19**	IAmb	IAmb		01 31 02.0	
	comp=Z,25nm,1.5s							
LZH	**Lanzhou**	**46.57**	**344**	*e* P	P		**01 31 01.8**	**+0.7**
LZH				pP	pwP		01 31 33.4	-1.2
LZH				sP	sP		01 31 50.4	+5.6
LZH				pmax	pmax			
	comp=Z,12nm,1.0s							
KSAR	**Wonju Array Be**	**46.72**	**10**	P	P		**01 31 02.2**	**+0.2**
KSRS	**Korea Array**	**46.74**	**10**	P	P		**01 31 02.0**	**-0.1**
	comp=Z,19nm,1.0s,baz=190,slow=8.2,SNR=44							
KSRS				PcP	PcP		**01 32 34.4**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=174,slow=2.6,SNR=2.4							
KSRS				ScP	ScP		**01 36 14.2**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=192,slow=4.2,SNR=8.1							
KS19	**Wonju Array Si**	**46.77**	**10**	P	P		**01 31 02.0**	**-0.4**
KS19				IAmb	IAmb		01 31 03.7	
	comp=Z,25nm,1.1s							
DZM	**Mont Dzumac**	**48.02**	**112**	P	P		**01 31 13.8**	**+1.3**
	comp=Z,18nm,0.8s,baz=239,slow=5.9,SNR=9.0							
SANVU	**Saraoutou**	**48.13**	**103**	P	P		**01 31 13.9**	**+0.6**
BJT	**Baijiatuan**	**48.48**	**358**	P	P		**01 31 13.7**	**-1.9**
BJT				IAmb	IAmb		01 31 15.8	
	comp=Z,7.7nm,0.6s							
BJI	**Beijing**	**48.50**	**358**	P	P		**01 31 15.2**	**-0.5**
BJI				pmax	pmax			
	comp=Z,11nm,0.6s							
MAJO	**Matsushiro**	**48.67**	**21**	P	P		**01 31 16.1**	**-1.1**
MAJO				IAmb	IAmb		01 31 17.2	
	comp=Z,16nm,1.2s							
MJAR	**Matsushiro Arr**	**48.67**	**21**	P	P		**01 31 14.9**	**-2.3**
	comp=Z,4.3nm,0.5s,baz=192,slow=7.6,SNR=12							
MJAR				PcP	PcP		**01 32 38.9**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=129,slow=0.7,SNR=2.2							
MJAR	**Matsushiro Arr**	**48.67**	**21**	P

MDJ	**Mudanjiang**	**53.99**	**10**	P	**P**	**01 31 55.3**	**-1.4**
MDJ				IAmb	IAmb	01 31 57.5	
	comp=Z,20nm,0.8s						
USA0B	**Ussuriysk Arra**	**54.04**	**12**	P	**P**	**01 31 55.9**	**-1.0**
USA0B				IAmb	IAmb	01 31 57.8	
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.04**	**12**	P	**P**	**01 31 56.0**	**-1.0**
	comp=Z,6.4nm,0.4s,baz=196,slow=6.1,SNR=38						
USRK				ScP	**ScP**	**01 36 45.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=225,slow=0.4,SNR=1.4						
USRK	**Ussuriysk Ar.**	**54.04**	**12**	P	**P**	**01 31 56.2**	**-0.8**
ULN	**Ulaanbaatar**	**57.17**	**351**	P	**P**	**01 32 19.1**	**-0.4**
	comp=Z,23nm,0.7s						
SONM	**Songino Array**	**57.25**	**350**	P	**P**	**01 32 19.2**	**-0.8**
	comp=Z,8.0nm,0.6s,baz=168,slow=8.7,SNR=43						
SONM				ScP	**ScP**	**01 36 58.8**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=183,slow=5.8,SNR=2.4						
SONM	**Songino Array**	**57.25**	**350**	P	**P**	**01 32 19.5**	**-0.5**
SONM				IAmb	IAmb	01 32 20.8	
	comp=Z,7.5nm,0.8s						
RPZ	**Rata Peaks**	**57.46**	**137**	P	**P**	**01 32 23.0**	**+1.4**
HIA	**Hailar**	**57.70**	**1**	P	**P**	**01 32 21.6**	**-1.4**
HIA				IAmb	IAmb	01 32 32.8	
	comp=Z,8.7nm,0.4s						
CASY	**Casey**	**57.78**	**184**	P	**P**	**01 32 23.5**	**+0.1**
CASY				IAmb	IAmb	01 32 25.2	
	comp=Z,9.4nm,0.8s						
WMQ	**Urumqi**	**59.19**	**335**	*e*P	**P**	**01 32 34.6**	**+1.0**
WMQ				L	L		
	comp=Z,320nm,13.3s						
WMQ				L	L		
	comp=Z,240nm,20.1s						
WMQ				L	L		
	comp=Z,530nm,18.7s						
TLY	**Talaya**	**61.43**	**350**	P	**P**	**01 32 47.9**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=258,slow=9.3,SNR=3.9						
TLY	**Talaya**	**61.43**	**350**	IAmb	IAmb	01 32 49.9	
	comp=Z,5.6nm,0.7s						
KBL	**Kabul**	**63.43**	**316**	P	**P**	**01 33 00.9**	**-1.6**
KBL				IAmb	IAmb	01 33 01.1	
	comp=Z,5.3nm,0.6s						
MK31	**Makanchi Array**	**63.88**	**333**	P	**P**	**01 33 03.8**	**-1.1**
MKAR	**Makanchi Array**	**63.88**	**333**	P	**P**	**01 33 03.9**	**-1.1**
	comp=Z,6.4nm,0.7s,baz=141,slow=7.8,SNR=13						
BOOM	**Boomskoye usch**	**63.97**	**326**	P	**P**	**01 33 05.1**	**-0.7**
MAKZ	**Makanchi**	**64.04**	**333**	P	**P**	**01 33 03.8**	**-2.2**
ARSB	**Arslanbob**	**64.89**	**324**	IAmb	IAmb	01 33 27.0	
	comp=Z,8.3nm,0.8s						
GAR	**Garm**	**65.10**	**320**	P	**P**	**01 33 12.7**	**-0.5**
GAR				IAmb	IAmb	01 33 25.0	
	comp=Z,17nm,0.8s						
BTK	**Batken**	**65.41**	**321**	P	**P**	**01 33 14.2**	**-0.9**
CHGR	**Chuyangaron**	**65.64**	**319**	P	**P**	**01 33 14.1**	**-2.5**
CHGR				IAmb	IAmb	01 33 15.1	
	comp=Z,13nm,0.7s						
KKAR	**Karatay Array**	**67.43**	**324**	P	**P**	**01 33 26.0**	**-1.8**
KURBB	**Kurchatov Arra**	**68.40**	**334**	P	**P**	**01 33 32.6**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=143,slow=5.8,SNR=11						
KURK	**Kurchatov**	**68.43**	**334**	P	**P**	**01 33 32.6**	**-1.3**
ZAA0	**Zalesovo Array**	**68.51**	**339**	P	**P**	**01 33 32.1**	**-2.2**
ZAA0				IAmb	IAmb	01 33 33.1	
	comp=Z,9.0nm,0.7s						
ZALV	**Zalesovo Beam**	**68.51**	**339**	P	**P**	**01 33 32.4**	**-1.9**
	comp=Z,8.8nm,0.6s,baz=144,slow=4.9,SNR=32						
ZALV	**Zalesovo Beam**	**68.51**	**339**	P	**P**	**01 33 32.3**	**-2.0**
MAW	**Mawson**	**69.35**	**200**	P	**P**	**01 33 41.4**	**+2.1**
	comp=Z,13nm,0.7s,baz=69,slow=6.7,SNR=40						
MAW				LR	LR	01 59 57.8	
	comp=Z,43nm,20.0s,baz=58,slow=32						
MAW	**Mawson**	**69.35**	**200**	P	**P**	**01 33 41.6**	**+2.4**
	baz=69,SNR=4.5						
MAW	**Mawson**	**69.35**	**200**	P	**P**	**01 33 40.2**	**+0.9**
PETK	**Petropavlovsk-**	**70.01**	**24**	P	**P**	**01 33 43.4**	**-0.2**
	comp=Z,6.5nm,0.6s,baz=192,slow=5.7,SNR=15						
PETK	**Petropavlovsk-**	**70.01**	**24**	P	**P**	**01 33 43.6**	**+0.1**
VNDA	**Vanda**	**72.41**	**171**	P	**P**	**01 33 59.7**	**+2.0**
	comp=Z,5.5nm,0.4s,baz=314,slow=6.7,SNR=155						
VNDA	**Vanda**	**72.41**	**171**	P	**P**	**01 33 58.2**	**+0.5**
BVAR	**Borovoye Array**	**73.72**	**332**	P	**P**	**01 34 04.1**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=127,slow=17,SNR=9.1						
SEY	**Seymchan**	**76.00**	**15**	P	**P**	**01 34 16.9**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=171,slow=16,SNR=3.3						
ABKAR	**Akbulak array**	**76.94**	**325**	P	**P**	**01 34 22.1**	**-2.1**
SYO	**Syowa Base**	**77.95**	**201**	*i*P	**P**	**01 34 31.4**	**+1.9**
AKTO	**Aktyubinsk**	**78.61**	**325**	P	**P**	**01 34 32.0**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=88,slow=8.0,SNR=6.9						
TIXI	**Tiksi**	**80.44**	**3**	P	**P**	**01 34 41.6**	**-1.3**
	comp=Z,12nm,0.7s,baz=154,slow=3.0,SNR=8.0						
TIXI	**Tiksi**	**80.44**	**3**	IAmb	IAmb	01 34 43.2	
	comp=Z,11nm,0.6s						
KMBO	**Kilima Mbogo**	**81.07**	**270**	P	**P**	**01 34 48.1**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=51,slow=6.7,SNR=6.0						
BELG	**Belogornoye**	**85.33**	**325**	P	**P**	**01 35 07.0**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=90,slow=15,SNR=2.4						
KBZ	**Khabaz**	**85.61**	**315**	P	**P**	**01 35 08.7**	**-1.4**
	comp=Z,1.7nm,0.9s,baz=132,slow=2.1,SNR=4.1						
MBAR	**Mbarara**	**87.59**	**270**	P	**P**	**01 35 18.1**	**-2.6**
MBAR				IAmb	IAmb	01 35 24.3	
	comp=Z,10nm,0.7s						
LSZ	**Lusaka**	**87.95**	**255**	P	**P**	**01 35 23.3**	**+1.1**
LSZ				IAmb	IAmb	01 35 23.8	
	comp=Z,6.6nm,0.8s						
MMAI	**Mount Meron Ar**	**88.84**	**303**	P	**P**	**01 35 25.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=96,slow=6.8,SNR=4.1						
SNAA	**Sanae**	**91.16**	**196**	P	**P**	**01 35 38.1**	**+2.1**
VNA3	**Neumayer Olymp**	**93.19**	**195**	P	**P**	**01 35 44.3**	**-1.0**
VNA1	**Neumayer--Stat**	**93.19**	**196**	P	**P**	**01 35 46.8**	**+1.5**
MNK	**Minsk**	**97.28**	**324**	*i* P	**P**	**01 36 02.1**	**-2.1**
	comp=E,1.0nm,0.8s						
MNK				*i* P	**P**	**01 36 02.1**	**-2.1**
	comp=N,14nm,1.2s						
MNK				*i* P	**P**	**01 36 02.1**	**-2.1**
	comp=Z,2.0nm,0.7s,baz=274						
MNK				*i* pP	**pP**	**01 36 35.6**	**-2.8**
MNK				*i* PP	**PP**	**01 39 59.3**	**-3.1**
MNK				*i* PPP	PPP	01 42 04.5	
MNK				*i* S	**SKSac**	**01 46 26.6**	**-2.3**
MNK				*i* sS	ScS	01 47 27.6	+11
MNK				*i* SS	**SS**	**01 54 06.1**	**+8.6**
MNK				*i* SSS	SSS	01 57 42.0	
MNK				*i* LRM	MLR	02 20 20.9	
	comp=E,10.0nm,21.6s						
MNK				*i* LRM	MLR	02 20 45.1	
	comp=N,109nm,26.7s						
MNK				*i* LRM	MLR	02 21 32.2	
	comp=Z,74nm,26.7s						
FINES	**FINESS Array B**	**98.65**	**331**	P	**P**	**01 36 08.4**	**-1.8**
	comp=Z,2.0nm,0.9s,baz=72,slow=8.9,SNR=2.3						
FINES				PKiKP	**PKiKP**	**01 40 40.5**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=101,slow=6.0,SNR=3.8						
KNK	**Knik Glacier**	**99.05**	**29**	P	**Pdif**	**01 36 11.6**	**-0.4**
ARCES	**ARCESS Array B**	**99.07**	**339**	LR	LR	02 28 55.6	
	comp=Z,15nm,18.6s,baz=150,slow=40						
YKA	**Yellowknife Ar**	**114.13**	**24**	PKiKP	PKPdf	01 41 09.2	-0.4
	comp=Z,0.5nm,0.5s,baz=300,slow=8.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**117.81**	**280**	PKP	**PKPdf**	**01 41 17.8**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=69,slow=1.9,SNR=9.2						
TORD	**Torodi Ar. Bea**	**117.81**	**280**		**PKPdf**	**01 41 16.6**	**-1.5**
ESDC	**Sonseca Array**	**120.23**	**311**	PKP	**PKiKP**	**01 41 22.3**	**0.0**
	comp=Z,0.6nm,0.9s,baz=45,slow=2.3,SNR=4.1						
NVAR	**Mina Array Bea**	**121.27**	**50**	PKP	**PKiKP**	**01 41 25.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=254,slow=2.5,SNR=18						
DBIC	**Dimbokro**	**123.76**	**272**	PKP	**PKiKP**	**01 41 29.8**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=65,slow=3.7,SNR=4.4						
PDAR	**Pinedale Array**	**126.08**	**43**	PKP	**PKPdf**	**01 41 33.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=285,slow=5.8,SNR=4.1						
PDAR	**Pinedale Array**	**126.08**	**43**		**PKPdf**	**01 41 32.9**	**-0.7**
ULM	**Lac du Bonnet**	**129.74**	**28**	SKPbc	SKPab	01 44 47.9	-1.9
	comp=Z,3.1nm,0.5s,baz=314,slow=2.0,SNR=6.7						
PLCA	**Paso Flores**	**130.16**	**171**	PKP	**PKiKP**	**01 41 42.3**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=219,slow=6.5,SNR=4.3						
SCHQ	**Schefferville**	**133.77**	**4**	PKP	**PKPdf**	**01 41 47.4**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=17,slow=1.8,SNR=5.8						
SCHQ				SKPbc	**SKPbc**	**01 45 03.3**	**-1.0**
	comp=Z,4.7nm,0.9s,baz=74,slow=2.8,SNR=5.0						
TXAR	**Lajitas Array**	**135.56**	**57**	PKhKP	PKPpre	01 41 43.6	
	comp=Z,0.5nm,0.7s,baz=258,slow=1.2,SNR=3.6						
TXAR				PKP	**PKPdf**	**01 41 51.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=216,slow=7.6,SNR=3.4						
TXAR				SKPbc	**SKPbc**	**01 45 09.4**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=298,slow=2.7,SNR=10						
WVT	**Waverly**	**143.70**	**37**	PKPdf	PKPab	01 42 03.0	-0.1
AC02	**Maricunga**	**143.97**	**169**	PKPdf	**PKPdf**	**01 42 07.9**	**+0.3**
PLAL	**Pickwick Lake**	**144.31**	**39**	PKPdf	**PKPab**	**01 42 04.1**	**-1.4**
V48A	**Smith Brothers**	**144.56**	**37**	PKPdf	**PKPab**	**01 42 05.9**	**-0.6**
T50A	**Nancy**	**144.78**	**33**		**PKPab**	**01 42 06.6**	**-0.7**
CPUP	**Villa Florida**	**144.97**	**187**	PKPbc	**PKPdf**	**01 42 09.8**	**+1.1**
	comp=Z,43nm,0.9s,baz=177,slow=1.5,SNR=77						
CPUP				SKPbc	**SKiKP**	**01 45 36.8**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=130,slow=2.4,SNR=2.9						
SSPA	**Standing Stone**	**145.02**	**22**		**PKPbc**	**01 42 07.8**	**-0.1**
HRV	**Adam Dziewonsk**	**145.17**	**13**	PKPbc	**PKPdf**	**01 42 08.8**	**+0.2**
X48A	**Hartselle**	**145.30**	**39**		**PKPdf**	**01 42 07.7**	**-1.3**
Z47A	**Carrollton**	**145.46**	**41**	PKPbc	**PKPdf**	**01 42 09.0**	**-0.3**
UCCT	**U. Connecticut**	**145.69**	**14**	PKPbc	**PKPbc**	**01 42 09.9**	**-0.1**
PAGS	**Pennsylvania G**	**145.80**	**21**	PKPbc	**PKPdf**	**01 42 09.8**	**+0.1**
W50A	**Signal Mountai**	**145.82**	**36**	PKPbc	**PKPbc**	**01 42 10.4**	**-0.3**
V51A	**Loudon**	**145.94**	**34**	PKPbc	**PKPbc**	**01 42 11.1**	**+0.2**
S54A	**Dingess, Beckl**	**145.97**	**28**	PKPbc	**PKPbc**	**01 42 10.7**	**-0.4**
Y49A	**Blount Mountai**	**146.09**	**39**	PKPbc	**PKPdf**	**01 42 09.8**	**-0.6**
BRNJ	**Basking Ridge**	**146.09**	**18**	PKPbc	**PKPbc**	**01 42 11.1**	**-0.1**
CPCT	**Cooper Cave**	**146.10**	**35**	PKPbc	**PKPdf**	**01 42 10.6**	**+0.3**
BDFB	**Brasilia**	**152.35**	**209**	PKPbc	**PKiKP**	**01 42 28.4**	**+0.2**
	comp=Z,5.7nm,0.5s,baz=171,slow=1.6,SNR=12						
LPAZ	**La Paz**	**154.38**	**165**	PKP	**PKPdf**	**01 42 25.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=201,slow=8.6,SNR=4.2						
LPAZ				PKPbc	**PKiKP**	**01 42 34.0**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=210,slow=2.7,SNR=12						
LPAZ				PKPab	**PKPab**	**01 42 48.9**	**+1.6**
	comp=Z,4.9nm,0.5s,baz=178,slow=3.1,SNR=11						

NNC ***13*** *01:29:39.0±0.6, 47.˚19N×80.˚21E, h0km±7km, mb3.5, mpv3.3, Error ellipse: s-maj=5.1km s-min=2.9km az=155.0*
SOME ***13*** *01:29:38.2, 47.˚25N×79.˚82E, h10km*
ASRS ***13*** *01:29:42.3±0.2, 47˚N±3˝×8˚0E±˚, h10km, MLh3.6/9, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 13 01:29:38.7±1.2, 47.36N±0.03×80.18E±0.03, h19km±3km, n55, σ2s36/74, 7C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.34**	**113**	P		**P**	**Pb**	**01 30 03.3**	**0.0**
MAKZ				S			**Sn**	**01 30 20.1**	**+0.3**
MAKZ	**Makanchi**	**1.34**	**113**	⇑P		**P**	**Pn**	**01 30 02.7**	**+0.3**
	2.5nm,0.5s								
MAKZ				⇑S			**Sn**	**01 30 19.7**	**-0.1**
	13nm,0.2s								
MK31	**Makanchi Array**	**1.55**	**111**	⇓P			**Pb**	**01 30 06.5**	**-0.3**
	0.6nm,0.2s,baz=284,slow=16,SNR=115								
MK31				⇓S			**Sg**	**01 30 26.7**	**-2.0**
	7.0nm,0.2s,baz=288,slow=28,SNR=19								
MKAR	**Makanchi Array**	**1.55**	**111**	P			**Pb**	**01 30 07.0**	**+0.3**
MKAR				S			**Sg**	**01 30 27.5**	**-1.2**
KAPS	**Kapalarasan**	**2.15**	**196**	*e*P			**Pn**	**01 30 14.3**	**+0.7**
	1.0nm,0.2s								
KAPS				*e*S			**Sn**	**01 30 39.8**	**+0.1**
	5.3nm,0.2s								
KAPS	**Kapalarasan**	**2.15**	**196**	P			**Pb**	**01 30 15.9**	**-1.1**
	1.0nm,0.2s								
KAPS				S			**Sn**	**01 30 39.8**	**+0.1**
	6.4nm,0.4s								
TDK	**Taldyqorghan**	**2.66**	**208**	*e*P			**Pn**	**01 30 22.4**	**+1.9**
	37nm,0.3s								
TDK				*e*S			**Sn**	**01 30 53.8**	**+1.6**
	28nm,0.1s								
TDK	**Taldyqorghan**	**2.66**	**208**	Pg			**Pb**	**01 30 25.6**	**-0.1**
	60nm,0.6s								
TDK				Lg			Lg	01 30 56.7	
	56nm,0.4s								
DJR	**Jarkent**	**3.04**	**185**	*e*P			**Pb**	**01 30 31.7**	**-0.5**
	1.0nm,0.1s								
DJR				*e*S			**Sb**	**01 31 09.8**	**+0.9**
	1.7nm,0.2s								
DJR	**Jarkent**	**3.04**	**185**	Pg			**Pb**	**01 30 32.4**	**+0.2**
	1.4nm,0.3s								
DJR				Lg			Lg	01 31 08.1	
	1.4nm,0.2s								
SEM	**Semipalatinsk**	**3.06**	**1**	*e*P			**Pg**	**01 30 36.2**	**-1.1**
	3.6nm,0.2s								
SEM				*e*S			**Sg**	**01 31 17.5**	**+0.6**
	17nm,0.2s								
SEM	**Semipalatinsk**	**3.06**	**1**	Pg			**Pg**	**01 30 38.5**	**+1.2**
	8.8nm,0.3s								
SEM				Lg			Lg	01 31 17.9	
	26nm,0.4s								
ZSN	**Zaisan**	**3.18**	**87**	*e*P			**Pb**	**01 30 34.9**	**+0.3**
	3.2nm,0.4s								
ZSN				*e*S			**Sb**	**01 31 14.7**	**+1.7**
	3.6nm,0.3s								
ZSN	**Zaisan**	**3.18**	**87**	Pg			**Pg**	**01 30 40.1**	**+0.4**
	5.2nm,0.2s								
ZSN				Lg			Lg	01 31 21.4	
	7.8nm,0.3s								
KURBB	**Kurchatov Arra**	**3.45**	**342**	⇑Pn			**Pn**	**01 30 34.6**	**+3.3**
	1.5nm,0.5s								
KURBB				⇑Pg			**Pg**	**01 30 44.6**	**-0.1**
	3.4nm,0.6s								
KURBB				⇓Lg			Lg	01 31 32.2	
	45nm,0.7s								
ARXS	**Arharly**	**3.55**	**209**	*e*P			**Pb**	**01 30 39.5**	**-1.4**
	1.4nm,0.4s								
ARXS				*e*S			**Sb**	**01 31 22.8**	**-0.8**
	10.0nm,0.3s								
ARXS	**Arharly**	**3.55**	**209**	Pg			**Pb**	**01 30 43.2**	**+2.3**
ARXS				Lg			Lg	01 31 27.3	
KPKS	**Kokpek**	**4.03**	**196**	*e*P			**Pb**	**01 30 49.5**	**+0.3**
	2.2nm,0.1s								
KPKS				*e*S			**Sb**	**01 31 40.3**	**+2.8**
	26nm,0.5s								
PDGK	**Podgornoye**	**4.06**	**187**	Pg			**Pb**	**01 30 50.6**	**+1.0**
	1.2nm,0.2s								
PDGK				Lg			Lg	01 31 40.1	
	6.7nm,0.6s								
PDGK	**Podgornoye**	**4.06**	**187**	⇓Pg			**Pb**	**01 30 50.9**	**+1.3**
	1.6nm,0.5s								
PDGK				⇓Lg			Lg	01 31 42.0	
	12nm,0.6s								
KURS	**Kuram**	**4.12**	**201**	*e*P			**Pb**	**01 30 51.4**	**+0.7**
	3.4nm,0.3s								
KURS				*e*S			**Sb**	**01 31 43.6**	**+3.6**
	14nm,0.8s								
KURS	**Kuram**	**4.12**	**201**	Pg			**Pb**	**01 30 52.5**	**+1.9**
	3.4nm,0.3s								
KURS				Lg			Lg	01 31 43.0	
	14nm,0.8s								
SHLS	**Shalkode**	**4.23**	**187**	*e*P			**Pb**	**01 30 52.9**	**+0.4**
	9.2nm,0.3s								
SHLS				*e*S			**Sb**	**01 31 45.8**	**+2.6**
	9.3nm,0.2s								
SHLS	**Shalkode**	**4.23**	**187**	Pg			**Pb**	**01 30 55.2**	**+2.6**
	9.2nm,0.3s								
SHLS				Lg			Lg	01 31 47.0	
	9.3nm,0.2s								
UZB	**Uzynbulak**	**4.29**	**191**	*e*P			**Pb**	**01 30 53.8**	**+0.2**
	2.5nm,0.3s								
UZB				*e*S			**Sb**	**01 31 47.4**	**+2.4**
	8.0nm,0.3s								
UZB	**Uzynbulak**	**4.29**	**191**	Pg			**Pb**	**01 30 56.8**	**+3.3**
	4.3nm,0.4s								
UZB				Lg			Lg	01 31 49.8	
	8.0nm,0.3s								
KUU	**Kurty**	**4.39**	**219**	*e*P			**Pb**	**01 30 55.1**	**-0.1**
	1.4nm,0.1s								
KUU				*e*S			**Sb**	**01 31 49.5**	**+1.8**
	18nm,0.2s								
KUU	**Kurty**	**4.39**	**219**	Pg			**Pb**	**01 30 56.3**	**+1.1**
	1.4nm,0.1s								
KUU				Lg			Lg	01 31 49.0	
	18nm,0.2s								
KTBS	**Karatobe**	**4.40**	**215**	*e*P			**Pb**	**01 30 55.9**	**+0.6**
	1.3nm,0.3s								
KTBS				*e*S			**Sb**	**01 31 50.7**	**+2.7**
	21nm,0.4s								
KTBS	**Karatobe**	**4.40**	**215**	Pg			**Pb**	**01 30 57.6**	**+2.3**
	1.3nm,0.3s								
KTBS				Lg			Lg	01 31 51.4	
	21nm,0.4s								
SATY	**Saty**	**4.48**	**197**	*e*P			**Pb**	**01 30 57.3**	**+0.6**
	1.3nm,0.2s								
SATY				*e*S			**Sb**	**01 31 53.5**	**+3.1**
	7.1nm,0.2s								
SATY	**Saty**	**4.48**	**197**	Pg			**Pb**	**01 30 58.8**	**+2.1**
	1.5nm,0.1s								
SATY				Lg			Lg	01 31 53.7	
	14nm,0.4s								
UKR	**Ust'-Kan**	**4.68**	**38**	Pn			**Pb**	**01 30 59.2**	**-0.9**
UKR				S			**Sb**	**01 31 55.0**	**-1.2**
MDOK	**Medeo**	**4.74**	**209**	*e*P			**Pb**	**01 31 02.1**	**+0.9**
	1.1nm,0.4s								
MDOK				*e*S			**Sb**	**01 32 02.0**	**+4.0**
	3.6nm,0.3s								
MDOK	**Medeo**	**4.74**	**209**	⇑Lg			Lg	01 32 02.6	
	7.6nm,0.6s								
MDOK	**Medeo**	**4.74**	**209**	Pg			**Pb**	**01 31 04.0**	**+2.7**
	1.3nm,0.3s								
MDOK				Lg			Lg	01 32 02.2	
	4.6nm,0.5s								
KRBS	**Karabastau**	**4.84**	**223**	*e*P			**Pb**	**01 31 02.1**	**-0.8**
	0.7nm,0.2s								
KRBS				*e*S			**Sb**	**01 32 01.6**	**+0.8**
	5.6nm,0.2s								
KRBS	**Karabastau**	**4.84**	**223**	Pg			**Pb**	**01 31 04.6**	**+1.7**
	0.7nm,0.2s								
KRBS				Lg			Lg	01 32 03.6	
	5.6nm,0.2s								
MTBS	**Maitube**	**4.99**	**213**	Pg			**Pb**	**01 31 08.6**	**+3.2**
	2.0nm,0.2s								
MTBS				Lg			Lg	01 32 10.5	
	9.4nm,0.5s								
DGS	**Degeres**	**5.16**	**219**	Pg			**Pb**	**01 31 09.9**	**+1.5**
	2.8nm,0.4s								
DGS				Lg			Lg	01 32 12.7	
	8.4nm,0.4s								
DGZ	**Jazzator, Alta**	**5.36**	**61**	P			**Pb**	**01 31 09.6**	**-2.1**
OTUK	**Ortayu**	**5.36**	**282**	⇑Lg			Lg	01 32 26.7	
	3.4nm,0.8s								
TKM2	**Tokmak 2**	**5.49**	**218**	Pn			**Pn**	**01 30 58.4**	**-1.2**
TKM2				S			**Sn**	**01 31 58.3**	**-4.2**
TKM2	**Tokmak 2**	**5.49**	**218**	⇓Lg			Lg	01 32 25.6	
	5.3nm,0.8s								
CHBI	**Chibit, Altay**	**5.67**	**56**	P			Pn	01 31 09.4	+7.5
CHBI				S			**Sb**	**01 32 20.9**	**-3.6**
USP	**Ospenovka**	**5.72**	**226**	Pn			**Pn**	**01 31 00.7**	**-2.0**
USP				S			**Sn**	**01 32 03.7**	**-4.2**
AKAR	**Aktash**	**5.74**	**56**	P			Pb	01 31 13.4	-4.8
AKAR				S			**Sb**	**01 32 23.9**	**-2.6**
CHMS	**Chumysh**	**5.81**	**223**	S			**Sn**	**01 32 07.3**	**-2.6**
ULHL	**Ulahol**	**5.83**	**210**	Pn			**Pn**	**01 31 03.5**	**-0.8**
ULHL				S			**Sn**	**01 32 05.8**	**-4.8**
CUR	**Chagan-Uzun**	**6.06**	**60**	P			Pb	01 31 18.4	-5.3
CUR				S			**Sn**	**01 32 23.5**	**+7.3**
ULGR	**Ulagan, Altay**	**6.07**	**55**	P			Pb	01 31 17.5	-6.4
ULGR				S			**Sb**	**01 32 32.4**	**-3.8**
AAK	**Ala-Archa**	**6.21**	**223**	⇑Lg			Lg	01 32 51.1	
	3.4nm,0.6s								
ARTR	**Artybash**	**6.41**	**43**	S			**Sb**	**01 32 38.2**	**-7.5**
MRKS	**Merke**	**6.75**	**229**	Pg			Pb	01 31 41.5	+6.1
	1.5nm,0.2s								
MRKS				Lg			Lg	01 33 07.3	
	5.6nm,0.4s								
TEL	**Teeli**	**7.52**	**57**	S			Sb	01 33 06.0	-12

IDC ***13*** *01:46:51.0±2.6, 21.˚79N×143.˚45E, h281km±22km, mb3.1/5, mb1 3.3/6, mb1mx2.9/47, mbtmp3.8/6, Error ellipse: s-maj=93.7km s-min=18.0km az=83.0*

ISC 13 01:46:52.9±2.3, 21.˚9N±0.˚1×143.˚4E±0.˚7, h300km, n6, σ1s17/7, mb3.3/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.31**	**348**	P		**P**	**Pn**	**01 48 13.7**	**-0.2**
	4.7nm,0.3s,baz=248,slow=5.4,SNR=5.2								
JCJ				S			**S**	**01 49 17.6**	**-1.4**
	4.5nm,0.3s,baz=253,slow=19,SNR=2.0								
WRA	**Warramunga Arr**	**42.49**	**193**	P		**P**	**P**	**01 54 18.5**	**-1.0**
	0.5nm,0.4s,baz=17,slow=9.1,SNR=16								
ZALV	**Zalesovo Beam**	**54.18**	**322**	P		**P**	**P**	**01 55 48.4**	**+0.7**
	0.5nm,0.4s,baz=108,slow=6.6,SNR

comp=Z,3.0nm,0.6s,baz=137,slow=7.6,SNR=36
MKAR Makanchi Array 68.05 331 P P 02 26 55.7 -0.3
KBL Kabul 68.55 314 P P 02 26 59.1 -0.5
BOOM Boomskoye usch 68.56 324 P P 02 26 58.5 -1.0
BOOM IAmb IAmb 02 27 00.6
comp=Z,1.7nm,0.8s
ZAA0 Zalesovo Array 72.23 337 P P 02 27 20.7 -0.7
ZAA0 IAmb IAmb 02 27 21.8
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 72.23 337 P P 02 27 19.5 -1.9
comp=Z,4.3nm,0.7s,baz=142,slow=4.6,SNR=13
ZALV Zalesovo Beam 72.23 337 P P 02 27 20.1 -1.3
KURBB Kurchatov Arra 72.51 332 P P 02 27 22.1 -1.1
comp=Z,0.6nm,0.6s,baz=144,slow=5.4,SNR=7.1
KURK Kurchatov 72.53 332 P P 02 27 22.1 -1.2
SEY Seymchan 76.51 13 P P 02 27 46.1 0.0
comp=Z,2.3nm,0.7s,baz=186,slow=9.2,SNR=7.8
BRVK Borovoye 78.00 330 P P 02 27 54.7 0.0
BRVK IAmb IAmb 02 27 57.5
comp=Z,3.6nm,1.5s

MOS ***13*** *02:33:18.6±0.8, 34°.42N×137°.31E, h327km, mb4.3/35, Error ellipse: s-maj=8.3km s-min=5.2km az=112.5*
JMA ***13*** *02:33:19.7±0.2, 34°.57N×137°.36E, h332km±2km, M4.4*
NEIC ***13*** *02:33:20.0±1.7, 34°.47N±0°.06×137°.41E±0°.08, h326km±3km, mb4.5/230, Error ellipse: s-maj=9.4km s-min=8.6km az=47.0*
IDC ***13*** *02:33:19.8±0.4, 34°.47N×137°.28E, h322km±4km, mb3.9/25, mb1 4.0/33, mb1mx4.0/40, mbtmp4.6/33, Error ellipse: s-maj=8.0km s-min=7.0km az=79.0*
NIED ***13*** *02:33:19.7, 34°.57N×137°.36E, h332km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.53; Mθθ-1.19; Mφφ-2.34; Mrθ0.80; Mθφ1.30; Mφr-4.11; Fault plane solution: M05.35000×10^15 NP1: φs163.00000°, δ71.00000°, λ99.00000°. NP2: φs317.00000°, δ21.00000°, λ65.00000°.*
ISC 13 02:33:19.8±0.4, 34°.50N±0°.04×137°.33E±0°.04, h326km±3km, h325km:pP-P, n418, σ1?21/381, mb4.4/182, 32C-17D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.20**	**310**	⇑P		**Pn**	**02 34 02.0**	**+1.2**
JAA				S		**S**	**02 34 33.9**	**+0.4**
JIE	**Ise**	**0.52**	**258**	⇑P		**Pn**	**02 34 02.3**	**+0.9**
JIE				S		**S**	**02 34 35.1**	**+0.5**
TK02	**Tokai 2**	**0.66**	**147**	⇑P		**Pn**	**02 34 02.8**	**+1.3**
INU	**Inuyama**	**0.88**	**343**			**Pn**	**02 34 02.7**	**+0.3**
TTO1	**TONANKAI O.B.S**	**0.99**	**207**	⇑P		**Pn**	**02 34 03.9**	**+1.3**
JGF	**Kuroka**	**1.09**	**1**			**Pn**	**02 34 03.8**	**+0.5**
JYTA	**Yamagatataniai**	**1.19**	**336**	⇑P		**Pn**	**02 34 04.5**	**+0.8**
JYTA				S		**S**	**02 34 38.4**	**-0.5**
JFNN	**Fujinakano**	**1.31**	**58**	P		**Pn**	**02 34 05.1**	**+0.7**
JYN	**Shimob**	**1.41**	**45**	⇓P		**Pn**	**02 34 05.5**	**+0.5**
JWY	**Kouya**	**1.46**	**259**	⇑P		**Pn**	**02 34 06.3**	**+0.9**
JTNC	**Tanabenakahech**	**1.58**	**245**	⇑P		**Pn**	**02 34 06.8**	**+0.8**
JTNC				S		**S**	**02 34 43.3**	**+0.3**
JOD2	**Odawara 2**	**1.64**	**62**	⇓P		**Pn**	**02 34 06.7**	**+0.4**
JOD2				*e*S		**S**	**02 34 43.5**	**0.0**
JWT	**Wachi**	**1.76**	**297**	⇑P		**Pn**	**02 34 07.9**	**+0.8**
JWT	**Wachi**	**1.76**	**297**			**Pn**	**02 34 07.7**	**+0.6**
JKG	**Kaga**	**1.95**	**336**	P		**Pn**	**02 34 08.8**	**+0.4**
JKG				*e*S		**S**	**02 34 47.0**	**-0.3**
JRY	**Ryogami san**	**1.99**	**40**	⇓P		**Pn**	**02 34 09.5**	**+0.8**
MAJO	**Matsushiro**	**2.16**	**19**	*d*P		**Pn**	**02 34 10.4**	**+0.4**
MAJO	**Matsushiro**	**2.16**	**19**			**Pn**	**02 34 10.2**	**+0.2**
MAT	**Matsushiro**	**2.16**	**19**	P		**Pn**	**02 34 10.4**	**+0.4**
MAT				S		**S**	**02 34 49.1**	**-1.1**
MAT	**Matsushiro**	**2.16**	**19**	P		**Pn**	**02 34 10.4**	**+0.4**
MAT				S		**S**	**02 34 49.2**	**-1.0**
MJAR	**Matsushiro Arr**	**2.16**	**19**	P		**Pn**	**02 34 10.5**	**+0.5**
	7.6nm,0.3s,baz=196,slow=8.6,SNR=218							
MJAR				S		**S**	**02 34 49.2**	**-1.0**
	2.5nm,0.3s,baz=192,slow=15,SNR=22							
MJB9	**Matsu-Tunnel**	**2.16**	**19**			**Pn**	**02 34 10.8**	**+0.7**
JHJ	**Hachijo jima 2**	**2.47**	**123**	P		**Pn**	**02 34 12.7**	**+0.1**
	170nm,0.3s,baz=311,slow=19,SNR=91							
JHJ				S		**S**	**02 34 56.9**	**+1.9**
	198nm,0.3s,baz=66,slow=19,SNR=6.9							
JAI	**Aioi**	**2.49**	**254**	⇑P		**Pn**	**02 34 13.2**	**+0.4**
JHJ2	**Mitsune**	**2.50**	**123**	P		**Pn**	**02 34 12.8**	**0.0**
JHJ2	**Mitsune**	**2.50**	**123**			**Pn**	**02 34 12.4**	**-0.5**
JAG	**Ashikaga**	**2.59**	**42**	⇓P		**Pn**	**02 34 12.6**	**-0.9**
JAG				S		**S**	**02 34 53.5**	**-3.1**
JAOM	**Aogashimamukai**	**2.88**	**134**	P		**Pn**	**02 34 17.0**	**+0.7**
JYT	**Yasato**	**2.91**	**53**			**Pn**	**02 34 15.3**	**-1.1**
JMN	**Monobe**	**2.96**	**256**			**Pn**	**02 34 17.0**	**-0.1**
BSO1	**Boso 1**	**3.02**	**86**	P		**Pn**	**02 34 15.8**	**-1.1**
JHS	**Saijyo**	**3.50**	**279**	⇑P		**Pn**	**02 34 23.1**	**+0.8**
JHS				S		**S**	**02 35 12.4**	**0.0**
JHS	**Saijyo**	**3.50**	**279**		Pn	**Pn**	**02 34 23.0**	**+0.8**
JSD	**Sado**	**3.61**	**12**			**Pn**	**02 34 22.5**	**-0.7**
JOI	**OKI**	**3.78**	**299**	⇑P		**Pn**	**02 34 25.2**	**+0.2**
JMM	**Marumori**	**4.37**	**39**			**Pn**	**02 34 30.3**	**-1.0**
JNU	**Nakatsue**	**5.54**	**257**	P		**Pn**	**02 34 45.6**	**+1.0**
	6.7nm,0.3s,baz=74,slow=5.7,SNR=24							
JNU				S		**S**	**02 35 51.4**	**-1.6**
	0.4nm,0.3s,baz=353,slow=19,SNR=7.8							
JNU	**Nakatsue**	**5.54**	**257**	Pn		**Pn**	**02 34 44.6**	**+0.1**
JSU	**Suzuyama**	**6.50**	**245**	Pn		**Pn**	**02 34 55.5**	**-0.2**
KSBUS	**Busan** SNR=6.5	**6.79**	**279**	P		**Pn**	**02 34 59.5**	**+0.4**
KSBUS	**Busan** SNR=6.5	**6.79**	**279**	P		**Pn**	**02 34 59.5**	**+0.4**
KSULJ	**Uljin** SNR=8.4	**6.81**	**291**	P		**Pn**	**02 35 00.0**	**+0.7**
KSUSN	**Ulsan** SNR=14	**6.83**	**282**	P		**Pn**	**02 35 00.1**	**+0.6**
JTM	**Tenmabayashi**	**6.94**	**24**	Pn		**Pn**	**02 34 59.1**	**-1.6**
KSDAG	**Daegu** SNR=7.6	**7.02**	**283**	P		**Pn**	**02 35 02.5**	**+0.6**
KSDAG	**Daegu** SNR=7.6	**7.02**	**283**	P		**Pn**	**02 35 02.5**	**+0.6**
KSADO	**Andong** SNR=10.0	**7.10**	**288**	P		**Pn**	**02 35 04.0**	**+1.3**
KSTBA	**Taebaek** SNR=10	**7.29**	**293**	P		**Pn**	**02 35 06.1**	**+1.0**
KSTBA	**Taebaek** SNR=10	**7.29**	**293**	P		**Pn**	**02 35 06.1**	**+1.0**
OKEB	**Okgye-meyeon** SNR=13	**7.44**	**297**	P		**Pn**	**02 35 08.0**	**+1.1**
OKEB	**Okgye-meyeon** SNR=13	**7.44**	**297**	P		**Pn**	**02 35 08.0**	**+1.1**
KSYOW	**Yeongwol** SNR=16	**7.68**	**293**	P		**Pn**	**02 35 10.8**	**+1.0**
KSYOW	**Yeongwol** SNR=16	**7.68**	**293**	P		**Pn**	**02 35 10.8**	**+1.0**
KSDGY	**Daegwallycong** SNR=9.6	**7.69**	**297**	P		**Pn**	**02 35 11.0**	**+1.1**
KSDGY	**Daegwallycong** SNR=9.6	**7.69**	**297**	P		**Pn**	**02 35 11.0**	**+1.1**
KSJMJ	**Jumunjin** SNR=11	**7.70**	**298**	P		**Pn**	**02 35 11.0**	**+1.1**
KSJMJ	**Jumunjin** SNR=11	**7.70**	**298**	P		**Pn**	**02 35 11.0**	**+1.1**
KSSAJ	**Sangju** SNR=5.2	**7.72**	**287**	P		**Pn**	**02 35 11.9**	**+1.7**
KSSAJ	**Sangju** SNR=5.2	**7.72**	**287**	P		**Pn**	**02 35 11.9**	**+1.7**
KSNAH	**Namhae** SNR=15	**7.75**	**275**	P		**Pn**	**02 35 11.6**	**+1.0**
KSNAH	**Namhae** SNR=15	**7.75**	**275**	P		**Pn**	**02 35 11.6**	**+1.0**
KSCPR	**CHUPUNGNYEONG** SNR=24	**7.83**	**285**	P		**Pn**	**02 35 12.7**	**+1.2**
KSCPR	**CHUPUNGNYEONG** SNR=24	**7.83**	**285**	P		**Pn**	**02 35 12.7**	**+1.2**
KSMGY	**Mungyeong** SNR=14	**7.85**	**289**	P		**Pn**	**02 35 12.6**	**+0.9**
KSMGY	**Mungyeong** SNR=14	**7.85**	**289**	P		**Pn**	**02 35 12.6**	**+0.9**
KSCHJ	**Chungju** SNR=18	**7.97**	**290**	P		**Pn**	**02 35 14.4**	**+1.3**
KSCHJ	**Chungju** SNR=18	**7.97**	**290**	P		**Pn**	**02 35 14.2**	**+1.1**
KSCHJ	**Chungju** SNR=18	**7.97**	**290**	P		**Pn**	**02 35 14.4**	**+1.3**
KSCHJ	**Chungju** SNR=18	**7.97**	**290**	P		**Pn**	**02 35 14.2**	**+1.1**
OKCB	**Cheongsan-myeo** SNR=14	**8.00**	**286**	P		**Pn**	**02 35 15.0**	**+1.5**
OKCB	**Cheongsan-myeo**	**8.00**	**286**	P		**Pn**	**02 35 15.0**	**+1.5**
	SNR=14							
KSBON	**Boeun** SNR=12	**8.02**	**287**	P		**Pn**	**02 35 15.1**	**+1.2**
KSBON	**Boeun** SNR=12	**8.02**	**287**	P		**Pn**	**02 35 15.1**	**+1.2**
KSSKC	**Sokcho** SNR=9.9	**8.04**	**301**	P		**Pn**	**02 35 14.9**	**+0.9**
KSWJU	**Wonju** SNR=14	**8.06**	**294**	P		**Pn**	**02 35 15.3**	**+1.1**
KSWJU	**Wonju** SNR=14	**8.06**	**294**	P		**Pn**	**02 35 15.3**	**+1.1**
KSRS	**Korea Array** 4.6nm,0.3s,baz=108,slow=12,SNR=90	**8.17**	**294**	P		**Pn**	**02 35 16.9**	**+1.3**
KSAR	**Wonju Array Be**	**8.20**	**294**	P		**Pn**	**02 35 16.6**	**+0.7**
KSAR	**Wonju Array Be**	**8.20**	**294**	Pn		**Pn**	**02 35 16.6**	**+0.7**
KS19	**Wonju Array Si**	**8.23**	**294**			**Pn**	**02 35 16.1**	**-0.2**
EMSB	**Eumseong** SNR=7.6	**8.27**	**290**	P		**Pn**	**02 35 18.0**	**+1.3**
EMSB	**Eumseong** SNR=7.6	**8.27**	**290**	P		**Pn**	**02 35 18.0**	**+1.3**
KOHB	**KOHEUNG** SNR=7.9	**8.29**	**274**	P		**Pn**	**02 35 18.5**	**+1.4**
KOHB	**KOHEUNG** SNR=7.9	**8.29**	**274**	P		**Pn**	**02 35 18.5**	**+1.4**
KSSCH	**SUNCHEON** SNR=13	**8.32**	**277**	P		**Pn**	**02 35 18.5**	**+1.1**
KSSCH	**SUNCHEON** SNR=13	**8.32**	**277**	P		**Pn**	**02 35 18.5**	**+1.1**
KSJEO	**Jeonju** SNR=7.5	**8.34**	**283**	P		**Pn**	**02 35 19.0**	**+1.4**
KSJEO	**Jeonju** SNR=7.5	**8.34**	**283**	P		**Pn**	**02 35 19.0**	**+1.4**
BOSB	**Boseong-gun** SNR=8.7	**8.34**	**275**	P		**Pn**	**02 35 19.0**	**+1.3**
BOSB	**Boseong-gun** SNR=8.7	**8.34**	**275**	P		**Pn**	**02 35 19.0**	**+1.3**
TJN	**Taejon**	**8.34**	**286**	*d*P		**Pn**	**02 35 18.6**	**+0.9**
KSCHC	**Chuncheon** SNR=16	**8.36**	**296**	P		**Pn**	**02 35 19.0**	**+1.2**
KSCHC	**Chuncheon** SNR=16	**8.36**	**296**	P		**Pn**	**02 35 19.0**	**+1.2**
SUCA	**Sunchang** SNR=7.1	**8.41**	**279**	P		**Pn**	**02 35 20.1**	**+1.5**
SUCA	**Sunchang** SNR=7.1	**8.41**	**279**	P		**Pn**	**02 35 20.1**	**+1.5**
JCJ	**Chichijima** 12nm,0.3s,baz=283,slow=17,SNR=12	**8.48**	**149**	P		Pn	02 35 13.9	-5.6
JCJ				S		S	02 36 44.3	-13
	99nm,0.3s,baz=292,slow=22,SNR=22							
JCJ	**Chichijima**	**8.48**	**149**	Pn		**Pn**	**02 35 15.7**	**-3.8**
KSICN	**Icheon** SNR=14	**8.51**	**292**	P		**Pn**	**02 35 20.9**	**+1.2**
KSCEA	**Cheonan** SNR=21	**8.52**	**289**	P		**Pn**	**02 35 20.9**	**+1.2**
KSKWJ	**Gwangju** SNR=8.7	**8.52**	**277**	P		**Pn**	**02 35 21.0**	**+1.1**
KSJEU	**Jeongeup** SNR=8.8	**8.59**	**280**	P		**Pn**	**02 35 21.8**	**+1.1**
PYTK	**Pyeongtaek** SNR=7.9	**8.67**	**290**	P		**Pn**	**02 35 23.2**	**+1.6**
PYTK	**Pyeongtaek** SNR=7.9	**8.67**	**290**	P		**Pn**	**02 35 23.2**	**+1.6**
KSCWO	**Cheorwon** SNR=9.6	**8.69**	**297**	P		**Pn**	**02 35 23.1**	**+1.3**
ERM	**Erimo**	**8.79**	**30**	P		**Pn**	**02 35 21.2**	**-1.7**
ERM	**Erimo**	**8.79**	**30**	Pn		**Pn**	**02 35 21.2**	**-1.7**
KSSWO	**Suwon** SNR=18	**8.85**	**291**	P		**P**	**02 35 25.5**	**-1.8**
GOCB	**Gochang-gun** SNR=7.0	**8.85**	**279**	P		**P**	**02 35 27.0**	**-0.5**
KSSEO	**Seoul** SNR=8.4	**8.94**	**292**	P		**Pn**	**02 35 26.1**	**+1.2**
KSSEO	**Seoul** SNR=8.4	**8.94**	**292**	P		**Pn**	**02 35 26.1**	**+1.2**
HAWB	**Hwaseong-si** SNR=13	**8.95**	**290**	P		**Pn**	**02 35 26.2**	**+1.2**
SHHB	**Siheung-si** SNR=6.3	**9.07**	**291**	P		**Pn**	**02 35 28.0**	**+1.5**
KSJDO	**Jindo** SNR=9.2	**9.09**	**273**	P		**Pn**	**02 35 28.2**	**+1.4**
INCN	**Inchon**	**9.16**	**292**	P		**Pn**	**02 35 28.0**	**+0.4**
INCN	**Inchon**	**9.16**	**292**	Pn		**Pn**	**02 35 28.0**	**+0.4**
KSMUS	**Musan** SNR=12	**9.18**	**295**	P		**Pn**	**02 35 29.2**	**+1.4**
MSHR	**Mys Shultsa**	**9.40**	**331**	⇑*e*P		**Pn**	**02 35 30.9**	**+0.6**
MSHR					pmax	pmax		
	comp=Z,22nm,0.8s							
VLA	**Vladivostok**	**9.59**	**335**	⇑*e*P		**Pn**	**02 35 33.4**	**+0.8**
VLA					pmax	pmax		
	comp=Z,56nm,2.5s							
ASAJ	**Asahikawa**	**10.43**	**21**	P		**Pn**	**02 35 43.1**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=223,slow=12,SNR=9.6							
ASAJ				S		**S**	**02 37 32.1**	**-7.9**
	comp=Z,1.5nm,0.3s,baz=287,slow=19,SNR=4.1							
JKA	**Kamikawa-asahi**	**10.43**	**21**			**Pn**	**02 35 42.3**	**-0.5**
JKA	**Kamikawa-asahi**	**10.43**	**21**			**S**	**02 37 32.1**	**-8.0**
USA0B	**Ussuriysk Arra**	**10.53**	**339**	P		**Pn**	**02 35 43.9**	**0.0**
USA0B	**Ussuriysk Arra**	**10.53**	**339**			**Pn**	**02 35 43.9**	**0.0**
USRK	**Ussuriysk Ar.** baz=155,slow=9.1,SNR=33	**10.53**	**339**	P		**Pn**	**02 35 44.3**	**+0.4**
JOW	**Kunigami**	**10.91**	**228**	P		**Pn**	**02 35 48.4**	**-0.5**
	comp=Z,4.0nm,0.3s,baz=36,slow=12,SNR=7.9							
MDJ	**Mudanjiang**	**11.72**	**332**	P		**P**	**02 35 58.9**	**-0.3**
MDJ				sP			02 37 09.1	
MDJ				S		**S**	**02 38 10.0**	**+0.8**
MDJ				PcS		**PcS**	**02 44 49.1**	**-1.9**
MDJ	**Mudanjiang**	**11.72**	**332**	ScS		ScS	02 47 53.7	-0.3
MDJ					pmax	pmax		
	comp=Z,26nm,1.3s							
MDJ					pmax	pmax		
	comp=Z,110nm,5.3s							
MDJ	**Mudanjiang**	**11.72**	**332**	Pn		**Pn**	**02 35 58.0**	**-0.4**
YSS	**Yuzh-Sakhalins**	**13.10**	**17**	*d*P		**Pn**	**02 36 16.5**	**+1.8**
YSS				*e*S		**S**	**02 38 35.0**	**-3.7**
YSS					pmax	pmax		
	comp=Z,50nm,1.1s							
YSS					smax	smax		
	comp=E,20nm,0.9s							
YSS	**Yuzh-Sakhalins**	**13.10**	**17**	P		**P**	**02 36 13.8**	**-0.6**
DL2	**Dalian**	**13.34**	**294**	P		**P**	**02 36 17.0**	**-0.2**
DL2					pmax	pmax		
	comp=E,78nm,0.7s							
KLR	**Kul'dur**	**15.28**	**346**	P		**P**	**02 36 38.2**	**-0.2**
	comp=E,1.3nm,0.3s,baz=146,slow=11,SNR=26							
KLR				S		**S**	**02 39 20.3**	**-2.9**
	comp=E,0.1nm,0.3s,baz=139,slow=20,SNR=1.7							
KLR	**Kul'dur**	**15.28**	**346**	*d*e*P*		**P**	**02 36 37.9**	**-0.5**
KLR					pmax	pmax		
	comp=Z,9.0nm,0.8s							
NJ2	**Nanjing**	**15.64**	**266**	⇑*i*P		**P**	**02 36 42.7**	**+0.2**
NJ2					pmax	pmax		
	comp=Z,30nm,0.6s							
TIA	**Tai'an**	**16.57**	**282**	P		**P**	**02 36 52.3**	**-0.3**
TIA					pmax	pmax		
	comp=Z,24nm,0.7s							
YHNB	**Yeheng**	**16.96**	**239**	IAmb		IAmb	02 37 00.4	
	comp=Z,22nm,0.7s							
BJI	**Beijing**	**17.70**	**294**	P		**P**	**02 37 03.2**	**-1.5**
BJI					pmax	pmax		
	comp=Z,19nm,0.8s							
BJT	**Baijiatuau**	**17.70**	**294**	P		**P**	**02 37 04.1**	**-0.7**
BJT					pmax	pmax		
	comp=Z,14nm,0.7s							
BJT	**Baijiatuau**	**17.70**	**294**	P		**P**	**02 37 04.1**	**-0.7**
BJT					IAmb	IAmb	02 37 04.3	
	comp=Z,14nm,0.7s							
SSLB	**Suanglung** comp=Z,21nm,0.8s	**17.82**	**238**	IAmb		IAmb	02 37 14.4	
YULB	**Yu-li**	**17.84**	**236**	P		**P**	**02 37 04.6**	**-1.9**
YULB					IAmb	IAmb	02 37 15.2	
	comp=Z,24nm,0.8s							
TPUB	**Ta-pu**	**18.36**	**237**	P		**P**	**02 37 10.1**	**-1.9**
QZH	**Quanzhou**	**18.83**	**245**	⇑*i*P		**P**	**02 37 15.5**	**-1.4**
QZH					pmax	pmax		
	comp=Z,49nm,0.7s							
HIA	**Hailar**	**19.65**	**324**	*d*P		**P**	**02 37 23.7**	**-1.7**
HIA					pmax	pmax		
	comp=Z,22nm,0.7s							
HIA	**Hailar**	**19.65**	**324**	P		**P**	**02 37 24.2**	**-1.2**
HIA					IAmb	IAmb	02 37 29.2	
	comp=Z,24nm,0.8s							
WHN	**Wuhan**	**19.76**	**265**	⇑P		**P**	**02 37 24.2**	**-2.5**
WHN					pmax	pmax		
	comp=Z,150nm,0.8s							
TIY	**Taiyuan**	**20.35**	**286**	*e*P		**P**	**02 37 31.6**	**-1.0**
TIY				sP		sP	02 39 14.5	+11
TIY				S		**S**	**02 40 57.2**	**-2.9**
TIY				pmax		pmax		
	comp=Z,32nm,1.3s							
TIY				pmax		pmax		
	comp=Z,94nm,6.2s							
TIY				L		L		
	comp=Z,86nm,4.7s							
TIY				L		L		
	comp=Z,82nm,7.6s							
TIY				L		L		
	comp=Z,180nm,34.8s							
ZEA	**Zeya**	**20.51**	**343**	*e*P		**P**	**02 37 33.8**	**0.0**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**21.31**	**295**	*e*P		**P**	**02 37 42.2**	**+0.6**
HHC					pmax	pmax		
	comp=Z,54nm,1.0s							
HHC					pmax	pmax		
	comp=Z,79nm,4.5s							
XAN	**Xi'an**	**23.45**	**277**	P		**P**	**02 38 00.6**	**-0.4**
XAN					pmax	pmax		
	comp=Z,34nm,0.8s							
PEA0B	**Petropavlovsk-**	**23.56**	**32**	⇑*e*P		**P**	**02 38 03.0**	**+1.3**
PETK	**Petropavlovsk-**	**23.56**	**32**	P		**P**	**02 38 03.2**	**+1.5**
	comp=Z,13nm,0.8s,baz=220,slow=5.7,SNR=14							
PETK	**Petropavlovsk-**	**23.56**	**32**	P		**P**	**02 38 02.1**	**+0.4**
ENH	**Enshi**	**23.85**	**268**	P		**P**	**02 38 04.1**	**-0.6**
ULN	**Ulaanbaatar**	**26.21**	**310**	*d*P		**P**	**02 38 27.2**	**+1.5**
ULN					pmax	pmax		
	comp=Z,19nm,1.0s							
ULN	**Ulaanbaatar**	**26.21**	**310**	P		**P**	**02 38 26.1**	**+0.4**
ULN					IAmb	IAmb	02 38 28.3	
	comp=Z,39nm,1.4s							
MA2	**Magadan**	**26.60**	**15**	P		**P**	**02 38 29.3**	**+0.5**
	comp=Z,6.5nm,0.6s,baz=192,slow=6.3,SNR=5.3							
MA2	**Magadan**	**26.60**	**15**	⇑*i*P		**P**	**02 38 29.6**	**+0.8**
MA2					pmax	pmax		
	comp=Z,19nm,1.7s							
MA2	**Magadan**	**26.60**	**15**	P		**P**	**02 38 29.3**	**+0.5**
MA2					IAmb	IAmb	02 38 30.7	
	comp=Z,16nm,1.1s							
SONM	**Songino Array**	**26.62**	**309**	P		**P**	**02 38 30.9**	**+1.5**
	comp=Z,12nm,0.5s,baz=111,slow=9.2,SNR=41							
SONM					PcP	**PcP**	**02 41 44.9**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=113,slow=3.7,SNR=2.5							
SONM					ScP	**ScP**	**02 44 51.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=120,slow=3.2,SNR=6.2							
SONM	**Songino Array**	**26.62**	**309**	P		**P**	**02 38 30.7**	**+1.4**
SONM					IAmb	IAmb	02 38 35.2	
	comp=Z,15nm,0.6s							
SONM					pP	**pP**	**02 39 31.3**	**+1.9**
LZH	**Lanzhou**	**27.30**	**283**	*e*P		**P**	**02 38 35.5**	**0.0**
LZH					pP	pP	02 39 22.8	-14
LZH					sP	PP	02 39 47.5	+2.7
LZH					pmax	pmax		
	comp=Z,14nm,1.1s							
GYA	**Guiyang**	**27.54**	**261**	⇓P		**P**	**02 38 36.7**	**-1.0**
GYA					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ZAK	**Zakamensk**	**29.39**	**313**	*e*P		**P**	**02 38 54.6**	**+0.9**
ZAK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TLY	**Talaya**	**29.64**	**316**	P		**P**	**02 38 57.2**	**+1.4**
	comp=Z,15nm,0.7s,baz=147,slow=4.9,SNR=24							
TLY	**Talaya**	**29.64**	**316**	⇑*e*P		**P**	**02 38 57.8**	**+2.0**
TLY					pmax	pmax		
	comp=Z,17nm,0.7s							
TLY	**Talaya**	**29.64**	**316**	P		**P**	**02 38 57.1**	**+1.3**
TLY					IAmb	IAmb	02 38 59.3	
	comp=Z,17nm,0.7s							
GTA	**Gaotai**	**30.23**	**290**	⇓P		**P**	**02 39 00.8**	**-0.4**
GTA					pP	pP	02 40 03.3	+0.3
GTA					sP	sP	02 40 40.4	-0.6
GTA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
GTA					pmax	pmax		
	comp=Z,35nm,4.4s							
KMI	**Kunming**	**31.30**	**262**	⇑P		**P**	**02 39 10.4**	**-0.5**
KMI					pP	pP	02 40 15.5	+2.4
KMI					pmax	pmax		
	comp=Z,24nm,0.6s							
SLVN	**Son La**	**32.16**	**255**	P		**P**	**02 39 17.4**	**-0.7**
UBPT	**Khong Chiam**	**34.45**	**244**	P		**P**	**02 39 38.1**	**+0.4**
	comp=Z,26nm,0.9s							
UBPT	**Khong Chiam**	**34.45**	**244**	P		**P**	**02 39 37.4**	**-0.3**
UBPT					IAmb	IAmb	02 39 39.6	
	comp=Z,18nm,0.8s							
NONG	**Nongkai**	**34.54**	**251**	P		**P**	**02 39 38.7**	**+0.2**
	comp=Z,8μmcomp=Z,119nm,0.7s							
KHON	**Khomkaen**	**35.80**	**248**	P		**P**	**02 39 50.4**	**+1.3**
	comp=Z,18nm,0.7s							
CHAI	**Chaiyaphum**	**36.70**	**249**	P		**P**	**02 39 56.4**	**-0.4**
	comp=Z,172nmcomp=Z,19nm,0.9s							
BILL	**Bilibino**	**37.41**	**17**	*c*e*P*		**P**	**02 40 03.7**	**+1.7**
BILL				*e*S		**S**	**02 45 28.5**	**+3.3**
BILL					pmax	pmax		
	comp=Z,7.0nm,0.7s							
BILL	**Bilibino**	**37.41**	**17**	P		**P**	**02 40 03.2**	**+1.1**
CMMT	**Chiang Mai**	**37.44**	**255**	P		**P**	**02 40 02.0**	**-0.9**
	comp=Z,8.6nm,1.0s							
CHTO	**Chiang Mai**	**37.44**	**255**	P		**P**	**02 40 02.5**	**-0.5**
CHTO					pmax	pmax		
	comp=Z,15nm,1.4s							
CHTO	**Chiang Mai**	**37.44**	**255**	P		**P**	**02 40 02.5**	**-0.5**
TIXI	**Tiksi**	**37.48**	**356**	⇓*i*P		**P**	**02 40 03.1**	**+0.6**
TIXI	**Tiksi**	**37.48**	**356**	P		**P**	**02 40 02.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**37.63**	**255**	P		**P**	**02 40 04.0**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=50,slow=6.0,SNR=11							
CMAR	**Chiang Mai Arr**	**37.63**	**255**	*c*e*P*		**P**	**02 40 04.5**	**-0.1**
CMAR					pmax	pmax		
	comp=Z,3.0nm,0.5s							
CMAR	**Chiang M

DMN Daman 44.85 276 eP P 02 41 02.8 -0.2
comp=Z,45nm,0.6s
KURBB Kurchatov Arra 44.99 310 P P 02 41 03.1 -0.3
KURBB pmax pmax
comp=Z,17nm,1.1s
PDGK Podgornoye 45.06 299 P P 02 41 03.8 -0.5
PDGK pmax pmax
comp=Z,10.0nm,0.6s
GKN Gorkha 45.09 277 eP P 02 41 04.6 -0.1
comp=Z,42nm,0.5s
DANN Dangsing 45.68 278 eP P 02 41 09.9 +0.4
comp=Z,122nm,0.5s
KOLN Koldanda 46.03 277 eP P 02 41 12.1 0.0
comp=Z,41nm,0.7s
PYUN Piuthan 46.40 278 eP P 02 41 15.3 +0.3
comp=Z,114nm,0.4s
MDOK Medeo 46.85 299 P P 02 41 18.4 +0.3
MDOK pmax pmax
comp=Z,18nm,0.8s
RDOG Red Dog Mine 47.25 26 P 02 41 23.7
baz=256
PSI Prapat 47.64 237 P P 02 41 24.2 -0.2
PSI pmax pmax
comp=Z,8.0nm,0.7s
RPSI Rantau Prapat 47.71 237 P P 02 41 24.2 -0.7
BOOM Boomskoye usch 47.78 299 P P 02 41 24.9 -0.4
BOOM pmax pmax
comp=Z,3.0nm,0.6s
BOOM Boomskoye usch 47.78 299 P P 02 41 24.9 -0.4
TKM2 Tokmak 2 47.94 299 P P 02 41 26.9 +0.4
TKM2 pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 48.79 299⇑ eP P 02 41 33.6 +0.7
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 48.79 299 P P 02 41 33.1 +0.2
OTUK Ortayu 49.25 307 P P 02 41 36.1 0.0
OTUK pmax pmax
comp=Z,11nm,0.7s
TTA Tatalina 49.38 34 P P 02 41 37.9 +1.0
TTA pmax pmax
comp=Z,4.0nm,0.9s
TTA Tatalina 49.38 34 P P 02 41 37.9 +1.0
TTA Tatalina 49.38 34 P 02 41 38.5
baz=267,SNR=5.2
GSI Gunungsitoli 49.64 237 P P 02 41 38.6 -0.9
BRVK Borovoye 49.91 313 c iP P 02 41 41.5 +0.6
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 49.91 313 P P 02 41 40.5 -0.4
A21K Barrow 50.08 23 P P 02 41 42.6 +0.7
A21K lAmb lAmb 02 41 44.6
comp=Z,23nm,0.9s
A21K Barrow 50.08 23 P 02 41 43.7
baz=260
O19K Port Alsworth 50.16 37 P 02 41 45.1
baz=271
IMAR Indian Mountai 50.50 30 P P 02 41 46.5 +1.3
OHAK Old Harbor 50.85 41 P P 02 41 47.4 -0.5
OHAK lAmb lAmb 02 41 52.6
comp=Z,23nm,1.2s
OHAK Old Harbor 50.85 41 P 02 41 48.7
baz=276
H21K Melozitna Rive 50.88 30 P 02 41 50.0
baz=268,SNR=8.0
CHUM Lake Minchumin 51.06 32 P 02 41 51.9
baz=270
PPLA Purkeypile 51.13 34 P P 02 41 50.0 0.0
PPLA lAmb lAmb 02 41 53.2
comp=Z,14nm,0.6s
PPLA Purkeypile 51.13 34 P 02 41 52.4
baz=271,SNR=8.4
SPCR Spurr Chakacha 51.17 36 P 02 41 52.6
baz=272
KDAK Kodiak Island 51.19 40 P P 02 41 50.6 +0.3
KDAK pmax pmax
comp=Z,16nm,0.8s
KDAK Kodiak Island 51.19 40 P P 02 41 50.6 +0.3
KDAK lAmb lAmb 02 41 52.2
comp=Z,16nm,0.8s
KDAK Kodiak Island 51.19 40 P 02 41 51.4
baz=275
SKT Skwentna 51.46 35 P 02 41 53.9
baz=272,SNR=6.3
KK31 Karatay Array 51.53 301 i P P 02 41 53.4 +0.2
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 51.53 301 lAmb lAmb 02 41 54.5
comp=Z,12nm,0.8s
KKAR Karatay Array 51.53 301 P P 02 41 53.6 +0.4
KKAR Karatay Array 51.53 301 P P 02 41 53.6 +0.4
KKAR Karatay Array 51.53 301 lAmb lAmb 02 41 54.5
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 51.64 32 P P 02 41 54.3 +0.7
BPAW Bear Paw Mtn. 51.65 32 P 02 41 55.6
baz=271,SNR=8.2
MLY Manley 51.74 31 P 02 41 56.6
baz=270,SNR=16
SUA Susitna One 51.86 35 lAmb lAmb 02 41 58.5
comp=Z,15nm,0.9s
SUA Susitna One 51.86 35 P 02 41 56.4
baz=273,SNR=13
BRLK Bradley Lake 51.91 38 lAmb lAmb 02 41 58.4
comp=Z,25nm,1.1s
COLD Coldfoot 51.96 28 P 02 41 57.7
baz=269
TRF Thorofare Moun 51.97 33 P 02 41 57.6
baz=272
BRSE Bradley Lake S 51.98 38 P 02 41 57.7
baz=275
TOLK Toolik Lake Re 52.22 26 P 02 41 60.0
baz=269,SNR=7.1
H23K Yukon River 52.23 30 P 02 42 00.6
baz=271,SNR=6.0
NIL Nilore 52.25 288 P P 02 41 58.6 0.0
NIL pmax pmax
comp=Z,9.0nm,0.8s
NIL Nilore 52.25 288 P P 02 41 58.6 0.0
BWN Browne 52.31 32 lAmb lAmb 02 42 01.8
comp=Z,21nm,0.7s
I23K Minto, Yukon-K 52.32 31 P 02 42 00.6
baz=272,SNR=6.9
RC01 Rabbit Creek A 52.37 36 lAmb lAmb 02 42 01.4
comp=Z,22nm,1.3s
RC01 Rabbit Creek A 52.37 36 P 02 41 59.9
baz=274
NEA2 Nenana 52.46 31 lAmb lAmb 02 42 02.4
comp=Z,18nm,0.8s
NEA2 Nenana 52.46 31 P 02 42 01.7
baz=272,SNR=21
MCK McKinley 52.56 33 P 02 42 01.9
baz=273,SNR=6.8
SEW Seward 52.59 37 lAmb lAmb 02 42 02.3
comp=Z,13nm,0.8s
SEW Seward 52.60 37 P 02 42 01.5
baz=275
PMR Palmer 52.62 35 lAmb lAmb 02 42 02.5
comp=Z,14nm,1.0s
RND Reindeer 52.62 33 lAmb lAmb 02 42 02.7
comp=Z,20nm,0.7s
GHO Glory Hole Cre 52.70 35 lAmb lAmb 02 42 03.6
comp=Z,15nm,1.0s
WAT2 Susitna Watana 52.77 34 P 02 42 02.8
baz=274,SNR=9.7
GAR Garm 52.79 296 P P 02 42 02.0 -0.5
GAR lAmb lAmb 02 42 11.5
comp=Z,17nm,0.7s
WRH Wood River Hil 52.89 32 P P 02 42 02.9 +0.2
H24K Noodor Dome 52.91 30 P 02 42 05.4
baz=272,SNR=13
KNK Knik Glacier 52.96 35 lAmb lAmb 02 42 05.4
comp=Z,24nm,1.1s
KNK Knik Glacier 52.96 35 P 02 42 04.8
baz=275,SNR=8.4
TCOL CIGO, UAF Yank 52.97 31 P 02 42 05.5
baz=273
COLA College 52.97 31 d iP P 02 42 05.9 +2.7
COLA pmax pmax
comp=Z,6.0nm,0.6s
COLA College 52.97 31 P 02 42 05.8
baz=273
SML Sawmill 52.98 35 P 02 42 05.1
baz=275,SNR=13
POKR Poker Plat Res 53.13 31 lAmb lAmb 02 42 07.5
comp=Z,18nm,0.6s
POKR Poker Plat Res 53.14 31 P 02 42 06.6
baz=273,SNR=7.1

WAT6 Susitna Watana 53.19 34 P 02 42 06.4
baz=275,SNR=9.5
ILAR Eielson Array 53.39 31 P P 02 42 07.0 +0.7
comp=Z,4.0nm,0.7s,baz=260,slow=5.0,SNR=57
ILAR PcP PcP 02 43 07.7 -1.0
comp=Z,0.5nm,0.5s,baz=273,slow=3.5,SNR=2.1
HDA Harding Lake 53.39 32 P 02 42 07.0
baz=274,SNR=12
HDA P 02 42 07.0
baz=274,SNR=12
SCM Sheep Creek Mo 53.45 35 lAmb lAmb 02 42 09.3
comp=Z,24nm,1.0s
GLI Glacier Island 53.67 36 lAmb lAmb 02 42 10.5
comp=Z,19nm,0.8s
GLI Glacier Island 53.67 36 P 02 42 09.9
baz=277
CHGR Chuyangaron 53.76 296 P P 02 42 09.3 -0.1
PRP Porcupine Dome 53.91 30 P 02 42 12.0
baz=275
FYU Fort Yukon 53.94 29 lAmb lAmb 02 42 14.0
comp=Z,28nm,1.4s
M24K Tolsona, Glenn 53.96 34 lAmb lAmb 02 42 23.3
comp=Z,11nm,0.8s
M24K Tolsona, Glenn 53.96 34 P 02 42 12.6
baz=277
FID Port Fidalgo 53.99 36 lAmb lAmb 02 42 12.8
comp=Z,20nm,0.8s
BMAR Burnt Mountain 54.13 28 P P 02 42 12.7 +1.0
KLU Klutina 54.16 35 P 02 42 13.6
baz=277,SNR=9.5
WRAB Tennant Creek 54.21 183 c iP P 02 42 12.2 -0.5
WRAB pmax pmax
comp=Z,6.0nm,0.5s
WB2 Warramunga Arr 54.22 183 lAmb lAmb 02 42 12.6
comp=Z,9.8nm,0.5s
WRA Warramunga Arr 54.22 183 P P 02 42 12.3 -0.5
comp=Z,9.8nm,0.4s,baz=360,slow=7.6,SNR=193
WRA PcP PcP 02 43 12.9 +0.4
comp=Z,3.1nm,0.7s,baz=352,slow=4.5,SNR=4.2
WRA ScP ScP 02 46 39.3 +0.6
comp=Z,0.5nm,1.0s,baz=299,slow=6.6,SNR=2.2
WRA S S 02 49 21.4 -2.9
comp=Z,0.4nm,0.6s,baz=2.4,slow=16,SNR=2.5
WRA Warramunga Arr 54.22 183 P P 02 42 11.1 -1.7
WR0 Warramunga Arr 54.23 183 P P 02 42 11.5 -1.3
EYAK Cordova Ski Ar 54.37 36 lAmb lAmb 02 42 16.1
comp=Z,11nm,0.7s
EYAK Cordova Ski Ar 54.37 36 P 02 42 15.1
baz=278,SNR=5.0
HARP HAARP 54.40 34 P 02 42 15.6
baz=277,SNR=5.1
SCRK Sand Creek 54.73 32 lAmb lAmb 02 42 18.0
comp=Z,14nm,1.0s
SCRK Sand Creek 54.73 32 P 02 42 17.1
baz=277,SNR=17
N25K Chitina, Valde 54.77 35 P 02 42 18.4
baz=278,SNR=7.0
SVE Sverdlovsk 54.86 319 eP P 02 42 18.2 +1.3
SVE pmax pmax
comp=Z,10.0nm,0.9s
BMRM Bremner River 54.87 36 P 02 42 18.9
baz=279,SNR=16
MENT Mentasta 54.98 33 lAmb lAmb 02 42 20.8
comp=Z,12nm,0.6s
HMT Hamilton 55.13 36 lAmb lAmb 02 42 21.9
comp=Z,10nm,0.8s
KBL Kabul 55.21 291 P P 02 42 19.8 -0.3
KBL pmax pmax
comp=Z,6.0nm,1.0s
KBL Kabul 55.21 291 P P 02 42 19.8 -0.3
VRDI Verde Repeater 55.38 35 lAmb lAmb 02 42 23.4
comp=Z,18nm,1.0s
K27K Chicken 55.55 32 lAmb lAmb 02 42 24.5
comp=Z,15nm,1.1s
K27K Chicken 55.55 32 P 02 42 23.8
baz=279
MCARA McCarthy VSAT 55.55 35 P 02 42 24.1
baz=280,SNR=7.9
CRQM Cirque 55.61 36 P P 02 42 23.0 +0.6
CRQE Cirque 55.63 36 P 02 42 24.4
baz=280
TGL Tana Glacier 55.76 36 lAmb lAmb 02 42 26.0
comp=Z,24nm,0.8s
L27K Beaver Creek, 55.82 33 lAmb lAmb 02 42 26.3
comp=Z,7.7nm,0.7s
L27K Beaver Creek 55.82 33 P 02 42 25.8
baz=280,SNR=15
EGAK Eagle 55.83 31 P 02 42 24.7
baz=279
ARU Arti 56.07 319 d iP P 02 42 25.6 +0.2
ARU *PP pP 02 43 35.0 +0.2
ARU S S 02 49 48.8 +1.0
ARU SS SS 02 53 39.8 +0.7
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 56.07 319 P P 02 42 25.2 -0.2
ARU lAmb lAmb 02 42 26.7
comp=Z,10nm,0.8s
GRNC Granite Creek 56.28 36 lAmb lAmb 02 42 29.7
comp=Z,16nm,0.6s
MESA MESA 56.30 36 P 02 42 29.3
baz=282
YAH Yahtse 56.36 36 lAmb lAmb 02 42 30.1
comp=Z,14nm,0.6s
CTG Chitna Glacier 56.43 35 P 02 42 30.1
baz=281,SNR=5.3
TABL Table Mountain 56.63 36 lAmb lAmb 02 42 32.1
comp=Z,11nm,0.8s
AB31 Akbulak array 57.03 310 i P P 02 42 32.1 -0.2
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 57.03 310 P P 02 42 32.4 +0.1
ABKAR pP pP 02 43 42.2 +0.3
PCA Pinnacle 57.14 36 lAmb lAmb 02 42 35.8
comp=Z,20nm,0.9s
PINM Pinnacle 57.14 36 P 02 42 35.1
baz=283
EPYK Eagle Plains 57.35 29 P 02 42 36.5
baz=282,SNR=50
AS31 Alice Springs 57.94 184 P P 02 42 38.2 -0.6
ASAR Alice Springs 57.94 184 P P 02 42 38.6 -0.2
comp=Z,4.1nm,0.5s,baz=356,slow=4.9,SNR=80
ASAR Alice Springs 57.94 184 P P 02 42 38.4 -0.4
INK Inuvik 58.13 26 lAmb lAmb 02 42 41.4
comp=Z,8.8nm,0.6s
INK Inuvik 58.13 26 P 02 42 41.0
baz=283
PSA00 Pilbara Seismi 58.19 199 P 02 42 40.1 -0.4
HYT Haines Junctio 58.29 35 lAmb lAmb 02 42 44.4
comp=Z,20nm,1.2s
WHY Whitehorse 59.58 35 lAmb lAmb 02 42 52.9
comp=Z,9.4nm,0.8s
WHY Whitehorse 59.58 35 P 02 42 52.0
baz=287,SNR=11
KIRV Kirov 60.26 323 ce P P 02 42 54.7 +0.6
HRA Herat 60.47 293 P P 02 42 56.6 +0.2
HRA lAmb lAmb 02 42 57.4
comp=Z,10nm,0.5s
JIS Juneau Island 60.55 37 lAmb lAmb 02 42 59.4
comp=Z,13nm,0.8s
C36M Paulatuk 61.10 24 P 02 43 00.6
baz=291
GEYT Alibeck 62.13 299 P P 02 43 06.5 -0.6
comp=Z,1.9nm,0.4s,baz=28,slow=3.5,SNR=5.0
DLBC Dease Lake 62.65 36 P P 02 43 11.0 +0.8
EUNU Eureka 63.16 8 P P 02 43 13.0 -0.2
EUNU lAmb lAmb 02 43 14.8
comp=Z,11nm,0.7s
ARCES ARCESS Array B 65.17 339 P P 02 43 26.6 +0.4
comp=Z,1.3nm,0.5s,baz=67,slow=9.3,SNR=15
FORT Forrest 65.52 189 P P 02 43 28.9 +0.1
STKA Stephens Creek 66.15 176 P P 02 43 33.0 +0.2
comp=Z,4.1nm,0.5s,baz=351,slow=7.0,SNR=8.7
STKA Stephens Creek 66.15 176 P P 02 43 32.7 -0.2
YKA Yellowknife Ar 67.64 29 P P 02 43 42.4 +0.6
comp=Z,4.8nm,0.8s,baz=294,slow=5.5,SNR=17
DAG Danmarks Havn 67.98 354⇑ iP P 02 43 44.5 +0.7
DAG lAmb lAmb 02 43 45.2
comp=Z,9.6nm,0.9s
DAG Danmarks Havn 67.98 354⇑ iP P 02 43 44.4 +0.7
DAG pmax pmax
comp=Z,10.0nm,0.9s
NEEM North Greenlan 68.19 2⇑ iP P 02 43 46.7 +1.3
NEEM lAmb lAmb 02 43 47.2
comp=Z,9.9nm,0.5s
FINES FINESS Array B 69.47 331 P P 02 43 53.4 +0.4
comp=Z,1.6nm,0.4s,baz=61,slow=6.2,SNR=20

KBZ Khabaz 69.99 310 P P 02 43 57.2 +0.7
comp=Z,6.5nm,0.9s,baz=60,slow=2.3,SNR=17
KBZ Khabaz 69.99 310 ce P P 02 43 57.7 +1.2
KIV Kislovodsk 70.02 310 eP P 02 43 58.2 +1.4
KIV pmax pmax
comp=Z,30nm,1.1s
KIV Kislovodsk 70.02 310 P P 02 43 57.8 +1.0
KIV lAmb lAmb 02 43 59.3
comp=Z,8.8nm,0.9s
VSU Vasula 70.91 329⇑ eP P 02 44 02.5 +0.7
VSU pmax pmax
comp=Z,28nm,1.6s
D03D Eldon 71.25 45 P 02 44 06.5
baz=301
B05A Bryant 71.45 44 P 02 44 07.0
baz=301,SNR=7.7
MNK Minsk 72.68 325 i P P 02 44 10.1 -2.2
MNK i *PP pP 02 45 24.4 -1.6
MNK i PPP PPP 02 48 42.9
MNK i S S 02 53 07.3 -2.7
MNK i 02 53 45.2
MNK i SS SS 02 57 56.3 +0.2
MNK i SSS SSS 03 01 19.2
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=Z,3.0nm,0.8s
MNK MLR MLR
comp=N,21nm,14.0s
MNK MLR MLR
comp=Z,57nm,19.0s
MNK MLR MLR
comp=E,10.0nm,22.0s
MNK Minsk 72.68 325 i P P 02 44 10.2 -2.2
comp=E,1.0nm,1.0s
MNK i P P 02 44 10.2 -2.2
comp=N,4.0nm,0.7s
MNK i P P 02 44 10.2 -2.2
comp=Z,3.0nm,0.8s,baz=56
MNK i pP pP 02 45 24.4 -1.6
MNK i PP PP 02 46 49.3 -9.1
MNK i PPP PPP 02 48 42.9
MNK i S S 02 53 07.3 -2.7
MNK i ScS SKSac 02 53 45.2 -0.1
MNK i sS sS 02 55 20.4 +1.9
MNK i SS SS 02 57 56.4 +0.3
MNK i SSS SSS 03 01 19.3
MNK i LRM MLR 03 19 02.6
comp=N,21nm,14.0s
MNK i LRM MLR 03 19 10.6
comp=Z,57nm,19.1s
MNK i LRM MLR 03 19 31.2
comp=E,10.0nm,21.6s
I03D Drain, OR 73.08 48 P 02 44 17.2
baz=302
SUMG Summit 73.17 359 i P P 02 44 17.0 +1.6
SUMG lAmb lAmb 02 44 18.0
comp=Z,16nm,0.9s
SUMG Summit 73.17 359 i P P 02 44 17.0 +1.6
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 73.17 359 P P 02 44 16.1 +0.7
K02D Willamette Mer 73.40 49 P 02 44 18.9
baz=302
I04A Tendick Farm, 73.60 48 P 02 44 19.8
baz=302
I05D Terrebonne, OR 73.96 47 P 02 44 21.8
baz=303
J04D Umpqua Nationa 74.08 48 P 02 44 22.9
baz=302
AKASG Malin Array Be 74.22 321 P P 02 44 20.5 -0.8
comp=Z,0.4nm,0.3s,baz=49,slow=6.4,SNR=4.7
AKASG Malin Array Be 74.22 321 i P P 02 44 22.1 +0.8
NEW Newport 74.24 42 lAmb lAmb 02 44 24.0
comp=Z,8.7nm,1.1s
NEW Newport 74.24 42 P 02 44 23.2
baz=304
PINE Pine Mountain 74.50 47 P P 02 44 24.7 +1.3
L04D Klamath Falls 74.51 49 P 02 44 25.3
baz=303
M02C Callahan 74.61 50 P 02 44 26.4
baz=302
N02D Trinity Center 74.93 51 P 02 44 27.9
baz=303
M04C Macdoel 75.04 49 P 02 44 28.5
baz=303,SNR=6.0
NOA NORSAR Array B 75.19 336 P P 02 44 27.1 +0.4
comp=Z,1.3nm,0.7s,baz=44,slow=5.6,SNR=7.0
O02D Mt. Diablo Mer 75.30 51 P 02 44 30.0
baz=303
WALA Waterton Lakes 75.52 40 lAmb lAmb 02 44 31.5
comp=Z,6.9nm,0.8s
MOD Modoc Plateau 75.93 49 lAmb lAmb 02 44 33.9
comp=Z,7.3nm,0.8s
BMO Blue Mountains 76.07 45 lAmb lAmb 02 44 34.5
comp=Z,8.1nm,0.9s
ILULI Ilulissat 76.40 3 P P 02 44 34.2 +0.9
ILULI pmax pmax
comp=Z,13nm,1.0s
ILULI Ilulissat 76.40 3 P P 02 44 34.2 +0.9
ILULI lAmb lAmb 02 44 35.6
comp=Z,12nm,1.0s
ORV Oroville 76.47 51 lAmb lAmb 02 44 36.1
comp=Z,7.3nm,1.1s
WVOR Wild Horse Val 76.66 48 lAmb lAmb 02 44 37.9
comp=Z,6.9nm,1.1s
ICESG Greenland Ices 76.69 359 i P P 02 44 36.9 +1.5
ICESG lAmb lAmb 02 44 37.3
comp=Z,9.9nm,0.7s
AFDM Forest Hills D 77.15 52 P P 02 44 38.9 +0.8
AFDM lAmb lAmb 02 44 40.2
comp=Z,6.6nm,1.1s
FFC Flin Flon 77.60 31 P P 02 44 40.1 -0.1
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 77.60 31 P P 02 44 40.1 -0.1
FFC lAmb lAmb 02 44 41.9
comp=Z,7.7nm,0.8s
PAHR Pah Rah Range 77.74 50 lAmb lAmb 02 44 43.8
comp=Z,8.5nm,0.8s
MFID Camas Ranch 77.78 46 lAmb lAmb 02 44 44.2
comp=Z,6.9nm,0.8s
VCNR Virginia City 77.80 51 lAmb lAmb 02 44 44.4
comp=Z,7.4nm,0.8s
BRTR Keskin Array B 77.98 310 P P 02 44 43.8 +1.0
comp=Z,0.6nm,0.8s,baz=132,slow=4.1,SNR=5.5
BRTR Keskin Array B 77.98 310 P P 02 44 43.1 +0.3
BRTR pP pP 02 45 56.7 -0.7
CMB Columbia Colle 78.04 52 lAmb lAmb 02 44 45.2
comp=Z,7.1nm,0.7s
BURAR Bucovina Array 78.18 320 P P 02 44 44.4 +0.8
BURAR pP pP 02 45 58.8 +0.5
RAYN Ar Rayn 78.48 291 P P 02 44 44.9 -0.8
RAYN pmax pmax
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 78.48 291 P P 02 44 44.9 -0.8
RAYN lAmb lAmb 02 44 46.8
comp=Z,5.7nm,0.7s
HLID Hailey 78.52 45 P P 02 44 46.5 +0.9
HLID Hailey 78.52 45 P 02 44 47.5
baz=307,SNR=9.5
RYN Ryan 78.91 51 lAmb lAmb 02 44 50.4
comp=Z,7.5nm,1.0s
NVAR Mina Array Bea 79.16 51 P P 02 44 51.0 +1.7
comp=Z,6.3nm,0.7s,baz=298,slow=5.1,SNR=42
NVAR Mina Array Bea 79.16 51 P P 02 44 50.9 +1.6
ELK Elko 79.71 47 lAmb lAmb 02 44 55.0
comp=Z,3.1nm,0.7s
YNE Yellowstone No 80.11 42 lAmb lAmb 02 44 56.9
comp=Z,4.7nm,0.8s
VES Vestal, Richgr 80.15 53 P 02 44 55.2
baz=306,SNR=5.0
H17A Grant Village 80.19 42 P 02 44 58.4
baz=309,SNR=5.5
PKM Mcpherson Peak 80.22 54 P 02 44 56.5
baz=305
FLWY Flagg Ranch 80.32 43 P P 02 44 56.9 +1.6
FLWY lAmb lAmb 02 44 59.1
comp=Z,9.2nm,0.9s
CWC Cottonwood Cre 80.47 52 P 02 44 57.1
baz=306
MOOW Moose Ponds 80.50 43 lAmb lAmb 02 44 59.4
comp=Z,3.8nm,0.8s
TPAW Teton Pass 80.55 43 lAmb lAmb 02 44 59.7

comp=Z,6.4nm,0.8s
GRAC **Grapevine Rang** **80.60** **52** P 02 44 58.3
baz=306,SNR=10
ISA **Isabella, Lake** **80.66** **53** P **P** **02 44 57.1 -0.1**
ISA pmax pmax
comp=Z,5.0nm,1.2s
ISA **Isabella, Lake** **80.66** **53** P **P** **02 44 57.0 -0.1**
ISA **Isabella, Lake** **80.66** **53** P 02 44 57.6
baz=306
LOHW **Long Hollow** **80.67** **43** IAmb IAmb 02 45 00.1
comp=Z,4.9nm,0.9s
SNOW **Snow King Moun** **80.68** **43** IAmb IAmb 02 45 01.8
comp=Z,7.2nm,0.8s
REDW **Red Top Meadow** **80.68** **43** IAmb IAmb 02 45 00.3
comp=Z,10nm,1.2s
AHID **Auburn Hatcher** **80.92** **44** IAmb IAmb 02 45 00.8
comp=Z,5.6nm,0.7s
BGU **Big Grassy Mou** **80.93** **46** P **P** **02 44 58.4 -0.2**
R11A **Troy Canyon, C** **80.93** **50** IAmb IAmb 02 45 01.3
comp=Z,9.7nm,1.3s
R11A **Troy Canyon, C** **80.93** **50** P 02 45 00.3
baz=307,SNR=8.5
LAO **LASA Array** **81.04** **39** P 02 45 00.1
baz=312
MPMC **Manual Prospec** **81.08** **52** P 02 45 00.7
baz=306
FURC **Furnace Creek,** **81.24** **52** P 02 45 01.6
baz=306,SNR=12
LRMC **Laurel Mtn Rad** **81.29** **53** P 02 45 01.5
baz=306
TPNV **Topopah Spring** **81.35** **51** P 02 45 02.4
baz=307,SNR=28
EDW2 **Edwards Air Fo** **81.44** **54** P 02 45 02.4
baz=306,SNR=6.0
DUG **Dugway, Tooele** **81.51** **47** IAmb IAmb 02 45 04.4
comp=Z,6.4nm,0.9s
DUG **Dugway, Tooele** **81.52** **47** P 02 45 03.1
baz=308,SNR=7.3
BW06 **Boulder Array** **81.79** **43** IAmb IAmb 02 45 05.0
comp=Z,8.0nm,0.8s
PD31 **Pinedale Array** **81.79** **43** P **P** **02 45 03.6 +0.5**
PD31 IAmb IAmb 02 45 05.1
comp=Z,7.1nm,0.8s
PDAR **Pinedale Array** **81.79** **43** P **P** **02 45 04.2 +1.0**
comp=Z,6.8nm,0.7s,baz=291,slow=2.2,SNR=62
BW06 **Boulder Array** **81.80** **43** P 02 45 04.3
baz=310,SNR=11
PRN **Pahroc Range** **81.84** **50** IAmb IAmb 02 45 06.0
comp=Z,7.8nm,1.1s
PSUT **Pine Spring** **81.90** **49** IAmb IAmb 02 45 06.1
comp=Z,4.5nm,0.7s
GSC **Goldstone, Bar** **81.97** **53** IAmb IAmb 02 45 06.1
comp=Z,7.2nm,1.1s
GSC **Goldstone, Bar** **81.97** **53** P 02 45 05.1
baz=307
NLU **North Lily Min** **82.11** **47** P **P** **02 45 04.8 +0.1**
NLU IAmb IAmb 02 45 06.9
comp=Z,4.2nm,0.7s
SHPR **Sheep Range** **82.31** **51** IAmb IAmb 02 45 08.5
comp=Z,5.9nm,0.9s
TUQ **Turquoise Moun** **82.47** **52** P 02 45 08.1
baz=307
HEC **Hector,Ludlow** **82.56** **53** P 02 45 08.5
baz=307,SNR=6.2
TCRU **Three Creeks R** **82.72** **48** IAmb IAmb 02 45 10.9
comp=Z,7.6nm,0.7s
KHC **Kasperske Hory** **82.89** **327** *e*P **P** **02 45 07.1 -1.3**
KHC **Kasperske Hory** **82.89** **327** *e*P **P** **02 45 07.1 -1.3**
GMRC **Granite Mounta** **83.03** **52** P 02 45 10.8
baz=307,SNR=8.9
GERES **GERESS Array B** **83.04** **326** P **P** **02 45 09.4 +0.2**
comp=Z,0.6nm,0.6s,baz=41,slow=4.3,SNR=5.0
GERES **GERESS Array B** **83.04** **326** P **P** **02 45 09.8 +0.6**
GERES **GERESS Array B** **83.04** **326** P **P** **02 45 09.8 +0.6**
PFO **Pinyon Flats O** **83.21** **54** P **P** **02 45 10.3 -0.1**
PFO pmax pmax
comp=Z,9.0nm,0.9s
PFO **Pinyon Flats O** **83.21** **54** P **P** **02 45 10.3 -0.1**
PFO IAmb IAmb 02 45 12.4
comp=Z,8.6nm,0.8s
PFO **Pinyon Flats O** **83.21** **54** P 02 45 11.5
baz=307,SNR=6.9
LCMT **Little Creek M** **83.22** **49** IAmb IAmb 02 45 13.1
comp=Z,6.5nm,0.8s
BELC **Belle Mtn. Jos** **83.28** **53** P 02 45 11.6
baz=307,SNR=6.8
ULM **Lac du Bonnet** **83.41** **31** P **P** **02 45 09.7 -1.2**
comp=Z,5.3nm,0.8s,baz=314,slow=5.4,SNR=8.2
ULM **Lac du Bonnet** **83.41** **31** IAmb IAmb 02 45 12.3
comp=Z,8.0nm,0.9s
K22A **Casper** **83.56** **42** IAmb IAmb 02 45 13.9
comp=Z,5.2nm,0.8s
K22A **Casper** **83.56** **42** P 02 45 13.2
baz=312
BAR **Barrett** **83.63** **55** P **P** **02 45 12.7 +0.3**
BAR IAmb IAmb 02 45 14.2
comp=Z,6.0nm,0.8s
MONP2 **Monument Peak** **83.67** **54** P 02 45 14.0
baz=307
IRM **Iron Mountain** **83.75** **53** P 02 45 14.5
baz=308,SNR=6.6
BC3 **Big Chuckawall** **83.85** **53** P 02 45 15.1
baz=308
RSSD **Black Hills** **83.91** **39** P 02 45 16.3
baz=313
W13A **Hualapai Mount** **83.99** **51** IAmb IAmb 02 45 16.5
comp=Z,4.3nm,0.8s
IKP **In-Ko-Pah, Jac** **84.02** **54** P 02 45 15.7
baz=307
U15A **North Rim** **84.18** **49** IAmb IAmb 02 45 18.6
comp=Z,4.8nm,0.6s
O20A **White River Ci** **84.25** **45** P 02 45 17.1
baz=311,SNR=11
PDMCI **Parker Dam,Lak** **84.32** **52** P 02 45 17.2
baz=308
GLA **Glamis** **84.64** **53** P 02 45 19.0
baz=308
PHWY **Pilot Hill** **85.06** **42** IAmb IAmb 02 45 21.9
comp=Z,6.0nm,0.9s
N23A **Red Feather La** **85.06** **43** P 02 45 21.5
baz=312
PV13 **Radium Mtn., P** **85.20** **46** P **P** **02 45 20.4 0.0**
PV13 IAmb IAmb 02 45 22.4
comp=Z,6.1nm,0.8s
Y14A **Wickenburg** **85.28** **52** IAmb IAmb 02 45 22.8
comp=Z,6.1nm,1.0s
WUAZ **Wupatki** **85.33** **50** IAmb IAmb 02 45 23.6
comp=Z,4.7nm,0.9s
WUAZ **Wupatki** **85.33** **50** P 02 45 22.7
baz=310
113A **Mohawk Valley,** **85.51** **53** IAmb IAmb 02 45 23.6
comp=Z,4.0nm,0.7s
ISCO **Idaho Springs** **85.98** **43** P **P** **02 45 24.6 +0.3**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** **85.98** **43** P **P** **02 45 24.6 +0.3**
ISCO IAmb IAmb 02 45 26.8
comp=Z,3.9nm,0.8s
ISCO **Idaho Springs** **85.98** **43** P 02 45 26.2
baz=312
S22A **4UR Ranch, Cre** **86.66** **46** P 02 45 29.5
baz=312
EYMN **Ely** **87.03** **30** P 02 45 29.8
baz=322
SDCO **Great Sand Dun** **87.44** **45** P 02 45 33.1
baz=313
ECSD **EROS Data Cent** **87.93** **36** IAmb IAmb 02 45 34.8
comp=Z,5.6nm,0.8s
ECSD **EROS Data Cent** **87.94** **36** P 02 45 34.0
baz=318
SPMN **Marine on St.** **88.58** **33** P 02 45 37.3
baz=321
SCHQ **Schefferville** **88.63** **14** P **P** **02 45 36.9 +0.7**
comp=Z,1.2nm,0.6s,baz=322,slow=12,SNR=2.2
ANMO **Albuquerque** **88.75** **47** ‖ *e*P **P** **02 45 37.1 -0.3**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO **Albuquerque** **88.75** **47** P 02 45 39.6
baz=312
D41A **Chassel** **88.94** **29** IAmb IAmb 02 45 39.9
comp=Z,6.5nm,0.8s
COWI **Conover** **89.48** **30** IAmb IAmb 02 45 42.1
comp=Z,4.6nm,0.8s
G40A **Rib Lake** **89.69** **31** IAmb IAmb 02 45 43.3
comp=Z,6.4nm,0.8s
E43A **Lone Tree Farm** **90.13** **29** IAmb IAmb 02 45 45.2
comp=Z,4.7nm,0.7s
LSQQ **Lebel-sur-Quev** **91.38** **22** P 02 45 50.0
baz=332
CHGQ **Chibougamau** **91.38** **20** P 02 45 49.6
baz=334
MNTX **Cornudas Mount** **91.60** **49** P 02 45 51.6
baz=313
AMTX **Amarillo** **91.64** **45** P **P** **02 45 51.0 +0.4**
AMTX **Amarillo** **91.64** **45** P 02 45 52.4
baz=315
D55A **Sainte-Anne-du** **93.66** **22** P 02 45 59.9
baz=333
D56A **ZEC Mazanza, M** **93.85** **21** P 02 46 01.1
baz=334
S39A **Bolivar** **94.14** **38** IAmb IAmb 02 46 03.2
comp=Z,3.5nm,0.7s
TX32 **Lajitas Array** **94.29** **50** IAmb IAmb 02 46 05.2
comp=Z,4.3nm,0.8s
TXAR **Lajitas Array** **94.29** **50** P **P** **02 46 04.3 +1.4**
comp=Z,3.2nm,0.7s,baz=281,slow=2.1,SNR=43
TXAR **Lajitas Array** **94.29** **50** P **P** **02 46 04.2 +1.2**
U38A **Gravette** **94.54** **39** IAmb IAmb 02 46 27.8
comp=Z,3.5nm,0.7s
CCM **Cathedral Cave** **94.89** **36** P **P** **02 46 06.3 +0.9**
CCM pmax pmax
comp=Z,4.0nm,1.0s
CCM **Cathedral Cave** **94.89** **36** P **P** **02 46 06.3 +0.9**
CCM IAmb IAmb 02 46 06.8
comp=Z,4.4nm,1.0s
HHAR **Hobbs** **94.89** **39** IAmb IAmb 02 46 06.1
comp=Z,3.6nm,0.7s
TORD **Torodi Ar. Bea** **116.59** **310** PKP **PKPdf** **02 51 25.6 -0.3**
comp=Z,0.3nm,0.4s,baz=38,slow=1.2,SNR=1.7
TORD **Torodi Ar. Bea** **116.59** **310** PKPdf **PKPdf** **02 51 25.3 -0.6**
QSPA **South Pole Qui** **124.25** **180** PKPdf **PKPdf** **02 51 39.2 +0.1**
SNAA **Sanae** **137.35** **197** SKPdf **SKPbc** **02 55 05.9 +0.3**
VNA3 **Neumayer Olymp** **139.25** **196** SKPdf **SKPbc** **02 55 11.1 +0.1**
VNA1 **Neumayer--Stat** **139.35** **197** PKPdf **PKPdf** **02 52 08.1 +0.8**
VNA1 **Neumayer--Stat** **139.35** **197** SKPdf **SKPbc** **02 55 11.4 +0.3**
LPAZ **La Paz** **150.84** **58** PKPbc **PKiKP** **02 52 36.2 +0.5**
comp=Z,9.6nm,0.8s,baz=351,slow=2.4,SNR=32
MNMC **Minye Minye** **151.63** **64** **PKiKP** **02 52 37.3 +0.5**

NIC ***13*** *03:02:55.3±0.0, 34.87N×26.74E, h10km±4km, MI4.1/3*
HLW ***13*** *03:02:57.7, 34.97N×26.90E, h20km±16km, MI4.1*
ISK ***13*** *03:02:57.5, 35.20N×26.64E, h5km, ML3.4/12*
ATH ***13*** *03:02:58.3, 35.08N×26.65E, h13km±2km, ML3.4/12, Error ellipse: s-maj=3.2km s-min=1.1km az=162.0*
THE ***13*** *03:02:58.8, 35.07N×26.64E, h0km±1km, ML3.4/5, Error ellipse: s-maj=3.0km s-min=0.8km az=147.0*
IDC ***13*** *03:03:00.3±1.5, 35.09N×26.83E, h54km±16km, mb3.5/13, mb1 3.5/18, mb1mx3.4/44, mbtmp3.7/18, ML3.9/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/38, Error ellipse: s-maj=22.1km s-min=10.5km az=4.0*
DDA ***13*** *03:03:01.9, 35.41N×26.88E, h21km±2km, ML3.0*
ISC 13 03:02:56.4±0.6, 35.03N±0.03×26.77E±0.02, h21km±3km, n130, σ1s83/170, mb3.7/13, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.46**	**281**	P		**Pb**	**03 03 05.7**	**-0.2**
ZKR				S		**Sb**	**03 03 10.2**	**-2.0**
ZKR				AML		AML	03 03 17.8	
	comp=N,10596μm,0.3s							
ZKR				AML		AML	03 03 20.6	
	comp=E,26056μm,0.4s							
ZKR	**Zakros**	**0.46**	**281**	P		**Pb**	**03 03 05.7**	**-0.2**
ZKR				S		**Sb**	**03 03 12.3**	**0.0**
	comp=E,9μm,0.3s							
ZKR	**Zakros**	**0.46**	**281**	PG		**Pb**	**03 03 05.5**	**-0.4**
ZKR				SG		**Sb**	**03 03 12.0**	**-0.3**
ZKR	**Zakros**	**0.46**	**281**	P		**Pb**	**03 03 05.0**	**-0.8**
ZKR				S		**Sb**	**03 03 12.8**	**+0.5**
NPS	**Neapolis**	**0.98**	**284**	P		**Pn**	**03 03 14.9**	**0.0**
NPS				S		**Sn**	**03 03 26.9**	**-1.3**
NPS				AML		AML	03 03 35.4	
	comp=N,6874μm,0.8s							
NPS				AML		AML	03 03 35.7	
	comp=E,8026μm,0.6s							
NPS	**Neapolis**	**0.98**	**284**	P		**Pn**	**03 03 15.3**	**+0.4**
NPS				S		**Sn**	**03 03 28.8**	**+0.6**
	comp=E,4μm,0.3s							
LAST	**Lasithi**	**1.07**	**277**	P		**Pn**	**03 03 16.0**	**-0.3**
LAST				S		**Sn**	**03 03 30.2**	**-0.3**
LAST				AML		AML	03 03 39.1	
	comp=N,4113μm,0.8s							
LAST				AML		AML	03 03 41.2	
	comp=E,3636μm,0.7s							
LAST	**Lasithi**	**1.07**	**277**	P		**Pn**	**03 03 16.5**	**+0.3**
HRKL	**Herakleio**	**1.40**	**282**	PN		**Pb**	**03 03 22.6**	**+0.8**
HRKL				SN		**Sb**	**03 03 41.3**	**+2.1**
IACM	**Heraklion**	**1.42**	**282**	P		**Pb**	**03 03 23.0**	**+0.8**
IDI	**Anoyia**	**1.56**	**280**	P		**Pb**	**03 03 25.6**	**+0.9**
IDI				S		**Sb**	**03 03 43.0**	**-1.0**
IDI				AML		AML	03 03 55.0	
	comp=E,1592μm,0.6s							
IDI				AML		AML	03 03 55.6	
	comp=N,1829μm,0.5s							
IDI	**Anoyia**	**1.56**	**280**	P		**Pb**	**03 03 26.0**	**+1.2**
	comp=N,30nm,0.3s,baz=154,slow=8.8,SNR=45							
IDI				S		**Sb**	**03 03 46.6**	**+2.5**
	comp=N,38nm,0.3s,baz=104,slow=20,SNR=5.8							
IDI				LR		LR	03 04 17.0	
	comp=N,266nm,18.9s,baz=81,slow=48							
IDI	**Anoyia**	**1.56**	**280**	P		**Pb**	**03 03 25.7**	**+1.0**
IDI				S		**Sb**	**03 03 44.6**	**+0.5**
	comp=N,860nm,0.5s							
IDI	**Anoyia**	**1.56**	**280**	PN		**Pb**	**03 03 25.9**	**+1.2**
IDI				SN		**Sb**	**03 03 46.4**	**+2.3**
NIS1	**Nisyros Isl.**	**1.60**	**12**	P		**Pb**	**03 03 26.4**	**+1.1**
NIS1	**Nisyros Isl.**	**1.60**	**12**	P		**Pb**	**03 03 26.7**	**+1.4**
NIS1	**Nisyros Isl.**	**1.60**	**12**	PN		**Pb**	**03 03 26.2**	**+0.9**
NISR	**Nisiros**	**1.60**	**10**	P		**Pb**	**03 03 26.3**	**+0.9**
NISR				S		**Sb**	**03 03 47.6**	**+2.4**
NISR				AML		AML	03 03 55.1	
	comp=N,2322μm,0.5s							
NISR				AML		AML	03 03 56.1	
	comp=E,3954μm,0.4s							
SIVA	**Sivas**	**1.61**	**270**	P		**Pb**	**03 03 25.3**	**-0.2**
SIVA				AML		AML	03 03 56.3	
	comp=E,4315μm,0.6s							
SIVA				AML		AML	03 04 11.6	
	comp=N,3011μm,0.7s							
SIVA	**Sivas**	**1.61**	**270**	P		**Pb**	**03 03 25.6**	**+0.1**
SIVA				S		**Sb**	**03 03 47.0**	**+1.7**
	comp=N,2μm,0.7s							
ARG	**Arkhangelos**	**1.62**	**43**	P		**Pb**	**03 03 28.2**	**+2.6**
ARG				S		**Sb**	**03 03 48.8**	**+3.3**
ARG				AML		AML	03 04 00.0	
	comp=N,1204μm,0.7s							
ARG				AML		AML	03 04 02.8	
	comp=E,1141μm,0.7s							
ARG	**Arkhangelos**	**1.62**	**43**	P		**Pb**	**03 03 28.0**	**+2.4**
ARG	**Arkhangelos**	**1.62**	**43**	PN		**Pb**	**03 03 27.9**	**+2.4**
ARG	**Arkhangelos**	**1.62**	**43**	S		**Sb**	**03 03 49.2**	**+3.6**
SANT	**Santorini**	**1.71**	**322**	P		**Pb**	**03 03 27.0**	**-0.3**
SANT				S		**Sb**	**03 03 49.5**	**+1.2**
SANT				AML		AML	03 03 51.7	
	comp=E,1945μm,0.3s							
SANT				AML		AML	03 03 54.1	
	comp=N,672μm,0.4s							
SANT	**Santorini**	**1.71**	**322**	P		**Pb**	**03 03 27.1**	**-0.1**
SANT	**Santorini**	**1.71**	**322**	PN		**Pb**	**03 03 26.9**	**-0.3**
KOSK	**Kos Island**	**1.73**	**5**	PN		**Pb**	**03 03 27.7**	**+0.3**
THR8	**Santorini-Mono**	**1.73**	**323**	P		**Pb**	**03 03 27.3**	**-0.2**
THR6	**Thira Island,**	**1.73**	**320**	P		**Pb**	**03 03 27.6**	**+0.1**
THR6	**Thira Island,**	**1.73**	**320**	P		**Pb**	**03 03 27.6**	**+0.1**
THR9	**Santorini-Faro**	**1.76**	**319**	P		**Pb**	**03 03 27.5**	**-0.4**
THR9	**Santorini-Faro**	**1.76**	**319**	P		**Pb**	**03 03 28.2**	**+0.3**
THR3	**Thira Island,**	**1.77**	**321**	P		**Pb**	**03 03 27.7**	**-0.4**
THR3	**Thira Island,**	**1.77**	**321**	P		**Pb**	**03 03 27.8**	**-0.4**
THT2	**Imerovigli**	**1.78**	**322**	PN		**Pb**	**03 03 27.7**	**-0.7**
THR5	**Thira Island,**	**1.81**	**320**	P		**Pb**	**03 03 28.3**	**-0.5**
THR5	**Thira Island,**	**1.81**	**320**	P		**Pb**	**03 03 28.3**	**-0.5**
DAT	**Datca**	**1.82**	**21**	PN		**Pb**	**03 03 29.6**	**+0.6**
CMBO	**Columbo, Santo**	**1.82**	**323**	P		**Pb**	**03 03 28.8**	**-0.2**
CMBO	**Columbo, Santo**	**1.82**	**323**	P		**Pb**	**03 03 28.9**	**-0.1**
CMBO				S		**Sb**	**03 03 52.0**	**+0.7**
DATC	**Datca-Mugla**	**1.87**	**22**	PN		**Pb**	**03 03 31.2**	**+1.3**
MRSB	**Marmaris-Mugla**	**2.04**	**34**	PN		**Pb**	**03 03 33.5**	**+0.7**
BODT	**Bodrum**	**2.07**	**12**	PN		**Pb**	**03 03 32.9**	**-0.5**
BDRM	**Kayabasi**	**2.10**	**15**	*i* P		**Pb**	**03 03 33.4**	**-0.4**
BDRM				*i* S		**Sn**	**03 03 56.3**	**+0.4**
TURN	**Turunc**	**2.11**	**34**	*i* P		**Pb**	**03 03 33.8**	**-0.1**
TURN				*i* S		**Sb**	**03 03 57.7**	**-2.1**
TURN				IAML			03 04 16.0	
	comp=E,117nm,0.4s							
TURN	**Turunc**	**2.11**	**34**	PN		**Pb**	**03 03 33.9**	**-0.1**
VAM	**Vamos**	**2.14**	**281**	P		**Pb**	**03 03 33.6**	**-0.9**
VAM				AML		AML	03 04 09.7	
	comp=N,1363μm,0.4s							
VAM				AML		AML	03 04 15.1	
	comp=E,949μm,0.5s							
VAM	**Vamos**	**2.14**	**281**	P		**Pb**	**03 03 33.1**	**-1.4**
GVDS	**Gavdos**	**2.21**	**266**	PN		**Pb**	**03 03 35.9**	**+0.2**
GVD	**Gavdhos**	**2.21**	**266**	P		**Pb**	**03 03 34.8**	**-0.9**
GVD				AML		AML	03 04 24.0	
	comp=E,696μm,0.6s							
GVD				AML		AML	03 04 27.6	
	comp=N,546μm,0.6s							
GVD	**Gavdhos**	**2.21**	**266**	P		**Pb**	**03 03 34.8**	**-0.9**
GVD	**Gavdhos**	**2.21**	**266**	PN		**Pb**	**03 03 35.6**	**-0.2**
APE	**Apeiranthos**	**2.27**	**334**	P		**Pb**	**03 03 34.9**	**-1.8**
APE				AML		AML	03 04 04.1	
	comp=N,767μm,0.5s							
APE				AML		AML	03 04 05.3	
	comp=E,786μm,0.5s							
APE	**Apeiranthos**	**2.27**	**334**	P		**Pb**	**03 03 35.0**	**-1.8**
APE				S		**Sb**	**03 04 03.0**	**-1.4**
	comp=E,395nm,0.5s							
APE	**Apeiranthos**	**2.27**	**334**	PN		**Pb**	**03 03 34.7**	**-2.0**
APE	**Apeiranthos**	**2.27**	**334**	P		**Pb**	**03 03 34.9**	**-1.8**
IMMV	**Iera Moni Meta**	**2.33**	**281**	P		**Pb**	**03 03 36.6**	**-1.0**
IMMV				AML		AML	03 04 17.5	
	comp=N,934μm,0.4s							
IMMV				AML		AML	03 04 19.4	
	comp=E,976μm,0.6s							
IMMV	**Iera Moni Meta**	**2.33**	**281**	P		**Pb**	**03 03 36.1**	**-1.5**
IMMV	**Iera Moni Meta**	**2.33**	**281**	PN		**Pb**	**03 03 36.5**	**-1.1**
DALY	**Dalyan (Mula)**	**2.35**	**40**	*i* P		**Pb**	**03 03 37.7**	**-0.3**
DALY				*i* S		**Sb**	**03 04 06.6**	**+0.1**
DALY				IAML			03 04 28.0	
	comp=N,102nm,0.5s							
DALY	**Dalyan (Mula)**	**2.35**	**40**	PN		**Pb**	**03 03 37.7**	**-0.3**
MLSB	**Milas**	**2.40**	**19**	PN		**Pb**	**03 03 37.9**	**-1.1**
YER	**Yerkesik**	**2.43**	**30**	PN		**Pb**	**03 03 38.7**	**-0.8**
DDIM	**Aydin, Didim**	**2.45**	**9**	*i* P		**Pb**	**03 03 38.6**	**-1.1**
DDIM				*i* S		Sb	03 04 18.1	+8.6
DDIM				IAML			03 04 31.0	
	comp=N,99nm,1.0s							
DDIM				IAML			03 04 53.0	
	comp=E,116nm,1.1s							
KSL	**Kastellorizon**	**2.55**	**63**	P		**Pb**	**03 03 39.6**	**-1.8**
KSL	**Kastellorizon**	**2.55**	**63**	P		**Pb**	**03 03 39.1**	**-2.3**
KSL				S		**Sb**	**03 04 11.6**	**-0.7**
MULA	**Mugla, Merkez-**	**2.55**	**29**	*i* P		**Pb**	**03 03 40.8**	**-0.8**
MULA				*i* S		**Sb**	**03 04 12.4**	**-0.1**
AKAS	**Kas**	**2.60**	**62**	*i* P		**Pn**	**03 03 39.3**	**+2.0**
AKAS				*i* S		**Sn**	**03 04 04.9**	**-3.5**
AKAS				IAML			03 04 15.0	
	comp=N,89nm,0.4s							
GCAM	**G?zelcaml?**	**2.69**	**8**	*i* P		**Pb**	**03 03 42.0**	**-1.8**
GCAM				*i* S		**Sn**	**03 04 11.2**	**+0.9**
AYDN	**Tasoluk**	**2.77**	**18**	*i* P		**Pb**	**03 03 43.5**	**-1.8**
AYDN				*i* S		**Sn**	**03 04 14.1**	**+1.6**
CAEL	**Denizli, Camel**	**2.94**	**44**	*i* P		**Pb**	**03 03 45.8**	**-2.4**
CAEL				*i* S		**Sn**	**03 04 08.1**	**-8.5**
CAEL				IAML			03 04 54.0	
	comp=E,167nm,1.0s							
CAEL				IAML			03 04 57.0	
	comp=N,131nm,1.0s							
TAVA	**DENIZLI_Tavas**	**2.98**	**35**	*i* P		**Pb**	**03 03 45.9**	**-3.0**
TAVA				*i* S		**Sn**	**03 04 18.9**	**+1.2**
TAVA				IAML			03 04 40.0	
	comp=N,57nm,0.5s							
DGB	**zmir**	**3.02**	**2**	*i* P		**Pb**	**03 03 45.5**	**-3.9**
DGB				*i* S		**Sn**	**03 04 18.3**	**-0.1**
GOLH	**Golhisar**	**3.15**	**45**	*i* P		**Pb**	**03 03 48.5**	**-3.3**
GOLH				*i* S		Sn	03 04 07.9	-14
GOLH				IAML			03 04 24.0	
	comp=E,84nm,1.2s							
GOLH				IAML			03 04 52.0	
	comp=N,65nm,0.7s							
AKUM	**Antalya-Kumluc**	**3.18**	**65**	*i* P		**Pn**	**03 03 48.0**	**+2.8**
AKUM				*i* S		**Sn**	**03 04 17.6**	**-4.9**
KTHA	**Kythira Island**	**3.26**	**293**	P		**Pn**	**03 03 48.1**	**+1.8**
URLA	**Izmir**	**3.33**	**358**	*i* P		**Pn**	**03 03 48.2**	**+1.0**
URLA				*i* S		**Sn**	**03 04 28.6**	**+2.5**
VLI	**Veliai**	**3.54**	**299**	P		**Pn**	**03 03 52.2**	**+2.0**
VLY	**Voula,Athens**	**3.70**	**320**	P		**Pn**	**03 03 55.5**	**+3.1**
MANT	**Manisa**	**3.74**	**22**	*i* P		**Pn**	**03 03 56.2**	**+3.1**
MANT				*i* S		**Sn**	**03 04 34.5**	**-2.1**
KRND	**KRANIDI**	**3.75**	**310**	P		**Pn**	**03 03 55.9**	**+2.8**
SLUM	**Salum**	**3.76**	**201**	P		**Pn**	**03 03 54.0**	**+0.8**
	baz=203							
SLUM				AMP			03 04 00.0	
	baz=203							
SLUM				S		**Sn**	**03 04 35.8**	**-1.1**
	baz=203							
USAK	**Uak-Merkez**	**4.09**	**25**	*i* P		**Pn**	**03 04 00.2**	**+2.4**
USAK				*i* S		**Sn**	**03 04 43.6**	**-1.5**
USAK				IAML			03 04 44.0	
	comp=N,24nm,1.4s							
USAK				IAML			03 06 13.0	
	comp=E,64nm,5.0s							
KZIL	**AFYON_Kizioren**	**4.21**	**39**	*i* P		**Pn**	**03 04 01.9**	**+2.5**
DEMI	**Demirci**	**4.29**	**21**	*i* P		**Pn**	**03 04 03.9**	**+3.3**
KEPZ	**Antalya-Kepez**	**4.34**	**63**	*i* P		**Pn**	**03 04 04.6**	**+3.4**
KEPZ				*i* S		Sn	03 04 40.6	-11
KEPZ				IAML			03 04 59.0	
	comp=N,22nm,0.5s							
KEPZ				IAML			03 04 59.0	
	comp=E,28nm,0.6s							
ITM	**Ithomi**	**4.47**	**300**	P		**Pn**	**03 04 05.4**	**+2.4**
KOCA	**Canakkale, Ayv**	**4.49**	**354**	*i* P		**Pn**	**03 04 06.4**	**+3.2**
KOCA				IAML			03 05 20.0	
	comp=N,30nm,1.2s							
KOCA				IAML			03 06 03.0	
	comp=E,26nm,1.7s							
AKMS	**Akamas**	**4.56**	**89**	P		**Pn**	**03 04 05.6**	**+1.3**
AKMS				AML		AML	03 04 58.0	
	comp=E,0.6nm,0.4s							
AKMS				AML		AML	03 04 58.0	
	comp=E,0.6nm,0.4s							
AKMS				AML		AML	03 04 58.7	
	comp=E,1.1nm,0.3s							
AKMS				AML		AML	03 04 58.7	
	comp=E,1.1nm,0.3s							
AKMS				S		**Sn**	**03 04 58.9**	**+2.3**
GDZ	**Gediz**	**4.59**	**27**	*i* P		**Pn**	**03 04 05.9**	**+1.2**
GDZ				*i* S		**Sn**	**03 04 52.2**	**-5.3**
NATA	**Nata**	**4.77**	**91**	P		**Pn**	**03 04 08.7**	**+1.6**
ALFC	**Alefka**	**4.78**	**87**	P		**Pn**	**03 04 08.2**	**+1.0**
ALFC				AML		AML	03 05 03.2	
	comp=E,1.3nm,0.8s							
ALFC				AML		AML	03 05 03.6	
	comp=E,0.9nm,0.8s							
KLV	**Kalavryta, Ach**	**4.79**	**310**	P		**Pn**	**03 04 09.8**	**+2.5**
SZAC	**Souni**	**5.03**	**91**	P		**Pn**	**03 04 11.9**	**+1.2**
SZAC				AML		AML	03 05 09.1	
	comp=E,0.3nm,0.7s							
SZAC				AML		AML	03 05 10.7	
	comp=E,0.3nm,0.8s							
XOR	**Xorichti**	**5.19**	**328**	P		**Pn**	**03 04 16.2**	**+3.4**
ASGA	**Asgata**	**5.33**	**91**	P		**Pn**	**03 04 16.1**	**+1.4**
AGG	**Agios Georgios**	**5.34**	**320**	P		**Pn**	**03 04 18.2**	**+3.3**
CSS	**Mathiatis**	**5.38**	**89**	P		**Pn**	**03 04 17.0**	**+1.5**
MVOU	**Mavrovouni**	**5.63**	**88**	P		**Pn**	**03 04 20.3**	**+1.5**
SWA2		**5.88**	**191**	P		**Pn**	**03 04 23.0**	**+0.8**
	baz=193							
SWA2				AMP			03 05 00.0	
	baz=193							
SWA2				S		**Sn**	**03 05 25.1**	**-3.9

KOT AMP 03 05 00.0
baz=139
HSAF As Saff 6.74 142 P **Pn** **03 04 34.3 +0.1**
baz=142
GLL Jalalah 6.86 141 P **Pn** **03 04 35.6 -0.2**
baz=141
BRTR Keskin Array B 7.20 47 P **Pn** **03 04 42.6 +2.1**
comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=2.5
BRTR S **Sn** **03 06 04.4 +2.7**
comp=E,0.1nm,0.3s,baz=212,slow=26,SNR=4.3
BRTR LR LR 03 08 33.4
comp=E,58nm,20.2s,baz=218,slow=47
SUZ Suez 7.28 134 P **Pn** **03 04 41.5 0.0**
baz=133
MMAI Mount Meron Ar 7.44 103 P **Pn** **03 04 44.1 +0.3**
comp=E,1.4nm,0.3s,baz=279,slow=11,SNR=11
MMAI S **Sn** **03 06 06.4 -1.2**
comp=E,6.1nm,0.3s,baz=310,slow=16,SNR=11
NBNS Bani Suef 7.46 148 P **Pn** **03 04 43.8 -0.2**
baz=148
HFRF Wahat Farafira 7.97 170 P **Pn** **03 04 51.6 +0.7**
baz=170
EIL Elat 8.74 125 P **Pn** **03 05 02.1 +0.6**
comp=E,0.5nm,0.3s,baz=248,slow=1.3,SNR=19
EIL S **Sn** **03 06 35.0 -4.4**
comp=E,3.9nm,0.3s,baz=113,slow=17,SNR=11
AKASG Malin Array Be 15.76 6 P **Pn** **03 06 37.7 +0.7**
comp=E,1.3nm,0.3s,baz=194,slow=10,SNR=4.0
GERES GERESS Array B 16.85 329 P **P** **03 06 52.1 -0.9**
comp=E,0.2nm,0.3s,baz=139,slow=12,SNR=7.9
ESDC Sonseca Array 24.80 290 P **P** **03 08 16.8 -0.2**
comp=E,0.8nm,0.6s,baz=82,slow=9.6,SNR=16
FINES FINESS Array B 26.43 359 P **P** **03 08 29.8 -1.6**
comp=E,0.9nm,0.5s,baz=168,slow=9.8,SNR=8.7
HFS Hagfors 26.52 345 P **P** **03 08 31.6 -0.6**
comp=E,0.6nm,0.4s,baz=147,slow=12,SNR=6.6
AKTO Aktyubinsk 27.38 46 P **P** **03 08 40.5 +0.4**
comp=E,1.0nm,0.4s,baz=246,slow=6.9,SNR=4.6
NOA NORSAR Array B 27.88 344 P **P** **03 08 44.3 -0.1**
comp=E,0.1nm,0.4s,baz=162,slow=8.9,SNR=2.0
NOA LR LR 03 23 05.7
comp=E,8.3nm,18.9s,baz=0.0,slow=43
EKA Eskdalemuir Ar 28.92 324 P **P** **03 08 52.8 -0.9**
comp=E,0.4nm,0.4s,baz=128,slow=10,SNR=6.0
TORD Torodi Ar. Bea 31.44 232 P **P** **03 09 16.9 +0.5**
comp=E,0.5nm,0.5s,baz=31,slow=8.8,SNR=2.2
ARCES ARCESS Array B 34.56 359 P **P** **03 09 41.8 -1.3**
comp=E,1.6nm,0.8s,baz=176,slow=9.1,SNR=12
MKAR Makanchi Array 42.74 57 P **P** **03 10 52.8 +0.7**
comp=E,0.7nm,0.5s,baz=274,slow=8.1,SNR=10.0
ZALV Zalesovo Beam 44.14 46 P **P** **03 11 03.6 +0.4**
comp=E,1.8nm,0.3s,baz=268,slow=8.6,SNR=5.8
SONM Songino Array 58.54 51 P **P** **03 12 51.9 +0.6**
comp=E,0.4nm,0.5s,baz=302,slow=8.4,SNR=2.4
SCHQ Schefferville 64.14 320 P **P** **03 13 28.7 -0.3**
comp=E,1.0nm,0.5s,baz=60,slow=11,SNR=1.8
USRK Ussuriysk Ar. 75.99 46 P **P** **03 14 42.1 +0.3**
comp=E,0.6nm,0.5s,baz=268,slow=9.0,SNR=2.0

IDC 13 03:11:04.9±2.7, 8.05N×104.44W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/30, mbtmp3.6/6, MS3.5/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=102.6km s-min=28.5km az=60.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**12.95**	**45**	LR	LR	03 17 37.9	
	comp=Z,369nm,20.9s,baz=192,slow=30						
TXAR	**Lajitas Array**	**21.19**	**2**	P	P	03 15 51.4	-0.9
	1.2nm,1.0s,baz=191,slow=13,SNR=7.9						
TXAR				LR	LR	03 23 23.7	
	comp=Z,248nm,19.0s,baz=0.0,slow=35						
ANMO	**Albuquerque**	**26.84**	**356**	LR	LR	03 25 38.6	
	comp=Z,72nm,20.6s,baz=176,slow=33						
PFO	**Pinyon Flats O**	**27.76**	**338**	LR	LR	03 26 09.8	
	comp=Z,63nm,18.7s,baz=127,slow=33						
ELK	**Elko**	**33.95**	**345**	LR	LR	03 28 52.9	
	comp=Z,28nm,20.1s,baz=164,slow=32						
PDAR	**Pinedale Array**	**34.87**	**353**	P	P	03 17 57.9	-0.4
	0.6nm,0.9s,baz=167,slow=12,SNR=5.3						
ULM	**Lac du Bonnet**	**42.67**	**8**	P	P	03 19 03.4	+0.1
	2.0nm,0.7s,baz=184,slow=9.1,SNR=2.4						
LPAZ	**La Paz**	**43.31**	**124**	P	P	03 19 09.4	-0.3
	0.8nm,0.6s,baz=310,slow=6.0,SNR=3.9						
YKA	**Yellowknife Ar**	**54.85**	**354**	P	P	03 20 38.5	+1.7
	0.2nm,0.5s,baz=161,slow=7.7,SNR=2.9						
ILAR	**Eielson Array**	**63.97**	**341**	P	P	03 21 39.3	-0.5
	0.8nm,0.9s,baz=146,slow=4.5,SNR=9.0						

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*IDC **13** 03:17:19.3±0.4, 24.56S×176.27W, h0km, mb4.9/21, mb1 5.0/22, mb1mx5.0/26, mbtmp4.9/22, ML4.2/1, MS5.0/33, Ms1 5.0/33, ms1mx4.8/42, Error ellipse: s-maj=18.2km s-min=15.5km az=136.0*

*MOS **13** 03:17:21.8±1.1, 24.48S×176.42W, h19km, mb5.4/46, MS5.2/25, Error ellipse: s-maj=10.8km s-min=8.3km az=80.6*

*NOU **13** 03:17:22.3, 24.43S×175.43W, h0km, mb5.4, South of Tonga Islands*

*NEIC **13** 03:17:24.1±2.7, 24.60S±0.07×176.2W±0.1, h22km±1km, mb5.3/212, Ms_20 5.3/336, Mwb5.5/63, Mww5.5, Mwc5.6(GCMT), Error ellipse: s-maj=16.8km s-min=11.7km az=93.0*

*BGR **13** 03:17:24.0±0.0, 24.49S×175.28W, h33km*

*NEIC **13** 03:17:24.1, 24.60S×176.21W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.01; Mθθ0.14; Mθφ-2.15; Mrθ-0.60; Mθφ-0.57; Mφφ0.43; Fault plane solution: M◎2.28000×10^17^ NP1:φs355.27000°, δ51.68000°, λ65.62000°. NP2:φs211.44000°, δ44.39000°, λ117.58000°. Principal axes: T 2.2601, Plg71.0000°, Azm203.0000°; N 0.0413, Plg19.0000°, Azm11.0000°; P -2.3014, Plg4.0000°, Azm102.0000°;*

*BJI **13** 03:17:24.8±0.0, 24.76S×175.66W, h65km, mB5.6/38, mb5.4/42, Ms5.2/48, Ms7 5.0/46*

*GCMT **13** 03:17:27.1±0.1, 24.60S±0.01×175.73W±0.01, h31km, MW5.6/142, Moment Tensor Solution. s137,c250; s142,c265; Duration: 1ŧ5 Moment tensor: Scale 10^17^ Nm; Mrr2.42±.04; Mθθ-0.00±.03; Mθφ-2.42±.03; Mrθ0.28±.04; Mθφ-0.33±.02; Mφφ1.34±.04; Best double couple: M◎2.80000×10^17^ NP1:φs185.00000°, δ30.00000°, λ86.00000°. NP2:φs10.00000°, δ60.00000°, λ92.00000°. Principal axes: T 2.7800, Plg75.0000°, Azm286.0000°; N 0.0370, Plg2.0000°, Azm189.0000°; P -2.8200, Plg15.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 03:17:27, 24.56S×175.73W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.13; Mθθ0.16; Mθφ-2.29; Mrθ0.34; Mθφ-0.27; Mφφ1.44; Fault plane solution: M◎2.68000×10^17^ NP1:φs182.00000°, δ28.00000°, λ82.00000°. NP2:φs10.00000°, δ62.00000°, λ94.00000°. Principal axes: T 2.5828, Plg73.0000°, Azm290.0000°; N 0.1790, Plg4.0000°, Azm188.0000°; P -2.7618, Plg17.0000°, Azm97.0000°;*

*NEIC **13** 03:17:30, 24.40S×175.91W, h36km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.38; Mθθ-0.10; Mθφ-2.28; Mrθ-0.37; Mθφ-0.54; Mφφ0.98; Fault plane solution: M◎2.62000×10^17^ NP1:φs205.00000°, δ36.00000°, λ110.00000°. NP2:φs1.00000°, δ56.00000°, λ76.00000°. Principal axes: T 2.6651, Plg74.0000°, Azm231.0000°; N -0.1007, Plg12.0000°, Azm9.0000°; P -2.5644, Plg10.0000°, Azm101.0000°;*

ISC 13 03:17:26.8±0.4, 24.62S±0.05×176.28W±0.06, h53km±3km, h53km: pP-P, n880, σ1ŧ33/662, mb5.2/152, MS5.3/235, 76C-38D, Fault plane solution: NP1:φs354.76581°, δ47.24626°, λ86.36420°. NP2:φs180.11327°, δ42.87833°, λ93.92389°. Principal axes: T Plg86.5489°, Azm216.6145°; N Plg2.6689°, Azm357.2357°; P Plg2.1863°, Azm87.3377°; South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.83**	**197**	Pn	**Pn**	**03 18 37.9**	**+0.9**
	86nm,0.3s,baz=249,slow=23,SNR=5.0						
RAO				Sn	**Sn**	**03 19 32.5**	**+0.8**
	272nm,0.3s,baz=48,slow=24,SNR=5.8						
RAO				LR	LR	03 19 34.7	
	comp=Z,3μm,20.8s,baz=40,slow=28						
RAO	**Raoul Island**	**4.83**	**197**	P	**Pn**	**03 18 38.5**	**+1.5**
RAO						03 19 32.5	
RAO	**Raoul Island**	**4.83**	**197**	Pn	**Pn**	**03 18 38.5**	**+1.5**
RAO	**Raoul Island**	**4.83**	**197**		**Sn**	**03 19 32.5**	**+0.8**
LKBA	**Tubou, Lakemba**	**6.78**	**339**	P	**Pn**	**03 19 06.2**	**+2.5**
NIUE	**Niue**	**8.08**	**48**	P	Pn	03 19 11.0	-11
	baz=7.1,SNR=26						
NIUE				S	Sn	03 20 28.1	-23
	baz=7.1						
NIUE	**Niue**	**8.08**	**48**		Pn	03 19 10.9	-11
NIUE	**Niue**	**8.08**	**48**	P	Pn	03 19 11.3	-10
MSVF	**Nonsavu**	**8.66**	**321**	Pn	**Pn**	**03 19 31.8**	**+2.3**
	55nm,0.3s,baz=159,slow=11,SNR=148						
MSVF				LR	LR	03 22 33.6	
	comp=Z,24μm,19.5s,baz=118,slow=36						
MSVF	**Nonsavu**	**8.66**	**321**	P	**Pn**	**03 19 31.5**	**+2.0**
MSVF	**Nonsavu**	**8.66**	**321**	Pn	**Pn**	**03 19 31.5**	**+2.0**
MSVF	**Nonsavu**	**8.66**	**321**	P	**Pn**	**03 19 32.1**	**+2.6**
DGTI	**Dogotuki**	**9.08**	**335**	P	Pn	03 19 38.5	+3.2
AFI	**Afiamalu**	**11.47**	**23**	Pn	Pn	03 19 58.5	-10
	25nm,0.3s,baz=193,slow=1.9,SNR=24						
AFI				Sn	Sn	03 21 55.3	-19
	13nm,0.3s,baz=73,slow=20,SNR=2.3						
AFI	**Afiamalu**	**11.47**	**23**	P	**Pn**	**03 20 08.8**	**+0.7**
AFI	**Afiamalu**	**11.47**	**23**	Pn	**Pn**	**03 20 08.8**	**+0.7**
AFI	**Afiamalu**	**11.47**	**23**	P	Pn	03 20 00.8	-7.2
URZ	**Urewera**	**14.71**	**201**	Pn	**Pn**	**03 20 50.0**	**-1.7**
	1.1nm,0.3s,baz=308,slow=20,SNR=1.6						
URZ				Sn	Sn	03 23 24.1	-9.2
	1.8nm,0.3s,baz=318,slow=23,SNR=4.2						
URZ	**Urewera**	**14.71**	**201**		**P**	**03 20 55.4**	**-1.3**
PINNC	**Pines Island,**	**15.05**	**274**		**P**	**03 21 00.2**	**-0.3**
PINNC	**Pines Island,**	**15.05**	**274**	P	**P**	**03 21 06.8**	**+6.3**
RAR	**Rarotonga**	**15.58**	**81**	Pn	Pn	03 20 52.7	-10
	17nm,0.3s,baz=238,slow=9.0,SNR=18						
RAR				Sn	Sn	03 23 29.0	-26
	7.6nm,0.3s,baz=253,slow=19,SNR=2.1						
RAR				LR	LR	03 26 03.4	
	comp=Z,5μm,18.6s,baz=280,slow=34						
RAR	**Rarotonga**	**15.58**	**81**	P	Pn	03 20 52.7	-10
OUENC	**Ouen Island, N**	**15.63**	**275**		**P**	**03 21 08.0**	**+0.9**
OUENC					IAmb	IAmb	03 21 29.8
	comp=Z,350nm,1.3s						
OUENC	**Ouen Island, N**	**15.63**	**275**	P	P	03 21 14.7	+7.7
YATNC	**Mamie plateau,**	**15.66**	**276**	P	**P**	**03 21 13.8**	**+6.4**
	comp=Z,126nm,1.1s						
LIFNC	**LIFOU**	**15.68**	**281**		**P**	**03 21 08.8**	**+1.3**
ONTNC	**Ouen Toro**	**16.01**	**275**		**P**	**03 21 13.7**	**+2.5**
ONTNC	**Ouen Toro**	**16.01**	**275**	P	P	03 21 19.4	+8.2
DZM	**Mont Dzumac**	**16.07**	**276**	*e*Pn	**P**	**03 21 16.8**	**+4.9**
	comp=Z,313nm,1.4s						
DZM				*e*S	**S**	**03 24 17.7**	**-0.1**
	comp=Z,3μm,25.2s						
DZM				*e*LQ	LQ	03 24 27.1	
	comp=Z,5μm,27.0s						
DZM				*e*LR	LR	03 25 09.7	
	comp=Z,12μm,23.2s						
DZM	**Mont Dzumac**	**16.07**	**276**	Pn	**P**	**03 21 14.8**	**+2.9**
	comp=Z,1.7nm,0.3s,baz=91,slow=18,SNR=16						
DZM				LR	LR	03 24 57.4	
	comp=Z,2μm,21.6s,baz=94,slow=28						
DZM	**Mont Dzumac**	**16.07**	**276**		**P**	**03 21 15.6**	**+3.7**
DZM	**Mont Dzumac**	**16.07**	**276**	P	P	03 21 19.8	+7.9
NOUC	**Port Laguerre**	**16.19**	**275**	P	**P**	**03 21 19.9**	**+6.7**
SANVU	**Saraoutou**	**17.99**	**297**	P	**P**	**03 21 34.7**	**+1.6**
SANVU					IAmb	IAmb	03 21 59.5
	comp=Z,188nm,1.0s						
SANVU	**Saraoutou**	**17.99**	**297**	P	P	03 21 41.4	+8.3
TBI	**Tubuai**	**24.53**	**93**	*e*S	S	03 26 40.9	-18
	comp=Z,2μm,25.5s						
TBI				*e*LR	LR	03 28 30.4	
	comp=Z,9μm,27.5s,baz=263						
TBI	**Tubuai**	**24.53**	**93**	*e*T	T	03 47 18.5	
	comp=Z,62nm,0.4s						
PAE	**Paea**	**25.82**	**80**	*e*T	T	03 48 54.5	
	comp=Z,29nm,0.3s						
PPT2	**Papeete2**	**25.85**	**79**	*e*S	S	03 27 03.1	-17
	comp=Z,2μm,28.2s						
PPT2				*e*LQ	LQ	03 28 03.3	
	comp=Z,3μm,23.0s						
PPT2				*e*LR	LR	03 29 08.0	
	comp=Z,11μm,24.0s,baz=247						
PPT2	**Papeete2**	**25.85**	**79**	*e*T	T	03 48 57.8	
	comp=Z,22nm,0.4s						
PPT	**Papeete**	**25.86**	**79**	LR	LR	03 30 37.0	
	comp=Z,5μm,20.9s,baz=242,slow=31						
TIAR	**Tiarei**	**26.07**	**80**	*e*T	T	03 49 13.3	
	comp=Z,2.0nm,0.3s						
MEH	**Mehetia**	**27.11**	**81**	*e*T	T	03 50 30.9	
	comp=Z,61nm,0.3s						
HNR	**Honiara**	**27.22**	**300**	LR	LR	03 32 21.2	
	comp=Z,5μm,20.2s,baz=148,slow=33						
VAH	**Vaihoa**	**28.46**	**76**	*e*T	T	03 52 12.2	
	comp=Z,13nm,0.3s						
EIDS	**Eidsvold**	**29.55**	**262**	P	**P**	**03 23 28.6**	**+2.0**
	baz=30,SNR=8.4						
EIDS	**Eidsvold**	**29.55**	**262**	P	**P**	**03 23 28.0**	**+1.4**
EIDS					IAmb	IAmb	03 23 31.4
	comp=Z,33nm,0.9s						
MGCD	**Mangrove Creek**	**29.70**	**246**	P	**P**	**03 23 31.9**	**+4.0**
	baz=30,SNR=4.6						
RMQ	**Roma**	**31.54**	**259**	P	**P**	**03 23 46.6**	**+2.5**
	baz=32,SNR=6.8						
CAN	**Canberra**	**31.76**	**242**	IAMs_20	IAMs_20	03 34 35.4	
	comp=Z,5μm,20.0s						
MILA	**Mila**	**31.98**	**239**	P	**P**	**03 23 50.3**	**+2.2**
	baz=33,SNR=6.1						
CMSA	**Cobar Meteorol**	**34.12**	**250**	P	**P**	**03 24 07.4**	**+0.7**
	baz=35,SNR=6.4						
CTA	**Charters Tower**	**34.87**	**270**	LR	LR	03 37 22.1	
	comp=Z,2μm,19.7s,baz=98,slow=34						
CTAO	**Charters Tower**	**34.87**	**270**	P	**P**	**03 24 12.9**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,55nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,2μm,19.0s						
CTAO	**Charters Tower**	**34.87**	**270**	P	**P**	**03 24 12.9**	**-0.3**
CTAO				IAmb	IAmb	03 24 15.4	
	comp=Z,55nm,1.1s						
TOO	**Toolangi**	**34.95**	**239**	P	**P**	**03 24 14.9**	**+1.2**
	baz=36,SNR=8.8						
TOO	**Toolangi**	**34.95**	**239**	P	**P**	**03 24 14.0**	**+0.2**
TOO				pmax	pmax		
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**34.95**	**239**	P	**P**	**03 24 14.0**	**+0.2**
TAU	**Tasmania Unive**	**34.98**	**229**	IAMs_20	IAMs_20	03 36 28.3	
	comp=Z,4μm,19.0s						
QLP	**Quilpie**	**35.57**	**258**	P	**P**	**03 24 20.3**	**+1.2**
	baz=36,SNR=5.6						
MTSU	**Mount Surprise**	**37.16**	**272**	P	**P**	**03 24 33.3**	**+0.4**
	baz=38,SNR=28						
STKA	**Stephens Creek**	**37.62**	**249**	P	**P**	**03 24 36.5**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=95,slow=10,SNR=8.9						
STKA				LR	LR	03 38 15.8	
	comp=Z,6μm,20.7s,baz=86,slow=33						
STKA	**Stephens Creek**	**37.62**	**249**	P	**P**	**03 24 37.2**	**+0.6**
	baz=38,SNR=5.6						
STKA	**Stephens Creek**	**37.62**	**249**	P	**P**	**03 24 37.0**	**+0.4**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
STKA	**Stephens Creek**	**37.62**	**249**	P	**P**	**03 24 37.0**	**+0.4**
RKT	**Rikitea**	**37.71**	**96**	*e*S	S	03 30 09.7	-14
	comp=Z,666nm,29.2s						
RKT				*e*LQ	LQ	03 33 03.2	
	comp=Z,538nm,28.5s						
RKT				*e*LR	LR	03 34 36.5	
	comp=Z,6μm,25.5s						
RKT	**Rikitea**	**37.71**	**96**	*e*T	T	04 03 45.7	
	comp=Z,13nm,0.3s						
TAOE	**Nuku Hiva Isla**	**37.84**	**72**	*e*T	T	04 03 55.2	
	comp=Z,28nm,0.2s						
PMG	**Port Moresby**	**37.94**	**287**	P	**P**	**03 24 38.7**	**-0.8**
	comp=Z,54nm,0.8s,baz=99,slow=8.2,SNR=8.2						
PMG				LR	LR	03 37 52.8	
	comp=Z,3μm,19.8s,baz=110,slow=32						
PMG	**Port Moresby**	**37.94**	**287**	*de*P	**P**	**03 24 39.2**	**-0.3**
PMG				pmax	pmax		
	comp=Z,60nm,1.0s						
PMG	**Port Moresby**	**37.94**	**287**	P	**P**	**03 24 38.7**	**-0.8**
PMG	**Port Moresby**	**37.94**	**287**	P	**P**	**03 24 38.7**	**-0.8**
	comp=Z,75nm,1.0s						
HTT	**Hallett**	**39.89**	**247**	P	**P**	**03 24 56.0**	**+0.3**
	baz=41,SNR=9.8						
QIS	**Mount Isa**	**40.80**	**267**	P	**P**	**03 25 03.2**	**-0.1**
	baz=41,SNR=7.8						
BBOO	**Buckleboo**	**42.30**	**248**	P	**P**	**03 25 15.6**	**+0.2**
	baz=43,SNR=8.4						
BBOO	**Buckleboo**	**42.30**	**248**	P	**P**	**03 25 15.2**	**-0.2**
AS31	**Alice Springs**	**45.26**	**260**	P	**P**	**03 25 39.3**	**-0.1**
ASAR	**Alice Springs**	**45.26**	**260**	P	**P**	**03 25 39.0**	**-0.4**
	comp=Z,47nm,0.9s,baz=102,slow=8.0,SNR=124						
ASAR				S	**S**	**03 32 11.4**	**-4.8**
	comp=Z,1.9nm,1.1s,baz=103,slow=15,SNR=5.2						
ASAR				LR	LR	03 44 18.7	
	comp=Z,5μm,18.1s,baz=112,slow=36						
ASAR	**Alice Springs**	**45.26**	**260**	P	**P**	**03 25 38.7**	**-0.7**
ASAR	**Alice Springs**	**45.26**	**260**	P	**P**	**03 25 38.7**	**-0.7**
WR0	**Warramunga Arr**	**45.55**	**266**	IAmb	IAmb	03 25 43.1	
	comp=Z,23nm,0.8s						
WB2	**Warramunga Arr**	**45.73**	**266**	P	**P**	**03 25 42.1**	**-1.0**
WB2				IAmb	IAmb	03 25 44.1	
	comp=Z,49nm,0.9s						
WRAB	**Tennant Creek**	**45.73**	**266**	i*e*P	**P**	**03 25 41.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,32nm,0.7s						
WRAB	**Tennant Creek**	**45.73**	**266**	P	**P**	**03 25 42.0**	**-1.1**
WRAB				IAmb	IAmb	03 25 44.1	
	comp=Z,41nm,0.9s						
WRA	**Warramunga Arr**	**45.74**	**266**	P	**P**	**03 25 41.9**	**-1.3**
	comp=Z,39nm,0.8s,baz=102,slow=8.2,SNR=95						
WRA				S	**S**	**03 32 25.1**	**+2.0**
	comp=Z,2.4nm,1.0s,baz=112,slow=14,SNR=4.6						
WRA				LR	LR	03 44 20.6	
	comp=Z,5μm,18.5s,baz=100,slow=35						
WRA	**Warramunga Arr**	**45.74**	**266**	P	**P**	**03 25 41.4**	**-1.8**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**45.74**	**266**	P	**P**	**03 25 41.4**	**-1.8**
WAKE	**Wake Island**	**46.70**	**338**	IAMs_20	IAMs_20	03 41 26.0	
	comp=Z,3μm,20.0s						
FORT	**Forrest**	**49.24**	**250**	P	**P**	**03 26 09.5**	**-0.7**
	baz=50,SNR=18						
FORT	**Forrest**	**49.24**	**250**	P	**P**	**03 26 09.6**	**-0.6**
FORT				IAmb	IAmb	03 26 24.0	
	comp=Z,27nm,0.7s						
KDU	**Kakadu**	**49.73**	**274**	P	**P**	**03 26 12.8**	**-1.3**
	baz=50,SNR=5.4						
WRKA	**Warakurna**	**49.99**	**257**	P	**P**	**03 26 15.5**	**-0.6**
	baz=51,SNR=65						
KNRA	**Kununurra**	**52.07**	**269**	P	**P**	**03 26 30.7**	**-1.0**
	baz=53,SNR=17						
KNRA	**Kununurra**	**52.07**	**269**	P	**P**	**03 26 30.7**	**-1.0**
KNRA				IAmb	IAmb	03 26 33.8	
	comp=Z,45nm,0.9s						
MIDW	**Midway**	**52.55**	**359**	IAMs_20	IAMs_20	03 45 12.3	
	comp=Z,3μm,21.0s						
SAUI	**Saumlaki**	**52.63**	**279**	IAMs_20	IAMs_20	03 48 18.6	
	comp=Z,2μm,19.0s						
SBA	**Scott Base**	**53.89**	**184**	P	**P**	**03 26 46.3**	**+2.1**
SBA				pmax	pmax		
	comp=Z,23nm,1.0s						
SBA	**Scott Base**	**53.89**	**184**	P	**P**	**03 26 46.3**	**+2.1**
SBA				IAmb	IAmb	03 27 00.5	
	comp=Z,23nm,0.9s						
VNDA	**Vanda**	**53.97**	**186**	P	**P**	**03 26 44.5**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=342,slow=6.9,SNR=4.3						
VNDA				LR	LR	03 46 01.9	
	comp=Z,634nm,21.3s,baz=358,slow=32						
VNDA	**Vanda**	**53.97**	**186**	P	**P**	**03 26 45.9**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VNDA	**Vanda**	**53.97**	**186**	P	**P**	**03 26 45.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**54.15**	**265**	LR	LR	03 49 47.5	
	comp=Z,4μm,18.3s,baz=114,slow=36						
FITZ	**Fitzroy Crossi**	**54.15**	**265**	P	**P**	**03 26 46.3**	**-0.6**
	baz=55,SNR=27						
FITZ	**Fitzroy Crossi**	**54.15**	**265**	P	**P**	**03 26 46.5**	**-0.5**
FITZ				IAmb	IAmb	03 26 48.8	
	comp=Z,26nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.02**	**245**	LR	LR	03 48 05.4	
	comp=Z,558nm,21.9s,baz=94,slow=32						
NWAO	**Narrogin (SRO)**	**58.02**	**245**	IAMs_20	IAMs_20	03 53 00.6	
	comp=Z,3μm,18.0s						
MEEK	**Meekatharra**	**58.15**	**253**	P	**P**	**03 27 15.8**	**+0.3**
	baz=59,SNR=6.3						
SOEI	**Soe**	**58.28**	**274**	IAMs_20	IAMs_20	03 52 20.3	
	comp=Z,3μm,20.0s						
BATI	**Baumata**	**58.66**	**273**	LR	LR	03 52 01.2	
	comp=Z,3μm,20.7s,baz=162,slow=36						
BLDU	**Ballidu**	**58.91**	**248**	P	**P**	**03 27 19.9**	**-0.8**
	baz=60,SNR=10						
MORW	**Morawa**	**59.81**	**250**	P	**P**	**03 27 26.8**	**-0.1**
	baz=61,SNR=12						
CASY	**Casey**	**60.96**	**206**	P	**P**	**03 27 34.5**	**+0.5**
QSPA	**South Pole Qui**	**65.47**	**180**	P	**P**	**03 28 04.9**	**+0.8**
TOLI2	**Tolitoli**	**66.05**	**283**	P	**P**	**03 28 07.2**	**-1.4**
TOLI2				IAmb	IAmb	03 28 08.7	
	comp=Z,16nm,0.8s						
JOW	**Kunigami**	**74.02**	**310**	LR	LR	03 59 19.0	
	comp=Z,634nm,19.5s,baz=130,slow=34						
MJAR	**Matsushiro Arr**	**74.45**	**323**	P	**P**	**03 28 58.2**	**-1.3**
	comp=Z,4.8nm,0.7s,baz=156,slow=5.7,SNR=15						
MJAR				LR	LR	03 56 34.3	
	comp=Z,1μm,22.0s,baz=140,slow=32						
MJAR	**Matsushiro Arr**	**74.45**	**323**	P	**P**	**03 28 58.1**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,11nm,1.3s						
MJAR	**Matsushiro Arr**	**74.45**	**323**	P	**P**	**03 28 58.1**	**-1.3**
MAJO	**Matsushiro**	**74.46**	**323**	i*e*P	**P**	**03 28 58.5**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**74.46**	**323**	P	**P**	**03 28 57.9**	**-1.6**
MAJO	**Matsushiro**	**74.46**	**323**	IAMs_20	IAMs_20	03 56 12.9	
	comp=Z,1μm,22.0s						
MAT	**Matsushiro**	**74.46**	**323**	P	**P**	**03 28 57.9**	**-1.6**
MAT				S	**S**	**03 38 29.6**	**-0.8**
LEM	**Lembang**	**74.57**	**269**	LR	LR	04 02 18.8	
	comp=Z,2μm,19.7s,baz=140,slow=36						
ERM	**Erimo**	**76.18**	**330**	IAMs_20	IAMs_20	04 00 03.9	
	comp=Z,1μm,20.0s						
JHS	**Saijyo**	**76.25**	**319**	P	**P**	**03 29 09.4**	**-0.4**
JHS				IAmb	IAmb	03 29 34.1	
	comp=Z,35nm,1.2s						
JNU	**Nakatsue**	**76.35**	**317**	P	**P**	**03 29 09.8**	**-0.6**
	comp

QZH L L
comp=Z,450nm,20.2s
QZH L L
comp=Z,380nm,19.3s
QZH L L
comp=Z,670nm,19.4s
MCCM Marconi Confer 80.04 40 IAMs_20 IAMs_20 03 58 13.3
comp=Z,986nm,20.0s
PAGB Antelope Grade 80.05 43 P **P** **03 29 31.7 +0.8**
PAGB IAmb IAmb 03 29 45.7
comp=Z,23nm,1.1s
SLBS Sierra La Lagu 80.25 58 IAMs_20 IAMs_20 04 01 22.9
comp=Z,1µm,19.0s
YSS Yuzh-Sakhalins 80.27 333 *ce*P **P** **03 29 32.5 +0.8**
YSS *e* 03 29 42.9
YSS *e* 03 39 30.7
YSS *e* 03 44 40.7
YSS pmax pmax
comp=Z,400nm,4.5s
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 80.27 333 P **P** **03 29 32.5 +0.8**
YSS IAMs_20 IAMs_20 03 59 00.2
comp=Z,1µm,21.0s
109C Camp Elliot, M 80.30 47 IAMs_20 IAMs_20 04 03 53.3
comp=Z,1µm,18.0s
PET Petropavlovsk 80.34 345 *ci*P **P** **03 29 31.8 -0.1**
PET *eS* **S** **03 39 31.1 -2.2**
PET pmax pmax
comp=Z,500nm,9.2s
PET pmax pmax
comp=Z,400nm,16.9s
PET Petropavlovsk 80.34 345 P **P** **03 29 32.2 +0.3**
PET IAmb IAmb 03 30 01.6
comp=Z,35nm,1.1s
PET IAMs_20 IAMs_20 03 58 11.5
comp=Z,978nm,22.0s
PASC Pasadena Art C 80.38 46 IAMs_20 IAMs_20 04 03 48.3
comp=Z,883nm,19.0s
HOPS Hopland Field 80.50 39 IAMs_20 IAMs_20 03 59 57.4
comp=Z,1µm,19.0s
PEA0B Petropavlovsk- 80.65 344 *ci*P **P** **03 29 33.4 -0.2**
PEA0B Petropavlovsk- 80.65 344 P **P** **03 29 33.6 0.0**
PETK Petropavlovsk- 80.65 344 P **P** **03 29 33.5 -0.1**
comp=Z,31nm,1.0s,baz=130,slow=6.4,SNR=20
PETK LR LR 03 58 54.2
comp=Z,968nm,22.0s,baz=164,slow=31
PETK Petropavlovsk- 80.65 344 P **P** **03 29 33.4 -0.2**
MURC Murrieta 80.67 47 P 03 29 34.8
baz=232
MONP2 Monument Peak 80.76 47 P 03 29 35.8
baz=233
BFSC Mount Baldy Ra 80.76 46 P 03 29 35.0
baz=232
IKP In-Ko-Pah, Jac 80.83 48 P 03 29 35.9
baz=233
EDW2 Edwards Air Fo 80.94 45 P 03 29 36.2
baz=232,SNR=8.1
KSRS Korea Array 81.01 318 P **P** **03 29 37.1 +1.3**
comp=Z,2.3nm,0.3s,baz=167,slow=17,SNR=7.3
KSRS LR LR 04 00 37.6
comp=Z,690nm,21.8s,baz=124,slow=32
KSAR Wonju Array Be 81.03 318 P **P** **03 29 34.4 -1.6**
KSAR Wonju Array Be 81.03 318 P **P** **03 29 34.4 -1.6**
ISA Isabella, Lake 81.12 44 P 03 29 37.7
baz=231,SNR=9.8
ISA Isabella, Lake 81.12 44 P **P** **03 29 36.9 +0.2**
ISA pmax pmax
comp=Z,31nm,1.2s
ISA Isabella, Lake 81.12 44 P **P** **03 29 36.9 +0.2**
ISA IAmb IAmb 03 29 57.1
comp=Z,31nm,1.1s
PFO Pinyon Flats O 81.17 47 P 03 29 37.6
baz=233
TPFO Pinon Flats 81.17 47 P 03 29 37.7
baz=233
PFO Pinyon Flats O 81.17 47 P **P** **03 29 37.8 +0.8**
PFO pmax pmax
comp=Z,28nm,1.5s
PFO Pinyon Flats O 81.17 47 P **P** **03 29 37.8 +0.8**
PFO IAmb IAmb 03 29 56.4
comp=Z,28nm,1.5s
PFO Pinyon Flats O 81.17 47 IAMs_20 IAMs_20 04 03 19.3
comp=Z,1µm,18.0s
O02D Mt. Diablo Mer 81.45 39 P 03 29 40.0
baz=228
LRMC Laurel Mtn Rad 81.51 45 P 03 29 39.7
baz=232
AFDM Forest Hills D 81.69 40 P **P** **03 29 40.4 +0.9**
BELC Belle Mtn. Jos 81.71 47 P 03 29 40.8
baz=233
ORV Oroville 81.78 40 P **P** **03 29 41.1 +1.2**
ORV pmax pmax
comp=Z,17nm,1.5s
ORV Oroville 81.78 40 P **P** **03 29 41.1 +1.2**
CWC Cottonwood Cre 81.86 44 P 03 29 41.2
baz=231
WDC Whiskeytown Da 81.87 38 IAMs_20 IAMs_20 04 00 10.7
comp=Z,2µm,20.0s
BC3 Big Chuckawall 81.87 47 P 03 29 41.9
baz=233
GSC Goldstone, Bar 81.97 45 P 03 29 42.0
baz=232
GSC Goldstone, Bar 81.97 45 P **P** **03 29 41.1 -0.1**
GSC pmax pmax
comp=Z,23nm,1.5s
GSC Goldstone, Bar 81.97 45 P **P** **03 29 41.1 -0.1**
HEC Hector,Ludlow 81.99 46 P 03 29 41.9
baz=232
MPMC Manual Prospec 81.99 44 P 03 29 42.1
baz=232
O03E Paynes Creek 82.09 39 P 03 29 42.0
baz=228
UGL Uglegorsk 82.24 334 *e*P **P** **03 29 42.5 +0.4**
UGL *eS* **S** **03 39 54.8 +1.6**
UGL *e*SS **SS** **03 45 18.0 +3.0**
UGL pmax pmax
comp=Z,100nm,1.0s
UGL smax smax
comp=N,4µm,17.0s
WAKR Walker 82.32 42 P **P** **03 29 43.7 +0.6**
WAKR IAmb IAmb 03 30 03.8
comp=Z,31nm,1.2s
IRM Iron Mountain 82.37 47 P 03 29 44.4
baz=233
HSIG 82.38 53 P **P** **03 29 43.5 +0.2**
H03S2 Juan Fernandez 82.38 124 T T 05 00 34.5
baz=244,slow=75
H03S1 Juan Fernandez 82.39 124 T T 05 00 35.5
baz=244,slow=75
H03S3 Juan Fernandez 82.39 124 T T 05 00 34.3
baz=244,slow=75
GMRC Granite Mounta 82.40 46 P 03 29 44.2
baz=233
H03N2 Juan Fernandez 82.53 123 T T 05 00 37.4
baz=250,slow=72
H03N3 Juan Fernandez 82.53 123 T T 05 00 44.4
baz=250,slow=72
YBH Yreka Blue Hor 82.55 37 P **P** **03 29 44.1 +0.1**
comp=Z,9.1nm,1.1s,baz=26,slow=4.6,SNR=5.3
YBH Yreka Blue Hor 82.55 37 P **P** **03 29 44.8 +0.8**
YBH pmax pmax
comp=Z,21nm,1.4s
YBH Yreka Blue Hor 82.55 37 P **P** **03 29 44.8 +0.8**
H03N1 Juan Fernandez 82.55 123 T T 05 00 39.3
baz=250,slow=72
VLA Vladivostok 82.55 325 *ce*P **P** **03 29 44.3 +0.4**
VLA pmax pmax
comp=Z,25nm,1.1s
MSHR Mys Shultsa 82.57 324 ⇓*e*P **P** **03 29 45.5 +1.5**
MSHR pmax pmax
comp=Z,31nm,0.9s
PNTR Pine Nut 82.60 41 P **P** **03 29 45.1 +0.6**
PNTR IAmb IAmb 03 30 04.9
comp=Z,24nm,1.1s
TUQ Turquoise Moun 82.62 46 P 03 29 45.6
baz=233,SNR=7.1
FURC Furnace Creek, 82.64 44 P 03 29 45.1
baz=232
GRAC Grapevine Rang 82.65 44 P 03 29 45.6
baz=232,SNR=12
BEKR Beckworth 82.65 40 P **P** **03 29 45.6 +0.8**
SHOC Shoshone, Teco 82.67 45 P 03 29 45.7
baz=232

214A Organ Pipe Nat 82.69 50 P 03 29 49.2
baz=235
LHV Little Huntoon 82.73 42 IAmb IAmb 03 30 05.7
comp=Z,33nm,1.3s
YERR Yerington 82.75 41 IAmb IAmb 03 30 08.1
comp=Z,21nm,1.3s
NVAR Mina Array Bea 82.96 42 P **P** **03 29 47.0 +0.5**
comp=Z,4.3nm,1.0s,baz=224,slow=9.1,SNR=20
NVAR LR LR 04 01 01.4
comp=Z,760nm,19.1s,baz=256,slow=32
NVAR Mina Array Bea 82.96 42 P **P** **03 29 46.7 +0.3**
HUMO Hull Mountain 83.00 37 IAMs_20 IAMs_20 04 00 54.7
comp=Z,947nm,20.0s
NV11 Mina Array Sit 83.05 42 IAmb IAmb 03 30 09.7
comp=Z,23nm,1.2s
SYO Syowa Base 83.06 192 ⇑*i*P **P** **03 29 46.0 -0.2**
SYO Syowa Base 83.06 192 ⇓*i*PcP **P** **03 29 48.2 +2.0**
PAHR Pah Rah Range 83.12 41 P **P** **03 29 48.1 +0.9**
PAHR IAmb IAmb 03 29 56.4
comp=Z,29nm,1.4s
PDMCI Parker Dam,Lak 83.13 47 P 03 29 48.0
baz=234
USRK Ussuriysk Ar. 83.25 325 P **P** **03 29 48.4 +0.9**
comp=Z,40nm,1.0s,baz=115,slow=2.8,SNR=37
USRK LR LR 04 05 09.3
comp=Z,821nm,18.8s,baz=130,slow=34
USRK Ussuriysk Ar. 83.25 325 P **P** **03 29 47.7 +0.2**
USRK Ussuriysk Ar. 83.25 325 P **P** **03 29 47.6 +0.2**
TPNV Topopah Spring 83.33 44 P 03 29 49.0
baz=232,SNR=8.4
TPNV Topopah Spring 83.33 44 P **P** **03 29 49.0 +0.7**
TPNV pmax pmax
comp=Z,36nm,1.5s
TPNV MLR MLR
comp=Z,1µm,18.0s
TPNV Topopah Spring 83.33 44 P **P** **03 29 49.0 +0.7**
TPNV IAmb IAmb 03 30 11.2
comp=Z,36nm,1.4s
TPNV IAMs_20 IAMs_20 04 05 57.4
comp=Z,1µm,18.0s
TYV Tymovskoe 83.43 335 *e*P **P** **03 29 49.0 +0.8**
TYV pmax pmax
comp=Z,48nm,1.0s
TYV pmax pmax
comp=Z,400nm,2.6s
KVN Kaiserville 83.47 42 P **P** **03 29 49.8 +0.8**
KVN pmax pmax
comp=Z,21nm,1.3s
KVN Kaiserville 83.47 42 P **P** **03 29 49.8 +0.8**
KVN IAmb IAmb 03 29 58.2
comp=Z,22nm,1.3s
NJ2 Nanjing 83.72 309 ⇓P **P** **03 29 52.0 +1.9**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 L L
comp=Z,470nm,18.2s
NJ2 L L
comp=Z,250nm,17.7s
NJ2 L L
comp=Z,550nm,20.1s
SHPR Sheep Range 83.76 45 P **P** **03 29 50.4 -0.2**
SHPR IAmb IAmb 03 30 05.6
comp=Z,25nm,1.5s
W13A Hualapai Mount 83.77 47 IAmb IAmb 03 30 13.7
comp=Z,24nm,1.4s
SNAA Sanae 83.86 178 P **P** **03 29 51.2 +0.8**
SNAA Sanae 83.86 178 *ci*P **P** **03 29 50.8 +0.4**
SNAA pmax pmax
comp=Z,37nm,1.0s
SNAA Sanae 83.86 178 P **P** **03 29 50.8 +0.4**
J04D Umpqua Nationa 83.89 37 P 03 29 51.1
baz=228
VNA3 Neumayer Olymp 83.94 176 P **P** **03 29 51.4 +0.6**
QIZ Qiongzhong 83.98 294 P **P** **03 29 51.9 +0.1**
QIZ pP **sP** **03 30 11.1 -1.4**
QIZ sP pP 03 30 18.3 +12
QIZ S **S** **03 40 10.6 -1.6**
QIZ sS sS 03 40 44.8 +7.9
QIZ pmax pmax
comp=Z,230nm,3.1s
QIZ L L
comp=Z,200nm,23.5s
QIZ L L
comp=Z,450nm,20.2s
QIZ L L
comp=Z,520nm,22.6s
MOD Modoc Plateau 84.01 38 P **P** **03 29 52.0 +0.4**
MOD IAmb IAmb 03 29 55.5
comp=Z,14nm,0.9s
MOD IAMs_20 IAMs_20 04 01 23.3
comp=Z,1µm,20.0s
I04A Tendick Farm, 84.10 36 P 03 29 51.8
baz=228
K05A Summer Lake 84.21 38 P **P** **03 29 53.6 +0.9**
TUC Tucson 84.31 51 P 03 29 54.5
baz=236
TUC Tucson 84.31 51 P **P** **03 29 54.4 +1.1**
TUC pmax pmax
comp=Z,21nm,1.3s
TUC Tucson 84.31 51 P **P** **03 29 54.4 +1.1**
TUC IAmb IAmb 03 30 03.1
comp=Z,21nm,1.3s
TUC Tucson 84.31 51 IAMs_20 IAMs_20 04 01 25.3
comp=Z,1µm,20.0s
KDAK Kodiak Island 84.46 12 P 03 29 53.5
baz=201
VNA1 Neumayer--Stat 84.61 176 P **P** **03 29 55.2 +1.1**
MDJ Mudanjiang 84.79 324 P **P** **03 29 56.6 +1.3**
MDJ pP sP 03 30 17.6 +1.7
MDJ sP pP 03 30 26.3 +16
MDJ S **S** **03 40 22.0 +2.8**
MDJ sS sS 03 40 55.9 +12
MDJ pmax pmax
comp=Z,46nm,1.3s
MDJ pmax pmax
comp=Z,590nm,5.4s
MDJ L L
comp=Z,470nm,19.2s
MDJ L L
comp=Z,760nm,19.1s
MDJ L L
comp=Z,1µm,19.5s
MDJ Mudanjiang 84.79 324 IAMs_20 IAMs_20 04 05 22.1
comp=Z,1µm,20.0s
319A Douglas 84.87 52 IAmb IAmb 03 30 09.4
comp=Z,31nm,1.3s
PINE Pine Mountain 84.89 37 P **P** **03 29 57.0 +0.9**
PINE IAmb IAmb 03 30 16.7
comp=Z,33nm,1.2s
MNSI Mandailing Nat 85.00 273 P **P** **03 29 59.1 +2.0**
comp=Z,16nm,0.7s
X16A Lo Mia Camp, P 85.02 49 IAmb IAmb 03 30 10.4
comp=Z,22nm,1.1s
I05D Terrebonne, OR 85.03 36 P 03 29 57.4
baz=228
HPIG 85.24 58 P **P** **03 29 57.4 -0.9**
HPIG IAmb IAmb 03 30 11.2
comp=Z,26nm,1.4s
WVOR Wild Horse Val 85.30 39 IAmb IAmb 03 30 18.3
comp=Z,16nm,1.1s
WVOR IAMs_20 IAMs_20 04 02 25.4
comp=Z,1µm,20.0s
LCMT Little Creek M 85.30 46 IAmb IAmb 03 30 11.5
comp=Z,14nm,1.1s
PLCA Paso Flores 85.31 133 P **P** **03 29 58.7 +0.4**
comp=Z,1.5nm,0.8s,baz=204,slow=20,SNR=1.6
PLCA LR LR 03 58 56.3
comp=Z,644nm,21.7s,baz=256,slow=29
CCUT Cedar City 85.54 45 IAmb IAmb 03 30 23.0
comp=Z,22nm,1.3s
U15A North Rim 85.59 47 IAmb IAmb 03 30 23.3
comp=Z,26nm,1.2s
WUAZ Wupatki 85.69 48 P 03 30 01.1
baz=236
WUAZ Wupatki 85.69 48 IAmb IAmb 03 30 13.6
comp=Z,13nm,1.1s
WUAZ IAMs_20 IAMs_20 04 08 42.9
comp=Z,913nm,18.0s
SZCU Shurtz Canyon 85.74 45 IAmb IAmb 03 30 15.7
comp=Z,34nm,1.4s
SPR3 Spring Creek 3 85.77 44 P **P** **03 30 01.2 +0.5**
DL2 Dalian 85.80 316 P **P** **03 30 02.6 +2.1**
DL2 S **S** **03 40 27.6 -1.8**
DL2 pmax pmax
comp=Z,26nm,1.0s
DL2 pmax pmax
comp=Z,270nm,10.4s
DL2 L L
comp=Z,520nm,22.0s
DL2 L L
comp=Z,630nm,22.9s
NLWA Neilton Lookou 85.80 33 IAMs_20 IAMs_20 04 06 46.9
comp=Z,1µm,18.0s
GRNR Gornyy 85.88 332 ⇑*i*P **P** **03 30 01.6 +1.0**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
J08A Circle Bar Ran 85.97 38 IAmb IAmb 03 30 10.6
comp=Z,27nm,1.4s
X18A Snowflake 86.11 49 IAmb IAmb 03 30 17.6
comp=Z,13nm,1.0s
WHN Wuhan 86.15 306 ⇑P **P** **03 30 02.5 +0.1**
WHN L L
comp=Z,890nm,20.2s
WHN L L
comp=Z,2µm,20.2s
WHN L L
comp=Z,2µm,21.5s
PKCU Pink Cliffs 86.16 46 IAmb IAmb 03 30 17.3
comp=Z,31nm,1.2s
ELK Elko 86.25 42 IAMs_20 IAMs_20 04 04 53.7
comp=Z,835nm,19.0s
CNPM China Poot 86.34 12 IAmb IAmb 03 30 03.5
comp=Z,17nm,0.9s
RPSI Rantau Prapat 86.38 275 P **P** **03 30 03.4 -0.5**
RPSI IAMs_20 IAMs_20 04 10 38.0
comp=Z,835nm,20.0s
PSI Prapat 86.42 275 P **P** **03 30 04.0 -0.3**
comp=Z,3.1nm,0.4s,baz=238,slow=0.4,SNR=6.9
PSI LR LR 04 09 40.5
comp=Z,325nm,19.0s,baz=89,slow=36
PSI Prapat 86.42 275 P **P** **03 30 03.4 -0.9**
PSI pmax pmax
comp=Z,9.0nm,0.9s
PSI MLR MLR
comp=Z,800nm,20.0s
PSI Prapat 86.42 275 P **P** **03 30 01.1 -3.2**
comp=Z,4.5nm,1.1s
PSI P **PcP** **03 30 04.9 -1.9**
comp=Z,4.5nm,1.1s
CN2 Changchun 86.52 322 *e*P **P** **03 30 04.3 +0.4**
CN2 S **S** **03 40 35.8 -0.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,400nm,4.3s
CN2 L L
comp=Z,400nm,20.0s
CN2 L L
comp=Z,300nm,20.0s
CN2 L L
comp=Z,500nm,19.0s
W18A Petrified Fore 86.58 49 P 03 30 06.2
baz=237
MTPU Mount Pierson 86.58 45 IAmb IAmb 03 30 12.6
comp=Z,26nm,1.5s
BRLK Bradley Lake 86.63 13 IAmb IAmb 03 30 04.8
comp=Z,18nm,0.9s
BRSE Bradley Lake S 86.64 13 P 03 30 04.7
baz=203,SNR=6.6
KLR Kul'dur 86.87 329 P **P** **03 30 06.0 +0.5**
comp=Z,14nm,0.9s,baz=122,slow=2.7,SNR=26
KLR LR LR 04 07 04.4
comp=Z,869nm,18.9s,baz=151,slow=34
KLR Kul'dur 86.87 329 *ci*P **P** **03 30 06.5 +1.0**
KLR pmax pmax
comp=Z,66nm,2.6s
G08A Pilot Rock 86.94 37 P **P** **03 30 03.6 -2.5**
G08A IAmb IAmb 03 30 15.3
comp=Z,28nm,1.5s
GSI Gunungsitoli 87.03 273 P **P** **03 30 08.3 +1.1**
GSI Gunungsitoli 87.03 273 P **P** **03 30 09.2 +2.0**
comp=Z,33nm,0.8s
TIA Tai'an 87.21 312 P **P** **03 30 08.0 +0.5**
TIA SKS **SKSac** **03 40 25.8 -4.7**
TIA S **S** **03 40 42.8 -0.5**
TIA pmax pmax
comp=Z,7.0nm,0.6s
TIA pmax pmax
comp=Z,200nm,4.1s
TIA L L
comp=Z,260nm,17.1s
TIA L L
comp=Z,280nm,21.4s
TIA L L
comp=Z,340nm,17.8s
SEW Seward 87.24 13 IAmb IAmb 03 30 08.8
comp=Z,14nm,1.0s
A04D Lummi Island 87.28 32 P 03 30 09.3
baz=227
Q23K Middleton Isla 87.31 15 IAMs_20 IAMs_20 04 03 31.6
comp=Z,1µm,20.0s
O22K Cooper Landing 87.53 13 IAMs_20 IAMs_20 04 04 14.5
comp=Z,1µm,20.0s
BMO Blue Mountains 87.57 38 IAMs_20 IAMs_20 04 08 27.6
comp=Z,956nm,18.0s
SPCR Spurr Chakacha 87.72 11 P 03 30 08.6
baz=202
Q16A Castle Valley 87.73 45 IAmb IAmb 03 30 24.5
comp=Z,12nm,1.2s
MNTX Cornudas Mount 87.87 54 P 03 30 11.4
baz=239
MNTX Cornudas Mount 87.87 54 IAmb IAmb 03 30 23.7
comp=Z,21nm,1.3s
MNTX IAMs_20 IAMs_20 04 06 12.7
comp=Z,715nm,18.0s
TMUT Trail Mountain 87.92 45 IAmb IAmb 03 30 24.3
comp=Z,20nm,1.0s
TX31 Lajitas Ar. Si 87.97 56 P **P** **03 30 11.3 -0.1**
TXAR Lajitas Array 87.97 56 P **P** **03 30 11.8 +0.5**
comp=Z,2.1nm,0.8s,baz=211,slow=8.2,SNR=24
TXAR LR LR 04 00 19.7
comp=Z,523nm,21.8s,baz=0.0,slow=29
TXAR Lajitas Array 87.97 56 P **P** **03 30 11.9 +0.5**
Y22D IRIS PASSCAL I 87.98 51 IAMs_20 IAMs_20 04 07 40.7
comp=Z,811nm,18.0s
FIS Fire Island 88.04 12 IAMs_20 IAMs_20 04 04 38.0
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 88.08 13 P 03 30 11.3
baz=204,SNR=5.9
RC01 Rabbit Creek A 88.08 13 IAmb IAmb 03 30 13.1
comp=Z,17nm,0.9s
RC01 IAMs_20 IAMs_20 04 05 04.1
comp=Z,1µm,20.0s
D08A Wollman Farm, 88.09 35 IAmb IAmb 03 30 14.0
comp=Z,18nm,1.0s
HIN Hinchinbrook I 88.14 14 IAmb IAmb 03 30 38.2
comp=Z,21nm,1.1s
PWL Port Wells 88.16 13 IAMs_20 IAMs_20 04 04 38.1
comp=Z,2µm,20.0s
MA2 Magadan 88.17 344 *ci*P **P** **03 30 11.1 -0.4**
MA2 pmax pmax
comp=Z,26nm,1.2s
MA2 Magadan 88.17 344 P **P** **03 30 11.8 +0.4**
SUA Susitna One 88.23 12 P 03 30 11.8
baz=203,SNR=17
SRU San Rafael Swe 88.26 45 IAmb IAmb 03 30 25.8
comp=Z,12nm,1.0s
SPUT South Promonto 88.29 43 IAmb IAmb 03 30 16.5
comp=Z,10nm,1.1s
F10A Beach Ranch, E 88.31 37 IAmb IAmb 03 30 18.5
comp=Z,13nm,1.0s
P17A Butcher Ranch, 88.32 45 IAmb IAmb 03 30 25.8
comp=Z,14nm,1.1s
HVU Hansel Valley 88.36 42 P **P** **03 30 12.5 -0.5**
HVU pmax pmax
comp=Z,10.0nm,1.2s
HVU Hansel Valley 88.36 42 P **P** **03 30 12.5 -0.5**
HLID Hailey 88.43 40 P 03 30 14.1
baz=233
GLI Glacier Island 88.44 14 P 03 30 12.8
baz=206
EYAK Cordova Ski Ar 88.44 15 P 03 30 12.6
baz=207,SNR=8.3
EYAK Cordova Ski Ar 88.44 15 IAmb IAmb 03 30 14.9
comp=Z,19nm,0.9s
FID Port Fidalgo 88.46 14 IAmb IAmb 03 30 13.9
comp=Z,17nm,1.0s
MVCO Mesa Verde 88.55 48 IAMs_20 IAMs_20 04 09 09.8
comp=Z,1µm,18.0s
HMT Hamilton 88.60 15 IAmb IAmb 03 30 15.9
comp=Z,17nm,0.9s
M22K Willow 88.61 12 P 03 30 13.7
baz=204

KNK	**Knik Glacier**	**88.63**	**13**	P			03 30 13.8	
	baz=205,SNR=8.8							
KNK	**Knik Glacier**	**88.63**	**13**	IAMs_20	IAMs_20		04 04 55.8	
	comp=Z,1μm,20.0s							
PMR	**Palmer**	**88.66**	**13**	IAmb	IAmb		03 30 14.3	
	comp=Z,18nm,1.1s							
B08A	**Colville Reser**	**88.72**	**34**	IAmb	IAmb		03 30 34.0	
	comp=Z,10nm,0.9s							
TTA	**Tatalina**	**88.73**	**9**	P			03 30 14.6	
	baz=198,SNR=12							
TTA	**Tatalina**	**88.73**	**9**	IAmb	IAmb		03 30 15.3	
	comp=Z,19nm,1.0s							
ANMO	**Albuquerque**	**88.76**	**50**	P			03 30 16.0	
	baz=239							
ANMO	**Albuquerque**	**88.76**	**50**	*c*eP		**P**	**03 30 16.1**	**+0.9**
ANMO				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ANMO	**Albuquerque**	**88.76**	**50**	P		**P**	**03 30 15.3**	**+0.1**
ANMO				IAmb	IAmb		03 30 28.2	
	comp=Z,16nm,1.1s							
ANMO	**Albuquerque**	**88.76**	**50**	IAMs_20	IAMs_20		04 08 26.3	
	comp=Z,1μm,18.0s							
GDL2	**Guadalupe Moun**	**88.87**	**54**	P		**P**	**03 30 16.1**	**+0.4**
WRAK	**Wrangell Islan**	**88.87**	**23**	P			03 30 16.3	
	baz=219							
C09A	**Chrisman Ranch**	**88.91**	**35**	P		**P**	**03 30 15.1**	**-0.2**
C09A				IAmb	IAmb		03 30 35.3	
	comp=Z,18nm,1.1s							
HWUT	**Hardware Ranch**	**89.00**	**43**	IAMs_20	IAMs_20		04 09 10.6	
	comp=Z,829nm,18.0s							
SML	**Sawmill**	**89.02**	**13**	IAMs_20	IAMs_20		04 04 57.9	
	comp=Z,1μm,21.0s							
MESA	**MESA**	**89.04**	**16**	P			03 30 16.8	
	baz=211,SNR=12							
BMRM	**Bremner River**	**89.08**	**15**	P			03 30 16.2	
	baz=208,SNR=18							
BMRM	**Bremner River**	**89.08**	**15**	IAMs_20	IAMs_20		04 04 52.5	
	comp=Z,1μm,20.0s							
KLU	**Klutina**	**89.24**	**14**	P			03 30 16.7	
	baz=207,SNR=9.7							
KLU	**Klutina**	**89.24**	**14**	IAmb	IAmb		03 30 18.9	
	comp=Z,16nm,1.1s							
SCM	**Sheep Creek Mo**	**89.25**	**13**	IAMs_20	IAMs_20		04 05 23.0	
	comp=Z,1μm,20.0s							
CRQE	**Cirque**	**89.25**	**16**	P			03 30 17.5	
	baz=210,SNR=6.8							
PPLA	**Purkeypile**	**89.30**	**11**	P		**P**	**03 30 16.2**	**-0.7**
BCPM	**Bancas Point**	**89.46**	**17**	IAMs_20	IAMs_20		04 04 24.6	
	comp=Z,1μm,20.0s							
VRDI	**Verde Repeater**	**89.58**	**15**	IAmb	IAmb		03 30 21.4	
	comp=Z,21nm,1.0s							
VRDI				IAMs_20	IAMs_20		04 05 24.7	
	comp=Z,1μm,20.0s							
N25K	**Chitina, Valde**	**89.64**	**15**	P			03 30 19.0	
	baz=208,SNR=20							
N25K	**Chitina, Valde**	**89.64**	**15**	IAmb	IAmb		03 30 19.6	
	comp=Z,20nm,0.8s							
N25K				IAMs_20	IAMs_20		04 05 20.4	
	comp=Z,1μm,20.0s							
ENH	**Enshi**	**89.65**	**304**	P		**P**	**03 30 19.9**	**+0.7**
GLB	**Gilahina Butte**	**89.68**	**15**	IAmb	IAmb		03 30 35.9	
	comp=Z,25nm,1.1s							
GLB				IAMs_20	IAMs_20		04 05 08.4	
	comp=Z,980nm,20.0s							
M24K	**Tolsona, Glenn**	**89.73**	**14**	P			03 30 19.6	
	baz=207,SNR=8.3							
M24K	**Tolsona, Glenn**	**89.74**	**14**	IAMs_20	IAMs_20		04 05 14.9	
	comp=Z,1μm,20.0s							
NEW	**Newport**	**89.80**	**35**	P			03 30 19.6	
	baz=231							
MCARA	**McCarthy VSAT**	**89.82**	**15**	IAMs_20	IAMs_20		04 05 33.0	
	comp=Z,1μm,20.0s							
WAT6	**Susitna Watana**	**89.84**	**13**	P			03 30 19.4	
	baz=206,SNR=20							
CTG	**Chitna Glacier**	**89.87**	**16**	P			03 30 20.2	
	baz=211,SNR=8.9							
BARN	**Barnard Glacie**	**89.87**	**16**	IAMs_20	IAMs_20		04 05 14.4	
	comp=Z,1μm,20.0s							
CTGM	**Chitina Glacie**	**89.87**	**16**	IAMs_20	IAMs_20		04 05 22.4	
	comp=Z,1μm,20.0s							
BJI	**Beijing**	**89.92**	**315**	P		**P**	**03 30 21.0**	**+0.8**
BJI				pP		**sP**	**03 30 40.5**	**-0.5**
BJI				sP		pP	03 30 49.3	+14
BJI				SKS		**SKSac**	**03 40 44.0**	**-2.5**
BJI				S		**S**	**03 41 08.8**	**+0.2**
BJI				sS		sS	03 41 45.6	+12
BJI				pmax	pmax			
	comp=Z,11nm,0.9s							
BJI				pmax	pmax			
	comp=Z,300nm,4.3s							
BJI				L	L			
	comp=Z,480nm,19.3s							
BJI				L	L			
	comp=Z,200nm,19.8s							
BJI				L	L			
	comp=Z,530nm,19.4s							
AHID	**Auburn Hatcher**	**89.94**	**42**	IAMs_20	IAMs_20		04 07 10.4	
	comp=Z,817nm,18.0s							
S22A	**4UR Ranch, Cre**	**89.96**	**48**	P			03 30 21.8	
	baz=238							
WAT2	**Susitna Watana**	**90.02**	**12**	P			03 30 20.0	
	baz=205,SNR=15							
KTH	**Kantishna Hill**	**90.13**	**11**	IAmb	IAmb		03 30 21.7	
	comp=Z,25nm,0.9s							
TRF	**Thorofare Moun**	**90.14**	**11**	P			03 30 20.4	
	baz=203,SNR=44							
CHUM	**Lake Minchumin**	**90.20**	**10**	P			03 30 20.5	
	baz=202							
HARP	**HAARP**	**90.22**	**14**	P			03 30 21.8	
	baz=208							
REDW	**Red Top Meadow**	**90.43**	**42**	IAmb	IAmb		03 30 45.5	
	comp=Z,18nm,1.4s							
TPAW	**Teton Pass**	**90.44**	**41**	IAmb	IAmb		03 30 33.0	
	comp=Z,18nm,1.5s							
DLMT	**Dillon**	**90.54**	**39**	IAMs_20	IAMs_20		04 05 25.2	
	comp=Z,1μm,22.0s							
SNOW	**Snow King Moun**	**90.54**	**42**	IAmb	IAmb		03 30 32.6	
	comp=Z,21nm,1.2s							
SMCO	**Snowmass**	**90.62**	**47**	IAmb	IAmb		03 30 34.0	
	comp=Z,15nm,1.4s							
BPAW	**Bear Paw Mtn.**	**90.62**	**11**	P			03 30 21.9	
	baz=203							
BPAW	**Bear Paw Mtn.**	**90.62**	**11**	IAMs_20	IAMs_20		04 05 49.4	
	comp=Z,1μm,21.0s							
MSO	**Missoula**	**90.64**	**37**	P			03 30 23.4	
	baz=234							
MSO	**Missoula**	**90.64**	**37**	IAMs_20	IAMs_20		04 06 04.8	
	comp=Z,1μm,20.0s							
MCK	**McKinley**	**90.65**	**12**	P			03 30 23.2	
	baz=205,SNR=12							
MCK	**McKinley**	**90.65**	**12**	IAmb	IAmb		03 30 25.4	
	comp=Z,25nm,1.0s							
PAX	**Paxson**	**90.66**	**14**	P			03 30 23.1	
	baz=208,SNR=5.2							
PAX	**Paxson**	**90.66**	**14**	IAmb	IAmb		03 30 25.5	
	comp=Z,13nm,0.8s							
HYT	**Haines Junctio**	**90.78**	**18**	IAmb	IAmb		03 30 26.6	
	comp=Z,9.8nm,0.9s							
LCO	**Las Campanas**	**90.81**	**122**	IAMs_20	IAMs_20		04 01 13.2	
	comp=Z,882nm,21.0s							
SDCO	**Great Sand Dun**	**90.86**	**48**	P			03 30 25.6	
	baz=239							
SDCO	**Great Sand Dun**	**90.86**	**48**	P		**P**	**03 30 24.9**	**-0.2**
SDCO				IAMs_20	IAMs_20		04 10 08.9	
	comp=Z,860nm,18.0s							
BW06	**Boulder Array**	**90.89**	**43**	P			03 30 25.0	
	baz=237							
BW06	**Boulder Array**	**90.89**	**43**	IAmb	IAmb		03 30 33.4	
	comp=Z,16nm,1.5s							
PDAR	**Pinedale Array**	**90.89**	**43**	P		**P**	**03 30 24.4**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=207,slow=3.0,SNR=11							
PDAR				LR	LR		04 05 26.1	
	comp=Z,510nm,19.6s,baz=252,slow=32							
PDAR	**Pinedale Array**	**90.89**	**43**	P		**P**	**03 30 24.2**	**-0.7**
MSTX	**Muleshoe**	**90.90**	**53**	P			03 30 25.5	
	baz=241							
MSTX	**Muleshoe**	**90.90**	**53**	IAmb	IAmb		03 30 47.4	
	comp=Z,10nm,1.0s							
FLWY	**Flagg Ranch**	**90.92**	**41**	IAmb	IAmb		03 30 38.7	
	comp=Z,17nm,1.2s							
MENT	**Mentasta**	**91.01**	**14**	IAmb	IAmb		03 30 26.9	
	comp=Z,14nm,0.6s							
YHL	**Hebgen Lake**	**91.07**	**40**	IAmb	IAmb		03 30 33.1	
	comp=Z,26nm,1.3s							
YMR	**Madison River**	**91.09**	**40**	P		**P**	**03 30 26.4**	**+0.5**
YMR				IAmb	IAmb		03 30 37.3	
	comp=Z,14nm,1.1s							
TIY	**Taiyuan**	**91.19**	**311**	*e*P		**P**	**03 30 27.3**	**+1.0**
TIY				pP		**sP**	**03 30 41.3**	**-5.8**
TIY				S		**S**	**03 41 14.4**	**-6.2**
TIY				pmax	pmax			
	comp=Z,33nm,0.7s							
TIY				L	L			
	comp=Z,92nm,7.9s							
TIY				L	L			
	comp=Z,720nm,22.8s							
TIY				L	L			
	comp=Z,700nm,22.3s							
DLBC	**Dease Lake**	**91.23**	**22**	IAmb	IAmb		03 30 28.9	
	comp=Z,12nm,0.9s							
YHH	**Holmes Hill**	**91.23**	**40**	IAmb	IAmb		03 30 37.3	
	comp=Z,16nm,1.3s							
T25A	**Trinidad**	**91.31**	**49**	IAMs_20	IAMs_20		04 10 14.6	
	comp=Z,950nm,18.0s							
LKWY	**Lake**	**91.37**	**41**	IAMs_20	IAMs_20		04 06 12.2	
	comp=Z,769nm,19.0s							
WHY	**Whitehorse**	**91.40**	**19**	P			03 30 27.6	
	baz=217,SNR=5.7							
JCT	**Junction City**	**91.46**	**57**	IAMs_20	IAMs_20		04 08 27.8	
	comp=Z,1μm,18.0s							
I21K	**Tanana**	**91.46**	**10**	P			03 30 26.6	
	baz=202							
WRH	**Wood River Hil**	**91.48**	**12**	IAmb	IAmb		03 30 27.8	
	comp=Z,17nm,0.9s							
MLY	**Manley**	**91.52**	**11**	P			03 30 26.2	
	baz=203							
L27K	**Beaver Creek,**	**91.55**	**15**	P			03 30 27.7	
	baz=211,SNR=14							
L27K	**Beaver Creek,**	**91.55**	**15**	IAMs_20	IAMs_20		04 07 55.9	
	comp=Z,766nm,20.0s							
DOT	**Dot Lake**	**91.56**	**14**	IAmb	IAmb		03 30 44.4	
	comp=Z,20nm,1.0s							
BCAR	**Beaver Creek A**	**91.56**	**15**	P		**P**	**03 30 27.7**	**+0.4**
KVTX	**Kingsville**	**91.60**	**60**	IAMs_20	IAMs_20		04 14 34.7	
	comp=Z,1μm,18.0s							
HDA	**Handing Lake**	**91.64**	**12**	P			03 30 27.2	
	baz=206							
HDA				P			03 30 27.2	
	baz=206							
HDA	**Harding Lake**	**91.64**	**12**	IAmb	IAmb		03 30 29.3	
	comp=Z,18nm,0.9s							
HDA				IAMs_20	IAMs_20		04 06 45.3	
	comp=Z,864nm,20.0s							
CCB	**Clear Creek Bu**	**91.69**	**12**	IAmb	IAmb		03 30 46.7	
	comp=Z,17nm,1.2s							
H21K	**Melozitna Rive**	**91.78**	**10**	P			03 30 28.6	
	baz=201							
ISCO	**Idaho Springs**	**91.84**	**47**	P		**P**	**03 30 30.1**	**+0.6**
ISCO				pmax	pmax			
	comp=Z,7.0nm,1.3s							
ISCO				MLR	MLR			
	comp=Z,600nm,18.0s							
ISCO	**Idaho Springs**	**91.84**	**47**	P		**P**	**03 30 30.1**	**+0.6**
YNE	**Yellowstone No**	**91.85**	**41**	IAmb	IAmb		03 30 39.0	
	comp=Z,22nm,1.3s							
SCRK	**Sand Creek**	**91.86**	**14**	P			03 30 28.8	
	baz=209,SNR=12							
SCRK	**Sand Creek**	**91.86**	**14**	IAmb	IAmb		03 30 31.0	
	comp=Z,9.8nm,1.0s							
SCRK				IAMs_20	IAMs_20		04 06 34.1	
	comp=Z,1μm,20.0s							
I23K	**Minto, Yukon-K**	**91.87**	**11**	P			03 30 28.7	
	baz=204							
I23K	**Minto, Yukon-K**	**91.87**	**11**	IAmb	IAmb		03 30 37.9	
	comp=Z,8.9nm,1.1s							
XAN	**Xi'an**	**91.87**	**307**	P		**P**	**03 30 30.8**	**+1.3**
XAN				S		S	03 41 16.3	-11
XAN				pmax	pmax			
	comp=Z,23nm,1.1s							
XAN				pmax	pmax			
	comp=Z,260nm,6.3s							
XAN				L	L			
	comp=Z,610nm,20.1s							
XAN				L	L			
	comp=Z,170nm,17.9s							
XAN				L	L			
	comp=Z,710nm,21.1s							
TCOL	**CIGO, UAF Yank**	**91.89**	**12**	P			03 30 28.7	
	baz=206							
COLA	**College**	**91.89**	**12**	*c* i P		**P**	**03 30 28.2**	**-0.5**
COLA				pmax	pmax			
	comp=Z,17nm,1.0s							
COLA	**College**	**91.89**	**12**	P		**P**	**03 30 28.0**	**-0.7**
MDM	**Murphy Dome**	**91.90**	**12**	IAmb	IAmb		03 30 45.1	
	comp=Z,24nm,1.3s							
IMAR	**Indian Mountai**	**91.95**	**9**	P		**P**	**03 30 28.9**	**-0.1**
IL31		**91.98**	**12**	IAmb	IAmb		03 30 45.6	
	comp=Z,17nm,1.2s							
ILAR	**Eielson Array**	**91.98**	**12**	P		**P**	**03 30 28.6**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=222,slow=5.8,SNR=46							
ILAR				LR	LR		04 06 48.7	
	comp=Z,343nm,19.6s,baz=218,slow=32							
ILAR	**Eielson Array**	**91.98**	**12**	P		**P**	**03 30 28.3**	**-0.9**
ILAR	**Eielson Array**	**91.98**	**12**	P		**P**	**03 30 28.3**	**-0.9**
ZEA	**Zeya**	**91.99**	**330**	*e*P		**P**	**03 30 30.7**	**+1.3**
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ZEA				MLR	MLR			
	comp=E,200nm,20.0s							
ZEA				MLR	MLR			
	comp=N,400nm,21.0s							
ZEA				MLR	MLR			
	comp=Z,300nm,17.0s							
AMTX	**Amarillo**	**92.13**	**52**	IAMs_20	IAMs_20		04 06 26.6	
	comp=Z,971nm,20.0s							
K27K	**Chicken**	**92.33**	**14**	P			03 30 31.9	
	baz=211							
K27K	**Chicken**	**92.33**	**14**	IAmb	IAmb		03 31 01.1	
	comp=Z,14nm,1.2s							
K27K				IAMs_20	IAMs_20		04 06 57.4	
	comp=Z,1μm,20.0s							
ABTX	**Abilene, Hawle**	**92.57**	**55**	P			03 30 32.7	
	baz=242							
KMI	**Kunming**	**92.61**	**296**	⇑P		**P**	**03 30 34.8**	**+1.5**
KMI				pP		sP	03 30 55.9	+1.8
KMI				SKS		**SKSac**	**03 40 59.5**	**-3.5**
KMI				S		**S**	**03 41 26.6**	**-7.6**
KMI				pmax	pmax			
	comp=Z,19nm,0.8s							
KMI				pmax	pmax			
	comp=Z,160nm,4.2s							
KMI				L	L			
	comp=Z,300nm,21.0s							
KMI				L	L			
	comp=Z,480nm,21.7s							
KMI				L	L			
	comp=Z,790nm,22.0s							
H24K	**Noodor Dome**	**92.76**	**11**	P			03 30 33.6	
	baz=206							
PRP	**Porcupine Dome**	**92.91**	**12**	P			03 30 33.8	
	baz=208							
PRP	**Porcupine Dome**	**92.91**	**12**	IAmb	IAmb		03 30 36.9	
	comp=Z,8.5nm,0.9s							
RDOG	**Red Dog Mine**	**92.93**	**5**	P			03 30 34.5	
	baz=192							
RDOG	**Red Dog Mine**	**92.93**	**5**	IAMs_20	IAMs_20		04 06 59.5	
	comp=Z,881nm,22.0s							
HIA	**Hailar**	**92.95**	**324**	⇑*e*P		**P**	**03 30 34.5**	**+0.4**
HIA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**92.97**	**289**	P		**P**	**03 30 36.8**	**+1.9**
	comp=Z,13nm,0.9s,baz=140,slow=3.3,SNR=49							
CMAR				LR	LR		04 09 51.8	
	comp=Z,226nm,21.6s,baz=125,slow=34							
CMAR	**Chiang Mai Arr**	**92.97**	**289**	P		**P**	**03 30 36.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**92.97**	**289**	P		**P**	**03 30 36.3**	**+1.5**
SNET	**Serv Nac Est T**	**92.97**	**76**	IAMs_20	IAMs_20		04 02 28.2	
	comp=Z,900nm,22.0s							
DAWY	**Dawson**	**92.98**	**15**	IAmb	IAmb		03 30 51.9	
	comp=Z,10nm,1.1s							
CMMT	**Chiang Mai**	**93.11**	**289**	P		**P**	**03 30 36.2**	**+0.7**
	comp=Z,28nm,0.9s							
CHTO	**Chiang Mai**	**93.11**	**289**	P		**P**	**03 30 36.4**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,22nm,0.9s							
CHTO	**Chiang Mai**	**93.11**	**289**	P		**P**	**03 30 36.4**	**+0.9**
CHTO	**Chiang Mai**	**93.11**	**289**	P		**P**	**03 30 37.2**	**+1.7**
EGAK	**Eagle**	**93.18**	**14**	P			03 30 35.3	
	baz=212							
EGAK	**Eagle**	**93.18**	**14**	IAmb	IAmb		03 30 51.9	
	comp=Z,17nm,1.3s							
EGAK				IAMs_20	IAMs_20		04 07 23.9	
	comp=Z,1μm,20.0s							
BILL	**Bilibino**	**93.29**	**354**	*d* i P		**P**	**03 30 35.1**	**0.0**
BILL				*e*			03 34 22.0	
BILL				*i* SS		SS	03 47 53.8	-1.6
BILL				pmax	pmax			
	comp=Z,21nm,0.9s							
BILL	**Bilibino**	**93.29**	**354**	P		**P**	**03 30 35.4**	**+0.2**
435B	**Jarrell**	**93.30**	**58**	IAMs_20	IAMs_20		04 09 33.5	
	comp=Z,1μm,18.0s							
HHC	**Hu-ho-hao-te**	**93.35**	**314**	*e*P		**P**	**03 30 37.3**	**+1.1**
HHC				S		**S**	**03 41 40.5**	**+0.7**
HHC				pmax	pmax			
	comp=Z,31nm,1.0s							
HHC				pmax	pmax			
	comp=Z,150nm,4.9s							
HHC				L	L			
	comp=Z,500nm,20.6s							
HHC				L	L			
	comp=Z,370nm,20.4s							
HHC				L	L			
	comp=Z,710nm,19.2s							
NNA	**Nana**	**93.47**	**105**	IAMs_20	IAMs_20		04 02 44.5	
	comp=Z,1μm,19.0s							
COLD	**Coldfoot**	**93.64**	**10**	P			03 30 36.9	
	baz=204							
EGMT	**Eagleton**	**93.66**	**38**	IAMs_20	IAMs_20		04 07 30.6	
	comp=Z,1μm,21.0s							
FYU	**Fort Yukon**	**93.89**	**12**	IAMs_20	IAMs_20		04 07 59.8	
	comp=Z,1μm,20.0s							
BMAR	**Burnt Mountain**	**94.78**	**12**	P		**P**	**03 30 42.8**	**+0.7**
RSSD	**Black Hills**	**95.02**	**44**	P			03 30 43.0	
	baz=240							
RSSD	**Black Hills**	**95.03**	**44**	P		**P**	**03 30 42.9**	**-1.1**
RSSD				pmax	pmax			
	comp=Z,9.0nm,1.0s							
RSSD				MLR	MLR			
	comp=Z,1μm,18.0s							
RSSD	**Black Hills**	**95.03**	**44**	P		**P**	**03 30 42.9**	**-1.1**
RSSD				IAmb	IAmb		03 30 59.1	
	comp=Z,8.8nm,0.9s							
RSSD	**Black Hills**	**95.03**	**44**	IAMs_20	IAMs_20		04 13 27.0	
	comp=Z,997nm,18.0s							
TOLK	**Toolik Lake Re**	**95.03**	**10**	P			03 30 43.6	
	baz=204							
TOLK	**Toolik Lake Re**	**95.03**	**10**	IAMs_20	IAMs_20		04 08 17.0	
	comp=Z,739nm,21.0s							
CBKS	**Cedar Bluff**	**95.35**	**50**	IAMs_20	IAMs_20		04 12 18.6	
	comp=Z,1μm,18.0s							
OK032	**Salt Plains WL**	**95.52**	**52**	IAMs_20	IAMs_20		04 08 47.2	
	comp=Z,966nm,19.0s							
EPYK	**Eagle Plains**	**95.53**	**15**	P			03 30 45.7	
	baz=216							
EPYK	**Eagle Plains**	**95.53**	**15**	IAMs_20	IAMs_20		04 10 50.1	
	comp=Z,706nm,20.0s							
OK029	**Liberty Lake**	**95.62**	**53**	IAMs_20	IAMs_20		04 09 11.9	
	comp=Z,853nm,19.0s							
NATX	**Nacogdoches**	**95.97**	**58**	IAMs_20	IAMs_20		04 11 19.4	
	comp=Z,1μm,19.0s							
LZH	**Lanzhou**	**96.51**	**307**	*e*P		**P**	**03 30 52.0**	**+1.1**
LZH				pP		sP	03 31 08.0	-3.7
LZH				sP		pP	03 31 19.6	+14
LZH				sS		sS	03 42 36.3	+3.1
LZH				pmax	pmax			
	comp=Z,76nm,4.3s							
LZH				L	L			
	comp=Z,320nm,19.5s							
LZH				L	L			
	comp=Z,360nm,18.4s							
LZH				L	L			
	comp=Z,260nm,19.5s							
A21K	**Barrow**	**96.67**	**6**	IAMs_20	IAMs_20		04 10 25.3	
	comp=Z,840nm,22.0s							
DGMT	**Dagmar**	**97.06**	**40**	IAMs_20	IAMs_20		04 09 43.8	
	comp=Z,949nm,20.0s							
KSU1	**Kansas State U**	**97.66**	**51**	IAMs_20	IAMs_20		04 14 14.9	
	comp=Z,1μm,18.0s							
K31A	**O'Neill**	**97.73**	**47**	P		**P**	**03 30 56.0**	**-0.1**
MIAR	**Mount Ida**	**97.96**	**56**	IAMs_20	IAMs_20		04 12 19.0	
	comp=Z,815nm,19.0s							
X40A	**Basin Creek Fa**	**98.50**	**56**	IAMs_20	IAMs_20		04 12 51.2	
	comp=Z,660nm,18.0s							
LPAZ	**La Paz**	**99.02**	**112**	LR	LR		04 08 06.5	
	comp=Z,413nm,19.0s,baz=220,slow=31							
VBMS	**Vicksburg**	**99.37**	**59**	IAMs_20	IAMs_20		04 13 21.4	
	comp=Z,687nm,19.0s							
ULN	**Ulaanbaatar**	**99.50**	**318**	‖*e*P		**Pdif**	**03 31 05.5**	**+1.5**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**99.50**	**318**	P		**Pdif**	**03 31 07.6**	**+3.6**
YKA	**Yellowknife Ar**	**99.58**	**24**	P		**Pdif**	**03 31 03.5**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=232,slow=3.8,SNR=3.8							
YKA				LR	LR		04 10 40.7	
	comp=Z,364nm,20.6s,baz=0.0,slow=32							
ECSD	**EROS Data Cent**	**99.62**	**46**	IAmb	IAmb		03 31 17.3	
	comp=Z,10nm,1.4s							
SONM	**Songino Array**	**99.88**	**318**	P		**Pdif**	**03 31 05.9**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=131,slow=4.5,SNR=7.2							
SONM				LR	LR		04 16 43.8	
	comp=Z,240nm,18.7s,baz=114,slow=36							
GTA	**Gaotai**	**100.78**	**308**	*e*P		**Pdif**	**03 31 10.8**	**+0.9**
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,19nm,4.4s							
GTA				L	L			
	comp=Z,190nm,18.2s							
GTA				L	L			
	comp=Z,260nm,18.5s							
GTA				L	L			
	comp=Z,350nm,18.2s							
C36M	**Paulatuk**	**100.93**	**17**	IAMs_20	IAMs_20		04 12 06.7	
	comp=Z,982nm,20.0s							
CCM	**Cathedral Cave**	**101.08**	**53**	IAMs_20	IAMs_20		04 18 17.9	
	comp=Z,824nm,18.0s							
SCIA	**State Center**	**101.17**	**49**	IAMs_20	IAMs_20		04 11 55.7	
	comp=Z,584nm,19.0s							
FFC	**Flin Flon**	**101.23**	**35**	IAMs_20	IAMs_20		04 17 16.8	
	comp=Z,877nm,18.0s							
PLAL	**Pickwick Lake**	**102.30**	**57**	IAMs_20	IAMs_20		04 15 43.0	
	comp=Z,1μm,18.0s							
WVT	**Waverly**	**102.91**	**56**	IAMs_20	IAMs_20		04 21 17.8	
	comp=Z,714nm,18.0s							
TLY	**Talaya**	**103.09**	**321**	IAMs_20	IAMs_20		04 17 41.7	
	comp=Z,820nm,19.0s							
TIXI	**Tiksi**	**103.12**	**345**	IAMs_20	IAMs_20		04 17 28.6	
	comp=Z,929nm,20.0s							
HDIL	**Hopedale**	**103.41**	**51**	IAMs_20	IAMs_20		04 14 25.1	
	comp=Z,793nm,19.0s							
JFWS	**Jewell Farm**	**103.58**	**49**	IAMs_20	IAMs_20		04 14 34.6	
	comp=Z,594nm,19.0s							
EYMN	**Ely**	**104.55**	**44**	IAMs_20	IAMs_20		04 20 03.9	
	comp=Z,601nm,19.0s							
WCI	**Wyandotte Cave**	**104.78**	**55**	IAMs_20	IAMs_20		04 20 25.6	
	comp=Z,935nm,18.0s							
L44A	**Lake County Fo**	**104.95**	**50**	IAMs_20	IAMs_20		04 14 08.7	
	comp=Z,957nm,20.0s							
GOGA	**Godfrey**	**105.34**	**60**	IAMs_20	IAMs_20		04 18 22.3	
	comp=Z,812nm,18.0s							

O56A	**Blue Knob Stat**	**111.12**	**54**	IAMs_20	IAMs_20	04 18 05.2			
	comp=Z,767nm,20.0s								
CBN	**Corbin Frederi**	**111.48**	**57**	IAMs_20	IAMs_20	04 20 29.0			
	comp=Z,582nm,19.0s								
SSPA	**Standing Stone**	**111.71**	**54**	IAMs_20	IAMs_20	04 18 40.9			
	comp=Z,646nm,19.0s								
L56A	**Greenwood**	**112.31**	**53**	IAMs_20	IAMs_20	04 20 11.7			
	comp=Z,640nm,19.0s								
DGZ	**Jazzator, Alta**	**112.32**	**316**	||/PKIKP	**PKiKP**	**03 35 56.7**	**0.0**	
N59A	**State Game Lan**	**113.34**	**54**	IAMs_20	IAMs_20	04 18 43.0			
	comp=Z,727nm,20.0s								
BINY	**Binghamton**	**113.46**	**53**	IAMs_20	IAMs_20	04 20 47.2			
	comp=Z,538nm,19.0s								
J58A	**Remsen**	**114.21**	**52**	IAMs_20	IAMs_20	04 20 21.9			
	comp=Z,825nm,19.0s								
ZALV	**Zalesovo Beam**	**114.67**	**320**	PKiKP	**PKiKP**	**03 36 01.7**	**+0.9**		
	comp=Z,1.6nm,0.5s,baz=104,slow=3.1,SNR=6.5								
ZALV	**Zalesovo Beam**	**114.67**	**320**	*i* PKIKP	PKPdf	03 35 59.7	-1.1		
ZALV	**Zalesovo Beam**	**114.67**	**320**		PKPdf	03 35 59.7	-1.1		
J59A	**Piesco**	**114.79**	**52**	IAMs_20	IAMs_20	04 20 12.2			
	comp=Z,689nm,19.0s								
NRIK	**Noril'sk**	**114.96**	**337**	PKiKP	**PKiKP**	**03 36 01.0**	**+0.1**		
	comp=Z,1.3nm,0.3s,baz=42,slow=6.4,SNR=4.0								
NRIK	**Noril'sk**	**114.96**	**337**	⇑/PKIKP	PKPdf	03 36 01.3	+0.3		
MK31	**Makanchi Array**	**115.15**	**312**	*c* /PKIKP	**PKPdf**	**03 36 01.0**	**-1.0**		
MKAR	**Makanchi Array**	**115.15**	**312**	PKP	**PKPdf**	**03 36 01.2**	**-0.8**		
	comp=Z,1.5nm,0.7s,baz=90,slow=1.2,SNR=14								
MKAR				PKKP	**PKKPdf**	**03 46 58.0**	**-4.8**		
	comp=Z,0.4nm,0.5s,baz=276,slow=2.6,SNR=4.0								
WSPT	**Westport, CT**	**115.20**	**54**	IAMs_20	IAMs_20	04 23 11.2			
	comp=Z,885nm,18.0s								
TRY	**Troy**	**115.25**	**53**	IAMs_20	IAMs_20	04 20 09.5			
	comp=Z,837nm,20.0s								
VT1	**Waterbury**	**116.19**	**51**	IAMs_20	IAMs_20	04 21 21.3			
	comp=Z,654nm,19.0s								
K62A	**Royalston**	**116.28**	**53**	IAMs_20	IAMs_20	04 21 01.7			
	comp=Z,904nm,20.0s								
SHLS	**Shalkode**	**116.51**	**308**	*e*PKiKP	**PKPdf**	**03 36 04.1**	**-0.8**		
	baz=309								
SHLS	**Shalkode**	**116.51**	**308**	*i* PKIKP	**PKPdf**	**03 36 04.1**	**-0.8**		
L63A	**North Scituate**	**116.59**	**54**	IAMs_20	IAMs_20	04 27 40.1			
	comp=Z,796nm,18.0s								
BRYW	**Bryant College**	**116.66**	**54**	IAMs_20	IAMs_20	04 27 33.8			
	comp=Z,818nm,18.0s								
HRV	**Adam Dziewonsk**	**116.74**	**53**	IAMs_20	IAMs_20	04 21 27.0			
	comp=Z,881nm,19.0s								
LBNH	**Lisbon**	**116.76**	**51**	IAMs_20	IAMs_20	04 21 58.4			
	comp=Z,846nm,19.0s								
UZB	**Uzynbulak**	**116.83**	**308**	*e*PKiKP	**PKPdf**	**03 36 03.7**	**-1.9**		
	baz=308								
UZB	**Uzynbulak**	**116.83**	**308**	*i* PKIKP	**PKPdf**	**03 36 03.6**	**-1.9**		
KPKS	**Kokpek**	**117.12**	**308**	*e*PKiKP	**PKPdf**	**03 36 04.8**	**-1.2**		
	baz=308								
KPKS	**Kokpek**	**117.12**	**308**	*i* PKIKP	**PKPdf**	**03 36 04.8**	**-1.2**		
I62A	**Tamworth**	**117.12**	**52**	IAMs_20	IAMs_20	04 22 01.0			
	comp=Z,771nm,20.0s								
SATY	**Saty**	**117.26**	**307**	*e*PKiKP	**PKPdf**	**03 36 05.6**	**-0.8**		
	baz=307								
SATY	**Saty**	**117.26**	**307**	*i* PKIKP	**PKPdf**	**03 36 05.5**	**-0.8**		
ALE	**Alert**	**117.34**	**8**	IAMs_20	IAMs_20	04 26 15.3			
	comp=Z,588nm,20.0s								
H62A	**Milan**	**117.36**	**51**	IAMs_20	IAMs_20	04 24 59.2			
	comp=Z,719nm,19.0s								
VOI	**Vohitsoka**	**117.62**	**226**	IAMs_20	IAMs_20	04 21 59.4			
	comp=Z,896nm,20.0s								
I63A	**Otisfield**	**117.69**	**52**	IAMs_20	IAMs_20	04 22 55.0			
	comp=Z,791nm,19.0s								
TULEG	**Thule**	**117.83**	**15**	IAMs_20	IAMs_20	04 22 55.2			
	comp=Z,977nm,21.0s								
KURK	**Kurchatov**	**118.07**	**316**	PKIKP	**PKPdf**	**03 36 06.3**	**-1.2**		
KURK	**Kurchatov**	**118.07**	**316**		**PKPdf**	**03 36 06.2**	**-1.2**		
KURBB	**Kurchatov Arra**	**118.12**	**316**	PKP	**PKPdf**	**03 36 06.2**	**-1.3**		
	comp=Z,2.6nm,0.9s,baz=96,slow=2.0,SNR=22								
F62A	**Pittston Farm,**	**118.37**	**50**	IAMs_20	IAMs_20	04 26 07.8			
	comp=Z,662nm,18.0s								
WVL	**Waterville**	**118.42**	**51**	IAMs_20	IAMs_20	04 22 13.1			
	comp=Z,684nm,20.0s								
E62A	**Clayton Lake**	**118.76**	**49**	IAMs_20	IAMs_20	04 22 34.1			
	comp=Z,822nm,19.0s								
KUU	**Kurty**	**118.87**	**308**	*e*PKiKP	**PKPdf**	**03 36 07.9**	**-1.4**		
	baz=308								
KUU	**Kurty**	**118.87**	**308**	*i* PKIKP	**PKPdf**	**03 36 07.9**	**-1.4**		
F63A	**Nahmakanta, Br**	**118.94**	**50**	IAMs_20	IAMs_20	04 26 43.1			
	comp=Z,734nm,18.0s								
F64A	**Sherman**	**119.49**	**50**	IAMs_20	IAMs_20	04 27 08.4			
	comp=Z,823nm,18.0s								
E63A	**Oxbow**	**119.49**	**49**	IAMs_20	IAMs_20	04 22 47.5			
	comp=Z,612nm,20.0s								
NIL	**Nilore**	**119.60**	**296**	IAMs_20	IAMs_20	04 34 28.4			
	comp=Z,511nm,20.0s								
PQI	**Presque Isle**	**119.79**	**49**	IAMs_20	IAMs_20	04 24 12.5			
	comp=Z,865nm,19.0s								
G65A	**Princeton**	**119.97**	**51**	IAMs_20	IAMs_20	04 23 46.3			
	comp=Z,732nm,19.0s								
EMMW	**East Machias**	**119.99**	**51**	IAMs_20	IAMs_20	04 23 17.9			
	comp=Z,732nm,21.0s								
SGDS	**Sogindy**	**120.05**	**307**	*e*PKiKP	**PKPdf**	**03 36 09.8**	**-1.8**		
	baz=307								
SGDS	**Sogindy**	**120.05**	**307**	*i* PKIKP	**PKPdf**	**03 36 09.8**	**-1.8**		
AAK	**Ala-Archa**	**120.05**	**306**	⇑/PKIKP	**PKiKP**	**03 36 12.4**	**+0.5**		
AAK				pmax	pmax				
	comp=Z,5.0nm,0.7s								
BTLS	**Baital**	**120.63**	**309**	*e*PKiKP	**PKPdf**	**03 36 11.6**	**-1.0**		
	baz=309								
BTLS	**Baital**	**120.63**	**309**	*i* PKIKP	**PKPdf**	**03 36 11.6**	**-1.0**		
SCHQ	**Schefferville**	**120.88**	**39**	PKP	**PKPdf**	**03 36 12.7**	**-0.1**		
	comp=Z,3.0nm,0.8s,baz=237,slow=4.4,SNR=3.8								
NEEM	**North Greenlan**	**121.27**	**12**	*i* P	**PKPdf**	**03 36 12.1**	**-1.3**		
NEEM				IAmb	IAmb	03 36 14.1			
	comp=Z,5.3nm,1.0s								
DZA	**Taraz**	**122.39**	**306**	*e*PKiKP	**PKPdf**	**03 36 14.4**	**-1.8**		
	baz=306								
DZA	**Taraz**	**122.39**	**306**	*i* PKIKP	**PKPdf**	**03 36 14.3**	**-1.8**		
GAR	**Garm**	**122.78**	**302**	PKPdf	**PKPdf**	**03 36 17.3**	**+0.2**		
KKAR	**Karatay Array**	**123.01**	**307**	PKIKP	**PKPdf**	**03 36 16.7**	**-0.6**		
KKAR	**Karatay Array**	**123.01**	**307**	PKPdf	**PKPdf**	**03 36 16.7**	**-0.6**		
BOSA	**Boshof**	**123.16**	**203**	PKP	**PKPdf**	**03 36 18.5**	**+0.2**		
	comp=Z,6.9nm,0.9s,baz=185,slow=2.0,SNR=9.5								
BOSA	**Boshof**	**123.16**	**203**	PKIKP	**PKPdf**	**03 36 18.2**	**-0.1**		
BOSA	**Boshof**	**123.16**	**203**		**PKPdf**	**03 36 18.2**	**-0.1**		
KBL	**Kabul**	**123.20**	**296**	PKIKP	**PKPdf**	**03 36 18.4**	**+0.2**		
KBL	**Kabul**	**123.20**	**296**		**PKPdf**	**03 36 18.4**	**+0.2**		
BVAR	**Borovoye Array**	**123.22**	**318**	PKP	**PKPdf**	**03 36 16.0**	**-1.4**		
	comp=Z,3.7nm,1.0s,baz=270,slow=13,SNR=10								
BRVK	**Borovoye**	**123.29**	**319**	*c* /PKIKP	**PKPdf**	**03 36 16.7**	**-0.7**		
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BRVK	**Borovoye**	**123.29**	**319**	PKPdf	**PKPdf**	**03 36 17.4**	**0.0**		
CHGR	**Chuyangaron**	**123.64**	**301**	PKPdf	**PKPdf**	**03 36 18.2**	**-0.6**		
KBS	**Kingsbay**	**125.50**	**358**	*e*PKPdf	**PKiKP**	**03 36 21.7**	**+0.3**		
SPA0	**Spitsbergen Ar**	**126.06**	**357**	*e*PKPdf	**PKPdf**	**03 36 21.9**	**-0.2**		
SFJD	**Kangerlussuaq**	**126.12**	**23**	IAMs_20	IAMs_20	04 38 01.6			
	comp=Z,588nm,18.0s								
DAG	**Danmarks Havn**	**126.66**	**6**	*i* P	**PKPdf**	**03 36 21.6**	**-1.7**		
DAG				IAmb	IAmb	03 36 23.8			
	comp=Z,5.0nm,1.0s								
DAG	**Danmarks Havn**	**126.66**	**6**	*i* PKIKP	**PKPdf**	**03 36 21.5**	**-1.7**		
DAG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
SUMG	**Summit**	**126.75**	**15**	*i* P	**PKPdf**	**03 36 24.3**	**+0.3**		
SUMG				IAmb	IAmb	03 36 26.5			
	comp=Z,9.5nm,1.1s								
SUMG	**Summit**	**126.75**	**15**	PKIKP	**PKPdf**	**03 36 24.0**	**-0.1**		
SUMG				MLR	MLR				
	comp=Z,800nm,22.0s								
SUMG	**Summit**	**126.75**	**15**	PKPdf	**PKPdf**	**03 36 24.0**	**-0.1**		
SUMG				IAMs_20	IAMs_20	04 28 34.9			
	comp=Z,838nm,22.0s								
HOPEN	**Hopen**	**127.00**	**354**	*e*PKPdf	**PKiKP**	**03 36 24.4**	**0.0**		
HSPB	**Hornsund (broa**	**127.25**	**357**	*e*PKPdf	**PKiKP**	**03 36 25.1**	**+0.2**		
DY2G	**Dye2**	**127.91**	**23**	*i* P	**PKPdf**	**03 36 25.4**	**-0.8**		
DY2G				IAmb	IAmb	03 36 38.4			
	comp=Z,35nm,1.4s								
ICESG	**Greenland Ices**	**128.63**	**18**	*e*P	**PKPdf**	**03 36 25.9**	**-1.7**		
ICESG				IAmb	IAmb	03 36 29.3			
	comp=Z,6.6nm,1.0s								
DBG	**Daneborg**	**128.69**	**8**	*i* P	**PKPdf**	**03 36 26.3**	**-0.8**		
DBG				IAmb	IAmb	03 36 28.4			
	comp=Z,5.1nm,0.9s								
ARU	**Arti**	**129.47**	**324**	PKP	**PKPdf**	**03 36 29.1**	**0.0**		
	comp=Z,1.9nm,0.5s,baz=107,slow=2.2,SNR=11								
ARU	**Arti**	**129.47**	**324**	*i* PKIKP	**PKPdf**	**03 36 29.6**	**+0.5**		
ARU						03 38 38.4			
ARU				MLR	MLR				
	comp=Z,598nm,20.0s								
ARU	**Arti**	**129.47**	**324**	PKPdf	**PKPdf**	**03 36 29.6**	**+0.5**		
	comp=Z,672nm,21.0s								
ABKAR	**Akbulak array**	**130.13**	**315**	PKPdf	**PKiKP**	**03 36 33.0**	**+1.5**		
AKTO	**Aktyubinsk**	**131.16**	**316**	PKP	**PKPdf**	**03 36 32.0**	**-0.6**		
	comp=Z,2.1nm,0.7s,baz=156,slow=4.4,SNR=6.1								
ANGG	**Ammassalik, Gr**	**131.34**	**21**	IAMs_20	IAMs_20	04 39 20.5			
	comp=Z,656nm,19.0s								
SCO	**Scoresbysund**	**131.75**	**11**	IAMs_20	IAMs_20	04 28 53.2			
	comp=Z,474nm,21.0s								
GEYT	**Alibeck**	**132.27**	**300**	PKP	**PKPdf**	**03 36 34.6**	**-0.5**		
	comp=Z,1.8nm,0.5s,baz=6.1,slow=4.2,SNR=3.9								
ARCES	**ARCESS Array B**	**133.24**	**350**	PKP	**PKPdf**	**03 36 35.6**	**-0.3**		
	comp=Z,12nm,0.9s,baz=323,slow=1.0,SNR=15								
KIRV	**Kirov**	**133.31**	**329**	PKP	**PKPdf**	**03 36 36.6**	**+0.3**		
	comp=Z,9.5nm,0.5s,baz=337,slow=0.5,SNR=4.5								
KIRV	**Kirov**	**133.31**	**329**	*d* /PKIKP	**PKiKP**	**03 36 37.4**	**-0.1**		
LSZ	**Lusaka**	**133.71**	**214**	PKIKP	**PKiKP**	**03 36 40.2**	**+0.3**		
LSZ	**Lusaka**	**133.71**	**214**		**PKiKP**	**03 36 40.2**	**+0.3**		
TRO	**Tromso**	**134.07**	**353**	*e*PKPdf	**PKPdf**	**03 36 38.1**	**+0.7**		
STEI	**Steigen**	**136.11**	**354**	*e*PKPdf	**PKPdf**	**03 36 41.1**	**-0.2**		
KLMR	**Klimovskoe**	**136.28**	**336**	*e*PKIKP	**PKPdf**	**03 36 40.4**	**-1.4**		
KLMR				pmax	pmax				
	comp=Z,11nm,1.2s								
KLMR	**Klimovskoe**	**136.28**	**336**	*e*PKPdf	**PKPdf**	**03 36 40.5**	**-1.4**		
KLMR				AMP		03 36 47.3			
	comp=Z,11nm,1.2s								
BELG	**Belogornoye**	**136.82**	**322**	PKP	**PKiKP**	**03 36 44.3**	**-0.5**		
	comp=Z,25nm,1.0s,baz=197,slow=0.7,SNR=5.7								
KIBK	**Kibwezi**	**137.24**	**236**	IAMs_20	IAMs_20	04 34 53.0			
	comp=Z,681nm,20.0s								
KONS	**Konsvik**	**137.70**	**354**	*e*PKPdf	**PKPdf**	**03 36 44.5**	**+0.2**		
MOR8	**Moi Rana**	**137.90**	**354**	*e*PKPdf	**PKPdf**	**03 36 44.7**	**0.0**		
KMBO	**Kilima Mbogo**	**138.62**	**237**	PKP	**PKiKP**	**03 36 49.5**	**-0.6**		
	comp=Z,3.8nm,1.0s,baz=64,slow=1.4,SNR=6.4								
KMBO	**Kilima Mbogo**	**138.62**	**237**		**PKiKP**	**03 36 49.5**	**-0.6**		
MAK	**Makhachkala**	**139.79**	**308**	*eP*	**Pdif**	**03 34 05.0**	**+1.9**		
MAK				*i*		03 36 49.5			
MAK				*e*		03 39 46.4			
MAK				*e*SS	SS	03 57 58.1	-4.4		
MAK				*e*SSS	SSS	04 03 09.8			
MAK				pmax	pmax				
	comp=Z,36nm,0.6s								
FINES	**FINESS Array B**	**140.16**	**343**	PKhKP	PKPpre	03 36 40.0			
	comp=Z,2.6nm,0.8s,baz=46,slow=5.5,SNR=7.3								
FINES				PKP	**PKPdf**	**03 36 49.3**	**+0.4**		
	comp=Z,2.5nm,0.6s,baz=349,slow=3.9,SNR=9.9								
VRH	**Novokhopyorsk**	**140.65**	**322**	*e*PKIKP	**PKPdf**	**03 36 48.8**	**-1.3**		
VRH				pmax	pmax				
	comp=Z,10.0nm,1.6s								
OBN	**Obninsk**	**141.12**	**330**	||*e*PKIKP	**PKPdf**	**03 36 48.3**	**-2.5**	
OBN				*e*		03 39 53.0			
OBN				*e*SS	SS	03 58 18.8	+2.2		
OBN				pmax	pmax				
	comp=Z,7.0nm,0.8s								
OBN				MLR	MLR				
	comp=Z,666nm,20.0s								
OBN	**Obninsk**	**141.12**	**330**	PKPdf	**PKiKP**	**03 36 52.7**	**-0.9**		
LPSR	**Galich'ya Gora**	**141.44**	**326**	*e*PKIKP	**PKPdf**	**03 36 48.5**	**-3.0**		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
RAYN	**Ar Rayn**	**141.94**	**277**	PKIKP	**PKPdf**	**03 36 53.7**	**+0.3**		
RAYN				MLR	MLR				
	comp=Z,1μm,21.0s								
RAYN	**Ar Rayn**	**141.94**	**277**		**PKPdf**	**03 36 53.7**	**+0.3**		
VSR	**Storozhevoye**	**142.04**	**324**	*e*PKIKP	**PKPdf**	**03 36 52.4**	**-0.2**		
VSR				pmax	pmax				
	comp=Z,10.0nm,1.3s								
VORD	**Divnogorie**	**142.10**	**323**	*e*PKIKP	**PKPdf**	**03 36 52.6**	**-0.1**		
VORD				pmax	pmax				
	comp=Z,3.0nm,0.4s								
GNI	**Garni**	**142.41**	**304**	||/PKIKP	**PKPdf**	**03 36 54.9**	**+1.0**		
DOMB	**Dombas**	**142.42**	**356**	*e*PKPdf	**PKPdf**	**03 36 52.6**	**-0.4**		
VSU	**Vasula**	**142.45**	**340**	*eP*	**PKPdf**	**03 36 48.3**	**-4.8**		
VSU	**Vasula**	**142.45**	**340**	⇑/PKIKP	**PKPdf**	**03 36 53.8**	**+0.7**		
KBZ	**Khabaz**	**142.83**	**311**	⇑/PKIKP	**PKiKP**	**03 36 56.1**	**-1.3**		
KIV	**Kislovodsk**	**142.91**	**311**	*i* PKIKP	**PKPdf**	**03 36 53.6**	**-1.0**		
KIV				pmax	pmax				
	comp=Z,16nm,1.1s								
KIV				MLR	MLR				
	comp=Z,796nm,24.0s								
LODK	**Lodwar**	**142.94**	**240**	PKPdf	**PKPdf**	**03 36 53.5**	**-2.0**		
LODK				IAMs_20	IAMs_20	04 36 02.0			
	comp=Z,436nm,20.0s								
NC300	**NORSAR Array S**	**143.00**	**354**	PKPdf	**PKPdf**	**03 36 51.5**	**-2.5**		
NB2	**NORSAR Subarra**	**143.24**	**354**	PKPab	PKPab	03 36 50.1	-0.3		
	baz=8.4,slow=3.4								
NOA	**NORSAR Array B**	**143.24**	**354**	PKhKP	PKPpre	03 36 51.0			
	comp=Z,5.3nm,0.9s,baz=11,slow=2.3,SNR=20								
NC602	**NORSAR Array S**	**143.50**	**354**	*e*PKPdf	PKPbc	03 36 53.3	+0.9		
KARS	**Kars**	**143.55**	**306**	*eP*	PKPbc	03 36 53.7	+0.4		
KARS	**Kars**	**143.55**	**306**	PKIKP	PKPbc	03 36 54.6	+1.3		
KARS	**Kars**	**143.55**	**306**	PKPdf	PKPbc	03 36 54.5	+1.2		
VANB	**Van**	**143.74**	**302**	*eP*	PKPbc	03 36 53.9	0.0		
MBAR	**Mbarara**	**143.75**	**230**	*c* /PKIKP	**PKPdf**	**03 36 58.8**	**+1.7**		
MBAR	**Mbarara**	**143.75**	**230**	PKPdf	**PKPdf**	**03 36 56.3**	**-0.8**		
MBAR	**Mbarara**	**143.75**	**230**	IAMs_20	IAMs_20	04 36 17.1			
	comp=Z,622nm,20.0s								
SKAR	**Skarslia**	**143.82**	**356**	*e*PKPdf	PKPbc	03 36 54.0	+0.6		
HFS	**Hagfors**	**143.84**	**352**	PKhKP	PKPpre	03 36 52.6			
	comp=Z,22nm,0.8s,baz=20,slow=1.7,SNR=39								
AGRB	**Hanur-Agry**	**143.85**	**304**	*eP*	PKPbc	03 36 54.8	+0.5		
SENK	**Senkaya-Erzuru**	**144.10**	**306**	*eP*	**PKPab**	**03 36 53.9**	**-0.7**		
ASK	**Askoy**	**144.15**	**359**	*e*PKPdf	**PKPdf**	**03 36 56.2**	**+0.1**		
BER	**Bergen**	**144.24**	**359**	*e*PKPdf	**PKPdf**	**03 36 56.0**	**-0.3**		
OSL	**Oslo**	**144.37**	**354**	*e*PKPdf	**PKPdf**	**03 36 56.5**	**0.0**		
BCA	**Borcka**	**144.40**	**307**	⇑P	PKPbc	03 36 55.8	+0.1		
BCA	**Borcka**	**144.40**	**307**	*eP*	**PKPab**	**03 36 55.7**	**+0.3**		
KONO	**Kongsberg**	**144.75**	**355**	PKIKP	**PKPab**	**03 36 56.2**	**+0.1**		
KONO	**Kongsberg**	**144.75**	**355**	*e*PKPbc	**PKPab**	**03 36 55.7**	**-0.4**		
KONO	**Kongsberg**	**144.75**	**355**	PKPdf	**PKPab**	**03 36 56.2**	**+0.1**		
GURO	**Guroymak-BITLI**	**144.79**	**303**	*eP*	PKPbc	03 36 57.9	+0.7		
GURO	**Guroymak-BITLI**	**144.79**	**303**	PKPdf	**PKPdf**	**03 36 58.6**	**+0.4**		
IDID	**Didziasalis**	**144.97**	**337**	*eP*	**PKPdf**	**03 36 58.2**	**+0.6**		
SOC	**Sochi**	**145.06**	**312**	*c* /PKIKP	**PKPbc**	**03 36 56.7**	**-1.0**		
SOC				*i*		03 37 01.3			
SOC				*e*		03 40 16.4			
SOC				pmax	pmax				
	comp=Z,16nm,0.9s								
SOC				pmax	pmax				
	comp=Z,9.0nm,0.5s								
VRTB	**Varto-Mus**	**145.10**	**304**	*eP*	**PKPdf**	**03 36 59.5**	**+0.9**		
CHOM	**Cayeli-Rize**	**145.12**	**307**	*eP*	**PKPab**	**03 36 58.4**	**+0.3**		
BLS5	**Blasjo**	**145.17**	**358**	*e*PKPbc	**PKPbc**	**03 36 56.8**	**-0.8**		
MNK	**Minsk**	**145.17**	**335**	*i* PKIKP	**PKPdf**	**03 36 58.6**	**+0.6**		
MNK				*i*		03 40 19.0			
MNK				*i* PPP	PPP	03 43 31.9			
MNK				*i*		03 44 00.4			
MNK				*i* SS	SS	03 59 04.1	+0.9		
MNK				*i* SSS	SSS	04 04 31.6			
MNK				pmax	pmax				
	comp=E,3.0nm,1.0s								
MNK				pmax	pmax				
	comp=Z,119nm,0.9s								
MNK				pmax	pmax				
	comp=N,28nm,0.7s								
MNK				MLR	MLR				
	comp=E,20nm,19.0s								
MNK				MLR	MLR				
	comp=N,330nm,20.0s								
MNK				MLR	MLR				
	comp=Z,292nm,19.0s								
MNK	**Minsk**	**145.17**	**335**	*i* PKP	**PKPdf**	**03 36 58.6**	**+0.6**		
	comp=E,3.0nm,1.1s								
MNK				*i* PKP	**PKPdf**	**03 36 58.6**	**+0.6**		
	comp=N,28nm,0.7s								
MNK				*i* PKP	**PKPdf**	**03 36 58.6**	**+0.6**		
	comp=Z,119nm,0.9s,baz=223								
MNK				*i* pPKP	**sPKPdf**	**03 37 21.2**	**+1.9**		
MNK				*i* sPKP		03 37 29.9			
MNK				*i* PP	**PP**	**03 40 19.0**	**+2.0**		
MNK				*i* SKP		03 40 25.4			
MNK				*i* PKS	**PKSdf**	**03 40 34.1**	**+0.8**		
MNK				*i* PPP	PPP	03 43 31.9			
MNK				*i* SKS	**SKSdf**	**03 44 00.5**	**-2.2**		
MNK				*i* SKKS	**SKKSdf**	**03 53 09.3**	**-4.1**		
MNK				*i* SPP	SPP	03 56 47.9			
MNK				*i* SS	**SS**	**03 59 04.1**	**+0.9**		
MNK				*i* SSS	SSS	04 04 31.6			
MNK				*i* LQ	LQ	04 33 43.9			
MNK				*i* LR	LR	04 40 01.8			
MNK				*i* LRM	MLR	04 42 14.1			
	comp=E,20nm,18.5s								
MNK				*i* LRM	MLR	04 42 26.9			
	comp=N,330nm,20.4s								
MNK				*i* LRM	MLR	04 42 28.1			
	comp=Z,292nm,19.2s								
STRU	**Stroemstad**	**145.21**	**353**	*i* P	**PKPbc**	**03 36 57.5**	**-0.1**		
NACGM	**Naroch**	**145.27**	**337**	*i* PKP	**PKPbc**	**03 36 58.1**	**+0.1**		
	baz=54								
KMY	**Karmoy**	**145.42**	**359**	*e*PKPab	**PKPdf**	**03 36 58.5**	**+0.2**		
SVAN	**Silvan-Diyarba**	**145.52**	**302**	*eP*	**PKPab**	**03 36 59.9**	**+0.2**		
KOPT	**Kop Dagi**	**145.61**	**306**	PKPbc	**PKPab**	**03 37 01.0**	**+0.7**		
YEDI	**Yedisu-Bingol**	**145.72**	**304**	*eP*	**PKPab**	**03 37 00.9**	**+0.3**		
BNGB	**Bingl**	**145.73**	**304**	*eP*	**PKPbc**	**03 37 00.3**	**+0.1**		
PABE	**Paberze**	**145.75**	**340**	*eP*	**PKPab**	**03 37 00.1**	**+0.2**		
KTUT	**Trabzon**	**145.87**	**307**	*eP*	**PKPbc**	**03 37 00.5**	**+0.1**		
PBUR	**Paburge**	**145.92**	**342**	*eP*	**PKPab**	**03 37 00.3**	**-0.2**		
MARD	**Mardin**	**146.01**	**301**	PKPbc	**PKPab**	**03 37 02.8**	**+1.1**		
ANN	**Anapa**	**146.09**	**315**	*c* /PKP2	**PKPbc**	**03 37 00.7**	**-0.2**		
ANN				pmax	pmax				
	comp=Z,63nm,1.1s								
HOMB	**Homborsund**	**146.21**	**355**	*i* P	**PKPdf**	**03 37 00.0**	**+0.4**		
HOMB				*i* P	**PKPbc**	**03 37 00.7**	**-0.1**		
HOMB	**Homborsund**	**146.21**	**355**	*e*PKPbc	**PKPdf**	**03 37 00.1**	**+0.4**		
SNART	**Snartemo**	**146.22**	**357**	*i* P	**PKPbc**	**03 37 00.7**	**-0.2**		
SNART	**Snartemo**	**146.22**	**357**	*e*PKPab	**PKPab**	**03 37 01.4**	**-0.2**		
MAZI	**Mazidag**	**146.24**	**301**	*eP*	**PKPbc**	**03 37 02.1**	**+0.3**		
DYBB	**Diyarbakir**	**146.38**	**302**	*eP*	**PKPab**	**03 37 03.1**	**+0.1**		
BORU	**Boraas**	**146.38**	**351**	*i* P	**PKPbc**	**03 37 00.8**	**-0.5**		
ESPY	**Espiye-Giresun**	**146.64**	**308**	*eP*	**PKPdf**	**03 37 01.9**	**+0.9**		
ONAU	**Unsala**	**146.73**	**352**	*i* P	**PKPdf**	**03 37 01.5**	**+1.0**		
FABU	**Falkenberg**	**147.00**	**351**	*i* P	**PKPbc**	**03 37 02.5**	**-0.6**		
BLEU	**Blekinge**	**147.14**	**348**	*i* P	**PKPbc**	**03 37 02.6**	**-0.9**		
ILIC	**ilic-Erzincan**	**147.19**	**305**	*eP*	**PKPab**	**03 37 05.6**	**-0.6**		
SUW	**Suwalki**	**147.24**	**339**	*e*PKP	**PKPbc**	**03 37 04.0**	**+0.1**		
SUW	**Suwalki**	**147.24**	**339**	*eP*	**PKPbc**	**03 37 04.5**	**+0.7**		
SUW	**Suwalki**	**147.24**	**339**	PKP2	**PKPbc**	**03 37 04.3**	**+0.4**		
SUW				MLR	MLR				
	comp=Z,800nm,20.0s								

OSTC	**Ostas**	**152.36**	**343**⇑	*e*PKP	**PKPbc**	**03 37 16.8**	**+0.1**
OSTC				AMS	AMS	04 50 00.0	
	comp=Z,500nm,21.1s						
CHVC	**Chvalec**	**152.38**	**343**⇑	*e*PKP	**PKPbc**	**03 37 16.7**	**0.0**
CHVC				AMS	AMS	04 50 20.0	
	comp=Z,600nm,16.8s						
CLL	**Collm**	**152.42**	**347**	*e*PKPdf	**PKPdf**	**03 37 10.0**	**+0.2**
CLL				*i* PKPbc	**PKPbc**	**03 37 16.6**	**-0.1**
	comp=Z,23nm,0.9s						
CLL				*i* (pPKPbc)		03 37 21.0	
CLL				*i* PKPab	**PKPab**	**03 37 26.1**	**-0.9**
	comp=Z,31nm,1.1s						
CLL				*e*PP	**PP**	**03 41 00.0**	**+1.1**
CLL				*e*PPP	PPP	03 44 18.0	
CLL				*e*SKSP		03 51 16.0	
CLL				*e*SS	SS	04 00 24.0	+0.2
CLL				*e*SSS	SSS	04 06 12.0	
CLL				*e*SSSS		04 10 12.0	
CLL				*e*		04 12 54.0	
CLL				LmV		04 55 00.0	
	comp=Z,500nm,19.5s						
CLL	**Collm**	**152.42**	**347**	*e*PKIKP	**PKPdf**	**03 37 10.0**	**+0.2**
CLL				*i*		03 37 16.6	
CLL				*e*		03 41 00.0	
CLL				pmax	pmax		
	comp=Z,23nm,0.9s						
CLL				MLR	MLR		
	comp=Z,500nm,19.5s						
CLL	**Collm**	**152.42**	**347**	IAMs_20	IAMs_20	04 55 15.4	
	comp=Z,551nm,19.0s						
OKC	**Ostrava-Krasne**	**152.43**	**340**	*e*PKIKP	**PKPbc**	**03 37 16.4**	**-0.4**
OKC				MLR	MLR		
	comp=Z,600nm,22.6s						
OKC	**Ostrava-Krasne**	**152.43**	**340**⇑	*e*PKP	**PKPbc**	**03 37 16.4**	**-0.4**
OKC				*e*PKPAB	**pPKPbc**	**03 37 30.1**	**-2.3**
OKC				AMS	AMS	04 45 50.0	
	comp=Z,600nm,22.6s						
UPC	**Upice**	**152.46**	**343**	*e*PKIKP	**PKiKP**	**03 37 17.3**	**+0.2**
UPC				*e*		03 37 27.6	
UPC				MLR	MLR		
	comp=Z,600nm,18.8s						
UPC	**Upice**	**152.46**	**343**⇑	*e*PKP	**PKiKP**	**03 37 17.3**	**+0.2**
UPC				*e*PKPAB	**PKPab**	**03 37 27.6**	**+0.4**
UPC				AMS	AMS	04 50 20.0	
	comp=Z,600nm,18.8s						
DOPR	**Dopca**	**152.48**	**326**	⇓P	**PKiKP**	**03 37 18.0**	**+0.6**
MLR	**Muntele Rosu**	**152.51**	**325**	PKPbc	**PKPbc**	**03 37 16.9**	**-0.4**
	comp=Z,13nm,1.0s,baz=49,slow=3.7,SNR=14						
MLR	**Muntele Rosu**	**152.51**	**325**	⇑P	**PKPbc**	**03 37 16.9**	**-0.4**
DPC	**Dobruska-Polom**	**152.52**	**342**	*e*PKIKP	**PKPbc**	**03 37 16.9**	**-0.2**
DPC				MLR	MLR		
	comp=Z,400nm,22.6s						
DPC	**Dobruska-Polom**	**152.52**	**342**⇑	*e*PKP	**PKPbc**	**03 37 16.9**	**-0.2**
DPC				AMS	AMS	04 50 20.0	
	comp=Z,400nm,22.6s						
LANS	**Liptovska Anna**	**152.58**	**337**	*e*PKIKP	**PKiKP**	**03 37 18.1**	**+0.6**
LANS				*e*		03 37 28.1	
LANS	**Liptovska Anna**	**152.58**	**337**	*e*PKP	**PKiKP**	**03 37 18.1**	**+0.6**
LANS				*e*		03 37 28.1	
BRG	**Berggiesshubel**	**152.63**	**346**	*e*PKP	**PKPdf**	**03 37 10.5**	**+0.4**
BRG				Amp		03 37 13.1	
	comp=Z,2.4nm,0.9s						
BRG				*i* x	x	03 37 17.6	
BRG				Amp		03 37 19.6	
	comp=Z,16nm,0.8s						
BRG				*ex*	x	03 37 28.5	
BRG				Amp		03 37 29.8	
	comp=Z,19nm,0.9s						
BRG	**Berggiesshubel**	**152.63**	**346**	PP	PP	03 41 00.0	-0.1
BRG	**Berggiesshubel**	**152.63**	**346**	*e*PKPbc	**PKPbc**	**03 37 17.3**	**+0.1**
	baz=12,slow=2.3						
BRG				*e*PKPab	**PKPab**	**03 37 28.2**	**+0.3**
	baz=13,slow=4.2						
KRLC	**Kraliky**	**152.64**	**342**	*e*PKIKP	**PKPbc**	**03 37 17.0**	**-0.3**
KRLC				MLR	MLR		
	comp=Z,500nm,20.0s						
KRLC	**Kraliky**	**152.64**	**342**⇑	*e*PKP	**PKPbc**	**03 37 17.0**	**-0.3**
KRLC				AMS	AMS	04 48 30.0	
	comp=Z,500nm,20.0s						
MORC	**Moravsky Berou**	**152.68**	**340**	*e*PKP	**PKPbc**	**03 37 17.7**	**+0.3**
GTTG	**Gottingen**	**152.70**	**351**	*e*PKPbc	**PKPbc**	**03 37 17.5**	**+0.1**
	baz=12,slow=2.3						
FBE	**Freiberg**	**152.71**	**347**	*e*PKPbc	**PKiKP**	**03 37 18.0**	**+0.4**
	baz=12,slow=2.3						
LEF	**Lefka**	**152.72**	**299**	⇓P	**PKPbc**	**03 37 17.9**	**-0.1**
NEUB	**Neuenburg**	**152.74**	**349**	*e*PKPbc	**PKPbc**	**03 37 17.3**	**-0.2**
	baz=12,slow=2.3						
NEUB				*e*PKPab	**PKPab**	**03 37 28.2**	**-0.2**
	baz=13,slow=4.2						
PVCC	**Panska Ves**	**152.81**	**345**	*e*PKIKP	**PKPbc**	**03 37 17.6**	**0.0**
PVCC				*e*		03 37 28.3	
PVCC				MLR	MLR		
	comp=Z,500nm,22.9s						
PVCC	**Panska Ves**	**152.81**	**345**⇑	*e*PKP	**PKPbc**	**03 37 17.6**	**0.0**
PVCC				*e*PKPAB	**PKPab**	**03 37 28.3**	**-0.3**
PVCC				AMS	AMS	04 48 40.0	
	comp=Z,500nm,22.9s						
BUG	**Bochum--Univer**	**153.09**	**355**	*e*PKPbc	**PKPbc**	**03 37 18.1**	**-0.1**
	baz=12,slow=2.3						
KASTN	**Kahler Asten**	**153.22**	**353**	*e*PKPbc	**PKPbc**	**03 37 18.4**	**-0.2**
	baz=12,slow=2.3						
PRA	**Prague**	**153.26**	**345**	AMS	AMS	04 54 20.0	
	comp=Z,600nm,22.0s						
ARR	**Arges**	**153.28**	**326**	⇑P	**PKPdf**	**03 37 11.4**	**0.0**
MOX	**Moxa**	**153.31**	**349**	*e*PKPbc	**PKPbc**	**03 37 18.6**	**-0.2**
	baz=12,slow=2.3						
PRU	**Pruhonice**	**153.31**	**344**	*e*PKIKP	**PKPbc**	**03 37 18.8**	**+0.1**
PRU				MLR	MLR		
	comp=Z,500nm,21.0s						
PRU	**Pruhonice**	**153.31**	**344**⇑	*e*PKP	**PKPbc**	**03 37 18.8**	**+0.1**
PRU				*e*PKPAB	**pPKPbc**	**03 37 31.7**	**-2.6**
PRU				AMS	AMS	04 47 30.0	
	comp=Z,500nm,21.0s						
VYHS	**Vyhne**	**153.36**	**337**	*e*PKIKP	**PKPbc**	**03 37 19.0**	**+0.1**
VYHS				*e*		03 37 30.9	
VYHS	**Vyhne**	**153.36**	**337**	*e*PKP	**PKPbc**	**03 37 19.0**	**+0.1**
VYHS				*e*		03 37 30.9	
PLN	**Plauen**	**153.37**	**348**	*e*PKPab	**PKPab**	**03 37 29.9**	**-1.1**
	baz=13,slow=4.2						
WERD	**Werda**	**153.37**	**348**	*e*PKPab	**PKPab**	**03 37 30.8**	**-0.3**
	baz=13,slow=4.2						
VRAC	**Vranov**	**153.38**	**341**	PKPbc	**PKPbc**	**03 37 18.5**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=80,slow=2.1,SNR=2.8						
VRAC				PKPab	**PKPab**	**03 37 31.0**	**-0.1**
	comp=Z,9.2nm,1.0s,baz=57,slow=3.4,SNR=9.8						
VRAC	**Vranov**	**153.38**	**341**	*e*PKP	**PKiKP**	**03 37 19.7**	**+0.6**
VRAC	**Vranov**	**153.38**	**341**		**PKPbc**	**03 37 18.6**	**-0.4**
JAVC	**Velka Javorina**	**153.44**	**339**	*e*PKP	**PKiKP**	**03 37 19.7**	**+0.4**
GUNZ	**Gunzen**	**153.45**	**348**	*e*PKPbc	**PKiKP**	**03 37 19.4**	**+0.1**
	baz=12,slow=2.3						
GUNZ				*e*PKPab	**PKPab**	**03 37 31.2**	**-0.2**
	baz=13,slow=4.2						
NKC	**Novy Kostel**	**153.55**	**347**	*e*PKIKP	**PKiKP**	**03 37 19.8**	**+0.4**
NKC				*e*		03 37 31.9	
NKC				MLR	MLR		
	comp=Z,500nm,17.5s						
NKC	**Novy Kostel**	**153.55**	**347**⇑	*e*PKP	**PKiKP**	**03 37 19.8**	**+0.4**
NKC				*e*PKPAB	**PKPab**	**03 37 31.9**	**+0.1**
NKC				AMS	AMS	04 54 00.0	
	comp=Z,500nm,17.5s						
KRUC	**Moravsky**	**153.66**	**341**	*e*PKP	**PKPbc**	**03 37 19.1**	**-0.4**
ISP	**Isparta**	**153.68**	**306**	IAMs_20	IAMs_20	04 55 55.7	
	comp=Z,560nm,20.0s						
TREC	**Trest**	**153.71**	**342**	AMS	AMS	04 49 30.0	
	comp=Z,500nm,19.8s						
SMOL	**Smolenice**	**153.82**	**339**	*e*PKP2	**PKPab**	**03 37 33.8**	**+0.8**
MANZ	**Manzenberg**	**153.85**	**348**	*e*PKPbc	**PKiKP**	**03 37 21.1**	**+1.1**
	baz=12,slow=2.3						
MANZ				*e*PKPab	**PKPab**	**03 37 33.4**	**+0.3**
	baz=13,slow=4.2						
MODS	**Modra-Piesok**	**153.99**	**339**	*e*PKIKP	**PKPbc**	**03 37 19.7**	**-0.6**
MODS	**Modra-Piesok**	**153.99**	**339**	*e*PKP	**PKPbc**	**03 37 19.7**	**-0.6**
MODS				*e*		03 37 34.3	
MEM	**Membach**	**154.00**	**357**	*d*PKP	**PKiKP**	**03 37 23.2**	**+2.9**
BTNL	**Ternell**	**154.01**	**356**	*d*PKPbc	**PKPbc**	**03 37 20.2**	**0.0**
BTNL				*d*PKP	**pPKPbc**	**03 37 33.2**	**-2.7**
BTNL				*dp*PKPab	**sPKPab**	**03 37 54.1**	**-0.4**
TNS	**Taunus Mts**	**154.18**	**353**	*e*PKPab	**PKPab**	**03 37 34.0**	**-0.5**
	baz=13,slow=4.2						
ZST	**Bratislava**	**154.20**	**339**	*e*PKP2	**PKPab**	**03 37 35.7**	**+1.1**
BCLA	**Clavier**	**154.22**	**358**	*d*PKP	**PKPab**	**03 37 33.8**	**-0.7**
BGES	**Gesves**	**154.26**	**358**	*d*PKP	**PKPab**	**03 37 34.2**	**-0.6**
BGES				*dp*PKP	**sPKPbc**	**03 37 41.7**	**-0.3**
GRA1	**Grafenberg Arr**	**154.30**	**349**	PKPdf	**PKPdf**	**03 37 12.3**	**-0.3**
GRA1					**PKPab**	**03 37 35.1**	**+0.2**
GRA1				IAMs_20	IAMs_20	04 57 59.1	
	comp=Z,532nm,19.0s						
GRF	**Grafenberg Arr**	**154.30**	**349**	PKP2	**PKPab**	**03 37 35.2**	**+0.2**
GRF						04 37 12.3	
GRF	**Grafenberg Arr**	**154.30**	**349**	*e*PKPbc	**PKiKP**	**03 37 22.1**	**+1.1**
	baz=12,slow=2.3						
GRFO	**Grafenberg**	**154.30**	**349**	PKP2	**PKPab**	**03 37 35.6**	**+0.6**
GRFO	**Grafenberg**	**154.30**	**349**	PKPab	**PKPab**	**03 37 35.5**	**+0.6**
GRFO				IAMs_20	IAMs_20	04 57 59.1	
	comp=Z,535nm,19.0s						
KHC	**Kasperske Hory**	**154.34**	**345**	*e*PKIKP	**PKPdf**	**03 37 13.2**	**+0.5**
KHC				*e*		03 37 20.6	
KHC				*e*		03 37 34.8	
KHC				MLR	MLR		
	comp=Z,600nm,18.6s						
KHC	**Kasperske Hory**	**154.34**	**345**	*e*PKPDF	**PKPdf**	**03 37 13.2**	**+0.5**
KHC				⇑*e*PKP	**PKPbc**	**03 37 20.6**	**-0.5**
KHC				*e*PKPAB	**PKPab**	**03 37 34.8**	**-0.4**
KHC				AMS	AMS	04 54 00.0	
	comp=Z,600nm,18.6s						
BMRD	**Maredsous**	**154.35**	**358**	*d*PKPbc	**PKiKP**	**03 37 21.6**	**+0.6**
BMRD				*d*PKP	**PKPab**	**03 37 35.0**	**-0.2**
CKRC	**Cesky Krumlov**	**154.45**	**344**	*e*PKPDF	**PKPdf**	**03 37 12.7**	**-0.2**
CKRC				⇑*e*PKP	**PKPbc**	**03 37 20.9**	**-0.4**
MILB	**Miltenberg**	**154.47**	**352**	*e*PKPbc	**PKPbc**	**03 37 21.3**	**+0.1**
	baz=12,slow=2.3						
WET	**Wettzell**	**154.49**	**346**	*e*PKPab	**PKPab**	**03 37 35.9**	**+0.1**
	baz=13,slow=4.2						
BZS	**Buzias**	**154.56**	**330**	⇑P	**PKPdf**	**03 37 13.5**	**+0.4**
BZS	**Buzias**	**154.56**	**330**	⇑PKIKP	**PKPdf**	**03 37 13.5**	**+0.4**
DOU	**Dourbes**	**154.56**	**359**	*d*PKPbc	**PKPbc**	**03 37 21.5**	**+0.1**
DOU				*dx*	x	03 37 35.9	
GEC2	**GERESS Array S**	**154.58**	**345**	*e*PKPbc	**PKiKP**	**03 37 22.7**	**+1.0**
	baz=12,slow=2.3						
GERES	**GERESS Array B**	**154.58**	**345**	PKP	**PKPdf**	**03 37 12.3**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=90,slow=1.5,SNR=9.0						
GERES				PKPbc	**PKPbc**	**03 37 21.5**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=48,slow=2.0,SNR=11						
GERES				PKPab	**PKPab**	**03 37 36.1**	**-0.2**
	comp=Z,4.3nm,1.0s,baz=45,slow=4.0,SNR=6.2						
GERES	**GERESS Array B**	**154.58**	**345**	PKIKP	**PKPdf**	**03 37 13.0**	**-0.2**
GERES						03 37 21.5	
GERES	**GERESS Array B**	**154.58**	**345**		**PKPbc**	**03 37 21.5**	**-0.1**
GERES	**GERESS Array B**	**154.58**	**345**	PKPdf	**PKPdf**	**03 37 13.0**	**-0.2**
BALB	**Balikesir**	**154.75**	**312**	PKPdf	**PKPdf**	**03 37 12.7**	**-0.9**
BALB				PKPab	**PKPab**	**03 37 38.1**	**+0.8**
CONA	**Conrad Observa**	**154.83**	**341**	*i* P	**PKPdf**	**03 37 13.3**	**-0.2**
	comp=Z,4.6nm,1.0s						
CONA				*e*P	**PKiKP**	**03 37 22.8**	**+0.6**
	comp=Z,5.6nm,1.2s						
CONA				*i* P	**PKPab**	**03 37 38.1**	**+0.7**
	comp=Z,8.5nm,1.0s						
WLF	**Walferdange**	**154.93**	**356**	*d*PKPbc	**PKPbc**	**03 37 21.0**	**-1.2**
WLF				*d*PKP	**pPKPbc**	**03 37 36.2**	**-1.6**
WLF				*dp*PKP	**sPKPbc**	**03 37 44.1**	**+0.7**
WLF				*ds*PKPbc	**pPKPab**	**03 37 50.8**	**-1.9**
MOA	**Molln**	**155.36**	**343**	*i* P	**PKPab**	**03 37 39.9**	**+0.3**
	comp=Z,6.5nm,1.1s						
STU	**Stuttgart**	**155.51**	**351**	IAMs_20	IAMs_20	04 58 11.0	
	comp=Z,502nm,20.0s						
ARSA	**Arzberg**	**155.54**	**340**	*i* P	**PKPdf**	**03 37 14.6**	**+0.2**
	comp=Z,1.9nm,0.6s						
ARSA				*i* P	**PKPab**	**03 37 40.1**	**-0.3**
	comp=Z,6.4nm,1.4s						
FUR	**Furstenfeldbru**	**155.75**	**348**	*e*PKPab	**PKPab**	**03 37 41.4**	**+0.1**
	baz=13,slow=4.2						
RJOB	**Jochberg**	**155.83**	**345**	*e*PKPab	**PKPab**	**03 37 41.9**	**+0.3**
	baz=13,slow=4.2						
KOGS	**Kog**	**156.01**	**338**	*i* PKPab	**PKPab**	**03 37 42.0**	**-0.4**
BFO	**Black Forest**	**156.06**	**352**	PKIKP	**PKPdf**	**03 37 15.3**	**+0.2**
BFO						03 37 41.2	
BFO	**Black Forest**	**156.06**	**352**	PKPdf	**PKPdf**	**03 37 15.2**	**+0.2**
BFO				PKPab	**PKPab**	**03 37 41.2**	**-1.4**
BFO				IAMs_20	IAMs_20	04 46 01.4	
	comp=Z,397nm,21.0s						
SOKA	**Soboth**	**156.20**	**340**	*i* P	**PKPab**	**03 37 41.9**	**-1.5**
	comp=Z,7.2nm,1.0s						
PERS	**Pernice**	**156.21**	**340**	*e*PKPab	**PKPab**	**03 37 42.9**	**-0.5**
ECH	**Echery**	**156.30**	**354**	IAMs_20	IAMs_20	04 56 55.5	
	comp=Z,426nm,19.0s						
KBA	**Koelnbreinsper**	**156.31**	**343**	*i* P	**PKPab**	**03 37 43.9**	**0.0**
	comp=Z,12nm,0.8s						
DIVS	**Divibare**	**156.46**	**330**	IAMs_20	IAMs_20	04 58 23.1	
	comp=Z,305nm,20.0s						
WATA	**Walderalm**	**156.49**	**347**	*i* P	**PKPab**	**03 37 44.7**	**+0.2**
	comp=Z,10nm,1.0s						
OBKA	**Obir**	**156.50**	**341**	*i* P	**PKPab**	**03 37 44.4**	**-0.2**
	comp=Z,3.8nm,0.7s						
RETA	**Reute**	**156.50**	**348**	*i* P	**PKPab**	**03 37 45.1**	**+0.6**
	comp=Z,8.1nm,1.0s						
WTTA	**Wattenberg**	**156.54**	**346**	*e*P	**PKPdf**	**03 37 16.4**	**+0.5**
	comp=Z,4.8nm,0.9s						
WTTA				*e*P	**PKPab**	**03 37 45.0**	**+0.1**
	comp=Z,7.8nm,0.7s						
MOTA	**Moosalm**	**156.57**	**347**	*e*P	**PKPdf**	**03 37 16.5**	**+0.5**
	comp=Z,3.6nm,0.9s						
MOTA				*e*P	**PKPab**	**03 37 45.5**	**+0.5**
	comp=Z,14nm,0.9s						
MYKA	**Terra Mystica**	**156.65**	**343**	*e*P	**PKPdf**	**03 37 16.6**	**+0.7**
	comp=Z,1.2nm,0.4s						
MYKA				*e*P	**PKPab**	**03 37 45.4**	**+0.2**
	comp=Z,11nm,1.1s						
ABTA	**Abfaltersbach**	**156.83**	**345**	*e*P	**PKPdf**	**03 37 16.9**	**+0.7**
	comp=Z,5.0nm,1.0s						
ABTA				*e*P	**PKPab**	**03 37 46.2**	**+0.2**
	comp=Z,11nm,1.0s						
DAVA	**Damuels**	**156.86**	**349**	*i* P	**PKPdf**	**03 37 17.1**	**+0.8**
	comp=Z,3.1nm,0.7s						
DAVA				*i* P	**PKPab**	**03 37 46.7**	**+0.5**
	comp=Z,7.4nm,0.8s						
FETA	**Feichten**	**156.96**	**348**	*e*P	**PKPdf**	**03 37 17.1**	**+0.7**
	comp=Z,5.9nm,0.9s						
FETA				*e*P	**PKPab**	**03 37 47.4**	**+0.8**
	comp=Z,14nm,1.0s						
DAVOX	**Davos/Dischmat**	**157.35**	**349**	PKPab	**PKPab**	**03 37 48.4**	**0.0**
	comp=Z,10nm,0.9s,baz=302,slow=5.2,SNR=9.5						
TUE	**Stuetta**	**157.74**	**350**	PKPdf	**PKPdf**	**03 37 18.4**	**+0.9**
TUE				PKPab	**PKPab**	**03 37 50.4**	**+0.4**
SANT	**Santorini**	**157.96**	**307**	IAMs_20	IAMs_20	04 56 13.1	
	comp=Z,320nm,20.0s						
PDG	**Podgorica**	**158.08**	**328**	IAMs_20	IAMs_20	04 54 19.2	
	comp=Z,460nm,20.0s						
TEOL	**Teolo**	**158.33**	**345**	PKPdf	**PKPdf**	**03 37 17.8**	**-0.2**
TEOL				PKPab	**PKPab**	**03 37 52.7**	**+0.3**
IDI	**Anoyia**	**158.84**	**305**	PKPab	**PKPab**	**03 37 55.7**	**+0.5**
	comp=Z,9.9nm,1.1s,baz=0.0,slow=8.1,SNR=2.3						
VLC	**Villacollemand**	**159.76**	**346**	IAMs_20	IAMs_20	04 51 14.9	
	comp=Z,495nm,20.0s						
PMOZ	**Porto Moniz, M**	**159.94**	**61**	*e*PKPdf	**PKPdf**	**03 37 26.4**	**+6.0**
PMOZ	**Porto Moniz, M**	**159.94**	**61**	*e*PP	PP	03 41 43.0	+0.7
PMOZ	**Porto Moniz, M**	**159.94**	**61**	*e*LR	LR	04 40 35.3	
	comp=Z,352nm,20.0s						
PGAV	**Gavieira, Arco**	**160.05**	**27**	*e*PKPdf	**PKPdf**	**03 37 21.5**	**+1.2**
PGAV	**Gavieira, Arco**	**160.05**	**27**	*e*PP	PP	03 41 42.7	+1.1
PGAV	**Gavieira, Arco**	**160.05**	**27**	*e*LR	LR	04 35 33.9	
	comp=Z,438nm,18.0s						
PMAR	**Madeira**	**160.20**	**61**	*e*PKPdf	**PKPdf**	**03 37 22.9**	**+2.1**
POLO	**Lamas de Olo**	**160.74**	**27**	*e*PKPdf	**PKPdf**	**03 37 26.1**	**+5.1**
POLO	**Lamas de Olo**	**160.74**	**27**	*e*PP	PP	03 41 46.8	+1.5
PBRG	**Braganca**	**160.79**	**24**	*e*PP	PP	03 41 52.6	+7.1
MVO	**Moncorvo**	**161.22**	**26**	*e*PKPdf	**PKPdf**	**03 37 23.3**	**+1.8**
MVO	**Moncorvo**	**161.22**	**26**	*e*PP	PP	03 41 55.2	+7.3
MVO	**Moncorvo**	**161.22**	**26**	*e*SS	SS	04 02 07.2	+8.3
MVO	**Moncorvo**	**161.22**	**26**	*e*LR	LR	04 35 47.4	
	comp=Z,347nm,18.0s						
COI	**Coimbra**	**161.42**	**30**	*e*PP	PP	03 41 42.4	-6.5
COI	**Coimbra**	**161.42**	**30**	*e*SS	SS	04 02 10.5	+9.5
PCAS	**Casmilo, Conde**	**161.50**	**31**	*e*PKPdf	**PKPdf**	**03 37 24.2**	**+2.4**
PCAS	**Casmilo, Conde**	**161.50**	**31**	*e*PP	PP	03 41 42.4	-7.0
PCAS	**Casmilo, Conde**	**161.50**	**31**	*e*SS	SS	04 02 12.8	+11
MTE	**Manteigas**	**161.65**	**28**	*e*PKPdf	**PKPdf**	**03 37 23.3**	**+1.3**
MTE	**Manteigas**	**161.65**	**28**	*e*PP	PP	03 41 52.9	+2.7
MTE	**Manteigas**	**161.65**	**28**	*e*SS	SS	04 02 11.8	+8.3
MTE	**Manteigas**	**161.65**	**28**	*e*LR	LR	04 34 35.9	
	comp=Z,639nm,20.0s						
PSBE	**So Bento**	**161.78**	**32**	*e*PKPdf	**PKPdf**	**03 37 23.9**	**+1.8**
PSBE	**So Bento**	**161.78**	**32**	*e*SS	SS	04 02 22.4	+17
PMAFR	**Mafra**	**161.97**	**35**	*e*PKPdf	**PKPdf**	**03 37 23.9**	**+1.6**
PMAFR	**Mafra**	**161.97**	**35**	*e*SS	SS	04 02 20.4	+13
PCBR	**Castelo Branco**	**162.14**	**29**	*e*PKPdf	**PKPdf**	**03 37 23.6**	**+1.2**
PMTG	**Montargil**	**162.41**	**32**	*e*PKPdf	**PKPdf**	**03 37 27.9**	**+5.2**
PMTG	**Montargil**	**162.41**	**32**	*e*PP	PP	03 41 46.8	-7.5
PMTG	**Montargil**	**162.41**	**32**	*e*SS	SS	04 02 22.4	+11
PMRV	**Marv??o**	**162.51**	**30**	*e*PKPdf	**PKPdf**	**03 37 27.6**	**+4.8**
PMRV	**Marv??o**	**162.51**	**30**	*e*PP	PP	03 41 57.0	+2.2
PMRV	**Marv??o**	**162.51**	**30**	*e*LR	LR	04 39 50.7	
	comp=Z,651nm,18.0s						
PESTR	**Estremoz**	**162.87**	**31**	*e*PKPdf	**PKPdf**	**03 37 24.0**	**+0.8**
PESTR	**Estremoz**	**162.87**	**31**	*e*PP	PP	03 41 58.5	+1.8
PESTR	**Estremoz**	**162.87**	**31**	*e*SS	SS	04 02 26.6	+10
EVO	**Evora**	**162.93**	**33**	*e*PKPdf	**PKPdf**	**03 37 25.4**	**+2.2**
PNCL	**Nicolau / Gran**	**162.99**	**35**	*e*PKPdf	**PKPdf**	**03 37 24.3**	**+1.0**
PNCL	**Nicolau / Gran**	**162.99**	**35**	*e*PP	PP	03 41 57.0	-0.4
PNCL	**Nicolau / Gran**	**162.99**	**35**	*e*SS	SS	04 02 29.1	+11
MESJ	**Messejana**	**163.35**	**35**	*e*PKPdf	**PKPdf**	**03 37 23.1**	**-0.6**
MESJ				*e*PP	**PP**	**03 42 00.2**	**+0.8**
MESJ				IAMs_20	IAMs_20	04 56 40.7	
	comp=Z,586nm,13.2s						
MESJ	**Messejana**	**163.35**	**35**	*e*PKIKP	**PKPdf**	**03 37 23.1**	**-0.6**
MESJ				*e*		03 42 00.2	
PFVI	**Vila Bisbo**	**163.55**	**38**	*e*PKPdf	**PKPdf**	**03 37 25.3**	**+1.4**
PFVI	**Vila Bisbo**	**163.55**	**38**	*e*PP	PP	03 41 57.0	-3.5
PFVI	**Vila Bisbo**	**163.55**	**38**	*e*SS	SS	04 02 43.1	+20
PCVE	**Castro Verde**	**163.60**	**35**	*e*PP	PP	03 41 59.9	-0.8
PAB	**San Pablo**	**163.64**	**23**	PKIKP	**PKPdf**	**03 37 25.1**	**+1.1**
PAB	**San Pablo**	**163.64**	**23**		**PKPdf**	**03 37 25.1**	**+1.1**
ESDC	**Sonseca Array**	**163.66**	**22**	PKP	**PKPdf**	**03 37 22.4**	**-1.6**
	comp=Z,1.6nm,1.0s,baz=353,slow=3.6,SNR=8.4						
ESDC				PKPab	**PKPab**	**03 38 16.1**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=334,slow=4.1,SNR=5.4						
ESDC	**Sonseca Array**	**163.66**	**22**		**PKPdf**	**03 37 23.9**	**-0.1**
PBAR	**Barrancos**	**163.68**	**32**	*e*PKPdf	**PKPdf**	**03 37 25.2**	**+1.2**
PBAR	**Barrancos**	**163.68**	**32**	*e*PP	PP	03 41 55.5	-5.5
PBAR	**Barrancos**	**163.68**	**32**	*e*SS	SS	04 02 29.1	+4.5
PVAQ	**Vaqueiros**	**163.94**	**35**	*e*PKPdf	**PKPdf**	**03 37 28.7**	**+4.5**
PVAQ	**Vaqueiros**	**163.94**	**35**	*e*PP	PP	03 42 05.5	+3.0
PVAQ	**Vaqueiros**	**163.94**	**35**	*e*SS	SS	04 02 40.8	+13
PVAQ	**Vaqueiros**	**163.94**	**35**	*e*LR	LR	04 38 34.0	
	comp=Z,502nm,20.0s						
PBDV	**Barranco-do-Ve**	**163.95**	**36**	*e*PKPdf	**PKPdf**	**03 37 26.6**	**+2.3**
PBDV	**Barranco-do-Ve**	**163.95**	**36**	*e*PP	PP	03 41 57.0	-5.6
PBDV	**Barranco-do-Ve**	**163.95**	**36**	*e*SS	SS	04 02 19.5	-8.2
TOA0	**Torodi Ar. Sit**	**168.43**	**170**		**PKPdf**	**03 37 28.5**	**+0.1**
TOA0					**PKPab**	**03 38 38.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**168.43**	**170**	PKP	**PKPdf**	**03 37 27.2**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=330,slow=1.4,SNR=7.3						
TORD				PKPab	**PKPab**	**03 38 38.3**	**+1.0**
	comp=Z,6.8nm,0.8s,baz=199,slow=2.6,SNR=12						
TORD	**Torodi Ar. Bea**	**168.43**	**170**		**PKPdf**	**03 37 28.1**	**-0.3**
TORD					**PKPab**

AROD	**Rodeo**	**4.44**	**267**	*i* P		**Pn**	**04 31 16.0**	**+1.4**
RTLS	**Leoncito**	**4.61**	**246**	*i* P		**Pn**	**04 31 18.2**	**+1.4**
RTLS					IAML		04 32 35.6	
	comp=Z,68nm,0.3s							
ASAL	**Salagasta**	**4.62**	**235**	*i* P		**Pn**	**04 31 18.2**	**+1.5**
ASAL					IAML		04 32 40.3	
	comp=Z,238nm,0.7s							
ARCO	**CERRO ARCO**	**4.82**	**233**	*i* P		**Pn**	**04 31 21.4**	**+1.7**
ARCO				*e*S		Sn	04 32 39.5	+25
ARCO					IAML		04 32 46.6	
	comp=Z,463nm,0.5s							
AUSP	**Uspallata**	**4.85**	**242**	*i* P		**Pn**	**04 31 21.0**	**+0.9**
AUSP				*e*S		Sn	04 32 37.9	+23
AAGR	**Agrelo**	**4.90**	**230**	*i* P		**Pn**	**04 31 22.1**	**+1.5**
AAGR					IAML		04 32 51.8	
	comp=Z,165nm,0.4s							
AVIZ	**Vizcacheras**	**4.95**	**225**	*i* P		**Pn**	**04 31 22.8**	**+1.6**
AVIZ				*e*S		Sn	04 32 43.0	+26
AC02	**Maricunga**	**5.26**	**306**	Pn		**Pn**	**04 31 27.3**	**+1.2**
SLA	**San Lorenzo**	**5.37**	**349**	*i* P		**Pn**	**04 31 27.2**	**0.0**
SLA					IAML		04 33 12.4	
	comp=Z,193nm,0.7s							
CO03	**El Pedregal**	**5.53**	**260**			**Pn**	**04 31 31.0**	**+1.6**
GO04	**Tololo Observa**	**5.59**	**267**	Pn		**Pn**	**04 31 31.8**	**+1.6**
GO04	**Tololo Observa**	**5.59**	**267**	*i* P		**Pn**	**04 31 31.9**	**+1.6**
GO04				*e*S		**Sn**	**04 32 35.1**	**+1.8**
GO03	**Copiap**	**5.70**	**294**			**Pn**	**04 31 32.0**	**+0.4**
GO03	**Copiap**	**5.70**	**294**	*i* P		**Pn**	**04 31 32.0**	**+0.4**
AZAP	**Zapla**	**5.80**	**354**	*i* P		**Pn**	**04 31 32.3**	**-0.9**
AZAP				*e*S		Sn	04 33 13.0	+34
AZAP					IAML		04 33 20.0	
	comp=Z,332nm,0.6s							
CO02	**Combarbal**	**5.85**	**257**			**Pn**	**04 31 34.8**	**+1.0**
RFA	**San Rafael**	**5.88**	**215**	*i* P		**Pn**	**04 31 34.6**	**+0.5**
RFA				*e*S		Sn	04 33 15.8	+35
RFA					IAML		04 33 19.3	
	comp=Z,94nm,0.3s							
VA03	**San Esteban**	**5.97**	**241**			**Pn**	**04 31 37.4**	**+2.1**
ASTB	**Santa Barbara**	**6.04**	**359**	*i* P		**Pn**	**04 31 37.0**	**+0.5**
ASTB					IAML		04 33 31.7	
	comp=Z,11nm,0.4s							
ALOL	**LOMAS DE OLMED**	**6.18**	**3**	*i* P		**Pn**	**04 31 37.8**	**-0.5**
MT03	**Universidad Ad**	**6.29**	**235**			**Pn**	**04 31 41.4**	**+1.6**
LAMA	**Las Malvinas**	**6.40**	**219**	*i* P		**Pn**	**04 31 41.7**	**+0.5**
MT05	**Renca**	**6.40**	**237**	Pn		**Pn**	**04 31 42.8**	**+1.6**
ROC1	**El Roble**	**6.41**	**241**	*i* P		**Pn**	**04 31 43.0**	**+1.5**
MT02	**Curacav**	**6.63**	**239**			**Pn**	**04 31 44.6**	**+0.3**
GO02	**Mina Guanaco**	**6.71**	**315**			**Pn**	**04 31 47.4**	**+1.8**
ITQB	**Itaqui**	**6.72**	**89**	Pn		**Pn**	**04 31 45.4**	**-0.2**
ITQB	**Itaqui**	**6.72**	**89**	*e*P		**Pn**	**04 31 45.5**	**0.0**
COIS	**El Sosneado**	**6.74**	**220**	*i* P		**Pn**	**04 31 46.0**	**+0.2**
COIS				*e*S		Sn	04 33 43.1	+42
MT09	**Talagante**	**6.78**	**235**			**Pn**	**04 31 47.2**	**+0.8**
HJA	**Humahuaca**	**6.84**	**352**	*i* P		**Pn**	**04 31 47.9**	**+0.2**
HJA					IAML		04 34 04.1	
	comp=Z,44nm,0.5s							
VA01	**Torpederas**	**6.91**	**242**			**Pn**	**04 31 48.9**	**+0.7**
MT01	**Popeta**	**7.01**	**235**			**Pn**	**04 31 49.2**	**-0.3**
EDS3	**Malargue**	**7.14**	**215**	*i* P		**Pn**	**04 31 51.8**	**+0.4**
EDS3				*e*S		Sn	04 33 58.3	+47
VA05	**Santo Domingo**	**7.17**	**238**			**Pn**	**04 31 51.0**	**-0.7**
BO01	**Tunca**	**7.18**	**231**	Pn		**Pn**	**04 31 52.7**	**+0.8**
CPUP	**Villa Florida**	**7.20**	**61**	Pn		**Pn**	**04 31 50.2**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=238,slow=11,SNR=22							
CPUP					Lg	Lg	04 33 47.2	
	comp=Z,4.9nm,0.3s,baz=165,slow=20,SNR=1.6							
CPUP	**Villa Florida**	**7.20**	**61**	Pn		**Pn**	**04 31 50.9**	**-1.3**
GO05	**Huala**	**8.11**	**230**			**Pn**	**04 32 03.8**	**-0.7**
GO05	**Huala**	**8.11**	**230**	*i* P		**Pn**	**04 32 03.9**	**-0.7**
LVC	**Limon Verde**	**8.43**	**330**	Pn		**Pn**	**04 32 08.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=110,slow=4.5,SNR=1.8							
LVC	**Limon Verde**	**8.43**	**330**	*e*P		Pn	04 32 13.8	+4.4
PLTB	**Pedras Altas**	**9.40**	**103**	Pn		**Pn**	**04 32 21.3**	**-1.0**
CPSB	**Cacapava Do Su**	**9.45**	**95**	*e*P		**Pn**	**04 32 21.2**	**-1.8**
ITAB	**Concordia**	**11.09**	**79**	Pn		**Pn**	**04 32 43.8**	**-1.7**
PLCA	**Paso Flores**	**11.82**	**204**	Pn		**Pn**	**04 32 53.5**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=307,slow=11,SNR=1.4							
PLCA					Lg	Lg	04 36 16.5	
	comp=Z,0.4nm,0.3s,baz=138,slow=13,SNR=3.2							
TER01	**Tubaro-SC**	**13.37**	**87**	*e*P		**Pn**	**04 33 18.1**	**+1.4**
LPAZ	**La Paz**	**14.10**	**345**	Pn		**P**	**04 33 31.7**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=177,slow=7.9,SNR=16							
LPAZ	**La Paz**	**14.10**	**345**			**P**	**04 33 34.1**	**-0.4**
LPAZ	**La Paz**	**14.10**	**345**	*e*P		**P**	**04 33 32.5**	**-2.0**
SIV	**San Ignacio**	**14.28**	**13**	Pn		**Pn**	**04 33 28.2**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=215,slow=1.4,SNR=29							
SIV					Lg	Lg	04 37 39.8	
	comp=Z,0.3nm,0.3s,baz=286,slow=20,SNR=2.2							
TIJ01	**Guaruva-PR**	**14.38**	**75**	*e*P		**Pn**	**04 33 32.8**	**+2.3**
PCMB	**Pacaembu**	**14.45**	**58**	*e*P		**P**	**04 33 36.5**	**-1.3**
FRTB	**Fartura**	**14.79**	**67**	*e*P		**P**	**04 33 40.0**	**-1.6**
PTLB	**Pontes e Lacer**	**15.27**	**19**	*e*P		**P**	**04 33 48.5**	**+1.6**
SALV	**Santo Antonio**	**16.14**	**31**	*e*P		**P**	**04 34 00.9**	**+4.4**
ITRB	**Iturama**	**16.31**	**54**	*e*P		**P**	**04 34 01.3**	**+2.8**
BDFB	**Brasilia**	**20.73**	**50**	P		**P**	**04 34 46.7**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=180,slow=9.2,SNR=2.7							
BDFB					Lg	Lg	04 41 05.3	
	comp=Z,3.8nm,0.8s,baz=136,slow=18,SNR=1.9							
PEXB	**Peixe**	**23.23**	**43**	*e*P		**P**	**04 35 17.9**	**+4.3**
ALF01	**Guarapari-ES**	**23.28**	**72**	*e*P		**P**	**04 35 14.8**	**+0.8**
JANB	**Januaria**	**23.70**	**55**	*e*P		**P**	**04 35 20.9**	**+2.7**
SJMB	**Sao Joao De Ma**	**23.87**	**67**	*e*P		**P**	**04 35 20.4**	**+0.7**
BSFB	**Barra de Sao F**	**24.07**	**68**	*e*P		**P**	**04 35 22.1**	**+0.5**
RIB01	**Linhares ES**	**24.19**	**69**	*e*P		**P**	**04 35 24.6**	**+1.9**
SDBA	**SAO DESIDERIO**	**25.14**	**50**	*e*P		**P**	**04 35 34.8**	**+3.4**
GUA01	**Guaratinga, BA**	**26.14**	**65**	*e*P		**P**	**04 35 42.8**	**+2.4**
SMTB	**Santa Maria do**	**26.25**	**40**	*e*P		**P**	**04 35 46.4**	**+5.0**
NBRF	**Rio Formoso -**	**34.61**	**58**	*e*P		**P**	**04 36 57.9**	**+2.6**
PMSA	**Palmer Station**	**34.78**	**180**	*e*P		P	04 36 46.1	-10
SNAA	**Sanae**	**52.91**	**160**	P		**P**	**04 39 20.9**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=271,slow=9.0,SNR=10							
SNAA	**Sanae**	**52.91**	**160**	P		**P**	**04 39 21.5**	**-0.1**
QSPA	**South Pole Qui**	**60.22**	**180**	P		**P**	**04 40 13.5**	**-0.3**
QSPA				sP		**pP**	**04 40 20.7**	**-3.9**
QSPA					IAmb	IAmb	04 40 21.9	
	comp=Z,4.0nm,0.8s							
DBIC	**Dimbokro**	**67.67**	**68**	P		**P**	**04 41 02.1**	**-1.2**
	comp=Z,7.8nm,1.1s,baz=210,slow=16,SNR=1.8							
DBIC	**Dimbokro**	**67.67**	**68**	P		**P**	**04 41 02.9**	**-0.4**
U56A	**King**	**67.71**	**346**	P		**P**	**04 41 04.0**	**+1.0**
U56A					IAmb	IAmb	04 41 28.5	
	comp=Z,5.9nm,0.9s							
WLAR	**White Oak Lake**	**68.95**	**335**	P		**P**	**04 41 11.9**	**+1.0**
VNDA	**Vanda**	**69.19**	**190**	P		**P**	**04 41 12.0**	**+0.1**
VNDA					IAmb	IAmb	04 41 17.7	
	comp=Z,3.7nm,1.5s							
TXAR	**Lajitas Array**	**69.92**	**324**	P		**P**	**04 41 16.5**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=140,slow=7.1,SNR=3.5							
PBMO	**Poplar Bluff**	**70.81**	**338**	P		**P**	**04 41 21.6**	**-0.6**
SUR	**Sutherland**	**70.91**	**117**	P		**P**	**04 41 22.9**	**-0.6**
S39A	**Bolivar**	**72.61**	**336**	P		**P**	**04 41 32.5**	**-0.5**
S39A					IAmb	IAmb	04 41 33.9	
	comp=Z,4.8nm,0.9s							
BOSA	**Boshof**	**75.98**	**115**	P		**P**	**04 41 52.7**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=302,slow=2.6,SNR=5.3							
BOSA	**Boshof**	**75.98**	**115**	P		**P**	**04 41 52.1**	**-1.1**
BOSA					IAmb	IAmb	04 41 58.7	
	comp=Z,6.5nm,1.2s							
CBKS	**Cedar Bluff**	**76.01**	**332**	P		**P**	**04 41 53.4**	**+0.5**
CBKS					IAmb	IAmb	04 41 54.5	
	comp=Z,6.2nm,0.9s							
TOA0	**Torodi Ar. Sit**	**76.67**	**66**	P		**P**	**04 41 57.1**	**0.0**
TOA0					IAmb	IAmb	04 42 03.1	
	comp=Z,5.4nm,1.5s							
TORD	**Torodi Ar. Bea**	**76.67**	**66**	P		**P**	**04 41 57.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=268,slow=6.7,SNR=2.0							
TORD	**Torodi Ar. Bea**	**76.67**	**66**	P		**P**	**04 41 56.7**	**-0.5**
TORD				pP		pP	04 42 00.1	-8.2
TORD				sP		**PcP**	**04 42 02.5**	**-5.9**
B35A	**Bob, Littlefor**	**82.34**	**341**	P		**P**	**04 42 26.9**	**-0.2**
B35A					IAmb	IAmb	04 42 27.9	
	comp=Z,3.7nm,0.9s							
PDAR	**Pinedale Array**	**83.50**	**328**	P		**P**	**04 42 33.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=156,slow=2.7,SNR=2.3							
MCMT	**McKenzie Canyo**	**86.60**	**328**	P		**P**	**04 42 50.4**	**+1.2**
ASAR	**Alice Springs**	**123.82**	**200**	PKP		**PKPdf**	**04 49 03.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=142,slow=1.7,SNR=5.6							
WRA	**Warramunga Arr**	**127.17**	**202**	PKP		**PKiKP**	**04 49 10.8**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=160,slow=1.9,SNR=14							
WRA	**Warramunga Arr**	**127.17**	**202**			**PKPdf**	**04 49 10.1**	**-0.6**
ZALV	**Zalesovo Beam**	**147.32**	**34**	PKPbc		**PKPdf**	**04 49 46.9**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=324,slow=4.5,SNR=2.2							
MKAR	**Makanchi Array**	**149.25**	**48**	PKPbc		**PKPbc**	**04 49 53.0**	**-1.1**

comp=Z,0.4nm,0.7s,baz=259,slow=2.9,SNR=3.0

AUST ***13*** *04:48:38.7±2.5, 30.°32S×117.°73E, h8km±17km, Error ellipse: s-maj=13.9km s-min=13.5km az=118.0*

CUPWA 13 04:48:41.2±7.2, 30.°28S×117.°63E, h1km±42km, ML2.4, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOO6	**Koorda**	**0.56**	**194**	P		P	Pg	04 48 50.8	-1.1
KOO6				S		S	Sg	04 48 57.8	-1.3
CADX	**Cadoux**	**0.65**	**221**	P		P	Pg	04 48 51.8	-1.8
BLDU	**Ballidu**	**0.86**	**247**	P		P	Pg	04 48 57.1	-0.6
	baz=0.9								
BLDU				S		S	Sg	04 49 08.5	-0.4
	baz=0.9								
BLDU	**Ballidu**	**0.86**	**247**	P		P	Pg	04 48 56.8	-0.9
BLDU				S		S	Sg	04 49 07.8	-1.1
KLBR	**Kellerberrin**	**1.31**	**175**	P		P	Pg	04 49 03.2	-3.1
	baz=1.3								
KLBR	**Kellerberrin**	**1.31**	**175**	P		P	Pg	04 49 02.8	-3.5
MORW	**Morawa**	**1.84**	**311**	P		P	Pn	04 49 12.5	-1.5
	baz=1.9								
MORW				S		S	Sn	04 49 36.8	-1.1
	baz=1.9								
MORW	**Morawa**	**1.84**	**311**	P		P	Pn	04 49 11.8	-2.2
MORW				S		S	Sn	04 49 35.8	-2.1
MUN	**Mundaring**	**2.08**	**216**	P		P	Pn	04 49 15.9	-1.5
	baz=2.1								
MUN				S		S	Sn	04 49 41.3	-2.6
	baz=2.1								
MUN	**Mundaring**	**2.08**	**216**	P		P	Pn	04 49 14.8	-2.5
MUN				S		S	Sn	04 49 40.8	-3.1
NWAO	**Narrogin (SRO)**	**2.66**	**187**	P		P	Pn	04 49 21.4	-3.8
	baz=2.6								
NWAO	**Narrogin (SRO)**	**2.66**	**187**	P		P	Pn	04 49 20.8	-4.4
MEEK	**Meekatharra**	**3.73**	**14**	P		P	Pn	04 49 37.3	-2.7
	baz=3.8								
MEEK	**Meekatharra**	**3.73**	**14**	P		P	Pn	04 49 36.8	-3.2
FORT	**Forrest**	**9.01**	**96**	P		P	Pn	04 50 46.4	-6.0
	baz=8.9								
FORT				S		S	Sn	04 52 23.6	-11
	baz=8.9								
FORT	**Forrest**	**9.01**	**96**	P		P	Pn	04 50 45.8	-6.6

MAN ***13*** *05:03:42.0, 13.°82N×120.°49E, h118km, MS5.0*
IDC ***13*** *05:03:42.7±0.5, 13.°81N×120.°76E, h134km±4km, mb4.4/45, mb1 4.4/47, mb1mx4.4/53, mbtmp4.8/47, MS3.7/18, Ms1 3.7/18, ms1mx3.5/42, Error ellipse: s-maj=10.1km s-min=6.7km az=83.0*
MOS ***13*** *05:03:42.6±0.9, 13.°81N×120.°76E, h149km, mb4.9/69, Error ellipse: s-maj=8.0km s-min=4.1km az=116.5*
GCMT ***13*** *05:03:42.7±0.2, 13.°89N±0.°01×120.°53E±0.°01, h135km±1km, MW5.2/143, Moment Tensor Solution. s86,c112; s143,c243; Duration: 1*ϑ*0 Moment tensor: Scale 10*^{16}*Nm; Mrr5.04±.13; Mθθ0.70±.15; Mϕϕ-5.74±.17; Mrθ2.63±.10; Mθϕ0.80±.15; Mϕr-5.57±.13; Best double couple: M=8.23800×10*^{16} *NP1:*ϕ_s*9.00000°, δ23.00000°, λ118.00000°. NP2:*ϕ_s*159.00000°, δ70.00000°, λ79.00000°. Principal axes: T 8.0240, Plg63.0000°, Azm51.0000°; N 0.4310, Plg11.0000°, Azm163.0000°; P -8.4530, Plg24.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *05:03:43.7±1.8, 13.°81N±0.°07×120.°69E±0.°10, h137km±5km, mb5.0/111 Error ellipse: s-maj=14.1km s-min=9.3km az=78.0*
BJI ***13*** *05:03:43.9±0.0, 13.°93N×120.°84E, h154km, mB4.9/57, mb4.9/69*
DJA ***13*** *05:03:45.7±0.4, 14.°N±3.°×12.°1E±.°, h163km±6km, M4.9/60, mB5.4/41, mb5.1/60, MLv5.1/1, Mw(mB)4.9/41, MwMwp4.9/2, Mwp5.2/2*
BGR ***13*** *05:03:49.5±0.0, 14.°50N×121.°10E, h173km±2km, mb5.0*
KLM ***13*** *05:03:50, 13.°72N×120.°74E, h217km, mb5.3*

ISC 13 05:03:43.9±0.3, 13.°76N±0.°02×120.°63E±0.°03, h144km±2km, h144km:pP-P, n564, σ1.979/681, mb4.9/232, 127C-65D, Fault plane solution: NP1:ϕ_s163.73434°, δ55.51193°, λ72.55177°. **NP2:**ϕ_s12.76814°, δ38.15715°, λ113.57983°. **Principal axes:** T Plg73.0187°, Azm27.1862°; N Plg14.3086°, Azm173.8257°; P Plg8.9529°, Azm266.1286°; **Mindoro**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**267**	*e*P			**Pn**	**05 03 59.9**	**-4.0**
LUBP				*e*S			**Sn**	**05 04 12.4**	**-6.7**
PGP	**Puerto Galera**	**0.41**	**128**	*e*P			**Pn**	**05 04 01.3**	**-2.8**
PGP				*i* S			**Sn**	**05 04 14.5**	**-5.0**
TGY	**Tagaytay City**	**0.46**	**41**	*e*P			**Pn**	**05 04 02.0**	**-2.4**
TGY				*i* S			**Sn**	**05 04 16.8**	**-3.2**
LQP	**Lukban**	**0.95**	**68**	*i*P			**Pn**	**05 04 06.1**	**-1.8**
LQP				*i* S			**Sn**	**05 04 20.4**	**-1.8**
BOAC	**Boac**	**1.22**	**104**	*e*P			**Pn**	**05 04 08.1**	**-2.0**
BOAC				*e*S			**Sn**	**05 04 28.6**	**-1.5**
SJMP	**San Jose**	**1.37**	**159**	*e*P			**Pn**	**05 04 09.6**	**-2.0**
SJMP				*e*S			**Sn**	**05 04 30.5**	**-2.4**
GQP	**Guinayangan**	**1.77**	**85**	*i*P			**Pn**	**05 04 15.4**	**-0.6**
GQP				*i* S			**Sn**	**05 04 36.8**	**-3.8**
BUSP	**Coron**	**1.79**	**194**	*e*P			**Pn**	**05 04 14.0**	**-2.3**
BUSP				*e*S			**Sn**	**05 04 38.4**	**-2.6**
PCPH	**Palayan**	**1.85**	**14**	*e*P			**Pn**	**05 04 14.0**	**-3.0**
PCPH				*e*S			**Sn**	**05 04 42.4**	**+0.1**
JCNP	**Jose Panganiba**	**2.08**	**75**	*e*P			**Pn**	**05 04 17.4**	**-2.2**
SMPP	**San Manuel, Pa**	**2.38**	**1**	*e*P			**Pn**	**05 04 19.6**	**-3.7**
SMPP				*e*S			**Sn**	**05 04 49.4**	**-4.3**
BOLP	**Bolinao**	**2.70**	**345**	*e*P			**Pn**	**05 04 24.7**	**-2.5**
BOLP				*e*S			**Sn**	**05 04 57.8**	**-2.9**
ENPP	**El Nido**	**2.79**	**205**	*e*P			**Pn**	**05 04 26.8**	**-1.6**
ENPP				*e*S			**Sn**	**05 04 58.5**	**-4.2**
RCP	**Roxas**	**3.00**	**136**	*e*P			**Pn**	**05 04 31.7**	**+0.6**
JAP	**San Jose, Anti**	**3.26**	**157**	*e*P			**Pn**	**05 04 35.2**	**+0.9**
SAMP	**Sagada Mountai**	**3.32**	**5**	*e*P			**Pn**	**05 04 32.0**	**-3.1**
SAMP				*e*S			Sn	05 05 02.4	-12
CAUP	**Cauayan**	**3.37**	**20**	*e*P			**Pn**	**05 04 35.8**	**0.0**
CAUP				*e*S			**Sn**	**05 05 18.8**	**+2.8**
SZP	**Santa**	**3.78**	**358**				**Pn**	**05 04 42.0**	**+0.9**
CVP	**Callao Caves**	**4.09**	**16**	*e*P			**Pn**	**05 04 43.5**	**-1.6**
APYP	**Conner**	**4.13**	**8**	*e*P			**Pn**	**05 04 44.3**	**-1.3**
APYP				*i* S			**Sn**	**05 05 32.3**	**-1.3**
CNOP	**Candoni, Negro**	**4.37**	**153**	*e*P			**Pn**	**05 04 48.7**	**-0.2**
CNOP				*e*S			**Sn**	**05 05 36.5**	**-2.9**
LLP	**Lapu-Lapu**	**4.73**	**136**	*e*P			**Pn**	**05 04 54.8**	**+1.2**
LLP				*e*S			Sn	05 05 58.5	+11
SNPH	**Sibulan**	**5.08**	**149**	*e*P			**Pn**	**05 05 00.4**	**+2.1**
SNPH				*e*S			**Sn**	**05 05 56.8**	**+0.5**
MSLP	**Maasin**	**5.49**	**131**	*e*P			**Pn**	**05 05 05.0**	**+1.3**
BATP	**Bataraza**	**5.65**	**210**	*e*P			**Pn**	**05 05 04.9**	**-1.0**
PAGZ	**Pagadian**	**6.46**	**155**	*e*P			**Pn**	**05 05 17.9**	**+1.2**
CGP	**Cagayan de Oro**	**6.61**	**142**	*e*P			Pn	05 05 25.0	+6.3
BBP	**Basco**	**6.77**	**11**	*i*P			**Pn**	**05 05 16.8**	**-4.0**
DAV	**Davao City (W)**	**8.24**	**143**		Pn		**Pn**	**05 05 42.9**	**+2.4**
TWG	**Pinlang**	**9.03**	**3**				**Pn**	**05 05 50.2**	**-0.8**
TPUB	**Ta-pu**	**9.49**	**0**		Pn		**Pn**	**05 05 56.7**	**-0.6**
YULB	**Yu-li**	**9.61**	**4**				**Pn**	**05 06 00.0**	**+1.2**
SPMM	**Sapulut**	**9.88**	**205**		P		**Pn**	**05 06 07.0**	**+4.5**
SSLB	**Suanglung**	**9.98**	**2**				**Pn**	**05 06 04.3**	**+0.5**
YHNB	**Yeheng**	**10.88**	**4**				**Pn**	**05 06 12.8**	**-2.9**
QIZ	**Qiongzhong**	**11.60**	**298**		P		**Pn**	**05 06 26.4**	**+1.3**
QIZ					S		**Sn**	**05 08 27.8**	**-5.5**
QIZ					pmax		pmax		
	comp=Z,310nm,4.5s								
TOLI2	**Tolitoli**	**12.56**	**179**		Pn		**Pn**	**05 06 38.4**	**+0.7**
GTOI	**Gorontalo**	**13.25**	**170**		P		**Pn**	**05 06 47.0**	**+0.5**
	420nm43nm,1.1s								
MRSI	**Marisa**	**13.26**	**174**		P		**P**	**05 06 51.3**	**+0.1**
	88nm,1.0s								
MPSI	**Mapaga**	**13.35**	**183**		P		**P**	**05 06 50.4**	**-1.9**
	2μm48nm,0.9s								
KMSI	**Cibinong**	**13.51**	**165**		P		**P**	**05 06 54.4**	**+0.4**
	157nm,0.9s								
GAMI	**Galela, Maluku**	**13.80**	**149**		P		**Pn**	**05 06 53.9**	**+0.3**
	4μm96nm,0.5s								
SBUM	**Sibu**	**13.97**	**217**		P		**P**	**05 06 58.0**	**-1.2**
SMKI	**Samarinda**	**14.51**	**194**		P		**P**	**05 07 07.1**	**+1.9**
	267nm,1.0s								
TNTI	**Ternate**	**14.52**	**152**				**Pn**	**05 07 00.1**	**-2.7**

APSI	**Ampana**	**14.61**	**176**	P		**P**	**05 07 07.7**	**+1.5**
	4μm831nm91nm,1.1s							
UBPT	**Khong Chiam**	**14.75**	**278**	P		**P**	**05 07 07.0**	**-0.8**
	140nm,1.2s							
UBPT	**Khong Chiam**	**14.75**	**278**			**P**	**05 07 07.3**	**-0.6**
UBPT	**Khong Chiam**	**14.75**	**278**	P		**P**	**05 07 07.6**	**-0.2**
	134nm,1.2s							
JOW	**Kunigami**	**14.85**	**28**	P		**Pn**	**05 07 06.3**	**-0.4**
	1.0nm,0.3s,baz=165,slow=10.0,SNR=7.9							
JOW					LR	LR	05 11 56.8	
	comp=Z,323nm,18.6s,baz=287,slow=34							
LUWI	**Luwuk**	**14.85**	**172**	P		**P**	**05 07 11.2**	**+2.2**
	2μm260nm,1.1s							
MTKI	**Muara Teweh, K**	**15.67**	**202**	P		**P**	**05 07 20.5**	**+2.5**
KSM	**Kuching**	**15.91**	**221**	P		**P**	**05 07 24.0**	**+3.3**
STKI	**Sintang**	**16.34**	**214**	P		**P**	**05 07 29.0**	**+3.5**
	24μm73nm,1.0s							
SANI	**Sanana**	**16.58**	**161**	P		**Pn**	**05 07 28.3**	**+0.2**
	1μm63nm,0.8s							
TTSI	**Tana Toraja**	**16.71**	**183**	P		**Pn**	**05 07 31.9**	**+2.2**
	3μm51nm,0.8s							
NONG	**Nongkai**	**17.35**	**287**	P		**Pn**	**05 07 39.3**	**+2.0**
	87nm,1.8s							
KHON	**Khomkaen**	**17.39**	**281**	P		**Pn**	**05 07 40.0**	**+2.2**
	39nm,1.5s							
SLVN	**Son La**	**17.63**	**298**	P		**Pn**	**05 07 40.5**	**-0.2**
WHN	**Wuhan**	**17.68**	**342**	P		**Pn**	**05 07 41.3**	**+0.1**
WHN				S		**S**	**05 10 56.4**	**0.0**
WHN				pmax		pmax		
	comp=Z,300nm,1.7s							
WHN				L		L		
	comp=N,670nm,11.3s							
WHN				L		L		
	comp=E,680nm,10.5s							
WHN				L		L		
	comp=Z,900nm,15.9s							
SIJI	**Sorong**	**17.95**	**143**	P		**Pn**	**05 07 44.2**	**-0.4**
	1.7nm,0.3s,baz=294,slow=20,SNR=3.2							
BBKI	**Banjar Baru**	**18.04**	**199**	P		**Pn**	**05 07 46.7**	**+1.0**
	5μm188nm,1.0s							
BNSI	**Bone**	**18.05**	**182**	P		**Pn**	**05 07 47.6**	**+1.9**
	1μm96nm,0.9s							
CHAI	**Chaiyaphum**	**18.15**	**279**	P		**Pn**	**05 07 47.4**	**+0.5**
	583nm49nm,0.6s							
GYA	**Guiyang**	**18.19**	**316**	P		**Pn**	**05 07 48.3**	**+0.9**
GYA				S		**S**	**05 11 05.9**	**-0.8**
GYA				pmax		pmax		
	comp=Z,68nm,6.9s							
GYA				L		L		
	comp=Z,54nm,16.7s							
NJ2	**Nanjing**	**18.29**	**355**	P		**Pn**	**05 07 47.6**	**-0.7**
NJ2				sP		**sP**	**05 08 30.8**	**+0.7**
NJ2				S		**S**	**05 11 09.4**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,41nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,550nm,3.5s							
PBKI	**Pangkalan Bun**	**18.61**	**209**	P		**Pn**	**05 07 54.0

JNU IAmb IAmb 05 08 22.9
comp=Z,64nm,1.5s
CM32 Chiang Mai Arr 21.47 286 P P 05 08 24.0 +2.9
KMMI Kalianget 21.70 198 P P 05 08 26.4 +2.8
comp=Z,4μmcomp=Z,213nm,0.9s
KRAB Krabi 21.74 258 P P 05 08 26.0 +2.0
comp=Z,19μmcomp=Z,336nm,0.6s
SURT Suratani 21.92 260 P P 05 08 28.0 +2.1
comp=Z,53nmcomp=Z,5.2nm,1.1s
TBJI Tambak Boyo 22.22 204 P P 05 08 31.9 +3.0
comp=Z,2μmcomp=Z,147nm,0.8s
MHMT Maesarieng 22.25 284 P P 05 08 29.0 -0.2
comp=Z,2μmcomp=Z,156nm,1.2s
MMRI Maumere 22.30 176 P P 05 08 30.6 +0.9
MMRI Maumere 22.30 176 P P 05 08 30.6 +0.9
comp=Z,2μmcomp=Z,196nm,0.8s
ABJI Asem Bagus 22.33 197 P P 05 08 33.1 +3.1
comp=Z,123nm,1.1s
SRBI Singaraja 22.35 194 P P 05 08 33.8 +3.6
comp=Z,188nm,0.9s
KHKI Kahang-Kahang 22.53 193 P P 05 08 32.2 +0.3
comp=Z,120nm,0.9s
TIA Tai'an 22.58 353 P P 05 08 31.3 -0.9
TIA S **S** 05 12 26.5 -2.4
TIA pmax pmax
comp=Z,31nm,1.4s
TIA pmax pmax
comp=Z,380nm,3.7s
TIA L L
comp=Z,160nm,10.0s
TIA L L
comp=Z,77nm,7.1s
TIA L L
comp=Z,150nm,7.8s
PLAI Plampang 22.61 187 P P 05 08 35.4 +2.7
comp=Z,3μmcomp=Z,340nm,0.8s
PKDT Phuket 22.65 257 P P 05 08 33.8 +0.8
TWSI Taliwang, Sumb 22.65 190 P P 05 08 34.8 +1.7
comp=Z,647nmcomp=Z,42nm,1.0s
JMBI JAMBI 22.74 229 P P 05 08 36.8 +2.9
comp=Z,6μmcomp=Z,520nm,1.2s
XAN Xi'an 22.82 334 P P 05 08 34.1 -0.4
XAN S **S** 05 12 30.9 -1.9
XAN SS **SnSn** 05 13 18.3 -3.6
XAN pmax pmax
comp=Z,45nm,1.0s
XAN pmax pmax
comp=Z,370nm,3.5s
XAN L L
comp=Z,430nm,13.9s
XAN L L
comp=Z,470nm,15.3s
XAN L L
comp=Z,500nm,14.8s
JAGI Jajag, Banyuwa 23.00 197 P P 05 08 36.8 +0.5
JAGI IAmb IAmb 05 08 40.5
comp=Z,108nm,1.0s
JAGI Jajag, Banyuwa 23.00 197 P P 05 08 38.3 +2.0
comp=Z,110nm,0.9s
SMRI Semarang 23.01 207 P P 05 08 36.8 +0.4
SMRI Semarang 23.01 207 P P 05 08 39.7 +3.3
comp=Z,183nm,1.1s
CD2 Chengdu 23.07 320 P P 05 08 38.4 +1.5
CD2 pP pwP 05 09 08.3 +1.4
CD2 PP **sP** **05 09 19.6 -1.6**
CD2 S **S** **05 12 35.3 -1.8**
CD2 SS **SnSn** **05 13 35.3 +7.2**
CD2 pmax pmax
comp=Z,80nm,0.9s
SJI Sawahan 23.09 203 P P 05 08 40.9 +3.7
comp=Z,14μmcomp=Z,136nm,1.5s
JMN Monobe 23.25 29 P P 05 08 38.3 -0.2
WBSI Waikabubak, Su 23.28 183 P P 05 08 40.1 +1.2
comp=Z,2μmcomp=Z,166nm,0.8s
TJN Taejon 23.32 14⇑ *eP* **P 05 08 38.3 -0.8**
PWJI Pagerwojo 23.34 203 P P 05 08 42.8 +3.4
comp=Z,128nm,0.9s
BKNI Bangkinang 23.54 237 P P 05 08 41.9 +0.6
BKNI Bangkinang 23.54 237 P P 05 08 43.0 +1.7
comp=Z,4μmcomp=Z,292nm,1.2s
CTJI Waduk Cacaban 23.55 210 P P 05 08 44.1 +2.8
comp=Z,2μmcomp=Z,142nm,1.0s
SOEI Soe 23.64 171 P P 05 08 41.6 -0.7
SOEI Soe 23.64 171 P P 05 08 41.9 -0.3
comp=Z,1μmcomp=Z,121nm,0.8s
UGM Wanagama 23.75 206 P P 05 08 45.7 +2.5
comp=Z,156nm,1.3s
BASI Baing, Sumba 23.82 180 P P 05 08 45.1 +1.4
comp=Z,2μmcomp=Z,172nm,1.1s
KPJI Karang Pucung 23.95 210 P P 05 08 48.0 +3.0
comp=Z,119nm,1.3s
JHS Saijyo 23.97 26 P P 05 08 44.3 -0.7
JHS IAmb IAmb 05 08 58.0
comp=Z,70nm,1.5s
SDSI Sungai Dareh 23.98 234 P P 05 08 45.7 +0.5
comp=Z,9μmcomp=Z,138nm,1.1s
BATI Baumata 24.00 173 P P 05 08 45.4 0.0
comp=Z,235nm,0.7s,baz=344,slow=1.0,SNR=25
BATI Baumata 24.00 173 P P 05 08 45.7 +0.3
comp=Z,2μmcomp=Z,216nm,0.9s
PSI Prapat 24.05 245 P P 05 08 47.5 +1.4
comp=Z,40nm,0.7s,baz=0.4,slow=7.3,SNR=48
PSI ScP **ScP** **05 15 49.5 +0.2**
comp=Z,6.1nm,0.7s,baz=1.8,slow=1.8,SNR=7.3
PSI LR LR 05 17 44.0
comp=Z,191nm,20.5s,baz=278,slow=35
PSI Prapat 24.05 245 P P 05 08 48.3 +2.3
comp=Z,701nmcomp=Z,47nm,1.0s,comp=Z,2μm,1.0s,
comp=Z,119nm,1.0s
PSI P **P** **05 08 47.0 +1.0**
comp=Z,701nmcomp=Z,47nm,1.0s,comp=Z,2μm,1.0s,
comp=Z,119nm,1.0s
TSI Tuntungan 24.05 247 P P 05 08 49.0 +3.1
comp=Z,292nm,1.2s
RPSI Rantau Prapat 24.10 245 P P 05 08 46.5 +0.1
RPSI IAmb IAmb 05 08 48.2
comp=Z,60nm,0.8s
RPSI Rantau Prapat 24.10 245 ScP 05 15 49.5 +0.2
JCJ Chichijima 24.12 53 P P 05 08 45.5 -1.0
comp=Z,66nm,0.7s,baz=288,slow=23,SNR=5.8
JCJ LR LR 05 17 26.2
comp=Z,371nm,21.2s,baz=269,slow=34
JCJ Chichijima 24.12 53 IAmb IAmb 05 08 48.0
comp=Z,248nm,1.4s
LEM Lembang 24.18 213 P P 05 08 49.2 +1.9
comp=Z,54nm,0.6s,baz=74,slow=7.6,SNR=11
LEM Lembang 24.18 213 P P 05 08 49.4 +2.1
comp=Z,59nm,0.8s
LHSI Lahat 24.36 225 P P 05 08 51.6 +2.9
comp=Z,496nm,0.9s
BLSI Bandar Lampung 24.37 220 P P 05 08 52.4 +3.6
MDSI Maura Dua 24.39 223 P P 05 08 50.8 +1.8
comp=Z,53nm,0.9s
DBJI Dramaga 24.43 215 P P 05 08 51.5 +2.1
comp=Z,11μmcomp=Z,43nm,1.0s
KSAR Wonju Array Be 24.46 14 P P 05 08 49.6 +0.2
KSAR Wonju Array Be 24.46 14 P P 05 08 49.6 +0.2
KSRS Korea Array 24.48 14 P P 05 08 48.8 -0.8
comp=Z,4.2nm,0.9s,baz=190,slow=11,SNR=14
KSRS LR LR 05 18 54.9
comp=Z,173nm,18.7s,baz=210,slow=37
MNSI Mandailing Nat 24.49 240 P P 05 08 51.3 +1.4
comp=Z,2μmcomp=Z,194nm,1.0s
PDSI Padang 24.73 235 P P 05 08 53.0 +0.9
comp=Z,2μmcomp=Z,52nm,0.8s
LHMI Lhok Sumawe 24.82 252 P P 05 08 55.0 +2.1
LHMI Lhok Sumawe 24.82 252 P P 05 08 55.1 +2.1
comp=Z,5μmcomp=Z,225nm,1.1s
LWLI Liwa 24.86 222 P P 05 08 55.8 +2.4
comp=Z,254nm,0.9s
KSI Kapahiang 24.89 227 P P 05 08 56.4 +2.8
TIY Taiyuan 24.95 344 *eP* **P 05 08 53.6 -0.3**
TIY S **S** **05 13 05.4 -1.6**
TIY pmax pmax
comp=Z,18nm,0.5s
TIY pmax pmax
comp=Z,140nm,4.6s
TIY L L
comp=Z,430nm,17.0s
TIY L L
comp=Z,250nm,16.1s
TIY L L
comp=Z,290nm,14.8s
KASI Kota Agung 24.96 221 P P 05 08 56.1 +1.9
comp=Z,120nm,0.9s
DL2 Dalian 25.07 2 P P 05 08 54.0 -0.9
DL2 S **S** **05 13 06.9 -1.7**
DL2 pmax pmax
comp=Z,23nm,0.8s
DL2 pmax pmax
comp=Z,230nm,4.5s
MNAI Manna 25.13 225 P P 05 08 57.2 +1.5
MNAI Manna 25.13 225 P P 05 08 59.0 +3.3
comp=Z,534nm,1.1s
JWT Wachi 25.24 29 P P 05 08 55.7 -0.8
JWT IAmb IAmb 05 08 57.8
comp=Z,100nm,1.3s
GENI Genyem 25.29 129 P P 05 08 58.9 +1.8
comp=Z,92nm,1.4s
TPTI 25.39 248 P P 05 08 58.6 +0.5
comp=Z,20nm,1.1s
MLSI Meulaboh, Aceh 25.69 251 P P 05 09 01.0 +0.2
comp=Z,88nm,1.0s
GSI Gunungsitoli 25.95 243 P P 05 09 02.5 -0.6
GSI Gunungsitoli 25.95 243 P P 05 09 03.2 +0.1
comp=Z,150nm,1.0s
PBSI Pulau Batu 26.04 240 P P 05 09 03.9 0.0
comp=Z,154nm,1.1s
SISI Saibi 26.08 237 P P 05 09 04.6 +0.3
comp=Z,2μmcomp=Z,215nm,1.1s
INU Inuyama 26.09 32 P P 05 09 03.3 -0.9
INU IAmb IAmb 05 09 06.9
comp=Z,37nm,1.2s
EGSI Enggano, Bengk 26.31 225 P P 05 09 10.1 +3.8
comp=Z,85nm,1.2s
BJT Baijiatuao 26.45 352 P P 05 09 06.8 -0.6
BJT pmax pmax
comp=Z,27nm,1.3s
BJT Baijiatuao 26.45 352 P P 05 09 06.8 -0.6
JGF Kuroka 26.46 32 P P 05 09 06.0 -1.5
BJI Beijing 26.48 352 P P 05 09 07.3 -0.2
BJI sP **sP** **05 09 59.9 +5.1**
BJI S **S** **05 13 32.3 +1.5**
BJI pmax pmax
comp=Z,28nm,1.7s
BJI pmax pmax
comp=Z,210nm,3.6s
BJI L L
comp=Z,190nm,14.2s
BJI L L
comp=Z,140nm,14.4s
BJI L L
comp=Z,180nm,20.9s
LZH Lanzhou 26.86 329 ⇑P **P 05 09 12.8 +1.5**
LZH pP pP 05 09 48.6 +7.2
LZH sP sP 05 10 04.8 +6.7
LZH S **S** **05 13 38.3 +0.9**
LZH sS sS 05 14 26.6 -4.4
LZH SS **SnSn** **05 15 06.3 +6.4**
LZH pmax pmax
comp=Z,73nm,1.1s
LZH pmax pmax
comp=Z,74nm,4.3s
LZH L L
comp=Z,440nm,16.3s
LZH L L
comp=Z,480nm,16.8s
LZH L L
comp=Z,330nm,15.7s
MAJO Matsushiro 27.62 32 *d* *iP* **P 05 09 16.0 -1.9**
MAJO pmax pmax
comp=Z,21nm,1.4s
MAJO Matsushiro 27.62 32 P **P 05 09 16.4 -1.5**
MAT Matsushiro 27.62 32 P **P 05 09 15.1 -2.8**
MJAR Matsushiro Arr 27.62 32 P **P 05 09 15.7 -2.2**
comp=Z,6.8nm,1.1s,baz=211,slow=8.4,SNR=17
MJAR PcP **PcP** **05 12 33.0 +1.3**
comp=Z,0.8nm,0.4s,baz=186,slow=2.1,SNR=3.2
MJAR LR LR 05 19 14.9
comp=Z,88nm,21.5s,baz=200,slow=34
MJAR Matsushiro Arr 27.62 32 P **P 05 09 15.8 -2.1**
MJAR pmax pmax
comp=Z,13nm,1.4s
MJAR Matsushiro Arr 27.62 32 P **P 05 09 15.8 -2.1**
HHC Hu-ho-hao-te 28.13 345 *eP* **P 05 09 23.1 +0.6**
HHC pP pP 05 09 55.3 +2.2
HHC S **S** **05 13 56.8 -0.3**
HHC SS **SnSn** **05 15 32.5 +1.9**
HHC pmax pmax
comp=Z,37nm,1.4s
HHC pmax pmax
comp=Z,110nm,6.1s
BTO Baotou 28.32 343 *eP* **P 05 09 24.8 +0.7**
SHL Shillong 29.44 298 P **P 05 09 34.7 +0.4**
SHL pmax pmax
comp=Z,51nm,0.7s
SHL Shillong 29.44 298 P **P 05 09 34.7 +0.4**
MSHR Mys Shultsa 30.13 16⇑ *eP* **P 05 09 40.0 0.0**
MSHR pmax pmax
comp=Z,14nm,1.2s
KNRA Kununurra 30.33 164 P **P 05 09 41.1 -0.9**
GTA Gaotai 31.45 328 ⇑P **P 05 09 52.6 +0.7**
GTA S **S** **05 14 50.3 +1.0**
GTA pmax pmax
comp=Z,42nm,1.3s
GTA pmax pmax
comp=Z,180nm,4.7s
GTA L L
comp=Z,230nm,16.7s
GTA L L
comp=Z,180nm,17.1s
GTA L L
comp=Z,280nm,17.1s
LSA Lhasa 31.52 305 P **P 05 09 52.9 -0.1**
LSA pmax pmax
comp=Z,12nm,0.5s
LSA Lhasa 31.52 305 P **P 05 09 52.9 -0.1**
LSA IAmb IAmb 05 09 56.3
comp=Z,12nm,0.5s
MDJ Mudanjiang 31.70 12 P **P 05 09 57.4 +3.7**
MDJ pP pP 05 10 29.4 +4.9
MDJ sP sP 05 10 45.9 +4.8
MDJ S **S** **05 14 50.8 -1.8**
MDJ sS sS 05 15 46.5 -0.1
MDJ ScP **ScP** **05 16 14.9 +2.8**
MDJ pmax pmax
comp=Z,9.0nm,2.3s
MDJ pmax pmax
comp=Z,110nm,3.6s
USA0B Ussuriysk Arra 31.86 16 P **P 05 09 54.7 -0.5**
USA0B pmax pmax
comp=Z,16nm,1.2s
USA0B Ussuriysk Arra 31.86 16 P **P 05 09 54.7 -0.5**
USRK Ussuriysk Ar. 31.86 16 P **P 05 09 54.1 -1.1**
comp=Z,2.3nm,0.6s,baz=204,slow=8.4,SNR=13
USRK LR LR 05 22 37.0
comp=Z,99nm,21.2s,baz=206,slow=36
USRK Ussuriysk Ar. 31.86 16 P **P 05 09 54.0 -1.2**
FITZ Fitzroy Crossi 32.03 171 P **P 05 09 56.6 -0.4**
comp=Z,111nm,0.9s,baz=8.1,slow=7.1
FITZ PcP **PcP** **05 12 43.9 +0.5**
comp=Z,4.3nm,0.8s,baz=334,slow=4.7,SNR=3.3
FITZ Fitzroy Crossi 32.03 171 P **P 05 09 56.4 -0.5**
ERM Erimo 34.27 30 *de* **P 05 10 14.0 -2.1**
COCO West Island 34.94 224 *i* P **P 05 10 22.8 +0.6**
PMG Port Moresby 34.97 130⇑ *eP* **P 05 10 23.0 +0.5**
PMG pmax pmax
comp=Z,44nm,1.0s
PSA00 Pilbara Seismi 35.12 181 P **P 05 10 23.6 0.0**
PSA00 Pilbara Seismi 35.12 181 P **P 05 10 23.6 0.0**
PSA00 IAmb IAmb 05 10 24.6
comp=Z,47nm,0.8s
ASAJ Asahikawa 35.62 28 P **P 05 10 27.4 -0.2**
comp=Z,9.6nm,0.9s,baz=234,slow=18,SNR=7.9
ASAJ LR LR 05 23 30.4
comp=Z,97nm,21.6s,baz=196,slow=33
ASAJ Asahikawa 35.62 28 P **P 05 10 27.1 -0.6**
ASAJ pmax pmax
comp=Z,34nm,1.4s
JKA Kamikawa-asahi 35.62 28 P **P 05 10 27.1 -0.6**
JKA IAmb IAmb 05 10 28.5
comp=Z,34nm,1.4s
ULN Ulaanbaatar 35.84 344 *c* *iP* **P 05 10 29.8 +0.1**
ULN pmax pmax
comp=Z,60nm,2.5s
ULN Ulaanbaatar 35.84 344 P **P 05 10 29.7 0.0**
ULN IAmb IAmb 05 10 32.4
comp=Z,13nm,0.8s
WB0 Warramunga Arr 35.96 158 P **P 05 10 29.4 -1.5**
WB0 IAmb IAmb 05 10 31.9
comp=Z,23nm,0.8s
SONM Songino Array 35.98 344 P **P 05 10 30.8 -0.2**
comp=Z,13nm,0.8s,baz=163,slow=9.9,SNR=35
SONM PcP **PcP** **05 12 52.8 -1.6**
comp=Z,1.1nm,0.8s,baz=145,slow=5.3,SNR=1.6
SONM ScP **ScP** **05 16 28.2 +0.9**
comp=Z,2.1nm,0.9s,baz=162,slow=3.7,SNR=6.9
SONM Songino Array 35.98 344 P **P 05 10 30.9 0.0**
SONM pmax pmax
comp=Z,20nm,1.1s
SONM Songino Array 35.98 344 P **P 05 10 30.9 0.0**
SONM IAmb IAmb 05 10 33.5
comp=Z,20nm,1.1s
WRAB Tennant Creek 36.10 158 *c* *iP* **P 05 10 30.6 -1.4**
WRAB pmax pmax
comp=Z,23nm,0.8s
WRAB Tennant Creek 36.10 158 P **P 05 10 30.2 -1.8**
WRAB IAmb IAmb 05 10 33.2
comp=Z,22nm,0.7s
WRA Warramunga Arr 36.10 158 P **P 05 10 31.1 -1.0**
comp=Z,19nm,0.6s,baz=336,slow=9.5,SNR=89
WRA pP **pP** **05 11 02.4 -1.3**
comp=Z,8.6nm,0.8s,baz=332,slow=10.0,SNR=2.9
WRA S **S** **05 15 56.3 -4.7**
comp=Z,12nm,1.1s,baz=346,slow=16,SNR=11
WRA ScP **ScP** **05 16 29.7 +1.6**
comp=Z,5.7nm,0.8s,baz=341,slow=3.5,SNR=7.0
WRA Warramunga Arr 36.10 158 *i* P **P 05 10 30.8 -1.3**
WRA pmax pmax
comp=Z,21nm,0.6s
WB2 Warramunga Arr 36.11 158 P **P 05 10 30.7 -1.4**
WB2 IAmb IAmb 05 10 33.2
comp=Z,29nm,0.7s
WR0 Warramunga Arr 36.19 157 P **P 05 10 31.4 -1.4**
WR0 IAmb IAmb 05 10 32.7
comp=Z,16nm,0.8s
KLR Kul'dur 36.54 12 P **P 05 10 34.9 -0.6**
comp=Z,15nm,1.0s,baz=217,slow=8.4,SNR=25
KLR ScP **ScP** **05 16 29.2 +0.1**
comp=Z,1.3nm,0.6s,baz=323,slow=3.9,SNR=3.7
KLR LR LR 05 26 13.1
comp=Z,126nm,20.5s,baz=193,slow=37
KLR Kul'dur 36.54 12 *c* *iP* **P 05 10 34.7 -0.8**
KLR pmax pmax
comp=Z,39nm,1.4s
PATS Pohnpei 37.67 97 P **P 05 10 43.5 -2.0**
YSS Yuzh-Sakhalins 37.93 25 *eP* **P 05 10 46.5 -0.7**
YSS pmax pmax
comp=Z,20nm,1.4s
KUR Kuril'sk 38.95 31⇑ *iP* **P 05 10 56.6 +0.8**
ZAK Zakamensk 39.17 342 *eP* **P 05 10 56.5 -1.1**
ZAK *e* 05 16 38.1
ZAK pmax pmax
comp=Z,9.0nm,1.1s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
AS31 Alice Springs 39.39 161 P **P 05 10 58.3 -1.5**
ASAR Alice Springs 39.39 161 P **P 05 10 59.4 -0.3**
comp=Z,12nm,0.7s,baz=338,slow=7.1,SNR=120
ASAR pP **pP** **05 11 29.6 -1.9**
comp=Z,6.5nm,0.6s,baz=336,slow=7.3,SNR=3.3
ASAR PcP **PcP** **05 13 05.3 +0.2**
comp=Z,4.7nm,0.8s,baz=350,slow=3.4,SNR=4.4
ASAR ScP **ScP** **05 16 42.1 +1.6**
comp=Z,3.1nm,1.0s,baz=335,slow=4.0,SNR=5.4
ASAR S **S** **05 16 46.8 -3.8**
comp=Z,3.0nm,0.7s,baz=333,slow=18,SNR=10
ASAR Alice Springs 39.39 161 P **P 05 10 58.8 -0.9**
ASAR pP **pP** **05 11 29.3 -2.2**
PALK Pallekele 39.74 265 P **P 05 11 03.4 +0.6**
comp=Z,3.3nm,0.5s,baz=228,slow=7.3,SNR=1.5
TLY Talaya 40.23 344 P **P 05 11 06.5 +0.2**
comp=Z,2.5nm,0.3s,baz=183,slow=7.2,SNR=16
TLY LR LR 05 29 05.1
comp=Z,120nm,20.2s,baz=328,slow=38
TLY Talaya 40.23 344 *i* P **P 05 11 06.3 0.0**
TLY pmax pmax
comp=Z,40nm,1.2s
TLY MLR MLR
comp=Z,391nm,15.0s
TLY Talaya 40.23 344 P **P 05 11 06.2 0.0**
HYB Hyderabad 40.63 281 *i* P **P 05 11 11.0 +0.9**
MOY Mondy 40.99 341 *eP* **P 05 11 12.8 +0.2**
MOY pmax pmax
comp=Z,42nm,1.4s
WMQ Urumqi 41.12 323 *eP* **P 05 11 11.5 -2.3**
WMQ S **S** **05 17 18.1 +2.0**
WMQ L L
comp=Z,410nm,14.3s
WMQ L L
comp=Z,400nm,11.7s
WMQ L L
comp=Z,400nm,16.9s
CTAO Charters Tower 42.03 143 P **P 05 11 21.9 +0.5**
CTAO pmax pmax
comp=Z,41nm,0.8s
CTAO Charters Tower 42.03 143 P **P 05 11 21.9 +0.5**
CTAO IAmb IAmb 05 11 23.1
comp=Z,41nm,0.8s
MORW Morawa 42.80 186 P **P 05 11 27.6 +0.2**
MORW IAmb IAmb 05 11 28.5
comp=Z,41nm,1.0s
SMLA Simla 43.42 301 *eP* **P 05 11 33.2 +0.7**
DHRM DHARAMSHALA 44.40 302 *eP* **P 05 11 39.1 -1.5**
FORT Forrest 44.85 171 P **P 05 11 42.9 -0.8**
ZSN Zaisan 44.87 326 *eP* **P 05 11 42.5 -1.3**
baz=326
ZSN *eS* **S** **05 18 10.8 +0.1**
baz=326
ZSN Zaisan 44.87 326 *eP* **P 05 11 42.5 -1.3**
ZSN *eS* **S** **05 18 10.8 +0.1**
DGZ Jazzator, Alta 44.96 330 *c* *iP* **P 05 11 45.6 +1.0**
DGZ pmax pmax
comp=Z,31nm,1.4s
SHLS Shalkode 45.87 318⇑ *iP* **P 05 11 51.0 -1.0**
comp=Z,22nm,0.9s,baz=318
SHLS *eS* **S** **05 18 24.2 -1.1**
comp=Z,42nm,2.1s,baz=318
SHLS Shalkode 45.87 318 *c* *iP* **P 05 11 50.9 -1.0**
SHLS *eS* **S** **05 18 24.2 -1.1**
SHLS pmax pmax
comp=Z,22nm,0.9s
SHLS smax smax
comp=N,42nm,2.1s
PDGK Podgornoye 45.93 318 P **P 05 11 52.8 +0.4**
PDGK pmax pmax
comp=Z,60nm,1.2s
MK31 Makanchi Array 45.95 324 *c* *iP* **P 05 11 53.0 +0.6**
MK31 Makanchi Array 45.95 324 P **P 05 11 52.9 +0.6**
MK31 IAmb IAmb 05 11 54.5
comp=Z,34nm,1.2s
MKAR Makanchi Array 45.95 324 P **P 05 11 53.2 +0.9**
comp=Z,13nm,0.8s,baz=121,slow=8.7,SNR=99
MKAR pP **pP** **05 12 23.8 -0.8**
comp=Z,3.2nm,0.8s,baz=136,slow=9.3,SNR=2.3
MKAR PcP **PcP** **05 13 27.5 +0.7**
comp=Z,3.2nm,0.9s,baz=141,slow=2.7,SNR=2.5
MKAR ScP **ScP** **05 17 07.5 +1.0**
comp=Z,4.0nm,1.1s,baz=123,slow=4.5,SNR=7.1
MKAR Makanchi Array 45.95 324 *i* P **P 05 11 53.2 +0.9**
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 45.95 324 P **P 05 11 52.7 +0.3**
MAKZ Makanchi 46.13 323 P **P 05 11 54.4 +0.6**
MAKZ pmax pmax
comp=Z,36nm,1.2s
MAKZ Makanchi 46.13 323 P **P 05 11 54.4 +0.6**
MAKZ IAmb IAmb 05 11 56.0
comp=Z,36nm,1.2s
UZB Uzynbulak 46.15 318⇑ *iP* **P 05 11 55.2 +1.1**
comp=Z,23nm,1.0s,baz=318
UZB *eS* **S** **05 18 31.0 +1.6**
comp=Z,18nm,2.5s,baz=318
UZB Uzynbulak 46.15 318 *c* *iP* **P 05 11 55.2 +1.1**
UZB *eS* **S** **05 18 31.0 +1.6**
UZB pmax pmax
comp=Z,23nm,1.0s
UZB smax smax
comp=E,19nm,2.5s
KPKS Kokpek 46.51 318⇑ *iP* **P 05 11 57.7 +0.8**
comp=E,39nm,1.4s,baz=318
KPKS *eS* **S** **05 18 35.6 +1.1**
baz=318
KPKS Kokpek 46.51 318 *c* *iP* **P 05 11 57.7 +0.8**
KPKS *eS* **S** **05 18 35.6 +1.1**
KPKS pmax pmax
comp=Z,39nm,1.4s
SATY Saty 46.52 317⇑ *iP* **P 05 11 58.1 +1.1**

comp=Z,21nm,1.4s,baz=317
SATY eS S 05 18 36.2 +1.5
baz=317
SATY Saty 46.52 317 *c i*P P 05 11 58.1 +1.1
SATY eS S 05 18 36.1 +1.5
SATY pmax pmax
comp=Z,21nm,1.4s
NWAO Narrogin (SRO) 46.53 184 P P 05 11 57.2 +0.2
NWAO pmax pmax
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 46.53 184 P P 05 11 56.7 -0.3
NWAO IAmb IAmb 05 11 58.7
comp=Z,47nm,0.8s
NWAO Narrogin (SRO) 46.53 184 P P 05 11 57.2 +0.2
NWAO IAmb IAmb 05 11 58.7
comp=Z,38nm,0.8s
KDJ Kajisay 46.95 316 P P 05 12 02.0 +1.6
KDJ pmax pmax
comp=Z,29nm,1.3s
KDJ Kajisay 46.95 316 P P 05 12 01.9 +1.6
KDJ IAmb IAmb 05 12 03.1
comp=Z,29nm,1.2s
NIL Nilore 47.22 303 P P 05 12 02.3 -0.2
NIL pmax pmax
comp=Z,12nm,0.6s
NIL Nilore 47.22 303 P P 05 12 02.3 -0.2
NIL IAmb IAmb 05 12 03.9
comp=Z,12nm,0.6s
MDOK Medeo 47.46 317 *i* P P 05 12 05.5 +1.2
baz=317
MDOK eS S 05 18 47.1 -1.0
baz=317
MDOK Medeo 47.46 317 *i* P P 05 12 05.5 +1.2
MDOK eS S 05 18 47.0 -1.0
ULHL Ulahol 47.63 315 P P 05 12 07.2 +1.5
SNR=26
CHKK Chushkaly 47.79 318 *e*P P 05 12 05.6 -1.2
baz=318
CHKK Chushkaly 47.79 318 *e*P P 05 12 05.5 -1.2
MTBS Maitube 47.86 317 *e*P P 05 12 05.5 -1.9
baz=316
MTBS Maitube 47.86 317 *e*P P 05 12 05.4 -1.9
BOOM Boomskoye usch 47.93 316 P P 05 12 08.8 +0.8
BOOM pmax pmax
comp=Z,14nm,1.1s
BOOM Boomskoye usch 47.93 316 P P 05 12 08.8 +0.8
KUU Kurty 48.23 317⇑ *i*P P 05 12 11.3 +1.2
comp=Z,98nm,1.0s,baz=317
KUU eS S 05 18 58.5 -0.1
baz=317
KUU Kurty 48.23 317 *c i*P P 05 12 11.3 +1.2
KUU eS S 05 18 58.5 -0.1
KUU pmax pmax
comp=Z,98nm,1.0s
TKM2 Tokmak 2 48.34 316 P P 05 12 12.6 +1.4
SNR=9.1
TKM2 Tokmak 2 48.34 316 P P 05 12 11.4 +0.3
TKM2 pmax pmax
comp=Z,18nm,1.1s
BBOO Buckleboo 48.60 163 P P 05 12 11.6 -1.3
BBOO IAmb IAmb 05 12 13.0
comp=Z,49nm,1.3s
YAK Yakutsk 48.64 6 *e*P P 05 12 09.1 -3.7
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
KBK Karagaybulak 48.67 315 P P 05 12 15.4 +1.7
SNR=8.3
CHMS Chumysh 48.94 316 P P 05 12 16.3 +0.8
SNR=5.8
ZAA0 Zalesovo Array 48.98 333 P P 05 12 15.1 -0.4
ZAA0 IAmb IAmb 05 12 16.6
comp=Z,24nm,1.1s
ZALV Zalesovo Beam 48.98 333 P P 05 12 15.3 -0.2
comp=Z,6.8nm,0.3s,baz=126,slow=7.1,SNR=36
ZALV Zalesovo Beam 48.98 333 P P 05 12 15.1 -0.4
AAK Ala-Archa 48.98 315 *c i*P P 05 12 16.6 +0.6
comp=Z,8.0nm,0.9s,baz=114,slow=6.2,SNR=18
AAK Ala-Archa 48.98 315 *c i*P P 05 12 17.7 +1.7
AAK pmax pmax
comp=Z,81nm,1.7s
AAK Ala-Archa 48.98 315 P P 05 12 17.6 +1.6
PETK Petropavlovsk- 49.01 29 P P 05 12 14.3 -1.5
comp=Z,8.1nm,1.0s,baz=220,slow=5.8,SNR=5.5
PETK LR LR 05 34 48.9
comp=Z,62nm,19.9s,baz=248,slow=38
PETK Petropavlovsk- 49.01 29 P P 05 12 16.2 +0.3
PETK Petropavlovsk- 49.01 29 P P 05 12 16.2 +0.3
SGDS Sogindy 49.19 316⇑ *i*P P 05 12 17.2 -0.4
comp=Z,14nm,2.2s,baz=316
SGDS eS S 05 19 11.5 -0.7
baz=316
SGDS Sogindy 49.19 316 *c i*P P 05 12 17.1 -0.4
SGDS eS S 05 19 11.5 -0.7
SGDS pmax pmax
comp=Z,14nm,2.2s
USP Ospenovka 49.21 316 P P 05 12 18.5 +0.8
SNR=13
AML Almayashu 49.35 314 P P 05 12 20.8 +1.7
SNR=9.0
EKS2 Erkin-Say 49.48 315 P P 05 12 21.4 +1.7
SNR=14
STKA Stephens Creek 49.63 156 P P 05 12 19.1 -1.7
comp=Z,5.9nm,0.5s,baz=335,slow=8.0,SNR=19
STKA Stephens Creek 49.63 156 P P 05 12 20.0 -0.8
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 49.63 156 P P 05 12 20.0 -0.8
KURBB Kurchatov Arra 50.10 326 P P 05 12 25.1 +1.0
comp=Z,47nm,0.9s,baz=127,slow=7.8,SNR=193
KURBB Kurchatov Arra 50.10 326 P P 05 12 24.2 +0.1
KURBB pmax pmax
comp=Z,124nm,1.2s
BTLS Baital 50.20 318⇑ *i*P P 05 12 25.4 +0.4
comp=Z,14nm,1.2s,baz=318
BTLS Baital 50.20 318 *c i*P P 05 12 25.4 +0.4
BTLS pmax pmax
comp=Z,14nm,1.2s
BTK Batken 50.75 311 P P 05 12 30.5 +1.2
BTK pmax pmax
comp=Z,41nm,1.5s
BTK Batken 50.75 311 P P 05 12 30.5 +1.2
BTK IAmb IAmb 05 12 31.7
comp=Z,41nm,1.5s
KBL Kabul 50.82 303 P P 05 12 30.8 +0.7
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 50.82 303 P P 05 12 30.8 +0.7
GAR Garm 50.83 309 P P 05 12 30.9 +0.9
MA2 Magadan 50.87 19 P P 05 12 29.7 -0.1
comp=Z,9.3nm,0.8s,baz=179,slow=6.0,SNR=5.1
MA2 Magadan 50.87 19 *c i*P P 05 12 29.1 -0.7
MA2 pmax pmax
comp=Z,10.0nm,1.7s
DZA Taraz 51.25 314 *e*P P 05 12 32.9 0.0
baz=314
DZA Taraz 51.25 314 *e*P P 05 12 32.9 0.0
CHGR Chuyangaron 51.62 309 P P 05 12 36.2 +0.3
CHGR IAmb IAmb 05 12 38.4
comp=Z,26nm,0.9s
KK31 Karatay Array 51.89 314 *i* P P 05 12 37.8 +0.1
KK31 pmax pmax
comp=Z,40nm,1.4s
KK31 Karatay Array 51.89 314 P P 05 12 38.3 +0.7
KK31 IAmb IAmb 05 12 39.5
comp=Z,32nm,1.2s
KKAR Karatay Array 51.89 314 P P 05 12 37.9 +0.3
KKAR pmax pmax
comp=Z,32nm,1.2s
KKAR Karatay Array 51.89 314 P P 05 12 37.9 +0.3
KKAR Karatay Array 51.89 314 P P 05 12 37.8 +0.1
KKAR IAmb IAmb 05 12 39.5
comp=Z,32nm,1.2s
OTUK Ortayu 52.56 321 P P 05 12 43.0 +0.4
OTUK pmax pmax
comp=Z,51nm,1.2s
SEY Seymchan 53.98 17 P P 05 12 52.8 +0.2
comp=Z,5.8nm,1.0s,baz=198,slow=5.7,SNR=13
BVAR Borovoye Array 55.69 326 P P 05 13 04.7 -0.4
comp=Z,16nm,0.9s,baz=171,slow=10,SNR=39
BRVK Borovoye 55.76 326 *c i*P P 05 13 06.1 +0.5
BRVK pmax pmax
comp=Z,95nm,1.3s
BRVK Borovoye 55.76 326 P P 05 13 06.2 +0.5
TOO Toolangi 56.15 156 P P 05 13 08.2 -0.3
TOO pmax pmax
comp=Z,8.0nm,1.0s
TOO Toolangi 56.15 156 P P 05 13 08.2 -0.3
TIXI Tiksi 58.08 3 P P 05 13 20.4 -1.2
comp=Z,23nm,0.9s,baz=162,slow=5.4,SNR=45
TIXI Tiksi 58.08 3 P P 05 13 20.6 -1.0
NRIK Noril'sk 59.34 347 P P 05 13 30.2 -0.2
comp=Z,18nm,0.7s,baz=139,slow=6.4,SNR=38
NRIK Noril'sk 59.34 347 *c i*P P 05 13 29.9 -0.5
NRIK pmax pmax
comp=Z,46nm,1.0s
NRIK Noril'sk 59.34 347 P P 05 13 29.7 -0.7
GEYT Alibeck 60.05 306 P P 05 13 37.4 +1.5
comp=Z,14nm,0.9s,baz=187,slow=9.0,SNR=16
GEYT LR LR 05 43 52.4
comp=Z,59nm,18.4s,baz=275,slow=40
AB31 Akbulak array 60.65 319 *i* P P 05 13 39.3 -0.3
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 60.65 319 P P 05 13 39.6 0.0
ABKAR IAmb IAmb 05 13 41.1
comp=Z,39nm,1.3s
ABKAR Akbulak array 60.65 319 P P 05 13 39.9 +0.3
ABKAR pP pP 05 14 11.7 -1.6
BILL Bilibino 61.68 18*d i*P P 05 13 46.0 -0.2
BILL pmax pmax
comp=Z,64nm,1.7s
BILL Bilibino 61.68 18 P P 05 13 45.6 -0.6
AKTO Aktyubinsk 62.13 320 P P 05 13 49.8 +0.2
comp=Z,7.7nm,0.7s,baz=99,slow=8.4,SNR=23
SVE Sverdlovsk 62.32 327 *e*P P 05 13 51.1 +0.4
SVE pmax pmax
comp=Z,56nm,1.3s
ARU Arti 63.30 327 P P 05 13 56.8 -0.4
comp=Z,4.2nm,0.5s,baz=192,slow=2.0,SNR=16
ARU Arti 63.30 327*d i*P P 05 13 56.3 -0.9
ARU 05 14 30.7
ARU S S 05 22 16.7 -1.0
ARU SS SS 05 26 24.7 -1.9
ARU pmax pmax
comp=Z,35nm,1.3s
ARU Arti 63.30 327 P P 05 13 56.3 -0.9
MSVF Nonsavu 64.72 117 P P 05 14 06.6 -0.5
MSVF pmax pmax
comp=Z,78nm,1.1s
MSVF Nonsavu 64.72 117 P P 05 14 06.6 -0.5
KIRV Kirov 68.58 328 P P 05 14 30.4 -0.5
comp=Z,20nm,0.7s,baz=115,slow=1.8,SNR=17
GNI Garni 70.53 308*c i*P P 05 14 44.8 +1.3
GNI pmax pmax
comp=Z,33nm,1.3s
PRGR Permogore 70.87 331 *e*P P 05 14 43.0 -1.9
ZEI Tsey 71.08 311 *e*P P 05 14 44.1 -2.7
ZEI pmax pmax
comp=Z,11nm,0.9s
ONI Oni 71.42 311 P P 05 14 48.6 -0.1
ONI pmax pmax
comp=Z,13nm,1.0s
ONI Oni 71.42 311 P P 05 14 48.5 -0.1
KBZ Khabaz 71.79 312 P P 05 14 51.1 +0.4
comp=Z,8.3nm,0.9s,baz=92,slow=5.1,SNR=17
KBZ Khabaz 71.79 312*ce*P P 05 14 50.9 +0.2
KBZ pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 71.94 312 *e*P P 05 14 52.1 +0.3
KIV pmax pmax
comp=Z,72nm,1.0s
KIV Kislovodsk 71.94 312 P P 05 14 51.7 -0.1
KIV IAmb IAmb 05 14 53.4
comp=Z,22nm,0.9s
VRH Novokhopyorsk 72.47 320 *e*P P 05 14 54.0 -0.6
VRH pmax pmax
comp=Z,60nm,1.2s
GURO Guroymak-BITLI 72.70 306 P P 05 14 57.1 +0.6
ZEI IAmb IAmb 05 14 59.2
comp=Z,51nm,1.4s
KLMR Klimovskoe 73.77 330 *e*P P 05 15 00.2 -1.9
KLMR pmax pmax
comp=Z,33nm,1.0s
KLMR Klimovskoe 73.77 330 *e*P P 05 15 00.2 -1.9
KLMR AMP 05 15 02.5
comp=Z,33nm,1.0s
VSR Storozhevoye 74.07 320 *e*P P 05 15 02.4 -1.6
VSR pmax pmax
comp=Z,40nm,1.3s
LPSR Galich'ya Gora 74.17 321 *e*P P 05 15 04.0 -0.6
LPSR pmax pmax
comp=Z,40nm,1.2s
A21K Barrow 74.74 19 P P 05 15 07.8 +0.3
A21K IAmb IAmb 05 15 09.2
comp=Z,73nm,1.3s
A21K Barrow 74.74 19 P 05 15 07.9
baz=268
MOS Moscow 74.82 324 *e*P P 05 15 06.5 -1.8
MOS *e*PP pP 05 15 38.7 -4.9
MOS *e* 05 17 54.8
MOS eS S 05 24 29.1 -4.1
MOS pmax pmax
comp=Z,26nm,0.8s
TTA Tatalina 74.84 28 P P 05 15 08.1 -0.3
TTA pmax pmax
comp=Z,15nm,1.0s
TTA Tatalina 74.84 28 P P 05 15 08.1 -0.3
TTA Tatalina 74.84 28 P 05 15 09.0
baz=270
SVW2 Sparrevohn 75.08 30 P P 05 15 10.0 +0.3
OBN Obninsk 75.45 324*de*P P 05 15 11.6 -0.3
OBN *e* 05 18 04.1
OBN eS S 05 24 39.7 -0.5
OBN pmax pmax
comp=Z,13nm,0.5s
ANN Anapa 75.65 313 *e*P P 05 15 12.2 -1.0
ANN pmax pmax
comp=Z,20nm,0.7s
IMAR Indian Mountai 75.76 25 P P 05 15 13.5 0.0
IMAR pP pP 05 15 46.9 -2.2
H21K Melozitna Rive 76.17 25 P 05 15 16.6
baz=273,SNR=28
OHAK Old Harbor 76.45 34 P 05 15 17.8
baz=274
CHUM Lake Minchumin 76.47 27 P 05 15 18.8
baz=274,SNR=7.3
RSO Redoubt South 76.49 31 P P 05 15 17.9 -0.1
I21K Tanana 76.53 26 P 05 15 18.9
baz=274
PPLA Purkeypile 76.59 28 P 05 15 19.3
baz=274,SNR=9.9
SPCR Spurr Chakacha 76.70 30 P 05 15 19.1
baz=274
KDAK Kodiak Island 76.78 33 P 05 15 19.6
baz=275
SKT Skwentna 76.97 29 P 05 15 19.7
baz=275,SNR=9.4
BPAW Bear Paw Mtn. 77.04 27 P 05 15 21.3
baz=275,SNR=38
MLY Manley 77.07 26 P 05 15 21.6
baz=275,SNR=30
COLD Coldfoot 77.11 24 P 05 15 21.9
baz=275,SNR=10
TOLK Toolik Lake Re 77.23 22 P 05 15 21.7
baz=275,SNR=10
SUA Susitna One 77.38 29 P 05 15 22.1
baz=275,SNR=12
TRF Thorofare Moun 77.41 27 P 05 15 22.7
baz=275,SNR=14
BNN Bunyan 77.49 307 P P 05 15 23.5 -0.4
BNN IAmb IAmb 05 15 24.8
comp=Z,50nm,1.0s
H23K Yukon River 77.50 25 P 05 15 24.3
baz=276,SNR=33
BRSE Bradley Lake S 77.56 31 P 05 15 23.5
baz=276
I23K Minto, Yukon-K 77.64 26 P 05 15 24.5
baz=276,SNR=18
M22K Willow 77.65 29 P 05 15 23.5
baz=276,SNR=10
NEA2 Nenana 77.82 26 P 05 15 24.8
baz=276,SNR=22
RC01 Rabbit Creek A 77.91 30 P 05 15 24.8
baz=276
MCK McKinley 77.98 27 P 05 15 25.5
baz=276,SNR=21
PMR Palmer 78.14 29 P 05 15 26.1
baz=277,SNR=5.1
SEW Seward 78.16 31 P 05 15 26.4
baz=277
H24K Noodor Dome 78.18 25 P 05 15 27.8
baz=277,SNR=18
WAT2 Susitna Watana 78.23 28 P 05 15 26.6
baz=277,SNR=12
TCOL CIGO, UAF Yank 78.31 26 P 05 15 27.6
baz=277
COLA College 78.31 26*c i*P P 05 15 27.3 -0.4
COLA pmax pmax
comp=Z,17nm,1.1s
COLA College 78.31 26 P P 05 15 27.1 -0.6
COLA IAmb IAmb 05 15 30.2
comp=Z,31nm,1.4s
CCB Clear Creek Bu 78.36 26 P P 05 15 27.0 -0.9
KNK Knik Glacier 78.48 29 P 05 15 28.6
baz=277,SNR=8.6
SML Sawmill 78.49 29 P 05 15 28.5
baz=278,SNR=16
WAT6 Susitna Watana 78.66 28 P 05 15 29.5
baz=278,SNR=26
ILAR Eielson Array 78.73 26 P P 05 15 29.2 -0.8
comp=Z,4.5nm,1.1s,baz=244,slow=4.8,SNR=18
ILAR pP pP 05 16 03.2 -2.8
comp=Z,2.9nm,1.2s,baz=229,slow=7.4,SNR=3.3
ILAR Eielson Array 78.73 26 P P 05 15 28.4 -1.6
ILAR pP pP 05 16 04.3 -1.7
HDA Harding Lake 78.76 26 P 05 15 29.1
baz=278,SNR=12
HDA P 05 15 29.1
baz=278,SNR=12
ARCES ARCESS Array B 79.01 339 P P 05 15 31.0 -0.5
comp=Z,3.5nm,0.5s,baz=79,slow=8.7,SNR=41
ARCES LR LR 05 55 21.0
comp=Z,68nm,18.0s,baz=210,slow=39
ARCES ARCESS Array B 79.01 339 P P 05 15 31.4 -0.1
ARCES pmax pmax
comp=Z,37nm,1.5s
ARCES ARCESS Array B 79.01 339 P P 05 15 31.4 -0.1
ARCES IAmb IAmb 05 15 32.0
comp=Z,37nm,1.4s
BRTR Keskin Array B 79.06 308 P P 05 15 32.4 -0.2
comp=Z,3.1nm,0.9s,baz=116,slow=5.6,SNR=16
BRTR Keskin Array B 79.06 308 P P 05 15 31.6 -1.0
PRP Porcupine Dome 79.19 25 P 05 15 34.2
baz=279
GLI Glacier Island 79.21 30 P P 05 15 32.3 -0.4
GLI IAmb IAmb 05 15 33.9
comp=Z,40nm,1.3s
GLI Glacier Island 79.21 30 P 05 15 32.8
baz=279
BMAR Burnt Mountain 79.25 23 P P 05 15 33.4 +0.5
BMAR pP pP 05 16 06.9 -1.8
M24K Tolsona, Glenn 79.45 29 P 05 15 35.0
baz=279,SNR=5.7
SPITS Spitsbergen Ar 79.52 348 P P 05 15 33.7 -0.5
comp=Z,15nm,1.0s,baz=102,slow=7.8,SNR=11
PAX Paxson 79.63 28 P 05 15 35.1
baz=280
KLU Klutina 79.67 29 P 05 15 35.4
baz=280
HARP HAARP 79.88 28 P 05 15 37.3
baz=280
EYAK Cordova Ski Ar 79.92 30 P 05 15 37.4
baz=280
SCRK Sand Creek 80.11 26 P 05 15 37.4
baz=281,SNR=12
FINES FINESS Array B 80.20 331 P P 05 15 37.3 -0.8
comp=Z,3.0nm,0.5s,baz=57,slow=5.3,SNR=25
FINES pP pP 05 16 11.2 -2.6
comp=Z,1.4nm,0.6s,baz=46,slow=9.9,SNR=1.9
FINES LR LR 05 55 17.9
comp=Z,63nm,18.6s,baz=76,slow=39
FINES FINESS Array B 80.20 331 *i* P P 05 15 38.0 0.0
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 80.20 331 P P 05 15 36.6 -1.4
N25K Chitina, Valde 80.28 29 P 05 15 39.2
baz=281,SNR=7.3
AKASG Malin Array Be 80.37 320 P P 05 15 37.9 -1.3
comp=Z,7.9nm,1.0s,baz=66,slow=5.5,SNR=20
AKASG LR LR 05 54 07.4
comp=Z,54nm,19.5s,baz=275,slow=38
AKASG Malin Array Be 80.37 320 P P 05 15 38.6 -0.6
AKASG pmax pmax
comp=Z,12nm,1.3s
AKASG Malin Array Be 80.37 320 P P 05 15 38.6 -0.6
AKBB Malin Array Si 80.37 320*ce*P P 05 15 39.0 -0.2
BMRM Bremner River 80.40 30 P 05 15 39.7
baz=281
VSU Vasula 80.43 328 *e*P P 05 15 39.3 0.0
VSU Vasula 80.43 328*ce*P P 05 15 38.6 -0.7
VSU pmax pmax
comp=Z,127nm,1.3s
MNK Minsk 80.52 324 *i* P P 05 15 40.7 +0.8
MNK *i* *PP pP 05 16 18.0 +2.5
MNK *i* *SP sP 05 16 34.1 +3.4
MNK *i* 05 18 46.0
MNK *i* PPP PPP 05 20 36.3
MNK *i* S S 05 25 35.5 +1.0
MNK *i* *SS sS 05 26 40.7 +5.4
MNK *i* SS SS 05 30 52.4 +3.0
MNK *i* SSS SSS 05 34 19.9
MNK pmax pmax
comp=Z,22nm,1.1s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=E,5.0nm,15.0s
MNK MLR MLR
comp=Z,52nm,21.0s
MNK MLR MLR
comp=N,91nm,19.0s
MNK Minsk 80.52 324 *i* P P 05 15 40.7 +0.9
comp=E,1.0nm,0.6s
MNK *i* P P 05 15 40.7 +0.9
comp=N,13nm,0.8s
MNK *i* P P 05 15 40.7 +0.9
comp=Z,22nm,1.1s,baz=79
MNK *i* PcP PcP 05 15 46.9 +0.5
MNK *i* pP pP 05 16 18.0 +2.5
MNK *i* sP sP 05 16 34.2 +3.5
MNK *i* PP PP 05 18 46.0 +1.2
MNK *i* PPP PPP 05 20 36.4
MNK *i* S S 05 25 35.5 +1.0
MNK *i* sS sS 05 26 40.8 +5.5
MNK *i* SS SS 05 30 52.4 +3.0
MNK *i* SSS SSS 05 34 19.9
MNK *i* LRM MLR 05 53 39.8
comp=E,5.0nm,15.3s
MNK *i* LRM MLR 05 53 55.1
comp=Z,52nm,21.1s
MNK *i* LRM MLR 05 54 05.3
comp=N,91nm,19.2s
GLB Gilahina Butte 80.68 29 P P 05 15 40.7 -0.1
GLB IAmb IAmb 05 15 42.4
comp=Z,27nm,1.3s
K27K Chicken 80.92 26 P 05 15 42.9
baz=282
EGAK Eagle 81.14 25 P 05 15 43.3
baz=283
CRQE Cirque 81.16 30 P 05 15 44.0
baz=282
L27K Beaver Creek, 81.25 27 P 05 15 44.5
baz=283
BCAR Beaver Creek A 81.26 27 P P 05 15 45.0 +1.2
BCAR pP pP 05 16 18.0 -1.8
TGL Tana Glacier 81.29 30 P P 05 15 43.9 -0.1
SORM Soroca 81.40 317⇑ P P 05 15 43.9 -0.8
SORM Soroca 81.40 317⇑ P P 05 15 43.9 -0.8
BARN Barnard Glacie 81.78 29 P P 05 15 46.9 +0.2
BARN IAmb IAmb 05 15 48.8
comp=Z,22nm,1.2s
GRNC Granite Creek 81.81 29 P P 05 15 47.2 +0.4
GRNC IAmb IAmb 05 15 49.0
comp=Z,25nm,1.4s
CTG Chitna Glacier 81.95 29 P 05 15 48.6
baz=284
DAWY Dawson 82.06 26 P P 05 15 47.8 -0.2
TIRR Tirgusor 82.07 314⇓ P P 05 15 47.9 -0.4
TIRR Tirgusor 82.07 314⇓ P P 05 15 47.9 -0.4
TIRR Tirgusor 82.07 314 P P 05 15 47.8 -0.4
TIRR IAmb IAmb 05 15 49.3
comp=Z,31nm,1.2s

CFR	Carcaliu	82.12	314	⇓P		P	05 15 48.6	+0.1
CFR	Carcaliu	82.12	314	⇓P		P	05 15 48.6	+0.1
TABL	Table Mountain	82.17	30	P		P	05 15 49.4	+0.6
TABL				IAmb	IAmb		05 15 50.9	
	comp=Z,28nm,1.2s							
ELL	Elmali	82.47	306	P		P	05 15 50.8	+0.1
ELL				pmax	pmax			
	comp=Z,162nm,1.5s							
ELL	Elmali	82.47	306	P		P	05 15 50.8	+0.1
EPYK	Eagle Plains	82.51	23	P			05 15 50.0	
	baz=287							
PABE	Paberze	82.52	325	*e*P		P	05 15 50.1	-0.2
PABE	Paberze	82.52	325	P		P	05 15 49.7	-0.7
PABE				IAmb	IAmb		05 15 51.9	
	comp=Z,58nm,1.4s							
PCA	Pinnacle	82.69	30	P		P	05 15 51.8	+0.5
PCA				IAmb	IAmb		05 15 53.5	
	comp=Z,28nm,1.3s							
PINM	Pinnacle	82.69	30	P			05 15 52.3	
	baz=285							
TESR	Tesceni	82.86	316	⇑P		P	05 15 52.3	0.0
VRI	Vrincioaia	82.94	315	⇓P		P	05 15 53.4	+0.5
VRI	Vrincioaia	82.94	315	⇓P		P	05 15 53.4	+0.5
PLOR	Plostina	83.00	315	⇑P		P	05 15 53.2	+0.1
PLOR	Plostina	83.00	315	⇑P		P	05 15 53.2	+0.1
INK	Inuvik	83.07	21	P		P	05 15 52.4	-0.5
	comp=Z,16nm,1.0s,baz=282,slow=6.9,SNR=16							
INK	Inuvik	83.07	21	P		P	05 15 52.4	-0.5
INK				pmax	pmax			
	comp=Z,30nm,1.2s							
INK	Inuvik	83.07	21	P		P	05 15 52.4	-0.5
INK				IAmb	IAmb		05 15 54.1	
	comp=Z,30nm,1.1s							
INK	Inuvik	83.07	21	P			05 15 53.0	
	baz=290							
BIZ	Bicaz	83.13	317	⇓P		P	05 15 53.8	0.0
ISR	Istrita	83.23	315	⇓P		pP	05 16 31.3	+0.9
SUW	Suwalki	83.31	324	*e*P		P	05 15 54.3	-0.2
SUW	Suwalki	83.31	324	*e*P		P	05 15 54.2	-0.2
SUW	Suwalki	83.31	324	P		P	05 15 54.0	-0.5
SUW				pmax	pmax			
	comp=Z,35nm,1.0s							
SUW	Suwalki	83.31	324	P		P	05 15 54.0	-0.5
SUW				IAmb	IAmb		05 15 55.0	
	comp=Z,35nm,1.0s							
NEHR	Nehoiu	83.33	315	⇓P		P	05 15 56.0	+1.1
MLR	Muntele Rosu	83.56	315	⇑P		P	05 15 56.2	+0.1
MLR	Muntele Rosu	83.56	315	⇑P		P	05 15 56.2	+0.1
MLR	Muntele Rosu	83.56	315	P		P	05 15 56.0	-0.2
MLR				IAmb	IAmb		05 15 59.4	
	comp=Z,35nm,1.4s							
BURAR	Bucovina Array	83.57	317	P		P	05 15 56.3	+0.2
HYT	Haines Junctio	83.80	29	P		P	05 15 57.5	+0.5
HYT				IAmb	IAmb		05 15 59.4	
	comp=Z,17nm,1.1s							
LVV	L'vov	83.82	320	*e*P		P	05 15 56.9	-0.3
KMBO	Kilima Mbogo	83.83	267	P		P	05 15 59.6	+1.3
	comp=Z,2.4nm,0.8s,baz=11,slow=4.6,SNR=5.2							
KMBO				LR	LR		05 49 37.5	
	comp=Z,43nm,18.2s,baz=83,slow=33							
DOPR	Dopca	83.83	316	⇑P		P	05 15 57.9	+0.5
VOIR		84.19	315	⇓P		P	05 16 00.0	+0.7
VOIR		84.19	315	⇓P		P	05 16 00.0	+0.7
HUMR	Humele	84.45	314	⇓P		P	05 16 00.8	+0.3
ARR	Arges	84.49	315	⇓P		P	05 16 01.0	+0.2
ALN	Alexandroupoli	84.53	311	P		P	05 16 00.5	-0.5
ALN				pmax	pmax			
	comp=Z,18nm,1.2s							
ALN	Alexandroupoli	84.53	311	P		P	05 16 00.5	-0.5
ALN				IAmb	IAmb		05 16 01.7	
	comp=Z,18nm,1.2s							
UPP	Uppsala	84.63	330	*e*P		P	05 16 00.6	-0.5
KWP	Kalwaria Pacla	84.69	320	*e*P		P	05 16 02.4	+0.8
KLNR	Kaliningrad	84.84	325	⇑*i*P		P	05 16 02.9	+0.7
KLNR				pmax	pmax			
	comp=Z,24nm,0.9s							
WHY	Whitehorse	85.07	29	P		P	05 16 03.9	+0.4
WHY				IAmb	IAmb		05 16 05.9	
	comp=Z,49nm,1.5s							
WHY	Whitehorse	85.08	29	P			05 16 04.6	
	baz=289							
KOLS	Kolonicke sedl	85.15	319	*e*P		P	05 16 04.4	+0.5
KOLS	Kolonicke sedl	85.15	319	*e*P		P	05 16 04.4	+0.5
UZH	Uzhgorod	85.22	319	*e*P		P	05 16 04.5	+0.3
EUNU	Eureka	85.28	5	P		P	05 16 03.3	-0.8
DRGR		85.43	317	⇓P		P	05 16 05.7	+0.2
DRGR		85.43	317	⇓P		P	05 16 05.7	+0.2
CRVS	Cervenica-Dubn	85.68	319	*e*P		P	05 16 07.1	+0.6
CRVS				pmax	pmax			
	comp=Z,86nm,1.4s							
CRVS	Cervenica-Dubn	85.68	319	*e*P		P	05 16 07.1	+0.6
GZR	Gura Zlata	85.75	316	⇓P		P	05 16 02.7	-4.4
C36M	Paulatuk	85.78	19	P			05 16 06.6	
	baz=298							
VTS	Vitosha	86.15	313	⇑P		P	05 16 08.9	-0.3
VTS	Vitosha	86.15	313	⇑P		P	05 16 08.9	-0.3
VTS	Vitosha	86.15	313	P		P	05 16 08.9	-0.3
NIE	Niedzica	86.26	320	*e*P		P	05 16 10.0	+0.5
SIRR	Siria	86.27	317	⇓P		pP	05 16 45.5	-0.3
OJC	Ojcow	86.34	321	*e*P		P	05 16 10.0	+0.2
KECS	Kecovo	86.41	319	*e*P		P	05 16 10.4	+0.2
KECS	Kecovo	86.41	319	*e*P		P	05 16 10.4	+0.2
MDVR	Moldovita	86.64	315	⇓P		P	05 16 11.5	+0.1
NB2	NORSAR Subarra	87.18	333	P		P	05 16 12.1	-1.6
	baz=67,slow=4.6							
NOA	NORSAR Array B	87.18	333	P		P	05 16 12.3	-1.3
	comp=Z,4.6nm,1.0s,baz=68,slow=4.6,SNR=10							
NOA				pP		pP	05 16 46.0	-3.9
	comp=Z,2.0nm,0.7s,baz=68,slow=4.6,SNR=4.4							
NOA				LR	LR		05 59 16.7	
	comp=Z,40nm,18.6s,baz=85,slow=38							
LIT	Litokhoron	87.36	311	P		P	05 16 13.4	-1.5
LIT				pmax	pmax			
	comp=Z,21nm,1.3s							
LIT	Litokhoron	87.36	311	P		P	05 16 13.4	-1.5
LIT				IAmb	IAmb		05 16 14.7	
	comp=Z,21nm,1.3s							
MORC	Moravsky Berou	87.86	321	⇑P		P	05 16 17.5	+0.3
MORC	Moravsky Berou	87.86	321	*e*P		P	05 16 16.9	-0.3
MORC	Moravsky Berou	87.86	321	⇑P		P	05 16 17.5	+0.3
JAVC	Velka Javorina	88.08	320	*e*P		P	05 16 19.3	+1.1
KRLC	Kraliky	88.23	321	*e*PCP		P	05 16 19.6	+0.7
KSP	Ksiaz	88.27	322	*e*P		P	05 16 19.0	0.0
DPC	Dobruska-Polom	88.42	322	*e*PCP		P	05 16 20.4	+0.6
VRAC	Vranov	88.60	321	⇓P		P	05 16 19.0	-1.6
VRAC	Vranov	88.60	321	*e*P		P	05 16 20.8	+0.2
VRAC	Vranov	88.60	321	⇓P		P	05 16 19.0	-1.6
KRUC	Moravsky	88.81	320	*e*P		P	05 16 21.6	0.0
PDG	Podgorica	89.03	313	⇓P		P	05 16 22.3	-0.4
RUE	Ruedersdorf	89.16	324	*e*pP		pP	05 17 06.5	+6.9
	baz=67,slow=4.7							
CONA	Conrad Observa	89.52	319	*e*P		P	05 16 26.1	+1.0
	comp=Z,2.7nm,1.0s							
CONA				*e*P		pP	05 17 02.8	+1.3
	comp=Z,2.5nm,1.2s							
BRG	Berggiesshubel	89.65	323	*e*P		P	05 16 25.4	-0.1
BRG				Amp			05 16 27.4	
	comp=Z,12nm,1.4s							
BRG				pP		pP	05 17 07.9	+5.9
BRG				Amp			05 17 10.5	
	comp=Z,12nm,1.2s							
BRG	Berggiesshubel	89.65	323	*e*P		P	05 16 25.5	0.0
	comp=Z,12nm,1.4s,baz=66,slow=4.6							
BRG				*e*pP		pP	05 17 08.7	+6.7
	baz=67,slow=4.7							
ARSA	Arzberg	89.97	319	*e*P		P	05 16 29.2	+2.1
	comp=Z,5.0nm,1.1s							
FBE	Freiberg	89.98	323	*e*P		P	05 16 26.6	-0.4
	comp=Z,20nm,1.4s,baz=66,slow=4.6							
CLL	Collm	90.04	323	*i* P		P	05 16 26.4	-0.9
CLL				*i*pP		pP	05 17 09.8	+6.0
	comp=Z,8.0nm,1.4s							
CLL				*i* pP		pP	05 17 09.8	+6.0
	comp=Z,12nm,1.2s							
CLL				*e*PP		PP	05 20 02.0	0.0
CLL				*e*S		S	05 27 06.0	-2.2
CLL				*e*SSSS			05 40 00.0	
CLL				LmV			05 58 00.0	
	comp=Z,100nm,19.0s							
CLL	Collm	90.04	323	*i* P		P	05 16 26.4	-0.9
CLL				*i* *PP		pP	05 17 09.8	+6.0
CLL				pmax	pmax			
	comp=Z,8.0nm,1.4s							
CLL	Collm	90.04	323	*e*P		P	05 16 26.8	-0.5
	comp=Z,8.3nm,1.4s,baz=66,slow=4.6							
CLL				*e*pP		pP	05 17 10.4	+6.6
	baz=67,slow=4.7							
SOKA	Soboth	90.49	318	*e*P		pP	05 17 08.3	+2.2
	comp=Z,3.0nm,1.0s							
KHC	Kasperske Hory	90.51	321	*e*PCP		P	05 16 29.9	+0.3
GEC2	GERESS Array S	90.54	321	*e*P		P	05 16 29.5	-0.3
	comp=Z,18nm,1.6s,baz=66,slow=4.6							
GERES	GERESS Array B	90.54	321	P		P	05 16 28.3	-1.5
	comp=Z,0.9nm,0.8s,baz=64,slow=6.1,SNR=12							
GERES				pP		pP	05 17 03.0	-3.4
	comp=Z,0.5nm,0.7s,baz=77,slow=7.0,SNR=2.5							
GERES	GERESS Array B	90.54	321	P		P	05 16 30.0	+0.2
GERES	GERESS Array B	90.54	321	P		P	05 16 29.9	+0.2
GERES				pP		pP	05 17 02.5	-3.8
MOA	Molln	90.56	320	*e*P		P	05 16 29.8	0.0
	comp=Z,11nm,1.4s							
FLTG	Flechtingen	90.65	325	*e*P		P	05 16 30.0	0.0
	comp=Z,7.6nm,1.2s,baz=66,slow=4.6							
TANN	Tannenbergstha	90.70	323	*e*P		P	05 16 30.3	-0.1
	comp=Z,11nm,1.5s,baz=66,slow=4.6							
TANN				*e*pP		pP	05 17 13.6	+6.6
	baz=67,slow=4.7							
WERD	Werda	90.78	323	*e*P		P	05 16 30.9	+0.1
	comp=Z,12nm,1.4s,baz=66,slow=4.6							
NEUB	Neuenburg	90.79	323	*e*P		P	05 16 31.2	+0.5
	comp=Z,14nm,1.2s,baz=66,slow=4.6							
GUNZ	Gunzen	90.80	323	*e*P		P	05 16 30.9	+0.1
	comp=Z,16nm,1.5s,baz=66,slow=4.6							
GUNZ				*e*pP		pP	05 17 13.7	+6.3
	baz=67,slow=4.7							
WERN	Wernitzgruen	90.80	322	*e*P		P	05 16 30.8	-0.1
	comp=Z,7.2nm,1.2s,baz=66,slow=4.6							
WERN				*e*pP		pP	05 17 14.0	+6.6
	baz=67,slow=4.7							
PLN	Plauen	90.85	323	*e*P		P	05 16 31.3	+0.2
	comp=Z,11nm,1.5s,baz=66,slow=4.6							
OBKA	Obir	90.86	318	*e*P		P	05 16 31.8	+0.5
	comp=Z,6.5nm,1.1s							
WET	Wettzell	90.94	321	*e*P		P	05 16 31.7	+0.1
	comp=Z,8.4nm,1.5s,baz=66,slow=4.6							
ASSE	Asse, Remlinge	91.05	325	*e*P		P	05 16 31.6	-0.3
	comp=Z,16nm,1.6s,baz=66,slow=4.6							
MANZ	Manzenberg	91.08	322	*e*P		P	05 16 31.5	-0.7
	comp=Z,6.2nm,1.3s,baz=66,slow=4.6							
ROTZ	Rotzenmuhle	91.10	322	*e*P		P	05 16 32.6	+0.3
	comp=Z,15nm,1.5s,baz=66,slow=4.6							
ROTZ				*e*pP		pP	05 17 15.8	+6.9
	baz=67,slow=4.7							
MOX	Moxa	91.11	323	*e*P		P	05 16 31.7	-0.6
	comp=Z,13nm,1.5s,baz=66,slow=4.6							
MOX				*e*pP		pP	05 17 15.7	+6.8
	baz=67,slow=4.7							
MAW	Mawson	91.12	199	P		P	05 16 32.3	+0.6
	comp=Z,6.5nm,0.9s,baz=32,slow=5.9,SNR=8.1							
NRDL	Niedersach Rie	91.22	325	*e*P		P	05 16 32.2	-0.4
	comp=Z,19nm,1.7s,baz=66,slow=4.6							
CLZ	Clausthal	91.34	324	*e*P		P	05 16 33.0	-0.3
	comp=Z,15nm,1.6s,baz=66,slow=4.6							
CLZ				*e*pP		pP	05 17 16.6	+6.7
	baz=67,slow=4.7							
KBA	Koelnbreinsper	91.42	319	*e*P		P	05 16 33.0	-1.0
	comp=Z,4.9nm,1.4s							
KBA				*e*P		pP	05 17 11.9	+1.4
	comp=Z,3.3nm,0.8s							
RJOB	Jochberg	91.52	320	*e*P		P	05 16 33.9	-0.5
	comp=Z,55nm,1.6s,baz=66,slow=4.6							
GRF	Grafenberg Arr	91.72	322	*e*P		P	05 16 35.0	-0.1
	comp=Z,21nm,1.6s,baz=66,slow=4.6							
ABTA	Abfaltersbach	92.08	319	*e*P		P	05 16 35.3	-1.6
	comp=Z,5.9nm,1.0s							
ABTA				*e*P		pP	05 17 16.5	+3.0
	comp=Z,5.1nm,1.4s							
STAL	STALIGIAL	92.13	319	P		P	05 16 36.1	-1.0
STAL				IAmb	IAmb		05 16 37.2	
	comp=Z,12nm,1.2s							
WTTA	Wattenberg	92.43	320	*e*P		P	05 16 37.5	-1.2
	comp=Z,15nm,1.2s							
WTTA				*e*P		pP	05 17 16.7	+1.5
	comp=Z,9.0nm,1.1s							
WATA	Walderalm	92.44	320	*e*P		P	05 16 37.9	-0.8
	comp=Z,12nm,1.3s							
WATA				*e*P		pP	05 17 17.0	+1.8
	comp=Z,8.1nm,1.0s							
MOTA	Mosalm	92.73	320	*i* P		P	05 16 39.2	-0.8
	comp=Z,14nm,1.3s							
MOTA				*e*P		pP	05 17 16.5	-0.2
	comp=Z,7.6nm,1.0s							
YKA	Yellowknife Ar	92.75	22	P		P	05 16 38.5	-1.0
	comp=Z,2.7nm,1.0s,baz=308,slow=4.0,SNR=14							
YKA				pP		pP	05 17 13.8	-2.5
	comp=Z,1.1nm,0.9s,baz=307,slow=3.6,SNR=2.8							
YKA				PP		PP	05 20 28.0	+5.1
	comp=Z,0.7nm,0.9s,baz=242,slow=7.4,SNR=3.9							
SUMG	Summit	92.76	354	P		P	05 16 39.5	-0.4
SUMG				pmax	pmax			
	comp=Z,16nm,1.4s							
SUMG	Summit	92.76	354	P		P	05 16 39.5	-0.4
SUMG				IAmb	IAmb		05 16 41.2	
	comp=Z,16nm,1.4s							
RETA	Reutte	92.88	320	*e*P		P	05 16 39.9	-0.7
	comp=Z,5.2nm,1.6s							
FETA	Feichten	93.09	320	*e*P		P	05 16 40.9	-0.8
	comp=Z,12nm,1.3s							
DAVA	Daouels	93.51	320	*e*P		P	05 16 42.5	-1.1
	comp=Z,14nm,1.6s							
DAVA				*e*P		pP	05 17 19.3	-0.9
	comp=Z,8.8nm,1.2s							
PPT	Papeete	93.88	107	LR	LR		05 51 51.9	
	comp=Z,35nm,19.7s,baz=334,slow=31							
VNDA	Vanda	94.11	172	P		P	05 16 45.5	+0.1
	comp=Z,5.6nm,0.9s,baz=302,slow=5.4,SNR=29							
VNDA				PP		PP	05 20 29.4	-4.4
	comp=Z,1.2nm,0.8s,baz=302,slow=5.2,SNR=4.6							
VNDA	Vanda	94.11	172	P		P	05 16 44.7	-0.7
VNDA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
VNDA	Vanda	94.11	172	P		P	05 16 44.7	-0.7
VNDA				IAmb	IAmb		05 16 46.5	
	comp=Z,5.0nm,0.8s							
NVAR	Mina Array Bea	104.34	44	PP		PP	05 21 50.9	-1.2
	comp=Z,1.3nm,0.9s,baz=293,slow=7.9,SNR=5.6							
ESDC	Sonseca Array	105.99	319	PP		PP	05 22 03.1	-1.0
	comp=Z,1.3nm,1.1s,baz=36,slow=6.6,SNR=4.8							
PDAR	Pinedale Array	107.36	36	PKKP		PKKPab	05 33 23.5	-3.3
	comp=Z,0.8nm,0.8s,baz=120,slow=5.6,SNR=6.0							
TORD	Torodi Ar. Bea	113.86	291	PKKPbc	PKKPbc		05 32 57.0	+8.3
	comp=Z,5.0nm,0.8s,baz=263,slow=4.8,SNR=7.9							
VNA1	Neumayer--Stat	115.22	197	PKPdf		PKPdf	05 22 08.3	+0.7
VNA3	Neumayer Olymp	115.27	196	PKPdf		PKPdf	05 22 08.0	+0.3
TXAR	Lajitas Array	119.48	44	PKP		PKiKP	05 22 17.8	+0.5
	comp=Z,1.0nm,0.7s,baz=148,slow=1.3,SNR=13							
TXAR				PKKPbc		PKKPbc	05 32 31.0	+1.4
	comp=Z,0.3nm,0.9s,baz=145,slow=4.6,SNR=3.7							
TXAR	Lajitas Array	119.48	44	PKIKP		PKPdf	05 22 17.0	-0.2
TXAR	Lajitas Array	119.48	44	PKPdf		PKPdf	05 22 17.0	-0.2
S39A	Bolivar	119.71	31	PKPdf		PKPdf	05 22 16.6	-0.7
PLCA	Paso Flores	151.40	162	PKPbc		PKiKP	05 23 21.7	+0.3
	comp=Z,19nm,0.9s,baz=191,slow=3.5,SNR=23							
CPUP	Villa Florida	167.34	188	PKPab		PKPab	05 24 39.2	+0.3
	comp=Z,3.6nm,0.7s,baz=164,slow=5.4,SNR=10							
LPAZ	La Paz	171.17	108	PKP		PKPdf	05 23 35.3	-1.4
	comp=Z,1.5nm,0.9s,baz=91,slow=5.8,SNR=5.6							
LPAZ				PKPab		PKPab	05 24 59.8	+2.6
	comp=Z,12nm,0.9s,baz=285,slow=3.7,SNR=27							

IDC ***13*** *05:14:28.9±0.8,33°.14N×96°.46E, h0km, mb4.0/9, mb1 4.1/13, mb1mx3.8/57, mbtmp4.0/13, ML3.8/4, MS3.3/1, Ms1 3.5/1, ms1mx2.8/36 Error ellipse: s-maj=33.5km s-min=15.2km az=56.0*

ISC 13 05:14:34.4±0.6, 33°.21N±0°.07×96°.58E±0°.07, h35km, n20, σ1§13/20, mb4.1/9, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.81	234	Pn		Pn	Pn	05 15 59.8	+1.3
LSA				Sn		Sn	Sn	05 17 04.6	+0.5
LSA				SMN					
	45nm,0.9s								
LSA				SME					
	40nm,1.0s								
LZH	Lanzhou	6.64	62	pP		Pn		05 16 09.8	+0.2
LZH	Lanzhou	6.64	62	*e*P		Pn		05 16 09.9	+0.3
LZH				pP		pP		05 16 13.3	
LZH				sP				05 16 17.5	
LZH				pmax	pmax				
	comp=Z,22nm,1.1s								
LZH				pmax	pmax				
	comp=Z,22nm,1.1s								
GTA	Gaotai	6.72	22	⇓P		Pn		05 16 12.3	+1.6
GTA				pP				05 16 23.0	
GTA				sP				05 16 27.6	
GTA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GTA	Gaotai	6.72	22	ScP		Pn		05 16 12.4	+1.7
GYA	Guiyang	11.03	125	*e*P		Pn		05 17 09.5	-0.4
GYA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
WMQ	Urumqi	12.67	329	*e*P		Pn		05 17 31.8	-0.3
WMQ				SMN					
	36nm,0.7s								
WMQ				SME					
	61nm,0.5s								
CMAR	Chiang Mai Arr	14.84	171	Pn		Pn		05 18 01.0	-0.7
	0.3nm,0.3s,baz=346,slow=12,SNR=13								
CMAR				LR		LR		05 23 45.7	
	comp=Z,114nm,20.1s,baz=58,slow=38								
SONM	Songino Array	16.39	24	Pn		Pn		05 18 20.8	-0.9
	0.1nm,0.3s,baz=210,slow=11,SNR=7.7								
MKAR	Makanchi Array	17.40	325	P		P		05 18 32.8	-1.5
	0.3nm,0.3s,baz=134,slow=14,SNR=9.0								
AAK	Ala-Archa	19.76	305	P		P		05 18 58.8	-2.6
	0.4nm,0.3s,baz=167,slow=19,SNR=1.5								
KURBB	Kurchatov Arra	21.89	328	P		P		05 19 23.7	-0.4
	3.2nm,0.8s,baz=135,slow=11,SNR=18								
ZALV	Zalesovo Beam	22.36	342	P		P		05 19 29.6	+0.4
	4.3nm,0.7s,baz=151,slow=10,SNR=9.1								
KSRS	Korea Array	25.86	72	P		P		05 20 03.8	+1.1
	0.6nm,0.5s,baz=266,slow=10.0,SNR=2.1								
NOA	NORSAR Array B	59.40	326	P		P		05 24 32.4	-0.6
	0.5nm,0.7s,baz=75,slow=6.9,SNR=5.9								
WRA	Warramunga Arr	63.98	140	P		P		05 25 03.9	-0.5
	3.0nm,0.7s,baz=334,slow=7.2,SNR=26								
ASAR	Alice Springs	66.81	143	P		P		05 25 22.4	-0.3
	2.7nm,0.6s,baz=328,slow=6.7,SNR=35								
STKA	Stephens Creek	77.42	142	P		P		05 26 26.4	+0.6
	1.6nm,0.7s,baz=337,slow=10,SNR=3.8								
YKA	Yellowknife Ar	81.39	14	P		P		05 26 47.1	-0.1
	0.4nm,0.7s,baz=342,slow=5.8,SNR=3.4								
TORD	Torodi Ar. Bea	86.92	284	P		P		05 27 16.9	+0.7
	1.1nm,0.5s,baz=57,slow=5.3,SNR=4.0								

SOME ***13*** *05:22:06.9, 42°.42N×88°.43E, h10km*

NNC 13 05:22:40.8±3.5, 43°.02N×87°.37E, h8km±12km, mb3.6, mpv3.3, 4C-3D, Error ellipse: s-maj=26.2km s-min=15.0km az=143.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	4.77	339	*e*P		Pn		05 23 56.7	+3.8
	3.9nm,0.2s								
ZSN				*e*S		Sg		05 25 15.6	+1.8
	15nm,0.6s								
ZSN	Zaisan	4.77	339	Pg		Pg		05 24 10.4	-1.7
	5.9nm,0.3s								
ZSN				Lg		Lg		05 25 16.4	
	10nm,0.6s								
KTMS	Ketmen	5.14	277	*e*P		Pn		05 23 59.1	+0.9
	4.9nm,0.4s								
KTMS				*e*S		Sg		05 25 20.1	-5.8
	7.2nm,0.4s								
KTMS	Ketmen	5.14	277	Pg		Pb		05 24 12.6	+1.6
KTMS				Lg		Lg		05 25 19.9	
MK31	Makanchi Array	5.22	318	⇓Pn		Pn		05 24 00.4	+1.4
	0.5nm,0.3s,baz=136,slow=14,SNR=50								
MK31				⇓Lg		Lg		05 25 28.4	
	0.7nm,0.3s,baz=130,slow=28,SNR=4.8								
MAKZ	Makanchi	5.38	317	⇑Pn		Pn		05 24 01.8	+0.4
	1.1nm,0.6s								
MAKZ				⇓Lg		Lg		05 25 32.2	
	3.1nm,0.8s								
DJR	Jarkent	5.65	286	*e*P		Pn		05 24 10.4	+5.3
	0.1nm,0.2s								
DJR				*e*S		Sg		05 25 39.3	-2.9
	0.4nm,0.4s								
DJR	Jarkent	5.65	286	Pg		Pb		05 24 23.9	+4.2
	0.2nm,0.4s								
DJR				Lg		Lg		05 25 39.7	
	0.6nm,0.7s								
PDGK	Podgornoye	5.77	276	⇑Pn		Pn		05 24 05.9	-0.9
	4.4nm,0.3s								
PDGK				⇑Sn		Sn		05 25 13.7	+0.5
	8.5nm,0.8s								
PDGK				⇑Lg		Lg		05 25 47.9	
	6.1nm,0.7s								
UZB	Uzynbulak	6.11	274	*e*P		Pn		05 24 17.6	+6.1
	3.2nm,0.5s								
UZB				*e*S		Sg		05 25 51.8	-5.2
	5.8nm,0.5s								
UZB	Uzynbulak	6.11	274	Pg		Pg		05 24 33.5	-4.3
	3.0nm,0

	baz=4.0							
TIPB	**Shuangxi**	**0.23**	**324**	P		**Pg**	**06 04 00.2**	**+0.2**
	baz=323							
TIPB				S		**Sg**	**06 04 04.3**	**+1.0**
	baz=323							
NDS	**Dongshan**	**0.28**	**237**	*eP*		**Pb**	**06 04 01.4**	**-1.1**
	baz=237							
NDS				*eS*		**Sb**	**06 04 06.0**	**-1.3**
	baz=237							
TWE	**Neicheng**	**0.29**	**257**	*eP*		**Pb**	**06 04 01.5**	**-1.1**
	baz=256							
TWE				*eS*		**Sb**	**06 04 06.1**	**-1.4**
	baz=256							
NWF	**Wu-fen Shan**	**0.33**	**328**	P		**Pb**	**06 04 02.7**	**-0.8**
	baz=328							
NWF				*eS*		**Sb**	**06 04 08.1**	**-0.8**
	baz=328							
WFSB	**Wu-fen Shan**	**0.33**	**328**	P		**Pb**	**06 04 02.7**	**-0.7**
	baz=327							
WFSB				*eS*		**Sb**	**06 04 08.1**	**-0.7**
	baz=327							
EWUT	**Wuta**	**0.39**	**208**	*eP*		**Pb**	**06 04 03.4**	**-0.9**
	baz=208							
EWUT				*eS*		**Sb**	**06 04 09.6**	**-0.7**
	baz=208							
ENTT	**Nioudou**	**0.40**	**249**	*eP*		**Pb**	**06 04 03.6**	**-0.9**
	baz=248							
ENTT				*eS*		**Sb**	**06 04 09.9**	**-0.8**
	baz=248							
TNOU	**National Taiwa**	**0.41**	**333**	*eP*		**Pb**	**06 04 04.0**	**-0.6**
	baz=332							
TNOU				*eS*		**Sb**	**06 04 10.3**	**-0.6**
	baz=332							
NWLT	**Wulai**	**0.43**	**269**	P		**Pb**	**06 04 04.1**	**-1.0**
	baz=268							
NWLT				*eS*		**Sb**	**06 04 11.2**	**-0.5**
	baz=268							
NHDH	**Xindian Distri**	**0.45**	**293**	*eP*		**Pb**	**06 04 04.8**	**-0.5**
	baz=293							
NHDH				*eS*		**Sb**	**06 04 11.9**	**-0.1**
	baz=293							
NDT	**Datong Townshi**	**0.46**	**247**	*eP*		**Pb**	**06 04 04.9**	**-0.6**
	baz=246							
NDT				*eS*		**Sb**	**06 04 12.1**	**-0.3**
	baz=246							
YM01	**YM01**	**0.51**	**314**	*eP*		**Pb**	**06 04 06.2**	**-0.3**
	baz=314							
YM01				*eS*		**Sb**	**06 04 14.1**	**0.0**
	baz=314							
YM08	**YM08**	**0.53**	**319**	*eP*		**Pb**	**06 04 06.5**	**-0.3**
	baz=318							
YHNB	**Yeheng**	**0.56**	**258**	*eP*		**Pb**	**06 04 06.5**	**-0.8**
	baz=258							
YHNB				*eS*		**Sb**	**06 04 15.4**	**+0.1**
	baz=258							
TWS1	**Kuangyinshan**	**0.59**	**302**	*eP*		**Pb**	**06 04 07.5**	**-0.3**
	baz=302							
TWS1				*eS*		**Sb**	**06 04 16.8**	**+0.4**
	baz=302							
NTST	**Danshui**	**0.61**	**308**	*eP*		**Pb**	**06 04 07.7**	**-0.4**
	baz=308							
NTST				*eS*		**Sb**	**06 04 17.0**	**+0.3**
	baz=308							
NNSB	**Datong**	**0.65**	**237**	*eP*		**Pb**	**06 04 08.1**	**-0.7**
	baz=236							
NNSB				*eS*		**Sb**	**06 04 18.2**	**+0.2**
	baz=236							
NNSH	**Datong**	**0.65**	**237**	*eP*		**Pb**	**06 04 08.1**	**-0.7**
	baz=236							
NNSH				*eS*		**Sb**	**06 04 18.4**	**+0.4**
	baz=236							
NNS	**Nan Shan**	**0.65**	**238**	*eP*		**Pb**	**06 04 08.4**	**-0.4**
	baz=237							
NNS				*eS*		**Sb**	**06 04 17.9**	**-0.1**
	baz=237							
NACB	**Ninganchiao**	**0.70**	**210**	P		**Pb**	**06 04 08.9**	**-0.8**
	baz=209							
NACB				*eS*		**Sb**	**06 04 20.4**	**+1.0**
	baz=209							
ETLH	**Xiulin Townshi**	**0.73**	**218**	*eP*		**Pb**	**06 04 10.0**	**-0.3**
	baz=218							
ETLH				*eS*		**Sb**	**06 04 21.3**	**+0.9**
	baz=218							
TWD	**Chiawan**	**0.78**	**206**	*eP*		**Pb**	**06 04 10.5**	**-0.6**
	baz=205							
TWD				*eS*		**Sb**	**06 04 22.3**	**+0.5**
	baz=205							
FUSS	**Fushou**	**0.86**	**231**	*eP*		**Pb**	**06 04 12.0**	**-0.4**
	baz=231							
FUSS				*eS*		**Sb**	**06 04 24.4**	**+0.3**
	baz=231							
LIOB	**Emei**	**0.88**	**261**	*eP*		**Pb**	**06 04 12.8**	**0.0**
	baz=261							
LIOB				*eS*		**Sb**	**06 04 25.6**	**+0.9**
	baz=261							
NSTT	**Nanjuang**	**0.90**	**260**	*eP*		**Pb**	**06 04 12.8**	**-0.3**
	baz=260							
NSTT				*eS*		**Sb**	**06 04 25.8**	**+0.7**
	baz=260							
TWT	**Tachien**	**0.90**	**234**	*eP*		**Pb**	**06 04 13.0**	**-0.2**
	baz=234							
TWT				*eS*		**Sb**	**06 04 26.5**	**-1.0**
	baz=234							
WHF	**Hehuan Shan**	**0.91**	**226**	*eP*		**Pb**	**06 04 12.7**	**-0.8**
	baz=225							
WHF				*eS*		**Sb**	**06 04 26.8**	**-1.2**
	baz=225							
TDCB	**Techi**	**0.92**	**235**	*eP*		**Pb**	**06 04 13.4**	**0.0**
	baz=234							
YOJ	**Yonaguni jima**	**1.00**	**109**	P		**Pn**	**06 04 15.7**	**+0.3**
YOJ				*eS*		**Sn**	**06 04 29.5**	**0.0**
YOJ	**Yonaguni jima**	**1.00**	**109**	*eP*		**Pb**	**06 04 14.4**	**-0.3**
	baz=108							
YOJ				*eS*		**Sn**	**06 04 28.7**	**-0.8**
	baz=108							
CHGB	**Renai**	**1.03**	**225**	*eP*		**Pb**	**06 04 15.1**	**-0.3**
	baz=225							
CHGB				*eS*		**Sb**	**06 04 29.4**	**+0.4**
	baz=225							
WHP	**Taichung City**	**1.07**	**242**	*eP*		**Pb**	**06 04 15.7**	**-0.3**
	baz=241							
WHP				*eS*		**Sn**	**06 04 31.6**	**+0.2**
	baz=241							
WCS	**Beigang Elemen**	**1.21**	**233**	*eP*		**Pn**	**06 04 18.4**	**0.0**
	baz=233							
WCS				*eS*		**Sn**	**06 04 35.1**	**+0.3**
	baz=233							
SMLT	**Sun Moon Lake**	**1.33**	**228**	*eP*		**Pg**	**06 04 20.6**	**-0.3**
	baz=227							
TYC	**Yuchr**	**1.35**	**229**	*eP*		**Pn**	**06 04 20.1**	**-0.1**
	baz=229							
SSLB	**Suanglung**	**1.36**	**223**	*eP*		**Pb**	**06 04 20.6**	**-0.4**
	baz=223							
HGSD	**Ruisui**	**1.38**	**201**	*eP*		**Pb**	**06 04 21.0**	**-0.3**
	baz=201							
YULB	**Yu-li**	**1.52**	**204**	*eP*		**Pn**	**06 04 21.9**	**-0.7**
	baz=204							
IRIF	**Iriomote-Funau**	**1.66**	**105**	*eS*		**Sn**	**06 04 46.0**	**+0.1**
CHN5	**Tsauling**	**1.68**	**225**	*eP*		**Pn**	**06 04 25.2**	**+0.4**
	baz=225							
CHN5				*eS*		**Sn**	**06 04 46.5**	**+0.1**
	baz=225							
HATJ	**Hateruma jima**	**1.82**	**113**	P		**Pb**	**06 04 27.6**	**-1.1**
CHN4	**Tsaushan**	**1.91**	**222**	*eP*		**Pn**	**06 04 28.5**	**+0.5**
	baz=221							
JKRS	**Kuro-shima**	**1.93**	**106**	P		**Pn**	**06 04 28.5**	**+0.2**
JKRS				*eS*		**Sn**	**06 04 53.5**	**+0.9**
WTP	**Ta-pu**	**1.98**	**219**	*eP*		**Pn**	**06 04 29.7**	**+0.8**
	baz=218							
TWK	**Hsinying**	**2.04**	**222**	*eP*		**Pn**	**06 04 30.6**	**+0.9**
	baz=221							
CHN1	**Nanshi**	**2.07**	**220**	*eP*		**Pn**	**06 04 30.8**	**+0.5**
	baz=219							

IDC ***13*** *06:07:45.6±2.0, 33°.99N×86°.75E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.4/35, mbtmp3.6/7, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=50.0km s-min=29.0km az=57.0*

ISC 13 06:07:50.3±1.6, 34°.0N±0°.2×86°.8E±0°.3, h35km, n10, σ1§04/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**12.91**	**315**	LR	LR	06 16 54.6	
	comp=Z,39nm,20.6s,baz=62,slow=42						
MKAR	**Makanchi Array**	**13.20**	**346**	Pn	**Pn**	**06 10 54.7**	**-0.5**
	0.1nm,0.3s,baz=163,slow=13,SNR=5.8						
KURBB	**Kurchatov Arra**	**17.65**	**342**	P	**Pn**	**06 11 51.7**	**-1.5**
	baz=117,slow=32,SNR=3.3						
CMAR	**Chiang Mai Arr**	**18.93**	**142**	P	**P**	**06 12 07.8**	**-0.5**
	0.4nm,0.3s,baz=339,slow=9.8,SNR=1.7						
ZALV	**Zalesovo Beam**	**19.96**	**357**	P	**P**	**06 12 19.2**	**-0.1**
	0.8nm,0.6s,baz=181,slow=12,SNR=4.2						
SONM	**Songino Array**	**20.17**	**41**	P	**P**	**06 12 22.3**	**+0.6**
	1.0nm,0.8s,baz=227,slow=13,SNR=5.2						
GEYT	**Alibeck**	**23.48**	**288**	LR	LR	06 24 10.4	
	comp=Z,66nm,19.6s,baz=185,slow=42						
KSRS	**Korea Array**	**33.38**	**72**	LR	LR	06 28 16.6	
	comp=Z,25nm,18.2s,baz=175,slow=37						
FINES	**FINESS Array B**	**46.86**	**325**	P	**P**	**06 16 17.6**	**+1.0**
	1.6nm,0.9s,baz=125,slow=8.9,SNR=1.4						
NOA	**NORSAR Array B**	**54.03**	**324**	P	**P**	**06 17 11.3**	**+0.5**
	0.6nm,0.8s,baz=82,slow=7.1,SNR=3.5						

VAO ***13*** *06:20:47.0±1.7, 29°.74S×69°.26W, h22km±10km, mb4.3*
SJA ***13*** *06:20:52.6±0.6, 29°.73S×69°.22W, h116km±2km, ML4.1, MW4.0*
NEIC ***13*** *06:20:53.4±2.5, 29°.77S±0°.05×69°.27W±0°.08, h108km±5km, Error ellipse: s-maj=10.3km s-min=7.8km az=75.0*
GUC ***13*** *06:20:53.0±0.4, 29°.74S×69°.44W, h135km±7km, ML4.6, MW4.4*
IDC ***13*** *06:20:54.6±0.6, 29°.69S×69°.13W, h115km±4km, mb3.8/15, mb1 3.9/17, mb1mx3.8/34, mbtmp4.1/17, Error ellipse: s-maj=20.9km s-min=13.3km az=65.0*

ISC 13 06:20:53.6±0.5, 29°.75S±0°.03×69°.28W±0°.03, h108km±4km, n157, σ1§68/197, mb4.1/15, 12C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACDV	**Cuesta del Vie**	**0.44**	**162**	*eP*	Pn	06 20 59.6	-10
ACDV				*eP*	**Pn**	**06 21 10.4**	**+0.3**
ACDV				*eS*	**Sn**	**06 21 24.6**	**+2.2**
ACDV				IAML		06 21 25.0	
	comp=Z,4μm,0.3s						
AROD	**Rodeo**	**0.45**	**202**	*eP*	**Pn**	**06 21 11.1**	**+0.8**
AROD				*eS*	**Sn**	**06 21 25.8**	**+3.0**
ACCO	**Cerro Coronel**	**0.85**	**167**	*eP*	**Pn**	**06 21 14.0**	**+0.4**
ACCO				*eS*	**Sn**	**06 21 31.0**	**+2.4**
GO04	**Tololo Observa**	**1.38**	**252**	*eP*	**Pn**	**06 21 20.1**	**+0.9**
GO04				*eS*	**Sn**	**06 21 40.7**	**+2.2**
GO04				IAML		06 21 43.3	
	comp=N,24μm,0.3s						
GO04	**Tololo Observa**	**1.38**	**252**	Pn	**Pn**	**06 21 20.0**	**+0.9**
GO04	**Tololo Observa**	**1.38**	**252**	*eP*	**Pn**	**06 21 20.1**	**+0.9**
GO04				*eS*	**Sn**	**06 21 34.0**	**-4.5**
GO04				*eS*	**Sn**	**06 21 40.3**	**+1.8**
LCO	**Las Campanas**	**1.44**	**300**	Pn	**Pn**	**06 21 20.4**	**+0.6**
CO03	**El Pedregal**	**1.63**	**228**	*eP*	**Pn**	**06 21 22.9**	**+1.0**
CO03				*eS*	**Sn**	**06 21 45.7**	**+2.1**
CO03				IAML		06 21 47.1	
	comp=N,8μm,0.3s						
CO03	**El Pedregal**	**1.63**	**228**		**Pn**	**06 21 23.0**	**+1.0**
CO05	**La Serena**	**1.71**	**264**	*eP*	**Pn**	**06 21 22.7**	**0.0**
CO05				*eS*	**Sn**	**06 21 45.5**	**+0.4**
CO05				IAML		06 21 46.2	
	comp=N,5μm,0.3s						
RTLL	**Cerro Villicun**	**1.72**	**156**	*eP*	**Pn**	**06 21 23.2**	**+0.2**
RTLL				*eS*	**Sn**	**06 21 46.2**	**+0.8**
RTLL				IAML		06 21 47.6	
	comp=Z,2μm,0.4s						
AVFE	**Valle Fertil**	**1.82**	**120**	*eP*	**Pn**	**06 21 24.3**	**0.0**
AVFE				*eS*	**Sn**	**06 21 47.6**	**-0.1**
AVFE				IAML		06 21 47.8	
	comp=Z,4μm,0.4s						
ZON	**Zonda**	**1.86**	**164**		**Pn**	**06 21 25.1**	**+0.3**
ZON	**Zonda**	**1.86**	**164**	*eP*	**Pn**	**06 21 25.2**	**+0.4**
ZON				*eS*	**Sn**	**06 21 50.6**	**+2.0**
SJA	**San Juan**	**1.88**	**161**	*eP*	**Pn**	**06 21 25.6**	**+0.6**
SJA				*eS*	**Sn**	**06 21 51.1**	**+2.2**
SJA				IAML		06 21 53.1	
	comp=Z,955nm,0.2s						
RTLS	**Leoncito**	**2.04**	**180**	*eP*	**Pn**	**06 21 28.4**	**+1.1**
RTLS				*eS*	**Sn**	**06 21 55.0**	**+2.0**
RTLS				IAML		06 21 56.3	
	comp=Z,1μm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.05**	**82**	*eP*	**Pn**	**06 21 27.2**	**-0.1**
ACLC				*eS*	**Sn**	**06 21 52.7**	**-0.5**
ACLC				IAML		06 21 56.8	
	comp=Z,2μm,0.3s						
CO02	**Combarbal**	**2.07**	**225**	*eP*	**Pn**	**06 21 28.0**	**+0.5**
CO02				*eS*	**Sn**	**06 21 54.7**	**+1.2**
CO02				IAML		06 22 01.1	
	comp=N,10μm,0.2s						
CO02	**Combarbal**	**2.07**	**225**		**Pn**	**06 21 26.9**	**-0.6**
AC04	**Llanos de Chal**	**2.20**	**314**	*eP*	**Pn**	**06 21 29.1**	**+0.1**
AC04				*eS*	**Sn**	**06 21 56.6**	**+0.4**
AC04				*eS*	**Sn**	**06 21 57.7**	**+1.5**
AC04				IAML		06 22 01.3	
	comp=N,1μm,0.3s						
AC04	**Llanos de Chal**	**2.20**	**314**	Pn	**Pn**	**06 21 29.1**	**+0.1**
RTCV	**Cerro Valdivia**	**2.20**	**163**	*eP*	**Pn**	**06 21 29.8**	**+0.7**
RTCV				*eS*	**Sn**	**06 21 56.7**	**+0.4**
TINO	**Tinogasta**	**2.25**	**42**	*eP*	**Pn**	**06 21 30.4**	**+0.5**
TINO				*eS*	**Sn**	**06 21 59.0**	**+1.4**
GO03	**Copiap**	**2.31**	**338**	*eP*	**Pn**	**06 21 30.9**	**+0.4**
GO03				*eS*	**Sn**	**06 21 58.9**	**+0.2**
GO03				IAML		06 22 00.5	
	comp=N,1μm,0.5s						
GO03	**Copiap**	**2.31**	**338**		**Pn**	**06 21 30.9**	**+0.4**
GO03	**Copiap**	**2.31**	**338**	*eP*	**Pn**	**06 21 31.1**	**+0.6**
GO03				*eS*	**Sn**	**06 21 59.6**	**+0.8**
AUSP	**Uspallata**	**2.47**	**182**	*eP*	**Pn**	**06 21 34.0**	**+1.2**
AUSP				*eS*	**Sn**	**06 22 05.1**	**+2.3**
ACHE	**Chepes**	**2.66**	**123**	*eP*	**Pn**	**06 21 35.2**	**0.0**
ASAL	**Salagasta**	**2.86**	**172**	*eP*	**Pn**	**06 21 38.8**	**+1.1**
ASAL				*eS*	**Sn**	**06 22 14.1**	**+2.4**
ASAL				IAML		06 22 18.7	
	comp=Z,289nm,0.3s						
AC02	**Maricunga**	**2.91**	**3**	*eP*	**Pn**	**06 21 40.3**	**+1.5**
AC02				*eS*	**Sn**	**06 22 16.9**	**+3.4**
AC02	**Maricunga**	**2.91**	**3**	Pn	**Pn**	**06 21 39.8**	**+1.0**
ACAN	**Cantantal**	**3.09**	**145**	*eP*	**Pn**	**06 21 41.1**	**+0.3**
ACAN				IAML		06 22 53.9	
	comp=Z,243nm,0.4s						
ARCO	**CERRO ARCO**	**3.10**	**175**	*eP*	**Pn**	**06 21 41.9**	**+0.9**
ARCO				*eS*	**Sn**	**06 22 21.2**	**+3.8**
ARCO				IAML		06 22 22.2	
	comp=Z,541nm,0.3s						
VA03	**San Esteban**	**3.19**	**200**	*iP*	**Pn**	**06 21 42.9**	**+0.8**
VA03				*eS*	**Sn**	**06 22 21.1**	**+1.4**
VA03				IAML		06 22 29.8	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**3.19**	**200**		**Pn**	**06 21 42.9**	**+0.8**
CYA	**Choya**	**3.31**	**68**	*eP*	**Pn**	**06 21 43.2**	**-0.5**
CYA				*eS*	**Sn**	**06 22 20.9**	**-1.5**
CYA				IAML		06 22 22.1	
	comp=Z,440nm,1.1s						
AAGR	**Agrelo**	**3.35**	**173**	*eP*	**Pn**	**06 21 45.0**	**+0.8**
AAGR				*eS*	**Sn**	**06 22 27.1**	**+3.8**
AAGR				IAML		06 22 41.1	
	comp=Z,265nm,0.6s						
ROC1	**El Roble**	**3.54**	**204**	*eP*	**Pn**	**06 21 46.8**	**-0.1**
AVIZ	**Vizcacheras**	**3.77**	**170**	*eP*	**Pn**	**06 21 50.8**	**+1.0**
MT05	**Renca**	**3.84**	**199**	*eP*	**Pn**	**06 21 50.7**	**0.0**
MT05				*eS*	**Sn**	**06 22 34.9**	**-0.2**
MT05	**Renca**	**3.84**	**199**	Pn	**Pn**	**06 21 50.5**	**-0.2**
VA01	**Torpederas**	**3.84**	**211**		**Pn**	**06 21 49.1**	**-1.6**
MT02	**Curacav**	**3.84**	**204**	*eP*	**Pn**	**06 21 49.5**	**-1.2**
MT02				*eS*	**Sn**	**06 22 34.6**	**-0.4**
MT02	**Curacav**	**3.84**	**204**		**Pn**	**06 21 49.8**	**-0.9**
MT03	**Universidad Ad**	**3.88**	**195**		**Pn**	**06 21 51.7**	**+0.4**
MRA	**San Martin**	**4.05**	**132**	*eP*	**Pn**	**06 21 53.4**	**-0.3**
MRA				*eS*	**Sn**	**06 22 38.0**	**-2.3**
MRA				IAML		06 22 40.1	
	comp=Z,571nm,1.1s						
LMEL	**Las Melosas**	**4.16**	**191**	*eP*	**Pn**	**06 21 55.8**	**+0.6**
LMEL				*eS*	**Sn**	**06 22 44.1**	**+1.2**
MT05	**Talagante**	**4.27**	**199**		**Pn**	**06 21 55.7**	**-0.9**
TCA	**Tanti**	**4.34**	**113**	*eP*	**Pn**	**06 21 56.2**	**-1.3**
TCA				*eS*	**Sn**	**06 22 45.5**	**-1.7**
TCA				IAML		06 22 46.1	
	comp=Z,306nm,0.5s						
VA05	**Santo Domingo**	**4.37**	**206**	*eP*	**Pn**	**06 21 55.5**	**-2.3**
VA05				*eS*	**Sn**	**06 22 45.1**	**-2.7**
VA05	**Santo Domingo**	**4.37**	**206**		**Pn**	**06 21 55.5**	**-2.3**
MT01	**Popeta**	**4.43**	**202**	*eP*	**Pn**	**06 21 56.8**	**-1.8**
MT01				*eS*	**Sn**	**06 22 47.3**	**-1.9**
MT01	**Popeta**	**4.43**	**202**		**Pn**	**06 21 57.0**	**-1.6**
GO02	**Mina Guanaco**	**4.58**	**356**		**Pn**	**06 22 00.9**	**-0.1**
FSA	**Cafayete**	**4.66**	**40**	*eP*	**Pn**	**06 22 01.8**	**-0.1**
BO01	**Tunca**	**4.87**	**198**	Pn	**Pn**	**06 22 02.9**	**-1.7**
RFA	**San Rafael**	**5.05**	**172**	*eP*	**Pn**	**06 22 06.4**	**-0.7**
RFA				*eS*	**Sn**	**06 23 03.3**	**-1.1**
RFA				IAML		06 23 44.5	
	comp=Z,81nm,0.8s						
LAMA	**Las Malvinas**	**5.17**	**179**	*eP*	**Pn**	**06 22 09.6**	**+0.9**
BO02	**Sierra Bellavi**	**5.19**	**194**		**Pn**	**06 22 07.5**	**-1.4**
COIS	**El Sosneado**	**5.35**	**183**	*eP*	**Pn**	**06 22 11.7**	**+0.6**
GO05	**Huala**	**5.70**	**202**		**Pn**	**06 22 13.2**	**-2.7**
GO05	**Huala**	**5.70**	**202**	*eP*	**Pn**	**06 22 12.3**	**-3.6**
GO05				*eS*	**Sn**	**06 23 18.0**	**-2.0**
EDS3	**Malargue**	**6.00**	**181**	*eP*	**Pn**	**06 22 21.3**	**+1.2**
SLA	**San Lorenzo**	**6.03**	**35**	*eP*	**Pn**	**06 22 20.2**	**-0.3**
SLA				IAML		06 24 14.6	
	comp=Z,36nm,0.7s						
PB15	**IPOC Station P**	**6.52**	**358**		**Pn**	**06 22 26.1**	**-1.0**
AZAP	**Zapla**	**6.67**	**35**	*eP*	**Pn**	**06 22 28.8**	**-0.4**
AZAP				IAML		06 24 26.3	
	comp=Z,64nm,1.0s						
LVC	**Limon Verde**	**7.12**	**3**	P	**Pn**	**06 22 33.7**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=170,slow=12,SNR=14						
LVC				S	**Sn**	**06 23 49.2**	**-5.8**
	comp=Z,2.6nm,0.3s,baz=212,slow=9.5,SNR=4.4						
ASTB	**Santa Barbara**	**7.21**	**38**	*eP*	**Pn**	**06 22 35.4**	**-1.1**
ALOL	**LOMAS DE OLMED**	**7.57**	**40**	*eP*	**Pn**	**06 22 39.7**	**-1.6**
ALOL				*eS*	Sn	06 23 46.8	-19
ITQB	**Itaqui**	**11.01**	**93**	Pn	**Pn**	**06 23 24.3**	**-3.5**
ITQB	**Itaqui**	**11.01**	**93**	*eP*	**Pn**	**06 23 23.8**	**-4.0**
PLCA	**Paso Flores**	**11.01**	**185**	P	**Pn**	**06 23 24.6**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=4.6,slow=18,SNR=1.5						
CPUP	**Villa Florida**	**11.09**	**75**	P	Pn	06 23 24.1	-4.8
	comp=Z,1.4nm,0.3s,baz=241,slow=12,SNR=19						
CPUP	**Villa Florida**	**11.09**	**75**		**Pn**	**06 23 25.9**	**-3.1**
CPUP	**Villa Florida**	**11.09**	**75**	*eP*	**Pn**	**06 23 24.7**	**-4.3**
LPAZ	**La Paz**	**13.44**	**5**	P	**Pn**	**06 23 59.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=199,slow=12,SNR=5.3						
LPAZ	**La Paz**	**13.44**	**5**		**Pn**	**06 23 58.3**	**-2.3**
LPAZ	**La Paz**	**13.44**	**5**	*eP*	**Pn**	**06 23 55.9**	**-4.7**
PLTB	**Pedras Altas**	**13.63**	**102**		**Pn**	**06 23 58.6**	**-3.8**
PLTB	**Pedras Altas**	**13.63**	**102**	*eP*	**Pn**	**06 23 58.2**	**-4.2**
CPSB	**Cacapava Do Su**	**13.74**	**97**	*eP*	**Pn**	**06 24 00.0**	**-3.7**
ITAB	**Concordia**	**15.29**	**85**	*eP*	**Pn**	**06 24 21.8**	**-1.8**
AQDB	**Aquidauana**	**15.37**	**56**	*eP*	**Pn**	**06 24 21.8**	**-2.8**
PTGB	**Pitanga**	**16.11**	**76**	*eP*	**Pn**	**06 24 32.9**	**-0.9**
PTLB	**Pontes e Lacer**	**17.02**	**35**	*eP*	**Pn**	**06 24 33.3**	**-1.7**
TER01	**Tubaro-SC**	**17.65**	**91**	*eP*	**P**	**06 24 50.5**	**-1.5**
PP1B	**Ponte de Pedra**	**17.87**	**51**	*eP*	**P**	**06 24 52.9**	**-1.6**
PCMB	**Pacaembu**	**18.14**	**68**	*eP*	**P**	**06 24 56.9**	**-0.5**
TJU01	**Guaruva-PR**	**18.51**	**81**	*eP*	**P**	**06 25 02.3**	**+0.8**
SALV	**Santo Antonio**	**18.60**	**45**	*eP*	**P**	**06 25 03.0**	**+0.5**
VILB	**Vilhena**	**18.72**	**29**	*eP*	**P**	**06 25 03.8**	**0.0**
FRTB	**Fartura**	**18.75**	**75**	*eP*	**Pn**	**06 25 05.3**	**-0.5**
ITRB	**Iturama**	**19.86**	**64**	*eP*	**P**	**06 25 15.6**	**-0.6**
ETMB	**Extrema**	**20.04**	**9**	*eP*	**P**	**06 25 19.3**	**+1.2**
SPB	**Sao Paulo**	**20.45**	**78**	*eP*	**P**	**06 25 23.5**	**+1.0**
BB19B	**Bebedouro**	**20.62**	**70**	*eP*	**P**	**06 25 24.7**	**+0.2**
RCLB	**Rio Claro- Sao**	**20.84**	**75**	*eP*	**P**	**06 25 26.7**	**0.0**
VAO	**Valinhos**	**21.07**	**77**	*eP*	**P**	**06 25 28.4**	**-0.9**
ARAG	**Araguaiana, MT**	**21.29**	**53**	*eP*	**P**	**06 25 30.7**	**-0.9**
PARB	**Paraibuna**	**22.09**	**79**	*eP*	**P**	**06 25 39.0**	**-1.1**
CZSB	**Cruzeiro do Su**	**22.14**	**351**	*eP*	**P**	**06 25 40.9**	**+0.4**
CLDB	**Colider**	**22.60**	**37**	*eP*	**P**	**06 25 45.9**	**+0.5**
BDFB	**Brasilia**	**24.07**	**59**	P	**P**	**06 25 57.8**	**-1.3**
	comp=Z,4.9nm,0.9s,baz=218,slow=8.2,SNR=6.2						
BDFB	**Brasilia**	**24.07**	**59**	P	**P**	**06 25 58.7**	**-0.4**
BDFB				IAmb	IAmb	06 25 59.4	
	comp=Z,6.5nm,1.0s						
CAM01	**Campos-RJ**	**26.05**	**79**	*eP*	**P**	**06 26 18.7**	**+1.9**
PEXB	**Peixe**	**26.23**	**52**	*eP*	**P**	**06 26 19.1**	**+0.5**
MC01	**Montes Claros**	**26.59**	**66**	*eP*	**P**	**06 26 23.3**	**+1.4**
JANB	**Januaria**	**27.24**	**63**	*eP*	**P**	**06 26 30.2**	**+2.5**
BSFB	**Barra de Sao F**	**28.03**	**74**	*eP*	**P**	**06 26 35.6**	**+0.9**
ITTB	**Itaituba**	**28.32**	**30**	*eP*	**P**	**06 26 38.8**	**+1.6**
SDBA	**SAO DESIDERIO**	**28.45**	**58**	*eP*	**P**	**06 26 40.5**	**+2.1**
NAN01	**Guarapari, ES**	**29.11**	**73**	*eP*	**P**	**06 26 45.8**	**+1.6**
PRPB	**Paraupebas**	**29.78**	**42**	*eP*	**P**	**06 26 52.0**	**+1.8**
OTAV	**Otavalo**	**31.08**	**342**	*eP*	**P**	**06 27 03.7**	**+1.6**
GDU01	**Guandu, BA**	**31.74**	**66**	*eP*	**P**	**06 27 10.1**	**+2.6**
BOAV	**Boa Vista**	**33.04**	**16**	*eP*	**P**	**06 27 20.2**	**+1.4**
TMAB

comp=Z,1.4nm,0.7s,baz=290,slow=3.3,SNR=4.4

IDC 13 06:25:19.7±2.2,5°41'S×150°49'E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.5/3, Error ellipse: s-maj=168.3km s-min=30.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.34**	**226**	P	P	06 30 09.6	+1.0
	1.2nm,0.9s,baz=52,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**24.18**	**220**	P	P	06 30 37.4	-0.6
	1.5nm,0.7s,baz=52,slow=9.0,SNR=16						
ILAR	**Eielson Array**	**83.60**	**23**	P	P	06 37 49.6	0.0
	0.3nm,0.6s,baz=253,slow=6.0,SNR=4.9						
H03S2	**Juan Fernandez**	**119.16**	**134**	T	T	08 54 28.0	
	baz=242,slow=75,SNR=115						
H03S1	**Juan Fernandez**	**119.17**	**134**	T	T	08 54 26.6	
	baz=242,slow=75,SNR=89						
H03S3	**Juan Fernandez**	**119.17**	**134**	T	T	08 54 27.9	
	baz=242,slow=75,SNR=86						

*KRNET **13** 06:35:31.3±0.1,41.41N×80.50E,mb2.8*
*SOME **13** 06:35:33.5,41.02N×80.02E,h5km*
ISC 13 06:35:28.9±3.4, 40°9N±0.1'×80°05E±0.10, h5km±19km, n9, σ0s86/18, 4C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**2.03**	**323**	⇓*i*P	**Pb**	**06 36 06.7**	**+0.3**
	baz=6.0						
PRZ				⇓*i*S	**Sb**	**06 36 32.8**	**+0.7**
	baz=6.0						
UZB	**Uzynbulak**	**2.40**	**342**	*e*P	**Pg**	**06 36 15.8**	**+0.9**
	2.7nm,0.2s						
UZB				*e*S	**Sg**	**06 36 46.6**	**+0.5**
	7.3nm,0.3s						
KDJ	**Kajisay**	**2.50**	**301**	⇓*i*P	**Pg**	**06 36 16.6**	**-0.1**
	baz=87						
KDJ				⇓*i*S	**Sg**	**06 36 48.9**	**-0.1**
	baz=87						
SATY	**Saty**	**2.51**	**331**	*e*P	**Pg**	**06 36 17.1**	**+0.2**
	1.6nm,0.2s						
SATY				*e*S	**Sg**	**06 36 49.1**	**-0.4**
	3.0nm,0.1s						
KTMS	**Ketmen**	**2.59**	**5**	*e*P	**Pg**	**06 36 18.6**	**+0.1**
	3.3nm,0.3s						
KTMS				*e*S	**Sg**	**06 36 51.6**	**-0.4**
	9.7nm,0.4s						
ANVS	**Anan'yevo**	**2.61**	**318**	⇓*i*P	**Pb**	**06 36 15.5**	**-0.8**
	baz=4.0						
ANVS				⇓*i*S	**Sb**	**06 36 47.8**	**-1.0**
	baz=4.0						
KPKS	**Kokpek**	**2.79**	**339**	*e*P	**Pg**	**06 36 22.4**	**+0.1**
	7.2nm,0.2s						
KPKS				*e*S	**Sg**	**06 36 58.1**	**-0.4**
	13nm,0.4s						
ULHL	**Ulahol**	**3.17**	**297**	⇑*i*P	**Pb**	**06 36 26.2**	**+0.4**
	baz=86						
ULHL				⇑*i*S	**Sb**	**06 37 07.0**	**+2.2**
	baz=86						
BOOM	**Boomskoye usch**	**3.48**	**299**	⇑*i*P	**Pb**	**06 36 30.3**	**-0.7**
	baz=89						
BOOM				⇑*i*S	**Sb**	**06 37 12.5**	**-1.1**
	baz=89						

*CRAAG **13** 06:35:53.7,36.47N×5.96E, Ml2.9*
*MDD **13** 06:35:55.5±0.4,36.49N×5.93E,h0km,mb4.3/14, Error ellipse: s-maj=7.2km s-min=3.7km az=30.0,PRXIMO*
*LDG **13** 06:36:06.5±0.4,37.16N×5.52E,h10km,Ml2.7/9, Error ellipse: s-maj=9.3km s-min=4.3km az=143.0*
ISC 13 06:35:54.8±1.0, 36°57N±0.06×5°93E±0.03, h10km, n56, σ1s65/55, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.05**	**246**	P	**Pg**	**06 35 56.7**	**-0.2**
DFRA	**Djebel Bou Aff**	**0.05**	**246**	P	**Pg**	**06 35 56.7**	**-0.2**
CASM	**Ain Smara**	**0.54**	**124**	P	**Pg**	**06 36 04.4**	**-0.9**
CASM	**Ain Smara**	**0.54**	**124**	P	**Pg**	**06 36 04.4**	**-0.9**
SET	**Setif**	**0.56**	**230**	P	**Pg**	**06 36 05.0**	**-0.7**
SET	**Setif**	**0.56**	**230**	P	**Pg**	**06 36 05.0**	**-0.7**
CTEI	**Djebel Teioual**	**0.63**	**142**	P	**Pg**	**06 36 05.9**	**-1.1**
CTEI	**Djebel Teioual**	**0.63**	**142**	P	**Pg**	**06 36 05.9**	**-1.1**
CKFL	**Kef-Lekhel**	**0.66**	**104**	P	**Pg**	**06 36 07.4**	**-0.1**
CKFL	**Kef-Lekhel**	**0.66**	**104**	P	**Pg**	**06 36 07.4**	**-0.1**
CMAH	**Djebel Manchou**	**1.20**	**87**	P	**Pb**	**06 36 17.4**	**-0.2**
CMAH	**Djebel Manchou**	**1.20**	**87**	P	**Pb**	**06 36 17.4**	**-0.2**
ABSA	**Djebel Ababsia**	**1.28**	**103**	P	**Pg**	**06 36 20.0**	**+0.6**
CABS	**Djebel Ababsia**	**1.28**	**103**	P	**Pg**	**06 36 20.0**	**+0.6**
ETOS	**Mallorca**	**4.03**	**323**	⇓P	**Pn**	**06 36 57.9**	**+1.3**
	14nm,0.4s,SNR=18						
EIBI	**Ibiza**	**4.39**	**305**	P	**Pn**	**06 37 02.9**	**+1.4**
	22nm,0.5s,SNR=15						
EIBI				S	Sn	06 37 44.7	-7.9
	32nm,1.2s,SNR=7.7						
EBEN2	**Beniarda presa**	**5.30**	**295**	P	**Pn**	**06 37 15.4**	**+1.4**
	18nm,0.5s,SNR=7.9						
AFON	**Font Roja**	**5.55**	**294**	P	**Pn**	**06 37 19.2**	**+1.7**
	7.9nm,0.4s,SNR=8.2						
CFON	**Fontmartina**	**5.86**	**333**	P	**Pn**	**06 37 23.1**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
CFON				S	Sn	06 38 19.8	-9.1
	15nm,1.3s,SNR=7.9						
EMUR	**La Murta**	**5.87**	**285**	P	**Pn**	**06 37 24.0**	**+2.2**
	7.2nm,0.4s,SNR=4.5						
EPOB	**Poblet**	**6.09**	**323**	P	**Pn**	**06 37 26.4**	**+1.4**
	1.1nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**06 38 30.6**	**-4.2**
	2.4nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**6.19**	**317**	P	**Pn**	**06 37 27.5**	**+1.2**
	1.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**6.29**	**292**	P	**Pn**	**06 37 29.3**	**+1.7**
	4.4nm,0.4s,SNR=6.0						
EMOS	**Mosqueruela**	**6.29**	**309**	P	**Pn**	**06 37 29.4**	**+1.6**
	1.1nm,0.2s,SNR=7.4						
EMOS				S	Sn	06 38 30.0	-10
	1.4nm,0.5s,SNR=7.9						
LMR	**La Mourre**	**6.78**	**4**	P	**Pn**	**06 37 36.2**	**+2.0**
LMR				S	Sn	06 38 42.3	-9.1
	1.0nm,0.3s						
LMR	**La Mourre**	**6.78**	**4**	*e*Pn	**Pn**	**06 37 36.2**	**+2.0**
LMR				*e*Sn	Sn	06 38 42.3	-9.1
	2.0nm,0.3s						
CSOR	**Sort**	**6.89**	**329**	P	**Pn**	**06 37 37.4**	**+1.5**
	0.8nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**6.93**	**285**	P	**Pn**	**06 37 38.7**	**+2.2**
	4.0nm,0.4s,SNR=7.9						
FRF	**La Foret Royal**	**7.01**	**4**	P	**Pn**	**06 37 39.3**	**+1.9**
FRF				S	Sn	06 38 48.5	-8.7
	2.6nm,0.4s						
FRF	**La Foret Royal**	**7.01**	**4**	*e*Pn	**Pn**	**06 37 39.3**	**+1.9**
FRF				*e*Sn	Sn	06 38 48.5	-8.7
	5.2nm,0.4s						
EQES	**Quesada**	**7.29**	**282**	P	**Pn**	**06 37 43.7**	**+2.2**
	5.9nm,0.4s,SNR=5.1						
MTLF	**Montolieu**	**7.34**	**338**	P	**Pn**	**06 37 42.1**	**+0.1**
MTLF				S	Sn	06 38 53.2	-12
	0.2nm,0.2s						
MTLF	**Montolieu**	**7.34**	**338**	*e*Pn	**Pn**	**06 37 42.1**	**+0.1**
MTLF	**Montolieu**	**7.34**	**338**	*e*P	**Pn**	**06 37 46.8**	**+4.8**
MTLF				*e*Sn	Sn	06 38 53.2	-12
	0.4nm,0.2s						
SBF	**Sospel**	**7.38**	**8**	P	**Pn**	**06 37 44.8**	**+2.2**
SBF				S	Sn	06 38 58.1	-8.3
	0.7nm,0.3s						
SBF	**Sospel**	**7.38**	**8**	*e*Pn	**Pn**	**06 37 44.8**	**+2.2**
SBF				*e*Sn	Sn	06 38 58.1	-8.3
	1.4nm,0.3s						
SMRF	**Simiane la Rot**	**7.41**	**358**	P	**Pn**	**06 37 44.2**	**+1.2**
SMRF				S	Sn	06 38 56.8	-10
	0.8nm,0.5s						
SMRF	**Simiane la Rot**	**7.41**	**358**	*e*Pn	**Pn**	**06 37 44.2**	**+1.2**
SMRF				*e*Sn	Sn	06 38 56.8	-10
	0.8nm,0.5s						
ETOR	**Torete**	**7.55**	**307**	P	**Pn**	**06 37 48.8**	**+3.8**
	5.1nm,0.5s,SNR=7.9						
LASF	**Ste Croix**	**7.67**	**349**	P	**Pn**	**06 37 46.8**	**+0.3**
LASF				S	Sn	06 38 59.3	-14
	0.5nm,0.3s						
LASF	**Ste Croix**	**7.67**	**349**	*e*Pn	**Pn**	**06 37 46.8**	**+0.3**
LASF	**Ste Croix**	**7.67**	**349**	*e*P	Pn	06 37 52.3	+5.8
LASF				*e*Sn	Sn	06 38 59.3	-14
	1.0nm,0.3s						
EPF	**Esparros**	**7.76**	**328**	P	**Pn**	**06 37 48.2**	**+0.4**
EPF				S	Sn	06 39 02.7	-13
	0.3nm,0.3s						
EPF	**Esparros**	**7.76**	**328**	*e*Pn	**Pn**	**06 37 48.2**	**+0.4**
EPF				*e*Sn	Sn	06 39 02.7	-13
	0.6nm,0.3s						
ETSF	**Etsaut**	**8.06**	**324**	P	**Pn**	**06 37 52.0**	**0.0**
ETSF	**Etsaut**	**8.06**	**324**	*e*Pn	**Pn**	**06 37 52.0**	**0.0**
ETSF	**Etsaut**	**8.06**	**324**	*e*P	Pn	06 37 57.3	+5.3
ATE	**Arette**	**8.27**	**324**	P	**Pn**	**06 37 56.8**	**+2.0**
	1.1nm,0.4s,SNR=7.9						
VIVF	**Saint-Julien-l**	**8.34**	**354**	P	**Pn**	**06 37 56.3**	**+0.6**
VIVF				S	Sn	06 39 18.2	-12
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**8.34**	**354**	*e*Pn	**Pn**	**06 37 56.3**	**+0.6**
VIVF				*e*Sn	Sn	06 39 18.2	-12
	0.6nm,0.2s						
ESDC	**Sonseca Array**	**8.39**	**295**	P	**Pn**	**06 37 57.8**	**+1.3**
	0.8nm,0.6s,baz=101,slow=14,SNR=4.8						
EORO	**Oroz-Betelu**	**8.43**	**321**	P	**Pn**	**06 37 58.7**	**+1.7**
	0.9nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**8.55**	**322**	P	**Pn**	**06 37 58.7**	**+0.2**
SJPF				S	Sn	06 39 22.0	-13
	0.1nm,0.2s						
SJPF	**Ste Jean**	**8.55**	**322**	*e*Pn	**Pn**	**06 37 58.7**	**+0.2**
SJPF				*e*Sn	Sn	06 39 22.0	-13
	0.2nm,0.2s						
PAB	**San Pablo**	**8.64**	**293**	P	**Pn**	**06 38 02.1**	**+2.2**
	0.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**11.19**	**303**	P	**Pn**	**06 38 36.6**	**+1.7**
	1.2nm,0.2s,SNR=7.9						

*IDC **13** 06:35:50.5±1.9,4.09S×152.51E,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.7/40,mbtmp3.9/7,MS3.1/3,Ms1 3.1/3, ms1mx2.8/20,Error ellipse: s-maj=61.1km s-min=25.6km az=117.0*
ISC 13 06:35:55.7±2.0, 4°2S±0.3×152°5E±0.4, h35km, n10, σ0s98/7, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.05**	**126**	LR	LR	06 41 01.3	
	comp=Z,98nm,21.7s,baz=316,slow=34						
WRA	**Warramunga Arr**	**23.68**	**227**	P	**P**	**06 41 04.6**	**+0.3**
	2.4nm,0.9s,baz=49,slow=10.0,SNR=9.9						
ASAR	**Alice Springs**	**26.45**	**221**	P	**P**	**06 41 29.3**	**-0.4**
	0.6nm,0.9s,baz=54,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**29.43**	**199**	LR	LR	06 54 15.5	
	comp=Z,43nm,18.4s,baz=26,slow=38						
JCJ	**Chichijima**	**32.63**	**343**	LR	LR	06 54 01.8	
	comp=Z,30nm,19.0s,baz=136,slow=34						
CMAR	**Chiang Mai Arr**	**57.35**	**295**	P	**P**	**06 45 41.5**	**+0.6**
	3.4nm,0.3s,baz=110,slow=5.2,SNR=4.1						
SONM	**Songino Array**	**65.63**	**328**	P	**P**	**06 46 36.7**	**+0.2**
	0.8nm,0.6s,baz=135,slow=4.1,SNR=4.3						
MKAR	**Makanchi Array**	**79.66**	**319**	P	**P**	**06 47 59.6**	**-0.2**
	0.4nm,0.7s,baz=112,slow=4.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**80.46**	**326**	P	**P**	**06 48 02.1**	**-1.7**
	1.1nm,0.6s,baz=108,slow=9.5,SNR=4.3						
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**06 48 10.6**	**+0.5**
	0.7nm,0.8s,baz=252,slow=5.6,SNR=8.3						

*ANF **13** 06:40:12.7±0.2,36.30N×96.69W,h5km,ML3.5/14, Error ellipse: s-maj=2.5km s-min=2.3km az=5.0*
*NEIC **13** 06:40:12.4±1.1,36.31N±0.01'×96.676W±0.007,h5km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=126.0*
*TUL **13** 06:40:12.2±1.4,36.30N±0.01'×96.67W±0.03,h5km±2km, ML3.1,mb_Lg2.8/74(NEIC), Error ellipse: s-maj=4.1km s-min=3.0km az=93.0*
ISC 13 06:40:12.3±1.1, 36°31N±0.02'×96°69W±0.02', h5km±10km, n93, σ0s52/84, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.14**	**187**		**Pg**	**06 40 15.3**	**+0.3**
QUOK				Sg	**Sg**	**06 40 17.3**	**+0.5**
OK031	**S. Brethren Rd**	**0.37**	**199**		**Pg**	**06 40 19.8**	**+0.3**
OK031				Sg	**Sg**	**06 40 24.7**	**+0.3**
OK030	**Cody Creek RV**	**0.39**	**192**		**Pg**	**06 40 20.0**	**+0.2**
OK030				Sg	**Sg**	**06 40 25.1**	**+0.3**
BLOK	**Blackwell**	**0.62**	**317**	Pg	**Pg**	**06 40 24.5**	**+0.2**
BLOK				Sg	**Sg**	**06 40 32.8**	**+0.4**
T35A	**Sooner Cattle**	**0.63**	**13**	Pg	**Pg**	**06 40 24.5**	**+0.1**
T35A				Sg	**Sg**	**06 40 32.1**	**-0.4**
T35B	**Sooner Cattle**	**0.63**	**13**	P	**Pg**	**06 40 24.4**	**0.0**
	baz=192,SNR=187						
T35B				S	**Sg**	**06 40 32.7**	**+0.2**
	baz=192						
T35B	**Sooner Cattle**	**0.63**	**13**	P		06 40 24.4	
	baz=192,SNR=187						
T35B				S		06 40 32.7	
	baz=192						
OK029	**Liberty Lake**	**0.80**	**231**		**Pg**	**06 40 27.7**	**0.0**
OK029					**Sg**	**06 40 38.7**	**+0.6**
TUL1	**Leonard**	**0.83**	**118**	P	**Pg**	**06 40 27.8**	**-0.3**
	baz=299,SNR=331						
TUL1				S	**Sg**	**06 40 38.3**	**-0.6**
	baz=299						
TUL1	**Leonard**	**0.83**	**118**	P		06 40 27.8	
	baz=299,SNR=331						
TUL1				S		06 40 38.3	
	baz=299						
OK025	**Westminster Rd**	**0.90**	**216**		**Pg**	**06 40 29.1**	**-0.4**
OK025				Sg	**Sg**	**06 40 41.4**	**+0.3**
KAN13	**South Haven SW**	**0.95**	**318**		**Pg**	**06 40 30.6**	**0.0**
KAN13				Sg	**Sg**	**06 40 43.0**	**+0.1**
BCOK	**Bluff Creek, N**	**0.99**	**229**		**Pg**	**06 40 31.0**	**-0.3**
BCOK				Sg	**Sg**	**06 40 44.5**	**+0.4**
CROK	**Carrier**	**1.06**	**281**		**Pg**	**06 40 32.6**	**-0.1**
CROK				Sg	**Sg**	**06 40 47.0**	**+0.5**
OKCFA	**Oklahoma City**	**1.08**	**215**		**Pg**	**06 40 32.2**	**-0.9**
OKCFA				Sg	**Sg**	**06 40 47.4**	**+0.3**
OKCFA	**Oklahoma City**	**1.08**	**215**	S	**Sg**	**06 40 47.5**	**+0.3**
	baz=36						
OKCFA	**Oklahoma City**	**1.08**	**215**	S		06 40 47.5	
	baz=36						
OKCSW	**OKLAHOMA CITY**	**1.08**	**214**		**Pg**	**06 40 32.3**	**-0.8**
OKCSW				Sg	**Sg**	**06 40 47.0**	**-0.2**
GC02	**Grant County #**	**1.09**	**300**		**Pg**	**06 40 33.1**	**-0.1**
GC02					**Sg**	**06 40 48.1**	**+0.7**
KAN09	**Caldwell North**	**1.12**	**318**		**Pg**	**06 40 33.6**	**-0.1**
KAN09					**Sg**	**06 40 47.9**	**-0.3**
KAN17	**Caldwell West**	**1.14**	**311**		**Pg**	**06 40 34.0**	**-0.1**
KAN17				Sg	**Sg**	**06 40 48.5**	**-0.3**
KS20	**Mayfield South**	**1.16**	**323**		**Pg**	**06 40 34.4**	**-0.1**
KS20				Sg	**Sg**	**06 40 48.9**	**-0.6**
FNO	**Franklin**	**1.20**	**209**		**Pg**	**06 40 34.2**	**-1.0**
FNO				Sg	**Sg**	**06 40 50.0**	**-0.8**
KAN14	**Manchester OK**	**1.21**	**303**		**Pg**	**06 40 35.3**	**-0.3**
KAN14				Sg	**Sg**	**06 40 51.3**	**0.0**
KAN05	**Bluff City Nor**	**1.24**	**310**		**Pg**	**06 40 35.9**	**-0.3**
KAN05				Sg	**Sg**	**06 40 51.7**	**-0.6**
OK032	**Salt Plains WL**	**1.32**	**293**		**Pn**	**06 40 37.1**	**-0.5**
KAN08	**Anthony NE Sta**	**1.38**	**312**		**Pn**	**06 40 38.4**	**0.0**
KAN10	**Anthony SW Sta**	**1.40**	**306**		**Pn**	**06 40 38.6**	**0.0**
KAN16	**Harper SW Stat**	**1.44**	**310**		**Pn**	**06 40 39.3**	**+0.2**
U38A	**Gravette**	**1.86**	**85**		**Pn**	**06 40 45.5**	**+0.5**
U38A	**Gravette**	**1.86**	**85**	P	**Pn**	**06 40 45.4**	**+0.4**
	baz=266,SNR=74						
U38A				S	**Sb**	**06 41 10.9**	**+0.4**
	baz=266						
U38A	**Gravette**	**1.86**	**85**	P		06 40 45.4	
	baz=266,SNR=74						
U38A				S		06 41 10.9	
	baz=266						
U32A	**Winter Ranch,**	**1.87**	**273**		**Pb**	**06 40 46.2**	**-0.8**
U32A	**Winter Ranch,**	**1.87**	**273**	P	**Pn**	**06 40 46.0**	**+0.9**
	baz=92,SNR=14						
U32A				Sb	**Sg**	**06 41 12.2**	**-0.2**
	baz=92						
U32A	**Winter Ranch,**	**1.87**	**273**	P		06 40 46.0	
	baz=92,SNR=14						
U32A				Sb		06 41 12.2	
	baz=92						
X37A	**Clayton**	**2.02**	**147**		**Pn**	**06 40 47.5**	**+0.3**
X37A	**Clayton**	**2.02**	**147**	P	**Pn**	**06 40 47.6**	**+0.5**
	baz=329,SNR=29						
X37A				S	**Sb**	**06 41 14.7**	**-0.4**
	baz=329						
X37A	**Clayton**	**2.02**	**147**	P		06 40 47.6	
	baz=329,SNR=29						
X37A				S		06 41 14.7	
	baz=329						
HHAR	**Hobbs**	**2.22**	**90**		**Pn**	**06 40 50.1**	**+0.2**
HHAR	**Hobbs**	**2.22**	**90**	P	**Pn**	**06 40 50.8**	**+0.9**
	baz=271						
HHAR	**Hobbs**	**2.22**	**90**	P		06 40 50.8	
	baz=271						
WMOK	**Wichita Mounta**	**2.31**	**228**		**Pn**	**06 40 52.4**	**+1.2**
WMOK	**Wichita Mounta**	**2.31**	**228**	P	**Pn**	**06 40 51.6**	**+0.4**
	baz=47,SNR=23						
WMOK	**Wichita Mounta**	**2.31**	**228**	P		06 40 51.6	
	baz=47,SNR=23						
LOOK	**Love County**	**2.34**	**190**		**Pn**	**06 40 51.2**	**-0.4**
W39A	**Magazine**	**2.61**	**114**		**Pn**	**06 40 54.9**	**-0.3**
R32A	**Long Quarter,**	**2.66**	**323**		**Pn**	**06 40 56.8**	**+0.9**
R32A	**Long Quarter,**	**2.66**	**323**	S	**Sn**	**06 41 29.6**	**+1.0**
	baz=142						
R32A	**Long Quarter,**	**2.66**	**323**	S		06 41 29.6	
	baz=142						
Z35A	**Perchaven, San**	**3.00**	**189**		**Pn**	**06 41 00.3**	**-0.4**
Z35A	**Perchaven, San**	**3.00**	**189**	P	**Pn**	**06 41 01.1**	**+0.5**
	baz=9.0,SNR=7.6						
Z35A	**Perchaven, San**	**3.00**	**189**	P		06 41 01.1	
	baz=9.0,SNR=7.6						
S39A	**Bolivar**	**3.03**	**62**	P	**Pn**	**06 41 01.9**	**+0.9**
	baz=244,SNR=24						
S39A	**Bolivar**	**3.03**	**62**	P		06 41 01.9	
	baz=244,SNR=24						
MIAR	**Mount Ida**	**3.09**	**124**	Pn	**Pn**	**06 41 02.3**	**+0.5**
MIAR	**Mount Ida**	**3.09**	**124**	P	**Pn**	**06 41 02.3**	**+0.5**
	baz=306,SNR=19						
MIAR	**Mount Ida**	**3.09**	**124**	P		06 41 02.3	
	baz=306,SNR=19						
U40A	**Yellville**	**3.10**	**88**	Pn	**Pn**	**06 41 02.0**	**+0.1**
U40A	**Yellville**	**3.10**	**88**	P	**Pn**	**06 41 02.2**	**+0.2**
	baz=270,SNR=31						
U40A	**Yellville**	**3.10**	**88**	P		06 41 02.2	
	baz=270,SNR=31						
U40A				P		06 41 02.2	
	baz=270,SNR=31						
CBKS	**Cedar Bluff**	**3.48**	**317**	lAmb_Lg		06 42 09.4	
	comp=Z,27nm,1.0s						
X40A	**Basin Creek Fa**	**3.63**	**119**		**Pn**	**06 41 09.6**	**+0.3**
MGMO	**Mountain Grove**	**3.65**	**75**		**Pn**	**06 41 10.3**	**+0.7**
WHAR	**Wooly Hollow**	**3.72**	**105**	lAmb_Lg		06 42 15.5	
	comp=Z,25nm,1.1s						
W41B	**Gary Mavity, V**	**3.78**	**106**	P	**Pn**	**06 41 11.9**	**+0.6**
	baz=289,SNR=19						
W41B	**Gary Mavity, V**	**3.78**	**106**	P		06 41 11.9	
	baz=289,SNR=19						
WLAR	**White Oak Lake**	**3.93**	**131**	lAmb_Lg		06 42 25.0	
	comp=Z,18nm,0.8s						
R40A	**Maddies Statio**	**4.04**	**59**		**Pn**	**06 41 15.4**	**+0.5**
R40A				lAmb_Lg		06 42 28.5	
	comp=Z,18nm,0.7s						
R40A	**Maddies Statio**	**4.04**	**59**	P	**Pn**	**06 41 15.8**	**+0.8**
	baz=242						
R40A	**Maddies Statio**	**4.04**	**59**	P		06 41 15.8	
	baz=242						
P38A	**Dawn**	**4.15**	**36**		**Pn**	**06 41 15.4**	**-0.9**
P38A				lAmb_Lg		06 42 30.1	
	comp=Z,18nm,0.8s						
P38A	**Dawn**	**4.15**	**36**	P	**Pn**	**06 41 17.2**	**+0.8**
	baz=218						
P38A	**Dawn**	**4.15**	**36**	P		06 41 17.2	
	baz=218						
AMTX	**Amarillo**	**4.31**	**252**		**Pn**	**06 41 19.7**	**+1.0**
AMTX				lAmb_Lg		06 42 32.6	
	comp=Z,27nm,0.7s						
ABTX	**Abilene, Hawle**	**4.41**	**214**	lAmb_Lg		06 42 36.3	
	comp=Z,14nm,1.0s						
N33A	**J Bar K, Exete**	**4.47**	**353**	lAmb_Lg		06 42 35.0	
	comp=Z,26nm,0.8s						
LCAR	**Lake Charles**	**4.48**	**91**	lAmb_Lg		06 42 34.0	
	comp=Z,14nm,0.8s						
N35A	**Tabor**	**4.62**	**10**		**Pn**	**06 41 23.2**	**+0.3**
CCAR	**Cane Creek**	**4.68**	**119**	lAmb_Lg		06 42 50.4	
	comp=Z,16nm,0.9s						
CCM	**Cathedral Cave**	**4.69**	**66**	lAmb_Lg		06 42 39.7	
	comp=Z,21nm,0.7s						
P40A	**Paris**	**4.88**	**47**		**Pn**	**06 41 26.2**	**-0.2**
P40A				lAmb_Lg		06 42 45.0	
	comp=Z,29nm,0.8s						
HBAR	**Harrisburg**	**4.95**	**97**		**Pn**	**06 41 27.5**	**+0.1**
PBMO	**Poplar Bluff**	**5.06**	**83**	lAmb_Lg		06 43 04.1	
	comp=Z,19nm,0.8s						
BGNE	**Belgrade**	**5.22**	**348**		**Pn**	**06 41 30.9**	**-0.2**
BGNE				lAmb_Lg		06 42 58.1	
	comp=Z,11nm,0.8s						
N38A	**Joes South For**	**5.23**	**30**	lAmb_Lg		06 43 03.9	
	comp=Z,21nm,0.9s						
FVM	**French Village**	**5.28**	**70**	lAmb_Lg		06 43 04.6	
	comp=Z,18nm,0.7s						
SLM	**Saint Louis**	**5.63**	**64**	lAmb_Lg		06 43 11.8	
	comp=Z,21nm,0.8s						
143A	**Socs Landing,**	**5.65**	**128**	lAmb_Lg		06 43 17.9	
	comp=Z,13nm,0.9s						
L34A	**Svendsen Farm,**	**5.66**	**2**	lAmb_Lg		06 43 14.1	
	comp=Z,21nm,0.8s						
LNXT	**Lenox**	**5.82**	**90**		**Pn**	**06 41 39.6**	**+0.2**
OXF	**Oxford**	**6.21**	**105**	lAmb_Lg		06 43 30.5	
	comp=Z,21nm,1.1s						
SCIA	**State Center**	**6.21**	**25**	lAmb_Lg		06 43 46.8	
	comp=Z,13nm,0.7s						
OGNE	**Ogallala**	**6.24**	**320**	lAmb_Lg		06 43 40.3	
	comp=Z,20nm,0.7s						
T25A	**Trinidad**	**6.26**	**280**	lAmb_Lg		06 43 37.7	
	comp=Z,9.3nm,0.7s						
JCT	**Junction City**	**6.37**	**205**	lAmb_Lg		06

MDOK				*e*S		**Sb**	**07 02 54.3**	**0.0**	
	baz=69								
MDOK	**Medeo**	**0.61**	**269**	*e*P		**Pb**	**07 02 45.9**	**-0.2**	
	2.4nm,0.2s								
MDOK				*e*S		**Sb**	**07 02 54.2**	**0.0**	
	3.8nm,0.2s								
KPKS	**Kokpek**	**0.66**	**64**	*e*P		**Pb**	**07 02 46.6**	**-0.3**	
	baz=63								
KPKS				*e*S		**Sb**	**07 02 55.6**	**0.0**	
	baz=63								
KPKS	**Kokpek**	**0.66**	**64**	*e*P		**Pb**	**07 02 46.6**	**-0.3**	
	15nm,0.1s								
KPKS				*e*S		**Sb**	**07 02 55.6**	**0.0**	
	8.2nm,0.1s								
PRZ	**Przheval'sk**	**0.79**	**151**	⇑*i*P		**Pb**	**07 02 48.4**	**-0.9**	
	baz=50								
PRZ				⇑*i*S		**Sb**	**07 02 59.0**	**-0.6**	
	baz=50								
UZB	**Uzynbulak**	**0.84**	**92**	*e*P		**Pb**	**07 02 49.9**	**-0.1**	
	baz=92								
UZB				*e*S		**Sb**	**07 03 01.0**	**+0.1**	
	baz=92								
UZB	**Uzynbulak**	**0.84**	**92**	*e*P		**Pb**	**07 02 49.9**	**-0.1**	
	2.9nm,0.1s								
UZB				*e*S		**Sb**	**07 03 01.0**	**+0.1**	
	10nm,0.1s								
UZB	**Uzynbulak**	**0.84**	**92**	P		**Pb**	**07 02 49.9**	**-0.1**	
	2.9nm,0.1s								
UZB				S		**Sb**	**07 03 01.0**	**+0.1**	
	10nm,0.1s								
KTBS	**Karatobe**	**1.02**	**302**	*e*P		**Pn**	**07 02 52.8**	**-0.2**	
	baz=2.0								
KTBS				*e*S		**Sb**	**07 03 06.1**	**+0.1**	
	baz=2.0								
KTBS	**Karatobe**	**1.02**	**302**	*e*P		**Pn**	**07 02 52.8**	**-0.2**	
	0.9nm,0.2s								
KTBS				*e*S		**Sb**	**07 03 06.1**	**+0.1**	
	10nm,0.2s								
KTBS	**Karatobe**	**1.02**	**302**	P		**Pn**	**07 02 52.8**	**-0.2**	
	0.9nm,0.2s								
KTBS				S		**Sb**	**07 03 06.1**	**+0.1**	
	10nm,0.2s								
ARXS	**Arharly**	**1.03**	**358**	*e*P		**Pn**	**07 02 53.0**	**-0.2**	
	2.1nm,0.2s								
ARXS				*e*S		**Sb**	**07 03 06.5**	**0.0**	
	24nm,0.3s								
ARXS	**Arharly**	**1.03**	**358**	P		**Pn**	**07 02 53.0**	**-0.2**	
	2.1nm,0.2s								
ARXS				S		**Sb**	**07 03 06.5**	**0.0**	
	24nm,0.3s								
KDJ	**Kajisay**	**1.17**	**206**	⇑*e*P		**Pn**	**07 02 55.3**	**+0.2**	
	baz=6.0								
KDJ				⇑*i*S		**Sb**	**07 03 10.8**	**+0.4**	
	baz=6.0								
PDGK	**Podgornoye**	**1.19**	**82**	P		**Pb**	**07 02 55.6**	**-0.3**	
	1.7nm,0.2s								
PDGK				S		**Sb**	**07 03 10.9**	**0.0**	
	1.9nm,0.4s								
PDGK	**Podgornoye**	**1.19**	**82**	⇓P		**Pn**	**07 02 55.4**	**+0.1**	
	0.9nm,0.3s								
PDGK				⇓S		**Sn**	**07 03 10.7**	**-0.2**	
	1.4nm,0.8s								
TARG	**Taragay, Kyrgy**	**1.45**	**182**	⇓*i*P		**Pn**	**07 02 59.8**	**+0.6**	
	baz=82								
TARG				⇓*i*S		**Sb**	**07 03 19.0**	**+0.3**	
	baz=82								
ULHL	**Ulahol**	**1.52**	**233**	⇓*i*P		**Pb**	**07 03 01.7**	**0.0**	
	baz=33								
ULHL				⇓*i*S		**Sb**	**07 03 22.0**	**+1.4**	
	baz=33								
BOOM	**Boomskoye usch**	**1.58**	**245**	⇑*e*P		**Pb**	**07 03 02.4**	**-0.3**	
	baz=45								
BOOM				⇑*i*S		**Sb**	**07 03 23.2**	**+0.9**	
	baz=45								
KRBS	**Karabastau**	**1.69**	**289**	*e*P		**Pb**	**07 03 04.1**	**-0.2**	
	baz=89								
KRBS				*e*S		**Sb**	**07 03 25.7**	**+0.6**	
	baz=89								
KRBS	**Karabastau**	**1.69**	**289**	*e*P		**Pb**	**07 03 04.1**	**-0.2**	
	0.4nm,0.3s								
KRBS				*e*S		**Sb**	**07 03 25.7**	**+0.6**	
	5.1nm,0.3s								
KRBS	**Karabastau**	**1.69**	**289**	P		**Pb**	**07 03 04.2**	**-0.2**	
	0.4nm,0.3s								
KRBS				S		**Sb**	**07 03 25.8**	**+0.6**	
	5.1nm,0.3s								
TKM2	**Tokmak 2**	**1.69**	**262**	⇓P		**Pb**	**07 03 03.5**	**-1.1**	
	0.4nm,0.4s								
TKM2				⇓S		**Sb**	**07 03 26.9**	**+1.5**	
	1.1nm,0.6s								
DJR	**Jarkent**	**1.80**	**50**	*e*P		**Pb**	**07 03 06.7**	**+0.3**	
	0.1nm,0.2s								
DJR				*e*S		**Sb**	**07 03 30.1**	**+1.6**	
	0.1nm,0.2s								
DJR	**Jarkent**	**1.80**	**50**	P		**Pb**	**07 03 06.0**	**-0.4**	
	0.1nm,0.3s								
DJR				S		**Sb**	**07 03 28.9**	**+0.3**	
	0.3nm,0.4s								

BJI ***13*** *07:08:54.9±0.0,3˚.14S×144˚.20E, h5km, mB5.5/71, mb5.3/84, Ms4.9/76, Ms7 4.6/71*

IDC ***13*** *07:08:57.4±0.4,3˚.23S×143˚.93E, h0km, mb5.2/22, mb1 5.2/25, mb1mx5.2/29, mbtmp5.1/25, ML4.9/2, MS4.7/27, Ms1 4.7/27, ms1mx4.7/29, Error ellipse: s-maj=14.6km s-min=10.6km az=83.0*

NEIC ***13*** *07:08:58.9, 3˚.23S×143˚.88E, h2km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.61; Mθθ-0.95; Mϕϕ-0.66; Mrθ-0.80; Mϕϕ0.58; Mϕr0.38; Fault plane solution: M₀1.75000×10¹⁷ NP1:φs132.19000°, δ30.23000°, λ98.61000°. NP2:φs302.26000°, δ60.14000°, λ85.02000°. Principal axes: T 1.8566, Plg74.0000°, Azm199.0000°; N -0.2261, Plg4.0000°, Azm305.0000°; P -1.6305, Plg15.0000°, Azm36.0000°;*

NEIC ***13*** *07:08:59.2±1.7,3˚.23S±0˚.07×143˚.89E±0˚.07, h8km±1km, mb5.5/115, Ms_20 5.2/672, Mwb5.4/31, Mwc5.4(GCMT) Error ellipse: s-maj=11.9km s-min=11.5km az=345.0*

MOS ***13*** *07:09:00.2±0.9,3˚.24S×143˚.98E, h32km, mb5.7/60, MS4.6/16, Error ellipse: s-maj=9.6km s-min=4.6km az=110.2*

NEIC ***13*** *07:09:01,3˚.15S×143˚.89E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.56; Mθθ-1.00; Mϕϕ-0.57; Mrθ-0.06; Mϕϕ0.79; Mϕr0.13; Fault plane solution: M₀1.59000×10¹⁷ NP1:φs125.00000°, δ43.00000°, λ86.00000°. NP2:φs310.00000°, δ47.00000°, λ93.00000°. Principal axes: T 1.5688, Plg87.0000°, Azm264.0000°; N 0.0347, Plg2.0000°, Azm128.0000°; P -1.6035, Plg2.0000°, Azm37.0000°;*

GCMT ***13*** *07:09:01.2±0.1,3˚.16S±0˚.01×143˚.85E±0˚.01, h12km, MW5.4/149, Moment Tensor Solution. s106,c166; s149,c277; Duration: 1ŕ2 Moment tensor: Scale 10¹⁷ Nm; Mrr1.50±.01; Mθθ-0.97±.01; Mϕϕ-0.52±.01; Mrθ0.01±.04; Mϕϕ0.73±.01; Mϕr-0.13±.04; Best double couple: M₀1.51100×10¹⁷ NP1:φs303.00000°, δ44.00000°, λ85.00000°. NP2:φs130.00000°, δ47.00000°, λ95.00000°. Principal axes: T 1.5090, Plg86.0000°, Azm104.0000°; N 0.0020, Plg4.0000°, Azm307.0000°; P -1.5130, Plg2.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***13*** *07:09:02.9±0.6,3˚S±3˚×14˚4E±˚, h32km±5km, M5.5/71, mB5.9/54, mb5.3/71, MLv5.7/5, Mw(mB)5.5/54, MwMwp5.2/15, Mwp5.4/15*

ISC 13 07:08:59.7±0.4,3˚.27S±0˚.03×143˚.94E±0˚.04, h17km±2km, h18km:pP-P, n911, σ1ŕ93/648, mb5.5/185, MS5.2/390, 141C-48D, Fault plane solution: NP1:φs308.85156°, δ53.77717°, λ92.65875°. NP2:φs124.35828°, δ36.30695°, λ86.37645°. Principal axes: T Plg80.9952°, Azm230.9485°; N Plg2.1446°, Azm127.2797°; P Plg8.7416°, Azm36.9498°; **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.63**	**71**	Pn	**Pn**	**07 09 55.4**	**+0.3**
GENI	**Genyem**	**3.83**	**280**	P	**Pn**	**07 09 58.9**	**+1.0**
MMPI	**Merauke**	**6.26**	**214**	P	**Pn**	**07 10 34.5**	**+3.1**
	11nm19µm36µm1µm,0.5s						
PMG	**Port Moresby**	**6.88**	**153**	Pn	**Pn**	**07 10 41.5**	**+1.6**
	7.8nm,0.3s,baz=314,slow=15,SNR=9.6						
PMG				Sn	**Sn**	**07 11 57.9**	**0.0**
	11nm,0.3s,baz=300,slow=20,SNR=11						
PMG				LR	LR	07 14 03.2	
	comp=Z,12µm,18.4s,baz=302,slow=44						
PMG	**Port Moresby**	**6.88**	**153**	P	**Pn**	**07 10 40.9**	**+1.0**
PMG	**Port Moresby**	**6.88**	**153**		**Pn**	**07 10 40.9**	**+1.0**
PMG	**Port Moresby**	**6.88**	**153**	P	**Pn**	**07 10 42.2**	**+2.3**
	1.0nm6µm3µm143nm,0.9s						
SRPI	**Serui, Papua**	**7.82**	**280**	P	**Pn**	**07 10 54.5**	**+1.7**
	3.7nm326nm,0.4s						
BAKI	**Biak**	**8.10**	**285**	P	**Pn**	**07 10 55.8**	**-0.8**
	3µm280nm,0.8s						
RABL	**Rabaul**	**8.25**	**97**		**Pn**	**07 11 01.8**	**+3.1**
MWPI	**Manokwari, Pap**	**10.17**	**283**	P	**Pn**	**07 11 28.5**	**+3.5**
	3µm161nm,1.3s						
FAKI	**Fak Fak**	**11.68**	**271**	Pn	**Pn**	**07 11 46.3**	**+0.5**
SIJI	**Sorong**	**12.89**	**280**	Pn	**Pn**	**07 12 02.5**	**+0.1**
	1.9nm,0.3s,baz=153,slow=13,SNR=7.6						
SIJI	**Sorong**	**12.89**	**280**	P	**Pn**	**07 12 02.2**	**-0.1**
	891nm31nm,1.4s						
SWI	**Sorong**	**12.90**	**280**	P	**Pn**	**07 12 04.1**	**+1.7**
	2µm77nm,0.7s						
SAUI	**Saumlaki**	**13.43**	**249**	Pn	**Pn**	**07 12 08.2**	**-1.4**
SAUI	**Saumlaki**	**13.43**	**249**	P	**Pn**	**07 12 12.9**	**+3.3**
	7µm311nm,1.5s						
BNDI	**Bandanaira**	**14.06**	**264**	P	**Pn**	**07 12 21.4**	**+3.1**
	8µm268nm,1.3s						
KDU	**Kakadu**	**14.71**	**230**	P	**Pn**	**07 12 25.7**	**-1.4**
	baz=15,SNR=20						
MTSU	**Mount Surprise**	**14.78**	**179**	P	**P**	**07 12 32.5**	**-1.5**
	baz=15,SNR=6.8						
KRAI	**Karang Ratu**	**15.52**	**269**	P	**P**	**07 12 40.8**	**-1.5**
	23nm,0.9s						
MTN	**Manton Dam**	**15.85**	**232**	P	**Pn**	**07 12 41.6**	**-0.6**
	baz=16,SNR=7.3						
MTN	**Manton Dam**	**15.85**	**232**		**Pn**	**07 12 40.5**	**-1.6**
NLAI	**Namlea**	**16.82**	**270**	P	**P**	**07 12 57.3**	**+0.7**
	3µm45nm,1.9s						
CTA	**Charters Tower**	**16.87**	**173**	Pn	**P**	**07 12 59.6**	**+2.4**
	0.5nm,0.3s,baz=5.8,slow=13,SNR=5.7						
CTAO	**Charters Tower**	**16.87**	**173**	P	**Pn**	**07 12 54.1**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,55nm,1.4s						
CTAO	**Charters Tower**	**16.87**	**173**	Pn	**Pn**	**07 12 54.1**	**-1.1**
GAMI	**Galela, Maluku**	**16.93**	**287**	P	**P**	**07 12 59.0**	**+1.1**
	comp=Z,6µmcomp=Z,299nm,1.9s						
TNTI	**Ternate**	**17.05**	**283**	P	**P**	**07 12 58.9**	**-0.3**
TNTI	**Ternate**	**17.05**	**283**	P	**P**	**07 12 59.1**	**-0.1**
	comp=Z,2µmcomp=Z,4µmcomp=Z,129nm,1.8s						
PATS	**Pohnpei**	**17.51**	**55**	P	**Pn**	**07 13 03.0**	**-0.2**
QIS	**Mount Isa**	**17.70**	**193**	P	**P**	**07 13 08.4**	**+2.0**
	baz=18,SNR=12						
SANI	**Sanana**	**17.98**	**273**	P	**P**	**07 13 10.7**	**+1.2**
	comp=Z,3µmcomp=Z,2µmcomp=Z,103nm,1.8s						
WB0	**Warramunga Arr**	**18.86**	**209**	P	**P**	**07 13 19.5**	**+0.3**
WR0	**Warramunga Arr**	**18.96**	**208**	P	**P**	**07 13 19.4**	**-0.9**
WRAB	**Tennant Creek**	**19.03**	**209**	*ce*P	**P**	**07 13 21.4**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,108nm,1.3s						
WRAB	**Tennant Creek**	**19.03**	**209**	P	**P**	**07 13 19.2**	**-1.8**
WB2	**Warramunga Arr**	**19.04**	**209**	P	**Pn**	**07 13 21.7**	**-0.2**
	baz=19						
WB2	**Warramunga Arr**	**19.04**	**209**	P	**P**	**07 13 20.7**	**-0.4**
WRA	**Warramunga Arr**	**19.04**	**209**	P	**P**	**07 13 21.6**	**+0.4**
	comp=Z,7.5nm,0.3s,baz=32,slow=11,SNR=193						
WRA				S	**Sn**	**07 16 49.3**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=33,slow=22,SNR=2.2						
WRA				Lg	Lg	07 19 01.6	
	comp=Z,0.1nm,0.3s,baz=25,slow=28,SNR=1.9						
WRA				LR	LR	07 21 53.0	
	comp=Z,6µm,18.6s,baz=30,slow=41						
WRA	**Warramunga Arr**	**19.04**	**209**	*i* P	**P**	**07 13 21.2**	**0.0**
WRA				pmax	pmax		
	comp=Z,32nm,0.6s						
WRA	**Warramunga Arr**	**19.04**	**209**	P	**P**	**07 13 18.9**	**-2.3**
KNRA	**Kununurra**	**19.38**	**229**	P	**P**	**07 13 24.6**	**-0.2**
	baz=19,SNR=63						
KNRA	**Kununurra**	**19.38**	**229**	P	**P**	**07 13 23.9**	**-0.9**
KNRA				IAmb	IAmb	07 13 30.9	
	comp=Z,434nm,1.5s						
SGSI	**Sangihe**	**19.66**	**290**	P	**Pn**	**07 13 29.4**	**0.0**
	comp=Z,141nm,1.1s						
KMSI	**Cibinong**	**20.32**	**280**	P	Pn	07 13 37.4	+0.2
	comp=Z,24µmcomp=Z,335nm,1.1s						
SOEI	**Soe**	**20.58**	**251**		**P**	**07 13 37.9**	**-0.2**
SOEI	**Soe**	**20.58**	**251**	P	**P**	**07 13 38.8**	**+0.7**
	comp=Z,6µmcomp=Z,12µmcomp=Z,480nm,1.4s						
LUWI	**Luwuk**	**21.27**	**275**	P	**P**	**07 13 46.1**	**+0.6**
LUWI				IAmb	IAmb	07 14 02.1	
	comp=Z,223nm,0.8s						
LUWI	**Luwuk**	**21.27**	**275**	P	**P**	**07 13 47.1**	**+1.6**
	comp=Z,7µmcomp=Z,328nm,1.8s						
BATI	**Baumata**	**21.28**	**250**	P	**P**	**07 13 47.1**	**+1.5**
	comp=Z,162nm,0.8s,baz=90,slow=5.1,SNR=9.1						
BATI	**Baumata**	**21.28**	**250**	P	**P**	**07 13 47.9**	**+2.3**
	comp=Z,4µmcomp=Z,223nm,1.6s						
GTOI	**Gorontalo**	**21.28**	**280**	P	**P**	**07 13 48.8**	**+3.2**
	comp=Z,4µmcomp=Z,258nm,1.4s						
MMRI	**Maumere**	**22.23**	**255**	P	**P**	**07 13 54.3**	**-1.5**
MMRI				IAmb	IAmb	07 14 15.9	
	comp=Z,106nm,0.8s						
MMRI	**Maumere**	**22.23**	**255**	P	**P**	**07 13 58.3**	**+2.5**
	comp=Z,3µmcomp=Z,6µmcomp=Z,167nm,1.0s						
KKSI	**Kolaka, Sulawe**	**22.26**	**267**	P	**P**	**07 13 59.8**	**+3.6**
	comp=Z,3µmcomp=Z,111nm,1.3s						
MRSI	**Marisa**	**22.31**	**279**	P	**P**	**07 13 57.7**	**+1.1**
	comp=Z,4µmcomp=Z,3µmcomp=Z,309nm,1.3s						
APSI	**Ampana**	**22.40**	**276**	P	**P**	**07 13 59.3**	**+1.7**
	comp=Z,9µmcomp=Z,409nm,1.5s						
AS31	**Alice Springs**	**22.48**	**205**	P	**P**	**07 13 58.0**	**-0.5**
ASAR	**Alice Springs**	**22.48**	**205**	P	**P**	**07 13 58.4**	**0.0**
	comp=Z,17nm,0.8s,baz=32,slow=8.1,SNR=85						
ASAR				S	**S**	**07 18 03.7**	**-1.0**
	comp=Z,26nm,1.2s,baz=26,slow=14,SNR=8.2						
ASAR				Lg	Lg	07 20 52.6	
	comp=Z,1.9nm,0.9s,baz=20,slow=30,SNR=1.7						
ASAR				LR	LR	07 23 45.2	
	comp=Z,9µm,18.6s,baz=32,slow=39						
ASAR	**Alice Springs**	**22.48**	**205**	P	**P**	**07 13 58.0**	**-0.4**
ASAR	**Alice Springs**	**22.48**	**205**	P	**P**	**07 13 58.0**	**-0.4**
EIDS	**Eidsvold**	**23.02**	**163**	P	**P**	**07 14 06.2**	**+2.2**
	baz=23,SNR=19						
EIDS	**Eidsvold**	**23.02**	**163**	P	**P**	**07 14 04.2**	**+0.2**
EIDS				IAmb	IAmb	07 14 06.7	
	comp=Z,122nm,1.4s						
QLP	**Quilpie**	**23.18**	**179**	P	**P**	**07 14 07.8**	**+2.1**
	baz=23,SNR=6.3						
FITZ	**Fitzroy Crossi**	**23.21**	**229**	P	**P**	**07 14 04.5**	**-1.5**
	comp=Z,42nm,0.5s,baz=68,slow=6.3,SNR=83						
FITZ				S	**S**	**07 18 15.4**	**-2.0**
	comp=Z,7.0nm,0.9s,baz=128,slow=22,SNR=1.5						
FITZ	**Fitzroy Crossi**	**23.21**	**229**	P	**P**	**07 14 04.6**	**-1.5**
	baz=23,SNR=140						
FITZ	**Fitzroy Crossi**	**23.21**	**229**	P	**P**	**07 14 03.9**	**-2.2**
FITZ				IAMs_20	IAMs_20	07 23 39.6	
	comp=Z,5µm,18.0s						
RMQ	**Roma**	**23.54**	**169**	P	**P**	**07 14 12.1**	**+2.8**
	baz=24,SNR=15						
BSSI	**Bau Bau, Buton**	**23.55**	**262**	P	**P**	**07 14 10.4**	**+0.9**
	comp=Z,3µmcomp=Z,4µmcomp=Z,168nm,1.6s						
TOLI2	**Tolitoli**	**23.56**	**280**	P	**P**	**07 14 09.0**	**-0.6**
TOLI2				IAmb	IAmb	07 14 15.1	
	comp=Z,218nm,1.1s						
BNSI	**Bone**	**23.81**	**267**	P	**P**	**07 14 14.3**	**+2.3**
	comp=Z,6µmcomp=Z,216nm,1.8s						
BKSI	**Bulukumba**	**23.84**	**264**	P	**P**	**07 14 12.2**	**-0.1**
	comp=Z,4µmcomp=Z,109nm,2.0s						
TTSI	**Tana Toraja**	**24.09**	**270**	P	**P**	**07 14 17.1**	**+2.5**
	comp=Z,8µmcomp=Z,153nm,1.9s						
KAPI	**Kappang**	**24.19**	**265**	P	**P**	**07 14 15.2**	**-0.4**
	comp=Z,23nm,0.8s,baz=97,slow=6.5,SNR=12						
KAPI	**Kappang**	**24.19**	**265**	P	**P**	**07 14 15.5**	**-0.1**
KAPI				IAmb	IAmb	07 14 23.2	
	comp=Z,180nm,1.4s						
KAPI	**Kappang**	**24.19**	**265**	P	**P**	**07 14 16.5**	**+0.9**
	comp=Z,3µmcomp=Z,64nm,1.7s						
BASI	**Baing, Sumba**	**24.20**	**252**	P	**P**	**07 14 16.2**	**+0.6**
	comp=Z,5µmcomp=Z,306nm,1.3s						
MPSI	**Mapaga**	**24.30**	**278**	P	**P**	**07 14 16.6**	**0.0**
	comp=Z,3µmcomp=Z,5µmcomp=Z,84nm,1.6s						
PMSI	**Majene**	**24.99**	**269**	P	**P**	**07 14 25.9**	**+3.0**
	comp=Z,4µmcomp=Z,108nm,1.5s						
WBSI	**Waikabubak, Su**	**25.19**	**254**	P	**P**	**07 14 26.6**	**+1.9**
	comp=Z,2µmcomp=Z,131nm,0.9s						
SANVU	**Saraoutou**	**25.90**	**119**	P	**P**	**07 14 32.5**	**+1.5**
SANVU				IAmb	IAmb	07 14 42.8	
	comp=Z,206nm,1.5s						
WRKA	**Warakurna**	**26.37**	**213**	P	**P**	**07 14 35.7**	**+0.4**
	baz=26,SNR=199						
SGKI	**Sangatta, Kali**	**26.46**	**275**	P	**P**	**07 14 38.7**	**+2.5**
	comp=Z,5µmcomp=Z,318nm,1.4s						
PLAI	**Plampang**	**26.59**	**257**	P	**P**	**07 14 39.6**	**+2.2**
	comp=Z,1µmcomp=Z,64nm,0.9s						
BKB	**Balikpapan**	**27.10**	**274**	P	**P**	**07 14 43.5**	**+1.6**
	comp=Z,5µmcomp=Z,261nm,1.2s						
TWSI	**Taliwang, Sumb**	**27.45**	**257**	P	**P**	**07 14 39.2**	**-5.9**
ARMA	**Armidale**	**27.97**	**166**	P	**P**	**07 14 51.7**	**+2.0**
	baz=28,SNR=8.2						
ARMA	**Armidale**	**27.97**	**166**	P	**P**	**07 14 49.9**	**+0.3**
KLNI	**Mataram**	**28.16**	**258**	P	**P**	**07 14 51.7**	**+0.2**
	comp=Z,2µmcomp=Z,69nm,2.1s						
CMSA	**Cobar Meteorol**	**28.17**	**177**	P	**P**	**07 14 53.0**	**+1.7**
	baz=28,SNR=16						
STKA	**Stephens Creek**	**28.55**	**184**	P	**P**	**07 14 55.2**	**+0.5**
	comp=Z,18nm,0.7s,baz=352,slow=8.6,SNR=45						
STKA				LR	LR	07 27 44.5	
	comp=Z,8µm,19.4s,baz=359,slow=39						
STKA	**Stephens Creek**	**28.55**	**184**	P	**P**	**07 14 55.5**	**+0.8**
	baz=29,SNR=14						
STKA	**Stephens Creek**	**28.55**	**184**	P	**P**	**07 14 54.8**	**+0.1**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA				MLR	MLR		
	comp=Z,2µm,19.0s						
STKA	**Stephens Creek**	**28.55**	**184**	P	**P**	**07 14 54.8**	**+0.1**
KHKI	**Kahang-Kahang**	**28.63**	**259**	P	**P**	**07 14 54.1**	**-1.5**
	comp=Z,1µmcomp=Z,59nm,1.5s						
DZM	**Mont Dzumac**	**28.75**	**132**	*e*LR	LR	07 22 28.0	
	comp=Z,2µm,24.9s						
DZM	**Mont Dzumac**	**28.75**	**132**	P	**P**	**07 14 58.0**	**+1.3**
	comp=Z,8.8nm,0.6s,baz=274,slow=12,SNR=6.6						
DZM				LR	LR	07 25 54.6	
	comp=Z,1µm,18.3s,baz=318,slow=35						
BBKI	**Banjar Baru**	**29.05**	**269**	P	**P**	**07 15 02.1**	**+2.7**
	comp=Z,3µmcomp=Z,5µmcomp=Z,82nm,1.9s						
MTKI	**Muara Teweh, K**	**29.12**	**274**	P	P	07 15 06.8	+6.8
PSAD2	**Pilbara Seismi**	**29.59**	**230**	IAMs_20	IAMs_20	07 27 59.7	
	comp=Z,4µm,18.0s						
PSAC2	**Pilbara Seismi**	**29.61**	**230**	IAMs_20	IAMs_20	07 28 00.1	
	comp=Z,5µm,18.0s						
PSAB2	**Pilbara Seismi**	**29.64**	**230**	IAMs_20	IAMs_20	07 28 09.8	
	comp=Z,4µm,19.0s						
PSAA2	**Pilbara Seismi**	**29.65**	**230**	IAMs_20	IAMs_20	07 28 09.2	
	comp=Z,7µm,22.0s						
PSAA3	**Pilbara Seismi**	**29.65**	**230**	IAMs_20	IAMs_20	07 28 10.3	
	comp=Z,4µm,20.0s						
PSA00	**Pilbara Seismi**	**29.66**	**230**	P	**P**	**07 15 05.0**	**+0.3**
PSA00				IAmb	IAmb	07 15 10.8	
	comp=Z,39nm,0.8s						
PSAB1	**Pilbara Seismi**	**29.67**	**230**	IAMs_20	IAMs_20	07 28 09.8	
	comp=Z,5µm,20.0s						
PSAC3	**Pilbara Seismi**	**29.70**	**230**	IAMs_20	IAMs_20	07 27 54.5	
	comp=Z,7µm,18.0s						
BBOO	**Buckleboo**	**30.30**	**193**	P	**P**	**07 15 10.4**	**+0.1**
	baz=30,SNR=32						
BBOO	**Buckleboo**	**30.30**	**193**	P	**P**	**07 15 10.3**	**0.0**
HTT	**Hallett**	**30.37**	**188**	P	**P**	**07 15 12.1**	**+1.2**
	baz=30,SNR=30						
H11S3	**WAKE ISLAND Hy**	**31.14**	**45**	T	T	07 47 52.3	
	baz=228,slow=75,SNR=136						
H11S2	**WAKE ISLAND Hy**	**31.14**	**45**	T	T	07 47 53.2	
	baz=228,slow=75,SNR=138						
YNG	**Young**	**31.15**	**173**	P	**P**	**07 15 19.5**	**+1.8**
	baz=31,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**31.15**	**45**	T	T	07 47 53.8	
	baz=228,slow=75,SNR=170						
FORT	**Forrest**	**31.21**	**207**	P	**P**	**07 15 19.2**	**+1.0**
	baz=31,SNR=26						
FORT	**Forrest**	**31.21**	**207**	P	**P**	**07 15 18.9**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**32.09**	**44**	T	T	07 49 05.4	
	baz=227,slow=76,SNR=467						
H11N2	**WAKE ISLAND Hy**	**32.11**	**44**	T	T	07 49 05.2	
	baz=227,slow=76,SNR=540						
H11N3	**WAKE ISLAND Hy**	**32.11**	**44**	T	T	07 49 06.6	
	baz=227,slow=76,SNR=340						
SBUM	**Sibu**	**32.22**	**280**	P	**P**	**07 15 28.0**	**+0.7**
CAN	**Canberra**	**32.24**	**172**	P	**P**	**07 15 27.4**	**+0.1**
CAN				pmax	pmax		
	comp=Z,42nm,1.5s						
CAN				MLR	MLR		
	comp=Z,2µm,18.0s						
CAN	**Canberra**	**32.24**	**172**	P	**P**	**07 15 27.4**	**+0.1**
PWJI	**Pagerwojo**	**32.32**	**260**	P	**P**	**07 15 27.8**	**-0.5**
	comp=Z,39nm,1.1s						
SJI	**Sawahan**	**32.33**	**261**	P	P	07 15 35.7	+7.3
STKI	**Sintang**	**32.62**	**275**	P	**P**	**07 15 32.4**	**+1.5**
ARPS	**Mount Arapiles**	**33.40**	**183**	P	**P**	**07 15 39.1**	**+1.7**
	baz=34,SNR=32						
JOW	**Kunigami**	**33.54**	**334**	P	**P**	**07 15 38.2**	**-0.5**
MEEK	**Meekatharra**	**33.60**	**224**	P	**P**	**07 15 39.5**	**+0.1**

NWAO MLR MLR
comp=Z,4μm,20.0s
NWAO Narrogin (SRO) 38.67 217 P **P** **07 16 22.8 +0.1**
NWAO Narrogin (SRO) 38.67 217 P **P** **07 16 22.0 -0.6**
NWAO IAmb IAmb 07 16 29.2
comp=Z,38nm,1.1s
NWAO IAMs_20 IAMs_20 07 33 01.6
comp=Z,4μm,20.0s
INU Inuyama 38.96 351 P **P** **07 16 24.8 -0.2**
JWT Wachi 39.18 349 P **P** **07 16 25.9 -0.8**
KASI Kota Agung 39.39 265 P P 07 16 38.2 +9.3
MDSI Maura Dua 39.69 267 P **P** **07 16 31.3 -0.1**
comp=Z,36nm,1.8s
GZH Guangzhou 39.71 313 P **P** **07 16 34.0 +2.6**
MJAR Matsushiro Arr 39.96 353 P **P** **07 16 31.8 -1.6**
comp=Z,14nm,1.0s,baz=176,slow=8.3,SNR=23
MJAR PcP **PcP** **07 18 38.7 +0.1**
comp=Z,1.6nm,0.6s,baz=180,slow=4.0,SNR=4.3
MJAR LR LR 07 32 18.1
comp=Z,721nm,21.4s,baz=175,slow=35
MAJO Matsushiro 39.97 353*c i*P **P** **07 16 30.5 -2.9**
MAJO pmax pmax
comp=Z,50nm,1.5s
MAJO Matsushiro 39.97 353 P **P** **07 16 31.4 -2.0**
MAT Matsushiro 39.97 353 P **P** **07 16 30.7 -2.7**
MAT S **S** **07 22 39.0 +1.0**
QIZ Qiongzhong 40.20 305 P **P** **07 16 35.4 -0.2**
QIZ sP **pP** **07 16 38.0 -2.3**
QIZ S **S** **07 22 41.1 -1.0**
QIZ sS **pS** **07 22 47.6 -0.1**
QIZ pmax pmax
comp=Z,52nm,1.4s
QIZ pmax pmax
comp=Z,410nm,3.1s
QIZ L L
comp=Z,330nm,12.0s
QIZ L L
comp=Z,410nm,23.1s
QIZ L L
comp=Z,510nm,23.9s
QIZ Qiongzhong 40.20 305 P **P** **07 16 34.9 -0.7**
QIZ IAmb IAmb 07 16 37.0
comp=Z,84nm,1.2s
SSE Sheshan 40.48 329 P **P** **07 16 38.4 +0.8**
SSE S **S** **07 22 47.3 +1.6**
SSE pmax pmax
comp=Z,23nm,1.2s
SSE pmax pmax
comp=Z,310nm,5.0s
SSE L L
comp=Z,150nm,16.0s
JMM Marumori 41.03 356 P **P** **07 16 40.5 -1.7**
JSD Sado 41.43 353 P **P** **07 16 44.2 -1.2**
JSD IAmb IAmb 07 16 46.0
comp=Z,111nm,1.4s
UBPT Khong Chiam 42.31 297 P **P** **07 16 53.4 +0.5**
comp=Z,36nm,1.6s
UBPT Khong Chiam 42.31 297 P **P** **07 16 52.5 -0.5**
UBPT Khong Chiam 42.31 297 P **P** **07 16 53.4 +0.5**
comp=Z,35nm,1.6s
TJN Taejon 42.37 340*ce*P **P** **07 16 52.8 -0.3**
NJ2 Nanjing 42.45 328 ⇑P **P** **07 16 54.6 +0.8**
NJ2 pP **pP** **07 16 57.3 -1.2**
NJ2 sP **sP** **07 16 59.9 -1.0**
NJ2 PP **PP** **07 18 36.0 +3.6**
NJ2 S **S** **07 23 16.8 +1.8**
NJ2 pmax pmax
comp=Z,31nm,0.5s
NJ2 pmax pmax
comp=Z,800nm,3.5s
NJ2 L L
comp=Z,350nm,19.8s
NJ2 L L
comp=Z,440nm,18.4s
NJ2 L L
comp=Z,660nm,19.1s
SDSI Sungai Dareh 42.55 272 P P 07 17 01.4 +6.4
KSRS Korea Array 43.16 341 P **P** **07 16 59.9 +0.3**
comp=Z,28nm,0.8s,baz=160,slow=9.5,SNR=81
KSRS PcP **PcP** **07 18 49.6 +0.6**
comp=Z,3.9nm,0.9s,baz=162,slow=4.0,SNR=6.5
KSRS LR LR 07 32 08.5
comp=Z,982nm,20.0s,baz=144,slow=32
KSAR Wonju Array Be 43.17 341 P **P** **07 16 59.4 -0.2**
KSAR *PP **pP** **07 17 04.7 +0.1**
KSAR Wonju Array Be 43.17 341 P **P** **07 16 59.4 -0.2**
KSAR **pP** **07 17 04.7 +0.1**
KS19 Wonju Array Si 43.23 341 P **P** **07 16 59.4 -0.6**
PDSI Padang 43.51 272 P **P** **07 17 03.8 +1.0**
comp=Z,22nm,1.8s
INCN Inchon 43.62 340 P **P** **07 17 02.6 -0.7**
INCN pmax pmax
comp=Z,51nm,1.1s
INCN Inchon 43.62 340 P **P** **07 17 02.6 -0.7**
INCN IAmb IAmb 07 17 04.6
comp=Z,51nm,1.1s
WHN Wuhan 43.92 322 ⇑P **P** **07 17 07.1 +1.4**
WHN S **S** **07 23 40.8 +4.2**
WHN pmax pmax
comp=Z,1μm,2.4s
WHN pmax pmax
comp=Z,2μm,4.5s
WHN L L
comp=Z,530nm,10.9s
WHN L L
comp=Z,690nm,20.4s
WHN L L
comp=Z,1μm,21.4s
AFI Afiamalu 44.96 106 LR LR 07 34 50.3
comp=Z,576nm,19.0s,baz=290,slow=34
KHON Khomkaen 45.07 297 P **P** **07 17 16.0 +0.8**
comp=Z,22nm,1.1s
ERM Erimo 45.08 359 *i* P **P** **07 17 13.5 -1.3**
ERM pmax pmax
comp=Z,38nm,1.4s
RPSI Rantau Prapat 45.39 277 P **P** **07 17 16.7 -1.1**
RPSI IAmb IAmb 07 17 23.6
comp=Z,125nm,1.5s
PSI Prapat 45.40 277 P **P** **07 17 16.7 -1.3**
PSI pmax pmax
comp=Z,125nm,1.5s
PSI Prapat 45.40 277 P **P** **07 17 17.1 -0.9**
comp=Z,521nmcomp=Z,19nm,1.5s,comp=Z,1μm,1.5s,
comp=Z,65nm,2.0s
PSI P **pP** **07 17 17.2 -5.7**
comp=Z,521nmcomp=Z,19nm,1.5s,comp=Z,1μm,1.5s,
comp=Z,65nm,2.0s
NONG Nongkai 45.45 299 P **P** **07 17 18.5 +0.3**
comp=Z,89nm,0.9s
CHAI Chaiyaphum 45.66 296 P **P** **07 17 20.0 +0.2**
comp=Z,223nmcomp=Z,16nm,0.8s
NNZ Nelson 46.12 149 IAMs_20 IAMs_20 07 37 38.5
comp=Z,2μm,19.0s
URZ Urewera 46.15 143 LR LR 07 36 41.6
comp=Z,621nm,18.2s,baz=31,slow=36
SLVN Son La 46.20 304 P **P** **07 17 24.1 -0.1**
SLVN IAmb IAmb 07 17 31.1
comp=Z,119nm,1.5s
TUWZ Tuamarina 46.57 149 P **P** **07 17 27.2 +0.5**
GSI Gunungsitoli 46.57 275 P **P** **07 17 25.7 -1.4**
GSI IAmb IAmb 07 17 32.0
comp=Z,81nm,1.2s
GSI Gunungsitoli 46.57 275 P **P** **07 17 26.7 -0.4**
comp=Z,79nm,1.4s
TIA Tai'an 46.59 330 P **P** **07 17 25.9 -1.0**
TIA pP **pP** **07 17 31.8 +0.3**
TIA S **S** **07 24 15.4 +0.3**
TIA pmax pmax
comp=Z,5.0nm,0.8s
TIA pmax pmax
comp=Z,550nm,3.9s
TIA L L
comp=Z,310nm,15.7s
TIA L L
comp=Z,400nm,16.4s
TIA L L
comp=Z,550nm,16.4s
GYA Guiyang 46.60 312 ⇓P **P** **07 17 29.4 +2.1**
GYA PcP **PcP** **07 19 02.3 +1.0**
GYA S **S** **07 24 18.9 +3.0**
GYA sS pS 07 24 21.8 +0.2
GYA pmax pmax
comp=Z,10.0nm,1.6s
GYA pmax pmax
comp=Z,120nm,5.6s
DL2 Dalian 46.75 336 P **P** **07 17 28.0 0.0**
DL2 PP **PP** **07 19 17.8 -0.4**
DL2 S **S** **07 24 21.8 +4.5**
DL2 pmax pmax
comp=Z,27nm,1.2s
DL2 pmax pmax
comp=Z,340nm,3.7s
DL2 L L
comp=Z,330nm,17.7s
DL2 L L
comp=Z,440nm,16.2s
DL2 L L
comp=Z,640nm,18.8s
PHET Kaeng Krachan 46.84 291 P **P** **07 17 33.0 +3.8**
comp=Z,152nmcomp=Z,7.5nm,1.2s
ENH Enshi 46.86 318 P **P** **07 17 29.8 +0.6**
ENH IAmb IAmb 07 17 41.1
comp=Z,114nm,1.5s
MSHR Mys Shultsa 47.08 347*ce*P **P** **07 17 30.2 -0.4**
MSHR pmax pmax
comp=Z,50nm,2.5s
YUK Yuzh-Kuril'sk 47.12 2 *e*P **P** **07 17 29.9 -1.0**
YUK *e* 07 19 01.8
YUK *e* 07 19 20.4
YUK *e*PPP PPP 07 20 04.2
YUK *e*S **S** **07 24 22.6 +0.2**
YUK *e* 07 27 24.8
YUK *e*SSS SSS 07 28 50.8
YUK pmax pmax
comp=N,268nm,1.0s
YUK pmax pmax
comp=E,230nm,1.0s
YUK pmax pmax
comp=Z,304nm,1.0s
YUK pmax pmax
comp=Z,264nm,1.4s
YUK MLR MLR
comp=Z,709nm,21.0s
YUK MLR MLR
comp=N,2μm,20.0s
YUK MLR MLR
comp=E,310nm,18.0s
ASAJ Asahikawa 47.19 359 P **P** **07 17 31.2 -0.2**
ASAJ pmax pmax
comp=Z,59nm,1.4s
ASAJ MLR MLR
comp=Z,300nm,20.0s
JKA Kamikawa-asahi 47.19 359 P **P** **07 17 31.2 -0.2**
JKA IAmb IAmb 07 17 38.0
comp=Z,59nm,1.4s
VLA Vladivostok 47.44 348*c i*P **P** **07 17 33.1 -0.3**
VLA pmax pmax
comp=Z,38nm,1.3s
PHIT Phitsanulok 47.52 297 P **P** **07 17 35.9 +1.5**
comp=Z,1μmcomp=Z,27nm,1.0s
SRDT SRDT 47.75 293 P **P** **07 17 36.7 +0.5**
comp=Z,46nm,1.9s
SRDT SRDT 47.75 293 P **P** **07 17 36.7 +0.5**
comp=Z,44nm,1.9s
MLSI Meulaboh, Aceh 48.09 279 P **P** **07 17 39.6 +0.6**
comp=Z,48nm,1.2s
KUR Kuril'sk 48.41 4*c i*P **P** **07 17 41.0 +0.1**
KUR *e*S **S** **07 24 42.4 +1.7**
KUR *e*SS **SS** **07 28 07.6 -3.2**
KUR *e*SSS SSS 07 29 24.2
KUR pmax pmax
comp=Z,1μm,6.2s
KUR pmax pmax
comp=Z,235nm,1.8s
KUR pmax pmax
comp=N,130nm,1.5s
KUR pmax pmax
comp=E,67nm,1.6s
USA0B Ussuriysk Arra 48.46 349 P **P** **07 17 41.0 -0.3**
USA0B pmax pmax
comp=Z,23nm,0.8s
USA0B Ussuriysk Arra 48.46 349 P **P** **07 17 41.0 -0.3**
USA0B IAmb IAmb 07 17 42.4
comp=Z,23nm,0.8s
USRK Ussuriysk Ar. 48.46 349 P **P** **07 17 40.9 -0.4**
comp=Z,22nm,0.8s,baz=168,slow=7.2,SNR=48
USRK LR LR 07 33 47.8
comp=Z,552nm,20.4s,baz=148,slow=31
SNY Shenyang 48.55 340 ⇑P **P** **07 17 41.8 -0.2**
SNY S **S** **07 24 46.1 +3.3**
SNY pmax pmax
comp=Z,49nm,2.3s
SNY pmax pmax
comp=Z,850nm,7.0s
SNY L L
comp=Z,610nm,19.2s
SNY L L
comp=Z,450nm,19.4s
SNY L L
comp=Z,1μm,19.4s
KMI Kunming 48.93 308 ⇑P **P** **07 17 46.6 +1.1**
KMI sP sP 07 17 52.3 +0.2
KMI PP **PP** **07 19 40.6 +1.5**
KMI S **S** **07 24 48.3 -0.9**
KMI pmax pmax
comp=Z,54nm,1.4s
KMI pmax pmax
comp=Z,560nm,3.5s
KMI L L
comp=Z,260nm,19.8s
KMI L L
comp=Z,230nm,20.9s
KMI L L
comp=Z,330nm,22.1s
CM31 Chiang Mai Arr 49.29 298 P **P** **07 17 49.6 +1.5**
CM31 IAmb IAmb 07 17 50.7
comp=Z,48nm,0.9s
CMAR Chiang Mai Arr 49.29 298 P **P** **07 17 49.3 +1.2**
comp=Z,26nm,0.8s,baz=120,slow=6.2,SNR=92
CMAR PcP **PcP** **07 19 12.8 +1.9**
comp=Z,1.4nm,0.3s,baz=64,slow=2.1,SNR=1.1
CMAR LR LR 07 39 08.1
comp=Z,122nm,20.0s,baz=162,slow=37
CMAR Chiang Mai Arr 49.29 298 P **P** **07 17 48.8 +0.7**
CMAR Chiang Mai Arr 49.29 298 P **P** **07 17 48.8 +0.7**
MDJ Mudanjiang 49.37 347 P **P** **07 17 47.8 -0.5**
MDJ S **S** **07 24 57.8 +3.5**
MDJ sS sS 07 25 01.6 -1.0
MDJ ScS **ScS** **07 27 37.8 -1.7**
MDJ pmax pmax
comp=Z,540nm,6.8s
MDJ L L
comp=Z,660nm,24.6s
MDJ L L
comp=Z,620nm,20.4s
MDJ L L
comp=Z,1μm,23.6s
CMMT Chiang Mai 49.41 298 P **P** **07 17 49.0 -0.1**
comp=Z,1μmcomp=Z,52nm,1.7s
CHTO Chiang Mai 49.42 298 P **P** **07 17 49.8 +0.7**
CHTO pmax pmax
comp=Z,55nm,1.3s
CHTO Chiang Mai 49.42 298 P **P** **07 17 49.8 +0.7**
CHTO IAmb IAmb 07 17 50.6
comp=Z,55nm,1.3s
CHTO Chiang Mai 49.42 298 P **P** **07 17 50.0 +0.9**
comp=Z,745nmcomp=Z,31nm,1.7s
XAN Xi'an 49.66 321 P **P** **07 17 51.3 +0.6**
XAN pP pP 07 17 55.8 +0.4
XAN PP **PP** **07 19 47.1 +1.7**
XAN S **S** **07 24 59.3 +0.6**
XAN pmax pmax
comp=Z,90nm,1.7s
XAN pmax pmax
comp=Z,880nm,3.7s
XAN L L
comp=Z,250nm,18.8s
XAN L L
comp=Z,290nm,17.3s
XAN L L
comp=Z,520nm,19.0s
CN2 Changchun 49.72 342 *e*P **P** **07 17 50.4 -0.6**
CN2 SS SS 07 28 28.6 -3.4
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 pmax pmax
comp=Z,500nm,5.2s
CN2 L L
comp=Z,400nm,18.0s
CN2 L L
comp=Z,400nm,18.0s
CN2 L L
comp=Z,500nm,19.0s
YSS Yuzh-Sakhalins 50.02 359*c i*P **P** **07 17 52.5 -0.6**
YSS *e*S **S** **07 25 01.3 -1.9**
YSS *e*SS **SS** **07 28 26.6 -10**
YSS *e*SSS SSS 07 29 55.1
YSS pmax pmax
comp=Z,30nm,1.7s
YSS pmax pmax
comp=Z,700nm,6.8s
YSS MLR MLR
comp=Z,400nm,19.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS Yuzh-Sakhalins 50.02 359 P **P** **07 17 52.9 -0.3**
YSS IAmb IAmb 07 17 59.1
comp=Z,88nm,1.5s
BJT Baijiatuau 50.05 332 P **P** **07 17 53.1 -0.4**
BJT pmax pmax
comp=Z,31nm,1.0s
BJT MLR MLR
comp=Z,600nm,20.0s
BJT Baijiatuau 50.05 332 P **P** **07 17 53.1 -0.4**
BJT IAmb IAmb 07 17 54.8
comp=Z,31nm,1.0s
BJI Beijing 50.06 332 P **P** **07 17 53.1 -0.5**
BJI pP **pP** **07 17 57.8 -0.5**
BJI sP **sP** **07 17 59.0 -1.7**
BJI PP **PP** **07 19 47.5 -1.4**
BJI S **S** **07 25 04.8 +0.7**
BJI sS **sS** **07 25 14.9 +3.1**
BJI pmax pmax
comp=Z,33nm,1.2s
BJI pmax pmax
comp=Z,550nm,3.8s
BJI L L
comp=Z,390nm,17.4s
BJI L L
comp=Z,250nm,20.2s
BJI L L
comp=Z,720nm,19.9s
TIY Taiyuan 50.17 327 *e*P **P** **07 17 53.9 -0.7**
TIY PP **PP** **07 19 50.6 +0.6**
TIY S **S** **07 25 08.5 +2.7**
TIY pmax pmax
comp=Z,520nm,7.6s
TIY L L
comp=Z,180nm,10.8s
TIY L L
comp=Z,230nm,12.5s
TIY L L
comp=Z,250nm,13.9s
CD2 Chengdu 51.20 315 P **P** **07 18 03.1 +0.6**
CD2 PP **PP** **07 19 54.8 -4.7**
CD2 S **S** **07 25 22.3 +2.0**
CD2 SS **SS** **07 28 51.6 -4.5**
CD2 pmax pmax
comp=Z,150nm,1.3s
CD2 pmax pmax
comp=Z,750nm,5.5s
CD2 L L
comp=Z,480nm,17.3s
CD2 L L
comp=Z,390nm,18.7s
CD2 L L
comp=Z,500nm,17.2s
UGL Uglegorsk 52.16 358 *e*P **P** **07 18 08.4 -0.8**
UGL pmax pmax
comp=Z,1μm,6.6s
HHC Hu-ho-hao-te 52.93 329 *e*P **P** **07 18 15.6 +0.3**
HHC sP pwP 07 18 23.4 -0.1
HHC S **S** **07 25 42.9 -1.1**
HHC sS sS 07 25 53.1 +1.4
HHC pmax pmax
comp=Z,55nm,1.0s
HHC pmax pmax
comp=Z,770nm,6.3s
HHC L L
comp=Z,480nm,20.6s
HHC L L
comp=Z,340nm,19.6s
HHC L L
comp=Z,610nm,22.6s
KLR Kul'dur 53.35 350*ce*P **P** **07 18 16.7 -1.3**
KLR pmax pmax
comp=Z,59nm,1.9s
BTO Baotou 53.55 328 *e*P **P** **07 18 20.4 +0.6**
BTO S **S** **07 25 51.3 -1.1**
BTO L L
comp=Z,1μm,17.3s
BTO L L
comp=Z,1μm,15.9s
TYV Tymovskoe 53.93 359 *e*P **P** **07 18 22.6 +0.4**
TYV pmax pmax
comp=Z,13nm,1.5s
TYV pmax pmax
comp=Z,700nm,4.1s
LZH Lanzhou 54.17 320 ⇑P **P** **07 18 25.6 +1.1**
LZH pP pP 07 18 30.4 +1.1
LZH sP pwP 07 18 36.1 +3.4
LZH S **S** **07 26 03.6 +2.6**
LZH sS sS 07 26 13.9 +5.1
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,220nm,4.9s
LZH L L
comp=Z,300nm,19.5s
LZH L L
comp=Z,260nm,20.1s
LZH L L
comp=Z,200nm,19.0s
GRNR Gornyy 54.21 354⇑*i*P **P** **07 18 24.0 -0.3**
GRNR pmax pmax
comp=Z,6.0nm,0.8s
SKR Severo-Kuril's 54.75 9*c i*P **P** **07 18 28.6 +0.4**
SKR *e*S **S** **07 26 13.4 +5.5**
SKR pmax pmax
comp=Z,700nm,3.1s
SKR pmax pmax
comp=Z,300nm,5.2s
SKR MLR MLR
comp=Z,200nm,17.0s
SKR MLR MLR
comp=Z,400nm,19.0s
IMP Imphal 55.98 303 *e*P **P** **07 18 37.7 0.0**
IMP IAmb IAmb 07 18 43.8
comp=Z,35nm,0.9s
MOKO MOKOCHONG 56.09 305 *e*P **P** **07 18 38.6 0.0**
MOKO IAmb IAmb 07 18 40.0
comp=Z,88nm,0.9s
KOHI KOHIMA 56.19 304 *e*P **P** **07 18 39.1 -0.1**
KOHI IAmb IAmb 07 18 40.4
comp=Z,136nm,0.8s
PEA0B Petropavlovsk- 57.35 10*ce*P **P** **07 18 47.1 +0.3**
PEA0B Petropavlovsk- 57.35 10 P **P** **07 18 47.0 +0.2**
PETK Petropavlovsk- 57.35 10 P **P** **07 18 47.6 +0.8**
comp=Z,21nm,0.8s,baz=170,slow=7.7,SNR=26
PETK PcP **PcP** **07 19 40.9 +0.1**
comp=Z,11nm,0.8s,baz=160,slow=4.7,SNR=4.3
PETK LR LR 07 42 50.8
comp=Z,475nm,19.6s,baz=189,slow=36
PETK Petropavlovsk- 57.35 10 P **P** **07 18 47.3 +0.5**
PETK Petropavlovsk- 57.35 10 P **P** **07 18 47.3 +0.5**
PET Petropavlovsk 57.44 10 *e*P **P** **07 18 44.3 -3.1**
PET *e*S **S** **07 26 37.4 -6.2**
PET pmax pmax
comp=Z,1μm,6.1s
PET pmax pmax
comp=Z,500nm,6.2s
RAR Rarotonga 57.49 113 LR LR 07 40 04.3
comp=Z,281nm,21.6s,baz=288,slow=32
SHL Shillong 57.99 303 P **P** **07 18 52.6 +0.5**
SHL pmax pmax
comp=Z,90nm,0.9s
SHL Shillong 57.99 303 *e*P **P** **07 18 52.7 +0.7**
SHL IAmb IAmb 07 18 58.9
comp=Z,90nm,1.1s
SHL Shillong 57.99 303 P **P** **07 18 52.6 +0.5**
GUWA GUWAHATI 58.38 303 *e*P **P** **07 18 54.6 0.0**
GUWA IAmb IAmb 07 19 00.0
comp=Z,77nm,0.9s
ZEA Zeya 58.49 348 *e*P **P** **07 18 55.1 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.0s

ZEA pmax pmax
comp=E,100nm,7.8s
ZEA pmax pmax
comp=N,200nm,6.1s
ZEA pmax pmax
comp=Z,300nm,9.1s
GTA Gaotai 58.71 321 ⇑P **P 07 18 57.8 +1.0**
GTA pP pP 07 19 02.3 +0.7
GTA sP pwP 07 19 05.6 +0.6
GTA S **S 07 27 04.8 +3.7**
GTA pmax pmax
comp=Z,54nm,1.2s
GTA pmax pmax
comp=Z,700nm,4.7s
GTA L L
comp=Z,240nm,16.7s
GTA L L
comp=Z,210nm,17.4s
GTA L L
comp=Z,230nm,17.5s
LSA Lhasa 60.17 307 P **P 07 19 09.1 +1.6**
LSA pmax pmax
comp=Z,130nm,1.0s
LSA Lhasa 60.17 307 P **P 07 19 08.4 +0.9**
LSA pmax pmax
comp=Z,34nm,1.0s
LSA Lhasa 60.17 307 P **P 07 19 08.4 +0.9**
LSA IAmb IAmb 07 19 10.5
comp=Z,34nm,1.0s
ULN Ulaanbaatar 60.28 332 *ce*P **P 07 19 08.6 +1.1**
ULN pmax pmax
comp=Z,95nm,1.7s
ULN Ulaanbaatar 60.28 332 P **P 07 19 07.4 0.0**
ULN IAmb IAmb 07 19 09.1
comp=Z,52nm,1.2s
ULN Ulaanbaatar 60.28 332 P **P 07 19 08.5 +1.1**
comp=Z,5µmcomp=Z,215nm,1.8s
SONM Songino Array 60.56 332 P **P 07 19 10.0 +0.6**
comp=Z,11nm,1.0s,baz=154,slow=5.1,SNR=51
SONM LR LR 07 43 47.4
comp=Z,823nm,21.7s,baz=126,slow=34
SONM PKPPKP **P'P'df 07 48 34.0 +4.5**
comp=Z,0.6nm,0.8s,baz=307,slow=0.7,SNR=6.1
SONM Songino Array 60.56 332 P **P 07 19 09.9 +0.5**
SONM pmax pmax
comp=Z,40nm,1.4s
SONM Songino Array 60.56 332 P **P 07 19 09.8 +0.5**
SONM IAmb IAmb 07 19 16.9
comp=Z,40nm,1.4s
CIT Chita 60.81 339 *e*P **P 07 19 11.7 +0.8**
CIT *e* 07 19 26.7
CIT *e* 07 20 00.2
CIT pmax pmax
comp=Z,254nm,2.6s
SMY Shemya 61.31 20 IAMs_20 IAMs_20 07 39 59.8
comp=Z,2µm,21.0s
GTK Tadong 61.36 304 *e*P **P 07 19 17.0 +1.8**
GTK IAmb IAmb 07 19 21.1
comp=Z,116nm,1.4s
TAPN Taplejung 62.12 303 *e*P **P 07 19 21.4 +0.9**
comp=Z,475nm,1.4s
ODAN Odare 62.22 303 *e*P **P 07 19 22.2 +1.1**
comp=Z,274nm,1.1s
BOK Bokaro 62.54 299 *e*P **P 07 19 24.5 +1.5**
BOK IAmb IAmb 07 19 30.4
comp=Z,66nm,1.1s
MA2 Magadan 62.88 4 *ce*P **P 07 19 25.6 +1.0**
MA2 pmax pmax
comp=Z,57nm,2.5s
MA2 Magadan 62.88 4 P **P 07 19 24.4 -0.2**
MA2 IAmb IAmb 07 19 26.1
comp=Z,35nm,0.9s
KHLU Kahalu`u 63.29 66 IAMs_20 IAMs_20 07 42 25.8
comp=Z,2µm,20.0s
HPAH Hawaii Prepara 63.58 66 IAMs_20 IAMs_20 07 42 21.4
comp=Z,2µm,20.0s
SDHHI Sand Hill 63.79 67 IAMs_20 IAMs_20 07 39 34.1
comp=Z,2µm,19.0s
ZAK Zakamensk 63.81 332 *e*P **P 07 19 30.7 -0.4**
ZAK pmax pmax
comp=Z,71nm,1.6s
UWB Uwekahuna B 63.81 67 IAMs_20 IAMs_20 07 41 13.7
comp=Z,2µm,19.0s
GUN Gumba 63.83 303 *e*P **P 07 19 33.1 +1.1**
comp=Z,266nm,1.1s
PKI Pulchoki 64.12 303 *e*P **P 07 19 34.2 +0.4**
comp=Z,355nm,1.7s
PKIN Phulchoki 64.13 303 *e*P **P 07 19 34.4 +0.6**
KKN Kakani 64.30 303 *e*P **P 07 19 35.8 +0.9**
comp=Z,192nm,1.0s
DMN Daman 64.38 303 *e*P **P 07 19 36.4 +0.9**
comp=Z,322nm,1.2s
TLY Talaya 64.55 334 LR LR 07 46 19.2
comp=Z,391nm,21.4s,baz=130,slow=35
TLY Talaya 64.55 334 *c i*P **P 07 19 35.9 +0.1**
TLY *e*S **S 07 28 18.2 +3.8**
TLY pmax pmax
comp=Z,108nm,1.4s
TLY MLR MLR
comp=Z,1µm,20.0s
TLY Talaya 64.55 334 P **P 07 19 36.5 +0.7**
TLY IAmb IAmb 07 19 38.1
comp=Z,75nm,1.4s
IRK Irkutsk 64.67 334 *e*P **P 07 19 36.3 -0.3**
IRK pmax pmax
comp=Z,184nm,2.5s
GKN Gorkha 64.90 303 *e*P **P 07 19 39.7 +0.9**
BOD Bodaibo 65.47 343 *e*P **P 07 19 39.3 -2.3**
BOD pmax pmax
comp=Z,61nm,1.4s
ATKA Atka Island 65.61 27 IAMs_20 IAMs_20 07 41 32.1
comp=Z,2µm,22.0s
KOLN Koldanda 65.70 302 *e*P **P 07 19 44.8 +0.8**
comp=Z,333nm,1.2s
MOY Mondy 65.74 332 *e*P **P 07 19 43.0 -0.7**
DANN Dangsing 65.75 303 *e*P **P 07 19 44.8 +0.4**
comp=Z,186nm,0.9s
YAK Yakutsk 66.03 353 LR LR 07 47 56.9
comp=Z,323nm,19.9s,baz=120,slow=36
YAK Yakutsk 66.03 353 *e*P **P 07 19 44.7 -0.4**
YAK *e**PP **pwP 07 19 58.1 +5.8**
YAK *e* 07 20 15.3
YAK *e* 07 22 08.5
YAK *e*S **S 07 28 29.6 -2.5**
YAK *e**SS sS 07 28 51.5 +11
YAK *e* 07 29 37.0
YAK *e*SS **SS 07 32 46.2 -1.6**
YAK pmax pmax
comp=Z,59nm,1.2s
YAK pmax pmax
comp=N,30nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,57nm,1.5s
YAK pmax pmax
comp=N,24nm,1.6s
YAK pmax pmax
comp=E,15nm,1.5s
YAK smax smax
comp=N,47nm,2.6s
YAK smax smax
comp=E,80nm,3.3s
YAK Yakutsk 66.03 353 P **P 07 19 45.0 -0.1**
PYUN Piuthan 66.32 303 *e*P **P 07 19 48.9 +0.9**
PPT Papeete 66.61 108 LR LR 07 45 33.8
comp=E,218nm,20.6s,baz=300,slow=33
PPT2 Papeete2 66.61 108 *e*P **P 07 19 50.8 +1.0**
comp=E,156nm,1.4s
PPT2 *e*S **S 07 28 39.0 -1.9**
comp=E,127nm,23.2s
PPT2 *e*LQ LQ 07 37 10.8
comp=E,962nm,31.0s
PPT2 *e*LR LR 07 40 01.1
comp=E,994nm,28.2s
TIAR Tiarei 66.82 108 *e*P **P 07 19 51.7 +0.6**
comp=E,33nm,1.4s
CASY Casey 67.11 194 IAMs_20 IAMs_20 07 48 52.3
comp=Z,1µm,18.0s
TBI Tubuai 67.24 114 *e*LQ LQ 07 37 22.6
comp=Z,748nm,41.0s
TBI *e*LR LR 07 40 17.8
comp=Z,570nm,27.8s
HYB Hyderabad 67.66 290 *i*P **P 07 19 57.5 +1.0**
NIKH Nikolski High 68.58 28 P 07 20 01.1
baz=232
WMQ Urumqi 68.75 320 *e*P **P 07 20 04.0 +1.1**
WMQ pP pP 07 20 07.4 -0.3
WMQ PcP **PcP 07 20 28.3 +0.8**
WMQ pmax pmax
comp=Z,100nm,0.9s
WMQ pmax pmax
comp=Z,980nm,3.6s
WMQ L L
comp=Z,570nm,17.5s
WMQ L L
comp=Z,280nm,22.7s
WMQ L L
comp=Z,390nm,20.9s
BHPL Bhopal 69.90 296 *e*P **P 07 20 09.5 -0.9**
BHPL IAmb IAmb 07 20 10.6
comp=Z,40nm,0.6s
SPIA Saint Paul Isl 70.64 24 IAMs_20 IAMs_20 07 44 51.0
comp=Z,2µm,21.0s
DDI Dehra Dun 71.08 303 ⇑*e*P **P 07 20 16.9 -0.6**
DGZ Jazzator, Alta 71.66 325 *c i*P **P 07 20 20.9 +0.2**
DGZ pmax pmax
comp=Z,98nm,0.9s
SMLA Simla 72.03 304 *e*P **P 07 20 23.8 +0.7**
SMLA IAmb IAmb 07 20 30.0
comp=Z,162nm,1.3s
ZSN Zaisan 72.14 322 ⇑*i*P **P 07 20 24.1 +0.6**
comp=Z,188nm,2.9s,baz=322
ZSN *e*S **S 07 29 48.3 +3.2**
comp=Z,104nm,4.4s,baz=322
ZSN Zaisan 72.14 322 *c i*P **P 07 20 24.0 +0.6**
ZSN *e*S **S 07 29 48.3 +3.2**
ZSN pmax pmax
comp=Z,188nm,2.9s
ZSN smax smax
comp=N,104nm,4.4s
FALS False Pass 72.29 29 P 07 20 24.3
baz=236
BILL Bilibino 72.85 9 *de*P **P 07 20 27.1 -0.1**
BILL *i* 07 20 37.2
BILL *e* 07 23 06.4
BILL *e*S **SKiKP 07 29 58.4 -1.7**
BILL *e*SS **SS 07 34 34.2 +1.5**
BILL pmax pmax
comp=Z,30nm,1.1s
BILL MLR MLR
comp=Z,257nm,19.0s
DHRM DHARAMSHALA 73.04 305 *e*P **P 07 20 29.1 -0.3**
DHRM IAmb IAmb 07 20 29.5
comp=Z,83nm,0.7s
MK31 Makanchi Array 73.47 321 *i*P **P 07 20 31.5 +0.1**
MK31 pmax pmax
comp=Z,78nm,1.0s
MK31 Makanchi Array 73.47 321 P **P 07 20 31.9 +0.6**
MK31 IAmb IAmb 07 20 33.6
comp=Z,87nm,1.2s
MKAR Makanchi Array 73.47 321 P **P 07 20 32.3 +1.0**
comp=Z,56nm,1.0s,baz=107,slow=7.8,SNR=269
MKAR PKPPKP **P'P'df 07 48 04.1 -4.5**
comp=Z,0.4nm,0.9s,baz=343,slow=3.8,SNR=3.8
MKAR LR LR 07 54 48.5
comp=Z,97nm,18.6s,baz=104,slow=38
MKAR Makanchi Array 73.47 321 P **P 07 20 31.8 +0.4**
MKAR Makanchi Array 73.47 321 P **P 07 20 31.8 +0.4**
MAKZ Makanchi 73.67 321 P **P 07 20 33.0 +0.4**
MAKZ pmax pmax
comp=Z,78nm,0.9s
MAKZ MLR MLR
comp=Z,300nm,20.0s
MAKZ Makanchi 73.67 321 P **P 07 20 33.0 +0.4**
SHLS Shalkode 73.97 317 ⇑*i*P **P 07 20 33.4 -1.1**
comp=Z,27nm,0.7s,baz=317
SHLS *e*S **SKiKP 07 30 04.5 +1.7**
baz=317
SHLS Shalkode 73.97 317 *c i*P **P 07 20 33.4 -1.1**
SHLS *e*S **SKiKP 07 30 04.4 +1.7**
SHLS pmax pmax
comp=Z,27nm,0.7s
SDPT Sand Point 73.99 29 P **P 07 20 34.6 +0.5**
SDPT Sand Point 73.99 29 P 07 20 33.9
baz=239
PDGK Podgornoye 74.01 317 P **P 07 20 34.7 -0.1**
PDGK pmax pmax
comp=Z,63nm,1.3s
UZB Uzynbulak 74.27 316 ⇑*i*P **P 07 20 36.6 +0.3**
comp=Z,64nm,1.3s,baz=316
UZB *e*S **S 07 30 10.2 +0.4**
baz=316
UZB Uzynbulak 74.27 316 *c i*P **P 07 20 36.6 +0.3**
UZB *e*S **S 07 30 10.1 +0.4**
UZB pmax pmax
comp=Z,64nm,1.3s
GAMB Gambell 74.55 19 P 07 20 38.3
baz=226
GAMB Gambell 74.55 19 IAMs_20 IAMs_20 07 47 39.0
comp=Z,1µm,22.0s
KPKS Kokpek 74.61 317 ⇑*i*P **P 07 20 38.7 +0.5**
comp=Z,131nm,1.8s,baz=317
KPKS Kokpek 74.61 317 *c i*P **P 07 20 38.6 +0.4**
KPKS pmax pmax
comp=Z,131nm,1.8s
TARG Taragay, Kyrgy 74.65 315 P **P 07 20 40.0 +1.1**
TARG IAmb IAmb 07 20 56.8
comp=Z,56nm,1.2s
SATY Saty 74.66 316 ⇑*i*P **P 07 20 39.1 +0.5**
comp=Z,79nm,1.8s,baz=316
SATY *e*S **S 07 30 15.6 +1.5**
baz=316
SATY Saty 74.66 316 *c i*P **P 07 20 39.1 +0.5**
SATY *e*S **S 07 30 15.6 +1.5**
SATY pmax pmax
comp=Z,79nm,1.8s
VNDA Vanda 74.82 176 P **P 07 20 39.3 +0.7**
comp=Z,6.4nm,0.8s,baz=328,slow=5.7,SNR=24
VNDA LR LR 07 53 38.6
comp=Z,868nm,18.3s,baz=338,slow=36
VNDA Vanda 74.82 176 P **P 07 20 38.9 +0.2**
VNDA pmax pmax
comp=Z,42nm,1.5s
VNDA Vanda 74.82 176 P **P 07 20 38.9 +0.2**
VNDA IAmb IAmb 07 20 45.0
comp=Z,42nm,1.4s
ZAA0 Zalesovo Array 75.10 328 P **P 07 20 39.7 -0.9**
ZAA0 IAmb IAmb 07 20 41.6
comp=Z,53nm,0.9s
ZALV Zalesovo Beam 75.10 328 P **P 07 20 40.5 -0.2**
comp=Z,42nm,0.8s,baz=110,slow=5.3,SNR=130
ZALV PKPPKP **P'P'df 07 48 11.4 +6.4**
comp=Z,0.4nm,0.3s,baz=254,slow=2.8,SNR=3.7
ZALV LR LR 07 53 12.3
comp=Z,245nm,21.7s,baz=108,slow=35
ZALV Zalesovo Beam 75.10 328 P **P 07 20 40.7 0.0**
KDJ Kajisay 75.22 315 P **P 07 20 42.8 +0.9**
KDJ pmax pmax
comp=Z,75nm,1.1s
KDJ Kajisay 75.22 315 P **P 07 20 42.8 +0.9**
KDJ IAmb IAmb 07 20 44.5
comp=Z,75nm,1.1s
KSH Kashi 75.30 312 P **P 07 20 44.1 +1.8**
KSH pP sP 07 20 48.6 -1.0
KSH S **S 07 30 21.4 +0.1**
KSH pmax pmax
comp=Z,49nm,1.9s
KSH pmax pmax
comp=Z,590nm,3.7s
KSH L L
comp=Z,160nm,7.3s
KSH L L
comp=Z,190nm,8.0s
KSH L L
comp=Z,140nm,5.1s
TDK Taldyqorghan 75.32 318 *e*P **P 07 20 42.6 +0.4**
comp=Z,157nm,1.2s,baz=318
TDK Taldyqorghan 75.32 318 *e*P **P 07 20 42.6 +0.4**
TDK pmax pmax
comp=Z,157nm,1.2s
TIXI Tiksi 75.42 355 *ce*P **P 07 20 41.2 -1.0**
TIXI Tiksi 75.42 355 P **P 07 20 41.1 -1.1**
ARXS Arharly 75.44 317 *e*P **P 07 20 43.6 +0.6**
TAOE Nuku Hiva Isla 75.59 98 *e*LR LR 07 44 02.2
comp=Z,946nm,24.1s
MDOK Medeo 75.64 316 *i*P **P 07 20 44.8 +0.6**
baz=316
MDOK *e*S **S 07 30 25.8 +0.9**
baz=316
MDOK Medeo 75.64 316 P **P 07 20 44.4 +0.2**
MDOK pmax pmax
comp=Z,146nm,2.1s
AAA Alma-Ata 75.74 316 *e*P **P 07 20 44.4 -0.3**
baz=316
AAA Alma-Ata 75.74 316 *e*P **P 07 20 44.4 -0.3**
NIL Nilore 75.87 306 P **P 07 20 46.2 +0.6**
NIL pmax pmax
comp=Z,177nm,0.8s
NIL Nilore 75.87 306 P **P 07 20 46.2 +0.6**
CHKK Chushkaly 75.90 317 *e*P **P 07 20 44.8 -0.7**
baz=317
CHKK Chushkaly 75.90 317 *e*P **P 07 20 44.8 -0.7**
ULHL Ulahol 75.92 315 P **P 07 20 47.5 +1.6**
SNR=25
MTBS Maitube 76.06 316 ⇑*i*P **P 07 20 47.1 +0.5**
baz=316
MTBS Maitube 76.06 316 *c i*P **P 07 20 47.0 +0.5**
SEM Semipalatinsk 76.14 324 *i*P **P 07 20 46.1 -1.0**
comp=Z,107nm,2.4s,baz=324
SEM Semipalatinsk 76.14 324 *i*P **P 07 20 46.0 -1.0**
SEM pmax pmax
comp=Z,107nm,2.4s
BOOM Boomskoye usch 76.20 315 P **P 07 20 48.1 +0.6**
BOOM pmax pmax
comp=Z,44nm,0.9s
BOOM MLR MLR
comp=Z,200nm,20.0s
BOOM Boomskoye usch 76.20 315 P **P 07 20 48.1 +0.6**
BOOM IAmb IAmb 07 20 49.9
comp=Z,44nm,0.8s
KUU Kurty 76.36 317 ⇑*i*P **P 07 20 48.5 +0.3**
comp=Z,232nm,1.8s,baz=316
KUU Kurty 76.36 317 *c i*P **P 07 20 48.4 +0.3**
KUU pmax pmax
comp=Z,232nm,1.8s
TKM2 Tokmak 2 76.57 315 P **P 07 20 50.4 +0.8**
SNR=30
TKM2 Tokmak 2 76.57 315 P **P 07 20 49.8 +0.2**
TKM2 pmax pmax
comp=Z,119nm,2.1s
TNA Tin City 76.95 19 IAMs_20 IAMs_20 07 48 38.6
comp=Z,1µm,22.0s
TNA Tin City 76.95 19 P 07 20 51.8
baz=230
ANM Nome 77.17 20 P 07 20 53.0
baz=232
ANM Nome 77.17 20 IAMs_20 IAMs_20 07 48 36.3
comp=Z,2µm,22.0s
CHMS Chumysh 77.19 315 P **P 07 20 54.1 +1.2**
SNR=14
FRU1 Bishkek 77.22 315 P **P 07 20 54.1 +1.0**
FRU1 pmax pmax
comp=Z,75nm,1.2s
FRU1 MLR MLR
comp=Z,300nm,21.0s
FRU1 Bishkek 77.22 315 P **P 07 20 54.1 +1.0**
FRU1 IAmb IAmb 07 20 55.5
comp=Z,75nm,1.1s
KURBB Kurchatov Arra 77.23 324 PKPPKP 07 48 02.2
comp=Z,0.5nm,0.6s,baz=316,slow=0.6,SNR=7.2
KURBB Kurchatov Arra 77.23 324 P **P 07 20 52.3 -0.6**
KURBB pmax pmax
comp=Z,98nm,1.5s
AAK Ala-Archa 77.27 315 LR LR 07 54 19.5
comp=Z,138nm,21.6s,baz=94,slow=35
AAK Ala-Archa 77.27 315 P **P 07 20 55.1 +1.6**
SNR=11
AAK Ala-Archa 77.27 315 *ce*P **P 07 20 54.3 +0.8**
AAK pmax pmax
comp=Z,219nm,1.7s
AAK Ala-Archa 77.27 315 P **P 07 20 53.8 +0.3**
AAK IAmb IAmb 07 21 01.1
comp=Z,54nm,1.1s
SGDS Sogindy 77.41 316 ⇑*i*P **P 07 20 54.1 0.0**
comp=Z,55nm,2.2s,baz=316
SGDS *e*S **S 07 30 47.1 +2.9**
baz=316
SGDS Sogindy 77.41 316 *c i*P **P 07 20 54.1 0.0**
SGDS *e*S **S 07 30 47.0 +2.9**
SGDS pmax pmax
comp=Z,55nm,2.2s
USP Ospenovka 77.44 316 P **P 07 20 55.0 +0.7**
SNR=37
SII Sitkinak Islan 77.67 30 P **P 07 20 55.2 0.0**
SII Sitkinak Islan 77.67 30 P 07 20 55.7
baz=244
AML Almayashu 77.69 314 P **P 07 20 58.1 +1.9**
SNR=31
EKS2 Erkin-Say 77.78 315 P **P 07 20 58.1 +1.8**
SNR=40
ARSB Arslanbob 77.99 313 P **P 07 20 58.5 +1.0**
ARSB pmax pmax
comp=Z,92nm,1.3s
ARSB Arslanbob 77.99 313 P **P 07 20 58.5 +1.0**
ARSB IAmb IAmb 07 20 59.4
comp=Z,92nm,1.2s
BTLS Baital 78.27 317 ⇑*i*P **P 07 20 59.1 +0.3**
comp=Z,68nm,1.5s,baz=317
BTLS *e*S **S 07 30 57.4 +4.2**
baz=317
BTLS Baital 78.27 317 *c i*P **P 07 20 59.0 +0.3**
BTLS *e*S **S 07 30 57.4 +4.2**
BTLS pmax pmax
comp=Z,68nm,1.5s
DRK Karamyk 78.40 311 P **P 07 21 01.0 +1.0**
DRK IAmb IAmb 07 21 07.8
comp=Z,65nm,1.3s
OHAK Old Harbor 78.40 30 P **P 07 20 59.6 +0.3**
OHAK Old Harbor 78.40 30 P 07 20 59.7
baz=245,SNR=21
KDAK Kodiak Island 78.98 29 P 07 21 02.4
baz=246
KDAK Kodiak Island 78.98 29 IAMs_20 IAMs_20 07 53 49.1
comp=Z,948nm,20.0s
SVW2 Sparrevohn 79.07 26 IAMs_20 IAMs_20 07 51 47.8
comp=Z,1µm,20.0s
O19K Port Alsworth 79.21 27 P 07 21 03.6
baz=244
GAR Garm 79.41 310 P **P 07 21 05.6 +0.3**
GAR IAmb IAmb 07 21 06.6
comp=Z,116nm,1.3s
DZA Taraz 79.58 315 *e*P **P 07 21 05.2 -0.9**
baz=314
DZA Taraz 79.58 315 *e*P **P 07 21 05.2 -0.9**
TTA Tatalina 79.76 24 P 07 21 07.2
baz=242
TTA Tatalina 79.76 24 IAMs_20 IAMs_20 07 50 15.2
comp=Z,2µm,22.0s
RDOG Red Dog Mine 80.06 18 P 07 21 09.6
baz=234
HOM Homer 80.20 28 IAMs_20 IAMs_20 07 50 14.1
comp=Z,812nm,22.0s
HOM Homer 80.20 28 P 07 21 09.6
baz=246,SNR=6.8
KK31 Karatay Array 80.22 315 *i*P **P 07 21 09.9 +0.4**
KK31 pmax pmax
comp=Z,82nm,1.3s
KK31 Karatay Array 80.22 315 P **P 07 21 09.8 +0.4**
KK31 IAmb IAmb 07 21 11.7
comp=Z,106nm,1.3s
KKAR Karatay Array 80.22 315 P **P 07 21 10.1 +0.6**
KKAR Karatay Array 80.22 315 P **P 07 21 10.1 +0.6**
OTUK Ortayu 80.30 320 P **P 07 21 10.0 +0.1**
OTUK pmax pmax
comp=Z,73nm,1.4s
CNPM China Poot 80.34 28 IAMs_20 IAMs_20 07 50 05.8
comp=Z,1µm,22.0s
RKT Rikitea 80.53 113 *e*P **P 07 21 11.0 -0.6**
comp=Z,191nm,1.3s
RKT Rikitea 80.53 113 *e*LQ LQ 07 43 02.4
comp=Z,306nm,31.2s
RKT *e*LR LR 07 46 27.2
comp=Z,660nm,26.0s
SPCR Spurr Chakacha 80.59 26 P 07 21 10.7
baz=245
BRLK Bradley Lake 80.60 28 P **P 07 21 11.2 0.0**
BRLK IAmb IAmb 07 21 15.8
comp=Z,99nm,1.5s
BRLK IAMs_20 IAMs_20 07 51 00.3
comp=Z,916nm,22.0s
BRSE Bradley Lake S 80.66 28 P 07 21 11.6
baz=247,SNR=16
CAPN Captain Cook N 80.88 27 P 07 21 13.6
baz=246
CAPN Captain Cook N 80.88 27 IAMs_20 IAMs_20 07 52 21.9
comp=Z,1µm,20.0s
SKT Skwentna 81.20 26 IAMs_20 IAMs_20 07 51 31.5
comp=Z,1µm,21.0s

SKT	**Skwentna**	**81.20**	**26**	P				07 21 13.3	
	baz=246,SNR=18								
PPLA	**Purkeypile**	**81.31**	**25**	IAMs_20	IAMs_20			07 50 52.2	
	comp=Z,1µm,22.0s								
PPLA	**Purkeypile**	**81.31**	**25**	P				07 21 15.1	
	baz=245,SNR=22								
SUA	**Susitna One**	**81.34**	**26**	P				07 21 14.5	
	baz=247,SNR=17								
SUA	**Susitna One**	**81.34**	**26**	IAMs_20	IAMs_20			07 51 13.1	
	comp=Z,1µm,22.0s								
SEW	**Seward**	**81.39**	**28**	P				07 21 15.4	
	baz=248,SNR=24								
SEW	**Seward**	**81.40**	**28**	P	**P**			**07 21 15.5**	**+0.2**
SEW				IAMs_20	IAMs_20			07 50 25.7	
	comp=Z,1µm,22.0s								
O22K	**Cooper Landing**	**81.41**	**27**	P				07 21 15.7	
	baz=248								
O22K	**Cooper Landing**	**81.41**	**27**	IAMs_20	IAMs_20			07 50 52.2	
	comp=Z,1µm,21.0s								
FIS	**Fire Island**	**81.45**	**27**	P	**P**			**07 21 16.4**	**+0.7**
FIS				IAMs_20	IAMs_20			07 52 50.0	
	comp=Z,1µm,20.0s								
RC01	**Rabbit Creek A**	**81.64**	**27**	P				07 21 16.3	
	baz=248,SNR=33								
RC01	**Rabbit Creek A**	**81.64**	**27**	P	**P**			**07 21 16.8**	**+0.1**
RC01				IAMs_20	IAMs_20			07 52 47.1	
	comp=Z,818nm,21.0s								
CHUM	**Lake Minchumin**	**81.68**	**24**	P				07 21 17.5	
	baz=245,SNR=88								
M22K	**Willow**	**81.73**	**26**	P				07 21 16.3	
	baz=247,SNR=23								
NRIK	**Noril'sk**	**81.77**	**343**	P	**P**			**07 21 17.1**	**0.0**
	comp=Z,89nm,1.1s,baz=120,slow=5.7,SNR=105								
NRIK				LR	LR			07 56 11.9	
	comp=Z,710nm,21.8s,baz=121,slow=35								
NRIK	**Noril'sk**	**81.77**	**343**	*ce*P		**P**		**07 21 16.9**	**-0.3**
NRIK				pmax		pmax			
	comp=Z,164nm,1.1s								
NRIK	**Noril'sk**	**81.77**	**343**	P	**P**			**07 21 17.1**	**0.0**
NRIK				IAMs_20	IAMs_20			07 55 49.5	
	comp=Z,824nm,22.0s								
CUT	**Chulitna**	**81.92**	**25**	IAMs_20	IAMs_20			07 54 30.4	
	comp=Z,1µm,20.0s								
CUT	**Chulitna**	**81.92**	**25**	P				07 21 17.3	
	baz=247,SNR=7.2								
PMR	**Palmer**	**82.10**	**26**	P				07 21 18.6	
	baz=248,SNR=42								
PMR	**Palmer**	**82.10**	**26**	IAMs_20	IAMs_20			07 51 58.3	
	comp=Z,1µm,22.0s								
KTH	**Kantishna Hill**	**82.10**	**24**	IAMs_20	IAMs_20			07 51 49.1	
	comp=Z,1µm,22.0s								
PWL	**Port Wells**	**82.19**	**27**	IAMs_20	IAMs_20			07 51 15.7	
	comp=Z,1µm,22.0s								
H21K	**Melozitna Rive**	**82.26**	**22**	P				07 21 20.3	
	baz=244,SNR=40								
GHO	**Glory Hole Cre**	**82.26**	**26**	P	**P**			**07 21 20.8**	**+0.7**
GHO				IAmb	IAmb			07 21 21.3	
	comp=Z,47nm,0.9s								
GHO				IAMs_20	IAMs_20			07 52 04.7	
	comp=Z,1µm,22.0s								
BPAW	**Bear Paw Mtn.**	**82.30**	**24**	P				07 21 19.8	
	baz=246,SNR=30								
BPAW	**Bear Paw Mtn.**	**82.30**	**24**	IAMs_20	IAMs_20			07 52 27.3	
	comp=Z,1µm,22.0s								
TRF	**Thorofare Moun**	**82.32**	**24**	P	**P**			**07 21 19.9**	**-0.5**
TRF				IAmb	IAmb			07 21 20.5	
	comp=Z,41nm,1.2s								
TRF				IAMs_20	IAMs_20			07 53 33.0	
	comp=Z,1µm,20.0s								
TRF	**Thorofare Moun**	**82.32**	**24**	P				07 21 19.7	
	baz=247,SNR=21								
KNK	**Knik Glacier**	**82.33**	**27**	IAMs_20	IAMs_20			07 54 03.4	
	comp=Z,885nm,21.0s								
KNK	**Knik Glacier**	**82.33**	**27**	P				07 21 20.4	
	baz=249,SNR=35								
I21K	**Tanana**	**82.36**	**23**	P				07 21 21.2	
	baz=245								
SML	**Sawmill**	**82.53**	**26**	IAMs_20	IAMs_20			07 51 16.7	
	comp=Z,954nm,22.0s								
SML	**Sawmill**	**82.53**	**26**	P				07 21 21.5	
	baz=249,SNR=57								
Q23K	**Middleton Isla**	**82.63**	**29**	P				07 21 22.3	
	baz=251								
GLI	**Glacier Island**	**82.76**	**27**	IAMs_20	IAMs_20			07 51 52.9	
	comp=Z,831nm,21.0s								
GLI	**Glacier Island**	**82.76**	**27**	P				07 21 22.4	
	baz=250								
MLY	**Manley**	**82.78**	**23**	P	**P**			**07 21 22.8**	**+0.1**
MLY				IAMs_20	IAMs_20			07 52 10.8	
	comp=Z,1µm,22.0s								
MLY	**Manley**	**82.78**	**23**	P				07 21 22.8	
	baz=246,SNR=58								
WAT2	**Susitna Watana**	**82.85**	**25**	P				07 21 22.6	
	baz=248,SNR=53								
BRVK	**Borovoye**	**82.86**	**324**	*ce*P	**P**			**07 21 23.9**	**+0.7**
BRVK				pmax	pmax				
	comp=Z,174nm,1.6s								
BRVK	**Borovoye**	**82.86**	**324**	P	**P**			**07 21 23.6**	**+0.3**
HIN	**Hinchinbrook I**	**82.88**	**28**	IAMs_20	IAMs_20			07 52 03.8	
	comp=Z,791nm,21.0s								
RND	**Reindeer**	**82.90**	**25**	IAMs_20	IAMs_20			07 52 26.2	
	comp=Z,1µm,22.0s								
BWN	**Browne**	**82.94**	**24**	IAMs_20	IAMs_20			07 52 59.1	
	comp=Z,1µm,21.0s								
SCM	**Sheep Creek Mo**	**82.99**	**26**	IAMs_20	IAMs_20			07 51 44.7	
	comp=Z,1µm,22.0s								
MCK	**McKinley**	**82.99**	**24**	IAMs_20	IAMs_20			07 52 28.6	
	comp=Z,1µm,22.0s								
MCK	**McKinley**	**82.99**	**24**	P				07 21 23.0	
	baz=248,SNR=47								
WAT6	**Susitna Watana**	**83.07**	**26**	P				07 21 24.0	
	baz=249,SNR=48								
NEA2	**Nenana**	**83.26**	**24**	IAMs_20	IAMs_20			07 52 44.7	
	comp=Z,965nm,21.0s								
NEA2	**Nenana**	**83.26**	**24**	P				07 21 24.4	
	baz=248,SNR=52								
EYAK	**Cordova Ski Ar**	**83.28**	**28**	P				07 21 25.5	
	baz=251,SNR=7.6								
EYAK	**Cordova Ski Ar**	**83.28**	**28**	P	**P**			**07 21 25.4**	**+0.2**
EYAK				IAmb	IAmb			07 21 27.0	
	comp=Z,52nm,1.2s								
EYAK				IAMs_20	IAMs_20			07 51 51.5	
	comp=Z,960nm,22.0s								
I23K	**Minto, Yukon-K**	**83.36**	**23**	IAMs_20	IAMs_20			07 52 49.3	
	comp=Z,1µm,22.0s								
I23K	**Minto, Yukon-K**	**83.36**	**23**	P				07 21 25.6	
	baz=247,SNR=45								
KLU	**Klutina**	**83.50**	**27**	P				07 21 26.7	
	baz=251,SNR=42								
KLU	**Klutina**	**83.51**	**27**	P	**P**			**07 21 27.2**	**+0.7**
KLU				IAMs_20	IAMs_20			07 52 07.4	
	comp=Z,1µm,22.0s								
H23K	**Yukon River**	**83.55**	**22**	P				07 21 27.0	
	baz=247,SNR=35								
MAW	**Mawson**	**83.59**	**202**	P	**P**			**07 21 27.2**	**+0.5**
	comp=Z,15nm,1.0s,baz=71,slow=6.6,SNR=22								
MAW				LR	LR			07 55 09.3	
	comp=Z,541nm,21.4s,baz=64,slow=33								
MAW	**Mawson**	**83.59**	**202**	P	**P**			**07 21 27.7**	**+1.0**
	baz=84,SNR=12								
MAW	**Mawson**	**83.59**	**202**	P	**P**			**07 21 27.5**	**+0.8**
M24K	**Tolsona, Glenn**	**83.59**	**26**	P				07 21 27.4	
	baz=251,SNR=26								
M24K	**Tolsona, Glenn**	**83.60**	**26**	IAMs_20	IAMs_20			07 54 12.8	
	comp=Z,1µm,21.0s								
WRH	**Wood River Hil**	**83.61**	**24**	IAMs_20	IAMs_20			07 54 20.9	
	comp=Z,998nm,21.0s								
A21K	**Barrow**	**83.69**	**16**	P				07 21 27.6	
	baz=240,SNR=9.1								
A21K	**Barrow**	**83.69**	**16**	P	**P**			**07 21 27.4**	**+0.3**
MDM	**Murphy Dome**	**83.73**	**23**	IAMs_20	IAMs_20			07 52 49.2	
	comp=Z,941nm,22.0s								
CCB	**Clear Creek Bu**	**83.79**	**24**	IAMs_20	IAMs_20			07 53 21.6	
	comp=Z,848nm,21.0s								
TCOL	**CIGO, UAF Yank**	**83.85**	**23**	P				07 21 27.1	
	baz=249,SNR=15								
TCOL	**CIGO, UAF Yank**	**83.85**	**23**	IAMs_20	IAMs_20			07 53 02.2	
	comp=Z,940nm,22.0s								
COLA	**College**	**83.85**	**23**	*c* i P	**P**			**07 21 26.6**	**-1.5**
COLA				pmax	pmax				
	comp=Z,85nm,1.2s								
COLA	**College**	**83.85**	**23**	IAMs_20	IAMs_20			07 52 50.2	
	comp=Z,890nm,22.0s								
COLD	**Coldfoot**	**83.87**	**21**	P				07 21 29.0	
	baz=246,SNR=40								
COLD	**Coldfoot**	**83.87**	**21**	P	**P**			**07 21 29.3**	**+1.1**
HMT	**Hamilton**	**83.91**	**28**	IAMs_20	IAMs_20			07 53 52.3	
	comp=Z,842nm,20.0s								
BMRM	**Bremner River**	**83.94**	**28**	P	**P**			**07 21 28.6**	**-0.2**
BMRM	**Bremner River**	**83.94**	**28**	P				07 21 28.8	
	baz=252								
HDA	**Harding Lake**	**84.05**	**24**	IAMs_20	IAMs_20			07 53 10.6	
	comp=Z,1µm,22.0s								
HDA	**Harding Lake**	**84.05**	**24**	P				07 21 28.0	
	baz=250,SNR=30								
HDA				P				07 21 28.0	
	baz=250,SNR=30								
SUCK	**Suckling Hills**	**84.06**	**29**	IAMs_20	IAMs_20			07 52 07.3	
	comp=Z,995nm,20.0s								
POKR	**Poker Plat Res**	**84.11**	**23**	P	**P**			**07 21 29.1**	**-0.3**
POKR				IAmb	IAmb			07 21 30.0	
	comp=Z,35nm,1.1s								
POKR				IAMs_20	IAMs_20			07 53 43.0	
	comp=Z,882nm,22.0s								
POKR	**Poker Plat Res**	**84.11**	**23**	P				07 21 27.9	
	baz=249								
HARP	**HAARP**	**84.14**	**26**	P				07 21 29.5	
	baz=252,SNR=10								
N25K	**Chitina, Valde**	**84.14**	**27**	P				07 21 30.1	
	baz=252								
PAX	**Paxson**	**84.19**	**26**	P				07 21 30.0	
	baz=251,SNR=11								
H24K	**Noodor Dome**	**84.19**	**23**	P				07 21 29.9	
	baz=249,SNR=59								
ILAR	**Eielson Array**	**84.20**	**24**	P	**P**			**07 21 28.8**	**-1.1**
	comp=Z,36nm,0.8s,baz=256,slow=4.5,SNR=244								
ILAR				LR	LR			07 54 39.7	
	comp=Z,570nm,21.3s,baz=260,slow=33								
BGLC	**Bering Glacier**	**84.31**	**29**	P				07 21 31.2	
	baz=253								
CRQM	**Cirque**	**84.57**	**28**	P	**P**			**07 21 32.6**	**+0.5**
CRQE	**Cirque**	**84.59**	**28**	P				07 21 32.3	
	baz=254								
TOLK	**Toolik Lake Re**	**84.65**	**20**	P				07 21 32.9	
	baz=247,SNR=37								
TOLK	**Toolik Lake Re**	**84.65**	**20**	IAMs_20	IAMs_20			07 56 02.0	
	comp=Z,886nm,20.0s								
MCARA	**McCarthy VSAT**	**84.80**	**28**	P				07 21 33.3	
	baz=254								
MENT	**Mentasta**	**84.94**	**26**	IAMs_20	IAMs_20			07 56 45.2	
	comp=Z,1µm,20.0s								
MESA	**MESA**	**84.97**	**29**	P				07 21 34.9	
	baz=255								
MESA	**MESA**	**84.97**	**29**	IAMs_20	IAMs_20			07 58 15.4	
	comp=Z,975nm,19.0s								
PRP	**Porcupine Dome**	**85.00**	**23**	P				07 21 32.2	
	baz=251,SNR=7.1								
YAH	**Yahtse**	**85.12**	**29**	IAMs_20	IAMs_20			07 54 23.2	
	comp=Z,1µm,22.0s								
SCRK	**Sand Creek**	**85.14**	**25**	P				07 21 34.5	
	baz=252,SNR=33								
TABL	**Table Mountain**	**85.43**	**29**	IAMs_20	IAMs_20			07 54 32.4	
	comp=Z,982nm,22.0s								
FYU	**Fort Yukon**	**85.45**	**22**	IAMs_20	IAMs_20			07 55 32.5	
	comp=Z,1µm,20.0s								
CTG	**Chitna Glacier**	**85.47**	**28**	P				07 21 37.1	
	baz=255								
PINM	**Pinnacle**	**85.77**	**29**	P				07 21 38.3	
	baz=256								
L27K	**Beaver Creek,**	**85.80**	**26**	IAMs_20	IAMs_20			07 55 39.1	
	comp=Z,1µm,20.0s								
L27K	**Beaver Creek,**	**85.80**	**26**	P				07 21 38.5	
	baz=254								
K27K	**Chicken**	**85.96**	**25**	IAMs_20	IAMs_20			07 54 21.3	
	comp=Z,1µm,22.0s								
K27K	**Chicken**	**85.96**	**25**	P				07 21 39.6	
	baz=254								
BCPM	**Bancas Point**	**86.04**	**29**	IAMs_20	IAMs_20			07 57 06.7	
	comp=Z,706nm,20.0s								
EGAK	**Eagle**	**86.54**	**24**	P				07 21 41.8	
	baz=255								
QSPA	**South Pole Qui**	**86.68**	**180**	P	**P**			**07 21 42.8**	**+0.4**
HYT	**Haines Junctio**	**87.26**	**29**	P	**P**			**07 21 46.1**	**+0.8**
HYT				IAMs_20	IAMs_20			07 54 55.9	
	comp=Z,1µm,22.0s								
SIT	**Sitka**	**87.68**	**33**	IAMs_20	IAMs_20			07 53 21.4	
	comp=Z,906nm,21.0s								
SIT	**Sitka**	**87.68**	**33**	P				07 21 48.0	
	baz=260								
WHY	**Whitehorse**	**88.50**	**29**	P				07 21 51.9	
	baz=261								
WHY	**Whitehorse**	**88.50**	**29**	IAMs_20	IAMs_20			07 58 35.7	
	comp=Z,718nm,20.0s								
AB31	**Akbulak array**	**88.53**	**319**	*i* P	**P**			**07 21 50.4**	**-1.1**
AB31				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ABKAR	**Akbulak array**	**88.53**	**319**	P	**P**			**07 21 50.7**	**-0.8**
ABKAR	**Akbulak array**	**88.53**	**319**	P	**P**			**07 21 50.9**	**-0.5**
ABKAR				IAmb	IAmb			07 21 52.1	
	comp=Z,18nm,1.0s								
CRAG	**Craig**	**88.66**	**34**	IAMs_20	IAMs_20			07 54 40.4	
	comp=Z,944nm,20.0s								
GEYT	**Alibeck**	**88.69**	**308**	P	**P**			**07 21 52.8**	**+0.2**
	comp=Z,6.6nm,0.7s,baz=174,slow=2.9,SNR=11								
GEYT				PP	**PP**			**07 25 21.4**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=114,slow=6.5,SNR=1.9								
GEYT				LR	LR			08 03 49.0	
	comp=Z,103nm,21.7s,baz=190,slow=37								
GYA0B	**ALIBECK ARRAY**	**88.69**	**308**	P	**P**			**07 21 51.4**	**-1.1**
GYA0B				IAmb	IAmb			07 21 54.0	
	comp=Z,30nm,1.2s								
EPYK	**Eagle Plains**	**88.70**	**23**	P				07 21 52.1	
	baz=259								
EPYK	**Eagle Plains**	**88.70**	**23**	IAMs_20	IAMs_20			07 58 40.5	
	comp=Z,702nm,20.0s								
SVE	**Sverdlovsk**	**89.05**	**327**	*de*P	**P**			**07 21 52.8**	**-0.9**
SVE				pmax	pmax				
	comp=Z,55nm,1.6s								
WRAK	**Wrangell Islan**	**89.21**	**34**	P	**P**			**07 21 55.4**	**+0.9**
WRAK	**Wrangell Islan**	**89.21**	**34**	IAMs_20	IAMs_20			07 56 07.0	
	comp=Z,916nm,21.0s								
WRAK	**Wrangell Islan**	**89.21**	**34**	P				07 21 55.1	
	baz=263								
ARU	**Arti**	**90.14**	**326**	*d* i P	**P**			**07 21 57.1**	**-1.8**
ARU								07 25 30.9	
ARU				S	**SKSac**			**07 32 27.9**	**-1.2**
ARU				SS	**SS**			**07 38 52.3**	**+1.8**
ARU				pmax	pmax				
	comp=Z,59nm,1.5s								
ARU				MLR	MLR				
	comp=Z,239nm,19.0s								
ARU	**Arti**	**90.14**	**326**	P	**P**			**07 21 56.4**	**-2.4**
ARU				IAmb	IAmb			07 22 04.1	
	comp=Z,68nm,1.4s								
INK	**Inuvik**	**90.25**	**22**	IAMs_20	IAMs_20			07 57 00.2	
	comp=Z,1µm,22.0s								
INK	**Inuvik**	**90.25**	**22**	P				07 21 58.5	
	baz=262								
DLBC	**Dease Lake**	**90.67**	**32**	IAMs_20	IAMs_20			07 54 25.4	
	comp=Z,756nm,22.0s								
BBB	**Bella Bella**	**91.29**	**38**	IAMs_20	IAMs_20			07 55 58.4	
	comp=Z,1µm,21.0s								
SYO	**Syowa Base**	**92.08**	**200**	‖ *e*P	**P**			**07 22 08.8**	**+1.2**
C36M	**Paulatuk**	**93.74**	**21**	IAMs_20	IAMs_20			07 59 15.4	
	comp=Z,1µm,22.0s								
D03D	**Eldon**	**94.39**	**43**	P				07 22 20.0	
	baz=270								
E04D	**Cinebar**	**94.75**	**44**	P				07 22 21.5	
	baz=270								
B05A	**Bryant**	**95.06**	**42**	P				07 22 23.1	
	baz=271								
J04D	**Umpqua Nationa**	**95.10**	**47**	P				07 22 23.5	
	baz=270								
F05D	**White Salmon**	**95.53**	**44**	P				07 22 25.8	
	baz=271								
I05D	**Terrebonne, OR**	**95.64**	**46**	P				07 22 25.4	
	baz=271								
AFDM	**Forest Hills D**	**95.99**	**51**	IAMs_20	IAMs_20			07 58 03.4	
	comp=Z,773nm,19.0s								
K05A	**Summer Lake**	**96.00**	**48**	P	**P**			**07 22 26.3**	**-0.2**
K05A				IAmb	IAmb			07 22 28.6	
	comp=Z,31nm,1.3s								
MOD	**Modoc Plateau**	**96.45**	**48**	IAMs_20	IAMs_20			07 57 07.1	
	comp=Z,568nm,20.0s								
BEKR	**Beckworth**	**96.45**	**50**	P	**P**			**07 22 27.7**	**-0.9**
CMB	**Columbia Colle**	**96.47**	**52**	IAMs_20	IAMs_20			07 57 03.9	
	comp=Z,1µm,22.0s								
E07A	**Sunnyside**	**96.63**	**44**	IAMs_20	IAMs_20			08 01 10.1	
	comp=Z,584nm,19.0s								
RUBR	**Rubicon Trail**	**96.63**	**51**	IAMs_20	IAMs_20			07 58 16.1	
	comp=Z,942nm,20.0s								
PRGR	**Permogore**	**96.82**	**332**	‖ *i* P	**P**			**07 22 27.9**	**-1.5**
HAWA	**Hanford**	**96.86**	**44**	IAMs_20	IAMs_20			07 55 41.2	
	comp=Z,584nm,21.0s								
B08A	**Colville Reser**	**96.90**	**42**	P	**P**			**07 22 29.7**	**-0.5**
B08A				IAmb	IAmb			07 22 30.9	
	comp=Z,9.6nm,1.2s								
I07A	**Izee**	**96.97**	**46**	P	**P**			**07 22 31.2**	**+0.4**
VCNR	**Virginia City**	**97.02**	**51**	IAMs_20	IAMs_20			07 58 19.3	
	comp=Z,721nm,20.0s								
PNTR	**Pine Nut**	**97.06**	**51**	IAMs_20	IAMs_20			07 56 08.5	
	comp=Z,853nm,20.0s								
WAKR	**Walker**	**97.20**	**52**	IAMs_20	IAMs_20			07 56 12.3	
	comp=Z,1µm,21.0s								
PAHR	**Pah Rah Range**	**97.21**	**51**	IAMs_20	IAMs_20			07 55 51.4	
	comp=Z,581nm,21.0s								
D08A	**Wollman Farm,**	**97.24**	**43**	IAMs_20	IAMs_20			08 15 33.4	
	comp=Z,503nm,18.0s								
G08A	**Pilot Rock**	**97.31**	**45**	IAMs_20	IAMs_20			07 57 47.3	
	comp=Z,740nm,20.0s								
YERR	**Yerington**	**97.34**	**51**	IAMs_20	IAMs_20			07 57 44.0	
	comp=Z,812nm,20.0s								
C09A	**Chrisman Ranch**	**97.64**	**42**	IAMs_20	IAMs_20			08 03 31.8	
	comp=Z,622nm,20.0s								
WVOR	**Wild Horse Val**	**97.67**	**48**	IAMs_20	IAMs_20			07 59 58.3	
	comp=Z,918nm,20.0s								
J08A	**Circle Bar Ran**	**97.75**	**47**	P	Pdif			07 22 34.7	+0.4
J08A				IAmb	IAmb			07 22 36.2	
	comp=Z,13nm,1.0s								
OSI	**Osito Audit: C**	**97.88**	**56**	IAMs_20	IAMs_20			08 01 05.7	
	comp=Z,803nm,18.0s								
RYN	**Ryan**	**97.92**	**52**	IAMs_20	IAMs_20			07 57 53.2	
	comp=Z,1µm,20.0s								
ISA	**Isabella, Lake**	**98.06**	**55**	P				07 22 36.3	
	baz=272								
NVAR	**Mina Array Bea**	**98.09**	**52**	P	Pdif			07 22 36.6	+0.5
	comp=Z,2.2nm,1.0s,baz=256,slow=6.1,SNR=8.6								
NVAR				LR	LR			07 58 13.4	
	comp=Z,1µm,22.0s,baz=271,slow=30								
NVAR	**Mina Array Bea**	**98.09**	**52**	P	**P**			**07 22 35.4**	**-0.7**
YKA	**Yellowknife Ar**	**98.17**	**27**	P	**P**			**07 22 35.6**	**0.0**
	comp=Z,3.5nm,0.8s,baz=276,slow=3.9,SNR=25								
YKA				LR	LR			08 04 57.5	
	comp=Z,708nm,20.1s,baz=0.0,slow=34								
NV11	**Mina Array Sit**	**98.21**	**52**	IAMs_20	IAMs_20			07 57 18.0	
	comp=Z,1µm,21.0s								
KVN	**Kaiserville**	**98.23**	**51**	IAMs_20	IAMs_20			07 58 24.4	
	comp=Z,594nm,21.0s								
CWC	**Cottonwood Cre**	**98.35**	**54**	Pdiff				07 22 37.4	
	baz=272								
NEW	**Newport**	**98.38**	**42**	IAMs_20	IAMs_20			08 02 44.3	
	comp=Z,567nm,20.0s								
NEW	**Newport**	**98.38**	**42**	Pdiff				07 22 37.9	
	baz=275								
MWC	**Mount Wilson**	**98.44**	**56**	IAMs_20	IAMs_20			08 01 02.6	
	comp=Z,641nm,20.0s								
EDW2	**Edwards Air Fo**	**98.47**	**55**	Pdiff				07 22 38.0	
	baz=272								
BMO	**Blue Mountains**	**98.50**	**45**	P	**P**			**07 22 37.6**	**0.0**
BMO				pmax	pmax				
	comp=Z,22nm,1.3s								
BMO	**Blue Mountains**	**98.50**	**45**	P	**P**			**07 22 37.6**	**0.0**
BMO				IAmb	IAmb			07 22 39.5	
	comp=Z,22nm,1.3s								
BMO				IAMs_20	IAMs_20			08 00 24.9	
	comp=Z,582nm,20.0s								
LRMC	**Laurel Mtn Rad**	**98.71**	**55**	Pdiff				07 22 39.2	
	baz=272								
FURC	**Furnace Creek,**	**99.33**	**54**	Pdiff				07 22 41.8	
	baz=273								
MFID	**Camas Ranch**	**99.67**	**47**	IAMs_20	IAMs_20			08 00 16.0	
	comp=Z,959nm,21.0s								
NCK	**Nalchik**	**99.75**	**313**	*i* P	**Pdif**			**07 22 43.5**	**+0.4**
SHOC	**Shoshone, Teco**	**99.83**	**54**	Pdiff				07 22 44.0	
	baz=273								
KLMR	**Klimovskoe**	**99.85**	**331**	*e*P	**Pdif**			**07 22 38.6**	**-4.5**
KLMR				pmax	pmax				
	comp=Z,77nm,1.4s								
KLMR	**Klimovskoe**	**99.85**	**331**	*e*P	**Pdif**			**07 22 38.6**	**-4.5**
KLMR				AMP				07 22 43.6	
	comp=Z,77nm,1.4s								
KLMR				*e*PP	**PP**			**07 26 40.8**	**-6.9**
KBZ	**Khabaz**	**100.23**	**314**	PP	**PP**			**07 26 48.3**	**-2.8**
	comp=Z,0.6nm,0.4s,baz=68,slow=8.8,SNR=4.6								
KBZ	**Khabaz**	**100.23**	**314**	*i* P	**Pdif**			**07 22 44.7**	**-0.5**
KBZ				pmax	pmax				
	comp=Z,8.0nm,2.0s								
JTMT	**Jette**	**100.33**	**42**	IAMs_20	IAMs_20			08 02 09.9	
	comp=Z,625nm,20.0s								
KIV	**Kislovodsk**	**100.37**	**314**	*e*P	**Pdif**			**07 22 43.4**	**-2.5**
KIV				*e*				07 26 49.9	
KIV				*e*SS	SS			07 41 16.1	-0.6
KIV				pmax	pmax				
	comp=Z,14nm,1.0s								
NEY	**Neytrino**	**100.41**	**313**	*i* P	**Pdif**			**07 22 46.7**	**+0.5**
NEY				pmax	pmax				
	comp=Z,2.0nm,0.9s								
HLID	**Hailey**	**100.68**	**46**	IAMs_20	IAMs_20			08 00 15.7	
	comp=Z,956nm,20.0s								
HLID	**Hailey**	**100.68**	**46**	Pdiff				07 22 46.9	
	baz=276								
SPX	**San Pedro Mart**	**100.75**	**59**	IAMs_20	IAMs_20			07 57 56.1	
	comp=Z,546nm,20.0s								
APA	**Apatity**	**100.76**	**339**	⇑ *i* P	**Pdif**			**07 22 59.0**	**+12**
APA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
IRM	**Iron Mountain**

O20A	**White River Ci**	**105.69**	**49**	IAMs_20	IAMs_20	08 02 53.8		
	comp=Z,557nm,21.0s							
FINES	**FINESS Array B**	**105.90**	**334**	Pdiff	**Pdif**	**07 23 08.1**	**-1.8**	
	comp=Z,2.7nm,0.8s,baz=90,slow=4.0,SNR=9.4							
LAO	**LASA Array**	**105.92**	**42**	IAMs_20	IAMs_20	08 11 23.8		
	comp=Z,447nm,19.0s							
319A	**Douglas**	**106.01**	**58**	IAMs_20	IAMs_20	08 06 55.3		
	comp=Z,476nm,20.0s							
SLBS	**Sierra La Lagu**	**106.06**	**66**	IAMs_20	IAMs_20	08 01 30.4		
	comp=Z,917nm,21.0s							
RWWY	**Rawlins**	**106.20**	**48**	IAMs_20	IAMs_20	08 07 51.1		
	comp=Z,717nm,19.0s							
K22A	**Casper**	**106.53**	**46**	IAMs_20	IAMs_20	08 06 54.5		
	comp=Z,484nm,20.0s							
DGMT	**Dagmar**	**106.84**	**40**	IAMs_20	IAMs_20	08 15 48.8		
	comp=Z,517nm,19.0s							
MNK	**Minsk**	**107.57**	**327**	*i* P	**Pdif**	**07 23 15.2**	**-2.4**	
MNK				*i*		07 34 25.6		
MNK				*i* PS	PS	07 37 13.0	+5.4	
MNK				*i* SS	SS	07 42 50.0	-4.5	
MNK				*i* SSS	SSS	07 46 53.0		
MNK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MNK				pmax	pmax			
	comp=E,2.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,15nm,0.7s							
MNK				MLR	MLR			
	comp=E,26nm,20.0s							
MNK				MLR	MLR			
	comp=N,263nm,24.0s							
MNK				MLR	MLR			
	comp=Z,418nm,26.0s							
MNK	**Minsk**	**107.57**	**327**	*i* P	**Pdif**	**07 23 15.2**	**-2.4**	
	comp=E,2.0nm,0.9s							
MNK				*i* P	**Pdif**	**07 23 15.2**	**-2.4**	
	comp=N,15nm,0.7s							
MNK				*i* P	**Pdif**	**07 23 15.2**	**-2.4**	
	comp=Z,4.0nm,0.6s,baz=71							
MNK				*i* PP	**PP**	**07 27 39.0**	**-6.3**	
MNK				*i* PPP	PPP	07 29 54.9		
MNK				*i* SKS	SKSdf	07 34 25.6	-11	
MNK				*i* PS	PS	07 37 13.0	+5.4	
MNK				*i* SS	**SS**	**07 42 50.0**	**-4.5**	
MNK				*i* SKKS	**SKKSdf**	**07 45 57.4**	**-10**	
MNK				*i* SSS	SSS	07 46 53.1		
MNK				*i* LQ	LQ	08 05 50.2		
MNK				*i* LR	LR	08 11 07.8		
MNK				*i* LRM	MLR	08 13 30.9		
	comp=E,26nm,20.4s							
MNK				*i* LRM	MLR	08 13 46.2		
	comp=N,263nm,24.3s							
MNK				*i* LRM	MLR	08 14 09.2		
	comp=Z,418nm,25.6s							
Y22D	**IRIS PASSCAL I**	**107.65**	**55**	IAMs_20	IAMs_20	08 10 33.4		
	comp=Z,492nm,20.0s							
ISCO	**Idaho Springs**	**107.74**	**49**	IAMs_20	IAMs_20	08 06 13.0		
	comp=Z,638nm,20.0s							
ANMO	**Albuquerque**	**107.90**	**54**	IAMs_20	IAMs_20	08 03 53.9		
	comp=Z,522nm,22.0s							
RSSD	**Black Hills**	**107.99**	**45**	IAMs_20	IAMs_20	08 06 07.0		
	comp=Z,523nm,21.0s							
AKASG	**Malin Array Be**	**108.01**	**323**	Pdiff	**Pdif**	**07 23 18.8**	**-0.8**	
	comp=Z,0.4nm,0.4s,baz=54,slow=4.6,SNR=5.9							
EPT	**El Paso**	**108.31**	**58**	IAMs_20	IAMs_20	08 08 21.2		
	comp=Z,513nm,19.0s							
FCC	**Fort Churchill**	**108.89**	**28**	IAMs_20	IAMs_20	08 09 17.7		
	comp=Z,822nm,21.0s							
T25A	**Trinidad**	**109.17**	**52**	IAMs_20	IAMs_20	08 04 39.0		
	comp=Z,925nm,21.0s							
E28A	**Huff**	**109.63**	**41**	IAMs_20	IAMs_20	08 10 45.0		
	comp=Z,561nm,20.0s							
HPIG		**109.64**	**63**	IAMs_20	IAMs_20	08 05 25.8		
	comp=Z,631nm,20.0s							
MDND	**Maddock**	**109.96**	**40**	IAMs_20	IAMs_20	08 13 19.5		
	comp=Z,518nm,20.0s							
KSCO	**Kaye Shedlock'**	**110.17**	**50**	IAMs_20	IAMs_20	08 05 12.2		
	comp=Z,614nm,21.0s							
OGNE	**Ogallala**	**110.17**	**47**	IAMs_20	IAMs_20	08 09 03.1		
	comp=Z,639nm,19.0s							
SUW	**Suwalki**	**110.31**	**327**	IAMs_20	IAMs_20	08 15 19.3		
	comp=Z,579nm,20.0s							
TIRR	**Tirgusor**	**110.34**	**316**	IAMs_20	IAMs_20	08 17 14.5		
	comp=Z,768nm,21.0s							
TXAR	**Lajitas Array**	**111.08**	**60**	PKiKP	**PKiKP**	**07 27 34.6**	**+1.5**	
	comp=Z,0.3nm,0.9s,baz=0.7,slow=7.2,SNR=3.0							
ELL	**Elmali**	**111.12**	**308**	IAMs_20	IAMs_20	08 20 25.8		
	comp=Z,457nm,21.0s							
SUSD	**Miller**	**111.42**	**43**	IAMs_20	IAMs_20	08 14 17.6		
	comp=Z,458nm,19.0s							
ULM	**Lac du Bonnet**	**111.45**	**37**	IAMs_20	IAMs_20	08 08 34.3		
	comp=Z,819nm,20.0s							
AMTX	**Amarillo**	**111.78**	**54**	IAMs_20	IAMs_20	08 05 39.4		
	comp=Z,555nm,21.0s							
D32A	**Dogwood Acres,**	**111.85**	**40**	IAMs_20	IAMs_20	08 10 08.5		
	comp=Z,483nm,22.0s							
K31A	**O'Neill**	**112.10**	**45**	IAMs_20	IAMs_20	08 13 59.7		
	comp=Z,630nm,20.0s							
AGMN	**Agassiz Nation**	**112.17**	**39**	IAMs_20	IAMs_20	08 05 57.8		
	comp=Z,779nm,22.0s							
F33A	**5 Mile Ranch,**	**112.77**	**41**	IAMs_20	IAMs_20	08 12 40.8		
	comp=Z,678nm,19.0s							
BGNE	**Belgrade**	**112.88**	**46**	IAMs_20	IAMs_20	08 08 09.5		
	comp=Z,508nm,20.0s							
ZAIG	**Zacatecas**	**112.90**	**67**	IAMs_20	IAMs_20	08 04 14.6		
	comp=Z,466nm,21.0s							
ECSD	**EROS Data Cent**	**113.25**	**43**	IAMs_20	IAMs_20	08 08 19.9		
	comp=Z,524nm,21.0s							
B35A	**Bob, Littlefor**	**113.47**	**38**	IAMs_20	IAMs_20	08 06 47.0		
	comp=Z,851nm,22.0s							
N33A	**J Bar K, Exete**	**113.58**	**47**	IAMs_20	IAMs_20	08 06 58.1		
	comp=Z,545nm,22.0s							
L34A	**Svendsen Farm,**	**113.98**	**45**	IAMs_20	IAMs_20	08 13 29.5		
	comp=Z,523nm,20.0s							
WMOK	**Wichita Mounta**	**114.14**	**53**	IAMs_20	IAMs_20	08 06 51.8		
	comp=Z,515nm,22.0s							
JCT	**Junction City**	**114.19**	**58**	IAMs_20	IAMs_20	08 12 40.0		
	comp=Z,582nm,20.0s							
JCT	**Junction City**	**114.19**	**58**	P		07 27 38.5		
	baz=281							
KSU1	**Kansas State U**	**114.67**	**48**	IAMs_20	IAMs_20	08 11 08.4		
	comp=Z,486nm,20.0s							
N35A	**Tabor**	**114.85**	**46**	IAMs_20	IAMs_20	08 18 42.7		
	comp=Z,470nm,20.0s							
RGN	**Rugen**	**115.13**	**331**	IAMs_20	IAMs_20	08 20 55.0		
	comp=Z,434nm,21.0s							
MORC	**Moravsky Berou**	**115.29**	**325**	*e*PKP	**PKiKP**	**07 27 40.5**	**0.0**	
MORC				*e*PP	**PP**	**07 28 42.5**	**+1.6**	
MORC	**Moravsky Berou**	**115.29**	**325**	IAMs_20	IAMs_20	08 18 51.6		
	comp=Z,505nm,21.0s							
I37A	**Lemond, Waseca**	**115.33**	**42**	IAMs_20	IAMs_20	08 12 06.9		
	comp=Z,747nm,20.0s							
E38A	**The Farm, Brul**	**115.53**	**39**	IAMs_20	IAMs_20	08 11 46.5		
	comp=Z,568nm,21.0s							
SFJD	**Kangerlussuaq**	**115.58**	**6**	IAMs_20	IAMs_20	08 14 36.6		
	comp=Z,462nm,22.0s							
JAVC	**Velka Javorina**	**115.63**	**324**	*e*PKP	**PKPdf**	**07 27 42.7**	**+1.5**	
JAVC				*e*PP	**PP**	**07 28 46.2**	**+2.8**	
Z35A	**Perchaven, San**	**115.70**	**55**	IAMs_20	IAMs_20	08 11 25.4		
	comp=Z,459nm,21.0s							
WHTX	**Lake Whitney,**	**115.84**	**56**	IAMs_20	IAMs_20	08 14 17.4		
	comp=Z,536nm,20.0s							
VRAC	**Vranov**	**116.06**	**325**	*e*PKP	**PKiKP**	**07 27 42.0**	**0.0**	
VRAC				*e*PP	**PP**	**07 28 47.5**	**+1.3**	
DIVS	**Divibare**	**116.17**	**318**		**PKPdf**	**07 27 42.4**	**-0.1**	
SCIA	**State Center**	**116.22**	**44**	IAMs_20	IAMs_20	08 17 17.7		
	comp=Z,536nm,20.0s							
K38A	**Parkersburg**	**116.26**	**43**	IAMs_20	IAMs_20	08 11 04.7		
	comp=Z,631nm,20.0s							
KRUC	**Moravsky**	**116.29**	**324**	*e*PKP	**PKPdf**	**07 27 41.9**	**-0.5**	
KRUC				*e*PP	**PP**	**07 28 49.9**	**+2.1**	
BRG	**Berggiesshubel**	**116.77**	**327**	*e*PKP	**PKiKP**	**07 27 44.1**	**+0.9**	
BRG				Amp		07 27 46.4		
	comp=Z,9.1nm,1.3s							
BRG				PP	**PP**	**07 28 52.0**	**+0.8**	
BRG				Amp		07 29 01.1		
	comp=Z,46nm,2.1s							
P38A	**Dawn**	**116.78**	**47**	IAMs_20	IAMs_20	08 13 30.8		
	comp=Z,637nm,20.0s							
X37A	**Clayton**	**116.89**	**53**	IAMs_20	IAMs_20	08 13 19.7		
	comp=Z,555nm,19.0s							
G40A	**Rib Lake**	**116.94**	**40**	IAMs_20	IAMs_20	08 16 22.1		
	comp=Z,432nm,20.0s							
CLL	**Collm**	**117.05**	**328**	*i* PKiKP	**PKiKP**	**07 27 44.0**	**+0.2**	
	comp=Z,23nm,2.0s							
CLL				*e*		07 28 15.0		
CLL				*i*		07 28 26.3		
CLL				*i* PP	**PP**	**07 28 55.4**	**+2.4**	
	comp=Z,46nm,2.4s							
CLL				*e*		07 29 16.0		
CLL				*e*PPP	PPP	07 31 18.0		
CLL				*e*PS	**PKKPdf**	**07 38 35.0**	**-2.6**	
CLL				*e*		07 39 18.0		
CLL				*e*PPS	PPS	07 40 00.0		
CLL				*e*SS	SS	07 45 06.0	+5.6	
CLL				*e*SSS	SSS	07 49 36.0		
CLL				Lm	MLR	08 19 00.0		
	comp=N,300nm,21.1s							
CLL				Lm	MLR	08 19 00.0		
	comp=E,200nm,21.0s							
CLL				Lm	MLR	08 19 00.0		
	comp=Z,500nm,20.6s							
CLL	**Collm**	**117.05**	**328**	*i* PKIKP	**PKiKP**	**07 27 44.0**	**+0.2**	
CLL				*i*		07 28 55.4		
CLL				pmax	pmax			
	comp=Z,23nm,2.0s							
CLL				pmax	pmax			
	comp=Z,46nm,2.4s							
CLL				MLR	MLR			
	comp=Z,500nm,20.6s							
CLL	**Collm**	**117.05**	**328**	IAMs_20	IAMs_20	08 19 34.8		
	comp=Z,503nm,21.0s							
U38A	**Gravette**	**117.14**	**50**		**PKPdf**	**07 27 43.6**	**-0.8**	
COWI	**Conover**	**117.25**	**39**	IAMs_20	IAMs_20	08 16 47.3		
	comp=Z,564nm,20.0s							
L40A	**Anamosa**	**117.55**	**44**	IAMs_20	IAMs_20	08 18 39.6		
	comp=Z,457nm,20.0s							
Z38A	**Mt. Pleasant**	**117.56**	**54**	IAMs_20	IAMs_20	08 24 59.5		
	comp=Z,554nm,19.0s							
JFWS	**Jewell Farm**	**117.87**	**42**	IAMs_20	IAMs_20	08 14 14.2		
	comp=Z,545nm,21.0s							
P40A	**Paris**	**117.89**	**46**	IAMs_20	IAMs_20	08 16 32.2		
	comp=Z,563nm,20.0s							
GERES	**GERESS Array B**	**117.94**	**325**	PKP	**PKiKP**	**07 27 45.9**	**+0.1**	
	comp=Z,0.5nm,0.7s,baz=88,slow=4.3,SNR=4.6							
GERES				PP	**PP**	**07 28 60.0**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=0.0,slow=3.1,SNR=1.3							
GERES				PKKPbc	**PKKPbc**	**07 38 07.2**	**-0.3**	
	comp=Z,0.4nm,0.7s,baz=266,slow=2.9,SNR=4.3							
F42A	**Maple Grove Fa**	**118.03**	**39**	IAMs_20	IAMs_20	08 10 24.9		
	comp=Z,683nm,22.0s							
MOX	**Moxa**	**118.14**	**328**	*e*L	L	08 19 16.8		
	comp=Z,465nm,21.5s							
R40A	**Maddies Statio**	**118.15**	**48**	IAMs_20	IAMs_20	08 21 31.4		
	comp=Z,404nm,19.0s							
N41A	**Harden Midland**	**118.31**	**45**	IAMs_20	IAMs_20	08 21 07.2		
	comp=Z,429nm,19.0s							
MIAR	**Mount Ida**	**118.33**	**52**	IAMs_20	IAMs_20	08 10 03.6		
	comp=Z,813nm,22.0s							
MIAR	**Mount Ida**	**118.33**	**52**	P		07 27 47.3		
	baz=287							
U40A	**Yellville**	**118.34**	**50**	P		07 27 46.5		
	baz=288							
I42A	**Draeger Farm,**	**118.36**	**41**	IAMs_20	IAMs_20	08 16 13.7		
	comp=Z,688nm,20.0s							
E43A	**Lone Tree Farm**	**118.45**	**38**	IAMs_20	IAMs_20	08 11 07.8		
	comp=Z,836nm,22.0s							
L42A	**Oliver, Polo**	**118.63**	**43**	IAMs_20	IAMs_20	08 14 43.4		
	comp=Z,694nm,21.0s							
LJU	**Ljubljana**	**118.83**	**322**	*e*PKPdf	**PKPdf**	**07 27 47.3**	**-0.1**	
LJU				*e*PP	**PP**	**07 29 07.7**	**+2.0**	
H43A	**Windswept, Lux**	**118.84**	**40**	IAMs_20	IAMs_20	08 20 45.5		
	comp=Z,461nm,18.0s							
GRA1	**Grafenberg Arr**	**118.88**	**327**	IAMs_20	IAMs_20	08 19 44.3		
	comp=Z,405nm,20.0s							
GRF	**Grafenberg Arr**	**118.88**	**327**	*e*PKPdf	**PKiKP**	**07 27 48.0**	**+0.5**	
	baz=70,slow=1.5							
GRF				*e*PP	**PP**	**07 29 09.2**	**+3.4**	
	baz=61,slow=6.1							
GRF				*e*L	L	08 19 33.3		
	comp=Z,367nm,22.0s							
GRFO	**Grafenberg**	**118.88**	**327**	IAMs_20	IAMs_20	08 19 44.3		
	comp=Z,411nm,20.0s							
X40A	**Basin Creek Fa**	**118.93**	**52**	P		07 27 48.9		
	baz=288							
WLAR	**White Oak Lake**	**118.94**	**53**	IAMs_20	IAMs_20	08 18 47.1		
	comp=Z,405nm,21.0s							
CRNS	**Crni Vrh**	**118.97**	**322**	*e*PKPdf	**PKPdf**	**07 27 47.4**	**-0.3**	
WHAR	**Wooly Hollow**	**119.11**	**51**	IAMs_20	IAMs_20	08 10 05.2		
	comp=Z,741nm,22.0s							
K43A	**Burlington**	**119.25**	**42**	IAMs_20	IAMs_20	08 15 42.4		
	comp=Z,631nm,20.0s							
T42A	**Van Buren**	**119.46**	**49**		**PKPdf**	**07 27 48.5**	**-0.3**	
HDIL	**Hopedale**	**119.47**	**45**	IAMs_20	IAMs_20	08 22 59.7		
	comp=Z,425nm,19.0s							
HDIL	**Hopedale**	**119.47**	**45**	P		07 27 48.8		
	baz=293							
FVM	**French Village**	**119.62**	**48**	PKIKP	**PKPdf**	**07 27 48.6**	**-0.6**	
FVM	**French Village**	**119.62**	**48**		**PKPdf**	**07 27 48.6**	**-0.6**	
FVM				IAMs_20	IAMs_20	08 14 57.2		
	comp=Z,411nm,20.0s							
P43A	**Skaggs, Pawnee**	**119.66**	**46**	IAMs_20	IAMs_20	08 22 42.0		
	comp=Z,388nm,19.0s							
L44A	**Lake County Fo**	**119.75**	**42**	IAMs_20	IAMs_20	08 23 43.8		
	comp=Z,405nm,19.0s							
G45A	**Suttons Bay**	**119.91**	**39**	IAMs_20	IAMs_20	08 10 46.6		
	comp=Z,712nm,22.0s							
CCAR	**Cane Creek**	**119.94**	**52**	IAMs_20	IAMs_20	08 11 25.4		
	comp=Z,662nm,22.0s							
HQIL	**Hanson Quary C**	**119.95**	**43**	IAMs_20	IAMs_20	08 12 07.2		
	comp=Z,561nm,21.0s							
M44A	**Midewin, Midew**	**120.00**	**43**	IAMs_20	IAMs_20	08 15 43.4		
	comp=Z,616nm,20.0s							
I45A	**Fountain**	**120.02**	**40**	IAMs_20	IAMs_20	08 18 18.7		
	comp=Z,462nm,20.0s							
O44A	**Mansfield**	**120.21**	**45**	IAMs_20	IAMs_20	08 20 46.3		
	comp=Z,417nm,19.0s							
HBAR	**Harrisburg**	**120.29**	**50**	IAMs_20	IAMs_20	08 11 27.2		
	comp=Z,828nm,22.0s							
Q44A	**Meyer Farm, Va**	**120.31**	**46**	IAMs_20	IAMs_20	08 20 32.2		
	comp=Z,388nm,19.0s							
LPAR	**Lepanto**	**120.55**	**50**	IAMs_20	IAMs_20	08 11 25.1		
	comp=Z,811nm,22.0s							
S44A	**Carbondale**	**120.59**	**48**	IAMs_20	IAMs_20	08 12 28.9		
	comp=Z,533nm,21.0s							
143A	**Socs Landing,**	**120.60**	**54**	IAMs_20	IAMs_20	08 13 14.0		
	comp=Z,495nm,20.0s							
SIUC	**Southern Illin**	**120.61**	**48**	IAMs_20	IAMs_20	08 12 28.0		
	comp=Z,577nm,21.0s							
L46A	**Eue Claire**	**120.91**	**42**	IAMs_20	IAMs_20	08 17 19.3		
	comp=Z,535nm,21.0s							
MET	**Memphis--Engin**	**120.99**	**51**	IAMs_20	IAMs_20	08 11 47.9		
	comp=Z,656nm,21.0s							
OLIL	**Olney**	**121.03**	**46**	IAMs_20	IAMs_20	08 16 50.4		
	comp=Z,414nm,21.0s							
SFIN	**Lafayette**	**121.07**	**44**	IAMs_20	IAMs_20	08 19 27.0		
	comp=Z,468nm,20.0s							
INTR	**Introdacqua**	**121.09**	**318**	PKPdf	**PKPdf**	**07 27 52.0**	**0.0**	
J47A	**Sunmer**	**121.30**	**40**	IAMs_20	IAMs_20	08 16 42.6		
	comp=Z,546nm,20.0s							
P46A	**Rosedale**	**121.31**	**45**	IAMs_20	IAMs_20	08 19 36.5		
	comp=Z,425nm,20.0s							
VBMS	**Vicksburg**	**121.46**	**54**	IAMs_20	IAMs_20	08 19 51.8		
	comp=Z,539nm,20.0s							
W45A	**Hickory Valley**	**121.55**	**50**	IAMs_20	IAMs_20	08 12 49.8		
	comp=Z,530nm,20.0s							
OXF	**Oxford**	**121.60**	**51**	IAMs_20	IAMs_20	08 11 33.2		
	comp=Z,829nm,22.0s							
OXF	**Oxford**	**121.60**	**51**	P		07 27 52.5		
	baz=290							
USIN	**University of**	**121.65**	**47**	IAMs_20	IAMs_20	08 16 38.8		
	comp=Z,658nm,19.0s							
Y45A	**Yeager Farm, C**	**121.72**	**52**	IAMs_20	IAMs_20	08 11 56.2		
	comp=Z,637nm,20.0s							
NRS	**Narsarsuaq**	**121.81**	**5**	IAMs_20	IAMs_20	08 14 40.1		
	comp=Z,472nm,22.0s							
N47A	**Urbana**	**121.81**	**43**	IAMs_20	IAMs_20	08 17 33.5		
	comp=Z,645nm,19.0s							
BLO	**Bloomington**	**121.98**	**45**	IAMs_20	IAMs_20	08 17 58.2		
	comp=Z,475nm,22.0s							
L48A	**N Adams**	**122.17**	**41**	IAMs_20	IAMs_20	08 19 04.7		
	comp=Z,566nm,20.0s							
WVT	**Waverly**	**122.23**	**49**	P		07 27 53.3		
	baz=292							
VLC	**Villacollemand**	**122.31**	**322**	IAMs_20	IAMs_20	08 23 26.5		
	comp=Z,429nm,22.0s							
T47A	**Sharon Grove**	**122.44**	**48**	IAMs_20	IAMs_20	08 13 32.9		
	comp=Z,492nm,22.0s							
PLAL	**Pickwick Lake**	**122.47**	**50**	IAMs_20	IAMs_20	08 12 45.9		
	comp=Z,586nm,21.0s							
AAM	**Ann Arbor**	**122.51**	**41**	IAMs_20	IAMs_20	08 16 39.5		
	comp=Z,654nm,21.0s							
AAM	**Ann Arbor**	**122.51**	**41**	P		07 27 53.5		
	baz=299							
WCI	**Wyandotte Cave**	**122.53**	**46**	IAMs_20	IAMs_20	08 25 29.0		
	comp=Z,383nm,18.0s							
WCI	**Wyandotte Cave**	**122.53**	**46**	P		07 27 54.4		
	baz=295							
LSQQ	**Lebel-sur-Quev**	**122.61**	**31**	P		07 27 54.3		
	baz=309							
P48A	**Milroy**	**122.62**	**44**	IAMs_20	IAMs_20	08 24 05.2		
	comp=Z,451nm,19.0s							
MSSA	**Maissana**	**122.76**	**322**	IAMs_20	IAMs_20	08 24 07.4		
	comp=Z,466nm,22.0s							
N49A	**Columbus Grove**	**122.81**	**42**	IAMs_20	IAMs_20	08 19 09.9		
	comp=Z,477nm,20.0s							
SCHQ	**Schefferville**	**122.85**	**21**	PKP	**PKiKP**	**07 27 55.2**	**+0.2**	
	comp=Z,3.5nm,0.9s,baz=39,slow=6.5,SNR=4.2							
K50A	**Casco**	**122.94**	**40**	IAMs_20	IAMs_20	08 18 32.7		
	comp=Z,731nm,21.0s							
O49A	**Covington**	**123.05**	**43**	IAMs_20	IAMs_20	08 18 30.3		
	comp=Z,632nm,21.0s							
P49A	**Miami Univ. Ec**	**123.08**	**44**	IAMs_20	IAMs_20	08 16 50.3		
	comp=Z,501nm,21.0s							
P49A	**Miami Univ. Ec**	**123.08**	**44**	P		07 27 55.1		
	baz=297							
Z47A	**Carrollton**	**123.10**	**52**	IAMs_20	IAMs_20	08 13 01.9		
	comp=Z,694nm,22.0s							
R49A	**Shelbyville**	**123.31**	**45**	IAMs_20	IAMs_20	08 20 05.5		
	comp=Z,444nm,20.0s							
CHGQ	**Chibougamau**	**123.34**	**29**	P		07 27 54.9		
	baz=312							
M50A	**Fremont**	**123.34**	**41**	IAMs_20	IAMs_20	08 19 58.7		
	comp=Z,637nm,20.0s							
CLTN	**Cedars of Leba**	**123.37**	**48**		**PKPdf**	**07 27 55.7**	**-0.7**	
CCIG	**Comitan**	**123.42**	**73**	IAMs_20	IAMs_20	08 13 15.1		
	comp=Z,458nm,19.0s							
X48A	**Hartselle**	**123.45**	**50**	IAMs_20	IAMs_20	08 14 08.0		
	comp=Z,553nm,20.0s							
U49A	**Red Boiling Sp**	**123.61**	**48**	IAMs_20	IAMs_20	08 13 43.7		
	comp=Z,564nm,22.0s							
R50A	**Paris**	**123.91**	**45**	IAMs_20	IAMs_20	08 16 45.4		
	comp=Z,408nm,19.0s							
ALGO	**Algonquin Park**	**123.93**	**34**	P		07 27 56.8		
	baz=307							
N51A	**Ashland**	**124.02**	**41**	IAMs_20	IAMs_20	08 20 19.7		
	comp=Z,619nm,21.0s							
Y49A	**Blount Mountai**	**124.16**	**51**	IAMs_20	IAMs_20	08 14 27.7		
	comp=Z,698nm,22.0s							
G54A	**Lake Saint Pet**	**124.24**	**35**	P		07 27 56.9		
	baz=306							
P51A	**Williamsport**	**124.25**	**43**	IAMs_20	IAMs_20	08 19 27.0		
	comp=Z,589nm,21.0s							
Q51A	**Peebles**	**124.26**	**44**	IAMs_20	IAMs_20	08 18 04.5		
	comp=Z,424nm,20.0s							
M52A	**Chesterland**	**124.37**	**40**	IAMs_20	IAMs_20	08 18 25.8		
	comp=Z,698nm,20.0s							
H53A	**Bobcaygeon**	**124.43**	**36**	P		07 27 58.3		
	baz=305							
CLF	**Chambon-Foret**	**124.60**	**330**	IAMs_20	IAMs_20	08 27 33.0		
	comp=Z,404nm,22.0s							
D55A	**Sainte-Anne-du**	**124.68**	**32**	P		07 27 58.1		
	baz=310							
S51A	**Beattyville**	**124.72**	**45**	IAMs_20	IAMs_20	08 19 33.7		
	comp=Z,457nm,20.0s							
E55A	**Montcerf-Lytto**	**124.73**	**33**	P		07 27 57.4		
	baz=309							
O52A	**Adamsville**	**124.77**	**42**	IAMs_20	IAMs_20	08 20 46.7		
	comp=Z,644nm,20.0s							
P52A	**Corning**	**124.81**	**43**	IAMs_20	IAMs_20	08 20 10.7		
	comp=Z,403nm,21.0s							
P52A	**Corning**	**124.81**	**43**	P		07 27 57.8		
	baz=299							
ERPA	**Erie**	**124.94**	**39**	IAMs_20	IAMs_20	08 20 19.7		
	comp=Z,680nm,20.0s							
250A	**Grady**	**124.95**	**53**	IAMs_20	IAMs_20	08 15 25.0		
	comp=Z,548nm,20.0s							
Q52A	**Bidwell**	**125.04**	**43**	IAMs_20	IAMs_20	08 20 01.9		
	comp=Z,610nm,21.0s							
O53A	**New Philadelph**	**125.12**	**42**	IAMs_20	IAMs_20	08 21 22.8		
	comp=Z,709nm,21.0s							
O53A	**New Philadelph**	**125.12**	**42**	P		07 27 59.8		
	baz=300							
TZTN	**Tazewell**	**125.23**	**47**	P		07 27 59.3		
	baz=296							
Z51A	**Franklin**	**125.32**	**51**	IAMs_20	IAMs_20	08 14 11.5		
	comp=Z,517nm,

E61A	**Lac Etchemin**	**127.62**	**30**	P			07 28 04.9	
	baz=315							
P57A	**Homestead Farm**	**127.62**	**41**	IAMs_20	IAMs_20		08 25 30.9	
	comp=Z,550nm,19.0s							
S57A	**Dark Hollow, R**	**127.89**	**43**	IAMs_20	IAMs_20		08 22 34.5	
	comp=Z,691nm,20.0s							
I60A	**Shoreham**	**127.89**	**34**	P			07 28 05.3	
	baz=310							
JSC	**Jenkinsville**	**127.89**	**48**	IAMs_20	IAMs_20		08 17 41.3	
	comp=Z,543nm,20.0s							
255A	**Hazlehurst**	**127.95**	**51**	IAMs_20	IAMs_20		08 24 53.4	
	comp=Z,586nm,21.0s							
T57A	**Hurt**	**128.07**	**44**	IAMs_20	IAMs_20		08 22 29.3	
	comp=Z,637nm,20.0s							
TGUH	**Tegucigalpa,Un**	**128.35**	**75**	IAMs_20	IAMs_20		08 15 57.0	
	comp=Z,405nm,20.0s							
TRY	**Troy**	**128.39**	**35**	IAMs_20	IAMs_20		08 21 23.4	
	comp=Z,567nm,20.0s							
W57A	**Gilead**	**128.43**	**47**	IAMs_20	IAMs_20		08 22 21.3	
	comp=Z,593nm,20.0s							
CBN	**Corbin Frederi**	**128.73**	**42**	IAMs_20	IAMs_20		08 25 05.4	
	comp=Z,653nm,20.0s							
456A	**Hilliard**	**128.78**	**53**	IAMs_20	IAMs_20		08 23 21.5	
	comp=Z,477nm,20.0s							
656A	**Willston**	**128.88**	**54**	IAMs_20	IAMs_20		08 23 25.5	
	comp=Z,442nm,20.0s							
WUPA	**West Chester U**	**128.91**	**39**	IAMs_20	IAMs_20		08 21 35.8	
	comp=Z,481nm,20.0s							
P60A	**Greenville**	**128.96**	**39**	P			07 28 06.6	
	baz=305							
257A	**Skidaway Islan**	**129.06**	**51**	IAMs_20	IAMs_20		08 14 55.6	
	comp=Z,614nm,22.0s							
X58A	**Rowland**	**129.19**	**47**	IAMs_20	IAMs_20		08 22 22.3	
	comp=Z,669nm,20.0s							
T59A	**Double "B" Far**	**129.25**	**43**	IAMs_20	IAMs_20		08 24 36.5	
	comp=Z,530nm,21.0s							
U59A	**Littleton**	**129.41**	**44**	IAMs_20	IAMs_20		08 20 33.7	
	comp=Z,649nm,20.0s							
UCCT	**U. Connecticut**	**129.81**	**35**	IAMs_20	IAMs_20		08 19 54.0	
	comp=Z,622nm,22.0s							
L63A	**North Scituate**	**130.12**	**35**	IAMs_20	IAMs_20		08 23 02.0	
	comp=Z,637nm,20.0s							
BRYW	**Bryant College**	**130.12**	**35**	IAMs_20	IAMs_20		08 23 01.2	
	comp=Z,671nm,20.0s							
DWPF	**Disney Wildern**	**130.24**	**55**	IAMs_20	IAMs_20		08 31 12.6	
	comp=Z,404nm,19.0s							
Y60A	**Bolivia**	**130.26**	**47**	IAMs_20	IAMs_20		08 17 34.9	
	comp=Z,702nm,22.0s							
MT01	**Popeta**	**130.35**	**141**		PKPdf		**07 28 10.2**	**+0.3**
ORTG	**Ortega, Santa**	**130.49**	**79**	IAMs_20	IAMs_20		08 12 08.0	
	comp=Z,452nm,20.0s							
DRLN	**Deer Lake**	**130.66**	**18**	IAMs_20	IAMs_20		08 23 49.3	
	comp=Z,559nm,20.0s							
CAO2	**Cobano, Puntar**	**130.89**	**80**	IAMs_20	IAMs_20		08 15 06.6	
	comp=Z,534nm,20.0s							
JTS	**Las Juntas de**	**131.00**	**79**	IAMs_20	IAMs_20		08 13 38.3	
	comp=Z,628nm,20.0s							
COVE	**Coope Vega, Sa**	**131.50**	**79**	IAMs_20	IAMs_20		08 13 58.6	
	comp=Z,424nm,20.0s							
HDC	**Heredia**	**131.84**	**80**	IAMs_20	IAMs_20		08 15 20.8	
	comp=Z,609nm,21.0s							
PEZE	**Perez Zeledon,**	**132.32**	**80**	IAMs_20	IAMs_20		08 15 12.4	
	comp=Z,592nm,20.0s							
PBRG	**Bragança**	**133.51**	**330**	*e*PP	PP		07 30 53.9	+11
ESDC	**Sonseca Array**	**133.53**	**326**	PP	PP		07 30 33.1	-10
	comp=Z,1.3nm,1.0s,baz=34,slow=6.4,SNR=5.5							
ESDC					SKKPbc	SKKPbc	07 40 52.7	-8.2
	comp=Z,1.1nm,1.1s,baz=239,slow=5.9,SNR=4.5							
MVO	**Moncorvo**	**134.13**	**329**	*e*PKP	**PKPdf**		**07 28 17.1**	**+0.3**
MVO	**Moncorvo**	**134.13**	**329**	*e*SS	SS		07 48 56.5	+22
MVO	**Moncorvo**	**134.13**	**329**	*e*LR	LR		08 13 45.5	
	comp=Z,225nm,22.0s							
PGAV	**Gavieira, Arco**	**134.14**	**331**	*e*SS	SS		07 49 15.1	+40
PGAV	**Gavieira, Arco**	**134.14**	**331**	*e*LR	LR		08 15 42.6	
	comp=Z,215nm,22.0s							
POLO	**Lamas de Olo**	**134.36**	**330**	*e*PKP	**PKiKP**		**07 28 18.8**	**+0.1**
PVIS	**Viseu**	**134.90**	**330**	*e*PKP	**PKiKP**		**07 28 19.8**	**+0.1**
MTE	**Manteigas**	**134.95**	**329**	*e*PKP	**PKPdf**		**07 28 18.9**	**+0.5**
MTE	**Manteigas**	**134.95**	**329**	*e*PP	PP		07 31 01.4	+9.3
MTE	**Manteigas**	**134.95**	**329**	*e*LR	LR		08 14 33.3	
	comp=Z,203nm,24.0s							
COI	**Coimbra**	**135.54**	**330**	IAMs_20	IAMs_20		08 29 58.9	
	comp=Z,411nm,22.0s							
PMRV	**Marv??o**	**135.59**	**328**	*e*PKP	**PKPdf**		**07 28 19.6**	**0.0**
PMRV	**Marv??o**	**135.59**	**328**	*e*LR	LR		08 02 50.3	
	comp=Z,255nm,24.0s							
AZU	**Azuero**	**135.78**	**82**	*e*P	**PKPdf**		**07 28 19.7**	**-0.9**
PESTR	**Estremoz**	**136.10**	**328**	*e*PKP	**PKPdf**		**07 28 18.8**	**-1.7**
BCIP	**Isla Barro Col**	**136.11**	**80**	IAMs_20	IAMs_20		08 17 41.0	
	comp=Z,636nm,21.0s							
PSBE	**So Bento**	**136.25**	**329**	*e*PKP	**PKiKP**		**07 28 23.4**	**+0.9**
PMTG	**Montargil**	**136.29**	**328**	*e*PKP	**PKiKP**		**07 28 22.2**	**-0.3**
PBAR	**Barrancos**	**136.30**	**326**	*e*PKP	**PKiKP**		**07 28 22.5**	**-0.1**
PBAR	**Barrancos**	**136.30**	**326**	*e*PP	PP		07 30 59.2	-1.4
UPA	**Univ. de Panam**	**136.43**	**80**	*e*P	**PKPdf**		**07 28 21.1**	**-0.7**
ATAH	**Atahualpa**	**136.50**	**104**	PKP	**PKiKP**		**07 28 24.2**	**+0.1**
	comp=Z,13nm,1.0s,baz=240,slow=4.5,SNR=4.5							
EVO	**Evora**	**136.57**	**328**	*e*PP	PP		07 31 03.1	+0.8
PBEJ	**Beja**	**136.86**	**327**	*e*PKP	**PKiKP**		**07 28 24.9**	**+1.2**
SFS	**San Fernando**	**137.02**	**324**	IAMs_20	IAMs_20		08 34 46.6	
	comp=Z,469nm,20.0s							
PNCL	**Nicolau / Gran**	**137.16**	**328**	*e*PP	PP		07 31 07.0	+1.1
MESJ	**Messejana**	**137.19**	**327**	*e*PKPdf	**PKPdf**		**07 28 21.9**	**-0.7**
MESJ				*e*PP	**PP**		**07 31 06.4**	**+0.2**
MESJ				IAMs_20	IAMs_20		08 27 59.8	
	comp=Z,441nm,23.0s							
MESJ	**Messejana**	**137.19**	**327**	*e*PKIKP	**PKPdf**		**07 28 21.6**	**-0.9**
MESJ				*e*			07 31 06.4	
PVAQ	**Vaqueiros**	**137.22**	**326**	*e*PKP	**PKiKP**		**07 28 23.6**	**-0.9**
PVAQ	**Vaqueiros**	**137.22**	**326**	*e*PP	PP		07 31 05.7	-0.7
PVAQ	**Vaqueiros**	**137.22**	**326**	*e*LR	LR		08 15 10.5	
	comp=Z,225nm,28.7s							
PVAQ	**Vaqueiros**	**137.22**	**326**	IAMs_20	IAMs_20		08 32 58.9	
	comp=Z,293nm,19.0s							
PCVE	**Castro Verde**	**137.24**	**327**	*e*PKP	**PKPdf**		**07 28 22.5**	**-0.1**
PCVE	**Castro Verde**	**137.24**	**327**	*e*PP	PP		07 31 08.1	+1.6
PCVE				KP			07 31 08.8	
PBDV	**Barranco-do-Ve**	**137.46**	**326**	*e*PKP	**PKiKP**		**07 28 25.2**	**+0.2**
PBDV	**Barranco-do-Ve**	**137.46**	**326**	*e*PP	PP		07 31 13.2	+5.3
OTAV	**Otavalo**	**137.52**	**93**	IAMs_20	IAMs_20		08 19 08.9	
	comp=Z,335nm,20.0s							
PFVI	**Vila Bisbo**	**138.03**	**327**	*e*PKP	**PKiKP**		**07 28 26.4**	**+0.3**
PFVI	**Vila Bisbo**	**138.03**	**327**	*e*PP	PP		07 31 10.5	-0.9
PFVI	**Vila Bisbo**	**138.03**	**327**	IAMs_20	IAMs_20		08 31 51.2	
	comp=Z,384nm,22.0s							
GCUF	**Volcan Galeras**	**138.70**	**92**	*e*P	PKPdf		07 28 16.7	-10
BBAC	**Balboa, Cauca**	**138.84**	**91**	*e*P	**PKPdf**		**07 28 25.2**	**-1.3**
LVC	**Limon Verde**	**138.88**	**130**	PKP	**PKiKP**		**07 28 27.9**	**-0.9**
	comp=Z,7.3nm,1.0s,baz=320,slow=3.9,SNR=3.1							
POPC	**Popayan, Colom**	**139.43**	**90**	*e*P	**PKPdf**		**07 28 22.1**	**-5.5**
SOTA	**Rioblanco**	**139.48**	**91**	*e*P	**PKPdf**		**07 28 28.8**	**+0.7**
RAC02	**Cali,SGC**	**139.59**	**89**	*e*P	**PKiKP**		**07 28 33.4**	**+3.3**
YOTC	**Yotoco, Valle**	**139.79**	**88**	*e*P	**PKPdf**		**07 28 26.7**	**-1.5**
CBOC	**Ciudad Bolivar**	**140.09**	**85**	*e*P	**PKPdf**		**07 28 25.2**	**-3.5**
FLOC	**Florencia**	**140.41**	**91**	*e*P	PKPdf		07 28 15.6	-14
BBSR	**BB Station**	**140.50**	**40**	IAMs_20	IAMs_20		08 23 05.7	
	comp=Z,636nm,22.0s							
HELC	**Santa Helena**	**140.56**	**84**	*e*P	**PKPdf**		**07 28 22.1**	**-7.8**
GARC	**Garzon, Huila**	**140.59**	**91**	*e*P	PKPdf		07 28 20.2	-10
SJCC	**San Jacinto, C**	**140.61**	**78**	*e*P	**PKPdf**		**07 28 28.8**	**-0.8**
ANIL	**Santa Ana**	**140.73**	**87**	*e*P	**PKPdf**		**07 28 30.4**	**+0.4**
GUY2C	**Guyana, Caldas**	**140.75**	**86**	*e*P	**PKPdf**		**07 28 24.3**	**-6.0**
RREF	**El Recreo**	**140.78**	**86**	*e*P	**PKPdf**		**07 28 31.5**	**+0.9**
TOLC	**Tolima**	**140.81**	**87**	*e*P	**PKPdf**		**07 28 30.9**	**+0.7**
ORTC	**Ortega, Tolima**	**140.88**	**88**	*e*P	**PKPdf**		**07 28 28.7**	**-1.4**
ZARC	**Zaragoza, Cauc**	**141.15**	**82**	*e*P	**PKPdf**		**07 28 29.4**	**-1.0**
PTLC	**Puerto Leguiza**	**141.16**	**94**	*e*P	**PKPdf**		**07 28 24.7**	**-5.8**
NORC	**Norcasia**	**141.24**	**85**	*e*P	**PKPdf**		**07 28 24.5**	**-6.1**
PRAC	**Prado**	**141.24**	**88**	*e*P	**PKPdf**		**07 28 24.8**	**-5.9**
PLTB	**Pedras Altas**	**141.37**	**156**	*e*P	**PKiKP**		**07 28 33.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**141.43**	**287**	PKhKP	PKPpre		07 28 24.3	
	comp=Z,1.7nm,0.8s,baz=71,slow=2.7,SNR=3.6							
TORD				PKP	**PKPdf**		**07 28 30.9**	**+0.1**
	comp=Z,6.6nm,1.0s,baz=79,slow=2.6,SNR=9.7							
ITQB	**Itaqui**	**141.78**	**150**	*e*P	**PKiKP**		**07 28 34.9**	**+0.9**
ROSC	**El Rosal**	**141.80**	**86**	PKhKP	PKPpre		07 28 28.2	
	comp=Z,6.3nm,0.5s,baz=354,slow=3.4,SNR=6.0							
ROSC	**El Rosal**	**141.80**	**86**	*e*P	**PKPdf**		**07 28 27.6**	**-4.5**
SMLC	**San Martn de**	**141.82**	**80**	*e*P	**PKPdf**		**07 28 25.3**	**-6.4**
SPBC	**San Pablo de B**	**142.03**	**85**	*e*P	**PKPdf**		**07 28 26.9**	**-5.2**
SDDR	**Presa de Saban**	**142.19**	**63**	IAMs_20	IAMs_20		08 26 32.1	
	comp=Z,423nm,21.0s							
MACC	**Macarena, Meta**	**142.24**	**91**	*e*P	**PKPdf**		**07 28 28.1**	**-4.4**
BRRC	**Barranca, Sant**	**142.31**	**83**	*e*P	**PKPdf**		**07 28 25.9**	**-6.6**
CHIC	**Chingaza**	**142.39**	**87**	*e*P	**PKPdf**		**07 28 28.8**	**-4.4**
VILC	**Villavicencio,**	**142.43**	**88**	*e*P	**PKPdf**		**07 28 26.8**	**-6.1**
OCAC	**Ocana**	**142.61**	**81**	*e*P	**PKPdf**		**07 28 26.5**	**-6.7**
LPAZ	**La Paz**	**142.81**	**122**	PKhKP	PKPpre		07 28 31.2	
	comp=Z,8.3nm,0.9s,baz=250,slow=1.2,SNR=24							
LPAZ	**La Paz**	**142.81**	**122**	*e*P	**PKPdf**		**07 28 31.4**	**-2.7**
LPAZ	**La Paz**	**142.81**	**122**	*e*P	**PKPdf**		**07 28 34.7**	**+0.6**
BARC	**Barichara**	**142.87**	**83**	*e*P	**PKPdf**		**07 28 29.4**	**-4.4**
RUSC	**La Rusia**	**143.00**	**85**	*e*P	PKPab		07 28 29.6	0.0
PAMC	**Pamplona, Colo**	**143.30**	**82**	*e*P	PKPab		07 28 28.9	-1.8
URIC	**Uribia, Colomb**	**143.44**	**75**	*e*P	PKPbc		07 28 32.1	+0.5
GUVC	**San Jose del G**	**143.47**	**90**	*e*P	PKPab		07 28 29.6	-1.2
PTGC	**Puerto Gaitan,**	**143.99**	**87**	*e*P	PKPab		07 28 31.5	-1.3
CPUP	**Villa Florida**	**144.09**	**146**	PKP	PKPbc		07 28 33.8	+0.5
	comp=Z,12nm,1.0s,baz=229,slow=1.2,SNR=14							
DABV	**Dabajuro**	**144.88**	**76**	*e*P	**PKPab**		**07 28 35.5**	**-0.6**
SOCV	**Socops**	**145.03**	**80**	*e*P	**PKPbc**		**07 28 36.3**	**-0.4**
PMPST	**Porto Santo, M**	**145.07**	**330**	*e*PKP	**PKPdf**		**07 28 36.9**	**+0.1**
SDV	**Santo Domingo**	**145.18**	**79**	PKPbc	**PKPdf**		**07 28 37.9**	**+0.1**
	comp=Z,22nm,0.5s,baz=276,slow=2.8,SNR=3.5							
SDV	**Santo Domingo**	**145.18**	**79**	IAMs_20	IAMs_20		08 23 30.3	
	comp=Z,440nm,22.0s							
SDV	**Santo Domingo**	**145.18**	**79**	*e*P	**PKPbc**		**07 28 37.3**	**-0.1**
SDV	**Santo Domingo**	**145.18**	**79**	*e*P	**PKiKP**		**07 28 40.2**	**-1.5**
TBTG	**Tabatinga, AM**	**145.37**	**102**	*e*P	**PKPbc**		**07 28 37.3**	**-0.5**
PMAR	**Madeira**	**145.64**	**331**	*e*PKP	**PKPdf**		**07 28 36.7**	**-1.4**
PMAR	**Madeira**	**145.64**	**331**	*e*PP	PP		07 31 56.9	-0.8
PMOZ	**Porto Moniz, M**	**145.70**	**331**	*e*PKP	**PKPdf**		**07 28 37.4**	**-0.7**
PMOZ	**Porto Moniz, M**	**145.70**	**331**	*e*LR	LR		08 20 50.1	
	comp=Z,146nm,20.0s							
PMOZ	**Porto Moniz, M**	**145.70**	**331**		**PKPdf**		**07 28 35.9**	**-2.1**
ITAB	**Concordia**	**145.94**	**154**		**PKPdf**		**07 28 37.2**	**-1.3**
ITAB	**Concordia**	**145.94**	**154**	*e*P	**PKiKP**		**07 28 43.1**	**+0.5**
ELOV	**Elorza**	**146.51**	**82**	*e*P	**PKPbc**		**07 28 41.3**	**+0.1**
OBIP	**Obispado Ponce**	**146.66**	**62**	IAMs_20	IAMs_20		08 30 50.6	
	comp=Z,305nm,20.0s							
SJG	**San Juan**	**147.04**	**61**	PKP2	**PKPdf**		**07 28 40.7**	**+0.2**
SJG				MLR	MLR			
	comp=Z,400nm,21.0s							
SJG	**San Juan**	**147.04**	**61**		**PKPdf**		**07 28 40.7**	**+0.2**
SJG	**San Juan**	**147.04**	**61**	IAMs_20	IAMs_20		08 33 54.4	
	comp=Z,432nm,21.0s							
SJG	**San Juan**	**147.04**	**61**	*e*P	**PKPdf**		**07 28 39.9**	**-0.6**
ETMB	**Extrema**	**147.27**	**114**	*e*P	**PKPbc**		**07 28 43.7**	**+0.3**
PTGB	**Pitanga**	**148.13**	**152**	*e*P	**PKPbc**		**07 28 45.9**	**+0.4**
KIC	**Kosan Boka**	**148.65**	**277**	*e*PKP1	**PKPbc**		**07 28 47.4**	**+0.3**
	comp=Z,427nm,1.8s							
SIV	**San Ignacio**	**148.72**	**128**	PKPbc	**PKPdf**		**07 28 44.9**	**+1.4**
	comp=Z,22nm,0.9s,baz=206,slow=2.5,SNR=13							
DBIC	**Dimbokro**	**148.74**	**277**	PKPbc	**PKPbc**		**07 28 47.5**	**+0.2**
	comp=Z,48nm,1.0s,baz=80,slow=2.9,SNR=19							
TIC	**Toumodi**	**148.91**	**277**	*e*PKP1	**PKPbc**		**07 28 48.0**	**+0.2**
LIC	**Lamto**	**148.94**	**277**	*e*PKP1	**PKPbc**		**07 28 48.2**	**+0.4**
	comp=Z,431nm,1.4s							
TRCB	**Terra Rica**	**149.46**	**149**	*e*P	**PKPbc**		**07 28 47.7**	**-1.2**
AQDB	**Aquidauana**	**149.53**	**142**	*e*P	**PKPbc**		**07 28 48.3**	**-0.8**
SAML	**Samuel**	**150.36**	**114**	PKiKP	**PKPdf**		**07 28 46.1**	**0.0**
SAML	**Samuel**	**150.36**	**114**		**PKPdf**		**07 28 46.1**	**0.0**
PCMB	**Pacaembu**	**151.14**	**150**	*e*P	**PKPbc**		**07 28 50.3**	**-2.7**
BOAV	**Boa Vista**	**155.55**	**91**	*e*P	**PKPdf**		**07 28 57.6**	**+3.9**
PTGA	**Pitinga**	**155.77**	**99**	PKP	**PKPdf**		**07 28 54.3**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=306,slow=2.5,SNR=7.2							
PTGA				PKPab	**PKPab**		**07 29 21.1**	**+0.5**
	comp=Z,9.1nm,0.9s,baz=255,slow=4.8,SNR=8.3							
CLDB	**Colider**	**155.85**	**126**	*e*P	**PKPdf**		**07 28 57.3**	**+3.2**
RIB01	**Linhares ES**	**157.16**	**169**	*e*P	**PKPdf**		**07 28 59.9**	**+4.3**
BDFB	**Brasilia**	**157.80**	**148**	PKP	**PKPdf**		**07 28 57.4**	**+0.7**
	comp=Z,8.8nm,1.2s,baz=140,slow=2.0,SNR=7.0							
BDFB				PKPab	**PKPab**		**07 29 29.3**	**+0.3**
	comp=Z,11nm,1.1s,baz=261,slow=2.3,SNR=6.8							
BDFB	**Brasilia**	**157.80**	**148**	PKiKP	**PKPdf**		**07 28 54.2**	**-2.4**
BDFB							07 29 28.7	
BDFB	**Brasilia**	**157.80**	**148**		**PKPdf**		**07 28 54.2**	**-2.4**
BDFB				PKPab	**PKPab**		**07 29 28.7**	**-0.3**
SNDB	**Serra Nova Dou**	**158.58**	**135**	*e*P	**PKPdf**		**07 29 00.8**	**+3.3**
ITTB	**Itaituba**	**158.93**	**111**	*e*P	**PKPdf**		**07 29 00.7**	**+2.7**
SDBA	**SAO DESIDERIO**	**162.12**	**151**	*e*P	**PKPdf**		**07 29 04.5**	**+3.0**
NBMA	**Muriti-CE**	**169.10**	**166**	*e*P	**PKPdf**		**07 29 10.8**	**+3.6**

NOU 13 07:22:29.9,21°20S×169°78E, h0km, MLv 3.9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.41**	**280**	P	Pn	07 23 10.3	-0.3
PINNC	**Pines Island,**	**2.58**	**237**	P	Pn	07 23 12.9	-0.1
YATNC	**Mamie plateau,**	**2.82**	**252**	P	Pn	07 23 15.9	-0.4
OUENC	**Ouen Island, N**	**2.99**	**246**	P	Pn	07 23 18.7	+0.1
DZM	**Mont Dzumac**	**3.22**	**254**	P	Pn	07 23 21.7	-0.2
ONTNC	**Ouen Toro**	**3.28**	**250**	P	Pn	07 23 22.5	-0.1
NOUC	**Port Laguerre**	**3.36**	**254**	P	Pn	07 23 23.5	-0.1
KOUNC	**Koumac, New Ca**	**5.18**	**276**	P	Pn	07 23 48.9	+0.2

IDC 13 07:35:47.4±2.0, 33°65N×86°67E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/43, mbtmp3.4/5, ML2.6/2, Error ellipse: s-maj=55.7km s-min=30.5km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.55**	**347**	Pn	Pn	07 38 59.6	-1.3
	0.0nm,0.3s,baz=161,slow=14,SNR=4.1						
KURBB	**Kurchatov Arra**	**17.99**	**343**	P	Pn	07 39 57.7	-1.0
	0.0nm,0.3s,baz=156,slow=11,SNR=1.8						
SONM	**Songino Array**	**20.51**	**40**	P	P	07 40 27.4	+0.2
	1.1nm,0.6s,baz=233,slow=12,SNR=5.4						
NOA	**NORSAR Array B**	**54.29**	**325**	P	P	07 45 15.3	+0.2
	0.3nm,0.7s,baz=83,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**70.03**	**132**	P	P	07 47 01.2	0.0
	0.5nm,1.0s,baz=322,slow=7.3,SNR=2.0						

IDC 13 08:07:19.0±1.6, 2°14S×120°98E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/36, mbtmp3.5/4, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/19, Error ellipse: s-maj=44.3km s-min=25.2km az=75.0

DJA 13 08:07:22.0±1.3, 2°S±3°×12°1E±°, h16km±11km, M3.8/9, MLv3.8/9

ISC 13 08:07:24.4±1.0, 2°23S±0°05×120°87E±0°06, h35km, n15, σ1°41/19, mb3.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.32**	**232**	P	**Pn**	**08 07 44.8**	**-1.6**
TTSI				S	**Sn**	**08 08 02.8**	**0.0**
APSI	**Ampana**	**1.53**	**31**	P	**Pn**	**08 07 48.6**	**-0.6**
APSI				S	**Sn**	**08 08 09.6**	**+1.7**
KKSI	**Kolaka, Sulawe**	**2.08**	**158**	P	**Pn**	**08 07 55.5**	**-1.4**
LUWI	**Luwuk**	**2.24**	**58**	P	**Pn**	**08 07 57.9**	**-1.1**
LUWI				S	**Sn**	**08 08 25.6**	**+0.1**
BNSI	**Bone**	**2.29**	**199**	P	**Pn**	**08 07 59.0**	**-0.7**
BNSI				S	**Sn**	**08 08 27.7**	**+1.1**
PMSI	**Majene**	**2.32**	**237**	P	**Pn**	**08 07 59.2**	**-1.0**
MPSI	**Mapaga**	**2.73**	**339**	P	**Pn**	**08 08 05.5**	**-0.2**
KAPI	**Kappang**	**2.98**	**202**	Pn	**Pn**	**08 08 09.3**	**0.0**
	8.5nm,0.3s,baz=29,slow=7.6,SNR=12						
KAPI				Sn	**Sn**	**08 08 48.0**	**+4.2**
	8.4nm,0.3s,baz=218,slow=24,SNR=8.6						
KAPI	**Kappang**	**2.98**	**202**	P	**Pn**	**08 08 08.3**	**-0.9**
GTOI	**Gorontalo**	**3.56**	**37**	P	**Pn**	**08 08 17.8**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.91**	**185**	P	**Pn**	**08 08 22.0**	**0.0**
WRA	**Warramunga Arr**	**21.98**	**144**	P	**P**	**08 12 14.7**	**-0.9**
	1.3nm,1.0s,baz=320,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**24.77**	**150**	P	**P**	**08 12 43.0**	**-0.1**
	0.7nm,0.9s,baz=327,slow=8.3,SNR=5.9						
MJAR	**Matsushiro Arr**	**41.82**	**21**	LR	LR	08 34 31.8	
	comp=Z,18nm,18.1s,baz=185,slow=39						
MKAR	**Makanchi Array**	**59.43**	**330**	P	**P**	**08 17 23.3**	**-0.3**
	0.3nm,0.6s,baz=123,slow=8.8,SNR=4.2						

ISK 13 08:13:38.1,36°05N×26°97E, h5km, ML2.3/11

ATH 13 08:13:38.8,36°09N×26°96E, h47km±8km, ML2.6/2, Error ellipse: s-maj=9.0km s-min=1.3km az=22.0

THE 13 08:13:41.5,36°15N×26°99E, h36km±4km, ML2.5/3, Error ellipse: s-maj=4.8km s-min=0.5km az=17.0

DDA 13 08:13:43.5,36°23N×27°25E, h7km±6km, ML1.6

ISC 13 08:13:38.3±1.1, 36°13N±0°03×26°94E±0°02, h17km±9km, n47, σ0°72/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.50**	**18**	P	**Pn**	**08 13 50.4**	**-0.4**
NISR					S	**Sn**	**08 13 59.2**	**+0.1**
NISR					AML	AML	08 14 01.1	
	comp=E,2211μm,0.2s							
NISR					AML	AML	08 14 01.1	
	comp=N,1175μm,0.2s							
NISR	**Nisiros**	**0.50**	**18**	P		**Pn**	**08 13 51.0**	**+0.2**
NISR					S	**Sn**	**08 13 58.8**	**-0.3**
	comp=N,858nm,0.2s							
NIS1	**Nisyros Isl.**	**0.51**	**22**	P		**Pn**	**08 13 51.5**	**+0.6**
NIS1					S	**Sn**	**08 14 00.3**	**+1.0**
NIS1	**Nisyros Isl.**	**0.51**	**22**	P		**Pn**	**08 13 51.2**	**+0.3**
NIS1	**Nisyros Isl.**	**0.51**	**22**	PG		**Pn**	**08 13 50.0**	**-0.9**
KOSK	**Kos Island**	**0.62**	**3**	PG		**Pn**	**08 13 51.9**	**-0.5**
KOSK					SG	**Sn**	**08 14 02.4**	**+0.4**
DAT	**Datca**	**0.79**	**41**	PG		**Pn**	**08 13 54.8**	**0.0**
DATC	**Datca-Mugla**	**0.85**	**43**	PG		**Pn**	**08 13 56.0**	**+0.4**
ARG	**Arkhangelos**	**0.96**	**85**	P		**Pg**	**08 13 57.3**	**+0.2**
ARG					S	**Sg**	**08 14 09.6**	**-0.1**
ARG					AML	AML	08 14 11.3	
	comp=N,357μm,0.2s							
ARG					AML	AML	08 14 13.6	
	comp=E,517μm,0.2s							
ARG	**Arkhangelos**	**0.96**	**85**	P		**Pg**	**08 13 57.2**	**+0.2**
ARG					S	**Sg**	**08 14 09.5**	**-0.1**
	comp=E,210nm,0.2s							
ARG	**Arkhangelos**	**0.96**	**85**	PG		**Pn**	**08 13 56.9**	**-0.2**
ARG					SG	**Sn**	**08 14 10.2**	**-0.2**
BODT	**Bodrum**	**0.98**	**18**	P		**Pg**	**08 13 57.2**	**-0.1**
BODT	**Bodrum**	**0.98**	**18

PET	**Petropavlovsk**	**4.54**	**23**	Pn	**Pn**	**08 19 25.1**	**+2.7**
PET	**Petropavlovsk**	**4.54**	**23**	*e*P	**Pn**	**08 19 24.3**	**+1.9**
PET				AMB	AMB	08 19 28.0	
	comp=N,50nm,0.6s						
PET				*e*S	**Sn**	**08 20 12.8**	**-1.0**
PET				A	A	08 20 26.3	
	comp=N,120nm,0.7s						
PET				A	A	08 20 26.3	
	comp=N,250nm,0.7s						
DALK	**Dalny**	**4.57**	**24**	PN	**Pn**	**08 19 24.7**	**+1.9**
DALK	**Dalny**	**4.57**	**24**	*e*P	**Pn**	**08 19 24.7**	**+1.9**
DALK				*e*S	**Sn**	**08 20 14.1**	**-0.5**
UGLR	**Uglovaya**	**4.75**	**24**	PN	**Pn**	**08 19 27.6**	**+2.2**
UGLR	**Uglovaya**	**4.75**	**24**	*e*P	**Pn**	**08 19 27.6**	**+2.2**
KOK	**Koryaka**	**4.78**	**22**	PN	**Pn**	**08 19 28.9**	**+3.1**
KOK	**Koryaka**	**4.78**	**22**	*e*P	**Pn**	**08 19 28.9**	**+3.1**
KOK	**Koryaka**	**4.78**	**22**	*e*P	**Pn**	**08 19 28.9**	**+3.1**
AVH	**Avacha**	**4.78**	**23**	PN	**Pn**	**08 19 29.2**	**+3.4**
AVH	**Avacha**	**4.78**	**23**	*e*P	**Pn**	**08 19 29.2**	**+3.4**
SMAR	**Somma**	**4.79**	**23**	PN	**Pn**	**08 19 28.4**	**+2.3**
SMAR	**Somma**	**4.79**	**23**	*e*P	**Pn**	**08 19 28.4**	**+2.3**
SMAR				*e*S	**Sn**	**08 20 20.6**	**+0.2**
KRER	**Koryakskii**	**4.82**	**23**	PN	**Pn**	**08 19 29.2**	**+2.8**
KRER	**Koryakskii**	**4.82**	**23**	*e*P	**Pn**	**08 19 29.2**	**+2.8**
KRER				*e*S	**Sn**	**08 20 20.1**	**-0.9**
SDLR	**Sedlovina**	**4.83**	**24**	PN	**Pn**	**08 19 28.3**	**+1.8**
SDLR	**Sedlovina**	**4.83**	**24**	*e*P	**Pn**	**08 19 28.3**	**+1.8**
SDLR				*e*S	**Sn**	**08 20 20.4**	**-0.8**
KRX	**Arik**	**4.84**	**22**	PN	**Pn**	**08 19 29.0**	**+2.3**
KRX	**Arik**	**4.84**	**22**	*e*P	**Pn**	**08 19 29.0**	**+2.3**
KRX				*e*S	**Sn**	**08 20 21.7**	**+0.2**
NLC	**Nalytchevo**	**4.87**	**27**	*e*S	**Sn**	**08 20 17.9**	**-3.9**
GNL	**Ganaly**	**5.01**	**16**	PN	**Pn**	**08 19 31.2**	**+2.2**
GNL	**Ganaly**	**5.01**	**16**	*e*P	**Pn**	**08 19 31.2**	**+2.2**
SPN	**Mys Shipunski**	**5.02**	**32**	PN	**Pn**	**08 19 30.0**	**+1.0**
SPN	**Mys Shipunski**	**5.02**	**32**	*e*P	**Pn**	**08 19 30.0**	**+1.0**
SPN				*e*S	**Sn**	**08 20 24.1**	**-1.6**
KII	**Karymskiy**	**5.66**	**23**	PN	**Pn**	**08 19 40.8**	**+3.0**
KII	**Karymskiy**	**5.66**	**23**	P	**Pn**	**08 19 40.8**	**+3.0**
MKZ	**Mys Kozlova**	**6.80**	**31**	PN	**Pn**	**08 19 53.2**	**-0.1**
MKZ	**Mys Kozlova**	**6.80**	**31**	*e*P	**Pn**	**08 19 53.2**	**-0.1**
MKZ				*e*S	**Sn**	**08 21 06.0**	**-3.4**
KZV	**Kizimen**	**6.85**	**23**	PN	**Pn**	**08 19 57.6**	**+3.4**
KZV	**Kizimen**	**6.85**	**23**	*e*P	**Pn**	**08 19 57.6**	**+3.4**
TUMD	**Tumrok D**	**6.95**	**23**	*e*P	**Pn**	**08 19 57.0**	**+1.5**
TUMR	**Tumrok**	**6.96**	**22**	PN	**Pn**	**08 19 58.1**	**+2.4**
TUMR	**Tumrok**	**6.96**	**22**	*e*P	**Pn**	**08 19 58.1**	**+2.4**
KMNR	**Kamenistaya**	**7.42**	**20**	PN	**Pn**	**08 20 06.1**	**+4.2**
KMNR	**Kamenistaya**	**7.42**	**20**	*e*P	**Pn**	**08 20 06.1**	**+4.2**
BZWR	**Bezymyannyi-We**	**7.67**	**21**	PN	**Pn**	**08 20 08.9**	**+3.5**
BZWR	**Bezymyannyi-We**	**7.67**	**21**	*e*P	**Pn**	**08 20 08.9**	**+3.5**
BZGR	**Bezymyannyi-Gr**	**7.69**	**22**	PN	**Pn**	**08 20 08.5**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**7.69**	**22**	*e*P	**Pn**	**08 20 08.5**	**+2.8**
SRDR	**Sredinnyy**	**7.83**	**17**	PN	**Pn**	**08 20 12.1**	**+4.6**
SRDR	**Sredinnyy**	**7.83**	**17**	*e*P	**Pn**	**08 20 12.1**	**+4.6**
SRKR	**Sorokina**	**8.45**	**21**	PN	**Pn**	**08 20 18.8**	**+2.8**
SRKR	**Sorokina**	**8.45**	**21**	*e*P	**Pn**	**08 20 18.8**	**+2.8**
SMKR	**Semkarok**	**8.46**	**22**	PN	**Pn**	**08 20 18.9**	**+2.7**
SMKR	**Semkarok**	**8.46**	**22**	*e*P	**Pn**	**08 20 18.9**	**+2.7**
KBTR	**Krutoberegovo**	**8.51**	**28**	PN	**Pn**	**08 20 17.9**	**+1.1**
KBTR	**Krutoberegovo**	**8.51**	**28**	*e*P	**Pn**	**08 20 17.9**	**+1.1**
BKI	**Bering**	**8.95**	**41**	*e*S	**Sn**	**08 21 56.0**	**-6.1**
JKA	**Kamikawa-asahi**	**10.20**	**247**		**Pn**	**08 20 41.4**	**+1.5**
JKA	**Kamikawa-asahi**	**10.20**	**247**	*e*P	**Pn**	**08 20 41.4**	**+1.5**
ASAJ	**Asahikawa**	**10.20**	**247**	P	**Pn**	**08 20 41.4**	**+1.5**
	comp=N,0.8nm,0.3s,baz=62,slow=12,SNR=12						
MA2	**Magadan**	**11.07**	**347**	P	**Pn**	**08 20 49.5**	**-2.3**
	comp=N,0.9nm,0.3s,baz=133,slow=8.7,SNR=6.0						
MA2	**Magadan**	**11.07**	**347**	*i* PN	**Pn**	**08 20 54.3**	**+2.5**
ERM	**Erimo**	**11.15**	**237**	PN	**Pn**	**08 20 53.3**	**+0.3**
ERM	**Erimo**	**11.15**	**237**	Pn	**Pn**	**08 20 53.3**	**+0.3**
SEY	**Seymchan**	**14.19**	**354**	P	**Pn**	**08 21 34.4**	**+0.2**
	comp=N,0.2nm,0.3s,baz=149,slow=13,SNR=7.5						
KLR	**Kul'dur**	**15.67**	**280**	*i* P	**Pn**	**08 21 51.7**	**-2.2**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KLR	**Kul'dur**	**15.67**	**280**	*e*P	**Pn**	**08 21 50.1**	**-3.8**
JYT	**Yasato**	**17.00**	**228**		**Pn**	**08 22 12.7**	**+2.1**
JYT				IAmb	IAmb	08 22 14.6	
	comp=Z,16nm,0.9s						
MJAR	**Matsushiro Arr**	**17.75**	**232**	P	**P**	**08 22 20.2**	**-0.3**
	baz=37,slow=14,SNR=1.9						
MJAR	**Matsushiro Arr**	**17.75**	**232**	P	**P**	**08 22 20.2**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MJAR	**Matsushiro Arr**	**17.75**	**232**	IAmb	IAmb	08 22 29.3	
	comp=Z,2.3nm,1.2s						
YAK	**Yakutsk**	**19.57**	**322**	*i* P	**Pn**	**08 22 42.2**	**+0.5**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK	**Yakutsk**	**19.57**	**322**	*e*P	**Pn**	**08 22 42.2**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**30.47**	**159**	T	T	08 56 59.2	
	baz=345,slow=77,SNR=21						
H11N1	**WAKE ISLAND Hy**	**30.49**	**159**	T	T	08 57 10.5	
	baz=345,slow=77,SNR=24						
H11N3	**WAKE ISLAND Hy**	**30.49**	**159**	T	T	08 57 28.3	
	baz=345,slow=77,SNR=36						
H11S1	**WAKE ISLAND Hy**	**31.60**	**160**	T	T	08 58 51.6	
	baz=347,slow=76,SNR=292						
H11S3	**WAKE ISLAND Hy**	**31.61**	**160**	T	T	08 58 33.6	
	baz=347,slow=76,SNR=321						
H11S2	**WAKE ISLAND Hy**	**31.62**	**160**	T	T	08 58 53.1	
	baz=347,slow=76,SNR=160						
ILAR	**Eielson Array**	**33.79**	**41**	P	**P**	**08 24 53.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=259,slow=7.3,SNR=11						
FYU	**Fort Yukon**	**34.49**	**37**	P	**P**	**08 25 00.9**	**+1.3**
BMAR	**Burnt Mountain**	**34.77**	**36**	P	**P**	**08 25 03.3**	**+1.2**
K27K	**Chicken**	**35.92**	**42**	P	**P**	**08 25 12.7**	**+0.9**
K27K				IAmb	IAmb	08 25 13.6	
	comp=Z,2.6nm,0.9s						
L27K	**Beaver Creek,**	**36.13**	**43**	P	**P**	**08 25 15.4**	**+1.6**
L27K				IAmb	IAmb	08 25 16.4	
	comp=Z,2.8nm,0.8s						
BCAR	**Beaver Creek A**	**36.15**	**43**	P	**P**	**08 25 15.6**	**+1.6**
EGAK	**Eagle**	**36.24**	**40**	P	**P**	**08 25 15.0**	**+0.3**
EGAK				IAmb	IAmb	08 25 15.0	
	comp=Z,2.5nm,0.8s						
INK	**Inuvik**	**38.91**	**34**	P	**P**	**08 25 37.5**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=297,slow=5.6,SNR=7.3						
INK	**Inuvik**	**38.91**	**34**	IAmb	IAmb	08 25 38.4	
	comp=Z,2.2nm,0.7s						
EUNU	**Eureka**	**46.67**	**12**	P	**P**	**08 26 38.7**	**-1.2**
EUNU				IAmb	IAmb	08 26 38.9	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**47.50**	**297**	P	**P**	**08 26 42.3**	**-4.4**
	comp=Z,0.2nm,0.6s,baz=70,slow=8.4,SNR=2.3						
YKA	**Yellowknife Ar**	**48.17**	**39**	P	**P**	**08 26 51.7**	**0.0**
	comp=Z,0.9nm,0.7s,baz=298,slow=7.0,SNR=4.9						
YKA	**Yellowknife Ar**	**48.17**	**39**	*e*P	**P**	**08 26 51.9**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**59.93**	**65**	P	**P**	**08 28 20.0**	**+1.9**
	comp=Z,1.5nm,0.9s,baz=286,slow=7.8,SNR=8.3						
PDAR	**Pinedale Array**	**62.10**	**56**	P	**P**	**08 28 34.0**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=305,slow=2.6,SNR=12						
PDAR	**Pinedale Array**	**62.10**	**56**	P	**P**	**08 28 33.4**	**+0.7**
WRA	**Warramunga Arr**	**71.12**	**201**	P	**P**	**08 29 29.6**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=16,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**74.81**	**201**	P	**P**	**08 29 52.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=12,slow=5.6,SNR=5.9						
TX31	**Lajitas Ar. Si**	**74.95**	**63**	P	**P**	**08 29 54.5**	**+1.6**
TX32	**Lajitas Array**	**74.95**	**63**	P	**P**	**08 29 54.5**	**+1.6**
TXAR	**Lajitas Array**	**74.95**	**63**	P	**P**	**08 29 54.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=299,slow=4.6,SNR=16						

KMA 13 08:34:45.0±0.1, 37°30N×128°68E, h11km±1km, Error ellipse: s-maj=1.4km s-min=0.7km az=25.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJES	**JEONGSEON**	**0.13**	**354**	P	Pg	08 34 46.5	-1.7
KSGWL	**Sabuk**	**0.15**	**130**	P	Pg	08 34 48.4	0.0
	SNR=21						
KSGWL	**Sabuk**	**0.15**	**130**	P	Pg	08 34 48.4	0.0
	SNR=21						
KSGWL	**Sabuk**	**0.15**	**130**	P	Pg	08 34 48.4	0.0
	SNR=21						
KSYOW	**Yeongwol**	**0.22**	**234**	P	Pg	08 34 49.6	-0.1
	SNR=8.0						
KSYOW	**Yeongwol**	**0.22**	**234**	P	Pg	08 34 49.6	-0.1
	SNR=8.0						
KSYOW	**Yeongwol**	**0.22**	**234**	P	Pg	08 34 49.6	-0.1
	SNR=8.0						
KSTBA	**Taebaek**	**0.28**	**130**	P	Pg	08 34 50.8	0.0
	SNR=11						
KSTBA	**Taebaek**	**0.28**	**130**	P	Pg	08 34 50.8	0.0
	SNR=11						
KSTBA	**Taebaek**	**0.28**	**130**	P	Pg	08 34 50.8	0.0
	SNR=11						
KSWJU	**Wonju**	**0.51**	**282**	P	Pg	08 34 54.4	-0.6
	SNR=15						
KSWJU	**Wonju**	**0.51**	**282**	P	Pg	08 34 54.4	-0.6
	SNR=15						
KSWJU	**Wonju**	**0.51**	**282**	P	Pg	08 34 54.4	-0.6
	SNR=15						
IMWB	**Imwonan-gil**	**0.53**	**97**	P	Pg	08 34 55.0	-0.4
	SNR=6.1						
IMWB	**Imwonan-gil**	**0.53**	**97**	P	Pg	08 34 55.0	-0.4
	SNR=6.1						
IMWB	**Imwonan-gil**	**0.53**	**97**	P	Pg	08 34 55.0	-0.4
	SNR=6.1						
KSULJ	**Uljin**	**0.84**	**136**	P	Pg	08 35 01.2	+0.1
	SNR=15						
KSULJ	**Uljin**	**0.84**	**136**	P	Pg	08 35 01.2	+0.1
	SNR=15						
KSULJ	**Uljin**	**0.84**	**136**	P	Pg	08 35 01.2	+0.1
	SNR=15						
SEHB	**SEOHWA**	**1.02**	**341**	P	Pb	08 35 05.0	+0.2
	SNR=12						
SEHB	**SEOHWA**	**1.02**	**341**	P	Pb	08 35 05.0	+0.2
	SNR=12						

*UPP **13** 09:00:09.4±1.1, 67°66N×26°87E, h0km, ML2.0, Suspected explosion*
*KOLA **13** 09:00:11.9, 68°10N×27°14E, h0km, ML2.3, Finland, Lapland*

HEL 13 09:00:09.2±0.1, 67°72N×26°92E, h0km, ML1.7, ML2.0(UPP), Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.32**	**208**	*e*P	Pg	09 00 14.7	-0.5
	baz=32						
SGF				*e*S	Sg	09 00 18.6	-0.8
VRF	**Varrio**	**1.03**	**87**	*e*P	Pg	09 00 27.3	-1.5
	baz=270						
VRF				MSG		09 00 39.8	
	comp=Z,4.7nm,0.2s						
RNF	**Rovaniemi**	**1.17**	**198**	*e*PB	Pg	09 00 30.3	-1.3
RNF				*e*SB	Sg	09 00 46.0	-0.8
KLF	**Kolari**	**1.24**	**248**	*e*PB	Pg	09 00 31.8	-1.1
HEF	**Hetta**	**1.40**	**301**	*e*P	Pn	09 00 35.3	-0.7
HEF	**Hetta**	**1.40**	**301**	*e*PN	Pn	09 00 35.2	-0.8
HEF				MSG		09 00 51.0	
	comp=Z,7.3nm,0.2s						
HEF				*e*SN	Sb	09 00 54.7	0.0
PAJU	**Pajala**	**1.63**	**246**	P	Pn	09 00 38.7	-0.5
PAJU				S	Sn	09 00 60.0	-0.8
PAJU	**Pajala**	**1.63**	**246**	*e*PG	Pn	09 00 38.5	-0.6
PAJU				*e*SN	Sn	09 01 00.0	-0.8
OLKF	**Oulanka, Finla**	**1.71**	**144**	*e*P	Pn	09 00 39.5	-0.7
OLKF				*e*SN	Sb	09 01 03.6	+0.1
LANU	**Lannavaara**	**1.89**	**282**	P	Pn	09 00 42.6	-0.2
LANU				S	Sb	09 01 08.8	0.0
LANU	**Lannavaara**	**1.89**	**282**	*e*P	Pn	09 00 42.4	-0.3
MASU	**Masugnsbyn**	**1.90**	**264**	P	Pn	09 00 42.9	0.0
MASU				S	Sb	09 01 09.1	0.0
MASU	**Masugnsbyn**	**1.90**	**264**	*e*P	Pn	09 00 42.9	0.0
MASU				*e*S	Sb	09 01 09.1	0.0
TOF	**Tornio**	**1.94**	**213**	*e*PN	Pn	09 00 43.4	+0.1
	baz=34						
TOF				MSG		09 01 07.0	
	comp=Z,5.1nm,0.2s						
TOF				*e*SG	Sn	09 01 08.6	+0.2
MSF	**Maaselka**	**2.00**	**154**	*e*PB	Pn	09 00 44.3	+0.1
MSF				*e*S	Sn	09 01 09.8	-0.2
KEV	**Kevo**	**2.04**	**1**	*e*P	Pn	09 00 45.1	+0.3
KEV	**Kevo**	**2.04**	**1**	*e*PB	Pn	09 00 44.9	+0.1
KEV				MSG		09 01 09.1	
	comp=Z,6.4nm,0.2s						
KEV				*e*SG	Sb	09 01 12.4	-0.6
KU6	**Riekki**	**2.07**	**144**	*e*PB	Pn	09 00 45.6	+0.4
KU6				MSG		09 01 10.1	
	comp=Z,4.7nm,0.2s						
KU6				*e*SG	Sn	09 01 12.6	+1.0
APA0	**Apatity Array**	**2.32**	**90**	P	Pn	09 00 49.9	+1.3
APA0				S	Sn	09 01 18.4	+0.5
APA	**Apatity**	**2.49**	**91**	P	Pn	09 00 52.6	+1.8
APA				S	Sn	09 01 22.8	+1.0
KUA	**Kurravaara**	**2.51**	**278**	P	Pn	09 00 51.9	+0.7
KUA	**Kurravaara**	**2.51**	**278**	*e*P	Pn	09 00 51.9	+0.7
DUNU	**Dundret**	**2.52**	**259**	P	Pn	09 00 51.4	0.0
DUNU	**Dundret**	**2.52**	**259**	*e*P	Pn	09 00 51.4	0.0
KOVU	**Salmi**	**2.60**	**284**	P	Pn	09 00 53.0	+0.6
KOVU	**Salmi**	**2.60**	**284**	*e*P	Pn	09 00 53.0	+0.6
KIF	**Kilpisjarvi**	**2.61**	**302**	*e*P	Pn	09 00 53.6	+1.1
KIF				MSG		09 01 26.2	
	comp=Z,2.2nm,0.2s						
KIF				*e*SG	Sb	09 01 29.0	-0.2
OUL	**Oulu**	**2.68**	**189**	*e*P	Pn	09 00 53.8	+0.3
	baz=8.0						
RATU	**Laukkuluspa**	**2.79**	**275**	P	Pn	09 00 55.4	+0.4
RATU	**Laukkuluspa**	**2.79**	**275**	*e*P	Pn	09 00 55.4	+0.4
HARU	**Harads**	**2.81**	**239**	P	Pn	09 00 54.9	-0.4
HARU	**Harads**	**2.81**	**239**	*e*P	Pn	09 00 54.9	-0.4
NIKU	**Nikkaluokta**	**3.00**	**276**	P	Pn	09 00 58.5	+0.6
NIKU	**Nikkaluokta**	**3.00**	**276**	*e*P	Pn	09 00 58.5	+0.6
SJUU	**Sjulsmark**	**3.07**	**226**	P	Pn	09 00 58.6	-0.3
SJUU	**Sjulsmark**	**3.07**	**226**	*e*P	Pn	09 00 58.6	-0.3
OBF0	**Syolatti, Pyha**	**3.42**	**200**	*e*P	Pn	09 01 04.6	+1.0
	baz=21						
OUF	**Merijarvi**	**3.48**	**196**	*e*P	Pn	09 01 04.4	-0.1
	baz=13						
BURU	**Burvik**	**3.87**	**218**	*e*PG	Pb	09 01 18.9	+0.7
	baz=38						
UMAU	**Umeaa**	**4.63**	**217**	*e*P	Pn	09 01 20.3	0.0
	baz=28						

*IDC **13** 09:02:31.6±2.8, 5°45S×151°60E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.7/36, mbtmp4.2/5, ML2.2/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/26, Error ellipse: s-maj=105.1km s-min=27.5km az=122.0*

ISC 13 09:02:39.2±2.8, 5°6S±0°5×151°6E±0°6, h57km, n7, σ0°90/7, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**229**	Pn	**Pn**	**09 04 01.3**	**-1.2**
	4.0nm,0.3s,baz=48,slow=12,SNR=8.1						
PMG				Sn	**Sn**	**09 05 08.4**	**+0.8**
	5.2nm,0.3s,baz=158,slow=19,SNR=2.8						
PMG				LR	LR	09 05 21.4	
	comp=Z,31nm,21.8s,baz=152,slow=29						
DZM	**Mont Dzumac**	**21.83**	**140**	LR	LR	09 15 18.0	
	comp=Z,110nm,18.8s,baz=43,slow=35						
WRA	**Warramunga Arr**	**22.00**	**228**	P	**P**	**09 07 28.5**	**-0.4**
	2.1nm,0.5s,baz=53,slow=10.0,SNR=34						
ASAR	**Alice Springs**	**24.75**	**222**	P	**P**	**09 07 56.4**	**+0.7**
	1.4nm,0.5s,baz=55,slow=8.8,SNR=24						
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P	**P**	**09 08 27.2**	**+0.5**
	2.5nm,0.5s,baz=55,slow=8.9,SNR=17						
NRIK	**Noril'sk**	**86.29**	**341**	P	**P**	**09 15 14.3**	**-0.2**
	1.1nm,0.4s,baz=104,slow=4.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.34**	**286**	PKPbc	**PKPbc**	**09 22 23.4**	**+0.5**
	1.3nm,0.7s,baz=58,slow=3.0,SNR=3.7						

INMG 13 09:08:26.6±1.1, 36°50N×9°81W, h14km±6km, ML1.4, Error ellipse: s-maj=7.3km s-min=3.9km az=87.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.01**	**51**	*e*S	Sb	09 08 58.1	-1.0
PFVI				A	A	09 08 59.2	
	5.0nm,0.7s						
PTEO	**Sao Teotonio**	**1.36**	**39**	*e*S	Sn	09 09 06.6	-2.5
PTEO				A	A	09 09 06.8	
	4.3nm,0.6s						
PCVE	**Castro Verde**	**1.81**	**51**	*e*Sn	Sn	09 09 18.0	-2.3
PCVE				A	A	09 09 20.2	
	1.9nm,0.6s						
PVAQ	**Vaqueiros**	**1.91**	**61**	*e*Pn	Pn	09 08 57.5	-1.2
PVAQ				*e*Sn	Sn	09 09 20.3	-2.2
PNCL	**Nicolau / Gran**	**1.91**	**32**	*e*Sn	Sn	09 09 19.2	-3.4
PNCL				A	A	09 09 21.6	
	1.5nm,0.1s						
PMAFR	**Mafra**	**2.49**	**10**	*e*Pn	Pn	09 09 05.0	-1.7
PMAFR				*e*Sn	Sn	09 09 33.8	-3.1
PBAR	**Barrancos**	**2.77**	**52**	*e*Sn	Sn	09 09 40.7	-3.2
PMTG	**Montargil**	**2.86**	**26**	*e*Sn	Sn	09 09 42.3	-3.7
PMTG				A	A	09 09 43.3	
	0.9nm,0.1s						
PESTR	**Estremoz**	**2.95**	**36**	*e*Sn	Sn	09 09 44.8	-3.5
PMRV	**Marv??o**	**3.49**	**32**	*e*Sn	Sn	09 09 57.5	-4.3
PMRV				A	A	09 09 58.5	
	0.5nm,0.1s						

*MDD **13** 09:08:36.4±1.1, 37°05N×8°90W, h26km±5km, mbLg1.5/1, Error ellipse: s-maj=10.7km s-min=8.8km az=163.0, PRXIMO*

INMG 13 09:08:36.8±1.6, 37°15N×8°94W, h26km±6km, ML0.8, 1D, Error ellipse: s-maj=13.1km s-min=7.4km az=90.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.09**	**99**	↓*e*Pg	Pb	09 08 40.8	-0.8
	4.2nm,0.1s,SNR=18						
PFVI				Lg	Lg	09 08 45.4	
	12nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.09**	**99**	*e*Pg	Pb	09 08 40.8	-0.8
PFVI				*e*Sg	Sb	09 08 45.2	+0.4
PFVI				A	A	09 08 46.2	
	7.0nm,0.6s						
PTEO	**Sao Teotonio**	**0.43**	**23**	Lg	Lg	09 08 52.4	
	2.5nm,0.6s						
PTEO	**Sao Teotonio**	**0.43**	**23**	*e*Sg	Sb	09 08 52.4	+0.2
PTEO				A	A	09 09 04.9	
	5.0nm,0.6s						
PBDV	**Barranco-do-Ve**	**0.81**	**83**	Pg	Pb	09 08 51.5	-0.7
PBDV				Lg	Lg	09 09 02.5	
PBDV	**Barranco-do-Ve**	**0.81**	**83**	*e*Pg	Pb	09 08 51.5	-0.7
PBDV				*e*Sg	Sb	09 09 02.5	-0.3
PCVE	**Castro Verde**	**0.86**	**56**	Pg	Pb	09 08 52.0	-1.2
PCVE				Lg	Lg	09 09 03.5	
PCVE	**Castro Verde**	**0.86**	**56**	*e*Pg	Pb	09 08 52.0	-1.2
PCVE				*e*Sg	Sb	09 09 03.5	-0.8
PVAQ	**Vaqueiros**	**1.00**	**75**	Pg	Pn	09 08 54.0	-1.2
PVAQ				Lg	Lg	09 09 07.1	
PVAQ	**Vaqueiros**	**1.00**	**75**	*e*P	Pn	09 08 54.0	-1.2
PVAQ				A	A	09 09 06.8	
	1.5nm,0.7s						
PVAQ				*e*S	Sb	09 09 07.1	-1.3
PNCL	**Nicolau / Gran**	**1.02**	**18**	Pg	Pb	09 08 57.0	+1.2
PNCL				Lg	Lg	09 09 06.2	
PNCL	**Nicolau / Gran**	**1.02**	**18**	*e*P	Pb	09 08 56.8	+1.0
PNCL				*e*S	Sb	09 09 06.2	-2.5
PNCL	**Nicolau / Gran**	**1.02**	**18**	*e*Pn	Pb	09 08 57.0	+1.2
PMTG	**Montargil**	**2.00**	**16**	Pn	Pn	09 09 10.2	+1.3
PMTG	**Montargil**	**2.00**	**16**	*e*Pn	Pn	09 09 10.2	+1.3

*NAO **13** 09:29:50.2±1.4, 77°25N×18°21E, h16km±13km, ML2.6*
*BER **13** 09:29:51.6±2.9, 77°27N×18°16E, h8km±30km, ML2.1, ML2.6(NAO), Confirmed Earthquake*
*IEPN **13** 09:29:54.0, 77°25N×18°27E, h10km*

ISC 13 09:29:48.6±1.1, 77°30N±0°04×18°57E±0°03, h12km±11km, n14, σ1°942/24, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.74**	**248**	Pg	**Pb**	**09 30 03.3**	**0.0**
HSPB				Lg	Lg	09 30 11.8	
HSPB	**Hornsund (broa**	**0.74**	**248**	*e*P	**Pb**	**09 30 03.4**	**0.0**
HSPB				*e*S	**Sg**	**09 30 11.8**	**-0.8**
HSPB				IAML		09 30 18.3	
	comp=Z,24nm,0.2s						
HSPB	**Hornsund (broa**	**0.74**	**248**	↓*i*P	**Pb**	**09 30 03.3**	**0.0**
HSPB				*i* S	**Sg**	**09 30 11.7**	**-0.9**
SPA0	**Spitsbergen Ar**	**1.00**	**333**	Pg	**Pn**	**09 30 09.2**	**+0.8**
	baz=150,slow=16						
SPA0				Lg	Lg	09 30 22.8	
	baz=146,slow=28						
SPA0	**Spitsbergen Ar**	**1.00**	**333**	Pg	**Pn**	**09 30 09.2**	**+0.8**
	baz=150,slow=16						
SPA0				Sg	**Sn**	**09 30 22.8**	**+0.3**
	baz=146,slow=28						
HOPEN	**Hopen**	**1.67**	**115**	Pn	**Pg**	**09 30 21.2**	**+0.7**

IDI				S	Sb	09 30 58.6	-1.4
IMMV	**Iera Moni Meta**	**0.54**	**317**	P	Pg	09 30 52.5	-0.6
IMMV				S	Sg	09 31 00.6	+0.4
IMMV				AML	AML	09 31 02.8	
	comp=N,5399µm,0.4s						
IMMV				AML	AML	09 31 06.5	
	comp=E,5673µm,0.5s						
IMMV	**Iera Moni Meta**	**0.54**	**317**	P	Pg	09 30 52.8	-0.4
IMMV				S	Sb	09 31 01.2	-1.5
	comp=E,3µm,0.4s						
KSTL	**Kastelli Herak**	**0.58**	**65**	P	Pn	09 30 59.0	+1.4
KNDR	**Palaiochora Ch**	**0.63**	**286**	P	Pb	09 30 55.5	-0.8
KNDR				S	Sb	09 31 05.5	+0.1
LAST	**Lasithi**	**0.87**	**83**	P	Pg	09 30 59.1	-0.4
LAST				S	Sb	09 31 12.4	+0.1
LAST				AML	AML	09 31 24.1	
	comp=E,1003µm,0.5s						
LAST				AML	AML	09 31 34.9	
	comp=N,1345µm,0.6s						
LAST	**Lasithi**	**0.87**	**83**	P	Pg	09 30 59.6	+0.1
NPS	**Neapolis**	**0.99**	**78**	P	Pg	09 31 01.3	-0.5
NPS				AML	AML	09 31 29.3	
	comp=E,1612µm,0.8s						
NPS				AML	AML	09 31 29.9	
	comp=N,1198µm,0.7s						
NPS	**Neapolis**	**0.99**	**78**	P	Pn	09 31 02.6	-0.7
ANKY	**Antikythira Is**	**1.22**	**311**	P	Pb	09 31 05.9	-0.4
ANKY				AML	AML	09 31 28.9	
	comp=N,1177µm,0.3s						
ANKY				AML	AML	09 31 35.6	
	comp=E,1322µm,0.7s						
ANKY	**Antikythira Is**	**1.22**	**311**	P	Pb	09 31 06.0	-0.4
ZKR	**Zakros**	**1.47**	**88**	P	Pg	09 31 11.1	+0.1
THR5	**Thira Island,**	**1.54**	**29**	P	Pb	09 31 10.9	-1.0
MHLO	**Agia Marina, M**	**1.62**	**359**	P	Pn	09 31 11.9	-0.1
KTHA	**Kythira Island**	**1.63**	**317**	P	Pb	09 31 12.6	-0.7
KTHA				AML	AML	09 31 37.7	
	comp=N,822µm,0.4s						
KTHA				AML	AML	09 31 41.8	
	comp=E,1391µm,0.4s						
KTHA	**Kythira Island**	**1.63**	**317**	P	Pn	09 31 11.9	-0.2
KTHR	**Kythira**	**1.66**	**316**	P	Pb	09 31 12.8	-1.1
VLI	**Veliai**	**2.05**	**324**	P	Pb	09 31 18.8	-1.6
VLI				AML	AML	09 31 52.9	
	comp=E,378µm,0.8s						
VLI				AML	AML	09 31 56.8	
	comp=N,295µm,0.5s						
VLI	**Veliai**	**2.05**	**324**	P	Pn	09 31 17.6	-0.2
APE	**Apeiranthos**	**2.19**	**24**	P	Pn	09 31 19.9	0.0
BRTR	**Keskin Array B**	**8.68**	**55**	Pn	Pn	09 32 51.3	+2.2
	comp=N,0.1nm,0.3s,baz=232,slow=16,SNR=4.1						
GERES	**GERESS Array B**	**15.89**	**333**	Pn	P	09 34 31.8	+0.9
	comp=N,0.1nm,0.3s,baz=165,slow=12,SNR=4.8						
AKASG	**Malin Array Be**	**16.01**	**11**	Pn	P	09 34 31.3	-0.8
	comp=N,1.3nm,0.3s,baz=202,slow=10,SNR=4.6						
ESDC	**Sonseca Array**	**22.98**	**290**	P	P	09 35 49.7	+1.4
	comp=N,0.9nm,1.0s,baz=79,slow=8.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**29.97**	**229**	P	P	09 36 52.3	+0.1
	comp=N,0.3nm,0.4s,baz=32,slow=8.4,SNR=1.4						
MKAR	**Makanchi Array**	**44.33**	**56**	P	P	09 38 53.9	+0.2
	comp=N,0.3nm,0.3s,baz=264,slow=8.2,SNR=6.8						

*INET **13** 09:49:52.4, 12.92N×88.75W, h36km, MW3.6*
*SNET **13** 09:49:58.2±0.8, 12.98N×88.84W, h45km±17km, ML4.2*
*UCR **13** 09:49:58.1±1.3, 12.96N×88.84W, h45km±26km, ML4.2, mb4.3(NEIC)*
*IDC **13** 09:49:59.0±1.8, 13.05N×88.57W, h75km±23km, mb3.5/9, mb1 3.8/11, mb1mx3.5/36, mbtmp3.8/11, MS3.0/4, Ms1 3.0/4, ms1mx2.7/22, Error ellipse: s-maj=44.0km s-min=13.3km az=35.0*
*NEIC **13** 09:50:00.5±2.4, 13.08N±0.08×88.70W±0.07, h71km±9km, mb4.3/35, Md4.2(SNET), Error ellipse: s-maj=13.2km s-min=7.1km az=220.0*

ISC 13 09:49:57.8±1.0, 12.98N±0.06×88.81W±0.04, h60km±8km, n163, σ1§19/196, mb4.2/24, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.55**	**3**	*e*P	**Pn**	**09 50 10.3**	**-0.1**
TECO				IAML		09 50 23.6	
	comp=Z,6µm,0.4s						
TECA	**Tecapa**	**0.59**	**30**	*e*P	**Pn**	**09 50 11.0**	**0.0**
TECA	**Tecapa**	**0.59**	**30**	*e*P	**Pn**	**09 50 11.0**	**0.0**
COEG	**Centro de Oper**	**0.64**	**354**	*i*P	**Pn**	**09 50 11.4**	**-0.1**
COEG				*e*S	**Sn**	**09 50 21.3**	**-0.1**
COEG				IAML		09 50 26.6	
	comp=Z,12µm,0.3s						
COEG	**Centro de Oper**	**0.64**	**354**	*i*P	**Pn**	**09 50 11.4**	**-0.1**
COEG				*e*S	**Sn**	**09 50 21.3**	**-0.1**
COEG				IAML		09 50 26.6	
	comp=Z,12µm,0.3s						
UESV	**Universidad de**	**0.65**	**2**	*e*P	**Pn**	**09 50 11.7**	**+0.2**
UESV				*e*S	**Sn**	**09 50 22.0**	**+0.4**
UESV	**Universidad de**	**0.65**	**2**	*e*P	**Pn**	**09 50 11.7**	**+0.2**
UESV				*e*S	**Sn**	**09 50 22.0**	**+0.4**
SJTE	**Alcalda de S**	**0.66**	**343**	*e*P	**Pn**	**09 50 11.5**	**-0.2**
SJTE				*e*S	**Sn**	**09 50 21.5**	**-0.3**
SJTE	**Alcalda de S**	**0.66**	**343**	*e*P	**Pn**	**09 50 11.5**	**-0.2**
SJTE				*e*S	**Sn**	**09 50 21.5**	**-0.3**
LCY	**Lacayo**	**0.67**	**49**	*e*P	**Pn**	**09 50 11.9**	**+0.1**
LCY	**Lacayo**	**0.67**	**49**	*e*P	**Pn**	**09 50 11.9**	**+0.1**
PACA	**Pacayal**	**0.68**	**44**	*e*P	**Pn**	**09 50 12.4**	**+0.4**
PACA				*e*S	**Sn**	**09 50 22.8**	**+0.5**
PACA	**Pacayal**	**0.68**	**44**	*e*P	**Pn**	**09 50 12.4**	**+0.4**
PACA				*e*S	**Sn**	**09 50 22.8**	**+0.5**
PQSS	**Presa 15 de Se**	**0.68**	**21**	*e*P	**Pn**	**09 50 12.3**	**+0.4**
PQSS				*e*S	**Sn**	**09 50 22.4**	**+0.3**
PQSS				IAML		09 50 25.0	
	comp=Z,8µm,0.1s						
LFRS	**El Faro**	**0.68**	**339**	*e*P	**Pn**	**09 50 11.7**	**-0.4**
LFRS	**El Faro**	**0.68**	**339**	*e*P	**Pn**	**09 50 11.7**	**-0.4**
VSM	**San Miguel**	**0.68**	**50**	*e*P	**Pn**	**09 50 12.3**	**+0.1**
VSM	**San Miguel**	**0.68**	**50**	*e*P	**Pn**	**09 50 12.3**	**+0.1**
PAVA	**Las Pavas**	**0.74**	**350**	*e*P	**Pn**	**09 50 12.9**	**+0.2**
PAVA				*e*S	**Sn**	**09 50 23.6**	**0.0**
PAVA				IAML		09 50 30.1	
	comp=Z,11µm,0.2s						
PAVA	**Las Pavas**	**0.74**	**350**	*e*P	**Pn**	**09 50 12.9**	**+0.2**
PAVA				*e*S	**Sn**	**09 50 23.6**	**0.0**
PAVA				IAML		09 50 30.1	
	comp=Z,11µm,0.2s						
LBRS	**Las Brisas**	**0.79**	**343**	*e*P	**Pn**	**09 50 13.5**	**+0.2**
LBRS	**Las Brisas**	**0.79**	**343**	*e*P	**Pn**	**09 50 13.5**	**+0.2**
UDBS	**Universidad Do**	**0.80**	**335**	*e*P	**Pn**	**09 50 13.5**	**+0.1**
UDBS				*i* Sg	**Sn**	**09 50 24.9**	**0.0**
UDBS				IAML		09 50 29.6	
	comp=Z,9µm,0.3s						
UDBS	**Universidad Do**	**0.80**	**335**	*e*P	**Pn**	**09 50 13.5**	**+0.1**
UDBS				*i* Sg	**Sn**	**09 50 24.9**	**0.0**
UDBS				IAML		09 50 29.6	
	comp=Z,9µm,0.3s						
SNET	**Serv Nac Est T**	**0.81**	**330**	*e*P	**Pn**	**09 50 13.4**	**-0.2**
SNET				*e*S	**Sn**	**09 50 25.3**	**+0.1**
SNET				IAML		09 50 27.2	
	comp=Z,5µm,0.3s						
SNET	**Serv Nac Est T**	**0.81**	**330**	*e*P	**Pn**	**09 50 13.4**	**-0.2**
SNET				*e*S	**Sn**	**09 50 25.3**	**+0.1**
SNET				IAML		09 50 27.2	
	comp=Z,5µm,0.3s						
SNET	**Serv Nac Est T**	**0.81**	**330**	Pn	**Pn**	**09 50 13.7**	**+0.1**
LFU	**La Fuente**	**0.82**	**339**	*e*P	**Pn**	**09 50 13.8**	**+0.2**
LFU				*e*S	**Sn**	**09 50 25.4**	**+0.1**
LFU	**La Fuente**	**0.82**	**339**	*e*P	**Pn**	**09 50 13.8**	**+0.2**
LFU				*e*S	**Sn**	**09 50 25.4**	**+0.1**
ITCA	**Escuela Especi**	**0.82**	**326**	*e*P	**Pn**	**09 50 13.4**	**-0.3**
ITCA	**Escuela Especi**	**0.82**	**326**	*e*P	**Pn**	**09 50 13.4**	**-0.3**
UESS	**Universidad de**	**0.83**	**333**	*e*S	**Sn**	**09 50 25.7**	**+0.2**
UESS	**Universidad de**	**0.83**	**333**	*e*S	**Sn**	**09 50 25.7**	**+0.2**
MAGS	**Ministerio de**	**0.84**	**326**	*e*P	**Pn**	**09 50 13.7**	**-0.2**
MAGS				*e*S	**Sn**	**09 50 25.6**	**-0.2**
UEES	**Universidad Ev**	**0.84**	**330**	*e*P	**Pn**	**09 50 13.9**	**-0.1**
UEES				IAML		09 50 29.4	
	comp=Z,5µm,0.2s						
UEES	**Universidad Ev**	**0.84**	**330**	*e*P	**Pn**	**09 50 13.9**	**-0.1**
UEES				IAML		09 50 29.4	
	comp=Z,5µm,0.2s						
PMON	**Piamonte**	**0.88**	**326**	*e*P	**Pn**	**09 50 14.3**	**-0.2**
PMON				*e*S	**Sn**	**09 50 26.3**	**-0.3**
PMON	**Piamonte**	**0.88**	**326**	*e*P	**Pn**	**09 50 14.3**	**-0.2**
PMON				*e*S	**Sn**	**09 50 26.3**	**-0.3**
BOQS	**Boqueron**	**0.88**	**329**	*e*P	**Pn**	**09 50 14.7**	**+0.1**
BOQS				*e*S	**Sn**	**09 50 27.0**	**+0.2**
BOQS	**Boqueron**	**0.88**	**329**	*e*P	**Pn**	**09 50 14.7**	**+0.1**
BOQS				*e*S	**Sn**	**09 50 27.0**	**+0.2**
JAYA	**Jayaque - finc**	**0.91**	**317**	*e*P	**Pn**	**09 50 14.4**	**-0.5**
JAYA				*e*S	**Sn**	**09 50 26.8**	**-0.8**
JAYA				IAML		09 50 28.2	
	comp=Z,11µm,0.2s						
JAYA	**Jayaque - finc**	**0.91**	**317**	*e*P	**Pn**	**09 50 14.4**	**-0.5**
JAYA				*e*S	**Sn**	**09 50 26.8**	**-0.8**
JAYA				IAML		09 50 28.2	
	comp=Z,11µm,0.2s						
LCND	**La Caada**	**0.95**	**70**	*e*P	**Pn**	**09 50 15.5**	**+0.2**
LCND				*e*S	**Sn**	**09 50 28.9**	**+0.7**
LCND				IAML		09 50 35.7	
	comp=Z,9µm,0.3s						
LCND	**La Caada**	**0.95**	**70**	*e*P	**Pn**	**09 50 15.5**	**+0.2**
LCND				*e*S	**Sn**	**09 50 28.8**	**+0.7**
LCND				*e*S		09 50 28.9	
LCND				IAML		09 50 35.7	
	comp=Z,9µm,0.3s						
CNCH	**Conchagua**	**0.99**	**73**	*e*P	**Pn**	**09 50 16.0**	**+0.1**
CNCH	**Conchagua**	**0.99**	**73**	*e*P	**Pn**	**09 50 16.0**	**+0.1**
CEDA	**San Andres**	**1.00**	**325**	*e*P	**Pn**	**09 50 15.6**	**-0.3**
CEDA				IAML		09 50 38.7	
	comp=Z,5µm,0.4s						
CEDA	**San Andres**	**1.00**	**325**	*e*P	**Pn**	**09 50 15.6**	**-0.3**
CEDA				IAML		09 50 38.7	
	comp=Z,5µm,0.4s						
TACO	**Tacachico**	**1.12**	**332**	*e*P	**Pn**	**09 50 17.6**	**+0.1**
TACO				*e*S	**Sn**	**09 50 32.4**	**+0.4**
TACO	**Tacachico**	**1.12**	**332**	*e*P	**Pn**	**09 50 17.6**	**+0.1**
TACO				*e*S	**Sn**	**09 50 32.4**	**+0.4**
CEVE	**Cerro Verde**	**1.16**	**317**	*e*P	**Pn**	**09 50 18.2**	**+0.1**
CEVE	**Cerro Verde**	**1.16**	**317**	*e*P	**Pn**	**09 50 18.2**	**+0.1**
SBLS	**San Blas**	**1.16**	**317**	*e*P	**Pn**	**09 50 18.7**	**+0.4**
SBLS				*e*S	**Sn**	**09 50 34.3**	**+0.8**
SBLS	**San Blas**	**1.16**	**317**	*e*P	**Pn**	**09 50 18.7**	**+0.4**
SBLS				*e*S	**Sn**	**09 50 34.3**	**+0.8**
RTR	**El Retiro**	**1.22**	**318**	*e*P	**Pn**	**09 50 19.4**	**+0.4**
RTR				*e*S	**Sn**	**09 50 35.9**	**+1.2**
RTR	**El Retiro**	**1.22**	**318**	*e*P	**Pn**	**09 50 19.4**	**+0.4**
RTR				*e*S	**Sn**	**09 50 35.9**	**+1.2**
UNIC	**Universidad Ca**	**1.23**	**324**	*e*P	**Pn**	**09 50 19.5**	**+0.5**
UNIC	**Universidad Ca**	**1.23**	**324**	*e*P	**Pn**	**09 50 19.5**	**+0.5**
MTO3	**Montecristo**	**1.51**	**339**	*e*P	**Pn**	**09 50 23.3**	**+0.5**
MTO3	**Montecristo**	**1.51**	**339**	*e*P	**Pn**	**09 50 23.3**	**+0.5**
MTO3	**Montecristo**	**1.51**	**339**		**Pn**	**09 50 23.6**	**+0.7**
CRIN	**San Cristobal**	**1.74**	**99**		**Pn**	**09 50 26.2**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.84**	**54**	Pn	**Pn**	**09 50 27.8**	**+0.6**
CNGN	**Cerro Negro**	**2.11**	**103**		**Pn**	**09 50 32.3**	**+1.4**
MASN	**Masaya**	**2.78**	**111**	Pn	**Pn**	**09 50 42.5**	**+2.6**
MATN	**Matagalpa**	**2.81**	**91**		**Pn**	**09 50 43.6**	**+3.1**
BOAB	**BOACO BROADBAN**	**3.11**	**99**		**Pn**	**09 50 43.8**	**-0.7**
RTAL	**Retalhuleu**	**3.20**	**299**	Pn	**Pn**	**09 50 48.0**	**+2.4**
HUEH	**Huehuetenango**	**3.50**	**312**		**Pn**	**09 50 53.2**	**+3.3**
ACON	**Acoyapa**	**3.69**	**105**		**Pn**	**09 50 51.7**	**-0.7**
HZTE	**Horizontes, Gu**	**3.87**	**125**		**Pn**	**09 50 57.0**	**+2.1**
GBS3	**Finca Las Img**	**3.94**	**123**	*e*P	**Pn**	**09 50 56.7**	**+0.8**
GB1A	**Borinquen Arri**	**3.97**	**122**	*e*P	**Pn**	**09 50 56.9**	**+0.6**
LAPC	**Finca la Perla**	**3.97**	**123**	*e*P	**Pn**	**09 50 55.8**	**-0.5**
BUEV	**Buena Vista**	**3.97**	**123**	*e*P	**Pn**	**09 50 58.2**	**+1.8**
BUEV				*e*S	**Sn**	**09 51 40.5**	**-1.3**
BUAI	**Buenos Aires**	**3.99**	**121**	*e*P	**Pn**	**09 50 56.5**	**-0.1**
LIM1	**Limonal**	**4.16**	**123**	*e*P	**Pn**	**09 50 59.5**	**+0.7**
ORTG	**Ortega, Santa**	**4.19**	**128**		**Pn**	**09 51 00.9**	**+1.6**
SAJU	**San Juanillo,**	**4.20**	**133**	*e*P	**Pn**	**09 50 59.7**	**+0.3**
GUAI	**GUAI**	**4.21**	**129**	*e*P	**Pn**	**09 51 00.7**	**+1.2**
HORNC	**Hornillas**	**4.21**	**122**	*e*P	**Pn**	**09 51 00.0**	**+0.4**
CUI	**Cuipilapa**	**4.25**	**123**	*e*P	**Pn**	**09 50 59.7**	**-0.4**
DUNO	**Dulce Nombre,**	**4.34**	**131**		**Pn**	**09 51 02.8**	**+1.4**
GRZA	**Playa Garza**	**4.35**	**134**	*e*P	**Pn**	**09 51 02.3**	**+0.8**
PTEN	**Parque Tenorio**	**4.37**	**121**	*e*P	**Pn**	**09 51 03.2**	**+1.5**
ACAL	**Aguas Claras**	**4.37**	**122**	*e*P	**Pn**	**09 51 02.6**	**+0.8**
ESPN	**Las Esperanzas**	**4.47**	**100**		**Pn**	**09 51 03.0**	**-0.1**
CCIG	**Comitan**	**4.60**	**316**		**Pn**	**09 51 07.5**	**+2.5**
JTS	**Las Juntas de**	**4.63**	**125**	P	**Pn**	**09 51 05.6**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=180,slow=20,SNR=24						
JTS				S	**Sn**	**09 51 55.2**	**-2.6**
	comp=Z,5.6nm,0.3s,baz=351,slow=19,SNR=2.1						
JTS	**Las Juntas de**	**4.63**	**125**	*e*P	**Pn**	**09 51 07.2**	**+1.9**
JTS	**Las Juntas de**	**4.63**	**125**		**Pn**	**09 51 07.3**	**+1.9**
CEDE	**Laguna Cedeo**	**4.72**	**121**	*e*P	**Pn**	**09 51 09.0**	**+2.3**
COVE	**Coope Vega, Sa**	**4.86**	**117**	Pn	**Pn**	**09 51 07.9**	**-0.6**
CAO2	**Cobano, Puntar**	**4.89**	**132**		**Pn**	**09 51 09.9**	**+1.1**
LAFE	**Finca La Fe, P**	**4.96**	**129**	*e*P	**Pn**	**09 51 10.8**	**+1.1**
JACO	**JACO, Garabito**	**5.24**	**129**	*e*P	**Pn**	**09 51 15.4**	**+1.7**
JACO	**JACO, Garabito**	**5.24**	**129**	Pn	**Pn**	**09 51 15.8**	**+2.1**
OCM	**Ochomogo**	**5.66**	**122**	*e*P	**Pn**	**09 51 21.3**	**+1.7**
LCR2	**La Lucha 2**	**5.71**	**124**	*e*P	**Pn**	**09 51 22.5**	**+2.2**
CVTR	**Volcan Turrial**	**5.76**	**120**		**Pn**	**09 51 21.9**	**+0.8**
RIMA	**Rio Macho**	**5.81**	**123**	*e*P	**Pn**	**09 51 23.6**	**+2.0**
RIMA	**Rio Macho**	**5.81**	**123**		**Pn**	**09 51 24.2**	**+2.6**
CDM	**Cerro de Muert**	**6.01**	**124**	*e*P	**Pn**	**09 51 27.2**	**+2.6**
PEZE	**Perez Zeledon,**	**6.17**	**125**	*e*P	**Pn**	**09 51 28.9**	**+2.4**
PEZE	**Perez Zeledon,**	**6.17**	**125**		**Pn**	**09 51 28.9**	**+2.4**
EDLM	**Las Mercedes**	**6.31**	**125**	*e*P	**Pn**	**09 51 30.8**	**+2.4**
SRBA	**San Rafael, Bu**	**6.52**	**124**		**Pn**	**09 51 33.1**	**+1.9**
DRK0	**Durika**	**6.59**	**124**	*e*P	**Pn**	**09 51 34.3**	**+1.9**
DRK0	**Durika**	**6.59**	**124**		**Pn**	**09 51 34.1**	**+1.8**
EDPN	**Palmar Norte**	**6.60**	**127**	*e*P	**Pn**	**09 51 34.7**	**+2.4**
LPLA	**Las Palmas La**	**6.92**	**124**	*e*P	**Pn**	**09 51 38.6**	**+1.8**
PIRO	**Carate, Puerto**	**7.04**	**130**	*e*P	**Pn**	**09 51 41.4**	**+3.0**
CMIG	**Matias Romero**	**7.15**	**306**	P	**Pn**	**09 51 43.0**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=115,slow=12,SNR=8.0						
CMIG				S	**Sn**	**09 53 04.3**	**+4.6**
	comp=Z,0.9nm,0.3s,baz=288,slow=19,SNR=2.1						
CDITO	**Canoas**	**7.29**	**126**		**Pn**	**09 51 43.8**	**+2.0**
435B	**Jarrell**	**19.48**	**337**	P	**P**	**09 54 21.5**	**+1.6**
Y49A	**Blount Mountai**	**20.90**	**6**	P	**P**	**09 54 36.4**	**+1.1**
Y49A				IAmb	IAmb	09 55 32.8	
	comp=Z,19nm,1.6s						
GOGA	**Godfrey**	**20.91**	**13**	P	**P**	**09 54 36.1**	**+0.8**
GOGA				IAmb	IAmb	09 54 39.2	
	comp=Z,5.3nm,0.6s						
TX32	**Lajitas Array**	**21.33**	**322**	P	**P**	**09 54 41.8**	**+1.7**
TXAR	**Lajitas Array**	**21.33**	**322**	P	**P**	**09 54 41.8**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=148,slow=11,SNR=19						
TXAR	**Lajitas Array**	**21.33**	**322**	P	**P**	**09 54 42.0**	**+2.0**
TX31	**Lajitas Ar. Si**	**21.33**	**322**	P	**P**	**09 54 42.2**	**+2.1**
TX31				IAmb	IAmb	09 54 55.4	
	comp=Z,20nm,1.7s						
SJG	**San Juan**	**22.41**	**74**	LR	LR	10 03 47.4	
	comp=Z,37nm,20.9s,baz=87,slow=37						
BIRD	**Birdtown, Kers**	**22.86**	**18**	P	**P**	**09 54 57.5**	**+1.4**
BIRD				IAmb	IAmb	09 55 32.9	
	comp=Z,14nm,1.4s						
FCAR	**Ozark Folk Cen**	**23.00**	**353**	P	**P**	**09 54 58.0**	**+0.4**
TKL	**Tuckaleechee C**	**23.03**	**11**	P	**P**	**09 54 58.0**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=170,slow=12,SNR=4.7						
TKL				LR	LR	10 03 19.2	
	comp=Z,36nm,21.4s,baz=210,slow=35						
TKL	**Tuckaleechee C**	**23.03**	**11**	P	**P**	**09 54 58.5**	**+0.6**
KMSC	**Kings Mountain**	**23.08**	**16**	P	**P**	**09 54 59.5**	**+1.1**
KMSC				IAmb	IAmb	09 55 01.1	
	comp=Z,14nm,1.2s						
U40A	**Yellville**	**23.56**	**352**	P	**P**	**09 55 03.2**	**+0.3**
T47A	**Sharon Grove**	**23.95**	**3**	P	**P**	**09 55 06.0**	**-0.5**
T47A				IAmb	IAmb	09 55 07.5	
	comp=Z,10nm,1.3s						
V58A	**Windy Hill, Pi**	**24.34**	**19**	P	**P**	**09 55 10.4**	**+0.4**
V58A				IAmb	IAmb	09 55 40.4	
	comp=Z,19nm,1.4s						
MSTX	**Muleshoe**	**24.45**	**331**	P	**P**	**09 55 11.3**	**+0.1**
CCM	**Cathedral Cave**	**25.07**	**355**	P	**P**	**09 55 17.2**	**+0.6**
WCI	**Wyandotte Cave**	**25.24**	**5**	P	**P**	**09 55 18.3**	**+0.1**
WCI				IAmb	IAmb	09 55 40.0	
	comp=Z,19nm,1.8s						
R40A	**Maddies Statio**	**25.39**	**354**	P	**P**	**09 55 21.4**	**+1.8**
R40A				IAmb	IAmb	09 55 36.0	
	comp=Z,7.4nm,0.8s						
Q54A	**Coxs Mills**	**26.84**	**14**	P	**P**	**09 55 32.9**	**+0.2**
PV17	**East Wray Mesa**	**30.92**	**328**	P	**P**	**09 56 10.4**	**+1.2**
PV17				IAmb	IAmb	09 56 11.8	
	comp=Z,15nm,1.7s						
O20A	**White River Ci**	**32.00**	**331**	P	**P**	**09 56 20.4**	**+1.7**
O20A				IAmb	IAmb	09 56 22.3	
	comp=Z,3.2nm,0.8s						
SPMN	**Marine on St.**	**32.31**	**355**	P	**P**	**09 56 20.1**	**-1.0**
J58A	**Remsen**	**32.44**	**19**	P	**P**	**09 56 22.1**	**-0.2**
SADO	**Sadowa**	**32.74**	**13**	P	**P**	**09 56 23.8**	**-1.0**
RWWY	**Rawlins**	**32.79**	**334**	P	**P**	**09 56 26.5**	**+0.9**
RWWY				IAmb	IAmb	09 57 15.4	
	comp=Z,6.4nm,0.8s						
SAML	**Samuel**	**33.51**	**129**	P	**P**	**09 56 30.8**	**-1.1**
SAML				IAmb	IAmb	09 56 31.5	
	comp=Z,2.5nm,0.8s						
RSSD	**Black Hills**	**33.67**	**340**	P	**P**	**09 56 34.8**	**+1.6**
RSSD				IAmb	IAmb	09 56 35.8	
	comp=Z,2.1nm,0.7s						
PDAR	**Pinedale Array**	**34.69**	**333**	P	**P**	**09 56 42.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=135,slow=12,SNR=3.8						
LPAZ	**La Paz**	**35.55**	**144**	LR	LR	10 11 53.2	
	comp=Z,27nm,18.2s,baz=117,slow=37						
REDW	**Red Top Meadow**	**35.74**	**332**	P	**P**	**09 56 52.1**	**+1.0**
REDW				IAmb	IAmb	09 56 53.6	
	comp=Z,2.2nm,0.6s						
SNOW	**Snow King Moun**	**35.77**	**332**	P	**P**	**09 56 52.5**	**+1.1**
NVAR	**Mina Array Bea**	**36.44**	**319**	P	**P**	**09 56 57.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=134,slow=7.8,SNR=4.6						
NVAR				PcP	**PcP**	**09 59 20.6**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=128,slow=4.6,SNR=7.0						
LKWY	**Lake**	**36.49**	**334**	P	**P**	**09 56 57.9**	**+0.4**
LKWY				IAmb	IAmb	09 58 22.6	
	comp=Z,2.8nm,0.6s						
GCMT	**Greycliff**	**37.17**	**336**	P	**P**	**09 57 04.1**	**+0.9**
ULM	**Lac du Bonnet**	**37.61**	**353**	LR	LR	10 13 33.6	
	comp=Z,25nm,20.5s,baz=324,slow=38						
MCMT	**McKenzie Canyo**	**37.79**	**332**	P	**P**	**09 57 10.2**	**+1.7**
EGMT	**Eagleton**	**39.05**	**338**	P	**P**	**09 57 19.7**	**+0.8**
SCHQ	**Schefferville**	**45.17**	**18**	P	**P**	**09 58 06.7**	**-1.7**
	comp=Z,1.9nm,0.6s,baz=210,slow=9.4,SNR=3.8						
SCHQ	**Schefferville**	**45.17**	**18**	P	**P**	**09 58 06.8**	**-1.7**
YKA	**Yellowknife Ar**	**52.76**	**345**	P	**P**	**09 59 05.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=143,slow=7.5,SNR=22						
RES	**Resolute Bay**	**61.78**	**358**	P	**P**	**10 00 08.1**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=181,slow=6.2,SNR=4.2						
RES	**Resolute Bay**	**61.78**	**358**	P	**P**	**10 00 08.2**	**-1.7**
INK	**Inuvik**	**62.31**	**343**	P	**P**	**10 00 12.6**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=117,slow=5.7,SNR=9.0						
ILAR	**Eielson Array**	**65.00**	**336**	P	**P**	**10 00 30.4**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=99,slow=4.8,SNR=4.8						
BMAR	**Burnt Mountain**	**65.32**	**339**	P	**P**	**10 00 33.3**	**0.0**
PPLA	**Purkeypile**	**66.52**	**333**	P	**P**	**10 00 40.4**	**-0.8**
EUNU	**Eureka**	**67.10**	**0**	P	**P**	**10 00 43.8**	**-0.8**
EUNU				IAmb	IAmb	10 01 08.6	
	comp=Z,12nm,1.9s						

IDC 13 10:03:01.9±8.3, 5.93S×151.14E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/33, mbtmp4.0/4, Error ellipse: s-maj=130.8km s-min=70.8km az=35.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.46**	**228**	P	P	10 07 52.3	+0.1
	3.1nm,0.8s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.21**	**221**	P	P	10 08 20.5

	32nm,0.3s,baz=32,slow=9.5,SNR=54							
PMG					S		**Sn**	**11 33 23.2 +0.9**
	90nm,0.3s,baz=11,slow=20,SNR=24							
PMG	**Port Moresby**	**3.55**	**204**		P		**Pn**	**11 32 44.0 +2.6**
PMG					S		**Sn**	**11 33 26.5 +4.3**
RABL	**Rabaul**	**4.03**	**61**		Pn		**Pn**	**11 32 48.9 +1.0**
MMPI	**Merauke**	**8.49**	**254**		P		Pn	11 33 53.7 +4.7
	324nm,0.8s							
SIJI	**Sorong**	**18.09**	**286**		LR		LR	11 44 41.6
	comp=Z,65nm,20.2s,baz=46,slow=43							
MTN	**Manton Dam**	**18.48**	**248**		P		**P**	**11 35 59.1 -0.5**
MTN					IAmb		IAmb	11 36 18.7
	comp=Z,15nm,1.0s							
WB0	**Warramunga Arr**	**19.36**	**224**		P		**P**	**11 36 08.5 -0.7**
WR0	**Warramunga Arr**	**19.39**	**224**				**P**	**11 36 09.2 -0.3**
WR0					IAmb		IAmb	11 36 10.7
	comp=Z,8.4nm,0.7s							
WRAB	**Tennant Creek**	**19.50**	**224**				**P**	**11 36 10.5 -0.2**
WRAB					IAmb		IAmb	11 36 11.9
	comp=Z,22nm,1.4s							
WB2	**Warramunga Arr**	**19.51**	**224**		P		**P**	**11 36 10.7 -0.1**
WB2					IAmb		IAmb	11 36 12.0
	comp=Z,29nm,1.4s							
WRA	**Warramunga Arr**	**19.52**	**224**		P		**P**	**11 36 10.6 -0.3**
	comp=Z,1.5nm,0.3s,baz=50,slow=11,SNR=73							
WRA					S		**S**	**11 39 38.1 -10**
	comp=Z,0.0nm,0.3s,baz=49,slow=23,SNR=2.4							
WRA					PcP		**PcP**	**11 40 30.1 +0.6**
	comp=Z,0.1nm,0.3s,baz=44,slow=2.2,SNR=5.5							
WRA	**Warramunga Arr**	**19.52**	**224**		P		**P**	**11 36 10.3 -0.6**
KRAI	**Karang Ratu**	**20.35**	**277**		P		Pn	11 36 23.5 +0.9
	comp=Z,34nm,0.5s							
KNRA	**Kununurra**	**21.66**	**242**		P		**P**	**11 36 33.0 -1.1**
KNRA					IAmb		IAmb	11 36 39.0
	comp=Z,15nm,0.9s							
GAMI	**Galela, Maluku**	**22.26**	**290**		P		**P**	**11 36 45.6 +5.0**
	comp=Z,1µmcomp=Z,26nm,0.5s							
AS31	**Alice Springs**	**22.45**	**218**		P		**P**	**11 36 42.1 -0.4**
ASAR	**Alice Springs**	**22.45**	**218**		P		**P**	**11 36 42.5 -0.1**
	comp=Z,8.8nm,0.8s,baz=49,slow=9.3,SNR=93							
ASAR					PcP		**PcP**	**11 40 35.4 +0.4**
	comp=Z,1.3nm,0.8s,baz=55,slow=2.2,SNR=7.4							
ASAR					S		**S**	**11 40 45.1 +0.3**
	comp=Z,3.5nm,0.9s,baz=33,slow=22,SNR=13							
ASAR					LR		LR	11 45 56.7
	comp=Z,127nm,21.0s,baz=61,slow=38							
DZM	**Mont Dzumac**	**23.40**	**134**		LR		LR	11 44 45.9
	comp=Z,145nm,20.3s,baz=233,slow=33							
BATI	**Baumata**	**25.03**	**259**		P		**P**	**11 37 07.3 +0.3**
	comp=Z,38nm,0.6s,baz=135,slow=7.1,SNR=4.9							
FITZ	**Fitzroy Crossi**	**25.38**	**240**		P		**P**	**11 37 10.2 +0.1**
	comp=Z,35nm,0.9s,baz=66,slow=7.8,SNR=63							
FITZ	**Fitzroy Crossi**	**25.38**	**240**		P		**P**	**11 37 09.8 -0.3**
MMRI	**Maumere**	**26.28**	**263**		P		**P**	**11 37 17.3 -1.0**
MMRI	**Maumere**	**26.28**	**263**		P		**P**	**11 37 17.6 -0.7**
STKA	**Stephens Creek**	**26.43**	**194**		P		**P**	**11 37 20.6 +1.0**
	comp=Z,1.9nm,0.6s,baz=358,slow=11,SNR=5.6							
STKA					LR		LR	11 48 27.7
	comp=Z,87nm,18.1s,baz=24,slow=38							
STKA	**Stephens Creek**	**26.43**	**194**		P		**P**	**11 37 19.4 -0.1**
BBOO	**Buckleboo**	**29.00**	**202**		P		**P**	**11 37 42.2 -0.3**
BBOO					IAmb		IAmb	11 37 43.4
	comp=Z,6.3nm,1.0s							
FORT	**Forrest**	**31.20**	**216**		P		**P**	**11 38 02.5 +0.6**
MORW	**Morawa**	**38.29**	**230**		P		**P**	**11 39 02.8 -0.3**
JWT	**Wachi**	**43.04**	**344**		P		**P**	**11 39 42.1 0.0**
JWT					IAmb		IAmb	11 39 59.6
	comp=Z,8.2nm,1.2s							
KSRS	**Korea Array**	**47.48**	**338**		P		**P**	**11 40 16.8 -0.4**
	comp=Z,1.8nm,0.7s,baz=150,slow=8.0,SNR=7.8							
KSRS					LR		LR	11 58 31.8
	comp=Z,17nm,20.6s,baz=144,slow=34							
PEA0B	**Petropavlovsk-**	**59.52**	**6**		P		**P**	**11 41 45.9 +0.7**
PETK	**Petropavlovsk-**	**59.52**	**6**		P		**P**	**11 41 45.8 +0.6**
	comp=Z,2.5nm,0.5s,baz=158,slow=6.1,SNR=6.4							
PETK	**Petropavlovsk-**	**59.52**	**6**		P		**P**	**11 41 46.3 +1.1**
SONM	**Songino Array**	**65.32**	**330**		P		**P**	**11 42 24.1 0.0**
	comp=Z,0.5nm,0.5s,baz=146,slow=5.8,SNR=4.4							
SONM	**Songino Array**	**65.32**	**330**		P		**P**	**11 42 24.6 +0.4**
CASY	**Casey**	**65.56**	**196**		P		**P**	**11 42 25.0 -0.2**
VNDA	**Vanda**	**71.68**	**177**		P		**P**	**11 43 04.0 +0.9**
	comp=Z,1.2nm,0.6s,baz=327,slow=6.9,SNR=8.7							
VNDA	**Vanda**	**71.68**	**177**		P		**P**	**11 43 03.3 +0.2**
MK31	**Makanchi Array**	**78.64**	**320**		P		**P**	**11 43 42.6 -1.1**
MKAR	**Makanchi Array**	**78.64**	**320**		P		**P**	**11 43 43.1 -0.6**
	comp=Z,0.6nm,0.5s,baz=100,slow=8.2,SNR=10.0							
MKAR	**Makanchi Array**	**78.64**	**320**		P		**P**	**11 43 42.4 -1.3**
PPLA	**Purkeypile**	**82.02**	**23**		P		**P**	**11 44 02.4 +0.7**
TRF	**Thorofare Moun**	**83.05**	**23**		P		**P**	**11 44 07.0 0.0**
TRF					IAmb		IAmb	11 44 09.3
	comp=Z,2.2nm,0.7s							
IMAR	**Indian Mountai**	**83.06**	**20**		P		**P**	**11 44 08.4 +1.5**
BPAW	**Bear Paw Mtn.**	**83.09**	**23**		P		**P**	**11 44 07.3 +0.2**
BPAW					IAmb		IAmb	11 44 29.0
	comp=Z,3.3nm,1.4s							
MLY	**Manley**	**83.64**	**22**		P		**P**	**11 44 10.0 +0.1**
MLY					IAmb		IAmb	11 44 12.2
	comp=Z,1.8nm,0.7s							
QSPA	**South Pole Qui**	**83.83**	**180**		P		**P**	**11 44 11.3 +0.3**
QSPA					IAmb		IAmb	11 44 25.8
	comp=Z,5.1nm,1.1s							
NEA2	**Nenana**	**84.06**	**23**		P		**P**	**11 44 12.0 0.0**
I23K	**Minto, Yukon-K**	**84.21**	**22**		P		**P**	**11 44 14.3 +1.6**
I23K					IAmb		IAmb	11 44 36.2
	comp=Z,3.6nm,1.4s							
CCB	**Clear Creek Bu**	**84.57**	**23**		P		**P**	**11 44 14.3 -0.2**
CCB					IAmb		IAmb	11 44 15.7
	comp=Z,1.8nm,0.7s							
IL31		**84.98**	**23**		P		**P**	**11 44 17.1 +0.5**
IL31					IAmb		IAmb	11 44 17.6
	comp=Z,2.0nm,0.7s							
ILAR	**Eielson Array**	**84.98**	**23**		P		**P**	**11 44 16.4 -0.3**
	comp=Z,1.8nm,0.6s,baz=251,slow=4.8,SNR=36							
ILAR	**Eielson Array**	**84.98**	**23**		P		**P**	**11 44 16.4 -0.2**
K27K	**Chicken**	**86.60**	**24**		P		**P**	**11 44 24.4 -0.3**
K27K					IAmb		IAmb	11 44 28.1
	comp=Z,1.9nm,0.8s							
BMAR	**Burnt Mountain**	**86.95**	**21**		P		**P**	**11 44 27.4 +1.0**
EGAK	**Eagle**	**87.24**	**24**		P		**P**	**11 44 28.9 +1.1**
DAWY	**Dawson**	**87.72**	**25**				**P**	**11 44 31.1 +0.9**
DAWY					IAmb		IAmb	11 44 33.2
	comp=Z,2.5nm,0.8s							
ABKAR	**Akbulak array**	**93.74**	**319**		P		**P**	**11 44 57.8 -0.7**
TORD	**Torodi Ar. Bea**	**146.69**	**285**		PKPbc		**PKPdf**	**11 51 23.3 +0.7**
	comp=Z,2.1nm,0.6s,baz=55,slow=3.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**146.69**	**285**				**PKPdf**	**11 51 20.1 -2.4**
BDFB	**Brasilia**	**152.80**	**143**		PKPbc		**PKPbc**	**11 51 39.6 +0.1**
	comp=Z,3.6nm,0.6s,baz=345,slow=1.7,SNR=4.9							
BDFB	**Brasilia**	**152.80**	**143**		PKPdf		**PKPdf**	**11 51 29.6 -2.8**
BDFB							**PKPbc**	**11 51 37.1 -2.4**
BDFB					PKPab		**PKPab**	**11 51 49.0 -1.4**

IDC 13 11:35:13.1±3.2, 18°60S×178°30W, h611km±28km, mb3.0/4, mb1 3.2/5, mb1mx2.8/26, mbtmp3.9/5, Error ellipse: s-maj=134.0km s-min=27.5km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**283**	P	P	11 36 36.5	-0.1
	2.6nm,0.3s,baz=99,slow=23,SNR=11						
CTA	**Charters Tower**	**33.44**	**262**	P	P	11 41 04.3	+0.8
	2.0nm,0.3s,baz=83,slow=9.3,SNR=1.8						
WRA	**Warramunga Arr**	**44.61**	**260**	P	P	11 42 33.0	-0.1
	0.8nm,0.4s,baz=97,slow=8.0,SNR=15						
ASAR	**Alice Springs**	**44.71**	**255**	P	P	11 42 33.4	-0.4
	1.1nm,0.3s,baz=87,slow=8.6,SNR=32						
TXAR	**Lajitas Array**	**86.28**	**58**	P	P	11 46 51.9	+0.1
	0.3nm,0.7s,baz=208,slow=4.3,SNR=3.9						

*IDC **13** 11:54:14.5±0.7, 46°47N×35°07E, h0km, mb3.5/2, mb1 3.7/9, mb1mx3.4/53, mbtmp3.5/9, ML3.3/7, MS2.9/1, Ms1 2.9/1, ms1mx2.0/47, Error ellipse: s-maj=12.8km s-min=7.4km az=31.0*

*CFUSG **13** 11:54:14.8, 46°47N×35°15E, h11km, MD3.5/7, Sea of Azov district 7 Magtype MSH 3.7 from 7 stations*

*MOS **13** 11:54:15.1±0.0, 46°42N×35°15E, h21km±1km, MPVA4.4*

*BUC **13** 11:55:11.9±0.6, 45°50N×29°39E, h23km±3km, ml2.5/12, Error ellipse: s-maj=4.2km s-min=2.9km az=70.0*

ISC 13 11:54:13.4±1.2, 46°52N±0°03×35°09E±0°02, h10km±9km, n69, σ2s10/136, mb3.6/3, 23C-26D,

Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEO	**Feodosiya**	**1.51**	**172**	⇓*i*P	**Pn**	**11 54 40.4**	**0.0**
FEO				P	**Pb**	**11 54 41.3**	**-0.2**
	comp=Z,149nm,0.1s						
FEO				*i* S	**Sb**	**11 55 00.7**	**0.0**
FEO				S	**Sg**	**11 55 01.2**	**-0.8**
	comp=N,348nm,0.2s						
FEO				S	**Sn**	**11 55 02.2**	**+2.0**
	comp=E,411nm,0.2s						
FEO	**Feodosiya**	**1.51**	**172**	*i* Pg	**Pn**	**11 54 40.4**	**0.0**
FEO				*i* Sg	**Sb**	**11 55 00.7**	**0.0**
KERU	**Kerch**	**1.54**	**141**	*e*P	**Pb**	**11 54 41.5**	**-0.5**
KERU				P	**Pg**	**11 54 46.7**	**+3.8**
	comp=Z,17nm,0.3s						
KERU				*e*S	**Sg**	**11 55 02.5**	**-0.4**
KERU				*i* x	x	11 55 04.2	
KERU				S	**Sb**	**11 55 06.6**	**+5.1**
	comp=E,87nm,0.6s						
KERU				S	**Sn**	**11 55 06.8**	**+5.9**
	comp=N,330nm,0.8s						
KERU	**Kerch**	**1.54**	**141**	*e*Pg	**Pb**	**11 54 41.5**	**-0.5**
KERU				*e*Sg	**Sg**	**11 55 02.5**	**-0.4**
SUDU	**Sudak**	**1.63**	**182**	⇑*e*P	**Pn**	**11 54 42.3**	**+0.3**
SUDU				⇓*i*P	**Pb**	**11 54 42.8**	**-0.6**
SUDU				P	**Pg**	**11 54 43.6**	**-1.0**
	comp=Z,192nm,0.3s						
SUDU				*e*S	**Sb**	**11 55 04.1**	**+0.1**
SUDU				S	**Sg**	**11 55 06.2**	**+0.5**
	comp=E,581nm,0.3s						
SUDU				S	**Sn**	**11 55 07.6**	**+4.6**
	comp=N,511nm,0.5s						
SUDU				S	**Sn**	**11 55 07.6**	**+4.6**
	comp=E,787nm,0.5s						
SUDU	**Sudak**	**1.63**	**182**	*e*Pg	**Pn**	**11 54 42.3**	**+0.3**
SUDU				*e*Sg	**Sb**	**11 55 04.1**	**+0.1**
SIM	**Simferopol'**	**1.71**	**204**	*e*P	**Pn**	**11 54 43.9**	**+0.7**
SIM				⇑*e*P	**Pb**	**11 54 44.5**	**-0.3**
SIM				P	**Pg**	**11 54 45.7**	**-0.4**
	comp=Z,97nm,0.2s						
SIM				*e*S	**Sb**	**11 55 05.8**	**-0.5**
SIM				*i* S	**Sn**	**11 55 06.2**	**+1.2**
SIM				S	**Sg**	**11 55 07.2**	**-1.1**
	comp=N,415nm,0.2s						
SIM				S	**Sg**	**11 55 07.2**	**-1.1**
	comp=E,99nm,0.1s						
SIM	**Simferopol'**	**1.71**	**204**	*e*Pg	**Pn**	**11 54 43.9**	**+0.7**
SIM				*e*Sg	**Sb**	**11 55 05.8**	**-0.5**
ALU	**Alushta**	**1.90**	**195**	⇑*e*P	**Pn**	**11 54 46.7**	**+1.0**
ALU				P	**Pb**	**11 54 48.3**	**+0.3**
	comp=Z,140nm,0.2s						
ALU				*e*S	**Sn**	**11 55 09.8**	**+0.2**
ALU				Sm		11 55 15.0	
	comp=E,433nm,0.4s						
ALU				Sm		11 55 16.2	
	comp=N,511nm,0.3s						
ALU	**Alushta**	**1.90**	**195**	*e*Pg	**Pn**	**11 54 46.7**	**+1.0**
ALU				*e*Sg	**Sn**	**11 55 09.8**	**+0.2**
YAL	**Yalta**	**2.13**	**198**	*e*P	**Pn**	**11 54 50.1**	**+1.1**
YAL				⇓*i*P	**Pb**	**11 54 50.6**	**-1.4**
YAL				P	**Pg**	**11 54 52.5**	**-1.7**
	comp=Z,65nm,0.2s						
YAL				*e*S	**Sn**	**11 55 15.8**	**+0.4**
YAL				S	**Sb**	**11 55 19.7**	**+1.2**
	comp=E,288nm,0.3s						
YAL				S	**Sg**	**11 55 20.8**	**-1.0**
	comp=N,244nm,0.2s						
YAL	**Yalta**	**2.13**	**198**	*e*Pg	**Pn**	**11 54 50.1**	**+1.1**
YAL				*e*Sg	**Sn**	**11 55 15.8**	**+0.4**
NIKV	**Nikolaev**	**2.19**	**283**	*e*P	**Pg**	**11 54 55.5**	**+0.2**
NIKV				*e*S	**Sg**	**11 55 24.1**	**+0.4**
SEV	**Sevastopol'**	**2.21**	**207**	⇓*e*P	**Pn**	**11 54 51.1**	**+1.0**
SEV				P	**Pb**	**11 54 54.0**	**+0.7**
	comp=Z,16nm,0.2s						
SEV				*e*S	**Sb**	**11 55 19.8**	**-0.9**
SEV				S	**Sn**	**11 55 20.4**	**+3.1**
	comp=N,256nm,0.3s,comp=E,108nm,0.3s						
SEV				S	**Sg**	**11 55 24.8**	**+0.5**
	comp=E,206nm,0.3s						
SEV	**Sevastopol'**	**2.21**	**207**	*e*Pg	**Pn**	**11 54 51.0**	**+1.0**
SEV				*e*Sg	**Sn**	**11 55 15.9**	**-1.4**
ANN	**Anapa**	**2.38**	**135**	*e*Pg	**Pn**	**11 54 53.6**	**+1.3**
ANN				Pgm		11 54 57.7	
	comp=Z,19nm,0.3s						
ANN				*e*S	**Sn**	**11 55 18.1**	**-3.4**
ANN	**Anapa**	**2.38**	**135**	*e*Pg	**Pn**	**11 54 51.6**	**-0.7**
ANN				*e*Sg	**Sn**	**11 55 16.9**	**-4.6**
GL1R	**Gelendzhik**	**2.88**	**132**	*e*P	**Pn**	**11 54 59.5**	**+0.3**
GL1R				*e*S	**Sn**	**11 55 32.4**	**-1.4**
GL1R	**Gelendzhik**	**2.88**	**132**	*e*Pn	**Pn**	**11 54 59.5**	**+0.3**
GL1R				*e*Sn	**Sn**	**11 55 30.9**	**-2.9**
TPSR	**Tuapse**	**3.73**	**129**	*e*Pn	**Pn**	**11 55 12.1**	**+1.1**
TPSR				*e*Sn	**Sn**	**11 55 53.4**	**-1.6**
ERBR	**Yeremizino-Bor**	**3.84**	**100**	*e*Pn	**Pn**	**11 55 14.8**	**+2.4**
ERBR				*e*Sn	**Sn**	**11 55 59.0**	**+1.5**
LZRR	**Lazarevskoye**	**3.98**	**129**	*e*Pn	**Pn**	**11 55 15.7**	**+1.2**
LZRR				*e*Sn	**Sn**	**11 55 58.2**	**-2.9**
GUZR	**Guzeripl'**	**4.36**	**124**	*e*P	**Pn**	**11 55 21.2**	**+1.6**
GUZR				*e*S	**Sn**	**11 56 09.6**	**-0.8**
GUZR	**Guzeripl'**	**4.36**	**124**	*e*Pn	**Pn**	**11 55 21.2**	**+1.6**
GUZR				*e*Sn	**Sn**	**11 56 08.2**	**-2.2**
TLCR		**4.58**	**255**	⇑S	**Pb**	**11 55 29.7**	**-4.1**
TLCR		**4.58**	**255**	⇑S	**Pb**	**11 55 29.7**	**-4.1**
RPOR	**Krasnaya Polya**	**4.62**	**126**	*e*Pn	**Pn**	**11 55 25.6**	**+2.3**
RPOR				*e*Sn	**Sn**	**11 56 15.3**	**-1.7**
JURR	**Jurilovca**	**4.69**	**250**	⇓P	**Pn**	**11 55 26.7**	**+2.6**
JURR	**Jurilovca**	**4.69**	**250**	⇓P	**Pn**	**11 55 26.7**	**+2.6**
TPGR	**Topolog**	**4.96**	**253**	⇑P	**Pn**	**11 55 29.5**	**+1.6**
TPGR	**Topolog**	**4.96**	**253**	⇑P	**Pn**	**11 55 29.5**	**+1.6**
CFR	**Carcaliu**	**5.04**	**257**	⇓P	**Pn**	**11 55 30.0**	**+1.2**
CFR				⇓S	**Pb**	**11 55 42.9**	**+1.4**
CFR	**Carcaliu**	**5.04**	**257**	⇓P	**Pn**	**11 55 30.0**	**+1.2**
CFR				⇓S	**Pb**	**11 55 42.9**	**+1.4**
VARL	**Varlezi**	**5.06**	**266**	⇓P	**Pn**	**11 55 32.9**	**+3.7**
VARL				⇓S	**Pg**	**11 55 47.9**	**-2.4**
VARL	**Varlezi**	**5.06**	**266**	⇓P	**Pn**	**11 55 32.9**	**+3.7**
VARL				⇓S	**Pg**	**11 55 47.9**	**-2.4**
TIRR	**Tirgusor**	**5.12**	**249**	⇓S	**Pg**	**11 55 51.4**	**0.0**
TIRR	**Tirgusor**	**5.12**	**249**	⇓S	**Pg**	**11 55 51.4**	**0.0**
TLBR	**Topalu**	**5.32**	**251**	⇑P	**Pn**	**11 55 35.4**	**+2.5**
TLBR				⇑S	**Pg**	**11 55 52.9**	**-2.4**
TLBR	**Topalu**	**5.32**	**251**	⇑P	**Pn**	**11 55 35.4**	**+2.5**
TLBR				⇑S	**Pg**	**11 55 52.9**	**-2.4**
HARR	**Harsova**	**5.34**	**253**	⇑P	**Pn**	**11 55 35.1**	**+2.0**
HARR	**Harsova**	**5.34**	**253**	⇑P	**Pn**	**11 55 35.1**	**+2.0**
AKASG	**Malin Array Be**	**5.71**	**319**	Pn	**Pn**	**11 55 40.3**	**+2.1**
	comp=Z,5.7nm,0.3s,baz=115,slow=12,SNR=18						
AKASG				Sn	**Sn**	**11 56 43.8**	**+0.1**
	comp=Z,16nm,0.3s,baz=134,slow=23,SNR=12						
AKASG				Lg	Lg	11 57 12.6	
	comp=Z,16nm,0.3s,baz=128,slow=30,SNR=6.2						
ALER	**Alexandrovskoy**	**5.76**	**105**	*e*Pn	**Pn**	**11 55 40.7**	**+1.8**
ALER				*e*Sn	**Sn**	**11 56 44.1**	**-0.9**
VRI	**Vrincioaia**	**5.84**	**267**	⇓P	**Pn**	**11 55 42.6**	**+2.6**
VRI				⇑S	**Pg**	**11 56 07.1**	**+1.9**
VRI	**Vrincioaia**	**5.84**	**267**	⇓P	**Pn**	**11 55 42.6**	**+2.6**
VRI				⇑S	**Pg**	**11 56 07.1**	**+1.9**
PLOR	**Plostina**	**5.90**	**267**	⇓P	**Pn**	**11 55 44.5**	**+3.7**
PLOR				⇑S	**Pg**	**11 56 08.1**	**+1.9**
PLOR	**Plostina**	**5.90**	**267**	⇓P	**Pn**	**11 55 44.5**	**+3.7**
PLOR				⇑S	**Pg**	**11 56 08.1**	**+1.9**
BISRR	**Bisoca**	**5.91**	**264**	⇓P	**Pn**	**11 55 43.4**	**+2.4**
BISRR				⇑S	**Pg**	**11 56 06.1**	**-0.4**
BISRR	**Bisoca**	**5.91**	**264**	⇓P	**Pn**	**11 55 43.4**	**+2.4**
BISRR				⇑S	**Pg**	**11 56 06.1**	**-0.4**
KIV	**Kislovodsk**	**5.95**	**113**	*e*Pn	**Pn**	**11 55 42.0**	**+0.5**
KIV				*e*Sn	**Sn**	**11 56 46.8**	**-2.9**
KVAR	**Kislovodsk Arr**	**5.95**	**113**	Pn	**Pn**	**11 55 44.8**	**+3.2**
	baz=343,slow=19,SNR=1.8						
KVAR				Sn	**Sn**	**11 56 49.6**	**-0.2**
	baz=304,slow=20,SNR=2.4						
KVAR				Lg	Lg	11 57 22.3	
	baz=343,slow=18,SNR=2.1						
SHA1	**Shidzhatmaz**	**6.03**	**115**	*e*Pn	**Pn**	**11 55 42.9**	**+0.1**
SHA1				*e*Sn	**Sn**	**11 56 48.9**	**-3.1**
ISR	**Istrita**	**6.13**	**260**	⇑P	**Pn**	**11 55 44.5**	**+0.5**
ISR	**Istrita**	**6.13**	**260**	⇑P	**Pn**	**11 55 44.5**	**+0.5**
KBZ	**Khabaz**	**6.19**	**114**	Pn	**Pn**	**11 55 46.4**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=279,slow=12,SNR=5.1						
KBZ				Sn	**Sn**	**11 56 57.3**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=310,slow=18,SNR=1.5						
KBZ				Lg	Lg	11 57 27.5	
	comp=Z,1.5nm,0.3s,baz=343,slow=5.1,SNR=3.9						
KBZ	**Khabaz**	**6.19**	**114**	*e*Pn	**Pn**	**11 55 45.0**	**+0.3**
KBZ				*e*Sn	**Sn**	**11 56 53.6**	**-1.9**
MLR	**Muntele Rosu**	**6.45**	**264**	⇑S	**Pg**	**11 56 20.2**	**+3.3**
MLR	**Muntele Rosu**	**6.45**	**264**	Pn	**Pn**	**11 55 51.4**	**+3.0**
	comp=Z,0.9nm,0.3s,baz=89,slow=3.3,SNR=13						
MLR				Sn	**Sn**	**11 57 03.5**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=109,slow=20,SNR=1.3						
MLR				Lg	Lg	11 57 39.3	
	comp=Z,0.4nm,0.3s,baz=192,slow=20,SNR=1.3						
MLR	**Muntele Rosu**	**6.45**	**264**	⇑S	**Pg**	**11 56 20.2**	**+3.3**
DOPR	**Dopca**	**6.75**	**269**	⇓P	**Pn**	**11 55 55.3**	**+2.9**
DOPR				⇓S	Pg	11 56 29.5	+7.0
DOPR	**Dopca**	**6.75**	**269**	⇓P	**Pn**	**11 55 55.3**	**+2.9**
DOPR				⇓S	Pg	11 56 29.5	+7.0
BRTR	**Keskin Array B**	**6.87**	**189**	Pn	**Pn**	**11 55 56.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=227,slow=29,SNR=9.1						
BRTR				Sn	**Sn**	**11 57 11.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=38,slow=14,SNR=2.0						
FINES	**FINESS Array B**	**15.84**	**344**	Pn	**Pn**	**11 57 51.3**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=5.5						
HFS	**Hagfors**	**18.56**	**325**	P	**Pn**	**11 58 32.1**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=119,slow=12,SNR=7.6						
NOA	**NORSAR Array B**	**20.09**	**325**	P	Pn	11 58 49.7	+1.1
	comp=Z,0.5nm,0.7s,baz=131,slow=11,SNR=2.8						
KEST	**Kesra**	**22.09**	**250**	LR	LR	12 10 34.9	
	comp=Z,32nm,18.4s,baz=250,slow=44						
ARCES	**ARCESS Array B**	**23.57**	**352**	P	**P**	**11 59 25.6**	**+1.9**
	comp=Z,4.6nm,1.0s,baz=180,slow=7.3,SNR=4.1						
MAKZ	**Makanchi**	**31.81**	**72**	Pg	**P**	**12 00 35.2**	**-2.7**
	comp=Z,0.7nm,0.9s						
MAKZ				Lg	Lg	12 01 53.4	
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**32.02**	**72**	Pg	P	12 00 34.1	-5.6
	comp=Z,0.3nm,0.5s,baz=93,slow=14,SNR=3.5						
MK31				Lg	Lg	12 01 46.8	
	comp=Z,1.7nm,0.8s,baz=86,slow=32,SNR=2.5						

*AZER **13** 11:55:55.2±0.1, 40°93N×48°58E, h5km, ml3.2/33, Error ellipse: s-maj=1.0km s-min=0.6km az=324.0*

*DRS **13** 11:55:57.9±0.0, 40°91N×48°41E, h10km*

*MOS **13** 11:56:00.2±0.0, 41°05N×48°40E, h1km±1km, MPVA4.0*

ISC 13 11:55:58.0±1.0, 40°92N±0°02×48°57E±0°02, h6km±8km, n39, σ1s45/74, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.13**	**170**	P	**Pg**	**11 56 00.8**	**+0.1**
	SNR=1070						
PQL				S	**Sg**	**11 56 03.5**	**+0.8**
ATGJ	**Altiaghaj**	**0.29**	**101**	P	**Pg**	**11 56 03.7**	**0.0**
	SNR=542						
ATGJ				S	**Sb**	**11 56 09.3**	**-1.5**
SIZA	**Siyzn**	**0.30**	**57**	P	**Pb**	**11 56 05.0**	**-0.9**
	SNR=359						
SIZA				S	**Sb**	**11 56 10.5**	**-0.6**
IML	**Ismayilli**	**0.32**	**247**	P	**Pb**	**11 56 05.1**	**-1.0**
	SNR=42						
IML				S	**Sb**	**11 56 11.1**	**-0.3**
XNQ	**Khinaliq**	**0.41**	**309**	P	**Pb**	**11 56 07.0**	**-0.9**
	SNR=1103						
XNQ				S	**Sb**	**11 56 14.3**	**-0.1**
QUBA	**Quba, Azerbaij**	**0.44**	**353**	P	**Pn**	**11 56 08.9**	**-2.1**
	SNR=41						
QUBA				S	**Sb**	**11 56 16.9**	**+1.7**
GBS	**Qobustan**	**0.48**	**143**	P	**Pb**	**11 56 08.3**	**-0.5**
	SNR=28						
GB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACV	**Santiago Islan**	**13.88**	**39**	Pn	**Pn**	**12 17 56.7**	**-1.5**
MDP	**Montagnes des**	**20.10**	**274**	LR	LR	12 25 18.9	
	comp=Z,104nm,21.2s,baz=112,slow=32						
H10N3	**ASCENSION HYDR**	**21.54**	**123**	T	T	12 41 57.8	
	baz=303,slow=75,SNR=261						
H10N2	**ASCENSION HYDR**	**21.55**	**123**	T	T	12 42 00.3	
	baz=303,slow=75,SNR=299						
H10N1	**ASCENSION HYDR**	**21.56**	**123**	T	T	12 41 59.3	
	baz=303,slow=75,SNR=336						
H10S3	**ASCENSION HYDR**	**22.03**	**126**	T	T	12 42 36.9	
	baz=303,slow=74,SNR=210						
H10S2	**ASCENSION HYDR**	**22.05**	**126**	T	T	12 42 38.2	
	baz=277,slow=74,SNR=78						
BDFB	**Brasilia**	**24.94**	**218**	LR	LR	12 28 27.7	
	comp=Z,114nm,21.9s,baz=160,slow=33						
DBIC	**Dimbokro**	**27.64**	**84**	LR	LR	12 29 29.7	
	comp=Z,115nm,18.3s,baz=246,slow=32						
PTGA	**Pitinga**	**27.87**	**261**	LR	LR	12 30 10.5	
	comp=Z,166nm,20.2s,baz=78,slow=34						
H05S1	**Guadeloupe/Mar**	**29.73**	**292**	T	T	12 51 46.5	
	SNR=7.9						
KOWA	**Kowa**	**29.90**	**68**	LR	LR	12 31 22.2	
	comp=Z,328nm,20.0s,baz=229,slow=33						
H05N1	**Guadeloupe/Mar**	**30.54**	**295**	T	T	12 52 40.7	
SIV	**San Ignacio**	**34.62**	**234**	P	**P**	**12 21 32.1**	**+1.1**
	1.1nm,0.5s,baz=72,slow=5.7,SNR=6.9						
TOA0	**Torodi Ar. Sit**	**34.93**	**73**	P	**P**	**12 21 33.8**	**+0.1**
TOA0				IAmb	IAmb	12 21 41.4	
	comp=Z,12nm,1.5s						
TORD	**Torodi Ar. Bea**	**34.93**	**73**	P	**P**	**12 21 33.5**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=264,slow=8.6,SNR=7.1						
TORD				LR	LR	12 33 56.3	
	comp=Z,140nm,19.6s,baz=255,slow=33						
TORD	**Torodi Ar. Bea**	**34.93**	**73**	P	**P**	**12 21 33.7**	**+0.1**
CPUP	**Villa Florida**	**38.66**	**217**	LR	LR	12 37 24.8	
	comp=Z,108nm,19.5s,baz=42,slow=35						
LPAZ	**La Paz**	**42.31**	**239**	P	**P**	**12 22 23.7**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=350,slow=6.1,SNR=2.2						
LPAZ				LR	LR	12 38 31.3	
	comp=Z,107nm,18.4s,baz=100,slow=35						
LPAZ	**La Paz**	**40.66**	**239**	P	**P**	**12 22 24.1**	**+1.4**
ROSC	**El Rosal**	**41.69**	**273**	LR	LR	12 40 42.9	
	comp=Z,127nm,18.4s,baz=59,slow=38						
ESDC	**Sonseca Array**	**43.80**	**32**	P	**P**	**12 22 49.1**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=248,slow=6.5,SNR=4.1						
ESDC				LR	LR	12 38 29.8	
	comp=Z,26nm,19.5s,baz=315,slow=33						
ESDC	**Sonseca Array**	**43.80**	**32**	P	**P**	**12 22 47.9**	**+0.5**
LVC	**Limon Verde**	**44.40**	**232**	LR	LR	12 41 58.1	
	comp=Z,82nm,21.2s,baz=46,slow=37						
D62A	**Allapoint, All**	**53.14**	**329**	P	**P**	**12 23 59.3**	**+0.1**
SCHQ	**Schefferville**	**57.66**	**337**	P	**P**	**12 24 31.0**	**-0.7**
	comp=Z,5.0nm,0.9s,baz=132,slow=6.2,SNR=6.0						
SCHQ	**Schefferville**	**57.66**	**337**	P	**P**	**12 24 32.3**	**+0.6**
SCHQ				IAmb	IAmb	12 24 38.1	
	comp=Z,7.7nm,1.1s						
GERES	**GERESS Array B**	**59.35**	**34**	P	**P**	**12 24 44.4**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=190,slow=11,SNR=4.4						
PSZ	**Piszkesteto**	**62.46**	**37**	P	**P**	**12 25 05.9**	**+1.1**
BOSA	**Boshof**	**64.30**	**124**	LR	LR	12 48 38.2	
	comp=Z,48nm,18.4s,baz=304,slow=32						
MLR	**Muntele Rosu**	**65.29**	**41**	P	**P**	**12 25 24.6**	**+0.9**
NOA	**NORSAR Array B**	**65.58**	**22**	P	**P**	**12 25 25.2**	**+0.1**
	comp=Z,2.0nm,1.1s,baz=230,slow=6.3,SNR=3.6						
NOA				LR	LR	12 52 02.9	
	comp=Z,14nm,18.9s,baz=240,slow=34						
SCO	**Scoresbysund**	**66.61**	**4**	P	**P**	**12 25 31.9**	**+0.4**
SUMG	**Summit**	**68.46**	**358**	P	**P**	**12 25 44.5**	**+0.8**
BRTR	**Keskin Array B**	**69.10**	**49**	P	**P**	**12 25 49.2**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=238,slow=7.1,SNR=5.7						
BRTR				LR	LR	12 56 50.4	
	comp=Z,19nm,19.5s,baz=254,slow=37						
AKASG	**Malin Array Be**	**69.16**	**37**	P	**P**	**12 25 48.8**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=247,slow=7.0,SNR=8.5						
AKASG	**Malin Array Be**	**69.16**	**37**	P	**P**	**12 25 49.6**	**+1.7**
AKASG				IAmb	IAmb	12 25 51.6	
	comp=Z,3.9nm,1.3s						
TXAR	**Lajitas Array**	**71.57**	**299**	P	**P**	**12 26 02.8**	**-0.5**
	comp=Z,1.2nm,1.1s,baz=121,slow=6.9,SNR=5.7						
SDCO	**Great Sand Dun**	**74.05**	**308**	P	**P**	**12 26 18.3**	**+0.3**
ISCO	**Idaho Springs**	**74.40**	**310**	P	**P**	**12 26 20.8**	**+0.7**
ISCO				IAmb	IAmb	12 26 21.8	
	comp=Z,6.9nm,1.3s						
ANMO	**Albuquerque**	**74.50**	**305**	LR	LR	12 55 18.7	
	comp=Z,58nm,19.6s,baz=100,slow=33						
FFC	**Flin Flon**	**74.86**	**326**	P	**P**	**12 26 21.8**	**-0.3**
FFC				IAmb	IAmb	12 26 28.8	
	comp=Z,6.0nm,1.1s						
SMCO	**Snowmass**	**75.37**	**309**	P	**P**	**12 26 26.3**	**+0.5**
SMCO				IAmb	IAmb	12 26 39.5	
	comp=Z,6.6nm,1.4s						
O20A	**White River Ci**	**76.45**	**310**	P	**P**	**12 26 32.0**	**+0.3**
PV01	**Paradox Valley**	**76.50**	**308**	P	**P**	**12 26 33.1**	**+0.9**
PDAR	**Pinedale Array**	**77.70**	**313**	P	**P**	**12 26 38.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=77,slow=6.4,SNR=4.1						
PDAR	**Pinedale Array**	**77.70**	**313**	P	**P**	**12 26 38.1**	**-0.7**
TUC	**Tucson**	**77.90**	**302**	P	**P**	**12 26 39.7**	**-0.2**
X16A	**Lo Mia Camp, P**	**78.55**	**304**	P	**P**	**12 26 44.3**	**+0.7**
WUAZ	**Wupatki**	**78.55**	**305**	P	**P**	**12 26 43.2**	**-0.3**
WUAZ				IAmb	IAmb	12 26 45.5	
	comp=Z,4.0nm,0.9s						
HWUT	**Hardware Ranch**	**79.09**	**311**	P	**P**	**12 26 45.8**	**-0.6**
HWUT				IAmb	IAmb	12 26 47.2	
	comp=Z,4.6nm,0.8s						
MTPU	**Mount Pierson**	**79.34**	**308**	P	**P**	**12 26 48.8**	**+0.8**
MTPU				IAmb	IAmb	12 26 56.8	
	comp=Z,4.5nm,1.1s						
NLU	**North Lily Min**	**79.36**	**310**	P	**P**	**12 26 48.4**	**+0.4**
NLU				IAmb	IAmb	12 26 56.4	
	comp=Z,5.3nm,1.1s						
EUNU	**Eureka**	**80.06**	**352**	P	**P**	**12 26 50.7**	**-0.1**
EUNU				IAmb	IAmb	12 26 53.1	
	comp=Z,3.8nm,0.8s						
CCUT	**Cedar City**	**80.25**	**307**	P	**P**	**12 26 53.4**	**+0.6**
CCUT				IAmb	IAmb	12 27 01.8	
	comp=Z,6.2nm,1.2s						
SPR3	**Spring Creek 3**	**81.06**	**309**	P	**P**	**12 26 58.1**	**+0.8**
PRN	**Pahroc Range**	**81.59**	**307**	P	**P**	**12 27 00.5**	**+0.6**
PRN				IAmb	IAmb	12 27 09.1	
	comp=Z,6.3nm,1.2s						
YKA	**Yellowknife Ar**	**82.70**	**332**	P	**P**	**12 27 03.1**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=87,slow=4.9,SNR=5.1						
TPH	**Tonopah**	**83.31**	**308**	P	**P**	**12 27 08.8**	**-0.2**
BMO	**Blue Mountains**	**83.42**	**315**	P	**P**	**12 27 09.1**	**-0.1**
BMO				IAmb	IAmb	12 27 13.1	
	comp=Z,5.1nm,1.5s						
NVAR	**Mina Array Bea**	**84.16**	**308**	P	**P**	**12 27 14.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=96,slow=5.9,SNR=6.3						
NVAR	**Mina Array Bea**	**84.16**	**308**	P	**P**	**12 27 11.8**	**-1.6**
PNTR	**Pine Nut**	**85.17**	**309**	P	**P**	**12 27 19.3**	**+0.9**
QSPA	**South Pole Qui**	**94.18**	**180**	P	**P**	**12 27 57.8**	**-2.4**
QSPA				IAmb	IAmb	12 28 01.8	
	comp=Z,3.9nm,1.2s						
ASAR	**Alice Springs**	**156.56**	**147**	PKP	**PKPdf**	**12 34 37.8**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=270,slow=0.2,SNR=1.9						
ASAR				PKPab	**PKPab**	**12 35 07.4**	**+1.2**
	comp=Z,0.7nm,1.0s,baz=202,slow=4.0,SNR=4.4						
ASAR	**Alice Springs**	**156.56**	**147**		**PKPdf**	**12 34 35.9**	**-1.7**

*NEIC **13** 12:16:58.0±1.3,21°.73S±0°.08×178°.4W±0°.2, h534km±7km, mb4.4/24, Error ellipse: s-maj=23.4km s-min=11.0km az=91.0*

*IDC **13** 12:16:59.6±1.7,21°.74S×178°.67W, h542km±18km, mb3.1/9, mb1 3.4/12,mb1mx3.2/21,mbtmp4.1/12, Error ellipse: s-maj=25.5km s-min=15.3km az=142.0*

ISC 13 12:16:59.5±0.5, 21°.73S±0°.10×178°.6W±0°.1, h550km, n53, σ0.96/54, mb4.3/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.06**	**321**	P	**P**	**12 18 29.5**	**-0.5**
	16nm,0.3s,baz=94,slow=24,SNR=59						
MSVF	**Nonsavu**	**5.06**	**321**	P	**P**	**12 18 28.8**	**-1.2**
AFI	**Afiamalu**	**10.15**	**41**	P	**P**	**12 19 19.2**	**+0.1**
	3.6nm,0.3s,baz=232,slow=12,SNR=7.2						
OUZ	**Omahuta**	**15.07**	**205**	P	**P**	**12 20 09.5**	**0.0**
URZ	**Urewera**	**16.88**	**192**	P	**P**	**12 20 27.5**	**+0.6**
	0.5nm,0.3s,baz=307,slow=20,SNR=1.8						
URZ	**Urewera**	**16.88**	**192**	P	**P**	**12 20 27.2**	**+0.3**
BKZ	**Black Stump Fm**	**17.88**	**192**	P	**P**	**12 20 35.8**	**-0.2**
PLWZ	**Palliser**	**20.44**	**193**	P	**P**	**12 20 59.7**	**+0.3**
THZ	**Tophouse**	**21.21**	**198**	P	**P**	**12 21 04.5**	**-1.9**
MLZ	**Mavora Lakes**	**25.96**	**202**	P	**P**	**12 21 47.6**	**-0.9**
WR0	**Warramunga Arr**	**43.68**	**263**	P	**P**	**12 24 16.2**	**-0.1**
WR0				IAmb	IAmb	12 25 17.5	
	comp=Z,16nm,1.6s						
ASAR	**Alice Springs**	**43.68**	**258**	P	**P**	**12 24 17.0**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=96,slow=8.1,SNR=19						
ASAR				PcP	**pP**	**12 25 52.6**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=100,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**43.68**	**258**	P	**P**	**12 24 16.6**	**+0.3**
WB0	**Warramunga Arr**	**43.85**	**264**	P	**P**	**12 24 18.0**	**+0.4**
WB0				IAmb	IAmb	12 25 54.6	
	comp=Z,27nm,1.8s						
WB2	**Warramunga Arr**	**43.86**	**263**	P	**P**	**12 24 17.8**	**+0.1**
WRAB	**Tennant Creek**	**43.86**	**263**	P	**P**	**12 24 17.2**	**-0.4**
WRA	**Warramunga Arr**	**43.87**	**263**	P	**P**	**12 24 17.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=96,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**43.87**	**263**	P	**P**	**12 24 17.4**	**-0.3**
MTN	**Manton Dam**	**48.61**	**272**	P	**P**	**12 24 53.8**	**+0.1**
MTN				IAmb	IAmb	12 25 33.5	
	comp=Z,19nm,1.3s						
KNRA	**Kununurra**	**50.01**	**267**	P	**P**	**12 25 04.4**	**+0.4**
KNRA				IAmb	IAmb	12 26 11.9	
	comp=Z,33nm,1.6s						
FITZ	**Fitzroy Crossi**	**52.30**	**263**	P	**P**	**12 25 21.4**	**+0.8**
SOEI	**Soe**	**55.97**	**273**	P	**P**	**12 25 47.9**	**+1.3**
SOEI				IAmb	IAmb	12 27 48.9	
	comp=Z,36nm,1.3s						
VNDA	**Vanda**	**56.64**	**185**	P	**P**	**12 25 49.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=3.2,slow=6.7,SNR=4.3						
VNDA	**Vanda**	**56.64**	**185**	P	**P**	**12 25 50.1**	**+0.1**
TOLI2	**Tolitoli**	**63.30**	**283**	P	**P**	**12 26 36.3**	**+1.0**
QSPA	**South Pole Qui**	**68.34**	**180**	P	**P**	**12 27 06.0**	**0.0**
QSPA				IAmb	IAmb	12 27 12.6	
	comp=Z,13nm,1.6s						
PETK	**Petropavlovsk-**	**77.31**	**346**	P	**P**	**12 27 57.3**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=162,slow=6.7,SNR=3.0						
PETK	**Petropavlovsk-**	**77.31**	**346**	P	**P**	**12 27 57.5**	**+0.3**
NVAR	**Mina Array Bea**	**82.31**	**44**	P	**P**	**12 28 25.4**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=225,slow=9.1,SNR=5.6						
NVAR	**Mina Array Bea**	**82.31**	**44**	P	**P**	**12 28 22.6**	**-1.6**
GHO	**Glory Hole Cre**	**86.55**	**14**	P	**P**	**12 28 44.6**	**+0.5**
GHO				IAmb	IAmb	12 28 45.5	
	comp=Z,4.7nm,0.8s						
SCM	**Sheep Creek Mo**	**86.96**	**14**	P	**P**	**12 28 45.6**	**-0.4**
TABL	**Table Mountain**	**87.35**	**18**	P	**P**	**12 28 46.3**	**-1.7**
TABL				IAmb	IAmb	12 31 35.8	
	comp=Z,6.9nm,0.8s						
TRF	**Thorofare Moun**	**87.77**	**12**	P	**P**	**12 28 50.0**	**+0.1**
TRF				IAmb	IAmb	12 32 02.0	
	comp=Z,32nm,2.0s						
TXAR	**Lajitas Array**	**88.20**	**58**	P	**P**	**12 28 55.5**	**+2.9**
	comp=Z,0.6nm,0.9s,baz=212,slow=4.4,SNR=5.3						
TXAR	**Lajitas Array**	**88.20**	**58**	P	**P**	**12 28 52.1**	**-0.5**
MLY	**Manley**	**89.11**	**11**	P	**P**	**12 28 56.1**	**+0.2**
MLY				IAmb	IAmb	12 29 24.4	
	comp=Z,7.4nm,1.7s						
CCB	**Clear Creek Bu**	**89.34**	**13**	P	**P**	**12 28 56.7**	**-0.2**
CCB				IAmb	IAmb	12 31 10.4	
	comp=Z,7.1nm,1.6s						
IMAR	**Indian Mountai**	**89.46**	**10**	P	**P**	**12 28 57.9**	**+0.4**
I23K	**Minto, Yukon-K**	**89.47**	**12**	P	**P**	**12 28 57.4**	**-0.1**
I23K				IAmb	IAmb	12 28 59.5	
	comp=Z,18nm,2.0s						
ILAR	**Eielson Array**	**89.64**	**13**	P	**P**	**12 28 58.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=227,slow=5.6,SNR=5.5						
ILAR	**Eielson Array**	**89.64**	**13**	P	**P**	**12 28 59.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**89.98**	**290**	P	**P**	**12 29 03.0**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=149,slow=2.1,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.98**	**290**	P	**P**	**12 29 01.7**	**+0.7**
PDAR	**Pinedale Array**	**90.25**	**43**	P	**P**	**12 29 03.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=204,slow=3.8,SNR=2.5						
ARCES	**ARCESS Array B**	**130.02**	**349**	PKP	**PKiKP**	**12 35 07.0**	**-0.2**
	comp=Z,5.5nm,1.0s,baz=15,slow=3.7,SNR=2.0						
AKASG	**Malin Array Be**	**143.79**	**330**	PKP	**PKPdf**	**12 35 31.1**	**-0.9**
	comp=Z,2.6nm,0.5s,baz=43,slow=4.5,SNR=12						
AKASG	**Malin Array Be**	**143.79**	**330**		PKPbc	12 35 30.3	-0.8
BRTR	**Keskin Array B**	**147.21**	**311**	PKPbc	**PKPbc**	**12 35 40.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=107,slow=6.4,SNR=3.8						
BRTR	**Keskin Array B**	**147.21**	**311**	PKPdf	**PKPdf**	**12 35 36.2**	**-2.2**
BRTR					**PKPbc**	**12 35 40.5**	**-1.1**
CLL	**Collm**	**149.12**	**346**	*e*PKPbc	**PKiKP**	**12 35 46.0**	**-0.6**
GERES	**GERESS Array B**	**151.21**	**343**	PKPbc	**PKiKP**	**12 35 51.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=80,slow=1.1,SNR=3.1						
GERES	**GERESS Array B**	**151.21**	**343**		**PKPdf**	**12 35 42.6**	**-1.7**

*IDC **13** 12:32:57.2±0.7,54°.77S×119°.06W, h0km, mb4.1/9, mb1 4.3/9,mb1mx4.1/31,mbtmp4.1/9,MS4.0/15, Ms1 4.0/15,ms1mx3.9/17, Error ellipse: s-maj=34.3km s-min=22.8km az=145.0*

*NEIC **13** 12:32:58.7±0.6,54°.3S±0°.2×119°.0W±0°.1, h10km±1km, mb4.8/16, Error ellipse: s-maj=26.9km s-min=11.1km az=358.0*

ISC 13 12:32:58.8±0.6, 54°.4S±0°.1×119°.0W±0°.1, h10km, n65, σ1.1/36, mb4.5/13, MS4.2/20, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**28.71**	**133**	LR	LR	12 47 15.5	
	comp=Z,446nm,18.4s,baz=282,slow=30						
RKT	**Rikitea**	**33.49**	**333**	*e*LR	LR	12 48 31.9	
	comp=Z,795nm,27.0s						
RKT	**Rikitea**	**33.49**	**333**	*e*T	T	13 14 59.7	
	4.5nm,0.3s						
PLCA	**Paso Flores**	**34.71**	**87**	LR	LR	12 50 05.7	
	comp=Z,206nm,19.5s,baz=226,slow=30						
H03S2	**Juan Fernandez**	**34.72**	**70**	T	T	13 16 36.1	
	baz=219,slow=74,SNR=719						
H03S1	**Juan Fernandez**	**34.72**	**70**	T	T	13 16 38.9	
	baz=219,slow=74,SNR=630						
H03S3	**Juan Fernandez**	**34.73**	**70**	T	T	13 16 36.9	
	baz=219,slow=74,SNR=534						
H03N3	**Juan Fernandez**	**35.00**	**70**	T	T	13 16 59.0	
	baz=221,slow=72,SNR=583						
H03N2	**Juan Fernandez**	**35.01**	**70**	T	T	13 16 53.8	
	baz=221,slow=72,SNR=1115						
H03N1	**Juan Fernandez**	**35.02**	**70**	T	T	13 16 53.2	
	baz=221,slow=72,SNR=494						
VNDA	**Vanda**	**35.31**	**202**	LR	LR	12 50 12.6	
	comp=Z,91nm,21.2s,baz=88,slow=30						
VNDA	**Vanda**	**35.31**	**202**	P	**P**	**12 39 54.6**	**+1.2**
EFI	**East Falkland**	**35.73**	**111**	P	**P**	**12 39 57.5**	**+0.3**
QSPA	**South Pole Qui**	**35.77**	**180**	P	**P**	**12 39 58.8**	**+1.2**
TBI	**Tubuai**	**38.49**	**312**	*e*LR	LR	12 50 50.1	
	comp=Z,529nm,27.2s,baz=161						
TBI	**Tubuai**	**38.49**	**312**	*e*T	T	13 21 13.4	
	20nm,0.3s						
MEH	**Mehetia**	**42.78**	**317**	*e*T	T	13 26 34.5	
	33nm,0.3s						
PPT2	**Papeete2**	**43.65**	**315**	*e*LR	LR	12 53 15.0	
	comp=Z,773nm,25.8s,baz=151						
PPT	**Papeete**	**43.67**	**315**	LR	LR	12 54 50.6	
	comp=Z,281nm,18.4s,baz=132,slow=30						
VAH	**Vaihoa**	**45.01**	**319**	*e*T	T	13 29 21.6	
	45nm,0.3s						
SNAA	**Sanae**	**46.50**	**157**	P	**P**	**12 41 22.7**	**-3.0**
	1.7nm,1.1s,baz=234,slow=3.8,SNR=3.3						
SNAA	**Sanae**	**46.50**	**157**	P	**P**	**12 41 27.1**	**+1.5**
SNAA				IAmb	IAmb	12 41 33.1	
	comp=Z,8.4nm,1.5s						
TAOE	**Nuku Hiva Isla**	**48.50**	**332**	*e*LR	LR	12 55 37.5	
	comp=Z,652nm,28.1s						
CPUP	**Villa Florida**	**52.63**	**84**	LR	LR	13 01 40.2	
	comp=Z,214nm,18.6s,baz=228,slow=33						
LPAZ	**La Paz**	**54.52**	**66**	P	**P**	**12 42 28.8**	**+1.4**
	comp=Z,4.7nm,1.1s,baz=226,slow=6.1,SNR=7.4						
LPAZ				LR	LR	13 00 02.2	
	comp=Z,103nm,19.4s,baz=188,slow=30						
LPAZ	**La Paz**	**54.52**	**66**	P	**P**	**12 42 26.4**	**-1.0**
LPAZ				IAmb	IAmb	12 42 29.8	
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**58.28**	**181**	LR	LR	13 05 07.3	
	comp=Z,99nm,21.4s,baz=236,slow=33						
TOO	**Toolangi**	**63.38**	**242**	P	**P**	**12 43 28.8**	**+0.7**
TOO				IAmb	IAmb	12 43 49.5	
	comp=Z,8.3nm,1.4s						
DZM	**Mont Dzumac**	**63.42**	**269**	*e*LR	LR	13 01 55.9	
	comp=Z,179nm,22.3s						
BDFB	**Brasilia**	**66.36**	**84**	LR	LR	13 09 47.0	
	comp=Z,113nm,18.8s,baz=352,slow=33						
EIDS	**Eidsvold**	**69.73**	**255**	P	**P**	**12 44 08.7**	**-0.1**
ROSC	**El Rosal**	**69.75**	**48**	LR	LR	13 09 27.6	
	comp=Z,133nm,20.8s,baz=86,slow=31						
STKA	**Stephens Creek**	**69.81**	**243**	P	**P**	**12 44 09.0**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=145,slow=9.8,SNR=5.2						
STKA				LR	LR	13 09 26.5	
	comp=Z,156nm,18.4s,baz=197,slow=31						
STKA	**Stephens Creek**	**69.81**	**243**	P	**P**	**12 44 09.2**	**0.0**
BBOO	**Buckleboo**	**71.90**	**239**	P	**P**	**12 44 22.1**	**+0.2**
H01W1	**Cape Leeuwin H**	**79.98**	**222**	T	T	14 13 55.0	
	baz=152,slow=76,SNR=256						
H01W2	**Cape Leeuwin H**	**79.98**	**222**	T	T	14 13 55.1	
	baz=152,slow=76,SNR=253						
H01W3	**Cape Leeuwin H**	**79.99**	**222**	T	T	14 13 56.2	
	baz=152,slow=76,SNR=225						
ASAR	**Alice Springs**	**80.42**	**243**	P	**P**	**12 45 09.2**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=150,slow=5.7,SNR=8.9						
ASAR				LR	LR	13 16 11.6	
	comp=Z,112nm,18.9s,baz=128,slow=32						
WR0	**Warramunga Arr**	**83.13**	**245**	P	**P**	**12 45 24.3**	**-0.6**
WR0				IAmb	IAmb	12 45 34.4	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**83.25**	**245**	P	**P**	**12 45 24.1**	**-1.4**
WB2				IAmb	IAmb	12 45 35.3	
	comp=Z,7.7nm,0.9s						
WRA	**Warramunga Arr**	**83.25**	**245**	P	**P**	**12 45 24.6**	**-0.9**
	comp=Z,4.1nm,0.9s,baz=145,slow=4.6,SNR=20						
WRA	**Warramunga Arr**	**83.25**	**245**	P	**P**	**12 45 24.9**	**-0.6**
WRAB	**Tennant Creek**	**83.26**	**245**	P	**P**	**12 45 24.7**	**-0.8**
WRAB				IAmb	IAmb	12 45 25.3	
	comp=Z,9.5nm,1.1s						
WB0	**Warramunga Arr**	**83.37**	**245**	P	**P**	**12 45 26.0**	**-0.1**
TXAR	**Lajitas Array**	**84.46**	**13**	P	**P**	**12 45 32.4**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=182,slow=8.1,SNR=2.6						
TXAR				LR	LR	13 15 49.9	
	comp=Z,21nm,18.8s,baz=0.0,slow=30						
FITZ	**Fitzroy Crossi**	**89.29**	**239**	P	**P**	**12 45 54.3**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=174,slow=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**89.29**	**239**	P	**P**	**12 45 54.8**	**-0.4**
FITZ				IAmb	IAmb	12 46 03.6	
	comp=Z,9.4nm,1.4s						
ANMO	**Albuquerque**	**89.66**	**10**	P	**P**	**12 45 58.7**	**+2.1**
	comp=Z,2.7nm,1.1s,baz=189,slow=4.5,SNR=5.0						
ANMO	**Albuquerque**	**89.66**	**10**	P	**P**	**12 45 56.4**	**-0.1**
ANMO				IAmb	IAmb	12 46 09.0	
	comp=Z,4.7nm,1.2s						
BOSA	**Boshof**	**91.74**	**149**	LR	LR	13 20 47.5	
	comp=Z,97nm,20.3s,baz=179,slow=31						
NVAR	**Mina Array Bea**	**92.49**	**1**	P	**P**	**12 46 11.6**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=305,slow=29,SNR=3.6						
NVAR				LR	LR	13 18 43.5	
	comp=Z,90nm,20.9s,baz=194,slow=30						
NVAR	**Mina Array Bea**	**92.49**	**1**	P	**P**	**12 46 09.2**	**-0.4**
H11N3	**WAKE ISLAND Hy**	**96.97**	**294**	T	T	14 34 37.4	
	baz=144,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**96.97**	**294**	T	T	14 34 44.7	
	baz=144,slow=75,SNR=49						
H11N2	**WAKE ISLAND Hy**	**96.98**	**294**	T	T	14 34 42.1	
	baz=144,slow=75,SNR=22						
PDAR	**Pinedale Array**	**97.15**	**7**	LR	LR	13 22 28.1	
	comp=Z,54nm,19.6s,baz=248,slow=30						
ILAR	**Eielson Array**	**120.79**	**347**	PKP	**PKPdf**	**12 51 48.2**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=209,slow=1.7,SNR=2.1						
TIXI	**Tiksi**	**147.08**	**327**	PKPbc	**PKPbc**	**12 52 40.3**	**+0.2**
	comp=Z,6.5nm,0.9s,baz=98,slow=4.2,SNR=8.5						
TIXI	**Tiksi**	**147.08**	**327**		**PKPdf**	**12 52 37.8**	**-0.2**
GERES	**GERESS Array B**	**150.57**	**81**	PKPbc	**PKiKP**	**12 52 50.5**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=173,slow=2.3,SNR=7.8						
GERES	**GERESS Array B**	**150.57**	**81**		**P

BRSE	Bradley Lake S	5.67	43	P			12 36 21.8		
	baz=229								
OKTU	Okmok Mt. Tuli	6.11	250			Pn	12 36 28.0	-0.3	
CAPN	Captain Cook N	6.25	35	Pn		Pn	12 36 30.6	+0.6	
SLKM	Skilak Lake	6.37	39			Pn	12 36 31.9	0.0	
SEW	Seward	6.40	44	Pn		Pn	12 36 32.7	+0.5	
SEW	Seward	6.40	44	P			12 36 33.5		
	baz=231								
O22K	Cooper Landing	6.54	41			Pn	12 36 34.3	+0.2	
STLK	Strandline Lak	6.63	28			Pn	12 36 35.6	+0.2	
SPIA	Saint Paul Isl	6.68	286	Pn		Pn	12 36 36.6	+0.5	
NIKH	Nikolski High	6.74	249	Pn		Pn	12 36 38.6	+1.7	
SUA	Susitna One	6.91	32	Pn		Pn	12 36 40.8	+1.5	
RC01	Rabbit Creek A	6.95	37			Pn	12 36 40.5	+0.7	
RC01	Rabbit Creek A	6.95	37	P			12 36 41.2		
	baz=224								
SKT	Skwentna	7.11	27	Pn		Pn	12 36 41.7	-0.2	
TT01	Tatalina	7.19	9			Pn	12 36 43.2	+0.2	
TTA	Tatalina	7.21	9	Pn		Pn	12 36 43.3	-0.1	
TTA	Tatalina	7.21	9	P			12 36 43.6		
	baz=190								
PWL	Port Wells	7.30	42			Pn	12 36 43.7	-1.0	
PMR	Palmer	7.52	36			Pn	12 36 47.6	+0.2	
KNK	Knik Glacier	7.62	39			Pn	12 36 48.9	-0.1	
KNK	Knik Glacier	7.62	39	P			12 36 51.1		
	baz=227								
GHO	Glory Hole Cre	7.72	36			Pn	12 36 49.9	-0.4	
PPLA	Purkeypile	7.75	22	Pn		Pn	12 36 50.5	-0.3	
PPLA	Purkeypile	7.75	22	P			12 36 53.5		
	baz=206								
HIN	Hinchinbrook I	7.78	49	Pn		Pn	12 36 51.8	+0.7	
CUT	Chulitna	7.79	29			Pn	12 36 52.8	+1.5	
GLI	Glacier Island	7.80	45	Pn		Pn	12 36 52.6	+1.2	
GLI	Glacier Island	7.80	45	P			12 36 52.1		
	baz=234								
SML	Sawmill	7.94	37	Pn		Pn	12 36 53.2	-0.1	
FID	Port Fidalgo	7.98	47	Pn		Pn	12 36 52.9	-0.9	
EYAK	Cordova Ski Ar	8.18	50	Pn		Pn	12 36 56.3	-0.3	
EYAK	Cordova Ski Ar	8.18	50	P			12 36 57.6		
	baz=240								
VMT	TAPS Tl Valdez	8.21	45			Pn	12 36 56.1	-0.8	
SCM	Sheep Creek Mo	8.31	39			Pn	12 36 58.9	+0.5	
KTH	Kantishna Hill	8.60	23			Pn	12 37 03.3	+0.9	
KLU	Klutina	8.62	44			Pn	12 37 02.3	-0.3	
WAT1	Susitna Watana	8.62	32			Pn	12 37 02.5	-0.1	
TRF	Thorofare Moun	8.66	25			Pn	12 37 03.9	+0.6	
TRF	Thorofare Moun	8.66	25	P			12 37 06.5		
	baz=212								
WAT6	Susitna Watana	8.69	35			Pn	12 37 02.6	-1.0	
WAT2	Susitna Watana	8.71	31			Pn	12 37 03.0	-1.0	
WAT2	Susitna Watana	8.71	31	P			12 37 05.5		
	baz=219								
HMT	Hamilton	8.74	53			Pn	12 37 04.8	+0.5	
NICHA	Nichawak Mount	8.83	54			Pn	12 37 04.7	-0.8	
SUCK	Suckling Hills	8.86	55	Pn		Pn	12 37 07.2	+1.4	
BMRM	Bremner River	8.88	49			Pn	12 37 06.7	+0.6	
M24K	Tolsona, Glenn	8.90	40			Pn	12 37 07.9	+1.4	
M24K	Tolsona, Glenn	8.90	40	P			12 37 09.5		
	baz=230								
RND	Reindeer	8.99	29	Pn		Pn	12 37 07.8	+0.1	
BPAW	Bear Paw Mtn.	9.07	21	Pn		Pn	12 37 10.2	+1.4	
BPAW	Bear Paw Mtn.	9.07	21	P			12 37 11.5		
	baz=207								
N25K	Chitina, Valde	9.21	46			Pn	12 37 11.5	+0.8	
N25K	Chitina, Valde	9.21	46	P			12 37 11.6		
	baz=237								
MCK	McKinley	9.23	27			Pn	12 37 11.8	+0.8	
MCK	McKinley	9.23	27	P			12 37 14.1		
	baz=215								
ANM	Nome	9.40	341	Pn		Pn	12 37 13.6	+0.4	
CRQM	Cirque	9.42	52	Pn		Pn	12 37 13.0	-0.6	
GLB	Gilahina Butte	9.45	48			Pn	12 37 14.7	+0.8	
BWN	Browne	9.47	24	Pn		Pn	12 37 14.0	-0.2	
VRDI	Verde Repeater	9.49	49	Pn		Pn	12 37 13.6	-1.1	
TGL	Tana Glacier	9.56	53	Pn		Pn	12 37 17.4	+1.9	
PAX	Paxson	9.71	37			Pn	12 37 17.7	+0.1	
MCARA	McCarthy VSAT	9.75	49	Pn		Pn	12 37 19.3	+1.3	
MESA	MESA	9.75	57	Pn		Pn	12 37 17.9	-0.3	
KIAG	Kiagna River	9.84	52			Pn	12 37 18.8	-0.5	
BALM	Baldy	9.89	52			Pn	12 37 19.6	-0.4	
PTPK	Patty Peak	9.90	51			Pn	12 37 19.6	-0.6	
YAH	Yahtse	9.91	56	Pn		Pn	12 37 21.2	+0.8	
NEA2	Nenana	9.92	24			Pn	12 37 20.2	-0.1	
MLY	Manley	9.96	19			Pn	12 37 21.4	+0.6	
GRNC	Granite Creek	10.04	54	Pn		Pn	12 37 23.2	+1.1	
WRH	Wood River Hil	10.05	26			Pn	12 37 21.9	-0.3	
BARN	Barnard Glacie	10.20	52	Pn		Pn	12 37 25.7	+1.3	
TABL	Table Mountain	10.21	56	Pn		Pn	12 37 26.1	+1.5	
CCB	Clear Creek Bu	10.27	26	Pn		Pn	12 37 23.6	-1.5	
HDA	Harding Lake	10.30	29			Pn	12 37 23.6	-2.0	
MENT	Mentasta	10.31	40	Pn		Pn	12 37 24.5	-1.2	
CTGM	Chitina Glacie	10.31	53	Pn		Pn	12 37 25.7	-0.2	
I23K	Minto, Yukon-K	10.33	22	Pn		Pn	12 37 26.4	+0.5	
IMAR	Indian Mountai	10.42	11	Pn		Pn	12 37 28.4	+1.2	
MDM	Murphy Dome	10.42	25	Pn		Pn	12 37 26.9	-0.3	
TCOL	CIGO, UAF Yank	10.44	26	Pn		Pn	12 37 27.6	+0.3	
COLA	College	10.44	26	*i* P		Pn	12 37 26.0	-1.4	
COLA	College	10.44	26			Pn	12 37 27.4	0.0	
PCA	Pinnacle	10.53	59	Pn		Pn	12 37 30.0	+1.2	
IL31		10.60	28			Pn	12 37 28.5	-1.0	
ILAR	Eielson Array	10.60	28	P		Pn	12 37 27.2	-2.4	
	1.0nm,0.3s,baz=215,slow=13,SNR=34								
ILAR				S		Sn	12 39 22.2	-4.4	
	0.7nm,0.3s,baz=221,slow=20,SNR=7.3								
ILAR				LR		LR	12 41 57.3		
	comp=Z,91nm,18.4s,baz=272,slow=40								
ILAR	Eielson Array	10.60	28	Pn		Pn	12 37 27.9	-1.7	
DOT	Dot Lake	10.64	37			Pn	12 37 31.2	+1.1	
POKR	Poker Plat Res	10.74	26	Pn		Pn	12 37 31.9	+0.4	
BCPM	Bancas Point	10.80	60	Pn		Pn	12 37 32.9	+0.6	
SCRK	Sand Creek	10.88	36	Pn		Pn	12 37 32.4	-1.1	
L27K	Beaver Creek,	11.09	43	Pn		Pn	12 37 35.9	-0.4	
BCAR	Beaver Creek A	11.11	43	Pn		Pn	12 37 37.0	+0.5	
K27K	Chicken	11.56	38	Pn		Pn	12 37 43.7	+1.0	
EGAK	Eagle	12.34	37			Pn	12 37 53.4	+0.1	
DAWY	Dawson	12.55	41	Pn		Pn	12 37 57.2	+1.0	
BMAR	Burnt Mountain	13.30	24	Pn		Pn	12 38 07.0	+0.6	
EPYK	Eagle Plains	14.77	36			Pn	12 38 26.1	+0.2	
A21K	Barrow	15.56	2	Pn		Pn	12 38 36.6	+0.8	
A21K				IAmb		IAmb	12 38 53.1		
	comp=Z,39nm,1.4s								
DLBC	Dease Lake	15.57	69			Pn	12 38 35.9	-0.3	
INK	Inuvik	16.91	33	P		Pn	12 38 51.6	-1.1	
	comp=Z,0.7nm,0.3s,baz=235,slow=16,SNR=28								
INK				LR		LR	12 46 16.6		
	comp=Z,38nm,20.8s,baz=218,slow=40								
INK	Inuvik	16.91	33			P	12 38 53.8	-0.1	
BILL	Bilibino	20.24	321	*ce*P		P	12 39 30.1	-0.3	
BILL				*e*			12 39 44.5		
BILL				*e*S		Sn	12 43 17.7	-2.2	
BILL				*e*SS		SnSn	12 43 37.9	+2.8	
BILL				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BILL	Bilibino	20.24	321	P		P	12 39 30.5	+0.1	
BILL				IAmb		IAmb	12 39 45.5		
	comp=Z,16nm,1.5s								
C36M	Paulatuk	20.41	35	P		P	12 39 32.4	+0.3	
C36M				IAmb		IAmb	12 39 38.7		
	comp=Z,20nm,1.2s								
PET	Petropavlovsk	24.83	282	*i* P		P	12 40 16.2	-0.6	
PET				pmax		pmax			
	comp=Z,7.0nm,1.0s								
B08A	Colville Reser	24.87	91	P		P	12 40 19.0	+1.7	
B08A				IAmb		IAmb	12 40 35.3		
	comp=Z,5.9nm,1.1s								
PEA0B	Petropavlovsk-	25.32	282	*ce*P		P	12 40 20.4	-0.9	
PEA0B	Petropavlovsk-	25.32	282	P		P	12 40 20.1	-1.3	
PETK	Petropavlovsk-	25.32	282	P		P	12 40 18.9	-2.4	
	comp=Z,5.8nm,0.9s,baz=83,slow=12,SNR=7.2								
PETK				LR		LR	12 49 49.3		
	comp=Z,21nm,20.1s,baz=80,slow=35								
PETK	Petropavlovsk-	25.32	282	P		P	12 40 19.9	-1.4	
SEY	Seymchan	25.46	306	P		P	12 40 19.8	-2.6	
	comp=Z,1.3nm,0.7s,baz=108,slow=7.2,SNR=5.9								
NEW	Newport	26.17	89	P		P	12 40 30.6	+1.6	
	comp=Z,3.4nm,1.0s,baz=340,slow=3.6,SNR=5.2								
NEW	Newport	26.17	89	P		P	12 40 28.0	-1.0	
MA2	Magadan	26.85	299	LR		LR	12 53 02.6		
	comp=Z,23nm,19.7s,baz=105,slow=41								
YBH	Yreka Blue Hor	27.08	106	LR		LR	12 48 38.3		
	comp=Z,93nm,20.5s,baz=294,slow=30								
HLID	Hailey	30.46	95	P		P	12 41 07.3	-0.2	
BCYI	Bear Canyon	30.56	93	P		P	12 41 08.8	+0.4	
YERR	Yerington	30.89	106	P		P	12 41 11.9	+0.6	
YHH	Holmes Hill	31.71	90	P		P	12 41 19.4	+0.9	
YHH				IAmb		IAmb	12 41 36.4		
	comp=Z,4.0nm,0.9s								
NVAR	Mina Array Bea	31.80	106	P		P	12 41 21.1	+1.7	
	comp=Z,0.3nm,0.6s,baz=307,slow=8.9,SNR=4.3								
NVAR				PcP		PcP	12 44 09.0	0.0	
	comp=Z,0.1nm,0.4s,baz=302,slow=2.0,SNR=3.8								
YNE	Yellowstone No	32.05	89	P		P	12 41 20.4	-1.1	
YNE				IAmb		IAmb	12 41 24.6		
	comp=Z,4.8nm,1.1s								
H17A	Grant Village	32.10	90	P		P	12 41 21.8	-0.2	
H17A				IAmb		IAmb	12 41 41.4		
	comp=Z,5.1nm,1.1s								
HVU	Hansel Valley	32.54	96	P		P	12 41 26.4	+0.7	
HVU				IAmb		IAmb	12 41 28.8		
	comp=Z,3.7nm,1.1s								
TPH	Tonopah	32.64	105	P		P	12 41 25.4	-1.3	
TIXI	Tiksi	33.25	327	P		P	12 41 29.7	-1.7	
	comp=Z,0.9nm,0.3s,baz=78,slow=8.6,SNR=7.3								
TIXI				LR		LR	12 54 50.6		
	comp=Z,38nm,19.9s,baz=197,slow=36								
TIXI	Tiksi	33.25	327	*i* P		P	12 41 30.5	-0.8	
TIXI	Tiksi	33.25	327	P		P	12 41 30.6	-0.7	
TIXI				IAmb		IAmb	12 41 31.5		
	comp=Z,2.0nm,0.8s								
SPR3	Spring Creek 3	33.57	101	P		P	12 41 35.4	+0.5	
SPR3				IAmb		IAmb	12 41 38.6		
	comp=Z,3.4nm,1.2s								
DUG	Dugway, Tooele	33.58	98	P		P	12 41 35.5	+0.7	
DUG				IAmb		IAmb	12 42 04.0		
	comp=Z,2.5nm,0.9s								
PDAR	Pinedale Array	33.70	92	P		P	12 41 37.4	+1.4	
	comp=Z,0.3nm,0.4s,baz=311,slow=5.8,SNR=1.9								
PDAR				pP		pP	12 41 52.4	+1.3	
	comp=Z,1.0nm,0.8s,baz=310,slow=7.0,SNR=2.2								
TPNV	Topopah Spring	33.99	106	P		P	12 41 37.1	-1.3	
PRN	Pahroc Range	34.31	104	P		P	12 41 40.1	-1.0	
PRN				IAmb		IAmb	12 41 45.5		
	comp=Z,6.2nm,1.2s								
RDMU	Red Mountain	35.14	95	P		P	12 41 48.8	+0.4	
RDMU				IAmb		IAmb	12 42 06.5		
	comp=Z,3.3nm,1.0s								
SRU	San Rafael Swe	35.61	98	P		P	12 41 51.7	-0.6	
RWWY	Rawlins	35.73	91	P		P	12 41 53.0	-0.5	
YAK	Yakutsk	35.82	310	LR		LR	12 56 27.8		
	comp=Z,35nm,21.3s,baz=89,slow=36								
RSSD	Black Hills	35.96	86	P		P	12 41 55.2	-0.1	
RSSD				IAmb		IAmb	12 41 57.5		
	comp=Z,5.1nm,1.1s								
O20A	White River Ci	36.19	94	P		P	12 41 57.8	+0.5	
PFO	Pinyon Flats O	36.39	110	LR		LR	12 53 36.8		
	comp=Z,34nm,18.4s,baz=301,slow=30								
PFO	Pinyon Flats O	36.39	110	P		P	12 41 58.4	-0.6	
PFO				IAmb		IAmb	12 42 01.4		
	comp=Z,7.3nm,1.4s								
ULM	Lac du Bonnet	36.86	72	LR		LR	12 56 13.1		
	comp=Z,32nm,18.6s,baz=24,slow=34								
ANMO	Albuquerque	40.85	98	P		P	12 42 37.3	+0.8	
KLR	Kul'dur	41.32	291	*ce*P		P	12 42 39.5	-0.4	
KLR				pmax		pmax			
	comp=Z,8.0nm,2.7s								
H11N2	WAKE ISLAND Hy	44.44	230	T		T	13 29 37.4		
	baz=29								
H11N3	WAKE ISLAND Hy	44.44	230	T		T	13 29 37.6		
	baz=29								
H11N1	WAKE ISLAND Hy	44.45	230	T		T	13 29 38.4		
	baz=29								
H11S1	WAKE ISLAND Hy	45.60	229	T		T	13 31 43.8		
	baz=27								
H11S2	WAKE ISLAND Hy	45.62	229	T		T	13 31 22.6		
	baz=27								
H11S3	WAKE ISLAND Hy	45.62	229	T		T	13 31 45.5		
	baz=27								
NRIK	Noril'sk	46.33	333	LR		LR	13 05 39.1		
	comp=Z,32nm,18.7s,baz=52,slow=40								
NRIK	Noril'sk	46.33	333	*i* P		P	12 43 21.8	+2.0	
NRIK				pmax		pmax			
	comp=Z,1.0nm,1.0s								
TXAR	Lajitas Array	46.63	101	P		P	12 43 24.0	+1.3	
	comp=Z,0.2nm,0.3s,baz=309,slow=6.3,SNR=7.9								
TXAR				pP		pP	12 43 40.5	+2.0	
	comp=Z,0.6nm,0.8s,baz=315,slow=5.2,SNR=6.1								
TXAR				LR		LR	13 01 11.4		
	comp=Z,36nm,18.4s,baz=0.0,slow=34								
TXAR	Lajitas Array	46.63	101	P		P	12 43 22.2	-0.5	
KSRS	Korea Array	51.22	282	P		P	12 43 56.4	-1.2	
	comp=Z,0.8nm,0.8s,baz=46,slow=7.1,SNR=2.3								
KSRS				LR		LR	13 05 40.5		
	comp=Z,5.6nm,21.9s,baz=175,slow=36								
TLY	Talaya	53.30	310	*ce*P		P	12 44 13.9	+1.0	
TLY				pmax		pmax			
	comp=Z,5.0nm,2.5s								
ULN	Ulaanbaatar	54.51	304	*ce*P		P	12 44 21.9	-0.1	
ULN				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SONM	Songino Array	54.84	305	P		P	12 44 24.1	-0.2	
	comp=Z,3.7nm,0.8s,baz=48,slow=7.1,SNR=18								
SONM				LR		LR	13 09 12.4		
	comp=Z,28nm,20.4s,baz=352,slow=38								
SONM	Songino Array	54.84	305	P		P	12 44 23.4	-0.9	
SONM				IAmb		IAmb	12 44 25.0		
	comp=Z,2.7nm,0.8s								
ARCES	ARCESS Array B	54.89	358	P		P	12 44 23.2	-1.0	
	comp=Z,7.0nm,1.1s,baz=12,slow=6.2,SNR=4.0								
ARCES				LR		LR	13 09 42.7		
	comp=Z,25nm,18.1s,baz=85,slow=38								
HHC	Hu-ho-hao-te	57.46	296	*e*P		P	12 44 46.0	+2.9	
HHC				pmax		pmax			
	comp=Z,15nm,0.8s								
HHC				pmax		pmax			
	comp=Z,80nm,5.8s								
ZALV	Zalesovo Beam	58.94	322	P		P	12 44 51.8	-1.2	
	comp=Z,0.7nm,0.6s,baz=52,slow=9.3,SNR=1.4								
ZALV				LR		LR	13 10 59.3		
	comp=Z,40nm,21.7s,baz=38,slow=37								
DGZ	Jazzator, Alta	61.43	318	*i* P		P	12 45 11.0	+0.7	
DGZ				pmax		pmax			
	comp=Z,3.0nm,1.2s								
FINES	FINESS Array B	63.00	358	P		P	12 45 19.6	-0.7	
	comp=Z,1.6nm,0.6s,baz=5.4,slow=8.0,SNR=10								
FINES	FINESS Array B	63.00	358	P		P	12 45 20.2	-0.2	
NOA	NORSAR Array B	63.17	6	P		P	12 45 21.2	-0.4	
	comp=Z,1.1nm,0.8s,baz=352,slow=6.7,SNR=6.8								
NOA				pP		pP	12 45 35.2	-3.1	
	comp=Z,1.2nm,0.9s,baz=354,slow=6.7,SNR=4.5								
NOA				LR		LR	13 11 28.7		
	comp=Z,6.1nm,21.2s,baz=100,slow=35								
ARU	Arti	64.13	338	*c i* P		P	12 45 28.4	+0.5	
ARU							12 46 00.1		
ARU							12 47 45.2		
ARU				S		S	12 54 05.1	+5.4	
ARU				SS		SS	12 58 10.3	+1.7	
ARU				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BRVK	Borovoye	64.30	330	*ce*P		P	12 45 29.3	+0.2	
BRVK				pmax		pmax			
	comp=Z,8.0nm,2.5s								
GTA	Gaotai	64.34	303	*e*P		P	12 45 28.9	-0.9	
GTA				pP		pP	12 45 45.8	-0.6	
GTA				sP		sP	12 45 52.3	-1.0	
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GTA				pmax		pmax			
	comp=Z,38nm,5.1s								
GTA				L		L			
	comp=Z,56nm,16.0s								
GTA				L		L			
	comp=Z,190nm,17.1s								
GTA				L		L			
	comp=Z,54nm,15.6s								
MKAR	Makanchi Array	65.77	319	P		P	12 45 37.7	-1.1	
	comp=Z,0.9nm,0.6s,baz=45,slow=7.4,SNR=6.7								
MKAR				LR		LR	13 16 11.9		
	comp=Z,36nm,19.4s,baz=346,slow=38								
WMQ	Urumqi	66.14	314	*e*P		P	12 45 44.4	+3.1	
OBN	Obninsk	68.73	351	*e*P		P	12 45 58.1	+0.9	
OBN				pmax		pmax			
	comp=Z,10.0nm,0.4s								
MNK	Minsk	69.89	356	*i* P		P	12 46 01.4	-3.1	
MNK				*i*			12 46 23.6		
MNK				*i*			12 48 41.3		
MNK				*i* PPP		PPP	12 50 17.8		
MNK				*i* S		S	12 55 06.5	-2.6	
MNK				*i*			12 55 55.5		
MNK				*i* SS		SS	12 59 38.4	+0.8	
MNK				pmax		pmax			
	comp=E,2.0nm,0.8s								
MNK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
MNK				MLR		MLR			
	comp=Z,36nm,23.0s								
MNK				MLR		MLR			
	comp=N,50nm,22.0s								
MNK				MLR		MLR			
	comp=E,3.0nm,16.0s								
MNK	Minsk	69.89	356	*i* P		P	12 46 01.5	-3.0	
	comp=E,2.0nm,0.8s								
MNK				*i* P		P	12 46 01.5	-3.0	
	comp=N,15nm,0.8s								
MNK				*i* P		P	12 46 01.5	-3.0	
	comp=Z,7.0nm,0.6s,baz=184								
MNK				*i* PcP		pP	12 46 23.7	+2.4	
MNK				*i* PP		PP	12 48 41.3	+2.4	
MNK				*i* PPP		PPP	12 50 17.9		
MNK				*i* S		S	12 55 06.6	-2.5	
MNK				*i* ScS		SKSac	12 55 55.5	-4.0	
MNK				*i* SS		SS	12 59 38.5	+0.9	
MNK				*i* SSS		SSS	13 02 56.7		
MNK				*i* LQ		LQ	13 11 52.8		
MNK				*i* LR		LR	13 17 11.7		
MNK				*i* LRM		MLR	13 19 18.6		
	comp=E,3.0nm,16.1s								
MNK				*i* LRM		MLR	13 19 18.6		
	comp=N,50nm,22.1s								
MNK				*i* LRM		MLR	13 19 18.6		
	comp=Z,36nm,22.9s								
ABKAR	Akbulak array	70.48	334	P		P	12 46 08.2	0.0	
AAK	Ala-Archa	72.16	322	*i* P		P	12 46 19.1	+0.4	
AAK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
CLL	Collm	72.98	6	*e*P		P	12 46 24.0	+0.9	
CLL	Collm	72.98	6	*e*P		P	12 46 25.0	+1.9	
CLL	Collm	72.98	6	*e*P		P	12 46 25.0	+1.9	
AKASG	Malin Array Be	73.63	355	P		P	12 46 26.1	-0.9	
	comp=Z,0.8nm,0.3s,baz=8.4,slow=5.9,SNR=6.3								
AKASG	Malin Array Be	73.63	355	P		P	12 46 26.7	-0.3	
AKBB	Malin Array Si	73.63	355	*ce*P		P	12 46 26.7	-0.3	
KBZ	Khabaz	79.17	344	P		P	12 46 59.7	+1.3	
	comp=Z,1.4nm,0.7s,baz=276,slow=7.4,SNR=2.9								
KBZ	Khabaz	79.17	344	*i* P		P	12 47 00.4	+2.0	
KBZ				pmax		pmax			
	comp=Z,3.0nm,1.3s								
CMAR	Chiang Mai Arr	81.80	291	P		P	12 47 12.3	-0.6	
	comp=Z,2.2nm,0.7s,baz=9.0,slow=5.5,SNR=11								
CMAR	Chiang Mai Arr	81.80	291	*ce*P		P	12 47 12.3	-0.6	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
CMAR	Chiang Mai Arr	81.80	291	P		P	12 47 12.4	-0.5	
BRTR	Keskin Array B	84.25	351	P		P	12 47 24.6	-0.9	
	comp=Z,0.9nm,0.8s,baz=29,slow=2.8,SNR=4.4								
BRTR				pP		pP	12 47 40.3	-2.4	
	comp=Z,1.5nm,0.9s,baz=14,slow=1.7,SNR=5.1								
BRTR				LR		LR	13 31 30.3		
	comp=Z,12nm,18.2s,baz=26,slow=40								
BRTR	Keskin Array B	84.25	351	*ce*P		P	12 47 26.8	+1.4	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRTR	Keskin Array B	84.25	351	P		P	12 47 25.1	-0.3	
KMBO	Kilima Mbogo	123.99	341	*c i* PKIKP		PKiKP	12 53 51.5	-1.0	
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.3s								

IDC ***13*** *12:43:37.6±5.5,6°62S×128°00E,h314km±61km,mb2.7/1, mb1 3.3/5,mb1mx3.0/34,mbtmp4.0/5, Error ellipse: s-maj=67.7km s-min=23.2km az=54.0*

ISC 13 12:43:35.7±1.6,6°6S±0°1×128°3E±0°1,h300km,n5,
α2s01/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.79	232	P		P	Pn	12 45 03.8	+1.1
	9.3nm,0.3s,baz=77,slow=3.4,SNR=11								
BATI				S		S	S	12 46 09.9	-2.7
	8.0nm,0.3s,baz=198,slow=3.2,SNR=6.7								
FITZ	Fitzroy Crossi	11.71	192	P		P	P	12 46 16.9	+0.5
	0.2nm,0.3s,baz=21,slow=10,SNR=8.5								
FITZ				S		S	S	12 48 26.9	+1.6
	0.1nm,0.3s,baz=224,slow=5.8,SNR=3.4								
WRA	Warramunga Arr	14.51	157	P		P	P	12 46 48.2	+0.7
	0.6nm,0.3s,baz=328,slow=12,SNR=33								
WRA				S		S	S	12 49 24.0	-2.

NNC 13 13:24:37.2±1.1,50.08N×78.89E,h4km±15km,mb3.5, mpv3.1,7C-4D,Error ellipse: s-maj=26.7km s-min=8.5km az=54.0,Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 28nm,0.4s	**0.59**	**337**	⇓P		Pg	13 24 49.0	+0.4
KURBB	213nm,0.6s			⇑S		Sb	13 24 57.8	-1.2
MAKZ	**Makanchi** 2.0nm,0.4s	**3.86**	**147**	⇑Pg		Pb	13 25 48.1	+2.3
MAKZ	8.3nm,0.5s			⇓Lg		Lg	13 26 36.0	
MK31	**Makanchi Array** 0.5nm,0.3s,baz=338,slow=12,SNR=35	**3.99**	**144**	⇑Pn		Pn	13 25 40.7	+1.6
MK31	2.3nm,0.4s,baz=333,slow=16,SNR=16			Pg		Pb	13 25 49.9	+1.8
MK31	8.2nm,0.5s,baz=327,slow=27,SNR=11			⇑Lg		Lg	13 26 43.1	
OTUK	**Ortayu** 2.0nm,0.3s	**4.68**	**249**	⇑Pn		Pn	13 25 48.0	-0.6
OTUK	3.1nm,0.5s			⇓Lg		Lg	13 27 01.4	
BRVK	**Borovoye** 1.4nm,0.5s	**6.14**	**302**	⇑Pn		Pn	13 26 09.7	+1.1
BRVK	3.8nm,0.5s			⇑Sn		Sn	13 27 19.5	+0.2
BRVK	3.0nm,0.5s			⇓Lg		Lg	13 27 50.5	

TAP ***13*** *13:31:31.9,24.47N×122.41E,h66km±1km,ML3.8,B*
JMA ***13*** *13:31:31.7±0.1,24.41N×122.35E,h79km±2km,M3.5*
ISC 13 13:31:32.8±1.2,24.46N±0.03×122.38E±0.02,h67km±7km, n131,σ0.91/247,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TWC	**Suao** baz=285	**0.51**	**288**	*i* P		**Pn**	**13 31 45.2**	**-0.2**
TWC	baz=285			S		**Sn**	**13 31 54.9**	**+0.2**
JYNG	**Yonagunijimaku**	**0.52**	**91**	P		**Pn**	**13 31 45.9**	**+0.4**
JYNG				S		**Sn**	**13 31 56.1**	**+1.2**
EGS		**0.56**	**314**	P		**Pn**	**13 31 45.9**	**-0.1**
EGS	baz=311			eS		**Sn**	**13 31 55.3**	**-0.4**
YOJ	**Yonaguni jima** baz=311	**0.58**	**89**	P		**Pn**	**13 31 46.4**	**+0.3**
YOJ				S		**Sn**	**13 31 56.9**	**+0.9**
YOJ	**Yonaguni jima** baz=90	**0.58**	**89**	eP		**Pn**	**13 31 46.4**	**+0.3**
YOJ	baz=90			eS		**Sn**	**13 31 57.1**	**+1.1**
EHP	**Heping Village** baz=254	**0.60**	**256**	eP		**Pn**	**13 31 46.8**	**+0.4**
EHP	baz=254			eS		**Sn**	**13 31 58.0**	**+1.5**
NDS	**Dongshan** baz=284	**0.63**	**286**	P		**Pn**	**13 31 46.6**	**-0.1**
NDS	baz=284			eS		**Sn**	**13 31 56.9**	**-0.1**
NTC	**Toucheng** baz=305	**0.64**	**308**	eP		**Pn**	**13 31 46.4**	**-0.4**
NTC	baz=305			eS		**Sn**	**13 31 57.1**	**0.0**
ILA	**Ilan** baz=296	**0.65**	**298**	P		**Pn**	**13 31 46.9**	**-0.1**
ILA	baz=296			eS		**Sn**	**13 31 58.2**	**+0.8**
TWB1	**Santiao Chiao** baz=325	**0.65**	**327**	P		**Pn**	**13 31 46.4**	**-0.6**
TWB1	baz=325			eS		**Sn**	**13 31 56.9**	**-0.5**
TWE	**Neicheng** baz=290	**0.70**	**292**	*i* P		**Pn**	**13 31 47.4**	**-0.1**
TWE	baz=290			eS		**Sn**	**13 31 58.4**	**0.0**
TIPB	**Shuangxi** baz=313	**0.72**	**316**	*i* P		**Pn**	**13 31 47.2**	**-0.6**
TIPB	baz=313			S		**Sn**	**13 31 58.2**	**-0.7**
ETL	**Fush Village** baz=246	**0.75**	**247**	eP		**Pn**	**13 31 47.8**	**-0.4**
ETL	baz=246			eS		**Sn**	**13 31 59.6**	**+0.2**
ENTT	**Nioudou** baz=282	**0.76**	**284**	P		**Pn**	**13 31 48.5**	**+0.2**
ENTT	baz=282			eS		**Sn**	**13 32 00.8**	**+1.1**
NACB	**Ninganchiao** baz=248	**0.77**	**249**	eP		**Pn**	**13 31 47.7**	**-0.7**
NACB	baz=248			eS		**Sn**	**13 31 59.8**	**0.0**
NDT	**Datong Townshi** baz=279	**0.80**	**281**	P		**Pn**	**13 31 49.0**	**+0.3**
NDT	baz=279			eS		**Sn**	**13 32 01.5**	**+1.0**
TWD	**Chiawan** baz=241	**0.81**	**242**	P		**Pn**	**13 31 48.3**	**-0.5**
TWD	baz=241			eS		**Sn**	**13 32 00.6**	**+0.1**
NWF	**Wu-fen Shan** baz=316	**0.82**	**318**	P		**Pn**	**13 31 48.6**	**-0.4**
NWF	baz=316			eS		**Sn**	**13 32 00.6**	**-0.4**
WFSB	**Wu-fen Shan** baz=316	**0.82**	**318**	eP		**Pn**	**13 31 48.7**	**-0.3**
WFSB	baz=316			eS		**Sn**	**13 32 00.6**	**-0.2**
HWA	**Hwalien** baz=235	**0.85**	**236**	eP		**Pn**	**13 31 49.2**	**-0.1**
HWA	baz=235			eS		**Sn**	**13 32 01.9**	**+0.4**
ETLH	**Xiulin Townshi** baz=252	**0.85**	**253**	eP		**Pn**	**13 31 49.1**	**-0.4**
ETLH	baz=252			eS		**Sn**	**13 32 01.7**	**-0.1**
NWLT	**Wulai** baz=290	**0.86**	**292**	eP		**Pn**	**13 31 49.5**	**0.0**
NWLT	baz=290			eS		**Sn**	**13 32 01.8**	**0.0**
TNOU	**National Taiwa** baz=319	**0.88**	**322**	eP		**Pn**	**13 31 49.1**	**-0.6**
TNOU	baz=319			eS		**Sn**	**13 32 01.5**	**-0.7**
TWA	**Mucha** baz=304	**0.89**	**306**	eP		**Pn**	**13 31 49.4**	**-0.5**
TWA	baz=304			eS		**Sn**	**13 32 01.8**	**-0.7**
NNSB	**Datong** baz=267	**0.91**	**268**	eP		**Pn**	**13 31 49.8**	**-0.3**
NNSB	baz=267			eS		**Sn**	**13 32 02.5**	**-0.5**
NNSH	**Datong** baz=267	**0.91**	**268**	eP		**Pn**	**13 31 49.8**	**-0.3**
NNSH	baz=267			eS		**Sn**	**13 32 02.6**	**-0.4**
NNS	**Nan Shan** baz=267	**0.92**	**269**	P		**Pn**	**13 31 49.9**	**-0.3**
NNS	baz=267			eS		**Sn**	**13 32 03.4**	**+0.2**
TEYL	**Yanliau Villag** baz=232	**0.92**	**231**	eP		**Pn**	**13 31 49.8**	**-0.5**
TEYL	baz=232			eS		**Sn**	**13 32 03.2**	**+0.1**
NHDH	**Xindian Distri** baz=301	**0.93**	**303**	eP		**Pn**	**13 31 49.8**	**-0.4**
NHDH	baz=301			eS		**Sn**	**13 32 02.5**	**-0.6**
YHNB	**Yeheng** baz=281	**0.94**	**283**	eP		**Pn**	**13 31 50.5**	**0.0**
YHNB	baz=281			eS		**Sn**	**13 32 04.0**	**+0.4**
ETM	**Tongmen** baz=238	**0.94**	**239**	eP		**Pn**	**13 31 50.0**	**-0.6**
ETM	baz=238			eS		**Sn**	**13 32 03.2**	**-0.4**
TAP	**Taipei** baz=304	**0.98**	**306**	eP		**Pn**	**13 31 50.4**	**-0.5**
TAP	baz=304			eS		**Sn**	**13 32 03.7**	**-0.7**
YM01	**YM01** baz=311	**1.00**	**313**	eP		**Pn**	**13 31 50.6**	**-0.7**
YM01	baz=311			eS		**Sn**	**13 32 04.1**	**-0.9**
YM08	**YM08** baz=313	**1.02**	**316**	eP		**Pn**	**13 31 50.5**	**-1.0**
YM08	baz=313			eS		**Sn**	**13 32 03.9**	**-1.5**
FUSS	**Fushou** baz=258	**1.06**	**259**	eP		**Pn**	**13 31 52.1**	**-0.1**
FUSS	baz=258			eS		**Sn**	**13 32 07.2**	**+0.7**
WHF	**Hehuan Shan** baz=252	**1.06**	**253**	P		**Pn**	**13 31 52.0**	**-0.3**
WHF	baz=252			eS		**Sn**	**13 32 06.9**	**0.0**
TEGC	**Jichi Village** baz=225	**1.07**	**226**	eP		**Pn**	**13 31 51.7**	**-0.3**
TEGC	baz=225			eS		**Sn**	**13 32 06.7**	**+0.3**
ESL	**Shilin** baz=233	**1.07**	**234**	P		**Pn**	**13 31 51.4**	**-0.8**
ESL	baz=233			eS		**Sn**	**13 32 06.0**	**-0.6**
TWY	**Chenhua** baz=317	**1.08**	**319**	eP		**Pn**	**13 31 51.9**	**-0.3**
TWY	baz=317			eS		**Sn**	**13 32 06.4**	**-0.3**
TWS1	**Kuangyinshan** baz=305	**1.08**	**306**	eP		**Pn**	**13 31 51.8**	**-0.4**
TWS1	baz=305			eS		**Sn**	**13 32 06.4**	**-0.3**
NTST	**Danshui** baz=308	**1.10**	**310**	eP		**Pn**	**13 31 52.0**	**-0.4**
NTST	baz=308			eS		**Sn**	**13 32 07.0**	**0.0**
TWT	**Tachien** baz=258	**1.12**	**260**	eP		**Pn**	**13 31 53.3**	**+0.4**
TWT	baz=258			eS		**Sn**	**13 32 08.6**	**+0.9**
NTY	**Taoyuan** baz=297	**1.12**	**299**	eP		**Pn**	**13 31 52.7**	**-0.1**
NTY	baz=297			eS		**Sn**	**13 32 07.8**	**+0.2**
TDCB	**Techi** baz=259	**1.13**	**260**	eP		**Pn**	**13 31 53.3**	**+0.3**
TDCB	baz=259			eS		**Sn**	**13 32 08.1**	**+0.1**
EGFH	**Guangfu** baz=228	**1.17**	**228**	eP		**Pn**	**13 31 52.7**	**-0.7**
EGFH	baz=228			eS		**Sn**	**13 32 08.3**	**-0.4**
NCU	**National Centr** baz=294	**1.20**	**295**	eP		**Pn**	**13 31 53.7**	**0.0**
NCU	baz=294			eS		**Sn**	**13 32 10.0**	**+0.6**
NCUH	**Zhongli** baz=293	**1.20**	**295**	eP		**Pn**	**13 31 53.6**	**-0.1**
NCUH	baz=293			eS		**Sn**	**13 32 09.8**	**+0.4**
PCYT	**Pengchaiyu** baz=345	**1.20**	**347**	eP		**Pn**	**13 31 53.7**	**-0.1**
NJD	**Zhudong** baz=282	**1.21**	**284**	eP		**Pn**	**13 31 54.1**	**+0.3**
NJD	baz=282			eS		**Sn**	**13 32 10.7**	**+1.1**
IRIF	**Iriomote-Funau**	**1.24**	**95**	P		**Pn**	**13 31 54.0**	**-0.2**
IRIF				S		**Sn**	**13 32 10.3**	**0.0**
LIOB	**Emei** baz=277	**1.25**	**279**	eP		**Pn**	**13 31 54.5**	**0.0**
LIOB	baz=277			eS		**Sn**	**13 32 11.1**	**+0.4**
NSTT	**Nanjuang** baz=277	**1.27**	**278**	P		**Pn**	**13 31 54.6**	**0.0**
NSTT	baz=277			eS		**Sn**	**13 32 11.2**	**+0.3**
HGSD	**Ruisui** baz=222	**1.30**	**222**	eP		**Pn**	**13 31 54.5**	**-0.6**
HGSD	baz=222			eS		**Sn**	**13 32 11.6**	**-0.1**
SBCB	**Hsinchu** baz=283	**1.31**	**285**	eP		**Pn**	**13 31 55.2**	**+0.1**
SBCB	baz=283			eS		**Sn**	**13 32 12.2**	**+0.2**
WHP	**Taichung City** baz=261	**1.32**	**263**	eP		**Pn**	**13 31 56.2**	**+0.8**
WHP	baz=261			eS		**Sn**	**13 32 13.4**	**+1.1**
HSN	**Hsinchu** baz=285	**1.33**	**285**	eP		**Pn**	**13 31 54.9**	**-0.5**
HSN	baz=285			eS		**Sn**	**13 32 11.5**	**-0.8**
NHW	**Xinwu Township** baz=293	**1.33**	**295**	eP		**Pn**	**13 31 55.3**	**-0.1**
NHW	baz=293			eS		**Sn**	**13 32 13.1**	**+0.7**
HATJ	**Hateruma jima**	**1.36**	**107**	P		**Pn**	**13 31 56.3**	**+0.4**
HATJ				S		**Sn**	**13 32 14.3**	**+1.1**
WPL	**Puli Township** baz=251	**1.37**	**251**	eP		**Pn**	**13 31 56.3**	**+0.3**
DPDB	**Guoxing** baz=252	**1.39**	**253**	eP		**Pn**	**13 31 56.8**	**+0.5**
WCS	**Beigang Elemen** baz=253	**1.40**	**254**	P		**Pn**	**13 31 56.8**	**+0.4**
WCS	baz=253			eS		**Sn**	**13 32 14.9**	**+0.9**
NMLH	**Miaoli** baz=272	**1.45**	**273**	eP		**Pn**	**13 31 57.2**	**+0.1**
NMLH	baz=272			eS		**Sn**	**13 32 16.2**	**+0.9**
YULB	**Yu-li** baz=223	**1.45**	**223**	eP		**Pn**	**13 31 55.9**	**-1.1**
YULB	baz=223			eS		**Sn**	**13 32 13.1**	**-2.2**
SSLB	**Suanglung** baz=242	**1.46**	**243**	eP		**Pn**	**13 31 57.0**	**-0.2**
SSLB	baz=242			eS		**Sn**	**13 32 17.5**	**+1.8**
SMLT	**Sun Moon Lake** baz=246	**1.47**	**247**	eP		**Pn**	**13 31 57.6**	**+0.2**
SMLT	baz=246			eS		**Sn**	**13 32 18.1**	**+2.3**
TWQ1	**Liyutan** baz=265	**1.47**	**266**	eP		**Pn**	**13 31 57.5**	**+0.2**
TWQ1	baz=265			eS		**Sn**	**13 32 16.2**	**+0.4**
EYUL	**Yuli** baz=221	**1.47**	**221**	eP		**Pn**	**13 31 56.7**	**-0.6**
EYUL	baz=221			eS		**Sn**	**13 32 16.1**	**+0.3**
NSY	**Sanyi** baz=267	**1.48**	**269**	eP		**Pn**	**13 31 57.6**	**+0.2**
NSY	baz=267			eS		**Sn**	**13 32 16.9**	**+1.0**
TWF1	**Yuli** baz=222	**1.48**	**222**	eP		**Pn**	**13 31 56.4**	**-1.0**
TWF1	baz=222			eS		**Sn**	**13 32 14.8**	**-1.2**
TYC	**Yuchr** baz=248	**1.50**	**249**	eP		**Pn**	**13 31 57.9**	**+0.3**
TYC	baz=248			eS		**Sn**	**13 32 17.1**	**+0.8**
JKRS	**Kuro-shima**	**1.50**	**98**	P		**Pn**	**13 31 58.1**	**+0.4**
JKRS				S		**Sn**	**13 32 17.5**	**+1.0**
TCU	**Taichung** baz=258	**1.58**	**259**	eP		**Pn**	**13 31 59.3**	**+0.5**
TCU	baz=258			eS		**Sn**	**13 32 19.5**	**+1.1**
WHYT	**Xinyi Township** baz=241	**1.59**	**242**	eP		**Pn**	**13 31 59.8**	**+0.9**
WHYT	baz=241			eS		**Sn**	**13 32 20.7**	**+2.1**
WWF	**Wufeng** baz=254	**1.59**	**255**	eP		**Pn**	**13 31 59.6**	**+0.7**
WWF	baz=254			eS		**Sn**	**13 32 20.0**	**+1.4**
WDJ	**Dajia District** baz=265	**1.59**	**266**	eP		**Pn**	**13 31 59.5**	**+0.6**
WDJ	baz=265			eS		**Sn**	**13 32 19.4**	**+0.8**
FULB	**Fuli** baz=218	**1.60**	**219**	eP		**Pn**	**13 31 58.5**	**-0.6**
FULB	baz=218			eS		**Sn**	**13 32 18.6**	**-0.3**
JIJ	**Ishigaki jima**	**1.61**	**93**	P		**Pn**	**13 31 58.9**	**-0.3**
JIJ				S		**Sn**	**13 32 18.3**	**-0.8**
WJS	**Zhushan** baz=247	**1.64**	**248**	eP		**Pn**	**13 32 00.5**	**+0.9**
WJS	baz=247			eS		**Sn**	**13 32 22.1**	**+2.4**
CHKT	**Chengkung** baz=214	**1.64**	**215**	eP		**Pn**	**13 31 58.4**	**-1.2**
CHKT	baz=214			eS		**Sn**	**13 32 17.8**	**-2.0**
WNT1	**Nantou City** baz=250	**1.65**	**251**	eP		**Pn**	**13 32 00.4**	**+0.8**
WNT1	baz=250			eS		**Sn**	**13 32 21.9**	**+2.0**
WNT	**Mingjian** baz=249	**1.65**	**250**	eP		**Pn**	**13 32 00.5**	**+0.8**
WNT	baz=249			eS		**Sn**	**13 32 22.2**	**+2.1**
ALS	**Alishan** baz=236	**1.72**	**237**	eP		**Pn**	**13 32 01.3**	**+0.4**
ALS	baz=236			eS		**Sn**	**13 32 23.7**	**+1.5**
ECS	**Chishang** baz=218	**1.72**	**218**	eP		**Pn**	**13 32 00.5**	**-0.2**
ECS	baz=218			eS		**Sn**	**13 32 21.7**	**-0.1**
JISG	**Ishigakijimahi**	**1.77**	**85**	P		**Pn**	**13 32 01.1**	**-0.1**
JISG				S		**Sn**	**13 32 22.2**	**-0.6**
ELDTW	**Lidau** baz=224	**1.77**	**225**	eP		**Pn**	**13 32 00.6**	**-0.9**
ELDTW	baz=224			eS		**Sn**	**13 32 22.0**	**-1.2**
CHN5	**Tsauling** baz=241	**1.77**	**242**	eP		**Pn**	**13 32 02.0**	**+0.5**
CHN5	baz=241			eS		**Sn**	**13 32 24.9**	**+1.7**
EDH	**Donghe** baz=214	**1.78**	**214**	eP		**Pn**	**13 32 00.5**	**-1.0**
EDH	baz=214			eS		**Sn**	**13 32 21.1**	**-1.9**
WGK	**Gukeng** baz=244	**1.83**	**246**	eP		**Pn**	**13 32 03.2**	**+1.1**
WGK	baz=244			eS		**Sn**	**13 32 26.9**	**+2.5**
WDLH	**Douliu** baz=245	**1.85**	**246**	eP		**Pn**	**13 32 03.0**	**+0.7**
WDLH	baz=245			eS		**Sn**	**13 32 27.3**	**+2.5**
LONT	**Longtian** baz=216	**1.92**	**217**	eP		**Pn**	**13 32 02.1**	**-1.2**
LONT	baz=216			eS		**Sn**	**13 32 24.9**	**-1.7**
STYH	**Taoyuan** baz=229	**1.95**	**229**	eP		**Pn**	**13 32 04.0**	**+0.3**
STYH	baz=229			eS		**Sn**	**13 32 27.8**	**+0.6**
LDUT	**Ludao** baz=205	**1.96**	**205**	eP		**Pn**	**13 32 02.5**	**-1.4**
LDUT	baz=205			eS		**Sn**	**13 32 25.5**	**-2.0**
STYT	**Tauyuan** baz=229	**1.97**	**229**	eP		**Pn**	**13 32 04.5**	**+0.4**
STYT	baz=229			eS		**Sn**	**13 32 28.3**	**+0.5**
CHN4	**Tsaushan** baz=236	**1.97**	**236**	eP		**Pn**	**13 32 04.8**	**+0.7**
CHN4	baz=236			eS		**Sn**	**13 32 30.1**	**+2.4**
TPUB	**Ta-pu** baz=234	**1.97**	**235**	eP		**Pn**	**13 32 04.5**	**+0.4**
TPUB	baz=234			eS		**Sn**	**13 32 29.6**	**+1.8**
WTK	**Tuku** baz=247	**1.97**	**248**	eP		**Pn**	**13 32 04.3**	**+0.3**
WTK	baz=247			eS		**Sn**	**13 32 28.2**	**+0.4**
WTCT	**Ta-ch'eng** baz=252	**2.00**	**253**	eP		**Pn**	**13 32 04.3**	**-0.2**
WTCT	baz=252			eS		**Sn**	**13 32 29.1**	**+0.5**
WTP	**Ta-pu** baz=233	**2.02**	**234**	eP		**Pn**	**13 32 05.1**	**+0.4**
WTP	baz=233			eS		**Sn**	**13 32 30.0**	**+1.0**
TWGBT	**Beinan** baz=216	**2.02**	**216**	eP		**Pn**	**13 32 03.5**	**-1.2**
TWGBT	baz=216			eS		**Sn**	**13 32 28.1**	**-0.8**
TWG	**Pinlang** baz=216	**2.02**	**217**	eP		**Pn**	**13 32 03.5**	**-1.2**
TWG	baz=216			eS		**Sn**	**13 32 27.6**	**-1.5**
CHY	**Chiayi** baz=241	**2.03**	**242**	eP		**Pn**	**13 32 05.5**	**+0.8**
CHY	baz=241			eS		**Sn**	**13 32 30.4**	**+1.3**
TTN	**Taitung** baz=213	**2.04**	**214**	eP		**Pn**	**13 32 05.4**	**+0.5**
TTN	baz=213			eS		**Sn**	**13 32 29.0**	**-0.4**
TWK	**Hsinying** baz=235	**2.10**	**236**	eP		**Pn**	**13 32 06.2**	**+0.4**
TWK	baz=235			eS		**Sn**	**13 32 32.2**	**+1.2**
CHN1	**Nanshi** baz=233	**2.12**	**234**	eP		**Pn**	**13 32 06.5**	**+0.5**
CHN1	baz=233			eS		**Sn**	**13 32 33.0**	**+1.6**
SNST	**Tainan City** baz=234	**2.12**	**235**	eP		**Pn**	**13 32 06.8**	**+0.8**
SNST	baz=234			eS		**Sn**	**13 32 31.5**	**+0.2**
JTJ	**Tarama**	**2.12**	**85**	P		**Pn**	**13 32 06.1**	**0.0**
JTJ				S		**Sn**	**13 32 31.5**	**+0.1**
WSF	**Szhu** baz=247	**2.13**	**248**	eP		**Pn**	**13 32 06.4**	**+0.2**
WSF	baz=247			eS		**Sn**	**13 32 32.6**	**+0.9**
SGST	**Jiashian** baz=230	**2.14**	**231**	eP		**Pn**	**13 32 06.3**	**-0.1**
SGST	baz=230			eS		**Sn**	**13 32 32.6**	**+0.7**
SLGT	**Liugui** baz=227	**2.15**	**228**	eP		**Pn**	**13 32 07.7**	**+1.1**
SLGT	baz=227			eS		**Sn**	**13 32 34.1**	**+1.9**
ICHU	**Yijhu** baz=240	**2.21**	**241**	eP		**Pn**	**13 32 07.7**	**+0.4**
ICHU	baz=240			eS		**Sn**	**13 32 34.7**	**+1.2**
ECL	**Taimali** baz=215	**2.27**	**216**	eP		**Pn**	**13 32 06.7**	**-1.3**
ECL	baz=215			eS		**Sn**	**13 32 32.9**	**-2.0**
CHN8	**Yiju** baz=240	**2.27**	**241**	eP		**Pn**	**13 32 08.7**	**+0.6**
CHN8	baz=240			eS		**Sn**	**13 32 37.0**	**+1.9**
SCST	**Cishan** baz=227	**2.33**	**228**	eP		**Pn**	**13 32 09.9**	**+1.0**
TSMG	**Majia** baz=222	**2.36**	**223**	eP		**Pn**	**13 32 10.2**	**+0.9**
TSMG	baz=222			eS		**Sn**	**13 32 39.3**	**+2.1**
TAW	**Tawu** baz=213	**2.49**	**213**	eP		**Pn**	**13 32 10.5**	**-0.6**
TAW	baz=213			eS		**Sn**	**13 32 38.0**	**-2.5**
EAST	**Anshuo** baz=214	**2.50**	**215**	eP		**Pn**	**13 32 10.3**	**-0.9**
JIRB	**Irabujima**	**2.57**	**81**	P		**Pn**	**13 32 12.1**	**0.0**
JIRB				S		**Sn**	**13 32 42.3**	**0.0**
SSPT	**Xinbi** baz=220	**2.57**	**221**	eP		**Pn**	**13 32 14.0**	**+1.8**
SCZT	**Fangliau** baz=217	**2.63**	**218**	eP		**Pn**	**13 32 13.4**	**+0.5**
JIKM	**Ikemajima**	**2.65**	**79**	P		**Pn**	**13 32 13.9**	**+0.7**
JIKM				eS		**Sn**	**13 32 44.7**	**+0.4**
SLIU	**Shizi** baz=213	**2.66**	**213**	eP		**Pn**	**13 32 12.6**	**-0.8**
JMJ	**Miyako jima 2** baz=82	**2.68**	**82**	eP		**Pn**	**13 32 14.2**	**+0.6**
JMJ	baz=82			eS		**Sn**	**13 32 45.0**	**+0.1**
JMJ2	**Miyako jima3**	**2.70**	**83**	P		**Pn**	**13 32 14.2**	**+0.3**
JMJ2				eS		**Sn**	**13 32 46.1**	**+0.6**
PNG	**Penghu** baz=250	**2.73**	**252**	eP		**Pn**	**13 32 13.0**	**-1.3**
PHUB	**P'eng-hu** baz=249	**2.73**	**250**	eP		**Pn**	**13 32 13.0**	**-1.4**
WDGT	**Dungji** baz=244	**2.76**	**245**	eP		**Pn**	**13 32 14.0**	**-0.7**
JOGS	**Gusukube**	**2.77**	**83**	P		**Pn**	**13 32 15.2**	**+0.3**
JOGS				eS		**Sn**	**13 32 46.8**	**-0.4**
MATB	**Ma-tsu**	**2.77**	**308**	eP		**Pn**	**13 32 13.7**	**-1.2**

baz=306
MSUT Lienchiang 2.80 308 *e*P **Pn 13 32 14.1 -1.1**
baz=306
KNM Kinmen 3.60 270 *e*P **Pn 13 32 26.3 +0.2**
baz=269
KNMB Chin-men Tao 3.64 271 *e*P **Pn 13 32 25.1 -1.6**
baz=269

IDC 13 13:34:12.0±1.7, 3°35.5S×144°33.6E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/30, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=69.5km s-min=24.9km az=114.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**210**	P	P	13 38 37.0	-0.2
	0.1nm,0.3s,baz=34,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**22.57**	**206**	P	P	13 39 15.3	+1.2
	0.1nm,0.4s,baz=37,slow=8.1,SNR=4.8						
FITZ	**Fitzroy Crossi**	**23.45**	**230**	P	P	13 39 22.2	-1.1
	0.7nm,0.3s,baz=46,slow=8.0,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**30.92**	**45**	T	T	14 13 07.4	
	baz=228,slow=76,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**30.93**	**45**	T	T	14 13 08.4	
	baz=228,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**30.94**	**45**	T	T	14 13 08.7	
	baz=228,slow=76,SNR=8.7						
MKAR	**Makanchi Array**	**73.78**	**321**	P	P	13 45 48.3	0.0
	0.4nm,0.7s,baz=105,slow=6.5,SNR=3.6						
ILAR	**Eielson Array**	**84.13**	**24**	P	P	13 46 44.9	+0.2
	0.5nm,0.8s,baz=240,slow=3.9,SNR=6.3						

IDC 13 13:42:19.3±2.5, 5.79S×147.57E, h119km±25km, mb3.5/3, mb1 3.8/5, mb1mx3.3/27, mbtmp4.0/5, Error ellipse: s-maj=50.4km s-min=16.5km az=116.0
ISC 13 13:42:17.6±1.4, 5.6S±0.1×147.4E±0.3, h100km, n6, σ0s97/8, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**183**	P	**Pn**	**13 43 14.7**	**+1.0**
	21nm,0.3s,baz=27,slow=11,SNR=81						
PMG				S	**Sn**	**13 43 55.9**	**-1.2**
	10nm,0.3s,baz=219,slow=21,SNR=9.0						
WRA	**Warramunga Arr**	**19.07**	**221**	P	**P**	**13 46 33.0**	**+0.7**
	0.8nm,0.3s,baz=42,slow=11,SNR=14						
ASAR	**Alice Springs**			P	**P**	**13 47 06.0**	**+0.7**
	0.7nm,0.5s,baz=50,slow=8.7,SNR=25						
ASAR				S	**S**	**13 51 02.1**	**-1.1**
	0.8nm,1.1s,baz=37,slow=19,SNR=4.0						
FITZ	**Fitzroy Crossi**	**24.59**	**238**	P	**P**	**13 47 28.3**	**-0.2**
	3.3nm,0.5s,baz=55,slow=8.4,SNR=18						
ILAR	**Eielson Array**	**84.99**	**23**	P	**P**	**13 54 41.1**	**-0.4**
	0.6nm,0.7s,baz=249,slow=4.8,SNR=9.7						
TORD	**Torodi Ar. Bea**	**145.36**	**285**	PKPbc	**PKPdf**	**14 01 44.8**	**-0.1**
	1.2nm,1.0s,baz=78,slow=4.2,SNR=1.7						

IDC 13 13:57:42.8±2.0, 6.02S×152.08E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/46, mbtmp4.0/7, ML2.0/1, MS3.3/7, Ms1 3.4/7, ms1mx3.1/30, Error ellipse: s-maj=73.7km s-min=22.7km az=120.0
ISC 13 13:57:48.5±1.9, 6.1S±0.3×152.0E±0.3, h36km, n14, σ0s83/9, mb4.0/6, MS3.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.86**	**235**	Pn	**Pn**	**13 59 13.8**	**+1.0**
	2.3nm,0.3s,baz=64,slow=9.8,SNR=5.1						
PMG				Sn	**Sn**	**14 00 18.3**	**-0.5**
	4.0nm,0.3s,baz=351,slow=20,SNR=3.8						
PMG				LR	LR	14 00 40.5	
	comp=Z,62nm,20.8s,baz=20,slow=30						
WRA	**Warramunga Arr**	**22.04**	**230**	P	**P**	**14 02 39.3**	**-0.9**
	2.8nm,0.4s,baz=53,slow=10.0,SNR=27						
ASAR	**Alice Springs**	**24.71**	**223**	P	**P**	**14 03 06.8**	**+0.3**
	2.8nm,0.7s,baz=58,slow=8.9,SNR=31						
STKA	**Stephens Creek**	**27.48**	**199**	LR	LR	14 14 22.1	
	comp=Z,68nm,19.8s,baz=19,slow=36						
JCJ	**Chichijima**	**34.29**	**344**	LR	LR	14 17 13.9	
	comp=Z,76nm,21.6s,baz=172,slow=34						
CMAR	**Chiang Mai Arr**	**57.71**	**296**	LR	LR	14 32 58.6	
	comp=Z,20nm,18.0s,baz=240,slow=37						
PETK	**Petropavlovsk-**	**59.13**	**4**	LR	LR	14 29 48.3	
	comp=Z,26nm,20.1s,baz=178,slow=33						
SONM	**Songino Array**	**66.96**	**328**	P	**P**	**14 08 38.3**	**+0.7**
	0.5nm,0.4s,baz=144,slow=5.8,SNR=4.3						
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**14 09 57.5**	**-0.7**
	0.2nm,0.4s,baz=113,slow=3.7,SNR=2.0						
ZALV	**Zalesovo Beam**	**81.75**	**327**	P	**P**	**14 10 03.1**	**-0.3**
	0.8nm,0.3s,baz=104,slow=6.1,SNR=2.7						
ILAR	**Eielson Array**	**83.60**	**22**	P	**P**	**14 10 13.0**	**+0.3**
	0.4nm,0.5s,baz=255,slow=4.9,SNR=7.7						
YBH	**Yreka Blue Hor**	**90.46**	**48**	LR	LR	14 43 58.0	
	comp=Z,24nm,20.4s,baz=260,slow=31						
NVAR	**Mina Array Bea**	**93.46**	**52**	LR	LR	14 48 30.6	
	comp=Z,38nm,18.3s,baz=264,slow=33						
TORD	**Torodi Ar. Bea**	**149.92**	**286**	PKPbc	**PKPbc**	**14 17 35.1**	**-1.0**
	1.8nm,0.8s,baz=59,slow=2.6,SNR=6.1						

DJA 13 14:00:16.2±0.3, 5.3S×133.4E±, h50km±36km, M4.5/12, mb4.8/8, mB5.1/5, MLv4.3/12, Mw(mB)4.5/5*
IDC 13 14:00:16.2±1.6, 5.34S×132.25E, h0km, mb4.0/3, mb1 4.2/7, mb1mx3.8/41, mbtmp4.0/7, ML4.1/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/28, Error ellipse: s-maj=87.4km s-min=20.6km az=77.0
ISC 13 14:00:16.4±0.7, 4.85S±0.05×133.97E±0.06, h35km, n24, σ2s51/28, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.21**	**347**	P	**Pn**	**14 00 35.7**	**-1.1**
KMPI				S	**Sn**	**14 00 50.5**	**-1.4**
FAKI	**Fak Fak**	**2.57**	**318**	P	**Pn**	**14 00 54.6**	**-1.0**
FAKI				S	**Sn**	**14 01 24.6**	**-1.0**
SRPI	**Serui, Papua**	**3.72**	**38**	P	**Pn**	**14 01 11.4**	**0.0**
SRPI				S	**Sn**	**14 01 53.7**	**-0.4**
MWPI	**Manokwari, Pap**	**3.89**	**1**	P	**Pn**	**14 01 13.9**	**+0.2**
MWPI				S	**Sn**	**14 01 56.1**	**-2.1**
BNDI	**Bandanaira**	**4.07**	**274**	P	**Pn**	**14 01 16.4**	**+0.3**
BNDI				S	**Sn**	**14 02 04.2**	**+1.7**
SAUI	**Saumlaki**	**4.09**	**220**	P	**Pn**	**14 01 17.9**	**+1.4**
SIJI	**Sorong**	**4.78**	**326**	Pn	**Pn**	**14 01 25.4**	**-0.7**
	3.1nm,0.3s,baz=165,slow=20,SNR=8.0						
SIJI				Sn	**Sn**	**14 02 16.3**	**-4.0**
	3.2nm,0.3s,baz=97,slow=13,SNR=4.3						
SIJI				LR	LR	14 03 37.6	
	comp=Z,187nm,20.2s,baz=44,slow=44						
SIJI	**Sorong**	**4.78**	**326**	P	**Pn**	**14 01 25.0**	**-1.0**
SWI	**Sorong**	**4.79**	**326**	P	**Pn**	**14 01 25.0**	**-1.1**
MSAI	**Masohi**	**5.24**	**286**	P	**Pn**	**14 01 31.6**	**-0.8**
	0.1nm15nm,0.5s						
GENI	**Genyem**	**6.58**	**70**	P	**Pn**	**14 01 50.1**	**-0.6**
	0.3nm60nm,0.7s						
NLAI	**Namlea**	**7.04**	**283**	P	**Pn**	**14 01 58.3**	**+1.3**
	0.1nm3µm31nm,0.6s						
MMPI	**Merauke**	**7.32**	**120**	P	**Pn**	**14 02 00.9**	**+0.1**
	1.5nm409nm,1.0s						
SOEI	**Soe**	**10.79**	**243**	P	**Pn**	**14 02 49.1**	**+0.5**
	41nm,0.6s						
BATI	**Baumata**	**11.52**	**242**	P	**Pn**	**14 02 58.3**	**-0.2**
	18nm,0.7s						
BATI				S	Sn	14 04 25.3	-41
	18nm,0.7s						
KKSI	**Kolaka, Sulawe**	**12.30**	**273**	P	P	14 03 26.2	+5.3
WRA	**Warramunga Arr**	**15.01**	**179**	Pn	**Pn**	**14 03 44.0**	**-2.1**
	0.4nm,0.3s,baz=356,slow=13,SNR=2.7						
WRA				Sn	**Sn**	**14 06 26.1**	**-5.2**
	0.9nm,0.3s,baz=358,slow=24,SNR=6.1						
FITZ	**Fitzroy Crossi**	**15.49**	**211**	Pn	Pn	14 03 38.0	-14
	1.7nm,0.3s,baz=38,slow=8.5,SNR=22						
ASAR	**Alice Springs**	**18.71**	**180**	P	**P**	**14 04 32.7**	**+0.6**
	1.6nm,0.3s,baz=356,slow=14,SNR=39						
ASAR				S	**Sn**	**14 07 53.9**	**-7.2**
	0.1nm,0.3s,baz=2.8,slow=28,SNR=5.7						
STKA	**Stephens Creek**	**27.83**	**166**	P	**P**	**14 06 07.1**	**+4.6**
	0.6nm,0.2s,baz=346,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**68.68**	**325**	P	**P**	**14 11 17.6**	**+1.2**
	0.8nm,0.7s,baz=112,slow=8.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**71.48**	**332**	P	**P**	**14 11 37.3**	**+4.0**
	0.5nm,0.3s,baz=119,slow=5.1,SNR=2.0						
GNI	**Garni**	**92.50**	**310**	LR	LR	15 01 35.8	
	comp=Z,11nm,18.7s,baz=91,slow=40						
OBN	**Obninsk**	**98.19**	**325**	LR	LR	15 00 37.9	
	comp=Z,8.6nm,21.3s,baz=169,slow=37						

IDC 13 14:02:04.8±1.2, 5.57S×151.86E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/42, mbtmp4.0/5, ML2.1/1, Error ellipse: s-maj=55.7km s-min=26.3km az=125.0
ISC 13 14:02:10.5±1.3, 5.6S±0.3×151.8E±0.3, h35km, n6, σ1s13/7, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.94**	**230**	Pn	**Pn**	**14 03 37.2**	**+1.2**
	3.1nm,0.3s,baz=51,slow=14,SNR=5.7						
PMG				Sn	**Sn**	**14 04 41.8**	**-1.1**
	2.8nm,0.3s,baz=346,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**22.16**	**228**	P	**P**	**14 07 04.2**	**+0.6**
	5.2nm,0.6s,baz=54,slow=9.6,SNR=7.3						
ASAR	**Alice Springs**	**24.88**	**222**	P	**P**	**14 07 29.0**	**-1.3**
	3.9nm,0.9s,baz=58,slow=8.6,SNR=11						
VNDA	**Vanda**	**72.10**	**178**	P	**P**	**14 13 31.0**	**+0.1**
	1.3nm,0.8s,baz=344,slow=6.1,SNR=9.7						
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**14 14 33.4**	**+0.1**
	0.4nm,0.7s,baz=244,slow=5.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.54**	**286**	PKPbc	**PKPbc**	**14 21 56.6**	**-0.8**
	2.6nm,0.6s,baz=69,slow=3.0,SNR=13						

NEIC 13 14:09:10.1±0.7, 5.98S±0.09×151.9E±0.2, h35km±2km, mb4.1/8, Error ellipse: s-maj=32.5km s-min=11.6km az=291.0
IDC 13 14:09:13.6±5.7, 5.90S×151.58E, h69km±46km, mb3.8/4, mb1 4.1/5, mb1mx3.5/34, mbtmp4.2/5, ML2.2/1, Error ellipse: s-maj=102.3km s-min=30.1km az=131.0
ISC 13 14:09:10.3±1.1, 5.9S±0.2×151.8E±0.2, h35km, n16, σ0s98/17, mb4.1/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.76**	**12**	Pn	**Pn**	**14 09 38.7**	**+0.4**
PMG	**Port Moresby**	**5.75**	**233**	P	**Pn**	**14 10 34.4**	**+1.2**
	4.7nm,0.3s,baz=60,slow=6.1,SNR=16						
PMG				S	**Sn**	**14 11 37.7**	**-0.2**
	2.4nm,0.3s,baz=158,slow=21,SNR=2.2						
PMG	**Port Moresby**	**5.75**	**233**		**Pn**	**14 10 33.8**	**+0.7**
MTN	**Manton Dam**	**21.50**	**250**	P	**P**	**14 13 55.5**	**-0.8**
MTN				IAmb	IAmb	14 14 01.5	
	comp=Z,17nm,1.3s						
WR0	**Warramunga Arr**	**21.81**	**229**	P	**P**	**14 13 59.1**	**-0.5**
WR0				IAmb	IAmb	14 14 11.5	
	comp=Z,8.4nm,1.1s						
WRAB	**Tennant Creek**	**21.94**	**229**	P	**P**	**14 14 00.3**	**-0.7**
WRAB				IAmb	IAmb	14 14 03.5	
	comp=Z,4.8nm,0.7s						
WB2	**Warramunga Arr**	**21.95**	**229**	P	**P**	**14 14 00.4**	**-0.7**
WRA	**Warramunga Arr**	**21.95**	**229**	P	**P**	**14 14 00.4**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=56,slow=9.9,SNR=16						
KNRA	**Kununurra**	**24.58**	**245**	P	**P**	**14 14 27.4**	**+0.1**
AS31	**Alice Springs**	**24.65**	**222**	P	**P**	**14 14 27.6**	**-0.3**
ASAR	**Alice Springs**	**24.65**	**222**	P	**P**	**14 14 27.2**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=54,slow=9.3,SNR=30						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	**P**	**14 14 59.2**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=50,slow=5.6,SNR=11						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	**P**	**14 14 59.0**	**-1.3**
FITZ				IAmb	IAmb	14 15 00.0	
	comp=Z,2.9nm,0.7s						
ILAR	**Eielson Array**	**83.57**	**22**	P	**P**	**14 21 34.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=244,slow=5.5,SNR=11						
QSPA	**South Pole Qui**	**84.05**	**180**	P	**P**	**14 21 36.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.67**	**286**	PKPbc	**PKPdf**	**14 28 55.0**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=64,slow=3.6,SNR=5.1						

SKHL 13 14:23:42.4±0.7, 42.80N×149.40E, h56km±3km, mb4.2/2
JMA 13 14:23:43.2±0.8, 43.26N×149.48E, h30km, M3.8
ISC 13 14:23:38.6±3.1, 42.59N±0.07×149.6E±0.2, h35km, n21, σ2s34/31, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.92**	**335**	*i* P	**Pn**	**14 24 22.9**	**+0.3**
KUR				AMB	AMB	14 24 25.1	
	20nm,0.3s						
KUR				*i* S	**Sn**	**14 24 53.4**	**-3.0**
KUR				A	A	14 24 57.4	
	270nm,0.5s						
KUR				A	A	14 24 57.4	
	160nm,0.5s						
NEM2	**Nemuro 2**	**2.94**	**287**	P	**Pn**	**14 24 24.6**	**+1.9**
NEM2				*e*S	**Sn**	**14 24 55.3**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.95**	**287**	*i* P	**Pn**	**14 24 24.5**	**+1.6**
NMR				*i* S	**Sn**	**14 24 55.3**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**3.09**	**299**	*i* P	**Pn**	**14 24 25.5**	**+0.7**
YUK				AMB	AMB	14 24 31.7	
	30nm,0.2s						
YUK				*e*S	**Sn**	**14 24 58.3**	**-2.2**
YUK				A	A	14 24 58.7	
	130nm,0.3s						
YUK				A	A	14 24 58.7	
	210nm,0.3s						
GRPR	**Tuman**	**3.13**	**298**	*e*P	**Pn**	**14 24 26.1**	**+0.7**
GRPR				*e*S	**Sn**	**14 24 59.0**	**-2.5**
GRPR				A	A	14 25 02.9	
	90nm,0.4s						
GRPR				A	A	14 25 02.9	
	260nm,0.4s						
JRA	**Rausu**	**3.54**	**294**	P	**Pn**	**14 24 32.7**	**+1.7**
JRA				*e*S	**Sn**	**14 25 10.4**	**-1.2**
JAK	**Akkeshi**	**3.63**	**278**	P	**Pn**	**14 24 34.8**	**+2.5**
JAK				*e*S	**Sn**	**14 25 13.2**	**-0.7**
JNK	**Nakash**	**3.71**	**287**	P	**Pn**	**14 24 35.4**	**+2.0**
JNK				*e*S	**Sn**	**14 25 14.3**	**-1.6**
JAR	**Ashorobuto**	**4.34**	**281**	P	**Pn**	**14 24 44.7**	**+2.6**
JAR				*e*S	**Sn**	**14 25 30.4**	**-1.0**
JTKR	**Abashiri--Toko**	**4.38**	**290**	P	**Pn**	**14 24 45.3**	**+2.7**
JCH	**Churui**	**4.61**	**272**	P	**Pn**	**14 24 48.8**	**+3.1**
JCH				*e*S	**Sn**	**14 25 37.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**5.08**	**269**	P	**Pn**	**14 24 56.0**	**+3.8**
JNB	**Noboribetsu**	**6.33**	**272**	*e*S	**Sn**	**14 26 20.0**	**-0.4**
JKB	**Kayabe**	**6.40**	**267**	*e*S	**Sn**	**14 26 20.4**	**-1.7**
JTH	**Tanohata**	**6.41**	**248**	*e*S	**Sn**	**14 26 19.5**	**-2.8**
JANG	**Nango**	**6.46**	**253**	*e*S	**Sn**	**14 26 21.0**	**-2.8**
JTM	**Tenmabayashi**	**6.64**	**257**	*e*S	**Sn**	**14 26 26.6**	**-1.4**
OFUJ	**Ofunato**	**6.96**	**242**	*e*S	**Sn**	**14 26 34.1**	**-2.0**
JRG	**Rokugo**	**7.50**	**248**	*e*S	**Sn**	**14 26 47.8**	**-1.4**
JIO	**Ouri**	**7.52**	**239**	*e*S	**Sn**	**14 26 45.9**	**-3.9**
JFK	**Kawauchi**	**8.49**	**235**	*e*S	**Sn**	**14 27 08.9**	**-4.8**

IDC 13 14:30:19.3±6.8, 8.15S×120.22E, h193km±63km, mb2.9/3, mb1 3.0/5, mb1mx2.9/28, mbtmp3.5/5, Error ellipse: s-maj=156.9km s-min=26.1km az=59.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.97**	**121**	P	Pn	14 31 22.1	+1.6
	2.2nm,0.3s,baz=283,slow=17,SNR=1.6						
BATI				S	Sn	14 32 08.0	-0.5
	2.9nm,0.3s,baz=259,slow=14,SNR=1.9						
WRA	**Warramunga Arr**	**18.01**	**132**	P	P	14 34 15.6	-0.2
	0.2nm,0.3s,baz=304,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**20.25**	**141**	P	P	14 34 39.9	-0.1
	0.6nm,0.4s,baz=315,slow=8.5,SNR=27						
STKA	**Stephens Creek**	**30.86**	**143**	P	P	14 36 17.9	+0.3
	0.6nm,0.3s,baz=317,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**64.27**	**332**	P	P	14 40 33.6	-0.3
	0.1nm,0.5s,baz=138,slow=9.4,SNR=2.1						

NEIC 13 14:58:19.2±1.5, 23.6S±0.1×179.3W±0.1, h523km±11km, mb4.2/21, Error ellipse: s-maj=19.9km s-min=17.2km az=170.0
IDC 13 14:58:25.1±1.9, 23.33S×179.91W, h558km±20km, mb3.3/12, mb1 3.4/13, mb1mx3.3/23, mbtmp4.2/13, Error ellipse: s-maj=17.8km s-min=16.3km az=131.0
ISC 13 14:58:20.7±0.5, 23.56S±0.07×179.51W±0.08, h536km, n53, σ1s47/58, mb4.0/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.23**	**338**	P	**P**	**15 00 02.0**	**+1.0**
	0.7nm,0.3s,baz=247,slow=16,SNR=1.6						
MSVF	**Nonsavu**	**6.23**	**338**	P	**P**	**15 00 00.9**	**-0.1**
PINNC	**Pines Island,**	**12.04**	**272**	P	**P**	**15 01 00.1**	**+0.5**
AFI	**Afiamalu**	**12.07**	**39**	P	**P**	**15 00 59.4**	**-0.7**
	2.7nm,0.3s,baz=358,slow=12,SNR=3.8						
AFI	**Afiamalu**	**12.07**	**39**	P	**P**	**15 00 57.9**	**-2.2**
LIFNC	**LIFOU**	**12.58**	**280**	P	**P**	**15 01 04.1**	**-1.2**
URZ	**Urewera**	**14.94**	**190**	P	**P**	**15 01 28.7**	**-0.8**
	1.5nm,0.3s,baz=301,slow=23,SNR=9.4						
URZ				S	**S**	**15 04 00.4**	**-4.8**
	0.2nm,0.3s,baz=307,slow=23,SNR=1.4						
URZ	**Urewera**	**14.94**	**190**	P	**P**	**15 01 28.6**	**-0.9**
BKZ	**Black Stump Fm**	**15.93**	**191**	P	**P**	**15 01 39.2**	**-0.6**
BKZ				IAmb	IAmb	15 01 52.3	
	comp=Z,5.2nm,0.8s						
TUWZ	**Tuamarina**	**18.64**	**196**	P	**P**	**15 02 05.6**	**+0.7**
EIDS	**Eidsvold**	**26.80**	**260**	P	**P**	**15 03 18.3**	**+0.2**
EIDS				IAmb	IAmb	15 03 25.8	
	comp=Z,12nm,1.1s						
EIDS				PcP	**PcP**	**15 06 21.8**	**-1.6**
PPTF	**Pamatai, Papee**	**28.63**	**84**	P	**P**	**15 03 30.7**	**-3.6**
CTAO	**Charters Tower**	**31.92**	**270**	P	**P**	**15 04 03.4**	**+0.8**
PMG	**Port Moresby**	**34.81**	**288**	P	**P**	**15 04 26.4**	**-0.5**
	comp=Z,9.9nm,0.6s,baz=294,slow=11,SNR=2.0						
PMG	**Port Moresby**	**34.81**	**288**	P	**P**	**15 04 25.2**	**-1.8**
STKA	**Stephens Creek**	**35.26**	**248**	P	**P**	**15 04 31.6**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=85,slow=9.7,SNR=6.5						
STKA	**Stephens Creek**	**35.26**	**248**	P	**P**	**15 04 29.8**	**-0.7**
BBOO	**Buckleboo**	**39.99**	**247**	P	**P**	**15 05 08.8**	**-0.3**
BBOO				IAmb	IAmb	15 05 20.9	
	comp=Z,4.3nm,1.1s						
AS31	**Alice Springs**	**42.53**	**260**	P	**P**	**15 05 29.6**	**+0.1**
ASAR	**Alice Springs**	**42.53**	**260**	P	**P**	**15 05 29.6**	**+0.2**
	comp=Z,3.8nm,0.5s,baz=96,slow=7.2,SNR=126						
ASAR				PcP	**PcP**	**15 07 10.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=84,slow=4.7,SNR=3.1						
ASAR				S	**S**	**15 11 09.6**	**-3.7**
	comp=Z,0.5nm,0.7s,baz=96,slow=15,SNR=8.1						
ASAR	**Alice Springs**	**42.53**	**260**	P	**P**	**15 05 29.2**	**-0.3**
WR0	**Warramunga Arr**	**42.69**	**266**	P	**P**	**15 05 29.9**	**-0.9**
WR0				IAmb	IAmb	15 05 30.5	
	comp=Z,3.5nm,0.6s						
WB2	**Warramunga Arr**	**42.87**	**266**	P	**P**	**15 05 31.7**	**-0.4**
WB2				IAmb	IAmb	15 05 32.0	
	comp=Z,7.3nm,0.6s						
WB0	**Warramunga Arr**	**42.87**	**266**	P	**P**	**15 05 31.6**	**-0.5**
WB0				IAmb	IAmb	15 05 32.3	
	comp=Z,8.0nm,0.7s						
WRAB	**Tennant Creek**	**42.87**	**266**	P	**P**	**15 05 31.5**	**-0.7**
WRAB				IAmb	IAmb	15 05 49.3	
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**42.88**	**266**	P	**P**	**15 05 31.7**	**-0.5**
	comp=Z,5.8nm,0.5s,baz=102,slow=8.4,SNR=58						
WRA				PcP	**pwP**	**15 07 12.2**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=93,slow=3.2,SNR=2.7						
FORT	**Forrest**	**46.85**	**249**	P	**P**	**15 06 02.6**	**+0.1**
MTN	**Manton Dam**	**47.88**	**274**	P	**P**	**15 06 09.7**	**-0.7**
MTN				IAmb	IAmb	15 06 11.9	
	comp=Z,5.5nm,1.1s						
KNRA	**Kununurra**	**49.14**	**269**	P	**P**	**15 06 19.9**	**+0.1**
KNRA				IAmb	IAmb	15 06 20.8	
	comp=Z,9.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.30**	**265**	P	**P**	**15 06 35.9**	**+0.2**
SIJI	**Sorong**	**52.75**	**288**	P	**P**	**15 06 45.6**	**-0.6**
	comp=Z,14nm,0.6s,baz=14,slow=23,SNR=4.5						
VNDA	**Vanda**	**54.76**	**185**	P	**P**	**15 07 03.7**	**+4.4**
	comp=Z,0.4nm,0.5s,baz=15,slow=7.0,SNR=8.0						
VNDA				PcP	**PcP**	**15 07 56.3**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=1.5,slow=6.5,SNR=5.3						
SOEI	**Soe**	**55.26**	**274**	P	**P**	**15 07 04.5**	**+0.6**
BATI	**Baumata**	**55.65**	**274**	P	**P**	**15 07 08.0**	**+1.4**
	baz=135,slow=4.3						
PSA00	**Pilbara Seismi**	**55.66**	**259**	P	**P**	**15 07 05.3**	**-1.3**
MORW	**Morawa**	**57.41**	**250**	P	**P**	**15 07 18.2**	**-0.3**
MORW				IAmb	IAmb	15 07 19.4	
	comp=Z,9.5nm,0.8s						
MORW				PcP	**PcP**	**15 08 03.7**	**-1.2**
CASY	**Casey**	**60.61**	**206**	P	**P**	**15 07 39.3**	**+0.1**
TOLI2	**Tolitoli**	**62.92**	**284**	P	**P**	**15 07 54.9**	**-0.3**
TOLI2				IAmb	IAmb	15 07 56.4	
	comp=Z,6.1nm,0.7s						
QSPA	**South Pole Qui**	**66.52**	**180**	P	**P**	**15 08 18.5**	**+1.4**
MJAR	**Matsushiro Arr**	**71.87**	**325**	P	**P**	**15 08 49.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=160,slow=7.6,SNR=5.3						
MAW	**Mawson**	**78.22**	**200**	P	**P**	**15 09 26.8**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=135,slow=8.6,SNR=2.0						
PETK	**Petropavlovsk-**	**78.88**	**346**	P	**P**	**15 09 28.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=148,slow=8.7,SNR=2.2						
USRK	**Ussuriysk Ar.**	**80.72**	**327**	P	**P**	**15 09 39.3**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=140,slow=46,SNR=2.2						
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**15 10 24.4**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=145,slow=4

DZM	**Mont Dzumac**	**21.83**	**140**	P	**P**	**15 12 01.4**	**-0.9**
DZM				IAmb	IAmb	15 12 18.7	
	comp=Z,25nm,1.3s						
WRAB	**Tennant Creek**	**21.84**	**228**	P	**P**	**15 12 02.6**	**+0.3**
WB2	**Warramunga Arr**	**21.85**	**228**	P	**P**	**15 12 03.1**	**+0.8**
WRA	**Warramunga Arr**	**21.86**	**228**	P	**P**	**15 12 02.7**	**+0.2**
	comp=Z,34nm,0.8s,baz=53,slow=9.9,SNR=62						
WRA				ScP	**ScP**	**15 19 37.7**	**+4.5**
	comp=Z,0.8nm,0.7s,baz=46,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**21.86**	**228**	P	**P**	**15 12 01.6**	**-0.9**
KNRA	**Kununurra**	**24.37**	**244**	P	**P**	**15 12 27.6**	**+0.2**
AS31	**Alice Springs**	**24.60**	**222**	P	**P**	**15 12 29.9**	**+0.4**
ASAR	**Alice Springs**	**24.60**	**222**	P	**P**	**15 12 30.4**	**+1.0**
	comp=Z,20nm,0.9s,baz=59,slow=8.9,SNR=91						
ASAR				ScP	**ScP**	**15 19 44.6**	**+4.2**
	comp=Z,0.5nm,0.8s,baz=41,slow=3.1,SNR=3.3						
ASAR	**Alice Springs**	**24.60**	**222**	P	**P**	**15 12 30.2**	**+0.8**
LHI	**Lord Howe Isla**	**26.70**	**165**	P	**P**	**15 12 46.9**	**-1.4**
SOEI	**Soe**	**27.22**	**260**	P	**P**	**15 12 47.8**	**-5.5**
	comp=Z,22nm,0.9s						
SGSI	**Sangihe**	**27.49**	**289**	P	**P**	**15 12 51.1**	**-4.5**
STKA	**Stephens Creek**	**27.66**	**198**	P	**P**	**15 12 56.5**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=7.7,slow=11,SNR=7.9						
STKA				LR	LR	15 24 26.6	
	comp=Z,65nm,18.3s,baz=25,slow=38						
STKA	**Stephens Creek**	**27.66**	**198**	P	**P**	**15 12 55.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	**P**	**15 13 01.4**	**+0.8**
	comp=Z,16nm,0.7s,baz=77,slow=7.4,SNR=29						
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	**P**	**15 13 00.3**	**-0.3**
BBOO	**Buckleboo**	**30.58**	**206**	P	**P**	**15 13 21.8**	**-1.0**
BBOO				IAmb	IAmb	15 13 22.9	
	comp=Z,7.2nm,0.8s						
PMSI	**Majene**	**32.48**	**272**	P	P	15 13 34.9	-5.0
	comp=Z,46nm,1.3s						
FORT	**Forrest**	**33.27**	**219**	P	**P**	**15 13 46.5**	**+0.1**
PLAI	**Plampang**	**33.53**	**263**	P	**P**	**15 13 44.7**	**-4.2**
	comp=Z,28nm,1.7s						
PSA00	**Pilbara Seismi**	**34.42**	**240**	P	**P**	**15 13 55.7**	**-0.9**
PSA00				IAmb	IAmb	15 14 02.2	
	comp=Z,9.0nm,0.8s						
PSA00	**Pilbara Seismi**	**34.42**	**240**	P	**P**	**15 13 55.5**	**-1.1**
PSA00				IAmb	IAmb	15 14 02.6	
	comp=Z,2.5nm,0.8s						
BKB	**Balikpapan**	**34.74**	**276**	P	**P**	**15 13 55.2**	**-4.3**
	comp=Z,142nm,1.0s						
MORW	**Morawa**	**40.75**	**231**	P	**P**	**15 14 49.6**	**-0.4**
MORW				IAmb	IAmb	15 15 11.8	
	comp=Z,14nm,1.1s						
BFZ	**Birch Farm**	**41.35**	**151**	P	**P**	**15 14 55.1**	**+0.4**
TPUB	**Ta-pu**	**41.64**	**315**	P	**P**	**15 14 56.0**	**-1.4**
TPUB				IAmb	IAmb	15 15 05.1	
	comp=Z,13nm,0.9s						
MJAR	**Matsushiro Arr**	**43.78**	**345**	P	**P**	**15 15 17.1**	**+2.6**
	comp=Z,0.6nm,0.6s,baz=146,slow=8.8,SNR=2.5						
MJAR				LR	LR	15 32 09.5	
	comp=Z,38nm,19.9s,baz=225,slow=34						
KSRS	**Korea Array**	**48.18**	**335**	P	**P**	**15 15 52.6**	**+3.6**
	comp=Z,0.7nm,0.8s,baz=147,slow=7.5,SNR=4.2						
NJ2	**Nanjing**	**48.68**	**322**	*e*P	**P**	**15 15 54.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CMAR	**Chiang Mai Arr**	**57.02**	**296**	P	**P**	**15 16 56.9**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.1,SNR=1.6						
CMAR				LR	LR	15 41 42.1	
	comp=Z,14nm,19.3s,baz=130,slow=36						
PETK	**Petropavlovsk-**	**58.79**	**4**	LR	LR	15 38 17.9	
	comp=Z,35nm,21.5s,baz=164,slow=32						
HHC	**Hu-ho-hao-te**	**58.97**	**325**	*e*P	**P**	**15 17 09.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				pmax	pmax		
	comp=Z,37nm,4.9s						
MA2	**Magadan**	**65.04**	**360**	LR	LR	15 42 01.9	
	comp=Z,33nm,21.9s,baz=187,slow=32						
GTA	**Gaotai**	**65.38**	**318**	*e*P	**P**	**15 17 54.9**	**+3.7**
GTA				pP	pP	15 18 05.3	-2.0
GTA				sP	sP	15 18 09.6	-4.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,27nm,4.0s						
GTA				L	L		
	comp=Z,57nm,15.3s						
GTA				L	L		
	comp=Z,56nm,16.0s						
GTA				L	L		
	comp=Z,61nm,15.6s						
SONM	**Songino Array**	**66.34**	**329**	P	**P**	**15 17 58.9**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=148,slow=5.7,SNR=8.4						
SONM				LR	LR	15 46 59.2	
	comp=Z,40nm,19.7s,baz=102,slow=36						
SONM	**Songino Array**	**66.34**	**329**	IAmb	IAmb	15 18 03.3	
	comp=Z,1.6nm,0.6s						
VNDA	**Vanda**	**72.02**	**178**	P	**P**	**15 18 32.3**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=331,slow=6.8,SNR=35						
VNDA	**Vanda**	**72.02**	**178**	P	**P**	**15 18 31.8**	**0.0**
VNDA				IAmb	IAmb	15 18 33.1	
	comp=Z,5.5nm,0.9s						
WMQ	**Urumqi**	**75.46**	**318**	*e*P	**P**	**15 18 52.9**	**+0.3**
MKAR	**Makanchi Array**	**80.09**	**319**	P	**P**	**15 19 20.2**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=94,slow=6.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**81.12**	**327**	P	**P**	**15 19 24.3**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=103,slow=5.7,SNR=5.5						
MLY	**Manley**	**82.18**	**21**	P	**P**	**15 19 28.8**	**-0.1**
CCB	**Clear Creek Bu**	**83.06**	**22**	P	**P**	**15 19 31.5**	**-1.9**
CCB				IAmb	IAmb	15 19 52.5	
	comp=Z,3.4nm,1.0s						
GLB	**Gilahina Butte**	**83.23**	**26**	P	**P**	**15 19 33.0**	**-1.4**
GLB				IAmb	IAmb	15 19 45.8	
	comp=Z,9.9nm,1.5s						
ILAR	**Eielson Array**	**83.47**	**22**	P	**P**	**15 19 35.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=246,slow=5.3,SNR=12						
MAW	**Mawson**	**84.25**	**203**	P	**P**	**15 19 40.3**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=266,slow=10,SNR=1.4						
MAW				LR	LR	15 56 07.1	
	comp=Z,54nm,18.4s,baz=64,slow=35						
QSPA	**South Pole Qui**	**84.30**	**180**	P	**P**	**15 19 40.0**	**0.0**
QSPA				IAmb	IAmb	15 19 40.5	
	comp=Z,5.9nm,0.8s						
NRIK	**Noril'sk**	**86.34**	**341**	P	**P**	**15 19 52.8**	**+3.0**
	comp=Z,1.2nm,0.5s,baz=124,slow=4.8,SNR=2.5						
NVAR	**Mina Array Bea**	**93.69**	**52**	P	**P**	**15 20 26.4**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=270,slow=5.0,SNR=5.3						
NOA	**NORSAR Array B**	**117.25**	**339**	PKP	**PKiKP**	**15 25 53.7**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=48,slow=2.3,SNR=2.0						
GERES	**GERESS Array B**	**124.06**	**328**	PKP	**PKiKP**	**15 26 07.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=75,slow=1.5,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.26**	**286**	PKPbc	**PKPbc**	**15 26 57.5**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=64,slow=2.8,SNR=26						
TORD	**Torodi Ar. Bea**	**149.26**	**286**		**PKPbc**	**15 26 58.0**	**+0.3**

*ISK **13** 15:07:55.9, 40.47N×37.84E, h2km, ML2.5/6*
*DDA **13** 15:07:56.6, 40.47N×37.83E, h6km±2km, ML2.2*

ISC 13 15:07:56.3±1.3, 40.47N±0.03×37.84E±0.02, h1km±14km, n20, σ0.73/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ORDU	**Ordu-Boztepe**	**0.52**	**2**	*i* P		**Pb**	**15 08 07.3**	**-0.9**
ORDU				*i* S		**Sg**	**15 08 14.3**	**+1.4**
ORDU				IAML			15 08 16.0	
	comp=E,117nm,0.3s							
ORDU				IAML			15 08 16.0	
	comp=N,135nm,0.4s							
CUZAR	**Zara_SIVAS**	**0.58**	**185**	*i* P		**Pb**	**15 08 08.3**	**-1.1**
ALUC	**Giresun/Alucra**	**0.72**	**100**	*i* P		**Pb**	**15 08 10.9**	**-0.8**
ALUC				*i* S		**Sb**	**15 08 21.6**	**-0.6**
ALUC				IAML			15 08 25.0	
	comp=N,85nm,0.4s							
ALUC				IAML			15 08 30.0	
	comp=E,165nm,0.5s							
ESPY	**Espiye-Giresun**	**0.81**	**56**	PG		**Pb**	**15 08 12.5**	**-0.6**
ESPY				SG		**Sb**	**15 08 24.3**	**-0.3**
SVSK	**Karacayir**	**0.85**	**230**	PG		**Pb**	**15 08 13.1**	**-0.6**
TOKT	**Tokat**	**1.00**	**262**	PG		**Pb**	**15 08 15.9**	**-0.4**
TOKT				SG		**Sb**	**15 08 30.5**	**+0.5**
TOKA	**Tokat**	**1.05**	**262**	*i* P		**Pg**	**15 08 14.8**	**-1.5**
KELT	**Kelkit**	**1.13**	**106**	*i* P		**Pg**	**15 08 18.2**	**+0.3**
KELT				*i* S		**Sb**	**15 08 33.5**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.19**	**194**	*i* P		**Pb**	**15 08 19.4**	**-0.2**
CUKAN				*i* S		**Sn**	**15 08 37.7**	**+0.8**
REFA	**Refahiye_ERZN**	**1.29**	**146**	*i* P		Pg	15 08 13.7	-7.3
REFA				*i* S		Sg	15 08 24.5	-13
KEMA	**Kemaliye**	**1.30**	**157**	*i* P		**Pg**	**15 08 21.1**	**-0.1**
CUAYA	**Sivas-Altinyay**	**1.47**	**215**	*i* P		**Pg**	**15 08 24.4**	**0.0**
KVT	**Kavak**	**1.49**	**295**	PN		**Pb**	**15 08 24.6**	**-0.1**
KVT				SN		**Sg**	**15 08 45.5**	**+1.4**
MACK	**Trabzon**	**1.54**	**72**	*i* P		**Pg**	**15 08 25.7**	**-0.1**
KTUT	**Trabzon**	**1.56**	**70**	PN		**Pb**	**15 08 25.8**	**0.0**
BAYT	**Aydıntepe-Bayb**	**1.76**	**92**	PN		**Pb**	**15 08 29.2**	**-0.2**
BAYB	**BAYBURT**	**1.86**	**96**	*i* P		**Pb**	**15 08 30.9**	**-0.2**
BAYB				*i* S		**Sg**	**15 08 55.9**	**-0.2**
BAYB				IAML			15 09 00.0	
	comp=N,28nm,0.3s							
BAYB				IAML			15 09 02.0	
	comp=E,26nm,0.3s							
ELZG	**Elazig**	**2.16**	**155**	*i* P		**Pb**	**15 08 35.9**	**-0.4**
AKCD	**Akcadag**	**2.17**	**178**	*i* P		**Pb**	**15 08 36.8**	**+0.4**
KIRS	**Kırehir-Merke**	**3.30**	**247**	*i* P		Pn	15 08 37.7	-11

NOU 13 15:14:19.2, 17.32S×167.60E, h0km, MLv4.3, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANVU	**Saraoutou**	**1.90**	**348**	P		Pn	15 14 52.6	-0.3
KOUNC	**Koumac, New Ca**	**4.49**	**224**	P		Pn	15 15 28.7	+0.2
YATNC	**Mamie plateau,**	**4.76**	**188**	P		Pn	15 15 32.7	+0.4
DZM	**Mont Dzumac**	**4.85**	**193**	P		Pn	15 15 32.8	-0.8
NOUC	**Port Laguerre**	**4.91**	**194**	P		Pn	15 15 33.6	-0.7
ONTNC	**Ouen Toro**	**5.08**	**192**	P		Pn	15 15 36.5	-0.1
OUENC	**Ouen Island, N**	**5.12**	**188**	P		Pn	15 15 37.6	+0.4
	54nm,2.6s							
PINNC	**Pines Island,**	**5.27**	**182**	P		Pn	15 15 39.2	0.0

*IDC **13** 15:15:19.5±6.2, 3.90S×152.27E, h106km±54km, mb3.2/6, mb1 3.4/7, mb1mx3.3/34, mbtmp3.6/7, MS3.3/1, Ms1 3.3/1, ms1mx2.7/19, Error ellipse: s-maj=73.5km s-min=32.5km az=113.0*

ISC 13 15:15:18.9±2.1, 3.9S±0.3×152.3E±0.5, h100km, n8, σ1.904/7, mb3.3/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**7.51**	**222**	P		**Pn**	**15 17 06.1**	**+0.3**
	0.7nm,0.3s,baz=14,slow=16,SNR=1.5							
WRA	**Warramunga Arr**	**23.71**	**226**	P		**P**	**15 20 20.8**	**-1.1**
	0.8nm,0.8s,baz=50,slow=9.4,SNR=4.5							
ASAR	**Alice Springs**	**26.52**	**220**	P		**P**	**15 20 47.4**	**0.0**
	0.5nm,0.7s,baz=63,slow=8.5,SNR=3.7							
MSVF	**Nonsavu**	**28.76**	**121**	LR		LR	15 30 49.9	
	comp=Z,64nm,19.9s,baz=191,slow=32							
SONM	**Songino Array**	**65.26**	**328**	P		**P**	**15 25 49.7**	**-0.5**
	0.7nm,0.7s,baz=134,slow=4.2,SNR=2.6							
MKAR	**Makanchi Array**	**79.28**	**319**	P		**P**	**15 27 15.0**	**+1.5**
	0.1nm,0.4s,baz=91,slow=7.3,SNR=2.2							
ZALV	**Zalesovo Beam**	**80.09**	**326**	P		**P**	**15 27 17.0**	**-0.6**
	0.4nm,0.4s,baz=102,slow=6.1,SNR=2.0							
ILAR	**Eielson Array**	**81.48**	**22**	P		**P**	**15 27 25.1**	**+0.2**
	0.4nm,0.7s,baz=244,slow=5.7,SNR=4.7							

*TAP **13** 15:19:16.7, 23.61N×121.66E, h39km, ML2.6, B*
*JMA **13** 15:19:16.4, 23.60N×121.69E, h35km±2km, M2.4*

ISC 13 15:19:17.1±1.0, 23.60N±0.02×121.69E±0.02, h33km±2km, n86, σ0.98/164, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEGC	**Jichi Village**	**0.18**	**309**	P		**Pb**	**15 19 23.8**	**+0.3**
	baz=312							
TEGC				S		**Sb**	**15 19 29.2**	**+1.4**
	baz=312							
EGFH	**Guangfu**	**0.26**	**287**	P		**Pn**	**15 19 24.5**	**+0.1**
	baz=286							
EGFH				S		**Sb**	**15 19 30.2**	**+1.0**
	baz=286							
HGSD	**Ruisui**	**0.27**	**247**	P		**Pn**	**15 19 24.5**	**-0.1**
	baz=242							
HGSD				S		**Sb**	**15 19 30.8**	**+1.3**
	baz=242							
TEYL	**Yanliau Villag**	**0.28**	**342**	P		**Pn**	**15 19 25.2**	**+0.3**
	baz=353							
TEYL				S		**Sb**	**15 19 31.7**	**+1.9**
	baz=353							
ESL	**Shilin**	**0.32**	**312**	P		**Pb**	**15 19 24.7**	**-0.5**
	baz=307							
ESL				S		**Sn**	**15 19 30.4**	**-0.3**
	baz=307							
EHY	**Hungye**	**0.35**	**255**	*i* P		**Pb**	**15 19 25.1**	**-0.5**
	baz=261							
EHY				*i* S		**Sn**	**15 19 31.0**	**-0.6**
	baz=261							
HWA	**Hwalien**	**0.39**	**348**	*e*P		**Pb**	**15 19 26.0**	**-0.1**
	baz=356							
HWA				*e*S		**Sb**	**15 19 33.2**	**+1.0**
	baz=356							
ETM	**Tongmen**	**0.41**	**333**	P		**Pb**	**15 19 25.9**	**-0.5**
	baz=325							
ETM				S		**Sb**	**15 19 32.5**	**-0.3**
	baz=325							
YULB	**Yu-li**	**0.42**	**241**	P		**Pb**	**15 19 26.0**	**-0.5**
	baz=247							
YULB				S		**Sb**	**15 19 32.6**	**-0.3**
	baz=247							
EYUL	**Yuli**	**0.42**	**234**	P		**Pb**	**15 19 26.4**	**-0.2**
	baz=242							
EYUL				S		**Sb**	**15 19 33.5**	**+0.5**
	baz=242							
TWF1	**Yuli**	**0.44**	**236**	P		**Pb**	**15 19 26.3**	**-0.5**
	baz=241							
TWF1				S		**Sb**	**15 19 33.0**	**-0.4**
	baz=241							
TWD	**Chiawan**	**0.49**	**349**	P		**Pb**	**15 19 26.9**	**-0.6**
	baz=2.0							
TWD				S		**Sb**	**15 19 34.6**	**-0.1**
	baz=2.0							
FULB	**Fuli**	**0.54**	**223**	P		**Pn**	**15 19 28.0**	**-0.5**
	baz=233							
FULB				S		**Sn**	**15 19 38.1**	**+1.7**
	baz=233							
ETL	**Fush Village**	**0.56**	**353**	P		**Pn**	**15 19 28.0**	**-0.8**
	baz=1.0							
ETL				S		**Sb**	**15 19 36.5**	**-0.3**
	baz=1.0							
CHKT	**Chengkung**	**0.58**	**212**	P		**Pn**	**15 19 28.0**	**-1.0**
	baz=200							
CHKT				S		**Sn**	**15 19 36.2**	**-1.2**
	baz=200							
NACB	**Ninganchiao**	**0.58**	**351**	P		**Pn**	**15 19 28.1**	**-0.9**
	baz=359							
NACB				S		**Sn**	**15 19 36.4**	**-1.0**
	baz=359							
OWD	**Renai**	**0.59**	**307**	P		**Pn**	**15 19 28.3**	**-1.0**
	baz=308							
OWD				S		**Sb**	**15 19 36.3**	**-1.4**
	baz=308							
ETLH	**Xiulin Townshi**	**0.64**	**342**	P		**Pn**	**15 19 29.2**	**-0.7**
	baz=336							
ETLH				S		**Sn**	**15 19 37.8**	**-1.1**
	baz=336							
ECS	**Chishang**	**0.66**	**221**	P		**Pn**	**15 19 29.6**	**-0.5**
	baz=230							
ECS				*e*S		**Sn**	**15 19 39.3**	**-0.1**
	baz=230							
WHF	**Hehuan Shan**	**0.67**	**324**	P		**Pn**	**15 19 29.5**	**-1.2**
	baz=318							
WHF				S		**Sn**	**15 19 38.7**	**-1.6**
	baz=318							
YUS	**Yu-Shan**	**0.69**	**261**	P		**Pn**	**15 19 30.4**	**-0.5**
	baz=265							
YUS				S		**Sn**	**15 19 38.9**	**-1.9**
	baz=265							
SSLB	**Suanglung**	**0.70**	**286**	P		**Pn**	**15 19 29.9**	**-0.9**
	baz=291							
SSLB				S		**Sn**	**15 19 39.4**	**-1.2**
	baz=291							
EDH	**Donghe**	**0.72**	**210**	P		**Pn**	**15 19 30.0**	**-0.9**
	baz=201							
EDH				S		**Sn**	**15 19 39.2**	**-1.6**
	baz=201							
ELDTW	**Lidau**	**0.74**	**237**	*i* P		**Pn**	**15 19 30.1**	**-1.3**
	baz=228							
ELDTW				*i* S		**Sn**	**15 19 39.9**	**-1.7**
	baz=228							
FUSS	**Fushou**	**0.77**	**328**	P		**Pn**	**15 19 31.0**	**-0.9**
	baz=321							
FUSS				*e*S		**Sn**	**15 19 41.1**	**-1.3**
	baz=321							
WHYT	**Xinyi Township**	**0.78**	**278**	P		**Pn**	**15 19 31.7**	**-0.1**
	baz=274							
WHYT				S		**Sn**	**15 19 42.2**	**-0.1**
	baz=274							
SMLT	**Sun Moon Lake**	**0.78**	**292**	P		**Pn**	**15 19 31.3**	**-0.6**
	baz=295							
SMLT				S		**Sn**	**15 19 42.0**	**-0.5**
	baz=295							
WPL	**Puli Township**	**0.79**	**302**	P		**Pn**	**15 19 31.4**	**-0.6**
	baz=307							
WPL				*e*S		**Sn**	**15 19 41.9**	**-0.7**
	baz=307							
TWT	**Tachien**	**0.81**	**324**	P		**Pn**	**15 19 32.0**	**-0.4**
	baz=318							
TWT				S		**Sn**	**15 19 41.9**	**-1.4**
	baz=318							
TDCB	**Techi**	**0.82**	**323**	P		**Pn**	**15 19 31.9**	**-0.5**
	baz=320							
TDCB				S		**Sn**	**15 19 41.5**	**-2.0**
	baz=320							
ALS	**Alishan**	**0.82**	**264**	P		**Pn**	**15 19 32.4**	**-0.2**
	baz=269							
ALS				S		**Sn**	**15 19 43.0**	**-0.7**
	baz=269							
DPDB	**Guoxing**	**0.83**	**302**	P		**Pn**	**15 19 32.2**	**-0.3**
	baz=307							
DPDB				S		**Sn**	**15 19 43.0**	**-0.6**
	baz=307							
WCS	**Beigang Elemen**	**0.85**	**303**	P		**Pn**	**15 19 32.3**	**-0.5**
	baz=308							
WCS				*e*S		**Sn**	**15 19 43.6**	**-0.5**
	baz=308							
LONT	**Longtian**	**0.86**	**217**	*e*P		**Pn**	**15 19 31.6**	**-1.4**
	baz=215							
LONT				*e*S		**Sn**	**15 19 43.8**	**-0.6**
	baz=215							
NNSB	**Datong**	**0.88**	**341**	P		**Pn**	**15 19 32.6**	**-0.7**
	baz=342							
NNSB				S		**Sn**	**15 19 43.6**	**-1.3**
	baz=342							
NNSH	**Datong**	**0.88**	**341**	*e*P		**Pn**	**15 19 32.6**	**-0.6**
	baz=342							
NNSH				*e*S		**Sn**	**15 19 43.5**	**-1.4**
	baz=342							
NNS	**Nan Shan**	**0.89**	**341**	*e*P		**Pn**	**15 19 32.2**	**-1.2**
	baz=342							
NNS				*e*S		**Sn**	**15 19 44.2**	**-1.1**
	baz=342							
WJS	**Zhushan**	**0.91**	**284**	P		**Pn**	**15 19 34.3**	**+0.7**
	baz=283							
WJS				S		**Sn**	**15 19 46.3**	**+0.7**
	baz=283							
CHN5	**Tsauling**	**0.93**	**270**	P		**Pn**	**15 19 34.2**	**+0.3**
	baz=269							
CHN5				S		**Sn**	**15 19 46.8**	**+0.6**
	baz=269							
LDUT	**Ludao**	**0.94**	**193**	S		**Sn**	**15 19 44.5**	**-1.8**
	baz=183							
STYH	**Taoyuan**	**0.94**	**244**	P		**Pn**	**15 19 33.9**	**-0.2**
	baz=238							
STYH				S		**Sn**	**15 19 46.3**	**-0.1**
	baz=238							
TWGBT	**Beinan**	**0.96**	**216**	*e*P		**Pn**	**15 19 32.2**	**-2.1**
	baz=214							
TWGBT				*e*S		**Sn**	**15 19 44.8**	**-2.0**
	baz=214							
TWG	**Pinlang**	**0.96**	**217**	*e*P		**Pn**	**15 19 32.8**	**-1.5**
	baz=214							
TWG				*e*S		**Sn**	**15 19 45.2**	**-1.6**
	baz=214							
STYT	**Tauyuan**	**0.96**	**244**	P		**Pn**	**15 19 34.3**	**0.0**
	baz=236							
STYT				S		**Sn**	**15 19 46.7**	**-0.3**
	baz=236							
WHP	**Taichung City**	**0.96**	**315**	P		**Pn**	**15 19 35.0**	**+0.6**
	baz=315							
WHP				S		**Sn**	**15 19 46.2**	**-0.8**
	baz=315							
WNT	**Mingjian**	**0.97**	**287**	*e*P		**Pn**	**15 19 34.9**	**+0.5**
	baz=286							
WNT1	**Nantou City**	**0.98**	**289**	*e*P		**Pn**	**15 19 35.9**	**+1.4**
	baz=288							
WNT1				*e*S		**Sb**	**15 19 49.5**	**+1.2**
	baz=288							
NDT	**Datong Townshi**	**1.02**	**351**	*e*P		**Pn**	**15 19 34.1**	**-1.0**
	baz=343							
NDT				*e*S		**Sn**	**15 19 47.7**	**-0.5**
	baz=343							
TPUB	**Ta-pu**	**1.02**	**253**	P		**Pn**	**15 19 35.5**	**+0.4**
	baz=251							
TPUB				S		**Sn**	**15 19 49.3**	**+0.9**
	baz=251							
NDS	**Dongshan**	**1.03**	**1**	*e*P		**Pn**	**15 19 36.1**	**+0.8**
	baz=351							
NDS				*e*S		**Sn**	**15 19 49.1**	**+0.5**
	baz=351							
CHN4	**Tsaushan**	**1.04**	**257**	P		**Pn**	**15 19 35.8**	**+0.5**
	baz=255							
CHN4				S		**Sn**	**15 19 50.2**	**+1.4**
	baz=255							
WGK	**Gukeng**	**1.04**	**275**	*e*P		**Pn**	**15 19 35.5**	**+0.2**
	baz=274							
WGK				*e*S		**Sn**	**15 19 49.2**	**+0.4**
	baz=274							
WTP	**Ta-pu**	**1.05**	**251**	P		**Pn**	**15 19 36.0**	**+0.4**
	baz=248							
WTP				S		**Sn**	**15 19 49.8**	**+0.7**
	baz=248							
WDLH	**Douliu**	**1.06**	**275**	P		**Pn**	**15 19 36.2**	**+0.5**
	baz=274							
WDLH				S		**Sn**	**15 19 50.2**	**+0.9**
	baz=274							
TCU	**Taichung**	**1.08**	**301**	*e*P		**Pn**	**15 19 36.6**	**+0.7**
	baz=300							
TCU				*e*S		**Sn**	**15 19 50.9**	**+1.1**
	baz=300							
YHNB	**Yeheng**	**1.11**	**345**	*e*P		**Pn**	**15 19 36.2**	**-0.2**
	baz=355							
YHNB				*e*S		**Sn**	**15 19 49.8**	**-0.8**
	baz=355							
CHN2	**Minshiung**	**1.12**	**267**	*e*S		**Sb**	**15 19 52.4**	**+0.2**
	baz=265							
TWQ1	**Liyutan**	**1.13**	**312**	P		**Pn**	**15 19 37.1**	**+0.6**
	baz=312							
TWQ1				S		**Sn**	**15 19 52.4**	**+1.4**

SCST	**Cishan**	**1.31**	**238**	*eP*		**Pn**	**15 19 40.6**	**+1.5**
	baz=235								
SCST				*eS*		**Sb**	**15 19 58.2**	**+0.5**
	baz=235								
TSMG	**Majia**	**1.31**	**228**	*eP*		**Pn**	**15 19 40.6**	**+1.5**
	baz=225								
TSMG				*eS*		**Sn**	**15 19 57.4**	**+2.0**
	baz=225								
TIPB	**Shuangxi**	**1.38**	**5**	*eP*		**Pn**	**15 19 41.0**	**+0.9**
	baz=355								
TIPB				*eS*		**Sn**	**15 19 58.0**	**+0.9**
	baz=355								
CHN8	**Yiju**	**1.39**	**260**	*eS*		**Sn**	**15 19 58.3**	**+1.0**
	baz=258								
EAST	**Anshuo**	**1.44**	**213**	*eP*		**Pn**	**15 19 40.6**	**-0.2**
	baz=211								
EAST				*eS*		**Sn**	**15 19 57.1**	**-1.5**
	baz=211								
YOJ	**Yonaguni jima**	**1.48**	**54**	P		**Pn**	**15 19 42.1**	**+0.7**
YOJ				*eS*		**Sn**	**15 20 00.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.48**	**54**	*eP*		**Pn**	**15 19 41.7**	**+0.3**
	baz=56								
YOJ				*eS*		**Sn**	**15 19 59.5**	**-0.1**
	baz=56								
SCZT	**Fangliau**	**1.57**	**219**	*eP*		**Pn**	**15 19 44.0**	**+1.3**
	baz=213								
SCZT				*eS*		**Sn**	**15 20 03.8**	**+1.9**
	baz=213								
WDGT	**Dungji**	**1.90**	**260**	*eP*		**Pn**	**15 19 46.6**	**-0.6**
	baz=258								
WDGT				*eS*		**Sn**	**15 20 09.8**	**-0.2**
	baz=258								
PHUB	**P'eng-hu**	**1.95**	**268**	P		**Pn**	**15 19 47.6**	**-0.3**
	baz=266								
PHUB				*eS*		**Sn**	**15 20 09.6**	**-1.6**
	baz=266								
PNG	**Penghu**	**1.96**	**270**	*eP*		**Pn**	**15 19 47.7**	**-0.4**
	baz=268								
PNG				*eS*		**Sn**	**15 20 10.3**	**-1.3**
	baz=268								
HATJ	**Hateruma jima**	**1.99**	**76**	*eS*		**Sn**	**15 20 12.8**	**+0.7**
IRIF	**Iriomote-Funau**	**2.00**	**68**	P		**Pn**	**15 19 49.3**	**+0.7**
IRIF				*eS*		**Sn**	**15 20 12.9**	**+0.4**
JKRS	**Kuro-shima**	**2.21**	**73**	*eS*		**Sn**	**15 20 18.9**	**+1.2**
JIJ	**Ishigaki jima**	**2.37**	**71**	P		**Pn**	**15 19 53.9**	**+0.3**
JIJ				*eS*		**Sn**	**15 20 21.0**	**-0.5**
JISG	**Ishigakijimahi**	**2.59**	**67**	P		**Pn**	**15 19 56.4**	**-0.2**
JISG				*eS*		**Sn**	**15 20 25.8**	**-1.1**
JTJ	**Tarama**	**2.94**	**69**	S		**Sn**	**15 20 35.7**	**+0.1**

IDC ***13*** *15:23:27.1±3.4,5˙.64S×151˚.62E,h24km±21km, mb4.3/12, mb1 4.5/13,mb1mx4.1/32,mbtmp4.4/13,ML2.8/1,MS3.3/11, Ms1 3.3/11,ms1mx3.1/31, Error ellipse: s-maj=22.1km s-min=15.4km az=112.0*

NEIC ***13*** *15:23:29.3±2.0,5˙.72S±0˙.06×151˚.6E±0˙.1,h35km±2km, mb4.4/22, Error ellipse: s-maj=19.8km s-min=6.1km az=116.0*

DJA ***13*** *15:23:31.2±0.5,6˚S±4˝×15˚2E±˚, h72km±7km, M4.9/18, mB4.5/1, mb4.7/18, MLv5.0/3, Mw(mB)3.7/1*

ISC 13 15:23:30.9±0.5, 5˚.66S±0˙.06×151˚.53E±0˙.08, h57km, n58, σ1§32/55, mb4.4/21, MS3.3/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.59**	**24**		**Pn**	**15 23 55.8**	**-1.0**
RABL	**Rabaul**	**1.59**	**24**	P	**Pn**	**15 23 57.4**	**+0.7**
MANU	**Manus Island**	**5.49**	**311**	Pn	**Pn**	**15 24 49.0**	**-1.1**
PMG	**Port Moresby**	**5.71**	**229**	Pn	**Pn**	**15 24 53.5**	**+0.4**
	16nm,0.3s,baz=60,slow=6.6,SNR=44						
PMG				Sn	**Sn**	**15 25 57.3**	**0.0**
	12nm,0.3s,baz=84,slow=13,SNR=2.8						
PMG				LR	LR	15 26 57.9	
	comp=Z,125nm,21.6s,baz=52,slow=36						
PMG	**Port Moresby**	**5.71**	**229**	Pn	**Pn**	**15 24 53.9**	**+0.8**
PMG	**Port Moresby**	**5.71**	**229**	P	**Pn**	**15 24 54.5**	**+1.4**
	0.5nm151nm,0.9s						
PMG	**Port Moresby**	**5.71**	**229**	P	**Pn**	**15 24 53.9**	**+0.8**
CTA	**Charters Tower**	**15.23**	**199**	Pn	**P**	**15 27 05.4**	**-1.0**
	0.3nm,0.3s,baz=22,slow=12,SNR=5.2						
CTAO	**Charters Tower**	**15.23**	**199**		**Pn**	**15 27 03.6**	**+1.1**
CTAO				IAmb	IAmb	15 27 29.2	
	comp=Z,26nm,1.4s						
FAKI	**Fak Fak**	**19.41**	**277**	P	**Pn**	**15 27 53.7**	**-0.5**
	comp=Z,35nm,1.8s						
EIDS	**Eidsvold**	**19.61**	**181**	P	**P**	**15 27 53.3**	**-1.2**
EIDS				IAmb	IAmb	15 27 58.2	
	comp=Z,17nm,1.1s						
SAUI	**Saumlaki**	**20.21**	**262**	P	Pn	15 28 05.0	+1.3
	comp=Z,277nm,0.8s						
MTN	**Manton Dam**	**21.34**	**249**	P	**P**	**15 28 12.0**	**-1.5**
MTN				IAmb	IAmb	15 28 26.0	
	comp=Z,14nm,0.7s						
DZM	**Mont Dzumac**	**21.78**	**140**	P	**P**	**15 28 18.0**	**-0.2**
	comp=Z,7.6nm,0.7s,baz=175,slow=8.7,SNR=6.9						
DZM				LR	LR	15 35 37.2	
	comp=Z,196nm,18.7s,baz=292,slow=34						
DZM	**Mont Dzumac**	**21.78**	**140**	P	**P**	**15 28 17.2**	**-1.0**
DZM				IAmb	IAmb	15 28 38.1	
	comp=Z,26nm,1.3s						
WB0	**Warramunga Arr**	**21.78**	**228**	P	**P**	**15 28 16.8**	**-1.4**
WB0				IAmb	IAmb	15 28 21.1	
	comp=Z,14nm,0.7s						
WR0	**Warramunga Arr**	**21.79**	**228**	P	**P**	**15 28 17.9**	**-0.3**
WR0				IAmb	IAmb	15 28 21.2	
	comp=Z,20nm,1.0s						
WRAB	**Tennant Creek**	**21.92**	**228**	P	**P**	**15 28 19.1**	**-0.5**
WB2	**Warramunga Arr**	**21.92**	**228**	P	**P**	**15 28 17.6**	**-2.0**
WRA	**Warramunga Arr**	**21.93**	**228**	P	**P**	**15 28 19.1**	**-0.6**
	comp=Z,18nm,0.5s,baz=53,slow=10.0,SNR=67						
WRA				PcP	**PcP**	**15 32 17.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=51,slow=2.6,SNR=3.4						
WRA				ScP	**ScP**	**15 35 54.2**	**+4.4**
	comp=Z,0.6nm,0.8s,baz=56,slow=2.2,SNR=2.5						
WRA	**Warramunga Arr**	**21.93**	**228**	P	**P**	**15 28 20.2**	**+0.4**
KNRA	**Kununurra**	**24.46**	**244**	P	**P**	**15 28 44.9**	**+0.3**
KNRA				IAmb	IAmb	15 28 49.6	
	comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**24.66**	**222**	P	**P**	**15 28 46.8**	**+0.3**
ASAR	**Alice Springs**	**24.67**	**222**	P	**P**	**15 28 46.9**	**+0.3**
	comp=Z,12nm,0.8s,baz=58,slow=8.9,SNR=103						
ASAR				PcP	**PcP**	**15 32 23.4**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=72,slow=3.2,SNR=2.2						
ASAR				ScP	**ScP**	**15 36 00.2**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=43,slow=3.2,SNR=4.7						
ASAR	**Alice Springs**	**24.67**	**222**	P	**P**	**15 28 46.5**	**-0.1**
STKA	**Stephens Creek**	**27.69**	**198**	P	**P**	**15 29 12.6**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=20,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**27.69**	**198**	P	**P**	**15 29 11.5**	**-2.2**
BATI	**Baumata**	**27.95**	**259**	P	**P**	**15 29 17.8**	**+1.5**
	comp=Z,19nm,0.8s,baz=273,slow=9.3,SNR=2.8						
BATI	**Baumata**	**27.95**	**259**	P	**P**	**15 29 17.6**	**+1.3**
	comp=Z,18nm,1.5s						
FITZ	**Fitzroy Crossi**	**28.14**	**242**	P	**P**	**15 29 17.8**	**-0.1**
	comp=Z,14nm,0.6s,baz=65,slow=7.2,SNR=66						
FITZ	**Fitzroy Crossi**	**28.14**	**242**	P	**P**	**15 29 17.6**	**-0.2**
MSVF	**Nonsavu**	**28.56**	**117**	LR	LR	15 40 06.3	
	comp=Z,60nm,19.2s,baz=190,slow=35						
BBOO	**Buckleboo**	**30.62**	**206**	P	**P**	**15 29 37.1**	**-2.7**
BBOO				IAmb	IAmb	15 29 39.3	
	comp=Z,6.7nm,0.8s						
WBSI	**Waikabubak, Su**	**32.08**	**261**	P	**P**	**15 29 52.5**	**-0.4**
	comp=Z,47nm,1.2s						
FORT	**Forrest**	**33.33**	**219**	P	**P**	**15 30 01.5**	**-2.0**
PSA00	**Pilbara Seismi**	**34.50**	**240**	P	**P**	**15 30 11.3**	**-2.5**
PSA00				IAmb	IAmb	15 30 18.6	
	comp=Z,3.0nm,0.9s						
PSA00	**Pilbara Seismi**	**34.50**	**240**	P	**P**	**15 30 13.3**	**-0.5**
PSA00				IAmb	IAmb	15 30 18.5	
	comp=Z,8.2nm,0.9s						
JOW	**Kunigami**	**39.37**	**326**	LR	LR	15 44 11.8	
	comp=Z,50nm,21.1s,baz=126,slow=32						
MORW	**Morawa**	**40.82**	**231**	P	**P**	**15 31 06.8**	**-0.3**
JNU	**Nakatsue**	**43.26**	**334**	LR	LR	15 46 31.8	
	comp=Z,50nm,20.3s,baz=131,slow=32						
KSRS	**Korea Array**	**48.21**	**335**	LR	LR	15 51 44.5	
	comp=Z,14nm,18.9s,baz=146,slow=35						
ASAJ	**Asahikawa**	**50.20**	**352**	LR	LR	15 51 37.5	
	comp=Z,31nm,20.6s,baz=160,slow=34						
CMAR	**Chiang Mai Arr**	**57.10**	**296**	LR	LR	15 57 50.2	
	comp=Z,9.6nm,19.1s,baz=115,slow=36						
PETK	**Petropavlovsk-**	**58.78**	**4**	P	**P**	**15 33 21.5**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=163,slow=6.0,SNR=2.5						
PETK				LR	LR	15 53 17.5	
	comp=Z,23nm,21.3s,baz=167,slow=30						
HHC	**Hu-ho-hao-te**	**59.01**	**325**	*eP*	**P**	**15 33 27.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,5.3s						
SONM	**Songino Array**	**66.38**	**329**	P	**P**	**15 34 15.2**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=149,slow=5.1,SNR=6.7						
SONM				LR	LR	16 03 05.1	
	comp=Z,24nm,20.1s,baz=96,slow=36						
SONM	**Songino Array**	**66.38**	**329**	IAmb	IAmb	15 34 20.2	
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**72.03**	**178**	P	**P**	**15 34 48.3**	**0.0**
	comp=Z,3.6nm,0.8s,baz=330,slow=6.7,SNR=19						
VNDA	**Vanda**	**72.03**	**178**	P	**P**	**15 34 48.3**	**0.0**
VNDA				IAmb	IAmb	15 34 49.5	
	comp=Z,4.3nm,0.9s						
WMQ	**Urumqi**	**75.52**	**318**	*eP*	**P**	**15 35 11.0**	**+1.6**
MKAR	**Makanchi Array**	**80.14**	**319**	P	**P**	**15 35 35.7**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=92,slow=8.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**81.16**	**327**	P	**P**	**15 35 40.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=104,slow=6.3,SNR=2.7						
MLY	**Manley**	**82.14**	**21**	P	**P**	**15 35 45.3**	**+0.1**
ILAR	**Eielson Array**	**83.43**	**22**	P	**P**	**15 35 51.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=253,slow=5.2,SNR=11						
NVAR	**Mina Array Bea**	**93.61**	**52**	P	**P**	**15 36 42.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=261,slow=6.1,SNR=4.2						
NVAR				LR	LR	16 14 31.3	
	comp=Z,17nm,18.5s,baz=298,slow=33						
GERES	**GERESS Array B**	**124.11**	**328**	PKP	**PKiKP**	**15 42 23.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=75,slow=1.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**149.34**	**286**	PKPbc	**PKPbc**	**15 43 14.5**	**0.0**
	comp=Z,7.2nm,0.7s,baz=67,slow=3.1,SNR=28						
BDFB	**Brasilia**	**151.32**	**138**	PKPbc	**PKPbc**	**15 43 19.5**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=308,slow=19,SNR=2.5						

IDC ***13*** *15:36:57.6±1.1,55˙.88N×162˙.31E,h0km,mb3.4/6, mb1 3.7/7,mb1mx3.4/56,mbtmp3.4/7,ML2.3/1, Error ellipse: s-maj=37.5km s-min=21.7km az=152.0*

KRSC ***13*** *15:37:00.0±0.7,55˙.67N×162˙.62E,h48km±16km,ML3.8*

ISC 13 15:37:01.6±1.4, 55˚.75N±0˙.03×162˚.54E±0˙.04, h25km±11km, n54, σ1§31/68, mb3.4/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.48**	**19**	*eP*	**Pn**	**15 37 12.1**	**-0.8**
KBTR				*eS*	**Sn**	**15 37 20.9**	**+0.3**
KBG	**Krutoberegovo**	**0.51**	**11**	*eP*	**Pn**	**15 37 12.5**	**-0.8**
KBG				*eS*	**Sn**	**15 37 21.6**	**+0.3**
ZLN	**Zelenaya**	**1.01**	**286**	*eP*	**Pb**	**15 37 19.8**	**-0.7**
SMKR	**Semkarok**	**1.02**	**325**	*eP*	**Pb**	**15 37 20.0**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.05**	**281**	*eP*	**Pn**	**15 37 20.2**	**-0.7**
BZGR				*eS*	**Sb**	**15 37 34.9**	**+0.3**
CIRR	**Tsirk**	**1.07**	**291**	*eP*	**Pn**	**15 37 20.5**	**-0.6**
LGNR	**Loginova**	**1.09**	**288**	*eP*	**Pb**	**15 37 21.2**	**-0.7**
BDR	**Baidarnaya**	**1.10**	**318**	*eP*	**Pb**	**15 37 21.6**	**-0.4**
BDR				*eS*	**Sb**	**15 37 37.1**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.17**	**281**	*eP*	**Pn**	**15 37 22.1**	**-0.4**
SRKR	**Sorokina**	**1.18**	**320**	*eP*	**Pb**	**15 37 22.8**	**-0.6**
SRKR				*eS*	**Sb**	**15 37 38.7**	**+0.4**
KLY	**Klyuchi**	**1.20**	**299**	*eP*	**Pn**	**15 37 20.8**	**-1.9**
KLY				*eS*	**Sn**	**15 37 35.7**	**-2.5**
KIRR	**Kirishev**	**1.25**	**280**	*eP*	**Pn**	**15 37 23.4**	**-0.3**
MKZ	**Mys Kozlova**	**1.29**	**201**	*eP*	**Pn**	**15 37 22.3**	**-1.6**
MKZ				*eS*	**Sn**	**15 37 38.8**	**-1.5**
KMNR	**Kamenistaya**	**1.30**	**271**	*eP*	**Pn**	**15 37 24.3**	**0.0**
KMNR				*eS*	**Sb**	**15 37 42.4**	**+0.7**
TUMD	**Tumrok D**	**1.34**	**246**	*eP*	**Pn**	**15 37 24.2**	**-0.5**
TUMD				*eS*	**Sn**	**15 37 41.6**	**-0.1**
KZV	**Kizimen**	**1.43**	**244**	*eP*	**Pn**	**15 37 25.8**	**-0.3**
KZV				*eS*	**Sn**	**15 37 44.4**	**+0.2**
TUMR	**Tumrok**	**1.44**	**252**	*eP*	**Pn**	**15 37 26.5**	**+0.3**
TUMR				*eS*	**Sb**	**15 37 45.6**	**-0.1**
KOZ	**Kozyrevsk**	**1.53**	**283**	*eP*	**Pb**	**15 37 28.2**	**-1.1**
KOZ				*eS*	**Sb**	**15 37 49.1**	**+0.9**
SRDR	**Sredinnyy**	**1.68**	**291**	*eP*	**Pb**	**15 37 30.3**	**-1.5**
BKI	**Bering**	**2.03**	**104**	*eP*	**Pn**	**15 37 34.3**	**+0.1**
BKI				*eS*	**Sn**	**15 37 58.7**	**0.0**
ESO	**Esso**	**2.17**	**276**	*eP*	**Pn**	**15 37 37.2**	**+1.0**
KII	**Karymskiy**	**2.48**	**227**	*eP*	**Pn**	**15 37 40.4**	**0.0**
SPN	**Mys Shipunski**	**3.04**	**210**	*eP*	**Pn**	**15 37 47.0**	**-1.1**
SPN				*eS*	**Sn**	**15 38 21.6**	**-2.0**
NLC	**Nalytchevo**	**3.19**	**217**	*eP*	**Pn**	**15 37 49.6**	**-0.5**
SDLR	**Sedlovina**	**3.27**	**222**	*eP*	**Pn**	**15 37 51.2**	**-0.1**
KRX	**Arik**	**3.30**	**225**	*eP*	**Pn**	**15 37 52.8**	**+1.0**
KRER	**Koryakskii**	**3.30**	**224**	*eP*	**Pn**	**15 37 52.0**	**+0.2**
SMAR	**Somma**	**3.31**	**223**	*eP*	**Pn**	**15 37 52.3**	**+0.3**
AVH	**Avacha**	**3.33**	**223**	*eP*	**Pn**	**15 37 52.5**	**+0.3**
UGLR	**Uglovaya**	**3.35**	**222**	*eP*	**Pn**	**15 37 52.9**	**+0.5**
KOK	**Koryaka**	**3.35**	**224**	*eP*	**Pn**	**15 37 53.1**	**+0.6**
GNL	**Ganaly**	**3.37**	**234**	*eP*	**Pn**	**15 37 53.5**	**+0.8**
DALK	**Dalny**	**3.51**	**221**	*eP*	**Pn**	**15 37 54.5**	**+0.9**
DALK				*eS*	**Sn**	**15 38 34.0**	**-1.2**
OSSR	**Ossora**	**3.52**	**4**	*eP*	**Pn**	**15 37 56.6**	**+2.0**
PET	**Petropavlovsk**	**3.56**	**221**	*eP*	**Pn**	**15 37 55.7**	**+0.6**
PET				*eS*	**Sn**	**15 38 37.6**	**+1.3**
PALN	**Palana**	**3.62**	**338**	*eP*	Pb	15 38 00.0	-4.8
PETK	**Petropavlovsk-**	**3.87**	**229**	Pn	**Pn**	**15 38 00.3**	**+0.8**
	1.1nm,0.3s,baz=61,slow=17,SNR=18						
PETK				Sn	**Sn**	**15 38 49.8**	**+5.6**
	0.7nm,0.3s,baz=66,slow=1.8,SNR=4.4						
KRMR	**Karymshinskiy**	**3.91**	**223**	*eP*	**Pn**	**15 38 01.4**	**+1.5**
KRMR				*eS*	**Sn**	**15 38 46.9**	**+2.0**
RUS	**Russkaya**	**4.08**	**217**	*eP*	**Pn**	**15 38 02.1**	**-0.3**
GRL	**Gorelyy**	**4.14**	**221**	*eP*	**Pn**	**15 38 04.7**	**+1.3**
MTVR	**Mutnovka**	**4.16**	**220**	*eP*	**Pn**	**15 38 04.3**	**+0.7**
APC	**Apacha**	**4.24**	**230**	*eP*	**Pn**	**15 38 06.3**	**+1.8**
KDTR	**Khodutka, Kamc**	**4.75**	**216**	*eP*	**Pn**	**15 38 12.4**	**+0.8**
ASAJ	**Asahikawa**	**17.26**	**236**	P	**P**	**15 41 03.7**	**+1.7**
	0.1nm,0.3s,baz=342,slow=14,SNR=3.9						
TIXI	**Tiksi**	**21.34**	**331**	P	**P**	**15 41 49.2**	**+2.8**
	1.4nm,0.6s,baz=111,slow=9.8,SNR=6.5						
MJAR	**Matsushiro Arr**	**25.33**	**231**	P	**P**	**15 42 24.4**	**-1.9**
	0.6nm,0.6s,baz=29,slow=7.3,SNR=2.6						
ILAR	**Eielson Array**	**25.96**	**49**	P	**P**	**15 42 30.8**	**-0.9**
	0.5nm,0.8s,baz=272,slow=8.6,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**36.12**	**173**	T	T	16 22 35.3	
	baz=357,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**36.13**	**173**	T	T	16 22 35.3	
	baz=357,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**36.13**	**173**	T	T	16 22 35.3	
	baz=357,slow=76,SNR=10.0						
KURBB	**Kurchatov Array**	**47.66**	**301**	P	**P**	**15 45 33.3**	**-2.2**
	0.2nm,0.5s,baz=57,slow=8.0,SNR=3.4						
NVAR	**Mina Array Bea**	**53.55**	**74**	P	**P**	**15 46 22.0**	**+1.7**
	0.1nm,0.3s,baz=286,slow=8.2,SNR=1.7						
FINES	**FINESS Array B**	**58.23**	**337**	P	**P**	**15 46 52.4**	**-0.7**
	0.5nm,0.6s,baz=33,slow=7.3,SNR=7.8						
TXAR	**Lajitas Array**	**68.32**	**70**	P	**P**	**15 48 00.5**	**-0.2**
	0.3nm,0.7s,baz=306,slow=2.9,SNR=3.7						

IDC ***13*** *15:46:37.2±0.7,6˚.80N×72˚.97W,h162km±7km,mb3.2/7, mb1 3.6/11,mb1mx3.4/30,mbtmp3.8/11,MS3.8/1, Ms1 3.8/1,ms1mx2.8/13,Error ellipse: s-maj=17.3km s-min=7.6km az=129.0*

RSNC ***13*** *15:46:37.6±0.9,6˚.81N×73˚.11W,h152km±3km,ML3.8, Mw4.0,Fault plane solution: NP1:φ=48.00000°, δ=51.00000°,λ=-42.00000°.*

ISC 13 15:46:36.6±0.7, 6˚.82N±0˙.03×73˚.09W±0˙.04, h158km±5km, n52, σ1§54/91, mb3.4/7, 2C-11D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**202**	*iP*	**Pn**	**15 46 58.2**	**-0.1**
BARC				*eS*	**Sn**	**15 47 13.8**	**-1.0**
BARC				*i*		15 47 15.3	
	comp=Z,818nm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**37**	*iP*	**Pn**	**15 47 01.1**	**+0.8**
PAMC				*eS*	**Sn**	**15 47 17.5**	**-0.8**
PAMC				*i*		15 47 20.5	
	comp=Z,614nm,0.5s						
BRRC	**Barranca, Sant**	**0.68**	**295**	*iP*	**Pn**	**15 47 00.1**	**+0.3**
BRRC				*i*		15 47 22.0	
	comp=Z,720nm,0.3s						
RUSC	**La Rusia**	**0.92**	**180**	*iP*	**Pn**	**15 47 02.1**	**-0.1**
RUSC				*eS*	**Sn**	**15 47 20.9**	**-0.7**
RUSC				*i*		15 47 22.0	
	comp=Z,502nm,0.3s						
OCAC	**Ocana**	**1.43**	**351**	*eP*	**Pn**	**15 47 06.3**	**0.0**
OCAC				*eS*	**Sn**	**15 47 28.7**	**-0.4**
OCAC				*i*		15 47 33.2	
	comp=Z,1μm,0.4s						
SPBC	**San Pablo de B**	**1.52**	**220**	*iP*	**Pn**	**15 47 07.0**	**-0.1**
SPBC				*eS*	**Sn**	**15 47 29.8**	**-0.7**
SPBC				*i*		15 47 34.3	
	comp=Z,891nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*eP*	**Pn**	**15 47 10.4**	**-0.5**
ZARC				*eS*	**Sn**	**15 47 36.3**	**-0.9**
ZARC				*i*		15 47 43.2	
	comp=Z,1μm,0.4s						
NORC	**Norcasia**	**2.17**	**235**	*eP*	**Pn**	**15 47 13.8**	**-0.4**
NORC				*eS*	**Sn**	**15 47 42.2**	**-1.0**
NORC				*i*		15 47 47.1	
	comp=Z,476nm,0.2s						
SMLC	**San Martn de**	**2.19**	**334**	*eP*	**Pn**	**15 47 14.5**	**0.0**
SMLC				*eS*	**Sn**	**15 47 43.7**	**-0.1**
SMLC				*i*		15 47 49.9	
	comp=Z,539nm,0.1s						
CHIC	**Chingaza**	**2.27**	**196**	*eP*	**Pn**	**15 47 16.2**	**+0.3**
CHIC				*eS*	**Sn**	**15 47 45.3**	**-0.7**
CHIC				*i*		15 47 53.7	
	comp=Z,385nm,0.3s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**15 47 17.7**	**+1.3**
	comp=Z,130nm,0.3s,baz=275,slow=3.2,SNR=42						
ROSC				S	**Sn**	**15 47 49.4**	**+2.4**
	comp=Z,97nm,0.3s,baz=163,slow=23,SNR=7.2						
ROSC	**El Rosal**	**2.32**	**212**	*iP*	**Pn**	**15 47 17.6**	**+1.3**
ROSC				*eS*	**Sn**	**15 47 47.3**	**+0.3**
ROSC				*i*		15 47 55.6	
	comp=Z,664nm,0.5s						
HELC	**Santa Helena**	**2.50**	**256**	*eP*	**Pn**	**15 47 18.1**	**-0.5**
HELC				*eS*	**Sn**	**15 47 50.1**	**-0.7**
HELC				*i*		15 47 56.6	
	comp=Z,446nm,0.4s						
UREC	**San Jos de Ur**	**2.59**	**291**	*eP*	**Pn**	**15 47 18.0**	**-1.3**
UREC				*eS*	**Sn**	**15 47 49.4**	**-2.9**
UREC				*i*		15 48 02.6	
	comp=Z,458nm,0.3s						
LL2C	**La Loma 2 Cana**	**2.74**	**353**	*eP*	**Pn**	**15 47 21.6**	**+0.6**
LL2C				*eS*	**Sn**	**15 47 55.4**	**-0.1**
LL2C				*i*		15 48 03.0	
	comp=Z,675nm,0.3s						
VILC	**Villavicencio,**	**2.76**	**193**	*eP*	**Pn**	**15 47 21.2**	**-0.3**
VILC				*eS*	**Sn**	**15 47 55.0**	**-1.1**
VILC				*i*		15 48 02.5	
	comp=Z,385nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*eP*	**Pn**	**15 47 22.3**	**+0.4**
GUY2C				*eS*	**Sn**	**15 47 57.0**	**+0.2**
GUY2C				*i*		15 48 03.2	
	comp=Z,421nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.77**	**160**	*iP*	**Pn**	**15 47 21.0**	**-0.5**
PTGC				*eS*	**Sn**	**15 47 54.0**	**-2.3**
PTGC				*i*		15 47 55.6	
	comp=Z,330nm,0.3s						
RREF	**El Recreo**	**2.95**	**230**	*iP*	**Pn**	**15 47 25.3**	**+1.1**
RREF				*eS*	**Sn**	**15 48 03.9**	**+2.9**
RREF				*i*		15 48 10.7	
	comp=Z,209nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.06**	**252**	*eP*	**Pn**	**15 47 25.8**	**+0.6**
CBOC				*eS*	**Sn**	**15 48 02.4**	**-0.4**
CBOC				*i*		15 48 07.7	
	comp=Z,143nm,0.3s						
TOLC	**Tolima**	**3.14**	**225**	*eP*	**Pn**	**15 47 27.0**	**+0.5**
TOLC				*eS*	**Sn**	**15 48 05.4**	**+0.4**
TOLC				*i*		15 48 11.2	
	comp=Z,224nm,0.3s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**15 47 28.0**	**+1.2**
	comp=Z,14nm,0.3s,baz=255,slow=4.1,SNR=9.3						
SDV				S	**Sn**	**15 48 04.5**	**-1.2**
	comp=Z,34nm,0.3s,baz=292,slow=7.1,SNR=30						
SDV	**Santo Domingo**	**3.18**	**50**	*eP*	**Pn**	**15 47 27.8**	**+1.0**
SDV				*eS*	**Sn**	**15 48 04.4**	**-1.

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.70**	**103**	*i* P	Pn	15 50 04.2	0.0
CO05				*i* S	Sn	15 50 14.0	+0.1
CO05				IAML		15 50 17.9	
	comp=E,5μm,0.3s						
GO04	**Tololo Observa**	**1.14**	**111**⇓	*i* P	Pn	15 50 11.1	+0.7
GO04				*i* S	Sn	15 50 26.6	+1.6
GO04				IAML		15 50 30.0	
	comp=E,7μm,0.4s						
CO03	**El Pedregal**	**1.58**	**133**	*i* P	Pn	15 50 17.6	+1.4
CO03				*i* S	Sn	15 50 38.6	+3.1
CO03				IAML		15 50 41.9	
	comp=N,1μm,0.3s						
AC04	**Llano de Chal**	**1.77**	**29**⇑	*i* P	Pn	15 50 20.2	+1.4
AC04				IAML		15 50 55.9	
	comp=N,367nm,0.5s						
GO03	**Copiap**	**2.68**	**37**	*e* P	Pn	15 50 33.3	+1.9
GO03				IAML		15 51 24.2	
	comp=E,205nm,0.5s						
VA03	**San Esteban**	**3.25**	**157**	*e* P	Pn	15 50 41.2	+2.0
VA03				IAML		15 51 36.1	
	comp=N,353nm,0.3s						
ROCH	**El Roble**	**3.31**	**165**⇑	*i* P	Pn	15 50 40.7	+0.4
ROCH				IAML		15 51 44.2	
	comp=N,233nm,0.3s						
MT02	**Curacav**	**3.57**	**168**	*e* P	Pn	15 50 43.4	-0.1
MT02				IAML		15 51 53.5	
	comp=N,68nm,0.3s						
MT05	**Renca**	**3.78**	**163**	*e* P	Pn	15 50 47.6	+1.1
MT05				*i* S	Sn	15 51 31.1	+1.3
AC02	**Maricunga**	**3.88**	**42**⇓	*i* P	Pn	15 50 51.6	+3.3
MT03	**Universidad Ad**	**3.94**	**161**	*e* P	Pn	15 50 50.3	+1.6
MT03				*i* S	Sn	15 51 35.3	+1.6
MT09	**Talagante**	**4.10**	**168**	*i* P	Pn	15 50 51.7	+0.7
MT09				*i* S	Sn	15 51 37.1	-0.6
MT01	**Popeta**	**4.14**	**171**	*e* P	Pn	15 50 51.0	-0.4
LMEL	**Las Melosas**	**4.36**	**160**	*e* P	Pn	15 50 56.8	+2.2
LMEL				*i* S	Sn	15 51 46.1	+2.0
BO03	**Pichilemu**	**4.72**	**179**	*e* P	Pn	15 50 57.9	-1.4
BO02	**Sierra Bellavi**	**5.12**	**168**	*e* P	Pn	15 51 05.5	+0.6

*TAP **13** 16:06:17.4,24.°62N×122.°25E,h10km,ML2.8,C*
*JMA **13** 16:06:18.5,24.°58N×122.°24E,h37km,M2.5*
ISC 13 16:06:18.0±0.9,24.°61N±0.°02×122.°25E±0.°02,h15km±8km, n86,σ0s66/130,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.37**	**270**⇓	*i* P	**Pg**	**16 06 25.2**	**-0.3**
	baz=268						
TWC				S	**Sg**	**16 06 31.1**	**+0.4**
	baz=268						
NTC	**Toucheng**	**0.46**	**302**	*e* P	**Pg**	**16 06 27.0**	**-0.2**
	baz=302						
NTC				*e* S	**Sg**	**16 06 33.0**	**-0.4**
	baz=302						
TWB1	**Santiao Chiao**	**0.47**	**329**	*i* P	**Pg**	**16 06 26.9**	**-0.4**
	baz=329						
TWB1				*e* S	**Sg**	**16 06 32.3**	**-1.3**
	baz=329						
ILA	**Ilan**	**0.49**	**289**	P	**Pg**	**16 06 27.7**	**0.0**
	baz=288						
ILA				*e* S	**Sb**	**16 06 36.5**	**+1.2**
	baz=288						
NDS	**Dongshan**	**0.49**	**273**	*i* P	**Pg**	**16 06 27.6**	**-0.2**
	baz=272						
NDS				*i* S	**Sb**	**16 06 35.9**	**+0.5**
	baz=272						
TIPB	**Shuangxi**	**0.53**	**313**	*i* P	**Pg**	**16 06 28.3**	**-0.3**
	baz=312						
TIPB				*e* S	**Sg**	**16 06 34.5**	**-1.2**
	baz=312						
TWE	**Neicheng**	**0.55**	**282**⇓	*i* P	**Pg**	**16 06 28.4**	**-0.4**
	baz=281						
TWE				S	**Sb**	**16 06 37.8**	**+0.8**
	baz=281						
EHP	**Heping Village**	**0.55**	**238**	*e* P	**Pg**	**16 06 28.4**	**-0.6**
	baz=235						
ENTT	**Nioudou**	**0.63**	**273**	P	**Pg**	**16 06 30.5**	**+0.1**
	baz=272						
ENTT				S	**Sb**	**16 06 39.3**	**0.0**
	baz=272						
NWF	**Wu-fen Shan**	**0.63**	**317**	P	**Pb**	**16 06 31.2**	**+0.4**
	baz=317						
NWF				S	**Sb**	**16 06 40.5**	**+1.0**
	baz=317						
WFSB	**Wu-fen Shan**	**0.63**	**317**	P	**Pb**	**16 06 31.5**	**+0.7**
	baz=317						
WFSB				S	**Sb**	**16 06 40.4**	**+1.0**
	baz=317						
JYNG	**Yonagunijimaku**	**0.65**	**104**	P	**Pb**	**16 06 30.8**	**-0.3**
JYNG				*e*S	**Sb**	**16 06 41.3**	**+1.4**
NDT	**Datong Townshi**	**0.67**	**270**	P	**Pg**	**16 06 31.2**	**-0.1**
	baz=268						
NDT				*e*S	**Sb**	**16 06 41.2**	**+0.5**
	baz=268						
TNOU	**National Taiwa**	**0.69**	**321**	P	**Pb**	**16 06 31.9**	**0.0**
	baz=320						
TNOU				S	**Sg**	**16 06 41.8**	**+0.9**
	baz=320						
NWLT	**Wulai**	**0.70**	**284**	*e* P	**Pb**	**16 06 31.5**	**-0.6**
	baz=283						
NWLT				*e*S	**Sg**	**16 06 42.4**	**+1.2**
	baz=283						
YOJ	**Yonaguni jima**	**0.70**	**102**	P	**Pb**	**16 06 31.9**	**-0.1**
YOJ				S	**Sg**	**16 06 42.8**	**+1.6**
YOJ	**Yonaguni jima**	**0.70**	**102**	P	**Pb**	**16 06 31.8**	**-0.2**
	baz=101						
YOJ				S	**Sg**	**16 06 42.8**	**+1.6**
	baz=101						
TWA	**Mucha**	**0.71**	**301**	P	**Pb**	**16 06 32.1**	**-0.1**
	baz=301						
TWA				*e*S	**Sb**	**16 06 41.0**	**-0.8**
	baz=301						
ETL	**Fush Village**	**0.73**	**232**	*e* P	**Pb**	**16 06 32.4**	**-0.1**
	baz=231						
ETL				*e*S	**Sg**	**16 06 42.2**	**+0.3**
	baz=231						
NACB	**Ninganchiao**	**0.74**	**234**	P	**Pb**	**16 06 31.9**	**-0.8**
	baz=233						
NACB				*e*S	**Sb**	**16 06 42.2**	**-0.4**
	baz=233						
NHDH	**Xindian Distri**	**0.75**	**298**	*e* P	**Pb**	**16 06 32.8**	**0.0**
	baz=297						
NHDH				S	**Sb**	**16 06 42.5**	**-0.4**
	baz=297						
TATO	**Taipei**	**0.79**	**298**	P	**Pb**	**16 06 33.5**	**+0.1**
	baz=297						
TATO				*e*S	**Sb**	**16 06 43.3**	**-0.6**
	baz=297						
TWD	**Chiawan**	**0.80**	**229**	*e* P	**Pb**	**16 06 33.2**	**-0.4**
	baz=227						
TWD				*e*S	**Sg**	**16 06 44.7**	**+0.6**
	baz=227						
YHNB	**Yeheng**	**0.80**	**275**	P	**Pb**	**16 06 33.1**	**-0.6**
	baz=273						
YHNB				S	**Sg**	**16 06 44.8**	**+0.5**
	baz=273						
ETLH	**Xiulin Townshi**	**0.81**	**241**	*e* P	**Pb**	**16 06 33.8**	**-0.1**
	baz=239						
ETLH				*e*S	**Sn**	**16 06 45.7**	**-1.1**
	baz=239						
NNSB	**Datong**	**0.81**	**257**	*i* P	**Pb**	**16 06 33.5**	**-0.5**
	baz=256						
NNSB				S	**Sg**	**16 06 45.0**	**+0.3**
	baz=256						
NNSH	**Datong**	**0.81**	**257**	P	**Pb**	**16 06 33.5**	**-0.5**
	baz=256						
NNSH				*e*S	**Sg**	**16 06 44.9**	**+0.3**
	baz=256						
NSK	**Sanguang**	**0.82**	**275**	P	**Pb**	**16 06 33.6**	**-0.4**
	baz=274						
NSK				S	**Sg**	**16 06 45.1**	**+0.3**
	baz=274						
NNS	**Nan Shan**	**0.82**	**258**	P	**Pb**	**16 06 33.5**	**-0.6**
	baz=257						
NNS				S	**Sg**	**16 06 45.2**	**+0.3**
	baz=257						
YM01	**YM01**	**0.82**	**311**	*e* P	**Pb**	**16 06 34.1**	**+0.1**
	baz=310						
YM01				S	**Sg**	**16 06 45.6**	**+0.7**
	baz=310						
YM08	**YM08**	**0.83**	**314**	*e* P	**Pb**	**16 06 34.0**	**-0.3**
	baz=313						
YM08				S	**Sg**	**16 06 45.8**	**+0.5**
	baz=313						
TWY	**Chenhua**	**0.89**	**318**	P	**Pb**	**16 06 34.7**	**-0.5**
	baz=318						
TWY				S	**Sg**	**16 06 48.0**	**+0.9**
	baz=318						
TWS1	**Kuangyinshan**	**0.90**	**303**	*e*P	**Pn**	**16 06 36.4**	**+0.2**
	baz=302						
TWS1				S	**Sb**	**16 06 47.6**	**+0.3**
	baz=302						
NTST	**Danshui**	**0.92**	**307**	*e*P	**Pb**	**16 06 35.4**	**-0.3**
	baz=307						
NTST				*e*S	**Sn**	**16 06 49.3**	**-0.1**
	baz=307						
ETM	**Tongmen**	**0.94**	**227**	*e*P	**Pb**	**16 06 35.1**	**-1.0**
	baz=226						
NTY	**Taoyuan**	**0.95**	**294**	*e*P	**Pn**	**16 06 37.1**	**+0.3**
	baz=293						
FUSS	**Fushou**	**0.99**	**249**	*e*P	**Pb**	**16 06 36.9**	**-0.1**
	baz=248						
FUSS				*e*S	**Sn**	**16 06 51.1**	**-0.3**
	baz=248						
WHF	**Hehuan Shan**	**1.01**	**243**	*e*P	**Pb**	**16 06 37.3**	**-0.2**
	baz=242						
WHF				*e*S	**Sn**	**16 06 51.6**	**-0.7**
	baz=242						
PCYT	**Pengchaiyu**	**1.03**	**351**	*e*P	**Pb**	**16 06 36.5**	**-1.1**
	baz=351						
PCYT				*e*S	**Sb**	**16 06 50.5**	**-0.4**
	baz=351						
NCUH	**Zhongli**	**1.03**	**290**	*e*P	**Pn**	**16 06 38.1**	**0.0**
	baz=289						
NCUH				*e*S	**Sn**	**16 06 53.1**	**+0.8**
	baz=289						
TWT	**Tachien**	**1.04**	**250**	*e*P	**Pg**	**16 06 39.1**	**+0.8**
	baz=249						
TDCB	**Techi**	**1.06**	**251**	*e*P	**Pg**	**16 06 38.8**	**+0.2**
	baz=249						
TDCB				*e*S	**Sn**	**16 06 52.8**	**-0.3**
	baz=249						
NJD	**Zhudong**	**1.07**	**277**	*e*P	**Pg**	**16 06 39.3**	**+0.6**
	baz=276						
CHGB	**Renai**	**1.13**	**241**	*e*P	**Pn**	**16 06 39.6**	**+0.1**
	baz=240						
CHGB				*e*S	**Sg**	**16 06 55.8**	**+1.3**
	baz=240						
LIOB	**Emei**	**1.13**	**272**	*e*P	**Pg**	**16 06 40.6**	**+0.8**
	baz=271						
NSTT	**Nanjuang**	**1.14**	**271**	*e*P	**Pg**	**16 06 40.5**	**+0.4**
	baz=270						
NSTT				*e*S	**Sg**	**16 06 56.2**	**+1.3**
	baz=270						
NHW	**Xinwu Township**	**1.17**	**290**	*e*P	**Pg**	**16 06 41.3**	**+0.8**
	baz=289						
SBCB	**Hsinchu**	**1.17**	**279**	*e*P	**Pb**	**16 06 40.4**	**+0.5**
	baz=278						
OWD	**Renai**	**1.18**	**237**	*e*P	**Pb**	**16 06 40.3**	**+0.1**
	baz=235						
EGFH	**Guangfu**	**1.20**	**219**	*e*P	**Pn**	**16 06 39.0**	**-1.3**
	baz=218						
WHP	**Taichung City**	**1.24**	**255**	*e*P	**Pg**	**16 06 41.8**	**-0.1**
	baz=254						
WPL	**Puli Township**	**1.32**	**244**	*e*P	**Pb**	**16 06 42.8**	**+0.1**
	baz=243						
NMLH	**Miaoli**	**1.33**	**267**	*e*P	**Pg**	**16 06 44.2**	**+0.4**
	baz=266						
DPDB	**Guoxing**	**1.34**	**245**	*e*P	**Pg**	**16 06 43.8**	**-0.1**
	baz=244						
WCS	**Beigang Elemen**	**1.34**	**246**	*e*P	**Pg**	**16 06 44.2**	**+0.3**
	baz=245						
HGSD	**Ruisui**	**1.35**	**214**	*e*P	**Pn**	**16 06 42.5**	**+0.2**
	baz=213						
IRIF	**Iriomote-Funau**	**1.37**	**101**	P	**Pn**	**16 06 42.0**	**-0.7**
IRIF				*e*S	**Sn**	**16 06 59.5**	**-1.1**
EHY	**Hungye**	**1.39**	**218**	*e*P	**Pb**	**16 06 43.5**	**-0.2**
	baz=217						
SMLT	**Sun Moon Lake**	**1.43**	**240**	*e*P	**Pg**	**16 06 45.7**	**+0.1**
	baz=239						
SSLB	**Suanglung**	**1.44**	**236**	*e*P	**Pb**	**16 06 45.1**	**+0.5**
	baz=235						
TYC	**Yuchr**	**1.46**	**241**	*e*P	**Pg**	**16 06 46.4**	**+0.3**
	baz=240						
YULB	**Yu-li**	**1.49**	**216**	*e*P	**Pn**	**16 06 43.5**	**-0.8**
	baz=215						
HATJ	**Hateruma jima**	**1.52**	**111**	P	**Pn**	**16 06 44.8**	**+0.1**
EYUL	**Yuli**	**1.52**	**214**	*e*P	**Pb**	**16 06 45.5**	**-0.4**
	baz=213						
TWF1	**Yuli**	**1.53**	**215**	*e*P	**Pb**	**16 06 46.3**	**+0.2**
	baz=214						
WWF	**Wufeng**	**1.53**	**249**	*e*P	**Pb**	**16 06 46.8**	**+0.7**
	baz=247						
YUS	**Yu-Shan**	**1.63**	**227**	*e*P	**Pb**	**16 06 48.5**	**+0.4**
	baz=226						
JKRS	**Kuro-shima**	**1.64**	**103**	P	**Pn**	**16 06 46.3**	**-0.1**
JKRS				S	**Sn**	**16 07 07.0**	**-0.2**
FULB	**Fuli**	**1.66**	**212**	*e*P	**Pn**	**16 06 45.1**	**-1.5**
	baz=211						
CHKT	**Chengkung**	**1.71**	**209**	*e*P	**Pn**	**16 06 46.0**	**-1.3**
	baz=207						
ALS	**Alishan**	**1.72**	**231**	*e*P	**Pb**	**16 06 50.2**	**+0.7**
	baz=229						
JIJ	**Ishigaki jima**	**1.74**	**98**	P	**Pn**	**16 06 47.1**	**-0.6**
JIJ				*e*S	**Sn**	**16 07 08.3**	**-1.3**
CHN5	**Tsauling**	**1.76**	**235**	*e*P	**Pb**	**16 06 50.5**	**+0.5**
	baz=234						
ELDTW	**Lidau**	**1.81**	**219**	*e*P	**Pn**	**16 06 48.8**	**0.0**
	baz=218						
EDH	**Donghe**	**1.85**	**208**	*e*P	**Pn**	**16 06 49.1**	**-0.1**
	baz=207						
JISG	**Ishigakijimahi**	**1.87**	**90**	P	**Pn**	**16 06 49.1**	**-0.4**
JISG				*e*S	**Sn**	**16 07 13.3**	**+0.4**
CHN4	**Tsaushan**	**1.97**	**231**	*e*P	**Pb**	**16 06 53.8**	**+0.2**
	baz=230						
STYH	**Taoyuan**	**1.97**	**224**	*e*P	**Pb**	**16 06 52.7**	**-0.9**
	baz=223						
TPUB	**Ta-pu**	**1.98**	**229**	*e*P	**Pb**	**16 06 53.5**	**-0.3**
	baz=228						
STYT	**Tauyuan**	**1.99**	**224**	*e*P	**Pb**	**16 06 53.7**	**-0.2**
	baz=223						
WTP	**Ta-pu**	**2.02**	**228**	*e*P	**Pb**	**16 06 54.0**	**-0.5**
	baz=227						
TWK	**Hsinying**	**2.10**	**231**	*e*P	**Pb**	**16 06 54.9**	**-0.9**
	baz=229						
CHN1	**Nanshi**	**2.12**	**228**	*e*P	**Pb**	**16 06 55.3**	**-0.9**
	baz=227						
SLGT	**Liugui**	**2.18**	**223**	*e*P	**Pb**	**16 06 56.4**	**-0.8**
	baz=222						
PHUB	**P'eng-hu**	**2.68**	**247**	*e*P	**Pn**	**16 07 01.1**	**+0.5**
	baz=245						
XPSS	**Dashiqiu**	**2.97**	**322**	*e*P	**Pn**	**16 07 03.8**	**-0.8**
	baz=321						

*IDC **13** 16:11:35.3±2.3,7.°19S×129.°81E,h123km±21km,mb3.0/1, mb1 3.1/5,mb1mx2.9/26,mbtmp3.4/5,MS3.3/1,Ms1 3.3/1, ms1mx2.4/12,Error ellipse: s-maj=63.3km s-min=22.1km az=88.0*
ISC 13 16:11:34.8±0.9,7.°25S±0.°06×130.°0E±0.°2,h150km,n6, σ5s29/10,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.46**	**11**	P	**Pn**	**16 13 07.3**	**-0.3**
	0.4nm,0.3s,baz=162,slow=21,SNR=2.2						
SIJI				S	**Sn**	**16 14 14.0**	**-6.4**
	1.1nm,0.3s,baz=240,slow=23,SNR=9.2						
FITZ	**Fitzroy Crossi**	**11.60**	**201**	P	**Pn**	**16 14 16.9**	**+1.0**
	0.1nm,0.3s,baz=29,slow=13,SNR=9.8						
FITZ				S	**Sn**	**16 16 15.7**	**-8.6**
	0.2nm,0.3s,baz=142,slow=21,SNR=2.7						
WRA	**Warramunga Arr**	**13.29**	**162**	P	**Pn**	**16 14 39.1**	**+1.3**
	0.3nm,0.3s,baz=331,slow=14,SNR=8.1						
WRA				S	**Sn**	**16 17 00.6**	**-4.4**
	0.1nm,0.3s,baz=334,slow=21,SNR=2.0						
ASAR	**Alice Springs**	**16.75**	**168**	P	**Pn**	**16 15 25.6**	**+5.0**
	0.2nm,0.3s,baz=336,slow=9.0,SNR=20						
ASAR				S	**S**	**16 18 27.2**	**+0.3**
	0.1nm,0.3s,baz=321,slow=19,SNR=5.5						
ASAR				ScP	**ScP**	**16 23 26.5**	**+5.2**
	0.0nm,0.3s,baz=354,slow=2.1,SNR=4.5						
NWAO	**Narrogin (SRO)**	**28.18**	**203**	LR	LR	16 29 13.2	
	comp=Z,56nm,18.1s,baz=18,slow=38						
MKAR	**Makanchi Array**	**68.45**	**327**	P	**P**	**16 22 23.4**	**+2.9**
	0.1nm,0.4s,baz=133,slow=6.7,SNR=2.2						

*IDC **13** 16:28:18.6±0.8,11.°73N×143.°21E,h0km,mb3.9/13, mb1 4.2/13,mb1mx3.9/46,mbtmp3.9/13,MS3.1/6, Ms1 3.1/6,ms1mx2.8/37,Error ellipse: s-maj=31.2km s-min=18.3km az=97.0*
ISC 13 16:28:23.6±0.9,11.°7N±0.°1×143.°2E±0.°2,h32km,n21, σ0s85/13,mb3.8/13,MS3.0/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**21.36**	**169**	LR	LR	16 41 00.9	
	comp=Z,55nm,19.6s,baz=349,slow=36						
JHJ	**Hachijo jima 2**	**21.52**	**352**	LR	LR	16 41 12.9	
	comp=Z,29nm,19.8s,baz=20,slow=36						
H11N1	**WAKE ISLAND Hy**	**24.17**	**68**	T	T	16 58 52.4	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**24.18**	**68**	T	T	16 58 50.7	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**24.19**	**68**	T	T	16 58 51.3	
	baz=255,slow=75						
MJAR	**Matsushiro Arr**	**25.11**	**351**	P	**P**	**16 33 46.1**	**+0.5**
	1.0nm,0.8s,baz=158,slow=10,SNR=4.4						
MJAR				LR	LR	16 42 46.6	
	comp=Z,44nm,19.0s,baz=180,slow=35						
KSRS	**Korea Array**	**29.04**	**334**	LR	LR	16 44 00.5	
	comp=Z,25nm,18.6s,baz=172,slow=32						
WRA	**Warramunga Arr**	**32.64**	**196**	P	**P**	**16 34 51.8**	**-0.9**
	0.7nm,0.8s,baz=20,slow=9.5,SNR=8.9						
USRK	**Ussuriysk Ar.**	**33.76**	**345**	P	**P**	**16 35 02.5**	**+0.2**
	0.9nm,0.7s,baz=175,slow=9.2,SNR=4.7						
ASAR	**Alice Springs**	**36.31**	**194**	P	**P**	**16 35 25.2**	**+0.6**
	0.3nm,0.5s,baz=25,slow=11,SNR=9.8						
PETK	**Petropavlovsk-**	**42.90**	**13**	LR	LR	16 51 34.8	
	comp=Z,32nm,21.8s,baz=189,slow=33						
CMAR	**Chiang Mai Arr**	**43.12**	**284**	P	**P**	**16 36 22.7**	**+1.3**
	0.9nm,0.7s,baz=90,slow=7.2,SNR=6.5						
STKA	**Stephens Creek**	**43.38**	**182**	LR	LR	16 54 14.2	
	comp=Z,29nm,20.9s,baz=31,slow=36						
SONM	**Songino Array**	**47.33**	**327**	P	**P**	**16 36 54.2**	**-0.2**
	0.3nm,0.4s,baz=145,slow=3.5,SNR=2.2						
MKAR	**Makanchi Array**	**61.69**	**317**	P	**P**	**16 38 37.6**	**-1.1**
	0.2nm,0.4s,baz=98,slow=9.0,SNR=3.1						
NRIK	**Noril'sk**	**67.35**	**342**	P	**P**	**16 39 14.9**	**-0.3**
	0.6nm,0.4s,baz=146,slow=7.3,SNR=3.6						
ILAR	**Eielson Array**	**70.96**	**25**	P	**P**	**16 39 37.1**	**-0.6**
	1.8nm,0.7s,baz=250,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**85.28**	**27**	P	**P**	**16 40 58.1**	**+1.1**
	0.8nm,0.6s,baz=286,slow=4.8,SNR=4.4						
ARCES	**ARCESS Array B**	**88.33**	**342**	P	**P**	**16 41 11.3**	**-0.5**
	5.3nm,1.0s,baz=61,slow=7.3,SNR=6.6						
NVAR	**Mina Array Bea**	**89.39**	**51**	P	**P**	**16 41 18.1**	**+0.4**
	1.3nm,0.8s,baz=276,slow=4.9,SNR=9.2						
FINES	**FINESS Array B**	**92.13**	**335**	P	**P**	**16 41 28.8**	**-0.9**
	3.2nm,1.1s,baz=22,slow=4.5,SNR=4.9						

*TEH **13** 16:41:19.2,33.°06N×59.°62E,h6km,ML4.1*
*THR **13** 16:41:20.3±0.4,33.°07N×59.°66E,h14km±7km,ML4.1*
*IDC **13** 16:41:21.2±1.8,33.°15N×59.°66E,h0km,mb3.4/6, mb1 3.7/10,mb1mx3.4/45,mbtmp3.6/10,ML3.6/4,MS3.0/15, Ms1 3.1/15,ms1mx2.8/37,Error ellipse: s-maj=28.1km s-min=22.5km az=153.0*
ISC 13 16:41:21.0±0.6,33.°05N±0.°03×59.°63E±0.°03,h10km,n71, σ1s46/66,mb3.4/6,MS2.9/12,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMON	**Monand**	**0.14**	**12**	*e*Pg	**Pg**	**16 41 22.5**	**-1.9**
IMON				*e*Sg	**Sg**	**16 41 25.2**	**-1.6**
IMON				*e*		16 41 25.8	
	comp=Z,5428μm,0.1s						
IDAH	**Dahanechah**	**0.37**	**148**	*e*Pg	**Pg**	**16 41 26.6**	**-1.8**
IDAH				*e*Sg	**Sg**	**16 41 32.5**	**-0.9**
IDAH				*e*		16 41 33.1	
	comp=Z,17μm,0.1s						
AFRZ	**Afriz**	**0.64**	**306**	*e*Pg	**Pg**	**16 41 32.0**	**-1.3**
AFRZ				*e*Sg	**Sg**	**16 41 41.0**	**-0.7**
ITEG	**Tejag**	**0.76**	**258**	*e*Pg	**Pg**	**16 41 34.1**	**-1.5**
SHRT	**Shahrakht**	**0.81**	**43**	*e*Pg	**Pg**	**16 41 35.3**	**-1.3**
SHRT	**Shahrakht**	**0.81**	**43**	*e*Pg	**Pg**	**16 41 35.3**	**-1.3**
IKOO	**Kooshah**	**0.82**	**220**	*e*Pg	**Pg**	**16 41 35.3**	**-1.5**
BSRN	**Basiran**	**1.17**	**202**	*e*Pg	**Pb**	**16 41 42.3**	**-1.0**
BSRN				*e*Sg	**Sn**	**16 41 58.7**	**-0.9**
BSRN	**Basiran**	**1.17**	**202**	*e*Pg	**Pb**	**16 41 42.3**	**-1.0**
NHDN	**Nehbandan**	**1.69**	**168**	*e*Pn	**Pb**	**16 41 50.9**	**-1.4**
NHDN				*e*		16 42 22.6	
	comp=Z,44μm,0.6s						
TKDS	**Koohdasht(Taba**	**2.17**	**286**	*e*Pn	**Pn**	**16 41 58.1**	**+0.8**
TKDS				*e*		16 42 35.5	
	comp=Z,12μm,0.4s						
TABS	**Tabas**	**2.18**	**286**	*e*Pn	**Pb**	**16 41 58.7**	**-2.0**
TABS	**Tabas**	**2.18**	**286**	*e*Pn	**Pb**	**16 41 58.7**	**-2.0**
TPRV	**Parvadeh(Tabas**	**2.47**	**270**	*e*Pn	**Pn**	**16 42 02.0**	**+0.6**
TPRV				*e*		16 42 46.9	
	comp=Z,15μm,0.6s						
TNSJ	**Nastanj**	**2.68**	**291**	*e*		16 42 16.1	
	comp=Z,9μm,0.4s						
TNSJ				*e*Pn	**Pn**	**16 42 05.4**	**+1.1**
JRKH	**Jarkhoshk**	**2.91**	**12**	*e*Pn	**Pn**	**16 42 08.7**	**+1.3**
IMOG	**Moghan**	**3.06**	**356**	*e*Pn	**Pn**	**16 42 10.7**	**+1.1**
IMOG				*e*		16 43 08.6	
	comp=Z,4μm,0.8s						
IMYA	**Miami**	**3.30**	**7**	*e*Pn	**Pn**	**16 42 14.9**	**+2.0**
IMYA				*e*		16 43 19.5	
	comp=Z,6μm,0.9s						
IPAY	**Payeh**	**3.43**	**351**	*e*Pn	**Pn**	**16 42 16.6**	**+1.9**
IPAY				*e*		16 42 19.3	
	comp=Z,3μm,0.2s						
IAKL	**Akhelmad**	**3.61**	**349**	*e*Pn	**Pn**	**16 42 18.7**	**+1.4**
IAKL				*e*		16 42 32.2	
	comp=Z,2μm,0.4s						
CHMN	**Cheshme madani**	**3.65**	**210**	*e*Pn	**Pn**	**16 42 19.0**	**+1.1**
CHMN				*e*		16 42 30.4	
	comp=Z,4μm,0.6s						
IKRD	**Kardeh**	**3.71**	**359**	*e*Pn	**Pn**	**16 42 20.9**	**+2.3**
IKRD				*e*		16 42 41.2	
	comp=Z,2μm,0.4s						
SBZV	**Sabzevar**	**3.72**	**334**	*e*Pn	**Pn**	**16 42 19.8**	**+1.1**
IBAF	**Bafgh**	**3.74**	**248**	*e*Pn	**Pn**	**16 42 20.2**	**+1.3**
ZHDN	**Zahedan**	**3.78**	**164**	*e*Pn	**Pn**	**16 42 21.3**	**+1.8**
KHGB	**Koh Gabri**	**3.79**	**226**	*e*Pn	**Pn**	**16 42 21.1**	**+1.5**
KHGB				*e*		16 43 33.4	
	comp=Z,3μm,0.8s						
TVBK	**TV Kerman**	**3.92**	**219**	*e*Pn	**Pn**	**16 42 22.7**	**+1.2**
KRBR	**K

KBZ	Khabaz	16.87	314	Pn		P		16 45 19.1	-0.1
	comp=Z,0.1nm,0.3s,baz=105,slow=12,SNR=2.0								
AKTO	Aktyubinsk	17.41	357	P		Pn		16 45 22.4	-1.5
	comp=Z,0.2nm,0.3s,baz=172,slow=15,SNR=2.8								
AKTO				LR		LR		16 52 52.9	
	comp=Z,28nm,18.7s,baz=165,slow=40								
MMAI	Mount Meron Ar	20.31	277	LR		LR		16 55 10.6	
	comp=Z,40nm,20.5s,baz=70,slow=41								
BRTR	Keskin Array B	21.91	295	P		P		16 46 16.8	+2.2
	comp=Z,0.2nm,0.4s,baz=102,slow=11,SNR=2.2								
BRTR				LR		LR		16 55 58.7	
	comp=Z,54nm,20.7s,baz=130,slow=40								
MKAR	Makanchi Array	22.04	45	P		P		16 46 16.4	+0.7
	comp=Z,1.5nm,0.8s,baz=238,slow=12,SNR=13								
MKAR				LR		LR		16 56 09.6	
	comp=Z,37nm,19.4s,baz=285,slow=40								
KURBB	Kurchatov Arra	22.39	33	P		P		16 46 21.3	+1.9
	comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=3.2								
ZALV	Zalesovo Beam	27.49	33	LR		LR		16 58 57.9	
	comp=Z,24nm,19.1s,baz=278,slow=39								
AKASG	Malin Array Be	28.41	317	P		P		16 47 17.7	+2.2
	comp=Z,0.1nm,0.3s,baz=117,slow=8.2,SNR=1.4								
MLR	Muntele Rosu	28.67	306	LR		LR		17 01 32.7	
	comp=Z,26nm,18.4s,baz=20,slow=42								
IDI	Anoyia	28.75	284	LR		LR		17 00 42.3	
	comp=Z,18nm,20.3s,baz=102,slow=40								
FINES	FINESS Array B	35.67	333	P		P		16 48 19.4	+0.5
	comp=Z,0.6nm,0.7s,baz=134,slow=8.2,SNR=5.5								
FINES				LR		LR		17 04 47.7	
	comp=Z,24nm,19.0s,baz=237,slow=40								
SONM	Songino Array	37.93	53	LR		LR		17 06 18.9	
	comp=Z,40nm,18.2s,baz=262,slow=40								
CMAR	Chiang Mai Arr	38.04	103	LR		LR		17 06 47.5	
	comp=Z,30nm,18.0s,baz=241,slow=40								
ARCES	ARCESS Array B	41.18	343	LR		LR		17 08 17.9	
	comp=Z,45nm,18.4s,baz=120,slow=39								
NOA	NORSAR Array B	41.80	327	LR		LR		17 08 54.6	
	comp=Z,16nm,19.0s,baz=130,slow=40								
TORD	Torodi Ar. Bea	56.15	264	P		P		16 51 02.5	+1.3
	comp=Z,0.7nm,0.7s,baz=57,slow=6.6,SNR=2.5								
MJAR	Matsushiro Arr	62.89	62	LR		LR		17 22 19.5	
	comp=Z,24nm,18.1s,baz=235,slow=39								

IDC ***13*** *17:09:00.8±0.6,35˙.05S×107˙.32W,h0km,mb4.3/14, mb1 4.5/14,mb1mx4.4/31,mbtmp4.3/14,MS4.7/21, Ms1 4.7/21,ms1mx4.6/26,Error ellipse: s-maj=20.5km s-min=17.3km az=129.0*

MOS ***13*** *17:09:01.5±1.2,35˙.00S×107˙.12W,h10km,mb5.1/9,Error ellipse: s-maj=18.5km s-min=9.6km az=86.6*

NEIC ***13*** *17:09:02.7±1.4,35˙.1S±0˙.1×107˙.3W±0˙.2,h10km±1km, mb5.1/157,Error ellipse: s-maj=24.9km s-min=20.1km az=288.0*

GCMT ***13*** *17:09:06.7±0.1,35˙.10S±0˙.01×107˙.25W±0˙.01,h14km, MW5.3/142,Moment Tensor Solution. s102,c172; s142,c259; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.05±.02; Mθθ=0.39±.02; Mφφ=0.34±.02; Mrθ=-0.12±.04; Mrφ=-1.18±.02; Mθφ=-0.27±.04; Best double couple: M0=1.27000×10^17 NP1:φs=99.00000°,δ77.00000°, λ=-178.00000°. NP2:φs=8.00000°,δ88.00000°,λ=-13.00000°. Principal axes: T 1.2310, Plg7.0000°, Azm54.0000°; N 0.0770, Plg77.0000°, Azm178.0000°; P -1.3080, Plg11.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***13*** *17:09:07.0±0.0,35˙.10S×107˙.30W,h35km,mB5.2/8, Ms5.2/11,MS7 5.0/10*

ISC 13 17:09:02.2±0.3,35˙.03S±0˙.08×107˙.22W±0˙.07,h10km, n311,σ1§24/259,mb5.1/101,MS4.8/32,7C-3D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	23.34	95	T	T	17 38 40.9	
	baz=260,slow=75						
H03S1	Juan Fernandez	23.36	95	T	T	17 38 35.8	
	baz=260,slow=75						
H03S3	Juan Fernandez	23.36	95	T	T	17 38 32.7	
	baz=260,slow=75						
H03N2	Juan Fernandez	23.41	94	T	T	17 38 56.7	
	baz=267,slow=73						
H03N3	Juan Fernandez	23.42	94	T	T	17 38 56.1	
	baz=267,slow=73						
H03N1	Juan Fernandez	23.43	94	T	T	17 38 58.6	
	baz=267,slow=73						
RKT	Rikitea	26.91	289	eLQ	LQ	17 20 20.2	
	2μm,27.5s						
RKT				eLR	LR	17 21 25.0	
	comp=Z,2μm,26.0s						
PLCA	Paso Flores	29.35	112	P	P	17 15 05.7	+0.3
	10nm,1.1s,baz=279,slow=7.4,SNR=6.9						
PLCA				LR	LR	17 23 14.7	
	comp=Z,816nm,20.9s,baz=276,slow=29						
PLCA	Paso Flores	29.35	112	P	P	17 15 05.7	+0.3
PLCA				pmax	pmax		
	comp=Z,40nm,1.5s						
PLCA	Paso Flores	29.35	112	P	P	17 15 05.7	+0.3
PLCA				lAmb	lAmb	17 15 22.4	
	comp=Z,40nm,1.5s						
GO04	Tololo Observa	30.95	91	P	P	17 15 20.5	+0.7
AC02	Maricunga	33.52	87	P	P	17 15 43.1	+0.4
LVC	Limon Verde	35.57	80	P	P	17 16 02.3	+2.0
	comp=Z,3.8nm,0.8s,baz=242,slow=6.8,SNR=6.1						
LVC	Limon Verde	35.57	80	P	P	17 16 00.5	+0.3
LVC				pmax	pmax		
	comp=Z,151nm,1.1s						
LVC	Limon Verde	35.57	80	P	P	17 16 00.5	+0.3
PB11	IPOC Station P	36.42	75	P	P	17 16 07.7	+0.3
PB08	IPOC Station P	36.62	76	P	P	17 16 09.6	+0.3
PB08				lAmb	lAmb	17 16 49.5	
	comp=Z,60nm,1.9s						
ATAH	Atahualpa	38.38	50	P	P	17 16 25.9	+1.7
	comp=Z,6.1nm,0.6s,baz=247,slow=14,SNR=4.9						
TBI	Tubuai	38.41	276	eS	S	17 22 19.0	0.0
	comp=Z,439nm,27.0s						
TBI				eLQ	LQ	17 25 05.1	
	comp=Z,3μm,31.2s						
TBI				eLR	LR	17 26 43.2	
	comp=Z,1μm,23.5s,baz=110						
EFI	East Falkland	38.62	131	i P	P	17 16 25.2	-0.2
EFI				pmax	pmax		
	comp=Z,41nm,1.2s						
LPAZ	La Paz	39.56	72	P	P	17 16 35.2	+0.9
	comp=Z,3.2nm,0.8s,baz=232,slow=3.8,SNR=8.3						
LPAZ				LR	LR	17 29 09.3	
	comp=Z,935nm,20.8s,baz=231,slow=30						
LPAZ	La Paz	39.56	72	P	P	17 16 34.5	+0.1
LPAZ				pmax	pmax		
	comp=Z,15nm,1.4s						
LPAZ	La Paz	39.56	72	P	P	17 16 34.5	+0.1
LPAZ	La Paz	39.56	72	eP	P	17 16 35.3	+0.9
TAOE	Nuku Hiva Isla	39.81	303	eLR	LR	17 27 26.6	
	comp=Z,3μm,27.1s						
PPT2	Papeete2	41.40	284	eS	S	17 23 02.5	-1.6
	comp=Z,154nm,23.1s						
PPT2				eLQ	LQ	17 26 20.4	
	comp=Z,5μm,28.0s						
PPT2				eLR	LR	17 28 07.2	
	comp=Z,413nm,22.5s						
PPT	Papeete	41.41	284	LR	LR	17 29 54.3	
	comp=Z,391nm,18.3s,baz=119,slow=30						
ITQB	Itaqui	42.71	97	P	P	17 17 00.0	+0.5
ITQB				lAmb	lAmb	17 17 08.5	
	comp=Z,49nm,1.5s						
CPUP	Villa Florida	43.40	93	LR	LR	17 32 20.4	
	comp=Z,561nm,18.6s,baz=252,slow=32						
OTAV	Otavalo	44.20	44	P	P	17 17 12.8	+0.7
OTAV				pmax	pmax		
	comp=Z,29nm,1.7s						
OTAV	Otavalo	44.20	44	P	P	17 17 12.8	+0.7
OTAV	Otavalo	44.20	44	eP	P	17 17 12.2	+0.1
SIV	San Ignacio	45.31	77	P	P	17 17 19.9	-0.6
	comp=Z,2.3nm,0.6s,baz=242,slow=7.2,SNR=10						
AQDB	Aquidauana	47.35	86	P	P	17 17 35.6	-0.9
YOTC	Yotoco, Vale	48.45	43	eP	P	17 17 44.3	-0.9
ORTC	Ortega, Tolima	49.02	44	eP	P	17 17 46.0	-3.4
TOLC	Tolima	49.52	44	eP	P	17 17 50.9	-2.7
JTS	Las Juntas de	49.76	29	i P	P	17 17 55.0	-0.1
JTS				pmax	pmax		
	comp=Z,11nm,1.2s						
JTS	Las Juntas de	49.76	29	P	P	17 17 55.1	0.0
JTS				lAmb	lAmb	17 18 05.4	
	comp=Z,39nm,1.5s						
GUY2C	Guyana, Caldas	50.02	43	eP	P	17 17 57.7	0.0
ROSC	El Rosal	50.30	45	P	P	17 18 00.8	+1.2
	comp=Z,18nm,0.7s,baz=122,slow=18,SNR=5.7						
ROSC				LR	LR	17 35 17.7	
	comp=Z,2μm,21.3s,baz=232,slow=31						
ROSC	El Rosal	50.30	45	P	P	17 17 58.5	-1.2
ROSC				pmax	pmax		
	comp=Z,49nm,1.2s						
ROSC	El Rosal	50.30	45	P	P	17 17 58.5	-1.2
SPBC	San Pablo de B	51.11	44	eP	P	17 18 05.5	+0.2
QSPA	South Pole Qui	55.17	180	P	P	17 18 35.3	+0.5
	comp=Z,2.5nm,0.9s,baz=139,slow=0.6,SNR=8.0						
QSPA				LR	LR	17 39 09.9	
	comp=Z,889nm,18.4s,baz=107,slow=33						
SBA	Scott Base	55.21	195	P	P	17 18 35.8	+1.1
SBA				pmax	pmax		
	comp=Z,17nm,1.4s						
SBA	Scott Base	55.21	195	P	P	17 18 35.8	+1.1
BDFB	Brasilia	56.09	86	LR	LR	17 40 28.2	
	comp=Z,622nm,18.5s,baz=257,slow=34						
VNDA	Vanda	56.30	195	P	P	17 18 44.2	+1.6
	comp=Z,1.5nm,1.1s,baz=109,slow=7.1,SNR=4.6						
VNDA				LR	LR	17 38 05.2	
	comp=Z,534nm,18.8s,baz=98,slow=31						
VNDA	Vanda	56.30	195	P	P	17 18 43.7	+1.1
VNDA				pmax	pmax		
	comp=Z,14nm,1.5s						
VNDA	Vanda	56.30	195	P	P	17 18 43.6	+1.1
RAO	Raoul Island	59.01	254	LR	LR	17 38 15.4	
	comp=Z,584nm,21.2s,baz=130,slow=30						
URZ	Urewera	59.18	243	LR	LR	17 38 19.4	
	comp=Z,1μm,21.0s,baz=31,slow=30						
VNA3	Neumayer Olymp	59.62	158	P	P	17 19 05.2	-0.7
VNA3	Neumayer Olymp	59.62	158	pP	pP	17 19 16.1	+8.4
VNA1	Neumayer--Stat	60.26	158	P	P	17 19 09.8	-0.5
VNA1	Neumayer--Stat	60.26	158	pP	pP	17 19 20.1	+8.0
AFI	Afiamalu	61.39	273	LR	LR	17 39 06.9	
	comp=Z,580nm,18.1s,baz=138,slow=30						
SNAA	Sanae	61.47	160	P	P	17 19 17.8	-0.8
SNAA	Sanae	61.47	160	i P	P	17 19 17.9	-0.8
SNAA				pmax	pmax		
	comp=Z,21nm,1.5s						
SNAA	Sanae	61.47	160	P	P	17 19 17.2	-1.4
SNAA				lAmb	lAmb	17 19 21.1	
	comp=Z,28nm,1.5s						
TXAR	Lajitas Array	64.11	3	P	P	17 19 36.4	-0.3
	comp=Z,1.0nm,0.8s,baz=189,slow=11,SNR=9.4						
TXAR				LR	LR	17 42 38.6	
	comp=Z,220nm,18.1s,baz=0.0,slow=32						
TXAR	Lajitas Array	64.11	3	P	P	17 19 36.6	0.0
TXAR	Lajitas Array	64.11	3	P	P	17 19 36.6	0.0
TX31	Lajitas Ar. Si	64.11	3	P	P	17 19 36.6	0.0
TX32	Lajitas Array	64.11	3	P	P	17 19 37.8	+1.2
TX32				lAmb	lAmb	17 19 56.2	
	comp=Z,17nm,1.6s						
JCT	Junction City	65.53	7	P	P	17 19 46.1	+0.3
JCT				pmax	pmax		
	comp=Z,68nm,2.0s						
JCT	Junction City	65.53	7	P	P	17 19 46.1	+0.3
319A	Douglas	66.08	358	P	P	17 19 49.2	-0.2
319A				lAmb	lAmb	17 20 14.3	
	comp=Z,16nm,1.3s						
SPX	San Pedro Mart	66.17	352	P	P	17 19 50.9	+0.6
SPX				lAmb	lAmb	17 20 02.7	
	comp=Z,17nm,1.3s						
MNTX	Cornudas Mount	66.40	2	P	P	17 19 51.3	0.0
214A	Organ Pipe Nat	66.84	355	P		17 19 56.8	
	baz=175						
214A	Organ Pipe Nat	66.84	355	P	P	17 19 54.4	+0.2
214A				lAmb	lAmb	17 20 07.4	
	comp=Z,15nm,1.2s						
TUC	Tucson	67.07	357	P	P	17 19 56.4	+0.7
TUC				pmax	pmax		
	comp=Z,14nm,1.5s						
TUC	Tucson	67.07	357	P	P	17 19 56.4	+0.7
TUC				lAmb	lAmb	17 20 20.4	
	comp=Z,14nm,1.4s						
121A	Cookes Peak, D	67.21	359	P	P	17 19 57.4	+0.7
121A				lAmb	lAmb	17 20 11.9	
	comp=Z,29nm,1.8s						
CBX	Cerro Bola	67.57	351	P	P	17 19 59.8	+0.8
113A	Mohawk Valley,	67.72	354	P	P	17 20 00.7	+1.0
MSVF	Nonsavu	67.73	263	LR	LR	17 41 58.1	
	comp=Z,496nm,21.5s,baz=120,slow=29						
RMX	La Rumorosa	67.79	352	P	P	17 20 00.3	0.0
RMX				lAmb	lAmb	17 20 13.3	
	comp=Z,26nm,1.4s						
IKP	In-Ko-Pah, Jac	67.84	352	P		17 20 03.1	
	baz=172						
BAR	Barrett	67.94	351	P	P	17 20 01.8	+0.7
MONP2	Monument Peak	68.11	352	P		17 20 03.8	
	baz=172						
BC3	Big Chuckawall	68.76	353	P		17 20 08.7	
	baz=173						
MSTX	Muleshoe	68.77	4	P	P	17 20 06.5	+0.1
TPFO	Pinon Flats	68.82	352	P		17 20 09.8	
	baz=172						
Y14A	Wickenburg	68.82	355	P	P	17 20 07.8	+1.1
Y14A				lAmb	lAmb	17 20 20.6	
	comp=Z,16nm,1.4s						
PFO	Pinyon Flats O	68.83	352	P	P	17 20 08.2	+1.4
PFO				pmax	pmax		
	comp=Z,13nm,1.4s						
PFO	Pinyon Flats O	68.83	352	P	P	17 20 08.2	+1.4
BELC	Belle Mtn. Jos	69.16	352	P		17 20 11.5	
	baz=172						
X16A	Lo Mia Camp, P	69.20	356	P	P	17 20 09.9	+0.7
X18A	Snowflake	69.25	358	P	P	17 20 10.9	+1.5
ANMO	Albuquerque	69.62	1	i P	P	17 20 13.0	+1.2
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	Albuquerque	69.62	1	P	P	17 20 12.8	+1.0
GMRC	Granite Mounta	69.90	353	P		17 20 15.3	
	baz=173						
EDW2	Edwards Air Fo	70.27	351	P		17 20 18.3	
	baz=171						
WUAZ	Wupatki	70.29	356	P	P	17 20 16.8	+1.0
WUAZ				lAmb	lAmb	17 20 30.0	
	comp=Z,34nm,1.8s						
FNO	Franklin	70.53	9	P	P	17 20 17.4	+0.3
GSC	Goldstone, Bar	70.54	352	P		17 20 19.5	
	baz=172						
GSC	Goldstone, Bar	70.54	352	P	P	17 20 18.4	+1.1
GSC				pmax	pmax		
	comp=Z,32nm,1.7s						
GSC	Goldstone, Bar	70.54	352	P	P	17 20 18.4	+1.1
GSC				lAmb	lAmb	17 20 31.6	
	comp=Z,32nm,1.7s						
PKM	Mcpherson Peak	70.55	349	P		17 20 19.0	
	baz=169						
LRMC	Laurel Mtn Rad	70.82	351	P		17 20 21.8	
	baz=171						
W39A	Magazine	70.98	12	P	P	17 20 19.9	0.0
W39A				lAmb	lAmb	17 20 43.8	
	comp=Z,27nm,1.6s						
SHOC	Shoshone, Teco	71.07	352	P		17 20 23.2	
	baz=172						
ISA	Isabella, Lake	71.11	350	P		17 20 22.8	
	baz=170						
ISA	Isabella, Lake	71.11	350	P	P	17 20 22.2	+1.5
ISA				pmax	pmax		
	comp=Z,38nm,1.7s						
ISA	Isabella, Lake	71.11	350	P	P	17 20 22.2	+1.5
U15A	North Rim	71.25	356	P	P	17 20 22.9	+1.1
WHAR	Wooly Hollow	71.34	13	P	P	17 20 23.2	+1.3
TUL1	Leonard	71.38	10	P		17 20 24.7	
	baz=190						
SHPR	Sheep Range	71.56	353	P	P	17 20 24.8	+1.3
SHPR				lAmb	lAmb	17 20 38.0	
	comp=Z,38nm,1.7s						
FURC	Furnace Creek,	71.70	352	P		17 20 26.6	
	baz=172						
CWC	Cottonwood Cre	71.82	351	P		17 20 27.2	
	baz=171						
KNB	Kanab	71.87	355	P	P	17 20 27.2	+1.8
KNB				pmax	pmax		
	comp=Z,49nm,1.8s						
KNB	Kanab	71.87	355	P	P	17 20 27.2	+1.8
MVCO	Mesa Verde	71.89	359	P	P	17 20 26.2	+0.6
OK032	Salt Plains WL	71.96	8	P	P	17 20 26.1	+0.4
OK032				lAmb	lAmb	17 20 34.9	
	comp=Z,29nm,1.3s						
HHAR	Hobbs	72.02	11	P	P	17 20 26.4	+0.3
HHAR				lAmb	lAmb	17 21 07.5	
	comp=Z,14nm,1.0s						
U38A	Gravette	72.10	11	P	P	17 20 26.8	+0.2
U38A				lAmb	lAmb	17 20 34.8	
	comp=Z,17nm,1.2s						
TPNV	Topopah Spring	72.11	352	P	P	17 20 27.6	+0.8
TPNV				pmax	pmax		
	comp=Z,18nm,1.4s						
TPNV	Topopah Spring	72.11	352	P	P	17 20 27.6	+0.8
TPNV				lAmb	lAmb	17 20 41.6	
	comp=Z,18nm,1.4s						
KAN17	Caldwell West	72.25	8	P	P	17 20 28.2	+0.8
KAN17				lAmb	lAmb	17 20 36.8	
	comp=Z,26nm,1.2s						
KAN13	South Haven SW	72.25	8	P	P	17 20 28.5	+1.1
PKCU	Pink Cliffs	72.26	356	P	P	17 20 28.5	+0.6
U40A	Yellville	72.27	12	P	P	17 20 26.9	-0.7
GRAC	Grapevine Rang	72.28	351	P		17 20 29.8	
	baz=171						
S22A	4UR Ranch, Cre	72.41	0	P		17 20 30.5	
	baz=180						
SDCO	Great Sand Dun	72.43	1	P	P	17 20 29.2	+0.3
PRN	Pahroc Range	72.44	353	P	P	17 20 29.0	+0.3
PRN				lAmb	lAmb	17 20 43.2	
	comp=Z,25nm,1.4s						
CCUT	Cedar City	72.44	355	P	P	17 20 30.0	+1.1
CCUT				lAmb	lAmb	17 20 43.3	
	comp=Z,27nm,1.5s						
SZCU	Shurtz Canyon	72.47	355	P	P	17 20 28.9	-0.1
SZCU				lAmb	lAmb	17 20 43.4	
	comp=Z,27nm,1.5s						
SWET	Sewanee	72.66	18	P	P	17 20 28.9	-1.0
SWET				lAmb	lAmb	17 20 38.8	
	comp=Z,35nm,1.8s						
PV01	Paradox Valley	72.81	359	P	P	17 20 31.4	+0.3
PV01				lAmb	lAmb	17 20 44.8	
	comp=Z,21nm,1.6s						
PV13	Radium Mtn., P	72.84	359	P	P	17 20 31.1	-0.1
MTPU	Mount Pierson	72.85	356	P	P	17 20 32.8	+1.4
PV03	Paradox Valley	72.93	359	P	P	17 20 31.9	+0.2
PV16	Nyswonger Mesa	72.99	359	P	P	17 20 32.8	+0.7
PV16				lAmb	lAmb	17 20 45.9	
	comp=Z,32nm,1.7s						
PV12	Saucer Basin,	73.00	359	lAmb	lAmb	17 20 45.9	
	comp=Z,25nm,1.4s						
PV15	Paradox Valley	73.01	359	lAmb	lAmb	17 20 46.1	
	comp=Z,23nm,1.4s						
PV14	Lion Creek, Pa	73.06	359	P	P	17 20 32.9	+0.4
PV04	Paradox Valley	73.07	359	lAmb	lAmb	17 20 58.8	
	comp=Z,28nm,1.5s						
PV07	Paradox Valley	73.11	359	lAmb	lAmb	17 20 46.5	
	comp=Z,26nm,1.8s						
PBMO	Poplar Bluff	73.13	14	P	P	17 20 32.4	-0.3
MGMO	Mountain Grove	73.15	12	lAmb	lAmb	17 20 46.4	
	comp=Z,41nm,1.9s						
PV22	Blue Mesa, Par	73.21	359	P	P	17 20 33.6	+0.2
PV22				lAmb	lAmb	17 20 47.1	
	comp=Z,26nm,1.6s						
BG3	Lake Jocassee	73.27	21	lAmb	lAmb	17 20 43.4	
	comp=Z,33nm,1.6s						
TPH	Tonopah	73.33	352	P	P	17 20 34.9	+0.8
TPH				pmax	pmax		
	comp=Z,83nm,1.3s						
TPH	Tonopah	73.33	352	P	P	17 20 34.9	+0.8
SYO	Syowa Base	73.41	168	‖ eS	P	17 20 37.4	+0.8
SYO	Syowa Base	73.41	168	‖ ePcP	PcP	17 20 48.8	-1.4
R11A	Troy Canyon, C	73.42	353	P		17 20 36.4	
	baz=173						
R11A	Troy Canyon, C	73.42	353	lAmb	lAmb	17 20 49.1	
	comp=Z,27nm,1.7s						
PSUT	Pine Spring	73.45	355	P	P	17 20 34.8	-0.1
PSUT				lAmb	lAmb	17 20 49.0	
	comp=Z,19nm,1.4s						
S39A	Bolivar	73.50	11	lAmb	lAmb	17 20 43.8	
	comp=Z,34nm,1.9s						
Q16A	Castle Valley	73.67	357	P	P	17 20 36.8	+0.7
CMB	Columbia Colle	73.72	349	lAmb	lAmb	17 20 50.6	
	comp=Z,21nm,1.4s						
NV11	Mina Array Sit	73.79	351	P	P	17 20 37.1	+0.3
NV11				lAmb	lAmb	17 20 52.9	
	comp=Z,27nm,1.4s						
NVAR	Mina Array Bea	73.81	351	P	P	17 20 39.0	+2.0
	comp=Z,4.2nm,0.8s,baz=186,slow=7.0,SNR=20						
NVAR				LR	LR	17 46 23.7	
	comp=Z,469nm,19.3s,baz=174,slow=30						
SRU	San Rafael Swe	73.84	357	P	P	17 20 37.4	+0.4
SRU				pmax	pmax		
	comp=Z,13nm,1.2s						
SRU	San Rafael Swe	73.84	357	P	P	17 20 37.4	+0.4
SMCO	Snowmass	73.84	0	P	P	17 20 37.8	+0.5
SMCO				lAmb	lAmb	17 20 50.8	
	comp=Z,25nm,1.5s						
V53A	Saluda	73.93	20	lAmb	lAmb	17 20 47.2	
	comp=Z,27nm,1.4s						
SPR3	Spring Creek 3	73.95	354	P	P	17 20 38.0	+0.1
SPR3				lAmb	lAmb	17 20 51.2	
	comp=Z,32nm,1.5s						
RYN	Ryan	74.03	351	lAmb	lAmb	17 20 52.7	
	comp=Z,31nm,1.6s						
WAKR	Walker	74.04	350	P	P	17 20 38.5	+0.2
TMUT	Trail Mountain	74.05	357	lAmb	lAmb	17 20 50.6	
	comp=Z,18nm,1.2s						
P17A	Butcher Ranch,	74.20	357	lAmb	lAmb	17 20 52.7	
	comp=Z,28nm,1.6s						
KVN	Kaiserville	74.40	351	P	P	17 20 40.0	-0.3
KVN				pmax	pmax		
	comp=Z,43nm,1.5s						
KVN	Kaiserville	74.40	351	P	P	17 20 40.0	-0.3
ISCO	Idaho Springs	74.47	1	lAmb	lAmb	17 20 55.2	
	comp=Z,24nm,1.6s						
YERR	Yerington	74.48	350	P	P	17 20 41.8	+0.9
YERR				lAmb	lAmb	17 20 55.4	
	comp=Z,37nm,1.5s						
TZTN	Tazewell	74.55	20	P	P	17 20 41.6	+0.6
PNTR	Pine Nut	74.64	350	lAmb	lAmb	17 20 56.2	
	comp=Z,25nm,1.2s						
AFDM	Forest Hills D	74.70	349	P	P	17 20 42.8	+0.9
AFDM				lAmb	lAmb	17 20 55.9	
	comp=Z,25nm,1.5s						
NLU	North Lily Min	74.75	356	P	P	17 20 42.9	+0.5
NLU				lAmb	lAmb	17 20 55.7	
	comp=Z,30nm,1.6s						
O20A	White River Ci	74.80	359	P		17 20 45.4	
	baz=179						
DZM	Mont Dzumac	74.80	254	eS	S	17 30 16.5	-3.7
	comp=Z,335nm,25.8s						
DZM	Mont Dzumac	74.80	254	eLR	LR	17 43 26.4	
	comp=Z,1μm,23.6s						
O20A	White River Ci	74.80	359	P	P	17 20 43.1	+0.5
O20A				lAmb	lAmb	17 20 55.9	
	comp=Z,20nm,1.2s						
DUG	Dugway, Tooele	75.03	356	lAmb	lAmb	17 20 57.1	
	comp=Z,25nm,1.6s						
PAHR	Pah R

PD31	**Pinedale Array**	**77.45**	**358**		IAmb		IAmb	17 21 11.8	
	comp=Z,32nm,1.4s								
PDAR	**Pinedale Array**	**77.45**	**358**		P		**P**	**17 20 57.9**	**+0.1**
	comp=Z,6.1nm,1.0s,baz=159,slow=6.3,SNR=14								
PDAR					LR		LR	17 49 55.5	
	comp=Z,342nm,18.8s,baz=186,slow=32								
WVOR	**Wild Horse Val**	**77.80**	**351**		P		**P**	**17 20 59.1**	**-0.4**
WVOR					pmax		pmax		
	comp=Z,17nm,1.1s								
WVOR	**Wild Horse Val**	**77.80**	**351**		P		**P**	**17 20 59.1**	**-0.4**
WVOR					IAmb		IAmb	17 21 16.6	
	comp=Z,17nm,1.1s								
P52A	**Corning**	**77.83**	**20**		P		**P**	**17 20 59.6**	**0.0**
P52A					IAmb		IAmb	17 21 13.0	
	comp=Z,26nm,1.4s								
REDW	**Red Top Meadow**	**78.09**	**357**		IAmb		IAmb	17 21 14.8	
	comp=Z,21nm,1.2s								
TPAW	**Teton Pass**	**78.22**	**357**		P		**P**	**17 21 02.1**	**0.0**
TPAW					IAmb		IAmb	17 21 13.7	
	comp=Z,22nm,1.1s								
LOHW	**Long Hollow**	**78.33**	**357**		P		**P**	**17 21 02.1**	**-0.5**
LOHW					IAmb		IAmb	17 21 16.0	
	comp=Z,34nm,1.4s								
O52A	**Adamsville**	**78.36**	**20**		P		**P**	**17 21 02.5**	**0.0**
K05A	**Summer Lake**	**78.39**	**350**		P		**P**	**17 21 04.1**	**+1.2**
MFID	**Camas Ranch**	**78.47**	**354**		P		**P**	**17 21 03.6**	**+0.4**
HLID	**Hailey**	**78.50**	**355**		IAmb		IAmb	17 21 17.6	
	comp=Z,27nm,1.1s								
J08A	**Circle Bar Ran**	**78.69**	**352**		P		**P**	**17 21 06.2**	**+1.8**
J08A					IAmb		IAmb	17 21 18.1	
	comp=Z,34nm,1.5s								
FLWY	**Flagg Ranch**	**78.80**	**357**		IAmb		IAmb	17 21 21.7	
	comp=Z,20nm,1.1s								
RSSD	**Black Hills**	**78.83**	**2**		P		**P**	**17 21 06.0**	**+0.6**
RSSD					pmax		pmax		
	comp=Z,18nm,1.5s								
RSSD	**Black Hills**	**78.83**	**2**		P		**P**	**17 21 06.0**	**+0.6**
ECSD	**EROS Data Cent**	**78.98**	**8**		IAmb		IAmb	17 21 32.0	
	comp=Z,33nm,1.8s								
YHH	**Holmes Hill**	**79.51**	**357**		P		**P**	**17 21 09.6**	**+0.4**
I07A	**Izee**	**79.53**	**351**		P		**P**	**17 21 09.4**	**+0.4**
YHL	**Hebgen Lake**	**79.59**	**357**		P		**P**	**17 21 10.0**	**+0.4**
BMO	**Blue Mountains**	**80.03**	**353**		P		**P**	**17 21 12.2**	**+0.5**
BMO					pmax		pmax		
	comp=Z,22nm,1.6s								
BMO	**Blue Mountains**	**80.03**	**353**		P		**P**	**17 21 12.2**	**+0.5**
G08A	**Pilot Rock**	**80.65**	**352**		IAmb		IAmb	17 21 29.6	
	comp=Z,31nm,1.4s								
F10A	**Beach Ranch, E**	**81.14**	**353**		IAmb		IAmb	17 21 45.8	
	comp=Z,22nm,1.4s								
G40A	**Rib Lake**	**81.40**	**12**		P		**P**	**17 21 18.3**	**-0.6**
F36A	**Milaca**	**81.47**	**10**		IAmb		IAmb	17 21 32.2	
	comp=Z,27nm,1.6s								
MSO	**Missoula**	**81.71**	**355**		P		**P**	**17 21 21.2**	**+0.6**
HAWA	**Hanford**	**81.81**	**351**		IAmb		IAmb	17 21 35.4	
	comp=Z,21nm,1.4s								
E08A	**Dider Farm, El**	**81.85**	**352**		P		**P**	**17 21 21.7**	**+0.5**
JTMT	**Jette**	**82.65**	**355**		P		**P**	**17 21 25.8**	**+0.2**
PECO	**Prince Edward**	**83.27**	**21**		P		**P**	**17 21 28.3**	**-0.4**
PECO					IAmb		IAmb	17 21 42.0	
	comp=Z,17nm,1.1s								
DELO	**Deloro Mine**	**83.62**	**21**		P		**P**	**17 21 30.4**	**-0.1**
DELO					IAmb		IAmb	17 21 39.1	
	comp=Z,22nm,1.4s								
B08A	**Colville Reser**	**83.72**	**352**		P		**P**	**17 21 30.8**	**-0.2**
B08A					IAmb		IAmb	17 21 43.6	
	comp=Z,23nm,1.6s								
STKA	**Stephens Creek**	**87.25**	**233**		P		**P**	**17 21 48.0**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=189,slow=17,SNR=2.0								
STKA					LR		LR	17 54 02.3	
	comp=Z,806nm,20.1s,baz=163,slow=31								
STKA	**Stephens Creek**	**87.25**	**233**		P		**P**	**17 21 48.0**	**-1.2**
STKA					pmax		pmax		
	comp=Z,3.0nm,1.4s								
SCHQ	**Schefferville**	**96.00**	**22**		LR		LR	18 02 15.5	
	comp=Z,206nm,20.3s,baz=224,slow=33								
YKA	**Yellowknife Ar**	**97.37**	**357**		P		Pdif	17 22 35.2	0.0
	comp=Z,0.2nm,0.5s,baz=178,slow=3.7,SNR=2.1								
YKA					LR		LR	18 01 12.0	
	comp=Z,320nm,19.6s,baz=0.0,slow=32								
ASAR	**Alice Springs**	**97.77**	**234**		P		**P**	**17 22 37.1**	**-1.0**
	comp=Z,1.2nm,1.1s,baz=127,slow=5.9,SNR=4.2								
ASAR					LR		LR	18 02 37.9	
	comp=Z,974nm,18.2s,baz=140,slow=33								
ASAR	**Alice Springs**	**97.77**	**234**		P		**P**	**17 22 37.5**	**-0.6**
ASAR	**Alice Springs**	**97.77**	**234**		P		**P**	**17 22 37.5**	**-0.6**
WRA	**Warramunga Arr**	**100.02**	**237**		LR		LR	18 04 05.7	
	comp=Z,524nm,18.1s,baz=135,slow=33								
H01W1	**Cape Leeuwin H**	**100.42**	**214**		T		T	19 15 13.5	
	baz=145,slow=75,SNR=116								
H01W2	**Cape Leeuwin H**	**100.42**	**214**		T		T	19 15 13.2	
	baz=145,slow=75,SNR=101								
H01W3	**Cape Leeuwin H**	**100.43**	**214**		T		T	19 15 14.0	
	baz=145,slow=75,SNR=92								
PET	**Petropavlovsk**	**119.41**	**316**	*i*	PKIKP		**PKiKP**	**17 27 51.9**	**+0.6**
PET					pmax		pmax		
	comp=Z,11nm,0.9s								
BILL	**Bilibino**	**120.71**	**334**	*e*	PKIKP		**PKiKP**	**17 27 55.4**	**+1.9**
BILL				*e*				17 35 03.6	
BILL				*e*	PS		**PS**	**17 39 12.3**	**-0.5**
BILL				*e*	SS		SS	17 46 12.9	+21
BILL					pmax		pmax		
	comp=Z,6.0nm,1.5s								
YSS	**Yuzh-Sakhalins**	**127.50**	**306**	*i*	PKIKP		**PKPdf**	**17 28 06.6**	**-0.4**
YSS					pmax		pmax		
	comp=Z,14nm,1.5s								
LODK	**Lodwar**	**133.20**	**124**		PKPdf		**PKPdf**	**17 28 15.2**	**-3.8**
TIXI	**Tiksi**	**133.40**	**339**	*c*	*i* PKIKP		**PKiKP**	**17 28 19.5**	**+0.8**
NOA	**NORSAR Array B**	**133.58**	**36**		PKP		**PKPdf**	**17 28 18.6**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=282,slow=1.9,SNR=3.2								
CLL	**Collm**	**134.76**	**50**	*e*	PKPdf		**PKiKP**	**17 28 23.0**	**+0.9**
CLL				*e*	PP		**PP**	**17 30 54.0**	**-1.0**
CLL				*e*	PS		**PS**	**17 41 12.0**	**-4.2**
CLL				*e*	PPS		PPS	17 43 00.0	
CLL				*e*	SSS		SSS	17 53 42.0	
CLL				*e*	SSSS			17 57 18.0	
CLL					Lm		MLR	18 21 00.0	
	comp=Z,200nm,20.4s								
CLL	**Collm**	**134.76**	**50**	*e*	PKIKP		**PKPdf**	**17 28 19.0**	**-1.6**
KHC	**Kasperske Hory**	**134.98**	**53**	*e*	PKIKP		**PKiKP**	**17 28 22.5**	**-0.2**
KHC	**Kasperske Hory**	**134.98**	**53**	*e*	PKPDF		**PKiKP**	**17 28 22.5**	**-0.2**
GERES	**GERESS Array B**	**135.04**	**53**		PKP		**PKPdf**	**17 28 21.4**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=302,slow=1.9,SNR=6.8								
KLR	**Kul'dur**	**135.14**	**307**	*c*	*i* PKIKP		**PKPdf**	**17 28 22.0**	**+0.6**
KLR					pmax		pmax		
	comp=Z,2.0nm,1.1s								
BRG	**Berggiesshubel**	**135.33**	**50**	*e*	(P)		**PKiKP**	**17 28 23.1**	**-0.2**
BRG					Amp			17 28 25.7	
	comp=Z,1.5nm,0.7s								
YAK	**Yakutsk**	**135.66**	**326**	*c*	*i* PKIKP		**PKiKP**	**17 28 23.7**	**+0.2**
YAK					pmax		pmax		
	comp=Z,5.0nm,0.7s								
DPC	**Dobruska-Polom**	**136.83**	**51**	*e*	PKHKP		PKPpre	17 28 14.2	
DPC	**Dobruska-Polom**	**136.83**	**51**	*e*	PKPDF		PKPpre	17 28 14.2	
ZEA	**Zeya**	**137.98**	**314**	*e*	PKHKP		PKPpre	17 28 10.9	
FINES	**FINESS Array B**	**140.50**	**33**		PKP		**PKPdf**	**17 28 31.7**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=286,slow=2.5,SNR=4.4								
NJ2	**Nanjing**	**141.74**	**279**	*e*	PKP		**PKPdf**	**17 28 34.8**	**+0.7**
MNK	**Minsk**	**143.44**	**44**	*i*	PKIKP		**PKPdf**	**17 28 35.6**	**-0.8**
MNK				*i*				17 31 48.3	
MNK				*i*	PPP		PPP	17 34 57.6	
MNK				*i*				17 35 42.6	
MNK				*i*	SS		SS	17 50 27.5	-1.9
MNK				*i*	SSS		SSS	17 55 49.9	
MNK					pmax		pmax		
	comp=E,1.0nm,0.7s								
MNK					pmax		pmax		
	comp=Z,12nm,0.7s								
MNK					pmax		pmax		
	comp=N,11nm,0.9s								
MNK					MLR		MLR		
	comp=E,16nm,18.0s								
MNK					MLR		MLR		
	comp=Z,195nm,20.0s								
MNK					MLR		MLR		
	comp=N,92nm,20.0s								
MNK	**Minsk**	**143.44**	**44**	*i*	PKP		**PKPdf**	**17 28 35.7**	**-0.7**
	comp=E,1.0nm,0.7s								
MNK				*i*	PKP		**PKPdf**	**17 28 35.7**	**-0.7**
	comp=N,11nm,0.9s								
MNK				*i*	PKP		**PKPdf**	**17 28 35.7**	**-0.7**
	comp=Z,12nm,0.7s,baz=103								
MNK				*i*	PP		**PP**	**17 31 48.4**	**0.0**
MNK				*i*	SKP			17 32 06.0	
MNK				*i*	PKS		**PKSdf**	**17 32 11.3**	**-0.4**
MNK				*i*	PPP		PPP	17 34 57.6	
MNK				*i*	SKS		**SKSdf**	**17 35 42.6**	**-3.2**
MNK				*i*	SS		**SS**	**17 50 27.6**	**-1.9**
MNK				*i*	SSS		SSS	17 55 49.9	
MNK				*i*	LQ		LQ	18 25 58.1	
MNK				*i*	LR		LR	18 27 53.5	
MNK				*i*	LRM		MLR	18 30 11.9	
	comp=E,16nm,18.4s								
MNK				*i*	LRM		MLR	18 30 17.0	
	comp=Z,195nm,20.4s								
MNK				*i*	LRM		MLR	18 30 57.7	
	comp=N,92nm,20.4s								
QIZ	**Qiongzhong**	**143.58**	**254**		PKP		PKPab	17 28 31.1	-3.1
QIZ					PP		**PP**	**17 31 51.3**	**+1.4**
NRIK	**Noril'sk**	**144.67**	**351**		PKP		**PKPdf**	**17 28 37.8**	**-0.4**
	comp=N,1.1nm,0.3s,baz=48,slow=2.0,SNR=12								
NRIK	**Noril'sk**	**144.67**	**351**	*c*	*i* PKIKP		PKPbc	17 28 37.5	+0.5
NRIK	**Noril'sk**	**144.67**	**351**		PKPdf		PKPbc	17 28 36.9	-0.1
UBPT	**Khong Chiam**	**144.71**	**244**		P		**PKiKP**	**17 28 48.0**	**+4.5**
	comp=N,7.3nm,1.3s								
TIRR	**Tirgusor**	**144.98**	**61**		PKIKP		**PKPab**	**17 28 38.0**	**-0.7**
TIRR	**Tirgusor**	**144.98**	**61**				**PKPab**	**17 28 38.0**	**-0.7**
AKASG	**Malin Array Be**	**145.01**	**50**		PKPbc		PKPbc	17 28 36.7	-1.9
	comp=N,12nm,0.9s,baz=279,slow=3.7,SNR=15								
AKBB	**Malin Array Si**	**145.01**	**50**	*c*	*i* PKIKP		PKPbc	17 28 37.2	-1.4
AKBB	**Malin Array Si**	**145.01**	**50**				PKPbc	17 28 36.0	-2.6
BJI	**Beijing**	**145.48**	**291**		PKPbc		**PKPab**	**17 28 41.4**	**+0.7**
BJI					L		L		
	comp=N,110nm,14.4s								
BJI					L		L		
	comp=N,84nm,16.3s								
KLMR	**Klimovskoe**	**146.53**	**29**	*e*	PKP2		**PKPdf**	**17 28 42.0**	**+0.5**
KLMR					pmax		pmax		
	comp=Z,61nm,1.8s								
KLMR	**Klimovskoe**	**146.53**	**29**	*e*	PKPdf		**PKPdf**	**17 28 42.0**	**+0.5**
KLMR					AMP			17 28 56.5	
	comp=Z,61nm,1.8s								
CSS	**Mathiatis**	**147.83**	**79**		PKPdf		**PKPdf**	**17 28 44.2**	**-0.4**
CSS							**PKPbc**	**17 28 48.1**	**+0.6**
OBN	**Obninsk**	**148.01**	**40**	*e*	PKIKP		**PKPdf**	**17 28 45.6**	**+1.5**
OBN				*e*				17 32 14.0	
OBN				*e*	SS		SS	17 51 17.5	-3.7
OBN					pmax		pmax		
	comp=Z,38nm,1.1s								
ANTO	**Ankara**	**148.08**	**69**		PKP2		**PKPbc**	**17 28 47.5**	**-0.6**
ANTO	**Ankara**	**148.08**	**69**		PKPdf		**PKPdf**	**17 28 43.0**	**-1.9**
ANTO							**PKPbc**	**17 28 47.5**	**-0.6**
MOS	**Moscow**	**148.29**	**38**	*e*	PKP2		**PKPbc**	**17 28 48.2**	**+0.2**
PRGR	**Permogore**	**148.30**	**24**	*e*	PKP2		**PKPbc**	**17 28 46.5**	**-1.3**
BR131	**Keskin Array S**	**148.72**	**70**		PKIKP		**PKPdf**	**17 28 46.6**	**+0.6**
BR131	**Keskin Array S**	**148.72**	**70**				**PKPdf**	**17 28 46.6**	**+0.6**
BRTR	**Keskin Array B**	**148.72**	**70**		PKPbc		**PKPbc**	**17 28 49.2**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=252,slow=2.6,SNR=15								
BRTR	**Keskin Array B**	**148.72**	**70**		PKIKP		**PKPbc**	**17 28 48.2**	**-1.6**
BRTR	**Keskin Array B**	**148.72**	**70**				**PKPbc**	**17 28 48.2**	**-1.6**
HHC	**Hu-ho-hao-te**	**149.05**	**292**	*e*	PKPbc		**PKPdf**	**17 28 46.4**	**-0.1**
PHIT	**Phitsanulok**	**149.63**	**241**		P		PKPab	17 29 05.9	+8.3
	comp=Z,8.2nm,1.0s								
GYA	**Guiyang**	**149.76**	**263**	⇓	P		**PKiKP**	**17 28 55.1**	**+1.3**
GYA					pmax		pmax		
	comp=Z,2.0nm,1.0s								
UTTA	**Uttaradit**	**149.89**	**242**		P		**PKPab**	**17 28 57.6**	**-1.1**
	comp=Z,36nmcomp=Z,3.1nm,1.3s								
LPSR	**Galich'ya Gora**	**150.29**	**43**	*e*	PKIKP		**PKPbc**	**17 28 53.4**	**+0.3**
LPSR					pmax		pmax		
	comp=Z,20nm,1.2s								
XAN	**Xi'an**	**150.31**	**279**		P		**PKiKP**	**17 28 55.3**	**+0.7**
XAN					pP		sPKPab	17 29 08.1	+5.4
XAN					pmax		pmax		
	comp=Z,9.0nm,1.3s								
VSR	**Storozhevoye**	**150.94**	**46**	*e*	PKIKP		**PKPbc**	**17 28 54.5**	**-0.2**
VSR					pmax		pmax		
	comp=Z,30nm,1.1s								
CM36	**Chiang Mai Arr**	**151.45**	**242**		P		**PKiKP**	**17 29 00.0**	**+2.7**
CM04	**Chiang Mai Arr**	**151.45**	**241**		P		**PKiKP**	**17 29 00.0**	**+2.6**
	comp=Z,100nmcomp=Z,12nm,1.1s								
CM09	**Chiang Mai Arr**	**151.47**	**241**		P		**PKPab**	**17 29 05.0**	**-0.3**
	comp=Z,97nmcomp=Z,11nm,1.2s								
CM05	**Chiang Mai Arr**	**151.48**	**241**		P		**PKPab**	**17 29 04.2**	**-1.1**
	comp=Z,66nmcomp=Z,8.4nm,1.2s								
CM01	**Chiang Mai Arr**	**151.48**	**241**		P		**PKiKP**	**17 29 01.0**	**+3.6**
	comp=Z,172nmcomp=Z,9.3nm,1.2s								
CM02	**Chiang Mai Arr**	**151.50**	**241**		P		**PKiKP**	**17 29 01.1**	**+3.7**
	comp=Z,87nmcomp=Z,9.9nm,1.3s								
CM35	**Chiang Mai Arr**	**151.51**	**242**		P		**PKiKP**	**17 29 00.0**	**+2.5**
CM31	**Chiang Mai Arr**	**151.52**	**241**		P		**PKiKP**	**17 29 01.4**	**+3.9**
	comp=Z,2μmcomp=Z,270nm,1.2s								
CMAR	**Chiang Mai Arr**	**151.52**	**241**		PKPbc		**PKiKP**	**17 28 57.4**	**-0.1**
	comp=Z,4.2nm,1.0s,baz=182,slow=1.8,SNR=12								
CMAR	**Chiang Mai Arr**	**151.52**	**241**		PKIKP		**PKPdf**	**17 28 53.6**	**+2.7**
CMAR	**Chiang Mai Arr**	**151.52**	**241**				**PKPdf**	**17 28 53.6**	**+2.7**
CM13	**Chiang Mai Arr**	**151.52**	**241**		P		**PKPab**	**17 29 04.0**	**-1.4**
CM15	**Chiang Mai Arr**	**151.53**	**241**		P		**PKiKP**	**17 29 00.8**	**+3.2**
	comp=Z,84nmcomp=Z,8.3nm,1.2s								
ULN	**Ulaanbaatar**	**151.53**	**307**		PKIKP		**PKPbc**	**17 28 54.6**	**-1.8**
ULN	**Ulaanbaatar**	**151.53**	**307**				**PKPbc**	**17 28 54.6**	**-1.8**
CM34	**Chiang Mai Arr**	**151.62**	**242**		P		**PKiKP**	**17 28 58.0**	**+0.3**
CM32	**Chiang Mai Arr**	**151.71**	**242**		P		**PKiKP**	**17 29 01.0**	**+3.1**
CMMT	**Chiang Mai**	**151.74**	**242**		P		**PKiKP**	**17 28 59.6**	**+1.7**
	comp=Z,477nmcomp=Z,16nm,1.2s								
CHTO	**Chiang Mai**	**151.75**	**242**		PKIKP		**PKPbc**	**17 28 56.7**	**-0.9**
CHTO	**Chiang Mai**	**151.75**	**242**				**PKPbc**	**17 28 56.6**	**-0.9**
IRK	**Irkutsk**	**151.75**	**317**	*e*	PKIKP		**PKiKP**	**17 28 57.2**	**+0.2**
IRK					pmax		pmax		
	comp=Z,40nm,1.8s								
SONM	**Songino Array**	**151.97**	**307**		PKPbc		**PKPbc**	**17 28 55.8**	**-1.6**
	comp=Z,3.6nm,0.7s,baz=123,slow=2.3,SNR=6.4								
SONM	**Songino Array**	**151.97**	**307**		PKIKP		**PKPbc**	**17 28 55.1**	**-2.3**
SONM	**Songino Array**	**151.97**	**307**				**PKPbc**	**17 28 55.1**	**-2.3**
TLY	**Talaya**	**152.34**	**317**	*i*	PKIKP		**PKiKP**	**17 28 58.4**	**+0.2**
TLY				*e*				17 29 04.6	
KMI	**Kunming**	**152.34**	**257**	⇑	PKPbc		**PKPdf**	**17 28 54.1**	**+1.9**
KMI					sPKP			17 29 05.8	
KMI					L		L		
	comp=Z,150nm,17.0s								
KMI					L		L		
	comp=Z,94nm,14.9s								
KMI					L		L		
	comp=Z,230nm,17.3s								
VRH	**Novokhopyorsk**	**152.43**	**45**	*e*	PKIKP		**PKPbc**	**17 28 57.3**	**-0.8**
VRH					pmax		pmax		
	comp=Z,20nm,1.4s								
ZAK	**Zakamensk**	**153.08**	**314**	*e*	PKIKP		**PKPdf**	**17 28 53.0**	**+0.6**
ZAK					pmax		pmax		
	comp=Z,8.0nm,1.5s								
CD2	**Chengdu**	**153.74**	**270**		PKPbc		**PKPdf**	**17 28 53.3**	**-0.6**
KIV	**Kislovodsk**	**155.24**	**60**	*e*	PKIKP		**PKPdf**	**17 28 56.1**	**+0.5**
KIV					pmax		pmax		
	comp=Z,13nm,1.0s								
GOF	**Gofitskoye**	**155.25**	**57**	⇑	*e* PKIKP		**PKPdf**	**17 28 58.1**	**+2.7**
KBZ	**Khabaz**	**155.43**	**60**		PKP		**PKPdf**	**17 28 54.9**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=288,slow=3.5,SNR=2.6								
ARU	**Arti**	**156.50**	**20**	*i*	PKIKP		**PKPdf**	**17 28 56.6**	**-0.1**
GTA	**Gaotai**	**158.06**	**289**	*e*	PKP		**PKPdf**	**17 29 01.3**	**+1.8**
GTA					pPKP		sPKPdf	17 29 13.3	+11
GTA					sPKP			17 29 16.4	
GTA					L		L		
	comp=Z,170nm,18.5s								
GTA					L		L		
	comp=Z,160nm,18.2s								
GTA					L		L		
	comp=Z,160nm,19.6s								
ZALV	**Zalesovo Beam**	**159.28**	**340**		PKP		**PKPdf**	**17 28 59.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=336,slow=3.2,SNR=4.6								
ZALV	**Zalesovo Beam**	**159.28**	**340**		PKIKP		**PKPdf**	**17 28 59.5**	**-0.7**
ZALV	**Zalesovo Beam**	**159.28**	**340**		PKPdf		**PKPdf**	**17 28 59.5**	**-0.7**
WMQ	**Urumqi**	**165.53**	**312**	*e*	PKP		**PKPdf**	**17 29 09.9**	**+3.0**
MKAR	**Makanchi Array**	**166.24**	**331**		PKP		**PKPdf**	**17 29 06.2**	**-1.1**
	comp=Z,0.6nm,1.0s,baz=13,slow=2.6,SNR=4.6								
MKAR					PKPab		**PKPab**	**17 30 08.6**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=46,slow=4.2,SNR=2.1								
GEYT	**Alibeck**	**167.85**	**72**		PKP		**PKPdf**	**17 29 09.9**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=316,slow=4.0,SNR=2.2								

*SOF **13** 17:17:33.5, 41.64N×25.00E, h13km, MD2.5*
*ISK **13** 17:17:33.6, 41.66N×25.03E, h6km, ML2.2/7*
*DDA **13** 17:17:34.3, 41.70N×25.16E, h7km±1km, ML2.4*
*ATH **13** 17:17:34.4, 41.63N×25.00E, h10km±2km, ML2.2/9, Error ellipse: s-maj=2.3km s-min=1.0km az=199.0*
*THE **13** 17:17:34.7, 41.61N×25.03E, h9km±1km, ML2.1/7, Error ellipse: s-maj=1.4km s-min=0.6km az=183.0*
ISC 13 17:17:33.1±1.0, **41.67N**±0.02×**25.02E**±0.02, **h8**km±9km,
n49, σ0.54/75, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RZN	**Rozhen**	**0.23**	**275**	*i*	P	**Pg**	**17 17 38.3**	**+0.5**
KDZ	**Kurdzhali**	**0.30**	**93**		PG	**Pg**	**17 17 38.9**	**-0.2**
KDZ					SG	**Sg**	**17 17 42.6**	**-0.5**
KDZ	**Kurdzhali**	**0.30**	**93**	*i*	P	**Pg**	**17 17 39.2**	**+0.1**
PLD	**Plovdiv**	**0.49**	**332**		PG	**Pb**	**17 17 44.2**	**+0.1**
PLD					SG	**Sb**	**17 17 51.0**	**-0.4**
PLD	**Plovdiv**	**0.49**	**332**	*i*	P	**Pb**	**17 17 44.2**	**+0.1**
DIM	**Dimitrovgrad**	**0.54**	**45**	*i*	P	**Pb**	**17 17 45.3**	**+0.4**
RDO	**Rodhopi**	**0.65**	**143**		P	**Pb**	**17 17 46.3**	**-0.4**
RDO					S	**Sb**	**17 17 54.9**	**-1.0**
RDO					AML	AML	17 17 56.4	
	comp=E,571μm,0.2s							
RDO					AML	AML	17 17 56.6	
	comp=N,646μm,0.1s							
RDO	**Rodhopi**	**0.65**	**143**		P	**Pb**	**17 17 46.4**	**-0.3**
RDO					S	**Sb**	**17 17 54.9**	**-1.0**
	comp=N,318nm,0.2s							
KAVA	**Kavala**	**0.77**	**210**		P	**Pg**	**17 17 48.0**	**+0.1**
KAVA					S	**Sb**	**17 17 59.0**	**-0.3**
KAVA					AML	AML	17 17 59.8	
	comp=E,279μm,0.1s							
KAVA					AML	AML	17 18 03.8	
	comp=N,324μm,0.2s							
KAVA	**Kavala**	**0.77**	**210**		P	**Pg**	**17 17 48.1**	**+0.1**
KAVA					S	**Sb**	**17 17 58.8**	**-0.5**
	comp=N,105nm,0.1s							
KVLA	**Kavala**	**0.87**	**213**		P	**Pg**	**17 17 49.6**	**-0.3**
KVLA					S	**Sg**	**17 18 01.4**	**+0.2**
NVR	**Nevrokopi**	**0.92**	**250**		P	**Pb**	**17 17 51.8**	**+0.4**
NVR					S	**Sg**	**17 18 03.3**	**+0.4**
NVR					AML	AML	17 18 08.4	
	comp=E,333μm,0.2s							
NVR					AML	AML	17 18 08.6	
	comp=N,290μm,0.2s							
NVR	**Nevrokopi**	**0.92**	**250**		P	**Pn**	**17 17 51.9**	**-0.5**
NVR					S	**Sn**	**17 18 05.4**	**-0.4**
	comp=N,160nm,0.2s							
MMB	**Musomiste**	**0.97**	**266**	*i*	P	**Pb**	**17 17 51.8**	**-0.4**
PGB	**Panagyurishte**	**1.08**	**325**	*i*	P	**Pn**	**17 17 54.4**	**-0.2**
THAS	**Thassos island**	**1.08**	**192**		P	**Pb**	**17 17 53.9**	**-0.2**
THAS					S	**Sb**	**17 18 08.3**	**-0.1**
THAS					AML	AML	17 18 10.4	
	comp=N,283μm,0.2s							
THAS					AML	AML	17 18 12.7	
	comp=E,288μm,0.3s							
THAS	**Thassos island**	**1.08**	**192**		P	**Pb**	**17 17 54.0**	**-0.1**
THAS					S	**Sb**	**17 18 08.5**	**+0.1**
	comp=E,130nm,0.3s							
ALN	**Alexandroupoli**	**1.09**	**134**		P	**Pn**	**17 17 54.6**	**-0.1**
ALN					S	**Sb**	**17 18 09.0**	**+0.4**
ALN	**Alexandroupoli**	**1.09**	**134**		P	**Pn**	**17 17 54.8**	**+0.1**
ALN					S	**Sb**	**17 18 09.0**	**+0.4**
	comp=E,115nm,0.3s							
ALN	**Alexandroupoli**	**1.09**	**134**		PN	**Pn**	**17 17 54.5**	**-0.1**
ALN					SN	**Sn**	**17 18 09.3**	**-0.6**
SRS	**Serrai**	**1.21

RABL	Rabaul	14.67	298		P	P	17 22 30.7 -0.7
TARA	Tarawa	14.89	32	Pn	Pn	Pn	17 22 27.5 -1.2
CTAO	Charters Tower	20.05	242	Pn	Pn	Pn	17 23 34.1 +1.3
CTAO				IAmb	IAmb	IAmb	17 24 17.8
	comp=Z,47nm,1.6s						
ARMA	Armidale	22.66	211	P	P	P	17 23 59.2 +0.2
ARMA				IAmb	IAmb	IAmb	17 24 20.7
	comp=Z,30nm,1.4s						
BKZ	Black Stump Fm	29.44	162	P	P	P	17 25 01.1 +0.1
STKA	Stephens Creek	29.72	223	P	P	P	17 25 04.3 +0.7
	comp=Z,1.2nm,0.7s,baz=30,slow=15,SNR=3.5						
STKA	Stephens Creek	29.72	223	P	P	P	17 25 03.9 +0.3
H11S2	WAKE ISLAND Hy baz=183	29.77	3	T	T	T	17 56 23.0
H11S3	WAKE ISLAND Hy baz=183,slow=74	29.77	3	T	T	T	17 56 22.4
H11S1	WAKE ISLAND Hy baz=183,slow=74	29.78	3	T	T	T	17 56 20.8
WR0	Warramunga Arr	30.56	250	P	P	P	17 25 11.4 +0.2
WR0				IAmb	IAmb	IAmb	17 25 24.7
	comp=Z,14nm,1.6s						
WB0	Warramunga Arr	30.66	250	P	P	P	17 25 12.3 +0.2
WB0				IAmb	IAmb	IAmb	17 25 23.0
	comp=Z,5.3nm,0.9s						
WB2	Warramunga Arr	30.73	250	P	P	P	17 25 12.9 +0.2
WB2				IAmb	IAmb	IAmb	17 26 06.4
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	30.74	250	P	P	P	17 25 12.5 -0.3
	comp=Z,1.6nm,0.5s,baz=83,slow=8.7,SNR=14						
WRA				PcP		PcP	17 28 10.4 +0.3
	comp=Z,1.2nm,0.9s,baz=72,slow=3.0,SNR=4.5						
WRA	Warramunga Arr	30.74	250	P	P	P	17 25 12.2 -0.5
BFZ	Birch Farm	30.76	163	P	P	P	17 25 13.0 +0.4
AS31	Alice Springs	32.04	243	P	P	P	17 25 24.3 +0.1
ASAR	Alice Springs	32.04	243	P	P	P	17 25 23.6 -0.7
	comp=Z,0.5nm,0.8s,baz=63,slow=10,SNR=5.8						
ASAR				PcP		PcP	17 28 13.4 -0.1
	comp=Z,1.0nm,0.7s,baz=67,slow=2.3,SNR=8.8						
ASAR				LR		LR	17 37 15.2
	comp=Z,99nm,18.0s,baz=100,slow=34						
BBOO	Buckleboo	34.10	227	P	P	P	17 25 41.5 -0.5
BBOO				IAmb	IAmb	IAmb	17 25 42.6
	comp=Z,5.8nm,1.0s						
KNRA	Kununurra	35.53	259	P	P	P	17 25 54.2 -0.4
KNRA				IAmb	IAmb	IAmb	17 26 05.2
	comp=Z,9.6nm,1.1s						
JMN	Monobe	53.83	328	P	P	P	17 28 20.3 +0.1
VNDA	Vanda	66.11	181	P	P	P	17 29 44.1 +0.3
	comp=Z,1.2nm,0.9s,baz=344,slow=4.5,SNR=5.5						
VNDA	Vanda	66.11	181	IAmb	IAmb	IAmb	17 29 46.1
	comp=Z,3.5nm,1.3s						
CMAR	Chiang Mai Arr	71.67	294	P	P	P	17 30 20.5 +1.2
	comp=Z,0.3nm,0.6s,baz=127,slow=5.5,SNR=0.6						
SONM	Songino Array	78.58	324	P	P	P	17 30 59.2 +0.4
	comp=Z,0.9nm,0.8s,baz=136,slow=6.6,SNR=2.4						
SONM	Songino Array	78.58	324	IAmb	IAmb	IAmb	17 30 59.9
	comp=Z,2.4nm,1.1s						
QSPA	South Pole Qui	78.58	180	P	P	P	17 30 59.1 +0.6
QSPA				IAmb	IAmb	IAmb	17 31 00.1
	comp=Z,12nm,1.6s						
CRQM	Cirque	82.73	23	P	P	P	17 31 21.6 +0.8
ILAR	Eielson Array	84.08	19	P	P	P	17 31 26.6 -0.7
	comp=Z,0.6nm,0.6s,baz=235,slow=5.2,SNR=9.2						
U15A	North Rim	90.85	53	P	P	P	17 32 03.5 +2.3
MK31	Makanchi Array	93.35	317	P	P	P	17 32 11.5 -0.6
MK31				IAmb	IAmb	IAmb	17 32 12.7
	comp=Z,1.6nm,0.9s						
MKAR	Makanchi Array	93.35	317	P	P	P	17 32 11.7 -0.4
	comp=Z,1.7nm,0.8s,baz=98,slow=6.3,SNR=13						
MKAR	Makanchi Array	93.35	317	P	P	P	17 32 11.4 -0.7
ZALV	Zalesovo Beam	93.48	324	P	P	P	17 32 11.8 -0.7
	comp=Z,0.6nm,0.5s,baz=116,slow=3.4,SNR=3.5						
ESDC	Sonseca Array	150.23	343	PKPab		PKPab	17 38 54.9 +0.4
	comp=Z,0.5nm,0.9s,baz=26,slow=3.3,SNR=5.0						

MEX 13 17:22:41.2±1.2, 14.86N×93.40W, h10km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.85	12	eP	Pg	17 22 55.4	-2.3

*NEIC **13** 17:47:54.8±1.3, 22.2°S±0.1°×177.1°W±0.1, h223km±8km, mb4.0/11, Error ellipse: s-maj=18.9km s-min=15.5km az=163.0*
*IDC **13** 17:48:02.0±28.0, 22.79°S×177.99°W, h244km±184km, mb3.2/2, mb1 3.4/3, mb1mx3.1/21, mbtmp3.8/3, Error ellipse: s-maj=357.0km s-min=40.2km az=135.0*

ISC 13 17:47:57.3±1.9, 23.0°S±0.2°×177.6°W±0.3, h219km, n17, σ0°69/16, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.25	182	Pn	Pn	17 49 28.7	+0.7
MSVF	Nonsavu	6.62	321	P	Pn	17 49 33.2	+0.3
	0.6nm,0.3s,baz=110,slow=18,SNR=4.1						
NIUE	Niue	8.16	63	Pn	Pn	17 49 43.4	-9.3
NIUE				Sn	S	17 51 03.9	-21
CTAO	Charters Tower	33.68	268	P	P	17 54 19.3	+1.4
BBOO	Buckleboo	41.82	246	P	P	17 55 24.8	-1.0
BBOO				IAmb	IAmb	17 55 38.8	
	comp=Z,9.7nm,1.4s						
AS31	Alice Springs	44.35	259	P	P	17 55 46.5	+0.2
ASAR	Alice Springs	44.35	259	P	P	17 55 46.2	-0.1
	comp=Z,1.3nm,0.6s,baz=98,slow=7.3,SNR=49						
WR0	Warramunga Arr	44.48	264	P	P	17 55 46.9	-0.3
WR0				IAmb	IAmb	17 55 58.7	
	comp=Z,6.3nm,1.2s						
WB0	Warramunga Arr	44.65	265	P	P	17 55 48.0	-0.7
WB0				IAmb	IAmb	17 56 16.1	
	comp=Z,6.6nm,1.2s						
WB2	Warramunga Arr	44.65	264	P	P	17 55 48.4	-0.3
WB2				IAmb	IAmb	17 56 02.8	
	comp=Z,6.4nm,1.2s						
WRAB	Tennant Creek	44.66	264	P	P	17 55 48.4	-0.3
WRAB				IAmb	IAmb	17 55 56.9	
	comp=Z,14nm,1.6s						
WRA	Warramunga Arr	44.66	264	P	P	17 55 48.0	-0.7
	comp=Z,0.6nm,0.6s,baz=102,slow=8.6,SNR=5.4						
FORT	Forrest	48.68	249	P	P	17 56 18.6	-1.1
KNRA	Kununurra	50.89	268	P	P	17 56 36.5	0.0
KNRA				IAmb	IAmb	17 56 40.4	
	comp=Z,16nm,1.4s						
FITZ	Fitzroy Crossi	53.09	264	P	P	17 56 52.3	-0.4
QSPA	South Pole Qui	67.10	180	P	P	17 58 26.8	-0.3
QSPA				IAmb	IAmb	17 58 28.6	
	comp=Z,5.8nm,1.5s						
AKASG	Malin Array Be	145.34	330	PKPbc	PKPbc	18 07 08.9	-0.1
	comp=Z,0.1nm,0.2s,baz=37,slow=4.0,SNR=4.8						

*NEIC **13** 18:12:30.9±1.4, 10.93°S±0.08°×166.3°E±0.1°, h149km±5km, mb4.2/35, Error ellipse: s-maj=18.2km s-min=11.0km az=68.0*
*IDC **13** 18:12:31.3±2.8, 10.92°S×166.22°E, h159km±23km, mb3.6/13, mb1 3.7/15, mb1mx3.6/33, mbtmp4.1/15, Error ellipse: s-maj=19.1km s-min=15.1km az=70.0*

ISC 13 18:12:30.0±0.5, 10.91°S±0.06°×166.29°E±0.09, h146km, n74, σ1°09/70, mb4.1/28, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	4.60	169		Pn	18 13 38.8	+0.8
SANVU				Sn	Sn	18 14 30.7	-0.3
HNR	Honiara	6.42	283	P	Pn	18 14 03.3	+1.0
	4.2nm,0.3s,baz=219,slow=2.9,SNR=4.5						
HNR				S	Sn	18 15 14.3	-0.2
	3.5nm,0.3s,baz=215,slow=12,SNR=1.2						
LIFNC	LIFOU	9.85	175	Pn	Pn	18 14 47.7	-0.4
DZM	Mont Dzumac	11.10	179	P	Pn	18 15 06.6	+1.9
	1.9nm,0.3s,baz=303,slow=21,SNR=26						
DZM				S	Sn	18 17 05.7	-1.7
	0.6nm,0.3s,baz=150,slow=22,SNR=7.5						
DZM	Mont Dzumac	11.10	179		Pn	18 15 06.1	+1.4
DZM	Mont Dzumac	11.10	179	P	Pn	18 15 07.6	+2.9
YATNC	Mamie plateau,	11.10	177	P	Pn	18 15 07.0	+2.4
NOUC	Port Laguerre	11.13	180	P	Pn	18 15 08.6	+3.6
ONTNC	Ouen Toro	11.34	179	Pn	Pn	18 15 08.5	+0.8
OUENC	Ouen Island, N	11.46	177	Pn	Pn	18 15 09.8	+0.5
OUENC	Ouen Island, N	11.46	177	P	Pn	18 15 13.0	+3.7
PINNC	Pines Island,	11.69	175	Pn	Pn	18 15 13.1	+0.8
EIDS	Eidsvold	20.36	223	P	P	18 16 56.6	+1.4
CTA	Charters Tower	21.34	242	P	P	18 17 04.3	-1.3
	2.5nm,0.7s,baz=70,slow=12,SNR=1.6						
URZ	Urewera	28.91	162	P	P	18 18 15.1	-0.1
	7.0nm,0.8s,baz=121,slow=23,SNR=5.7						
URZ	Urewera	28.91	162	P	P	18 18 15.1	-0.1
H11S2	WAKE ISLAND Hy baz=181,slow=76	29.22	1	T	T	18 49 06.0	
H11S3	WAKE ISLAND Hy baz=181,slow=76	29.22	1	T	T	18 49 05.1	
H11S1	WAKE ISLAND Hy baz=181,slow=76	29.23	1	T	T	18 49 07.8	
BKZ	Black Stump Fm	29.57	164	P	P	18 18 21.4	+0.3
H11N1	WAKE ISLAND Hy baz=182,slow=76	30.44	1	T	T	18 50 37.2	
H11N3	WAKE ISLAND Hy baz=182,slow=76	30.44	1	T	T	18 50 38.0	
H11N2	WAKE ISLAND Hy baz=182,slow=76	30.45	1	T	T	18 50 38.7	
STKA	Stephens Creek	30.91	224	P	P	18 18 33.5	+0.6
	0.5nm,0.6s,baz=18,slow=5.6,SNR=3.6						
STKA	Stephens Creek	30.91	224	IAmb	IAmb	18 18 38.4	
	comp=Z,0.8nm,1.4s						
TUWZ	Tuamarina	31.14	169	P	P	18 18 34.9	+0.1
THZ	Tophouse	31.28	170	P	P	18 18 36.8	+0.7
WR0	Warramunga Arr	31.85	250	P	P	18 18 40.8	-0.5
WR0				IAmb	IAmb	18 19 06.5	
	comp=Z,6.1nm,1.4s						
WB0	Warramunga Arr	31.95	250	P	P	18 18 42.3	0.0
WB0				IAmb	IAmb	18 18 42.4	
	comp=Z,7.9nm,1.2s						
WRAB	Tennant Creek	32.02	250	P	P	18 18 42.2	-0.7
WB2	Warramunga Arr	32.02	250	P	P	18 18 42.8	-0.1
WB2				IAmb	IAmb	18 18 48.7	
	comp=Z,5.9nm,1.1s						
WRA	Warramunga Arr	32.03	250	P	P	18 18 42.4	-0.6
	comp=Z,1.4nm,0.7s,baz=83,slow=9.0,SNR=12						
WRA				PcP	PcP	18 21 29.1	-0.3
	comp=Z,0.5nm,0.7s,baz=81,slow=4.2,SNR=2.2						
WRA	Warramunga Arr	32.03	250	P	P	18 18 41.6	-1.4
LTZ	Lake Taylor	32.18	172	P	P	18 18 44.4	+0.4
ASAR	Alice Springs	33.33	243	P	P	18 18 53.2	-1.0
	comp=Z,1.3nm,1.0s,baz=66,slow=10,SNR=8.4						
ASAR				PcP	PcP	18 21 32.6	-0.4
	comp=Z,0.4nm,0.5s,baz=83,slow=2.4,SNR=5.4						
ASAR	Alice Springs	33.33	243	P	P	18 18 52.9	-1.4
BBOO	Buckleboo	35.31	227		P	18 19 09.4	-1.8
KNRA	Kununurra	36.80	258	P	P	18 19 24.0	0.0
FITZ	Fitzroy Crossi	39.93	255	P	P	18 19 50.1	-0.1
	comp=Z,1.5nm,0.6s,baz=112,slow=3.5,SNR=5.1						
FITZ	Fitzroy Crossi	39.93	255	P	P	18 19 50.4	+0.2
FITZ				IAmb	IAmb	18 20 02.6	
	comp=Z,12nm,1.6s						
JMN	Monobe	54.05	327	P	P	18 21 40.1	+0.6
VNDA	Vanda	66.64	181	P	P	18 23 04.2	-0.1
	comp=Z,0.4nm,0.6s,baz=343,slow=7.2,SNR=7.4						
VNDA	Vanda	66.64	181	IAmb	IAmb	18 23 07.9	
	comp=Z,1.9nm,1.4s						
CASY	Casey	66.70	201	P	P	18 23 05.0	+0.2
CMAR	Chiang Mai Arr	72.55	293	P	P	18 23 42.0	+0.4
	comp=Z,0.9nm,0.7s,baz=127,slow=4.1,SNR=7.6						
YAK	Yakutsk	78.12	343	P	P	18 24 12.4	-0.1
YAK				IAmb	IAmb	18 24 13.1	
	comp=Z,6.0nm,0.6s						
SONM	Songino Array	78.88	324	P	P	18 24 17.1	0.0
	comp=Z,0.4nm,0.5s,baz=139,slow=5.9,SNR=3.6						
SONM	Songino Array	78.88	324	IAmb	IAmb	18 24 17.8	
	comp=Z,1.1nm,1.2s						
QSPA	South Pole Qui	79.09	180	P	P	18 24 17.9	-0.2
QSPA				IAmb	IAmb	18 24 20.1	
	comp=Z,9.0nm,1.6s						
N25K	Chitina, Valde	81.83	21	P	P	18 24 33.3	+0.8
N25K				IAmb	IAmb	18 24 33.9	
	comp=Z,2.3nm,0.7s						
VRDI	Verde Repeater	82.00	22	P	P	18 24 33.9	+0.3
VRDI				IAmb	IAmb	18 24 45.3	
	comp=Z,5.7nm,1.4s						
GLB	Gilahina Butte	82.00	22	P	P	18 24 33.8	+0.3
IMAR	Indian Mountai	82.15	15	P	P	18 24 34.7	+0.7
MLY	Manley	82.25	17	P	P	18 24 35.3	+0.6
WRH	Wood River Hil	82.63	18	P	P	18 24 37.1	+0.5
WRH				IAmb	IAmb	18 24 38.3	
	comp=Z,2.8nm,1.0s						
CCB	Clear Creek Bu	82.85	18	P	P	18 24 38.2	+0.6
CCB				IAmb	IAmb	18 24 38.6	
	comp=Z,2.1nm,0.6s						
MDM	Murphy Dome	82.94	18	P	P	18 24 39.0	+0.8
MDM				IAmb	IAmb	18 24 39.2	
	comp=Z,2.1nm,0.6s						
HDA	Harding Lake	82.94	19	P	P	18 24 38.0	-0.2
HDA				IAmb	IAmb	18 24 39.3	
	comp=Z,5.8nm,0.7s						
IL31		83.22	18	P	P	18 24 38.5	-1.0
IL31				IAmb	IAmb	18 24 40.5	
	comp=Z,2.3nm,0.7s						
ILAR	Eielson Array	83.22	18	P	P	18 24 39.3	-0.3
	comp=Z,1.2nm,0.5s,baz=241,slow=5.1,SNR=23						
ILAR	Eielson Array	83.22	18	P	P	18 24 39.9	+0.3
DOT	Dot Lake	83.37	20	P	P	18 24 41.2	+0.8
DOT				IAmb	IAmb	18 24 41.6	
	comp=Z,4.3nm,1.0s						
SCRK	Sand Creek	83.61	20	P	P	18 24 42.3	+0.6
SCRK				IAmb	IAmb	18 24 43.1	
	comp=Z,4.8nm,1.0s						
L27K	Beaver Creek,	83.76	21	P	P	18 24 43.2	+0.8
MAW	Mawson	85.05	202	P	P	18 24 48.2	-0.7
	comp=Z,2.1nm,0.8s,baz=84,slow=6.2,SNR=3.7						
MAW	Mawson	85.05	202	IAmb	IAmb	18 24 50.1	
	comp=Z,1.4nm,1.2s						
NVAR	Mina Array Bea	85.53	50	P	P	18 24 52.6	+0.5
	comp=Z,1.4nm,0.9s,baz=243,slow=7.2,SNR=6.5						
SZCU	Shurtz Canyon	89.26	52	P	P	18 25 09.8	-0.2
MK31	Makanchi Array	93.79	317	P	P	18 25 30.6	0.0
MK31				IAmb	IAmb	18 25 31.2	
	comp=Z,1.2nm,0.9s						
MKAR	Makanchi Array	93.79	317	P	P	18 25 30.1	-0.4
	comp=Z,1.1nm,0.7s,baz=93,slow=6.1,SNR=14						
ARCES	ARCESS Array B	116.34	346	PKP	PKPdf	18 30 54.5	-1.2
	comp=Z,2.0nm,0.9s,baz=56,slow=2.3,SNR=4.6						
FINES	FINESS Array B	121.84	339	PKP	PKPdf	18 31 05.4	-1.0
	comp=Z,0.8nm,0.8s,baz=48,slow=2.1,SNR=5.2						
ESDC	Sonseca Array	150.07	345	PKPbc	PKPbc	18 32 02.5	-1.3
	comp=Z,0.8nm,0.8s,baz=4.0,slow=2.7,SNR=1.9						
ESDC				PKPab	PKPab	18 32 10.2	+0.2
	comp=Z,0.3nm,0.7s,baz=15,slow=4.1,SNR=5.1						
TORD	Torodi Ar. Bea	164.77	280	PKP	PKPdf	18 32 17.3	-0.2
	comp=Z,0.9nm,0.8s,baz=64,slow=3.4,SNR=2.4						

IDC 13 18:28:47.6±7.3, 30.70N×142.20E, h0km, mb3.2/4, mb1 3.3/5, mb1mx3.2/35, mbtmp3.2/5, ML2.4/1, Error ellipse: s-maj=280.4km s-min=24.7km az=70.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.71	331	Pn	Pn	18 30 27.0	-0.4
	0.1nm,0.3s,baz=172,slow=8.6,SNR=6.4						
MJAR				Sn	Sn	18 31 39.2	-5.5
	0.0nm,0.3s,baz=159,slow=10.0,SNR=1.3						
SONM	Songino Array	32.22	312	P	P	18 35 17.3	-0.2
	0.2nm,0.7s,baz=123,slow=5.3,SNR=1.9						
MKAR	Makanchi Array	48.26	307	P	P	18 37 30.3	+0.1
	0.1nm,0.3s,baz=93,slow=7.2,SNR=1.6						
WRA	Warramunga Arr	50.91	190	P	P	18 37 50.5	-0.2
	0.2nm,0.4s,baz=7.3,slow=7.6,SNR=5.8						
ASAR	Alice Springs	54.63	189	P	P	18 38 18.1	0.0
	0.3nm,1.0s,baz=13,slow=6.7,SNR=1.5						

*IDC **13** 18:33:39.9±5.3, 17.36S×175.19W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/24, mbtmp4.3/4, Error ellipse: s-maj=152.9km s-min=102.0km az=163.0*
*NEIC **13** 18:34:50.4±1.0, 18.5S±0.2°×177.9W±0.2, h525km±13km, mb4.4/18, Error ellipse: s-maj=26.7km s-min=20.7km az=155.0*

ISC 13 18:34:51.8±0.9, 18.6S±0.2°×177.8W±0.1, h557km, n28, σ0°97/29, mb4.4/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.05	281	P	P	18 36 12.9	-1.7
AFI	Afiamalu	7.39	52	P	P	18 36 38.1	-5.8
NIUE	Niue	7.46	95	P	P	18 36 43.1	-1.3
URZ	Urewera	20.13	192	P	P	18 38 48.8	+0.3
CTA	Charters Tower	33.93	261	P	P	18 40 48.6	-0.8
	2.8nm,0.8s,baz=74,slow=9.9,SNR=1.4						
CTA	Charters Tower	33.93	261	P	P	18 40 48.6	-0.8
CTAO	Charters Tower	33.93	261	P	P	18 40 49.0	-0.4
TOO	Toolangi	37.23	232	P	P	18 41 18.1	+1.6
TOO				IAmb	IAmb	18 42 17.5	
	comp=Z,24nm,1.9s						
STKA	Stephens Creek	38.84	242	P	P	18 41 30.5	+0.8
	comp=Z,1.7nm,0.7s,baz=93,slow=11,SNR=5.4						
STKA	Stephens Creek	38.84	242	P	P	18 41 30.5	+0.8
BBOO	Buckleboo	43.62	242	P	P	18 42 08.0	+0.5
BBOO				IAmb	IAmb	18 42 24.2	
	comp=Z,22nm,1.6s						
WR0	Warramunga Arr	44.91	260	P	P	18 42 16.9	-0.8
WR0				IAmb	IAmb	18 43 16.1	
	comp=Z,12nm,1.5s						
WR0				PcP	PcP	18 43 47.2	0.0
WB0	Warramunga Arr	45.07	260	P	P	18 42 17.6	-1.2
WB0				IAmb	IAmb	18 43 22.0	
	comp=Z,16nm,1.6s						
WB2	Warramunga Arr	45.09	260	P	P	18 42 18.1	-0.9
WB2				IAmb	IAmb	18 43 26.1	
	comp=Z,22nm,1.8s						
WRAB	Tennant Creek	45.09	260	P	P	18 42 18.0	-1.0
WRAB				IAmb	IAmb	18 43 54.0	
	comp=Z,19nm,1.6s						
WRA	Warramunga Arr	45.10	260	P	P	18 42 18.0	-1.1
	comp=Z,1.1nm,0.4s,baz=98,slow=6.7,SNR=44						
WRA	Warramunga Arr	45.10	260	P	P	18 42 18.0	-1.1
AS31	Alice Springs	45.19	255	P	P	18 42 19.1	-0.7
ASAR	Alice Springs	45.19	255	P	P	18 42 19.7	-0.1
	comp=Z,6.4nm,0.5s,baz=89,slow=9.2,SNR=232						
ASAR				PcP	PcP	18 43 48.8	+0.7
	comp=Z,0.2nm,0.6s,baz=104,slow=4.0,SNR=1.8						
ASAR	Alice Springs	45.19	255	P	P	18 42 19.0	-0.8
ASAR	Alice Springs	45.19	255		PcP	18 43 48.8	+0.7
MTN	Manton Dam	49.38	269	P	P	18 42 50.4	-0.8
MTN				IAmb	IAmb	18 44 04.7	
	comp=Z,31nm,1.4s						
FORT	Forrest	50.27	245	P	P	18 42 57.4	-0.1
FORT				IAmb	IAmb	18 43 56.8	
	comp=Z,15nm,1.1s						
KNRA	Kununurra	51.02	265	P	P	18 43 02.6	-0.5
KNRA				IAmb	IAmb	18 43 14.0	
	comp=Z,18nm,1.4s						
FAKI	Fak Fak	51.29	281	P	P	18 43 05.3	+0.1
FITZ	Fitzroy Crossi	53.51	261	P	P	18 43 20.8	-0.2
SOEI	Soe	56.67	270	P	P	18 43 44.5	+1.3
SOEI				IAmb	IAmb	18 44 02.8	
	comp=Z,35nm,1.2s						
MCARA	McCarthy VSAT	84.38	16	P	P	18 46 27.1	+1.8

*DJA **13** 19:11:02.3±0.4, 0°S±3°×12°3E±°, h126km±5km, M3.9/12, mb3.9/3, MLv3.9/12*

ISC 13 19:11:01.0±1.3, 0.0N±0.1°×123.10E±0.07, h162km, n12, σ1°82/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.64	352	P	Pn	19 11 24.6	+0.1
GTOI				S	Sn	19 11 41.5	-1.0
LUWI	Luwuk	1.08	197	P	Pn	19 11 25.3	-2.4
LUWI				S	Sn	19 11 43.4	-4.8
MRSI	Marisa	1.25	292	P	Pn	19 11 27.8	-1.3
MRSI				S	Sn	19 11 47.7	-2.9
APSI	Ampana	1.71	238	P	Pn	19 11 33.2	-0.5
APSI				S	Sn	19 11 56.6	-2.2
MPSI	Mapaga	3.22	276	P	Pn	19 11 53.3	+1.7
SANI	Sanana	3.54	125	P	Pn	19 11 56.0	+0.3
TNTI	Ternate	4.34	80	P	Pn	19 12 04.9	-1.1
TTSI	Tana Toraja	4.46	227	P	Pn	19 12 08.8	+1.2
GAMI	Galela, Maluku	5.03	69	P	Pn	19 12 15.9	+0.8
NLAI	Namlea	5.13	129	P	Pn	19 12 17.4	+0.9
	0.1nm13nm,0.8s						
BNSI	Bone	5.29	214	P	Pn	19 12 19.7	+1.1
	0.1nm13nm,1.1s						
PMSI	Majene	5.44	230	P	Pn	19 12 21.7	+1.2

*IDC **13** 19:12:21.3±1.0, 51.88N×171.86W, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/49, mbtmp3.6/11, ML3.0/2, Error ellipse: s-maj=32.1km s-min=18.2km az=4.0*
*AEIC **13** 19:12:26.3±2.1, 51.8N±0.1°×171.61W±0.08, h42km±7km, ML3.2/23, mb3.8/15(NEIC), Error ellipse: s-maj=15.9km s-min=6.0km az=167.0*
*NEIC **13** 19:12:28.1±1.7, 51.9N±0.1°×171.66W±0.07, h44km±10km, Error ellipse: s-maj=16.2km s-min=5.8km az=167.0*

ISC 13 19:12:27.6±0.8, 51.8N±0.1°×171.66W±0.04, h44km, n61, σ1°12/57, mb3.7/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.56	290		Pn	19 12 53.4	+0.5
KOFP	Korovin Flat P	1.57	288		Pn	19 12 53.4	+0.4
ATKA	Atka Island	1.61	285		Pn	19 12 53.1	-0.4
ATKA					Sn	19 13 13.2	+0.2
KONE	Korovin Northe	1.62	292		Pn	19 12 54.2	+0.6
KOKL	Mount Kliuchef	1.64	289		Pn	19 12 54.4	+0.4
NIKH	Nikolski High	2.07	55		Pn	19 12 58.5	-1.3
OKSO	Okmok South	2.63	53		Pn	19 13 07.9	+0.3
OKSO					Sn	19 13 39.3	+1.1
GSTR	Great Sitkin T	2.73	277		Sn	19 13 42.8	+2.1
GSTD	Great Sitkin T	2.78	277		Sn	19 13 43.1	+1.1
OKFG	Magazine Ridge	2.78	54		Sn	19 13 42.7	+0.8
ADK	Adak	3.11	273		Pn	19 13 15.2	+1.1
ADK	Adak	3.11	273		Sn	19 13 50.3	+0.3
KIWB	Kanaga Island	3.40	273	Pn	Pn	19 13 18.9	+0.8
MAPS	Pakushin South	3.49	53		Pn	19 13 19.4	+0.1

baz=22,slow=76
H11S1 WAKE ISLAND Hy 37.36 215 T T 19 59 27.1
baz=20,slow=76
H11S2 WAKE ISLAND Hy 37.38 215 T T 19 59 26.4
baz=20,slow=76
H11S3 WAKE ISLAND Hy 37.38 215 T T 19 59 29.1
baz=20,slow=76
MCMT McKenzie Canyo 38.78 76 P **P** **19 19 48.0 +0.1**
NVAR Mina Array Bea 39.08 88 P **P** **19 19 51.8 +1.3**
comp=Z,0.5nm,0.6s,baz=295,slow=8.8,SNR=4.6
PDAR Pinedale Array 41.90 77 P **P** **19 20 14.3 +0.6**
comp=Z,0.3nm,0.3s,baz=323,slow=5.9,SNR=2.6
TX31 Lajitas Ar. Si 54.18 87 P **P** **19 21 48.6 0.0**
TXAR Lajitas Array 54.18 87 P **P** **19 21 48.4 -0.2**
comp=Z,0.4nm,0.6s,baz=292,slow=4.4,SNR=7.1
TXAR Lajitas Array 54.18 87 P **P** **19 21 48.6 0.0**
MK31 Makanchi Array 63.14 312 P **P** **19 22 49.6 -0.9**
MK31 lAmb lAmb 19 23 10.4
comp=Z,0.8nm,1.2s
MKAR Makanchi Array 63.14 312 P **P** **19 22 49.1 -1.4**
comp=Z,0.5nm,0.5s,baz=40,slow=6.0,SNR=12
MKAR Makanchi Array 63.14 312 P **P** **19 22 49.2 -1.2**
FINES FINESS Array B 66.19 351 P **P** **19 23 07.9 -2.2**
comp=Z,0.9nm,0.8s,baz=353,slow=7.6,SNR=1.4
WRA Warramunga Arr 85.56 230 P **P** **19 25 00.9 0.0**
comp=Z,0.7nm,1.1s,baz=36,slow=6.4,SNR=2.6
ASAR Alice Springs 88.97 228 P **P** **19 25 17.4 +0.1**
comp=Z,0.2nm,0.6s,baz=28,slow=4.6,SNR=4.7

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*IDC **13** 19:17:15.3±2.1, 6°.89S×129°.85E, h150km±27km, mb3.0/1, mb1 2.8/6, mb1mx2.8/32, mbtmp3.3/6, Error ellipse: s-maj=38.8km s-min=20.3km az=97.0*

ISC 13 19:17:13.2±0.9, 6°.95S±0°.07×129°.9E±0°.1, h150km, n6, σ4§13/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.18**	**13**	P		**Pn**		**19 18 43.8**	**+1.3**
	0.6nm,0.3s,baz=125,slow=3.9,SNR=28								
SIJI				S		**Sn**		**19 19 46.6**	**-5.7**
	0.5nm,0.3s,baz=222,slow=22,SNR=7.4								
BATI	**Baumata**	**6.98**	**242**	P		**Pn**		**19 18 55.3**	**+2.3**
	0.9nm,0.3s,baz=56,slow=3.6,SNR=1.3								
BATI				S		**Sn**		**19 20 07.0**	**-4.3**
	0.3nm,0.3s,baz=93,slow=17,SNR=1.2								
FITZ	**Fitzroy Crossi**	**11.84**	**200**	P		**Pn**		**19 19 60.0**	**+2.5**
	0.1nm,0.3s,baz=33,slow=12,SNR=6.3								
FITZ				S		**Sn**		**19 22 04.0**	**-4.3**
	0.1nm,0.3s,baz=138,slow=15,SNR=2.0								
WRA	**Warramunga Arr**	**13.62**	**162**	P		**Pn**		**19 20 22.5**	**+2.2**
	0.0nm,0.3s,baz=339,slow=13,SNR=2.1								
WRA				S		**Sn**		**19 22 46.5**	**-4.6**
	0.1nm,0.3s,baz=330,slow=22,SNR=1.1								
ASAR	**Alice Springs**	**17.06**	**167**	P		**Pn**		**19 21 05.6**	**+2.7**
	0.0nm,0.3s,baz=346,slow=9.1,SNR=5.4								
MKAR	**Makanchi Array**	**68.13**	**327**	P		**P**		**19 27 58.6**	**+1.6**
	0.2nm,0.4s,baz=124,slow=7.3,SNR=5.2								

SKO 13 19:43:34.7, 40°.97N×22°.08E, h0km, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.24**	**93**	*i* Pg			Pg	19 43 39.1	-0.3
GRG				*i* Sg			Sg	19 43 42.4	-0.1
KNT	**Kendrikon**	**0.65**	**73**	⇓*i* Pg			Pg	19 43 46.5	-0.6
KNT				*i* Sg			Sg	19 43 55.3	-0.2
STIP	**Stip**	**0.73**	**6**	*i* Pg			Pb	19 43 49.8	-0.5
STIP				*i* Sg			Sb	19 44 01.6	+0.8

ATH 13 19:44:16.2, 40°.15N×21°.62E, h10km±4km, ML2.0/6, Error ellipse: s-maj=4.3km s-min=1.4km az=304.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.19**	**36**	P			Pg	19 44 19.8	-0.5
KZN				S			Sg	19 44 22.9	-0.2
KZN				AML			AML	19 44 23.8	
	comp=E,1415μm,0.1s								
KZN				AML			AML	19 44 25.3	
	comp=N,1303μm,0.3s								
KPRO	**Kipourio**	**0.28**	**226**	P			Pg	19 44 21.4	-0.4
KPRO				S			Sg	19 44 26.7	+1.1
KPRO				AML			AML	19 44 31.1	
	comp=N,653μm,0.5s								
KPRO				AML			AML	19 44 32.7	
	comp=E,767μm,0.3s								
PENT	**Pentalofos**	**0.38**	**277**	P			Pg	19 44 23.6	0.0
NEST	**Nestorio**	**0.51**	**301**	P			Pg	19 44 25.6	-0.6
NEST				AML			AML	19 44 36.2	
	comp=N,264μm,0.3s								
NEST				AML			AML	19 44 39.4	
	comp=E,434μm,0.5s								
FNA	**Florina**	**0.66**	**343**	P			Pg	19 44 28.4	-0.6
FNA				S			Sg	19 44 37.2	-0.4
FNA				AML			AML	19 44 41.0	
	comp=E,428μm,0.3s								
FNA				AML			AML	19 44 41.3	
	comp=N,400μm,0.4s								
THL	**Klokotos Trika**	**0.66**	**153**	P			Pg	19 44 27.8	-1.1
THL				S			Sg	19 44 37.8	+0.2
THL				AML			AML	19 44 40.9	
	comp=E,198μm,0.4s								
THL				AML			AML	19 44 41.5	
	comp=N,291μm,0.5s								
LIT	**Litokhoron**	**0.67**	**94**	P			Pg	19 44 27.8	-1.2
LIT				S			Sg	19 44 38.1	+0.3
LIT				AML			AML	19 44 40.5	
	comp=E,533μm,0.2s								
LIT				AML			AML	19 44 42.4	
	comp=N,404μm,0.3s								
HORT	**Hortiatis**	**1.21**	**68**	P			Pb	19 44 39.3	0.0
AGG	**Agios Georgios**	**1.25**	**154**	P			Pn	19 44 39.5	-0.3

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*IDC **13** 19:45:47.9±1.4, 30°.75N×142°.32E, h0km, mb3.3/3, mb1 3.4/6, mb1mx3.2/35, mbtmp3.3/6, ML2.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.3/22, Error ellipse: s-maj=45.9km s-min=20.3km az=78.0*

ISC 13 19:45:50.7±1.1, 30°.66N±0°.08×142°.3E±0°.2, h24km, n7, σ1§44/8, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.25**	**320**	Pn		**Pn**		**19 46 39.4**	**-0.7**
	2.4nm,0.3s,baz=131,slow=19,SNR=1.9								
JHJ				Sn		**Sn**		**19 47 18.2**	**+0.1**
	2.8nm,0.3s,baz=248,slow=19,SNR=1.3								
JCJ	**Chichijima**	**3.56**	**182**	Pn		**Pn**		**19 46 43.5**	**-1.0**
	2.9nm,0.3s,baz=282,slow=20,SNR=2.0								
JCJ				Sn		**Sn**		**19 47 25.0**	**-0.7**
	1.2nm,0.3s,baz=278,slow=19,SNR=1.8								
MJAR	**Matsushiro Arr**	**6.78**	**331**	Pn		**Pn**		**19 47 27.5**	**-1.2**
	0.1nm,0.3s,baz=135,slow=12,SNR=5.2								
HNR	**Honiara**	**43.32**	**154**	LR		LR		20 08 43.0	
	comp=Z,55nm,20.5s,baz=354,slow=32								
WRA	**Warramunga Arr**	**50.89**	**190**	P		**P**		**19 54 51.5**	**+1.6**
	0.3nm,0.5s,baz=7.2,slow=7.5,SNR=9.5								
ILAR	**Eielson Array**	**54.56**	**30**	P		**P**		**19 55 16.6**	**0.0**
	0.2nm,0.5s,baz=285,slow=6.6,SNR=3.0								
ASAR	**Alice Springs**	**54.62**	**189**	P		**P**		**19 55 19.5**	**+2.1**
	0.1nm,0.4s,baz=0.0,slow=6.5,SNR=1.2								

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*SOF **13** 20:17:54.7, 39°.98N×21°.54E, h1km, MD3.6*
*TIR **13** 20:17:54.3, 40°.14N×21°.88E, h1km±1km, Md3.8, Ml3.8*
*SKO **13** 20:17:58.8, 40°.09N×21°.57E, h0km*
*THE **13** 20:17:59.5, 40°.16N×21°.67E, h0km±1km, ML3.5/10, Error ellipse: s-maj=1.5km s-min=0.4km az=297.0*
*ATH **13** 20:17:59.1, 40°.15N×21°.67E, h8km±2km, ML3.5/13, Error ellipse: s-maj=2.3km s-min=0.8km az=322.0*
*PDG **13** 20:17:59.6±0.6, 40°.18N×21°.75E, h10km, ML3.4/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*IDC **13** 20:18:03.8±2.1, 40°.19N×21°.56E, h54km±22km, mb3.4/7, mb1 3.5/12, mb1mx3.3/39, mbtmp3.6/12, ML3.5/6, MS2.5/2, Ms1 2.6/2, ms1mx2.2/25, Error ellipse: s-maj=24.7km s-min=16.3km az=67.0*

ISC 13 20:17:59.4±0.9, 40°.16N±0°.02×21°.68E±0°.02, h8km±6km, n201, σ1§39/253, mb3.5/6, 28C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.17**	**26**	P			**Pg**	**20 18 02.7**	**-0.2**
KZN				S			**Sg**	**20 18 05.5**	**0.0**
KZN				AML			AML	20 18 07.8	
	comp=E,81150μm,0.5s								
KZN				AML			AML	20 18 09.0	
	comp=N,55680μm,0.5s								
KZN	**Kozani**	**0.17**	**26**	P			**Pg**	**20 18 02.8**	**-0.2**
KZN				S			**Sg**	**20 18 05.9**	**+0.5**
	comp=N,35μm,0.5s								
KPRO	**Kipourio**	**0.31**	**230**	P			**Pg**	**20 18 04.7**	**-1.0**
KPRO				S			**Sg**	**20 18 10.1**	**+0.3**
KPRO				AML			AML	20 18 13.4	
	comp=N,24813μm,0.4s								
KPRO				AML			AML	20 18 15.9	
	comp=E,36331μm,0.4s								
KPRO	**Kipourio**	**0.31**	**230**	P			**Pg**	**20 18 04.7**	**-1.0**
KPRO				S			**Sg**	**20 18 10.5**	**+0.6**
	comp=E,16μm,0.4s								
PENT	**Pentalofos**	**0.41**	**276**	P			**Pg**	**20 18 06.6**	**-1.0**
PENT				S			**Sg**	**20 18 12.8**	**-0.3**
PENT				AML			AML	20 18 17.7	
	comp=E,16590μm,0.5s								
PENT				AML			AML	20 18 19.2	
	comp=N,20050μm,0.6s								
PENT	**Pentalofos**	**0.41**	**276**	P			**Pg**	**20 18 06.7**	**-0.9**
PENT				S			**Sg**	**20 18 13.3**	**+0.3**
	comp=N,9μm,0.6s								
NEST	**Nestorio**	**0.55**	**298**	P			**Pg**	**20 18 09.0**	**-1.0**
NEST				S			**Sg**	**20 18 16.7**	**-0.5**
NEST				AML			AML	20 18 22.5	
	comp=E,14979μm,0.6s								
NEST				AML			AML	20 18 27.8	
	comp=N,10794μm,0.7s								
NEST	**Nestorio**	**0.55**	**298**	P			**Pg**	**20 18 09.1**	**-1.0**
NEST				S			**Sg**	**20 18 17.2**	**0.0**
	comp=N,5μm,0.6s								
LIT	**Litokhoron**	**0.63**	**95**	P			**Pg**	**20 18 10.8**	**-0.8**
LIT				S			**Sg**	**20 18 20.4**	**+0.6**
LIT				AML			AML	20 18 26.1	
	comp=E,14912μm,0.4s								
LIT				AML			AML	20 18 26.3	
	comp=N,14262μm,0.5s								
LIT	**Litokhoron**	**0.63**	**95**	P			**Pg**	**20 18 10.9**	**-0.6**
LIT				S			**Sg**	**20 18 20.7**	**+1.0**
	comp=N,7μm,0.3s								
LIT	**Litokhoron**	**0.63**	**95**	⇑*i* Pg			**Pg**	**20 18 10.7**	**-0.8**
THL	**Klokotos Trika**	**0.65**	**156**	P			**Pg**	**20 18 10.8**	**-1.1**
THL				S			**Sg**	**20 18 20.5**	**+0.2**
THL				AML			AML	20 18 22.4	
	comp=E,6143μm,0.7s								
THL				AML			AML	20 18 24.6	
	comp=N,14143μm,0.7s								
THL	**Klokotos Trika**	**0.65**	**156**	P			**Pg**	**20 18 10.9**	**-1.0**
THL				S			**Sb**	**20 18 22.7**	**+0.6**
	comp=N,5μm,0.7s								
FNA	**Florina**	**0.67**	**340**	P			**Pg**	**20 18 11.4**	**-0.9**
FNA	**Florina**	**0.67**	**340**	P			**Pg**	**20 18 11.5**	**-0.9**
FNA				S			**Sb**	**20 18 22.4**	**-0.4**
	comp=N,4μm,0.6s								
FNA	**Florina**	**0.67**	**340**	⇑*i* Pg			**Pg**	**20 18 11.4**	**-0.9**
FNA				*i* Sg			**Sg**	**20 18 20.7**	**-0.3**
JAN	**Janina**	**0.81**	**232**	P			**Pg**	**20 18 14.0**	**-1.0**
JAN				AML			AML	20 18 38.8	
	comp=N,1873μm,1.3s								
JAN				AML			AML	20 18 42.7	
	comp=E,2986μm,0.6s								
JAN	**Janina**	**0.81**	**232**	P			**Pg**	**20 18 14.3**	**-0.7**
KBN	**Korca**	**0.82**	**305**	P			**Pg**	**20 18 15.3**	**0.0**
KBN				S			**Sb**	**20 18 27.4**	**+0.1**
KBN	**Korca**	**0.82**	**305**	P			**Pg**	**20 18 14.0**	**-1.3**
	baz=301								
KBN				S			**Sb**	**20 18 28.4**	**+1.1**
	baz=301								
KBN				AMP					
	comp=N,9.9nm,0.8s,baz=301								
LSK	**Leskovik**	**0.82**	**270**	P			**Pg**	**20 18 14.9**	**-0.4**
LSK				S			**Sb**	**20 18 28.1**	**+0.8**
LSK	**Leskovik**	**0.82**	**270**	P			**Pg**	**20 18 14.6**	**-0.7**
	baz=272								
LSK				S			**Sn**	**20 18 29.3**	**-0.5**
	baz=272								
LSK				AMP					
	comp=N,11nm,0.7s,baz=272								
GRG	**Griva**	**0.97**	**34**	P			**Pg**	**20 18 17.5**	**-0.6**
GRG				S			**Sb**	**20 18 32.0**	**+0.5**
	comp=N,3μm,0.8s								
GRG	**Griva**	**0.97**	**34**	⇑*i* Pg			**Pg**	**20 18 17.1**	**-1.1**
GRG				*i* Sg			**Sn**	**20 18 34.6**	**+1.3**
THE	**Thessaloniki**	**1.09**	**64**	P			**Pg**	**20 18 20.5**	**+0.1**
THE				AML			AML	20 18 42.0	
	comp=N,1306μm,0.6s								
THE				AML			AML	20 18 46.9	
	comp=E,1037μm,0.8s								
THE	**Thessaloniki**	**1.09**	**64**	P			**Pg**	**20 18 20.6**	**+0.1**
THE				S			**Sb**	**20 18 36.6**	**+1.7**
THE	**Thessaloniki**	**1.09**	**64**	⇓*i* Pg			**Pg**	**20 18 20.5**	**+0.1**
THE				*i* Sg			**Sn**	**20 18 37.4**	**+1.2**
OHR	**Ohrid**	**1.16**	**325**	*i* Pg			**Pg**	**20 18 20.6**	**-1.2**
OHR				*i* Sg			**Sg**	**20 18 35.3**	**-1.6**
OHR				*e*Lg			Lg	20 18 37.3	
	comp=N,325nm,0.8s								
OHR				*e*Lg			Lg	20 18 38.6	
	comp=E,290nm,0.5s								
HORT	**Hortiatis**	**1.17**	**67**	P			**Pg**	**20 18 21.8**	**-0.2**
HORT	**Hortiatis**	**1.17**	**67**	P			**Pg**	**20 18 21.6**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.20**	**163**	P			**Pg**	**20 18 21.2**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.20**	**163**	P			**Pg**	**20 18 21.4**	**-1.0**
MAKR				S			**Sn**	**20 18 40.5**	**+1.7**
IGT	**Igoumenitsa**	**1.21**	**239**	P			**Pg**	**20 18 21.6**	**-1.0**
IGT	**Igoumenitsa**	**1.21**	**239**	P			**Pg**	**20 18 21.7**	**-1.0**
IGT	**Igoumenitsa**	**1.21**	**239**	P			**Pg**	**20 18 21.0**	**-1.7**
	baz=244								
IGT				S			**Sn**	**20 18 41.7**	**+2.5**
	baz=244								
AGG	**Agios Georgios**	**1.24**	**156**	P			**Pg**	**20 18 22.4**	**-0.8**
AGG				AML			AML	20 18 45.3	
	comp=N,2886μm,0.6s								
AGG				AML			AML	20 18 47.8	
	comp=E,3356μm,0.8s								
AGG	**Agios Georgios**	**1.24**	**156**	P			**Pg**	**20 18 22.6**	**-0.6**
AGG				S			**Sn**	**20 18 42.1**	**+2.1**
EVR	**Evrytania**	**1.24**	**175**	P			**Pg**	**20 18 21.7**	**-1.6**
EVR				AML			AML	20 18 44.0	
	comp=N,3980μm,0.4s								
EVR				AML			AML	20 18 44.5	
	comp=E,3081μm,0.6s								
EVR	**Evrytania**	**1.24**	**175**	P			**Pg**	**20 18 22.4**	**-0.9**
EVR				S			**Sn**	**20 18 42.1**	**+2.0**
SRN	**Sarande**	**1.32**	**258**	P			**Pb**	**20 18 24.4**	**0.0**
SRN	**Sarande**	**1.32**	**258**	P			**Pg**	**20 18 23.6**	**-1.1**
	baz=261								
SRN				S			**Sn**	**20 18 44.8**	**+3.1**
	baz=261								
SRN				AMP					
	comp=N,4.4nm,0.6s,baz=261								
VAY	**Valandovo**	**1.35**	**30**	*i* Pg			**Pb**	**20 18 25.4**	**+0.5**
VAY				*i* Sg			**Sn**	**20 18 44.6**	**+2.0**
VAY				*e*Lg			Lg	20 18 44.8	
	comp=E,222nm,0.8s								
VAY				*e*Lg			Lg	20 18 46.3	
	comp=N,247nm,0.8s								
KNT	**Kendrikon**	**1.37**	**42**	P			**Pn**	**20 18 24.4**	**-0.4**
KNT	**Kendrikon**	**1.37**	**42**	P			**Pn**	**20 18 24.5**	**-0.4**
PLG	**Polygyros**	**1.37**	**80**	P			**Pn**	**20 18 24.4**	**-0.4**
PLG				AML			AML	20 18 47.9	
	comp=N,1454μm,0.6s								
PLG				AML			AML	20 18 51.7	
	comp=E,820μm,0.5s								
PLG	**Polygyros**	**1.37**	**80**	P			**Pn**	**20 18 24.5**	**-0.4**
XOR	**Xorichti**	**1.41**	**124**	P			**Pn**	**20 18 25.0**	**-0.4**
XOR	**Xorichti**	**1.41**	**124**	P			**Pn**	**20 18 25.3**	**-0.1**
SOH	**Sokhos**	**1.44**	**62**	P			**Pn**	**20 18 26.3**	**+0.5**
SOH	**Sokhos**	**1.44**	**62**	P			**Pn**	**20 18 26.4**	**+0.5**
SOH				S			**Sn**	**20 18 47.3**	**+2.3**
	comp=N,970nm,0.8s								
SOH	**Sokhos**	**1.44**	**62**	*i* Pn			**Pn**	**20 18 26.2**	**+0.3**
NEO	**Neokhori**	**1.46**	**125**	P			**Pn**	**20 18 25.9**	**-0.2**
NEO				S			**Sg**	**20 18 44.8**	**-1.7**
NEO				AML			AML	20 18 54.9	
	comp=N,4000μm,0.7s								
NEO				AML			AML	20 18 55.4	
	comp=E,4383μm,0.5s								
NEO	**Neokhori**	**1.46**	**125**	P			**Pn**	**20 18 26.0**	**-0.2**
KEK	**Kerkira**	**1.51**	**254**	P			**Pn**	**20 18 27.4**	**+0.6**
KEK	**Kerkira**	**1.51**	**254**	P			**Pg**	**20 18 27.9**	**-0.5**
PVO	**Paravola**	**1.54**	**184**	P			**Pn**	**20 18 27.9**	**+0.7**
PVO	**Paravola**	**1.54**	**184**	P			**Pn**	**20 18 27.4**	**+0.2**
TSLK	**Tsoukalades, L**	**1.55**	**211**	P			**Pn**	**20 18 27.6**	**+0.3**
TSLK	**Tsoukalades, L**	**1.55**	**211**	P			**Pg**	**20 18 28.6**	**-0.5**
PAIG	**Paliouri**	**1.56**	**98**	P			**Pn**	**20 18 26.9**	**-0.5**
PAIG	**Paliouri**	**1.56**	**98**	P			**Pn**	**20 18 27.1**	**-0.2**
ANX	**Ano Chora**	**1.57**	**173**	P			**Pn**	**20 18 28.2**	**+0.5**
ANX				AML			AML	20 18 55.9	
	comp=N,3809μm,0.6s								
ANX				AML			AML	20 18 58.1	
	comp=E,3760μm,0.4s								
ANX	**Ano Chora**	**1.57**	**173**	P			**Pn**	**20 18 28.3**	**+0.6**
ANX				S			**Sg**	**20 18 51.2**	**+1.2**
LKD2	**Lefkada island**	**1.58**	**210**	P			**Pn**	**20 18 28.5**	**+0.8**
LKD2	**Lefkada island**	**1.58**	**210**	P			**Pn**	**20 18 28.5**	**+0.8**
STIP	**Stip**	**1.58**	**14**	*i* Pn			**Pg**	**20 18 29.5**	**-0.3**
PDO	**Prodromos**	**1.60**	**194**	P			**Pn**	**20 18 28.8**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.63**	**208**	P			**Pn**	**20 18 29.1**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.63**	**208**	P			**Pb**	**20 18 29.5**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.70**	**210**	P			**Pn**	**20 18 30.1**	**+0.7**
EFP	**Efpalio**	**1.74**	**174**	P			**Pn**	**20 18 30.8**	**+1.0**
SMIA	**Simia**	**1.74**	**137**	P			**Pn**	**20 18 30.3**	**+0.4**
SMIA	**Simia**	**1.74**	**137**	P			**Pn**	**20 18 30.5**	**+0.6**
SRS	**Serrai**	**1.75**	**56**	P			**Pn**	**20 18 30.2**	**+0.2**
SRS	**Serrai**	**1.75**	**56**	P			**Pn**	**20 18 29.9**	**-0.1**
SRS	**Serrai**	**1.75**	**56**	*i* Pn			**Pn**	**20 18 29.9**	**-0.1**
SERG	**Sergoula**	**1.77**	**170**	P			**Pn**	**20 18 30.4**	**+0.1**
SERG				S			**Sg**	**20 18 55.8**	**-0.4**
	comp=E,1μm,0.5s								
OUR	**Ouranopolis**	**1.77**	**84**	P			**Pn**	**20 18 30.7**	**+0.4**
OUR	**Ouranopolis**	**1.77**	**84**	P			**Pn**	**20 18 30.6**	**+0.3**
ATAL	**Atalanti**	**1.79**	**144**	P			**Pn**	**20 18 30.8**	**+0.2**
ATAL	**Atalanti**	**1.79**	**144**	P			**Pn**	**20 18 30.9**	**+0.2**
TRIZ	**Trizonia**	**1.81**	**170**	P			**Pn**	**20 18 31.6**	**+0.6**
TRIZ	**Trizonia**	**1.81**	**170**	P			**Pn**	**20 18 31.2**	**+0.3**
TIR	**Tirane**	**1.82**	**311**	⇑P			**Pn**	**20 18 32.1**	**+1.1**
TIR	**Tirane**	**1.82**	**311**	P			**Pn**	**20 18 32.2**	**+1.2**
	baz=309								
TIR				S			**Sg**	**20 19 00.8**	**+2.8**
	baz=309								
LKR	**Lokris**	**1.82**	**145**	P			**Pn**	**20 18 31.0**	**0.0**
FSK	**Fiskardo**	**1.90**	**207**	P			**Pb**	**20 18 33.7**	**-0.7**
ALIK	**Aliki, Aigiali**	**1.92**	**170**	P			**Pn**	**20 18 33.5**	**+1.1**
LAKA	**Lakka**	**1.93**	**173**	P			**Pn**	**20 18 32.9**	**+0.4**
KKB	**Krupnik**	**2.01**	**31**	*i* P			**Pn**	**20 18 33.9**	**+0.2**
NVR	**Nevrokopi**	**2.04**	**54**	P			**Pn**	**20 18 34.5**	**+0.4**
KEF5	**Kardakata, Kep**	**2.10**	**207**	P			**Pn**	**20 18 34.5**	**-0.3**
RLS	**Riolos of Patr**	**2.10**	**185**	P			**Pn**	**20 18 36.4**	**+1.5**
MMB	**Musomiste**	**2.11**	**47**	*i* P			**Pn**	**20 18 35.7**	**+0.6**
KEF4	**Livadi, Kephal**	**2.13**	**208**	P			**Pn**	**20 18 36.4**	**+1.1**
VLS	**Valsamata**	**2.15**	**203**	P			**Pn**	**20 18 36.7**	**+1.1**
DMLN	**Damoulianata-K**	**2.17**	**208**	P			**Pn**	**20 18 36.5**	**+0.7**
DRO	**Drossia**	**2.20**	**179**	P			**Pn**	**20 18 37.3**	**+1.0**
PSDA	**Pessada-Kefalo**	**2.21**	**203**	P			**Pn**	**20 18 38.0**	**+1.7**
THAL	**Thalero**	**2.25**	**160**	P			**Pn**	**20 18 37.5**	**+0.6**
PUK	**Puka**	**2.32**	**325**	P			**Pn**	**20 18 39.1**	**+1.2**
	baz=323								
PUK				S			**Sg**	**20 19 13.3**	**-0.6**
	baz=323								
KAVA	**Kavala**	**2.32**	**68**	P			**Pn**	**20 18 37.4**	**-0.4**
LTK	**Loutraki**	**2.35**	**154**	P			**Pn**	**20 18 38.1**	**-0.3**
THAS	**Thassos island**	**2.37**	**78**	P			**Pn**	**20 18 38.2**	**-0.3**
LOUT	**Loutraki**	**2.39**	**155**	P			**Pn**	**20 18 38.5**	**-0.3**
BCI	**Bajram Curri**	**2.52**	**332**	P			**Pn**	**20 18 41.5**	**+0.9**
	baz=330								
BCI				S			**Sb**	**20 19 17.6**	**+1.5**
	baz=330								
ULC	**Ulcinj**	**2.58**	**315**	⇓*i* Pn			**Pn**	**20 18 42.8**	**+1.4**
ULC				*i* Sn			**Sb**	**20 19 16.4**	**-1.3**
BARS	**Barje**	**2.66**	**2**	*i* Pn			**Pn**	**20 18 40.4**	**-2.1**
PTL	**Penteli**	**2.71**	**140**	P			**Pn**	**20 18 43.9**	**+0.7**
DION	**Dionisos Attik**	**2.72**	**139**	P			**Pn**	**20 18 43.8**	**+0.4**
VTS	**Vitosha**	**2.72**	**25**	⇓P			**Pn**	**20 18 43.9**	**+0.3**
VTS	**Vitosha**	**2.72**	**25**	*i* P			**Pn**	**20 18 44.2**	**+0.6**
VTS	**Vitosha**	**2.72**	**25**	*i* Pn			**Pn**	**20 18 44.2**	**+0.6**
ATHU	**Athens Univers**	**2.73**	**142**	P			**Pn**	**20 18 44.0**	**+0.4**
PVY	**Plav**	**2.76**	**333**	⇑*i* Pn			**Pn**	**20 18 45.2**	**+1.2**
PVY				*i* Sn			**Sn**	**20 19 20.0**	**+2.4**
RZN	**Rozhen**	**2.77**	**55**	*i* P			**Pn**	**20 18 44.8**	**+0.6**
DRME	**Dracevica, Mon**	**2.77**	**318**	*e*Pn			**Pn**	**20 18 44.7**	**+0.7**
DRME	**Dracevica, Mon**	**2.77**	**318**	⇑*i* Pn			**Pn**	**20 18 45.7**	**+1.7**
DRME				*i* Sn			**Sn**	**20 19 20.7**	**+3.1**
VLY	**Voula,Athens**	**2.83**	**144**	P			**Pn**	**20 18 45.2**	**+0.3**
VLX	**Vlachokerasia**	**2.84**	**169**	P			**Pn**	**20 18 46.3**	**+1.2**
PDG	**Podgorica**	**2.91**	**322**	⇓P		

comp=E,2.2nm,0.6s
ARSA Arzberg 8.37 330 *e*Pn **Pn 20 20 02.1 +1.0**
comp=E,1.6nm,0.5s
VYHS Vyhne 8.58 347 *e*PN **Pn 20 20 05.4 +1.6**
VYHS *e*SN **Sn 20 21 36.0 -4.8**
KOLS Kolonicke sedl 8.79 3 *e*PN Pn 20 20 13.4 +6.7
BRTR Keskin Array B 9.20 89 P **Pn 20 20 14.9 +2.4**
comp=E,0.2nm,0.3s,baz=260,slow=12,SNR=8.5
BRTR LR LR 20 24 01.7
comp=E,32nm,18.0s,baz=170,slow=38
MOA Molln 9.36 328 *e*Pn **Pn 20 20 16.3 +1.8**
comp=E,0.8nm,0.4s
ABTA Abfaltersbach 9.37 318 *i* Pn **Pn 20 20 16.5 +1.8**
comp=E,1.7nm,0.6s
VRAC Vranov 9.84 340 P **Pn 20 20 22.0 +0.9**
comp=E,0.2nm,0.3s,baz=168,slow=14,SNR=2.1
WTTA Wattenberg 10.16 318 *e*Pn **Pn 20 20 27.7 +2.1**
comp=E,1.0nm,0.3s
WTTA *i* Sn **Sn 20 22 20.6 +0.9**
comp=E,2.5nm,0.7s
WATA Walderalm 10.23 318 *i* Pn **Pn 20 20 28.1 +1.4**
comp=E,1.0nm,0.3s
GERES GERESS Array B 10.38 329 P **Pn 20 20 29.6 +1.0**
comp=E,0.1nm,0.3s,baz=151,slow=15,SNR=2.2
MOTA Moosalm 10.49 317 *e*Pn **Pn 20 20 31.2 +1.1**
comp=E,1.1nm,0.5s
MOTA *e*Sn **Sn 20 22 27.0 -0.7**
comp=E,2.8nm,0.7s
MMAI Mount Meron Ar 13.12 119 P **Pn 20 21 08.6 +2.5**
comp=E,0.3nm,0.3s,baz=310,slow=16,SNR=4.2
HFS Hagfors 20.61 349 P **P 20 22 38.0 -0.8**
comp=E,1.9nm,0.5s,baz=144,slow=12,SNR=12
FINES FINESS Array B 21.48 6 P **P 20 22 46.7 -1.5**
comp=E,1.1nm,0.7s,baz=160,slow=12,SNR=6.6
NOA NORSAR Array B 21.88 346 P **P 20 22 51.3 -1.2**
comp=E,1.8nm,0.8s,baz=160,slow=10,SNR=6.7
NOA LR LR 20 32 16.5
comp=E,10nm,19.6s,baz=125,slow=39
EKA Eskdalemuir Ar 22.39 321 P **P 20 22 55.8 -2.2**
comp=E,1.0nm,0.6s,baz=112,slow=9.3,SNR=3.3
ARCES ARCESS Array B 29.51 3 P **P 20 24 02.3 -1.5**
comp=E,2.4nm,0.9s,baz=189,slow=11,SNR=2.1
TORD Torodi Ar. Bea 32.13 219 P **P 20 24 26.1 -1.3**
comp=E,1.8nm,1.1s,baz=30,slow=9.0,SNR=3.6
MKAR Makanchi Array 43.52 60 P **P 20 26 02.2 -1.1**
comp=E,0.5nm,0.7s,baz=286,slow=7.6,SNR=4.3
ASAR Alice Springs 121.48 96 PKP **PKPdf 20 36 51.6 -2.0**
comp=E,0.6nm,0.8s,baz=323,slow=1.5,SNR=6.1

TAP 13 20:37:27.8, 23.24N×120.48E, h14km, ML0.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SNST	**Tainan City**	**0.02**	**141**	*e*P			Pg	20 37 30.7	+0.4
	baz=141								
SNST				*e*S			Sg	20 37 32.7	+0.7
	baz=141								
TWK	**Hsinying**	**0.03**	**9**	*i* P			Pg	20 37 30.8	+0.4
	baz=28								
TWK				*i* S			Sg	20 37 32.9	+0.7
	baz=28								
CHN1	**Nanshi**	**0.07**	**141**	*i* P			Pg	20 37 31.1	+0.4
	baz=140								
CHN1				*i* S			Sg	20 37 33.2	+0.7
	baz=140								
WTP	**Ta-pu**	**0.12**	**85**	*i* P			Pb	20 37 32.0	+0.1
	baz=86								
WTP				*i* S			Sb	20 37 34.9	+0.2
	baz=86								
TPUB	**Ta-pu**	**0.15**	**65**	P			Pg	20 37 31.7	+0.1
	baz=64								
TPUB				S			Sb	20 37 35.2	-0.3
	baz=64								
CHN8	**Yiju**	**0.27**	**294**	*e*P			Pb	20 37 34.2	-0.3
	baz=294								
SCLT	**Jiali**	**0.27**	**257**	*e*P			Pb	20 37 34.4	0.0
	baz=256								
TAI1	**Yung-k'ang**	**0.30**	**230**	*e*P			Pg	20 37 34.4	+0.3
	baz=229								
TAI1				*e*S			Sb	20 37 39.7	-0.1
	baz=229								

TAP 13 20:37:29.8, 23.14N×120.96E, h9km±1km, ML0.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ELDTW	**Lidau**	**0.07**	**48**	*i* P			Pg	20 37 32.7	+0.7
	baz=53								
ELDTW				*i* S			Sg	20 37 33.9	+0.3
	baz=53								
STYH	**Taoyuan**	**0.17**	**279**	*i* P			Pg	20 37 34.6	+1.2
	baz=279								
STYH				S			Sg	20 37 37.3	+1.3
	baz=279								
STYT	**Tauyuan**	**0.19**	**276**	P			Pg	20 37 34.4	+0.6
	baz=106								
STYT	**Tauyuan**	**0.19**	**276**	P			Pg	20 37 34.4	+0.6
	baz=275								
STYT				*e*S			Sg	20 37 37.7	+1.2
	baz=275								
LONT	**Longtian**	**0.28**	**146**	*e*P			Pb	20 37 36.5	-0.6
	baz=146								
LONT				*e*S			Sg	20 37 39.5	+0.2
	baz=146								
FULB	**Fuli**	**0.31**	**80**	*e*P			Pb	20 37 37.6	-0.1
	baz=79								
FULB				*e*S			Sb	20 37 42.6	-0.3
	baz=79								
SLGT	**Liugui**	**0.33**	**243**	*e*P			Pb	20 37 37.8	-0.1
	baz=242								
SLGT				*e*S			Sg	20 37 41.7	+1.1
	baz=242								
TWG	**Pinlang**	**0.34**	**162**	*e*P			Pb	20 37 37.5	-0.5
	baz=161								
EDH	**Donghe**	**0.36**	**118**	*e*P			Pb	20 37 38.2	-0.2
	baz=118								
YULB	**Yu-li**	**0.40**	**51**	*e*P			Pb	20 37 38.7	-0.3
	baz=51								
YULB				*e*S			Sg	20 37 43.7	+0.8
	baz=51								

WEL 13 20:54:19.5±1.4, 32°S±34°×178°0E±6°7, h417km±48km, M4.5/9, mB4.5/4, ML4.7/6, MLv4.7/9, Mw(mB)3.7/4, Error ellipse: s-maj=0.1km s-min=0.0km az=114.3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MXZ	**Matakaoa Point**	**5.60**	**193**	P			P	20 55 48.6	+0.5
WMGZ	**Waiomatatini S**	**5.83**	**192**	P			P	20 55 51.8	+1.3
HAZ	**Te Kaha**	**5.90**	**197**	P			P	20 55 50.1	-1.1
HAZ				S			S	20 57 05.0	-1.5
PKGZ	**Pakihiroa**	**5.96**	**194**	P			P	20 55 53.2	+1.3
PUZ	**Puketiti**	**6.10**	**193**	P			P	20 55 53.5	+0.1
PUZ				S			S	20 57 09.4	-1.1
RUGZ	**Raukumara Rang**	**6.13**	**197**	P			P	20 55 53.8	0.0
RUGZ				S			S	20 57 13.4	+2.3
CNGZ	**Carnagh Statio**	**6.51**	**192**	P			P	20 55 59.4	+1.0
URZ	**Urewera**	**6.55**	**200**	P			P	20 55 57.4	-1.4
URZ				S			S	20 57 20.7	+1.4
MUGZ	**Murupara**	**6.86**	**201**	P			P	20 56 02.2	+0.1
NMHZ	**Naumai**	**7.42**	**199**	P			P	20 56 08.6	+0.2
ARHZ	**Aropaoanui**	**7.53**	**198**	P			P	20 56 07.0	-2.4
ARHZ				S			S	20 57 39.8	+0.8

*IDC **13** 20:54:41.2±1.0, 36.20N×97.28W, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.5/45, mbtmp3.6/4, ML3.0/3, MS2.9/1, Ms1 2.9/1, ms1mx2.1/44, Error ellipse: s-maj=17.9km s-min=11.5km az=128.0*

*ANF **13** 20:54:42.5±0.2, 36.27N×97.38W, h5km, ML4.3/18, Error ellipse: s-maj=2.6km s-min=1.9km az=123.0*

*NEIC **13** 20:54:42.6, 36.27N×97.39W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.08; $M_{\theta\theta}$0.87; $M_{\phi\phi}$-0.95; $M_{r\theta}$-0.42; $M_{\theta\phi}$0.37; $M_{r\phi}$0.19; Fault plane solution: $M_0$1.08000×10^{14} NP1:$\phi_1$213.00000°, δ65.00000°, λ174.00000°. NP2:$\phi_2$305.00000°, δ85.00000°, λ25.00000°. Principal axes: T 1.0840, Plg21.0000°, Azm172.0000°; N 0.0003, Plg65.0000°, Azm316.0000°; P -1.0843, Plg14.0000°, Azm76.0000°;*

*TUL **13** 20:54:42.6±1.0, 36.27N±0.01×97.39W±0.05, h7km±7km,*

ML3.7, mb_Lg3.5/130(NEIC), Mwr3.3/10(SLM) Error ellipse: s-maj=5.7km s-min=0.6km az=72.0

*NEIC **13** 20:54:42.6±0.9, 36.27N±0.02×97.39W±0.05, h4km±7km, Error ellipse: s-maj=6.6km s-min=1.6km az=65.0*

ISC 13 20:54:42.5±1.1, 36.27N±0.02×97.39W±0.02, h4km±9km, n145, s0±59/137, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OK029	**Liberty Lake**	**0.47**	**186**				**Pg**	**20 54 51.8**	**+0.3**
OK029					Sg		**Sg**	**20 54 58.4**	**+0.7**
BLOK	**Blackwell**	**0.51**	**16**				**Pg**	**20 54 52.6**	**+0.2**
BLOK					Sg		**Sg**	**20 54 59.5**	**+0.5**
CROK	**Carrier**	**0.53**	**297**				**Pg**	**20 54 53.0**	**+0.3**
CROK					Sg		**Sg**	**20 55 00.5**	**+0.8**
OK031	**S. Brethren Rd**	**0.55**	**125**				**Pg**	**20 54 53.1**	**+0.2**
OK031					Sg		**Sg**	**20 55 00.6**	**+0.6**
QUOK	**Quay**	**0.56**	**99**				**Pg**	**20 54 53.4**	**+0.2**
QUOK					Sg		**Sg**	**20 55 01.0**	**+0.5**
OK030	**Cody Creek RV**	**0.60**	**124**				**Pg**	**20 54 54.1**	**+0.2**
OK030					Sg		**Sg**	**20 55 02.2**	**+0.5**
OK005	**Luther M Schoo**	**0.63**	**165**				**Pg**	**20 54 54.8**	**+0.2**
BCOK	**Bluff Creek, N**	**0.63**	**196**				**Pg**	**20 54 54.8**	**+0.2**
BCOK					Sg		**Sg**	**20 55 03.3**	**+0.5**
OK009	**Oakdale Elemen**	**0.68**	**182**				**Pg**	**20 54 55.8**	**+0.2**
OK025	**Westminster Rd**	**0.69**	**176**				**Pg**	**20 54 55.8**	**+0.2**
GC02	**Grant County #**	**0.70**	**327**				**Pg**	**20 54 55.9**	**+0.1**
GC02					Sg		**Sg**	**20 55 05.3**	**+0.4**
OK001	**Jones High Sch**	**0.71**	**173**	Pg			**Pg**	**20 54 56.2**	**+0.1**
KAN13	**South Haven SW**	**0.75**	**355**				**Pg**	**20 54 56.9**	**+0.1**
KAN13					Sg		**Sg**	**20 55 07.0**	**+0.4**
KAN14	**Manchester OK**	**0.83**	**326**				**Pg**	**20 54 58.3**	**-0.1**
KAN14					Sg		**Sg**	**20 55 09.2**	**0.0**
KAN17	**Caldwell West**	**0.83**	**339**				**Pg**	**20 54 58.4**	**-0.1**
KAN17					Sg		**Sg**	**20 55 09.5**	**+0.3**
OKCFA	**Oklahoma City**	**0.85**	**183**				**Pg**	**20 54 58.7**	**-0.1**
OKCFA	**Oklahoma City**	**0.85**	**183**	P			**Pg**	**20 54 58.7**	**-0.1**
	baz=3.3,SNR=55								
OKCFA					S		**Sg**	**20 55 10.5**	**+0.7**
	baz=3.3								
OKCFA	**Oklahoma City**	**0.85**	**183**	P				20 54 58.7	
	baz=3.3,SNR=55								
OKCFA					S			20 55 10.5	
	baz=3.3								
OK032	**Salt Plains WL**	**0.85**	**309**				**Pg**	**20 54 58.6**	**-0.2**
OK032					Sg		**Sg**	**20 55 09.9**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.86**	**183**				**Pg**	**20 54 58.9**	**-0.1**
KAN09	**Caldwell North**	**0.89**	**348**	Pg			**Pg**	**20 54 59.4**	**-0.1**
KAN05	**Bluff City Nor**	**0.93**	**335**				**Pg**	**20 55 00.1**	**-0.2**
KAN05					Sg		**Sg**	**20 55 12.7**	**+0.4**
T35A	**Sooner Cattle**	**0.96**	**47**				**Pg**	**20 55 00.6**	**-0.3**
T35B	**Sooner Cattle**	**0.96**	**47**	P			**Pg**	**20 55 00.6**	**-0.3**
	baz=228,SNR=140								
T35B					S		**Sg**	**20 55 13.2**	**-0.2**
	baz=228								
T35B	**Sooner Cattle**	**0.96**	**47**	P				20 55 00.6	
	baz=228,SNR=140								
T35B					S			20 55 13.2	
	baz=228								
OK011	**Prague**	**0.97**	**143**	Pg			**Pg**	**20 55 00.9**	**-0.1**
KS20	**Mayfield South**	**0.97**	**352**	Pg			**Pg**	**20 55 00.9**	**-0.2**
FNO	**Franklin**	**1.01**	**180**				**Pg**	**20 55 01.4**	**-0.4**
KAN10	**Anthony SW Sta**	**1.03**	**327**				**Pg**	**20 55 01.9**	**-0.2**
KAN10					Sg		**Sg**	**20 55 15.7**	**+0.2**
KAN08	**Anthony NE Sta**	**1.07**	**334**				**Pg**	**20 55 02.6**	**-0.3**
KAN08					Sg		**Sg**	**20 55 16.8**	**0.0**
KAN16	**Harper SW Stat**	**1.10**	**331**				**Pg**	**20 55 03.3**	**-0.3**
KAN16					Sg		**Sg**	**20 55 17.9**	**0.0**
U32A	**Winter Ranch,**	**1.31**	**275**				**Pn**	**20 55 06.5**	**-0.9**
U32A	**Winter Ranch,**	**1.31**	**275**	P			**Pn**	**20 55 06.7**	**-0.8**
	baz=94								
U32A	**Winter Ranch,**	**1.31**	**275**	P				20 55 06.7	
	baz=94								
TUL1	**Leonard**	**1.34**	**105**	P			**Pn**	**20 55 06.8**	**-1.2**
	baz=286,SNR=261								
TUL1					S		**Sg**	**20 55 25.0**	**-0.6**
	baz=286								
TUL1	**Leonard**	**1.34**	**105**	P				20 55 06.8	
	baz=286,SNR=116								
TUL1					S			20 55 25.1	
	baz=286								
TUL1	**Leonard**	**1.34**	**105**	P				20 55 06.8	
	baz=286,SNR=261								
TUL1					S			20 55 25.0	
	baz=286								
X34A	**Smith Ranch, M**	**1.70**	**192**				**Pb**	**20 55 13.8**	**-0.5**
WMOK	**Wichita Mounta**	**1.90**	**217**				**Pn**	**20 55 16.1**	**+0.4**
WMOK	**Wichita Mounta**	**1.90**	**217**	P			**Pn**	**20 55 16.0**	**+0.4**
	baz=36,SNR=176								
WMOK					S		**Sb**	**20 55 41.4**	**-0.4**
	baz=36								
WMOK	**Wichita Mounta**	**1.90**	**217**	P				20 55 16.0	
	baz=36,SNR=103								
WMOK					S			20 55 41.7	
	baz=36								
WMOK	**Wichita Mounta**	**1.90**	**217**	P				20 55 16.0	
	baz=36,SNR=176								
WMOK					S			20 55 41.4	
	baz=36								
LOOK	**Love County**	**2.27**	**176**				**Pn**	**20 55 21.4**	**+0.6**
LOOK					IAmb_Lg			20 56 00.4	
	comp=Z,135nm,0.8s								
X37A	**Clayton**	**2.35**	**135**				**Pn**	**20 55 22.4**	**+0.6**
X37A	**Clayton**	**2.35**	**135**	P			**Pn**	**20 55 22.3**	**+0.6**
	baz=316,SNR=54								
X37A	**Clayton**	**2.35**	**135**	P				20 55 22.3	
	baz=316,SNR=54								
R32A	**Long Quarter,**	**2.40**	**334**				**Pn**	**20 55 23.3**	**+0.8**
R32A					IAmb_Lg			20 55 59.4	
	comp=Z,178nm,0.7s								
R32A	**Long Quarter,**	**2.40**	**334**	P			**Pn**	**20 55 23.4**	**+0.9**
	baz=154,SNR=113								
R32A					S		**Sn**	**20 55 53.0**	**+0.7**
	baz=154								
R32A	**Long Quarter,**	**2.40**	**334**	P				20 55 23.4	
	baz=154,SNR=113								
R32A					S			20 55 53.0	
	baz=154								
U38A	**Gravette**	**2.43**	**85**				**Pn**	**20 55 23.6**	**+0.7**
U38A	**Gravette**	**2.43**	**85**	P			**Pn**	**20 55 23.7**	**+0.8**
	baz=267								
U38A	**Gravette**	**2.43**	**85**	P				20 55 23.7	
	baz=267								
HHAR	**Hobbs**	**2.79**	**89**				**Pn**	**20 55 28.1**	**+0.3**
KSU1	**Kansas State U**	**2.90**	**12**				**Pn**	**20 55 30.5**	**+1.2**
KSU1	**Kansas State U**	**2.90**	**12**	P				20 55 31.6	
	baz=193,SNR=14								
KSU1					Sb			20 56 12.3	
	baz=193								
Z35A	**Perchaven, San**	**2.93**	**178**				**Pn**	**20 55 30.5**	**+0.7**
Z35A	**Perchaven, San**	**2.93**	**178**	P			**Pn**	**20 55 30.5**	**+0.7**
	baz=358,SNR=5.6								
Z35A	**Perchaven, San**	**2.93**	**178**	P				20 55 30.5	
	baz=358,SNR=5.6								
W39A	**Magazine**	**3.12**	**109**				**Pn**	**20 55 32.4**	**0.0**
W39A					IAmb_Lg			20 56 26.7	
	comp=Z,188nm,0.9s								
W39A	**Magazine**	**3.12**	**109**	P				20 55 32.6	
	baz=291,SNR=18								
W39A					S			20 56 11.0	
	baz=291								
CBKS	**Cedar Bluff**	**3.15**	**324**				**Pn**	**20 55 33.2**	**+0.3**
CBKS					IAmb_Lg			20 56 27.1	
	comp=Z,150nm,0.8s								
CBKS	**Cedar Bluff**	**3.15**	**324**	Sb				20 56 23.4	
	baz=143								
S39A	**Bolivar**	**3.55**	**65**				**Pn**	**20 55 38.8**	**+0.4**
S39A					IAmb_Lg			20 56 34.3	
	comp=Z,100nm,0.8s								
S39A	**Bolivar**	**3.55**	**65**	P			**Pn**	**20 55 38.7**	**+0.4**
	baz=248,SNR=27								
S39A					S		**Sn**	**20 56 21.7**	**+0.8**
	baz=248								
S39A	**Bolivar**	**3.55**	**65**	P				20 55 38.7	
	baz=248,SNR=27								
S39A					S			20 56 21.7	
	baz=248								
MIAR	**Mount Ida**	**3.56**	**118**				**Pn**	**20 55 38.9**	**+0.4**
MIAR					IAmb_Lg			20 56 39.5	
	comp=Z,112nm,0.7s								
MIAR	**Mount Ida**	**3.56**	**118**	P			**Pn**	**20 55 39.0**	**+0.6**
	baz=300,SNR=27								
MIAR	**Mount Ida**	**3.56**	**118**	P				20 55 39.0	
	baz=300,SNR=15								
MIAR					S			20 56 21.8	
	baz=300								
MIAR	**Mount Ida**	**3.56**	**118**	P				20 55 39.0	
	baz=300,SNR=27								
Z38A	**Mt. Pleasant**	**3.59**	**146**				**Pn**	**20 55 39.1**	**+0.2**
Z38A	**Mt. Pleasant**	**3.59**	**146**	P			**Pn**	**20 55 39.2**	**+0.2**
	baz=327								
Z38A	**Mt. Pleasant**	**3.59**	**146**	P				20 55 39.2	
	baz=327								
U40A	**Yellville**	**3.67**	**87**				**Pn**	**20 55 40.0**	**+0.1**
U40A					IAmb_Lg			20 56 42.9	
	comp=Z,138nm,0.7s								
U40A	**Yellville**	**3.67**	**87**	P			**Pn**	**20 55 39.8**	**-0.1**
	baz=270,SNR=19								
U40A	**Yellville**	**3.67**	**87**	P				20 55 40.1	
	baz=270,SNR=14								
U40A	**Yellville**	**3.67**	**87**	P				20 55 39.8	
	baz=270,SNR=19								
U40A				P				20 55 39.8	
	baz=270,SNR=19								
AMTX	**Amarillo**	**3.76**	**250**	Pn			**Pn**	**20 55 42.0**	**+0.7**
AMTX					IAmb_Lg			20 56 48.8	
	comp=Z,127nm,0.9s								
AMTX	**Amarillo**	**3.76**	**250**	P			**Pn**	**20 55 41.1**	**-0.1**
	baz=67,SNR=9.6								
AMTX	**Amarillo**	**3.76**	**250**	Pn				20 55 42.2	
	baz=67								
AMTX				Pb				20 55 51.1	
	baz=67								
AMTX				Sb				20 56 38.9	
	baz=67								
AMTX	**Amarillo**	**3.76**	**250**	P				20 55 41.1	
	baz=67,SNR=9.6								
ABTX	**Abilene, Hawle**	**4.08**	**208**				**Pn**	**20 55 45.7**	**+0.1**
ABTX					IAmb_Lg			20 56 57.2	
	comp=Z,72nm,0.7s								
ABTX	**Abilene, Hawle**	**4.08**	**208**	P				20 55 46.5	
	baz=26,SNR=26								
X40A	**Basin Creek Fa**	**4.12**	**114**				**Pn**	**20 55 47.1**	**+0.9**
X40A					IAmb_Lg			20 56 54.5	
	comp=Z,163nm,0.7s								
X40A	**Basin Creek Fa**	**4.12**	**114**	S				20 56 34.6	
	baz=297								
MGMO	**Mountain Grove**	**4.21**	**76**				**Pn**	**20 55 47.1**	**-0.3**
MGMO					IAmb_Lg			20 56 59.2	
	comp=Z,117nm,0.7s								
WHAR	**Wooly Hollow**	**4.26**	**102**				**Pn**	**20 55 47.7**	**-0.4**
WHAR					IAmb_Lg			20 57 05.1	
	comp=Z,124nm,0.9s								
WHTX	**Lake Whitney,**	**4.26**	**181**				**Pn**	**20 55 48.1**	**0.0**
WHTX	**Lake Whitney,**	**4.26**	**181**	P			**Pn**	**20 55 48.1**	**0.0**
	baz=0.7,SNR=35								
WHTX	**Lake Whitney,**	**4.26**	**181**	P				20 55 48.7	
	baz=0.7,SNR=7.9								
WHTX	**Lake Whitney,**	**4.26**	**181**	P				20 55 48.1	
	baz=0.7,SNR=35								
FCAR	**Ozark Folk Cen**	**4.28**	**93**				**Pn**	**20 55 48.3**	**-0.1**
FCAR					IAmb_Lg			20 56 58.5	
	comp=Z,107nm,0.8s								
W41B	**Gary Mavity, V**	**4.32**	**103**	P			**Pn**	**20 55 48.4**	**-0.5**
	baz=286,SNR=21								
W41B	**Gary Mavity, V**	**4.32**	**103**	P				20 55 49.3	
	baz=286,SNR=16								
W41B				S				20 56 38.6	
	baz=286								
W41B	**Gary Mavity, V**	**4.32**	**103**	P				20 55 48.4	
	baz=286,SNR=21								
WLAR	**White Oak Lake**	**4.35**	**125**				**Pn**	**20 55 49.9**	**+0.6**
WLAR					IAmb_Lg			20 57 05.9	
	comp=Z,121nm,0.8s								
237A	**Washetta, Mont**	**4.45**	**162**				**Pn**	**20 55 49.9**	**-0.8**
N33B	**J Bar K, Exete**	**4.46**	**359**	P			**Pn**	**20 55 50.8**	**-0.1**
	baz=179,SNR=8.8								
N33B	**J Bar K, Exete**	**4.46**	**359**	P				20 55 50.8	
	baz=179,SNR=8.8								
N33A	**J Bar K, Exete**	**4.47**	**359**	Pn			**Pn**	**20 55 51.3**	**+0.4**
N33A					IAmb_Lg			20 57 07.0	
	comp=Z,107nm,1.0s								
P38A	**Dawn**	**4.53**	**41**	Pn			**Pn**	**20 55 51.3**	**-0.5**
P38A					IAmb_Lg			20 57 06.1	
	comp=Z,122nm,0.7s								
R40A	**Maddies Statio**	**4.56**	**62**				**Pn**	**20 55 52.2**	**0.0**
R40A					IAmb_Lg			20 57 04.9	
	comp=Z,140nm,1.0s								
R40A	**Maddies Statio**	**4.56**	**62**	P			**Pn**	**20 55 52.3**	**+0.2**
	baz=245,SNR=10								
R40A	**Maddies Statio**	**4.56**	**62**	P				20 55 52.3	
	baz=245,SNR=10								
N35A	**Tabor**	**4.79**	**16**	Pn			**Pn**	**20 55 56.2**	**+0.9**
N35A					IAmb_Lg			20 57 20.6	
	comp=Z,147nm,0.7s								
Z41A	**Richland Creek**	**4.82**	**127**	P			**Pn**	**20 55 55.7**	**-0.1**
	baz=310								
Z41A	**Richland Creek**	**4.82**	**127**	P				20 55 55.9	
	baz=310								
Z41A				S				20 56 50.1	
	baz=310								
Z41A	**Richland Creek**	**4.82**	**127**	P				20 55 55.7	
	baz=310								
Z41A				P				20 55 55.7	
	baz=310								
MSTX	**Muleshoe**	**4.97**	**244**				**Pn**	**20 55 58.5**	**+0.5**
MSTX	**Muleshoe**	**4.97**	**244**	P				20 55 59.5	
	baz=61								
KSCO	**Kaye Shedlock'**	**4.98**	**305**	Pn			**Pn**	**20 55 58.4**	**+0.3**
KSCO					IAmb_Lg			20 57 30.4	
	comp=Z,107nm,0.7s								
NATX	**Nacogdoches**	**5.03**	**152**	Pn			**Pn**	**20 55 58.4**	**-0.4**
NATX					IAmb_Lg			20 57 34.0	
	comp=Z,78nm,0.8s								
LCAR	**Lake Charles**	**5.05**	**90**	Pn			**Pn**	**20 55 59.0**	**+0.1**
LCAR					IAmb_Lg			20 57 29.1	
	comp=Z,74nm,0.9s								
CCAR	**Cane Creek**	**5.17**	**115**	Pn			**Pn**	**20 56 00.6**	**0.0**
CCAR					IAmb_Lg			20 57 36.3	
	comp=Z,107nm,1.0s								
BGNE	**Belgrade**	**5.17**	**354**				**Pn**	**20 56 00.1**	**-0.5**
BGNE					IAmb_Lg			20 57 39.3	
	comp=Z,103nm,0.8s								
BGNE	**Belgrade**	**5.17**	**354**	P				20 56 01.1	
	baz=173,SNR=8.5								
CCM	**Cathedral Cave**	**5.22**	**68**	IAmb_Lg				20 57 37.3	
	comp=Z,107nm,0.9s								
P40A	**Paris**	**5.33**	**51**				**Pn**	**20 56 03.1**	**+0.2**
P40A					IAmb_Lg			20 57 29.7	
	comp=Z,108nm,0.7s								
435B	**Jarrell**	**5.47**	**182**				**Pn**	**20 56 04.6**	**-0.1**
435B					IAmb_Lg			20 57 41.3	
	comp=Z,55nm,0.7s								
435B	**Jarrell**	**5.

K31A					IAmb_Lg			20 58 11.8		
	comp=Z,115nm,0.7s									
SCIA	**State Center**	**6.50**	**29**		Pn		**Pn**	**20 56 20.0**	**+1.1**	
SCIA					IAmb_Lg			20 58 10.8		
	comp=Z,111nm,0.7s									
SDCO	**Great Sand Dun**	**6.66**	**285**				**Pn**	**20 56 21.8**	**+0.5**	
SDCO					IAmb_Lg			20 58 19.5		
	comp=Z,36nm,1.0s									
S44A	**Carbondale**	**6.67**	**75**				**Pn**	**20 56 20.0**	**-1.1**	
SIUC	**Southern Illin**	**6.70**	**75**				**Pn**	**20 56 20.7**	**-0.9**	
OXF	**Oxford**	**6.75**	**103**		Pn		**Pn**	**20 56 21.3**	**-0.9**	
OXF					IAmb_Lg			20 58 30.3		
	comp=Z,48nm,0.8s									
OXF	**Oxford**	**6.75**	**103**		P			20 56 22.8		
	baz=287									
OXF					S			20 57 38.8		
	baz=287									
W45A	**Hickory Valley**	**6.77**	**97**		IAmb_Lg			20 58 17.7		
	comp=Z,85nm,0.7s									
Y45A	**Yeager Farm, C**	**6.87**	**108**		IAmb_Lg			20 58 32.5		
	comp=Z,60nm,1.0s									
Q44A	**Meyer Farm, Va**	**7.15**	**66**		Pn		**Pn**	**20 56 27.8**	**0.0**	
ISCO	**Idaho Springs**	**7.38**	**301**				**Pn**	**20 56 31.3**	**0.0**	
ISCO					IAmb_Lg			20 58 40.7		
	comp=Z,32nm,0.8s									
ECSD	**EROS Data Cent**	**7.48**	**4**				**Pn**	**20 56 31.7**	**-0.6**	
ECSD	**EROS Data Cent**	**7.48**	**4**		P			20 56 31.9		
	baz=185,SNR=8.5									
ANMO	**Albuquerque**	**7.50**	**263**		Pg		Pb	20 56 59.4	+6.1	
	comp=Z,1.2nm,0.3s,baz=80,slow=17,SNR=9.1									
ANMO					Lg		Lg	20 58 35.1		
	comp=Z,1.8nm,0.3s,baz=29,slow=3.0,SNR=6.4									
L40A	**Anamosa**	**7.51**	**38**				**Pn**	**20 56 32.5**	**-0.2**	
L40A					IAmb_Lg			20 58 47.9		
	comp=Z,85nm,0.8s									
HDIL	**Hopedale**	**7.66**	**54**				**Pn**	**20 56 34.5**	**-0.3**	
PLAL	**Pickwick Lake**	**7.69**	**97**		IAmb_Lg			20 58 51.2		
	comp=Z,44nm,0.9s									
OLIL	**Olney**	**7.79**	**69**		IAmb_Lg			20 59 06.0		
	comp=Z,76nm,0.9s									
USIN	**University of**	**7.95**	**75**		IAmb_Lg			20 59 01.6		
	comp=Z,89nm,1.0s									
MNTX	**Cornudas Mount**	**8.05**	**238**				**Pn**	**20 56 39.7**	**-0.4**	
MNTX					IAmb_Lg			20 59 03.2		
	comp=Z,35nm,0.8s									
MNTX	**Cornudas Mount**	**8.05**	**238**		P			20 56 40.9		
	baz=53,SNR=5.9									
PHWY	**Pilot Hill**	**8.06**	**311**				**Pn**	**20 56 40.8**	**+0.3**	
PHWY					IAmb_Lg			20 59 16.2		
	comp=Z,40nm,0.8s									
Y22D	**IRIS PASSCAL I**	**8.10**	**257**		IAmb_Lg			20 59 09.6		
	comp=Z,68nm,0.8s									
SMCO	**Snowmass**	**8.13**	**294**				**Pn**	**20 56 41.1**	**-0.5**	
SUSD	**Miller**	**8.26**	**352**				**Pn**	**20 56 42.7**	**-0.2**	
SUSD					IAmb_Lg			20 59 19.0		
	comp=Z,40nm,0.8s									
I37A	**Lemond, Waseca**	**8.32**	**20**		IAmb_Lg			20 59 17.2		
	comp=Z,68nm,1.0s									
JFWS	**Jewell Farm**	**8.63**	**38**				**Pn**	**20 56 48.1**	**0.0**	
JFWS					IAmb_Lg			20 59 25.9		
	comp=Z,66nm,0.7s									
JFWS	**Jewell Farm**	**8.63**	**38**		P			20 56 48.3		
	baz=222									
TX31	**Lajitas Ar. Si**	**8.70**	**219**				**Pn**	**20 56 49.4**	**+0.3**	
TX32	**Lajitas Array**	**8.70**	**219**				**Pn**	**20 56 49.2**	**+0.1**	
TXAR	**Lajitas Array**	**8.70**	**219**		Pn		**Pn**	**20 56 47.0**	**-2.1**	
	comp=Z,0.3nm,0.3s,baz=37,slow=12,SNR=19									
TXAR					Lg		Lg	20 59 06.9		
	comp=Z,1.3nm,0.3s,baz=43,slow=28,SNR=3.1									
TXAR	**Lajitas Array**	**8.70**	**219**				**Pn**	**20 56 48.7**	**-0.5**	
CLTN	**Cedars of Leba**	**8.95**	**88**		IAmb_Lg			20 59 40.7		
	comp=Z,22nm,0.9s									
WCI	**Wyandotte Cave**	**9.06**	**74**		IAmb_Lg			20 59 44.1		
	comp=Z,46nm,0.8s									
WCI	**Wyandotte Cave**	**9.06**	**74**		P			20 56 54.8		
	baz=261									
SFIN	**Lafayette**	**9.07**	**60**		IAmb_Lg			20 59 33.4		
	comp=Z,55nm,0.7s									
I40A	**Norwalk**	**9.21**	**32**		IAmb_Lg			20 59 46.3		
	comp=Z,35nm,0.7s									
RSSD	**Black Hills**	**9.35**	**329**		IAmb_Lg			20 59 53.5		
	comp=Z,27nm,0.8s									
RSSD	**Black Hills**	**9.35**	**329**		P			20 56 59.4		
	baz=145									
RWWY	**Rawlins**	**9.37**	**308**		IAmb_Lg			20 59 40.6		
	comp=Z,40nm,1.1s									
O20A	**White River Ci**	**9.37**	**298**		IAmb_Lg			21 00 04.8		
	comp=Z,26nm,1.1s									
PV11	**David Mesa, Pa**	**9.37**	**286**		IAmb_Lg			20 59 54.9		
	comp=Z,29nm,1.0s									
K43A	**Burlington**	**9.50**	**45**		IAmb_Lg			20 59 58.6		
	comp=Z,69nm,0.8s									
K22A	**Casper**	**9.51**	**315**		IAmb_Lg			21 00 06.6		
	comp=Z,49nm,1.0s									
SPMN	**Marine on St.**	**9.60**	**20**		IAmb_Lg			20 59 52.7		
	comp=Z,22nm,0.8s									
FPAL	**Fort Paine**	**9.77**	**97**		IAmb_Lg			21 00 12.5		
	comp=Z,20nm,1.0s									
W50A	**Signal Mountai**	**9.88**	**93**		IAmb_Lg			21 00 04.7		
	comp=Z,50nm,1.1s									
R49A	**Shelbyville**	**9.95**	**75**		IAmb_Lg			21 00 06.7		
	comp=Z,26nm,1.0s									
P48A	**Milroy**	**9.98**	**68**		IAmb_Lg			21 00 00.9		
	comp=Z,55nm,1.0s									
TKL	**Tuckaleechee C**	**11.05**	**89**		Pn		**Pn**	**20 57 18.1**	**-3.2**	
	comp=Z,0.1nm,0.3s,baz=270,slow=8.1,SNR=1.9									
TKL					Lg		Lg	21 00 22.1		
	comp=Z,0.8nm,0.3s,baz=18,slow=18,SNR=3.1									
PDAR	**Pinedale Array**	**11.41**	**308**		Lg		Lg	21 00 39.5		
	comp=Z,0.5nm,0.3s,baz=121,slow=28,SNR=2.1									
ULM	**Lac du Bonnet**	**14.02**	**4**		Pn		Pn	20 57 56.4	-5.4	
	comp=Z,0.4nm,0.3s,baz=188,slow=12,SNR=2.7									
ULM					Sn		Sn	21 00 23.9	-14	
	comp=Z,0.3nm,0.3s,baz=268,slow=17,SNR=1.3									
ULM					Lg		Lg	21 01 55.8		
	comp=Z,0.2nm,0.3s,baz=258,slow=14,SNR=1.7									
SADO	**Sadowa**	**16.25**	**53**		Lg		Lg	21 03 06.2		
	comp=Z,0.4nm,0.3s,baz=351,slow=22,SNR=6.2									
ILAR	**Eielson Array**	**40.79**	**330**		P		**P**	**21 02 25.8**	**+1.3**	
	comp=Z,0.8nm,0.7s,baz=106,slow=7.9,SNR=9.0									
BORG	**Borgarnes**	**52.01**	**32**		LR		LR	21 25 28.8		
	comp=Z,13nm,20.5s,baz=344,slow=36									

*IDC **13** 21:07:45.8±1.4,54°.57N×162°.94W, h0km, mb4.0/25, mb1 4.1/26,mb1mx3.9/69,mbtmp4.0/26,ML3.7/1, MS3.2/4, Ms1 3.1/4,ms1mx2.7/37, Error ellipse: s-maj=37.0km s-min=16.1km az=168.0*

*NEIC **13** 21:07:50.7±2.1,54°.26N±0°.06×162°.67W±0°.05, h48km±8km, Error ellipse: s-maj=9.1km s-min=1.6km az=153.0*

*AEIC **13** 21:07:50±2.8,54°.23N±0°.05×162°.65W±0°.04, h32km±5km, ML3.6/41,mb4.3/12(NEIC), Error ellipse: s-maj=7.2km s-min=3.7km az=180.0*

ISC 13 21:07:50.3±1.3,54°.25N±0°.09×162°.56W±0°.05, h43km±10km, n138, σ1§10/139, mb4.1/35, MS3.2/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.79**	**321**	P	**Pn**	**21 08 04.4**	**-0.6**
FALS	**False Pass**	**0.79**	**321**	S	**Sn**	**21 08 15.8**	**+0.2**
BRPK	**Brown Peak**	**0.80**	**301**	P	**Pn**	**21 08 04.1**	**-1.0**
DT1	**Dutton Round H**	**0.88**	**10**	P	**Pn**	**21 08 05.9**	**-0.4**
SSLS	**Shishaldin Sou**	**0.96**	**300**	P	**Pn**	**21 08 07.2**	**-0.2**
SSLS				S	**Sn**	**21 08 20.6**	**+0.6**
SSLN	**Shishaldin Nor**	**1.01**	**305**	P	**Pn**	**21 08 08.3**	**+0.3**
SSBA	**Shishaldin**	**1.05**	**301**	P	**Pn**	**21 08 08.4**	**-0.3**
SSBA				S	**Sn**	**21 08 22.1**	**-0.1**
HAG	**Hague Volcano**	**1.14**	**19**	P	**Pn**	**21 08 10.6**	**+0.8**
PS4A	**Pavlof South-4**	**1.18**	**20**	P	**Pn**	**21 08 11.0**	**+0.7**
PVV	**Pavlof Volcano**	**1.22**	**21**	P	**Pn**	**21 08 11.5**	**+0.7**
WESP	**Westdahl Peak**	**1.29**	**282**	P	**Pn**	**21 08 11.0**	**-0.9**
WESP				S	**Sn**	**21 08 27.9**	**-0.1**
WECS	**Westdahl Cape**	**1.33**	**283**	P	**Pn**	**21 08 11.9**	**-0.5**
SDPT	**Sand Point**	**1.64**	**47**	P	**Pn**	**21 08 17.5**	**+1.0**
SDPT				S	**Sn**	**21 08 38.8**	**+2.5**
AKSA	**Akutan Strait**	**1.85**	**268**	P	**Pn**	**21 08 19.5**	**+0.1**
AKSA				S	**Sn**	**21 08 43.4**	**+1.8**
AKUT	**Akutan**	**1.89**	**268**	P	**Pn**	**21 08 20.0**	**0.0**
AKUT				Sn	**Sn**	**21 08 41.6**	**-1.0**
HSB	**Akutan Spr's B**	**1.97**	**270**	P	**Pn**	**21 08 21.3**	**+0.1**
AKBBA	**Akutan Broad B**	**1.99**	**267**	P	**Pn**	**21 08 21.3**	**-0.1**
AKLV	**Akutan Long Va**	**2.00**	**269**	P	**Pn**	**21 08 21.9**	**+0.3**
AKGG	**Akutan Green G**	**2.02**	**270**	P	**Pn**	**21 08 22.0**	**+0.3**
AKMO	**Akutan Morgan**	**2.04**	**267**	P	**Pn**	**21 08 22.6**	**+0.5**
MTBL	**Makushin Table**	**2.44**	**265**	P	**Pn**	**21 08 27.8**	**+0.1**
MNAT	**Makushin Natee**	**2.46**	**263**	P	**Pn**	**21 08 27.4**	**-0.4**
MSW	**Makushin Switc**	**2.51**	**264**	P	**Pn**	**21 08 28.3**	**-0.3**
MGOD	**Makushin Gods**	**2.58**	**262**	P	**Pn**	**21 08 29.4**	**-0.2**
MAPS	**Pakushin South**	**2.62**	**262**	P	**Pn**	**21 08 29.8**	**-0.3**
MAPS				S	**Sn**	**21 09 01.3**	**+0.7**
VNFG	**Fog Glacier, M**	**2.67**	**39**	P	**Pn**	**21 08 33.2**	**+2.3**
VNSG	**Veniaminof 6**	**2.74**	**45**	P	**Pn**	**21 08 33.9**	**+2.1**
VNHG	**Veniaminof 1**	**2.77**	**43**	P	**Pn**	**21 08 34.3**	**+2.0**
OKTU	**Okmok Mt. Tuli**	**3.36**	**257**	P	**Pn**	**21 08 41.3**	**+1.1**
OKSO	**Okmok South**	**3.44**	**257**	P	**Pn**	**21 08 42.2**	**+0.9**
NIKH	**Nikolski High**	**3.96**	**254**	Pn	**Pn**	**21 08 48.3**	**-0.1**
SII	**Sitkinak Islan**	**5.31**	**61**	Pn	**Pn**	**21 09 06.7**	**-0.2**
KABU	**Katmai Buttres**	**5.72**	**42**	P	**Pn**	**21 09 14.5**	**+1.9**
OHAK	**Old Harbor**	**6.03**	**57**	Pn	**Pn**	**21 09 16.5**	**-0.3**
KDAK	**Kodiak Island**	**6.62**	**54**	Pn	**Pn**	**21 09 24.3**	**-0.6**
	1.4nm,0.3s,baz=240,slow=6.2,SNR=24						
KDAK				Sn	**Sn**	**21 10 33.4**	**-5.6**
	1.0nm,0.3s,baz=162,slow=18,SNR=1.0						
KDAK				LR	LR	21 12 09.3	
	comp=Z,113nm,19.7s,baz=253,slow=40						
KDAK	**Kodiak Island**	**6.62**	**54**	Pn	**Pn**	**21 09 24.6**	**-0.3**
SVW2	**Sparrevohn**	**7.82**	**26**		**Pn**	**21 09 42.5**	**+1.2**
CNPM	**China Poot**	**8.15**	**45**	Pn	**Pn**	**21 09 46.5**	**+0.6**
BRLK	**Bradley Lake**	**8.43**	**44**	Pn	**Pn**	**21 09 49.2**	**-0.5**
BRSE	**Bradley Lake S**	**8.48**	**45**		**Pn**	**21 09 50.5**	**+0.2**
SEW	**Seward**	**9.22**	**45**	Pn	**Pn**	**21 10 00.6**	**+0.2**
TT01	**Tatalina**	**9.33**	**19**		**Pn**	**21 10 02.4**	**+0.4**
TTA	**Tatalina**	**9.35**	**19**	Pn	**Pn**	**21 10 03.8**	**+1.5**
RC01	**Rabbit Creek A**	**9.69**	**40**	Pn	**Pn**	**21 10 07.4**	**+0.4**
PWL	**Port Wells**	**10.10**	**43**	Pn	**Pn**	**21 10 11.4**	**-1.1**
PPLA	**Purkeypile**	**10.21**	**28**	Pn	**Pn**	**21 10 16.6**	**+2.4**
CUT	**Chulitna**	**10.41**	**33**	Pn	**Pn**	**21 10 18.0**	**+1.3**
EYAK	**Cordova Ski Ar**	**11.03**	**48**	Pn	**Pn**	**21 10 24.5**	**-0.7**
SCM	**Sheep Creek Mo**	**11.07**	**41**	Pn	**Pn**	**21 10 25.2**	**-0.6**
KTH	**Kantishna Hill**	**11.08**	**28**		**Pn**	**21 10 26.8**	**+0.8**
TRF	**Thorofare Moun**	**11.18**	**30**		**Pn**	**21 10 28.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**11.50**	**26**	Pn	**Pn**	**21 10 32.7**	**+1.0**
HMT	**Hamilton**	**11.60**	**51**		**Pn**	**21 10 31.9**	**-1.2**
M24K	**Tolsona, Glenn**	**11.67**	**41**		**Pn**	**21 10 33.0**	**-1.0**
BMRM	**Bremner River**	**11.72**	**48**		**Pn**	**21 10 34.4**	**-0.3**
SUCK	**Suckling Hills**	**11.73**	**53**	Pn	**Pn**	**21 10 35.0**	**+0.3**
N25K	**Chitina, Valde**	**12.03**	**45**	Pn	**Pn**	**21 10 38.9**	**-0.1**
GLB	**Gilahina Butte**	**12.28**	**47**	Pn	**Pn**	**21 10 42.6**	**+0.2**
MLY	**Manley**	**12.33**	**24**		**Pn**	**21 10 43.2**	**+0.2**
VRDI	**Verde Repeater**	**12.34**	**48**	Pn	**Pn**	**21 10 42.2**	**-1.1**
PAX	**Paxson**	**12.44**	**39**	Pn	**Pn**	**21 10 43.6**	**-1.0**
IMAR	**Indian Mountai**	**12.55**	**17**	Pn	**Pn**	**21 10 48.2**	**+2.3**
WRH	**Wood River Hil**	**12.59**	**30**	Pn	**Pn**	**21 10 46.2**	**-0.3**
I23K	**Minto, Yukon-K**	**12.77**	**26**		**Pn**	**21 10 49.4**	**+0.5**
CCB	**Clear Creek Bu**	**12.81**	**30**	Pn	**Pn**	**21 10 48.0**	**-1.4**
GRNC	**Granite Creek**	**12.90**	**51**		**Pn**	**21 10 50.2**	**-0.8**
MDM	**Murphy Dome**	**12.92**	**28**	Pn	**Pn**	**21 10 51.7**	**+0.7**
IL31		**13.17**	**31**	Pn	**Pn**	**21 10 53.1**	**-1.2**
ILAR	**Eielson Array**	**13.17**	**31**	Pn	**Pn**	**21 10 51.8**	**-2.6**
	0.1nm,0.3s,baz=221,slow=13,SNR=3.8						
ILAR	**Eielson Array**	**13.17**	**31**	Pn	**Pn**	**21 10 54.2**	**-0.2**
CTGM	**Chitina Glacie**	**13.18**	**51**	Pn	**Pn**	**21 10 55.0**	**+0.3**
DOT	**Dot Lake**	**13.36**	**38**		**Pn**	**21 10 56.0**	**-1.2**
SCRK	**Sand Creek**	**13.58**	**37**	Pn	**Pn**	**21 10 57.7**	**-2.4**
L27K	**Beaver Creek,**	**13.88**	**42**	Pn	**Pn**	**21 11 02.9**	**-1.2**
BCAR	**Beaver Creek A**	**13.90**	**42**	Pn	**Pn**	**21 11 03.5**	**-0.9**
K27K	**Chicken**	**14.30**	**39**	Pn	**Pn**	**21 11 10.1**	**+0.4**
COLD	**Coldfoot**	**14.31**	**20**	Pn	**Pn**	**21 11 11.4**	**+1.5**
HYT	**Haines Junctio**	**14.91**	**54**		**Pn**	**21 11 17.8**	**-0.3**
TOLK	**Toolik Lake Re**	**15.66**	**18**	Pn	**Pn**	**21 11 27.4**	**-0.3**
BMAR	**Burnt Mountain**	**15.76**	**26**	Pn	**Pn**	**21 11 28.7**	**-0.3**
WHY	**Whitehorse**	**16.13**	**55**	Pn	**Pn**	**21 11 34.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**23.36**	**284**	P	**P**	**21 12 53.7**	**-0.9**
PEA0B				IAmb	IAmb	21 13 12.6	
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**23.36**	**284**	P	**P**	**21 12 53.4**	**-1.3**
	comp=Z,3.1nm,0.5s,baz=82,slow=14,SNR=16						
PETK	**Petropavlovsk-**	**23.36**	**284**	P	**P**	**21 12 53.9**	**-0.7**
SEY	**Seymchan**	**24.55**	**309**	P	**P**	**21 13 03.9**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=112,slow=13,SNR=2.4						
YKA	**Yellowknife Ar**	**25.89**	**52**	P	**P**	**21 13 20.1**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=282,slow=11,SNR=4.8						
YKA				LR	LR	21 24 34.1	
	comp=Z,30nm,18.9s,baz=0.0,slow=39						
H11N2	**WAKE ISLAND Hy**	**41.59**	**226**	T	T	22 00 03.9	
	baz=26,slow=76,SNR=120						
H11N3	**WAKE ISLAND Hy**	**41.60**	**226**	T	T	22 00 07.0	
	baz=26,slow=76,SNR=128						
H11N1	**WAKE ISLAND Hy**	**41.61**	**226**	T	T	22 00 05.3	
	baz=26,slow=76,SNR=99						
JSD	**Sado**	**42.76**	**273**	P	**P**	**21 15 41.9**	**-1.3**
JSD				IAmb	IAmb	21 15 47.6	
	comp=Z,7.0nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**42.77**	**226**	T	T	22 01 29.5	
	baz=26,slow=76,SNR=179						
H11S2	**WAKE ISLAND Hy**	**42.78**	**226**	T	T	22 01 27.3	
	baz=26,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**42.78**	**226**	T	T	22 01 42.8	
	baz=26,slow=76,SNR=69						
MJAR	**Matsushiro Arr**	**43.80**	**271**	P	**P**	**21 15 51.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=39,slow=7.5,SNR=4.4						
TXAR	**Lajitas Array**	**48.75**	**96**	P	**P**	**21 16 33.2**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=334,slow=8.0,SNR=1.9						
SFJD	**Kangerlussuaq**	**48.83**	**29**	P	**P**	**21 16 31.7**	**+1.1**
KSRS	**Korea Array**	**49.18**	**280**	P	**P**	**21 16 33.5**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=47,slow=6.8,SNR=9.8						
SONM	**Songdo Array**	**53.77**	**303**	PcP	**PcP**	**21 18 13.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=42,slow=1.2,SNR=4.4						
HHC	**Hu-ho-hao-te**	**55.98**	**294**	*e*P	**P**	**21 17 25.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,71nm,4.6s						
ARCES	**ARCESS Array B**	**56.39**	**357**	P	**P**	**21 17 25.2**	**-1.4**
	comp=Z,4.4nm,1.0s,baz=17,slow=9.4,SNR=1.9						
ZALV	**Zalesovo Beam**	**58.69**	**320**	P	**P**	**21 17 42.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=64,slow=7.5,SNR=2.7						
KURK	**Kurchatov**	**63.57**	**322**	P	**P**	**21 18 16.3**	**+0.3**
KURB	**Kurchatov Arra**	**63.68**	**322**	P	**P**	**21 18 16.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=28,slow=7.1,SNR=8.2						
BVAR	**Borovoye Array**	**64.43**	**328**	P	**P**	**21 18 19.8**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=302,slow=3.3,SNR=12						
BRVK	**Borovoye**	**64.43**	**328**	P	**P**	**21 18 21.5**	**-0.1**
FIA1	**FINESS Array S**	**64.45**	**355**	P	**P**	**21 18 20.7**	**-0.9**
FINES	**FINESS Array B**	**64.45**	**355**	P	**P**	**21 18 20.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=12,slow=9.8,SNR=8.1						
FINES				LR	LR	21 46 50.3	
	comp=Z,16nm,19.9s,baz=82,slow=37						
ARU	**Arti**	**64.69**	**336**	P	**P**	**21 18 22.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=60,slow=8.1,SNR=3.4						
ARU	**Arti**	**64.69**	**336**	P	**P**	**21 18 22.9**	**-0.4**
ARU				IAmb	IAmb	21 18 23.3	
	comp=Z,1.9nm,0.8s						
NOA	**NORSAR Array B**	**64.95**	**3**	P	**P**	**21 18 24.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=360,slow=6.4,SNR=2.1						
MK31	**Makanchi Array**	**65.36**	**317**	P	**P**	**21 18 27.0**	**-0.8**
MKAR	**Makanchi Array**	**65.36**	**317**	P	**P**	**21 18 26.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=42,slow=5.6,SNR=9.9						
MKAR	**Makanchi Array**	**65.36**	**317**	P	**P**	**21 18 26.8**	**-1.0**
WMQ	**Urumqi**	**65.47**	**312**	*e*P	**P**	**21 18 29.5**	**+0.8**
MAKZ	**Makanchi**	**65.47**	**317**	P	**P**	**21 18 27.5**	**-1.1**
MAKZ				IAmb	IAmb	21 18 28.2	
	comp=Z,1.3nm,0.6s						
HFS	**Hagfors**	**65.93**	**2**	P	**P**	**21 18 30.1**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=15,slow=6.0,SNR=9.8						
EKA	**Eskdalemuir Ar**	**69.48**	**12**	P	**P**	**21 18 53.7**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=347,slow=4.3,SNR=7.4						
AKTO	**Aktotrask**	**70.28**	**334**	P	**P**	**21 18 57.8**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=59,slow=5.9,SNR=4.1						
ABKAR	**Akbulak array**	**70.84**	**332**	P	**P**	**21 19 02.4**	**+0.3**
ABKAR				IAmb	IAmb	21 19 02.9	
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**70.84**	**332**	P	**P**	**21 19 02.2**	**+0.1**
AKASG	**Malin Array Be**	**74.96**	**352**	P	**P**	**21 19 25.5**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=13,slow=6.4,SNR=6.9						
AKBB	**Malin Array Si**	**74.96**	**352**	P	**P**	**21 19 25.5**	**-0.9**
GERES	**GERESS Array B**	**77.23**	**3**	P	**P**	**21 19 40.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=15,slow=5.5,SNR=5.7						
GERES	**GERESS Array B**	**77.23**	**3**	P	**P**	**21 19 39.5**	**-0.1**
WATA	**Walderalm**	**78.67**	**4**	*i* P	**P**	**21 19 47.6**	**0.0**
	comp=Z,1.6nm,0.5s						
WTTA	**Wattenberg**	**78.75**	**4**	*i* P	**P**	**21 19 48.4**	**+0.3**
	comp=Z,3.2nm,0.7s						
KBA	**Koelnbreinsper**	**78.99**	**3**	*i* P	**P**	**21 19 50.3**	**+0.9**
	comp=Z,3.1nm,0.6s						
DAVOX	**Davos/Dischmat**	**79.14**	**5**	P	**P**	**21 19 50.9**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=49,slow=11,SNR=6.9						
SOKA	**Soboth**	**79.43**	**2**	*i* P	**P**	**21 19 52.9**	**+1.2**
	comp=Z,2.2nm,0.8s						
OBKA	**Obir**	**79.59**	**2**	*e*P	**P**	**21 19 53.5**	**+0.9**
	comp=Z,5.5nm,0.6s						
KBZ	**Khabaz**	**80.01**	**342**	P	**P**	**21 19 54.2**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=18,slow=2.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**80.07**	**288**	P	**P**	**21 19 55.6**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=16,slow=5.0,SNR=8.3						
MLR	**Muntele Rosu**	**80.38**	**354**	P	**P**	**21 19 57.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=27,slow=2.3						
GEYT	**Alibeck**	**81.74**	**329**	LR	LR	22 02 05.7	
	comp=Z,25nm,18.6s,baz=240,slow=40						
ESDC	**Sonseca Array**	**84.66**	**16**	P	**P**	**21 20 20.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=340,slow=3.4,SNR=4.0						
BR131	**Keskin Array S**	**85.37**	**348**	P	**P**	**21 20 22.9**	**+0.1**
BR131				IAmb	IAmb	21 20 24.6	
	comp=Z,2.2nm,0.9s						
BRTR	**Keskin Array B**	**85.37**	**348**	P	**P**	**21 20 23.5**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=8.6,slow=2.1,SNR=7.5						
BRTR	**Keskin Array B**	**85.37**	**348**	P	**P**	**21 20 22.7**	**-0.2**

*IDC **13** 21:13:19.7±1.1,38°.01N×21°.56E, h0km, mb3.6/9, mb1 3.5/15,mb1mx3.4/46,mbtmp3.4/15,ML3.3/6, MS2.5/2, Ms1 2.5/2,ms1mx2.1/40, Error ellipse: s-maj=21.0km s-min=17.8km az=32.0*

*ATH **13** 21:13:21.9,37°.93N×21°.48E, h18km±1km, ML3.7/15, Error ellipse: s-maj=1.3km s-min=0.7km az=25.0*

*THE **13** 21:13:22.6,37°.93N×21°.48E, h0km±1km, ML3.6/7, Error ellipse: s-maj=1.6km s-min=0.5km az=224.0*

ISC 13 21:13:21.6±0.7, 37°.96N±0°.02×21°.51E±0°.01, h17km±4km, n105, σ1§31/141, mb3.5/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.10**	**343**	P	**Pg**	**21 13 25.8**	**+0.6**
RLS				S	**Sg**	**21 13 28.8**	**+1.1**
RLS				AML	AML	21 13 29.5	
RLS				AML	AML	21 13 29.6	
RLS	**Riolos of

THAL				AML	AML	21 14 01.5			
	comp=E,11325μm,0.4s								
DMLN	**Damoulianata-K**	**0.93**	**288**	P	**Pb**	**21 13 38.9**	**-0.5**		
DMLN	**Damoulianata-K**	**0.93**	**288**	P	**Pg**	**21 13 39.2**	**-0.6**		
DMLN				S	**Sn**	**21 13 53.7**	**+0.7**		
DLFA	**Delphi**	**0.94**	**56**	P	**Pg**	**21 13 39.1**	**-0.7**		
EVGI	**Lefkada island**	**0.94**	**315**	P	**Pg**	**21 13 39.5**	**-0.4**		
EVGI	**Lefkada island**	**0.94**	**315**	P	**Pn**	**21 13 40.0**	**0.0**		
EVGI				S	**Sn**	**21 13 54.9**	**+1.9**		
KEF3	**Kipouria, Keph**	**0.94**	**285**	P	**Pb**	**21 13 38.7**	**-0.8**		
KEF3	**Kipouria, Keph**	**0.94**	**285**	P	**Pb**	**21 13 39.0**	**-0.5**		
KEF3				S	**Sn**	**21 13 54.3**	**+1.1**		
EVR	**Evrytania**	**0.98**	**14**	P	**Pb**	**21 13 40.5**	**-0.2**		
EVR	**Evrytania**	**0.98**	**14**	P	**Pn**	**21 13 41.2**	**+0.4**		
NYDR	**Nydri-Lefkada**	**0.98**	**320**	P	**Pg**	**21 13 40.2**	**-0.5**		
NYDR				S	**Sn**	**21 13 57.1**	**+3.0**		
DRAG	**Dragano-Lefkad**	**1.03**	**315**	P	**Pg**	**21 13 40.8**	**-0.7**		
DRAG	**Dragano-Lefkad**	**1.03**	**315**	P	**Pg**	**21 13 40.9**	**-0.7**		
DRAG				S	**Sn**	**21 13 58.1**	**+2.8**		
LKD2	**Lefkada island**	**1.06**	**321**	P	**Pg**	**21 13 41.7**	**-0.5**		
LKD2				S	**Sn**	**21 13 57.4**	**+1.3**		
PYL	**PYLOS**	**1.08**	**170**	P	**Pb**	**21 13 41.4**	**-0.4**		
PYL	**PYLOS**	**1.08**	**170**	P	**Pn**	**21 13 42.0**	**0.0**		
TSLK	**Tsoukalades, L**	**1.09**	**323**	P	**Pg**	**21 13 42.1**	**-0.7**		
LTK	**Loutraki**	**1.16**	**87**	P	**Pg**	**21 13 44.0**	**0.0**		
MAKR	**Makrakomi, Fth**	**1.16**	**25**	P	**Pg**	**21 13 43.9**	**-0.2**		
LOUT	**Loutraki**	**1.16**	**88**	P	**Pb**	**21 13 43.1**	**-0.1**		
AGG	**Agios Georgios**	**1.24**	**31**	P	**Pg**	**21 13 45.8**	**+0.2**		
LKR	**Lokris**	**1.36**	**59**	P	**Pg**	**21 13 49.4**	**+1.5**		
LKR				S	**Sg**	**21 14 09.7**	**+4.0**		
KRND	**KRANIDI**	**1.43**	**113**	P	**Pg**	**21 13 48.1**	**-1.1**		
KRND	**KRANIDI**	**1.43**	**113**	P	**Pg**	**21 13 48.3**	**-0.8**		
KRND				S	**Sg**	**21 14 10.3**	**+2.5**		
	comp=E,1μm,0.4s								
THL	**Klokotos Trika**	**1.65**	**14**	P	**Pg**	**21 13 53.3**	**-0.1**		
THL				S	**Sg**	**21 14 16.3**	**+1.4**		
VLI	**Veliai**	**1.69**	**137**	P	**Pg**	**21 13 53.4**	**-0.7**		
VLI				S	**Sg**	**21 14 16.1**	**+0.1**		
ATH	**Athens Observa**	**1.75**	**89**	P	**Pg**	**21 13 54.1**	**-1.2**		
ATH				S	**Sg**	**21 14 17.1**	**-0.9**		
JAN	**Janina**	**1.77**	**343**	P	**Pg**	**21 13 54.7**	**-1.0**		
IGT	**Igoumenitsa**	**1.82**	**330**	P	**Pb**	**21 13 54.5**	**+0.1**		
NEO	**Neokhori**	**1.90**	**45**	P	**Pg**	**21 13 56.9**	**-1.3**		
DION	**Dionisos Attik**	**1.92**	**86**	P	**Pb**	**21 13 55.4**	**-0.8**		
XOR	**Xorichti**	**1.93**	**43**	P	**Pg**	**21 13 57.2**	**-1.5**		
KTHA	**Kythira Island**	**2.11**	**143**	P	**Pb**	**21 13 59.4**	**0.0**		
KYMI	**Kymi, Euboea I**	**2.15**	**71**	P	**Pn**	**21 14 58.0**	**+1.3**		
KEK	**Kerkira**	**2.20**	**323**	P	**Pb**	**21 13 59.4**	**-1.5**		
SRN	**Sarande**	**2.25**	**329**	P	**Pb**	**21 14 00.2**	**-1.5**		
LSK	**Leskovik**	**2.30**	**342**	P	**Pb**	**21 14 02.1**	**-0.6**		
KTI	**Kastanea**	**2.47**	**11**	P	**Pb**	**21 14 04.6**	**-1.1**		
NEST	**Nestorio**	**2.48**	**352**	P	**Pb**	**21 14 05.0**	**-0.7**		
ANKY	**Antikythira Is**	**2.54**	**145**	P	**Pn**	**21 14 04.0**	**+2.0**		
OUR	**Ouranopolis**	**3.05**	**38**	P	**Pb**	**21 14 12.6**	**-2.9**		
IMMV	**Iera Moni Meta**	**3.19**	**141**	P	**Pn**	**21 14 14.2**	**+3.2**		
SOH	**Sokhos**	**3.20**	**26**	P	**Pb**	**21 14 15.0**	**-3.0**		
KNT	**Kendrikon**	**3.37**	**18**	P	**Pb**	**21 14 17.0**	**-4.0**		
LIA	**Limnos Island**	**3.46**	**55**	P	**Pb**	**21 14 18.4**	**-4.0**		
SRS	**Serrai**	**3.54**	**26**	P	**Pn**	**21 14 19.2**	**+3.4**		
THAS	**Thassos island**	**3.63**	**42**	P	**Pn**	**21 14 20.8**	**+3.8**		
STIP	**Stip**	**3.77**	**8**	*i* Pn	**Pb**	**21 14 23.8**	**-3.8**		
IDI	**Anoyia**	**3.81**	**133**	Pn	**Pn**	**21 14 21.8**	**+2.2**		
	comp=E,1.6nm,0.3s,baz=321,slow=14,SNR=11								
IDI				Sn	**Sn**	**21 15 03.7**	**-0.3**		
	comp=E,2.9nm,0.3s,baz=278,slow=12,SNR=5.4								
IDI	**Anoyia**	**3.81**	**133**	P	**Pn**	**21 14 22.1**	**+2.5**		
MLR	**Muntele Rosu**	**8.22**	**22**	Pn	**Pn**	**21 15 21.4**	**+1.2**		
	comp=E,0.1nm,0.3s,baz=203,slow=13,SNR=1.5								
BRTR	**Keskin Array B**	**9.63**	**76**	Pn	**Pn**	**21 15 42.9**	**+3.3**		
	comp=E,0.1nm,0.3s,baz=259,slow=16,SNR=6.6								
BRTR				LR	LR	21 19 38.7			
	comp=E,20nm,19.4s,baz=252,slow=40								
GERES	**GERESS Array B**	**12.26**	**335**	Pn	**Pn**	**21 16 15.9**	**+0.5**		
	comp=E,0.0nm,0.3s,baz=152,slow=13,SNR=1.7								
MMAI	**Mount Meron Ar**	**12.35**	**109**	Pn	**Pn**	**21 16 15.3**	**-1.4**		
	comp=E,0.3nm,0.3s,baz=302,slow=14,SNR=2.3								
ESDC	**Sonseca Array**	**19.90**	**283**	P	**Pn**	**21 17 54.6**	**+0.6**		
	comp=E,0.1nm,0.3s,baz=81,slow=10.0,SNR=2.9								
HFS	**Hagfors**	**22.74**	**350**	P	**P**	**21 18 22.7**	**+0.1**		
	comp=E,0.7nm,0.5s,baz=148,slow=14,SNR=2.3								
HFS				LR	LR	21 28 35.5			
	comp=E,18nm,19.0s,baz=125,slow=40								
FINES	**FINESS Array B**	**23.68**	**5**	P	**P**	**21 18 32.6**	**+0.6**		
	comp=E,0.4nm,0.4s,baz=181,slow=7.0,SNR=4.5								
NOA	**NORSAR Array B**	**23.99**	**348**	P	**P**	**21 18 36.0**	**+0.9**		
	comp=E,0.3nm,0.7s,baz=159,slow=8.7,SNR=2.3								
EKA	**Eskdalemuir Ar**	**24.05**	**324**	P	**P**	**21 18 36.5**	**+0.8**		
	comp=E,0.4nm,0.5s,baz=135,slow=9.1,SNR=1.9								
TORD	**Torodi Ar. Bea**	**30.36**	**221**	P	**P**	**21 19 33.0**	**+0.4**		
	comp=E,0.7nm,0.7s,baz=32,slow=11,SNR=2.2								
ARCES	**ARCESS Array B**	**31.71**	**3**	P	**P**	**21 19 45.3**	**+1.3**		
	comp=E,2.5nm,1.0s,baz=189,slow=11,SNR=1.5								
KURBB	**Kurchatov Arra**	**41.73**	**53**	P	**P**	**21 21 09.2**	**-0.3**		
	comp=E,0.6nm,0.5s,baz=278,slow=8.6,SNR=8.9								
MKAR	**Makanchi Array**	**44.75**	**58**	P	**P**	**21 21 33.9**	**-0.1**		
	comp=E,0.8nm,0.5s,baz=272,slow=7.4,SNR=20								
ZALV	**Zalesovo Beam**	**45.26**	**48**	P	**P**	**21 21 37.6**	**-0.3**		
	comp=E,1.2nm,0.4s,baz=270,slow=8.6,SNR=6.5								

*SOME **13** 21:43:48.5,42.38N×80.97E,h5km*
*KRNET **13** 21:43:48.8±0.1,42.50N×81.13E,mb2.8*
ISC 13 21:43:49.9±3.7,42.48N±0.09×81.1E±0.2,h7km±26km,n10,σ0933/16,6C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHLS	**Shalkode**	**1.39**	**300**	*e*P		Pg	21 44 09.6	-7.0
	baz=6.0							
SHLS				*e*S		Sg	21 44 24.7	-10
	baz=6.0							
SHLS	**Shalkode**	**1.39**	**300**	*e*P		Pg	21 44 09.6	-7.0
	1.3nm,0.1s							
SHLS				*e*S		Sg	21 44 24.7	-10
	7.5nm,0.2s							
UZB	**Uzynbulak**	**1.68**	**294**	*e*P		**Pn**	**21 44 19.3**	**-0.6**
	baz=93							
UZB				*e*S		**Sn**	**21 44 41.7**	**0.0**
	baz=93							
UZB	**Uzynbulak**	**1.68**	**294**	*e*P		**Pn**	**21 44 19.3**	**-0.6**
	1.7nm,0.1s							
UZB				*e*S		**Sn**	**21 44 41.7**	**0.0**
	2.4nm,0.2s							
KPKS	**Kokpek**	**2.04**	**300**	*e*P		**Pn**	**21 44 24.7**	**-0.1**
	baz=99							
KPKS				*e*S		**Sn**	**21 44 50.9**	**+0.3**
	baz=99							
KPKS	**Kokpek**	**2.04**	**300**	*e*P		**Pn**	**21 44 24.7**	**-0.1**
	1.1nm,0.1s							
KPKS				*e*S		**Sn**	**21 44 50.9**	**+0.3**
	5.5nm,0.3s							
DJR	**Jarkent**	**2.09**	**333**	*e*P		**Pb**	**21 44 28.4**	**+0.1**
	0.4nm,0.1s							
DJR				*e*S		**Sg**	**21 44 57.0**	**0.0**
	2.5nm,0.4s							
TARG	**Taragay, Kyrgy**	**2.57**	**254**	⇑*e*P		**Pn**	**21 44 32.1**	**-0.3**
	baz=54							
TARG				⇑*i*S		**Sn**	**21 45 04.5**	**+0.3**
	baz=54							
KDJ	**Kajisay**	**2.94**	**265**	⇑*i*P		**Pn**	**21 44 37.3**	**+0.1**
	baz=64							
KDJ				⇑*i*S		**Sn**	**21 45 12.9**	**0.0**
	baz=64							
ULHL	**Ulahol**	**3.62**	**268**	⇑*i*P		**Pn**	**21 44 46.9**	**+0.3**
	baz=68							
ULHL				⇑*i*S		**Sn**	**21 45 29.3**	**-0.4**
	baz=68							

IDC 13 21:46:45.1±3.6,5.28S×151.52E,h0km,mb3.6/4,mb1 3.9/4,mb1mx3.5/32,mbtmp3.7/4,Error ellipse: s-maj=111.7km s-min=32.2km az=109.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.18**	**227**	P		P	21 51 42.9	-0.2
	0.4nm,0.4s,baz=51,slow=10.0,SNR=8.7							
ASAR	**Alice Springs**	**24.95**	**221**	P		P	21 52 10.6	+0.2
	1.7nm,0.7s,baz=58,slow=8.9,SNR=23							
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P		P	21 52 41.0	+0.2
	0.9nm,0.4s,baz=68,slow=7.9,SNR=1.7							
SONM	**Songino Array**	**66.05**	**329**	P		P	21 57 34.9	+0.9
	0.3nm,0.6s,baz=147,slow=6.6,SNR=2.3							
TORD	**Torodi Ar. Bea**	**149.23**	**287**	PKPbc		PKPbc	22 06 35.1	-1.8
	0.2nm,0.3s,baz=84,slow=2.2,SNR=1.2							

TAP 13 21:51:41.7,22.95N×121.18E,h21km,ML1.9,A,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LONT	**Longtian**	**0.06**	**221**	P		Pb	21 51 46.2	+0.7
	baz=221							
LONT				S		Sb	21 51 49.4	+1.2
	baz=221							
EDH	**Donghe**	**0.12**	**81**	P		Pb	21 51 46.4	-1.7
	baz=81							
EDH				*e*S		Sb	21 51 49.8	-2.9
	baz=81							
ECS	**Chishang**	**0.15**	**16**	P		Pb	21 51 46.8	-1.1
	baz=16							
ECS				*e*S		Sb	21 51 50.5	-1.7
	baz=16							
TWGBT	**Beinan**	**0.16**	**213**	P		Pb	21 51 47.0	-0.7
	baz=212							
TWGBT				S		Sb	21 51 50.7	-1.2
	baz=212							
TWG	**Pinlang**	**0.16**	**216**	P		Pb	21 51 47.0	-0.7
	baz=212							
TWG				*e*S		Sb	21 51 50.2	-1.8
	baz=212							
TTN	**Taitung**	**0.20**	**187**	*e*P		Pb	21 51 47.5	-0.1
	baz=185							
CHKT	**Chengkung**	**0.23**	**50**	*e*P		Pb	21 51 48.0	+0.3
	baz=51							
CHKT				*e*S		Sb	21 51 51.6	-0.3
	baz=51							
FULB	**Fuli**	**0.27**	**24**	*i* P		Pb	21 51 48.0	-0.1
	baz=24							
FULB				*e*S		Sb	21 51 53.3	+0.8
	baz=24							
ELDTW	**Lidau**	**0.28**	**328**	*e*P		Pb	21 51 48.1	-0.2
	baz=329							
ELDTW				*e*S		Sb	21 51 52.5	-0.3
	baz=329							
LDUT	**Ludao**	**0.39**	**136**	P		Pb	21 51 50.2	+0.4
	baz=135							
LDUT				*e*S		Sb	21 51 56.8	+1.5
	baz=135							
ECL	**Taimali**	**0.41**	**210**	*e*P		Pb	21 51 49.9	-0.3
	baz=208							
ECL				*e*S		Sb	21 51 55.9	0.0
	baz=208							
TWF1	**Yuli**	**0.41**	**16**	*e*P		Pb	21 51 49.0	-1.2
	baz=16							
TWF1				*e*S		Sb	21 51 57.4	+1.4
	baz=16							
STYH	**Taoyuan**	**0.43**	**300**	P		Pb	21 51 51.0	+0.5
	baz=300							
STYH				*e*S		Sb	21 51 58.1	+1.7
	baz=300							
STYT	**Tauyuan**	**0.44**	**298**	P		Pb	21 51 51.0	+0.3
	baz=298							
STYT				*e*S		Sb	21 51 57.8	+1.0
	baz=298							
YULB	**Yu-li**	**0.45**	**14**	*e*P		Pb	21 51 49.6	-1.4
	baz=14							
SLGT	**Liugui**	**0.49**	**275**	P		Pb	21 51 52.5	+0.9
	baz=274							
SLGT				*e*S		Sb	21 51 59.2	+0.9
	baz=274							
SSD	**Sandimen**	**0.54**	**248**	*e*P		Pb	21 51 53.1	+0.5
	baz=247							
TSMG	**Majia**	**0.55**	**243**	P		Pb	21 51 53.0	+0.3
	baz=243							
SGST	**Jiashian**	**0.56**	**283**	*e*P		Pb	21 51 53.0	+0.1
	baz=283							
SGST				*e*S		Sb	21 52 01.8	+1.2
	baz=283							
EHY	**Hungye**	**0.57**	**14**	*e*S		Sn	21 52 02.4	-0.9
	baz=14							
WTP	**Ta-pu**	**0.59**	**299**	P		Pb	21 51 54.0	+0.4
	baz=299							
WTP				S		Sn	21 52 02.8	-1.2
	baz=299							
TPUB	**Ta-pu**	**0.61**	**305**	P		Pb	21 51 54.3	+0.5
	baz=304							
TPUB				S		Sn	21 52 03.5	-0.9
	baz=304							
CHN1	**Nanshi**	**0.64**	**291**	*e*P		Pn	21 51 55.1	-0.5
	baz=291							
CHN1				*e*S		Sn	21 52 04.2	-0.9
	baz=291							
EAST	**Anshuo**	**0.64**	**208**	*e*P		Pb	21 51 54.9	+0.5
	baz=207							
EAST				*e*S		Sn	21 52 04.4	-0.9
	baz=207							
ALS	**Alishan**	**0.65**	**328**	P		Pb	21 51 54.8	+0.2
	baz=328							
ALS				*e*S		Sb	21 52 03.9	+0.4
	baz=328							
CHN4	**Tsaushan**	**0.67**	**307**	P		Pn	21 51 55.5	-0.4
	baz=306							
CHN4				*e*S		Sn	21 52 05.2	-0.5
	baz=306							
TWK	**Hsinying**	**0.70**	**296**	*e*P		Pb	21 51 55.7	+0.3
	baz=296							
TWK				*e*S		Sn	21 52 05.9	-0.9
	baz=296							
CHN5	**Tsauling**	**0.79**	**325**	*e*P		Pb	21 51 56.9	+0.2
	baz=324							
CHN5				*e*S		Sn	21 52 08.6	-0.2
	baz=324							
TAI	**Tainan**	**0.90**	**273**	P		Pn	21 51 59.2	0.0
	baz=272							

TAP 13 21:51:56.1,23.77N×121.51E,h22km,ML2.5,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEGC	**Jichi Village**	**0.07**	**158**	*e*P		Pb	21 52 00.6	+0.4
	baz=24							
TEGC	**Jichi Village**	**0.07**	**158**	*i* P		Pb	21 52 00.5	+0.3
	baz=153							
TEGC				*i* S		Sb	21 52 03.8	+0.9
	baz=153							
ESL	**Shilin**	**0.08**	**299**	*e*P		Pb	21 52 00.6	+0.3
	baz=16							
ESL	**Shilin**	**0.08**	**299**	*i* P		Pb	21 52 00.6	+0.3
	baz=300							
ESL				*i* S		Sb	21 52 03.8	+0.7
	baz=300							
TEYL	**Yanliau Villag**	**0.12**	**40**	P		Pb	21 52 01.5	+0.5
	baz=22							
TEYL	**Yanliau Villag**	**0.12**	**40**	*i* P		Pb	21 52 01.4	+0.5
	baz=32							
TEYL				S		Sb	21 52 05.4	+1.2
	baz=32							
EGFH	**Guangfu**	**0.13**	**216**	*i* P		Pb	21 52 01.1	+0.1
	baz=216							
EGFH				*i* S		Sb	21 52 04.4	+0.2
	baz=216							
ETM	**Tongmen**	**0.19**	**355**	P		Pb	21 52 01.7	+0.1
	baz=16							
ETM	**Tongmen**	**0.19**	**355**	*i* P		Pb	21 52 01.7	+0.2
	baz=355							
ETM				S		Sb	21 52 05.8	+0.6
	baz=355							
HWA	**Hwalien**	**0.22**	**23**	*e*P		Pb	21 52 02.5	+0.7
	baz=25							
HGSD	**Ruisui**	**0.29**	**196**	*e*S		Pb	21 52 03.5	+0.7
	baz=23							
HGSD	**Ruisui**	**0.29**	**196**	*e*P		Pb	21 52 03.8	+1.0
	baz=195							
HGSD				*e*S		Sb	21 52 08.8	+1.4
	baz=195							
TWD	**Chiawan**	**0.31**	**14**	P		Pb	21 52 03.5	+0.3
	baz=19							
TWD	**Chiawan**	**0.31**	**14**	*e*P		Pb	21 52 03.5	+0.3
	baz=15							
TWD				*e*S		Sb	21 52 09.0	+1.0
	baz=15							
EHY	**Hungye**	**0.32**	**213**	*e*P		Pb	21 52 03.5	+0.3
	baz=211							
EHY				*e*S		Sb	21 52 09.3	+1.2
	baz=211							
OWD	**Renai**	**0.36**	**300**	P		Pb	21 52 04.5	+0.5
	baz=300							
OWD				S		Sb	21 52 10.2	+1.0
	baz=300							
ETL	**Fush Village**	**0.40**	**15**	P		Pb	21 52 05.4	+0.8
	baz=18							
ETL	**Fush Village**	**0.40**	**15**	*e*P		Pb	21 52 04.9	+0.4
	baz=15							
NACB	**Ninganchiao**	**0.41**	**11**	*e*P		Pb	21 52 04.4	-0.3
	baz=17							
NACB	**Ninganchiao**	**0.41**	**11**	*e*P		Pb	21 52 04.6	-0.1
	baz=10.0							
NACB				*e*S		Sn	21 52 12.2	-1.4
	baz=10.0							
CHGB	**Renai**	**0.42**	**313**	P		Pb	21 52 05.6	+0.6
	baz=312							
CHGB				*e*S		Sb	21 52 12.5	+1.4
	baz=312							
ETLH	**Xiulin Townshi**	**0.43**	**356**	P		Pb	21 52 04.9	-0.2
	baz=12							
ETLH	**Xiulin Townshi**	**0.43**	**356**	*e*P		Pb	21 52 04.9	-0.2
	baz=356							
ETLH				*e*S		Sb	21 52 12.4	+1.1
	baz=356							
WHF	**Hehuan Shan**	**0.43**	**329**	P		Pb	21 52 05.5	+0.1
	baz=329							
WHF				*e*S		Sb	21 52 12.8	+1.2
	baz=329							
EYUL	**Yuli**	**0.46**	**203**	*e*S		Sb	21 52 13.4	+1.4
	baz=202							
FUSS	**Fushou**	**0.53**	**333**	*e*P		Pb	21 52 07.2	+0.2
	baz=332							
WPL	**Puli Township**	**0.56**	**295**	*e*P		Pb	21 52 07.7	+0.4
	baz=294							
WPL				*e*S		Sn	21 52 16.3	-1.1
	baz=294							
DPDB	**Guoxing**	**0.59**	**296**	*e*P		Pn	21 52 08.6	-0.7
	baz=295							
DPDB				*e*S		Sn	21 52 17.4	-0.9
	baz=295							
FULB	**Fuli**	**0.61**	**199**	*e*S		Sn	21 52 17.9	-0.6
	baz=199							
TYC	**Yuchr**	**0.61**	**282**	*e*S		Sn	21 52 17.9	-0.7
	baz=282							
WCS	**Beigang Elemen**	**0.62**	**297**	*e*P		Pn	21 52 09.1	-0.4
	baz=297							
WCS				*e*S		Sn	21 52 17.7	-1.0
	baz=297							
NNSB	**Datong**	**0.66**	**350**	*e*P		Pb	21 52 09.1	0.0
	baz=349							
NNSB				*e*S		Sb	21 52 17.7	-0.2
	baz=349							
NNSH	**Datong**	**0.66**	**350**	*e*P		Pb	21 52 09.1	-0.1
	baz=349							
NNSH				*e*S		Sb	21 52 18.0	0.0
	baz=349							
NNS	**Nan Shan**	**0.68**	**349**	*e*P		Pb	21 52 09.4	+0.1
	baz=349							
NNS				*e*S		Sb	21 52 18.9	+0.6
	baz=349							
CHKT	**Chengkung**	**0.69**	**191**	*e*S		Sn	21 52 19.1	+0.7
	baz=190							
WJS	**Zhushan**	**0.72**	**274**	*e*S		Sn	21 52 21.2	-0.1
	baz=273							
WHP	**Taichung City**	**0.72**	**314**	*e*P		Pn	21 52 10.7	-0.4
	baz=314							
WHP				*e*S		Sn	21 52 21.2	-0.3
	baz=314							
WNT	**Mingjian**	**0.76**	**278**	*e*P		Pn	21 52 11.4	-0.2
	baz=277							
WNT				*e*S		Sn	21 52 22.4	0.0
	baz=277							
CHN5	**Tsauling**	**0.78**	**257**	*e*S		Sn	21 52 22.7	-0.3
	baz=256							
WWF	**Wufeng**	**0.79**	**290**	*e*P		Pn	21 52 12.4	+0.5
	baz=289							
WWF				*e*S		Sn	21 52 23.8	+0.7
	baz=289							
EDH	**Donghe**	**0.82**	**193**	*e*S		Sn	21 52 23.9	+0.1
	baz=193							
NDT	**Datong Townshi**	**0.82**	**0**	*e*P		Pn	21 52 12.7	+0.3
NDT				*e*S		Sn	21 52 24.6	+0.7
ENTT	**Nioudou**	**0.86**	**3**	*e*S		Sn	21 52 25.6	+0.7
	baz=3.0							
WGK	**Gukeng**	**0.87**	**264**	*e*S		Sn	21 52 25.3	+0.2
	baz=264							
NDS	**Dongshan**	**0.88**	**12**	*e*P		Pb	21 52 12.7	+0.1
	baz=12							
NDS				*e*S		Sn	21 52 26.0	+0.8
	baz=12							
YHNB	**Yeheng**	**0.90**	**352**	*e*P		Pb	21 52 12.9	-0.2
	baz=352							
YHNB				*e*S		Sn	21 52 26.7	+0.8
	baz=352							

*IDC **13** 21:57:01.2±1.1,26.89N×140.38E,h405km±11km, mb3.2/15,mb1 3.3/19,mb1mx3.2/37,mbtmp3.9/19,Error ellipse: s-maj=20.0km s-min=13.9km az=75.0*
ISC 13 21:57:01.2±0.7,27.06N±0.09×140.5E±0.1,h400km,n21,σ1967/25,mb3.3/15,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**1.53**	**88**	P		**Pn**	**21 57 55.0**	**+0.4**
	30nm,0.3s,baz=308,slow=19,SNR=34							
JCJ				S		**S**	**21 58 35.0**	**-2.6**
	83nm,0.3s,baz=212,slow=20,SNR=18							
JHJ	**Hachijo jima 2**	**6.07**	**355**	P		**Pn**	**21 58 36.0**	**+1.5**
	5.8nm,0.3s,baz=246,slow=20,SNR=1.9							
JHJ				S		**S**	**21 59 47.5**	**-3.1**
	4.8nm,0.3s,baz=90,slow=20,SNR=1.5							
MJAR	**Matsushiro Arr**	**9.65**	**349**	P		**P**	**21 59 15.6**	**+0.7**
	0.1nm,0.3s,baz=159,slow=9.4,SNR=5.0							
MJAR				S		**S**	**22 01 00.4**	**-4.4**
	0.0nm,0.3s,baz=143,slow=18,SNR=2.0							
KSRS	**Korea Array**	**14.82**	**317**	P		**P**	**22 00 13.7**	**+2.0**
	0.2nm,0.3s,baz=128,slow=11,SNR=6.8							
USRK	**Ussuriysk Ar.**	**18.42**	**340**	P		**P**	**22 00 51.7**	**+1.6**
	baz=172,slow=11,SNR=6.2							
KLR	**Kul'dur**	**23.14**	**345**	P		**P**	**22 01 35.6**	**+1.6**
	1.3nm,0.6s,baz=146,slow=5.8,SNR=4.8							
SONM	**Songino Array**	**33.69**	**317**	P		**P**	**22 03 07.6**	**+0.9**
	0.3nm,0.4s,baz=134,slow=7.9,SNR=2.4							
**S

KUA					S		Sg	22 06 08.4	+0.8
KUA	**Kurravaara**	**0.78**	**351**	*i*	P		Pg	22 05 57.2	-0.3
KUA				*i*	S		Sg	22 06 08.4	+0.8
NIKU	**Nikkaluokta**	**0.92**	**318**		P		Pg	22 05 59.8	-0.5
NIKU					S		Sg	22 06 12.8	+0.6
NIKU	**Nikkaluokta**	**0.92**	**318**	*eP*			Pg	22 05 59.8	-0.5
NIKU				*eS*			Sg	22 06 12.8	+0.6
PAJU	**Pajala**	**0.97**	**99**		P		Pg	22 06 00.6	-0.7
PAJU	**Pajala**	**0.97**	**99**	*eP*			Pg	22 06 00.4	-0.8
PAJU				*eSB*			Sg	22 06 13.9	0.0
LANU	**Lannavaara**	**1.00**	**30**		P		Pg	22 06 01.2	-0.6
LANU	**Lannavaara**	**1.00**	**30**	*eP*			Pg	22 06 01.2	-0.6
KOVU	**Salmi**	**1.06**	**350**		P		Pg	22 06 02.7	-0.1
KOVU	**Salmi**	**1.06**	**350**	*eP*			Pg	22 06 02.7	-0.1
KLF	**Kolari**	**1.29**	**86**	*eP*			Pg	22 06 06.1	-1.2
KLF				*eSB*			Sg	22 06 23.6	-0.4
HEF	**Hetta**	**1.67**	**42**	*eP*			Pn	22 06 12.8	-0.4
HEF	**Hetta**	**1.67**	**42**	*eP*			Pn	22 06 12.6	-0.5
	baz=221								
HEF					MSG			22 06 32.7	
	comp=Z,1.8nm,0.2s								
HEF				*eSG*			Sn	22 06 34.7	-0.6
KIF	**Kilpisjarvi**	**1.82**	**2**	*eP*			Pb	22 06 16.2	-0.6
KIF	**Kilpisjarvi**	**1.82**	**2**	*eP*			Pb	22 06 16.0	-0.7
KIF					MSG			22 06 38.1	
	comp=Z,3.2nm,0.2s								
KIF				*eSG*			Sg	22 06 41.5	+0.4
TOF	**Tornio**	**1.84**	**126**	*ePN*			Pn	22 06 15.6	+0.3
TOF					MSG			22 06 37.4	
	comp=Z,2.5nm,0.2s								
TOF				*eSN*			Sb	22 06 40.2	-0.3
RNF	**Rovaniemi**	**2.19**	**103**	*ePB*			Pn	22 06 21.5	+1.3
RNF				*eSB*			Sn	22 06 49.2	+1.2
SGF	**Sodankyl**	**2.29**	**81**	*ePB*			Pb	22 06 23.2	-1.5
SGF				*eSG*			Sb	22 06 53.0	-0.5
BURU	**Burvik**	**2.63**	**173**	*eP*			Pn	22 06 26.8	+0.6
UMAU	**Umeaa**	**3.32**	**180**	*eS*			Sn	22 07 14.0	-1.7

UPP 13 22:06:10.6±0.9, 67.18N×20.67E, h3km±8km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**214**	P	Pg	22 06 11.9	-0.1
MASU	**Masugnsbyn**	**0.59**	**61**	P	Pg	22 06 21.4	-0.5
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	22 06 25.1	-0.6
KUA				S	Sg	22 06 35.6	-0.3
NIKU	**Nikkaluokta**	**0.93**	**318**	P	Pg	22 06 27.8	-0.7
PAJU	**Pajala**	**0.97**	**98**	P	Pg	22 06 28.5	-0.7

IDC 13 22:13:19.6±3.1, 49.07S×124.58E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, MS3.0/1, Ms1 2.9/1, ms1mx2.5/14, Error ellipse: s-maj=119.9km s-min=28.3km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.13**	**328**	T	T	22 34 22.7	
	baz=158,slow=79,SNR=8.7						
H01W2	**Cape Leeuwin H**	**16.13**	**328**	T	T	22 34 21.4	
	baz=158,slow=79,SNR=10						
H01W3	**Cape Leeuwin H**	**16.14**	**328**	T	T	22 34 26.3	
	baz=158,slow=79,SNR=9.7						
STKA	**Stephens Creek**	**21.43**	**43**	P	P	22 18 09.2	+0.1
	0.7nm,0.3s,baz=197,slow=13,SNR=4.9						
STKA				LR	LR	22 25 06.5	
	comp=Z,44nm,20.8s,baz=204,slow=33						
ASAR	**Alice Springs**	**26.40**	**20**	P	P	22 18 57.7	-0.1
	1.1nm,0.9s,baz=190,slow=9.7,SNR=8.6						
WRA	**Warramunga Arr**	**30.10**	**19**	P	P	22 19 30.8	0.0
	0.7nm,1.1s,baz=194,slow=8.6,SNR=2.0						
VNDA	**Vanda**	**31.88**	**166**	P	P	22 19 45.9	0.0
	0.8nm,1.1s,baz=310,slow=8.3,SNR=3.1						

DDA 13 22:18:14.0, 38.41N×45.37E, h18km±12km, ML2.5
TEH 13 22:18:15.3, 38.34N×45.40E, h6km, ML3.0
ISK 13 22:18:15.1, 38.44N×45.26E, h5km, ML2.7/7
ISC 13 22:18:14.8±1.3, 38.42N±0.04×45.39E±0.03, h3km±12km, n26, σ0.96/35, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.38**	**40**	*ePg*	**Pb**	**22 18 24.3**	**-0.1**
IMRD				*eSg*	**Sb**	**22 18 30.2**	**-0.6**
ITBZ	**Tabriz**	**0.62**	**107**	*ePg*	**Pg**	**22 18 26.8**	**0.0**
OZAP	**Van, Ozalp-Mer**	**1.12**	**283**	*i* P	**Pb**	**22 18 36.6**	**-0.4**
OZAP				*i* S	**Sn**	**22 18 53.4**	**-0.3**
OZAP				IAML		22 18 55.0	
	comp=N,126nm,1.1s						
OZAP				IAML		22 18 59.0	
	comp=E,96nm,0.4s						
YOVA	**Hakkari_Yksek**	**1.20**	**227**	*i* P	**Pg**	**22 18 36.3**	**-1.6**
YOVA				*i* S	**Sn**	**22 18 57.3**	**+1.7**
IHRS	**Heris**	**1.30**	**94**	*ePg*	**Pn**	**22 18 39.8**	**-0.4**
IHRS				*e*		22 18 41.0	
	comp=Z,7μm,0.2s						
CLDR	**Caldiran**	**1.36**	**303**	*i* P	**Pn**	**22 18 40.7**	**-0.2**
CLDR				*i* S	**Sg**	**22 18 58.3**	**-0.2**
CLDR	**Caldiran**	**1.36**	**303**	PN	**Pn**	**22 18 40.2**	**-0.7**
CLDR				SN	**Sn**	**22 18 59.0**	**-0.5**
VMUR	**Van-Muradiye**	**1.53**	**292**	*i* P	**Pb**	**22 18 43.9**	**0.0**
VMUR				*i* S	**Sg**	**22 19 06.3**	**+2.3**
VMUR				IAML		22 19 09.0	
	comp=N,67nm,1.4s						
VMUR				IAML		22 19 13.0	
	comp=E,65nm,0.9s						
TVAN	**Van**	**1.56**	**275**	*i* P	**Pb**	**22 18 44.0**	**-0.5**
TVAN				*i* S	**Sg**	**22 19 07.3**	**+2.3**
TVAN				IAML		22 19 11.0	
	comp=N,98nm,0.6s						
VANB	**Van**	**1.58**	**277**	PN	**Pn**	**22 18 43.6**	**-0.2**
VANB				SN	**Sb**	**22 19 04.8**	**-0.3**
HAKT	**HAKKARI**	**1.58**	**238**	*i* P	**Pb**	**22 18 44.4**	**-0.5**
MAHB	**Mahabad**	**1.67**	**171**	*ePg*	**Pn**	**22 18 44.8**	**-0.3**
MAHB				*e*		22 19 11.9	
	comp=Z,3μm,0.4s						
IGDI	**IGDIR**	**1.77**	**325**	*i* P	**Pn**	**22 18 46.7**	**+0.3**
GNI	**Garni**	**1.80**	**344**	PN	**Pb**	**22 18 48.1**	**-0.4**
TASB	**TASBURUN-IGDIR**	**1.80**	**331**	PN	**Pn**	**22 18 47.5**	**+0.7**
CUKT	**Cukurca**	**1.83**	**231**	*i* P	**Pb**	**22 18 48.1**	**-0.9**
CUKT	**Cukurca**	**1.83**	**231**	PN	**Pn**	**22 18 47.8**	**+0.5**
GEVA	**Gevas**	**1.83**	**267**	*i* P	**Pb**	**22 18 48.2**	**-0.9**
GEVA				*i* S	**Sg**	**22 19 14.2**	**+0.4**
GEVA				IAML		22 19 19.0	
	comp=N,35nm,0.7s						
GEVA				IAML		22 19 21.0	
	comp=E,34nm,0.7s						
IHSH	**Hashtrud**	**1.85**	**126**	*ePg*	**Pn**	**22 18 48.6**	**+0.8**
IHSH				*e*		22 19 15.2	
	comp=Z,2μm,0.2s						
ISRB	**Sarab**	**1.89**	**108**	*ePn*	**Pb**	**22 18 49.7**	**-0.4**
ISRB				*e*		22 18 56.3	
	comp=Z,1μm,0.5s						
ADCV	**BITLIS_Adilcev**	**2.12**	**281**	*i* P	**Pb**	**22 18 52.9**	**-1.2**
KOTA	**Agri, Merkez-K**	**2.19**	**310**	*i* P	**Pb**	**22 18 54.0**	**-1.2**
AGRB	**Hanur-Agry**	**2.19**	**302**	PN	**Pn**	**22 18 53.6**	**+1.2**
PERV	**Siirt/Pervari-**	**2.29**	**259**	*i* P	**Pn**	**22 18 54.9**	**+1.2**
SIRT	**Sirnak**	**2.50**	**249**	PN	**Pn**	**22 18 57.4**	**+0.9**
SRTM	**Siirt_Merkez**	**2.76**	**262**	*i* P	**Pg**	**22 19 07.7**	**-0.1**

BJI 13 22:38:31.9±0.0, 45.40N×142.11E, h291km, mB4.4/25, mb4.6/37
MOS 13 22:38:33.5±0.9, 45.35N×141.97E, h301km, mb4.1/20, Error ellipse: s-maj=6.8km s-min=4.9km az=109.8
IDC 13 22:38:33.9±0.3, 45.41N×141.94E, h290km±4km, mb3.9/31, mb1 4.0/40, mb1mx4.0/43, mbtmp4.6/40, Error ellipse: s-maj=7.8km s-min=7.4km az=149.0
NEIC 13 22:38:33.9±1.9, 45.34N±0.06×141.9E±0.1, h291km±5km, mb4.4/139, Error ellipse: s-maj=12.0km s-min=9.2km az=100.0
JMA 13 22:38:34.1±0.1, 45.32N×142.03E, h300km±1km, M4.3
SKHL 13 22:38:34.5±0.6, 45.40N×142.00E, h310km±10km, mb5.4/22, mbv6.1/1, msh5.1/7, msha5.5/18
NIED 13 22:38:34.2, 45.32N×142.04E, h300km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.80; Mθθ-1.01; Mφφ-1.79; Mrθ-2.39; Mθφ-1.34; Mφr-3.86; Fault plane solution: M0 5.33000×10^15 NP1:

φ213.00000°, δ74.00000°, λ88.00000°. NP2: φ41.00000°, δ16.00000°, λ98.00000°.
ISC 13 22:38:34.0±0.4, 45.33N±0.03×142.01E±0.03, h296km±3km, h296km: pP-P, n396, σ1.05/462, mb4.3/122, 43C-33D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.08**	**264**	⇑P	**Pn**	**22 39 12.2**	**+0.7**
JWK2				*eS*	**S**	**22 39 41.8**	**+0.4**
JRR	**Rishiri**	**0.52**	**249**	⇑P	**Pn**	**22 39 13.2**	**+1.0**
JRR				*eS*	**S**	**22 39 43.8**	**+1.2**
JSE	**Soyaes**	**0.55**	**132**	⇑P	**Pn**	**22 39 12.8**	**+0.5**
JSE				*eS*	**S**	**22 39 42.4**	**-0.4**
JRBN	**Rebuntou**	**0.67**	**279**	⇑P	**Pn**	**22 39 13.0**	**+0.4**
JRBN				*eS*	**S**	**22 39 42.8**	**-0.5**
JSS	**Shosan**	**0.93**	**187**	⇑P	**Pn**	**22 39 14.5**	**+0.8**
JSS				*eS*	**S**	**22 39 46.3**	**+1.0**
JYG	**Yagishiri**	**0.99**	**205**	P	**Pn**	**22 39 14.8**	**+0.8**
JYG				*eS*	**S**	**22 39 46.3**	**+0.6**
ASAJ	**Asahikawa**	**1.28**	**161**	P	**Pn**	**22 39 16.2**	**+0.7**
	60nm,0.3s,baz=327,slow=5.2,SNR=679						
ASAJ				S	**S**	**22 39 48.4**	**-0.2**
	15nm,0.3s,baz=100,slow=31,SNR=41						
ASAJ	**Asahikawa**	**1.28**	**161**	⇑P	**Pn**	**22 39 16.1**	**+0.6**
ASAJ				*eS*	**S**	**22 39 48.8**	**+0.3**
JKA	**Kamikawa-asahi**	**1.28**	**160**	Pn	**Pn**	**22 39 16.2**	**+0.6**
JKA					**S**	**22 39 47.0**	**-1.5**
JKK2	**Kamakawa 2**	**1.55**	**160**	⇑P	**Pn**	**22 39 17.9**	**+0.7**
JKK2				*eS*	**S**	**22 39 52.0**	**+0.5**
JHR	**Hokuryu**	**1.59**	**187**	⇑P	**Pn**	**22 39 18.3**	**+0.8**
JMP	**Maruseppu**	**1.63**	**143**	⇓P	**Pn**	**22 39 18.2**	**+0.4**
JMP				*eS*	**S**	**22 39 53.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**1.71**	**17**	*α i* PN	**Pn**	**22 39 18.9**	**+0.8**
YSS				*i* S	**S**	**22 39 52.4**	**-0.9**
YSS				pmax	pmax		
	comp=Z,3μm,0.6s						
YSS				smax	smax		
	comp=N,620nm,0.6s						
YSS				smax	smax		
	comp=E,680nm,0.8s						
YSS	**Yuzh-Sakhalins**	**1.71**	**17**	Pn	**Pn**	**22 39 18.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**1.71**	**17**	*i* P	**Pn**	**22 39 18.9**	**+0.8**
YSS				AMB	AMB	22 39 19.2	
	comp=E,6μm,0.4s						
YSS				*i* S	**S**	**22 39 52.7**	**-0.6**
YSS				A	A	22 39 53.5	
	comp=E,1μm,0.9s						
YSS				A	A	22 39 53.5	
	comp=E,680nm,0.9s						
KHLM	**Kholmsk**	**1.73**	**1**	*i* P	**Pn**	**22 39 18.9**	**+0.6**
KHLM				AMB	AMB	22 39 19.1	
	comp=E,2μm,0.3s						
KHLM				*eS*	**S**	**22 39 53.2**	**-0.3**
KHLM				A	A	22 39 53.4	
	comp=E,3μm,0.5s						
KHLM				A	A	22 39 53.4	
	comp=E,1μm,0.5s						
JAB	**Ashibetsu**	**1.83**	**175**	P	**Pn**	**22 39 19.7**	**+0.5**
JAB				*eS*	**S**	**22 39 55.0**	**-0.1**
JTKR	**Abashiri--Toko**	**1.92**	**134**	⇓P	**Pn**	**22 39 20.4**	**+0.6**
JTKR				*eS*	**S**	**22 39 56.2**	**-0.1**
JFR	**Furan**	**2.20**	**169**	⇓P	**Pn**	**22 39 22.2**	**0.0**
JFR				*eS*	**S**	**22 40 00.3**	**-0.3**
JSK	**Shakotan**	**2.26**	**210**	⇑P	**Pn**	**22 39 23.2**	**+0.6**
JSK				*eS*	**S**	**22 40 01.0**	**-0.3**
JAR	**Ashorobuto**	**2.39**	**147**	⇓P	**Pn**	**22 39 24.2**	**+0.4**
JAR				*eS*	**S**	**22 40 02.9**	**-0.6**
JEW	**Eniwo**	**2.52**	**189**	⇓P	**Pn**	**22 39 25.7**	**+0.8**
JEW				*eS*	**S**	**22 40 05.3**	**-0.2**
JEW	**Eniwo**	**2.52**	**189**	Pn	**Pn**	**22 39 25.8**	**+0.9**
RUSJ	**Misakicho**	**2.61**	**117**	*ji* PN	**Pn**	**22 39 26.9**	**+1.1**
RUSJ				S	**S**	**22 40 08.2**	**+1.2**
JRA	**Rausu**	**2.62**	**121**	⇓P	**Pn**	**22 39 26.7**	**+0.9**
JRA				*eS*	**S**	**22 40 08.8**	**+1.6**
JCH	**Churui**	**2.88**	**160**	⇓P	**Pn**	**22 39 26.9**	**-1.5**
JCH				*eS*	**S**	**22 40 07.1**	**-4.7**
GRPR	**Tuman**	**3.00**	**115**	*ji* PN	**Pn**	**22 39 30.1**	**+0.6**
GRPR				*eS*	**S**	**22 40 15.5**	**+1.7**
GRPR				pmax	pmax		
	comp=Z,819nm,0.6s						
GRPR				pmax	pmax		
	comp=N,219nm,0.3s						
GRPR				pmax	pmax		
	comp=E,415nm,0.6s						
GRPR				smax	smax		
	comp=N,218nm,0.4s						
GRPR				smax	smax		
	comp=E,154nm,0.7s						
JAK	**Akkeshi**	**3.03**	**139**	⇓P	**Pn**	**22 39 28.1**	**-1.7**
JAK				*eS*	**S**	**22 40 10.5**	**-3.8**
YUK	**Yuzh-Kuril'sk**	**3.04**	**114**	*d i* PN	**Pn**	**22 39 29.9**	**+0.1**
YUK				*eS*	**S**	**22 40 13.6**	**-0.8**
YUK				pmax	pmax		
	comp=N,97nm,0.4s						
YUK				pmax	pmax		
	comp=E,129nm,0.4s						
YUK				pmax	pmax		
	comp=Z,964nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				smax	smax		
	comp=E,182nm,0.6s						
YUK				smax	smax		
	comp=N,217nm,0.7s						
YUK				smax	smax		
	comp=E,750nm,1.1s						
YUK				smax	smax		
	comp=N,655nm,1.2s						
YUK	**Yuzh-Kuril'sk**	**3.04**	**114**	*eP*	**Pn**	**22 39 29.9**	**+0.1**
YUK				AMB	AMB	22 39 30.6	
	comp=N,2μm,0.9s						
YUK				AMB	AMB	22 39 30.7	
	comp=N,2μm,1.0s						
YUK				*eS*	**S**	**22 40 14.4**	**0.0**
YUK				A	A	22 40 19.3	
	comp=N,400nm,0.7s						
YUK				A	A	22 40 19.3	
	comp=N,680nm,0.7s						
YUK				A	A	22 40 21.9	
	comp=N,1μm,2.0s						
YUK				A	A	22 40 21.9	
	comp=N,1μm,2.0s						
JNBK	**Urakawa-nobuka**	**3.09**	**170**	P	**Pn**	**22 39 29.5**	**-1.0**
JNBK				*eS*	**S**	**22 40 12.1**	**-3.5**
NMR	**Nemuro--Hokkai**	**3.31**	**125**	*ji* PN	**Pn**	**22 39 30.9**	**-1.7**
NMR				*i* S	**S**	**22 40 15.3**	**-4.2**
NEM2	**Nemuro 2**	**3.32**	**125**	⇓P	**Pn**	**22 39 30.8**	**-1.9**
NEM2				*eS*	**S**	**22 40 15.4**	**-4.3**
ERM	**Erimo**	**3.41**	**165**	*ce* PN	**Pn**	**22 39 33.1**	**-0.6**
ERM				pmax	pmax		
	comp=Z,513nm,0.7s						
ERM	**Erimo**	**3.41**	**165**	Pn	**Pn**	**22 39 33.6**	**-0.1**
JKB	**Kayabe**	**3.51**	**192**	P	**Pn**	**22 39 34.0**	**-0.7**
JKB				*eS*	**S**	**22 40 19.0**	**-4.3**
UGL	**Uglegorsk**	**3.76**	**1**	*ji* PN	**Pn**	**22 39 38.3**	**+1.1**
UGL				*eS*	**S**	**22 40 26.7**	**-1.1**
UGL				pmax	pmax		
	comp=Z,196nm,0.8s						
UGL				smax	smax		
	comp=E,2μm,3.2s						
UGL				smax	smax		
	comp=E,352nm,1.4s						
UGL				smax	smax		
	comp=N,1μm,2.1s						
UGL	**Uglegorsk**	**3.76**	**1**	*i* P	**Pn**	**22 39 38.3**	**+1.1**
UGL				AMB	AMB	22 39 40.0	
	comp=N,200nm,0.8s						
UGL				*eS*	**S**	**22 40 28.6**	**+0.8**
UGL				A	A	22 40 30.0	
	comp=N,200nm,1.0s						
UGL				A	A	22 40 30.0	
	comp=N,400nm,1.0s						
UGL				A	A	22 40 31.2	
	comp=N,1μm,3.0s						
UGL				A	A	22 40 31.2	
	comp=N,2μm,3.0s						
TEY	**Ternei**	**3.83**	**268**	⇑ *i* PN	**Pn**	**22 39 38.9**	**+0.8**
TEY				pmax	pmax		
	comp=N,50nm,0.5s						
TEY				pmax	pmax		
	comp=E,180nm,0.5s						
TEY				pmax	pmax		
	comp=Z,210nm,0.5s						
TEY	**Ternei**	**3.83**	**268**	*i* P	**Pn**	**22 39 38.9**	**+0.8**
TEY				AMB	AMB	22 39 39.0	
	comp=Z,100nm,0.5s						
TEY				*eS*	**S**	**22 40 29.7**	**+0.3**
TEY				A	A	22 40 30.2	
	comp=Z,1μm,3.0s						
TEY				A	A	22 40 30.2	
	comp=Z,500nm,3.0s						
TEY				A	A	22 40 31.2	
	comp=Z,80nm,1.0s						
TEY				A	A	22 40 31.2	
	comp=Z,120nm,1.0s						
KUR	**Kuril'sk**	**4.14**	**89**	*ji* PN	**Pn**	**22 39 42.8**	**+1.3**
KUR				*i* S	**S**	**22 40 37.3**	**+1.8**
KUR				pmax	pmax		
	comp=Z,406nm,0.4s						
KUR				smax	smax		
	comp=E,86nm,0.6s						
KUR				smax	smax		
	comp=N,29nm,0.5s						
KUR	**Kuril'sk**	**4.14**	**89**	*i* P	**Pn**	**22 39 42.4**	**+0.9**
KUR				AMB	AMB	22 39 43.0	
	comp=N,800nm,1.0s						
KUR				*eS*	**S**	**22 40 36.7**	**+1.2**
KUR				A	A	22 40 37.3	
	comp=N,2μm,2.0s						
KUR				A	A	22 40 37.3	
	comp=N,800nm,2.0s						
KUR				A	A	22 40 38.9	
	comp=N,200nm,1.0s						
KUR				A	A	22 40 38.9	
	comp=N,200nm,1.0s						
JTM	**Tenmabayashi**	**4.59**	**189**	Pn	**Pn**	**22 39 45.0**	**-1.7**
TYV	**Tymovskoe**	**5.56**	**4**	*ePN*	**Pn**	**22 39 58.7**	**+0.9**
TYV				*eS*	**S**	**22 41 06.6**	**+1.4**
TYV				pmax	pmax		
	comp=Z,13nm,0.5s						
TYV				smax	smax		
	comp=E,200nm,2.1s						
TYV				smax	smax		
	comp=N,34nm,0.9s						
TYV	**Tymovskoe**	**5.56**	**4**	*eP*	**Pn**	**22 39 58.5**	**+0.7**
TYV				AMB	AMB	22 40 00.8	
	comp=N,20nm,0.7s						
TYV				*eS*	**S**	**22 41 05.0**	**-0.2**
TYV				A	A	22 41 05.5	
	comp=N,40nm,1.0s						
TYV				A	A	22 41 05.5	
	comp=N,40nm,1.0s						
TYV				A	A	22 41 07.6	
	comp=N,200nm,2.0s						
USA0B	**Ussuriysk Arra**	**7.22**	**265**	PN	**Pn**	**22 40 18.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**7.22**	**265**	Pn	**Pn**	**22 40 18.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.22**	**265**	P	**Pn**	**22 40 18.7**	**+0.8**
	baz=72,slow=12,SNR=146						
USRK				S	**S**	**22 41 37.9**	**-4.0**
	baz=70,slow=21,SNR=0.9						
USRK	**Ussuriysk Ar.**	**7.22**	**265**	Pn	**Pn**	**22 40 18.5**	**+0.6**
JMM	**Marumori**	**7.51**	**187**		**Pn**	**22 40 19.3**	**-2.2**
JSD	**Sado**	**7.80**	**202**	Pn	**Pn**	**22 40 23.9**	**-1.3**
KLR	**Kul'dur**	**7.99**	**303**	P	**Pn**	**22 40 28.0**	**+0.7**
	comp=N,2.9nm,0.3s,baz=111,slow=15,SNR=100						
KLR	**Kul'dur**	**7.99**	**303**	*de* PN	**Pn**	**22 40 27.9**	**+0.6**
MSHR	**Mys Shultsa**	**8.29**	**255**	*ce* PN	**Pn**	**22 40 31.8**	**+0.7**
MSHR				pmax	pmax		
	comp=Z,16nm,1.3s						
MDJ	**Mudanjiang**	**8.83**	**270**	P	**Pn**	**22 40 38.3**	**+0.6**
MDJ				sP	sPn	22 41 39.4	+0.7
MDJ				S	**S**	**22 42 19.4**	**+1.2**
MDJ				pmax	pmax		
	comp=E,85nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,74nm,3.7s						
MDJ	**Mudanjiang**	**8.83**	**270**	Pn	**Pn**	**22 40 38.1**	**+0.4**
JYT	**Yasato**	**9.19**	**189**	Pn	**Pn**	**22 40 40.4**	**-1.8**
MAJO	**Matsushiro**	**9.23**	**199**	PN	**Pn**	**22 40 41.6**	**-1.1**
MAJO	**Matsushiro**	**9.23**	**199**	Pn	**Pn**	**22 40 41.6**	**-1.1**
MJAR	**Matsushiro Arr**	**9.23**	**199**	P	**Pn**	**22 40 42.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=20,slow=12,SNR=16						
MJAR				S	**S**	**22 42 23.4**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=2.3,slow=25,SNR=4.5						
MJAR	**Matsushiro Arr**	**9.23**	**199**	PN	**Pn**	**22 40 42.0**	**-0.8**
MJAR	**Matsushiro Arr**	**9.23**	**199**		**Pn**	**22 40 41.6**	**-1.1**
EKMR	**Ekimchan**	**9.75**	**326**	*i* P	**Pn**	**22 40 48.9**	**0.0**
EKMR				AMB	AMB	22 40 50.9	
	comp=Z,60nm,0.8s						
JGF	**Kuroka**	**10.34**	**202**	Pn	**Pn**	**22 40 55.4**	**-0.9**
INU	**Inuyama**	**10.66**	**203**	Pn	**Pn**	**22 40 60.0**	**-0.4**
SKR	**Severo-Kuril's**	**10.86**	**55**	*ePN*	**P**	**22 41 04.4**	**-0.9**
SKR				*eS*	**S**	**22 43 01.1**	**-3.0**
SKR				pmax	pmax		
	comp=Z,171nm,0.7s						
SKR				MLR	MLR		
	comp=Z,100nm,11.0s						
SKR	**Severo-Kuril's**	**10.86**	**55**	*eP*	**Pn**	**22 41 03.7**	**+1.2**
SKR				AMB	AMB	22 41 04.7	
	comp=Z,140nm,0.7s						
JWT	**Wachi**	**11.22**	**209**	Pn	**Pn**	**22 41 06.5**	**-0.6**
PAU	**Pauzhetka**	**11.59**	**53**	*i* P	**Pn**	**22 41 12.0**	**+0.6**
PAU				AMB	AMB	22 41 12.6	
	comp=Z,120nm,0.7s						
PAU				*eS*	**S**	**22 43 18.3**	**-2.3**
CN2	**Changchun**	**11.91**	**269**	*eP*	**P**	**22 41 16.5**	**-0.5**
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
JHJ	**Hachijo jima 2**	**12.31**	**189**	P	**Pn**	**22 41 19.4**	**-1.0**
	comp=Z,15nm,0.3s,baz=78,slow=19,SNR=9.0						
JHJ				S	S	22 43 27.5	-10
	comp=Z,4.5nm,0.3s,baz=62,slow=18,SNR=1.9						
JHJ2	**Mitsune**	**12.31**	**189**		**Pn**	**22 41 19.8**	**-0.6**
JHS	**Saijyo**	**12.34**	**216**		**Pn**	**22 41 20.1**	**-0.7**
BMKR	**Bomnak**	**12.62**	**323**	*eP*	**Pn**	**22 41 23.6**	**-0.3**
BMKR				AMB	AMB	22 41 26.5	
	comp=Z,40nm,0.4s						
ZEA	**Zeya**	**12.74**	**317**	*ePN*	**Pn**	**22 41 25.4**	**+0.1**
ZEA				pmax	pmax		
	comp=N,70nm,0.6s						
ZEA				pmax	pmax		
	comp=E,40nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.6s						
ZEA	**Zeya**	**12.74**	**317**	*i* P	**Pn**	**22 41 25.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**12.86**	**47**	*ce* PN	**P**	**22 41 28.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**12.86**	**47**	P	**Pn**	**22 41 26.4**	**-0.4**
PETK	**Petropavlovsk-**	**12.86**	**47**	P	**Pn**	**22 41 26.3**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=230,slow=8.8

HHC Hu-ho-hao-te 22.60 269 *e*P P 22 42 59.1 -11
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,71nm,4.6s
ULN Ulaanbaatar 24.03 289 *de*P **P 22 43 22.6 -0.1**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 24.03 289 P **P 22 43 21.7 -1.0**
ULN lAmb lAmb 22 43 24.4
comp=Z,22nm,1.1s
SONM Songino Array 24.47 289 P **P 22 43 27.4 +0.7**
comp=Z,15nm,0.5s,baz=86,slow=8.7,SNR=101
SONM ScP **ScP 22 50 07.0 +0.8**
comp=Z,1.0nm,0.8s,baz=104,slow=1.8,SNR=6.2
SONM Songino Array 24.47 289 P **P 22 43 27.0 +0.4**
SONM lAmb lAmb 22 43 28.4
comp=Z,23nm,0.9s
TLY Talaya 25.97 298 P **P 22 43 39.8 -0.1**
comp=Z,5.4nm,0.7s,baz=1.2,slow=2.3,SNR=14
TLY Talaya 25.97 298 *d i*P **P 22 43 39.5 -0.4**
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY Talaya 25.97 298 P **P 22 43 39.2 -0.7**
TLY lAmb lAmb 22 43 40.5
comp=Z,5.9nm,0.7s
BILL Bilibino 26.02 21 *e*P **P 22 43 42.7 +2.6**
BILL pmax pmax
comp=Z,7.0nm,1.4s
ZAK Zakamensk 26.26 295 *e*P **P 22 43 42.2 -0.3**
ZAK pmax pmax
comp=Z,11nm,1.1s
TIXI Tiksi 27.15 351 P **P 22 43 48.0 -2.0**
comp=Z,0.5nm,0.4s,baz=127,slow=6.8,SNR=2.0
TIXI Tiksi 27.15 351 *i*P **P 22 43 50.4 +0.4**
LZH Lanzhou 30.12 266 ⇑P **P 22 44 18.5 +1.6**
LZH pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 31.45 274 ⇓P **P 22 44 29.8 +1.4**
GTA pP pP 22 45 25.4 +0.3
GTA pmax pmax
comp=Z,7.0nm,0.9s
NRIK Noril'sk 36.08 331 P **P 22 45 06.0 -1.6**
comp=Z,2.7nm,0.4s,baz=104,slow=7.4,SNR=5.7
NRIK Noril'sk 36.08 331 *ce*P **P 22 45 06.7 -0.8**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 36.08 331 P **P 22 45 06.4 -1.1**
DGZ Jazzator, Alta 36.43 297 *i*P **P 22 45 10.8 -0.2**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 37.09 305 P **P 22 45 15.9 -0.4**
ZALV Zalesovo Beam 37.09 305 P **P 22 45 15.0 -1.2**
comp=Z,2.9nm,0.3s,baz=85,slow=8.3,SNR=19
ZALV PcP **PcP 22 47 29.8 +0.3**
comp=Z,1.4nm,0.5s,baz=105,slow=3.4,SNR=5.7
ZALV ScP **ScP 22 50 48.4 +0.7**
comp=Z,2.7nm,0.8s,baz=72,slow=4.7,SNR=10
ZALV Zalesovo Beam 37.09 305 P **P 22 45 15.4 -0.8**
ZALV **PcP 22 47 30.0 +0.4**
WMQ Urumqi 38.10 288 *e*P **P 22 45 25.8 +0.9**
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ pmax pmax
comp=Z,150nm,4.3s
TTA Tatalina 38.57 40 P **P 22 45 27.3 -1.2**
TTA pmax pmax
comp=Z,9.0nm,1.4s
TTA Tatalina 38.57 40 P **P 22 45 27.3 -1.2**
TTA Tatalina 38.57 40 P 22 45 28.4
baz=273
A21K Barrow 38.76 27 P **P 22 45 28.5 -1.3**
A21K lAmb lAmb 22 45 29.8
comp=Z,12nm,0.8s
A21K Barrow 38.76 27 P 22 45 28.2
baz=262
IMAR Indian Mountai 39.46 35 P **P 22 45 34.8 -0.9**
H21K Melozitna Rive 39.85 36 P 22 45 38.1
baz=272
I21K Tanana 40.22 37 P 22 45 41.5
baz=274
SII Sitkinak Islan 40.31 50 P **P 22 45 42.6 -0.1**
SII lAmb lAmb 22 45 54.9
comp=Z,34nm,1.0s
PPLA Purkeypile 40.32 40 P **P 22 45 42.7 -0.2**
PPLA Purkeypile 40.32 40 P 22 45 43.2
baz=276
MK31 Makanchi Array 40.59 294 *i*P **P 22 45 45.2 0.0**
MK31 pmax pmax
comp=Z,14nm,0.5s
MK31 Makanchi Array 40.59 294 P **P 22 45 45.7 +0.5**
MK31 lAmb lAmb 22 45 46.4
comp=Z,16nm,0.7s
MKAR Makanchi Array 40.59 294 P **P 22 45 45.5 +0.3**
comp=Z,13nm,0.6s,baz=80,slow=8.8,SNR=130
MKAR pP **pwP 22 46 45.8 -0.6**
comp=Z,2.3nm,0.7s,baz=76,slow=10,SNR=3.1
MKAR PcP **PcP 22 47 41.0 +0.1**
comp=Z,1.1nm,0.5s,baz=66,slow=1.5,SNR=4.2
MKAR ScP **ScP 22 51 02.2 +0.9**
comp=Z,2.0nm,0.7s,baz=64,slow=4.1,SNR=12
MKAR Makanchi Array 40.59 294 P **P 22 45 45.7 +0.5**
OHAK Old Harbor 40.65 49 P **P 22 45 45.2 -0.2**
OHAK lAmb lAmb 22 45 46.1
comp=Z,15nm,0.6s
OHAK Old Harbor 40.66 49 P 22 45 45.3
baz=282
BPAW Bear Paw Mtn. 40.73 38 P **P 22 45 45.7 -0.4**
BPAW Bear Paw Mtn. 40.73 38 P 22 45 45.8
baz=276
MLY Manley 40.76 37 P **P 22 45 45.8 -0.6**
MLY Manley 40.76 37 P 22 45 45.9
baz=275
MAKZ Makanchi 40.78 294 P **P 22 45 46.9 +0.1**
MAKZ pmax pmax
comp=Z,17nm,1.0s
MAKZ Makanchi 40.78 294 P **P 22 45 46.9 +0.1**
MAKZ lAmb lAmb 22 45 48.0
comp=Z,17nm,0.9s
KTH Kantishna Hill 40.82 39 P **P 22 45 46.5 -0.4**
COLD Coldfoot 40.83 33 P 22 45 45.6
baz=273
KDAK Kodiak Island 40.91 48 P **P 22 45 47.5 -0.1**
comp=Z,8.4nm,0.5s,baz=266,slow=4.5,SNR=16
KDAK PcP **PcP 22 47 42.0 +0.4**
comp=Z,3.7nm,0.8s,baz=326,slow=3.6,SNR=2.0
KDAK Kodiak Island 40.91 48 P **P 22 45 47.5 -0.1**
KDAK lAmb lAmb 22 45 49.1
comp=Z,8.4nm,0.7s
KDAK Kodiak Island 40.91 48 P 22 45 47.7
baz=282
TOLK Toolik Lake Re 41.02 31 P **P 22 45 47.4 -1.0**
TOLK Toolik Lake Re 41.02 31 P 22 45 47.3
baz=272
TRF Thorofare Moun 41.11 39 P **P 22 45 48.8 -0.6**
TRF Thorofare Moun 41.11 39 P 22 45 49.0
baz=277
H23K Yukon River 41.19 36 P 22 45 49.6
baz=275,SNR=7.6
I23K Minto, Yukon-K 41.33 37 P **P 22 45 50.4 -0.4**
I23K Minto, Yukon-K 41.33 37 P 22 45 50.5
baz=276,SNR=10
NEA2 Nenana 41.51 37 P 22 45 51.8
baz=277,SNR=15
MCK McKinley 41.68 39 P 22 45 53.4
baz=278
H24K Noodor Dome 41.87 35 P 22 45 55.2
baz=276
WAT2 Susitna Watana 41.95 40 P 22 45 54.5
baz=279
WRH Wood River Hil 41.95 38 P **P 22 45 55.1 -0.8**
TCOL CIGO, UAF Yank 41.99 37 P 22 45 56.1
baz=277
COLA College 42.00 37 P 22 45 56.1
baz=277
CCB Clear Creek Bu 42.05 37 P **P 22 45 55.9 -0.8**
POKR Poker Plat Res 42.14 36 P **P 22 45 57.4 -0.1**
POKR lAmb lAmb 22 45 58.4
comp=Z,8.1nm,0.5s
POKR Poker Plat Res 42.14 36 P 22 45 57.9
baz=277,SNR=5.0
SML Sawmill 42.26 41 P 22 45 58.2
baz=280
KNK Knik Glacier 42.27 42 P 22 45 58.2
baz=281
WAT6 Susitna Watana 42.39 40 P 22 45 58.5
baz=280
IL31 42.42 37 P **P 22 45 58.8 -0.8**
IL31 lAmb lAmb 22 46 01.8
comp=Z,7.0nm,0.6s
ILAR Eielson Array 42.42 37 P **P 22 45 58.7 -0.9**
comp=Z,5.4nm,0.7s,baz=277,slow=9.1,SNR=53
ILAR pP **pP 22 47 01.1 +1.7**
comp=Z,1.2nm,0.7s,baz=278,slow=8.1,SNR=3.3
ILAR PcP **PcP 22 47 45.9 -0.6**
comp=Z,1.0nm,0.7s,baz=281,slow=3.7,SNR=4.8
ILAR ScP **ScP 22 51 08.1 -0.2**
comp=Z,0.4nm,0.7s,baz=282,slow=4.5,SNR=3.4
ILAR Eielson Array 42.42 37 P **P 22 45 59.2 -0.5**
HDA Harding Lake 42.45 37 P 22 45 58.9
baz=279
HDA P 22 45 58.9
baz=279
PRP Porcupine Dome 42.88 36 P **P 22 46 03.4 -0.1**
PRP lAmb lAmb 22 46 04.0
comp=Z,11nm,0.6s
PRP Porcupine Dome 42.88 36 P 22 46 03.2
baz=279,SNR=16
BMAR Burnt Mountain 42.98 33 P **P 22 46 04.1 0.0**
M24K Tolsona, Glenn 43.20 41 P **P 22 46 06.4 +0.4**
M24K lAmb lAmb 22 46 08.6
comp=Z,28nm,1.5s
M24K Tolsona, Glenn 43.20 41 P 22 46 06.4
baz=282
KLU Klutina 43.45 42 P **P 22 46 07.8 -0.2**
KLU Klutina 43.45 42 P 22 46 07.9
baz=283,SNR=5.9
HARP HAARP 43.60 40 P 22 46 09.8
baz=282
PDGK Podgornoye 43.77 291 *i*P **P 22 46 11.1 +0.3**
PDGK pmax pmax
comp=Z,12nm,1.0s
SCRK Sand Creek 43.80 38 P 22 46 09.7
baz=282,SNR=19
CHTO Chiang Mai 44.32 248 P **P 22 46 13.6 -1.7**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 44.32 248 P **P 22 46 13.6 -1.7**
GLB Gilahina Butte 44.44 41 P **P 22 46 16.1 +0.3**
CMAR Chiang Mai Arr 44.58 247 PcP **PcP 22 47 55.4 +0.7**
CMAR ScP **ScP 22 51 19.6 +1.7**
comp=Z,1.2nm,0.6s,baz=5.5,slow=3.3,SNR=9.3
K27K Chicken 44.61 37 P 22 46 16.9
baz=283
VRDI Verde Repeater 44.66 42 P **P 22 46 17.7 0.0**
MCARA McCarthy VSAT 44.83 41 P 22 46 19.5
baz=285
EGAK Eagle 44.83 36 P 22 46 17.9
baz=283,SNR=12
L27K Beaver Creek, 44.95 39 P **P 22 46 20.1 +0.4**
L27K Beaver Creek, 44.95 39 P 22 46 20.2
baz=284,SNR=9.7
BCAR Beaver Creek A 44.96 39 P **P 22 46 20.1 +0.2**
BARN Barnard Glacie 45.55 41 P **P 22 46 25.0 +0.4**
BARN lAmb lAmb 22 46 25.9
comp=Z,7.7nm,0.6s
TARG Taragay, Kyrgy 45.59 289 P **P 22 46 26.2 +0.8**
GRNC Granite Creek 45.60 42 P **P 22 46 25.3 +0.3**
BRVK Borovoye 45.68 307 *ce*P **P 22 46 25.5 0.0**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 45.68 307 P **P 22 46 25.8 +0.2**
CTG Chitna Glacier 45.73 42 P 22 46 26.6
baz=286,SNR=7.1
CTGM Chitina Glacie 45.73 42 P **P 22 46 25.6 -0.3**
CTGM lAmb lAmb 22 46 27.2
comp=Z,11nm,0.6s
KDJ Kajisay 45.82 290 P **P 22 46 28.1 +1.1**
KDJ pmax pmax
comp=Z,10.0nm,0.7s
KDJ Kajisay 45.82 290 P **P 22 46 28.1 +1.1**
KDJ lAmb lAmb 22 46 28.9
comp=Z,9.7nm,0.7s
EPYK Eagle Plains 46.23 33 P **P 22 46 29.4 -0.2**
EPYK lAmb lAmb 22 46 30.2
comp=Z,9.8nm,0.6s
EPYK Eagle Plains 46.23 33 P 22 46 29.6
baz=285,SNR=16
BOOM Boomskoye usch 46.48 291 P **P 22 46 33.3 +1.2**
BOOM pmax pmax
comp=Z,18nm,0.7s
BOOM Boomskoye usch 46.48 291 P **P 22 46 33.3 +1.2**
BOOM lAmb lAmb 22 46 34.2
comp=Z,18nm,0.7s
TKM2 Tokmak 2 46.50 292 *i*P **P 22 46 33.2 +0.9**
TKM2 pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 46.91 30 P **P 22 46 34.1 -0.6**
comp=Z,3.7nm,0.3s,baz=288,slow=6.2,SNR=13
INK Inuvik 46.91 30 P 22 46 34.2
baz=286,SNR=6.0
FRU1 Bishkek 47.19 292 P **P 22 46 38.2 +0.8**
FRU1 pmax pmax
comp=Z,12nm,0.6s
FRU1 Bishkek 47.19 292 P **P 22 46 38.1 +0.8**
FRU1 lAmb lAmb 22 46 39.2
comp=Z,12nm,0.6s
AAK Ala-Archa 47.35 292 *ce*P **P 22 46 39.5 +0.7**
AAK pmax pmax
comp=Z,36nm,1.7s
AAK Ala-Archa 47.35 292 P **P 22 46 39.2 +0.4**
AAK lAmb lAmb 22 46 40.4
comp=Z,6.0nm,0.5s
HYT Haines Junctio 47.55 41 P **P 22 46 40.9 +1.0**
HYT lAmb lAmb 22 46 43.1
comp=Z,12nm,0.8s
TOLI2 Tolitoli 47.84 209 P **P 22 46 42.1 -0.5**
FAKI Fak Fak 48.81 193 P **P 22 46 50.4 +0.5**
ARSB Arslanbob 48.97 291 P **P 22 46 52.4 +1.3**
ARSB pmax pmax
comp=Z,31nm,1.1s
ARSB Arslanbob 48.97 291 P **P 22 46 52.4 +1.3**
ARSB lAmb lAmb 22 46 53.4
comp=Z,31nm,1.1s
SVE Sverdlovsk 49.44 314 *e*P **P 22 46 54.1 -0.1**
SVE pmax pmax
comp=Z,17nm,0.9s
KK31 Karatay Array 49.72 294 P **P 22 46 56.8 +0.3**
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 49.72 294 P **P 22 46 56.8 +0.3**
KK31 lAmb lAmb 22 46 57.7
comp=Z,12nm,0.8s
KKAR Karatay Array 49.72 294 P **P 22 46 56.8 +0.3**
KKAR Karatay Array 49.72 294 P **P 22 46 56.8 +0.3**
C36M Paulatuk 49.80 28 P **P 22 46 56.2 -0.4**
C36M lAmb lAmb 22 46 56.6
comp=Z,7.5nm,0.6s
C36M Paulatuk 49.80 28 P 22 46 56.3
baz=293
JIS Juneau Island 49.97 43 P **P 22 46 59.5 +1.4**
JIS lAmb lAmb 22 47 00.7
comp=Z,16nm,1.2s
ARU Arti 50.65 314 *d i*P **P 22 47 02.2 -1.0**
ARU *PP **pP 22 48 04.6 -0.7**
ARU S **S 22 53 54.7 +0.3**
ARU SS **SS 22 57 30.6 -1.6**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 50.65 314 P **P 22 47 02.2 -1.0**
ARU lAmb lAmb 22 47 03.3
comp=Z,9.3nm,1.1s
BTK Batken 51.03 291 P **P 22 47 06.3 -0.1**
BTK pmax pmax
comp=Z,11nm,1.1s
BTK Batken 51.03 291 P **P 22 47 06.3 -0.1**
BTK lAmb lAmb 22 47 10.2
comp=Z,11nm,1.1s
GAR Garm 51.91 290 P **P 22 47 13.2 +0.3**
GAR lAmb lAmb 22 47 15.0
comp=Z,17nm,1.3s
EUNU Eureka 51.94 10 P **P 22 47 11.8 -0.7**
DLBC Dease Lake 51.98 42 P **P 22 47 14.8 +1.7**
comp=Z,6.7nm,0.8s,baz=280,slow=7.2,SNR=8.4
DLBC Dease Lake 51.98 42 P **P 22 47 13.9 +0.8**
DLBC lAmb lAmb 22 47 16.1
comp=Z,18nm,1.3s
NIL Nilore 52.83 283 P **P 22 47 19.3 -0.3**
NIL pmax pmax
comp=Z,9.0nm,1.0s
NIL Nilore 52.83 283 P **P 22 47 19.3 -0.3**
NIL lAmb lAmb 22 47 25.6
comp=Z,9.2nm,0.9s
CHGR Chuyangaron 52.86 290 P **P 22 47 19.5 -0.3**
AB31 Akbulak array 53.18 306 *e*P **P 22 47 21.9 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 53.18 306 P **P 22 47 21.6 -0.3**
ABKAR Akbulak array 53.18 306 P **P 22 47 21.6 -0.3**
ABKAR lAmb lAmb 22 47 24.5
comp=Z,8.0nm,0.5s
AKTO Aktyubinsk 53.69 308 *i*P **P 22 47 26.9 +1.4**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
KIRV Kirov 54.05 320 *ce*P **P 22 47 27.8 -0.1**
RES Resolute Bay 54.49 16 P **P 22 47 29.2 -1.7**
comp=Z,3.7nm,0.5s,baz=297,slow=10,SNR=7.0
LVZ Lovozero 54.80 334 P **P 22 47 32.6 -0.7**
LVZ pmax pmax
comp=Z,41nm,1.5s
LVZ Lovozero 54.80 334 P **P 22 47 32.6 -0.7**
KBL Kabul 55.20 286 P **P 22 47 36.3 -0.5**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 55.20 286 P **P 22 47 36.3 -0.5**
KBL lAmb lAmb 22 47 37.0
comp=Z,5.1nm,0.5s
KEV Kevo 55.90 338 P **P 22 47 40.2 -0.7**
KEV pmax pmax
comp=Z,28nm,1.3s
KEV Kevo 55.90 338 P **P 22 47 40.2 -0.7**
KEV lAmb lAmb 22 47 52.0
comp=Z,28nm,1.3s
ARCES ARCESS Array B 56.44 338 P **P 22 47 44.6 -0.2**
comp=Z,5.8nm,1.0s,baz=46,slow=5.9,SNR=8.5
ARCES ARCESS Array B 56.44 338 P **P 22 47 44.7 -0.1**
ARCES pmax pmax
comp=Z,12nm,1.4s
ARCES ARCESS Array B 56.44 338 P **P 22 47 44.7 -0.1**
ARCES lAmb lAmb 22 47 57.2
comp=Z,12nm,1.4s
YKA Yellowknife Ar 56.51 33 P **P 22 47 45.3 0.0**
comp=Z,2.5nm,0.6s,baz=303,slow=6.3,SNR=16
YKA PcP **PcP 22 48 38.6 +0.4**
comp=Z,1.6nm,0.8s,baz=307,slow=3.6,SNR=4.7
MMRI Maumere 56.58 204 P **P 22 47 45.7 -0.7**
MLOA Mauna Loa Obse 57.07 95 P **P 22 47 51.8 +1.4**
MLH Mauna Loa 57.23 95 P **P 22 47 52.4 +1.1**
KHU Kahuku 57.23 95 P **P 22 47 52.6 +1.3**
KHU pmax pmax
comp=Z,120nm,1.2s
KHU Kahuku 57.23 95 P **P 22 47 52.6 +1.3**
AIN Ainahou 57.26 95 P **P 22 47 53.0 +1.6**
MTN Manton Dam 58.72 192 P **P 22 48 00.8 -0.4**
MTN lAmb lAmb 22 48 03.1
comp=Z,12nm,0.8s
GEYT Alibeck 60.45 295 P **P 22 48 12.8 -0.1**
comp=Z,27nm,0.7s,baz=77,slow=3.3,SNR=7.2
GYA0B ALIBECK ARRAY 60.45 295 P **P 22 48 13.0 +0.2**
GYA0B lAmb lAmb 22 48 20.4
comp=Z,4.9nm,0.5s
NLWA Neilton Lookou 60.95 51 P **P 22 48 17.2 +1.1**
NLWA lAmb lAmb 22 48 20.8
comp=Z,22nm,1.1s
D03D Eldon 61.29 50 P 22 48 20.1
baz=307
B05A Bryant 61.39 49 P 22 48 20.0
baz=307
E03A Lebam 61.63 51 P **P 22 48 21.6 +1.1**
FIA1 FINESS Array S 61.75 331 P **P 22 48 20.1 -0.9**
FIA1 lAmb lAmb 22 48 46.9
comp=Z,8.2nm,1.2s
FINES FINESS Array B 61.75 331 P **P 22 48 19.9 -1.1**
comp=Z,2.0nm,0.4s,baz=42,slow=8.1,SNR=46
FINES PcP **PcP 22 48 58.2 -0.9**
comp=Z,0.8nm,0.4s,baz=55,slow=5.9,SNR=5.4
FINES FINESS Array B 61.75 331 *ce*P **P 22 48 19.8 -1.2**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 61.75 331 P **P 22 48 20.1 -0.9**
OBN Obninsk 61.82 321 *e*P **P 22 48 21.2 -0.4**
OBN pmax pmax
comp=Z,4.0nm,0.8s
KNRA Kununurra 61.89 194 P **P 22 48 23.1 +0.6**
SUMG Summit 62.40 0 P **P 22 48 26.4 +0.7**
SUMG pmax pmax
comp=Z,5.0nm,1.2s
SUMG Summit 62.40 0 P **P 22 48 26.4 +0.7**
B08A Colville Reser 62.79 48 P **P 22 48 28.3 +0.1**
B08A lAmb lAmb 22 48 30.5
comp=Z,13nm,1.4s
KEBM Edson Butte 63.43 55 P **P 22 48 33.7 +1.2**
I03D Drain, OR 63.48 54 P 22 48 34.9
baz=308
KBO Bosley Butte 63.90 56 P **P 22 48 37.2 +1.6**
HAWA Hanford 63.92 50 P **P 22 48 36.7 +1.2**
HAWA lAmb lAmb 22 48 37.5
comp=Z,7.2nm,0.8s
I04A Tendick Farm, 63.96 53 P 22 48 37.4
baz=309,SNR=5.9
NEW Newport 64.00 47 P **P 22 48 36.2 +0.1**
comp=Z,2.4nm,0.4s,baz=309,slow=7.1,SNR=8.8
NEW Newport 64.00 47 P 22 48 36.8
baz=310
I05D Terrebonne, OR 64.22 52 P 22 48 39.2
baz=309
HUMO Hull Mountain 64.39 55 P **P 22 48 40.4 +1.7**
HUMO lAmb lAmb 22 48 51.7
comp=Z,18nm,1.4s
J04D Umpqua Nationa 64.47 54 P 22 48 41.3
baz=309
SANVU Saraoutou 64.66 153 P **P 22 48 39.8 -0.8**
PINE Pine Mountain 64.78 53 P **P 22 48 43.1 +1.7**
FITZ Fitzroy Crossi 64.85 197 P **P 22 48 42.3 +0.6**
FITZ lAmb lAmb 22 48 43.9
comp=Z,5.4nm,0.8s
JCC Jacoby Creek, 64.88 57 P **P 22 48 43.4 +1.6**
L04D Klamath Falls 65.01 55 P 22 48 44.4
baz=309
YBH Yreka Blue Hor 65.08 55 P **P 22 48 45.0 +1.8**
comp=Z,5.4nm,0.6s,baz=3.8,slow=5.7,SNR=19
YBH Yreka Blue Hor 65.08 55 P **P 22 48 45.0 +1.8**
YBH Yreka Blue Hor 65.08 55 P **P 22 48 44.9 +1.6**
YBH lAmb lAmb 22 48 45.6
comp=Z,6.7nm,0.7s
WB0 Warramunga Arr 65.15 188 P **P 22 48 43.3 -0.3**
WB0 lAmb lAmb 22 48 44.2
comp=Z,7.7nm,1.1s
M02C Callahan 65.21 56 P 22 48 46.3
baz=309
WRAB Tennant Creek 65.32 188 *ce*P **P 22 48 45.1 +0.4**
WRAB pmax pmax
comp=Z,8.0nm,1.7s
WRA Warramunga Arr 65.33 188 P **P 22 48 44.9 +0.1**
comp=Z,1.7nm,0.3s,baz=5.0,slow=6.7,SNR=76
WRA PcP **PcP 22 49 14.9 +0.6**
comp=Z,1.8nm,0.5s,baz=4.7,slow=4.8,SNR=10
WRA Warramunga Arr 65.33 188 P **P 22 48 44.7 -0.1**
M04C Macdoel 65.55 55 P 22 48 48.0
baz=310,SNR=5.9
N02D Trinity Center 65.56 56 P 22 48 48.3
baz=310
KIV Kislovodsk 65.94 309 ⇓P **P 22 48 49.9 +1.2**
KIV Kislovodsk 65.94 309 *e*P **P 22 48 49.8 +1.2**
KIV pmax pmax
comp=Z,61nm,1.0s
KIV Kislovodsk 65.94 309 P **P 22 48 49.1 +0.5**
KBZ Khabaz 65.97 308 P **P 22 48 49.8 +1.1**
comp=Z,8.1nm,0.8s,baz=51,slow=5.1,SNR=22
KBZ Khabaz 65.97 308 *ce*P **P 22 48 49.5 +0.8**
KBZ pmax pmax
comp=Z,7.0nm,0.7s
O02D Mt. Diablo Mer 66.02 57 P 22 48 50.8
baz=310
O03E Paynes Creek 66.53 56 P 22 48 53.4
baz=310,SNR=6.0
NC303 NORSAR Array S 66.55 336 P **P 22 48 51.4 -0.6**
NC303 lAmb lAmb 22 49 06.3
comp=Z,8.2nm,1.3s
MSO Missoula 66.57 47 P 22 48 53.6
baz=312
NOA NORSAR Array B 66.75 336 P **P 22 48 52.4 -0.9**
comp=Z,0.3nm,0.4s,baz=39,slow=4.2,SNR=11
NOA pP **pP 22 49 58.9 -0.6**
comp=Z,1.0nm,0.7s,baz=35,slow=6.4,SNR=3.3

ORV	**Oroville**	**67.18**	**56**	P		**P**		**22 48 56.9**	**+0.5**
ORV				pmax		pmax				
	comp=Z,9.0nm,0.6s									
ORV	**Oroville**	**67.18**	**56**	P		**P**		**22 48 56.9**	**+0.5**
HRY	**Holter Researc**	**67.72**	**46**	P		**P**		**22 49 00.5**	**+0.7**
EGMT	**Eagleton**	**67.85**	**44**	P				22 49 01.5		
	baz=314									
AKASG	**Malin Array Be**	**68.08**	**321**	P		**P**		**22 49 00.9**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=44,slow=6.9,SNR=12									
AKASG	**Malin Array Be**	**68.08**	**321**	P		**P**		**22 49 01.1**	**-0.7**
AKASG				pmax		pmax				
	comp=Z,3.0nm,1.3s									
AKASG	**Malin Array Be**	**68.08**	**321**	P		**P**		**22 49 01.1**	**-0.7**
AKBB	**Malin Array Si**	**68.08**	**321**	*ce*P		**P**		**22 49 02.2**	**+0.4**
HLID	**Hailey**	**68.52**	**49**	P				22 49 06.1		
	baz=313									
PNTR	**Pine Nut**	**68.60**	**56**	P		**P**		**22 49 06.8**	**+1.3**
AS31	**Alice Springs**	**69.05**	**188**	P		**P**		**22 49 08.9**	**+0.9**
AS31				IAmb		IAmb		22 49 09.9		
	comp=Z,3.8nm,0.7s									
ASAR	**Alice Springs**	**69.05**	**188**	P		**P**		**22 49 09.2**	**+1.2**
	comp=Z,12nm,0.7s,baz=3.2,slow=5.4,SNR=165									
ASAR	**Alice Springs**	**69.05**	**188**	P		**P**		**22 49 09.1**	**+1.1**
PSA00	**Pilbara Seismi**	**69.57**	**202**	P		**P**		**22 49 11.6**	**+0.5**
PSA00				IAmb		IAmb		22 49 12.4		
	comp=Z,6.2nm,0.8s									
PSA00	**Pilbara Seismi**	**69.57**	**202**	P		**P**		**22 49 11.6**	**+0.5**
PSA00				IAmb		IAmb		22 49 12.4		
	comp=Z,12nm,0.8s									
NVAR	**Mina Array Bea**	**69.79**	**56**	P		**P**		**22 49 14.2**	**+1.4**
	comp=Z,13nm,0.6s,baz=298,slow=6.0,SNR=121									
NV11	**Mina Array Sit**	**69.88**	**56**	P		**P**		**22 49 14.6**	**+1.4**
RLMT	**Red Lodge**	**70.11**	**45**	P				22 49 15.7		
	baz=315									
DGMT	**Dagmar**	**70.15**	**40**	P				22 49 15.3		
	baz=317									
SORM	**Soroca**	**70.33**	**319**	⇑P		**P**		**22 49 15.5**	**0.0**
SORM	**Soroca**	**70.33**	**319**	⇑P		**P**		**22 49 15.5**	**0.0**
LAO	**LASA Array**	**70.49**	**43**	P				22 49 17.5		
	baz=316									
BGU	**Big Grassy Mou**	**71.07**	**51**	P		**P**		**22 49 21.5**	**+1.1**
BGU				IAmb		IAmb		22 49 22.4		
	comp=Z,2.9nm,0.6s									
CWC	**Cottonwood Cre**	**71.27**	**57**	P				22 49 22.6		
	baz=313									
PKM	**Mcpherson Peak**	**71.28**	**59**	P				22 49 23.2		
	baz=313									
GRAC	**Grapevine Rang**	**71.31**	**56**	P				22 49 23.3		
	baz=313,SNR=17									
HWUT	**Hardware Ranch**	**71.39**	**49**	P		**P**		**22 49 23.3**	**+1.1**
HWUT				IAmb		IAmb		22 49 24.5		
	comp=Z,10nm,0.8s									
R11A	**Troy Canyon, C**	**71.42**	**54**	P				22 49 23.7		
	baz=314,SNR=14									
ISA	**Isabella, Lake**	**71.56**	**58**	P				22 49 23.5		
	baz=313									
PD31	**Pinedale Array**	**71.63**	**47**	P		**P**		**22 49 24.4**	**+0.7**
PDAR	**Pinedale Array**	**71.63**	**47**	P		**P**		**22 49 24.4**	**+0.7**
	comp=Z,10nm,0.6s,baz=288,slow=1.8,SNR=76									
BW06	**Boulder Array**	**71.63**	**47**	P				22 49 24.6		
	baz=315,SNR=20									
DUG	**Dugway, Tooele**	**71.69**	**51**	P				22 49 25.6		
	baz=314,SNR=8.2									
MPMC	**Manual Prospec**	**71.88**	**57**	P				22 49 26.4		
	baz=313									
FURC	**Furnace Creek,**	**71.97**	**56**	P				22 49 27.1		
	baz=313,SNR=17									
BZK	**Bozkurt**	**71.97**	**312**	P		**P**		**22 49 26.4**	**+0.9**
TPNV	**Topopah Spring**	**71.99**	**56**	P				22 49 27.2		
	baz=314,SNR=29									
GIRR	**Girov**	**72.05**	**319**	⇑P		**P**		**22 49 26.1**	**+0.2**
BURAR	**Bucovina Array**	**72.14**	**321**	P		**P**		**22 49 26.5**	**0.0**
LRMC	**Laurel Mtn Rad**	**72.16**	**58**	P				22 49 27.8		
	baz=313									
BIZ	**Bicaz**	**72.24**	**320**	⇑P		**P**		**22 49 27.6**	**+0.7**
TLCR		**72.26**	**317**	⇓P		**P**		**22 49 27.8**	**+0.7**
TLCR		**72.26**	**317**	⇓P		**P**		**22 49 27.8**	**+0.7**
TESR	**Tescani**	**72.31**	**319**	⇑P		**P**		**22 49 27.6**	**+0.2**
EDW2	**Edwards Air Fo**	**72.38**	**58**	P				22 49 29.1		
	baz=313									
ULM	**Lac du Bonnet**	**72.39**	**35**	P		**P**		**22 49 27.6**	**-0.2**
	comp=Z,11nm,0.5s,baz=325,slow=6.4,SNR=16									
KOLS	**Kolonicke sedl**	**72.42**	**323**	*eP*		**P**		**22 49 26.6**	**-1.4**
KOLS	**Kolonicke sedl**	**72.42**	**323**	*eP*		**P**		**22 49 26.6**	**-1.4**
OJC	**Ojcow**	**72.44**	**325**	P		**P**		**22 49 28.4**	**+0.3**
OJC				pmax		pmax				
	comp=Z,3.0nm,0.8s									
OJC	**Ojcow**	**72.44**	**325**	P		**P**		**22 49 28.4**	**+0.3**
STHS	**Stebnicka Huta**	**72.48**	**324**	*eP*		**P**		**22 49 27.9**	**-0.4**
STHS	**Stebnicka Huta**	**72.48**	**324**	*eP*		**P**		**22 49 27.9**	**-0.4**
CFR	**Carcaliu**	**72.59**	**317**	⇑P		**P**		**22 49 29.5**	**+0.4**
CFR	**Carcaliu**	**72.59**	**317**	⇑P		**P**		**22 49 29.5**	**+0.4**
ODBI	**Odobesti**	**72.67**	**318**	⇑P		**P**		**22 49 30.2**	**+0.7**
TPGR	**Topolog**	**72.70**	**317**	⇓P		**P**		**22 49 30.1**	**+0.5**
VRI	**Vrincioaia**	**72.75**	**319**	⇑P		**P**		**22 49 30.3**	**+0.3**
VRI	**Vrincioaia**	**72.75**	**319**	⇑P		**P**		**22 49 30.3**	**+0.3**
GSC	**Goldstone, Bar**	**72.80**	**57**	P				22 49 31.7		
	baz=314,SNR=5.6									
PLOR	**Plostina**	**72.80**	**319**	⇑P		**P**		**22 49 31.2**	**+0.9**
PLOR	**Plostina**	**72.80**	**319**	⇑P		**P**		**22 49 31.2**	**+0.9**
BFSC	**Mount Baldy Ra**	**73.02**	**58**	P				22 49 33.1		
	baz=314									
TUQ	**Turquoise Moun**	**73.23**	**57**	P				22 49 34.4		
	baz=314,SNR=8.1									
K22A	**Casper**	**73.27**	**46**	P				22 49 33.4		
	baz=317									
MLR	**Muntele Rosu**	**73.40**	**319**	⇓P		**P**		**22 49 34.7**	**+0.8**
MLR	**Muntele Rosu**	**73.40**	**319**	⇓P		**P**		**22 49 34.7**	**+0.8**
MLR	**Muntele Rosu**	**73.40**	**319**	P		**P**		**22 49 34.6**	**+0.7**
RSSD	**Black Hills**	**73.42**	**43**	P		**P**		**22 49 34.6**	**+0.4**
RSSD				pmax		pmax				
	comp=Z,9.0nm,1.0s									
RSSD	**Black Hills**	**73.42**	**43**	P		**P**		**22 49 34.6**	**+0.4**
RSSD				IAmb		IAmb		22 49 35.5		
	comp=Z,8.7nm,0.9s									
RSSD	**Black Hills**	**73.42**	**43**	P				22 49 34.6		
	baz=318									
MORC	**Moravsky Berou**	**73.69**	**326**	⇓P		**P**		**22 49 35.8**	**+0.3**
MORC	**Moravsky Berou**	**73.69**	**326**	⇓P		**P**		**22 49 35.8**	**+0.3**
MORC	**Moravsky Berou**	**73.69**	**326**	P		**P**		**22 49 35.7**	**+0.3**
MORC				IAmb		IAmb		22 49 36.8		
	comp=Z,2.7nm,0.7s									
DPC	**Dobruska-Polom**	**73.70**	**327**	*eP*		**P**		**22 49 35.9**	**+0.4**
DPC	**Dobruska-Polom**	**73.70**	**327**	*eP*		**P**		**22 49 35.9**	**+0.4**
KRLC	**Kraliky**	**73.75**	**327**	*eP*		**P**		**22 49 34.8**	**-1.0**
KRLC	**Kraliky**	**73.75**	**327**	*eP*		**P**		**22 49 34.8**	**-1.0**
BR131	**Keskin Array S**	**73.76**	**310**	P		**P**		**22 49 36.5**	**+0.4**
BR131				pmax		pmax				
	comp=Z,3.0nm,0.7s									
BR131	**Keskin Array S**	**73.76**	**310**	P		**P**		**22 49 36.5**	**+0.4**
BRTR	**Keskin Array B**	**73.76**	**310**	P		**P**		**22 49 36.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=63,slow=3.5,SNR=14									
BRTR				PP		**PP**		**22 52 24.1**	**-0.3**	
	comp=Z,0.5nm,0.9s,baz=78,slow=8.0,SNR=3.6									
BRTR	**Keskin Array B**	**73.76**	**310**	*ce*P		**P**		**22 49 37.0**	**+0.9**
BRTR				pmax		pmax				
	comp=Z,2.0nm,0.6s									
BRTR	**Keskin Array B**	**73.76**	**310**	P		**P**		**22 49 36.5**	**+0.4**
GMRC	**Granite Mounta**	**73.83**	**57**	P				22 49 37.7		
	baz=314,SNR=7.9									
VOIR		**73.85**	**319**	⇓P		**P**		**22 49 37.6**	**+1.1**
VOIR		**73.85**	**319**	⇓P		**P**		**22 49 37.6**	**+1.1**
SULR		**73.86**	**318**	⇑P		**P**		**22 49 37.2**	**+0.8**
DRGR		**73.87**	**321**	⇑P		**P**		**22 49 36.7**	**+0.1**
DRGR		**73.87**	**321**	⇑P		**P**		**22 49 36.7**	**+0.1**
AGMN	**Agassiz Nation**	**73.92**	**36**	P				22 49 36.4		
	baz=322									
CLL	**Collm**	**74.16**	**330**	*i* P		**P**		**22 49 37.8**	**-0.2**
	comp=Z,4.0nm,0.8s									
CLL				*ep*P		**pP**		**22 50 47.0**	**+1.4**
CLL	**Collm**	**74.16**	**330**	P		**P**		**22 49 37.8**	**-0.2**
CLL				pmax		pmax				
	comp=Z,3.0nm,0.6s									
CLL	**Collm**	**74.16**	**330**	P		**P**		**22 49 37.8**	**-0.2**
CLL				IAmb		IAmb		22 49 38.7		
	comp=Z,3.1nm,0.6s									
PFO	**Pinyon Flats O**	**74.17**	**58**	P				22 49 39.0		
	baz=314									
TPFO	**Pinon Flats**	**74.18**	**58**	P				22 49 39.0		
	baz=314									
O20A	**White River Ci**	**74.20**	**49**	P				22 49 39.6		
	baz=316									
IRM	**Iron Mountain**	**74.58**	**57**	P				22 49 41.9		
	baz=315									
U15A	**North Rim**	**74.63**	**54**	P		**P**		**22 49 43.1**	**+1.7**
PRU	**Pruhonice**	**74.67**	**328**	*eP*		**P**		**22 49 40.7**	**-0.3**
PRU	**Pruhonice**	**74.67**	**328**	*eP*		**P**		**22 49 40.7**	**-0.3**
MONP2	**Monument Peak**	**74.69**	**59**	P				22 49 42.0		
	baz=314									
BC3	**Big Chuckawall**	**74.74**	**58**	P				22 49 42.9		
	baz=315									
N23A	**Red Feather La**	**74.85**	**47**	P				22 49 43.5		
	baz=317									
GZR	**Gura Zlata**	**74.92**	**320**	⇓P		**P**		**22 49 43.1**	**+0.5**
GZR	**Gura Zlata**	**74.92**	**320**	⇓P		**P**		**22 49 43.1**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**75.05**	**59**	P				22 49 44.8		
	baz=314									
PDMCI	**Parker Dam,Lak**	**75.06**	**56**	P				22 49 44.1		
	baz=315									
SUSD	**Miller**	**75.57**	**40**	P				22 49 46.7		
	baz=320									
CKRC	**Cesky Krumlov**	**75.71**	**327**	*eP*		**P**		**22 49 47.4**	**+0.4**
KHC	**Kasperske Hory**	**75.73**	**328**	*eP*		**P**		**22 49 47.7**	**+0.6**
KHC	**Kasperske Hory**	**75.73**	**328**	*eP*		**P**		**22 49 47.7**	**+0.6**
WUAZ	**Wupatki**	**75.80**	**54**	P				22 49 49.5		
	baz=316									
ISCO	**Idaho Springs**	**75.82**	**47**	P				22 49 49.4		
	baz=318									
CONA	**Conrad Observa**	**75.84**	**326**	*eP*		**P**		**22 49 49.1**	**+1.4**
	comp=Z,1.4nm,0.6s									
ARMA	**Armidale**	**75.89**	**171**	P		**P**		**22 49 49.1**	**+1.0**
ARMA				IAmb		IAmb		22 50 16.3		
	comp=Z,15nm,1.2s									
GEC2	**GERESS Array S**	**75.92**	**328**	P		**P**		**22 49 48.2**	**-0.1**
GERES	**GERESS Array B**	**75.92**	**328**	P		**P**		**22 49 48.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=41,slow=5.9,SNR=9.0									
GERES	**GERESS Array B**	**75.92**	**328**	P		**P**		**22 49 48.5**	**+0.3**
EYMN	**Ely**	**75.97**	**34**	P				22 49 48.2		
	baz=324									
MVCO	**Mesa Verde**	**76.19**	**51**	P				22 49 51.3		
	baz=317,SNR=10.0									
ARSA	**Arzberg**	**76.52**	**326**	*i* P		**P**		**22 49 51.6**	**+0.1**
	comp=Z,1.3nm,0.8s									
Q24A	**Divide**	**76.69**	**48**	P				22 49 53.7		
	baz=318									
S22A	**4U2 Ranch, Cre**	**76.70**	**49**	P				22 49 54.5		
	baz=318,SNR=8.6									
FORT	**Forrest**	**76.80**	**192**	P		**P**		**22 49 53.6**	**+0.6**
ALN	**Alexandroupoli**	**76.81**	**316**	P		**P**		**22 49 53.9**	**+0.7**
ALN				pmax		pmax				
	comp=Z,9.0nm,1.4s									
ALN	**Alexandroupoli**	**76.81**	**316**	P		**P**		**22 49 53.9**	**+0.7**
ALN				IAmb		IAmb		22 49 54.4		
	comp=Z,9.5nm,1.4s									
STKA	**Stephens Creek**	**76.84**	**180**	P		**P**		**22 49 54.1**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=342,slow=10,SNR=5.4									
STKA	**Stephens Creek**	**76.84**	**180**	P		**P**		**22 49 54.4**	**+1.2**
STKA				pmax		pmax				
	comp=Z,1.0nm,1.2s									
STKA	**Stephens Creek**	**76.84**	**180**	P		**P**		**22 49 54.4**	**+1.2**
VTS	**Vitosha**	**76.85**	**318**	⇑P		**P**		**22 49 54.7**	**+1.1**
VTS	**Vitosha**	**76.85**	**318**	⇑P		**P**		**22 49 54.7**	**+1.1**
VTS	**Vitosha**	**76.85**	**318**	P		**P**		**22 49 54.5**	**+0.9**
VTS				IAmb		IAmb		22 49 55.4		
	comp=Z,2.5nm,0.6s									
DIVS	**Divibare**	**77.17**	**321**	P		**P**		**22 49 55.3**	**0.0**
ECSD	**EROS Data Cent**	**77.18**	**39**	P		**P**		**22 49 55.3**	**+0.1**
ECSD	**EROS Data Cent**	**77.18**	**39**	P				22 49 55.4		
	baz=322,SNR=10									
SOKA	**Soboth**	**77.18**	**326**	*eP*		**P**		**22 49 55.3**	**0.0**
	comp=Z,2.5nm,0.7s									
SCHQ	**Schefferville**	**77.26**	**17**	P		**P**		**22 49 55.3**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=354,slow=5.6,SNR=10									
SCHQ	**Schefferville**	**77.26**	**17**	P		**P**		**22 49 55.4**	**-0.1**
SCHQ				IAmb		IAmb		22 49 56.3		
	comp=Z,18nm,1.5s									
SDCO	**Great Sand Dun**	**77.40**	**49**	P		**P**		**22 49 57.6**	**+0.6**
SDCO				IAmb		IAmb		22 49 58.7		
	comp=Z,4.1nm,0.8s									
SDCO	**Great Sand Dun**	**77.41**	**49**	P				22 49 58.0		
	baz=318,SNR=9.7									
KBA	**Koelnbreinsper**	**77.52**	**327**	*i* P		**P**		**22 49 58.5**	**+1.3**
	comp=Z,1.6nm,0.5s									
MORW	**Morawa**	**77.72**	**203**	P		**P**		**22 49 58.9**	**+0.8**
BBOO	**Buckleboo**	**77.95**	**185**	P		**P**		**22 50 00.2**	**+0.8**
BBOO				IAmb		IAmb		22 50 23.4		
	comp=Z,12nm,1.5s									
WATA	**Walderalm**	**77.97**	**328**	*i* P		**P**		**22 50 00.6**	**+1.0**
	comp=Z,2.6nm,0.5s									
WTTA	**Wattenberg**	**78.01**	**328**	*i* P		**P**		**22 50 01.1**	**+1.1**
	comp=Z,2.0nm,0.4s									
MOTA	**Moosalm**	**78.14**	**328**	*eP*		**P**		**22 50 01.5**	**+0.9**
	comp=Z,1.6nm,0.5s									
T25A	**Trinidad**	**78.43**	**48**	P				22 50 03.1		
	baz=319,SNR=8.6									
TUC	**Tucson**	**78.45**	**56**	P				22 50 03.6		
	baz=317									
DAVA	**Damuels**	**78.64**	**329**	*i* P		**P**		**22 50 04.0**	**+0.7**
	comp=Z,2.7nm,0.5s									
ANMO	**Albuquerque**	**78.97**	**51**	P		**P**		**22 50 06.7**	**+1.3**
ANMO				pmax		pmax				
	comp=Z,11nm,1.4s									
ANMO	**Albuquerque**	**78.97**	**51**	P		**P**		**22 50 06.7**	**+1.3**
ANMO				IAmb		IAmb		22 50 07.7		
	comp=Z,11nm,1.4s									
ANMO	**Albuquerque**	**78.97**	**51**	P				22 50 06.8		
	baz=318									
CTI	**Castel Tesino**	**79.02**	**327**	P		**P**		**22 50 05.0**	**-0.4**
CTI				pmax		pmax				
	comp=Z,3.0nm,0.8s									
CTI	**Castel Tesino**	**79.02**	**327**	P		**P**		**22 50 05.0**	**-0.4**
CTI				IAmb		IAmb		22 50 26.5		
	comp=Z,2.9nm,0.8s									
CBKS	**Cedar Bluff**	**79.55**	**44**	P				22 50 08.1		
	baz=321									
CHGQ	**Chibougamau**	**80.01**	**23**	P				22 50 09.8		
	baz=335									
121A	**Cookes Peak, D**	**80.01**	**54**	P				22 50 12.8		
	baz=318									
LSQQ	**Lebel-sur-Quev**	**80.03**	**25**	P				22 50 10.4		
	baz=333									
NWAO	**Narrogin (SRO)**	**81.06**	**201**	P		**P**		**22 50 16.7**	**+0.7**
NWAO				pmax		pmax				
	comp=Z,35nm,1.4s									
NWAO	**Narrogin (SRO)**	**81.06**	**201**	P		**P**		**22 50 16.7**	**+0.7**
NRCA	**Norcia**	**81.12**	**325**	P		**P**		**22 50 17.2**	**+0.6**
NRCA				IAmb		IAmb		22 50 19.6		
	comp=Z,6.3nm,0.9s									
AMTX	**Amarillo**	**81.58**	**48**	P				22 50 19.7		
	baz=320									
IDI	**Anoyia**	**81.69**	**313**	P		**P**		**22 50 19.2**	**-0.4**
ITM	**Ithomi**	**81.72**	**316**	P		**P**		**22 50 19.6**	**-0.1**
ITM				IAmb		IAmb		22 50 20.5		
	comp=Z,5.5nm,0.7s									
MNTX	**Cornudas Mount**	**81.99**	**53**	P				22 50 22.5		
	baz=319,SNR=7.3									
D56A	**ZEC Mazanza, M**	**82.50**	**24**	P				22 50 23.4		
	baz=335									
E56A	**St. Veronique**	**82.87**	**25**	P				22 50 25.2		
	baz=335									
H53A	**Bobcaygeon**	**83.52**	**28**	P				22 50 28.3		
	baz=333									
TUL1	**Leonard**	**83.76**	**44**	P				22 50 30.6		
	baz=323									
SFIN	**Lafayette**	**84.00**	**35**	P				22 50 31.1		
	baz=328									
D62A	**Allapoint, All**	**84.01**	**21**	P				22 50 31.4		
	baz=339									
E62A	**Clayton Lake**	**84.32**	**21**	P		**P**		**22 50 33.0**	**+0.2**
E62A				IAmb		IAmb		22 50 42.0		
	comp=Z,15nm,1.4s									
BATG	**Bathurst New B**	**84.54**	**19**	P		**P**		**22 50 34.2**	**+0.4**
PECO	**Prince Edward**	**84.61**	**27**	P		**P**		**22 50 34.0**	**-0.2**
PECO				IAmb		IAmb		22 50 38.7		
	comp=Z,7.8nm,1.2s									
TX32	**Lajitas Array**	**84.74**	**53**	P		**P**		**22 50 36.3**	**+1.0**
TX32				IAmb		IAmb		22 50 37.2		
	comp=Z,5.7nm,1.1s									
TXAR	**Lajitas Array**	**84.74**	**53**	P		**P**		**22 50 36.4**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=291,slow=3.7,SNR=34									
TXAR				pP		**pP**		**22 51 46.9**	**+2.0**	
	comp=Z,0.3nm,0.6s,baz=355,slow=6.0,SNR=2.0									
TXAR	**Lajitas Array**	**84.74**	**53**	P		**P**		**22 50 36.3**	**+1.0**
U40A	**Yellville**	**84.81**	**42**	P				22 50 35.6		
	baz=325,SNR=17									
ERPA	**Erie**	**85.21**	**30**	P				22 50 37.6		
	baz=332									
W39A	**Magazine**	**85.31**	**43**	P				22 50 38.3		
	baz=324									
F64A	**Sherman**	**85.32**	**21**	P		**P**		**22 50 37.7**	**0.0**
MMNY	**Mt. Morris Dam**	**85.38**	**28**	P		**P**		**22 50 38.0**	**-0.1**
MMNY				IAmb		IAmb		22 50 38.5		
	comp=Z,6.7nm,0.8s									
M53A	**WI Miller and**	**85.56**	**31**	P				22 50 39.3		
	baz=331									
J58A	**Remsen**	**85.67**	**26**	P		**P**		**22 50 39.3**	**-0.2**
J58A				IAmb		IAmb		22 50 55.7		
	comp=Z,14nm,1.5s									
J58A	**Remsen**	**85.67**	**26**	P				22 50 39.2		
	baz=335									
P49A	**Miami Univ. Ec**	**85.68**	**34**	P				22 50 39.7		
	baz=329									
H62A	**Milan**	**85.78**	**23**	P		**P**		**22 50 40.4**	**+0.4**
H62A				IAmb		IAmb		22 51 07.4		
	comp=Z,15nm,1.4s									
M54A	**Oil Creek Stat**	**85.87**	**30**	P				22 50 40.5		
	baz=332									
MIAR	**Mount Ida**	**85.94**	**43**	P				22 50 41.8		
	baz=324,SNR=6.0									
W41B	**Gary Mavity, V**	**86.06**	**42**	P				22 50 42.0		
	baz=325,SNR=7.3									
WCI	**Wyandotte Cave**	**86.15**	**36**	P				22 50 42.4		
	baz=328									
LMN	**Caledonia Moun**	**86.17**	**18**	P		**P**		**22 50 42.1**	**+0.3**
N54A	**Moraine State**	**86.23**	**31**	P				22 50 42.1		
	baz=332									
X40A	**Basin Creek Fa**	**86.34**	**43**	P				22 50 43.7		
	baz=325									
O53A	**New Philadelph**	**86.41**	**32**	P				22 50 43.3		
	baz=331									
P52A	**Corning**	**86.60**	**33**	P				22 50 44.0		
	baz=331									
WVT	**Waverly**	**87.27**	**38**	P				22 50 47.9		
	baz=327									
O56A	**Blue Knob Stat**	**87.35**	**30**	P				22 50 48.3		
	baz=333									
TZTN	**Tazewell**	**88.72**	**35**	P				22 50 54.6		
	baz=330									
ESDC	**Sonseca Array**	**90.03**	**334**	P		**P**		**22 50 59.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=23,slow=4.1,SNR=4.6									
TORD	**Torodi Ar. Bea**	**111.63**	**318**	PKiKP		**PKiKP**		**22 56 32.9**	**-0.8**
	comp=Z,1.3nm,1.1s,baz=7.0,slow=2.4,SNR=4.5									
DBIC	**Dimbokro**	**120.33**	**321**	PKP		**PKPdf**		**22 56 50.0**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=108,slow=3.2,SNR=1.5									
DBIC	**Dimbokro**	**120.33**	**321**	PKIKP		**PKPdf**		**22 56 50.1**	**-0.3**
DBIC	**Dimbokro**	**120.33**	**321**	PKPdf		**PKPdf**		**22 56 50.1**	**-0.3**
VNDA	**Vanda**	**123.19**	**175**	PKP		**PKiKP**		**22 56 54.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=321,slow=4.5,SNR=19									
VNDA	**Vanda**	**123.19**	**175**	PKIKP		**PKiKP**		**22 56 54.5**	**+0.3**
VNDA	**Vanda**	**123.19**	**175**			**PKiKP**		**22 56 54.5**	**+0.3**
MAW	**Mawson**	**127.13**	**208**	PKP		**PKiKP**		**22 57 02.9**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=350,slow=6.1,SNR=2.0									
LPAZ	**La Paz**	**141.58**	**51**	PKP		**PKPdf**		**22 57 31.6**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=338,slow=5.4,SNR=2.7									
SNAA	**Sanae**	**148.74**	**201**	PKPbc		**PKPbc**		**22 57 45.2**	**+0.1**
BDFB	**Brasilia**	**149.23**	**19**	PKPbc		**PKPbc**		**22 57 48.2**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=345,slow=4.6,SNR=8.6									
VNA2	**Neumayer--Watz**	**150.34**	**200**	PKPdf		**PKiKP**		**22 57 49.4**	**-0.2**
VNA3	**Neumayer Olymp**	**150.64**	**198**	PKPdf		**PKPbc**		**22 57 49.7**	**+0.1**
VNA1	**Neumayer-Stat**	**150.74**	**200**	PKPdf		**PKiKP**		**22 57 50.3**	**0.0**
CPUP	**Villa Florida**	**155.52**	**46**	PKPab		**PKPab**		**22 58 19.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=307,slow=4.5,SNR=5.6									
PLCA	**Paso Flores**	**

RPOR				*i* Sg		**Sg**	**23 04 44.2**	**-0.6**	
SOC	**Sochi**	**1.13**	**312**	*i* Pg		**Pb**	**23 04 35.2**	**-0.1**	
	42nm,0.3s								
SOC				*i* Sg		**Sg**	**23 04 50.2**	**+0.5**	
	110nm,0.4s								
GUZR	**Guzeripl'**	**1.29**	**335**	*i* Pg		**Pg**	**23 04 38.5**	**+0.3**	
	6.4nm,0.5s								
GUZR				*e*Sg		**Sb**	**23 04 54.4**	**-0.4**	
NEY	**Neytrino**	**1.42**	**72**	*e*Pg		**Pn**	**23 04 40.4**	**+0.6**	
NEY				*e*Sg		**Sn**	**23 04 57.4**	**-1.5**	
LZRR	**Lazarevskoye**	**1.55**	**316**	*i* Pg		**Pn**	**23 04 41.5**	**+0.2**	
	22nm,0.4s								
LZRR				*e*Sg		**Sb**	**23 05 01.9**	**-0.3**	
SHA1	**Shidzhatmaz**	**1.59**	**55**	*i* Pg		**Pn**	**23 04 43.2**	**+0.9**	
SHA1				*e*Sg		**Sn**	**23 05 03.0**	**-0.2**	
DBOC	**Borcka**	**1.60**	**158**	*i* P		**Pn**	**23 04 43.0**	**+0.8**	
DBOC				*i* S		**Sn**	**23 05 00.9**	**-2.2**	
KBZ	**Khabaz**	**1.73**	**58**	*e*Pg		**Pb**	**23 04 45.7**	**+0.2**	
KBZ				*e*Sg		**Sn**	**23 05 07.0**	**+0.7**	
DBAD	**Bademkaya**	**1.91**	**161**	*i* P		**Pn**	**23 04 47.1**	**+0.6**	
DAGI	**Agillar**	**1.92**	**156**	*i* P		**Pn**	**23 04 46.5**	**-0.1**	
DAGI				*i* S		**Sn**	**23 05 10.6**	**-0.4**	
DAGI				IAML			23 05 19.0		
	comp=E,10nm,0.5s								
ONI	**Oni**	**1.92**	**96**	*e*Pg		**Pb**	**23 04 48.4**	**-0.4**	
	comp=E,3.1nm,0.3s								
ONI				*e*Sg		**Sb**	**23 05 13.8**	**+0.8**	
	comp=E,14nm,0.2s								
DDEM	**Demirkent**	**2.05**	**161**	*i* P		**Pn**	**23 04 49.0**	**+0.6**	
DDEM				*i* S		**Sn**	**23 05 14.1**	**-0.1**	
DDEM				IAML			23 05 16.0		
	comp=N,57nm,0.4s								
DDEM				IAML			23 05 17.0		
	comp=E,49nm,0.4s								
MACK	**Trabzon**	**2.06**	**204**	*i* P		**Pn**	**23 04 48.3**	**-0.1**	
MACK				*i* S		**Sn**	**23 05 12.5**	**-1.8**	
MACK				IAML			23 05 19.0		
	comp=E,13nm,0.2s								
MACK				IAML			23 05 21.0		
	comp=N,20nm,0.3s								
BAYB	**BAYBURT**	**2.61**	**190**	*i* P		**Pn**	**23 04 57.6**	**+1.4**	
BAYB				*i* S		**Sn**	**23 05 27.1**	**-1.2**	
ALUC	**Giresun/Alucra**	**2.94**	**213**	*i* P		**Pn**	**23 05 01.8**	**+1.1**	
ALUC				*i* S		**Sn**	**23 05 36.5**	**+0.2**	
ALUC				IAML			23 05 40.0		
	comp=N,13nm,0.5s								
ALUC				IAML			23 05 47.0		
	comp=E,8.3nm,0.5s								
KELT	**Kelkit**	**2.94**	**205**	*i* P		**Pn**	**23 05 01.8**	**+1.0**	
KELT				*i* S		**Sn**	**23 05 37.4**	**+1.0**	
KELT				IAML			23 05 39.0		
	comp=E,6.7nm,0.3s								
SUSE	**Susehri**	**3.30**	**218**	*i* P		**Pn**	**23 05 05.2**	**-0.4**	
SUSE				*i* S		**Sn**	**23 05 45.6**	**+0.5**	

IDC 13 23:09:20.4±1.2,**12°.41N**×**143°.81E**,**h0**km,**mb3.8**/5, **mb1 4.1**/5,**mb1mx3.6**/39,**mbtmp3.8**/5,**MS2.8**/1,**Ms1 2.8**/1, **ms1mx2.2**/47,**Error ellipse: s-maj=54.5km s-min=25.6km az=98.0**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**20.94**	**351**	LR	LR	23 21 15.9	
	comp=Z,22nm,18.2s,baz=108,slow=34						
H11N1	**WAKE ISLAND Hy**	**23.32**	**69**	T	T	23 38 36.4	
	baz=255,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**23.33**	**69**	T	T	23 38 37.0	
	baz=255,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**23.34**	**69**	T	T	23 38 33.1	
	baz=255,slow=75,SNR=20						
WRA	**Warramunga Arr**	**33.48**	**196**	P	P	23 16 01.4	-0.2
	1.1nm,0.7s,baz=20,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**37.14**	**195**	P	P	23 16 33.2	0.0
	0.6nm,0.7s,baz=16,slow=11,SNR=8.6						
MKAR	**Makanchi Array**	**61.62**	**317**	P	P	23 19 40.3	+0.2
	0.3nm,0.7s,baz=114,slow=6.4,SNR=2.0						
NVAR	**Mina Array Bea**	**88.46**	**51**	P	P	23 22 15.7	+0.3
	1.5nm,0.8s,baz=267,slow=5.6,SNR=9.5						
FINES	**FINESS Array B**	**91.78**	**335**	P	P	23 22 29.0	-1.0
	1.2nm,0.8s,baz=63,slow=6.1,SNR=1.9						

IDC ***13*** *23:18:36.2*±*1.6,2°.25S*×*134°.05E,h0*km*,mb3.7/3, mb1 3.9/6,mb1mx3.6/38,mbtmp3.8/6,ML3.8/3,Error ellipse: s-maj=46.3km s-min=21.2km az=71.0*

ISC 13 23:18:40.7±1.8,**2°.3S**±0°.2×**134°.0E**±0°.2,**h27**km,**n6**,σ**0°.93**/7, **mb3.7**/3,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.06**	**299**	Pn	**Pn**	**23 19 27.5**	**+0.1**
	14nm,0.3s,baz=86,slow=14,SNR=42						
SIJI				Sn	**Sn**	**23 20 03.8**	**+0.6**
	7.5nm,0.3s,baz=304,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**17.50**	**179**	P	**Pn**	**23 22 43.5**	**+0.6**
	0.3nm,0.3s,baz=359,slow=12,SNR=24						
WRA				S	Sn	23 25 46.8	-10
	0.1nm,0.3s,baz=1.4,slow=22,SNR=1.6						
FITZ	**Fitzroy Crossi**	**17.65**	**207**	P	**Pn**	**23 22 43.5**	**-1.3**
	0.2nm,0.3s,baz=15,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**21.20**	**180**	P	**P**	**23 23 25.0**	**+0.7**
	2.1nm,0.7s,baz=5.9,slow=11,SNR=23						
MKAR	**Makanchi Array**	**66.66**	**324**	P	**P**	**23 29 28.9**	**-0.2**
	0.9nm,0.6s,baz=110,slow=8.2,SNR=11						
KURBB	**Kurchatov Arra**	**70.74**	**326**	P	**P**	**23 29 53.8**	**-0.6**
	0.5nm,0.7s,baz=122,slow=5.4,SNR=6.5						

IDC ***13*** *23:21:05.6*±*1.4,24°.63N*×*102°.30E,h0*km*,mb3.5/5, mb1 3.6/6,mb1mx3.3/46,mbtmp3.4/6,ML2.4/1,MS2.8/2, Ms1 2.8/2,ms1mx2.4/42,Error ellipse: s-maj=44.0km s-min=21.2km az=84.0*

ISC 13 23:21:07.3±1.0,**24°.66N**±0°.08×**102°.4E**±0°.1,**h10**km,**n25**, σ**2°.94**/21,**mb3.6**/5,**Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM34	**Chiang Mai Arr**	**6.53**	**208**	P	**Pb**	**23 23 04.0**	**+2.9**
NONG	**Nongkai**	**6.60**	**174**	P	**Pg**	**23 23 11.0**	**-2.8**
	14nm,1.3s						
CM33	**Chiang Mai Arr**	**6.65**	**210**	P	**Pb**	**23 23 07.0**	**+3.9**
CMMT	**Chiang Mai**	**6.66**	**210**	P	**Pb**	**23 23 06.6**	**+3.4**
	5.5nm,0.7s						
CM35	**Chiang Mai Arr**	**6.69**	**208**	P	**Pg**	**23 23 12.0**	**-3.4**
CM32	**Chiang Mai Arr**	**6.84**	**210**	P	Pb	23 23 12.0	+5.7
CM36	**Chiang Mai Arr**	**6.85**	**207**	P	**Pg**	**23 23 15.0**	**-3.6**
CM09	**Chiang Mai Arr**	**6.96**	**208**	P	**Pg**	**23 23 17.0**	**-3.7**
	9.6nm,0.8s						
CM31	**Chiang Mai Arr**	**6.97**	**208**	P	**Pg**	**23 23 20.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.97**	**208**	Pn	**Pn**	**23 22 48.1**	**-1.4**
	0.0nm,0.3s,baz=21,slow=13,SNR=4.9						
CMAR				Pg	**Pb**	**23 23 11.1**	**+2.5**
	0.4nm,0.3s,baz=16,slow=17,SNR=11						
CMAR				Lg	Lg	23 24 37.7	
	0.4nm,0.3s,baz=24,slow=29,SNR=6.7						
CM15	**Chiang Mai Arr**	**6.98**	**208**	P	**Pg**	**23 23 17.0**	**-4.1**
	6.5nm,0.8s						
CM02	**Chiang Mai Arr**	**6.99**	**208**	P	Pg	23 23 15.0	-6.2
	84nm12nm,0.9s						
CM01	**Chiang Mai Arr**	**7.00**	**208**	P	**Pg**	**23 23 18.0**	**-3.3**
	7.8nm,0.9s						
CM04	**Chiang Mai Arr**	**7.01**	**208**	P	**Pb**	**23 23 12.8**	**+3.7**
	71nm8.4nm,0.7s						
CM13	**Chiang Mai Arr**	**7.02**	**208**	P	Pg	23 23 16.0	-5.7
	57nm6.8nm,0.8s						
CM05	**Chiang Mai Arr**	**7.02**	**208**	P	**Pb**	**23 23 14.0**	**+4.6**
UTTA	**Uttaradit**	**7.10**	**195**	P	Pg	23 23 33.6	+10
PHIT	**Phitsanulok**	**7.67**	**194**	P	**Pg**	**23 23 34.8**	**+0.7**
MHMT	**Maesarieng**	**7.69**	**214**	P	**Pg**	**23 23 33.0**	**-1.5**
SONM	**Songino Array**	**23.34**	**7**	P	**P**	**23 26 16.6**	**+0.8**
	0.1nm,0.3s,baz=182,slow=10,SNR=1.3						
SONM				LR	LR	23 36 36.4	
	comp=Z,34nm,19.5s,baz=186,slow=40						
KSRS	**Korea Array**	**25.21**	**54**	LR	LR	23 36 46.8	
	comp=Z,17nm,19.5s,baz=115,slow=37						
MKAR	**Makanchi Array**	**27.32**	**329**	P	**P**	**23 26 52.1**	**-0.1**
	0.5nm,0.8s,baz=146,slow=10,SNR=3.8						
KURBB	**Kurchatov Arra**	**31.81**	**331**	P	**P**	**23 27 31.7**	**-0.3**
	0.7nm,0.7s,baz=139,slow=8.9,SNR=12						
ZALV	**Zalesovo Beam**	**32.08**	**340**	P	**P**	**23 27 33.6**	**-0.6**
	1.2nm,0.6s,baz=145,slow=10,SNR=7.3						
WRA	**Warramunga Arr**	**54.14**	**142**	P	**P**	**23 30 32.8**	**0.0**
	0.5nm,0.8s,baz=332,slow=8.5,SNR=1.9						

WEL 13 23:41:07.7±0.8,**39°.S**×**18°.0W**,**h33**km,**M3.5**/12, **ML3.8**/12,**MLv3.5**/12,**Error ellipse: s-maj=0.0km s-min=0.0km az=29.5**,**East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.64**	**280**	P	Pn	23 41 34.5	+0.4
PUZ	**Puketiti**	**1.73**	**294**	P	Pn	23 41 34.7	-0.7
PUZ				S	Sn	23 41 55.9	-0.5
PRGZ	**Paritu Road**	**1.86**	**265**	P	Pn	23 41 37.7	+0.4
MHGZ	**Mahia Peninsul**	**1.87**	**258**	P	Pn	23 41 37.7	+0.4
MHGZ				S	Sn	23 42 01.5	+1.7
TWGZ	**Tauwhareparae**	**1.89**	**288**	P	Pn	23 41 37.5	-0.2
PKGZ	**Pakihiroa**	**1.94**	**297**	P	Pn	23 41 37.6	-0.7
RIGZ	**Rimuhau**	**1.95**	**272**	P	Pn	23 41 38.9	+0.4
KNZ	**Kokohu**	**2.03**	**263**	P	Pn	23 41 40.0	+0.5
KNZ				S	Sn	23 42 04.3	+0.5
RUGZ	**Raukumara Rang**	**2.19**	**291**	P	Pn	23 41 41.2	-0.7
HAZ	**Te Kaha**	**2.21**	**297**	P	Pn	23 41 41.2	-0.7
SNGZ	**Shannon Statio**	**2.28**	**269**	P	Pn	23 41 43.9	+0.9
SNGZ				S	Sn	23 42 10.3	+0.3
URZ	**Urewera**	**2.52**	**281**	P	Pn	23 41 46.5	+0.2
URZ				S	Sn	23 42 17.0	+1.1
ARHZ	**Aropaoanui**	**2.58**	**258**	P	Pn	23 41 48.2	+1.0
ARHZ				S	Sn	23 42 18.3	+0.8
NMHZ	**Naumai**	**2.71**	**262**	P	Pn	23 41 51.2	+2.2
NMHZ				S	Sn	23 42 22.3	+1.7
BKZ	**Black Stump Fm**	**2.96**	**262**	P	Pn	23 41 53.0	+0.6
BKZ				S	Sn	23 42 25.8	-0.9
MRHZ	**Matea Rd**	**3.00**	**268**	S	Sn	23 42 26.3	-1.6
CTZ	**Chatham Island**	**5.47**	**156**	P	Pn	23 42 29.4	+2.6
CTZ				S	Sn	23 43 26.4	-2.3

MOS ***13*** *23:45:40.0*±*1.0,0°.17S*×*124°.21E,h38*km*,mb5.2/40,Error ellipse: s-maj=9.8km s-min=4.6km az=111.7*

IDC ***13*** *23:45:42.2*±*1.9,0°.14S*×*124°.24E,h41*km±*16*km*,mb4.6/31, mb1 4.6/33,mb1mx4.5/38,mbtmp4.8/33,ML4.5/2,MS3.4/13, Ms1 3.5/13,ms1mx3.2/32,Error ellipse: s-maj=16.2km s-min=10.1km az=72.0*

GCMT ***13*** *23:45:43.1*±*0.4,0°.28S*±*0°.03*×*124°.46E*±*0°.04,h42*km±*1*km*, MW4.9/49,Moment Tensor Solution. s41,c51; s49,c67; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr2.35*±*.20; Mθθ-0.76*±*.14; Mϕϕ-1.59*±*.16; Mrθ0.18*±*.10; Mrϕ-1.32*±*.09; Mθϕ1.11*±*.13; Best double couple: M*o*2.70400×10*^{16} *NP1:*ϕ*s228.00000°,δ35.00000°,λ109.00000°. NP2: ϕs25.00000°,δ57.00000°,λ77.00000°. Principal axes: T 2.6490, Plg74.0000°, Azm259.0000°; N 0.1120, Plg11.0000°, Azm32.0000°; P -2.7580, Plg11.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***13*** *23:45:45,0°.38S*×*124°.43E,h66*km*,mb5.0*

DJA ***13*** *23:45:45.0*±*0.2,0°.S*±*2°.*×*12°.5E*±*°,h51*km±*3*km*,M5.1/55, mb5.0/55,mB5.6/18,MLv5.3/21,Mw(mB)5.1/18, MwMwp5.4/1,Mwp5.6/1*

NEIC ***13*** *23:45:45.1*±*1.7,0°.23S*±*0°.06*×*124°.43E*±*0°.06,h64*km±*5*km, mb5.1/151,Error ellipse: s-maj=9.6km s-min=7.9km az=156.0*

ISC 13 23:45:44.9±0.5,**0°.19S**±0°.03×**124°.48E**±0°.03,**h70**km±4km, **n518**,σ**1°60**/544,**mb5.0**/182,**21C-5D**,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.69**	**299**	P	**Pn**	**23 46 12.7**	**+0.3**
GTOI				S	**Sn**	**23 46 38.4**	**+5.2**
LUWI	**Luwuk**	**1.91**	**244**	Pn	**Pn**	**23 46 13.8**	**-1.6**
LUWI				Sn	**Sn**	**23 46 37.7**	**-0.8**
LUWI	**Luwuk**	**1.91**	**244**	P	**Pn**	**23 46 14.2**	**-1.1**
LUWI				S	**Sn**	**23 46 39.9**	**+1.4**
SANI	**Sanana**	**2.38**	**141**	P	**Pn**	**23 46 18.9**	**-2.8**
SANI				S	**Sn**	**23 46 45.6**	**-4.3**
MRSI	**Marisa**	**2.63**	**285**	P	**Pn**	**23 46 22.0**	**-3.1**
MRSI				S	**Sn**	**23 46 58.0**	**+2.1**
APSI	**Ampana**	**2.92**	**256**	P	**Pn**	**23 46 29.9**	**+0.8**
APSI				S	**Sn**	**23 47 06.3**	**+3.2**
TNTI	**Ternate**	**3.04**	**72**	Pn	**Pn**	**23 46 31.2**	**+0.5**
TNTI	**Ternate**	**3.04**	**72**	P	**Pn**	**23 46 30.6**	**-0.1**
TNTI				S	**Sn**	**23 47 07.1**	**+1.1**
LBMI	**Labuha**	**3.05**	**98**	P	**Pn**	**23 46 29.5**	**-1.4**
LBMI				S	**Sn**	**23 47 05.5**	**-0.8**
GAMI	**Galela, Maluku**	**3.87**	**59**	P	**Pn**	**23 46 42.1**	**0.0**
GAMI				S	**Sn**	**23 47 26.2**	**-0.2**
TOLI2	**Tolitoli**	**3.92**	**289**	Pn	**Pn**	**23 46 41.4**	**-1.4**
SGSI	**Sangihe**	**3.99**	**15**	P	**Pn**	**23 46 45.1**	**+1.4**
NLAI	**Namlea**	**4.00**	**139**	P	**Pn**	**23 46 42.1**	**-1.7**
NLAI				S	**Sn**	**23 47 27.5**	**-2.0**
MPSI	**Mapaga**	**4.62**	**277**	P	**Pn**	**23 46 50.5**	**-1.7**
KKSI	**Kolaka, Sulawe**	**4.86**	**216**	P	**Pn**	**23 46 55.2**	**-0.4**
KRAI	**Karang Ratu**	**4.99**	**128**	P	**Pn**	**23 46 57.3**	**-0.1**
MSAI	**Masohi**	**5.44**	**125**	P	**Pn**	**23 47 03.5**	**0.0**
	2.1nm6μm488nm,0.7s						
TTSI	**Tana Toraja**	**5.46**	**239**	P	**Pn**	**23 47 03.9**	**+0.2**
	3.7nm11μm842nm,0.4s						
BNSI	**Bone**	**6.05**	**226**	P	**Pn**	**23 47 11.7**	**-0.1**
	1.8nm4μm454nm,0.7s						
DDMP	**Don Marcelino,**	**6.38**	**11**	*e*P	**Pn**	**23 47 18.9**	**+2.6**
PMSI	**Majene**	**6.46**	**239**	P	**Pn**	**23 47 19.8**	**+2.3**
	1.8nm3μm221nm,0.8s						
SKMP	**Bagumbayan, Su**	**6.67**	**1**	*e*P	**Pn**	**23 47 19.1**	**-1.2**
KAPI	**Kappang**	**6.73**	**225**	P	**Pn**	**23 47 21.0**	**-0.1**
	24nm,0.3s,baz=52,slow=4.9,SNR=60						
KAPI				S	**Sn**	**23 48 34.7**	**-1.6**
	41nm,0.3s,baz=203,slow=22,SNR=11						
KAPI	**Kappang**	**6.73**	**225**	P	**Pn**	**23 47 20.5**	**-0.7**
KAPI	**Kappang**	**6.73**	**225**	Pn	**Pn**	**23 47 20.4**	**-0.7**
KAPI	**Kappang**	**6.73**	**225**	P	**Pn**	**23 47 21.7**	**+0.6**
	0.8nm1μm158nm,0.6s						
SWI	**Sorong**	**6.81**	**96**	P	**Pn**	**23 47 23.1**	**+0.9**
	0.4nm2μm76nm,0.5s						
SIJI	**Sorong**	**6.82**	**96**	P	**Pn**	**23 47 22.9**	**+0.5**
	15nm,0.3s,baz=262,slow=9.4,SNR=24						
SIJI				S	**Sn**	**23 48 40.1**	**+1.6**
	2.4nm,0.3s,baz=42,slow=23,SNR=0.9						
SIJI	**Sorong**	**6.82**	**96**	P	**Pn**	**23 47 23.1**	**+0.7**
	0.3nm1μm55nm,1.1s						
SGKI	**Sangatta, Kali**	**6.89**	**267**	P	**Pn**	**23 47 24.8**	**+1.5**
	1.2nm189nm,0.9s						
BNDI	**Bandanaira**	**6.92**	**129**	P	**Pn**	**23 47 22.9**	**-0.8**
	2.5nm8μm608nm,0.9s						
MKS	**Makassar**	**7.07**	**225**	P	**Pn**	**23 47 26.7**	**+0.9**
	1.1nm2μm257nm,0.8s						
KCP	**Kipapan**	**7.18**	**5**	i/P	**Pn**	**23 47 30.4**	**+3.0**
DAV	**Davao City (W)**	**7.30**	**9**	Pn	**Pn**	**23 47 31.1**	**+2.2**
MATI	**Mati**	**7.31**	**14**	*e*P	**Pn**	**23 47 32.3**	**+3.2**
BKB	**Balikpapan**	**7.66**	**262**	Pn	**Pn**	**23 47 34.0**	**+0.1**
BKB	**Balikpapan**	**7.66**	**262**	P	**Pn**	**23 47 35.8**	**+1.9**
	1.6nm541nm,0.8s						
PAGZ	**Pagadian**	**8.06**	**352**	*e*P	**Pn**	**23 47 38.8**	**-0.6**
FAKI	**Fak Fak**	**8.22**	**109**	Pn	**Pn**	**23 47 39.5**	**-2.1**
FAKI	**Fak Fak**	**8.22**	**109**	P	**Pn**	**23 47 39.7**	**-1.9**
	2μm153nm,0.5s						
MMRI	**Maumere**	**8.68**	**195**	Pn	**Pn**	**23 47 46.5**	**-1.4**
MMRI	**Maumere**	**8.68**	**195**	P	**Pn**	**23 47 48.3**	**+0.5**
	80nm,1.2s						
SPMM	**Sapulut**	**9.37**	**301**	P	**Pn**	**23 47 58.0**	**+0.6**
SOEI	**Soe**	**9.50**	**181**	Pn	**Pn**	**23 47 59.1**	**-0.1**
SOEI	**Soe**	**9.50**	**181**	P	**Pn**	**23 47 58.8**	**-0.4**
	1μm70nm,0.9s						
MWPI	**Manokwari, Pap**	**9.59**	**94**	P	**Pn**	**23 48 01.1**	**+0.9**
	950nm120nm,0.8s						
MTKI	**Muara Teweh, K**	**9.62**	**266**	P	**Pn**	**23 48 02.0**	**+1.4**
BATI	**Baumata**	**9.98**	**185**	P	**Pn**	**23 48 02.8**	**+2.5**
	1.8nm,0.3s,baz=52,slow=19,SNR=2.1						
BATI				LR	LR	23 52 10.7	
	comp=Z,803nm,21.5s,baz=359,slow=39						
BATI	**Baumata**	**9.98**	**185**	P	**Pn**	**23 48 08.2**	**+2.5**
	37nm,0.9s						
GLSP	**General Luna,**	**10.05**	**9**	*e*P	**Pn**	**23 48 11.0**	**+4.5**
CNOP	**Candoni, Negro**	**10.12**	**350**	*e*P	**Pn**	**23 48 08.5**	**+0.9**
BBKI	**Banjar Baru**	**10.17**	**251**	P	**Pn**	**23 48 09.4**	**+1.2**
	3μm52nm,0.6s						
SAUI	**Saumlaki**	**10.30**	**139**	Pn	**Pn**	**23 48 10.2**	**+0.3**
WBSI	**Waikabubak, Su**	**10.67**	**208**	P	**Pn**	**23 48 15.3**	**+0.3**
	45nm,1.0s						
BATP	**Bataraza**	**11.14**	**323**	*e*P	**Pn**	**23 48 25.9**	**+4.5**
TWSI	**Taliwang, Sumb**	**11.37**	**222**	P	**Pn**	**23 48 25.0**	**+0.4**
	24nm,1.0s						

BAKI	**Biak**	**11.66**	**95**	P		**Pn**	**23 48 30.4**	**+1.8**	
	49nm,1.2s								
KLNI	**Mataram**	**11.69**	**225**	P		**Pn**	**23 48 29.1**	**+0.1**	
	65nm,1.1s								
ENPP	**El Nido**	**12.39**	**336**	*e*P		**P**	**23 48 43.4**	**-4.5**	
SBUM	**Sibu**	**12.54**	**282**	P		**Pn**	**23 48 38.0**	**-2.5**	
STKI	**Sintang**	**13.01**	**271**	P		**Pn**	**23 48 48.1**	**+1.2**	
	43nm,0.8s								
PBKI	**Pangkalan Bun**	**13.05**	**259**	P		**Pn**	**23 48 48.8**	**+1.3**	
	25μm192nm,0.9s								
JAGI	**Jajag, Banyuwa**	**13.17**	**231**	Pn		**Pn**	**23 48 49.1**	**0.0**	
MTN	**Manton Dam**	**14.19**	**153**	Pn		**Pn**	**23 49 01.8**	**-0.9**	
TBJI	**Tambak Boyo**	**14.22**	**242**	P		**Pn**	**23 49 04.5**	**+1.5**	
	139nm,1.1s								
JCNP	**Jose Panganiba**	**14.50**	**353**	i*e*P		**P**	**23 49 11.5**	**+0.1**	
SJI	**Sawahan**	**14.72**	**239**	P		**P**	**23 49 12.6**	**-1.4**	
	5μm268nm,0.8s								
PWJI	**Pagerwojo**	**14.84**	**238**	P		**Pn**	**23 49 12.9**	**+1.9**	
	107nm,1.0s								
MACP	**Maragondon, Ca**	**14.84**	**346**	*e*P		**P**	**23 49 13.3**	**-1.8**	
SMRI	**Semarang**	**15.57**	**244**			**Pn**	**23 49 21.4**	**+0.9**	
SMRI				IAmb		IAmb	23 49 39.9		
	comp=Z,68nm,0.8s								
GENI	**Genyem**	**15.86**	**99**	P		**Pn**	**23 49 24.4**	**+0.3**	
	comp=Z,69nm,1.2s								
UGM	**Wanagama**	**15.89**	**241**	Pn		**Pn**	**23 49 23.7**	**-0.7**	
UGM	**Wanagama**	**15.89**	**241**	P		**P**	**23 49 26.4**	**-0.5**	
	comp=Z,104nm,1.1s								
SMPP	**San Manuel, Pa**	**16.67**	**347**	*e*P		**P**	**23 49 35.8**	**+0.3**	
CTJI	**Waduk Cacaban**	**16.69**	**246**	P		**P**	**23 49 36.6**	**+0.8**	
	comp=Z,33nm,1.0s								
TPI	**Tanjungpandan**	**17.01**	**261**	P		**P**	**23 49 44.6**	**+5.3**	
KPJI	**Karang Pucung**	**17.05**	**245**	P		**P**	**23 49 40.7**	**+1.0**	
	comp=Z,82nm,0.9s								
JCJI	**Jatiwangi**	**17.34**	**249**	P		**P**	**23 49 46.4**	**+3.4**	
SAMP	**Sagada Mountai**	**17.52**	**349**	*e*P		**P**	**23 49 46.8**	**+1.9**	
FITZ	**Fitzroy Crossi**	**17.83**	**176**	P		**P**	**23 49 47.6**	**-0.7**	
	comp=Z,0.8nm,0.3s,baz=19,slow=9.5,SNR=17								
FITZ	**Fitzroy Crossi**	**17.83**	**176**	P		**P**	**23 49 47.4**	**-0.9**	
LEM	**Lembang**	**18.07**	**248**	P		**Pn**	**23 49 52.6**	**+1.1**	
	comp=Z,3.0nm,0.3s,baz=329,slow=19,SNR=14								
LEM	**Lembang**	**18.07**	**248**	P		**Pn**	**23 49 53.4**	**+1.8**	
	comp=Z,60nm,0.9s								
SZP	**Santa**	**18.07**	**348**	P		**Pn**	**23 49 51.3**	**-0.1**	
SZP				IAmb		IAmb	23 49 55.8		
	comp=Z,88nm,0.7s								
CISI	**Cisompet, Garu**	**18.16**	**246**	P		**P**	**23 49 52.1**	**+0.1**	
CISI	**Cisompet, Garu**	**18.16**	**246**	P		**Pn**	**23 49 54.6**	**+2.1**	
	comp=Z,58nm,0.9s								
APYP	**Conner**	**18.22**	**350**	*e*P		**Pn**	**23 49 54.4**	**+1.2**	
PPBI	**Pangkal Pinang**	**18.45**	**264**	P		**Pn**	**23 49 57.1**	**+1.1**	
	comp=Z,13μmcomp=Z,25nm,0.5s								
CBJI	**Citeko**	**18.65**	**250**	P		**P**	**23 49 59.1**	**+0.7**	
	comp=Z,184nm,0.7s								
DBJI	**Dramaga**	**18.79**	**250**	P		**Pn**	**23 50 01.5**	**+1.4**	
	comp=Z,47nm,0.8s								
BLSI	**Bandar Lampung**	**19.88**	**255**	P		**Pn**	**23 50 13.6**	**+0.6**	
	comp=Z,128nm,0.4s								
DSRI	**Dabo**	**19.91**	**269**	P		**Pn**	**23 50 13.4**	**+0.1**	
	comp=Z,8μmcomp=Z,66nm,0.8s								
KASI	**Kota Agung**	**20.64**	**255**	P		Pn	23 50 21.9	-0.1	
	comp=Z,53nm,0.9s								
MDSI	**Maura Dua**	**20.73**	**258**	P		Pn	23 50 22.2	-0.7	
	comp=Z,17nm,1.1s								
BTDF	**Bukit Timah Da**	**20.77**	**274**	P		**P**	**23 50 21.8**	**+1.4**	
	comp=Z,59nm,0.9s								
LWLI	**Liwa**	**20.95**	**256**	P		Pn	23 50 24.8

MORW IAmb IAmb 23 52 29.8
comp=Z,94nm,2.0s
UMPA Umpang Tak 30.08 304 P **P** **23 51 49.1 +1.2**
comp=Z,197nmcomp=Z,4.7nm,0.9s
FORT Forrest 30.61 174 P **P** **23 51 51.8 -0.6**
FORT IAmb IAmb 23 52 18.8
comp=Z,22nm,0.8s
CM36 Chiang Mai Arr 31.11 308 P **P** **23 51 58.0 +1.0**
CM04 Chiang Mai Arr 31.14 308 P **P** **23 51 58.9 +1.6**
comp=Z,98nmcomp=Z,15nm,0.8s
CM09 Chiang Mai Arr 31.15 308 P **P** **23 51 59.1 +1.7**
comp=Z,13nm,0.9s
CM35 Chiang Mai Arr 31.15 308 P **P** **23 51 58.0 +0.6**
CM01 Chiang Mai Arr 31.16 308 P **P** **23 51 59.0 +1.5**
comp=Z,111nmcomp=Z,15nm,0.8s
CM05 Chiang Mai Arr 31.16 308 P **P** **23 51 58.8 +1.3**
comp=Z,88nmcomp=Z,12nm,0.8s
CM02 Chiang Mai Arr 31.18 308 P **P** **23 51 59.2 +1.5**
comp=Z,100nmcomp=Z,14nm,0.8s
CM31 Chiang Mai Arr 31.20 308 P **P** **23 51 58.3 +0.5**
CMAR Chiang Mai Arr 31.20 308 P **P** **23 51 57.8 0.0**
comp=Z,7.4nm,0.7s,baz=137,slow=7.6,SNR=40
CMAR PcP **PcP** **23 54 53.1 +1.8**
comp=Z,4.1nm,0.4s,baz=174,slow=1.9,SNR=20
CMAR LR LR 00 04 48.8
comp=Z,153nm,21.4s,baz=186,slow=37
CMAR Chiang Mai Arr 31.20 308 *i* P **P** **23 51 59.2 +1.4**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 31.20 308 P **P** **23 51 58.1 +0.3**
CMAR PcP **PcP** **23 54 52.8 +1.5**
CM13 Chiang Mai Arr 31.21 308 P **P** **23 51 59.2 +1.3**
comp=Z,96nmcomp=Z,15nm,0.8s
CM15 Chiang Mai Arr 31.21 308 P **P** **23 51 59.0 +1.1**
CM34 Chiang Mai Arr 31.25 309 P **P** **23 51 59.0 +0.7**
CM32 Chiang Mai Arr 31.38 308 P **P** **23 52 00.0 +0.6**
CMMT Chiang Mai 31.39 308 P **P** **23 51 59.0 -0.5**
comp=Z,41nm,0.8s
CMMT Chiang Mai 31.39 308 P **P** **23 51 59.3 -0.2**
comp=Z,39nm,0.8s
CHTO Chiang Mai 31.39 308 **PcP** **23 54 52.7 +0.9**
CHTO Chiang Mai 31.39 308 P **P** **23 51 59.3 -0.2**
CHTO IAmb IAmb 23 52 01.7
comp=Z,29nm,0.8s
CHTO Chiang Mai 31.39 308 P **P** **23 52 00.3 +0.8**
comp=Z,23nm,0.8s
CM33 Chiang Mai Arr 31.39 308 P **P** **23 52 00.0 +0.5**
MHMT Maesarieng 31.85 306 P **P** **23 52 04.1 +0.5**
JSU Suzuyama 32.03 10 P **P** **23 52 05.1 +0.1**
JSU IAmb IAmb 23 52 06.6
comp=Z,33nm,0.8s
JCJ Chichijima 32.03 31 P **P** **23 52 05.7 +0.7**
WHN Wuhan 32.05 343 ⇓P **P** **23 52 04.1 -1.0**
NJ2 Nanjing 32.51 351 *e*P **P** **23 52 12.5 +3.4**
NJ2 pmax pmax
comp=Z,16nm,0.7s
NWAO Narrogin (SRO) 33.27 191 P **P** **23 52 15.9 +0.1**
NWAO pmax pmax
comp=Z,57nm,1.6s
NWAO Narrogin (SRO) 33.27 191 P **P** **23 52 15.9 +0.1**
NWAO IAmb IAmb 23 53 02.2
comp=Z,57nm,1.6s
ENH Enshi 33.49 336 P **P** **23 52 18.9 +1.1**
JNU Nakatsue 33.68 10 P **P** **23 52 19.6 +0.2**
JNU IAmb IAmb 23 52 21.2
comp=Z,34nm,0.9s
BBOO Buckleboo 34.23 163 P **P** **23 52 24.5 +0.4**
JMN Monobe 34.88 14 P **P** **23 52 30.9 +1.2**
STKA Stephens Creek 35.43 154 P **P** **23 52 35.4 +1.0**
comp=Z,2.3nm,0.5s,baz=326,slow=9.9,SNR=8.0
STKA LR LR 00 08 38.5
comp=Z,87nm,19.6s,baz=2.2,slow=39
STKA Stephens Creek 35.43 154 P **P** **23 52 35.4 +1.0**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 35.43 154 P **P** **23 52 35.4 +1.0**
JHS Saijyo 35.93 12 P **P** **23 52 39.5 +0.8**
JHJ Hachijo jima 2 36.13 22 LR LR 00 05 54.3
comp=Z,30nm,21.2s,baz=251,slow=34
CD2 Chengdu 36.66 329 P **P** **23 52 45.8 +0.7**
CD2 pmax pmax
comp=Z,30nm,1.0s
JWT Wachi 36.74 15 P **P** **23 52 46.4 +0.9**
JWT IAmb IAmb 23 52 47.6
comp=Z,22nm,0.6s
XAN Xi'an 37.05 338 P **P** **23 52 47.9 -0.4**
XAN pP pP 23 52 55.3 -9.2
XAN pmax pmax
comp=Z,11nm,0.8s
INU Inuyama 37.24 17 P **P** **23 52 50.5 +0.7**
INU IAmb IAmb 23 52 51.5
comp=Z,16nm,0.7s
JGF Kuroka 37.58 17 P **P** **23 52 53.1 +0.4**
KSAR Wonju Array Be 37.58 4 P **P** **23 52 53.9 +1.2**
KSAR 23 55 10.6
KSAR Wonju Array Be 37.58 4 P **P** **23 52 53.9 +1.2**
KSAR **PcP** **23 55 10.6 +1.3**
KSRS Korea Array 37.59 4 P **P** **23 52 53.5 +0.7**
comp=Z,6.4nm,0.8s,baz=182,slow=9.7,SNR=29
KSRS PcP **PcP** **23 55 10.7 +1.4**
comp=Z,2.4nm,0.7s,baz=177,slow=3.9,SNR=8.8
KSRS LR LR 00 09 01.7
comp=Z,24nm,21.3s,baz=196,slow=37
KSRS Korea Array 37.59 4 P **P** **23 52 53.5 +0.7**
KSRS 23 55 10.7
KS19 Wonju Array Si 37.64 4 P **P** **23 52 53.6 +0.4**
KS19 IAmb IAmb 23 53 40.2
comp=Z,44nm,1.5s
MAJO Matsushiro 38.71 18 P **P** **23 53 02.2 0.0**
MAJO pmax pmax
comp=Z,15nm,0.9s
MAJO Matsushiro 38.71 18 P **P** **23 53 02.2 0.0**
MAJO IAmb IAmb 23 53 05.7
comp=Z,15nm,0.8s
MAT Matsushiro 38.71 18 P **P** **23 53 01.8 -0.4**
MJAR Matsushiro Arr 38.71 18 P **P** **23 53 02.1 -0.1**
comp=Z,13nm,0.7s,baz=193,slow=8.8,SNR=34
MJAR LR LR 00 08 08.9
comp=Z,36nm,21.4s,baz=215,slow=35
MJAR Matsushiro Arr 38.71 18 P **P** **23 53 02.3 +0.1**
MJAR pmax pmax
comp=Z,11nm,0.7s
MJAR Matsushiro Arr 38.71 18 P **P** **23 53 02.2 +0.1**
MJAR IAmb IAmb 23 53 05.7
comp=Z,11nm,0.7s
BRDH Bariadhala 39.22 308 LR LR 00 11 09.7
comp=Z,89nm,18.4s,baz=128,slow=39
TIY Taiyuan 39.33 345 *e*P **P** **23 53 11.5 +4.1**
TIY Taiyuan 39.33 345 S **S** **23 59 04.3 +0.7**
TIY pmax pmax
comp=Z,76nm,4.3s
TIY L L
comp=Z,49nm,4.9s
TIY L L
comp=Z,78nm,4.1s
TIY L L
comp=Z,130nm,14.1s
ARMA Armidale 39.61 142 P **P** **23 53 11.7 +1.7**
JSD Sado 40.11 17 P **P** **23 53 14.4 +0.6**
SHL Shillong 40.58 312 P **P** **23 53 17.7 -0.4**
SHL pmax pmax
comp=Z,19nm,0.9s
SHL Shillong 40.58 312 P **P** **23 53 17.7 -0.4**
SHL IAmb IAmb 23 53 36.9
comp=Z,19nm,0.9s
BJT Baijiatuau 40.73 350 P **P** **23 53 18.6 -0.3**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJT Baijiatuau 40.73 350 P **P** **23 53 18.6 -0.3**
JMM Marumori 40.75 20 P **P** **23 53 19.7 +0.6**
BJI Beijing 40.76 350 P **P** **23 53 21.3 +2.2**
BJI pmax pmax
comp=Z,12nm,1.0s
LZH Lanzhou 40.88 334 ⇓P **P** **23 53 22.8 +2.3**
LZH pP pwP 23 53 42.5 +2.1
LZH sP sP 23 53 48.6 +4.0
LZH pmax pmax
comp=Z,39nm,1.1s
CAN Canberra 41.76 149 P **P** **23 53 28.6 +1.1**
CAN pmax pmax
comp=Z,30nm,0.8s
CAN Canberra 41.76 149 P **P** **23 53 28.6 +1.1**
CAN IAmb IAmb 23 53 45.1
comp=Z,30nm,0.8s
TOO Toolangi 41.95 155 P **P** **23 53 30.0 +1.0**
TOO pmax pmax
comp=Z,10.0nm,1.1s
TOO Toolangi 41.95 155 P **P** **23 53 30.0 +1.0**
HHC Hu-ho-hao-te 42.51 345 *e*P **P** **23 53 35.3 +1.7**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,70nm,5.6s
MSHR Mys Shultsa 43.00 7 *ce*P **P** **23 53 38.5 +1.1**
MSHR pmax pmax
comp=Z,26nm,1.0s
JTM Tenmabayashi 43.49 18 P **P** **23 53 42.1 +0.8**
JTM IAmb IAmb 23 53 43.8
comp=Z,41nm,1.2s
LSA Lhasa 43.51 316 P **P** **23 53 43.3 +1.0**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 43.51 316 P **P** **23 53 43.1 +0.8**
LSA pmax pmax
comp=Z,39nm,1.3s
LSA Lhasa 43.51 316 P **P** **23 53 43.1 +0.8**
LSA IAmb IAmb 23 53 45.3
comp=Z,39nm,1.3s
ODAN Odare 44.68 310 *e*P **P** **23 53 52.8 +1.4**
comp=Z,27nm,0.6s
TAPN Taplejung 44.69 311 *e*P **P** **23 53 51.3 -0.3**
comp=Z,19nm,0.5s
USA0B Ussuriysk Arra 44.70 8 P **P** **23 53 51.7 +0.7**
USA0B pmax pmax
comp=Z,17nm,0.7s
USA0B Ussuriysk Arra 44.70 8 P **P** **23 53 51.7 +0.7**
USA0B IAmb IAmb 23 53 53.6
comp=Z,17nm,0.7s
USRK Ussuriysk Ar. 44.70 8 P **P** **23 53 51.7 +0.7**
comp=Z,11nm,0.4s,baz=191,slow=6.3,SNR=35
USRK LR LR 00 12 41.9
comp=Z,16nm,20.7s,baz=163,slow=36
USRK Ussuriysk Ar. 44.70 8 P **P** **23 53 51.9 +0.9**
USRK Ussuriysk Ar. 44.70 8 P **P** **23 53 51.9 +0.9**
MDJ Mudanjiang 44.85 5 P **P** **23 53 53.0 +0.8**
MDJ Mudanjiang 44.85 5 pP pP 23 54 11.0 +2.4
MDJ Mudanjiang 44.85 5 PcS PcS 23 59 25.6 -0.8
MDJ pmax pmax
comp=Z,41nm,1.1s
MDJ pmax pmax
comp=Z,53nm,3.7s
MDJ L L
comp=Z,63nm,5.0s
MDJ L L
comp=Z,56nm,5.4s
MDJ L L
comp=Z,83nm,8.0s
MDJ Mudanjiang 44.85 5 P **P** **23 53 52.9 +0.8**
MDJ IAmb IAmb 23 53 54.0
comp=Z,27nm,0.7s
RAMN Ramite 45.33 310 *e*P **P** **23 53 57.5 +0.9**
comp=Z,57nm,0.6s
GTA Gaotai 45.42 333 ⇓P **P** **23 53 57.4 +0.4**
GTA pP pP 23 54 07.8 -5.6
GTA sP pwP 23 54 12.1 -5.8
GTA PcP **PcP** **23 55 36.3 +1.1**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,66nm,4.4s
GTA L L
comp=Z,65nm,15.3s
GTA L L
comp=Z,81nm,15.3s
GTA L L
comp=Z,110nm,17.4s
DZM Mont Dzumac 46.29 121 LR LR 00 13 15.0
comp=Z,122nm,18.6s,baz=255,slow=36
TEY Ternei 46.30 12 ⇓*e*P **P** **23 54 04.6 +1.0**
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.8s
TEY pmax pmax
comp=Z,20nm,0.9s
GUN Gumba 46.37 310 *e*P **P** **23 54 04.9 0.0**
comp=Z,82nm,0.6s
PKI Pulchoki 46.56 310 *e*P **P** **23 54 05.9 -0.5**
comp=Z,14nm,0.5s
PKIN Phulchoki 46.57 310 *e*P **P** **23 54 06.0 -0.4**
comp=Z,13nm,0.5s
KKN Kakani 46.77 310 *e*P **P** **23 54 07.6 -0.3**
comp=Z,18nm,0.5s
DMN Daman 46.81 309 *e*P **P** **23 54 08.2 -0.1**
comp=Z,28nm,0.7s
ASAJ Asahikawa 46.98 18 P **P** **23 54 10.4 +1.4**
ASAJ pmax pmax
comp=Z,9.0nm,0.9s
JKA Kamikawa-asahi 46.98 18 P **P** **23 54 10.4 +1.4**
GKN Gorkha 47.37 310 *e*P **P** **23 54 12.2 -0.3**
comp=Z,34nm,0.6s
KOLN Koldanda 48.06 309 *e*P **P** **23 54 17.5 -0.4**
comp=Z,59nm,0.7s
DANN Dangsing 48.21 310 *e*P **P** **23 54 18.9 -0.3**
comp=Z,73nm,0.5s
HYB Hyderabad 48.47 294 *i* P **P** **23 54 20.0 -1.0**
PYUN Piuthan 48.69 309 *e*P **P** **23 54 23.0 +0.3**
comp=Z,91nm,0.5s
HIA Hailar 49.44 356 P **P** **23 54 28.3 +0.4**
HIA pmax pmax
comp=Z,22nm,0.7s
HIA Hailar 49.44 356 P **P** **23 54 28.3 +0.4**
YSS Yuzh-Sakhalins 49.60 16 *e*P **P** **23 54 30.5 +1.4**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS Yuzh-Sakhalins 49.60 16 P **P** **23 54 29.7 +0.6**
YSS IAmb IAmb 23 54 50.0
comp=Z,9.2nm,0.5s
KLR Kul'dur 49.63 6 *ce*P **P** **23 54 29.7 +0.4**
KLR pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 50.21 345 P **P** **23 54 33.6 -0.3**
ULN pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 50.21 345 P **P** **23 54 33.6 -0.3**
ULN IAmb IAmb 23 54 36.6
comp=Z,14nm,0.8s
SONM Songino Array 50.36 344 P **P** **23 54 34.4 -0.6**
comp=Z,18nm,0.9s,baz=158,slow=8.7,SNR=50
SONM ScP **ScP** **23 59 45.1 +2.4**
comp=Z,0.5nm,0.7s,baz=151,slow=3.3,SNR=3.1
SONM LR LR 00 16 56.0
comp=Z,47nm,21.2s,baz=138,slow=37
SONM Songino Array 50.36 344 P **P** **23 54 34.6 -0.4**
SONM pmax pmax
comp=Z,19nm,0.9s
SONM Songino Array 50.36 344 P **P** **23 54 34.6 -0.4**
SONM IAmb IAmb 23 54 37.5
comp=Z,19nm,0.9s
ZAK Zakamensk 53.54 343 *e*P **P** **23 54 57.0 -1.6**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ZEA Zeya 53.80 2 *e*P **P** **23 55 00.6 +0.4**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 54.60 344 *e*P **P** **23 55 06.9 +0.7**
TLY pmax pmax
comp=Z,31nm,0.8s
TLY Talaya 54.60 344 P **P** **23 55 06.2 0.0**
TLY IAmb IAmb 23 55 09.4
comp=Z,14nm,0.7s
WMQ Urumqi 54.73 328 *e*P **P** **23 55 08.3 +0.9**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,76nm,3.8s
MOY Mondy 55.35 342 *e*P **P** **23 55 11.8 +0.1**
MOY pmax pmax
comp=Z,4.0nm,0.9s
BOD Bodaibo 58.44 353 *e*P **P** **23 55 35.9 +2.6**
BOD pmax pmax
comp=Z,44nm,0.8s
NIL Nilore 58.64 310 P **P** **23 55 34.2 -1.0**
NIL pmax pmax
comp=Z,12nm,0.5s
NIL Nilore 58.64 310 P **P** **23 55 34.2 -1.0**
ZSN Zaisan 58.64 330 *e*P **P** **23 55 32.3 -2.7**
baz=330
ZSN Zaisan 58.64 330 *e*P **P** **23 55 32.2 -2.7**
DGZ Jazzator, Alta 58.96 333 *e*P **P** **23 55 36.8 -0.5**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
PDGK Podgornoye 59.09 323 *i* P **P** **23 55 37.7 -0.5**
PDGK pmax pmax
comp=Z,26nm,0.8s
TARG Taragay, Kyrgy 59.25 321 P **P** **23 55 39.8 +0.1**
TARG IAmb IAmb 23 55 50.4
comp=Z,15nm,0.8s
UZB Uzynbulak 59.27 323 *e*P **P** **23 55 38.3 -1.3**
comp=Z,9.2nm,0.9s,baz=323
UZB Uzynbulak 59.27 323 *e*P **P** **23 55 38.2 -1.3**
UZB pmax pmax
comp=Z,9.0nm,0.9s
PRZ Przheval'sk 59.28 322 P **P** **23 55 40.0 +0.3**
PRZ pmax pmax
comp=Z,31nm,0.9s
PRZ Przheval'sk 59.28 322 P **P** **23 55 40.0 +0.3**
KSH Kashi 59.31 318 P **P** **23 55 42.0 +2.1**
KSH pmax pmax
comp=Z,13nm,0.7s
KSH pmax pmax
comp=Z,110nm,4.8s
MK31 Makanchi Array 59.56 328 *i* P **P** **23 55 40.0 -1.3**
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 59.56 328 P **P** **23 55 40.8 -0.5**
MK31 IAmb IAmb 23 55 42.9
comp=Z,9.6nm,0.8s
MKAR Makanchi Array 59.56 328 P **P** **23 55 40.6 -0.7**
comp=Z,9.6nm,0.6s,baz=125,slow=8.3,SNR=68
MKAR PcP **PcP** **23 56 27.9 -0.1**
comp=Z,5.1nm,0.7s,baz=124,slow=3.9,SNR=6.7
MKAR ScP **ScP** **00 00 25.7 +2.8**
comp=Z,1.3nm,1.0s,baz=136,slow=3.4,SNR=4.4
MKAR LR LR 00 23 33.3
comp=Z,35nm,20.4s,baz=122,slow=38
MKAR Makanchi Array 59.56 328 *ce*P **P** **23 55 40.5 -0.8**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 59.56 328 P **P** **23 55 40.8 -0.6**
SATY Saty 59.59 322 *e*P **P** **23 55 41.1 -0.7**
comp=Z,18nm,0.8s,baz=322
SATY Saty 59.59 322 *e*P **P** **23 55 41.0 -0.7**
SATY pmax pmax
comp=Z,18nm,0.8s
KPKS Kokpek 59.65 323 *e*P **P** **23 55 40.7 -1.4**
comp=Z,21nm,0.8s,baz=323
KPKS Kokpek 59.65 323 *e*P **P** **23 55 40.7 -1.4**
KPKS pmax pmax
comp=Z,21nm,0.8s
MAKZ Makanchi 59.74 327 P **P** **23 55 41.8 -0.8**
MAKZ pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 59.74 327 P **P** **23 55 41.8 -0.8**
MAKZ IAmb IAmb 23 55 44.0
comp=Z,11nm,0.7s
KDJ Kajisay 59.85 321 P **P** **23 55 43.5 -0.1**
KDJ pmax pmax
comp=Z,25nm,0.9s
KDJ Kajisay 59.85 321 P **P** **23 55 43.5 -0.1**
PEA0B Petropavlovsk- 59.89 22 P **P** **23 55 43.2 -0.2**
PEA0B pmax pmax
comp=Z,98nm,2.0s
PEA0B Petropavlovsk- 59.89 22 P **P** **23 55 43.2 -0.2**
PETK Petropavlovsk- 59.89 22 P **P** **23 55 45.1 +1.7**
comp=Z,13nm,0.7s,baz=198,slow=4.1,SNR=15
PETK Petropavlovsk- 59.89 22 P **P** **23 55 45.1 +1.7**
PETK Petropavlovsk- 59.89 22 P **P** **23 55 43.5 +0.2**
PET Petropavlovsk 60.19 23 *ce*P **P** **23 55 46.4 +1.0**
PET pmax pmax
comp=Z,19nm,1.7s
MDOK Medeo 60.48 322 *e*P **P** **23 55 47.2 -0.7**
baz=322
MDOK Medeo 60.48 322 *e*P **P** **23 55 47.1 -0.7**
ULHL Ulahol 60.51 320 P **P** **23 55 45.3 -2.8**
SNR=8.1
AAA Alma-Ata 60.59 322 *e*P **P** **23 55 48.3 -0.3**
baz=322
AAA Alma-Ata 60.59 322 *e*P **P** **23 55 48.2 -0.3**
TUWZ Tuamarina 60.60 139 P **P** **23 55 48.1 -0.4**
TDK Taldyqorghan 60.67 324 *e*P **P** **23 55 48.2 -0.7**
comp=Z,20nm,0.5s,baz=324
TDK Taldyqorghan 60.67 324 *e*P **P** **23 55 48.2 -0.7**
TDK pmax pmax
comp=Z,20nm,0.5s
BOOM Boomskoye usch 60.83 321 P **P** **23 55 50.8 +0.5**
BOOM pmax pmax
comp=Z,18nm,1.1s
BOOM Boomskoye usch 60.83 321 P **P** **23 55 50.8 +0.5**
BOOM IAmb IAmb 23 55 52.6
comp=Z,18nm,1.1s
MTBS Maitube 60.85 321 *e*P **P** **23 55 48.9 -1.4**
baz=322
MTBS Maitube 60.85 321 *e*P **P** **23 55 48.8 -1.4**
CHKK Chushkaly 60.89 322 *e*P **P** **23 55 49.0 -1.5**
baz=322
CHKK Chushkaly 60.89 322 *e*P **P** **23 55 48.9 -1.5**
TKM2 Tokmak 2 61.27 321 P **P** **23 55 52.9 -0.4**
SNR=24
TKM2 Tokmak 2 61.27 321 *i* P **P** **23 55 51.7 -1.6**
TKM2 pmax pmax
comp=Z,18nm,0.8s
BKZ Black Stump Fm 61.27 136 P **P** **23 55 54.1 +1.0**
KUU Kurty 61.31 322 ⇑*i* P **P** **23 55 52.2 -1.2**
comp=Z,32nm,0.7s,baz=322
KUU Kurty 61.31 322 *c i* P **P** **23 55 52.1 -1.2**
KUU pmax pmax
comp=Z,32nm,0.7s
URZ Urewera 61.32 135 P **P** **23 55 53.6 +0.2**
KBK Karagaybulak 61.54 320 P **P** **23 55 55.9 +0.8**
SNR=12
FRU1 Bishkek 61.82 320 P **P** **23 55 57.1 +0.3**
FRU1 pmax pmax
comp=Z,10.0nm,1.0s
FRU1 Bishkek 61.82 320 P **P** **23 55 57.1 +0.3**
FRU1 IAmb IAmb 23 56 10.0
comp=Z,9.9nm,1.0s
AAK Ala-Archa 61.83 320 *ce*P **P** **23 55 56.8 -0.2**
AAK pmax pmax
comp=Z,70nm,1.7s
AAK Ala-Archa 61.83 320 P **P** **23 55 56.5 -0.4**
AAK IAmb IAmb 23 55 59.6
comp=Z,10nm,0.8s
AML Almayashu 62.09 319 P **P** **23 55 59.2 +0.1**
SNR=16
USP Ospenovka 62.13 321 P **P** **23 55 58.3 -0.6**
SNR=29
SGDS Sogindy 62.14 321 *e*P **P** **23 55 57.7 -1.3**
comp=Z,4.2nm,0.7s,baz=321
SGDS Sogindy 62.14 321 *e*P **P** **23 55 57.6 -1.3**
SGDS pmax pmax
comp=Z,4.0nm,0.7s
ARSB Arslanbob 62.18 318 P **P** **23 55 58.4 -1.0**
ARSB pmax pmax
comp=Z,13nm,0.8s
ARSB Arslanbob 62.18 318 P **P** **23 55 58.4 -1.0**
ARSB IAmb IAmb 23 56 01.5
comp=Z,13nm,0.8s
YAK Yakutsk 62.19 3 *c i* P **P** **23 55 59.1 +0.3**
YAK *e**PP **pP** **23 56 10.3 -5.7**
YAK *e* 23 56 38.7
YAK *e* 23 58 16.1
YAK *e*S **S** **00 04 18.0 -0.8**
YAK *e**SS **sS** **00 04 45.6 -4.7**
YAK *e* 00 05 44.9
YAK pmax pmax
comp=Z,53nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,114nm,4.3s
YAK pmax pmax
comp=E,44nm,4.8s
YAK pmax pmax
comp=N,18nm,3.7s
YAK smax smax
comp=E,36nm,2.8s
YAK smax smax
comp=N,17nm,1.8s
YAK Yakutsk 62.19 3 P **P** **23 55 59.2 +0.5**
KBL Kabul 62.20 310 P **P** **23 55 58.5 -1.2**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 62.20 310 P **P** **23 55 58.5 -1.2**
KBL IAmb IAmb 23 55 59.2

comp=Z,12nm,0.8s
EKS2 Erkin-Say 62.30 320 P P 23 55 60.0 -0.1
SNR=6.5
SEM Semipalatinsk 62.88 330 eP P 23 56 01.6 -2.3
baz=330
SEM Semipalatinsk 62.88 330 eP P 23 56 01.6 -2.3
GAR Garm 62.99 315 P P 23 56 04.1 -0.7
GAR IAmb IAmb 23 56 06.2
comp=Z,18nm,0.7s
MA2 Magadan 63.04 15 P P 23 56 05.2 +0.7
MA2 pmax pmax
comp=Z,149nm,1.9s
MA2 Magadan 63.04 15 P P 23 56 05.2 +0.7
BTK Batken 63.09 316 P P 23 56 04.5 -0.9
BTK pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 63.09 316 P P 23 56 04.5 -0.9
ZAA0 Zalesovo Array 63.11 335 P P 23 56 03.5 -1.5
ZALV Zalesovo Beam 63.11 335 P P 23 56 03.4 -1.7
comp=Z,3.7nm,0.4s,baz=128,slow=5.5,SNR=16
ZALV LR LR 00 25 52.4
comp=Z,29nm,19.0s,baz=134,slow=38
ZALV Zalesovo Beam 63.11 335 P P 23 56 03.4 -1.7
BTLS Baital 63.31 322 eP P 23 56 03.6 -3.0
baz=322
BTLS Baital 63.31 322 eP P 23 56 03.6 -3.0
CHGR Chuyangaron 63.68 314 P P 23 56 07.8 -1.5
KK31 Karatay Array 64.63 319 P P 23 56 14.3 -1.0
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 64.63 319 P P 23 56 14.3 -1.0
KKAR Karatay Array 64.63 319 P P 23 56 14.3 -1.0
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 64.63 319 P P 23 56 14.5 -0.8
KKAR Karatay Array 64.63 319 P P 23 56 14.3 -1.0
KKAR IAmb IAmb 23 56 17.1
comp=Z,4.8nm,0.8s
BRZS Berezniki 66.63 326 eP P 23 56 26.8 -1.3
comp=Z,5.9nm,0.7s,baz=327
BRZS Berezniki 66.63 326 eP P 23 56 26.8 -1.3
BRZS pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 69.49 328 ceP P 23 56 45.0 -0.9
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 69.49 328 P P 23 56 44.8 -1.1
BRVK IAmb IAmb 23 56 47.9
comp=Z,19nm,1.1s
GEYT Alibeck 71.64 310 P P 23 56 58.4 -1.0
comp=Z,4.0nm,0.8s,baz=168,slow=7.6,SNR=7.4
GEYT LR LR 00 31 15.0
comp=Z,26nm,21.6s,baz=120,slow=38
GYA0B ALIBECK ARRAY 71.64 310 P P 23 56 57.7 -1.7
TIXI Tiksi 71.78 1 P P 23 56 58.7 -0.7
comp=Z,12nm,0.7s,baz=148,slow=5.8,SNR=17
TIXI Tiksi 71.78 1 ceP P 23 56 59.4 -0.1
TIXI Tiksi 71.78 1 P P 23 56 58.8 -0.7
TIXI IAmb IAmb 23 57 04.8
comp=Z,13nm,0.7s
ATKA Atka Island 72.98 34 P P 23 57 08.6 +1.6
NRIK Noril'sk 73.70 347 P P 23 57 10.9 0.0
comp=Z,8.6nm,0.6s,baz=131,slow=6.0,SNR=16
NRIK Noril'sk 73.70 347 ceP P 23 57 10.7 -0.2
NRIK pmax pmax
comp=Z,12nm,0.7s
NRIK Noril'sk 73.70 347 P P 23 57 10.9 0.0
NRIK IAmb IAmb 23 57 14.5
comp=Z,11nm,0.7s
AB31 Akbulak array 73.79 322 eP P 23 57 09.8 -2.0
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 73.79 322 P P 23 57 10.6 -1.2
ABKAR Akbulak array 73.79 322 P P 23 57 10.6 -1.2
BILL Bilibino 73.90 15 eP P 23 57 14.4 +2.3
BILL pmax pmax
comp=Z,3.0nm,1.1s
SVE Sverdlovsk 76.14 329 eP P 23 57 24.7 -0.5
SVE pmax pmax
comp=Z,28nm,1.1s
ARU Arti 77.06 329 P P 23 57 28.8 -1.6
comp=Z,3.8nm,0.7s,baz=118,slow=4.9,SNR=16
ARU Arti 77.06 329 d iP P 23 57 28.7 -1.7
ARU *PP **pP 23 57 46.9 -1.3**
ARU 00 00 19.3
ARU S **S 00 07 13.8 +0.2**
ARU SS **SS 00 12 06.5 -5.6**
ARU pmax pmax
comp=Z,22nm,1.1s
ARU Arti 77.06 329 P P 23 57 29.0 -1.4
ARU IAmb IAmb 23 57 32.7
comp=Z,16nm,0.9s
ABPO Ambohimpanom 77.89 251 P P 23 57 36.5 +0.4
ABPO pmax pmax
comp=Z,17nm,1.0s
ABPO Ambohimpanom 77.89 251 P P 23 57 36.5 +0.4
ABPO IAmb IAmb 23 57 37.1
comp=Z,18nm,0.9s
AKUT Akutan 78.40 34 P P 23 57 39.4 +1.5
VOI Vohitsoka 78.51 248 P P 23 57 39.3 -0.1
VOI IAmb IAmb 23 57 40.6
comp=Z,29nm,0.9s
MAW Mawson 79.32 200 P P 23 57 43.0 +0.4
comp=Z,2.3nm,0.7s,baz=44,slow=12,SNR=4.1
MAW Mawson 79.32 200 P P 23 57 43.1 +0.4
VNDA Vanda 79.85 172 P P 23 57 46.3 +0.9
comp=Z,3.3nm,0.8s,baz=313,slow=6.5,SNR=24
VNDA Vanda 79.85 172 P P 23 57 46.3 +0.9
VNDA Vanda 79.85 172 P P 23 57 46.2 +0.8
RAYN Ar Rayn 79.97 294 P P 23 57 45.7 -1.5
RAYN pmax pmax
comp=Z,10.0nm,1.3s
RAYN Ar Rayn 79.97 294 P P 23 57 45.7 -1.5
SBA Scott Base 80.79 172 P P 23 57 52.5 +2.0
SBA pmax pmax
comp=Z,11nm,1.4s
SBA Scott Base 80.79 172 P P 23 57 52.5 +2.0
SDPT Sand Point 81.68 34 P P 23 57 56.8 +1.2
SDPT Sand Point 81.68 34 P 23 57 57.0
baz=258
GROC Groznyy 81.89 314 eP P 23 57 56.4 -0.5
GROC e*PP **pP 23 58 16.2 +1.4**
GROC pmax pmax
comp=Z,10.0nm,0.6s
BELG Belogornoye 82.14 323 P P 23 57 56.8 -1.2
comp=Z,21nm,0.8s,baz=12,slow=1.0,SNR=8.3
BELG Belogornoye 82.14 323 P P 23 57 56.8 -1.2
KIRV Kirov 82.41 329 P P 23 57 58.5 -0.8
comp=Z,15nm,0.5s,baz=90,slow=1.4,SNR=7.7
KIRV Kirov 82.41 329 ceP P 23 57 58.4 -0.8
ZEI Tsey 83.21 313 eP P 23 57 59.9 -4.2
ZEI pmax pmax
comp=Z,20nm,1.4s
GEVA Gevas 83.38 308 P P 23 58 05.1 +0.1
GEVA IAmb IAmb 23 58 07.0
comp=Z,19nm,0.7s
ONI Oni 83.52 313 P P 23 58 05.5 0.0
ONI Oni 83.52 313 P P 23 58 05.5 0.0
KARS Kars 83.59 311 P P 23 58 06.0 -0.1
KARS pmax pmax
comp=Z,26nm,0.7s
KARS Kars 83.59 311 P P 23 58 06.0 -0.1
RDOG Red Dog Mine 83.73 21 P 23 58 09.3
baz=254
KBZ Khabaz 84.04 314 P P 23 58 07.1 -0.9
comp=Z,4.5nm,0.8s,baz=96,slow=4.8,SNR=13
KBZ Khabaz 84.04 314 ceP P 23 58 07.7 -0.3
KBZ pmax pmax
comp=Z,6.0nm,0.9s
GURO Guroymak-BITLI 84.21 309 P P 23 58 08.9 -0.3
GURO IAmb IAmb 23 58 11.7
comp=Z,11nm,0.8s
KIV Kislovodsk 84.22 314 eP P 23 58 08.8 -0.3
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,55nm,20.0s
KIV Kislovodsk 84.22 314 P P 23 58 08.8 -0.3
PRGR Permogore 84.87 332 eP P 23 58 10.6 -1.2
SVW2 Sparrevohn 85.30 29 P P 23 58 15.8 +1.8
SII Sitkinak Islan 85.37 33 P 23 58 16.7
baz=263
SII Sitkinak Islan 85.38 33 P P 23 58 16.9 +2.4
TTA Tatalina 85.39 27 P P 23 58 16.1 +1.6
TTA pmax pmax
comp=Z,5.0nm,0.8s
TTA Tatalina 85.39 27 P P 23 58 16.1 +1.6
TTA Tatalina 85.39 27 P 23 58 16.4
baz=261,SNR=9.6
KOPT Kop Dagi 85.51 310 P P 23 58 17.0 +1.1
KOPT IAmb IAmb 23 58 21.4
comp=Z,11nm,0.8s
VRH Novokhopyorsk 85.60 321 eP P 23 58 14.1 -1.6
VRH pmax pmax
comp=Z,30nm,1.4s
OHAK Old Harbor 85.94 33 P 23 58 19.3
baz=263
KDAK Kodiak Island 86.38 32 P P 23 58 20.9 +1.5
comp=Z,6.5nm,0.6s,baz=267,slow=4.5,SNR=11
KDAK Kodiak Island 86.38 32 P P 23 58 21.1 +1.7
KDAK pmax pmax
comp=Z,65nm,1.8s
KDAK Kodiak Island 86.38 32 P P 23 58 21.1 +1.7
KDAK Kodiak Island 86.38 32 P 23 58 21.5
baz=264
RSO Redoubt South 86.59 30 P P 23 58 21.4 +0.7
A21K Barrow 86.63 18 P P 23 58 21.5 +1.2
A21K Barrow 86.63 18 P 23 58 22.3
baz=259
IMAR Indian Mountai 86.82 24 P P 23 58 22.8 +1.4
VORD Divnogorie 87.11 321 eP P 23 58 22.1 -1.0
VORD pmax pmax
comp=Z,10.0nm,0.4s
PPLA Purkeypile 87.12 27 P P 23 58 23.9 +0.8
PPLA IAmb IAmb 23 58 25.0
comp=Z,22nm,1.7s
PPLA Purkeypile 87.12 27 P 23 58 25.0
baz=264
H21K Melozitna Rive 87.16 24 P 23 58 24.5
baz=263,SNR=5.5
VSR Storozhevoye 87.21 321 eP P 23 58 20.9 -2.7
VSR pmax pmax
comp=Z,20nm,1.1s
KMBO Kilima Mbogo 87.23 269 P P 23 58 25.4 +0.7
comp=Z,4.5nm,0.9s,baz=80,slow=9.3,SNR=6.8
KMBO Kilima Mbogo 87.23 269 P P 23 58 25.5 +0.7
SKT Skwentna 87.33 28 P P 23 58 24.0 0.0
SKT IAmb IAmb 23 58 24.8
comp=Z,8.6nm,1.1s
SKT Skwentna 87.33 28 P 23 58 23.6
baz=265,SNR=5.4
LPSR Galich'ya Gora 87.44 323 eP P 23 58 23.7 -1.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
I21K Tanana 87.45 25 P 23 58 26.1
baz=264
BRLK Bradley Lake 87.45 30 P P 23 58 25.1 +0.4
BRLK IAmb IAmb 23 58 25.9
comp=Z,13nm,0.8s
BRSE Bradley Lake S 87.52 30 P 23 58 25.8
baz=265
SUA Susitna One 87.66 29 P 23 58 26.0
baz=265,SNR=5.9
KLMR Klimovskoe 87.70 331 eP P 23 58 23.3 -2.4
KLMR pmax pmax
comp=Z,11nm,0.6s
KLMR Klimovskoe 87.70 331 eP P 23 58 23.4 -2.3
KLMR AMP 23 58 29.4
comp=Z,11nm,0.6s
KTH Kantishna Hill 87.75 26 P P 23 58 24.3 -1.7
KTH IAmb IAmb 23 58 27.3
comp=Z,28nm,1.7s
BPAW Bear Paw Mtn. 87.77 26 P P 23 58 26.6 +0.5
BPAW IAmb IAmb 23 58 29.0
comp=Z,22nm,1.9s
BPAW Bear Paw Mtn. 87.77 26 P 23 58 26.7
baz=265
GAZ Gaziantep 87.94 307 P P 23 58 26.1 -1.4
GAZ IAmb IAmb 23 58 28.6
comp=Z,11nm,0.7s
MLY Manley 87.96 25 P P 23 58 28.0 +1.1
MLY IAmb IAmb 23 58 29.0
comp=Z,6.9nm,0.8s
MLY Manley 87.96 25 P 23 58 28.2
baz=265,SNR=12
RC01 Rabbit Creek A 88.12 29 P 23 58 28.4
baz=266
SEW Seward 88.20 30 P P 23 58 28.6 +0.5
SEW IAmb IAmb 23 58 29.6
comp=Z,8.8nm,0.8s
SEW Seward 88.20 30 P 23 58 29.1
baz=266
COLD Coldfoot 88.36 23 P P 23 58 30.1 +1.4
COLD IAmb IAmb 23 58 31.4
comp=Z,10.0nm,0.8s
COLD Coldfoot 88.36 23 P 23 58 30.6
baz=266
MOS Moscow 88.38 326 eP P 23 58 27.3 -1.8
H23K Yukon River 88.52 24 P 23 58 31.1
baz=266,SNR=6.9
GHO Glory Hole Cre 88.55 28 P P 23 58 31.0 +1.2
GHO IAmb IAmb 23 58 35.2
comp=Z,23nm,1.8s
I23K Minto, Yukon-K 88.55 25 P P 23 58 30.9 +1.3
I23K IAmb IAmb 23 58 31.9
comp=Z,9.9nm,0.8s
I23K Minto, Yukon-K 88.55 25 P 23 58 31.0
baz=266,SNR=10
NEA2 Nenana 88.64 26 P 23 58 30.9
baz=267
NEA2 Nenana 88.64 26 P P 23 58 30.7 +0.5
MCK McKinley 88.65 26 P P 23 58 30.7 +0.5
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 88.65 26 P P 23 58 30.7 +0.5
MCK IAmb IAmb 23 58 31.5
comp=Z,8.2nm,1.0s
MCK McKinley 88.65 26 P 23 58 30.9
baz=267
TOLK Toolik Lake Re 88.69 21 P 23 58 32.2
baz=266
KNK Knik Glacier 88.75 29 P 23 58 32.0
baz=267,SNR=5.9
WAT2 Susitna Watana 88.77 27 P 23 58 31.1
baz=267,SNR=5.7
PWL Port Wells 88.79 29 P P 23 58 31.5 +0.6
PWL IAmb IAmb 23 58 32.5
comp=Z,5.8nm,0.8s
SML Sawmill 88.83 28 P 23 58 32.1
baz=268,SNR=7.0
OBN Obninsk 88.96 325 ceP P 23 58 31.4 -0.4
OBN pmax pmax
comp=Z,10.0nm,0.5s
MDM Murphy Dome 89.02 25 P P 23 58 32.5 +0.5
WRH Wood River Hil 89.06 26 P P 23 58 32.5 +0.4
WRH IAmb IAmb 23 58 33.1
comp=Z,6.5nm,0.9s
WAT6 Susitna Watana 89.14 28 P 23 58 33.4
baz=268,SNR=11
H24K Noodor Dome 89.20 24 P 23 58 34.4
baz=268,SNR=6.3
SCM Sheep Creek Mo 89.31 28 P P 23 58 34.1 +0.7
SCM pmax pmax
comp=Z,15nm,1.3s
SCM Sheep Creek Mo 89.31 28 P P 23 58 34.1 +0.7
SCM IAmb IAmb 23 58 35.3
comp=Z,15nm,1.3s
GLI Glacier Island 89.39 29 P P 23 58 34.7 +0.9
GLI IAmb IAmb 23 58 38.0
comp=Z,12nm,0.7s
HDA Harding Lake 89.55 26 P 23 58 33.9
baz=269,SNR=5.7
HDA P 23 58 33.9
baz=269,SNR=5.7
ILAR Eielson Array 89.59 25 P P 23 58 33.6 -1.0
comp=Z,1.0nm,0.6s,baz=241,slow=4.8,SNR=15
ILAR Eielson Array 89.59 25 P P 23 58 34.2 -0.4
ILAR Eielson Array 89.59 25 P P 23 58 34.2 -0.4
FID Port Fidalgo 89.69 29 P P 23 58 36.1 +0.9
FID IAmb IAmb 00 01 28.1
comp=Z,16nm,1.2s
QSPA South Pole Qui 89.74 180 P P 23 58 36.4 +1.0
QSPA IAmb IAmb 23 58 37.8
comp=Z,20nm,1.4s
M24K Tolsona, Glenn 89.86 28 P P 23 58 37.3 +1.3
M24K IAmb IAmb 23 58 38.4
comp=Z,14nm,0.9s
M24K Tolsona, Glenn 89.86 28 P 23 58 37.8
baz=269,SNR=5.1
KLU Klutina 89.97 29 P 23 58 38.0
baz=270
PAX Paxson 90.19 27 P 23 58 36.8
baz=270
BMAR Burnt Mountain 90.54 23 P P 23 58 41.0 +1.9
N25K Chitina, Valde 90.61 29 P P 23 58 41.0 +1.5
N25K IAmb IAmb 23 58 41.8
comp=Z,7.1nm,0.8s
N25K Chitina, Valde 90.61 29 P 23 58 41.1
baz=271,SNR=6.9
BMRM Bremner River 90.61 29 P P 23 58 40.0 +0.5
BMRM IAmb IAmb 23 58 41.6
comp=Z,5.5nm,0.8s
BMRM Bremner River 90.61 29 P 23 58 40.7
baz=271
BR131 Keskin Array S 90.77 310 P P 23 58 39.7 -1.1
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 90.77 310 P P 23 58 39.7 -1.1
BRTR Keskin Array B 90.77 310 P P 23 58 39.4 -1.4
comp=Z,2.1nm,0.8s,baz=130,slow=4.1,SNR=14
BRTR Keskin Array B 90.77 310 P P 23 58 39.5 -1.4
BRTR Keskin Array B 90.77 310 P P 23 58 39.5 -1.3
DOT Dot Lake 90.82 26 P P 23 58 41.0 +0.6
SCRK Sand Creek 90.85 26 P P 23 58 41.6 +1.0
SCRK Sand Creek 90.85 26 P 23 58 42.0
baz=271,SNR=5.2
VRDI Verde Repeater 91.17 29 P P 23 58 43.1 +0.9
VRDI IAmb IAmb 23 58 44.2
comp=Z,4.3nm,0.6s
CRQE Cirque 91.36 29 P 23 58 44.0
baz=272
TGL Tana Glacier 91.49 29 P P 23 58 44.6 +1.0
TGL IAmb IAmb 23 58 45.9
comp=Z,7.6nm,0.6s
K27K Chicken 91.69 26 P P 23 58 46.2 +1.9
K27K Chicken 91.69 26 P 23 58 46.2
baz=273
L27K Beaver Creek, 91.85 27 P 23 58 47.0
baz=273
BCAR Beaver Creek A 91.87 27 P P 23 58 46.7 +1.4
GRNC Granite Creek 92.02 29 P P 23 58 47.1 +0.9
EGAK Eagle 92.04 25 P 23 58 47.2
baz=274
YAH Yahtse 92.04 30 P P 23 58 47.9 +1.6
CTG Chitna Glacier 92.20 29 P 23 58 49.1
baz=274
ARCES ARCESS Array B 93.33 340 P P 23 58 50.7 -1.1
comp=Z,3.5nm,0.6s,baz=83,slow=5.0,SNR=16
ARCES ARCESS Array B 93.33 340 P P 23 58 50.8 -1.1
ARCES pmax pmax
comp=Z,52nm,1.6s
ARCES ARCESS Array B 93.33 340 P P 23 58 50.8 -1.1
AKASG Malin Array Be 93.49 321 P P 23 58 51.2 -1.7
comp=Z,1.5nm,0.6s,baz=67,slow=4.5,SNR=5.1
AKASG Malin Array Be 93.49 321 P P 23 58 51.2 -1.7
AKBB Malin Array Si 93.49 321 ceP P 23 58 51.9 -1.0
EPYK Eagle Plains 93.71 24 P P 23 58 54.2 +0.5
EPYK Eagle Plains 93.71 24 P 23 58 54.6
baz=278
MNK Minsk 94.00 324 i P P 23 58 48.3 -6.9
MNK *i* *PP pP 23 59 07.6 -5.8
MNK *i* 00 09 54.0
MNK *i* PS PS 00 11 17.5 -5.8
MNK *i* SSS SSS 00 19 57.5
MNK MLR MLR
comp=Z,62nm,21.0s
MNK MLR MLR
comp=E,4.0nm,15.0s
MNK MLR MLR
comp=N,51nm,18.0s
MNK Minsk 94.00 324 i P P 23 58 48.3 -6.9
MNK *i* P P 23 58 48.3 -6.9
MNK *i* P P 23 58 48.3 -6.9
baz=85
MNK *i* pP pP 23 59 07.7 -5.8
MNK *i* pP pP 23 59 07.7 -5.8
MNK *i* pP pP 23 59 07.7 -5.8
MNK *i* PP **PP 00 02 35.1 -6.8**
MNK *i* PPP PPP 00 04 36.2
MNK *i* S **SKSac 00 09 16.5 -7.4**
MNK *i* sS **S 00 09 51.3 -8.5**
MNK *i* ScS **ScS 00 09 54.0 -7.1**
MNK *i* PS **PS 00 11 17.5 -5.8**
MNK *i* SS **SS 00 16 11.1 -10**
MNK *i* SSS SSS 00 19 57.5
MNK *i* LR LR 00 40 23.0
MNK *i* LRM MLR 00 41 39.9
comp=Z,62nm,20.8s
MNK *i* LRM MLR 00 42 08.9
comp=E,4.0nm,15.0s
MNK *i* LRM MLR 00 42 35.2
comp=N,51nm,17.6s
HYT Haines Junctio 94.08 29 P P 23 58 56.9 +1.2
HYT IAmb IAmb 23 58 58.3
comp=Z,7.5nm,0.7s
FINES FINESS Array B 94.20 332 P P 23 58 54.2 -1.7
comp=Z,1.6nm,0.5s,baz=73,slow=5.1,SNR=21
FINES FINESS Array B 94.20 332 ceP P 23 58 54.5 -1.5
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 94.20 332 P P 23 58 54.4 -1.5
VSU Vasula 94.23 329 eP P 23 58 55.1 -1.0
NACGM Naroch 94.59 325 iP P 23 58 57.6 -0.3
INK Inuvik 94.61 21 P P 23 58 57.7 0.0
comp=Z,4.8nm,0.9s,baz=262,slow=3.4,SNR=6.4
INK Inuvik 94.61 21 P P 23 58 58.2 +0.5
INK pmax pmax
comp=Z,12nm,1.3s
INK Inuvik 94.61 21 P P 23 58 58.2 +0.5
INK IAmb IAmb 23 58 59.2
comp=Z,12nm,1.3s
INK Inuvik 94.61 21 P 23 58 58.3
baz=281
WHY Whitehorse 95.38 29 P P 23 59 03.3 +1.8
WHY Whitehorse 95.38 29 P 23 59 03.4
baz=279
LSZ Lusaka 96.02 255 P P 23 59 05.3 -0.2
LSZ pmax pmax
comp=Z,11nm,0.8s
LSZ Lusaka 96.02 255 P P 23 59 05.3 -0.2
PABE Paberze 96.12 326 eP P 23 59 04.4 -0.4
PABE Paberze 96.12 326 P P 23 59 04.1 -0.8
MLR Muntele Rosu 96.13 316 P P 23 59 04.7 -0.7
comp=Z,2.6nm,0.7s,baz=108,slow=3.2
MLR Muntele Rosu 96.13 316 P P 23 59 04.9 -0.5
MLR pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu 96.13 316 P P 23 59 04.9 -0.5
MLR IAmb IAmb 23 59 05.2
comp=Z,3.3nm,0.9s
BURAR Bucovina Array 96.40 318 P P 23 59 05.8 -0.7
BURAR IAmb IAmb 23 59 07.7
comp=Z,4.0nm,0.8s
PBUR Paburge 97.17 326 eP P 23 59 09.2 -0.4
C36M Paulatuk 97.64 19 P 23 59 12.3
baz=290
KOLS Kolonicke sedl 98.16 319 i P Pdif 23 59 15.3 +1.0
KOLS Kolonicke sedl 98.16 319 e PDIFF Pdif 23 59 15.2 +0.9
CRVS Cervenica-Dubn 98.70 319 i P Pdif 23 59 17.4 +0.7
CRVS Cervenica-Dubn 98.70 319 e PDIFF Pdif 23 59 17.4 +0.7
HFS Hagfors 100.40 332 P Pdif 23 59 22.4 -1.6
comp=Z,1.7nm,0.5s,baz=104,slow=4.7,SNR=16
HFS Hagfors 100.40 332 P Pdif 23 59 22.4 -1.6
NOA NORSAR Array B 101.26 333 P Pdif 23 59 25.9 -2.0
comp=Z,0.7nm,0.8s,baz=74,slow=4.6,SNR=3.3
NOA NORSAR Array B 101.26 333 P Pdif 23 59 25.9 -2.0
GERES GERESS Array B 103.70 321 PKiKP PKiKP 00 03 58.1 +1.1
comp=Z,0.3nm,0.5s,baz=45,slow=3.1,SNR=3.9
PDAR Pinedale Array 115.77 41 PKKPbc PKKPbc 00 14 57.5 +4.0
comp=Z,1.1nm,0.8s,baz=116,slow=6.1,SNR=7.1
ANMO Albuquerque 121.30 48 PKP PKiKP 00 04 33.0 +1.9
comp=Z,1.6nm,0.8s,baz=206,slow=2.6,SNR=5.1
ANMO Albuquerque 121.30 48 c iPKiKP PKiKP 00 04 32.0 +1.0
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 121.30 48 P 00 04 33.1
baz=295
TORD Torodi Ar. Bea 121.89 285 PKP PKiKP 00 04 32.5 +0.1
comp=Z,2.5nm,0.6s,baz=55,slow=1.7,SNR=11
TORD PKKPbc **PKKPab 00 14 32.9 +1.8**
comp=Z,1.5nm,0.9s,baz=287,slow=5.2,SNR=5.6
MNTX Cornudas Mount 123.45 51 P 00 04 37.1
baz=294
SCHQ Schefferville 124.75 8 PKP PKiKP 00 04 37.5 +0.4
comp=Z,3.4nm,0.5s,baz=293,slow=3.0,SNR=8.8
TXAR Lajitas Array 125.75 53 PKP PKiKP 00 04 40.9 +1.0

comp=Z,1.1nm,0.9s,baz=272,slow=3.3,SNR=4.2

TXAR	**Lajitas Array**	**125.75**	**53**	PKIKP	**PKiKP**	**00 04 40.9**	**+1.0**
CHGQ	**Chibougamau** baz=336	**127.91**	**15**	P		00 04 43.7	
JCT	**Junction City** baz=297	**128.29**	**50**	P		00 04 46.6	
DBIC	**Dimbokro**	**129.05 278**		PKP	**PKiKP**	**00 04 46.5**	**-0.2**
	comp=Z,12nm,1.3s,baz=135,slow=5.7,SNR=1.5						
DBIC	**Dimbokro**	**129.05 278**		PKIKP	**PKiKP**	**00 04 46.7**	**0.0**
DBIC	**Dimbokro**	**129.05 278**		PKPdf	**PKiKP**	**00 04 46.7**	**0.0**
U40A	**Yellville** baz=308	**130.08**	**40**	P		00 04 48.3	
ALGO	**Algonquin Park** baz=330	**130.30**	**21**	P		00 04 48.2	
D56A	**ZEC Mazanza, M** baz=334	**130.40**	**17**	P		00 04 48.5	
LATQ	**La Tuque** baz=337	**130.65**	**15**	P		00 04 49.6	
MIAR	**Mount Ida** baz=306	**130.68**	**42**	P		00 04 51.1	
E56A	**St. Veronique** baz=334	**130.77**	**18**	P		00 04 49.1	
SADO	**Sadowa**	**130.92**	**22**	PKP	**PKiKP**	**00 04 49.7**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=322,slow=5.5,SNR=5.1						
SADO	**Sadowa**	**130.92**	**22**		**PKiKP**	**00 04 49.8**	**+0.2**
J58A	**Remsen** baz=332	**133.52**	**20**	P		00 04 54.8	
J59A	**Piesco** baz=333	**133.69**	**19**	P		00 04 56.1	
I60A	**Shoreham** baz=335	**133.74**	**18**	P		00 04 56.6	
BINY	**Binghamton** baz=331	**134.30**	**21**	P		00 04 57.5	
TKL	**Tuckaleechee C**	**135.99**	**34**	PKP	**PKiKP**	**00 05 00.8**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=231,slow=2.1,SNR=8.1						
TKL	**Tuckaleechee C**	**135.99**	**34**	PKIKP	**PKiKP**	**00 05 00.8**	**+0.6**
CPUP	**Villa Florida**	**153.57 176**		PKP	**PKPdf**	**00 05 30.4**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=209,slow=7.2,SNR=4.1						
CPUP				PKPbc	**PKiKP**	**00 05 37.7**	**+1.2**
	comp=Z,4.4nm,1.0s,baz=150,slow=1.9,SNR=8.0						
CPUP				PKPab	**PKPab**	**00 05 49.9**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=90,slow=0.7,SNR=5.4						
CPUP	**Villa Florida**	**153.57 176**		PKIKP	**PKPdf**	**00 05 30.4**	**+1.7**
CPUP						00 05 37.7	
LPAZ	**La Paz**	**159.43 143**		PKP	**PKPdf**	**00 05 39.3**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=305,slow=4.4,SNR=6.2						
LPAZ				PKPab	**PKPab**	**00 06 16.6**	**+1.5**
	comp=Z,3.5nm,0.7s,baz=192,slow=3.4,SNR=8.9						
LPAZ	**La Paz**	**159.43 143**		PKIKP	**PKPdf**	**00 05 39.3**	**+2.0**

TAP ***13*** *23:53:59.8,24.˚46N×121.˚92E,h16km,ML2.9,B*
JMA ***13*** *23:53:59.6±0.1,24.˚40N×121.˚97E,h21km,M2.4*
ISC 13 23:53:59.5±0.9,24.˚43N±0.˙01×121.˚96E±0.˙02,h19km±2km, n85,σ0.51/156,4C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=340	**0.20**	**330**	P	**Pg**	**23 54 04.5**	**0.0**
TWC				S	**Sb**	**23 54 07.2**	**+0.3**
EHP	**Heping Village** baz=225	**0.23**	**239**	*e*P	**Pg**	**23 54 05.2**	**+0.2**
EHP				*e*S	**Sg**	**23 54 09.5**	**+0.7**
NDS	**Dongshan** baz=313	**0.30**	**312**	⇓*i*P	**Pb**	**23 54 06.3**	**0.0**
NDS				S	**Sg**	**23 54 10.1**	**-0.5**
ILA	**Ilan** baz=334	**0.38**	**330**	⇓P	**Pb**	**23 54 08.0**	**+0.2**
ILA				S	**Sg**	**23 54 13.2**	**+0.3**
TWE	**Neicheng** baz=320	**0.39**	**317**	P	**Pb**	**23 54 07.9**	**0.0**
TWE				S	**Sg**	**23 54 12.8**	**-0.4**
EGS	baz=3.0	**0.41**	**356**	*e*P	**Pg**	**23 54 08.2**	**+0.1**
EGS				*e*S	**Sg**	**23 54 13.5**	**-0.2**
ETL	**Fush Village** baz=221	**0.41**	**229**	P	**Pb**	**23 54 08.1**	**-0.2**
ETL				S	**Sb**	**23 54 14.6**	**+0.3**
ENTT	**Nioudou** baz=299	**0.41**	**300**	⇓P	**Pb**	**23 54 08.2**	**-0.1**
ENTT				S	**Sb**	**23 54 14.3**	**-0.1**
NACB	**Ninganchiao** baz=226	**0.42**	**232**	⇑*i*P	**Pg**	**23 54 08.2**	**0.0**
NACB				S	**Sb**	**23 54 14.5**	**0.0**
NTC	**Toucheng** baz=348	**0.44**	**344**	⇑P	**Pg**	**23 54 08.5**	**0.0**
NTC				*e*S	**Sg**	**23 54 13.8**	**-0.7**
NDT	**Datong Townshi** baz=291	**0.44**	**293**	P	**Pb**	**23 54 08.9**	**+0.1**
NDT				S	**Sb**	**23 54 15.1**	**+0.1**
TWD	**Chiawan** baz=217	**0.48**	**223**	P	**Pb**	**23 54 09.8**	**+0.4**
TWD				*e*S	**Sn**	**23 54 17.7**	**-1.7**
ETLH	**Xiulin Townshi** baz=237	**0.49**	**243**	P	**Pg**	**23 54 09.3**	**-0.2**
ETLH				S	**Sb**	**23 54 16.6**	**+0.1**
NNSB	**Datong** baz=266	**0.53**	**270**	⇓P	**Pb**	**23 54 10.2**	**0.0**
NNSB				S	**Sb**	**23 54 17.5**	**0.0**
NNSH	**Datong** baz=266	**0.53**	**270**	*i* P	**Pb**	**23 54 10.2**	**0.0**
NNSH				S	**Sb**	**23 54 17.3**	**-0.1**
NNS	**Nan Shan** baz=267	**0.54**	**271**	⇑P	**Pb**	**23 54 10.4**	**0.0**
NNS				S	**Sb**	**23 54 17.6**	**-0.1**
NWLT	**Wulai** baz=310	**0.54**	**309**	*e*P	**Pb**	**23 54 10.9**	**+0.5**
NWLT				*e*S	**Sg**	**23 54 17.1**	**-0.6**
TIPB	**Shuangxi** baz=350	**0.55**	**347**	P	**Pb**	**23 54 10.5**	**0.0**
TIPB				*i* S	**Sg**	**23 54 17.2**	**-0.8**
HWA	**Hwalien** baz=209	**0.56**	**216**	*e*P	**Pg**	**23 54 11.0**	**+0.3**
HWA				*e*S	**Sn**	**23 54 20.2**	**-1.1**
TWB1	**Santiao Chiao** baz=7.0	**0.57**	**3**	*i* P	**Pb**	**23 54 10.9**	**0.0**
TWB1				*e*S	**Sb**	**23 54 18.0**	**-0.7**
YHNB	**Yeheng** baz=293	**0.58**	**294**	⇓P	**Pg**	**23 54 11.2**	**+0.1**
YHNB				S	**Sb**	**23 54 18.7**	**-0.3**
NSK	**Sanguang** baz=293	**0.60**	**294**	P	**Pg**	**23 54 11.6**	**+0.1**
NSK				S	**Sb**	**23 54 18.9**	**-0.6**
TWA	**Mucha** baz=330	**0.64**	**328**	P	**Pg**	**23 54 12.7**	**+0.4**
TWA				S	**Sb**	**23 54 20.5**	**-0.2**
TEYL	**Yanliau Villag** baz=207	**0.65**	**211**	*e*P	**Pg**	**23 54 12.6**	**+0.1**
TEYL				*e*S	**Sg**	**23 54 21.3**	**+0.1**
NWF	**Wu-fen Shan** baz=348	**0.66**	**346**	*e*P	**Pg**	**23 54 12.8**	**+0.3**
NWF				*e*S	**Sb**	**23 54 21.1**	**-0.1**
WFSB	**Wu-fen Shan** baz=348	**0.66**	**346**	*e*P	**Pg**	**23 54 12.9**	**+0.4**
WFSB				*e*S	**Sg**	**23 54 21.5**	**+0.2**
NHDH	**Xindian Distri** baz=324	**0.66**	**323**	*e*P	**Pn**	**23 54 13.4**	**-0.5**
NHDH				*e*S	**Sb**	**23 54 21.2**	**0.0**
FUSS	**Fushou** baz=251	**0.68**	**254**	⇑*e*P	**Pg**	**23 54 13.1**	**+0.1**
FUSS				*e*S	**Sg**	**23 54 22.0**	**-0.2**
TATO	**Taipei** baz=323	**0.69**	**322**	P	**Pn**	**23 54 14.0**	**-0.3**
TATO				S	**Sb**	**23 54 21.7**	**-0.4**
WHF	**Hehuan Shan** baz=241	**0.70**	**246**	*e*P	**Pb**	**23 54 13.2**	**-0.1**
WHF				*e*S	**Sg**	**23 54 23.0**	**+0.2**
TAP	**Taipei** baz=327	**0.73**	**326**	*e*P	**Pb**	**23 54 13.7**	**+0.1**
TAP				*e*S	**Sb**	**23 54 23.2**	**-0.1**
TNOU	**National Taiwa** baz=348	**0.73**	**347**	*e*P	**Pb**	**23 54 14.0**	**+0.3**
TNOU				*e*S	**Sg**	**23 54 24.0**	**+0.3**
TWT	**Tachien** baz=253	**0.74**	**256**	*e*P	**Pg**	**23 54 14.3**	**+0.2**
TWT				*e*S	**Sn**	**23 54 24.7**	**-1.3**
TDCB	**Techi** baz=253	**0.75**	**256**	*e*P	**Pb**	**23 54 14.0**	**-0.1**
TDCB				*e*S	**Sg**	**23 54 24.7**	**+0.3**
ESL	**Shilin** baz=214	**0.78**	**218**	*e*P	**Pg**	**23 54 15.2**	**+0.3**
ESL				*e*S	**Sn**	**23 54 26.8**	**0.0**
YM01	**YM01** baz=335	**0.79**	**334**	*e*P	**Pg**	**23 54 15.4**	**+0.4**
YM01				*e*S	**Sb**	**23 54 25.1**	**0.0**
CHGB	**Renai** baz=239	**0.81**	**243**	*e*P	**Pg**	**23 54 15.4**	**0.0**
CHGB				*e*S	**Sn**	**23 54 27.2**	**-0.5**
TEGC	**Jichi Village** baz=204	**0.82**	**208**	*e*P	**Pg**	**23 54 15.6**	**+0.1**
TEGC				*e*S	**Sn**	**23 54 27.4**	**-0.2**
YM08	**YM08** baz=337	**0.82**	**336**	*e*P	**Pb**	**23 54 15.2**	**-0.1**
YM08				*e*S	**Sg**	**23 54 26.8**	**+0.2**
NTY	**Taoyuan** baz=313	**0.83**	**313**	*e*P	**Pg**	**23 54 15.8**	**+0.1**
NTY				*e*S	**Sb**	**23 54 26.1**	**+0.1**
TWS1	**Kuangyinshan** baz=324	**0.83**	**323**	*e*P	**Pg**	**23 54 15.6**	**-0.1**
TWS1				*e*S	**Sb**	**23 54 26.3**	**+0.2**
OWD	**Renai** baz=233	**0.86**	**237**	*e*P	**Pg**	**23 54 16.2**	**-0.2**
OWD				*e*S	**Sn**	**23 54 28.1**	**-0.8**
NTST	**Danshui** baz=328	**0.86**	**328**	*e*P	**Pb**	**23 54 16.1**	**+0.2**
NTST				*e*S	**Sg**	**23 54 27.6**	**-0.2**
NCU	**National Centr** baz=307	**0.88**	**307**	*e*P	**Pb**	**23 54 16.1**	**-0.1**
NCU				*e*S	**Sg**	**23 54 28.2**	**-0.2**
NCUH	**Zhongli** baz=307	**0.88**	**307**	*e*P	**Pb**	**23 54 16.4**	**+0.2**
NCUH				*e*S	**Sg**	**23 54 28.6**	**+0.1**
LIOB	**Emei** baz=282	**0.89**	**284**	*e*P	**Pg**	**23 54 16.6**	**-0.2**
LIOB				*e*S	**Sg**	**23 54 28.4**	**-0.2**
NSTT	**Nanjuang** baz=281	**0.90**	**283**	*e*P	**Pb**	**23 54 16.6**	**+0.1**
NSTT				*e*S	**Sg**	**23 54 28.7**	**-0.1**
JYNG	**Yonagunijimaku**	**0.90**	**89**	P	**Pb**	**23 54 16.1**	**-0.4**
JYNG				S	**Sb**	**23 54 28.4**	**+0.3**
TWY	**Chenhua** baz=340	**0.90**	**339**	*e*P	**Pb**	**23 54 16.4**	**-0.1**
TWY				*e*S	**Sg**	**23 54 28.9**	**-0.1**
EGFH	**Guangfu** baz=209	**0.90**	**213**	*e*P	**Pg**	**23 54 16.9**	**-0.2**
EGFH				*e*S	**Sn**	**23 54 30.8**	**+1.0**
WHP	**Taichung City** baz=258	**0.94**	**261**	*e*P	**Pb**	**23 54 17.1**	**-0.2**
WHP				*e*S	**Sn**	**23 54 30.5**	**-0.3**
SBCB	**Hsinchu** baz=291	**0.96**	**292**	*e*P	**Pn**	**23 54 17.7**	**-0.2**
SBCB				*e*S	**Sb**	**23 54 30.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.96**	**88**	P	**Pb**	**23 54 17.1**	**-0.4**
YOJ				*e*S	**Sb**	**23 54 30.1**	**+0.3**
YOJ	**Yonaguni jima** baz=89	**0.96**	**88**	*e*P	**Pg**	**23 54 18.9**	**+0.8**
YOJ				*e*S	**Sn**	**23 54 32.6**	**+1.5**
WPL	**Puli Township** baz=243	**1.01**	**246**	*e*P	**Pg**	**23 54 18.9**	**-0.2**
DPDB	**Guoxing** baz=244	**1.02**	**247**	*e*P	**Pg**	**23 54 19.4**	**-0.1**
WCS	**Beigang Elemen** baz=246	**1.03**	**249**	*e*P	**Pn**	**23 54 18.9**	**-0.1**
HGSD	**Ruisui** baz=205	**1.06**	**208**	*e*P	**Pg**	**23 54 20.8**	**+0.8**
HGSD				*e*S	**Sg**	**23 54 35.5**	**+1.5**
NMLH	**Miaoli** baz=274	**1.07**	**276**	*e*P	**Pn**	**23 54 19.5**	**0.0**
EHY	**Hungye** baz=209	**1.09**	**212**	*e*P	**Pg**	**23 54 20.8**	**+0.1**
EHY				*e*S	**Sg**	**23 54 35.6**	**+0.6**
SMLT	**Sun Moon Lake** baz=238	**1.11**	**241**	*e*P	**Pg**	**23 54 20.6**	**-0.5**
SSLB	**Suanglung** baz=232	**1.12**	**235**	*e*P	**Pb**	**23 54 20.5**	**+0.1**
SSLB				*e*S	**Sg**	**23 54 36.5**	**+0.4**
TYC	**Yuchr** baz=240	**1.14**	**243**	*e*P	**Pg**	**23 54 21.1**	**-0.4**
TYC				*e*S	**Sg**	**23 54 36.7**	**+0.2**
PCYT	**Pengchaiyu** baz=7.0	**1.20**	**5**	*e*P	**Pn**	**23 54 21.3**	**0.0**
PCYT				*e*S	**Sg**	**23 54 38.1**	**-0.3**
YULB	**Yu-li** baz=208	**1.20**	**210**	*e*P	**Pn**	**23 54 21.3**	**-0.1**
YULB				*e*S	**Sg**	**23 54 38.5**	**0.0**
TWF1	**Yuli** baz=206	**1.24**	**210**	*e*P	**Pb**	**23 54 22.7**	**+0.5**
FULB	**Fuli** baz=204	**1.37**	**207**	*e*P	**Pb**	**23 54 24.8**	**+0.2**
ALS	**Alishan** baz=226	**1.40**	**229**	*e*P	**Pb**	**23 54 25.2**	**-0.1**
CHN5	**Tsauling** baz=232	**1.44**	**235**	*e*P	**Pn**	**23 54 24.7**	**0.0**
CHN5				*e*S	**Sb**	**23 54 44.2**	**+0.4**
ELDTW	**Lidau** baz=212	**1.51**	**215**	*e*P	**Pb**	**23 54 26.4**	**-0.6**
EDH	**Donghe** baz=200	**1.57**	**203**	*e*P	**Pn**	**23 54 26.9**	**+0.5**
IRIF	**Iriomote-Funau**	**1.62**	**93**	P	**Pn**	**23 54 26.5**	**-0.5**
IRIF				*e*S	**Sn**	**23 54 47.2**	**-0.2**
CHN4	**Tsaushan** baz=227	**1.65**	**230**	*e*P	**Pb**	**23 54 28.7**	**-0.7**
CHN4				*e*S	**Sb**	**23 54 49.2**	**-0.6**
TPUB	**Ta-pu** baz=225	**1.66**	**227**	*e*P	**Pn**	**23 54 28.4**	**+0.7**
TPUB				*e*S	**Sb**	**23 54 49.2**	**-0.9**
STYH	**Taoyuan** baz=219	**1.66**	**221**	*e*P	**Pb**	**23 54 28.6**	**-1.0**
STYH				*e*S	**Sb**	**23 54 49.5**	**-0.6**
STYT	**Tauyuan** baz=219	**1.68**	**221**	*e*P	**Pn**	**23 54 28.7**	**+0.8**
TWK	**Hsinying** baz=227	**1.78**	**230**	*e*P	**Pn**	**23 54 30.0**	**+0.7**
CHN1	**Nanshi** baz=225	**1.81**	**227**	*e*P	**Pb**	**23 54 31.0**	**-1.1**
JKRS	**Kuro-shima**	**1.88**	**96**	P	**Pn**	**23 54 30.8**	**+0.2**
JKRS				S	**Sn**	**23 54 53.2**	**-0.6**
JIJ	**Ishigaki jima**	**1.99**	**92**	P	**Pn**	**23 54 32.0**	**-0.2**
JIJ				*e*S	**Sn**	**23 54 55.0**	**-1.6**
JISG	**Ishigakijimahi**	**2.15**	**85**	P	**Pn**	**23 54 33.7**	**-0.6**
JISG				S	**Sn**	**23 54 59.6**	**-0.8**
MATB	**Ma-tsu** baz=312	**2.50**	**314**	*e*P	**Pn**	**23 54 41.0**	**+1.8**
MATB				*e*S	**Sn**	**23 55 09.7**	**+0.5**
PTMZ	**Houxiangcun** baz=282	**2.65**	**284**	*e*P	**Pn**	**23 54 41.9**	**+0.6**
LYJJ	**Jianjiangzhen** baz=316	**2.90**	**317**	*e*P	**Pn**	**23 54 45.8**	**+1.1**
LYJJ				*e*S	**Sn**	**23 55 19.2**	**+0.2**
MHZQ	**Yeshan** baz=302	**3.13**	**303**	*e*P	**Pn**	**23 54 49.2**	**+1.3**
MHZQ				*e*S	**Sn**	**23 55 25.1**	**+0.4**

NEIC ***13*** *23:57:52.9±1.5,54.˚13N±0.˙03×116.˚82W±0.˙07,h1km±7km, Error ellipse: s-maj=6.1km s-min=3.6km az=73.0*
IDC ***13*** *23:57:53.0±0.7,54.˚14N×116.˚72W,h0km,mb3.7/5, mb1 3.9/11,mb1mx3.6/51,mbtmp3.7/11,ML3.4/6,MS3.1/19, Ms1 3.1/19,ms1mx2.9/49,Error ellipse: s-maj=14.0km s-min=9.0km az=75.0*
PGC ***13*** *23:57:55.2±0.4,54.˚10N×116.˚95W,h5km,mb4.0,ML4.4/12, Mw4.6, 155km northeast of Jasper, Alberta Alberta, Canada*
NEIC ***13*** *23:57:55.2,54.˚10N×116.˚95W,h3km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.03; Mθθ=0.01; Mφφ 0.04; Mrθ=0.42; Mθφ 0.08; Mφr0.84; Fault plane solution: Mφ 9.40000×10¹⁵ NP1:φs334.00000°, δ90.00000°,λ94.00000°. NP2:φs65.00000°,δ4.00000°, λ1.00000°. Principal axes: T 0.9130, Plg45.0000°, Azm248.0000°; N 0.0587, Plg4.0000°, Azm154.0000°; P -0.9717, Plg45.0000°, Azm60.0000°;*
ISC 13 23:57:53.7±0.5,54.˚26N±0.˙02×116.˚59W±0.˙03,h10km, n157,σ2.18/174,mb4.1/14,MS3.1/10,Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLDA	**Berland Lookou**	**0.51**	**251**	Pg	**Pg**	**23 58 00.0**	**-3.5**
SWHSA	**Sweathouse Loo**	**0.65**	**352**	Pg	**Pb**	**23 58 07.4**	**+0.2**
SWHSA					**Sn**	**23 58 18.5**	**-0.9**
STPRA	**Salt Prairie L**	**1.47**	**17**		**Pg**	**23 58 22.6**	**+0.6**
STPRA					**Sg**	**23 58 44.6**	**+3.6**
WTMTA	**White Mountain**	**2.10**	**314**		**Pn**	**23 58 29.0**	**+0.1**
MNB	**Mounoet Dainar**	**2.33**	**208**	Pn	**Pn**	**23 58 31.3**	**-0.9**
MNB				Sg	**Sn**	**23 59 00.5**	**-0.5**
MNB	**Mounoet Dainar**	**2.33**	**208**	Pn	**Pn**	**23 58 31.3**	**-0.9**
MNB				Sg	**Sn**	**23 59 00.5**	**-0.5**
BLBC	**Blue River**	**2.73**	**217**	Pn	**Pn**	**23 58 37.0**	**-0.8**
BLBC	**Blue River**	**2.73**	**217**	Pn	**Pn**	**23 58 37.0**	**-0.8**
NBC4	**NorthernBC 4**	**2.75**	**303**	Pn	**Pn**	**23 58 38.3**	**+0.4**
NBC4				Sg	**Sb**	**23 59 16.7**	**0.0**
NBC4	**NorthernBC 4**	**2.75**	**303**	Pn	**Pn**	**23 58 38.3**	**+0.4**
NBC4					**Sb**	**23 59 16.7**	**0.0**
SLEB	**Sale Mountain**	**3.23**	**197**	Pn	**Pn**	**23 58 43.8**	**-0.9**
SLEB				Pg	**Pb**	**23 58 50.0**	**-1.3**
SLEB				Sg	**Sb**	**23 59 28.2**	**-2.6**
SLEB	**Sale Mountain**	**3.23**	**197**	Pn	**Pn**	**23 58 43.8**	**-0.9**
SLEB					**Pb**	**23 58 50.0**	**-1.3**
SLEB				Sg	**Sb**	**23 59 28.2**	**-2.6**
PRDA	**Priddis**	**3.67**	**157**	Pn	**Pn**	**23 58 51.5**	**+0.8**
PRDA				Pg	**Pb**	**23 58 59.8**	**+1.1**
PRDA				Sn	**Sn**	**23 59 33.3**	**-0.7**
PRDA				Sg	**Sb**	**23 59 46.6**	**+3.3**
PRDA	**Priddis**	**3.67**	**157**	Pn	**Pn**	**23 58 51.5**	**+0.8**
PRDA					**Pb**	**23 58 59.8**	**+1.1**
PRDA				Sn	**Sn**	**23 59 33.3**	**-0.7**
PRDA				Sg	**Sb**	**23 59 46.6**	**+3.3**
FSB	**Fort Saint Jam**	**4.53**	**276**	Pn	**Pn**	**23 59 00.9**	**-1.4**
FSB				Pg	**Pb**	**23 59 12.4**	**-0.8**
FSB	**Fort Saint Jam**	**4.53**	**276**	Pn	**Pn**	**23 59 00.9**	**-1.4**
FSB					**Pb**	**23 59 12.4**	**-0.8**
UBRB	**Upper Baezaeko**	**4.67**	**256**	Pn	**Pn**	**23 59 02.2**	**-2.1**
UBRB				Sg	**Sb**	**00 00 12.9**	**+0.9**
UBRB	**Upper Baezaeko**	**4.67**	**256**	Pn	**Pn**	**23 59 02.2**	**-2.1**
NBC5	**NorthernBC 5**	**4.74**	**316**	Pn	**Pn**	**23 59 05.0**	**-0.3**
NBC5	**NorthernBC 5**	**4.74**	**316**	Pn	**Pn**	**23 59 05.0**	**-0.3**
NBC6	**NorthernBC 6**	**5.07**	**331**	Pn	**Pn**	**23 59 10.0**	**+0.3**
NBC6				Pg	**Pg**	**23 59 27.3**	**-3.4**
NBC6				Sg	**Sg**	**00 00 32.4**	**-4.0**
PNT	**Penticton**	**5.29**	**202**	Pn	**Pn**	**23 59 11.7**	**-1.1**
PNT				Pg	**Pb**	**23 59 26.3**	**0.0**
PNT				Sg	**Sb**	**00 00 31.5**	**+1.7**
WALA	**Waterton Lakes**	**5.47**	**161**	Pn	**Pn**	**23 59 15.7**	**+0.4**
WALA				Sn	**Sn**	**00 00 14.3**	**-3.9**
WALA	**Waterton Lakes**	**5.47**	**161**	Pn	**Pn**	**23 59 15.6**	**+0.4**
WALA				Sn	**Sn**	**00 00 15.4**	**-2.9**
WSLR	**Whistler**	**5.68**	**226**	Pg	**Pb**	**23 59 33.4**	**+0.5**
WSLR				Sg	**Sb**	**00 00 44.2**	**+3.2**
HOPB	**Hope**	**5.72**	**213**	Pn	**Pn**	**23 59 16.9**	**-1.7**
HOPB				Sg	**Sb**	**00 00 44.3**	**+2.2**
NBC3	**NorthernBC 3**	**5.83**	**339**	Sg	**Sg**	**00 00 58.5**	**-2.3**
FNBB	**Fort Nelson**	**5.84**	**325**	Pn	**Pn**	**23 59 20.7**	**+0.4**
NEW	**Newport**	**6.01**	**183**	Pn	**Pn**	**23 59 21.2**	**-1.4**
NEW	1.2nm,0.3s,baz=354,slow=12,SNR=11			Lg	Lg	00 00 55.1	
	44nm,0.3s,baz=81,slow=23,SNR=12						
NEW	**Newport**	**6.01**	**183**	Pn	**Pn**	**23 59 21.6**	**-1.1**
B08A	**Colville Reser**	**6.15**	**197**	Pg	**Pb**	**23 59 40.1**	**-0.8**
B08A	**Colville Reser**	**6.15**	**197**	Pn	**Pn**	**23 59 23.0**	**-1.6**
WPB	**Watts Point**	**6.16**	**224**	Pg	**Pb**	**23 59 40.7**	**-0.3**
HNBB	**Haney**	**6.21**	**219**	Pg	**Pb**	**23 59 42.2**	**+0.4**
HNBB				Sg	**Sb**	**00 01 00.1**	**+4.1**
A05A	**Maple Falls**	**6.28**	**215**	Pg	**Pb**	**23 59 43.4**	**+0.4**
BIB	**Bowen Island**	**6.39**	**223**	Pg	**Pb**	**23 59 45.7**	**+0.7**
MBW	**Mount Baker**	**6.40**	**213**	Pg	**Pb**	**23 59 46.0**	**+0.8**
SHB	**Sechelt**	**6.48**	**227**	Pg	**Pb**	**23 59 46.9**	**+0.3**
B06A	**Marblemount**	**6.51**	**210**	Sg	**Sb**	**00 01 08.8**	**+4.1**
BSMT	**Bassoo Peak**	**6.51**	**169**	Pn	**Pn**	**23 59 28.9**	**-0.9**
TXB	**Texada**	**6.66**	**230**	Pn	**Pn**	**23 59 29.3**	**-2.2**
TXB				Pg	**Pb**	**23 59 49.4**	**0.0**
TXB				Sg	**Sb**	**00 01 12.6**	**+3.6**
JTMT	**Jette**	**6.68**	**166**	Pn	**Pn**	**23 59 31.3**	**-0.6**
NLLB	**Nanaimo Lost L**	**6.81**	**225**	Sg	**Sb**	**00 01 17.3**	**+3.9**
GOBB	**Galiano Island**	**6.84**	**222**	Pg	**Pb**	**23 59 53.3**	**+0.8**
SNB	**Saturna Island**	**6.85**	**219**	Pg	**Pb**	**23 59 53.9**	**+1.1**
SNB				Sg	**Sb**	**00 01 19.5**	**+4.9**
CBB	**Campbell River**	**6.86**	**235**	Sg	**Sb**	**00 01 18.5**	**+3.8**
GHNB	**Nanoose**	**6.86**	**227**	Sg	**Sb**	**00 01 18.4**	**+3.7**
PGC	**Sidney**	**7.06**	**220**	Sg	**Sb**	**00 01 26.7**	**+6.2**
B009	**North Saanich**	**7.06**	**220**	Sg	**Sb**	**00 01 24.6**	**+4.0**
KITB	**Kitimat**	**7.08**	**273**	Pn	**Pn**	**23 59 36.0**	**-1.2**
BUTB	**Butedale**	**7.16**	**265**	Sg	**Sb**	**00 01 28.5**	**+5.1**
BBB	**Bella Bella**	**7.22**	**258**	Lg	Lg	00 01 32.2	
	8.4nm,0.3s,baz=200,slow=24,SNR=6.8			LR	LR	00 02 21.4	
BBB	comp=Z,75nm,19.3s,baz=330,slow=38						
BBB	**Bella Bella**	**7.22**	**258**	Sg	**Sb**	**00 01 32.5**	**+7.4**
MGB	**Mount Grey**	**7.29**	**227**	Pn	**Pn**	**23 59 38.3**	**-1.9**
MGB				Sg	**Sb**	**00 01 31.9**	**+4.7**
D08A	**Wollman Farm,**	**7.36**	**193**	Pn	**Pn**	**23 59 39.5**	**-1.6**
HWKB	**Hawksbury Isla**	**7.45**	**270**	Sg	**Sb**	**00 01 37.8**	**+6.0**
LTY	**Liberty**	**7.47**	**202**	Pn	**Pn**	**23 59 42.1**	**-0.6**
PFB	**Port Renfrew**	**7.51**	**224**	Sg	**Sb**	**00 01 39.4**	**+5.8**
PHC	**Port Hardy**	**7.51**	**246**	Sg	**Sb**	**00 01 39.9**	**+6.4**
EGMT	**Eagleton**	**7.58**	**143**	Pn	**Pn**	**23 59 44.1**	**0.0**
MSO	**Missoula**	**7.63**	**166**	Pn	**Pn**	**23 59 44.2**	**-0.7**
PACB	**Port Alice, BC**	**7.69**	**245**	Sg	**Sb**	**00 01 42.9**	**+4.2**
GRNB	**Grenville Isla**	**7.88**	**272**	Sg	Sb	00 01 53.1	+9.1
HOLB	**Holberg**	**7.92**	**247**	Sg	**Sb**	**00 01 51.6**	**+6.2**
BNKB	**Banks Island**	**7.94**	**269**	Sg	**Sb**	**00 01 53.4**	**+7.6**
E07A	**Sunnyside**	**7.98**	**196**	Pn	**Pn**	**23 59 48.4**	**-1.4**
HRY	**Holter Researc**	**8.14**	**156**	Pn	**Pn**	**23 59 51.5**	**-0.4**
F10A	**Beach Ranch, E**	**8.30**	**183**	Pn	**Pn**	**23 59 53.4**	**-0.7**
YKA	**Yellowknife Ar**	**8.33**	**6**	Pn	**Pn**	**23 59 53.8**	**-0.5**
YKA	0.5nm,0.3s,baz=177,slow=13,SNR=18			Sn	**Sn**	**00 01 23.6**	**-4.6**
YKA	1.7nm,0.3s,baz=183,slow=22,SNR=4.9			Lg	Lg	00 02 11.1	
	1.8nm,0.3s,baz=188,slow=29,SNR=4.2						
FFC	**Flin Flon**	**8.52**	**81**	Pn	**Pn**	**23 59 59.5**	**+2.4**

DLBC	**Dease Lake**	**8.55**	**305**	Pn		**Pn**	**23 59 56.5**	**-1.0**
	0.5nm,0.3s,baz=106,slow=8.4,SNR=9.8							
DLBC				Lg		Lg	00 02 17.9	
	1.5nm,0.3s,baz=236,slow=24,SNR=2.3							
DLBC				LR		LR	00 03 33.5	
	comp=Z,214nm,19.2s,baz=72,slow=40							
DLBC	**Dease Lake**	**8.55**	**305**	Pn		**Pn**	**23 59 56.5**	**-1.0**
DLBC	**Dease Lake**	**8.55**	**305**			**Pn**	**23 59 56.9**	**-0.6**
LRM	**Limekiln Ridge**	**8.85**	**161**	Pn		**Pn**	**00 00 01.7**	**-0.2**
HG4B	**Hotspring**	**8.97**	**263**	Sg		Sg	00 02 25.1	-16
DLMT	**Dillon**	**9.27**	**162**	Pn		**Pn**	**00 00 06.6**	**-0.9**
BMO	**Blue Mountains**	**9.43**	**183**	Pn		**Pn**	**00 00 08.8**	**-0.8**
DIB	**Dawson Inlet,**	**9.48**	**270**	Sg		Sn	00 02 43.6	+47
CRAG	**Craig**	**9.61**	**284**	Pn		**Pn**	**00 00 11.6**	**-0.3**
DGMT	**Dagmar**	**9.67**	**122**	Pn		**Pn**	**00 00 12.8**	**-0.1**
MCMT	**McKenzie Canyo**	**9.75**	**164**	Pn		**Pn**	**00 00 13.2**	**-0.8**
LAO	**LASA Array**	**10.05**	**135**	Pn		**Pn**	**00 00 17.8**	**-0.2**
YHL	**Hebgen Lake**	**10.05**	**157**			**Pn**	**00 00 17.4**	**-0.8**
YHB	**Horse Butte**	**10.14**	**158**			**Pn**	**00 00 18.0**	**-1.4**
RLMT	**Red Lodge**	**10.30**	**150**	Pn		**Pn**	**00 00 22.5**	**+1.0**
JIS	**Juneau Island**	**10.67**	**299**	Pn		**Pn**	**00 00 26.3**	**-0.1**
PDAR	**Pinedale Array**	**12.40**	**155**	Pn		**Pn**	**00 00 52.9**	**+2.5**
	0.1nm,0.3s,baz=349,slow=14,SNR=8.4							
PDAR				Lg		Lg	00 04 10.9	
	0.2nm,0.3s,baz=356,slow=28,SNR=2.8							
PDAR				LR		LR	00 05 03.2	
	comp=Z,23nm,18.9s,baz=343,slow=35							
PDAR	**Pinedale Array**	**12.40**	**155**	Pn		**Pn**	**00 00 51.2**	**+0.8**
E28A	**Huff**	**12.70**	**121**	Pn		**Pn**	**00 00 52.9**	**-1.4**
RSSD	**Black Hills**	**13.03**	**136**	Pn		**Pn**	**00 00 57.5**	**-1.4**
YBH	**Yreka Blue Hor**	**13.18**	**200**	LR		LR	00 05 33.7	
	comp=Z,94nm,19.2s,baz=352,slow=35							
FCC	**Fort Churchill**	**13.19**	**61**	Pn		**Pn**	**00 01 00.1**	**-0.7**
ULM	**Lac du Bonnet**	**13.30**	**99**	Pn		**Pn**	**00 01 00.1**	**-2.3**
	0.5nm,0.3s,baz=299,slow=11,SNR=5.1							
ULM				Sn		Sn	00 03 20.6	-10
	2.3nm,0.3s,baz=241,slow=15,SNR=2.9							
ULM				Lg		Lg	00 04 47.0	
	2.0nm,0.3s,baz=341,slow=10,SNR=5.0							
ULM				LR		LR	00 06 30.5	
	comp=Z,54nm,21.5s,baz=358,slow=39							
K22A	**Casper**	**13.38**	**146**	Pn		**Pn**	**00 01 03.4**	**-0.2**
ELK	**Elko**	**13.55**	**176**	Lg		Lg	00 04 54.3	
	0.1nm,0.3s,baz=102,slow=23,SNR=7.5							
ELK				LR		LR	00 05 54.1	
	comp=Z,45nm,18.8s,baz=26,slow=36							
AGMN	**Agassiz Nation**	**14.25**	**106**	Pn		**Pn**	**00 01 15.7**	**+0.3**
SUSD	**Miller**	**15.08**	**123**	Pn		**Pn**	**00 01 23.9**	**-2.8**
O20A	**White River Ci**	**15.21**	**155**	Pn		**Pn**	**00 01 28.9**	**+0.4**
O20A				IAmb		IAmb	00 02 07.8	
	comp=Z,5.5nm,0.8s							
NVAR	**Mina Array Bea**	**15.88**	**185**	Pn		**Pn**	**00 01 39.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=12,slow=14,SNR=1.9							
NVAR				LR		LR	00 08 19.7	
	comp=Z,38nm,18.3s,baz=232,slow=40							
INK	**Inuvik**	**16.17**	**337**	Pn		**Pn**	**00 01 38.2**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=141,slow=8.1,SNR=4.1							
INK				Sn		Sn	00 04 28.6	-11
	comp=Z,0.2nm,0.3s,baz=336,slow=26,SNR=1.5							
INK				Lg		Lg	00 06 17.4	
	baz=66,slow=27,SNR=1.4							
INK				LR		LR	00 08 44.2	
	comp=Z,70nm,19.4s,baz=176,slow=40							
INK	**Inuvik**	**16.17**	**337**	Pn		**Pn**	**00 01 39.9**	**-0.8**
K27K	**Chicken**	**16.20**	**317**	Pn		**Pn**	**00 01 40.1**	**-1.1**
PV22	**Blue Mesa, Par**	**16.60**	**158**	Pn		**Pn**	**00 01 45.0**	**-1.6**
EYMN	**Ely**	**16.93**	**102**	Pn		**Pn**	**00 01 48.3**	**-2.1**
SCRK	**Sand Creek**	**16.95**	**316**	Pn		**P**	**00 01 52.3**	**-0.5**
PV13	**Radium Mtn., P**	**16.96**	**159**	Pn		**Pn**	**00 01 50.4**	**-0.7**
F36A	**Milaca**	**16.97**	**110**	Pn		**Pn**	**00 01 48.5**	**-2.5**
F36A				IAmb		IAmb	00 01 56.9	
	comp=Z,19nm,0.9s							
SPMN	**Marine on St.**	**17.76**	**111**	Pn		**Pn**	**00 01 59.2**	**-1.6**
SPMN				IAmb		IAmb	00 02 04.9	
	comp=Z,10nm,1.1s							
KSCO	**Kaye Shedlock'**	**17.96**	**142**	Pn		**Pn**	**00 02 03.3**	**-0.2**
KSCO				IAmb		IAmb	00 02 21.7	
	comp=Z,12nm,0.7s							
PWL	**Port Wells**	**18.13**	**304**	Pn		**Pn**	**00 02 04.4**	**-0.8**
PWL				IAmb		IAmb	00 02 08.8	
	comp=Z,22nm,1.4s							
SDCO	**Great Sand Dun**	**18.18**	**151**			**P**	**00 02 06.7**	**0.0**
I37A	**Lemond, Waseca**	**18.23**	**115**	Pn		**Pn**	**00 02 05.7**	**-0.9**
I37A				IAmb		IAmb	00 02 12.4	
	comp=Z,8.9nm,0.9s							
ILAR	**Eielson Array**	**18.42**	**317**	P		**Pn**	**00 02 09.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=112,slow=9.8,SNR=7.6							
ILAR				Lg		Lg	00 07 31.1	
	comp=Z,0.0nm,0.3s,baz=99,slow=28,SNR=2.9							
ILAR				LR		LR	00 08 45.0	
	comp=Z,29nm,19.7s,baz=113,slow=35							
WRH	**Wood River Hil**	**18.81**	**315**	P		**P**	**00 02 12.7**	**-0.4**
MDM	**Murphy Dome**	**19.02**	**317**	P		**Pn**	**00 02 16.0**	**-0.2**
T25A	**Trinidad**	**19.07**	**149**	P		**P**	**00 02 15.6**	**-0.7**
T25A				IAmb		IAmb	00 02 19.3	
	comp=Z,7.0nm,1.0s							
D41A	**Chassel**	**19.08**	**101**	P		**P**	**00 02 16.5**	**+0.4**
CBKS	**Cedar Bluff**	**19.23**	**137**	P		**P**	**00 02 17.0**	**-1.0**
CBKS				IAmb		IAmb	00 02 26.7	
	comp=Z,13nm,0.6s							
I23K	**Minto, Yukon-K**	**19.54**	**317**	P		**P**	**00 02 21.4**	**+0.4**
BPAW	**Bear Paw Mtn.**	**19.93**	**313**	P		**Pn**	**00 02 26.5**	**-0.5**
BPAW				IAmb		IAmb	00 02 30.9	
	comp=Z,4.2nm,0.8s							
MLY	**Manley**	**20.06**	**316**	P		**P**	**00 02 26.8**	**0.0**
PPLA	**Purkeypile**	**20.22**	**310**	P		Pn	00 02 31.0	+0.5
PPLA				IAmb		IAmb	00 02 34.3	
	comp=Z,8.0nm,1.0s							
KDAK	**Kodiak Island**	**20.27**	**295**	LR		LR	00 09 18.7	
	comp=Z,73nm,21.1s,baz=74,slow=34							
ANMO	**Albuquerque**	**20.57**	**156**	P		**P**	**00 02 33.2**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=330,slow=12,SNR=7.3							
ANMO				LR		LR	00 10 05.0	
	comp=Z,31nm,18.8s,baz=335,slow=36							
PFO	**Pinyon Flats O**	**20.64**	**180**	LR		LR	00 10 58.4	
	comp=Z,43nm,20.0s,baz=280,slow=38							
I42A	**Draeger Farm,**	**20.75**	**109**	P		Pn	00 02 36.1	-0.7
I42A				IAmb		IAmb	00 02 39.7	
	comp=Z,13nm,1.4s							
P38A	**Dawn**	**21.36**	**124**	P		**P**	**00 02 41.1**	**+0.2**
IMAR	**Indian Mountai**	**21.53**	**318**	P		**P**	**00 02 43.1**	**+0.6**
L42A	**Oliver, Polo**	**21.60**	**114**	P		**P**	**00 02 44.1**	**+0.6**
L42A				IAmb		IAmb	00 02 48.6	
	comp=Z,16nm,1.1s							
SVW2	**Sparrevohn**	**21.66**	**304**	P		**P**	**00 02 44.4**	**+0.3**
G45A	**Suttons Bay**	**21.89**	**102**	P		**P**	**00 02 48.1**	**+1.5**
TTA	**Tatalina**	**21.96**	**309**	P		**P**	**00 02 49.2**	**+1.8**
TTA				IAmb		IAmb	00 02 53.5	
	comp=Z,7.3nm,1.4s							
P40A	**Paris**	**22.16**	**122**	P		**P**	**00 02 49.8**	**+0.2**
P40A				IAmb		IAmb	00 02 55.2	
	comp=Z,13nm,1.1s							
RES	**Resolute Bay**	**22.25**	**15**	P		**P**	**00 02 51.1**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=225,slow=5.7,SNR=1.6							
RES				Lg		Lg	00 09 15.6	
	comp=Z,6.7nm,1.0s,baz=154,slow=10,SNR=2.2							
RES				LR		LR	00 11 32.5	
	comp=Z,50nm,18.6s,baz=340,slow=37							
HDIL	**Hopedale**	**22.82**	**116**	P		**P**	**00 02 57.6**	**+1.1**
S39A	**Bolivar**	**22.98**	**127**	P		**P**	**00 02 57.7**	**-0.6**
S39A				IAmb		IAmb	00 03 04.8	
	comp=Z,8.5nm,1.1s							
WMOK	**Wichita Mounta**	**23.16**	**140**	P		**P**	**00 02 59.8**	**-0.4**
WMOK				IAmb		IAmb	00 03 04.4	
	comp=Z,5.4nm,0.9s							
P43A	**Skaggs, Pawnee**	**23.37**	**118**	P		**P**	**00 03 03.2**	**+1.0**
P43A				IAmb		IAmb	00 03 04.8	
	comp=Z,9.9nm,1.0s							
U38A	**Gravette**	**23.52**	**130**	P		**P**	**00 03 03.6**	**-0.1**
U38A				IAmb		IAmb	00 03 09.1	
	comp=Z,5.6nm,1.0s							
CCM	**Cathedral Cave**	**23.70**	**123**	P		**P**	**00 03 05.9**	**+0.5**
CCM				IAmb		IAmb	00 03 29.3	
	comp=Z,3.6nm,0.8s							
MGMO	**Mountain Grove**	**23.91**	**126**	P		**P**	**00 03 07.8**	**+0.2**
FVM	**French Village**	**24.16**	**122**	P		**P**	**00 03 10.4**	**+0.6**
U40A	**Yellville**	**24.29**	**128**	P		**P**	**00 03 10.8**	**-0.3**
U40A				IAmb		IAmb	00 03 13.7	
	comp=Z,4.7nm,0.9s							
S44A	**Carbondale**	**24.97**	**120**	P		**P**	**00 03 17.6**	**+0.4**
SIUC	**Southern Illin**	**24.98**	**120**	P		**P**	**00 03 17.5**	**+0.3**
PBMO	**Poplar Bluff**	**25.10**	**123**	P		**P**	**00 03 19.8**	**+1.4**
LCAR	**Lake Charles**	**25.32**	**126**	P		**P**	**00 03 20.6**	**+0.3**
WHAR	**Wooly Hollow**	**25.42**	**128**	P		**P**	**00 03 21.4**	**+0.1**
WHAR				IAmb		IAmb	00 03 51.6	
	comp=Z,7.3nm,0.9s							
SADO	**Sadowa**	**25.82**	**96**	Lg		Lg	00 11 16.9	
	comp=Z,3.3nm,0.7s,baz=72,slow=22,SNR=2.3							
SADO				LR		LR	00 13 01.3	
	comp=Z,50nm,20.4s,baz=238,slow=35							
FRB	**Frobisher Bay**	**25.88**	**49**	Lg		Lg	00 11 16.1	
	comp=Z,5.2nm,0.9s,baz=17,slow=20,SNR=2.7							
FRB				LR		LR	00 13 47.2	
	comp=Z,74nm,18.8s,baz=181,slow=37							
TXAR	**Lajitas Array**	**26.62**	**154**	P		**P**	**00 03 32.7**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=352,slow=7.6,SNR=4.7							
TKL	**Tuckaleechee C**	**29.36**	**116**	LR		LR	00 16 16.4	
	comp=Z,95nm,19.6s,baz=332,slow=38							
NRIK	**Noril'sk**	**55.45**	**350**	LR		LR	00 32 27.4	
	comp=Z,22nm,20.5s,baz=152,slow=37							
FINES	**FINESS Array B**	**60.92**	**19**	P		**P**	**00 08 09.7**	**+3.6**
	comp=Z,1.1nm,1.0s,baz=0.0,slow=9.7,SNR=1.6							
ZALV	**Zalesovo Beam**	**70.71**	**347**	P		**P**	**00 09 10.9**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5,SNR=1.9							
KSRS	**Korea Array**	**73.17**	**311**	LR		LR	00 41 59.2	
	comp=Z,18nm,21.5s,baz=97,slow=36							
TORD	**Torodi Ar. Bea**	**95.04**	**59**	LR		LR	00 50 52.3	
	comp=Z,14nm,19.1s,baz=160,slow=33							

IDC 14 00:05:19.1±1.1, 12°38N×143°62E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/39, mbtmp3.8/5, Error ellipse: s-maj=84.6km s-min=23.8km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.39**	**196**	P	P	00 11 59.2	-0.4
	1.0nm,0.6s,baz=20,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**37.06**	**195**	P	P	00 12 31.4	+0.2
	0.4nm,0.6s,baz=19,slow=9.6,SNR=6.9						
ILAR	**Eielson Array**	**70.17**	**25**	P	P	00 16 32.9	-0.6
	0.3nm,0.5s,baz=250,slow=4.7,SNR=5.0						
NVAR	**Mina Array Bea**	**88.62**	**51**	P	P	00 18 15.8	+1.0
	0.5nm,0.5s,baz=268,slow=3.5,SNR=4.2						
FINES	**FINESS Array B**	**91.73**	**335**	P	P	00 18 28.4	-0.1
	0.6nm,0.5s,baz=66,slow=4.7,SNR=4.8						

*NEIC **14** 00:10:25.2±1.4, 54°.40N±0°.05×161°.95W±0°.03, h23km±11km, Error ellipse: s-maj=7.7km s-min=2.7km az=179.0*

AEIC 14 00:10:26.0±1.5, 54°.42N±0°.05×161°.99W±0°.06, h10km±6km, ML3.2/40, ML3.5/6(NEIC), Error ellipse: s-maj=8.1km s-min=4.6km az=161.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DT1	**Dutton Round H**	**0.71**	**346**		Pg	00 10 39.0	-0.8
HAG	**Hague Volcano**	**0.90**	**3**		Pg	00 10 42.3	-1.1
PS4A	**Pavlof South-4**	**0.93**	**5**		Pg	00 10 42.6	-1.3
FALS	**False Pass**	**0.94**	**298**		Pg	00 10 42.3	-1.7
FALS					Sg	00 10 55.4	-0.9
PVV	**Pavlof Volcano**	**0.96**	**7**		Pg	00 10 43.2	-1.3
BRPK	**Brown Peak**	**1.04**	**283**		Pg	00 10 43.8	-2.2
BRPK					Sg	00 10 58.3	-1.3
SSLS	**Shishaldin Sou**	**1.21**	**285**		Pb	00 10 46.7	-2.2
SSLS					Sb	00 11 03.3	-1.3
SSLN	**Shishaldin Nor**	**1.23**	**290**		Pn	00 10 47.6	-1.6
SSLN					Sb	00 11 04.7	-0.6
SDPT	**Sand Point**	**1.28**	**43**		Pn	00 10 47.5	-2.4
SDPT					Sb	00 11 04.1	-2.5
SDPT	**Sand Point**	**1.28**	**43**	IAML		00 11 05.0	
	comp=E,1µm,0.7s						
SDPT				IAML		00 11 06.3	
	comp=N,671nm,0.6s						
SSBA	**Shishaldin**	**1.29**	**287**		Pn	00 10 47.9	-2.2
WESP	**Westdahl Peak**	**1.60**	**274**		Pn	00 10 52.7	-1.6
WECS	**Westdahl Cape**	**1.63**	**275**		Pn	00 10 53.1	-1.6
AKSA	**Akutan Strait**	**2.19**	**264**		Pn	00 11 00.6	-1.8
AKSA					Sn	00 11 26.7	-2.9
AKSA	**Akutan Strait**	**2.19**	**264**		Pn	00 11 00.7	-1.7
AKSA					Sn	00 11 27.2	-2.4
AKUT	**Akutan**	**2.23**	**264**	Pn	Pn	00 11 01.1	-1.8
AKUT				IAML		00 11 33.2	
	comp=E,208nm,0.3s						
HSB	**Akutan Spr's B**	**2.31**	**266**		Pn	00 11 02.9	-1.2
VNSS	**Veniaminof 8**	**2.32**	**38**		Pn	00 11 03.4	-1.0
VNFG	**Fog Glacier, M**	**2.33**	**36**		Pn	00 11 03.3	-1.2
AKMO	**Akutan Morgan**	**2.38**	**264**		Pn	00 11 03.6	-1.4
AKMO					Sn	00 11 32.5	-1.7
VNSG	**Veniaminof 6**	**2.39**	**43**		Pn	00 11 03.5	-1.6
VNHG	**Veniaminof 1**	**2.42**	**41**		Pn	00 11 04.3	-1.4
MTBL	**Makushin Table**	**2.79**	**263**		Pn	00 11 09.3	-1.5
MNAT	**Makushin Natee**	**2.81**	**261**		Pn	00 11 08.8	-2.2
MGOD	**Makushin Gods**	**2.94**	**260**		Pn	00 11 10.6	-2.2
MAPS	**Pakushin South**	**2.98**	**260**		Pn	00 11 11.3	-1.9
MAPS					Sn	00 11 46.8	-2.2
SII	**Sitkinak Islan**	**4.93**	**61**		Pn	00 11 37.1	-3.0
SII				IAML		00 13 00.5	
	comp=N,50nm,1.5s						
KABU	**Katmai Buttres**	**5.37**	**41**		Pn	00 11 43.8	-2.3
KDAK	**Kodiak Island**	**6.25**	**54**		Pn	00 11 54.6	-3.5
SVW2	**Sparrevohn**	**7.52**	**24**		Pn	00 12 13.9	-1.6
CNPM	**China Poot**	**7.79**	**45**		Pn	00 12 16.8	-2.5
SLKM	**Skilak Lake**	**8.79**	**41**		Pn	00 12 31.0	-2.0
TT01	**Tatalina**	**9.06**	**18**		Pn	00 12 34.2	-2.4
TTA	**Tatalina**	**9.08**	**18**	Pn	Pn	00 12 34.5	-2.5
PWL	**Port Wells**	**9.75**	**43**		Pn	00 12 42.7	-3.4
PPLA	**Purkeypile**	**9.90**	**27**	Pn	Pn	00 12 47.0	-1.4
SCM	**Sheep Creek Mo**	**10.72**	**40**	Pn	Pn	00 12 55.2	-4.2
TRF	**Thorofare Moun**	**10.87**	**29**	Pn	Pn	00 12 58.6	-2.9
KLU	**Klutina**	**11.07**	**44**	Pn	Pn	00 13 00.4	-3.9
HMT	**Hamilton**	**11.24**	**51**	Pn	Pn	00 13 03.3	-3.1
N25K	**Chitina, Valde**	**11.67**	**45**	Pn	Pn	00 13 08.6	-3.9
IMAR	**Indian Mountai**	**12.29**	**16**	Pn	Pn	00 13 18.9	-1.9
BCAR	**Beaver Creek A**	**13.55**	**42**	Pn	Pn	00 13 33.9	-4.1

*BJI **14** 01:02:04.3±0.0, 44°.49N×140°.62E, h252km, mB4.4/13, mb4.3/21*

*MOS **14** 01:02:05.9±0.8, 44°.42N×140°.45E, h257km, mb4.1/22, Error ellipse: s-maj=7.9km s-min=6.0km az=118.8*

*NIED **14** 01:02:06.0, 44°.41N×140°.41E, h258km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-1.79; Mθθ0.02; Mϕϕ1.77; Mrθ0.70; Mθϕ-0.68; Mϕr-0.63; Fault plane solution: M0 2.13000×10^15^ NP1: ϕs328.00000°, δs58.00000°, λs-105.00000°. NP2: ϕs175.00000°, δs35.00000°, λs-67.00000°.*

*NEIC **14** 01:02:06.9±1.5, 44°.45N±0°.08×140°.5E±0°.1, h254km±8km, mb4.1/41 Error ellipse: s-maj=13.8km s-min=10.8km az=115.0*

*JMA **14** 01:02:06.0±0.3, 44°.40N×140°.41E, h258km±3km, M4.1*

*IDC **14** 01:02:06.5±0.6, 44°.45N×140°.48E, h249km±6km, mb3.7/22, mb1 3.8/28, mb1mx3.6/44, mbtmp4.2/28, Error ellipse: s-maj=10.1km s-min=9.1km az=142.0*

*SKHL **14** 01:02:08.5±0.2, 44°.60N×140°.70E, h265km±12km, mb4.7/5, msh4.8/4, msha5.0/2*

ISC 14 01:02:06.3±0.4, 44°.38N±0°.04×140°.47E±0°.04, h250km±3km, h249km; pP-P, n251, σ107/292, mb4.1/64, 23C-36D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.69**	**85**	⇓P	**Pn**	**01 02 40.4**	**+0.7**
JRR	**Rishiri**	**0.97**	**38**	⇓P	**Pn**	**01 02 42.1**	**+1.1**
JSS	**Shosan**	**0.99**	**88**	⇓P	**Pn**	**01 02 42.5**	**+1.3**
JSS				*e*S	**S**	**01 03 10.8**	**+2.2**
JSK	**Shakotan**	**1.02**	**180**	⇓P	**Pn**	**01 02 42.4**	**+1.0**
JSK				*e*S	**S**	**01 03 10.3**	**+1.3**
JHR	**Hokuryu**	**1.10**	**125**	⇓P	**Pn**	**01 02 43.3**	**+1.4**
JRBN	**Rebuntou**	**1.13**	**22**	⇓P	**Pn**	**01 02 42.3**	**+0.4**
JRBN				*e*S	**S**	**01 03 09.4**	**-0.7**
JWK2	**Keihoku**	**1.38**	**47**	⇓P	**Pn**	**01 02 44.7**	**+1.1**
JWK2				*e*S	**S**	**01 03 14.6**	**+1.5**
ASAJ	**Asahikawa**	**1.55**	**99**	P	**Pn**	**01 02 45.6**	**+0.7**
	69nm,0.3s,baz=284,slow=5.6,SNR=570			S	**S**	**01 03 15.5**	**+0.2**
ASAJ							
	10nm,0.3s,baz=326,slow=34,SNR=1.5						
JKA	**Kamikawa-asahi**	**1.55**	**99**	Pn	**Pn**	**01 02 45.3**	**+0.4**
JSE	**Soyaes**	**1.62**	**68**	⇓P	**Pn**	**01 02 45.9**	**+0.5**
JSE				*e*S	**S**	**01 03 16.3**	**+0.1**
JEW	**Eniwo**	**1.69**	**155**	⇓P	**Pn**	**01 02 47.4**	**+1.3**
JEW				*e*S	**S**	**01 03 19.6**	**+2.2**
JEW	**Eniwo**	**1.69**	**155**	Pn	**Pn**	**01 02 47.2**	**+1.1**

JKK2	**Kamakawa 2**	**1.71**	**106**	⇓P		**Pn**	**01 02 47.0**	**+0.7**
JKK2				*e*S		**S**	**01 03 18.5**	**+0.8**
JFR	**Furan**	**1.96**	**128**	⇓P		**Pn**	**01 02 48.8**	**+0.4**
JFR				*e*S		**S**	**01 03 22.1**	**+0.6**
JOSM	**Okushiri--Mats**	**2.41**	**198**	⇓P		**Pn**	**01 02 53.3**	**+0.7**
JTKR	**Abashiri--Toko**	**2.50**	**98**	⇓P		**Pn**	**01 02 54.3**	**+0.8**
JTKR				*e*S		**S**	**01 03 32.4**	**+1.6**
JKB	**Kayabe**	**2.52**	**170**	P		**Pn**	**01 02 53.9**	**+0.2**
JAR	**Ashorobuto**	**2.62**	**113**	⇓P		**Pn**	**01 02 55.5**	**+0.8**
JAR				*e*S		**S**	**01 03 33.7**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.67**	**141**	P		**Pn**	**01 02 55.0**	**-0.3**
JNBK				*e*S		**S**	**01 03 34.3**	**+0.3**
JCH	**Churui**	**2.74**	**129**	*e*S		**S**	**01 03 30.6**	**-4.7**
TEY	**Ternei**	**2.84**	**285**	⇑*i*PN		**Pn**	**01 02 56.8**	**-0.1**
TEY				pmax		pmax		
	comp=N,210nm,0.4s							
TEY				pmax		pmax		
	comp=E,430nm,0.4s							
TEY				pmax		pmax		
	comp=Z,620nm,0.4s							
TEY	**Ternei**	**2.84**	**285**	*e*rx		rx	01 02 56.8	
TEY				AMB		AMB	01 02 57.2	
	comp=Z,60nm,0.6s							
JOMM	**Oshimamatsumae**	**2.87**	**187**	⇓P		**Pn**	**01 02 57.8**	**+0.4**
JOMM				*e*S		**S**	**01 03 37.4**	**-0.3**
JOT	**Ohata**	**3.02**	**172**	P		**Pn**	**01 02 59.1**	**+0.1**
JOT				*e*S		**S**	**01 03 39.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**3.04**	**31**	⇓*i*PN		**Pn**	**01 02 59.3**	**+0.3**
YSS				*e*S		**S**	**01 03 39.1**	**-1.7**
YSS				pmax		pmax		
	comp=Z,60nm,0.7s							
YSS				smax		smax		
	comp=E,300nm,2.3s							
YSS				smax		smax		
	comp=N,180nm,1.0s							
YSS				smax		smax		
	comp=E,180µm,1.0s							
YSS	**Yuzh-Sakhalins**	**3.04**	**31**	Pn		**Pn**	**01 02 58.7**	**-0.3**
YSS	**Yuzh-Sakhalins**	**3.04**	**31**	*i* P		**Pn**	**01 02 59.3**	**+0.3**
YSS				AMB		AMB	01 03 00.3	
	comp=E,60nm,0.7s							
YSS				*e*S		**S**	**01 03 39.1**	**-1.7**
YSS				A		A	01 03 40.5	
	comp=E,300nm,2.0s							
YSS				A		A	01 03 41.0	
	comp=E,180nm,1.0s							
YSS				A		A	01 03 41.0	
	comp=E,180nm,1.0s							
ERM	**Erimo**	**3.07**	**139**	*ce*PN		**Pn**	**01 03 00.6**	**+1.1**
ERM				pmax		pmax		
	comp=Z,58nm,1.3s							
ERM	**Erimo**	**3.07**	**139**	Pn		**Pn**	**01 03 00.5**	**+1.1**
JAK	**Akkeshi**	**3.36**	**113**	P		**Pn**	**01 03 01.6**	**-1.1**
JAK				*e*S		**S**	**01 03 44.5**	**-2.8**
JRA	**Rausu**	**3.38**	**96**	P		**Pn**	**01 03 04.2**	**+1.4**
JRA				*e*S		**S**	**01 03 50.1**	**+2.5**
RUSJ	**Misakicho**	**3.44**	**93**	⇓*i*PN		**Pn**	**01 03 05.6**	**+2.0**
RUSJ				*e*S		**S**	**01 03 51.3**	**+2.3**
JTM	**Tenmabayashi**	**3.61**	**173**	Pn		**Pn**	**01 03 05.2**	**-0.4**
GRPR	**Tuman**	**3.83**	**94**	*e*PN		**Pn**	**01 03 09.5**	**+1.5**
GRPR				*e*S		**S**	**01 03 58.3**	**+1.3**
GRPR				pmax		pmax		
	comp=Z,59nm,0.4s							
GRPR				pmax		pmax		
	comp=N,34nm,0.1s							
GRPR				pmax		pmax		
	comp=E,30nm,0.1s							
GRPR				smax		smax		
	comp=N,338nm,0.4s							
GRPR				smax		smax		
	comp=N,182nm,1.2s							
GRPR				smax		smax		
	comp=E,313nm,1.3s							
GRPR	**Tuman**	**

JHJ Hachijo jima 2 11.25 183 P **Pn 01 04 39.2 -1.4**
comp=Z,3.1nm,0.3s,baz=26,slow=22,SNR=1.3
KSRS Korea Array 11.74 238 P **Pn 01 04 46.6 +0.1**
comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=6.6
SKR Severo-Kuril's 12.30 54 *e*P **Pn 01 04 52.2 -1.2**
SKR AMB AMB 01 04 55.9
comp=Z,50nm,0.4s
ZEA Zeya 12.74 322 *e*PN **P 01 05 00.3 -0.6**
ZEA Zeya 12.74 322 *e*P **P 01 05 00.3 -0.6**
BMKR Bomnak 12.79 328 *e*P **Pn 01 05 00.2 +0.9**
BMKR AMB AMB 01 05 02.0
comp=Z,8.0nm,0.8s
PAU Pauzhetka 13.04 51 *e*P **Pn 01 05 02.1 -0.3**
PAU AMB AMB 01 05 04.6
comp=Z,70nm,0.8s
PEA0B Petropavlovsk- 14.31 46 P **P 01 05 18.5 +0.3**
PEA0B Petropavlovsk- 14.31 46 **P 01 05 18.5 +0.3**
PETK Petropavlovsk- 14.31 46 P **P 01 05 18.2 +0.1**
comp=Z,0.4nm,0.3s,baz=238,slow=10.0,SNR=6.2
SEY Seymchan 19.82 16 P **P 01 06 17.0 -1.0**
comp=Z,0.4nm,0.3s,baz=218,slow=8.4,SNR=7.1
HHC Hu-ho-hao-te 21.51 271 *e*P **P 01 06 38.4 +2.6**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.8s
ULN Ulaanbaatar 23.32 290 *ce*P **P 01 06 53.6 +1.3**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 23.32 290 P **P 01 06 50.7 -1.6**
ULN IAmb IAmb 01 06 54.2
comp=Z,4.5nm,0.8s
ULN Ulaanbaatar 23.32 290 *e*P **P 01 06 53.6 +1.3**
SONM Songino Array 23.76 290 P **P 01 06 57.0 +0.7**
comp=Z,8.8nm,0.7s,baz=83,slow=8.2,SNR=33
SONM Songino Array 23.76 290 P **P 01 06 56.9 +0.7**
SONM IAmb IAmb 01 06 57.7
comp=Z,4.9nm,0.7s
DGZ Jazzator, Alta 35.90 298 *i* P **P 01 08 43.1 +0.3**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
KMI Kunming 36.06 250 ⇑P **P 01 08 45.8 +1.4**
KMI pmax pmax
comp=Z,13nm,0.9s
ZAA0 Zalesovo Array 36.74 305 P **P 01 08 49.4 -0.2**
ZALV Zalesovo Beam 36.74 305 P **P 01 08 49.7 +0.1**
comp=Z,1.9nm,0.6s,baz=82,slow=8.7,SNR=9.4
ZALV PcP **PcP 01 11 06.5 +0.5**
comp=Z,2.5nm,0.5s,baz=122,slow=5.4,SNR=7.9
ZALV Zalesovo Beam 36.74 305 P **P 01 08 49.3 -0.3**
WMQ Urumqi 37.36 288 *e*P **P 01 08 56.5 +1.5**
SLVN Son La 37.90 245 P **P 01 09 00.5 +0.8**
SLVN IAmb IAmb 01 09 02.3
comp=Z,5.9nm,0.8s
MK31 Makanchi Array 39.99 295 *i* P **P 01 09 17.1 +0.4**
MK31 Makanchi Array 39.99 295 P **P 01 09 16.7 0.0**
MKAR Makanchi Array 39.99 295 P **P 01 09 17.0 +0.4**
comp=Z,3.2nm,0.7s,baz=83,slow=9.2,SNR=33
MKAR PcP **PcP 01 11 16.8 +0.3**
comp=Z,0.9nm,0.5s,baz=61,slow=3.1,SNR=5.4
MKAR Makanchi Array 39.99 295 P **P 01 09 16.8 +0.1**
MAKZ Makanchi 40.19 295 P **P 01 09 18.0 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 40.19 295 P **P 01 09 18.0 -0.3**
MAKZ IAmb IAmb 01 09 19.6
comp=Z,6.3nm,1.0s
IMAR Indian Mountai 40.86 35 P **P 01 09 22.4 -1.1**
KDAK Kodiak Island 42.36 47 P **P 01 09 35.7 +0.1**
comp=Z,3.0nm,0.5s,baz=135,slow=5.7,SNR=9.9
KDAK Kodiak Island 42.36 47 P **P 01 09 35.7 +0.1**
KDAK pmax pmax
comp=Z,44nm,1.6s
CNPM China Poot 42.71 44 P **P 01 09 38.6 +0.1**
CNPM IAmb IAmb 01 09 48.3
comp=Z,18nm,1.3s
CMAR Chiang Mai Arr 43.21 247 P **P 01 09 43.8 +0.8**
comp=Z,1.8nm,0.4s,baz=34,slow=7.3,SNR=5.6
WRH Wood River Hil 43.36 37 P **P 01 09 43.6 0.0**
CCB Clear Creek Bu 43.46 36 P **P 01 09 44.0 -0.4**
SML Sawmill 43.69 41 P **P 01 09 47.1 +0.8**
SML IAmb IAmb 01 10 23.0
comp=Z,8.0nm,1.2s
ILAR Eielson Array 43.83 36 P **P 01 09 47.5 +0.1**
comp=Z,0.6nm,0.6s,baz=282,slow=9.6,SNR=8.2
ILAR Eielson Array 43.83 36 P **P 01 09 48.6 +1.2**
SCM Sheep Creek Mo 44.15 40 P **P 01 09 50.8 +0.8**
SCM pmax pmax
comp=Z,33nm,2.0s
SCM Sheep Creek Mo 44.15 40 P **P 01 09 50.8 +0.8**
PRP Porcupine Dome 44.28 35 P **P 01 09 51.1 +0.1**
BMAR Burnt Mountain 44.37 32 P **P 01 09 53.0 +1.4**
KDJ Kajisay 45.13 290 P **P 01 09 58.2 +0.1**
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ Kajisay 45.13 290 P **P 01 09 58.2 +0.1**
SCRK Sand Creek 45.21 37 P **P 01 09 57.6 -0.8**
BRVK Borovoye 45.38 307 *ce*P **P 01 10 00.4 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 45.38 307 P **P 01 09 59.7 0.0**
BRVK IAmb IAmb 01 10 00.8
comp=Z,12nm,1.1s
BRVK Borovoye 45.38 307 *e*P **P 01 10 00.4 +0.7**
BOOM Boomskoye usch 45.80 291 P **P 01 10 03.6 +0.2**
BOOM pmax pmax
comp=Z,8.0nm,0.8s
BOOM Boomskoye usch 45.80 291 P **P 01 10 03.6 +0.2**
BOOM IAmb IAmb 01 10 05.3
comp=Z,8.0nm,0.8s
BCAR Beaver Creek A 46.38 38 P **P 01 10 08.7 +1.2**
AAK Ala-Archa 46.70 292 *ce*P **P 01 10 10.1 -0.2**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 46.70 292 *e*P **P 01 10 10.1 -0.2**
EPYK Eagle Plains 47.62 33 P **P 01 10 17.7 +0.8**
EPYK IAmb IAmb 01 10 18.2
comp=Z,14nm,1.4s
INK Inuvik 48.27 30 P **P 01 10 21.6 -0.1**
comp=Z,4.0nm,0.3s,baz=299,slow=9.8,SNR=33
INK Inuvik 48.27 30 P **P 01 10 21.8 0.0**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 48.27 30 P **P 01 10 21.8 0.0**
INK IAmb IAmb 01 10 22.6
comp=Z,3.5nm,0.5s
KK31 Karatay Array 49.12 294 P **P 01 10 27.7 -0.9**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 49.12 294 P **P 01 10 27.7 -0.9**
KK31 IAmb IAmb 01 10 29.6
comp=Z,4.9nm,0.8s
KKAR Karatay Array 49.12 294 P **P 01 10 29.0 +0.4**
KKAR Karatay Array 49.12 294 P **P 01 10 28.9 +0.4**
SVE Sverdlovsk 49.33 314 *e*P **P 01 10 30.5 +0.6**
SVE pmax pmax
comp=Z,11nm,0.8s
SVE Sverdlovsk 49.33 314 *e*P **P 01 10 30.5 +0.6**
ARU Arti 50.54 315 *d i*P **P 01 10 38.7 -0.3**
ARU *PP **pP 01 11 30.4 -1.7**
ARU 01 12 36.4
ARU S **S 01 17 35.5 +2.3**
ARU SS **SS 01 21 06.6 -3.4**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 50.54 315 P **P 01 10 37.9 -1.0**
ARU IAmb IAmb 01 10 39.6
comp=Z,7.8nm,0.8s
ARU Arti 50.54 315 *e*P **P 01 10 38.7 -0.3**
GAR Garm 51.21 290 P **P 01 10 43.8 -0.6**
GAR IAmb IAmb 01 10 45.6
comp=Z,8.8nm,1.0s
NIL Nilore 51.98 282 P **P 01 10 49.7 -0.3**
NIL pmax pmax
comp=Z,6.0nm,0.9s
NIL Nilore 51.98 282 P **P 01 10 49.7 -0.3**
NIL IAmb IAmb 01 10 51.5
comp=Z,6.2nm,0.9s
CHGR Chuyangaron 52.16 290 P **P 01 10 50.9 -0.5**
ABKAR Akbulak array 52.85 306 P **P 01 10 56.6 +0.4**
ARCES ARCESS Array B 56.91 338 P **P 01 11 24.1 -0.7**
comp=Z,0.9nm,0.5s,baz=51,slow=8.4,SNR=14
KLMR Klimovskoe 57.25 325 *e*P **P 01 11 25.3 -2.0**
KLMR pmax pmax
comp=Z,7.0nm,0.9s
KLMR Klimovskoe 57.25 325 *e*P **P 01 11 25.4 -1.9**
KLMR AMP 01 11 27.3
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 57.89 32 P **P 01 11 31.6 -0.2**
comp=Z,0.6nm,0.7s,baz=319,slow=9.1,SNR=3.8
GEYT Alibeck 59.86 295 P **P 01 11 45.6 -0.1**
comp=Z,292nm,0.9s,baz=61,slow=12,SNR=3.0
GEYT Alibeck 59.86 295 IAmb IAmb 01 11 50.2
comp=Z,637nm,1.2s
OBN Obninsk 61.87 321 *i* P **P 01 11 58.0 -0.8**
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN Obninsk 61.87 321 *e*P **P 01 11 58.0 -0.8**
FINES FINESS Array B 62.04 330 P **P 01 11 59.1 -0.7**
comp=Z,10.0nm,0.5s,baz=52,slow=7.5,SNR=146
FINES FINESS Array B 62.04 330 P **P 01 11 58.6 -1.2**
SUMG Summit 63.35 360 P **P 01 12 07.7 -1.1**
SUMG pmax pmax
comp=Z,3.0nm,0.6s
SUMG Summit 63.35 360 P **P 01 12 07.7 -1.1**
SUMG IAmb IAmb 01 12 09.7
comp=Z,3.4nm,0.6s
WRA Warramunga Arr 64.25 186 P **P 01 12 14.9 +0.2**
comp=Z,1.3nm,0.4s,baz=2.1,slow=6.9,SNR=43
WRA PcP **PcP 01 12 47.8 +0.5**
comp=Z,0.5nm,0.6s,baz=360,slow=4.6,SNR=4.6
WRA Warramunga Arr 64.25 186 P **P 01 12 14.4 -0.4**
KIV Kislovodsk 65.67 308 *e*P **P 01 12 25.0 +1.1**
KIV pmax pmax
comp=Z,32nm,1.0s
KIV Kislovodsk 65.67 308 P **P 01 12 24.2 +0.3**
KIV Kislovodsk 65.67 308 *e*P **P 01 12 25.0 +1.1**
KBZ Khabaz 65.70 308 P **P 01 12 24.6 +0.7**
comp=Z,3.4nm,0.7s,baz=39,slow=5.2,SNR=12
KBZ Khabaz 65.70 308 *ce*P **P 01 12 25.0 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 65.70 308 *e*P **P 01 12 25.0 +1.1**
ZEI Tsey 65.71 307 *e*P **P 01 12 21.6 -2.7**
ZEI pmax pmax
comp=Z,4.0nm,0.8s
MNK Minsk 66.08 324 *i* P **P 01 12 25.9 -0.3**
MNK *i* 01 12 54.1
MNK *i *PP **pP 01 13 22.8 +0.3**
MNK *i* 01 14 54.6
MNK *i* PPP PPP 01 16 33.4
MNK *i* S **S 01 20 53.7 +0.2**
MNK *i* 01 21 57.1
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=Z,199nm,18.0s
MNK Minsk 66.08 324 *i* P **P 01 12 26.0 -0.2**
comp=E,1.0nm,0.9s
MNK *i* P **P 01 12 26.0 -0.2**
comp=N,9.0nm,0.9s
MNK *i* P **P 01 12 26.0 -0.2**
comp=Z,13nm,0.9s,baz=46
MNK *i* PcP **PcP 01 12 54.2 -0.4**
MNK *i* pP **pP 01 13 22.9 +0.4**
MNK *i* sP **sP 01 13 45.2 -4.1**
MNK *i* PP **PP 01 14 54.6 +0.2**
MNK *i* PPP PPP 01 16 33.5
MNK *i* S **S 01 20 53.7 +0.2**
MNK *i* ScS **SKKSac 01 21 57.1 +0.1**
MNK *i* sS **sS 01 22 34.7 +1.3**
MNK *i* SS SS 01 26 02.6 +49
MNK *i* SSS SSS 01 28 52.7
MNK *i* LRM MLR 01 38 55.8
comp=E,16nm,18.9s
MNK *i* LRM MLR 01 40 48.7
comp=N,26nm,18.2s
MNK *i* LRM MLR 01 41 34.4
comp=Z,199nm,18.1s
NACGM Naroch 66.26 325 *i* P **P 01 12 26.8 -0.5**
NC303 NORSAR Array S 66.98 336 P **P 01 12 31.0 -0.8**
NOA NORSAR Array B 67.17 336 P **P 01 12 32.5 -0.5**
comp=Z,2.8nm,0.6s,baz=37,slow=6.3,SNR=23
AS31 Alice Springs 67.97 186 P **P 01 12 39.0 +0.6**
ASAR Alice Springs 67.97 186 P **P 01 12 39.5 +1.2**
comp=Z,2.4nm,0.6s,baz=4.0,slow=5.5,SNR=35
ASAR Alice Springs 67.97 186 P **P 01 12 39.8 +1.4**
ASAR Alice Springs 67.97 186 P **P 01 12 39.8 +1.4**
AKASG Malin Array Be 68.12 320 P **P 01 12 38.5 -0.5**
comp=Z,3.2nm,0.5s,baz=43,slow=7.0,SNR=20
AKASG Malin Array Be 68.12 320 P **P 01 12 39.0 -0.1**
AKBB Malin Array Si 68.12 320 *ce*P **P 01 12 38.7 -0.3**
AKBB Malin Array Si 68.12 320 P **P 01 12 38.4 -0.6**
GURO Guroymak-BITLI 69.51 304 P **P 01 12 48.1 +0.1**
GURO IAmb IAmb 01 12 50.1
comp=Z,3.9nm,0.7s
SORM Soroca 70.33 319 ⇓P **P 01 12 52.2 -0.4**
SORM Soroca 70.33 319 ⇓P **P 01 12 52.2 -0.4**
BURAR Bucovina Array 72.17 320 P **P 01 13 04.3 +0.5**
BURAR IAmb IAmb 01 13 04.7
comp=Z,2.0nm,0.7s
TESR Tescani 72.30 318 ⇑P **P 01 13 04.5 0.0**
KOLS Kolonicke sedl 72.51 322 *e*P **P 01 13 05.7 +0.1**
KOLS Kolonicke sedl 72.51 322 *e*P **P 01 13 05.7 +0.1**
CFR Carcaliu 72.55 317 ⇑P **P 01 13 05.5 -0.3**
CFR Carcaliu 72.55 317 ⇑P **P 01 13 05.5 -0.3**
VRI Vrincioaia 72.73 318 ⇓P **P 01 13 08.0 +1.0**
VRI Vrincioaia 72.73 318 ⇓P **P 01 13 08.0 +1.0**
PLOR Plostina 72.78 318 ⇑P **P 01 13 08.3 +1.0**
PLOR Plostina 72.78 318 ⇑P **P 01 13 08.3 +1.0**
BNN Bunyan 72.90 308 P **P 01 13 07.5 -0.7**
OZUR 73.02 319 ⇓P **P 01 13 09.9 +1.2**
PDAR Pinedale Array 73.07 46 P **P 01 13 08.4 -0.9**
comp=Z,0.4nm,0.6s,baz=339,slow=3.7,SNR=4.0
MLR Muntele Rosu 73.38 318 ⇑P **P 01 13 12.7 +1.8**
MLR Muntele Rosu 73.38 318 ⇑P **P 01 13 12.7 +1.8**
ICOR Ion Corvin 73.48 316 ⇓P **P 01 13 12.4 +1.1**
BR131 Keskin Array S 73.53 310 P **P 01 13 11.0 -0.9**
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 73.53 310 P **P 01 13 10.9 -0.9**
BR131 IAmb IAmb 01 13 13.4
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 73.53 310 P **P 01 13 12.2 +0.3**
comp=Z,1.2nm,0.7s,baz=58,slow=3.7,SNR=12
BRTR Keskin Array B 73.53 310 *ce*P **P 01 13 12.1 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 73.53 310 P **P 01 13 11.2 -0.7**
LANS Liptovska Anna 73.55 324 *e*P **P 01 13 13.0 +1.3**
LANS pmax pmax
comp=Z,8.0nm,1.8s
LANS Liptovska Anna 73.55 324 *e*P **P 01 13 13.0 +1.3**
OSTC Ostas 73.78 327 *e*P **P 01 13 13.4 +0.4**
ULM Lac du Bonnet 73.78 34 P **P 01 13 12.9 -0.1**
comp=Z,1.7nm,0.5s,baz=312,slow=9.4,SNR=2.9
CHVC Chvalec 73.82 327 *e*P **P 01 13 13.1 -0.1**
VOIR 73.85 319 ⇓P **P 01 13 14.2 +0.6**
VOIR 73.85 319 ⇓P **P 01 13 14.2 +0.6**
MORC Moravsky Berou 73.86 325 ⇓P **P 01 13 14.3 +0.8**
MORC Moravsky Berou 73.86 325 *e*P **P 01 13 14.1 +0.6**
MORC Moravsky Berou 73.86 325 ⇓P **P 01 13 14.3 +0.8**
MORC Moravsky Berou 73.86 325 P **P 01 13 13.9 +0.4**
MORC IAmb IAmb 01 13 15.0
comp=Z,7.7nm,1.2s
DPC Dobruska-Polom 73.90 327 *e*P **P 01 13 14.4 +0.7**
DPC Dobruska-Polom 73.90 327 *e*P **P 01 13 14.4 +0.7**
KRLC Kraliky 73.94 326 *e*P **P 01 13 13.9 0.0**
KRLC Kraliky 73.94 326 *e*P **P 01 13 13.9 0.0**
VYHS Vyhne 74.32 324 *e*P **P 01 13 16.6 +0.4**
VYHS Vyhne 74.32 324 *e*P **P 01 13 16.6 +0.4**
CLL Collm 74.41 329 ⇓*i*P **P 01 13 16.5 -0.1**
comp=Z,4.0nm,0.5s
CLL Collm 74.41 329 ⇓*i*P **P 01 13 16.5 -0.1**
CLL pmax pmax
comp=Z,4.0nm,0.5s
JAVC Velka Javorina 74.53 325 *e*P **P 01 13 18.9 +1.5**
VRAC Vranov 74.61 326 ⇑P **P 01 13 17.1 -0.7**
VRAC Vranov 74.61 326 *e*P **P 01 13 20.0 +2.2**
VRAC Vranov 74.61 326 ⇑P **P 01 13 17.1 -0.7**
PRU Pruhonice 74.89 327 *e*P **P 01 13 19.7 +0.4**
PRU Pruhonice 74.89 327 *e*P **P 01 13 19.7 +0.4**
KRUC Moravsky 74.89 326 *e*P **P 01 13 20.0 +0.6**
BZS Buzias 75.31 321 ⇓P **P 01 13 22.1 +0.3**
BZS Buzias 75.31 321 ⇓P **P 01 13 22.1 +0.3**
PBCC Pribram 75.34 327 *e*P **P 01 13 21.8 -0.2**
HERR Herculane 75.50 320 ⇑P **P 01 13 13.6 -9.4**
MDVR Moldovita 75.90 320 ⇓P **P 01 13 25.1 -0.1**
CKRC Cesky Krumlov 75.92 327 *e*P **P 01 13 25.5 +0.3**
KHC Kasperske Hory 75.95 327 *e*P **P 01 13 26.2 +0.8**
KHC Kasperske Hory 75.95 327 *e*P **P 01 13 26.2 +0.8**
CONA Conrad Observa 76.00 325 *e*P **P 01 13 27.1 +1.2**
comp=Z,2.6nm,0.6s,baz=175,slow=4.3
GERES GERESS Array B 76.13 327 P **P 01 13 26.7 +0.1**
comp=Z,0.7nm,0.4s,baz=44,slow=5.6,SNR=11
MORH Mrgy, Hungar 76.18 323 ⇓P **P 01 13 26.6 0.0**
BOVS Bovan 76.78 319 ⇓P **P 01 13 29.6 -0.5**
VTS Vitosha 76.83 318 ⇑P **P 01 13 31.5 +0.9**
VTS Vitosha 76.83 318 ⇑P **P 01 13 31.5 +0.9**
OBKA Obir 77.68 325 *e*P **P 01 13 35.8 +0.7**
comp=Z,1.2nm,0.3s
KBA Koelnbreinsper 77.70 326 *e*P **P 01 13 36.4 +1.0**
comp=Z,3.0nm,0.5s
MYKA Terra Mystica 77.95 326 *e*P **P 01 13 36.8 +0.2**
comp=Z,1.8nm,0.4s
WATA Walderalm 78.19 327 *i* P **P 01 13 38.6 +0.5**
comp=Z,0.9nm,0.3s
WTTA Wattenberg 78.23 327 *e*P **P 01 13 38.9 +0.7**
comp=Z,4.5nm,0.7s
MOTA Moosalm 78.37 328 *i* P **P 01 13 39.5 +0.5**
comp=Z,2.2nm,0.4s,SNR=9.1
RETA Reutte 78.38 328 *i* P **P 01 13 39.5 +0.5**
comp=Z,0.5nm,0.3s
FETA Feichten 78.78 328 *i* P **P 01 13 41.3 0.0**
comp=Z,2.2nm,0.7s
DAVA Damuels 78.88 328 *e*P **P 01 13 42.2 +0.4**
comp=Z,2.3nm,0.5s
TUE Stuetta 79.76 328 P **P 01 13 44.6 -2.0**
TXAR Lajitas Array 86.18 52 P **P 01 14 21.3 +1.7**
comp=Z,0.3nm,0.5s,baz=283,slow=3.9,SNR=4.9
KEST Kesra 88.77 322 P **P 01 14 31.5 -0.3**
comp=Z,1.4nm,0.7s,baz=270,slow=5.1,SNR=0.8
KEST Kesra 88.77 322 IAmb IAmb 01 14 38.0
comp=Z,54nm,1.8s
ESDC Sonseca Array 90.40 333 P **P 01 14 39.8 +0.5**
comp=Z,1.1nm,0.9s,baz=18,slow=4.2,SNR=5.8
VNDA Vanda 122.34 175 PKP **PKiKP 01 20 30.4 +0.2**
comp=Z,0.4nm,0.6s,baz=328,slow=5.9,SNR=5.5
SNAA Sanae 147.47 201 PKPdf **PKPbc 01 21 19.7 +0.2**
VNA2 Neumayer--Watz 149.08 200 PKPdf **PKiKP 01 21 24.1 -0.5**
baz=147,slow=2.0
VNA3 Neumayer Olymp 149.39 198 PKPdf **PKPbc 01 21 24.5 +0.3**
VNA1 Neumayer--Stat 149.47 200 PKPdf **PKiKP 01 21 25.1 -0.2**

ATH 14 01:11:01.0, 38.64N×23.36E, h16km±1km, ML1.8/11, Error ellipse: s-maj=1.6km s-min=0.8km az=275.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.27**	**334**	P	Pg	01 11 07.2	+0.2
SMIA				S	Sg	01 11 10.7	-0.2
SMIA				AML	AML	01 11 11.7	
	comp=E,1357μm,0.3s						
SMIA				AML	AML	01 11 11.8	
	comp=N,1034μm,0.2s						
ATAL	**Atalanti**	**0.27**	**282**	P	Pg	01 11 07.0	+0.1
ATAL				S	Sg	01 11 11.1	+0.1
ATAL				AML	AML	01 11 11.7	
	comp=N,208μm,0.2s						
ATAL				AML	AML	01 11 12.1	
	comp=E,154μm,0.2s						
LKR	**Lokris**	**0.28**	**273**	P	Pg	01 11 07.1	-0.1
LKR				S	Sg	01 11 11.3	0.0
LKR				AML	AML	01 11 13.9	
	comp=N,334μm,0.2s						
LKR				AML	AML	01 11 14.3	
	comp=E,420μm,0.2s						
VIL2	**Platees**	**0.43**	**190**	P	Pb	01 11 10.2	0.0
VIL2				S	Sb	01 11 17.2	+0.8
VIL2				AML	AML	01 11 18.8	
	comp=E,632μm,0.5s						
VIL2				AML	AML	01 11 18.9	
	comp=N,383μm,0.3s						
EREA	**Eretria**	**0.50**	**116**	P	Pg	01 11 10.6	-0.3
EREA				S	Sg	01 11 17.7	+0.1
EREA				AML	AML	01 11 19.6	
	comp=E,157μm,0.4s						
EREA				AML	AML	01 11 22.8	
	comp=N,161μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.58**	**90**	P	Pg	01 11 11.7	-0.8
KYMI				AML	AML	01 11 21.1	
	comp=E,101μm,0.3s						
KYMI				AML	AML	01 11 22.6	
	comp=N,99μm,0.1s						
NEO	**Neokhori**	**0.68**	**351**	P	Pg	01 11 14.1	-0.2
NEO				S	Sg	01 11 22.9	-0.4
NEO				AML	AML	01 11 26.6	
	comp=E,520μm,0.3s						
NEO				AML	AML	01 11 27.6	
	comp=N,576μm,0.3s						
LTK	**Loutraki**	**0.69**	**207**	P	Pg	01 11 13.8	-0.6
LTK				S	Sg	01 11 23.3	-0.3
LTK				AML	AML	01 11 28.6	
	comp=E,170μm,0.4s						
LTK				AML	AML	01 11 29.8	
	comp=N,141μm,0.3s						
DION	**Dionisos Attik**	**0.72**	**141**	P	Pg	01 11 14.9	-0.1
DION				AML	AML	01 11 28.0	
	comp=N,362μm,0.3s						
DION				AML	AML	01 11 29.3	
	comp=E,256μm,0.3s						
LOUT	**Loutraki**	**0.72**	**205**	P	Pg	01 11 14.5	-0.5
XOR	**Xorichti**	**0.74**	**350**	P	Pg	01 11 15.3	-0.2
XOR				AML	AML	01 11 28.4	
	comp=E,168μm,0.3s						
XOR				AML	AML	01 11 28.4	
	comp=N,210μm,0.3s						
VLY	**Voula,Athens**	**0.85**	**156**	P	Pb	01 11 17.3	-0.1
VLY				AML	AML	01 11 31.3	
	comp=E,181μm,0.3s						
VLY				AML	AML	01 11 32.3	
	comp=N,96μm,0.3s						

*NEIC **14** 01:24:04.1±2.1, 20.1°S±0.2°×177.8W±0.1, h453km±8km, mb4.0/16, Error ellipse: s-maj=27.1km s-min=17.5km az=157.0*
*IDC **14** 01:24:05.1±2.3, 20.1°S×177.7W, h464km±26km, mb3.3/9, mb1 3.6/11, mb1mx3.4/21, mbtmp4.2/11, Error ellipse: s-maj=30.5km s-min=14.9km az=146.0*

ISC 14 01:24:03.6±0.7, 20.1°S±0.2°×177.7W±0.1, h450km, n47, o0 93/44, mb3.8/17, 6C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.62**	**300**	P	**P**	**01 25 25.4**	**+0.9**
AFI	**Afiamalu**	**8.38**	**44**	P	**P**	**01 26 05.2**	**+1.8**
	13nm,0.3s,baz=175,slow=1.4,SNR=12						
AFI				S	**S**	**01 27 38.9**	**-2.7**
	8.5nm,0.3s,baz=189,slow=12,SNR=6.9						
URZ	**Urewera**	**18.65**	**193**	P	**P**	**01 27 52.0**	**-0.4**
	1.2nm,0.3s,baz=300,slow=23,SNR=5.1						
URZ	**Urewera**	**18.65**	**193**	IAmb	IAmb	01 27 54.7	
	comp=Z,31nm,1.3s						
CTAO	**Charters Tower**	**33.77**	**264**	P	**P**	**01 30 06.8**	**+0.2**
WR0	**Warramunga Arr**	**44.71**	**262**	P	**P**	**01 31 35.0**	**-0.5**
WR0				IAmb	IAmb	01 31 35.9	
	comp=Z,5.3nm,1.2s						
AS31	**Alice Springs**	**44.85**	**256**	P	**P**	**01 31 35.4**	**-1.1**
ASAR	**Alice Springs**	**44.85**	**256**	P	**P**	**01 31 37.0**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=96,slow=8.1,SNR=19						
ASAR				PcP	**PcP**	**01 33 08.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=96,slow=4.4,SNR=4.3						
WB0	**Warramunga Arr**	**44.87**	**262**	P	**P**	**01 31 36.5**	**-0.3**
WB0				IAmb	IAmb	01 31 52.8	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**01 31 37.3**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=97,slow=7.8,SNR=18						
FITZ	**Fitzroy Crossi**	**53.32**	**262**	P	**P**	**01 32 39.3**	**-0.4**
MJAR	**Matsushiro Arr**	**70.02**	**323**	P	**P**	**01 34 28.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=155,slow=6.9,SNR=4.1						
MJAR	**Matsushiro Arr**	**70.02**	**323**	IAmb	IAmb	01 34 29.9	
	comp=Z,1.0nm,0.8s						
PETK	**Petropavlovsk-**	**75.94**	**345**	P	**P**	**01 35 03.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=153,slow=9.7,SNR=2.8						
NVAR	**Mina Array Bea**	**80.56**	**43**	P	**P**	**01 35 29.4**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=230,slow=12,SNR=4.9						
NVAR	**Mina Array Bea**	**80.56**	**43**	P	**P**	**01 35 28.6**	**+0.2**

PRN	**Pahroc Range**	**82.14**	**46**	P		**P**	**01 35 37.8**	**+1.4**
PRN				IAmb		IAmb	01 35 38.9	
	comp=Z,4.0nm,1.0s							
U15A	**North Rim**	**83.51**	**48**	P		**P**	**01 35 42.8**	**-0.7**
U15A				IAmb		IAmb	01 35 46.1	
	comp=Z,3.9nm,0.8s							
F10A	**Beach Ranch, E**	**85.53**	**38**	P		**P**	**01 35 53.3**	**+0.2**
F10A				IAmb		IAmb	01 35 54.6	
	comp=Z,4.4nm,0.8s							
TRF	**Thorofare Moun**	**86.00**	**12**	P		**P**	**01 35 54.6**	**-0.4**
TRF				IAmb		IAmb	01 35 56.4	
	comp=Z,4.5nm,0.9s							
RND	**Reindeer**	**86.25**	**13**	P		**P**	**01 35 56.1**	**0.0**
MNTX	**Cornudas Mount**	**86.32**	**54**	P		**P**	**01 35 57.1**	**0.0**
MNTX				IAmb		IAmb	01 35 59.5	
	comp=Z,2.5nm,1.1s							
TXAR	**Lajitas Array**	**86.63**	**57**	P		**P**	**01 36 00.3**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=232,slow=6.1,SNR=5.1							
MCMT	**McKenzie Canyo**	**87.48**	**40**	P		**P**	**01 36 03.1**	**+0.5**
CCB	**Clear Creek Bu**	**87.56**	**12**	P		**P**	**01 36 01.5**	**-0.6**
IMAR	**Indian Mountai**	**87.71**	**10**	P		**P**	**01 36 02.7**	**-0.1**
ILAR	**Eielson Array**	**87.86**	**13**	P		**P**	**01 36 02.5**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=220,slow=6.0,SNR=10							
MSO	**Missoula**	**87.90**	**38**	P		**P**	**01 36 02.9**	**-1.4**
MSO				IAmb		IAmb	01 36 22.3	
	comp=Z,1.8nm,1.1s							
PDAR	**Pinedale Array**	**88.50**	**43**	P		**P**	**01 36 08.0**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=204,slow=3.3,SNR=5.7							
PDAR	**Pinedale Array**	**88.50**	**43**	P		**P**	**01 36 07.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**90.20**	**289**	P		**P**	**01 36 15.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=171,slow=1.5,SNR=5.1							
CMAR	**Chiang Mai Arr**	**90.20**	**289**	P		**P**	**01 36 13.8**	**-1.7**
MKAR	**Makanchi Array**	**111.09**	**314**	PKiKP		**PKiKP**	**01 41 43.7**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=219,slow=3.4,SNR=2.8							
ARCES	**ARCESS Array B**	**128.56**	**350**	PKP		**PKPdf**	**01 42 16.9**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=35,slow=3.3,SNR=3.9							
HFS	**Hagfors**	**139.17**	**351**	PKhKP		PKPpre	01 42 28.4	
	comp=Z,0.4nm,0.4s,baz=55,slow=5.5,SNR=1.2							
AKASG	**Malin Array Be**	**142.77**	**332**	PKhKP		PKPpre	01 42 40.5	
	comp=Z,0.3nm,0.3s,baz=44,slow=4.6,SNR=6.2							
EKA	**Eskdalemuir Ar**	**144.57**	**5**	PKP		PKPbc	01 42 46.6	-0.9
	comp=Z,0.6nm,0.4s,baz=327,slow=2.6,SNR=7.1							
BRTR	**Keskin Array B**	**146.74**	**313**	PKPbc		**PKPdf**	**01 42 53.8**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=136,slow=3.8,SNR=8.8							
BRTR	**Keskin Array B**	**146.74**	**313**			**PKPdf**	**01 42 53.4**	**+1.4**
OSTC	**Ostas**	**147.65**	**343**	*e*PKP		**PKPbc**	**01 42 56.5**	**+0.1**
CLL	**Collm**	**147.72**	**347**	*i*PKPbc		**PKPbc**	**01 42 56.2**	**-0.3**
	comp=Z,5.0nm,1.0s							
DPC	**Dobruska-Polom**	**147.81**	**343**	*e*PKP		**PKPbc**	**01 42 56.7**	**-0.2**
KRLC	**Kraliky**	**147.92**	**342**	*e*PKP		**PKPbc**	**01 42 57.2**	**0.0**
PRU	**Pruhonice**	**148.60**	**345**	*e*PKP		**PKPbc**	**01 42 58.9**	**+0.1**
KHC	**Kasperske Hory**	**149.63**	**345**	*e*PKP		**PKPbc**	**01 43 00.9**	**-0.5**
CKRC	**Cesky Krumlov**	**149.74**	**344**	*e*PKP		**PKPbc**	**01 43 01.5**	**-0.2**
GERES	**GERESS Array B**	**149.87**	**345**	PKPbc		**PKPbc**	**01 43 02.0**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=47,slow=2.4,SNR=13							

*IDC **14** 01:41:57.6±1.1,60.˚63N×43.˚88W,h0km,mb3.7/8, mb1 3.8/11,mb1mx3.6/46,mbtmp3.7/11,ML3.2/3,Error ellipse: s-maj=28.5km s-min=17.2km az=12.0*
*DNK **14** 01:41:57.7±1.6,60.˚48N×44.˚08W,h10km±12km,ML2.6*
ISC 14 01:41:58.9±0.8,**60.˚82N**±0.˚08×**44.˚07W**±0.˚05,**h10**km,**n20, σ2°61/26,mb3.8/8,Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**0.74**	**298**	*e*		**Pg**	**01 42 14.2**	**+1.1**
	baz=137,slow=22							
NRS				*i*	P	**Pb**	**01 42 14.8**	**+1.0**
NRS				*i*	S	**Sn**	**01 42 27.4**	**+0.8**
NRS					IAML		01 42 31.1	
	comp=Z,660nm,0.3s							
ISOG	**Isortoq, Green**	**5.27**	**24**	*i*	S	**Sn**	**01 44 19.9**	**+1.5**
ANGG	**Ammassalik, Gr**	**5.62**	**28**	*i*	P	**Pn**	**01 43 24.2**	**+1.9**
ANGG					IAML		01 45 01.5	
	comp=Z,24nm,0.4s							
DY2G	**Dye2**	**5.76**	**351**	*i*	P	**Pn**	**01 43 27.2**	**+2.7**
DY2G				*i*	S	**Sn**	**01 44 32.9**	**+2.3**
DY2G					IAML		01 45 06.9	
	comp=Z,36nm,0.4s							
SFJD	**Kangerlussuaq**	**6.84**	**338**	Pn		**Pn**	**01 43 40.5**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=156,slow=14,SNR=18							
SFJD					Sn	**Sn**	**01 44 54.3**	**-2.4**
	comp=Z,8.1nm,0.3s,baz=202,slow=13,SNR=7.2							
SFJD					Lg	Lg	01 45 30.8	
	comp=Z,12nm,0.3s,baz=226,slow=18,SNR=12							
SFJD	**Kangerlussuaq**	**6.84**	**338**	*i*	P	**Pn**	**01 43 40.5**	**+1.5**
SFJD					IAML		01 45 16.6	
	comp=Z,10.0nm,0.3s							
ICESG	**Greenland Ices**	**8.51**	**11**	*i*	P	**Pn**	**01 44 04.3**	**+2.0**
ICESG					IAML		01 46 23.4	
	comp=Z,10nm,0.4s							
BORG	**Borgarnes**	**11.10**	**59**	Pn		Pn	01 44 42.5	+5.1
	comp=Z,0.9nm,0.3s,baz=251,slow=6.0,SNR=5.8							
BORG					Sn	**Sn**	**01 46 38.7**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=15,slow=14,SNR=1.7							
FRB	**Frobisher Bay**	**11.73**	**295**	Pn		**Pn**	**01 44 46.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=99,slow=11,SNR=7.0							
FRB					Sn	**Sn**	**01 46 50.1**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=114,slow=7.5,SNR=3.5							
SUMG	**Summit**	**12.01**	**8**	*i*	P	**Pn**	**01 44 49.0**	**-1.1**
SUMG				*i*	S	**Sn**	**01 46 57.1**	**-6.9**
SUMG					IAML		01 47 03.6	
	comp=Z,3.1nm,0.3s							
SCHQ	**Schefferville**	**13.49**	**254**	Pn		**Pn**	**01 45 09.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=60,slow=12,SNR=8.0							
SCHQ					Sn	Sn	01 47 32.1	-7.8
	comp=Z,0.8nm,0.3s,baz=316,slow=18,SNR=6.1							
ARCES	**ARCESS Array B**	**28.82**	**43**	P		**P**	**01 47 57.8**	**+1.1**
	comp=Z,3.0nm,1.0s,baz=284,slow=7.3,SNR=1.6							
FINES	**FINESS Array B**	**32.39**	**58**	P		**P**	**01 48 29.4**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=295,slow=7.2,SNR=3.6							
ESDC	**Sonseca Array**	**32.48**	**112**	P		**P**	**01 48 28.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=314,slow=9.0,SNR=1.2							
INK	**Inuvik**	**35.81**	**321**	P		**P**	**01 48 59.6**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=51,slow=9.3,SNR=3.1							
AKASG	**Malin Array Be**	**40.33**	**70**	P		**P**	**01 49 36.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=314,slow=8.3,SNR=1.6							
ILAR	**Eielson Array**	**42.18**	**322**	P		**P**	**01 49 53.6**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=45,slow=7.0,SNR=8.3							
ILAR					PcP	**PcP**	**01 51 45.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=25,slow=2.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**57.99**	**125**	P		**P**	**01 51 49.7**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=336,slow=7.5,SNR=3.3							
MKAR	**Makanchi Array**	**64.29**	**38**	P		**P**	**01 52 34.9**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=341,slow=5.9,SNR=7.3							
ASAR	**Alice Springs**	**142.84**	**3**	PKhKP		PKPpre	02 01 28.9	
	comp=Z,0.2nm,0.5s,baz=3.4,slow=2.0,SNR=4.5							

*GUC **14** 01:42:00.4±0.9,32.˚93S×71.˚38W,h47km±4km,ML3.7*
*NEIC **14** 01:42:00.9±1.8,32.˚90S±0.˚05×71.˚40W±0.˚07,h48km±5km, Error ellipse: s-maj=8.6km s-min=6.6km az=114.0*
ISC 14 01:42:00.5±1.5,**32.˚91S**±0.˚04×**71.˚48W**±0.˚06,**h52**km±9km, **n33,σ0°64/39,2C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.18**	**231**	*i*	P	**Pn**	**01 42 09.3**	**+0.4**
VA01				*e*	S	**Sn**	**01 42 15.5**	**+0.5**
VA01					IAML		01 42 16.4	
	comp=N,21μm,0.1s							
VA01	**Torpederas**	**0.18**	**231**			**Pn**	**01 42 09.2**	**+0.3**
ROCH	**El Roble**	**0.40**	**99**	*i*	P	**Pn**	**01 42 10.8**	**-0.2**
ROCH				*e*	S	**Sn**	**01 42 18.1**	**-0.4**
ROCH					IAML		01 42 18.5	
	comp=E,15μm,0.1s							
MT02	**Curacav**	**0.45**	**141**	*i*	P	**Pn**	**01 42 11.4**	**+0.1**
MT02				*e*	S	**Sn**	**01 42 18.9**	**-0.3**
MT02					IAML		01 42 19.4	
	comp=E,3μm,0.3s							
MT02	**Curacav**	**0.45**	**141**	Pn		**Pn**	**01 42 11.4**	**+0.1**
MT05	**Renca**	**0.79**	**128**	*e*	P	**Pn**	**01 42 15.6**	**+0.1**
MT05				*e*	S	**Sn**	**01 42 26.3**	**-0.1**
MT05					IAML		01 42 27.4	
	comp=N,4μm,0.3s							
MT05	**Renca**	**0.79**	**128**	Pn		**Pn**	**01 42 15.6**	**+0.1**
VA03	**San Esteban**	**0.79**	**80**	*i*	P	**Pn**	**01 42 15.2**	**-0.5**
VA03				*e*	S	**Sn**	**01 42 25.7**	**-0.9**
VA03					IAML		01 42 27.0	
	comp=E,9μm,0.2s							
VA03	**San Esteban**	**0.79**	**80**	Pn		**Pn**	**01 42 14.7**	**-0.9**
MT09	**Talagante**	**0.96**	**155**	*e*	P	**Pn**	**01 42 18.1**	**+0.3**
MT09					IAML		01 42 33.1	
	comp=E,2μm,0.4s							
MT09	**Talagante**	**0.96**	**155**			**Pn**	**01 42 18.2**	**+0.4**
MT01	**Popeta**	**0.97**	**169**	*i*	P	**Pn**	**01 42 18.1**	**+0.1**
MT01	**Popeta**	**0.97**	**169**	Pn		**Pn**	**01 42 18.2**	**+0.2**
FSR	**Penalolen**	**0.98**	**126**	*e*	P	**Pn**	**01 42 19.1**	**+1.1**
MT03	**Universidad Ad**	**1.00**	**126**	*i*	P	**Pn**	**01 42 18.5**	**+0.1**
MT03					IAML		01 42 33.9	
	comp=N,5μm,0.2s							
MT03	**Universidad Ad**	**1.00**	**126**	Pn		**Pn**	**01 42 18.0**	**-0.3**
LMEL	**Las Melosas**	**1.42**	**132**	*e*	P	**Pn**	**01 42 24.5**	**+0.5**
LMEL				*e*	S	**Sn**	**01 42 42.9**	**+1.1**
LMEL					IAML		01 42 45.5	
	comp=N,2μm,0.2s							
BO01	**Tunca**	**1.52**	**168**	*e*	P	**Pn**	**01 42 25.4**	**+0.1**
BO01	**Tunca**	**1.52**	**168**	Pn		**Pn**	**01 42 24.6**	**-0.7**
BO03	**Pichilemu**	**1.64**	**194**	*e*	P	**Pn**	**01 42 26.3**	**-0.6**
CO02	**Combarbal**	**1.75**	**14**	*e*	P	**Pn**	**01 42 29.1**	**+0.5**
CO02					IAML		01 42 54.4	
	comp=E,2μm,0.1s							
CO02	**Combarbal**	**1.75**	**14**	Pn		**Pn**	**01 42 29.2**	**+0.7**
BO02	**Sierra Bellavi**	**1.97**	**163**	*e*	P	**Pn**	**01 42 31.9**	**+0.5**
BO02	**Sierra Bellavi**	**1.97**	**163**	Pn		**Pn**	**01 42 32.0**	**+0.5**
GO05	**Huala**	**2.13**	**190**	Pn		**Pn**	**01 42 33.0**	**-0.7**
CO03	**El Pedregal**	**2.17**	**18**	*e*	P	**Pn**	**01 42 35.2**	**+0.9**
CO03	**El Pedregal**	**2.17**	**18**	Pn		**Pn**	**01 42 35.1**	**+0.9**
ZON	**Zonda**	**2.73**	**61**	Pn		**Pn**	**01 42 43.2**	**+1.3**
GO04	**Tololo Observa**	**2.79**	**12**	*e*	P	**Pn**	**01 42 43.5**	**+0.7**
GO04					IAML		01 43 32.7	
	comp=E,624nm,0.5s							
GO04	**Tololo Observa**	**2.79**	**12**	Pn		**Pn**	**01 42 43.5**	**+0.7**
AC04	**Llanos de Chal**	**4.70**	**4**	Pn		**Pn**	**01 43 08.2**	**-0.7**
GO03	**Copiap**	**5.40**	**12**	Pn		**Pn**	**01 43 17.9**	**-0.7**
AC02	**Maricunga**	**6.38**	**19**	Pn		**Pn**	**01 43 31.5**	**-0.9**

*IDC **14** 01:42:18.9±1.2,39.˚49N×143.˚36E,h0km,mb3.9/11, mb1 4.0/14,mb1mx3.8/38,mbtmp3.9/14,ML3.5/3,MS3.0/7, Ms1 3.0/7,ms1mx2.8/39,Error ellipse: s-maj=31.7km s-min=20.0km az=101.0*
*NIED **14** 01:42:20.6,39.˚52N×143.˚46E,h36km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr6.21; Mθθ-0.74; Mφφ-5.46; Mrθ2.25; Mθφ-2.59; Mrφ5.04; Fault plane solution: M₀8.46000×10¹⁴ NP1:φ₁≈24.00000°, δ65.00000°, λ,90.00000°. NP2:φ₂204.00000°,δ25.00000°, λ,90.00000°.*
*JMA **14** 01:42:20.6±0.2,39.˚52N×143.˚46E,h36km,M4.2*
*NEIC **14** 01:42:22.2±1.6,39.˚25N±0.˚07×143.˚7E±0.˚1,h39km±9km, mb4.0/6,Error ellipse: s-maj=14.4km s-min=9.2km az=119.0*
ISC 14 01:42:23.1±0.8,**39.˚44N**±0.˚05×**143.˚53E**±0.˚09,**h35**km,**n59, σ2°03/54,mb4.0/13,MS3.2/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.33**	**277**	P		**Pn**	**01 42 42.5**	**-2.6**
MIYJ				*e*	S	**Sn**	**01 42 58.8**	**-2.9**
JTH	**Tanohata**	**1.38**	**292**	P		**Pn**	**01 42 43.1**	**-2.7**
OFUJ	**Ofunato**	**1.49**	**257**	P		**Pn**	**01 42 45.2**	**-2.1**
JKEN	**Kujiedanarisaw**	**1.60**	**299**	P		**Pn**	**01 42 45.5**	**-3.3**
JOM	**Ohasama**	**1.73**	**272**	P		**Pn**	**01 42 49.0**	**-1.7**
JANG	**Nango**	**1.81**	**302**	P		**Pn**	**01 42 48.6**	**-3.2**
JMK	**Ichinoseki**	**1.86**	**256**	P		**Pn**	**01 42 50.8**	**-1.6**
JIO	**Ouri**	**1.96**	**241**	P		**Pn**	**01 42 52.1**	**-1.7**
JRG	**Rokugo**	**2.25**	**270**	P		**Pn**	**01 42 56.3**	**-1.4**
JTM	**Tenmabayashi**	**2.32**	**306**	P		**Pn**	**01 42 56.8**	**-2.0**
JYK	**Kaneyama**	**2.52**	**259**	P		**Pn**	**01 43 00.3**	**-1.2**
ERM	**Erimo**	**2.59**	**354**	Pn		**Pn**	**01 43 04.3**	**+1.8**
JMM	**Marumori**	**2.66**	**235**			**Pn**	**01 43 01.7**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.90**	**349**	P		**Pn**	**01 43 05.8**	**-0.9**
JNBK				*e*	S	**Sn**	**01 43 38.7**	**-1.7**
JKB	**Kayabe**	**3.10**	**323**	P		**Pn**	**01 43 09.8**	**+0.4**
JCH	**Churui**	**3.18**	**358**	P		**Pn**	**01 43 09.1**	**-1.4**
JEW	**Eniwo**	**3.75**	**336**			**Pn**	**01 43 20.9**	**+2.5**
JYT	**Yasato**	**4.15**	**221**	Pn		**Pn**	**01 43 23.1**	**-0.8**
JSD	**Sado**	**4.35**	**253**			**Pn**	**01 43 25.6**	**-1.0**
JKA	**Kamikawa-asahi**	**4.73**	**352**			**Pn**	**01 43 30.9**	**-0.9**
ASAJ	**Asahikawa**	**4.73**	**352**	Pn		**Pn**	**01 43 31.0**	**-0.9**
	1.9nm,0.3s,baz=206,slow=10,SNR=18							
ASAJ					Sn	**Sn**	**01 44 22.0**	**-3.4**
	3.0nm,0.3s,baz=96,slow=15,SNR=4.0							
ASAJ					LR	LR	01 45 15.6	
	comp=Z,37nm,19.8s,baz=170,slow=38							
MJAR	**Matsushiro Arr**	**5.10**	**237**	Pn		**Pn**	**01 43 37.1**	**+0.1**
	0.5nm,0.3s,baz=38,slow=12,SNR=50							
MJAR					LR	LR	01 45 26.1	
	comp=Z,36nm,21.4s,baz=45,slow=37							
MJAR	**Matsushiro Arr**	**5.10**	**237**			**Pn**	**01 43 36.6**	**-0.4**
MAJO	**Matsushiro**	**5.10**	**237**			**Pn**	**01 43 36.6**	**-0.4**
MAT	**Matsushiro**	**5.10**	**237**	P		**Pn**	**01 43 37.5**	**+0.5**
MAT				*e*	S	**Sn**	**01 44 37.4**	**+2.7**
JGF	**Kuroka**	**6.22**	**234**			**Pn**	**01 43 51.9**	**-0.6**
INU	**Inuyama**	**6.60**	**234**			**Pn**	**01 43 57.1**	**-0.4**
JHJ	**Hachijo jima 2**	**6.99**	**207**	Pn		**Pn**	**01 44 02.0**	**-1.0**
	5.5nm,0.3s,baz=82,slow=22,SNR=1.5							
JHJ					Sn	**Sn**	**01 45 12.8**	**-8.4**
	4.1nm,0.3s,baz=224,slow=18,SNR=2.7							
JWT	**Wachi**	**7.69**	**240**			**Pn**	**01 44 13.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**9.84**	**303**	Pn		Pn	01 44 45.8	+3.8
	baz=96,slow=13,SNR=6.5							
USRK	**Ussuriysk Ar.**	**9.84**	**303**			**Pn**	**01 44 44.4**	**+2.5**
USA0B	**Ussuriysk Arra**	**9.84**	**303**	Pn		**Pn**	**01 44 43.9**	**+1.9**
MDJ	**Mudanjiang**	**11.58**	**301**	Pn		**Pn**	**01 45 07.4**	**+1.6**
KSRS	**Korea Array**	**12.40**	**266**	Pn		**Pn**	**01 45 20.1**	**+3.1**
	0.3nm,0.3s,baz=89,slow=14,SNR=4.9							
KSRS					LR	LR	01 49 31.7	
	comp=Z,71nm,19.9s,baz=89,slow=35							
ULN	**Ulaanbaatar**	**27.50**	**300**	P		**P**	**01 48 05.5**	**-0.7**
SONM	**Songino Array**	**27.94**	**300**	P		**P**	**01 48 10.0**	**-0.1**
	1.3nm,0.6s,baz=91,slow=8.2,SNR=6.3							
SONM	**Songino Array**	**27.94**	**300**	IAmb		IAmb	01 48 22.4	
	comp=Z,11nm,1.8s							
H11N2	**WAKE ISLAND Hy**	**28.11**	**128**	T		T	02 19 09.3	
	baz=318,slow=75,SNR=68							
H11N1	**WAKE ISLAND Hy**	**28.12**	**128**	T		T	02 19 11.0	
	baz=318,slow=75,SNR=71							
H11N3	**WAKE ISLAND Hy**	**28.13**	**128**	T		T	02 19 20.2	
	baz=318,slow=75,SNR=66							
ZAA0	**Zalesovo Array**	**41.58**	**310**	P		**P**	**01 50 08.5**	**+1.4**
ZAA0				IAmb		IAmb	01 50 13.7	
	comp=Z,3.1nm,1.1s							
ZALV	**Zalesovo Beam**	**41.58**	**310**	P		**P**	**01 50 07.0**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=90,slow=7.0,SNR=6.0							
ZALV					LR	LR	02 08 12.6	
	comp=Z,26nm,18.1s,baz=59,slow=38							
NRIK	**Noril'sk**	**41.82**	**334**	LR		LR	02 09 19.5	
	comp=Z,38nm,18.1s,baz=118,slow=39							
CMAR	**Chiang Mai Arr**	**43.73**	**255**	LR		LR	02 10 21.1	
	comp=Z,20nm,18.7s,baz=315,slow=39							
MK31	**Makanchi Array**	**44.30**	**300**	P		**P**	**01 50 28.9**	**-0.5**
MK31				IAmb		IAmb	01 50 29.8	
	comp=Z,2.1nm,0.9s							
MKAR	**Makanchi Array**	**44.30**	**300**	P		**P**	**01 50 28.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=82,slow=9.6,SNR=16							
MKAR	**Makanchi Array**	**44.30**	**300**	P		**P**	**01 50 29.1**	**-0.3**
ILAR	**Eielson Array**	**46.58**	**34**	P		**P**	**01 50 49.2**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=271,slow=6.2,SNR=4.7							
KIP	**Kipapa**	**52.61**	**92**	P		P	01 51 29.3	-4.2
ABKAR	**Akbulak array**	**57.68**	**310**	P		P	**01 52 09.3**	**-0.5**
WRA	**Warramunga Arr**	**59.69**	**190**	P		P	**01 52 25.0**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=8.4,slow=7.0,SNR=6.6							
FINES	**FINESS Array B**	**67.46**	**333**	P		**P**	**01 53 14.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=55,slow=7.2,SNR=9.4							
KBZ	**Khabaz**	**70.60**	**311**	P		**P**	**01 53 35.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=72,slow=3.1,SNR=4.0							
HFS	**Hagfors**	**72.58**	**336**	P		**P**	**01 53 46.9**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=46,slow=6.4,SNR=10							
NOA	**NORSAR Array B**	**72.61**	**338**	P		**P**	**01 53 47.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=39,slow=5.8,SNR=5.1							
AKASG	**Malin Array Be**	**73.41**	**323**	P		**P**	**01 53 51.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=43,slow=6.3,SNR=4.0							
AKASG	**Malin Array Be**	**73.41**	**323**	IAmb		IAmb	01 56 01.0	
	comp=Z,2.4nm,1.5s							
BRTR	**Keskin Array B**	**78.49**	**312**	LR		LR	02 32 22.7	
	comp=Z,29nm,18.3s,baz=114,slow=38							
GERES	**GERESS Array B**	**81.53**	**329**	P		**P**	**01 54 37.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=35,slow=3.7,SNR=3.5							

*IDC **14** 01:56:19.3±6.1,63.˚38N×150.˚18W,h88km±49km,mb3.1/4, mb1 3.3/6,mb1mx3.1/45,mbtmp3.3/6,ML3.2/2,Error ellipse: s-maj=55.3km s-min=24.6km az=48.0*
*AEIC **14** 01:56:21.9±1.0,63.˚38N±0.˚03×149.˚56W±0.˚08, h101km±4km,ML3.1/100,ML3.4/125(NEIC),Error ellipse: s-maj=5.8km s-min=4.5km az=59.0*
*NEIC **14** 01:56:21.4±0.8,63.˚39N±0.˚03×149.˚56W±0.˚08, h107km±4km,Error ellipse: s-maj=5.7km s-min=4.2km az=72.0*
ISC 14 01:56:21.7±0.8,**63.˚39N**±0.˚03×**149.˚57W**±0.˚04, **h105**km±5km,**n139,σ0°62/125,mb3.4/4,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.32**	**86**			**Pn**	**01 56 37.0**	**0.0**
RND						**Sn**	**01 56 48.6**	**+0.1**
RND	**Reindeer**	**0.32**	**86**	IAML			01 56 49.2	
	comp=E,900nm,0.8s							
RND				IAML			01 56 49.5	
	comp=N,910nm,0.9s							
TRF	**Thorofare Moun**	**0.33**	**281**			**Pn**	**01 56 37.2**	**0.0**
TRF						**Sn**	**01 56 49.2**	**+0.4**
TRF	**Thorofare Moun**	**0.33**	**281**	IAML			01 56 49.6	
	comp=E,747nm,0.8s							
TRF	**Thorofare Moun**	**0.33**	**281**	P			01 56 37.2	
	baz=102							
TRF				S			01 56 49.2	
	baz=102							
HUR	**Hurricane**	**0.41**	**184**			**Pn**	**01 56 37.2**	**-0.3**
MCK	**McKinley**	**0.45**	**39**			**Pn**	**01 56 37.7**	**0.0**
MCK						**Sn**	**01 56 49.5**	**-0.2**
MCK	**McKinley**	**0.45**	**39**	P			01 56 37.7	
	baz=218							
MCK				S			01 56 49.5	
	baz=218							
WAT2	**Susitna Watana**	**0.62**	**133**			**Pn**	**01 56 38.6**	**-0.4**
WAT2						**Sn**	**01 56 51.5**	**-0.5**
WAT2	**Susitna Watana**	**0.62**	**133**	P			01 56 38.6	
	baz=314							
WAT2				S			01 56 51.5	
	baz=314							
KTH	**Kantishna Hill**	**0.63**	**286**			**Pn**	**01 56 39.0**	**0.0**
KTH	**Kantishna Hill**	**0.63**	**286**	IAML			01 56 52.5	
	comp=N,519nm,1.1s							
KTH				IAML			01 56 52.9	
	comp=E,584nm,0.9s							
WAT7	**Susitna Watana**	**0.65**	**149**			**Pn**	**01 56 38.8**	**-0.4**
WAT7						**Sn**	**01 56 51.9**	**-0.5**
WAT1	**Susitna Watana**	**0.73**	**140**			**Pn**	**01 56 39.6**	**-0.3**
WAT1						**Sn**	**01 56 53.2**	**-0.2**
BWN	**Browne**	**0.79**	**3**			**Pn**	**01 56 40.6**	**+0.3**
BWN						**Sn**	**01 56 54.7**	**+0.3**
BWN	**Browne**	**0.79**	**3**	IAML			01 56 55.4	
	comp=E,678nm,0.7s							
BWN				IAML			01 56 55.5	
	comp=N,697nm,1.0s							
BPAW	**Bear Paw Mtn.**	**0.95**	**319**			**Pn**	**01 56 41.9**	**-0.1**
BPAW						**Sn**	**01 56 56.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**0.95**	**319**	IAML			01 56 57.4	
	comp=N,353nm,0.9s							

RC01	**Rabbit Creek A**	**2.31**	**182**	P		01 56 59.6	
	baz=2.0						
SPCG	**Spurr Capps Gl**	**3.29**	**210**		**Pn**	**01 56 59.6**	**0.0**
SPCP	**Crater Peak Br**	**2.45**	**211**		**Pn**	**01 57 00.2**	**-0.1**
H23K	**Yukon River**	**2.45**	**0**		**Pn**	**01 57 00.3**	**+0.1**
H23K	**Yukon River**	**2.45**	**0**	P		01 57 00.3	
	baz=180						
PS06	**TAPS Pump Stn6**	**2.48**	**358**		**Pn**	**01 57 00.7**	**+0.1**
DOT	**Dot Lake**	**2.48**	**81**		**Pn**	**01 57 00.3**	**-0.4**
SPCN	**Chakachatna No**	**2.49**	**211**		**Pn**	**01 57 01.5**	**+0.8**
SPBG	**Spurr Blockage**	**2.50**	**213**		**Pn**	**01 57 01.8**	**+0.8**
KLU	**Klutina**	**2.55**	**137**		**Pn**	**01 57 00.7**	**-0.9**
KLU	**Klutina**	**2.55**	**137**	IAML		01 57 40.0	
	comp=E,222nm,0.4s						
KLU				IAML		01 57 42.7	
	comp=N,246nm,0.6s						
KLU	**Klutina**	**2.55**	**137**	P		01 57 00.7	
	baz=320						
SCRK	**Sand Creek**	**2.56**	**74**		**Pn**	**01 57 01.4**	**-0.3**
SCRK	**Sand Creek**	**2.56**	**74**	IAML		01 57 32.4	
	comp=N,85nm,1.0s						
SCRK				IAML		01 57 35.6	
	comp=E,125nm,0.6s						
SCRK	**Sand Creek**	**2.56**	**74**	P		01 57 01.4	
	baz=259						
H24K	**Noodor Dome**	**2.57**	**16**		**Pn**	**01 57 01.9**	**+0.1**
H24K	**Noodor Dome**	**2.57**	**16**	P		01 57 01.9	
	baz=197						
PWL	**Port Wells**	**2.60**	**167**		**Pn**	**01 57 01.9**	**-0.4**
H21K	**Melozitna Rive**	**2.67**	**330**		**Pn**	**01 57 03.0**	**-0.1**
H21K	**Melozitna Rive**	**2.67**	**330**	P		01 57 03.0	
	baz=147						
MENT	**Mentasta**	**2.69**	**97**		**Pn**	**01 57 04.3**	**+0.9**
MENT				IAML		01 57 42.4	
	comp=N,229nm,0.6s						
MENT				IAML		01 57 48.0	
	comp=E,247nm,0.9s						
CAPN	**Captain Cook N**	**2.73**	**197**		**Pn**	**01 57 06.0**	**+2.1**
CAPN	**Captain Cook N**	**2.73**	**197**	P		01 57 06.0	
	baz=15						
PRP	**Porcupine Dome**	**2.77**	**38**		**Pn**	**01 57 04.3**	**-0.2**
PRP	**Porcupine Dome**	**2.77**	**38**	P		01 57 04.3	
	baz=221						
GLI	**Glacier Island**	**2.77**	**154**		**Pn**	**01 57 03.3**	**-1.1**
GLI	**Glacier Island**	**2.77**	**154**	P		01 57 03.3	
	baz=336						
DIV	**Divide**	**2.88**	**140**		**Pn**	**01 57 04.5**	**-1.5**
SLKM	**Skilak Lake**	**2.91**	**186**		**Pn**	**01 57 06.5**	**+0.2**
O22K	**Cooper Landing**	**2.92**	**181**		**Pn**	**01 57 07.0**	**+0.6**
N25K	**Chitina, Valde**	**2.92**	**126**		**Pn**	**01 57 06.0**	**-0.4**
N25K	**Chitina, Valde**	**2.92**	**126**	IAML		01 57 42.9	
	comp=N,80nm,0.6s						
N25K				IAML		01 57 55.8	
	comp=E,65nm,0.6s						
N25K	**Chitina, Valde**	**2.92**	**126**	P		01 57 06.0	
	baz=310						
TTA	**Tatalina**	**2.96**	**264**		**Pn**	**01 57 06.5**	**-0.5**
TTA	**Tatalina**	**2.96**	**264**	P		01 57 06.5	
	baz=78						
TT01	**Tatalina**	**2.97**	**264**		**Pn**	**01 57 06.5**	**-0.6**
FID	**Port Fidalgo**	**3.02**	**150**		**Pn**	**01 57 06.7**	**-1.0**
IM03		**3.17**	**327**		**Pn**	**01 57 09.5**	**-0.1**
IMAR	**Indian Mountai**	**3.17**	**327**	Pn	**Pn**	**01 57 09.5**	**-0.2**
SEW	**Seward**	**3.29**	**179**		**Pn**	**01 57 10.8**	**-0.6**
SEW	**Seward**	**3.29**	**179**	P		01 57 10.8	
	baz=359						
RSO	**Redoubt South**	**3.30**	**209**		**Pn**	**01 57 10.0**	**-1.6**
GLB	**Gilahina Butte**	**3.31**	**123**		**Pn**	**01 57 11.2**	**-0.5**
GLB	**Gilahina Butte**	**3.31**	**123**	IAML		01 57 51.1	
	comp=E,78nm,0.5s						
GLB				IAML		01 57 51.7	
	comp=N,71nm,0.4s						
BMRM	**Bremner River**	**3.36**	**134**		**Pn**	**01 57 11.3**	**-1.1**
BMRM	**Bremner River**	**3.36**	**134**	IAML		01 58 03.4	
	comp=E,156nm,0.8s						
BMRM	**Bremner River**	**3.36**	**134**	P		01 57 11.3	
	baz=318						
EYAK	**Cordova Ski Ar**	**3.37**	**146**	Pn	**Pn**	**01 57 11.8**	**-0.6**
K27K	**Chicken**	**3.40**	**76**		**Pn**	**01 57 12.3**	**-0.5**
K27K	**Chicken**	**3.40**	**76**	IAML		01 57 53.4	
	comp=N,91nm,0.6s						
K27K				IAML		01 57 53.6	
	comp=E,72nm,0.6s						
K27K	**Chicken**	**3.40**	**76**	P		01 57 12.3	
	baz=262						
L27K	**Beaver Creek,**	**3.52**	**92**		**Pn**	**01 57 13.8**	**-0.6**
L27K	**Beaver Creek,**	**3.52**	**92**	IAML		01 57 57.0	
	comp=E,38nm,0.6s						
L27K	**Beaver Creek,**	**3.52**	**92**	P		01 57 13.8	
	baz=279						
BC03		**3.54**	**92**		**Pn**	**01 57 13.9**	**-0.7**
BCAR	**Beaver Creek A**	**3.54**	**92**	Pn	**Pn**	**01 57 13.8**	**-0.9**
VRDI	**Verde Repeater**	**3.58**	**124**		**Pn**	**01 57 15.1**	**-0.4**
VRDI	**Verde Repeater**	**3.58**	**124**	IAML		01 58 00.0	
	comp=N,38nm,1.0s						
VRDI				IAML		01 58 14.8	
	comp=E,40nm,0.6s						
SVW2	**Sparrevohn**	**3.63**	**233**		**Pn**	**01 57 15.5**	**-0.4**
MCARA	**McCarthy VSAT**	**3.65**	**120**		**Pn**	**01 57 15.5**	**-0.7**
MCARA				IAML		01 58 20.3	
	comp=E,93nm,0.8s						
MCARA				IAML		01 58 22.5	
	comp=N,87nm,0.9s						
FYU	**Fort Yukon**	**3.69**	**28**	Pn	**Pn**	**01 57 15.6**	**-1.0**
BRLK	**Bradley Lake**	**3.69**	**190**		**Pn**	**01 57 16.6**	**-0.1**
BRLK	**Bradley Lake**	**3.69**	**190**	IAML		01 58 11.6	
	comp=E,56nm,0.7s						
BRLK				IAML		01 58 15.3	
	comp=N,63nm,0.6s						
BRSE	**Bradley Lake S**	**3.70**	**189**		**Pn**	**01 57 16.3**	**-0.6**
BRSE	**Bradley Lake S**	**3.70**	**189**	P		01 57 16.3	
	baz=8.3						
COLD	**Coldfoot**	**3.87**	**356**		**Pn**	**01 57 19.0**	**0.0**
COLD	**Coldfoot**	**3.87**	**356**	P		01 57 19.0	
	baz=176						
EGAK	**Eagle**	**3.95**	**66**		**Pn**	**01 57 20.1**	**0.0**
EGAK	**Eagle**	**3.95**	**66**	IAML		01 58 24.2	
	comp=N,63nm,0.7s						
EGAK				IAML		01 58 31.7	
	comp=N,41nm,0.6s						
EGAK	**Eagle**	**3.95**	**66**	P		01 57 20.1	
	baz=253						
CNPM	**China Poot**	**3.96**	**192**		**Pn**	**01 57 19.9**	**-0.3**
CNPM	**China Poot**	**3.96**	**192**	IAML		01 58 17.9	
	comp=E,87nm,0.6s						
CNPM				IAML		01 58 21.5	
	comp=N,87nm,0.4s						
HMT	**Hamilton**	**3.96**	**138**		**Pn**	**01 57 19.1**	**-1.2**
PTPK	**Patty Peak**	**3.98**	**120**		**Pn**	**01 57 20.4**	**-0.5**
CRQM	**Cirque**	**4.01**	**128**		**Pn**	**01 57 20.3**	**-0.9**
CRQM				IAML		01 58 07.2	
	comp=N,96nm,0.7s						
BVCY	**Beaver Creek**	**4.10**	**100**		**Pn**	**01 57 21.4**	**-0.8**
BALM	**Baldy**	**4.12**	**122**		**Pn**	**01 57 21.6**	**-1.0**
TGL	**Tana Glacier**	**4.12**	**127**		**Pn**	**01 57 21.9**	**-0.8**
TGL				IAML		01 58 33.8	
	comp=N,63nm,0.7s						
TGL				IAML		02 00 07.2	
	comp=E,70nm,0.3s						
KIAG	**Kiagna River**	**4.19**	**123**		**Pn**	**01 57 22.5**	**-1.1**
KHIT	**Knitrov Hills**	**4.20**	**132**		**Pn**	**01 57 23.5**	**-0.1**
YUK2	**White River**	**4.34**	**108**		**Pn**	**01 57 25.8**	**+0.2**
BARN	**Barnard Glacie**	**4.38**	**119**		**Pn**	**01 57 26.3**	**+0.2**
BARN				IAML		01 58 19.2	
	comp=E,25nm,0.6s						
YUK3	**Moose Creek**	**4.51**	**107**		**Pn**	**01 57 27.6**	**-0.4**
KULT	**Kultieth River**	**4.52**	**131**		**Pn**	**01 57 27.5**	**-0.5**
GRNC	**Granite Creek**	**4.54**	**122**		**Pn**	**01 57 27.9**	**-0.5**
GRNC				IAML		01 58 45.4	
	comp=N,24nm,0.6s						
CTGM	**Chitina Glacie**	**4.56**	**118**		**Pn**	**01 57 28.5**	**0.0**
CTGM				IAML		01 58 47.1	
	comp=N,19nm,0.7s						
BMAR	**Burnt Mountain**	**4.56**	**25**	Pn	**Pn**	**01 57 28.2**	**-0.2**
DAWV	**Dawson**	**4.58**	**77**		**Pn**	**01 57 28.2**	**-0.4**
DAWY	**Dawson**	**4.58**	**77**	IAML		01 58 38.6	
	comp=E,24nm,0.8s						
YAH	**Yahtse**	**4.79**	**126**		**Pn**	**01 57 30.8**	**-0.8**
YAH				IAML		01 58 48.3	
	comp=E,23nm,0.9s						
YAH				IAML		01 58 52.9	
	comp=N,32nm,0.8s						
MESA	**MESA**	**4.84**	**128**	Pn	**Pn**	**01 57 32.1**	**-0.3**
MESA				IAML		02 00 41.2	
	comp=N,51nm,0.7s						
MESA				IAML		02 00 41.2	
	comp=E,47nm,0.8s						
TABL	**Table Mountain**	**4.96**	**123**	Pn	**Pn**	**01 57 34.7**	**+0.8**
TABL				IAML		01 58 55.4	
	comp=N,15nm,0.8s						
TABL				IAML		01 59 07.8	
	comp=E,15nm,1.0s						
RKAV	**Rock Avalanche**	**4.98**	**125**		**Pn**	**01 57 34.5**	**+0.3**
TOLK	**Toolik Lake Re**	**5.28**	**360**	Pn	**Pn**	**01 57 38.0**	**-0.1**
INK	**Inuvik**	**8.21**	**46**	Pn	**Pn**	**01 58 16.7**	**-1.0**
YKA	**Yellowknife Ar**	**15.82**	**77**	P	**P**	**01 59 59.7**	**0.0**
	comp=E,0.1nm,0.3s,baz=292,slow=9.9,SNR=3.9						
PDAR	**Pinedale Array**	**30.90**	**113**	P	**P**	**02 02 29.9**	**+1.7**
	comp=E,0.2nm,0.5s,baz=299,slow=9.8,SNR=1.7						
TXAR	**Lajitas Array**	**44.86**	**117**	P	**P**	**02 04 26.4**	**+1.0**
	comp=E,0.3nm,0.6s,baz=333,slow=9.3,SNR=2.1						
FINES	**FINESS Array B**	**55.44**	**3**	P	**P**	**02 05 44.1**	**-0.5**
	comp=E,0.5nm,0.8s,baz=15,slow=5.9,SNR=3.5						
MKAR	**Makanchi Array**	**62.77**	**323**	P	**P**	**02 06 33.8**	**-1.5**
	comp=E,0.3nm,0.4s,baz=33,slow=6.2,SNR=4.9						

IDC 14 02:00:30.0±4.0,3°99S×105°35W,h0km,mb3.4/4, mb1 3.8/4,mb1mx3.6/31,mbtmp3.4/4,MS3.4/7,Ms1 3.4/7, ms1mx3.2/15,Error ellipse: s-maj=251.1km s-min=71.2km az=67.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**24.77**	**55**	LR	LR	02 13 20.9	
	comp=Z,132nm,21.1s,baz=250,slow=31						
ATAH	**Atahualpa**	**27.00**	**98**	LR	LR	02 12 55.1	
	comp=Z,18nm,21.2s,baz=243,slow=28						
LPIG	**La Paz**	**28.34**	**350**	LR	LR	02 14 56.9	
	comp=Z,75nm,20.5s,baz=12,slow=31						
TXAR	**Lajitas Array**	**33.17**	**3**	LR	LR	02 18 17.4	
	comp=Z,46nm,20.2s,baz=0.0,slow=32						
H03N2	**Juan Fernandez**	**38.28**	**143**	T	T	02 48 23.9	
	baz=315,slow=78,SNR=3.9						
H03N1	**Juan Fernandez**	**38.29**	**143**	T	T	02 48 13.9	
	baz=315,slow=78,SNR=5.3						
H03N3	**Juan Fernandez**	**38.30**	**143**	T	T	02 48 13.6	
	baz=315,slow=78,SNR=4.5						
NVAR	**Mina Array Bea**	**43.88**	**345**	P	P	02 08 39.6	+0.9
	0.2nm,0.4s,baz=148,slow=7.4,SNR=1.7						
PPT	**Papeete**	**45.36**	**249**	LR	LR	02 22 27.3	
	comp=Z,72nm,18.9s,baz=120,slow=29						
PDAR	**Pinedale Array**	**46.70**	**356**	P	P	02 09 01.5	+0.6
	0.2nm,0.4s,baz=153,slow=6.1,SNR=1.5						
PLCA	**Paso Flores**	**48.13**	**144**	LR	LR	02 24 13.1	
	comp=Z,69nm,18.6s,baz=350,slow=30						
CPUP	**Villa Florida**	**51.00**	**121**	LR	LR	02 27 45.3	
	comp=Z,31nm,20.0s,baz=234,slow=32						
YKA	**Yellowknife Ar**	**66.68**	**355**	P	P	02 11 21.4	-0.9
	0.1nm,0.5s,baz=163,slow=6.5,SNR=1.1						
ILAR	**Eielson Array**	**75.07**	**343**	P	P	02 12 12.5	-0.9
	0.5nm,1.0s,baz=154,slow=4.9,SNR=2.0						
H11N3	**WAKE ISLAND Hy**	**89.21**	**290**	T	T	03 51 41.3	
	baz=96,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**89.22**	**290**	T	T	03 51 38.7	
	baz=96,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy**	**89.22**	**290**	T	T	03 51 39.6	
	baz=96,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**89.31**	**288**	T	T	03 51 49.4	
	baz=94,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hy**	**89.31**	**288**	T	T	03 51 51.0	
	baz=94,slow=74,SNR=15						
H11S3	**WAKE ISLAND Hy**	**89.32**	**288**	T	T	03 51 46.6	
	baz=94,slow=74,SNR=14						
BRTR	**Keskin Array B**	**128.65**	**40**	PKP	PKPdf	02 19 40.2	+0.3
	0.4nm,0.8s,baz=267,slow=2.9,SNR=2.9						

IDC 14 02:08:20.3±7.8,31°85S×179°49E,h495km±103km, mb2.4/2,mb1 2.8/3,mb1mx2.6/25,mbtmp3.5/3,Error ellipse: s-maj=123.5km s-min=41.1km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.68**	**196**	P	P	02 10 03.8	+0.9
	4.6nm,0.3s,baz=121,slow=23,SNR=25						
URZ				S	S	02 11 26.1	-1.0
	1.4nm,0.3s,baz=304,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**40.92**	**270**	P	P	02 15 19.1	+0.1
	0.2nm,0.5s,baz=102,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**42.04**	**275**	P	P	02 15 27.7	-0.3
	0.2nm,0.4s,baz=110,slow=8.0,SNR=7.2						
FINES	**FINESS Array B**	**145.72**	**338**	PKPbc	PKPdf	02 27 01.7	+0.6
	0.6nm,0.4s,baz=58,slow=3.3,SNR=9.7						

*SKHL **14** 02:15:58.8±0.1,42°.10N×143°.00E,h74km±4km,mb4.3/2*
*MOS **14** 02:15:59.3±0.6,42°.25N×143°.10E,h88km,mb4.1/1,Error ellipse: s-maj=31.3km s-min=12.5km az=59.4*
*IDC **14** 02:16:00.1±4.7,42°.30N×143°.26E,h75km±23km,mb3.3/2, mb1 3.3/3,mb1mx3.0/35,mbtmp3.4/3,Error ellipse: s-maj=86.6km s-min=20.3km az=94.0*
*JMA **14** 02:16:00.6±0.1,42°.32N×143°.00E,h50km±1km,M3.3*
JMA Felt I J1

ISC 14 02:15:59.7±1.1,42°.25N±0°.07×143°.01E±0°.04,h56km±7km, n32,σ1s14/41,6C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.19**	**280**	↑P	**Pn**	**02 16 08.7**	**0.0**
JTHR	**Tokachihiroo**	**0.22**	**78**	↑P	**Pn**	**02 16 09.1**	**+0.2**
JTHR				eS	**Sn**	**02 16 15.8**	**+0.3**
JEM	**Erimo**	**0.26**	**154**	↑P	**Pn**	**02 16 10.0**	**+0.9**
JSHD	**Hidakashinhida**	**0.43**	**292**	↓P	**Pn**	**02 16 11.0**	**+0.3**
JCH	**Churui**	**0.45**	**36**	↑P	**Pn**	**02 16 10.8**	**-0.1**
JCH				eS	**Sn**	**02 16 18.8**	**-0.2**
JBT2	**Biratori 2**	**0.71**	**318**	↓P	**Pn**	**02 16 13.8**	**-0.1**
JIAM	**Iburiatsuma**	**0.89**	**295**	↓P	**Pn**	**02 16 17.3**	**+1.2**
JOB	**Onbets**	**0.90**	**43**	↑P	**Pn**	**02 16 16.9**	**+0.6**
JOB				eS	**Sn**	**02 16 29.6**	**+1.1**
JFR	**Furan**	**0.97**	**342**	P	**Pn**	**02 16 16.2**	**-1.0**
JFR				eS	**Sn**	**02 16 28.5**	**-1.6**
JAR	**Ashorobuto**	**1.19**	**28**	↑P	**Pn**	**02 16 19.8**	**-0.4**
JAR				eS	**Sn**	**02 16 34.3**	**-1.1**
JEW	**Eniwo**	**1.29**	**298**	P	**Pn**	**02 16 22.1**	**+0.6**
JEW				eS	**Sn**	**02 16 39.0**	**+1.1**
JAB	**Ashibetsu**	**1.38**	**336**	P	**Pn**	**02 16 23.1**	**+0.4**
ASAJ	**Asahikawa**	**1.89**	**351**	P	**Pn**	**02 16 30.5**	**+0.8**
	21nm,0.3s,baz=201,slow=17,SNR=104						
ASAJ				S	**Sn**	**02 16 53.7**	**+1.3**
	8.4nm,0.3s,baz=44,slow=31,SNR=9.6						
JKA	**Kamikawa-asahi**	**1.89**	**351**	eP	**Pn**	**02 16 30.5**	**+0.8**
NMR	**Nemuro--Hokkai**	**2.30**	**60**	ePN	**Pn**	**02 16 34.2**	**-0.9**
NMR				eS	**Sn**	**02 17 00.7**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.30**	**60**	eP	**Pn**	**02 16 34.2**	**-0.9**
NMR				eS	**Sn**	**02 17 00.7**	**-1.5**
RUSJ	**Misakicho**	**2.48**	**41**	ePN	**Pn**	**02 16 38.8**	**+1.2**
RUSJ				eS	**Sn**	**02 17 09.1**	**+2.4**
GRPR	**Tuman**	**2.67**	**48**	ePN	**Pn**	**02 16 40.8**	**+0.5**
GRPR				eS	**Sn**	**02 17 11.9**	**+0.4**
GRPR				pmax	pmax		
	comp=N,82nm,0.1s						
GRPR				pmax	pmax		
	comp=E,71nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,103nm,0.1s						
GRPR				smax	smax		
	comp=E,194nm,0.3s						
GRPR				smax	smax		
	comp=N,266nm,0.2s						
GRPR	**Tuman**	**2.67**	**48**	eP	**Pn**	**02 16 40.8**	**+0.5**
GRPR				AMB	AMB	02 16 44.2	
	comp=N,20nm,0.2s						
GRPR				eS	**Sn**	**02 17 11.9**	**+0.4**
GRPR				A	A	02 17 18.2	
	comp=N,270nm,0.5s						
GRPR				A	A	02 17 18.2	
	comp=N,190nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.75**	**48**	ePN	**Pn**	**02 16 41.9**	**+0.6**
YUK				eS	**Sn**	**02 17 14.0**	**+0.7**
YUK				pmax	pmax		
	comp=N,38nm,0.2s						
YUK				pmax	pmax		
	comp=E,23nm,0.2s						
YUK				pmax	pmax		
	comp=Z,95nm,0.2s						
YUK				smax	smax		
	comp=E,160nm,0.3s						
YUK				smax	smax		
	comp=N,200nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.75**	**48**	eP	**Pn**	**02 16 42.0**	**+0.6**
YUK				AMB	AMB	02 16 43.8	
	comp=N,30nm,0.2s						
YUK				eS	**Sn**	**02 17 14.0**	**+0.7**
YUK				A	A	02 17 16.6	
	comp=N,200nm,0.4s						
YUK				A	A	02 17 16.6	
	comp=N,160nm,0.4s						
KUR	**Kuril'sk**	**4.62**	**48**	ePN	**Pn**	**02 17 07.7**	**+0.8**
KUR				*i* S	**Sn**	**02 18 02.2**	**+3.1**
KUR				smax	smax		
	comp=E,19nm,0.4s						
KUR				smax	smax		
	comp=N,14nm,0.2s						
KUR	**Kuril'sk**	**4.62**	**48**	eP	**Pn**	**02 17 07.7**	**+0.8**
KUR				eS	**Sn**	**02 18 01.4**	**+2.3**
KUR				A	A	02 18 05.0	
	comp=N,10.0nm,0.2s						
KUR				A	A	02 18 05.0	
	comp=N,20nm,0.2s						
MJAR	**Matsushiro Arr**	**6.80**	**215**	P	Pn	02 17 39.1	+2.2
	comp=N,0.1nm,0.3s,baz=28,slow=12,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	02 53 33.9	
	baz=324,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	02 53 43.1	
	baz=324,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	02 53 42.3	
	baz=324,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**31.07**	**132**	T	T	02 54 44.9	
	baz=325,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**31.07**	**132**	T	T	02 54 49.2	
	baz=325,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**31.09**	**132**	T	T	02 54 46.5	
	baz=325,slow=76,SNR=20						
MKAR	**Makanchi Array**	**42.59**	**298**	P	**P**	**02 23 49.8**	**-0.2**
	comp=N,0.3nm,0.6s,baz=88,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**64.80**	**332**	P	**P**	**02 26 30.5**	**-1.5**
	comp=N,0.5nm,0.4s,baz=60,slow=7.2,SNR=14						

WEL 14 02:40:15.2,45°S±9°×16°E±1°1,h94km±14km,M4.1/24, ML4.3/24,MLv4.1/24,Error ellipse: s-maj=0.0km s-min=0.0km az=59.7,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.23**	**247**	P	Pn	02 40 28.4	-0.3
DCZ				S	Sn	02 40 39.1	+0.3
MLZ	**Mavora Lakes**	**0.47**	**89**	P	Pn	02 40 31.2	+1.1
MLZ				S	Sn	02 40 44.5	+3.2
WHZ	**Wether Hill Ro**	**0.62**	**147**	P	Pn	02 40 32.3	+1.0
WHZ				S	Sn	02 40 46.4	+3.0
MSZ	**Milford Sound**	**0.78**	**25**	P	Pn	02 40 32.8	0.0
MSZ				S	Sn	02 40 46.8	+0.9
WKZ	**Wanaka**	**1.23**	**64**	P	Pn	02 40 38.6	+0.8
WKZ				S	Sn	02 40 56.9	+2.0
EAZ	**Earnscleugh**	**1.31**	**84**	P	Pn	02 40 39.7	+0.9
EAZ				S	Sn	02 40 58.2	+1.6
APZ	**The Paps**	**1.50**	**166**	P	Pn	02 40 41.4	+0.2
APZ				S	Sn	02 41 02.2	+1.3
JCZ	**Jackson Bay**	**1.61**	**36**	P	Pn	02 40 41.8	-0.8
JCZ				S	Sn	02 41 02.7	-0.6
TUZ	**Tuapeka**	**1.63**	**112**	P	Pn	02 40 43.7	+1.0
TUZ				S	Sn	02 41 04.4	+0.8
SYZ	**Scrubby Hill**	**1.65**	**135**	P	Pn	02 40 43.9	+0.9
SYZ				S	Sn	02 41 05.6	+1.5
LBZ	**Lake Benmore**	**2.18**	**64**	P	Pn	02 40 48.6	-1.2
LBZ				S	Sn	02 41 15.1	-1.2
HHSZ	**Highcliff Hill**	**2.26**	**104**	P	Pn	02 40 51.5	+0.6
HHSZ				S	Sn	02 41 17.9	-0.4
ODZ	**Otahua Downs**	**2.28**	**83**	P	Pn	02 40 50.6	-0.5
ODZ				S	Sn	02 41 17.6	-1.0
FOZ	**Fox Glacier**	**2.50**	**43**	P	Pn	02 40 51.9	-2.1
FOZ				S	Sn	02 41 21.4	-2.5
TMZ	**Timaru**	**2.71**	**70**	P	Pn	02 40 55.3	-1.6
GCSZ	**Gaunt Creek Bo**	**2.91**	**46**	P	Pn	02 40 57.1	-2.5
ARCZ	**Arundel**	**3.01**	**63**	P	Pn	02 40 58.9	-2.0
RPZ	**Rata Peaks**	**3.06**	**58**	P	Pn	02 40 59.4	-2.2
RPZ				S	Sn	02 41 34.1	-3.3
WVZ	**Waitaha Valley**	**3.29**	**47**	P	Pn	02 41 02.3	-2.3
WACZ	**Wakanui South**	**3.44**	**67**	P	Pn	02 41 04.7	-1.9
MHCZ	**Mount Hutt**	**3.47**	**59**	P	Pn	02 41 04.5	-2.6
RACZ	**Rakaia**	**3.73**	**65**	P	Pn	02 41 09.9	-0.6
OXZ	**Oxford**	**3.87**	**60**	P	Pn	02 41 09.7	-2.8
INZ	**Inchbonnie**	**3.91**	**49**	P	Pn	02 41 10.4	-2.6
LTZ	**Lake Taylor**	**4.33**	**55**	P	Pn	02 41 15.6	-3.1
GVZ	**Greta Valley S**	**4.68**	**61**	P	Pn	02 41 21.0	-2.5
DSZ	**Denniston Nort**	**4.81**	**43**	P	Pn	02 41 21.9	-3.4
THZ	**Tophouse**	**5.36**	**50**	P	Pn	02 41 29.2	-3.4
QRZ	**Quartz Range**	**5.87**	**41**	P	Pn	02 41 37.3	-2.3
NNZ	**Nelson**	**5.99**	**48**	P	Pn	02 41 40.1	-1.2

IDC 14 02:46:10.1±2.9,49°12S×125°26E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/21,mbtmp3.7/3,MS3.3/4,Ms1 3.3/4, ms1mx3.0/18,Error ellipse: s-maj=125.3km s-min=27.3km az=97.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.41**	**326**	T	T	03 06 44.8	
	baz=152,slow=74,SNR=16						
H01W2	**Cape Leeuwin H**	**16.41**	**326**	T	T	03 06 42.8	
	baz=152,slow=74,SNR=20

az=102.0

ISC 14 04:18:16.3±0.7, 37.15N±0.04×141.44E±0.07, h43km±5km, n72, σ1s14/78, mb4.0/17, MS3.2/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.50**	**296**	P	**Pn**	**04 18 26.7**	**-0.5**
JFK				S	**Sn**	**04 18 34.1**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.51**	**265**	P	**Pn**	**04 18 27.0**	**-0.4**
ONAJ				S	**Sn**	**04 18 34.7**	**-0.5**
JFFD	**Fukushimafurud**	**0.70**	**266**	P	**Pn**	**04 18 29.5**	**-0.3**
JFFD				S	**Sn**	**04 18 38.9**	**-0.7**
JMST	**Minamisoumatoc**	**0.72**	**323**	P	**Pn**	**04 18 29.4**	**-0.7**
JMST				S	**Sn**	**04 18 39.0**	**-1.1**
JHO	**Hitachi**	**0.88**	**233**	P	**Pn**	**04 18 31.4**	**-0.8**
JHO				S	**Sn**	**04 18 42.5**	**-1.3**
JMM	**Marumori**	**0.88**	**325**	P	**Pn**	**04 18 31.7**	**-0.6**
JMM				eS	**Sn**	**04 18 43.2**	**-0.8**
JMM	**Marumori**	**0.88**	**325**		**Pn**	**04 18 31.3**	**-1.0**
JFT	**Otama**	**0.95**	**293**	P	**Pn**	**04 18 33.6**	**+0.3**
JFT				S	**Sn**	**04 18 46.0**	**+0.3**
JIO	**Ouri**	**1.31**	**357**	P	**Pn**	**04 18 37.4**	**-0.7**
JYT	**Yasato**	**1.35**	**228**	Pn	**Pn**	**04 18 38.0**	**-0.7**
JOU	**Okura**	**1.36**	**334**	P	**Pn**	**04 18 38.6**	**-0.3**
JFY	**Yanaizu**	**1.41**	**281**	P	**Pn**	**04 18 39.7**	**+0.2**
JYS	**Shirataka**	**1.53**	**315**	P	**Pn**	**04 18 41.5**	**+0.4**
JYS				S	**Sn**	**04 19 00.9**	**+1.1**
MJAR	**Matsushiro Arr**	**2.66**	**258**	P	**Pn**	**04 18 57.8**	**+1.1**
	2.8nm,0.3s,baz=85,slow=14,SNR=86						
MJAR				LR	LR	04 20 18.1	
	comp=Z,242nm,19.7s,baz=80,slow=47						
MJAR	**Matsushiro Arr**	**2.66**	**258**	Pn	**Pn**	**04 18 57.1**	**+0.5**
MAJO	**Matsushiro**	**2.66**	**258**	Pn	**Pn**	**04 18 58.1**	**+1.4**
MAT	**Matsushiro**	**2.66**	**258**	P	**Pn**	**04 18 58.0**	**+1.3**
MAT				eS	**Sn**	**04 19 30.4**	**+2.7**
MJB9	**Matsu-Tunnel**	**2.66**	**258**		**Pn**	**04 18 57.6**	**+0.9**
JSD	**Sado**	**2.67**	**290**	Pn	**Pn**	**04 18 55.5**	**-1.4**
JSG	**Sagara**	**3.61**	**228**		**Pn**	**04 19 08.7**	**-1.0**
JGF	**Kuroka**	**3.63**	**246**	Pn	**Pn**	**04 19 10.6**	**+0.5**
JTM	**Tenmabayashi**	**3.65**	**356**		**Pn**	**04 19 10.7**	**+0.4**
INU	**Inuyama**	**4.00**	**245**	Pn	**Pn**	**04 19 14.9**	**-0.1**
JHJ	**Hachijo jima 2**	**4.24**	**199**	P	**Pn**	**04 19 18.9**	**+0.5**
	21nm,0.3s,baz=253,slow=21,SNR=8.6						
JHJ				S	**Sn**	**04 20 05.2**	**-1.4**
	29nm,0.3s,baz=88,slow=22,SNR=7.3						
ERM	**Erimo**	**5.04**	**15**	Pn	**Pn**	**04 19 30.0**	**+0.6**
JWT	**Wachi**	**5.22**	**251**		**Pn**	**04 19 33.7**	**+1.9**
JKA	**Kamikawa-asahi**	**7.02**	**7**		**Sn**	**04 21 15.2**	**+0.3**
JKA	**Kamikawa-asahi**	**7.02**	**7**	Pn	**Pn**	**04 19 57.8**	**+1.3**
ASAJ	**Asahikawa**	**7.02**	**7**	P	**Pn**	**04 19 55.2**	**-1.3**
	1.3nm,0.3s,baz=236,slow=8.1,SNR=16						
ASAJ				S	**Sn**	**04 21 15.2**	**+0.3**
	1.6nm,0.3s,baz=74,slow=31,SNR=2.7						
JHS	**Saijyo**	**7.07**	**255**		**Pn**	**04 19 58.4**	**+1.2**
JNU	**Nakatsue**	**9.53**	**248**	P	**Pn**	**04 20 35.0**	**+4.0**
	0.2nm,0.3s,baz=90,slow=4.0,SNR=3.0						
USRK	**Ussuriysk Ar.**	**10.05**	**317**	P	**Pn**	**04 20 40.9**	**+2.9**
	baz=129,slow=13,SNR=9.4						
USRK				LR	LR	04 24 07.0	
	comp=Z,80nm,21.6s,baz=67,slow=35						
USRK	**Ussuriysk Ar.**	**10.05**	**317**		**Pn**	**04 20 38.3**	**+0.3**
KSRS	**Korea Array**	**10.77**	**276**	P	**Pn**	**04 20 49.5**	**+1.6**
	0.2nm,0.3s,baz=86,slow=14,SNR=2.5						
KSRS				LR	LR	04 24 52.2	
	comp=Z,61nm,18.1s,baz=94,slow=37						
PETK	**Petropavlovsk-**	**19.58**	**30**	LR	LR	04 29 51.5	
	comp=Z,20nm,21.2s,baz=73,slow=36						
ULN	**Ulaanbaatar**	**27.31**	**304**	P	**P**	**04 23 53.8**	**-3.2**
ULN				IAmb	IAmb	04 24 34.4	
	comp=Z,4.6nm,1.2s						
ENH	**Enshi**	**27.36**	**265**	P	**P**	**04 23 55.2**	**-2.3**
ENH				IAmb	IAmb	04 23 57.6	
	comp=Z,6.5nm,0.6s						
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**04 24 01.4**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=102,slow=8.8,SNR=6.9						
SONM	**Songino Array**	**27.74**	**304**	IAmb	IAmb	04 24 03.0	
	comp=Z,1.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	04 53 42.4	
	baz=314,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	04 53 58.5	
	baz=314,slow=75,SNR=93						
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	04 53 44.1	
	baz=314,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	04 54 49.6	
	baz=316,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	04 55 13.3	
	baz=316,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	04 55 14.3	
	baz=316,slow=76,SNR=24						
CMAR	**Chiang Mai Arr**	**41.54**	**255**	P	**P**	**04 26 00.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=44,slow=6.6,SNR=1.5						
ZAA0	**Zalesovo Array**	**41.85**	**312**	P	**P**	**04 26 00.6**	**-1.3**
ZAA0				IAmb	IAmb	04 26 03.4	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**04 26 01.8**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=85,slow=6.8,SNR=9.3						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**04 26 02.1**	**+0.2**
MK31	**Makanchi Array**	**44.08**	**302**	P	**P**	**04 26 20.2**	**+0.2**
MK31				IAmb	IAmb	04 26 20.8	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**04 26 20.2**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=87,slow=10,SNR=22						
MKAR				pP	**pP**	**04 26 31.8**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=89,slow=10.0,SNR=8.9						
MKAR				PcP	**PcP**	**04 28 04.8**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=64,slow=6.6,SNR=2.2						
MKAR				LR	LR	04 45 51.0	
	comp=Z,24nm,18.1s,baz=70,slow=38						
MAKZ	**Makanchi**	**44.28**	**302**	P	**P**	**04 26 21.3**	**-0.4**
MAKZ				IAmb	IAmb	04 26 37.3	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**49.39**	**32**	P	**P**	**04 27 02.2**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=269,slow=5.7,SNR=5.1						
ILAR				pP	**pP**	**04 27 15.2**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=273,slow=6.2,SNR=5.8						
BRVK	**Borovoye**	**50.57**	**312**	P	**P**	**04 27 09.5**	**-0.9**
BRVK				IAmb	IAmb	04 27 11.2	
	comp=Z,3.9nm,1.1s						
KK31	**Karatay Array**	**53.09**	**300**	P	**P**	**04 27 29.0**	**-0.3**
KKAR	**Karatay Array**	**53.09**	**300**	P	**P**	**04 27 29.0**	**-0.3**
CHGR	**Chuyangaron**	**55.63**	**295**	P	**P**	**04 27 47.0**	**-1.0**
ARU	**Arti**	**56.29**	**318**	P	**P**	**04 27 52.8**	**+0.5**
WRA	**Warramunga Arr**	**57.17**	**188**	P	**P**	**04 27 58.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=8.4,slow=7.5,SNR=2.8						
WRA				pP	**pP**	**04 28 10.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=3.5,slow=7.4,SNR=3.6						
ABKAR	**Akbulak array**	**57.88**	**310**	P	**P**	**04 28 03.2**	**-0.4**
ABKAR				IAmb	IAmb	04 28 04.1	
	comp=Z,2.4nm,0.7s						
KIRV	**Kirov**	**60.17**	**323**	LR	LR	04 54 42.2	
	comp=Z,17nm,18.2s,baz=322,slow=36						
ASAR	**Alice Springs**	**60.90**	**188**	P	**P**	**04 28 25.8**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=14,slow=8.1,SNR=2.8						
ARCES	**ARCESS Array B**	**63.90**	**339**	LR	LR	05 02 47.6	
	comp=Z,16nm,20.0s,baz=70,slow=42						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**04 29 15.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=8.5,slow=3.9,SNR=3.5						
FINES				pP	**pP**	**04 29 26.9**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=61,slow=9.0,SNR=4.0						
HFS	**Hagfors**	**73.99**	**336**	LR	LR	05 03 56.2	
	comp=Z,24nm,18.0s,baz=23,slow=37						
NOA	**NORSAR Array B**	**74.09**	**337**	LR	LR	05 05 44.2	
	comp=Z,8.3nm,18.7s,baz=20,slow=38						
AKASG	**Malin Array Be**	**74.22**	**322**	P	**P**	**04 29 48.1**	**-0.4**
AKASG				pP	**pP**	**04 30 00.8**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=46,slow=6.1,SNR=9.5						
AKASG	**Malin Array Be**	**74.22**	**322**	IAmb	IAmb	04 30 01.6	
	comp=Z,1.3nm,0.6s,baz=47,slow=6.2,SNR=3.8						
BURAR	**Bucovina Array**	**78.23**	**322**	P	**P**	**04 30 10.9**	**-0.6**
GERES	**GERESS Array B**	**82.63**	**328**	P	**P**	**04 30 34.8**	**-0.3**
GERES				pP	**pP**	**04 30 47.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=29,slow=3.0,SNR=3.1						
LPAZ	**La Paz**	**146.62**	**59**	PKPbc	**PKPbc**	**04 37 54.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=0.0,slow=6.1,SNR=2.1						
LPAZ				pPKPbc	**pPKPdf**	**04 38 07.8**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=71,slow=6.6,SNR=2.9						
LPAZ	**La Paz**	**146.62**	**59**		**PKPdf**	**04 37 53.2**	**+0.4**

IDC 14 04:19:11.1±2.4, 29.13S×177.62W, h59km±30km, mb3.3/2, mb1 3.6/2, mb1mx3.2/18, mbtmp3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/14, Error ellipse: s-maj=252.7km

s-min=37.1km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.29**	**246**	P	Pn	04 19 22.6	+1.6
	750nm,0.3s,baz=1.3,slow=21,SNR=64						
RAO				S	Sn	04 19 30.6	+2.4
	4μm,0.3s,baz=104,slow=8.3,SNR=30						
DZM	**Mont Dzumac**	**16.00**	**292**	LR	LR	04 27 15.1	
	comp=Z,162nm,18.0s,baz=13,slow=30						
ASAR	**Alice Springs**	**43.52**	**265**	P	P	04 27 09.1	-0.1
	0.3nm,0.6s,baz=108,slow=7.2,SNR=7.2						
WRA	**Warramunga Arr**	**44.40**	**271**	P	P	04 27 17.1	+0.9
	0.8nm,0.4s,baz=110,slow=6.4,SNR=19						
H03S2	**Juan Fernandez**	**80.89**	**124**	T	T	06 00 47.2	
	baz=240						
H03S1	**Juan Fernandez**	**80.90**	**124**	T	T	06 00 50.5	
	baz=240						
H03S3	**Juan Fernandez**	**80.90**	**124**	T	T	06 00 48.1	
	baz=240,SNR=3.0						
H10N3	**ASCENSION HYDR**	**139.80**	**154**	T	T	07 15 10.1	
	baz=203,slow=75,SNR=3.8						
H10N1	**ASCENSION HYDR**	**139.81**	**154**	T	T	07 15 11.8	
	baz=203,slow=75,SNR=3.0						
H10N2	**ASCENSION HYDR**	**139.82**	**154**	T	T	07 15 11.4	
	baz=203,slow=75,SNR=3.2						
FINES	**FINESS Array B**	**144.07**	**341**	PKP	PKPdf	04 38 39.1	-0.2
	0.6nm,0.5s,baz=64,slow=4.4,SNR=7.5						

IDC 14 04:34:29.1±0.7, 0.47S×125.48E, h0km, mb4.3/11, mb1 4.3/12, mb1mx4.0/45, mbtmp4.3/12, ML3.8/1, Error ellipse: s-maj=47.7km s-min=14.5km az=75.0

DJA 14 04:34:34.4±4.3, 0.5S×12.6E±, h15km±37km, M4.1/8, mb4.3/1, MLv4.0/8

NEIC 14 04:34:36.2±1.3, 0.4S±0.1×126.03E±0.04, h54km±10km, mb4.3/18, Error ellipse: s-maj=15.7km s-min=2.5km az=158.0

ISC 14 04:34:35.0±0.5, 0.38S±0.05×125.92E±0.05, h42km, n45, σ1s34/45, mb4.3/19, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.60**	**99**	P	**Pn**	**04 35 02.8**	**+2.0**
SANI	**Sanana**	**1.66**	**178**	P	**Pn**	**04 35 02.4**	**+0.8**
TNTI	**Ternate**	**1.84**	**52**		**Pn**	**04 35 04.0**	**-0.2**
TNTI	**Ternate**	**1.84**	**52**	P	**Pn**	**04 35 06.0**	**+1.8**
GAMI	**Galela, Maluku**	**2.89**	**40**	P	**Pn**	**04 35 21.3**	**+2.8**
GTOI	**Gorontalo**	**3.08**	**289**	P	**Pn**	**04 35 24.3**	**+3.1**
LUWI	**Luwuk**	**3.22**	**258**		**Pn**	**04 35 26.0**	**+3.0**
KRAI	**Karang Ratu**	**3.82**	**140**	P	**Pn**	**04 35 33.0**	**+1.6**
MRSI	**Marisa**	**4.07**	**282**	P	**Pn**	**04 35 34.6**	**-0.2**
APSI	**Ampana**	**4.31**	**263**	P	**Pn**	**04 35 39.0**	**+1.0**
TOLI2	**Tolitoli**	**5.35**	**286**	Pn	**Pn**	**04 35 54.7**	**+2.3**
TTSI	**Tana Toraja**	**6.65**	**247**	P	**Pn**	**04 36 11.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**17.61**	**181**	P	**Pn**	**04 38 36.6**	**-0.7**
	0.2nm,0.3s,baz=20,slow=7.4,SNR=11						
FITZ	**Fitzroy Crossi**	**17.61**	**181**	IAmb	IAmb	04 38 38.8	
	comp=Z,3.3nm,0.8s						
WB0	**Warramunga Arr**	**20.98**	**157**	P	**P**	**04 39 14.6**	**-0.2**
WRA	**Warramunga Arr**	**21.11**	**158**	P	**P**	**04 39 15.2**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=335,slow=11,SNR=38						
WB2	**Warramunga Arr**	**21.12**	**158**	P	**P**	**04 39 15.0**	**-1.3**
WR0	**Warramunga Arr**	**21.21**	**157**	P	**P**	**04 39 16.4**	**-0.9**
WR0				IAmb	IAmb	04 39 18.4	
	comp=Z,10nm,1.2s						
TPUB	**Ta-pu**	**24.10**	**348**	P	**P**	**04 39 46.1**	**-0.7**
AS31	**Alice Springs**	**24.41**	**162**	P	**P**	**04 39 47.8**	**-1.9**
ASAR	**Alice Springs**	**24.41**	**162**	P	**P**	**04 39 50.2**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=336,slow=8.7,SNR=26						
ASAR				PcP	**PcP**	**04 43 28.9**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=358,slow=1.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**32.46**	**307**	P	**P**	**04 41 00.9**	**-0.7**
CHTO	**Chiang Mai**	**32.65**	**307**	P	**P**	**04 41 01.8**	**-1.5**
CHTO				IAmb	IAmb	04 41 03.6	
	comp=Z,3.2nm,0.7s						
STKA	**Stephens Creek**	**34.65**	**156**	P	**P**	**04 41 22.0**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=305,slow=3.5,SNR=4.3						
KSRS	**Korea Array**	**37.70**	**3**	P	**P**	**04 41 48.0**	**+1.5**
	comp=Z,3.8nm,0.6s,baz=181,slow=9.5,SNR=20						
USRK	**Ussuriysk Ar.**	**44.72**	**6**	P	**P**	**04 42 44.9**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=194,slow=9.4,SNR=4.4						
USRK	**Ussuriysk Ar.**	**44.72**	**6**	P	**P**	**04 42 43.2**	**-0.8**
ULN	**Ulaanbaatar**	**50.78**	**344**	P	**P**	**04 43 31.4**	**+0.1**
ULN				IAmb	IAmb	04 43 35.0	
	comp=Z,6.7nm,1.2s						
SONM	**Songino Array**	**50.95**	**343**	P	**P**	**04 43 32.7**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=157,slow=8.2,SNR=6.6						
SONM	**Songino Array**	**50.95**	**343**	IAmb	IAmb	04 43 36.0	
	comp=Z,2.1nm,0.8s						
PETK	**Petropavlovsk-**	**59.52**	**22**	P	**P**	**04 44 36.0**	**+2.0**
	comp=Z,2.6nm,0.6s,baz=192,slow=3.2,SNR=12						
MK31	**Makanchi Array**	**60.50**	**327**	P	**P**	**04 44 40.1**	**-0.7**
MK31				IAmb	IAmb	04 44 41.9	
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**60.50**	**327**	P	**P**	**04 44 40.1**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=122,slow=7.7,SNR=48						
MKAR				PcP	**PcP**	**04 45 25.1**	**0.0**
	comp=Z,0.9nm,0.8s,baz=105,slow=4.5,SNR=1.9						
MAKZ	**Makanchi**	**60.68**	**327**	P	**P**	**04 44 41.7**	**-0.4**
ZAA0	**Zalesovo Array**	**63.89**	**334**	P	**P**	**04 45 02.8**	**-0.6**
ZAA0				IAmb	IAmb	04 45 03.1	
	comp=Z,2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**63.89**	**334**	P	**P**	**04 45 02.5**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=145,slow=5.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**63.89**	**334**	P	**P**	**04 45 02.3**	**-1.1**
KKAR	**Karatay Array**	**65.72**	**319**	P	**P**	**04 45 14.3**	**-1.2**
BRVK	**Borovoye**	**70.41**	**328**	P	**P**	**04 45 43.9**	**-0.8**
BRVK				IAmb	IAmb	04 45 45.4	
	comp=Z,3.7nm,1.1s						
TIXI	**Tiksi**	**71.94**	**1**	P	**P**	**04 45 53.5**	**-0.1**
TIXI				IAmb	IAmb	04 45 54.5	
	comp=Z,4.1nm,1.1s						
NRIK	**Noril'sk**	**74.21**	**347**	P	**P**	**04 46 05.8**	**-1.4**
	comp=Z,2.0nm,0.4s,baz=97,slow=3.3,SNR=3.6						
ABKAR	**Akbulak array**	**74.83**	**322**	P	**P**	**04 46 10.2**	**-0.9**
ABKAR				IAmb	IAmb	04 46 11.6	
	comp=Z,3.7nm,0.9s						
ARU	**Arti**	**77.98**	**328**	P	**P**	**04 46 28.0**	**-0.8**
ARCES	**ARCESS Array B**	**94.00**	**340**	P	**P**	**04 47 47.9**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=55,slow=4.6,SNR=5.2						
TXAR	**Lajitas Array**	**124.70**	**54**	PKP	**PKiKP**	**04 53 31.6**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=316,slow=2.5,SNR=4.2						

IDC 14 04:39:49.0±5.5, 8.43S×119.99E, h142km±53km, mb2.8/2, mb1 3.0/5, mb1mx2.8/48, mbtmp3.4/5, Error ellipse: s-maj=107.7km s-min=32.0km az=62.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.03**	**116**	P	Pn	04 40 49.4	-0.1
	8.0nm,0.3s,baz=265,slow=1.6,SNR=12						
BATI				S	Sn	04 41 28.9	-7.4
	11nm,0.3s,baz=140,slow=19,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.06**	**151**	P	Pn	04 42 23.4	+0.1
	0.2nm,0.3s,baz=350,slow=17,SNR=6.4						
FITZ				S	Sn	04 44 17.9	-7.7
	0.3nm,0.3s,baz=205,slow=21,SNR=7.1						
WRA	**Warramunga Arr**	**17.99**	**131**	P	Pn	04 43 50.2	-0.1
	0.2nm,0.3s,baz=304,slow=14,SNR=10						
WRA				S	S	04 46 53.7	-14
	0.1nm,0.3s,baz=309,slow=23,SNR=1.2						
ASAR	**Alice Springs**	**20.17**	**140**	P	P	04 44 11.7	-0.9
	0.2nm,0.3s,baz=320,slow=9.2,SNR=5.5						
ASAR				S	S	04 47 40.9	-11
	0.2nm,0.6s,baz=316,slow=24,SNR=1.8						
MKAR	**Makanchi Array**	**64.41**	**332**	P	P	04 50 10.0	0.0
	0.2nm,0.5s,baz=155,slow=6.8,SNR=2.8						

SOME 14 04:41:30.9, 39.58N×74.38E, h15km

KRNET 14 04:41:31.3±0.1, 39.34N×74.33E, h30km, mb2.8

NNC 14 04:41:37.1±2.5, 39.79N×74.51E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=19.1km s-min=11.3km az=164.0

ISC 14 04:41:30.4±2.1, 39.30N±0.08×74.34E±0.04, h4km±12km, n32, σ1s13/54, 21C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.96**	**318**	⇓*iP*	**Pg**	**04 41 48.3**	**-0.5**
	baz=17						
SFK				⇓*iS*	**Sg**	**04 42 01.3**	**+0.1**
	baz=17						
OHH	**Osh**	**1.71**	**316**	⇑*iP*	**Pn**	**04 42 01.7**	**+0.7**
	baz=15						
OHH				⇑*iS*	**Sn**	**04 42 23.1**	**-0.2**
	baz=15						
DRK	**Karamyk**	**1.97**	**276**	⇑*iP*	**Pn**	**04 42 04.7**	**-0.1**
	baz=75						
DRK				⇑*iS*	**Sn**	**04 42 30.3**	**+0.1**
	baz=75						
ARSB	**Arslanbob**	**2.27**	**333**	⇑*eP*	**Pn**	**04 42 09.3**	**+0.5**
	baz=33						
ARSB				⇑*iS*	**Sn**	**04 42 37.1**	**-0.2**
	baz=33						
ARLS	**Aral**	**2.56**	**360**	⇑*iP*	**Pn**	**04 42 12.9**	**+0.2**
	baz=60						
ARLS				⇑*iS*	**Sn**	**04 42 43.7**	**-0.7**
	baz=60						
BTK	**Batken**	**2.82**	**287**	⇑*iP*	**Pn**	**04 42 16.8**	**+0.5**
	baz=86						
BTK				⇑*iS*	**Sn**	**04 42 50.4**	**-0.3**
	baz=86						
AML	**Almayashu**	**2.87**	**350**	⇑*iP*	**Pn**	**04 42 17.3**	**+0.1**
	baz=50						
AML				⇑*iS*	**Sn**	**04 42 51.1**	**-1.3**
	baz=50						
ULHL	**Ulahol**	**3.28**	**26**	⇓*eP*	**Pn**	**04 42 23.6**	**+0.9**
	baz=26						
ULHL				⇓*iS*	**Sn**	**04 43 01.0**	**-1.2**
	baz=26						
TRKS	**Terek-Say**	**3.30**	**313**	⇑*iP*	**Pn**	**04 42 23.1**	**+0.1**
	baz=12						
TRKS				⇑*eS*	**Sn**	**04 43 00.0**	**-2.8**
	baz=12						
AAK	**Ala-Archa**	**3.33**	**2**	⇓*eP*	**Pn**	**04 42 24.5**	**+1.1**
	baz=2.0						
AAK				⇓*iS*	**Sn**	**04 43 02.8**	**-0.8**
	baz=2.0						
AAK	**Ala-Archa**	**3.33**	**2**	⇓Pn	**Pn**	**04 42 24.3**	**+0.9**
	2.2nm,0.5s						
AAK				⇓Lg	Lg	04 43 07.1	
	5.3nm,0.7s						
BOOM	**Boomskoye usch**	**3.41**	**20**	⇑*iP*	**Pn**	**04 42 25.7**	**+1.2**
	baz=21						
BOOM				⇑*iS*	**Sn**	**04 43 04.3**	**-1.1**
	baz=21						
MNAS	**Manas**	**3.47**	**337**	⇑*iP*	**Pn**	**04 42 26.5**	**+1.2**
	baz=37						
MNAS				⇑*iS*	**Sn**	**04 43 05.3**	**-1.6**
	baz=37						
MRKS	**Merke**	**3.54**	**347**	*eP*	**Pb**	**04 42 32.8**	**-0.9**
	3.3nm,0.3s						
MRKS				*eS*	**Sb**	**04 43 17.1**	**+0.1**
	5.4nm,0.4s						
MRKS	**Merke**	**3.54**	**347**	Pg	**Pb**	**04 42 32.8**	**-0.9**
	3.3nm,0.3s						
MRKS				Lg	Lg	04 43 17.0	
	5.4nm,0.4s						
TARG	**Taragay, Kyrgy**	**3.59**	**46**	⇑*eP*	**Pn**	**04 42 27.9**	**+0.8**
	baz=47						
TARG				⇑*iS*	**Sn**	**04 43 08.2**	**-2.0**
	baz=47						
KST	**Kastek**	**3.93**	**18**	*eP*	**Pb**	**04 42 40.0**	**-0.4**
	4.9nm,0.2s						
KST				*eS*	**Sb**	**04 43 29.4**	**+1.1**
	6.9nm,0.5s						
KST	**Kastek**	**3.93**	**18**	Pg	**Pb**	**04 42 39.9**	**-0.4**
	4.9nm,0.2s						
KST				Lg	Lg	04 43 29.4	
	6.9nm,0.5s						
DGS	**Degeres**	**4.08**	**15**	*eP*	**Pb**	**04 42 42.1**	**-0.8**
	3.6nm,0.5s						
DGS				*eS*	**Sb**	**04 43 33.6**	**+1.0**
	4.1nm,0.3s						
DGS	**Degeres**	**4.08**	**15**	Pg	**Pb**	**04 42 42.1**	**-0.8**
	3.6nm,0.5s						
DGS				Lg	Lg	04 43 33.6	
	4.1nm,0.3s						
IZV	**Izvestkoviy**	**4.11**	**24**	*eP*	**Pb**	**04 42 42.2**	**-1.1**
	3.0nm,0.2s						
IZV				*eS*	**Sb**	**04 43 33.7**	**+0.3**
	5.0nm,0.2s						
IZV	**Izvestkoviy**	**4.11**	**24**	Pg	**Pb**	**04 42 42.2**	**-1.1**
	3.0nm,0.2s						
IZV				Lg	Lg	04 43 33.7	
	5.0nm,0.2s						
MTBS	**Maitube

	comp=Z,80nm,0.2s								
CHIC	**Chingaza**	**2.25**	**196**	*e*P		Pn	04 42 41.4	-0.5	
CHIC				*e*S		Sn	04 43 11.3	-0.1	
CHIC				*i*			04 43 19.7		
	comp=Z,52nm,0.6s								
ROSC	**El Rosal**	**2.29**	**212**	*e*P		Pn	04 42 43.0	+0.5	
ROSC				*e*S		Sn	04 43 12.8	+0.4	
ROSC				*i*			04 43 21.4		
	comp=Z,172nm,0.4s								
HELC	**Santa Helena**	**2.48**	**256**	*e*P		Pn	04 42 44.4	-0.3	
HELC				*e*S		Sn	04 43 16.3	-0.1	
HELC				*i*			04 43 22.4		
	comp=Z,62nm,0.4s								
UREC	**San Jos de Ur**	**2.59**	**292**	*e*P		Pn	04 42 43.6	-2.1	
SOCV	**Socops**	**2.67**	**56**	*i*P		Pn	04 42 46.2	-0.5	
SOCV				*e*S		Sn	04 43 18.1	-2.1	
VILC	**Villavicencio,**	**2.73**	**192**	*e*P		Pn	04 42 46.8	-0.8	
VILC				*e*S		Sn	04 43 21.4	-0.2	
VILC				*i*			04 43 32.3		
	comp=Z,68nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*e*P		Pn	04 42 47.7	-0.3	
GUY2C				*e*S		Sn	04 43 22.2	0.0	
GUY2C				*i*			04 43 30.4		
	comp=Z,122nm,0.8s								
LL2C	**La Loma 2 Cana**	**2.76**	**353**	*e*P		Pn	04 42 48.0	+0.2	
LL2C				*e*S		Sn	04 43 21.8	-0.2	
LL2C				*i*			04 43 30.7		
	comp=Z,83nm,0.5s								
PTGC	**Puerto Gaitan,**	**2.76**	**159**	*e*P		Pn	04 42 46.6	-1.2	
PTGC				*e*S		Sn	04 43 19.7	-2.3	
LL1C	**La Loma 1 Cana**	**2.76**	**351**	*e*S		Sn	04 43 22.7	+0.7	
RREF	**El Recreo**	**2.92**	**230**	*e*P		Pn	04 42 50.2	-0.3	
RREF				*e*S		Sn	04 43 26.4	-0.2	
RREF				*i*			04 43 35.4		
	comp=Z,28nm,0.4s								
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P		Pn	04 42 51.2	-0.2	
CBOC				*e*S		Sn	04 43 27.9	-0.6	
CBOC				*i*			04 43 48.1		
	comp=Z,25nm,0.8s								
TOLC	**Tolima**	**3.11**	**225**	*e*P		Pn	04 42 52.6	0.0	
TOLC				*e*S		Sn	04 43 30.9	+0.4	
TOLC				*i*			04 43 37.6		
	comp=Z,71nm,0.3s								
SDV	**Santo Domingo**	**3.21**	**50**	*e*P		Pn	04 42 53.1	-0.6	
SDV				*i*			04 42 53.8		
	comp=Z,41nm,0.2s								
SDV				*e*S		Sn	04 43 29.3	-3.2	
ANIL	**Santa Ana**	**3.24**	**225**	*e*P		Pn	04 42 54.3	+0.2	
ANIL				*e*S		Sn	04 43 33.2	-0.1	
PRAC	**Prado**	**3.54**	**210**	*e*P		Pn	04 42 57.2	-0.6	
PRAC				*e*S		Sn	04 43 39.1	-0.9	
PRAC				*i*			04 43 45.5		
	comp=Z,72nm,0.4s								
ORTC	**Ortega, Tolima**	**3.58**	**217**	*e*P		Pn	04 42 57.8	-0.5	
ORTC				*e*S		Sn	04 43 41.0	+0.2	
ORTC				*i*			04 43 48.4		
	comp=Z,49nm,0.6s								
ELOV	**Elorza**	**3.60**	**87**	*i*P		Pn	04 42 57.6	-1.0	
ELOV				*e*S		Sn	04 43 37.6	-3.6	
SJCC	**San Jacinto, C**	**3.70**	**326**	*e*P		Pn	04 42 57.7	-2.2	
SJCC				*e*S		Sn	04 43 37.9	-5.8	
SJCC				*i*			04 43 58.2		
	comp=Z,13nm,0.5s								
GUVC	**San Jose del G**	**4.25**	**174**	*e*P		Pn	04 43 06.1	-1.0	
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P		Pn	04 43 06.1	-1.3	
YOTC				*i*			04 43 10.1		
	comp=Z,8.3nm,0.5s								
SMRC	**Santa Marta, M**	**4.47**	**346**	*e*P		Pn	04 43 08.4	-1.6	
SMRC				*e*S		Sn	04 43 55.9	-5.9	
SMRC				*i*			04 44 03.1		
	comp=Z,16nm,0.2s								
MACC	**Macarena, Meta**	**4.68**	**189**	*e*P		Pn	04 43 10.3	-2.5	
MACC				*i*			04 43 11.0		
	comp=Z,25nm,0.4s								
MACC				*e*S		Sn	04 44 01.4	-5.4	
DABV	**Dabajuro**	**4.77**	**31**	*e*P		Pn	04 43 13.2	-0.7	
POPC	**Popayan, Colom**	**5.53**	**220**	*e*P		Pn	04 43 18.8	-5.4	
FLOC	**Florencia**	**5.77**	**206**	*e*P		Pn	04 43 26.1	-1.2	
FLOC				*i*			04 43 28.0		
	comp=Z,3.9nm,0.3s								

CNRM ***14*** *04:50:52.5, 33.68N×5.98W, h13km, ml2.4, Hypocentre not reviewed by the ISC*
SFS ***14*** *04:50:53.0, 33.86N×6.00W, ML2.9, EL KANSERA (MARRUECOS)*
INMG ***14*** *04:50:54.4±1.7, 33.79N×5.87W, h16km±14km, MD2.1, ML1.7, Error ellipse: s-maj=7.0km s-min=4.1km az=73.0*
MDD ***14*** *04:50:57.3±3.3, 34.28N×5.85W, h0km, mbLg1.8/7, Error ellipse: s-maj=21.9km s-min=12.8km az=0.0, PRXIMO*

ISC 14 04:50:52.2±1.1, 33.86N±0.05×5.89W±0.05, h10km, n23, σ1s80/37, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
IFR	**Ifrane**	**0.72**	**118**	*e*P	**Pg**	**04 51 06.3**		**+0.2**
IFR				*e*S	**Sg**	**04 51 15.2**		**-0.4**
ZHG	**ZHG**	**0.76**	**237**	P		04 51 04.8		
ZHG				S		04 51 13.7		
LCRM	**LCR**	**0.87**	**101**	P		04 51 10.0		
LCRM				S		04 51 22.5		
RSA	**Sarsar**	**1.02**	**3**	P		04 51 14.6		
RSA				S		04 51 30.4		
CZD	**Col de Zad**	**1.09**	**139**	P		04 51 12.7		
CZD				S		04 51 25.0		
CHEFC	**Chefchaouen**	**1.32**	**20**	P		04 51 19.9		
CHEFC				S		04 51 39.6		
MD31	**MD31**	**1.37**	**136**	P		04 51 16.1		
MD31				S		04 51 33.8		
AVE	**Averroes**	**1.39**	**247**	*e*P	**Pn**	**04 51 17.5**		**-0.2**
AVE				*e*S	**Sn**	**04 51 35.4**		**-0.8**
MDT	**Midelt**	**1.50**	**134**	P		04 51 18.8		
MDT				S		04 51 37.2		
PALE	**Palemas**	**2.10**	**49**	P		04 51 30.3		
PALE				S		04 51 57.7		
SRHM	**Skhour des Reh**	**2.19**	**231**	P		04 51 30.4		
SRHM				S		04 51 56.9		
GOG	**Mont Gurugu**	**2.74**	**60**	P		04 51 41.9		
GOG				S		04 52 12.6		
JBK	**JBK**	**2.79**	**79**	P		04 51 37.5		
JBK				S		04 52 09.9		
TZRR	**Tazzarine**	**3.08**	**175**	P		04 51 42.0		
TZRR				S		04 52 12.7		
OUK	**Oukaimeden**	**3.13**	**213**	P		04 51 43.6		
PBDV	**Barranco-do-Ve**	**3.76**	**334**	P	**Pn**	**04 51 52.4**		**+2.1**
PBDV				S	**Sn**	**04 52 34.2**		**-0.5**
PBDV	**Barranco-do-Ve**	**3.76**	**334**	*e*Pn	**Pn**	**04 51 52.4**		**+2.1**
PBDV				*e*Sn	**Sn**	**04 52 34.2**		**-0.5**
EAH	**EAH**	**3.82**	**236**	P		04 51 51.5		
PVAQ	**Vaqueiros**	**3.84**	**338**	P	**Pn**	**04 51 53.3**		**+2.0**
PVAQ				S	**Sn**	**04 52 36.2**		**-0.2**
PVAQ	**Vaqueiros**	**3.84**	**338**	*e*Pn	**Pn**	**04 51 53.3**		**+2.0**
PVAQ				*e*Sn	**Sn**	**04 52 36.2**		**-0.2**
EGRO	**El Granado**	**3.89**	**341**	P	**Pn**	**04 51 52.9**		**+0.9**
	0.9nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**04 52 35.5**		**-2.2**
	0.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.95**	**351**	P	**Pn**	**04 51 54.2**		**+1.4**
	0.4nm,0.2s,SNR=7.9							
EMIN				S	**Sn**	**04 52 36.9**		**-2.3**
	0.2nm,0.1s,SNR=7.9							
TTIG	**Tnine Tigouga,**	**3.95**	**214**	P		04 51 54.1		
PFVI	**Vila Bisbo**	**4.05**	**325**	S	**Sn**	**04 52 39.8**		**-1.9**
	0.8nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.05**	**325**	*e*Sn	**Sn**	**04 52 41.6**		**-0.1**
ECAB	**El Cabril**	**4.22**	**5**	P	**Pn**	**04 51 57.9**		**+1.2**
	0.1nm,0.1s,SNR=7.9							
ECAB				S	**Sn**	**04 52 45.5**		**-0.5**
	0.2nm,0.0s,SNR=7.9							
PTEO	**Sao Teotonio**	**4.34**	**329**	S	**Sn**	**04 52 49.0**		**+0.1**
PTEO	**Sao Teotonio**	**4.34**	**329**	*e*Sn	**Sn**	**04 52 49.0**		**+0.1**
PBAR	**Barrancos**	**4.40**	**348**	P	**Pn**	**04 52 00.1**		**+1.0**
PBAR				S	**Sn**	**04 52 48.2**		**-2.2**
	1.3nm,0.7s							
PBAR	**Barrancos**	**4.40**	**348**	*e*Pn	**Pn**	**04 52 00.1**		**+1.0**
PBAR				*e*Sn	**Sn**	**04 52 48.2**		**-2.2**
PBAR				A	A	04 52 52.0		
	1.3nm,0.7s							
EADA	**Adamuz**	**4.42**	**13**	P	**Pn**	**04 52 01.1**		**+1.7**
	0.2nm,0.1s,SNR=7.9							
EADA				S	**Sn**	**04 52 47.8**		**-3.2**
	0.6nm,0.1s,SNR=7.9							

EQES	**Quesada**	**4.55**	**29**	S	**Sn**	**04 52 56.1**		**+2.0**
	0.1nm,0.1s,SNR=4.0							
PNCL	**Nicolau / Gran**	**4.75**	**334**	P	**Pn**	**04 52 05.5**		**+1.7**
PNCL				S	**Sn**	**04 52 58.1**		**-0.9**
PNCL	**Nicolau / Gran**	**4.75**	**334**	*e*Pn	**Pn**	**04 52 05.5**		**+1.7**
PNCL				*e*Sn	**Sn**	**04 52 58.1**		**-0.9**
PESTR	**Estremoz**	**5.18**	**345**	*e*Sn	**Sn**	**04 53 07.8**		**-1.8**
PMRV	**Marv??o**	**5.69**	**348**	S	**Sn**	**04 53 19.1**		**-3.0**
PMRV	**Marv??o**	**5.69**	**348**	*e*Sn	**Sn**	**04 53 19.1**		**-3.0**
PAB	**San Pablo**	**5.80**	**12**	S	**Sn**	**04 53 21.0**		**-4.1**
	0.2nm,0.1s,SNR=7.9							

MOS ***14*** *05:29:04.3±0.0, 42.55N×45.52E, h14km, MPVA3.8*
NORS ***14*** *05:29:05.3±0.0, 42.58N×45.53E, h18km, MPVA3.7*
DRS ***14*** *05:29:06.1±0.0, 42.58N×45.41E, h15km*
TIF ***14*** *05:29:07.7, 42.72N×45.33E, h16km±2km*

ISC 14 05:29:06.3±1.0, 42.58N±0.02×45.51E±0.01, h13km±8km, n74, σ1s17/137, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BTLR	**Botlikh**	**0.53**	**81**	*i* PG	**Pb**	**05 29 17.1**		**-0.4**
BTLR				*e*S	**Sb**	**05 29 24.7**		**-0.4**
BTLR				pmax	pmax			
	comp=Z,79nm,0.4s							
BTLR	**Botlikh**	**0.53**	**81**	*i* Pg	**Pb**	**05 29 17.1**		**-0.4**
BTLR				*e*Sg	**Sb**	**05 29 24.9**		**-0.2**
DVE	**Vedeno**	**0.59**	**50**	*i* PG	**Pb**	**05 29 17.8**		**-0.7**
DVE				*e*S	**Sb**	**05 29 26.2**		**-0.5**
DVE	**Vedeno**	**0.59**	**50**	*i* Pg	**Pb**	**05 29 17.8**		**-0.7**
DVE				*e*Sg	**Sb**	**05 29 26.2**		**-0.5**
GROC	**Groznyy**	**0.65**	**19**	*e*PG	**Pb**	**05 29 19.5**		**0.0**
GROC				*e*		05 29 29.6		
GROC				pmax	pmax			
	comp=Z,77nm,0.3s							
GROC				smax	smax			
	comp=N,299nm,0.4s							
GROC				smax	smax			
	comp=N,331nm,0.3s							
GROC				smax	smax			
	comp=E,184nm,0.4s							
GROC	**Groznyy**	**0.65**	**19**	*i* Pg	**Pn**	**05 29 19.9**		**-1.3**
GROC				*e*Sg	**Sn**	**05 29 30.1**		**-1.3**
KMGR	**Komgaron**	**0.67**	**315**	*e*PG	**Pb**	**05 29 20.1**		**+0.2**
KMGR				*e*S	**Sn**	**05 29 31.2**		**-0.7**
KMGR	**Komgaron**	**0.67**	**315**	*e*Pg	**Pb**	**05 29 20.1**		**+0.2**
KMGR				*e*Sg	**Sn**	**05 29 31.2**		**-0.7**
MTEO	**Meteo**	**0.73**	**278**	P	**Pg**	**05 29 19.6**		**-0.9**
MTEO				S	**Sg**	**05 29 28.5**		**-1.6**
VLKR	**Vladikavkaz**	**0.77**	**307**	*e*PG	**Pn**	**05 29 22.0**		**-0.9**
VLKR				*e*S	**Sn**	**05 29 33.3**		**-1.1**
VLKR	**Vladikavkaz**	**0.77**	**307**	*e*Pg	**Pn**	**05 29 22.0**		**-0.9**
VLKR				*e*Sg	**Sn**	**05 29 33.3**		**-1.1**
GUDG	**Gudauri**	**0.77**	**261**	P	**Pg**	**05 29 18.1**		**-3.2**
GUDG				S	**Sg**	**05 29 27.6**		**-3.9**
GUDG	**Gudauri**	**0.77**	**261**	PG	**Pg**	**05 29 18.1**		**-3.2**
XNZR	**Khunzakh**	**0.88**	**92**	*i* PG	**Pg**	**05 29 23.2**		**-0.1**
XNZR				*e*S	**Sn**	**05 29 36.1**		**-1.2**
XNZR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
XNZR	**Khunzakh**	**0.88**	**92**	*i* Pg	**Pg**	**05 29 23.3**		**-0.1**
XNZR				*e*Sg	**Sn**	**05 29 36.2**		**-1.2**
LGD	**Lagodekhi**	**0.93**	**144**	P	**Pn**	**05 29 25.2**		**+0.2**
LGD				S	**Sn**	**05 29 37.8**		**-0.3**
LGD	**Lagodekhi**	**0.93**	**144**	PG	**Pn**	**05 29 25.2**		**+0.2**
LGD				S	**Sn**	**05 29 37.8**		**-0.3**
LACR	**Lac**	**0.93**	**286**	*e*PG	**Pb**	**05 29 23.5**		**-0.8**
LACR				*e*S	**Sb**	**05 29 35.6**		**-1.0**
LACR	**Lac**	**0.93**	**286**	*e*Pg	**Pb**	**05 29 23.5**		**-0.8**
LACR				*e*Sg	**Sb**	**05 29 35.6**		**-1.0**
DLMR	**Dylym**	**0.96**	**59**	*e*PG	**Pg**	**05 29 24.6**		**-0.1**
DLMR				*e*S	**Sn**	**05 29 38.0**		**-0.9**
DLMR				pmax	pmax			
	comp=Z,266nm,0.3s							
DLMR	**Dylym**	**0.96**	**59**	*e*Pg	**Pg**	**05 29 24.6**		**-0.1**
DLMR				*e*Sg	**Sn**	**05 29 38.0**		**-0.9**
KRNR	**Karanay**	**1.06**	**76**	*i* PG	**Pg**	**05 29 26.6**		**0.0**
KRNR				*e*S	**Sn**	**05 29 40.9**		**-0.7**
KRNR				pmax	pmax			
	comp=Z,61nm,0.6s							
KRNR	**Karanay**	**1.06**	**76**	*i* Pg	**Pg**	**05 29 26.7**		**0.0**
KRNR				*e*Sg	**Sn**	**05 29 40.9**		**-0.7**
BTKR	**Batakoyurt**	**1.06**	**318**	*e*PG	**Pg**	**05 29 27.2**		**+0.5**
BTKR				*e*S	**Sn**	**05 29 43.0**		**+1.4**
BTKR	**Batakoyurt**	**1.06**	**318**	*e*Pg	**Pg**	**05 29 27.2**		**+0.5**
BTKR				*e*Sg	**Sn**	**05 29 43.0**		**+1.4**
DBC	**Dubki**	**1.06**	**65**	*e*PG	**Pg**	**05 29 26.8**		**0.0**
DBC				*e*S	**Sn**	**05 29 42.4**		**+0.7**
DBC				pmax	pmax			
	comp=Z,37nm,0.4s							
DBC	**Dubki**	**1.06**	**65**	*e*Pg	**Pg**	**05 29 27.3**		**+0.5**
DBC				*e*Sg	**Sn**	**05 29 42.2**		**+0.6**
GNBR	**Gunib**	**1.09**	**100**	*i* PG	**Pg**	**05 29 27.3**		**0.0**
GNBR				*e*S	**Sn**	**05 29 42.4**		**+0.1**
GNBR	**Gunib**	**1.09**	**100**	*i* Pg	**Pg**	**05 29 27.3**		**0.0**
GNBR				*e*Sg	**Sn**	**05 29 42.4**		**+0.1**
KORR	**Kora**	**1.17**	**296**	*i* PG	**Pg**	**05 29 26.0**		**+0.1**
KORR				*e*S	**Sg**	**05 29 46.4**		**+2.2**
KORR	**Kora**	**1.17**	**296**	*i* Pg	**Pg**	**05 29 29.0**		**+0.1**
KORR				*e*Sg	**Sg**	**05 29 46.4**		**+2.2**
BUJR	**Buynaksk**	**1.20**	**78**	*e*PG	**Pg**	**05 29 29.1**		**-0.3**
BUJR				*e*S	**Sg**	**05 29 45.8**		**+0.7**
BUJR	**Buynaksk**	**1.20**	**78**	*e*Pg	**Pg**	**05 29 29.1**		**-0.3**
BUJR				*e*Sg	**Sg**	**05 29 45.8**		**+0.7**
ZEI	**Tsey**	**1.20**	**280**	*e*PG	**Pn**	**05 29 27.4**		**-1.6**
ZEI				*e*S	**Sb**	**05 29 43.9**		**-0.7**
ZEI	**Tsey**	**1.20**	**280**	*e*Pg	**Pn**	**05 29 27.4**		**-1.6**
ZEI				*e*Sg	**Sb**	**05 29 43.9**		**-0.7**
DDFL	**Dedoflistskaro**	**1.22**	**158**	P	**Pg**	**05 29 34.3**		**+4.4**
DDFL				S	Sg	05 29 55.3		+10
DDFL	**Dedoflistskaro**	**1.22**	**158**	PG	**Pg**	**05 29 34.3**		**+4.4**
DDFL				S	Sg	05 29 55.3		+10
TRKR	**Terskaya**	**1.27**	**334**	*e*PG	**Pg**	**05 29 31.1**		**+0.3**
TRKR				*e*S	**Sg**	**05 29 49.2**		**+1.9**
TRKR	**Terskaya**	**1.27**	**334**	*e*Pg	**Pg**	**05 29 31.1**		**+0.3**
TRKR				*e*Sg	**Sg**	**05 29 49.2**		**+1.9**
STDR	**Stavd-Durt**	**1.32**	**307**	*e*PG	**Pb**	**05 29 30.9**		**0.0**
STDR				*e*S	**Sg**	**05 29 51.1**		**+2.2**
STDR	**Stavd-Durt**	**1.32**	**307**	*e*Pg	**Pb**	**05 29 30.9**		**0.0**
STDR				*e*Sg	**Sg**	**05 29 51.1**		**+2.2**
LSNR	**Lesken**	**1.42**	**300**	*e*PG	**Pb**	**05 29 32.9**		**+0.3**
LSNR				*e*S	**Sg**	**05 29 53.2**		**+1.2**
LSNR	**Lesken**	**1.42**	**300**	*e*Pg	**Pb**	**05 29 32.9**		**+0.3**
LSNR				*e*Sg	**Sg**	**05 29 53.1**		**+1.2**
DIGR	**Digorskoe uzhe**	**1.46**	**283**	*i* PG	**Pb**	**05 29 32.8**		**-0.5**
DIGR				*e*S	**Sb**	**05 29 52.1**		**+0.2**
DIGR	**Digorskoe uzhe**	**1.46**	**283**	*i* Pg	**Pb**	**05 29 32.8**		**-0.5**
DIGR				*e*Sg	**Sb**	**05 29 52.1**		**+0.2**
PRTR	**Priterechnaya**	**1.47**	**323**	*e*PG	**Pb**	**05 29 33.8**		**+0.3**
PRTR				*e*S	**Sg**	**05 29 55.0**		**+1.3**
PRTR	**Priterechnaya**	**1.47**	**323**	*e*Pg	**Pb**	**05 29 33.8**		**+0.3**
PRTR				*e*Sg	**Sg**	**05 29 55.0**		**+1.3**
MAK	**Makhachkala**	**1.52**	**75**	*e*PG	**Pg**	**05 29 34.6**		**-0.8**
MAK				*e*		05 29 56.1		
MAK				pmax	pmax			
	comp=Z,78nm,0.4s							
MAK				smax	smax			
	comp=N,241nm,0.4s							
MAK				smax	smax			
	comp=N,193nm,0.6s							
MAK	**Makhachkala**	**1.52**	**75**	*e*Pg	**Pb**	**05 29 33.3**		**-0.9**
MAK				*e*Sg	**Sg**	**05 29 54.9**		**-0.2**
ONI	**Oni**	**1.52**	**271**	P	**Pg**	**05 29 35.5**		**-0.1**
ONI	**Oni**	**1.52**	**271**	*e*PG	**Pg**	**05 29 35.4**		**-0.1**
ONI				*e*S	**Sg**	**05 29 54.8**		**-0.4**
ONI	**Oni**	**1.52**	**271**	*e*Pg	**Pg**	**05 29 35.4**		**-0.1**
ONI				*e*Sg	**Sg**	**05 29 54.8**		**-0.4**
BRNG	**Burnasheti**	**1.58**	**233**	P	**Pg**	**05 29 36.6**		**0.0**
BRNG				S	**Sg**	**05 29 58.6**		**+1.5**
DMNI	**Dmanisi**	**1.59**	**219**	P	**Pb**	**05 29 35.8**		**+0.1**
DMNI				S	**Sg**	**05 29 57.4**		**-0.2**
DMNI	**Dmanisi**	**1.59**	**219**	PN	**Pb**	**05 29 35.8**		**+0.1**
DMNI				S	**Sg**	**05 29 57.4**		**-0.2**
URKR	**Urkarakh**	**1.63**	**104**	*e*PN	**Pg**	**05 29 37.1**		**-0.4**
URKR	**Urkarakh**	**1.63**	**104**	*e*Pg	**Pg**	**05 29 37.1**		**-0.4**
URKR				*e*Sg	**Sb**	**05 29 55.7**		**-1.0**
NCK	**Nalchik**	**1.67**	**304**	*e*PN	**Pb**	**05 29 36.5**		**-0.5**
NCK				*e*S	**Sb**	**05 29 58.2**		**+0.3**
NCK	**Nalchik**	**1.67**	**304**	*e*Pg	**Pb**	**05 29 36.5**		**-0.5**
NCK				*e*Sg	**Sb**	**05 29 58.2**		**+0.3**

AKT	**Akhty**	**1.99**	**123**	*e*PN	**Pb**	**05 29 42.7**		**+0.3**
AKT	**Akhty**	**1.99**	**123**	*e*Pg	**Pb**	**05 29 42.7**		**+0.3**
AKT				*e*Sg	**Sg**	**05 30 08.6**		**-1.6**
NEY	**Neytrino**	**2.15**	**289**	*e*PN	**Pb**	**05 29 44.3**		**-0.9**
NEY				*e*S	**Sb**	**05 30 12.5**		**+0.6**
NEY	**Neytrino**	**2.15**	**289**	*e*Pg	**Pb**	**05 29 44.4**		**-0.9**
NEY				*e*Sg	**Sb**	**05 30 12.5**		**+0.6**
KBZ	**Khabaz**	**2.23**	**302**	*e*PN	**Pb**	**05 29 45.1**		**-1.3**
KBZ				*e*S	**Sb**	**05 30 13.5**		**-0.3**
KBZ	**Khabaz**	**2.23**	**302**	*e*Pn	**Pb**	**05 29 45.1**		**-1.3**
KBZ				*e*Sn	**Sb**	**05 30 13.5**		**-0.3**
SHA1	**Shidzhatmaz**	**2.38**	**300**	*e*PN	**Pb**	**05 29 48.1**		**-1.1**
SHA1				*e*S	**Sb**	**05 30 19.4**		**+0.7**
SHA1	**Shidzhatmaz**	**2.38**	**300**	*e*Pn	**Pb**	**05 29 48.1**		**-1.1**
SHA1				*e*Sn	**Sb**	**05 30 19.4**		**+0.7**
BEYR	**Belyy Ugol+**	**2.43**	**307**	*e*PN	**Pn**	**05 29 46.4**		**+0.7**
BEYR				*e*S	**Sn**	**05 30 15.7**		**+0.3**
BEYR	**Belyy Ugol+**	**2.43**	**307**	*e*Pn	**Pn**	**05 29 46.4**		**+0.7**
BEYR				*e*Sn	**Sn**	**05 30 15.7**		**+0.3**
KIV	**Kislovodsk**	**2.48**	**305**	*e*PN	**Pn**	**05 29 47.7**		**+1.3**
KIV				*e*S	**Sn**	**05 30 18.4**		**+1.8**
KIV	**Kislovodsk**	**2.48**	**305**	*e*Pn	**Pn**	**05 29 47.7**		**+1.3**
KIV				*e*Sn	**Sn**	**05 30 18.4**		**+1.8**
ARXR	**Arkhyz**	**3.25**	**289**	*i* PN	**Pn**	**05 29 59.1**		**+2.0**
ARU	**Arti**	**16.20**	**27**	*i* P	**P**	**05 32 55.5**		**-1.0**
ARU				pmax	pmax			
	comp=Z,12nm,2.3s							
BRVK	**Borovoye**	**19.56**	**49**	*i* P	**Pn**	**05 33 35.8**		**+0.9**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.7s							

IDC ***14*** *05:30:09.1±0.6, 11.27S×163.19E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.5/32, mbtmp4.5/19, ML3.9/1, MS3.7/19, Ms1 3.7/19, ms1mx3.6/40, Error ellipse: s-maj=21.6km s-min=14.9km az=102.0*
GCMT ***14*** *05:30:11.9±0.3, 11.43S±0.03×163.27E±0.05, h20km±1km, MW4.9/80, Moment Tensor Solution. s20,c22; s80,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.65±.18; Mθθ 1.72±.12; Mϕϕ 0.93±.12; Mrθ -0.36±.24; Mϕθ 0.63±.07; Mϕr-0.46±.29; Best double couple: Mo2.42800×10^16 NP1:ϕs244.00000°, δ39.00000°, λ-84.00000°. NP2: ϕs57.00000°, δ52.00000°, λ-95.00000°. Principal axes: T 2.1310, Plg6.0000°, Azm150.0000°; N 0.5960, Plg4.0000°, Azm60.0000°; P -2.7250, Plg83.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *05:30:13.9±1.1, 11.41S±0.04×163.28E±0.09, h35km±5km, mb4.8/88 Error ellipse: s-maj=12.6km s-min=4.7km az=79.0*
NOU ***14*** *05:30:40.6, 11.88S×162.28E, h211km, mb4.6, Solomon Islands*

ISC 14 05:30:13.8±0.4, 11.41S±0.06×163.31E±0.07, h35km, n162, σ1s90/152, mb4.8/67, MS3.6/19, 2C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HNR	**Honiara**	**3.85**	**300**	Pn	**Pn**	**05 31 10.2**		**-0.3**
	33nm,0.3s,baz=214,slow=8.8,SNR=10							
HNR				Sn	**Sn**	**05 31 56.4**		**+1.9**
	43nm,0.3s,baz=87,slow=13,SNR=1.9							
HNR				LR	LR	05 32 41.2		
	comp=Z,2μm,18.9s,baz=120,slow=41							
HNR	**Honiara**	**3.85**	**300**		**Pn**	**05 31 10.4**		**-0.1**
SANVU	**Saraoutou**	**5.52**	**137**		**Pn**	**05 31 33.5**		**0.0**
DZM	**Mont Dzumac**	**11.02**	**165**	Pn	**Pn**	**05 32 49.5**		**+0.5**
	0.9nm,0.3s,baz=302,slow=18,SNR=11							
DZM				LR	LR	05 36 16.4		
	comp=Z,1μm,21.6s,baz=11,slow=33							
DZM	**Mont Dzumac**	**11.02**	**165**		**Pn**	**05 32 48.7**		**-0.4**
MSVF	**Nonsavu**	**15.59**	**116**	LR	LR	05 38 28.0		

JMN	**Monobe**	**52.91**	**329**	P	**P**	**05 39 26.0**	**-0.5**		
MJAR	**Matsushiro Arr**	**53.23**	**335**	P	**P**	**05 39 26.9**	**-2.0**		
	comp=Z,8.4nm,1.3s,baz=159,slow=5.9,SNR=6.8								
MJAR				LR	LR	06 00 26.8			
	comp=Z,54nm,21.8s,baz=280,slow=34								
MJAR	**Matsushiro Arr**	**53.23**	**335**	P	**P**	**05 39 27.9**	**-1.0**		
MAJO	**Matsushiro**	**53.23**	**335**	P	**P**	**05 39 28.0**	**-0.9**		
MAT	**Matsushiro**	**53.23**	**335**	P	**P**	**05 39 27.8**	**-1.1**		
JMM	**Marumori**	**53.36**	**338**	P	**P**	**05 39 29.8**	**0.0**		
JNU	**Nakatsue**	**54.01**	**326**	LR	LR	05 59 02.5			
	comp=Z,38nm,21.2s,baz=126,slow=32								
JSD	**Sado**	**54.49**	**336**	P	**P**	**05 39 37.1**	**-0.9**		
JKA	**Kamikawa-asahi**	**58.38**	**343**	P	**P**	**05 40 05.9**	**+0.3**		
KSRS	**Korea Array**	**58.86**	**327**	P	**P**	**05 40 08.9**	**-0.1**		
	comp=Z,4.9nm,1.0s,baz=144,slow=6.9,SNR=13								
KSRS				LR	LR	06 02 51.4			
	comp=Z,55nm,19.6s,baz=126,slow=33								
KSAR	**Wonju Array Be**	**58.87**	**327**	P	**P**	**05 40 08.4**	**-0.7**		
NJ2	**Nanjing**	**60.62**	**317**	*eP*	**P**	**05 40 21.8**	**+0.5**		
NJ2				pmax	pmax				
	comp=Z,19nm,0.8s								
YSS	**Yuzh-Sakhalins**	**60.94**	**344**	P	**P**	**05 40 23.1**	**0.0**		
USA0B	**Ussuriysk Arra**	**62.23**	**335**	P	**P**	**05 40 32.2**	**+0.2**		
USRK	**Ussuriysk Ar.**	**62.23**	**335**	P	**P**	**05 40 32.8**	**+0.8**		
	comp=Z,15nm,1.0s,baz=147,slow=5.9,SNR=23								
USRK	**Ussuriysk Ar.**	**62.23**	**335**	P	**P**	**05 40 32.3**	**+0.4**		
MDJ	**Mudanjiang**	**63.58**	**334**	P	**P**	**05 40 40.5**	**-0.5**		
MDJ				IAmb	IAmb	05 40 42.4			
	comp=Z,9.0nm,0.9s								
PET	**Petropavlovsk**	**64.30**	**357**	P	**P**	**05 40 44.4**	**-1.0**		
PETK	**Petropavlovsk-**	**64.44**	**356**	P	**P**	**05 40 47.1**	**+0.8**		
	comp=Z,6.1nm,1.1s,baz=126,slow=7.5,SNR=5.2								
PETK				LR	LR	06 03 29.4			
	comp=Z,67nm,21.0s,baz=127,slow=31								
PETK	**Petropavlovsk-**	**64.44**	**356**	P	**P**	**05 40 46.0**	**-0.4**		
VNDA	**Vanda**	**66.11**	**180**	P	**P**	**05 40 59.4**	**+2.5**		
	comp=Z,3.3nm,0.9s,baz=351,slow=6.8,SNR=16								
VNDA				LR	LR	06 04 47.9			
	comp=Z,56nm,21.1s,baz=2.5,slow=31								
VNDA	**Vanda**	**66.11**	**180**	P	**P**	**05 40 59.8**	**+2.9**		
ENH	**Enshi**	**66.29**	**310**	P	**P**	**05 40 57.1**	**-1.8**		
ENH				IAmb	IAmb	05 40 59.0			
	comp=Z,6.7nm,0.7s								
SBA	**Scott Base**	**66.46**	**179**	P	**P**	**05 40 59.5**	**+0.3**		
SBA				IAmb	IAmb	05 41 05.2			
	comp=Z,6.8nm,1.1s								
KLR	**Kul'dur**	**66.47**	**338**	LR	LR	06 07 59.7			
	comp=Z,39nm,19.9s,baz=182,slow=34								
GYA	**Guiyang**	**66.66**	**305**	⇓P	**P**	**05 41 02.9**	**+1.4**		
GYA				S	**S**	**05 49 54.1**	**+3.1**		
GYA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
GYA				pmax	pmax				
	comp=Z,21nm,3.9s								
GYA				L	L				
	comp=Z,14nm,21.1s								
BJI	**Beijing**	**67.28**	**322**	P	**P**	**05 41 05.1**	**+0.1**		
BJI				S	**S**	**05 50 01.1**	**+3.3**		
BJI	**Beijing**	**67.28**	**322**	SS	SS	05 54 19.5	+1.3		
BJI				pmax	pmax				
	comp=Z,6.0nm,1.2s								
XAN	**Xi'an**	**68.62**	**314**	P	**P**	**05 41 13.4**	**-0.2**		
XAN				pP	pP	05 41 18.1	-4.1		
XAN				pmax	pmax				
	comp=Z,10.0nm,1.1s								
KMI	**Kunming**	**69.28**	**302**	⇑P	**P**	**05 41 18.8**	**+0.7**		
KMI				sP	pwP	05 41 32.5	-1.7		
KMI				pmax	pmax				
	comp=Z,9.0nm,1.5s								
CMAR	**Chiang Mai Arr**	**70.08**	**294**	P	**P**	**05 41 23.0**	**+0.1**		
	comp=Z,0.9nm,0.3s,baz=113,slow=4.2,SNR=9.7								
CMAR				LR	LR	06 12 17.7			
	comp=Z,14nm,19.2s,baz=320,slow=36								
CMAR	**Chiang Mai Arr**	**70.08**	**294**	P	**P**	**05 41 22.1**	**-0.8**		
CHTO	**Chiang Mai**	**70.19**	**295**	P	**P**	**05 41 22.1**	**-1.5**		
HHC	**Hu-ho-hao-te**	**70.58**	**321**	*eP*	**P**	**05 41 23.5**	**-2.1**		
HHC				pmax	pmax				
	comp=Z,25nm,0.8s								
HHC				pmax	pmax				
	comp=Z,110nm,6.1s								
LZH	**Lanzhou**	**73.25**	**313**	*eP*	**P**	**05 41 41.8**	**0.0**		
LZH				pP	pP	05 41 52.0	+1.6		
LZH				sP	PcP	05 41 56.6	-1.6		
LZH				pmax	pmax				
	comp=Z,20nm,1.0s								
ULN	**Ulaanbaatar**	**77.21**	**325**	P	**P**	**05 42 04.4**	**0.0**		
ULN				IAmb	IAmb	05 42 06.1			
	comp=Z,6.7nm,0.8s								
ULN	**Ulaanbaatar**	**77.21**	**325**	P	**P**	**05 42 04.5**	**+0.2**		
	comp=Z,42nm,1.2s								
SONM	**Songino Array**	**77.56**	**325**	P	**P**	**05 42 06.5**	**+0.2**		
	comp=Z,1.6nm,0.4s,baz=152,slow=6.7,SNR=11								
SONM	**Songino Array**	**77.56**	**325**	P	**P**	**05 42 05.9**	**-0.4**		
SONM				IAmb	IAmb	05 42 08.0			
	comp=Z,14nm,1.4s								
GTA	**Gaotai**	**77.60**	**315**	⇑P	**P**	**05 42 07.8**	**+1.1**		
GTA				pP	PcP	05 42 17.4	+0.6		
GTA				sP	pwP	05 42 22.3	-0.7		
GTA				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,100nm,5.8s								
GTA				L	L				
	comp=Z,220nm,18.2s								
GTA				L	L				
	comp=Z,290nm,18.9s								
GTA				L	L				
	comp=Z,200nm,18.9s								
YAK	**Yakutsk**	**77.78**	**345**	P	**P**	**05 42 07.3**	**+0.4**		
KDAK	**Kodiak Island**	**77.81**	**22**	P	**P**	**05 42 06.7**	**-0.5**		
	comp=Z,5.8nm,0.9s,baz=188,slow=7.1,SNR=6.8								
KDAK	**Kodiak Island**	**77.81**	**22**	P	**P**	**05 42 06.9**	**-0.3**		
KDAK				IAmb	IAmb	05 42 23.8			
	comp=Z,15nm,1.4s								
QSPA	**South Pole Qui**	**78.60**	**180**	P	**P**	**05 42 14.0**	**+2.3**		
SVW2	**Sparrevohn**	**79.22**	**19**	P	**P**	**05 42 16.1**	**+1.1**		
SVW2				IAmb	IAmb	05 42 17.3			
	comp=Z,16nm,1.0s								
BILL	**Bilibino**	**79.27**	**1**	P	**P**	**05 42 15.0**	**-0.1**		
BILL				IAmb	IAmb	05 42 16.5			
	comp=Z,19nm,1.1s								
RSO	**Redoubt South**	**79.68**	**20**	P	**P**	**05 42 18.2**	**+0.5**		
TTA	**Tatalina**	**80.48**	**18**	P	**P**	**05 42 22.3**	**+0.4**		
TTA				IAmb	IAmb	05 42 24.0			
	comp=Z,8.5nm,1.2s								
PMR	**Palmer**	**81.73**	**21**	P	**P**	**05 42 28.8**	**+0.4**		
FID	**Port Fidalgo**	**82.13**	**22**	P	**P**	**05 42 30.3**	**-0.2**		
FID				IAmb	IAmb	05 42 35.7			
	comp=Z,11nm,1.0s								
SCM	**Sheep Creek Mo**	**82.53**	**21**	P	**P**	**05 42 33.1**	**+0.4**		
SCM				IAmb	IAmb	05 42 47.7			
	comp=Z,10nm,1.3s								
KLU	**Klutina**	**82.81**	**22**	P	**P**	**05 42 34.9**	**+0.7**		
RND	**Reindeer**	**83.07**	**20**	P	**P**	**05 42 35.8**	**+0.3**		
RND				IAmb	IAmb	05 42 37.9			
	comp=Z,16nm,1.4s								
M24K	**Tolsona, Glenn**	**83.12**	**21**	P	**P**	**05 42 36.8**	**+1.0**		
M24K				IAmb	IAmb	05 42 39.2			
	comp=Z,16nm,1.2s								
MCK	**McKinley**	**83.26**	**19**	P	**P**	**05 42 36.2**	**-0.2**		
BWN	**Browne**	**83.39**	**19**	P	**P**	**05 42 37.5**	**+0.4**		
BWN				IAmb	IAmb	05 42 38.2			
	comp=Z,9.7nm,1.0s								
IMAR	**Indian Mountai**	**83.43**	**16**	P	**P**	**05 42 37.8**	**+0.6**		
GLB	**Gilahina Butte**	**83.57**	**23**	P	**P**	**05 42 37.8**	**-0.3**		
GLB				IAmb	IAmb	05 42 40.0			
	comp=Z,8.7nm,1.2s								
MLY	**Manley**	**83.60**	**18**	P	**P**	**05 42 38.4**	**+0.2**		
MLY				IAmb	IAmb	05 42 39.6			
	comp=Z,6.7nm,1.2s								
NEA2	**Nenana**	**83.81**	**19**	P	**P**	**05 42 38.9**	**-0.3**		
NEA2				IAmb	IAmb	05 42 41.5			
	comp=Z,6.7nm,1.1s								
WRH	**Wood River Hil**	**84.04**	**19**	P	**P**	**05 42 40.3**	**-0.1**		
WRH				IAmb	IAmb	05 42 42.2			
	comp=Z,9.0nm,1.0s								
BARN	**Barnard Glacie**	**84.17**	**24**	P	**P**	**05 42 41.0**	**-0.3**		
CTGM	**Chitina Glacie**	**84.24**	**24**	P	**P**	**05 42 40.5**	**-1.2**		
CCB	**Clear Creek Bu**	**84.25**	**19**	P	**P**	**05 42 41.4**	**+0.1**		
MDM	**Murphy Dome**	**84.32**	**19**	P	**P**	**05 42 41.2**	**-0.7**		
MDM				IAmb	IAmb	05 42 42.6			
	comp=Z,5.7nm,1.0s								
HDA	**Harding Lake**	**84.37**	**19**	P	**P**	**05 42 42.4**	**+0.4**		
HDA				IAmb	IAmb	05 42 44.1			
	comp=Z,7.6nm,0.8s								
TCOL	**CIGO, UAF Yank**	**84.38**	**19**	P	**P**	**05 42 41.5**	**-0.6**		
TCOL				IAmb	IAmb	05 42 43.8			
	comp=Z,9.3nm,0.9s								
COLA	**College**	**84.39**	**19**	P	**P**	**05 42 41.7**	**-0.3**		
COLA				IAmb	IAmb	05 42 43.8			
	comp=Z,8.7nm,0.9s								
MENT	**Mentasta**	**84.53**	**22**	P	**P**	**05 42 42.8**	**-0.2**		
IL31		**84.63**	**19**	P	**P**	**05 42 43.0**	**-0.3**		
ILAR	**Eielson Array**	**84.63**	**19**	P	**P**	**05 42 43.3**	**0.0**		
	comp=Z,2.2nm,0.9s,baz=255,slow=5.5,SNR=14								
ILAR				LR	LR	06 13 49.7			
	comp=Z,70nm,21.4s,baz=316,slow=31								
DOT	**Dot Lake**	**84.85**	**21**	P	**P**	**05 42 44.9**	**+0.3**		
DOT				IAmb	IAmb	05 42 46.4			
	comp=Z,8.2nm,1.1s								
SCRK	**Sand Creek**	**85.08**	**21**	P	**P**	**05 42 46.2**	**+0.4**		
SCRK				IAmb	IAmb	05 42 47.9			
	comp=Z,8.8nm,1.2s								
L27K	**Beaver Creek,**	**85.29**	**22**	P	**P**	**05 42 47.3**	**+0.5**		
L27K				IAmb	IAmb	05 42 49.1			
	comp=Z,7.4nm,1.1s								
BCAR	**Beaver Creek A**	**85.31**	**22**	P	**P**	**05 42 46.4**	**-0.5**		
SNCC	**San Nicolas Is**	**85.68**	**55**	P	**P**	**05 42 49.2**	**-0.2**		
HYT	**Haines Junctio**	**85.71**	**25**	P	**P**	**05 42 48.8**	**-0.2**		
HYT				IAmb	IAmb	05 43 11.0			
	comp=Z,11nm,1.4s								
K27K	**Chicken**	**85.78**	**21**	P	**P**	**05 42 50.6**	**+1.5**		
TIXI	**Tiksi**	**86.00**	**350**	P	**P**	**05 42 49.1**	**-0.9**		
TIXI				IAmb	IAmb	05 42 50.6			
	comp=Z,7.4nm,1.4s								
EGAK	**Eagle**	**86.55**	**21**	P	**P**	**05 42 53.4**	**+0.5**		
DAWY	**Dawson**	**86.77**	**22**	P	**P**	**05 42 55.1**	**+1.1**		
DAWY				IAmb	IAmb	05 43 10.4			
	comp=Z,10nm,1.4s								
MWC	**Mount Wilson**	**87.13**	**54**	P	**P**	**05 42 56.8**	**+0.1**		
MWC				IAmb	IAmb	05 42 59.1			
	comp=Z,9.8nm,1.2s								
ISA	**Isabella, Lake**	**87.19**	**53**	P	**P**	**05 42 56.7**	**-0.1**		
WMQ	**Urumqi**	**87.67**	**315**	*eP*	**P**	**05 43 00.3**	**+1.4**		
WMQ				L	L				
	comp=Z,600nm,17.7s								
WMQ				L	L				
	comp=Z,430nm,15.3s								
WMQ				L	L				
	comp=Z,500nm,18.7s								
NVAR	**Mina Array Bea**	**88.09**	**50**	P	**P**	**05 43 02.0**	**+0.8**		
	comp=Z,0.8nm,0.8s,baz=237,slow=7.0,SNR=8.2								
NVAR	**Mina Array Bea**	**88.09**	**50**	P	**P**	**05 43 00.8**	**-0.4**		
NV11	**Mina Array Sit**	**88.20**	**50**	P	**P**	**05 43 02.6**	**+0.9**		
NV11				IAmb	IAmb	05 43 04.1			
	comp=Z,7.6nm,1.4s								
EPYK	**Eagle Plains**	**88.97**	**20**	P	**P**	**05 43 04.0**	**-0.5**		
W13A	**Hualapai Mount**	**90.68**	**54**	P	**P**	**05 43 12.3**	**-1.1**		
INK	**Inuvik**	**91.02**	**19**	P	**P**	**05 43 14.1**	**+0.2**		
	comp=Z,2.5nm,1.1s,baz=270,slow=7.8,SNR=3.3								
INK	**Inuvik**	**91.02**	**19**	P	**P**	**05 43 13.9**	**-0.1**		
INK				IAmb	IAmb	05 43 16.9			
	comp=Z,7.8nm,1.4s								
Y14A	**Wickenburg**	**91.12**	**56**	P	**P**	**05 43 13.9**	**-1.4**		
Y14A				IAmb	IAmb	05 43 14.1			
	comp=Z,3.3nm,0.9s								
MFID	**Camas Ranch**	**91.21**	**46**	P	**P**	**05 43 15.9**	**+0.3**		
MFID				IAmb	IAmb	05 43 18.4			
	comp=Z,5.0nm,1.1s								
LCMT	**Little Creek M**	**91.62**	**53**	P	**P**	**05 43 18.3**	**+0.6**		
LCMT				IAmb	IAmb	05 43 20.6			
	comp=Z,6.6nm,1.4s								
MK31	**Makanchi Array**	**92.16**	**317**	P	**P**	**05 43 19.3**	**-0.4**		
MK31				IAmb	IAmb	05 43 20.6			
	comp=Z,4.1nm,1.1s								
MKAR	**Makanchi Array**	**92.16**	**317**	P	**P**	**05 43 19.7**	**-0.1**		
	comp=Z,2.3nm,0.8s,baz=102,slow=5.8,SNR=21								
MKAR	**Makanchi Array**	**92.16**	**317**	P	**P**	**05 43 19.5**	**-0.3**		
MAKZ	**Makanchi**	**92.37**	**317**	P	**P**	**05 43 20.1**	**-0.7**		
MAKZ				IAmb	IAmb	05 43 21.6			
	comp=Z,4.8nm,1.1s								
KURK	**Kurchatov**	**95.39**	**321**	P	**P**	**05 43 33.3**	**-1.2**		
KURBB	**Kurchatov Arra**	**95.43**	**320**	P	**P**	**05 43 33.3**	**-1.4**		
	comp=Z,0.2nm,0.3s,baz=100,slow=4.8,SNR=2.3								
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**05 43 38.5**	**-0.3**		
	comp=Z,0.5nm,0.7s,baz=243,slow=4.6,SNR=4.2								
SNAA	**Sanae**	**96.59**	**184**	P	**P**	**05 43 39.4**	**-0.4**		
VNA3	**Neumayer Olymp**	**97.40**	**182**	P	**P**	**05 43 42.7**	**-0.7**		
VNA2	**Neumayer--Watz**	**97.62**	**183**	P	**P**	**05 43 44.1**	**-0.2**		
VNA1	**Neumayer--Stat**	**97.93**	**183**	P	**P**	**05 43 44.6**	**-1.1**		
BOSA	**Boshof**	**123.20**	**225**	PKP	**PKiKP**	**05 49 09.0**	**+1.0**		
	comp=Z,2.5nm,0.9s,baz=88,slow=1.1,SNR=4.4								
BOSA	**Boshof**	**123.20**	**225**		**PKPdf**	**05 49 07.5**	**-0.2**		
CPUP	**Villa Florida**	**125.52**	**134**	PKP	**PKiKP**	**05 49 13.2**	**+0.8**		
	comp=Z,1.2nm,0.7s,baz=225,slow=11,SNR=3.4								
SIV	**San Ignacio**	**128.33**	**121**	PKP	**PKiKP**	**05 49 18.5**	**+0.2**		
	comp=Z,1.1nm,0.8s,baz=263,slow=1.1,SNR=3.7								
GERES	**GERESS Array B**	**134.93**	**332**	PKP	**PKPdf**	**05 49 28.9**	**-0.4**		
	comp=Z,0.5nm,0.9s,baz=104,slow=4.1,SNR=3.8								
GERES	**GERESS Array B**	**134.93**	**332**	PKPdf	**PKPdf**	**05 49 29.5**	**+0.1**		
ESDC	**Sonseca Array**	**149.67**	**340**	PKPbc	**PKPbc**	**05 50 00.6**	**+0.4**		
	comp=Z,0.8nm,1.0s,baz=46,slow=4.3,SNR=4.4								
TORD	**Torodi Ar. Bea**	**161.95**	**277**	PKPab	**PKPab**	**05 50 58.8**	**+0.2**		
	comp=Z,2.6nm,1.1s,baz=83,slow=5.1,SNR=4.8								

SOME **14** *05:30:53.9, 40˚.93N×78˚.83E, h5km*
KRNET **14** *05:30:53.3±0.1, 40˚.84N×78˚.96E, h17km, mb2.7*
NNC **14** *05:30:55.7±1.3, 40˚.93N×78˚.96E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=9.2km s-min=5.8km az=164.0
ISC 14 05:30:57.2±1.9, 41˚.00N±0˚.09×78˚.93E±0˚.04, h10km, n47,
σ1§11/72, 20C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.12**	**311**	⇑	*iP*	**Pg**		**05 31 17.0**	**-1.8**
	baz=16								
TARG				⇑	*iS*	**Sb**		**05 31 34.3**	**+0.6**
	baz=16								
PRZ	**Przheval'sk**	**1.54**	**345**	⇑	*iP*	**Pb**		**05 31 25.1**	**-0.8**
	baz=46								
PRZ				⇑	*iS*	**Sg**		**05 31 48.8**	**+2.1**
	baz=46								
KDJ	**Kajisay**	**1.74**	**311**	⇑	*iP*	**Pn**		**05 31 27.8**	**+0.2**
	baz=15								
KDJ				⇑	*iS*	**Sg**		**05 31 52.8**	**-0.2**
	baz=15								
ANVS	**Anan'yevo**	**2.02**	**333**	⇑	*eP*	**Pb**		**05 31 32.8**	**-1.3**
	baz=34								
ANVS				⇑	*iS*	**Sg**		**05 32 01.5**	**-0.6**
	baz=34								
SATY	**Saty**	**2.10**	**349**	*eP*		**Pg**		**05 31 36.7**	**-0.8**
	11nm,0.1s								
SATY				*eS*		**Sg**		**05 32 07.2**	**+2.5**
	99nm,0.3s								
SATY	**Saty**	**2.10**	**349**	Pg		**Pg**		**05 31 36.7**	**-0.8**
	11nm,0.1s								
SATY				Lg		Lg		05 32 07.4	
	99nm,0.3s								
UZB	**Uzynbulak**	**2.15**	**2**	⇑	*eP*	**Pb**		**05 31 36.7**	**+0.4**
	15nm,0.2s								
UZB				*eS*		**Sg**		**05 32 06.7**	**+0.4**
	30nm,0.3s								
UZB	**Uzynbulak**	**2.15**	**2**	Pg		**Pb**		**05 31 36.7**	**+0.4**
	15nm,0.2s								
UZB				Lg		Lg		05 32 07.0	
	30nm,0.3s								
SHLS	**Shalkode**	**2.19**	**10**	*eP*		**Pg**		**05 31 38.5**	**-0.8**
	9.5nm,0.3s								
SHLS				*eS*		**Sg**		**05 32 10.1**	**+2.4**
	61nm,0.6s								
SHLS	**Shalkode**	**2.19**	**10**	Pg		**Pg**		**05 31 38.5**	**-0.8**
	9.5nm,0.3s								
SHLS				Lg		Lg		05 32 10.1	
	61nm,0.6s								
PDGK	**Podgornoye**	**2.37**	**10**	Pg		**Pb**		**05 31 40.1**	**+0.1**
	4.7nm,0.1s								
PDGK				Lg		Lg		05 32 13.2	
	23nm,0.4s								
PDGK	**Podgornoye**	**2.37**	**10**	⇓Pg		**Pb**		**05 31 39.5**	**-0.5**
	5.7nm,0.5s								
PDGK				⇑Lg		Lg		05 32 12.6	
	41nm,0.8s								
ULHL	**Ulahol**	**2.37**	**303**	⇑	*iP*	**Pn**		**05 31 37.2**	**+0.8**
	baz=5.0								
ULHL				⇑	*iS*	**Sb**		**05 32 08.9**	**-0.7**
	baz=5.0								
KPKS	**Kokpek**	**2.47**	**356**	*eP*		**Pb**		**05 31 42.3**	**+0.5**
	17nm,0.2s								
KPKS				*eS*		**Sg**		**05 32 16.6**	**-0.1**
	182nm,0.5s								
KURS	**Kuram**	**2.55**	**347**	*eP*		**Pb**		**05 31 43.8**	**+0.7**
	6.7nm,0.4s								
KURS				*eS*		**Sg**		**05 32 19.4**	**+0.2**
	28nm,0.5s								
KURS	**Kuram**	**2.55**	**347**	Pg		**Pb**		**05 31 43.8**	**+0.7**
	6.7nm,0.4s								
KURS				Lg		Lg		05 32 19.4	
	28nm,0.5s								
MDOK	**Medeo**	**2.58**	**328**	*eP*		**Pb**		**05 31 44.1**	**+0.5**
	7.8nm,0.2s								
MDOK				*eS*		**Sg**		**05 32 19.9**	**-0.2**
	29nm,0.5s								
MDOK	**Medeo**	**2.58**	**328**	Pg		**Pb**		**05 31 43.8**	**+0.2**
	6.4nm,0.5s								
MDOK				⇑Lg		Lg		05 32 19.9	
	36nm,0.8s								
MDOK	**Medeo**	**2.58**	**328**	Pg		**Pb**		**05 31 44.1**	**+0.5**
	7.8nm,0.2s								
MDOK				Lg		Lg		05 32 20.3	
	29nm,0.5s								
KTMS	**Ketmen**	**2.66**	**23**	*eP*		**Pb**		**05 31 44.9**	**-0.2**
	2.3nm,0.3s								
KTMS				*eS*		**Sg**		**05 32 21.6**	**-1.2**
	38nm,0.5s								
KTMS	**Ketmen**	**2.66**	**23**	Pg		**Pb**		**05 31 44.9**	**-0.2**
	2.3nm,0.3s								
KTMS				Lg		Lg		05 32 21.6	
	38nm,0.5s								
IZV	**Izvestkoviy**	**2.67**	**320**	*eP*		**Pb**		**05 31 46.4**	**+1.2**
	10nm,0.4s								
IZV				*eS*		**Sg**		**05 32 23.9**	**+0.8**
	27nm,0.5s								
IZV	**Izvestkoviy**	**2.67**	**320**	Pg		**Pb**		**05 31 46.4**	**+1.2**
	10nm,0.4s								
IZV				Lg		Lg		05 32 23.9	
	27nm,0.5s								
BOOM	**Boomskoye usch**	**2.69**	**305**	⇑	*eP*	**Pn**		**05 31 41.5**	**+0.8**
	baz=7.0								
BOOM				⇑	*iS*	**Sb**		**05 32 16.5**	**-2.2**
	baz=7.0								
MTBS	**Maitube**	**2.83**	**320**	*eP*		**Pb**		**05 31 48.5**	**+0.6**
	4.9nm,0.2s								
MTBS				*eS*		**Sg**		**05 32 27.8**	**-0.4**
	9.4nm,0.2s								
MTBS	**Maitube**	**2.83**	**320**	Pg		**Pb**		**05 31 48.5**	**+0.6**
	4.9nm,0.2s								
MTBS				Lg		Lg		05 32 27.8	
	9.4nm,0.2s								
KST	**Kastek**	**3.01**	**314**	*eP*		**Pb**		**05 31 51.7**	**+0.7**
	6.9nm,0.4s								
KST				*eS*		**Sg**		**05 32 33.4**	**-0.6**
	17nm,0.5s								
KST	**Kastek**	**3.01**	**314**	Pg		**Pb**		**05 31 51.7**	**+0.7**
	6.9nm,0.4s								
KST				Lg		Lg		05 32 33.4	
	17nm,0.5s								
TKM2	**Tokmak 2**	**3.14**	**309**	⇑	Pg	**Pb**		**05 31 53.0**	**-0.3**
	1.5nm,0.5s								
TKM2				⇑	Lg	Lg		05 32 37.9	
	12nm,0.8s								
KTBS	**Karatobe**	**3.19**	**329**	*eP*		**Pb**		**05 31 54.6**	**+0.7**
	1.5nm,0.4s								
KTBS				*eS*		**Sg**		**05 32 37.9**	**-1.6**
	34nm,0.5s								
KTBS	**Karatobe**	**3.19**	**329**	Pg		**Pb**		**05 31 54.6**	**+0.7**
	1.5nm,0.4s								
KTBS				Lg		Lg		05 32 37.9	
	34nm,0.5s								
CHKK	**Chushkaly**	**3.20**	**334**	*eP*		**Pb**		**05 31 55.2**	**+1.1**
	1.4nm,0.2s								
CHKK				*eS*		**Sg**		**05 32 38.7**	**-1.2**
	16nm,0.5s								
CHKK	**Chushkaly**	**3.20**	**334**	Pg		**Pb**		**05 31 55.2**	**+1.1**
	1.4nm,0.2s								
CHKK				Lg		Lg		05 32 38.7	
	16nm,0.5s								
DGS	**Degeres**	**3.25**	**315**	*eP*		**Pb**		**05 31 56.2**	**+1.1**
	3.5nm,0.3s								
DGS				*eS*		**Sg**		**05 32 40.7**	**-0.9**
	8.4nm,0.5s								
DGS	**Degeres**	**3.25**	**315**	Pg		**Pb**		**05 31 56.2**	**+1.1**
	3.5nm,0.3s								
DGS				Lg		Lg		05 32 40.7	
	8.4nm,0.5s								
ARXS	**Arharly**	**3.32**	**346**	*eP*		**Pb**		**05 31 57.9**	**+1.

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PCAPE	**Capelo, Faial**	**0.26**	**76**	*eP*	**Pb**	**05 32 35.4**	**+0.7**
PCAPE				*eS*	**Sb**	**05 32 41.1**	**+1.5**
PCAPE				A	A	05 32 41.7	
	37µm,0.3s						
PFCBR	**Castelo Branco**	**0.34**	**92**	*eP*	**Pb**	**05 32 36.6**	**+0.5**
PFCBR				*eS*	**Sb**	**05 32 43.9**	**+2.1**
PFCBR				A	A	05 32 45.7	
	2µm,0.3s						
CALA	**Caldeira**	**0.35**	**82**	*eP*	**Pb**	**05 32 36.6**	**+0.2**
CALA	**Caldeira**	**0.35**	**82**	*eP*	**Pb**	**05 32 36.6**	**+0.2**
CALA				*eS*	**Sb**	**05 32 43.2**	**+0.8**
CALA				A	A	05 32 46.6	
	6µm,0.3s						
PCED	**Cedros**	**0.36**	**75**	*eP*	**Pb**	**05 32 36.6**	**+0.1**
PCED				*eS*	**Sb**	**05 32 44.1**	**+1.5**
HOR	**Horta**	**0.41**	**91**	*eP*	**Pb**	**05 32 37.5**	**+0.3**
HOR				*eS*	**Sb**	**05 32 45.8**	**+2.0**
PCAN	**Candelaria**	**0.53**	**97**	*eP*	**Pb**	**05 32 39.4**	**+0.1**
PCAN				*eS*	**Sb**	**05 32 48.5**	**+1.3**
PCAN				A	A	05 32 52.9	
	7µm,0.4s						
PICO	**Pico**	**0.57**	**93**	*eP*	**Pg**	**05 32 40.1**	**+1.7**
PICO				*eS*	**Sb**	**05 32 49.7**	**+1.2**
PICO				A	A	05 32 52.7	
	10µm,0.3s						
ROSA	**Rosais**	**0.73**	**75**	*eP*	**Pg**	**05 32 41.7**	**+0.2**
ROSA				*eS*	**Sb**	**05 32 53.5**	**+0.2**
ROSA				A	A	05 32 54.9	
	7µm,0.3s						
ROSA	**Rosais**	**0.73**	**75**		**Pg**	**05 32 41.5**	**0.0**
PID	**Ribeirinha**	**0.81**	**96**	*eP*	**Pg**	**05 32 43.7**	**+0.7**
PID				*eS*	**Sb**	**05 32 56.2**	**+0.7**
PID				A	A	05 32 56.4	
	5µm,0.5s						
PMAN	**Manadas**	**0.84**	**83**	*eP*	**Pg**	**05 32 43.5**	**0.0**
PMAN				*eS*	**Sb**	**05 32 56.2**	**0.0**
PMAN				A	A	05 33 00.5	
	5µm,0.5s						
SRBC	**Serra Branca**	**1.00**	**60**	*eP*	**Pg**	**05 32 45.0**	**-1.6**
SRBC				*eS*	**Sg**	**05 32 59.5**	**-0.1**
SRBC				A	A	05 33 00.1	
	3µm,0.4s						
SRBC				*eT*	T	05 33 39.5	
PGRA	**Graciosa**	**1.04**	**61**	*eP*	**Pg**	**05 32 46.0**	**-1.3**
PGRA				*eS*	**Sg**	**05 33 00.1**	**-0.7**
PGRA				A	A	05 33 12.0	
	2µm,0.4s						
PTOPO	**Topo S. Jorge**	**1.09**	**89**	*eP*	**Pb**	**05 32 47.4**	**-1.5**
PTOPO				*eS*	**Sb**	**05 33 02.4**	**-1.1**
PTOPO				A	A	05 33 03.8	
	889nm,0.2s						
ADH	**Angra Heroismo**	**1.50**	**85**	*eP*	**Pn**	**05 32 53.0**	**-2.2**
ADH				*eS*	**Sn**	**05 33 12.5**	**-2.8**
ADH				A	A	05 33 14.0	
	805nm,0.3s						
PAGU	**Agualva, Azore**	**1.56**	**81**	*eP*	**Pn**	**05 32 53.0**	**-2.9**
PAGU				*eS*	**Sn**	**05 33 13.6**	**-3.0**
PAGU				A	A	05 33 16.5	
	926nm,0.2s						
PSCM	**Serra do Cume**	**1.60**	**83**	*eP*	**Pn**	**05 32 54.0**	**-2.6**
PSCM				*eS*	**Sn**	**05 33 14.8**	**-2.9**
PSCM				A	A	05 33 18.2	
	596nm,0.3s						
H07S1	**FLORES T-PHASE** SNR=144	**1.81**	**298**	T	T	05 34 28.0	
H07S1	**FLORES T-PHASE**	**1.81**	**298**	*eP*	Pn	05 32 51.5	-8.0
H07N1	**FLORES T-PHASE** SNR=92	**1.92**	**308**	T	T	05 34 35.2	
H07N1	**FLORES T-PHASE**	**1.92**	**308**	*eP*	Pn	05 32 51.8	-9.2
PSET	**Sete Cidades**	**2.79**	**104**	*eP*	**Pn**	**05 33 11.5**	**-1.5**
PDA	**Ponta Delgada**	**2.86**	**105**	*eP*	**Pn**	**05 33 12.3**	**-1.5**
PDA				*eS*	**Sn**	**05 33 45.0**	**-3.7**
PDA				A	A	05 33 50.5	
	124nm,0.3s						
GRON	**Grota Negra**	**2.95**	**104**	*eP*	**Pn**	**05 33 15.4**	**+0.2**
CMLA	**Cha da Macela**	**2.96**	**104**	*eP*	**Pn**	**05 33 14.2**	**-1.0**
CMLA	**Cha da Macela**	**2.96**	**104**		**Pn**	**05 33 14.2**	**-1.0**
PCALD	**Caldeiras da R**	**2.98**	**103**	*eP*	**Pn**	**05 33 14.1**	**-1.4**
BART	**Pico Bartolome**	**3.23**	**102**	*eP*	**Pn**	**05 33 18.1**	**-0.9**
PSMA	**Santa Maria**	**3.54**	**114**	*eP*	**Pn**	**05 33 21.0**	**-2.2**
PSMA				*eS*	**Sn**	**05 34 01.9**	**-3.5**
PSMA				A	A	05 34 03.8	
	85nm,0.2s						
PSMN	**Pico do Norte,**	**3.58**	**114**	*eP*	**Pn**	**05 33 21.8**	**-2.0**
PSMN				*eS*	**Sn**	**05 34 02.8**	**-3.7**
PSMN				A	A	05 34 04.8	
	95nm,0.4s						
PMOZ	**Porto Moniz, M**	**11.26**	**117**	P	**Pn**	**05 35 09.2**	**0.0**
	32nm,0.3s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**11.26**	**117**	*eP*	**Pn**	**05 35 09.3**	**0.0**
	100nm,0.8s						
PMOZ				*eS*	Sn	05 37 30.2	+14
PMOZ				A	A	05 38 29.8	
	459nm,20.0s						
PMOZ	**Porto Moniz, M**	**11.26**	**117**	Pn	**Pn**	**05 35 08.8**	**-0.5**
PMAR	**Madeira**	**11.52**	**117**	*eP*	**Pn**	**05 35 12.4**	**-0.4**
	68nm,0.5s						
FUL	**Funchal**	**11.57**	**117**	*eP*	**Pn**	**05 35 14.2**	**+0.8**
	85nm,0.3s						
PMPST	**Porto Santo, M**	**11.74**	**114**	*eP*	**Pn**	**05 35 15.8**	**+0.1**
	91nm,1.7s						
PMPS	**Porto Santo**	**11.75**	**114**	*eP*	**Pn**	**05 35 15.4**	**-0.4**
	62nm,0.5s						
TBT	**Taburiente**	**13.56**	**133**	P	**Pn**	**05 35 39.2**	**-1.4**
	68nm,0.4s,SNR=7.9						
EHIG	**Higuera**	**13.72**	**133**	P	**Pn**	**05 35 43.1**	**+0.3**
	77nm,0.3s,SNR=20						
CTAD	**Las Tabladas,**	**14.18**	**136**	P	**Pn**	**05 35 48.6**	**-0.5**
	22nm,0.3s,SNR=7.9						
CTAN	**El Hierro**	**14.20**	**136**	P	**Pn**	**05 35 48.7**	**-0.6**
	34nm,0.3s,SNR=7.9						
CCUM	**Cumbre, El Hie**	**14.22**	**136**	P	**Pn**	**05 35 49.3**	**-0.4**
	6.1nm,0.2s,SNR=7.9						
CTIG	**El Hierro**	**14.24**	**135**	P	**Pn**	**05 35 50.1**	**+0.1**
	SNR=4.0						
CHIE	**El Hierro**	**14.27**	**136**	P	**Pn**	**05 35 49.3**	**-1.1**
	2.0nm,0.3s,SNR=7.9						
EGOM	**La Gomera**	**14.36**	**133**	P	**Pn**	**05 35 49.5**	**-2.0**
	53nm,0.3s,SNR=45						
EBAJ	**Bajamar**	**14.59**	**129**	P	**Pn**	**05 35 53.6**	**-1.2**
	24nm,0.3s,SNR=7.9						
CRAJ	**Montana Rajada**	**14.64**	**131**	P	**Pn**	**05 35 55.3**	**-0.4**
	42nm,0.3s,SNR=26						
CCAN	**Las Canadas**	**14.67**	**131**	P	**Pn**	**05 35 54.2**	**-1.8**
	22nm,0.3s,SNR=4.0						
CGUI	**Guimar, Teneri**	**14.69**	**130**	P	**Pn**	**05 35 54.8**	**-1.4**
	20nm,0.3s,SNR=7.9						
MACI	**Morro de la Ar**	**14.70**	**130**	P	**Pn**	**05 35 56.3**	**-0.1**
	46nm,0.4s,SNR=7.9						
MACI	**Morro de la Ar**	**14.70**	**130**	Pn	**Pn**	**05 35 56.3**	**-0.1**
GGC	**Guia, Gran Can**	**15.33**	**129**	P	**Pn**	**05 36 04.2**	**-0.5**
	27nm,0.3s,SNR=7.9						
EOSO	**Osorio**	**15.41**	**129**	P	**Pn**	**05 36 06.4**	**+0.6**
	8.2nm,0.3s,SNR=4.0						
EFAM	**Famara**	**16.00**	**121**	P	**Pn**	**05 36 13.8**	**+0.5**
	7.2nm,0.5s,SNR=7.9						
CFUE	**Fuerteventura**	**16.04**	**123**	P	**Pn**	**05 36 13.9**	**0.0**
	3.8nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**16.10**	**124**	P	**Pn**	**05 36 14.8**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
CGIN	**Giniginamar, F**	**16.24**	**125**	P	**Pn**	**05 36 16.7**	**+0.3**
	2.2nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**16.30**	**71**	*eS*	**S**	**05 39 37.4**	**+5.8**
PGAV				A	A	05 41 18.1	
	271nm,16.0s						
EVO	**Evora**	**16.54**	**83**	*eP*	**Pn**	**05 36 20.8**	**+0.5**
	32nm,1.4s						
MTE	**Manteigas**	**16.79**	**77**	*eS*	**S**	**05 39 40.6**	**-0.8**
MTE				A	A	05 41 38.3	
	343nm,18.0s						
PBDV	**Barranco-do-Ve**	**16.80**	**88**	*eP*	**P**	**05 36 26.4**	**+0.6**
	64nm,1.7s						
PESTR	**Estremoz**	**16.83**	**82**	*eP*	**P**	**05 36 31.6**	**+5.4**
	48nm,1.7s						
PESTR	**Estremoz**	**16.83**	**82**		**Pn**	**05 36 22.5**	**-1.5**
PCBR	**Castelo Branco**	**16.85**	**79**	*eP*	**P**	**05 36 30.8**	**+4.4**
	46nm,1.6s						
PVAQ	**Vaqueiros**	**16.94**	**87**	*eS*	**S**	**05 39 41.6**	**-2.8**
PVAQ				A	A	05 41 52.4	
	593nm,18.0s						
PMRV	**Marv??o**	**16.94**	**80**	*eS*	**S**	**05 39 52.1**	**+7.6**
PMRV				A	A	05 41 53.1	
	521nm,20.0s						
MVO	**Moncorvo**	**17.18**	**74**	*eS*	**S**	**05 39 46.0**	**-3.5**
MVO				A	A	05 42 22.7	
	261nm,16.0s						
PBAR	**Barrancos**	**17.35**	**84**	*eP*	**P**	**05 36 33.6**	**+1.8**
	28nm,1.6s						
SFS	**San Fernando**	**18.32**	**89**	P	**Pn**	**05 36 39.6**	**-2.8**
ESDC	**Sonseca Array**	**19.57**	**79**	P	**Pn**	**05 36 58.4**	**+0.8**
	0.1nm,0.3s,baz=282,slow=11,SNR=4.8						
ESDC				LR	LR	05 42 58.2	
	comp=Z,444nm,20.7s,baz=275,slow=32						
ESDC	**Sonseca Array**	**19.57**	**79**		**P**	**05 36 56.1**	**-0.2**
ESBB	**Sonseca Array**	**19.57**	**79**	P	**P**	**05 36 54.1**	**-2.2**
MDT	**Midelt**	**20.71**	**98**	P	Pn	05 37 10.9	-0.3
	4.1nm,1.0s,baz=294,slow=9.4,SNR=5.5						
MDT				LR	LR	05 43 37.7	
	comp=Z,582nm,21.1s,baz=301,slow=32						
DRLN	**Deer Lake**	**22.94**	**307**	P	**P**	**05 37 30.4**	**-2.1**
ESK	**Eskdalemuir**	**24.19**	**38**	P	**P**	**05 37 43.4**	**-1.4**
ESK				IAmb	IAmb	05 37 51.7	
	comp=Z,35nm,1.2s						
EKA	**Eskdalemuir Ar**	**24.22**	**38**	P	**P**	**05 37 48.7**	**+3.6**
	comp=Z,11nm,1.0s,baz=231,slow=6.3,SNR=12						
NRS	**Narsarsuaq**	**24.82**	**341**	P	**P**	**05 37 47.6**	**-2.8**
NRS				IAmb	IAmb	05 37 54.8	
	comp=Z,31nm,1.2s						
GBN	**Guysborough**	**24.91**	**296**	P	**P**	**05 37 49.9**	**-1.5**
SNF	**Seneffe**	**26.44**	**52**	*dx*	P	05 38 16.6	+11
SNF				*d*PnPn	**PnPn**	**05 38 43.5**	**-1.2**
DOU	**Dourbes**	**26.54**	**53**	*dP*	**P**	**05 38 07.8**	**+1.7**
DOU				*dx*	x	05 38 12.9	
DOU				*d*PnPn	**PnPn**	**05 38 45.1**	**-0.9**
BORG	**Borgarnes**	**26.66**	**7**	LR	LR	05 45 39.9	
	comp=Z,1µm,20.5s,baz=188,slow=30						
BMRD	**Maredsous**	**26.70**	**53**	*dP*	**P**	**05 38 09.0**	**+1.4**
BMRD				*dx*	x	05 38 25.0	
BGES	**Gesves**	**26.91**	**53**	*dP*	**P**	**05 38 05.6**	**-3.9**
BGES				*d*PnPn	**PnPn**	**05 38 47.7**	**-3.5**
BCLA	**Clavier**	**27.06**	**53**	*dP*	**P**	**05 38 08.6**	**-2.2**
BCLA				*dx*	x	05 38 21.5	
BCLA				*d*PnPn	**PnPn**	**05 38 52.1**	**-1.0**
WLF	**Walferdange**	**27.44**	**55**	P	**P**	**05 38 13.3**	**-1.0**
WLF				IAmb	IAmb	05 38 25.0	
	comp=Z,21nm,1.3s						
ANGG	**Ammassalik, Gr**	**27.57**	**352**	P	**P**	**05 38 12.6**	**-2.6**
BATG	**Bathurst New B**	**28.19**	**300**	P	**P**	**05 38 19.7**	**-1.3**
BFO	**Black Forest**	**28.67**	**58**	P	**P**	**05 38 21.9**	**-3.4**
G65A	**Princeton**	**29.16**	**296**	P	**P**	**05 38 28.4**	**-1.2**
G65A				IAmb	IAmb	05 38 37.9	
	comp=Z,26nm,1.6s						
DAVOX	**Davos/Dischmat**	**29.61**	**61**	P	**P**	**05 38 36.1**	**+2.2**
	comp=Z,3.9nm,0.8s,baz=311,slow=15,SNR=2.7						
DAVOX				LR	LR	05 48 47.1	
	comp=Z,219nm,19.9s,baz=263,slow=33						
DAVA	**Damuels**	**29.63**	**60**	*eP*	**P**	**05 38 35.5**	**+1.4**
	comp=Z,8.0nm,1.4s						
VLC	**Villacollemand**	**30.00**	**66**	P	**P**	**05 38 36.5**	**-0.6**
FETA	**Feichten**	**30.20**	**61**	*eP*	**P**	**05 38 42.4**	**+3.4**
	comp=Z,7.0nm,0.8s						
D62A	**Allapoint, All**	**30.22**	**299**	P	**P**	**05 38 38.0**	**-1.0**
F63A	**Nahmakanta, Br**	**30.24**	**297**	P	**P**	**05 38 37.4**	**-1.8**
F63A				IAmb	IAmb	05 38 42.6	
	comp=Z,32nm,1.6s						
PKME	**Peaks-Kenny Pk**	**30.38**	**296**	P	**P**	**05 38 39.0**	**-1.5**
PKME				IAmb	IAmb	05 38 43.0	
	comp=Z,27nm,1.6s						
ZCCA	**Zocca**	**30.41**	**66**	P	**P**	**05 38 41.4**	**+0.6**
CASP	**Castiglione de**	**30.45**	**69**	P	**P**	**05 38 40.1**	**-1.0**
MOTA	**Moosalm**	**30.47**	**60**	*eP*	**P**	**05 38 44.9**	**+3.5**
	comp=Z,9.9nm,1.4s						
GRF	**Grafenberg Arr**	**30.70**	**55**	*eP*	**P**	**05 38 45.1**	**+1.8**
	comp=Z,16nm,1.5s,baz=263,slow=9.0						
WATA	**Walderalm**	**30.79**	**60**	*eP*	**P**	**05 38 47.0**	**+2.7**
	comp=Z,7.8nm,1.2s						
WTTA	**Wattenberg**	**30.83**	**60**	*eP*	**P**	**05 38 45.7**	**+1.1**
	comp=Z,12nm,1.2s						
G62A	**West of Eustis**	**31.26**	**296**	P	**P**	**05 38 47.0**	**-1.3**
G62A				IAmb	IAmb	05 38 49.3	
	comp=Z,24nm,1.4s						
ABTA	**Abfaltersbach**	**31.42**	**61**	*eP*	**P**	**05 38 51.7**	**+1.9**
	comp=Z,5.6nm,1.2s						
NKC	**Novy Kostel**	**31.55**	**55**	*eP*	**P**	**05 38 54.0**	**+3.3**
NKC				AMS	AMS	05 50 50.0	
	comp=Z,400nm,12.2s						
KBA	**Koelnbreinsper**	**31.99**	**61**	*eP*	**P**	**05 38 56.9**	**+2.0**
	comp=Z,15nm,1.3s						
CLL	**Collm**	**32.01**	**53**	*eP*	**P**	**05 38 56.0**	**+1.2**
CLL				*i*		05 39 00.0	
	comp=Z,6.0nm,1.2s						
CLL				*e*		05 39 14.0	
CLL				*eS*	**S**	**05 44 07.0**	**+0.1**
KHC	**Kasperske Hory**	**32.20**	**57**	*eP*	P	05 39 01.4	+4.9
KHC				AMS	AMS	05 50 10.0	
	comp=Z,300nm,14.2s						
SCO	**Scoresbysund**	**32.24**	**5**	*eP*	**P**	**05 39 00.6**	**+4.1**
SCO				IAmb	IAmb	05 39 02.2	
	comp=Z,7.1nm,1.1s						
SCO	**Scoresbysund**	**32.24**	**5**	P	**P**	**05 38 56.8**	**+0.3**
SCO				IAmb	IAmb	05 39 08.2	
	comp=Z,14nm,1.4s						
GERES	**GERESS Array B**	**32.27**	**57**	P	**P**	**05 38 58.3**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=264,slow=9.3,SNR=9.2						
GERES				LR	LR	05 51 40.6	
	comp=Z,154nm,18.1s,baz=273,slow=36						
BRG	**Berggiesshubel**	**32.56**	**54**	*e*(P)	**P**	**05 39 04.1**	**+4.6**
BRG				Amp		05 39 09.0	
	comp=Z,14nm,1.7s						
BRG				Amp		05 51 46.0	
	comp=Z,0.5nm,13.2s						
BRG				Amp		05 51 49.0	
	comp=E,0.4nm,13.9s						
BRG				Amp		05 51 51.0	
	comp=N,0.3nm,10.4s						
MOA	**Molln**	**32.62**	**59**	*eP*	**P**	**05 39 02.1**	**+2.0**
	comp=N,18nm,1.2s						
CKRC	**Cesky Krumlov**	**32.66**	**57**	*eP*	**P**	**05 39 02.8**	**+2.2**
PRA	**Prague**	**32.81**	**55**	AMS	AMS	05 51 40.0	
	comp=N,400nm,16.4s						
OBKA	**Obir**	**32.83**	**62**	*eP*	**P**	**05 39 03.3**	**+1.2**
	comp=N,8.5nm,0.9s						
PRU	**Prunonice**	**32.87**	**55**	AMS	AMS	05 51 40.0	
	comp=N,400nm,12.4s						
VT1	**Waterbury**	**32.90**	**294**	P	**P**	**05 39 03.2**	**+0.6**
VT1				IAmb	IAmb	05 39 08.2	
	comp=Z,17nm,1.2s						
PVCC	**Panska Ves**	**32.92**	**54**	AMS	AMS	05 50 20.0	
	comp=Z,400nm,19.0s						
ILULI	**Ilulissat**	**32.94**	**346**	P	**P**	**05 39 00.4**	**-2.3**
ILULI				IAmb	IAmb	05 39 10.4	
	comp=Z,11nm,1.1s						
TREC	**Trest**	**33.45**	**57**	AMS	AMS	05 52 00.0	
	comp=Z,300nm,12.9s						
ARSA	**Arzberg**	**33.48**	**60**	*eP*	**P**	**05 39 10.3**	**+2.6**
	comp=Z,2.2nm,0.9s						
NC204	**NORSAR Array S**	**33.51**	**34**	P	**P**	**05 39 06.4**	**-1.4**
NOA	**NORSAR Array B**	**33.61**	**35**	P	**P**	**05 39 10.8**	**+2.1**
	comp=Z,3.3nm,1.0s,baz=248,slow=9.6,SNR=4.5						
NOA				LR	LR	05 51 10.5	
	comp=Z,605nm,19.1s,baz=250,slow=33						
CONA	**Conrad Observa**	**33.69**	**59**	*eP*	**P**	**05 39 12.7**	**+3.1**
	comp=Z,4.2nm,1.3s						
TRY	**Troy**	**33.75**	**292**	P	**P**	**05 39 09.5**	**-0.5**
NC303	**NORSAR Array S**	**33.75**	**34**	P	**P**	**05 39 09.1**	**-0.8**
UPC	**Upice**	**33.84**	**54**	AMS	AMS	05 51 50.0	
	comp=Z,400nm,17.6s						
CHVC	**Chvalec**	**33.87**	**54**	*eP*	P	05 39 16.4	+5.3
CHVC				AMS	AMS	05 52 10.0	
	comp=Z,400nm,14.3s						
OSTC	**Ostas**	**33.98**	**54**	AMS	AMS	05 53 20.0	
	comp=Z,400nm,13.5s						
DPC	**Dobruska-Polom**	**34.03**	**55**	*eP*	**P**	**05 39 14.0**	**+1.5**
DPC				AMS	AMS	05 51 50.0	
	comp=Z,400nm,10.9s						
KRUC	**Moravsky**	**34.05**	**57**	*eP*	**P**	**05 39 15.3**	**+2.7**
VRAC	**Vranov**	**34.18**	**57**	*eP*	**P**	**05 39 16.6**	**+2.9**
PAL	**Palisades**	**34.21**	**289**	P	**P**	**05 39 12.4**	**-1.7**
PAL				IAmb	IAmb	05 39 14.1	
	comp=Z,16nm,1.1s						
J59A	**Piesco**	**34.25**	**293**	P	**P**	**05 39 13.2**	**-1.2**
J59A				IAmb	IAmb	05 39 15.3	
	comp=Z,13nm,1.4s						
CPNY	**Central Park**	**34.29**	**288**	P	**P**	**05 39 14.0**	**-0.7**
KRLC	**Kraliky**	**34.32**	**55**	*eP*	**P**	**05 39 17.9**	**+2.9**
KRLC				AMS	AMS	05 52 40.0	
	comp=Z,300nm,12.1s						
FRB	**Frobisher Bay**	**34.39**	**330**	P	**P**	**05 39 16.3**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=186,slow=4.0,SNR=3.9						
SUMG	**Summit**	**34.44**	**355**	*i* P	**P**	**05 39 16.0**	**-0.1**
SUMG				IAmb	IAmb	05 39 25.3	
	comp=Z,23nm,1.2s						
SUMG	**Summit**	**34.44**	**355**	P	**P**	**05 39 13.7**	**-2.4**
ODNJ	**Ogdensburg**	**34.71**	**289**	P	**P**	**05 39 17.7**	**-0.7**
ODNJ				IAmb	IAmb	05 39 18.8	
	comp=Z,12nm,1.1s						
OKC	**Ostrava-Krasne**	**35.20**	**56**	AMS	AMS	05 55 20.0	
	comp=Z,300nm,15.2s						
LUPA	**Lehigh Univers**	**35.38**	**288**	P	**P**	**05 39 22.6**	**-1.6**
LUPA				IAmb	IAmb	05 39 28.1	
	comp=Z,25nm,1.5s						
N59A	**State Game Lan**	**35.61**	**289**	P	**P**	**05 39 26.3**	**+0.1**
N59A				IAmb	IAmb	05 39 27.0	
	comp=Z,21nm,1.3s						
P60A	**Greenville**	**35.75**	**287**	P	**P**	**05 39 25.8**	**-1.5**
P60A				IAmb	IAmb	05 39 27.8	
	comp=Z,18nm,1.1s						
PLVO	**Plevna**	**35.89**	**296**	P	**P**	**05 39 27.7**	**-0.8**
J56A	**Wolcott**	**35.98**	**293**	P	**P**	**05 39 29.1**	**-0.2**
J56A				IAmb	IAmb	05 39 30.1	
	comp=Z,13nm,1.1s						
MVL	**Millersville**	**36.24**	**288**	P	**P**	**05 39 30.8**	**-0.7**
OJC	**Ojcow**	**36.26**	**55**	P	**P**	**05 39 29.9**	**-1.7**
OJC				IAmb	IAmb	05 39 38.0	
	comp=Z,12nm,1.0s						
DELO	**Deloro Mine**	**36.34**	**295**	P	**P**	**05 39 31.2**	**-1.2**
DELO				IAmb	IAmb	05 39 32.5	
	comp=Z,15nm,1.3s						
PSZ	**Piszkesteto**	**36.40**	**59**	P	**P**	**05 39 31.1**	**-1.8**
M57A	**Sunshine Farm,**	**36.53**	**290**	P	**P**	**05 39 33.9**	**-0.1**
M57A				IAmb	IAmb	05 39 35.1	
	comp=Z,25nm,1.4s						
MMNY	**Mt. Morris Dam**	**36.83**	**292**	P	**P**	**05 39 36.5**	**-0.1**
DIVS	**Divibare**	**36.88**	**65**	P	**P**	**05 39 35.6**	**-1.5**
TOA0	**Torodi Ar. Sit**	**37.24**	**124**	P	**P**	**05 39 40.4**	**+0.2**
TOA0				IAmb	IAmb	05 39 45.5	
	comp=Z,21nm,1.6s						
TORD	**Torodi Ar. Bea**	**37.24**	**124**	P	**P**	**05 39 43.1**	**+2.9**
	comp=Z,4.8nm,1.1s,baz=311,slow=6.7,SNR=8.3						
TORD				LR	LR	05 54 09.9	
	comp=Z,239nm,18.1s,baz=290,slow=35						
TORD	**Torodi Ar. Bea**	**37.24**	**124**	P	**P**	**05 39 40.8**	**+0.6**
SSPA	**Standing Stone**	**37.24**	**289**	P	**P**	**05 39 39.9**	**-0.2**
SSPA				IAmb	IAmb	05 39 40.9	
	comp=Z,21nm,1.4s						
SADO	**Sadowa**	**37.38**	**296**	P	**P**	**05 39 40.5**	**-0.7**
CRVS	**Cervenica-Dubn**	**37.38**	**57**	*eP*	P	05 39 46.5	+5.3
O56A	**Blue Knob Stat**	**37.83**	**289**	P	**P**	**05 39 44.8**	**-0.3**
O56A				IAmb	IAmb	05 39 48.1	
	comp=Z,19nm,1.4s						
KOLS	**Kolonicke sedl**	**37.92**	**57**	*eP*	P	05 39 51.4	+5.7
JSRW	**J. Sargeant Re**	**37.99**	**284**	P	**P**	**05 39 46.4**	**0.0**
FNA	**Florina**	**38.53**	**70**	P	**P**	**05 39 48.9**	**-2.2**
DBIC	**Dimbokro**	**38.59**	**139**	LR	LR	05 54 26.4	
	comp=Z,290nm,19.4s,baz=305,slow=34						
Q56A	**Snyder Ridge,**	**38.60**	**287**	P	**P**	**05 39 50.3**	**-1.3**
DAG	**Danmarks Havn**	**38.62**	**4**	*eP*	**P**	**05 39 50.9**	**-0.4**
DAG				IAmb	IAmb	05 39 55.1	
	comp=Z,10nm,1.2s						
ALLY	**Alegheny Colle**	**38.68**	**291**	P	**P**	**05 39 51.6**	**-0.6**
ALLY				IAmb	IAmb	05 39 53.2	
	comp=Z,36nm,1.4s						
N54A	**Moraine State**	**38.72**	**290**	P	**P**	**05 39 52.0**	**-0.6**
PABE	**Paberze**	**38.92**	**46**	P	**P**	**05 39 53.6**	**-0.5**
PABE				IAmb	IAmb	05 40 03.1	
	comp=Z,21nm,1.2s						
MCWV	**Mont Chateau**	**38.93**	**288**	P	**P**	**05 39 54.5**	**+0.1**
MCWV				IAmb	IAmb	05 39 58.4	
	comp=Z,18nm,1.1s						
M53A	**WI Miller and**	**39.11**	**291**	P	**P**	**05 39 55.2**	**-0.7**
M53A				IAmb	IAmb	05 39 56.8	
	comp=Z,35nm,1.4s						
O54A	**Avella**	**39.20**	**289**	P	**P**	**05 39 56.2**	**-0.4**
T57A	**Hurt**	**39.24**	**284**	P	**P**	**05 39 56.8**	**-0.2**
T57A				IAmb	IAmb	05 39 58.5	
	comp=Z,25nm,1.4s						
N53A	**Lisbon**	**39.38**	**290**	P	**P**	**05 39 56.0**	**-2.1**
VTS	**Vitosha**	**39.48**	**67**	P	**P**	**05 39 58.4**	**-0.7**
R55A	**Marlinton**	**39.52**	**286**	P	**P**	**05 39 59.6**	**+0.3**
MDP	**Montagnes des**	**39.53**	**219**	LR	LR	05 53 00.2	
	comp=Z,192nm,18.8s,baz=56,slow=31						
AGG	**Agios Georgios**	**39.69**	**73**	P	**P**	**05 39 59.0**	**-1.7**
O53A	**New Philadelph**	**39.80**	**289**	P	**P**	**05 40 00.7**	**-0.9**
O53A				IAmb	IAmb	05 40 03.1	
	comp=Z,38nm,1.5s						

comp=Z,324nm,21.6s,baz=270,slow=31
ARCES ARCESS Array B 42.24 25 IAmb IAmb 05 40 25.8
comp=Z,11nm,1.1s
AKASG Malin Array Be 42.24 54 P **P** **05 40 22.4 +0.8**
comp=Z,2.7nm,0.8s,baz=276,slow=7.7,SNR=16
AKASG LR LR 05 57 34.3
comp=Z,246nm,18.2s,baz=270,slow=36
AKBB Malin Array Si 42.24 54 P **P** **05 40 19.8 -1.7**
S51A Beattyville 42.33 286 P **P** **05 40 22.4 0.0**
S51A IAmb IAmb 05 40 23.7
comp=Z,20nm,1.2s
V53A Saluda 42.39 283 P **P** **05 40 22.7 -0.4**
V53A IAmb IAmb 05 40 24.6
comp=Z,21nm,1.4s
E43A Lone Tree Farm 42.55 300 P **P** **05 40 23.7 -0.4**
TZTN Tazewell 42.65 285 P **P** **05 40 24.9 -0.2**
R50A Paris 42.67 288 P **P** **05 40 24.2 -1.0**
N47A Urbana 42.92 292 P **P** **05 40 27.3 +0.1**
L46A Eue Claire 43.05 293 P **P** **05 40 28.4 +0.1**
L46A IAmb IAmb 05 40 29.0
comp=Z,38nm,1.4s
TKL Tuckaleechee C 43.13 284 P **P** **05 40 27.6 -1.4**
comp=Z,14nm,1.2s,baz=88,slow=6.4,SNR=5.5
TKL Tuckaleechee C 43.13 284 P **P** **05 40 28.7 -0.3**
TKL IAmb IAmb 05 40 32.9
comp=Z,33nm,1.5s
R49A Shelbyville 43.30 288 P **P** **05 40 30.5 +0.2**
R49A IAmb IAmb 05 40 31.4
comp=Z,30nm,1.4s
W52A Murphy 43.45 283 P **P** **05 40 30.1 -1.5**
W52A IAmb IAmb 05 40 52.9
comp=Z,26nm,1.6s
T50A Nancy 43.47 286 P **P** **05 40 32.1 +0.4**
T50A IAmb IAmb 05 40 33.2
comp=Z,22nm,1.4s
V51A Loudon 43.52 284 P **P** **05 40 31.8 -0.4**
V51A IAmb IAmb 05 40 33.5
comp=Z,17nm,1.1s
CPCT Cooper Cave 43.77 284 P **P** **05 40 34.5 +0.3**
CPCT IAmb IAmb 05 40 38.3
comp=Z,16nm,1.3s
Y52A Lilburn 44.01 281 P **P** **05 40 36.3 +0.2**
Y52A IAmb IAmb 05 40 37.8
comp=Z,13nm,1.1s
BLO Bloomington 44.03 290 P **P** **05 40 35.9 -0.3**
BLO IAmb IAmb 05 40 37.2
comp=Z,24nm,1.2s
SFIN Lafayette 44.08 291 P **P** **05 40 36.1 -0.5**
SFIN IAmb IAmb 05 40 37.4
comp=Z,14nm,1.2s
WCI Wyandotte Cave 44.16 288 P **P** **05 40 37.4 +0.2**
WCI IAmb IAmb 05 40 38.3
comp=Z,33nm,1.6s
P46A Rosedale 44.39 290 P **P** **05 40 38.7 -0.4**
P46A IAmb IAmb 05 40 39.9
comp=Z,21nm,1.4s
I42A Draeger Farm, 44.43 297 P **P** **05 40 38.3 -1.0**
I42A IAmb IAmb 05 40 40.4
comp=Z,18nm,1.4s
W50A Signal Mountai 44.47 284 P **P** **05 40 38.5 -1.3**
W50A IAmb IAmb 05 40 41.2
comp=Z,19nm,1.2s
M44A Midewin, Midew 44.48 293 P **P** **05 40 39.6 -0.2**
MANT Manisa 44.49 71 P **P** **05 40 39.8 -0.4**
CLTN Cedars of Leba 44.92 285 P **P** **05 40 43.0 -0.3**
CLTN IAmb IAmb 05 40 44.6
comp=Z,22nm,1.4s
SWET Sewanee 44.93 284 P **P** **05 40 43.1 -0.4**
SWET IAmb IAmb 05 40 44.7
comp=Z,19nm,1.3s
G40A Rib Lake 44.98 299 P **P** **05 40 43.1 -0.7**
G40A IAmb IAmb 05 40 44.6
comp=Z,20nm,1.4s
152A Waverly Hall 44.98 280 P **P** **05 40 44.1 +0.2**
O44A Mansfield 45.15 292 P **P** **05 40 44.5 -0.7**
O44A IAmb IAmb 05 40 45.9
comp=Z,10nm,0.8s
T47A Sharon Grove 45.18 287 P **P** **05 40 45.1 -0.4**
T47A IAmb IAmb 05 40 49.7
comp=Z,22nm,1.5s
EYMN Ely 45.25 303 P **P** **05 40 44.6 -1.3**
EYMN IAmb IAmb 05 40 46.2
comp=Z,16nm,1.4s
USIN University of 45.27 288 P **P** **05 40 45.9 -0.2**
OLIL Olney 45.33 290 P **P** **05 40 45.7 -0.9**
V48A Smith Brothers 45.41 285 P **P** **05 40 46.5 -0.8**
V48A IAmb IAmb 05 40 48.4
comp=Z,17nm,1.4s
E38A The Farm, Brul 45.58 301 P **P** **05 40 48.0 -0.6**
E38A IAmb IAmb 05 40 56.4
comp=Z,21nm,1.4s
I40A Norwalk 45.62 297 P **P** **05 40 48.3 -0.5**
I40A IAmb IAmb 05 40 49.9
comp=Z,18nm,1.4s
JFWS Jewell Farm 45.62 296 P **P** **05 40 48.6 -0.3**
HDIL Hopedale 45.63 292 P **P** **05 40 48.4 -0.6**
WVT Waverly 46.03 286 P **P** **05 40 52.0 -0.1**
WVT IAmb IAmb 05 40 53.1
comp=Z,18nm,1.4s
X48A Hartselle 46.07 284 P **P** **05 40 52.2 -0.3**
X48A IAmb IAmb 05 40 53.8
comp=Z,16nm,1.4s
P43A Skaggs, Pawnee 46.08 291 P **P** **05 40 51.3 -1.2**
P43A IAmb IAmb 05 40 53.2
comp=Z,16nm,1.1s
250A Grady 46.46 280 P **P** **05 40 55.4 -0.3**
SIUC Southern Illin 46.51 289 P **P** **05 40 55.5 -0.4**
S44A Carbondale 46.54 289 P **P** **05 40 55.2 -0.9**
L40A Anamosa 46.56 295 P **P** **05 40 55.4 -0.9**
L40A IAmb IAmb 05 40 57.0
comp=Z,16nm,1.3s
PLAL Pickwick Lake 46.65 285 P **P** **05 40 56.4 -0.6**
PLAL IAmb IAmb 05 40 58.1
comp=Z,12nm,1.1s
N41A Harden Midland 46.71 293 P **P** **05 40 56.9 -0.6**
SPMN Marine on St. 46.77 300 P **P** **05 40 57.3 -0.6**
SLM Saint Louis 46.94 290 P **P** **05 40 58.9 -0.4**
KLMR Klimovskoe 47.11 38 *e*P **P** **05 41 00.8 +0.6**
KLMR AMP 05 41 05.5
comp=Z,26nm,1.5s
KLMR *e*PP **PP** **05 42 49.0 -1.6**
FVM French Village 47.31 289 P **P** **05 41 01.2 -0.9**
Z47A Carrollton 47.35 282 P **P** **05 41 01.9 -0.6**
W45A Hickory Valley 47.42 285 P **P** **05 41 02.9 -0.2**
K38A Parkersburg 47.48 296 P **P** **05 41 02.0 -1.4**
I37A Lemond, Waseca 47.51 298 P **P** **05 41 02.8 -0.9**
ULM Lac du Bonnet 47.57 307 LR LR 05 59 27.0
comp=Z,232nm,20.6s,baz=82,slow=34
PBMO Poplar Bluff 47.74 288 P **P** **05 41 04.2 -1.4**
BRTR Keskin Array B 47.82 68 P **P** **05 41 08.1 +1.8**
comp=Z,2.0nm,1.0s,baz=290,slow=3.7,SNR=10.0
BRTR LR LR 06 00 46.6
comp=Z,106nm,19.7s,baz=297,slow=35
BRTR Keskin Array B 47.82 68 P **P** **05 41 05.4 -0.9**
OXF Oxford 47.84 285 P **P** **05 41 05.4 -1.0**
CCM Cathedral Cave 47.89 290 P **P** **05 41 05.3 -1.3**
P40A Paris 47.96 292 P **P** **05 41 06.0 -1.2**
SCIA State Center 48.02 295 P **P** **05 41 07.5 -0.2**
LPAR Lepanto 48.09 286 P **P** **05 41 07.5 -0.7**
H10N2 ASCENSION HYDR 48.10 160 T T 06 32 18.4
baz=345,slow=75,SNR=26
H10N3 ASCENSION HYDR 48.11 160 T T 06 32 21.9
baz=345,slow=75,SNR=24
H10N1 ASCENSION HYDR 48.12 160 T T 06 32 22.0
baz=345,slow=75,SNR=29
T42A Van Buren 48.15 289 P **P** **05 41 07.2 -1.4**
PTGA Pitinga 48.27 223 LR LR 05 57 36.7
comp=Z,688nm,20.7s,baz=30,slow=31
LCAR Lake Charles 48.55 287 P **P** **05 41 10.3 -1.5**
LCAR IAmb IAmb 05 41 20.0
comp=Z,16nm,1.3s
R40A Maddies Statio 48.56 291 P **P** **05 41 10.8 -1.0**
MGMO Mountain Grove 48.97 289 P **P** **05 41 14.1 -1.0**
FCAR Ozark Folk Cen 49.35 288 P **P** **05 41 17.0 -1.0**
FCAR IAmb IAmb 05 41 17.7
comp=Z,9.6nm,1.3s
S39A Bolivar 49.55 290 P **P** **05 41 18.4 -1.0**
S39A IAmb IAmb 05 41 19.6
comp=Z,8.3nm,0.8s
U40A Yellville 49.71 288 P **P** **05 41 19.4 -1.3**
ECSD EROS Data Cent 49.81 299 P **P** **05 41 20.6 -0.8**
ECSD IAmb IAmb 05 41 29.3
comp=Z,14nm,1.1s
CCAR Cane Creek 49.87 285 P **P** **05 41 21.5 -0.4**

SJCC San Jacinto, C 50.02 248 P **P** **05 41 23.8 +0.4**
X40A Basin Creek Fa 50.44 286 P **P** **05 41 25.2 -1.0**
X40A IAmb IAmb 05 41 26.0
comp=Z,7.4nm,0.8s
HHAR Hobbs 50.55 289 P **P** **05 41 26.3 -0.8**
W39A Magazine 50.87 287 P **P** **05 41 28.3 -1.1**
W39A IAmb IAmb 05 41 29.9
comp=Z,18nm,1.2s
MIAR Mount Ida 50.98 287 P **P** **05 41 29.6 -0.7**
MIAR IAmb IAmb 05 41 38.3
comp=Z,19nm,1.2s
X37A Clayton 52.30 287 P **P** **05 41 39.7 -0.5**
X37A IAmb IAmb 05 41 47.9
comp=Z,16nm,1.4s
KIRV Kirov 52.41 40 P **P** **05 41 42.4 +1.7**
comp=Z,11nm,0.9s,baz=301,slow=17,SNR=7.7
BLOK Blackwell 52.77 291 P **P** **05 41 42.5 -1.2**
BLOK IAmb IAmb 05 41 43.8
comp=Z,10nm,0.9s
OK031 S. Brethren Rd 52.83 290 P **P** **05 41 43.0 -1.1**
OK031 IAmb IAmb 05 41 43.9
comp=Z,22nm,1.4s
ROSC El Rosal 52.92 242 LR LR 06 01 34.7
comp=Z,381nm,21.4s,baz=37,slow=33
KBZ Khabaz 52.94 60 P **P** **05 41 47.8 +3.0**
comp=Z,6.5nm,0.9s,baz=257,slow=6.1,SNR=10
KBZ LR LR 06 06 03.0
comp=Z,87nm,18.7s,baz=310,slow=38
BELG Belogornoye 53.11 48 P **P** **05 41 48.7 +2.8**
comp=Z,19nm,1.0s,baz=74,slow=2.1,SNR=9.1
KAN14 Manchester OK 53.24 291 P **P** **05 41 44.4 -2.7**
DGMT Dagmar 53.29 307 P **P** **05 41 47.2 -0.2**
DGMT IAmb IAmb 05 41 47.7
comp=Z,14nm,1.1s
Z35A Perchaven, San 54.26 287 P **P** **05 41 54.1 -0.5**
YKA Yellowknife Ar 54.67 325 P **P** **05 41 56.3 -0.8**
comp=Z,0.7nm,0.8s,baz=70,slow=8.0,SNR=3.5
WHTX Lake Whitney, 55.01 285 P **P** **05 41 59.6 -0.5**
BDFB Brasilia 56.72 202 LR LR 06 04 21.0
comp=Z,479nm,18.0s,baz=346,slow=34
AMTX Amarillo 56.85 291 P **P** **05 42 12.3 -1.1**
AMTX IAmb IAmb 05 42 14.1
comp=Z,14nm,1.1s
EGMT Eagleton 56.92 308 P **P** **05 42 11.0 -2.7**
EGMT IAmb IAmb 05 42 11.8
comp=Z,5.7nm,0.5s
K22A Casper 56.96 301 P **P** **05 42 13.3 -0.9**
JCT Junction City 57.49 285 P **P** **05 42 17.3 -0.6**
JCT IAmb IAmb 05 42 18.1
comp=Z,16nm,1.3s
GCMT Greycliff 57.75 305 P **P** **05 42 19.3 -0.3**
ARU Arti 57.77 41 P **P** **05 42 20.1 +0.7**
comp=Z,1.0nm,0.3s,baz=303,slow=5.2,SNR=12
ARU Arti 57.77 41 P **P** **05 42 19.4 0.0**
MSTX Muleshoe 58.07 290 P **P** **05 42 21.3 -0.8**
MSTX IAmb IAmb 05 42 22.3
comp=Z,14nm,1.2s
YNE Yellowstone No 58.29 305 P **P** **05 42 22.6 -1.0**
SDCO Great Sand Dun 58.34 295 P **P** **05 42 23.1 -1.0**
PD31 Pinedale Array 58.94 302 P **P** **05 42 26.6 -1.6**
PDAR Pinedale Array 58.94 302 P **P** **05 42 26.3 -1.8**
comp=Z,1.8nm,0.8s,baz=65,slow=7.0,SNR=14
PDAR LR LR 06 06 27.3
comp=Z,328nm,21.1s,baz=95,slow=35
PDAR Pinedale Array 58.94 302 P **P** **05 42 25.5 -2.6**
BW06 Boulder Array 58.94 302 P **P** **05 42 26.2 -1.9**
WALA Waterton Lakes 59.04 310 P **P** **05 42 27.8 -0.8**
WALA IAmb IAmb 05 42 31.4
comp=Z,6.4nm,0.9s
OTAV Otavalo 59.07 242 P **P** **05 42 27.8 -1.8**
OTAV IAmb IAmb 05 42 42.6
comp=Z,10.0nm,1.4s
O20A White River Ci 59.20 299 P **P** **05 42 28.9 -1.0**
O20A IAmb IAmb 05 42 47.6
comp=Z,15nm,1.4s
MOOW Moose Ponds 59.30 304 P **P** **05 42 29.9 -0.7**
LRM Limekiln Ridge 59.51 306 P **P** **05 42 31.7 -0.3**
REDW Red Top Meadow 59.53 303 P **P** **05 42 31.7 -0.6**
INK Inuvik 59.77 335 P **P** **05 42 34.2 +1.2**
comp=Z,2.8nm,1.1s,baz=105,slow=5.4,SNR=4.4
DLMT Dillon 59.80 306 P **P** **05 42 32.2 -1.7**
DLMT IAmb IAmb 05 42 36.5
comp=Z,10.0nm,1.4s
AKTO Aktyubinsk 59.88 48 P **P** **05 42 36.4 +2.2**
comp=Z,6.2nm,0.9s,baz=311,slow=5.3,SNR=11
AHID Auburn Hatcher 59.96 303 P **P** **05 42 33.0 -2.2**
AHID IAmb IAmb 05 42 35.6
comp=Z,7.6nm,1.2s
BNM Barren Site 60.81 292 P **P** **05 42 40.8 -0.4**
TX31 Lajitas Ar. Si 60.98 286 P **P** **05 42 42.0 -0.2**
TX32 Lajitas Array 60.98 286 P **P** **05 42 41.1 -1.0**
TX32 IAmb IAmb 05 42 43.0
comp=Z,8.4nm,0.9s
TXAR Lajitas Array 60.98 286 P **P** **05 42 41.4 -0.8**
comp=Z,5.1nm,0.8s,baz=73,slow=5.9,SNR=35
TXAR LR LR 06 10 18.6
comp=Z,104nm,18.1s,baz=0.0,slow=37
TXAR Lajitas Array 60.98 286 P **P** **05 42 41.7 -0.4**
MNTX Cornudas Mount 61.09 289 P **P** **05 42 42.1 -0.6**
NEW Newport 61.31 310 P **P** **05 42 42.9 -1.1**
NEW IAmb IAmb 05 42 47.0
comp=Z,11nm,1.1s
SPUT South Promonto 61.52 302 P **P** **05 42 44.8 -0.9**
TMUT Trail Mountain 61.61 299 P **P** **05 42 45.9 -0.6**
TMUT IAmb IAmb 05 42 47.5
comp=Z,6.2nm,1.0s
HLID Hailey 61.76 305 P **P** **05 42 45.9 -1.5**
BGU Big Grassy Mou 62.08 301 P **P** **05 42 47.6 -2.0**
DUG Dugway, Tooele 62.28 301 P **P** **05 42 49.0 -1.8**
121A Cookes Peak, D 62.45 291 P **P** **05 42 50.2 -0.2**
121A IAmb IAmb 05 42 59.1
comp=Z,6.7nm,1.0s
TCRU Three Creeks R 62.79 299 P **P** **05 42 53.0 -1.4**
TCRU IAmb IAmb 05 42 56.0
comp=Z,8.2nm,1.2s
NRIK Noril'sk 62.94 21 P **P** **05 42 58.0 +3.5**
comp=Z,1.9nm,0.5s,baz=293,slow=7.0,SNR=4.9
NRIK LR LR 06 10 27.0
comp=Z,100nm,19.3s,baz=331,slow=36
X18A Snowflake 63.03 294 P **P** **05 42 54.8 -1.2**
PKCU Pink Cliffs 63.26 298 P **P** **05 42 56.3 -1.3**
PKCU IAmb IAmb 05 43 08.9
comp=Z,12nm,1.4s
WUAZ Wupatki 63.55 295 P **P** **05 42 58.1 -1.3**
WUAZ IAmb IAmb 05 43 01.9
comp=Z,7.7nm,0.9s
ELK Elko 63.64 302 P **P** **05 42 59.8 -0.2**
ELK IAmb IAmb 05 43 17.5
comp=Z,10.0nm,1.5s
SZCU Shurtz Canyon 63.72 298 P **P** **05 43 00.1 -0.5**
U15A North Rim 63.75 297 P **P** **05 43 00.9 +0.1**
BMAR Burnt Mountain 63.75 337 P **P** **05 42 57.5 -2.6**
PSUT Pine Spring 63.79 299 P **P** **05 42 59.6 -1.4**
KNB Kanab 63.83 298 P **P** **05 43 00.5 -0.8**
KNB IAmb IAmb 05 43 04.2
comp=Z,7.5nm,1.5s
LTY Liberty 63.89 311 P **P** **05 42 59.7 -1.6**
LTY IAmb IAmb 05 43 00.9
comp=Z,8.8nm,1.1s
X16A Lo Mia Camp, P 64.15 294 P **P** **05 43 03.0 -0.4**
X16A IAmb IAmb 05 43 08.3
comp=Z,5.3nm,1.0s
J08A Circle Bar Ran 64.46 306 P **P** **05 43 04.2 -1.0**
TUC Tucson 64.75 292 P **P** **05 43 06.4 -0.8**
WVOR Wild Horse Val 65.02 305 P **P** **05 43 06.5 -2.4**
WVOR IAmb IAmb 05 43 07.9
comp=Z,13nm,1.4s
BVAR Borovoye Array 65.42 41 P **P** **05 43 15.2 +4.0**
comp=Z,1.0nm,0.9s,baz=181,slow=5.9,SNR=7.5
LPAZ La Paz 65.63 222 P **P** **05 43 12.7 -0.9**
comp=Z,2.6nm,1.0s,baz=83,slow=4.3,SNR=6.9
LPAZ LR LR 06 08 17.0
comp=Z,270nm,21.8s,baz=12,slow=33
LPAZ La Paz 65.63 222 P **P** **05 43 13.3 -0.3**
LPAZ IAmb IAmb 05 43 31.3
comp=Z,8.8nm,1.4s
SHPR Sheep Range 65.70 298 P **P** **05 43 12.2 -1.3**
SHPR IAmb IAmb 05 43 18.0
comp=Z,6.7nm,1.3s
TPNV Topopah Spring 66.23 299 P **P** **05 43 15.9 -0.9**
TPH Tonopah 66.31 301 P **P** **05 43 16.3 -1.1**
KVN Kaiserville 66.39 302 P **P** **05 43 16.2 -1.7**
KVN IAmb IAmb 05 43 18.4
comp=Z,5.9nm,1.0s
214A Organ Pipe Nat 66.40 293 P **P** **05 43 16.5 -1.3**

214A IAmb IAmb 05 43 23.9
comp=Z,10nm,1.4s
PFO Pinyon Flats O 68.13 296 P **P** **05 43 28.3 -0.6**
TRF Thorofare Moun 68.16 336 P **P** **05 43 28.0 -0.7**
TRF IAmb IAmb 05 43 34.5
comp=Z,12nm,1.4s
TKX Tecate 68.79 295 P **P** **05 43 32.5 -0.5**
CPUP Villa Florida 69.71 207 P **P** **05 43 39.4 +1.0**
comp=Z,2.1nm,0.9s,baz=5.5,slow=13,SNR=3.8
CPUP LR LR 06 10 55.0
comp=Z,170nm,22.0s,baz=34,slow=33
KURK Kurchatov 70.93 40 P **P** **05 43 49.0 +3.3**
KURBB Kurchatov Arra 70.94 40 P **P** **05 43 49.0 +3.2**
comp=Z,3.8nm,0.9s,baz=310,slow=6.5,SNR=18
ZALV Zalesovo Beam 71.81 35 P **P** **05 43 55.1 +4.1**
comp=Z,2.5nm,0.8s,baz=308,slow=7.3,SNR=8.8
ZALV LR LR 06 14 57.1
comp=Z,195nm,21.5s,baz=334,slow=35
MKAR Makanchi Array 75.30 41 P **P** **05 44 13.1 +1.4**
comp=Z,4.4nm,0.9s,baz=316,slow=5.1,SNR=16
MKAR LR LR 06 17 43.8
comp=Z,413nm,18.1s,baz=314,slow=36
KSH Kashi 76.41 50 P **P** **05 44 21.8 +3.5**
KSH pP PcP 05 44 42.0 +12
KSH pmax pmax
comp=Z,6.0nm,1.7s
KSH pmax pmax
comp=Z,38nm,3.8s
WMQ Urumqi 80.11 41 *e*P **P** **05 44 39.5 +0.8**
WMQ L L
comp=Z,640nm,16.7s
WMQ L L
comp=Z,420nm,18.7s
WMQ L L
comp=Z,580nm,16.7s
BOSA Boshof 83.93 134 LR LR 06 19 30.6
comp=Z,153nm,20.7s,baz=355,slow=34
SONM Songino Array 85.34 28 P **P** **05 45 09.6 +3.8**
comp=Z,3.3nm,1.0s,baz=327,slow=6.4,SNR=6.9
SONM Songino Array 85.34 28 P **P** **05 45 05.1 -0.8**
PLCA Paso Flores 87.49 210 LR LR 06 23 10.7
comp=Z,192nm,20.7s,baz=12,slow=35
KLR Kul'dur 90.99 12 P **P** **05 45 35.1 +2.5**
comp=Z,0.7nm,0.6s,baz=340,slow=4.9,SNR=3.9
HHC Hu-ho-hao-te 93.22 29 *e*P **P** **05 45 43.3 0.0**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,85nm,5.4s
HHC L L
comp=Z,140nm,17.0s
HHC L L
comp=Z,250nm,17.9s
HHC L L
comp=Z,200nm,16.2s
LZH Lanzhou 93.98 36 *e*P **P** **05 45 46.9 -0.1**
LZH pP sP 05 45 50.8 +2.8
LZH pmax pmax
comp=Z,17nm,0.9s
LZH L L
comp=Z,190nm,13.6s
LZH L L
comp=Z,210nm,14.9s
LZH L L
comp=Z,160nm,16.8s
WRA Warramunga Arr 156.60 42 PKPab **PKPab** **05 52 56.3 +3.3**
comp=Z,0.9nm,0.9s,baz=322,slow=3.3,SNR=5.0
ASAR Alice Springs 159.31 49 PKPab **PKPab** **05 53 08.3 +3.6**
comp=Z,1.4nm,0.9s,baz=336,slow=4.3,SNR=8.7

IDC 14 05:36:39.2±5.7, 30.86N×143.09E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/50, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=190.5km s-min=26.9km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.83**	**192**	Pn	Pn	05 37 39.6	+0.2
	2.0nm,0.3s,baz=302,slow=16,SNR=2.6						
JCJ				Sn	Sn	05 38 22.1	-3.0
	6.4nm,0.3s,baz=273,slow=21,SNR=2.5						
MJAR	**Matsushiro Arr**	**6.98**	**326**	Pn	Pn	05 38 20.1	-2.6
	0.1nm,0.3s,baz=134,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**48.77**	**307**	P	P	05 45 27.1	+1.2
	0.7nm,0.7s,baz=98,slow=8.8,SNR=2.7						
WRA	**Warramunga Arr**	**51.20**	**191**	P	P	05 45 44.0	-0.5
	0.6nm,0.4s,baz=7.7,slow=7.6,SNR=11						

VAO 14 05:47:20.9±1.2, 25.03S×68.79W, h10km, mb4.1
IDC 14 05:47:53.6±2.1, 24.07S×67.06W, h172km±27km, mb3.1/1, mb1 3.3/6, mb1mx3.1/29, mbtmp3.7/6, Error ellipse: s-maj=33.4km s-min=23.4km az=128.0
GUC 14 05:47:55.7±0.3, 23.98S×67.52W, h216km±4km, ML3.9
ISC 14 05:47:53.4±0.8, 24.10S±0.05×67.3W±0.1, h202km±13km, n42, σ1°10/54, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.08**	**315**	P	**Pn**	**05 48 34.2**	**+0.9**
	6.0nm,0.3s,baz=121,slow=8.6,SNR=125						
LVC				S	**S**	**05 49 03.7**	**0.0**
	34nm,0.3s,baz=263,slow=21,SNR=66						
LVC	**Limon Verde**	**2.08**	**315**	*e*S	**S**	**05 49 03.4**	**-0.3**
PB15	**IPOC Station P**	**2.16**	**294**	↑*i*P	**Pn**	**05 48 34.9**	**+1.0**
PB15				*e*S	**S**	**05 49 05.0**	**+0.1**
GO02	**Mina Guanaco**	**2.32**	**242**	↑*i*P	**Pn**	**05 48 36.1**	**+0.4**
GO02				*i* S	**S**	**05 49 08.5**	**+0.4**
PB06	**IPOC Station P**	**2.49**	**303**	↑*i*P	**Pn**	**05 48 38.4**	**+1.0**
PB06				*e*S	**S**	**05 49 11.0**	**-0.2**
PB06				IAML		05 49 12.4	
	comp=E,587nm,0.2s						
PB14	**IPOC Station P**	**2.86**	**259**	*e*P	**Pn**	**05 48 42.1**	**+0.3**
PB05	**IPOC Station P**	**2.92**	**295**	*e*P	**Pn**	**05 48 43.0**	**+0.7**
PB05				*e*S	**S**	**05 49 18.6**	**-1.2**
PB05				IAML		05 49 23.4	
	comp=E,150nm,0.2s						
PB10	**IPOC Station P**	**3.02**	**280**	*e*P	**Pn**	**05 48 44.3**	**+1.0**
PB10				IAML		05 49 24.3	
	comp=E,104nm,0.3s						
PB03	**IPOC Station P**	**3.03**	**312**	*e*P	**Pn**	**05 48 44.4**	**+0.7**
PB03				*e*S	**S**	**05 49 21.4**	**-0.8**
PB03				IAML		05 49 24.5	
	comp=N,205nm,0.2s						
PB04	**IPOC Station P**	**3.14**	**303**	↑*e*P	**Pn**	**05 48 45.7**	**+0.8**
PB04				*e*S	**S**	**05 49 23.6**	**-1.0**
PB04				IAML		05 49 28.8	
	comp=N,215nm,0.2s						
AC02	**Maricunga**	**3.18**	**211**	↑*i*P	**Pn**	**05 48 45.9**	**+0.2**
PB07	**IPOC Station P**	**3.34**	**314**	*e*P	**Pn**	**05 48 48.1**	**+0.7**
PB07				*e*S	**S**	**05 49 27.8**	**-1.2**
PB01	**IPOC Station P**	**3.64**	**326**	*e*P	**Pn**	**05 48 51.7**	**+0.7**
PB01				*i* S	**S**	**05 49 34.4**	**-1.0**
PATCX	**Punta Patache**	**4.18**	**321**	*e*P	**Pn**	**05 48 58.1**	**+0.5**
PATCX				*i* S	**S**	**05 49 45.3**	**-2.3**
PB08	**IPOC Station P**	**4.29**	**336**	*e*P	**Pn**	**05 49 00.5**	**+1.3**
PB08				*i* S	**S**	**05 49 50.3**	**-0.2**
GO03	**Copiap**	**4.36**	**216**	↑*i*P	**Pn**	**05 48 58.4**	**-1.4**
PB11	**IPOC Station P**	**4.83**	**333**	*e*P	**Pn**	**05 49 05.3**	**-0.5**
PB11				*i* S	**S**	**05 50 00.7**	**-1.8**
AC04	**Llanos de Chal**	**5.30**	**219**	*e*P	**Pn**	**05 49 09.6**	**-2.0**
LPAZ	**La Paz**	**7.81**	**354**	P	**Pn**	**05 49 46.2**	**+1.4**
	comp=N,0.4nm,0.3s,baz=166,slow=6.5,SNR=15						
LPAZ				S	**S**	**05 51 12.0**	**-1.3**
	comp=N,0.1nm,0.3s,baz=83,slow=1.0,SNR=1.8						
SIV	**San Ignacio**	**9.97**	**37**	P	**Pn**	**05 50 10.1**	**-2.3**
	comp=N,0.6nm,0.3s,baz=263,slow=11,SNR=15						
ARAG	**Araguaiana, MT**	**16.80**	**63**	*e*P	**Pn**	**05 51 37.7**	**+0.5**
PLCA	**Paso Flores**	**16.81**	**189**	P	**Pn**	**05 51 37.7**	**+0.4**
	comp=N,0.1nm,0.3s,baz=20,slow=15,SNR=1.9						
CLDB	**Colider**	**17.12**	**42**	*e*P	**Pn**	**05 51 40.1**	**-1.0**
BB19B	**Bebedouro**	**17.62**	**84**	*e*P	**P**	**05 51 41.6**	**-3.4**
VAO	**Valinhos**	**18.70**	**91**	*e*P	**P**	**05 51 55.9**	**-0.9**
IPMB	**Ipameri, GO**	**18.84**	**75**	*e*P	**P**	**05 51 58.0**	**-0.3**
SNDB	**Serra Nova Dou**	**19.41**	**54**	*e*P	**P**	**05 52 03.9**	**-0.5**
BDFB	**Brasilia**	**20.00**	**69**	P	**P**	**05 52 11.2**	**+0.4**
	comp=N,0.6nm,0.3s,baz=238,slow=9.2,SNR=10.0						
NPGB	**Novo Progresso**	**20.48**	**36**	*e*P	**P**	**05 52 15.5**	**-0.4**
PEXB	**Peixe**	**21.63**	**60**	*e*P	**P**	**05 52 28.2**	**+0.3**
VAS01	**Vassouras-RJ**	**22.02**	**90**	*e*P	**P**	**05 52 30.7**	**-1.0**
ITTB	**Itaituba**	**22.57**	**31**	*e*P	**P**	**05 52 37.1**	**+0.2**
MC01	**Montes Claros**	**23.09**	**76**	*e*P	**P**	**05 52 41.9**	**+0.3**
JANB	**Januaria**	**23.44**	**72**	*e*P	**P**	**05 52 44.8**	**0.0**
SMTB	**Santa Maria do**	**24.19**	**55**	*e*P	**P**	**05 52 52.6**	**+1.1**

SDBA	SAO DESIDERIO	24.22	65	eP		P	05 52 51.8	0.0
PRPB	Parauapebas	24.51	46	eP		P	05 52 55.2	+0.8
BSFB	Barra de Sao F	25.17	83	eP		P	05 52 59.0	-1.4
OTAV	Otavalo	26.49	334	eP		P	05 53 01.5	-11
GDU01	Guandu, BA	28.15	74	eP		P	05 53 27.2	+0.2
TORD	Torodi Ar. Bea	76.88	69	P		P	05 59 25.1	+1.5
	comp=N,0.3nm,0.5s,baz=267,slow=7.4,SNR=1.1							
MKAR	Makanchi Array	146.79	39	PKPbc		PKiKP	06 07 14.7	+0.8
	comp=N,0.2nm,0.6s,baz=348,slow=2.7,SNR=2.3							

INMG 14 05:54:06.0, 38°.73N×29°.42W, h2km, ML3.9
ISC 14 05:54:07.0±3.0, 38°.78N±0°.08×29°.2W±0°.1, h33km±7km, n29, σ0s75/50, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCAPE	Capelo, Faial	0.37	119	eP		Pb		05 54 15.4	-0.3
PCAPE				eS		Sb		05 54 21.8	+0.2
PCAPE				A		A		05 54 24.4	
	7μm,0.2s								
PCED	Cedros	0.45	109	eP		Pb		05 54 16.8	0.0
PCED				eS		Sb		05 54 24.1	+0.6
PCED				A		A		05 54 25.4	
	2μm,0.1s								
CALA	Caldeira	0.46	115	eP		Pb		05 54 16.5	-0.6
CALA				eS		Sb		05 54 24.8	+0.8
CALA				A		A		05 54 31.4	
	2μm,0.4s								
PFCBR	Castelo Branco	0.48	122	eP		Pb		05 54 16.6	-0.7
PFCBR				eS		Sb		05 54 24.3	-0.1
PFCBR				A		A		05 54 26.2	
	1μm,0.3s								
HOR	Horta	0.54	117	eP		Pb		05 54 17.8	-0.4
HOR				eS		Sb		05 54 26.4	+0.5
HOR				A		A		05 54 27.2	
	4μm,0.2s								
PCAN	Candelaria	0.67	118	eP		Pb		05 54 19.6	-0.8
PCAN				eS		Sb		05 54 29.3	-0.1
PCAN				A		A		05 54 34.6	
	3μm,0.3s								
PICO	Pico	0.69	113	eP		Pb		05 54 20.3	-0.5
PICO				eS		Sb		05 54 30.6	+0.4
PICO				A		A		05 54 31.7	
	5μm,0.2s								
ROSA	Rosais	0.78	94	eP		Pb		05 54 22.1	-0.2
ROSA				eS		Sn		05 54 33.2	+0.8
ROSA				A		A		05 54 34.5	
	2μm,0.2s								
PMAN	Manadas	0.91	99	eP		Pn		05 54 23.4	-0.2
PMAN				eS		Sb		05 54 36.3	+0.1
PMAN				A		A		05 54 40.0	
	1μm,0.5s								
PID	Ribeirinha	0.94	110	eP		Pn		05 54 23.8	-0.2
PID				eS		Sn		05 54 36.4	+0.1
PID				A		A		05 54 49.6	
	2μm,0.5s								
SRBC	Serra Branca	0.97	74	eP		Pb		05 54 25.0	-0.4
SRBC				eS		Sb		05 54 37.4	-0.5
SRBC				A		A		05 54 42.8	
	1μm,0.4s								
PGRA	Graciosa	1.01	75	eP		Pn		05 54 25.1	+0.1
PGRA				eS		Sb		05 54 37.7	-1.4
PGRA				A		A		05 54 38.8	
	586nm,0.4s								
PTOPO	Topo S. Jorge	1.18	101	eS		Sn		05 54 42.5	+0.2
PTOPO				A		A		05 54 44.0	
	663nm,0.2s								
ADH	Angra Heroismo	1.57	94	eP		Pn		05 54 32.4	-0.2
ADH				eS		Sn		05 54 52.5	+0.6
ADH				A		A		05 54 54.2	
	417nm,0.3s								
PAGU	Agualva, Azore	1.61	90	eP		Pn		05 54 33.3	+0.2
PAGU				eS		Sn		05 54 52.9	+0.2
PAGU				A		A		05 54 58.3	
	358nm,0.2s								
PSCM	Serra do Cume	1.66	92	eP		Pn		05 54 34.1	+0.2
PSCM				eS		Sn		05 54 54.4	+0.3
PSCM				A		A		05 54 58.3	
	360nm,0.3s								
PSET	Sete Cidades	2.93	108	eP		Pn		05 54 51.1	-0.2
PSET				eS		Sn		05 55 24.9	-0.5
PSET				A		A		05 55 27.6	
	85nm,0.3s								
PDA	Ponta Delgada	3.00	109	eP		Pn		05 54 52.5	+0.3
PDA				eS		Sn		05 55 26.5	-0.5
PDA				A		A		05 55 29.3	
	44nm,0.3s								
GRON	Grota Negra	3.08	108	eP		Pn		05 54 54.8	+1.3
GRON				eS		Sn		05 55 31.2	+1.9
GRON				A		A		05 55 36.0	
	74nm,0.3s								
CMLA	Cha da Macela	3.09	108	eP		Pn		05 54 55.0	+1.4
CMLA				eS		Sn		05 55 28.7	-0.7
CMLA				A		A		05 55 33.5	
	142nm,0.3s								
PCALD	Caldeiras da R	3.11	107	eP		Pn		05 54 53.6	-0.2
BART	Pico Bartolome	3.35	106	eP		Pn		05 54 57.2	0.0
PSMA	Santa Maria	3.71	117	eP		Pn		05 55 01.8	-0.2
PSMA				eS		Sn		05 55 43.1	-1.4
PSMA				A		A		05 55 44.0	
	48nm,0.2s								
PSMN	Pico do Norte,	3.75	117	eP		Pn		05 55 02.1	-0.5
PSMN				eS		Sn		05 55 44.1	-1.4
PSMN				A		A		05 55 46.5	
	18nm,0.2s								
PMOZ	Porto Moniz, M	11.44	118	eP		Pn		05 56 49.2	+1.0
	42nm,1.1s								
PMAR	Madeira	11.69	117	eP		Pn		05 56 52.3	+0.6
	51nm,1.1s								
FUL	Funchal	11.75	118	eP		Pn		05 56 53.9	+1.6
	40nm,1.3s								
PMPST	Porto Santo, M	11.90	115	eP		Pn		05 56 55.4	+1.0
	94nm,1.5s								
PMPS	Porto Santo	11.91	115	eP		Pn		05 56 55.5	+0.9
	59nm,1.3s								

IDC 14 05:58:14.0±0.8, 11°.34S×163°.13E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.2/43, mbtmp4.3/15, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.8/30, Error ellipse: s-maj=26.8km s-min=16.3km az=102.0
NEIC 14 05:58:19.0±1.2, 11°.4S±0°.1×163°.32E±0°.09, h33km±4km, mb4.5/31, Error ellipse: s-maj=16.9km s-min=9.1km az=215.0
ISC 14 05:58:19.0±0.5, 11°.37S±0°.08×163°.2E±0°.1, h35km, n63, σ0s92/56, mb4.4/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	3.77	300	LR		LR	LR	06 00 10.3	
	comp=Z,66nm,21.2s,baz=116,slow=32								
HNR	Honiara	3.77	300	Pn		Pn		05 59 16.1	+1.4
SANVU	Saraoutou	5.59	137	Pn		Pn		05 59 39.0	-0.7
DZM	Mont Dzumac	11.07	164	Pn		Pn		06 00 53.7	-1.3
	0.3nm,0.3s,baz=321,slow=19,SNR=8.9								
DZM	Mont Dzumac	11.07	164			Pn		06 00 55.0	0.0
MSVF	Nonsavu	15.66	116	LR		LR		06 06 30.7	
	comp=Z,180nm,19.5s,baz=202,slow=32								
STKA	Stephens Creek	28.55	221	P		P		06 04 11.2	-0.4
	3.6nm,0.8s,baz=29,slow=12,SNR=7.3								
WR0	Warramunga Arr	28.88	249	P		P		06 04 14.6	-0.1
WB0	Warramunga Arr	28.98	250	P		P		06 04 15.7	+0.1
WRAB	Tennant Creek	29.05	249	P		P		06 04 16.2	-0.1
WB2	Warramunga Arr	29.05	249	P		P		06 04 16.6	+0.3
WB2				IAmb		IAmb		06 04 16.9	
	comp=Z,7.1nm,1.2s								
WRA	Warramunga Arr	29.06	249	P		P		06 04 15.1	-1.3
	comp=Z,0.6nm,0.4s,baz=79,slow=9.0,SNR=9.2								
WRA				PcP		PcP		06 07 24.2	0.0
	comp=Z,0.3nm,0.6s,baz=78,slow=3.8,SNR=2.4								
H11S2	WAKE ISLAND Hy	29.87	7	T		T		06 36 01.5	
	baz=190								
H11S3	WAKE ISLAND Hy	29.87	7	T		T		06 35 56.1	
	baz=190								
H11S1	WAKE ISLAND Hy	29.89	7	T		T		06 35 55.6	
	baz=190								
AS31	Alice Springs	30.45	242	P		P		06 04 26.9	-1.8
ASAR	Alice Springs	30.45	242	P		P		06 04 27.6	-1.1
	comp=Z,4.8nm,0.8s,baz=74,slow=9.8,SNR=40								
ASAR	Alice Springs	30.45	242	P		P		06 04 27.3	-1.4
TOO	Toolangi	30.57	208	P		P		06 04 29.2	-0.2
TOO				IAmb		IAmb		06 04 32.8	
	comp=Z,6.5nm,0.9s								
H11N1	WAKE ISLAND Hy	31.10	7	T		T		06 37 25.2	
	baz=190								
H11N3	WAKE ISLAND Hy	31.11	7	T		T		06 37 25.7	
	baz=190								
H11N2	WAKE ISLAND Hy	31.12	7	T		T		06 37 25.7	
	baz=190								
BBOO	Buckleboo	32.83	225	P		P		06 04 49.5	+0.1
BBOO				IAmb		IAmb		06 04 51.5	
	comp=Z,9.3nm,0.8s								
FITZ	Fitzroy Crossi	36.92	255	P		P		06 05 24.3	-0.6
	comp=Z,2.3nm,0.6s,baz=58,slow=10,SNR=6.5								
FITZ	Fitzroy Crossi	36.92	255	P		P		06 05 25.1	+0.2
FITZ				IAmb		IAmb		06 05 31.1	
	comp=Z,3.9nm,1.0s								
PSA00	Pilbara Seismi	42.70	251	P		P		06 06 12.6	-0.3
PSA00	Pilbara Seismi	42.70	251	P		P		06 06 12.6	-0.3
PSA00				IAmb		IAmb		06 06 15.5	
	comp=Z,9.5nm,0.9s								
JNU	Nakatsue	53.95	326	P		P		06 07 38.7	-0.8
	comp=Z,8.1nm,1.0s,baz=184,slow=20,SNR=3.8								
JKA	Kamikawa-asahi	58.33	343	P		P		06 08 10.3	-0.2
ASAJ	Asahikawa	58.33	343	P		P		06 08 10.4	-0.1
	comp=Z,9.4nm,0.9s,baz=212,slow=9.8,SNR=6.1								
KSRS	Korea Array	58.79	327	P		P		06 08 14.1	+0.2
	comp=Z,2.1nm,0.9s,baz=140,slow=7.5,SNR=7.3								
KSAR	Wonju Array Be	58.80	327	P		P		06 08 13.0	-1.0
YSS	Yuzh-Sakhalins	60.89	344	P		P		06 08 27.0	-1.1
USRK	Ussuriysk Ar.	62.17	335	P		P		06 08 37.5	+0.7
	comp=Z,8.2nm,1.0s,baz=172,slow=7.6,SNR=11								
USRK	Ussuriysk Ar.	62.17	335	P		P		06 08 36.7	-0.1
USA0B	Ussuriysk Arra	62.17	335	P		P		06 08 36.0	-0.8
VNDA	Vanda	66.14	180	P		P		06 09 03.8	+1.4
	comp=Z,3.0nm,1.0s,baz=341,slow=6.5,SNR=10								
VNDA	Vanda	66.14	180	P		P		06 09 04.5	+2.1
VNDA				IAmb		IAmb		06 09 06.1	
	comp=Z,3.4nm,0.9s								
KLR	Kul'dur	66.41	338	P		P		06 09 04.2	-0.3
	comp=Z,0.5nm,0.3s,baz=171,slow=1.3,SNR=5.2								
ULN	Ulaanbaatar	77.14	325	P		P		06 10 07.3	-1.9
ULN				IAmb		IAmb		06 10 18.2	
	comp=Z,3.2nm,0.6s								
SONM	Songino Array	77.49	325	P		P		06 10 11.0	-0.2
	comp=Z,2.0nm,0.8s,baz=153,slow=5.0,SNR=4.9								
SONM	Songino Array	77.49	325	P		P		06 10 11.4	+0.2
QSPA	South Pole Qui	78.63	180	P		P		06 10 19.0	+1.7
QSPA				IAmb		IAmb		06 10 20.8	
	comp=Z,9.4nm,1.1s								
SVW2	Sparrevohn	79.20	19	P		P		06 10 21.4	+1.3
SVW2				IAmb		IAmb		06 10 22.1	
	comp=Z,7.7nm,1.0s								
BILL	Bilibino	79.23	1	P		P		06 10 20.4	+0.3
BILL				IAmb		IAmb		06 10 21.8	
	comp=Z,8.0nm,1.1s								
IMAR	Indian Mountai	83.41	16	P		P		06 10 43.1	+0.7
MLY	Manley	83.59	18	P		P		06 10 43.6	+0.2
MLY				IAmb		IAmb		06 10 44.3	
	comp=Z,3.5nm,1.2s								
WRH	Wood River Hil	84.03	19	P		P		06 10 45.2	-0.4
WRH				IAmb		IAmb		06 10 47.0	
	comp=Z,4.9nm,1.1s								
BARN	Barnard Glacie	84.16	24	P		P		06 10 48.1	+1.5
CCB	Clear Creek Bu	84.24	19	P		P		06 10 46.1	-0.5
CCB				IAmb		IAmb		06 10 47.6	
	comp=Z,1.6nm,0.8s								
MDM	Murphy Dome	84.31	19	P		P		06 10 46.8	-0.3
MDM				IAmb		IAmb		06 10 47.9	
	comp=Z,2.7nm,0.8s								
HDA	Harding Lake	84.36	19	P		P		06 10 47.1	-0.1
HDA				IAmb		IAmb		06 10 50.1	
	comp=Z,4.1nm,0.7s								
COLA	College	84.38	19	P		P		06 10 46.9	-0.4
ILAR	Eielson Array	84.62	19	P		P		06 10 48.0	-0.5
	comp=Z,0.9nm,0.8s,baz=213,slow=5.6,SNR=7.9								
ILAR	Eielson Array	84.62	19	P		P		06 10 48.3	-0.3
SCRK	Sand Creek	85.08	21	P		P		06 10 51.8	+0.8
SCRK				IAmb		IAmb		06 10 52.6	
	comp=Z,5.1nm,1.3s								
L27K	Beaver Creek,	85.29	22	P		P		06 10 53.3	+1.3
L27K				IAmb		IAmb		06 10 53.9	
	comp=Z,2.6nm,0.9s								
BCAR	Beaver Creek A	85.31	22	P		P		06 10 53.4	+1.3
EGAK	Eagle	86.54	21	P		P		06 10 59.4	+1.3
NVAR	Mina Array Bea	88.12	50	P		P		06 11 07.3	+0.6
	comp=Z,6.0nm,0.8s,baz=244,slow=6.4,SNR=4.1								
MKAR	Makanchi Array	92.08	317	P		P		06 11 24.4	-0.4
	comp=Z,1.1nm,0.8s,baz=99,slow=6.3,SNR=3.6								
MKAR	Makanchi Array	92.08	317	P		P		06 11 24.5	-0.2
TX32	Lajitas Array	98.15	62	P		P		06 11 51.4	-1.5

IDC 14 05:58:52.9±1.1, 11°.34S×163°.22E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/43, mbtmp4.2/12, ML3.5/1, Error ellipse: s-maj=33.6km s-min=19.5km az=119.0
NEIC 14 05:58:55.8±1.6, 11°.35S±0°.09×163°.26E±0°.08, h15km±5km, mb4.5/26, Error ellipse: s-maj=16.7km s-min=6.1km az=140.0
ISC 14 05:58:58.3±0.6, 11°.38S±0°.09×163°.2E±0°.1, h35km, n52, σ0s75/48, mb4.4/25, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	Saraoutou	5.61	137	Pn		Pn		06 00 18.2	-1.0
LIFNC	LIFOU	10.11	158	Pn		Pn		06 01 20.2	-0.9
DZM	Mont Dzumac	11.07	164	Pn		Pn		06 01 33.0	-1.3
	0.4nm,0.3s,baz=119,slow=23,SNR=1.9								
DZM	Mont Dzumac	11.07	164			Pn		06 01 33.6	-0.8
STKA	Stephens Creek	28.52	221	P		P		06 04 51.3	+0.6
	1.7nm,0.6s,baz=40,slow=9.7,SNR=3.7								
WRAB	Tennant Creek	29.02	249	P		P		06 04 54.6	-0.7
WB2	Warramunga Arr	29.02	249	P		P		06 04 53.7	-1.5
WRA	Warramunga Arr	29.03	249	P		P		06 04 55.1	-0.3
	0.8nm,0.6s,baz=71,slow=9.3,SNR=5.0								
WRA				PcP		PcP		06 08 03.9	+0.5
	0.4nm,0.8s,baz=79,slow=3.4,SNR=5.1								
H11S2	WAKE ISLAND Hy	29.88	7	T		T		06 36 41.8	
	baz=188,slow=76								
H11S3	WAKE ISLAND Hy	29.89	7	T		T		06 36 32.0	
	baz=188,slow=76								
H11S1	WAKE ISLAND Hy	29.90	7	T		T		06 36 36.6	
	baz=188,slow=76								
AS31	Alice Springs	30.42	242	P		P		06 05 07.2	-0.5
ASAR	Alice Springs	30.42	242	P		P		06 05 06.9	-0.8
	3.3nm,0.7s,baz=66,slow=10,SNR=13								
ASAR				PcP		PcP		06 08 06.5	-0.5
	0.2nm,0.6s,baz=78,slow=1.7,SNR=1.7								
ASAR	Alice Springs	30.42	242	P		P		06 05 07.0	-0.7
TOO	Toolangi	30.54	208	P		P		06 05 07.7	-0.9
TOO				IAmb		IAmb		06 05 12.4	
	comp=Z,8.9nm,1.1s								
H11N1	WAKE ISLAND Hy	31.11	7	T		T		06 38 08.4	
	baz=188,slow=76								
H11N3	WAKE ISLAND Hy	31.12	7	T		T		06 38 09.8	
	baz=188,slow=76								
H11N2	WAKE ISLAND Hy	31.13	7	T		T		06 38 12.2	
	baz=188,slow=76								
MTN	Manton Dam	31.38	264	P		P		06 05 16.2	0.0
BBOO	Buckleboo	32.80	225	P		P		06 05 28.7	+0.2
BBOO				IAmb		IAmb		06 05 30.6	
	comp=Z,6.0nm,0.8s								
KNRA	Kununurra	33.73	259	P		P		06 05 37.0	+0.2
KNRA				IAmb		IAmb		06 05 38.3	
	comp=Z,5.8nm,0.7s								
FITZ	Fitzroy Crossi	36.89	255	P		P		06 06 03.9	0.0
	comp=Z,1.8nm,0.8s,baz=104,slow=8.8,SNR=5.7								
FITZ	Fitzroy Crossi	36.89	255	P		P		06 06 04.2	+0.3
PSA00	Pilbara Seismi	42.67	251	P		P		06 06 51.9	-0.1
PSA00				IAmb		IAmb		06 06 53.9	
	comp=Z,12nm,1.4s								
MORW	Morawa	47.28	241	P		P		06 07 28.8	+0.2
JTM	Tenmabayashi	55.80	340	P		P		06 08 31.9	0.0
ASAJ	Asahikawa	58.33	343	P		P		06 08 50.0	+0.2
	comp=Z,4.7nm,0.8s,baz=214,slow=3.0,SNR=6.9								
KSRS	Korea Array	58.78	327	P		P		06 08 53.2	+0.2
	comp=Z,0.9nm,0.6s,baz=138,slow=5.3,SNR=2.6								
USRK	Ussuriysk Ar.	62.16	335	P		P		06 09 15.4	-0.6
	comp=Z,2.9nm,0.8s,baz=117,slow=6.6,SNR=4.8								
USRK	Ussuriysk Ar.	62.16	335	P		P		06 09 15.0	-1.0
VNDA	Vanda	66.13	180	P		P		06 09 43.1	+1.5
SONM	Songino Array	77.48	325	P		P		06 10 50.2	-0.2
	comp=Z,1.4nm,0.7s,baz=148,slow=8.5,SNR=2.4								
KDAK	Kodiak Island	77.82	22	P		P		06 10 52.3	+0.4
QSPA	South Pole Qui	78.62	180	P		P		06 10 58.1	+1.6
QSPA				IAmb		IAmb		06 11 00.4	
	comp=Z,7.7nm,1.1s								
SVW2	Sparrevohn	79.22	19	P		P		06 11 00.7	+1.1
SVW2				IAmb		IAmb		06 11 01.0	
	comp=Z,3.1nm,0.8s								
TTA	Tatalina	80.48	18	P		P		06 11 06.8	+0.4
GHO	Glory Hole Cre	81.94	21	P		P		06 11 13.2	-1.0
GHO				IAmb		IAmb		06 11 18.7	
	comp=Z,6.3nm,0.9s								
TRF	Thorofare Moun	82.64	19	P		P		06 11 17.4	-0.5
TRF				IAmb		IAmb		06 11 45.8	
	comp=Z,3.6nm,1.2s								
IMAR	Indian Mountai	83.43	16	P		P		06 11 22.2	+0.4
MLY	Manley	83.61	18	P		P		06 11 22.7	-0.1
WRH	Wood River Hil	84.05	19	P		P		06 11 24.4	-0.5
WRH				IAmb		IAmb		06 11 25.6	
	comp=Z,2.4nm,0.8s								
CCB	Clear Creek Bu	84.26	19	P		P		06 11 25.5	-0.5
CCB				IAmb		IAmb		06 11 44.2	
	comp=Z,4.7nm,1.4s								
HDA	Harding Lake	84.38	19	P		P		06 11 26.3	-0.3
HDA				IAmb		IAmb		06 11 28.7	
	comp=Z,4.1nm,0.8s								
ILAR	Eielson Array	84.64	19	P		P		06 11 26.8	-1.1
	comp=Z,0.9nm,0.6s,baz=240,slow=4.9,SNR=8.1								
ILAR	Eielson Array	84.64	19	P		P		06 11 27.1	-0.8
DOT	Dot Lake	84.86	21	P		P		06 11 29.9	+0.7
DOT				IAmb		IAmb		06 11 36.7	
	comp=Z,4.6nm,1.3s								
BCAR	Beaver Creek A	85.33	22	P		P		06 11 32.2	+0.7
EGAK	Eagle	86.56	21	P		P		06 11 38.6	+1.1
EGAK				IAmb		IAmb		06 11 39.9	
	comp=Z,2.6nm,0.8s								
DAWY	Dawson	86.78	22	P		P		06 11 38.6	-0.1
DAWY				IAmb		IAmb		06 12 00.9	
	comp=Z,4.7nm,1.3s								
NVAR	Mina Array Bea	88.15	50	P		P		06 11 46.6	+0.5
	comp=Z,0.5nm,0.8s,baz=226,slow=10,SNR=4.0								
MKAR	Makanchi Array	92.07	317	P		P		06 12 03.7	-0.2
	comp=Z,1.0nm,0.7s,baz=101,slow=6.7,SNR=3.6								
RWWY	Rawlins	97.16	49			P		06 12 27.0	-0.6

IDC 14 06:09:56.5±3.2, 36°.40N×71°.35E, h135km±28km, mb3.3/13, mb1 3.4/19, mb1mx3.3/60, mbtmp3.8/19, Error ellipse: s-maj=22.8km s-min=15.7km az=7.0
BJI 14 06:09:57.8±0.0, 36°.67N×71°.33E, h151km, mB4.7/4, mb4.5/10
NNC 14 06:09:58.1±1.9, 37°.13N×71°.01E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=17.5km s-min=9.2km az=157.0
NEIC 14 06:09:59.8±2.3, 36°.73N±0°.07×71°.26E±0°.10, h156km±4km, mb4.2/20, Error ellipse: s-maj=11.4km s-min=9.5km az=95.0
ISC 14 06:09:58.5±0.5, 36°.68N±0°.05×71°.30E±0°.05, h150km, n90, σ1s79/104, mb3.8/20, 7C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	Kabul	2.82	222			Pn		06 10 45.8	+2.1
DRK	Karamyk	2.83	8			Pn		06 10 45.8	+1.9
CEP	Cherat	2.89	170	P		Pn		06 10 46.5	+1.9
BTK	Batken	3.40	354			Pn		06 10 52.8	+1.9
CHCP	Chirah Chowk	3.41	151	P		Pn		06 10 53.3	+2.1
NIL	Nilore	3.42	152	Pn		Pn		06 10 53.4	+2.2
THW	Thamme Wali	3.89	175	P		Pn		06 10 58.7	+1.4
KSH	Kashi	4.65	51	P		Pn		06 11 03.8	-3.5
KSH				S		Sn		06 11 52.3	-8.6
KSH				SMN					
	670nm,0.2s								
KSH				SME					
	500nm,0.2s								
ARSB	Arslanbob	4.82	15			Pn		06 11 09.6	0.0
THN	Thein Dam	5.58	138	eP		Pn		06 11 21.5	+1.9
THN				eS		Sn		06 12 22.0	-1.0
AML	Almayashu	5.75	18	P		Pn		06 11 22.9	+0.7
	SNR=43								
DHRM	DHARAMSHALA	6.04	135	eP		Pn		06 11 25.9	0.0
DHRM				IAML				06 12 34.5	
	comp=N,648nm,0.4s								
DHRM				IAML				06 12 35.3	
	comp=E,713nm,0.6s								
EKS2	Erkin-Say	6.27	17	P		Pn		06 11 30.2	+1.3
	SNR=27								
AAK	Ala-Archa	6.44	21	P		Pn		06 11 32.6	+1.4
	comp=E,7.4nm,0.3s,baz=198,slow=6.2,SNR=26								
AAK				S		Sn		06 12 41.5	-2.2
	comp=E,5.7nm,0.3s,baz=339,slow=16,SNR=12								
AAK	Ala-Archa	6.44	21	P		Pn		06 11 33.2	+2.1
	SNR=19								
AAK	Ala-Archa	6.44	21	⇓P		Pn		06 11 30.9	-0.3
	comp=E,11nm,0.5s								
AAK				⇓S		Sn		06 12 41.7	-2.0
	comp=E,59nm,0.8s								
AAK	Ala-Archa	6.44	21	Pn		Pn		06 11 32.3	+1.2
KK31	Karatay Array	6.45	355	⇑P		Pn		06 11 30.4	-0.6
	comp=E,55nm,0.5s,baz=180,slow=13,SNR=1018								
KK31				⇓S		Sn		06 12 38.6	-5.0
	comp=E,20nm,0.3s,baz=175,slow=23,SNR=14								
KK31	Karatay Array	6.45	355			Pn		06 11 31.6	+0.5
KKAR	Karatay Array	6.45	355			Pn		06 11 31.6	+0.5
KKAR	Karatay Array	6.45	355			Pn		06 11 31.7	+0.6
KBK	Karagaybulak	6.60	24	P		Pn		06 11 35.4	+2.1
	SNR=8.4								

ABKAR	**Akbulak array**	**15.05 330**	Pn	**Pn**	**06 13 22.8**	**-0.5**
ABKAR	**Akbulak array**	**15.05 330**	Pn	**Pn**	**06 13 23.2**	**-0.1**
BVAR	**Borovoye Array**	**16.36 358**	P	**Pn**	**06 13 40.3**	**+0.9**
	comp=E,0.5nm,0.3s,baz=184,slow=19,SNR=9.8					
AKTO	**Aktyubinsk**	**16.75 329**	P	**Pn**	**06 13 46.1**	**+2.0**
	comp=E,1.2nm,0.3s,baz=130,slow=10,SNR=12					
AKTO			S	**S**	**06 16 43.3**	**-6.9**
	comp=E,0.4nm,0.3s,baz=169,slow=20,SNR=6.1					
AKTO	**Aktyubinsk**	**16.75 329**	⇓P	**Pn**	**06 13 45.4**	**+1.3**
	comp=E,6.8nm,0.8s					
AKTO			⇓S	**S**	**06 16 49.1**	**-1.1**
	comp=E,5.3nm,0.8s					
LSA	**Lhasa**	**17.99 107**	P	**P**	**06 13 56.7**	**-1.5**
LSA			IAmb	IAmb	06 14 03.1	
	comp=Z,10.0nm,1.1s					
ZAA0	**Zalesovo Array**	**19.65 24**	P	**P**	**06 14 16.1**	**+0.7**
ZALV	**Zalesovo Beam**	**19.65 24**	P	**P**	**06 14 16.8**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=225,slow=11,SNR=16					
ZALV	**Zalesovo Beam**	**19.65 24**	P	**P**	**06 14 16.1**	**+0.7**
SHL	**Shillong**	**20.77 116**	P	**P**	**06 14 27.4**	**-0.3**
SHL			IAmb	IAmb	06 14 32.8	
	comp=Z,14nm,0.9s					
ARU	**Arti**	**21.55 341**	P	**P**	**06 14 38.3**	**+2.7**
	comp=Z,0.8nm,0.4s,baz=142,slow=12,SNR=3.5					
ONI	**Oni**	**22.19 294**	P	**P**	**06 14 43.2**	**+0.7**
KBZ	**Khabaz**	**22.74 297**	P	**P**	**06 14 49.0**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=121,slow=7.0,SNR=4.0					
BRTR	**Keskin Array B**	**29.61 288**	P	**P**	**06 15 51.6**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=103,slow=12,SNR=4.1					
BRTR	**Keskin Array B**	**29.61 288**	P	**P**	**06 15 49.6**	**-0.1**
CM31	**Chiang Mai Arr**	**30.33 119**	P	**P**	**06 15 55.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**31.47 70**	*e*P	P	06 16 01.3	-4.6
HHC			pmax	pmax		
	comp=Z,26nm,0.8s					
HHC			pmax	pmax		
	comp=Z,96nm,5.7s					
HHC			L	L		
	comp=Z,140nm,14.5s					
HHC			L	L		
	comp=Z,200nm,15.3s					
HHC			L	L		
	comp=Z,210nm,16.2s					
AKASG	**Malin Array Be**	**33.03 309**	P	**P**	**06 16 20.5**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=82,slow=7.0,SNR=6.9					
AKBB	**Malin Array Si**	**33.03 309**	P	**P**	**06 16 20.8**	**+1.6**
AKBB			IAmb	IAmb	06 16 22.2	
	comp=Z,2.2nm,0.7s					
MLR	**Muntele Rosu**	**34.91 299**	P	**P**	**06 16 36.4**	**+0.7**
MLR			IAmb	IAmb	06 16 40.3	
	comp=Z,5.0nm,0.9s					
FIA1	**FINESS Array S**	**37.47 326**	P	**P**	**06 16 58.6**	**+1.5**
FIA1			IAmb	IAmb	06 17 17.5	
	comp=Z,12nm,1.4s					
FINES	**FINESS Array B**	**37.48 326**	P	**P**	**06 16 58.5**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=118,slow=11,SNR=13					
ARCES	**ARCESS Array B**	**41.08 337**	P	**P**	**06 17 28.6**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=115,slow=8.2,SNR=7.7					
ARCES	**ARCESS Array B**	**41.08 337**	P	**P**	**06 17 28.3**	**+1.4**
ARCES			IAmb	IAmb	06 17 48.4	
	comp=Z,9.7nm,1.4s					
GERES	**GERESS Array B**	**43.03 305**	P	**P**	**06 17 44.2**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=78,slow=10,SNR=2.0					
NC405	**NORSAR Array S**	**44.15 323**	P	**P**	**06 17 52.9**	**+1.1**
NC602	**NORSAR Array S**	**44.20 322**	P	**P**	**06 17 53.1**	**+1.0**
NC303	**NORSAR Array S**	**44.33 323**	P	**P**	**06 17 54.9**	**+1.7**
NC303			IAmb	IAmb	06 18 22.6	
	comp=Z,3.8nm,0.9s					
NOA	**NORSAR Array B**	**44.39 323**	P	**P**	**06 17 54.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=109,slow=7.5,SNR=9.5					
ESDC	**Sonseca Array**	**57.59 298**	P	**P**	**06 19 32.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=70,slow=7.4,SNR=3.0					
TORD	**Torodi Ar. Bea**	**65.97 269**	P	**P**	**06 20 28.2**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=49,slow=5.8,SNR=11					
TORD	**Torodi Ar. Bea**	**65.97 269**	P	**P**	**06 20 28.7**	**-0.2**
INK	**Inuvik**	**73.69 9**	P	**P**	**06 21 16.7**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=41,slow=2.2,SNR=3.7					
INK	**Inuvik**	**73.69 9**	P	**P**	**06 21 16.9**	**+1.7**
KNRA	**Kununurra**	**75.12 123**	P	**P**	**06 21 24.8**	**+0.6**
WRA	**Warramunga Arr**	**81.88 122**	P	**P**	**06 22 00.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=324,slow=4.8,SNR=6.8					
WRA	**Warramunga Arr**	**81.88 122**	P	**P**	**06 22 00.4**	**-0.8**
WRAB	**Tennant Creek**	**81.88 122**	P	**P**	**06 22 00.6**	**-0.6**
WRAB			IAmb	IAmb	06 22 08.6	
	comp=Z,10nm,1.4s					
WB2	**Warramunga Arr**	**81.89 122**	P	**P**	**06 22 01.0**	**-0.2**
WB2			IAmb	IAmb	06 22 08.8	
	comp=Z,8.0nm,1.4s					
WR0	**Warramunga Arr**	**82.03 122**	P	**P**	**06 22 01.5**	**-0.5**
ASAR	**Alice Springs**	**84.16 125**	P	**P**	**06 22 11.7**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=304,slow=4.2,SNR=5.3					
ASAR	**Alice Springs**	**84.16 125**	P	**P**	**06 22 12.4**	**-0.5**

IDC ***14*** *06:14:57.9±3.4, 30.˝38S×138.˝41E, h0km, mb1 3.4/4, mb1mx3.3/31, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=104.0km s-min=23.0km az=42.0*

NOU ***14*** *06:14:59.8, 30.˝46S×138.˝37E, h0km, MLv3.1, South Australia*

AUST ***14*** *06:15:00.4±0.4, 30.˝52S×138.˝37E, h5km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=44.0*

ISC 14 06:14:58.0±0.8, 30.˝31S±0.˝05×138.˝42E±0.˝04, h10km, n12, σ1§93/20, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCRK	**Leigh Creek**	**0.22**	**232**	P	**Pg**	**06 15 02.9**	**+0.3**
LCRK	baz=0.2,SNR=1000			S	**Sg**	**06 15 06.1**	**+0.4**
	baz=0.2						
HTT	**Hallett**	**3.14**	**172**	P	**Pn**	**06 15 48.6**	**+1.0**
HTT	baz=2.9,SNR=11			S	**Sn**	**06 16 24.4**	**-0.8**
	baz=2.9						
STKA	**Stephens Creek**	**3.14**	**121**	Pn	**Pn**	**06 15 49.0**	**+1.5**
STKA	0.8nm,0.3s,baz=300,slow=12,SNR=8.1			Sn	**Sn**	**06 16 25.3**	**+0.1**
	3.3nm,0.3s,baz=302,slow=15,SNR=5.9						
STKA	**Stephens Creek**	**3.14**	**121**	P	**Pn**	**06 15 49.4**	**+1.8**
STKA	baz=3.1,SNR=5.6			S	**Sb**	**06 16 28.7**	**-3.7**
	baz=3.1						
BBOO	**Buckleboo**	**3.20**	**218**	P	**Pn**	**06 15 49.5**	**+1.0**
BBOO	baz=3.0,SNR=88			S	**Sn**	**06 16 26.4**	**-0.3**
	baz=3.0						
INKA	**Innaminka**	**3.27**	**39**	P	**Pb**	**06 15 55.0**	**-1.1**
	baz=3.5						
OOD	**Oodnadatta**	**3.46**	**316**	P	**Pb**	**06 15 56.8**	**-2.6**
OOD	baz=3.6,SNR=11			S	**Sb**	**06 16 40.7**	**-0.9**
	baz=3.6						
MULG	**Mulgathing**	**3.77**	**269**	P	**Pn**	**06 15 58.6**	**+2.4**
	baz=3.7,SNR=9.0						
CMSA	**Cobar Meteorol**	**6.37**	**103**	P	**Pn**	**06 16 34.1**	**+2.1**
	baz=6.4						
ASAR	**Alice Springs**	**7.74**	**328**	Pn	**Pn**	**06 16 54.1**	**+3.2**
ASAR	0.3nm,0.3s,baz=153,slow=11,SNR=24			Sn	**Sn**	**06 18 17.9**	**-0.8**
	0.1nm,0.3s,baz=151,slow=22,SNR=2.2						
WRA	**Warramunga Arr**	**10.96**	**339**	Pn	**Pn**	**06 17 36.9**	**+2.0**
WRA	0.2nm,0.3s,baz=157,slow=13,SNR=12			Sn	**Sn**	**06 19 35.0**	**-2.8**
	0.0nm,0.3s,baz=171,slow=25,SNR=2.0						
FITZ	**Fitzroy Crossi**	**16.82**	**313**	Pn	**Pn**	**06 18 53.3**	**-0.4**
	0.1nm,0.3s,baz=139,slow=9.3,SNR=1.2						

IDC ***14*** *06:19:41.7±0.5, 11.˝34S×163.˝20E, h0km, mb4.9/21, mb1 5.0/23, mb1mx4.9/29, mbtmp4.8/23, ML4.6/2, MS4.3/40, Ms1 4.3/40, ms1mx4.2/43, Error ellipse: s-maj=17.2km s-min=13.1km az=104.0*

BJI ***14*** *06:19:43.2±0.0, 11.˝33S×163.˝49E, h29km, mB5.3/43, mb5.0/55, Ms4.8/39, Ms7 4.5/39*

NEIC ***14*** *06:19:44.4±1.5, 11.˝41S±0.˝07×163.˝31E±0.˝05, h16km±4km, mb5.0/156, Error ellipse: s-maj=9.9km s-min=7.1km az=163.0*

MOS ***14*** *06:19:45.3±0.9, 11.˝31S×163.˝05E, h33km, mb5.2/36, Error ellipse: s-maj=9.3km s-min=7.4km az=104.5*

GCMT ***14*** *06:19:46.4±0.1, 11.˝46S±0.˝01×163.˝25E±0.˝01, h12km, MW5.2/132, Moment Tensor Solution. s88,c130; s132,c214; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}=6.63±.10; $M_{\theta\theta}$=4.18±.10; $M_{\phi\phi}$=2.45±.10; $M_{r\theta}$=3.11±.31; $M_{\theta\phi}$=2.89±.08; $M_{r\phi}$=-2.65±.34; Best double couple: M_o7.66100×10^{16} NP1:φ=235.00000°, δ29.00000°, λ-87.00000°. NP2:φ=51.00000°, δ61.00000°, λ-92.00000°. Principal axes: T 7.5080, Plg16.0000°, Azm143.0000°; N 0.3060, Plg2.0000°, Azm52.0000°; P -7.8140, Plg74.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***14*** *06:19:53.8, 11.˝37S×163.˝00E, h85km, mb5.2, Solomon Islands*

ISC 14 06:19:43.0±0.8, 11.˝33S±0.˝05×163.˝28E±0.˝05, h11km±4km, n434, σ1§24/433, mb5.0/153, MS4.3/51, 9C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.78**	**300**	Pn	**Pn**	**06 20 42.3**	**+1.1**
HNR	47nm,0.3s,baz=186,slow=10,SNR=3.0			Sn	**Sn**	**06 21 23.2**	**-2.4**
	84nm,0.3s,baz=155,slow=19,SNR=3.6						
HNR				LR	LR	06 22 14.3	
	comp=Z,12μm,20.0s,baz=118,slow=41						
HNR	**Honiara**	**3.78**	**300**		**Pn**	**06 20 42.7**	**+1.5**
HNR	**Honiara**	**3.78**	**300**	P	**Pb**	**06 20 46.6**	**-3.1**
SANVU	**Saraoutou**	**5.60**	**137**	Pn	**Pn**	**06 21 05.4**	**-0.8**
LIFNC	**LIFOU**	**10.13**	**158**	Pn	**Pn**	**06 22 06.4**	**-2.0**
DZM	**Mont Dzumac**	**11.10**	**165**	*e*Pn	**Pn**	**06 22 21.6**	**-0.2**
DZM	28nm,0.3s			*e*Sn	Sn	06 24 13.8	-12
	28nm,0.7s						
DZM				*e*LR	LR	06 24 49.0	
	comp=Z,9μm,26.3s						
DZM	**Mont Dzumac**	**11.10**	**165**	Pn	**Pn**	**06 22 21.5**	**-0.2**
	5.0nm,0.3s,baz=303,slow=14,SNR=58			Sn	Sn	06 24 16.0	-10
DZM	1.0nm,0.3s,baz=222,slow=23,SNR=1.0			LR	LR	06 25 49.8	
	comp=Z,5μm,21.8s,baz=10.0,slow=33						
DZM	**Mont Dzumac**	**11.10**	**165**	Pn	**Pn**	**06 22 21.2**	**-0.5**
ONTNC	**Ouen Toro**	**11.33**	**165**	Pn	**Pn**	**06 22 24.1**	**-0.7**
OUENC	**Ouen Island, N**	**11.54**	**163**	Pn	**Pn**	**06 22 27.4**	**-0.3**
PINNC	**Pines Island,**	**11.90**	**161**		**Pn**	**06 22 32.5**	**-0.1**
MSVF	**Nonsavu**	**15.65**	**116**	Pn	**P**	**06 23 29.9**	**+2.1**
MSVF	0.5nm,0.3s,baz=280,slow=8.9,SNR=8.0			LR	LR	06 27 50.0	
	comp=Z,1μm,20.4s,baz=291,slow=31						
MSVF	**Nonsavu**	**15.65**	**116**	P	**Pn**	**06 23 22.5**	**-1.2**
MSVF				pmax	pmax		
	comp=Z,48nm,1.0s						
MSVF	**Nonsavu**	**15.65**	**116**	Pn	**Pn**	**06 23 22.5**	**-1.2**
MSVF	**Nonsavu**	**15.65**	**116**	P	**P**	**06 23 31.3**	**+3.5**
PMG	**Port Moresby**	**15.97**	**275**	Pn	**P**	**06 23 30.3**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=68,slow=6.1,SNR=7.9						
PMG				LR	LR	06 28 51.7	
	comp=Z,1μm,21.9s,baz=120,slow=35						
PMG	**Port Moresby**	**15.97**	**275**	*ce*P	**Pn**	**06 23 29.5**	**+1.8**
PMG				pmax	pmax		
	comp=Z,204nm,2.5s						
PMG	**Port Moresby**	**15.97**	**275**	Pn	**Pn**	**06 23 27.9**	**+0.2**
PMG				IAmb	IAmb	06 23 51.0	
	comp=Z,89nm,1.0s						
PMG	**Port Moresby**	**15.97**	**275**	P	**P**	**06 23 31.3**	**0.0**
	comp=Z,110nm,1.8s						
PMG	**Port Moresby**	**15.97**	**275**	P	**P**	**06 23 30.6**	**-0.7**
EIDS	**Eidsvold**	**18.11**	**218**	P	**P**	**06 23 56.6**	**+1.7**
	baz=18,SNR=4.9						
EIDS	**Eidsvold**	**18.11**	**218**	P	**P**	**06 23 57.0**	**+2.0**
MANU	**Manus Island**	**18.29**	**299**	P	**P**	**06 23 57.9**	**+1.0**
CTA	**Charters Tower**	**18.54**	**240**	P	**Pn**	**06 24 01.6**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=73,slow=15,SNR=13						
CTA	**Charters Tower**	**18.54**	**240**	P	**Pn**	**06 24 02.2**	**+2.3**
	baz=19						
CTAO	**Charters Tower**	**18.54**	**240**	P	**P**	**06 23 59.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s						
CTAO	**Charters Tower**	**18.54**	**240**	P	**P**	**06 23 59.6**	**-0.1**
PATS	**Pohnpei**	**18.71**	**344**	P	**Pn**	**06 24 02.0**	**0.0**
MTSU	**Mount Surprise**	**19.53**	**248**	P	**Pn**	**06 24 12.8**	**+0.9**
	baz=20,SNR=49						
RMQ	**Roma**	**20.36**	**220**	P	Pn	06 24 21.7	+0.1
	baz=20,SNR=47						
ARMA	**Armidale**	**21.86**	**208**	P	**P**	**06 24 37.6**	**+1.8**
	baz=22,SNR=30						
ARMA	**Armidale**	**21.86**	**208**	P	**P**	**06 24 34.2**	**-1.6**
ARMA				IAmb	IAmb	06 24 40.4	
	comp=Z,32nm,0.7s						
QLP	**Quilpie**	**23.49**	**227**	P	**P**	**06 24 53.7**	**+0.8**
	baz=24,SNR=9.8						
MGCD	**Mangrove Creek**	**24.47**	**205**	P	**P**	**06 25 03.5**	**+1.4**
	baz=25,SNR=9.0						
AFI	**Afiamalu**	**24.48**	**99**	LR	LR	06 33 00.1	
	comp=Z,454nm,20.2s,baz=305,slow=32						
QIS	**Mount Isa**	**24.51**	**245**	P	**P**	**06 25 02.8**	**+0.2**
	baz=25,SNR=29						
RAO	**Raoul Island**	**25.01**	**138**	LR	LR	06 33 03.0	
	comp=Z,2μm,21.0s,baz=310,slow=32						
RAO	**Raoul Island**	**25.01**	**138**	P	**P**	**06 25 04.5**	**-2.5**
RAO				pmax	pmax		
	comp=Z,360nm,0.7s						
RAO	**Raoul Island**	**25.01**	**138**	P	**P**	**06 25 04.5**	**-2.5**
CMSA	**Cobar Meteorol**	**25.85**	**216**	P	**P**	**06 25 14.9**	**+0.3**
	baz=26,SNR=19						
YNG	**Young**	**26.59**	**208**	P	**P**	**06 25 22.6**	**+1.3**
	baz=27,SNR=15						
CAN	**Canberra**	**27.17**	**206**	P	**P**	**06 25 25.3**	**-1.3**
CAN				pmax	pmax		
	comp=Z,27nm,1.1s						
CAN	**Canberra**	**27.17**	**206**	P	**P**	**06 25 25.3**	**-1.3**
CAN				IAmb	IAmb	06 25 28.9	
	comp=Z,27nm,1.1s						
MILA	**Mila**	**28.59**	**204**	P	**P**	**06 25 40.7**	**+1.5**
	baz=29,SNR=9.2						
STKA	**Stephens Creek**	**28.60**	**221**	P	**P**	**06 25 39.3**	**0.0**
	comp=Z,18nm,0.8s,baz=36,slow=11,SNR=35						
STKA				PcP	**PcP**	**06 28 51.4**	**+0.9**
	comp=Z,10nm,0.8s,baz=58,slow=3.2,SNR=9.9						
STKA				LR	LR	06 37 00.7	
	comp=Z,485nm,18.8s,baz=40,slow=36						
STKA	**Stephens Creek**	**28.60**	**221**	P	**P**	**06 25 40.0**	**+0.7**
	baz=29,SNR=28						
STKA	**Stephens Creek**	**28.60**	**221**	P	**P**	**06 25 38.2**	**-1.1**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
STKA	**Stephens Creek**	**28.60**	**221**	P	**P**	**06 25 38.2**	**-1.1**
WR0	**Warramunga Arr**	**28.93**	**249**	P	**P**	**06 25 41.2**	**-1.2**
WB0	**Warramunga Arr**	**29.02**	**250**	P	**P**	**06 25 41.8**	**-1.5**
WB0				IAmb	IAmb	06 25 43.6	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**29.10**	**249**	*ce*P	**P**	**06 25 43.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,26nm,1.7s						
WRAB	**Tennant Creek**	**29.10**	**249**	P	**P**	**06 25 42.5**	**-1.4**
WB2	**Warramunga Arr**	**29.10**	**249**	P	**P**	**06 25 42.9**	**-1.0**
WRA	**Warramunga Arr**	**29.11**	**249**	P	**P**	**06 25 43.0**	**-1.0**
	comp=Z,7.1nm,0.6s,baz=80,slow=8.9,SNR=59						
WRA				PcP	**PcP**	**06 28 52.8**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=76,slow=2.9,SNR=7.4						
WRA				LR	LR	06 36 03.2	
	comp=Z,581nm,20.1s,baz=70,slow=34						
WRA	**Warramunga Arr**	**29.11**	**249**	P	**P**	**06 25 43.3**	**-0.7**
URZ	**Urewera**	**29.53**	**158**	LR	LR	06 37 05.7	
	comp=Z,1μm,18.2s,baz=31,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.83**	**7**	T	T	06 57 21.5	
	baz=188,slow=76,SNR=67						
H11S3	**WAKE ISLAND Hy**	**29.83**	**7**	T	T	06 57 21.4	
	baz=188,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy**	**29.84**	**7**	T	T	06 57 19.8	
	baz=188,slow=76,SNR=59						
KDU	**Kakadu**	**30.15**	**264**	P	**P**	**06 25 52.8**	**-0.4**
	baz=30,SNR=6.2						
AS31	**Alice Springs**	**30.50**	**242**	P	**P**	**06 25 54.8**	**-1.5**
AS31				IAmb	IAmb	06 25 56.5	
	comp=Z,14nm,0.7s						
ASAR	**Alice Springs**	**30.51**	**242**	P	**P**	**06 25 54.9**	**-1.5**
	comp=Z,56nm,0.8s,baz=67,slow=9.7,SNR=529						
ASAR				PcP	**PcP**	**06 28 56.0**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=83,slow=3.4,SNR=5.6						
ASAR				ScP	**ScP**	**06 32 38.4**	**+0.2**
	comp=Z,0.6nm,1.1s,baz=97,slow=3.9,SNR=2.4						
ASAR				LR	LR	06 37 21.9	
	comp=Z,539nm,19.1s,baz=74,slow=35						
TOO	**Toolangi**	**30.62**	**208**	P	**P**	**06 25 58.0**	**+0.8**
	baz=31,SNR=31						
TOO	**Toolangi**	**30.62**	**208**	P	**P**	**06 25 57.9**	**+0.8**
TOO				pmax	pmax		
	comp=Z,40nm,1.0s						
TOO	**Toolangi**	**30.62**	**208**	P	**P**	**06 25 57.9**	**+0.7**
TOO				IAmb	IAmb	06 26 00.1	
	comp=Z,40nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**31.05**	**7**	T	T	06 58 54.8	
	baz=188,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**31.06**	**7**	T	T	06 58 59.0	
	baz=188,slow=76,SNR=44						
H11N2	**WAKE ISLAND Hy**	**31.07**	**7**	T	T	06 59 01.1	
	baz=188,slow=76,SNR=49						
HTT	**Hallett**	**31.32**	**222**	P	**P**	**06 26 03.6**	**+0.1**
	baz=31,SNR=32						
MTN	**Manton Dam**	**31.46**	**264**	P	**P**	**06 26 05.8**	**+1.1**
	baz=32,SNR=7.1						
MTN	**Manton Dam**	**31.46**	**264**	P	**P**	**06 26 05.3**	**+0.5**
MTN				IAmb	IAmb	06 26 10.9	
	comp=Z,24nm,1.1s						
ARPS	**Mount Arapiles**	**31.85**	**214**	P	**P**	**06 26 09.4**	**+1.4**
	baz=32,SNR=9.9						
BBOO	**Buckleboo**	**32.88**	**225**	P	**P**	**06 26 16.8**	**-0.4**
	baz=33,SNR=80						
BBOO	**Buckleboo**	**32.88**	**225**	P	**P**	**06 26 16.4**	**-0.7**
SIJI	**Sorong**	**33.44**	**286**	LR	LR	06 39 57.8	
	comp=Z,1μm,21.8s,baz=120,slow=36						
KNRA	**Kununurra**	**33.81**	**259**	P	**P**	**06 26 24.1**	**-1.3**
	baz=34,SNR=16						
KNRA	**Kununurra**	**33.81**	**259**	P	**P**	**06 26 24.6**	**-0.8**
WRKA	**Warakurna**	**35.79**	**243**	P	**P**	**06 26 41.2**	**-1.3**
	baz=36,SNR=161						
FITZ	**Fitzroy Crossi**	**36.97**	**255**	P	**P**	**06 26 51.6**	**-0.9**
	comp=Z,19nm,0.7s,baz=106,slow=6.6,SNR=62						
FITZ				PcP	**PcP**	**06 29 14.5**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=114,slow=9.8,SNR=3.1						
FITZ				LR	LR	06 41 22.5	
	comp=Z,416nm,19.9s,baz=79,slow=35						
FITZ	**Fitzroy Crossi**	**36.97**	**255**	P	**P**	**06 26 51.5**	**-0.9**
	baz=37,SNR=43						
FITZ	**Fitzroy Crossi**	**36.97**	**255**	P	**P**	**06 26 51.6**	**-0.9**
FITZ				IAmb	IAmb	06 26 53.8	
	comp=Z,19nm,0.8s						
FORT	**Forrest**	**37.91**	**234**	P	**P**	**06 27 00.2**	**-0.2**
	baz=38,SNR=18						
FORT	**Forrest**	**37.91**	**234**	P	**P**	**06 26 59.9**	**-0.5**
BATI	**Baumata**	**38.91**	**268**	P	**P**	**06 27 09.6**	**+0.5**
	comp=Z,53nm,0.6s,baz=183,slow=2.3,SNR=7.0						
BATI				LR	LR	06 44 16.2	
	comp=Z,571nm,18.3s,baz=130,slow=38						
GTOI	**Gorontalo**	**41.74**	**284**	P	**P**	**06 27 33.8**	**+1.3**
	comp=Z,260nmcomp=Z,18nm,0.7s						
BSSI	**Bau Bau, Buton**	**42.57**	**273**	P	**P**	**06 27 38.6**	**-0.7**
	comp=Z,54nm,0.9s						
PSA00	**Pilbara Seismi**	**42.75**	**251**	P	**P**	**06 27 40.8**	**+0.1**
PSA00	**Pilbara Seismi**	**42.75**	**251**	P	**P**	**06 27 40.2**	**-0.4**
PSA00				IAmb	IAmb	06 27 41.9	
	comp=Z,29nm,0.8s						
BNSI	**Bone**	**43.27**	**276**	P	**P**	**06 27 44.2**	**-0.8**
	comp=Z,956nmcomp=Z,72nm,0.8s						
JCJ	**Chichijima**	**43.34**	**332**	P	**P**	**06 27 44.8**	**-0.5**
KAPI	**Kappang**	**43.50**	**275**	LR	LR	06 49 44.9	
	comp=Z,87nm,18.2s,baz=64,slow=42						
KAPI	**Kappang**	**43.50**	**275**	P	**P**	**06 27 46.9**	**+0.1**
KAPI				pmax	pmax		
	comp=Z,24nm,0.8s						
KAPI	**Kappang**	**43.50**	**275**	P	**P**	**06 27 46.9**	**+0.1**
KAPI				IAmb	IAmb	06 27 47.5	
	comp=Z,24nm,0.8s						
KAPI	**Kappang**	**43.50**	**275**	P	**P**	**06 27 47.3**	**+0.5**
	comp=Z,555nmcomp=Z,25nm,0.7s						
TTSI	**Tana Toraja**	**43.84**	**277**	P	**P**	**06 27 50.0**	**+0.4**
	comp=Z,28nm,0.7s						
TOLI2	**Tolitoli**	**44.01**	**284**	P	**P**	**06 27 49.3**	**-1.6**
TOLI2				IAmb	IAmb	06 27 50.9	
	comp=Z,12nm,0.7s						
MPSI	**Mapaga**	**44.63**	**282**	P	**P**	**06 27 55.4**	**-0.5**
	comp=Z,8μmcomp=Z,18nm,0.7s						
MEEK	**Meekatharra**	**44.65**	**244**	P	**P**	**06 27 55.8**	**-0.2**
	baz=45,SNR=30						
PLAI	**Plampang**	**44.83**	**269**	P	**P**	**06 27 58.0**	**+0.5**
	comp=Z,69nm,0.8s						
TWSI	**Taliwang, Sumb**	**45.72**	**269**	P	**P**	**06 28 02.9**	**-1.7**
	comp=Z,19nm,0.9s						
PPT	**Papeete**	**45.98**	**103**	LR	LR	06 46 15.1	
	comp=Z,123nm,18.7s,baz=277,slow=35						
PPT2	**Papeete2**	**45.98**	**104**	*e*S	**S**	**06 34 52.0**	**+0.1**
	comp=Z,219nm,25.8s						
PPT2				*e*LQ	LQ	06 38 54.9	
	comp=Z,1μm,25.8s						
PPT2				*e*LR	LR	06 40 48.5	
	comp=Z,1μm,28.8s						
TBI	**Tubuai**	**46.48**	**111**	*e*S	**S**	**06 34 56.5**	**-2.2**
	comp=Z,359nm,27.8s						
TBI				*e*LQ	LQ	06 39 06.3	
	comp=Z,791nm,33.8s						
TBI				*e*LR	LR	06 41 01.7	
	comp=Z,996nm,32.2s						
KLBR	**Kellerberrin**	**46.51**	**237**	P	**P**	**06 28 09.9**	**-0.7**
	baz=47,SNR=10						
KLNI	**Mataram**	**46.53**	**269**	P	**P**	**06 28 09.0**	**-2.0**
	comp=Z,57nm,0.9s						
KHKI	**Kahang-Kahang**	**47.02**	**269**	P	**P**	**06 28 14.6**	**-0.2**
	comp=Z,61nm,0.9s						
BLDU	**Ballidu**	**47.14**	**239**	P	**P**	**06 28 15.6**	**+0.1**
	baz=47,SNR=10						
NWAO	**Narrogin (SRO)**	**47.30**	**235**	LR	LR	06 47 00.3	
	comp=Z,266nm,19.8s,baz=88,slow=35						
MORW	**Morawa**	**47.36**	**241**	P	**P**	**06 28 17.4**	**+0.1**
	baz=48,SNR=15						
MORW	**Morawa**	**47.36**	**241**	P	**P**	**06 28 17.4**	**+0.1**
MUN	**

comp=Z,19nm,0.9s
TPUB Ta-pu 54.09 310 P **P** **06 29 08.3 +0.2**
SSLB Suanglung 54.13 310 P **P** **06 29 08.9 +0.5**
SSLB IAmb IAmb 06 29 09.4
comp=Z,18nm,0.8s
JHS Saijyo 54.22 329 P **P** **06 29 09.8 +1.0**
YHNB Yeheng 54.33 312 P **P** **06 29 10.2 +0.3**
YHNB IAmb IAmb 06 29 11.7
comp=Z,22nm,0.8s
JSD Sado 54.41 336 P **P** **06 29 11.1 +1.0**
JSD IAmb IAmb 06 29 12.1
comp=Z,16nm,0.7s
JCJI Jatiwangi 54.49 270 P **P** **06 29 12.0 +0.8**
comp=Z,307nm,0.8s
CISI Cisompet, Garu 54.77 269 P **P** **06 29 12.8 -0.5**
CISI Cisompet, Garu 54.77 269 P **P** **06 29 11.4 -1.9**
comp=Z,3µmcomp=Z,66nm,0.9s
LEM Lembang 55.08 270 LR LR 06 55 43.6
comp=Z,151nm,19.8s,baz=122,slow=39
JTM Tennabayashi 55.78 340 P **P** **06 29 21.5 +1.6**
CBJI Citeko 55.90 270 P **P** **06 29 19.6 -1.7**
comp=Z,79nm,0.7s
DBJI Dramaga 55.97 270 P **P** **06 29 22.4 +0.5**
XMIS Christmas Isla 56.51 265 P **P** **06 29 26.7 +1.0**
QZH Quanzhou 56.55 310⇑ *i*P **P** **06 29 27.6 +1.8**
QZH S **S** **06 37 16.6 -1.0**
QZH pmax pmax
comp=Z,220nm,5.7s
QZH L L
comp=Z,200nm,16.9s
QZH L L
comp=Z,190nm,19.0s
QZH L L
comp=Z,210nm,17.6s
JKA Kamikawa-asahi 58.30 343 P **P** **06 29 39.9 +2.2**
ASAJ Asahikawa 58.30 343 P **P** **06 29 38.8 +1.0**
comp=Z,36nm,0.8s,baz=208,slow=9.4,SNR=42
ASAJ LR LR 06 53 32.6
comp=Z,314nm,19.8s,baz=173,slow=35
KSRS Korea Array 58.78 327 P **P** **06 29 41.9 +0.7**
comp=Z,6.0nm,0.7s,baz=140,slow=7.0,SNR=30
KSRS LR LR 06 52 25.1
comp=Z,231nm,20.1s,baz=135,slow=33
KSAR Wonju Array Be 58.79 327 P **P** **06 29 41.5 +0.2**
KSAR Wonju Array Be 58.79 327 P **P** **06 29 41.5 +0.2**
KS19 Wonju Array Si 58.84 327 P **P** **06 29 42.4 +0.7**
KS19 IAmb IAmb 06 29 45.0
comp=Z,16nm,1.1s
MDSI Maura Dua 58.85 272 P **P** **06 29 39.6 -2.6**
comp=Z,2µmcomp=Z,12nm,1.6s
INCN Inchon 59.49 327 P **P** **06 29 46.1 -0.1**
INCN pmax pmax
comp=Z,16nm,0.6s
INCN Inchon 59.49 327 P **P** **06 29 46.1 -0.1**
RKT Rikitea 59.76 110 *e*LR LR 06 47 11.2
comp=Z,1000nm,30.2s
NJ2 Nanjing 60.55 317 *e*P **P** **06 29 58.3 +4.8**
NJ2 pP **pwP** **06 30 03.8 -0.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
QIZ Qiongzhong 60.69 299 P **P** **06 29 55.8 +1.0**
QIZ S **S** **06 38 12.3 +0.6**
QIZ sS sS 06 38 27.0 +13
QIZ pmax pmax
comp=Z,84nm,6.3s
QIZ L L
comp=Z,190nm,13.1s
QIZ L L
comp=Z,230nm,13.5s
QIZ L L
comp=Z,390nm,25.5s
QIZ Qiongzhong 60.69 299 P **P** **06 29 55.3 +0.5**
YSS Yuzh-Sakhalins 60.86 344 *de*P **P** **06 29 56.3 +1.0**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,300nm,5.2s
YSS Yuzh-Sakhalins 60.86 344 P **P** **06 29 55.6 +0.3**
USA0B Ussuriysk Arra 62.15 335 P **P** **06 30 05.2 +1.1**
USA0B pmax pmax
comp=Z,23nm,1.0s
USA0B Ussuriysk Arra 62.15 335 P **P** **06 30 05.2 +1.1**
USRK Ussuriysk Ar. 62.15 335 P **P** **06 30 05.2 +1.0**
comp=Z,22nm,0.9s,baz=142,slow=6.6,SNR=28
USRK LR LR 06 55 13.6
comp=Z,142nm,20.7s,baz=141,slow=34
MDJ Mudanjiang 63.50 334 P **P** **06 30 13.4 +0.3**
MDJ S **S** **06 38 49.3 +3.0**
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,270nm,5.8s
MDJ L L
comp=Z,390nm,17.1s
MDJ L L
comp=Z,200nm,17.1s
MDJ L L
comp=Z,520nm,20.6s
MDJ Mudanjiang 63.50 334 P **P** **06 30 13.7 +0.5**
MDJ IAmb IAmb 06 30 16.8
comp=Z,13nm,0.8s
TIA Tai'an 64.24 320 P **P** **06 30 18.0 -0.2**
TIA pmax pmax
comp=Z,13nm,0.8s
PETK Petropavlovsk- 64.36 356 P **P** **06 30 19.3 +0.7**
comp=Z,5.7nm,0.8s,baz=152,slow=8.0,SNR=8.2
PETK LR LR 06 53 35.3
comp=Z,264nm,20.8s,baz=173,slow=32
PETK Petropavlovsk- 64.36 356 P **P** **06 30 19.5 +0.9**
MNSI Mandailing Nat 64.41 276 P **P** **06 30 19.3 -0.5**
comp=Z,57nm,0.7s
CN2 Changchun 64.77 331 *e*P **P** **06 30 20.5 -1.0**
CN2 PcP **PcP** **06 30 50.0 -5.0**
CN2 S **S** **06 39 00.1 -2.0**
CN2 SS **SS** **06 43 13.8 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 L L
comp=Z,300nm,22.0s
CN2 L L
comp=Z,300nm,22.0s
CN2 L L
comp=Z,500nm,20.0s
RPSI Rantau Prapat 65.48 278 P **P** **06 30 24.4 -2.3**
RPSI IAmb IAmb 06 30 28.5
comp=Z,8.6nm,0.8s
PSI Prapat 65.51 278 LR LR 06 59 44.8
comp=Z,76nm,21.8s,baz=151,slow=37
PSI Prapat 65.51 278 P **P** **06 30 24.4 -2.7**
PSI pmax pmax
comp=Z,9.0nm,0.8s
PSI Prapat 65.51 278 P **P** **06 30 27.8 +0.7**
comp=Z,5.0nm,0.9s,comp=Z,13nm,0.9s
PSI P **pP** **06 30 27.9 -0.6**
comp=Z,5.0nm,0.9s,comp=Z,13nm,0.9s
NONG Nongkai 66.14 296 P **P** **06 30 31.6 +0.8**
VNDA Vanda 66.18 180 P **P** **06 30 31.2 +1.1**
comp=Z,7.2nm,0.8s,baz=348,slow=6.7,SNR=35
VNDA LR LR 06 54 21.3
comp=Z,333nm,21.3s,baz=10,slow=31
VNDA Vanda 66.18 180 P **P** **06 30 30.8 +0.7**
VNDA pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 66.18 180 P **P** **06 30 30.8 +0.7**
VNDA IAmb IAmb 06 30 33.1
comp=Z,11nm,0.9s
ENH Enshi 66.22 310 P **P** **06 30 30.6 -0.5**
KLR Kul'dur 66.39 338 LR LR 06 54 53.2
comp=Z,109nm,20.2s,baz=176,slow=32
KLR Kul'dur 66.39 338 *ce*P **P** **06 30 32.1 +0.3**
KLR pmax pmax
comp=Z,12nm,0.9s
SBA Scott Base 66.54 179 P **P** **06 30 33.1 +0.7**
SBA pmax pmax
comp=Z,15nm,1.1s
SBA Scott Base 66.54 179 P **P** **06 30 33.1 +0.7**
SBA IAmb IAmb 06 30 36.4
comp=Z,15nm,1.1s
GYA Guiyang 66.59 305⇓ P **P** **06 30 36.1 +2.3**
GYA pmax pmax
comp=Z,2.0nm,0.8s
SLVN Son La 66.72 299 P **P** **06 30 34.6 0.0**
BJT Baijiatuau 67.20 322 P **P** **06 30 37.5 +0.3**
BJT pmax pmax
comp=Z,4.0nm,0.8s
BJT Baijiatuau 67.20 322 P **P** **06 30 37.5 +0.3**
BJI Beijing 67.21 322 P **P** **06 30 37.6 +0.4**
BJI S **S** **06 39 34.4 +2.5**
BJI SS **SS** **06 43 51.0 -0.7**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,220nm,5.7s
BJI L L
comp=Z,340nm,19.9s
BJI L L
comp=Z,110nm,15.8s
BJI L L
comp=Z,290nm,26.5s
PHIT Phitsanulok 68.27 294 P **P** **06 30 48.6 +4.2**
comp=Z,505nmcomp=Z,5.0nm,0.6s
XAN Xi'an 68.54 314 P **P** **06 30 45.9 0.0**
XAN pP pwP 06 30 53.6 -1.8
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,270nm,6.0s
XAN L L
comp=Z,190nm,16.9s
XAN L L
comp=Z,240nm,16.8s
XAN L L
comp=Z,390nm,25.0s
KMI Kunming 69.22 302⇑ P **P** **06 30 52.3 +1.8**
KMI pP pwP 06 31 00.5 -0.6
KMI S **S** **06 39 59.3 +2.4**
KMI SS **SS** **06 44 26.9 +3.1**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI pmax pmax
comp=Z,140nm,7.1s
KMI L L
comp=Z,140nm,18.2s
KMI L L
comp=Z,220nm,21.3s
KMI L L
comp=Z,410nm,29.2s
CM36 Chiang Mai Arr 69.90 295 P **P** **06 30 56.0 +1.5**
CM35 Chiang Mai Arr 69.90 295 P **P** **06 30 56.0 +1.5**
CM04 Chiang Mai Arr 69.96 294 P **P** **06 30 57.0 +2.1**
comp=Z,6.9nm,0.9s
CM09 Chiang Mai Arr 69.97 294 P **P** **06 30 58.0 +3.0**
comp=Z,7.5nm,0.9s
CM05 Chiang Mai Arr 69.99 294 P P 06 31 00.1 +4.9
comp=Z,4.0nm,0.9s
CM02 Chiang Mai Arr 70.00 294 P **P** **06 30 59.0 +3.8**
comp=Z,5.3nm,1.0s
CM31 Chiang Mai Arr 70.02 294 P **P** **06 30 55.6 +0.4**
CM31 IAmb IAmb 06 31 00.1
comp=Z,9.4nm,1.0s
CMAR Chiang Mai Arr 70.02 294 P **P** **06 30 55.8 +0.6**
comp=Z,3.5nm,0.6s,baz=118,slow=4.5,SNR=10
CMAR LR LR 07 02 02.6
comp=Z,64nm,19.9s,baz=160,slow=36
CMAR Chiang Mai Arr 70.02 294 P **P** **06 30 55.2 0.0**
CMAR Chiang Mai Arr 70.02 294 P **P** **06 30 55.2 0.0**
CM15 Chiang Mai Arr 70.03 294 P **P** **06 30 59.0 +3.7**
CM13 Chiang Mai Arr 70.03 294 P **P** **06 30 58.0 +2.7**
comp=Z,6.1nm,0.9s
CMMT Chiang Mai 70.13 295 P **P** **06 30 58.0 +2.0**
comp=Z,7.0nm,1.0s
CMMT Chiang Mai 70.13 295 P **P** **06 30 57.9 +2.0**
comp=Z,6.7nm,1.0s
CM33 Chiang Mai Arr 70.13 295 P **P** **06 30 57.0 +1.0**
CHTO Chiang Mai 70.13 295 P **P** **06 30 55.5 -0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 70.13 295 P **P** **06 30 55.5 -0.5**
CHTO Chiang Mai 70.13 295 P **P** **06 30 54.3 -1.7**
comp=Z,4.0nm,1.0s
HHC Hu-ho-hao-te 70.50 321 *e*P **P** **06 30 56.4 -1.5**
HHC S **S** **06 40 05.5 -5.7**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,200nm,4.9s
HHC L L
comp=Z,130nm,16.2s
HHC L L
comp=Z,220nm,17.9s
HHC L L
comp=Z,240nm,17.9s
CD2 Chengdu 70.86 308 *e*P **P** **06 31 01.0 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 71.38 353 P **P** **06 31 02.1 -0.6**
comp=Z,8.8nm,0.7s,baz=154,slow=5.6,SNR=4.4
MA2 LR LR 06 57 10.1
comp=Z,149nm,21.7s,baz=158,slow=32
HIA Hailar 71.44 332 P **P** **06 31 04.1 +0.7**
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 71.44 332 P **P** **06 31 04.1 +0.7**
HIA IAmb IAmb 06 31 05.3
comp=Z,13nm,0.7s
ZEA Zeya 71.69 338 *e*P **P** **06 31 05.4 +0.7**
ZEA pmax pmax
comp=Z,100nm,5.1s
ZEA pmax pmax
comp=Z,20nm,1.0s
LZH Lanzhou 73.17 313 *e*P **P** **06 31 14.3 +0.2**
LZH pP pwP 06 31 25.3 +1.6
LZH sP PcP 06 31 30.3 -0.4
LZH pmax pmax
comp=Z,13nm,1.0s
OHAK Old Harbor 77.08 23 P 06 31 37.2
baz=224
OHAK Old Harbor 77.08 23 P **P** **06 31 36.3 +0.3**
OHAK IAmb IAmb 06 31 41.1
comp=Z,14nm,0.9s
ULN Ulaanbaatar 77.13 325 *de*P **P** **06 31 37.3 +0.6**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN Ulaanbaatar 77.13 325 P **P** **06 31 37.5 +0.8**
ULN IAmb IAmb 06 31 39.1
comp=Z,15nm,0.8s
ULN Ulaanbaatar 77.13 325 P **P** **06 31 37.8 +1.1**
comp=Z,1µmcomp=Z,78nm,0.8s
SONM Songino Array 77.48 325 P **P** **06 31 39.4 +0.8**
comp=Z,7.5nm,0.7s,baz=148,slow=5.9,SNR=13
SONM LR LR 07 03 53.0
comp=Z,198nm,21.6s,baz=114,slow=34
SONM Songino Array 77.48 325 P **P** **06 31 38.8 +0.2**
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 77.48 325 P **P** **06 31 38.8 +0.2**
SONM IAmb IAmb 06 31 40.9
comp=Z,7.8nm,0.8s
GTA Gaotai 77.53 315⇓ P **P** **06 31 39.9 +0.8**
GTA pP PcP 06 31 50.5 +1.1
GTA sP pwP 06 31 54.8 +6.1
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,180nm,4.4s
GTA L L
comp=Z,140nm,18.5s
GTA L L
comp=Z,230nm,20.4s
GTA L L
comp=Z,230nm,20.4s
YAK Yakutsk 77.70 345 *e*P **P** **06 31 39.8 +0.5**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK Yakutsk 77.70 345 P **P** **06 31 39.5 +0.1**
KDAK Kodiak Island 77.75 22 P 06 31 41.0
baz=224
KDAK Kodiak Island 77.75 22 P **P** **06 31 40.3 +0.6**
KDAK pmax pmax
comp=Z,14nm,0.8s
KDAK Kodiak Island 77.75 22 P **P** **06 31 40.3 +0.6**
KDAK IAmb IAmb 06 31 42.4
comp=Z,14nm,0.8s
SHL Shillong 78.53 299 P **P** **06 31 45.1 +0.1**
SHL pmax pmax
comp=Z,19nm,1.2s
SHL Shillong 78.53 299 P **P** **06 31 45.1 +0.1**
SHL IAmb IAmb 06 31 56.1
comp=Z,19nm,1.2s
QSPA South Pole Qui 78.67 180 P **P** **06 31 45.3 +0.3**
QSPA IAmb IAmb 06 31 47.7
comp=Z,25nm,0.9s
N18K Kilae Creek 78.74 19 P 06 31 46.8
baz=221
SVW2 Sparrevohn 79.16 19 P **P** **06 31 48.5 +1.0**
SVW2 IAmb IAmb 06 31 50.5
comp=Z,18nm,0.8s
BILL Bilibino 79.19 1 *i*P **P** **06 31 47.6 +0.1**
BILL *i* 06 31 56.3
BILL *i* 06 32 03.9
BILL *i* 06 34 49.2
BILL pmax pmax
comp=Z,25nm,0.8s
BILL MLR MLR
comp=Z,89nm,19.0s
BILL Bilibino 79.19 1 P **P** **06 31 47.7 +0.1**
CNPM China Poot 79.49 22 P **P** **06 31 50.9 +1.6**
CNPM IAmb IAmb 06 31 51.8
comp=Z,16nm,0.8s
RSO Redoubt South 79.62 20 P **P** **06 31 50.9 +0.7**
BRLK Bradley Lake 79.78 22 P **P** **06 31 51.4 +0.5**
BRLK IAmb IAmb 06 31 53.9
comp=Z,9.6nm,0.7s
AIS Amsterdam Isla 79.79 233 P **P** **06 31 50.7 -0.8**
BRSE Bradley Lake S 79.82 22 P 06 31 52.7
baz=226
TTA Tatalina 80.42 18 P 06 31 55.5
baz=220
TTA Tatalina 80.42 18 P **P** **06 31 55.6 +1.2**
TTA pmax pmax
comp=Z,5.0nm,0.9s
TTA Tatalina 80.42 18 P **P** **06 31 55.5 +1.2**
SEW Seward 80.54 22 P 06 31 55.4
baz=227
SEW Seward 80.54 22 P **P** **06 31 55.6 +0.7**
ZAK Zakamensk 80.56 326 *e*P **P** **06 31 54.6 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
O22K Cooper Landing 80.70 22 P **P** **06 31 56.0 +0.2**
M22K Willow 81.44 20 P 06 32 01.9
baz=226
PWL Port Wells 81.46 22 P **P** **06 31 58.6 -1.3**
PWL IAmb IAmb 06 32 03.8
comp=Z,17nm,0.8s
PMR Palmer 81.67 21 P 06 32 02.7
baz=227
PMR Palmer 81.67 21 P **P** **06 32 02.4 +1.5**
PMR pmax pmax
comp=Z,5.0nm,0.7s
PMR Palmer 81.67 21 P **P** **06 32 02.4 +1.5**
GHO Glory Hole Cre 81.87 21 P **P** **06 32 03.4 +1.3**
GHO IAmb IAmb 06 32 06.4
comp=Z,9.5nm,0.8s
SML Sawmill 82.10 21 P 06 32 04.4
baz=228
CHUM Lake Minchumin 82.24 18 P 06 32 04.9
baz=224
SCM Sheep Creek Mo 82.47 21 P **P** **06 32 06.5 +1.3**
SCM pmax pmax
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 82.47 21 P **P** **06 32 06.5 +1.3**
SCM IAmb IAmb 06 32 09.5
comp=Z,14nm,0.8s
TRF Thorofare Moun 82.57 19 P **P** **06 32 06.4 +0.5**
TRF IAmb IAmb 06 32 08.6
comp=Z,6.8nm,0.8s
TRF Thorofare Moun 82.57 19 P 06 32 05.9
baz=226
ODAN Odare 82.77 299 *e*P **P** **06 32 08.2 +0.4**
WAT2 Susitna Watana 82.79 20 P 06 32 06.8
baz=227,SNR=5.7
BPAW Bear Paw Mtn. 82.81 18 P 06 32 06.4
baz=225
BPAW Bear Paw Mtn. 82.81 18 P **P** **06 32 07.3 +0.4**
BMRM Bremner River 82.92 23 P 06 32 08.7
baz=231
BMRM Bremner River 82.92 23 P **P** **06 32 08.0 +0.4**
BMRM IAmb IAmb 06 32 15.9
comp=Z,6.7nm,0.8s
RND Reindeer 83.01 20 P **P** **06 32 08.8 +0.8**
RND pmax pmax
comp=Z,10.0nm,0.9s
RND Reindeer 83.01 20 P **P** **06 32 08.8 +0.8**
RND IAmb IAmb 06 32 15.1
comp=Z,9.5nm,0.9s
M24K Tolsona, Glenn 83.06 21 P **P** **06 32 09.6 +1.3**
M24K Tolsona, Glenn 83.06 21 P 06 32 10.3
baz=230,SNR=5.4
MCK McKinley 83.20 19 P **P** **06 32 08.9 -0.1**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 83.20 19 P **P** **06 32 08.9 -0.1**
MCK IAmb IAmb 06 32 15.3
comp=Z,9.1nm,1.0s
MCK McKinley 83.20 19 P 06 32 09.5
baz=227
I21K Tanana 83.28 17 P 06 32 10.8
baz=224
N25K Chitina, Valde 83.32 22 P **P** **06 32 10.5 +0.8**
N25K IAmb IAmb 06 32 12.3
comp=Z,10nm,0.9s
N25K Chitina, Valde 83.32 22 P 06 32 10.9
baz=231,SNR=5.8
BWN Browne 83.33 19 P **P** **06 32 10.5 +0.9**
BWN IAmb IAmb 06 32 13.8
comp=Z,12nm,0.6s
CRQM Cirque 83.35 23 P **P** **06 32 11.0 +1.0**
CRQM IAmb IAmb 06 32 13.1
comp=Z,14nm,0.9s
IMAR Indian Mountai 83.36 16 P **P** **06 32 10.8 +1.1**
CRQE Cirque 83.37 23 P 06 32 11.4
baz=233
H21K Melozitna Rive 83.39 17 P 06 32 11.6
baz=223
RAMN Ramite 83.47 299 *e*P **P** **06 32 11.2 -0.2**
MESA MESA 83.47 24 P 06 32 12.6
baz=234
MESA MESA 83.47 24 P **P** **06 32 12.8 +2.1**
GLB Gilahina Butte 83.51 23 P **P** **06 32 11.2 +0.6**
GLB IAmb IAmb 06 32 13.1
comp=Z,8.5nm,1.0s
VRDI Verde Repeater 83.52 23 P **P** **06 32 10.6 -0.3**
VRDI IAmb IAmb 06 32 16.0
comp=Z,7.9nm,1.1s
MLY Manley 83.54 18 P 06 32 11.7
baz=225,SNR=13
MLY Manley 83.54 18 P **P** **06 32 11.3 +0.6**
MLY IAmb IAmb 06 32 14.2
comp=Z,5.7nm,0.6s
MAW Mawson 83.54 202 P **P** **06 32 11.5 +0.8**
comp=Z,6.0nm,0.8s,baz=90,slow=5.7,SNR=12
MAW LR LR 07 07 21.6
comp=Z,142nm,18.2s,baz=64,slow=34
MAW Mawson 83.54 202 P **P** **06 32 11.9 +1.2**
baz=84,SNR=7.0
MAW Mawson 83.54 202 P **P** **06 32 11.9 +1.2**
HARP HAARP 83.62 22 P 06 32 12.6
baz=231,SNR=9.3
NEA2 Nenana 83.75 19 P **P** **06 32 11.7 -0.1**
NEA2 IAmb IAmb 06 32 14.1
comp=Z,6.7nm,0.9s
NEA2 Nenana 83.75 19 P 06 32 11.6
baz=227,SNR=11
MCARA McCarthy VSAT 83.78 23 P **P** **06 32 12.8 +0.9**
MCARA IAmb IAmb 06 32 27.3
comp=Z,7.2nm,0.9s
PAX Paxson 83.87 21 P **P** **06 32 13.2 +0.7**
PAX pmax pmax
comp=Z,3.0nm,1.0s
PAX Paxson 83.87 21 P **P** **06 32 13.2 +0.7**
GRNC Granite Creek 83.88 24 P **P** **06 32 11.9 -0.9**
GRNC IAmb IAmb 06 32 18.2
comp=Z,11nm,0.8s
TABL Table Mountain 83.95 24 P **P** **06 32 14.0 +0.9**
WRH Wood River Hil 83.98 19 P **P** **06 32 12.5 -0.3**
WRH IAmb IAmb 06 32 15.7
comp=Z,12nm,0.7s
I23K Minto, Yukon-K 84.04 18 P 06 32 14.0
baz=226,SNR=10
I23K Minto, Yukon-K 84.04 18 P **P** **06 32 13.6 +0.4**
I23K IAmb IAmb 06 32 15.6
comp=Z,6.9nm,0.8s

BARN	Barnard Glacie	84.11	24	P		P	06 32 14.7	+0.8
PCA	Pinnacle	84.12	25	P		P	06 32 15.0	+1.2
PINM	Pinnacle	84.12	25	P			06 32 15.5	
	baz=235							
CTG	Chitna Glacier	84.18	24	P			06 32 15.5	
	baz=234,SNR=8.6							
CTGM	Chitina Glacie	84.19	24	P		P	06 32 15.3	+1.1
CCB	Clear Creek Bu	84.19	19	P		P	06 32 13.7	-0.2
CCB				IAmb		IAmb	06 32 16.0	
	comp=Z,11nm,0.8s							
PALK	Pallekele	84.19	279	LR		LR	07 14 25.8	
	comp=Z,64nm,18.4s,baz=227,slow=39							
MDM	Murphy Dome	84.26	19	P		P	06 32 13.9	-0.5
MDM				IAmb		IAmb	06 32 16.6	
	comp=Z,15nm,0.8s							
HDA	Harding Lake	84.31	19	P			06 32 15.0	
	baz=229,SNR=30							
HDA				P			06 32 15.0	
	baz=229,SNR=30							
HDA	Harding Lake	84.31	19	P		P	06 32 15.0	+0.4
TCOL	CIGO, UAF Yank	84.32	19	P			06 32 15.3	
	baz=228,SNR=11							
TCOL	CIGO, UAF Yank	84.32	19	P		P	06 32 14.7	+0.1
COLA	College	84.33	19	*i* P		P	06 32 14.9	+0.3
COLA				pmax		pmax		
	comp=Z,29nm,0.8s							
COLA	College	84.33	19	P		P	06 32 14.6	0.0
GUN	Gumba	84.35	300	*e*P		P	06 32 16.5	+0.5
	comp=Z,51nm,0.8s							
H23K	Yukon River	84.46	18	P			06 32 16.1	
	baz=226,SNR=23							
MENT	Mentasta	84.47	22	P		P	06 32 16.0	+0.5
MENT				IAmb		IAmb	06 32 20.7	
	comp=Z,6.7nm,0.7s							
IL31		84.57	19	P		P	06 32 15.1	-0.7
ILAR	Eielson Array	84.57	19	P		P	06 32 15.8	-0.1
	comp=Z,2.8nm,0.6s,baz=236,slow=8.1,SNR=27							
ILAR				PKKPbc		PKKPbc	06 50 27.1	-2.6
	comp=Z,0.5nm,0.7s,baz=9.6,slow=2.6,SNR=7.5							
ILAR				LR		LR	07 07 36.5	
	comp=Z,169nm,18.5s,baz=246,slow=34							
POKR	Poker Plat Res	84.62	19	P			06 32 16.8	
	baz=228							
POKR	Poker Plat Res	84.62	19	P		P	06 32 16.3	+0.2
POKR				IAmb		IAmb	06 32 17.9	
	comp=Z,9.4nm,0.8s							
PKI	Pulchoki	84.66	299	*e*P		P	06 32 17.1	-0.5
	comp=Z,32nm,0.7s							
PKIN	Phulchoki	84.67	299	*e*P		P	06 32 17.3	-0.3
	comp=Z,36nm,0.7s							
DOT	Dot Lake	84.79	21	P		P	06 32 18.0	+0.9
DOT				IAmb		IAmb	06 32 19.6	
	comp=Z,5.8nm,0.8s							
KKN	Kakani	84.83	300	*e*P		P	06 32 18.1	-0.2
DMN	Daman	84.93	299	*e*P		P	06 32 18.7	-0.2
	comp=Z,68nm,0.8s							
H24K	Noodor Dome	84.97	18	P			06 32 17.8	
	baz=228							
SCRK	Sand Creek	85.03	21	P		P	06 32 18.9	+0.5
SCRK				IAmb		IAmb	06 32 21.0	
	comp=Z,8.3nm,0.9s							
SCRK	Sand Creek	85.03	21	P			06 32 19.4	
	baz=232,SNR=12							
L27K	Beaver Creek,	85.23	22	P			06 32 20.7	
	baz=234,SNR=21							
L27K	Beaver Creek,	85.24	22	P		P	06 32 19.8	+0.5
L27K				IAmb		IAmb	06 32 22.2	
	comp=Z,9.5nm,0.8s							
COLD	Coldfoot	85.25	16	P			06 32 21.1	
	baz=226,SNR=6.2							
COLD	Coldfoot	85.25	16	P		P	06 32 21.0	+1.8
BCAR	Beaver Creek A	85.25	22	P		P	06 32 21.0	+1.6
O02D	Mt. Diablo Mer	85.27	48	P			06 32 21.7	
	baz=251							
GKN	Gorkha	85.43	300	*e*P		P	06 32 21.3	0.0
HYT	Haines Junctio	85.66	25	P		P	06 32 23.1	+1.5
K27K	Chicken	85.72	21	P			06 32 23.6	
	baz=233,SNR=13							
K27K	Chicken	85.72	21	P		P	06 32 23.3	+1.7
K27K				IAmb		IAmb	06 32 26.4	
	comp=Z,10nm,0.8s							
WRAK	Wrangell Islan	85.79	30	P			06 32 24.0	
	baz=242							
PKM	Mcpherson Peak	85.90	53	P			06 32 25.6	
	baz=253							
TIXI	Tiksi	85.92	350	*ce*P		P	06 32 21.7	-0.8
TIXI	Tiksi	85.92	350	P		P	06 32 22.5	0.0
O03E	Paynes Creek	86.02	48	P			06 32 26.3	
	baz=252							
AFDM	Forest Hills D	86.22	49	P		P	06 32 24.8	0.0
AFDM				IAmb		IAmb	06 32 30.9	
	comp=Z,13nm,1.4s							
CMB	Columbia Colle	86.38	50	P		P	06 32 26.1	+0.5
CMB				pmax		pmax		
	comp=Z,6.0nm,1.2s							
CMB	Columbia Colle	86.38	50	P		P	06 32 26.1	+0.5
TOLK	Toolik Lake Re	86.41	16	P			06 32 25.8	
	baz=226							
TOLK	Toolik Lake Re	86.41	16	P		P	06 32 25.9	+0.9
EGAK	Eagle	86.49	21	P			06 32 26.9	
	baz=234,SNR=23							
EGAK	Eagle	86.49	21	P		P	06 32 26.6	+1.1
EGAK				IAmb		IAmb	06 32 31.7	
	comp=Z,17nm,0.9s							
DAWY	Dawson	86.71	22	P		P	06 32 28.4	+1.8
J04D	Umpqua Nationa	86.74	45	P			06 32 29.4	
	baz=251							
BMAR	Burnt Mountain	87.01	18	P		P	06 32 30.3	+2.4
MWC	Mount Wilson	87.11	54	IAmb		IAmb	06 32 35.8	
	comp=Z,11nm,1.1s							
MDPB	Devils Postpil	87.25	51	P		P	06 32 32.9	+2.8
MDPB				IAmb		IAmb	06 32 49.9	
	comp=Z,6.0nm,1.0s							
EDW2	Edwards Air Fo	87.34	54	P			06 32 32.4	
	baz=254							
BFSC	Mount Baldy Ra	87.43	55	P			06 32 32.2	
	baz=254							
D03D	Eldon	87.50	41	P			06 32 33.2	
	baz=250							
WMQ	Urumqi	87.59	315	*e*P		P	06 32 32.8	+1.4
WMQ				L		L		
	comp=Z,550nm,21.7s							
WMQ				L		L		
	comp=Z,570nm,20.1s							
WMQ				L		L		
	comp=Z,570nm,23.3s							
CWC	Cottonwood Cre	87.69	52	P			06 32 33.8	
	baz=254							
MPMC	Manual Prospec	88.05	53	P			06 32 36.2	
	baz=254							
NVAR	Mina Array Bea	88.06	50	P		P	06 32 35.2	+1.2
	comp=Z,1.6nm,0.8s,baz=235,slow=7.2,SNR=14							
NVAR				PKKPbc		PKKPbc	06 50 21.1	+0.7
	comp=Z,0.7nm,0.7s,baz=96,slow=4.4,SNR=6.6							
NVAR				LR		LR	07 07 39.1	
	comp=Z,96nm,18.0s,baz=272,slow=33							
NVAR	Mina Array Bea	88.06	50	P		P	06 32 34.8	+0.9
MONP2	Monument Peak	88.08	56	P			06 32 36.2	
	baz=255							
NV11	Mina Array Sit	88.18	50	P		P	06 32 36.4	+2.0
TPFO	Pinon Flats	88.24	55	P			06 32 36.5	
	baz=255							
FURC	Furnace Creek,	88.64	53	P			06 32 39.2	
	baz=255							
BELC	Belle Mtn. Jos	88.70	55	P			06 32 38.3	
	baz=255							
I07A	Izee	88.80	45	P		P	06 32 39.4	+2.2
I07A				IAmb		IAmb	06 32 40.2	
	comp=Z,4.9nm,0.9s							
EPYK	Eagle Plains	88.91	20	P			06 32 38.2	
	baz=238							
EPYK	Eagle Plains	88.91	20	P		P	06 32 38.0	+0.9
EPYK				IAmb		IAmb	06 32 40.2	
	comp=Z,8.4nm,0.8s							
GMRC	Granite Mounta	89.17	54	P			06 32 40.3	
	baz=256							
TPNV	Topopah Spring	89.25	52	P			06 32 40.9	
	baz=255							
J08A	Circle Bar Ran	89.31	46	P		P	06 32 41.9	+2.3
IRM	Iron Mountain	89.43	55	P			06 32 42.3	
	baz=256							
SHPR	Sheep Range	89.98	53	P		P	06 32 44.6	+1.6
R11A	Troy Canyon, C	90.11	51	P		P	06 32 44.9	+1.3
R11A	Troy Canyon, C	90.11	51	P			06 32 45.2	
	baz=256							
PDMCI	Parker Dam,Lak	90.27	55	P			06 32 46.9	
	baz=256							
PRN	Pahroc Range	90.29	52	P		P	06 32 44.1	-0.2
PRN				IAmb		IAmb	06 32 57.6	
	comp=Z,7.2nm,1.0s							
BMO	Blue Mountains	90.52	44	P		P	06 32 45.3	+0.1
BMO				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BMO	Blue Mountains	90.52	44	P		P	06 32 45.3	+0.1
ZSN	Zaisan	90.55	318	*e*P		P	06 32 44.2	-1.0
	baz=318							
ZSN	Zaisan	90.55	318	*e*P		P	06 32 44.2	-1.0
F10A	Beach Ranch, E	90.87	43	P		P	06 32 47.6	+0.8
F10A				IAmb		IAmb	06 32 49.5	
	comp=Z,5.8nm,0.9s							
ELK	Elko	90.95	49	P		P	06 32 47.5	0.0
ELK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ELK	Elko	90.95	49	P		P	06 32 47.5	0.0
MFID	Camas Ranch	91.18	46	P		P	06 32 47.6	-0.7
MFID				IAmb		IAmb	06 32 54.9	
	comp=Z,6.3nm,1.2s							
SPR3	Spring Creek 3	91.22	51	P		P	06 32 49.9	+1.1
PSUT	Pine Spring	91.47	51	P		P	06 32 50.4	+0.5
MK31	Makanchi Array	92.08	317	P		P	06 32 51.9	-0.4
MK31				pmax		pmax		
	comp=Z,6.0nm,0.8s							
MK31	Makanchi Array	92.08	317	P		P	06 32 51.9	-0.4
MK31				IAmb		IAmb	06 32 53.7	
	comp=Z,5.8nm,0.8s							
MKAR	Makanchi Array	92.08	317	P		P	06 32 52.2	-0.1
	comp=Z,8.7nm,0.7s,baz=100,slow=6.0,SNR=90							
MKAR				PKKPbc		PKKPbc	06 50 10.6	+0.2
	comp=Z,0.2nm,0.6s,baz=287,slow=4.6,SNR=3.7							
MKAR				LR		LR	07 14 22.3	
	comp=Z,125nm,22.0s,baz=89,slow=36							
MKAR	Makanchi Array	92.08	317	P		P	06 32 52.1	-0.2
MKAR	Makanchi Array	92.08	317	P		P	06 32 52.1	-0.2
HLID	Hailey	92.22	46	P			06 32 54.6	
	baz=256							
HLID	Hailey	92.22	46	P		P	06 32 52.7	-0.5
MAKZ	Makanchi	92.29	317	P		P	06 32 52.8	-0.5
MAKZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MAKZ	Makanchi	92.29	317	P		P	06 32 52.8	-0.5
MAKZ				IAmb		IAmb	06 32 55.1	
	comp=Z,5.9nm,0.8s							
ZAA0	Zalesovo Array	92.38	325	P		P	06 32 52.4	-1.0
ZALV	Zalesovo Beam	92.38	325	P		P	06 32 52.5	-0.9
	comp=Z,2.2nm,0.7s,baz=112,slow=4.5,SNR=8.8							
ZALV				LR		LR	07 12 28.4	
	comp=Z,220nm,21.9s,baz=90,slow=34							
ZALV	Zalesovo Beam	92.38	325	P		P	06 32 53.0	-0.5
SHLS	Shalkode	93.19	313	*e*P		P	06 32 54.8	-2.9
	baz=313							
SHLS	Shalkode	93.19	313	*e*P		P	06 32 54.8	-2.9
UZB	Uzynbulak	93.51	313	*e*P		P	06 32 57.0	-2.1
	baz=313							
UZB	Uzynbulak	93.51	313	*e*P		P	06 32 57.0	-2.1
KPKS	Kokpek	93.81	313	*e*P		P	06 32 59.5	-1.0
	baz=313							
KPKS	Kokpek	93.81	313	*e*P		P	06 32 59.5	-1.0
SATY	Saty	93.93	313	*e*P		P	06 33 01.5	+0.4
	baz=313							
SATY	Saty	93.93	313	*e*P		P	06 33 01.5	+0.4
SEM	Semipalatinsk	94.23	320	*e*P		P	06 33 00.4	-2.0
	baz=320							
SEM	Semipalatinsk	94.23	320	*e*P		P	06 33 00.4	-2.0
C36M	Paulatuk	94.52	20	P			06 33 03.3	
	baz=250							
C36M	Paulatuk	94.52	20	P		P	06 33 02.9	0.0
C36M				IAmb		IAmb	06 33 04.4	
	comp=Z,8.5nm,0.8s							
HRY	Holter Researc	94.68	43	P		P	06 33 00.5	-3.9
PDAR	Pinedale Array	95.53	48	P		P	06 33 09.3	+0.8
	comp=Z,0.3nm,0.7s,baz=261,slow=1.7,SNR=2.7							
PDAR				PKKPbc		PKKPbc	06 49 59.5	-1.9
	comp=Z,0.4nm,0.7s,baz=69,slow=4.9,SNR=3.6							
PDAR				LR		LR	07 11 29.6	
	comp=Z,61nm,18.8s,baz=286,slow=32							
NRIK	Noril'sk	95.55	340	*ce*P		P	06 33 07.4	-0.3
NRIK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KUU	Kurty	95.57	314	*e*P		P	06 33 07.1	-1.3
	baz=314							
KUU	Kurty	95.57	314	*e*P		P	06 33 07.1	-1.3
YKA	Yellowknife Ar	96.34	28	P		P	06 33 11.0	-0.4
	comp=Z,3.0nm,0.8s,baz=252,slow=4.5,SNR=13							
YKA				LR		LR	07 09 43.7	
	comp=Z,137nm,21.9s,baz=0.0,slow=31							
SNAA	Sanae	96.66	184	P		P	06 33 12.6	-0.4
SNAA	Sanae	96.66	184	*ce*P		P	06 33 13.1	+0.1
SNAA				pmax		pmax		
	comp=Z,9.0nm,1.7s							
SNAA	Sanae	96.66	184	P		P	06 33 13.6	+0.6
SNAA				IAmb		IAmb	06 33 14.9	
	comp=Z,3.2nm,0.8s							
VNA3	Neumayer Olymp	97.48	182	P		Pdif	06 33 16.7	+0.1
VNA2	Neumayer--Watz	97.69	183	P		Pdif	06 33 18.2	+0.7
	baz=176,slow=3.7							
VNA1	Neumayer--Stat	98.00	183	P		P	06 33 18.3	-0.6
TXAR	Lajitas Array	98.10	62	PKKPbc		PKKPbc	06 49 53.9	+0.2
	comp=Z,0.5nm,0.9s,baz=64,slow=2.9,SNR=3.9							
TXAR				LR		LR	07 11 14.5	
	comp=Z,84nm,19.6s,baz=0.0,slow=32							
ARCES	ARCESS Array B	115.99	345	PKP		PKiKP	06 38 25.0	-0.4
	comp=Z,3.2nm,0.8s,baz=336,slow=2.7,SNR=6.5							
ARCES	ARCESS Array B	115.99	345	PKIKP		PKiKP	06 38 25.0	-0.4
ARCES	ARCESS Array B	115.99	345	PKPdf		PKPdf	06 38 25.4	0.0
KIV	Kislovodsk	119.70	314	*i* PKIKP		PKiKP	06 38 34.5	+1.0
KIV				pmax		pmax		
	comp=Z,15nm,1.0s							
KIV				MLR		MLR		
	comp=Z,294nm,22.0s							
FINES	FINESS Array B	121.13	338	PKP		PKPdf	06 38 35.4	-0.1
	comp=Z,1.3nm,0.8s,baz=174,slow=1.9,SNR=6.0							
FINES	FINESS Array B	121.13	338	PKPdf		PKPdf	06 38 35.3	-0.2
TOLI	Tolima	121.66	92	P		PKPdf	06 38 36.9	+1.5
RREF	El Rincon	121.69	91	*e*P		PKPdf	06 38 38.7	-0.1
GUY2C	Guyana, Caldas	121.73	91	*e*P		PKPdf	06 38 38.4	-0.3
HELC	Santa Helena	121.73	90	*e*P		PKPdf	06 38 38.4	-0.1
PRAC	Prado	121.93	93	*e*P		PKPdf	06 38 37.2	-1.4
LPAZ	La Paz	122.22	117	PKP		PKiKP	06 38 40.6	+0.7
	comp=Z,2.6nm,0.8s,baz=217,slow=3.7,SNR=12							
LPAZ	La Paz	122.22	117	*e*P		PKPdf	06 38 36.0	-3.7
ROSC	El Rosal	122.69	92	PKP		PKiKP	06 38 41.0	+0.4
	comp=Z,5.1nm,0.7s,baz=10,slow=9.2,SNR=5.5							
ROSC	El Rosal	122.69	92	PKIKP		PKiKP	06 38 41.0	+0.4
SPBC	San Pablo de B	123.07	91	*e*P		PKPdf	06 38 39.9	-0.8
BOSA	Boshof	123.23	225	PKP		PKiKP	06 38 40.9	-0.1
	comp=Z,7.2nm,0.7s,baz=154,slow=1.7,SNR=20							
RUSC	La Rusia	124.08	91	*e*P		PKPdf	06 38 41.5	-1.7
OCAC	Ocana	124.21	88	*e*P		PKPdf	06 38 42.5	-0.5
CPUP	Villa Florida	125.60	134	PKP		PKiKP	06 38 45.9	+0.3
	comp=Z,5.2nm,0.8s,baz=253,slow=1.4,SNR=17							
AKASG	Malin Array Be	125.75	326	PKP		PKPdf	06 38 44.2	-0.4
	comp=Z,2.1nm,0.7s,baz=50,slow=2.1,SNR=6.4							
AKASG	Malin Array Be	125.75	326	PKIKP		PKPdf	06 38 44.0	-0.7
AKASG	Malin Array Be	125.75	326	PKPdf		PKPdf	06 38 44.0	-0.7
NOA	NORSAR Array B	126.32	344	PKP		PKiKP	06 38 45.8	-0.2
	comp=Z,0.8nm,0.7s,baz=32,slow=1.9,SNR=5.0							
SDV	Santo Domingo	126.93	87	*e*P		PKPdf	06 38 47.8	-0.4
KOLS	Kolonicke sedl	130.50	327	*e*PKIKP		PKiKP	06 38 55.7	+1.0
KOLS	Kolonicke sedl	130.50	327	*e*PKP		PKiKP	06 38 55.7	+1.0
CLL	Collm	133.36	335	*e*PKPdf		PKiKP	06 39 01.0	+0.7
	comp=Z,2.0nm,0.8s							
CLL				*e*SS		SS	06 59 06.0	-3.8
CLL				*e*SSS		SSS	07 04 18.0	
CLL	Collm	133.36	335	*e*PKIKP		PKiKP	06 39 01.0	+0.7
CLL				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GERES	GERESS Array B	134.85	332	PKP		PKiKP	06 39 03.0	-0.6
	comp=Z,1.1nm,0.7s,baz=101,slow=2.0,SNR=9.5							
GERES	GERESS Array B	134.85	332	PKIKP		PKPdf	06 39 01.9	-0.3
GERES	GERESS Array B	134.85	332	PKPdf		PKPdf	06 39 01.9	-0.3
BDFB	Brasilia	139.04	130	PKhKP		PKPpre	06 39 08.0	
	comp=Z,4.9nm,0.8s,baz=237,slow=2.3,SNR=4.5							
BDFB				PKP		PKiKP	06 39 12.2	-0.9
	comp=Z,4.9nm,0.8s,baz=80,slow=1.8,SNR=6.6							
KEST	Kesra	146.13	320	PKPbc		PKPab	06 39 24.6	+0.2
	comp=Z,8.0nm,0.9s,baz=328,slow=3.3,SNR=5.4							
POLO	Lamas de Olo	149.06	347	*e*PKPdf		PKiKP	06 39 32.6	-0.4
MVO	Moncorvo	149.09	346	*e*PKPdf		PKPbc	06 39 32.0	+0.3
PVRL	Vila Real	149.14	347	*e*PKPdf		PKiKP	06 39 32.9	-0.2
ESDC	Sonseca Array	149.59	340	PKPbc		PKPbc	06 39 33.0	0.0
	comp=Z,2.1nm,0.8s,baz=16,slow=2.9,SNR=9.0							
PVIS	Viseu	149.71	347	*e*PKPdf		PKiKP	06 39 34.4	+0.1
MTE	Manteigas	149.93	346	*e*PKPdf		PKiKP	06 39 35.1	+0.4
PCBR	Castelo Branco	150.45	345	*e*PKPdf		PKiKP	06 39 36.3	+0.6
PCAS	Casmilo, Conde	150.48	347	*e*PKPdf		PKiKP	06 39 35.7	-0.1
PMRV	Marv??o	150.81	345	*e*PKPdf		PKiKP	06 39 36.5	0.0
PSBE	So Bento	151.06	347	*e*PKPdf		PKiKP	06 39 37.5	+0.5
PMTG	Montargil	151.36	346	*e*PKPdf		PKiKP	06 39 37.9	+0.3
PESTR	Estremoz	151.40	345	*e*PKPdf		PKiKP	06 39 38.1	+0.4
EVO	Evora	151.82	345	*e*PKPdf		PKiKP	06 39 39.1	+0.5
PBAR	Barrancos	151.90	344	*e*PKPdf		PKiKP	06 39 39.1	+0.3
PBEJ	Beja	152.26	345	*e*PKPdf		PKiKP	06 39 39.4	-0.1
PNCL	Nicolau / Gran	152.34	346	*e*PKPdf		PKiKP	06 39 39.9	+0.2
PCVE	Castro Verde	152.68	345	*e*PKPdf		PKiKP	06 39 35.6	+2.5
TORD	Torodi Ar. Bea	161.91	278	PKP		PKPdf	06 39 45.7	+0.4
	comp=Z,2.3nm,0.9s,baz=15,slow=1.9,SNR=6.8							
TORD				PKPab		PKPab	06 40 31.9	+0.6
	comp=Z,3.0nm,0.8s,baz=87,slow=5.6,SNR=8.6							
TORD	Torodi Ar. Bea	161.91	278	PKPdf		PKPdf	06 39 46.3	+1.0
TORD						pPKPab	06 40 33.1	0.0

IDC 14 06:24:11.6±2.8, 25.50S×179.13E, h455km±33km, mb2.9/2, mb1 3.2/4, mb1mx2.9/26, mbtmp4.0/4, Error ellipse: s-maj=47.8km s-min=27.9km az=97.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	7.79	352	P	P	06 26 05.4	+0.4
	1.6nm,0.3s,baz=218,slow=22,SNR=6.1						
URZ	Urewera	12.84	187	P	P	06 26 58.9	-0.4
	0.4nm,0.3s,baz=307,slow=20,SNR=1.5						
URZ				S	S	06 29 16.9	-0.8
	0.2nm,0.3s,baz=298,slow=23,SNR=2.2						
ASAR	Alice Springs	41.02	263	P	P	06 31 14.2	+0.3
	0.4nm,0.4s,baz=90,slow=7.0,SNR=12						
WRA	Warramunga Arr	41.53	268	P	P	06 31 17.6	-0.6
	0.8nm,0.5s,baz=100,slow=7.4,SNR=17						
BRTR	Keskin Array B	147.87	305	PKPbc	PKPbc	06 43 04.3	-0.6
	0.4nm,0.7s,baz=95,slow=3.2,SNR=2.3						

IDC 14 06:44:17.6±2.4, 4.62S×152.27E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/40, mbtmp3.4/4, Error ellipse: s-maj=139.1km s-min=31.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.95	227	Sn	Sn	06 47 21.3	+0.6
	2.7nm,0.3s,baz=318,slow=20,SNR=2.1						
WRA	Warramunga Arr	23.17	227	P	P	06 49 26.2	+0.2
	0.1nm,0.5s,baz=52,slow=9.8,SNR=1.2						
ASAR	Alice Springs	25.93	221	P	P	06 49 51.7	-0.1
	0.3nm,0.6s,baz=59,slow=9.0,SNR=2.0						
FITZ	Fitzroy Crossi	29.29	241	P	P	06 50 22.0	+0.1
	2.0nm,1.0s,baz=80,slow=11,SNR=2.1						
ILAR	Eielson Array	82.19	22	P	P	06 56 40.2	-0.1
	0.3nm,0.9s,baz=251,slow=5.6,SNR=2.1						

ISN 14 06:46:17.7±0.4, 34.25N×45.48E, h6km±6km, ML2.9
TEH 14 06:46:19.0, 34.36N×45.56E, h13km, ML3.0
ISC 14 06:46:18.6±0.9, 34.24N±0.04×45.53E±0.04, h10km, n17, σ1°03/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	Dehrash	0.85	57	*e*Pg	Pg	06 46 33.7	-1.2
IDHR				*e*Sg	Sg	06 46 44.9	-1.1
IDHR				*e*		06 46 48.9	
	comp=Z,12μm,0.5s						
IGHG	Ghaleghazi	0.87	84	*e*Pg	Pb	06 46 35.2	-0.7
IGHG				*e*		06 46 50.7	
	comp=Z,8μm,0.4s						
IBDR	Badra	1.17	163	*e*Pg	Pn	06 46 40.6	-0.4
IBDR				*e*Sg	Sb	06 46 57.3	+1.1
IBDR				AML	AML	06 47 04.7	
	comp=E,193nm,0.6s						
IBDR				AML	AML	06 47 13.0	
	comp=N,104nm,0.3s						
KCHF	Cheshme Sefid,	1.25	88	*e*Pg	Pg	06 46 42.2	-0.5
KCHF				*e*		06 47 03.4	
	comp=Z,7μm,0.4s						
KER	Kermanshah	1.34	83	*e*Pg	Pg	06 46 44.2	0.0
BHD	Baghdad	1.36	225	*e*Pg	Pn	06 46 43.0	-0.6
BHD				*e*Sg	Sn	06 47 02.0	+0.4
ILIN	Lien	1.36	60	*e*Pg	Pn	06 46 43.4	-0.5
IKRK	Kirkuk	1.52	320	*e*Pn	Pb	06 46 47.0	+0.2
IKRK				*e*Sn	Sg	06 47 08.0	+0.6
IKRK				AML	AML	06 47 10.9	
	comp=E,483nm,0.2s						
IKRK				AML	AML	06 47 11.2	
	comp=N,383nm,0.3s						
IBZA	Bozab	1.94	83	*e*Pn	Pb	06 46 53.4	-0.8
IKFM	Kafar-mosalman	2.06	110	*e*Pn	Pb	06 46 55.2	-0.8
IKFM				*e*		06 47 30.5	
	comp=Z,2μm,0.6s						
IDOB	Doab	2.25	101	*e*Pn	Pn	06 46 57.5	+1.5
IALM	Almabo

AKASG **Malin Array Be** **77.89** **319** P **P** **06 58 57.0** **-0.9**
0.1nm,0.2s,baz=67,slow=5.1,SNR=2.8

*NNC **14** 07:02:15.1±4.7,36.69N×70.60E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=37.8km s-min=27.4km az=168.0*
ISC 14 07:02:10.3±1.5,36.11N±0.09×70.6E±0.1,h100km,n6, σ2s00/11,4C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.60**	**129**	*eP*	**Pn**	**07 03 32.0**	**+0.9**
THN				*eS*	**Sn**	**07 04 31.5**	**-2.5**
KK31	**Karatay Array**	**6.99**	**359**	P	**Pn**	**07 03 52.3**	**+2.4**
	1.1nm,0.5s,baz=192,slow=17,SNR=37						
KK31				⇓S	**Sn**	**07 05 07.1**	**-0.6**
	1.0nm,0.3s,baz=186,slow=20,SNR=5.1						
AAK	**Ala-Archa**	**7.18**	**24**	⇓P	**Pn**	**07 03 54.6**	**+1.9**
	3.9nm,0.5s						
AAK				⇓S	**Sn**	**07 05 12.6**	**-0.1**
	5.6nm,0.6s						
TKM2	**Tokmak 2**	**7.82**	**28**	⇓P	**Pn**	**07 04 03.4**	**+2.0**
	2.8nm,0.6s						
TKM2				⇑S	**Sn**	**07 05 26.3**	**-2.0**
	2.2nm,0.9s						
AB31	**Akbulak array**	**15.28**	**333**	⇑P	**P**	**07 05 42.5**	**-0.3**
	0.4nm,0.3s,baz=160,slow=11,SNR=28						
AB31				⇑S	**Sn**	**07 08 26.9**	**-2.0**
	1.8nm,0.5s,baz=154,slow=24,SNR=5.1						
AKTO	**Aktyubinsk**	**16.97**	**331**	⇑P	P	07 06 07.8	+6.3
	4.7nm,1.3s						
AKTO				⇓S	**S**	**07 09 11.6**	**-1.6**
	3.9nm,1.1s						

*IDC **14** 07:16:35.7±1.4, 11.25S×163.19E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/41, mbtmp3.9/8, ML3.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/38, Error ellipse: s-maj=35.6km s-min=29.0km az=117.0*
ISC 14 07:16:40.9±1.2,11.4S±0.1×163.3E±0.2,h35km,n15, σ0s98/8,mb3.9/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.79**	**300**	LR	LR	07 19 08.6	
	comp=Z,266nm,18.2s,baz=122,slow=42						
DZM	**Mont Dzumac**	**11.08**	**165**	Pn	**Pn**	**07 19 16.1**	**-0.9**
	0.1nm,0.3s,baz=90,slow=21,SNR=2.2						
DZM				LR	LR	07 22 44.9	
	comp=Z,294nm,18.2s,baz=37,slow=33						
STKA	**Stephens Creek**	**28.59**	**221**	P	**P**	**07 22 34.6**	**+0.8**
	1.7nm,0.7s,baz=29,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**29.11**	**249**	P	**P**	**07 22 37.6**	**-1.0**
	0.2nm,0.3s,baz=80,slow=8.8,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**29.85**	**7**	T	T	07 54 19.2	
	baz=188,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**29.85**	**7**	T	T	07 54 20.1	
	baz=188,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**29.86**	**7**	T	T	07 54 20.6	
	baz=188,slow=76,SNR=8.3						
ASAR	**Alice Springs**	**30.50**	**242**	P	**P**	**07 22 50.1**	**-0.8**
	2.7nm,0.8s,baz=70,slow=9.8,SNR=23						
H11N1	**WAKE ISLAND Hy**	**31.08**	**7**	T	T	07 55 54.2	
	baz=188,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**31.08**	**7**	T	T	07 55 53.0	
	baz=188,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**31.09**	**7**	T	T	07 55 51.3	
	baz=188,slow=76,SNR=5.7						
FITZ	**Fitzroy Crossi**	**36.96**	**255**	P	**P**	**07 23 46.9**	**-0.2**
	1.3nm,0.7s,baz=95,slow=11,SNR=2.1						
VNDA	**Vanda**	**66.16**	**180**	P	**P**	**07 27 25.7**	**+1.3**
	1.2nm,1.0s,baz=335,slow=8.5,SNR=3.9						
ILAR	**Eielson Array**	**84.59**	**19**	P	**P**	**07 29 10.0**	**-0.3**
	0.2nm,0.6s,baz=242,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**92.09**	**317**	P	**P**	**07 29 46.6**	**0.0**
	0.5nm,0.7s,baz=104,slow=5.1,SNR=4.6						

*IDC **14** 07:18:34.6±1.7, 11.34S×163.28E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/42, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=46.9km s-min=31.2km az=130.0*
ISC 14 07:18:39.8±1.2,11.4S±0.2×163.3E±0.2,h35km,n12, σ0s45/6,mb3.9/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.01**	**165**	Pn	**Pn**	**07 21 15.0**	**+0.1**
	0.2nm,0.3s,baz=20,slow=4.6,SNR=1.6						
WRA	**Warramunga Arr**	**29.09**	**249**	P	**P**	**07 24 37.7**	**+0.3**
	0.7nm,0.9s,baz=80,slow=8.9,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**29.91**	**7**	T	T	07 56 19.1	
	baz=188						
H11S3	**WAKE ISLAND Hy**	**29.92**	**6**	T	T	07 56 17.6	
	baz=188						
H11S1	**WAKE ISLAND Hy**	**29.93**	**6**	T	T	07 56 20.3	
	baz=188						
ASAR	**Alice Springs**	**30.48**	**243**	P	**P**	**07 24 49.2**	**-0.5**
	1.4nm,0.7s,baz=68,slow=10,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**31.14**	**7**	T	T	07 57 51.2	
	baz=186						
H11N3	**WAKE ISLAND Hy**	**31.15**	**7**	T	T	07 57 54.4	
	baz=186						
H11N2	**WAKE ISLAND Hy**	**31.16**	**7**	T	T	07 57 52.6	
	baz=186						
FITZ	**Fitzroy Crossi**	**36.96**	**255**	P	**P**	**07 25 46.0**	**+0.1**
	2.9nm,1.2s,baz=72,slow=9.6,SNR=1.9						
ILAR	**Eielson Array**	**84.65**	**19**	P	**P**	**07 31 09.2**	**-0.3**
	0.2nm,0.6s,baz=238,slow=6.2,SNR=4.3						
MKAR	**Makanchi Array**	**92.16**	**317**	P	**P**	**07 31 46.3**	**+0.5**
	0.4nm,0.7s,baz=97,slow=5.8,SNR=4.0						

*IDC **14** 07:31:14.3±1.6, 14.82S×167.29E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/38, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=54.6km s-min=29.5km az=127.0*
ISC 14 07:31:16.1±1.4,14.8S±0.2×167.3E±0.3,h10km,n6, σ0s96/6,mb3.8/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.24**	**186**	Pn	**Pn**	**07 33 02.4**	**+0.3**
	1.4nm,0.3s,baz=121,slow=18,SNR=29						
STKA	**Stephens Creek**	**28.91**	**230**	P	**P**	**07 37 14.8**	**-0.7**
	1.2nm,0.6s,baz=42,slow=6.4,SNR=4.0						
WRA	**Warramunga Arr**	**31.79**	**256**	P	**P**	**07 37 41.8**	**+0.8**
	1.1nm,1.1s,baz=83,slow=8.5,SNR=2.6						
ASAR	**Alice Springs**	**32.62**	**249**	P	**P**	**07 37 48.5**	**+0.1**
	1.8nm,0.7s,baz=77,slow=9.1,SNR=18						
ILAR	**Eielson Array**	**86.63**	**18**	P	**P**	**07 44 00.0**	**+0.5**
	0.2nm,0.7s,baz=226,slow=4.8,SNR=2.3						
ARCES	**ARCESS Array B**	**120.35**	**345**	PKP	**PKiKP**	**07 50 06.1**	**-1.2**
	1.7nm,0.8s,baz=43,slow=1.6,SNR=7.6						

NNC 14 07:32:19.8±0.4,50.05N×78.81E,h0km,mb3.8,mpv3.6, 22C-5D,Error ellipse: s-maj=8.5km s-min=2.1km az=77.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.56**	**341**	⇑P	Pg	07 32 30.8	+0.2
KUR07				⇑S	Sg	07 32 39.3	+1.3
KUR14	**Kurchatov Arra**	**0.58**	**346**	⇑P	Pg	07 32 31.0	+0.1
KUR14				⇑S	Sg	07 32 39.9	+1.4
KUR06	**Kurchatov Arra**	**0.58**	**342**	⇑P	Pg	07 32 31.1	+0.1
KUR06				⇑S	Sg	07 32 39.9	+1.4
KUR15	**Kurchatov Arra**	**0.59**	**344**	⇑P	Pg	07 32 31.2	+0.1
KUR15				⇑S	Sb	07 32 40.4	-1.5
KURBB	**Kurchatov Arra**	**0.60**	**343**	⇑P	Pg	07 32 31.4	+0.1
	46nm,0.3s						
KURBB				⇑S	Sg	07 32 39.9	+0.8
	146nm,0.5s						
KUR16	**Kurchatov Arra**	**0.61**	**341**	⇑P	Pg	07 32 31.4	0.0
KUR16				⇑S	Sg	07 32 40.8	+1.4
KUR05	**Kurchatov Arra**	**0.62**	**344**	⇓P	Pg	07 32 31.7	+0.1
KUR05				⇓S	Sg	07 32 40.7	+1.1
KUR17	**Kurchatov Arra**	**0.62**	**340**	⇑P	Pg	07 32 31.8	+0.1
KUR17				⇑S	Sg	07 32 41.3	+1.5
MAKZ	**Makanchi**	**3.87**	**146**	⇑Pg	Pb	07 33 28.6	-0.4
	3.2nm,0.5s						
MAKZ				⇓Lg	Lg	07 34 19.5	
	9.3nm,0.5s						
MK31	**Makanchi Array**	**4.00**	**143**	⇑Pn	Pn	07 33 23.6	+1.2
	0.3nm,0.2s,baz=279,slow=6.4,SNR=59						
MK31				⇑Pg	Pb	07 33 31.0	-0.1
	2.1nm,0.3s,baz=325,slow=13,SNR=27						
MK31				⇑Lg	Lg	07 34 26.4	
	17nm,0.5s,baz=329,slow=32,SNR=16						
OTUK	**Ortayu**	**4.62**	**249**	⇑Pn	Pn	07 33 30.5	-0.3
	2.1nm,0.2s						
OTUK				⇓Pg	Pb	07 33 42.8	+1.2
	1.4nm,0.4s						
OTUK				⇑Lg	Lg	07 34 44.0	
	7.4nm,0.7s						
DJR	**Jarkent**	**5.76**	**173**	Pg	Pg	07 34 06.3	-3.9
	1.5nm,0.5s						
DJR				Lg	Lg	07 35 19.2	
	10nm,0.6s						
ARXS	**Arharly**	**5.88**	**187**	Pg	Pg	07 34 09.9	-2.5
	3.3nm,0.6s						
ARXS				Lg	Lg	07 35 25.4	
	12nm,0.4s						
BRVK	**Borovoye**	**6.11**	**303**	⇓Pn	Pn	07 33 49.9	-1.4
	3.0nm,0.9s						
BRVK				⇑Sn	Sn	07 35 00.9	-0.9
	2.6nm,0.5s						
BRVK				⇑Lg	Lg	07 35 32.4	
	2.0nm,0.5s						
KUU	**Kurty**	**6.39**	**196**	Pg	Pg	07 34 19.6	-2.6
	0.6nm,0.1s						
KUU				Lg	Lg	07 35 42.0	
	14nm,0.7s						
KURS	**Kuram**	**6.58**	**184**	Pg	Pg	07 34 22.7	-3.1
	3.7nm,0.4s						
KURS				Lg	Lg	07 35 47.4	
	11nm,0.7s						
UZB	**Uzynbulak**	**6.91**	**179**	Pg	Pg	07 34 28.9	-3.3
	1.4nm,0.2s						
UZB				Lg	Lg	07 35 57.9	
	8.4nm,0.7s						
MDOK	**Medeo**	**7.00**	**191**	Pg	Pg	07 34 31.1	-2.7
	1.7nm,0.3s						
MDOK				Lg	Lg	07 36 00.8	
	9.1nm,0.7s						
SATY	**Saty**	**7.00**	**182**	Pg	Pg	07 34 30.7	-3.2
	0.8nm,0.1s						
SATY				Lg	Lg	07 36 01.0	
	4.5nm,0.3s						
MTBS	**Maitube**	**7.12**	**194**	Pg	Pg	07 34 32.9	-3.2
	1.8nm,0.1s						
MTBS				Lg	Lg	07 36 04.1	
	9.9nm,0.3s						
SGDS	**Sogindy**	**7.20**	**205**	Pg	Pg	07 34 34.7	-2.9
	1.5nm,0.3s						
SGDS				Lg	Lg	07 36 07.3	
	4.4nm,0.6s						
KST	**Kastek**	**7.28**	**197**	Pg	Pg	07 34 33.2	-6.0
	1.0nm,0.4s						
KST				Lg	Lg	07 36 04.7	
	8.6nm,0.7s						
MRKS	**Merke**	**8.26**	**210**	Pg	Pg	07 34 54.8	-3.2
	0.5nm,0.2s						
MRKS				Lg	Lg	07 36 41.9	
	2.5nm,0.1s						

*KRSC **14** 07:34:44.6±2.1, 54.90N×165.57E, h48km±17km, ML4.4*
*MOS **14** 07:34:45.7±0.8, 54.95N×165.78E, h47km, mb4.6/14, Error ellipse: s-maj=5.8km s-min=5.7km az=110.1*
*NEIC **14** 07:34:47.6±1.3, 55.1N±0.2×165.6E±0.2, h36km±8km, mb4.3/52, Error ellipse: s-maj=25.9km s-min=12.0km az=165.0*
*IDC **14** 07:34:50.3±0.6, 55.04N×165.51E, h70km±6km, mb3.7/32, mb1 3.9/33, mb1mx3.8/71, mbtmp4.0/33, MS3.0/4, Ms1 3.0/4, ms1mx2.7/33, Error ellipse: s-maj=17.0km s-min=8.8km az=163.0*
ISC 14 07:34:47.5±0.5,54.95N±0.04×165.72E±0.04,h45km±4km, n213,σ1s39/262,mb4.2/61,7C,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.29**	**29**	PN	**Pn**	**07 34 54.4**	**-1.6**
BKI				S	**Sn**	**07 35 00.0**	**-2.1**
BKI	**Bering**	**0.29**	**29**	*eP*	**Pn**	**07 34 54.4**	**-1.6**
BKI				*eS*	**Sn**	**07 35 00.0**	**-2.1**
KBTR	**Krutoberegovo**	**2.08**	**309**	PN	**Pn**	**07 35 17.0**	**-2.8**
KBTR				S	**Sn**	**07 35 40.3**	**-4.1**
KBTR	**Krutoberegovo**	**2.08**	**309**	*eP*	**Pn**	**07 35 17.0**	**-2.8**
KBTR				*eS*	**Sn**	**07 35 40.3**	**-4.1**
KBG	**Krutoberegovo**	**2.16**	**309**	PN	**Pn**	**07 35 21.2**	**+0.4**
KBG				S	**Sn**	**07 35 42.9**	**-3.4**
KBG	**Krutoberegovo**	**2.16**	**309**	*eP*	**Pn**	**07 35 21.2**	**+0.4**
KBG				*eS*	**Sn**	**07 35 42.9**	**-3.4**
MKZ	**Mys Kozlova**	**2.35**	**262**	PN	**Pn**	**07 35 22.8**	**-0.7**
MKZ				S	**Sn**	**07 35 47.8**	**-3.2**
MKZ	**Mys Kozlova**	**2.35**	**262**	*eP*	**Pn**	**07 35 22.8**	**-0.7**
MKZ				*eS*	**Sn**	**07 35 47.8**	**-3.2**
SMKR	**Semkarok**	**2.91**	**306**	PN	**Pn**	**07 35 30.9**	**-0.4**
SMKR				S	**Sn**	**07 36 04.6**	**-0.4**
SMKR	**Semkarok**	**2.91**	**306**	*eP*	**Pn**	**07 35 30.9**	**-0.4**
SMKR				*eS*	**Sn**	**07 36 04.6**	**-0.4**
BDR	**Baidarnaya**	**3.02**	**304**	PN	**Pn**	**07 35 33.1**	**+0.3**
BDR	**Baidarnaya**	**3.02**	**304**	*eP*	**Pn**	**07 35 33.1**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**3.03**	**291**	PN	**Pn**	**07 35 33.3**	**+0.3**
BZGR				S	**Sn**	**07 36 07.7**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**3.03**	**291**	*eP*	**Pn**	**07 35 33.3**	**+0.3**
BZGR				*eS*	**Sn**	**07 36 07.7**	**-0.3**
CIRR	**Tsirk**	**3.06**	**294**	PN	**Pn**	**07 35 36.1**	**+2.7**
CIRR				S	**Sn**	**07 36 10.2**	**+1.4**
CIRR	**Tsirk**	**3.06**	**294**	*eP*	**Pn**	**07 35 36.1**	**+2.7**
CIRR				*eS*	**Sn**	**07 36 10.2**	**+1.4**
TUMD	**Tumrok D**	**3.07**	**277**	*eP*	**Pn**	**07 35 33.3**	**-0.2**
TUMD				*eS*	**Sn**	**07 36 08.1**	**-0.8**
LGNR	**Loginova**	**3.08**	**294**	PN	**Pn**	**07 35 34.6**	**+0.8**
LGNR				S	**Sn**	**07 36 10.0**	**+0.5**
LGNR	**Loginova**	**3.08**	**294**	*eP*	**Pn**	**07 35 34.6**	**+0.8**
LGNR				*eS*	**Sn**	**07 36 10.0**	**+0.5**
SRKR	**Sorokina**	**3.09**	**305**	PN	**Pn**	**07 35 33.6**	**-0.1**
SRKR	**Sorokina**	**3.09**	**305**	*eP*	**Pn**	**07 35 33.6**	**-0.1**
KZV	**Kizimen**	**3.13**	**275**	PN	**Pn**	**07 35 34.4**	**0.0**
KZV				S	**Sn**	**07 36 08.8**	**-1.7**
KZV	**Kizimen**	**3.13**	**275**	*eP*	**Pn**	**07 35 34.4**	**0.0**
KZV				*eS*	**Sn**	**07 36 08.8**	**-1.7**
BZMR	**Bezymyannaya**	**3.14**	**290**	PN	**Pn**	**07 35 35.0**	**+0.5**
BZMR	**Bezymyannaya**	**3.14**	**290**	*eP*	**Pn**	**07 35 35.0**	**+0.5**
BZWR	**Bezymyannyi-We**	**3.15**	**291**	PN	**Pn**	**07 35 35.2**	**+0.6**
BZWR	**Bezymyannyi-We**	**3.15**	**291**	*eP*	**Pn**	**07 35 35.2**	**+0.6**
KLY	**Klyuchi**	**3.18**	**297**	PN	**Pn**	**07 35 35.7**	**+0.8**
KLY				S	**Sn**	**07 36 09.4**	**-2.2**
KLY	**Klyuchi**	**3.18**	**297**	*eP*	**Pn**	**07 35 35.7**	**+0.8**
KLY				*eS*	**Sn**	**07 36 09.4**	**-2.2**
TUMR	**Tumrok**	**3.22**	**278**	PN	**Pn**	**07 35 33.3**	**-2.3**
TUMR	**Tumrok**	**3.22**	**278**	*eP*	**Pn**	**07 35 35.9**	**+0.3**
TUMR				*eS*	**Sn**	**07 36 13.6**	**+0.9**
KIRR	**Kirishev**	**3.23**	**290**	PN	**Pn**	**07 35 36.6**	**+0.9**
KIRR				S	**Sn**	**07 36 13.2**	**+0.3**
KIRR	**Kirishev**	**3.23**	**290**	*eP*	**Pn**	**07 35 36.6**	**+0.9**
KIRR				*eS*	**Sn**	**07 36 13.2**	**+0.3**
KMNR	**Kamenistaya**	**3.23**	**287**	PN	**Pn**	**07 35 36.9**	**+1.1**
KMNR				S	**Sn**	**07 36 14.0**	**+0.9**
KMNR	**Kamenistaya**	**3.23**	**287**	*eP*	**Pn**	**07 35 36.9**	**+1.1**
KMNR				*eS*	**Sn**	**07 36 14.0**	**+0.9**
SRDR	**Sredinnyy**	**3.67**	**294**	PN	**Pn**	**07 35 42.3**	**+0.6**
SRDR	**Sredinnyy**	**3.67**	**294**	*eP*	**Pn**	**07 35 42.3**	**+0.6**
KII	**Karymskiy**	**3.77**	**259**	PN	**Pn**	**07 35 43.4**	**+0.3**
KII				S	**Sn**	**07 36 25.3**	**-0.9**
KII	**Karymskiy**	**3.77**	**259**	*eP*	**Pn**	**07 35 43.4**	**+0.3**
KII				*eS*	**Sn**	**07 36 25.3**	**-0.9**
SPN	**Mys Shipunski**	**3.84**	**243**	PN	**Pn**	**07 35 43.2**	**-0.8**
SPN	**Mys Shipunski**	**3.84**	**243**	*eP*	**Pn**	**07 35 43.2**	**-0.8**
SPN				*eS*	**Sn**	**07 36 23.9**	**-3.9**
ESO	**Esso**	**4.12**	**287**	PN	**Pn**	**07 35 48.9**	**+1.1**
ESO				S	**Sn**	**07 36 33.8**	**-0.9**
ESO	**Esso**	**4.12**	**287**	*eP*	**Pn**	**07 35 48.9**	**+1.1**
ESO				*eS*	**Sn**	**07 36 33.8**	**-0.9**
NLC	**Nalytchevo**	**4.16**	**247**	PN	**Pn**	**07 35 48.0**	**-0.3**
NLC	**Nalytchevo**	**4.16**	**247**	*eP*	**Pn**	**07 35 48.0**	**-0.3**
NLC				*eS*	**Sn**	**07 36 32.3**	**-3.3**
SDLR	**Sedlovina**	**4.36**	**250**	PN	**Pn**	**07 35 51.5**	**+0.3**
SDLR	**Sedlovina**	**4.36**	**250**	*eP*	**Pn**	**07 35 51.5**	**+0.3**
SDLR				*eS*	**Sn**	**07 36 39.6**	**-1.2**
SMAR	**Somma**	**4.41**	**250**	PN	**Pn**	**07 35 52.4**	**+0.4**
SMAR	**Somma**	**4.41**	**250**	*eP*	**Pn**	**07 35 52.4**	**+0.4**
SMAR				*eS*	**Sn**	**07 36 40.3**	**-1.9**
KRER	**Koryakskii**	**4.42**	**251**	PN	**Pn**	**07 35 52.7**	**+0.6**
KRER	**Koryakskii**	**4.42**	**251**	*eP*	**Pn**	**07 35 52.7**	**+0.6**
KRER				*eS*	**Sn**	**07 36 40.6**	**-1.8**
UGLR	**Uglovaya**	**4.42**	**250**	PN	**Pn**	**07 35 52.5**	**+0.4**
UGLR	**Uglovaya**	**4.42**	**250**	*eP*	**Pn**	**07 35 52.5**	**+0.4**
AVH	**Avacha**	**4.44**	**251**	PN	**Pn**	**07 35 53.1**	**+0.8**
AVH	**Avacha**	**4.44**	**251**	*eP*	**Pn**	**07 35 53.1**	**+0.8**
AVH				*eS*	**Sn**	**07 36 41.3**	**-1.5**
KRX	**Arik**	**4.45**	**252**	PN	**Pn**	**07 35 53.1**	**+0.6**
KRX	**Arik**	**4.45**	**252**	*eP*	**Pn**	**07 35 53.1**	**+0.6**
KRX				*eS*	**Sn**	**07 36 41.2**	**-1.9**
KOK	**Koryaka**	**4.49**	**251**	PN	**Pn**	**07 35 53.7**	**+0.7**
KOK	**Koryaka**	**4.49**	**251**	*eP*	**Pn**	**07 35 53.7**	**+0.7**
KOK				*eS*	**Sn**	**07 36 41.9**	**-2.0**
DALK	**Dalny**	**4.54**	**248**	PN	**Pn**	**07 35 53.5**	**-0.1**
DALK	**Dalny**	**4.54**	**248**	*eP*	**Pn**	**07 35 53.5**	**-0.1**
DALK				*eS*	**Sn**	**07 36 42.7**	**-2.3**
OSSR	**Ossora**	**4.55**	**342**	PN	**Pn**	**07 35 53.4**	**-0.2**
OSSR	**Ossora**	**4.55**	**342**	*eP*	**Pn**	**07 35 53.4**	**-0.2**
OSSR				*eS*	**Sn**	**07 36 42.5**	**-2.7**
PET	**Petropavlovsk**	**4.60**	**248**	*e*PN	**Pn**	**07 35 54.5**	**+0.1**
PET				pmax	pmax		
	comp=Z,64nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**4.60**	**248**	*eP*	**Pn**	**07 35 54.8**	**+0.5**
PET				*eS*	**Sn**	**07 36 43.7**	**-2.7**
PET	**Petropavlovsk**	**4.60**	**248**	Pn	**Pn**	**07 35 54.4**	**+0.1**
PET				Sn	**Sn**	**07 36 43.2**	**-3.2**
GNL	**Ganaly**	**4.73**	**258**	PN	**Pn**	**07 35 57.4**	**+1.2**
GNL	**Ganaly**	**4.73**	**258**	*eP*	**Pn**	**07 35 57.4**	**+1.2**
KRMR	**Karymshinskiy**	**4.97**	**248**	PN	**Pn**	**07 36 01.1**	**+1.7**
KRMR	**Karymshinskiy**	**4.97**	**248**	*eP*	**Pn**	**07 36 01.1**	**+1.7**
KRMR				*eS*	**Sn**	**07 36 54.2**	**-1.3**
RUS	**Russkaya**	**4.97**	**242**	PN	**Pn**	**07 35 59.4**	**-0.1**
RUS	**Russkaya**	**4.97**	**242**	*eP*	**Pn**	**07 35 59.4**	**-0.1**
RUS				*eS*	**Sn**	**07 36 51.9**	**-3.7**
PEA0B	**Petropavlovsk-**	**5.08**	**252**	PN	**Pn**	**07 36 01.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**5.08**	**252**	Pn	**Pn**	**07 36 01.6**	**+0.6**
PETK	**Petropavlovsk-**	**5.08**	**252**	P	**Pn**	**07 36 01.4**	**+0.5**
	comp=Z,8.0nm,0.3s,baz=86,slow=19,SNR=55						
PETK				S	**Sn**	**07 36 57.3**	**-1.0**
	comp=Z,5.8nm,0.3s,baz=89,slow=9.0,SNR=7.4						
PETK				LR	LR	07 38 09.0	
	comp=Z,96nm,19.6s,baz=36,slow=40						
MTVR	**Mutnovka**	**5.12**	**244**	PN	**Pn**	**07 36 01.8**	**+0.2**
MTVR	**Mutnovka**	**5.12**	**244**	*eP*	**Pn**	**07 36 01.8**	**+0.2**
MTVR				*eS*	**Sn**	**07 36 56.6**	**-2.8**
GRL	**Gorelyy**	**5.14**	**245**	PN	**Pn**	**07 36 02.6**	**+0.7**
GRL	**Gorelyy**	**5.14**	**245**	*eP*	**Pn**	**07 36 02.6**	**+0.7**
GRL				*eS*	**Sn**	**07 36 57.5**	**-2.4**
APC	**Apacha**	**5.45**	**252**	PN	**Pn**	**07 36 07.7**	**+1.6**
APC	**Apacha**	**5.45**	**252**	*eP*	**Pn**	**07 36 07.7**	**+1.6**
KDTR	**Khodutka, Kamc**	**5.55**	**239**	PN	**Pn**	**07 36 07.0**	**-0.4**
KDTR	**Khodutka, Kamc**	**5.55**	**239**	*eP*	**Pn**	**07 36 07.0**	**-0.4**
KDTR				*eS*	**Sn**	**07 37 04.6**	**-5.3**
SKR	**Severo-Kuril's**	**7.22**	**238**	*e*PN	**Pn**	**07 36 26.8**	**-3.5**
SKR				MLR	MLR		
	comp=Z,100nm,19.0s						
SKR	**Severo-Kuril's**	**7.22**	**238**	*eP*	**Pn**	**07 36 30.8**	**+0.5**
MA2	**Magadan**	**9.33**	**306**	LR	LR	07 40 35.0	
	comp=Z,86nm,21.3s,baz=71,slow=38						
BILL	**Bilibino**	**13.14**	**1**	*i* Pn	**Pn**	**07 37 48.6**	**-2.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,98nm,17.0s						
YAK	**Yakutsk**	**19.90**	**305**	P	**P**	**07 39 14.3**	**-0.5**
TTA	**Tatalina**	**21.00**	**52**	P	**P**	**07 39 26.5**	**-0.3**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TTA	**Tatalina**	**21.00**	**52**	P	**P**	**07 39 26.5**	**-0.3**
SVW2	**Sparrevohn**	**21.14**	**57**	P	**P**	**07 39 23.1**	**-5.2**
SVW2				IAmb	IAmb	07 39 30.7	
	comp=Z,6.9nm,0.6s						
KLR	**Kul'dur**	**21.50**	**269**	P	**P**	**07 39 32.2**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=36,slow=9.4,SNR=5.8						
KLR	**Kul'dur**	**21.50**	**269**	*ce*P	**P**	**07 39 33.8**	**+1.7**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
IMAR	**Indian Mountai**	**22.37**	**44**	P	**P**	**07 39 41.4**	**+0.1**
OHAK	**Old Harbor**	**22.74**	**67**	P	**P**	**07 39 45.2**	**-0.1**
TIXI	**Tiksi**	**22.93**	**331**	P	**P**	**07 39 46.6**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=108,slow=7.3,SNR=6.0						
TIXI	**Tiksi**	**22.93**	**331

H11N2	**WAKE ISLAND Hy**	**35.17**	**178**	T		T	08 19 04.9	
	baz=360,slow=76,SNR=258							
H11N3	**WAKE ISLAND Hy**	**35.18**	**178**	T		T	08 19 06.2	
	baz=360,slow=76,SNR=228							
H11N1	**WAKE ISLAND Hy**	**35.19**	**178**	T		T	08 19 00.9	
	baz=360,slow=76,SNR=227							
ULN	**Ulaanbaatar**	**36.31**	**284**	*ce*P		**P**	**07 41 48.5 +1.9**	
ULN				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NRIK	**Noril'sk**	**36.33**	**324**	*ce*P		**P**	**07 41 45.9 -0.4**	
NRIK				pmax		pmax		
	comp=Z,5.0nm,1.1s							
SONM	**Songino Array**	**36.69**	**284**	P		**P**	**07 41 49.9 +0.1**	
	comp=Z,2.4nm,0.6s,baz=57,slow=8.3,SNR=7.9							
SONM	**Songino Array**	**36.69**	**284**	*e*P		**P**	**07 41 51.5 +1.7**	
SONM				pmax		pmax		
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**39.51**	**46**	P		**P**	**07 42 13.4 +0.2**	
	comp=Z,0.9nm,0.6s,baz=298,slow=7.3,SNR=4.2							
RES	**Resolute Bay**	**40.32**	**24**	P		**P**	**07 42 19.2 -0.5**	
	comp=Z,4.7nm,1.2s,baz=315,slow=11,SNR=1.9							
RES	**Resolute Bay**	**40.32**	**24**	P		**P**	**07 42 19.4 -0.3**	
RES				IAmb		IAmb	07 42 35.6	
	comp=Z,6.3nm,1.2s							
ZALV	**Zalesovo Beam**	**44.54**	**304**	P		**P**	**07 42 53.1 -1.2**	
	comp=Z,0.4nm,0.4s,baz=114,slow=3.6,SNR=1.4							
B08A	**Colville Reser**	**44.88**	**66**	P		**P**	**07 42 58.7 +1.6**	
DGZ	**Jazzator, Alta**	**45.80**	**298**	*i* P		**P**	**07 43 03.7 -0.8**	
DGZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
SPITS	**Spitsbergen Ar**	**45.82**	**352**	P		**P**	**07 43 03.4 -0.7**	
	comp=Z,8.0nm,0.7s,baz=170,slow=8.8,SNR=3.5							
WALA	**Waterton Lakes**	**47.25**	**62**	P		**P**	**07 43 16.9 +1.0**	
K05A	**Summer Lake**	**47.64**	**73**	P		**P**	**07 43 20.9 +1.8**	
JTMT	**Jette**	**47.90**	**64**	P		**P**	**07 43 22.2 +1.3**	
JTMT				IAmb		IAmb	07 43 22.8	
	comp=Z,4.2nm,1.0s							
BEKR	**Beckworth**	**49.87**	**75**	P		**P**	**07 43 37.4 +1.2**	
BEKR				IAmb		IAmb	07 43 38.3	
	comp=Z,4.1nm,1.3s							
MK31	**Makanchi Array**	**50.30**	**297**	*i* P		**P**	**07 43 38.6 -0.6**	
MK31	**Makanchi Array**	**50.30**	**297**	P		**P**	**07 43 38.5 -0.6**	
MK31				IAmb		IAmb	07 43 39.2	
	comp=Z,1.7nm,0.7s							
MKAR	**Makanchi Array**	**50.30**	**297**	P		**P**	**07 43 38.4 -0.8**	
	comp=Z,2.0nm,0.7s,baz=54,slow=7.4,SNR=23							
MKAR	**Makanchi Array**	**50.30**	**297**	*e*P		**P**	**07 43 38.6 -0.5**	
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MAKZ	**Makanchi**	**50.45**	**298**	P		**P**	**07 43 39.5 -0.8**	
MAKZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MAKZ	**Makanchi**	**50.45**	**298**	P		**P**	**07 43 39.5 -0.8**	
MAKZ				IAmb		IAmb	07 43 40.3	
	comp=Z,2.8nm,0.8s							
BVAR	**Borovoye Array**	**51.79**	**310**	P		**P**	**07 43 48.9 -1.3**	
	comp=Z,1.8nm,0.8s,baz=266,slow=15,SNR=11							
BRVK	**Borovoye**	**51.81**	**310**	*ce*P		**P**	**07 43 50.1 -0.3**	
BRVK				pmax		pmax		
	comp=Z,15nm,1.7s							
BRVK	**Borovoye**	**51.81**	**310**	P		**P**	**07 43 50.4 0.0**	
NVAR	**Mina Array Bea**	**52.02**	**75**	P		**P**	**07 43 52.8 +0.4**	
	comp=Z,0.7nm,0.6s,baz=304,slow=7.4,SNR=9.9							
NVAR				pP		**sP**	**07 44 12.1 +2.0**	
	comp=Z,0.9nm,0.7s,baz=299,slow=8.0,SNR=4.9							
NVAR	**Mina Array Bea**	**52.02**	**75**	P		**P**	**07 43 54.3 +1.9**	
KEV	**Kevo**	**52.06**	**343**	P		**P**	**07 43 51.2 -0.8**	
KEV				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KEV	**Kevo**	**52.06**	**343**	P		**P**	**07 43 51.2 -0.8**	
ARCES	**ARCESS Array B**	**52.50**	**344**	P		**P**	**07 43 54.2 -1.1**	
	comp=Z,3.3nm,0.8s,baz=21,slow=11,SNR=11							
ARCES	**ARCESS Array B**	**52.50**	**344**	*e*P		**P**	**07 43 55.2 -0.1**	
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**52.50**	**344**	P		**P**	**07 43 54.6 -0.7**	
PDAR	**Pinedale Array**	**53.72**	**65**	P		**P**	**07 44 05.6 +0.7**	
	comp=Z,0.8nm,0.8s,baz=339,slow=3.8,SNR=6.1							
ARU	**Arti**	**54.22**	**319**	P		**P**	**07 44 07.0 -1.1**	
	comp=Z,1.2nm,0.7s,baz=88,slow=1.6,SNR=5.0							
ARU	**Arti**	**54.22**	**319**	*c* *i* P		**P**	**07 44 07.9 -0.2**	
ARU				S		**S**	**07 51 43.1 +1.4**	
ARU				SS		**SS**	**07 55 18.9 -4.2**	
ARU				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KIRV	**Kirov**	**55.81**	**325**	*ce*P		**P**	**07 44 19.8 +0.3**	
AAK	**Ala-Archa**	**57.17**	**299**	*ce*P		**P**	**07 44 29.6 0.0**	
AAK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
EYMN	**Ely**	**58.74**	**50**	P		**P**	**07 44 41.0 +0.6**	
EYMN				IAmb		IAmb	07 44 50.6	
	comp=Z,5.8nm,1.2s							
KK31	**Karatay Array**	**58.82**	**302**	P		**P**	**07 44 41.2 +0.2**	
KK31				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KK31	**Karatay Array**	**58.82**	**302**	P		**P**	**07 44 41.2 +0.2**	
KK31				IAmb		IAmb	07 44 41.5	
	comp=Z,2.3nm,0.7s							
KKAR	**Karatay Array**	**58.82**	**302**	P		**P**	**07 44 41.1 +0.1**	
KKAR	**Karatay Array**	**58.82**	**302**	P		**P**	**07 44 41.1 +0.1**	
ABKAR	**Akbulak array**	**59.05**	**313**	P		**P**	**07 44 42.2 -0.2**	
FIA1	**FINESS Array S**	**59.66**	**339**	P		**P**	**07 44 46.1 -0.3**	
FINES	**FINESS Array B**	**59.66**	**339**	P		**P**	**07 44 45.8 -0.6**	
	comp=Z,4.3nm,0.8s,baz=17,slow=9.4,SNR=18							
FINES	**FINESS Array B**	**59.66**	**339**	*e*P		**P**	**07 44 46.1 -0.3**	
FINES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**59.66**	**339**	P		**P**	**07 44 46.2 -0.2**	
CMAR	**Chiang Mai Arr**	**61.78**	**262**	LR		LR	08 17 04.2	
	comp=Z,24nm,18.9s,baz=266,slow=41							
NC204	**NORSAR Array S**	**62.44**	**347**	P		**P**	**07 45 05.2 -0.1**	
NOA	**NORSAR Array B**	**62.60**	**346**	P		**P**	**07 45 05.9 -0.6**	
	comp=Z,3.1nm,0.7s,baz=17,slow=6.9,SNR=15							
NOA	**NORSAR Array B**	**62.60**	**346**	*e*P		**P**	**07 45 06.2 -0.3**	
NOA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**63.12**	**345**	P		**P**	**07 45 08.8 -1.1**	
	comp=Z,2.6nm,0.7s,baz=57,slow=5.3,SNR=6.0							
R40A	**Maddies Statio**	**65.82**	**58**	P		**P**	**07 45 27.6 -0.2**	
R40A				IAmb		IAmb	07 45 28.1	
	comp=Z,2.2nm,0.7s							
TX31	**Lajitas Ar. Si**	**66.87**	**72**	P		**P**	**07 45 36.3 +1.5**	
TX31				IAmb		IAmb	07 45 36.6	
	comp=Z,3.7nm,0.8s							
TXAR	**Lajitas Array**	**66.87**	**72**	P		**P**	**07 45 35.6 +0.8**	
	comp=Z,1.0nm,0.6s,baz=308,slow=5.0,SNR=8.3							
TXAR				pP		**pwP**	**07 45 54.2 +6.6**	
	comp=Z,0.8nm,0.7s,baz=316,slow=6.3,SNR=4.7							
TXAR	**Lajitas Array**	**66.87**	**72**	P		**P**	**07 45 36.0 +1.2**	
P48A	**Milroy**	**68.11**	**52**	P		**P**	**07 45 41.8 -0.5**	
D62A	**Allapoint, All**	**68.35**	**37**	P		**P**	**07 45 43.4 -0.3**	
E62A	**Clayton Lake**	**68.58**	**37**	P		**P**	**07 45 45.3 +0.1**	
AKASG	**Malin Array Be**	**68.64**	**332**	P		**P**	**07 45 44.1 -1.3**	
	comp=Z,0.8nm,0.5s,baz=25,slow=6.5,SNR=4.0							
EKA	**Eskdalemuir Ar**	**69.70**	**353**	P		**P**	**07 45 51.7 -0.3**	
	comp=Z,2.9nm,0.8s,baz=24,slow=9.4,SNR=4.9							
KBZ	**Khabaz**	**70.37**	**320**	P		**P**	**07 45 56.3 +0.1**	
	comp=Z,2.4nm,0.8s,baz=241,slow=2.3,SNR=5.5							
GGN	**Saint George**	**70.82**	**37**	P		**P**	**07 45 58.8 -0.1**	
W50A	**Signal Mountai**	**71.63**	**55**	P		**P**	**07 46 04.2 +0.1**	
W50A				IAmb		IAmb	07 46 14.1	
	comp=Z,6.8nm,1.1s							
CLL	**Collm**	**71.70**	**342**	*e*P		**P**	**07 46 04.0 -0.1**	
CLL	**Collm**	**71.70**	**342**	*e*P		**P**	**07 46 04.0 -0.1**	
KOLS	**Kolonicke sedl**	**72.03**	**336**	*e*P		**P**	**07 46 06.9 +0.7**	
KOLS	**Kolonicke sedl**	**72.03**	**336**	*e*P		**P**	**07 46 06.9 +0.7**	
GERES	**GERESS Array B**	**73.94**	**341**	P		**P**	**07 46 17.7 +0.1**	
	comp=Z,0.8nm,0.5s,baz=24,slow=6.0,SNR=8.8							
GERES	**GERESS Array B**	**73.94**	**341**	*e*P		**P**	**07 46 18.0 +0.4**	
GERES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**73.94**	**341**	P		**P**	**07 46 18.2 +0.6**	
W57A	**Gilead**	**74.11**	**51**	P		**P**	**07 46 19.2 +0.5**	
W57A				IAmb		IAmb	07 46 19.3	
	comp=Z,3.6nm,0.8s							
MLR	**Muntele Rosu**	**74.29**	**332**	P		**P**	**07 46 18.9 -0.8**	
	comp=Z,1.1nm,0.5s,baz=181,slow=5.7,SNR=3.7							
DAVOX	**Davos/Dischmat**	**76.61**	**343**	P		**P**	**07 46 32.4 -0.7**	
	comp=Z,1.7nm,0.7s,baz=26,slow=11,SNR=3.6							
BRTR	**Keskin Array B**	**77.19**	**324**	P		**P**	**07 46 35.9 -0.5**	
	comp=Z,0.3nm,0.4s,baz=114,slow=3.0,SNR=4.2							
BRTR	**Keskin Array B**	**77.19**	**324**	*e*P		**P**	**07 46 36.6 +0.2**	
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**79.26**	**210**	P		**P**	**07 46 48.2 +0.4**	
	comp=Z,0.4nm,0.8s,baz=24,slow=6.1,SNR=4.8							
WRA				pP		**pwP**	**07 47 07.5 -0.1**	
	comp=Z,0.8nm,0.8s,baz=25,slow=6.4,SNR=4.6							
ASAR	**Alice Springs**	**82.91**	**209**	P		**P**	**07 47 07.4 +0.2**	
	comp=Z,0.4nm,0.7s,baz=21,slow=4.3,SNR=5.4							
ASAR				pP		**pwP**	**07 47 25.6 -1.4**	
	comp=Z,0.9nm,0.8s,baz=16,slow=5.1,SNR=6.3							
ESDC	**Sonseca Array**	**85.33**	**352**	P		**P**	**07 47 19.6 +0.1**	
	comp=Z,1.4nm,0.7s,baz=1.7,slow=4.2,SNR=8.4							

IDC ***14*** *07:38:52.3±0.8,24.7°47N×102.7°10E,h0km,mb3.9/14, mb1 4.0/15,mb1mx3.7/64,mbtmp3.9/15,ML3.9/1,MS3.3/9, Ms1 3.4/9,ms1mx3.1/41,Error ellipse: s-maj=22.9km s-min=16.1km az=76.0*

BJI ***14*** *07:38:54.0±0.0,24.4°42N×101.9°97E,h6km,mB4.1/3, mb4.3/13,ML4.2/14,Ms3.9/8,Ms7 3.8/10*

ISC 14 07:38:53.9±0.5, 24°42N±0.04×102°00E±0.05, h10km, n61, σ1°38/58, mb3.9/15, MS3.3/8, 2C-1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.98**	**44**	⇑	Pg	**Pg**	**Pg**	**07 39 12.1**	**-0.7**
KMI					Sg	**Sg**	**Sg**	**07 39 25.1**	**-0.4**
KMI					SMN				
	6μm,0.6s								
KMI					SME				
	12μm,0.8s								
GYA	**Guiyang**	**4.68**	**63**	⇓	Pn	**Pn**	**Pn**	**07 40 05.5**	**+0.7**
GYA					Sn	**Sn**	**Sn**	**07 40 59.5**	**+0.2**
GYA					Sg	**Sg**	**Sg**	**07 41 24.9**	**+0.5**
CM34	**Chiang Mai Arr**	**6.14**	**206**		P	**Pg**	**Pg**	**07 40 49.7**	**-1.8**
CM34	**Chiang Mai Arr**	**6.14**	**206**		Pg	**Pg**	**Pg**	**07 40 49.2**	**-2.3**
CM33	**Chiang Mai Arr**	**6.25**	**208**		P	**Pg**	**Pg**	**07 40 53.0**	**-0.7**
CM33	**Chiang Mai Arr**	**6.25**	**208**		Sg	**Sg**	**Sg**	**07 42 14.0**	**-0.7**
CMMT	**Chiang Mai**	**6.25**	**208**		P	**Pg**	**Pg**	**07 40 52.4**	**-1.4**
	537nm22nm,1.0s								
CMMT	**Chiang Mai Arr**	**6.25**	**208**		Pg	**Pg**	**Pg**	**07 40 52.4**	**-1.4**
CM35	**Chiang Mai Arr**	**6.29**	**205**		P	**Pg**	**Pg**	**07 40 52.0**	**-2.5**
NONG	**Nongkai**	**6.41**	**170**		P	**Pg**	**Pg**	**07 40 56.0**	**-0.7**
	4μm46nm,1.1s								
NONG	**Nongkai**	**6.41**	**170**		Pg	**Pg**	**Pg**	**07 40 55.8**	**-0.9**
CM32	**Chiang Mai Arr**	**6.44**	**208**		P	**Pg**	**Pg**	**07 40 56.0**	**-1.3**
CM36	**Chiang Mai Arr**	**6.46**	**205**		P	**Pg**	**Pg**	**07 40 56.0**	**-1.7**
CM09	**Chiang Mai Arr**	**6.57**	**206**		P	**Pg**	**Pg**	**07 40 59.9**	**+0.1**
	222nm24nm,0.7s								
CM09	**Chiang Mai Arr**	**6.57**	**206**		Pn	Pn	Pn	07 40 36.1	+5.4
CM31	**Chiang Mai Arr**	**6.58**	**206**		P	**Pg**	**Pg**	**07 40 56.3**	**-3.6**
	18μm1μm,0.4s								
CMAR	**Chiang Mai Arr**	**6.58**	**206**		Pn	**Pn**	**Pn**	**07 40 32.8**	**+2.0**
	0.6nm,0.3s,baz=22,slow=11,SNR=3.1								
CMAR					Pg	**Pg**	**Pg**	**07 40 57.6**	**-2.3**
	1.3nm,0.3s,baz=15,slow=14,SNR=14								
CMAR					Lg	Lg	Lg	07 42 23.1	
	0.9nm,0.3s,baz=38,slow=22,SNR=2.4								
CMAR					LR	LR	LR	07 43 14.7	
	comp=Z,132nm,20.6s,baz=55,slow=39								
CM15	**Chiang Mai Arr**	**6.59**	**206**		P	**Pg**	**Pg**	**07 41 00.8**	**+0.6**
	215nm23nm,0.8s								
CM02	**Chiang Mai Arr**	**6.59**	**206**		P	**Pg**	**Pg**	**07 41 00.4**	**+0.1**
	309nm46nm,0.9s								
CM02	**Chiang Mai Arr**	**6.59**	**206**		Pg	**Pg**	**Pg**	**07 40 58.6**	**-1.7**
CM02					Sg	**Sg**	**Sg**	**07 42 24.1**	**-1.6**
CM01	**Chiang Mai Arr**	**6.60**	**206**		P	**Pg**	**Pg**	**07 41 00.0**	**-0.4**
	259nm37nm,0.9s								
CM01	**Chiang Mai Arr**	**6.60**	**206**		Pg	**Pg**	**Pg**	**07 40 58.3**	**-2.1**
CM04	**Chiang Mai Arr**	**6.61**	**206**		P	**Pg**	**Pg**	**07 41 00.4**	**-0.2**
	226nm30nm,0.7s								
CM04	**Chiang Mai Arr**	**6.61**	**206**		Pg	**Pg**	**Pg**	**07 40 60.0**	**-0.7**
CM04					Pn	Pn	Pn	07 40 37.2	+5.9
CM13	**Chiang Mai Arr**	**6.62**	**206**		P	**Pg**	**Pg**	**07 41 00.3**	**-0.5**
	177nm21nm,0.8s								
CM05	**Chiang Mai Arr**	**6.62**	**206**		P	**Pg**	**Pg**	**07 41 00.0**	**-0.9**
	176nm20nm,0.7s								
CM05	**Chiang Mai Arr**	**6.62**	**206**		Pg	**Pg**	**Pg**	**07 40 59.1**	**-1.8**
UTTA	**Uttaradit**	**6.77**	**192**		P	Pg	**Pg**	**07 41 09.1**	**+5.5**
	8.5nm,0.8s								
MHMT	**Maesarieng**	**7.27**	**212**		P	**Pg**	**Pg**	**07 41 16.0**	**+2.7**
MHMT	**Maesarieng**	**7.27**	**212**		Pg	**Pg**	**Pg**	**07 41 16.5**	**+3.3**
MHMT					S	Sb	Sb	07 42 36.0	+8.8
PHIT	**Phitsanulok**	**7.34**	**192**		P	**Pg**	**Pg**	**07 41 14.9**	**+0.4**
PHIT	**Phitsanulok**	**7.34**	**192**		Pg	**Pg**	**Pg**	**07 41 14.6**	**+0.1**
QIZ	**Qiongzhong**	**9.05**	**125**		P	**Pn**	**Pn**	**07 41 04.4**	**-0.3**
QIZ					S	**Sn**	**Sn**	**07 42 48.3**	**+1.6**
QIZ					L	L	L		
	comp=E,620nm,9.0s								
QIZ					L	L	L		
	comp=Z,300nm,12.3s								
BRDH	**Bariadhala**	**9.66**	**262**		LR	LR	LR	07 46 10.9	
	comp=Z,157nm,21.4s,baz=120,slow=45								
XAN	**Xi'an**	**11.33**	**31**		P	**Pn**	**Pn**	**07 41 36.1**	**+0.1**
XAN					pP			07 41 41.6	
XAN					pmax	pmax	pmax		
	comp=Z,8.0nm,0.8s								
XAN					L	L	L		
	comp=Z,370nm,9.9s								
LZH	**Lanzhou**	**11.74**	**7**	*e*	P	Pn		07 41 35.5	-6.2
LZH					pP			07 41 42.4	
LZH					sP			07 41 44.3	
LZH					pmax	pmax	pmax		
	comp=Z,18nm,1.0s								
LZH					L	L	L		
	comp=N,220nm,12.2s								
LZH					L	L	L		
	comp=E,570nm,11.4s								
LZH					L	L	L		
	comp=Z,230nm,13.3s								
WHN	**Wuhan**	**12.55**	**58**	⇑	P	**Pn**	**Pn**	**07 41 54.1**	**+1.6**
GTA	**Gaotai**	**15.06**	**353**	*e*	P	**P**	**P**	**07 42 32.0**	**-0.4**
GTA					pP	pP	pP	07 42 36.8	+1.1
GTA					sP	sP	sP	07 42 39.8	+2.6
GTA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
GTA					pmax	pmax			
	comp=Z,37nm,4.4s								
GTA					L	L	L		
	comp=N,66nm,14.5s								
GTA					L	L	L		
	comp=E,190nm,17.8s								
GTA					L	L	L		
	comp=Z,120nm,16.0s								
NJ2	**Nanjing**	**16.68**	**59**	*e*	P	**P**	**P**	**07 42 48.8**	**-1.3**
NJ2					pmax	pmax	pmax		
	comp=Z,15nm,0.5s								
NJ2					L	L	L		
	comp=N,190nm,6.6s								
NJ2					L	L	L		
	comp=Z,370nm,7.6s								
PSI	**Prapat**	**21.69**	**188**		LR	LR	LR	07 53 38.7	
	comp=Z,70nm,19.6s,baz=293,slow=40								
WMQ	**Urumqi**	**22.63**	**332**	*e*	P	**P**	**P**	**07 43 55.3**	**+0.2**
SONM	**Songino Array**	**23.63**	**7**		P	**P**	**P**	**07 44 05.2**	**-0.2**
	1.6nm,0.7s,baz=182,slow=8.6,SNR=5.3								
KUNIGAMI	**Kunigami**	**23.80**	**79**		LR		LR	07 54 41.1	
	comp=Z,175nm,18.1s,baz=325,slow=40								
KSRS	**Korea Array**	**25.66**	**53**		LR	LR	LR	07 55 43.5	
	comp=Z,87nm,21.0s,baz=250,slow=40								
PALK	**Pallekele**	**26.58**	**234**		LR	LR	LR	07 55 23.8	
	comp=Z,85nm,18.1s,baz=132,slow=37								
CN2	**Changchun**	**27.24**	**39**	*e*	P	**P**	**P**	**07 44 40.8**	**+2.6**
CN2					S	**S**	**S**	**07 49 18.4**	**+1.1**
CN2					pmax	pmax	pmax		
	comp=Z,10.0nm,0.6s								
CN2					L	L	L		
	comp=E,200nm,19.0s								
CN2					L	L	L		
	comp=Z,200nm,15.0s								
MKAR	**Makanchi Array**	**27.34**	**330**		P	**P**	**P**	**07 44 39.0**	**0.0**
	1.5nm,0.8s,baz=124,slow=10,SNR=8.9								
AAK	**Ala-Archa**	**29.06**	**315**		LR	LR	LR	07 57 29.2	
	comp=Z,76nm,21.0s,baz=46,slow=38								
ZALV	**Zalesovo Beam**	**32.18**	**341**		P	**P**	**P**	**07 45 21.7**	**-0.1**
	5.0nm,0.8s,baz=149,slow=8.1,SNR=9.9								
ZALV					LR	LR	LR	07 59 26.2	
	comp=Z,73nm,20.0s,baz=64,slow=38								
MJAR	**Matsushiro Arr**	**33.28**	**60**		LR	LR	LR	08 00 19.0	
	comp=Z,42nm,20.1s,baz=295,slow=39								
KLR	**Kul'dur**	**33.98**	**36**		P	**P**	**P**	**07 45 36.1**	**-1.5**
	1.3nm,0.8s,baz=241,slow=9.0,SNR=2.6								
ASAJ	**Asahikawa**	**38.40**	**49**		P	**P**	**P**	**07 46 14.6**	**-0.9**
	7.2nm,0.8s,baz=264,slow=19,SNR=7.9								
AKTO	**Aktyubinsk**	**42.65**	**319**		P	**P**	**P**	**07 46 51.2**	**+0.6**
	1.2nm,0.6s,baz=112,slow=12,SNR=4.5								
WRA	**Warramunga Arr**	**54.18**	**142**		P	**P**	**P**	**07 48 19.8**	**0.0**
	0.8nm,0.6s,baz=330,slow=8.1,SNR=5.1								
ASAR	**Alice Springs**	**56.94**	**145**		P	**P**	**P**	**07 48 39.3**	**-0.4**
	0.4nm,0.7s,baz=319,slow=6.4,SNR=5.8								
AKASG	**Malin Array Be**	**60.73**	**316**		P	**P**	**P**	**07 49 05.6**	**-0.1**
	0.1nm,0.3s,baz=74,slow=6.5,SNR=2.6								
FINES	**FINESS Array B**	**62.16**	**328**		P	**P**	**P**	**07 49 14.8**	**-0.3**
	3.0nm,0.9s,baz=348,slow=4.5,SNR=5.5								
ARCES	**ARCESS Array B**	**62.63**	**337**		P	**P**	**P**	**07 49 16.9**	**-1.4**
	1.7nm,0.9s,baz=86,slow=7.3,SNR=4.8								
HFS	**Hagfors**	**68.32**	**327**		P	**P**	**P**	**07 49 55.5**	**+0.3**
	1.3nm,0.8s,baz=184,slow=38,SNR=1.6								
NOA	**NORSAR Array B**	**69.33**	**329**		P	**P**	**P**	**07 50 01.2**	**-0.3**
	0.6nm,0.7s,baz=78,slow=6.3,SNR=2.5								
GERES	**GERESS Array B**	**70.94**	**316**		P	**P**	**P**	**07 50 11.7**	**+0.1**
	0.3nm,0.6s,baz=54,slow=5.0,SNR=4.5								

IDC ***14*** *07:47:44.0±0.8,28.1°11N×85.7°70E,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.7/49,mbtmp3.9/12,ML4.3/2,Error ellipse: s-maj=29.5km s-min=17.0km az=60.0*

DMN ***14*** *07:47:45.7±0.2,28.2°20N×85.8°88E,h10km,Ml4.9/5,Error ellipse: s-maj=3.9km s-min=1.8km az=15.0*

NDI ***14*** *07:47:46.5±3.2,28.0°06N×85.8°80E,h10km±32km,ML4.1, mb4.1(NEIC)*

NEIC ***14*** *07:47:46.8±1.1,28.1°18N±0.07°×85.7°75E±0.06,h10km±1km, mb4.1/19,Error ellipse: s-maj=14.1km s-min=6.9km az=326.0*

ISC 14 07:47:47.1±0.9, 28°15N±0.04×85°78E±0.03, h19km±3km, n68, σ1°65/88, mb3.9/15, 1C, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**0.26**	**159**	*e*	Pg	**Pg**	**Pg**	**07 47 51.6**	**-1.7**
GUN				*e*	Sg	**Sg**	**Sg**	**07 47 56.1**	**-1.4**
KKN	**Kakani**	**0.57**	**231**	*e*	Pg	**Pg**	**Pg**	**07 47 58.3**	**-0.3**
KKN				*e*	Sg	**Sb**	**Sb**	**07 48 06.5**	**+0.2**
	5μm,0.2s								
PKI	**Pulchoki**	**0.66**	**210**	*e*	Pg	**Pg**	**Pg**	**07 48 00.2**	**-0.2**
PKI				*e*	Sg	**Sb**	**Sb**	**07 48 10.2**	**+1.0**
PKIN	**Phulchoki**	**0.66**	**211**	*e*	Pg	**Pg**	**Pg**	**07 48 00.2**	**-0.2**
PKIN				*e*	Sg	**Sg**	**Sg**	**07 48 09.4**	**+0.1**
DMN	**Daman**	**0.80**	**228**	*e*	Pg	**Pb**	**Pb**	**07 48 03.1**	**+0.4**
DMN				*e*	Sg	**Sn**	**Sn**	**07 48 15.4**	**+0.1**
	3μm,0.5s								
GKN	**Gorkha**	**1.02**	**262**	*e*	Pg	**Pn**	**Pn**	**07 48 06.8**	**+0.2**
GKN				*e*	Sg	**Sn**	**Sn**	**07 48 21.6**	**+1.1**
	4μm,0.3s								
RAMN	**Ramite**	**1.40**	**148**	*e*	Pg	**Pn**	**Pn**	**07 48 11.9**	**-0.1**
DANN	**Dangsing**	**1.79**	**277**	*e*	Pg	**Pb**	**Pb**	**07 48 20.0**	**+0.5**
TAPN	**Taplejung**	**1.89**	**115**	*e*	Pg	**Pn**	**Pn**	**07 48 19.7**	**+1.0**
TAPN				*e*	Sg	**Sn**	**Sn**	**07 48 44.8**	**+2.6**
	3μm,0.4s								
ODAN	**Odare**	**1.93**	**132**	*e*	Pg	**Pn**	**Pn**	**07 48 21.4**	**+2.3**
ODAN				*e*	Sg	**Sn**	**Sn**	**07 48 45.4**	**+2.4**
	3μm,0.4s								
KOLN	**Koldanda**	**1.96**	**259**	*e*	Pg	**Pg**	**Pg**	**07 48 24.3**	**-0.6**
PYUN	**Piuthan**	**2.46**	**269**	*e*	Pg	**Pg**	**Pg**	**07 48 33.8**	**-

SCRK	**Sand Creek**	**80.24**	**20**	P	**P**	**07 59 57.0**	**+0.6**
SCRK				IAmb	IAmb	07 59 57.6	
	comp=Z,1.9nm,0.8s						
SML	**Sawmill**	**80.38**	**23**	P	**P**	**07 59 58.2**	**+1.1**
C36M	**Paulatuk**	**80.38**	**10**	P	**P**	**07 59 57.5**	**+0.7**
SCM	**Sheep Creek Mo**	**80.70**	**23**	P	**P**	**08 00 00.2**	**+1.3**
K27K	**Chicken**	**80.76**	**19**	P	**P**	**08 00 00.5**	**+1.5**
K27K				IAmb	IAmb	08 00 01.0	
	comp=Z,1.6nm,0.9s						
KDAK	**Kodiak Island**	**81.48**	**27**	P	**P**	**08 00 03.5**	**+0.6**
DAWY	**Dawson**	**81.50**	**18**	P	**P**	**08 00 03.9**	**+0.8**
DAWY				IAmb	IAmb	08 00 05.8	
	comp=Z,3.7nm,1.5s						
L27K	**Beaver Creek,**	**81.57**	**20**	P	**P**	**08 00 04.9**	**+1.5**
L27K				IAmb	IAmb	08 00 05.5	
	comp=Z,1.0nm,0.9s						
BCAR	**Beaver Creek A**	**81.58**	**20**	P	**P**	**08 00 04.8**	**+1.4**
NRS	**Narsarsuaq**	**82.62**	**338**	P	**P**	**08 00 08.8**	**0.0**
TXAR	**Lajitas Array**	**122.13**	**10**	PKP	**PKPdf**	**08 06 41.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=71,slow=0.4,SNR=4.7						
TXAR	**Lajitas Array**	**122.13**	**10**		**PKPdf**	**08 06 41.5**	**+0.3**
CPUP	**Villa Florida**	**147.23**	**264**	PKPbc	**PKPdf**	**08 07 27.8**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=340,slow=3.4,SNR=3.5						
CPUP	**Villa Florida**	**147.23**	**264**		**PKPdf**	**08 07 29.2**	**+1.9**

*DJA **14** 07:53:12.4±1.0,6°S×8°×12°×3E±°,h10km,M4.2/11,mb4.5/2, mB4.8/4,MLv4.0/11,Mw(mB)4.1/4*

*IDC **14** 07:53:13.1±1.7,4°.59S×123°.75E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/24,mbtmp3.5/3,ML3.5/1,MS3.0/1, Ms1 2.9/1,ms1mx2.5/19,Error ellipse: s-maj=186.5km s-min=27.4km az=60.0*

ISC 14 07:53:17.9±1.1,5°.35S±0°.08×122°.90E±0°.07,h35km,n17, σ2.92/15,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.70**	**313**	P	**Pn**	**07 53 44.7**	**-0.4**
BSSI	**Bau Bau, Buton**	**2.52**	**252**	P	**Pn**	**07 53 54.6**	**-1.8**
BKSI	**Bulukumba**	**2.76**	**270**	P	**Pn**	**07 53 58.2**	**-1.5**
BNSI	**Bone**	**2.93**	**289**	P	**Pn**	**07 53 59.8**	**-2.3**
KAPI	**Kappang**	**3.15**	**276**	P	**Pn**	**07 54 03.2**	**-1.8**
MKS	**Makassar**	**3.42**	**272**	P	**Pn**	**07 54 09.7**	**+1.0**
TTSI	**Tana Toraja**	**3.83**	**307**	P	**Pn**	**07 54 15.1**	**+0.8**
LUWI	**Luwuk**	**4.28**	**358**	P	**Pn**	**07 54 20.2**	**-0.3**
SANI	**Sanana**	**4.50**	**43**	P	**Pn**	**07 54 20.4**	**-3.2**
MRSI	**Marisa**	**5.86**	**351**	P	**Pn**	**07 54 40.6**	**-1.7**
GTOI	**Gorontalo**	**5.94**	**1**	P	**Pn**	**07 54 46.1**	**+2.7**
MPSI	**Mapaga**	**6.39**	**332**	P	**Pn**	**07 54 48.4**	**-1.2**
SJI	**Sawahan**	**11.31**	**257**	P	Pn	07 55 50.1	-7.1
WRA	**Warramunga Arr**	**18.29**	**144**	P	**Pn**	**07 57 29.5**	**+0.5**
	0.2nm,0.3s,baz=318,slow=13,SNR=10						
ASAR	**Alice Springs**	**21.08**	**151**	P	**P**	**07 58 02.6**	**+3.3**
	1.4nm,0.8s,baz=331,slow=12,SNR=14						
STKA	**Stephens Creek**	**31.68**	**149**	LR	LR	08 16 01.4	
	comp=Z,24nm,18.5s,baz=25,slow=43						
MKAR	**Makanchi Array**	**63.12**	**330**	P	**P**	**08 03 41.1**	**-1.0**
	0.4nm,0.7s,baz=126,slow=7.3,SNR=4.1						

*IDC **14** 08:11:52.1±7.7,57°.90S×26°.73W,h209km±71km,mb3.6/6, mb1 3.7/7,mb1mx3.5/24,mbtmp4.1/7,Error ellipse: s-maj=35.6km s-min=23.9km az=74.0*

ISC 14 08:11:45.1±0.9,57°.8S±0°.1×26°.7W±0°.3,h145km,n14, σ0.84/14,mb3.9/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.07**	**156**	P	**P**	**08 15 12.0**	**0.0**
VNA3	**Neumayer Olymp**	**15.25**	**159**	P	**P**	**08 15 13.7**	**-0.3**
VNA2	**Neumayer--Watz**	**15.47**	**156**	P	**P**	**08 15 17.3**	**+0.9**
	baz=315,slow=13						
SNAA	**Sanae**	**17.03**	**154**	P	**Pn**	**08 15 34.7**	**+0.4**
SNAA	**Sanae**	**17.03**	**154**	P	**Pn**	**08 15 34.7**	**+0.4**
	0.9nm,0.3s,baz=313,slow=12,SNR=65						
QSPA	**South Pole Qui**	**32.43**	**180**	P	**P**	**08 18 01.5**	**+0.5**
	4.9nm,0.5s,baz=218,slow=1.6,SNR=63						
MAW	**Mawson**	**38.59**	**142**	P	**P**	**08 18 53.1**	**-0.2**
	1.1nm,0.3s,baz=223,slow=5.8,SNR=3.1						
VNDA	**Vanda**	**44.82**	**183**	P	**P**	**08 19 44.0**	**+0.2**
	1.4nm,0.6s,baz=186,slow=7.1,SNR=19						
LPAZ	**La Paz**	**51.61**	**306**	P	**P**	**08 20 37.9**	**+0.7**
	0.7nm,0.7s,baz=127,slow=5.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**74.47**	**29**	P	**P**	**08 23 08.3**	**+1.1**
	0.3nm,0.4s,baz=194,slow=6.4,SNR=4.1						
ASAR	**Alice Springs**	**97.23**	**162**	P	**P**	**08 24 59.9**	**-1.4**
	0.3nm,0.4s,baz=182,slow=4.1,SNR=8.0						
FINES	**FINESS Array B**	**125.82**	**28**	PKP	**PKPdf**	**08 30 27.1**	**-0.9**
	0.5nm,0.5s,baz=243,slow=0.4,SNR=7.4						
ARCES	**ARCESS Array B**	**132.49**	**22**	PKP	**PKPdf**	**08 30 39.5**	**-0.9**
	4.3nm,1.1s,baz=204,slow=2.0,SNR=4.7						
ILAR	**Eielson Array**	**151.45**	**309**	PKPbc	**PKPbc**	**08 31 19.1**	**-1.0**
	0.3nm,0.4s,baz=161,slow=1.3,SNR=8.9						

*IDC **14** 08:23:32.5±1.5,5°.53N×126°.21E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/50,mbtmp3.6/4,Error ellipse: s-maj=121.8km s-min=18.1km az=71.0*

ISC 14 08:23:40.4±1.0,5°.99N±0°.08×126°.3E±0°.1,h100km,n10, σ1.47/12,mb3.5/4,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.61**	**281**	*eP*	**Pn**	**08 23 58.3**	**+1.3**
MATI	**Mati**	**0.96**	**357**	*eP*	**Pn**	**08 24 02.0**	**+1.6**
DAV	**Davao City (W)**	**1.30**	**326**	Pn	**Pn**	**08 24 03.2**	**-1.1**
	88nm,0.3s,baz=245,slow=4.4,SNR=8.7						
DAV				Sn	**Sn**	**08 24 25.0**	**+2.7**
	73nm,0.3s,baz=314,slow=22,SNR=6.1						
KCP	**Kidapawan**	**1.58**	**310**	↑*iP*	**Pn**	**08 24 08.1**	**+0.4**
KCP				*i* S	**Sn**	**08 24 28.3**	**-0.2**
SKMP	**Bagumbayan, Su**	**1.83**	**287**	*eP*	**Pn**	**08 24 09.7**	**-1.2**
GLSP	**General Luna,**	**3.78**	**357**	*eP*	**Pn**	**08 24 34.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**23.94**	**182**	P	**P**	**08 28 45.0**	**-0.4**
	0.7nm,0.5s,baz=0.0,slow=8.1,SNR=2.0						
WRA	**Warramunga Arr**	**26.95**	**163**	P	**P**	**08 29 11.9**	**-0.8**
	0.4nm,0.3s,baz=341,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**30.39**	**166**	P	**P**	**08 29 42.8**	**-0.4**
	0.5nm,0.4s,baz=341,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**40.38**	**160**	P	**P**	**08 31 08.9**	**+0.3**
	0.6nm,0.5s,baz=331,slow=10,SNR=2.9						

*IDC **14** 08:25:20.5±1.7,17°.80S×178°.19W,h490km±17km,mb3.1/8, mb1 3.3/9,mb1mx3.2/33,mbtmp3.9/9,Error ellipse: s-maj=35.9km s-min=14.3km az=152.0*

ISC 14 08:25:20.9±0.9,17°.8S±0°.2×178°.2W±0°.2,h500km,n10, σ0.69/13,mb3.4/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.56**	**270**	P	**P**	**08 26 35.0**	**-1.0**
	1.9nm,0.3s,baz=214,slow=21,SNR=10						
STKA	**Stephens Creek**	**38.87**	**241**	P	**P**	**08 32 02.5**	**-0.2**
	1.1nm,0.5s,baz=90,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**44.84**	**259**	P	**P**	**08 32 50.2**	**0.0**
	1.0nm,0.5s,baz=96,slow=6.7,SNR=30						
WRA				PcP	**pP**	**08 34 22.7**	**+0.1**
	0.2nm,0.3s,baz=92,slow=3.4,SNR=1.9						
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**08 32 52.1**	**+0.6**
	8.2nm,0.6s,baz=90,slow=8.3,SNR=128						
ASAR				PcP	**pP**	**08 34 23.4**	**-0.4**
	0.5nm,0.4s,baz=104,slow=3.7,SNR=5.7						
ASAR				S	**S**	**08 38 53.9**	**+0.5**
	0.2nm,0.7s,baz=84,slow=12,SNR=4.8						
FITZ	**Fitzroy Crossi**	**53.24**	**260**	P	**P**	**08 33 53.5**	**+1.0**
	1.9nm,0.8s,baz=122,slow=6.1,SNR=2.4						
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**08 34 41.8**	**-0.4**
	0.7nm,1.0s,baz=14,slow=4.2,SNR=3.1						
NVAR	**Mina Array Bea**	**79.18**	**44**	P	**P**	**08 36 34.2**	**+0.4**
	0.9nm,0.7s,baz=225,slow=9.4,SNR=7.4						
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**08 37 05.3**	**-0.6**
	0.2nm,0.4s,baz=220,slow=5.6,SNR=5.5						
TXAR	**Lajitas Array**	**85.75**	**58**	P	**P**	**08 37 07.8**	**+0.7**
	0.5nm,0.7s,baz=204,slow=9.0,SNR=5.9						
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	**PKiKP**	**08 44 09.2**	**-0.9**
	0.4nm,0.6s,baz=32,slow=4.6,SNR=2.9						

WEL 14 08:47:16.3,41°S±3°×17°5E±°,h20km±3km,M3.3/17, ML3.6/17,MLv3.3/17,Error ellipse: s-maj=0.0km s-min=0.0km az=105.2,Cook Strait

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

KIW	**Kapiti Island**	**0.11**	**141**	P	Pg	08 47 21.1	+0.6
KIW				S	Sg	08 47 24.2	+1.0
OGWZ	**Otaki Gorge**	**0.27**	**99**	P	Pg	08 47 22.9	+0.3
OGWZ				S	Sg	08 47 27.5	+0.7
CAW	**Cannon Point**	**0.38**	**151**	P	Pb	08 47 24.9	+0.4
CAW				S	Sb	08 47 30.8	+0.8
WEL	**Wellington**	**0.51**	**184**	P	Pg	08 47 26.9	+0.2
WEL				S	Sn	08 47 35.3	-1.5
HOWZ	**Holdsworth Sta**	**0.54**	**103**	P	Pg	08 47 27.5	+0.2
HOWZ				S	Sg	08 47 35.1	+0.4
MRZ	**Mangatainoka R**	**0.59**	**79**	P	Pb	08 47 27.9	0.0
MRZ				S	Sb	08 47 35.9	0.0
TCW	**Tory Channel**	**0.60**	**223**	P	Pb	08 47 28.0	-0.1
TCW				S	Sb	08 47 35.9	-0.2
BHW	**Baring Head**	**0.64**	**176**	P	Pg	08 47 29.1	+0.1
MTW	**Mount Morrison**	**0.65**	**127**	P	Pg	08 47 29.6	+0.5
MTW				S	Sg	08 47 38.8	+1.0
DUWZ	**D'Urville Isla**	**0.68**	**267**	P	Pb	08 47 29.7	+0.1
DUWZ				S	Sg	08 47 39.5	+0.6
OHWZ	**Ohakea**	**0.68**	**34**	P	Pb	08 47 29.4	-0.1
OHWZ				S	Sg	08 47 39.3	+0.3
MSWZ	**Moikau Station**	**0.72**	**153**	P	Pn	08 47 31.0	-0.4
MSWZ				S	Sn	08 47 41.3	-0.6
PAWZ	**Paruwai Farm**	**0.76**	**143**	P	Pg	08 47 31.7	+0.3
PAWZ				S	Sn	08 47 42.3	-0.7
TIWZ	**Tintock**	**0.81**	**91**	P	Pg	08 47 32.2	0.0
TIWZ				S	Sn	08 47 44.7	+0.5
POWZ	**Post Office Ro**	**0.82**	**63**	P	Pb	08 47 31.8	-0.1
POWZ				S	Sb	08 47 42.4	-0.1
PLWZ	**Palliser**	**0.86**	**158**	P	Pg	08 47 33.3	+0.1
TMWZ	**Te Maipa**	**0.88**	**113**	P	Pn	08 47 33.6	0.0
PRWZ	**Pori Road**	**0.90**	**76**	P	Pn	08 47 33.7	-0.2
TRWZ	**Traveller**	**0.91**	**134**	P	Pg	08 47 34.3	+0.2
TRWZ				S	Sn	08 47 48.3	+1.8
TUWZ	**Tuamarina**	**0.93**	**225**	P	Pb	08 47 33.5	-0.3
TUWZ				S	Sg	08 47 46.4	-0.4
WAZ	**Wanganui**	**1.02**	**7**	P	Pn	08 47 35.5	-0.1
CMWZ	**Cape Campbell**	**1.08**	**205**	P	Pg	08 47 37.8	+0.6
BFZ	**Birch Farm**	**1.09**	**86**	P	Pn	08 47 36.1	-0.4
TSZ	**Takapari Road**	**1.13**	**51**	P	Pn	08 47 36.9	-0.1
DVHZ	**Dannevirke**	**1.13**	**66**	P	Pn	08 47 36.8	-0.3
NNZ	**Nelson**	**1.18**	**247**	P	Pn	08 47 37.5	-0.1
BSWZ	**Blackbirch Sta**	**1.18**	**217**	P	Pb	08 47 38.1	+0.1
ANWZ	**Angora Road**	**1.30**	**77**	P	Pg	08 47 40.9	-0.6
LREZ	**Lake Rotokare**	**1.35**	**346**	P	Pb	08 47 40.7	-0.2
PNHZ	**Pukenui**	**1.36**	**51**	P	Pn	08 47 40.2	0.0
WPHZ	**Waipukurau**	**1.43**	**61**	P	Pn	08 47 41.4	+0.3
MTVZ	**Mangateitei**	**1.47**	**20**	P	Pb	08 47 42.6	-0.5
PRHZ	**Porangahau**	**1.48**	**71**	P	Pn	08 47 42.0	+0.2
PKVZ	**Pokaka**	**1.54**	**16**	P	Pb	08 47 43.5	-0.7
MOVZ	**Moawhango**	**1.54**	**28**	P	Pn	08 47 42.7	-0.1
WNVZ	**Wahianoa**	**1.56**	**23**	P	Pn	08 47 43.7	+0.6
TRVZ	**Turoa**	**1.57**	**21**	P	Pn	08 47 43.9	+0.6
BHHZ	**Black Hill Sta**	**1.60**	**37**	P	Pn	08 47 44.0	+0.5
WHVZ	**Whangaehu Hut**	**1.60**	**22**	P	Pn	08 47 44.5	+0.7
FWVZ	**Far West T-bar**	**1.62**	**21**	P	Pn	08 47 44.5	+0.5
TUVZ	**Tukino**	**1.64**	**23**	P	Pn	08 47 44.7	+0.6
KRHZ	**Kereru**	**1.64**	**47**	P	Pn	08 47 44.0	0.0
VRZ	**Vera Road**	**1.65**	**358**	P	Pn	08 47 44.5	+0.4
DREZ	**Durham Road**	**1.65**	**343**	P	Pb	08 47 45.4	-0.7
NBEZ	**Newall Road No**	**1.67**	**334**	P	Pb	08 47 45.8	-0.6
PKE	**Pukeiti**	**1.70**	**338**	P	Pb	08 47 47.8	+0.9
NGZ	**Ngauruhoe**	**1.71**	**21**	P	Pb	08 47 46.7	-0.4
SNVZ	**South Ngauruho**	**1.71**	**22**	P	Pb	08 47 46.5	-0.6
PXZ	**Pawanui**	**1.73**	**65**	P	Pb	08 47 48.2	+0.8
OTVZ	**Oturere**	**1.73**	**22**	P	Pn	08 47 45.6	0.0
MHEZ	**Mangahewa**	**1.74**	**347**	P	Pb	08 47 48.0	+0.5
QRZ	**Quartz Range**	**1.74**	**268**	P	Pn	08 47 46.2	+0.1
THZ	**Tophouse**	**1.75**	**235**	P	Pn	08 47 46.7	+1.1
NNVZ	**North Ngauruho**	**1.75**	**21**	P	Pb	08 47 47.1	-0.7
WTVZ	**West Tongariro**	**1.76**	**20**	P	Pb	08 47 47.3	-0.7
TWVZ	**Taurewa**	**1.77**	**16**	P	Pb	08 47 47.0	-1.1
ETVZ	**East Tongariro**	**1.77**	**23**	P	Pn	08 47 46.7	+0.7
TMVZ	**Te Maari**	**1.79**	**23**	P	Pn	08 47 47.3	+1.0
KRVZ	**Karewarewa**	**1.79**	**21**	P	Pb	08 47 47.7	-0.9
NTVZ	**North Tongarir**	**1.80**	**22**	P	Pn	08 47 47.1	+0.8
KAHZ	**Kahuranaki**	**1.85**	**59**	P	Pn	08 47 46.9	-0.1
KATZ	**Kakaramea**	**1.92**	**21**	P	Pb	08 47 50.3	-0.4
RITZ	**Rihia Road**	**1.96**	**24**	P	Pb	08 47 50.9	-0.6
RATZ	**Rangitukua**	**2.04**	**21**	P	Pb	08 47 52.4	-0.3
BKZ	**Black Stump Fm**	**2.06**	**39**	P	Pn	08 47 49.4	-0.4
WATZ	**Wairara**	**2.18**	**19**	P	Pb	08 47 54.7	-0.4
HIZ	**Hauiti**	**2.26**	**1**	P	Pn	08 47 53.9	+1.3
NMHZ	**Naumai**	**2.27**	**43**	P	Pb	08 47 58.1	+1.5
MRHZ	**Matea Rd**	**2.29**	**33**	P	Pn	08 47 52.4	-0.7
KUTZ	**Kauhu Road**	**2.41**	**19**	P	Pb	08 47 59.0	-0.1
DSZ	**Denniston Nort**	**2.47**	**246**	P	Pn	08 47 56.4	+0.9
MTHZ	**Maungataniwha**	**2.47**	**40**	P	Pb	08 48 00.1	0.0
ALRZ	**Allen Road**	**2.50**	**29**	P	Pb	08 48 00.1	-0.5
TLZ	**Tolley Road**	**2.50**	**13**	P	Pn	08 47 58.1	+2.2
RAHZ	**Arahi**	**2.55**	**44**	P	Pg	08 48 03.7	-1.5
GVZ	**Greta Valley S**	**2.56**	**211**	P	Pn	08 47 56.6	-0.2
PRRZ	**Plateau Road**	**2.58**	**29**	P	Pb	08 48 01.5	-0.3
GRRZ	**Galatos Road**	**2.62**	**23**	P	Pb	08 48 04.6	+2.0
RTZ	**Ruatahuna**	**2.73**	**38**	P	Pb	08 48 04.7	+0.3
RRRZ	**Republican Roa**	**2.76**	**29**	P	Pb	08 48 04.7	-0.4
LTZ	**Lake Taylor**	**2.77**	**223**	P	Pn	08 47 59.5	-0.1
UTU	**Utuhina**	**2.80**	**23**	P	Pb	08 48 07.0	+1.3
TOZ	**Tahuroa Road**	**3.08**	**10**	P	Pb	08 48 09.3	-1.2
INZ	**Inchbonnie**	**3.19**	**231**	P	Pn	08 48 06.0	+0.7
RPZ	**Rata Peaks**	**4.05**	**222**	P	Pb	08 48 24.4	-2.6
TMZ	**Timaru**	**4.58**	**217**	P	Pn	08 48 23.1	-1.3
JCZ	**Jackson Bay**	**5.55**	**232**	P	Pn	08 48 40.4	+2.5

IDC 14 09:14:03.3±7.4,11°.29S×163°.12E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.6/29,mbtmp3.7/4,Error ellipse: s-maj=210.4km s-min=55.0km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.99**	**249**	P	P	09 20 05.4	+0.4
	0.3nm,0.6s,baz=80,slow=9.4,SNR=1.5						
H11S2	**WAKE ISLAND Hy**	**29.80**	**7**	T	T	09 51 51.1	
	baz=188,slow=76,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**29.80**	**7**	T	T	09 51 48.0	
	baz=188,slow=76,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**29.82**	**7**	T	T	09 51 48.9	
	baz=188,slow=76,SNR=3.8						
ASAR	**Alice Springs**	**30.39**	**242**	P	P	09 20 17.7	+0.2
	0.9nm,0.7s,baz=68,slow=9.9,SNR=17						
H11N1	**WAKE ISLAND Hy**	**31.03**	**7**	T	T	09 53 20.0	
	baz=190						
H11N3	**WAKE ISLAND Hy**	**31.04**	**7**	T	T	09 53 17.5	
	baz=190						
H11N2	**WAKE ISLAND Hy**	**31.05**	**7**	T	T	09 53 19.5	
	baz=190						
FITZ	**Fitzroy Crossi**	**36.83**	**255**	P	P	09 21 12.7	-0.8
	0.6nm,0.6s,baz=80,slow=6.1,SNR=1.2						
MKAR	**Makanchi Array**	**91.94**	**317**	P	P	09 27 13.9	-0.1
	0.3nm,0.6s,baz=104,slow=4.6,SNR=2.5						

*IDC **14** 09:23:02.1±1.2,34°.24N×25°.51E,h0km,mb3.7/4, mb1 3.9/11,mb1mx3.7/45,mbtmp3.7/11,ML3.8/7,MS2.8/2, Ms1 2.8/2,ms1mx2.3/38,Error ellipse: s-maj=19.8km s-min=12.8km az=48.0*

*ATH **14** 09:23:05.9,34°.29N×25°.30E,h10km±3km,ML3.5/5,Error ellipse: s-maj=4.8km s-min=2.2km az=349.0*

*ISK **14** 09:23:06.4,34°.45N×25°.32E,h86km,ML3.6/11*

*HLW **14** 09:23:07.6,34°.08N×25°.76E,h1km±4km,Md4.5,Ml4.2*

*THE **14** 09:23:07.2,34°.36N×25°.36E,h8km±1km,ML3.4/7,Error ellipse: s-maj=1.9km s-min=0.6km az=107.0*

*DDA **14** 09:23:13.0,34°.59N×25°.82E,h84km±74km,MW3.8*

ISC 14 09:23:06.4±1.2,34°.28N±0°.04×25°.46E±0°.03,h34km±3km, n98,σ1.971/133,mb3.6/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.77**	**17**	P	**Pn**	**09 23 22.0**	**+1.2**
FRMA				S	**Sn**	**09 23 34.3**	**+3.1**
LAST	**Lasithi**	**0.88**	**1**	P	**Pb**	**09 23 22.2**	**-1.1**
LAST				S	**Sb**	**09 23 35.1**	**+0.3**
LAST				AML	AML	09 23 40.2	
	comp=E,5196μm,0.6s						
LAST				AML	AML	09 23 44.5	
	comp=N,5696μm,1.0s						
LAST	**Lasithi**	**0.88**	**1**	P	**Pb**	**09 23 22.3**	**-1.0**
LAST				S	**Sb**	**09 23 34.6**	**-0.2**
	comp=N,3μm,0.5s						
SIVA	**Sivas**	**0.91**	**324**	P	**Pn**	**09 23 22.0**	**-0.8**
SIVA				S	**Sb**	**09 23 33.0**	**-2.6**
SIVA				AML	AML	09 23 37.0	
	comp=E,22678μm,0.8s						
SIVA				AML	AML	09 23 38.6	
	comp=N,11110μm,0.5s						
SIVA	**Sivas**	**0.91**	**324**	P	**Pn**	**09 23 22.3**	**-0.5**
SIVA				S	**Sb**	**09 23 34.6**	**-1.0**
	comp=N,5μm,0.9s						
TMBK	**Timbaki Herakl**	**0.97**	**324**	P	**Pn**	**09 23 23.6**	**-0.1**
TMBK				S	**Sb**	**09 23 36.3**	**-1.1**
NPS	**Neapolis**	**0.99**	**7**	P	**Pn**	**09 23 24.3**	**+0.4**
NPS				S	**Sn**	**09 23 38.0**	**+1.2**
NPS				AML	AML	09 23 43.8	
	comp=E,5349μm,1.0s						
NPS				AML	AML	09 23 46.1	
	comp=N,3586μm,0.6s						
NPS	**Neapolis**	**0.99**	**7**	P	**Pn**	**09 23 24.3**	**+0.4**
NPS				S	**Sb**	**09 23 37.4**	**-0.4**
	comp=N,2μm,0.5s						
ZKR	**Zakros**	**1.04**	**37**	P	**Pb**	**09 23 26.4**	**+0.5**
ZKR				S	**Sn**	**09 23 42.9**	**+4.9**
ZKR				AML	AML	09 23 46.3	
	comp=N,1612μm,0.3s						
ZKR				AML	AML	09 23 49.5	
	comp=E,5967μm,0.7s						
ZKR	**Zakros**	**1.04**	**37**	P	**Pb**	**09 23 26.6**	**+0.6**
ZKR				S	**Sn**	**09 23 41.8**	**+3.7**
	comp=E,2μm,0.4s						
ZKR	**Zakros**	**1.04**	**37**	PG	**Pb**	**09 23 26.2**	**+0.2**
ZKR				SG	**Sn**	**09 23 41.7**	**+3.7**
STIA	**Sitia Lasithi**	**1.06**	**29**	P	**Pb**	**09 23 26.5**	**+0.3**
STIA				S	**Sb**	**09 23 40.5**	**+0.8**
HRKL	**Herakleio**	**1.07**	**344**	P	**Pn**	**09 23 26.0**	**+1.0**
HRKL				S	**Sn**	**09 23 40.1**	**+1.4**
HRKL	**Herakleio**	**1.07**	**344**	PG	**Pn**	**09 23 25.1**	**+0.1**
KSTL	**Kastelli Herak**	**1.07**	**343**	P	**Pn**	**09 23 23.5**	**-1.5**
KSTL				S	**Sn**	**09 23 36.2**	**-2.5**
IDI	**Anoyia**	**1.11**	**335**	P	**Pn**	**09 23 25.5**	**-0.2**
IDI				S	**Sn**	**09 23 39.5**	**-0.4**
IDI				AML	AML	09 23 42.6	
	comp=E,4032μm,0.7s						
IDI				AML	AML	09 23 44.2	
	comp=N,2399μm,0.6s						
IDI	**Anoyia**	**1.11**	**335**	Pg	**Pn**	**09 23 25.7**	**+0.1**
	comp=N,65nm,0.3s,baz=165,slow=14,SNR=272						
IDI				Lg	Lg	09 23 40.1	
	comp=N,151nm,0.3s,baz=274,slow=3.5,SNR=20						
IDI	**Anoyia**	**1.11**	**335**	P	**Pn**	**09 23 25.6**	**0.0**
IDI				S	**Sn**	**09 23 39.7**	**-0.1**
	comp=N,2μm,0.6s						
IDI	**Anoyia**	**1.11**	**335**	PG	**Pn**	**09 23 25.5**	**-0.2**
IDI				SG	**Sn**	**09 23 39.4**	**-0.4**
GVD	**Gavdhos**	**1.26**	**297**	P	**Pn**	**09 23 27.9**	**+0.2**
GVD	**Gavdhos**	**1.26**	**297**	P	**Pn**	**09 23 28.1**	**+0.4**
GVD				S	**Sn**	**09 23 45.1**	**+1.6**
	comp=N,2μm,0.6s						
GVD	**Gavdhos**	**1.26**	**297**	PN	**Pn**	**09 23 27.8**	**+0.2**
GVDS	**Gavdos**	**1.26**	**297**	P	**Pn**	**09 23 28.2**	**+0.5**
GVDS	**Gavdos**	**1.26**	**297**	PN	**Pn**	**09 23 28.1**	**+0.4**
PRNS	**Prines Rethymn**	**1.34**	**324**	P	**Pn**	**09 23 29.5**	**+0.8**
VAM	**Vamos**	**1.53**	**318**	P	**Pn**	**09 23 31.7**	**+0.4**
VAM	**Vamos**	**1.53**	**318**	P	**Pn**	**09 23 31.8**	**+0.4**
IMMV	**Iera Moni Meta**	**1.69**	**315**	P	**Pn**	**09 23 33.8**	**+0.2**
IMMV	**

SEDI				*i* S		**Sn**	09 25 37.5	-3.3
SEDI				IAML			09 25 46.0	
	comp=E,38nm,0.6s							
SEDI				IAML			09 25 47.0	
	comp=N,36nm,0.7s							
HNAT	**Natroun**	**6.38**	**135**	P		**Pn**	**09 24 39.8**	**+1.8**
	baz=135							
HNAT				S		**Sn**	**09 25 45.9**	**-3.8**
	baz=135							
HNAT				AMP			09 26 00.0	
	baz=135							
RYAN	**Fayoum**	**6.61**	**140**	P		**Pn**	**09 24 42.9**	**+1.7**
	baz=141							
RYAN				S		**Sn**	**09 25 50.5**	**-4.9**
	baz=141							
KOT	**Kottamia**	**6.93**	**127**	P		**Pn**	**09 24 46.3**	**+0.6**
	baz=127							
GLL	**Jalalah**	**7.08**	**130**	P		**Pn**	**09 24 48.4**	**+0.7**
	baz=130							
SUZ	**Suez**	**7.66**	**123**	P		**Pn**	**09 24 56.4**	**+0.7**
	baz=123							
MMAI	**Mount Meron Ar**	**8.39**	**96**	Pn		**Pn**	**09 25 06.5**	**+0.8**
	comp=N,1.4nm,0.3s,baz=276,slow=14,SNR=2.0							
MMAI				Sn		**Sn**	**09 26 36.7**	**-2.5**
	comp=N,11nm,0.3s,baz=266,slow=27,SNR=12							
BRTR	**Keskin Array B**	**8.50**	**48**	Pn		**Pn**	**09 25 07.2**	**0.0**
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=4.2							
BRTR				Sn		**Sn**	**09 26 37.9**	**-4.2**
	comp=N,0.1nm,0.3s,baz=222,slow=25,SNR=2.4							
EIL	**Elat**	**9.28**	**117**	Pn		**Pn**	**09 25 18.5**	**+0.7**
	comp=N,0.7nm,0.3s,baz=186,slow=1.8,SNR=17							
EIL				Sn		**Sn**	**09 26 57.1**	**-3.9**
	comp=N,2.4nm,0.3s,baz=56,slow=2.5,SNR=8.7							
HDK1	**Dakhla**	**9.35**	**158**	P		**Pn**	**09 25 20.4**	**+1.5**
	baz=158							
MLR	**Muntele Rosu**	**11.20**	**2**	LR		LR	09 30 10.5	
	comp=N,32nm,21.8s,baz=298,slow=38							
KVAR	**Kislovodsk Arr**	**16.47**	**49**	Pn		**P**	**09 26 56.9**	**-0.4**
	baz=266,slow=14,SNR=1.6							
KBZ	**Khabaz**	**16.49**	**50**	Pn		**Pn**	**09 26 56.4**	**+1.4**
	comp=N,0.1nm,0.3s,baz=263,slow=9.3,SNR=9.3							
AKASG	**Malin Array Be**	**16.64**	**8**	Pn		**Pn**	**09 26 56.8**	**-0.1**
	comp=N,2.1nm,0.3s,baz=199,slow=10,SNR=11							
GERES	**GERESS Array B**	**16.97**	**333**	P		**Pn**	**09 27 01.8**	**+0.6**
	comp=N,0.2nm,0.3s,baz=144,slow=12,SNR=7.2							
ESDC	**Sonseca Array**	**24.05**	**292**	P		**P**	**09 28 17.9**	**-0.6**
	comp=N,0.6nm,0.6s,baz=83,slow=9.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**30.12**	**231**	P		**P**	**09 29 14.0**	**+0.8**
	comp=N,0.4nm,0.3s,baz=31,slow=8.7,SNR=5.5							
TORD				LR		LR	09 42 07.6	
	comp=N,28nm,20.3s,baz=230,slow=38							
MKAR	**Makanchi Array**	**44.06**	**56**	P		**P**	**09 31 11.7**	**+0.7**
	comp=N,0.4nm,0.5s,baz=275,slow=7.7,SNR=5.8							
ZALV	**Zalesovo Beam**	**45.44**	**46**	P		**P**	**09 31 21.5**	**-0.3**
	comp=N,1.0nm,0.5s,baz=278,slow=10,SNR=3.9							

ATH 14 09:24:15.9, 40.14N×21.67E, h16km±4km, ML1.6/5, Error ellipse: s-maj=4.2km s-min=1.0km az=2.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KZN	**Kozani**	**0.18**	**26**	P		Pg	09 24 20.2	-0.3
KZN				S		Sg	09 24 23.2	-0.3
KZN				AML		AML	09 24 25.4	
	comp=N,359μm,0.2s							
KZN				AML		AML	09 24 27.1	
	comp=E,599μm,0.4s							
KPRO	**Kipourio**	**0.30**	**231**	P		Pg	09 24 21.8	-0.5
KPRO				S		Sg	09 24 27.3	-0.4
KPRO				AML		AML	09 24 30.9	
	comp=E,419μm,0.4s							
KPRO				AML		AML	09 24 33.7	
	comp=N,287μm,0.3s							
PENT	**Pentalofos**	**0.41**	**277**	P		Pg	09 24 23.9	-0.3
PENT				S		Sg	09 24 29.9	0.0
NEST	**Nestorio**	**0.54**	**300**	P		Pg	09 24 26.4	-0.4
NEST				S		Sg	09 24 34.4	+0.3
NEST				AML		AML	09 24 37.6	
	comp=N,112μm,0.3s							
NEST				AML		AML	09 24 39.9	
	comp=E,156μm,0.4s							
LIT	**Litokhoron**	**0.63**	**94**	P		Pg	09 24 28.3	-0.1
LIT				S		Sb	09 24 37.1	-0.1
LIT				AML		AML	09 24 42.8	
	comp=E,207μm,0.4s							
LIT				AML		AML	09 24 42.8	
	comp=N,230μm,0.3s							
LIT	**Litokhoron**	**0.63**	**94**	*i* S		Sn	09 24 39.8	-0.3
LIT	**Litokhoron**	**0.63**	**94**	*i* P		Pb	09 24 28.6	0.0
THL	**Klokotos Trika**	**0.64**	**155**	P		Pg	09 24 28.0	-0.4
FNA	**Florina**	**0.68**	**341**	P		Pg	09 24 28.7	-0.5
FNA				S		Sb	09 24 38.5	-0.1
FNA				AML		AML	09 24 41.9	
	comp=E,141μm,0.2s							
FNA				AML		AML	09 24 43.5	
	comp=N,133μm,0.3s							
FNA	**Florina**	**0.68**	**341**	*i* S		Sg	09 24 38.1	-0.1
FNA	**Florina**	**0.68**	**341**	*i* P		Pg	09 24 28.5	-0.7

TAP ***14*** *09:44:49.7, 24.37N×122.21E, h40km, ML3.2, C*
JMA ***14*** *09:44:49.5, 24.27N×122.22E, h51km±1km, M2.4*
ISC 14 09:44:49.9±0.9, 24.34N±0.02×122.24E±0.02, h32km±8km, n105, σ1§17/202, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWC	**Suao**	**0.44**	**307**	P		**Pb**	**09 44 59.3**	**-0.2**
	baz=306							
TWC				S		**Sb**	**09 45 05.7**	**-0.5**
	baz=306							
EHP	**Heping Village**	**0.45**	**266**	*e*P		**Pb**	**09 44 59.5**	**-0.3**
	baz=261							
EHP				*e*S		**Sb**	**09 45 07.5**	**+1.1**
	baz=261							
NDS	**Dongshan**	**0.56**	**302**	P		**Pb**	**09 45 01.3**	**0.0**
	baz=300							
NDS				S		**Sb**	**09 45 08.6**	**-0.6**
	baz=300							
ETL	**Fush Village**	**0.59**	**252**	P		**Pb**	**09 45 01.8**	**-0.2**
	baz=248							
ETL				S		**Sb**	**09 45 10.8**	**+0.7**
	baz=248							
NACB	**Ninganchiao**	**0.61**	**254**	P		**Pb**	**09 45 02.0**	**-0.3**
	baz=251							
NACB				S		**Sb**	**09 45 10.7**	**0.0**
	baz=251							
ILA	**Ilan**	**0.61**	**314**	*e*P		**Pb**	**09 45 02.0**	**-0.3**
	baz=318							
ILA				*e*S		**Sb**	**09 45 11.2**	**+0.4**
	baz=318							
NTC	**Toucheng**	**0.63**	**324**	P		**Pb**	**09 45 02.3**	**-0.3**
	baz=330							
NTC				S		**Sb**	**09 45 10.8**	**-0.4**
	baz=330							
TWD	**Chiawan**	**0.64**	**246**	*e*P		**Pb**	**09 45 02.4**	**-0.3**
	baz=242							
TWD				*e*S		**Sb**	**09 45 11.9**	**+0.4**
	baz=242							
TWE	**Neicheng**	**0.64**	**306**	P		**Pb**	**09 45 02.4**	**-0.4**
	baz=308							
TWE				S		**Sb**	**09 45 10.7**	**-0.8**
	baz=308							
JYNG	**Yonaguni jima**	**0.66**	**80**	P		**Pb**	**09 45 03.1**	**+0.1**
JYNG				S		**Sb**	**09 45 12.7**	**+0.8**
ENTT	**Nioudou**	**0.68**	**296**	P		**Pb**	**09 45 03.3**	**-0.1**
	baz=294							
ENTT				*e*S		**Sb**	**09 45 12.8**	**+0.2**
	baz=294							
HWA	**Hwalien**	**0.68**	**238**	*e*P		**Pb**	**09 45 03.6**	**+0.2**
	baz=234							
HWA				*e*S		**Sb**	**09 45 13.3**	**+0.7**
	baz=234							
TWB1	**Santiao Chiao**	**0.70**	**341**	P		**Pb**	**09 45 02.9**	**-0.9**
	baz=343							
TWB1				S		**Sb**	**09 45 12.1**	**-1.0**
	baz=343							
ETLH	**Xiulin Townshi**	**0.70**	**259**	*e*P		**Pb**	**09 45 03.1**	**-0.7**
	baz=247							
ETLH				S		**Sb**	**09 45 13.2**	**0.0**
	baz=247							
NDT	**Datong Townshi**	**0.71**	**292**	*i* P		**Pb**	**09 45 03.8**	**-0.1**
	baz=289							
NDT				S		**Sb**	**09 45 13.8**	**+0.4**
	baz=289							
YOJ	**Yonaguni jima**	**0.71**	**80**	P		**Pb**	**09 45 04.0**	**+0.1**
YOJ				S		**Sb**	**09 45 14.6**	**+1.1**
YOJ	**Yonaguni jima**	**0.71**	**80**	P		**Pb**	**09 45 04.0**	**+0.1**
	baz=83							
YOJ				S		**Sb**	**09 45 14.3**	**+0.8**
	baz=83							
TIPB	**Shuangxi**	**0.73**	**329**	*e*P		**Pb**	**09 45 03.6**	**-0.6**
	baz=329							
TIPB				*e*S		**Sb**	**09 45 13.2**	**-0.9**
	baz=329							
TEYL	**Yanliau Villag**	**0.75**	**231**	P		**Pb**	**09 45 03.6**	**-0.9**
	baz=230							
TEYL				*e*S		**Sb**	**09 45 13.9**	**-0.6**
	baz=230							
ETM	**Tongmen**	**0.78**	**241**	P		**Pb**	**09 45 04.0**	**-1.1**
	baz=230							
ETM				S		**Sb**	**09 45 14.4**	**-0.9**
	baz=230							
NNSB	**Datong**	**0.78**	**276**	P		**Pb**	**09 45 04.5**	**-0.7**
	baz=265							
NNSB				S		**Sb**	**09 45 15.3**	**-0.4**
	baz=265							
NNSH	**Datong**	**0.78**	**276**	P		**Pb**	**09 45 04.5**	**-0.7**
	baz=265							
NNSH				S		**Sb**	**09 45 15.5**	**-0.1**
	baz=265							
NNS	**Nan Shan**	**0.79**	**277**	P		**Pb**	**09 45 04.7**	**-0.7**
	baz=266							
NNS				S		**Sb**	**09 45 15.6**	**-0.3**
	baz=266							
NWLT	**Wulai**	**0.80**	**303**	P		**Pb**	**09 45 05.2**	**-0.2**
	baz=310							
NWLT				S		**Sb**	**09 45 15.9**	**0.0**
	baz=310							
NWF	**Wu-fen Shan**	**0.84**	**330**	P		**Pb**	**09 45 05.1**	**-1.0**
	baz=341							
NWF				S		**Sb**	**09 45 15.8**	**-1.3**
	baz=341							
WFSB	**Wu-fen Shan**	**0.84**	**330**	P		**Pb**	**09 45 05.1**	**-0.9**
	baz=341							
WFSB				S		**Sb**	**09 45 15.7**	**-1.3**
	baz=341							
YHNB	**Yeheng**	**0.85**	**293**	P		**Pb**	**09 45 05.8**	**-0.5**
	baz=280							
YHNB				S		**Sb**	**09 45 17.0**	**-0.4**
	baz=280							
TWA	**Mucha**	**0.87**	**317**	P		**Pb**	**09 45 05.9**	**-0.7**
	baz=329							
TWA				*e*S		**Sb**	**09 45 16.5**	**-1.4**
	baz=329							
NHDH	**Xindian Distri**	**0.90**	**314**	*e*P		**Pb**	**09 45 07.2**	**+0.2**
	baz=324							
NHDH				*e*S		**Sb**	**09 45 18.6**	**0.0**
	baz=324							
TEGC	**Jichi Village**	**0.90**	**225**	*e*P		**Pb**	**09 45 06.3**	**-0.7**
	baz=223							
TEGC				*e*S		**Sb**	**09 45 18.4**	**-0.2**
	baz=223							
ESL	**Shilin**	**0.90**	**235**	*e*P		**Pb**	**09 45 05.6**	**-1.6**
	baz=232							
ESL				*e*S		**Sb**	**09 45 19.1**	**+0.3**
	baz=232							
TNOU	**National Taiwa**	**0.91**	**332**	*e*P		**Pb**	**09 45 05.8**	**-1.4**
	baz=341							
TNOU				*e*S		**Sb**	**09 45 17.3**	**-1.7**
	baz=341							
WHF	**Hehuan Shan**	**0.91**	**258**	*e*P		**Pb**	**09 45 06.7**	**-0.8**
	baz=255							
WHF				*e*S		**Sb**	**09 45 18.2**	**-1.3**
	baz=255							
FUSS	**Fushou**	**0.91**	**264**	*e*P		**Pb**	**09 45 06.6**	**-0.8**
	baz=262							
FUSS				*e*S		**Sb**	**09 45 18.8**	**-0.6**
	baz=262							
TATO	**Taipei**	**0.93**	**313**	*e*P		**Pb**	**09 45 07.4**	**-0.2**
	baz=323							
TATO				*e*S		**Sb**	**09 45 19.2**	**-0.4**
	baz=323							
TDCB	**Techi**	**0.99**	**265**	P		**Pn**	**09 45 08.1**	**+0.4**
	baz=263							
TDCB				*e*S		**Sb**	**09 45 20.0**	**-1.4**
	baz=263							
EGFH	**Guangfu**	**1.00**	**228**	*e*P		**Pn**	**09 45 07.6**	**-0.1**
	baz=216							
EGFH				*e*S		**Sb**	**09 45 20.1**	**-1.4**
	baz=216							
YM01	**YM01**	**1.00**	**323**	*e*P		**Pn**	**09 45 07.8**	**-0.1**
	baz=334							
YM01				*e*S		**Sb**	**09 45 20.3**	**-1.5**
	baz=334							
CHGB	**Renai**	**1.01**	**254**	*e*P		**Pn**	**09 45 08.4**	**+0.3**
	baz=240							
CHGB				*e*S		**Sb**	**09 45 21.0**	**-1.1**
	baz=240							
YM08	**YM08**	**1.03**	**325**	*e*P		**Pn**	**09 45 08.3**	**+0.1**
	baz=335							
YM08				*e*S		**Sb**	**09 45 20.0**	**-2.4**
	baz=335							
OWD	**Renai**	**1.04**	**249**	*e*P		**Pn**	**09 45 08.1**	**-0.4**
	baz=236							
OWD				*e*S		**Sb**	**09 45 22.1**	**-0.9**
	baz=236							
TWS1	**Kuangyinshan**	**1.06**	**316**	*e*P		**Pn**	**09 45 08.5**	**-0.1**
	baz=324							
TWS1				*e*S		**Sb**	**09 45 22.1**	**-1.2**
	baz=324							
TWY	**Chenhua**	**1.10**	**328**	*e*P		**Pn**	**09 45 09.6**	**+0.6**
	baz=328							
TWY				*e*S		**Sn**	**09 45 23.5**	**+0.4**
	baz=328							
NJD	**Zhudong**	**1.12**	**291**	*e*P		**Pn**	**09 45 09.8**	**+0.5**
	baz=289							
HGSD	**Ruisui**	**1.13**	**222**	*e*P		**Pn**	**09 45 08.6**	**-0.8**
	baz=212							
HGSD				*e*S		**Sn**	**09 45 24.1**	**+0.3**
	baz=212							
LIOB	**Emei**	**1.15**	**285**	P		**Pn**	**09 45 10.5**	**+0.6**
	baz=284							
LIOB				*e*S		**Sn**	**09 45 25.3**	**+0.8**
	baz=284							
NSTT	**Nanjuang**	**1.16**	**285**	P		**Pn**	**09 45 10.4**	**+0.5**
	baz=283							
NSTT				*e*S		**Sn**	**09 45 25.8**	**+1.0**
	baz=283							
WHP	**Taichung City**	**1.18**	**267**	*e*P		**Pn**	**09 45 10.9**	**+0.6**
	baz=265							
WHP				*e*S		**Sn**	**09 45 25.9**	**+0.6**
	baz=265							
EHY	**Hungye**	**1.18**	**225**	*e*P		**Pn**	**09 45 10.0**	**-0.2**
	baz=223							
EHY				*e*S		**Sn**	**09 45 25.2**	**0.0**
	baz=223							
WPL	**Puli Township**	**1.21**	**255**	*e*P		**Pn**	**09 45 11.4**	**+0.7**
	baz=244							
WPL				*e*S		**Sn**	**09 45 26.6**	**+0.5**
	baz=244							
DPDB	**Guoxing**	**1.24**	**256**	*e*P		**Pn**	**09 45 11.7**	**+0.6**
	baz=246							
DPDB				*e*S		**Sn**	**09 45 27.7**	**+1.0**
	baz=246							
WCS	**Beigang Elemen**	**1.24**	**257**	*e*P		**Pn**	**09 45 13.1**	**+2.0**
	baz=255							
WCS				*e*S		**Sn**	**09 45 28.8**	**+2.1**
	baz=255							
YULB	**Yu-li**	**1.28**	**223**	P		**Pn**	**09 45 10.5**	**-1.0**
	baz=221							
YULB				*e*S		**Sn**	**09 45 26.1**	**-1.5**
	baz=221							
PCYT	**Pengchaiyu**	**1.29**	**353**	*e*P		**Pn**	**09 45 10.9**	**-0.9**
	baz=341							
PCYT				*e*S		**Sn**	**09 45 28.6**	**+0.6**
	baz=341							
SSLB	**Suanglung**	**1.30**	**245**	*e*P		**Pn**	**09 45 11.9**	**+0.1**
	baz=235							
SSLB				*e*S		**Sn**	**09 45 28.0**	**-0.1**
	baz=235							
EYUL	**Yuli**	**1.30**	**221**	*e*P		**Pn**	**09 45 11.9**	**0.0**
	baz=232							
EYUL				*e*S		**Sn**	**09 45 29.3**	**+1.2**
	baz=232							
SMLT	**Sun Moon Lake**	**1.30**	**250**	*e*P		**Pn**	**09 45 13.6**	**+1.6**
	baz=239							
SMLT				*e*S		**Sn**	**09 45 28.5**	**0.0**
	baz=239							
TWF1	**Yuli**	**1.31**	**221**	*e*P		**Pn**	**09 45 11.1**	**-0.9**
	baz=232							
TWF1				*e*S		**Sn**	**09 45 26.9**	**-1.5**
	baz=232							
NMLH	**Miaoli**	**1.33**	**279**	*e*P		**Pn**	**09 45 13.0**	**+0.7**
	baz=277							
IRIF	**Iriomote-Funau**	**1.36**	**90**	P		**Pn**	**09 45 13.0**	**+0.3**
IRIF				S		**Sn**	**09 45 30.0**	**+0.4**
WHYT	**Xinyi Township**	**1.42**	**243**	*e*P		**Pn**	**09 45 15.2**	**+1.6**
	baz=232							
WHYT				*e*S		**Sn**	**09 45 33.8**	**+2.6**
	baz=232							
FULB	**Fuli**	**1.43**	**217**	*e*P		**Pn**	**09 45 13.0**	**-0.7**
	baz=205							
FULB				*e*S		**Sn**	**09 45 31.2**	**-0.2**
	baz=205							
WWF	**Wufeng**	**1.44**	**258**	*e*P		**Pn**	**09 45 14.9**	**+1.2**
	baz=272							
WWF				*e*S		**Sn**	**09 45 33.2**	**+1.7**
	baz=272							
TCU	**Taichung**	**1.44**	**263**	*e*P		**Pn**	**09 45 15.2**	**+1.4**
	baz=261							
TCU				*e*S		**Sn**	**09 45 33.6**	**+2.0**
	baz=261							
YUS	**Yu-Shan**	**1.45**	**234**	*e*P		**Pn**	**09 45 14.5**	**+0.1**
	baz=222							
YUS				*e*S		**Sn**	**09 45 32.2**	**-0.3**
	baz=222							
WDJ	**Dajia District**	**1.46**	**271**	*e*S		**Sn**	**09 45 33.2**	**+1.2**
	baz=269							
CHKT	**Chengkung**	**1.47**	**213**	*e*P		**Pn**	**09 45 13.3**	**-0.9**
	baz=202							
CHKT				*e*S		**Sn**	**09 45 29.7**	**-2.7**
	baz=202							
WJS	**Zhushan**	**1.47**	**250**	*e*P		**Pn**	**09 45 16.1**	**+1.8**
	baz=237							
WJS				*e*S		**Sn**	**09 45 34.3**	**+1.9**
	baz=237							
WNT1	**Nantou City**	**1.49**	**253**	*e*P		**Pn**	**09 45 15.4**	**+1.0**
	baz=252							
WNT1				*e*S		**Sn**	**09 45 34.1**	**+1.3**
	baz=252							
WNT	**Mingjian**	**1.49**	**252**	*e*S		**Sn**	**09 45 35.2**	**+2.3**
	baz=250							
ALS	**Alishan**	**1.55**	**238**	*e*P		**Pn**	**09 45 16.3**	**+0.7**
	baz=227							
ALS				S		**Sn**	**09 45 34.7**	**-0.1**
	baz=227							
ECS	**Chishang**	**1.55**	**217**	*e*P		**Pn**	**09 45 16.6**	**+1.2**
	baz=228							
ECS				*e*S		**Sn**	**09 45 35.3**	**+0.9**
	baz=228							
ELDTW	**Lidau**	**1.60**	**224**	*e*P		**Pn**	**09 45 15.7**	**-0.4**
	baz=216							
ELDTW				*e*S		**Sn**	**09 45 34.5**	**-1.3**
	baz=216							
CHN5	**Tsauling**	**1.61**	**243**	*e*P		**Pn**	**09 45 17.9**	**+1.7**
	baz=230							
CHN5				*e*S		**Sn**	**09 45 37.8**	**+1.9**
	baz=230							
EDH	**Donghe**	**1.61**	**212**	P		**Pn**	**09 45 14.8**	**-1.3**
	baz=203							
EDH				S		**Sn**	**09 45 32.9**	**-2.8**
	baz=203							
JKRS	**Kuro-shima**	**1.62**	**93**	P		**Pn**	**09 45 17.1**	**+0.9**
JKRS				S		**Sn**	**09 45 36.9**	**+0.9**
WGK	**Gukeng**	**1.67**	**247**	*e*S		**Sn**	**09 45 40.1**	**+3.0**
	baz=246							
WDLH	**Douliu**	**1.68**	**248**	*e*P		**Pn**	**09 45 18.4**	**+1.3**
	baz=246							
WDLH				*e*S		**Sn**	**09 45 40.3**	**+2.7**
	baz=246							
JIJ	**Ishigaki jima**	**1.74**	**89**	P		**Pn**	**09 45 18.1**	**+0.2**
JIJ				*e*S		**Sn**	**09 45 38.8**	**-0.2**
LONT	**Longtian**	**1.75**	**216**	*e*P		**Pn**	**09 45 17.5**	**-0.6**
	baz=215							
LONT				*e*S		**Sn**	**09 45 38.4**	**-0.9**
	baz=215							
STYH	**Taoyuan**	**1.78**	**229**	*e*P		**Pn**	**09 45 19.4**	**+1.0**
	baz=219							
STYH				*e*S		**Sn**	**09 45 40.9**	**+1.0**
	baz=219							
STYT	**Tauyuan**	**1.79**	**229**	*e*P		**Pn**	**09 45 19.7**	**+1.0**
	baz=219							
STYT				*e*S		**Sn**	**09 45 41.2**	**+0.8**
	baz=219							
CHN4	**Tsaushan**	**1.80**	**237**	*e*P		**Pn**	**09 45 20.7**	**+1.9**
	baz=225							
CHN4				*e*S		**Sn**	**09 45 43.1**	**+2.6**
	baz=225							
TPUB	**Ta-pu**	**1.80**	**235**	*e*P		**Pn**	**09 45 20.0**	**+1.3**
	baz=222							
TPUB				*e*S		**Sn**	**09 45 42.2**	**+1.7**
	baz=222							
CHN2	**Minshiung**	**1.80**	**244**	*e*P		**Pn**	**09 45 21.7**	**+2.9**
	baz=231							
CHN2				*e*S		**Sb**	**09 45 44.8**	**+0.3**
	baz=231							
LDUT	**Ludao**	**1.80**	**203**	*e*P		**Pn**	**09 45 17.3**	**-1.5**
	baz=203							
LDUT				*e*S		**Sn**	**09 45 37.5**	**-3.1**
	baz=203							
WTK	**Tuku**	**1.81**	**249**	*e*S		**Sn**	**09 45 42.6**	**+1.8**
	baz=248							
WTP	**Ta-pu**	**1.84**	**234**	*e*P		**Pn**	**09 45 20.6**	**+1.2**
	baz=221							
WTP				*e*S		**Sn**	**09 45 43.6**	**+2.0**
	baz=221							
TWGBT	**Beinan**	**1.85**	**215**	*e*P		**Pn**	**09 45 18.5**	**-1.0**
	baz=215							
TWGBT				*e*S		**Sn**	**09 45 40.5**	**-1.2**
	baz=215							
TWG	**Pinlang**	**1.85**	**215**	*e*P		**Pn**	**09 45 20.7**	**+1.2**
	baz=215							
TWG				*e*S		**Sn**	**09 45 41.9**	**+0.1**
	baz=215							
CHY	**Chiayi**	**1.86**	**244**	*e*P		**Pn**	**09 45 20.8**	**+1.3**
	baz=231							
CHY				*e*S		**Sn**	**09 45 44.7**	**+2.7**
	baz=231							
JISG	**Ishigakijimahi**	**1.91**	**82**	P		**Pn**	**09 45 20.9**	**+0.7**
JISG				S		**Sn**	**09 45 42.9**	**-0.2**
TWK	**Hsinying**	**1.93**	**237**	*e*P		**Pn**	**09 45 21.8**	**+1.2**
	baz=224							
TWK				*e*S		**Sn**	**09 45 45.7**	**+2.0**
	baz=224							
CHN1	**Nanshi**	**1.94**	**234**	*e*P		**Pn**	**09 45 22.1**	**+1.3**
	baz=223							
CHN1				*e*S		**Sn**	**09 45 45.6**	**+1.5**
	baz=223							
SGST	**Jiashian**	**1.97**	**231**	*e*P		**Pn**	**09 45 22.9**	**+1.8**
	baz=230							
SGST				*e*S		**Sn**	**09 45 45.7**	**+1.0**
	baz=230							
WSF	**Szhu**	**1.97**	**250**	*e*P		**Pn**	**09 45 22.5**	**+1.4**
	baz=248							
WSF				*e*S		**Sn**	**09 45 46.4**	**+1.7**
	baz=248							
SLGT	**Liugui**	**1.98**	**228**	*e*P		**Pn**	**09 45 22.7**	**+1.4**
	baz=227							
SLGT				*e*S		**Sn**	**09 45 46.6**	**+1.6**
	baz=227							
SSD	**Sandimen**	**2.17**	**223**	*e*P		**Pn**	**09 45 25.3**	**+1.6**
	baz=222							
SSD				*e*S		**Sn**	**09 45 51.4**	**+1.8**
	baz=222							
TSMG	**Majia**	**2.19**	**222**	*e*P		**Pn**	**09 45 25.9**	**+1.9**
	baz=222							
TSMG				*e*S		**Sn**	**09 45 51.3**	**+1.2**
	baz=222							
JTJ	**Tarama**	**2.27**	**82**	S		**Sn**	**09 45 52.9**	**+0.9**
SLIU	**Shizi**	**2.50**	**212**	*e*P		**Pn**	**09 45 30.2**	**+1.9**
	baz=205							
SLIU				*e*S		**Sn**	**09 45 58.9**	**+1.2**
	baz=205							
PHUB	**P'eng-hu**	**2.57**	**252**	*e*P		**Pn**	**09 45 29.3**	**-0.1**
	baz=250							
PHUB				*e*S		**Sn**	**09

ML2.6
NEIC ***14*** *09:49:18.4±1.5, 18°.2N±0°.2×68°.32W±0°.08, h109km±12km, Error ellipse: s-maj=27.7km s-min=8.0km az=198.0*
RSPR ***14*** *09:49:18.2, 18°.06N×68°.37W, h103km±2km, MD3.5/8*

ISC 14 09:49:19.3±1.6, 18°.1N±0°.1×68°.32W±0°.06, h95km, n54, σ0§86/61, 9C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.43**	**352**	⇑ *i* P	**Pn**	**09 49 33.4**	**-0.7**
PCDR	**Punta Cana, DR**	**0.43**	**352**		**Pn**	**09 49 33.4**	**-0.7**
PCDR				IAML		09 49 48.9	
	comp=N,197nm,2.0s						
PCDR	**Punta Cana, DR**	**0.43**	**352**		**Sn**	**09 49 45.8**	**+0.8**
PCDR	**Punta Cana, DR**	**0.43**	**352**	IAML		09 49 45.3	
	comp=E,94nm,1.6s						
PCDR	**Punta Cana, DR**	**0.43**	**352**	*i* P	**Pn**	**09 49 33.4**	**-0.7**
PCDR				*e*S	**Sn**	**09 49 45.9**	**+0.8**
PCDR				IAML		09 49 53.2	
	comp=Z,91nm,0.8s						
IDE	**Isla Desecheo**	**0.86**	**69** ⇑ *e*P		**Pn**	**09 49 37.6**	**-0.2**
IDE	**Isla Desecheo**	**0.86**	**69** *e*S		**Sn**	**09 49 52.9**	**+1.2**
IDE	**Isla Desecheo**	**0.86**	**69**		**Pn**	**09 49 37.6**	**-0.2**
IDE					**Sn**	**09 49 52.9**	**+1.2**
MPR	**Mayaguez**	**1.13**	**83**	Pn	**Pn**	**09 49 40.4**	**-0.4**
MPR	**Mayaguez**	**1.13**	**83**	*i* P	**Pn**	**09 49 41.5**	**+0.7**
LSP	**Las Mesas**	**1.18**	**85** ⇑ *e*P		**Pn**	**09 49 41.1**	**-0.3**
LSP	**Las Mesas**	**1.18**	**85** *e*S		**Sn**	**09 49 59.1**	**+1.1**
LSP	**Las Mesas**	**1.18**	**85**		**Pn**	**09 49 41.1**	**-0.3**
LSP					**Sn**	**09 49 59.1**	**+1.1**
AGPR	**Aguadilla, PR**	**1.21**	**71** ⇑ *e*P		**Pn**	**09 49 41.9**	**+0.2**
AGPR	**Aguadilla, PR**	**1.21**	**71** *e*S		**Sn**	**09 49 59.7**	**+1.0**
AGPR	**Aguadilla, PR**	**1.21**	**71**		**Pn**	**09 49 41.9**	**+0.2**
AGPR					**Sn**	**09 49 59.7**	**+1.0**
AGPR	**Aguadilla, PR**	**1.21**	**71**	IAML		09 50 05.1	
	comp=E,78nm,0.5s						
AGPR				IAML		09 50 13.6	
	comp=N,80nm,2.3s						
AGPR	**Aguadilla, PR**	**1.21**	**71** *i* P		**Pn**	**09 49 42.0**	**+0.3**
AGPR				*e*S	**Sn**	**09 50 00.2**	**+1.5**
AGPR				IAML		09 50 04.4	
	comp=Z,68nm,1.3s						
MLPR	**Magueyes Islan**	**1.22**	**95** ⇓ *i* P		**Pn**	**09 49 41.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.22**	**95** *e*S		**Sn**	**09 49 59.3**	**+0.4**
MLPR	**Magueyes Islan**	**1.22**	**95**		**Pn**	**09 49 41.6**	**-0.2**
MLPR					**Sn**	**09 49 59.3**	**+0.4**
AOPR	**Arecibo Observ**	**1.51**	**80** ⇑ *e*P		**Pn**	**09 49 45.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.51**	**80** *e*S		**Sn**	**09 50 05.8**	**+0.6**
AOPR	**Arecibo Observ**	**1.51**	**80**		**Pn**	**09 49 45.3**	**-0.1**
AOPR					**Sn**	**09 50 05.8**	**+0.6**
OBIP	**Obispado Ponce**	**1.63**	**91** ⇑ *i* P		**Pn**	**09 49 46.6**	**-0.3**
OBIP	**Obispado Ponce**	**1.63**	**91**		**Pn**	**09 49 46.6**	**-0.3**
CELP	**Cerrillos**	**1.66**	**90** ⇑ *e*P		**Pn**	**09 49 46.6**	**-0.6**
CELP	**Cerrillos**	**1.66**	**90** *e*S		**Sn**	**09 50 08.7**	**+0.3**
CELP	**Cerrillos**	**1.66**	**90**		**Pn**	**09 49 46.6**	**-0.6**
CELP					**Sn**	**09 50 08.7**	**+0.3**
ICMP	**Isla Caja de M**	**1.72**	**96**	Pn	**Pn**	**09 49 49.4**	**+1.4**
ICMP				IAML		09 50 17.2	
	comp=E,56nm,0.2s						
ICMP				IAML		09 50 17.2	
	comp=N,63nm,0.5s						
EMPR	**Esperanza - Ma**	**1.75**	**77** ⇑ *e*P		**Pn**	**09 49 47.8**	**-0.5**
EMPR	**Esperanza - Ma**	**1.75**	**77** *e*S		**Sn**	**09 50 10.8**	**+0.3**
EMPR	**Esperanza - Ma**	**1.75**	**77**		**Pn**	**09 49 47.8**	**-0.5**
EMPR					**Sn**	**09 50 10.8**	**+0.3**
EMPR	**Esperanza - Ma**	**1.75**	**77**	IAML		09 50 13.1	
	comp=N,94nm,1.0s						
SJG	**San Juan**	**2.06**	**89**	Pn	**Pn**	**09 49 51.7**	**-0.8**
IGPR	**InterUniversit**	**2.11**	**93** ⇑ *e*P		**Pn**	**09 49 52.9**	**-0.1**
IGPR	**InterUniversit**	**2.11**	**93** *e*S		**Sn**	**09 50 20.3**	**+1.4**
IGPR	**InterUniversit**	**2.11**	**93**	Pn	**Pn**	**09 49 52.3**	**-0.8**
IGPR				IAML		09 50 26.4	
	comp=E,39nm,0.3s						
GCPR	**Guaynabo City**	**2.14**	**84** ⇓ *e*P		**Pn**	**09 49 52.1**	**-1.4**
GCPR	**Guaynabo City**	**2.14**	**84** *e*S		**Sn**	**09 50 18.8**	**-0.7**
GCPR	**Guaynabo City**	**2.14**	**84**		**Pn**	**09 49 52.1**	**-1.4**
GCPR					**Sn**	**09 50 18.8**	**-0.7**
GCPR	**Guaynabo City**	**2.14**	**84**	IAML		09 50 21.0	
	comp=E,24nm,1.6s						
PDPR	**Patillas Dam,**	**2.19**	**91**	Pn	**Pn**	**09 49 53.9**	**-0.1**
PDPR				IAML		09 50 43.0	
	comp=E,50nm,1.9s						
CBYP	**Canovanas**	**2.35**	**85** ⇑ *e*P		**Pn**	**09 49 55.1**	**-1.2**
CBYP	**Canovanas**	**2.35**	**85** *e*S		**Sn**	**09 50 25.9**	**+1.2**
CBYP	**Canovanas**	**2.35**	**85**		**Pn**	**09 49 55.1**	**-1.2**
CBYP					**Sn**	**09 50 25.9**	**+1.2**
SC01	**Santiago de lo**	**2.65**	**301**	Pn	**Pn**	**09 49 59.7**	**-0.5**
SC01				IAML		09 51 16.1	
	comp=N,46nm,2.9s						
SC01				IAML		09 51 21.4	
	comp=E,45nm,2.2s						
CUPR	**Culebra, Puert**	**2.90**	**85** ⇑ *e*P		**Pn**	**09 50 01.6**	**-1.9**
CUPR	**Culebra, Puert**	**2.90**	**85** *e*S		**Sn**	**09 50 36.2**	**-1.4**
CUPR	**Culebra, Puert**	**2.90**	**85**		**Pn**	**09 50 01.6**	**-1.9**
CUPR					**Sn**	**09 50 36.2**	**-1.4**
CUPR	**Culebra, Puert**	**2.90**	**85**	IAML		09 50 49.5	
	comp=N,20nm,2.4s						
CUPR				IAML		09 51 41.5	
	comp=E,20nm,2.1s						
SDDR	**Presa de Saban**	**2.96**	**288**	Pn	**Pn**	**09 50 04.3**	**-0.1**
SDDR				IAML		09 50 47.1	
	comp=E,22nm,1.0s						
SDDR				IAML		09 50 59.5	
	comp=E,22nm,2.6s						
STVI	**Saint Thomas**	**3.21**	**85**	Pn	**Pn**	**09 50 08.2**	**+0.5**
STVI				IAML		09 50 52.0	
	comp=E,20nm,1.6s						
STVI				IAML		09 51 46.3	
	comp=N,26nm,2.6s						
ANWB	**Willy Bob**	**6.24**	**93**	Pn	**Pn**	**09 50 49.0**	**+0.2**

IDC ***14*** *09:51:17.6±0.6, 11°.31S×163°.22E, h0km, mb4.4/16, mb1 4.5/19, mb1mx4.3/35, mbtmp4.4/19, ML4.0/3, MS3.7/22, Ms1 3.7/22, ms1mx3.6/29, Error ellipse: s-maj=20.6km s-min=14.4km az=94.0*
NEIC ***14*** *09:51:23.2±1.6, 11°.46S±0°.09×163°.3E±0°.1, h41km±7km, mb4.7/69, Error ellipse: s-maj=16.6km s-min=10.5km az=53.0*

ISC 14 09:51:22.4±0.4, 11°.46S±0°.06×163°.29E±0°.08, h35km, n135, σ1§13/124, mb4.6/53, MS3.7/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.85**	**301**	Pn	**Pn**	**09 52 18.0**	**-1.1**
	26nm,0.3s,baz=204,slow=6.9,SNR=4.4						
HNR				Sn	**Sn**	**09 53 02.4**	**-0.8**
	47nm,0.3s,baz=266,slow=7.8,SNR=3.7						
HNR				LR	LR	09 53 50.6	
	comp=Z,2μm,18.7s,baz=121,slow=41						
HNR	**Honiara**	**3.85**	**301**		**Pn**	**09 52 20.1**	**+1.0**
SANVU	**Saraoutou**	**5.50**	**137**	Pn	**Pn**	**09 52 41.8**	**0.0**
LIFNC	**LIFOU**	**10.01**	**158**	Pn	**Pn**	**09 53 44.7**	**+0.9**
DZM	**Mont Dzumac**	**10.97**	**164**	*e*Pn	**Pn**	**09 53 58.1**	**+1.1**
	2.9nm,0.2s						
DZM				*e*Sn	**Sn**	**09 55 52.6**	**-6.1**
	1.6nm,0.3s						
DZM				*e*LR	LR	09 56 31.9	
	comp=Z,2μm,25.9s						
DZM	**Mont Dzumac**	**10.97**	**164**	Pn	**Pn**	**09 53 58.1**	**+1.1**
	1.1nm,0.3s,baz=13,slow=6.6,SNR=2.1						
DZM				Sn	**Sn**	**09 55 55.2**	**-3.5**
	0.2nm,0.3s,baz=74,slow=19,SNR=1.6						
DZM				LR	LR	09 57 25.1	
	comp=Z,1μm,21.8s,baz=16,slow=33						
DZM	**Mont Dzumac**	**10.97**	**164**		**Pn**	**09 53 57.7**	**+0.6**
OUENC	**Ouen Island, N**	**11.41**	**163**	Pn	**Pn**	**09 54 03.2**	**+0.3**
MSVF	**Nonsavu**	**15.59**	**115**	LR	LR	09 59 24.1	
	comp=Z,270nm,20.0s,baz=257,slow=31						
PMG	**Port Moresby**	**15.99**	**276**	LR	LR	10 01 10.1	
	comp=Z,323nm,19.1s,baz=89,slow=37						
CTA	**Charters Tower**	**18.48**	**240**	P	**Pn**	**09 55 37.1**	**+1.3**
	0.2nm,0.3s,baz=66,slow=17,SNR=3.4						
CTAO	**Charters Tower**	**18.48**	**240**		**Pn**	**09 55 37.5**	**+1.6**
PATS	**Pohnpei**	**18.84**	**345**		**Pn**	**09 55 40.6**	**+0.4**
ARMA	**Armidale**	**21.75**	**208**	P	**P**	**09 56 12.0**	**+1.0**
AFI	**Afiamalu**	**24.45**	**98**	LR	LR	10 04 40.3	
	comp=Z,50nm,18.1s,baz=77,slow=33						
RAO	**Raoul Island**	**24.91**	**138**	LR	LR	10 04 48.1	
	comp=Z,482nm,19.5s,baz=298,slow=32						
OUZ	**Omahuta**	**25.44**	**160**	P	**P**	**09 56 46.0**	**-0.9**
STKA	**Stephens Creek**	**28.51**	**221**	P	**P**	**09 57 15.9**	**+1.2**
	6.5nm,1.0s,baz=31,slow=12,SNR=13						
STKA				PcP	**PcP**	**10 00 27.1**	**+1.2**
	3.4nm,0.9s,baz=9.2,slow=7.2,SNR=4.2						
STKA				LR	LR	10 07 21.5	
	comp=Z,171nm,18.6s,baz=30,slow=34						
STKA	**Stephens Creek**	**28.51**	**221**	P	**P**	**09 57 16.0**	**+1.4**
WR0	**Warramunga Arr**	**28.89**	**249**	P	**P**	**09 57 16.7**	**-1.5**
WR0				IAmb	IAmb	09 57 19.6	
	comp=Z,19nm,1.5s						
WB0	**Warramunga Arr**	**28.99**	**250**	P	**P**	**09 57 18.4**	**-0.7**
WRAB	**Tennant Creek**	**29.06**	**250**	P	**P**	**09 57 18.0**	**-1.7**
WB2	**Warramunga Arr**	**29.06**	**250**	P	**P**	**09 57 18.2**	**-1.5**
WRA	**Warramunga Arr**	**29.08**	**250**	P	**P**	**09 57 19.8**	**0.0**
	comp=Z,3.7nm,0.8s,baz=81,slow=9.2,SNR=14						
WRA				PcP	**PcP**	**10 00 28.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=77,slow=3.2,SNR=5.7						
WRA	**Warramunga Arr**	**29.08**	**250**	P	**P**	**09 57 18.1**	**-1.7**
URZ	**Urewera**	**29.41**	**157**	LR	LR	10 09 03.6	
	comp=Z,207nm,18.2s,baz=31,slow=36						
H11S2	**WAKE ISLAND Hy**	**29.95**	**7**	T	T	10 28 55.7	
	baz=188,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**29.95**	**6**	T	T	10 29 01.2	
	baz=188,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**29.97**	**6**	T	T	10 28 59.5	
	baz=188,slow=76,SNR=34						
AS31	**Alice Springs**	**30.45**	**243**	P	**P**	**09 57 30.8**	**-1.2**
ASAR	**Alice Springs**	**30.45**	**243**	P	**P**	**09 57 31.1**	**-1.0**
	comp=Z,10nm,0.9s,baz=65,slow=9.7,SNR=66						
ASAR				PcP	**PcP**	**10 00 31.4**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=54,slow=4.7,SNR=3.7						
ASAR	**Alice Springs**	**30.45**	**243**	P	**P**	**09 57 30.4**	**-1.7**
TOO	**Toolangi**	**30.51**	**209**	P	**P**	**09 57 32.6**	**+0.3**
TOO				IAmb	IAmb	09 57 36.5	
	comp=Z,11nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**31.18**	**7**	T	T	10 30 29.9	
	baz=188,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**31.19**	**7**	T	T	10 30 28.9	
	baz=188,slow=76,SNR=26						
H11N2	**WAKE ISLAND Hy**	**31.20**	**7**	T	T	10 30 29.9	
	baz=188,slow=76,SNR=25						
BBOO	**Buckleboo**	**32.80**	**225**	P	**P**	**09 57 53.2**	**+0.7**
MQZ	**McQueen's Vall**	**33.13**	**168**	P	**P**	**09 57 55.7**	**+0.5**
KNRA	**Kununurra**	**33.79**	**259**	P	**P**	**09 58 00.7**	**-0.6**
RAR	**Rarotonga**	**36.67**	**110**	LR	LR	10 09 38.3	
	comp=Z,88nm,20.7s,baz=253,slow=30						
FITZ	**Fitzroy Crossi**	**36.94**	**255**	P	**P**	**09 58 27.8**	**-0.6**
FITZ				IAmb	IAmb	09 58 33.5	
	comp=Z,15nm,1.5s						
FORT	**Forrest**	**37.84**	**234**	P	**P**	**09 58 36.1**	**+0.2**
LUWI	**Luwuk**	**41.52**	**282**	P	**P**	**09 59 05.1**	**-1.6**
PSA00	**Pilbara Seismi**	**42.72**	**251**	P	**P**	**09 59 16.6**	**+0.2**
PSA00				IAmb	IAmb	09 59 21.1	
	comp=Z,28nm,1.3s						
PSA00	**Pilbara Seismi**	**42.72**	**251**	P	**P**	**09 59 15.9**	**-0.5**
PSA00				IAmb	IAmb	09 59 21.1	
	comp=Z,17nm,1.4s						
PPT2	**Papeete2**	**45.95**	**103**	*e*LR	LR	10 12 51.1	
	comp=Z,120nm,26.0s						
TBI	**Tubuai**	**46.42**	**111**	*e*LR	LR	10 13 02.7	
	comp=Z,169nm,32.5s						
MORW	**Morawa**	**47.31**	**241**	P	**P**	**09 59 52.9**	**+0.1**
MJAR	**Matsushiro Arr**	**53.27**	**335**	P	**P**	**10 00 36.2**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=169,slow=8.6,SNR=6.8						
MJAR				LR	LR	10 21 25.2	
	comp=Z,69nm,21.9s,baz=200,slow=34						
MJAR	**Matsushiro Arr**	**53.27**	**335**	P	**P**	**10 00 36.1**	**-1.7**
MAT	**Matsushiro**	**53.27**	**335**	P	**P**	**10 00 35.9**	**-1.9**
JNU	**Nakatsue**	**54.04**	**326**	P	**P**	**10 00 42.5**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=136,slow=3.5,SNR=1.7						
JNU	**Nakatsue**	**54.04**	**326**	P	**P**	**10 00 43.0**	**-0.5**
JNU				IAmb	IAmb	10 01 06.3	
	comp=Z,14nm,1.3s						
JSD	**Sado**	**54.53**	**336**	P	**P**	**10 00 46.2**	**-0.7**
JSD				IAmb	IAmb	10 00 48.5	
	comp=Z,6.5nm,0.9s						
JKA	**Kamikawa-asahi**	**58.42**	**343**	P	**P**	**10 01 14.1**	**-0.5**
ASAJ	**Asahikawa**	**58.43**	**343**	P	**P**	**10 01 14.5**	**0.0**
	comp=Z,13nm,0.8s,baz=229,slow=13,SNR=16						
KSRS	**Korea Array**	**58.89**	**327**	P	**P**	**10 01 17.4**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=140,slow=6.9,SNR=9.8						
KSRS				LR	LR	10 23 09.9	
	comp=Z,62nm,21.8s,baz=140,slow=33						
NJ2	**Nanjing**	**60.65**	**317**	*e*P	**P**	**10 01 30.1**	**0.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**62.27**	**335**	P	**P**	**10 01 40.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**62.27**	**335**	P	**P**	**10 01 41.1**	**+0.3**
	comp=Z,8.4nm,0.9s,baz=147,slow=5.8,SNR=12						
USRK				LR	LR	10 25 22.9	
	comp=Z,40nm,21.7s,baz=135,slow=33						
USRK	**Ussuriysk Ar.**	**62.27**	**335**	P	**P**	**10 01 40.3**	**-0.5**
PETK	**Petropavlovsk-**	**64.49**	**356**	P	**P**	**10 01 54.9**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=142,slow=7.3,SNR=4.1						
PETK				LR	LR	10 24 59.5	
	comp=Z,72nm,21.2s,baz=155,slow=31						
CN2	**Changchun**	**64.89**	**331**	*e*P	**P**	**10 01 58.1**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				L	L		
	comp=Z,100nm,19.0s						
CN2				L	L		
	comp=Z,100nm,19.0s						
CN2				L	L		
	comp=Z,100nm,20.0s						
VNDA	**Vanda**	**66.05**	**180**	P	**P**	**10 02 07.5**	**+2.3**
	comp=Z,2.1nm,0.8s,baz=339,slow=7.2,SNR=9.6						
VNDA				LR	LR	10 25 57.3	
	comp=Z,73nm,21.0s,baz=10.0,slow=31						
VNDA	**Vanda**	**66.05**	**180**	P	**P**	**10 02 06.0**	**+0.9**
KLR	**Kul'dur**	**66.51**	**338**	P	**P**	**10 02 08.1**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=254,slow=1.4,SNR=12						
BJI	**Beijing**	**67.31**	**322**	P	**P**	**10 02 14.3**	**+0.6**
BJI				pP	**pwP**	**10 02 32.9**	**+2.9**
BJI				sP	**PcP**	**10 02 40.9**	**-0.4**
BJI				S	**S**	**10 11 03.6**	**-3.1**
BJI	**Beijing**	**67.31**	**322**	SS	SS	10 15 25.9	-1.3
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,61nm,5.1s						
CMAR	**Chiang Mai Arr**	**70.08**	**294**	P	**P**	**10 02 31.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=108,slow=4.8,SNR=2.1						
CMAR				LR	LR	10 34 07.9	
	comp=Z,25nm,18.6s,baz=174,slow=37						
HHC	**Hu-ho-hao-te**	**70.61**	**321**	*e*P	**P**	**10 02 34.8**	**+0.4**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,7.1s						
OHAK	**Old Harbor**	**77.20**	**23**	P	**P**	**10 03 12.6**	**+0.2**
OHAK				IAmb	IAmb	10 03 21.8	
	comp=Z,11nm,1.0s						
ULN	**Ulaanbaatar**	**77.23**	**325**	P	**P**	**10 03 13.1**	**0.0**
ULN				IAmb	IAmb	10 03 14.7	
	comp=Z,4.5nm,0.8s						
SONM	**Songino Array**	**77.59**	**325**	P	**P**	**10 03 14.9**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=141,slow=5.6,SNR=7.5						
SONM				LR	LR	10 35 38.8	
	comp=Z,37nm,21.5s,baz=110,slow=34						
SONM	**Songino Array**	**77.59**	**325**	P	**P**	**10 03 14.4**	**-0.6**
GTA	**Gaotai**	**77.62**	**315**	*e*P	**P**	**10 03 16.6**	**+1.2**
GTA				pP	pP	10 03 23.6	-0.9
GTA				sP	sP	10 03 27.6	-0.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KDAK	**Kodiak Island**	**77.86**	**22**	P	**P**	**10 03 16.8**	**+0.6**
KDAK				IAmb	IAmb	10 03 29.6	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**10 03 21.9**	**+1.8**
SVW2	**Sparrevohn**	**79.27**	**19**	P	**P**	**10 03 24.3**	**+0.5**
SVW2				IAmb	IAmb	10 03 25.5	
	comp=Z,7.8nm,0.8s						
BILL	**Bilibino**	**79.32**	**1**	P	**P**	**10 03 23.8**	**-0.2**
BILL				IAmb	IAmb	10 03 26.0	
	comp=Z,9.8nm,0.9s						
CNPM	**China Poot**	**79.60**	**22**	P	**P**	**10 03 26.7**	**+1.0**
CNPM				IAmb	IAmb	10 03 27.6	
	comp=Z,9.4nm,1.0s						
RSO	**Redoubt South**	**79.74**	**20**	P	**P**	**10 03 27.8**	**+1.1**
BRLK	**Bradley Lake**	**79.90**	**22**	P	**P**	**10 03 28.1**	**+0.7**
BRLK				IAmb	IAmb	10 03 28.9	
	comp=Z,5.8nm,0.9s						
TTA	**Tatalina**	**80.53**	**18**	P	**P**	**10 03 30.9**	**+0.2**
PWL	**Port Wells**	**81.57**	**22**	P	**P**	**10 03 36.9**	**+0.6**
PWL				IAmb	IAmb	10 03 38.8	
	comp=Z,6.4nm,0.9s						
KTH	**Kantishna Hill**	**82.56**	**19**	P	**P**	**10 03 41.4**	**0.0**
TRF	**Thorofare Moun**	**82.69**	**19**	P	**P**	**10 03 41.1**	**-1.1**
TRF				IAmb	IAmb	10 03 42.6	
	comp=Z,6.7nm,1.4s						
HMT	**Hamilton**	**82.77**	**23**	P	**P**	**10 03 42.9**	**+0.4**
HMT				IAmb	IAmb	10 03 45.8	
	comp=Z,7.0nm,0.8s						
BMRM	**Bremner River**	**83.03**	**23**	P	**P**	**10 03 44.9**	**+1.0**
BMRM				IAmb	IAmb	10 03 45.2	
	comp=Z,5.2nm,0.9s						
MAW	**Mawson**	**83.43**	**202**	LR	LR	10 38 00.0	
	comp=Z,32nm,19.6s,baz=2.5,slow=34						
N25K	**Chitina, Valde**	**83.44**	**22**	P	**P**	**10 03 46.4**	**+0.4**
N25K				IAmb	IAmb	10 03 48.2	
	comp=Z,4.5nm,1.1s						
IMAR	**Indian Mountai**	**83.48**	**16**	P	**P**	**10 03 46.2**	**+0.1**
GLB	**Gilahina Butte**	**83.63**	**23**	P	**P**	**10 03 46.9**	**-0.1**
GLB				IAmb	IAmb	10 03 48.9	
	comp=Z,5.5nm,1.2s						
MLY	**Manley**	**83.66**	**18**	P	**P**	**10 03 46.8**	**-0.3**
NEA2	**Nenana**	**83.87**	**19**	P	**P**	**10 03 47.4**	**-0.7**
NEA2				IAmb	IAmb	10 03 49.6	
	comp=Z,4.1nm,1.0s						
WRH	**Wood River Hil**	**84.10**	**19**	P	**P**	**10 03 48.3**	**-1.0**
WRH				IAmb	IAmb	10 03 50.7	
	comp=Z,5.3nm,0.8s						
I23K	**Minto, Yukon-K**	**84.16**	**18**	P	**P**	**10 03 48.8**	**-0.7**
I23K				IAmb	IAmb	10 03 51.5	
	comp=Z,3.5nm,0.8s						
BARN	**Barnard Glacie**	**84.23**	**24**	P	**P**	**10 03 50.4**	**+0.2**
BARN				IAmb	IAmb	10 03 53.1	
	comp=Z,12nm,1.3s						
CTGM	**Chitina Glacie**	**84.30**	**24**	P	**P**	**10 03 51.5**	**+0.9**
CCB	**Clear Creek Bu**	**84.31**	**19**	P	**P**	**10 03 49.3**	**-0.9**
CCB				IAmb	IAmb	10 03 51.5	
	comp=Z,4.2nm,0.7s						
MDM	**Murphy Dome**	**84.38**	**19**	P	**P**	**10 03 49.9**	**-0.8**
MDM				IAmb	IAmb	10 03 51.7	
	comp=Z,5.6nm,0.8s						
HDA	**Harding Lake**	**84.42**	**19**	P	**P**	**10 03 50.4**	**-0.5**
TCOL	**CIGO, UAF Yank**	**84.44**	**19**	P	**P**	**10 03 49.8**	**-1.2**
COLA	**College**	**84.44**	**19**	P	**P**	**10 03 50.0**	**-0.9**
ILAR	**Eielson Array**	**84.68**	**19**	P	**P**	**10 03 52.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=237,slow=4.7,SNR=14						
ILAR				LR	LR	10 37 03.0	
	comp=Z,56nm,19.2s,baz=254,slow=32						
ILAR	**Eielson Array**	**84.68**	**19**	P	**P**	**10 03 52.4**	**+0.2**
DOT	**Dot Lake**	**84.91**	**21**	P	**P**	**10 03 53.0**	**-0.4**
DOT				IAmb	IAmb	10 03 54.6	
	comp=Z,2.8nm,0.8s						
SCRK	**Sand Creek**	**85.14**	**21**	P	**P**	**10 03 54.9**	**+0.2**
SCRK				IAmb	IAmb	10 03 56.9	
	comp=Z,6.7nm,1.3s						
L27K	**Beaver Creek,**	**85.35**	**22**	P	**P**	**10 03 55.9**	**+0.3**
L27K				IAmb	IAmb	10 03 58.1	
	comp=Z,4.8nm,1.0s						
BCAR	**Beaver Creek A**	**85.37**	**22**	P	**P**	**10 03 56.5**	**+0.7**
K27K	**Chicken**	**85.84**	**21**	P	**P**	**10 03 56.8**	**-1.2**
K27K				IAmb	IAmb	10 04 01.8	
	comp=Z,4.3nm,0.9s						
TIXI	**Tiksi**	**86.05**	**350**	P	**P**	**10 03 58.7**	**-0.2**
EGAK	**Eagle**	**86.61**	**21**	P	**P**	**10 04 02.2**	**+0.5**
EGAK				IAmb	IAmb	10 04 05.7	
	comp=Z,6.9nm,0.9s						
DAWY	**Dawson**	**86.82**	**22**	P	**P**	**10 04 03.7**	**+0.8**
BMAR	**Burnt Mountain**	**87.12**	**18**	P	**P**	**10 04 03.7**	**-0.6**
K05A	**Summer Lake**	**87.51**	**46**	P	**P**	**10 04 06.7**	**-0.2**
WMQ	**Urumqi**	**87.69**	**315**	*e*P	**P**	**10 04 07.3**	**-0.3**
PINE	**Pine Mountain**	**87.81**	**45**	P	**P**	**10 04 08.1**	**-0.2**
PINE				IAmb	IAmb	10 04 35.0	
	comp=Z,5.8nm,1.2s						
NVAR	**Mina Array Bea**	**88.14**	**50**	P	**P**	**10 04 11.2**	**+1.1**
	comp=Z,1.2nm,1.0s,baz=226,slow=6.8,SNR=5.5						
EPYK	**Eagle Plains**	**89.03**	**20**	P	**P**	**10 04 13.6**	**+0.2**
EPYK				IAmb	IAmb	10 04 15.2	
	comp=Z,4.3nm,1.0s						
MK31	**Makanchi Array**	**92.18**	**317

KLNI S S 10 18 15.9 -0.6
KHKI Kahang-Kahang 1.67 248 P Pn 10 17 46.4 +0.8
SRBI Singaraja 1.97 260 P Pn 10 17 49.3 +1.4
DNP Denpasar 2.15 244 P Pn 10 17 51.0 +1.7
BYJI Banyuwangi 2.83 260 P Pn 10 17 57.5 +2.1
WBSI Waikabubak, Su 2.90 131 P Pn 10 17 55.1 -1.1
WBSI S S 10 18 36.5 -3.6
ABJI Asem Bagus 2.91 269 P Pn 10 17 58.1 +1.9
JAGI Jajag, Banyuwa 3.08 256 Pn Pn 10 17 58.4 +0.6
JAGI Jajag, Banyuwa 3.08 256 P Pn 10 17 58.1 +0.3
KMMI Kalianget 3.25 282 P Pn 10 18 02.4 +2.9
MKS Makassar 3.39 43 P Pn 10 18 02.7 +1.7
KAPI Kappang 3.73 44 P Pn 10 18 06.2 +1.6
3.6nm,0.3s,baz=224,slow=6.5,SNR=17
KAPI Kappang 3.73 44 Pn 10 18 04.2 -0.4
KAPI Kappang 3.73 44 P Pn 10 18 06.4 +1.8
BASI Baing, Sumba 4.18 127 P Pn 10 18 09.6 +0.2
BNSI Bone 4.42 42 P Pn 10 18 12.8 +0.7
BBKI Banjar Baru 4.83 331 P Pn 10 18 19.9 +3.0
MMRI Maumere 5.10 100 Pn Pn 10 18 19.4 -0.5
MMRI Maumere 5.10 100 P Pn 10 18 20.2 +0.3
1.4nm4µm312nm,0.6s
PWJI Pagerwojo 5.32 267 P Pn 10 18 23.3 +0.8
0.8nm2µm121nm,0.6s
SJI Sawahan 5.35 270 P Pn 10 18 24.9 +1.9
1.1nm10µm181nm,0.6s
UGM Wanagama 6.59 268 Pn Pn 10 18 38.0 +0.4
BATI Baumata 6.87 111 P Pn 10 18 41.5 +0.4
24nm,0.3s,baz=323,slow=1.4,SNR=16
BATI S S 10 19 58.2 -3.7
36nm,0.3s,baz=335,slow=20,SNR=6.7
BATI Baumata 6.87 111 P Pn 10 18 41.4 +0.4
0.4nm1µm79nm,0.5s
SOEI Soe 7.30 106 Pn Pn 10 18 46.4 +0.1
SOEI Soe 7.30 106 P Pn 10 18 46.3 -0.1
0.9nm2µm121nm,0.9s
CTJI Waduk Cacaban 7.95 275 P Pn 10 18 57.1 +2.9
41nm,1.4s
KPJI Karang Pucung 8.18 272 P Pn 10 18 59.3 +2.3
41µm55nm,0.5s
CISI Cisompet, Garu 9.27 270 Pn 10 19 09.1 -1.4
LEM Lembang 9.52 275 P P 10 19 15.8 -1.9
6.2nm,0.3s,baz=12,slow=16,SNR=4.8
LEM S S 10 20 59.0 -2.5
1.9nm,0.3s,baz=181,slow=23,SNR=1.2
CBJI Citeko 10.32 277 P Pn 10 19 24.5 +1.2
121nm,0.8s
SANI Sanana 10.44 58 P P 10 19 26.9 -0.9
1µm145nm,0.7s
XMIS Christmas Isla 11.70 256 P P 10 19 41.5 -0.2
KASI Kota Agung 12.78 279 P P 10 19 56.2 +2.5
1µm65nm,0.5s
FITZ Fitzroy Crossi 13.20 142 P P 10 20 00.8 +2.5
2.2nm,0.3s,baz=333,slow=6.6,SNR=53
FITZ S S 10 22 27.1 +3.0
0.2nm,0.3s,baz=338,slow=15,SNR=1.4
FITZ Fitzroy Crossi 13.20 142 P 10 20 00.5 +2.2
MDSI Maura Dua 13.31 283 P P 10 20 01.3 +1.7
618nm19nm,0.9s
KNRA Kununurra 13.82 126 P Pn 10 20 07.1 +1.5
PSA00 Pilbara Seismi 14.00 170 Pn 10 20 08.0 +0.3
PSA00 Pilbara Seismi 14.00 170 Pn 10 20 07.6 -0.2
MNAI Manna 14.52 283 P 10 20 12.8 -0.2
MTN Manton Dam 14.64 111 P Pn 10 20 15.6 +0.2
SWI Sorong 15.61 65 P P 10 20 24.9 -0.1
3µm139nm,0.8s
SIJI Sorong 15.62 65 P Pn 10 20 26.2 -0.7
3.1nm,0.3s,baz=256,slow=7.8,SNR=18
SIJI Sorong 15.62 65 P Pn 10 20 26.3 -0.7
1µm52nm,0.8s
FAKI Fak Fak 15.76 73 P 10 20 26.5 -0.1
BTDF Bukit Timah Da 16.13 304 P P 10 20 31.2 +0.6
2µm47nm,0.5s
WB0 Warramunga Arr 20.54 127 P P 10 21 18.2 +0.6
WB0 IAmb IAmb 10 21 19.5
comp=Z,19nm,0.9s
WRA Warramunga Arr 20.59 128 P P 10 21 18.6 +0.5
comp=Z,14nm,0.4s,baz=292,slow=12,SNR=93
WRA ScP ScP 10 28 21.1 -1.9
comp=Z,0.3nm,0.5s,baz=316,slow=2.2,SNR=1.9
WRA Warramunga Arr 20.59 128 P P 10 21 19.2 +1.1
WRAB Tennant Creek 20.60 128 P P 10 21 18.8 +0.6
WB2 Warramunga Arr 20.60 128 P P 10 21 18.8 +0.6
WR0 Warramunga Arr 20.76 128 P P 10 21 20.7 +0.9
RPSI Rantau Prapat 20.94 299 P P 10 21 21.3 -0.2
RPSI IAmb IAmb 10 21 23.4
comp=Z,21nm,1.2s
PSI Prapat 21.00 299 P P 10 21 21.9 -0.3
comp=Z,7.0nm,0.8s,baz=2.3,slow=9.8,SNR=4.7
GSI Gunungsitoli 21.50 294 P P 10 21 26.4 -0.3
GSI IAmb IAmb 10 21 43.8
comp=Z,32nm,1.3s
AS31 Alice Springs 22.55 136 P P 10 21 37.5 +1.3
AS31 IAmb IAmb 10 21 39.3
comp=Z,7.8nm,0.8s
ASAR Alice Springs 22.55 136 P P 10 21 37.7 +1.5
comp=Z,12nm,0.4s,baz=321,slow=7.8,SNR=298
ASAR ScP ScP 10 28 26.4 -1.5
comp=Z,1.0nm,0.6s,baz=319,slow=2.4,SNR=6.4
ASAR Alice Springs 22.55 136 P P 10 21 37.3 +1.1
FORT Forrest 25.09 157 P P 10 21 59.6 +0.7
FORT IAmb IAmb 10 22 11.5
comp=Z,12nm,0.9s
BBOO Buckleboo 30.49 147 P P 10 22 47.1 +0.3
BBOO IAmb IAmb 10 22 48.9
comp=Z,8.0nm,0.8s
CTAO Charters Tower 30.72 117 P P 10 22 49.1 +0.1
CTAO IAmb IAmb 10 22 51.8
comp=Z,8.8nm,0.7s
CM31 Chiang Mai Arr 31.63 326 P P 10 22 55.4 -1.6
CM31 IAmb IAmb 10 22 59.2
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 31.63 326 P P 10 22 58.5 +1.6
comp=Z,4.4nm,0.4s,baz=153,slow=6.7,SNR=13
CMAR Chiang Mai Arr 31.63 326 P P 10 22 56.0 -0.9
CHTO Chiang Mai 31.92 326 P P 10 22 58.0 -1.4
STKA Stephens Creek 33.08 140 P P 10 23 11.2 +1.8
comp=Z,6.6nm,0.5s,baz=310,slow=11,SNR=42
STKA Stephens Creek 33.08 140 P P 10 23 08.3 -1.0
KMI Kunming 35.55 337 ⇓P P 10 23 33.8 +3.1
KMI pmax pmax
comp=Z,8.0nm,0.9s
TOO Toolangi 39.26 143 P P 10 24 02.1 +0.8
ARMA Armidale 39.36 130 P P 10 24 01.8 -0.5
CAN Canberra 40.05 138 P P 10 24 07.8 0.0
CAN IAmb IAmb 10 24 10.9
comp=Z,16nm,1.2s
JHS Saijyo 45.09 19 P P 10 24 48.5 +0.5
JHS IAmb IAmb 10 24 50.3
comp=Z,13nm,0.8s
KSRS Korea Array 46.06 12 P P 10 24 56.6 +1.1
comp=Z,2.7nm,0.9s,baz=194,slow=8.3,SNR=12
MJAR Matsushiro Arr 48.27 23 P P 10 25 10.7 -1.8
comp=Z,1.5nm,0.8s,baz=189,slow=7.2,SNR=4.4
HHC Hu-ho-hao-te 48.62 354 eP P 10 25 14.6 -0.5
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,83nm,6.3s
GTA Gaotai 49.59 342 ⇑P P 10 25 23.4 +0.9
GTA pmax pmax
comp=Z,5.0nm,0.8s
JSD Sado 49.60 22 P P 10 25 22.4 -0.1
JSD IAmb IAmb 10 25 23.3
comp=Z,6.8nm,0.7s
JMM Marumori 50.44 24 P P 10 25 28.2 -0.6
JMM IAmb IAmb 10 25 42.6
comp=Z,19nm,1.3s
USA0B Ussuriysk Arra 53.40 13 P P 10 25 50.3 0.0
USA0B IAmb IAmb 10 25 51.5
comp=Z,6.3nm,0.8s
USRK Ussuriysk Ar. 53.40 13 P P 10 25 50.8 +0.4
comp=Z,6.4nm,0.7s,baz=186,slow=6.6,SNR=31
USRK Ussuriysk Ar. 53.40 13 P P 10 25 51.0 +0.6
ULN Ulaanbaatar 56.08 352 P P 10 26 09.7 +0.1
ULN IAmb IAmb 10 26 10.7
comp=Z,5.6nm,0.6s
ULN Ulaanbaatar 56.08 352 P P 10 26 10.2 +0.7
SONM Songino Array 56.14 351 P P 10 26 10.3 +0.4
comp=Z,10.0nm,0.6s,baz=170,slow=8.9,SNR=40
SONM Songino Array 56.14 351 P P 10 26 09.6 -0.4
SONM IAmb IAmb 10 26 11.1
comp=Z,7.8nm,0.7s
WMQ Urumqi 57.84 335 eP P 10 26 23.1 +1.3
TUWZ Tuamarina 60.23 134 P P 10 26 39.1 +1.0
TLY Talaya 60.31 350 P P 10 26 38.2 -0.2
MSEY Mahe Island 61.36 269 P P 10 26 46.0 -0.3
MSEY IAmb IAmb 10 26 52.9
comp=Z,9.5nm,0.9s
BKZ Black Stump Fm 61.50 130 P P 10 26 46.9 +0.1
URZ Urewera 61.76 129 P P 10 26 49.3 +0.9
MK31 Makanchi Array 62.52 334 P P 10 26 52.4 -0.8
MKAR Makanchi Array 62.52 334 P P 10 26 52.9 -0.3
comp=Z,1.9nm,0.3s,baz=151,slow=6.2,SNR=26
MAKZ Makanchi 62.67 334 P P 10 26 53.6 -0.6
GAR Garm 63.62 321 P P 10 27 00.4 -0.3
KKAR Karatay Array 65.97 324 P P 10 27 15.2 -0.4
ZALV Zalesovo Beam 67.23 340 P P 10 27 21.5 -1.8
comp=Z,1.1nm,0.3s,baz=143,slow=5.7,SNR=8.6
ZALV Zalesovo Beam 67.23 340 P P 10 27 22.1 -1.1
OPO Ambohidratompo 68.64 253 P P 10 27 31.8 -1.2
comp=Z,7.3nm,0.9s,baz=114,slow=6.0,SNR=5.4
VNDA Vanda 73.52 171 P P 10 28 02.4 +1.6
comp=Z,0.4nm,0.6s,baz=340,slow=3.9,SNR=2.2
VNDA Vanda 73.52 171 P P 10 28 01.3 +0.5
VNDA IAmb IAmb 10 28 16.6
comp=Z,4.1nm,1.3s
ABKAR Akbulak array 75.49 325 P P 10 28 11.8 -0.7
ABKAR Akbulak array 75.49 325 P P 10 28 11.9 -0.6
ABKAR IAmb IAmb 10 28 12.4
comp=Z,2.1nm,0.8s
QSPA South Pole Qui 82.25 180 P P 10 28 48.7 -0.2
QSPA IAmb IAmb 10 28 52.2
comp=Z,8.0nm,1.4s
LSZ Lusaka 87.02 255 P P 10 29 13.2 -0.4
BOSA Boshof 88.02 242 P P 10 29 18.2 +0.1
comp=Z,1.3nm,0.8s,baz=68,slow=5.4,SNR=1.6
BOSA Boshof 88.02 242 P P 10 29 18.4 +0.3
BOSA IAmb IAmb 10 29 38.8
comp=Z,7.6nm,1.4s
LBTB Lobatse 88.19 245 PcP 10 29 20.0 -0.5
LBTB Lobatse 88.19 245 P P 10 29 18.6 -0.4
PPT2 Papeete2 90.78 108 eLR LR 10 29 41.0
comp=Z,100nm,26.8s
SNAA Sanae 91.72 196 P P 10 29 35.8 +1.4
SNAA IAmb IAmb 10 29 52.0
comp=Z,3.9nm,1.4s
TORD Torodi Ar. Bea 116.45 281 PKP PKPdf 10 35 09.2 -0.9
comp=Z,0.8nm,0.5s,baz=46,slow=2.0,SNR=6.9
TORD Torodi Ar. Bea 116.45 281 PKPdf 10 35 09.0 -1.2
JLU Jordanelle 125.84 45 PKPdf 10 35 26.6 -1.2
TXAR Lajitas Array 136.04 55 PKP PKiKP 10 35 48.5 -0.5
comp=Z,0.1nm,0.5s,baz=239,slow=47,SNR=2.0
CPUP Villa Florida 145.72 189 PKPbc PKPab 10 36 06.6 +0.3
comp=Z,2.7nm,0.7s,baz=188,slow=1.9,SNR=8.7
CPUP Villa Florida 145.72 189 PKPdf 10 36 02.6 -2.0
BDFB Brasilia 152.53 212 PKPbc PKPbc 10 36 21.7 -1.3
comp=Z,1.6nm,0.4s,baz=0.0,slow=5.1,SNR=1.6

*IDC **14** 10:52:49.8±0.9, 30°.97N×143°.29E, h0km, mb3.9/8, mb1 4.1/12, mb1mx3.9/42, mbtmp3.9/12, ML3.3/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/31, Error ellipse: s-maj=23.5km s-min=20.6km az=57.0*
*JMA **14** 10:52:51.8±0.3, 30°.99N×142°.98E, h46km, M4.2*
ISC 14 10:52:53.3±0.8, 30°.99N±0°.06×143°.03E±0°.09, h30km, n29, σ2^{s}17/35, mb4.1/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.44**	**308**		*eS*		**10 54 23.0**	**-1.7**
JHJ2	**Mitsune**	**3.46**	**309**	P	**Pn**		**10 53 45.2**	**+0.2**
JHJ2				*eS*	**Sn**		**10 54 24.0**	**-0.9**
JHJ	**Hachijo jima 2**	**3.48**	**308**	Pn	**Pn**		**10 53 45.6**	**+0.3**
	6.5nm,0.3s,baz=359,slow=21,SNR=8.6							
JHJ				Sn	**Sn**		**10 54 24.1**	**-1.5**
	37nm,0.3s,baz=254,slow=23,SNR=7.7							
CBIJ	**Chichi jima**	**3.95**	**191**	P	**Pn**		**10 53 51.3**	**-0.5**
CBIJ				*eS*	**Sn**		**10 54 32.6**	**-4.5**
JCJ	**Chichijima**	**3.95**	**191**	Pn	**Pn**		**10 53 51.5**	**-0.3**
	5.2nm,0.3s,baz=7.3,slow=19,SNR=14							
JCJ				Sn	**Sn**		**10 54 30.9**	**-6.2**
	22nm,0.3s,baz=292,slow=21,SNR=12							
BSO1	**Boso 1**	**4.04**	**335**	P	**Pn**		**10 53 52.3**	**-0.3**
BSO1				*eS*	**Sn**		**10 54 37.7**	**-1.0**
JMKN	**Mikurajimanish**	**4.11**	**316**	*eS*	**Sn**		**10 54 40.2**	**-0.8**
BSO3	**Boso 3**	**4.36**	**332**	P	**Pn**		**10 53 57.7**	**+0.6**
BSO3				*eS*	**Sn**		**10 54 47.0**	**+0.3**
BSO4	**Boso 4**	**4.59**	**331**	P	**Pn**		**10 54 00.7**	**+0.2**
JOD2	**Odawara 2**	**5.40**	**323**	P	**Pn**		**10 54 11.6**	**-0.1**
JOD2				*eS*	**Sn**		**10 55 10.8**	**-2.0**
JHU	**Hanno**	**5.78**	**328**	P	**Pn**		**10 54 16.7**	**-0.2**
JHU				*eS*	**Sn**		**10 55 18.7**	**-3.5**
JHO	**Hitachi**	**5.97**	**341**	P	**Pn**		**10 54 18.9**	**-0.7**
JHO				*eS*	**Sn**		**10 55 22.4**	**-4.6**
JAG	**Ashikaga**	**6.19**	**332**	P	**Pn**		**10 54 22.2**	**-0.4**
JAG				*eS*	**Sn**		**10 55 28.8**	**-3.5**
MJAR	**Matsushiro Arr**	**6.84**	**325**	Pn	**Pn**		**10 54 31.9**	**+0.4**
	0.4nm,0.3s,baz=139,slow=12,SNR=17							
MJAR				Sn	**Sn**		**10 55 47.0**	**-1.4**
	0.5nm,0.3s,baz=119,slow=34,SNR=5.0							
MAT	**Matsushiro**	**6.84**	**325**	P	**Pn**		**10 54 32.1**	**+0.5**
MAT				S	**Sn**		**10 55 46.1**	**-2.4**
ASAJ	**Asahikawa**	**13.11**	**359**	Pn	**Pn**		**10 55 55.1**	**-2.3**
	0.7nm,0.3s,baz=218,slow=12,SNR=10.0							
ASAJ				Sn	Sn		10 58 08.5	-14
	0.1nm,0.3s,baz=216,slow=24,SNR=1.7							
KSRS	**Korea Array**	**14.06**	**301**	Pn	**Pn**		**10 56 12.7**	**+2.4**
	0.1nm,0.3s,baz=112,slow=13,SNR=9.6							
KLR	**Kul'dur**	**20.12**	**338**	P	Pn		10 57 25.5	-1.1
	0.8nm,0.6s,baz=189,slow=13,SNR=2.0							
H11N2	**WAKE ISLAND Hy**	**24.25**	**112**	T	T		11 23 03.1	
	baz=303							
H11N1	**WAKE ISLAND Hy**	**24.25**	**112**	T	T		11 23 00.8	
	baz=303							
H11N3	**WAKE ISLAND Hy**	**24.27**	**112**	T	T		11 23 03.6	
	baz=303							
PETK	**Petropavlovsk-**	**24.55**	**22**	LR	LR		11 07 15.8	
	comp=Z,11nm,20.8s,baz=127,slow=35							
SONM	**Songino Array**	**32.55**	**312**	P	**P**		**10 59 24.9**	**+3.1**
	2.3nm,0.8s,baz=111,slow=8.8,SNR=7.5							
MKAR	**Makanchi Array**	**48.65**	**307**	P	P		11 01 38.5	+4.0
	1.5nm,0.6s,baz=90,slow=8.4,SNR=7.4							
WRA	**Warramunga Arr**	**51.32**	**190**	P	**P**		**11 01 55.3**	**+0.5**
	1.0nm,0.7s,baz=8.6,slow=8.0,SNR=5.0							
ILAR	**Eielson Array**	**53.97**	**30**	P	**P**		**11 02 13.8**	**-0.1**
	0.9nm,1.0s,baz=250,slow=6.2,SNR=5.9							
YKA	**Yellowknife Ar**	**68.39**	**29**	P	**P**		**11 03 50.6**	**-1.0**
	1.7nm,0.8s,baz=294,slow=6.0,SNR=4.1							
NVAR	**Mina Array Bea**	**77.56**	**53**	P	**P**		**11 04 48.3**	**+1.6**
	1.9nm,0.9s,baz=288,slow=5.6,SNR=15							
TXAR	**Lajitas Array**	**92.69**	**53**	P	**P**		**11 06 03.5**	**+0.7**
	0.6nm,0.9s,baz=306,slow=3.0,SNR=6.7							

*DJA **14** 10:53:49.0±1.3, 4°.1N±13°.1×12°.7E±°, h10km, M4.5/10, mb4.7/8, mB4.8/4, MLv4.6/10, Mw(mB)4.1/4*
*NEIC **14** 10:53:53.4±1.2, 3°.61N±0°.05×127°.32E±0°.07, h61km±7km, mb4.6/47, Error ellipse: s-maj=10.2km s-min=7.1km az=114.0*
*IDC **14** 10:53:54.9±1.6, 3°.58N×127°.27E, h75km±15km, mb3.9/22, mb1 4.0/25, mb1mx3.9/41, mbtmp4.2/25, MS3.2/9, Ms1 3.2/9, ms1mx3.0/31, Error ellipse: s-maj=21.2km s-min=8.4km az=69.0*
ISC 14 10:53:51.7±0.3, 3°.63N±0°.04×127°.27E±0°.06, h45km, n120, σ1^{s}91/129, mb4.5/47, MS3.4/8, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SGSI	**Sangihe**	**1.74**	**272**	P	**Pn**		**10 54 20.3**	**+0.8**
GAMI	**Galela, Maluku**	**1.85**	**164**	P	**Pn**		**10 54 22.8**	**+1.8**
TNTI	**Ternate**	**2.84**	**178**		**Pn**		**10 54 35.8**	**+1.3**
TNTI	**Ternate**	**2.84**	**178**	P	**Pn**		**10 54 38.5**	**+4.0**
DDMP	**Don Marcelino,**	**2.91**	**328**	*eP*	**Pn**		**10 54 33.9**	**-1.7**
DDMP				*eS*	**Sn**		**10 55 06.8**	**-2.6**
MATI	**Mati**	**3.45**	**343**	*eP*	**Pn**		**10 54 45.3**	**+2.3**
DAV	**Davao City (W)**	**3.81**	**334**	P	**Pn**		**10 54 51.5**	**+3.5**
	16nm,0.3s,baz=353,slow=6.3,SNR=1.7							
DAV				S	**Sn**		**10 55 37.6**	**+6.0**
	32nm,0.3s,baz=276,slow=22,SNR=1.6							
DAV	**Davao City (W)**	**3.81**	**334**		**Pn**		**10 54 50.9**	**+2.9**
SKMP	**Bagumbayan, Su**	**3.96**	**317**	*eP*	**Pn**		**10 54 49.8**	**-0.2**
SKMP				*eS*	**Sn**		**10 55 32.5**	**-2.6**
KCP	**Kidapawan**	**4.00**	**327**	*eP*	**Pn**		**10 54 51.5**	**+0.8**
KCP				*i*	**Sn**		**10 55 41.4**	**+5.0**
KMSI	**Cibinong**	**4.47**	**227**	P	**Pn**		**10 54 59.5**	**+2.5**
GTOI	**Gorontalo**	**5.19**	**235**	P	**Pn**		**10 55 10.3**	**+3.4**
	0.2nm563nm34nm,0.6s							

CGP Cagayan de Oro 5.44 332 ⇓eP Pn 10 55 18.4 +8.0
CGP *eS* **Sn** **10 56 12.9 +1.3**
BUTP Butuan 5.56 343 *eP* **Pn** **10 55 14.5 +2.6**
BUTP *eS* **Sn** **10 56 18.0 +3.5**
SWI Sorong 5.98 138 P **Pn** **10 55 20.8 +3.1**
0.2nm43nm,0.5s
SIJI Sorong 5.99 138 P **Pn** **10 55 20.7 +2.8**
11nm,0.3s,baz=319,slow=14,SNR=31
SIJI S **Sn** **10 56 26.5 +1.3**
2.7nm,0.3s,baz=188,slow=24,SNR=1.5
SIJI LR LR 10 57 50.0
comp=Z,429nm,21.5s,baz=317,slow=40
SIJI Sorong 5.99 138 P **Pn** **10 55 20.6 +2.7**
0.1nm701nm17nm,0.5s
MRSI Marisa 6.18 240 P **Pn** **10 55 24.1 +3.7**
0.6nm2µm163nm,0.6s
GLSP General Luna, 6.22 350 *eP* **Pn** **10 55 23.9 +2.9**
GLSP *eS* **Sn** **10 56 29.3 -1.7**
LUWI Luwuk 6.46 224 **Pn** **10 55 26.9 +2.6**
LUWI Luwuk 6.46 224 P Pn 10 55 29.3 +5.0
0.8nm107nm,0.9s
TOLI2 Tolitoli 6.95 249 Pn **Pn** **10 55 32.7 +1.6**
APSI Ampana 7.20 231 P Pn 10 55 39.3 +4.8
0.2nm708nm56nm,0.6s
CNOP Candoni, Negro 7.69 323 *eP* **Pn** **10 55 43.8 +2.6**
MPSI Mapaga 8.06 246 P **Pn** **10 55 49.3 +3.0**
13nm,0.7s
FAKI Fak Fak 8.19 143 Pn **Pn** **10 55 48.3 +0.3**
FAKI Fak Fak 8.19 143 P Pn **10 55 50.5 +2.5**
KAPI Kappang 11.41 221 LR LR 11 00 25.3
comp=Z,50nm,19.7s,baz=69,slow=34
BATI Baumata 14.20 195 P **Pn** **10 57 12.8 +2.4**
1.7nm,0.3s,baz=280,slow=21,SNR=1.5
MTN Manton Dam 16.80 167 P **P** **10 57 45.5 -0.1**
MTN IAmb IAmb 10 58 04.7
comp=Z,40nm,1.4s
KNRA Kununurra 19.23 176 P **Pn** **10 58 13.5 -0.1**
TWG Pinlang 20.00 343 P **P** **10 58 19.4 -1.3**
TWG IAmb IAmb 10 58 19.9
comp=Z,34nm,1.0s
YULB Yu-li 20.48 344 P **P** **10 58 24.5 -1.4**
YULB IAmb IAmb 10 58 26.2
comp=Z,17nm,0.8s
TPUB Ta-pu 20.59 342 P **P** **10 58 25.8 -1.2**
SSLB Suanglung 20.95 344 P **P** **10 58 30.9 -0.1**
SSLB IAmb IAmb 10 58 31.6
comp=Z,33nm,0.6s
FITZ Fitzroy Crossi 21.64 184 P **P** **10 58 38.7 +0.3**
comp=Z,3.1nm,0.5s,baz=8.4,slow=5.8,SNR=22
FITZ Fitzroy Crossi 21.64 184 P **P** **10 58 38.7 +0.3**
YHNB Yeheng 21.68 345 P **P** **10 58 37.8 -1.1**
YHNB IAmb IAmb 10 58 41.1
comp=Z,22nm,0.6s
WB0 Warramunga Arr 24.28 164 P **P** **10 59 04.6 -0.4**
WB0 IAmb IAmb 10 59 30.8
comp=Z,9.0nm,0.7s
WRAB Tennant Creek 24.42 164 P **P** **10 59 05.7 -0.6**
WRAB IAmb IAmb 10 59 23.9
comp=Z,12nm,0.9s
WRA Warramunga Arr 24.43 164 P **P** **10 59 06.1 -0.2**
comp=Z,2.4nm,0.5s,baz=344,slow=11,SNR=54
WRA Warramunga Arr 24.43 164 P **P** **10 59 04.8 -1.6**
WB2 Warramunga Arr 24.43 164 P **P** **10 59 06.0 -0.4**
WB2 IAmb IAmb 10 59 24.0
comp=Z,11nm,0.9s
WR0 Warramunga Arr 24.50 163 P **P** **10 59 07.2 +0.3**
WR0 IAmb IAmb 10 59 24.3
comp=Z,8.8nm,0.7s
PSA00 Pilbara Seismi 26.08 196 P **P** **10 59 20.0 -1.2**
PSA00 IAmb IAmb 10 59 41.5
comp=Z,15nm,1.1s
PSA00 Pilbara Seismi 26.08 196 P **P** **10 59 20.0 -1.2**
PSA00 IAmb IAmb 10 59 41.3
comp=Z,5.3nm,1.1s
AS31 Alice Springs 27.89 167 P **P** **10 59 36.8 -0.8**
ASAR Alice Springs 27.89 167 P **P** **10 59 37.5 0.0**
comp=Z,2.6nm,0.4s,baz=343,slow=7.0,SNR=26
ASAR Alice Springs 27.89 167 P **P** **10 59 37.0 -0.5**
NJ2 Nanjing 29.36 345 *eP* **P** **10 59 49.8 -0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GSI Gunungsitoli 29.76 266 P **P** **10 59 53.4 -0.9**
GSI IAmb IAmb 11 00 13.4
comp=Z,21nm,1.1s
ENH Enshi 31.39 330 P **P** **11 00 07.9 -0.7**
ENH IAmb IAmb 11 00 09.3
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 31.39 300 P **P** **11 00 08.6 -0.1**
comp=Z,3.8nm,0.9s,baz=115,slow=7.1,SNR=15
CMAR Chiang Mai Arr 31.39 300 P **P** **11 00 08.3 -0.4**
CHTO Chiang Mai 31.54 301 P **P** **11 00 09.7 -0.3**
CHTO IAmb IAmb 11 00 11.0
comp=Z,8.0nm,0.9s
KSRS Korea Array 33.67 1 P **P** **11 00 28.6 +0.3**
comp=Z,0.7nm,0.7s,baz=177,slow=9.3,SNR=4.2
KSRS LR LR 11 18 49.5
comp=Z,26nm,18.6s,baz=184,slow=44
FORT Forrest 34.22 179 P **P** **11 00 33.0 -0.2**
FORT IAmb IAmb 11 00 50.2
comp=Z,12nm,0.8s
MORW Morawa 34.25 198 P **P** **11 00 32.9 -0.6**
MORW IAmb IAmb 11 00 51.4
comp=Z,22nm,1.5s
MJAR Matsushiro Arr 34.27 16 P **P** **11 00 32.2 -1.4**
comp=Z,0.9nm,0.5s,baz=190,slow=9.4,SNR=4.1
MJAR Matsushiro Arr 34.27 16 P **P** **11 00 33.7 +0.1**
XAN Xi'an 34.76 333 P **P** **11 00 37.1 -0.8**
XAN pP pwP 11 00 50.8 -1.1
XAN pmax pmax
comp=Z,14nm,0.8s
DL2 Dalian 35.49 352 P **P** **11 00 46.6 +2.5**
DL2 pmax pmax
comp=Z,17nm,0.6s
EIDS Eidsvold 36.94 143 P **P** **11 00 56.0 -0.6**
BBOO Buckleboo 37.18 168 P **P** **11 00 58.3 -0.2**
BBOO IAmb IAmb 11 01 25.3
comp=Z,14nm,1.3s
NWAO Narrogin (SRO) 37.58 194 P **P** **11 01 01.2 -0.7**
BJT Baijiatuan 37.60 346 P **P** **11 01 01.9 -0.2**
BJI Beijing 37.62 346 P **P** **11 01 02.6 +0.4**
BJI S **S** **11 06 48.8 +0.1**
BJI PcS **PcS** **11 07 07.0 -0.7**
BJI SS **SS** **11 09 37.5 +2.7**
BJI Beijing 37.62 346 ScS ScS 11 11 06.4 -5.1
BJI pmax pmax
comp=Z,18nm,0.7s
STKA Stephens Creek 37.84 160 P **P** **11 01 04.8 +0.6**
comp=Z,2.8nm,0.4s,baz=328,slow=9.7,SNR=18
STKA LR LR 11 18 45.0
comp=Z,79nm,18.9s,baz=16,slow=39
STKA Stephens Creek 37.84 160 P **P** **11 01 03.2 -1.0**
LZH Lanzhou 38.87 329 *eP* **P** **11 01 12.3 -0.7**
LZH pP pwP 11 01 26.0 -1.4
LZH sP sP 11 01 32.3 +2.7
LZH pmax pmax
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 39.67 341 *eP* **P** **11 01 19.8 +0.3**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,61nm,6.6s
SHL Shillong 40.37 306 P **P** **11 01 24.8 -0.9**
USRK Ussuriysk Ar. 40.62 5 P **P** **11 01 28.1 +0.9**
comp=Z,1.3nm,0.8s,baz=198,slow=7.6,SNR=1.6
USRK LR LR 11 22 34.7
comp=Z,12nm,18.3s,baz=226,slow=42
ARMA Armidale 41.08 147 P **P** **11 01 30.6 -0.8**
ARMA IAmb IAmb 11 01 44.0
comp=Z,26nm,1.5s
ASAJ Asahikawa 42.54 16 P **P** **11 01 43.4 +0.5**
comp=Z,3.3nm,0.8s,baz=207,slow=6.8,SNR=3.2
KLR Kul'dur 45.60 4 P **P** **11 02 07.2 -0.1**
comp=Z,0.8nm,0.4s,baz=185,slow=2.0,SNR=3.5
SONM Songino Array 47.57 341 P **P** **11 02 23.1 +0.1**
comp=Z,1.6nm,0.5s,baz=154,slow=8.2,SNR=7.9
SONM Songino Array 47.57 341 P **P** **11 02 23.1 +0.1**
SONM IAmb IAmb 11 02 24.8
comp=Z,9.6nm,1.5s
TLY Talaya 51.80 341 LR LR 11 25 16.1
comp=Z,29nm,21.1s,baz=149,slow=36
WMQ Urumqi 53.12 325 *eP* **P** **11 03 06.4 +1.4**
PETK Petropavlovsk- 55.32 22 P **P** **11 03 22.2 +1.4**
comp=Z,2.8nm,0.7s,baz=207,slow=6.2,SNR=3.1
MK31 Makanchi Array 57.95 325 P **P** **11 03 39.3 -0.3**
MK31 IAmb IAmb 11 03 40.6

comp=Z,4.4nm,0.6s
MKAR Makanchi Array 57.95 325 P **P** 11 03 40.1 +0.5
comp=Z,5.6nm,0.5s,baz=120,slow=8.4,SNR=32
MKAR LR LR 11 29 60.0
comp=Z,56nm,18.4s,baz=109,slow=37
MKAR Makanchi Array 57.95 325 P **P** 11 03 39.4 -0.2
ZAA0 Zalesovo Array 60.93 333 P **P** 11 03 59.5 -0.4
ZAA0 IAmb IAmb 11 04 02.8
comp=Z,3.2nm,0.6s
ZALV Zalesovo Beam 60.93 333 P **P** 11 03 59.4 -0.5
comp=Z,3.1nm,0.4s,baz=127,slow=6.5,SNR=12
ZALV LR LR 11 31 39.6
comp=Z,14nm,19.8s,baz=160,slow=37
ZALV Zalesovo Beam 60.93 333 P **P** 11 03 59.2 -0.7
LBZ Lake Benmore 61.29 146 P **P** 11 04 02.2 -0.4
BKZ Black Stump Fm 62.14 138 P **P** 11 04 07.9 -0.6
GAR Garm 62.39 313 P **P** 11 04 10.2 -0.1
KK31 Karatay Array 63.68 317 P **P** 11 04 18.5 -0.1
KKAR Karatay Array 63.68 317 P **P** 11 04 17.9 -0.7
KKAR Karatay Array 63.68 317 P **P** 11 04 17.9 -0.7
BRVK Borovoye 67.78 327 P **P** 11 04 44.9 +0.1
TIKI Tiksi 67.94 1 P **P** 11 04 45.0 -0.4
NRIK Noril'sk 70.66 346 P **P** 11 05 03.7 +1.3
comp=Z,3.6nm,0.5s,baz=116,slow=6.7,SNR=5.1
NRIK Noril'sk 70.66 346 P **P** 11 05 01.6 -0.7
NRIK IAmb IAmb 11 05 06.7
comp=Z,14nm,1.5s
CASY Casey 70.78 187 P **P** 11 05 03.2 +0.2
CASY IAmb IAmb 11 05 26.1
comp=Z,5.9nm,1.1s
ABKAR Akbulak array 72.57 321 P **P** 11 05 14.3 +0.1
ABKAR IAmb IAmb 11 05 15.4
comp=Z,7.2nm,0.9s
ABKAR Akbulak array 72.57 321 P **P** 11 05 14.4 +0.1
ARU Arti 75.31 328 P **P** 11 05 29.6 -0.6
KDAK Kodiak Island 81.69 32 P **P** 11 06 06.3 +1.1
comp=Z,4.9nm,1.0s,baz=292,slow=5.4,SNR=2.3
IMAR Indian Mountai 82.22 24 P **P** 11 06 06.9 -1.0
KBZ Khabaz 83.44 313 P **P** 11 06 15.4 +0.7
comp=Z,2.5nm,0.8s,baz=97,slow=4.1,SNR=5.1
TOLK Toolik Lake Re 84.14 21 P **P** 11 06 17.3 -0.5
TOLK IAmb IAmb 11 06 27.7
comp=Z,8.0nm,1.5s
ILAR Eielson Array 84.97 25 P **P** 11 06 22.6 +0.7
comp=Z,0.2nm,0.6s,baz=247,slow=4.7,SNR=2.3
KLMR Klimovskoe 85.76 331 *eP* **P** 11 06 21.9 -4.1
KLMR AMP 11 06 29.1
comp=Z,12nm,1.3s
BMAR Burnt Mountain 85.96 23 **P** 11 06 27.4 +0.5
BCAR Beaver Creek A 87.22 27 P **P** 11 06 32.9 -0.3
BRTR Keskin Array B 90.50 310 P **P** 11 06 48.0 -1.3
comp=Z,0.2nm,0.5s,baz=90,slow=4.0,SNR=3.2
ARCES ARCESS Array B 90.73 340 P **P** 11 06 48.5 -1.1
comp=Z,1.2nm,0.6s,baz=87,slow=6.2,SNR=9.0
ARCES ARCESS Array B 90.73 340 P **P** 11 06 48.6 -0.9
FINES FINESS Array B 92.18 332 P **P** 11 06 55.3 -1.1
comp=Z,1.0nm,0.7s,baz=29,slow=4.4,SNR=5.5
FINES FINESS Array B 92.18 332 P **P** 11 06 55.6 -0.7
AKASG Malin Array Be 92.31 321 P **P** 11 06 56.0 -1.2
comp=Z,1.7nm,0.6s,baz=64,slow=4.8,SNR=3.9
MNK Minsk 92.52 325 *iP* **P** 11 06 56.0 -2.1
comp=E,1.0nm,1.0s
MNK *i* P **P** 11 06 56.0 -2.1
comp=N,14nm,1.0s
MNK *i* P **P** 11 06 56.0 -2.1
comp=Z,9.0nm,1.0s,baz=260
MNK *i* PP **PP** 11 10 37.2 -2.3
MNK *i* PPP PPP 11 12 36.8
MNK *i* SKKS **SKSac** 11 17 30.8 +2.8
MNK *i* PS PS 11 18 39.1 -36
MNK *i* SS **SS** 11 24 20.7 +10
MNK *i* SSS SSS 11 28 16.6
MNK *i* LQ LQ 11 37 44.5
MNK *i* LR LR 11 42 31.3
MNK *i* LRM MLR 11 50 17.9
comp=E,6.0nm,19.0s
MNK *i* LRM MLR 11 50 19.2
comp=N,79nm,19.0s
MNK *i* LRM MLR 11 51 01.9
comp=Z,55nm,18.4s
QSPA South Pole Qui 93.53 180 P **P** 11 07 01.9 -0.8
NOA NORSAR Array B 99.12 334 LR LR 11 56 03.1
comp=Z,14nm,18.4s,baz=95,slow=38
TORD Torodi Ar. Bea 123.47 288 PKP **PKPdf** 11 12 44.3 -0.8
comp=Z,1.1nm,1.1s,baz=160,slow=4.6,SNR=2.4

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*IDC **14** 10:57:58.9±2.2, 7˚.16S×129˚.64E, h123km±27km, mb3.3/1, mb1 3.5/6, mb1mx3.2/26, mbtmp3.9/6, Error ellipse: s-maj=28.5km s-min=19.9km az=116.0*
ISC 14 10:57:57.7±1.0, 7˚.17S±0˚.07×129˚.9E±0˚.1, h150km, n6, σ4§56/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.41**	**13**	P		**Pn**	**Pn**	**10 59 30.3**	**+0.3**
	1.4nm,0.3s,baz=256,slow=23,SNR=12								
SIJI				S			**Sn**	**11 00 36.5**	**-5.8**
	baz=185,slow=17								
BATI	**Baumata**	**6.82**	**243**	P		**Pn**	**Pn**	**10 59 35.9**	**+0.5**
	18nm,0.3s,baz=118,slow=4.1,SNR=11								
BATI				S			**Sn**	**11 00 48.5**	**-3.5**
	3.7nm,0.3s,baz=94,slow=15,SNR=1.7								
FITZ	**Fitzroy Crossi**	**11.61**	**200**	P		**Pn**	**Pn**	**11 00 38.8**	**-0.1**
	0.3nm,0.3s,baz=23,slow=15,SNR=8.5								
FITZ				S			Sn	11 02 36.4	-11
	0.8nm,0.3s,baz=86,slow=17,SNR=5.1								
WRA	**Warramunga Arr**	**13.43**	**161**	P			**Pn**	**11 01 04.1**	**+1.7**
	0.6nm,0.3s,baz=337,slow=12,SNR=4.8								
WRA				S			Sn	11 03 23.2	-7.9
	1.0nm,0.3s,baz=338,slow=23,SNR=8.4								
ASAR	**Alice Springs**	**16.86**	**167**	P			**Pn**	**11 01 49.1**	**+4.1**
	0.2nm,0.3s,baz=340,slow=9.8,SNR=1.9								
ASAR				S			**S**	**11 04 46.0**	**-6.6**
	0.1nm,0.3s,baz=342,slow=24,SNR=1.7								
MKAR	**Makanchi Array**	**68.28**	**327**	P			**P**	**11 08 46.4**	**+4.0**
	0.4nm,0.5s,baz=120,slow=8.1,SNR=4.1								

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*IDC **14** 11:13:37.1±1.0, 9˚.56S×71˚.32W, h582km±13km, mb2.9/8, mb1 3.2/14, mb1mx3.0/32, mbtmp4.0/14, Error ellipse: s-maj=19.8km s-min=13.9km az=37.0*
*VAO **14** 11:13:37.4±0.3, 9˚.52S×71˚.35W, h574km±4km, mb3.9*
ISC 14 11:13:38.0±0.5, 9˚.55S±0˚.08×71˚.39W±0˚.07, h602km, n53, σ1§24/57, mb3.6/8, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.23**	**324**	*eP*		**P**	**P**	**11 14 50.9**	**-2.6**
CZSB				*eS*		**S**	**S**	**11 15 49.3**	**-5.6**
ETMB	**Extrema**	**5.11**	**93**	*eP*		**P**	**P**	**11 15 09.4**	**-2.6**
NNA	**Nana**	**5.88**	**245**	P		**P**	**P**	**11 15 16.3**	**-2.0**
	2.4nm,0.3s,baz=40,slow=6.2,SNR=4.8								
NNA				S			**S**	**11 16 38.8**	**-1.4**
	1.1nm,0.3s,baz=225,slow=15,SNR=3.7								
ATAH	**Atahualpa**	**7.33**	**289**	P			**P**	**11 15 31.7**	**0.0**
	1.6nm,0.3s,baz=67,slow=7.2,SNR=8.9								
ATAH				S			**S**	**11 17 04.8**	**+0.1**
	0.4nm,0.3s,baz=307,slow=20,SNR=3.9								
LPAZ	**La Paz**	**7.41**	**155**	P			**P**	**11 15 30.5**	**-2.1**
	0.3nm,0.3s,baz=340,slow=4.6,SNR=7.8								
LPAZ				PcP			**PcP**	**11 21 05.1**	**+1.5**
	0.2nm,0.3s,baz=359,slow=2.5,SNR=5.4								
LPAZ	**La Paz**	**7.41**	**155**	*eP*		**P**	**P**	**11 15 30.7**	**-1.9**
VILB	**Vilhena**	**11.49**	**108**	*eP*		**P**	**P**	**11 16 10.9**	**-0.8**
SIV	**San Ignacio**	**11.93**	**124**	P		**P**	**P**	**11 16 14.5**	**-1.7**
	1.6nm,0.3s,baz=298,slow=9.7,SNR=29								
OTAV	**Otavalo**	**12.00**	**324**	*eP*		**P**	**P**	**11 16 16.5**	**-0.8**
LVC	**Limon Verde**	**13.20**	**170**	P		**P**	**P**	**11 16 29.3**	**+0.1**
	0.6nm,0.3s,baz=4.9,slow=7.1,SNR=2.3								
LVC	**Limon Verde**	**13.20**	**170**	*eP*		**P**	**P**	**11 16 29.6**	**+0.3**
PTLB	**Pontes e Lacer**	**13.32**	**117**	*eP*		**P**	**P**	**11 16 29.1**	**-1.1**
PTGA	**Pitinga**	**14.35**	**53**	P		**P**	**P**	**11 16 39.6**	**-0.7**
	3.6nm,0.3s,baz=334,slow=23,SNR=19								
CLDB	**Colider**	**15.41**	**96**	*eP*		**P**	**P**	**11 16 49.2**	**-0.7**
NPGB	**Novo Progresso**	**16.06**	**82**	*eP*		**P**	**P**	**11 16 55.5**	**-0.5**
BOAV	**Boa Vista**	**16.07**	**43**	*eP*		**P**	**P**	**11 16 56.7**	**+0.7**
ITTB	**Itaituba**	**16.37**	**73**	*eP*		**P**	**P**	**11 16 59.0**	**+0.1**
SALV	**Santo Antonio**	**16.56**	**114**	*eP*		**P**	**P**	**11 17 01.3**	**+0.8**
PP1B	**Ponte de Pedra**	**17.93**	**118**	*eP*		**P**	**P**	**11 17 13.4**	**+0.4**
AQDB	**Aquidauana**	**18.63**	**127**	*eP*		**P**	**P**	**11 17 19.6**	**+0.2**
MALB	**Monte Alegre**	**18.67**	**67**	*eP*		**P**	**P**	**11 17 20.6**	**+0.8**
SNDB	**Serra Nova Dou**	**19.89**	**99**	*eP*		**P**	**P**	**11 17 31.4**	**+0.5**
ARAG	**Araguaiana, MT**	**20.05**	**110**	*eP*		**P**	**P**	**11 17 32.5**	**+0.2**
MCPB	**Macapa, AP**	**21.30**	**66**	*eP*		**P**	**P**	**11 17 43.1**	**-0.4**
CPUP	**Villa Florida**	**21.36**	**143**	*eP*		**P**	**P**	**11 17 44.4**	**+0.6**
PEXB	**Peixe**	**22.82**	**98**	*eP*		**P**	**P**	**11 17 57.8**	**+0.7**
MDP	**Montagnes des**	**23.68**	**53**	P		**P**	**P**	**11 18 04.5**	**-0.3**
	7.9nm,1.0s,baz=44,slow=7.1,SNR=1.3								
SDBA	**SAO DESIDERIO**	**26.15**	**99**	*eP*		**P**	**P**	**11 18 26.9**	**+0.3**
RCLB	**Rio Claro- Sao**	**26.21**	**122**	*eP*		**P**	**P**	**11 18 27.6**	**+0.7**
JANB	**Januaria**	**27.00**	**104**	*eP*		**P**	**P**	**11 18 33.9**	**-0.1**
MC01	**Montes Claros**	**27.64**	**108**	*eP*		**P**	**P**	**11 18 39.0**	**-0.5**
ROSB	**Rosrio**	**27.89**	**78**	*eP*		**P**	**P**	**11 18 41.0**	**-0.6**
PARB	**Paraibuna**	**28.20**	**122**	*eP*		**P**	**P**	**11 18 45.6**	**+1.3**
NBPS	**Pedro II - PI**	**30.15**	**82**	*eP*		**P**	**P**	**11 19 02.0**	**+0.7**
NBPN	**Ponto Novo - B**	**30.72**	**95**	*eP*		**P**	**P**	**11 19 06.3**	**+0.2**
BSFB	**Barra de Sao F**	**30.97**	**111**	*eP*		**P**	**P**	**11 19 09.1**	**+0.9**
PLCA	**Paso Flores**	**31.07**	**179**	P		**P**	**P**	**11 19 08.2**	**-0.5**
	1.7nm,0.7s,baz=314,slow=7.2,SNR=5.5								
PLCA	**Paso Flores**	**31.07**	**179**	*eP*		**P**	**P**	**11 19 08.4**	**-0.3**
GDU01	**Guandu, BA**	**31.42**	**101**	*eP*		**P**	**P**	**11 19 12.1**	**0.0**
NBPB	**Pedra_Branca-C**	**31.77**	**85**	*eP*		**P**	**P**	**11 19 16.0**	**+0.9**
NBCL	**Cascavel-CE**	**33.27**	**83**	*eP*		**P**	**P**	**11 19 27.4**	**-0.2**
NBAN	**Anadia - AL**	**34.62**	**93**	*eP*		**P**	**P**	**11 19 38.8**	**-0.1**
TXAR	**Lajitas Array**	**49.62**	**322**	P		**P**	**P**	**11 21 36.6**	**+0.6**
	0.1nm,0.4s,baz=159,slow=9.4,SNR=4.9								
TXAR				PcP			**PcP**	**11 22 47.0**	**+0.9**
	0.2nm,0.6s,baz=110,slow=4.9,SNR=1.8								
PDAR	**Pinedale Array**	**62.64**	**329**	P		**P**	**P**	**11 23 05.9**	**+0.6**
	0.2nm,0.4s,baz=123,slow=9.8,SNR=2.7								
ULM	**Lac du Bonnet**	**63.26**	**343**	P		**P**	**P**	**11 23 08.4**	**-0.4**
	1.5nm,0.3s,baz=116,slow=5.5,SNR=2.9								
NVAR	**Mina Array Bea**	**64.71**	**321**	P		**P**	**P**	**11 23 19.6**	**+1.1**
	0.2nm,0.7s,baz=145,slow=6.5,SNR=2.7								
TORD	**Torodi Ar. Bea**	**75.98**	**74**	P		**P**	**P**	**11 24 25.4**	**+0.3**
	0.5nm,0.5s,baz=234,slow=5.0,SNR=5.5								
INK	**Inuvik**		**88.95**	**341**	P		**P**	**11 25 30.1**	**+1.0**
	1.0nm,0.6s,baz=153,slow=2.3,SNR=2.9								
KURBB	**Kurchatov Arra**	**132.12**	**25**	PKP		**PKPdf**	**PKPdf**	**11 31 44.9**	**+0.6**
	0.3nm,0.2s,baz=315,slow=3.0,SNR=4.9								
MKAR	**Makanchi Array**	**136.65**	**26**	PKP		**PKPdf**	**PKPdf**	**11 31 53.7**	**+0.7**
	0.4nm,0.7s,baz=270,slow=1.4,SNR=2.5								
ASAR	**Alice Springs**	**138.75**	**216**	PKhKP		PKPpre		11 31 45.6	
	0.4nm,0.9s,baz=140,slow=2.1,SNR=2.1								
ASAR				PKP		**PKPdf**	**PKPdf**	**11 31 57.6**	**0.0**
	0.3nm,0.6s,baz=124,slow=2.3,SNR=2.7								
WRA	**Warramunga Arr**	**141.26**	**221**	PKhKP		PKPpre		11 31 55.8	
	0.4nm,0.6s,baz=139,slow=2.6,SNR=7.8								
KSRS	**Korea Array**	**147.20**	**331**	PKPbc		**PKPbc**	**PKPbc**	**11 32 16.0**	**+1.0**
	2.3nm,0.7s,baz=21,slow=2.3,SNR=11								

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*IDC **14** 11:45:48.2±0.6, 2˚.30S×138˚.47E, h0km, mb4.1/11, mb1 4.3/15, mb1mx4.1/38, mbtmp4.2/15, ML4.1/4, MS3.4/9, Ms1 3.4/9, ms1mx3.1/40, Error ellipse: s-maj=23.6km s-min=14.3km az=83.0*
*DJA **14** 11:45:53.2±1.3, 2˚.S±4˚×13˚.8E±˚, h26km±11km, M4.5/16, mb4.5/16, mB5.1/3, MLv4.5/6, Mw(mB)4.5/3, MwMwp6.0/1, Mwp6.1/1*
*NEIC **14** 11:45:55.5±0.7, 2˚.51S±0˚.07×138˚.16E±0˚.07, h49km±7km, mb4.5/39, Error ellipse: s-maj=14.2km s-min=2.2km az=137.0*
ISC 14 11:45:53.3±0.4, 2˚.51S±0˚.06×138˚.21E±0˚.05, h35km, n86, σ1§33/90, mb4.5/26, MS3.5/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.96**	**92**	P		**Pn**	**Pn**	**11 46 23.6**	**-0.5**
GENI				S		Sn	**Sn**	**11 46 49.1**	**+1.6**
SRPI	**Serui, Papua**	**2.07**	**288**	P		**Pn**	**Pn**	**11 46 25.5**	**0.0**
SRPI				S		Sn	**Sn**	**11 46 51.7**	**+1.7**
BAKI	**Biak**	**2.47**	**302**	P		**Pn**	**Pn**	**11 46 30.2**	**-0.9**
MWPI	**Manokwari, Pap**	**4.45**	**291**	P		**Pn**	**Pn**	**11 46 58.4**	**+0.1**
FAKI	**Fak Fak**	**5.96**	**266**	Pn		**Pn**	**Pn**	**11 47 20.3**	**+1.1**
FAKI	**Fak Fak**	**5.96**	**266**	P		**Pn**	**Pn**	**11 47 21.3**	**+2.2**
	0.2nm30nm,0.5s								
MMPI	**Merauke**	**6.30**	**160**	P		Pn	Pn	11 47 28.8	+5.1
	1.7nm311nm,0.7s								
SIJI	**Sorong**	**7.13**	**283**	Pn			**Pn**	**11 47 36.5**	**+1.3**
	0.8nm,0.3s,baz=256,slow=23,SNR=6.0								
SIJI				Sn			**Sn**	**11 48 55.9**	**+0.9**
	baz=210,slow=20,SNR=1.6								
SIJI				LR		LR	LR	11 51 01.4	
	comp=Z,138nm,18.4s,baz=152,slow=43								
SIJI	**Sorong**	**7.13**	**283**	P		**Pn**	**Pn**	**11 47 36.2**	**+1.1**
	0.0nm5.5nm,0.7s								
SWI	**Sorong**	**7.13**	**283**	P		**Pn**	**Pn**	**11 47 36.5**	**+1.3**
	0.1nm14nm,1.1s								
MSAI	**Masohi**	**9.30**	**265**	P		**Pn**	**Pn**	**11 48 06.3**	**+1.3**
	680nm13nm,0.6s								
KRAI	**Karang Ratu**	**9.83**	**265**	P		**Pn**	**Pn**	**11 48 12.8**	**+0.5**
SANI	**Sanana**	**12.22**	**272**	P		**Pn**	**Pn**	**11 48 45.2**	**+0.3**
	25nm,1.0s								
MTN	**Manton Dam**	**12.43**	**214**	Pn		**Pn**	**Pn**	**11 48 48.8**	**+1.1**
SOEI	**Soe**	**15.61**	**242**	P		**P**	**P**	**11 49 33.6**	**-1.2**
	36nm,0.8s								
KNRA	**Kununurra**	**16.05**	**215**				**P**	**11 49 38.6**	**-1.0**
KNRA						IAmb	IAmb	11 49 39.4	
	comp=Z,18nm,0.8s								
BATI	**Baumata**	**16.34**	**241**	Pn		**P**	**P**	**11 49 43.3**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=104,slow=8.3,SNR=2.8								
WB0	**Warramunga Arr**	**17.55**	**192**	P		**P**	**P**	**11 49 56.5**	**+0.4**
WR0	**Warramunga Arr**	**17.71**	**191**	P		**P**	**P**	**11 49 58.3**	**+0.4**
WRAB	**Tennant Creek**	**17.72**	**192**	P		**P**	**P**	**11 49 58.5**	**+0.5**
WRAB						IAmb	IAmb	11 50 20.5	
	comp=Z,19nm,0.7s								
WB2	**Warramunga Arr**	**17.73**	**192**				**P**	**11 49 57.9**	**-0.2**
WB2						IAmb	IAmb	11 50 20.7	
	comp=Z,17nm,0.6s								
WRA	**Warramunga Arr**	**17.73**	**192**	P			**P**	**11 49 58.4**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=13,slow=12,SNR=81								
WRA				S			**Sn**	**11 53 09.7**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=12,slow=22,SNR=6.9								
WRA	**Warramunga Arr**	**17.73**	**192**	P			**P**	**11 49 59.0**	**+0.8**
BNSI	**Bone**	**18.16**	**264**	P			**P**	**11 50 04.0**	**+1.1**
	comp=Z,11nm,0.7s								
CTA	**Charters Tower**	**19.16**	**156**	P			**Pn**	**11 50 14.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=339,slow=8.6,SNR=1.2								
CTAO	**Charters Tower**	**19.16**	**156**	P			**Pn**	**11 50 14.7**	**-0.2**
CTAO						IAmb	IAmb	11 50 36.2	
	comp=Z,27nm,1.4s								
FITZ	**Fitzroy Crossi**	**19.79**	**218**	P			**Pn**	**11 50 25.0**	**+2.5**
	comp=Z,3.8nm,0.9s,baz=43,slow=16,SNR=5.2								
FITZ				S			**S**	**11 53 55.4**	**-6.7**
	comp=Z,4.2nm,0.8s,baz=172,slow=14,SNR=3.6								
FITZ				LR		LR	LR	11 59 42.0	
	comp=Z,118nm,18.9s,baz=40,slow=41								
FITZ	**Fitzroy Crossi**	**19.79**	**218**	P			**P**	**11 50 21.0**	**+0.3**
AS31	**Alice Springs**	**21.44**	**191**	P			**P**	**11 50 39.4**	**+0.8**
ASAR	**Alice Springs**	**21.44**	**191**	P			**P**	**11 50 40.5**	**+1.9**
	comp=Z,12nm,0.7s,baz=22,slow=11,SNR=250								
ASAR				S			**S**	**11 54 38.5**	**+3.8**
	comp=Z,4.7nm,0.8s,baz=12,slow=22,SNR=9.3								
ASAR				LR		LR	LR	12 00 06.9	
	comp=Z,217nm,18.2s,baz=12,slow=40								
ASAR	**Alice Springs**	**21.44**	**191**	P			**P**	**11 50 39.6**	**+1.0**
EIDS	**Eidsvold**	**25.89**	**153**	P			**P**	**11 51 22.9**	**+0.8**
EIDS						IAmb	IAmb	11 51 27.5	
	comp=Z,14nm,0.7s								
PSA00	**Pilbara Seismi**	**26.04**	**222**	P			**P**	**11 51 23.8**	**+0.3**
PSA00						IAmb	IAmb	11 51 26.3	
	comp=Z,11nm,0.6s								
PSA00	**Pilbara Seismi**	**26.04**	**222**	P			**P**	**11 51 23.4**	**-0.1**
PSA00						IAmb	IAmb	11 51 26.3	
	comp=Z,4.2nm,0.6s								
STKA	**Stephens Creek**	**29.38**	**174**	P			**P**	**11 51 54.5**	**+1.2**
	comp=Z,2.9nm,0.5s,baz=356,slow=8.6,SNR=17								
STKA				LR		LR	LR	12 05 01.9	
	comp=Z,154nm,18.4s,baz=5.7,slow=39								
STKA	**Stephens Creek**	**29.38**	**174**	P			**P**	**11 51 53.4**	**+0.1**
FORT	**Forrest**	**29.71**	**198**	P			**P**	**11 51 54.1**	**-2.0**
FORT						IAmb	IAmb	11 52 00.0	
	comp=Z,12nm,0.8s								
BBOO	**Buckleboo**	**30.21**	**184**	P			**P**	**11 52 00.6**	**0.0**
BBOO						IAmb	IAmb	11 52 04.3	
	comp=Z,6.2nm,0.8s								
ARMA	**Armidale**	**30.53**	**157**	P			**P**	**11 52 02.6**	**-0.9**
ARMA						IAmb	IAmb	11 52 12.3	
	comp=Z,16nm,1.3s								
MORW	**Morawa**	**33.80**	**216**	P			**P**	**11 52 31.6**	**-0.5**
TOO	**Toolangi**	**35.53**	**170**	P			**P**	**11 52 46.4**	**-0.6**
TOO						IAmb	IAmb	11 52 52.8	
	comp=Z,4.7nm,1.1s								
GSI	**Gunungsitoli**	**40.80**	**275**	P			**P**	**11 53 31.0**	**-0.7**
KSRS	**Korea Array**	**40.89**	**347**	P			**P**	**11 53 31.2**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=156,slow=9.1,SNR=5.4								
TAU	**Tasmania Unive**	**41.04**	**170**	P			**P**	**11 53 34.1**	**+0.9**
TAU						IAmb	IAmb	11 53 41.4	
	comp=Z,15nm,1.1s								
CMAR	**Chiang Mai Arr**	**43.90**	**300**	P			**P**	**11 53 58.1**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=119,slow=6.6,SNR=10.0								
CMAR				PcP			**PcP**	**11 55 43.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=156,slow=1.8,SNR=5.5								
CMAR				LR		LR	LR	12 13 49.0	
	comp=Z,14nm,18.7s,baz=135,slow=38								
CMAR	**Chiang Mai Arr**	**43.90**	**300**	P			**P**	**11 53 56.7**	**-0.3**
RPZ	**Rata Peaks**	**50.31**	**149**	P			**P**	**11 54 47.4**	**+0.8**
TUWZ	**Tuamarina**	**50.32**	**145**	P			**P**	**11 54 46.7**	**0.0**
LBZ	**Lake Benmore**	**50.36**	**150**	P			**P**	**11 54 47.8**	**+0.9**
BKZ	**Black Stump Fm**	**50.43**	**141**	P			**P**	**11 54 47.5**	**-0.1**
KLR	**Kul'dur**	**51.84**	**355**	P			**P**	**11 54 56.5**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=198,slow=6.4,SNR=4.0								
KLR				LR		LR	LR	12 13 22.7	
	comp=Z,39nm,21.8s,baz=182,slow=32								
PETK	**Petropavlovsk-**	**57.79**	**14**	LR		LR	LR	12 21 57.5	
	comp=Z,13nm,18.5s,baz=172,slow=38								
CASY	**Casey**	**66.56**	**192**	P			**P**	**11 56 38.9**	**-0.6**
MK31	**Makanchi Array**	**69.33**	**323**	P			**P**	**11 56 57.2**	**-0.1**
MKAR	**Makanchi Array**	**69.33**	**323**	P			**P**	**11 56 57.5**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=116,slow=8.0,SNR=11								
MKAR	**Makanchi Array**	**69.33**	**323**	P			**P**	**11 56 56.9**	**-0.4**
ZALV	**Zalesovo Beam**	**71.51**	**330**	P			**P**	**11 57 09.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=106,slow=5.9,SNR=2.2								
ZALV	**Zalesovo Beam**	**71.51**	**330**	P			**P**	**11 57 10.0**	**-0.5**
KKAR	**Karatay Array**	**75.64**	**316**	P			**P**	**11 57 34.4**	**-0.6**
VNDA	**Vanda**	**76.02**	**175**	P			**P**	**11 57 38.8**	**+2.3**
	comp=Z,1.9nm,0.6s,baz=339,slow=6.2,SNR=8.3								
VNDA				LR		LR	LR	12 31 08.2	
	comp=Z,65nm,19.6s,baz=352,slow=36								
VNDA	**Vanda**	**76.02**	**175**	P			**P**	**11 57 37.1**	**+0.6**
VNDA						IAmb	IAmb	11 57 39.7	
	comp=Z,2.8nm,0.8s								
BRVK	**Borovoye**	**78.93**	**325**	P			**P**	**11 57 53.3**	**+0.1**
BRVK						IAmb	IAmb	11 57 54.0	
	comp=Z,4.2nm,0.7s								
OHAK	**Old Harbor**	**80.64**	**31**	P			**P**	**11 58 02.7**	**+0.4**
OHAK						IAmb	IAmb	11 58 24.0	
	comp=Z,16nm,1.3s								
KDAK	**Kodiak Island**	**81.19**	**30**	P			**P**	**11 58 04.2**	**-1.0**
	comp=Z,5.1nm,1.0s,baz=214,slow=7.3,SNR=12								
IMAR	**Indian Mountai**	**83.50**	**22**	P			**P**	**11 58 18.1**	**+0.9**
ABKAR	**Akbulak array**	**84.25**	**320**	P			**P**	**11 58 21.2**	**-0.1**
MLY	**Manley**	**84.36**	**24**	P			**P**	**11 58 21.8**	**+0.1**
MLY						IAmb	IAmb	11 58 39.4	
	comp=Z,4.1nm,1.5s								
I23K	**Minto, Yukon-K**	**84.95**	**24**	P			**P**	**11 58 25.3**	**+0.7**
I23K						IAmb	IAmb	11 58 26.1	
	comp=Z,4.9nm,1.1s								
M24K	**Tolsona, Glenn**	**85.51**	**27**	P			**P**	**11 58 28.1**	**+0.5**
ILAR	**Eielson Array**	**85.86**	**25**	P			**P**	**11 58 27.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=255,slow=4.2,SNR=11								
ILAR	**Eielson Array**	**85.86**	**25**	P			**P**	**11 58 26.9**	**-2.3**
TOLK	**Toolik Lake Re**	**85.91**	**20**	P			**P**	**11 58 30.1**	**+0.8**
TOLK						IAmb	IAmb	11 58 54.2	
	comp=Z,11nm,1.4s								
PAX	**Paxson**	**86.03**	**26**	P			**P**	**11 58 30.6**	**+0.5**
PAX						IAmb	IAmb	11 58 41.1	
	comp=Z,1.8nm,0.6s								
DOT	**

SONM	**Songino Array**	**77.61**	**325**	P	**P**	**12 01 08.4**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=119,slow=5.1,SNR=4.4							
SONM	**Songino Array**	**77.61**	**325**	P	**P**	**12 01 08.5**	**-0.5**
QSPA	**South Pole Qui**	**78.52**	**180**	P	**P**	**12 01 14.4**	**+0.6**
QSPA				IAmb	IAmb	12 01 32.7		
	comp=Z,6.1nm,1.3s							
IMAR	**Indian Mountai**	**83.51**	**16**	P	**P**	**12 01 40.2**	**+0.2**
HDA	**Harding Lake**	**84.44**	**19**	P	**P**	**12 01 43.7**	**-1.2**
HDA				IAmb	IAmb	12 01 45.5		
	comp=Z,2.9nm,0.8s							
ILAR	**Eielson Array**	**84.70**	**19**	P	**P**	**12 01 45.7**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=249,slow=5.0,SNR=4.1							
BCAR	**Beaver Creek A**	**85.39**	**22**	P	**P**	**12 01 50.7**	**+1.0**
EGAK	**Eagle**	**86.63**	**21**	P	**P**	**12 01 55.4**	**-0.3**
EGAK				IAmb	IAmb	12 02 05.9		
	comp=Z,2.7nm,1.1s							
MKAR	**Makanchi Array**	**92.20**	**317**	P	**P**	**12 02 22.4**	**0.0**
	comp=Z,0.7nm,0.7s,baz=90,slow=6.1,SNR=4.4							
MKAR	**Makanchi Array**	**92.20**	**317**	P	**P**	**12 02 21.8**	**-0.6**
SNAA	**Sanae**	**96.51**	**184**	P	**P**	**12 02 43.5**	**+1.7**
VNA3	**Neumayer Olymp**	**97.33**	**182**	P	Pdif	12 02 46.6	+1.0

*IDC **14** 11:52:26.8±2.1,21˚.56N×143˚.24E, h284km±22km, mb3.1/8, mb1 3.3/9, mb1mx3.0/47, mbtmp3.8/9, Error ellipse: s-maj=29.5km s-min=14.3km az=98.0*

ISC 14 11:52:29.2±0.9,21˚.69N±0˚.10×143˚.1E±0˚.2, h311km, n10, σ1§24/11, mb3.2/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.46**	**351**	P	**Pn**	**11 53 51.7**	**-0.7**
	7.5nm,0.3s,baz=164,slow=23,SNR=13						
JCJ				S	**S**	11 54 57.3	-2.1
	8.4nm,0.3s,baz=111,slow=23,SNR=7.4						
KSRS	**Korea Array**	**20.50**	**323**	P	**P**	**11 56 46.4**	**+2.1**
	0.9nm,0.6s,baz=142,slow=9.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**41.54**	**274**	P	**P**	**11 59 47.7**	**+0.4**
	0.5nm,0.4s,baz=94,slow=6.5,SNR=1.3						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**11 59 52.1**	**-0.8**
	2.5nm,0.5s,baz=16,slow=9.4,SNR=59						
FITZ	**Fitzroy Crossi**	**43.09**	**205**	P	**P**	**11 59 59.0**	**-0.6**
	3.1nm,0.9s,baz=30,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**12 00 21.0**	**-1.2**
	0.6nm,0.6s,baz=17,slow=12,SNR=13						
ILAR	**Eielson Array**	**62.07**	**27**	P	**P**	**12 02 17.3**	**+0.2**
	0.5nm,0.8s,baz=280,slow=5.1,SNR=3.2						
FINES	**FINESS Array B**	**83.17**	**334**	P	**P**	**12 04 21.1**	**+0.5**
	0.4nm,0.6s,baz=72,slow=6.2,SNR=5.0						
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**12 04 22.2**	**+0.7**
	0.2nm,0.5s,baz=267,slow=4.5,SNR=2.5						
LPAZ	**La Paz**	**149.98**	**85**	PKPbc	**PKiKP**	**12 11 45.6**	**+0.3**
	0.7nm,0.7s,baz=342,slow=3.2,SNR=2.0						

*SOME **14** 11:59:52.6,39˚.30N×77˚.00E, h0km*
*NNC **14** 11:59:55.6±1.2,39˚.40N×77˚.01E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=8.0km s-min=5.9km az=171.0*
*KRNET **14** 11:59:56.1±0.1,39˚.02N×77˚.55E, mb3.2*

ISC 14 12:00:00.0±1.9,39˚.28N±0˚.08×77˚.20E±0˚.05, h10km, n42, σ2§52/57, 19C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**2.49**	**10**	⇑*i*P	**Pn**	**12 00 39.5**	**-1.5**
	baz=4.0						
TARG				⇑*i*S	**Sn**	12 01 11.2	-0.4
	baz=4.0						
KDJ	**Kajisay**	**2.85**	**360**	⇑*i*P	**Pn**	**12 00 44.7**	**-1.0**
	baz=55						
KDJ				⇑*i*S	**Sn**	12 01 20.4	+0.3
	baz=55						
SFK	**Sufi-Kurgan**	**2.95**	**286**	⇑*i*P	**Pn**	**12 00 47.4**	**+0.3**
	baz=89						
SFK				⇑*i*S	**Sn**	12 01 24.7	+2.0
	baz=89						
ULHL	**Ulahol**	**3.05**	**346**	⇓*i*P	**Pn**	**12 00 48.5**	**0.0**
	baz=43						
ULHL				⇓*i*S	**Sn**	12 01 27.3	+2.1
	baz=43						
PRZ	**Przheval'sk**	**3.33**	**15**	⇑*i*P	**Pn**	**12 00 50.9**	**-1.4**
	baz=10.0						
PRZ				⇑*i*S	**Sn**	12 01 30.8	-1.1
	baz=10.0						
BOOM	**Boomskoye usch**	**3.34**	**344**	⇑*i*P	**Pn**	**12 00 53.0**	**+0.5**
	baz=41						
BOOM				⇑*i*S	**Sn**	12 01 33.9	+1.5
	baz=41						
ARLS	**Aral**	**3.38**	**321**	⇑*i*P	**Pn**	**12 00 53.9**	**+0.9**
	baz=20						
ARLS				⇑*i*S	**Sn**	12 01 36.2	+2.9
	baz=20						
ANVS	**Anan'yevo**	**3.52**	**6**	⇓*i*P	**Pn**	**12 00 54.2**	**-0.7**
	baz=1.0						
ANVS				⇓*i*S	**Sn**	12 01 36.3	-0.4
	baz=1.0						
KBK	**Karagaybulak**	**3.78**	**334**	⇑*i*P	**Pn**	**12 00 59.5**	**+1.0**
	baz=32						
KBK				⇑*i*S	**Sn**	12 01 45.7	+2.6
	baz=32						
TKM2	**Tokmak 2**	**3.83**	**342**	⇑*i*P	**Pn**	**12 00 59.8**	**+0.5**
	baz=40						
TKM2				⇑*i*S	**Sn**	12 01 46.3	+1.8
	baz=40						
TKM2	**Tokmak 2**	**3.83**	**342**	Pg	**Pn**	**12 01 01.6**	**+2.3**
	1.1nm,0.3s						
TKM2				Lg	Lg	12 01 52.0	
	6.1nm,0.4s						
KST	**Kastek**	**3.87**	**346**	*e*P	**Pn**	**12 01 03.4**	**+3.7**
	4.3nm,0.3s						
KST				*e*S	**Sb**	12 01 54.9	-0.6
	16nm,0.4s						
KST	**Kastek**	**3.87**	**346**	Pg	**Pn**	**12 01 03.4**	**+3.7**
	4.7nm,0.3s						
KST				Lg	Lg	12 01 54.9	
	16nm,0.4s						
MDOK	**Medeo**	**3.88**	**358**	*e*P	**Pn**	**12 01 03.7**	**+3.9**
	4.1nm,0.3s						
MDOK				*e*S	**Sb**	12 01 54.8	-0.9
	14nm,0.7s						
MDOK	**Medeo**	**3.88**	**358**	Pg	Pn	12 01 04.8	+5.0
	4.3nm,0.7s						
MDOK				⇓Lg	Lg	12 01 54.7	
	13nm,0.6s						
MDOK	**Medeo**	**3.88**	**358**	Pg	**Pn**	**12 01 03.5**	**+3.6**
	4.1nm,0.3s						
MDOK				Lg	Lg	12 01 54.8	
	14nm,0.7s						
SATY	**Saty**	**3.88**	**13**	*e*P	**Pb**	**12 01 06.0**	**-2.6**
	3.2nm,0.1s						
SATY				*e*S	**Sb**	12 01 59.2	+3.5
	6.4nm,0.2s						
SATY	**Saty**	**3.88**	**13**	Pg	**Pb**	**12 01 06.0**	**-2.6**
	3.2nm,0.1s						
SATY				Lg	Lg	12 01 59.2	
	6.4nm,0.2s						
MTBS	**Maitube**	**3.89**	**352**	*e*P	**Pn**	**12 01 03.8**	**+3.9**
	2.1nm,0.2s						
MTBS				*e*S	**Sb**	12 01 55.2	-0.7
	10.0nm,0.3s						
MTBS	**Maitube**	**3.89**	**352**	Pg	**Pn**	**12 01 03.8**	**+3.9**
	2.1nm,0.2s						
MTBS				Lg	Lg	12 01 55.2	
	10.0nm,0.3s						
AML	**Almayashu**	**3.90**	**318**	⇑*i*P	**Pn**	**12 01 01.2**	**+0.8**
	baz=18						
AML				⇑*i*S	**Sn**	12 01 48.2	+1.8
	baz=18						
AAK	**Ala-Archa**	**3.93**	**329**	Pg	**Pb**	**12 01 06.0**	**-3.5**
	1.1nm,0.3s						
AAK				Lg	Lg	12 01 54.7	
	14nm,0.6s						
KOTS	**Kotyrbulak**	**3.95**	**359**	*e*P	**Pn**	**12 01 05.5**	**+4.7**
	15nm,0.5s						
KOTS				*e*S	**Sb**	12 01 58.3	+0.6
	0.8nm,0.5s						
KOTS	**Kotyrbulak**	**3.95**	**359**	Pg	**Pn**	**12 01 05.5**	**+4.7**
	15nm,0.5s						
KOTS				Lg	Lg	12 01 58.3	
	0.8nm,0.5s						
UZB	**Uzynbulak**	**4.10**	**19**	*e*P	**Pb**	**12 01 09.1**	**-3.3**
	2.3nm,0.3s						
UZB				*e*S	**Sb**	12 02 04.4	+2.4
	6.8nm,0.7s						
UZB	**Uzynbulak**	**4.10**	**19**	Pg	**Pb**	**12 01 09.1**	**-3.3**
	2.3nm,0.3s						
UZB				Lg	Lg	12 02 04.4	
	6.8nm,0.7s						
DGS	**Degeres**	**4.10**	**345**	*e*P	Pn	12 01 07.6	+4.7
	5.2nm,0.6s						
DGS				*e*S	**Sb**	**12 02 01.9**	**-0.1**
	9.5nm,0.6s						
DGS	**Degeres**	**4.10**	**345**	Pg	Pn	12 01 07.6	+4.7
	5.2nm,0.6s						
DGS				Lg	Lg	12 02 01.9	
	9.5nm,0.6s						
SHLS	**Shalkode**	**4.23**	**23**	*e*P	**Pb**	**12 01 13.9**	**-0.7**
	11nm,0.1s						
SHLS				*e*S	**Sg**	**12 02 12.9**	**-3.0**
	13nm,0.6s						
SHLS	**Shalkode**	**4.23**	**23**	Pg	**Pb**	**12 01 13.9**	**-0.7**
	11nm,0.1s						
SHLS				Lg	Lg	12 02 12.9	
	13nm,0.6s						
PDGK	**Podgornoye**	**4.40**	**22**	Pg	**Pb**	**12 01 14.8**	**-2.6**
	2.7nm,0.4s						
PDGK				Lg	Lg	12 02 14.0	
	5.0nm,0.7s						
PDGK	**Podgornoye**	**4.40**	**22**	Pg	**Pb**	**12 01 15.8**	**-1.6**
	2.6nm,0.4s						
PDGK				⇓Lg	Lg	12 02 14.0	
	17nm,1.2s						
KTBS	**Karatobe**	**4.45**	**355**	*e*P	**Pb**	**12 01 14.0**	**-4.2**
	2.0nm,0.4s						
KTBS				*e*S	**Sb**	**12 02 13.1**	**+1.2**
	19nm,0.4s						
KTBS	**Karatobe**	**4.45**	**355**	Pg	**Pb**	**12 01 14.0**	**-4.2**
	2.0nm,0.4s						
KTBS				Lg	Lg	12 02 13.0	
	19nm,0.4s						
MRKS	**Merke**	**4.58**	**320**	*e*P	Pn	12 01 15.2	+5.8
	2.1nm,0.4s						
MRKS				*e*S	**Sb**	**12 02 15.1**	**-0.9**
	14nm,0.5s						
MRKS	**Merke**	**4.58**	**320**	Pg	Pn	12 01 15.3	+5.8
	2.1nm,0.4s						
MRKS				Lg	Lg	12 02 15.1	
	14nm,0.5s						
SGDS	**Sogindy**	**4.59**	**336**	Pg	Pb	12 01 15.9	-4.8
	1.0nm,0.3s						
SGDS				Lg	Lg	12 02 16.1	
	5.6nm,0.7s						
KUU	**Kurty**	**4.65**	**352**	*e*P	Pb	12 01 17.1	-4.6
	0.8nm,0.1s						
KUU				*e*S	**Sb**	**12 02 18.4**	**+0.5**
	6.1nm,0.2s						
KUU	**Kurty**	**4.65**	**352**	Pg	Pb	12 01 17.1	-4.6
	0.8nm,0.1s						
KUU				Lg	Lg	12 02 18.4	
	6.1nm,0.2s						
DJR	**Jarkent**	**5.41**	**20**	*e*P	**Pb**	**12 01 32.8**	**-1.8**
	0.1nm,0.2s						
DJR				*e*S	**Sb**	**12 02 44.9**	**+5.4**
	0.5nm,0.8s						
DJR	**Jarkent**	**5.41**	**20**	Pg	**Pb**	**12 01 32.8**	**-1.8**
	0.1nm,0.2s						
DJR				Lg	Lg	12 02 44.9	
	0.5nm,0.8s						
KK31	**Karatay Array**	**6.33**	**309**	Pg	**Pb**	**12 01 47.8**	**-2.5**
	0.2nm,0.3s,baz=122,slow=16						
KK31				⇑Lg	Lg	12 03 11.8	
	1.2nm,0.6s,baz=126,slow=27,SNR=4.0						

IDC 14 12:36:41.6±2.1,3˚.95N×125˚.86E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/54, mbtmp3.3/4, Error ellipse: s-maj=128.1km s-min=27.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.91**	**181**	P	P	12 41 36.1	-0.4
	0.3nm,0.6s,baz=4.3,slow=11,SNR=0.9						
WRA	**Warramunga Arr**	**25.16**	**161**	P	P	12 42 08.7	-0.1
	0.8nm,0.9s,baz=341,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**28.55**	**164**	P	P	12 42 39.5	+0.3
	0.3nm,0.9s,baz=341,slow=7.1,SNR=6.1						
MKAR	**Makanchi Array**	**56.88**	**326**	P	P	12 46 28.4	0.0
	0.2nm,0.5s,baz=120,slow=5.6,SNR=1.9						

*IDC **14** 13:12:18.4±5.2,36˚.15N×70˚.38E, h173km±46km, mb3.3/9, mb1 3.3/14, mb1mx3.1/56, mbtmp3.9/14, Error ellipse: s-maj=34.9km s-min=20.4km az=29.0*
*NEIC **14** 13:12:22.8±2.5,36˚.52N±0˚.08×70˚.29E±0˚.10, h200km±6km, mb4.1/6, Error ellipse: s-maj=12.8km s-min=10.4km az=218.0*
*NNC **14** 13:12:25.2±8.8,37˚.07N×70˚.20E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=68.7km s-min=58.5km az=172.0*

ISC 14 13:12:22.0±0.6,36˚.50N±0˚.06×70˚.41E±0˚.07, h204km, n44, σ2§16/49, mb3.8/10, 5C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.25**	**210**	Pn	**Pn**	**13 13 03.5**	**-0.3**
CEP	**Cherat**	**2.94**	**155**	P	**Pn**	**13 13 12.4**	**+1.0**
CHCP	**Chirah Chowk**	**3.68**	**140**	P	**Pn**	**13 13 21.8**	**+1.7**
NIL	**Nilore**	**3.68**	**140**	Pn	**Pn**	**13 13 21.6**	**+1.6**
THW	**Thamme Wali**	**3.86**	**163**	P	**Pn**	**13 13 22.8**	**+0.5**
DHRM	**DHARAMSHALA**	**6.46**	**129**	*e*P	**Pn**	**13 13 54.6**	**-0.9**
DHRM				*e*S	**S**	**13 15 05.5**	**-3.8**
DHRM				IAML		13 15 08.1	
	comp=E,179nm,0.3s						
DHRM				IAML		13 15 12.2	
	comp=N,153nm,0.5s						
KK31	**Karatay Array**	**6.59**	**1**	Pn	**Pn**	**13 13 57.0**	**+0.1**
	comp=N,5.3nm,0.5s,baz=181,slow=13,SNR=88						
KK31				⇑Sn	**S**	**13 15 07.6**	**-4.5**
	comp=N,5.1nm,0.4s,baz=188,slow=26,SNR=8.6						
KK31	**Karatay Array**	**6.59**	**1**	Pn	**Pn**	**13 13 56.4**	**-0.5**
KKAR	**Karatay Array**	**6.59**	**1**	Pn	**Pn**	**13 13 56.5**	**-0.4**
KKAR	**Karatay Array**	**6.59**	**1**		**Pn**	**13 13 56.3**	**-0.6**
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**13 14 01.9**	**+0.9**
	comp=N,1.6nm,0.3s,baz=188,slow=6.7,SNR=5.7						
AAK				S	**S**	**13 15 17.8**	**-1.5**
	comp=N,2.3nm,0.3s,baz=336,slow=19,SNR=7.2						
AAK	**Ala-Archa**	**6.89**	**26**	⇑Pn	**Pn**	**13 14 02.1**	**+1.2**
	comp=N,4.7nm,0.7s						
AAK				⇑Sn	**S**	**13 15 17.6**	**-1.8**
	comp=N,21nm,0.6s						
AAK	**Ala-Archa**	**6.89**	**26**	Pn	**Pn**	**13 14 01.6**	**+0.7**
TKM2	**Tokmak 2**	**7.55**	**30**	⇑Pn	**Pn**	**13 14 10.3**	**+0.7**
TKM2	comp=N,4.1nm,0.5s			⇑Sn	**S**	**13 15 32.5**	**-2.6**
	comp=N,9.8nm,0.8s						
SMLA	**Simla**	**7.76**	**132**	*e*P	**Pn**	**13 14 11.5**	**-0.7**
SMLA				*e*S	**S**	**13 15 34.8**	**-5.2**
SMLA				IAML		13 15 38.5	
	comp=E,72nm,0.5s						
SMLA				IAML		13 15 41.7	
	comp=N,59nm,0.3s						
MAKZ	**Makanchi**	**13.43**	**36**	P	**P**	**13 15 29.2**	**+2.1**
MK31	**Makanchi Array**	**13.57**	**37**	Pn	**P**	**13 15 27.6**	**-1.1**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**13 15 27.6**	**+1.2**
	comp=N,0.3nm,0.3s,baz=218,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**13.57**	**37**	Pn	**Pn**	**13 15 27.0**	**+0.6**
BHPL	**Bhopal**	**14.54**	**153**	*e*P	**P**	**13 15 39.9**	**+0.2**
BHPL				*e*S	S	13 18 08.7	-11
ABKAR	**Akbulak array**	**14.86**	**332**	Pn	**Pn**	**13 15 41.1**	**-0.9**
ABKAR	**Akbulak array**	**14.86**	**332**	Pn	**Pn**	**13 15 41.2**	**-0.9**
WMQ	**Urumqi**	**15.09**	**56**	*e*P	**P**	**13 15 47.5**	**+1.9**
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**P**	**13 15 48.5**	**+1.0**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=4.5						
KURK	**Kurchatov**	**15.39**	**20**	P	**Pn**	**13 15 48.5**	**-0.1**
BVAR	**Borovoye Array**	**16.52**	**360**	P	**Pn**	**13 16 02.8**	**+0.6**
	comp=N,0.3nm,0.3s,baz=175,slow=8.2,SNR=4.4						
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**Pn**	**13 16 03.1**	**+0.6**
	comp=N,0.4nm,0.3s,baz=142,slow=9.4,SNR=15						
AKTO				S	**S**	**13 18 55.0**	**-9.1**
	comp=N,0.1nm,0.3s,baz=138,slow=16,SNR=2.4						
ZAA0	**Zalesovo Array**	**20.11**	**25**	P	**P**	**13 16 41.3**	**+1.3**
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**13 16 41.5**	**+1.4**
	comp=N,2.8nm,0.4s,baz=220,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**13 16 41.1**	**+1.0**
ARU	**Arti**	**21.48**	**342**	P	**P**	**13 16 56.8**	**+2.4**
	comp=N,1.1nm,0.4s,baz=121,slow=5.9,SNR=5.9						
ARU	**Arti**	**21.48**	**342**	P	**P**	**13 16 55.2**	**+0.8**
ARU				IAmb	IAmb	13 16 58.2	
	comp=Z,7.5nm,1.1s						
HHC	**Hu-ho-hao-te**	**32.21**	**69**	*e*P	**P**	**13 18 31.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,71nm,4.9s						

AKASG	**Malin Array Be**	**32.57**	**309**	P	**P**	**13 18 35.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=81,slow=7.4,SNR=1.8						
NRIK	**Noril'sk**	**34.21**	**11**	P	**P**	**13 18 50.0**	**+2.2**
	comp=Z,1.8nm,0.5s,baz=196,slow=8.5,SNR=3.8						
NRIK	**Noril'sk**	**34.21**	**11**	IAmb	IAmb	13 18 51.0	
	comp=Z,2.7nm,0.8s						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**13 19 14.9**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=117,slow=10,SNR=6.8						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**13 19 46.0**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=108,slow=7.8,SNR=12						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**13 19 46.0**	**+1.6**
ARCES				IAmb	IAmb	13 19 51.3	
	comp=Z,11nm,1.5s						
TORD	**Torodi Ar. Bea**	**65.24**	**268**	P	**P**	**13 22 40.7**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=43,slow=6.6,SNR=1.5						
TORD	**Torodi Ar. Bea**	**65.24**	**268**	IAmb	IAmb	13 22 44.5	
	comp=Z,2.7nm,1.4s						
C36M	**Paulatuk**	**73.92**	**5**	P	**P**	**13 23 35.1**	**+1.0**
C36M				IAmb	IAmb	13 23 55.6	
	comp=Z,4.1nm,1.3s						
WRA	**Warramunga Arr**	**82.40**	**122**	P	**P**	**13 24 20.6**	**-0.8**
	comp=Z,0.7nm,1.1s,baz=325,slow=4.9,SNR=2.9						
ASAR	**Alice Springs**	**84.65**	**125**	P	**P**	**13 24 31.9**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=311,slow=4.8,SNR=2.4						

*NEIC **14** 13:18:05.4±0.9, 14˚.0N±0˚.1×145˚.3E±0˚.4, h102km±16km, mb4.3/6, Error ellipse: s-maj=56.6km s-min=15.8km az=80.0*
*IDC **14** 13:18:25.5±5.4, 14˚.68N×145˚.46E, h272km±50km, mb3.2/5, mb1 3.3/6, mb1mx2.9/39, mbtmp4.0/6, Error ellipse: s-maj=93.5km s-min=23.6km az=89.0*

ISC 14 13:18:03.6±1.2,13˚.9N±0˚.1×145˚.5E±0˚.3, h100km, n14, σ0§87/12, mb4.1/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**2.41**	**5**	Pn	**Pn**	**13 18 41.9**	**+0.3**
JCJ	**Chichijima**	**13.46**	**347**	P	**P**	**13 21 17.2**	**+0.9**
	3.8nm,0.3s,baz=156,slow=20,SNR=1.8						
JCJ	**Chichijima**	**13.46**	**347**		**Pn**	**13 21 09.6**	**-1.0**
RABL	**Rabaul**	**19.18**	**159**	P	**Pn**	**13 22 21.9**	**+0.4**
JMN	**Monobe**	**22.35**	**334**	P	**P**	**13 22 54.8**	**+1.4**
JMN				IAmb	IAmb	13 23 13.0	
	comp=Z,22nm,1.4s						
MJAR	**Matsushiro Arr**	**23.44**	**345**	P	**P**	**13 23 04.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=174,slow=10,SNR=4.2						
JSD	**Sado**	**24.86**	**346**	P	**P**	**13 23 16.7**	**-0.1**
JSD				IAmb	IAmb	13 23 39.9	
	comp=Z,4.8nm,1.0s						
WRA	**Warramunga Arr**	**35.40**	**198**	P	P	13 25 02.1	+12
	comp=Z,0.2nm,0.5s,baz=23,slow=10,SNR=1.4						
MK31	**Makanchi Array**	**61.66**	**316**	P	**P**	**13 28 11.2**	**+0.2**
MK31				IAmb	IAmb	13 28 38.3	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**61.66**	**316**	P	**P**	**13 28 11.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=96,slow=8.0,SNR=10						
MKAR	**Makanchi Array**	**61.66**	**316**	P	**P**	**13 28 11.2**	**+0.1**
ARCES	**ARCESS Array B**	**86.95**	**342**	P	**P**	**13 30 36.9**	**-0.3**
	comp=Z,2.6nm,1.1s,baz=59,slow=7.7,SNR=4.2						
ARCES	**ARCESS Array B**	**86.95**	**342**	IAmb	IAmb	13 30 38.8	
	comp=Z,8.5nm,1.3s						
FINES	**FINESS Array B**	**91.11**	**335**	P	**P**	**13 30 55.2**	**-1.6**
	comp=Z,1.6nm,1.0s,baz=56,slow=4.7,SNR=7.4						

*IDC **14** 13:39:45.8±1.0, 30˚.91N×143˚.28E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/37, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=30.8km s-min=20.9km az=75.0*
*JMA **14** 13:39:46.6±0.5, 30˚.91N×143˚.03E, h56km, M4.0*

ISC 14 13:39:49.5±0.8, 30˚.86N±0˚.06×142˚.9E±0˚.1, h30km, n21, σ2§40/27, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.47**	**311**	P	**Pn**	**13 40 40.7**	**-0.7**
JHJ	**Hachijo jima 2**	**3.50**	**311**	Pn	**Pn**	**13 40 41.0**	**-0.8**
	9.1nm,0.3s,baz=90,slow=20,SNR=1.5						
JHJ				Sn	**Sn**	**13 41 19.6**	**-2.6**
	26nm,0.3s,baz=135,slow=23,SNR=6.0						
CBIJ	**Chichi jima**	**3.80**	**190**	*e*S	**Sn**	**13 41 27.7**	**-2.0**
JCJ	**Chichijima**	**3.80**	**190**	Pn	**Pn**	**13 40 42.6**	**-3.5**
	1.7nm,0.3s,baz=294,slow=20,SNR=1.3						
JCJ				Sn	**Sn**	**13 41 26.9**	**-2.8**
	6.8nm,0.3s,baz=288,slow=20,SNR=3.1						
BSO1	**Boso 1**	**4.13**	**337**	P	**Pn**	**13 40 48.5**	**-1.5**
BSO3	**Boso 3**	**4.43**	**333**	P	**Pn**	**13 40 53.0**	**-1.4**
BSO3				*e*S	**Sn**	**13 41 43.8**	**-1.0**
JOD2	**Odawara 2**	**5.45**	**325**	P	**Pn**	**13 41 07.9**	**-0.8**
JYT	**Yasato**	**5.82**	**338**	*e*S	**Sn**	**13 42 16.4**	**-3.1**
JHJ	**Hanno**	**5.84**	**330**	P	**Pn**	**13 41 12.5**	**-1.5**
JHJ				S	**Sn**	**13 42 15.1**	**-4.9**
JHO	**Hitachi**	**6.07**	**342**	P	**Pn**	**13 41 15.7**	**-1.4**
JRY	**Ryogami san**	**6.15**	**328**	P	**Pn**	**13 41 17.3**	**-1.0**
JRY				*e*S	**Sn**	**13 42 24.4**	**-3.2**
JAG	**Ashikaga**	**6.26**	**333**	P	**Pn**	**13 41 18.6**	**-1.2**
MJAR	**Matsushiro Arr**	**6.90**	**327**	Pn	**Pn**	**13 41 27.9**	**-0.7**
	0.2nm,0.3s,baz=136,slow=13,SNR=13						
MJAR				Sn	**Sn**	**13 42 42.1**	**-3.9**
	0.

IDC ***14*** *13:58:23.1±1.1,4.°10N×126.°67E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.8/35,mbtmp3.9/9,ML3.8/1,MS3.2/10, Ms1 3.2/10,ms1mx2.9/39,Error ellipse: s-maj=58.7km s-min=14.0km az=64.0*

DJA ***14*** *13:58:25.7±1.8,5.°N×16.°×12.°7E±.°,h39km±11km,M4.3/12, mB4.7/3,mb4.3/12,MLv4.3/10,Mw(mB)4.0/3*

NEIC ***14*** *13:58:29.0±2.0,4.°20N±0.°06×126.°89E±0.°08,h45km±5km, mb4.3/26,Error ellipse: s-maj=12.4km s-min=8.1km az=70.0*

ISC 14 13:58:24.3±0.5,**4.°19N**±0.°04×**126.°90E**±0.°07,**h10km**,**n69,** σ1º**85**/67,**mb4.2**/17,**MS3.5**/8,**1C-1D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.45**	**250**	P	**Pn**	**13 58 50.2**	**-0.4**
DDMP	**Don Marcelino,**	**2.24**	**328**	*eP*	**Pb**	**13 59 03.9**	**-1.0**
GAMI	**Galela, Maluku**	**2.50**	**159**	P	**Pn**	**13 59 06.2**	**+1.2**
MATI	**Mati**	**2.81**	**347**	*eP*	**Pb**	**13 59 14.0**	**-0.7**
MATI				*eS*	**Sg**	**13 59 58.4**	**+3.6**
DAV	**Davao City (W)**	**3.15**	**335**	Pn	**Pn**	**13 59 14.9**	**+0.9**
SKMP	**Bagumbayan, Su**	**3.29**	**315**	*eP*	**Pn**	**13 59 16.9**	**+0.9**
SKMP				*eS*	**Sn**	**13 59 54.9**	**-0.4**
KCP	**Kidapawan**	**3.33**	**327**	*eP*	**Pn**	**13 59 20.2**	**+3.7**
KCP				*i* S	**Sb**	**14 00 05.7**	**+1.5**
TNTI	**Ternate**	**3.42**	**172**		**Pn**	**13 59 19.0**	**+1.3**
TNTI	**Ternate**	**3.42**	**172**	P	**Pn**	**13 59 21.1**	**+3.3**
CGP	**Cagayan de Oro**	**4.77**	**333**	*eP*	**Pb**	**13 59 46.8**	**-1.2**
BUTP	**Butuan**	**4.92**	**345**	*eP*	Pb	13 59 45.4	-5.1
PAGZ	**Pagadian**	**5.04**	**316**	*eP*	**Pn**	**13 59 42.1**	**+2.0**
PAGZ				*eS*	Sn	14 00 19.6	-19
GTOI	**Gorontalo** 0.1nm20nm,1.2s	**5.24**	**228**	P	**Pn**	**13 59 44.5**	**+1.7**
MRSI	**Marisa** 0.2nm592nm59nm,0.9s	**6.17**	**233**	P	**Pn**	**13 59 57.2**	**+1.7**
LUWI	**Luwuk**	**6.63**	**219**	Pn	**Pn**	**14 00 03.9**	**+2.1**
LUWI	**Luwuk** 0.5nm95nm,1.1s	**6.63**	**219**	P	**Pn**	**14 00 06.5**	**+4.7**
SWI	**Sorong** 0.1nm18nm,0.8s	**6.65**	**139**	P	**Pn**	**14 00 04.9**	**+2.8**
SIJI	**Sorong** 1.8nm,0.3s,baz=329,slow=21,SNR=8.4	**6.66**	**139**	Pn	**Pn**	**14 00 04.8**	**+2.6**
SIJI	0.3nm,0.3s,baz=123,slow=17,SNR=2.1			Sn	**Sn**	**14 01 18.1**	**-0.1**
SIJI	comp=Z,114nm,19.6s,baz=69,slow=41			LR	LR	14 02 59.3	
SIJI	**Sorong** 0.0nm6.4nm,0.8s	**6.66**	**139**	P	**Pn**	**14 00 05.0**	**+2.8**
TOLI2	**Tolitoli**	**6.83**	**244**	Pn	**Pn**	**14 00 03.8**	**-0.7**
APSI	**Ampana** 0.1nm429nm38nm,1.2s	**7.29**	**226**	P	**Pn**	**14 00 15.2**	**+4.3**
NLAI	**Namlea** 0.2nm14nm,0.6s	**7.38**	**178**	P	Pn	14 00 17.4	+5.3
MPSI	**Mapaga** 8.6nm,0.8s	**7.97**	**242**	P	**Pn**	**14 00 23.9**	**+3.7**
FAKI	**Fak Fak**	**8.86**	**143**	Pn	**Pn**	**14 00 35.1**	**+2.6**
KAPI	**Kappang** comp=Z,52nm,18.8s,baz=41,slow=38	**11.59**	**218**	LR	LR	14 05 32.2	
SZP	**Santa**	**14.71**	**335**	Pn	**Pn**	**14 01 53.1**	**+0.6**
WBSI	**Waikabubak, Su** 59nm,0.9s	**15.64**	**209**	P	**P**	**14 02 07.9**	**-1.3**
MTN	**Manton Dam**	**17.43**	**166**	Pn	**Pn**	**14 02 26.1**	**-1.7**
MTN	comp=Z,30nm,1.5s			IAmb	IAmb	14 02 45.8	
JAGI	**Jajag, Banyuwa**	**17.88**	**225**		**Pn**	**14 02 34.3**	**+1.0**
KNRA	**Kununurra**	**19.82**	**175**	P	**P**	**14 02 56.0**	**+0.8**
KNRA	comp=Z,10nm,0.8s			IAmb	IAmb	14 03 11.1	
YULB	**Yu-li**	**19.85**	**345**	P	**P**	**14 02 56.0**	**+0.5**
YULB	comp=Z,25nm,1.5s			IAmb	IAmb	14 03 11.9	
TPUB	**Ta-pu**	**19.94**	**343**	P	**P**	**14 02 57.1**	**+0.5**
TPUB	comp=Z,32nm,1.4s			IAmb	IAmb	14 03 16.7	
SSLB	**Suanglung**	**20.31**	**344**	P	**P**	**14 03 01.6**	**+1.0**
YHNB	**Yeheng**	**21.05**	**346**	P	**P**	**14 03 08.4**	**-0.2**
YHNB	comp=Z,24nm,1.4s			IAmb	IAmb	14 03 28.8	
FITZ	**Fitzroy Crossi** comp=Z,3.3nm,0.7s,baz=9.2,slow=12,SNR=12	**22.18**	**183**	P	**P**	**14 03 20.3**	**-0.4**
FITZ	comp=Z,1.9nm,0.8s,baz=176,slow=14,SNR=3.5			S	**S**	**14 07 20.0**	**-5.1**
FITZ	**Fitzroy Crossi**	**22.18**	**183**	P	**P**	**14 03 20.3**	**-0.4**
WB0	**Warramunga Arr**	**24.92**	**163**	P	**P**	**14 03 47.1**	**-0.7**
WB0	comp=Z,8.8nm,0.8s			IAmb	IAmb	14 04 04.2	
WRAB	**Tennant Creek**	**25.06**	**163**	P	**P**	**14 03 48.0**	**-1.1**
WRAB	comp=Z,8.0nm,0.9s			IAmb	IAmb	14 04 02.5	
WRA	**Warramunga Arr** comp=Z,3.5nm,0.6s,baz=343,slow=11,SNR=42	**25.07**	**163**	P	**P**	**14 03 49.0**	**-0.1**
WRA	comp=Z,0.9nm,0.8s,baz=337,slow=20,SNR=4.2			S	**S**	**14 08 15.5**	**+1.8**
WRA	**Warramunga Arr**	**25.07**	**163**	P	**P**	**14 03 47.9**	**-1.3**
WB2	**Warramunga Arr**	**25.07**	**163**	P	**P**	**14 03 49.0**	**-0.2**
WB2	comp=Z,7.4nm,0.8s			IAmb	IAmb	14 04 03.1	
WR0	**Warramunga Arr**	**25.14**	**163**	P	**P**	**14 03 49.4**	**-0.4**
WR0	comp=Z,5.6nm,0.8s			IAmb	IAmb	14 03 55.5	
PSA00	**Pilbara Seismi**	**26.51**	**195**	P	**P**	**14 04 02.7**	**+0.5**
PSA00	comp=Z,14nm,1.4s			IAmb	IAmb	14 04 03.1	
JCJ	**Chichijima**	**27.06**	**31**	P	**P**	**14 04 04.7**	**-2.4**
AS31	**Alice Springs**	**28.51**	**166**	P	**P**	**14 04 20.0**	**-0.2**
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=345,slow=7.1,SNR=30	**28.51**	**166**	P	**P**	**14 04 20.3**	**+0.1**
ASAR	**Alice Springs**	**28.51**	**166**	P	**P**	**14 04 19.9**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.9s,baz=112,slow=6.8,SNR=9.4	**30.79**	**300**	P	**P**	**14 04 39.9**	**-0.5**
CMAR	comp=Z,18nm,18.2s,baz=110,slow=41			LR	LR	14 19 15.9	
BBOO	**Buckleboo**	**37.81**	**167**	P	**P**	**14 05 41.1**	**+0.1**
STKA	**Stephens Creek** comp=Z,2.2nm,0.5s,baz=317,slow=9.2,SNR=6.2	**38.50**	**160**	P	**P**	**14 05 47.3**	**+0.5**
STKA	**Stephens Creek**	**38.50**	**160**	P	**P**	**14 05 47.1**	**+0.3**
USRK	**Ussuriysk Ar.** comp=Z,9.5nm,18.0s,baz=163,slow=44	**40.10**	**6**	LR	LR	14 27 34.6	
ARMA	**Armidale**	**41.76**	**147**	P	**P**	**14 06 15.5**	**+1.4**
ARMA	comp=Z,5.6nm,1.0s			IAmb	IAmb	14 06 27.6	
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=164,slow=7.4,SNR=2.3	**46.92**	**341**	P	**P**	**14 06 55.7**	**+0.5**
SONM	comp=Z,59nm,18.3s,baz=156,slow=37			LR	LR	14 27 26.5	
SONM	**Songino Array**	**46.92**	**341**	P	**P**	**14 06 55.1**	**-0.1**
MK31	**Makanchi Array**	**57.28**	**325**	P	**P**	**14 08 10.1**	**-2.2**
MK31	comp=Z,2.4nm,1.1s			IAmb	IAmb	14 08 31.8	
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=118,slow=8.3,SNR=8.8	**57.28**	**325**	P	**P**	**14 08 11.8**	**-0.4**
MKAR	comp=Z,40nm,19.4s,baz=91,slow=37			LR	LR	14 33 44.8	
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**14 08 10.2**	**-2.0**
TARG	**Taragay, Kyrgy**	**57.52**	**318**	P	**P**	**14 08 13.0**	**-1.6**
TARG	comp=Z,2.9nm,0.7s			IAmb	IAmb	14 08 13.4	
YAK	**Yakutsk**	**57.75**	**2**	P	**P**	**14 08 16.1**	**+1.0**
ZALV	**Zalesovo Beam** comp=Z,30nm,19.1s,baz=190,slow=38	**60.26**	**333**	LR	LR	14 36 16.0	
KKAR	**Karatay Array**	**63.01**	**317**	P	**P**	**14 08 52.0**	**+0.4**
AKTO	**Aktyubinsk** comp=Z,24nm,21.1s,baz=117,slow=37	**73.41**	**322**	LR	LR	14 43 48.4	
ARU	**Arti** comp=Z,18nm,19.6s,baz=325,slow=36	**74.64**	**328**	LR	LR	14 43 37.0	
KHLU	**Kahalu`u**	**76.57**	**71**	P	**P**	**14 10 13.4**	**-2.3**
HPAH	**Hawaii Prepara**	**76.75**	**71**	P	**P**	**14 10 14.2**	**-2.5**
VNDA	**Vanda** comp=Z,0.4nm,0.9s,baz=321,slow=5.5,SNR=2.3	**83.86**	**173**	P	**P**	**14 10 53.4**	**-0.2**
VNDA	**Vanda** comp=Z,3.1nm,1.4s	**83.86**	**173**	P	**P**	**14 10 53.5**	**-0.2**
VNDA				IAmb	IAmb	14 10 56.7	
NOA	**NORSAR Array B** comp=Z,14nm,19.1s,baz=80,slow=38	**98.45**	**334**	LR	LR	15 00 40.2	

MEX ***14*** *14:12:58.4±0.5,29.°92N×114.°68W,h5km,MD3.8*

ECX 14 14:12:59.3±0.6,**30.°43N**×**114.°26W**,**h20km**±420km,**MD2.5, ML2.7**,**1D**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.79**	**320**	*eP*	Pb	14 13 13.4	-0.9
SFX				*i* S	Sb	14 13 23.7	-0.9
SFX	comp=E,394nm,0.2s			IAML		14 13 24.3	
SFX				⇓*e*		14 13 24.3	
SPX	**San Pedro Mart**	**1.20**	**300**	*i* P	Pn	14 13 19.6	-1.6
SPX	**San Pedro Mart**	**1.20**	**300**	*eP*	Pn	14 13 19.6	-1.6
SPX				*eS*	Sb	14 13 36.1	-0.6
SPX	comp=N,98nm,0.3s			IAML		14 13 45.8	
SPX				*e*		14 13 45.8	
SPIG	**San Pedro Mart**	**1.20**	**301**	*i* P	Pn	14 13 19.7	-1.6
SPIG				*eS*	Sb	14 13 36.8	0.0
SPIG	**San Pedro Mart**	**1.20**	**301**	*eP*	Pn	14 13 19.6	-1.7
SPIG				*eS*	Sb	14 13 36.4	-0.4
ECBX	**El Chinero**	**1.24**	**327**	*eP*	Pn	14 13 20.5	-1.0
ECBX				*i* S	Sb	14 13 36.4	-1.1
CBX	**Cerro Bola**	**2.78**	**313**	*i* P	Pn	14 13 44.3	+1.5
CBX				*i* S	Sb	14 14 20.4	-1.6
TJIG	**Tijuana**	**2.87**	**315**	*i* P	Pn	14 13 42.6	-1.3
TJIG				*i* S	Sb	14 14 27.9	+3.4

JMA ***14*** *14:18:32.6±0.2,24.°00N×122.°44E,h25km±4km,M2.1*

TAP ***14*** *14:18:33.4,24.°13N×122.°44E,h31km,ML2.8,D*

ISC 14 14:18:31.3±1.1,**24.°03N**±0.°02×**122.°48E**±0.°02,**h20km**±3km, **n87**,σ0º**58**/136,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.60**	**45**	P	**Pn**	**14 18 45.1**	**+0.3**
JYNG				S	**Sn**	**14 18 53.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.65**	**48**	P	**Pn**	**14 18 46.0**	**+0.5**
YOJ				*eS*	**Sn**	**14 18 54.5**	**-0.7**
YOJ	**Yonaguni jima** baz=57	**0.65**	**48**	*i* P	**Pn**	**14 18 45.9**	**+0.4**
YOJ	baz=57			S	**Sn**	**14 18 54.7**	**-0.5**
ETL	**Fush Village** baz=257	**0.79**	**280**	*eP*	**Pn**	**14 18 47.5**	**0.0**
ETL	baz=257			*eS*	**Sn**	**14 18 58.6**	**-0.2**
HWA	**Hwalien** baz=246	**0.80**	**266**	*eP*	**Pn**	**14 18 47.5**	**-0.1**
TWD	**Chiawan** baz=266	**0.81**	**274**	*eP*	**Pn**	**14 18 47.5**	**-0.2**
TWD	baz=266			*eS*	**Sg**	**14 18 58.5**	**+0.5**
TWC	**Suao** baz=303	**0.81**	**315**	P	**Pb**	**14 18 47.0**	**+0.1**
TWC	baz=303			S	**Sb**	**14 18 56.4**	**-1.0**
NACB	**Ninganchiao** baz=259	**0.82**	**280**	P	**Pg**	**14 18 47.5**	**0.0**
NACB	baz=259			*eS*	**Sg**	**14 18 58.0**	**-0.3**
TEYL	**Yanliau Villag** baz=242	**0.82**	**259**	*eP*	**Pn**	**14 18 47.7**	**-0.1**
TEYL	baz=242			*eS*	**Sn**	**14 18 59.9**	**+0.5**
ETM	**Tongmen** baz=259	**0.90**	**266**	*eP*	**Pn**	**14 18 49.7**	**+0.7**
ETM	baz=259			*eS*	**Sg**	**14 19 00.8**	**-0.2**
TEGC	**Jichi Village** baz=242	**0.92**	**250**	*eP*	**Pn**	**14 18 50.3**	**+1.1**
NDS	**Dongshan** baz=308	**0.92**	**311**	P	**Pg**	**14 18 49.2**	**-0.1**
NDS	baz=308			*eS*	**Sb**	**14 18 59.6**	**-0.9**
ETLH	**Xiulin Townshi** baz=275	**0.93**	**281**	P	**Pg**	**14 18 49.0**	**-0.5**
ETLH	baz=275			S	**Sb**	**14 19 00.9**	**+0.1**
EGS	baz=317	**0.95**	**329**	*eP*	**Pg**	**14 18 49.7**	**-0.2**
EGS	baz=317			*eS*	**Sb**	**14 19 01.2**	**-0.2**
ESL	**Shilin** baz=251	**0.98**	**258**	*eP*	**Pg**	**14 18 50.2**	**-0.2**
ESL	baz=251			*eS*	**Sn**	**14 19 03.6**	**+0.2**
ILA	**Ilan** baz=310	**0.99**	**318**	*eP*	**Pb**	**14 18 49.6**	**-0.2**
ILA	baz=310			*eS*	**Sb**	**14 19 03.2**	**+0.7**
TWE	**Neicheng** baz=311	**1.01**	**313**	P	**Pg**	**14 18 51.0**	**0.0**
TWE	baz=311			*eS*	**Sb**	**14 19 03.0**	**-0.1**
NTC	**Toucheng** baz=323	**1.01**	**324**	*eP*	**Pn**	**14 18 50.8**	**+0.3**
NTC	baz=323			*eS*	**Sb**	**14 19 03.1**	**0.0**
EGFH	**Guangfu** baz=243	**1.03**	**250**	*eP*	**Pg**	**14 18 51.5**	**+0.2**
ENTT	**Nioudou** baz=304	**1.03**	**306**	*eP*	**Pg**	**14 18 51.5**	**+0.1**
ENTT	baz=304			*eS*	**Sb**	**14 19 03.5**	**-0.2**
NDT	**Datong Townshi** baz=300	**1.05**	**303**	*eP*	**Pg**	**14 18 51.7**	**0.0**
NDT	baz=300			*eS*	**Sb**	**14 19 04.8**	**+0.6**
TWB1	**Santiao Chiao** baz=351	**1.07**	**335**	P	**Pb**	**14 18 50.8**	**-0.4**
TWB1	baz=351			*eS*	**Sb**	**14 19 04.9**	**0.0**
NNSB	**Datong** baz=288	**1.08**	**292**	P	**Pn**	**14 18 51.5**	**0.0**
NNSB	baz=288			*eS*	**Sb**	**14 19 05.5**	**+0.3**
NNSH	**Datong** baz=288	**1.08**	**292**	P	**Pb**	**14 18 51.4**	**0.0**
NNSH	baz=288			*eS*	**Sb**	**14 19 05.3**	**+0.2**
NNS	**Nan Shan** baz=288	**1.09**	**292**	*eP*	**Pn**	**14 18 52.0**	**+0.3**
NNS	baz=288			*eS*	**Sb**	**14 19 05.9**	**+0.4**
HGSD	**Ruisui** baz=235	**1.10**	**241**	*eP*	**Pn**	**14 18 51.9**	**+0.2**
HGSD	baz=235			*eS*	**Sb**	**14 19 05.3**	**-0.5**
TIPB	**Shuangxi** baz=319	**1.11**	**328**	*eP*	**Pg**	**14 18 52.5**	**-0.5**
TIPB	baz=319			*eS*	**Sb**	**14 19 05.5**	**-0.5**
WHF	**Hehuan Shan** baz=258	**1.11**	**276**	*eP*	**Pb**	**14 18 52.1**	**-0.1**
WHF	baz=258			*eS*	**Sg**	**14 19 07.4**	**-0.4**
FUSS	**Fushou** baz=276	**1.15**	**281**	P	**Pb**	**14 18 52.9**	**+0.2**
FUSS	baz=276			*eS*	**Sb**	**14 19 07.1**	**-0.2**
NWLT	**Wulai** baz=308	**1.16**	**310**	P	**Pg**	**14 18 53.4**	**-0.4**
NWLT	baz=308			*eS*	**Sb**	**14 19 07.5**	**+0.1**
EHY	**Hungye** baz=229	**1.18**	**244**	P	**Pg**	**14 18 53.4**	**-0.8**
IRIF	**Iriomote-Funau**	**1.18**	**75**	P	**Pg**	**14 18 54.6**	**+0.3**
YHNB	**Yeheng** baz=289	**1.19**	**303**	P	**Pb**	**14 18 53.5**	**+0.2**
YHNB	baz=289			*eS*	**Sb**	**14 19 07.9**	**-0.5**
CHGB	**Renai** baz=255	**1.19**	**272**	P	**Pb**	**14 18 53.7**	**+0.3**
CHGB	baz=255			*eS*	**Sb**	**14 19 08.7**	**+0.1**
OWD	**Renai** baz=261	**1.19**	**267**	P	**Pb**	**14 18 53.4**	**0.0**
OWD	baz=261			*eS*	**Sn**	**14 19 09.4**	**+0.5**
HATJ	**Hateruma jima**	**1.21**	**88**	*eS*	**Sg**	**14 19 12.0**	**+1.2**
NWF	**Wu-fen Shan** baz=328	**1.22**	**329**	P	**Pn**	**14 18 53.6**	**+0.2**
NWF	baz=328			*eS*	**Sb**	**14 19 09.0**	**-0.1**
WFSB	**Wu-fen Shan** baz=328	**1.22**	**329**	P	**Pb**	**14 18 53.8**	**+0.1**
WFSB	baz=328			*eS*	**Sb**	**14 19 08.2**	**-0.8**
TDCB	**Techi** baz=265	**1.23**	**281**	*eP*	**Pb**	**14 18 54.3**	**+0.3**
TDCB	baz=265			*eS*	**Sb**	**14 19 08.9**	**-0.6**
TWA	**Mucha**	**1.25**	**319**	*eP*	**Pn**	**14 18 53.9**	**+0.2**
TWA	baz=319			*eS*	**Sg**	**14 19 11.5**	**-0.4**
YULB	**Yu-li** baz=249	**1.25**	**240**	P	**Pb**	**14 18 54.5**	**+0.1**
YULB	baz=249			*eS*	**Sb**	**14 19 09.1**	**-1.1**
EYUL	**Yuli** baz=232	**1.26**	**238**	*eP*	**Pb**	**14 18 54.0**	**-0.4**
EYUL	baz=232			*eS*	**Sb**	**14 19 10.1**	**-0.3**
NHDH	**Xindian Distri** baz=331	**1.27**	**317**	*eP*	**Pg**	**14 18 55.5**	**-0.5**
NHDH	baz=331			*eS*	**Sn**	**14 19 11.4**	**+0.8**
TWF1	**Yuli** baz=222	**1.28**	**238**	*eP*	**Pb**	**14 18 54.6**	**-0.2**
TWF1	baz=222			*eS*	**Sn**	**14 19 10.7**	**+0.1**
TATO	**Taipei** baz=315	**1.30**	**316**	*eP*	**Pb**	**14 18 55.6**	**+0.4**
TATO	baz=315			*eS*	**Sb**	**14 19 12.0**	**+0.5**
FULB	**Fuli** baz=228	**1.36**	**233**	*eP*	**Pb**	**14 18 55.7**	**-0.6**
CHKT	**Chengkung** baz=223	**1.38**	**228**	*eP*	**Pb**	**14 18 56.4**	**0.0**
YM01	**YM01** baz=321	**1.39**	**324**	*eP*	**Pn**	**14 18 56.3**	**+0.6**
WPL	**Puli Township** baz=265	**1.39**	**270**	*eP*	**Pb**	**14 18 56.4**	**-0.3**
YM08	**YM08** baz=323	**1.41**	**325**	*eP*	**Pn**	**14 18 55.9**	**0.0**
JKRS	**Kuro-shima**	**1.41**	**81**	P	**Pg**	**14 18 58.6**	**-0.1**
JKRS				S	**Sg**	**14 19 18.4**	**+1.3**
SSLB	**Suanglung** baz=245	**1.42**	**261**	*eP*	**Pb**	**14 18 56.9**	**-0.2**
DPDB	**Guoxing** baz=257	**1.42**	**270**	*eP*	**Pb**	**14 18 57.1**	**-0.1**
DPDB	baz=257			*eS*	**Sb**	**14 19 14.9**	**-0.1**
WHP	**Taichung City** baz=265	**1.42**	**280**	*eP*	**Pb**	**14 18 57.5**	**+0.2**
WHP	baz=265			*eS*	**Sn**	**14 19 14.7**	**+0.3**
WCS	**Beigang Elemen** baz=267	**1.43**	**271**	*eP*	**Pb**	**14 18 57.2**	**-0.2**
TWS1	**Kuangyinshan** baz=331	**1.44**	**318**	*eP*	**Pn**	**14 18 56.5**	**+0.2**
ANP	**Anpu** baz=321	**1.45**	**323**	*eP*	**Pn**	**14 18 56.1**	**-0.4**
SMLT	**Sun Moon Lake** baz=260	**1.45**	**265**	*eP*	**Pb**	**14 18 57.4**	**-0.4**
LIOB	**Emei** baz=293	**1.47**	**295**	P	**Pb**	**14 18 58.4**	**+0.4**
LIOB	baz=293			*eS*	**Sb**	**14 19 17.5**	**+1.2**
NSTT	**Nanjuang** baz=292	**1.48**	**294**	*eP*	**Pn**	**14 18 57.1**	**+0.3**
NSTT	baz=292			*eS*	**Sn**	**14 19 15.2**	**-0.4**
TYC	**Yuchr** baz=261	**1.49**	**266**	*eP*	**Pb**	**14 18 58.1**	**-0.2**
YUS	**Yu-Shan** baz=244	**1.50**	**249**	*eP*	**Pb**	**14 18 58.8**	**0.0**
YUS	baz=244			*eS*	**Sn**	**14 19 16.5**	**-0.4**
EDH	**Donghe** baz=221	**1.51**	**226**	*eP*	**Pn**	**14 18 57.2**	**0.0**
WHYT	**Xinyi Township** baz=245	**1.52**	**258**	*eP*	**Pb**	**14 18 58.8**	**-0.2**
JIJ	**Ishigaki jima**	**1.56**	**77**	P	**Pb**	**14 18 59.8**	**+0.3**
JIJ				*eS*	**Sg**	**14 19 20.0**	**-1.7**
ELDTW	**Lidau** baz=234	**1.58**	**238**	*eP*	**Pn**	**14 18 58.9**	**+0.5**
TWQ1	**Liyutan** baz=277	**1.59**	**282**	*eP*	**Pb**	**14 19 00.3**	**+0.2**
TWQ1	baz=277			*eS*	**Sb**	**14 19 21.2**	**+1.4**
WJS	**Zhushan** baz=259	**1.61**	**263**	*eP*	**Pb**	**14 19 00.1**	**-0.4**
ALS	**Alishan** baz=247	**1.62**	**252**	*eP*	**Pb**	**14 19 00.2**	**-0.5**
PCYT	**Pengchaiyu** baz=347	**1.64**	**347**	*eP*	**Pn**	**14 18 59.6**	**+0.5**
LDUT	**Ludao** baz=210	**1.64**	**215**	*eP*	**Pn**	**14 18 59.0**	**-0.1**
LONT	**Longtian** baz=236	**1.67**	**228**	*eP*	**Pb**	**14 19 00.4**	**-1.0**
CHN5	**Tsauling** baz=252	**1.70**	**256**	*eP*	**Pb**	**14 19 02.6**	**+0.5**
JISG	**Ishigakijimahi**	**1.76**	**71**	P	**Pb**	**14 19 02.4**	**-0.6**
JISG				*eS*	**Sb**	**14 19 24.4**	**-0.3**
STYT	**Tauyuan** baz=228	**1.80**	**242**	*eP*	**Pb**	**14 19 03.0**	**-0.7**
TPUB	**Ta-pu** baz=243	**1.84**	**247**	*eP*	**Pb**	**14 19 04.2**	**-0.2**
CHN4	**Tsaushan** baz=246	**1.86**	**249**	*eP*	**Pb**	**14 19 05.4**	**+0.8**
CHN4	baz=246			*eS*	**Sb**	**14 19 27.6**	**+0.1**
WTP	**Ta-pu** baz=242	**1.88**	**246**	*eP*	**Pb**	**14 19 04.2**	**-0.9**
SLGT	**Liugui** baz=226	**1.97**	**239**	*eP*	**Pb**	**14 19 06.6**	**0.0**
CHN1	**Nanshi** baz=242	**1.98**	**245**	*eP*	**Pb**	**14 19 06.4**	**-0.3**
TWK	**Hsinying** baz=244	**1.98**	**248**	*eP*	**Pb**	**14 19 07.0**	**+0.3**
EAST	**Anshuo** baz=219	**2.22**	**223**	*eP*	**Pn**	**14 19 08.6**	**+1.4**
WDGT	**Dungji** baz=251	**2.70**	**254**	*eP*	**Pn**	**14 19 15.2**	**+1.6**
PNG	**Penghu** baz=257	**2.72**	**261**	*eP*	**Pb**	**14 19 16.8**	**-2.5**
XPSS	**Dashiqiu** baz=321	**3.55**	**325**	*eP*	**Pn**	**14 19 25.1**	**-0.3**
KNMB	**Chin-men Tao** baz=275	**3.76**	**277**	*eP*	**Pn**	**14 19 28.6**	**+0.3**
AXDP	**Jialang** baz=269	**4.20**	**283**	*eP*	**Pn**	**14 19 35.4**	**+1.1**

IDC ***14*** *14:19:40.0±2.9,60.°88S×162.°18E,h0km,mb4.2/4, mb1 4.3/5,mb1mx4.0/34,mbtmp4.1/5,ML3.0/1,MS3.8/12, Ms1 3.8/12,ms1mx3.7/20,Error ellipse: s-maj=105.7km s-min=26.0km az=84.0*

NEIC ***14*** *14:19:42.7±1.2,60.°89S±0.°09×162.°1E±0.°4,h15km±5km, mb4.4/17,Error ellipse: s-maj=27.7km s-min=12.1km az=82.0*

ISC 14 14:19:41.2±0.9,**60.°94S**±0.°07×**162.°2E**±0.°2,**h10km**,**n49,** σ1º**31**/27,**mb4.4**/10,**MS3.8**/15,**Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.68**	**344**	Pn	**Pn**	**14 21 16.1**	**-3.1**
VNDA	**Vanda** 0.1nm,0.3s,baz=352,slow=13,SNR=3.4	**16.66**	**180**	Pn	**P**	**14 23 36.1**	**-0.6**
VNDA	0.1nm,0.3s,baz=191,slow=16,SNR=1.3			Sn	**Sn**	**14 26 36.0**	**-3.0**
VNDA	comp=Z,265nm,19.8s,baz=3.0,slow=33			LR	LR	14 28 54.1	
SBA	**Scott Base** comp=Z,20nm,1.2s	**17.06**	**177**	P	**Pn**	**14 23 39.9**	**+0.6**
SBA				IAmb	IAmb	14 23 48.3	
LTZ	**Lake Taylor** comp=Z,56nm,1.5s	**19.19**	**23**	Pn	**Pn**	**14 24 07.0**	**+1.3**
LTZ				IAmb	IAmb	14 24 28.5	
TAU	**Tasmania Unive** comp=Z,26nm,1.2s	**20.15**	**327**	P	**P**	**14 24 16.1**	**+0.9**
TAU				IAmb	IAmb	14 24 32.9	
STKA	**Stephens Creek** comp=Z,352nm,20.3s,baz=173,slow=32	**32.05**	**326**	LR	LR	14 36 46.4	
STKA	**Stephens Creek** comp=Z,1.8nm,1.4s	**32.05**	**326**	P	**P**	**14 26 08.7**	**+0.9**
STKA				IAmb	IAmb	14 26 10.8	
BBOO	**Buckleboo**	**32.87**	**317**	P	**P**	**14 26 16.3**	**+1.3**
DZM	**Mont Dzumac** comp=Z,358nm,28.6s	**38.95**	**6**	*e*LQ	LQ	14 35 57.1	
DZM	comp=Z,107nm,22.8s			*e*LR	LR	14 37 36.2	
MAW	**Mawson** comp=Z,1.7nm,0.7s,baz=124,slow=7.3,SNR=3.7	**39.11**	**217**	P	**P**	**14 27 08.6**	**+0.6**
MAW	**Mawson** comp=Z,1.0nm,1.1s	**39.11**	**217**	IAmb	IAmb	14 27 09.5	
H01W1	**Cape Leeuwin H** baz=146,slow=76,SNR=25	**40.04**	**288**	T	T	15 09 14.4	

H01W2	**Cape Leeuwin H**	**40.05**	**288**	T	T	15 09 14.8		
	baz=146,slow=76,SNR=30							
H01W3	**Cape Leeuwin H**	**40.06**	**288**	T	T	15 09 15.7		
	baz=146,slow=76,SNR=27							
ASAR	**Alice Springs**	**42.04**	**320**	P	**P**	**14 27 33.0**	**+0.3**	
	comp=Z,4.2nm,0.9s,baz=161,slow=8.0,SNR=41							
ASAR				PcP	**PcP**	**14 29 27.5**	**0.0**	
	comp=Z,0.4nm,0.8s,baz=146,slow=3.5,SNR=2.9							
ASAR	**Alice Springs**	**42.04**	**320**	P	**P**	**14 27 32.2**	**-0.5**	
AS31	**Alice Springs**	**42.04**	**320**	P	**P**	**14 27 32.4**	**-0.3**	
WR0	**Warramunga Arr**	**45.32**	**322**	P	**P**	**14 27 58.9**	**-0.2**	
WR0				IAmb	IAmb	14 27 59.9		
	comp=Z,6.9nm,1.0s							
WB2	**Warramunga Arr**	**45.39**	**322**	P	**P**	**14 27 59.0**	**-0.6**	
WB2				IAmb	IAmb	14 28 19.7		
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**45.40**	**322**	P	**P**	**14 27 59.5**	**-0.2**	
	comp=Z,3.1nm,0.9s,baz=161,slow=6.4,SNR=11							
WRA				PcP	**PcP**	**14 29 39.1**	**+0.2**	
	comp=Z,1.1nm,1.2s,baz=152,slow=3.1,SNR=2.0							
WRA				LR	LR	14 45 38.1		
	comp=Z,168nm,18.6s,baz=285,slow=34							
WRA	**Warramunga Arr**	**45.40**	**322**	P	**P**	**14 27 59.0**	**-0.7**	
WRAB	**Tennant Creek**	**45.40**	**322**	P	**P**	**14 27 59.2**	**-0.6**	
WB0	**Warramunga Arr**	**45.55**	**322**	P	**P**	**14 27 60.0**	**-0.9**	
WB0				IAmb	IAmb	14 28 06.1		
	comp=Z,4.8nm,1.1s							
SNAA	**Sanae**	**47.26**	**186**	P	**P**	**14 28 16.3**	**+2.5**	
SNAA	**Sanae**	**47.26**	**186**	P	**P**	**14 28 15.5**	**+1.6**	
SNAA				IAmb	IAmb	14 28 16.7		
	comp=Z,3.1nm,1.0s							
VNA3	**Neumayer Olymp**	**47.98**	**184**	P	P	14 28 28.5	+9.1	
VNA2	**Neumayer--Watz**	**48.21**	**185**	P	**P**	**14 28 21.3**	**+0.1**	
VNA1	**Neumayer--Stat**	**48.52**	**184**	P	**P**	**14 28 21.4**	**-2.1**	
FITZ	**Fitzroy Crossi**	**50.00**	**312**	LR	LR	14 46 26.1		
	comp=Z,119nm,21.7s,baz=166,slow=32							
TBI	**Tubuai**	**50.07**	**64**	*e*LR	LR	14 43 05.2		
	comp=Z,131nm,29.0s							
TBI	**Tubuai**	**50.07**	**64**	*e*T	T	15 22 26.3		
	comp=Z,22nm,0.3s							
KNRA	**Kununurra**	**51.17**	**317**	P	**P**	**14 28 44.5**	**+0.2**	
KNRA				IAmb	IAmb	14 28 45.3		
	comp=Z,6.6nm,0.9s							
MTN	**Manton Dam**	**53.07**	**321**	P	**P**	**14 28 59.0**	**+0.6**	
PPT2	**Papeete2**	**55.11**	**60**	*e*LR	LR	14 45 23.1		
	comp=Z,175nm,25.2s,baz=219							
PPT2	**Papeete2**	**55.11**	**60**	*e*T	T	15 28 40.0		
	comp=Z,4.2nm,0.3s							
PPT	**Papeete**	**55.12**	**60**	LR	LR	14 48 02.2		
	comp=Z,62nm,18.3s,baz=172,slow=31							
RKT	**Rikitea**	**56.93**	**78**	*e*T	T	15 31 17.5		
	comp=Z,6.9nm,0.3s							
BATI	**Baumata**	**58.00**	**314**	LR	LR	14 52 25.6		
	comp=Z,84nm,21.0s,baz=193,slow=34							
VAH	**Vaihoa**	**58.03**	**61**	*e*T	T	15 32 19.2		
	comp=Z,41nm,0.3s							
SIJI	**Sorong**	**64.40**	**325**	LR	LR	15 00 16.8		
	comp=Z,1μm,18.2s,baz=132,slow=38							
PLCA	**Paso Flores**	**69.98**	**140**	LR	LR	14 54 08.2		
	comp=Z,97nm,19.0s,baz=170,slow=30							
H08S2	**Diego Garcia H**	**83.21**	**267**	T	T	16 03 18.4		
	baz=149,slow=76,SNR=13							
H08S1	**Diego Garcia H**	**83.22**	**267**	T	T	16 03 17.6		
	baz=149,slow=76,SNR=14							
H08S3	**Diego Garcia H**	**83.23**	**267**	T	T	16 03 19.7		
	baz=149,slow=76,SNR=15							
BOSA	**Boshof**	**84.12**	**217**	P	**P**	**14 32 12.8**	**+0.5**	
	comp=Z,2.0nm,0.8s,baz=188,slow=7.1,SNR=3.4							
BOSA				LR	LR	15 04 38.8		
	comp=Z,40nm,21.8s,baz=174,slow=32							
CPUP	**Villa Florida**	**87.32**	**145**	LR	LR	15 08 41.5		
	comp=Z,54nm,18.2s,baz=201,slow=34							
LPAZ	**La Paz**	**93.23**	**132**	LR	LR	15 05 55.2		
	comp=Z,40nm,21.4s,baz=210,slow=30							
CMAR	**Chiang Mai Arr**	**93.77**	**302**	LR	LR	15 15 46.7		
	comp=Z,28nm,18.0s,baz=194,slow=36							
MJAR	**Matsushiro Arr**	**99.09**	**341**	LR	LR	15 16 44.6		
	comp=Z,16nm,19.9s,baz=220,slow=35							

*IDC **14** 14:32:46.6±1.4, 18°.96N×145°.53E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/52, mbtmp3.4/5, Error ellipse: s-maj=54.9km s-min=28.4km az=102.0*
*NEIC **14** 14:33:20.2±1.0, 18°.7N±0°.1×145°.5E±0'.2, h309km±7km, mb3.8/7, Error ellipse: s-maj=33.0km s-min=10.7km az=113.0*

ISC 14 14:33:10.7±0.9, 18°.8N±0'.2×145°.4E±0'.2, h214km, n14, σ0$42/14, mb3.6/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB0	**Warramunga Arr**	**39.79**	**196**	P	**P**	**14 40 23.2**	**0.0**
WB0				IAmb	IAmb	14 40 35.7	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**39.94**	**196**	P	**P**	**14 40 23.8**	**-0.5**
WR0				IAmb	IAmb	14 40 40.8	
	comp=Z,7.5nm,1.5s						
WRAB	**Tennant Creek**	**39.96**	**196**	P	**P**	**14 40 24.1**	**-0.4**
WRAB				IAmb	IAmb	14 40 35.3	
	comp=Z,4.9nm,1.1s						
WB2	**Warramunga Arr**	**39.97**	**196**	P	**P**	**14 40 24.6**	**0.0**
WB2				IAmb	IAmb	14 40 25.8	
	comp=Z,5.6nm,1.3s						
WRA	**Warramunga Arr**	**39.97**	**196**	P	**P**	**14 40 25.3**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=5.8,slow=8.3,SNR=7.0						
FITZ	**Fitzroy Crossi**	**41.47**	**209**	P	**P**	**14 40 36.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=45,slow=7.1,SNR=1.4						
AMKA	**Amchitka**	**42.08**	**31**	P	**P**	**14 40 41.1**	**-0.3**
UGM	**Wanagama**	**43.45**	**236**	P	**P**	**14 40 53.0**	**0.0**
ASAR	**Alice Springs**	**43.64**	**195**	P	**P**	**14 40 54.4**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=9.7,slow=6.5,SNR=4.7						
MKAR	**Makanchi Array**	**58.24**	**314**	P	**P**	**14 42 42.9**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=89,slow=8.2,SNR=1.6						
I23K	**Minto, Yukon-K**	**62.77**	**26**	P	**P**	**14 43 13.4**	**+0.5**
I23K				IAmb	IAmb	14 43 17.9	
	comp=Z,4.4nm,1.5s						
BMAR	**Burnt Mountain**	**65.16**	**24**	P	**P**	**14 43 27.9**	**-0.6**
NVAR	**Mina Array Bea**	**83.30**	**52**	P	**P**	**14 45 14.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=261,slow=5.4,SNR=3.9						
NVAR	**Mina Array Bea**	**83.30**	**52**	P	**P**	**14 45 14.1**	**+0.1**

*TRN **14** 14:51:22.4, 10°.96N×62°.17W, h101km, MD3.2*
*FUNV **14** 14:51:22.2, 11°.02N×62°.18W, h101km, MW3.2*

ISC 14 14:51:19.5±1.6, 10°.91N±0°.06×62°.23W±0°.05, h122km±14km, n14, σ1$79/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.85**	**108**	*e*P	**Pn**	**14 51 41.7**	**+1.4**
TRN				*e*S	**Sn**	**14 51 54.7**	**-1.3**
TRN	**Trinidad (W)**	**0.85**	**108**	*e*P	**Pn**	**14 51 41.2**	**+0.9**
TRN				*e*S	**Sn**	**14 51 54.6**	**-1.3**
CRUV	**Carupano**	**1.02**	**257**	*e*P	**Pn**	**14 51 43.0**	**+1.2**
CRUV				*e*S	**Sn**	**14 51 57.8**	**-0.9**
TBH	**Brigand Hill**	**1.22**	**110**	*e*S	**Sn**	**14 52 01.6**	**-0.8**
GRGR	**Grenville**	**1.34**	**25**	*e*P	**Pn**	**14 51 45.9**	**+0.6**
GRGR				*e*S	**Sn**	**14 52 03.5**	**-1.3**
TOSP	**Speyside**	**1.71**	**77**	*e*P	**Pn**	**14 51 50.4**	**+1.0**
TOSP				*e*S	**Sn**	**14 52 11.4**	**-0.9**
GCMP	**Grenada, Carri**	**1.75**	**27**	*e*P	**Pn**	**14 51 51.2**	**+1.2**
GCMP				*e*S	**Sn**	**14 52 12.4**	**-1.0**
PCRV	**Puerto La Cruz**	**2.48**	**253**	*e*P	**Pn**	**14 52 01.6**	**+2.5**
PCRV				*e*S	**Sn**	**14 52 30.1**	**+0.6**
MERV	**Las Mercedes**	**4.33**	**248**	*e*P	**Pn**	**14 52 25.5**	**+2.0**
LUEV	**Luepa**	**5.09**	**171**	*e*P	**Pn**	**14 52 35.6**	**+1.7**
LUEV				*e*S	**Sn**	**14 53 30.0**	**-1.7**
BENV	**Beln**	**5.37**	**260**	*e*P	**Pn**	**14 52 39.0**	**+1.5**
BENV				*e*S	**Sn**	**14 53 35.5**	**-2.7**
BAUV	**El Baul**	**6.05**	**252**	*e*P	**Pn**	**14 52 47.9**	**+1.2**
BAUV				*e*S	**Sn**	**14 53 52.2**	**-2.5**
MAPV	**Macapo**	**6.22**	**261**	*e*P	**Pn**	**14 52 49.8**	**+0.8**
PAYV	**Puerto Ayacuch**	**7.66**	**225**	*e*P	**Pn**	**14 53 09.7**	**+1.4**
PAYV				*e*S	**Sn**	**14 54 29.7**	**-3.9**

WEL 14 15:00:12.5, 43°.3S±4°×17°.3E±°, h30km±7km, M4.0/79, mB4.7/8, ML4.1/78, MLv4.0/79, Mw(mB)4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=60.8, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMCZ	**Amberley**	**0.35**	**294**	P	Pn	15 00 22.3	+0.7
AMCZ				S	Sn	15 00 28.4	+0.9
GVZ	**Greta Valley S**	**0.35**	**354**	P	Pb	15 00 21.0	+0.2
GVZ				S	Sb	15 00 26.9	+0.5
OKCZ	**Okains Bay**	**0.40**	**183**	P	Pn	15 00 22.3	0.0
OKCZ				S	Sn	15 00 29.1	+0.2
MQZ	**McQueen's Vall**	**0.50**	**219**	P	Pn	15 00 23.6	0.0
MQZ				S	Sn	15 00 31.0	-0.2
AKCZ	**Akaroa Harbour**	**0.57**	**193**	P	Pn	15 00 24.5	-0.1
AKCZ				S	Sn	15 00 32.8	-0.1
OXZ	**Oxford**	**0.77**	**269**	P	Pb	15 00 27.8	+0.4
OXZ				S	Sb	15 00 35.8	-1.7
RACZ	**Rakaia**	**0.80**	**239**	P	Pb	15 00 28.5	+0.6
LTZ	**Lake Taylor**	**0.81**	**312**	P	Pb	15 00 28.5	+0.4
LTZ				S	Sb	15 00 36.6	-2.0
KHZ	**Kahutara**	**0.96**	**20**	P	Pn	15 00 29.2	-0.8
KHZ				S	Sn	15 00 41.8	-0.7
WACZ	**Wakanui South**	**1.10**	**235**	P	Pb	15 00 32.8	-0.2
WACZ				S	Sb	15 00 47.3	+0.4
MHCZ	**Mount Hutt**	**1.13**	**259**	P	Pb	15 00 33.0	-0.5
MHCZ				S	Sb	15 00 47.8	0.0
INZ	**Inchbonnie**	**1.34**	**296**	P	Pb	15 00 36.3	-0.8
ARCZ	**Arundel**	**1.52**	**245**	P	Pn	15 00 38.5	+0.8
ARCZ				S	Sn	15 00 56.7	+0.2
RPZ	**Rata Peaks**	**1.53**	**254**	P	Pn	15 00 38.8	+1.0
RPZ				S	Sn	15 00 56.9	+0.2
THZ	**Tophouse**	**1.56**	**355**	P	Pn	15 00 38.2	0.0
BSWZ	**Blackbirch Sta**	**1.71**	**20**	P	Pn	15 00 40.2	0.0
BSWZ				S	Sn	15 01 01.3	+0.4
WVZ	**Waitaha Valley**	**1.74**	**277**	P	Pn	15 00 42.7	-1.0
CMWZ	**Cape Campbell**	**1.78**	**28**	P	Pn	15 00 41.5	+0.3
DSZ	**Denniston Nort**	**1.84**	**328**	P	Pn	15 00 42.9	+0.9
TMZ	**Timaru**	**1.84**	**234**	P	Pn	15 00 43.0	+0.9
TUWZ	**Tuamarina**	**1.99**	**19**	P	Pn	15 00 43.7	-0.4
GCSZ	**Gaunt Creek Bo**	**2.02**	**269**	P	Pb	15 00 47.6	-0.8
NNZ	**Nelson**	**2.11**	**6**	P	Pn	15 00 46.0	+0.2
TCW	**Tory Channel**	**2.29**	**23**	P	Pn	15 00 47.3	-0.8
LBZ	**Lake Benmore**	**2.35**	**242**	P	Pn	15 00 50.5	+1.4
PLWZ	**Palliser**	**2.37**	**43**	P	Pn	15 00 47.8	-1.6
WEL	**Wellington**	**2.39**	**32**	P	Pn	15 00 48.6	-0.9
FOZ	**Fox Glacier**	**2.39**	**264**	P	Pb	15 00 52.5	-2.4
ODZ	**Otahua Downs**	**2.46**	**225**	P	Pn	15 00 51.3	+0.7
MSWZ	**Moikau Station**	**2.49**	**41**	P	Pn	15 00 50.0	-0.9
QRZ	**Quartz Range**	**2.53**	**350**	P	Pn	15 00 52.0	+0.6
DUWZ	**D'Urville Isla**	**2.59**	**14**	P	Pn	15 00 52.2	-0.2
PAWZ	**Paruwai Farm**	**2.60**	**43**	P	Pn	15 00 50.7	-1.8
CAW	**Cannon Point**	**2.66**	**34**	P	Pn	15 00 51.9	-1.3
KIW	**Kapiti Island**	**2.81**	**29**	P	Pn	15 00 54.4	-0.9
MTW	**Mount Morrison**	**2.81**	**40**	P	Pn	15 00 53.3	-2.0
OGWZ	**Otaki Gorge**	**2.94**	**32**	P	Pn	15 00 55.9	-1.3
TMWZ	**Te Maipa**	**3.04**	**44**	P	Pn	15 00 56.6	-1.9
JCZ	**Jackson Bay**	**3.21**	**255**	P	Pn	15 01 02.3	+1.3
MRZ	**Mangatainoka R**	**3.24**	**36**	P	Pn	15 00 59.5	-1.8
WKZ	**Wanaka**	**3.30**	**241**	P	Pn	15 01 03.1	+1.0
EAZ	**Earnscleugh**	**3.32**	**234**	P	Pn	15 01 03.2	+0.9
PRWZ	**Pori Road**	**3.50**	**39**	P	Pn	15 01 03.2	-1.6
OHWZ	**Ohakea**	**3.53**	**29**	P	Pn	15 01 05.2	0.0
BFZ	**Birch Farm**	**3.53**	**43**	P	Pn	15 01 03.2	-2.1
POWZ	**Post Office Ro**	**3.54**	**35**	P	Pn	15 01 04.1	-1.3
ANWZ	**Angora Road**	**3.82**	**43**	P	Pn	15 01 07.5	-1.6
WAZ	**Wanganui**	**3.84**	**22**	P	Pn	15 01 10.2	+0.7
TSZ	**Takapari Road**	**3.91**	**34**	P	Pn	15 01 08.5	-2.0
MSZ	**Milford Sound**	**3.96**	**248**	P	Pn	15 01 12.4	+1.3
LREZ	**Lake Rotokare**	**3.98**	**15**	P	Pn	15 01 12.8	+1.3
PREZ	**Palmer Road**	**4.06**	**12**	P	Pn	15 01 15.1	+2.6
NBEZ	**Newall Road No**	**4.09**	**9**	P	Pn	15 01 14.8	+1.8
MLZ	**Mavora Lakes**	**4.11**	**238**	P	Pn	15 01 13.7	+0.5
NEZ	**North Egmont**	**4.12**	**11**	P	Pn	15 01 15.7	+2.2
PNHZ	**Pukenui**	**4.13**	**35**	P	Pn	15 01 11.2	-2.3
PKE	**Pukeiti**	**4.18**	**10**	P	Pn	15 01 16.5	+2.3
MHEZ	**Mangahewa**	**4.34**	**13**	P	Pn	15 01 18.5	+2.1
PKVZ	**Pokaka**	**4.37**	**24**	P	Pn	15 01 17.1	+0.2
VRZ	**Vera Road**	**4.38**	**17**	P	Pn	15 01 17.6	+0.7
MOVZ	**Moawhango**	**4.39**	**28**	P	Pn	15 01 16.0	-1.2
WNVZ	**Wahianoa**	**4.41**	**26**	P	Pn	15 01 17.8	+0.3
KRHZ	**Kereru**	**4.42**	**35**	P	Pn	15 01 15.0	-2.5
TRVZ	**Turoa**	**4.42**	**26**	P	Pn	15 01 17.6	-0.2
BHHZ	**Black Hill Sta**	**4.43**	**31**	P	Pn	15 01 16.2	-1.5
WHVZ	**Whangaehu Hut**	**4.45**	**26**	P	Pn	15 01 18.2	0.0
FWVZ	**Far West T-bar**	**4.47**	**25**	P	Pn	15 01 18.0	-0.3
TUVZ	**Tukino**	**4.49**	**26**	P	Pn	15 01 18.4	-0.2
KAHZ	**Kahuranaki**	**4.53**	**40**	P	Pn	15 01 16.9	-2.1
NGZ	**Ngauruhoe**	**4.55**	**25**	P	Pn	15 01 19.3	-0.2
NNVZ	**North Ngauruho**	**4.60**	**25**	P	Pn	15 01 20.3	+0.3
TWVZ	**Taurewa**	**4.60**	**23**	P	Pn	15 01 19.6	-0.4
WTVZ	**West Tongariro**	**4.61**	**25**	P	Pn	15 01 20.8	+0.6
ETVZ	**East Tongariro**	**4.62**	**26**	P	Pn	15 01 20.2	-0.2
TMVZ	**Te Maari**	**4.64**	**26**	P	Pn	15 01 20.0	-0.6
RITZ	**Rihia Road**	**4.82**	**27**	P	Pn	15 01 22.9	-0.1
BKZ	**Black Stump Fm**	**4.88**	**33**	P	Pn	15 01 21.2	-2.6
HIZ	**Hauiti**	**4.99**	**16**	P	Pn	15 01 25.5	+0.3
MRHZ	**Matea Rd**	**5.14**	**30**	P	Pn	15 01 25.0	-2.5
MTHZ	**Maungataniwha**	**5.29**	**34**	P	Pn	15 01 27.7	-1.8
TLZ	**Tolley Road**	**5.32**	**21**	P	Pn	15 01 29.3	-0.6
WPRZ	**Whakapapatarin**	**5.33**	**27**	P	Pn	15 01 28.8	-1.2
RAHZ	**Arahi**	**5.33**	**36**	P	Pn	15 01 28.2	-1.9
ALRZ	**Allen Road**	**5.35**	**28**	P	Pn	15 01 28.9	-1.4
PRRZ	**Plateau Road**	**5.43**	**29**	P	Pn	15 01 30.2	-1.2
RTZ	**Ruatahuna**	**5.55**	**33**	P	Pn	15 01 31.0	-2.0
MUGZ	**Murupara**	**5.58**	**31**	P	Pn	15 01 32.2	-1.3
OMRZ	**Omania**	**5.78**	**27**	P	Pn	15 01 34.9	-1.2
TOZ	**Tahuroa Road**	**5.88**	**19**	P	Pn	15 01 36.8	-0.7
URZ	**Urewera**	**5.91**	**32**	P	Pn	15 01 34.8	-3.0
OPRZ	**Ohinepanea**	**6.07**	**27**	P	Pn	15 01 38.1	-1.9
TGRZ	**Tauranga**	**6.08**	**24**	P	Pn	15 01 39.4	-0.9
TWGZ	**Tauwhareparae**	**6.34**	**37**	P	Pn	15 01 40.7	-3.2
AWAZ	**Awhitu Peninsu**	**6.36**	**11**	P	Pn	15 01 44.5	+0.3
ETAZ	**East Tamaki Re**	**6.51**	**13**	P	Pn	15 01 46.3	+0.1
HAZ	**Te Kaha**	**6.61**	**34**	P	Pn	15 01 45.1	-2.4
RVAZ	**Riverhead Bore**	**6.64**	**10**	P	Pn	15 01 48.2	+0.2
MBAZ	**Motutapu North**	**6.69**	**13**	P	Pn	15 01 49.0	+0.4
WIAZ	**Waiheke Island**	**6.71**	**14**	P	Pn	15 01 48.6	-0.3
ABAZ	**Army Bay**	**6.84**	**12**	P	Pn	15 01 51.2	+0.4
KUZ	**Kuaotunu**	**6.87**	**18**	P	Pn	15 01 50.0	-1.2
WCZ	**Waipu Caves**	**7.44**	**8**	P	Pn	15 01 59.9	+1.0
OUZ	**Omahuta**	**8.10**	**3**	P	Pn	15 02 09.6	+1.6

JMA 14 15:20:52.8±0.2, 30°.99N×142°.74E, h38km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.91**	**187**	P	Pn	15 21 52.3	+2.0
BSO3	**Boso 3**	**4.24**	**334**	P	Pn	15 21 56.9	+2.3
JRY	**Ryogami san**	**5.95**	**328**	P	Pn	15 22 21.5	+3.2
JFK	**Kawauchi**	**6.55**	**347**	*e*S	Sn	15 23 35.6	-4.3

*IDC **14** 15:28:41.1±1.0, 56°.37S×26°.44W, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=48.3km s-min=22.5km az=84.0*
*NEIC **14** 15:28:46.6±1.2, 56°.3S±0°.1×26°.3W±0°.3, h35km±2km, mb4.1/7, Error ellipse: s-maj=28.4km s-min=23.5km az=106.0*

ISC 14 15:28:46.6±0.9, 56°.6S±0°.1×26°.2W±0°.2, h35km, n17, σ3$49/18, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.13**	**158**	P	**P**	**15 32 37.5**	**+4.3**
VNA1				S	**Sn**	**15 35 21.7**	**-6.1**
VNA3	**Neumayer Olymp**	**16.34**	**161**	P	**P**	**15 32 39.3**	**+3.7**
VNA3				S	**Sn**	**15 35 29.0**	**-4.0**
VNA2	**Neumayer--Watz**	**16.53**	**158**	P	**P**	**15 32 42.5**	**+4.9**
	baz=319,slow=14						
VNA2				S	**Sn**	**15 35 31.1**	**-6.3**
SNAA	**Sanae**	**18.07**	**156**	P	Pn	15 33 03.4	+8.9
SNAA				S	**Sn**	**15 36 11.5**	**-3.2**
SNAA	**Sanae**	**18.07**	**156**	P	**Pn**	**15 32 56.7**	**+2.2**
	0.2nm,0.3s,baz=298,slow=11,SNR=14						
SNAA	**Sanae**	**18.07**	**156**	P	**Pn**	**15 32 56.9**	**+2.4**
SNAA				IAmb	IAmb	15 33 04.9	
	comp=Z,7.2nm,0.5s						
QSPA	**South Pole Qui**	**33.70**	**180**	P	**P**	**15 35 25.1**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=201,slow=2.8,SNR=20						
QSPA	**South Pole Qui**	**33.70**	**180**	P	**P**	**15 35 24.9**	**+0.8**
QSPA				IAmb	IAmb	15 35 36.8	
	comp=Z,6.3nm,1.2s						
LVC	**Limon Verde**	**46.02**	**299**	P	**P**	**15 37 05.1**	**-1.8**
VNDA	**Vanda**	**46.10**	**182**	P	**P**	**15 37 07.2**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=188,slow=4.6,SNR=9.4						
VNDA	**Vanda**	**46.10**	**182**	P	**P**	**15 37 07.2**	**+0.7**
VNDA				IAmb	IAmb	15 37 13.2	
	comp=Z,1.8nm,1.1s						
LPAZ	**La Paz**	**51.10**	**304**	P	**P**	**15 37 45.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=169,slow=5.2,SNR=2.1						
LPAZ	**La Paz**	**51.10**	**304**	IAmb	IAmb	15 37 55.2	
	comp=Z,1.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**73.23**	**28**	P	**P**	**15 40 12.5**	**-1.4**
TOA0				IAmb	IAmb	15 40 34.4	
	comp=Z,9.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.23**	**28**	P	**P**	**15 40 13.2**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=201,slow=6.3,SNR=9.2						
ASAR	**Alice Springs**	**98.35**	**162**	P	Pdif	15 42 21.6	+0.9
	comp=Z,0.2nm,0.8s,baz=195,slow=5.2,SNR=4.7						
ILAR	**Eielson Array**	**150.85**	**311**	PKPbc	**PKiKP**	**15 48 32.6**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=116,slow=2.1,SNR=2.5						

*IDC **14** 15:30:56.9±1.9, 34°.49N×141°.49E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/36, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=43.2km s-min=24.6km az=78.0*
*JMA **14** 15:31:01.2±0.3, 34°.46N×141°.24E, h44km±1km, M2.9*

ISC 14 15:31:00.5±1.1, 34°.52N±0°.06×141°.32E±0°.09, h27km, n18, σ0$42/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.32**	**296**	P	**Pn**	**15 31 09.6**	**+0.7**
BSO3	**Boso 3**	**0.73**	**293**	P	**Pn**	**15 31 15.2**	**+0.4**
BSO4	**Boso 4**	**0.94**	**300**	P	**Pb**	**15 31 18.6**	**+0.5**
KTR	**Katsuura**	**1.04**	**307**	P	**Pn**	**15 31 19.4**	**0.0**
JKUC	**kamogawauchiur**	**1.13**	**305**	P	**Pn**	**15 31 20.8**	**+0.3**
JKUC				*e*S	**Sn**	**15 31 34.6**	**-0.5**
TATJ	**Tateyama 2**	**1.29**	**294**	P	**Pn**	**15 31 23.2**	**+0.5**
TATJ				*e*S	**Sn**	**15 31 38.9**	**-0.2**
JSMT	**Sammumatsuo**	**1.33**	**328**	P	**Pb**	**15 31 24.8**	**-0.1**
JMKN	**Mikurajimanish**	**1.57**	**247**	P	**Pn**	**15 31 26.5**	**-0.1**
JIM2	**Oshima 3**	**1.57**	**278**	P	**Pn**	**15 31 26.5**	**-0.2**
JTHY	**Toshimahigashi**	**1.68**	**271**	P	**Pn**	**15 31 27.9**	**-0.3**
JKO	**Kozu shima**	**1.84**	**260**	P	**Pn**	**15 31 30.2**	**-0.1**
JHJ	**Hachijo jima 2**	**1.89**	**223**	Pn	**Pn**	**15 31 31.8**	**+0.7**
	44nm,0.3s,baz=52,slow=22,SNR=16						
JHJ				Sn	**Sn**	**15 31 53.5**	**-0.6**
	33nm,0.3s,baz=317,slow=23,SNR=8.9						
MJAR	**Matsushiro Arr**	**3.25**	**309**	Pn	**Pn**	**15 31 50.0**	**+0.3**
	0.3nm,0.3s,baz=131,slow=10,SNR=25						
MJAR				Sn	**Sn**	**15 32 27.2**	**-0.3**
	0.2nm,0.3s,baz=143,slow=13,SNR=5.2						
MAT	**Matsushiro**	**3.25**	**309**	P	**Pn**	**15 31 50.0**	**+0.3**
MAT				S	**Sn**	**15 32 26.8**	**-0.7**
JCJ	**Chichijima**	**7.43**	**174**	Pn	**Pn**	**15 32 47.0**	**-0.2**
	1.6nm,0.3s,baz=269,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**9.64**	**5**	Pn	**Pn**	**15 33 17.2**	**-0.2**
	0.2nm,0.3s,baz=236,slow=8.7,SNR=1.9						
WRA	**Warramunga Arr**	**54.56**

baz=40
USP Ospenovka 2.03 40 ⇑P **Pg 15 36 10.2 -0.4**
4.9nm,0.1s,SNR=12
USP ⇓S **Sg 15 36 37.4 +0.5**
37nm,0.2s
KK31 Karatay Array 2.13 311 Pn **Pb 15 36 10.7 +0.1**
4.0nm,0.3s,baz=125,slow=12,SNR=123
KK31 ⇓Lg Lg 15 36 40.4
30nm,0.3s,baz=127,slow=27,SNR=24
BTK Batken 2.20 221 ⇑*i*P **Pn 15 36 10.2 +1.4**
baz=21
BTK ⇑*i*S **Sb 15 36 37.8 -1.6**
baz=21
BTK Batken 2.20 221 *i* P **Pg 15 36 15.0 +1.1**
BTK *e*S **Sg 15 36 41.0 -1.4**
SGDS Sogindy 2.23 39 Pg **Pg 15 36 13.4 -1.1**
6.4nm,0.3s
SGDS Lg Lg 15 36 43.3
31nm,0.4s
DRK Karamyk 2.35 197 ⇑*i*P **Pn 15 36 12.6 +1.6**
baz=97
DRK ⇑*i*S **Sn 15 36 41.8 +1.5**
baz=97
TKM2 Tokmak 2 2.45 60 ⇑*i*P **Pb 15 36 14.8 -1.4**
baz=60
TKM2 ⇑*i*S **Sb 15 36 45.5 -1.2**
baz=60
TKM2 Tokmak 2 2.45 60 ⇓Pn **Pb 15 36 16.6 +0.4**
15nm,0.5s
TKM2 ⇑Lg Lg 15 36 50.7
17nm,0.4s
ULHL Ulahol 2.69 78 ⇑*e*P **Pn 15 36 17.7 +2.1**
baz=77
ULHL ⇑*i*S **Sb 15 36 50.9 -2.6**
baz=77
DGS Degeres 2.72 55 *e*P **Pg 15 36 23.1 -0.9**
5.3nm,0.3s
DGS *e*S **Sg 15 36 59.1 -0.2**
26nm,0.3s
DGS Degeres 2.72 55 Pg **Pg 15 36 23.1 -0.9**
5.3nm,0.3s
DGS Lg Lg 15 36 59.1
26nm,0.3s
KST Kastek 2.75 60 *e*P **Pg 15 36 23.5 -0.8**
8.7nm,0.3s
KST *e*S **Sg 15 36 59.7 -0.2**
26nm,0.4s
KST Kastek 2.75 60 Pg **Pg 15 36 23.5 -0.8**
8.7nm,0.3s
KST Lg Lg 15 36 59.7
26nm,0.4s
MTBS Maitube 3.09 62 *e*P **Pg 15 36 29.9 -1.0**
1.7nm,0.1s
MTBS *e*S **Sg 15 37 10.7 -0.3**
23nm,0.3s
MTBS Maitube 3.09 62 Pg **Pg 15 36 29.9 -1.0**
1.7nm,0.1s
MTBS Lg Lg 15 37 10.7
23nm,0.3s
KUU Kurty 3.44 50 *e*P **Pb 15 36 35.2 +2.3**
1.1nm,0.1s
KUU *e*S **Sg 15 37 19.6 -2.5**
13nm,0.3s
KUU Kurty 3.44 50 Pg **Pb 15 36 35.2 +2.3**
1.1nm,0.1s
KUU Lg Lg 15 37 19.6
13nm,0.3s
MDOK Medeo 3.52 65 *e*P **Pg 15 36 37.3 -1.8**
4.1nm,0.4s
MDOK *e*S **Sg 15 37 22.9 -1.8**
11nm,0.4s
MDOK Medeo 3.52 65 ⇑Pg **Pg 15 36 37.4 -1.8**
3.7nm,0.7s
MDOK ⇑Lg Lg 15 37 25.0
13nm,0.8s
MDOK Medeo 3.52 65 Pg **Pg 15 36 37.3 -1.8**
4.1nm,0.4s
MDOK Lg Lg 15 37 22.9
11nm,0.4s
KTBS Karatobe 3.54 55 *e*P **Pb 15 36 36.8 +2.2**
1.4nm,0.3s
KTBS *e*S **Sg 15 37 22.9 -2.4**
11nm,0.5s
KTBS Karatobe 3.54 55 Pg **Pb 15 36 36.8 +2.2**
1.4nm,0.3s
KTBS Lg Lg 15 37 22.9
11nm,0.5s
KOTS Kotyrbulak 3.59 64 *e*P **Pg 15 36 39.6 -0.9**
7.2nm,0.4s
KOTS *e*S **Sg 15 37 27.4 +0.4**
8.8nm,0.8s
KOTS Kotyrbulak 3.59 64 Pg **Pg 15 36 39.6 -0.9**
7.2nm,0.4s
KOTS Lg Lg 15 37 27.4
8.8nm,0.8s
CHKK Chushkaly 3.80 55 *e*P **Pg 15 36 42.9 -1.6**
0.6nm,0.1s
CHKK *e*S **Sg 15 37 32.8 -0.9**
9.3nm,0.2s
CHKK Chushkaly 3.80 55 Pg **Pg 15 36 42.9 -1.6**
0.6nm,0.1s
CHKK Lg Lg 15 37 32.8
9.3nm,0.2s
ARXS Arharly 4.50 55 *e*P **Pg 15 36 55.0 -3.0**
5.3nm,0.4s
ARXS *e*S **Sg 15 37 54.4 -1.9**
9.5nm,0.5s
ARXS Arharly 4.50 55 Pg **Pg 15 36 55.0 -3.0**
5.3nm,0.4s
ARXS Lg Lg 15 37 54.3
9.5nm,0.5s
PDGK Podgornoye 5.26 70 Pg **Pb 15 37 08.1 +4.0**
0.7nm,0.5s
PDGK Lg Lg 15 38 16.3
2.6nm,0.5s
PDGK Podgornoye 5.26 70 ⇓Pg **Pg 15 37 09.5 -3.0**
1.6nm,0.6s
PDGK ⇓Lg Lg 15 38 20.1
4.5nm,0.6s

*DSN **14** 15:48:45.6±1.1,28°.71N×57°.28E,h10km,ML3.1/4,Error ellipse: s-maj=59.7km s-min=10.6km az=107.0*
*IDC **14** 15:48:48.1±1.6,28°.35N×56°.88E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.3/32,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=37.5km s-min=29.8km az=74.0*
*TEH **14** 15:48:49.6,28°.37N×56°.92E,h5km,ML3.2*
*OMAN **14** 15:48:50.1±0.3,28°.42N×57°.04E,h10km,ml3.6/8,Error ellipse: s-maj=6.1km s-min=1.7km az=27.0*
*THR **14** 15:48:51.3±0.4,28°.42N×56°.94E,h16km±5km,ML3.3*
ISC 14 15:48:49.5±1.8,**28°.35N**±0°.03×**57°.12E**±0°.05,**h9**km±13km, **n39**,σ1°**78**/49,**mb3.6**/4,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.66**	**127**	*e*Sg		**Sn**	**15 49 17.7**	**+2.2**
KHNJ				*e*Pg		**Pn**	**15 49 05.7**	**+0.7**
GENO	**Geno**	**1.26**	**222**	*e*Pg		**Pn**	**15 49 13.5**	**+0.1**
GENO				*e*Sg		**Sb**	**15 49 29.6**	**-0.3**
BNDS	**Bandar-Abbas**	**1.26**	**222**	*e*Pg		**Pn**	**15 49 14.2**	**+0.7**
BNDS				*e*Sg		**Sb**	**15 49 30.5**	**+0.6**
BNDS				IAML			15 49 35.6	
	comp=N,579nm,0.2s							
BNDS				IAML			15 49 35.8	
	comp=E,706nm,0.6s							
NGRK	**Negar Kerman**	**1.34**	**345**	*e*Pg		**Pn**	**15 49 14.6**	**-0.1**
NGRK				*e*			15 49 18.8	
	comp=Z,4μm,0.3s							
CHMN	**Cheshme madani**	**1.55**	**14**	*e*Pg		**Pg**	**15 49 20.1**	**+0.8**
CHMN				*e*			15 49 43.7	
	comp=Z,3μm,0.5s							
KRBR	**Kerman**	**1.66**	**349**	*e*Pg		**Pb**	**15 49 20.2**	**-0.2**
KRBR				IAML			15 49 51.6	
	comp=E,255nm,0.7s							
KRBR	**Kerman**	**1.66**	**349**	*e*Pn		**Pb**	**15 49 20.2**	**-0.2**
TVBK	**TV Kerman**	**1.66**	**349**	*e*Pn		**Pg**	**15 49 21.1**	**-0.3**
TVBK				*e*			15 49 26.2	
	comp=Z,4μm,0.2s							
KHGB	**Koh Gabri**	**2.10**	**345**	*e*Pn		**Pb**	**15 49 27.7**	**-0.1**
KHGB				*e*			15 49 31.3	
	comp=Z,1μm,0.3s							
SHME	**Shamm**	**2.45**	**201**	P		**Pn**	**15 49 30.5**	**+0.9**
	SNR=8.7							
BANOM	**Banah**	**2.52**	**197**	P		**Pn**	**15 49 31.5**	**+0.8**
BANOM				S		**Sb**	**15 50 08.3**	**+2.2**
BANOM	**Banah**	**2.52**	**197**	P		**Pn**	**15 49 31.8**	**+1.2**
	SNR=28							
BANOM				S		**Sb**	**15 50 06.1**	**0.0**
MDH	**Madha**	**3.12**	**194**	P		**Pn**	**15 49 39.9**	**+1.0**
UOSS	**Minazif**	**3.48**	**194**	P		**Pn**	**15 49 45.5**	**+1.6**
NAZ	**Nazwa, Dubai**	**3.59**	**202**	P		**Pn**	**15 49 47.2**	**+1.8**
	SNR=9.6							
NAZ				S		**Sn**	**15 50 29.4**	**+1.5**
HATD	**Hatta, Dubai**	**3.62**	**194**	P		**Pn**	**15 49 48.1**	**+2.4**
IMEH	**Mehriz**	**3.73**	**325**	*e*Pn		**Pn**	**15 49 48.5**	**+1.0**
ASHO	**Ashiyiah**	**3.77**	**195**	P		**Pn**	**15 49 49.0**	**+1.2**
ASHO	**Ashiyiah**	**3.77**	**195**	P		**Pn**	**15 49 49.9**	**+2.0**
ASHO				S		**Sn**	**15 50 34.5**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.84**	**201**	P		**Pn**	**15 49 50.4**	**+1.7**
	SNR=8.3							
FAQ				S		**Sn**	**15 50 33.6**	**-0.4**
NHDN	**Nehbandan**	**3.96**	**39**	*e*Pn		**Pb**	**15 49 55.7**	**-3.9**
ASUD	**Al Ashush, Dub**	**4.04**	**204**	P		**Pn**	**15 49 53.3**	**+1.8**
ASUD	**Al Ashush, Dub**	**4.04**	**204**	P		**Pn**	**15 49 53.6**	**+2.1**
	SNR=98							
YZKH	**Yazd**	**4.58**	**332**	*e*Pn		**Pn**	**15 50 00.5**	**+1.4**
YZKH				*e*Sg		**Sb**	**15 51 09.4**	**+3.9**
YZKH	**Yazd**	**4.58**	**332**	*e*Pn		**Pn**	**15 50 00.5**	**+1.4**
TPRV	**Parvadeh(Tabas**	**4.68**	**356**	*e*Pn		**Pn**	**15 50 04.4**	**+4.0**
TKDS	**Koohdasht(Taba**	**5.25**	**0**	*e*Pn		**Pn**	**15 50 12.6**	**+4.3**
WSAR	**Wadi Sarin**	**5.27**	**165**	Pn		**Pn**	**15 50 10.2**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=337,slow=11,SNR=18							
WSAR				Sn		**Sn**	**15 51 07.7**	**-1.6**
	comp=Z,9.9nm,0.3s,baz=97,slow=19,SNR=24							
WSAR	**Wadi Sarin**	**5.27**	**165**	P		**Pn**	**15 50 10.3**	**+1.9**
IRAM	**Ramesheh**	**5.36**	**311**	*e*Pn		**Pn**	**15 50 11.1**	**+1.2**
KLNJ	**Kolanjah**	**5.49**	**300**	*e*Pn		**Pn**	**15 50 12.0**	**+0.2**
WBK	**Wadi Bani Khal**	**5.95**	**163**	P		**Pn**	**15 50 19.4**	**+1.5**
	SNR=9.3							
SHMA	**Al-Shehemyia**	**6.02**	**247**	P		**Pn**	**15 50 19.2**	**+0.5**
SAKB	**Bahrain**	**6.32**	**250**	P		**Pn**	**15 50 22.8**	**0.0**
TRNA	**Turayna**	**6.39**	**237**	P		**Pn**	**15 50 24.1**	**+0.2**
BRTR	**Keskin Array B**	**22.46**	**306**	P		**P**	**15 53 48.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=130,slow=12,SNR=7.1							
ZALV	**Zalesovo Beam**	**32.62**	**31**	P		**P**	**15 55 21.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=225,slow=8.9,SNR=2.5							
FINES	**FINESS Array B**	**39.00**	**337**	P		**P**	**15 56 15.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=134,slow=10.0,SNR=7.5							
TORD	**Torodi Ar. Bea**	**53.55**	**266**	P		**P**	**15 58 08.3**	**-2.8**
	comp=Z,0.5nm,0.7s,baz=60,slow=7.2,SNR=2.7							

*ECX **14** 16:02:22.9±2.4,30°.51N×114°.19W,h0km±29km,MD3.4, ML3.7*
*MEX **14** 16:02:25.1±1.1,30°.13N×114°.55W,h15km,MD4.3*
ISC 14 16:02:22.1±1.6,**30°.50N**±0°.07×**114°.34W**±0°.03,**h4**km±11km, **n18**,σ1°**51**/32,**5C-1D**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.69**	**321**	⇑*e*P		**Pb**	**16 02 37.2**	**+0.4**
SFX				*e*S		**Sb**	**16 02 46.9**	**+0.1**
SFX				IAML			16 02 48.5	
	comp=E,3μm,0.9s							
SPX	**San Pedro Mart**	**1.10**	**299**	*e*P		**Pb**	**16 02 44.0**	**0.0**
SPX				*e*S		**Sb**	**16 02 58.7**	**-0.2**
SPX	**San Pedro Mart**	**1.10**	**299**	⇑*e*P		**Pg**	**16 02 43.8**	**+0.5**
SPX				*e*S		**Sn**	**16 03 01.4**	**+0.7**
SPIG	**San Pedro Mart**	**1.11**	**300**	*e*P		**Pg**	**16 02 43.8**	**+0.4**
SPIG				*i* S		**Sb**	**16 02 58.4**	**-0.7**
SPIG	**San Pedro Mart**	**1.11**	**300**	⇑*e*P		**Pg**	**16 02 43.9**	**+0.4**
SPIG				*i* S		**Sn**	**16 03 01.1**	**+0.3**
ECBX	**El Chinero**	**1.15**	**328**	⇑*e*P		**Pg**	**16 02 43.8**	**-0.3**
ECBX				*e*S		**Sn**	**16 03 01.0**	**-0.2**
214A	**Organ Pipe Nat**	**1.96**	**42**	*e*P		**Pn**	**16 02 55.2**	**-1.0**
214A				*e*S		**Sg**	**16 03 25.4**	**+0.3**
MBIG	**Mexicali**	**2.04**	**339**	*e*P		**Pb**	**16 02 59.3**	**-0.5**
MBIG				*i* S		**Sg**	**16 03 27.0**	**-0.7**
CPBX	**Cerro Prieto**	**2.08**	**337**	IAML			16 04 17.4	
	comp=N,2μm,0.9s							
CPBX				⇑*e*			16 04 17.4	
CPBX				IAML			16 04 17.5	
	comp=E,1μm,0.9s							
CPBX				⇓*e*			16 04 17.5	
CCX	**Cicese**	**2.41**	**305**	*e*P		**Pb**	**16 03 06.0**	**-0.2**
CCX				*e*S		**Sg**	**16 03 41.2**	**+1.5**
CBX	**Cerro Bola**	**2.69**	**313**	*e*P		**Pn**	**16 03 06.5**	**+0.2**
CBX				*e*S		**Sn**	**16 03 40.0**	**+0.6**
CBX	**Cerro Bola**	**2.69**	**313**	*e*P		**Pb**	**16 03 11.0**	**+0.1**
TJIG	**Tijuana**	**2.77**	**315**	*e*P		**Pn**	**16 03 05.3**	**-2.2**
TJIG				*e*S		**Sb**	**16 03 44.3**	**-2.4**
BAR	**Barrett**	**2.95**	**318**	*e*P		**Pn**	**16 03 11.6**	**+1.8**
HSIG		**3.30**	**116**	*e*P		**Pn**	**16 03 14.1**	**-0.6**
HSIG				*e*S		**Sn**	**16 03 51.1**	**-3.3**
TUC	**Tucson**	**3.54**	**58**	*e*P		**Pn**	**16 03 16.7**	**-1.3**
TUC				*e*S		**Sb**	**16 04 08.3**	**-0.5**
CGIG		**5.50**	**90**	*e*P		**Pn**	**16 03 45.1**	**0.0**
CGIG				*e*S		**Sn**	**16 04 53.9**	**+5.1**
121A	**Cookes Peak, D**	**5.96**	**68**	*e*P		**Pn**	**16 03 51.0**	**-0.4**
121A				*e*S		**Sn**	**16 05 02.3**	**+2.1**

*NAO **14** 16:05:28.7±1.7,76°.14N×6°.58E,ML3.1*
*BER **14** 16:05:31.6±3.0,76°.18N×7°.02E,h10km,ML2.0, ML3.1(NAO),Confirmed Earthquake*
*DNK **14** 16:05:34.7±2.3,76°.45N×5°.59E,h9km±62km,ML2.5*
*IEPN **14** 16:05:36.0,76°.10N×8°.27E,h10km*
*IDC **14** 16:05:38.4±3.2,76°.08N×9°.69E,h0km,mb3.2/1,mb1 3.4/4, mb1mx3.1/33,mbtmp3.3/4,ML2.5/3,MS2.9/5,Ms1 2.9/5, ms1mx2.5/34,Error ellipse: s-maj=46.1km s-min=30.9km az=64.0*
ISC 14 16:05:26.9±1.6,**76°.26N**±0°.04×**7°.70E**±0°.05,**h3**km±11km, **n39**,σ2**8**1/53,**MS2.9**/4,**1C-1D**,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.97**	**64**	Pn		**Pg**	**16 06 06.3**	**+1.8**
HSPB				Sn		**Sg**	**16 06 27.6**	**-2.4**
HSPB	**Hornsund (broa**	**1.97**	**64**	*e*P		**Pg**	**16 06 06.3**	**+1.8**
HSPB				*e*S		**Sg**	**16 06 29.7**	**-0.2**
HSPB				IAML			16 06 30.6	
	comp=Z,8.4nm,0.3s							
HSPB	**Hornsund (broa**	**1.97**	**64**	⇑*i*P		**Pg**	**16 06 06.2**	**+1.8**
HSPB				*e*S		**Sg**	**16 06 29.2**	**-0.7**
BRBA	**Barentsburg A**	**2.32**	**36**	Pn		**Pg**	**16 06 11.3**	**+0.1**
BRBA				Sn		**Sg**	**16 06 40.2**	**-1.0**
SPA0	**Spitsbergen Ar**	**2.72**	**41**	Pn		**Pb**	**16 06 17.3**	**+1.1**
	baz=221,slow=14							
SPA0				Sn		**Sb**	**16 06 48.9**	**-0.9**
SPA0	**Spitsbergen Ar**	**2.72**	**41**	*e*P		**Pg**	**16 06 17.4**	**-1.5**
SPA0				*e*S		**Sb**	**16 06 49.1**	**-0.7**
SPA0				IAML			16 06 56.8	
	comp=Z,7.9nm,0.6s							
SPA0	**Spitsbergen Ar**	**2.72**	**41**	⇓*i*P		**Pb**	**16 06 17.2**	**+1.1**
SPA0				*i* S		**Sb**	**16 06 48.1**	**-1.6**
KBS	**Kingsbay**	**2.83**	**17**	Pn		**Pb**	**16 06 17.4**	**-0.5**
KBS	**Kingsbay**	**2.83**	**17**	*e*P		**Pb**	**16 06 17.4**	**-0.5**
KBS				*e*S		**Sb**	**16 06 49.5**	**-3.3**
KBS				IAML			16 06 54.6	
	comp=Z,7.1nm,0.6s							
KBS	**Kingsbay**	**2.83**	**17**	*e*P		**Pb**	**16 06 17.0**	**-0.9**
KBS				*e*S		**Sb**	**16 06 49.8**	**-3.1**
BJO1	**Bjornoya**	**3.37**	**116**	Pn		**Pn**	**16 06 23.7**	**+3.6**
BJO1	**Bjornoya**	**3.37**	**116**	*e*P		**Pb**	**16 06 25.0**	**-2.0**
BJO1				*e*S		**Sn**	**16 07 00.6**	**+0.1**
BJO1				IAML			16 07 18.4	
	comp=Z,11nm,0.7s							
BJO1	**Bjornoya**	**3.37**	**116**	*e*P		**Pn**	**16 06 23.4**	**+3.3**
BJO1				*e*S		**Sn**	**16 06 58.8**	**-1.7**
HOPEN	**Hopen**	**4.09**	**78**	Pn		**Pb**	**16 06 36.0**	**-3.4**
HOPEN				Sn		**Sn**	**16 07 20.9**	**+2.4**
HOPEN	**Hopen**	**4.09**	**78**	*e*P		**Pb**	**16 06 35.7**	**-3.7**
HOPEN				*e*S		**Sn**	**16 07 21.8**	**+3.3**
HOPEN				IAML			16 07 33.9	
	comp=Z,11nm,0.6s							
HOPEN	**Hopen**	**4.09**	**78**	*e*P		**Pb**	**16 06 36.0**	**-3.4**
HOPEN				*e*S		**Sn**	**16 07 21.0**	**+2.6**
DAG	**Danmarks Havn**	**6.15**	**287**	*e*		**Pn**	**16 06 56.9**	**-1.5**
	baz=85,slow=16							
DAG				*i* P		**Pn**	**16 06 57.6**	**-0.7**
DAG				*i*			16 06 59.8	
DAG				*i* S		Sn	16 07 59.8	-9.3
DAG				IAML			16 08 05.0	
	comp=Z,3.8nm,0.3s							
NOR	**Nord**	**7.03**	**330**	*i* P		**Pn**	**16 07 11.0**	**+0.6**
NOR	**Nord**	**7.03**	**330**	Pn		**Pn**	**16 07 11.5**	**+1.1**
NOR	**Nord**	**7.03**	**330**	*i* P		**Pn**	**16 07 11.0**	**+0.6**
NOR				Pn		**Pn**	**16 07 11.5**	**+1.1**
HAMF	**Hammerfest**	**7.23**	**133**	Pn		**Pn**	**16 07 16.6**	**+3.5**
HAMF	**Hammerfest**	**7.23**	**133**	*e*P		**Pn**	**16 07 14.9**	**+1.8**
DBG	**Daneborg**	**7.32**	**268**	*i* P		**Pn**	**16 07 13.4**	**-1.0**
DBG				*i* S		Sn	16 08 26.8	-11
DBG				IAML			16 08 36.4	
	comp=Z,1.1nm,0.3s							
DBG	**Daneborg**	**7.32**	**268**	Pn		**Pn**	**16 07 13.2**	**-1.2**
DBG				Sn		Sn	16 08 27.1	-11
DBG	**Daneborg**	**7.32**	**268**	*e*P		**Pn**	**16 07 13.5**	**-0.9**
DBG				Sn		Sn	16 08 27.1	-11
ARA0	**ARCESS Array S**	**8.50**	**133**	Pn		**Pn**	**16 07 34.0**	**+3.4**
	baz=326,slow=11							
ARA0				Sn		**Sn**	**16 09 03.7**	**-3.2**
	baz=350,slow=22							
ARA0	**ARCESS Array S**	**8.50**	**133**	Pn		**Pn**	**16 07 34.0**	**+3.4**
	baz=326,slow=11							
ARA0				Sn		**Sn**	**16 09 03.7**	**-3.2**
	baz=350,slow=22							
ARCES	**ARCESS Array B**	**8.50**	**133**	Pn		**Pn**	**16 07 34.5**	**+3.8**
	baz=330,slow=10,SNR=13							
ARCES				Sn		**Sn**	**16 09 02.8**	**-4.1**
	baz=334,slow=20,SNR=6.2							
ZFI2	**Zemlya Franca-**	**8.94**	**42**	*e*P		Pn	16 07 41.9	+5.3
ZFI2				*e*S		**Sn**	**16 09 15.4**	**-2.2**
	comp=Z,3.5nm,0.9s							
SCO	**Scoresbysund**	**10.15**	**251**	*i* P		**Pn**	**16 07 53.2**	**0.0**
SCO				*e*S		Sn	16 09 33.1	-14
SCO				IAML			16 09 42.7	
	comp=Z,0.6nm,0.3s							
SCO	**Scoresbysund**	**10.15**	**251**	*i* P		**Pn**	**16 07 53.2**	**0.0**
SCO				*e*S		Sn	16 09 33.1	-14
SCO				IAML			16 09 42.7	
	comp=Z,0.6nm,0.3s							
NEEM	**North Greenlan**	**12.94**	**303**	*i* P		**Pn**	**16 08 30.3**	**-1.2**
NEEM				IAML			16 11 02.6	
	comp=Z,1.8nm,0.4s							
NOA	**NORSAR Array B**	**15.35**	**174**	Pn		**P**	**16 09 12.8**	**+4.0**
	comp=Z,0.0nm,0.3s,baz=354,slow=13,SNR=2.0							
FINES	**FINESS Array B**	**16.15**	**147**	Pn		**P**	**16 09 19.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=14,SNR=4.3							
FINES				LR		LR	16 15 33.3	
	comp=Z,26nm,18.4s,baz=24,slow=38							
KIRV	**Kirov**	**22.99**	**117**	LR		LR	16 19 56.5	
	comp=Z,24nm,18.7s,baz=345,slow=38							
MLR	**Muntele Rosu**	**31.81**	**155**	LR		LR	16 25 25.9	
	comp=Z,29nm,18.7s,baz=204,slow=38							
AKTO	**Aktyubinsk**	**32.42**	**113**	LR		LR	16 25 15.3	
	comp=Z,24nm,19.1s,baz=353,slow=37							
MKAR	**Makanchi Array**	**41.48**	**90**	P		P	16 13 22.3	+7.8
	comp=Z,0.2nm,0.5s,baz=345,slow=8.2,SNR=2.8							
AAK	**Ala-Archa**	**43.55**	**100**	LR		LR	16 33 05.1	
	comp=Z,15nm,21.8s,baz=321,slow=38							

*IDC **14** 16:21:30.3±3.7,35°.94N×70°.85E,h0km,mb3.7/5, mb1 3.7/8,mb1mx3.3/60,mbtmp3.6/8,ML3.6/3,MS3.0/2, Ms1 3.0/2,ms1mx2.3/48,Error ellipse: s-maj=74.5km s-min=25.8km az=141.0*
ISC 14 16:21:34.0±1.9,**36°.3N**±0°.2×**70°.7E**±0°.2,**h10**km,**n11**, σ0°**96**/10,**mb3.7**/4,**2C**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.81**	**359**	⇑Pn		**Pb**	**16 23 31.0**	**-1.4**
	0.3nm,0.4s,baz=163,slow=12,SNR=4.9							
KK31				⇑Pg		**Pg**	**16 23 45.5**	**+1.2**
	0.6nm,0.6s							
KK31				Lg		Lg	16 24 40.6	
	2.3nm,0.7s,baz=159,slow=26,SNR=8.4							
MKAR	**Makanchi Array**	**13.63**	**36**	Pn		**Pn**	**16 24 47.6**	**+0.3**
	0.3nm,0.3s,baz=223,slow=7.9,SNR=17							
KURBB	**Kurchatov Arra**	**15.41**	**19**	Pn		**Pn**	**16 25 10.7**	**-0.7**
	0.1nm,0.3s,baz=204,slow=10,SNR=11							
BVAR	**Borovoye Array**	**16.74**	**359**	Pn		**Pn**	**16 25 27.5**	**-0.9**
	0.4nm,0.3s,baz=189,slow=17,SNR=2.7							
ZALV	**Zalesovo Beam**	**20.22**	**25**	P		**P**	**16 26 09.3**	**+0.3**
	1.5nm,0.5s,baz=214,slow=12,SNR=6.5							
KIRV	**Kirov**	**26.31**	**335**	LR		LR	16 39 35.9	
	comp=Z,19nm,19.6s,baz=247,slow=41							
FINES	**FINESS Array B**	**37.50**	**326**	P		**P**	**16 28 48.5**	**+0.9**
	0.3nm,0.4s,baz=108,slow=8.9,SNR=0.8							
ARCES	**ARCESS Array B**	**41.23**	**338**	P		**P**	**16 29 18.2**	**-0.5**
	3.3nm,1.0s,baz=110,slow=7.8,SNR=4.6							
HFS	**Hagfors**	**43.06**	**322**	P		**P**	**16 29 34.3**	**+0.6**
	0.5nm,0.3s,baz=95,slow=12,SNR=6.4							
TORD	**Torodi Ar. Bea**	**65.43**	**269**	P		**P**	**16 32 16.9**	**-0.5**
	0.3nm,0.5s,baz=39,slow=6.4,SNR=1.4							
NWAO	**Narrogin (SRO)**	**81.47**	**142**	LR		LR	17 06 45.3	
	comp=Z,12nm,21.5s,baz=94,slow=34							

*IDC **14** 16:22:07.6±3.3,30°.69N×142°.18E,h0km,mb3.5/3, mb1 3.5/6,mb1mx3.3/67,mbtmp3.5/6,ML3.0/3,Error ellipse: s-maj=110.8km s-min=18.6km az=71.0*
ISC 14 16:22:10.1±2.3,**30°.8N**±0°.1×**142°.2E**±0°.4,**h24**km,**n7**, σ1°**27**/10,**mb3.5**/3,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.15**	**319**	Pn		**Pn**	**16 22 58.5**	**+0.3**
	4.6nm,0.3s,baz=150,slow=20,SNR=1.3							
JHJ				Sn		**Sn**	**16 23 35.8**	**+0.8**
	13nm,0.3s,baz=72,slow=23,SNR=1.7							
JCJ	**Chichijima**	**3.64**	**181**	Pn		**Pn**	**16 23 04.7**	**-0.3**
	2.2nm,0.3s,baz=1.8,slow=22,SNR=6.3							
JCJ				Sn		**Sn**	**16 23 47.0**	**-0.3**
	13nm,0.3s,baz=276,slow=23,SNR=7.6							
MJAR	**Matsushiro Arr**	**6.68**	**331**	Pn		**Pn**	**16 23 46.2**	**-0.5**
	0.2nm,0.3s,baz=161,slow=12,SNR=15							
MJAR				Sn		**Sn**	**16 24 59.9**	**-2.2**
	0.1nm,0.3s,baz=238,slow=26,SNR=5.0							
KSRS	**Korea Array**	**13.60**	**303**	Pn		**P**	**16 25 29.4**	**-0.8**
	0.1nm,0.3s,baz=115,slow=12,SNR=5.4							
MKAR	**Makanchi Array**	**48.24**	**307**	P		**P**	**16 30 50.8**	**+1.8**
	0.6nm,0.6s,baz=88,slow=9.0,SNR=6.3							
KURBB	**Kurchatov Arra**	**50.57**	**312**	P		**P**	**16 31 07.7**	**+1.1**
	0.2nm,0.6s,baz=91,slow=6.9,SNR=4.3							
WRA	**Warramunga Arr**	**50.97**	**190**	P		**P**	**16 31 10.3**	**+0.4**
	0.5nm,0.8s,baz=7.6,slow=7.6,SNR=5.4							

*RHSSO **14** 16:22:23.4±0.3,44°.05N×17°.08E,h3km±1km,ML2.5/16*
*PRU **14** 16:22:25.3±0.0,44°.06N×16°.72E,h0km*
ISC 14 16:22:22.4±1.1,**44°.02N**±0°.02×**17°.09E**±0°.02,**h4**km±9km, **n37**,σ1°**02**/71,**2C-1D**,**Northwestern Balkan Penins

HCY	**Herceg Novi**	**1.87**	**146**	*e*Pn	**Pb**	**16 22 57.1**	**-0.1**
HCY				*e*Sn	**Sb**	**16 23 20.9**	**0.0**
OZLJ	**Ozalj**	**1.97**	**325**	*e*Pn	**Pb**	**16 22 58.2**	**-0.7**
OZLJ				Sn	**Sb**	**16 23 23.1**	**-0.6**
DIVS	**Divibare**	**2.10**	**87**	*e*Pn	**Pb**	**16 23 00.0**	**-1.0**
DIVS				*e*Sn	**Sn**	**16 23 25.5**	**+0.6**
CRES	**Cresnjev**	**2.15**	**328**	*e*Pn	**Pn**	**16 22 59.7**	**+0.7**
CRES				*e*Sn	**Sn**	**16 23 26.6**	**+0.5**
KALN	**Kalnik**	**2.16**	**348**	*e*Pn	**Pn**	**16 22 58.9**	**-0.3**
KALN				Sn	**Sn**	**16 23 26.6**	**+0.1**
PDG	**Podgorica**	**2.24**	**134**	*e*Pn	**Pb**	**16 23 02.5**	**-0.9**
PDG				*e*Sn	**Sb**	**16 23 30.7**	**-0.7**
FRGS	**Fruska Gora**	**2.25**	**59**	*e*Pn	**Pn**	**16 23 00.8**	**+0.3**
FRGS				*e*Sn	**Sn**	**16 23 28.5**	**-0.2**
DRME	**Dracevica, Mon**	**2.39**	**139**	*e*Pn	**Pn**	**16 23 03.5**	**+1.2**
DRME				*e*Sn	**Sb**	**16 23 34.4**	**-1.3**
MORH	**Mrgy, Hungar**	**2.46**	**26**	*e*Pn	**Pn**	**16 23 04.4**	**+1.1**
MORH				*e*Sn	**Sn**	**16 23 34.5**	**+0.8**
BEHE	**Becsehely**	**2.46**	**355**	*e*Pn	**Pn**	**16 23 03.8**	**+0.5**
BEHE				*e*Sn	**Sn**	**16 23 34.3**	**+0.4**
CEY	**Cerknica**	**2.56**	**313**	*e*Pn	**Pn**	**16 23 05.0**	**+0.3**
CEY				*e*Sn	**Sn**	**16 23 36.4**	**+0.1**
LJU	**Ljubljana**	**2.72**	**319**	*e*Pn	**Pn**	**16 23 07.4**	**+0.5**
LJU				*e*Sn	**Sn**	**16 23 40.7**	**+0.5**
SOKA	**Soboth** 1.6nm,0.3s	**3.03**	**332**	*e*Pn	**Pn**	**16 23 12.0**	**+0.8**
SOKA	5.1nm,0.5s			*e*Sn	**Sn**	**16 23 46.5**	**-1.5**
OBKA	**Obir** 8.6nm,0.5s	**3.07**	**325**	*e*Pg	**Pg**	**16 23 21.1**	**-0.1**
ARSA	**Arzberg** 4.8nm,0.4s	**3.42**	**342**	*e*Pn	**Pn**	**16 23 16.6**	**+0.1**
ARSA	2.0nm,0.4s			*e*Sn	**Sn**	**16 23 56.5**	**-0.9**
CONA	**Conrad Observa** 0.9nm,0.4s	**4.01**	**348**	*e*Pn	**Pn**	**16 23 25.2**	**+0.6**
CONA	1.2nm,0.4s			*e*Sn	**Sn**	**16 24 12.4**	**+0.4**
MOA	**Mollη** 1.7nm,0.3s	**4.31**	**334**	*e*Pn	**Pn**	**16 23 30.4**	**+1.7**
MOA	4.6nm,0.5s			*e*Sn	**Sn**	**16 24 19.9**	**+0.5**
VYHS	**Vyhne**	**4.64**	**15**	*e*PN	**Pn**	**16 23 35.7**	**+2.4**
KHC	**Kasperske Hory**	**5.66**	**336**	*e*PN	**Pn**	**16 23 48.3**	**+1.0**
KHC				*e*SN	**Sn**	**16 24 50.8**	**-1.9**

*IDC **14** 16:22:28.6±0.7,5°53.S×153°.49E, h0km, mb4.2/26, mb1 4.2/27, mb1mx4.2/47, mbtmp4.2/27, ML2.4/1, MS3.4/14, Ms1 3.4/14, ms1mx3.3/29, Error ellipse: s-maj=22.0km s-min=12.8km az=104.0*

*NEIC **14** 16:22:30.9±1.5,5°49.S±0°.06×153°.47E±0°.07, h10km±1km, mb4.6/35, Error ellipse: s-maj=14.5km s-min=7.0km az=55.0*

ISC 14 16:22:30.2±0.4,5°47S±0°.06×153°48E±0°.07, h10km, n88, σ0s74/80, mb4.4/36, MS3.4/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.83**	**314**			Pn	**Pn**	**16 23 01.6**	**-0.1**
MANU	**Manus Island**	**6.99**	**299**			Pn	**Pn**	**16 24 11.4**	**-1.3**
PMG	**Port Moresby** 3.4nm,0.3s,baz=50,slow=13,SNR=8.1	**7.38**	**238**			Pn	**Pn**	**16 24 18.8**	**+0.7**
PMG	3.3nm,0.3s,baz=25,slow=21,SNR=7.3					Sn	**Sn**	**16 25 43.0**	**+1.0**
PMG	comp=Z,317nm,20.4s,baz=40,slow=35					LR	LR	16 26 49.1	
PMG	**Port Moresby**	**7.38**	**238**				**Pn**	**16 24 18.6**	**+0.5**
HNR	**Honiara** comp=Z,226nm,18.6s,baz=270,slow=34	**7.52**	**122**	LR		LR	LR	16 26 42.4	
HNR	**Honiara**	**7.52**	**122**			Pn	**Pn**	**16 24 20.0**	**-0.1**
PATS	**Pohnpei**	**13.15**	**22**			Pn	**Pn**	**16 25 38.0**	**+0.9**
CTA	**Charters Tower** comp=Z,183nm,19.2s,baz=66,slow=36	**16.14**	**205**	LR		LR	LR	16 32 09.1	
DZM	**Mont Dzumac** 9.8nm,0.6s	**20.73**	**144**	*e*Pn			Pn	16 27 15.5	+2.0
DZM	comp=Z,397nm,28.1s			*e*LR			LR	16 32 21.0	
DZM	**Mont Dzumac**	**20.73**	**144**			P	**P**	**16 27 10.4**	**-0.8**
DZM	**Mont Dzumac** 10nm,0.9s,baz=284,slow=12,SNR=2.5	**20.73**	**144**			P	**P**	**16 27 10.6**	**-0.5**
DZM	comp=Z,78nm,1.5s					IAmb	IAmb	16 27 25.4	
SIJI	**Sorong** comp=Z,6.1nm,0.7s,baz=117,slow=7.6,SNR=4.9	**22.64**	**281**			P	**P**	**16 27 31.6**	**-0.1**
WR0	**Warramunga Arr**	**23.38**	**230**			P	**P**	**16 27 39.3**	**0.0**
WB0	**Warramunga Arr**	**23.38**	**231**			P	**P**	**16 27 39.2**	**-0.2**
WRAB	**Tennant Creek**	**23.51**	**231**			P	**P**	**16 27 40.3**	**-0.3**
WB2	**Warramunga Arr**	**23.51**	**231**			P	**P**	**16 27 40.4**	**-0.3**
WRA	**Warramunga Arr** comp=Z,2.0nm,0.9s,baz=54,slow=10,SNR=11	**23.52**	**231**			P	**P**	**16 27 39.7**	**-1.0**
WRA					PcP	PcP	**PcP**	**16 31 26.0**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.8s,baz=57,slow=2.6,SNR=2.0	**23.52**	**231**			P	**P**	**16 27 40.4**	**-0.4**
ARMA	**Armidale**	**24.87**	**184**			P	**P**	**16 27 54.4**	**+1.1**
ARMA	comp=Z,22nm,1.4s					IAmb	IAmb	16 27 54.6	
ASAR	**Alice Springs** comp=Z,1.8nm,0.9s,baz=60,slow=9.0,SNR=14	**26.12**	**224**			P	**P**	**16 28 03.9**	**-0.8**
ASAR	comp=Z,0.5nm,0.6s,baz=58,slow=2.4,SNR=4.8				PcP	PcP	**PcP**	**16 31 32.0**	**-0.2**
ASAR	**Alice Springs**	**26.12**	**224**			P	**P**	**16 28 02.9**	**-1.8**
KNRA	**Kununurra**	**26.29**	**245**			P	**P**	**16 28 04.5**	**-1.7**
KNRA	comp=Z,11nm,0.8s					IAmb	IAmb	16 28 24.5	
MSVF	**Nonsavu** comp=Z,136nm,21.5s,baz=308,slow=35	**26.93**	**119**	LR		LR	LR	16 38 00.8	
H11S3	**WAKE ISLAND Hy** baz=208,slow=76,SNR=7.0	**27.15**	**28**	T			T	16 57 12.6	
H11S2	**WAKE ISLAND Hy** baz=208,slow=76,SNR=6.1	**27.15**	**28**	T			T	16 57 11.7	
H11S1	**WAKE ISLAND Hy** baz=208,slow=76,SNR=5.7	**27.16**	**28**	T			T	16 57 08.8	
SOEI	**Soe**	**29.25**	**260**			P	**P**	**16 28 33.3**	**+0.4**
FITZ	**Fitzroy Crossi** comp=Z,3.5nm,0.9s,baz=51,slow=8.2,SNR=11	**29.94**	**243**			P	**P**	**16 28 38.1**	**-0.7**
FITZ	comp=Z,106nm,19.1s,baz=66,slow=39					LR	LR	16 41 46.7	
FITZ	**Fitzroy Crossi**	**29.94**	**243**			P	**P**	**16 28 37.5**	**-1.3**
FITZ	comp=Z,8.8nm,1.1s					IAmb	IAmb	16 28 38.0	
FORT	**Forrest**	**34.71**	**220**			P	**P**	**16 29 19.9**	**-0.6**
JWT	**Wachi**	**43.97**	**339**			P	**P**	**16 30 36.9**	**-0.8**
JWT	comp=Z,5.3nm,0.8s					IAmb	IAmb	16 30 40.1	
JNU	**Nakatsue** comp=Z,9.2nm,0.9s,baz=121,slow=3.9,SNR=5.1	**43.97**	**332**			P	**P**	**16 30 37.6**	**-0.2**
JNU	comp=Z,14nm,1.0s					IAmb	IAmb	16 30 38.8	
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.5s,baz=166,slow=7.9,SNR=9.2	**44.17**	**342**			P	**P**	**16 30 37.9**	**-1.4**
MJAR	comp=Z,23nm,18.7s,baz=150,slow=36					LR	LR	16 48 51.0	
MJAR	**Matsushiro Arr**	**44.17**	**342**			P	**P**	**16 30 38.3**	**-1.1**
MAJO	**Matsushiro**	**44.17**	**342**			P	**P**	**16 30 38.4**	**-1.0**
MAT	**Matsushiro**	**44.17**	**342**			P	**P**	**16 30 37.1**	**-2.3**
JHS	**Saijyo**	**44.59**	**336**			P	**P**	**16 30 42.2**	**-0.5**
JHS	comp=Z,5.3nm,0.9s					IAmb	IAmb	16 30 57.5	
CISI	**Cisompet, Garu**	**45.40**	**265**			P	**P**	**16 30 49.8**	**+0.2**
JSD	**Sado**	**45.55**	**343**			P	**P**	**16 30 49.8**	**-0.4**
JSD	comp=Z,6.4nm,0.8s					IAmb	IAmb	16 30 51.2	
JTM	**Tenmabayashi**	**47.42**	**347**			P	**P**	**16 31 05.6**	**+0.6**
KSRS	**Korea Array** comp=Z,0.8nm,0.6s,baz=151,slow=8.3,SNR=6.4	**48.90**	**333**			P	**P**	**16 31 17.2**	**+0.7**
KSRS	comp=Z,21nm,18.0s,baz=196,slow=36					LR	LR	16 52 00.7	
ASAJ	**Asahikawa** comp=Z,2.0nm,0.6s,baz=162,slow=9.6,SNR=4.8	**50.33**	**350**			P	**P**	**16 31 28.0**	**+0.8**
USA0B	**Ussuriysk Arra**	**53.10**	**341**			P	**P**	**16 31 47.6**	**-0.3**
USA0B	comp=Z,9.4nm,1.1s					IAmb	IAmb	16 31 49.2	
USRK	**Ussuriysk Ar.** comp=Z,2.6nm,0.9s,baz=161,slow=8.1,SNR=11	**53.10**	**341**			P	**P**	**16 31 48.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**53.10**	**341**			P	**P**	**16 31 48.7**	**+0.7**
PPT	**Papeete** comp=Z,37nm,18.7s,baz=164,slow=32	**56.88**	**107**	LR		LR	LR	16 52 52.8	
TBI	**Tubuai** comp=Z,185nm,33.8s	**57.67**	**114**	*e*LR			LR	16 49 36.0	
KLR	**Kul'dur** comp=Z,4.7nm,1.0s,baz=144,slow=7.7,SNR=8.6	**57.68**	**343**			P	**P**	**16 32 21.4**	**+0.5**
PEA0B	**Petropavlovsk-** comp=Z,2.4nm,0.6s,baz=167,slow=7.4,SNR=8.7	**58.47**	**3**			P	**P**	**16 32 27.2**	**+0.9**
PETK	**Petropavlovsk-** comp=Z,20nm,18.0s,baz=135,slow=38	**58.47**	**3**			P	**P**	**16 32 26.9**	**+0.6**
PETK						LR	LR	16 59 58.7	
CM31	**Chiang Mai Arr** comp=Z,5.0nm,1.0s	**58.77**	**295**			P	**P**	**16 32 30.1**	**+1.0**
CM31						IAmb	IAmb	16 32 30.9	
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.4s,baz=117,slow=4.9,SNR=8.9	**58.77**	**295**			P	**P**	**16 32 30.2**	**+1.1**
CMAR	comp=Z,21nm,20.5s,baz=186,slow=34					LR	LR	16 55 56.0	
CMAR	**Chiang Mai Arr**	**58.77**	**295**			P	**P**	**16 32 29.1**	**0.0**
GSTR	**Great Sitkin T**	**62.95**	**21**			P	**P**	**16 32 56.9**	**0.0**
MA2	**Magadan** comp=Z,5.9nm,0.8s,baz=144,slow=19,SNR=2.3	**64.88**	**358**			P	**P**	**16 33 09.9**	**+0.5**
MA2	**Magadan**	**64.88**	**358**			P	**P**	**16 33 09.9**	**+0.5**
ULN	**Ulaanbaatar** comp=Z,3.9nm,1.1s	**66.92**	**328**			P	**P**	**16 33 24.0**	**+0.9**
ULN						IAmb	IAmb	16 33 34.1	
SHL	**Shillong**	**67.23**	**301**			P	**P**	**16 33 25.5**	**0.0**
SONM	**Songino Array** comp=Z,1.4nm,0.6s,baz=146,slow=6.4,SNR=8.4	**67.25**	**328**			P	**P**	**16 33 25.7**	**+0.6**
SONM	comp=Z,25nm,21.5s,baz=124,slow=34					LR	LR	17 01 12.6	
SONM	**Songino Array**	**67.25**	**328**			P	**P**	**16 33 26.0**	**+0.9**
SONM	comp=Z,4.2nm,1.4s					IAmb	IAmb	16 33 44.6	
SEY	**Seymchan** comp=Z,0.5nm,0.5s,baz=211,slow=4.2,SNR=5.3	**68.22**	**359**			P	**P**	**16 33 31.6**	**+0.9**
LSA	**Lhasa**	**69.17**	**304**			P	**P**	**16 33 37.7**	**-0.3**
LSA	comp=Z,5.4nm,1.0s					IAmb	IAmb	16 33 39.9	
YAK	**Yakutsk**	**69.77**	**348**			P	**P**	**16 33 41.0**	**+0.6**
VNDA	**Vanda** comp=Z,1.6nm,0.9s,baz=321,slow=7.1,SNR=8.2	**72.14**	**178**			P	**P**	**16 33 55.0**	**+0.4**
VNDA	**Vanda** comp=Z,3.8nm,1.1s	**72.14**	**178**			P	**P**	**16 33 54.5**	**0.0**
VNDA						IAmb	IAmb	16 33 56.1	
TIXI	**Tiksi** comp=Z,0.7nm,0.5s,baz=120,slow=7.4,SNR=5.4	**78.65**	**352**			P	**P**	**16 34 31.9**	**-0.1**
TIXI	**Tiksi** comp=Z,4.0nm,1.4s	**78.65**	**352**			P	**P**	**16 34 32.0**	**-0.1**
TIXI						IAmb	IAmb	16 34 37.2	
MK31	**Makanchi Array**	**81.27**	**319**			P	**P**	**16 34 47.3**	**+0.5**
MKAR	**Makanchi Array** comp=Z,2.3nm,0.9s,baz=99,slow=6.4,SNR=14	**81.27**	**319**			P	**P**	**16 34 47.3**	**+0.5**
MKAR	comp=Z,14nm,18.5s,baz=90,slow=37					LR	LR	17 12 31.7	
MAKZ	**Makanchi** comp=Z,3.6nm,0.8s	**81.48**	**319**			P	**P**	**16 34 47.8**	**-0.1**
MAKZ						IAmb	IAmb	16 34 49.4	
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.5s,baz=93,slow=4.9,SNR=8.0	**82.08**	**326**			P	**P**	**16 34 51.3**	**+0.4**
ZALV	comp=Z,13nm,18.3s,baz=111,slow=37					LR	LR	17 13 29.5	
ZALV	**Zalesovo Beam**	**82.08**	**326**			P	**P**	**16 34 50.7**	**-0.2**
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=248,slow=5.1,SNR=5.9	**82.53**	**22**			P	**P**	**16 34 52.2**	**-0.7**
QSPA	**South Pole Qui**	**84.49**	**180**			P	**P**	**16 35 03.2**	**0.0**
QSPA	comp=Z,7.2nm,1.0s					IAmb	IAmb	16 35 04.4	
KURK	**Kurchatov**	**84.71**	**322**			P	**P**	**16 35 04.6**	**+0.1**
KURBB	**Kurchatov Arra** comp=Z,2.7nm,1.0s,baz=112,slow=4.2,SNR=17	**84.74**	**322**			P	**P**	**16 35 04.6**	**0.0**
MAW	**Mawson** comp=Z,1.8nm,0.6s,baz=88,slow=5.7,SNR=5.0	**85.21**	**203**			P	**P**	**16 35 05.9**	**-0.7**
AAK	**Ala-Archa** comp=Z,2.0nm,0.6s,baz=136,slow=5.9,SNR=5.0	**85.62**	**313**			P	**P**	**16 35 09.9**	**+0.4**
AAK	**Ala-Archa** comp=Z,6.8nm,1.2s	**85.62**	**313**			IAmb	IAmb	16 35 11.3	
NRIK	**Noril'sk** comp=Z,1.9nm,0.7s,baz=110,slow=8.4,SNR=5.3	**86.82**	**341**			P	**P**	**16 35 14.5**	**0.0**
NRIK	**Noril'sk** comp=Z,3.6nm,0.9s	**86.82**	**341**			P	**P**	**16 35 14.6**	**+0.1**
NRIK						IAmb	IAmb	16 35 15.2	
BVAR	**Borovoye Array** comp=Z,2.4nm,0.8s,baz=206,slow=16,SNR=15	**90.18**	**323**			P	**P**	**16 35 30.5**	**-0.3**
PDAR	**Pinedale Array** comp=Z,42nm,18.2s,baz=275,slow=33	**98.80**	**48**	LR		LR	LR	17 16 32.6	
GERES	**GERESS Array B** comp=Z,0.7nm,0.6s,baz=92,slow=2.9,SNR=3.5	**124.98**	**329**	PKP			**PKiKP**	**16 41 31.5**	**+0.2**
GERES	**GERESS Array B**	**124.98**	**329**				**PKiKP**	**16 41 31.1**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,5.6nm,1.0s,baz=36,slow=2.6,SNR=12	**151.15**	**287**	PKPbc			**PKPbc**	**16 42 24.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**151.15**	**287**				**PKPbc**	**16 42 24.1**	**-0.8**

KRSC 14 16:38:06.1±3.2,49°.26N×156°.79E, h7km±45km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.50**	**343**	*e*P		Pn	16 38 30.6		-2.7
SKR				*e*S		Sn	16 38 50.7		-2.4
ALID	**Alaid**	**1.80**	**334**	*e*P		Pb	16 38 39.1		-0.4
PAU	**Pauzhetka**	**2.21**	**0**	*e*P		Pb	16 38 47.4		+1.0
KDTR	**Khodutka, Kamc**	**2.69**	**17**	*e*P		Pb	16 38 52.4		-2.0
KDTR				*e*S		Sb	16 39 27.4		-0.2
MTVR	**Mutnovka**	**3.35**	**15**	*e*P		Pb	16 39 02.7		-3.2
MTVR				*e*S		Sb	16 39 44.4		-2.5
RUS	**Russkaya**	**3.36**	**18**	*e*P		Pn	16 39 02.3		+3.3
RUS				*e*S		Sn	16 39 42.5		+3.3
GRL	**Gorelyy**	**3.40**	**13**	*e*P		Pb	16 39 03.6		-3.1
GRL				*e*S		Sb	16 39 46.3		-2.0
DALK	**Dalny**	**3.98**	**17**	*e*P		Pn	16 39 10.2		+2.8
DALK				*e*S		Sn	16 39 57.3		+3.0
UGLR	**Uglovaya**	**4.16**	**17**	*e*P		Pn	16 39 14.0		+3.9
AVH	**Avacha**	**4.20**	**16**	*e*P		Pn	16 39 15.3		+4.7
KOK	**Koryaka**	**4.21**	**15**	*e*P		Pn	16 39 15.2		+4.5
SMAR	**Somma**	**4.21**	**17**	*e*P		Pn	16 39 15.5		+4.7
KRER	**Koryakskii**	**4.24**	**16**	*e*P		Pn	16 39 16.0		+4.8
SDLR	**Sedlovina**	**4.24**	**17**	*e*P		Pn	16 39 14.5		+3.4
KRX	**Arik**	**4.27**	**15**	*e*P		Pn	16 39 16.4		+4.8
SPN	**Mys Shipunski**	**4.35**	**27**	*e*P		Pn	16 39 16.4		+3.8
MKZ	**Mys Kozlova**	**6.12**	**28**	*e*P		Pn	16 39 40.5		+3.6

*ECX **14** 16:53:40.0±0.5,30°.40N×114°.38W, h0km±12km, MD3.2, ML3.4*

*MEX **14** 16:53:42.8±2.1,30°.24N×114°.51W, h12km, MD4.1*

ISC 14 16:53:37.4±3.4,30°.5N±0°.2×114°.31W±0°.08, h7km±23km, n8, σ0s98/13, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.69**	**318**	*e*P		**Pn**		**16 53 53.8**	**+0.3**
SFX				*e*S		**Sn**		**16 54 04.2**	**-0.2**
SFX	comp=E,2μm,0.2s			IAML				16 54 05.7	
SFX				*e*				16 54 05.7	
SPX	**San Pedro Mart**	**1.11**	**297**	*e*P		**Pn**		**16 54 00.6**	**+0.8**
SPX				*e*				16 54 26.1	
SPX	comp=E,711nm,0.4s			IAML				16 54 26.1	
SPIG	**San Pedro Mart**	**1.12**	**298**	*e*P		**Pn**		**16 54 00.6**	**+0.7**
SPIG				*e*S		**Sn**		**16 54 15.7**	**+0.1**
SPIG	**San Pedro Mart**	**1.12**	**298**	*e*P		**Pn**		**16 54 00.5**	**+0.7**
ECBX	**El Chinero**	**1.14**	**326**	*e*P		**Pn**		**16 53 59.9**	**+0.2**
ECBX				*e*S		**Sn**		**16 54 16.9**	**+1.4**
214A	**Organ Pipe Nat**	**1.92**	**42**	*e*P		**Pb**		**16 54 11.6**	**-1.1**
214A				*e*S		**Sg**		**16 54 40.3**	**+1.2**
CBX	**Cerro Bola**	**2.68**	**312**	*e*P		**Pb**		**16 54 25.3**	**-0.5**
CBX	comp=N,166nm,0.4s			IAML				16 55 17.2	
CBX				⇑*e*				16 55 17.2	
TJIG	**Tijuana**	**2.77**	**314**	*e*P		**Pb**		**16 54 26.3**	**-1.0**
TJIG				*e*S		**Sb**		**16 55 00.6**	**-0.8**

*IDC **14** 17:04:37.7±0.8,25°.50N×142°.81E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.8/42, mbtmp3.7/13, ML2.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.1/64, Error ellipse: s-maj=30.7km s-min=16.1km az=79.0*

ISC 14 17:04:43.3±0.9,25°.5N±0°.1×142°.8E±0°.2, h40km, n22, σ1s06/17, mb3.8/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 152nm,0.3s,baz=108,slow=20,SNR=166	**1.69**	**343**	Pn			**Pn**	**17 05 10.1**	**-0.2**
JCJ	158nm,0.3s,baz=154,slow=20,SNR=15			Sn			**Sn**	**17 05 33.2**	**+2.6**
MJAR	**Matsushiro Arr** 0.0nm,0.3s,baz=155,slow=10,SNR=1.8	**11.69**	**342**	Pn			**Pn**	**17 07 26.2**	**-1.3**
KSRS	**Korea Array** 0.1nm,0.3s,baz=127,slow=12,SNR=1.9	**17.36**	**317**	P			**Pn**	**17 08 42.3**	**-0.2**
USRK	**Ussuriysk Ar.** comp=Z,32nm,19.9s,baz=123,slow=35	**20.62**	**338**	LR			LR	17 16 44.3	
H11N2	**WAKE ISLAND Hy** baz=290	**23.00**	**100**	T			T	17 33 46.7	
H11N1	**WAKE ISLAND Hy** baz=290	**23.00**	**100**	T			T	17 33 45.1	
H11N3	**WAKE ISLAND Hy** baz=290	**23.01**	**100**	T			T	17 33 45.4	
H11S3	**WAKE ISLAND Hy** baz=289	**23.24**	**103**	T			T	17 33 58.8	
H11S1	**WAKE ISLAND Hy** baz=289	**23.24**	**103**	T			T	17 34 04.4	
H11S2	**WAKE ISLAND Hy** baz=289	**23.25**	**103**	T			T	17 33 48.7	
KLR	**Kul'dur** 1.4nm,0.5s,baz=149,slow=9.8,SNR=8.3	**25.21**	**343**	P			**P**	**17 10 04.3**	**-0.8**
SONM	**Songino Array** 0.3nm,0.4s,baz=139,slow=11,SNR=2.8	**36.23**	**317**	P			**P**	**17 11 41.8**	**-0.8**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=8.7,slow=8.5,SNR=24	**45.89**	**191**	P			**P**	**17 13 02.8**	**+0.9**
ASAR	**Alice Springs** 0.5nm,0.9s,baz=16,slow=7.4,SNR=4.4	**49.61**	**191**	P			**P**	**17 13 30.9**	**+0.1**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=67,slow=3.7,SNR=1.9	**51.04**	**320**	PcP			**PcP**	**17 14 57.4**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=90,slow=11,SNR=1.8	**51.90**	**311**	P			**P**	**17 13 47.2**	**-0.7**
MKAR	0.3nm,0.8s,baz=66,slow=4.9,SNR=1.4			PcP			**PcP**	**17 15 01.6**	**+1.3**
NRIK	**Noril'sk** 0.8nm,0.3s,baz=106,slow=5.2,SNR=2.2	**54.33**	**339**	P			**P**	**17 14 05.8**	**+0.4**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=258,slow=6.3,SNR=7.1	**58.88**	**28**	P			**P**	**17 14 37.7**	**-0.1**
FINES	**FINESS Array B** 1.2nm,0.5s,baz=85,slow=3.6,SNR=17	**79.61**	**334**	P			**P**	**17 16 46.7**	**+0.6**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=274,slow=4.6,SNR=4.7	**81.11**	**52**	P			**P**	**17 16 55.9**	**+1.0**
PDAR	**Pinedale Array** 0.5nm,0.9s,baz=281,slow=6.3,SNR=2.1	**84.99**	**45**	P			**P**	**17 17 14.1**	**-0.8**
NOA	**NORSAR Array B** 0.7nm,1.0s,baz=48,slow=4.8,SNR=2.5	**85.29**	**339**	P			**P**	**17 17 15.0**	**-0.8**

*IDC **14** 17:13:54.4±6.0,6°.05S×151°.88E, h62km±49km, mb3.7/5, mb1 3.9/6, mb1mx3.4/39, mbtmp4.0/6, ML2.2/1, MS2.8/5, Ms1 2.8/5, ms1mx2.6/43, Error ellipse: s-maj=65.1km s-min=28.5km az=123.0*

ISC 14 17:13:51.5±1.8,6°.0S±0°.3×152°.0E±0°.4, h36km, n12, σ1s48/8, mb3.9/5, MS2.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 4.2nm,0.3s,baz=90,slow=3.0,SNR=7.1	**5.90**	**234**	P			**Pn**	**17 15 18.9**	**+2.5**
PMG	5.9nm,0.3s,baz=55,slow=16,SNR=7.2			S			**Sn**	**17 16 21.2**	**-1.5**
HNR	**Honiara** comp=Z,38nm,18.9s,baz=320,slow=37	**8.56**	**114**	LR			LR	17 19 15.8	
WRA	**Warramunga Arr** 2.9nm,0.9s,baz=55,slow=10,SNR=19	**22.09**	**229**	P			**P**	**17 18 42.5**	**-1.1**
ASAR	**Alice Springs** 2.6nm,0.8s,baz=58,slow=9.4,SNR=48	**24.76**	**223**	P			**P**	**17 19 09.6**	**-0.4**
STKA	**Stephens Creek** comp=Z,32nm,19.1s,baz=24,slow=34	**27.55**	**199**	LR			LR	17 29 35.4	
FITZ	**Fitzroy Crossi** 4.2nm,0.8s,baz=56,slow=7.6,SNR=13	**28.42**	**243**	P			**P**	**17 19 42.2**	**-0.7**
MJAR	**Matsushiro Arr** comp=Z,17nm,21.5s,baz=245,slow=34	**44.23**	**344**	LR			LR	17 38 40.5	
KSRS	**Korea Array** comp=Z,4.6nm,19.5s,baz=230,slow=34	**48.70**	**334**	LR			LR	17 41 45.1	
PETK	**Petropavlovsk-** comp=Z,10nm,18.2s,baz=52,slow=38	**59.05**	**4**	LR			LR	17 51 03.5	
SONM	**Songino Array** 0.3nm,0.4s,baz=116,slow=5.0,SNR=2.3	**66.90**	**328**	P			**P**	**17 24 40.4**	**+0.1**
ILAR	**Eielson Array** 1.3nm,0.8s,baz=249,slow=5.5,SNR=13	**83.53**	**22**	P			**P**	**17 26 15.3**	**-0.1**
TORD	**Torodi Ar. Bea** 1.5nm,0.9s,baz=59,slow=2.2,SNR=3.7	**149.90**	**286**	PKPbc			**PKPbc**	**17 33 38.6**	**-0.4**

*IDC **14** 17:15:09.1±0.8,30°.94N×143°.08E, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/56, mbtmp3.8/15, ML3.4/3, MS2.5/4, Ms1 2.6/4, ms1mx2.2/68, Error ellipse: s-maj=28.5km s-min=16.2km az=77.0*

ISC 14 17:15:10.3±0.8,30°.94N±0°.07×143°.0E±0°.1, h10km, n19, σ2s22/19, mb3.9/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 10.0nm,0.3s,baz=211,slow=20,SNR=1.6	**3.46**	**310**	Pn			**Pn**	**17 16 03.5**	**-0.8**
JHJ	25n

0.7nm,0.5s,baz=302,slow=10,SNR=1.6
WRA Warramunga Arr 24.86 163 P **P** **17 24 29.9 +1.6**
2.9nm,0.9s,baz=345,slow=10,SNR=10.0
ASAR Alice Springs 28.29 166 P **P** **17 24 59.1 -0.1**
0.3nm,0.9s,baz=355,slow=10,SNR=1.9
CMAR Chiang Mai Arr 30.85 300 P **P** **17 25 22.6 +0.7**
0.9nm,0.8s,baz=114,slow=7.4,SNR=5.2
KSRS Korea Array 33.37 2 P **P** **17 25 43.4 -0.3**
0.2nm,0.4s,baz=181,slow=9.6,SNR=2.5
KLR Kul'dur 45.32 5 P **P** **17 27 23.1 -0.2**
0.5nm,0.5s,baz=247,slow=15,SNR=1.8
SONM Songino Array 47.13 341 P **P** **17 27 37.8 +0.1**
0.5nm,0.5s,baz=163,slow=9.4,SNR=5.0
SONM PcP **PcP** **17 29 08.8 -0.3**
0.9nm,0.7s,baz=157,slow=4.3,SNR=6.1
PETK Petropavlovsk- 55.20 22 P **P** **17 28 37.5 -0.5**
2.8nm,0.9s,baz=222,slow=3.9,SNR=2.3
MKAR Makanchi Array 57.44 325 P **P** **17 28 53.1 -1.1**
0.8nm,0.4s,baz=119,slow=7.6,SNR=16
ZALV Zalesovo Beam 60.45 333 P **P** **17 29 14.1 -0.7**
0.4nm,0.4s,baz=120,slow=6.1,SNR=2.1
KURBB Kurchatov Arra 61.61 327 P **P** **17 29 21.9 -0.9**
0.9nm,0.4s,baz=127,slow=6.1,SNR=23
BVAR Borovoye Array 67.20 327 P **P** **17 29 59.0 -0.4**
0.7nm,0.7s,baz=181,slow=18,SNR=6.3
TIXI Tiksi 67.53 1 P **P** **17 30 00.6 -1.1**
0.5nm,0.3s,baz=168,slow=4.5,SNR=2.7
NRIK Noril'sk 70.25 346 P **P** **17 30 17.8 -0.3**
1.6nm,0.5s,baz=114,slow=6.4,SNR=3.6
ILAR Eielson Array 84.88 25 P **P** **17 31 38.8 -1.0**
0.4nm,0.7s,baz=259,slow=5.7,SNR=6.1
FINES FINESS Array B 91.69 332 P **P** **17 32 11.1 -1.2**
2.1nm,1.1s,baz=56,slow=2.5,SNR=1.5
AKASG Malin Array Be 91.79 321 P **P** **17 32 11.1 -2.0**
0.3nm,0.2s,baz=78,slow=4.3,SNR=4.6

*NOU **14** 17:40:06.8, 38.48S×175.65E, h213km, MLv4.3, North Island, New Zealand*
*IDC **14** 17:40:10.9±0.9, 38.63S×176.05E, h180km±9km, mb3.7/4, mb1 3.9/4, mb1mx3.4/36, mbtmp4.2/4, Error ellipse: s-maj=50.8km s-min=22.0km az=7.0*
*WEL **14** 17:40:13.9±0.5, 39.3°S×17.6°E±°, h150km±4km, M4.3/121, mB5.2/7, ML3.3/32, MLv4.0/121, Mw(mB)4.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=127.0*
ISC 14 17:40:11.0±0.7, 38.70S±0.05×175.73E±0.04, h181km±5km, n172, σ1§11/196, mb3.9/4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.01**	**157**	P	**Pn**	**17 40 35.0**	**+0.1**
RATZ	**Rangitukua**	**0.17**	**168**	P	**Pn**	**17 40 35.0**	**0.0**
WHTZ	**Whakaora**	**0.18**	**80**	P	**Pn**	**17 40 35.2**	**+0.1**
KUTZ	**Kaahu Road**	**0.22**	**20**	P	**Pn**	**17 40 35.1**	**0.0**
KATZ	**Kakaramea**	**0.28**	**185**	P	**Pn**	**17 40 35.5**	**+0.2**
RITZ	**Rihia Road**	**0.30**	**160**	P	**Pn**	**17 40 35.6**	**+0.4**
HATZ	**Hinemaiaia**	**0.34**	**124**	P	**Pn**	**17 40 35.3**	**0.0**
WPRZ	**Whakapapatarin**	**0.38**	**63**	P	**Pn**	**17 40 35.3**	**-0.2**
TLZ	**Tolley Road**	**0.40**	**338**	P	**Pn**	**17 40 35.5**	**-0.1**
KRVZ	**Karewarewa**	**0.40**	**190**	P	**Pn**	**17 40 36.0**	**+0.3**
NTVZ	**North Tongarir**	**0.40**	**186**	P	**Pn**	**17 40 36.3**	**+0.6**
TMVZ	**Te Maari**	**0.42**	**183**	P	**Pn**	**17 40 36.1**	**+0.4**
WTVZ	**West Tongariro**	**0.43**	**194**	P	**Pn**	**17 40 36.2**	**+0.4**
TWVZ	**Taurewa**	**0.44**	**211**	P	**Pn**	**17 40 36.1**	**+0.3**
ETVZ	**East Tongariro**	**0.44**	**182**	P	**Pn**	**17 40 36.2**	**+0.4**
NNVZ	**North Ngauruho**	**0.44**	**191**	P	**Pn**	**17 40 36.1**	**+0.3**
GRRZ	**Galatos Road**	**0.46**	**41**	P	**Pn**	**17 40 35.7**	**-0.1**
OTVZ	**Oturere**	**0.47**	**186**	P	**Pn**	**17 40 36.5**	**+0.6**
OTVZ				S	**Sn**	**17 40 54.3**	**-1.0**
NGZ	**Ngauruhoe**	**0.49**	**192**	P	**Pn**	**17 40 36.4**	**+0.4**
NGZ				S	**Sn**	**17 40 54.4**	**-1.0**
SNVZ	**South Ngauruho**	**0.49**	**188**	P	**Pn**	**17 40 36.5**	**+0.4**
ALRZ	**Allen Road**	**0.50**	**74**	P	**Pn**	**17 40 35.5**	**-0.4**
ALRZ				S	**Sn**	**17 40 53.5**	**-1.5**
HRRZ	**Handcock Road**	**0.53**	**55**	P	**Pn**	**17 40 35.9**	**-0.2**
MRHZ	**Matea Rd**	**0.56**	**104**	P	**Pn**	**17 40 36.0**	**-0.1**
PRRZ	**Plateau Road**	**0.56**	**69**	P	**Pn**	**17 40 35.7**	**-0.5**
PRRZ				S	**Sn**	**17 40 54.1**	**-1.4**
HSRZ	**Hossack Road**	**0.56**	**47**	P	**Pn**	**17 40 36.0**	**-0.2**
TUVZ	**Tukino**	**0.57**	**186**	P	**Pn**	**17 40 37.0**	**+0.6**
TUVZ				S	**Sn**	**17 40 54.6**	**-1.5**
FWVZ	**Far West T-bar**	**0.57**	**194**	P	**Pn**	**17 40 36.8**	**+0.3**
WHVZ	**Whangaehu Hut**	**0.59**	**190**	P	**Pn**	**17 40 37.0**	**+0.4**
WHVZ				S	**Sn**	**17 40 55.0**	**-1.5**
TRVZ	**Turoa**	**0.62**	**193**	P	**Pn**	**17 40 37.4**	**+0.7**
TRVZ				S	**Sn**	**17 40 55.2**	**-1.5**
UTU	**Utuhina**	**0.64**	**35**	P	**Pn**	**17 40 36.5**	**-0.1**
WNVZ	**Wahianoa**	**0.64**	**189**	P	**Pn**	**17 40 37.3**	**+0.6**
WNVZ				S	**Sn**	**17 40 55.4**	**-1.3**
HLRZ	**Highlands Stat**	**0.66**	**48**	P	**Pn**	**17 40 37.1**	**+0.3**
NGRZ	**Ngongotaha**	**0.70**	**31**	P	**Pn**	**17 40 36.8**	**-0.2**
HIZ	**Hauiti**	**0.71**	**283**	P	**Pn**	**17 40 37.0**	**+0.1**
MOVZ	**Moawhango**	**0.71**	**178**	P	**Pn**	**17 40 37.3**	**+0.3**
MOVZ				S	**Sn**	**17 40 54.7**	**-2.5**
MTVZ	**Mangateitei**	**0.71**	**196**	P	**Pn**	**17 40 37.7**	**+0.7**
MTVZ				S	**Sn**	**17 40 56.4**	**-0.8**
RRRZ	**Republican Roa**	**0.71**	**60**	P	**Pn**	**17 40 36.6**	**-0.3**
BKZ	**Black Stump Fm**	**0.76**	**128**	P	**Pn**	**17 40 37.6**	**+0.4**
BKZ				S	**Sn**	**17 40 55.7**	**-1.9**
TARZ	**Mount Tarawera**	**0.77**	**53**	P	**Pn**	**17 40 37.2**	**-0.2**
OMRZ	**Omania**	**0.78**	**41**	P	**Pn**	**17 40 37.0**	**-0.4**
KARZ	**Kaharoa**	**0.79**	**31**	P	**Pn**	**17 40 37.1**	**-0.4**
BHHZ	**Black Hill Sta**	**0.83**	**162**	P	**Pn**	**17 40 38.2**	**+0.5**
BHHZ				S	**Sn**	**17 40 56.2**	**-2.3**
MUGZ	**Murupara**	**0.85**	**75**	P	**Pn**	**17 40 37.2**	**-0.6**
KMRZ	**Kaimai**	**0.87**	**11**	P	**Pn**	**17 40 37.7**	**-0.3**
VRZ	**Vera Road**	**0.87**	**240**	P	**Pn**	**17 40 38.4**	**+0.6**
MTHZ	**Maungataniwha**	**0.88**	**100**	P	**Pn**	**17 40 38.3**	**+0.2**
MTHZ				S	**Sn**	**17 40 57.1**	**-1.8**
KWHZ	**Kaweka Forest**	**0.91**	**143**	P	**Pn**	**17 40 39.0**	**+0.9**
NMHZ	**Naumai**	**0.93**	**116**	P	**Pn**	**17 40 39.5**	**+1.2**
TOZ	**Tahuroa Road**	**0.98**	**349**	P	**Pn**	**17 40 38.6**	**-0.1**
RTZ	**Ruatahuna**	**0.98**	**86**	P	**Pn**	**17 40 38.7**	**-0.1**
RTZ				S	**Sn**	**17 40 58.1**	**-2.1**
EDRZ	**Edgecumbe**	**0.99**	**54**	P	**Pn**	**17 40 38.3**	**-0.5**
MARZ	**Manawahe**	**1.03**	**47**	P	**Pn**	**17 40 38.9**	**-0.2**
TGRZ	**Tauranga**	**1.05**	**24**	P	**Pn**	**17 40 38.8**	**-0.4**
MCHZ	**McNeill Hill**	**1.06**	**135**	P	**Pn**	**17 40 40.7**	**+1.5**
KRHZ	**Kereru**	**1.07**	**152**	P	**Pn**	**17 40 40.2**	**+0.9**
KRHZ				S	**Sn**	**17 41 00.3**	**-1.1**
OPRZ	**Ohinepanea**	**1.07**	**38**	P	**Pn**	**17 40 38.8**	**-0.5**
OPRZ				S	**Sn**	**17 40 59.1**	**-2.1**
RAHZ	**Arahi**	**1.08**	**102**	P	**Pn**	**17 40 40.2**	**+0.8**
ARHZ	**Aropaoanui**	**1.14**	**120**	P	**Pn**	**17 40 40.9**	**+1.1**
MHEZ	**Mangahewa**	**1.16**	**251**	P	**Pn**	**17 40 41.0**	**+1.0**
URZ	**Urewera**	**1.17**	**68**	P	**Pn**	**17 40 39.3**	**-0.8**
	308nm,0.3s,baz=254,slow=7.4,SNR=2541						
URZ				S	**Sn**	**17 40 58.7**	**-3.8**
	202nm,0.3s,baz=240,slow=3.0,SNR=11						
URZ	**Urewera**	**1.17**	**68**	P	**Pn**	**17 40 39.4**	**-0.7**
URZ				S	**Sn**	**17 40 59.2**	**-3.3**
WAZ	**Wanganui**	**1.20**	**208**	P	**Pn**	**17 40 41.2**	**+0.9**
WHHZ	**Waihua**	**1.23**	**108**	P	**Pn**	**17 40 41.5**	**+0.8**
PNHZ	**Pukenui**	**1.27**	**163**	P	**Pn**	**17 40 41.8**	**+0.8**
PNHZ				S	**Sn**	**17 41 02.9**	**-1.4**
LREZ	**Lake Rotokare**	**1.28**	**233**	P	**Pn**	**17 40 42.2**	**+1.1**
DREZ	**Durham Road**	**1.29**	**247**	P	**Pn**	**17 40 42.0**	**+0.9**
DREZ				S	**Sn**	**17 41 05.3**	**+0.9**
WHRZ	**Whale Island**	**1.29**	**50**	P	**Pn**	**17 40 42.0**	**+0.8**
RAGZ	**Rawiri**	**1.34**	**82**	P	**Pn**	**17 40 41.7**	**0.0**
TSZ	**Takapari Road**	**1.37**	**172**	P	**Pn**	**17 40 42.8**	**+0.9**
PREZ	**Palmer Road**	**1.38**	**242**	P	**Pn**	**17 40 43.0**	**+1.0**
NEZ	**North Egmont**	**1.40**	**245**	P	**Pn**	**17 40 43.1**	**+1.0**
KAHZ	**Kahuranaki**	**1.41**	**141**	P	**Pn**	**17 40 43.5**	**+1.3**
KAHZ				S	**Sn**	**17 41 06.5**	**0.0**
CKHZ	**Cape Kidnapper**	**1.42**	**133**	P	**Pn**	**17 40 43.6**	**+1.3**
CKHZ				S	**Sn**	**17 41 06.3**	**-0.2**
PKE	**Pukeiti**	**1.45**	**249**	P	**Pn**	**17 40 43.3**	**+0.8**
MYRZ	**Mayor Island**	**1.47**	**16**	P	**Pn**	**17 40 42.8**	**0.0**
WPHZ	**Waipukurau**	**1.47**	**158**	P	**Pn**	**17 40 43.8**	**+1.0**
OHWZ	**Ohakea**	**1.54**	**192**	P	**Pn**	**17 40 44.7**	**+1.4**
KNZ	**Kokohu**	**1.55**	**103**	P	**Pn**	**17 40 44.0**	**+0.5**
NBEZ	**Newall Road No**	**1.56**	**248**	P	**Pn**	**17 40 44.3**	**+0.7**
RIGZ	**Rimuhau**	**1.59**	**91**	P	**Pn**	**17 40 44.3**	**+0.4**
PXZ	**Pawanui**	**1.59**	**147**	P	**Pn**	**17 40 44.9**	**+1.0**
DVHZ	**Dannevirke**	**1.63**	**168**	P	**Pn**	**17 40 44.9**	**+0.6**
TKGZ	**Te Karaka**	**1.68**	**82**	P	**Pn**	**17 40 45.2**	**+0.4**
POWZ	**Post Office Ro**	**1.69**	**179**	P	**Pn**	**17 40 45.5**	**+0.6**
PRGZ	**Paritu Road**	**1.70**	**98**	P	**Pn**	**17 40 45.4**	**+0.4**
RUGZ	**Raukumara Rang**	**1.70**	**65**	P	**Pn**	**17 40 43.9**	**-1.2**
PRHZ	**Porangahau**	**1.72**	**156**	P	**Pn**	**17 40 46.1**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.76**	**106**	P	**Pn**	**17 40 46.4**	**+0.8**
TWGZ	**Tauwhareparae**	**1.84**	**74**	P	**Pn**	**17 40 46.7**	**+0.2**
ANWZ	**Angora Road**	**1.85**	**162**	P	**Pn**	**17 40 47.5**	**+1.0**
ETAZ	**East Tamaki Re**	**1.85**	**340**	P	**Pn**	**17 40 46.4**	**-0.2**
PRWZ	**Pori Road**	**1.86**	**174**	P	**Pn**	**17 40 47.5**	**+0.8**
HAZ	**Te Kaha**	**1.87**	**60**	P	**Pn**	**17 40 45.8**	**-1.0**
KUZ	**Kuaotunu**	**1.95**	**360**	P	**Pn**	**17 40 47.2**	**-0.4**
CNGZ	**Carnagh Statio**	**1.96**	**84**	P	**Pn**	**17 40 48.2**	**+0.6**
WIAZ	**Waiheke Island**	**1.96**	**346**	P	**Pn**	**17 40 47.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.96**	**183**	P	**Pn**	**17 40 48.0**	**+0.3**
EPAZ	**Eden Park BICE**	**1.98**	**336**	P	**Pn**	**17 40 47.8**	**-0.1**
WTAZ	**Waiatarua**	**1.99**	**332**	P	**Pn**	**17 40 48.3**	**+0.3**
HBAZ	**Herne Bay Bore**	**2.01**	**336**	P	**Pn**	**17 40 48.8**	**+0.6**
PKGZ	**Pakihiroa**	**2.02**	**67**	P	**Pn**	**17 40 48.0**	**-0.4**
BFZ	**Birch Farm**	**2.02**	**169**	P	**Pn**	**17 40 48.8**	**+0.5**
MBAZ	**Motutapu North**	**2.04**	**341**	P	**Pn**	**17 40 48.3**	**-0.2**
TIWZ	**Tintock**	**2.08**	**177**	P	**Pn**	**17 40 49.4**	**+0.4**
PUZ	**Puketiti**	**2.08**	**73**	P	**Pn**	**17 40 48.6**	**-0.5**
RVAZ	**Riverhead Bore**	**2.13**	**334**	P	**Pn**	**17 40 49.3**	**-0.2**
OGWZ	**Otaki Gorge**	**2.16**	**191**	P	**Pn**	**17 40 50.2**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.20**	**184**	P	**Pn**	**17 40 50.4**	**+0.1**
ABAZ	**Army Bay**	**2.21**	**341**	P	**Pn**	**17 40 50.4**	**-0.1**
KIW	**Kapiti Island**	**2.25**	**196**	P	**Pn**	**17 40 50.9**	**0.0**
WMGZ	**Waiomatatini S**	**2.29**	**68**	P	**Pn**	**17 40 50.9**	**-0.5**
MXZ	**Matakaoa Point**	**2.33**	**62**	P	**Pn**	**17 40 51.8**	**+0.1**
TMWZ	**Te Maipa**	**2.41**	**177**	P	**Pn**	**17 40 52.7**	**+0.1**
GRZ	**Great Barrier**	**2.45**	**355**	P	**Pn**	**17 40 53.1**	**-0.1**
CAW	**Cannon Point**	**2.46**	**192**	P	**Pn**	**17 40 53.2**	**0.0**
MTW	**Mount Morrison**	**2.46**	**184**	P	**Pn**	**17 40 53.1**	**-0.2**
DUWZ	**D'Urville Isla**	**2.52**	**213**	P	**Pn**	**17 40 53.7**	**-0.2**
WEL	**Wellington**	**2.69**	**196**	P	**Pn**	**17 40 55.8**	**-0.1**
PAWZ	**Paruwai Farm**	**2.69**	**185**	P	**Pn**	**17 40 55.6**	**-0.4**
TRWZ	**Traveller**	**2.70**	**181**	P	**Pn**	**17 40 55.9**	**-0.1**
MSWZ	**Moikau Station**	**2.74**	**188**	P	**Pn**	**17 40 56.1**	**-0.4**
TCW	**Tory Channel**	**2.75**	**204**	P	**Pn**	**17 40 56.5**	**-0.1**
BHW	**Baring Head**	**2.79**	**193**	P	**Pn**	**17 40 56.7**	**-0.3**
PLWZ	**Palliser**	**2.89**	**187**	P	**Pn**	**17 40 57.7**	**-0.6**
WCZ	**Waipu Caves**	**2.97**	**338**	P	**Pn**	**17 40 59.4**	**+0.1**
TUWZ	**Tuamarina**	**3.05**	**206**	P	**Pn**	**17 40 59.7**	**-0.5**
NNZ	**Nelson**	**3.10**	**215**	P	**Pn**	**17 40 60.0**	**-0.8**
QRZ	**Quartz Range**	**3.25**	**228**	P	**Pn**	**17 41 01.3**	**-1.5**
CMWZ	**Cape Campbell**	**3.26**	**200**	P	**Pn**	**17 41 03.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**3.33**	**205**	P	**Pn**	**17 41 03.3**	**-0.4**
THZ	**Tophouse**	**3.75**	**214**	P	**Pn**	**17 41 07.7**	**-1.2**
OUZ	**Omahuta**	**3.87**	**333**	P	**Pn**	**17 41 11.0**	**+0.5**
KHZ	**Kahutara**	**4.07**	**203**	P	**Pn**	**17 41 12.5**	**-0.4**
DSZ	**Denniston Nort**	**4.28**	**223**	P	**Pn**	**17 41 13.8**	**-1.8**
GVZ	**Greta Valley S**	**4.73**	**205**	P	**Pn**	**17 41 20.5**	**-0.9**
LTZ	**Lake Taylor**	**4.85**	**212**	P	**Pn**	**17 41 21.0**	**-2.0**
AMCZ	**Ambley**	**5.04**	**207**	P	**Pn**	**17 41 24.1**	**-1.4**
INZ	**Inchbonnie**	**5.17**	**218**	P	**Pn**	**17 41 24.8**	**-2.4**
OXZ	**Oxford**	**5.40**	**210**	P	**Pn**	**17 41 27.7**	**-2.4**
OKCZ	**Okains Bay**	**5.41**	**201**	P	**Pn**	**17 41 28.8**	**-1.4**
MQZ	**McQueen's Vall**	**5.51**	**204**	P	**Pn**	**17 41 29.3**	**-2.3**
RACZ	**Rakaia**	**5.71**	**207**	P	**Pn**	**17 41 31.9**	**-2.2**
MHCZ	**Mount Hutt**	**5.76**	**212**	P	**Pn**	**17 41 32.6**	**-2.3**
WVZ	**Waitaha Valley**	**5.78**	**219**	P	**Pn**	**17 41 33.6**	**-1.4**
WACZ	**Wakanui South**	**6.00**	**208**	P	**Pn**	**17 41 35.8**	**-2.2**
RPZ	**Rata Peaks**	**6.13**	**214**	P	**Pn**	**17 41 38.1**	**-1.5**
GCSZ	**Gaunt Creek Bo**	**6.16**	**220**	P	**Pn**	**17 41 38.5**	**-1.5**
ARCZ	**Arundel**	**6.26**	**212**	P	**Pn**	**17 41 39.7**	**-1.7**
FOZ	**Fox Glacier**	**6.58**	**221**	P	**Pn**	**17 41 43.5**	**-1.9**
TMZ	**Timaru**	**6.69**	**210**	P	**Pn**	**17 41 44.8**	**-2.2**
LBZ	**Lake Benmore**	**7.04**	**214**	P	**Pn**	**17 41 50.1**	**-1.5**
ODZ	**Otahua Downs**	**7.39**	**209**	P	**Pn**	**17 41 54.6**	**-1.5**
JCZ	**Jackson Bay**	**7.49**	**222**	P	**Pn**	**17 41 54.6**	**-2.9**
WKZ	**Wanaka**	**7.91**	**217**	P	**Pn**	**17 42 00.6**	**-2.5**
EAZ	**Earnscleugh**	**8.09**	**214**	P	**Pn**	**17 42 02.8**	**-2.6**
MSZ	**Milford Sound**	**8.35**	**222**	P	**Pn**	**17 42 06.8**	**-1.9**
TUZ	**Tuapeka**	**8.54**	**210**	P	**Pn**	**17 42 10.8**	**-0.5**
MLZ	**Mavora Lakes**	**8.74**	**218**	P	**Pn**	**17 42 12.0**	**-2.0**
WHZ	**Wether Hill Ro**	**9.21**	**216**	P	**Pn**	**17 42 18.1**	**-2.0**
SYZ	**Scrubby Hill**	**9.21**	**210**	P	**Pn**	**17 42 19.8**	**-0.3**
APZ	**The Paps**	**9.92**	**212**	P	**Pn**	**17 42 27.9**	**-1.4**
ASAR	**Alice Springs**	**38.45**	**280**	P	**P**	**17 47 17.4**	**+2.0**
	3.7nm,0.6s,baz=107,slow=5.8,SNR=112						
ASAR				PcP	**PcP**	**17 49 24.4**	**-0.4**
	0.2nm,0.6s,baz=108,slow=3.7,SNR=1.6						
WRA	**Warramunga Arr**	**40.23**	**286**	P	**P**	**17 47 31.8**	**+1.6**
	1.5nm,0.7s,baz=128,slow=6.5,SNR=23						
FITZ	**Fitzroy Crossi**	**47.95**	**281**	P	**P**	**17 48 32.9**	**+1.4**
	2.7nm,0.6s,baz=136,slow=8.1,SNR=13						
CMAR	**Chiang Mai Arr**	**91.50**	**292**	P	**P**	**17 52 59.2**	**+2.1**
	0.7nm,0.7s,baz=140,slow=4.1,SNR=6.0						
MKAR	**Makanchi Array**	**118.99**	**308**	PKP	**PKPdf**	**17 58 36.6**	**-0.9**
	0.3nm,0.5s,baz=187,slow=0.4,SNR=6.1						
KBZ	**Khabaz**	**144.54**	**294**	PKP	**PKPdf**	**17 59 24.8**	**-0.6**
	0.7nm,0.6s,baz=50,slow=4.2,SNR=4.6						
ARCES	**ARCESS Array B**	**145.26**	**342**	PKPbc	**PKPab**	**17 59 26.4**	**0.0**
	0.7nm,0.4s,baz=61,slow=3.3,SNR=14						
FINES	**FINESS Array B**	**150.52**	**330**	PKPbc	**PKPbc**	**17 59 40.1**	**-0.1**
	1.4nm,0.5s,baz=26,slow=2.6,SNR=13						
BRTR	**Keskin Array B**	**150.75**	**284**	PKPbc	**PKiKP**	**17 59 41.8**	**-0.5**
	0.8nm,0.8s,baz=159,slow=4.3,SNR=4.7						
AKASG	**Malin Array Be**	**153.57**	**308**	PKPbc	**PKPbc**	**17 59 46.6**	**-0.9**
	0.3nm,0.4s,baz=62,slow=2.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**154.01**	**193**	PKPbc	**PKiKP**	**17 59 50.0**	**+0.4**
	0.3nm,0.7s,baz=222,slow=2.7,SNR=1.4						
TORD				PKPab	**PKPab**	**18 00 03.8**	**+0.3**
	0.9nm,1.2s,baz=142,slow=5.3,SNR=1.6						

*IDC **14** 17:45:40.1±0.9, 57.27S×25.92W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/21, mbtmp4.1/4, Error ellipse: s-maj=43.7km s-min=23.5km az=83.0*
*NEIC **14** 17:45:48.3±2.8, 57.45±0.1×26.1W±0.2, h61km±4km, mb4.1/12, Error ellipse: s-maj=16.0km s-min=15.2km az=179.0*
ISC 14 17:45:48.2±0.7, 57.3S±0.1×26.1W±0.1, h65km, n26, σ1§01/21, mb4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.60**	**293**	Pn	**Pn**	**17 47 21.3**	**-1.1**
VNA1	**Neumayer--Stat**	**15.37**	**157**	P	**Pn**	**17 49 00.4**	**-0.8**
VNA3	**Neumayer Olymp**	**15.57**	**160**	P	**Pn**	**17 49 22.2**	**-1.2**
SNAA	**Sanae**	**17.32**	**155**	P	**Pn**	**17 49 45.2**	**0.0**
SNAA	**Sanae**	**17.32**	**155**		**P**	**17 49 45.3**	**-0.4**
PMSA	**Palmer Station**	**19.53**	**232**	P	**P**	**17 50 09.2**	**-0.7**
PMSA				IAmb	IAmb	17 50 12.2	
	comp=Z,11nm,0.9s						
PLTB	**Pedras Altas**	**31.80**	**312**	P	**P**	**17 52 06.6**	**+0.3**
PLCA	**Paso Flores**	**32.82**	**281**	P	**P**	**17 52 14.2**	**-1.0**
PLCA				IAmb	IAmb	17 52 28.7	
	comp=Z,1.5nm,0.9s						
QSPA	**South Pole Qui**	**32.90**	**180**	P	**P**	**17 52 16.5**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=201,slow=3.0,SNR=31						
QSPA	**South Pole Qui**	**32.90**	**180**	P	**P**	**17 52 16.6**	**+0.8**
QSPA				IAmb	IAmb	17 52 18.2	
	comp=Z,3.1nm,0.6s						
ITQB	**Itaqui**	**34.88**	**309**	P	**P**	**17 52 34.3**	**+1.2**
SUR	**Sutherland**	**40.44**	**72**	P	**P**	**17 53 17.9**	**-2.2**
VNDA	**Vanda**	**45.30**	**182**	P	**P**	**17 53 59.7**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=193,slow=6.4,SNR=18						
VNDA	**Vanda**	**45.30**	**182**	P	**P**	**17 54 00.0**	**+1.3**
VNDA				IAmb	IAmb	17 54 01.1	
	comp=Z,1.9nm,0.8s						
BOSA	**Boshof**	**45.74**	**74**	P	**P**	**17 54 03.4**	**+0.4**
BOSA				IAmb	IAmb	17 54 05.1	
	comp=Z,1.4nm,0.9s						
H10S2	**ASCENSION HYDR**	**49.09**	**15**	T	T	18 48 11.8	
	baz=32,slow=74,SNR=7.5						
H10S3	**ASCENSION HYDR**	**49.09**	**15**	T	T	18 48 10.5	
	baz=188,slow=74,SNR=8.7						
H10N1	**ASCENSION HYDR**	**50.20**	**15**	T	T	18 49 37.8	
	baz=191						
H10N3	**ASCENSION HYDR**	**50.20**	**15**	T	T	18 49 34.9	
	baz=191,slow=74						
H10N2	**ASCENSION HYDR**	**50.22**	**15**	T	T	18 49 32.7	
	baz=191,slow=74						
LPAZ	**La Paz**	**51.60**	**305**	P	**P**	**17 54 49.4**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=153,slow=4.6,SNR=12						
LPAZ	**La Paz**	**51.60**	**305**	P	**P**	**17 54 49.8**	**+1.2**
LPAZ				IAmb	IAmb	17 54 51.4	
	comp=Z,2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.91**	**28**	P	**P**	**17 57 16.7**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=196,slow=6.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**73.91**	**28**	P	**P**	**17 57 16.5**	**+0.5**
SONM	**Songino Array**	**150.20**	**88**	PKPbc	**PKPbc**	**18 05 30.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=224,slow=3.2,SNR=4.8						
ILAR	**Eielson Array**	**151.41**	**310**	PKPbc	**PKiKP**	**18 05 33.2**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=125,slow=0.5,SNR=26						

*IDC **14** 18:07:38.3±1.0, 43.89N×105.59W, h0km, mb4.0/1, mb1 3.8/5, mb1mx3.4/68, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=22.8km s-min=8.6km az=148.0*
*NEIC **14** 18:07:39.0±1.1, 43.71N±0.06×105.25W±0.05, h0km±2km, ML3.6/22, Error ellipse: s-maj=10.7km s-min=5.2km az=346.0*
ISC 14 18:07:38.8±0.9, 43.71N±0.05×105.33W±0.05, h0km, n21, σ1§18/21, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.02**	**66**	Pg	**Pg**	**18 07 58.0**	**-0.3**
K22A	**Casper**	**1.37**	**220**		**Pg**	**18 08 03.3**	**-1.9**
K22A				IAML		18 08 25.4	
	comp=E,740nm,1.0s						
K22A				IAML		18 08 27.2	
	comp=N,640nm,0.5s						
PHWY	**Pilot Hill**	**2.41**	**182**		**Pn**	**18 08 19.3**	**-0.4**
RWWY	**Rawlins**	**2.45**	**215**		**Pn**	**18 08 20.2**	**-0.1**
RWWY				IAML		18 08 57.2	
	comp=N,448nm,0.8s						
RLMT	**Red Lodge**	**3.16**	**298**		**Pn**	**18 08 30.8**	**+0.8**
RLMT				IAML		18 09 36.5	
	comp=N,88nm,0.9s						
RLMT				IAML		18 10 09.2	
	comp=N,100nm,1.3s						
PD31	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**18 08 32.4**	**+1.3**
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**18 08 31.2**	**+0.2**
	comp=N,6.8nm,0.3s,baz=74,slow=16,SNR=12						
PDAR				Lg	Lg	18 09 15.8	
	comp=N,18nm,0.3s,baz=73,slow=25,SNR=15						
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**18 08 31.5**	**+0.4**
BW06	**Boulder Array**	**3.23**	**255**	Pn	**Pn**	**18 08 31.5**	**+0.5**
BW06				IAML		18 09 18.8	
	comp=N,143nm,0.7s						
YNE	**Yellowstone No**	**3.

BRTR	**Keskin Array B**	**79.28**	**318**	P		**P**	**18 23 39.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=138,slow=7.0,SNR=2.0							
NRIK	**Noril'sk**	**87.44**	**358**	P		**P**	**18 24 20.8**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=172,slow=5.7,SNR=5.3							
AKASG	**Malin Array Be**	**87.94**	**326**	P		**P**	**18 24 22.9**	**-0.8**
	comp=Z,0.1nm,0.2s,baz=109,slow=3.5,SNR=4.2							
NVAR	**Mina Array Bea**	**146.85**	**46**	PKPbc		**PKPbc**	**18 31 16.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=276,slow=3.4,SNR=12							
ULM	**Lac du Bonnet**	**147.49**	**9**	PKPbc		**PKPbc**	**18 31 17.0**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=313,slow=4.4,SNR=3.8							
PDAR	**Pinedale Array**	**149.51**	**32**	PKPbc		**PKPbc**	**18 31 23.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=17,slow=0.9,SNR=2.4							

*ISK **14** 18:15:48.6,36.˝62N×30.˝82E,h61km, ML3.3/32*
*DDA **14** 18:15:48.1,36.˝59N×30.˝91E,h50km±4km, ML3.2*
*NIC **14** 18:15:48.0±0.0,36.˝66N×30.˝89E,h77km±3km, Ml3.6/5*
*IDC **14** 18:15:49.3±1.8,36.˝54N×31.˝08E,h57km±30km, mb3.0/1, mb1 3.5/6,mb1mx3.1/64,mbtmp3.5/6,ML3.5/5,MS2.1/1, Ms1 2.1/1,ms1mx1.8/22,Error ellipse: s-maj=20.5km s-min=10.9km az=88.0*
*HLW **14** 18:15:50.7,36.˝32N×30.˝40E,h25km±23km,Md4.1,Ml4.1*

ISC 14 18:15:48.0±0.9,**36.66N**±0.03×**30.84E**±0.02,**h66**km±6km, **n114,**σ2ϕ**03**/143,**1C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMT	**Kemer-ANTALYA**	**0.24**	**255**	PG	**Pn**	**18 15 58.6**	**+0.2**
KEMT				SG	**Sn**	**18 16 05.9**	**-0.1**
ANTB	**Antalya**	**0.28**	**327**	PG	**Pn**	**18 15 59.1**	**+0.4**
ANTB				SG	**Sn**	**18 16 07.3**	**+0.9**
KORT	**Korkueli**	**0.52**	**310**	*i* P	**Pn**	**18 16 01.7**	**+0.7**
KORT				*i* S	**Sn**	**18 16 10.6**	**+0.3**
KORT	**Korkueli**	**0.52**	**310**	PG	**Pn**	**18 16 01.6**	**+0.7**
AKUM	**Antalya-Kumluc**	**0.53**	**230**	*i* P	**Pn**	**18 16 01.2**	**+0.4**
AKUM				*i* S	**Sn**	**18 16 10.1**	**-0.1**
KEPZ	**Antalya-Kepez**	**0.66**	**69**	*i* P	**Pn**	**18 16 03.1**	**+0.9**
KEPZ				*i* S	**Sn**	**18 16 11.9**	**-0.8**
BUCA	**Burdur, Bucak-**	**0.70**	**341**	*i* P	**Pn**	**18 16 03.8**	**+1.0**
BUCA				*i* S	**Sn**	**18 16 13.8**	**+0.2**
ELL	**Elmali**	**0.76**	**277**	PG	**Pn**	**18 16 04.8**	**+1.3**
ELL	**Elmali**	**0.76**	**277**	P	**Pn**	**18 16 04.8**	**+1.3**
ELL				S	**Sn**	**18 16 17.5**	**+2.6**
BCK	**Bucak**	**0.82**	**346**	PG	**Pn**	**18 16 05.6**	**+1.4**
DEMR	**Demre-Antalya**	**0.87**	**241**	PG	**Pn**	**18 16 04.9**	**+0.2**
SEDI	**Konya, Seydise**	**1.07**	**43**	*i* P	**Pn**	**18 16 09.3**	**+1.9**
SEDI				*i* S	**Sn**	**18 16 20.5**	**-1.3**
AKAS	**Kas**	**1.09**	**247**	*i* P	**Pn**	**18 16 07.8**	**+0.2**
AKAS				*i* S	**Sn**	**18 16 19.8**	**-2.4**
AKAS				IAML		18 16 25.0	
	comp=N,522nm,0.3s						
AKAS	**Kas**	**1.09**	**247**	PG	**Pn**	**18 16 07.9**	**+0.3**
SEYD	**Seydisehir-KON**	**1.09**	**47**	PN	**Pn**	**18 16 09.2**	**+1.6**
KSL	**Kastellorizon**	**1.14**	**244**	P	**Pn**	**18 16 09.3**	**+1.2**
KSL				S	**Sn**	**18 16 25.8**	**+2.7**
KSL				AML	AML	18 16 28.4	
	comp=N,1.7nm,0.6s						
KSL				AML	AML	18 16 28.4	
	comp=N,1.7nm,0.6s						
KSL				AML	AML	18 16 29.9	
	comp=N,0.8nm,0.4s						
KSL				AML	AML	18 16 29.9	
	comp=N,0.8nm,0.4s						
GOLH	**Golhisar**	**1.18**	**299**	*i* P	Pn	18 16 11.6	+2.8
GOLH				*i* S	**Sn**	**18 16 23.8**	**-0.3**
ISP	**Isparta**	**1.18**	**348**	PN	**Pn**	**18 16 10.6**	**+1.8**
BRDR	**BURDUR-Merkez**	**1.21**	**329**	*i* P	**Pn**	**18 16 10.8**	**+1.8**
BRDR				*i* S	**Sn**	**18 16 23.7**	**-1.1**
GAZI	**Gazipasa**	**1.26**	**109**	*i* P	**Pn**	**18 16 10.2**	**+0.4**
GAZI				*i* S	**Sn**	**18 16 25.2**	**-0.9**
GAZI	**Gazipasa**	**1.26**	**109**	PN	**Pn**	**18 16 10.9**	**+1.1**
CAME	**Cameli-Denizli**	**1.27**	**283**	PN	**Pn**	**18 16 11.7**	**+1.7**
CAEL	**Denizli, Camel**	**1.30**	**291**	*i* P	Pn	18 16 13.3	+2.9
CAEL				*i* S	**Sn**	**18 16 27.3**	**+0.1**
CAEL				IAML		18 16 36.0	
	comp=E,471nm,0.8s						
BAGO	**Egridir - ISPA**	**1.32**	**358**	*i* P	**Pn**	**18 16 11.8**	**+1.2**
BAGO				*i* S	**Sn**	**18 16 24.3**	**-3.3**
BASM	**Basmaki-Afyon**	**1.40**	**333**	PN	**Pn**	**18 16 13.4**	**+1.7**
FETY	**Fethiye**	**1.42**	**269**	PN	**Pn**	**18 16 12.7**	**+0.9**
DOGA	**KONYA_Doganhis**	**1.58**	**24**	*i* P	**Pn**	**18 16 16.6**	**+2.5**
DOGA				*i* S	**Sn**	**18 16 31.6**	**-2.2**
ERMK	**Ermenek**	**1.66**	**90**	*i* P	Pn	18 16 18.8	+3.5
ERMK				*i* S	**Sn**	**18 16 35.6**	**-0.2**
ERMK				IAML		18 16 45.0	
	comp=E,405nm,0.3s						
ERMK				IAML		18 16 46.0	
	comp=N,288nm,0.6s						
KZIL	**AFYON_Kizioren**	**1.69**	**341**	*i* P	**Pn**	**18 16 17.0**	**+1.5**
KZIL				*i* S	**Sn**	**18 16 34.7**	**-1.5**
TAVA	**DENIZLI_Tavas**	**1.74**	**298**	*i* P	Pn	18 16 19.3	+3.1
TAVA				*i* S	**Sn**	**18 16 36.1**	**-1.4**
TAVA				IAML		18 16 45.0	
	comp=E,231nm,0.3s						
TAVA				IAML		18 16 46.0	
	comp=N,259nm,0.2s						
KONT	**Konya--Tatoy**	**1.76**	**43**	*i* P	**Pn**	**18 16 18.9**	**+2.5**
KONT				*i* S	**Sn**	**18 16 37.0**	**-0.9**
KONT	**Konya--Tatoy**	**1.76**	**43**	PN	**Pn**	**18 16 18.7**	**+2.3**
DALY	**Dalyan (Mula)**	**1.77**	**276**	*i* P	**Pn**	**18 16 18.6**	**+2.2**
DALY				*i* S	**Sn**	**18 16 32.9**	**-5.0**
DALY				IAML		18 16 44.0	
	comp=N,242nm,0.2s						
DALY	**Dalyan (Mula)**	**1.77**	**276**	PN	**Pn**	**18 16 18.0**	**+1.6**
SHUT	**Suhut-Afyon**	**1.90**	**353**	PN	**Pn**	**18 16 20.4**	**+2.0**
TEKE	**Tekeli-Mersin**	**1.90**	**105**	PN	**Pn**	**18 16 19.9**	**+1.6**
BERE	**Bereket-Mersin**	**1.94**	**99**	PN	**Pn**	**18 16 20.9**	**+1.9**
LADK	**Ladik-KONYA**	**1.95**	**38**	PN	**Pn**	**18 16 21.3**	**+2.2**
KRMN	**Karaman**	**2.00**	**75**	PN	**Pn**	**18 16 21.9**	**+2.1**
AKMS	**Akamas**	**2.04**	**143**	⇑P	**Pn**	**18 16 21.0**	**+0.8**
AKMS				AML	AML	18 16 55.8	
	comp=N,1.6nm,0.3s						
AKMS				AML	AML	18 16 55.9	
	comp=N,1.4nm,0.3s						
ALFC	**Alefka**	**2.07**	**136**	P	**Pn**	**18 16 20.7**	**0.0**
ALFC				AML	AML	18 16 51.9	
	comp=N,1.1nm,0.3s						
ALFC				AML	AML	18 16 56.2	
	comp=N,1.3nm,0.2s						
TURN	**Turunc**	**2.09**	**274**	PN	**Pn**	**18 16 22.4**	**+1.6**
MULA	**Mugla, Merkez-**	**2.10**	**287**	*i* P	**Pn**	**18 16 23.1**	**+2.0**
MULA				*i* S	**Sn**	**18 16 43.5**	**-2.8**
TEVE	**Tevekalti-Mers**	**2.11**	**95**	PN	**Pn**	**18 16 23.1**	**+2.0**
YER	**Yerkesik**	**2.11**	**284**	PN	**Pn**	**18 16 22.9**	**+1.8**
KDHN	**Kadinhani**	**2.11**	**28**	*i* P	**Pn**	**18 16 22.9**	**+1.7**
KDHN				*i* S	**Sn**	**18 16 41.1**	**-5.4**
MRSB	**Marmaris-Mugla**	**2.13**	**272**	PN	**Pn**	**18 16 22.7**	**+1.3**
YORU	**Yoruktepe-Mers**	**2.13**	**103**	PN	**Pn**	**18 16 23.4**	**+2.0**
AFYO	**Afyonkarahisar**	**2.16**	**349**	*i* P	**Pn**	**18 16 23.5**	**+1.6**
AFYO				*i* S	**Sn**	**18 16 43.5**	**-4.3**
AKDN	**Akdeniz- Kıbrı**	**2.20**	**128**	PN	**Pn**	**18 16 23.9**	**+1.6**
GULN	**MERSIN_Gulnar**	**2.23**	**102**	*i* P	Pn	18 16 25.8	+3.1
GULN				*i* S	**Sn**	**18 16 46.8**	**-2.4**
ARG	**Arkhangelos**	**2.24**	**259**	PN	**Pn**	**18 16 24.2**	**+1.4**
ARG	**Arkhangelos**	**2.24**	**259**	P	**Pn**	**18 16 23.8**	**+1.0**
AKK1	**Akkuyu-Mersin**	**2.24**	**103**	PN	**Pn**	**18 16 24.7**	**+1.9**
AKKU	**Akkuyu-Mersin**	**2.24**	**102**	PN	**Pn**	**18 16 24.8**	**+1.9**
AKK2	**Akkuyu-Mersin**	**2.25**	**103**	PN	**Pn**	**18 16 24.8**	**+1.9**
ALIN	**Konya, Altinte**	**2.30**	**44**	*i* P	**Pn**	**18 16 24.0**	**+0.3**
ALIN				*i* S	Sn	18 16 43.7	-7.4
YESI	**Yesilovacik-Me**	**2.31**	**101**	PN	**Pn**	**18 16 25.7**	**+2.0**
KEBE	**Keben-Mersin**	**2.32**	**95**	PN	**Pn**	**18 16 26.5**	**+2.5**
IKL	**Isikli**	**2.33**	**100**	PN	**Pn**	**18 16 26.0**	**+1.9**
TISA	**Tisan-Mersin**	**2.34**	**102**	PN	**Pn**	**18 16 26.3**	**+2.1**
KARG	**Kargicak-Mersi**	**2.36**	**100**	PN	**Pn**	**18 16 26.4**	**+2.0**
KIZT	**Kizilcal**	**2.36**	**20**	PN	**Pn**	**18 16 26.3**	**+1.7**
SILI	**Silifke-Mersin**	**2.50**	**96**	PN	**Pn**	**18 16 28.5**	**+2.1**
USAK	**Uak-Merkez**	**2.51**	**325**	*i* P	**Pn**	**18 16 28.5**	**+2.0**
USAK				*i* S	**Sn**	**18 16 52.0**	**-4.0**
USAK				IAML		18 17 00.0	
	comp=N,120nm,0.6s						
USAK				IAML		18 17 00.0	
	comp=E,141nm,0.8s						
CHBY	**Cihanbeyli**	**2.51**	**40**	PN	**Pn**	**18 16 29.2**	**+2.6**
SLFK	**Silifke-Mersin**	**2.51**	**95**	PN	**Pn**	**18 16 28.8**	**+2.3**
SZAC	**Souni**	**2.53**	**138**	P	**Pn**	**18 16 28.3**	**+1.5**
SZAC				AML	AML	18 17 10.0	
	comp=E,1.2nm,0.9s						
SZAC				AML	AML	18 17 12.3	
	comp=E,0.9nm,0.7s						
KULA	**Kula-Manisa**	**2.53**	**317**	PN	**Pn**	**18 16 29.2**	**+2.3**
MLSB	**Milas**	**2.54**	**285**	PN	**Pn**	**18 16 28.8**	**+1.9**
DATC	**Datca-Mugla**	**2.56**	**273**	PN	**Pn**	**18 16 28.9**	**+1.7**
AYDN	**Tasoluk**	**2.57**	**294**	*i* P	**Pn**	**18 16 29.1**	**+1.7**
AYDN				*i* S	**Sn**	**18 16 53.9**	**-3.7**
ATHAL	**Athalassa**	**2.57**	**126**	S	**Sn**	**18 16 58.7**	**+1.3**
MANT	**Manisa**	**2.57**	**316**	*i* P	**Pn**	**18 16 29.2**	**+1.7**
MANT				*i* S	**Sn**	**18 16 53.0**	**-4.9**
LFK	**Lefkose**	**2.58**	**122**	PN	**Pn**	**18 16 29.4**	**+1.8**
DAT	**Datca**	**2.62**	**272**	PN	**Pn**	**18 16 29.9**	**+1.7**
CSS	**Mathiatis**	**2.64**	**129**	PN	**Pn**	**18 16 30.2**	**+1.9**
CSS	**Mathiatis**	**2.64**	**129**	P	**Pn**	**18 16 28.4**	**+0.1**
KIZK	**Mersin**	**2.66**	**93**	*i* P	Pn	18 16 32.3	+3.7
KIZK				*i* S	**Sn**	**18 16 58.4**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**2.68**	**299**	PN	**Pn**	**18 16 31.0**	**+2.1**
CIFT	**Cifteler, Eski**	**2.70**	**4**	PN	**Pn**	**18 16 31.8**	**+2.6**
ASGA	**Asgata**	**2.71**	**133**	⇓P	**Pn**	**18 16 30.2**	**+1.0**
ASGA				AML	AML	18 17 12.9	
	comp=E,0.4nm,0.4s						
ASGA				AML	AML	18 17 13.8	
	comp=E,0.5nm,1.0s						
BDRM	**Kayabasi**	**2.75**	**279**	*i* P	**Pn**	**18 16 31.8**	**+1.9**
BDRM				*i* S	Sn	18 16 54.5	-7.6
MVOU	**Mavrovouni**	**2.80**	**125**	P	**Pn**	**18 16 30.2**	**-0.2**
BODT	**Bodrum**	**2.86**	**279**	PN	**Pn**	**18 16 33.4**	**+2.1**
ANDZ	**Kutahya, Merke**	**2.94**	**346**	*i* P	**Pn**	**18 16 34.2**	**+1.8**
ANDZ				*i* S	**Sn**	**18 17 01.5**	**-5.1**
NIS1	**Nisyros Isl.**	**2.95**	**270**	PN	**Pn**	**18 16 34.2**	**+1.7**
KKUL	**Konya-Kulu**	**2.99**	**33**	*i* P	**Pn**	**18 16 35.4**	**+2.2**
KKUL				*i* S	**Sn**	**18 17 02.4**	**-5.6**
GCAM	**G?zelcaml?**	**3.06**	**291**	*i* P	**Pn**	**18 16 35.7**	**+1.7**
GCAM				*i* S	Sn	18 16 59.8	-10
OSC1	**CSNet OBS 1**	**3.18**	**173**	P	**Pn**	**18 16 36.2**	**+0.6**
BORA	**Eskisehir**	**3.23**	**355**	*i* P	**Pn**	**18 16 38.0**	**+1.7**
BORA				*i* S	Sn	18 17 05.9	-7.8
DURS	**Dursunbey**	**3.48**	**328**	*i* P	**Pn**	**18 16 42.0**	**+2.2**
DURS				*i* S	Sn	18 17 13.0	-6.7
BILE	**Bilecik/Merkez**	**3.57**	**348**	*i* P	**Pn**	**18 16 42.9**	**+1.8**
BILE				*i* S	Sn	18 17 11.9	-10
STEP	**BALIKESIR_Sava**	**3.66**	**319**	*i* P	**Pn**	**18 16 44.6**	**+2.3**
STEP				*i* S	Sn	18 17 16.0	-8.2
STEP				IAML		18 17 27.0	
	comp=E,68nm,0.3s						
STEP				IAML		18 17 29.0	
	comp=N,60nm,0.8s						
ULDT	**Uludag**	**3.72**	**339**	*i* P	**Pn**	**18 16 46.3**	**+3.1**
BRTR	**Keskin Array B**	**3.77**	**35**	P	**Pn**	**18 16 45.2**	**+1.4**
	comp=N,0.8nm,0.3s,baz=227,slow=16,SNR=35						
BRTR				S	**Sn**	**18 17 28.1**	**+1.2**
	comp=N,2.2nm,0.3s,baz=204,slow=25,SNR=23						
APE	**Apeiranthos**	**4.28**	**277**	P	**Pn**	**18 16 52.5**	**+1.8**
IDI	**Anoyia**	**5.02**	**256**	P	**Pn**	**18 17 03.8**	**+2.9**
	comp=N,0.5nm,0.3s,baz=53,slow=17,SNR=6.7						
IDI				S	**Sn**	**18 17 56.0**	**-1.6**
	comp=N,2.8nm,0.3s,baz=244,slow=17,SNR=7.4						
MMAI	**Mount Meron Ar**	**5.22**	**133**	P	**Pn**	**18 17 03.7**	**0.0**
	comp=N,7.7nm,0.3s,baz=321,slow=12,SNR=52						
MMAI				S	**Sn**	**18 17 59.6**	**-3.0**
	comp=N,6.3nm,0.3s,baz=309,slow=27,SNR=9.2						
MMAI				LR	LR	18 20 31.4	
	comp=N,21nm,19.2s,baz=80,slow=56						
MATC	**Matruh**	**6.09**	**211**	P	**Pn**	**18 17 12.9**	**-2.6**
	baz=209						
KOT	**Kottamia**	**6.77**	**173**	P	**Pn**	**18 17 25.3**	**+0.5**
	baz=168						
KOT				AMP		18 18 00.0	
	baz=168						
HHAG	**Hagoal**	**6.78**	**171**	P	**Pn**	**18 17 25.4**	**+0.5**
	baz=166						
HHAG				AMP		18 18 00.0	
	baz=166						
HMYD	**Mayadein**	**6.85**	**180**	P	**Pn**	**18 17 25.7**	**-0.2**
	baz=176						
SLUM	**Salum**	**6.96**	**224**	P	**Pn**	**18 17 26.5**	**-0.9**
	baz=224						
SLUM				AMP		18 18 00.0	
	baz=224						
SUZ	**Suez**	**7.01**	**166**	P	**Pn**	**18 17 28.1**	**+0.1**
	baz=161						
HNAT	**Natroun**	**7.01**	**182**	P	**Pn**	**18 17 27.2**	**-0.9**
	baz=178						
HNAT				S	Sn	18 18 37.9	-8.5
	baz=178						
HSAF	**As Saff**	**7.05**	**175**	P	**Pn**	**18 17 28.6**	**0.0**
	baz=171						
GLL	**Jalalah**	**7.11**	**174**	P	**Pn**	**18 17 28.9**	**-0.5**
	baz=170						
RYAN	**Fayoum**	**7.58**	**184**	P	**Pn**	**18 17 35.2**	**-0.6**
	baz=181						
RYAN				S	Sn	18 18 51.0	-9.2
	baz=181						
EIL	**Elat**	**7.78**	**153**	P	**Pn**	**18 17 37.7**	**-0.9**
	comp=N,2.8nm,0.3s,baz=255,slow=2.3,SNR=16						
EIL				S	**Sn**	**18 18 59.8**	**-5.3**
	comp=N,1.0nm,0.3s,baz=130,slow=5.3,SNR=6.9						
HFRF	**Wahat Farafira**	**9.73**	**193**	P	**Pn**	**18 18 03.6**	**-1.6**
	baz=192						
HDK1	**Dakhla**	**11.15**	**187**	P	**Pn**	**18 18 24.1**	**-0.6**
	baz=185						
AKASG	**Malin Array Be**	**14.08**	**356**	P	**P**	**18 19 09.4**	**-0.4**
	comp=N,0.2nm,0.3s,baz=171,slow=8.9,SNR=7.7						
MKAR	**Makanchi Array**	**39.08**	**58**	P	**P**	**18 23 09.7**	**+1.2**
	comp=N,0.3nm,0.6s,baz=261,slow=10,SNR=1.9						

*IDC **14** 18:17:08.0±0.7,36.˝31N×97.˝54W,h0km,mb4.0/5, mb1 4.1/13,mb1mx3.7/62,mbtmp3.9/13,ML3.7/8,MS3.1/18, Ms1 3.1/18,ms1mx3.0/42,Error ellipse: s-maj=11.6km s-min=9.1km az=149.0*
*NEIC **14** 18:17:08.9±1.7,36.˝30N±0.˝02×97.˝50W±0.˝05,h5km±2km, Error ellipse: s-maj=7.0km s-min=3.0km az=247.0*
*ANF **14** 18:17:08.9±0.2,36.˝32N×97.˝54W,h6km,ML5.0/21,Error ellipse: s-maj=3.1km s-min=2.5km az=112.0*
*TUL **14** 18:17:09±1.7,36.˝29N±0.˝02×97.˝52W±0.˝05,h6km±6km, ML4.0,mb4.0/7(NEIC),mb_Lg4.3/134(NEIC), Mwr4.0/59(NEIC),Error ellipse: s-maj=6.3km s-min=1.6km az=66.0*
*NEIC **14** 18:17:09,36.˝29N×97.˝52W,h5km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.04; Mθθ1.14; Mϕϕ-1.18; Mrθ-0.18; Mθϕ0.22; Mϕr-0.02; Fault plane solution: M₀1.19000×10¹⁵ NP1:ϕs219.36000°, δ83.90000°,λ173.52000°. NP2:ϕs310.06000°,δ83.55000°, λ6.14000°. Principal axes: T 1.1866, Plg9.0000°, Azm175.0000°; N 0.0121, Plg81.0000°, Azm356.0000°; P -1.1987, Plg0.0000°, Azm265.0000°;*

ISC 14 18:17:08.5±1.0,**36.29N**±0.02×**97.52W**±0.02,**h8**km±7km, **n230,**σ1ϕ**19**/217,**mb4.1**/4,**MS3.0**/8,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.43**	**299**		**Pg**	**18 17 17.5**	**+0.6**
CROK				Sg	**Sg**	**18 17 23.6**	**+1.0**
OK029	**Liberty Lake**	**0.50**	**174**		**Pg**	**18 17 18.6**	**+0.4**
OK029				Sg	**Sg**	**18 17 24.7**	**-0.1**
BLOK	**Blackwell**	**0.53**	**28**		**Pg**	**18 17 19.4**	**+0.7**
BLOK				Sg	**Sg**	**18 17 26.4**	**+0.8**
GC02	**Grant County #**	**0.62**	**334**		**Pg**	**18 17 21.0**	**+0.5**
BCOK	**Bluff Creek, N**	**0.64**	**187**		**Pg**	**18 17 21.2**	**+0.3**
BCOK				Sg	**Sg**	**18 17 28.9**	**-0.3**
OK031	**S. Brethren Rd**	**0.65**	**122**		**Pg**	**18 17 21.4**	**+0.4**
OK031				Sg	**Sg**	**18 17 29.9**	**+0.4**
QUOK	**Quay**	**0.67**	**100**		**Pg**	**18 17 21.9**	**+0.5**
QUOK				IAmb_Lg		18 17 29.7	
	comp=Z,2μm,0.7s						
QUOK				Sg	**Sg**	**18 17 30.6**	**+0.5**
OK005	**Luther M Schoo**	**0.69**	**157**		**Pg**	**18 17 22.2**	**+0.4**
OK030	**Cody Creek RV**	**0.70**	**121**		**Pg**	**18 17 22.4**	**+0.4**
OK030				Sg	**Sg**	**18 17 31.4**	**+0.3**
OK009	**Oakdale Elemen**	**0.71**	**174**		**Pg**	**18 17 22.4**	**+0.1**
KAN13	**South Haven SW**	**0.72**	**3**	Pg	**Pg**	**18 17 22.8**	**+0.4**
KAN13				Sg	**Sg**	**18 17 31.9**	**+0.1**
OK025	**Westminster Rd**	**0.73**	**168**		**Pg**	**18 17 22.8**	**+0.2**
KAN14	**Manchester OK**	**0.75**	**332**		**Pg**	**18 17 23.4**	**+0.4**
KAN14				Sg	**Sg**	**18 17 32.6**	**-0.2**
OK032	**Salt Plains WL**	**0.76**	**313**		**Pg**	**18 17 23.4**	**+0.3**
OK032				Sg	**Sg**	**18 17 33.3**	**+0.4**
KAN17	**Caldwell West**	**0.77**	**345**		**Pg**	**18 17 23.8**	**+0.3**
KAN17				Sg	**Sg**	**18 17 34.1**	**+0.5**
KAN09	**Caldwell North**	**0.84**	**355**		**Pg**	**18 17 25.1**	**+0.3**
KAN05	**Bluff City Nor**	**0.86**	**341**		**Pg**	**18 17 25.5**	**+0.4**
KAN05				Sg	**Sg**	**18 17 36.0**	**-0.3**
OKCFA	**Oklahoma City**	**0.88**	**176**		**Pg**	**18 17 25.4**	**0.0**
OKCFA				IAmb_Lg		18 17 36.6	
	comp=Z,3μm,0.9s						
OKCFA	**Oklahoma City**	**0.88**	**176**	P	**Pg**	**18 17 25.5**	**0.0**
	baz=356,SNR=137						
OKCFA				S	**Sg**	**18 17 37.7**	**+0.8**
	baz=356						
OKCFA	**Oklahoma City**	**0.88**	**176**	P		18 17 25.5	
	baz=356,SNR=137						
OKCFA				S		18 17 37.7	
	baz=356						
OKCSW	**OKLAHOMA CITY**	**0.89**	**176**		**Pg**	**18 17 25.6**	**0.0**
KS20	**Mayfield South**	**0.93**	**358**	Pg	**Pg**	**18 17 26.8**	**+0.2**
KAN10	**Anthony SW Sta**	**0.95**	**331**	Pg	**Pg**	**18 17 26.9**	**+0.2**
KAN08	**Anthony NE Sta**	**1.00**	**339**	Pg	**Pg**	**18 17 27.9**	**+0.1**
T35A	**Sooner Cattle**	**1.02**	**52**		**Pg**	**18 17 28.3**	**+0.2**
T35B	**Sooner Cattle**	**1.02**	**52**	P	**Pb**	**18 17 28.5**	**+0.1**
	baz=232,SNR=680						
T35B				S	**Sb**	**18 17 42.0**	**-0.1**
	baz=232						
T35B	**Sooner Cattle**	**1.02**	**52**	P		18 17 28.5	
	baz=232,SNR=680						
T35B				S		18 17 42.0	
	baz=232						
KAN16	**Harper SW Stat**	**1.03**	**335**	Pg	**Pg**	**18 17 28.5**	**+0.2**
FNO	**Franklin**	**1.04**	**175**		**Pg**	**18 17 28.2**	**-0.3**
FNO				IAmb_Lg		18 17 42.3	
	comp=Z,4μm,1.0s						
U32A	**Winter Ranch,**	**1.20**	**275**		**Pg**	**18 17 31.1**	**-0.4**
U32A	**Winter Ranch,**	**1.20**	**275**	P	**Pg**	**18 17 31.1**	**-0.4**
	baz=94						
U32A				S	**Sb**	**18 17 47.9**	**+0.7**
	baz=94						
U32A	**Winter Ranch,**	**1.20**	**275**	P		18 17 31.1	
	baz=94						
U32A				S		18 17 47.9	
	baz=94						
TUL1	**Leonard**	**1.45**	**105**	P	**Pn**	**18 17 35.2**	**+0.2**
	baz=286,SNR=463						
TUL1				S	**Sn**	**18 17 54.9**	**+0.7**
	baz=286						
TUL1	**Leonard**	**1.45**	**105**	P		18 17 35.1	
	baz=286,SNR=706						
TUL1				S		18 17 55.1	
	baz=286						
TUL1	**Leonard**	**1.45**	**105**	P		18 17 35.2	
	baz=286,SNR=463						
TUL1				S		18 17 54.9	
	baz=286						
X34A	**Smith Ranch, M**	**1.71**	**189**		**Pn**	**18 17 40.2**	**+1.6**
X34A				IAmb_Lg		18 18 05.0	
	comp=Z,877nm,0.7s						
WMOK	**Wichita Mounta**	**1.86**	**214**		**Pn**	**18 17 41.6**	**+0.9**
WMOK	**Wichita Mounta**	**1.86**	**214**	P	**Pn**	**18 17 41.7**	**+0.9**
	baz=33,SNR=1000						
WMOK				S	**Sb**	**18 18 06.7**	**+0.4**
	baz=33						
WMOK	**Wichita Mounta**	**1.86**	**214**	P		18 17 41.7	
	baz=33,SNR=758						
WMOK				S		18 18 06.8	
	baz=33						
WMOK	**Wichita Mounta**	**1.86**	**214**	P		18 17 41.7	
	baz=33,SNR=1000						
WMOK				S		18 18 06.7	
	baz=33						
LOOK	**Love County**	**2.31**	**173**		**Pn**	**18 17 48.3**	**+1.4**
LOOK				IAmb_Lg		18 18 26.9	
	comp=Z,785nm,0.7s						
R32A	**Long Quarter,**	**2.33**	**336**		**Pn**	**18 17 48.2**	**+1.1**
R32A	**Long Quarter,**	**2.33**	**336**	P	**Pn**	**18 17 48.3**	**+1.2**
	baz=156,SNR=119						
R32A				S	**Sn**	**18 18 17.9**	**+2.0**
	baz=156						
R32A	**Long Quarter,**	**2.33**	**336**	P		18 17 48.3	
	baz=156,SNR=119						
R32A				S		18 18 17.9	
	baz=156						
X37A	**Clayton**	**2.44**	**134**		**Pn**	**18 17 50.0**	**+1.3**
X37A				IAmb_Lg		18 18 29.0	
	comp=Z,2μm,0.7s						
X37A	**Clayton**	**2.44**	**134**	P	**Pn**	**18 17 50.2**	**+1.5**
	baz=315,SNR=133						
X37A			

ABTX Abilene, Hawle 4.06 206 Pn 18 18 12.2 +1.2
ABTX IAmb_Lg 18 19 19.2
comp=Z,729nm,0.9s
ABTX Abilene, Hawle 4.06 206 P Pn 18 18 12.1 +1.1
baz=25,SNR=14
ABTX Abilene, Hawle 4.06 206 P 18 18 12.0
baz=25,SNR=47
ABTX Abilene, Hawle 4.06 206 P 18 18 12.1
baz=25,SNR=14
WHTX Lake Whitney, 4.29 179 Pn 18 18 14.5 +0.4
WHTX Lake Whitney, 4.29 179 P Pn 18 18 15.3 +1.1
baz=359,SNR=16
WHTX Lake Whitney, 4.29 179 P 18 18 15.4
baz=359,SNR=7.1
WHTX Sb 18 19 21.6
baz=359
WHTX Lake Whitney, 4.29 179 P 18 18 15.3
baz=359,SNR=16
MGMO Mountain Grove 4.30 77 Pn 18 18 15.8 +1.6
MGMO IAmb_Lg 18 19 31.4
comp=Z,777nm,0.9s
WHAR Wooly Hollow 4.37 102 Pn Pn 18 18 16.6 +1.5
WHAR IAmb_Lg 18 19 31.2
comp=Z,731nm,0.8s
FCAR Ozark Folk Cen 4.39 94 Pn 18 18 16.5 +1.1
FCAR IAmb_Lg 18 19 37.3
comp=Z,318nm,0.7s
W41B Gary Mavity, V 4.43 103 P Pn 18 18 17.3 +1.3
baz=286,SNR=31
W41B Gary Mavity, V 4.43 103 Pn 18 18 17.2
baz=286,SNR=26
W41B Pb 18 18 26.8
baz=286
W41B S 18 19 08.6
baz=286
W41B Gary Mavity, V 4.43 103 P 18 18 17.3
baz=286,SNR=31
N33B J Bar K, Exete 4.44 1 P Pn 18 18 16.5 +0.4
baz=181,SNR=18
N33B J Bar K, Exete 4.44 1 P 18 18 16.5
baz=181,SNR=18
N33A J Bar K, Exete 4.44 1 Pn 18 18 16.6 +0.5
N33A IAmb_Lg 18 19 40.6
comp=Z,346nm,0.8s
WLAR White Oak Lake 4.45 124 Pn Pn 18 18 18.1 +1.8
WLAR IAmb_Lg 18 19 39.3
comp=Z,674nm,0.8s
237A Washetta, Mont 4.51 161 Pn 18 18 16.2 -0.9
237A IAmb_Lg 18 19 42.0
comp=Z,401nm,0.9s
237A Washetta, Mont 4.51 161 P Pn 18 18 17.5 +0.4
baz=342,SNR=15
237A Washetta, Mont 4.51 161 P 18 18 17.5
baz=342,SNR=15
P38A Dawn 4.58 42 Pn Pn 18 18 18.0 0.0
P38A IAmb_Lg 18 19 45.2
comp=Z,474nm,0.8s
R40A Maddies Statio 4.64 63 Pn 18 18 20.0 +1.2
R40A Maddies Statio 4.64 63 P Pn 18 18 20.0 +1.2
baz=246,SNR=73
R40A Maddies Statio 4.64 63 P 18 18 20.0
baz=246,SNR=73
N35A Tabor 4.79 17 Pn 18 18 22.0 +1.0
N35A Tabor 4.79 17 P Pn 18 18 21.6 +0.7
baz=198,SNR=16
N35A Tabor 4.79 17 P 18 18 21.6
baz=198,SNR=16
KSCO Kaye Shedlock' 4.88 305 Pn 18 18 23.6 +1.3
KSCO IAmb_Lg 18 19 55.1
comp=Z,377nm,0.9s
KSCO Kaye Shedlock' 4.88 305 P 18 18 24.0
baz=122
MSTX Muleshoe 4.89 243 Pn 18 18 23.4 +0.9
MSTX Muleshoe 4.89 243 P 18 18 23.4
baz=60,SNR=6.1
Z41A Richland Creek 4.92 127 P Pn 18 18 23.7 +0.9
baz=309,SNR=12
Z41A Richland Creek 4.92 127 P 18 18 23.9
baz=309,SNR=23
Z41A S 18 19 19.0
baz=309
Z41A Richland Creek 4.92 127 P 18 18 23.7
baz=309,SNR=12
Z41A P 18 18 23.7
baz=309,SNR=12
NATX Nacogdoches 5.11 152 Pn 18 18 26.0 +0.7
NATX IAmb_Lg 18 20 04.8
comp=Z,335nm,0.8s
BGNE Belgrade 5.13 355 P 18 18 26.3
baz=174,SNR=13
BGNE Belgrade 5.13 355 P 18 18 26.2
baz=174,SNR=12
BGNE Belgrade 5.13 355 Pn Pn 18 18 26.1 +0.5
BGNE IAmb_Lg 18 19 58.3
comp=Z,317nm,0.8s
BGNE Belgrade 5.13 355 P Pn 18 18 26.2 +0.5
baz=174,SNR=12
CCAR Cane Creek 5.27 115 IAmb_Lg 18 20 02.9
comp=Z,717nm,0.8s
CCM Cathedral Cave 5.31 69 Pn 18 18 28.7 +0.6
CCM IAmb_Lg 18 19 56.8
comp=Z,429nm,0.8s
P40A Paris 5.40 52 Pn Pn 18 18 30.1 +0.8
P40A IAmb_Lg 18 20 07.4
comp=Z,675nm,0.8s
435B Jarrell 5.50 181 Pn Pn 18 18 31.2 +0.5
435B IAmb_Lg 18 20 15.3
comp=Z,277nm,0.8s
435B Jarrell 5.50 181 P Pn 18 18 31.4 +0.7
baz=0.5,SNR=25
435B Jarrell 5.50 181 P 18 18 31.4
baz=0.5,SNR=16
435B Jarrell 5.50 181 P 18 18 31.4
baz=0.5,SNR=25
T25A Trinidad 5.60 281 Pn Pn 18 18 33.1 +0.8
T25A Trinidad 5.60 281 P 18 18 33.3
baz=97,SNR=14
N38A Joes South For 5.61 35 Pn 18 18 32.3 +0.1
N38A IAmb_Lg 18 20 16.4
comp=Z,752nm,0.8s
N38A Joes South For 5.61 35 P Pn 18 18 32.1 -0.1
baz=218,SNR=11
N38A Joes South For 5.61 35 P 18 18 32.1
baz=218,SNR=11
L34A Svendsen Farm, 5.73 9 Pn 18 18 34.4 +0.5
OGNE Ogallala 5.84 324 IAmb_Lg 18 20 21.2
comp=Z,312nm,0.8s
OGNE Ogallala 5.84 324 P 18 18 37.3
baz=142
FVM French Village 5.91 71 Pn 18 18 37.0 +0.7
FVM IAmb_Lg 18 20 17.6
comp=Z,502nm,0.8s
FVM French Village 5.91 71 P Pn 18 18 37.1 +0.7
baz=256,SNR=19
FVM French Village 5.91 71 P 18 18 37.1
baz=256,SNR=19
GNAR Gosnell 6.08 91 IAmb_Lg 18 20 24.4
comp=Z,720nm,0.8s
JCT Junction City 6.11 199 P 18 18 39.5
baz=18
143A Socs Landing, 6.19 124 Pn 18 18 40.7 +0.5
143A IAmb_Lg 18 20 30.5
comp=Z,614nm,0.8s
MET Memphis--Engin 6.28 99 IAmb_Lg 18 20 41.9
comp=Z,444nm,0.8s
LNXT Lenox 6.49 89 IAmb_Lg 18 20 39.6
comp=Z,669nm,0.9s
HENM Henderson Moun 6.50 84 IAmb_Lg 18 20 45.2
comp=Z,654nm,0.8s
SCIA State Center 6.53 30 Pn Pn 18 18 45.6 +0.9
SCIA IAmb_Lg 18 20 44.2
comp=Z,560nm,0.8s
SCIA State Center 6.53 30 P Pn 18 18 45.7 +0.9
baz=212,SNR=20
SCIA State Center 6.53 30 P 18 18 45.9
baz=212,SNR=5.8
SCIA State Center 6.53 30 P 18 18 45.7
baz=212,SNR=20
SDCO Great Sand Dun 6.55 285 Pn 18 18 46.8 +1.4
SDCO Great Sand Dun 6.55 285 P 18 18 47.2
baz=100,SNR=44
Q24A Divide 6.62 296 P 18 18 46.8
baz=112
HALT Halls 6.63 91 IAmb_Lg 18 20 57.9
comp=Z,455nm,1.0s
S44A Carbondale 6.76 76 Pn 18 18 49.0 +1.0
S44A IAmb_Lg 18 20 50.6
comp=Z,509nm,0.8s
S44A Carbondale 6.76 76 P Pn 18 18 48.3 +0.3
baz=260,SNR=13
S44A Carbondale 6.76 76 P 18 18 48.3
baz=260,SNR=13
SIUC Southern Illin 6.79 75 Pn 18 18 49.8 +1.4
SIUC IAmb_Lg 18 20 49.3
comp=Z,597nm,0.8s
OXF Oxford 6.86 103 IAmb_Lg 18 21 01.7
comp=Z,440nm,0.9s
OXF Oxford 6.86 103 P 18 18 50.0
baz=287,SNR=18
W45A Hickory Valley 6.87 97 IAmb_Lg 18 20 50.7
comp=Z,513nm,1.0s
Y45A Yeager Farm, C 6.97 108 Pn Pn 18 18 51.9 +1.0
Y45A IAmb_Lg 18 21 08.2
comp=Z,224nm,0.7s
P43A Skaggs, Pawnee 7.14 60 Pn Pn 18 18 54.6 +1.3
Q44A Meyer Farm, Va 7.23 66 Pn 18 18 56.3 +1.8
ISCO Idaho Springs 7.28 301 Pn 18 18 56.2 +0.8
ISCO Idaho Springs 7.28 301 P 18 18 56.3
baz=116,SNR=6.2
K38A Parkersburg 7.33 29 Pn 18 18 55.7 -0.1
ANMO Albuquerque 7.40 262 Pn Pn 18 18 57.3 +0.3
comp=Z,0.3nm,0.3s,baz=90,slow=18,SNR=5.7
ANMO Pg Pb 18 19 24.2 +6.8
comp=Z,3.8nm,0.3s,baz=84,slow=16,SNR=26
ANMO Lg Lg 18 20 60.0
comp=Z,8.1nm,0.3s,baz=15,slow=19,SNR=6.2
ANMO LR LR 18 22 09.7
comp=Z,227nm,21.3s,baz=74,slow=41
735A Kenedy 7.42 182 IAmb_Lg 18 21 19.6
comp=Z,392nm,1.3s
344A Westbrook Farm 7.43 129 IAmb_Lg 18 21 23.1
comp=Z,224nm,1.2s
ECSD EROS Data Cent 7.46 5 Pn Pn 18 18 57.2 -0.4
ECSD IAmb_Lg 18 21 07.5
comp=Z,186nm,1.3s
ECSD EROS Data Cent 7.46 5 P Pn 18 18 57.2 -0.4
baz=186,SNR=76
ECSD EROS Data Cent 7.46 5 P 18 18 57.4
baz=186,SNR=44
ECSD EROS Data Cent 7.46 5 P 18 18 57.2
baz=186,SNR=76
L40A Anamosa 7.55 38 Pn Pn 18 18 58.3 -0.6
L40A IAmb_Lg 18 21 17.7
comp=Z,369nm,0.9s
L40A Anamosa 7.55 38 P Pn 18 18 58.8 -0.1
baz=222,SNR=15
L40A Anamosa 7.55 38 P 18 18 58.8
baz=222,SNR=15
HDIL Hopedale 7.73 54 Pn Pn 18 19 02.4 +1.1
HDIL Hopedale 7.73 54 P 18 19 02.7
baz=239,SNR=40
HDIL S 18 20 25.5
baz=239
PLAL Pickwick Lake 7.80 97 IAmb_Lg 18 21 17.9
comp=Z,185nm,0.8s
146A Union 7.88 115 Pn 18 19 03.3 -0.2
PHWY Pilot Hill 7.96 311 Pn 18 19 05.5 +0.7
PHWY IAmb_Lg 18 21 32.4
comp=Z,280nm,1.0s
MNTX Cornudas Mount 7.98 237 Pn Pn 18 19 04.9 +0.1
MNTX Cornudas Mount 7.98 237 P Pn 18 19 05.3 +0.6
baz=53,SNR=7.9
MNTX Cornudas Mount 7.98 237 P 18 19 05.0
baz=53,SNR=11
MNTX Cornudas Mount 7.98 237 P 18 19 05.3
baz=53,SNR=7.9
Y22D IRIS PASSCAL I 8.01 257 IAmb_Lg 18 21 31.4
comp=Z,432nm,0.9s
SMCO Snowmass 8.03 294 IAmb_Lg 18 21 34.9
comp=Z,173nm,1.3s
N23A Red Feather La 8.04 307 P 18 19 07.3
baz=122,SNR=9.1
O44A Mansfield 8.10 59 Pn 18 19 07.5 +1.1
O44A IAmb_Lg 18 21 31.8
comp=Z,367nm,0.8s
SUSD Miller 8.21 353 IAmb_Lg 18 21 50.5
comp=Z,168nm,0.9s
I37A Lemond, Waseca 8.33 21 IAmb_Lg 18 21 44.4
comp=Z,341nm,1.1s
L42A Oliver, Polo 8.35 45 IAmb_Lg 18 21 41.7
comp=Z,490nm,0.8s
Z47A Carrollton 8.37 109 Pn Pn 18 19 11.3 +1.2
T47A Sharon Grove 8.40 82 Pn 18 19 11.4 +0.9
TX31 Lajitas Ar. Si 8.65 218 Pn 18 19 14.2 +0.1
TX32 Lajitas Array 8.65 218 Pn 18 19 14.6 +0.4
TXAR Lajitas Array 8.65 218 Pn Pn 18 19 13.5 -0.7
comp=Z,0.6nm,0.3s,baz=40,slow=11,SNR=34
TXAR Pg Pg 18 19 36.0 -18
comp=Z,1.4nm,0.3s,baz=34,slow=11,SNR=4.8
TXAR Lg Lg 18 21 31.5
comp=Z,3.7nm,0.3s,baz=84,slow=16,SNR=3.7
TXAR LR LR 18 22 47.4
comp=Z,95nm,21.5s,baz=0.0,slow=39
TXAR Lajitas Array 8.65 218 Pn Pn 18 19 14.8 +0.6
JFWS Jewell Farm 8.67 38 Pn 18 19 13.4 -0.8
JFWS IAmb_Lg 18 21 42.9
comp=Z,309nm,0.8s
JFWS Jewell Farm 8.67 38 P Pn 18 19 13.7 -0.5
baz=223,SNR=16
JFWS Jewell Farm 8.67 38 P 18 19 13.9
baz=223,SNR=17
JFWS Jewell Farm 8.67 38 P 18 19 13.7
baz=223,SNR=16
M44A Midewin, Midew 8.97 53 Pn Pn 18 19 19.0 +0.7
CLTN Cedars of Leba 9.05 88 IAmb_Lg 18 21 57.2
comp=Z,129nm,1.0s
SFIN Lafayette 9.15 60 Pn 18 19 22.2 +1.5
SFIN IAmb_Lg 18 22 05.5
comp=Z,371nm,0.9s
SFIN Lafayette 9.15 60 P 18 19 23.6
baz=247
WCI Wyandotte Cave 9.15 74 Pn Pn 18 19 21.8 +1.0
WCI IAmb_Lg 18 22 07.7
comp=Z,313nm,1.0s
WCI Wyandotte Cave 9.15 74 P Pn 18 19 21.5 +0.6
baz=261,SNR=24
WCI Wyandotte Cave 9.15 74 P 18 19 23.1
baz=261
WCI Wyandotte Cave 9.15 74 P 18 19 21.5
baz=261,SNR=24
I40A Norwalk 9.24 33 Pn 18 19 21.4 -0.7
I40A IAmb_Lg 18 22 08.0
comp=Z,179nm,0.9s
I40A Norwalk 9.24 33 P Pn 18 19 21.6 -0.5
baz=217,SNR=14
I40A Norwalk 9.24 33 P 18 19 21.6
baz=217,SNR=14
RWWY Rawlins 9.27 308 IAmb_Lg 18 22 10.0
comp=Z,158nm,0.9s
RSSD Black Hills 9.27 329 IAmb_Lg 18 22 23.1
comp=Z,162nm,1.1s
K22A Casper 9.42 315 IAmb_Lg 18 22 31.3
comp=Z,319nm,1.0s
Y49A Blount Mountai 9.42 102 Pn 18 19 26.2 +1.6
U49A Red Boiling Sp 9.47 85 Pn 18 19 26.9 +1.7
U49A IAmb_Lg 18 22 06.1
comp=Z,118nm,1.0s
SWET Sewanee 9.48 93 Pn 18 19 25.5 +0.1
L44A Lake County Fo 9.49 49 Pn 18 19 25.6 +0.2
K43A Burlington 9.55 45 Pn 18 19 25.1 -1.2
F33A 5 Mile Ranch, 9.58 5 Pn 18 19 25.5 -1.2
SPMN Marine on St. 9.61 20 Pn 18 19 25.4 -1.7
SPMN IAmb_Lg 18 22 39.2
comp=Z,115nm,0.8s
SPMN Marine on St. 9.61 20 P 18 19 25.5
baz=203,SNR=9.9
FPAL Fort Paine 9.88 97 Pn 18 19 30.8 0.0
W50A Signal Mountai 9.98 93 IAmb_Lg 18 22 42.0
comp=Z,184nm,0.9s
F36A Milaca 10.02 16 Pn Pn 18 19 30.9 -1.8
R49A Shelbyville 10.04 75 Pn 18 19 33.0 0.0
I42A Draeger Farm, 10.05 38 Pn Pn 18 19 32.3 -0.8
I42A Draeger Farm, 10.05 38 P Pn 18 19 31.9 -1.1
baz=224,SNR=16
I42A Draeger Farm, 10.05 38 P 18 19 31.9
baz=224,SNR=16
P48A Milroy 10.07 68 Pn 18 19 33.1 -0.3
T50A Nancy 10.21 82 Pn 18 19 34.9 -0.5
250A Grady 10.27 112 Pn 18 19 35.8 -0.3
N47A Urbana 10.32 60 Pn 18 19 36.6 -0.3
X51A Calhoun 10.47 96 Pn 18 19 38.9 -0.1
CPCT Cooper Cave 10.58 91 Pn Pn 18 19 41.3 +0.9
P49A Miami Univ. Ec 10.62 68 Pn 18 19 40.1 -0.8
P49A Miami Univ. Ec 10.62 68 P 18 19 41.5
baz=256,SNR=7.9
V51A Loudon 10.67 89 Pn 18 19 43.4 +1.7
R50A Paris 10.70 75 Pn 18 19 43.3 +1.4
H43A Windswept, Lux 11.04 39 Pn Pn 18 19 45.2 -1.4
H43A Windswept, Lux 11.04 39 P Pn 18 19 45.6 -1.0
baz=226,SNR=8.4
H43A Windswept, Lux 11.04 39 P 18 19 45.6
baz=226,SNR=8.4
O49A Covington 11.07 65 Pn Pn 18 19 46.7 -0.4
TKL Tuckaleechee C 11.16 89 Pn Pn 18 19 48.0 -0.3
comp=Z,0.5nm,0.3s,baz=217,slow=6.5,SNR=9.6
TKL Lg Lg 18 22 52.4
comp=Z,3.2nm,0.3s,baz=0.0,slow=20,SNR=8.5
TKL LR LR 18 24 06.4
comp=Z,184nm,19.1s,baz=278,slow=38
TKL Tuckaleechee C 11.16 89 Pn Pn 18 19 48.7 +0.4
S51A Beattyville 11.22 79 Pn 18 19 49.8 +0.6
E38A The Farm, Brul 11.23 22 Pn 18 19 47.9 -1.3
TZTN Tazewell 11.26 85 Pn 18 19 49.1 -0.6
TZTN Tazewell 11.26 85 P 18 19 51.5
baz=273
V52A Sevierville 11.28 88 Pn Pn 18 19 47.3 -2.7
PD31 Pinedale Array 11.32 308 Pn 18 19 50.6 -0.1
PDAR Pinedale Array 11.32 308 Pn Pn 18 19 50.4 -0.3
comp=Z,0.4nm,0.3s,baz=110,slow=14,SNR=4.9
PDAR Lg Lg 18 23 00.6
comp=Z,3.0nm,0.3s,baz=107,slow=39,SNR=3.8
PDAR LR LR 18 24 18.9
comp=Z,68nm,19.9s,baz=116,slow=38
N49A Columbus Grove 11.41 62 Pn Pn 18 19 50.5 -1.3
Q51A Peebles 11.56 72 Pn 18 19 54.3 +0.5
L48A N Adams 11.62 57 Pn 18 19 54.4 -0.2
COWI Conover 11.65 30 Pn 18 19 53.0 -2.0
F42A Maple Grove Fa 11.81 34 Pn 18 19 55.4 -1.7
J47A Sunmer 11.97 51 Pn 18 19 57.6 -1.8
AGMN Agassiz Nation 12.06 5 Pn Pn 18 19 57.8 -2.8
AGMN Agassiz Nation 12.06 5 P 18 19 57.8
baz=186,SNR=8.9
AAM Ann Arbor 12.29 57 Pn 18 20 01.6 -2.2
B35A Bob, Littlefor 12.38 12 Pn 18 20 02.5 -2.5
EYMN Ely 12.47 19 Pn Pn 18 20 03.2 -2.9
EYMN Ely 12.47 19 P 18 20 03.7
baz=203,SNR=8.3
R53A Hurricane 12.56 76 Pn 18 20 08.3 +0.8
P52A Corning 12.59 70 Pn Pn 18 20 08.1 +0.2
P52A Corning 12.59 70 P 18 20 08.0
baz=259,SNR=9.9
N51A Ashland 12.71 64 Pn Pn 18 20 09.7 +0.1
E43A Lone Tree Farm 12.79 35 Pn 18 20 08.0 -2.6
DGMT Dagmar 13.12 340 Pn Pn 18 20 13.3 -1.9
O53A New Philadelph 13.40 68 Pn 18 20 18.0 -1.0
O53A New Philadelph 13.40 68 P 18 20 17.8
baz=258,SNR=5.2
I49A Point Hope 13.58 51 Pn Pn 18 20 18.1 -3.3
M52A Chesterland 13.62 62 Pn 18 20 20.2 -1.8
N53A Lisbon 13.81 66 Pn 18 20 23.3 -1.2
R55A Marlinton 14.00 77 Pn Pn 18 20 26.2 -1.0
ULM Lac du Bonnet 14.00 4 Pn Pn 18 20 20.8 -6.3
comp=Z,0.8nm,0.3s,baz=186,slow=11,SNR=7.6
ULM Sn Sn 18 22 49.8 -13
comp=Z,1.2nm,0.3s,baz=239,slow=23,SNR=2.7
ULM Lg Lg 18 24 22.0
comp=Z,1.1nm,0.3s,baz=270,slow=20,SNR=4.5
ULM LR LR 18 25 54.7
comp=Z,207nm,18.1s,baz=146,slow=38
ULM Lac du Bonnet 14.00 4 Pn 18 20 23.1 -4.0
ELK Elko 14.56 293 Lg Lg 18 24 44.1
comp=Z,0.1nm,0.3s,baz=120,slow=20,SNR=2.3
T57A Hurt 14.68 82 Pn 18 20 36.0 -0.5
Q56A Snyder Ridge, 14.78 74 Pn 18 20 35.9 -1.9
M54A Oil Creek Stat 14.84 64 Pn Pn 18 20 37.5 -1.1
O56A Blue Knob Stat 15.40 69 P 18 20 44.3
baz=261
PFO Pinyon Flats O 15.76 266 Lg Lg 18 25 23.2
comp=Z,0.1nm,0.3s,baz=191,slow=16,SNR=2.0
PFO LR LR 18 27 08.7
comp=Z,142nm,18.7s,baz=32,slow=38
SSPA Standing Stone 15.97 68 Pn Pn 18 20 51.0 -2.4
SSPA Standing Stone 15.97 68 P 18 20 51.0
baz=260
SADO Sadowa 16.31 53 Pn Pn 18 20 54.6 -3.2
comp=Z,0.2nm,0.3s,baz=277,slow=17,SNR=2.2
SADO Lg Lg 18 25 32.9
comp=Z,0.9nm,0.3s,baz=324,slow=19,SNR=13
LPIG La Paz 16.41 226 LR LR 18 26 56.6
comp=Z,61nm,21.6s,baz=223,slow=36
L56A Greenwood 16.52 63 P Pn 18 20 58.7 -1.9
L56A IAmb IAmb 18 21 33.5
comp=Z,14nm,1.1s
NVAR Mina Array Bea 16.66 284 Pn Pn 18 21 04.2 +1.6
comp=Z,0.2nm,0.3s,baz=81,slow=10,SNR=8.9
NVAR LR LR 18 28 11.0
comp=Z,58nm,18.1s,baz=96,slow=40
MVL Millersville 17.05 71 Pn 18 21 05.2 -2.0
MVL IAmb IAmb 18 21 06.4
comp=Z,6.9nm,0.7s
WUPA West Chester U 17.61 71 Pn 18 21 11.6 -2.6
KSPA Keystone Colle 17.70 66 P Pn 18 21 12.9 -2.5
KSPA IAmb IAmb 18 21 15.4
comp=Z,7.5nm,0.7s
L58A Harry Jones Me 17.74 65 P 18 21 15.3
baz=258
ODNJ Ogdensburg 18.50 68 P P 18 21 22.9 -2.1
ODNJ IAmb IAmb 18 21 25.2
comp=Z,7.6nm,0.7s
NEW Newport 18.74 316 Lg Lg 18 26 51.9
baz=149,slow=18,SNR=1.9
NEW LR LR 18 28 59.4
comp=Z,31nm,18.9s,baz=129,slow=38
CMIG Matias Romero 19.27 172 P P 18 21 34.1 +0.5
comp=Z,0.2nm,0.3s,baz=326,slow=8.5,SNR=4.0
CMIG LR LR 18 30 41.8
comp=Z,23nm,21.2s,baz=39,slow=42
NCB Newcomb 19.35 60 P P 18 21 33.3 -1.1
NCB IAmb IAmb 18 21 38.3
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 20.28 293 P P 18 21 43.3 -1.4
comp=Z,2.5nm,1.0s,baz=108,slow=13,SNR=2.5
YBH LR LR 18 31 01.5
comp=Z,20nm,20.1s,baz=110,slow=41
BBB Bella Bella 26.80 316 LR LR 18 32 53.5
comp=Z,15nm,18.5s,baz=84,slow=35
JTS Las Juntas de 28.28 153 LR LR 18 35 46.8
comp=Z,23nm,18.1s,baz=101,slow=40
YKA Yellowknife Ar 28.30 343 LR LR 18 33 54.9
comp=Z,46nm,21.2s,baz=0.0,slow=36
DLBC Dease Lake 30.73 326 LR LR 18 35 09.1
comp=Z,52nm,20.5s,baz=164,slow=35
ILAR Eielson Array 40.72 330 P P 18 24 51.1 +1.8
comp=Z,1.9nm,0.8s,baz=106,slow=6.9,SNR=19
ILAR LR LR 18 42 41.8
comp=Z,32nm,20.0s,baz=201,slow=38
EKA Eskdalemuir Ar 63.35 40 P P 18 27 38.5 +0.6
comp=Z,0.9nm,0.7s,baz=286,slow=6.5,SNR=5.2
ARCES ARCESS Array B 66.62 19 P P 18 27 59.5 +0.5
comp=Z,5.7nm,1.2s,baz=353,slow=8.6,SNR=2.7
ARCES LR LR 18 57 01.7
comp=Z,41nm,18.0s,baz=325,slow=36
FINES FINESS Array B 72.42 25 P P 18 28 37.5 +2.7
comp=Z,1.0nm,0.7s,baz=302,slow=11,SNR=1.5
KSRS Korea Array 95.41 325 LR LR 19 19 22.4
comp=Z,5.2nm,18.1s,baz=250,slow=39

IDC 14 18:21:15.9±5.9, 19°.49S×177°.96W, h434km±40km, mb3.0/4, mb1 3.1/4, mb1mx2.9/40, mbtmp3.8/4, Error ellipse: s-maj=123.6km s-min=56.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.27**	**243**	P	P	18 27 56.8	-0.7
	0.8nm,0.7s,baz=107,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**44.78**	**261**	P	P	18 28 49.5	-0.1
	0.5nm,0.3s,baz=96,slow=7.6,SNR=31						
ASAR	**Alice Springs**	**44.79**	**256**	P	P	18 28 49.5	-0.1
	1.5nm,0.7s,baz=90,slow=8.0,SNR=38						
ASAR				PcP	PcP	18 30 22.3	-0.6
	0.3nm,0.5s,baz=105,slow=3.8,SNR=5.0						
ASAR				ScP	ScP	18 33 32.8	-0.6
	0.8nm,1.2s,baz=79,slow=8.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P	P	18 29 52.9	+0.4
	1.2nm,0.9s,baz=129,slow=6.5,SNR=1.9						
AKASG	**Malin Array Be**	**142.15**	**332**	PKP	PKPdf	18 39 57.1	-0.4
	0.2nm,0.2s,baz=40,slow=4.2,SNR=5.1						

IDC 14 18:30:11.6±1.9,4°26N×126°80E,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.3/41,mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=79.1km s-min=26.2km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.77**	**139**	Pn	Pn	18 31 53.7	+1.3
	0.8nm,0.3s,baz=276,slow=19,SNR=5.3						
FITZ	**Fitzroy Crossi**	**22.25**	**183**	P	P	18 35 11.2	+1.0
	0.6nm,0.4s,baz=359,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**25.17**	**163**	P	P	18 35 38.4	-0.4
	0.7nm,0.6s,baz=343,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.61**	**166**	P	P	18 36 09.1	-0.8
	0.1nm,0.6s,baz=347,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	18 40 00.5	+0.2
	0.2nm,0.5s,baz=126,slow=7.3,SNR=1.7						

*ANF **14** 18:34:51.2±0.1,35°.72N×117°.60W,h5km,ML3.6/39,Error ellipse: s-maj=1.4km s-min=1.2km az=90.0,Hypocentre not reviewed by the ISC*
*SCEDC **14** 18:34:52.3,35°.72N×117°.60W,h10km,Hypocentre not reviewed by the ISC*
*PAS **14** 18:34:52.3±1.6,35°.72N±0°.01×117°.599W±0°.009, h10km±3km,ML3.6/192,ML3.3/62(NEIC),Error ellipse: s-maj=1.5km s-min=1.0km az=177.0*
NEIC 14 18:34:51.8±1.9,35°.729N±0°.009×117°.57W±0°.01, h5km±4km,Error ellipse: s-maj=1.7km s-min=1.2km az=61.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.09**	**343**		Pg	18 34 54.7	+1.0
SRTC	**Snort**	**0.15**	**256**		Pg	18 34 55.5	+0.7
LRMC	**Laurel Mtn Rad**	**0.27**	**201**		Pg	18 34 57.2	+0.3
LRMC					Sg	18 35 01.3	+0.8
LRMC	**Laurel Mtn Rad**	**0.27**	**201**	P		18 34 57.1	
	baz=16,SNR=1000						
LRMC				S		18 35 01.1	
	baz=16						
WNMM	**Nine Mile Cany**	**0.30**	**293**		Sg	18 35 02.3	+0.8
WVPM	**Volcano Peak E**	**0.30**	**317**		Pg	18 34 57.8	+0.2
WVPM					Sg	18 35 02.3	+0.6
MPMC	**Manual Prospec**	**0.34**	**11**	P		18 34 58.6	
	baz=195						
MPMC				S		18 35 04.1	
	baz=195						
WCSM	**Coso Springs S**	**0.34**	**331**		Pg	18 34 58.7	+0.3
WCSM					Sg	18 35 03.3	+0.4
WCHM	**Chimney Peak**	**0.44**	**291**		Pg	18 35 00.1	-0.2
DTP	**Desert Tortois**	**0.51**	**207**		Pg	18 35 01.4	-0.2
QSM	**Queen of Sheba**	**0.61**	**67**		Pg	18 35 04.2	+0.6
WHFM	**Hanning Flat**	**0.64**	**267**		Pg	18 35 03.6	-0.4
WHFM					Sg	18 35 11.8	-0.6
CCAC	**Calif City Air**	**0.68**	**213**		Pg	18 35 04.6	-0.2
WLHM	**Little Horse**	**0.74**	**305**		Pg	18 35 05.5	-0.5
WLHM					Sg	18 35 15.4	-0.2
ISA	**Isabella, Lake**	**0.74**	**265**		Pg	18 35 05.4	-0.6
ISA				IAML		18 35 15.6	
	comp=E,1μm,0.5s						
ISA				IAML		18 35 15.6	
	comp=N,2μm,0.3s						
ISA	**Isabella, Lake**	**0.74**	**265**	P		18 35 05.5	
	baz=85,SNR=1000						
ISA				S		18 35 14.9	
	baz=85						
GSC	**Goldstone, Bar**	**0.75**	**124**	Pg	Pg	18 35 06.5	+0.3
GSC				IAML		18 35 19.4	
	comp=N,2μm,0.5s						
GSC	**Goldstone, Bar**	**0.75**	**124**		Sg	18 35 16.9	+1.0
GSC	**Goldstone, Bar**	**0.75**	**124**	P		18 35 06.5	
	baz=303,SNR=1000						
GSC				S		18 35 16.9	
	baz=303						
WASM	**Alta Sierra Ca**	**0.81**	**271**		Pg	18 35 06.8	-0.5
WASM					Sg	18 35 17.5	-0.2
CWC	**Cottonwood Cre**	**0.82**	**330**		Pg	18 35 07.6	0.0
CWC					Sg	18 35 18.9	+0.6
CWC	**Cottonwood Cre**	**0.82**	**330**	P		18 35 07.3	
	baz=151						
CWC				S		18 35 18.5	
	baz=151						
CGO	**Cerro Gordo**	**0.84**	**347**		Pg	18 35 07.7	-0.2
CGO					Sb	18 35 20.4	-0.4
HYS	**Haystack Butte**	**0.86**	**180**		Pg	18 35 08.0	-0.3
EDW2	**Edwards Air Fo**	**0.92**	**203**		Pg	18 35 08.5	-0.8
EDW2	**Edwards Air Fo**	**0.92**	**203**	P		18 35 08.5	
	baz=21,SNR=333						
EDW2				S		18 35 21.2	
	baz=21						
FURC	**Furnace Creek,**	**0.93**	**37**		Sb	18 35 23.5	+0.5
FURC	**Furnace Creek,**	**0.93**	**37**	P		18 35 10.2	
	baz=219,SNR=640						
FURC				S		18 35 22.6	
	baz=219						
WOFM	**Oak Flat**	**0.95**	**259**		Pg	18 35 09.1	-1.0
RRX	**Edison Barstow**	**0.97**	**151**		Pg	18 35 10.4	+0.1
RRX	**Edison Barstow**	**0.97**	**151**	P		18 35 10.4	
	baz=330,SNR=33						
RRX				S		18 35 23.7	
	baz=330						
TPO	**Tropico Hills**	**1.01**	**213**		Pg	18 35 10.4	-0.7
TEJ	**El Tejon**	**1.04**	**242**		Pg	18 35 10.6	-1.2
SBB	**Saddle Back Bu**	**1.06**	**192**		Pg	18 35 11.4	-0.7
SBB					Sb	18 35 26.6	-0.2
SHOC	**Shoshone, Teco**	**1.06**	**80**		Sb	18 35 27.4	+0.6
SHOC	**Shoshone, Teco**	**1.06**	**80**	P		18 35 11.8	
	baz=261,SNR=357						
SHOC				S		18 35 27.3	
	baz=261						
SPG2	**Springville 2**	**1.08**	**296**		Pg	18 35 11.5	-1.0
SPG2					Sg	18 35 25.9	-0.6
TJR	**Tejon Ranch**	**1.19**	**234**		Pg	18 35 13.2	-1.3
ARVC	**Arvin**	**1.20**	**240**		Pg	18 35 13.8	-0.9
ARVC	**Arvin**	**1.20**	**240**	Pg		18 35 14.1	
	baz=59,SNR=35						
ARVC				S		18 35 28.6	
	baz=59						
THC	**Tehachapi Micr**	**1.22**	**228**		Pg	18 35 14.5	-0.6
VES	**Vestal, Richgr**	**1.24**	**276**		Pg	18 35 14.6	-1.0
VES	**Vestal, Richgr**	**1.24**	**276**	Pg		18 35 14.5	
	baz=95,SNR=357						
VES				S		18 35 30.8	
	baz=95						
LEOC	**Leona Valley**	**1.25**	**209**		Pg	18 35 15.0	-0.8
AMDNV	**Amargosa**	**1.27**	**55**		Pg	18 35 15.0	-1.1
AMDNV					Sn	18 35 33.5	-0.1
GRAC	**Grapevine Rang**	**1.27**	**7**	Pb		18 35 15.6	
	baz=188,SNR=155						
GRAC				S		18 35 33.7	
	baz=188						
CJV	**Casa Juvan**	**1.29**	**202**		Pg	18 35 16.3	-0.1
JNH	**Juniper Hills**	**1.32**	**194**		Pb	18 35 17.1	+0.1
DSCC	**Desert Studies**	**1.33**	**116**		Pn	18 35 15.3	-1.7
BTPC	**Burnt Peak**	**1.33**	**219**		Pn	18 35 17.0	-0.2
HEC	**Hector,Ludlow**	**1.35**	**131**		Pn	18 35 15.9	-1.4
HEC	**Hector,Ludlow**	**1.35**	**131**	P		18 35 15.9	
	baz=311,SNR=157						
HEC				S		18 35 35.2	
	baz=311						
TUQ	**Turquoise Moun**	**1.37**	**102**		Pn	18 35 16.7	-1.0
TUQ					Sn	18 35 36.7	+0.4
TUQ	**Turquoise Moun**	**1.37**	**102**	P		18 35 16.4	
	baz=282,SNR=54						
TUQ				S		18 35 36.6	
	baz=282						
TIN	**Tinemaha, Big**	**1.43**	**338**		Pg	18 35 19.2	0.0
TIN	**Tinemaha, Big**	**1.43**	**338**	Pg		18 35 18.8	
	baz=159,SNR=55						
TIN				Sg		18 35 38.0	
	baz=159						
CSP	**Cedar Springs**	**1.44**	**173**		Pn	18 35 18.7	+0.1
XTL	**Crystal Lake,**	**1.45**	**190**		Pn	18 35 18.5	-0.3
OSI	**Osito Audit: C**	**1.46**	**221**		Pn	18 35 17.9	-1.0
OSI				IAML		18 35 40.6	
	comp=N,535nm,1.1s						
OSI				IAML		18 35 42.9	
	comp=E,396nm,0.8s						
OSI	**Osito Audit: C**	**1.46**	**221**	Pg		18 35 18.7	
	baz=39,SNR=17						
OSI				Sg		18 35 38.3	
	baz=39						
BFSC	**Mount Baldy Ra**	**1.49**	**183**		Pg	18 35 20.2	-0.1
BFSC	**Mount Baldy Ra**	**1.49**	**183**	Pg		18 35 20.1	
	baz=1.9,SNR=214						
BFSC				Sb		18 35 39.0	
	baz=1.9						
LCH	**Last Change Ra**	**1.50**	**358**		Pn	18 35 18.9	-0.7
HELL	**Mitchell Peak,**	**1.51**	**309**		Pn	18 35 19.0	-0.6
HELL					Sn	18 35 39.2	-0.6
SS2	**San Sevaine**	**1.52**	**178**		Pg	18 35 21.0	+0.2
SSK	**Sunset Peak**	**1.52**	**184**		Pg	18 35 20.9	+0.1
BTL	**Butler Peak**	**1.54**	**162**		Pb	18 35 20.8	-0.2
BBRC	**Big Bear Solar**	**1.56**	**160**	Pg		18 35 21.7	
	baz=339						
BBRC				Sb		18 35 41.6	
	baz=339						
PEM	**Pine Mountain**	**1.58**	**189**		Pn	18 35 20.0	-0.4
VOG	**Valley Oaks Go**	**1.59**	**292**		Pn	18 35 20.7	+0.1
VOG	**Valley Oaks Go**	**1.59**	**292**	Pg		18 35 20.6	
	baz=112,SNR=14						
DECC	**Green Verdugo**	**1.60**	**203**	Pg		18 35 21.8	
	baz=22,SNR=45						
DECC				Sb		18 35 42.6	
	baz=22						
TPNV	**Topopah Spring**	**1.62**	**41**	Pn	Pn	18 35 20.4	-0.7
TPNV				IAML		18 35 47.4	
	comp=E,558nm,0.6s						
TPNV	**Topopah Spring**	**1.62**	**41**	Pn		18 35 20.4	
	baz=222,SNR=344						
TPNV				Pg		18 35 23.0	
	baz=222						
TPNV				Sg		18 35 45.1	
	baz=222						
OAT	**Oat Mountain**	**1.63**	**212**		Pg	18 35 22.7	-0.3
PASC	**Pasadena Art C**	**1.64**	**198**		Pn	18 35 20.2	-1.1
PASC				IAML		18 35 45.0	
	comp=E,256nm,0.5s						
PASC				IAML		18 35 45.5	
	comp=N,262nm,0.8s						
PASC	**Pasadena Art C**	**1.64**	**198**		Sb	18 35 43.5	+0.2
CFSC	**Central Fire S**	**1.64**	**172**		Sn	18 35 42.8	+0.1
PSRC	**Puddingstone R**	**1.65**	**187**		Pg	18 35 23.2	-0.1
RMR	**Rimrock**	**1.72**	**151**		Pg	18 35 24.8	+0.1
POCA	**Poleta Canyon**	**1.73**	**341**		Pn	18 35 22.1	-0.6
MTUM	**Tungsten Hills**	**1.81**	**334**		Pn	18 35 23.5	-0.3
GMRC	**Granite Mounta**	**1.82**	**121**		Pn	18 35 21.9	-2.0
GMRC	**Granite Mounta**	**1.82**	**121**	Pn		18 35 21.8	
	baz=301,SNR=139						
GMRC				Pg		18 35 25.8	
	baz=301						
GMRC				Sb		18 35 49.6	
	baz=301						
CRGC	**Crocker Grade**	**1.83**	**255**		Pb	18 35 25.2	-0.6
SCHCA	**Scheelite**	**1.86**	**331**		Pb	18 35 26.7	+0.3
CARC	**Carrizo Plain**	**1.91**	**258**		Pb	18 35 26.5	-0.6
BLAC	**Blackrock camp**	**1.92**	**149**		Pn	18 35 24.6	-0.7
PKM	**Mcpherson Peak**	**2.02**	**246**	Pb		18 35 27.8	
	baz=65,SNR=25						
PKM				Sb		18 35 54.0	
	baz=65						
EW2	**E Wide Canyon**	**2.02**	**152**		Pn	18 35 25.7	-0.9
SMMC	**Simmler**	**2.03**	**259**	Pb		18 35 27.6	
	baz=78,SNR=14						
SMMC				Sb		18 35 53.6	
	baz=78						
PKEM	**Kettleman Hill**	**2.09**	**280**		Pn	18 35 25.7	-1.8
SHPR	**Sheep Range**	**2.10**	**68**		Pn	18 35 27.2	-0.5
SHPR				IAML		18 36 03.2	
	comp=E,238nm,0.8s						
POB	**Polly Butte**	**2.10**	**165**		Pn	18 35 27.2	-0.6
BCH	**Branch Mountai**	**2.13**	**256**		Pb	18 35 29.7	-1.2
BENR	**Benton**	**2.14**	**338**		Pn	18 35 28.4	-0.1
MURC	**Murrieta**	**2.15**	**172**	Pb		18 35 30.0	
	baz=351,SNR=27						
BELC	**Belle Mtn. Jos**	**2.15**	**143**	P		18 35 27.1	
	baz=323,SNR=68						
BELC				Sb		18 36 00.9	
	baz=323						
MLAC	**Mammoth, Mammo**	**2.16**	**332**	Pg		18 35 31.9	
	baz=152,SNR=20						
SBC	**Santa Barbara**	**2.18**	**235**	Pg		18 35 32.8	
	baz=53						
PAGB	**Antelope Grade**	**2.19**	**271**		Pn	18 35 27.4	-1.4
PAGB				IAML		18 36 06.5	
	comp=E,233nm,0.7s						
PAGB				IAML		18 36 10.0	
	comp=N,277nm,0.8s						
PFO	**Pinyon Flats O**	**2.30**	**156**		Pn	18 35 29.3	-1.2
PFO				IAML		18 36 06.9	
	comp=N,140nm,0.4s						
PFO				IAML		18 36 08.1	
	comp=N,211nm,0.8s						
PFO	**Pinyon Flats O**	**2.30**	**156**	Pn		18 35 29.2	
	baz=336						
PFO				Pg		18 35 35.5	
	baz=336,SNR=27						
PFO				Sb		18 36 04.4	
	baz=336						
PARM	**Anticline Ridg**	**2.31**	**284**		Pb	18 35 32.7	-1.3
MHDM	**Hidden Dam**	**2.33**	**307**		Pb	18 35 32.9	-1.5
TPH	**Tonopah**	**2.36**	**7**		Pn	18 35 31.0	-0.3
TPH	**Tonopah**	**2.36**	**7**	IAML		18 36 11.4	
	comp=E,94nm,0.8s						
TPH				IAML		18 36 13.8	
	comp=N,128nm,1.2s						
CIS	**Catalina Islan**	**2.42**	**197**	Pg		18 35 37.1	
	baz=16,SNR=27						
CIS				Sb		18 36 07.6	
	baz=16						
MMIM	**Miami Mountain**	**2.43**	**315**		Pb	18 35 35.5	-0.6
IRM	**Iron Mountain**	**2.53**	**128**	P		18 35 31.5	
	baz=309,SNR=16						
IRM				Sb		18 36 11.6	
	baz=309						
PRN	**Pahroc Range**	**2.63**	**50**	Pn	Pn	18 35 34.9	-0.1
LHV	**Little Huntoon**	**2.63**	**344**		Pn	18 35 35.3	+0.5
LHV				IAML		18 36 24.4	
	comp=E,71nm,1.6s						
PMPB	**Monarch Peak**	**2.67**	**281**		Pn	18 35 34.8	-0.7
BC3	**Big Chuckawall**	**2.70**	**139**	P		18 35 34.3	
	baz=320,SNR=20						
MBUM	**Mount Bullion**	**2.72**	**313**		Pb	18 35 39.9	-1.1
NV11	**Mina Array Sit**	**2.74**	**350**		Pn	18 35 36.5	-0.1
NVAR	**Mina Array Bea**	**2.76**	**348**	Pn	Pn	18 35 36.6	-0.3
BMSM	**Mercy Hot Spri**	**2.77**	**290**		Pn	18 35 38.9	+2.0
DPP	**Dos Picos Cty**	**2.77**	**169**		Pn	18 35 38.8	+1.9
BRMM	**Rolling Bench**	**2.85**	**294**		Pb	18 35 41.5	-1.7
109C	**Camp Elliot, M**	**2.86**	**172**	Sb		18 36 19.6	
	baz=352						
MONP2	**Monument Peak**	**2.98**	**161**	Pb		18 35 46.6	
	baz=341,SNR=21						
MONP2				Sb		18 36 25.5	
	baz=341						
RYN	**Ryan**	**2.99**	**345**		Pn	18 35 40.0	0.0
R11A	**Troy Canyon, C**	**3.06**	**31**		Pn	18 35 40.3	-0.7
R11A				IAML		18 36 30.6	
	comp=E,42nm,0.7s						
R11A	**Troy Canyon, C**	**3.06**	**31**	Pb		18 35 47.4	
	baz=212,SNR=28						
R11A				Sb		18 36 29.0	
	baz=212						
W13A	**Hualapai Mount**	**3.07**	**101**	Pn	Pn	18 35 40.0	-1.1
BAR	**Barrett**	**3.13**	**166**		Pn	18 35 40.5	-1.3
SWSC	**Sam W. Stewart**	**3.14**	**152**	Pg		18 35 50.4	
	baz=332,SNR=18						
SWSC				Sb		18 36 30.1	
	baz=332						
IKP	**In-Ko-Pah, Jac**	**3.30**	**158**	Pg		18 35 53.3	
	baz=339,SNR=15						
IKP				Sb		18 36 35.4	
	baz=339						
KVN	**Kaiserville**	**3.34**	**353**	Pn	Pn	18 35 45.0	0.0
CBX	**Cerro Bola**	**3.49**	**167**		Pn	18 35 47.0	+0.2
CBX				IAML		18 36 44.5	
	comp=N,83nm,0.5s						
GLA	**Glamis**	**3.50**	**139**		Pn	18 35 44.8	-2.1
GLA	**Glamis**	**3.50**	**139**	Pg		18 35 57.4	
	baz=320						
GLA				Sb		18 36 42.3	
	baz=320						
LCMT	**Little Creek M**	**3.71**	**69**		Pn	18 35 50.4	+0.4
CCUT	**Cedar City**	**3.84**	**60**		Pn	18 35 52.4	+0.7
CCUT				IAML		18 36 57.5	
	comp=N,44nm,1.2s						
CCUT				IAML		18 37 07.3	
	comp=E,27nm,1.0s						
KNB	**Kanab**	**4.04**	**70**		Pn	18 35 54.5	+0.1
KNB				IAML		18 37 02.4	
	comp=E,41nm,0.9s						
KNB				IAML		18 37 07.0	
	comp=N,39nm,0.9s						
PSUT	**Pine Spring**	**4.08**	**46**		Pn	18 35 54.4	-0.6
PSUT				IAML		18 37 05.2	
	comp=N,40nm,0.5s						
PSUT				IAML		18 37 05.3	
	comp=E,41nm,0.8s						
U15A	**North Rim**	**4.33**	**79**		Pn	18 35 59.0	+0.5
U15A				IAML		18 37 07.5	
	comp=E,37nm,0.8s						
U15A				IAML		18 37 11.1	
	comp=N,32nm,1.6s						
MTPU	**Mount Pierson**	**4.89**	**60**		Pn	18 36 07.0	+0.7
MTPU				IAML		18 37 28.1	
	comp=E,12nm,1.0s						
MTPU				IAML		18 37 28.8	
	comp=N,17nm,1.3s						
WUAZ	**Wupatki**	**5.05**	**91**		Pn	18 36 08.8	+0.5
WUAZ	**Wupatki**	**5.05**	**91**	Pg		18 36 25.7	
	baz=274						
X16A	**Lo Mia Camp, P**	**5.19**	**103**		Pn	18 36 10.2	-0.1
X16A				IAML		18 37 44.2	
	comp=E,8.4nm,1.3s						
X16A				IAML		18 37 49.2	
	comp=N,8.6nm,1.1s						
ELK	**Elko**	**5.33**	**19**		Pn	18 36 12.3	0.0
DUG	**Dugway, Tooele**	**5.83**	**39**	Pg		18 36 41.3	
	baz=222						
DUG				Sb		18 37 54.6	
	baz=222						
X18A	**Snowflake**	**6.35**	**99**		Pn	18 36 26.6	+0.4

*NOU **14** 18:40:10.9,39°.55S×175°.59E,h0km,MLv3.5,North Island, New Zealand*
WEL 14 18:40:11.4,40°S±3°×176°E±°,h18km±2km,M3.4/84, ML3.6/84,MLv3.4/84,Error ellipse: s-maj=0.0km s-min=0.0km az=1.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.13**	**26**	P	Pg	18 40 15.8	+0.3
MOVZ				S	Sg	18 40 19.4	+1.1
WNVZ	**Wahianoa**	**0.20**	**341**	P	Pg	18 40 17.1	+0.5
WNVZ				S	Sg	18 40 21.0	+0.9
MTVZ	**Mangateitei**	**0.21**	**310**	P	Pg	18 40 17.1	+0.4
MTVZ				S	Sg	18 40 20.8	+0.6
TRVZ	**Turoa**	**0.24**	**335**	P	Pb	18 40 17.8	+0.5
TRVZ				S	Sg	18 40 22.1	+0.9
WHVZ	**Whangaehu Hut**	**0.25**	**343**	P	Pb	18 40 17.9	+0.5
WHVZ				S	Sg	18 40 22.1	+0.7
TUVZ	**Tukino**	**0.25**	**355**	P	Pb	18 40 18.0	+0.6
DRZ	**Dome Shelter**	**0.26**	**339**	P	Pb	18 40 18.2	+0.5
DRZ				S	Sb	18 40 23.0	+1.1
FWVZ	**Far West T-bar**	**0.28**	**339**	P	Pb	18 40 18.3	+0.3
FWVZ				S	Sb	18 40 23.0	+0.6
BHHZ	**Black Hill Sta**	**0.30**	**84**	P	Pb	18 40 18.3	+0.1
BHHZ				S	Sb	18 40 23.0	+0.3
SNVZ	**South Ngauruho**	**0.34**	**354**	P	Pb	18 40 19.3	+0.2
NGZ	**Ngauruhoe**	**0.35**	**350**	P	Pb	18 40 19.5	+0.2
NGZ				S	Sb	18 40 25.4	+0.9
OTVZ	**Oturere**	**0.36**	**358**	P	Pb	18 40 19.6	+0.2
ETVZ	**East Tongariro**	**0.39**	**3**	P	Pb	18 40 20.1	+0.2
NNVZ	**North Ngauruho**	**0.39**	**352**	P	Pb	18 40 20.3	+0.3
TMVZ	**Te Maari**	**0.41**	**2**	P	Pb	18 40 20.3	+0.1
WTVZ	**West Tongariro**	**0.41**	**350**	P	Pb	18 40 20.5	+0.2
NTVZ	**North Tongarir**	**0.42**	**359**	P	Pb	18 40 20.6	+0.1
KRVZ	**Karewarewa**	**0.43**	**356**	P	Pb	18 40 20.7	+0.2
KRVZ				S	Sb	18 40 27.7	+0.9
TWVZ	**Taurewa**	**0.49**	**337**	P	Pg	18 40 21.4	+0.1
TWVZ				S	Sb	18 40 28.4	0.0
KRHZ	**Kereru**	**0.55**	**103**	P	Pb	18 40 22.6	+0.1
KRHZ				S	Sb	18 40 30.6	+0.7
KATZ	**Kakaramea**	**0.55**	**1**	P	Pb	18 40 22.9	+0.4
PNHZ	**Pukenui**	**0.56**	**135**	P	Pg	18 40 22.4	-0.2
RITZ	**Rihia Road**	**0.56**	**14**	P	Pb	18 40 23.1	+0.4
TSZ	**Takapari Road**	**0.58**	**158**	P	Pb	18 40 22.5	-0.5
KWHZ	**Kaweka Forest**	**0.58**	**81**	P	Pg	18 40 23.5	+0.4
WAZ	**Wanganui**	**0.59**	**246**	P	Pb	18 40 22.4	-0.7
RATZ	**Rangitukua**	**0.66**	**6**	P	Pg	18 40 25.0	+0.5
HATZ	**Hinemaiaia**	**0.71**	**27**	P	Pb	18 40 25.2	0.0
BKZ	**Black Stump Fm**	**0.72**	**61**	P	Pg	18 40 25.8	+0.2
OHWZ	**Ohakea**	**0.74**	**202**	P	Pb	18 40 24.8	-1.0
MCHZ	**McNeill Hill**	**0.79**	**85**	P	Pn	18 40 28.3	+0.6
WPHZ	**Waipukurau**	**0.80**	**133**	P	Pg	18 40 27.3	+0.3
WATZ	**Wairara**	**0.81**	**3**	P	Pn	18 40 27.8	-0.2
VRZ	**Vera Road**	**0.82**	**299**	P	Pb	18 40 26.9	-0.2
DVHZ	**Dannevirke**	**0.86**	**155**	P	Pb	18 40 28.0	+0.1
POWZ	**Post Office Ro**	**0.87**	**176**	P	Pb	18 40 27.5	-0.5
WHTZ	**Whakaora**	**0.88**	**14**	P	Pn	18 40 29.5	+0.6
MRHZ	**Matea Rd**	**0.89**	**40**	P	Pb	18 40 28.6	+0.2
KAHZ	**Kahuranaki**	**0.96**	**107**	P	Pg	18 40 31.2	+1.0
NMHZ	**Naumai**	**0.97**	**64**	P	Pg	18 40 31.4	+1.1
LREZ	**Lake Rotokare**	**0.99**	**273**	P	Pb	18 40 30.0	-0.1
KUTZ	**Kaahu Road**	**1.04**	**6**	P	Pg	18 40 32.0	+0.5
PXZ	**Pawanui**	**1.04**	**120**	P	Pb	18 40 30.7	-0.2
PRHZ	**Porangahau**	**1.04**	**136**	P	Pg	18 40 32.2	+0.5
ARHZ	**Aropaoanui**	**1.05**	**76**	P	Pg	18 40 33.4	+1.6
PRWZ	**Porí Road**	**1.06**	**168**	P	Pn	18 40 31.4	0.0
WPRZ	**Whakapapatarin**	**1.07**	**21**	P	Pg	18 40 32.2	0.0
ALRZ	**Allen Road**	**1.09**	**28**	P	Pn	18 40 31.8	+0.1
CKHZ	**Cape Kidnapper**	**1.09**	**98**	P	Pg	18 40 34.1	+1.6
ANWZ	**Angora Road**	**1.12**	**147**	P	Pg	18 40 33.4	+0.3
MTHZ	**Maungataniwha**	**1.12**	**54**	P	Pg	18 40 33.2	0.0
MRZ	**Mangatainoka R**	**1.14**	**184**	P	Pn	18 40 31.9	-0.6
MHEZ	**Mangahewa**	**1.15**	**292**	P	Pg	18 40 33.2	-0.4
PRRZ	**Plateau Road**	**1.16**	**29**	P	Pb	18 40 33.2	+0.2
PRPZ	**Palmer Road**	**1.19**	**278**	P	Pb	18 40 33.8	+0.3
DREZ	**Durham Road**	**1.20**	**286**	P	Pb	18 40 33.5	-0.1
HIZ	**Hauiti**	**1.20**	**327**	P	Pn	18 40 33.2	0.0
TLZ	**Tolley Road**	**1.20**	**355**	P	Pb	18 40 33.8	+0.2
GRRZ	**Galatos Road**	**1.22**	**16**	P	Pb	18 40 34.3	+0.4
HRRZ	**Handcock Road**	**1.22**	**23**	P	Pg	18 40 35.0	-0.1
BFZ	**Birch Farm**	**1.24**	**160**	P	Pb	18 40 34.4	+0.1
RAHZ	**Arahi**	**1.25**	**61**	P	Pg	18 40 36.3	+0.7
NEZ	**North Egmont**	**1.25**	**281**	P	Pb	18 40 34.5	-0.1
TIWZ	**Tintock**	**1.26**	**173**	P	Pb	18 40 34.8	+0.1
WHHZ	**Waihua**	**1.28**	**70**	P	Pg	18

GVZ	**Greta Valley S**	**3.98**	**209**	P	Pn	18 41 09.8	-1.7
LTZ	**Lake Taylor**	**4.15**	**217**	P	Pn	18 41 12.9	-1.0
INZ	**Inchbonnie**	**4.53**	**224**	P	Pn	18 41 17.8	-1.3
OXZ	**Oxford**	**4.69**	**215**	P	Pn	18 41 19.4	-1.8

*MEX **14** 19:02:38.8±0.3,30˚.26N×114˚.34W,h10km,MD3.8*
*ECX **14** 19:02:39.3±0.8,30˚.41N×114˚.47W,h0km±15km,MD3.4, ML3.6*

ISC 14 19:02:38.9±1.3,**30˚.59N**±0˚.09×**114˚.31W**±0˚.06, **h10**km±13km,**n10**,σ1°**44**/15,**1C-1D**,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.65**	**314**	*eP*	**Pg**	**19 02 52.1**	**+0.6**
SFX				*eS*	**Sb**	**19 03 02.5**	**+1.1**
SFX	comp=E,3μm,0.2s			IAML		19 03 03.6	
SFX				*e*		19 03 03.6	
ECBX	**El Chinero**	**1.09**	**325**	*eP*	**Pb**	**19 03 00.5**	**+0.6**
ECBX				*eS*	**Sn**	**19 03 16.0**	**+0.6**
SPX	**San Pedro Mart**	**1.09**	**295**	*eP*	**Pg**	**19 02 58.8**	**-1.1**
SPX	comp=E,1μm,0.5s			IAML		19 03 24.1	
SPX				⇓*e*		19 03 24.1	
SPIG	**San Pedro Mart**	**1.09**	**295**	*eP*	**Pg**	**19 02 58.8**	**-1.3**
SPIG				*eS*	**Sg**	**19 03 14.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.09**	**295**	*eP*	**Pg**	**19 02 58.9**	**-1.1**
SVX	**San Vicente**	**1.82**	**294**	*eP*	**Pn**	**19 03 10.0**	**-0.4**
214A	**Organ Pipe Nat**	**1.88**	**43**	*eP*	**Pn**	**19 03 09.3**	**-1.8**
214A				*eS*	**Sn**	**19 03 34.8**	**-0.1**
CPBX	**Cerro Prieto**	**2.02**	**335**	IAML		19 04 32.1	
CPBX	comp=N,1μm,0.6s			⇑*e*		19 04 32.1	
CPBX				IAML		19 04 36.3	
TJIG	**Tijuana**	**2.73**	**313**	*eP*	**Pn**	**19 03 23.5**	**+0.6**
TJIG	comp=E,1μm,0.6s			*eS*	**Sg**	**19 04 06.3**	**-0.4**
HSIG		**3.31**	**117**	*eP*	**Pb**	**19 03 36.8**	**-1.0**
HSIG				*eS*	**Sg**	**19 04 28.8**	**+3.4**

IDC 14 19:03:20.8±2.3,**6˚.60S**×**130˚.39E**,**h0**km,**mb3.2**/1, **mb1 3.5**/3,**mb1mx3.2**/24,**mbtmpg3.3**/3,**ML3.5**/2,**MS2.8**/1, **Ms1 2.8**/1,**ms1mx2.4**/6,**Error ellipse: s-maj=92.4km s-min=23.2km az=73.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.80**	**164**	Pn	Pn	19 06 39.8	+1.9
WRA	0.2nm,0.3s,baz=344,slow=12,SNR=21			Sn	Sn	19 09 09.6	-2.5
ASAR	**Alice Springs**	**17.30**	**169**	P	P	19 07 25.1	-0.4
ASAR	0.1nm,0.3s,baz=333,slow=22,SNR=2.5			S	Sn	19 10 36.6	-0.6
USRK	**Ussuriysk Ar.**	**50.59**	**1**	LR	LR	19 33 37.0	
MKAR	**Makanchi Array**	**68.11**	**327**	P	P	19 14 22.4	-0.2

*NEIC **14** 19:10:43.9±0.6,36˚.290N±0˚.005×97˚.53W±0˚.02, h1km±11km,Error ellipse: s-maj=2.4km s-min=0.7km az=79.0*
*IDC **14** 19:10:44.8±1.0,36˚.25N×97˚.49W,h0km,mb3.4/1, mb1 3.7/6,mb1mx3.4/46,mbtmp3.4/6,ML3.3/5,Error ellipse: s-maj=14.4km s-min=12.3km az=148.0*
*ANF **14** 19:10:44.7±0.6,36˚.26N×97˚.46W,h6km,ML4.1/13,Error ellipse: s-maj=6.3km s-min=5.3km az=100.0*
*TUL **14** 19:10:44±0.6,36˚.29N±0˚.01×97˚.53W±0˚.02,h6km±7km, ML3.4,mb_Lg3.6/129(NEIC),Mwr3.3/5(SLM),Error ellipse: s-maj=2.2km s-min=1.6km az=45.0*
*NEIC **14** 19:10:44,36˚.29N×97˚.53W,h3km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.79; Mθθ 1.24; Mθφ-0.45; Mrθ 0.06; Mφφ-0.25; Mrφ-0.64; Fault plane solution: Mo1.29000×10¹⁴ NP1:φs67.00000°, δ52.00000°,λ-141.00000°. NP2:φs310.00000°, δ60.00000°,λ-45.00000°. Principal axes: T 1.2882, Plg5.0000°, Azm10.0000°; N 0.0004, Plg38.0000°, Azm103.0000°; P -1.2886, Plg52.0000°, Azm274.0000°;*

ISC 14 19:10:44.6±1.1,**36˚.30N**±0˚.02×**97˚.50W**±0˚.02,**h2**km±9km, **n107**,σ1°**21**/58,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**298**		**Pg**	**19 10 52.3**	**-0.7**
CROK				Sg	**Sg**	**19 10 58.4**	**-0.4**
OK029	**Liberty Lake**	**0.50**	**175**		**Pg**	**19 10 53.6**	**-0.6**
OK029				Sg	**Sg**	**19 11 00.5**	**-0.2**
BLOK	**Blackwell**	**0.52**	**27**	Pg	**Pg**	**19 10 54.4**	**-0.2**
GC02	**Grant County #**	**0.62**	**333**		**Pg**	**19 10 55.8**	**-0.8**
OK031	**S. Brethren Rd**	**0.64**	**122**		**Pg**	**19 10 56.5**	**-0.4**
OK031				Sg	**Sg**	**19 11 05.4**	**+0.2**
BCOK	**Bluff Creek, N**	**0.65**	**188**		**Pg**	**19 10 56.2**	**-0.8**
BCOK				Sg	**Sg**	**19 11 05.0**	**-0.4**
BCOK	comp=Z,1μm,1.0s			IAmb_Lg		19 11 05.1	
QUOK	**Quay**	**0.66**	**101**		**Pg**	**19 10 56.9**	**-0.3**
OK005	**Luther M Schoo**	**0.69**	**158**	Pg	**Pg**	**19 10 57.3**	**-0.6**
OK030	**Cody Creek RV**	**0.69**	**122**		**Pg**	**19 10 57.5**	**-0.4**
KAN13	**South Haven SW**	**0.71**	**2**		**Pg**	**19 10 57.8**	**-0.6**
OK009	**Oakdale Elemen**	**0.72**	**175**	Pg	**Pg**	**19 10 57.8**	**-0.6**
OK025	**Westminster Rd**	**0.73**	**169**		**Pg**	**19 10 57.9**	**-0.7**
KAN14	**Manchester OK**	**0.75**	**331**		**Pg**	**19 10 58.2**	**-0.9**
OK032	**Salt Plains WL**	**0.76**	**312**		**Pg**	**19 10 58.2**	**-1.0**
KAN17	**Caldwell West**	**0.77**	**344**		**Pg**	**19 10 58.7**	**-0.8**
KAN09	**Caldwell North**	**0.84**	**354**		**Pg**	**19 11 00.0**	**-0.8**
KAN05	**Bluff City Nor**	**0.86**	**340**		**Pg**	**19 11 00.3**	**-0.9**
OKCFA	**Oklahoma City**	**0.88**	**177**		**Pg**	**19 11 00.5**	**-1.1**
OKCFA	comp=Z,382nm,0.9s			IAmb_Lg		19 11 12.2	
OKCFA	**Oklahoma City** baz=356	**0.88**	**177**	P	**Pg**	**19 11 00.5**	**-1.1**
OKCFA				S	**Sg**	**19 11 12.8**	**-0.2**
OKCFA	**Oklahoma City** baz=356	**0.88**	**177**	P		19 11 00.5	
OKCFA	baz=356			S		19 11 12.8	
OKCSW	**OKLAHOMA CITY**	**0.89**	**177**		**Pg**	**19 11 00.7**	**-1.0**
KS20	**Mayfield South**	**0.93**	**358**		**Pg**	**19 11 01.6**	**-0.9**
KAN10	**Anthony SW Sta**	**0.95**	**330**		**Pg**	**19 11 01.8**	**-1.1**
KAN08	**Anthony NE Sta**	**1.00**	**338**		**Pg**	**19 11 02.8**	**-1.0**
T35A	**Sooner Cattle**	**1.01**	**52**		**Pg**	**19 11 03.2**	**-0.7**
T35B	**Sooner Cattle** baz=233	**1.01**	**52**	P	**Pg**	**19 11 03.3**	**-0.7**
T35B	baz=233			S	**Sg**	**19 11 16.8**	**-0.3**
T35B	**Sooner Cattle** baz=233	**1.01**	**52**	P		19 11 03.3	
T35B	baz=233			S		19 11 16.8	
KAN16	**Harper SW Stat**	**1.03**	**334**	Pg	**Pg**	**19 11 03.2**	**-1.2**
FNO	**Franklin**	**1.04**	**175**		**Pg**	**19 11 03.3**	**-1.3**
FNO	comp=Z,840nm,1.2s			IAmb_Lg		19 11 17.3	
U32A	**Winter Ranch,**	**1.21**	**274**		**Pg**	**19 11 06.0**	**-1.9**
U32A	**Winter Ranch,** baz=94	**1.21**	**274**	P	**Pg**	**19 11 05.9**	**-1.9**
U32A	**Winter Ranch,** baz=94	**1.21**	**274**	P		19 11 05.9	
TUL1	**Leonard** baz=286	**1.44**	**105**	P	**Pn**	**19 11 10.2**	**-1.5**
TUL1	baz=286			S	**Sb**	**19 11 30.1**	**-0.8**
TUL1	**Leonard** baz=286	**1.44**	**105**	P		19 11 10.2	
TUL1	baz=286			S		19 11 30.1	
X34A	**Smith Ranch, M**	**1.71**	**189**		**Pn**	**19 11 15.2**	**-0.3**
X34A	comp=Z,333nm,0.8s			IAmb_Lg		19 11 39.9	
WMOK	**Wichita Mounta**	**1.87**	**214**		**Pn**	**19 11 16.9**	**-0.8**
WMOK	comp=Z,171nm,0.9s			IAmb_Lg		19 11 42.1	
WMOK	**Wichita Mounta** baz=33	**1.87**	**214**	P	**Pn**	**19 11 16.7**	**-0.9**
WMOK	baz=33			S	**Sn**	**19 11 41.6**	**-0.3**
WMOK	**Wichita Mounta** baz=33	**1.87**	**214**	P		19 11 16.7	
WMOK				S		19 11 41.6	
LOOK	**Love County** comp=Z,181nm,0.8s	**2.32**	**173**	IAmb_Lg		19 11 59.7	
R32A	**Long Quarter,** comp=Z,146nm,1.1s	**2.33**	**336**	IAmb_Lg		19 11 59.3	
R32A	**Long Quarter,** baz=156	**2.33**	**336**	P	**Pn**	**19 11 23.4**	**-0.6**
R32A	baz=156			S	**Sn**	**19 11 52.6**	**-0.5**
R32A	**Long Quarter,** baz=156	**2.33**	**336**	P		19 11 23.4	
R32A	baz=156			S		19 11 52.6	
X37A	**Clayton** comp=Z,136nm,0.8s	**2.44**	**134**	IAmb_Lg		19 12 05.2	
X37A	**Clayton** baz=315	**2.44**	**134**	P	**Pn**	**19 11 25.5**	**+0.2**
X37A	**Clayton** baz=315	**2.44**	**134**	P		19 11 25.5	
U38A	**Gravette** comp=Z,137nm,0.8s	**2.52**	**86**	IAmb_Lg		19 12 06.2	
HHAR	**Hobbs** comp=Z,114nm,0.9s	**2.88**	**89**	IAmb_Lg		19 12 16.5	
KSU1	**Kansas State U** comp=Z,116nm,0.9s	**2.89**	**14**	IAmb_Lg		19 12 20.0	
Z35A	**Perchaven, San** baz=356	**2.97**	**176**	S	**Sn**	**19 12 08.8**	**0.0**
Z35A	**Perchaven, San** baz=356	**2.97**	**176**	S		19 12 08.8	
CBKS	**Cedar Bluff** baz=145	**3.08**	**325**	S	**Sb**	**19 12 18.6**	**+0.6**
CBKS	**Cedar Bluff** baz=145	**3.08**	**325**	S		19 12 18.6	
W39A	**Magazine** comp=Z,324nm,1.0s	**3.22**	**109**	IAmb_Lg		19 12 32.3	
W39A	**Magazine** baz=291	**3.22**	**109**	P	**Pn**	**19 11 36.8**	**+0.6**
W39A	**Magazine** baz=291	**3.22**	**109**	P		19 11 36.8	
S39A	**Bolivar** comp=Z,116nm,0.7s	**3.62**	**66**	IAmb_Lg		19 12 47.2	
S39A	**Bolivar** baz=249	**3.62**	**66**	S	**Sn**	**19 12 25.0**	**-0.1**
S39A	**Bolivar** baz=249	**3.62**	**66**	S		19 12 25.0	
MIAR	**Mount Ida** baz=300	**3.65**	**117**	P	**Pn**	**19 11 42.3**	**+0.2**
MIAR	**Mount Ida** baz=300	**3.65**	**117**	P		19 11 42.3	
Z38A	**Mt. Pleasant** comp=Z,290nm,0.8s	**3.67**	**145**	IAmb_Lg		19 12 46.7	
AMTX	**Amarillo** comp=Z,160nm,0.7s	**3.69**	**249**	IAmb_Lg		19 12 39.0	
AMTX	**Amarillo** baz=66	**3.69**	**249**	P	**Pn**	**19 11 42.0**	**-0.6**
AMTX	**Amarillo** baz=66	**3.69**	**249**	P		19 11 42.0	
ABTX	**Abilene, Hawle** comp=Z,144nm,0.9s	**4.07**	**206**	IAmb_Lg		19 12 54.0	
X40A	**Basin Creek Fa** comp=Z,144nm,0.7s	**4.22**	**114**	IAmb_Lg		19 13 01.6	
MGMO	**Mountain Grove** comp=Z,158nm,0.9s	**4.29**	**77**	IAmb_Lg		19 13 01.9	
WHAR	**Wooly Hollow** comp=Z,165nm,0.8s	**4.36**	**102**	IAmb_Lg		19 13 05.0	
N33A	**J Bar K, Exete** comp=Z,91nm,0.7s	**4.43**	**1**	IAmb_Lg		19 13 08.5	
WLAR	**White Oak Lake** comp=Z,83nm,0.7s	**4.45**	**125**	IAmb_Lg		19 13 12.3	
237A	**Wetta, Mont** baz=342	**4.51**	**161**	S	**Sn**	**19 12 46.7**	**-0.2**
237A	**Washetta, Mont** baz=342	**4.51**	**161**	S		19 12 46.7	
P38A	**Dawn** comp=Z,67nm,0.7s	**4.57**	**42**	IAmb_Lg		19 13 19.5	
KSCO	**Kaye Shedlock'** comp=Z,127nm,1.1s	**4.88**	**305**	IAmb_Lg		19 13 29.4	
NATX	**Nacogdoches** comp=Z,61nm,1.0s	**5.11**	**152**	IAmb_Lg		19 13 35.3	
BGNE	**Berade** comp=Z,94nm,0.7s	**5.13**	**355**	IAmb_Lg		19 13 40.1	
LCAR	**Lake Charles** comp=Z,83nm,1.0s	**5.14**	**91**	IAmb_Lg		19 13 32.7	
CCAR	**Cane Creek** comp=Z,118nm,0.8s	**5.26**	**115**	IAmb_Lg		19 13 38.4	
CCM	**Cathedral Cave** comp=Z,93nm,0.8s	**5.30**	**69**	IAmb_Lg		19 13 40.9	
P40A	**Paris** comp=Z,109nm,0.8s	**5.39**	**52**	IAmb_Lg		19 13 42.3	
435B	**Jarrell** comp=Z,61nm,0.8s	**5.50**	**181**	IAmb_Lg		19 13 45.9	
N38A	**Joes South For** comp=Z,155nm,0.7s	**5.60**	**35**	IAmb_Lg		19 13 43.7	
T25A	**Trinidad** comp=Z,72nm,0.7s	**5.61**	**281**	IAmb_Lg		19 13 53.8	
PBMO	**Poplar Bluff** comp=Z,153nm,0.8s	**5.72**	**83**	IAmb_Lg		19 13 48.3	
OGNE	**Ogala** comp=Z,130nm,0.7s	**5.84**	**324**	IAmb_Lg		19 13 54.1	
LPAR	**Lepanto** comp=Z,143nm,0.9s	**5.88**	**95**	IAmb_Lg		19 14 07.1	
FVM	**French Village** comp=Z,103nm,0.8s	**5.90**	**71**	IAmb_Lg		19 13 56.4	
143A	**Socs Landing,** comp=Z,72nm,0.8s	**6.18**	**124**	IAmb_Lg		19 14 05.2	
PEBM	**Pemiscott Bayo** comp=Z,125nm,0.7s	**6.18**	**89**	IAmb_Lg		19 14 07.9	
HENM	**Henderson Moun** comp=Z,147nm,0.8s	**6.48**	**84**	IAmb_Lg		19 14 16.5	
HICK	**Hickman** comp=Z,120nm,0.7s	**6.68**	**85**	IAmb_Lg		19 14 32.5	
S44A	**Carbondale** comp=Z,116nm,0.7s	**6.75**	**76**	IAmb_Lg		19 14 21.3	
SIUC	**Southern Illin** comp=Z,98nm,0.7s	**6.78**	**76**	IAmb_Lg		19 14 18.9	
OXF	**Oxford** comp=Z,61nm,1.0s	**6.85**	**103**	IAmb_Lg		19 14 37.0	
W45A	**Hickory Valley** comp=Z,117nm,1.0s	**6.86**	**97**	IAmb_Lg		19 14 29.8	
Y45A	**Yeager Farm, C** comp=Z,45nm,0.8s	**6.96**	**108**	IAmb_Lg		19 14 33.1	
ANMO	**Albuquerque** comp=Z,0.3nm,0.3s,baz=84,slow=10,SNR=2.1	**7.42**	**262**	Pn	**Pn**	**19 12 34.7**	**+0.7**
ANMO	comp=Z,0.6nm,0.3s,baz=80,slow=8.3,SNR=7.9			Pg	**Pb**	**19 12 58.5**	**+4.4**
ANMO	comp=Z,3.2nm,0.3s,baz=90,slow=6.1,SNR=8.9			Lg	Lg	19 14 33.1	
735A	**Kenedy** comp=Z,60nm,1.1s	**7.43**	**182**	IAmb_Lg		19 14 48.9	
ECSD	**EROS Data Cent** comp=Z,47nm,1.1s	**7.46**	**5**	IAmb_Lg		19 14 40.7	
L40A	**Anamosa** comp=Z,61nm,0.9s	**7.54**	**38**	IAmb_Lg		19 14 52.0	
PLAL	**Pickwick Lake** comp=Z,34nm,0.8s	**7.79**	**97**	IAmb_Lg		19 15 01.5	
WVT	**Waverly** comp=Z,48nm,1.2s	**7.82**	**88**	IAmb_Lg		19 14 53.5	
PHWY	**Pilot Hill** comp=Z,58nm,0.9s	**7.97**	**311**	IAmb_Lg		19 15 07.7	
Y22D	**IRIS PASSCAL I** comp=Z,86nm,0.8s	**8.02**	**257**	IAmb_Lg		19 15 08.8	
O44A	**Mansfield** comp=Z,98nm,0.9s	**8.09**	**59**	IAmb_Lg		19 15 16.9	
SUSD	**Miller** comp=Z,52nm,0.8s	**8.21**	**353**	IAmb_Lg		19 15 07.0	
I37A	**Lemond, Waseca** comp=Z,63nm,0.8s	**8.32**	**21**	IAmb_Lg		19 15 22.7	
T47A	**Sharon Grove** comp=Z,81nm,1.0s	**8.39**	**82**	IAmb_Lg		19 15 26.9	
TXAR	**Lajitas Array** comp=Z,0.4nm,0.3s,baz=45,slow=12,SNR=9.9	**8.67**	**218**	Pn	**Pn**	**19 12 49.2**	**-1.9**
TXAR	comp=Z,1.0nm,0.3s,baz=38,slow=14,SNR=11			Pg	Pg	19 13 17.9	-13
TXAR	comp=Z,1.8nm,0.3s,baz=42,slow=26,SNR=12			Lg	Lg	19 15 14.1	
SFIN	**Lafayette** comp=Z,86nm,1.1s	**9.13**	**60**	IAmb_Lg		19 15 32.1	
WCI	**Wyandotte Cave** comp=Z,53nm,0.9s	**9.14**	**74**	IAmb_Lg		19 15 38.0	
I40A	**Norwalk** comp=Z,36nm,0.9s	**9.23**	**33**	IAmb_Lg		19 15 42.8	
RSSD	**Black Hills** comp=Z,28nm,0.9s	**9.27**	**329**	IAmb_Lg		19 15 50.3	
RWWY	**Rawlins** comp=Z,45nm,0.9s	**9.27**	**308**	IAmb_Lg		19 15 44.4	
U49A	**Red Boiling Sp** comp=Z,36nm,1.3s	**9.46**	**85**	IAmb_Lg		19 15 57.3	
F33A	**5 Mile Ranch,** comp=Z,35nm,1.1s	**9.58**	**5**	IAmb_Lg		19 15 53.4	
W50A	**Signal Mountai** comp=Z,30nm,0.9s	**9.97**	**93**	IAmb_Lg		19 16 08.7	
TKL	**Tuckaleechee C** comp=Z,0.2nm,0.3s,baz=315,slow=14,SNR=2.4	**11.14**	**89**	Pn	**Pn**	**19 13 24.7**	**-0.3**
TKL	comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=14			Lg	Lg	19 16 29.8	
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=124,slow=16,SNR=1.4	**11.32**	**308**	Pn	**Pn**	**19 13 30.9**	**+3.4**
PDAR	comp=Z,0.3nm,0.3s,baz=119,slow=17,SNR=7.7			Pg		19 14 12.4	
PDAR	comp=Z,0.8nm,0.3s,baz=122,slow=29,SNR=7.1			Lg	Lg	19 16 37.5	
ULM	**Lac du Bonnet** comp=Z,0.3nm,0.3s,baz=185,slow=11,SNR=1.9	**13.99**	**4**	Pn	**Pn**	**19 14 00.5**	**-3.3**
ULM	comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=3.6			Lg	Lg	19 17 56.9	
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=106,slow=7.5,SNR=5.0	**40.72**	**330**	P	**P**	**19 18 26.0**	**-0.3**

*IDC **14** 19:13:50.2±0.8,6˚.52N×72˚.61W,h164km±7km,mb3.3/3, mb1 3.7/7,mb1mx3.3/33,mbtmp4.1/7,Error ellipse: s-maj=31.0km s-min=7.4km az=133.0*
*RSNC **14** 19:13:51.4±1.0,6˚.85N×73˚.10W,h148km±3km,ML3.7, Mw3.9,Fault plane solution: NP1:φs38.00000°,δ9.00000°, λ-180.00000°.*

ISC 14 19:13:50.9±0.8,**6˚.87N**±0˚.03×**73˚.10W**±0˚.04,**h152**km±6km, **n50**,σ1°**68**/88,**mb3.2**/3,**8C-3D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**196**	⇑*iP*	**Pn**	**19 14 11.8**	**-0.1**
BARC				*eS*	**Sn**	**19 14 26.2**	**-1.7**
BARC	comp=Z,782nm,0.4s			*i*		19 14 29.0	
PAMC	**Pamplona, Colo**	**0.61**	**41**	⇓*eP*	**Pn**	**19 14 14.4**	**+0.8**
PAMC				*eS*	**Sn**	**19 14 31.0**	**+0.1**
PAMC	comp=Z,933nm,0.6s			*i*		19 14 33.4	
BRRC	**Barranca, Sant**	**0.65**	**291**	⇑*iP*	**Pn**	**19 14 13.5**	**+0.2**
BRRC				*eS*	**Sn**	**19 14 30.1**	**-0.2**
BRRC	comp=Z,622nm,0.1s			*i*		19 14 31.1	
RUSC	**La Rusia**	**0.97**	**179**	⇑*eP*	**Pn**	**19 14 16.0**	**-0.2**
RUSC				*eS*	**Sn**	**19 14 34.1**	**-1.3**
RUSC	comp=Z,537nm,0.3s			*i*		19 14 36.7	
OCAC	**Ocana**	**1.37**	**351**	⇓*eP*	**Pn**	**19 14 19.6**	**+0.1**
OCAC				*eS*	**Sn**	**19 14 40.3**	**-1.1**
OCAC	comp=Z,939nm,0.2s			*i*		19 14 45.5	
SPBC	**San Pablo de B**	**1.55**	**219**	⇑*eP*	**Pn**	**19 14 20.9**	**-0.3**
SPBC				*eS*	**Sn**	**19 14 43.9**	**-0.5**
SPBC	comp=Z,770nm,0.3s			*i*		19 14 50.5	
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*eP*	**Pn**	**19 14 24.4**	**+0.1**
ZARC				*eS*	**Sn**	**19 14 50.1**	**0.0**
ZARC	comp=Z,831nm,0.4s			*i*		19 14 55.3	
SMLC	**San Martn de**	**2.14**	**333**	*eP*	**Pn**	**19 14 27.4**	**-0.3**
SMLC				*eS*	**Sn**	**19 14 55.9**	**-0.3**
SMLC	comp=Z,270nm,0.1s			*i*		19 15 05.7	
NORC	**Norcasia**	**2.19**	**234**	⇑*iP*	**Pn**	**19 14 27.7**	**-0.6**
NORC				*eS*	**Sn**	**19 14 55.9**	**-1.3**
NORC	comp=Z,337nm,0.2s			*i*		19 15 02.0	
CHIC	**Chingaza**	**2.31**	**196**	*eP*	**Pn**	**19 14 30.2**	**-0.1**
CHIC				*eS*	**Sn**	**19 14 59.4**	**-1.2**
CHIC	comp=Z,234nm,0.5s			*i*		19 15 06.8	
ROSC	**El Rosal** comp=Z,136nm,0.3s,baz=64,slow=5.4,SNR=168	**2.35**	**211**	P	**Pn**	**19 14 31.9**	**+1.2**
ROSC	comp=Z,149nm,0.3s,baz=198,slow=19,SNR=11			S	**Sn**	**19 15 02.6**	**+1.3**
ROSC	**El Rosal**	**2.35**	**211**	⇑*iP*	**Pn**	**19 14 31.7**	**+1.0**
ROSC				*eS*	**Sn**	**19 15 03.4**	**+2.0**
ROSC	comp=Z,302nm,0.5s			*i*		19 15 07.2	
HELC	**Santa Helena**	**2.50**	**254**	*eP*	**Pn**	**19 14 32.0**	**-0.4**
HELC				*eS*	**Sn**	**19 15 04.0**	**-0.5**
HELC	comp=Z,418nm,0.4s			*i*		19 15 10.8	
UREC	**San Jos de Ur**	**2.56**	**290**	*eP*	**Pn**	**19 14 31.8**	**-1.0**
UREC				*eS*	**Sn**	**19 15 02.1**	**-3.1**
UREC	comp=Z,399nm,0.2s			*i*		19 15 13.0	
LL2C	**La Loma 2 Cana**	**2.69**	**353**	*eP*	**Pn**	**19 14 34.7**	**+0.3**
LL2C				*eS*	**Sn**	**19 15 07.9**	**-0.1**
LL2C	comp=Z,183nm,0.3s			*i*		19 15 16.1	
GUY2C	**Guyana, Caldas**	**2.78**	**234**	*eP*	**Pn**	**19 14 36.4**	**+0.3**
GUY2C				*eS*	**Sn**	**19 15 10.8**	**-0.1**
GUY2C	comp=Z,406nm,0.5s			*i*		19 15 20.3	
VILC	**Villavicencio,**	**2.81**	**192**	⇓*eP*	**Pn**	**19 14 35.9**	**-0.1**
VILC				*eS*	**Sn**	**19 15 10.0**	**-0.9**
VILC	comp=Z,382nm,0.5s			*i*		19 15 19.9	
PTGC	**Puerto Gaitan,**	**2.83**	**160**	*eP*	**Pn**	**19 14 35.4**	**-0.8**
PTGC				*eS*	**Sn**	**19 15 08.8**	**-2.4**
PTGC	comp=Z,203nm,0.4s			*i*		19 15 10.9	
RREF	**El Recreo**	**2.97**	**229**	*eP*	**Pn**	**19 14 38.6**	**+0.1**
RREF				*eS*	**Sn**	**19 15 15.8**	**+0.4**
RREF	comp=Z,172nm,0.3s			*i*		19 15 22.6	
CBOC	**Ciudad Bolivar**	**3.06**	**251**	*eP*	**Pn**	**19 14 39.8**	**+0.5**
CBOC				*eS*	**Sn**	**19 15 15.9**	**-0.7**
CBOC	comp=Z,72nm,0.3s			*i*		19 15 24.0	
SDV	**Santo Domingo** comp=Z,28nm,0.3s,baz=247,slow=4.2,SNR=18	**3.16**	**51**	P	**Pn**	**19 14 40.6**	**+0.1**
SDV	comp=Z,57nm,0.3s,baz=279,slow=19,SNR=33			S	**Sn**	**19 15 17.2**	**-1.8**
SDV	**Santo Domingo**	**3.16**	**51**	*eP*	**Pn**	**19 14 40.3**	**-0.3**
SDV				*eS*	**Sn**	**19 15 18.3**	**-0.7**
SDV	comp=Z,133nm,0.5s			*i*		19 15 21.1	
TOLC	**Tolima**	**3.17**	**224**	*eP*	**Pn**	**19 14 41.1**	**+0.4**
TOLC				*eS*	**Sn**	**19 15 19.1**	**-0.3**
TOLC	comp=Z,232nm,0.3s			*i*		19 15 25.7	
ARGC	**Ariguani, Magd**	**3.17**	**339**	*eP*	**Pn**	**19 14 41.0**	**+0.4**
ARGC				*eS*	**Sn**	**19 15 19.2**	**+0.2**
ARGC	comp=Z,73nm,0.4s			*i*		19 15 32.9	
ARGC				⇑*e*		19 15 52.7	
ANIL	**Santa Ana**	**3.29**	**224**	*eP*	**Pn**	**19 14 43.0**	**+0.7**
ANIL				*eS*	**Sn**	**19 15 22.1**	**-0.1**
ANIL	comp=Z,431nm,0.3s			*i*		19 15 26.8	
PRAC	**Prado**	**3.61**	**210**	*eP*	**Pn**	**19 14 45.5**	**-0.7**
PRAC				*eS*	**Sn**	**19 15 28.0**	**-1.0**
PRAC	comp=Z,228nm,0.4s			*i*		19 15 37.5	
CVALL	**Valledupar, Ce**	**3.62**	**358**	*eP*	**Pn**	**19 14 44.9**	**-1.4**
CVALL				*eS*	**Sn**	**19 15 25.9**	**-3.3**
ORTC	**Ortega, Tolima**	**3.64**	**216**	*eP*	**Pn**	**19 14 46.1**	**-0.4**
ORTC				*eS*	**Sn**	**19 15 29.2**	**-0.5**
ORTC	comp=Z,199nm,0.5s			*i*		19 15 35.2	
SJCC	**San Jacinto, C**	**3.64**	**326**	*eP*	**Pn**	**19 14 45.4**	**-1.2**
SJCC				*eS*	**Sn**	**19 15 25.9**	**-4.0**
SJCC	comp=Z,67nm,0.4s			*i*		19 15 31.0	
LCBC	**Los crdobas,**	**3.79**	**302**	*eP*	**Pn**	**19 14 47.6**	**-0.8**
LCBC				*eS*	**Sn**	**19 15 32.6**	**-0.5**
LCBC	comp=Z,116nm,0.3s			*i*		19 15 36.5	
GUVC	**San Jose del G**	**4.33**	**174**	*eP*	**Pn**	**19 14 55.2**	**-0.3**
GUVC				*eS*	**Sn**	**19 15 44.4**	**-1.4**
GUVC	comp=Z,151nm,0.3s			*i*		19 15 48.3	
SMRC	**Santa Marta, M**	**4.41**	**346**	*eP*	**Pn**	**19 14 54.6**	**-1.9**
SMRC				*eS*	**Sn**	**19 15 44.

MACC	**Macarena, Meta**	**4.75**	**189**↑	*eP*	**Pn**	**19 14 59.2**	**-1.9**
MACC				*eS*	**Sn**	**19 15 51.6**	**-4.4**
MACC				*i*		19 16 19.1	
	comp=Z,49nm,0.6s						
MARP	**Paez Belalcaza**	**4.91**	**216**	*eP*	**Pn**	**19 15 03.3**	**-0.1**
MARP				*eS*	**Sn**	**19 15 59.5**	**-0.5**
GARC	**Garzon, Huila**	**5.23**	**207**	*eP*	**Pn**	**19 15 06.5**	**-1.1**
GARC				*eS*	**Sn**	**19 16 02.4**	**-5.1**
GARC				*i*		19 16 10.8	
	comp=Z,78nm,0.2s						
PCON	**Cinco Dias**	**5.58**	**216**	*eP*	**Pn**	**19 15 13.0**	**+0.4**
PCON				*i*		19 16 41.1	
	comp=Z,14nm,0.4s						
POPC	**Popayan, Colom**	**5.59**	**220**	*eP*	Pn	19 15 07.2	-5.2
POPC				*eS*	Sn	19 16 04.9	-11
FLOC	**Florencia**	**5.84**	**206**	*eP*	**Pn**	**19 15 14.6**	**-0.9**
FLOC				*eS*	**Sn**	**19 16 19.5**	**-2.2**
FLOC				*i*		19 16 46.0	
	comp=Z,13nm,0.2s						
SOTA	**Rioblanco**	**5.86**	**217**	*eP*	**Pn**	**19 15 16.2**	**-0.1**
SOTA				*eS*	**Sn**	**19 16 22.4**	**-0.6**
SOTA				*i*		19 16 33.6	
	comp=Z,16nm,0.5s						
BBAC	**Balboa, Cauca**	**6.35**	**221**	*eP*	**Pn**	**19 15 21.8**	**-0.6**
BBAC				*eS*	**Sn**	**19 16 30.7**	**-3.5**
BBAC				*i*		19 16 40.7	
	comp=Z,16nm,0.4s						
GCUF	**Volcan Galeras**	**7.03**	**217**	*eP*	**Pn**	**19 15 31.3**	**-0.5**
GCUF				*eS*	**Sn**	**19 16 45.6**	**-5.3**
GCUF				*i*		19 16 54.1	
	comp=Z,6.6nm,0.4s						
JTS	**Las Juntas de**	**12.20**	**287**	P	**P**	**19 16 47.4**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=131,slow=4.8,SNR=5.4						
SJG	**San Juan**	**13.07**	**31**	P	**Pn**	**19 16 49.3**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=165,slow=10,SNR=2.1						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**19 22 15.4**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=200,slow=5.7,SNR=6.5						
NVAR	**Mina Array Bea**	**51.46**	**315**	P	**P**	**19 22 42.7**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=126,slow=7.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**73.71**	**78**	P	P	19 25 03.9	-4.9
	comp=Z,0.4nm,0.7s,baz=274,slow=7.0,SNR=1.2						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**19 32 26.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=310,slow=3.0,SNR=2.3						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPdf**	**19 33 20.9**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=120,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPdf**	**19 33 23.6**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=108,slow=2.9,SNR=6.1						

IDC ***14*** *19:42:06.7±5.7, 19.°88N×93.°83E, h51km±48km, mb3.3/6, mb1 3.3/7, mb1mx3.1/31, mbtmp3.5/7, ML3.5/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/28, Error ellipse: s-maj=50.3km s-min=23.9km az=50.0*

ISC 14 19:42:04.9±1.5, 19.°9N±0.°1×93.°7E±0.°1, h35km, n25, σ0°89/22, mb3.4/6, MS3.0/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MHMT	**Maesarieng**	**4.33**	**113**	P	**Pn**	**19 43 08.8**	**+0.5**
CMMT	**Chiang Mai**	**5.05**	**101**	P	**Pn**	**19 43 17.9**	**-0.3**
CM13	**Chiang Mai Arr**	**5.11**	**106**	P	**Pn**	**19 43 20.0**	**+0.9**
CM31	**Chiang Mai Arr**	**5.14**	**105**	P	**Pn**	**19 43 20.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**5.14**	**105**	P	**Pn**	**19 43 20.1**	**+0.7**
	0.4nm,0.3s,baz=279,slow=14,SNR=16						
CMAR				S	**Sn**	**19 44 16.9**	**-0.5**
	0.4nm,0.3s,baz=281,slow=19,SNR=4.2						
CM02	**Chiang Mai Arr**	**5.15**	**106**	P	**Pn**	**19 43 20.8**	**+1.3**
CM05	**Chiang Mai Arr**	**5.15**	**106**	P	**Pn**	**19 43 20.6**	**+0.9**
CM01	**Chiang Mai Arr**	**5.16**	**106**	P	**Pn**	**19 43 20.8**	**+1.1**
CM09	**Chiang Mai Arr**	**5.18**	**105**	P	**Pn**	**19 43 21.3**	**+1.3**
CM04	**Chiang Mai Arr**	**5.19**	**106**	P	**Pn**	**19 43 20.5**	**+0.4**
UMPA	**Umpang Tak**	**6.11**	**126**	P	**Pn**	**19 43 34.4**	**+1.5**
PHRA	**Phrae**	**6.30**	**102**	P	**Pn**	**19 43 36.4**	**+1.0**
UTTA	**Uttaradit**	**6.81**	**107**	P	**Pn**	**19 43 43.3**	**+0.9**
PHIT	**Phitsanulok**	**6.90**	**112**	P	**Pn**	**19 43 44.2**	**+0.7**
UTHA	**Uthaitani**	**6.95**	**127**	P	**Pn**	**19 43 44.1**	**-0.3**
MKAR	**Makanchi Array**	**28.41**	**343**	P	**P**	**19 47 56.8**	**+0.7**
	0.4nm,0.6s,baz=155,slow=9.1,SNR=5.4						
SONM	**Songino Array**	**29.70**	**17**	P	**P**	**19 48 07.4**	**-0.3**
	0.2nm,0.4s,baz=205,slow=7.5,SNR=3.3						
H08S3	**Diego Garcia H**	**34.43**	**219**	T	T	20 24 10.7	
	baz=36,slow=75,SNR=6.0						
H08S2	**Diego Garcia H**	**34.44**	**219**	T	T	20 24 12.9	
	baz=36,slow=75,SNR=3.1						
H08S1	**Diego Carcia H**	**34.45**	**219**	T	T	20 24 13.3	
	baz=36,slow=75,SNR=3.7						
KSRS	**Korea Array**	**34.48**	**52**	P	**P**	**19 48 49.2**	**-0.4**
	0.2nm,0.4s,baz=248,slow=6.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**34.67**	**351**	P	**P**	**19 48 51.2**	**+0.2**
	0.3nm,0.4s,baz=167,slow=7.0,SNR=3.7						
ZALV				LR	LR	20 06 13.6	
	comp=Z,12nm,18.5s,baz=60,slow=42						
USRK	**Ussuriysk Ar.**	**39.96**	**44**	P	**P**	**19 49 35.6**	**-0.3**
	0.6nm,0.4s,baz=255,slow=6.4,SNR=4.7						
USRK				LR	LR	20 08 28.4	
	comp=Z,20nm,19.3s,baz=240,slow=40						
KBZ	**Khabaz**	**48.40**	**311**	LR	LR	20 14 41.3	
	comp=Z,19nm,18.1s,baz=96,slow=40						
WRA	**Warramunga Arr**	**56.13**	**132**	P	**P**	**19 51 40.5**	**-0.7**
	0.1nm,0.4s,baz=320,slow=7.5,SNR=1.4						

JMA ***14*** *19:47:40.0±0.1, 30.°86N×142.°66E, h57km, M3.6*

IDC ***14*** *19:47:47.6±3.9, 30.°11N×141.°15E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/30, mbtmp3.3/5, ML2.4/1, Error ellipse: s-maj=150.8km s-min=24.2km az=72.0*

ISC 14 19:47:41.3±1.8, 30.°8N±0.°1×142.°1E±0.°5, h10km, n9, σ2°39/7, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.73**	**179**	S	**Sn**	**19 49 20.1**	**-2.9**
BSO1	**Boso 1**	**3.92**	**346**	P	**Pn**	**19 48 40.9**	**-0.1**
BSO3	**Boso 3**	**4.17**	**342**	P	**Pn**	**19 48 45.4**	**+0.6**
JYT	**Yasato**	**5.60**	**344**	S	**Sn**	**19 50 06.7**	**-2.4**
MJAR	**Matsushiro Arr**	**6.55**	**331**	Pn	Pb	19 49 29.0	-6.2
	0.1nm,0.3s,baz=156,slow=11,SNR=4.2						
MJAR				Sn	**Sn**	**19 50 32.3**	**-0.1**
	0.0nm,0.3s,baz=43,slow=42,SNR=1.5						
SONM	**Songino Array**	**32.06**	**312**	P	P	19 54 15.1	+6.7
	0.2nm,0.5s,baz=105,slow=7.2,SNR=2.1						
MKAR	**Makanchi Array**	**48.10**	**307**	P	P	19 56 27.6	+6.4
	0.2nm,0.4s,baz=83,slow=9.4,SNR=4.1						
WRA	**Warramunga Arr**	**51.04**	**189**	P	**P**	**19 56 44.3**	**+0.5**
	0.3nm,0.6s,baz=6.9,slow=7.7,SNR=6.7						
ASAR	**Alice Springs**	**54.76**	**189**	P	**P**	**19 57 14.1**	**+2.8**
	0.3nm,0.9s,baz=359,slow=7.4,SNR=1.9						

IDC ***14*** *19:58:50.0±1.8, 2.°55N×128.°77E, h221km±18km, mb3.7/13, mb1 3.9/16, mb1mx3.6/38, mbtmp4.4/16, Error ellipse: s-maj=19.6km s-min=8.2km az=82.0*

DJA ***14*** *19:58:51.4±0.3, 3.°1N±3.°1×12.°9E±.°1, h224km±3km, M4.4/33, mB4.9/9, mb4.5/33, MLv4.7/14, Mw(mB)4.2/9*

NEIC ***14*** *19:58:51.5±1.4, 2.°53N±0.°09×128.°5E±0.°1, h231km±9km, mb4.6/24, Error ellipse: s-maj=19.0km s-min=12.1km az=76.0*

KLM ***14*** *19:58:54, 2.°61N×128.°30E, h196km, mb4.4*

ISC 14 19:58:52.3±0.5, 2.°53N±0.°05×128.°47E±0.°07, h250km, n117, σ1°73/108, mb4.4/32, 2C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.97**	**225**	P	**Pn**	**19 59 23.3**	**-3.9**
TNTI	**Ternate**	**2.07**	**212**	Pn	**Pn**	**19 59 33.1**	**-2.3**
TNTI	**Ternate**	**2.07**	**212**	P	**Pn**	**19 59 33.1**	**-2.3**
SGSI	**Sangihe**	**3.15**	**291**	P	**Pn**	**19 59 44.2**	**-2.2**
SWI	**Sorong**	**4.38**	**140**	P	**Pn**	**19 59 59.2**	**-1.4**
SIJI	**Sorong**	**4.39**	**140**	P	**Pn**	**19 59 59.4**	**-1.4**
	16nm,0.3s,baz=331,slow=16,SNR=61						
SIJI	**Sorong**	**4.39**	**140**	P	**Pn**	**19 59 59.3**	**-1.4**
DDMP	**Don Marcelino,**	**4.49**	**322**	*eP*	**Pn**	**19 59 59.3**	**-2.6**
KMSI	**Cibinong**	**4.89**	**247**	P	**Pn**	**20 00 05.3**	**-1.5**
MATI	**Mati**	**4.91**	**333**	*eP*	Pn	20 00 01.4	-5.6
SANI	**Sanana**	**5.18**	**209**	P	**Pn**	**20 00 07.1**	**-3.3**
	2.5nm8μm490nm,0.6s						
DAV	**Davao City (W)**	**5.35**	**328**	P	**Pn**	**20 00 10.1**	**-2.3**
	37nm,0.3s,baz=193,slow=3.6,SNR=6.1						
SKMP	**Bagumbayan, Su**	**5.57**	**315**	*eP*	**Pn**	**20 00 12.1**	**-3.0**
KCP	**Kidapawan**	**5.58**	**323**	*eP*	**Pn**	**20 00 13.7**	**-1.6**
GTOI	**Gorontalo**	**5.77**	**251**	P	**Pn**	**20 00 17.2**	**-0.4**
	0.5nm2μm114nm,0.7s						
KRAI	**Karang Ratu**	**5.81**	**181**	P	**Pn**	**20 00 18.5**	**+0.3**
	0.5nm96nm,0.9s						
MSAI	**Masohi**	**5.86**	**176**	P	**Pn**	**20 00 19.4**	**+0.7**
	0.2nm905nm61nm,1.0s						
NLAI	**Namlea**	**5.89**	**193**	P	**Pn**	**20 00 18.3**	**-0.9**
	0.4nm46nm,0.7s						
FAKI	**Fak Fak**	**6.60**	**145**	Pn	**Pn**	**20 00 27.2**	**-0.8**
FAKI	**Fak Fak**	**6.60**	**145**	P	**Pn**	**20 00 27.0**	**-1.0**
	0.4nm1μm143nm,0.8s						
LUWI	**Luwuk**	**6.71**	**238**	Pn	**Pn**	**20 00 26.9**	**-2.5**
LUWI	**Luwuk**	**6.71**	**238**	P	**Pn**	**20 00 26.7**	**-2.7**
	2.3nm4μm307nm,0.6s						
MRSI	**Marisa**	**6.84**	**253**	P	**Pn**	**20 00 29.5**	**-1.5**
	0.6nm2μm128nm,0.5s						
CGP	**Cagayan de Oro**	**6.98**	**328**	*eP*	**Pn**	**20 00 33.1**	**+0.4**
BUTP	**Butuan**	**6.99**	**336**	*eP*	**Pn**	**20 00 33.0**	**+0.1**
PAGZ	**Pagadian**	**7.32**	**316**	*eP*	**Pn**	**20 00 34.3**	**-2.7**
GLSP	**General Luna,**	**7.57**	**342**	*eP*	**Pn**	**20 00 36.0**	**-4.2**
APSI	**Ampana**	**7.63**	**243**	P	**Pn**	**20 00 39.0**	**-2.0**
	0.6nm2μm120nm,0.5s						
TOLI2	**Tolitoli**	**7.81**	**260**	Pn	**Pn**	**20 00 41.8**	**-1.5**
MSLP	**Maasin**	**8.36**	**335**	*eP*	**Pn**	**20 00 48.5**	**-1.7**
MPSI	**Mapaga**	**8.84**	**256**	P	**Pn**	**20 00 55.9**	**-0.4**
	33nm,1.2s						
CNOP	**Candoni, Negro**	**9.28**	**322**	*eP*	**Pn**	**20 00 59.7**	**-2.1**
TTSI	**Tana Toraja**	**10.27**	**237**	P	**Pn**	**20 01 13.7**	**-0.6**
	1μm113nm,0.5s						
BNSI	**Bone**	**10.83**	**231**	P	**P**	**20 01 21.7**	**-4.2**
	39nm,0.6s						
KAPI	**Kappang**	**11.49**	**229**	P	**P**	**20 01 33.0**	**-0.3**
	3.7nm,0.3s,baz=61,slow=11,SNR=5.4						
KAPI				S	**S**	**20 03 37.7**	**-0.4**
	4.0nm,0.3s,baz=36,slow=19,SNR=6.0						
KAPI	**Kappang**	**11.49**	**229**		**Pn**	**20 01 28.4**	**-1.2**
SPMM	**Sapulut**	**12.17**	**281**	P	**P**	**20 01 40.0**	**-0.9**
ENPP	**El Nido**	**12.44**	**314**	*eP*	**Pn**	**20 01 39.0**	**-2.4**
BUSP	**Coron**	**12.48**	**319**	*eP*	**P**	**20 01 42.7**	**-1.5**
BOAC	**Boac**	**12.68**	**329**	*eP*	**P**	**20 01 44.8**	**-1.7**
GENI	**Genyem**	**12.76**	**113**	P	P	20 01 49.1	+1.7
	70nm,1.2s						
SOEI	**Soe**	**12.91**	**199**		**P**	**20 01 49.0**	**-0.1**
SOEI	**Soe**	**12.91**	**199**	P	**P**	**20 01 49.0**	**-0.1**
	84nm,0.9s						
JCNP	**Jose Panganiba**	**13.00**	**334**	*eP*	**P**	**20 01 47.8**	**-2.2**
LQP	**Lukban**	**13.39**	**330**	*eP*	**P**	**20 01 50.6**	**-3.9**
BATI	**Baumata**	**13.53**	**201**	P	**P**	**20 01 55.2**	**-0.8**
	10nm,0.3s,baz=95,slow=11,SNR=16						
BATI	**Baumata**	**13.53**	**201**	P	**P**	**20 01 55.7**	**-0.3**
	44nm,0.7s						
LUBP	**Lubang**	**13.78**	**324**	*eP*	**P**	**20 01 59.4**	**+0.6**
MACP	**Maragondon, Ca**	**13.94**	**327**	*eP*	**P**	**20 02 01.3**	**+0.8**
MTKI	**Muara Teweh, K**	**14.00**	**256**	P	**P**	**20 02 02.9**	**+1.7**
	918nm28nm,0.9s						
BBKI	**Banjar Baru**	**14.87**	**246**	P	**Pn**	**20 02 12.8**	**+1.8**
	25nm,1.7s						
MTN	**Manton Dam**	**15.50**	**170**	P	**Pn**	**20 02 16.8**	**-1.8**
PLAI	**Plampang**	**15.52**	**223**	P	**Pn**	**20 02 19.6**	**+0.7**
	26nm,0.7s						
SMPP	**San Manuel, Pa**	**15.55**	**331**	*eP*	**Pn**	**20 02 17.1**	**-2.1**
CAUP	**Cauayan**	**15.74**	**336**	*eP*	**Pn**	**20 02 23.0**	**+1.6**
TWSI	**Taliwang, Sumb**	**16.09**	**226**	P	**Pn**	**20 02 26.5**	**+0.9**
	12nm,0.8s						
BOLP	**Bolinao**	**16.13**	**329**	*eP*	**Pn**	**20 02 22.8**	**-3.2**
SBUM	**Sibu**	**16.23**	**270**	P	**Pn**	**20 02 29.0**	**+1.7**
SAMP	**Sagada Mountai**	**16.26**	**333**	*eP*	**Pn**	**20 02 28.3**	**+0.8**
APYP	**Conner**	**16.80**	**336**	*eP*	**Pn**	**20 02 33.1**	**-0.8**
SZP	**Santa**	**16.87**	**333**	P	**Pn**	**20 02 34.0**	**-0.7**
SRBI	**Singaraja**	**16.91**	**231**	P	**Pn**	**20 02 36.4**	**+1.1**
	53nm,1.4s						
KMMI	**Kalianget**	**17.32**	**237**	P	**Pn**	**20 02 41.0**	**+0.9**
	80nm,1.5s						
JAGI	**Jajag, Banyuwa**	**17.98**	**232**	P	**Pn**	**20 02 47.6**	**-0.2**
	27nm,1.2s						
KNRA	**Kununurra**	**18.10**	**179**	P	**Pn**	**20 02 46.4**	**-2.7**
KSM	**Kuching**	**18.18**	**267**	P	**Pn**	**20 02 50.0**	**-0.2**
SJI	**Sawahan**	**19.54**	**238**	P	**Pn**	**20 03 03.9**	**-2.3**
	69nm,0.8s						
PWJI	**Pagerwojo**	**19.65**	**238**	P	**Pn**	**20 03 04.3**	**-3.1**
	43nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.69**	**188**	P	**P**	**20 03 12.7**	**-1.1**
	3.8nm,0.5s,baz=22,slow=11,SNR=38						
FITZ	**Fitzroy Crossi**	**20.69**	**188**	P	**P**	**20 03 13.0**	**-0.8**
TWG	**Pinlang**	**21.41**	**341**	P	**P**	**20 03 17.7**	**-3.2**
TWG				IAmb	IAmb	20 03 19.9	
	comp=Z,24nm,0.8s						
CTJI	**Waduk Cacaban**	**21.46**	**244**	P	**P**	**20 03 23.4**	**+1.9**
	comp=Z,18nm,0.8s						
KPJI	**Karang Pucung**	**21.82**	**243**	P	**P**	**20 03 26.4**	**+1.6**
	comp=Z,26nm,0.7s						
YULB	**Yu-li**	**21.87**	**342**	P	**P**	**20 03 23.7**	**-1.4**
YULB				IAmb	IAmb	20 03 35.9	
	comp=Z,6.5nm,0.7s						
TPUB	**Ta-pu**	**22.00**	**340**	P	**P**	**20 03 25.7**	**-0.6**
SSLB	**Suanglung**	**22.34**	**342**	P	**P**	**20 03 29.2**	**-0.3**
SSLB				IAmb	IAmb	20 03 32.1	
	comp=Z,12nm,0.7s						
LEM	**Lembang**	**22.80**	**246**	P	**P**	**20 03 37.1**	**+3.2**
	comp=Z,46nm,0.9s,baz=58,slow=9.2,SNR=9.4						
LEM	**Lembang**	**22.80**	**246**	P	**P**	**20 03 37.6**	**+3.7**
	comp=Z,32nm,0.9s						
WB0	**Warramunga Arr**	**22.91**	**166**	P	**P**	**20 03 34.5**	**-0.2**
WB0				IAmb	IAmb	20 03 36.6	
	comp=Z,25nm,0.7s						
YHNB	**Yeheng**	**23.05**	**343**	P	**P**	**20 03 36.4**	**+0.4**
YHNB				IAmb	IAmb	20 03 38.0	
	comp=Z,24nm,1.0s						
WRAB	**Tennant Creek**	**23.06**	**166**	P	**P**	**20 03 36.0**	**-0.1**
WRAB				IAmb	IAmb	20 03 38.2	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**23.07**	**166**	P	**P**	**20 03 35.7**	**-0.4**
	comp=Z,15nm,0.6s,baz=346,slow=9.8,SNR=133						
WRA	**Warramunga Arr**	**23.07**	**166**	P	**P**	**20 03 35.1**	**-1.1**
WB2	**Warramunga Arr**	**23.07**	**166**	P	**P**	**20 03 36.3**	**+0.2**
WB2				IAmb	IAmb	20 03 38.3	
	comp=Z,20nm,0.8s						
WR0	**Warramunga Arr**	**23.13**	**165**	P	**P**	**20 03 36.5**	**-0.3**
WR0				IAmb	IAmb	20 03 38.9	
	comp=Z,23nm,0.9s						
MYKOM	**Kota Tinggi**	**24.61**	**269**	P	P	20 03 55.0	+4.7
AS31	**Alice Springs**	**26.57**	**169**	P	**P**	**20 04 07.6**	**-0.2**
AS31				IAmb	IAmb	20 04 08.5	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**26.57**	**169**	P	**P**	**20 04 07.8**	**+0.1**
	comp=Z,7.3nm,0.6s,baz=355,slow=8.0,SNR=215						
ASAR				ScP	**ScP**	**20 10 43.8**	**+2.3**
	comp=Z,0.5nm,1.0s,baz=333,slow=3.1,SNR=4.3						
GIRL	**Giralia**	**28.62**	**208**	P	**P**	**20 04 27.6**	**+1.7**
NJ2	**Nanjing**	**30.73**	**344**	*eP*	**P**	**20 04 45.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ENH	**Enshi**	**32.93**	**329**	P	**P**	**20 05 05.0**	**+1.4**
ENH				IAmb	IAmb	20 05 06.2	
	comp=Z,7.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.97**	**301**	P	P	20 05 07.1	+3.0
	comp=Z,0.3nm,0.4s,baz=119,slow=7.4,SNR=4.5						
FORT	**Forrest**	**33.13**	**181**	P	**P**	**20 05 05.5**	**+0.3**
FORT				IAmb	IAmb	20 05 06.2	
	comp=Z,34nm,1.1s						
JWT	**Wachi**	**33.22**	**10**	P	**P**	**20 05 06.5**	**+0.6**
KSAR	**Wonju Array Be**	**34.74**	**359**	P	P	20 05 20.1	+1.1
KSRS	**Korea Array**	**34.76**	**359**	P	P	20 05 20.1	+1.0
	comp=Z,3.0nm,0.5s,baz=174,slow=9.5,SNR=24						
MJAR	**Matsushiro Arr**	**35.02**	**14**	P	**P**	**20 05 20.2**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=185,slow=9.0,SNR=12						
MAT	**Matsushiro**	**35.02**	**14**	P	**P**	**20 05 20.4**	**-1.0**
BBOO	**Buckleboo**	**35.88**	**169**	P	**P**	**20 05 29.0**	**+0.3**
BBOO				IAmb	IAmb	20 05 29.8	
	comp=Z,21nm,0.6s						
XAN	**Xi'an**	**36.27**	**332**	P	**P**	**20 05 33.3**	**+1.2**
XAN				pP	pP	20 05 39.3	-43
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**36.42**	**161**	P	**P**	**20 05 33.5**	**+0.2**
	comp=Z,3.5nm,0.4s,baz=341,slow=8.8,SNR=35						
STKA	**Stephens Creek**	**36.42**	**161**	P	**P**	**20 05 33.7**	**+0.4**
BJI	**Beijing**	**38.97**	**345**	P	**P**	**20 05 55.6**	**+1.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**41.09**	**340**	*eP*	P	20 06 13.9	+1.9
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,76nm,7.0s						
USRK	**Ussuriysk Ar.**	**41.61**	**4**	P	**P**	**20 06 17.0**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=172,slow=7.0,SNR=6.0						
GTA	**Gaotai**	**45.01**	**328**	↑P	P	20 06 45.1	+1.7
GTA				pP	pwP	20 07 34.3	-1.6
GTA				sP	sP	20 08 05.6	+1.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ULN	**Ulaanbaatar**	**48.80**	**341**	P	P	20 07 13.8	+1.3
	comp=Z,14nm,0.9s						
SONM	**Songino Array**	**48.99**	**340**	P	**P**	**20 07 15.1**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=148,slow=8.6,SNR=7.2						
SONM	**Songino Array**	**48.99**	**340**	P	P	20 07 15.4	+1.6
WMQ	**Urumqi**	**54.70**	**325**	*eP*	P	20 07 57.9	+2.0
MK31	**Makanchi Array**	**59.52**	**325**	P	**P**	**20 08 30.4**	**+0.8**
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**20 08 30.9**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=116,slow=8.1,SNR=25						
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**20 08 30.8**	**+1.2**
MAKZ	**Makanchi**	**59.71**	**325**	P	**P**	**20 08 31.7**	**+0.9**
ZALV	**Zalesovo Beam**	**62.44**	**333**	P	**P**	**20 08 49.2**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=95,slow=8.8,SNR=2.5						
GEYT	**Alibeck**	**72.99**	**309**	P	**P**	**20 09 54.5**	**-0.5**
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**20 10 45.2**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=315,slow=5.8,SNR=13						

IDC ***14*** *20:23:43.1±1.2, 2.°38N×128.°78E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/35, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=74.6km s-min=18.2km az=71.0*

ISC 14 20:23:48.0±1.0, 2.°4N±0.°2×128.°9E±0.°3, h35km, n12, σ0°63/8, mb3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.97**	**144**	Pn	**Pn**	**20 24 47.3**	**+0.8**
	1.9nm,0.3s,baz=234,slow=23,SNR=4.0						
SIJI				Sn	**Sn**	**20 25 31.0**	**-0.9**
	2.1nm,0.3s,baz=43,slow=24,SNR=7.7						
FITZ	**Fitzroy Crossi**	**20.57**	**189**	P	**P**	**20 28 24.0**	**0.0**
	1.3nm,0.8s,baz=6.3,slow=9.2,SNR=1.7						
WRA	**Warramunga Arr**	**22.79**	**167**	P	**P**	**20 28 47.7**	**0.0**
	0.7nm,0.7s,baz=346,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.31**	**170**	P	**P**	**20 29 20.9**	**+0.2**
	0.9nm,0.8s,baz=359,slow=7.6,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**40.33**	**64**	T	T	21 14 34.8	
	baz=251,slow=75,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**40.35**	**64**	T	T	21 14 39.0	
	baz=251,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**40.35**	**64**	T	T	21 14 38.6	
	baz=251,slow=75,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**40.92**	**62**	T	T	21 15 24.5	
	baz=250,slow=75,SNR=47						
H11N2	**WAKE ISLAND Hy**	**40.93**	**62**	T	T	21 15 22.8	
	baz=250,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**40.94**	**62**	T	T	21 15 23.4	
	baz=250,slow=75,SNR=46						
SONM	**Songino Array**	**49.31**	**340**	P	**P**	**20 32 33.9**	**+0.2**
	0.7nm,0.5s,baz=143,slow=5.8,SNR=5.4						
MKAR	**Makanchi Array**	**59.92**	**325**	P	**P**	**20 33 50.6**	**-0.1**
	0.4nm,0.5s,baz=114,slow=8.2,SNR=8.3						
MKAR				PcP	**PcP**	**20 34 36.0**	**-0.7**
	0.5nm,0.7s,baz=106,slow=3.1,SNR=3.6						

IDC ***14*** *20:51:11.8±1.1, 5.°44S×153.°22E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.7/39, mbtmp3.7/11, ML2.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=31.3

STKA	**Stephens Creek**	**44.04**	**239**	P		**P**	**21 06 26.8**	**-1.7**
	3.2nm,0.8s,baz=82,slow=10,SNR=7.2							
STKA				LR		LR	21 22 47.9	
	comp=Z,69nm,19.0s,baz=28,slow=34							
STKA	**Stephens Creek**	**44.04**	**239**	P		**P**	**21 06 26.0**	**-2.5**
BBOO	**Buckleboo**	**48.82**	**239**	P		**P**	**21 07 04.7**	**-1.4**
BBOO				IAmb		IAmb	21 07 05.1	
	comp=Z,10nm,0.9s							
WR0	**Warramunga Arr**	**49.43**	**256**	P		**P**	**21 07 07.7**	**-3.2**
WR0				IAmb		IAmb	21 07 10.7	
	comp=Z,12nm,1.1s							
WB0	**Warramunga Arr**	**49.58**	**256**	P		**P**	**21 07 09.7**	**-2.4**
WB0				IAmb		IAmb	21 07 11.0	
	comp=Z,8.3nm,0.9s							
WB2	**Warramunga Arr**	**49.61**	**256**	P		**P**	**21 07 09.3**	**-3.0**
WB2				IAmb		IAmb	21 07 11.4	
	comp=Z,14nm,1.1s							
WRA	**Warramunga Arr**	**49.62**	**256**	P		**P**	**21 07 10.2**	**-2.1**
	comp=Z,4.5nm,0.9s,baz=95,slow=7.4,SNR=28							
WRA	**Warramunga Arr**	**49.62**	**256**	P		**P**	**21 07 09.6**	**-2.7**
AS31	**Alice Springs**	**49.95**	**251**	P		**P**	**21 07 13.4**	**-1.5**
ASAR	**Alice Springs**	**49.95**	**251**	P		**P**	**21 07 13.6**	**-1.3**
	comp=Z,54nm,0.7s,baz=85,slow=7.8,SNR=522							
ASAR				LR		LR	21 26 36.6	
	comp=Z,76nm,21.1s,baz=103,slow=34							
ASAR	**Alice Springs**	**49.95**	**251**	P		**P**	**21 07 13.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**57.97**	**258**	LR		LR	21 29 49.4	
	comp=Z,56nm,21.4s,baz=97,slow=33							
BATI	**Baumata**	**61.06**	**266**	LR		LR	21 33 24.0	
	comp=Z,62nm,18.2s,baz=171,slow=35							
VNDA	**Vanda**	**64.02**	**186**	P		**P**	**21 08 54.2**	**+0.6**
	comp=Z,1.4nm,1.1s,baz=3.5,slow=5.7,SNR=4.3							
VNDA				LR		LR	21 31 40.5	
	comp=Z,22nm,21.1s,baz=346,slow=31							
MJAR	**Matsushiro Arr**	**68.16**	**320**	P		**P**	**21 09 20.5**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=153,slow=8.0,SNR=5.0							
PETK	**Petropavlovsk-**	**71.86**	**342**	P		**P**	**21 09 44.2**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=142,slow=10,SNR=4.4							
PETK				LR		LR	21 36 48.1	
	comp=Z,10nm,21.1s,baz=114,slow=32							
NVAR	**Mina Array Bea**	**74.09**	**42**	P		**P**	**21 09 59.7**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=236,slow=9.7,SNR=7.7							
NVAR				LR		LR	21 35 28.8	
	comp=Z,78nm,19.1s,baz=248,slow=30							
QSPA	**South Pole Qui**	**75.33**	**180**	P		**P**	**21 10 03.5**	**-0.2**
QSPA				IAmb		IAmb	21 10 08.8	
	comp=Z,6.8nm,1.2s							
KSRS	**Korea Array**	**75.39**	**316**	P		**P**	**21 10 06.0**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=133,slow=6.7,SNR=5.7							
KLR	**Kul'dur**	**79.73**	**327**	LR		LR	21 41 13.9	
	comp=Z,20nm,19.5s,baz=136,slow=32							
BARN	**Barnard Glacie**	**79.75**	**15**	P		**P**	**21 10 28.8**	**+0.3**
BARN				IAmb		IAmb	21 10 34.2	
	comp=Z,11nm,1.2s							
TXAR	**Lajitas Array**	**80.56**	**56**	P		**P**	**21 10 36.6**	**+3.1**
	comp=Z,3.0nm,1.0s,baz=219,slow=6.4,SNR=20							
TXAR				LR		LR	21 38 33.5	
	comp=Z,52nm,21.7s,baz=0.0,slow=30							
IMAR	**Indian Mountai**	**81.85**	**8**	P		**P**	**21 10 39.5**	**+0.1**
ILAR	**Eielson Array**	**81.85**	**11**	P		**P**	**21 10 40.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=206,slow=7.0,SNR=9.5							
ILAR				LR		LR	21 37 55.6	
	comp=Z,41nm,21.6s,baz=209,slow=29							
ILAR	**Eielson Array**	**81.85**	**11**	P		**P**	**21 10 38.4**	**-1.0**
PDAR	**Pinedale Array**	**82.02**	**42**	P		**P**	**21 10 43.2**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=248,slow=4.0,SNR=8.9							
PDAR				LR		LR	21 42 46.0	
	comp=Z,46nm,18.1s,baz=262,slow=32							
BMAR	**Burnt Mountain**	**84.65**	**11**	P		**P**	**21 10 55.2**	**+1.4**
H03S2	**Juan Fernandez**	**85.91**	**124**	T		T	22 46 17.6	
	baz=252,slow=75,SNR=12							
H03S1	**Juan Fernandez**	**85.93**	**124**	T		T	22 46 19.1	
	baz=252,slow=75,SNR=7.0							
H03S3	**Juan Fernandez**	**85.93**	**124**	T		T	22 46 17.8	
	baz=252,slow=75,SNR=6.4							
MAW	**Mawson**	**88.32**	**199**	LR		LR	21 48 50.4	
	comp=Z,40nm,18.4s,baz=32,slow=34							
CMAR	**Chiang Mai Arr**	**92.02**	**288**	P		**P**	**21 11 30.8**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=110,slow=3.0,SNR=7.1							
CMAR				LR		LR	21 47 16.4	
	comp=Z,18nm,21.6s,baz=188,slow=32							
ULM	**Lac du Bonnet**	**93.65**	**39**	LR		LR	21 49 33.9	
	comp=Z,73nm,18.4s,baz=230,slow=33							
ARCES	**ARCESS Array B**	**123.87**	**352**	PKP		**PKiKP**	**21 17 18.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=38,slow=2.2,SNR=3.6							
DPC	**Dobruska-Polom**	**143.51**	**349**	*e*PKP		**PKPdf**	**21 17 54.0**	**-1.4**
KHC	**Kasperske Hory**	**145.14**	**352**	*e*PKP		**PKPdf**	**21 17 59.5**	**+1.3**
CKRC	**Cesky Krumlov**	**145.33**	**351**	*e*PKP		**PKPdf**	**21 17 59.9**	**+1.4**
BRTR	**Keskin Array B**	**145.37**	**321**	PKPbc		**PKPdf**	**21 18 00.3**	**+1.3**
	comp=Z,4.7nm,0.8s,baz=101,slow=2.5,SNR=37							
GERES	**GERESS Array B**	**145.40**	**351**	PKPbc		**PKPab**	**21 17 59.8**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=5.7,slow=4.0,SNR=10							
CONA	**Conrad Observa**	**145.92**	**348**	*e*P		**PKiKP**	**21 18 02.5**	**-1.2**
	comp=Z,9.0nm,1.6s							
MOA	**Molln**	**146.28**	**350**	*e*P		**PKiKP**	**21 18 03.1**	**-1.4**
	comp=Z,3.8nm,1.0s							
RETA	**Reutte**	**147.10**	**354**	*e*P		**PKPab**	**21 18 05.0**	**-0.3**
	comp=Z,4.7nm,1.1s							
WATA	**Walderalm**	**147.16**	**353**	*e*P		**PKPab**	**21 18 05.6**	**0.0**
	comp=Z,2.6nm,0.9s							
MOTA	**Moosalm**	**147.21**	**354**	*e*P		**PKPab**	**21 18 05.0**	**-0.8**
	comp=Z,7.6nm,1.1s							
WTTA	**Wattenberg**	**147.23**	**353**	*e*P		**PKPab**	**21 18 05.1**	**-0.8**
	comp=Z,5.2nm,0.8s							
DAVA	**Damuels**	**147.37**	**355**	*e*P		**PKiKP**	**21 18 06.9**	**0.0**
	comp=Z,4.9nm,1.2s							
OBKA	**Obir**	**147.53**	**349**	*e*P		**PKPbc**	**21 18 05.2**	**+0.3**
	comp=Z,13nm,1.9s							
FETA	**Feichten**	**147.56**	**354**	*e*P		**PKPab**	**21 18 06.9**	**-0.3**
	comp=Z,2.9nm,0.9s							
MYKA	**Terra Mystica**	**147.57**	**350**	*e*P		**PKPbc**	**21 18 04.9**	**-0.1**
	comp=Z,3.0nm,0.5s							
ABTA	**Abfaltersbach**	**147.62**	**352**	*e*P		**PKPbc**	**21 18 05.6**	**+0.3**
	comp=Z,5.6nm,1.0s							
ESDC	**Sonseca Array**	**153.58**	**18**	PKPbc		**PKiKP**	**21 18 21.1**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=330,slow=4.2,SNR=4.5							

KRSC 14 21:08:59.9±1.7, 49°58N×156°74E, h40km±27km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.18**	**340**	P		Pn	21 09 20.7	+0.9
SKR				S		Sn	21 09 35.8	+1.1
ALID	**Alaid**	**1.50**	**330**	P		Pn	21 09 25.6	+1.1
ALID				S		Sn	21 09 44.1	+1.2
PAU	**Pauzhetka**	**1.89**	**1**	P		Pn	21 09 32.6	+2.9
PAU				S		Sn	21 09 56.5	+4.2
KDTR	**Khodutka, Kamc**	**2.39**	**20**	P		Pn	21 09 39.7	+3.2
KDTR				S		Sn	21 10 08.4	+3.9
MIPR	**Malaya Ipel'ka**	**2.70**	**0**	P		Pn	21 09 43.2	+2.4
MIPR				S		Sn	21 10 14.2	+1.9
MTVR	**Mutnovka**	**3.05**	**17**	P		Pn	21 09 49.2	+3.5
MTVR				S		Sn	21 10 24.8	+3.8
RUS	**Russkaya**	**3.07**	**21**	P		Pn	21 09 48.9	+3.1
RUS				S		Sn	21 10 24.9	+3.6
GRL	**Gorelyy**	**3.10**	**15**	P		Pn	21 09 50.6	+4.3
GRL				S		Sn	21 10 27.0	+4.9
UGLR	**Uglovaya**	**3.87**	**19**	P		Pn	21 10 01.3	+4.5
KOK	**Koryaka**	**3.91**	**17**	P		Pn	21 10 02.2	+4.8
SMAR	**Somma**	**3.91**	**18**	P		Pn	21 10 02.5	+4.9
SDLR	**Sedlovina**	**3.94**	**19**	P		Pn	21 10 01.4	+3.5
KRX	**Arik**	**3.97**	**17**	P		Pn	21 10 03.4	+5.1
KRX				S		Sn	21 10 50.2	+6.5
SPN	**Mys Shipunski**	**4.08**	**29**	S		Sn	21 10 50.3	+4.1
MKZ	**Mys Kozlova**	**5.86**	**30**	P		Pn	21 10 27.7	+3.7

*IDC **14** 21:09:57.6±0.8, 57°.36S×26°.19W, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/24, mbtmp4.1/7, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=26.2km s-min=23.0km az=43.0*

*NEIC **14** 21:10:12.1±1.2, 57°.5S±0°.1×26°.2W±0°.2, h122km±8km, mb4.3/14, Error ellipse: s-maj=19.6km s-min=13.4km az=224.0*

ISC 14 21:10:09.6±0.6, 57°.5S±0°.1×26°.0W±0°.1, h100km, n27, σ1§15/27, mb4.3/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**6.71**	**294**	P		**Pn**	**21 11 46.9**	**+1.5**
HOPE				Sn		**Sn**	**21 13 02.2**	**+1.8**
VNA1	**Neumayer--Stat**	**15.23**	**157**	P		**Pn**	**21 13 38.2**	**-0.6**
VNA3	**Neumayer Olymp**	**15.43**	**160**	P		**Pn**	**21 13 40.4**	**-0.9**
SNAA	**Sanae**	**17.17**	**155**	P		**P**	**21 14 04.5**	**+1.4**
SNAA	**Sanae**	**17.17**	**155**	P		**Pn**	**21 14 02.4**	**-0.5**
	0.4nm,0.3s,baz=314,slow=12,SNR=12							
SNAA	**Sanae**	**17.17**	**155**	P		**P**	**21 14 03.8**	**+0.7**
PLTB	**Pedras Altas**	**31.94**	**312**	P		**P**	**21 16 24.8**	**-0.9**
QSPA	**South Pole Qui**	**32.78**	**180**	P		**P**	**21 16 32.9**	**+0.1**
QSPA				IAmb		IAmb	21 16 33.6	
	comp=Z,3.9nm,0.7s							
CPUP	**Villa Florida**	**38.25**	**311**	P		**P**	**21 17 17.2**	**-2.5**
	comp=Z,0.9nm,0.5s,baz=154,slow=10,SNR=2.3							
CPUP	**Villa Florida**	**38.25**	**311**	P		**P**	**21 17 17.6**	**-2.2**
CPUP				IAmb		IAmb	21 17 22.6	
	comp=Z,4.5nm,1.2s							
MT09	**Talagante**	**38.38**	**288**	P		**P**	**21 17 19.2**	**-1.8**
MT01	**Popeta**	**38.45**	**288**	P		**P**	**21 17 21.4**	**0.0**
MT01				IAmb		IAmb	21 17 40.1	
	comp=Z,8.0nm,1.1s							
SUR	**Sutherland**	**40.41**	**72**	LR		LR	21 30 18.9	
	comp=Z,30nm,20.1s,baz=148,slow=30							
VNDA	**Vanda**	**45.18**	**182**	P		**P**	**21 18 16.3**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=173,slow=6.7,SNR=17							
VNDA	**Vanda**	**45.18**	**182**	P		**P**	**21 18 15.6**	**0.0**
BOSA	**Boshof**	**45.71**	**73**	P		**P**	**21 18 20.2**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=216,slow=7.4,SNR=4.8							
BOSA	**Boshof**	**45.71**	**73**	P		**P**	**21 18 20.9**	**+0.3**
LBTB	**Lobatse**	**48.82**	**71**	P		**P**	**21 18 45.4**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=200,slow=7.8,SNR=5.7							
LBTB	**Lobatse**	**48.82**	**71**	P		**P**	**21 18 45.3**	**+0.6**
LBTB				IAmb		IAmb	21 18 45.4	
	comp=Z,7.2nm,1.3s							
LPAZ	**La Paz**	**51.73**	**305**	P		**P**	**21 19 06.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=173,slow=5.2,SNR=11							
LPAZ	**La Paz**	**51.73**	**305**	P		**P**	**21 19 06.1**	**-1.2**
LPAZ				IAmb		IAmb	21 19 09.4	
	comp=Z,3.2nm,0.9s							
SAML	**Samuel**	**56.27**	**314**	P		**P**	**21 19 39.0**	**-0.6**
SAML				IAmb		IAmb	21 19 56.0	
	comp=Z,5.7nm,1.5s							
TOA0	**Torodi Ar. Sit**	**73.98**	**28**	P		**P**	**21 21 35.0**	**+1.0**
TOA0				IAmb		IAmb	21 21 46.0	
	comp=Z,8.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**73.98**	**28**	P		**P**	**21 21 35.2**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=201,slow=6.4,SNR=20							
TORD	**Torodi Ar. Bea**	**73.98**	**28**	P		**P**	**21 21 35.1**	**+1.1**
SONM	**Songino Array**	**150.13**	**88**	PKPbc		**PKPbc**	**21 29 47.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=242,slow=3.1,SNR=2.3							
ILAR	**Eielson Array**	**151.54**	**309**	PKPbc		**PKPbc**	**21 29 50.4**	**0.0**
	comp=Z,2.0nm,0.7s,baz=127,slow=1.4,SNR=19							

*IDC **14** 21:18:39.2±2.0, 8°.28S×106°.92E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/45, mbtmp3.6/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/38, Error ellipse: s-maj=36.9km s-min=15.0km az=97.0*

*DJA **14** 21:18:42.2±0.4, 9°.5S±4°×10°.7E±°, h10km, M4.4/12, mb4.6/7, MLv4.3/12*

ISC 14 21:18:46.5±1.2, 8°.2S±0°.2×107°.4E±0°.1, h35km, n25, σ1§39/18, mb3.6/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.75**	**33**	P		**Pn**	**21 19 00.3**	**-0.3**
LEM	**Lembang**	**1.36**	**9**	P		**Pn**	**21 19 09.9**	**+0.8**
	41nm,0.3s,baz=175,slow=4.6,SNR=23							
LEM				Lg		Lg	21 19 29.1	
	298nm,0.3s,baz=348,slow=22,SNR=27							
LEM				LR		LR	21 19 47.6	
	comp=Z,186nm,19.1s,baz=5.0,slow=43							
LEM	**Lembang**	**1.36**	**9**	P		**Pn**	**21 19 11.1**	**+1.9**
KPJI	**Karang Pucung**	**1.74**	**61**	P		**Pn**	**21 19 15.3**	**+1.2**
DBJI	**Dramaga**	**1.74**	**338**	P		**Pn**	**21 19 15.9**	**+1.6**
CTJI	**Waduk Cacaban**	**2.12**	**57**	P		**Pn**	**21 19 21.4**	**+2.0**
UGM	**Wanagama**	**3.10**	**85**	P		**Pn**	**21 19 32.6**	**-0.4**
SMRI	**Semarang**	**3.22**	**70**	P		**Pn**	**21 19 35.9**	**+1.3**
SJI	**Sawahan**	**4.35**	**84**	P		**Pn**	**21 19 51.2**	**+1.0**
PWJI	**Pagerwojo**	**4.36**	**88**	P		**Pn**	**21 19 51.0**	**+0.7**
MDSI	**Maura Dua**	**4.87**	**319**	P		Pn	21 19 59.2	+1.9
	0.1nm25nm,0.9s							
EGSI	**Enggano, Bengk**	**5.81**	**299**	P		Pn	21 20 11.2	+1.0
	0.4nm54nm,0.8s							
MNAI	**Manna**	**5.83**	**310**	P		**Pn**	**21 20 11.4**	**+1.0**
	1.8nm398nm,1.7s							
JAGI	**Jajag, Banyuwa**	**6.69**	**93**	P		**Pn**	**21 20 21.9**	**-0.4**
	0.2nm43nm,0.9s							
TWSI	**Taliwang, Sumb**	**9.40**	**94**	P		**Pn**	**21 20 58.9**	**-0.6**
	10nm,0.8s							
PLAI	**Plampang**	**10.28**	**94**	P		**Pn**	**21 21 13.0**	**+1.4**
	27nm,1.0s							
WBSI	**Waikabubak, Su**	**11.94**	**98**	P		**Pn**	**21 21 33.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.29**	**121**	P		Pn	21 23 20.1	-1.4
	3.1nm,1.0s,baz=305,slow=8.8,SNR=4.4							
WRA	**Warramunga Arr**	**28.57**	**117**	P		**P**	**21 24 40.8**	**+1.3**
	0.1nm,0.5s,baz=296,slow=8.1,SNR=1.5							
H08S2	**Diego Garcia H**	**34.57**	**268**	T		T	22 02 31.4	
	baz=92,slow=76,SNR=9.1							
H08S3	**Diego Garcia H**	**34.58**	**268**	T		T	22 02 30.2	
	baz=92,slow=76,SNR=17							
H08S1	**Diego Garcia H**	**34.59**	**268**	T		T	22 02 31.4	
	baz=92,slow=76,SNR=8.6							
STKA	**Stephens Creek**	**39.56**	**131**	P		**P**	**21 26 14.8**	**+0.4**
	0.2nm,0.6s,baz=300,slow=12,SNR=3.7							
KSRS	**Korea Array**	**49.29**	**22**	LR		LR	21 49 26.6	
	comp=Z,5.1nm,18.2s,baz=55,slow=37							
MKAR	**Makanchi Array**	**59.13**	**340**	P		**P**	**21 28 40.7**	**-2.8**
	0.2nm,0.4s,baz=159,slow=8.6,SNR=3.0							

*IDC **14** 21:29:01.5±1.3, 30°.96N×142°.85E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.4/47, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=37.9km s-min=21.7km az=69.0*

*JMA **14** 21:29:06.5±0.2, 30°.32N×141°.04E, h211km, M3.3*

ISC 14 21:29:06.3±1.1, 30°.85N±0°.07×142°.7E±0°.2, h35km, n12, σ1§28/17, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**3.32**	**314**	P		**Pn**	**21 29 56.7**	**+1.0**
JHJ2				S		**Sn**	**21 30 35.8**	**+1.8**
JHJ	**Hachijo jima 2**	**3.35**	**313**	Pn		**Pn**	**21 29 55.8**	**-0.3**
	6.0nm,0.3s,baz=214,slow=18,SNR=17							
JHJ				Sn		**Sn**	**21 30 33.1**	**-1.5**
	12nm,0.3s,baz=57,slow=15,SNR=1.3							
CBIJ	**Chichi jima**	**3.76**	**187**	S		**Sn**	**21 30 43.5**	**-1.4**
JCJ	**Chichijima**	**3.76**	**187**	Pn		**Pn**	**21 30 03.0**	**+1.1**
	3.8nm,0.3s,baz=8.4,slow=22,SNR=6.3							
JCJ				Sn		**Sn**	**21 30 44.1**	**-0.8**
	7.8nm,0.3s,baz=281,slow=23,SNR=3.2							
JOD2	**Odawara 2**	**5.34**	**327**	P		**Pn**	**21 30 24.1**	**+0.6**
JOD2				S		**Sn**	**21 31 24.7**	**+0.9**
JRY	**Ryogami san**	**6.05**	**329**	S		**Sn**	**21 31 40.2**	**-1.0**
MJAR	**Matsushiro Arr**	**6.79**	**328**	Pn		**Pn**	**21 30 42.4**	**-1.1**
	0.2nm,0.3s,baz=139,slow=12,SNR=8.3							
MAT	**Matsushiro**	**6.80**	**328**	P		**Pn**	**21 30 42.1**	**-1.4**
MAT				S		**Sn**	**21 31 57.4**	**-2.2**
SONM	**Songino Array**	**32.43**	**312**	P		**P**	**21 35 32.8**	**-0.2**
	0.2nm,0.5s,baz=107,slow=6.8,SNR=1.4							
MKAR	**Makanchi Array**	**48.50**	**307**	P		**P**	**21 37 46.0**	**+0.4**
	0.4nm,0.7s,baz=90,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**51.13**	**190**	P		**P**	**21 38 07.1**	**+1.3**
	0.8nm,0.6s,baz=9.4,slow=7.6,SNR=12							
NVAR	**Mina Array Bea**	**77.88**	**53**	P		**P**	**21 41 00.8**	**-0.1**
	0.5nm,0.7s,baz=290,slow=5.6,SNR=3.9							

*NEIC **14** 21:54:14.4±0.8, 11°.41S±0°.05×163°.27E±0°.09, h35km±6km, mb4.7/55, Error ellipse: s-maj=12.7km s-min=7.5km az=74.0*

*IDC **14** 21:54:17.6±4.4, 11°.34S×163°.09E, h62km±35km, mb4.0/13, mb1 4.2/16, mb1mx4.1/27, mbtmp4.3/16, ML3.6/3, MS3.7/20, Ms1 3.6/20, ms1mx3.5/35, Error ellipse: s-maj=29.3km s-min=14.4km az=95.0*

ISC 14 21:54:14.0±0.4, 11°.40S±0°.07×163°.28E±0°.07, h35km, n118, σ0§71/101, mb4.7/45, MS3.7/20, 1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.82**	**300**	P		**Pn**	**21 55 12.2**	**+1.9**
	23nm,0.3s,baz=167,slow=7.7,SNR=7.5							
HNR				S		**Sn**	**21 55 53.8**	**-0.2**
	73nm,0.3s,baz=359,slow=2.7,SNR=4.3							
HNR				LR		LR	21 56 41.8	
	comp=Z,2μm,18.5s,baz=105,slow=40							
HNR	**Honiara**	**3.82**	**300**			**Pn**	**21 55 11.5**	**+1.2**
HNR				Sn		**Sn**	**21 55 53.4**	**-0.6**
SANVU	**Saraoutou**	**5.54**	**137**	Pn		**Pn**	**21 55 32.5**	**-1.6**
DZM	**Mont Dzumac**	**11.04**	**164**	*e*Pn		**Pn**	**21 56 49.3**	**-0.2**
	14nm,0.8s							
DZM				*e*LR		LR	21 59 21.0	
	comp=Z,1μm,25.9s							
DZM	**Mont Dzumac**	**11.04**	**164**	LR		LR	22 00 16.0	
	comp=Z,797nm,21.7s,baz=18,slow=32							
MSVF	**Nonsavu**	**15.62**	**115**	LR		LR	22 02 37.0	
	comp=Z,532nm,20.3s,baz=207,slow=32							
PMG	**Port Moresby**	**15.98**	**276**	P		**Pn**	**21 57 54.6**	**-1.7**
	1.8nm,0.3s,baz=254,slow=6.9,SNR=3.1							
PMG				LR		LR	22 04 08.6	
	comp=Z,195nm,18.8s,baz=142,slow=37							
PMG	**Port Moresby**	**15.98**	**276**	P		**Pn**	**21 57 53.9**	**-2.4**
PMG				IAmb		IAmb	21 58 09.5	
	comp=Z,104nm,1.4s							
PMG	**Port Moresby**	**15.98**	**276**	P		P	21 58 10.1	+11
	comp=Z,61nm,1.1s							
CTA	**Charters Tower**	**18.51**	**240**	P		**Pn**	**21 58 28.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=97,slow=11,SNR=3.1							
PATS	**Pohnpei**	**18.78**	**345**	P		**P**	**21 58 29.2**	**-1.1**
ARMA	**Armidale**	**21.80**	**208**	P		**P**	**21 59 03.0**	**-0.1**
ARMA				IAmb		IAmb	21 59 09.8	
	comp=Z,45nm,1.5s							
AFI	**Afiamalu**	**24.46**	**99**	LR		LR	22 08 23.5	
	comp=Z,112nm,19.5s,baz=87,slow=34							
RAO	**Raoul Island**	**24.96**	**138**	LR		LR	22 08 07.4	
	comp=Z,307nm,21.2s,baz=341,slow=33							
STKA	**Stephens Creek**	**28.55**	**221**	P		**P**	**22 00 06.6**	**0.0**
	comp=Z,5.8nm,0.8s,baz=40,slow=13,SNR=14							
STKA				PcP		**PcP**	**22 03 18.8**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=357,slow=4.2,SNR=4.2							
STKA				LR		LR	22 11 45.7	
	comp=Z,119nm,18.1s,baz=27,slow=37							
STKA	**Stephens Creek**	**28.55**	**221**	P		**P**	**22 00 06.3**	**-0.3**
WRA	**Warramunga Arr**	**29.09**	**249**	P		**P**	**22 00 10.8**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=79,slow=8.7,SNR=14							
WRA				PcP		**PcP**	**22 03 18.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=76,slow=3.3,SNR=5.1							
WRA	**Warramunga Arr**	**29.09**	**249**	P		**P**	**22 00 11.0**	**-0.6**
WRA						**PcP**	**22 03 18.5**	**-0.7**
URZ	**Urewera**	**29.47**	**158**	LR		LR	22 11 32.9	
	comp=Z,247nm,18.3s,baz=31,slow=35							
H11S2	**WAKE ISLAND Hy**	**29.89**	**7**	T		T	22 31 50.1	
	baz=188,slow=76,SNR=105							
H11S3	**WAKE ISLAND Hy**	**29.89**	**6**	T		T	22 31 48.8	
	baz=188,slow=76,SNR=62							
H11S1	**WAKE ISLAND Hy**	**29.91**	**7**	T		T	22 31 49.8	
	baz=188,slow=76,SNR=41							
AS31	**Alice Springs**	**30.48**	**242**	P		**P**	**22 00 22.6**	**-1.2**
ASAR	**Alice Springs**	**30.48**	**242**	P		**P**	**22 00 22.8**	**-1.1**
	comp=Z,6.5nm,0.8s,baz=72,slow=9.8,SNR=53							
ASAR				LR		LR	22 11 59.4	
	comp=Z,114nm,18.8s,baz=82,slow=35							
ASAR	**Alice Springs**	**30.48**	**242**	P		**P**	**22 00 23.2**	**-0.7**
TOO	**Toolangi**	**30.56**	**209**	P		**P**	**22 00 24.0**	**-0.4**
TOO				IAmb		IAmb	22 00 26.9	
	comp=Z,13nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**31.12**	**7**	T		T	22 33 20.8	
	baz=188,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**31.13**	**7**	T		T	22 33 25.3	
	baz=188,slow=76,SNR=26							
H11N2	**WAKE ISLAND Hy**	**31.14**

CNPM	**China Poot**	**79.55**	**22**	P	**P**	**22 06 17.4**	**+0.4**	
CNPM				IAmb	IAmb	22 06 18.2		
	comp=Z,8.7nm,0.9s							
RSO	**Redoubt South**	**79.68**	**20**	P	**P**	**22 06 17.7**	**-0.2**	
BRLK	**Bradley Lake**	**79.84**	**22**	P	**P**	**22 06 18.5**	**-0.2**	
BRLK				IAmb	IAmb	22 06 19.9		
	comp=Z,5.7nm,0.8s							
TTA	**Tatalina**	**80.48**	**18**	P	**P**	**22 06 21.9**	**-0.2**	
PWL	**Port Wells**	**81.52**	**22**	P	**P**	**22 06 26.8**	**-0.7**	
PWL				IAmb	IAmb	22 06 30.2		
	comp=Z,7.9nm,0.9s							
SML	**Sawmill**	**82.16**	**21**	P	**P**	**22 06 31.1**	**+0.2**	
SCM	**Sheep Creek Mo**	**82.53**	**21**	P	**P**	**22 06 33.7**	**+0.7**	
HMT	**Hamilton**	**82.71**	**23**	P	**P**	**22 06 34.3**	**+0.5**	
HMT				IAmb	IAmb	22 06 36.4		
	comp=Z,9.0nm,1.0s							
KLU	**Klutina**	**82.82**	**22**	P	**P**	**22 06 34.9**	**+0.4**	
RND	**Reindeer**	**83.07**	**20**	P	**P**	**22 06 34.9**	**-0.8**	
RND				IAmb	IAmb	22 06 42.0		
	comp=Z,6.1nm,1.0s							
M24K	**Tolsona, Glenn**	**83.12**	**21**	P	**P**	**22 06 36.6**	**+0.6**	
MCK	**McKinley**	**83.26**	**19**	P	**P**	**22 06 36.6**	**0.0**	
MCK				IAmb	IAmb	22 06 55.4		
	comp=Z,8.6nm,1.2s							
N25K	**Chitina, Valde**	**83.38**	**22**	P	**P**	**22 06 37.8**	**+0.4**	
IMAR	**Indian Mountai**	**83.43**	**16**	P	**P**	**22 06 38.0**	**+0.6**	
MAW	**Mawson**	**83.48**	**202**	LR	LR	22 40 29.1		
	comp=Z,27nm,19.3s,baz=282,slow=33							
MLY	**Manley**	**83.60**	**18**	P	**P**	**22 06 38.3**	**-0.1**	
NEA2	**Nenana**	**83.81**	**19**	P	**P**	**22 06 38.8**	**-0.6**	
NEA2				IAmb	IAmb	22 06 41.0		
	comp=Z,4.6nm,1.0s							
TABL	**Table Mountain**	**84.01**	**24**	P	**P**	**22 06 41.2**	**+0.4**	
WRH	**Wood River Hil**	**84.04**	**19**	P	**P**	**22 06 40.6**	**0.0**	
WRH				IAmb	IAmb	22 06 42.7		
	comp=Z,6.0nm,0.9s							
I23K	**Minto, Yukon-K**	**84.10**	**18**	P	**P**	**22 06 41.1**	**+0.3**	
BARN	**Barnard Glacie**	**84.17**	**24**	P	**P**	**22 06 41.8**	**+0.3**	
CTGM	**Chitina Glacie**	**84.24**	**24**	P	**P**	**22 06 42.2**	**+0.4**	
CCB	**Clear Creek Bu**	**84.25**	**19**	P	**P**	**22 06 41.1**	**-0.4**	
CCB				IAmb	IAmb	22 06 42.5		
	comp=Z,4.7nm,0.9s							
MDM	**Murphy Dome**	**84.33**	**19**	P	**P**	**22 06 41.5**	**-0.5**	
MDM				IAmb	IAmb	22 06 43.1		
	comp=Z,5.9nm,0.8s							
HDA	**Harding Lake**	**84.37**	**19**	P	**P**	**22 06 42.2**	**0.0**	
ILAR	**Eielson Array**	**84.63**	**19**	P	**P**	**22 06 42.5**	**-1.0**	
	comp=Z,1.8nm,0.9s,baz=226,slow=4.1,SNR=11							
ILAR	**Eielson Array**	**84.63**	**19**	P	**P**	**22 06 42.9**	**-0.7**	
DOT	**Dot Lake**	**84.85**	**21**	P	**P**	**22 06 45.2**	**+0.5**	
DOT				IAmb	IAmb	22 06 51.3		
	comp=Z,8.2nm,1.2s							
SCRK	**Sand Creek**	**85.08**	**21**	P	**P**	**22 06 46.6**	**+0.6**	
SCRK				IAmb	IAmb	22 06 48.8		
	comp=Z,7.7nm,1.2s							
L27K	**Beaver Creek,**	**85.30**	**22**	P	**P**	**22 06 47.4**	**+0.4**	
L27K				IAmb	IAmb	22 06 48.7		
	comp=Z,5.0nm,1.0s							
BCAR	**Beaver Creek A**	**85.31**	**22**	P	**P**	**22 06 47.5**	**+0.4**	
K27K	**Chicken**	**85.78**	**21**	P	**P**	**22 06 50.2**	**+0.9**	
K27K				IAmb	IAmb	22 06 51.8		
	comp=Z,8.2nm,1.1s							
TIXI	**Tiksi**	**85.99**	**350**	P	**P**	**22 06 49.5**	**-0.6**	
TIXI				IAmb	IAmb	22 06 50.4		
	comp=Z,5.7nm,1.3s							
AFDM	**Forest Hills D**	**86.25**	**49**	P	**P**	**22 06 52.4**	**+0.1**	
AFDM				IAmb	IAmb	22 06 53.9		
	comp=Z,4.4nm,1.0s							
EGAK	**Eagle**	**86.55**	**21**	P	**P**	**22 06 54.0**	**+0.9**	
DAWY	**Dawson**	**86.77**	**22**	P	**P**	**22 06 54.7**	**+0.4**	
DAWY				IAmb	IAmb	22 06 56.1		
	comp=Z,5.2nm,1.1s							
BMAR	**Burnt Mountain**	**87.07**	**18**	P	**P**	**22 06 56.1**	**+0.5**	
WMQ	**Urumqi**	**87.64**	**315**	*e*P	**P**	**22 06 59.8**	**+0.8**	
NVAR	**Mina Array Bea**	**88.10**	**50**	P	**P**	**22 07 02.5**	**+1.0**	
	comp=Z,1.3nm,0.9s,baz=226,slow=8.4,SNR=3.7							
J08A	**Circle Bar Ran**	**89.35**	**46**	P	**P**	**22 07 07.1**	**0.0**	
J08A				IAmb	IAmb	22 07 10.8		
	comp=Z,4.0nm,1.1s							
MK31	**Makanchi Array**	**92.13**	**317**	P	**P**	**22 07 19.8**	**0.0**	
MKAR	**Makanchi Array**	**92.13**	**317**	P	**P**	**22 07 19.6**	**-0.3**	
	comp=Z,2.0nm,0.8s,baz=106,slow=5.6,SNR=20							
MAKZ	**Makanchi**	**92.34**	**317**	P	**P**	**22 07 20.8**	**0.0**	
MAKZ				IAmb	IAmb	22 07 21.9		
	comp=Z,3.2nm,1.0s							
ZALV	**Zalesovo Beam**	**92.43**	**325**	LR	LR	22 46 43.2		
	comp=Z,37nm,21.7s,baz=113,slow=34							
NRIK	**Noril'sk**	**95.61**	**340**	LR	LR	22 54 49.6		
	comp=Z,30nm,18.2s,baz=74,slow=38							
YKA	**Yellowknife Ar**	**96.40**	**28**	LR	LR	22 48 35.6		
	comp=Z,23nm,18.3s,baz=0.0,slow=34							
CPUP	**Villa Florida**	**125.55**	**134**	PKP	**PKiKP**	**22 13 12.8**	**+0.1**	
	comp=Z,2.0nm,0.9s,baz=246,slow=14,SNR=3.4							
AKASG	**Malin Array Be**	**125.81**	**326**	PKP	**PKPdf**	**22 13 11.8**	**-0.2**	
	comp=Z,0.2nm,0.4s,baz=63,slow=2.6,SNR=4.0							
AKASG	**Malin Array Be**	**125.81**	**326**		**PKPdf**	**22 13 11.6**	**-0.4**	
GERES	**GERESS Array B**	**134.91**	**332**	PKPdf	**PKPdf**	**22 13 29.4**	**-0.1**	
ESDC	**Sonseca Array**	**149.65**	**340**	PKPbc	**PKPbc**	**22 14 00.5**	**+0.2**	
	comp=Z,1.0nm,1.0s,baz=26,slow=3.0,SNR=5.0							

ATH **14** *22:06:58.9,35.°03N×26.°80E,h10km±2km, ML3.0/8, Error ellipse: s-maj=4.4km s-min=1.1km az=340.0*
HLW **14** *22:07:01.3,34.°98N×26.°91E,h26km±12km, Md3.4, Ml3.2*
ISK **14** *22:07:01.3,35.°10N×26.°69E,h13km, ML3.0/15*
THE **14** *22:07:02.8,35.°06N×26.°58E,h0km±1km, ML2.9/6, Error ellipse: s-maj=4.3km s-min=1.1km az=160.0*

ISC 14 22:06:59.8±1.2,34.°96N±0.°04×26.°70E±0.°03,h12km±10km, n80,σ1s22/97,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.43**	**291**	P		**Pg**	**22 07 08.3**	**+0.1**
ZKR				S		**Sb**	**22 07 15.1**	**-0.5**
ZKR				AML	AML		22 07 15.6	
	comp=E,8030μm,0.3s							
ZKR				AML	AML		22 07 15.8	
	comp=N,5082μm,0.3s							
ZKR	**Zakros**	**0.43**	**291**	P		**Pb**	**22 07 08.5**	**-0.7**
ZKR	**Zakros**	**0.43**	**291**	PG		**Pb**	**22 07 08.6**	**-0.7**
ZKR				SG		**Sb**	**22 07 15.6**	**0.0**
STIA	**Sitia Lasithi**	**0.56**	**296**	P		**Pg**	**22 07 10.7**	**+0.1**
STIA				S		**Sb**	**22 07 19.6**	**+0.3**
FRMA	**Ierapetra Chan**	**0.80**	**274**	P		**Pg**	**22 07 13.3**	**-1.9**
NPS	**Neapolis**	**0.94**	**289**	P		**Pb**	**22 07 17.9**	**-0.1**
NPS				S		**Sb**	**22 07 31.2**	**+0.7**
NPS				AML	AML		22 07 33.5	
	comp=E,4172μm,0.3s							
NPS				AML	AML		22 07 33.9	
	comp=N,2863μm,0.5s							
NPS	**Neapolis**	**0.94**	**289**	P		**Pn**	**22 07 18.4**	**-0.4**
NPS				S		**Sn**	**22 07 32.3**	**+0.1**
	comp=N,2μm,0.4s							
LAST	**Lasithi**	**1.02**	**282**	P		**Pg**	**22 07 18.7**	**-0.8**
LAST				S		**Sn**	**22 07 34.4**	**+0.1**
LAST				AML	AML		22 07 41.4	
	comp=E,894μm,0.5s							
LAST				AML	AML		22 07 41.4	
	comp=N,1606μm,0.5s							
LAST	**Lasithi**	**1.02**	**282**	P		**Pn**	**22 07 19.6**	**-0.4**
LAST				S		**Sn**	**22 07 34.9**	**+0.6**
	comp=N,632nm,0.5s							
HRKL	**Herakleio**	**1.36**	**285**	P		**Pg**	**22 07 27.0**	**+1.2**
HRKL				S		**Sg**	**22 07 44.6**	**+1.1**
	comp=N,812nm,0.8s							
HRKL	**Herakleio**	**1.36**	**285**	PN		**Pg**	**22 07 26.1**	**+0.3**
KSTL	**Kastelli Herak**	**1.38**	**285**	P		**Pn**	**22 07 24.1**	**-0.7**
KSTL				S		**Sb**	**22 07 38.5**	**-4.5**
IDI	**Anoyia**	**1.52**	**283**	P		**Pb**	**22 07 28.0**	**+0.1**
IDI				S		**Sg**	**22 07 48.9**	**+0.2**
IDI				AML	AML		22 07 59.7	
	comp=N,411μm,0.5s							
IDI				AML	AML		22 08 02.9	
	comp=E,422μm,0.6s							
IDI	**Anoyia**	**1.52**	**283**	P		**Pg**	**22 07 29.1**	**+0.1**
IDI				S		**Sg**	**22 07 48.1**	**-0.6**
	comp=E,205nm,0.5s							
IDI	**Anoyia**	**1.52**	**283**	PN		**Pg**	**22 07 28.5**	**-0.5**
SIVA	**Sivas**	**1.55**	**273**	P		**Pg**	**22 07 28.8**	**-0.8**
SIVA				AML	AML		22 08 07.5	
	comp=N,821μm,0.6s							
SIVA				AML	AML		22 08 15.3	
	comp=E,1205μm,0.7s							
SIVA	**Sivas**	**1.55**	**273**	P		**Pg**	**22 07 29.5**	**-0.1**
SIVA				S		**Sb**	**22 07 47.9**	**-0.2**
	comp=E,345nm,0.5s							
NIS1	**Nisyros Isl.**	**1.68**	**13**	P		**Pb**	**22 07 30.5**	**-0.2**
NIS1	**Nisyros Isl.**	**1.68**	**13**	PN		**Pn**	**22 07 29.3**	**+0.3**
NISR	**Nisiros**	**1.68**	**12**	P		**Pn**	**22 07 28.7**	**-0.3**
ARG	**Arkhangelos**	**1.71**	**42**	P		**Pn**	**22 07 27.9**	**-1.5**
ARG				S		**Sn**	**22 07 48.9**	**-2.1**
ARG				AML	AML		22 07 59.1	
	comp=N,404μm,1.1s							
ARG				AML	AML		22 07 59.2	
	comp=E,393μm,0.5s							
ARG	**Arkhangelos**	**1.71**	**42**	P		**Pg**	**22 07 32.9**	**+0.4**
ARG				S		**Sg**	**22 07 56.0**	**+1.3**
ARG	**Arkhangelos**	**1.71**	**42**	PN		**Pb**	**22 07 30.5**	**-0.6**
SANT	**Santorini**	**1.73**	**325**	P		**Pn**	**22 07 29.7**	**-0.1**
SANT	**Santorini**	**1.73**	**325**	PN		**Pn**	**22 07 30.3**	**+0.6**
THR6	**Thira Island,**	**1.75**	**323**	P		**Pb**	**22 07 30.8**	**-1.0**
THR9	**Santorini-Faro**	**1.77**	**322**	P		**Pb**	**22 07 31.8**	**-0.4**
SNT1	**Gialos, Santor**	**1.78**	**325**	P		**Pn**	**22 07 31.0**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.79**	**324**	P		**Pn**	**22 07 31.1**	**+0.7**
THR3	**Thira Island,**	**1.79**	**324**	P		**Pn**	**22 07 31.1**	**+0.6**
KOSK	**Kos Island**	**1.80**	**7**	P		**Pb**	**22 07 33.0**	**+0.3**
KOSK	**Kos Island**	**1.80**	**7**	PN		**Pn**	**22 07 31.4**	**+0.8**
THT2	**Imerovigli**	**1.80**	**325**	PN		**Pn**	**22 07 31.3**	**+0.7**
THR5	**Thira Island,**	**1.82**	**323**	P		**Pn**	**22 07 31.6**	**+0.7**
CMBO	**Columbo, Santo**	**1.84**	**325**	P		**Pn**	**22 07 31.9**	**+0.8**
PRNS	**Prines Rethymn**	**1.85**	**283**	P		**Pg**	**22 07 34.9**	**-0.3**
PRNS				S		**Sb**	**22 07 56.9**	**+0.4**
DAT	**Datca**	**1.90**	**22**	PN		**Pn**	**22 07 32.6**	**+0.5**
VAM	**Vamos**	**2.10**	**283**	P		**Pb**	**22 07 37.5**	**-0.2**
VAM				AML	AML		22 07 56.1	
	comp=N,1122μm,0.3s							
VAM				AML	AML		22 07 58.3	
	comp=E,1016μm,0.3s							
GVDS	**Gavdos**	**2.15**	**268**	P		**Pb**	**22 07 38.5**	**-0.1**
GVDS	**Gavdos**	**2.15**	**268**	PN		**Pb**	**22 07 38.5**	**-0.1**
GVD	**Gavdos**	**2.15**	**268**	P		**Pb**	**22 07 38.3**	**-0.5**
GVD	**Gavdhos**	**2.15**	**268**	PN		**Pb**	**22 07 38.1**	**-0.5**
BODT	**Bodrun**	**2.15**	**13**	PN		**Pn**	**22 07 36.3**	**+0.8**
TURN	**Turunc**	**2.20**	**34**	PN		**Pb**	**22 07 37.4**	**-2.1**
IMMV	**Iera Moni Meta**	**2.28**	**283**	P		**Pb**	**22 07 40.1**	**-0.8**
IMMV				AML	AML		22 08 23.3	
	comp=N,306μm,0.7s							
IMMV				AML	AML		22 08 24.0	
	comp=E,389μm,1.0s							
IMMV	**Iera Moni Meta**	**2.28**	**283**	P		**Pb**	**22 07 39.6**	**-1.3**
IMMV				S		**Sn**	**22 08 07.1**	**+1.8**
	comp=E,145nm,0.4s							
IMMV	**Iera Moni Meta**	**2.28**	**283**	PN		**Pb**	**22 07 39.4**	**-1.5**
APE	**Apeiranthos**	**2.31**	**336**	P		**Pn**	**22 07 38.1**	**+0.5**
APE	**Apeiranthos**	**2.31**	**336**	PN		**Pn**	**22 07 37.8**	**+0.2**
DALY	**Dalyan (Mula)**	**2.44**	**40**	PN		**Pn**	**22 07 40.6**	**+1.3**
MLSB	**Milas**	**2.49**	**20**	PN		**Pn**	**22 07 40.9**	**+0.8**
KNDR	**Palaiochora Ch**	**2.49**	**277**	P		**Pb**	**22 07 43.4**	**-1.0**
KNDR	**Palaiochora Ch**	**2.49**	**277**	PN		**Pb**	**22 07 43.2**	**-1.2**
YER	**Yerkesik**	**2.52**	**30**	PN		**Pn**	**22 07 41.6**	**+1.1**
MHLO	**Agia Marina, M**	**2.54**	**313**	P		**Pb**	**22 07 43.0**	**-2.3**
MHLO	**Agia Marina, M**	**2.54**	**313**	P		**Pn**	**22 07 42.9**	**+2.1**
FETY	**Fethiye**	**2.56**	**49**	PN		**Pn**	**22 07 42.6**	**+1.6**
KSL	**Kastellorizon**	**2.63**	**62**	P		**Pn**	**22 07 42.7**	**+0.6**
AKAS	**Kas**	**2.69**	**61**	PN		**Pn**	**22 07 44.3**	**+1.4**
CAME	**Cameli-Denizli**	**2.89**	**46**	PN		**Pn**	**22 07 47.3**	**+1.5**
ANKY	**Antikythira Is**	**2.92**	**289**	P		**Pn**	**22 07 47.6**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**3.13**	**17**	PN		**Pn**	**22 07 49.9**	**+0.9**
ELL	**Elmali**	**3.16**	**55**	PN		**Pn**	**22 07 51.2**	**+1.8**
KTHA	**Kythira Island**	**3.23**	**295**	P		**Pn**	**22 07 51.8**	**+1.5**
KTHA	**Kythira Island**	**3.23**	**295**	PN		**Pn**	**22 07 52.5**	**+2.2**
CHOS	**Chios island**	**3.46**	**352**	PN		**Pn**	**22 07 54.5**	**+1.0**
VLI	**Veliai**	**3.53**	**301**	P		**Pn**	**22 07 55.7**	**+1.4**
KORT	**Korkueli**	**3.59**	**54**	PN		**Pn**	**22 07 57.5**	**+2.1**
SLUM	**Salum**	**3.68**	**200**	P		**Pn**	**22 07 57.5**	**+1.1**
	baz=203							
SLUM				AMP			22 08 00.0	
	baz=203							
SLUM				S		**Sn**	**22 08 38.1**	**-1.5**
	baz=203							
KRND	**KRANIDI**	**3.75**	**311**	P		**Pn**	**22 07 59.1**	**+1.6**
DION	**Dionisos Attik**	**3.85**	**325**	P		**Pn**	**22 08 00.6**	**+2.1**
KULA	**Kula-Manisa**	**3.88**	**23**	PN		**Pn**	**22 08 00.9**	**+1.6**
EREA	**Eretria**	**4.11**	**328**	P		**Pn**	**22 08 04.5**	**+2.2**
KYMI	**Kymi, Euboea I**	**4.22**	**331**	P		**Pn**	**22 08 05.5**	**+1.7**
ITM	**Ithomi**	**4.46**	**301**	P		**Pn**	**22 08 08.4**	**+1.3**
AMT	**Artemida-Makis**	**4.78**	**304**	P		**Pn**	**22 08 14.2**	**+2.6**
ANX	**Ano Chora**	**5.28**	**315**	P		**Pn**	**22 08 20.8**	**+2.3**
SWA2		**5.80**	**191**	P		**Pn**	**22 08 26.0**	**+0.4**
	baz=193							
SWA2				AMP			22 09 00.0	
	baz=193							
GLL	**Jalalah**	**6.84**	**140**	P		**Pn**	**22 08 38.8**	**-1.1**
	baz=141							
HFRF	**Wa'at Farafira**	**7.91**	**170**	P		**Pn**	**22 08 55.0**	**+0.4**
	baz=170							

BJI **14** *22:22:19.3±0.0,27.°31N×140.°23E,h384km, mB4.4/37, mb4.6/69*
IDC **14** *22:22:21.0±0.5,27.°32N×140.°07E,h382km±4km, mb4.3/30, mb1 4.4/35,mb1mx4.3/43,mbtmp5.0/35, Error ellipse: s-maj=9.8km s-min=7.1km az=90.0*
NIED **14** *22:22:20.1,27.°43N×140.°66E,h404km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 1016Nm; Mrr=1.55; Mθθ=0.26; Mφφ=1.81; Mrθ=-1.49; Mθφ=0.25; Mφr=-1.32; Fault plane solution: M0≥2.62000×1016 NP1:ϕs35.00000°, δ71.00000°,λ-68.00000°. NP2:ϕs163.00000°,δ29.00000°, λ-138.00000°.*
NEIC **14** *22:22:21.0±0.9,27.°33N±0.°07×140.°1E±0.°1,h379km±5km, mb4.9/310 Error ellipse: s-maj=13.5km s-min=10.5km az=76.0*
MOS **14** *22:22:20.1±0.7,27.°32N×139.°99E,h389km, mb4.9/36, Error ellipse: s-maj=7.5km s-min=4.0km az=110.4*
JMA **14** *22:22:20.0±0.1,27.°43N×140.°66E,h404km, M5.5*
JMA Felt I J1.

ISC 14 22:22:21.0±0.3,27.°37N±0.°04×140.°10E±0.°04,h385km±2km, h385km:pP-P,n691,σ1s18/701,mb4.8/289,77C-141D, Fault plane solution: NP1:ϕs31.86235°,δ65.62348°, λ-67.17052°. **NP2:ϕs166.29637°,δ32.91264°,** λ-130.57184°. **Principal axes:** T Plg17.5640°, Azm105.1381°; N Plg20.6955°, Azm202.0058°; P Plg62.3083°, Azm338.0452°; **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.88**	**98**	↓P		**Pn**	**22 23 13.3**	**-1.4**
CBIJ				*e*S		**S**	**22 23 53.9**	**-4.2**
JCJ	**Chichijima**	**1.88**	**98**	P		**Pn**	**22 23 13.4**	**-1.4**
	1μm,0.3s,baz=116,slow=2.3,SNR=1457							
JCJ				S		**S**	**22 23 53.6**	**-4.4**
	3μm,0.3s,baz=279,slow=23,SNR=23							
JHH2	**Haha-jima-NKT2**	**1.99**	**111**	P		**Pn**	**22 23 14.5**	**-1.0**
JHH2				*e*S		**S**	**22 23 56.9**	**-2.5**
JAOM	**Aogashimamukai**	**5.09**	**357**	P		**Pn**	**22 23 44.5**	**+1.4**
JHCJ	**Hachijojimakas**	**5.69**	**357**	P		**Pn**	**22 23 50.2**	**+0.7**
JHJ2	**Mitsune**	**5.73**	**358**	P		**Pn**	**22 23 49.6**	**-0.4**
JHJ2	**Mitsune**	**5.73**	**358**	Pn		**Pn**	**22 23 50.8**	**+0.8**
JHJ2						**S**	**22 25 02.3**	**0.0**
JHJ	**Hachijo jima 2**	**5.74**	**357**	P		**Pn**	**22 23 50.4**	**+0.3**
	541nm,0.3s,baz=356,slow=19,SNR=158							
JHJ				S		**S**	**22 24 58.4**	**-4.2**
	118nm,0.3s,baz=88,slow=23,SNR=2.8							
JMKN	**Mikurajimanish**	**6.52**	**356**	P		**Pn**	**22 23 58.4**	**-0.3**
JKO	**Kozu shima**	**6.85**	**353**	P		**P**	**22 24 03.1**	**-0.2**
TK02	**Tokai 2**	**6.86**	**343**	P		**P**	**22 24 04.8**	**+1.6**
BSO1	**Boso 1**	**7.30**	**6**	P		**Pn**	**22 24 07.1**	**+0.1**
JMMH	**Miemihama**	**7.33**	**332**	P		**P**	**22 24 10.9**	**+2.2**
JIM2	**Oshima 3**	**7.35**	**356**	P		**Pn**	**22 24 08.2**	**+0.1**
JIZS	**Izushimoda**	**7.40**	**352**	P		**P**	**22 24 09.3**	**-0.2**
BSO3	**Boso 3**	**7.42**	**3**	P		**Pn**	**22 24 08.1**	**-0.5**
JSG	**Sagara**	**7.46**	**348**	P		**P**	**22 24 11.4**	**+1.2**
JSG	**Sagara**	**7.46**	**348**			**P**	**22 24 10.7**	**+0.4**
JTNC	**Tanabenakahech**	**7.50**	**330**	↑P		**P**	**22 24 11.9**	**+1.2**
JIE	**Ise**	**7.58**	**338**	P		**P**	**22 24 13.2**	**+1.6**
JKN2	**Miekihoku**	**7.60**	**335**	P		**P**	**22 24 13.5**	**+1.8**
BSO4	**Boso 4**	**7.60**	**1**	P		**Pn**	**22 24 10.5**	**-0.4**
JHTM	**Izuhatsuma**	**7.62**	**353**	P		**P**	**22 24 11.8**	**-0.2**
JAA	**Atsumi**	**7.67**	**341**	↑P		**P**	**22 24 14.0**	**+1.5**
HMMJ	**Hamamatsu 2**	**7.74**	**345**	P		**P**	**22 24 13.9**	**+0.6**
SHZ3	**Shizuoka 3**	**7.84**	**349**	P		**P**	**22 24 15.0**	**+0.5**
JSSY	**Shinshiroyabe**	**7.84**	**344**	P		**P**	**22 24 15.6**	**+1.1**
JYZW	**Yoshizawa**	**7.87**	**346**	P		**P**	**22 24 15.3**	**+0.5**
MRT2	**Murotomisaki 2**	**7.90**	**321**	↑P		**P**	**22 24 17.6**	**+2.4**
JOD2	**Odawara 2**	**7.92**	**354**	P		**Pn**	**22 24 14.6**	**-0.1**
JNY	**Yasuok**	**8.19**	**347**	P		**P**	**22 24 19.2**	**+0.3**
JYN	**Shimob**	**8.21**	**351**	P		**P**	**22 24 18.8**	**-0.3**
JAO	**Obara**	**8.24**	**344**	P		**P**	**22 24 20.0**	**+0.6**
JMN	**Monobe**	**8.30**	**321**			**P**	**22 24 21.1**	**+1.0**
INU	**Inuyama**	**8.38**	**342**			**Pn**	**22 24 20.2**	**+0.3**
JGF	**Kuroka**	**8.53**	**345**			**P**	**22 24 22.3**	**-0.4**
JRY	**Ryogami san**	**8.68**	**354**	P		**Pn**	**22 24 23.4**	**-0.1**
JYT	**Yasato**	**8.83**	**0**			**Pn**	**22 24 24.9**	**-0.3**
JWT	**Wachi**	**8.85**	**334**			**Pn**	**22 24 25.5**	**+0.1**
JAG	**Ashikaga**	**9.05**	**357**	P		**Pn**	**22 24 26.0**	**-1.7**
JGN	**Niukaw**	**9.14**	**346**	P		**P**	**22 24 29.4**	**0.0**
JNG	**Nsakai**	**9.17**	**350**	↑P		**Pn**	**22 24 29.1**	**-0.2**
JHO	**Hitachi**	**9.22**	**2**	P		**Pn**	**22 24 28.9**	**-0.9**
MJAR	**Matsushiro Arr**	**9.29**	**351**	P		**Pn**	**22 24 29.5**	**-1.0**
	1.1nm,0.3s,baz=168,slow=11,SNR=29							
MJAR				S		**S**	**22 26 12.2**	**-4.7**
	1.6nm,0.3s,baz=140,slow=14,SNR=5.3							
MAJO	**Matsushiro**	**9.29**	**351**	*i* P		**Pn**	**22 24 30.6**	**+0.1**
MAJO	**Matsushiro**	**9.29**	**351**			**Pn**	**22 24 29.9**	**-0.7**
MAT	**Matsushiro**	**9.29**	**351**	P		**Pn**	**22 24 29.7**	**-0.8**
MAT				S		**S**	**22 26 13.0**	**-4.0**
MJB9	**Matsu-Tunnel**	**9.29**	**350**			**Pn**	**22 24 30.5**	**-0.1**
JSU	**Suzuyama**	**9.37**	**298**			**Pn**	**22 24 31.6**	**0.0**
JHS	**Saijyo**	**9.57**	**324**			**P**	**22 24 35.5**	**+0.2**
ONAJ	**Iwakimizuishiy**	**9.72**	**3**	P		**Pn**	**22 24 35.6**	**-0.1**
JNU	**Nakatsue**	**9.82**	**308**	P		**P**	**22 24 40.3**	**+3.3**
	8.9nm,0.3s,baz=125,slow=7.3,SNR=44							
JNU				S		**S**	**22 26 28.9**	**+0.6**
	1.0nm,0.3s,baz=72,slow=12,SNR=1.4							
JNU	**Nakatsue**	**9.82**	**308**			**Pn**	**22 24 36.9**	**0.0**
JJN	**Nakama**	**9.84**	**351**	P		**Pn**	**22 24 36.3**	**-0.7**
JHIK	**Hikimi**	**10.01**	**318**	P		**P**	**22 24 42.0**	**+3.0**
JSZ	**Suzu**	**10.31**	**348**	P		**P**	**22 24 41.6**	**-0.7**
JMM	**Marumori**	**10.48**	**3**			**P**	**22 24 44.4**	**+0.1**
JOW	**Kunigami**	**10.55**	**270**	P		**Pn**	**22 24 47.5**	**+2.0**
	9.5nm,0.3s,baz=106,slow=10,SNR=78							
JOW	**Kunigami**	**10.55**	**270**	P		**Pn**	**22 24 48.0**	**+2.5**
JOW	**Kunigami**	**10.55**	**270**	P		**Pn**	**22 24 45.8**	**+0.3**
JSD	**Sado**	**10.75**	**352**	P		**P**	**22 24 46.0**	**-1.2**
JIH	**Iheya**	**10.81**	**271**	P		**Pn**	**22 24 50.5**	**+2.1**
JNTH	**Nagotoyohara**	**10.81**	**268**	P		**Pn**	**22 24 50.8**	**+2.3**
JAGN	**Aguni-jima**	**11.50**	**269**	P		**Pn**	**22 24 58.6**	**+2.1**
JMK	**Ichinoseki**	**11.59**	**4**	P		**Pn**	**22 24 57.8**	**+0.4**
JTU	**Tsushima**	**11.62**	**310**	P		**Pn**	**22 24 57.6**	**-0.3**
JKE	**Kume jima 2**	**11.94**	**268**	P		**Pn**	**22 25 03.6**	**+2.0**
JOM	**Ohasama**	**12.11**	**4**	P		**Pn**	**22 25 03.4**	**-0.1**
JKZ	**Kuzumaki**	**12.62**	**4**	P		**Pn**	**22 25 09.2**	**-0.3**
JKEN	**Kujiedanarisaw**	**12.87**	**6**	P		**Pn**	**22 25 11.7**	**-0.6**
GWYB	**Gwangyang**	**13.03**	**308**	P		**Pn**	**22 25 16.0**	**+1.8**
	SNR=8.8							
**H

TIA L L
comp=E,140nm,7.8s
TIA L L
comp=E,130nm,8.2s
TIA L L
comp=E,190nm,9.6s
UGL Uglegorsk 21.73 3 *e*P **P 22 26 43.3 +1.4**
UGL pmax pmax
comp=Z,270nm,1.2s
UGL pmax pmax
comp=Z,180nm,0.7s
WHN Wuhan 22.74 284 ⇑P **P 22 26 53.9 +2.5**
KLR Kul'dur 22.76 346 P **P 22 26 52.5 +1.2**
comp=Z,102nm,0.5s,baz=154,slow=9.9,SNR=391
KLR S **S 22 30 31.7 +0.6**
comp=Z,2.3nm,0.7s,baz=169,slow=3.2,SNR=1.7
KLR ScP **ScP 22 33 30.4 +0.2**
comp=Z,4.7nm,0.9s,baz=340,slow=1.6,SNR=7.4
KLR Kul'dur 22.76 346 *c e*P **P 22 26 52.4 +1.0**
KLR pmax pmax
comp=Z,118nm,0.6s
BJT Baijiatuau 23.49 309 P **P 22 26 58.4 +0.3**
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 23.49 309 P **P 22 26 58.4 +0.3**
BJI Beijing 23.49 309 P **P 22 26 57.8 -0.3**
BJI S **S 22 30 43.5 +0.6**
BJI ScS **ScS 22 37 20.3 +1.0**
BJI pmax pmax
comp=Z,9.0nm,1.0s
GRNR Gornyy 23.54 354 ⇓ *i* P **P 22 26 59.3 +0.9**
GRNR *e*S **S 22 30 50.7 +7.4**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR smax smax
comp=N,1.0nm,0.6s
GRNR MLR MLR
comp=E,280nm,16.0s
GRNR MLR MLR
comp=N,130nm,20.0s
GRNR MLR MLR
comp=Z,110nm,15.0s
TYV Tymovskoe 23.54 4 *e*P **P 22 26 59.8 +1.4**
TYV pmax pmax
comp=Z,58nm,0.7s
SKR Severo-Kuril's 26.28 23 *c e*P **P 22 27 24.1 +1.3**
HIA Hailar 26.91 330 P **P 22 27 28.6 0.0**
HIA *PP **pP 22 28 34.8 -0.7**
HIA pmax pmax
comp=Z,17nm,0.7s
HIA Hailar 26.91 330 P **P 22 27 28.6 0.0**
HIA pP **pP 22 28 34.8 -0.7**
ENH Enshi 26.94 283 P **P 22 27 29.1 +0.1**
ENH **S 22 31 35.8 -1.7**
HHC Hu-ho-hao-te 27.05 307 *e*P **P 22 27 30.3 +0.4**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,100nm,7.1s
HHC L L
comp=Z,200nm,12.8s
HHC L L
comp=Z,220nm,13.6s
HHC L L
comp=Z,220nm,13.6s
XAN Xi'an 27.55 292 P **P 22 27 34.8 +0.4**
XAN pmax pmax
comp=Z,33nm,1.0s
ZEA Zeya 28.00 344 *e*P **P 22 27 39.0 +1.0**
ZEA pmax pmax
comp=E,30nm,0.4s
ZEA pmax pmax
comp=N,140nm,0.6s
ZEA pmax pmax
comp=Z,260nm,0.8s
PEA0B Petropavlovsk- 28.85 22 *i* P **P 22 27 47.2 +1.7**
PETK Petropavlovsk- 28.85 22 P **P 22 27 47.0 +1.5**
comp=Z,5.2nm,0.5s,baz=192,slow=5.5,SNR=18
PETK PcP **PcP 22 30 44.0 +0.2**
comp=Z,4.2nm,0.9s,baz=163,slow=1.5,SNR=3.4
PETK Petropavlovsk- 28.85 22 P **P 22 27 46.0 +0.5**
PETK **PcP 22 30 43.8 +0.1**
PET Petropavlovsk 29.11 23 *e*P **P 22 27 49.0 +1.3**
PET *e*S **S 22 32 13.9 +3.2**
PET pmax pmax
comp=Z,300nm,3.9s
PET pmax pmax
comp=Z,89nm,1.1s
PET MLR MLR
comp=Z,100nm,15.0s
PET Petropavlovsk 29.11 23 P **P 22 27 48.4 +0.7**
PET IAmb IAmb 22 27 50.1
comp=Z,90nm,1.2s
SIJI Sorong 29.33 198 P **P 22 27 50.3 +0.1**
comp=Z,10nm,0.5s,baz=16,slow=12,SNR=7.5
GYA Guiyang 29.78 276 ⇓P **P 22 27 54.5 +0.3**
FAKI Fak Fak 31.05 195 P **P 22 28 05.0 -0.2**
comp=Z,20nm,0.9s
CD2 Chengdu 31.85 285 *e*P **P 22 28 12.0 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 31.89 295 ⇑P **P 22 28 13.5 +1.0**
LZH S **S 22 32 52.0 -2.8**
LZH SS **SS 22 35 28.8 -3.0**
LZH pmax pmax
comp=Z,70nm,1.0s
LZH pmax pmax
comp=Z,92nm,4.1s
MRSI Marisa 31.92 216 P **P 22 28 14.1 +1.4**
comp=Z,544nmcomp=Z,50nm,1.0s
SANI Sanana 32.25 207 P **P 22 28 14.7 -0.9**
comp=Z,787nmcomp=Z,47nm,0.9s
MSAI Masohi 32.38 201 P **P 22 28 18.8 +2.1**
comp=Z,764nmcomp=Z,8.4nm,0.9s
KRAI Karang Ratu 32.53 202 P **P 22 28 19.5 +1.5**
comp=Z,31nm,1.0s
LUWI Luwuk 32.80 213 P **P 22 28 19.6 -0.7**
comp=Z,1μmcomp=Z,52nm,0.7s
ULN Ulaanbaatar 32.86 317 *d i* P **P 22 28 21.2 +0.6**
ULN pmax pmax
comp=Z,33nm,0.8s
ULN Ulaanbaatar 32.86 317 P **P 22 28 20.6 0.0**
ULN IAmb IAmb 22 28 22.3
comp=Z,31nm,0.8s
ULN Ulaanbaatar 32.86 317 P **P 22 28 20.9 +0.3**
ULN Ulaanbaatar 32.86 317 P **P 22 28 21.2 +0.6**
comp=Z,1μmcomp=Z,160nm,0.9s
MA2 Magadan 33.03 10 P **P 22 28 22.8 +1.1**
comp=Z,59nm,0.9s,baz=197,slow=8.0,SNR=19
MA2 Magadan 33.03 10 P **P 22 28 22.6 +1.0**
MA2 pmax pmax
comp=Z,58nm,0.9s
MA2 Magadan 33.03 10 P **P 22 28 22.6 +1.0**
MA2 IAmb IAmb 22 28 23.6
comp=Z,58nm,0.9s
SONM Songino Array 33.24 317 P **P 22 28 24.5 +0.7**
comp=Z,16nm,0.9s,baz=127,slow=8.2,SNR=83
SONM ScP **ScP 22 34 02.9 -0.1**
comp=Z,0.7nm,0.6s,baz=106,slow=2.4,SNR=4.7
SONM Songino Array 33.24 317 P **P 22 28 24.3 +0.5**
SONM **ScP 22 34 02.6 -0.4**
KMI Kunming 33.51 275 ⇑P **P 22 28 26.5 0.0**
KMI pmax pmax
comp=Z,11nm,1.0s
YAK Yakutsk 35.35 352 *d i* P **P 22 28 41.0 -0.3**
YAK *e**PP **pP 22 29 52.8 -0.3**
YAK *e* 22 30 57.1
YAK *e*S **S 22 33 43.0 -3.4**
YAK *e**SS **sS 22 35 54.4 -2.4**
YAK *e*SS **SS 22 36 35.5 -4.4**
YAK *e* 22 38 10.9
YAK pmax pmax
comp=Z,141nm,1.1s
YAK pmax pmax
comp=N,35nm,1.3s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK smax smax
comp=E,68nm,2.5s
YAK smax smax
comp=N,16nm,1.7s
YAK Yakutsk 35.35 352 P **P 22 28 41.6 +0.3**
GTA Gaotai 35.44 300 ⇓P **P 22 28 42.6 0.0**
GTA pP pP 22 29 52.4 -1.2
GTA PcP **PcP 22 31 03.6 +1.1**
GTA S **S 22 33 47.8 -1.0**
GTA ScP **ScP 22 34 12.6 +1.5**
GTA pmax pmax
comp=N,26nm,1.0s
GTA pmax pmax
comp=N,69nm,4.4s
ZAK Zakamensk 36.19 319 *e*P **P 22 28 48.2 -0.5**
ZAK pmax pmax
comp=Z,12nm,1.1s
SEY Seymchan 36.47 9 P **P 22 28 52.2 +1.5**
comp=Z,32nm,0.8s,baz=191,slow=6.7,SNR=84
TLY Talaya 36.56 322 P **P 22 28 52.7 +1.0**
comp=Z,7.4nm,0.6s,baz=165,slow=8.9,SNR=11
TLY Talaya 36.56 322 *e*P **P 22 28 48.7 -3.0**
TLY pmax pmax
comp=Z,27nm,0.8s
TLY MLR MLR
comp=Z,162nm,11.0s
TLY Talaya 36.56 322 P **P 22 28 52.0 +0.3**
MOY Mondy 38.04 320 *e*P **P 22 29 04.5 +0.4**
CMMT Chiang Mai 38.66 266 P **P 22 29 08.9 -0.6**
comp=Z,7.4nm,1.2s
CHTO Chiang Mai 38.66 266 P **P 22 29 09.6 +0.1**
CHTO pmax pmax
comp=Z,11nm,1.4s
CHTO Chiang Mai 38.66 266 P **P 22 29 09.6 +0.1**
CHTO Chiang Mai 38.66 266 P **P 22 29 09.9 +0.4**
comp=Z,4.3nm,1.2s
CMAR Chiang Mai Arr 38.79 266 P **P 22 29 11.2 +0.6**
comp=Z,1.0nm,0.3s,baz=71,slow=5.7,SNR=7.7
CMAR PcP **PcP 22 31 13.8 +0.8**
comp=Z,1.5nm,0.4s,baz=78,slow=2.3,SNR=9.8
CMAR ScP **ScP 22 34 24.1 +0.3**
comp=Z,0.5nm,0.3s,baz=29,slow=2.3,SNR=6.7
CMAR Chiang Mai Arr 38.79 266 P **P 22 29 10.5 -0.1**
MMRI Maumere 39.76 208 P **P 22 29 18.9 +0.5**
comp=Z,49nm,0.8s
KIWB Kanaga Island 40.20 41 P **P 22 29 21.6 0.0**
BATI Baumata 40.61 205 P **P 22 29 25.3 -0.1**
comp=Z,28nm,0.5s
MTN Manton Dam 40.91 193 P **P 22 29 26.5 -1.2**
BILL Bilibino 43.62 14 *c i* P **P 22 29 49.7 +1.1**
BILL *i* 22 31 40.9
BILL pmax pmax
comp=Z,157nm,1.0s
BILL Bilibino 43.62 14 P **P 22 29 49.4 +0.8**
KNRA Kununurra 44.18 196 P **P 22 29 53.4 -0.3**
TIXI Tiksi 44.76 355 P **P 22 29 57.6 +0.1**
comp=Z,43nm,0.8s,baz=146,slow=7.0,SNR=115
TIXI Tiksi 44.76 355 *c e*P **P 22 29 57.5 0.0**
TIXI Tiksi 44.76 355 P **P 22 29 57.8 +0.3**
TIXI IAmb IAmb 22 29 58.7
comp=Z,49nm,0.8s
WMQ Urumqi 44.91 306 *e*P **P 22 30 00.4 +1.2**
WMQ pmax pmax
comp=Z,81nm,1.1s
WMQ pmax pmax
comp=Z,210nm,4.1s
NIKH Nikolski High 45.39 41 P 22 30 03.4
baz=256
DGZ Jazzator, Alta 45.74 314 *i* P **P 22 30 06.1 +0.5**
DGZ pmax pmax
comp=Z,15nm,0.7s
LEM Lembang 46.30 228 P **P 22 30 10.7 +0.3**
comp=Z,24nm,0.7s
PSI Prapat 46.31 245 P **P 22 30 10.8 +0.3**
PSI pmax pmax
comp=Z,11nm,0.9s
PSI Prapat 46.31 245 P P 22 30 11.1 +0.6
comp=Z,6.0nm,0.7s,comp=Z,15nm,0.7s
PSI P **P 22 30 11.0 +0.5**
comp=Z,6.0nm,0.7s,comp=Z,15nm,0.7s
RPSI Rantau Prapat 46.37 245 P **P 22 30 10.8 +0.1**
MDSI Maura Dua 46.96 233 P **P 22 30 15.2 -0.1**
comp=Z,20nm,0.7s
ZSN Zaisan 47.16 310 *e*P **P 22 30 16.5 0.0**
baz=310
ZSN Zaisan 47.16 310 *e*P **P 22 30 16.4 0.0**
WB0 Warramunga Arr 47.18 187 P **P 22 30 16.3 -0.5**
WB0 pP **pP 22 31 30.4 -2.1**
FITZ Fitzroy Crossi 47.32 199 P **P 22 30 17.9 0.0**
WRAB Tennant Creek 47.35 187 *c e*P **P 22 30 17.8 -0.3**
WRAB pmax pmax
comp=Z,24nm,1.7s
WRAB Tennant Creek 47.35 187 P **P 22 30 17.4 -0.7**
WRAB pP **pP 22 31 33.3 -0.5**
WR0 Warramunga Arr 47.36 187 P **P 22 30 17.2 -1.0**
WR0 pP **pP 22 31 30.8 -3.0**
WB2 Warramunga Arr 47.36 187 P **P 22 30 17.5 -0.7**
WB2 pP **pP 22 31 33.5 -0.3**
WRA Warramunga Arr 47.36 187 P **P 22 30 17.9 -0.3**
comp=Z,12nm,0.5s,baz=5.1,slow=7.5,SNR=395
WRA pP **pP 22 31 34.4 +0.6**
comp=Z,4.3nm,0.5s,baz=5.6,slow=8.4,SNR=4.2
WRA ScP **ScP 22 34 57.1 -1.3**
comp=Z,1.1nm,0.6s,baz=5.0,slow=5.0,SNR=4.5
WRA S **S 22 36 38.0 -4.4**
comp=Z,4.3nm,1.2s,baz=359,slow=13,SNR=5.2
WRA Warramunga Arr 47.36 187 *i* P **P 22 30 17.3 -0.9**
WRA pmax pmax
comp=Z,13nm,0.5s
WRA Warramunga Arr 47.36 187 P **P 22 30 16.7 -1.5**
WRA pP **pP 22 31 33.3 -0.5**
WRA **ScP 22 34 56.7 -1.8**
AKUT Akutan 47.44 40 P **P 22 30 19.2 +0.8**
AKUT IAmb IAmb 22 30 20.3
comp=Z,55nm,0.7s
ZAA0 Zalesovo Array 48.07 319 P **P 22 30 23.2 +0.1**
ZAA0 pP **PcP 22 31 42.0 -2.0**
ZALV Zalesovo Beam 48.07 319 P **P 22 30 22.9 -0.3**
comp=Z,5.7nm,0.5s,baz=97,slow=7.0,SNR=30
ZALV PcP **PcP 22 31 43.5 -0.6**
comp=Z,5.9nm,0.6s,baz=125,slow=3.7,SNR=12
ZALV Zalesovo Beam 48.07 319 P **P 22 30 22.2 -0.9**
ZALV pP **pP 22 31 40.4 +1.2**
MK31 Makanchi Array 48.87 309 *d i* P **P 22 30 29.7 +0.3**
MK31 Makanchi Array 48.87 309 P **P 22 30 29.8 +0.5**
MK31 pP **pP 22 31 46.2 +0.6**
MKAR Makanchi Array 48.87 309 P **P 22 30 29.4 +0.1**
comp=Z,6.1nm,0.5s,baz=93,slow=9.4,SNR=104
MKAR pP **PcP 22 31 47.1 -0.1**
comp=Z,4.0nm,0.8s,baz=86,slow=6.9,SNR=5.7
MKAR ScP **ScP 22 35 04.7 +0.1**
comp=Z,0.6nm,0.5s,baz=80,slow=3.8,SNR=3.5
MKAR Makanchi Array 48.87 309 P **P 22 30 29.7 +0.3**
MKAR pP **pP 22 31 45.9 +0.3**
MAKZ Makanchi 49.09 309 P **P 22 30 30.8 -0.2**
MAKZ pmax pmax
comp=Z,44nm,1.4s
MAKZ Makanchi 49.09 309 P **P 22 30 30.8 -0.2**
SEM Semipalatinsk 50.41 314 *e*P **P 22 30 40.0 -1.0**
comp=Z,13nm,0.5s,baz=314
SEM *e*S **S 22 37 19.2 -5.3**
baz=314
SEM Semipalatinsk 50.41 314 *e*P **P 22 30 40.0 -1.0**
SEM *e*S **S 22 37 19.1 -5.3**
SEM pmax pmax
comp=Z,13nm,0.5s
ANM Nome 50.56 27 P 22 30 43.7
baz=250
SDPT Sand Point 50.67 39 P **P 22 30 42.5 -0.1**
SDPT Sand Point 50.67 39 P 22 30 42.6
baz=262
PDGK Podgornoye 50.87 305 *i* P **P 22 30 44.2 -0.2**
PDGK pmax pmax
comp=Z,40nm,0.7s
SHLS Shalkode 50.90 305 *e*P **P 22 30 42.3 -2.4**
comp=Z,9.0nm,0.5s,baz=304
SHLS *i* S **S 22 37 25.7 -5.4**
baz=304
SHLS Shalkode 50.90 305 *e*P **P 22 30 42.2 -2.4**
SHLS *i* S **S 22 37 25.6 -5.4**
SHLS pmax pmax
comp=Z,9.0nm,0.5s
AS31 Alice Springs 51.09 187 P **P 22 30 46.1 +0.1**
ASAR Alice Springs 51.09 187 P **P 22 30 45.5 -0.5**
comp=Z,3.0nm,0.5s,baz=359,slow=5.1,SNR=74
ASAR ScP **ScP 22 35 13.7 -0.7**
comp=Z,1.0nm,0.8s,baz=13,slow=4.3,SNR=4.2
UZB Uzynbulak 51.22 305 *e*P **P 22 30 46.8 -0.2**
comp=Z,5.4nm,0.4s,baz=304
UZB *i* S **S 22 37 34.8 -0.6**
comp=Z,25nm,2.5s,baz=304
UZB Uzynbulak 51.22 305 *e*P **P 22 30 46.8 -0.2**
UZB *i* S **S 22 37 34.8 -0.6**
UZB pmax pmax
comp=Z,5.0nm,0.4s
UZB smax smax
comp=N,25nm,2.5s
KPKS Kokpek 51.45 305 *e*P **P 22 30 48.0 -0.6**
comp=N,11nm,0.6s,baz=305
KPKS *e*S **S 22 37 37.8 -0.6**
baz=305
KPKS Kokpek 51.45 305 *e*P **P 22 30 48.0 -0.6**
KPKS pmax pmax
comp=Z,11nm,0.6s
TDK Taldyqorghan 51.58 307 *e*P **P 22 30 49.1 -0.3**
baz=307
TDK *e*S **S 22 37 39.5 -0.5**
baz=307
TDK Taldyqorghan 51.58 307 *e*P **P 22 30 49.1 -0.3**
SATY Saty 51.67 305 *e*P **P 22 30 50.6 +0.3**
comp=Z,11nm,1.1s,baz=304
SATY *e*S **S 22 37 43.2 +1.6**
baz=304
SATY Saty 51.67 305 *e*P **P 22 30 50.6 +0.3**
SATY *e*S **S 22 37 43.2 +1.6**
SATY pmax pmax
comp=Z,11nm,1.1s
PRZ Przheval'sk 51.72 304 P **P 22 30 52.1 +1.4**
PRZ pmax pmax
comp=Z,72nm,0.7s
PRZ Przheval'sk 51.72 304 P **P 22 30 52.1 +1.4**
NRIK Noril'sk 51.72 339 P **P 22 30 50.8 +0.7**
comp=Z,38nm,0.8s,baz=112,slow=8.7,SNR=49
NRIK PcP **PcP 22 31 57.5 +0.2**
comp=Z,5.3nm,0.7s,baz=130,slow=5.4,SNR=1.6
NRIK ScP **ScP 22 35 16.4 0.0**
comp=Z,2.0nm,0.7s,baz=135,slow=5.7,SNR=4.0
NRIK Noril'sk 51.72 339 P **P 22 30 50.5 +0.5**
NRIK IAmb IAmb 22 30 51.4
comp=Z,49nm,0.9s
NRIK **PcP 22 31 58.0 +0.7**
NRIK ScP **ScP 22 35 16.5 0.0**
TARG Taragay, Kyrgy 52.22 303 P **P 22 30 55.3 +0.7**
PSA00 Pilbara Seismi 52.45 204 P **P 22 30 55.9 -0.1**
PSA00 Pilbara Seismi 52.45 204 P **P 22 30 55.4 -0.5**
PSA00 IAmb IAmb 22 30 56.9
comp=Z,10.0nm,0.7s
KDJ Kajisay 52.65 304 P **P 22 30 57.6 +0.2**
KDJ pmax pmax
comp=Z,15nm,0.9s
KDJ Kajisay 52.65 304 P **P 22 30 57.6 +0.2**
CHKK Chushkaly 52.65 306 *e*P **P 22 30 57.1 -0.3**
baz=305
CHKK Chushkaly 52.65 306 *e*P **P 22 30 57.0 -0.3**
MDOK Medeo 52.66 305 *i* P **P 22 30 58.0 +0.5**
baz=304
MDOK Medeo 52.66 305 *i* P **P 22 30 58.0 +0.5**
RDOG Red Dog Mine 52.71 23 P **P 22 30 58.3 +1.1**
RDOG Red Dog Mine 52.71 23 P 22 30 60.0
baz=250,SNR=17
AAA Alma-Ata 52.75 305 *e*P **P 22 30 57.8 -0.3**
baz=304
AAA Alma-Ata 52.75 305 *e*P **P 22 30 57.8 -0.3**
MTBS Maitube 53.11 305 *e*P **P 22 31 01.1 +0.4**
baz=304
MTBS Maitube 53.11 305 *e*P **P 22 31 01.1 +0.4**
KUU Kurty 53.12 306 *e*P **P 22 31 00.8 +0.1**
comp=Z,44nm,0.7s,baz=305
KUU Kurty 53.12 306 *e*P **P 22 31 00.7 +0.1**
KUU pmax pmax
comp=Z,44nm,0.7s
ULHL Ulahol 53.33 304 P **P 22 31 03.4 +1.0**
SNR=5.8
TKM2 Tokmak 2 53.74 305 P **P 22 31 06.3 +0.9**
SNR=23
TKM2 Tokmak 2 53.74 305 *i* P **P 22 31 05.6 +0.2**
TKM2 pmax pmax
comp=Z,16nm,0.6s
N18K Kilae Creek 53.85 33 P 22 31 07.7
baz=262
SVW2 Sparrevohn 54.06 33 P **P 22 31 08.3 +1.2**
TTA Tatalina 54.15 30 P **P 22 31 07.6 -0.2**
TTA pmax pmax
comp=Z,19nm,1.1s
TTA Tatalina 54.15 30 P **P 22 31 07.6 -0.2**
TTA Tatalina 54.15 30 P 22 31 09.4
baz=260,SNR=15
KBK Karagaybulak 54.24 304 P **P 22 31 09.7 +0.8**
SNR=33
SII Sitkinak Islan 54.32 38 P **P 22 31 10.1 +1.1**
SII Sitkinak Islan 54.32 38 P 22 31 10.1
baz=266
CHMS Chumysh 54.35 305 P **P 22 31 10.5 +1.0**
SNR=14
SGDS Sogindy 54.39 305 *e*P **P 22 31 09.5 -0.4**
baz=305
SGDS Sogindy 54.39 305 *e*P **P 22 31 09.4 -0.4**
FRU1 Bishkek 54.46 305 P **P 22 31 10.7 +0.4**
FRU1 pmax pmax
comp=Z,26nm,0.8s
FRU1 Bishkek 54.46 305 P **P 22 31 10.7 +0.4**
FRU1 IAmb IAmb 22 31 12.1
comp=Z,26nm,0.8s
USP Ospenovka 54.50 305 P **P 22 31 11.5 +0.9**
SNR=13
N19K Bonanza Creek 54.55 33 P 22 31 12.4
baz=263
AAK Ala-Archa 54.58 304 P **P 22 31 12.1 +0.9**
SNR=6.9
AAK Ala-Archa 54.58 304 *c e*P **P 22 31 11.8 +0.5**
AAK pmax pmax
comp=Z,26nm,0.5s
AAK Ala-Archa 54.58 304 P **P 22 31 11.2 -0.1**
BTLS Baital 54.66 307 *e*P **P 22 31 11.5 -0.2**
comp=Z,11nm,0.4s,baz=307
BTLS Baital 54.66 307 *e*P **P 22 31 11.4 -0.2**
BTLS pmax pmax
comp=Z,11nm,0.4s
OHAK Old Harbor 54.85 38 P **P 22 31 13.1 +0.4**
OHAK Old Harbor 54.85 38 P 22 31 13.6
baz=267,SNR=7.9
EKS2 Erkin-Say 55.10 305 P **P 22 31 16.0 +1.1**
SNR=12
AML Almayashu 55.22 304 P **P 22 31 17.3 +1.2**
SNR=20
KDAK Kodiak Island 55.26 37 P **P 22 31 16.1 +0.6**
comp=Z,15nm,0.3s,baz=282,slow=5.4,SNR=78
KDAK PcP **PcP 22 32 11.9 +0.8**
comp=Z,2.9nm,0.5s,baz=333,slow=2.3,SNR=1.3
KDAK Kodiak Island 55.26 37 P **P 22 31 16.3 +0.7**
KDAK 22 32 11.9
KDAK pmax pmax
comp=Z,40nm,0.9s
KDAK Kodiak Island 55.26 37 P **P 22 31 16.3 +0.7**
KDAK IAmb IAmb 22 31 17.2
comp=Z,40nm,0.8s
KDAK **PcP 22 32 11.9 +0.8**
KDAK Kodiak Island 55.26 37 P 22 31 16.4
baz=267
BRZS Berezniki 55.27 314 *e*P **P 22 31 14.8 -1.1**
comp=Z,10nm,0.7s,baz=313
BRZS Berezniki 55.27 314 *e*P **P 22 31 14.8 -1.1**
BRZS pmax pmax
comp=Z,11nm,0.7s
DZM Mont Dzumac 55.36 150 P **P 22 31 16.9 0.0**
DZM IAmb IAmb 22 31 18.8
comp=Z,40nm,1.2s
RSO Redoubt South 55.36 34 P **P 22 31 16.0 -0.6**
IMAR Indian Mountai 55.64 27 P **P 22 31 19.1 +1.0**
IMAR **PcP 22 32 13.4 +1.0**
SPCR Spurr Chakacha 55.70 33 P 22 31 20.3
baz=265,SNR=6.3
A21K Barrow 55.83 20 P **P 22 31 20.5 +1.1**
A21K Barrow 55.83 20 P 22 31 20.9
baz=254,SNR=20
ARSB Arslanbob 55.86 303 P **P 22 31 20.7 +0.4**
ARSB pmax pmax
comp=Z,46nm,1.2s
ARSB Arslanbob 55.86 303 P **P 22 31 20.7 +0.4**
ARSB IAmb IAmb 22 31 22.2
comp=Z,46nm,1.2s
PPLA Purkeypile 55.88 31 P **P 22 31 21.0 +0.9**
PPLA Purkeypile 55.88 31 P 22 31 21.7
baz=264,SNR=14
H21K Melozitna Rive 55.97 27 P 22 31 22.2
baz=261
CNPM China Poot 56.06 35 P **P 22 31 21.0 -0.2**
CNPM IAmb IAmb 22 31 22.9
comp=Z,49nm,1.1s

SKT **Skwentna** 56.09 32 P P 22 31 22.2 +0.8
SKT **Skwentna** 56.09 32 P 22 31 22.0
baz=265,SNR=21
I21K **Tanana** 56.24 28 P 22 31 24.7
baz=262
BRLK **Bradley Lake** 56.25 35 P P 22 31 22.5 0.0
BRLK IAmb IAmb 22 31 25.3
comp=Z,61nm,1.3s
BRSE **Bradley Lake S** 56.32 35 P 22 31 23.4
baz=267,SNR=14
SUA **Susitna One** 56.42 33 P P 22 31 24.3 +0.4
SUA **Susitna One** 56.42 33 P 22 31 24.4
baz=266,SNR=5.0
KTH **Kantishna Hill** 56.51 30 P P 22 31 25.3 +0.9
BPAW **Bear Paw Mtn.** 56.54 29 P P 22 31 25.3 +0.8
BPAW **Bear Paw Mtn.** 56.54 29 P 22 31 25.7
baz=264
BRVK **Borovoye** 56.65 317 *ce*P P 22 31 25.4 0.0
BRVK pmax pmax
comp=Z,55nm,1.0s
BRVK **Borovoye** 56.65 317 P P 22 31 25.9 +0.5
BRVK IAmb IAmb 22 31 26.7
comp=Z,44nm,0.9s
BRVK **Borovoye** 56.65 317 P P 22 31 25.5 0.0
M22K **Willow** 56.74 32 P 22 31 26.6
baz=266
MLY **Manley** 56.75 28 P P 22 31 27.6 +1.6
MLY IAmb IAmb 22 31 28.5
comp=Z,31nm,1.0s
MLY **Manley** 56.75 28 P 22 31 27.3
baz=264,SNR=35
TRF **Thorofare Moun** 56.79 30 P P 22 31 27.2 +0.7
TRF IAmb IAmb 22 31 28.3
comp=Z,25nm,0.8s
TRF **Thorofare Moun** 56.79 30 P 22 31 27.1
baz=265,SNR=19
DZA **Taraz** 56.85 305 *e*P P 22 31 26.9 -0.3
baz=305
DZA **Taraz** 56.85 305 *e*P P 22 31 26.8 -0.3
O22K **Cooper Landing** 56.86 34 P P 22 31 27.4 +0.7
O22K **Cooper Landing** 56.86 34 P 22 31 27.2
baz=268
RC01 **Rabbit Creek A** 56.88 33 P P 22 31 27.6 +0.7
RC01 IAmb IAmb 22 31 28.2
comp=Z,37nm,1.0s
RC01 **Rabbit Creek A** 56.89 33 P 22 31 27.1
baz=267,SNR=28
SEW **Seward** 56.98 34 P P 22 31 27.9 +0.3
SEW IAmb IAmb 22 31 29.0
comp=Z,57nm,1.1s
SEW **Seward** 56.98 34 P 22 31 27.8
baz=268,SNR=20
DRK **Karamyk** 57.04 301 P P 22 31 29.1 +0.3
DRK IAmb IAmb 22 31 30.6
comp=Z,19nm,0.7s
NIL **Nilore** 57.05 294 P P 22 31 29.0 +0.4
NIL pmax pmax
comp=Z,29nm,0.7s
NIL **Nilore** 57.05 294 P P 22 31 29.0 +0.4
NIL IAmb IAmb 22 31 30.6
comp=Z,30nm,0.7s
NIL **Nilore** 57.05 294 P P 22 31 29.6 +0.9
PMR **Palmer** 57.20 32 P P 22 31 29.3 +0.2
PMR pmax pmax
comp=Z,43nm,0.9s
PMR **Palmer** 57.20 32 P P 22 31 29.3 +0.2
PMR IAmb IAmb 22 31 30.3
comp=Z,43nm,0.9s
PMR **Palmer** 57.20 32 P 22 31 29.2
baz=267,SNR=29
BWN **Browne** 57.21 29 P P 22 31 30.8 +1.6
COLD **Coldfoot** 57.23 26 P 22 31 30.6
baz=263,SNR=12
H23K **Yukon River** 57.33 27 P 22 31 31.6
baz=264,SNR=32
I23K **Minto, Yukon-K** 57.34 28 P P 22 31 31.0 +1.0
I23K PcP PcP 22 32 19.2 +0.2
I23K **Minto, Yukon-K** 57.34 28 P 22 31 31.2
baz=265,SNR=37
MCK **McKinley** 57.41 30 P P 22 31 31.3 +0.7
MCK pmax pmax
comp=Z,70nm,0.9s
MCK **McKinley** 57.41 30 P P 22 31 31.2 +0.7
MCK **McKinley** 57.41 30 P 22 31 31.1
baz=266,SNR=40
NEA2 **Nenana** 57.42 29 P P 22 31 31.6 +1.0
NEA2 IAmb IAmb 22 31 32.8
comp=Z,43nm,0.8s
NEA2 **Nenana** 57.42 29 P 22 31 31.5
baz=265,SNR=51
KK31 **Karatay Array** 57.42 305 P P 22 31 31.6 +0.6
KK31 pmax pmax
comp=Z,42nm,0.9s
KK31 **Karatay Array** 57.42 305 P P 22 31 31.6 +0.6
KK31 IAmb IAmb 22 31 32.5
comp=Z,42nm,0.8s
KKAR **Karatay Array** 57.42 305 P P 22 31 31.5 +0.5
KKAR pmax pmax
comp=Z,42nm,0.9s
KKAR **Karatay Array** 57.42 305 P P 22 31 31.5 +0.5
KKAR **Karatay Array** 57.42 305 P P 22 31 31.3 +0.3
KKAR IAmb IAmb 22 31 32.5
comp=Z,42nm,0.8s
RND **Reindeer** 57.43 30 P P 22 31 31.2 +0.4
RND pmax pmax
comp=Z,39nm,0.7s
RND **Reindeer** 57.43 30 P P 22 31 31.2 +0.4
RND IAmb IAmb 22 31 32.0
comp=Z,39nm,0.7s
KNK **Knik Glacier** 57.52 33 P P 22 31 31.2 -0.1
KNK PcP 22 32 20.2 +0.3
KNK **Knik Glacier** 57.52 33 P 22 31 31.8
baz=268,SNR=27
WAT2 **Susitna Watana** 57.52 31 P 22 31 31.4
baz=267,SNR=41
PWL **Port Wells** 57.56 33 P P 22 31 32.0 +0.4
SML **Sawmill** 57.59 32 P P 22 31 32.5 +0.7
SML IAmb IAmb 22 31 33.5
comp=Z,60nm,0.9s
SML **Sawmill** 57.59 32 P 22 31 32.4
baz=268,SNR=39
TOLK **Toolik Lake Re** 57.64 24 P P 22 31 32.9 +0.8
TOLK IAmb IAmb 22 31 34.8
comp=Z,56nm,1.2s
TOLK **Toolik Lake Re** 57.65 24 P 22 31 33.4
baz=262,SNR=20
BTK **Batken** 57.68 302 P P 22 31 33.0 0.0
BTK pmax pmax
comp=Z,21nm,1.3s
BTK **Batken** 57.68 302 P P 22 31 33.0 0.0
MDM **Murphy Dome** 57.80 29 P P 22 31 34.1 +0.9
MDM IAmb IAmb 22 31 35.4
comp=Z,47nm,1.2s
WRH **Wood River Hil** 57.83 29 P P 22 31 34.0 +0.6
WAT6 **Susitna Watana** 57.90 31 P 22 31 34.4
baz=268,SNR=51
CCB **Clear Creek Bu** 57.96 29 P P 22 31 34.8 +0.5
H24K **Noodor Dome** 58.01 27 P 22 31 36.1
baz=266,SNR=45
SCM **Sheep Creek Mo** 58.07 32 P P 22 31 36.1 +0.9
SCM pmax pmax
comp=Z,60nm,0.8s
SCM **Sheep Creek Mo** 58.07 32 P P 22 31 36.1 +0.9
POKR **Poker Plat Res** 58.15 28 P P 22 31 36.5 +0.9
POKR IAmb IAmb 22 31 38.3
comp=Z,39nm,1.1s
POKR **Poker Plat Res** 58.15 28 P 22 31 36.3
baz=267,SNR=8.9
GLI **Glacier Island** 58.17 33 P P 22 31 36.7 +0.9
GLI **Glacier Island** 58.17 33 P 22 31 36.2
baz=270
GAR **Garm** 58.26 301 P P 22 31 37.0 +0.1
GAR IAmb IAmb 22 31 38.4
comp=Z,46nm,0.7s
HDA **Harding Lake** 58.32 29 P P 22 31 36.7 0.0
HDA IAmb IAmb 22 31 37.7
comp=Z,61nm,1.2s
HDA **Harding Lake** 58.32 29 P 22 31 36.6
baz=268,SNR=30
HDA P 22 31 36.6
baz=268,SNR=30
IL31 **58.36 29** P P **22 31 37.1 +0.1**
IL31 IAmb IAmb 22 31 38.0
comp=Z,40nm,1.1s
ILAR **Eielson Array 58.36 29** P P **22 31 36.7 -0.4**
comp=Z,25nm,1.0s,baz=263,slow=5.5,SNR=106

ILAR PcP PcP **22 32 22.8 -0.3**
comp=Z,1.7nm,0.6s,baz=261,slow=3.5,SNR=1.5
ILAR pP pP **22 32 57.4 +0.7**
comp=Z,0.6nm,0.6s,baz=263,slow=5.4,SNR=1.0
ILAR sP sP **22 33 40.5 +2.2**
comp=Z,2.5nm,1.1s,baz=265,slow=6.7,SNR=2.8
ILAR ScP ScP **22 35 44.3 -1.4**
comp=Z,0.2nm,0.6s,baz=271,slow=4.1,SNR=4.3
ILAR Eielson Array 58.36 29 P P **22 31 36.9 -0.2**
HIN **Hinchinbrook I 58.46 34** P P **22 31 38.6 +0.8**
HIN IAmb IAmb 22 31 39.7
comp=Z,49nm,0.9s
FID **Port Fidalgo 58.47 34** P P **22 31 38.1 +0.3**
FID IAmb IAmb 22 31 39.4
comp=Z,36nm,0.9s
M24K **Tolsona, Glenn 58.62 32** P P **22 31 39.3 +0.4**
M24K IAmb IAmb 22 31 41.2
comp=Z,34nm,1.1s
M24K Tolsona, Glenn 58.62 32 P 22 31 39.8
baz=270,SNR=6.9
KLU **Klutina 58.73 33** P P **22 31 40.5 +0.7**
KLU IAmb IAmb 22 31 41.7
comp=Z,34nm,0.7s
KLU Klutina 58.74 33 P 22 31 40.5
baz=270,SNR=28
EYAK Cordova Ski Ar 58.83 34 P P **22 31 40.9 +0.6**
EYAK Cordova Ski Ar 58.83 34 P 22 31 41.1
baz=271,SNR=7.2
PAX **Paxson 58.95 31** P P **22 31 42.0 +0.8**
PAX pmax pmax
comp=Z,28nm,0.9s
PAX Paxson 58.95 31 P P **22 31 42.0 +0.8**
PAX IAmb IAmb 22 31 44.0
comp=Z,28nm,0.9s
PAX Paxson 58.95 31 P 22 31 42.0
baz=270,SNR=6.2
PRP Porcupine Dome 58.97 28 P P **22 31 40.9 -0.5**
PRP Porcupine Dome 58.97 28 P 22 31 40.8
baz=268,SNR=17
HARP HAARP 59.09 32 P 22 31 43.2
baz=270,SNR=23
FYU Fort Yukon 59.12 27 P P **22 31 43.3 +1.1**
CHGR Chuyangaron 59.22 301 P P **22 31 44.0 +0.6**
N25K Chitina, Valde 59.37 33 P P **22 31 44.8 +0.8**
N25K Chitina, Valde 59.37 33 P 22 31 44.9
baz=271,SNR=18
BMRM Bremner River 59.38 33 P P **22 31 44.8 +0.7**
BMRM Bremner River 59.38 33 P 22 31 45.0
baz=272,SNR=61
BMAR Burnt Mountain 59.41 26 P P **22 31 45.5 +1.3**
HMT Hamilton 59.57 34 P P **22 31 46.0 +0.6**
HMT IAmb IAmb 22 31 47.4
comp=Z,61nm,1.4s
DOT Dot Lake 59.58 30 P P **22 31 45.9 +0.6**
DOT IAmb IAmb 22 31 46.9
comp=Z,52nm,1.0s
SCRK Sand Creek 59.61 30 P P **22 31 46.3 +0.6**
SCRK IAmb IAmb 22 31 47.2
comp=Z,63nm,1.1s
SCRK Sand Creek 59.61 30 P 22 31 46.0
baz=270,SNR=72
MENT Mentasta 59.75 31 P P **22 31 46.2 -0.3**
MENT IAmb IAmb 22 31 48.8
comp=Z,29nm,0.5s
GLB Gilahina Butte 59.75 33 P P **22 31 47.4 +0.8**
GLB IAmb IAmb 22 31 48.6
comp=Z,44nm,1.0s
SUCK Suckling Hills 59.83 34 P P **22 31 47.7 +0.6**
SUCK IAmb IAmb 22 31 49.5
comp=Z,61nm,1.3s
VRDI Verde Repeater 59.93 33 P P **22 31 48.4 +0.4**
CRQM Cirque 60.11 33 P P **22 31 49.7 +0.5**
CRQE Cirque 60.13 33 P 22 31 50.0
baz=273,SNR=14
MCARA McCarthy VSAT 60.13 33 P P **22 31 50.0 +0.9**
MCARA IAmb IAmb 22 31 51.2
comp=Z,51nm,0.8s
MCARA McCarthy VSAT 60.13 33 P 22 31 50.2
baz=273,SNR=14
KBL Kabul 60.24 296 P P **22 31 50.7 +0.1**
KBL pmax pmax
comp=Z,29nm,0.9s
KBL Kabul 60.24 296 P P **22 31 50.7 +0.1**
KBL IAmb IAmb 22 31 52.4
comp=Z,29nm,0.9s
KBL Kabul 60.24 296 P P **22 31 51.0 +0.5**
SNR=16
TGL Tana Glacier 60.26 33 P P **22 31 50.8 +0.7**
TGL IAmb IAmb 22 31 52.0
comp=Z,31nm,0.7s
K27K Chicken 60.45 30 P P **22 31 52.0 +0.9**
K27K IAmb IAmb 22 31 53.7
comp=Z,46nm,1.4s
K27K Chicken 60.45 30 P 22 31 52.3
baz=272,SNR=14
L27K Beaver Creek, 60.60 31 P P **22 31 53.0 +0.8**
L27K Beaver Creek, 60.61 31 P 22 31 53.3
baz=273,SNR=35
BCAR Beaver Creek A 60.62 31 P P **22 31 53.2 +0.8**
BCAR PcP PcP **22 32 33.2 +0.8**
MESA MESA 60.73 34 P P **22 31 54.0 +0.7**
MESA IAmb IAmb 22 31 55.4
comp=Z,58nm,1.4s
MESA MESA 60.73 34 P 22 31 54.5
baz=274
GRNC Granite Creek 60.79 33 IAmb IAmb 22 31 55.5
comp=Z,31nm,0.8s
EGAK Eagle 60.82 29 P P **22 31 53.6 0.0**
EGAK Eagle 60.82 29 P 22 31 53.8
baz=272,SNR=14
YAH Yahtse 60.82 34 IAmb IAmb 22 31 56.0
comp=Z,28nm,1.0s
CTG Chitna Glacier 60.97 33 P 22 31 55.7
baz=274,SNR=9.0
TABL Table Mountain 61.11 34 IAmb IAmb 22 31 57.7
comp=Z,23nm,0.9s
PCA Pinnacle 61.59 34 IAmb IAmb 22 32 00.9
comp=Z,36nm,0.8s
PINM Pinnacle 61.59 34 P 22 32 00.0
baz=276,SNR=7.9
DAWY Dawson 61.63 30 IAmb IAmb 22 32 01.4
comp=Z,57nm,1.5s
SVE Sverdlovsk 61.88 322⇑ *e*P P **22 32 00.7 0.0**
SVE pmax pmax
comp=Z,27nm,1.1s
HYT Haines Junctio 62.85 33 IAmb IAmb 22 32 09.9
comp=Z,31nm,1.0s
ARU Arti 63.07 322 *d* iP P **22 32 08.0 -0.5**
ARU 22 32 40.8
ARU *PP **pwP** **22 33 32.4 -2.4**
ARU S S **22 40 07.6 -0.3**
ARU SS SS **22 44 20.5 -0.7**
ARU pmax pmax
comp=Z,55nm,1.5s
ARU Arti 63.07 322 P P **22 32 08.2 -0.3**
ARU IAmb IAmb 22 32 09.3
comp=Z,28nm,0.9s
INK Inuvik 63.55 24 P P **22 32 11.7 +0.3**
comp=Z,12nm,0.5s,baz=280,slow=5.9,SNR=36
INK Inuvik 63.55 24 IAmb IAmb 22 32 12.8
comp=Z,33nm,1.2s
INK Inuvik 63.55 24 P 22 32 11.7
baz=278,SNR=20
ABKAR Akbulak array 63.57 314 P P **22 32 11.7 -0.3**
ABKAR Akbulak array 63.57 314 IAmb IAmb 22 32 12.7
comp=Z,23nm,0.6s
WHY Whitehorse 64.15 33 IAmb IAmb 22 32 18.1
comp=Z,22nm,0.8s
WHY Whitehorse 64.15 33 P 22 32 17.0
baz=280,SNR=15
BESE Bessie Mountai 64.55 35 P P **22 32 18.8 +0.7**
BESE IAmb IAmb 22 32 20.5
comp=Z,21nm,0.9s
HRA Herat 65.68 297 IAmb IAmb 22 32 27.7
comp=Z,17nm,0.8s
CRAG Craig 66.15 38 IAmb IAmb 22 32 30.8
comp=Z,23nm,0.9s
CRAG Craig 66.15 38 P 22 32 30.2
baz=284
WRAK Wrangell Islan 66.34 37 IAmb IAmb 22 32 31.9
comp=Z,40nm,1.4s
WRAK Wrangell Islan 66.34 37 P 22 32 31.1
baz=284,SNR=5.2
C36M Paulatuk 66.70 23 P 22 32 32.1
baz=286
DIB Dawson Inlet, 67.09 41 IAmb IAmb 22 32 35.7
comp=Z,16nm,0.8s
KIRV Kirov 67.42 325 *d* iP P **22 32 36.0 -0.1**
GEYT Alibeck 67.79 302 P P **22 32 39.0 +0.1**
comp=Z,6.2nm,0.8s,baz=83,slow=4.8,SNR=11
PRGR Permogore 68.37 329 *e*P P **22 32 39.4 -2.5**
SPA0 Spitsbergen Ar 69.78 349 *e*P P **22 32 50.9 +0.6**
KBS Kingsbay 69.97 351 *ce*P P **22 32 52.9 +1.5**
KBS pmax pmax
comp=Z,59nm,1.7s
KBS Kingsbay 69.97 351 P P **22 32 52.2 +0.9**
NOR Nord 70.60 356⇓ iP P **22 32 55.4 +0.2**
NOR IAmb IAmb 22 32 56.3
comp=Z,9.4nm,0.9s
NOR Nord 70.60 356⇓ *i*P P **22 32 55.3 +0.2**
NOR pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 71.41 329 *e*P P **22 32 57.0 -3.2**
KLMR *e* 22 35 44.5
KLMR pmax pmax
comp=Z,33nm,1.2s
KLMR Klimovskoe 71.41 329 *e*P P **22 32 57.0 -3.2**
KLMR AMP 22 33 00.9
comp=Z,33nm,1.2s
KLMR *e*PP PP **22 35 44.6 +0.4**
KEV Kevo 72.11 340 P P **22 33 04.7 +0.5**
KEV pmax pmax
comp=Z,23nm,0.7s
KEV Kevo 72.11 340 P P **22 33 04.7 +0.5**
KEV IAmb IAmb 22 33 05.5
comp=Z,23nm,0.7s
RES Resolute Bay 72.22 13 IAmb IAmb 22 33 06.5
comp=Z,34nm,1.2s
JLN Jalan Bani Buh 72.25 286 P P **22 33 06.4 +0.4**
WBK Wadi Bani Khal 72.45 287 P P **22 33 08.0 +0.9**
WSAR Wadi Sarin 72.50 287 P P **22 33 08.2 +0.8**
HAMF Hammerfest 72.59 342 *e*P P **22 33 07.3 +0.4**
ARA0 ARCESS Array S 72.67 340 *e*P P **22 33 08.3 +0.8**
ARCES ARCESS Array B 72.67 340 P P **22 33 08.2 +0.7**
comp=Z,13nm,0.5s,baz=73,slow=8.3,SNR=157
ARCES ARCESS Array B 72.67 340 P P **22 33 07.9 +0.4**
ARCES IAmb IAmb 22 33 09.0
comp=Z,22nm,0.8s
YKA Yellowknife Ar 72.78 28 P P **22 33 08.3 +0.2**
comp=Z,22nm,0.5s,baz=299,slow=5.7,SNR=113
BIDO Bidbid 72.82 288 P P **22 33 09.8 +0.6**
BANOM Banah 73.42 291 P P **22 33 13.5 +0.8**
HOQ Hoqain 73.48 288 P P **22 33 13.8 +0.8**
SHME Shamm 73.51 291 P P **22 33 14.3 +1.2**
SNR=18
KTK1 Kautokeino 73.63 340 *e*P P **22 33 13.8 +0.7**
MASF Masafi 73.75 290 P P **22 33 15.5 +0.9**
UOSS Minazif 73.88 290 P P **22 33 15.7 +0.4**
BSY Bisya 73.90 288 P P **22 33 15.7 +0.2**
SOHO SOHO 73.92 289 P P **22 33 16.1 +0.6**
MHTO MHTO 73.94 286 P P **22 33 15.9 +0.2**
SNR=7.6
PGC Sidney 73.98 43 IAmb IAmb 22 33 17.3
comp=Z,17nm,0.8s
HATD Hatta, Dubai 73.99 290 P P **22 33 16.8 +0.8**
SNR=8.8
VRH Novokhopyorsk 74.10 320 *e*P P **22 33 15.0 -1.0**
VRH pmax pmax
comp=Z,20nm,0.6s
ASHO Ashiyiah 74.11 290 P P **22 33 17.3 +0.6**
SNR=5.1
JETT Jettan, Norway 74.14 341 *e*P P **22 33 16.6 +0.6**
NLWA Neilton Lookou 74.21 45 IAmb IAmb 22 33 19.8
comp=Z,24nm,0.9s
ARQ Araqi 74.25 288 P P **22 33 18.2 +0.8**
SNR=6.7
MOS Moscow 74.43 325 *e*P P **22 33 16.5 -1.3**
MOS pmax pmax
comp=Z,39nm,1.0s
FAQ Al Faqa, Dubai 74.47 290 P P **22 33 19.0 +0.3**
TRO Tromso 74.50 342 *e*P P **22 33 18.1 +0.2**
ALNE Al Ain 74.61 289 P P **22 33 20.2 +0.7**
D03D Eldon 74.64 44 P 22 33 21.0
baz=294,SNR=15
DQM DQM 74.74 285 P P **22 33 20.4 +0.2**
ASUD Al Ashush, Dub 74.74 290 P P **22 33 20.9 +0.7**
TULEG Thule 74.80 7⇓ *i*P P **22 33 19.8 +0.2**
TULEG IAmb IAmb 22 33 20.8
comp=Z,67nm,1.0s
B05A Bryant 74.96 43 P 22 33 22.5
baz=294,SNR=6.0
LPSR Galich'ya Gora 75.09 322 *e*P P **22 33 20.6 -1.0**
LPSR pmax pmax
comp=Z,30nm,1.4s
NEEM North Greenlan 75.21 3⇓ *i*P P **22 33 22.8 +0.6**
NEEM IAmb IAmb 22 33 23.7
comp=Z,59nm,0.9s
OBN Obninsk 75.24 325 *d* iP P **22 33 22.1 -0.3**
OBN pmax pmax
comp=Z,23nm,0.8s
DAG Danmarks Havn 75.28 355⇓ *i*P P **22 33 22.1 -0.3**
DAG IAmb IAmb 22 33 23.1
comp=Z,9.6nm,0.9s
DAG Danmarks Havn 75.28 355⇓ *i*P P **22 33 22.0 -0.3**
DAG pmax pmax
comp=Z,10.0nm,0.9s
E04D Cinebar 75.37 45 P 22 33 25.5
baz=294,SNR=7.1
D05A Enumclaw 75.47 44 IAmb IAmb 22 33 26.8
comp=Z,28nm,1.1s
G03D McMinnville, O 75.47 46 P 22 33 25.9
baz=294
VSR Storozhevoye 75.56 320 *e*P P **22 33 23.1 -1.2**
VSR pmax pmax
comp=Z,40nm,1.1s
VORD Divnogorie 75.59 320 *e*P P **22 33 24.1 -0.4**
VORD pmax pmax
comp=Z,20nm,1.1s
UMZA Um Al Zommool 75.64 288 P P **22 33 25.3 0.0**
GOF Gofitskoye 75.81 313⇑ *e*P P **22 33 26.3 +0.4**
C06D Leavenworth 75.83 43 P 22 33 27.2
baz=295
I03D Drain, OR 76.04 48 P 22 33 29.0
baz=294
H04D Lebanon 76.10 47 P 22 33 29.1
baz=295
ZEI Tsey 76.18 311 *e*P P **22 33 24.6 -3.7**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
K02D Willamette Mer 76.25 49 P 22 33 30.0
baz=294
F05D White Salmon 76.35 45 P 22 33 30.3
baz=295
KBZ Khabaz 76.46 312 P P **22 33 29.9 +0.4**
comp=Z,12nm,0.8s,baz=85,slow=2.7,SNR=24
KIV Kislovodsk 76.50 313 *e*P P **22 33 30.2 +0.3**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,80nm,19.0s
KIV Kislovodsk 76.50 313 P P **22 33 30.3 +0.5**
L02E Cave Junction 76.51 49 P 22 33 31.1
baz=295
ONI Oni 76.57 311 IAmb IAmb 22 33 33.3
comp=Z,14nm,1.0s
I04A Tendick Farm, 76.62 48 P 22 33 31.7
baz=295,SNR=6.1
STEI Steigen 76.63 341 *e*P P **22 33 29.8 -0.1**
G05D Wamic, OR 76.71 46 P 22 33 32.3
baz=295
FINES FINESS Array B 76.88 333 P P **22 33 31.1 -0.4**
comp=Z,22nm,0.5s,baz=65,slow=5.1,SNR=304
FINES FINESS Array B 76.88 333 P P **22 33 31.5 +0.1**
FINES FINESS Array B 76.88 333 P P **22 33 31.5 +0.1**
J04D Umpqua Nationa 77.05 48 P 22 33 34.6
baz=295
I05D Terrebonne, OR 77.08 47 P 22 33 34.5
baz=296
YBH Yreka Blue Hor 77.29 50 IAmb IAmb 22 33 36.9
comp=Z,18nm,0.9s
F07A Phinny Hill Vi 77.31 45 IAmb IAmb 22 33 36.6
comp=Z,26nm,1.0s
HAWA Hanford 77.33 44 IAmb IAmb 22 33 36.7
comp=Z,30nm,1.3s
M02C Callahan 77.34 50 P 22 33 36.4
baz=295,SNR=5.7
L04D Klamath Falls 77.36 49 P 22 33 36.0
baz=295,SNR=5.7
D08A Wollman Farm, 77.41 43 IAmb IAmb 22 33 36.8
comp=Z,33nm,1.0s
E08A Dider Farm, El 77.58 44 IAmb IAmb 22 33 37.4
comp=Z,14nm,1.0s

N02D **Trinity Center** 77.62 50 P 22 33 37.6
baz=295
KULLO **Kullorsuaq** 77.67 5 ⇓ *i* P **P** **22 33 35.7 0.0**
KULLO IAmb IAmb 22 33 36.7
comp=Z,52nm,0.9s
KULLO **Kullorsuaq** 77.67 5 ⇓ *i* P **P** **22 33 35.6 0.0**
KULLO pmax pmax
comp=Z,52nm,0.9s
DBG **Daneborg** 77.75 355 ⇓ *i* P **P** **22 33 35.7 -0.3**
M04C **Macdoel** 77.86 49 P 22 33 39.1
baz=296,SNR=9.4
WDC **Whiskeytown Da** 77.90 51 IAmb IAmb 22 33 39.8
comp=Z,24nm,1.2s
O02D **Mt. Diablo Mer** 77.91 51 P 22 33 38.9
baz=296,SNR=6.5
NEW **Newport** 77.95 42 P 22 33 38.6
baz=298,SNR=23
E09A **Wood Farm, Sta** 78.14 44 IAmb IAmb 22 33 41.0
comp=Z,34nm,1.1s
G08A **Pilot Rock** 78.18 45 IAmb IAmb 22 33 41.5
comp=Z,25nm,1.2s
MEF **Metsahovi** 78.25 333 *e*P **P** **22 33 39.4 +0.5**
VSU **Vasula** 78.25 330 *e*P **P** **22 33 39.4 +0.4**
O03E **Paynes Creek** 78.54 51 P 22 33 41.5
baz=296,SNR=9.2
SOC **Sochi** 78.60 313 *e*P **P** **22 33 40.1 -1.1**
SOC *e**SP **sP** **22 35 47.8 +0.8**
SOC *e* 22 36 48.0
SOC *e*PPP PPP 22 38 35.1
SOC *e*S **S** **22 43 04.9 -0.5**
SOC pmax pmax
comp=Z,11nm,0.8s
RAF **Rauma** 78.82 334 *e*P **P** **22 33 41.8 -0.2**
MOD **Modoc Plateau** 78.84 49 IAmb IAmb 22 33 44.9
comp=Z,19nm,1.1s
UMR **Umm Al-Rimmam** 78.92 297 *e*P **P** **22 33 42.9 -0.4**
ORV **Oroville** 79.07 51 P **P** **22 33 44.2 +0.3**
ORV pmax pmax
comp=Z,27nm,1.1s
ORV **Oroville** 79.07 51 P **P** **22 33 44.2 +0.3**
ORV IAmb IAmb 22 33 45.5
comp=Z,27nm,1.1s
QRN **Al-Qurain** 79.10 297 *e*P **P** **22 33 43.8 -0.5**
MIB **Mutribah** 79.11 298 *e*P **P** **22 33 44.0 -0.3**
RDF **Al-Radifah** 79.32 297 *e*P **P** **22 33 45.1 -0.3**
BMO **Blue Mountains** 79.43 45 IAmb IAmb 22 33 48.0
comp=Z,34nm,1.1s
WALA **Waterton Lakes** 79.44 40 IAmb IAmb 22 33 48.1
comp=Z,24nm,0.9s
ANN **Anapa** 79.50 315 *d i* P **P** **22 33 45.5 -0.5**
ANN *e**PP **pwP** **22 35 14.2 -1.4**
ANN *e* 22 43 24.5
ANN pmax pmax
comp=Z,38nm,1.1s
UPNV **Upernavik** 79.50 5 ⇓ *i* P **P** **22 33 45.6 +0.1**
UPNV IAmb IAmb 22 33 46.6
comp=Z,38nm,0.9s
WVOR **Wild Horse Val** 79.70 48 IAmb IAmb 22 33 49.5
comp=Z,23nm,1.2s
MNK **Minsk** 79.90 327 *i* P **P** **22 33 47.3 -0.7**
MNK *i* 22 33 53.2
MNK *i **PP **pwP** **22 35 16.8 -1.1**
MNK *i **SP **sP** **22 35 55.1 +1.1**
MNK *i* PPP PPP 22 38 46.5
MNK *i* S **S** **22 43 18.4 -0.2**
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,21nm,1.0s
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK MLR MLR
comp=N,93nm,17.0s
MNK MLR MLR
comp=E,6.0nm,17.0s
MNK MLR MLR
comp=Z,77nm,17.0s
MNK **Minsk** 79.90 327 *i* P **P** **22 33 47.4 -0.6**
comp=E,1.0nm,1.0s
MNK *i* P **P** **22 33 47.4 -0.6**
comp=N,7.0nm,1.0s
MNK *i* P **P** **22 33 47.4 -0.6**
comp=Z,21nm,1.0s,baz=57
MNK *i* PcP **PcP** **22 33 53.2 -0.9**
MNK *i* pP **pwP** **22 35 16.8 -1.1**
MNK *i* sP **sP** **22 35 55.2 +1.2**
MNK *i* PP PP 22 36 15.2 -40
MNK *i* PPP PPP 22 38 46.5
MNK *i* S **S** **22 43 18.5 -0.1**
MNK *i* sS sS 22 46 22.0 +31
MNK *i* SS SS 22 49 03.8 +27
MNK *i* SSS SSS 22 51 33.3
MNK *i* LRM MLR 23 11 56.9
comp=E,6.0nm,17.1s
MNK *i* LRM MLR 23 11 59.5
comp=N,93nm,17.1s
MNK *i* LRM MLR 23 12 01.8
comp=Z,77nm,17.1s
NSS **Namsos** 79.93 340 *e*P **P** **22 33 47.8 0.0**
IDID **Didziasalis** 80.00 328 *e*P **P** **22 33 49.2 +0.8**
AAL **Aland** 80.03 334 *e*P **P** **22 33 48.0 -0.4**
ISAL **Salakas** 80.15 328 *e*P **P** **22 33 50.1 +0.9**
NACGM **Naroch** 80.21 327 *i* P **P** **22 33 49.4 -0.1**
SUMG **Summit** 80.32 360 ⇓ *i* P **P** **22 33 51.0 +0.6**
SUMG **Summit** 80.32 360 ⇓ *i* P **P** **22 33 50.9 +0.6**
PAHR **Pah Rah Range** 80.46 50 IAmb IAmb 22 33 53.3
comp=Z,23nm,0.9s
MSO **Missoula** 80.53 42 P 22 33 51.6
baz=300,SNR=5.7
CMB **Columbia Colle** 80.53 52 IAmb IAmb 22 33 53.6
comp=Z,20nm,1.1s
NUUG **Nuugaatsiaq** 80.92 4 *i* P **P** **22 33 53.7 +0.7**
WAKR **Walker** 80.98 51 IAmb IAmb 22 33 56.5
comp=Z,12nm,0.9s
UPP **Uppsala** 81.15 334 *e*P **P** **22 33 54.0 -0.3**
PABE **Paberze** 81.19 329 *e*P **P** **22 33 55.1 +0.5**
AKASG **Malin Array Be** 81.29 323 P **P** **22 33 54.8 -0.5**
comp=Z,1.9nm,0.4s,baz=47,slow=5.8,SNR=43
AKASG pP **pP** **22 35 21.6 0.0**
comp=Z,0.3nm,0.4s,baz=50,slow=4.8,SNR=1.8
AKASG **Malin Array Be** 81.29 323 P **P** **22 33 54.8 -0.5**
AKASG pmax pmax
comp=Z,12nm,1.2s
AKASG **Malin Array Be** 81.29 323 P **P** **22 33 54.8 -0.5**
AKBB **Malin Array Si** 81.29 323 IAmb IAmb 22 33 55.7
comp=Z,21nm,1.1s
TBLU **Trondheim** 81.37 339 *e*P **P** **22 33 54.0 -1.5**
RYN **Ryan** 81.55 51 IAmb IAmb 22 33 59.2
comp=Z,17nm,0.8s
SCO **Scoresbysund** 81.58 354 *i* P **P** **22 33 57.2 +0.7**
SCO IAmb IAmb 22 33 58.2
comp=Z,38nm,1.1s
KVN **Kaiserville** 81.64 50 IAmb IAmb 22 33 59.7
comp=Z,19nm,0.9s
PAGB **Antelope Grade** 81.69 54 IAmb IAmb 22 34 00.1
comp=Z,28nm,1.1s
LHV **Little Huntoon** 81.74 51 IAmb IAmb 22 34 00.7
comp=Z,33nm,1.2s
NVAR **Mina Array Bea** 81.80 51 P **P** **22 33 59.4 +0.9**
comp=Z,9.1nm,0.7s,baz=292,slow=5.6,SNR=92
NVAR **Mina Array Bea** 81.80 51 P **P** **22 33 58.6 +0.1**
HLID **Hailey** 81.87 45 IAmb IAmb 22 34 01.1
comp=Z,13nm,0.8s
HLID **Hailey** 81.87 45 P 22 33 59.9
baz=300,SNR=22
DLMT **Dillon** 82.08 43 IAmb IAmb 22 34 01.8
comp=Z,20nm,1.0s
EGMT **Eagleton** 82.34 39 P 22 34 01.5
baz=303,SNR=19
PKM **Mcpherson Peak** 82.39 55 P 22 34 03.0
baz=298,SNR=5.8
SUW **Suwalki** 82.44 328 *e*P **P** **22 34 01.1 -0.1**
VES **Vestal, Richgr** 82.47 54 P 22 34 02.1
baz=298,SNR=9.3
NC303 **NORSAR Array S** 82.47 338 IAmb IAmb 22 34 01.5
comp=Z,20nm,0.9s
FFC **Flin Flon** 82.48 31 P **P** **22 34 02.1 +0.7**
FFC pmax pmax
comp=Z,35nm,1.0s
FFC **Flin Flon** 82.48 31 P **P** **22 34 02.1 +0.7**
DOMB **Dombas** 82.64 339 *e*P **P** **22 34 01.8 -0.3**
NB2 **NORSAR Subarra** 82.66 338 P **P** **22 34 01.0 -1.2**
baz=46,slow=4.8
NOA **NORSAR Array B** 82.66 338 P **P** **22 34 01.6 -0.7**
comp=Z,14nm,0.7s,baz=46,slow=4.9,SNR=52
NOA PP **PP** **22 37 17.6 +0.1**
comp=Z,3.6nm,0.9s,baz=46,slow=8.3,SNR=8.3
TPH **Tonopah** 82.72 51 P **P** **22 34 03.2 0.0**
TPH pmax pmax
comp=Z,152nm,1.1s
TPH **Tonopah** 82.72 51 P **P** **22 34 03.2 0.0**
ELK **Elko** 82.74 48 IAmb IAmb 22 34 05.6
comp=Z,17nm,0.9s
NBO00 **NORSAR Array S** 82.81 338 IAmb IAmb 22 34 03.1
comp=Z,22nm,0.8s
CWC **Cottonwood Cre** 82.90 53 P 22 34 04.5
baz=299
NAO01 **NORSAR Array S** 82.91 338 *e*P **P** **22 34 02.4 -1.0**
NAO01 **NORSAR Array S** 82.91 338 IAmb IAmb 22 34 03.3
comp=Z,25nm,0.8s
ARVC **Arvin** 82.99 54 P 22 34 05.6
baz=298
ISA **Isabella, Lake** 83.00 54 P 22 34 04.6
baz=299,SNR=5.9
GAZ **Gaziantep** 83.30 308 IAmb IAmb 22 34 06.7
comp=Z,12nm,0.9s
RAYN **Ar Rayn** 83.34 293 P **P** **22 34 06.6 +0.2**
RAYN pmax pmax
comp=Z,52nm,0.9s
RAYN **Ar Rayn** 83.34 293 P **P** **22 34 06.5 +0.2**
ILULI **Ilulissat** 83.36 4 *i* P **P** **22 34 05.7 +0.2**
ILULI IAmb IAmb 22 34 06.5
comp=Z,20nm,0.9s
ILULI **Ilulissat** 83.36 4 *i* P **P** **22 34 05.7 +0.2**
ILULI pmax pmax
comp=Z,20nm,0.9s
YHH **Holmes Hill** 83.43 43 IAmb IAmb 22 34 09.5
comp=Z,23nm,1.2s
MPMC **Manual Prospec** 83.51 53 P 22 34 07.9
baz=299,SNR=15
YNR **Norris Junctio** 83.57 43 IAmb IAmb 22 34 10.9
comp=Z,36nm,1.2s
OSL **Oslo** 83.62 337 *e*P **P** **22 34 07.1 0.0**
R11A **Troy Canyon, C** 83.70 50 IAmb IAmb 22 34 10.2
comp=Z,19nm,1.0s
R11A **Troy Canyon, C** 83.70 50 P 22 34 09.3
baz=300,SNR=14
EDW2 **Edwards Air Fo** 83.71 54 P 22 34 09.4
baz=299,SNR=16
FURC **Furnace Creek,** 83.75 52 P 22 34 09.5
baz=299,SNR=21
H17A **Grant Village** 83.81 43 P 22 34 11.7
baz=302,SNR=9.4
HVU **Hansel Valley** 83.82 46 IAmb IAmb 22 34 11.1
comp=Z,20nm,0.8s
ICESG **Greenland Ices** 83.83 360 ⇓ *i* P **P** **22 34 08.2 -0.1**
ICESG IAmb IAmb 22 34 09.4
comp=Z,29nm,0.7s
PASC **Pasadena Art C** 83.92 55 IAmb IAmb 22 34 10.6
comp=Z,17nm,1.0s
TPNV **Topopah Spring** 83.94 52 IAmb IAmb 22 34 11.2
comp=Z,28nm,0.9s
TPNV **Topopah Spring** 83.94 52 P 22 34 10.2
baz=300,SNR=18
MWC **Mount Wilson** 83.98 55 IAmb IAmb 22 34 11.3
comp=Z,21nm,1.0s
TPAW **Teton Pass** 84.06 44 IAmb IAmb 22 34 12.6
comp=Z,20nm,0.8s
REDW **Red Top Meadow** 84.19 44 IAmb IAmb 22 34 13.1
comp=Z,39nm,1.4s
RLMT **Red Lodge** 84.20 42 IAmb IAmb 22 34 12.6
comp=Z,31nm,1.1s
RLMT **Red Lodge** 84.20 42 P 22 34 11.9
baz=303,SNR=21
SNOW **Snow King Moun** 84.20 44 IAmb IAmb 22 34 13.2
comp=Z,20nm,1.1s
LOHW **Long Hollow** 84.21 44 IAmb IAmb 22 34 13.0
comp=Z,13nm,0.9s
SPR3 **Spring Creek 3** 84.22 49 IAmb IAmb 22 34 13.3
comp=Z,25nm,1.5s
BFSC **Mount Baldy Ra** 84.27 54 P 22 34 11.4
baz=299,SNR=7.9
SPUT **South Promonto** 84.27 46 IAmb IAmb 22 34 13.3
comp=Z,27nm,1.3s
AHID **Auburn Hatcher** 84.36 44 IAmb IAmb 22 34 13.5
comp=Z,20nm,0.9s
GSC **Goldstone, Bar** 84.36 53 IAmb IAmb 22 34 13.3
comp=Z,27nm,0.9s
GSC **Goldstone, Bar** 84.36 53 P 22 34 12.1
baz=300,SNR=24
SHOC **Shoshone, Teco** 84.44 52 P 22 34 12.6
baz=300,SNR=8.4
BRTR **Keskin Array B** 84.45 312 P **P** **22 34 11.4 -0.4**
comp=Z,2.7nm,0.7s,baz=93,slow=4.0,SNR=26
BRTR **Keskin Array B** 84.45 312 P **P** **22 34 11.3 -0.5**
DUG **Dugway, Tooele** 84.62 47 IAmb IAmb 22 34 14.7
comp=Z,28nm,1.1s
DUG **Dugway, Tooele** 84.62 47 P 22 34 13.5
baz=301,SNR=19
PSUT **Pine Spring** 84.78 49 IAmb IAmb 22 34 15.3
comp=Z,13nm,1.0s
MURC **Murrieta** 84.92 55 P 22 34 14.9
baz=300
SHPR **Sheep Range** 84.92 51 IAmb IAmb 22 34 16.4
comp=Z,16nm,1.0s
TUQ **Turquoise Moun** 84.92 53 P 22 34 15.4
baz=300
HEC **Hector,Ludlow** 84.93 53 P 22 34 15.3
baz=300,SNR=8.1
CTU **Camp Tracy** 85.05 46 IAmb IAmb 22 34 16.7
comp=Z,20nm,1.2s
LAO **LASA Array** 85.08 39 P 22 34 16.0
baz=305,SNR=7.0
DGMT **Dagmar** 85.15 37 P 22 34 15.7
baz=306
BURAR **Bucovina Array** 85.21 322 P **P** **22 34 15.1 -0.2**
JLU **Jordanelle** 85.29 46 IAmb IAmb 22 34 19.0
comp=Z,13nm,1.1s
BW06 **Boulder Array** 85.31 44 IAmb IAmb 22 34 17.6
comp=Z,14nm,1.1s
PDAR **Pinedale Array** 85.31 44 P **P** **22 34 16.8 +0.6**
comp=Z,10nm,1.0s,baz=279,slow=2.9,SNR=37
PDAR PP **PP** **22 37 39.0 -0.8**
comp=Z,0.8nm,0.9s,baz=289,slow=5.6,SNR=3.9
PDAR **Pinedale Array** 85.31 44 P **P** **22 34 16.1 -0.1**
BW06 **Boulder Array** 85.31 44 P 22 34 16.8
baz=303,SNR=6.4
109C **Camp Elliot, M** 85.33 55 IAmb IAmb 22 34 17.8
comp=Z,22nm,1.1s
109C **Camp Elliot, M** 85.33 55 P 22 34 16.8
baz=300
KWP **Kalwaria Pacla** 85.33 325 IAmb IAmb 22 34 16.7
comp=Z,12nm,0.9s
GMRC **Granite Mounta** 85.43 53 P 22 34 17.7
baz=300,SNR=17
PFO **Pinyon Flats O** 85.44 55 P **P** **22 34 16.8 0.0**
PFO pmax pmax
comp=Z,31nm,1.0s
PFO **Pinyon Flats O** 85.44 55 P **P** **22 34 16.8 0.0**
PFO **Pinyon Flats O** 85.44 55 P 22 34 17.6
baz=300,SNR=27
TPFO **Pinon Flats** 85.45 55 P 22 34 17.7
baz=300,SNR=28
SFJD **Kangerlussuaq** 85.58 4 *i* P **P** **22 34 16.7 +0.2**
SFJD IAmb IAmb 22 34 17.4
comp=Z,28nm,1.1s
SFJD **Kangerlussuaq** 85.58 4 P **P** **22 34 16.8 +0.2**
SFJD pmax pmax
comp=Z,44nm,1.1s
SFJD **Kangerlussuaq** 85.58 4 P **P** **22 34 16.8 +0.2**
BELC **Belle Mtn. Jos** 85.58 54 P 22 34 18.2
baz=300,SNR=13
BAR **Barrett** 85.75 55 IAmb IAmb 22 34 19.8
comp=Z,26nm,1.2s
MONP2 **Monument Peak** 85.83 55 P 22 34 19.7
baz=300,SNR=19
LCMT **Little Creek M** 85.98 50 IAmb IAmb 22 34 21.5
comp=Z,12nm,1.0s
KOLS **Kolonicka sedl** 85.99 324 *e*P **P** **22 34 19.1 +0.1**
KOLS **Kolonicke sedl** 85.99 324 *e*P **P** **22 34 19.1 +0.1**
IRM **Iron Mountain** 86.11 53 P 22 34 21.0
baz=300,SNR=13
BC3 **Big Chuckawall** 86.15 54 P 22 34 21.2
baz=300,SNR=17
MTPU **Mount Pierson** 86.16 49 IAmb IAmb 22 34 22.9
comp=Z,12nm,1.2s
UZH **Uzhgorod** 86.16 324 *e*P P 22 34 25.8 +6.0
IKP **In-Ko-Pah, Jac** 86.18 55 P 22 34 21.4
baz=300,SNR=11
RMX **La Rumorosa** 86.22 55 IAmb IAmb 22 34 22.2
comp=Z,15nm,1.0s
SWSC **Sam W. Stewart** 86.25 55 P 22 34 21.1
baz=300,SNR=6.8
DY2G **Dye2** 86.33 3 *i* P **P** **22 34 19.3 -1.2**
P17A **Butcher Ranch,** 86.35 47 IAmb IAmb 22 34 23.2
comp=Z,13nm,1.0s
Q16A **Castle Valley** 86.37 48 IAmb IAmb 22 34 24.3
comp=Z,13nm,1.0s
CRVS **Cervenica-Dubn** 86.43 325 *e*P **P** **22 34 21.0 -0.1**
CRVS pmax pmax
comp=Z,16nm,1.4s
CRVS **Cervenica-Dubn** 86.43 325 *e*P **P** **22 34 21.0 -0.1**
RDMU **Red Mountain** 86.51 46 IAmb IAmb 22 34 23.9
comp=Z,14nm,1.1s
PDMCI **Parker Dam,Lak** 86.76 53 P 22 34 23.9
baz=301
GLA **Glamis** 86.90 54 IAmb IAmb 22 34 25.8
comp=Z,19nm,0.9s
GLA **Glamis** 86.91 54 P 22 34 24.6
baz=301,SNR=5.9
O20A **White River Ci** 87.59 45 IAmb IAmb 22 34 28.7
comp=Z,13nm,1.1s
O20A **White River Ci** 87.59 45 P 22 34 27.6
baz=304,SNR=5.2
113A **Mohawk Valley,** 87.81 54 IAmb IAmb 22 34 29.9
comp=Z,11nm,1.1s
MORC **Moravsky Berou** 87.83 327 *e*P **P** **22 34 25.7 -2.0**
RSSD **Black Hills** 87.83 40 P **P** **22 34 28.2 +0.1**
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD **Black Hills** 87.83 40 P **P** **22 34 28.2 +0.1**
RSSD IAmb IAmb 22 34 30.6
comp=Z,11nm,0.8s
RSSD **Black Hills** 87.83 40 P 22 34 28.7
baz=307
OSTC **Ostas** 87.94 328 *e*P **P** **22 34 27.8 -0.4**
KRLC **Kraliky** 88.00 327 *e*P **P** **22 34 27.7 -0.8**
KRLC **Kraliky** 88.00 327 *e*P **P** **22 34 27.7 -0.8**
VYHS **Vyhne** 88.03 325 *e*P **P** **22 34 28.7 +0.1**
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS **Vyhne** 88.03 325 *e*P **P** **22 34 28.7 +0.1**
DPC **Dobruska-Polom** 88.03 328 *e*P **P** **22 34 28.4 -0.3**
DPC **Dobruska-Polom** 88.03 328 *e*P **P** **22 34 28.4 -0.3**
BSEG **Bad Segeberg** 88.15 333 *e*P **P** **22 34 27.8 -1.2**
comp=Z,16nm,1.3s,baz=44,slow=4.7
ULM **Lac du Bonnet** 88.22 32 P **P** **22 34 29.5 +0.1**
comp=Z,4.0nm,0.5s,baz=318,slow=4.6,SNR=7.4
ULM **Lac du Bonnet** 88.22 32 IAmb IAmb 22 34 30.4
comp=Z,7.9nm,0.8s
JAVC **Velka Javorina** 88.37 326 *e*P **P** **22 34 30.3 0.0**
N23A **Red Feather La** 88.60 44 P 22 34 33.4
baz=306,SNR=11
VRAC **Vranov** 88.60 327 *e*P **P** **22 34 29.8 -1.5**
SMOL **Smolenice** 88.72 326 *e*P **P** **22 34 32.2 +0.3**
SMOL pmax pmax
comp=Z,6.0nm,1.0s
SMOL **Smolenice** 88.72 326 *e*P **P** **22 34 32.2 +0.3**
BRG **Berggiesshubel** 88.78 329 *e*P **P** **22 34 30.9 -1.2**
BRG Amp 22 34 33.1
comp=Z,4.6nm,1.1s
KRUC **Moravsky** 88.86 327 *e*P **P** **22 34 31.5 -1.0**
MODS **Modra-Piesok** 88.89 326 *e*P **P** **22 34 31.8 -0.9**
MODS pmax pmax
comp=Z,11nm,1.2s
MODS **Modra-Piesok** 88.89 326 *e*P **P** **22 34 31.8 -0.9**
CLL **Collm** 88.90 330 *i* P **P** **22 34 31.4 -1.2**
comp=Z,11nm,1.4s
CLL *e*PP **PP** **22 38 04.0 -3.6**
CLL **Collm** 88.90 330 *i* P **P** **22 34 31.4 -1.2**
CLL pmax pmax
comp=Z,11nm,1.4s
CLL **Collm** 88.90 330 *e*P **P** **22 34 31.6 -1.0**
comp=Z,7.4nm,1.1s,baz=44,slow=4.7
214A **Organ Pipe Nat** 88.93 54 P 22 34 34.7
baz=302
FLTG **Flechtingen** 88.93 331 *e*P **P** **22 34 31.5 -1.2**
comp=Z,6.2nm,0.9s,baz=44,slow=4.7
SMCO **Snowmass** 88.94 46 IAmb IAmb 22 34 35.8
comp=Z,12nm,1.2s
FBE **Freiberg** 89.01 330 *e*P **P** **22 34 32.7 -0.4**
comp=Z,17nm,1.3s,baz=44,slow=4.7
ZST **Bratislava** 89.09 326 *e*P **P** **22 34 33.5 -0.1**
ZST **Bratislava** 89.09 326 *e*P **P** **22 34 33.5 -0.1**
PRU **Pruhonice** 89.12 328 *e*P **P** **22 34 33.2 -0.5**
PRU **Pruhonice** 89.12 328 *e*P **P** **22 34 33.2 -0.5**
NRDL **Niedersach Rie** 89.29 332 *e*P **P** **22 34 33.2 -1.1**
comp=Z,7.8nm,1.3s,baz=44,slow=4.7
ISCO **Idaho Springs** 89.44 45 P 22 34 37.2
baz=306,SNR=6.9
NEUB **Neuenburg** 89.51 330 *e*P **P** **22 34 34.4 -1.0**
comp=Z,11nm,1.1s,baz=44,slow=4.7
AGMN **Agassiz Nation** 89.54 34 IAmb IAmb 22 34 36.1
comp=Z,22nm,1.4s
AGMN **Agassiz Nation** 89.54 34 P 22 34 36.0
baz=313
CLZ **Clausthal** 89.66 332 *e*P **P** **22 34 35.5 -0.7**
comp=Z,8.0nm,1.1s,baz=44,slow=4.7
TANN **Tannenbergstha** 89.77 330 *e*P **P** **22 34 35.9 -0.8**
comp=Z,4.3nm,1.0s,baz=44,slow=4.7
S22A **4UR Ranch, Cre** 89.86 47 P 22 34 38.5
baz=305
PLN **Plauen** 89.86 330 *e*P **P** **22 34 36.3 -0.8**
comp=Z,8.7nm,1.4s,baz=44,slow=4.7
GUNZ **Gunzen** 89.87 330 *e*P **P** **22 34 36.6 -0.6**
comp=Z,7.3nm,1.1s,baz=44,slow=4.7
CONA **Conrad Observa** 89.89 326 *e*P **P** **22 34 37.4 0.0**
comp=Z,7.8nm,1.0s
WERN **Wernitzgruen** 89.90 330 *e*P **P** **22 34 36.8 -0.6**
comp=Z,10nm,1.2s,baz=44,slow=4.7
NKC **Novy Kostel** 89.91 329 *e*P **P** **22 34 36.7 -0.7**
NKC **Novy Kostel** 89.91 329 *e*P **P** **22 34 36.7 -0.7**
MOX **Moxa** 89.98 330 *e*P **P** **22 34 37.0 -0.8**
comp=Z,14nm,1.7s,baz=44,slow=4.7
CKRC **Cesky Krumlov** 90.03 328 *e*P **P** **22 34 37.2 -0.8**
KHC **Kasperske Hory** 90.16 328 *e*P **P** **22 34 37.0 -1.6**
KHC **Kasperske Hory** 90.16 328 *e*P **P** **22 34 37.0 -1.6**
Q24A **Divide** 90.22 45 P 22 34 40.3
baz=306,SNR=6.5
MANZ **Manzenberg** 90.24 329 *e*P **P** **22 34 38.4 -0.6**
comp=Z,5.3nm,1.2s,baz=44,slow=4.7
GEC2 **GERESS Array S** 90.31 328 *e*P **P** **22 34 38.3 -1.0**
comp=Z,10nm,1.2s,baz=44,slow=4.7
GERES **GERESS Array B** 90.31 328 P **P** **22 34 38.5 -0.8**
comp=Z,3.9nm,0.9s,baz=40,slow=4.4,SNR=26
ROTZ **Rotzenmuhle** 90.35 329 *e*P **P** **22 34 39.0 -0.4**
comp=Z,23nm,1.7s,baz=44,slow=4.7
IBBN **Ibbenburen** 90.39 333 *e*P **P** **22 34 38.5 -1.1**
comp=Z,25nm,1.2s,baz=44,slow=4.7
WET **Wettzell** 90.48 328 *e*P **P** **22 34 39.3 -0.8**
comp=Z,6.3nm,1.4s,baz=44,slow=4.7
ARSA **Arzberg** 90.52 326 *i* P **P** **22 34 40.1 -0.2**
comp=Z,6.1nm,1.0s
B35A **Bob, Littlefor** 90.53 33 IAmb IAmb 22 34 42.5
comp=Z,14nm,1.1s
UBBA **Unterbreizbach** 90.56 331 *e*P **P** **22 34 39.3 -0.9**
comp=Z,5.5nm,1.2s,baz=44,slow=4.7
SDCO **Great Sand Dun** 90.71 46 IAmb IAmb 22 34 43.9
comp=Z,15nm,1.1s
SDCO **Great Sand Dun** 90.71 46 P 22 34 42.8
baz=306,SNR=16
MOA **Molln** 90.73 327 *e*P **P** **22 34 40.6 -0.6**
comp=Z,6.5nm,1.1s,SNR=5.4
GRF **Grafenberg Arr** 90.85 330 *e*P **P** **22 34 41.3 -0.5**
comp=Z,13nm,1.0s,baz=44,slow=4.7
SOKA **Soboth** 91.16 326 *e*P **P** **22 34 42.4 -0.9**
comp=Z,8.8nm,1.0s
RJOB **Jochberg** 91.51 328 *e*P **P** **22 34 44.2 -0.7**
comp=Z,4.5nm,0.9s,baz=44,slow=4.7
MILB **Miltenberg** 91.60 331 *e*P **P** **22 34 44.3 -0.9**
comp=Z,3.5nm,0.9s,baz=44,slow=4.7
TNS **Taunus Mts** 91.67 331 *e*P **P** **22 34 44.7 -0.8**
comp=Z,4.9nm,0.8s,baz=44,slow=4.7
ANMO **Albuquerque** 91.71 49 P **P** **22 34 46.2 -0.1**
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO **Albuquerque** 91.71 49 P **P** **22 34 46.1 -0.1**
ANMO IAmb IAmb 22 34 48.5
comp=Z,11nm,0.9s
ANMO **Albuquerque** 91.71 49 P 22 34 47.5
baz=305
T25A **Trinidad** 91.77 46 P 22 34 47.3
baz=307
HSIG 91.85 56 IAmb IAmb 22 34 48.8
comp=Z,11nm,1.1s
EYMN **Ely** 91.89 32 IAmb IAmb 22 34 47.9
comp=Z,13nm,1.1s
EYMN **Ely** 91.89 32 P 22 34 46.9
baz=316

FUR	**Furstenfeldbru**	**91.92**	**329**	*e*P		**P**	**22 34 46.3**	**-0.5**
	comp=Z,38nm,1.0s,baz=44,slow=4.7							
AHRW	**Bad Neuenahr-A**	**92.01**	**332**	*e*P		**P**	**22 34 46.2**	**-0.8**
	comp=Z,8.6nm,1.3s,baz=44,slow=4.7							
ECSD	**EROS Data Cent**	**92.22**	**37**	IAmb		IAmb	22 34 49.4	
	comp=Z,12nm,1.1s							
ECSD	**EROS Data Cent**	**92.22**	**37**	P			22 34 48.3	
	baz=312							
ABTA	**Abfaltersbach**	**92.35**	**327**	*e*P		**P**	**22 34 47.3**	**-1.6**
	comp=Z,9.9nm,1.0s,SNR=4.8							
STU	**Stuttgart**	**92.43**	**330**	*e*P		**P**	**22 34 48.0**	**-1.0**
	comp=Z,13nm,0.9s,baz=44,slow=4.7							
MOTA	**Moosalm**	**92.60**	**328**	*e*P		**P**	**22 34 49.0**	**-1.1**
	comp=Z,4.4nm,1.0s							
RETA	**Reutte**	**92.65**	**328**	*e*P		**P**	**22 34 49.5**	**-0.7**
	comp=Z,4.6nm,1.1s							
UBR	**Ueberruh**	**92.82**	**329**	*e*P		**P**	**22 34 50.0**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=44,slow=4.7							
E38A	**The Farm, Brul**	**92.82**	**33**	IAmb		IAmb	22 34 51.7	
	comp=Z,8.4nm,0.9s							
FETA	**Feichten**	**93.01**	**328**	*e*P		**P**	**22 34 51.2**	**-0.8**
	comp=Z,3.7nm,0.8s,SNR=5.1							
WLF	**Walferdange**	**93.06**	**332**	*e*P		**P**	**22 34 51.4**	**-0.5**
	comp=Z,10nm,1.0s,baz=44,slow=4.7							
BFO	**Black Forest**	**93.14**	**330**	*e*P		**P**	**22 34 51.4**	**-1.0**
	comp=Z,10nm,1.1s,baz=44,slow=4.7							
SPMN	**Marine on St.**	**93.18**	**34**	IAmb		IAmb	22 34 53.7	
	comp=Z,10.0nm,0.8s							
SPMN	**Marine on St.**	**93.19**	**34**	P			22 34 53.2	
	baz=315							
DAVA	**Damuels**	**93.21**	**329**	*e*P		**P**	**22 34 52.3**	**-0.6**
	comp=Z,7.8nm,0.9s							
ITM	**Ithomi**	**93.45**	**315**	IAmb		IAmb	22 34 54.2	
	comp=Z,13nm,1.4s							
I37A	**Lemond, Waseca**	**93.73**	**36**	IAmb		IAmb	22 34 57.2	
	comp=Z,14nm,1.1s							
COWI	**Conover**	**94.33**	**32**	IAmb		IAmb	22 34 58.3	
	comp=Z,6.7nm,1.1s							
G40A	**Rib Lake**	**94.44**	**33**	IAmb		IAmb	22 34 59.4	
	comp=Z,14nm,1.1s							
I42A	**Draeger Farm,**	**96.07**	**33**	IAmb		IAmb	22 35 06.8	
	comp=Z,7.3nm,0.9s							
TXAR	**Lajitas Array**	**96.91**	**52**	P		**P**	**22 35 10.9**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=298,slow=2.7,SNR=12							
TXAR				PP		**PP**	**22 39 11.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=282,slow=5.4,SNR=3.9							
TXAR	**Lajitas Array**	**96.91**	**52**	P		**P**	**22 35 11.0**	**+1.0**
TXAR	**Lajitas Array**	**96.91**	**52**	P		**P**	**22 35 10.1**	**+0.1**
CHGQ	**Chibougamau**	**97.19**	**22**	P			22 35 10.2	
	baz=330							
ESDC	**Sonseca Array**	**105.36**	**332**	PP		**PP**	**22 40 09.5**	**-3.5**
	comp=Z,0.8nm,0.7s,baz=25,slow=7.5,SNR=7.0							
SYO	**Syowa Base**	**119.01**	**204**	*e*PKPdf		**PKiKP**	**22 40 26.0**	**+2.3**
SYO	**Syowa Base**	**119.01**	**204**	*e*PKPdf		pPKPdf	22 41 56.6	-0.1
TORD	**Torodi Ar. Bea**	**122.99**	**310**	PKP		**PKPdf**	**22 40 32.4**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=44,slow=1.1,SNR=13							
TORD	**Torodi Ar. Bea**	**122.99**	**310**	PKPdf		**PKPdf**	**22 40 32.8**	**-0.2**
BOSA	**Boshof**	**123.12**	**252**	PKP		**PKPdf**	**22 40 33.1**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=204,slow=3.1,SNR=3.5							
BATAN	**Batan**	**123.77**	**55**			**PKPdf**	**22 40 34.2**	**-0.3**
ZARC	**Zaragoza, Cauc**	**131.57**	**49**	*e*P		**PKPdf**	**22 40 49.4**	**0.0**
OCAC	**Ocana**	**132.04**	**47**	*e*P		**PKPdf**	**22 40 49.1**	**-1.4**
GUY2C	**Guyana, Caldas**	**132.84**	**52**	*e*P		**PKPdf**	**22 40 52.4**	**0.0**
YOTC	**Yotoco, Valle**	**133.01**	**54**	*e*P		**PKPdf**	**22 40 52.6**	**+0.3**
RREF	**El Recreo**	**133.08**	**52**	*e*P		**PKPdf**	**22 40 52.7**	**-0.4**
PAMC	**Pamplona, Colo**	**133.11**	**47**	*e*P		**PKiKP**	**22 40 53.8**	**-0.4**
SDV	**Santo Domingo**	**133.25**	**44**	PKPdf		**PKPdf**	**22 40 52.4**	**-0.4**
TOLC	**Tolima**	**133.32**	**53**	*e*P		**PKPdf**	**22 40 53.4**	**+0.3**
BARC	**Barichara**	**133.35**	**49**	*e*P		**PKPdf**	**22 40 53.1**	**+0.1**
SPBC	**San Pablo de B**	**133.43**	**50**	*e*P		**PKPdf**	**22 40 53.2**	**+0.2**
BBAC	**Balboa, Cauca**	**133.67**	**57**	*e*P		**PKPdf**	**22 40 52.7**	**-1.0**
ORTC	**Ortega, Tolima**	**133.85**	**53**	*e*P		**PKPdf**	**22 40 52.4**	**-1.3**
RUSC	**La Rusia**	**133.93**	**49**	*e*P		**PKPdf**	**22 40 54.6**	**+0.2**
SOTA	**Rioblanco**	**134.07**	**56**	*e*P		**PKPdf**	**22 40 55.3**	**+0.5**
GCUF	**Volcan Galeras**	**134.12**	**58**	*e*P		**PKPdf**	**22 40 55.1**	**+0.3**
PTGA	**Pitinga**	**147.25**	**39**	PKPdf		**PKPdf**	**22 41 17.4**	**-0.3**
PLCA	**Paso Flores**	**151.48**	**126**	PKPbc		**PKiKP**	**22 41 30.8**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=248,slow=2.0,SNR=8.6							
PLCA	**Paso Flores**	**151.48**	**126**	PKIKP		**PKPdf**	**22 41 24.1**	**+0.4**
PLCA	**Paso Flores**	**151.48**	**126**	PKPdf		**PKPdf**	**22 41 24.1**	**+0.4**
LPAZ	**La Paz**	**151.63**	**73**	PKPbc		**PKiKP**	**22 41 32.9**	**+0.7**
	comp=Z,12nm,0.8s,baz=311,slow=2.3,SNR=53							
LPAZ	**La Paz**	**151.63**	**73**	PKIKP		**PKPdf**	**22 41 24.3**	**-0.9**
LPAZ	**La Paz**	**151.63**	**73**	PKPdf		**PKPdf**	**22 41 24.3**	**-0.9**
PB11	**IPOC Station P**	**151.74**	**81**	PKPdf		**PKPdf**	**22 41 24.4**	**-0.4**
BO02	**Sierra Bellavi**	**152.61**	**113**	PKPdf		**PKPdf**	**22 41 25.6**	**+0.1**
BDFB	**Brasilia**	**166.11**	**35**	PKPab		**PKPab**	**22 42 44.2**	**0.0**
	comp=Z,3.0nm,0.7s,baz=330,slow=5.2,SNR=4.3							

KMA *14* **22:29:02.0**±0.4, **36°.54N**×**128°.91E, h15**km±4km **Error ellipse: s-maj=4.3km s-min=1.8km az=121.0, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSADO	**Andong**	**0.13**	**168**	P	Pb	22 29 05.9	-0.2
	SNR=61						
KSADO	**Andong**	**0.13**	**168**	P	Pb	22 29 05.9	-0.2
	SNR=61						
KSADO				S	Sg	22 29 08.3	+0.2
KSEUS	**ULSEONG**	**0.26**	**224**	P	Pg	22 29 07.9	+0.2
KSCHY	**BONGHWA**	**0.39**	**0**	P	Pg	22 29 10.1	+0.1
KSULJ	**Uljin**	**0.43**	**68**	P	Pg	22 29 10.6	+0.1
	SNR=40						
KSULJ	**Uljin**	**0.43**	**68**	P	Pg	22 29 10.6	+0.1
	SNR=40						
KSTBA	**Taebaek**	**0.58**	**3**	P	Pg	22 29 13.5	0.0
KSSAJ	**Sangju**	**0.62**	**258**	P	Pg	22 29 14.0	-0.2
	SNR=8.4						
KSSAJ	**Sangju**	**0.62**	**258**	P	Pg	22 29 14.0	-0.2
	SNR=8.4						
KSBON	**Boeun**	**0.90**	**268**	P	Pb	22 29 19.0	-0.2
	SNR=9.8						
KSBON	**Boeun**	**0.90**	**268**	P	Pb	22 29 19.0	-0.2
	SNR=9.8						

PRU *14* **22:34:19.1**±0.0, **49°.83N**×**18°.54E, h0**km, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*P	Pg	22 34 24.4	+0.4
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*PG	Pg	22 34 24.4	+0.4
OKC				*e*SG	Sg	22 34 27.4	+0.1
	comp=Z,7.4nm,0.4s						
KRLC	**Kraliky**	**1.16**	**283**	*e*PG	Pg	22 34 40.0	-1.4
KRLC				*e*SG	Sg	22 34 56.1	-0.3
	comp=Z,12nm,2.9s						
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	22 34 45.5	-2.1
DPC				*e*SG	Sg	22 35 07.2	-0.7

TAP *14* *22:41:10.5, 21°.16N×122°.30E, h55km±1km, ML3.1, D*
ISC 14 22:40:59.4±1.9, **21°.18N**±0°.06×**122°.77E**±0°.09, **h2**km±13km, **n44,** σ1§**92/77, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.05**	**226**	⇑*i*P	**Pg**	**22 41 21.6**	**+2.0**
BBP				*i*S	**Sg**	**22 41 29.4**	**-3.9**
LAY	**Lan-yu**	**1.42**	**307**	P	**Pb**	**22 41 30.3**	**+3.7**
	baz=322						
LAY				*e*S	**Sb**	**22 41 45.0**	**-0.1**
	baz=322						
TSEB	**Hengchuen, Pin**	**1.88**	**293**	S	**Sn**	**22 41 56.2**	**-0.6**
	baz=299						
LDUT	**Ludao**	**1.91**	**321**	P	**Pg**	**22 41 37.4**	**+1.4**
	baz=333						
LDUT				S	**Sb**	**22 41 58.3**	**-1.0**
	baz=333						
TWKBT	**Hengchun**	**1.97**	**293**	*e*P	**Pb**	**22 41 37.1**	**+1.1**
	baz=299						
TWKBT				*e*S	**Sn**	**22 41 56.6**	**-2.5**
	baz=299						
TWK1	**Hengchun**	**1.98**	**293**	*e*P	**Pg**	**22 41 39.0**	**+1.7**
	baz=299						
TWK1				*e*S	**Sn**	**22 41 56.8**	**-2.4**
	baz=299						
HEN	**Hengchun**	**2.06**	**294**	*e*S	**Sn**	**22 41 59.8**	**-1.5**
	baz=308						
SLIU	**Shizi**	**2.10**	**300**	P	**Pb**	**22 41 39.2**	**+1.0**
	baz=307						
SLIU				*e*S	**Sn**	**22 42 01.1**	**-1.2**
	baz=307						
EDH	**Donghe**	**2.24**	**323**	P	**Pg**	**22 41 42.7**	**+0.4**
	baz=340						
EDH				S	**Sn**	**22 42 06.4**	**+0.7**
	baz=340						
TWGBT	**Beinan**	**2.26**	**316**	*e*P	**Pb**	**22 41 42.8**	**+1.9**
	baz=315						
TWGBT				*e*S	**Sn**	**22 42 06.3**	**+0.1**
	baz=315						
TWG	**Pinlang**	**2.27**	**316**	*e*P	**Pg**	**22 41 43.2**	**+0.3**
	baz=315						
TWG				*e*S	**Sb**	**22 42 08.7**	**-0.8**
	baz=315						
LONT	**Longtian**	**2.29**	**319**	P	**Pg**	**22 41 43.9**	**+0.5**
	baz=319						
LONT				*e*S	**Sb**	**22 42 09.1**	**-1.2**
	baz=319						
CHKT	**Chengkung**	**2.31**	**326**	*e*P	**Pb**	**22 41 43.5**	**+1.7**
	baz=343						
CHKT				*e*S	**Sn**	**22 42 08.1**	**+0.7**
	baz=343						
FULB	**Fuli**	**2.43**	**326**	*e*P	**Pb**	**22 41 45.8**	**+2.0**
	baz=344						
FULB				*e*S	**Sb**	**22 42 12.0**	**-2.2**
	baz=344						
EYUL	**Yuli**	**2.54**	**328**	*e*P	**Pb**	**22 41 47.3**	**+1.6**
	baz=344						
EYUL				*e*S	**Sn**	**22 42 14.7**	**+1.6**
	baz=344						
TWF1	**Yuli**	**2.56**	**328**	*e*P	**Pb**	**22 41 47.5**	**+1.5**
	baz=344						
TWF1				*e*S	**Sb**	**22 42 15.9**	**-1.9**
	baz=344						
ELDTW	**Lidau**	**2.58**	**321**	*e*P	**Pb**	**22 41 47.3**	**+1.0**
	baz=321						
YULB	**Yu-li**	**2.59**	**328**	*e*P	**Pb**	**22 41 48.3**	**+1.8**
	baz=344						
YULB				*e*S	**Sn**	**22 42 15.4**	**+1.1**
	baz=344						
HGSD	**Ruisui**	**2.62**	**332**	*e*P	**Pb**	**22 41 48.2**	**+1.2**
	baz=346						
HGSD				*e*S	**Sn**	**22 42 16.7**	**+1.7**
	baz=346						
EHY	**Hungye**	**2.67**	**330**	*e*P	**Pb**	**22 41 49.5**	**+1.5**
	baz=344						
EHY				*e*S	**Sb**	**22 42 19.5**	**-1.7**
	baz=344						
STYH	**Taoyuan**	**2.71**	**317**	*e*P	**Pb**	**22 41 50.0**	**+1.5**
	baz=325						
STYH				*e*S	**Sb**	**22 42 20.6**	**-1.6**
	baz=325						
STYT	**Tauyuan**	**2.71**	**317**	*e*P	**Pb**	**22 41 50.4**	**+1.7**
	baz=324						
WTP	**Ta-pu**	**2.87**	**316**	*e*P	**Pb**	**22 41 53.1**	**+1.9**
	baz=309						
WTP				*e*S	**Sb**	**22 42 26.8**	**0.0**
	baz=309						
CHN1	**Nanshi**	**2.88**	**314**	*e*P	**Pb**	**22 41 53.9**	**+2.5**
	baz=321						
CHN1				*e*S	**Sb**	**22 42 24.6**	**-2.6**
	baz=321						
ESL	**Shilin**	**2.90**	**335**	*e*P	**Pb**	**22 41 52.8**	**+1.1**
	baz=348						
ESL				*e*S	**Sn**	**22 42 24.2**	**+2.3**
	baz=348						
ALS	**Alishan**	**2.95**	**322**	*e*P	**Pb**	**22 41 55.0**	**+2.2**
	baz=337						
CHN4	**Tsaushan**	**2.95**	**317**	*e*P	**Pb**	**22 41 54.8**	**+2.1**
	baz=310						
ETM	**Tongmen**	**3.01**	**337**	*e*P	**Pb**	**22 41 54.0**	**+0.3**
	baz=352						
CHN5	**Tsauling**	**3.09**	**322**	P	**Pb**	**22 41 57.8**	**+2.8**
	baz=314						
SSLB	**Suanglung**	**3.09**	**327**	*e*P	**Pb**	**22 41 56.4**	**+1.3**
	baz=342						
SSLB				*e*S	**Sb**	**22 42 30.8**	**-2.4**
	baz=342						
OWD	**Renai**	**3.13**	**332**	*e*P	**Pb**	**22 41 56.3**	**+0.5**
	baz=332						
OWD				*e*S	**Sn**	**22 42 30.3**	**+2.4**
	baz=332						
NACB	**Ninganchiao**	**3.17**	**340**	*e*P	**Pb**	**22 41 56.8**	**+0.3**
	baz=355						
NACB				*e*S	**Sb**	**22 42 32.2**	**-3.3**
	baz=355						
SMLT	**Sun Moon Lake**	**3.20**	**328**	*e*P	**Pb**	**22 41 56.5**	**-0.5**
	baz=319						
CHGB	**Renai**	**3.22**	**333**	*e*P	**Pb**	**22 41 56.9**	**-0.5**
	baz=348						
CHGB				*e*S	**Sn**	**22 42 32.8**	**+2.5**
	baz=348						
TYC	**Yuchr**	**3.23**	**327**	*e*P	**Pb**	**22 41 59.3**	**+1.8**
	baz=319						
TYC				*e*S	**Sb**	**22 42 36.2**	**-1.2**
	baz=319						
ETLH	**Xiulin Townshi**	**3.24**	**339**	*e*P	**Pb**	**22 41 56.4**	**-1.3**
	baz=353						
ETLH				*e*S	**Sn**	**22 42 32.8**	**+2.3**
	baz=353						
WCS	**Beigang Elemen**	**3.34**	**329**	*e*P	**Pb**	**22 42 00.7**	**+1.4**
	baz=322						
FUSS	**Fushou**	**3.36**	**336**	*e*P	**Pb**	**22 42 00.4**	**+0.6**
	baz=350						
NNSB	**Datong**	**3.48**	**339**	*e*P	**Pb**	**22 42 01.7**	**0.0**
	baz=345						
NNSB				*e*S	**Sn**	**22 42 38.3**	**+1.9**
	baz=345						
NNSH	**Datong**	**3.48**	**339**	*e*P	**Pb**	**22 42 02.1**	**+0.4**
	baz=354						
NNSH				*e*S	**Sn**	**22 42 38.7**	**+2.3**
	baz=354						
NDS	**Dongshan**	**3.57**	**344**	*e*P	**Pb**	**22 42 04.0**	**+0.7**
	baz=351						
NDS				*e*S	**Sb**	**22 42 42.9**	**-4.2**
	baz=351						
YHNB	**Yeheng**	**3.70**	**340**	*e*P	**Pb**	**22 42 06.7**	**+1.2**
	baz=355						
YHNB				*e*S	**Sb**	**22 42 46.8**	**-4.1**
	baz=355						
NWLT	**Wulai**	**3.77**	**342**	*e*P	**Pb**	**22 42 05.2**	**-1.4**
	baz=348						
NWLT				*e*S	**Sn**	**22 42 47.0**	**+3.7**
	baz=348						
TIPB	**Shuangxi**	**3.87**	**347**	*e*P	**Pb**	**22 42 09.1**	**+0.7**
	baz=1.0						
TIPB				*e*S	**Sb**	**22 42 52.0**	**-3.7**
	baz=1.0						

IDC *14* **22:45:05.1**±7.5, **53°.47S**×**137°.10W, h0**km, **mb3.8**/2, **mb1 4.1**/2, **mb1mx3.7**/29, **mbtmp3.8**/2, **Error ellipse: s-maj=915.1km s-min=61.3km az=178.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**45.03**	**88**	T	T	23 40 55.1	
	baz=222,slow=74,SNR=9.7						
H03S1	**Juan Fernandez**	**45.04**	**88**	T	T	23 40 56.5	
	baz=222,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**45.05**	**88**	T	T	23 40 57.8	
	baz=222,slow=74,SNR=9.8						
H03N3	**Juan Fernandez**	**45.30**	**88**	T	T	23 41 23.4	
	baz=226,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**45.31**	**88**	T	T	23 41 14.6	
	baz=226,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**45.32**	**88**	T	T	23 41 19.7	
	baz=226,slow=72,SNR=14						
ASAR	**Alice Springs**	**70.76**	**256**	P	P	22 56 22.8	-0.4
	0.7nm,0.8s,baz=133,slow=6.8,SNR=5.7						
H01W1	**Cape Leeuwin H**	**72.63**	**235**	T	T	00 16 40.2	
	baz=145,slow=76,SNR=7.0						
H01W2	**Cape Leeuwin H**	**72.63**	**235**	T	T	00 16 39.2	
	baz=145,slow=76,SNR=6.0						
H01W3	**Cape Leeuwin H**	**72.64**	**235**	T	T	00 16 47.7	
	baz=145,slow=76,SNR=6.4						
WRA	**Warramunga Arr**	**73.39**	**259**	P	P	22 56 39.3	+0.4
	0.9nm,0.8s,baz=143,slow=5.5,SNR=8.8						
TORD	**Torodi Ar. Bea**	**128.27**	**125**	PKP	PKPdf	23 04 13.1	-0.4
	0.4nm,0.9s,baz=277,slow=3.8,SNR=1.6						
SONM	**Songino Array**	**140.54**	**288**	PKhKP	PKPpre	23 04 29.0	
	0.2nm,0.4s,baz=132,slow=2.1,SNR=3.7						

IDC *14* *22:54:46.9*±1.7, *1°.12N*×*122°.06E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/35, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=157.0km s-min=25.1km az=64.0*
DJA *14* *22:54:57.8*±1.0, *1°.N*±*9°*×*12°.1E*±*°, h66km*±*16km, M4.1/7, mb5.1/1, mB5.3/1, MLv3.6/7, Mw(mB)4.7/1*
ISC 14 22:54:55.8±1.1, **0°.6N**±0°.1×**120°.67E**±0°.06, **h50**km, **n11,** σ3§**07/12, mb3.1/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.81**	**252**	P	**Pn**	**22 55 13.8**	**+2.8**
MRSI	**Marisa**	**1.27**	**95**	P	**Pn**	**22 55 19.9**	**+2.7**
MRSI				S	**Sn**	**22 55 36.4**	**+3.2**
APSI	**Ampana**	**1.78**	**147**	P	**Pn**	**22 55 25.7**	**+1.5**
GTOI	**Gorontalo**	**2.34**	**89**	P	**Pn**	**22 55 32.1**	**+0.3**
LUWI	**Luwuk**	**2.65**	**128**	P	**Pn**	**22 55 39.9**	**+3.8**
TTSI	**Tana Toraja**	**3.71**	**193**	P	**Pn**	**22 55 52.9**	**+2.3**
JAGI	**Jajag, Banyuwa**	**11.10**	**216**	P	**Pn**	**22 57 32.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.20**	**165**	P	**P**	**22 59 13.3**	**-2.3**
	0.3nm,0.3s,baz=5.7,slow=8.9,SNR=9.6						
WRA	**Warramunga Arr**	**24.41**	**147**	P	**P**	**23 00 05.2**	**-4.6**
	0.4nm,0.6s,baz=336,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**27.33**	**153**	P	**P**	**23 00 33.0**	**-3.2**
	0.1nm,0.3s,baz=337,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**56.91**	**329**	P	**P**	**23 04 36.0**	**+0.2**
	0.3nm,0.5s,baz=125,slow=7.0,SNR=4.6						

IDC *14* *22:56:06.1*±8.2, *26°.79S*×*179°.77W, h399km*±*68km, mb3.4/6, mb1 3.5/7, mb1mx3.2/28, mbtmp4.2/7, Error ellipse: s-maj=73.6km s-min=19.7km az=47.0*
ISC 14 22:56:04.0±1.8, **26°.6S**±0°.1×**179°.5W**±0°.2, **h400**km, **n9,** σ1§**29/10, mb3.6/6, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.03**	**193**	P	**P**	**22 58 42.5**	**-1.4**
	1.5nm,0.3s,baz=301,slow=23,SNR=8.9						
URZ				S	**S**	**23 00 57.1**	**+1.0**
	0.8nm,0.3s,baz=307,slow=23,SNR=1.7						
CTA	**Charters Tower**	**32.07**	**274**	P	**P**	**23 01 55.9**	**0.0**
	2.9nm,0.4s,baz=107,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**34.28**	**252**	P	**P**	**23 02 15.6**	**+0.9**
	0.8nm,0.3s,baz=100,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**42.16**	**263**	P	**P**	**23 03 19.1**	**-0.5**
	1.6nm,0.5s,baz=93,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**42.78**	**269**	P	**P**	**23 03 23.2**	**-1.3**
	1.2nm,0.3s,baz=104,slow=7.6,SNR=48						
VNDA	**Vanda**	**51.80**	**185**	P	**P**	**23 04 32.8**	**+0.6**
	0.5nm,0.6s,baz=354,slow=8.3,SNR=7.8						
MAW	**Mawson**	**75.45**	**201**	P	**P**	**23 07 05.4**	**+0.5**
	1.9nm,0.5s,baz=161,slow=3.8,SNR=6.5						
BRTR	**Keskin Array B**	**149.51**	**304**	PKPbc	**PKiKP**	**23 15 09.5**	**+1.6**
	1.0nm,0.6s,baz=81,slow=4.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**166.63**	**185**	PKPab	**PKPab**	**23 16 26.0**	**-1.7**
	0.4nm,0.7s,baz=159,slow=4.0,SNR=1.6						

IDC *14* **23:12:56.3**±4.0, **5°.44S**×**151°.84E, h0**km, **mb3.5**/2, **mb1 3.8**/2, **mb1mx3.4**/30, **mbtmp3.6**/2, **Error ellipse: s-maj=152.3km s-min=53.4km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**228**	P	P	23 17 55.8	+0.2
	0.6nm,0.6s,baz=54,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**25.03**	**222**	P	P	23 18 22.1	-0.3
	1.8nm,0.8s,baz=57,slow=9.0,SNR=18						
TORD	**Torodi Ar. Bea**	**149.58**	**287**	PKPbc	PKPbc	23 32 48.6	-0.3
	0.5nm,0.9s,baz=107,slow=2.5,SNR=1.4						

ATH *14* *23:29:07.2, 35°.03N*×*26°.76E, h16km*±*3km, ML2.5/7, Error ellipse: s-maj=10.5km s-min=2.8km az=355.0*
THE *14* *23:29:08.1, 35°.00N*×*26°.65E, h0km*±*1km, ML2.6/5, Error ellipse: s-maj=3.2km s-min=0.8km az=115.0*
ISC 14 23:29:06.3±2.1, **35°.09N**±0°.09×**26°.67E**±0°.07, **h0**km±12km, **n19,** σ0§**99/30, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.37**	**273**	P	**Pb**	**23 29 15.9**	**+0.1**
ZKR				S	**Sb**	**23 29 22.7**	**+0.6**
ZKR				AML	AML	23 29 23.1	
	comp=E,1698μm,0.2s						
ZKR				AML	AML	23 29 23.3	
	comp=N,1527μm,0.4s						
ZKR	**Zakros**	**0.37**	**273**	P	**Pb**	**23 29 15.9**	**+0.1**
ZKR				S	**Sb**	**23 29 22.4**	**+0.3**
	comp=N,820nm,0.3s						
STIA	**Sitia Lasithi**	**0.49**	**283**	P	**Pb**	**23 29 18.1**	**+0.4**
STIA				S	**Sb**	**23 29 26.4**	**+1.0**
FRMA	**Ierapetra Chan**	**0.77**	**264**	P	**Pg**	**23 29 20.7**	**-0.4**
FRMA				S	**Sg**	**23 29 31.8**	**+0.7**
NPS	**Neapolis**	**0.88**	**281**	P	**Pn**	**23 29 25.6**	**-0.4**
NPS				S	**Sn**	**23 29 38.9**	**-0.6**
NPS				AML	AML	23 29 41.4	
	comp=N,825μm,0.5s						
NPS				AML	AML	23 29 41.7	
	comp=E,1198μm,0.6s						
NPS	**Neapolis**	**0.88**	**281**	P	**Pn**	**23 29 25.6**	**-0.4**
NPS				S	**Sn**	**23 29 39.1**	**-0.4**
	comp=E,505nm,0.5s						
LAST	**Lasithi**	**0.98**	**274**	P	**Pb**	**23 29 26.5**	**+0.4**
LAST				S	**Sb**	**23 29 40.1**	**+0.4**
LAST				AML	AML	23 29 48.9	
	comp=N,509μm,0.5s						
LAST				AML	AML	23 29 49.4	
	comp=E,271μm,0.7s						
LAST	**Lasithi**	**0.98**	**274**	P	**Pb**	**23 29 26.6**	**+0.4**
LAST				S	**Sn**	**23 29 42.3**	**+0.3**
	comp=E,192nm,0.6s						
HRKL

BOOM	**Boomskoye usch**	**2.22**	**338**	⇑	*e*P	**Pb**	**23 36 23.0**	**+0.6**
	baz=34							
BOOM				⇑	*i*S	**Sg**	**23 36 52.3**	**-1.3**
	baz=34							
PRZ	**Przheval'sk**	**2.29**	**26**	⇑	*i*P	**Pn**	**23 36 21.3**	**+1.3**
	baz=19							
PRZ				⇑	*i*S	**Sb**	**23 36 49.9**	**-2.1**
	baz=19							
ANVS	**Anan'yevo**	**2.40**	**11**	⇑	*i*P	**Pb**	**23 36 23.7**	**-1.7**
	baz=5.0							
ANVS				⇑	*i*S	**Sb**	**23 36 53.6**	**-1.4**
	baz=5.0							
ARLS	**Aral**	**2.50**	**306**	⇑	*i*P	**Pb**	**23 36 27.5**	**+0.2**
	baz=5.0							
ARLS				⇑	*i*S	**Sb**	**23 37 00.6**	**+2.4**
	baz=5.0							
IZV	**Izvestkoviy**	**2.62**	**353**		*e*P	**Pg**	**23 36 33.2**	**+0.6**
	19nm,0.2s							
IZV					*e*S	**Sg**	**23 37 09.4**	**+2.8**
	27nm,0.3s							
IZV	**Izvestkoviy**	**2.62**	**353**		Pg	**Pg**	**23 36 33.2**	**+0.6**
	19nm,0.2s							
IZV					Lg	Lg	23 37 09.4	
	27nm,0.3s							
TKM2	**Tokmak 2**	**2.71**	**337**	⇑	*i*P	**Pb**	**23 36 30.0**	**-0.9**
	baz=34							
TKM2				⇑	*i*S	**Sb**	**23 37 04.6**	**+0.4**
	baz=34							
TKM2	**Tokmak 2**	**2.71**	**337**	⇑	Pg	**Pg**	**23 36 34.1**	**-0.2**
	5.5nm,0.3s							
TKM2				⇓	Lg	Lg	23 37 13.1	
	8.7nm,0.5s							
KBK	**Karagaybulak**	**2.73**	**325**	⇑	*i*P	**Pb**	**23 36 30.6**	**-0.5**
	baz=23							
KBK				⇑	*i*S	**Sb**	**23 37 05.5**	**+1.0**
	baz=23							
MDOK	**Medeo**	**2.73**	**0**		*e*P	**Pg**	**23 36 34.4**	**-0.2**
	13nm,0.2s							
MDOK					*e*S	**Sg**	**23 37 11.3**	**+1.3**
	37nm,0.7s							
MDOK	**Medeo**	**2.73**	**0**		Pg	**Pg**	**23 36 33.9**	**-0.7**
	7.1nm,0.6s							
MDOK					Lg	Lg	23 37 11.6	
	26nm,0.6s							
MDOK	**Medeo**	**2.73**	**0**		Pg	**Pg**	**23 36 34.4**	**-0.2**
	13nm,0.2s							
MDOK					Lg	Lg	23 37 11.3	
	37nm,0.7s							
KST	**Kastek**	**2.73**	**343**		*e*P	**Pg**	**23 36 34.6**	**-0.1**
	10nm,0.3s							
KST					*e*S	**Sg**	**23 37 11.7**	**+1.6**
	19nm,0.5s							
KST	**Kastek**	**2.73**	**343**		Pg	**Pg**	**23 36 34.6**	**-0.1**
	10nm,0.3s							
KST					Lg	Lg	23 37 11.7	
	19nm,0.5s							
MTBS	**Maitube**	**2.74**	**350**		*e*P	**Pg**	**23 36 34.9**	**+0.2**
	6.9nm,0.2s							
MTBS					*e*S	**Sg**	**23 37 12.2**	**+2.0**
	14nm,0.2s							
MTBS	**Maitube**	**2.74**	**350**		Pg	**Pg**	**23 36 34.9**	**+0.2**
	6.9nm,0.2s							
MTBS					Lg	Lg	23 37 12.2	
	14nm,0.2s							
SFK	**Sufi-Kurgan**	**2.75**	**262**	⇑	*e*P	**Pb**	**23 36 30.7**	**-0.7**
	baz=66							
SFK				⇑	*i*S	**Sb**	**23 37 05.8**	**+0.7**
	baz=66							
AAA	**Alma-Ata**	**2.78**	**358**		*e*P	**Pg**	**23 36 36.1**	**+0.6**
	81nm,0.3s							
AAA					*e*S	**Sg**	**23 37 14.6**	**+3.0**
	55nm,0.4s							
AAA	**Alma-Ata**	**2.78**	**358**		Pg	**Pg**	**23 36 36.1**	**+0.6**
	81nm,0.3s							
AAA					Lg	Lg	23 37 14.5	
	55nm,0.4s							
KNDC	**Almaty**	**2.79**	**359**	⇑	Pg	**Pg**	**23 36 35.6**	**0.0**
	31nm,0.5s							
KNDC				⇑	Lg	Lg	23 37 14.2	
	130nm,0.9s							
KOTS	**Kotyrbulak**	**2.80**	**1**		*e*P	**Pg**	**23 36 36.0**	**0.0**
	96nm,0.4s							
KOTS					*e*S	**Sg**	**23 37 14.1**	**+1.8**
	3.8nm,1.6s							
KOTS	**Kotyrbulak**	**2.80**	**1**		Pg	**Pg**	**23 36 36.0**	**0.0**
	96nm,0.4s							
KOTS					Lg	Lg	23 37 14.1	
	3.8nm,1.6s							
SATY	**Saty**	**2.82**	**21**		*e*P	**Pg**	**23 36 35.0**	**-1.2**
	6.0nm,0.2s							
SATY					*e*S	**Sg**	**23 37 12.4**	**-0.4**
	42nm,0.3s							
SATY	**Saty**	**2.82**	**21**		Pg	**Pg**	**23 36 35.0**	**-1.2**
	6.0nm,0.2s							
SATY					Lg	Lg	23 37 12.4	
	42nm,0.3s							
AAK	**Ala-Archa**	**2.92**	**320**	⇑	*i*P	**Pb**	**23 36 33.2**	**-1.2**
	baz=18							
AAK				⇑	*i*S	**Sb**	**23 37 10.6**	**+0.5**
	baz=18							
AAK	**Ala-Archa**	**2.92**	**320**		Pg	**Pg**	**23 36 38.8**	**+0.6**
	16nm,0.6s							
AAK					Lg	Lg	23 37 20.2	
	19nm,0.7s							
DGS	**Degeres**	**2.97**	**342**		*e*P	**Pg**	**23 36 39.0**	**-0.2**
	13nm,0.4s							
DGS					*e*S	**Sg**	**23 37 19.4**	**+1.8**
	13nm,0.7s							
DGS	**Degeres**	**2.97**	**342**		Pg	**Pg**	**23 36 39.0**	**-0.2**
	13nm,0.4s							
DGS					Lg	Lg	23 37 19.4	
	13nm,0.7s							
FRU1	**Bishkek**	**2.99**	**323**	⇑	*i*P	**Pb**	**23 36 34.2**	**-1.3**
	baz=22							
FRU1				⇑	*i*S	**Sb**	**23 37 12.2**	**+0.2**
	baz=22							
AML	**Almayashu**	**3.04**	**305**	⇑	*e*P	**Pb**	**23 36 35.5**	**-1.1**
	baz=5.0							
AML				⇑	*i*S	**Sb**	**23 37 13.8**	**-0.1**
	baz=5.0							
CHMS	**Chumysh**	**3.09**	**327**	⇑	*e*P	**Pb**	**23 36 35.2**	**-2.0**
	baz=25							
CHMS				⇑	*i*S	**Sb**	**23 37 13.8**	**-1.0**
	baz=25							
UZB	**Uzynbulak**	**3.09**	**28**		*e*P	**Pg**	**23 36 39.3**	**-2.1**
	2.8nm,0.3s							
UZB					*e*S	**Sg**	**23 37 19.7**	**-1.8**
	17nm,0.3s							
UZB	**Uzynbulak**	**3.09**	**28**		Pg	**Pg**	**23 36 39.3**	**-2.1**
	2.8nm,0.3s							
UZB					Lg	Lg	23 37 19.7	
	17nm,0.3s							
KURS	**Kuram**	**3.17**	**15**		*e*P	**Pg**	**23 36 41.7**	**-1.2**
	4.1nm,0.3s							
KURS					*e*S	**Sg**	**23 37 23.9**	**-0.1**
	15nm,0.6s							
KURS	**Kuram**	**3.17**	**15**		Pg	**Pg**	**23 36 41.7**	**-1.2**
	4.1nm,0.3s							
KURS					Lg	Lg	23 37 23.9	
	15nm,0.6s							
SHLS	**Shalkode**	**3.27**	**33**		*e*P	**Pg**	**23 36 45.4**	**+0.5**
	2.5nm,0.3s							
SHLS					*e*S	**Sg**	**23 37 30.1**	**+2.9**
	53nm,0.5s							
SHLS	**Shalkode**	**3.27**	**33**		Pg	**Pg**	**23 36 45.4**	**+0.5**
	2.5nm,0.3s							
SHLS					Lg	Lg	23 37 30.1	
	53nm,0.5s							
KPKS	**Kokpek**	**3.27**	**21**		*e*P	**Pg**	**23 36 42.8**	**-2.1**
	7.6nm,0.4s							
KPKS					*e*S	**Sg**	**23 37 25.8**	**-1.4**
	46nm,0.4s							
KTBS	**Karatobe**	**3.29**	**355**		*e*P	**Pg**	**23 36 44.5**	**-0.8**
	5.7nm,0.4s							
KTBS					*e*S	**Sg**	**23 37 28.8**	**+0.8**
	32nm,0.5s							
KTBS	**Karatobe**	**3.29**	**355**		Pg	**Pg**	**23 36 44.5**	**-0.8**
	5.7nm,0.4s							
KTBS					Lg	Lg	23 37 28.8	
	32nm,0.5s							
EKS2	**Erkin-Say**	**3.32**	**313**	⇑	*i*P	**Pb**	**23 36 39.1**	**-2.0**
	baz=12							
EKS2				⇑	*i*S	**Sb**	**23 37 20.1**	**-1.3**
	baz=12							
USP	**Ospenovka**	**3.41**	**327**	⇑	*i*P	**Pb**	**23 36 39.6**	**-3.1**
	baz=25							
USP				⇑	*i*S	**Sb**	**23 37 21.6**	**-2.6**
	baz=25							

KRBS	**Karabastau**	**3.42**	**343**		*e*P	**Pg**	**23 36 46.6**	**-1.2**
	7.3nm,0.4s							
KRBS					*e*S	**Sg**	**23 37 32.5**	**+0.4**
	6.5nm,0.5s							
KRBS	**Karabastau**	**3.42**	**343**		Pg	**Pg**	**23 36 46.6**	**-1.2**
	7.3nm,0.4s							
KRBS					Lg	Lg	23 37 32.5	
	6.5nm,0.5s							
CHKK	**Chushkaly**	**3.42**	**359**		*e*P	**Pg**	**23 36 46.4**	**-1.4**
	5.5nm,0.3s							
CHKK					*e*S	**Sg**	**23 37 32.1**	**0.0**
	16nm,0.5s							
CHKK	**Chushkaly**	**3.42**	**359**		Pg	**Pg**	**23 36 46.4**	**-1.4**
	5.5nm,0.3s							
CHKK					Lg	Lg	23 37 32.1	
	16nm,0.5s							
PDGK	**Podgornoye**	**3.42**	**31**		Pg	**Pb**	**23 36 44.5**	**+1.7**
	2.1nm,0.4s							
PDGK					Lg	Lg	23 37 28.7	
	13nm,0.7s							
PDGK	**Podgornoye**	**3.42**	**31**	⇓	Pg	**Pb**	**23 36 44.6**	**+1.7**
	7.6nm,0.8s							
PDGK				⇓	Lg	Lg	23 37 29.9	
	34nm,0.8s							
KUU	**Kurty**	**3.50**	**352**		*e*P	**Pg**	**23 36 48.4**	**-0.9**
	4.5nm,0.4s							
KUU					*e*S	**Sg**	**23 37 35.5**	**+0.9**
	15nm,0.5s							
KUU	**Kurty**	**3.50**	**352**		Pg	**Pg**	**23 36 48.4**	**-0.9**
	4.5nm,0.4s							
KUU					Lg	Lg	23 37 35.5	
	15nm,0.5s							
SGDS	**Sogindy**	**3.52**	**330**		Pg	**Pg**	**23 36 49.3**	**-0.3**
	2.8nm,0.4s							
SGDS					Lg	Lg	23 37 36.8	
	4.9nm,0.5s							
ARXS	**Arharly**	**3.82**	**8**		*e*P	**Pg**	**23 36 53.5**	**-2.0**
	5.9nm,0.4s							
ARXS					*e*S	**Sg**	**23 37 44.3**	**-0.7**
	26nm,0.5s							
ARXS	**Arharly**	**3.82**	**8**		Pg	**Pg**	**23 36 53.5**	**-2.0**
	5.9nm,0.4s							
ARXS					Lg	Lg	23 37 44.3	
	26nm,0.5s							
KTMS	**Ketmen**	**3.89**	**38**		*e*P	**Pb**	**23 36 53.1**	**+2.2**
	1.3nm,0.1s							
KTMS					*e*S	**Sg**	**23 37 43.4**	**-3.8**
	18nm,0.3s							
KTMS	**Ketmen**	**3.89**	**38**		Pg	**Pb**	**23 36 53.1**	**+2.2**
	1.3nm,0.0s							
KTMS					Lg	Lg	23 37 43.5	
	19nm,0.4s							
DJR	**Jarkent**	**4.40**	**27**		*e*P	**Pb**	**23 37 02.2**	**+2.7**
	0.1nm,0.1s							
DJR					*e*S	**Sg**	**23 37 59.1**	**-4.2**
	1.6nm,0.5s							
DJR	**Jarkent**	**4.40**	**27**		Pg	**Pb**	**23 37 02.2**	**+2.7**
	0.1nm,0.1s							
DJR					Lg	Lg	23 37 59.1	
	1.6nm,0.5s							
KK31	**Karatay Array**	**5.57**	**301**	⇓	Pg	**Pg**	**23 37 27.6**	**-1.2**
	0.6nm,0.5s,baz=124,slow=15,SNR=5.1							
KK31				⇓	Lg	Lg	23 38 45.4	
	0.6nm,0.3s,baz=117,slow=28,SNR=4.3							

IDC **14** *23:42:32.8±1.2, 35°.15N±26°.85E, h0km, mb3.6/7, mb1 3.6/10, mb1mx3.5/49, mbtmp3.5/10, ML3.5/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/33, Error ellipse: s-maj=25.9km s-min=12.3km az=179.0*

ATH **14** *23:42:34.0, 35°.04N±26°.82E, h11km±3km, ML3.3/8, Error ellipse: s-maj=6.2km s-min=1.7km az=174.0*

NIC **14** *23:42:34.0±0.0, 34°.79N±26°.61E, h18km±3km, Ml3.8/3*

ISK **14** *23:42:35.8, 35°.12N±26°.71E, h9km, ML3.2/21*

THE **14** *23:42:37.7, 35°.09N±26°.61E, h0km±1km, ML3.2/8, Error ellipse: s-maj=2.7km s-min=0.8km az=158.0*

DDA **14** *23:42:37.9, 35°.28N±26°.95E, h9km±4km, ML2.9*

ISC 14 23:42:35.6±1.0, 35°.07N±0°.04×26°.74E±0°.02, h17km±7km, n126, σ1°84/154, mb3.4/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.43**	**277**	P		**Pg**	**23 42 43.8**	**-0.6**
ZKR				S		**Sg**	**23 42 50.2**	**-0.2**
ZKR				AML		AML	23 42 51.2	
	comp=N,10171μm,0.5s							
ZKR				AML		AML	23 42 51.6	
	comp=E,12080μm,0.3s							
ZKR	**Zakros**	**0.43**	**277**	P		**Pg**	**23 42 43.9**	**-0.6**
ZKR				S		**Sg**	**23 42 50.5**	**+0.1**
	comp=E,6μm,0.4s							
ZKR	**Zakros**	**0.43**	**277**	PG		**Pg**	**23 42 43.9**	**-0.6**
ZKR				SG		**Sg**	**23 42 50.6**	**+0.1**
ZKR	**Zakros**	**0.43**	**277**	P		**Pg**	**23 42 43.6**	**-0.9**
ZKR				S		**Sg**	**23 42 50.4**	**+0.1**
STIA	**Sitia Lasithi**	**0.55**	**285**	P		**Pg**	**23 42 46.1**	**-0.5**
STIA				S		**Sb**	**23 42 54.6**	**+0.2**
NPS	**Neapolis**	**0.95**	**282**	P		**Pb**	**23 42 53.2**	**-0.4**
NPS				S		**Sg**	**23 43 06.9**	**+0.4**
NPS				AML		AML	23 43 07.9	
	comp=N,4729μm,0.9s							
NPS				AML		AML	23 43 13.0	
	comp=E,3738μm,0.6s							
NPS	**Neapolis**	**0.95**	**282**	P		**Pb**	**23 42 53.4**	**-0.2**
NPS				S		**Sg**	**23 43 07.2**	**+0.7**
	comp=E,3μm,0.5s							
LAST	**Lasithi**	**1.04**	**276**	P		**Pb**	**23 42 54.0**	**-1.3**
LAST				S		**Sb**	**23 43 09.7**	**+1.1**
LAST				AML		AML	23 43 14.8	
	comp=E,2348μm,1.0s							
LAST				AML		AML	23 43 16.8	
	comp=N,3571μm,0.6s							
LAST	**Lasithi**	**1.04**	**276**	P		**Pb**	**23 42 54.9**	**-0.3**
LAST				S		**Sb**	**23 43 09.4**	**+0.8**
	comp=N,1μm,0.6s							
HRKL	**Herakleio**	**1.37**	**281**	P		**Pn**	**23 43 01.1**	**+1.2**
HRKL	**Herakleio**	**1.37**	**281**	PN		**Pn**	**23 43 00.9**	**+1.0**
KSTL	**Kastelli Herak**	**1.39**	**280**	P		**Pn**	**23 42 58.7**	**-1.5**
KSTL				S		**Sn**	**23 43 14.0**	**-4.2**
IACM	**Heraklion**	**1.39**	**280**	P		**Pn**	**23 43 00.0**	**-0.2**
IDI	**Anoyia**	**1.53**	**279**	P		**Pn**	**23 43 03.3**	**+1.1**
IDI				AML		AML	23 43 35.8	
	comp=E,740μm,0.6s							
IDI				AML		AML	23 43 40.2	
	comp=N,1018μm,0.7s							
IDI	**Anoyia**	**1.53**	**279**	Pg		**Pn**	**23 43 03.3**	**+1.1**
	comp=N,14nm,0.3s,baz=103,slow=15,SNR=69							
IDI				Lg		Lg	23 43 24.8	
	comp=N,22nm,0.3s,baz=105,slow=23,SNR=8.2							
IDI				LR		LR	23 43 44.6	
	comp=N,72nm,20.7s,baz=36,slow=45							
IDI	**Anoyia**	**1.53**	**279**	P		**Pn**	**23 43 04.2**	**+1.9**
IDI				S		**Sn**	**23 43 22.3**	**+0.4**
	comp=N,425nm,0.6s							
IDI	**Anoyia**	**1.53**	**279**	PN		**Pn**	**23 43 03.4**	**+1.1**
NIS1	**Nisyros lsl.**	**1.57**	**13**	P		**Pb**	**23 43 05.0**	**+0.7**
NIS1	**Nisyros lsl.**	**1.57**	**13**	PN		**Pn**	**23 43 03.9**	**+1.1**
SIVA	**Sivas**	**1.59**	**269**	P		**Pn**	**23 43 03.7**	**+0.8**
SIVA				AML		AML	23 43 34.3	
	comp=N,1927μm,0.6s							
SIVA				AML		AML	23 43 38.7	
	comp=E,3154μm,0.8s							
SIVA	**Sivas**	**1.59**	**269**	P		**Pn**	**23 43 04.1**	**+1.2**
SIVA				S		**Sn**	**23 43 24.3**	**+1.3**
	comp=E,1μm,0.7s							
ARG	**Arkhangelos**	**1.61**	**44**	P		**Pb**	**23 43 06.5**	**+1.6**
ARG				S		**Sg**	**23 43 29.6**	**+2.1**
	comp=E,420nm,0.5s							
ARG	**Arkhangelos**	**1.61**	**44**	PN		**Pn**	**23 43 04.9**	**+1.7**
TMBK	**Timbaki Herakl**	**1.62**	**271**	P		**Pn**	**23 43 05.1**	**+1.7**
TMBK				S		**Sn**	**23 43 25.3**	**+1.4**
	comp=E,485nm,0.7s							
SANT	**Santorini**	**1.67**	**322**	P		**Pn**	**23 43 04.9**	**+0.8**
SANT	**Santorini**	**1.67**	**322**	PN		**Pn**	**23 43 04.9**	**+0.8**
THR6	**Thira Island,**	**1.69**	**320**	P		**Pn**	**23 43 05.8**	**+1.4**
KOSK	**Kos Island**	**1.69**	**6**	P		**Pb**	**23 43 06.8**	**+0.5**
KOSK	**Kos Island**	**1.69**	**6**	PN		**Pn**	**23 43 05.5**	**+1.1**
THR9	**Santorini-Faro**	**1.71**	**319**	P		**Pb**	**23 43 06.4**	**-0.2**
SNT1	**Gialos, Santor**	**1.72**	**322**	P		**Pn**	**23 43 06.1**	**+1.3**
THR7	**Fira-Santorini**	**1.73**	**322**	P		**Pb**	**23 43 06.5**	**-0.4**
SNT5	**Nea Kammeni, S**	**1.73**	**321**	P		**Pn**	**23 43 06.2**	**+1.3**
THR3	**Thira Island,**	**1.73**	**321**	P		**Pn**	**23 43 06.4**	**+1.5**
THT2	**Imerovigli**	**1.74**	**322**	P		**Pn**	**23 43 06.6**	**+1.6**
THT2	**Imerovigli**	**1.74**	**322**	PN		**Pn**	**23 43 05.9**	**+0.9**

THR5	**Thira Island,**	**1.76**	**320**		P	**Pb**	**23 43 07.0**	**-0.5**
CMBO	**Columbo, Santo**	**1.77**	**323**		P	**Pn**	**23 43 06.8**	**+1.3**
DAT	**Datca**	**1.79**	**22**		PN	**Pn**	**23 43 07.3**	**+1.4**
PRNS	**Prines Rethymn**	**1.86**	**280**		P	**Pb**	**23 43 10.2**	**+1.1**
BODT	**Bodrum**	**2.04**	**13**		PN	**Pn**	**23 43 10.6**	**+1.3**
BDRM	**Kayabasi**	**2.08**	**16**	*i*	P	**Pn**	**23 43 11.6**	**+1.9**
BDRM				*i*	S	**Sn**	**23 43 35.0**	**-0.1**
TURN	**Turunc**	**2.10**	**35**	*i*	P	**Pb**	**23 43 13.2**	**0.0**
TURN				*i*	S	**Sg**	**23 43 41.9**	**-1.3**
TURN					IAML		23 43 47.0	
	comp=E,88nm,0.6s							
TURN	**Turunc**	**2.10**	**35**		PN	**Pn**	**23 43 11.8**	**+1.9**
VAM	**Vamos**	**2.11**	**280**		P	**Pn**	**23 43 12.6**	**+2.5**
VAM					AML	AML	23 43 48.9	
	comp=N,1143μm,0.4s							
VAM					AML	AML	23 43 50.8	
	comp=E,772μm,0.6s							
VAM	**Vamos**	**2.11**	**280**		P	**Pn**	**23 43 12.2**	**+2.1**
VAM					S	**Sn**	**23 43 37.8**	**+1.8**
	comp=E,410nm,0.7s							
GVDS	**Gavdos**	**2.19**	**265**		P	**Pn**	**23 43 13.6**	**+2.4**
GVDS	**Gavdos**	**2.19**	**265**		PN	**Pn**	**23 43 13.3**	**+2.1**
GVD	**Gavdhos**	**2.19**	**265**		P	**Pn**	**23 43 13.7**	**+2.4**
GVD					AML	AML	23 44 02.1	
	comp=E,511μm,0.6s							
GVD					AML	AML	23 44 02.4	
	comp=N,596μm,0.7s							
GVD	**Gavdhos**	**2.19**	**265**		P	**Pn**	**23 43 11.9**	**+0.6**
GVD	**Gavdhos**	**2.19**	**265**		PN	**Pn**	**23 43 13.0**	**+1.7**
APE	**Apeiranthos**	**2.23**	**334**		P	**Pn**	**23 43 13.4**	**+1.6**
APE	**Apeiranthos**	**2.23**	**334**		PN	**Pn**	**23 43 12.9**	**+1.1**
APE	**Apeiranthos**	**2.23**	**334**		P	**Pn**	**23 43 13.2**	**+1.4**
IMMV	**Iera Moni Meta**	**2.29**	**281**		P	**Pn**	**23 43 15.1**	**+2.4**
IMMV					AML	AML	23 43 58.8	
	comp=N,686μm,0.6s							
IMMV					AML	AML	23 43 59.4	
	comp=E,887μm,0.8s							
IMMV	**Iera Moni Meta**	**2.29**	**281**		P	**Pn**	**23 43 14.0**	**+1.3**
IMMV	**Iera Moni Meta**	**2.29**	**281**		PN	**Pn**	**23 43 14.5**	**+1.8**
DALY	**Dalyan (Mula)**	**2.34**	**41**	*i*	P	**Pn**	**23 43 16.6**	**+3.3**
DALY				*i*	S	**Sn**	**23 43 42.9**	**+1.3**
DALY					IAML		23 44 03.0	
	comp=N,75nm,0.7s							
DALY					IAML		23 44 10.0	
	comp=E,82nm,1.4s							
DALY	**Dalyan (Mula)**	**2.34**	**41**		PN	**Pn**	**23 43 15.3**	**+2.1**
MLSB	**Milas**	**2.38**	**20**		PN	**Pn**	**23 43 15.5**	**+1.7**
YER	**Yerkesik**	**2.41**	**31**		PN	**Pn**	**23 43 16.4**	**+2.0**
DDIM	**Aydin, Didim**	**2.42**	**9**	*i*	P	**Pb**	**23 43 19.9**	**+1.1**
DDIM				*i*	S	**Sg**	**23 43 50.3**	**-3.2**
FETY	**Fethiye**	**2.46**	**50**	*i*	P	**Pn**	**23 43 16.3**	**+1.2**
FETY				*i*	S	**Sn**	**23 43 44.1**	**-0.7**
FETY	**Fethiye**	**2.46**	**50**		PN	**Pn**	**23 43 16.4**	**+1.4**
MHLO	**Agia Marina, M**	**2.50**	**311**		P	**Pn**	**23 43 18.3**	**+2.8**
MHLO					S	**Sb**	**23 43 48.5**	**-2.0**
KNDR	**Palaiochora Ch**	**2.51**	**275**		P	**Pn**	**23 43 18.5**	**+2.9**
KNDR	**Palaiochora Ch**	**2.51**	**275**		PN	**Pn**	**23 43 18.1**	**+2.5**
MULA	**Mugla, Merkez-**	**2.53**	**30**	*i*	P	**Pb**	**23 43 19.9**	**-0.8**
MULA				*i*	S	**Sn**	**23 43 48.3**	**+1.8**
KSL	**Kastellorizon**	**2.56**	**64**		P	**Pn**	**23 43 18.1**	**+1.9**
KSL	**Kastellorizon**	**2.56**	**64**		P	**Pn**	**23 43 18.1**	**+1.9**
KSL					S	**Sb**	**23 43 52.3**	**+0.2**
AKAS	**Kas**	**2.61**	**63**	*i*	P	**Pn**	**23 43 17.8**	**+0.7**
AKAS				*i*	S	**Sn**	**23 43 45.1**	**-3.3**
AKAS	**Kas**	**2.61**	**63**		PN	**Pn**	**23 43 18.3**	**+1.2**
GCAM	**G?zelcaml?**	**2.66**	**8**	*i*	P	**Pn**	**23 43 20.3**	**+2.7**
GCAM				*i*	S	**Sb**	**23 43 54.5**	**-0.6**
GCAM	**G?zelcaml?**	**2.66**	**8**		PN	**Pn**	**23 43 19.6**	**+1.9**
AYDN	**Tasoluk**	**2.75**	**19**	*i*	P	**Pn**	**23 43 21.7**	**+2.7**
AYDN				*i*	S	**Sb**	**23 43 56.1**	**-1.6**
CAME	**Cameli-Denizli**	**2.80**	**47**		PN	**Pn**	**23 43 21.8**	**+2.1**
ANKY	**Antikythira Is**	**2.92**	**287**		P	**Pn**	**23 43 23.5**	**+2.2**
CAEL	**Denizli, Camel**	**2.93**	**45**	*i*	P	**Pn**	**23 43 24.6**	**+3.1**
CAEL				*i*	S	**Sn**	**23 43 53.6**	**-2.8**
CAEL					IAML		23 44 34.0	
	comp=N,139nm,0.9s							
CAEL					IAML		23 44 36.0	
	comp=E,138nm,1.1s							
TAVA	**DENIZLI_Tavas**	**2.97**	**36**	*i*	P	**Pn**	**23 43 24.4**	**+2.3**
TAVA				*i*	S	**Sn**	**23 43 58.9**	**+1.6**
TAVA					IAML		23 44 18.0	
	comp=E,43nm,0.6s							
DGB	**zmir**	**2.98**	**2**	*i*	P	**Pn**	**23 43 23.4**	**+1.3**
DGB				*i*	S	**Sb**	**23 44 01.7**	**-2.7**
AYDB	**Zeytinkoy-Aydi**	**3.02**	**17**		PN	**Pn**	**23 43 24.6**	**+1.8**
ELL	**Elmali**	**3.07**	**56**		PN	**Pn**	**23 43 25.8**	**+2.4**
ELL	**Elmali**	**3.07**	**56**		P	**Pn**	**23 43 26.2**	**+2.7**
GOLH	**Golhisar**	**3.15**	**46**	*i*	P	**Pn**	**23 43 27.8**	**+3.3**
GOLH				*i*	S	**Sn**	**23 44 06.3**	**+4.6**
GOLH					IAML		23 44 28.0	
	comp=N,55nm,0.7s							
AKUM	**Antalya-Kumluc**	**3.19**	**66**	*i*	P	**Pn**	**23 43 26.5**	**+1.6**
AKUM				*i*	S	Sn	23 43 53.4	-9.1
KTHA	**Kythira Island**	**3.23**	**293**		PN	**Pn**	**23 43 27.1**	**+1.9**
KTHR	**Kythira**	**3.27**	**292**		P	**Pn**	**23 43 27.9**	**+1.8**
URLA	**Izmir**	**3.29**	**358**	*i*	P	**Pn**	**23 43 26.5**	**+0.1**
URLA				*i*	S	**Sn**	**23 44 07.4**	**+2.2**
URLA	**Izmir**	**

FINES	**FINES Array B**	**26.40**	**359**	P		**P**	**23 48 09.4**	**-1.5**
	comp=N,3.3nm,1.0s,baz=177,slow=11,SNR=1.9							
EKA	**Eskdalemuir Ar**	**28.87**	**324**	P		**P**	**23 48 32.1**	**-1.0**
	comp=N,0.2nm,0.3s,baz=122,slow=10,SNR=1.6							
TORD	**Torodi Ar. Bea**	**31.44**	**232**	P		**P**	**23 48 56.1**	**-0.1**
	comp=N,0.3nm,0.6s,baz=32,slow=9.6,SNR=1.3							
ARCES	**ARCESS Array B**	**34.53**	**359**	P		**P**	**23 49 20.7**	**-2.0**
	comp=N,0.8nm,0.8s,baz=171,slow=8.2,SNR=7.8							
MKAR	**Makanchi Array**	**42.74**	**57**	P		**P**	**23 50 32.4**	**+0.5**
	comp=N,0.2nm,0.5s,baz=274,slow=6.8,SNR=2.0							
ZALV	**Zalesovo Beam**	**44.13**	**46**	P		**P**	**23 50 42.4**	**-0.6**
	comp=N,0.8nm,0.5s,baz=272,slow=9.9,SNR=2.3							

KRSC 14 23:48:57.7±2.7, 49.03N×155.05E, h203km±29km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALID	**Alaid**	**1.87**	**10**	*eP*		Pn	23 49 35.1	-0.2
KDTR	**Khodutka, Kamc**	**3.39**	**34**	*eP*		Pn	23 49 54.0	+2.0
KDTR				*eS*		S	23 50 35.3	+1.2
MIPR	**Malaya Ipel'ka**	**3.43**	**18**	*eP*		Pn	23 49 52.5	0.0
MTVR	**Mutnovka**	**3.99**	**29**	*eP*		Pn	23 50 01.2	+1.7
MTVR				S		S	23 50 49.2	+1.6
GRL	**Gorelyy**	**4.02**	**27**	*eP*		Pn	23 50 01.4	+1.6
RUS	**Russkaya**	**4.06**	**31**	*eP*		Pn	23 50 01.7	+1.5
RUS				S		S	23 50 48.1	-0.7
APC	**Apacha**	**4.12**	**18**	*eP*		Pn	23 50 00.4	-0.6
UGLR	**Uglovaya**	**4.81**	**28**	P		Pn	23 50 12.0	+2.2
KOK	**Koryaka**	**4.83**	**26**	P		Pn	23 50 13.1	+3.1
AVH	**Avacha**	**4.84**	**27**	P		Pn	23 50 12.8	+2.8
SMAR	**Somma**	**4.85**	**28**	*eP*		Pn	23 50 12.8	+2.4
KRER	**Koryakskii**	**4.87**	**27**	P		Pn	23 50 13.8	+3.2
SDLR	**Sedlovina**	**4.89**	**28**	P		Pn	23 50 12.6	+1.8
SPN	**Mys Shipunski**	**5.14**	**36**	P		Pn	23 50 15.0	+1.2
KZV	**Kizimen**	**6.90**	**26**	P		Pn	23 50 38.5	+1.9
MKZ	**Mys Kozlova**	**6.91**	**34**	P		Pn	23 50 36.4	-0.2

*NEIC **14** 23:51:14.7±1.7, 35.16N±0.03×70.00E±0.10, h123km±9km, mb4.1/2, Error ellipse: s-maj=11.8km s-min=2.9km az=102.0*

ISC 14 23:51:14.7±0.9, 35.23N±0.06×70.09E±0.07, h100km, n17, σ1§61/24, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**1.10**	**232**	Pn		**Pn**	**23 51 37.2**	**+0.7**
KBL				Sn		**Sn**	**23 51 54.7**	**+1.8**
NIL	**Nilore**	**3.05**	**120**			**Pn**	**23 52 01.5**	**+0.3**
NIL				Sn		**Sn**	**23 52 38.1**	**+1.1**
CHGR	**Chuyangaron**	**3.50**	**348**	Pn		**Pn**	**23 52 08.6**	**+1.4**
CHGR				Sn		**Sn**	**23 52 48.0**	**+0.2**
GAR	**Garm**	**3.77**	**3**	Pn		**Pn**	**23 52 12.6**	**+1.8**
GAR				Sn		**Sn**	**23 52 56.1**	**+1.8**
BTK	**Batken**	**4.85**	**7**	Pn		**Pn**	**23 52 28.2**	**+2.8**
BTK				Sn		**Sn**	**23 53 22.7**	**+2.2**
ARSB	**Arslanbob**	**6.49**	**20**	Pn		**Pn**	**23 52 47.9**	**+0.1**
KK31	**Karatay Array**	**7.87**	**2**	Pn		**Pn**	**23 53 07.2**	**+0.8**
	0.3nm,0.3s,baz=191,slow=14,SNR=13							
KK31				⇓Sn		**Sn**	**23 54 31.1**	**-2.6**
	1.4nm,0.3s,baz=192,slow=24,SNR=4.1							
KK31	**Karatay Array**	**7.87**	**2**	Pn		**Pn**	**23 53 08.0**	**+1.7**
KKAR	**Karatay Array**	**7.87**	**2**	Pn		**Pn**	**23 53 07.8**	**+1.5**
KKAR	**Karatay Array**	**7.87**	**2**			**Pn**	**23 53 07.2**	**+0.9**
AAK	**Ala-Archa**	**8.15**	**24**	⇑Pn		**Pn**	**23 53 10.9**	**+0.6**
	0.9nm,0.3s							
AAK				⇑Sn		**Sn**	**23 54 41.7**	**+0.9**
	4.8nm,0.9s							
ABKAR	**Akbulak array**	**15.88**	**335**			**P**	**23 54 53.8**	**-0.2**
ABKAR				IAmb		IAmb	23 54 54.4	
	comp=Z,1.6nm,0.5s							
ABKAR	**Akbulak array**	**15.88**	**335**			**Pn**	**23 54 52.3**	**0.0**
WMQ	**Urumqi**	**16.04**	**52**	*eP*		**Pn**	**23 54 55.3**	**+0.9**
WMQ				pmax		pmax		
	comp=Z,14nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,89nm,3.9s							
HHC	**Hu-ho-hao-te**	**32.91**	**68**	*eP*		**P**	**23 57 38.9**	**-0.6**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,81nm,6.0s							
FIA1	**FINESS Array S**	**38.14**	**327**	P		**P**	**23 58 21.3**	**-2.4**
FIA1				IAmb		IAmb	23 58 23.3	
	comp=Z,11nm,1.1s							
FINES	**FINESS Array B**	**38.14**	**327**	P		**P**	**23 58 21.1**	**-2.7**

*IDC **15** 00:09:56.0±0.8, 7.42S×156.19E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/32, mbtmp4.2/12, ML4.6/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/27, Error ellipse: s-maj=24.2km s-min=19.3km az=110.0*

*NEIC **15** 00:09:58.7±1.6, 7.12S±0.1×156.13E±0.1, h13km±6km, mb4.8/14, Error ellipse: s-maj=23.7km s-min=12.1km az=212.0*

ISC 15 00:09:57.2±0.5, 7.14S±0.1×156.28E±0.08, h10km, n47, σ0§88/39, mb4.7/19, MS3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.16**	**120**	Pn		**Pn**	**00 11 02.3**	**+1.6**
	37nm,0.3s,baz=207,slow=6.8,SNR=2.1							
HNR				Sn		**Sb**	**00 11 58.1**	**-2.8**
	26nm,0.3s,baz=222,slow=17,SNR=1.5							
HNR				LR		LR	00 12 19.9	
	comp=Z,253nm,21.6s,baz=290,slow=34							
HNR	**Honiara**	**4.16**	**120**			**Pn**	**00 11 02.5**	**+1.7**
RABL	**Rabaul**	**5.18**	**307**	Pn		**Pn**	**00 11 12.9**	**-1.9**
PMG	**Port Moresby**	**9.25**	**257**	LR		LR	00 15 38.9	
	comp=Z,620nm,18.6s,baz=62,slow=36							
DZM	**Mont Dzumac**	**17.59**	**147**	LR		LR	00 19 25.9	
	comp=Z,256nm,19.4s,baz=266,slow=32							
WR0	**Warramunga Arr**	**24.51**	**237**	P		**P**	**00 15 17.5**	**+0.5**
WR0				IAmb		IAmb	00 15 26.7	
	comp=Z,41nm,1.1s							
WB0	**Warramunga Arr**	**24.55**	**238**	P		**P**	**00 15 17.9**	**+0.5**
WB2	**Warramunga Arr**	**24.66**	**237**	P		**P**	**00 15 18.6**	**+0.1**
WB2				IAmb		IAmb	00 15 28.1	
	comp=Z,18nm,0.8s							
WRA	**Warramunga Arr**	**24.67**	**237**	P		**P**	**00 15 17.6**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=64,slow=9.4,SNR=18							
WRA				PcP		**PcP**	**00 18 56.2**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=58,slow=2.9,SNR=3.2							
WRA	**Warramunga Arr**	**24.67**	**237**	P		**P**	**00 15 18.6**	**+0.1**
SIJI	**Sorong**	**25.76**	**283**	P		**P**	**00 15 27.6**	**-0.8**
	comp=Z,3.0nm,0.3s,baz=242,slow=23,SNR=1.5							
ASAR	**Alice Springs**	**26.90**	**231**	P		**P**	**00 15 38.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=64,slow=8.0,SNR=5.9							
ASAR				LR		LR	00 26 11.9	
	comp=Z,172nm,19.3s,baz=48,slow=36							
ASAR	**Alice Springs**	**26.90**	**231**	P		**P**	**00 15 39.2**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**27.68**	**22**	T		T	00 44 17.3	
	baz=202,slow=75,SNR=112							
H11S2	**WAKE ISLAND Hy**	**27.68**	**22**	T		T	00 44 02.3	
	baz=202,slow=75,SNR=139							
H11S1	**WAKE ISLAND Hy**	**27.70**	**22**	T		T	00 44 18.5	
	baz=202,slow=75,SNR=78							
STKA	**Stephens Creek**	**27.96**	**207**	P		**P**	**00 15 47.3**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=18,slow=11,SNR=1.8							
STKA				LR		LR	00 26 49.0	
	comp=Z,208nm,18.1s,baz=27,slow=36							
H11N1	**WAKE ISLAND Hy**	**28.87**	**21**	T		T	00 45 38.4	
	baz=202,slow=79							
H11N3	**WAKE ISLAND Hy**	**28.89**	**21**	T		T	00 45 39.3	
	baz=202,slow=79							
H11N2	**WAKE ISLAND Hy**	**28.89**	**21**	T		T	00 45 41.6	
	baz=202,slow=79							
FITZ	**Fitzroy Crossi**	**31.68**	**247**	P		**P**	**00 16 20.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=59,slow=8.1,SNR=1.7							
PSA00	**Pilbara Seismi**	**37.88**	**244**	P		**P**	**00 17 15.1**	**+0.4**
PSA00	**Pilbara Seismi**	**37.88**	**244**	P		**P**	**00 17 15.5**	**+0.8**
PSA00				IAmb		IAmb	00 17 23.1	
	comp=Z,11nm,1.0s							
JAGI	**Jajag, Banyuwa**	**41.73**	**266**	P		**P**	**00 17 47.6**	**+0.7**
JAGI				IAmb		IAmb	00 18 05.9	
	comp=Z,28nm,0.7s							
JMN	**Monobe**	**46.08**	**334**	P		**P**	**00 18 21.9**	**+0.4**
JMN				IAmb		IAmb	00 18 31.9	
	comp=Z,12nm,0.8s							
JWT	**Wachi**	**46.78**	**336**	P		**P**	**00 18 26.2**	**-0.8**
JWT				IAmb		IAmb	00 18 28.4	
	comp=Z,8.2nm,0.8s							
KSRS	**Korea Array**	**51.88**	**331**	P		**P**	**00 19 06.2**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=147,slow=8.0,SNR=13							
PETK	**Petropavlovsk-**	**60.26**	**1**	P		**P**	**00 20 06.2**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=207,slow=6.1,SNR=1.2							
PETK				LR		LR	00 43 27.7	
	comp=Z,66nm,20.9s,baz=169,slow=33							
CMAR	**Chiang Mai Arr**	**62.10**	**295**	P		**P**	**00 20 19.3**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=109,slow=4.9,SNR=5.7							
CMAR				LR		LR	00 45 18.6	
	comp=Z,30nm,21.6s,baz=169,slow=34							
CMAR	**Chiang Mai Arr**	**62.10**	**295**	P		**P**	**00 20 18.6**	**-0.2**
CHTO	**Chiang Mai**	**62.22**	**296**	P		**P**	**00 20 19.3**	**-0.3**
CHTO				IAmb		IAmb	00 20 31.0	
	comp=Z,5.6nm,1.1s							
SONM	**Songino Array**	**70.35**	**327**	P		**P**	**00 21 12.4**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=139,slow=6.7,SNR=31							
SONM	**Songino Array**	**70.35**	**327**	P		**P**	**00 21 11.8**	**+0.4**
SONM				IAmb		IAmb	00 21 13.6	
	comp=Z,6.3nm,0.9s							
ILAR	**Eielson Array**	**83.26**	**21**	P		**P**	**00 22 24.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=243,slow=4.5,SNR=4.3							
ILAR				LR		LR	00 55 01.9	
	comp=Z,39nm,21.3s,baz=258,slow=32							
ILAR	**Eielson Array**	**83.26**	**21**	P		**P**	**00 22 23.4**	**-0.3**
MK31	**Makanchi Array**	**84.53**	**318**	P		**P**	**00 22 31.5**	**+0.9**
MKAR	**Makanchi Array**	**84.53**	**318**	P		**P**	**00 22 31.0**	**+0.3**
	comp=Z,19nm,0.8s,baz=103,slow=5.9,SNR=160							
MKAR	**Makanchi Array**	**84.53**	**318**	P		**P**	**00 22 31.4**	**+0.7**
MAKZ	**Makanchi**	**84.75**	**318**	P		**P**	**00 22 32.4**	**+0.7**
ZAA0	**Zalesovo Array**	**85.21**	**326**	P		**P**	**00 22 33.1**	**-0.7**
ZALV	**Zalesovo Beam**	**85.21**	**326**	P		**P**	**00 22 33.5**	**-0.3**
	comp=Z,10nm,0.7s,baz=111,slow=5.7,SNR=38							
PDAR	**Pinedale Array**	**98.00**	**48**	LR		LR	01 02 29.1	
	comp=Z,22nm,19.1s,baz=290,slow=32							
GERES	**GERESS Array B**	**128.03**	**329**	PKP		**PKPdf**	**00 29 03.7**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=76,slow=4.1,SNR=2.7							
LPAZ	**La Paz**	**130.15**	**118**	PKP		**PKiKP**	**00 29 10.1**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=202,slow=5.4,SNR=4.1							
ESDC	**Sonseca Array**	**143.28**	**334**	PKhKP		PKPpre	00 29 29.5	
	comp=Z,1.1nm,0.9s,baz=17,slow=3.5,SNR=7.2							
BDFB	**Brasilia**	**146.80**	**134**	PKPbc		**PKPbc**	**00 29 40.8**	**0.0**
	comp=Z,1.9nm,0.6s,baz=137,slow=8.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**154.36**	**285**	PKPbc		**PKPbc**	**00 29 58.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=88,slow=1.9,SNR=3.8							

ATH 15 00:26:39.0, 40.17N×21.66E, h13km±4km, ML0.7/1, Error ellipse: s-maj=4.6km s-min=1.1km az=78.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KZN	**Kozani**	**0.17**	**31**	P		Pg	00 26 42.7	-0.3
KZN				S		Sg	00 26 45.8	0.0
KZN				AML		AML	00 26 45.8	
	comp=E,78μm,0.1s							
KZN				AML		AML	00 26 46.1	
	comp=N,64μm,0.1s							
KPRO	**Kipourio**	**0.31**	**227**	P		Pg	00 26 44.7	-0.7
KPRO				S		Sg	00 26 50.2	+0.5
NEST	**Nestorio**	**0.53**	**298**	P		Pg	00 26 49.3	-0.2
LIT	**Litokhoron**	**0.64**	**95**	P		Pg	00 26 51.6	0.0
FNA	**Florina**	**0.66**	**341**	P		Pg	00 26 51.5	-0.3
FNA				S		Sg	00 27 00.4	-0.1
THL	**Klokotos Trika**	**0.66**	**155**	P		Pg	00 26 51.4	-0.4
THL				S		Sg	00 27 00.6	+0.1

THE 15 00:26:50.6, 38.72N×20.60E, h10km±1km, ML0.5/6, Error ellipse: s-maj=1.2km s-min=0.4km az=96.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRAG	**Dragano-Lefkad**	**0.04**	**205**	P		Pg	00 26 52.4	-0.1
DRAG				S		Sg	00 26 53.8	-0.1
	168nm,0.1s							
NYDR	**Nydri-Lefkada**	**0.08**	**95**	P		Pg	00 26 52.7	-0.2
NYDR				S		Sg	00 26 54.5	-0.1
	80nm,0.1s							
LKD2	**Lefkada island**	**0.08**	**35**	P		Pg	00 26 52.9	-0.1
LKD2				S		Sg	00 26 55.0	+0.2
	30nm,0.1s							
EVGI	**Lefkada island**	**0.11**	**155**	P		Pg	00 26 53.2	-0.1
EVGI				S		Sg	00 26 55.7	+0.4
	42nm,0.1s							
TSLK	**Tsoukalades, L**	**0.11**	**24**	P		Pg	00 26 53.5	+0.1
TSLK				S		Sg	00 26 55.6	+0.2
	20nm,0.2s							
FSK	**Fiskardo**	**0.26**	**186**	P		Pg	00 26 55.7	-0.2
FSK				S		Sg	00 27 00.1	+0.6
	10.0nm,0.3s							

*BJI **15** 00:31:03.8±0.0, 1.98N×124.47E, h334km, mB4.4/40, mb4.5/70*

*IDC **15** 00:31:10.0±0.2, 2.60N×124.09E, h336km±7km, mb4.2/26, mb1 4.3/31, mb1mx4.2/36, mbtmp4.9/31, Error ellipse: s-maj=10.8km s-min=5.9km az=87.0*

*NEIC **15** 00:31:10.7±1.7, 2.55N±0.07×124.07E±0.08, h335km±2km, mb4.7/128, Error ellipse: s-maj=10.9km s-min=10.0km az=96.0*

*DJA **15** 00:31:10.5±0.2, 3°N±2°×12°4E±°, h327km±2km, M4.8/69, mB5.2/37, mb5.0/69, MLv5.5/18, Mw(mB)4.7/37*

*KLM **15** 00:31:11, 2.54N×124.17E, h334km, mb4.9*

ISC 15 00:31:10.3±0.4, 2.56N±0.03×124.06E±0.05, h339km±3km, n344, σ1§27/388, mb4.6/136, 6C-3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.84**	**52**	P		**Pn**	**00 31 58.0**	**-1.5**
KMSI	**Cibinong**	**1.97**	**182**	P		**Pn**	**00 32 00.0**	**-0.4**
GTOI	**Gorontalo**	**2.18**	**209**	P		**Pn**	**00 32 01.0**	**-1.0**
MRSI	**Marisa**	**2.96**	**226**	P		**Pn**	**00 32 08.6**	**+0.1**
TOLI2	**Tolitoli**	**3.58**	**246**	Pn		**Pn**	**00 32 13.6**	**-0.9**
TNTI	**Ternate**	**3.75**	**118**	Pn		**Pn**	**00 32 14.8**	**-1.4**
TNTI	**Ternate**	**3.75**	**118**	P		**Pn**	**00 32 14.7**	**-1.4**
GAMI	**Gamela, Maluku**	**3.79**	**101**	P		**Pn**	**00 32 14.3**	**-2.2**
LUWI	**Luwuk**	**3.80**	**200**	Pn		**Pn**	**00 32 15.2**	**-1.5**
LUWI	**Luwuk**	**3.80**	**200**	P		**Pn**	**00 32 15.1**	**-1.5**
DDMP	**Don Marcelino,**	**3.89**	**25**	*eP*		**Pn**	**00 32 16.7**	**-0.9**
SKMP	**Bagumbayan, Su**	**3.97**	**7**	*eP*		**Pn**	**00 32 18.2**	**-0.2**
APSI	**Ampana**	**4.21**	**215**	P		**Pn**	**00 32 20.5**	**-0.4**
KCP	**Kidapawan**	**4.54**	**13**	*iP*		**Pn**	**00 32 24.4**	**-0.1**
KCP				*i*	S	**S**	**00 33 24.6**	**+0.2**
LBMI	**Labuha**	**4.68**	**133**	P		**Pn**	**00 32 24.4**	**-1.5**
MPSI	**Mapaga**	**4.71**	**242**	P		**Pn**	**00 32 26.2**	**-0.1**
DAV	**Davao City (W)**	**4.73**	**19**	P		**Pn**	**00 32 26.5**	**-0.1**
	55nm,0.3s,baz=160,slow=3.2,SNR=7.4							
DAV				S		**S**	**00 33 25.7**	**-2.3**
	154nm,0.3s,baz=197,slow=22,SNR=5.9							
DAV	**Davao City (W)**	**4.73**	**19**	Pn		**Pn**	**00 32 26.7**	**+0.2**
DAV	**Davao City (W)**	**4.73**	**19**	P		**Pn**	**00 32 25.2**	**-1.3**
SANI	**Sanana**	**4.96**	**157**	P		**Pn**	**00 32 26.4**	**-2.7**
PAGZ	**Pagadian**	**5.30**	**353**	*eP*		**Pn**	**00 32 33.3**	**+0.4**
NLAI	**Namlea**	**6.51**	**152**	P		**Pn**	**00 32 46.4**	**-0.3**
	8.1nm5μm151nm,0.5s							
BUTP	**Butuan**	**6.56**	**14**	*eP*		**Pn**	**00 32 48.5**	**+1.2**
TTSI	**Tana Toraja**	**7.00**	**217**	P		**Pn**	**00 32 53.9**	**+1.4**
	1.4nm5μm329nm,0.8s							
KKSI	**Kolaka, Sulawe**	**7.11**	**200**	P		**Pn**	**00 32 54.2**	**+0.5**
	2.0nm5μm469nm,1.1s							
KRAI	**Karang Ratu**	**7.27**	**143**	P		**Pn**	**00 32 57.7**	**+2.0**
	1.8nm5μm68nm,0.6s							
CNOP	**Candoni, Negro**	**7.36**	**349**	*eP*		**Pn**	**00 32 56.6**	**-0.1**
GLSP	**General Luna,**	**7.47**	**16**	*eP*		**Pn**	**00 32 57.0**	**-1.1**
MSLP	**Maasin**	**7.57**	**6**	*eP*		**Pn**	**00 32 59.1**	**-0.1**
MSAI	**Masohi**	**7.62**	**140**	P		**Pn**	**00 33 01.4**	**+1.6**
	0.7nm29nm,0.7s							
SPMM	**Sapulut**	**7.88**	**286**	P		**Pn**	**00 33 04.0**	**+1.0**
PMSI	**Majene**	**7.92**	**221**	P		**Pn**	**00 33 06.3**	**+2.9**
	0.5nm2μm131nm,0.8s							
SWI	**Sorong**	**7.96**	**115**	P		**Pn**	**00 33 04.4**	**+0.6**
	0.4nm1μm115nm,1.3s							
BNSI	**Bone**	**7.96**	**210**	P		**Pn**	**00 33 05.0**	**+1.1**
	8μm684nm,1.1s							
SIJI	**Sorong**	**7.96**	**115**	P		**Pn**	**00 33 04.1**	**+0.1**
	9.4nm,0.3s,baz=316,slow=11,SNR=33							
SIJI	**Sorong**	**7.96**	**115**	P		**Pn**	**00 33 04.7**	**+0.7**
	0.2nm660nm50nm,1.6s							
KAPI	**Kappang**	**8.67**	**210**	P		**Pn**	**00 33 12.3**	**0.0**
	13nm,0.3s,baz=14,slow=7.5,SNR=47							
KAPI				S		**S**	**00 34 48.8**	**-3.2**
	4.9nm,0.3s,baz=348,slow=21,SNR=1.6							
KAPI	**Kappang**	**8.67**	**210**	Pn		**Pn**	**00 33 11.7**	**-0.6**
KAPI	**Kappang**	**8.67**	**210**	P		**Pn**	**00 33 12.3**	**0.0**
	1μm160nm,1.2s							
MKS	**Makassar**	**8.98**	**211**	P		**Pn**	**00 33 16.4**	**+0.3**
	2μm99nm,1.2s							
RCP	**Roxas**	**9.04**	**352**	⇓*eP*		**Pn**	**00 33 16.6**	**-0.2**
BSSI	**Bau Bau, Buton**	**9.35**	**202**	P		**Pn**	**00 33 21.0**	**+0.5**
	2μm158nm,0.8s							
MTKI	**Muara Teweh, K**	**9.80**	**249**	P		**Pn**	**00 33 27.0**	**+1.0**
FAKI	**Fak Fak**	**9.82**	**124**			**Pn**	**00 33 26.7**	**+0.4**
FAKI	**Fak Fak**	**9.82**	**124**	P		**Pn**	**00 33 24.8**	**-1.5**
	31nm,1.7s							
MWPI	**Manokwari, Pap**	**10.56**	**109**	P		**P**	**00 33 37.9**	**+1.4**
	3μm230nm,1.1s							
RKPI	**Ransiki, Papua**	**10.89**	**112**	P		**P**	**00 33 41.2**	**+1.0**
	8μm153nm,1.1s							
BBKI	**Banjar Baru**	**10.99**	**237**	P		**P**	**00 33 41.9**	**+0.6**
	90nm,1.0s							
SCSP	**San Jose Seism**	**11.04**	**357**	*eP*		**Pn**	**00 33 39.1**	**-1.7**
PKKI	**Palangkaraya**	**11.16**	**245**	P		**P**	**00 33 43.5**	**+0.3**
	297nm,0.6s							
MMRI	**Maumere**	**11.27**	**189**			**P**	**00 33 45.0**	**+0.7**
MMRI	**Maumere**	**11.27**	**189**	P		**P**	**00 33 45.0**	**+0.7**
	6μm110nm,0.9s							
LQP	**Lukban**	**11.75**	**348**	⇑*eP*		**P**	**00 33 50.3**	**+0.4**
MACP	**Maragondon, Ca**	**12.09**	**344**	*eP*		Pn	00 33 43.2	-10
SOEI	**Soe**	**12.23**	**179**			**P**	**00 33 56.4**	**+1.2**
SOEI	**Soe**	**12.23**	**179**	P		**P**	**00 33 57.9**	**+2.7**
	4μm239nm,0.9s							
BAKI	**Biak**	**12.60**	**107**	P		**Pn**	**00 34 02.4**	**+2.9**
	2μm129nm,1.2s							
BATI	**Baumata**	**12.69**	**182**	P		**Pn**	**00 34 00.9**	**+0.4**
	61nm,0.3s,baz=27,slow=1.3,SNR=35							
BATI				S		**S**	**00 36 20.4**	**-0.1**
	3.5nm,0.3s,baz=288,slow=22,SNR=2.1							
BATI	**Baumata**	**12.69**	**182**	P		**Pn**	**00 34 02.3**	**+1.8**
	2μm200nm,0.8s							
SAUI	**Saumlaki**	**12.72**	**145**	P		**P**	**00 33 57.0**	**-3.4**
STKI	**Sintang**	**12.82**	**259**	P		**Pn**	**00 34 03.6**	**+1.5**
	94nm,1.4s							
PLAI	**Plampang**	**12.93**	**209**	P		**Pn**	**00 34 04.7**	**+1.4**
	3μm329nm,0.9s							
SRPI	**Serui, Papua**	**12.94**	**110**	P		**Pn**	**00 34 05.2**	**+1.7**
WBSI	**Waikabubak, Su**	**12.98**	**201**	P		**Pn**	**00 34 04.6**	**+0.6**
	2μm229nm,1.1s							
BASI	**Baing, Sumba**	**13.16**	**195**	P		**P**	**00 34 05.4**	**+0.1**
	73nm,0.4s							
TWSI	**Taliwang, Sumb**	**13.31**	**212**	P		**Pn**	**00 34 09.4**	**+1.6**
	1μm144nm,1.1s							
PBKI	**Pangkalan Bun**	**13.45**	**247**	P		**Pn**	**00 34 10.6**	**+1.1**
	242nm,0.8s							
KHKI	**Kahang-Kahang**	**13.74**	**218**	P		**Pn**	**00 34 13.4**	**+0.5**
	45nm,0.8s							
SMPP	**San Manuel, Pa**	**13.91**	**346**	*eP*		**P**	**00 34 13.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**14.75**	**222**			**Pn**	**00 34 24.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**14.75**	**222**	P		**Pn**	**00 34 26.4**	**+1.6**
	2μm146nm,0.5s							
SAMP	**Sagada Mountai**	**14.76**	**348**	*eP*		**P**	**00 34 22.4**	**-0.5**
SZP	**Santa**	**15.32**	**347**	P		**Pn**	**00 34 30.6**	**-0.6**
APYP	**Conner**	**15.46**	**350**	*eP*		**Pn**	**00 34 31.8**	**-1.1**
SJI	**Sawahan**	**15.97**	**230**	P		**Pn**	**00 34 37.8**	**-1.2**
	97nm,0.6s							
PWJI	**Pagerwojo**	**16.12**	**229**	P		**P**	**00 34 38.9**	**+1.1**
	48nm,0.6s							
SMRI	**Semarang**	**16.61**	**235**	P		**P**	**00 34 43.7**	**+0.6**
SMRI	**Semarang**	**16.61**	**235**	P		**P**	**00 34 44.2**	**+1.1**
	101nm,0.8s							
MTN	**Manton Dam**	**16.83**	**156**	P		**P**	**00 34 46.1**	**+0.7**
UGM	**Wanagama**	**17.05**	**232**	P		**P**	**00 34 48.5**	**+0.7**

PSA00 IAmb IAmb 00 35 59.7
comp=Z,32nm,0.8s
PSA00 Pilbara Seismi 24.33 190 P **P** **00 35 58.5 -0.1**
PSA00 IAmb IAmb 00 35 59.6
comp=Z,13nm,0.8s
WB0 Warramunga Arr 24.39 156 P **P** **00 35 58.8 -0.3**
WB0 IAmb IAmb 00 36 04.5
comp=Z,18nm,0.9s
JOW Kunigami 24.47 9 P **P** **00 35 59.5 -0.2**
comp=Z,44nm,0.8s,baz=207,slow=6.4,SNR=12
JOW Kunigami 24.47 9 P **P** **00 36 01.1 +1.3**
JOW IAmb IAmb 00 36 04.1
comp=Z,46nm,0.7s
WRAB Tennant Creek 24.53 156 P **P** **00 35 59.6 -0.7**
WRAB IAmb IAmb 00 36 01.1
comp=Z,16nm,0.8s
WRA Warramunga Arr 24.53 156 P **P** **00 36 00.2 -0.1**
comp=Z,9.9nm,0.5s,baz=334,slow=11,SNR=107
WRA PcP **PcP** **00 39 27.7 -0.8**
comp=Z,3.4nm,0.5s,baz=326,slow=2.3,SNR=5.7
WRA S **S** **00 39 52.0 -3.7**
comp=Z,3.7nm,0.6s,baz=338,slow=16,SNR=6.5
WRA ScP **ScP** **00 42 34.9 +0.3**
comp=Z,1.2nm,0.8s,baz=333,slow=2.6,SNR=1.7
WRA Warramunga Arr 24.53 156 P **P** **00 35 59.1 -1.3**
WB2 Warramunga Arr 24.53 156 P **P** **00 36 00.0 -0.4**
WB2 IAmb IAmb 00 36 01.7
comp=Z,18nm,0.7s
MNSI Mandailing Nat 24.54 266 P **P** **00 36 01.6 +1.1**
comp=Z,2µmcomp=Z,125nm,0.5s
PSI Prapat 25.11 271 P **P** **00 36 06.4 +0.6**
comp=Z,85nm,0.9s,baz=0.6,slow=3.6,SNR=46
PSI ScP **ScP** **00 42 35.8 -0.8**
comp=Z,7.6nm,0.8s,baz=358,slow=7.8,SNR=5.0
PSI Prapat 25.11 271 P **P** **00 36 06.5 +0.6**
comp=Z,509nmcomp=Z,66nm,1.0s,comp=Z,1µm,1.0s,
comp=Z,172nm,1.0s
PSI P **P** **00 36 06.2 +0.4**
comp=Z,509nmcomp=Z,66nm,1.0s,comp=Z,1µm,1.0s,
comp=Z,172nm,1.0s
RPSI Rantau Prapat 25.11 271 P **P** **00 36 05.8 +0.1**
KRAB Krabi 25.38 284 P **P** **00 36 11.0 +3.0**
comp=Z,3µmcomp=Z,98nm,0.6s
CHAI Chaiyaphum 25.46 303 P **P** **00 36 09.0 +0.2**
comp=Z,610nmcomp=Z,42nm,0.7s
CHAI Chaiyaphum 25.46 303 P **P** **00 36 09.0 +0.2**
comp=Z,152nmcomp=Z,10nm,0.7s
NONG Nongkai 25.66 308 P **P** **00 36 11.2 +0.8**
comp=Z,5µmcomp=Z,28nm,1.5s
GSI Gunungsitoli 26.50 268 P **P** **00 36 17.3 -0.8**
GSI Gunungsitoli 26.50 268 P **P** **00 36 18.0 -0.1**
comp=Z,384nm,0.8s
TPTI 26.86 272 P **P** **00 36 22.3 +1.1**
comp=Z,53nm,0.8s
SLVN Son La 27.08 315 P **P** **00 36 24.1 +0.9**
LHMI Lhok Sumawe 27.18 276 P **P** **00 36 25.1 +1.0**
LHMI Lhok Sumawe 27.18 276 P **P** **00 36 25.6 +1.5**
comp=Z,3µmcomp=Z,146nm,0.7s
PHIT Phitsanulok 27.41 304 P **P** **00 36 27.1 +1.1**
comp=Z,1µmcomp=Z,78nm,0.9s
PHIT Phitsanulok 27.41 304 P **P** **00 36 27.3 +1.4**
comp=Z,278nmcomp=Z,19nm,0.9s
UTHA Uthaitani 27.48 300 P **P** **00 36 27.6 +1.0**
comp=Z,116nmcomp=Z,9.3nm,0.6s
UTTA Uttaradit 27.57 305 P **P** **00 36 28.4 +1.0**
comp=Z,16nm,0.8s
UTTA Uttaradit 27.57 305 P **P** **00 36 28.5 +1.1**
comp=Z,4.0nm,0.8s
AS31 Alice Springs 27.77 160 P **P** **00 36 28.9 -0.2**
ASAR Alice Springs 27.77 160 P **P** **00 36 29.5 +0.3**
comp=Z,5.5nm,0.6s,baz=339,slow=7.5,SNR=83
ASAR PcP **PcP** **00 39 35.2 -0.9**
comp=Z,1.9nm,0.7s,baz=326,slow=3.2,SNR=4.0
ASAR S **S** **00 40 45.2 -1.4**
comp=Z,1.5nm,0.6s,baz=335,slow=11,SNR=3.6
ASAR ScP **ScP** **00 42 44.2 +0.1**
comp=Z,2.4nm,0.7s,baz=342,slow=3.7,SNR=8.0
ASAR Alice Springs 27.77 160 P **P** **00 36 29.2 +0.1**
NANT Nan 28.00 307 P P 00 36 21.1 -10
comp=Z,275µmcomp=Z,6µm,0.8s
UMPA Umpang Tak 28.27 300 P **P** **00 36 35.4 +1.7**
comp=Z,29nm,0.8s
GYA Guiyang 29.05 326 P **P** **00 36 42.8 +2.3**
GYA pP pwP 00 37 45.9 -2.6
GYA S **S** **00 41 08.4 +1.6**
GYA ScP **ScP** **00 42 48.5 +0.3**
GYA SS **SS** **00 43 26.3 -1.5**
GYA ScS **ScS** **00 46 42.3 -0.9**
GYA pmax pmax
comp=Z,2.0nm,0.8s
CM36 Chiang Mai Arr 29.15 305 P **P** **00 36 42.0 +0.6**
CM35 Chiang Mai Arr 29.18 305 P **P** **00 36 43.0 +1.3**
CM04 Chiang Mai Arr 29.19 304 P **P** **00 36 44.0 +2.2**
comp=Z,120nmcomp=Z,9.1nm,1.3s
CM09 Chiang Mai Arr 29.20 304 P **P** **00 36 44.0 +2.1**
comp=Z,9.3nm,1.1s
CM01 Chiang Mai Arr 29.22 304 P **P** **00 36 44.0 +2.0**
comp=Z,10nm,1.2s
CM05 Chiang Mai Arr 29.22 304 P **P** **00 36 44.6 +2.6**
comp=Z,84nmcomp=Z,7.1nm,1.2s
CM02 Chiang Mai Arr 29.23 304 P **P** **00 36 44.0 +1.9**
comp=Z,100nmcomp=Z,12nm,1.1s
CM31 Chiang Mai Arr 29.25 304 P **P** **00 36 43.1 +0.9**
CMAR Chiang Mai Arr 29.25 304 P **P** **00 36 42.4 +0.1**
comp=Z,12nm,1.1s,baz=126,slow=7.2,SNR=23
CMAR PcP **PcP** **00 39 39.8 -0.1**
comp=Z,1.6nm,0.4s,baz=145,slow=1.4,SNR=6.5
CMAR ScP **ScP** **00 42 49.7 +0.8**
comp=Z,3.3nm,0.4s,baz=156,slow=2.4,SNR=20
CMAR Chiang Mai Arr 29.25 304 P **P** **00 36 42.6 +0.4**
CM13 Chiang Mai Arr 29.26 304 P **P** **00 36 44.4 +2.0**
comp=Z,7.2nm,1.2s
CM15 Chiang Mai Arr 29.26 304 P **P** **00 36 46.1 +3.8**
CM34 Chiang Mai Arr 29.28 305 P **P** **00 36 43.0 +0.5**
WHN Wuhan 29.32 343 ⇑P **P** **00 36 45.3 +2.6**
WHN pmax pmax
comp=Z,70nm,1.1s
JSU Suzuyama 29.42 11 P **P** **00 36 43.7 +0.1**
CMMT Chiang Mai 29.42 305 P **P** **00 36 43.2 -0.6**
comp=Z,23nm,1.2s
CMMT Chiang Mai 29.42 305 P **P** **00 36 43.0 -0.8**
comp=Z,23nm,1.2s
CMMT Chiang Mai 29.42 305 P **P** **00 36 43.7 -0.1**
comp=Z,22nm,1.2s
CM32 Chiang Mai Arr 29.42 305 P **P** **00 36 45.0 +1.2**
CHTO Chiang Mai 29.43 305 P **P** **00 36 44.1 +0.3**
CHTO ScP **ScP** **00 42 51.0 +1.5**
CHTO Chiang Mai 29.43 305 P **P** **00 36 44.4 +0.6**
comp=Z,13nm,1.2s
CM33 Chiang Mai Arr 29.43 305 P **P** **00 36 44.0 +0.2**
NJ2 Nanjing 29.75 351 ⇓P **P** **00 36 48.4 +2.0**
NJ2 pmax pmax
comp=Z,27nm,0.8s
JCJ Chichijima 29.95 34 P **P** **00 36 47.3 -0.9**
comp=Z,176nm,0.4s,baz=252,slow=4.7,SNR=51
MHMT Maesarieng 29.95 303 P **P** **00 36 48.2 -0.2**
MHMT Maesarieng 29.95 303 P **P** **00 36 49.8 +1.4**
KMI Kunming 30.42 319 ⇑P **P** **00 36 55.4 +2.7**
KMI S **S** **00 41 31.6 +3.1**
KMI ScP **ScP** **00 42 54.5 +1.6**
KMI SS **SS** **00 43 51.9 -2.6**
KMI pmax pmax
comp=Z,10.0nm,1.2s
KMI pmax pmax
comp=Z,110nm,5.7s
KMI L L
comp=Z,140nm,13.7s
KMI L L
comp=Z,130nm,11.1s
KMI L L
comp=Z,92nm,17.5s
ENH Enshi 30.83 335 IAmb IAmb 00 36 58.8
comp=Z,56nm,1.1s
JNU Nakatsue 31.07 11 P **P** **00 36 58.1 +0.1**
comp=Z,14nm,0.8s,baz=88,slow=3.6,SNR=5.0
JNU Nakatsue 31.07 11 IAmb IAmb 00 37 00.8
comp=Z,19nm,1.0s
JTU Tsushima 32.19 8 P **P** **00 37 08.0 +0.3**
JTU IAmb IAmb 00 37 15.4
comp=Z,28nm,1.1s
MORW Morawa 32.37 193 P **P** **00 37 08.9 -0.5**
JHS Saijyo 33.36 14 P **P** **00 37 18.4 +0.7**
JHS IAmb IAmb 00 37 24.4
comp=Z,18nm,0.7s
FORT Forrest 33.37 174 P **P** **00 37 18.2 +0.4**
TIA Tai'an 34.10 350 P **P** **00 37 25.0 +0.9**
TIA pmax pmax
comp=Z,25nm,0.7s
CD2 Chengdu 34.11 328 P **P** **00 37 26.0 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
JWT Wachi 34.22 17 P **P** **00 37 25.2 +0.1**
XAN Xi'an 34.37 337 P **P** **00 37 27.5 +1.1**
XAN pmax pmax
comp=Z,47nm,0.9s
JSG Sagara 34.55 21 P **P** **00 37 27.8 -0.2**
KSAR Wonju Array Be 34.90 5 P **P** **00 37 31.4 +0.7**
KSAR ScP **ScP** **00 43 08.5 +0.7**
KSRS Korea Array 34.91 5 P **P** **00 37 30.6 -0.3**
comp=Z,18nm,0.8s,baz=180,slow=9.5,SNR=52
KSRS PP **PP** **00 38 57.0 -1.7**
comp=Z,2.0nm,0.7s,baz=184,slow=11,SNR=4.4
KSRS ScP **ScP** **00 43 07.9 +0.1**
comp=Z,3.1nm,0.7s,baz=188,slow=3.2,SNR=12
KS19 Wonju Array Si 34.95 5 P **P** **00 37 32.5 +1.3**
KS19 IAmb IAmb 00 37 34.5
comp=Z,17nm,0.7s
JGF Kuroka 35.12 19 IAmb IAmb 00 37 34.6
comp=Z,24nm,0.7s
NWAO Narrogin (SRO) 35.88 190 P **P** **00 37 39.3 +0.2**
comp=Z,8.0nm,0.5s,baz=20,slow=9.4,SNR=9.0
NWAO Narrogin (SRO) 35.88 190 P **P** **00 37 39.4 +0.3**
MJAR Matsushiro Arr 36.25 19 P **P** **00 37 42.0 -0.3**
comp=Z,53nm,0.9s,baz=193,slow=9.0,SNR=73
MJAR ScP **ScP** **00 43 12.9 0.0**
comp=Z,2.4nm,0.6s,baz=172,slow=2.8,SNR=5.5
MJAR Matsushiro Arr 36.25 19 P **P** **00 37 41.8 -0.5**
MJAR IAmb IAmb 00 37 42.7
comp=Z,46nm,0.8s
MAJO Matsushiro 36.25 19 P **P** **00 37 41.9 -0.4**
MAJO IAmb IAmb 00 37 42.7
comp=Z,49nm,0.8s
MAT Matsushiro 36.25 19 P **P** **00 37 41.4 -0.9**
MJB9 Matsu-Tunnel 36.26 19 P **P** **00 37 41.4 -0.9**
JYT Yasato 36.67 22 P **P** **00 37 44.2 -1.6**
JYT IAmb IAmb 00 37 49.2
comp=Z,28nm,0.4s
BBOO Buckleboo 36.96 163 P **P** **00 37 47.9 -0.3**
BBOO IAmb IAmb 00 37 49.9
comp=Z,16nm,0.7s
JSD Sado 37.63 18 IAmb IAmb 00 37 54.7
comp=Z,46nm,0.7s
BJT Baijiatuan 37.97 350 P **P** **00 37 57.4 +0.8**
BJT IAmb IAmb 00 37 58.8
comp=Z,18nm,0.7s
BJI Beijing 37.99 350 P **P** **00 37 57.9 +1.2**
BJI PP **PP** **00 39 32.8 +0.7**
BJI sP **sP** **00 39 41.0 +1.3**
BJI S **S** **00 43 21.0 -2.1**
BJI ScS **ScS** **00 47 31.9 +2.3**
BJI pmax pmax
comp=Z,24nm,0.8s
STKA Stephens Creek 38.08 155 P **P** **00 37 58.2 +0.7**
comp=Z,26nm,0.6s,baz=328,slow=8.8,SNR=64
STKA PP **PP** **00 39 31.8 -1.4**
comp=Z,6.7nm,0.8s,baz=324,slow=7.3,SNR=5.0
STKA PcP **PcP** **00 40 05.0 +0.2**
comp=Z,2.7nm,0.4s,baz=325,slow=9.5,SNR=3.0
STKA ScP **ScP** **00 43 20.6 +0.8**
comp=Z,3.7nm,0.7s,baz=328,slow=7.4,SNR=6.3
STKA Stephens Creek 38.08 155 P **P** **00 37 58.5 +0.9**
LZH Lanzhou 38.25 333 *e*P **P** **00 38 01.8 +2.7**
LZH ScP **ScP** **00 43 15.8 -4.8**
LZH *e*S **S** **00 43 27.6 +0.2**
LZH sS sS 00 45 35.1 +10
LZH SS **SS** **00 46 32.5 +0.3**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.3s
SHL Shillong 38.49 309 P **P** **00 38 01.6 +0.3**
SHL IAmb IAmb 00 38 03.4
comp=Z,32nm,0.9s
HHC Hu-ho-hao-te 39.76 345 *e*P **P** **00 38 12.0 +0.6**
HHC pmax pmax
comp=Z,15nm,0.9s
JTM Tenmabayashi 41.04 20 P **P** **00 38 22.0 +0.4**
JTM IAmb IAmb 00 38 23.4
comp=Z,82nm,0.9s
LSA Lhasa 41.28 314 P **P** **00 38 26.4 +2.1**
LSA pmax pmax
comp=Z,82nm,1.0s
LSA Lhasa 41.28 314 IAmb IAmb 00 38 29.3
comp=Z,23nm,0.6s
USA0B Ussuriysk Arra 42.06 9 P **P** **00 38 30.3 +0.5**
USRK Ussuriysk Ar. 42.06 9 P **P** **00 38 29.5 -0.2**
comp=Z,9.0nm,0.5s,baz=192,slow=7.0,SNR=37
USRK ScP **ScP** **00 43 34.4 -0.7**
comp=Z,1.6nm,0.7s,baz=197,slow=2.0,SNR=7.6
USRK Ussuriysk Ar. 42.06 9 P **P** **00 38 29.7 -0.1**
USRK ScP **ScP** **00 43 35.8 +0.7**
MDJ Mudanjiang 42.17 6 P **P** **00 38 33.8 +3.2**
MDJ pmax pmax
comp=Z,32nm,0.7s
MDJ pmax pmax
comp=Z,76nm,3.9s
MDJ Mudanjiang 42.17 6 P **P** **00 38 31.0 +0.4**
MDJ IAmb IAmb 00 38 34.3
comp=Z,24nm,0.9s
TAPN Taplejung 42.62 309 *e*P **P** **00 38 36.2 +1.3**
comp=Z,92nm,0.4s
ODAN Odare 42.63 308 *e*P **P** **00 38 36.2 +1.2**
comp=Z,46nm,0.4s
GTA Gaotai 42.80 332 ⇑P **P** **00 38 37.8 +1.8**
GTA pP pwP 00 39 49.4 +0.8
GTA PcP **PcP** **00 40 21.3 +1.0**
GTA sP PP 00 40 24.1 +0.5
GTA ScP **ScP** **00 43 39.3 +0.8**
GTA S **S** **00 44 35.5 +1.2**
GTA SS **SS** **00 47 55.8 -2.4**
GTA pmax pmax
comp=Z,23nm,0.7s
GTA pmax pmax
comp=Z,36nm,4.0s
ERM Erimo 42.86 21 P **P** **00 38 37.5 +1.3**
JEW Eniwo 43.01 19 P **P** **00 38 38.4 +1.1**
RAMN Ramite 43.30 308 *e*P **P** **00 38 40.9 +0.6**
comp=Z,59nm,0.4s
PALK Pallekele 43.44 278 P **P** **00 38 41.9 +0.6**
PALK IAmb IAmb 00 38 42.6
comp=Z,24nm,0.9s
GUN Gumba 44.31 308 *e*P **P** **00 38 49.4 +1.0**
comp=Z,178nm,0.4s
JKA Kamikawa-asahi 44.52 19 IAmb IAmb 00 38 51.3
comp=Z,36nm,0.8s
PKI Pulchoki 44.52 308 *e*P **P** **00 38 50.2 +0.2**
comp=Z,36nm,0.3s
PKIN Phulchoki 44.54 308 *e*P **P** **00 38 50.2 +0.2**
comp=Z,58nm,0.3s
TOO Toolangi 44.60 156 P **P** **00 38 51.0 +1.0**
KKN Kakani 44.73 308 *e*P **P** **00 38 52.2 +0.7**
comp=Z,55nm,0.3s
DMN Daman 44.78 308 *e*P **P** **00 38 52.8 +0.9**
GKN Gorkha 45.33 308 *e*P **P** **00 38 56.8 +0.7**
comp=Z,38nm,0.4s
KOLN Koldanda 46.05 307 *e*P **P** **00 39 02.6 +0.9**
comp=Z,128nm,0.4s
DANN Dangsing 46.18 308 *e*P **P** **00 39 03.4 +0.6**
comp=Z,185nm,0.5s
PYUN Piuthan 46.68 307 *e*P **P** **00 39 07.5 +0.9**
comp=Z,282nm,0.4s
HIA Hailar 46.68 356 P **P** **00 39 06.7 +0.7**
HIA IAmb IAmb 00 39 09.1
comp=Z,17nm,0.5s
HYB Hyderabad 47.03 291 *i* P **P** **00 39 09.5 +0.2**
YSS Yuzh-Sakhalins 47.11 17 P **P** **00 39 09.1 -0.2**
YSS IAmb IAmb 00 39 10.5
comp=Z,44nm,1.1s
ULN Ulaanbaatar 47.47 344 P **P** **00 39 12.8 +0.6**
ULN Ulaanbaatar 47.47 344 P **P** **00 39 13.4 +1.2**
LHI Lord Howe Isla 47.48 138 P **P** **00 39 12.8 +0.4**
LHI IAmb IAmb 00 39 23.6
comp=Z,65nm,1.1s
SONM Songino Array 47.62 344 P **P** **00 39 13.1 -0.2**
comp=Z,8.7nm,0.6s,baz=162,slow=9.2,SNR=53
SONM ScP **ScP** **00 43 57.6 -0.7**
comp=Z,1.6nm,0.9s,baz=138,slow=5.2,SNR=4.2
SONM Songino Array 47.62 344 P **P** **00 39 13.9 +0.6**
ONTNC Ouen Toro 48.20 123 P **P** **00 39 18.9 +0.9**
ONTNC IAmb IAmb 00 39 22.8
comp=Z,59nm,1.1s
TARA Tarawa 48.84 90 P **P** **00 39 23.2 +0.2**
TARA IAmb IAmb 00 39 35.8
comp=Z,26nm,0.9s
TLY Talaya 51.86 344 P **P** **00 39 45.9 +1.1**
TLY IAmb IAmb 00 39 47.6
comp=Z,15nm,0.6s
WMQ Urumqi 52.21 327 *e*P **P** **00 39 49.8 +2.3**
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,97nm,4.3s
NIL Nilore 56.56 309 P **P** **00 40 19.6 +0.8**
NIL IAmb IAmb 00 40 21.6
comp=Z,18nm,0.5s
TARG Taragay, Kyrgy 56.88 320 P **P** **00 40 22.5 +1.2**
KSH Kashi 57.03 317 P **P** **00 40 24.0 +2.0**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,78nm,4.5s
MK31 Makanchi Array 57.04 327 ScP **ScP** **00 44 39.0 -0.2**
MKAR Makanchi Array 57.04 327 P **P** **00 40 21.8 -0.1**
comp=Z,12nm,0.4s,baz=123,slow=7.6,SNR=251
MKAR PcP **PcP** **00 41 12.0 -0.5**
comp=Z,3.3nm,0.7s,baz=124,slow=5.3,SNR=5.6
MKAR ScP **ScP** **00 44 39.0 -0.1**
comp=Z,7.6nm,0.8s,baz=120,slow=5.2,SNR=15
MKAR S **S** **00 47 45.5 -3.8**
comp=Z,1.5nm,1.0s,baz=114,slow=14,SNR=5.5
MKAR Makanchi Array 57.04 327 P **P** **00 40 21.8 -0.1**
MKAR ScP **ScP** **00 44 38.3 -0.8**
MAKZ Makanchi 57.22 327 P **P** **00 40 23.2 +0.1**
MAKZ IAmb IAmb 00 40 25.0
comp=Z,14nm,0.6s
KDJ Kajisay 57.48 320 P **P** **00 40 26.1 +0.8**
KDJ IAmb IAmb 00 40 27.8
comp=Z,14nm,0.8s
PEA0B Petropavlovsk- 57.53 23 P **P** **00 40 25.9 +0.8**
PEA0B IAmb IAmb 00 40 27.3
comp=Z,17nm,0.8s
PETK Petropavlovsk- 57.53 23 P **P** **00 40 25.2 +0.1**
comp=Z,10.0nm,0.7s,baz=192,slow=6.2,SNR=17
PETK Petropavlovsk- 57.53 23 P **P** **00 40 26.3 +1.2**
PET Petropavlovsk 57.85 24 P **P** **00 40 27.5 +0.3**
PET IAmb IAmb 00 40 29.3
comp=Z,22nm,1.1s
BOOM Boomskoye usch 58.46 320 P **P** **00 40 32.2 +0.2**
TKM2 Tokmak 2 58.89 320 P **P** **00 40 35.7 +0.8**
SNR=17
KBK Karagaybulak 59.18 320 P **P** **00 40 38.3 +1.4**
SNR=6.7
AAK Ala-Archa 59.47 319 P **P** **00 40 39.5 +0.7**
YAK Yakutsk 59.48 3 P **P** **00 40 37.8 -0.4**
YAK IAmb IAmb 00 40 39.6
comp=Z,24nm,0.7s
AML Almayashu 59.76 318 P **P** **00 40 42.8 +1.8**
SNR=13
USP Ospenovka 59.76 320 P **P** **00 40 42.0 +1.4**
SNR=16
ARSB Arslanbob 59.88 317 IAmb IAmb 00 40 43.8
comp=Z,12nm,0.8s
DRK Karamyk 59.92 315 P **P** **00 40 42.5 +0.5**
DRK IAmb IAmb 00 40 44.3
comp=Z,16nm,0.9s
EKS2 Erkin-Say 59.95 319 P **P** **00 40 43.9 +1.9**
SNR=11
KBL Kabul 60.15 309 P **P** **00 40 43.1 -0.5**
KBL IAmb IAmb 00 40 44.8
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 60.46 335 P **P** **00 40 44.7 -0.3**
comp=Z,3.0nm,0.4s,baz=112,slow=6.6,SNR=14
ZALV S **S** **00 48 27.4 -5.3**
comp=Z,0.6nm,0.4s,baz=134,slow=10,SNR=1.9
ZALV Zalesovo Beam 60.46 335 P **P** **00 40 44.2 -0.8**
MA2 Magadan 60.51 15 P **P** **00 40 46.2 +1.0**
BTK Batken 60.84 315 IAmb IAmb 00 40 49.5
comp=Z,18nm,1.1s
CHGR Chuyangaron 61.49 313 P **P** **00 40 52.5 +0.1**
CHGR IAmb IAmb 00 40 53.4
comp=Z,50nm,1.2s
KK31 Karatay Array 62.30 318 IAmb IAmb 00 40 59.2
comp=Z,9.8nm,0.8s
KKAR Karatay Array 62.30 318 P **P** **00 40 57.2 -0.3**
KKAR Karatay Array 62.30 318 IAmb IAmb 00 40 59.2
comp=Z,9.8nm,0.8s
HRA Herat 65.48 307 P **P** **00 41 18.3 -0.2**
HRA IAmb IAmb 00 41 19.9
comp=Z,10nm,1.1s
BRVK Borovoye 66.94 328 P **P** **00 41 27.3 +0.2**
BRVK IAmb IAmb 00 41 28.7
comp=Z,18nm,1.1s
TIXI Tiksi 69.06 2 P **P** **00 41 38.6 -1.2**
TIXI IAmb IAmb 00 41 40.1
comp=Z,7.5nm,1.0s
GEYT Alibeck 69.57 310 P **P** **00 41 44.3 +0.7**
comp=Z,42nm,1.0s,baz=181,slow=10,SNR=17
GYA0B ALIBECK ARRAY 69.57 310 P **P** **00 41 44.1 +0.5**
GYA0B IAmb IAmb 00 41 45.8
comp=Z,14nm,0.9s
NRIK Noril'sk 70.95 347 P **P** **00 41 50.8 -0.4**
comp=Z,2.1nm,0.5s,baz=157,slow=8.1,SNR=5.1
ABKAR Akbulak array 71.39 322 P **P** **00 41 53.4 -0.8**
ABKAR Akbulak array 71.39 322 IAmb IAmb 00 41 55.6
comp=Z,6.9nm,0.8s
ARU Arti 74.52 328 P **P** **00 42 10.9 -1.4**
ARU IAmb IAmb 00 42 13.2
comp=Z,8.7nm,0.8s
RAYN Ar Rayn 78.50 293 P **P** **00 42 34.3 -0.8**
RAYN IAmb IAmb 00 42 36.4
comp=Z,16nm,0.8s
VOI Vohitsoka 79.16 247 P **P** **00 42 37.7 -1.1**
KARS Kars 81.50 311 P **P** **00 42 50.5 -0.4**
MAW Mawson 81.75 200 P **P** **00 42 51.6 +0.3**
comp=Z,6.6nm,0.7s,baz=72,slow=7.1,SNR=4.6
MAW Mawson 81.75 200 P **P** **00 42 51.6 +0.3**
KBZ Khabaz 81.85 314 P **P** **00 42 51.8 -0.6**
comp=Z,4.8nm,1.0s,baz=205,slow=4.7,SNR=6.8
VNDA Vanda 82.62 172 P **P** **00 42 55.7 0.0**
comp=Z,5.4nm,1.0s,baz=310,slow=6.2,SNR=23
VNDA Vanda 82.62 172 P **P** **00 42 56.4 +0.8**
IMAR Indian Mountai 84.49 24 P **P** **00 43 06.4 +1.1**
KLMR Klimovskoe 85.12 331 *e*P **P** **00 43 06.8 -1.7**
KLMR AMP 00 43 09.7
comp=Z,21nm,1.3s
GAZ Gaziantep 85.96 307 IAmb IAmb 00 43 14.3
comp=Z,14nm,0.8s
COLD Coldfoot 86.00 23 P **P** **00 43 14.3 +1.6**
KIBK Kibwezi 86.13 267 P **P** **00 43 13.8 -0.8**
KIBK IAmb IAmb 00 43 16.1
comp=Z,13nm,0.9s
NEA2 Nenana 86.36 26 P **P** **00 43 13.9 -0.6**
PWL Port Wells 86.61 29 P **P** **00 43 15.8 -0.1**
KMBO Kilima Mbogo 86.86 269 P **P** **00 43 18.0 -0.3**
comp=Z,12nm,1.0s,baz=61,slow=5.8,SNR=15
ILAR Eielson Array 87.30 25 P **P** **00 43 17.8 -1.2**
comp=Z,0.4nm,0.6s,baz=241,slow=4.6,SNR=6.9
BMAR Burnt Mountain 88.18 23 P **P** **00 43 24.1 +0.9**
LODK Lodwar 88.56 273 P **P** **00 43 26.0 -0.1**
BR131 Keskin Array S 88.71 310 P **P** **00 43 25.7 -0.7**
BRTR Keskin Array B 88.71 310 P **P** **00 43 24.8 -1.6**
comp=Z,1.7nm,0.8s,baz=130,slow=3.7,SNR=9.1
BRTR PP **PP** **00 46 59.5 -1.1**
comp=Z,1.6nm,1.0s,baz=110,slow=7.2,SNR=5.4
CRQM Cirque 89.16 29 P **P** **00 43 28.6 +0.5**
CRQM IAmb IAmb 00 43 35.3
comp=Z,15nm,1.0s
BCAR Beaver Creek A 89.63 27 P **P** **00 43 30.3 +0.3**
SYO Syowa Base 90.38 201⇑*e*P **P** **00 43 34.0 +0.8**
SYO Syowa Base 90.38 201⇓*e*pP pP 00 44 53.2 +1.0
ARCES ARCESS Array B 90.62 340 P **P** **00 43 32.6 -1.8**
comp=Z,0.5nm,0.4s,baz=89,slow=6.0,SNR=12
ARCES ARCESS Array B 90.62 340 P **P** **00 43 32.9 -1.5**
AKASG Malin Array Be 91.11 321 P **P** **00 43 35.2 -1.9**
comp=Z,1.1nm,0.6s,baz=69,slow=4.3,SNR=5.9
MNK Minsk 91.53 325 *i* P **P** **00 43 37.7 -1.2**
comp=E,3.0nm,1.3s
MNK *i* P **P** **00 43 37.7 -1.2**
comp=N,7.0nm,1.0s
MNK *i* P **P** **00 43 37.7 -1.2**
comp=Z,8.0nm,0.9s,baz=84
MNK *i* pP **pP** **00 44 55.7 -1.4**
MNK *i* sP **sP** **00 45 29.1 -2.7**
MNK *i* PP **PP** **00 47 20.9 -1.2**
MNK *i* PPP PPP 00 49 26.0
MNK *i* SP SP 00 55 20.1 +0.1

MNK				*i* pS	pS	00 55 29.2	-20	
MNK				*i* sS	sS	00 56 10.7	-18	
MNK				*i* SS	SS	01 00 36.3	+12	
MNK				*i* SSS	SSS	01 04 30.7		
MNK				*i* LQ	LQ	01 16 42.0		
MNK				*i* LR	LR	01 20 54.5		
MNK				*i* LRM	MLR	01 26 42.1		
	comp=E,8.0nm,20.7s							
MNK				*i* LRM	MLR	01 27 24.1		
	comp=Z,88nm,32.1s							
MNK				*i* LRM	MLR	01 27 31.9		
	comp=N,49nm,21.0s							
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**00 43 37.0**	**-2.0**	
	comp=N,2.3nm,0.6s,baz=57,slow=4.3,SNR=14							
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**00 43 37.5**	**-1.5**	
QSPA	**South Pole Qui**	**92.47**	**180**	P	**P**	**00 43 43.2**	**+0.1**	
QSPA				IAmb	IAmb	00 43 46.2		
	comp=Z,4.5nm,0.9s							
BURAR	**Bucovina Array**	**94.09**	**318**	P	**P**	**00 43 50.5**	**-0.5**	
BURAR				IAmb	IAmb	00 43 52.7		
	comp=Z,7.6nm,1.1s							
KOLS	**Kolonicke sedl**	**95.81**	**320**	*e*PDIFF	**P**	**00 43 59.7**	**+1.0**	
CRVS	**Cervenica-Dubn**	**96.35**	**320**	*e*PDIFF	**P**	**00 44 02.0**	**+0.9**	
GERES	**GERESS Array B**	**101.33**	**321**	P	**Pdif**	**00 44 23.6**	**+0.2**	
	comp=Z,0.1nm,0.3s,baz=95,slow=8.0,SNR=3.9							
KEST	**Kesra**	**108.31**	**309**	PP	**PP**	**00 49 27.9**	**-1.1**	
	comp=Z,4.3nm,0.9s,baz=308,slow=6.0,SNR=5.2							
NVAR	**Mina Array Bea**	**109.66**	**48**	PKKP		01 00 19.6		
	comp=Z,0.7nm,0.6s,baz=116,slow=4.5,SNR=6.0							
PDAR	**Pinedale Array**	**113.98**	**40**	PKKPbc	PKKPbc	00 59 51.1	-2.9	
	comp=Z,0.4nm,0.5s,baz=119,slow=3.6,SNR=4.0							
PDAR				PKKPab	**PKKPab**	**00 59 59.6**	**-1.5**	
	comp=Z,1.5nm,0.6s,baz=123,slow=5.5,SNR=13							
ESDC	**Sonseca Array**	**116.54**	**317**	PKP	**PKPdf**	**00 49 14.3**	**-0.4**	
	comp=Z,0.5nm,0.9s,baz=33,slow=2.6,SNR=4.9							
ESDC				PP	**PP**	**00 50 27.5**	**+0.6**	
	comp=Z,1.6nm,1.1s,baz=61,slow=8.4,SNR=6.0							
TORD	**Torodi Ar. Bea**	**120.73**	**287**	PKP	**PKPdf**	**00 49 22.6**	**-0.7**	
	comp=Z,2.5nm,0.3s,baz=78,slow=1.7,SNR=48							
TORD	**Torodi Ar. Bea**	**120.73**	**287**		**PKPdf**	**00 49 22.8**	**-0.5**	
SCHQ	**Scheffervillle**	**122.10**	**7**	PKP	**PKPdf**	**00 49 24.9**	**-0.1**	
	comp=Z,2.8nm,0.5s,baz=258,slow=14,SNR=12							
TXAR	**Lajitas Array**	**124.41**	**52**	PKP	**PKPdf**	**00 49 30.0**	**-0.2**	
	comp=Z,0.3nm,0.5s,baz=154,slow=1.6,SNR=6.0							
TXAR				PKKPab	**PKKPab**	**00 59 13.3**	**-2.0**	
	comp=Z,0.1nm,0.4s,baz=134,slow=4.7,SNR=8.0							
KIC	**Kosan Boka**	**128.12**	**280**	*e*PKIKP	**PKPdf**	**00 49 37.6**	**0.0**	
	comp=Z,14nm,0.6s							
DBIC	**Dimbokro**	**128.19**	**280**	PKP	**PKPdf**	**00 49 37.6**	**-0.1**	
	comp=Z,6.6nm,0.6s,baz=57,slow=2.2,SNR=10							
TIC	**Toumodi**	**128.36**	**280**	*e*PKIKP	**PKPdf**	**00 49 38.1**	**+0.1**	
LIC	**Lamto**	**128.43**	**280**	*e*PKIKP	**PKPdf**	**00 49 38.1**	**0.0**	
	comp=Z,70nm,1.1s							

*NOU **15** 00:50:21.3, 39.02°S × 174.70°E, h232km, MLv3.5, North Island, New Zealand*
*WEL **15** 00:50:25.7 ± 0.7, 39.5° ± 1.7° S × 175.4° ± 1.4° E, h196km ± 5km, M3.0/44, ML2.6/8, MLv3.0/44, Error ellipse: s-maj=0.0km s-min=0.0km az=137.9*

ISC 15 00:50:19.8±1.8, 39.06S±0.07° × 174.73E±0.06, h237km±10km, n94, σ1§80/108, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.07**	**157**	P	**Pn**	**00 50 51.7**	**+1.2**
DREZ	**Durham Road**	**0.43**	**253**	P	**Pn**	**00 50 53.1**	**+2.2**
LREZ	**Lake Rotokare**	**0.47**	**212**	P	**Pn**	**00 50 53.4**	**+2.3**
NEZ	**North Egmont**	**0.53**	**247**	P	**Pn**	**00 50 53.6**	**+2.2**
TWVZ	**Taurewa**	**0.55**	**91**	P	**Pn**	**00 50 52.9**	**+1.5**
HIZ	**Hauiti**	**0.56**	**10**	P	**Pn**	**00 50 52.9**	**+1.5**
HIZ				S	**S**	**00 51 15.1**	**-1.2**
KHEZ	**Kahui Hut**	**0.60**	**247**	P	**Pn**	**00 50 53.8**	**+2.2**
MTVZ	**Mangateitei**	**0.66**	**119**	P	**Pn**	**00 50 53.5**	**+1.7**
MTVZ				S	**S**	**00 51 15.4**	**-1.5**
FWVZ	**Far West T-bar**	**0.67**	**107**	P	**Pn**	**00 50 53.7**	**+1.7**
WTVZ	**West Tongariro**	**0.67**	**95**	P	**Pn**	**00 50 53.7**	**+1.7**
TRVZ	**Turoa**	**0.68**	**110**	P	**Pn**	**00 50 53.8**	**+1.7**
TRVZ				S	**S**	**00 51 15.4**	**-2.0**
NGZ	**Ngauruhoe**	**0.69**	**100**	P	**Pn**	**00 50 53.8**	**+1.7**
NGZ				S	**S**	**00 51 15.4**	**-1.9**
NNVZ	**North Ngauruho**	**0.69**	**96**	P	**Pn**	**00 50 53.8**	**+1.7**
WAZ	**Wanganui**	**0.72**	**164**	P	**Pn**	**00 50 54.1**	**+2.2**
WAZ				S	**S**	**00 51 16.9**	**-1.4**
SNVZ	**South Ngauruho**	**0.72**	**100**	P	**Pn**	**00 50 54.1**	**+1.8**
WNVZ	**Wahianoa**	**0.73**	**111**	P	**Pn**	**00 50 54.0**	**+1.8**
OTVZ	**Oturere**	**0.74**	**98**	P	**Pn**	**00 50 54.3**	**+2.0**
TUVZ	**Tukino**	**0.75**	**106**	P	**Pn**	**00 50 54.2**	**+1.8**
KATZ	**Kakaramea**	**0.76**	**84**	P	**Pn**	**00 50 54.2**	**+1.9**
TMVZ	**Te Maari**	**0.76**	**94**	P	**Pn**	**00 50 54.4**	**+2.0**
ETVZ	**East Tongariro**	**0.77**	**96**	P	**Pn**	**00 50 54.3**	**+1.9**
MOVZ	**Moawhango**	**0.87**	**114**	P	**Pn**	**00 50 54.1**	**+1.4**
MOVZ				S	**S**	**00 51 15.4**	**-3.3**
BHHZ	**Black Hill Sta**	**1.12**	**113**	P	**Pn**	**00 50 55.7**	**+1.4**
OHWZ	**Ohakea**	**1.23**	**158**	P	**Pn**	**00 50 57.3**	**+2.5**
OHWZ				S	**S**	**00 51 21.5**	**-0.8**
MRHZ	**Matea Rd**	**1.34**	**81**	P	**Pn**	**00 50 56.9**	**+1.2**
KWHZ	**Kaweka Forest**	**1.37**	**106**	P	**Pn**	**00 50 58.0**	**+2.1**
KWHZ				S	**S**	**00 51 22.4**	**-1.8**
BKZ	**Black Stump Fm**	**1.38**	**95**	P	**Pn**	**00 50 57.5**	**+1.5**
BKZ				S	**S**	**00 51 22.1**	**-2.9**
TSZ	**Takapari Road**	**1.38**	**137**	P	**Pn**	**00 50 57.9**	**+2.0**
KRHZ	**Kereru**	**1.40**	**115**	P	**Pn**	**00 50 58.0**	**+1.9**
KRHZ				S	**S**	**00 51 22.6**	**-2.0**
PNHZ	**Pukenui**	**1.42**	**127**	P	**Pn**	**00 50 58.2**	**+1.9**
PNHZ				S	**S**	**00 51 23.4**	**-1.5**
POWZ	**Post Office Ro**	**1.55**	**149**	P	**Pn**	**00 50 59.0**	**+1.7**
POWZ				S	**S**	**00 51 24.1**	**-2.6**
MCHZ	**McNeill Hill**	**1.58**	**105**	P	**Pn**	**00 51 00.1**	**+2.6**
DVHZ	**Dannevirke**	**1.66**	**138**	P	**Pn**	**00 50 59.9**	**+1.7**
WPHZ	**Waipukurau**	**1.66**	**128**	P	**Pn**	**00 51 00.2**	**+2.1**
MTHZ	**Maungataniwha**	**1.66**	**83**	P	**Pn**	**00 50 59.8**	**+1.6**
MRZ	**Mangatainoka R**	**1.72**	**158**	P	**Pn**	**00 51 00.2**	**+1.6**
PRWZ	**Pori Road**	**1.77**	**148**	P	**Pn**	**00 51 01.1**	**+2.0**
ARHZ	**Aropaoanui**	**1.78**	**97**	P	**Pn**	**00 51 01.4**	**+2.3**
OGWZ	**Otaki Gorge**	**1.78**	**169**	P	**Pn**	**00 51 01.1**	**+2.0**
KIW	**Kapiti Island**	**1.80**	**176**	P	**Pn**	**00 51 01.0**	**+1.7**
RTZ	**Ruatahuna**	**1.82**	**76**	P	**Pn**	**00 51 00.8**	**+1.4**
KAHZ	**Kahuranaki**	**1.82**	**114**	P	**Pn**	**00 51 02.0**	**+2.4**
DUWZ	**D'Urville Isla**	**1.84**	**199**	P	**Pn**	**00 51 01.6**	**+1.9**
RAHZ	**Arahi**	**1.84**	**86**	P	**Pn**	**00 51 01.9**	**+2.1**
PRHZ	**Porangahau**	**1.90**	**130**	P	**Pn**	**00 51 02.4**	**+2.2**
PXZ	**Pawanui**	**1.91**	**121**	P	**Pn**	**00 51 02.6**	**+2.3**
CKHZ	**Cape Kidnapper**	**1.92**	**109**	P	**Pn**	**00 51 02.8**	**+2.4**
CKHZ				S	**S**	**00 51 31.0**	**-1.2**
HOWZ	**Holdsworth Sta**	**1.93**	**162**	P	**Pn**	**00 51 02.0**	**+1.5**
TIWZ	**Tintock**	**1.93**	**153**	P	**Pn**	**00 51 02.2**	**+1.6**
ANWZ	**Angora Road**	**1.94**	**137**	P	**Pn**	**00 51 02.6**	**+2.1**
BFZ	**Birch Farm**	**2.00**	**145**	P	**Pn**	**00 51 02.6**	**+1.6**
URZ	**Urewera**	**2.03**	**67**	P	**Pn**	**00 51 02.5**	**+1.0**
CAW	**Cannon Point**	**2.06**	**173**	P	**Pn**	**00 51 03.4**	**+1.7**
SNGZ	**Shannon Statio**	**2.06**	**83**	P	**Pn**	**00 51 03.5**	**+1.8**
TCW	**Tory Channel**	**2.17**	**189**	P	**Pn**	**00 51 04.8**	**+2.0**
MTW	**Mount Morrison**	**2.17**	**164**	P	**Pn**	**00 51 04.1**	**+1.3**
WEL	**Wellington**	**2.22**	**179**	P	**Pn**	**00 51 04.8**	**+1.7**
TMWZ	**Te Maipa**	**2.23**	**157**	P	**Pn**	**00 51 04.8**	**+1.5**
PAWZ	**Paruwai Farm**	**2.38**	**167**	P	**Pn**	**00 51 06.3**	**+1.4**
MSWZ	**Moikau Station**	**2.38**	**170**	P	**Pn**	**00 51 06.3**	**+1.4**
NNZ	**Nelson**	**2.39**	**205**	P	**Pn**	**00 51 06.6**	**+1.8**
RIGZ	**Rimuhau**	**2.40**	**82**	P	**Pn**	**00 51 06.9**	**+1.8**
TUWZ	**Tuamarina**	**2.44**	**194**	P	**Pn**	**00 51 07.3**	**+1.9**
QRZ	**Quartz Range**	**2.44**	**223**	P	**Pn**	**00 51 06.7**	**+1.3**
TRWZ	**Traveller**	**2.44**	**163**	P	**Pn**	**00 51 07.0**	**+1.5**
PRGZ	**Paritu Road**	**2.46**	**88**	P	**Pn**	**00 51 07.8**	**+2.0**
MHGZ	**Mahia Peninsul**	**2.48**	**93**	P	**Pn**	**00 51 08.0**	**+2.2**
TKGZ	**Te Karaka**	**2.52**	**77**	P	**Pn**	**00 51 08.2**	**+1.9**
TKGZ				S	**S**	**00 51 40.4**	**-2.4**
PLWZ	**Palliser**	**2.54**	**171**	P	**Pn**	**00 51 07.7**	**+1.3**
RUGZ	**Raukumara Rang**	**2.56**	**66**	P	**Pn**	**00 51 07.4**	**+0.5**
TWGZ	**Tauwhareparae**	**2.70**	**72**	P	**Pn**	**00 51 10.6**	**+2.4**
BSWZ	**Blackbirch Sta**	**2.73**	**194**	P	**Pn**	**00 51 10.5**	**+2.1**
HAZ	**Te Kaha**	**2.73**	**62**	P	**Pn**	**00 51 09.2**	**+0.6**
CNGZ	**Carnagh Statio**	**2.78**	**79**	P	**Pn**	**00 51 11.1**	**+2.1**
PKGZ	**Pakihiroa**	**2.88**	**67**	P	**Pn**	**00 51 11.7**	**+1.4**
PUZ	**Puketiti**	**2.94**	**71**	P	**Pn**	**00 51 12.9**	**+2.0**
THZ	**Tophouse**	**3.03**	**207**	P	**Pn**	**00 51 13.3**	**+1.5**
WMGZ	**Waiomatatini S**	**3.15**	**68**	P	**Pn**	**00 51 14.9**	**+1.7**
KHZ	**Kahutara**	**3.47**	**195**	P	**Pn**	**00 51 18.4**	**+1.8**
DSZ	**Denniston Nort**	**3.48**	**219**	P	**Pn**	**00 51 18.2**	**+1.2**
GVZ	**Greta Valley S**	**4.10**	**198**	P	**Pn**	**00 51 25.5**	**+1.4**
LTZ	**Lake Taylor**	**4.15**	**206**	P	**Pn**	**00 51 26.2**	**+1.4**
AMCZ	**Amberley**	**4.40**	**200**	P	**Pn**	**00 51 29.1**	**+1.4**
INZ	**Inchbonnie**	**4.42**	**213**	P	**Pn**	**00 51 29.3**	**+1.3**
OXZ	**Oxford**	**4.72**	**205**	P	**Pn**	**00 51 32.3**	**+0.8**
OKCZ	**Okains Bay**	**4.82**	**195**	P	**Pn**	**00 51 33.9**	**+1.0**
MQZ	**McQueen's Vall**	**4.89**	**198**	P	**Pn**	**00 51 34.1**	**+0.4**
RACZ	**Rakaia**	**5.05**	**202**	P	**Pn**	**00 51 36.3**	**+0.7**
MHCZ	**Mount Hutt**	**5.06**	**207**	P	**Pn**	**00 51 36.6**	**+0.8**
WACZ	**Wakanui South**	**5.33**	**203**	P	**Pn**	**00 51 40.3**	**+1.1**
RPZ	**Rata Peaks**	**5.41**	**210**	P	**Pn**	**00 51 40.9**	**+0.8**
ARCZ	**Arundel**	**5.56**	**207**	P	**Pn**	**00 51 42.7**	**+0.7**
TMZ	**Timaru**	**6.00**	**206**	P	**Pn**	**00 51 48.6**	**+1.0**
ODZ	**Otahua Downs**	**6.70**	**206**	P	**Pn**	**00 51 58.2**	**+1.8**

IDC 15 01:36:48.6±10.0, 22.95S × 179.69E, h607km±144km, mb2.8/3, mb1 3.1/3, mb1mx2.8/21, mbtmp3.7/3, Error ellipse: s-maj=373.7km s-min=51.7km az=169.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.92**	**260**	P	P	01 43 47.6	-0.3
	0.6nm,0.6s,baz=93,slow=7.2,SNR=5.3						
WRA	**Warramunga Arr**	**42.20**	**265**	P	P	01 43 50.2	0.0
	0.9nm,0.4s,baz=104,slow=8.7,SNR=34						
TXAR	**Lajitas Array**	**90.17**	**58**	P	P	01 48 45.7	0.0
	0.2nm,0.8s,baz=232,slow=4.4,SNR=3.1						
ARCES	**ARCESS Array B**	**130.91**	**348**	PKP	PKPdf	01 54 50.0	-1.3
	3.0nm,1.0s,baz=18,slow=3.2,SNR=4.2						
AKASG	**Malin Array Be**	**144.03**	**328**	PKP	PKPdf	01 55 15.9	+0.1
	0.8nm,0.4s,baz=44,slow=4.2,SNR=10						
BRTR	**Keskin Array B**	**146.78**	**308**	PKPbc	PKPbc	01 55 23.1	-0.9
	0.2nm,0.4s,baz=86,slow=2.4,SNR=1.9						

IDC 15 01:45:54.0±10.0, 11.23S × 163.48E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/37, mbtmp3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=323.3km s-min=42.3km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**16.16**	**275**	LR	LR	01 54 36.1	
	comp=Z,38nm,20.2s,baz=178,slow=32						
WRA	**Warramunga Arr**	**29.33**	**249**	P	P	01 51 59.3	+0.5
	0.3nm,0.7s,baz=82,slow=9.0,SNR=1.6						
H11S2	**WAKE ISLAND Hy**	**29.70**	**6**	T	T	02 22 52.5	
	baz=188,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**29.70**	**6**	T	T	02 22 51.3	
	baz=188,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**29.71**	**6**	T	T	02 22 53.8	
	baz=188,slow=76,SNR=23						
ASAR	**Alice Springs**	**30.73**	**242**	P	P	01 52 10.7	-0.5
	0.3nm,0.5s,baz=65,slow=10,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**30.93**	**6**	T	T	02 24 36.8	
	baz=188,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**30.93**	**6**	T	T	02 24 38.3	
	baz=188,slow=76,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**30.95**	**6**	T	T	02 24 26.0	
	baz=188,slow=76,SNR=11						
SONM	**Songino Array**	**77.51**	**325**	P	P	01 57 50.9	-0.8
	0.2nm,0.3s,baz=127,slow=6.0,SNR=1.6						
ZALV	**Zalesovo Beam**	**92.40**	**325**	P	P	01 59 07.5	+1.0
	0.3nm,0.3s,baz=119,slow=5.1,SNR=1.9						

*IDC **15** 02:00:07.6±1.1, 40.37N × 47.06E, h0km, mb3.8/10, mb1 3.9/15, mb1mx3.7/38, mbtmp3.8/15, ML3.2/5, MS2.9/7, Ms1 2.9/7, ms1mx2.6/50, Error ellipse: s-maj=25.1km s-min=9.3km az=166.0*
*TIF **15** 02:00:10.7, 40.39N × 47.10E, h23km ± 1km*
*DRS **15** 02:00:10.7±0.0, 40.28N × 46.57E, h20km*
*MOS **15** 02:00:10.4±1.4, 40.35N × 47.19E, h21km, mb4.1/1, Error ellipse: s-maj=8.0km s-min=4.7km az=107.2*
*AZER **15** 02:00:10.3±0.0, 40.38N × 47.07E, h26km, ml4.1/34, Error ellipse: s-maj=0.4km s-min=0.3km az=1.0*
*TEH **15** 02:00:11.3, 40.36N × 47.14E, h26km, ML4.0*
*NSSP **15** 02:00:11.0, 40.35N × 46.97E, h20km, Ms4.0*
*NNC **15** 02:00:15.8±4.0, 40.74N × 47.78E, h17km ± 60km, mb3.8, Error ellipse: s-maj=56.8km s-min=13.5km az=67.0*

ISC 15 02:00:10.4±0.5, 40.37N±0.02 × 47.11E±0.02, h21km±1km, n169, σ1§96/246, mb3.8/8, MS2.9/4, 3C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDA	**Brd**	**0.12**	**154**	P	**Pb**	**02 00 16.3**	**-0.1**
	SNR=642						
BRDA				S	**Sb**	**02 00 21.5**	**+0.9**
BRDA	**Brd**	**0.12**	**154**	*e*Pg	**Pb**	**02 00 16.2**	**-0.1**
AGDM	**Agdam**	**0.26**	**181**	P	**Pb**	**02 00 17.8**	**+1.2**
	SNR=101						
AGDM				S	**Sb**	**02 00 22.3**	**+1.4**
MNGR	**Mingechevir, A**	**0.40**	**357**	P	**Pn**	**02 00 20.2**	**-0.8**
MNGR				S	**Sb**	**02 00 26.2**	**+1.8**
ZRD	**Zardab**	**0.45**	**102**	P	**Pn**	**02 00 21.2**	**-0.3**
	SNR=196						
ZRD				S	**Sn**	**02 00 30.0**	**+1.1**
ZRD	**Zardab**	**0.45**	**102**	*e*Pg	**Pn**	**02 00 21.2**	**-0.3**
GANJ	**Ganja**	**0.66**	**295**	PG	**Pb**	**02 00 23.1**	**-0.2**
GANJ	**Ganja**	**0.66**	**295**	P	**Pb**	**02 00 23.1**	**-0.2**
	SNR=450						
GANJ				S	**Sb**	**02 00 32.2**	**+0.1**
BLQ	**Beylaqan**	**0.73**	**152**	P	**Pb**	**02 00 25.0**	**+0.6**
	SNR=159						
BLQ				S	**Sn**	**02 00 36.2**	**+0.2**
BLQ	**Beylaqan**	**0.73**	**152**	*e*Pg	**Pb**	**02 00 25.0**	**+0.6**
QBL	**Gabala**	**0.80**	**44**	P	**Pb**	**02 00 26.4**	**+0.9**
	SNR=221						
QBL				S	**Sn**	**02 00 38.7**	**+1.0**
QBL	**Gabala**	**0.80**	**44**	*e*Pg	**Pb**	**02 00 26.4**	**+0.9**
KDMR	**Kurdemir**	**0.82**	**89**	P	**Pn**	**02 00 26.8**	**+0.2**
	SNR=41						
KDMR				S	**Sn**	**02 00 40.4**	**+2.2**
KDMR	**Kurdemir**	**0.82**	**89**	*e*Pg	**Pn**	**02 00 26.9**	**+0.2**
SEKA	**Sheki**	**0.84**	**4**	PG	**Pb**	**02 00 26.5**	**+0.2**
SEKA	**Sheki**	**0.84**	**4**	P	**Pb**	**02 00 26.6**	**+0.2**
	SNR=120						
SEKA				S	**Sn**	**02 00 38.9**	**0.0**
SEKA	**Sheki**	**0.84**	**4**	*e*Pg	**Pb**	**02 00 26.5**	**+0.2**
IML	**Ismayilli**	**0.92**	**62**	P	**Pb**	**02 00 28.2**	**+0.5**
	SNR=152						
IML				S	**Sn**	**02 00 41.7**	**+1.0**
IML	**Ismayilli**	**0.92**	**62**	*e*Pg	**Pb**	**02 00 28.1**	**+0.5**
QRD	**Qoradiz**	**0.92**	**170**	P	**Pb**	**02 00 28.1**	**+0.4**
	SNR=335						
QRD				S	**Sn**	**02 00 41.1**	**+0.4**
QRD	**Qoradiz**	**0.92**	**170**	*e*Pg	**Pb**	**02 00 28.0**	**+0.4**
GDB	**GEDABAY**	**1.09**	**289**	P	**Pn**	**02 00 29.9**	**-0.8**
	SNR=196						
GDB				S	**Sb**	**02 00 44.7**	**+0.2**
XNQ	**Khinaliq**	**1.12**	**44**	P	**Pn**	**02 00 31.1**	**+0.1**
	SNR=645						
XNQ				S	**Sn**	**02 00 46.7**	**+0.8**
XNQ	**Khinaliq**	**1.12**	**44**	*e*Pg	**Pn**	**02 00 31.1**	**+0.1**
SAAT	**Saatly**	**1.13**	**116**	P	**Pn**	**02 00 29.6**	**-1.3**
	SNR=28						
SAAT				S	**Sb**	**02 00 45.6**	**+0.4**
SAAT	**Saatly**	**1.13**	**116**	*e*Pg	**Pn**	**02 00 29.8**	**-1.1**
PQL	**Pirkuli**	**1.20**	**69**	P	**Pb**	**02 00 33.1**	**+0.5**
	SNR=318						
PQL				S	**Sn**	**02 00 51.0**	**+3.0**
PQL	**Pirkuli**	**1.20**	**69**	*e*Pg	**Pb**	**02 00 33.0**	**+0.5**
AKT	**Akhty**	**1.20**	**23**	*e*PG	**Pb**	**02 00 33.0**	**+0.5**
AKT				*e*S	**Sn**	**02 00 50.2**	**+2.3**
AKT				pmax	pmax		
	comp=Z,612nm,0.3s						
AKT	**Akhty**	**1.20**	**23**	*e*Pg	**Pb**	**02 00 33.0**	**+0.5**
	comp=Z,612nm,0.3s						
AKT				*e*Sg	**Sn**	**02 00 50.3**	**+2.3**
	comp=Z,8μm,0.3s						
DDFL	**Dedoflistskaro**	**1.31**	**325**	P	**Pb**	**02 00 37.2**	**+2.8**
DDFL				S	**Sb**	**02 00 53.8**	**+3.0**
DDFL	**Dedoflistskaro**	**1.31**	**325**	PG	**Pb**	**02 00 37.2**	**+2.8**
DDFL				S	**Sb**	**02 00 53.8**	**+3.0**
DDFL	**Dedoflistskaro**	**1.31**	**325**	*e*Pn	**Pb**	**02 00 37.6**	**+3.3**
ZKTA	**Zakatala**	**1.32**	**344**	Pn	**Pb**	**02 00 34.5**	**0.0**
	SNR=363						
ZKTA				Sn	**Sb**	**02 00 53.3**	**+2.4**
ZKT	**Zaqatala**	**1.33**	**345**	*e*Pg	**Pb**	**02 00 34.9**	**+0.3**
QUB	**Quba**	**1.38**	**43**	*e*Pn	**Pb**	**02 00 37.1**	**+1.5**
GBS	**Qobustan**	**1.41**	**83**	Pg	**Pb**	**02 00 37.6**	**+1.6**
	SNR=98						
GBS				Sg	**Sb**	**02 00 57.8**	**+4.3**
GBS	**Qobustan**	**1.41**	**83**	*e*Pg	**Pb**	**02 00 37.5**	**+1.6**
QUBA	**Quba, Azerbaij**	**1.44**	**46**	Pn	**Pb**	**02 00 37.2**	**+0.7**
	SNR=321						
QUBA				Sn	**Sb**	**02 00 57.4**	**+3.1**
QSAR	**Qusar**	**1.44**	**37**	Pn	**Pb**	**02 00 37.2**	**+0.7**
	SNR=62						
QSAR				Sn	**Sb**	**02 00 57.0**	**+2.6**
QSAR	**Qusar**	**1.44**	**37**	*e*Pn	**Pb**	**02 00 37.1**	**+0.7**
KSMR	**Kasumkent**	**1.45**	**32**	*e*PG	**Pb**	**02 00 37.0**	**+0.3**
KSMR				*e*S	**Sb**	**02 00 57.0**	**+2.2**
KSMR				pmax	pmax		
	comp=Z,6μm,0.2s						
KSMR	**Kasumkent**	**1.45**	**32**	*e*Pg	**Pb**	**02 00 37.0**	**+0.3**
	comp=Z,6μm,0.2s						
KSMR				*e*Sg	**Sb**	**02 00 57.0**	**+2.2**
ATGJ	**Altiaghaj**	**1.47**	**70**	Pg	**Pb**	**02 00 38.0**	**+0.9**
	SNR=64						
ATGJ				Sg	**Sb**	**02 00 59.5**	**+4.1**
ATGJ	**Altiaghaj**	**1.47**	**70**	*e*Pn	**Pb**	**02 00 38.2**	**+1.1**
QZX	**Qazax, Azerbai**	**1.49**	**298**	Pn	**Pn**	**02 00 36.5**	**+0.5**
	SNR=278						
QZX				Sn	**Sb**	**02 00 56.6**	**+0.8**
GLBA	**Clilabad**	**1.50**	**138**	Pn	**Pn**	**02 00 37.0**	**+1.0**
	SNR=225						
GLBA				Sn	**Sb**	**02 00 58.4**	**+2.5**
GLBA	**Clilabad**	**1.50**	**138**	*e*Pn	**Pn**	**02 00 37.0**	**+1.0**
ALIB	**Äli-Bayra**	**1.51**	**105**	Pn	**Pb**	**02 00 39.2**	**+1.5**
	SNR=58						
ALIB				Sn	**Sb**	**02 00 58.8**	**+2.5**
ALIB	**Äli-Bayra**	**1.51**	**105**	*e*Pn	**Pb**	**02 00 39.1**	**+1.5**
SIZA	**Siyzn**	**1.53**	**62**	Pn	**Pb**	**02 00 38.7**	**+0.6**
	SNR=59						
SIZA				Sn	**Sb**	**02 00 58.4**	**+1.4**
SIZA	**Siyzn**	**1.53**	**62**	*e*Pn	**Pb**	**02 00 38.6**	**+0.6**
SBZ	**Shahbuz**	**1.54**	**232**	Pn	**Pb**	**02 00 38.6**	**+0.3**
SBZ				Sn	**Sb**	**02 00 59.0**	**+1.6**
SBZ	**Shahbuz**	**1.54**	**232**	*e*Pn	**Pb**	**02 00 38.7**	**+0.4**
LGD	**Lagodekhi**	**1.60**	**336**	P	**Pb**	**02 00 39.3**	**0.0**
LGD				S	**Sb**	**02 01 01.1**	**+2.1**
LGD	**Lagodekhi**	**1.60**	**336**	PN	**Pb**	**02 00 39.3**	**0.0**
LGD				S	**Sb**	**02 01 01.2**	**+2.1**
ORD	**Ordubad**	**1.68**	**211**	Pn	**Pb**	**02 00 40.3**	**-0.3**
	SNR=468						
ORD				Sn	**Sb**	**02 01 02.1**	**+0.8**
ORD	**Ordubad**	**1.68**	**211**	*e*Pn	**Pb**	**02 00 40.3**	**-0.3**
YRD	**Yardimli**	**1.69**	**149**	Pn	**Pn**	**02 00 39.6**	**+0.7**
	SNR=223						
YRD				Sn	**Sb**	**02 01 02.6**	**+0.8**
YRD	**Yardimli**	**1.69**	**149**	*e*Pn	**Pn**	**02 00 39.5**	**+0.6**
NAX	**Nakhchivan**	**1.73**	**227**	PN	**Pb**	**02 00 41.9**	**+0.5**
NAX	**Nakhchivan**	**1.73**	**227**	Pg	**Pb**	**02 00 41.9**	**+0.5**
	SNR=166			

DBC				pmax	pmax		
	comp=Z,65nm,0.5s						
DBC	**Dubki**	**2.66**	**356**	*e*Pn	**Pn**	**02 00 54.8**	**+2.7**
	comp=Z,65nm,0.5s						
DBC				*e*Sn	**Sb**	**02 01 28.5**	**-0.9**
	comp=Z,177nm,0.9s						
EAK	**Akyaka**	**2.69**	**278**	*e*Pn	**Pn**	**02 00 54.3**	**+1.7**
CLDR	**Caldiran**	**2.75**	**245**	*e*Pn	**Pn**	**02 00 55.5**	**+2.0**
BRNG	**Burnasheti**	**2.78**	**298**	P	**Pb**	**02 00 60.0**	**+0.5**
BRNG				S	**Sb**	**02 01 33.9**	**+0.7**
GUDG	**Gudauri**	**2.88**	**317**	P	**Pn**	**02 00 53.8**	**-1.5**
GUDG				S	**Sn**	**02 01 29.0**	**-0.4**
GUDG	**Gudauri**	**2.88**	**317**	PN	**Pn**	**02 00 53.8**	**-1.5**
AKH	**Akhalkalaki**	**2.93**	**292**	P	**Pb**	**02 01 00.3**	**-1.8**
AKH				S	**Sb**	**02 01 35.4**	**-2.1**
AKH	**Akhalkalaki**	**2.93**	**292**	PN	**Pb**	**02 01 00.3**	**-1.8**
AKH				S	**Sb**	**02 01 35.4**	**-2.1**
AKH	**Akhalkalaki**	**2.93**	**292**	*e*Pn	**Pb**	**02 00 59.7**	**-2.3**
PNSH	**Pansheti**	**2.94**	**321**	P	**Pn**	**02 00 57.9**	**+1.9**
PNSH				S	**Sn**	**02 01 33.5**	**+2.7**
PNSH	**Pansheti**	**2.94**	**321**	PN	**Pn**	**02 00 57.9**	**+1.9**
PNSH				S	**Sn**	**02 01 33.5**	**+2.7**
GROC	**Groznyy**	**3.00**	**341**	*e*PN	**Pn**	**02 00 59.9**	**+3.3**
GROC				*e*		02 01 07.1	
GROC				*e*		02 01 37.7	
GROC				*e*S	**Sb**	**02 01 45.8**	**+6.7**
GROC				*e*		02 01 50.9	
GROC				pmax	pmax		
	comp=Z,31nm,0.6s						
GROC				pmax	pmax		
	comp=Z,38nm,0.4s						
GROC				smax	smax		
	comp=N,225nm,0.4s						
GROC				smax	smax		
	comp=N,285nm,1.0s						
GROC				smax	smax		
	comp=E,182nm,0.5s						
GROC				MLR	MLR		
	comp=Z,232nm,2.0s						
MTEO	**Meteo**	**3.01**	**321**	P	**Pn**	**02 00 59.2**	**+1.9**
MTEO				S	**Sn**	**02 01 34.5**	**+1.6**
BKRG	**Bakuriani**	**3.05**	**298**	P	**Pn**	**02 01 00.1**	**+2.6**
BKRG				S	**Sb**	**02 01 42.1**	**+1.4**
BKRG	**Bakuriani**	**3.05**	**298**	PN	**Pn**	**02 01 00.1**	**+2.6**
BKRG				S	**Sb**	**02 01 42.2**	**+1.4**
IHSH	**Hashtrud**	**3.06**	**178**	*e*Pn	**Pn**	**02 00 59.1**	**+1.2**
IHSH				*e*		02 01 47.4	
	comp=Z,3μm,0.5s						
ZEI	**Tsey**	**3.41**	**316**	*e*PN	**Pn**	**02 01 01.7**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,32nm,0.6s						
ABS	**Abastumani**	**3.53**	**294**	P	**Pb**	**02 01 11.7**	**-0.6**
ABS				S	**Sb**	**02 01 55.3**	**+0.5**
ABS	**Abastumani**	**3.53**	**294**	PN	**Pb**	**02 01 11.8**	**-0.4**
ABS				S	**Sb**	**02 01 55.3**	**+0.5**
ONI	**Oni**	**3.53**	**310**	P	**Pn**	**02 01 07.0**	**+2.9**
ONI				S	**Sn**	**02 01 47.9**	**+2.6**
ONI	**Oni**	**3.53**	**310**	PN	**Pn**	**02 01 07.0**	**+2.9**
ONI				S	**Sn**	**02 01 47.9**	**+2.6**
KBZ	**Khabaz**	**4.59**	**318**	Pn	**Pn**	**02 01 21.3**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=3.8						
KBZ				Lg	Lg	02 02 27.2	
	comp=Z,1.4nm,0.3s,baz=144,slow=17,SNR=2.1						
KBZ				LR	LR	02 03 31.8	
	comp=Z,115nm,21.0s,baz=160,slow=45						
IGZV	**Ghazvin**	**4.67**	**147**	*e*Pn	**Pn**	**02 01 22.0**	**+2.2**
QALM	**Alamut, Qazvin**	**4.81**	**144**	*e*Pn	**Pn**	**02 01 21.4**	**-0.4**
KIV	**Kislovodsk**	**4.86**	**319**	*e*PN	Pb	02 01 47.1	+12
KIV				pmax	pmax		
	comp=Z,50nm,1.1s						
KIV				MLR	MLR		
	comp=Z,42nm,7.0s						
QABG	**Abgarm-Qazvin**	**5.04**	**156**	*e*Pn	**Pn**	**02 01 25.6**	**+0.6**
IPRN	**Peran**	**5.82**	**133**	*e*Pn	**Pn**	**02 01 36.1**	**+0.5**
IPRN				*e*		02 02 46.8	
	comp=Z,3μm,0.3s						
IGLO	**Ghaloghah**	**6.54**	**124**	*e*Pn	**Pn**	**02 01 45.4**	**-0.1**
ISHM	**Shahmirzad**	**6.67**	**131**	*e*Pn	**Pn**	**02 01 49.9**	**+2.5**
ISFB	**Sefidab**	**7.26**	**144**	*e*Pn	**Pn**	**02 01 58.2**	**+2.9**
GEYT	**Alibeck**	**8.89**	**102**	Pn	**Pn**	**02 02 16.9**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=276,slow=14,SNR=22						
GEYT				Sn	**Sn**	**02 03 54.2**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=270,slow=39,SNR=1.9						
GYA0B	**ALIBECK ARRAY**	**8.89**	**102**	⇓Pn	**Pn**	**02 02 16.8**	**-0.9**
GYA0B				⇑Sn	**Sn**	**02 03 53.5**	**-3.6**
ANAR	**Anarak**	**8.91**	**141**	*e*Pn	**Pn**	**02 02 20.5**	**+2.4**
ISFR	**Sfrayin**	**9.13**	**108**	*e*Pn	**Pn**	**02 02 21.6**	**+0.5**
SBZV	**Sabzevar**	**9.15**	**112**	*e*Pn	**Pn**	**02 02 21.5**	**+0.1**
IPAY	**Payeh**	**10.11**	**109**	*e*Pn	**Pn**	**02 02 34.6**	**0.0**
IKRD	**Kardeh**	**10.35**	**106**	*e*Pn	**Pn**	**02 02 37.9**	**+0.1**
BRTR	**Keskin Array B**	**10.35**	**271**	Pn	**Pn**	**02 02 40.9**	**+3.1**
	comp=Z,0.0nm,0.3s,baz=72,slow=9.3,SNR=5.0						
BRTR				LR	LR	02 06 23.1	
	comp=Z,18nm,20.5s,baz=92,slow=36						
TKDS	**Koohdasht(Taba**	**10.46**	**127**	*e*Pn	**Pn**	**02 02 40.7**	**+1.5**
IMYA	**Miami**	**10.96**	**107**	*e*Pn	**Pn**	**02 02 45.4**	**-0.7**
MMAI	**Mount Meron Ar**	**11.92**	**236**	LR	LR	02 08 20.9	
	comp=Z,120nm,18.2s,baz=20,slow=42						
AKTO	**Aktyubinsk**	**12.63**	**34**	Pn	**Pn**	**02 03 07.0**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=219,slow=13,SNR=4.2						
AKTO				Sn	**Sn**	**02 05 20.2**	**-8.5**
	comp=Z,1.3nm,0.3s,baz=13,slow=22,SNR=11						
AKTO	**Aktyubinsk**	**12.63**	**34**	⇑Pn	**Pn**	**02 03 06.3**	**-2.5**
	comp=Z,3.5nm,1.1s						
AKTO				⇓Sn	Sn	02 05 20.1	-8.6
	comp=Z,3.7nm,0.3s						
AKTO	**Aktyubinsk**	**12.63**	**34**	P	**Pn**	**02 03 07.0**	**-1.8**
AB31	**Akbulak array**	**12.71**	**41**	Pn	**Pn**	**02 03 07.5**	**-2.3**
	comp=Z,0.3nm,0.2s,baz=218,slow=13,SNR=24						
AB31				Sn	**Sn**	**02 05 23.1**	**-7.5**
	comp=Z,1.2nm,0.3s,baz=148,slow=11,SNR=8.7						
AKASG	**Malin Array Be**	**16.20**	**316**	Pn	**Pn**	**02 03 56.5**	**0.0**
	comp=Z,1.3nm,0.3s,baz=122,slow=12,SNR=18						
MOS	**Moscow**	**16.61**	**341**	*e*P	**P**	**02 04 04.2**	**+0.1**
KK31	**Karatay Array**	**17.67**	**73**	Pn	**Pn**	**02 04 13.2**	**-1.9**
	comp=Z,3.3nm,0.6s,baz=272,slow=11,SNR=20						
KK31				⇓Sn	**Sn**	**02 07 24.4**	**-6.8**
	comp=Z,2.0nm,0.8s,baz=271,slow=22,SNR=6.9						
ARU	**Arti**	**17.74**	**21**	P	**P**	**02 04 16.8**	**+0.2**
IDI	**Anoyia**	**18.26**	**261**	P	**P**	**02 04 22.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=298,slow=21,SNR=2.4						
KOLS	**Kolonicke sedl**	**19.57**	**304**	*e*P	**Pn**	**02 04 44.0**	**+5.9**
KOLS	**Kolonicke sedl**	**19.57**	**304**	*e*P	**Pn**	**02 04 44.0**	**+5.9**
OTUK	**Ortayu**	**19.63**	**58**	⇑P	**P**	**02 04 37.2**	**-0.2**
	comp=Z,1.2nm,0.4s						
CRVS	**Cervenica-Dubn**	**20.07**	**304**	*e*P	Pn	02 04 45.2	+1.1
CRVS	**Cervenica-Dubn**	**20.07**	**304**	*e*P	Pn	02 04 45.2	+1.1
BVAR	**Borovoye Array**	**20.26**	**44**	P	**P**	**02 04 44.4**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=162,slow=20,SNR=2.0						
AAK	**Ala-Archa**	**20.60**	**75**	P	**P**	**02 04 48.8**	**+0.5**
	comp=Z,1.2nm,0.2s,baz=242,slow=7.7,SNR=1.6						
AAK				LR	LR	02 13 15.1	
	comp=Z,38nm,18.2s,baz=258,slow=38						
VRAC	**Vranov**	**23.28**	**303**	LR	LR	02 15 37.4	
	comp=Z,29nm,18.6s,baz=74,slow=40						
KURBB	**Kurchatov Arra**	**24.12**	**54**	P	**P**	**02 05 25.6**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=264,slow=8.8,SNR=5.1						
KURK	**Kurchatov**	**24.20**	**54**	P	**P**	**02 05 25.6**	**+0.3**
FINES	**FINESS Array B**	**24.70**	**336**	P	**P**	**02 05 29.4**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=142,slow=10.0,SNR=16						
GERES	**GERESS Array B**	**25.09**	**301**	P	**P**	**02 05 33.7**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=97,slow=9.5,SNR=27						
MKAR	**Makanchi Array**	**26.12**	**64**	P	**P**	**02 05 44.1**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=267,slow=8.9,SNR=11						
HFS	**Hagfors**	**28.63**	**325**	P	**P**	**02 06 04.1**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=115,slow=13,SNR=1.5						
HFS				PcP	**PcP**	**02 09 16.0**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=96,slow=1.4,SNR=3.9						
HFS				LR	LR	02 18 51.9	
	comp=Z,37nm,19.0s,baz=138,slow=39						
ZALV	**Zalesovo Beam**	**28.63**	**49**	P	**P**	**02 06 06.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=254,slow=8.8,SNR=2.0						
NOA	**NORSAR Array B**	**30.14**	**325**	LR	LR	02 19 38.2	
	comp=Z,31nm,19.2s,baz=110,slow=39						
ARCES	**ARCESS Array B**	**31.37**	**346**	P	**P**	**02 06 29.6**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=157,slow=9.6,SNR=2.7						
ESDC	**Sonseca Array**	**38.67**	**286**	P	**P**	**02 07 31.0**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=53,slow=8.5,SNR=4.9						

*IDC **15** 02:30:39.1±2.9,36°.29N×71°.01E,h181km±28km, mb3.3/8, mb1 3.4/13,mb1mx3.1/54, mbtmp3.8/13, Error ellipse: s-maj=20.2km s-min=19.1km az=175.0*
*NNC **15** 02:30:46.9±3.8,36°.98N×70°.96E,h218km±49km, mb2.9, mpv4.1, Error ellipse: s-maj=37.0km s-min=20.5km az=13.0*

ISC 15 02:30:40.0±0.9,36°.48N±0°.09×71°.00E±0°.10,h188km,n29, σ1s69/33,mb3.4/7,8C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.02**	**19**	P	**Pn**	**02 32 09.7**	**+2.0**
	SNR=69						
EKS2	**Erkin-Say**	**6.54**	**18**	P	**Pn**	**02 32 16.3**	**+2.1**
	SNR=10						
KK31	**Karatay Array**	**6.63**	**357**	⇑P	**Pn**	**02 32 16.8**	**+1.5**
	0.8nm,0.3s,baz=179,slow=12,SNR=25						
KK31				S	**Sn**	**02 33 25.9**	**-4.7**
	6.1nm,0.5s,baz=162,slow=15,SNR=15						
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**02 32 18.7**	**+2.1**
	6.8nm,0.3s,baz=186,slow=7.2,SNR=25						
AAK				S	**Sn**	**02 33 30.8**	**-2.2**
	0.8nm,0.3s,baz=150,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**02 32 19.1**	**+2.4**
	SNR=16						
AAK	**Ala-Archa**	**6.72**	**23**	⇑P	**Pn**	**02 32 18.2**	**+1.6**
	11nm,0.5s						
AAK				⇑S	**Sn**	**02 33 31.9**	**-1.1**
	10nm,0.6s						
KBK	**Karagaybulak**	**6.89**	**25**	P	**Pn**	**02 32 21.3**	**+2.5**
	SNR=14						
CHMS	**Chumysh**	**7.13**	**23**	P	**Pn**	**02 32 24.3**	**+2.5**
	SNR=5.4						
USP	**Ospenovka**	**7.30**	**21**	P	**Pn**	**02 32 25.1**	**+1.0**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.35**	**27**	P	**Pn**	**02 32 26.4**	**+1.5**
	SNR=36						
TKM2	**Tokmak 2**	**7.35**	**27**	⇑P	**Pn**	**02 32 26.5**	**+1.6**
	25nm,0.8s						
TKM2				⇑S	**Sn**	**02 33 46.4**	**-1.5**
	7.1nm,0.8s						
MDOK	**Medeo**	**8.14**	**33**	P	**Pn**	**02 32 36.9**	**+1.7**
	9.9nm,0.6s						
PDGK	**Podgornoye**	**9.45**	**41**	⇓P	**Pn**	**02 32 52.1**	**-0.3**
	2.8nm,0.8s						
GEYT	**Alibeck**	**10.38**	**282**	P	**Pn**	**02 33 04.3**	**0.0**
	0.2nm,0.3s,baz=108,slow=12,SNR=2.3						
MAKZ	**Makanchi**	**13.18**	**35**	⇑P	**Pn**	**02 33 40.4**	**+0.3**
	2.3nm,0.5s						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**02 33 42.7**	**+1.0**
	0.2nm,0.3s,baz=222,slow=9.8,SNR=2.7						
MK31	**Makanchi Array**	**13.31**	**36**	⇑P	**Pn**	**02 33 42.4**	**+0.7**
	2.0nm,0.8s,baz=208,slow=12,SNR=6.3						
AB31	**Akbulak array**	**15.11**	**331**	P	**Pn**	**02 34 04.0**	**+0.2**
	0.4nm,0.5s,baz=260,slow=36,SNR=20						
KURBB	**Kurchatov Arra**	**15.15**	**19**	P	**Pn**	**02 34 03.9**	**-0.4**
	0.0nm,0.3s,baz=206,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**Pn**	**02 34 24.9**	**+0.5**
	0.4nm,0.3s,baz=135,slow=8.6,SNR=12						
AKTO	**Aktyubinsk**	**16.80**	**330**	⇑P	**Pn**	**02 34 25.1**	**+0.8**
	2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**P**	**02 34 58.0**	**+0.6**
	0.6nm,0.4s,baz=214,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**02 37 36.7**	**+1.4**
	1.0nm,0.4s,baz=126,slow=9.3,SNR=10.0						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**02 38 06.6**	**+1.1**
	2.3nm,0.8s,baz=112,slow=9.3,SNR=14						
NOA	**NORSAR Array B**	**44.40**	**323**	P	**P**	**02 38 32.6**	**+0.9**
	0.7nm,0.6s,baz=96,slow=7.7,SNR=3.9						
KMBO	**Kilima Mbogo**	**48.81**	**228**	P	**P**	**02 39 05.3**	**-1.4**
	2.6nm,0.7s,baz=217,slow=18,SNR=6.3						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**02 41 04.4**	**-0.4**
	0.4nm,0.7s,baz=50,slow=5.9,SNR=5.0						
WRA	**Warramunga Arr**	**81.98**	**122**	P	**P**	**02 42 38.9**	**-0.2**
	0.3nm,0.7s,baz=324,slow=4.9,SNR=2.3						
ASAR	**Alice Springs**	**84.24**	**125**	P	**P**	**02 42 50.0**	**-0.6**
	0.2nm,0.3s,baz=311,slow=5.1,SNR=4.9						

*CNRM **15** 02:32:19.4,36°.17N×8°.03W,h55km, Hypocentre not reviewed by the ISC*
*IGIL **15** 02:32:20.2,36°.22N×8°.37W,h9km, ML1.7*
*MDD **15** 02:32:20.2±1.2,36°.24N×8°.39W,h16km±11km, mbLg2.5/7, Error ellipse: s-maj=16.4km s-min=6.7km az=40.0, PRXIMO*
*INMG **15** 02:32:20.6±1.1,36°.24N×8°.39W,h12km±4km, ML1.8, Error ellipse: s-maj=4.5km s-min=2.7km az=50.0*
*SFS **15** 02:32:20.0,36°.25N×8°.38W,h17km, ML2.2, GOLFO DE CADIZ*

ISC 15 02:32:17.2±1.5,36°.11N±0°.05×8°.41W±0°.05,h29km±12km, n57,σ1s44/107,2D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.07**	**342**	⇓P	**Pb**	**02 32 37.3**	**+0.1**
	8.8nm,0.1s,SNR=18						
PFVI				S	**Sb**	**02 32 51.1**	**+0.2**
	34nm,0.2s,SNR=7.2						
PFVI	**Vila Bisbo**	**1.07**	**342**	⇓*i*Pg	**Pb**	**02 32 37.3**	**+0.1**
PFVI				*e*S	**Sb**	**02 32 51.2**	**+0.3**
PFVI				A	A	02 32 55.9	
	9.8nm,0.4s						
PFVI	**Vila Bisbo**	**1.07**	**342**	P		02 32 37.1	
PFVI				S		02 32 54.3	
PBDV	**Barranco-do-Ve**	**1.19**	**19**	P	**Pb**	**02 32 39.7**	**+0.5**
PBDV				S	**Sb**	**02 32 54.0**	**-0.3**
	5.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.19**	**19**	*e*P	**Pb**	**02 32 39.7**	**+0.5**
PBDV				*e*S	**Sb**	**02 32 54.0**	**-0.3**
PBDV				A	A	02 32 56.9	
	5.8nm,0.2s						
PVAQ	**Vaqueiros**	**1.40**	**23**	P	**Pb**	**02 32 42.5**	**-0.3**
PVAQ				S	**Sn**	**02 32 58.7**	**+0.4**
	9.0nm,0.1s						
PVAQ	**Vaqueiros**	**1.40**	**23**	*e*Pn	**Pb**	**02 32 42.5**	**-0.3**
PVAQ				*e*Sn	**Sn**	**02 32 58.7**	**+0.4**
PVAQ				A	A	02 33 00.6	
	9.0nm,0.1s						
PVAQ	**Vaqueiros**	**1.40**	**23**	P		02 32 41.7	
PVAQ				S		02 32 57.5	
PTEO	**Sao Teotonio**	**1.45**	**350**	P	**Pb**	**02 32 42.8**	**-0.8**
PTEO				S	**Sb**	**02 33 00.7**	**-1.0**
	4.1nm,1.1s						
PTEO	**Sao Teotonio**	**1.45**	**350**	*e*Pn	**Pb**	**02 32 42.8**	**-0.8**
PTEO				*e*Sn	**Sb**	**02 33 00.7**	**-1.0**
PTEO				A	A	02 33 01.8	
	8.2nm,1.1s						
PCVE	**Castro Verde**	**1.55**	**11**	P	**Pb**	**02 32 44.7**	**-0.5**
PCVE				S	**Sn**	**02 33 02.4**	**+0.5**
	4.7nm,0.2s						
PCVE	**Castro Verde**	**1.55**	**11**	*e*Pn	**Pb**	**02 32 44.7**	**-0.5**
PCVE				*e*Sn	**Sn**	**02 33 02.4**	**+0.5**
PCVE				A	A	02 33 03.1	
	4.7nm,0.2s						
EGRO	**El Granado**	**1.60**	**27**	P	**Pb**	**02 32 45.6**	**-0.5**
	1.9nm,0.1s,SNR=16						
EGRO				S	**Sn**	**02 33 03.8**	**+0.6**
	17nm,0.2s,SNR=11						
MESJ	**Messejana**	**1.73**	**5**	*e*P	**Pb**	**02 32 47.1**	**-1.3**
MESJ				*e*S	**Sn**	**02 33 06.8**	**+0.4**
MESJ				IAML		02 33 07.7	
	comp=N,7.9nm,0.2s						
MESJ	**Messejana**	**1.73**	**5**	P	**Pb**	**02 32 47.1**	**-1.3**
MESJ				S	**Sn**	**02 33 06.8**	**+0.4**
PBEJ	**Beja**	**1.96**	**13**	P	**Pn**	**02 32 50.0**	**+1.5**
PBEJ				S	**Sn**	**02 33 12.4**	**+0.3**
	comp=N,1.8nm,0.3s						
PBEJ	**Beja**	**1.96**	**13**	*e*Pn	**Pn**	**02 32 50.0**	**+1.5**
PBEJ				*e*Sn	**Sn**	**02 33 12.4**	**+0.3**
PBEJ				A	A	02 33 12.7	
	comp=N,3.5nm,0.3s						
PNCL	**Nicolau / Gran**	**2.00**	**357**	P	**Pn**	**02 32 50.3**	**+1.3**
PNCL				S	**Sn**	**02 33 12.9**	**-0.1**
	comp=N,4.5nm,0.2s						
PNCL	**Nicolau / Gran**	**2.00**	**357**	*e*Pn	**Pn**	**02 32 50.3**	**+1.3**
PNCL				*e*Sn	**Sn**	**02 33 12.9**	**-0.1**
PNCL				A	A	02 33 15.1	
	comp=N,4.5nm,0.2s						
EMIN	**Mina Concepcio**	**2.16**	**40**	P	**Pn**	**02 32 53.0**	**+1.8**
	comp=N,0.6nm,0.1s,SNR=9.3						
EMIN				S	**Sn**	**02 33 16.4**	**-0.6**
	comp=N,3.6nm,0.1s,SNR=8.4						
ESPR	**Espera**	**2.19**	**69**	P	**Pb**	**02 32 54.4**	**-1.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**02 33 19.4**	**+1.8**
	comp=N,7.6nm,0.2s,SNR=4.6						
PBAR	**Barrancos**	**2.33**	**28**	P	**Pn**	**02 32 55.3**	**+1.7**
PBAR				S	**Sn**	**02 33 21.1**	**-0.1**
	comp=N,2.8nm,0.4s						
EVO	**Evora**	**2.44**	**7**	P	**Pn**	**02 32 56.5**	**+1.5**
EVO				S	**Sn**	**02 33 23.7**	**-0.1**
	comp=N,7.3nm,0.3s						
EVO	**Evora**	**2.44**	**7**	*e*P	**Pn**	**02 32 56.4**	**+1.5**
EVO				*e*S	**Sn**	**02 33 23.4**	**-0.5**
EVO	**Evora**	**2.44**	**7**	*e*Pn	**Pn**	**02 32 56.5**	**+1.5**
EVO				*e*Sn	**Sn**	**02 33 23.7**	**-0.1**
EVO				A	A	02 33 25.9	
	comp=N,7.3nm,0.3s						
PMST	**Lisbon--Monsan**	**2.69**	**347**	*e*Pn	**Pn**	**02 33 00.1**	**+1.6**
PESTR	**Estremoz**	**2.83**	**13**	*e*Pn	**Pn**	**02 33 01.9**	**+1.5**
PESTR				*e*Sn	**Sn**	**02 33 33.1**	**-0.4**
PESTR				A	A	02 33 35.5	
	comp=N,0.8nm,0.1s						
PESTR	**Estremoz**	**2.83**	**13**	P		02 33 02.2	
PESTR				S		02 33 30.0	
PMAFR	**Mafra**	**2.92**	**346**	P	**Pn**	**02 33 03.1**	**+1.4**
	comp=N,2.8nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**02 33 35.4**	**-0.5**
	comp=N,9.0nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.92**	**346**	*e*Pn	**Pn**	**02 33 03.2**	**+1.4**
PMAFR				*e*Sn	**Sn**	**02 33 35.9**	**+0.1**
PMTG	**Montargil**	**2.96**	**3**	P	**Pn**	**02 33 03.5**	**+1.4**
PMTG				S	**Sn**	**02 33 36.2**	**-0.4**
	comp=N,3.6nm,0.5s						
PMTG	**Montargil**	**2.96**	**3**	*e*Pn	**Pn**	**02 33 03.5**	**+1.4**
PMTG				*e*Sn	**Sn**	**02 33 36.2**	**-0.4**
PMTG				A	A	02 33 37.0	
	comp=N,3.6nm,0.5s						
ZHG	**ZHG**	**3.03**	**151**	P		02 33 05.1	
ZHG				S		02 33 39.7	
ECAB	**El Cabril**	**3.09**	**50**	P	**Pn**	**02 33 06.2**	**+2.2**
	comp=N,0.0nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**02 33 38.3**	**-1.7**
	comp=N,0.8nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**3.41**	**13**	P	**Pn**	**02 33 09.8**	**+1.4**
PMRV				S	**Sn**	**02 33 47.0**	**-0.8**
	comp=N,2.1nm,0.6s						
PMRV	**Marv??o**	**3.41**	**13**	*e*Pn	**Pn**	**02 33 09.8**	**+1.4**
PMRV				*e*Sn	**Sn**	**02 33 47.0**	**-0.8**
PMRV				A	A	02 33 49.3	
	comp=N,2.1nm,0.6s						
PSBE	**So Bento**	**3.41**	**355**	*e*Pn	**Pn**	**02 33 10.1**	**+1.7**
PSBE				*e*Sn	**Sn**	**02 33 46.3**	**-1.6**
EGOR	**Sierra Gorda,**	**3.60**	**73**	S	**Sn**	**02 33 54.0**	**+1.3**
	comp=N,0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.68**	**55**	P	**Pn**	**02 33 14.4**	**+2.2**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**02 33 54.3**	**-0.3**
	comp=N,2.2nm,0.1s,SNR=7.9						
IFR	**Ifrane**	**3.74**	**133**	*e*P	**Pn**	**02 33 14.4**	**+1.3**
IFR				*e*S	**Sn**	**02 33 53.9**	**-2.3**
LCRM	**LCR**	**3.79**	**129**	P		02 33 14.9	
LCRM				S		02 33 55.7	
PCBR	**Castelo Branco**	**3.79**	**11**	P	**Pn**	**02 33 15.3**	**+1.6**
PCBR				S	**Sn**	**02 33 56.6**	**-0.7**
	comp=N,1.3nm,0.3s						
PCBR	**Castelo Branco**	**3.79**	**11**	*e*Pn	**Pn**	**02 33 15.3**	**+1.6**
PCBR				*e*Sn	**Sn**	**02 33 56.6**	**-0.7**
PCBR				A	A	02 33 58.1	
	comp=N,2.6nm,0.3s						
PCAS	**Casmilo, Conde**	**3.94**	**359**	P	**Pn**	**02 33 17.2**	**+1.6**
PCAS				S	**Sn**	**02 34 00.4**	**-0.4**
PCAS	**Casmilo, Conde**	**3.94**	**359**	*e*Pn	**Pn**	**02 33 17.2**	**+1.6**
PCAS				*e*Sn	**Sn**	**02 34 00.4**	**-0.4**
CZD	**Col de Zad**	**4.14**	**137**	P		02 33 18.8	
CZD				S		02 34 02.5	
MTE	**Manteigas**	**4.33**	**9**	P	**Pn**	**02 33 22.7**	**+1.5**
MTE				S	**Sn**	**02 34 09.8**	**-0.9**
	comp=N,0.9nm,0.6s						
MTE	**Manteigas**	**4.33**	**9**	*e*Pn	**Pn**	**02 33 22.7**	**+1.5**
MTE				*e*Sn	**Sn**	**02 34 09.8**	**-0.9**
MTE				A	A	02 34 11.8	
	comp=N,1.9nm,0.6s						
EPLA	**Plasencia**	**4.35**	**24**	P	**Pn**	**02 33 23.4**	**+2.0**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPLA	

	SNR=9.3						
SEHB	**SEOHWA**	**1.80**	**108**	P	Pn	02 58 59.0	-0.5
	SNR=9.3						
SEHB	**SEOHWA**	**1.80**	**108**	P	Pn	02 58 59.0	-0.5
	SNR=9.3						
HAWB	**Hwaseong-si**	**1.84**	**162**	P	Pn	02 58 60.0	-0.1
	SNR=8.9						
HAWB	**Hwaseong-si**	**1.84**	**162**	P	Pn	02 58 60.0	-0.1
	SNR=8.9						
HAWB	**Hwaseong-si**	**1.84**	**162**	P	Pn	02 58 60.0	-0.1
	SNR=8.9						

*IDC **15** 03:06:39.0±2.5, 16°.40S×174°.52W, h133km±23km, mb3.6/12, mb1 3.9/13, mb1mx3.7/28, mbtmp4.1/13, Error ellipse: s-maj=28.0km s-min=12.6km az=134.0*

*NEIC **15** 03:06:39.9±1.6, 16°.42S±0°.09×174°.4W±0°.1, h129km±7km, mb4.1/29, Error ellipse: s-maj=17.7km s-min=13.4km az=99.0*

*NOU **15** 03:07:15.4, 14°.09S×172°.29W, h119km, MLv3.2, Samoa Islands*

ISC 15 03:06:40.9±0.5, 16°.41S±0°.08×174°.3W±0°.1, h150km, n57, σ1°.22/59, mb4.0/24, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.49**	**45**	P	**Pn**	**03 07 34.4**	**-0.3**
	35nm,0.3s,baz=108,slow=2.9,SNR=15						
AFI				S	**Sn**	**03 08 12.7**	**-3.6**
	132nm,0.3s,baz=69,slow=19,SNR=15						
AFI	**Afiamalu**	**3.49**	**45**	Pn	**Pn**	**03 07 33.9**	**-0.8**
AFI	**Afiamalu**	**3.49**	**45**	P	**Pn**	**03 07 34.6**	**-0.1**
NIUE	**Niue**	**4.95**	**123**	Pn	**Pn**	**03 07 53.4**	**-0.3**
MSVF	**Nonsavu**	**7.42**	**259**	P	Pn	03 08 32.4	+5.7
	0.4nm,0.3s,baz=283,slow=17,SNR=7.7						
URZ	**Urewera**	**23.04**	**197**	P	**P**	**03 11 30.8**	**-2.1**
	5.4nm,0.5s,baz=307,slow=20,SNR=2.0						
URZ	**Urewera**	**23.04**	**197**	P	**P**	**03 11 30.6**	**-2.3**
BKZ	**Black Stump Fm**	**24.05**	**198**	P	**P**	**03 11 41.1**	**-1.1**
QRZ	**Quartz Range**	**26.86**	**202**	P	**P**	**03 12 07.2**	**-0.4**
THZ	**Tophouse**	**27.56**	**201**	P	**P**	**03 12 13.7**	**-0.1**
ARMA	**Armidale**	**34.07**	**240**	P	**P**	**03 13 11.3**	**+0.1**
STKA	**Stephens Creek**	**42.77**	**241**	P	**P**	**03 14 21.4**	**-2.4**
	0.6nm,0.3s,baz=74,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**42.77**	**241**	P	**P**	**03 14 23.1**	**-0.6**
BBOO	**Buckleboo**	**47.55**	**240**	P	**P**	**03 15 00.8**	**-0.6**
WR0	**Warramunga Arr**	**48.57**	**258**	P	**P**	**03 15 09.9**	**+0.4**
WR0				IAmb	IAmb	03 15 23.3	
	comp=Z,5.8nm,1.3s						
WB0	**Warramunga Arr**	**48.73**	**258**	P	**P**	**03 15 10.1**	**-0.6**
WB0				IAmb	IAmb	03 15 13.1	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**48.75**	**258**	P	**P**	**03 15 09.7**	**-1.2**
WB2				IAmb	IAmb	03 15 19.9	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**48.76**	**258**	P	**P**	**03 15 09.1**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=96,slow=6.7,SNR=16						
WRA				PcP	**PcP**	**03 16 33.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=93,slow=3.8,SNR=1.8						
WRA	**Warramunga Arr**	**48.76**	**258**	P	**P**	**03 15 09.5**	**-1.4**
ASAR	**Alice Springs**	**48.97**	**253**	P	**P**	**03 15 11.2**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=87,slow=8.5,SNR=45						
ASAR				PcP	**PcP**	**03 16 34.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=89,slow=7.5,SNR=1.0						
ASAR	**Alice Springs**	**48.97**	**253**	P	**P**	**03 15 11.3**	**-1.2**
SBA	**Scott Base**	**62.18**	**184**	P	**P**	**03 16 48.0**	**+2.1**
VNDA	**Vanda**	**62.29**	**186**	P	**P**	**03 16 47.0**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=0.6,slow=5.1,SNR=7.7						
VNDA	**Vanda**	**62.29**	**186**	P	**P**	**03 16 47.8**	**+1.2**
JHS	**Saijyo**	**71.42**	**317**	P	**P**	**03 17 46.5**	**+1.5**
JHS				IAmb	IAmb	03 17 46.8	
	comp=Z,4.8nm,0.9s						
PETK	**Petropavlovsk-**	**73.32**	**343**	P	**P**	**03 17 55.6**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=126,slow=7.3,SNR=2.3						
QSPA	**South Pole Qui**	**73.64**	**180**	P	**P**	**03 17 58.0**	**+0.1**
QSPA				IAmb	IAmb	03 18 00.5	
	comp=Z,2.3nm,1.0s						
YBH	**Yreka Blue Hor**	**74.93**	**37**	P	**P**	**03 18 06.9**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=147,slow=4.8,SNR=5.3						
YBH	**Yreka Blue Hor**	**74.93**	**37**	P	**P**	**03 18 07.1**	**+1.5**
YBH				IAmb	IAmb	03 18 09.1	
	comp=Z,3.5nm,1.1s						
HUMO	**Hull Mountain**	**75.34**	**37**	P	**P**	**03 18 09.6**	**+1.8**
HUMO				IAmb	IAmb	03 18 21.5	
	comp=Z,3.9nm,1.1s						
NVAR	**Mina Array Bea**	**75.67**	**42**	P	**P**	**03 18 10.8**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=225,slow=9.7,SNR=10						
NVAR	**Mina Array Bea**	**75.67**	**42**	P	**P**	**03 18 11.6**	**+1.6**
NV11	**Mina Array Sit**	**75.76**	**42**	P	**P**	**03 18 11.6**	**+1.2**
KDAK	**Kodiak Island**	**76.08**	**12**	P	**P**	**03 18 11.9**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=246,slow=1.5,SNR=9.1						
KDAK	**Kodiak Island**	**76.08**	**12**	P	**P**	**03 18 12.3**	**+0.7**
KDAK				IAmb	IAmb	03 18 12.6	
	comp=Z,2.5nm,0.8s						
KVN	**Kaiserville**	**76.15**	**42**	P	**P**	**03 18 13.8**	**+1.1**
TPNV	**Topopah Spring**	**76.19**	**44**	P	**P**	**03 18 14.3**	**+1.4**
TPNV				IAmb	IAmb	03 18 14.8	
	comp=Z,2.6nm,0.9s						
CCUT	**Cedar City**	**78.47**	**45**	P	**P**	**03 18 27.1**	**+1.4**
TXAR	**Lajitas Array**	**81.90**	**56**	P	**P**	**03 18 45.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=241,slow=9.2,SNR=2.4						
MCMT	**McKenzie Canyo**	**82.59**	**39**	P	**P**	**03 18 49.6**	**+2.1**
SCRK	**Sand Creek**	**83.49**	**13**	P	**P**	**03 18 52.6**	**+1.1**
SCRK				IAmb	IAmb	03 18 53.3	
	comp=Z,1.3nm,0.6s						
IMAR	**Indian Mountai**	**83.59**	**8**	P	**P**	**03 18 52.7**	**+0.8**
BW06	**Boulder Array**	**83.60**	**42**	P	**P**	**03 18 53.2**	**+0.5**
BW06				IAmb	IAmb	03 18 53.6	
	comp=Z,2.5nm,0.7s						
PD31	**Pinedale Array**	**83.60**	**42**	P	**P**	**03 18 53.6**	**+0.9**
PD31				IAmb	IAmb	03 18 53.9	
	comp=Z,1.7nm,0.9s						
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**03 18 52.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=209,slow=3.0,SNR=20						
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**03 18 53.3**	**+0.5**
IL31		**83.60**	**11**	P	**P**	**03 18 52.4**	**+0.5**
IL31				IAmb	IAmb	03 18 52.8	
	comp=Z,7.0nm,1.4s						
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**03 18 51.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=233,slow=5.6,SNR=15						
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**03 18 52.6**	**+0.6**
YHL	**Hebgen Lake**	**83.62**	**40**	P	**P**	**03 18 54.4**	**+1.5**
DAWY	**Dawson**	**84.61**	**15**	P	**P**	**03 18 58.0**	**+0.8**
DAWY				IAmb	IAmb	03 18 58.2	
	comp=Z,1.9nm,0.7s						
EGAK	**Eagle**	**84.80**	**14**	P	**P**	**03 18 59.1**	**+1.1**
EGAK				IAmb	IAmb	03 19 15.1	
	comp=Z,2.0nm,1.2s						
BRTR	**Keskin Array B**	**146.36**	**319**	PKPbc	**PKPbc**	**03 26 04.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=120,slow=2.3,SNR=9.6						
BRTR	**Keskin Array B**	**146.36**	**319**		**PKPbc**	**03 26 04.4**	**-0.2**
GERES	**GERESS Array B**	**147.00**	**350**	PKPbc	**PKPbc**	**03 26 05.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=21,slow=4.9,SNR=5.3						
GERES	**GERESS Array B**	**147.00**	**350**	PKPbc	**PKPbc**	**03 26 06.0**	**0.0**
ESDC	**Sonseca Array**	**155.34**	**18**	PKPab	**PKPab**	**03 26 42.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=316,slow=3.5,SNR=3.3						

*LDG **15** 03:14:46.9±0.1, 45°.90N×7°.36E, h6km, Md3.3/2, Ml3.4/44, Error ellipse: s-maj=1.1km s-min=0.8km az=117.0*

*STR **15** 03:14:46.9±0.3, 46°.N±2°×°±°, h6km±2km, MLv3.1/20, MLv3.4/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*ROM **15** 03:14:46.3±0.1, 45°.878N±0°.007×7°.36E±0°.01, h4km±1km, ML2.9/29, Error ellipse: s-maj=0.7km s-min=0.6km az=134.0*

*GEN **15** 03:14:46.7, 45°.91N×7°.35E, h10km±1km, Ml3.1*

*PRU **15** 03:14:47.7±0.0, 45°.86N×7°.51E, h0km*

*ZUR **15** 03:14:47.0, 45°.90N×7°.35E, h3km±1km, MLh3.2/28, Error ellipse: s-maj=2.7km s-min=0.6km az=242.0*

*BGR **15** 03:14:49.6±0.6, 45°.98N×7°.27E, h10km, ML3.3/13, Error ellipse: s-maj=6.7km s-min=5.6km az=111.0*

ISC 15 03:14:47.0±0.8, 45°.91N±0°.01×7°.33E±0°.01, h14km±4km, n264, σ1°.53/450, 110C-11D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.18**	**17**	⇑Pg	**Pg**	**03 14 50.9**	**-0.6**
DIX				⇑Pg	**Pg**	**03 14 50.9**	**-0.6**
	11nm,SNR=681						
DIX				Sg	**Sg**	**03 14 53.5**	**-1.0**
DIX	**Grande Dixence**	**0.18**	**17**	⇑Pg	**Pg**	**03 14 50.9**	**-0.6**
DIX				Sg	**Sg**	**03 14 53.5**	**-1.0**
DIX	**Grande Dixence**	**0.18**	**17**	⇑P	**Pg**	**03 14 51.0**	**-0.5**
DIX				S	**Sg**	**03 14 53.6**	**-1.0**
DIX				AML	AML		
	comp=E,39700μm,0.3s						
DIX				AML	AML		
	comp=E,39700μm,0.2s						
DIX				AML	AML		
	comp=N,12900μm,0.7s						
DIX				AML	AML		
	comp=N,12900μm,0.6s						
DIX				AML	AML		
	comp=E,39700μm,0.3s						
MRGE	**Morge**	**0.23**	**234**	⇑Pg	**Pg**	**03 14 51.8**	**-0.4**
MRGE				⇑Pg	**Pg**	**03 14 51.8**	**-0.4**
	comp=E,4.0nm,SNR=211						
MRGE				Sg	**Sg**	**03 14 54.9**	**-0.8**
MRGE	**Morge**	**0.23**	**234**	⇑Pg	**Pg**	**03 14 51.8**	**-0.4**
MRGE				⇑Pg	**Pg**	**03 14 51.8**	**-0.4**
	comp=E,4.0nm,SNR=211						
MRGE				Sg	**Sg**	**03 14 54.9**	**-0.8**
MRGE	**Morge**	**0.23**	**234**	⇑P	**Pg**	**03 14 51.8**	**-0.4**
MRGE				S	**Sg**	**03 14 55.0**	**-0.8**
MRGE				AML	AML		
	comp=E,6820μm,0.5s						
MRGE				AML	AML		
	comp=N,11300μm,0.5s						
SMAO	**Martigny, Rue**	**0.26**	**317**	⇑Pg	**Pg**	**03 14 52.4**	**-0.2**
SMAO				⇑Pg	**Pg**	**03 14 52.4**	**-0.2**
	comp=N,7.0nm,SNR=76						
SMAO				Sg	**Sg**	**03 14 55.9**	**-0.5**
SMAO	**Martigny, Rue**	**0.26**	**317**	⇑Pg	**Pg**	**03 14 52.4**	**-0.2**
	comp=N,7.0nm,SNR=76						
SMAO				⇑Pg	**Pg**	**03 14 52.4**	**-0.2**
SMAO				Sg	**Sg**	**03 14 55.9**	**-0.5**
ESION	**College des Cr**	**0.32**	**2**	⇑Pg	**Pg**	**03 14 53.4**	**-0.3**
	comp=N,6.9nm,SNR=19						
ESION	**College des Cr**	**0.32**	**2**	⇑Pg	**Pg**	**03 14 53.4**	**-0.3**
	comp=N,6.9nm,SNR=19						
SEMOS	**Emosson Stauma**	**0.32**	**300**	⇑Pg	**Pg**	**03 14 53.5**	**-0.2**
SEMOS				⇑Pg	**Pg**	**03 14 53.5**	**-0.2**
	comp=N,2.0nm,SNR=8.8						
SEMOS	**Emosson Stauma**	**0.32**	**300**	⇑Pg	**Pg**	**03 14 53.5**	**-0.2**
	comp=N,2.0nm,SNR=8.8						
SEMOS				⇑Pg	**Pg**	**03 14 53.5**	**-0.2**
SIOO	**Sion-Ophtalmol**	**0.33**	**6**	⇑Pg	**Pg**	**03 14 53.6**	**-0.2**
SIOO				⇑Pg	**Pg**	**03 14 53.6**	**-0.2**
	comp=N,6.5nm,SNR=53						
SIOO	**Sion-Ophtalmol**	**0.33**	**6**	⇑Pg	**Pg**	**03 14 53.6**	**-0.2**
SIOO				⇑Pg	**Pg**	**03 14 53.6**	**-0.2**
	comp=N,6.5nm,SNR=53						
SALAN	**Lac Salanfe**	**0.34**	**314**	⇑Pg	**Pg**	**03 14 54.0**	**-0.2**
	comp=N,1.0nm,SNR=33						
SALAN				⇑Pg	**Pg**	**03 14 54.0**	**-0.2**
SALAN				Sg	**Sg**	**03 14 58.5**	**-0.6**
SALAN	**Lac Salanfe**	**0.34**	**314**	⇑Pg	**Pg**	**03 14 54.0**	**-0.2**
	comp=N,1.0nm,SNR=33						
SALAN				⇑Pg	**Pg**	**03 14 54.0**	**-0.2**
SALAN				Sg	**Sg**	**03 14 58.5**	**-0.6**
CIRO	**Champorcher**	**0.35**	**152**	⇑Pg	**Pg**	**03 14 53.7**	**-0.5**
	comp=N,2.8nm,SNR=115						
CIRO				⇑Pg	**Pg**	**03 14 53.7**	**-0.5**
CIRO	**Champorcher**	**0.35**	**152**	⇑Pg	**Pg**	**03 14 53.7**	**-0.5**
	comp=N,2.8nm,SNR=115						
CIRO				⇑Pg	**Pg**	**03 14 53.7**	**-0.5**
CIRO	**Champorcher**	**0.35**	**152**	P	**Pg**	**03 14 53.7**	**-0.5**
CIRO				S	**Sg**	**03 14 58.4**	**-0.7**
CIRO	**Champorcher**	**0.35**	**152**	⇑P	**Pg**	**03 14 53.7**	**-0.5**
CIRO				S	**Sg**	**03 14 58.5**	**-0.7**
CIRO				AML	AML		
	comp=E,6665μm,0.2s						
CIRO				AML	AML		
	comp=N,4060μm,0.2s						
CIRO				AML	AML		
	comp=E,6670μm,0.2s						
VANNI	**Vissoie, Val d**	**0.35**	**31**	⇑Pg	**Pg**	**03 14 53.9**	**-0.4**
	comp=E,3.0nm,SNR=146						
VANNI				⇑Pg	**Pg**	**03 14 53.9**	**-0.4**
VANNI				Sg	**Sg**	**03 14 58.5**	**-0.7**
VANNI	**Vissoie, Val d**	**0.35**	**31**	⇑Pg	**Pg**	**03 14 53.9**	**-0.4**
VANNI				⇑Pg	**Pg**	**03 14 53.9**	**-0.4**
	comp=E,3.0nm,SNR=146						
VANNI				Sg	**Sg**	**03 14 58.5**	**-0.7**
GRYON	**Gryon**	**0.38**	**336**	⇑Pg	**Pg**	**03 14 54.4**	**-0.3**
GRYON				⇑Pg	**Pg**	**03 14 54.4**	**-0.3**
	comp=E,1.2nm,SNR=58						
GRYON	**Gryon**	**0.38**	**336**	⇑Pg	**Pg**	**03 14 54.4**	**-0.3**
	comp=E,1.2nm,SNR=58						
GRYON				⇑Pg	**Pg**	**03 14 54.4**	**-0.3**
SATI	**Passo dei Sala**	**0.38**	**95**	⇓Pg	**Pg**	**03 14 53.9**	**-0.8**
	comp=E,1.3nm,SNR=88						
SATI				⇓Pg	**Pg**	**03 14 53.9**	**-0.8**
SATI				Sg	**Sg**	**03 14 59.2**	**-0.8**
SATI	**Passo dei Sala**	**0.38**	**95**	⇓Pg	**Pg**	**03 14 53.9**	**-0.8**
SATI				⇓Pg	**Pg**	**03 14 53.9**	**-0.8**
	comp=E,1.3nm,SNR=88						
SATI				Sg	**Sg**	**03 14 59.2**	**-0.8**
SATI	**Passo dei Sala**	**0.38**	**95**	P	**Pg**	**03 14 53.9**	**-0.8**
SATI				S	**Sg**	**03 14 59.1**	**-0.9**
SATI	**Passo dei Sala**	**0.38**	**95**	⇓P	**Pg**	**03 14 53.9**	**-0.8**
SATI				S	**Sg**	**03 14 59.4**	**-0.6**
SATI				AML	AML		
	comp=N,1625μm,0.7s						
SATI				AML	AML		
	comp=E,2075μm,0.7s						
SIEB	**Ecole de Borzu**	**0.41**	**20**	⇑Pg	**Pg**	**03 14 55.0**	**-0.3**
	comp=E,2.1nm,SNR=4.8						
SIEB				⇑Pg	**Pg**	**03 14 55.0**	**-0.3**
SIEB	**Ecole de Borzu**	**0.41**	**20**	⇑Pg	**Pg**	**03 14 55.0**	**-0.3**
SIEB				⇑Pg	**Pg**	**03 14 55.0**	**-0.3**
	comp=E,2.1nm,SNR=4.8						
SGRA	**Graechen Ausbl**	**0.45**	**51**	Pg	**Pg**	**03 14 55.4**	**-0.7**
SGRA				Pg	**Pg**	**03 14 55.4**	**-0.7**
	comp=E,2.6nm,SNR=32						
SGRA				Sg	**Sg**	**03 15 01.4**	**-0.8**
SGRA	**Graechen Ausbl**	**0.45**	**51**	Pg	**Pg**	**03 14 55.4**	**-0.7**
	comp=E,2.6nm,SNR=32						
SGRA				Pg	**Pg**	**03 14 55.4**	**-0.7**
SGRA				Sg	**Sg**	**03 15 01.4**	**-0.8**
SENIN	**Lac Senin/Sane**	**0.46**	**357**	⇑Pg	**Pg**	**03 14 55.7**	**-0.5**
	comp=E,1.1nm,SNR=47						
SENIN				⇑Pg	**Pg**	**03 14 55.7**	**-0.5**
SENIN	**Lac Senin/Sane**	**0.46**	**357**	⇑Pg	**Pg**	**03 14 55.7**	**-0.5**
SENIN				⇑Pg	**Pg**	**03 14 55.7**	**-0.5**
	comp=E,1.1nm,SNR=47						
MMK	**Mattmark**	**0.46**	**72**	⇓Pg	**Pg**	**03 14 55.3**	**-1.0**
MMK				⇓Pg	**Pg**	**03 14 55.3**	**-1.0**
	comp=E,1.6nm,SNR=84						
MMK	**Mattmark**	**0.46**	**72**	⇓Pg	**Pg**	**03 14 55.3**	**-1.0**
	comp=E,1.6nm,SNR=84						
MMK				⇓Pg	**Pg**	**03 14 55.3**	**-1.0**
MMK	**Mattmark**	**0.46**	**72**	P	**Pg**	**03 14 55.5**	**-0.8**
MMK				S	**Sg**	**03 15 02.4**	**-0.2**
MMK				AML	AML		
	comp=E,1475μm,0.3s						
MMK				AML	AML		
	comp=N,1930μm,0.5s						
LSD	**Lago del Serru**	**0.47**	**197**	⇑Pg	**Pg**	**03 14 56.0**	**-0.4**
	comp=N,2.4nm,SNR=134						
LSD				⇑Pg	**Pg**	**03 14 56.0**	**-0.4**
LSD				Sg	**Sg**	**03 15 01.7**	**-1.0**
LSD	**Lago del Serru**	**0.47**	**197**	⇑Pg	**Pg**	**03 14 56.0**	**-0.4**
LSD				⇑Pg	**Pg**	**03 14 56.0**	**-0.4**
	comp=N,2.4nm,SNR=134						
LSD				Sg	**Sg**	**03 15 01.7**	**-1.0**
LSD	**Lago del Serru**	**0.47**	**197**	P	**Pg**	**03 14 56.0**	**-0.4**
LSD				S	**Sg**	**03 15 01.7**	**-1.0**
LSD	**Lago del Serru**	**0.47**	**197**	⇑P	**Pg**	**03 14 56.0**	**-0.4**
LSD				S	**Sg**	**03 15 02.8**	**+0.1**
LSD				AML	AML		
	comp=E,2200μm,0.4s						
LSD				AML	AML		
	comp=N,2530μm,0.2s						
SAIG	**Aigle Rue de I**	**0.48**	**328**	⇑Pg	**Pg**	**03 14 56.4**	**-0.1**
	comp=N,2.3nm,SNR=19						
SAIG				⇑Pg	**Pg**	**03 14 56.4**	**-0.1**
SAIG	**Aigle Rue de I**	**0.48**	**328**	⇑Pg	**Pg**	**03 14 56.4**	**-0.1**
	comp=N,2.3nm,SNR=19						
SAIG				⇑Pg	**Pg**	**03 14 56.4**	**-0.1**
TRAV	**Traversella**	**0.49**	**144**	⇑Pg	**Pg**	**03 14 56.2**	**-0.5**
	comp=N,5.6nm,SNR=217						
TRAV				⇑Pg	**Pg**	**03 14 56.2**	**-0.6**
TRAV				Sg	**Sg**	**03 15 02.6**	**-0.6**
TRAV	**Traversella**	**0.49**	**144**	⇑Pg	**Pg**	**03 14 56.2**	**-0.5**
TRAV				⇑Pg	**Pg**	**03 14 56.2**	**-0.5**
	comp=N,5.6nm,SNR=217						
TRAV				Sg	**Sg**	**03 15 02.6**	**-0.6**
TRAV	**Traversella**	**0.49**	**144**	P	**Pg**	**03 14 56.2**	**-0.5**
TRAV				S	**Sg**	**03 15 02.7**	**-0.6**
TRAV	**Traversella**	**0.49**	**144**	⇑P	**Pg**	**03 14 56.2**	**-0.5**
TRAV				S	**Sg**	**03 15 02.8**	**-0.5**
TRAV				AML	AML		
	comp=N,12300μm,0.2s						
TRAV				AML	AML		
	comp=E,10365μm,0.1s						
AIGLE	**Aigle**	**0.51**	**329**	⇑Pg	**Pg**	**03 14 56.8**	**-0.2**
AIGLE				⇑Pg	**Pg**	**03 14 56.8**	**-0.2**
	comp=E,0.8nm,SNR=37						
AIGLE	**Aigle**	**0.51**	**329**	⇑Pg	**Pg**	**03 14 56.8**	**-0.2**
	comp=E,0.8nm,SNR=37						
AIGLE				⇑Pg	**Pg**	**03 14 56.8**	**-0.2**
AIGLE	**Aigle**	**0.51**	**329**	Pg	**Pg**	**03 14 56.8**	**-0.2**
LKBD	**Leukerbad**	**0.52**	**23**	⇑Pg	**Pg**	**03 14 56.9**	**-0.5**
	comp=E,1.0nm,SNR=54						
LKBD				⇑Pg	**Pg**	**03 14 56.9**	**-0.5**
LKBD	**Leukerbad**	**0.52**	**23**	⇑Pg	**Pg**	**03 14 56.9**	**-0.5**
	comp=E,1.0nm,SNR=54						
LKBD				⇑Pg	**Pg**	**03 14 56.9**	**-0.5**
RSL	**Roselend**	**0.54**	**246**	⇑Pg	**Pg**	**03 14 57.5**	**-0.2**
	comp=E,0.8nm,SNR=36						
RSL				⇑Pg	**Pg**	**03 14 57.5**	**-0.2**
RSL	**Roselend**	**0.54**	**246**	⇑Pg	**Pg**	**03 14 57.5**	**-0.2**
	comp=E,0.8nm,SNR=36						
RSL				⇑Pg	**Pg**	**03 14 57.5**	**-0.2**
RSL	**Roselend**	**0.54**	**246**	Pg	**Pg**	**03 14 57.5**	**-0.2**
RSL				Sg	**Sg**	**03 15 04.5**	**-0.5**
SVIT	**Visp-Terbiners**	**0.54**	**45**	Pg	**Pg**	**03 14 57.2**	**-0.5**
	comp=E,2.0nm,SNR=6.7						
SVIT				Pg	**Pg**	**03 14 57.2**	**-0.5**
SVIT	**Visp-Terbiners**	**0.54**	**45**	Pg	**Pg**	**03 14 57.2**	**-0.5**
	comp=E,2.0nm,SNR=6.7						
SVIT				Pg	**Pg**	**03 14 57.2**	**-0.5**
BIBA	**Brigerbad**	**0.57**	**46**	Pg	**Pg**	**03 14 57.6**	**-0.7**
	comp=E,1.1nm,SNR=7.1						
BIBA				Pg	**Pg**	**03 14 57.6**	**-0.7**
BIBA	**Brigerbad**	**0.57**	**46**	Pg	**Pg**	**03 14 57.6**	**-0.7**
BIBA				Pg	**Pg**	**03 14 57.6**	**-0.7**
	comp=E,1.1nm,SNR=7.1						
LPL	**La Plagne**	**0.57**	**227**	*e*Pg	**Pg**	**03 14 58.0**	**-0.3**
LPL				*e*Sg	**Sg**	**03 15 05.5**	**-0.5**
	comp=E,584nm,0.4s						
LPG	**La Plagne**	**0.58**	**225**	*e*Pg	**Pg**	**03 14 58.1**	**-0.3**
LPG				*e*Sg	**Sg**	**03 15 05.5**	**-0.6**
	comp=E,360nm,0.2s						
SIMPL	**Simplonpass**	**0.58**	**55**	Pg	**Pg**	**03 14 57.6**	**-0.9**
	comp=E,0.8nm,SNR=32						
SIMPL				Pg	**Pg**	**03 14 57.6**	**-0.9**
SIMPL	**Simplonpass**	**0.58**	**55**	Pg	**Pg**	**03 14 57.6**	**-0.9**
SIMPL				Pg	**Pg**	**03 14 57.6**	**-0.9**
	comp=E,0.8nm,SNR=32						
LAUCH	**Lauchernalp**	**0.59**	**31**	⇑Pg	**Pg**	**03 14 58.2**	**-0.5**
LAUCH				⇑Pg	**Pg**	**03 14 58.2**	**-0.5**
	comp=E,0.6nm,SNR=27						
LAUCH	**Lauchernalp**	**0.59**	**31**	⇑Pg	**Pg**	**03 14 58.2**	**-0.5**
	comp=E,0.6nm,SNR=27						
LAUCH				⇑Pg	**Pg**	**03 14 58.2**	**-0.5**
FIESA	**Fiescheralp**	**0.76**	**45**	⇑Pg	**Pg**	**03 15 00.9**	**-0.9**
	comp=E,0.5nm,SNR=26						
FIESA				⇑Pg	**Pg**	**03 15 00.9**	**-0.9**
FIESA	**Fiescheralp**	**0.76**	**45**	⇑Pg	**Pg**	**03 15 00.9**	**-0.9**
FIESA				⇑Pg	**Pg**	**03 15 00.9**	**-0.9**
	comp=E,0.5nm,SNR=26						
RSP	**Reno Superiore**	**0.76**	**184**	⇑Pg	**Pg**	**03 15 01.2**	**-0.6**
	comp=E,1.0nm,SNR=44						
RSP				⇑Pg	**Pg**	**03 15 01.2**	**-0.6**
RSP	**Reno Superiore**	**0.76**	**184**	⇑Pg	**Pg**	**03 15 01.2**	**-0.6**
	comp=E,1.0nm,SNR=44						
RSP				⇑Pg	**Pg**	**03 15 01.2**	**-0.6**
RSP	**Reno Superiore**	**0.76**	**184**	P	**Pg**	**03 15 01.2**	**-0.6**
RSP				S	**Sg**	**03 15 10.7**	**-1.2**
RSP	**Reno Superiore**	**0.76**	**184**	⇑P	**Pg**	**03 15 01.2**	**-0.6**
RSP				S	**Sg**	**03 15 11.2**	**-0.7**
RSP				AML	AML		
	comp=E,2020μm,0.9s						
RSP				AML	AML		
	comp=N,1014μm,1.3s						
RSP				AML	A

CABF eSg Sg 03 15 23.2 +0.1
comp=E,179nm,0.3s
OGSM Saint Maurice 1.18 256 Pg Pg 03 15 09.8 0.0
OGSM Sg Sg 03 15 25.1 -0.1
BRANT Les Verrieres 1.19 330 Pg Pg 03 15 10.1 +0.2
BRANT Pg Pg 03 15 10.1 +0.2
comp=E,1.4nm,SNR=38
BRANT Les Verrieres 1.19 330 Pg Pg 03 15 10.1 +0.2
BRANT Pg Pg 03 15 10.1 +0.2
comp=E,1.4nm,SNR=38
BRANT Les Verrieres 1.19 330 Pg Pg 03 15 10.2 +0.2
BRANT Les Verrieres 1.19 330 Sg Sb 03 15 26.7 +2.1
MUGIO Muggio 1.19 89 P Pg 03 15 08.8 -1.2
MUGIO S Sg 03 15 24.4 -1.1
MUGIO AML AML
comp=N,340µm,0.3s
MUGIO AML AML
comp=N,340µm,0.2s
MUGIO AML AML
comp=E,290µm,0.4s
BNALP Bannalp 1.23 38 ⇑Pg Pg 03 15 09.7 -0.9
comp=E,0.6nm,SNR=28
BNALP ⇑Pg Pg 03 15 09.7 -0.9
BNALP Bannalp 1.23 38 ⇑Pg Pg 03 15 09.7 -0.9
comp=E,0.6nm,SNR=28
BNALP ⇑Pg Pg 03 15 09.7 -0.9
BNALP Bannalp 1.23 38 P Pg 03 15 09.8 -0.8
BNALP AML AML
comp=E,504µm,0.7s
BNALP AML AML
comp=N,534µm,0.7s
BNALP AML AML
comp=N,534µm,0.7s
BNALP AML AML
comp=E,504µm,0.7s
OG35 Corcelles 1.24 277 Pg Pg 03 15 10.9 +0.1
MBDF Montbardon 1.25 199 ePg Pg 03 15 09.8 -1.2
MBDF eSg Sg 03 15 26.6 -0.6
comp=E,318nm,0.5s
ROTM Rocchetta Tana 1.28 145 AML AML
comp=N,1235µm,0.4s
ROTM AML AML
comp=E,669µm,0.3s
ROTM AML AML
comp=E,690µm,0.5s
GRN Grenoble 1.30 240 Pg Pn 03 15 11.7 +1.0
GRN Sg Sn 03 15 29.7 +1.8
PZZ Stroppo 1.41 186 P Pn 03 15 12.1 -0.2
PZZ AML AML
comp=E,744µm,0.8s
PZZ AML AML
comp=N,626µm,0.9s
CHMF Charmoille 1.42 341 ⇑Pg Pn 03 15 13.4 +1.0
comp=N,2.9nm,SNR=136
CHMF ⇑Pg Pn 03 15 13.4 +1.0
CHMF PmP 03 15 15.0
CHMF Charmoille 1.42 341 ⇑Pg Pn 03 15 13.4 +1.0
CHMF ⇑Pg Pn 03 15 13.4 +1.0
comp=N,2.9nm,SNR=136
CHMF PmP 03 15 15.0
CHMF Charmoille 1.42 341 Pn Pn 03 15 13.4 +1.0
CHMF Pg Pg 03 15 15.0 +0.6
ORIF Oris-en-Rattie 1.42 226 ePg Pn 03 15 13.4 +0.9
ORIF eSg Sg 03 15 32.9 0.0
comp=N,123nm,0.3s
ORIF Oris-en-Rattie 1.42 226 Pn Pb 03 15 13.8 +0.5
ORIF Oris-en-Rattie 1.42 226 Sn Sb 03 15 32.6 +1.3
ORIF Oris-en-Rattie 1.42 226 P Pn 03 15 13.4 +0.9
ORIF AML AML
comp=E,298µm,1.4s
ORIF AML AML
comp=N,233µm,0.5s
BALST Balsthal 1.45 10 Pn Pb 03 15 14.6 +0.8
BALST Balsthal 1.45 10 ePn Pn 03 15 13.7 +0.8
BALST eSg Sg 03 15 34.7 +0.9
BOURR Bourrignon 1.49 357 Pg Pn 03 15 14.4 +1.0
BOURR Pg Pn 03 15 14.4 +1.0
comp=N,1.1nm,SNR=41
BOURR Bourrignon 1.49 357 Pg Pn 03 15 14.4 +1.0
comp=N,1.1nm,SNR=41
BOURR Pg Pn 03 15 14.4 +1.0
BOURR Bourrignon 1.49 357 Pg Pg 03 15 16.0 +0.4
TUE Stuetta 1.51 67 P Pn 03 15 14.5 +0.7
TUE AML AML
comp=E,190µm,0.3s
TUE AML AML
comp=N,262µm,0.5s
TUE AML AML
comp=N,192µm,0.5s
TUE AML AML
comp=E,228µm,0.3s
OGAG Argentiere 1.56 201 Pg Pn 03 15 10.1 -4.2
OGAG Pn Pb 03 15 10.8 -4.8
PCP Piancastagn 1.61 147 P Pn 03 15 16.1 +1.1
PCP AML AML
comp=E,137µm,0.4s
PCP AML AML
comp=N,164µm,0.5s
MDI Monti di Nese 1.67 94 P Pn 03 15 16.9 +1.0
MDI S Sg 03 15 40.2 -0.5
MDI AML AML
comp=E,345µm,0.7s
MDI AML AML
comp=N,340µm,1.4s
MDI AML AML
comp=N,361µm,0.4s
MDI AML AML
comp=N,360µm,0.4s
MDI AML AML
comp=E,348µm,0.2s
ENR Entracque 1.68 178 P Pn 03 15 15.5 -0.5
ENR AML AML
comp=N,141µm,0.4s
ENR AML AML
comp=E,156µm,0.3s
GBOS Grotte di Boss 1.70 168 P Pn 03 15 16.8 +0.5
GBOS AML AML
comp=E,115µm,1.3s
GBOS AML AML
comp=N,154µm,0.5s
SULZ Cheisacher 1.71 18 Pn Pn 03 15 17.3 +0.9
SULZ Pg Pg 03 15 20.0 +0.2
SULZ Cheisacher 1.71 18 Sg Sg 03 15 43.3 +1.3
SULZ Cheisacher 1.71 18 ePn Pn 03 15 17.2 +0.8
SULZ eSg Sg 03 15 43.0 +1.0
QLNO Quiliano 1.74 155 P Pn 03 15 17.9 +1.2
PLONS Plons/SG 1.82 50 ePn Pb 03 15 20.5 +0.4
PLONS Plons/SG 1.82 50 P Pb 03 15 20.8 +0.7
PLONS AML AML
comp=E,229µm,0.5s
PLONS AML AML
comp=N,233µm,0.5s
WILA Wila 1.86 35 ePn Pn 03 15 20.0 +1.5
WILA eSg Sg 03 15 48.0 +1.3
RORO Rocca Rossa 1.87 164 P Pn 03 15 19.7 +1.1
RORO AML AML
comp=E,359µm,0.8s
RORO AML AML
comp=N,198µm,0.7s
MGRO Montegrosso 1.90 170 P Pn 03 15 19.6 +0.5
MGRO AML AML
comp=E,188µm,1.0s
MGRO AML AML
comp=N,178µm,0.7s
SAOF Saorge 1.93 175 Pn Pn 03 15 19.8 +0.5
SAOF Saorge 1.93 175 P Pn 03 15 19.7 +0.4
SAOF Saorge 1.93 175 AML AML
comp=N,103µm,0.9s
SAOF AML AML
comp=E,134µm,1.1s
TURF col de Turini 1.93 179 Pn Pn 03 15 19.6 +0.1
HINF Hinteralfeld 1.94 350 eP Pn 03 15 20.1 +0.6
HINF Hinteralfeld 1.94 350 ePg Pb 03 15 23.3 +1.2
HINF eSg Sb 03 15 48.2 +2.1
comp=E,119nm,0.2s
OGDI Digne 1.94 203 Pn Pb 03 15 23.0 +0.8
DAVOX Davos/Dischmat 1.97 63 P Pb 03 15 23.2 +0.5
DAVOX AML AML
comp=N,157µm,0.7s
DAVOX AML AML
comp=E,109µm,0.5s
SLE Schleitheim 2.02 23 Pn Pn 03 15 21.1 +0.4
SLE Schleitheim 2.02 23 Pn Pn 03 15 21.1 +0.4
SLE Schleitheim 2.02 23 Pg Pg 03 15 25.2 -0.6
SLE Schleitheim 2.02 23 ePn Pn 03 15 21.1 +0.4
SLE ePg Pg 03 15 25.2 -0.6
SLE eSg Sg 03 15 51.8 -0.2
IMI Imperia 2.04 169 P Pn 03 15 22.0 +1.1
IMI AML AML
comp=E,308µm,0.7s
IMI AML AML
comp=N,268µm,0.7s
SBF Sospel 2.04 178 eP Pn 03 15 21.9 +0.9
SBF Sospel 2.04 178 ePg Pb 03 15 24.9 +1.0
SBF eSg Sg 03 15 52.0 -0.8
comp=N,115nm,0.4s
ESCA l'Escarene 2.08 179 Pn Pb 03 15 25.0 +0.5
KIZ Kirchzarten 2.09 11 Pg Pg 03 15 26.5 -0.5
KIZ Kirchzarten 2.09 11 Pn Pn 03 15 21.7 +0.1
KIZ Kirchzarten 2.09 11 Pg Pg 03 15 26.5 -0.5
VIVF Saint-Julien-I 2.15 242 eP Pn 03 15 23.8 +1.4
VIVF Saint-Julien-I 2.15 242 ePg Pb 03 15 26.8 +1.1
VIVF eSg Sb 03 15 54.4 +2.2
comp=N,78nm,0.3s
BLAF les Blancs 2.16 206 Pn Pb 03 15 25.4 -0.4
CALF Calern 2.17 188 Pn Pb 03 15 25.8 -0.4
HAU Haudompre 2.21 343 eP Pn 03 15 23.8 +0.6
HAU Haudompre 2.21 343 ePg Pb 03 15 28.4 +1.8
HAU eSg Sb 03 15 56.4 +2.6
comp=N,203nm,0.4s
MLYF Mely 2.22 211 Pn Pb 03 15 26.7 -0.1
DAVA Damuels 2.23 51 ePn Pg 03 15 29.4 -0.4
comp=N,16nm,0.5s,SNR=15
DAVA eSg Sg 03 15 59.8 +0.9
comp=N,58nm,0.3s
DAVA Damuels 2.23 51 ePg Pg 03 15 29.0 -0.8
DAVA eSg Sg 03 15 59.0 +0.2
SMRF Simiane la Rot 2.30 213 eP Pn 03 15 26.6 +2.1
SMRF Simiane la Rot 2.30 213 ePg Pg 03 15 30.2 -0.9
SMRF eSg Sg 03 15 59.4 -1.5
comp=N,30nm,0.4s
ECH Echery 2.31 357 Pn Pn 03 15 25.0 +0.3
RUSF Rustrel 2.36 214 Pn Pn 03 15 28.1 +2.7
FRF La Foret Royal 2.40 192 eP Pn 03 15 27.6 +1.8
FRF La Foret Royal 2.40 192 ePg Pb 03 15 31.4 +1.5
FRF eSg Sg 03 16 03.2 -0.8
comp=N,38nm,0.3s
GUT Gutenstein 2.48 29 Pg Pg 03 15 33.9 -0.7
GUT Gutenstein 2.48 29 Pn Pn 03 15 27.3 +0.3
GUT Gutenstein 2.48 29 Pg Pg 03 15 33.9 -0.7
GUT Gutenstein 2.48 29 Sg Sg 03 16 06.1 -0.8
CDF Champ du Feu 2.51 359 eP Pn 03 15 27.7 +0.3
CDF Champ du Feu 2.51 359 ePg Pg 03 15 34.1 -0.9
CDF eSg Sb 03 16 05.8 +3.3
comp=N,57nm,0.4s
WLS Welschbruch 2.51 0 Pn Pn 03 15 27.7 +0.3
WLS Pg Pg 03 15 35.0 0.0
BFO Black Forest 2.52 15 ePn Pn 03 15 27.3 -0.2
BFO ePg Pg 03 15 34.1 -1.1
BFO eSg Sg 03 16 06.7 -1.2
SMF Signal de Mont 2.53 288 eP Pn 03 15 29.3 +1.6
SMF eSg Sb 03 16 06.2 +3.0
comp=N,33nm,0.3s
ARTF Artigues 2.56 206 Pn Pn 03 15 30.2 +2.1
FETA Feichten 2.60 63 ePn Pb 03 15 32.7 -0.7
comp=N,0.3nm,0.1s
FETA eSn Sg 03 16 09.2 -1.3
comp=N,3.8nm,0.4s
UBR Ueberruh 2.60 46 ePn Pn 03 15 31.3 +2.6
UBR ePg Pg 03 15 37.0 +0.1
UBR eSg Sg 03 16 11.2 +0.6
LMR La Mourre 2.64 193 eP Pn 03 15 31.8 +2.7
LMR La Mourre 2.64 193 ePg Pb 03 15 35.6 +1.6
LMR eSg Sg 03 16 09.4 -2.4
comp=N,34nm,0.4s
OPP Oppenau 2.66 12 Pn Pn 03 15 29.2 -0.2
OPP Pg Pg 03 15 36.9 -1.0
LOR Lormes 2.75 301 eP Pn 03 15 32.2 +1.5
baz=121
LOR Lormes 2.75 301 ePg Pb 03 15 38.2 +2.2
baz=121
LOR eSg Sb 03 16 13.3 +3.7
comp=N,70nm,0.5s
LOR Lormes 2.75 301 Pn Pn 03 15 32.0 +1.2
SFTF Sexfontaines 2.78 327 eP Pn 03 15 33.4 +2.3
baz=146
SFTF Sexfontaines 2.78 327 ePg Pg 03 15 39.3 -1.0
baz=145
SFTF eSg Sg 03 16 14.5 -1.9
comp=N,83nm,0.4s
RETA Reutte 2.84 55 ePn Pn 03 15 34.7 +2.7
comp=N,0.4nm,0.1s
RETA Sn Sn 03 16 08.5 +2.5
comp=N,7.9nm,0.2s
PAGF Fort de Pagny 2.87 338 eP Pn 03 15 34.0 +1.8
baz=158
PAGF Fort de Pagny 2.87 338 ePg Pg 03 15 41.5 -0.4
baz=158
PAGF eSn Sn 03 16 04.9 -1.6
PAGF eSg Sg 03 16 17.2 -1.8
comp=N,72nm,0.5s
ABSI Aberstueckl 2.88 72 ⇓P Pb 03 15 38.3 0.0
SSF Saint Saulge 2.88 295 eP Pn 03 15 33.9 +1.4
SSF eSg Sg 03 16 17.6 -2.0
comp=N,32nm,0.3s
AVF Avril sur Loir 2.89 289 eP Pn 03 15 33.8 +1.2
AVF eSg Sb 03 16 17.6 +4.0
comp=N,24nm,0.3s
AGO Saint Agoulin 2.93 274 Pn Pn 03 15 34.2 +1.1
LBL Lubilhac 2.95 258 Pn Pn 03 15 34.3 +0.9
MOTA Moosalm 2.97 60 ePn Pn 03 15 36.8 +3.0
comp=N,2.2nm,0.2s
MOTA eSn Sn 03 16 12.0 +2.7
comp=N,9.3nm,0.4s
MEZF Maizieres J'vi 3.03 330 eP Pn 03 15 35.6 +1.2
baz=150
MEZF Maizieres J'vi 3.03 330 ePg Pg 03 15 44.1 -0.9
baz=150
MEZF eSg Sg 03 16 22.8 -1.3
comp=N,91nm,0.5s
PYM Petit Puy Mans 3.03 269 Pn Pn 03 15 35.2 +0.7
PYM Petit Puy Mans 3.03 269 Pg Pg 03 15 44.8 -0.2
PYM Petit Puy Mans 3.03 269 Pn Pn 03 15 35.2 +0.7
LASF Ste Croix 3.07 235 eP Pn 03 15 36.7 +1.6
LASF Ste Croix 3.07 235 ePg Pg 03 15 44.5 -1.3
LASF eSn Sn 03 16 09.6 -2.0
LASF eSg Sb 03 16 22.6 +3.9
comp=N,31nm,0.5s
SAVF Savonnieres en 3.10 332 eP Pn 03 15 38.2 +2.8
baz=150
SAVF Savonnieres en 3.10 332 ePg Pg 03 15 45.0 -1.3
baz=151
SAVF eSg Sg 03 16 25.8 -0.7
comp=N,70nm,0.7s
STU Stuttgart 3.13 23 ePg Pg 03 15 46.5 -0.5
STU eSg Sg 03 16 27.0 -0.6
PII Pisa 3.15 133 P Pn 03 15 38.8 +2.7
BGF Bois d'Agland 3.18 283 eP Pn 03 15 37.8 +1.2
BGF eSn Sn 03 16 11.5 -2.8
BGF eSg Sg 03 16 27.1 -2.0
comp=N,55nm,0.4s
MTCR Monte La Croce 3.21 125 P Pb 03 15 41.6 -2.2
WATA Walderalm 3.25 62 ePn Pn 03 15 40.5 +2.7
comp=N,0.4nm,0.2s
WATA eSn Sn 03 16 20.2 +3.9
comp=N,2.5nm,0.2s
WTTA Wattenberg 3.26 64 ePn Pn 03 15 41.0 +3.1
comp=N,0.5nm,0.1s
WTTA eSn Sn 03 16 21.0 +4.4
comp=N,3.1nm,0.3s
WTTA Wattenberg 3.26 64 ePn Pn 03 15 41.7 +3.8
HYF Humbligny 3.51 295 eP Pn 03 15 42.9 +1.8
HYF eSg Sg 03 16 37.1 -2.6
TCF Toulx Ste Croi 3.58 278 eP Pn 03 15 43.7 +1.6
TCF eSn Sn 03 16 22.0 -2.3
TCF eSg Sg 03 16 39.6 -2.5
comp=N,25nm,0.3s
ABTA Abfaltersbach 3.69 75 ePn Pn 03 15 44.2 +0.6
comp=N,0.1nm,0.1s
ABTA eSn Sn 03 16 28.8 +1.9
comp=N,0.7nm,0.2s
CAF Calviac 3.84 257 eP Pn 03 15 47.2 +1.6
CAF eSg Sg 03 16 47.6 -2.6
comp=N,28nm,0.5s
WLF Walferdange 3.84 348 eSg Sg 03 16 48.9 -1.4
CPGN Carpegna, Ital 4.12 119 P Pb 03 16 02.1 +2.7
RJF Les Rejaudoux 4.13 264 eP Pn 03 15 51.2 +1.6
RJF eSn Sn 03 16 35.2 -2.4
RJF eSg Sg 03 16 56.6 -2.8
comp=N,16nm,0.4s
KBA Koelnbreinsper 4.31 72 ePn Pn 03 15 53.1 +0.8
comp=N,0.1nm,0.1s
MTLF Montolieu 4.46 237 eP Pn 03 15 55.7 +1.5
MTLF eSn Sn 03 16 43.0 -2.9
MTLF eSg Sg 03 17 07.3 -2.9
comp=N,15nm,0.5s
GIVF Givet 4.52 339 eP Pn 03 15 57.0 +2.0
GIVF Givet 4.52 339 ePg Pg 03 16 11.3 -2.3
GIVF eSg Sg 03 17 08.6 -3.5
comp=N,28nm,0.7s
GRF Grafenberg Arr 4.61 33 eSg Sg 03 17 14.2 -0.6
BAIF Baives 4.65 334 eP Pn 03 15 58.3 +1.5
BAIF Baives 4.65 334 ePg Pg 03 16 13.4 -2.7
BAIF eSg Sg 03 17 13.0 -3.3
comp=N,15nm,0.6s
LFF La Frestale 4.74 261 eP Pn 03 15 59.4 +1.4
LFF eSg Sg 03 17 15.6 -3.5
comp=N,23nm,0.6s
SENI Senigallia 4.74 116 ⇓P Pb 03 16 04.4 -5.4
WET Wettzell 4.96 47 eSg Sg 03 17 25.0 -1.1
OBKA Obir 5.05 81 ePn Pn 03 16 05.1 +2.8
comp=N,0.4nm,0.2s
ROTZ Rotzenmuhle 5.07 39 eSg Sg 03 17 28.4 -1.1
MOA Molln 5.14 65 ePn Pn 03 16 06.4 +2.9
comp=N,0.2nm,0.1s
MOA eSn Sn 03 17 02.6 +0.1
comp=N,1.1nm,0.2s
MANZ Manzenberg 5.19 36 eSg Sg 03 17 33.8 +0.2
GEC2 GERESS Array S 5.23 54 ePn Pn 03 16 06.6 +1.8
MFF Saint Martin d 5.23 280 eP Pn 03 16 06.2 +1.4
MFF eSg Sg 03 17 30.7 -4.2
comp=N,7.6nm,0.4s
KHC Kasperske Hory 5.32 50 ePN Pn 03 16 07.5 +1.5
KHC eSN Sn 03 17 05.2 -1.8
KHC eSG Sg 03 17 37.0 -0.7
comp=N,9.0nm,0.8s
SOKA Soboth 5.39 79 ePn Pn 03 16 07.5 +0.4
comp=N,0.8nm,0.1s
NKC Novy Kostel 5.52 37 eSG Sg 03 17 42.5 -1.6
comp=N,8.6nm,0.5s
MOX Moxa 5.54 30 eSg Sg 03 17 41.7 -2.8
CKRC Cesky Krumlov 5.56 56 ePN Pn 03 16 10.9 +1.6
CKRC eSN Sn 03 17 10.7 -2.3
LDF La Druitiere 5.74 301 ePn Pn 03 16 11.8 +0.1
LDF eSn Sn 03 17 14.2 -3.2
LDF eSg Sg 03 17 46.8 -4.4
comp=N,14nm,0.6s
EPF Esparros 5.77 243 eP Pn 03 16 15.5 +3.3
EPF eSg Sg 03 17 48.7 -3.5
comp=N,7.1nm,0.5s
ARSA Arzberg 5.80 74 ePn Pn 03 16 13.6 +0.9
comp=N,0.3nm,0.2s
PBCC Pribram 5.87 47 eSG Sg 03 17 54.3 -0.9
FLN La Foliniere 6.03 301 eP Pn 03 16 16.5 +0.8
baz=122
FLN eSn Sn 03 17 21.4 -3.0
FLN eSg Sg 03 17 55.9 -4.5
comp=N,6.5nm,0.3s,baz=119
GRR Gorron 6.11 297 ePn Pn 03 16 16.7 -0.1
GRR Gorron 6.11 297 eP Pn 03 16 20.4 +3.6
GRR eSn Sn 03 17 22.7 -3.8
comp=N,7.1nm,0.4s
GRR eSg Sg 03 17 58.3 -4.8
comp=N,4.6nm,0.4s
CONA Conrad Observa 6.18 68 ePn Pn 03 16 20.2 +2.4
comp=N,0.1nm,0.1s
CONA eSn Sn 03 17 26.9 -1.4
comp=N,2.3nm,0.5s
KOGS Kog 6.22 82 ⇑P Pg 03 16 45.4 -0.6
PRU Pruhonice 6.33 47 eSG Sg 03 18 08.5 -1.6
comp=N,5.8nm,0.9s
ETSF Etsaut 6.40 245 eP Pn 03 16 24.2 +3.3
ETSF eSg Sg 03 18 07.5 -4.9
comp=N,4.4nm,0.5s
CLL Collm 6.58 33 ePg Pg 03 16 52.0 -0.9
CLL eSg Sg 03 18 15.0 -3.1
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 6.64 39 Pn Pn 03 16 13.9 -10
BRG Amp 03 16 16.1
comp=Z,0.9nm,0.6s
BRG Berggiesshubel 6.64 39 Pg Pg 03 16 50.6 -3.4
BRG Sn Sn 03 17 38.7 -0.7
BRG Amp 03 17 40.3
comp=Z,2.8nm,0.6s
BRG Berggiesshubel 6.64 39 Sg Sg 03 18 18.9 -0.9
BRG Amp 03 18 29.3
comp=Z,7.2nm,0.9s
SJPF Ste Jean 6.72 249 eP Pn 03 16 29.6 +4.3
SJPF eSn Sn 03 17 36.1 -5.5
SJPF eSg Sg 03 18 17.7 -5.0
comp=Z,6.6nm,0.6s
MELA Melanico ??? S 7.03 124 ⇑P Pn 03 16 37.0 +7.6
SGMF Saint Gilles 7.15 293 ePn Pn 03 16 31.0 0.0
SGMF Saint Gilles 7.15 293 eP Pn 03 16 34.5 +3.5
SGMF eSn Sn 03 17 46.8 -5.2
comp=Z,5.5nm,0.5s
QUIF Quistinic 7.47 289 ePn Pn 03 16 34.7 -0.7
QUIF eSn Sn 03 17 54.0 -5.8
comp=Z,2.0nm,0.4s
DPC Dobruska-Polom 7.48 50 eSG Sg 03 18 45.4 -1.4
comp=Z,3.3nm,0.7s
ROSF Rostrenen 7.63 292 ePn Pn 03 16 37.2 -0.5
ROSF Rostrenen 7.63 292 eP Pn 03 16 42.1 +4.4
ROSF eSn Sn 03 17 59.9 -4.0
comp=Z,2.2nm,0.4s

IDC ***15*** *03:55:51.3±2.4,57°.08N×151°.21W,h0km,mb3.4/2, mb1 3.6/5,mb1mx3.4/53,mbtmp3.5/5,ML3.1/3,MS3.0/2, Ms1 3.0/2,ms1mx2.4/36,Error ellipse: s-maj=33.1km s-min=16.6km az=19.0*

NEIC ***15*** *03:55:54.1±1.6,57°.34N±0°.08×151°.1W±0°.1,h21km±10km, Error ellipse: s-maj=12.2km s-min=8.0km az=179.0*

AEIC ***15*** *03:55:56.5±2.4,57°.27N±0°.07×150°.99W±0°.07,h12km±6km, ML3.3/78,ML3.4/46(NEIC),Error ellipse: s-maj=10.3km s-min=5.3km az=189.0*

ISC 15 03:55:54.6±1.1,57°.53N±0°.08×150°.89W±0°.04,h16km, n104,σ1888/113,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.95**	**286**	Pg	**Pb**	**03 56 11.5**	**-1.1**
	26nm,0.3s,baz=134,slow=6.5,SNR=307						
KDAK				Lg	Lg	03 56 26.7	
	101nm,0.3s,baz=204,slow=20,SNR=17						
KDAK				LR	LR	03 56 28.7	
	comp=Z,64nm,21.6s,baz=354,slow=36						
KDAK	**Kodiak Island**	**0.95**	**286**		**Pb**	**03 56 11.0**	**-1.6**
KDAK	**Kodiak Island**	**0.95**	**286**	P		03 56 11.1	
	baz=120						
OHAK	**Old Harbor**	**1.34**	**258**	P		03 56 14.6	
	baz=87,SNR=130						
OHAK				S		03 56 29.5	
	baz=87						
CNPM	**China Poot**	**2.01**	**355**		**Pn**	**03 56 28.9**	**+1.1**
CNPM				IAML		03 56 54.9	
	comp=N,248nm,0.5s						
CNPM				IAML		03 57 25.7	
	comp=E,182nm,1.2s						
SII	**Sitkinak Islan**	**2.05**	**243**	P		03 56 23.5	
	baz=66,SNR=7.1						
SII				S		03 56 45.9	
	baz=66						
HOM	**Homer**	**2.17**	**350**		**Pn**	**03 56 31.1**	**+1.0**
HOM	**Homer**	**2.17**	**350**	P		03 56 30.8	
	baz=172,SNR=6.6						
HOM				S		03 56 59.6	
	baz=172						
BRSE	**Bradley Lake S**	**2.22**	**2**		**Pn**	**03 56 31.9**	**+1.1**
BRSE	**Bradley Lake S**	**2.22**	**2**	P		03 56 31.8	
	baz=183,SNR=94						
BRLK	**Bradley Lake**	**2.24**	**0**	Pn	**Pn**	**03 56 32.1**	**+1.0**
BRLK				IAML		03 56 48.6	
	comp=N,150nm,1.1s						
AU22	**Augustine Moun**	**2.26**	**326**		**Pn**	**03 56 32.4**	**+1.2**
AU22					Sn	03 56 59.2	+0.5
AUCH	**Augustine Cone**	**2.28**	**325**		**Pb**	**03 56 33.4**	**-1.9**
AUCH					Sn	03 57 00.4	+1.0
AUL	**Augustine Lava**	**2.29**	**325**		**Pn**	**03 56 33.2**	**+1.5**
OPT	**Oil Point**	**2.46**	**331**		**Pn**	**03 56 35.5**	**+1.5**
ILS	**Iliamna Low So**	**2.69**	**336**		**Pn**	**03 56 38.4**	**+1.2**
SEW	**Seward**	**2.69**	**15**	P		03 56 37.8	
	baz=196,SNR=13						

IVE	Iliamna Volcan	2.73	337			Pn		03 56 38.8	+1.0
Q23K	Middleton Isla	3.05	49	Pn		Pb		03 56 46.9	-1.5
MID	Middleton Isla	3.06	49	Pn		Pb		03 56 46.4	-2.1
RSO	Redoubt South	3.10	343			Pn		03 56 43.7	+0.8
O19K	Port Alsworth	3.22	328			Pn		03 56 44.5	+0.2
CAPN	Captain Cook N	3.25	358	P				03 56 46.3	
	baz=179								
PWL	Port Wells	3.59	20			Pn		03 56 50.9	+1.3
PWL	Port Wells	3.59	20		IAML			03 57 36.2	
	comp=N,61nm,0.7s								
PWL					IAML			03 57 36.2	
	comp=E,67nm,0.6s								
RC01	Rabbit Creek A	3.62	9			Pn		03 56 51.1	+1.1
RC01					IAML			03 57 19.9	
	comp=E,77nm,0.7s								
RC01					IAML			03 58 18.2	
	comp=N,62nm,1.5s								
RC01	Rabbit Creek A	3.62	9	P				03 56 51.0	
	baz=190,SNR=12								
RC01				S				03 57 33.3	
	baz=190								
HIN	Hinchinbrook I	3.67	36			Pn		03 56 51.5	+1.0
HIN						Sn		03 57 33.0	-0.4
HIN					IAML			03 57 34.3	
	comp=N,55nm,0.3s								
HIN					IAML			03 57 35.1	
	comp=E,52nm,0.9s								
N19K	Bonanza Creek	3.78	332			Pn		03 56 52.8	+0.6
SPCP	Crater Peak Br	3.81	351			Pn		03 56 53.1	+0.5
SPCG	Spurr Capps Gl	3.82	352			Pn		03 56 53.5	+0.7
SPCG						Sn		03 57 39.1	+1.7
GLI	Glacier Island	3.89	29			Pn		03 56 54.7	+1.2
GLI					IAML			03 57 44.7	
	comp=N,40nm,0.6s								
GLI	Glacier Island	3.89	29	P				03 56 54.5	
	baz=211								
FID	Port Fidalgo	3.95	33	Pn		Pn		03 56 54.8	+0.4
FID				Sn		Sn		03 57 38.6	-1.8
FID					IAML			03 57 41.8	
	comp=E,52nm,0.5s								
FID					IAML			03 57 42.6	
	comp=N,44nm,0.4s								
EYAK	Cordova Ski Ar	4.03	39			Pn		03 56 57.3	+1.8
EYAK	Cordova Ski Ar	4.03	39			Sn		03 57 42.2	0.0
EYAK	Cordova Ski Ar	4.03	39	P				03 56 56.8	
	baz=222,SNR=10								
EYAK				S				03 57 42.0	
	baz=222								
N18K	Kilae Creek	4.08	323			Pn		03 56 56.6	+0.4
KNK	Knik Glacier	4.09	17			Pn		03 56 57.5	+1.1
KNK	Knik Glacier	4.09	17		IAML			03 58 39.0	
	comp=E,54nm,1.7s								
KNK					IAML			03 58 41.7	
	comp=N,41nm,1.7s								
KNK	Knik Glacier	4.09	17	P				03 56 57.5	
	baz=198,SNR=5.5								
PMR	Palmer	4.17	12			Pn		03 56 58.7	+1.2
PMR	Palmer	4.17	12	P				03 56 58.4	
	baz=193,SNR=10								
SVW2	Sparrevohn	4.31	328			Pn		03 56 59.8	+0.3
SVW2	Sparrevohn	4.31	328		IAML			03 58 23.9	
	comp=N,46nm,1.3s								
SVW2					IAML			03 58 33.0	
	comp=E,39nm,1.4s								
GHO	Glory Hole Cre	4.37	12			Pn		03 57 01.7	+1.4
HMT	Hamilton	4.44	48	Pn		Pn		03 57 03.4	+2.2
DIV	Divide	4.46	34			Pn		03 57 03.0	+1.4
DIV						Sn		03 57 52.9	-0.2
SKT	Skwentna	4.48	356	Pn		Pn		03 57 03.1	+1.4
SKT					IAML			03 57 56.3	
	comp=N,35nm,0.6s								
SKT	Skwentna	4.48	356	P				03 57 02.4	
	baz=176								
SML	Sawmill	4.48	16	Pn		Pn		03 57 03.2	+1.4
SML					IAML			03 58 58.7	
	comp=N,38nm,1.2s								
SML	Sawmill	4.48	16	P				03 57 03.2	
	baz=198,SNR=25								
SUCK	Suckling Hills	4.49	52	Pn		Pn		03 57 03.8	+1.9
SUCK					IAML			03 58 00.1	
	comp=N,26nm,0.7s								
NICHA	Nichawak Mount	4.50	50			Pn		03 57 03.9	+1.8
SCM	Sheep Creek Mo	4.68	21	Pn		Pn		03 57 06.9	+2.3
KLU	Klutina	4.71	30	Pn		Pn		03 57 06.9	+1.9
KLU					IAML			03 58 00.7	
	comp=E,22nm,0.4s								
KLU					IAML			03 58 16.9	
	comp=N,20nm,0.7s								
KLU	Klutina	4.71	30	P				03 57 06.4	
	baz=214,SNR=8.9								
KLU				S				03 57 58.6	
	baz=214								
BMRM	Bremner River	4.72	40			Pn		03 57 07.0	+1.9
BMRM				Sn		Sn		03 57 58.6	-0.8
BMRM					IAML			03 57 59.9	
	comp=E,24nm,0.4s								
BMRM					IAML			03 58 04.8	
	comp=N,19nm,0.9s								
BMRM	Bremner River	4.72	40	P				03 57 06.7	
	baz=224,SNR=15								
VNHG	Veniaminof 1	4.73	257			Pn		03 57 00.9	-4.2
KULT	Kultieth River	5.04	54			Pn		03 57 11.1	+1.6
KULT						Sn		03 58 06.7	-0.5
CRQM	Cirque	5.14	48	Pn		Pn		03 57 13.0	+2.1
CRQM					IAML			03 58 59.6	
	comp=N,20nm,0.3s								
M24K	Tolsona, Glenn	5.17	25	Pn		Pn		03 57 14.1	+2.8
M24K	Tolsona, Glenn	5.17	25	P				03 57 13.6	
	baz=209,SNR=8.1								
N25K	Chitina, Valde	5.19	35			Pn		03 57 13.2	+1.7
N25K	Chitina, Valde	5.19	35	Sn		Sn		03 58 09.8	-1.3
N25K	Chitina, Valde	5.19	35	P				03 57 13.3	
	baz=220,SNR=21								
TGL	Tana Glacier	5.26	49	Pn		Pn		03 57 14.6	+2.1
WAT6	Susitna Watana	5.31	16			Pn		03 57 15.0	+1.7
WAT6	Susitna Watana	5.31	16	P				03 57 14.8	
	baz=198								
VRDI	Verde Repeater	5.31	43			Pn		03 57 14.9	+1.6
VRDI						Sn		03 58 12.9	-1.3
GLB	Gilahina Butte	5.33	40			Pn		03 57 15.2	+1.7
MESA	MESA	5.35	56	Pn		Pn		03 57 17.2	+3.4
YAH	Yahtse	5.52	55	Pn		Pn		03 57 18.0	+1.8
KIAG	Kiagna River	5.55	49			Pn		03 57 18.2	+1.7
KIAG						Sn		03 58 18.3	-1.6
MCARA	McCarthy VSAT	5.57	43	Pn		Pn		03 57 18.5	+1.8
BALM	Baldy	5.62	48			Pn		03 57 19.3	+1.9
PTPK	Patty Peak	5.66	46			Pn		03 57 19.9	+1.9
PTPK						Sn		03 58 23.1	+0.3
HARP	HAARP	5.67	28			Pn		03 57 20.2	+2.2
HARP	HAARP	5.67	28	P				03 57 21.0	
	baz=212,SNR=8.2								
RKAV	Rock Avalanche	5.67	57			Pn		03 57 19.4	+1.2
GRNC	Granite Creek	5.69	52	Pn		Pn		03 57 20.4	+1.9
SDPT	Sand Point	5.75	252	Pn		Pn		03 57 16.2	-2.9
TABL	Table Mountain	5.82	56	Pn		Pn		03 57 21.8	+1.4
TABL				Sn		Sn		03 58 26.3	-0.5
BARN	Barnard Glacie	5.91	49	Pn		Pn		03 57 23.6	+2.1
TRF	Thorofare Moun	5.95	3	Pn		Pn		03 57 24.1	+2.1
TRF	Thorofare Moun	5.95	3	P				03 57 23.8	
	baz=184								
TT01	Tatalina	5.97	337			Pn		03 57 22.4	+0.2
CTG	Chitna Glacier	5.99	51	P				03 57 24.6	
	baz=238								
TTA	Tatalina	5.99	337	Pn		Pn		03 57 22.0	-0.5
CTGM	Chitina Glacie	5.99	51	Pn		Pn		03 57 25.5	+2.9
PAX	Paxson	6.09	24	Pn		Pn		03 57 26.3	+2.4
PCA	Pinnacle	6.09	61	Pn		Pn		03 57 27.7	+3.8
PINM	Pinnacle	6.09	61	P				03 57 26.1	
	baz=248								
MCK	McKinley	6.30	8	Pn		Pn		03 57 30.1	+3.4
BCPM	Bancas Point	6.34	63	Pn		Pn		03 57 28.6	+1.3
PNL	Peninsula	6.38	66			Pn		03 57 29.7	+1.9
BPAW	Bear Paw Mtn.	6.60	360	Pn		Pn		03 57 31.7	+1.0
BPAW	Bear Paw Mtn.	6.60	360	P				03 57 31.5	
	baz=180								
YUK2	White River	6.64	46			Pn		03 57 34.2	+2.8
YUK2						Sn		03 58 46.7	-0.1
DOT	Dot Lake	7.00	26	Pn		Pn		03 57 40.4	+4.1
WRH	Wood River Hil	7.10	10	Pn		Pn		03 57 39.3	+1.6
L27K	Beaver Creek,	7.14	35	Pn		Pn		03 57 40.7	+2.4
L27K	Beaver Creek,	7.14	35	P				03 57 39.9	
	baz=222								
NEA2	Nenana	7.14	6	Pn		Pn		03 57 41.0	+2.7
NEA2	Nenana	7.14	6	P				03 57 39.6	
	baz=188								
BC03		7.16	35			Pn		03 57 40.3	+1.9
BCAR	Beaver Creek A	7.16	35	Pn		Pn		03 57 41.1	+2.6
HDA	Harding Lake	7.17	14	Pn		Pn		03 57 40.6	+2.0
SCRK	Sand Creek	7.30	25	Pn		Pn		03 57 43.0	+2.5
CCB	Clear Creek Bu	7.30	10	Pn		Pn		03 57 41.4	+1.1
IL31		7.52	13	Pn		Pn		03 57 44.6	+1.3
ILAR	Eielson Array	7.52	13	Pn		Pn		03 57 43.5	0.0
	comp=N,0.4nm,0.3s,baz=203,slow=14,SNR=16								
ILAR						Sn		03 59 05.8	-2.5
	comp=N,0.4nm,0.3s,baz=200,slow=27,SNR=6.1								
ILAR	Eielson Array	7.52	13	Pn		Pn		03 57 45.3	+1.9
MLY	Manley	7.53	0	Pn		Pn		03 57 44.7	+1.1
MLY	Manley	7.53	0	P				03 57 44.7	
	baz=181								
MDM	Murphy Dome	7.57	9	Pn		Pn		03 57 45.1	+1.1
I23K	Minto, Yukon-K	7.68	5	Pn		Pn		03 57 46.7	+1.1
I23K	Minto, Yukon-K	7.68	5	P				03 57 46.6	
	baz=186								
POKR	Poker Plat Res	7.79	11	P				03 57 48.9	
	baz=194								
K27K	Chicken	7.81	30	Pn		Pn		03 57 50.8	+3.4
H21K	Melozitna Rive	8.21	354	P				03 57 53.8	
	baz=173								
DAWY	Dawson	8.62	36	Pn		Pn		03 58 01.4	+2.9
EGAK	Eagle	8.65	29	Pn		Pn		03 58 01.5	+2.6
WHY	Whitehorse	8.81	62	Pn		Pn		03 58 04.0	+2.8
JIS	Juneau Island	8.82	78	Pn		Pn		03 58 02.6	+1.4
BMAR	Burnt Mountain	10.35	14	Pn		Pn		03 58 23.4	+1.2
TOLK	Toolik Lake Re	11.17	2	Pn		Pn		03 58 38.2	+4.8
INK	Inuvik	13.32	29	Pn		P		03 59 09.8	-2.5
	comp=N,0.1nm,0.3s,baz=239,slow=12,SNR=2.7								
YKA	Yellowknife Ar	18.62	59	P		Pn		04 00 13.1	+1.9
	comp=N,0.0nm,0.3s,baz=271,slow=10,SNR=5.4								
FRB	Frobisher Bay	38.17	45	LR	LR			04 19 24.6	
	comp=N,15nm,19.0s,baz=24,slow=37								
SONM	Songino Array	57.17	309	P		P		04 05 41.2	+0.9
	comp=N,0.3nm,0.4s,baz=32,slow=8.5,SNR=1.9								
HFS	Hagfors	62.05	9	LR	LR			04 33 41.1	
	comp=N,16nm,18.7s,baz=343,slow=36								
MKAR	Makanchi Array	67.07	323	P		P		04 06 48.0	+1.4
	comp=N,0.1nm,0.5s,baz=27,slow=4.7,SNR=1.3								

*IDC **15** 04:02:53.7±4.3,26°.90S×175°.94W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/35, mbtmp3.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/24, Error ellipse: s-maj=229.3km s-min=30.4km az=156.0*

*NEIC **15** 04:02:55.8±0.4,26°.9S±0°.1×175°.6W±0°.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=38.8km s-min=7.7km az=128.0*

ISC 15 04:02:55.7±0.7, 26°.8S±0°.1×175°.7W±0°.2, h10km, n20, σ1§43/19, mb4.3/7, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.12	218	Pn	Pn	04 03 45.2	+0.3
NIUE	Niue	9.36	36	Pn	Pn	04 05 10.0	-0.7
RAR	Rarotonga	15.61	73	LR	LR	04 12 10.8	
	comp=Z,33nm,18.9s,baz=294,slow=35						
KHZ	Kahutara	17.89	207		Pn	04 07 04.7	+0.2
KHZ					IAmb	IAmb	04 07 07.3	
	comp=Z,41nm,1.2s						
ASAR	Alice Springs	45.42	262	P	P	04 11 12.9	-2.1
	comp=Z,0.3nm,0.3s,baz=85,slow=7.3,SNR=1.2						
WR0	Warramunga Arr	45.91	268	P	P	04 11 19.3	+0.4
WB2	Warramunga Arr	46.09	267	P	P	04 11 20.8	+0.6
WRAB	Tennant Creek	46.09	268	P	P	04 11 20.4	+0.1
WRAB					IAmb	IAmb	04 11 36.5	
	comp=Z,5.4nm,1.1s						
WRA	Warramunga Arr	46.10	267	P	P	04 11 18.3	-2.0
	comp=Z,2.1nm,0.6s,baz=104,slow=8.6,SNR=23						
WRA	Warramunga Arr	46.10	267	P	P	04 11 20.1	-0.3
WB0	Warramunga Arr	46.10	268	P	P	04 11 20.7	+0.4
WB0					IAmb	IAmb	04 11 34.1	
	comp=Z,2.9nm,0.8s						
QSPA	South Pole Qui	63.31	180	P	P	04 13 24.2	-0.4
QSPA					IAmb	IAmb	04 13 38.5	
	comp=Z,3.8nm,1.1s						
SNAA	Sanae	81.68	178	P	P	04 15 13.3	-0.6
NVAR	Mina Array Bea	84.24	42	P	P	04 15 28.5	+0.8
	comp=Z,0.3nm,0.4s,baz=212,slow=7.5,SNR=4.7						
ILAR	Eielson Array	93.99	12	P	P	04 16 13.1	-0.2
	comp=Z,0.3nm,0.6s,baz=223,slow=6.2,SNR=6.5						
MKAR	Makanchi Array	116.94	311	PKP	PKPdf	04 21 39.5	-1.0
	comp=Z,0.4nm,0.8s,baz=104,slow=0.6,SNR=4.1						
NOA	NORSAR Array B	145.44	354	PKPbc	PKPbc	04 22 32.9	-0.5
	comp=Z,0.4nm,0.7s,baz=21,slow=2.5,SNR=1.7						
HFS	Hagfors	146.04	352	PKPbc	PKPdf	04 22 34.5	+0.1
	comp=Z,2.6nm,0.7s,baz=37,slow=3.6,SNR=2.4						
AKASG	Malin Array Be	149.47	328	PKPbc	PKPdf	04 22 44.7	+4.4
	comp=Z,0.6nm,0.5s,baz=46,slow=4.0,SNR=1.9						
AKASG	Malin Array Be	149.47	328		PKPdf	04 22 41.5	+1.2

*UPA **15** 04:03:54.8±2.5,6°.21N×82°.72W, h0km±15km, MW4.7*

*UCR **15** 04:03:57.5±1.3,6°.25N×82°.69W, h20km, MW4.0*

ISC 15 04:03:55.0±1.9, 6°.14N±0°.10×82°.70W±0°.06, h14km, n64, σ1§24/76, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEDE3	Pedregal, Chir	2.25	7	eP	Pn	04 04 31.9	+0.1
PEDE3				eS	Sn	04 04 59.4	0.0
REME3	Remedios, Chir	2.25	23	eP	Pn	04 04 31.0	-0.8
REME3				eS	Sn	04 05 00.3	+0.9
PIRO	Carate, Puerto	2.34	344	eP	Pn	04 04 32.5	-0.5
PIRO				eS	Sb	04 05 03.9	-1.8
CDITO	Canoas	2.43	356	eP	Pn	04 04 33.7	-0.6
CDITO				eS	Sn	04 05 04.1	+0.3
PTJ1	Puerto Jimnez	2.46	346	eP	Pn	04 04 35.0	+0.3
PTJ1				eS	Sn	04 05 06.0	+1.5
PTJ1	Puerto Jimnez	2.46	346	eS	Sn	04 05 05.8	+1.3
PTAR3	Potrerillos Ar	2.55	5	eP	Pn	04 04 36.0	-0.1
BCO2	Palmira	2.57	4	eP	Pn	04 04 36.2	-0.2
BCO2				eS	Sn	04 05 07.8	+0.2
BRU2	Volcan	2.64	0	eP	Pn	04 04 37.4	+0.1
BRU2				eS	Sn	04 05 09.3	+0.1
BRU2	Volcan	2.64	0	eS	Sn	04 05 08.5	-0.8
LNBQ3	Los Naranjos,	2.65	6	eP	Pn	04 04 37.3	-0.2
LNBQ3				eS	Sn	04 05 11.3	+1.8
RIOS	Rincon, Osa	2.67	343	eS	Sn	04 05 09.4	-0.4
CHGR2	Aguacate	2.84	11	eP	Pn	04 04 40.1	+0.2
CHGR2				eS	Sb	04 05 16.5	-3.6
LPLA	Las Palmas La	2.89	354	eP	Pn	04 04 41.0	+0.2
EDPN	Palmar Norte	2.91	345	eP	Pn	04 04 41.0	+0.1
AZU	Azuero	2.92	56	eP	Pn	04 04 39.8	-1.2
AZU	Azuero	2.92	56	eP	Pn	04 04 38.0	-3.0
DRK0	Durika	3.15	350	eP	Pn	04 04 44.6	+0.2
DRK0				eS	Sn	04 05 22.6	+0.7
EDDO	Dominical	3.30	340	eS	Sn	04 05 25.6	+0.2
PEZE	Perez Zeledon,	3.37	343	eP	Pn	04 04 47.5	+0.3
CERM	Cerro de Muert	3.56	343	eP	Pn	04 04 50.4	+0.3
VTON	El Valle, Cocl	3.56	46	eP	Pn	04 04 52.0	+2.2
VTON				eS	Sn	04 05 33.2	+1.4
RIMA	Rio Macho	3.79	342	eP	Pn	04 04 53.3	+0.2
LCR2	La Lucha 2	3.81	340	eP	Pn	04 04 53.5	0.0
OCM	Ochomogo	3.94	342	eP	Pn	04 04 55.7	+0.5
ZANG	Zanguenga, Cho	3.97	45	eP	Pn	04 04 56.2	+0.8
ZANG				eS	Sn	04 05 43.3	+1.4
BATAN	Batan	3.99	350	eP	Pn	04 04 58.2	+2.4
CVTR	Volcan Turrial	4.00	345	eP	Pn	04 04 56.8	+0.5
CHOR3	La Chorrera	4.00	47	eP	Pn	04 04 57.5	+1.5
CHOR3				eS	Sn	04 05 44.2	+1.5
JACO	JACO, Garabito	4.00	331	eP	Pn	04 04 55.1	-0.9
HDC	Heredia	4.09	340	eP	Pn	04 04 58.1	+0.9
HDC				eS	Sn	04 05 47.1	+2.1
HDC	Heredia	4.09	340	eP	Pn	04 04 58.1	+0.9
BCIP	Isla Barro Col	4.14	43	eS	Sn	04 05 46.4	+0.3
BCIP	Isla Barro Col	4.14	43	eP	Pn	04 04 58.1	+0.3
LAFE	Finca La Fe, P	4.25	329	eP	Pn	04 04 59.4	+0.1
RIFO	Rio Frio, Sara	4.33	344	eP	Pn	04 05 01.7	+1.3
JTS	Las Juntas de	4.69	332	eP	Pn	04 05 05.8	+0.4
JTS				eS	Sn	04 06 02.3	+2.6
JTS	Las Juntas de	4.69	332	eP	Pn	04 05 05.6	+0.3
JTS	Las Juntas de	4.69	332	eP	Pn	04 05 05.7	+0.3
ARE1	Arenal 1	4.74	335	eP	Pn	04 05 07.7	+1.6
GRZA	Playa Garza	4.75	322	eP	Pn	04 05 05.9	-0.3
SAJU	San Juanillo,	4.91	323	eP	Pn	04 05 08.8	+0.4
GUAI	GUAI	4.96	326	eP	Pn	04 05 09.6	+0.5
ACAL	Aguas Claras	5.03	333	eP	Pn	04 05 11.1	+1.0
PTEN	Parque Tenorio	5.08	334	eP	Pn	04 05 12.5	+1.7
CUI	Cuipilapa	5.11	332	eP	Pn	04 05 12.2	+1.0
COLC	Colonia	5.13	331	eP	Pn	04 05 13.6	+2.0
HORNC	Hornillas	5.17	332	eP	Pn	04 05 13.2	+1.2
LIM1	Limonal	5.19	331	eP	Pn	04 05 14.4	+2.1
LAPC	Finca la Perla	5.34	330	eP	Pn	04 05 16.1	+1.8
GBS3	Finca Las Img	5.36	330	eP	Pn	04 05 16.3	+1.7
BUAI	Buenos Aires	5.38	331	eP	Pn	04 05 16.6	+1.7
YOTC	Yotoco, Valle	6.69	108	eP	Pn	04 05 28.4	-4.5
POPC	Popayan, Colom	6.99	120	eP	Pn	04 05 29.3	-8.0
HELC	Santa Helena	7.13	89	eP	Pn	04 05 41.6	+2.3
HELC	Santa Helena	7.13	89	eP	Pn	04 05 40.1	+0.8
GCUF	Volcan Galeras	7.24	132	eP	Pn	04 05 35.4	-5.4
SOTA	Rioblanco	7.26	123	eP	Pn	04 05 40.9	-0.3
PCON	Cinco Dias	7.34	121	eP	Pn	04 05 41.2	-1.1
GUY2C	Guyana, Caldas	7.36	97	eP	Pn	04 05 43.6	+1.1
MOTC	Monteria, Cord	7.46	69	eP	Pn	04 05 45.3	+1.8
TOLC	Tolima	7.51	101	eP	Pn	04 05 44.2	-0.2
ORTC	Ortega, Tolima	7.75	106	eP	Pn	04 05 47.4	-0.1
PRAC	Prado	8.15	107	eP	Pn	04 05 52.3	-0.7

*IDC **15** 04:03:55.1±3.1,11°.47S×163°.33E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/38, mbtmp4.1/5, MS3.3/7, Ms1 3.2/7, ms1mx3.0/26, Error ellipse: s-maj=95.3km s-min=32.4km az=115.0*

*NEIC **15** 04:04:01.4±2.2, 11°.5S±0°.1×163°.3E±0°.1, h31km±7km, mb4.2/14, Error ellipse: s-maj=25.9km s-min=11.8km az=221.0*

ISC 15 04:04:01.5±0.8, 11°.4S±0°.1×163°.3E±0°.1, h35km, n29, σ1§34/24, mb4.1/12, MS3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.83	301	Pn	Pn	04 04 59.5	+1.6
SANVU	Saraoutou	5.53	137	Pn	Pn	04 05 20.1	-1.2
DZM	Mont Dzunac	11.01	164	LR	LR	04 10 12.6	
	comp=Z,255nm,18.4s,baz=82,slow=34						
PMG	Port Moresby	15.98	276	LR	LR	04 12 53.3	
	comp=Z,58nm,20.1s,baz=124,slow=34						
STKA	Stephens Creek	28.53	221	P	P	04 09 53.5	-0.4
	1.8nm,0.8s,baz=19,slow=11,SNR=4.4						
STKA				LR	LR	04 20 10.6	
	comp=Z,66nm,19.3s,baz=28,slow=34						
WR0	Warramunga Arr	28.90	249	P	P	04 09 57.0	-0.4
WR0				IAmb	IAmb	04 10 01.9	
	comp=Z,5.9nm,1.4s						
WB0	Warramunga Arr	29.00	250	P	P	04 09 56.8	-1.4
WB0				IAmb	IAmb	04 09 57.2	
	comp=Z,8.8nm,1.3s						
WRAB	Tennant Creek	29.07	249	P	P	04 09 58.2	-0.6
WRAB				IAmb	IAmb	04 10 15.4	
	comp=Z,4.4nm,1.1s						
WB2	Warramunga Arr	29.07	249	P	P	04 09 56.5	-2.3
WB2				IAmb	IAmb	04 10 03.6	
	comp=Z,5.3nm,1.1s						
WRA	Warramunga Arr	29.08	249	P	P	04 09 57.8	-1.2
	comp=Z,0.5nm,0.5s,baz=83,slow=9.0,SNR=6.1						
WRA				PcP	PcP	04 13 06.8	+0.2
	comp=Z,0.3nm,0.6s,baz=93,slow=2.5,SNR=1.8						
WRA	Warramunga Arr	29.08	249	P	P	04 09 58.0	-1.0
URZ	Urewera	29.45	157	LR	LR	04 20 00.9	
	comp=Z,91nm,18.2s,baz=31,slow=33						
AS31	Alice Springs	30.46	243	P	P	04 10 10.3	-0.9
ASAR	Alice Springs	30.46	243	P	P	04 10 09.5	-1.7
	comp=Z,3.5nm,0.8s,baz=73,slow=9.6,SNR=34						
ASAR	Alice Springs	30.46	243	P	P	04 10 09.8	-1.5
BBOO	Buckleboo	32.82	225	P	P	04 10 31.8	0.0
KNRA	Kununurra	33.80	259	P	P	04 10 40.8	+0.4
FITZ	Fitzroy Crossi	36.94	255	P	P	04 11 07.1	-0.4
FITZ				IAmb	IAmb	04 11 07.7	
	comp=Z,5.6nm,1.2s						
PSA00	Pilbara Seismi	42.72	251	P	P	04 11 55.9	+0.3
PSA00				IAmb	IAmb	04 11 56.9	
	comp=Z,3.2nm,0.9s						
MJAR	Matsushiro Ant	53.24	335	LR	LR	04 33 53.1	
	comp=Z,18nm,21.5s,baz=245,slow=34						
PETK	Petropavlovsk-	64.45	356	LR	LR	04 36 54.7	
	comp=Z,16nm,20.9s,baz=152,slow=31						
VNDA	Vanda	66.09	180	P	P	04 14 46.5	+2.0
VNDA				IAmb	IAmb	04 14 48.0	
	comp=Z,4.8nm,1.4s						
SRIT	Nakonsritamara	66.38	285	P	P	04 14 45.1	-2.3
SONM	Songino Array	77.56	325	P	P	04 15 53.8	-0.2
	comp=Z,1.0nm,0.6s,baz=139,slow=6.8,SNR=5.5						
SONM	Songino Array	77.56	325	P	P	04 15 54.1	+0.2
QSPA	South Pole Qui

HAG	**Hague Volcano**	**2.00**	**36**			**Pn**	**04 13 40.8**	**+1.3**
PS4A	**Pavlof South-4**	**2.04**	**37**			**Pn**	**04 13 41.4**	**+1.4**
PVV	**Pavlof Volcano**	**2.08**	**37**			**Pn**	**04 13 42.2**	**+1.5**
OKFG	**Magazine Ridge**	**2.37**	**264**			**Pn**	**04 13 45.6**	**+1.0**
OKSO	**Okmok South**	**2.52**	**263**			**Pn**	**04 13 47.5**	**+0.7**
SDPT	**Sand Point**	**2.60**	**50**	Pn		**Pn**	**04 13 49.2**	**+1.4**
SDPT				Sn		**Sn**	**04 14 19.7**	**+1.5**
NIKH	**Nikolski High**	**3.02**	**257**	Pn		**Pn**	**04 13 54.2**	**+0.6**
VNHG	**Veniaminof 1**	**3.73**	**46**			**Pn**	**04 14 05.5**	**+2.1**
SPIA	**Saint Paul Isl**	**4.96**	**317**	Pn		**Pn**	**04 14 20.5**	**+0.3**
SII	**Sitkinak Islan**	**6.29**	**59**	Pn		**Pn**	**04 14 38.3**	**-0.1**
OHAK	**Old Harbor**	**7.01**	**56**	Pn		**Pn**	**04 14 48.4**	**+0.1**
KDAK	**Kodiak Island**	**7.60**	**53**	Pn		**Pn**	**04 14 55.7**	**-0.7**
	1.3nm,0.3s,baz=248,slow=6.7,SNR=24							
KDAK				Sn		**Sn**	**04 16 16.7**	**-4.4**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.6							
ADK	**Adak**	**7.92**	**262**	Pn		**Pn**	**04 15 04.0**	**+3.2**
KIWB	**Kanaga Island**	**8.21**	**262**	Pn		**Pn**	**04 15 07.7**	**+3.0**
SVW2	**Sparrevohn**	**8.66**	**28**	Pn		**Pn**	**04 15 13.8**	**+2.9**
CNPM	**China Poot**	**9.10**	**45**	Pn		**Pn**	**04 15 16.8**	**-0.3**
SEW	**Seward**	**10.17**	**45**	Pn		**Pn**	**04 15 31.0**	**-0.7**
PWL	**Port Wells**	**11.05**	**44**	Pn		**Pn**	**04 15 42.5**	**-1.2**
HIN	**Hinchinbrook I**	**11.60**	**48**	Pn		**Pn**	**04 15 49.8**	**-1.3**
FID	**Port Fidalgo**	**11.77**	**46**	Pn		**Pn**	**04 15 51.8**	**-1.7**
SCM	**Sheep Creek Mo**	**12.00**	**41**	Pn		**Pn**	**04 15 55.8**	**-0.9**
BPAW	**Bear Paw Mtn.**	**12.34**	**28**	Pn		**Pn**	**04 16 03.2**	**+1.9**
KLU	**Klutina**	**12.38**	**44**			**Pn**	**04 16 00.8**	**-1.0**
HMT	**Hamilton**	**12.58**	**50**	Pn		**Pn**	**04 16 03.6**	**-0.9**
M24K	**Tolsona, Glenn**	**12.61**	**41**	Pn		**Pn**	**04 16 04.8**	**-0.1**
N25K	**Chitina, Valde**	**12.98**	**45**	Pn		**Pn**	**04 16 08.7**	**-1.5**
MLY	**Manley**	**13.14**	**25**	Pn		**Pn**	**04 16 13.8**	**+1.6**
GLB	**Gilahina Butte**	**13.24**	**46**	Pn		**Pn**	**04 16 13.1**	**-0.5**
IMAR	**Indian Mountai**	**13.29**	**18**	Pn		**Pn**	**04 16 16.3**	**+2.1**
VRDI	**Verde Repeater**	**13.30**	**47**	Pn		**Pn**	**04 16 13.1**	**-1.5**
HDA	**Harding Lake**	**13.77**	**32**	Pn		**Pn**	**04 16 23.2**	**+2.5**
GRNC	**Granite Creek**	**13.88**	**51**	Pn		**Pn**	**04 16 21.2**	**-1.2**
IL31		**14.04**	**31**	P		**P**	**04 16 29.7**	**-1.9**
ILAR	**Eielson Array**	**14.04**	**31**	Pn		**Pn**	**04 16 21.1**	**-3.3**
	0.0nm,0.3s,baz=224,slow=12,SNR=2.0							
ILAR	**Eielson Array**	**14.04**	**31**	P		**P**	**04 16 29.0**	**-2.8**
TABL	**Table Mountain**	**14.06**	**52**			**Pn**	**04 16 25.9**	**+0.9**
DOT	**Dot Lake**	**14.28**	**38**	Pn		**Pn**	**04 16 30.2**	**+2.5**
SCRK	**Sand Creek**	**14.49**	**37**	Pn		**Pn**	**04 16 32.6**	**+1.9**
L27K	**Beaver Creek,**	**14.82**	**42**			**Pn**	**04 16 35.5**	**+0.5**
BCAR	**Beaver Creek A**	**14.84**	**42**	Pn		**Pn**	**04 16 34.3**	**-1.1**
PRP	**Porcupine Dome**	**14.97**	**31**			**P**	**04 16 40.1**	**-2.2**
HYT	**Haines Junctio**	**15.89**	**53**	P		**P**	**04 16 54.8**	**+2.4**
HYT				IAmb		IAmb	04 16 56.7	
	comp=Z,9.8nm,1.5s							
EGAK	**Eagle**	**15.96**	**37**	P		**P**	**04 16 52.1**	**-0.9**
DAWY	**Dawson**	**16.26**	**41**	P		**P**	**04 16 57.2**	**+0.7**
DAWY				IAmb		IAmb	04 16 59.0	
	comp=Z,2.7nm,0.7s							
TOLK	**Toolik Lake Re**	**16.41**	**19**	P		**P**	**04 16 58.9**	**+0.8**
BMAR	**Burnt Mountain**	**16.59**	**27**	P		**Pn**	**04 16 57.5**	**-0.5**
DLBC	**Dease Lake**	**19.38**	**62**	P		**P**	**04 17 30.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=331,slow=19,SNR=1.5							
INK	**Inuvik**	**20.43**	**33**	P		**P**	**04 17 40.0**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=244,slow=12,SNR=11							
INK				LR		LR	04 26 27.2	
	comp=Z,38nm,18.1s,baz=214,slow=40							
INK	**Inuvik**	**20.43**	**33**	P		**P**	**04 17 41.9**	**-0.1**
INK				IAmb		IAmb	04 17 48.3	
	comp=Z,7.8nm,1.4s							
PETK	**Petropavlovsk-**	**22.67**	**284**	P		**P**	**04 18 04.8**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=79,slow=15,SNR=6.3							
C36M	**Paulatuk**	**23.97**	**34**	P		**P**	**04 18 18.7**	**-0.2**
YKA	**Yellowknife Ar**	**26.87**	**51**	P		**P**	**04 18 46.0**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=304,slow=27,SNR=6.5							
YBH	**Yreka Blue Hor**	**29.81**	**97**	LR		LR	04 26 53.1	
	comp=Z,13nm,21.3s,baz=228,slow=28							
H11N2	**WAKE ISLAND Hy**	**40.64**	**225**	T		T	05 04 15.8	
	baz=26,slow=76							
H11N3	**WAKE ISLAND Hy**	**40.64**	**225**	T		T	05 04 20.0	
	baz=26,slow=76							
H11N1	**WAKE ISLAND Hy**	**40.66**	**225**	T		T	05 04 21.1	
	baz=26,slow=76							
H11S1	**WAKE ISLAND Hy**	**41.81**	**224**	T		T	05 05 47.5	
	baz=26,slow=76							
H11S2	**WAKE ISLAND Hy**	**41.83**	**224**	T		T	05 05 48.0	
	baz=26,slow=76							
H11S3	**WAKE ISLAND Hy**	**41.83**	**224**	T		T	05 05 48.3	
	baz=26,slow=76							
FRB	**Frobisher Bay**	**45.94**	**38**	P		**P**	**04 21 27.1**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=304,slow=9.1,SNR=8.4							
KSRS	**Korea Array**	**48.44**	**279**	P		**P**	**04 21 47.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=52,slow=5.4,SNR=2.2							
SUMG	**Summit**	**48.47**	**19**	P		**P**	**04 21 48.0**	**+0.8**
TX31	**Lajitas Ar. Si**	**49.53**	**94**	P		**P**	**04 21 57.4**	**+1.9**
TX31				IAmb		IAmb	04 22 15.2	
	comp=Z,0.9nm,0.7s							
TX32	**Lajitas Array**	**49.53**	**94**	P		**P**	**04 21 57.4**	**+1.9**
TXAR	**Lajitas Array**	**49.53**	**94**	P		**P**	**04 21 57.0**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=308,slow=4.4,SNR=3.9							
TXAR				PcP		**PcP**	**04 23 17.4**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=219,slow=0.5,SNR=5.4							
TXAR	**Lajitas Array**	**49.53**	**94**	P		**P**	**04 21 57.0**	**+1.5**
SONM	**Songino Array**	**53.34**	**303**	P		**P**	**04 22 22.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=33,slow=8.0,SNR=2.1							
SONM				PcP		**PcP**	**04 23 31.0**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=64,slow=3.4,SNR=2.6							
FINES	**FINESS Array B**	**64.89**	**355**	P		**P**	**04 23 42.0**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=25,slow=10,SNR=5.2							
FINES	**FINESS Array B**	**64.89**	**355**	P		**P**	**04 23 42.4**	**-1.0**
MK31	**Makanchi Array**	**65.16**	**316**	P		**P**	**04 23 45.3**	**0.0**
MK31				IAmb		IAmb	04 23 58.9	
	comp=Z,0.9nm,0.9s							
MKAR	**Makanchi Array**	**65.16**	**316**	P		**P**	**04 23 44.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=63,slow=5.6,SNR=2.2							
MAKZ	**Makanchi**	**65.27**	**316**	P		**P**	**04 23 45.0**	**-1.1**
HFS	**Hagfors**	**66.47**	**1**	P		**P**	**04 23 52.6**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=29,slow=3.4,SNR=6.1							
EKA	**Eskdalemuir Ar**	**70.15**	**12**	P		**P**	**04 24 16.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=353,slow=3.6,SNR=5.2							
AKTO	**Aktyubinsk**	**70.37**	**333**	P		**P**	**04 24 17.6**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=342,slow=4.6,SNR=6.2							
ABKAR	**Akbulak array**	**70.90**	**331**	P		**P**	**04 24 21.4**	**+0.1**
ABKAR				IAmb		IAmb	04 24 21.7	
	comp=Z,0.9nm,0.9s							
ESDC	**Sonseca Array**	**85.38**	**15**	P		**P**	**04 25 42.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=336,slow=6.3,SNR=2.4							
BRTR	**Keskin Array B**	**85.68**	**346**	P		**P**	**04 25 43.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=1.3,slow=2.9,SNR=5.7							
BRTR	**Keskin Array B**	**85.68**	**346**	P		**P**	**04 25 43.8**	**+0.5**
H03N2	**Juan Fernandez**	**113.47**	**115**	T		T	06 35 19.9	
	baz=322,slow=77							
H03N1	**Juan Fernandez**	**113.48**	**115**	T		T	06 35 22.7	
	baz=322,slow=77							
H03N3	**Juan Fernandez**	**113.49**	**115**	T		T	06 35 21.7	
	baz=322,slow=77							

*NIC **15** 04:15:52.8±0.0,34˚.46N×26˚.40E,h18$^{km}_{\pm}$3^{km},Ml4.2/4*
*IDC **15** 04:15:57.5±2.7,35˚.06N×26˚.77E,h22$^{km}_{\pm}$18^{km},mb3.7/12, mb1 3.8/17,mb1mx3.7/44,mbtmp3.8/17,ML3.9/5,MS2.8/3, Ms1 2.8/3,ms1mx2.3/42,Error ellipse: s-maj=21.4km s-min=14.5km az=3.0*
*ISK **15** 04:15:58.7,35˚.13N×26˚.68E,h8^{km},ML3.5/24*
*THE **15** 04:15:59.6,35˚.06N×26˚.60E,h0$^{km}_{\pm}$1^{km},ML3.5/4,Error ellipse: s-maj=3.4km s-min=0.8km az=146.0*
*ATH **15** 04:15:59.8,35˚.15N×26˚.62E,h7$^{km}_{\pm}$2^{km},ML3.5/9,Error ellipse: s-maj=3.5km s-min=0.8km az=169.0*
*HLW **15** 04:15:59.3,34˚.88N×26˚.90E,h15$^{km}_{\pm}$13^{km},Md3.8,Ml3.9*
*DDA **15** 04:16:00.6,35˚.32N×26˚.93E,h5$^{km}_{\pm}$1^{km},MW3.7*

ISC 15 04:15:57.3±1.1,34˚.91N±0˚.04×26˚.71E±0˚.02,h24$^{km}_{\pm}$9^{km}, n165,σ1^{s}81/205,mb3.7/12,4C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.45**	**298**	P	**Pb**	**04 16 06.1**	**-0.6**
ZKR				S	**Sb**	**04 16 11.6**	**-1.5**
ZKR				AML	AML	04 16 13.4	
	comp=E,29832μm,0.3s						
ZKR				AML	AML	04 16 13.6	
	comp=N,18250μm,0.4s						
ZKR	**Zakros**	**0.45**	**298**	P	**Pb**	**04 16 06.2**	**-0.6**
ZKR				S	**Sb**	**04 16 12.0**	**-1.1**
	comp=N,12μm,0.3s						
ZKR	**Zakros**	**0.45**	**298**	PG	**Pb**	**04 16 06.2**	**-0.6**
ZKR				SG	**Sb**	**04 16 12.7**	**-0.4**
ZKR	**Zakros**	**0.45**	**298**	P	**Pb**	**04 16 06.0**	**-0.7**
ZKR				AML	AML	04 16 12.2	
	comp=N,25nm,0.3s						
ZKR				AML	AML	04 16 12.5	
	comp=N,17nm,0.4s						
STIA	**Sitia Lasithi**	**0.59**	**301**	P	**Pb**	**04 16 08.4**	**-0.6**
STIA				S	**Sb**	**04 16 16.7**	**-0.2**
FRMA	**Ierapetra Chan**	**0.81**	**278**	P	**Pb**	**04 16 10.7**	**-2.0**
FRMA				S	**Sb**	**04 16 22.0**	**-1.2**
	comp=N,2μm,0.4s						
NPS	**Neapolis**	**0.97**	**292**	P	**Pb**	**04 16 15.5**	**+0.1**
NPS				S	**Sb**	**04 16 27.1**	**-0.7**
NPS				AML	AML	04 16 31.7	
	comp=N,11016μm,0.6s						
NPS				AML	AML	04 16 32.0	
	comp=E,16848μm,0.5s						
NPS	**Neapolis**	**0.97**	**292**	P	**Pb**	**04 16 15.4**	**0.0**
NPS				S	**Sn**	**04 16 28.9**	**+0.5**
	comp=E,7μm,0.5s						
LAST	**Lasithi**	**1.04**	**285**	P	**Pn**	**04 16 16.6**	**+0.1**
LAST				S	**Sb**	**04 16 30.2**	**+0.2**
LAST				AML	AML	04 16 39.2	
	comp=N,7306μm,0.5s						
LAST				AML	AML	04 16 40.9	
	comp=E,4310μm,1.0s						
LAST	**Lasithi**	**1.04**	**285**	P	**Pn**	**04 16 16.5**	**0.0**
LAST				S	**Sn**	**04 16 31.4**	**+1.1**
	comp=E,3μm,0.5s						
HRKL	**Herakleio**	**1.38**	**288**	PN	**Pb**	**04 16 23.9**	**+1.5**
HRKL				SN	**Sb**	**04 16 42.2**	**+2.6**
KSTL	**Kastelli Herak**	**1.40**	**287**	P	**Pn**	**04 16 20.4**	**-0.9**
KSTL				S	**Sn**	**04 16 35.0**	**-4.1**
IDI	**Anoyia**	**1.54**	**285**	P	**Pb**	**04 16 26.1**	**+1.0**
IDI				S	**Sb**	**04 16 45.1**	**+0.8**
IDI				AML	AML	04 16 56.6	
	comp=N,1419μm,0.5s						
IDI				AML	AML	04 17 00.7	
	comp=E,1541μm,0.5s						
IDI	**Anoyia**	**1.54**	**285**	Pg	**Pb**	**04 16 26.2**	**+1.0**
	comp=E,30nm,0.3s,baz=101,slow=15,SNR=143						
IDI				Lg	Lg	04 16 47.6	
	comp=E,57nm,0.3s,baz=45,slow=17,SNR=12						
IDI				LR	LR	04 17 19.1	
	comp=E,154nm,21.8s,baz=56,slow=52						
IDI	**Anoyia**	**1.54**	**285**	P	**Pb**	**04 16 25.9**	**+0.7**
IDI	**Anoyia**	**1.54**	**285**	PN	**Pb**	**04 16 27.0**	**+1.8**
IDI				SN	**Sb**	**04 16 46.3**	**+2.0**
SIVA	**Sivas**	**1.56**	**275**	P	**Pb**	**04 16 27.1**	**+1.5**
SIVA	**Sivas**	**1.56**	**275**	P	**Pb**	**04 16 25.7**	**+0.2**
NIS1	**Nisyros Isl.**	**1.74**	**13**	P	**Pb**	**04 16 27.9**	**-0.7**
NIS1	**Nisyros Isl.**	**1.74**	**13**	P	**Pb**	**04 16 28.1**	**-0.4**
NIS1	**Nisyros Isl.**	**1.74**	**13**	PN	**Pn**	**04 16 27.3**	**+1.3**
NISR	**Nisiros**	**1.74**	**11**	P	**Pn**	**04 16 27.0**	**+1.0**
NISR				S	**Sn**	**04 16 47.4**	**0.0**
NISR				AML	AML	04 16 57.0	
	comp=N,1966μm,0.3s						
NISR				AML	AML	04 16 57.0	
	comp=E,3611μm,0.5s						
ARG	**Arkhangelos**	**1.75**	**41**	P	**Pb**	**04 16 29.5**	**+0.8**
ARG				S	**Sb**	**04 16 50.9**	**+0.7**
ARG				AML	AML	04 16 59.8	
	comp=N,1522μm,0.6s						
ARG				AML	AML	04 17 07.0	
	comp=E,1436μm,0.7s						
ARG	**Arkhangelos**	**1.75**	**41**	P	**Pb**	**04 16 29.6**	**+0.8**
ARG	**Arkhangelos**	**1.75**	**41**	PN	**Pb**	**04 16 28.6**	**-0.1**
ARG				SN	**Sb**	**04 16 49.4**	**-0.8**
ARG	**Arkhangelos**	**1.75**	**41**	⇑P	**Pb**	**04 16 29.5**	**+0.8**
ARG				S	**Sb**	**04 16 57.7**	**+7.5**
SANT	**Santorini**	**1.78**	**326**	P	**Pn**	**04 16 27.9**	**+1.2**
SANT				S	**Sn**	**04 16 48.5**	**0.0**
SANT				AML	AML	04 16 58.5	
	comp=E,2833μm,0.6s						
SANT				AML	AML	04 17 00.9	
	comp=N,721μm,0.4s						
SANT	**Santorini**	**1.78**	**326**	P	**Pn**	**04 16 27.8**	**+1.1**
SANT	**Santorini**	**1.78**	**326**	PN	**Pn**	**04 16 27.8**	**+1.1**
SANT				SN	**Sn**	**04 16 49.1**	**+0.5**
THR6	**Thira Island,**	**1.80**	**324**	P	**Pn**	**04 16 28.5**	**+1.6**
THR6	**Thira Island,**	**1.80**	**324**	P	**Pn**	**04 16 28.2**	**+1.4**
THR8	**Santorini-Mono**	**1.80**	**327**	P	**Pn**	**04 16 28.1**	**+1.2**
THR8	**Santorini-Mono**	**1.80**	**327**	P	**Pn**	**04 16 27.6**	**+0.7**
THR9	**Santorini-Faro**	**1.82**	**323**	P	**Pb**	**04 16 28.9**	**-1.0**
THR9	**Santorini-Faro**	**1.82**	**323**	P	**Pn**	**04 16 28.7**	**+1.6**
SNT1	**Gialos, Santor**	**1.83**	**326**	P	**Pn**	**04 16 28.3**	**+1.0**
SNT5	**Nea Kammeni, S**	**1.84**	**325**	P	**Pn**	**04 16 28.7**	**+1.3**
THR7	**Fira-Santorini**	**1.84**	**326**	P	**Pn**	**04 16 28.8**	**+1.4**
THR3	**Thira Island,**	**1.84**	**325**	P	**Pn**	**04 16 28.7**	**+1.3**
THR3	**Thira Island,**	**1.84**	**325**	P	**Pn**	**04 16 28.6**	**+1.2**
THT2	**Imerovigli**	**1.85**	**326**	P	**Pn**	**04 16 29.1**	**+1.5**
THT2	**Imerovigli**	**1.85**	**326**	PN	**Pn**	**04 16 28.9**	**+1.3**
KOSK	**Kos Island**	**1.85**	**7**	P	**Pn**	**04 16 29.3**	**+1.7**
KOSK	**Kos Island**	**1.85**	**7**	PN	**Pn**	**04 16 28.9**	**+1.3**
PRNS	**Prines Rethymn**	**1.86**	**285**	P	**Pb**	**04 16 31.9**	**+1.2**
THR5	**Thira Island,**	**1.87**	**324**	P	**Pn**	**04 16 29.3**	**+1.4**
CMBO	**Columbo, Santo**	**1.89**	**326**	P	**Pn**	**04 16 29.5**	**+1.5**
CMBO	**Columbo, Santo**	**1.89**	**326**	P	**Pn**	**04 16 28.9**	**+0.8**
DAT	**Datca**	**1.95**	**21**	PN	**Pn**	**04 16 30.5**	**+1.4**
VAM	**Vamos**	**2.12**	**284**	P	**Pb**	**04 16 35.2**	**+0.2**
VAM				S	**Sb**	**04 17 01.6**	**+0.8**
VAM				AML	AML	04 17 13.1	
	comp=E,1413μm,0.7s						
VAM				AML	AML	04 17 14.7	
	comp=N,1812μm,0.8s						
VAM	**Vamos**	**2.12**	**284**	P	**Pb**	**04 16 34.5**	**-0.5**
GVDS	**Gavdos**	**2.15**	**269**	P	**Pb**	**04 16 35.9**	**+0.3**
GVDS	**Gavdos**	**2.15**	**269**	PN	**Pb**	**04 16 35.9**	**+0.3**
GVD	**Gavdhos**	**2.15**	**269**	P	**Pb**	**04 16 35.0**	**-0.7**
GVD	**Gavdhos**	**2.15**	**269**	PN	**Pb**	**04 16 35.8**	**+0.1**
MRSB	**Marmaris-Mugla**	**2.17**	**33**	PN	**Pn**	**04 16 33.9**	**+1.8**
BODT	**Bodrum**	**2.21**	**13**	P	**Pn**	**04 16 33.4**	**+0.9**
BODT	**Bodrum**	**2.21**	**13**	PN	**Pn**	**04 16 33.6**	**+1.1**
BDRM	**Kayabasi**	**2.24**	**15**	*i* P	**Pn**	**04 16 34.9**	**+2.0**
BDRM				*i* S	**Sn**	**04 16 58.3**	**-1.5**
BDRM				IAML		04 17 10.0	
	comp=N,103nm,0.5s						
BDRM				IAML		04 17 14.0	
	comp=E,60nm,0.5s						
TURN	**Turunc**	**2.25**	**33**	*i* P	**Pn**	**04 16 35.2**	**+2.2**
TURN				*i* S	**Sn**	**04 16 59.4**	**-0.6**
TURN				IAML		04 17 14.0	
	comp=E,153nm,0.5s						
TURN				IAML		04 17 20.0	
	comp=N,156nm,0.4s						
TURN	**Turunc**	**2.25**	**33**	PN	**Pn**	**04 16 34.9**	**+1.9**
IMMV	**Iera Moni Meta**	**2.30**	**285**	P	**Pb**	**04 16 38.6**	**+0.5**
IMMV				S	**Sb**	**04 17 07.4**	**+1.2**
IMMV				AML	AML	04 17 21.2	
	comp=N,1443μm,0.7s						
IMMV				AML	AML	04 17 27.3	
	comp=E,1422μm,0.7s						
IMMV	**Iera Moni Meta**	**2.30**	**285**	P	**Pb**	**04 16 36.8**	**-1.3**
IMMV	**Iera Moni Meta**	**2.30**	**285**	PN	**Pb**	**04 16 37.1**	**-1.0**
APE	**Apeiranthos**	**2.36**	**336**	P	**Pn**	**04 16 35.7**	**+1.1**
APE	**Apeiranthos**	**2.36**	**336**	PN	**Pn**	**04 16 35.9**	**+1.3**
APE	**Apeiranthos**	**2.36**	**336**	⇑P	**Pn**	**04 16 35.6**	**+0.9**
DALY	**Dalyan (Mula)**	**2.48**	**39**	*i* P	**Pn**	**04 16 38.9**	**+2.7**
DALY				*i* S	**Sb**	**04 17 13.4**	**+2.2**
DALY				IAML		04 17 24.0	
	comp=N,127nm,0.8s						
DALY				IAML		04 17 24.0	
	comp=E,74nm,0.5s						
DALY	**Dalyan (Mula)**	**2.48**	**39**	PN	**Pb**	**04 16 39.1**	**-2.0**
KNDR	**Palaiochora Ch**	**2.50**	**278**	PN	**Pb**	**04 16 40.9**	**-0.6**
MLSB	**Milas**	**2.54**	**20**	PN	**Pn**	**04 16 39.0**	**+1.9**
YER	**Yerkesik**	**2.56**	**29**	P	**Pn**	**04 16 39.7**	**+2.2**
YER	**Yerkesik**	**2.56**	**29**	PN	**Pn**	**04 16 39.6**	**+2.1**
DDIM	**Aydin, Didim**	**2.58**	**9**	*i* P	**Pn**	**04 16 39.5**	**+1.9**
DDIM				*i* S	**Sn**	**04 17 10.0**	**+1.7**
DDIM				IAML		04 17 25.0	
	comp=N,124nm,1.0s						
DDIM				IAML		04 17 35.0	
	comp=E,143nm,0.8s						
MHLO	**Agia Marina, M**	**2.58**	**314**	P	**Pn**	**04 16 40.3**	**+2.6**
FETY	**Fethiye**	**2.59**	**48**	P	**Pn**	**04 16 38.8**	**+1.0**
FETY	**Fethiye**	**2.59**	**48**	PN	**Pn**	**04 16 39.1**	**+1.3**
KSL	**Kastellorizon**	**2.65**	**61**	⇑P	**Pn**	**04 16 40.5**	**+1.9**
MULA	**Mugla, Merkez-**	**2.69**	**29**	*i* P	**Pn**	**04 16 41.8**	**+2.7**
MULA				*i* S	**Sn**	**04 17 08.7**	**-2.2**
MULA				IAML		04 17 23.0	
	comp=N,76nm,0.7s						
MULA				IAML		04 17 24.0	
	comp=E,90nm,0.6s						
AKAS	**Kas**	**2.71**	**60**	*i* P	**Pn**	**04 16 40.5**	**+1.1**
AKAS				*i* S	**Sn**	**04 17 05.8**	**-5.8**
AKAS				IAML		04 17 16.0	
	comp=N,119nm,0.4s						
AKAS				IAML		04 17 18.0	
	comp=E,82nm,0.5s						
AKAS	**Kas**	**2.71**	**60**	PN	**Pn**	**04 16 40.7**	**+1.2**
SMG	**Samos**	**2.80**	**2**	P	**Pn**	**04 16 41.5**	**+0.9**
GCAM	**G?zelcaml?**	**2.82**	**9**	*i* P	**Pn**	**04 16 42.9**	**+2.0**
GCAM				*i* S	**Sn**	**04 17 16.2**	**+2.0**
GCAM				IAML		04 17 39.0	
	comp=N,43nm,0.7s						
GCAM				IAML		04 17 42.0	
	comp=E,62nm,1.2s						
GCAM	**G?zelcaml?**	**2.82**	**9**	PN	**Pn**	**04 16 42.8**	**+1.9**
AYDN	**Tasoluk**	**2.91**	**19**	*i* P	**Pn**	**04 16 44.8**	**+2.6**
AYDN				*i* S	**Sn**	**04 17 16.8**	**+0.4**
AYDN				IAML		04 17 17.0	
	comp=E,24nm,1.1s						
AYDN				IAML		04 17 27.0	
	comp=N,26nm,0.5s						
CAME	**Cameli-Denizli**	**2.93**	**45**	PN	**Pn**	**04 16 44.9**	**+2.4**
ANKY	**Antikythira Is**	**2.94**	**290**	P	**Pn**	**04 16 45.1**	**+2.5**
CAEL	**Denizli, Camel**	**3.06**	**43**	*i* P	**Pn**	**04 16 47.3**	**+2.9**
CAEL				*i* S	**Sn**	**04 17 17.9**	**-2.4**
CAEL				IAML		04 17 51.0	
	comp=E,302nm,0.9s						
CAEL				IAML		04 17 56.0	
	comp=N,224nm,0.8s						
TAVA	**DENIZLI_Tavas**	**3.12**	**34**	*i* P	**Pn**	**04 16 47.2**	**+2.2**
TAVA				*i* S	**Sn**	**04 17 21.5**	**-0.1**
TAVA				IAML		04 17 41.0	
	comp=E,73nm,1.3s						
TAVA				IAML		04 17 46.0	
	comp=N,70nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**3.18**	**17**	PN	**Pn**	**04 16 47.9**	**+1.9**
ELL	**Elmali**	**3.19**	**54**	PN	**Pn**	**04 16 48.9**	**+2.8**
ELL	**Elmali**	**3.19**	**54**	P	**Pn**	**04 16 48.6**	**+2.5**
KTHA	**Kythira Island**	**3.26**	**295**	P	**Pn**	**04 16 48.7**	**+1.7**
KTHA	**Kythira Island**	**3.26**	**295**	PN	**Pn**	**04 16 49.5**	**+2.5**
GOLH	**Golhisar**	**3.28**	**44**	*i* P	**Pn**	**04 16 50.4**	**+3.1**
GOLH				*i* S	**Sn**	**04 17 30.1**	**+4.5**
GOLH				IAML		04 17 51.0	
	comp=N,96nm,0.6s						
GOLH				IAML		04 18 36.0	
	comp=E,44nm,3.4s						
AKUM	**Antalya-Kumluc**	**3.28**	**63**	*i* P	**Pn**	**04 16 49.4**	**+2.1**
AKUM				*i* S	**Sn**	**04 17 19.5**	**-6.0**
AKUM				IAML		04 17 39.0	
	comp=N,23nm,1.0s						
AKUM				IAML		04 17 40.0	
	comp=E,37nm,0.6s						
KTHR	**Kythira**	**3.31**	**295**	P	**Pn**	**04 16 49.6**	**+2.0**
ZEYE	**Izmir, Urla-Ze**	**3.33**	**357**	*i* P	**Pn**	**04 16 48.6**	**+0.7**
ZEYE				*i* S	**Sn**	**04 17 28.0**	**+1.3**
ZEYE				IAML		04 17 51.0	
	comp=E,48nm,1.2s						
ZEYE				IAML		04 17 53.0	
	comp=N,62nm,0.6s						
URLA	**Izmir**	**3.45**	**359**	*i* P	**Pn**	**04 16 49.5**	**-0.1**
URLA				*i* S

MVOU	**Mavrovouni**	**5.69**	**87**	P		**Pn**	**04 17 22.1**	**+1.8**
SWA2		**5.75**	**191**	P		**Pn**	**04 17 23.8**	**+2.6**
	baz=193							
SWA2				AMP			04 18 00.0	
	baz=193							
SWA2				S		**Sn**	**04 18 25.6**	**-0.7**
	baz=193							
HMYD	**Mayadein**	**6.16**	**145**	P		**Pn**	**04 17 28.8**	**+1.9**
	baz=145							
RYAN	**Fayoum**	**6.55**	**151**	P		**Pn**	**04 17 34.7**	**+2.5**
	baz=152							
RYAN				AMP			04 18 00.0	
	baz=152							
RYAN				S		**Sn**	**04 18 42.7**	**-3.4**
	baz=152							
KOT	**Kottamia**	**6.59**	**137**	P		**Pn**	**04 17 33.9**	**+1.2**
	baz=138							
KOT				AMP			04 18 00.0	
	baz=138							
HSAF	**As Saff**	**6.68**	**141**	P		**Pn**	**04 17 35.1**	**+1.1**
	baz=141							
GLL	**Jalalah**	**6.79**	**140**	P		**Pn**	**04 17 36.8**	**+1.2**
	baz=141							
SUZ	**Suez**	**7.23**	**133**	P		**Pn**	**04 17 42.6**	**+1.1**
	baz=133							
BRTR	**Keskin Array B**	**7.32**	**47**	Pn		**Pn**	**04 17 42.3**	**-0.6**
	comp=N,0.1nm,0.3s,baz=218,slow=16,SNR=2.9							
BRTR				Sn		**Sn**	**04 19 04.2**	**-1.1**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=3.8							
MMAI	**Mount Meron Ar**	**7.47**	**102**	Pn		**Pn**	**04 17 44.2**	**-0.6**
	comp=N,2.9nm,0.3s,baz=304,slow=10,SNR=4.8							
MMAI				Sn		**Sn**	**04 19 08.3**	**-0.5**
	comp=N,4.9nm,0.3s,baz=324,slow=7.1,SNR=1.8							
HFRF	**Wahat Farafira**	**7.85**	**169**	P		**Pn**	**04 17 52.3**	**+2.2**
	baz=170							
EIL	**Elat**	**8.71**	**125**	Pn		**Pn**	**04 18 01.9**	**+0.1**
	comp=N,0.9nm,0.3s,baz=219,slow=2.2,SNR=14							
EIL				Sn		**Sn**	**04 19 35.9**	**-3.4**
	comp=N,1.1nm,0.3s,baz=264,slow=19,SNR=2.9							
MLR	**Muntele Rosu**	**10.59**	**357**	Pn		**Pn**	**04 18 28.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=153,slow=18,SNR=1.7							
MLR				LR		LR	04 23 26.6	
	comp=N,57nm,19.7s,baz=268,slow=43							
GNI	**Garni**	**15.23**	**65**	LR		LR	04 24 53.8	
	comp=N,167nm,21.6s,baz=219,slow=36							
AKASG	**Malin Array Be**	**15.89**		Pn		**P**	**04 19 41.5**	**-1.3**
	comp=N,1.4nm,0.3s,baz=195,slow=10,SNR=6.5							
GERES	**GERESS Array B**	**16.93**	**329**	Pn		**Pn**	**04 19 53.6**	**+1.0**
	comp=N,0.2nm,0.3s,baz=137,slow=14,SNR=8.7							
DAVOX	**Davos/Dischmat**	**17.36**	**318**	P		**P**	**04 19 59.4**	**+0.1**
	comp=N,0.3nm,0.3s,baz=183,slow=19,SNR=1.7							
ESDC	**Sonseca Array**	**24.79**	**290**	P		**P**	**04 21 18.0**	**+0.6**
	comp=N,1.0nm,0.5s,baz=82,slow=9.7,SNR=8.3							
FINES	**FINESS Array B**	**26.56**	**359**	P		**P**	**04 21 31.6**	**-1.5**
	comp=N,0.7nm,0.4s,baz=164,slow=11,SNR=7.4							
HFS	**Hagfors**	**26.63**	**345**	P		**P**	**04 21 32.6**	**-1.1**
	comp=N,0.7nm,0.3s,baz=145,slow=11,SNR=8.2							
AKTO	**Aktyubinsk**	**27.50**	**46**	P		**P**	**04 21 40.0**	**-1.7**
	comp=N,0.6nm,0.6s,baz=270,slow=15,SNR=1.8							
NOA	**NORSAR Array B**	**27.98**	**344**	P		**P**	**04 21 44.8**	**-1.1**
	comp=N,0.3nm,0.5s,baz=155,slow=9.5,SNR=1.6							
NOA				LR		LR	04 33 04.0	
	comp=N,6.3nm,21.9s,baz=155,slow=37							
EKA	**Eskdalemuir Ar**	**28.98**	**324**	P		**P**	**04 21 54.3**	**-0.6**
	comp=N,0.7nm,0.4s,baz=128,slow=10,SNR=7.7							
TORD	**Torodi Ar. Bea**	**31.32**	**232**	P		**P**	**04 22 17.9**	**+2.0**
	comp=N,0.5nm,0.7s,baz=33,slow=8.5,SNR=2.5							
ARCES	**ARCESS Array B**	**34.69**	**359**	P		**P**	**04 22 43.1**	**-1.7**
	comp=N,0.5nm,0.3s,baz=179,slow=9.2,SNR=26							
MKAR	**Makanchi Array**	**42.86**	**56**	P		**P**	**04 23 53.8**	**+0.3**
	comp=N,0.3nm,0.3s,baz=264,slow=8.4,SNR=9.8							
ZALV	**Zalesovo Beam**	**44.27**	**46**	P		**P**	**04 24 05.0**	**+0.2**
	comp=N,1.3nm,0.5s,baz=276,slow=9.2,SNR=4.4							
SCHQ	**Schefferville**	**64.20**	**320**	P		**P**	**04 26 29.7**	**-0.2**
	comp=N,1.7nm,0.5s,baz=58,slow=5.5,SNR=7.7							
YKA	**Yellowknife Ar**	**78.07**	**343**	P		**P**	**04 27 53.0**	**-0.8**
	comp=N,0.4nm,0.6s,baz=36,slow=5.4,SNR=4.5							

NOU 15 04:20:49.9,21.68S×166.80E,h0km,MLv2.2,New Caledonia,New Caledonia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YATNC	**Mamie plateau,**	**0.39**	**167**	P	Pg	04 20 57.1	-0.2
YATNC	**Mamie plateau,**	**0.39**	**167**	P	Pg	04 20 57.1	-0.2
DZM	**Mont Dzumac**	**0.51**	**220**	P	Pg	04 21 00.4	+0.7
NOUC	**Port Laguerre**	**0.62**	**228**	P	Pg	04 21 00.6	-1.3
NOUC	**Port Laguerre**	**0.62**	**228**	P	Pg	04 21 01.0	-0.9
ONTNC	**Ouen Toro**	**0.70**	**207**	P	Pb	04 21 05.0	0.0
ONTNC	**Ouen Toro**	**0.70**	**207**	P	Pg	04 21 03.7	+0.3
OUENC	**Ouen Island, N**	**0.74**	**177**	P	Pg	04 20 57.8	-6.2
LIFNC	**LIFOU**	**0.99**	**25**	P	Pg	04 21 08.9	+0.1

MOS ***15*** *04:45:54.4±0.0,43.40N×44.51E,h10km,MPVA4.1*
IASPEI ***15*** *04:45:55.9±0.9,43.41N±0.02×44.51E±0.02,h4km±6km, Error ellipse: s-maj=3.2km s-min=2.5km az=23.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
NORS ***15*** *04:45:55.0±0.0,43.36N×44.53E,h5km,MPVA3.9*
ISC 15 04:45:55.9±0.8,43.40N±0.02×44.50E±0.01,h4km±5km, n80,σ1s04/155,5C-7D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTKR	**Batakoyurt**	**0.04**	**128**	*i* P	**Pg**	**04 45 56.8**	**-0.2**
BTKR	**Batakoyurt**	**0.04**	**128**	*i* Pg	**Pg**	**04 45 56.8**	**-0.2**
	13μm,0.4s						
BTKR				*e*Sg	**Sg**	**04 45 58.8**	**+1.0**
	47μm,0.2s						
STDR	**Stavd-Durt**	**0.32**	**265**	*e*PG	**Pg**	**04 46 03.1**	**+1.0**
STDR				*e*S	**Sb**	**04 46 08.4**	**-1.4**
STDR	**Stavd-Durt**	**0.32**	**265**	*e*Pg	**Pg**	**04 46 03.1**	**+1.0**
STDR				*e*Sg	**Sb**	**04 46 08.4**	**-1.4**
TRKR	**Terskaya**	**0.37**	**27**	*e*PG	**Pb**	**04 46 04.5**	**-0.5**
TRKR	**Terskaya**	**0.37**	**27**	*e*Pg	**Pb**	**04 46 04.5**	**-0.5**
TRKR				*e*Sg	**Sg**	**04 46 07.0**	**-0.8**
VLKR	**Vladikavkaz**	**0.37**	**160**	*e*PG	**Pg**	**04 46 03.7**	**+0.6**
VLKR				*e*S	**Sb**	**04 46 10.7**	**-0.6**
VLKR	**Vladikavkaz**	**0.37**	**160**	*e*Pg	**Pg**	**04 46 03.7**	**+0.6**
VLKR				*e*Pg	**Pg**	**04 46 03.8**	**+0.6**
VLKR				*e*Sg	**Sb**	**04 46 09.7**	**-1.6**
VLKR				*e*Sg	**Sb**	**04 46 10.7**	**-0.6**
PRTR	**Priterechnaya**	**0.39**	**336**	*e*PG	**Pb**	**04 46 04.8**	**-0.6**
PRTR				*e*S	**Sb**	**04 46 13.3**	**+1.5**
PRTR	**Priterechnaya**	**0.39**	**336**	*e*Pg	**Pb**	**04 46 04.8**	**-0.6**
	254nm,0.5s						
PRTR				*e*Sg	**Sb**	**04 46 13.3**	**+1.5**
	883nm,0.5s						
KMGR	**Komgaron**	**0.43**	**142**	*e*PG	**Pg**	**04 46 04.6**	**+0.4**
KMGR				*e*S	**Sg**	**04 46 09.9**	**+0.1**
KMGR	**Komgaron**	**0.43**	**142**	*e*Pg	**Pg**	**04 46 04.6**	**+0.4**
KMGR				*e*Sg	**Sg**	**04 46 09.9**	**+0.1**
KORR	**Kora**	**0.44**	**226**	*e*PG	**Pg**	**04 46 04.8**	**+0.4**
KORR				*e*S	**Sb**	**04 46 11.7**	**-1.6**
KORR	**Kora**	**0.44**	**226**	*e*Pg	**Pg**	**04 46 05.3**	**+0.9**
KORR				*e*Sg	**Sg**	**04 46 11.2**	**+1.1**
LSNR	**Lesken**	**0.51**	**257**	*e*PG	**Pb**	**04 46 07.2**	**-0.2**
LSNR				*e*S	**Sb**	**04 46 15.3**	**+0.2**
LSNR	**Lesken**	**0.51**	**257**	*e*Pg	**Pb**	**04 46 07.3**	**-0.1**
	85nm,0.2s						
LSNR				*e*Sg	**Sb**	**04 46 15.8**	**+0.6**
	414nm,0.5s						
LACR	**Lac**	**0.59**	**195**	*e*PG	**Pg**	**04 46 07.7**	**+0.5**
LACR				*e*S	**Sb**	**04 46 17.5**	**-0.1**
LACR	**Lac**	**0.59**	**195**	*e*Pg	**Pg**	**04 46 07.7**	**+0.5**
LACR				*e*Sg	**Sb**	**04 46 17.5**	**-0.1**
NCK	**Nalchik**	**0.67**	**279**	*e*PG	**Pn**	**04 46 11.6**	**-0.6**
NCK				*e*S	**Sn**	**04 46 22.9**	**-0.2**
NCK	**Nalchik**	**0.67**	**279**	*e*Pg	**Pg**	**04 46 08.4**	**-0.3**
NCK				*e*Sg	**Sg**	**04 46 17.3**	**0.0**
ZEI	**Tsey**	**0.75**	**216**	*e*PG	**Pb**	**04 46 11.4**	**-0.3**
ZEI				*e*S	**Sb**	**04 46 23.5**	**+1.2**
ZEI	**Tsey**	**0.75**	**216**	*e*Pg	**Pb**	**04 46 11.4**	**-0.3**
	245nm,0.1s						
ZEI				*e*Sg	**Sb**	**04 46 23.5**	**+1.2**
	556nm,0.3s						
PNSH	**Pansheti**	**0.77**	**174**	PG	**Pg**	**04 46 10.5**	**-0.1**
PNSH				S	**Sb**	**04 46 24.2**	**+1.5**
DIGR	**Digorskoe uzhe**	**0.84**	**234**	*e*PG	**Pb**	**04 46 12.7**	**-0.4**
DIGR				*e*S	**Sb**	**04 46 24.9**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.84**	**234**	*e*Pg	**Pb**	**04 46 12.9**	**-0.2**
	79nm,0.4s						
DIGR				*e*Sg	**Sn**	**04 46 26.2**	**-1.3**
	167nm,0.4s						
GUDG	**Gudauri**	**0.93**	**181**	PG	**Pg**	**04 46 11.0**	**-2.8**
GROC	**Groznyy**	**0.97**	**101**	*e*PG	**Pn**	**04 46 17.2**	**+0.9**
GROC				*e*S	**Sn**	**04 46 30.0**	**-0.4**
GROC	**Groznyy**	**0.97**	**101**	*e*Pg	**Pn**	**04 46 17.2**	**+0.9**
GROC				*e*Sg	**Sn**	**04 46 30.0**	**-0.4**
ONI	**Oni**	**1.11**	**224**	*i* PG	**Pn**	**04 46 18.9**	**+0.5**
ONI				*i* S	**Sn**	**04 46 35.3**	**+1.1**
ONI	**Oni**	**1.11**	**224**	*i* Pg	**Pn**	**04 46 18.9**	**+0.5**
ONI				*i* Sg	**Sn**	**04 46 35.3**	**+1.1**
KBZ	**Khabaz**	**1.21**	**286**	*i* PG	**Pg**	**04 46 18.9**	**-0.2**
KBZ				*i* S	**Sn**	**04 46 36.8**	**+0.3**
KBZ	**Khabaz**	**1.21**	**286**	*i* Pg	**Pg**	**04 46 18.9**	**-0.2**
KBZ				*i* Sg	**Sn**	**04 46 36.8**	**+0.3**
PYA1	**Pyatigorsk**	**1.22**	**304**	*e*PG	**Pg**	**04 46 18.7**	**-0.6**
PYA1	**Pyatigorsk**	**1.22**	**304**	*e*Pg	**Pg**	**04 46 18.6**	**-0.6**
PYA1				*e*Sg	**Sn**	**04 46 36.5**	**-0.2**
DVE	**Vedeno**	**1.27**	**110**	*e*PG	**Pg**	**04 46 19.7**	**-0.5**
DVE				*e*S	**Sn**	**04 46 38.1**	**+0.1**
DVE	**Vedeno**	**1.27**	**110**	*e*Pg	**Pg**	**04 46 19.7**	**-0.5**
DVE				*e*Sg	**Sn**	**04 46 38.1**	**+0.1**
NEY	**Neytrino**	**1.31**	**264**	*i* PG	**Pg**	**04 46 20.2**	**-0.8**
NEY				*e*S	**Sn**	**04 46 39.2**	**+0.1**
NEY	**Neytrino**	**1.31**	**264**	*i* Pg	**Pg**	**04 46 20.5**	**-0.5**
	95nm,0.7s						
NEY				*i* Sg	**Sn**	**04 46 39.2**	**+0.1**
	535nm,0.6s						
BEYR	**Belyy Ugol+**	**1.37**	**297**	*e*PG	**Pn**	**04 46 21.3**	**-0.5**
BEYR				*e*S	**Sn**	**04 46 40.5**	**+0.1**
BEYR	**Belyy Ugol+**	**1.37**	**297**	*e*Pg	**Pn**	**04 46 21.3**	**-0.5**
BEYR				*e*Sg	**Sn**	**04 46 40.5**	**+0.1**
SHA1	**Shidzhatmaz**	**1.38**	**285**	*i* PG	**Pn**	**04 46 21.4**	**-0.8**
SHA1				*e*S	**Sn**	**04 46 41.8**	**+0.7**
SHA1	**Shidzhatmaz**	**1.38**	**285**	*e*Pg	**Pn**	**04 46 21.4**	**-0.8**
SHA1				*e*Sg	**Sn**	**04 46 41.9**	**+0.7**
KIV0	**Kislovodsk Arr**	**1.42**	**294**	*e*Pg	**Pn**	**04 46 22.2**	**-0.5**
KIV0				*e*Sg	**Sn**	**04 46 42.4**	**+0.5**
KIV	**Kislovodsk**	**1.43**	**294**	*i* PG	**Pn**	**04 46 22.3**	**-0.5**
KIV				*i* S	**Sn**	**04 46 42.7**	**+0.6**
KIV	**Kislovodsk**	**1.43**	**294**	*e*Pg	**Pn**	**04 46 22.3**	**-0.5**
KIV				*i* Sg	**Sn**	**04 46 42.7**	**+0.6**
BTLR	**Botlikh**	**1.46**	**120**	*e*PG	**Pg**	**04 46 23.9**	**0.0**
BTLR				*e*S	**Sn**	**04 46 44.3**	**+1.6**
BTLR	**Botlikh**	**1.46**	**120**	*e*Pg	**Pn**	**04 46 22.7**	**-0.5**
BTLR				*e*Sg	**Sn**	**04 46 44.1**	**+1.4**
DLMR	**Dylym**	**1.59**	**101**	*e*PG	**Pn**	**04 46 24.8**	**-0.1**
DLMR				*e*S	**Sg**	**04 46 46.9**	**-0.1**
DLMR	**Dylym**	**1.59**	**101**	*e*Pg	**Pn**	**04 46 24.8**	**-0.1**
DLMR				*e*Sg	**Sg**	**04 46 46.9**	**-0.1**
DBC	**Dubki**	**1.74**	**102**	*e*PN	**Pn**	**04 46 27.9**	**+0.8**
DBC				*e*S	**Sg**	**04 46 52.9**	**+0.9**
DBC	**Dubki**	**1.74**	**102**	*e*Pg	**Pn**	**04 46 27.6**	**+0.5**
DBC				*e*Sg	**Sg**	**04 46 52.0**	**0.0**
ALER	**Alexandrovskoy**	**1.78**	**321**	*e*PN	**Pn**	**04 46 27.5**	**0.0**
ALER				*e*S	**Sn**	**04 46 50.6**	**0.0**
ALER	**Alexandrovskoy**	**1.78**	**321**	*e*Pg	**Pn**	**04 46 27.5**	**0.0**
ALER				*e*Sg	**Sn**	**04 46 50.6**	**0.0**
BKRG	**Bakuriani**	**1.79**	**204**	PN	**Pn**	**04 46 28.2**	**+0.5**
XNZR	**Khunzakh**	**1.83**	**117**	*e*PN	**Pb**	**04 46 30.2**	**+0.1**
XNZR				*e*S	**Sg**	**04 46 55.7**	**+1.0**
XNZR	**Khunzakh**	**1.83**	**117**	*e*Pg	**Pb**	**04 46 30.2**	**+0.1**
XNZR				*e*Sg	**Sg**	**04 46 55.7**	**+1.0**
KRNR	**Karanay**	**1.85**	**107**	*e*PN	**Pn**	**04 46 28.0**	**-0.6**
KRNR				*e*S	**Sb**	**04 46 53.5**	**-0.5**
KRNR	**Karanay**	**1.85**	**107**	*e*Pg	**Pn**	**04 46 28.0**	**-0.6**
KRNR				*e*Sg	**Sb**	**04 46 53.5**	**-0.5**
GOF	**Gofitskoye**	**1.96**	**328**	*e*PN	**Pb**	**04 46 32.6**	**+0.3**
GOF				*e*S	**Sg**	**04 47 01.2**	**+2.2**
GOF				pmax	pmax		
	comp=Z,30nm,0.4s						
GOF				smax	smax		
	comp=N,113nm,0.6s						
GOF	**Gofitskoye**	**1.96**	**328**	*e*Pg	**Pn**	**04 46 31.1**	**+1.1**
GOF				*e*Sg	**Sb**	**04 46 57.1**	**0.0**
BUJR	**Buynaksk**	**1.99**	**106**	*e*PN	**Pn**	**04 46 30.6**	**+0.2**
BUJR	**Buynaksk**	**1.99**	**106**	*e*Pg	**Pn**	**04 46 30.6**	**+0.2**
BUJR				*e*Sg	**Sn**	**04 46 56.5**	**+0.6**
LGD	**Lagodekhi**	**2.02**	**140**	PN	**Pb**	**04 46 32.6**	**-0.6**
DMNI	**Dmanisi**	**2.08**	**186**	PN	**Pn**	**04 46 32.0**	**+0.3**
DMNI				S	**Sn**	**04 46 58.7**	**+0.6**
AKH	**Akhalkalaki**	**2.12**	**201**	PN	**Pb**	**04 46 33.9**	**-1.1**
DDFL	**Dedoflistskaro**	**2.29**	**148**	PN	**Pb**	**04 46 38.3**	**+0.5**
ARXR	**Arkhyz**	**2.35**	**275**	*e*PN	**Pn**	**04 46 37.0**	**+1.5**
ARXR				*e*S	**Sb**	**04 47 07.0**	**-1.4**
ARXR	**Arkhyz**	**2.35**	**275**	*e*Pn	**Pn**	**04 46 37.0**	**+1.5**
ARXR				*e*Sn	**Sb**	**04 47 07.0**	**-1.4**
AKT	**Akhty**	**3.06**	**128**	*e*PN	**Pn**	**04 46 46.7**	**+1.6**
AKT				*e*S	**Sn**	**04 47 20.6**	**-1.8**
AKT	**Akhty**	**3.06**	**128**	*e*Pn	**Pn**	**04 46 46.8**	**+1.6**
AKT				*e*Sn	**Sn**	**04 47 20.6**	**-1.8**
GUZR	**Guzeripl'**	**3.23**	**282**	*e*PN	**Pb**	**04 46 51.6**	**-2.3**
GUZR				*e*S	**Sn**	**04 47 27.4**	**+0.9**
GUZR	**Guzeripl'**	**3.23**	**282**	*e*Pn	**Pb**	**04 46 51.6**	**-2.3**
GUZR				*e*Sn	**Sn**	**04 47 27.4**	**+0.9**
GNI	**Garni**	**3.25**	**177**	*e*PN	**Pb**	**04 46 51.9**	**-2.3**
GNI				*e*S	**Sn**	**04 47 28.9**	**+1.9**
GNI	**Garni**	**3.25**	**177**	*e*Pn	**Pb**	**04 46 51.9**	**-2.3**
GNI				*e*Sn	**Sn**	**04 47 28.9**	**+1.9**
ANN	**Anapa**	**5.28**	**288**	*e*PN	**Pn**	**04 47 15.8**	**+0.3**
ANN				*e*S	**Sn**	**04 48 22.0**	**+5.2**
ANN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN	**Obninsk**	**12.81**	**339**	*e*P	**Pn**	**04 48 58.8**	**+0.2**
OBN				S	**Sn**	**04 51 24.0**	**+2.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MNK	**Minsk**	**15.53**	**321**	*i* P	**Pn**	**04 49 34.6**	**-1.0**
MNK				*i* S	**Sn**	**04 52 26.3**	**-1.6**
MNK	**Minsk**	**15.53**	**321**	*i* P	**Pn**	**04 49 34.7**	**-0.9**
MNK				*i* P	**Pn**	**04 49 34.7**	**-0.9**
MNK				*i* P	**Pn**	**04 49 34.7**	**-0.9**
	baz=128						
MNK				*i* PP	**PnPn**	**04 49 43.3**	**-0.4**
MNK				*i* S	**Sn**	**04 52 26.4**	**-1.5**
MNK				*i* SS	**S**	**04 52 43.7**	**-0.2**
MNK				*i* LQ	LQ	04 53 32.7	
MNK				*i* LR	LR	04 54 43.6	
MNK				*i* LRM	MLR	04 55 17.6	
MNK				*i* LRM	MLR	04 55 45.9	
MNK				*i* LRM	MLR	04 56 19.6	
ARU	**Arti**	**15.84**	**30**	*i* P	**Pn**	**04 49 39.8**	**+0.3**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**19.61**	**51**	*i* P	**P**	**04 50 25.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						

IDC ***15*** *05:01:14.8±2.5,32.01S×68.42W,h95km±22km,mb3.6/7, mb1 3.7/12,mb1mx3.6/32,mbtmp3.9/12,Error ellipse: s-maj=25.2km s-min=20.4km az=88.0*
NEIC ***15*** *05:01:16.5±2.1,31.96S±0.05×68.32W±0.03,h104km±7km, Error ellipse: s-maj=7.2km s-min=3.3km az=178.0*
SJA ***15*** *05:01:17.1±0.7,31.95S×68.39W,h116km±2km,ML4.1, MW4.0*
ISC 15 05:01:17.1±0.6,31.93S±0.04×68.40W±0.03,h119km±5km, n96,σ1s38/126,mb4.3/17,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.14**	**300**	*e*P	**Pn**	**05 01 34.0**	**+0.3**
RTCV				*e*S	**Sn**	**05 01 45.7**	**-0.3**
ZON	**Zonda**	**0.45**	**328**		**Pn**	**05 01 35.1**	**+0.3**
ZON	**Zonda**	**0.45**	**328**	*e*P	**Pn**	**05 01 35.1**	**+0.3**
ZON				*e*S	**Sn**	**05 01 48.6**	**+0.4**
ZON				IAML		05 01 49.1	
	comp=Z,3μm,0.2s						
RTLL	**Cerro Villicun**	**0.60**	**354**	*e*P	**Pn**	**05 01 36.2**	**+0.4**
RTLL				*e*S	**Sn**	**05 01 50.3**	**+0.4**
RTLL				IAML		05 01 52.1	
	comp=Z,7μm,0.3s						
ASAL	**Salagasta**	**0.75**	**209**	*e*P	**Pn**	**05 01 37.4**	**+0.4**
ASAL				*e*S	**Sn**	**05 01 52.1**	**+0.1**
RTLS	**Leoncito**	**0.78**	**280**	*e*P	**Pn**	**05 01 38.1**	**+0.7**
RTLS				*e*S	**Sn**	**05 01 54.0**	**+1.3**
RTLS				IAML		05 01 54.5	
	comp=Z,3μm,0.2s						
AUSP	**Uspallata**	**0.89**	**251**	*e*P	**Pn**	**05 01 38.9**	**+0.6**
AUSP				*e*S	**Sn**	**05 01 54.8**	**+0.4**
ARCO	**CERRO ARCO**	**1.01**	**206**	*e*P	**Pn**	**05 01 39.8**	**+0.4**
ARCO				*e*S	**Sn**	**05 01 56.5**	**+0.2**
ARCO				IAML		05 01 58.5	
	comp=Z,3μm,0.2s						
ACAN	**Cantantal**	**1.08**	**109**	*e*P	**Pn**	**05 01 41.0**	**+1.0**
AAGR	**Agrelo**	**1.21**	**197**	*e*P	**Pn**	**05 01 41.8**	**+0.4**
AAGR				*e*S	**Sn**	**05 01 59.1**	**-0.7**
AVFE	**Valle Fertil**	**1.50**	**33**	*e*P	**Pn**	**05 01 45.4**	**+0.7**
AVFE				*e*S	**Sn**	**05 02 06.6**	**+1.0**
AVFE				IAML		05 02 09.5	
	comp=Z,945nm,0.3s						
AVIZ	**Vizcacheras**	**1.54**	**184**	*e*P	**Pn**	**05 01 45.8**	**+0.7**
ACHE	**Chepes**	**1.67**	**63**	*e*P	**Pn**	**05 01 47.4**	**+0.7**
VA03	**San Esteban**	**2.00**	**245**		**Pn**	**05 01 51.6**	**+1.0**
CO03	**El Pedregal**	**2.24**	**299**		**Pn**	**05 01 55.0**	**+1.4**
CO03	**El Pedregal**	**2.24**	**299**	*e*P	**Pn**	**05 01 55.1**	**+1.4**
CO03				*e*S	**Sn**	**05 02 24.6**	**+2.9**
CO03				IAML		05 02 26.5	
	comp=Z,2μm,0.3s						
MRA	**San Martin**	**2.33**	**103**	*e*P	**Pn**	**05 01 55.5**	**+0.8**
MRA				*e*S	**Sn**	**05 02 23.9**	**+0.3**
MRA				IAML		05 02 26.1	
	comp=Z,1μm,0.3s						
CO02	**Combarbal**	**2.34**	**287**	Pn	**Pn**	**05 01 55.7**	**+0.8**
CO02				Sn	**Sn**	**05 02 25.1**	**+1.3**
MT03	**Universidad Ad**	**2.36**	**228**		**Pn**	**05 01 56.0**	**+0.8**
MT03				Sn	**Sn**	**05 02 26.9**	**+2.4**
AGUA	**GUANDACOL**	**2.44**	**358**	*e*P	**Pn**	**05 01 57.6**	**+1.4**
AGUA				*e*S	**Sn**	**05 02 28.2**	**+2.0**
AGUA				IAML		05 02 30.6	
	comp=Z,633nm,0.3s						
MT05	**Renca**	**2.45**	**233**		**Pn**	**05 01 57.1**	**+0.8**
MT05				Sn	**Sn**	**05 02 28.1**	**+1.7**
MT02	**Curacav**	**2.66**	**239**		**Pn**	**05 01 58.6**	**-0.4**
MT02				Sn	**Sn**	**05 02 29.9**	**-1.3**
GO04	**Tololo Observa**	**2.71**	**310**		**Pn**	**05 02 00.6**	**+0.8**
GO04				Sn	**Sn**	**05 02 34.2**	**+1.6**
GO04	**Tololo Observa**	**2.71**	**310**	*e*P	**Pn**	**05 02 01.0**	**+1.2**
GO04				*e*S	**Sn**	**05 02 34.2**	**+1.6**
ACLC	**CERRO LA CRUZ**	**2.79**	**27**	*e*P	**Pn**	**05 02 01.6**	**+0.7**
ACLC				*e*S	**Sn**	**05 02 31.5**	**-3.0**
ACLC				IAML		05 02 33.3	
	comp=Z,872nm,0.4s						
RFA	**San Rafael**	**2.83**	**181**	*e*P	**Pn**	**05 02 01.0**	**-0.3**
RFA				*e*P	**Pn**	**05 02 01.2**	**-0.1**
RFA				IAML		05 02 36.1	
	comp=Z,260nm,0.3s						
MT09	**Talagante**	**2.85**	**229**		**Pn**	**05 02 01.4**	**-0.1**
MT09				Sn	**Sn**	**05 02 35.0**	**-0.8**
VA01	**Torpederas**	**2.95**	**248**		**Pn**	**05 02 01.5**	**-1.3**
VA01				Sn	**Sn**	**05 02 35.1**	**-2.8**
MT01	**Popeta**	**3.08**	**230**		**Pn**	**05 02 03.1**	**-1.2**
MT01				Sn	**Sn**	**05 02 39.3**	**-1.5**
VCA	**Vinchina**	**3.19**	**3**	*e*P	**Pn**	**05 02 07.5**	**+1.4**
VCA				IAML		05 02 53.9	
	comp=Z,671nm,0.3s						
VA05	**Santo Domingo**	**3.21**	**237**		**Pn**	**05 02 05.1**	**-0.9**
VA05				Sn	**Sn**	**05 02 41.7**	**-2.2**
TCA	**Tanti**	**3.30**	**81**	*e*P	**Pn**	**05 02 07.8**	**+0.4**
TCA				IAML		05 03 04.2	
	comp=Z,328nm,0.5s						
BO01	**Tunca**	**3.33**	**222**	Pn	**Pn**	**05 02 07.0**	**-0.8**
BO01				Sn	**Sn**	**05 02 45.6**	**-1.

PDAR	**Pinedale Array**	**83.38**	**331**	P		**P**	**05 13 31.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=121,slow=3.5,SNR=4.3							
NVAR	**Mina Array Bea**	**84.01**	**323**	P		**P**	**05 13 34.7**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=159,slow=5.8,SNR=5.2							
WRA	**Warramunga Arr**	**124.00**	**206**	PKP		**PKPdf**	**05 20 01.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=166,slow=1.6,SNR=9.9							
WRA	**Warramunga Arr**	**124.00**	**206**			**PKPdf**	**05 20 00.8**	**-1.2**
ZALV	**Zalesovo Beam**	**150.84**	**33**	PKPbc		**PKiKP**	**05 20 55.8**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=303,slow=2.6,SNR=11							
ZALV	**Zalesovo Beam**	**150.84**	**33**			**PKiKP**	**05 20 56.3**	**+0.7**

MDD ***15*** *05:05:11.4±0.4, 36°.44N×3°.07W, h8km±3km, mbLg2.7/20, Error ellipse: s-maj=3.6km s-min=2.8km az=105.0, PRXIMO*

SFS ***15*** *05:05:11.0, 36°.40N×3°.00W, h10km, ML2.5, ALBORAN N.*

INMG ***15*** *05:05:11.9±1.6, 36°.42N×3°.03W, h20km±5km, ML2.2, Error ellipse: s-maj=4.0km s-min=3.0km az=70.0*

IGIL ***15*** *05:05:11.0, 36°.44N×3°.05W, h7km, ML1.9*

CNRM ***15*** *05:05:12.8, 36°.29N×3°.21W, h49km, ml2.4, Hypocentre not reviewed by the ISC*

ISC 15 05:05:09.1±1.1, 36°.36N±0°.03×3°.06W±0°.02, h18km±8km, n69, σ1s95/123, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.42**	**178**	**⇓P**	**Pb**	**05 05 20.9**	**+2.9**
	74nm,0.1s,SNR=18						
EALB				S	**Sb**	**05 05 27.7**	**+3.7**
	2µm,0.2s,SNR=32						
EBER	**Berja**	**0.56**	**14**	**⇓P**	**Pg**	**05 05 20.6**	**+0.3**
	8.1nm,0.1s,SNR=18						
EBER				S	**Sg**	**05 05 26.8**	**-1.1**
	552nm,0.1s						
ELGU	**Los Guajares,**	**0.69**	**318**	P	**Pg**	**05 05 22.5**	**-0.1**
	41nm,0.1s,SNR=7.9						
ELGU				S	**Sg**	**05 05 30.5**	**-1.3**
	881nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**0.92**	**48**	P	**Pg**	**05 05 26.6**	**-0.4**
	56nm,0.2s,SNR=7.9						
ENIJ				S	**Sg**	**05 05 37.4**	**-1.7**
	251nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.07**	**175**	*e*S	**Sg**	**05 05 43.3**	**-0.5**
GORA	**Gorafe**	**1.12**	**1**	P	**Pb**	**05 05 31.1**	**+1.1**
	43nm,0.2s,SNR=7.9						
GORA				S	**Sg**	**05 05 44.6**	**-0.9**
	180nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.13**	**312**	P	**Pb**	**05 05 30.6**	**+0.4**
	1.7nm,0.1s,SNR=7.9						
EGOR				S	**Sg**	**05 05 45.0**	**-0.9**
	39nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.14**	**177**	P		05 05 31.4	
GOG				S		05 05 46.3	
EMAL	**Malaga-Limoner**	**1.18**	**290**	P	**Pb**	**05 05 30.2**	**-0.7**
EMAL				S	**Sb**	**05 05 43.5**	**-2.2**
EMAL	**Malaga-Limoner**	**1.18**	**290**	*e*P	**Pb**	**05 05 30.2**	**-0.7**
EMAL				*e*S	**Sb**	**05 05 43.5**	**-2.2**
PALE	**Palemas**	**1.35**	**212**	P		05 05 34.1	
PALE				S		05 05 51.7	
EMIJ	**Mijas**	**1.40**	**279**	P	**Pn**	**05 05 32.7**	**-1.0**
	2.5nm,0.1s,SNR=42						
EMIJ				S	**Sn**	**05 05 47.9**	**-3.8**
	19nm,0.1s,SNR=10.0						
EQES	**Quesada**	**1.44**	**360**	P	**Pn**	**05 05 36.4**	**+2.0**
	1.9nm,0.1s,SNR=38						
EQES				S	**Sn**	**05 05 54.7**	**+1.8**
	25nm,0.2s						
TAF	**Taforalt**	**1.63**	**161**	P		05 05 40.1	
TAF				S		05 05 57.7	
SESP	**Santiago Espad**	**1.81**	**13**	P	**Pn**	**05 05 41.6**	**+2.1**
	2.6nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**05 06 03.1**	**+1.1**
	106nm,0.3s,SNR=7.9						
CEU	**Ceuta**	**1.93**	**257**	P	**Pn**	**05 05 40.4**	**-0.5**
CEU				S	**Sn**	**05 06 00.9**	**-3.9**
CEU	**Ceuta**	**1.93**	**257**	*e*P	**Pn**	**05 05 40.4**	**-0.5**
CEU				*e*S	**Sn**	**05 06 00.9**	**-3.9**
EJIF	**Jimena Fronter**	**1.95**	**273**	P	**Pn**	**05 05 42.9**	**+1.6**
	SNR=7.9						
LIJA	**Lijar**	**1.97**	**287**	P	**Pb**	**05 05 45.2**	**+0.9**
LIJA				S	**Sn**	**05 06 07.0**	**+1.2**
LIJA	**Lijar**	**1.97**	**287**	*e*P	**Pb**	**05 05 45.2**	**+0.9**
LIJA				*e*S	**Sn**	**05 06 07.0**	**+1.2**
SMIR	**Smir Dam**	**2.00**	**251**	P		05 05 42.0	
SMIR				S		05 06 05.4	
CART	**Cartagena**	**2.05**	**53**	P	**Pn**	**05 05 41.5**	**-1.2**
CART				S	**Sn**	**05 06 03.0**	**-4.8**
CART	**Cartagena**	**2.05**	**53**	*e*P	**Pn**	**05 05 41.5**	**-1.2**
CART				*e*S	**Sn**	**05 06 03.0**	**-4.8**
JBK	**JBK**	**2.06**	**169**	P		05 05 44.7	
JBK				S		05 06 07.8	
EMUR	**La Murta**	**2.07**	**44**	P	**Pn**	**05 05 43.5**	**+0.4**
	12nm,0.3s,SNR=13						
EMUR				S	**Sn**	**05 06 06.6**	**-1.8**
	33nm,0.3s,SNR=11						
EADA	**Adamuz**	**2.17**	**327**	P	**Pn**	**05 05 46.3**	**+1.9**
	0.1nm,0.1s,SNR=31						
EADA				S	**Sn**	**05 06 12.9**	**+2.0**
	16nm,0.2s,SNR=14						
CHEFC	**Chefchaouen**	**2.24**	**237**	P		05 05 47.3	
CHEFC				S		05 06 09.7	
ECAB	**El Cabril**	**2.55**	**313**	P	**Pn**	**05 05 50.9**	**+1.4**
	0.0nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**05 06 22.7**	**+2.6**
	12nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.58**	**27**	P	**Pn**	**05 05 51.8**	**+1.8**
	6.4nm,0.2s,SNR=41						
ETOB				S	**Sn**	**05 06 22.2**	**+1.3**
	16nm,0.3s,SNR=5.0						
AFON	**Font Roja**	**3.05**	**40**	S	**Sn**	**05 06 32.1**	**-0.5**
	7.7nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.22**	**297**	P	**Pn**	**05 05 59.6**	**+0.9**
	0.1nm,0.1s,SNR=16						
EMIN				S	**Sn**	**05 06 35.0**	**-1.5**
	1.2nm,0.1s						
EBEN2	**Beniarda presa**	**3.25**	**44**	S	**Sn**	**05 06 33.5**	**-3.9**
	7.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**3.34**	**343**	P	**Pn**	**05 06 02.7**	**+2.2**
	0.1nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**05 06 39.2**	**-0.6**
	1.5nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.39**	**348**	P	**Pn**	**05 06 04.2**	**+3.1**
	baz=168,slow=12,SNR=7.9						
PBAR	**Barrancos**	**3.66**	**301**	P	**Pn**	**05 06 06.7**	**+2.0**
PBAR				S	**Sn**	**05 06 46.7**	**-0.7**
	3.0nm,0.5s						
PBAR	**Barrancos**	**3.66**	**301**	*e*Pn	**Pn**	**05 06 06.7**	**+2.0**
PBAR				*e*Sn	**Sn**	**05 06 46.7**	**-0.7**
PBAR				A	A	05 06 53.0	
	3.0nm,0.5s						
EGRO	**El Granado**	**3.73**	**290**	P	**Pn**	**05 06 07.4**	**+1.6**
	0.9nm,0.1s,SNR=5.1						
EGRO				S	**Sn**	**05 06 47.1**	**-2.2**
	3.8nm,0.3s						
MD31	**MD31**	**3.75**	**202**	P		05 06 08.5	
MD31				S		05 06 50.7	
MDT	**Midelt**	**3.76**	**200**	P		05 06 09.0	
MDT				S		05 06 50.5	
PVAQ	**Vaqueiros**	**3.88**	**287**	P	**Pn**	**05 06 09.0**	**+1.2**
PVAQ				S	**Sn**	**05 06 51.6**	**-1.3**
	5.5nm,1.0s						
PVAQ	**Vaqueiros**	**3.88**	**287**	*e*Pn	**Pn**	**05 06 09.0**	**+1.2**
PVAQ				*e*Sn	**Sn**	**05 06 51.6**	**-1.3**
PVAQ				A	A	05 06 53.0	
	5.5nm,1.0s						
PVAQ	**Vaqueiros**	**3.88**	**287**	P		05 06 08.8	
PVAQ				S		05 06 51.2	
PBDV	**Barranco-do-Ve**	**4.01**	**284**	P	**Pn**	**05 06 10.6**	**+1.0**
PBDV				S	**Sn**	**05 06 55.5**	**-0.7**
	4.0nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.01**	**284**	*e*Pn	**Pn**	**05 06 10.6**	**+1.0**
PBDV				*e*Sn	**Sn**	**05 06 55.5**	**-0.7**
PBDV				A	A	05 06 59.7	
	4.0nm,0.7s						
ZHG	**ZHG**	**4.14**	**226**	P		05 06 12.4	
ZHG				S		05 07 00.1	
PBEJ	**Beja**	**4.19**	**295**	P	**Pn**	**05 06 14.0**	**+2.0**
PBEJ				S	**Sn**	**05 07 00.0**	**-0.4**
	1.0nm,0.2s						
PBEJ	**Beja**	**4.19**	**295**	*e*Pn	**Pn**	**05 06 14.0**	**+2.0**
PBEJ				*e*Sn	**Sn**	**05 07 00.0**	**-0.4**
PBEJ				A	A	05 07 01.7	
	2.0nm,0.2s						
PCVE	**Castro Verde**	**4.19**	**289**	P	**Pn**	**05 06 13.6**	**+1.6**
PCVE				S	**Sn**	**05 06 59.2**	**-1.3**
	3.4nm,0.5s						
PCVE	**Castro Verde**	**4.19**	**289**	*e*Pn	**Pn**	**05 06 13.6**	**+1.6**
PCVE				*e*Sn	**Sn**	**05 06 59.2**	**-1.3**
PCVE				A	A	05 07 02.1	
	3.4nm,0.5s						
MESJ	**Messejana**	**4.38**	**291**	*e*P	**Pn**	**05 06 15.8**	**+1.1**
MESJ				*e*S	**Sn**	**05 07 02.9**	**-2.4**
MESJ				IAML		05 07 04.4	
	comp=N,2.5nm,0.3s						
MESJ	**Messejana**	**4.38**	**291**	P	**Pn**	**05 06 15.8**	**+1.1**
MESJ				S	**Sn**	**05 07 02.9**	**-2.4**
PESTR	**Estremoz**	**4.38**	**306**	*e*Pn	**Pn**	**05 06 16.9**	**+2.1**
PESTR				*e*Sn	**Sn**	**05 07 04.6**	**-0.8**
PESTR				A	A	05 07 06.3	
	comp=N,1.2nm,0.2s						
PESTR	**Estremoz**	**4.38**	**306**	P		05 06 16.5	
PESTR				S		05 07 04.7	
EIBI	**Ibiza**	**4.39**	**51**	P	**Pn**	**05 06 15.1**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=17						
EIBI				S	**Sn**	**05 07 03.3**	**-2.2**
	comp=N,3.9nm,0.2s						
EPLA	**Plasencia**	**4.40**	**328**	P	**Pn**	**05 06 16.5**	**+1.5**
	comp=N,0.0nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**05 07 03.9**	**-1.9**
	comp=N,0.6nm,0.3s,SNR=7.9						
EVO	**Evora**	**4.50**	**300**	P	**Pn**	**05 06 18.6**	**+2.3**
EVO				S	**Sn**	**05 07 07.0**	**-1.2**
EVO	**Evora**	**4.50**	**300**	*e*P	**Pn**	**05 06 17.9**	**+1.6**
EVO				*e*S	**Sn**	**05 07 05.1**	**-3.1**
EVO	**Evora**	**4.50**	**300**	*e*Pn	**Pn**	**05 06 18.6**	**+2.3**
EVO				*e*Sn	**Sn**	**05 07 07.0**	**-1.2**
ETOR	**Torete**	**4.52**	**10**	P	**Pn**	**05 06 18.9**	**+2.2**
	comp=N,3.5nm,0.2s,SNR=4.0						
PMRV	**Marv??o**	**4.60**	**313**	P	**Pn**	**05 06 19.9**	**+2.2**
PMRV				S	**Sn**	**05 07 08.9**	**-1.8**
PMRV	**Marv??o**	**4.60**	**313**	*e*Pn	**Pn**	**05 06 19.9**	**+2.2**
PMRV				*e*Sn	**Sn**	**05 07 08.9**	**-1.8**
PTEO	**Sao Teotonio**	**4.69**	**286**	P	**Pn**	**05 06 20.9**	**+2.0**
PTEO				S	**Sn**	**05 07 11.8**	**-1.1**
PTEO	**Sao Teotonio**	**4.69**	**286**	*e*Pn	**Pn**	**05 06 20.9**	**+2.0**
PTEO				*e*Sn	**Sn**	**05 07 11.8**	**-1.1**
PFVI	**Vila Bisbo**	**4.70**	**281**	P	**Pn**	**05 06 21.3**	**+2.3**
	comp=N,0.3nm,0.1s,SNR=8.7						
PFVI				S	**Sn**	**05 07 12.5**	**-0.5**
	comp=N,1.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.70**	**281**	*e*Pn	**Pn**	**05 06 21.1**	**+2.1**
PFVI				*e*Sn	**Sn**	**05 07 12.3**	**-0.8**
PFVI				A	A	05 07 15.9	
	comp=N,7.0nm,0.6s						
PFVI	**Vila Bisbo**	**4.70**	**281**	P		05 06 20.3	
PFVI				S		05 07 12.9	
PNCL	**Nicolau / Gran**	**4.70**	**293**	P	**Pn**	**05 06 20.8**	**+1.7**
PNCL				S	**Sn**	**05 07 11.5**	**-1.7**
	comp=N,2.5nm,0.6s						
PNCL	**Nicolau / Gran**	**4.70**	**293**	*e*Pn	**Pn**	**05 06 20.8**	**+1.7**
PNCL				*e*Sn	**Sn**	**05 07 11.5**	**-1.7**
PNCL				A	A	05 07 12.5	
	comp=N,2.5nm,0.6s						
PMTG	**Montargil**	**4.91**	**305**	P	**Pn**	**05 06 24.0**	**+2.0**
PMTG				S	**Sn**	**05 07 16.1**	**-2.2**
PMTG	**Montargil**	**4.91**	**305**	*e*Pn	**Pn**	**05 06 24.0**	**+2.0**
PMTG				*e*Sn	**Sn**	**05 07 16.1**	**-2.2**
PCBR	**Castelo Branco**	**4.92**	**316**	P	**Pn**	**05 06 24.6**	**+2.5**
PCBR				S	**Sn**	**05 07 17.3**	**-1.3**
PCBR	**Castelo Branco**	**4.92**	**316**	*e*Pn	**Pn**	**05 06 24.6**	**+2.5**
PCBR				*e*Sn	**Sn**	**05 07 17.3**	**-1.3**
PSBE	**So Bento**	**5.52**	**307**	*e*Pn	**Pn**	**05 06 32.8**	**+2.4**
MVO	**Moncorvo**	**5.71**	**328**	P	**Pn**	**05 06 34.0**	**+0.9**
	comp=N,0.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.71**	**328**	*e*Pn	**Pn**	**05 06 35.4**	**+2.3**
PVIS	**Viseu**	**5.77**	**320**	P	**Pn**	**05 06 36.0**	**+2.2**
PVIS	**Viseu**	**5.77**	**320**	*e*Pn	**Pn**	**05 06 36.0**	**+2.2**
PVRL	**Vila Real**	**6.11**	**325**	P	**Pn**	**05 06 40.9**	**+2.4**
PVRL	**Vila Real**	**6.11**	**325**	*e*Pn	**Pn**	**05 06 40.9**	**+2.4**
POLO	**Lamas de Olo**	**6.22**	**325**	P	**Pn**	**05 06 43.3**	**+3.2**
POLO	**Lamas de Olo**	**6.22**	**325**	*e*Pn	**Pn**	**05 06 43.3**	**+3.2**

NEIC ***15*** *05:09:00.2±1.1, 51°.89N×0°.09×178°.49E±0°.09, h95km±6km, Error ellipse: s-maj=13.7km s-min=7.6km az=189.0*

AEIC 15 05:09:01.1±1.2, 51°.81N±0°.09×178°.49E±0°.08, h92km±5km, ML2.9/20, mb3.7/4(NEIC), Error ellipse: s-maj=13.8km s-min=7.5km az=187.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.14**	**7**		Pn	05 09 13.8	-0.5
LSPA	**Little Sitkin**	**0.15**	**20**		Pn	05 09 13.9	-0.4
LSPA					Sn	05 09 24.6	+0.6
LSNW	**Little Sitkin**	**0.16**	**7**		Pn	05 09 13.6	-0.7
AMKA	**Amchitka**	**0.67**	**130**		Pn	05 09 16.8	-0.6
AMKA					Sn	05 09 29.3	-0.4
CESW	**Semis' Southwe**	**0.67**	**82**		Pn	05 09 16.9	-0.6
CESW					Sn	05 09 28.6	-1.2
CEAP	**Semis' Anvil P**	**0.70**	**74**		Pn	05 09 17.5	-0.4
CEAP					Sn	05 09 28.9	-1.4
CERAA	**Semis' Rag'd T**	**0.75**	**82**		Pn	05 09 17.6	-0.7
GALAA	**Gareloi Lava P**	**1.70**	**91**		Pn	05 09 28.8	-0.8
TASE	**Tanaga Southea**	**2.16**	**88**		Pn	05 09 34.5	-0.9
TAFP	**Tanaga Falls P**	**2.19**	**86**		Pn	05 09 34.7	-1.2
KIMD	**Kanaga Island**	**2.66**	**89**		Pn	05 09 41.0	-1.1
KICM	**Kanaga Island**	**2.68**	**86**		Pn	05 09 41.5	-0.8
KIWB	**Kanaga Island**	**2.71**	**87**	Pn	Pn	05 09 41.6	-1.1
SMY	**Shemya**	**2.85**	**291**		Pn	05 09 42.5	-2.1
ADK	**Adak**	**3.00**	**87**		Pn	05 09 45.1	-1.5
GSMY	**Great Sitkin M**	**3.39**	**84**		Pn	05 09 50.5	-1.3
GSTR	**Great Sitkin T**	**3.39**	**83**	Pn	Pn	05 09 50.9	-0.9
ATKA	**Atka Island**	**4.54**	**82**		Pn	05 10 06.2	-1.2
NIKH	**Nikolski High**	**7.83**	**77**	Pn	Pn	05 10 52.5	+0.4
SPIA	**Saint Paul Isl**	**8.47**	**46**	Pn	Pn	05 11 01.9	+1.0
KDAK	**Kodiak Island**	**17.63**	**59**	P	P	05 12 57.0	-3.1
KDAK				IAmb	IAmb	05 13 10.9	
	comp=Z,6.3nm,1.4s						
CNPM	**China Poot**	**18.60**	**54**	P	P	05 13 08.8	-2.0
KTH	**Kantishna Hill**	**19.90**	**42**	P	P	05 13 22.7	-2.3
IMAR	**Indian Mountai**	**19.93**	**34**	P	P	05 13 25.4	+0.2
SCM	**Sheep Creek Mo**	**20.97**	**48**	P	P	05 13 35.2	-1.3
SCM				IAmb	IAmb	05 13 36.4	
	comp=Z,5.1nm,1.2s						

IDC ***15*** *05:10:31.5±1.2, 14°.73S×166°.78E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/26, mbtmp3.6/5, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=42.1km s-min=29.2km az=110.0*

ISC 15 05:10:36.9±1.3, 14°.9S±0°.1×166°.8E±0°.3, h35km, n7, σ0s72/7, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.16**	**183**	Pn	**Pn**	**05 12 19.6**	**+0.4**
	0.8nm,0.3s,baz=129,slow=21,SNR=14						
DZM				Sn	**Sn**	**05 13 38.3**	**-1.0**
	0.8nm,0.3s,baz=143,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**31.34**	**256**	P	**P**	**05 16 54.3**	**-0.1**
	0.4nm,0.7s,baz=85,slow=8.8,SNR=1.9						
ASAR	**Alice Springs**	**32.19**	**249**	P	**P**	**05 17 01.9**	**+0.1**
	0.3nm,0.5s,baz=65,slow=10,SNR=1.8						
MJAR	**Matsushiro Arr**	**57.83**	**333**	LR	LR	05 45 06.7	
	comp=Z,6.1nm,19.5s,baz=115,slow=36						
VNDA	**Vanda**	**62.70**	**181**	P	**P**	**05 20 58.5**	**+0.8**
	0.6nm,0.7s,baz=24,slow=6.1,SNR=5.5						
ILAR	**Eielson Array**	**86.82**	**18**	P	**P**	**05 23 16.9**	**-0.4**
	0.5nm,0.6s,baz=234,slow=4.9,SNR=8.8						
ARCES	**ARCESS Array B**	**120.28**	**345**	PKP	**PKPdf**	**05 29 23.5**	**-0.3**
	0.9nm,0.8s,baz=46,slow=2.6,SNR=6.3						

IDC 15 05:28:27.8±5.1, 5°.68S×149°.31E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=148.2km s-min=36.8km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.32**	**224**	P	P	05 33 05.7	0.0
	3.3nm,0.6s,baz=50,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.23**	**218**	P	P	05 33 36.9	0.0
	1.9nm,0.5s,baz=52,slow=9.1,SNR=29						
MKAR	**Makanchi Array**	**78.73**	**320**	P	P	05 40 32.3	0.0
	0.1nm,0.3s,baz=121,slow=7.4,SNR=1.9						

MAN 15 05:46:34.1, 16°.42N×122°.35E, h23km, MS2.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.72**	**316**	*e*P	Pb	05 46 47.6	-0.4
PCPH	**Palayan**	**1.48**	**235**	*e*P	Pb	05 47 00.3	-0.6
PCPH				*e*S	Sb	05 47 20.6	+1.4
SAMP	**Sagada Mountai**	**1.53**	**296**	*e*P	Pn	05 47 00.2	+0.2
SAMP				*e*S	Sn	05 47 19.8	+0.5
SMPP	**San Manuel, Pa**	**1.62**	**261**	*e*P	Pn	05 47 01.3	-0.1
SMPP				*e*S	Sn	05 47 22.4	+0.9
APYP	**Conner**	**1.78**	**324**	*e*P	Pb	05 47 05.7	-0.3
APYP				*e*S	Sb	05 47 27.7	-0.2
JCNP	**Jose Panganiba**	**2.15**	**171**	*e*P	Pn	05 47 09.0	+0.4
BOLP	**Bolinao**	**2.34**	**269**	*e*P	Pn	05 47 11.6	+0.4
BOLP				*e*S	Sb	05 47 46.1	+2.1
LQP	**Lukban**	**2.42**	**199**	**⇓***e*P	Pb	05 47 16.7	-0.5

IASPEI ***15*** *05:51:34.6±1.0, 47°.69N±0°.02×120°.34W±0°.02, h11km±8km, Error ellipse: s-maj=3.3km s-min=3.0km az=32.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

NEIC ***15*** *05:51:34.5±1.5, 47°.71N±0°.02×120°.33W±0°.02, h3km±6km, Error ellipse: s-maj=2.7km s-min=2.3km az=160.0*

ANF ***15*** *05:51:35.0±0.3, 47°.79N×120°.31W, h11km±3km, ML2.8/9, Error ellipse: s-maj=2.9km s-min=1.5km az=175.0, Hypocentre not reviewed by the ISC*

SEA ***15*** *05:51:35.1±1.5, 47°.68N±0°.02×120°.33W±0°.02, h5km±6km, Md2.9/36, ML2.7/52(NEIC), Error ellipse: s-maj=2.7km s-min=2.2km az=157.0*

PGC ***15*** *05:51:35.1, 47°.68N×120°.33W, h5km, ML2.4/11, ML2.8, 150km east of Seattle, Wa Washington*

ISC 15 05:51:34.6±1.0, 47°.69N±0°.02×120°.33W±0°.02, h7km±8km, n128, σ0s81/140, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETW	**Entiat**	**0.09**	**181**		**Pg**	**05 51 36.6**	**-0.2**
SLFW	**Sugar Loaf**	**0.15**	**296**		**Pg**	**05 51 38.1**	**+0.3**
CBSW	**Chelan Butte S**	**0.22**	**60**		**Pg**	**05 51 39.5**	**+0.4**
WTV	**Waterville**	**0.25**	**89**		**Pg**	**05 51 40.0**	**+0.4**
NLW	**Nelson Butte**	**0.39**	**359**		**Pg**	**05 51 42.5**	**+0.3**
WRW	**Wenatchee Ridg**	**0.41**	**294**		**Pg**	**05 51 42.7**	**+0.1**
C06D	**Leavenworth**	**0.44**	**301**		**Pg**	**05 51 43.3**	**0.0**
C06D					**Sg**	**05 51 49.5**	**+0.4**
C06D	**Leavenworth**	**0.44**	**301**	P		05 51 43.2	
	baz=123,SNR=19						
C06D				S		05 51 49.2	
	baz=123						
DHW2	**Dyer Hill 2**	**0.48**	**52**		**Pg**	**05 51 44.0**	**+0.2**
LTY	**Liberty**	**0.49**	**208**	P	**Pg**	**05 51 44.1**	**0.0**
LTY				S	**Sg**	**05 51 50.4**	**-0.2**
LTY	**Liberty**	**0.49**	**208**		**Pg**	**05 51 44.1**	**0.0**
LTY	**Liberty**	**0.49**	**208**		**Sg**	**05 51 50.5**	**-0.1**
LTY				IAML		05 51 51.0	
	comp=E,353nm,0.3s						
LTY				IAML		05 51 51.0	
	comp=N,439nm,0.4s						
TBM	**Table Mountain**	**0.56**	**199**		**Pg**	**05 51 45.5**	**+0.2**
EPH	**Ephrata**	**0.60**	**124**		**Pg**	**05 51 45.7**	**-0.5**
SAW	**Saint Andrews**	**0.63**	**89**		**Pg**	**05 51 46.6**	**-0.1**
TWW	**Teanaway**	**0.67**	**214**		**Pg**	**05 51 47.8**	**+0.4**
GPW	**Glacier Peak**	**0.69**	**308**	P	**Pg**	**05 51 47.7**	**-0.2**
GPW	**Glacier Peak**	**0.69**	**308**		**Pg**	**05 51 47.8**	**-0.2**
EBG	**Ellensburg**	**0.80**	**192**		**Pg**	**05 51 50.0**	**+0.3**
TTW	**Tolt Reservoir**	**0.92**	**271**		**Pg**	**05 51 52.0**	**-0.3**
BVW	**Beverly**	**0.93**	**161**		**Pg**	**05 51 52.5**	**0.0**
FHE	**Frenchman Hill**	**0.93**	**142**		**Pg**	**05 51 52.3**	**-0.2**
B08A	**Colville Reser**	**0.94**	**45**	P	**Pg**	**05 51 52.5**	**-0.2**
B08A				S	**Sg**	**05 52 05.1**	**+0.1**
B08A	**Colville Reser**	**0.94**	**45**		**Pg**	**05 51 52.5**	**-0.2**
B08A	**Colville Reser**	**0.94**	**45**	IAML		05 52 07.2	
	comp=E,282nm,0.3s						
B08A				IAML		05 52 07.8	
	comp=N,275nm,0.3s						
CDMR	**Cedar Moraine**	**1.00**	**255**		**Pg**	**05 51 53.2**	**-0.7**
NAC	**Naches**	**1.02**	**200**		**Pg**	**05 51 54.4**	**+0.3**
RATT	**Rattlesnake La**	**1.03**	**255**		**Pg**	**05 51 53.7**	**-0.7**
WAH2	**Wahluke Slope**	**1.07**	**151**		**Pg**	**05 51 54.9**	**-0.3**
RPW	**Rockport**	**1.10**	**314**	P	**Pg**	**05 51 55.0**	**-0.6**
RPW	**Rockport**	**1.10**	**314**		**Pg**	**05 51 55.0**	**-0.6**
GSM	**Grass Mountain**	**1.11**	**244**		**Pg**	**05 51 55.2**	**-0.6**
MXC	**Moxie City**	**1.12**	**179**		**Pg**	**05 51 56.1**	**+0.1**
**

PNT Sg **Sg** **05 52 28.9 0.0**
PNT Penticton 1.69 16 Pn 05 52 05.0 +0.4
GNW Green Mountain 1.69 267 Pn **Pn 05 52 04.9 +0.4**
GNW Sg **Sb 05 52 27.8 +0.3**
GNW Green Mountain 1.69 267 Pn 05 52 05.1 +0.6
D04E Lakebay 1.74 254 Pb 05 52 06.7
baz=72
D04E Sb 05 52 31.3
baz=72
B013 Quilcene 1.75 275 Pn 05 52 05.8 +0.6
A05A Maple Falls 1.75 319 Pn 05 52 05.2 -0.2
ASR Mount Adams--S 1.77 210 Pb 05 52 07.3 -0.1
C04A Brinnon 1.79 272 Pn 05 52 06.4 +0.6
BLN Blyn Mountain 1.81 281 Pn **Pn 05 52 06.6 +0.4**
F07A Phinny Hill Vi 1.82 171 Pn 05 52 06.4 +0.1
F07A IAML 05 52 38.7
comp=N,79nm,0.6s
HDW Hoodsport 1.84 270 Pn **Pn 05 52 07.3 +0.6**
HOPB Hope 1.84 337 Pn **Pb 05 52 08.3 -0.3**
HOPB Sg **Sb 05 52 32.3 +0.4**
TDL Tradedollar La 1.86 225 Pb 05 52 09.2 +0.2
D03D Eldon 1.87 266 Pn 05 52 08.1 +1.0
D03D Eldon 1.87 266 P 05 52 07.8
baz=85,SNR=214
D03D S 05 52 32.3
baz=85
A04D Lummi Island 1.89 304 Sg 05 52 36.3
baz=123
E09A Wood Farm, Sta 1.90 128 Pn 05 52 08.5 +1.0
E09A IAML 05 52 37.3
comp=E,88nm,0.1s
E04D Cinebar 1.91 234 Pn 05 52 08.9 +1.4
E04D Cinebar 1.91 234 P 05 52 08.6
baz=53,SNR=59
E04D S 05 52 33.6
baz=53
B201 Coldwater, Mou 1.92 224 Pn 05 52 09.2 +1.4
MCW Mount Constitu 1.94 301 Pn **Pb 05 52 10.0 -0.4**
STD Studebaker Rid 1.95 222 Pb 05 52 10.2 -0.3
F05D White Salmon 1.97 204 Pb 05 52 11.8 +1.0
F05D White Salmon 1.97 204 P 05 52 09.6
baz=23,SNR=6.3
F05D S 05 52 36.1
baz=23
FL2 Flat Top 2 2.04 223 Pb 05 52 11.3 -0.7
VGZ Gonzales 2.13 291 Pn **Pn 05 52 11.8 +1.1**
VGZ Sg **Sb 05 52 40.3 +0.1**
B04A Port Angeles 2.17 281 Pn 05 52 12.4 +1.3
HNBB Haney 2.18 318 Pn **Pb 05 52 13.1 -1.3**
HNBB Sg **Sb 05 52 42.3 +0.6**
SNB Saturna Island 2.19 301 Pn **Pb 05 52 13.2 -1.3**
SNB Sg **Sb 05 52 42.3 +0.5**
NEW Newport 2.23 74 Pn **Pn 05 52 11.3 -0.7**
NEW IAML 05 52 48.6
comp=E,44nm,0.3s
NEW IAML 05 52 50.9
comp=E,46nm,0.6s
NEW Newport 2.23 74 P 05 52 11.3
baz=256
NEW Sb 05 52 44.2
baz=256
PGC Sidney 2.30 296 Pn **Pn 05 52 13.8 +1.0**
PGC Sg **Sb 05 52 45.2 +0.2**
PGC Sidney 2.30 296 Pn **Pn 05 52 14.1 +1.3**
B017 Montesano 2.30 254 Pb 05 52 15.9 -0.6
WISH Wishkah 2.41 257 Sg **Sg 05 52 50.5 -1.4**
NLWA Neilton Lookou 2.42 264 Pn **Pb 05 52 17.4 -1.0**
GOBB Galiano Island 2.47 302 Pn **Pn 05 52 16.2 +1.0**
HIYU Hiyu Mountain 2.48 205 Pn 05 52 17.9 +2.4
E03A Lebam 2.49 244 Sg **Sb 05 52 51.3 +0.9**
E03A Lebam 2.49 244 Pn 05 52 17.2 +1.7
E03A IAML 05 52 53.9
comp=E,33nm,3.1s
E03A IAML 05 53 06.3
comp=N,23nm,3.1s
G05D Wamic, OR 2.54 196 Pb 05 52 19.1 -1.5
G05D Wamic, OR 2.54 196 P 05 52 17.8
baz=15,SNR=11
G05D S 05 52 50.4
baz=15
G08A Pilot Rock 2.58 158 Pn **Pn 05 52 17.8 +0.8**
G08A IAML 05 53 06.7
comp=N,20nm,0.5s
BIB Bowen Island 2.62 312 Pn **Pn 05 52 18.5 +1.2**
F10A Beach Ranch, E 2.74 128 Pn 05 52 19.7 +0.7
WPB Watts Point 2.74 317 Pn **Pn 05 52 19.6 +0.7**
B926 Mesachie Lake 2.78 295 Sg **Sb 05 52 58.8 0.0**
PFB Port Renfrew 2.89 289 Pn **Pn 05 52 23.3 +2.2**
SHB Sechelt 3.03 310 Pn **Pn 05 52 24.6 +1.5**
SHB Sg **Sb 05 53 07.6 +1.6**
H04A Detroit Lake 3.27 204 Pn **Pn 05 52 28.0 +1.7**
H04A IAML 05 53 22.5
comp=N,13nm,2.0s
H04A IAML 05 54 30.3
comp=E,14nm,4.0s
BMO Blue Mountains 3.53 142 Pn **Pn 05 52 29.1 -0.9**
I07A Izee 3.66 171 Pn **Pn 05 52 30.7 -1.0**
I07A IAML 05 53 07.5
comp=E,13nm,0.1s
I07A IAML 05 53 37.9
comp=N,10.0nm,0.7s
PINE Pine Mountain 3.92 186 Pn **Pn 05 52 37.4 +1.9**
PINE IAML 05 53 03.8
comp=N,13nm,3.5s
PINE IAML 05 54 04.2
comp=E,13nm,4.2s
JTMT Jette 4.08 87 Pn **Pn 05 52 37.6 0.0**
MSO Missoula 4.43 99 Pn **Pn 05 52 40.9 -1.4**
MSO Missoula 4.43 99 P 05 52 41.7
baz=283
WALA Waterton Lakes 4.49 70 Pn **Pn 05 52 43.8 +0.7**
WALA Waterton Lakes 4.49 70 Pn **Pn 05 52 42.8 -0.4**
WALA IAML 05 54 04.4
comp=E,8.8nm,1.3s
MNB Mounoet Dainar 4.68 15 Pn **Pn 05 52 46.4 +0.6**
WVOR Wild Horse Val 5.39 167 Pn 05 52 58.1 +2.6

IDC ***15*** *06:07:40.0±1.4, 40°.30N×77°.74E, h0km, mb3.8/11, mb1 3.9/17, mb1mx3.8/46, mbtmp3.7/17, ML3.2/5, MS2.7/7, Ms1 2.7/7, ms1mx2.5/43, Error ellipse: s-maj=23.0km s-min=16.0km az=153.0*
MOS ***15*** *06:07:40.4±1.9, 40°.13N×77°.79E, h11km, mb4.5/4, Error ellipse: s-maj=7.7km s-min=3.6km az=99.7*
BJI ***15*** *06:07:41.5±0.0, 40°.43N×77°.57E, h8km, mb4.3/8, ML4.0/9*
SOME ***15*** *06:07:42.0, 40°.52N×77°.38E, h5km, MS3.3*
KRNET ***15*** *06:07:44.2±0.1, 40°.58N×77°.55E, mb4.5*
NNC ***15*** *06:07:44.4±0.5, 40°.55N×77°.56E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=3.7km s-min=2.7km az=162.0*
NEIC ***15*** *06:07:46.5±2.7, 40°.47N±0°.06×77°.65E±0°.04, h35km±2km, mb4.5/8, Error ellipse: s-maj=10.3km s-min=5.2km az=188.0*

ISC 15 06:07:44.5±1.3, 40°.54N±0°.04×77°.58E±0°.03, h11km±8km, n198, σ1s83/259, mb3.9/14, MS2.6/4, 39C-19D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.20**	**8**			**Pg**		**06 08 05.8**	**-1.8**
KSH	**Kashi**	**1.60**	**231**	Pn		**Pg**		**06 08 18.8**	**+3.5**
KSH				Sn		Sg		06 08 48.1	+12
KSH	3μm,0.7s			SME					
KDJ	**Kajisay**	**1.61**	**349**	⇓*e*P		**Pn**		**06 08 13.5**	**+0.4**
KDJ	baz=50			⇓*i*S		**Sn**		**06 08 34.8**	**+0.8**
KDJ	**Kajisay**	**1.61**	**349**	PN		**Pn**		**06 08 13.5**	**+0.4**
KDJ	**Kajisay**	**1.61**	**349**	Pn		**Pn**		**06 08 13.5**	**+0.4**
ULHL	**Ulahol**	**1.98**	**330**	⇑*i*P		**Pn**		**06 08 19.7**	**+1.7**
ULHL	baz=30			⇑*i*S		**Sn**		**06 08 45.6**	**+2.7**
ULHL	**Ulahol**	**1.98**	**330**	P		**Pn**		**06 08 19.8**	**+1.7**
ULHL	SNR=25 **Ulahol**	**1.98**	**330**	*e*PN		**Pn**		**06 08 19.7**	**+1.7**
PRZ	**Przheval'sk**	**2.04**	**17**	⇑*i*P		**Pn**		**06 08 21.2**	**+2.4**
PRZ	baz=18			⇑*i*S		**Sb**		**06 08 47.9**	**+0.9**
PRZ	**Przheval'sk**	**2.04**	**17**	PN		**Pn**		**06 08 21.3**	**+2.4**
PRZ	**Przheval'sk**	**2.04**	**17**			**Pn**		**06 08 21.3**	**+2.4**
ANVS	**Anan'yevo**	**2.24**	**2**	⇓*e*P		**Pn**		**06 08 24.1**	**+2.4**
ANVS	baz=2.0			⇓*i*S		**Sb**		**06 08 52.9**	**0.0**
ANVS	**Anan'yevo**	**2.24**	**2**	*e*PN		**Pn**		**06 08 23.8**	**+2.1**
BOOM	**Boomskoye usch**	**2.30**	**328**	⇑*i*P		**Pn**		**06 08 24.5**	**+2.0**
BOOM	baz=28			⇑*i*S		**Sn**		**06 08 53.9**	**+3.0**
BOOM	**Boomskoye usch**	**2.30**	**328**	PN		**Pn**		**06 08 25.4**	**+2.9**
BOOM	**Boomskoye usch**	**2.30**	**328**			**Pn**		**06 08 25.4**	**+2.9**
SATY	**Saty**	**2.59**	**14**	*e*P		**Pb**		**06 08 31.2**	**+0.2**
SATY	171nm,0.7s			*e*S		**Sg**		**06 09 07.1**	**-0.6**
SATY	895nm,0.8s **Saty**	**2.59**	**14**	Pg		**Pb**		**06 08 31.2**	**+0.2**
SATY	171nm,0.7s			Lg		Lg		06 09 07.1	
SATY	895nm,0.8s **Saty**	**2.59**	**14**	*e*PN		**Pb**		**06 08 31.3**	**+0.2**
SATY				*e*S		**Sg**		**06 09 07.1**	**-0.6**
IZV	**Izvestkoviy**	**2.59**	**344**	*e*P		**Pb**		**06 08 31.5**	**+0.4**
IZV	144nm,0.5s			*e*S		**Sg**		**06 09 07.3**	**-0.6**
IZV	729nm,0.4s **Izvestkoviy**	**2.59**	**344**	Pg		**Pb**		**06 08 31.5**	**+0.4**
IZV	144nm,0.5s			Lg		Lg		06 09 07.3	
IZV	729nm,0.4s **Izvestkoviy**	**2.59**	**344**	*e*PN		**Pb**		**06 08 31.5**	**+0.4**
IZV				*e*S		**Sg**		**06 09 07.3**	**-0.6**
MDOK	**Medeo**	**2.65**	**352**	*e*P		**Pb**		**06 08 33.0**	**+0.9**
MDOK	164nm,0.4s			*e*S		**Sg**		**06 09 09.9**	**+0.3**
MDOK	2μm,0.7s **Medeo**	**2.65**	**352**	⇑Pn		**Pn**		**06 08 28.6**	**+1.3**
MDOK	332nm,0.6s			⇑Lg		Lg		06 09 08.4	
MDOK	1μm,0.7s **Medeo**	**2.65**	**352**	Pg		**Pb**		**06 08 33.0**	**+0.9**
MDOK	164nm,0.4s			Lg		Lg		06 09 09.9	
MDOK	2μm,0.7s **Medeo**	**2.65**	**352**	PN		**Pn**		**06 08 29.9**	**+2.6**
MDOK				pmax		pmax			
AAA	**Alma-Ata**	**2.71**	**350**	*e*P		**Pb**		**06 08 32.8**	**-0.2**
AAA	comp=Z,388nm,0.3s			*e*S		**Sb**		**06 09 09.5**	**+3.2**
AAA	comp=Z,1μm,0.6s **Alma-Ata**	**2.71**	**350**	Pg		**Pb**		**06 08 32.8**	**-0.2**
AAA	comp=Z,388nm,0.3s			Lg		Lg		06 09 09.5	
AAA	comp=Z,1μm,0.6s **Alma-Ata**	**2.71**	**350**	*e*PN		**Pb**		**06 08 32.8**	**-0.2**
AAA				*e*S		**Sb**		**06 09 09.5**	**+3.2**
KNDC	**Almaty**	**2.71**	**351**	⇑Pg		**Pb**		**06 08 32.9**	**-0.1**
KNDC	comp=Z,526nm,0.8s			⇓Lg		Lg		06 09 10.1	
KNDC	comp=Z,3μm,0.6s **Almaty**	**2.71**	**351**	PN		**Pb**		**06 08 34.2**	**+1.2**
KNDC				pmax		pmax			
KOTS	**Kotyrbulak**	**2.71**	**353**	*e*P		**Pb**		**06 08 34.1**	**+1.0**
KOTS	comp=Z,354nm,0.5s			*e*S		**Sg**		**06 09 12.0**	**+0.4**
KOTS	comp=Z,2μm,0.6s **Kotyrbulak**	**2.71**	**353**	Pg		**Pb**		**06 08 34.1**	**+1.0**
KOTS	comp=Z,354nm,0.5s			Lg		Lg		06 09 12.0	
KOTS	comp=Z,2μm,0.6s **Kotyrbulak**	**2.71**	**353**	*e*PN		**Pb**		**06 08 34.1**	**+1.0**
KOTS				*e*S		**Sg**		**06 09 12.0**	**+0.4**
MTBS	**Maitube**	**2.72**	**342**	*e*P		**Pb**		**06 08 33.7**	**+0.4**
MTBS	comp=Z,149nm,0.3s			*e*S		**Sg**		**06 09 11.4**	**-0.6**
MTBS	comp=Z,531nm,0.3s **Maitube**	**2.72**	**342**	Pg		**Pb**		**06 08 33.7**	**+0.4**
MTBS	comp=Z,149nm,0.3s			Lg		Lg		06 09 11.4	
MTBS	comp=Z,531nm,0.3s **Maitube**	**2.72**	**342**	*e*PN		**Pb**		**06 08 33.7**	**+0.4**
MTBS				*e*S		**Sg**		**06 09 11.4**	**-0.6**
KST	**Kastek**	**2.77**	**335**	*e*P		**Pb**		**06 08 34.6**	**+0.4**
KST	comp=Z,103nm,0.5s			*e*S		**Sg**		**06 09 13.0**	**-0.6**
KST	comp=Z,824nm,0.7s **Kastek**	**2.77**	**335**	Pg		**Pb**		**06 08 34.6**	**+0.4**
KST	comp=Z,103nm,0.5s			Lg		Lg		06 09 13.0	
KST	comp=Z,824nm,0.7s **Kastek**	**2.77**	**335**	*e*PN		**Pb**		**06 08 34.6**	**+0.4**
KST				*e*S		**Sg**		**06 09 13.0**	**-0.6**
ARLS	**Aral**	**2.79**	**299**	⇑*i*P		**Pn**		**06 08 30.9**	**+1.7**
ARLS	baz=99			⇑*i*S		**Sn**		**06 09 05.8**	**+3.0**
ARLS	**Aral**	**2.79**	**299**	*e*PN		**Pn**		**06 08 30.9**	**+1.7**
TKM2	**Tokmak 2**	**2.80**	**329**	⇑*i*P		**Pn**		**06 08 31.3**	**+1.8**
TKM2	baz=29			⇑*i*S		**Sn**		**06 09 06.4**	**+3.1**
TKM2	baz=29 **Tokmak 2**	**2.80**	**329**	P		**Pn**		**06 08 27.5**	**-1.9**
TKM2	SNR=16 **Tokmak 2**	**2.80**	**329**	⇑Pn		**Pn**		**06 08 31.3**	**+1.8**
TKM2	comp=Z,21nm,0.4s			⇓Pg		**Pb**		**06 08 35.4**	**+0.8**
TKM2	comp=Z,154nm,0.6s			⇓Lg		Lg		06 09 14.0	
TKM2	comp=Z,522nm,0.9s			PN		**Pn**		**06 08 31.2**	**+1.8**
TKM2	**Tokmak 2**	**2.80**	**329**	pmax		pmax			
UZB	comp=Z,155nm,0.6s **Uzynbulak**	**2.82**	**22**	*e*P		**Pb**		**06 08 35.4**	**+0.5**
UZB	comp=Z,100nm,1.0s			*e*S		**Sg**		**06 09 14.4**	**-0.6**
UZB	comp=Z,502nm,0.7s **Uzynbulak**	**2.82**	**22**	Pg		**Pb**		**06 08 35.4**	**+0.5**
UZB	comp=Z,100nm,1.0s			Lg		Lg		06 09 14.4	
UZB	comp=Z,502nm,0.7s **Uzynbulak**	**2.82**	**22**	*e*PN		**Pb**		**06 08 35.4**	**+0.5**
UZB				*e*S		**Sg**		**06 09 14.4**	**-0.6**
KBK	**Karagaybulak**	**2.89**	**318**	⇑*i*P		**Pn**		**06 08 32.8**	**+2.2**
KBK	baz=18			⇑*i*S		**Sn**		**06 09 08.1**	**+2.7**
KBK	baz=18 **Karagaybulak**	**2.89**	**318**	P		**Pn**		**06 08 32.8**	**+2.2**
KBK	SNR=118 **Karagaybulak**	**2.89**	**318**	*e*PN		**Pn**		**06 08 32.8**	**+2.2**
SHLS	**Shalkode**	**2.97**	**28**	*e*P		**Pg**		**06 08 41.2**	**-0.2**
SHLS	comp=Z,128nm,1.0s			*e*S		**Sg**		**06 09 24.2**	**+4.3**
SHLS	comp=Z,976nm,0.6s **Shalkode**	**2.97**	**28**	Pg		**Pg**		**06 08 41.2**	**-0.2**
SHLS	comp=Z,128nm,1.0s			Lg		Lg		06 09 24.2	
SHLS	comp=Z,976nm,0.6s **Shalkode**	**2.97**	**28**	*e*PN		**Pg**		**06 08 41.2**	**-0.2**
SHLS				*e*S		**Sg**		**06 09 24.2**	**+4.3**
KURS	**Kuram**	**2.98**	**8**	*e*P		**Pb**		**06 08 38.6**	**+1.1**
KURS	comp=Z,138nm,0.6s			*e*S		**Sg**		**06 09 19.7**	**-0.4**
KURS	comp=Z,428nm,0.7s **Kuram**	**2.98**	**8**	Pg		**Pb**		**06 08 38.6**	**+1.1**
KURS	comp=Z,138nm,0.6s			Lg		Lg		06 09 19.7	
KURS	comp=Z,428nm,0.7s **Kuram**	**2.98**	**8**	*e*PN		**Pb**		**06 08 38.6**	**+1.1**
KURS				*e*S		**Sg**		**06 09 19.7**	**-0.4**
DGS	**Degeres**	**3.02**	**334**	*e*P		**Pb**		**06 08 38.8**	**+0.5**
DGS	comp=Z,85nm,0.7s			*e*S		**Sg**		**06 09 19.7**	**-1.6**
DGS	comp=Z,443nm,0.5s **Degeres**	**3.02**	**334**	Pg		**Pb**		**06 08 38.8**	**+0.5**
DGS	comp=Z,85nm,0.7s			Lg		Lg		06 09 19.7	
DGS	comp=Z,443nm,0.5s **Degeres**	**3.02**	**334**	*e*PN		**Pb**		**06 08 38.8**	**+0.5**
DGS				*e*S		**Sg**		**06 09 19.7**	**-1.6**
KPKS	**Kokpek**	**3.04**	**15**	*e*P		**Pb**		**06 08 39.7**	**+1.1**
KPKS	comp=Z,102nm,0.4s			*e*S		**Sg**		**06 09 21.6**	**-0.5**
KPKS	comp=Z,1μm,0.5s **Kokpek**	**3.04**	**15**	*e*PN		**Pb**		**06 08 39.7**	**+1.1**
KPKS				*e*S		**Sg**		**06 09 21.6**	**-0.5**
AAK	**Ala-Archa**	**3.12**	**313**	Pn		**Pn**		**06 08 36.0**	**+2.3**
AAK	comp=Z,44nm,0.3s,baz=143,slow=12,SNR=29			Pg		**Pb**		**06 08 40.3**	**+0.2**
AAK	comp=Z,44nm,0.3s,baz=130,slow=9.8,SNR=68			Lg		Lg		06 09 22.1	
AAK	comp=Z,49nm,0.3s,baz=277,slow=15,SNR=18			LR		LR		06 09 26.9	
AAK	comp=Z,26nm,20.9s,baz=172,slow=32 **Ala-Archa**	**3.12**	**313**	⇑*i*P		**Pn**		**06 08 36.1**	**+2.3**
AAK	baz=13			⇑*i*S		**Sn**		**06 09 14.0**	**+3.0**
AAK	baz=13 **Ala-Archa**	**3.12**	**313**	P		**Pn**		**06 08 36.5**	**+2.8**
AAK	SNR=71 **Ala-Archa**	**3.12**	**313**	⇓Pn		**Pn**		**06 08 35.8**	**+2.1**
AAK	comp=Z,8.0nm,0.3s			⇓Pg		**Pb**		**06 08 40.5**	**+0.4**
AAK	comp=Z,258nm,1.1s			⇓Lg		Lg		06 09 22.5	
AAK	comp=Z,770nm,0.8s **Ala-Archa**	**3.12**	**313**			**Pn**		**06 08 36.2**	**+2.5**
PDGK	**Podgornoye**	**3.13**	**27**	Pg		**Pb**		**06 08 41.1**	**+0.9**
PDGK	comp=Z,52nm,0.5s			Lg		Lg		06 09 23.9	
PDGK	comp=Z,333nm,0.8s **Podgornoye**	**3.13**	**27**	⇓Pn		**Pn**		**06 08 35.9**	**+2.0**
PDGK	comp=Z,85nm,0.6s			⇓Lg		Lg		06 09 24.2	
PDGK	comp=Z,373nm,0.7s **Podgornoye**	**3.13**	**27**	PN		**Pn**		**06 08 35.9**	**+2.0**
PDGK	comp=Z,85nm,0.6s			pmax		pmax			
FRU1	**Bishkek**	**3.16**	**317**	⇑*e*P		**Pn**		**06 08 37.0**	**+2.7**
FRU1	baz=17			⇑*i*S		**Sn**		**06 09 15.3**	**+3.3**
FRU1	baz=17 **Bishkek**	**3.16**	**317**	PN		**Pn**		**06 08 33.5**	**-0.7**
FRU1	**Bishkek**	**3.16**	**317**			**Pn**		**06 08 33.5**	**-0.7**
KTBS	**Karatobe**	**3.24**	**348**	*e*P		**Pb**		**06 08 43.0**	**+1.0**
KTBS	comp=Z,120nm,0.8s			*e*S		**Sg**		**06 09 26.9**	**-1.6**
KTBS	comp=Z,1μm,0.6s **Karatobe**	**3.24**	**348**	Pg		**Pb**		**06 08 43.0**	**+1.0**
KTBS	comp=Z,120nm,0.8s			Lg		Lg		06 09 26.9	
KTBS	comp=Z,1μm,0.6s **Karatobe**	**3.24**	**348**	*e*PN		**Pb**		**06 08 43.0**	**+1.0**
KTBS				*e*S		**Sg**		**06 09 26.9**	**-1.6**
CHMS	**Chumysh**	**3.24**	**320**	⇑*e*P		**Pn**		**06 08 37.3**	**+2.0**
CHMS	baz=20			⇑*i*S		**Sn**		**06 09 16.3**	**+2.5**
CHMS	baz=20 **Chumysh**	**3.24**	**320**	P		**Pn**		**06 08 38.0**	**+2.8**
AML	SNR=16 **Almayashu**	**3.33**	**300**	⇑*e*P		**Pn**		**06 08 39.2**	**+2.4**
AML	baz=99			⇑*i*S		**Sn**		**06 09 19.3**	**+2.8**
AML	baz=99 **Almayashu**	**3.33**	**300**	P		**Pn**		**06 08 39.3**	**+2.4**
AML	SNR=18 **Almayashu**	**3.33**	**300**	*e*PN		**Pn**		**06 08 39.2**	**+2.4**
CHKK	**Chushkaly**	**3.34**	**353**	*e*P		**Pb**		**06 08 44.8**	**+1.1**
CHKK	comp=Z,109nm,0.4s			*e*S		**Sg**		**06 09 30.4**	**-1.2**
CHKK	comp=Z,462nm,0.5s **Chushkaly**	**3.34**	**353**	Pg		**Pb**		**06 08 44.8**	**+1.1**
CHKK	comp=Z,109nm,0.4s			Lg		Lg		06 09 30.4	
CHKK	comp=Z,462nm,0.5s **Chushkaly**	**3.34**	**353**	*e*PN		**Pb**		**06 08 44.8**	**+1.1**
CHKK				*e*S		**Sg**		**06 09 30.5**	**-1.2**
KUU	**Kurty**	**3.47**	**345**	*e*P		**Pb**		**06 08 46.6**	**+0.6**
KUU	comp=Z,36nm,0.4s			*e*S		**Sg**		**06 09 33.4**	**-2.6**
KUU	comp=Z,263nm,0.6s **Kurty**	**3.47**	**345**	Pg		**Pb**		**06 08 46.6**	**+0.6**
KUU	comp=Z,36nm,0.4s			Lg		Lg		06 09 33.4	
KUU	comp=Z,263nm,0.6s **Kurty**	**3.47**	**345**	*e*PN		**Pb**		**06 08 46.6**	**+0.6**
KUU				*e*S		**Sg**		**06 09 33.4**	**-2.6**
EKS2	**Erkin-Say**	**3.55**	**308**	⇑*e*P		**Pn**		**06 08 42.2**	**+2.6**
EKS2	baz=8.0			⇑*i*S		**Sn**		**06 09 24.1**	**+2.5**
EKS2	baz=8.0 **Erkin-Say**	**3.55**	**308**	P		**Pn**		**06 08 42.5**	**+2.9**
EKS2	SNR=46 **Erkin-Say**	**3.55**	**308**	*e*PN		**Pn**		**06 08 42.2**	**+2.6**
USP	**Ospenovka**	**3.56**	**321**	⇑*i*P		**Pn**		**06 08 41.9**	**+2.2**
USP	baz=21			⇑*i*S		**Sn**		**06 09 24.2**	**+2.4**
USP	baz=21 **Ospenovka**	**3.56**	**321**	P		**Pn**		**06 08 42.6**	**+2.9**
USP	SNR=10 **Ospenovka**	**3.56**	**321**	*e*PN		**Pn**		**06 08 41.9**	**+2.2**
KTMS	**Ketmen**	**3.56**	**35**	*e*P		**Pb**		**06 08 48.3**	**+0.7**
KTMS	comp=Z,33nm,0.6s			*e*S		**Sg**		**06 09 36.0**	**-3.0**
KTMS	comp=Z,243nm,0.6s **Ketmen**	**3.56**	**35**	Pg		**Pb**		**06 08 48.3**	**+0.7**
KTMS	comp=Z,33nm,0.6s			Lg		Lg		06 09 36.0	
KTMS	comp=Z,243nm,0.6s **Ketmen**	**3.56**	**35**	*e*PN		**Pb**		**06 08 48.3**	**+0.7**
KTMS				*e*S		**Sg**		**06 09 36.0**	**-3.0**
ARSB	**Arslanbob**	**3.57**	**284**	⇓*i*P		**Pn**		**06 08 42.2**	**+2.3**
ARSB	baz=84			⇓*i*S		**Sn**		**06 09 24.7**	**+2.6**
ARSB	baz=84 **Arslanbob**	**3.57**	**284**	PN		**Pn**		**06 08 41.5**	**+1.6**
ARSB	**Arslanbob**	**3.57**	**284**			**Pn**		**06 08 41.5**	**+1.6**
SGDS	**Sogindy**	**3.64**	**324**	Pg		**Pb**		**06 08 49.4**	**+0.5**
SGDS	comp=Z,188nm,0.7s			Lg		Lg		06 09 38.3	
ARXS	comp=Z,124nm,0.7s **Arharly**	**3.67**	**3**	*e*P		**Pb**		**06 08 50.6**	**+1.2**
ARXS	comp=Z,116nm,0.5s			*e*S		**Sg**		**06 09 40.4**	**-2.0**
ARXS	comp=Z,663nm,0.7s **Arharly**	**3.67**	**3**	Pg		**Pb**		**06 08 50.6**	**+1.2**
ARXS	comp=Z,116nm,0.5s			Lg		Lg		06 09 40.4	
ARXS	comp=Z,663nm,0.7s **Arharly**	**3.67**	**3**	*e*PN		**Pb**		**06 08 50.6**	**+1.2**
ARXS				*e*S		**Sg**		**06 09 40.4**	**-2.0**
MRKS	**Merke**	**3.93**	**305**	*e*P		**Pb**		**06 08 54.7**	**+0.8**
MRKS	comp=Z,39nm,0.5s			*e*S		**Sg**		**06 09 47.6**	**-3.2**
MRKS	comp=Z,223nm,0.7s **Merke**	**3.93**	**305**	Pg		**Pb**		**06 08 54.7**	**+0.8**
MRKS	comp=Z,39nm,0.5s			Lg		Lg		06 09 47.6	
MRKS	comp=Z,223nm,0.7s **Merke**	**3.93**	**305**	*e*PN		**Pb**		**06 08 54.7**	**+0.8**
MRKS				*e*S		**Sg**		**06 09 47.6**	**-3.2**
DJR	**Jarkent**	**4.13**	**23**	*e*P		**Pb**		**06 08 59.0**	**+1.9**
DJR	comp=Z,4.2nm,0.4s			*e*S		**Sg**		**06 09 54.8**	**-2.2**
DJR	comp=Z,16nm,0.5s **Jarkent**	**4.13**	**23**	Pg		**Pb**		**06 08 59.0**	**+1.9**
DJR	comp=Z,4.2nm,0.4s			Lg		Lg		06 09 54.8	
DJR	comp=Z,16nm,0.5s **Jarkent**	**4.13**	**23**	*e*PN		**Pb**		**06 08 59.0**	**+1.9**
DJR				*e*S		**Sg**		**06 09 54.8**	**-2.2**
MNAS	**Manas**	**4.28**	**299**	⇑*i*P		**Pn**		**06 08 52.0**	**+2.4**
MNAS	baz=98			⇑*i*S		**Sn**		**06 09 41.6**	**+2.1**
MNAS	baz=98 **Manas**	**4.28**	**299**	*e*PN		**Pn**		**06 08 52.0**	**+2.4**
TDK	**Taldyqorghan**	**4.50**	**8**	*e*P		**Pb**		**06 09 05.8**	**+2.4**
TDK	comp=Z,41nm,0.1s			*e*S		**Sg**		**06 10 06.3**	**-2.6**
TDK	comp=Z,839nm,0.6s **Taldyqorghan**	**4.50**	**8**	Pg		**Pb**		**06 09 05.8**	**+2.4**
TDK	comp=Z,41nm,0.1s			Lg		Lg		06 10 06.3	
TDK	comp=Z,839nm,0.6s **Taldyqorghan**	**4.50**	**8**	*e*PN		**Pb**		**06 09 05.9**	**+2.4**
TDK				*e*S		**Sg**		**06 10 06.3**	**-2.6**
DRK	**Karamyk**	**4.56**	**258**			**Pn**		**06 08 55.7**	**+2.0**
KAPS	**Kapalarasan**	**4.92**	**15**	*e*P		**Pb**		**06 09 14.4**	**+3.8**
KAPS	comp=Z,2.5nm,1.0s			*e*S		**Sg**		**06 10 21.6**	**-0.7**
KAPS	comp=Z,9.0nm,1.4s **Kapalarasan**	**4.92**	**15**	Pg		**Pb**		**06 09 14.4**	**+3.8**
KAPS	comp=Z,2.5nm,1.0s			Lg		Lg		06 10 21.6	

comp=Z,9.0nm,1.4s
KAPS Kapalarasan 4.92 15 *e*PN **Pb 06 09 14.4 +3.8**
KAPS *e*S **Sg 06 10 21.6 -0.7**
BTK Batken 5.19 267 PN **Pn 06 09 01.4 -0.7**
BTK Batken 5.19 267 Pn **Pn 06 09 01.4 -0.7**
BTLS Baital 5.19 331 *e*P **Pb 06 09 17.8 +2.5**
comp=Z,26nm,0.7s
BTLS *e*S **Sg 06 10 26.9 -4.2**
comp=Z,121nm,0.5s
BTLS Baital 5.19 331 Pg **Pb 06 09 17.8 +2.5**
comp=Z,26nm,0.7s
BTLS Lg Lg 06 10 26.9
comp=Z,121nm,0.5s
BTLS Baital 5.19 331 *e*PN **Pb 06 09 17.8 +2.5**
BTLS *e*S **Sg 06 10 26.9 -4.2**
KK31 Karatay Array 5.87 298 ⇑Pn **Pn 06 09 12.5 +1.1**
comp=Z,1.5nm,0.6s,baz=112,slow=11,SNR=14
KK31 ⇑Pg Pb 06 09 31.8 +5.0
comp=Z,20nm,0.8s,baz=127,slow=15,SNR=24
KK31 ⇑Lg Lg 06 10 50.2
comp=Z,26nm,0.6s,baz=108,slow=27,SNR=8.1
KK31 Karatay Array 5.87 298 PN **Pn 06 09 12.5 +1.1**
KK31 *e* 06 09 30.1
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KK31 pmax pmax
comp=Z,20nm,0.8s
KK31 Karatay Array 5.87 298 Pn **Pn 06 09 10.8 -0.5**
KKAR Karatay Array 5.87 298 PN **Pn 06 09 12.4 +1.1**
KKAR Karatay Array 5.87 298 Pn **Pn 06 09 12.4 +1.1**
KKAR Karatay Array 5.87 298 **Pn 06 09 10.4 -1.0**
CHGR Chuyangaron 6.77 257 Pn **Pn 06 09 24.1 +0.3**
MAKZ Makanchi 7.03 26 ⇑Pn **Pn 06 09 28.6 +1.3**
comp=Z,2.1nm,0.5s
MAKZ ⇑Pg Pb 06 09 52.8 +6.3
comp=Z,6.8nm,1.1s
MAKZ ⇓Lg Lg 06 11 28.8
comp=Z,33nm,1.1s
MAKZ Makanchi 7.03 26 P **Pn 06 09 27.8 +0.5**
MAKZ Makanchi 7.03 26 Pn **Pn 06 09 27.8 +0.5**
MK31 Makanchi Array 7.12 27 ⇓Pn **Pn 06 09 29.5 +0.9**
comp=Z,1.2nm,0.3s,baz=203,slow=14,SNR=40
MK31 ⇑Sn **Sn 06 10 53.1 +3.7**
comp=Z,8.6nm,0.6s
MK31 ⇑Lg Lg 06 11 29.4
comp=Z,18nm,0.7s,baz=208,slow=26,SNR=4.3
MK31 Makanchi Array 7.12 27 *i*P **Pn 06 09 29.1 +0.5**
MK31 Makanchi Array 7.12 27 Pn **Pn 06 09 29.6 +1.1**
MKAR Makanchi Array 7.12 27 Pn **Pn 06 09 29.4 +0.8**
comp=Z,1.0nm,0.3s,baz=199,slow=15,SNR=41
MKAR Sn **Sn 06 10 50.1 +0.7**
comp=Z,1.2nm,0.3s,baz=205,slow=24,SNR=5.5
MKAR Lg Lg 06 11 27.7
comp=Z,0.5nm,0.3s,baz=212,slow=19,SNR=2.1
MKAR LR LR 06 12 38.6
comp=Z,88nm,21.1s,baz=212,slow=41
MKAR Makanchi Array 7.12 27 *i*P **Pn 06 09 29.3 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
CHCP Chirak Chowk 7.69 208 P **Pn 06 09 35.4 -1.0**
NIL Nilore 7.70 208 P **Pn 06 09 35.3 -1.2**
NIL Nilore 7.70 208 Pn **Pn 06 09 35.3 -1.2**
CEP Cherat 8.09 216 P **Pn 06 09 40.0 -2.0**
WMQ Urumqi 8.20 63 *e*P **Pn 06 09 42.8 -0.6**
WMQ SMN
comp=Z,43nm,1.3s
WMQ SME
comp=Z,37nm,1.1s
OTUK Ortayu 8.56 336 ⇑Lg Lg 06 12 16.2
comp=Z,48nm,0.9s
KBL Kabul 9.04 231 P **Pn 06 09 54.8 -0.3**
KBL Kabul 9.04 231 Pn **Pn 06 09 54.8 -0.3**
KURBB Kurchatov Arra 10.10 3 Pn **Pn 06 10 09.4 0.0**
comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=13
KURBB Lg Lg 06 13 04.0
comp=Z,0.2nm,0.3s,baz=189,slow=26,SNR=7.8
KURBB Kurchatov Arra 10.10 3 ⇑Pn **Pn 06 10 10.9 +1.4**
comp=Z,2.5nm,0.6s
KURBB ⇓Lg Lg 06 13 04.0
comp=Z,50nm,0.7s
KURBB Kurchatov Arra 10.10 3 P **Pn 06 10 10.8 +1.4**
KURBB pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 10.20 4 P **Pn 06 10 09.4 -1.3**
KURK Kurchatov 10.20 4 **Pn 06 10 09.4 -1.3**
DGZ Jazzator, Alta 11.49 34 *i*P **Pn 06 10 28.8 +0.2**
BVAR Borovoye Array 13.41 341 Pn **Pn 06 10 51.7 -2.9**
comp=Z,0.2nm,0.3s,baz=132,slow=26,SNR=2.1
BVAR Lg Lg 06 14 45.5
comp=Z,0.3nm,0.3s,baz=196,slow=22,SNR=3.6
BRVK Borovoye 13.47 341 *i*P **Pn 06 10 57.0 +1.6**
BRVK Borovoye 13.47 341 Pn **Pn 06 10 57.7 +2.4**
ZAA0 Zalesovo Array 14.27 18 Pn **Pn 06 11 06.3 -0.1**
ZALV Zalesovo Beam 14.27 18 Pn **Pn 06 11 05.9 -0.4**
comp=Z,0.2nm,0.3s,baz=213,slow=9.8,SNR=2.9
ZALV Lg Lg 06 15 08.1
baz=213,slow=17,SNR=1.5
ZALV LR LR 06 16 56.1
comp=Z,38nm,20.5s,baz=348,slow=38
ZALV Zalesovo Beam 14.27 18 Pn **Pn 06 11 06.2 -0.2**
AB31 Akbulak array 15.20 311 ⇓Pn **Pn 06 11 20.6 +1.7**
comp=Z,3.1nm,0.8s,baz=102,slow=6.8,SNR=8.1
ABKAR Akbulak array 15.20 311 Pn **Pn 06 11 16.6 -2.4**
AKTO Aktyubinsk 16.86 312 Pn **Pn 06 11 38.1 -2.2**
comp=Z,0.2nm,0.3s,baz=88,slow=10.0,SNR=5.0
AKTO Aktyubinsk 16.86 312 ⇓Pn **P 06 11 42.9 +0.5**
comp=Z,5.3nm,1.1s
GTA Gaotai 17.08 87 *e*P **Pn 06 11 44.8 +1.5**
GTA pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 20.18 328 LR LR 06 20 08.0
comp=Z,41nm,18.5s,baz=162,slow=37
ARU Arti 20.18 328 P **P 06 12 20.7 +2.0**
ARU S Sn 06 16 11.0 +3.6
ARU SS **SnSn 06 16 26.9 +5.1**
ZAK Zakamensk 20.45 53 *e*P **P 06 12 22.4 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 21.11 49 LR LR 06 20 35.7
comp=Z,12nm,18.4s,baz=304,slow=37
SONM Songino Array 21.82 61 P **P 06 12 34.6 -2.2**
comp=Z,1.7nm,0.8s,baz=283,slow=13,SNR=2.1
GNI Garni 24.95 280 LR LR 06 23 56.9
comp=Z,9.9nm,18.6s,baz=204,slow=39
NRIK Noril'sk 29.34 7 *i*P **P 06 13 48.9 +2.0**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 33.34 283 P **P 06 14 21.8 -0.8**
comp=Z,0.4nm,0.5s,baz=59,slow=16,SNR=2.6
AKASG Malin Array Be 34.74 304 P **P 06 14 34.5 +0.1**
comp=Z,0.4nm,0.4s,baz=76,slow=7.8,SNR=2.2
FINES FINESS Array B 37.27 322 P **P 06 14 55.4 -0.5**
comp=Z,4.0nm,1.1s,baz=104,slow=12,SNR=4.2
FINES FINESS Array B 37.27 322 *i*P **P 06 14 56.7 +0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 39.57 334 P **P 06 15 15.4 +0.2**
comp=Z,3.3nm,0.8s,baz=104,slow=9.2,SNR=6.5
ARCES ARCESS Array B 39.57 334 P **P 06 15 15.0 -0.2**
ARCES pmax pmax
comp=Z,10.0nm,1.3s
ARCES ARCESS Array B 39.57 334 P **P 06 15 15.0 -0.2**
ARCES IAmb IAmb 06 15 21.1
comp=Z,9.6nm,1.2s
NOA NORSAR Array B 44.41 320 P **P 06 15 54.3 -0.6**
comp=Z,0.7nm,0.8s,baz=87,slow=8.0,SNR=2.4
NOA LR LR 06 35 06.3
comp=Z,14nm,19.8s,baz=120,slow=37
GERES GERESS Array B 44.95 303 P **P 06 15 59.8 +0.4**
comp=Z,0.7nm,0.6s,baz=81,slow=9.6,SNR=5.0
GERES GERESS Array B 44.95 303 P **P 06 15 58.7 -0.7**
GERES GERESS Array B 44.95 303 P **P 06 15 58.7 -0.7**
TOLK Toolik Lake Re 65.63 17 P **P 06 18 27.8 -0.3**
IMAR Indian Mountai 66.68 20 P **P 06 18 33.5 -1.4**
BMAR Burnt Mountain 67.72 16 P **P 06 18 41.5 +0.1**
INK Inuvik 68.99 12 P **P 06 18 47.4 -1.9**
comp=Z,0.7nm,0.5s,baz=359,slow=8.1,SNR=2.3
C36M Paulatuk 69.26 8 P **P 06 18 48.6 -2.4**
ILAR Eielson Array 69.40 19 P **P 06 18 49.8 -2.1**
comp=Z,0.3nm,0.7s,baz=319,slow=4.4,SNR=4.3
ILAR Eielson Array 69.40 19 P **P 06 18 49.2 -2.7**
ILAR Eielson Array 69.40 19 P **P 06 18 49.2 -2.7**
TOA0 Torodi Ar. Sit 70.89 271 P **P 06 18 59.2 -2.6**
TORD Torodi Ar. Bea 70.89 271 P **P 06 18 59.1 -2.7**
comp=Z,3.3nm,0.9s,baz=48,slow=5.4,SNR=15
TORD Torodi Ar. Bea 70.89 271 P **P 06 18 59.4 -2.4**
TORD IAmb IAmb 06 19 06.5
comp=Z,7.7nm,1.4s
BCAR Beaver Creek A 72.05 18 P **P 06 19 07.3 -0.9**
KDAK Kodiak Island 73.43 25 P **P 06 19 14.9 -1.4**
KDAK pmax pmax
comp=Z,3.0nm,0.9s
KDAK Kodiak Island 73.43 25 P **P 06 19 14.9 -1.4**
KDAK IAmb IAmb 06 19 21.0
comp=Z,3.1nm,0.9s
OHAK Old Harbor 73.64 26 P **P 06 19 15.7 -1.9**
OHAK IAmb IAmb 06 19 26.3
comp=Z,9.2nm,1.4s
YKA Yellowknife Ar 76.84 6 P **P 06 19 33.7 -2.2**
comp=Z,0.5nm,0.7s,baz=349,slow=5.4,SNR=3.4

*MEX **15** 06:27:34.4±0.6, 14.°93N×93.°25W, h50km±19km, MD4.0*
*IDC **15** 06:27:36.7±2.6, 15.°67N×92.°81W, h60km±35km, mb3.4/5, mb1 3.8/8, mb1mx3.5/34, mbtmp3.7/8, ML3.7/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/22, Error ellipse: s-maj=127.5km s-min=18.9km az=36.0*
ISC 15 06:27:31.4±1.4, 14.°86N±0.°09×93.°26W±0.°05, h50km±14km, n16, σ2§88/20, mb3.8/5, MS2.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.84**	**3**	*e*P	**Pn**	**06 27 47.5**	**+0.5**
PCIG				*e*S	**Sn**	**06 27 57.8**	**-0.5**
THIG		**0.96**	**87**	*e*P	**Pn**	**06 27 48.6**	**0.0**
THIG				*e*P		06 27 50.2	
THIG				*e*S	**Sn**	**06 28 01.4**	**+0.1**
THIG				*e*S		06 28 03.0	
CCIG	**Comitan**	**1.78**	**37**	*e*P	**Pn**	**06 28 01.0**	**+1.1**
CCIG				*e*S	**Sn**	**06 28 16.4**	**-5.0**
TGIG		**1.91**	**4**	*e*P	**Pn**	**06 28 01.7**	**+0.1**
TGIG				*e*S	**Sn**	**06 28 30.1**	**+5.6**
CMIG	**Matias Romero**	**2.71**	**325**	P	**Pn**	**06 28 13.5**	**+1.1**
	8.2nm,0.3s,baz=156,slow=13,SNR=60						
CMIG				S	**Sn**	**06 28 43.4**	**-0.7**
	32nm,0.3s,baz=126,slow=11,SNR=4.9						
CMIG	**Matias Romero**	**2.71**	**325**	*e*P	**Pn**	**06 28 13.5**	**+1.1**
CMIG				*e*S	**Sn**	**06 28 36.9**	**-7.2**
HUIG	**Huatulco**	**2.89**	**289**	*e*P	**Pn**	**06 28 16.6**	**+1.7**
HUIG				*e*S	**Sn**	**06 28 46.0**	**-2.5**
JTS	**Las Juntas de**	**9.30**	**118**	P	Pn	06 29 49.1	+6.2
	0.7nm,0.3s,baz=318,slow=17,SNR=4.2						
TXAR	**Lajitas Array**	**17.31**	**328**	P	**P**	**06 31 31.1**	**+0.5**
	0.1nm,0.3s,baz=151,slow=12,SNR=14						
TKL	**Tuckaleechee C**	**22.39**	**21**	LR	LR	06 40 32.4	
	comp=Z,28nm,20.8s,baz=159,slow=36						
ANMO	**Albuquerque**	**23.26**	**332**	P	**P**	**06 32 35.3**	**+0.5**
	1.1nm,0.6s,baz=155,slow=10,SNR=7.1						
ANMO				LR	LR	06 42 08.6	
	comp=Z,23nm,18.1s,baz=98,slow=38						
PFO	**Pinyon Flats O**	**28.10**	**316**	LR	LR	06 43 48.5	
	comp=Z,39nm,18.9s,baz=142,slow=35						
PDAR	**Pinedale Array**	**31.14**	**336**	P	**P**	**06 33 45.0**	**-0.6**
	0.2nm,0.5s,baz=146,slow=5.5,SNR=2.4						
NVAR	**Mina Array Bea**	**32.24**	**321**	P	**P**	**06 33 58.1**	**+2.7**
	1.0nm,0.6s,baz=129,slow=8.5,SNR=11						
ILAR	**Eielson Array**	**61.57**	**337**	P	**P**	**06 37 42.8**	**-0.6**
	0.6nm,0.7s,baz=135,slow=4.5,SNR=6.4						
ARCES	**ARCESS Array B**	**85.70**	**18**	P	**P**	**06 40 03.6**	**-1.1**
	2.7nm,1.0s,baz=309,slow=5.7,SNR=2.9						

*DJA **15** 07:25:12.1±0.4, 8.°5±3.°×10.°9E±.°, h10km, M3.9/6, MLv3.9/6*
ISC 15 07:25:15.2±1.9, 8.°4S±0.°1×109.°23E±0.°05, h55km, n10, σ1§99/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**1.11**	**344**	P	**Pn**	**07 25 34.7**	**+0.2**
KPJI				S	**Sn**	**07 25 50.0**	**+1.2**
UGM	**Wanagama**	**1.37**	**69**	P	**Pn**	**07 25 37.3**	**-0.7**
UGM				S	**Sn**	**07 25 53.1**	**-2.1**
CTJI	**Waduk Cacaban**	**1.39**	**358**	P	**Pn**	**07 25 38.3**	**0.0**
CTJI				S	**Sn**	**07 25 56.7**	**+1.1**
CISI	**Cisompet, Garu**	**1.64**	**301**	P	**Pn**	**07 25 41.7**	**0.0**
CISI				S	**Sn**	**07 26 01.9**	**+0.2**
SMRI	**Semarang**	**1.80**	**42**	P	Pn	07 25 49.4	+5.5
JCJI	**Jatiwangi**	**2.13**	**333**	S	**Sn**	**07 26 09.7**	**-3.9**
LEM	**Lembang**	**2.24**	**314**	P	**Pn**	**07 25 50.9**	**+0.9**
PWJI	**Pagerwojo**	**2.58**	**82**	P	**Pn**	**07 25 53.8**	**-0.6**
PWJI				S	**Sn**	**07 26 22.9**	**-1.7**
SJI	**Sawahan**	**2.60**	**75**	P	**Pn**	**07 25 56.0**	**+1.2**
SJI				S	**Sn**	**07 26 29.2**	**+3.9**
PBKI	**Pangkalan Bun**	**6.16**	**23**	P	Pn	07 25 57.8	-46

*IDC **15** 07:44:48.4±1.6, 4.°56N×126.°87E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/60, mbtmp3.7/6, MS2.6/1, Ms1 2.6/1, ms1mx2.1/38, Error ellipse: s-maj=98.9km s-min=20.5km az=69.0*
ISC 15 07:44:58.5±1.6, 4.°5N±0.°3×126.°8E±0.°7, h81km, n7, σ1§57/6, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.80**	**217**	LR	LR	07 51 55.4	
	comp=Z,26nm,18.2s,baz=333,slow=36						
FITZ	**Fitzroy Crossi**	**22.49**	**183**	P	**P**	**07 49 51.5**	**0.0**
	1.5nm,0.6s,baz=4.6,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**25.39**	**163**	P	**P**	**07 50 16.8**	**-1.8**
	1.5nm,0.6s,baz=342,slow=10,SNR=22						
ASAR	**Alice Springs**	**28.84**	**166**	P	**P**	**07 50 48.1**	**-1.3**
	0.2nm,0.5s,baz=345,slow=7.2,SNR=4.8						
STKA	**Stephens Creek**	**38.82**	**160**	P	**P**	**07 52 17.3**	**+1.6**
	0.6nm,0.3s,baz=326,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**56.97**	**325**	P	**P**	**07 54 35.8**	**0.0**
	0.5nm,0.6s,baz=110,slow=8.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.14**	**327**	P	**P**	**07 55 04.3**	**-0.1**
	0.4nm,0.5s,baz=129,slow=6.4,SNR=2.6						

*IDC **15** 07:45:40.3±1.7, 40.°19N×77.°62E, h0km, mb3.6/5, mb1 3.7/11, mb1mx3.5/56, mbtmp3.7/11, ML3.2/5, MS3.0/2, Ms1 3.0/2, ms1mx2.3/42, Error ellipse: s-maj=24.9km s-min=18.6km az=154.0*
*SOME **15** 07:45:42.1, 40.°43N×77.°48E, h10km, MS3.4*
*BJI **15** 07:45:42.6±0.0, 40.°42N×77.°61E, h10km, ML3.9/8*
*KRNET **15** 07:45:43.1±0.1, 40.°50N×77.°66E, mb4.4*
*NNC **15** 07:45:45.4±0.7, 40.°56N×77.°59E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=4.8km s-min=3.7km az=163.0*
*NEIC **15** 07:45:47.1±2.9, 40.°41N±0.°06×77.°8E±0.°1, h41km±9km, mb4.2/5, Error ellipse: s-maj=15.4km s-min=8.0km az=111.0*
ISC 15 07:45:44.5±1.4, 40.°45N±0.°04×77.°75E±0.°04, h12km±9km, n124, σ1§66/169, mb4.0/5, 43C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.28**	**2**	⇑*e*P	**Pn**	**07 46 06.6**	**-2.0**
	baz=5.0						
TARG				⇑*i*S	**Sb**	**07 46 23.7**	**-1.7**
	baz=5.0						
TARG	**Taragay, Kyrgy**	**1.28**	**2**	Pn	**Pn**	**07 46 07.0**	**-1.7**
TARG				Sn	**Sb**	**07 46 25.8**	**+0.3**
KSH	**Kashi**	**1.65**	**236**	Pn	**Pg**	**07 46 18.5**	**+2.4**
KSH				Sn	Sg	07 46 47.8	+10
KSH				SMN			
	540nm,0.5s						
KSH				SME			
	2µm,0.7s						
KDJ	**Kajisay**	**1.74**	**346**	⇑*e*P	**Pn**	**07 46 14.1**	**-0.5**
	baz=48						
KDJ				⇑*i*S	**Sn**	**07 46 37.1**	**+0.3**
	baz=48						
KDJ	**Kajisay**	**1.74**	**346**	Pn	**Pn**	**07 46 14.1**	**-0.5**
KDJ				Sn	**Sn**	**07 46 37.9**	**+1.1**
PRZ	**Przheval'sk**	**2.10**	**13**	⇑*e*P	**Pb**	**07 46 21.3**	**-1.2**
	baz=15						
PRZ				⇑*i*S	**Sb**	**07 46 49.0**	**+0.4**
	baz=15						
PRZ	**Przheval'sk**	**2.10**	**13**	Pn	**Pb**	**07 46 22.3**	**-0.3**
ULHL	**Ulahol**	**2.13**	**328**	⇑*e*P	**Pn**	**07 46 20.5**	**+0.5**
	baz=29						
ULHL				⇑*i*S	**Sn**	**07 46 48.0**	**+1.6**
	baz=29						
ULHL	**Ulahol**	**2.13**	**328**	P	**Pn**	**07 46 20.9**	**+0.9**
	SNR=34						

ANVS Anan'yevo 2.34 359 ⇑*i*P **Pn 07 46 24.0 +1.1**
baz=0.0
ANVS ⇑*i*S **Sn 07 46 53.7 +2.1**
baz=0.0
BOOM Boomskoye usch 2.45 327 ⇓*i*P **Pn 07 46 25.2 +0.7**
baz=28
BOOM ⇓*i*S **Sn 07 46 55.7 +1.2**
baz=28
BOOM Boomskoye usch 2.45 327 Pn **Pn 07 46 26.2 +1.7**
SATY Saty 2.66 10 *e*P **Pb 07 46 32.0 -0.1**
166nm,0.3s
SATY *e*S **Sg 07 47 08.3 -1.6**
765nm,0.7s
SATY Saty 2.66 10 Pg **Pb 07 46 32.0 -0.1**
166nm,0.3s
SATY Lg Lg 07 47 08.4
765nm,0.7s
IZV Izvestkoviy 2.73 342 *e*P **Pb 07 46 31.7 -1.5**
91nm,0.5s
IZV *e*S **Sb 07 47 08.1 +1.4**
647nm,0.5s
IZV Izvestkoviy 2.73 342 Pg **Pb 07 46 31.7 -1.5**
91nm,0.5s
IZV Lg Lg 07 47 08.0
647nm,0.5s
MDOK Medeo 2.77 349 *e*P **Pb 07 46 33.8 -0.2**
124nm,0.3s
MDOK *e*S **Sb 07 47 11.1 +3.3**
987nm,0.4s
MDOK Medeo 2.77 349 ⇑Pn **Pn 07 46 30.5 +1.7**
18nm,0.5s
MDOK ⇓Pg **Pb 07 46 33.4 -0.6**
184nm,0.6s
MDOK ⇓Lg Lg 07 47 08.7
1µm,0.6s
MDOK Medeo 2.77 349 Pg **Pb 07 46 33.8 -0.2**
124nm,0.3s
MDOK Lg Lg 07 47 11.1
987nm,0.4s
KOTS Kotyrbulak 2.83 351 *e*P **Pb 07 46 35.3 +0.4**
KOTS *e*S **Sg 07 47 13.9 -1.5**
KOTS Kotyrbulak 2.83 351 Pg **Pb 07 46 35.3 +0.4**
KOTS Lg Lg 07 47 13.9
AAA Alma-Ata 2.83 348 *e*P **Pb 07 46 35.1 +0.1**
213nm,0.3s
AAA *e*S **Sb 07 47 13.4 +3.7**
1µm,0.6s
AAA Alma-Ata 2.83 348 Pg **Pb 07 46 35.1 +0.1**
213nm,0.3s
AAA Lg Lg 07 47 13.4
1µm,0.6s
KNDC Almaty 2.83 348 ⇑Pg **Pb 07 46 34.8 -0.2**
308nm,0.8s
KNDC ⇑Lg Lg 07 47 11.1
3µm,0.6s
MTBS Maitube 2.86 340 *e*P **Pb 07 46 34.3 -1.1**
79nm,0.4s
MTBS *e*S **Sb 07 47 12.2 +1.7**
355nm,0.3s
MTBS Maitube 2.86 340 Pg **Pb 07 46 34.3 -1.1**
79nm,0.4s
MTBS Lg Lg 07 47 12.2
355nm,0.3s
UZB Uzynbulak 2.86 19 *e*P **Pb 07 46 35.9 +0.3**
133nm,0.8s
UZB *e*S **Sg 07 47 15.2 -1.3**
409nm,0.6s
UZB Uzynbulak 2.86 19 Pg **Pb 07 46 35.9 +0.3**
133nm,0.8s
UZB Lg Lg 07 47 15.2
409nm,0.6s
KST Kastek 2.92 333 *e*P **Pb 07 46 35.7 -0.8**
79nm,0.6s
KST *e*S **Sb 07 47 14.9 +2.7**
536nm,0.8s
KST Kastek 2.92 333 Pg **Pb 07 46 35.7 -0.8**
79nm,0.6s
KST Lg Lg 07 47 14.9
536nm,0.8s
ARLS Aral 2.95 300 ⇑*e*P **Pn 07 46 32.0 +0.8**
baz=99
ARLS ⇑*i*S **Sn 07 47 07.4 +0.8**
baz=99
TKM2 Tokmak 2 2.95 328 ⇑*e*P **Pn 07 46 32.4 +1.0**
baz=28
TKM2 ⇑*i*S **Sn 07 47 08.0 +1.2**
baz=28
TKM2 Tokmak 2 2.95 328 P **Pn 07 46 32.7 +1.3**
SNR=64
TKM2 Tokmak 2 2.95 328 ⇑Pn **Pn 07 46 32.8 +1.4**
12nm,0.5s
TKM2 ⇓Pg **Pb 07 46 35.7 -1.4**
106nm,0.6s
TKM2 ⇑Lg Lg 07 47 14.8
363nm,0.7s
SHLS Shalkode 3.00 25 *e*P **Pg 07 46 41.7 -0.2**
190nm,0.6s
SHLS *e*S **Sg 07 47 25.2 +4.4**
461nm,0.4s
SHLS Shalkode 3.00 25 Pg **Pg 07 46 41.7 -0.2**
190nm,0.6s
SHLS Lg Lg 07 47 25.2
461nm,0.4s
KBK Karagaybulak 3.05 317 ⇑*e*P **Pn 07 46 33.3 +0.6**
baz=18
KBK ⇑*i*S **Sn 07 47 10.3 +1.2**
baz=18
KBK Karagaybulak 3.05 317 P **Pn 07 46 34.4 +1.8**
SNR=73
KURS Kuram 3.06 6 *e*P **Pb 07 46 39.1 +0.3**
124nm,0.6s
KURS *e*S **Sg 07 47 20.4 -2.3**
251nm,0.6s
KURS Kuram 3.06 6 Pg **Pb 07 46 39.1 +0.3**
124nm,0.6s
KURS Lg Lg 07 47 20.4
251nm,0.6s
KPKS Kokpek 3.10 13 *e*P **Pb 07 46 40.2 +0.7**
159nm,0.3s
KPKS *e*S **Sg 07 47 22.3 -1.8**
829nm,0.5s
DGS Degeres 3.16 333 *e*P **Pb 07 46 39.1 -1.5**
55nm,0.4s
DGS *e*S **Sb 07 47 20.4 +1.3**
350nm,0.3s
DGS Degeres 3.16 333 Pg **Pb 07 46 39.1 -1.5**
55nm,0.4s
DGS Lg Lg 07 47 20.4
350nm,0.3s
PDGK Podgornoye 3.16 24 Pg **Pb 07 46 41.0 +0.4**
71nm,0.5s
PDGK Lg Lg 07 47 24.0
254nm,0.8s
PDGK Podgornoye 3.16 24 ⇓Pn **Pn 07 46 36.4 +2.2**
19nm,0.5s
PDGK ⇓Pg **Pb 07 46 41.6 +1.0**
113nm,0.6s
PDGK ⇓Lg Lg 07 47 23.6
538nm,0.7s
AAK Ala-Archa 3.28 313 Pn **Pn 07 46 36.7 +0.9**
3.4nm,0.3s,baz=136,slow=7.7,SNR=24
AAK Pg **Pb 07 46 40.9 -1.8**
26nm,0.3s,baz=138,slow=11,SNR=41
AAK Lg Lg 07 47 23.5
28nm,0.3s,baz=292,slow=16,SNR=13
AAK LR LR 07 47 57.7
comp=Z,144nm,18.9s,baz=144,slow=40
AAK Ala-Archa 3.28 313 ⇑*e*P **Pn 07 46 36.7 +0.9**
baz=13
AAK ⇑*i*S **Sn 07 47 15.6 +0.8**
baz=13
AAK Ala-Archa 3.28 313 P **Pn 07 46 37.1 +1.4**
SNR=42
AAK Ala-Archa 3.28 313 ⇓Pn **Pn 07 46 36.9 +1.1**
4.4nm,0.3s
AAK ⇓Pg **Pb 07 46 42.2 -0.5**
177nm,1.1s
AAK ⇑Lg Lg 07 47 23.1
503nm,0.8s
AAK Ala-Archa 3.28 313 Pn **Pn 07 46 37.2 +1.4**
FRU1 Bishkek 3.32 316 ⇑*e*P **Pn 07 46 37.7 +1.4**
baz=17
FRU1 ⇑*i*S **Sn 07 47 17.3 +1.5**
baz=17
FRU1 Bishkek 3.32 316 **Pn 07 46 39.5 +3.2**
KTBS Karatobe 3.36 347 *e*P **Pb 07 46 43.4 -0.6**
68nm,0.5s
KTBS *e*S **Sb 07 47 27.4 +2.6**

	1µm,0.9s							
KTBS	**Karatobe**	**3.36**	**347**	Pg	**Pb**	**07 46 43.4**	**-0.6**
	68nm,0.5s							
KTBS				Lg	Lg	07 47 27.4		
	1µm,0.9s							
CHMS	**Chumysh**	**3.40**	**320**	⇓*e*P	**Pn**	**07 46 38.3**	**+1.0**
	baz=20							
CHMS				⇓*i*S	**Sn**	**07 47 18.6**	**+1.1**
	baz=20							
CHMS	**Chumysh**	**3.40**	**320**	P	**Pn**	**07 46 38.5**	**+1.2**
	SNR=14							
CHKK	**Chushkaly**	**3.45**	**351**	*e*P	**Pb**	**07 46 45.1**	**-0.5**
	54nm,0.5s							
CHKK				*e*S	**Sb**	**07 47 30.8**	**+3.3**
	282nm,0.3s							
CHKK	**Chushkaly**	**3.45**	**351**	Pg	**Pb**	**07 46 45.1**	**-0.5**
	54nm,0.5s							
CHKK				Lg	Lg	07 47 30.8		
	282nm,0.3s							
AML	**Almayashu**	**3.49**	**300**	⇑*i*P	**Pn**	**07 46 39.6**	**+0.7**
	baz=0.0							
AML				⇑*i*S	**Sn**	**07 47 21.2**	**+0.9**
	baz=0.0							
AML	**Almayashu**	**3.49**	**300**	P	**Pn**	**07 46 40.1**	**+1.2**
	SNR=9.4							
KUU	**Kurty**	**3.60**	**344**	*e*P	**Pb**	**07 46 47.1**	**-0.9**
	19nm,0.5s							
KUU				*e*S	**Sb**	**07 47 34.5**	**+2.7**
	278nm,0.7s							
KUU	**Kurty**	**3.60**	**344**	Pg	**Pb**	**07 46 47.1**	**-0.9**
	19nm,0.5s							
KUU				Lg	Lg	07 47 34.5		
	278nm,0.7s							
EKS2	**Erkin-Say**	**3.71**	**308**	⇑*e*P	**Pn**	**07 46 42.4**	**+0.7**
	baz=8.0							
EKS2				⇑*i*S	**Sn**	**07 47 25.9**	**+0.5**
	baz=8.0							
EKS2	**Erkin-Say**	**3.71**	**308**	P	**Pn**	**07 46 43.4**	**+1.7**
	SNR=32							
ARSB	**Arslanbob**	**3.72**	**285**	⇑*i*P	**Pn**	**07 46 42.8**	**+1.0**
	baz=85							
ARSB				⇑*i*S	**Sn**	**07 47 26.6**	**+1.0**
	baz=85							
ARSB	**Arslanbob**	**3.72**	**285**		**Pn**	**07 46 42.7**	**+0.9**
USP	**Ospenovka**	**3.72**	**320**	⇑*e*P	**Pn**	**07 46 42.6**	**+0.9**
	baz=21							
USP				⇑*i*S	**Sn**	**07 47 26.2**	**+0.7**
	baz=21							
USP	**Ospenovka**	**3.72**	**320**	P	**Pb**	**07 46 48.9**	**-1.2**
	SNR=71							
ARXS	**Arharly**	**3.77**	**1**	*e*P	**Pb**	**07 46 51.2**	**+0.2**
	98nm,0.5s							
ARXS				*e*S	**Sb**	**07 47 41.3**	**+4.8**
	582nm,0.5s							
ARXS	**Arharly**	**3.77**	**1**	Pg	**Pb**	**07 46 51.2**	**+0.2**
	98nm,0.5s							
ARXS				Lg	Lg	07 47 41.3		
	582nm,0.5s							
SGDS	**Sogindy**	**3.80**	**323**	Pg	**Pb**	**07 46 50.3**	**-1.2**
	106nm,0.7s							
SGDS				Lg	Lg	07 47 39.4		
	63nm,0.6s							
MRKS	**Merke**	**4.09**	**306**	*e*P	**Pb**	**07 46 55.8**	**-0.8**
	12nm,0.4s							
MRKS				*e*S	**Sb**	**07 47 49.0**	**+3.0**
	123nm,0.5s							
MRKS	**Merke**	**4.09**	**306**	Pg	**Pb**	**07 46 55.7**	**-0.8**
	12nm,0.4s							
MRKS				Lg	Lg	07 47 49.1		
	123nm,0.5s							
DJR	**Jarkent**	**4.17**	**21**	*e*P	**Pb**	**07 46 59.6**	**+1.8**
	5.6nm,0.7s							
DJR				*e*S	**Sg**	**07 47 55.5**	**-2.9**
	8.9nm,0.3s							
DJR	**Jarkent**	**4.17**	**21**	Pg	**Pb**	**07 46 59.6**	**+1.8**
	5.6nm,0.7s							
DJR				Lg	Lg	07 47 55.4		
	8.9nm,0.3s							
MNAS	**Manas**	**4.44**	**299**	⇓*e*P	**Pn**	**07 46 52.5**	**+0.8**
	baz=99							
MNAS				⇓*i*S	**Sn**	**07 47 43.8**	**+0.5**
	baz=99							
TDK	**Taldyqorghan**	**4.58**	**6**	*e*P	**Pb**	**07 47 06.4**	**+1.7**
	89nm,0.4s							
TDK				*e*S	**Sg**	**07 48 06.9**	**-4.6**
	756nm,0.6s							
TDK	**Taldyqorghan**	**4.58**	**6**	Pg	**Pb**	**07 47 06.4**	**+1.7**
	89nm,0.4s							
TDK				Lg	Lg	07 48 06.9		
	756nm,0.6s							
DRK	**Karamyk**	**4.67**	**260**		**Pn**	**07 46 56.8**	**+1.8**
KAPS	**Kapalarasan**	**4.98**	**13**	*e*P	**Pb**	**07 47 15.0**	**+3.4**
	2.8nm,0.8s							
KAPS				*e*S	**Sg**	**07 48 21.7**	**-2.6**
	5.5nm,0.5s							
KAPS	**Kapalarasan**	**4.98**	**13**	Pg	**Pb**	**07 47 15.0**	**+3.4**
	2.8nm,0.8s							
KAPS				Lg	Lg	07 48 21.7		
	5.5nm,0.5s							
BTK	**Batken**	**5.32**	**268**	Pn	**Pn**	**07 47 05.1**	**+1.4**
BTLS	**Baital**	**5.34**	**331**	*e*P	**Pb**	**07 47 18.4**	**+0.7**
	22nm,0.7s							
BTLS				*e*S	**Sb**	**07 48 27.6**	**+5.9**
	26nm,0.7s							
BTLS	**Baital**	**5.34**	**331**	Pg	**Pb**	**07 47 18.4**	**+0.7**
	22nm,0.7s							
BTLS				Lg	Lg	07 48 27.6		
	26nm,0.7s							
GAR	**Garm**	**5.91**	**258**	Pn	**Pn**	**07 47 10.6**	**-1.3**
KK31	**Karatay Array**	**6.03**	**299**	⇑Pn	**Pn**	**07 47 14.6**	**+1.1**
	0.7nm,0.5s,baz=116,slow=11,SNR=9.2							
KK31				⇑Pg	**Pb**	**07 47 32.9**	**+3.5**
	11nm,0.8s,baz=128,slow=16,SNR=17							
KK31				⇓Lg	Lg	07 48 51.1		
	12nm,0.6s,baz=97,slow=26,SNR=7.1							
KK31	**Karatay Array**	**6.03**	**299**	Pn	**Pn**	**07 47 14.9**	**+1.5**
KKAR	**Karatay Array**	**6.03**	**299**		**Pn**	**07 47 14.0**	**+0.6**
KKAR	**Karatay Array**	**6.03**	**299**	Pn	**Pn**	**07 47 14.6**	**+1.2**
CHGR	**Chuyangaron**	**6.87**	**258**	Pn	**Pn**	**07 47 23.1**	**-2.0**
MAKZ	**Makanchi**	**7.06**	**24**	⇑Pn	**Pn**	**07 47 29.3**	**+1.7**
	1.1nm,0.3s							
MAKZ				⇑Pg	Pg	07 47 54.2	-5.4
	5.7nm,1.1s							
MAKZ				⇓Lg	Lg	07 49 28.1		
	13nm,0.9s							
MAKZ	**Makanchi**	**7.06**	**24**		**Pn**	**07 47 28.9**	**+1.3**
MK31	**Makanchi Array**	**7.15**	**26**	⇓Pn	**Pn**	**07 47 29.9**	**+1.1**
	1.6nm,0.4s,baz=202,slow=15,SNR=30							
MK31				⇑Pg	Pb	07 47 54.2	+5.7
	5.2nm,0.8s,baz=206,slow=15,SNR=5.0							
MK31				⇑Lg	Lg	07 49 30.9		
	8.5nm,0.7s,baz=207,slow=28,SNR=4.2							
MK31	**Makanchi Array**	**7.15**	**26**	Pn	**Pn**	**07 47 29.2**	**+0.4**
MKAR	**Makanchi Array**	**7.15**	**26**	Pn	**Pn**	**07 47 30.1**	**+1.3**
	1.1nm,0.3s,baz=201,slow=16,SNR=37							
MKAR					Sn	**Sn**	**07 48 53.5**	**+3.5**
	0.6nm,0.3s,baz=205,slow=22,SNR=4.5							
MKAR				Lg	Lg	07 49 31.6		
	1.4nm,0.3s,baz=210,slow=28,SNR=6.4							
MKAR	**Makanchi Array**	**7.15**	**26**	Pn	**Pn**	**07 47 29.5**	**+0.6**
CHCP	**Chirah Chowk**	**7.66**	**209**	P	**Pn**	**07 47 35.9**	**0.0**
NIL	**Nilore**	**7.67**	**209**	Pn	**Pn**	**07 47 36.1**	**0.0**
CEP	**Cherat**	**8.09**	**217**	P	**Pn**	**07 47 40.7**	**-1.1**
WMQ	**Urumqi**	**8.13**	**62**	*e*P	**Pn**	**07 47 43.5**	**+1.2**
WMQ				SMN				
	40nm,0.9s							
WMQ				SME				
	46nm,1.1s							
OTUK	**Ortayu**	**8.71**	**335**	⇓Pg	Pg	07 48 22.8	-8.3	
	4.4nm,0.7s							
OTUK				⇑Lg	Lg	07 50 16.3		
	92nm,1.4s							
KBL	**Kabul**	**9.08**	**232**	Pn	**Pn**	**07 47 54.8**	**-0.7**
KURBB	**Kurchatov Arra**	**10.19**	**3**	Pn	**Pn**	**07 48 10.9**	**+0.4**
	0.1nm,0.3s,baz=190,slow=12,SNR=7.6							
KURBB				Lg	Lg	07 51 04.3		
	0.2nm,0.3s,baz=190,slow=27,SNR=10							
KURBB	**Kurchatov Arra**	**10.19**	**3**	⇑Lg	Lg	07 51 04.9		
	46nm,0.9s							
BVAR	**Borovoye Array**	**13.55**	**341**	Pn	**Pn**	**07 48 55.5**	**-0.8**
	baz=190,slow=24,SNR=3.6							
BVAR				Lg	Lg	07 52 48.0		
	0.3nm,0.3s,baz=182,slow=36,SNR=3.1							
BRVK	**Borovoye**	**13.60**	**341**	⇓Pn	**Pn**	**07 48 57.7**	**+0.7**
	8.2nm,1.1s							
BRVK				⇑Lg	Lg	07 52 44.7		
	37nm,1.1s							
BRVK	**Borovoye**	**13.60**	**341**	Pn	**Pn**	**07 48 56.5**	**-0.6**

ZAA0	**Zalesovo Array**	**14.33**	**17**	Pn	**Pn**	**07 49 05.0**	**-1.9**
ZALV	**Zalesovo Beam**	**14.33**	**17**	Pn	**Pn**	**07 49 07.5**	**+0.5**
	0.2nm,0.3s,baz=201,slow=16,SNR=2.7							
ZALV				Lg	Lg	07 53 13.0		
	0.2nm,0.3s,baz=190,slow=23,SNR=1.8							
ZALV	**Zalesovo Beam**	**14.33**	**17**	Pn	**Pn**	**07 49 05.2**	**-1.8**
ABKAR	**Akbulak array**	**15.37**	**311**		**Pn**	**07 49 17.9**	**-3.1**
AKTO	**Aktyubinsk**	**17.02**	**312**	P	**Pn**	**07 49 41.9**	**-0.4**
	0.1nm,0.3s,baz=111,slow=15,SNR=3.5							
ARU	**Arti**	**20.33**	**328**	P	**P**	**07 50 21.3**	**+1.1**
	0.7nm,0.3s,baz=102,slow=19,SNR=1.7							
SONM	**Songino Array**	**21.76**	**61**	P	**P**	**07 50 37.2**	**+1.3**
	1.2nm,0.8s,baz=280,slow=8.6,SNR=1.8							
ARCES	**ARCESS Array B**	**39.71**	**334**	P	**P**	**07 53 15.8**	**-0.4**
	1.9nm,0.8s,baz=104,slow=9.2,SNR=5.1							
ARCES				LR	LR	08 10 04.4		
	comp=Z,27nm,19.0s,baz=140,slow=37							
ARCES	**ARCESS Array B**	**39.71**	**334**	P	**P**	**07 53 16.3**	**0.0**
ARCES				IAmb	IAmb	07 53 44.8		
	comp=Z,6.0nm,1.4s							
IMAR	**Indian Mountai**	**66.73**	**20**	P	**P**	**07 56 34.1**	**-0.9**
BMAR	**Burnt Mountain**	**67.77**	**16**	P	**P**	**07 56 41.5**	**-0.1**
C36M	**Paulatuk**	**69.34**	**8**	P	**P**	**07 56 49.6**	**-1.7**
ILAR	**Eielson Array**	**69.45**	**19**	P	**P**	**07 56 50.0**	**-2.1**
	comp=Z,0.2nm,0.7s,baz=327,slow=6.5,SNR=2.7							
TOA0	**Torodi Ar. Sit**	**71.02**	**271**	P	**P**	**07 56 59.9**	**-2.5**
TOA0				IAmb	IAmb	07 57 10.0		
	comp=Z,3.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**71.02**	**271**	P	**P**	**07 56 59.6**	**-2.8**
	comp=Z,1.7nm,0.7s,baz=50,slow=5.6,SNR=11							
TORD	**Torodi Ar. Bea**	**71.02**	**271**	P	**P**	**07 56 59.8**	**-2.6**
TORD				IAmb	IAmb	07 57 03.0		
	comp=Z,1.2nm,0.7s							
BCAR	**Beaver Creek A**	**72.11**	**18**	P	**P**	**07 57 07.8**	**-0.5**

INET ***15*** *07:49:50.5, 12.˚93N×88.˚04W, h93km, ML3.6*

SNET 15 07:49:50.7±0.8, 12.˚81N×88.˚55W, h39km±73km, ML3.4, 5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.66**	**22**	*e*P	Pn	07 50 04.0	+0.3
TECA	**Tecapa**	**0.68**	**4**	*e*P	Pn	07 50 04.2	+0.1
TECA				*e*S	Sn	07 50 15.2	+1.6
PACA	**Pacayal**	**0.69**	**19**	*e*P	Pn	07 50 04.5	+0.3
PACA				*e*S	Sn	07 50 15.5	+1.7
TECO	**Alcaldia de Te**	**0.76**	**343**	*e*P	Pn	07 50 04.9	-0.1
TECO				*e*S	Sn	07 50 15.9	+0.7
TECO				IAML		07 50 19.0	
	comp=Z,530nm,0.1s						
PQSS	**Presa 15 de Se**	**0.81**	**359**	*e*P	Pn	07 50 05.9	+0.3
LCND	**La Caada**	**0.81**	**52**	⇓*i*P	Pn	07 50 05.2	-0.5
LCND				*e*S	Sn	07 50 17.3	+0.7
LCND				IAML		07 50 23.6	
	comp=Z,1µm,0.2s						
CNCH	**Conchagua**	**0.84**	**56**	*e*P	Pn	07 50 05.8	-0.3
COEG	**Centro de Oper**	**0.86**	**338**	⇓*i*P	Pn	07 50 06.5	0.0
COEG				*e*S	Sn	07 50 18.7	+0.7
COEG				IAML		07 50 22.8	
	comp=Z,2µm,0.3s						
SJTE	**Alcalda de S**	**0.91**	**331**	⇓*e*P	Pn	07 50 07.0	-0.2
SJTE				*e*S	Sn	07 50 19.6	+0.4
SJTE				IAML		07 50 22.2	
	comp=Z,643nm,0.4s						
LFRS	**El Faro**	**0.95**	**328**	⇓*i*P	Pn	07 50 07.6	0.0
PAVA	**Las Pavas**	**0.97**	**337**	⇓*e*P	Pn	07 50 08.2	+0.2
LBRS	**Las Brisas**	**1.04**	**333**	*e*P	Pn	07 50 09.3	+0.5
LBRS				*e*S	Sn	07 50 23.3	+1.1
BOQS	**Boqueron**	**1.16**	**322**	*e*P	Pn	07 50 11.2	+0.5
JAYA	**Jayaque - finc**	**1.21**	**314**	*e*P	Pn	07 50 11.0	-0.3
JAYA				IAML		07 50 26.8	
	comp=Z,984nm,0.2s						
CEDA	**San Andres**	**1.28**	**320**	*e*P	Pn	07 50 12.6	+0.4
CEVE	**Cerro Verde**	**1.45**	**314**	*e*P	Pn	07 50 15.9	+1.2

RSNC 15 08:08:27.1±1.0, 10.˚63N×73.˚22W, h94km±5km, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVALL	**Valledupar, Ce**	**0.13**	**196**	*e*P	Pn	08 08 40.2	-0.3
CVALL				*e*S	Sn	08 08 49.8	-0.5
CVALL				*i*		08 08 50.2	
	comp=Z,45nm,0.4s						
CVALL	**Valledupar, Ce**	**0.13**	**196**	*e*P	Pn	08 08 40.1	-0.3
CVALL				*e*S	Sn	08 08 50.0	-0.3
LL2C	**La Loma 2 Cana**	**1.09**	**191**	*e*P	Pn	08 08 47.7	-0.5
LL2C				*e*S	Sn	08 09 03.7	-0.3
LL2C				*i*		08 09 10.3	
	comp=Z,71nm,0.5s						
LL2C	**La Loma 2 Cana**	**1.09**	**191**	*e*P	Pn	08 08 47.7	-0.5
LL2C				*e*S	Sn	08 09 03.7	-0.3
LL2C				*i*		08 09 10.4	
	comp=Z,71nm,0.5s						
SMRC	**Santa Marta, M**	**1.12**	**298**	*e*P	Pn	08 08 47.7	-0.7
SMRC				*e*S	Sn	08 09 03.8	-0.7
SMRC				*i*		08 09 06.2	
	comp=Z,23nm,0.4s						
SMRC	**Santa Marta, M**	**1.12**	**298**	*e*P	Pn	08 08 47.7	-0.7
SMRC				*e*S	Sn	08 09 03.7	-0.8
SMRC				*i*		08 09 06.0	
	comp=Z,23nm,0.4s						
ARGC	**Ariguani, Magd**	**1.27**	**233**	*e*P	Pn	08 08 50.1	-0.1
ARGC				*e*S	Sn	08 09 08.7	+1.0
ARGC				*i*		08 09 11.3	
	comp=Z,36nm,0.2s						
ARGC	**Ariguani, Magd**	**1.27**	**233**	*e*P	Pn	08 08 51.1	+0.9
ARGC				*e*S	Sn	08 09 07.2	-0.5
ARGC				*i*		08 09 11.0	
	comp=Z,36nm,0.2s						
SMLC	**San Martn de**	**2.00**	**205**	*e*P	Pn	08 08 58.3	-1.3
SMLC				*e*S	Sn	08 09 24.1	-0.2
SMLC				*i*		08 09 25.2	
	comp=Z,30nm,0.1s						
SMLC	**San Martn de**	**2.00**	**205**	*e*P	Pn	08 08 58.8	-0.7
SMLC				*e*S	Sn	08 09 24.2	-0.1
SMLC				*i*		08 09 25.2	
	comp=Z,30nm,0.1s						
SJCC	**San Jacinto, C**	**2.06**	**249**	*e*P	Pn	08 08 60.0	-0.4
SJCC				*e*S	Sn	08 09 25.1	-0.6
SJCC				*i*		08 09 29.4	
	comp=Z,7.2nm,0.2s						
SJCC	**San Jacinto, C**	**2.06**	**249**	*e*P	Pn	08 09 00.1	-0.3
SJCC				*e*S	Sn	08 09 25.2	-0.5
SJCC				*i*		08 09 29.5	
	comp=Z,7.2nm,0.2s						
OCAC	**Ocana**	**2.38**	**182**	*e*P	Pn	08 09 03.8	-0.9
OCAC				*e*S	Sn	08 09 32.6	-0.8
OCAC				*i*		08 09 41.1	
	comp=Z,32nm,0.5s						
ZARC	**Zaragoza, Cauc**	**3.52**	**208**	*e*P	Pn	08 09 20.4	+0.7
ZARC				*e*S	Sn	08 09 58.5	-1.9
ZARC	**Zaragoza, Cauc**	**3.52**	**208**	*e*P	Pn	08 09 19.2	-0.5
ZARC				*e*S	Sn	08 09 58.5	-1.9
ZARC				*i*		08 10 11.2	
	comp=Z,5.0nm,0.3s						
BRRC	**Barranca, Sant**	**3.54**	**188**	*e*P	Pn	08 09 19.6	-0.4
BRRC				*e*S	Sn	08 09 59.8	-1.1
BRRC				*i*		08 10 15.9	
	comp=Z,4.2nm,0.4s						
BARC	**Barichara**	**4.02**	**179**	*e*P	Pn	08 09 26.6	-0.1
BARC				*e*S	Sn	08 10 11.8	-1.0
BARC				*i*		08 10 14.4	
	comp=Z,4.1nm,0.3s						

JMA ***15*** *08:31:21.3±0.2, 37.˚53N×135.˚59E, h358km±2km, M3.5*

IDC ***15*** *08:31:21.4±0.9, 37.˚63N×135.˚60E, h351km±11km, mb3.1/11, mb1 3.2/19, mb1mx3.1/49, mbtmp3.9/19, Error ellipse: s-maj=16.0km s-min=12.8km az=82.0*

ISC 15 08:31:21.1±0.6, 37.˚61N±0.˚06×135.˚61E±0.˚06, h351km±7km, n39, σ1$13/49, mb3.5/11, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.06**	**77**	P	**Pn**	**08 32 08.5**	**+1.4**
JHG				*e*S	**S**	**08 32 45.0**	**+0.9**
JSZ	**Suzu**	**1.40**	**96**	P	**Pn**	**08 32 10.0**	**+1.2**
JSZ				*e*S	**S**	**08 32 48.2**	**+1.2**
JKG	**Kaga**	**1.45**	**156**	P	**Pn**	**08 32 09.5**	**+0.3**
JKG				*e*S	**S**	**08 32 47.7**	**0.0**
JSD	**Sado**	**2.14**	**78**	P	**Pn**	**08 32 14.4**	**+1.0**

JYTA	**Yamagatataniai**	**2.21**	**156**	P	**Pn**	**08 32 14.1**	**0.0**
JOI	**OKI**	**2.31**	**236**	P	**Pn**	**08 32 15.0**	**+0.2**
JWT	**Wachi**	**2.33**	**184**	P	**Pn**	**08 32 15.4**	**+0.4**
JWT				S	**S**	**08 32 57.1**	**-1.2**
MAT	**Matsushiro**	**2.33**	**116**	P	**Pn**	**08 32 15.9**	**+0.9**
MAT				*e*S	**S**	**08 32 58.2**	**-0.1**
MAT	**Matsushiro**	**2.33**	**116**	P	**Pn**	**08 32 15.9**	**+0.9**
MJAR	**Matsushiro Arr**	**2.34**	**116**	P	**Pn**	**08 32 16.4**	**+1.4**
	1.9nm,0.3s,baz=298,slow=9.1,SNR=135							
JNS	**Sasagawa**	**2.94**	**85**	P	**Pn**	**08 32 21.1**	**+1.1**
JRY	**Ryogami san**	**3.08**	**120**	P	**Pn**	**08 32 22.3**	**+1.0**
JAG	**Ashikaga**	**3.29**	**110**	P	**Pn**	**08 32 23.2**	**0.0**
JHS	**Saijyo**	**3.30**	**218**	P	**Pn**	**08 32 23.3**	**-0.1**
JHS				*e*S	**S**	**08 33 12.9**	**-0.6**
JIE	**Ise**	**3.34**	**164**	P	**Pn**	**08 32 24.6**	**+0.9**
JIE				*e*S	**S**	**08 33 14.5**	**+0.4**
JWY	**Kouya**	**3.39**	**180**	P	**Pn**	**08 32 24.5**	**+0.2**
JWY				*e*S	**S**	**08 33 12.7**	**-2.5**
JOD2	**Odawara 2**	**3.65**	**129**	P	**Pn**	**08 32 27.2**	**+0.4**
JMK	**Ichinoseki**	**4.61**	**71**	S	**S**	**08 33 37.1**	**-0.2**
BSO1	**Boso 1**	**5.25**	**123**	P	**Pn**	**08 32 42.6**	**-0.3**
JTO	**Tosashimizu**	**5.27**	**207**	P	**Pn**	**08 32 44.0**	**+0.2**
JOSM	**Okushiri--Mats**	**5.36**	**32**	P	**Pn**	**08 32 46.8**	**+2.2**
JHJ	**Hachijo jima 2**	**5.63**	**142**	P	**Pn**	**08 32 48.6**	**+0.8**
	7.6nm,0.3s,baz=281,slow=17,SNR=2.1							
JNU	**Nakatsue**	**5.92**	**222**	P	**Pn**	**08 32 51.3**	**+0.2**
	2.7nm,0.3s,baz=353,slow=2.3,SNR=13							
KSRS	**Korea Array**	**6.11**	**271**	P	**Pn**	**08 32 54.8**	**+1.6**
	0.3nm,0.3s,baz=78,slow=10,SNR=5.8							
USRK	**Ussuriysk Ar.**	**7.13**	**339**	P	**P**	**08 33 06.2**	**+0.1**
	baz=146,slow=10,SNR=3.5							
ASAJ	**Asahikawa**	**8.38**	**37**	P	**Pn**	**08 33 19.9**	**+0.4**
	17nm,0.3s,baz=235,slow=11,SNR=133							
ASAJ				S	**S**	**08 34 52.5**	**-3.8**
	0.7nm,0.3s,baz=47,slow=31,SNR=5.8							
JCJ	**Chichijima**	**11.86**	**150**	P	**P**	**08 33 59.9**	**-1.3**
	3.0nm,0.3s,baz=294,slow=22,SNR=2.1							
JCJ				S	S	08 36 00.4	-13	
	3.5nm,0.3s,baz=288,slow=23,SNR=1.6							
KLR	**Kul'dur**	**11.94**	**348**	P	**P**	**08 34 01.6**	**-0.1**
	0.3nm,0.3s,baz=162,slow=15,SNR=4.4							
KLR				S	**S**	**08 36 11.8**	**-2.8**
	0.1nm,0.3s,baz=302,slow=19,SNR=1.7							
SONM	**Songino Array**	**23.64**	**305**	P	**P**	**08 36 01.5**	**-0.5**
	1.6nm,0.5s,baz=113,slow=9.3,SNR=7.4							
ZALV	**Zalesovo Beam**	**38.10**	**312**	P	**P**	**08 38 07.0**	**-0.1**
	1.0nm,0.4s,baz=94,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**39.87**	**301**	P	**P**	**08 38 20.7**	**-1.1**
	0.5nm,0.4s,baz=86,slow=11,SNR=9.9							
NRIK	**Noril'sk**	**40.84**	**336**	P	**P**	**08 38 29.8**	**+0.6**
	1.3nm,0.4s,baz=154,slow=7.0,SNR=4.8							
ILAR	**Eielson Array**	**51.48**	**32**	P	**P**	**08 39 52.2**	**+0.9**
	0.2nm,0.5s,baz=272,slow=6.6,SNR=4.4							
WRA	**Warramunga Arr**	**57.26**	**181**	P	**P**	**08 40 33.2**	**+0.2**
	0.4nm,0.6s,baz=356,slow=7.6,SNR=6.0							
ARCES	**ARCESS Array B**	**61.78**	**338**	P	**P**	**08 41 03.5**	**+0.6**
	0.8nm,0.6s,baz=69,slow=7.9,SNR=6.1							
FINES	**FINESS Array B**	**66.08**	**330**	P	**P**	**08 41 31.4**	**+0.5**
	1.0nm,0.3s,baz=65,slow=5.8,SNR=14							
AKASG	**Malin Array Be**	**70.94**	**320**	P	**P**	**08 42 01.0**	**+0.2**
	0.4nm,0.4s,baz=63,slow=27,SNR=4.5							
NOA	**NORSAR Array B**	**71.78**	**335**	P	**P**	**08 42 06.2**	**+0.5**
	0.3nm,0.6s,baz=58,slow=6.9,SNR=4.7							
GERES	**GERESS Array B**	**79.69**	**325**	P	**P**	**08 42 50.9**	**+0.5**
	0.2nm,0.3s,baz=38,slow=5.0,SNR=2.3							

IDC ***15*** *08:38:21.8±0.7, 43.˚51N×144.˚13E, h0km, mb4.0/21, mb1 4.2/24, mb1mx4.0/54, mbtmp4.0/24, ML3.0/3, MS3.1/9, Ms1 3.1/9, ms1mx2.7/51, Error ellipse: s-maj=17.2km s-min=11.0km az=6.0*

SKHL ***15*** *08:38:22.5±0.3, 43.˚10N×144.˚00E, h35km±4km, mb4.5/5*

JMA ***15*** *08:38:23.3, 43.˚50N×144.˚06E, h0km, M3.8*

JMA Felt III J1.

NEIC ***15*** *08:38:23.9±1.7, 43.˚38N±0.˚05×144.˚22E±0.˚09, h10km±1km, mb4.2/36, Error ellipse: s-maj=12.0km s-min=7.8km az=115.0*

NIED ***15*** *08:38:23.3, 43.˚50N×144.˚06E, h0km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr5.62; Mθθ-0.38; Mφφ-5.24; Mrθ-5.75; Mθφ-3.20; Mφr-2.74; Fault plane solution: M0.96000×10^14 NP1: φs232.00000°, δ69.00000°, λ112.00000°. NP2:φs3.00000°, δ30.00000°, λ45.00000°.*

MOS ***15*** *08:38:24.9±0.9, 43.˚45N×144.˚11E, h37km, mb4.5/13 Error ellipse: s-maj=7.9km s-min=7.1km az=74.9*

ISC 15 08:38:24.0±0.9, 43.˚46N±0.˚03×144.˚10E±0.˚02, h16km±6km, n148, σ1$45/155, mb4.1/45, MS3.2/4, 11C-4D, Hokkaido region

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

YUK A A 08 39 13.5
comp=E,960nm,0.5s
JEM Erimo 1.60 206 Pn Pn 08 38 50.7 -0.8
ERM Erimo 1.60 206 *ce*PN Pn **08 38 51.7 +0.1**
ERM pmax pmax
comp=Z,119nm,0.8s
ERM Erimo 1.60 206 Pb Pb 08 38 52.6 -0.6
JEW Eniwo 2.03 253 Pb Pb 08 38 59.2 -1.3
KUR Kuril'sk 3.23 55 *e*PN Pb 08 39 19.9 -1.1
KUR *e*S **Sb 08 40 01.3 +1.2**
KUR pmax pmax
comp=Z,79nm,0.7s
KUR pmax pmax
comp=N,33nm,0.2s
KUR pmax pmax
comp=E,32nm,0.5s
KUR pmax pmax
comp=Z,366nm,2.0s
KUR smax smax
comp=E,88nm,0.7s
KUR smax smax
comp=N,48nm,0.3s
KUR Kuril'sk 3.23 55 *i* P **Pn 08 39 15.3 +1.2**
KUR AMB AMB 08 39 20.4
comp=N,70nm,0.6s
KUR *i* S **Sn 08 39 55.6 +3.4**
KUR A A 08 40 05.9
comp=N,120nm,0.6s
KUR A A 08 40 05.9
comp=N,150nm,0.6s
JTM Tenmabayashi 3.49 221 Pn **Pn 08 39 19.5 +1.9**
YSS Yuzh-Sakhalins 3.62 345 *ce*PN **Pn 08 39 21.4 +2.0**
YSS pmax pmax
comp=Z,58nm,2.5s
YSS Yuzh-Sakhalins 3.62 345 Pn 08 39 20.6 +1.2
YSS Yuzh-Sakhalins 3.62 345 *e*P **Pn 08 39 21.4 +2.0**
YSS AMB AMB 08 39 21.9
comp=Z,10.0nm,0.3s
TEY Ternei 5.61 289 *e*P **Pn 08 39 47.6 +0.9**
JMM Marumori 6.12 205 Pn **Pn 08 39 53.8 0.0**
JSD Sado 7.00 221 Pn 08 40 07.1 +1.4
MAJO Matsushiro 8.25 215 *i* PN **Pn 08 40 23.6 +0.6**
MJAR Matsushiro Arr 8.25 215 Pn **Pn 08 40 25.2 +2.2**
comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=6.4
MJAR Matsushiro Arr 8.25 215 PN **Pn 08 40 21.3 -1.7**
MJAR Matsushiro Arr 8.25 215 Pn 08 40 21.3 -1.7
USRK Ussuriysk Ar. 8.79 279 LR LR 08 43 58.2
comp=Z,115nm,19.6s,baz=99,slow=38
MSHR Mys Shultsa 9.52 269 *i* PN **Pn 08 40 43.9 +3.6**
KLR Kul'dur 10.30 308 Pn **Pn 08 40 55.4 +4.4**
comp=Z,0.1nm,0.3s,baz=127,slow=8.7,SNR=4.2
KLR LR LR 08 45 13.4
comp=Z,102nm,19.0s,baz=98,slow=40
KLR Kul'dur 10.30 308 *ce*PN **Pn 08 40 53.3 +2.3**
KLR Kul'dur 10.30 308 *e*P **Pn 08 40 52.7 +1.7**
JWT Wachi 10.57 222 Pn **Pn 08 40 56.7 +1.9**
JHJ Hachijo jima 2 10.86 200 LR LR 08 45 26.8
comp=Z,54nm,18.5s,baz=314,slow=39
PETK Petropavlovsk- 13.22 38 Pn **Pn 08 41 31.7 +0.8**
comp=Z,0.3nm,0.3s,baz=206,slow=9.6,SNR=2.3
PETK LR LR 08 47 06.4
comp=Z,44nm,20.1s,baz=212,slow=40
PETK Petropavlovsk- 13.22 38 PN **Pn 08 41 32.5 +1.6**
PETK Petropavlovsk- 13.22 38 Pn **Pn 08 41 32.5 +1.6**
CN2 Changchun 13.52 278 *e*P **P 08 41 41.0 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 L L
comp=Z,100nm,12.0s
CN2 L L
comp=Z,100nm,12.0s
CN2 L L
comp=Z,100nm,16.0s
KSRS Korea Array 13.69 249 Pn **Pn 08 41 39.5 +2.2**
comp=Z,0.3nm,0.3s,baz=62,slow=13,SNR=9.1
KSRS LR LR 08 46 00.2
comp=Z,34nm,21.1s,baz=88,slow=33
ULN Ulaanbaatar 26.09 293 *ce*P **P 08 43 54.9 -2.0**
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 26.09 293 *e*P **P 08 43 54.9 -2.0**
SONM Songino Array 26.54 293 P **P 08 44 01.6 +0.7**
comp=Z,5.1nm,0.9s,baz=88,slow=8.2,SNR=14
SONM Songino Array 26.54 293 P 08 44 02.2 +1.3
SONM IAmb IAmb 08 44 04.3
comp=Z,5.2nm,1.0s
ANA2 Anatahan 27.06 177 P **P 08 44 06.4 +0.6**
BILL Bilibino 27.29 18⇑ *e*P **P 08 44 05.8 -1.5**
BILL *e*SS SS 08 50 03.9 -37
BILL pmax pmax
comp=Z,4.0nm,1.1s
ZAK Zakamensk 28.44 299 *e*P **P 08 44 17.7 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK Zakamensk 28.44 299 *e*P **P 08 44 17.7 -0.2**
H11N2 WAKE ISLAND Hy 30.42 134 T T 09 15 48.8
baz=328,slow=75,SNR=195
H11N1 WAKE ISLAND Hy 30.43 134 T T 09 15 47.0
baz=328,slow=75,SNR=182
H11N3 WAKE ISLAND Hy 30.44 134 T T 09 15 47.3
baz=328,slow=75,SNR=164
H11S1 WAKE ISLAND Hy 31.33 135 T T 09 16 53.8
baz=329,slow=76,SNR=291
H11S3 WAKE ISLAND Hy 31.34 135 T T 09 16 53.2
baz=329,slow=76,SNR=187
H11S2 WAKE ISLAND Hy 31.35 135 T T 09 16 54.3
baz=329,slow=76,SNR=195
DGZ Jazzator, Alta 38.64 300 *i* P **P 08 45 46.8 +0.2**
DGZ pmax pmax
comp=Z,11nm,2.8s
ZALV Zalesovo Beam 39.40 307 P **P 08 45 52.5 -0.2**
comp=Z,2.1nm,0.6s,baz=94,slow=7.7,SNR=7.0
ZALV LR LR 09 03 06.4
comp=Z,26nm,21.4s,baz=61,slow=38
ZALV Zalesovo Beam 39.40 307 *i* P **P 08 45 52.0 -0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 39.40 307 P P 08 45 52.9 +0.2
IMAR Indian Mountai 40.13 34 P P 08 45 58.5 -0.1
OHAK Old Harbor 40.77 48 P P 08 46 04.5 +0.5
OHAK IAmb IAmb 08 46 16.2
comp=Z,9.2nm,1.4s
KDAK Kodiak Island 41.07 47 P **P 08 46 06.3 -0.1**
comp=Z,2.0nm,0.7s,baz=328,slow=5.7,SNR=6.2
KDAK Kodiak Island 41.07 47 P **P 08 46 07.4 +1.0**
KDAK IAmb IAmb 08 46 30.3
comp=Z,7.7nm,1.4s
KTH Kantishna Hill 41.35 38 P **P 08 46 10.6 +1.8**
KTH IAmb IAmb 08 46 11.5
comp=Z,6.3nm,1.0s
BWN Browne 41.96 37 P **P 08 46 14.4 +0.8**
NEA2 Nenana 42.11 36 P **P 08 46 16.0 +1.1**
NEA2 IAmb IAmb 08 46 17.9
comp=Z,4.1nm,0.8s
MCK McKinley 42.22 38 P **P 08 46 17.0 +1.1**
MCK pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 42.22 38 P **P 08 46 17.0 +1.1**
MCK IAmb IAmb 08 46 17.3
comp=Z,3.7nm,0.9s
RND Reindeer 42.28 38 P **P 08 46 17.5 +1.1**
RND pmax pmax
comp=Z,4.0nm,0.9s
RND Reindeer 42.28 38 P **P 08 46 17.5 +1.1**
RND IAmb IAmb 08 46 18.0
comp=Z,3.9nm,0.9s
MDM Murphy Dome 42.44 36 P **P 08 46 19.7 +2.1**
TCOL CIGO, UAF Yank 42.61 36 P **P 08 46 20.0 +1.1**
TCOL IAmb IAmb 08 46 20.7
comp=Z,4.1nm,0.8s
COLA College 42.61 36 *i* P **P 08 46 18.6 -0.3**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 42.61 36 P **P 08 46 20.1 +1.1**
COLA IAmb IAmb 08 46 20.7
comp=Z,4.0nm,0.8s
CCB Clear Creek Bu 42.65 36 P **P 08 46 19.9 +0.6**
SML Sawmill 42.68 40 P **P 08 46 20.5 +0.8**
SML IAmb IAmb 08 46 21.4
comp=Z,6.6nm,1.0s
MK31 Makanchi Array 42.74 297 *i* P **P 08 46 20.8 +0.5**
MK31 Makanchi Array 42.74 297 P **P 08 46 21.4 +1.0**
MK31 IAmb IAmb 08 46 25.7
comp=Z,3.9nm,0.9s
MKAR Makanchi Array 42.74 297 P **P 08 46 19.9 -0.5**
comp=Z,3.5nm,0.8s,baz=80,slow=8.7,SNR=22
MKAR PcP **PcP 08 48 12.2 +0.6**
comp=Z,0.3nm,0.5s,baz=90,slow=2.9,SNR=2.5
MKAR Makanchi Array 42.74 297 P **P 08 46 21.6 +1.2**
MAKZ Makanchi 42.94 297 P **P 08 46 22.7 +0.8**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 42.94 297 P **P 08 46 22.7 +0.8**
MAKZ IAmb IAmb 08 46 28.8
comp=Z,8.0nm,1.2s
IL31 43.03 36 P **P 08 46 23.5 +1.2**
IL31 IAmb IAmb 08 46 24.4
comp=Z,5.9nm,1.2s
ILAR Eielson Array 43.03 36 P **P 08 46 22.8 +0.4**
comp=Z,2.7nm,0.9s,baz=268,slow=6.8,SNR=30
ILAR Eielson Array 43.03 36 P **P 08 46 23.4 +1.0**
HDA Harding Lake 43.03 36 P **P 08 46 23.1 +0.7**
PRP Porcupine Dome 43.54 35 P **P 08 46 27.6 +1.0**
KURK Kurchatov 43.84 303 P **P 08 46 29.8 +0.7**
KURK Kurchatov 43.84 303 P **P 08 46 29.8 +0.7**
KURK Kurchatov 43.84 303 *e*P **P 08 46 29.8 +0.7**
KURBB Kurchatov Arra 43.93 303 P **P 08 46 29.8 +0.1**
comp=Z,7.0nm,1.0s,baz=74,slow=8.8,SNR=18
SCRK Sand Creek 44.37 37 P **P 08 46 33.6 +0.2**
SCRK IAmb IAmb 08 46 34.2
comp=Z,3.4nm,0.7s
DOT 44.39 37 P **P 08 46 34.0 +0.7**
K27K Chicken 45.20 37 P **P 08 46 41.1 +1.3**
CMAR Chiang Mai Arr 45.32 251 P **P 08 46 41.8 +0.6**
comp=Z,0.9nm,0.4s,baz=46,slow=8.7,SNR=1.5
EGAK Eagle 45.46 35 P **P 08 46 42.1 +0.3**
EGAK IAmb IAmb 08 46 43.0
comp=Z,2.5nm,0.8s
L27K Beaver Creek, 45.48 38 P **P 08 46 43.6 +1.5**
BCAR Beaver Creek A 45.50 38 P **P 08 46 43.9 +1.7**
INK Inuvik 47.77 30 P **P 08 46 59.5 -0.2**
comp=Z,0.5nm,0.5s,baz=325,slow=5.1,SNR=2.2
BVAR Borovoye Array 47.96 309 P **P 08 47 01.5 -0.1**
comp=Z,0.6nm,0.5s,baz=249,slow=11,SNR=5.1
HYT Haines Junctio 47.99 40 P **P 08 47 03.7 +1.8**
BRVK Borovoye 48.01 309 *ce*P **P 08 47 02.7 +0.8**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 48.01 309 P **P 08 47 02.8 +0.8**
BRVK Borovoye 48.01 309 *e*P **P 08 47 02.7 +0.8**
AAK Ala-Archa 49.47 294 LR LR 09 10 19.7
comp=Z,21nm,18.7s,baz=154,slow=39
AAK Ala-Archa 49.47 294 *i* P **P 08 47 11.2 -2.3**
AAK pmax pmax
comp=Z,5.0nm,1.1s
ARSB Arslanbob 51.07 294 P **P 08 47 26.7 +1.1**
ARSB pmax pmax
comp=Z,7.0nm,0.9s
ARSB Arslanbob 51.07 294 P **P 08 47 26.7 +1.1**
KK31 Karatay Array 51.87 297 P **P 08 47 31.9 +0.4**
KK31 pmax pmax
comp=Z,3.0nm,1.2s
KK31 Karatay Array 51.87 297 P **P 08 47 31.9 +0.4**
KKAR Karatay Array 51.87 297 P **P 08 47 32.0 +0.5**
KKAR Karatay Array 51.87 297 P **P 08 47 32.0 +0.5**
ARU Arti 53.03 316 LR LR 09 11 27.5
comp=Z,23nm,19.3s,baz=266,slow=38
ARU Arti 53.03 316 *c i*P **P 08 47 37.4 -2.4**
ARU S **S 08 55 04.9 -3.7**
ARU SS **SS 08 58 38.5 -8.8**
ARU pmax pmax
comp=Z,9.0nm,2.2s
HMH Humu'ula Sheep 55.43 95 P **P 08 47 57.3 -0.9**
ABKAR Akbulak array 55.50 308 P **P 08 47 58.8 +0.9**
ABKAR IAmb IAmb 08 48 01.3
comp=Z,2.8nm,0.9s
AKTO Aktyubinsk 56.03 310 P **P 08 48 01.3 -0.3**
comp=Z,1.6nm,0.7s,baz=53,slow=8.3,SNR=5.7
YKA Yellowknife Ar 57.26 33 P **P 08 48 10.5 +0.3**
comp=Z,1.8nm,0.9s,baz=306,slow=6.7,SNR=5.9
WRA Warramunga Arr 63.72 190 P **P 08 48 56.1 +1.4**
comp=Z,0.8nm,0.9s,baz=12,slow=7.1,SNR=2.4
FIA1 FINESS Array S 64.10 332 P **P 08 48 57.2 +0.4**
FINES FINESS Array B 64.11 332 P **P 08 48 56.6 -0.2**
comp=Z,3.0nm,0.7s,baz=56,slow=10,SNR=9.1
FINES FINESS Array B 64.11 332 P **P 08 48 57.1 +0.3**
ASAR Alice Springs 67.45 190 P **P 08 49 18.7 -0.1**
comp=Z,0.6nm,0.9s,baz=10,slow=5.7,SNR=1.0
HRY Holter Researc 67.95 46 P **P 08 49 23.6 +1.6**
KBZ Khabaz 68.31 310 P **P 08 49 25.0 +0.9**
comp=Z,0.9nm,0.4s,baz=315,slow=1.4,SNR=2.4
DZM Mont Dzumac 68.37 158 LR LR 09 17 29.8
comp=Z,41nm,18.3s,baz=253,slow=34
NOA NORSAR Array B 69.05 330 P **P 08 49 28.7 +0.2**
comp=Z,2.2nm,1.0s,baz=38,slow=5.7,SNR=6.6
NVAR Mina Array Bea 69.60 56 P **P 08 49 33.0 +0.5**
comp=Z,0.5nm,0.6s,baz=298,slow=6.3,SNR=6.3
NVAR Mina Array Bea 69.60 56 P **P 08 49 33.7 +1.2**
GCMT Greycliff 69.68 46 P **P 08 49 33.4 +0.6**
AKASG Malín Array Be 70.47 322 P **P 08 49 36.5 -0.9**
comp=Z,0.6nm,0.4s,baz=40,slow=7.1,SNR=4.3
BW06 Boulder Array 71.77 48 P **P 08 49 46.5 +0.8**
BW06 IAmb IAmb 08 49 47.9
comp=Z,1.6nm,0.8s
PD31 Pinedale Array 71.77 48 P **P 08 49 46.3 +0.6**
PDAR Pinedale Array 71.77 48 P **P 08 49 45.8 +0.1**
comp=Z,0.8nm,0.6s,baz=305,slow=1.0,SNR=8.5
PDAR Pinedale Array 71.77 48 P **P 08 49 46.4 +0.6**
BURAR Bucovina Array 74.53 322 P **P 08 50 02.5 +0.7**
ESK Eskdalemuir 77.75 342 *i* P **P 08 50 19.4 -0.4**
GERES GERESS Array B 78.30 329 P **P 08 50 23.2 +0.1**
comp=Z,0.3nm,0.4s,baz=62,slow=7.0,SNR=2.1
TXAR Lajitas Array 84.64 54 P **P 08 50 57.0 0.0**
comp=Z,0.3nm,0.7s,baz=294,slow=2.7,SNR=6.3

IDC ***15*** *08:42:15.5±1.3, 0°.60S×135°.83E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/46, mbtmp3.9/9, ML3.8/2, MS3.1/6, Ms1 3.1/6, ms1mx2.7/40, Error ellipse: s-maj=47.2km s-min=18.2km az=77.0*
DJA ***15*** *08:42:16.0±1.4, 1°.5±12°×13°.6E±°, h10km, M4.6/7, mb4.4/4, MLv4.7/7*
ISC 15 08:42:21.2±0.9, 0°.80S±0°.08×135°.68E±0°.06, h35km, n29, σ2s79/23, mb4.0/6, MS3.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**0.58**	**132**	P	**Pn**	**08 42 32.1**	**-0.9**
SRPI	**Serui, Papua**	**1.21**	**152**	P	Pn	08 42 35.6	-6.0
SRPI				S	**Sn**	**08 43 01.7**	**+4.9**
MWPI	**Manokwari, Pap**	**1.64**	**265**	P	**Pn**	**08 42 47.1**	**-0.4**
MWPI				S	**Sn**	**08 43 10.7**	**+3.3**
FAKI	**Fak Fak**	**4.02**	**238**	P	**Pn**	**08 43 21.8**	**+1.5**
FAKI				S	**Sn**	**08 44 09.0**	**+2.7**
SIJI	**Sorong**	**4.41**	**269**	Pn	**Pn**	**08 43 26.4**	**+0.8**
	2.4nm,0.3s,baz=240,slow=23,SNR=12						
SIJI				Sn	**Sn**	**08 44 12.7**	**-3.2**
	2.6nm,0.3s,baz=72,slow=14,SNR=4.7						
SIJI				LR	LR	08 45 03.0	
	comp=Z,212nm,19.6s,baz=5.0,slow=37						
SIJI	**Sorong**	**4.41**	**269**	P	**Pn**	**08 43 26.3**	**+0.6**
SWI	**Sorong**	**4.42**	**269**	P	**Pn**	**08 43 26.0**	**+0.3**
GENI	**Genyem**	**4.83**	**112**	P	Pn	08 43 00.3	-31
MSAI	**Masohi**	**7.20**	**249**	P	**Pn**	**08 44 06.7**	**+2.6**
	0.2nm9.4nm,0.5s						
KRAI	**Karang Ratu**	**7.70**	**251**	P	**Pn**	**08 44 12.8**	**+2.0**
	0.2nm32nm,0.9s						
PMG	**Port Moresby**	**14.28**	**127**	LR	LR	08 52 33.3	
	comp=Z,51nm,19.1s,baz=333,slow=43						
BNSI	**Bone**	**15.96**	**257**	P	P	08 46 12.4	+6.0
WRA	**Warramunga Arr**	**19.07**	**184**	P	**Pn**	**08 46 41.6**	**-0.2**
	0.4nm,0.3s,baz=0.1,slow=11,SNR=26						
WRA				S	**Sn**	**08 50 07.0**	**-7.7**
	0.0nm,0.3s,baz=23,slow=24,SNR=2.1						
PLAI	**Plampang**	**19.53**	**245**	P	**Pn**	**08 46 47.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.82**	**209**	P	**Pn**	**08 46 50.8**	**0.0**
	2.9nm,1.1s,baz=70,slow=9.1,SNR=2.3						
FITZ				S	**S**	**08 50 25.9**	**-4.7**
	2.1nm,0.7s,baz=184,slow=1.9,SNR=3.6						
ASAR	**Alice Springs**	**22.80**	**184**	P	**P**	**08 47 22.4**	**+1.3**
	8.0nm,1.0s,baz=14,slow=12,SNR=35						
ASAR				LR	LR	08 56 38.8	
	comp=Z,94nm,20.7s,baz=206,slow=38						
JCJ	**Chichijima**	**28.43**	**12**	LR	LR	08 57 14.2	
	comp=Z,28nm,21.4s,baz=151,slow=32						
STKA	**Stephens Creek**	**31.42**	**170**	P	**P**	**08 48 39.9**	**+0.8**
	1.5nm,0.6s,baz=328,slow=9.8,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**36.01**	**56**	T	T	09 27 19.5	
	baz=240,slow=75,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**36.02**	**56**	T	T	09 27 18.9	
	baz=240,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**36.03**	**56**	T	T	09 27 22.7	
	baz=240,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**36.77**	**55**	T	T	09 28 25.3	
	baz=243,slow=75,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**36.79**	**55**	T	T	09 28 40.5	
	baz=243,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**36.79**	**55**	T	T	09 28 43.0	
	baz=243,slow=75,SNR=5.7						
KSRS	**Korea Array**	**38.73**	**350**	LR	LR	09 06 13.5	
	comp=Z,7.7nm,18.8s,baz=105,slow=37						
SONM	**Songino Array**	**54.73**	**336**	P	**P**	**08 51 47.7**	**+0.5**
	0.4nm,0.4s,baz=144,slow=10.0,SNR=1.6						
MKAR	**Makanchi Array**	**66.44**	**323**	P	**P**	**08 53 05.8**	**-1.2**
	0.5nm,0.5s,baz=122,slow=7.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**70.43**	**325**	P	**P**	**08 53 30.5**	**-1.3**
	1.0nm,0.6s,baz=114,slow=5.3,SNR=6.7						
VNDA	**Vanda**	**77.96**	**174**	P	**P**	**08 54 16.4**	**+1.2**
	0.6nm,0.9s,baz=321,slow=4.5,SNR=3.0						
VNDA				LR	LR	09 27 31.6	
	comp=Z,21nm,20.1s,baz=342,slow=35						

IDC ***15*** *09:00:16.2±1.0, 4°.16N×126°.80E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/48, mbtmp3.6/7, MS2.9/3, Ms1 2.9/3, ms1mx2.4/43, Error ellipse: s-maj=68.6km s-min=18.4km az=78.0*
ISC 15 09:00:21.7±1.0, 4°.2N±0°.1×126°.9E±0°.4, h36km, n10, σ1s01/7, mb3.7/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.55**	**218**	LR	LR	09 06 53.2	
	comp=Z,24nm,19.0s,baz=42,slow=34						
FITZ	**Fitzroy Crossi**	**22.16**	**183**	P	**P**	**09 05 15.0**	**+0.4**
	1.5nm,0.8s,baz=6.3,slow=9.2,SNR=2.7						
WRA	**Warramunga Arr**	**25.07**	**163**	P	**P**	**09 05 41.6**	**-1.4**
	1.6nm,0.7s,baz=340,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.51**	**166**	P	**P**	**09 06 14.7**	**+0.7**
	0.2nm,0.5s,baz=341,slow=7.3,SNR=5.9						
KSRS	**Korea Array**	**33.14**	**2**	P	**P**	**09 06 55.1**	**+0.5**
	0.4nm,0.3s,baz=186,slow=9.8,SNR=2.1						
MJAR	**Matsushiro Arr**	**33.87**	**17**	LR	LR	09 20 50.9	
	comp=Z,9.3nm,20.9s,baz=270,slow=36						
STKA	**Stephens Creek**	**38.50**	**160**	P	**P**	**09 07 39.9**	**-0.7**
	1.4nm,0.8s,baz=349,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**09 10 05.0**	**-0.7**
	0.7nm,0.5s,baz=123,slow=8.3,SNR=8.5						
ARU	**Arti**	**74.63**	**328**	LR	LR	09 47 42.1	
	comp=Z,30nm,18.2s,baz=216,slow=38						
ILAR	**Eielson Array**	**84.66**	**25**	P	**P**	**09 12 51.8**	**+0.3**
	0.2nm,0.6s,baz=258,slow=5.1,SNR=2.1						

DJA ***15*** *09:12:15.9±0.5, 0°.N±5°×12°.4E±°, h214km±5km, M4.1/10, mB4.8/1, mb4.1/1, MLv4.1/10, Mw(mB)4.1/1*
IDC ***15*** *09:12:16.0±2.6, 0°.49N×123°.56E, h230km±25km, mb3.2/7, mb1 3.2/9, mb1mx3.1/32, mbtmp3.8/9, Error ellipse: s-maj=35.0km s-min=12.7km az=75.0*
ISC 15 09:12:16.2±0.7, 0°.40N±0°.07×123°.55E±0°.07, h250km, n18, σ2s94/26, mb3.5/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.46**	**67**	P	**Pn**	**09 12 46.1**	**-2.9**
KMSI				S	**S**	**09 13 08.9**	**-5.8**
MRSI	**Marisa**	**1.61**	**273**	P	**Pn**	**09 12 53.5**	**-1.9**
MRSI				S	**S**	**09 13 20.7**	**-5.5**
LUWI	**Luwuk**	**1.63**	**209**	P	**Pn**	**09 12 53.4**	**-2.1**
LUWI				S	**S**	**09 13 21.4**	**-5.1**
APSI	**Ampana**	**2.30**	**236**	P	**Pn**	**09 13 00.5**	**-1.0**
APSI				S	**S**	**09 13 33.9**	**-3.4**
SANI	**Sanana**	**3.44**	**135**	P	**Pn**	**09 13 10.5**	**-3.0**
MPSI	**Mapaga**	**3.66**	**269**	P	**Pn**	**09 13 15.4**	**-0.6**
TNTI	**Ternate**	**3.83**	**84**	P	**Pn**	**09 13 15.0**	**-3.0**
GAMI	**Galela, Maluku**	**4.47**	**71**	P	**Pn**	**09 13 22.0**	**-3.6**
NLAI	**Namlea**	**5.06**	**136**	P	**Pn**	**09 13 32.4**	**-0.3**
SIJI	**Sorong**	**7.81**	**99**	P	**Pn**	**09 14 06.2**	**-1.0**
	2.0nm,0.3s,baz=314,slow=11,SNR=3.8						
FITZ	**Fitzroy Crossi**	**18.49**	**174**	P	**Pn**	**09 16 15.9**	**-1.7**
	0.1nm,0.3s,baz=355,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**22.81**	**153**	P	**P**	**09 17 00.1**	**+2.4**
	0.4nm,0.3s,baz=335,slow=11,SNR=11						
WRA				PcP	**PcP**	**09 20 42.5**	**+1.6**
	0.4nm,0.9s,baz=338,slow=2.2,SNR=1.8						
ASAR	**Alice Springs**	**25.95**	**158**	P	**P**	**09 17 28.9**	**+2.8**
	0.1nm,0.3s,baz=332,slow=8.7,SNR=2.3						
ASAR				PcP	**PcP**	**09 20 49.8**	**+2.0**
	0.2nm,0.4s,baz=352,slow=1.9,SNR=5.3						
ASAR				ScP	**ScP**	**09 24 07.4**	**+3.9**
	0.1nm,0.4s,baz=350,slow=3.3,SNR=2.0						
KSRS	**Korea Array**	**37.10**	**6**	P	**P**	**09 19 04.8**	**+2.0**
	0.9nm,0.6s,baz=197,slow=9.6,SNR=6.0						
USRK	**Ussuriysk Ar.**	**44.26**	**9**	P	**P**	**09 20 00.9**	**-0.1**
	2.7nm,0.7s,baz=178,slow=6.4,SNR=4.3						
SONM	**Songino Array**	**49.55**	**345**	P	**P**	**09 20 42.2**	**+0.2**
	0.4nm,0.4s,baz=165,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**58.57**	**328**	P	**P**	**09 21 48.5**	**+1.6**
	1.6nm,0.3s,baz=126,slow=8.5,SNR=23						
MKAR				PcP	**PcP**	**09 22 34.6**	**+0.3**
	0.4nm,0.4s,baz=138,slow=3.9,SNR=4.6						
PETK	**Petropavlovsk-**	**59.71**	**23**	P	**P**	**09 21 55.9**	**+1.4**
	1.3nm,0.7s,baz=220,slow=1.1,SNR=2.0						

NNC ***15*** *09:45:06.9±2.9, 53°.40N×87°.92E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=31.7km s-min=14.5km az=49.0, Suspected Mining explosion.*
IDC 15 09:45:10.6±2.9, 53°.52N×87°.59E, h0km, mb1 3.0/2, mb1mx2.9/58, mbtmp3.0/2, ML2.6/2, 2C-5D, Error ellipse: s-maj=25.7km s-min=14.2km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**286**	*i*		09 56 02.2	
	baz=99,slow=315,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.70**	**286**	⇓Pn	Pn	09 45 40.7	-0.8
	0.6nm,0.5s						
ZAA0				⇓Sn	Sg	09 46 06.8	+1.7
	6.4nm,0.9s						
ZALV	**Zalesovo Beam**	**1.70**	**286**	Pg	Pn	09 45 40.5	-0.9
	1.2nm,0.3s,baz=99,slow=17,SNR=14						
ZALV				Lg	Lg	09 46 04.2	
	2.4nm,0.3s,baz=108,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.29**	**246**	Pn	Pn	09 46 45.7	+1.1
	0.1nm,0.3s,baz=61,slow=14,SNR=6.7						
KURBB				Lg	Lg	09 48 30.9	
	0.0nm,0.3s,baz=63,slow=32,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.29**	**246**	⇑Pn	Pn	09 46 43.8	-0.8
	1.5nm,0.7s						
KURBB				⇓Lg	Lg	09 48 30.4	
	7.4nm,0.8s						
MK31	**Makanchi Array**	**7.54**	**209**	⇓Pn	Pn	09 46 59.3	-2.4
	0.6nm,0.6s,baz=30,slow=12,SNR=5.0						
MK31				⇑Pg	Pb	09 47 21.0	-1.3
	0.2nm,0.3s,baz=231,slow=21,SNR=4.0						
MK31				⇓Lg	Lg	09 49 06.2	
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**7.54**	**209**	Pn	Pn	09 47 03.1	+1.4
	0.2nm,0.3s,baz=30,slow=12,SNR=6.5						
MKAR				Sn	Sn	09 48 26.8	-1.2
	0.1nm,0.3s,baz=31,slow=24,SNR=1.3						
MKAR				Lg	Lg	09 49 08.4	
	baz=24,slow=28,SNR=8.3						

IDC ***15*** *10:07:40.7±1.4, 27°.73N×85°.77E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.4/47, mbtmp3.6/8, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.2/51, Error ellipse: s-maj=43.0km s-min=22.1km az=60.0*
ISC 15 10:07:43.7±1.3, 27°.8N±0°.2×85°.9E±0°.1, h19km, n10, σ0s85/10, mb3.6/7, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**5.80**	**111**	*e*P	**Pg**	**10 09 35.0**	**+0.2**
SHL				*i* S	**Sg**	**10 10 49.0**	**-0.9**
MKAR	**Makanchi Array**	**19.21**	**352**	P	**P**	**10 12 05.9**	**-0.6**
	0.3nm,0.3s,baz=176,slow=11,SNR=13						
KURBB	**Kurchatov Arra**	**23.51**	**348**	P	**P**	**10 12 51.7**	**-0.7**
	1.0nm,0.6s,baz=167,slow=10,SNR=6.3						
**G

SONM	**Songino Array**	**25.63**	**33**	P	**P**	**10 13 13.6 +1.4**
	0.6nm,0.3s,baz=221,slow=9.4,SNR=5.1					
ZALV	**Zalesovo Beam**	**26.17**	**359**	P	**P**	**10 13 17.2 +0.4**
	0.6nm,0.4s,baz=188,slow=8.4,SNR=2.1					
EIL	**Elat**	**44.42**	**285**	LR	LR	10 35 46.4
	comp=Z,41nm,18.6s,baz=308,slow=38					
ARCES	**ARCESS Array B**	**54.00**	**338**	P	**P**	**10 17 05.4 -0.8**
	0.3nm,0.3s,baz=108,slow=7.7,SNR=2.2					
WRA	**Warramunga Arr**	**66.68**	**130**	P	**P**	**10 18 33.4 -0.2**
	0.2nm,0.7s,baz=322,slow=6.5,SNR=1.3					
ASAR	**Alice Springs**	**68.99**	**133**	P	**P**	**10 18 48.9 +0.7**
	0.2nm,0.7s,baz=317,slow=5.3,SNR=2.5					

OSPL 15 10:10:25.9±0.6, 19.69N×69.91W, h3$^{km}_{\pm 6km}$, ML2.4, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.82**	**251**	*i*	P		Pg	10 10 40.6	-1.0
SC01				*e*	S		Sb	10 10 54.3	+0.1
SC01	**Santiago de lo**	**0.82**	**251**	*i*	P		Pg	10 10 40.7	-0.9
SC01				*e*	S		Sb	10 10 54.3	+0.1
SC01					IAML			10 10 59.9	
	comp=Z,154nm,0.5s								
BANI	**BANI**	**1.36**	**198**	*i*	P		Pn	10 10 49.6	-2.3
BANI				*e*	S		Sg	10 11 08.0	-1.7
BANI					IAML			10 11 08.0	
	comp=Z,106nm,0.5s								
BANI	**BANI**	**1.36**	**198**	*i*	P		Pn	10 10 49.6	-2.3
BANI				*e*	S		Sg	10 11 07.9	-1.8
BANI					IAML			10 11 08.0	
	comp=Z,106nm,0.5s								
SDDR	**Presa de Saban**	**1.48**	**242**	*i*	P		Pn	10 10 51.9	-1.6
SDDR				*e*	S		Sb	10 11 10.6	-2.8
SDDR					IAML			10 11 16.7	
	comp=Z,22nm,0.3s								
SDDR	**Presa de Saban**	**1.48**	**242**	*i*	P		Pn	10 10 51.9	-1.7
SDDR				*e*	S		Sb	10 11 10.4	-3.0
SDDR					IAML			10 11 16.7	
	comp=Z,22nm,0.3s								
GRTK	**Grand Turk**	**2.15**	**328**	*e*	S		Sb	10 11 32.0	-0.5

*TAP **15** 10:26:33.4,24.45N×121.72E,h62^{km},ML3.2,C*
*JMA **15** 10:26:33.2,24.43N×121.73E,h60$^{km}_{\pm 1km}$,M2.6*
ISC 15 10:26:33.7±1.2, 24.47N±0.02×121.74E±0.02, h62$^{km}_{\pm 4km}$, n113,σ18.21/217, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.16**	**178**	*e*	P		**Pn**	**10 26 43.3**	**+0.1**
	baz=177								
NDS	**Dongshan**	**0.17**	**354**	P			**Pn**	**10 26 43.3**	**+0.1**
NDS	baz=352			S			**Sn**	**10 26 50.6**	**+0.4**
	baz=352								
TWC	**Suao**	**0.17**	**37**	P			**Pn**	**10 26 43.9**	**+0.7**
TWC	baz=39			S			**Sn**	**10 26 51.7**	**+1.5**
	baz=39								
ENTT	**Nioudou**	**0.23**	**318**	*i*	P		**Pn**	**10 26 43.9**	**+0.3**
ENTT	baz=324			*i*	S		**Sn**	**10 26 51.2**	**+0.4**
	baz=324								
NDT	**Datong Townshi**	**0.24**	**303**	*i*	P		**Pn**	**10 26 44.1**	**+0.5**
NDT	baz=309			*e*	S		**Sn**	**10 26 49.8**	**-1.1**
	baz=309								
TWE	**Neicheng**	**0.26**	**346**	*i*	P		**Pn**	**10 26 43.9**	**+0.2**
TWE	baz=347			*i*	S		**Sn**	**10 26 51.7**	**+0.7**
	baz=347								
NACB	**Ninganchiao**	**0.32**	**204**	P			**Pn**	**10 26 43.4**	**-0.8**
NACB	baz=203			S			**Sn**	**10 26 50.6**	**-1.2**
	baz=203								
NNSB	**Datong**	**0.32**	**263**	P			**Pn**	**10 26 44.5**	**+0.2**
NNSB	baz=262			S			**Sn**	**10 26 52.2**	**+0.1**
	baz=262								
NNSH	**Datong**	**0.32**	**263**	P			**Pn**	**10 26 44.6**	**+0.2**
NNSH	baz=267			S			**Sn**	**10 26 52.1**	**0.0**
	baz=267								
ETL	**Fush Village**	**0.33**	**198**	P			**Pn**	**10 26 43.6**	**-0.7**
ETL	baz=197			S			**Sn**	**10 26 51.1**	**-0.8**
	baz=197								
NNS	**Nan Shan**	**0.33**	**265**	P			**Pn**	**10 26 44.7**	**+0.3**
NNS	baz=263			S			**Sn**	**10 26 52.6**	**+0.4**
	baz=263								
ETLH	**Xiulin Townshi**	**0.35**	**222**	*i*	P		**Pn**	**10 26 44.1**	**-0.4**
ETLH	baz=230			S			**Sn**	**10 26 51.7**	**-0.7**
	baz=230								
NWLT	**Wulai**	**0.37**	**325**	*i*	P		**Pn**	**10 26 44.9**	**+0.2**
NWLT	baz=328			*i*	S		**Sn**	**10 26 52.5**	**-0.1**
	baz=328								
YHNB	**Yeheng**	**0.38**	**302**	P			**Pn**	**10 26 44.9**	**+0.1**
YHNB	baz=301			S			**Sn**	**10 26 52.5**	**-0.3**
	baz=301								
NTC	**Toucheng**	**0.39**	**13**	*i*	P		**Pn**	**10 26 45.7**	**+0.9**
NTC	baz=4.0			S			**Sn**	**10 26 54.0**	**+1.1**
	baz=4.0								
FUSS	**Fushou**	**0.50**	**244**	*i*	P		**Pn**	**10 26 46.3**	**+0.2**
FUSS	baz=245			*i*	S		**Sn**	**10 26 55.1**	**0.0**
	baz=245								
HWA	**Hwalien**	**0.50**	**194**	P			**Pn**	**10 26 45.0**	**-0.9**
HWA	baz=202			S			**Sn**	**10 26 54.4**	**-0.3**
	baz=202								
TIPB	**Shuangxi**	**0.51**	**9**	P			**Pn**	**10 26 46.4**	**+0.5**
TIPB	baz=358			S			**Sn**	**10 26 57.2**	**+2.4**
	baz=358								
TWA	**Mucha**	**0.53**	**345**	P			**Pn**	**10 26 46.2**	**+0.1**
TWA	baz=336			S			**Sn**	**10 26 55.1**	**-0.1**
	baz=336								
NHDH	**Xindian Distri**	**0.53**	**339**	*i*	P		**Pn**	**10 26 46.0**	**-0.2**
NHDH	baz=340			*i*	S		**Sn**	**10 26 54.9**	**-0.2**
	baz=340								
WHF	**Hehuan Shan**	**0.54**	**233**	P			**Pn**	**10 26 46.7**	**0.0**
WHF	baz=231			S			**Sn**	**10 26 56.0**	**-0.1**
	baz=231								
ETM	**Tongmen**	**0.55**	**204**	P			**Pn**	**10 26 45.3**	**-1.0**
ETM	baz=195			*e*	S		**Sn**	**10 26 53.2**	**-2.3**
	baz=195								
TATO	**Taipei**	**0.55**	**336**	P			**Pn**	**10 26 46.2**	**-0.2**
TATO	baz=338			S			**Sn**	**10 26 55.4**	**-0.3**
	baz=338								
TDCB	**Techi**	**0.57**	**248**	P			**Pn**	**10 26 47.1**	**+0.4**
TDCB	baz=245			S			**Sn**	**10 26 56.3**	**+0.1**
	baz=245								
TWB1	**Santiao Chiao**	**0.58**	**23**	*i*	P		**Pn**	**10 26 47.4**	**+0.7**
TWB1	baz=15			*i*	S		**Sn**	**10 26 58.2**	**+1.9**
	baz=15								
NWF	**Wu-fen Shan**	**0.60**	**4**	*i*	P		**Pn**	**10 26 47.5**	**+0.5**
NWF	baz=354			*i*	S		**Sn**	**10 26 57.4**	**+0.6**
	baz=354								
WFSB	**Wu-fen Shan**	**0.60**	**4**	P			**Pn**	**10 26 47.5**	**+0.6**
WFSB	baz=354			S			**Sn**	**10 26 57.2**	**+0.6**
	baz=354								
TEYL	**Yanliau Villag**	**0.61**	**192**	P			**Pn**	**10 26 46.4**	**-0.7**
TEYL	baz=201			*e*	S		**Sn**	**10 26 58.1**	**+1.3**
	baz=201								
CHGB	**Renai**	**0.65**	**232**	P			**Pn**	**10 26 48.0**	**+0.3**
CHGB	baz=233			S			**Sn**	**10 26 58.1**	**+0.1**
	baz=233								
NTY	**Taoyuan**	**0.66**	**323**	P			**Pn**	**10 26 47.8**	**+0.2**
NTY	baz=324			S			**Sn**	**10 26 58.5**	**+0.7**
LIOB	**Emei**	**0.68**	**285**	P			**Pn**	**10 26 48.0**	**+0.1**
LIOB	baz=287			S			**Sn**	**10 26 58.6**	**+0.4**
	baz=287								
TNOU	**National Taiwa**	**0.68**	**3**	P			**Pn**	**10 26 48.5**	**+0.7**
TNOU	baz=353			S			**Sn**	**10 26 58.0**	**-0.2**
	baz=353								
NSTT	**Nanjuang**	**0.69**	**284**	*i*	P		**Pn**	**10 26 48.6**	**+0.7**
NSTT	baz=285			*i*	S		**Sn**	**10 26 58.5**	**+0.2**
	baz=285								
YM01	**YM01**	**0.69**	**348**	P			**Pn**	**10 26 48.0**	**0.0**
YM01	baz=340			S			**Sn**	**10 26 58.0**	**-0.5**
	baz=340								
TWS1	**Kuangyinshan**	**0.69**	**335**	P			**Pn**	**10 26 48.1**	**+0.2**
TWS1	baz=336			S			**Sn**	**10 26 59.0**	**+0.5**
	baz=336								
NCU	**National Centr**	**0.70**	**315**	P			**Pn**	**10 26 48.2**	**0.0**
NCU	baz=316			S			**Sn**	**10 26 59.1**	**+0.4**
	baz=316								
NCUH	**Zhongli**	**0.70**	**315**	P			**Pn**	**10 26 48.1**	**0.0**
NCUH	baz=316			S			**Sn**	**10 26 58.8**	**+0.1**
	baz=316								
ESL	**Shilin**	**0.71**	**203**	P			**Pn**	**10 26 46.6**	**-1.6**
ESL	baz=197			S			**Sn**	**10 26 56.2**	**-2.6**
	baz=197								
OWD	**Renai**	**0.72**	**225**	P			**Pn**	**10 26 48.5**	**0.0**
OWD	baz=222			S			**Sn**	**10 26 58.9**	**-0.4**
	baz=222								
YM08	**YM08**	**0.73**	**350**	P			**Pn**	**10 26 48.0**	**-0.4**
YM08	baz=341			S			**Sn**	**10 26 58.3**	**-1.0**
	baz=341								
NTST	**Danshui**	**0.74**	**340**	P			**Pn**	**10 26 48.7**	**+0.2**
NTST	baz=339			*e*	S		**Sn**	**10 26 58.9**	**-0.5**
	baz=339								
ANP	**Anpu**	**0.74**	**345**	*i*	P		**Pn**	**10 26 48.3**	**-0.4**
ANP	baz=345			S			**Sn**	**10 26 58.9**	**-0.7**
	baz=345								
WHP	**Taichung City**	**0.74**	**255**	P			**Pn**	**10 26 49.3**	**+0.6**
WHP	baz=257			S			**Sn**	**10 27 00.3**	**+0.6**
	baz=257								
TEGC	**Jichi Village**	**0.78**	**193**	P			**Pn**	**10 26 48.3**	**-0.7**
TEGC	baz=202			S			**Sn**	**10 27 00.6**	**+0.3**
	baz=202								
TWY	**Chenhua**	**0.81**	**351**	P			**Pn**	**10 26 49.7**	**+0.2**
TWY	baz=342			S			**Sn**	**10 27 01.1**	**+0.1**
	baz=342								
WPL	**Puli Township**	**0.84**	**238**	P			**Pn**	**10 26 50.5**	**+0.7**
WPL	baz=234			S			**Sn**	**10 27 01.6**	**-0.1**
	baz=234								
EGFH	**Guangfu**	**0.84**	**199**	P			**Pn**	**10 26 48.3**	**-1.5**
EGFH	baz=201			S			**Sn**	**10 26 59.7**	**-2.0**
	baz=201								
WCS	**Beigang Elemen**	**0.86**	**242**	P			**Pn**	**10 26 50.5**	**+0.6**
WCS	baz=238			S			**Sn**	**10 27 02.9**	**+0.9**
	baz=238								
NMLH	**Miaoli**	**0.86**	**275**	P			**Pn**	**10 26 49.9**	**-0.1**
NMLH	baz=276			*e*	S		**Sn**	**10 27 01.9**	**-0.3**
	baz=276								
SMLT	**Sun Moon Lake**	**0.96**	**233**	P			**Pn**	**10 26 52.2**	**+0.8**
SMLT	baz=230			S			**Sn**	**10 27 05.8**	**+1.3**
	baz=230								
TYC	**Yuchr**	**0.98**	**235**	P			**Pn**	**10 26 52.5**	**+1.0**
TYC	baz=233			S			**Sn**	**10 27 06.4**	**+1.6**
	baz=233								
SSLB	**Suanglung**	**0.98**	**227**	P			**Pn**	**10 26 52.4**	**+0.8**
SSLB	baz=233			S			**Sn**	**10 27 06.0**	**+1.0**
	baz=233								
WDJ	**Dajia District**	**1.00**	**263**	P			**Pn**	**10 26 52.2**	**+0.3**
WDJ	baz=264			*e*	S		**Sn**	**10 27 04.6**	**-0.8**
	baz=264								
HGSD	**Ruisui**	**1.01**	**196**	P			**Pn**	**10 26 51.8**	**-0.2**
HGSD	baz=206			S			**Sn**	**10 27 05.3**	**-0.2**
	baz=206								
EHY	**Hungye**	**1.03**	**202**	*e*	P		**Pn**	**10 26 50.0**	**-2.2**
EHY	baz=203			*e*	S		**Sn**	**10 27 03.4**	**-2.6**
	baz=203								
WWF	**Wufeng**	**1.04**	**246**	P			**Pn**	**10 26 52.4**	**+0.1**
WWF	baz=259			S			**Sn**	**10 27 07.0**	**+0.9**
	baz=259								
JYNG	**Yonagunijimaku**	**1.10**	**91**	P			**Pn**	**10 26 53.1**	**0.0**
JYNG				S			**Sn**	**10 27 07.7**	**+0.1**
WHYT	**Xinyi Township**	**1.11**	**227**	P			**Pn**	**10 26 54.4**	**+1.1**
WHYT	baz=235			S			**Sn**	**10 27 10.0**	**+2.1**
	baz=235								
WNT1	**Nantou City**	**1.11**	**240**	*e*	P		**Pn**	**10 26 52.9**	**-0.4**
WNT1	baz=253			*e*	S		**Sn**	**10 27 08.4**	**+0.5**
	baz=253								
WJS	**Zhushan**	**1.12**	**235**	P			**Pn**	**10 26 54.6**	**+1.2**
WJS	baz=249			S			**Sn**	**10 27 10.1**	**+2.0**
	baz=249								
WNT	**Mingjian**	**1.13**	**239**	P			**Pn**	**10 26 54.4**	**+1.0**
WNT	baz=251			S			**Sn**	**10 27 09.7**	**+1.5**
	baz=251								
WCHH	**Zhanghua**	**1.14**	**250**	P			**Pn**	**10 26 53.8**	**+0.2**
WCHH	baz=263			S			**Sn**	**10 27 09.0**	**+0.5**
	baz=263								
YULB	**Yu-li**	**1.14**	**201**	P			**Pn**	**10 26 51.9**	**-1.8**
YULB	baz=202			S			**Sn**	**10 27 07.5**	**-1.1**
	baz=202								
YOJ	**Yonaguni jima**	**1.16**	**90**	P			**Pn**	**10 26 53.9**	**0.0**
YOJ				*e*	S		**Sn**	**10 27 08.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.16**	**90**	P			**Pn**	**10 26 53.8**	**0.0**
YOJ	baz=80			S			**Sn**	**10 27 09.2**	**+0.2**
	baz=80								
TWF1	**Yuli**	**1.18**	**200**	P			**Pn**	**10 26 53.9**	**-0.3**
TWF1	baz=201			*e*	S		**Sn**	**10 27 07.7**	**-1.8**
	baz=201								
PCYT	**Pengchaiyu**	**1.20**	**15**	P			**Pn**	**10 26 55.3**	**+0.9**
PCYT	baz=12			*e*	S		**Sn**	**10 27 08.8**	**-1.0**
	baz=12								
YUS	**Yu-Shan**	**1.21**	**216**	P			**Pn**	**10 26 55.1**	**+0.1**
YUS	baz=210			S			**Sn**	**10 27 10.7**	**-0.1**
	baz=210								
ALS	**Alishan**	**1.28**	**222**	P			**Pn**	**10 26 56.5**	**+0.8**
ALS	baz=232			S			**Sn**	**10 27 14.2**	**+2.0**
	baz=232								
CHN5	**Tsauling**	**1.30**	**228**	*i*	P		**Pn**	**10 26 56.5**	**+0.7**
CHN5	baz=240			*i*	S		**Sn**	**10 27 14.2**	**+1.8**
	baz=240								
WGK	**Gukeng**	**1.32**	**234**	P			**Pn**	**10 26 57.2**	**+1.2**
WGK	baz=246			S			**Sn**	**10 27 13.5**	**+0.6**
	baz=246								
FULB	**Fuli**	**1.33**	**198**	P			**Pn**	**10 26 56.0**	**-0.2**
FULB	baz=205			S			**Sn**	**10 27 12.2**	**-0.8**
	baz=205								
WDLH	**Douliu**	**1.34**	**235**	P			**Pn**	**10 26 56.1**	**-0.2**
WDLH	baz=248			S			**Sn**	**10 27 14.1**	**+0.8**
WRL	**Guolierlin Hig**	**1.36**	**246**	P			**Pn**	**10 26 56.4**	**-0.1**
WRL	baz=257			*e*	S		**Sn**	**10 27 12.6**	**-1.1**
	baz=257								
CHKT	**Chengkung**	**1.41**	**194**	*e*	P		**Pn**	**10 26 58.5**	**+1.4**
CHKT	baz=201			S			**Sn**	**10 27 14.5**	**-0.2**
	baz=201								
ELDTW	**Lidau**	**1.43**	**207**	P			**Pn**	**10 26 57.6**	**0.0**
ELDTW	baz=201			S			**Sn**	**10 27 15.1**	**-0.5**
	baz=201								
ECS	**Chishang**	**1.45**	**199**	*e*	P		**Pn**	**10 26 59.3**	**+1.5**
ECS	baz=201			S			**Sn**	**10 27 16.4**	**+0.6**
	baz=201								
WTK	**Tuku**	**1.46**	**238**	P			**Pn**	**10 26 57.9**	**0.0**
WTK	baz=240			*e*	S		**Sn**	**10 27 15.8**	**-0.1**
	baz=240								
CHN4	**Tsaushan**	**1.53**	**223**	P			**Pn**	**10 26 59.9**	**+1.1**
CHN4	baz=226			*e*	S		**Sn**	**10 27 21.3**	**+3.6**
	baz=226								
EDH	**Donghe**	**1.54**	**195**	*e*	P		**Pn**	**10 26 59.4**	**+0.4**
EDH	baz=197			S			**Sn**	**10 27 17.6**	**-0.4**
	baz=197								
TPUB	**Ta-pu**	**1.54**	**221**	P			**Pn**	**10 27 00.5**	**+1.4**
TPUB	baz=235			S			**Sn**	**10 27 19.8**	**+1.8**
	baz=235								
STYH	**Taoyuan**	**1.56**	**214**	P			**Pn**	**10 27 00.5**	**+1.2**
STYH	baz=208			S			**Sn**	**10 27 21.0**	**+2.5**
	baz=208								
WTP	**Ta-pu**	**1.59**	**220**	P			**Pn**	**10 27 00.3**	**+0.6**
WTP	baz=233			*e*	S		**Sn**	**10 27 23.0**	**+3.7**
	baz=233								
LONT	**Longtian**	**1.65**	**200**	*e*	P		**Pn**	**10 27 01.8**	**+1.3**
LONT	baz=195			*e*	S		**Sn**	**10 27 18.2**	**-2.5**
	baz=195								
TWK	**Hsinying**	**1.65**	**224**	*e*	P		**Pn**	**10 26 58.8**	**-1.8**
TWK	baz=238			*e*	S		**Sn**	**10 27 24.5**	**+3.6**
	baz=238								
CHN1	**Nanshi**	**1.69**	**221**	P			**Pn**	**10 27 02.3**	**+1.3**
CHN1	baz=235			S			**Sn**	**10 27 24.3**	**+2.7**
	baz=235								
ICHU	**Yijhu**	**1.73**	**231**	P			**Pn**	**10 27 02.3**	**+0.8**
ICHU	baz=233			*e*	S		**Sn**	**10 27 26.4**	**+3.8**
	baz=233								
SGST	**Jiashian**	**1.74**	**218**	P			**Pn**	**10 27 02.3**	**+0.7**
SGST	baz=231			S			**Sn**	**10 27 25.2**	**+2.4**
	baz=231								
TWG	**Pinlang**	**1.75**	**200**	*e*	P		**Pn**	**10 27 03.6**	**+1.8**
TWG	baz=196			*e*	S		**Sn**	**10 27 20.9**	**-2.2**
	baz=196								
TWGBT	**Beinan**	**1.75**	**200**	P			**Pn**	**10 27 00.9**	**-0.9**
TWGBT	baz=196			*e*	S		**Sn**	**10 27 20.1**	**-3.0**
	baz=196								
SLGT	**Liugui**	**1.77**	**214**	P			**Pn**	**10 27 03.9**	**+1.7**
SLGT	baz=217			S			**Sn**	**10 27 26.4**	**+2.6**
	baz=217								
LDUT	**Ludao**	**1.80**	**188**	*e*	P		**Pn**	**10 27 00.7**	**-1.8**
LDUT	baz=181			S			**Sn**	**10 27 23.6**	**-0.7**
	baz=181								
IRIF	**Iriomote-Funau**	**1.82**	**94**	P			**Pn**	**10 27 02.5**	**-0.3**
IRIF				S			**Sn**	**10 27 24.7**	**-0.1**
HATJ	**Hateruma jima**	**1.93**	**102**	S			**Sn**	**10 27 28.4**	**+0.9**
SSD	**Sandimen**	**1.99**	**211**	P			**Pn**	**10 27 06.5**	**+1.4**
SSD	baz=213			S			**Sn**	**10 27 30.7**	**+1.8**
	baz=213								
TSMG	**Majia**	**2.02**	**210**	P			**Pn**	**10 27 06.5**	**+1.0**
TSMG	baz=212			S			**Sn**	**10 27 31.6**	**+1.9**
	baz=212								
JKRS	**Kuro-shima**	**2.09**	**96**	P			**Pn**	**10 27 06.7**	**+0.4**
JKRS				S			**Sn**	**10 27 31.8**	**+0.6**
VWUC	**VWUC**	**2.14**	**285**	*e*	P		**Pn**	**10 27 06.2**	**-0.8**
	baz=284								
PHUB	**P'eng-hu**	**2.19**	**245**	*e*	P		**Pn**	**10 27 06.1**	**-1.7**
PHUB	baz=247			S			**Sn**	**10 27 31.6**	**-2.3**
	baz=247								
JIJ	**Ishigaki jima**	**2.20**	**92**	P			**Pn**	**10 27 07.7**	**-0.1**
JIJ				S			**Sn**	**10 27 33.1**	**-0.9**
EAST	**Anshuo**	**2.23**	**202**	*e*	P		**Pn**	**10 27 10.8**	**+2.5**
EAST	baz=197			*e*	S		**Sn**	**10 27 37.9**	**+3.1**
	baz=197								
WDGT	**Dungji**	**2.25**	**238**	*e*	P		**Pn**	**10 27 07.4**	**-1.1**
WDGT	baz=240			*e*	S		**Sn**	**10 27 34.8**	**-0.4**
	baz=240								
MATB	**Ma-tsu**	**2.33**	**316**	*e*	P		**Pn**	**10 27 08.2**	**-1.4**
	baz=314								
JISG	**Ishigakijimahi**	**2.35**	**87**	P			**Pn**	**10 27 09.8**	**-0.1**
JISG				*e*	S		**Sn**	**10 27 37.0**	**-0.6**
SLIU	**Shizi**	**2.40**	**201**	P			**Pn**	**10 27 12.4**	**+1.7**
SLIU	baz=204			*e*	S		**Sn**	**10 27 39.1**	**+0.2**
	baz=204								
VCHM	**Qimei**	**2.46**	**240**	*e*	P		**Pn**	**10 27 09.7**	**-1.7**
VCHM	baz=242			*e*	S		**Sn**	**10 27 37.4**	**-2.9**
	baz=242								
JTJ	**Tarama**	**2.71**	**86**	P			**Pn**	**10 27 15.4**	**+0.6**
JTJ				S			**Sn**	**10 27 46.8**	**+0.4**
XPSS	**Dashiqiu**	**2.82**	**331**	*e*	P		**Pn**	**10 27 15.2**	**-1.1**
XPSS	baz=326			*e*	S		**Sn**	**10 27 46.9**	**-2.2**
	baz=326								
KNM	**Kinmen**	**3.01**	**270**	*e*	P		**Pn**	**10 27 19.0**	**+0.1**
	baz=269								
KNMB	**Chin-men Tao**	**3.05**	**271**	*e*	P		**Pn**	**10 27 17.9**	**-1.5**
	baz=270								
JIRB	**Irabujima**	**3.15**	**83**	S			**Sn**	**10 27 57.6**	**+0.4**
AXDP	**Jialang**	**3.45**	**278**	*e*	P		**Pn**	**10 27 24.7**	**-0.2**
	baz=277								
ZPLA	**Ao Xicun**	**3.68**	**262**	*e*	P		**Pn**	**10 27 26.9**	**-1.1**
	baz=262								

*INET **15** 10:50:49.8,9.10N×83.81W,h21^{km},MD2.6*
UPA 15 10:50:52.5±1.0, 9.05N×83.88W, h10$^{km}_{\pm 4km}$, MW3.7, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DRK0	**Durika**	**0.67**	**71**	*e*	P		Pb	10 51 06.0	-0.3
DRK0				*e*	S		Sb	10 51 16.2	+0.5
PTJ1	**Puerto Jimnez**	**0.77**	**132**	*e*	P		Pb	10 51 07.7	-0.3
PTJ1				*e*	S		Sb	10 51 19.6	+1.1
PIRO	**Carate, Puerto**	**0.84**	**140**	*e*	P		Pg	10 51 08.3	-0.4
PIRO				*e*	S		Sb	10 51 20.8	+0.2
HDC	**Heredia**	**0.97**	**347**	*e*	P		Pb	10 51 11.6	+0.1
HDC				*e*	S		Sn	10 51 25.6	-0.8
BRU2	**Volcan**	**1.21**	**102**	*e*	P		Pb	10 51 14.6	-0.9
BRU2				*e*	S		Sb	10 51 31.0	-0.3
BCO2	**Palmira**	**1.38**	**104**	*e*	P		Pn	10 51 16.9	-1.1
BCO2				*e*	S		Sb	10 51 35.8	-0.5
JTS	**Las Juntas de**	**1.62**	**320**	*e*	P		Pn	10 51 19.6	-1.6
JTS				*e*	S		Sn	10 51 41.2	-1.0
CHGR2	**Aguacate**	**1.72**	**94**	*e*	S		Sn	10 51 43.8	-0.9

*IDC **15** 11:03:45.6±1.1, 0.34S×120.38E, h0^{km}, mb3.6/7, mb1 3.7/9, mb1mx3.6/30, mbtmp3.6/9, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/43, Error ellipse: s-maj=50.7km s-min=16.2km az=83.0*
*DJA **15** 11:03:47.4±0.4, 0.5S±2.2×12.0E±., h10^{km}, M4.1/9, mb4.2/2, MLv4.1/9*
ISC 15 11:03:47.1±0.7, 0.22S±0.05×119.88E±0.07, h10^{km}, n21,

σ1ᵗ90/25, mb3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.55**	**2**	P	**Pb**	**11 03 59.5**	**+0.6**
MPSI				S	**Sn**	**11 04 10.3**	**0.0**
APSI	**Ampana**	**1.90**	**111**	P	**Pn**	**11 04 19.2**	**-0.4**
APSI				S	**Sn**	**11 04 44.6**	**+1.0**
MRSI	**Marisa**	**2.17**	**72**	P	**Pn**	**11 04 21.5**	**-1.9**
MRSI				S	**Sn**	**11 04 50.5**	**+0.1**
TTSI	**Tana Toraja**	**2.81**	**181**	P	**Pn**	**11 04 32.9**	**+0.8**
LUWI	**Luwuk**	**3.01**	**106**	P	**Pn**	**11 04 35.5**	**+0.7**
GTOI	**Gorontalo**	**3.25**	**75**	P	**Pn**	**11 04 35.5**	**-2.6**
PMSI	**Majene**	**3.40**	**196**	P	**Pn**	**11 04 37.6**	**-2.7**
BNSI	**Bone**	**4.16**	**177**	P	**Pn**	**11 04 50.7**	**0.0**
KMSI	**Cibinong**	**4.18**	**79**	P	**Pn**	**11 04 51.4**	**+0.5**
KKSI	**Kolaka, Sulawe**	**4.31**	**156**	P	**Pg**	**11 05 11.9**	**+2.2**
KAPI	**Kappang**	**4.77**	**182**	Pn	**Pn**	**11 04 59.1**	**+0.1**
KAPI	3.3nm,0.3s,baz=347,slow=5.1,SNR=8.5			Sn	**Sn**	**11 05 55.6**	**+1.3**
PLAI	baz=203,slow=22,SNR=1.2 **Plampang**	**8.81**	**194**	P	**Pn**	**11 05 53.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.65**	**163**	P	**P**	**11 08 01.6**	**-3.7**
WRA	baz=339,slow=8.6,SNR=1.4 **Warramunga Arr**	**24.18**	**145**	P	**P**	**11 09 00.5**	**-3.4**
ASAR	1.2nm,1.0s,baz=333,slow=9.4,SNR=5.3 **Alice Springs**	**27.00**	**151**	P	**P**	**11 09 25.9**	**-3.5**
ASAR	0.5nm,1.1s,baz=322,slow=9.5,SNR=3.2			PcP	**PcP**	**11 12 48.8**	**-2.3**
JOW	0.2nm,0.9s,baz=345,slow=2.1,SNR=1.2 **Kunigami**	**28.08**	**16**	LR	LR	11 22 06.8	
KSRS	comp=Z,14nm,18.5s,baz=113,slow=39 **Korea Array**	**38.22**	**10**	P	**P**	**11 11 07.3**	**+0.1**
MJAR	0.5nm,0.4s,baz=182,slow=10,SNR=2.2 **Matsushiro Arr**	**40.34**	**23**	P	**P**	**11 11 24.4**	**-0.5**
USRK	1.4nm,0.8s,baz=196,slow=9.0,SNR=4.6 **Ussuriysk Ar.**	**45.52**	**12**	P	**P**	**11 12 07.8**	**+0.9**
SONM	1.7nm,0.7s,baz=182,slow=6.8,SNR=5.6 **Songino Array**	**49.28**	**348**	P	**P**	**11 12 38.4**	**+2.1**
MKAR	0.3nm,0.3s,baz=178,slow=6.6,SNR=2.4 **Makanchi Array**	**57.20**	**330**	P	**P**	**11 13 36.4**	**+1.9**
	0.2nm,0.4s,baz=142,slow=8.0,SNR=2.4						

IDC 15 11:24:22.8±1.5, 18°.86N×146°.01E, h0ᵏᵐ, mb3.8/4, mb1 4.1/4, mb1mx3.5/50, mbtmp3.8/4, Error ellipse: s-maj=145.1km s-min=24.1km az=119.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.23**	**197**	P	P	11 32 01.6	+0.1
FITZ	1.4nm,0.5s,baz=24,slow=8.7,SNR=34 **Fitzroy Crossi**	**41.83**	**210**	P	P	11 32 14.0	-0.6
ILAR	0.4nm,0.4s,baz=28,slow=11,SNR=6.4 **Eielson Array**	**63.37**	**26**	P	P	11 34 53.0	-0.7
NVAR	0.2nm,0.6s,baz=269,slow=5.0,SNR=3.5 **Mina Array Bea**	**82.81**	**52**	P	P	11 36 50.3	+0.7
	0.6nm,0.6s,baz=280,slow=5.4,SNR=6.7						

*IDC **15** 11:24:26.5±2.1, 33°.10S×179°.13W, h0ᵏᵐ, mb3.9/3, mb1 4.1/4, mb1mx3.7/36, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=48.0km s-min=42.6km az=58.0*
*NEIC **15** 11:24:31.0±1.4, 33°.4S±0°.1×178°.7W±0°.2, h35ᵏᵐ±2ᵏᵐ, mb4.3/13, Error ellipse: s-maj=22.1km s-min=19.0km az=86.0*

ISC 15 11:24:33.0±1.1, 33°.46S±0°.10×179°.0W±0°.1, h48ᵏᵐ, n55, σ1ᵗ61/50, mb4.2/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.65**	**208**	Pn	**Pn**	**11 25 40.2**	**-0.3**
MXZ	**Matakaoa Point**	**4.65**	**208**	P	**Pn**	**11 25 42.9**	**+2.4**
WMGZ	**Waiomatatini S**	**4.83**	**205**	P	**Pn**	**11 25 45.5**	**+2.4**
PKGZ	**Pakihiroa**	**5.02**	**208**	P	**Pn**	**11 25 46.8**	**+1.0**
HAZ	**Te Kaha**	**5.03**	**211**	P	**Pn**	**11 25 47.5**	**+1.8**
PUZ	**Puketiti**	**5.11**	**205**	P	**Pn**	**11 25 47.5**	**+0.4**
RUGZ	**Raukumara Rang**	**5.25**	**210**	P	**Pn**	**11 25 50.7**	**+1.8**
TWGZ	**Tauwhareparae**	**5.31**	**207**	P	**Pn**	**11 25 51.6**	**+1.9**
CNGZ	**Carnagh Station**	**5.50**	**204**	P	**Pn**	**11 25 53.7**	**+1.4**
TKGZ	**Te Karaka**	**5.59**	**206**	P	**Pn**	**11 25 56.5**	**+3.0**
URZ	**Urewera**	**5.74**	**212**	Pn	**Pn**	**11 25 56.2**	**+0.7**
URZ	2.4nm,0.3s,baz=300,slow=23,SNR=37			Sn	**Sn**	**11 26 58.9**	**-1.1**
URZ	4.0nm,0.3s,baz=123,slow=23,SNR=2.2 **Urewera**	**5.74**	**212**		**Pn**	**11 25 55.7**	**+0.1**
URZ	**Urewera**	**5.74**	**212**	P	**Pn**	**11 25 56.2**	**+0.7**
RAGZ	**Rawiri**	**5.81**	**209**	P	**Pn**	**11 25 58.9**	**+2.3**
RIGZ	**Rimuhau**	**5.86**	**206**	P	**Pn**	**11 25 59.9**	**+2.7**
PRGZ	**Paritu Road**	**6.01**	**204**	P	**Pn**	**11 26 01.2**	**+2.0**
MUGZ	**Murupara**	**6.07**	**213**	P	**Pn**	**11 26 03.0**	**+2.9**
SNGZ	**Shannon Statio**	**6.08**	**208**	P	**Pn**	**11 25 56.0**	**-4.3**
RTZ	**Ruatahuna**	**6.09**	**211**	P	**Pn**	**11 26 02.2**	**+1.8**
RAHZ	**Arahi**	**6.30**	**209**	P	**Pn**	**11 26 05.3**	**+2.1**
MTHZ	**Maungataniwha**	**6.35**	**211**	P	**Pn**	**11 26 06.4**	**+2.4**
OUZ	**Omahuta**	**6.38**	**252**	Pn	**Pn**	**11 26 06.5**	**+2.2**
NMHZ	**Naumai**	**6.57**	**210**	P	**Pn**	**11 26 08.6**	**+1.6**
BKZ	**Black Stump Fm**	**6.76**	**211**	Pn	**Pn**	**11 26 10.3**	**+0.7**
HIZ	**Hauiti**	**7.09**	**223**	Pn	**Pn**	**11 26 14.8**	**+0.7**
BFZ	**Birch Farm**	**8.15**	**206**	Pn	**Pn**	**11 26 28.9**	**+0.3**
THZ	**Tophouse**	**10.48**	**215**	Pn	**Pn**	**11 26 59.0**	**-1.6**
LTZ	**Lake Taylor**	**11.56**	**214**	Pn	**Pn**	**11 27 14.1**	**-1.3**
OXZ	**Oxford**	**12.09**	**213**	Pn	**Pn**	**11 27 22.1**	**-0.5**
RABL	**Rabaul**	**39.63**	**311**	P	**P**	**11 31 59.3**	**-0.9**
AS31	**Alice Springs**	**42.20**	**271**	P	**P**	**11 32 22.0**	**+0.6**
ASAR	**Alice Springs**	**42.20**	**271**	P	**P**	**11 32 21.0**	**-0.4**
	0.9nm,0.4s,baz=108,slow=7.4,SNR=42						
ASAR	**Alice Springs**	**42.20**	**271**	P	**P**	**11 32 21.0**	**-0.4**
WR0	**Warramunga Arr**	**43.29**	**276**	P	**P**	**11 32 30.6**	**+0.4**
WR0	comp=Z,5.9nm,1.2s			IAmb	IAmb	11 32 39.2	
WB2	**Warramunga Arr**	**43.46**	**276**	P	**P**	**11 32 31.2**	**-0.4**
WB2	comp=Z,7.6nm,1.4s			IAmb	IAmb	11 32 35.6	
WRAB	**Tennant Creek**	**43.46**	**276**	P	**P**	**11 32 31.6**	**0.0**
WRAB	comp=Z,5.1nm,1.1s			IAmb	IAmb	11 32 31.9	
WRA	**Warramunga Arr**	**43.47**	**276**	P	**P**	**11 32 30.6**	**-1.1**
WRA	comp=Z,0.9nm,0.7s,baz=116,slow=7.4,SNR=9.7 **Warramunga Arr**	**43.47**	**276**	P	**P**	**11 32 31.7**	**+0.1**
WB0	**Warramunga Arr**	**43.51**	**276**	P	**P**	**11 32 32.7**	**+0.8**
WB0	comp=Z,9.0nm,1.4s			IAmb	IAmb	11 32 40.5	
SBA	**Scott Base**	**44.93**	**184**	P	**P**	**11 32 42.7**	**+0.1**
SBA	comp=Z,4.2nm,0.6s			IAmb	IAmb	11 32 53.5	
VNDA	**Vanda**	**44.97**	**186**	P	**P**	**11 32 42.1**	**-0.7**
KNRA	**Kununurra**	**50.18**	**277**	P	**P**	**11 33 24.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.59**	**273**	P	**P**	**11 33 32.2**	**-2.4**
FITZ	comp=Z,1.5nm,0.8s,baz=136,slow=6.0,SNR=3.8 **Fitzroy Crossi**	**51.59**	**273**	P	**P**	**11 33 33.3**	**-1.3**
FITZ	comp=Z,7.4nm,1.5s			IAmb	IAmb	11 33 49.5	
CASY	**Casey**	**52.05**	**209**	P	**P**	**11 33 38.1**	**+0.7**
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**11 34 10.8**	**-0.3**
QSPA	comp=Z,1.5nm,0.9s			IAmb	IAmb	11 34 17.7	
H03S2	**Juan Fernandez**	**79.48**	**124**	T	T	13 04 57.1	
H03S1	baz=234,slow=74,SNR=21 **Juan Fernandez**	**79.49**	**124**	T	T	13 04 51.5	
H03S3	baz=234,slow=74,SNR=17 **Juan Fernandez**	**79.50**	**124**	T	T	13 04 52.0	
H03N3	baz=234,slow=74,SNR=20 **Juan Fernandez**	**79.69**	**123**	T	T	13 05 06.5	
H03N2	baz=239,slow=72,SNR=18 **Juan Fernandez**	**79.69**	**123**	T	T	13 05 02.8	
H03N1	baz=239,slow=72,SNR=15 **Juan Fernandez**	**79.71**	**123**	T	T	13 05 14.3	
FINES	baz=239,slow=72,SNR=23 **FINESS Array B**	**147.69**	**338**	PKPbc	**PKPbc**	**11 44 10.7**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=67,slow=3.6,SNR=3.9						
FINES	**FINESS Array B**	**147.69**	**338**		**PKPbc**	**11 44 11.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**159.77**	**182**	PKPab	**PKPab**	**11 45 07.7**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=171,slow=3.3,SNR=3.6						

*ISK **15** 11:25:22.3, 36°.67N×33°.25E, h16ᵏᵐ, ML2.6/10*
*DDA **15** 11:25:23.1, 36°.65N×33°.31E, h7ᵏᵐ±2ᵏᵐ, ML1.7*

ISC 15 11:25:23.2±1.0, 36°.65N±0°.03×33°.28E±0°.02, h18ᵏᵐ±6ᵏᵐ, n21, σ0ᵗ73/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEVE	**Tevekalti-Mers**	**0.25**	**148**	PG	**Pg**	**11 25 28.4**	**-0.6**
TEVE				SG	**Sb**	**11 25 33.3**	**+0.1**
ERMK	**Ermenek**	**0.30**	**269**	*i* P	**Pb**	**11 25 29.6**	**-0.5**
ERMK				*i* S	**Sb**	**11 25 35.1**	**+0.3**
ERMK	comp=N,193nm,0.2s			IAML		11 25 36.0	
ERMK	comp=E,190nm,0.3s			IAML		11 25 36.0	
BERE	**Bereket-Mersin**	**0.30**	**189**	PG	**Pg**	**11 25 29.7**	**-0.2**
BERE				SG	**Sb**	**11 25 34.9**	**-0.1**
KEBE	**Keben-Mersin**	**0.40**	**120**	PG	**Pb**	**11 25 31.6**	**-0.3**
KEBE				SG	**Sb**	**11 25 38.6**	**+0.8**
OREN	**Orenkoy-Mersin**	**0.46**	**162**	PG	**Pg**	**11 25 32.4**	**-0.2**
GULN	**MERSIN_Gulnar**	**0.51**	**155**	*i* P	**Pg**	**11 25 33.1**	**-0.4**
GULN				*i* S	**Sg**	**11 25 40.4**	**0.0**
TEKE	**Tekeli-Mersin**	**0.52**	**195**	PG	**Pg**	**11 25 33.4**	**-0.3**
YESI	**Yesilovacik-Me**	**0.54**	**147**	PG	**Pb**	**11 25 34.2**	**+0.1**
AKK1	**Akkuyu-Mersin**	**0.55**	**157**	PG	**Pg**	**11 25 33.6**	**-0.6**
AKK2	**Akkuyu-Mersin**	**0.56**	**157**	PG	**Pb**	**11 25 34.3**	**-0.1**
KARG	**Kargicak-Mersi**	**0.56**	**142**	PG	**Pb**	**11 25 34.5**	**-0.1**
TISA	**Tisan-Mersin**	**0.58**	**146**	PG	**Pb**	**11 25 34.9**	**0.0**
KIZK	**Mersin**	**0.71**	**103**	*i* P	**Pb**	**11 25 37.1**	**0.0**
KIZK				*i* S	**Sg**	**11 25 46.6**	**-0.2**
KIZK	comp=E,25nm,0.3s			IAML		11 25 48.0	
KIZK	comp=N,34nm,0.3s			IAML		11 25 48.0	
KIZK	**Mersin**	**0.71**	**103**	PG	**Pb**	**11 25 37.3**	**+0.1**
GAZI	**Gazipasa**	**0.88**	**242**	PG	**Pg**	**11 25 39.6**	**-0.8**
KERG	**Konya-Eregli**	**1.02**	**41**	*i* P	**Pg**	**11 25 41.9**	**-1.2**
KERG	comp=E,30nm,0.4s			IAML		11 25 56.0	
KERG				*i* S	**Sn**	**11 25 56.7**	**-0.1**
KERG	comp=N,23nm,0.2s			IAML		11 25 57.0	
MERS	**Mersin**	**1.02**	**77**	PG	**Pn**	**11 25 42.8**	**0.0**
DED	**Mersin**	**1.26**	**75**	*i* P	**Pb**	**11 25 46.6**	**+0.1**
DED				*i* S	**Sg**	**11 26 05.1**	**+1.1**
GULE	**Gulek**	**1.35**	**62**	*i* P	**Pn**	**11 25 47.7**	**+0.3**
GULE				*i* S	**Sg**	**11 26 07.1**	**-0.1**
GULE	comp=N,20nm,0.3s			IAML		11 26 13.0	
GULE	comp=E,31nm,0.5s			IAML		11 26 15.0	
KEPZ	**Antalya-Kepez**	**1.37**	**281**	*i* P	**Pg**	**11 25 48.7**	**-1.0**
KEPZ				*i* S	**Sg**	**11 26 07.2**	**-0.4**
SEDI	**Konya, Seydise**	**1.46**	**304**	*i* P	**Pb**	**11 25 50.0**	**+0.1**
SEDI	comp=N,7.4nm,0.9s			IAML		11 26 11.0	
SEDI				*i* S	**Sg**	**11 26 13.3**	**+2.8**
SEDI	comp=E,9.5nm,0.4s			IAML		11 26 14.0	

*NEIC **15** 11:30:47.6±0.8, 0°.54N±0°.08×126°.66E±0°.07, h66ᵏᵐ±6ᵏᵐ, mb4.5/30, Error ellipse: s-maj=12.2km s-min=9.0km az=153.0*
*IDC **15** 11:30:48.2±1.7, 0°.45N×126°.66E, h72ᵏᵐ±15ᵏᵐ, mb3.9/12, mb1 4.0/15, mb1mx3.8/42, mbtmp4.1/15, MS3.2/5, Ms1 3.2/5, ms1mx2.7/29, Error ellipse: s-maj=18.4km s-min=9.9km az=73.0*
*DJA **15** 11:30:48.2±0.2, 1°.N±3°×12°.7E±°, h63ᵏᵐ±4ᵏᵐ, M4.5/13, mB5.2/5, mb4.7/8, MLv4.3/13, Mw(mB)4.5/5*

ISC 15 11:30:45.5±0.4, 0°.49N±0°.05×126°.63E±0°.04, h47ᵏᵐ, n80, σ1ᵗ89/86, mb4.5/26, MS3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.79**	**69**	Pn	**Pn**	**11 31 02.5**	**+2.3**
TNTI	**Ternate**	**0.79**	**69**	P	**Pn**	**11 31 02.7**	**+2.4**
TNTI				S	**Sn**	**11 31 14.2**	**+3.2**
GAMI	**Galela, Maluku**	**1.77**	**41**	P	**Pn**	**11 31 16.2**	**+2.5**
GAMI				S	**Sn**	**11 31 38.2**	**+3.1**
KMSI	**Cibinong**	**2.65**	**272**	P	**Pn**	**11 31 29.0**	**+3.2**
KMSI				S	**Sn**	**11 32 01.2**	**+4.5**
GTOI	**Gorontalo**	**3.62**	**272**	P	Pn	11 31 44.4	+5.3
NLAI	**Namlea**	**3.73**	**173**	P	**Pn**	**11 31 43.8**	**+3.2**
LUWI	**Luwuk**	**4.15**	**249**	Pn	**Pn**	**11 31 48.9**	**+2.6**
LUWI	**Luwuk**	**4.15**	**249**	P	Pn	11 31 51.6	+5.3
KRAI	**Karang Ratu**	**4.17**	**155**	P	**Pn**	**11 31 51.3**	**+4.7**
MRSI	**Marisa**	**4.69**	**270**	P	**Pn**	**11 31 56.8**	**+3.0**
SWI	**Sorong**	**4.82**	**106**	P	**Pn**	**11 31 58.3**	**+2.8**
SIJI	**Sorong**	**4.83**	**106**	P	**Pn**	**11 31 58.7**	**+3.1**
SIJI	4.0nm,0.3s,baz=51,slow=20,SNR=16			S	**Sn**	**11 32 53.0**	**+2.7**
SIJI	1.2nm,0.3s,baz=214,slow=22,SNR=1.1			LR	LR	11 34 15.4	
SIJI	comp=Z,87nm,19.9s,baz=80,slow=43 **Sorong**	**4.83**	**106**	P	**Pn**	**11 31 59.9**	**+4.3**
APSI	**Ampana**	**5.17**	**254**	P	**Pn**	**11 32 03.8**	**+3.4**
GTOI	0.3nm3µm50nm,0.6s **Gorontalo**	**3.62**	**272**	P	Pn	11 31 44.4	+5.3
TOLI2	**Tolitoli**	**5.88**	**276**	Pn	**Pn**	**11 32 11.5**	**+1.4**
FAKI	**Fak Fak**	**6.55**	**121**	Pn	**Pn**	**11 32 21.5**	**+2.1**
MPSI	**Mapaga**	**6.74**	**269**	P	**Pn**	**11 32 25.5**	**+3.6**
TTSI	0.2nm3µm25nm,0.7s **Tana Toraja**	**7.66**	**243**	P	**Pn**	**11 32 37.1**	**+2.6**
BNSI	0.5nm2µm122nm,0.6s **Bone**	**8.13**	**233**	P	**Pn**	**11 32 43.9**	**+2.9**
KAPI	627nm51nm,0.5s **Kappang**	**8.78**	**231**	P	**Pn**	**11 32 52.9**	**+3.1**
KAPI	5.7nm,0.3s,baz=92,slow=3.8,SNR=12			S	**Sn**	**11 34 27.0**	**-0.6**
KAPI	1.4nm,0.3s,baz=337,slow=23,SNR=1.7 **Kappang**	**8.78**	**231**	Pn	**Pn**	**11 32 53.0**	**+3.1**
BATI	**Baumata**	**11.03**	**195**	LR	LR	11 37 51.8	
KNRA	comp=Z,78nm,18.8s,baz=134,slow=38 **Kununurra**	**16.20**	**173**	Pn	**Pn**	**11 34 31.2**	**+1.2**
KNRA	comp=Z,18nm,1.1s			IAmb	IAmb	11 34 31.6	
PTKI	**Pontianak**	**17.24**	**268**	P	Pn	11 34 27.9	-15
FITZ	**Fitzroy Crossi**	**18.49**	**183**	P	**Pn**	**11 34 58.1**	**-0.2**
FITZ	comp=Z,0.4nm,0.3s,baz=16,slow=8.3,SNR=14 **Fitzroy Crossi**	**18.49**	**183**	P	**Pn**	**11 34 58.2**	**-0.2**
TNG	**Tangerang**	**21.02**	**251**	P	**P**	**11 35 23.3**	**-2.1**
TNG				P	**P**	**11 35 23.1**	**-2.3**
WB0	**Warramunga Arr**	**21.52**	**160**	P	**P**	**11 35 31.4**	**+0.7**
WRAB	**Tennant Creek**	**21.66**	**160**	P	**P**	**11 35 32.5**	**+0.3**
WRA	**Warramunga Arr**	**21.66**	**160**	P	**P**	**11 35 32.4**	**+0.1**
WRA	comp=Z,25nm,0.4s,baz=340,slow=11,SNR=264			S	**S**	**11 39 24.9**	**-4.8**
WRA	comp=Z,0.8nm,0.8s,baz=332,slow=20,SNR=4.2			ScP	**ScP**	**11 43 03.7**	**-2.3**
WRA	comp=Z,0.2nm,0.7s,baz=332,slow=2.3,SNR=1.3 **Warramunga Arr**	**21.66**	**160**	P	**P**	**11 35 31.6**	**-0.6**
WB2	**Warramunga Arr**	**21.67**	**160**	P	**P**	**11 35 32.8**	**+0.5**
WR0	**Warramunga Arr**	**21.75**	**160**	P	**P**	**11 35 33.4**	**+0.3**
WR0	comp=Z,21nm,1.0s			IAmb	IAmb	11 35 35.3	
PSA00	**Pilbara Seismi**	**22.90**	**196**	P	**P**	**11 35 46.5**	**+1.0**
PSA00	**Pilbara Seismi**	**22.90**	**196**	P	**P**	**11 35 45.4**	**0.0**
PSA00	comp=Z,4.1nm,0.9s			IAmb	IAmb	11 35 46.4	
AS31	**Alice Springs**	**25.02**	**164**	P	**P**	**11 36 05.6**	**+0.3**
AS31	comp=Z,10nm,0.3s			IAmb	IAmb	11 36 08.4	
ASAR	**Alice Springs**	**25.03**	**164**	P	**P**	**11 36 05.7**	**+0.4**
ASAR	comp=Z,12nm,0.3s,baz=344,slow=12,SNR=208			PcP	**PcP**	**11 39 39.3**	**-0.2**
ASAR	comp=Z,1.2nm,0.6s,baz=354,slow=2.3,SNR=5.6			S	**S**	**11 40 23.9**	**-2.6**
ASAR	comp=Z,0.2nm,0.8s,baz=346,slow=19,SNR=1.4			ScP	**ScP**	**11 43 13.1**	**-1.8**
ASAR	comp=Z,0.2nm,0.8s,baz=349,slow=3.8,SNR=2.0 **Alice Springs**	**25.03**	**164**	P	**P**	**11 36 06.0**	**+0.6**
CTA	**Charters Tower**	**28.06**	**138**	LR	LR	11 49 03.4	
MORW	comp=Z,178nm,21.3s,baz=66,slow=39 **Morawa**	**31.09**	**198**	P	**P**	**11 36 59.9**	**+0.5**
MORW	comp=Z,12nm,1.3s			IAmb	IAmb	11 37 01.1	
FORT	**Forrest**	**31.12**	**178**	P	**P**	**11 37 00.1**	**+0.4**
FORT	comp=Z,12nm,0.8s			IAmb	IAmb	11 37 00.9	
BBOO	**Buckleboo**	**34.29**	**166**	P	**P**	**11 37 27.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**34.40**	**194**	P	**P**	**11 37 28.1**	**-0.2**
STKA	**Stephens Creek**	**35.17**	**158**	P	**P**	**11 37 35.0**	**+0.1**
STKA	comp=Z,5.7nm,0.4s,baz=326,slow=8.7,SNR=23 **Stephens Creek**	**35.17**	**158**	P	**P**	**11 37 34.9**	**-0.1**
STKA	comp=Z,3.0nm,1.1s			IAmb	IAmb	11 37 36.0	
JWT	**Wachi**	**35.57**	**12**	P	**P**	**11 37 37.6**	**-0.7**
JWT	comp=Z,7.2nm,1.3s			IAmb	IAmb	11 38 00.5	
KSRS	**Korea Array**	**36.80**	**2**	P	**P**	**11 37 49.4**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=172,slow=11,SNR=5.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**37.45**	**15**	P	**P**	**11 37 53.4**	**-1.1**
MJAR	comp=Z,1.4nm,0.5s,baz=188,slow=8.5,SNR=3.1 **Matsushiro Arr**	**37.45**	**15**	P	**P**	**11 37 53.3**	**-1.1**
JSD	**Sado**	**38.87**	**15**	P	**P**	**11 38 05.8**	**-0.5**
JSD	comp=Z,5.1nm,1.1s			IAmb	IAmb	11 38 30.6	
CAN	**Canberra**	**41.29**	**152**	P	**P**	**11 38 26.1**	**-0.4**
USRK	**Ussuriysk Ar.**	**43.79**	**6**	P	**P**	**11 38 47.1**	**+0.6**
USRK	comp=Z,1.8nm,0.5s,baz=173,slow=6.8,SNR=7.2 **Ussuriysk Ar.**	**43.79**	**6**	P	**P**	**11 38 46.8**	**+0.2**
KLR	**Kul'dur**	**48.76**	**4**	P	**P**	**11 39 25.2**	**-0.3**
SONM	comp=Z,1.0nm,0.4s,baz=239,slow=7.1,SNR=6.8 **Songino Array**	**50.33**	**342**	P	**P**	**11 39 38.7**	**+0.9**
PETK	comp=Z,0.5nm,0.4s,baz=165,slow=10,SNR=4.0 **Petropavlovsk-**	**58.46**	**21**	P	**P**	**11 40 37.0**	**+0.5**
PETK	comp=Z,2.0nm,0.4s,baz=187,slow=4.5,SNR=7.7 **Petropavlovsk-**	**58.46**	**21**	P	**P**	**11 40 35.9**	**-0.7**
MK31	**Makanchi Array**	**60.17**	**326**	P	**P**	**11 40 48.5**	**0.0**
MK31	comp=Z,3.0nm,0.8s			IAmb	IAmb	11 40 50.2	
MKAR	**Makanchi Array**	**60.17**	**326**	P	**P**	**11 40 49.0**	**+0.6**
MKAR	comp=Z,3.3nm,0.5s,baz=121,slow=8.6,SNR=32			PcP	**PcP**	**11 41 33.4**	**-0.4**
MKAR	comp=Z,0.9nm,0.7s,baz=112,slow=4.4,SNR=1.9			LR	LR	12 08 16.1	
MKAR	comp=Z,11nm,20.4s,baz=180,slow=37 **Makanchi Array**	**60.17**	**326**	P	**P**	**11 40 47.9**	**-0.6**
BKZ	**Black Stump Fm**	**60.27**	**137**	P	**P**	**11 40 48.8**	**-0.7**
MAKZ	**Makanchi**	**60.35**	**326**	P	**P**	**11 40 49.3**	**-0.4**
MAKZ	comp=Z,3.7nm,0.8s			IAmb	IAmb	11 40 51.4	
ZALV	**Zalesovo Beam**	**63.43**	**334**	P	**P**	**11 41 10.0**	**-0.2**
KKAR	comp=Z,0.8nm,0.5s,baz=134,slow=8.3,SNR=2.7 **Karatay Array**	**65.54**	**318**	P	**P**	**11 41 23.5**	**-0.9**
ABKAR	**Akbulak array**	**74.60**	**321**	P	**P**	**11 42 18.8**	**-0.8**
OPO	**Ambohidratompo**	**80.15**	**251**	LR	LR	12 15 51.3	
VNDA	comp=Z,32nm,18.7s,baz=260,slow=34 **Vanda**	**80.24**	**173**	P	**P**	**11 42 50.3**	**-0.4**
VNDA	comp=Z,0.7nm,0.4s,baz=318,slow=6.8,SNR=6.1 **Vanda**	**80.24**	**173**	P	**P**	**11 42 50.5**	**-0.1**
VNDA	comp=Z,4.5nm,1.2s			IAmb	IAmb	11 42 51.2	
SBA	**Scott Base**	**81.16**	**172**	P	**P**	**11 42 54.7**	**-0.8**
OHAK	**Old Harbor**	**84.22**	**33**	P	**P**	**11 43 12.0**	**+0.2**
OHAK	comp=Z,13nm,1.5s			IAmb	IAmb	11 43 25.2	
KDAK	**Kodiak Island**	**84.67**	**32**	P	**P**	**11 43 13.7**	**-0.4**
KDAK	comp=Z,3.4nm,1.2s			IAmb	IAmb	11 43 20.6	
IMAR	**Indian Mountai**	**85.33**	**24**	P	**P**	**11 43 16.6**	**-0.7**
CNPM	**China Poot**	**85.58**	**30**	P	**P**	**11 43 18.2**	**-0.5**
CNPM	comp=Z,4.2nm,1.0s			IAmb	IAmb	11 43 20.1	
ILAR	**Eielson Array**	**88.06**	**25**	P	**P**	**11 43 30.9**	**+0.3**
BMAR	comp=Z,0.1nm,0.4s,baz=258,slow=5.3,SNR=2.3 **Burnt Mountain**	**89.09**	**23**		**P**	**11 43 34.2**	**-1.2**
MESA	**MESA**	**90.29**	**30**	P	**P**	**11 43 40.3**	**-1.1**
MESA	comp=Z,7.4nm,1.2s			IAmb	IAmb	11 43 42.4	
BCAR	**Beaver Creek A**	**90.29**	**27**	P	**P**	**11 43 40.8**	**-0.4**
QSPA	**South Pole Qui**	**90.41**	**180**	P	**P**	**11 43 41.5**	**-0.2**
QSPA	comp=Z,1.4nm,0.7s			IAmb	IAmb	11 43 42.4	
TORD	**Torodi Ar. Bea**	**123.78**	**286**	PKP	**PKPdf**	**11 49 38.6**	**-0.7**
TORD	comp=Z,0.3nm,0.5s,baz=108,slow=2.3,SNR=2.0 **Torodi Ar. Bea**	**123.78**	**286**		**PKPdf**	**11 49 36.7**	**-2.5**

*RSNC **15** 11:34:44.9±1.2, 6°.80N×73°.12W, h149ᵏᵐ±4ᵏᵐ, ML3.6, Mw3.9, Fault plane solution: NP1:φs120.00000°, δ44.00000°, λ75.00000°.*
*IDC **15** 11:34:47.0±6.4, 6°.08N×72°.76W, h187ᵏᵐ±41ᵏᵐ, Error ellipse: s-maj=175.8km s-min=90.8km az=142.0*

ISC 15 11:34:42.9±1.1, 6°.83N±0°.03×73°.10W±0°.04, h161ᵏᵐ±7ᵏᵐ, n50, σ1ᵗ24/79, 11C-14D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**200**	⇑*i* P	**Pn**	**11 35 05.2**	**+0.3**
BARC				*e*S	**Sn**	**11 35 20

SDV	**Santo Domingo**	**3.19**	**50**	⇓	*eP*	**Pn**	**11 35 34.4**	**+1.1**
SDV					*i*		11 35 35.5	
	comp=Z,96nm,0.3s							
SDV					*eS*	**Sn**	**11 36 10.9**	**-1.4**
MOTC	**Monteria, Cord**	**3.20**	**307**	⇑	*eP*	**Pn**	**11 35 32.3**	**-0.9**
MOTC					*i*		11 35 40.0	
	comp=Z,91nm,0.4s							
MOTC					*eS*	**Sn**	**11 36 10.4**	**-1.9**
ARGC	**Ariguani, Magd**	**3.22**	**339**	⇓	*eP*	**Pn**	**11 35 35.4**	**+1.9**
ARGC					*eS*	**Sn**	**11 36 12.7**	**-0.1**
ARGC					*i*		11 36 26.4	
	comp=Z,88nm,0.3s							
ANIL	**Santa Ana**	**3.26**	**225**	⇓	*eP*	**Pn**	**11 35 36.2**	**+1.9**
ANIL					*eS*	**Sn**	**11 36 14.3**	**+0.1**
ANIL					*i*		11 36 21.6	
	comp=Z,323nm,0.3s							
PRAC	**Prado**	**3.57**	**210**	⇑	*eP*	**Pn**	**11 35 38.7**	**+0.8**
PRAC					*eS*	**Sn**	**11 36 20.7**	**-0.1**
PRAC					*i*		11 36 25.9	
	comp=Z,170nm,0.3s							
ELOV	**Elorza**	**3.59**	**87**	⇓	*iP*	**Pn**	**11 35 39.1**	**+0.9**
ELOV					*eS*	**Sn**	**11 36 20.1**	**-1.2**
ORTC	**Ortega, Tolima**	**3.60**	**217**		*eP*	**Pn**	**11 35 39.1**	**+0.7**
ORTC					*eS*	**Sn**	**11 36 21.2**	**-0.3**
ORTC					*i*		11 36 28.0	
	comp=Z,87nm,0.3s							
SJCC	**San Jacinto, C**	**3.68**	**326**	⇑	*eP*	**Pn**	**11 35 39.0**	**-0.5**
SJCC					*eS*	**Sn**	**11 36 20.1**	**-3.3**
SJCC					*i*		11 36 25.4	
	comp=Z,99nm,0.5s							
LCBC	**Los crdobas,**	**3.82**	**302**		*eS*	**Sn**	**11 36 25.9**	**-0.6**
LCBC					*i*		11 36 32.2	
	comp=Z,64nm,0.3s							
YOTC	**Yotoco, Valle**	**4.29**	**229**	⇑	*iP*	**Pn**	**11 35 47.7**	**+0.3**
YOTC					*i*		11 35 51.9	
	comp=Z,18nm,0.3s							
SOLC	**Bahia Solano**	**4.33**	**262**		*eP*	**Pn**	**11 35 48.7**	**+1.0**
SMRC	**Santa Marta, M**	**4.45**	**346**		*eP*	**Pn**	**11 35 50.3**	**+0.9**
SMRC					*eS*	**Sn**	**11 36 37.8**	**-3.5**
PIZC	**Pizarro, Choco**	**4.63**	**247**		*eP*	**Pn**	**11 35 53.2**	**+1.6**
PTAC	**Punta Ardita,**	**4.69**	**274**		*eP*	Pn	11 35 47.5	-4.9
MACC	**Macarena, Meta**	**4.71**	**189**		*eP*	**Pn**	**11 35 51.9**	**-0.9**
MACC					*i*		11 36 51.8	
	comp=Z,26nm,0.7s							
BETC	**Betania**	**4.73**	**210**		*eP*	**Pn**	**11 35 52.8**	**-0.3**
DABV	**Dabajuro**	**4.74**	**31**		*eP*	**Pn**	**11 35 53.9**	**+0.7**
MARP	**Paez Belalcaza**	**4.87**	**216**		*eP*	**Pn**	**11 35 55.6**	**+0.4**
MALC	**Bahia Malaga**	**5.06**	**237**		*eP*	**Pn**	**11 35 58.8**	**+1.4**
MALC					*i*		11 36 02.4	
	comp=Z,45nm,0.3s							
GARC	**Garzon, Huila**	**5.19**	**208**		*eP*	**Pn**	**11 35 58.8**	**-0.5**
GARC					*i*		11 36 02.7	
	comp=Z,51nm,0.2s							
PCON	**Cinco Dias**	**5.55**	**217**		*eP*	**Pn**	**11 36 04.7**	**+0.4**
POPC	**Popayan, Colom**	**5.55**	**220**	⇓	*eP*	Pn	11 35 59.7	-4.4
FLOC	**Florencia**	**5.80**	**206**		*eP*	**Pn**	**11 36 07.4**	**+0.2**
FLOC					*i*		11 37 41.8	
	comp=Z,9.0nm,0.7s							
SOTA	**Rioblanco**	**5.83**	**217**		*eP*	**Pn**	**11 36 08.9**	**+1.0**
BBAC	**Balboa, Cauca**	**6.32**	**221**		*eP*	**Pn**	**11 36 14.6**	**+0.5**
BBAC					*i*		11 36 17.8	
	comp=Z,19nm,0.3s							
CRUC	**La Cruz**	**6.48**	**217**		*eP*	**Pn**	**11 36 18.6**	**+2.1**
CRUC					*i*		11 36 22.4	
	comp=Z,31nm,0.5s							
ASAR	**Alice Springs**	**149.13**	**234**		PKPbc	**PKPbc**	**11 54 13.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=112,slow=3.4,SNR=9.2							
WRA	**Warramunga Arr**	**150.36**	**241**		PKPbc	**PKPbc**	**11 54 16.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=110,slow=2.6,SNR=6.2							

IDC ***15*** *12:08:44.1±2.1,48.˚11S×99.˚36E,h0km,mb4.1/6, mb1 4.3/6,mb1mx3.9/30,mbtmp4.1/6,MS3.7/6,Ms1 3.6/6, ms1mx3.4/17, Error ellipse: s-maj=71.2km s-min=19.8km az=125.0*

ISC 15 12:08:45.5±2.1,48.˚1S±0.˚3×99.˚3E±0.˚4,h12km,n18, σ0§29/8,mb4.1/6,MS3.7/6,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.20**	**45**	T	T	12 30 18.7	
	baz=215,slow=74,SNR=88						
H01W1	**Cape Leeuwin H**	**17.21**	**45**	T	T	12 30 17.4	
	baz=215,slow=74,SNR=136						
H01W3	**Cape Leeuwin H**	**17.21**	**45**	T	T	12 30 17.2	
	baz=215,slow=74,SNR=103						
MAW	**Mawson**	**26.88**	**210**	LR	LR	12 23 10.8	
	comp=Z,138nm,18.6s,baz=59,slow=32						
STKA	**Stephens Creek**	**35.73**	**79**	P	**P**	**12 15 43.9**	**-0.1**
	2.5nm,0.8s,baz=247,slow=7.7,SNR=5.5						
STKA				LR	LR	12 28 45.2	
	comp=Z,46nm,18.8s,baz=206,slow=34						
ASAR	**Alice Springs**	**36.67**	**61**	P	**P**	**12 15 52.2**	**+0.1**
	2.7nm,1.0s,baz=214,slow=6.6,SNR=12						
VNDA	**Vanda**	**37.70**	**162**	P	**P**	**12 16 00.2**	**0.0**
	1.6nm,0.9s,baz=302,slow=7.0,SNR=6.0						
VNDA				LR	LR	12 30 19.1	
	comp=Z,166nm,18.4s,baz=288,slow=34						
WRA	**Warramunga Arr**	**39.83**	**58**	P	**P**	**12 16 18.3**	**-0.4**
	2.9nm,1.1s,baz=217,slow=9.6,SNR=9.1						
QSPA	**South Pole Qui**	**42.07**	**180**	P	**P**	**12 16 36.7**	**-0.1**
	7.6nm,0.9s,baz=312,slow=1.6,SNR=13						
H08S2	**Diego Garcia H**	**46.26**	**322**	T	T	13 06 39.2	
	baz=155,slow=76,SNR=7.3						
H08S1	**Diego Carcia H**	**46.26**	**322**	T	T	13 06 41.2	
	baz=155,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**46.27**	**322**	T	T	13 06 40.4	
	baz=155,slow=76,SNR=6.1						
SNAA	**Sanae**	**48.77**	**204**	P	**P**	**12 17 29.6**	**-0.1**
	2.3nm,1.0s,baz=129,slow=8.0,SNR=6.9						
BOSA	**Boshof**	**58.96**	**261**	LR	LR	12 39 12.0	
	comp=Z,29nm,19.4s,baz=179,slow=31						
PLCA	**Paso Flores**	**91.11**	**188**	LR	LR	13 02 03.0	
	comp=Z,82nm,18.7s,baz=168,slow=35						
MKAR	**Makanchi Array**	**95.64**	**348**	LR	LR	13 02 13.1	
	comp=Z,35nm,20.6s,baz=162,slow=34						
NVAR	**Mina Array Bea**	**151.23**	**96**	PKPbc	**PKiKP**	**12 28 39.5**	**+0.4**
	1.6nm,0.8s,baz=218,slow=4.7,SNR=14						
TXAR	**Lajitas Array**	**154.26**	**128**	PKPab	**PKPab**	**12 28 59.5**	**+0.2**
	0.4nm,0.8s,baz=195,slow=9.1,SNR=5.0						

IDC ***15*** *12:13:01.4±1.6,11.˚40S×165.˚54E,h0km,mb3.7/4, mb1 4.0/6,mb1mx3.7/28,mbtmp3.9/6,ML4.0/2,MS2.9/2, Ms1 2.9/2,ms1mx2.5/26,Error ellipse: s-maj=40.3km s-min=29.6km az=127.0*

NEIC ***15*** *12:13:02.9±0.6,11.˚4S±0.˚1×165.˚6E±0.˚1,h8km±6km, mb4.3/9,Error ellipse: s-maj=21.8km s-min=12.0km az=57.0*

ISC 15 12:13:05.0±0.9,11.˚5S±0.˚1×165.˚5E±0.˚1,h24km,n21, σ0§68/21,mb4.1/9,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.29**	**158**	Pn	**Pn**	**12 14 08.5**	**-0.3**
HNR	**Honiara**	**5.84**	**290**	Pn	**Pn**	**12 14 31.2**	**+1.0**
	8.2nm,0.3s,baz=169,slow=16,SNR=2.4						
HNR				Sn	**Sn**	**12 15 35.3**	**-1.1**
	11nm,0.3s,baz=233,slow=20,SNR=1.9						
HNR				LR	LR	12 16 07.8	
	comp=Z,17nm,18.8s,baz=79,slow=32						
HNR	**Honiara**	**5.84**	**290**		**Pn**	**12 14 30.5**	**+0.3**
DZM	**Mont Dzumac**	**10.59**	**175**	Pn	**Pn**	**12 15 36.7**	**+1.3**
	0.7nm,0.3s,baz=339,slow=17,SNR=14						
DZM	**Mont Dzumac**	**10.59**	**175**		**Pn**	**12 15 34.4**	**-1.0**
BKZ	**Black Stump Fm**	**29.27**	**162**	P	**P**	**12 19 04.8**	**-0.6**
WR0	**Warramunga Arr**	**30.95**	**250**	P	**P**	**12 19 19.8**	**-0.8**
WR0					IAmb	IAmb	12 19 47.0
	comp=Z,6.0nm,1.3s						
WB0	**Warramunga Arr**	**31.05**	**251**	P	**P**	**12 19 21.8**	**+0.4**
WB0					IAmb	IAmb	12 19 22.7
	comp=Z,3.5nm,1.1s						
WB2	**Warramunga Arr**	**31.12**	**250**	P	**P**	**12 19 22.4**	**+0.4**
WRA	**Warramunga Arr**	**31.13**	**250**	P	**P**	**12 19 22.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=82,slow=8.9,SNR=6.6						
WRA	**Warramunga Arr**	**31.13**	**250**	P	**P**	**12 19 22.3**	**+0.1**
ASAR	**Alice Springs**	**32.41**	**244**	P	**P**	**12 19 32.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=65,slow=9.9,SNR=5.0						
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**12 25 05.1**	**+0.7**
N25K	**Chitina, Valde**	**82.62**	**22**	P	**P**	**12 25 26.1**	**+0.1**
N25K					IAmb	IAmb	12 25 31.2
	comp=Z,1.8nm,0.8s						
GLB	**Gilahina Butte**	**82.80**	**22**	P	**P**	**12 25 26.2**	**-0.8**
GLB					IAmb	IAmb	12 25 51.4
	comp=Z,4.4nm,1.4s						
IMAR	**Indian Mountai**	**82.88**	**16**	P	**P**	**12 25 27.3**	**0.0**
ILAR	**Eielson Array**	**83.98**	**19**	P	**P**	**12 25 32.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=240,slow=4.7,SNR=9.5						
EGAK	**Eagle**	**85.84**	**20**	P	**P**	**12 25 42.5**	**+0.2**
EGAK					IAmb	IAmb	12 25 43.6
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**93.67**	**317**	P	**P**	**12 26 20.2**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=104,slow=6.1,SNR=3.6						
MKAR	**Makanchi Array**	**93.67**	**317**	P	**P**	**12 26 19.1**	**-0.6**
ZALV	**Zalesovo Beam**	**93.76**	**324**	LR	LR	13 06 14.7	
	comp=Z,33nm,20.5s,baz=83,slow=34						

WEL 15 12:21:37.7,45.˚5S±6.˚1×167.˚8E±.˚1,h76km±11km,M3.4/18, ML3.6/18,MLv3.4/18,Error ellipse: s-maj=0.0km s-min=0.0km az=78.3,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.30**	**264**	P	Pn	12 21 49.2	-0.2
MSZ				S	Sn	12 21 59.1	+1.0
WKZ	**Wanaka**	**0.52**	**111**	P	Pn	12 21 53.0	+1.7
WKZ				S	Sn	12 22 03.7	+2.4
JCZ	**Jackson Bay**	**0.65**	**30**	P	Pn	12 21 53.1	+0.4
JCZ				S	Sn	12 22 04.7	+1.0
MLZ	**Mavora Lakes**	**0.74**	**192**	P	Pn	12 21 54.0	+0.4
MLZ				S	Sn	12 22 07.5	+2.2
EAZ	**Earnscleugh**	**0.91**	**131**	P	Pn	12 21 57.0	+1.6
EAZ				S	Sn	12 22 10.0	+1.4
DCZ	**Deep Cove**	**1.18**	**225**	P	Pn	12 21 57.7	-1.0
WHZ	**Wether Hill Ro**	**1.28**	**192**	P	Pn	12 22 00.4	+0.4
WHZ				S	Sn	12 22 17.7	+0.9
LBZ	**Lake Benmore**	**1.34**	**80**	P	Pn	12 22 01.7	+0.8
LBZ				S	Sn	12 22 18.5	+0.2
FOZ	**Fox Glacier**	**1.54**	**44**	P	Pn	12 22 03.0	-0.3
TUZ	**Tuapeka**	**1.60**	**146**	P	Pn	12 22 05.5	+1.4
TUZ				S	Sn	12 22 24.6	+0.5
ODZ	**Otahua Downs**	**1.69**	**105**	P	Pn	12 22 06.5	+1.1
TMZ	**Timaru**	**1.93**	**83**	P	Pn	12 22 08.9	+0.4
GCSZ	**Gaunt Creek Bo**	**1.95**	**48**	P	Pn	12 22 08.1	-0.7
SYZ	**Scrubby Hill**	**1.98**	**164**	P	Pn	12 22 10.1	+1.0
HHSZ	**Highcliff Hill**	**2.02**	**129**	P	Pn	12 22 11.7	+1.9
HHSZ				S	Sn	12 22 34.4	+0.2
ARCZ	**Arundel**	**2.15**	**72**	P	Pn	12 22 11.1	-0.4
RPZ	**Rata Peaks**	**2.16**	**66**	P	Pn	12 22 11.4	-0.3
APZ	**The Paps**	**2.20**	**186**	P	Pn	12 22 12.4	+0.1
WVZ	**Waitaha Valley**	**2.34**	**49**	P	Pn	12 22 13.0	-0.9
MHCZ	**Mount Hutt**	**2.58**	**66**	P	Pn	12 22 16.3	-1.0
WACZ	**Wakanui South**	**2.61**	**76**	P	Pn	12 22 17.2	-0.4
RACZ	**Rakaia**	**2.88**	**73**	P	Pn	12 22 20.7	-0.7
INZ	**Inchbonnie**	**2.96**	**51**	P	Pn	12 22 21.5	-0.9
INZ				S	Sn	12 22 56.6	-0.2
OXZ	**Oxford**	**2.98**	**65**	P	Pn	12 22 21.1	-1.6
OXZ				S	Sn	12 22 54.6	-2.7
MQZ	**McQueen's Vall**	**3.24**	**75**	P	Pn	12 22 25.4	-0.9
LTZ	**Lake Taylor**	**3.40**	**58**	P	Pn	12 22 26.9	-1.6
LTZ				S	Sn	12 23 05.3	-2.4
AMCZ	**Amberley**	**3.44**	**66**	P	Pn	12 22 28.1	-0.9
OKCZ	**Okains Bay**	**3.52**	**77**	P	Pn	12 22 29.8	-0.2
GVZ	**Greta Valley S**	**3.79**	**65**	P	Pn	12 22 32.4	-1.3
DSZ	**Dennistoun Nort**	**3.85**	**42**	P	Pn	12 22 33.3	-1.2
THZ	**Tophouse**	**4.41**	**51**	P	Pn	12 22 40.3	-1.9
QRZ	**Quartz Range**	**4.91**	**40**	P	Pn	12 22 47.8	-1.2
NNZ	**Nelson**	**5.04**	**49**	P	Pn	12 22 49.7	-1.0
DUWZ	**D'Urville Isla**	**5.62**	**49**	P	Pn	12 22 58.7	-0.1
CAW	**Cannon Point**	**6.07**	**57**	P	Pn	12 23 02.7	-2.1
PKE	**Pukeiti**	**6.88**	**48**	P	Pn	12 23 16.5	+0.6
VRZ	**Vera Road**	**7.30**	**43**	P	Pn	12 23 22.0	+0.4
OTVZ	**Oturere**	**7.73**	**47**	P	Pn	12 23 30.3	+2.6
KRVZ	**Karewarewa**	**7.77**	**47**	P	Pn	12 23 28.3	+0.1
WCZ	**Waipu Caves**	**9.82**	**30**	P	Pn	12 23 56.7	+0.6
PKGZ	**Pakihiroa**	**9.96**	**51**	P	Pn	12 23 56.0	-2.0
OUZ	**Omahuta**	**10.24**	**25**	P	Pn	12 24 02.6	+0.9

IDC ***15*** *12:46:12.1±1.3,24.˚53N×102.˚26E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/48,mbtmp3.6/5,ML3.3/1,MS3.0/4, Ms1 3.0/4,ms1mx2.6/45,Error ellipse: s-maj=36.0km s-min=18.4km az=94.0*

BJI ***15*** *12:46:12.2±0.0,24.˚43N×101.˚99E,h5km,mb4.1/9, ML3.9/11*

ISC 15 12:46:12.8±0.8,24.˚44N±0.˚05×101.˚96E±0.˚07,h10km,n31, σ1§32/29,mb3.6/4,MS2.9/4,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**0.98**	**46**	⇑ *Pg*	**Pg**	**12 46 30.8**	**-0.9**
KMI				*Sg*	**Sg**	**12 46 43.6**	**-0.9**
KMI				SMN			
	2µm,0.5s						
KMI				SME			
	3µm,0.9s						
GYA	**Guiyang**	**4.70**	**64**	Pn	**Pn**	**12 47 24.3**	**+0.4**
GYA				Sn	**Sn**	**12 48 19.6**	**+1.0**
CM34	**Chiang Mai Arr**	**6.15**	**206**	P	**Pg**	**12 48 09.0**	**-1.6**
CM33	**Chiang Mai Arr**	**6.26**	**207**	P	**Pg**	**12 48 11.0**	**-1.8**
CMMT	**Chiang Mai**	**6.26**	**207**	P	**Pg**	**12 48 11.1**	**-1.8**
CM32	**Chiang Mai Arr**	**6.45**	**207**	P	**Pg**	**12 48 15.0**	**-1.4**
CM36	**Chiang Mai Arr**	**6.47**	**205**	P	**Pg**	**12 48 16.0**	**-0.8**
CM09	**Chiang Mai Arr**	**6.58**	**205**	P	**Pg**	**12 48 18.0**	**-0.9**
	0.1nm98nm11nm,0.8s						
CM31	**Chiang Mai Arr**	**6.59**	**206**	P	**Pg**	**12 48 19.3**	**+0.3**
	2.3nm4µm422nm,0.8s						
CMAR	**Chiang Mai Arr**	**6.59**	**206**	Pn	Pn	12 47 54.6	+4.9
	0.2nm,0.3s,baz=25,slow=12,SNR=6.2						
CMAR				Pg	**Pg**	**12 48 16.9**	**-2.0**
	0.4nm,0.3s,baz=20,slow=17,SNR=18						
CMAR				Lg	Lg	12 49 44.4	
	0.2nm,0.3s,baz=24,slow=30,SNR=4.5						
CM15	**Chiang Mai Arr**	**6.60**	**206**	P	**Pg**	**12 48 19.0**	**-0.2**
	0.1nm126nm14nm,0.8s						
CM02	**Chiang Mai Arr**	**6.61**	**206**	P	**Pg**	**12 48 19.1**	**-0.2**
	0.1nm171nm25nm,0.8s						
CM01	**Chiang Mai Arr**	**6.61**	**206**	P	**Pg**	**12 48 19.8**	**+0.3**
	0.2nm159nm15nm,0.8s						
CM04	**Chiang Mai Arr**	**6.62**	**205**	P	**Pg**	**12 48 18.5**	**-1.2**
	0.1nm122nm18nm,0.9s						
CM13	**Chiang Mai Arr**	**6.63**	**206**	P	**Pg**	**12 48 18.9**	**-0.9**
	0.1nm100nm14nm,0.7s						
CM05	**Chiang Mai Arr**	**6.64**	**206**	P	**Pg**	**12 48 19.0**	**-0.9**
	0.1nm89nm9.4nm,0.9s						
UTTA	**Uttaradit**	**6.79**	**191**	P	Pg	12 48 27.2	+4.2
	0.0nm4.2nm,0.7s						
PHIT	**Phitsanulok**	**7.36**	**192**	P	**Pg**	**12 48 37.5**	**+3.7**
QIZ	**Qiongzhong**	**9.09**	**125**	P	**Pn**	**12 48 22.8**	**-1.4**
QIZ				S	**Sn**	**12 50 06.4**	**-0.2**
XAN	**Xi'an**	**11.32**	**31**	P	**Pn**	**12 48 56.5**	**+1.8**
XAN				pP		12 49 05.9	
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA	**Gaotai**	**15.03**	**354**	*eP*	**P**	**12 49 51.6**	**+0.7**
GTA				pP	pP	12 49 55.3	+1.2
GTA				sP	sP	12 49 57.8	+2.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NJ2	**Nanjing**	**16.69**	**59**	*eP*	**Pn**	**12 50 06.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WMQ	**Urumqi**	**22.59**	**332**	*eP*	**P**	**12 51 13.5**	**0.0**
SONM	**Songino Array**	**23.61**	**7**	P	**P**	**12 51 24.0**	**0.0**
	0.6nm,0.7s,baz=189,slow=8.7,SNR=4.0						
JOW	**Kunigami**	**23.83**	**79**	LR	LR	13 01 51.1	
	comp=Z,25nm,21.0s,baz=196,slow=40						
KSRS	**Korea Array**	**25.67**	**54**	LR	LR	13 03 01.3	
	comp=Z,43nm,19.1s,baz=238,slow=40						
TLY	**Talaya**	**27.23**	**2**	LR	LR	13 03 58.1	
	comp=Z,54nm,21.0s,baz=176,slow=39						
MKAR	**Makanchi Array**	**27.30**	**330**	P	**P**	**12 51 59.3**	**+1.8**
	0.7nm,0.8s,baz=134,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**32.14**	**341**	P	**P**	**12 52 40.4**	**0.0**
	2.3nm,0.8s,baz=153,slow=7.6,SNR=7.9						
MJAR	**Matsushiro Arr**	**33.29**	**60**	LR	LR	13 06 57.9	
	comp=Z,20nm,18.4s,baz=205,slow=38						
WRA	**Warramunga Arr**	**54.23**	**142**	P	**P**	**12 55 39.2**	**+0.2**
	0.9nm,1.0s,baz=332,slow=8.3,SNR=4.2						

IDC 15 12:49:43.6±2.5,5.˚37N×125.˚40E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/47,mbtmp3.3/3,MS3.0/1,Ms1 3.0/1, ms1mx2.3/22,Error ellipse: s-maj=236.9km s-min=27.9km az=65.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**26.19**	**124**	LR	LR	13 04 53.4	
	comp=Z,37nm,20.6s,baz=196,slow=35						
WRA	**Warramunga Arr**	**26.65**	**161**	P	P	12 55 23.9	-0.4
	0.4nm,1.0s,baz=340,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**30.03**	**164**	P	P	12 55 54.8	+0.3
	0.2nm,0.6s,baz=341,slow=7.2,SNR=6.2						
MKAR	**Makanchi Array**	**55.46**	**325**	P	P	12 59 20.1	-0.1
	0.2nm,0.4s,baz=115,slow=8.1,SNR=5.0						

DJA 15 13:26:22.5±1.8,2.˚N±10.˚×128.˚E±1.˚5,h205km±8km,M3.5/7, mb3.6/3,mB4.7/2,MLv3.5/7,Mw(mB)4.0/2,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**0.53**	**237**	P	Pn	13 26 50.5	+0.2
GAMI				S	S	13 27 13.6	+1.7
TNTI	**Ternate**	**1.60**	**213**	P	Pn	13 26 58.6	+1.0
SGSI	**Sangihe**	**3.11**	**300**	P	Pn	13 27 13.9	+0.2
SANI	**Sanana**	**4.72**	**208**	P	Pn	13 27 33.0	-0.5
GTOI	**Gorontalo**	**5.42**	**254**	P	Pn	13 27 43.8	+1.3
	0.0nm5.6nm,0.7s						
NLAI	**Namlea**	**5.45**	**192**	P	Pn	13 27 43.0	+0.2
	0.1nm4µm14nm,1.1s						
APSI	**Ampana**	**7.24**	**245**	P	Pn	13 28 05.7	-0.2

DJA ***15*** *13:33:05.5±0.5,8.˚S±5.˚×107.˚4E±.˚,h10km,M4.6/15,mb5.0/6, mB5.0/2,MLv4.3/15,Mw(mB)4.3/2*

IDC ***15*** *13:33:05.8±1.5,7.˚95S×104.˚38E,h0km,mb4.0/10, mb1 4.1/12,mb1mx3.9/43,mbtmp4.1/12,ML4.3/2,MS2.8/3, Ms1 2.8/3,ms1mx2.4/43,Error ellipse: s-maj=46.0km s-min=16.7km az=50.0*

NEIC ***15*** *13:33:07.0±1.0,7.˚8S±0.˚1×104.˚5E±0.˚1,h4km±5km, mb4.4/27,Error ellipse: s-maj=24.8km s-min=10.0km az=49.0*

ISC 15 13:33:06.4±0.6,8.˚03S±0.˚06×104.˚42E±0.˚07,h10km,n85, σ1§38/80,mb4.3/21,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.89**	**42**	P	**Pn**	**13 33 37.1**	**-1.7**
KASI	**Kota Agung**	**2.49**	**2**	P	**Pn**	**13 33 45.4**	**-1.6**
XMIS	**Christmas Isla**	**2.73**	**153**		**Pn**	**13 33 48.4**	**-2.0**
DBJI	**Dramaga**	**2.74**	**58**	P	**Pn**	**13 33 50.3**	**-0.2**
CNJI	**Cibinong**	**2.78**	**75**	P	**Pn**	**13 33 49.8**	**-1.3**
CBJI	**Citeko**	**2.90**	**57**	P	**Pn**	**13 33 51.6**	**-1.0**
LWLI	**Liwa**	**3.01**	**353**	P	**Pn**	**13 33 53.1**	**-1.2**
LEM	**Lembang**	**3.39**	**70**	Pn	**Pn**	**13 34 01.3**	**+1.6**
	10nm,0.3s,baz=322,slow=21,SNR=15						
LEM				Sn	**Sn**	**13 34 38.9**	**-1.2**
	15nm,0.3s,baz=149,slow=17,SNR=11						
LEM				LR	LR	13 34 59.2	
	comp=Z,86nm,20.4s,baz=148,slow=33						
LEM	**Lembang**	**3.39**	**70**	P	**Pn**	**13 34 00.5**	**+0.9**
EGSI	**Enggano, Bengk**	**3.40**	**321**	P	**Pn**	**13 33 59.6**	**0.0**
CISI	**Cisompet, Garu**	**3.40**	**82**	Pn	**Pn**	**13 33 58.3**	**-1.4**
CISI	**Cisompet, Garu**	**3.40**	**82**	P	**Pn**	**13 33 58.9**	**-0.8**
MDSI	**Maura Dua**	**3.52**	**356**	P	**Pn**	**13 34 00.3**	**-1.0**
MNAI	**Manna**	**3.92**	**338**	Pn	**Pn**	**13 34 05.6**	**-1.2**
MNAI	**Manna**	**3.92**	**338**	P	**Pn**	**13 34 05.6**	**-1.2**
LHSI	**Lahat**	**4.26**	**348**	P	**Pn**	**13 34 11.0**	**-0.5**
KPJI	**Karang Pucung**	**4.53**	**82**	P	**Pn**	**13 34 14.8**	**-0.3**
UGM	**Wanagama**	**6.05**	**89**		**Pn**	**13 34 35.4**	**-0.7**
UGM	**Wanagama**	**6.05**	**89**	P	**Pn**	**13 34 35.9**	**-0.2**
	0.6nm134nm,0.5s						
PCJI	**Pacitan**	**6.70**	**92**	P	**Pn**	**13 34 44.6**	**-0.3**
	0.3nm64nm,0.6s						
SJI	**Sawahan**	**7.29**	**88**	P	**Pn**	**13 34 54.2**	**+1.0**
	0.3nm1µm70nm,0.5s						
PWJI	**Pagerwojo**	**7.32**	**90**	P	**Pn**	**13 34 53.9**	**+0.4**
	0.4nm114nm,0.6s					

USRK	**Ussuriysk Ar.**	**57.66**	**23**	P		**P**	**13 42 56.6**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=189,slow=5.6,SNR=5.1							
MK31	**Makanchi Array**	**58.03**	**342**	P		**P**	**13 42 59.5**	**-0.1**
MKAR	**Makanchi Array**	**58.03**	**342**	P		**P**	**13 43 00.1**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=149,slow=7.7,SNR=16							
MKAR	**Makanchi Array**	**58.03**	**342**	P		**P**	**13 42 59.2**	**-0.3**
MAKZ	**Makanchi**	**58.13**	**342**	P		P	**13 43 00.1**	**-0.2**
MAKZ				IAmb		IAmb	13 43 18.5	
	comp=Z,4.6nm,1.4s							
ZAA0	**Zalesovo Array**	**63.92**	**347**	P		**P**	**13 43 39.1**	**-0.4**
ZALV	**Zalesovo Beam**	**63.92**	**347**	P		**P**	**13 43 39.5**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=153,slow=5.9,SNR=9.9							
ZALV	**Zalesovo Beam**	**63.92**	**347**	P		**P**	**13 43 39.0**	**-0.5**
ABKAR	**Akbulak array**	**69.01**	**331**	P		**P**	**13 44 12.6**	**+0.5**
BKZ	**Black Stump Fm**	**71.08**	**129**	P		**P**	**13 44 27.1**	**+1.8**
PETK	**Petropavlovsk-**	**75.74**	**30**	P		**P**	**13 44 51.7**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=202,slow=7.3,SNR=2.1							
PETK	**Petropavlovsk-**	**75.74**	**30**	P		**P**	**13 44 51.5**	**-0.7**
TXAR	**Lajitas Array**	**146.16**	**48**	PKPbc		**PKPab**	**13 52 49.2**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=314,slow=2.2,SNR=9.9							
TXAR	**Lajitas Array**	**146.16**	**48**	PKPbc		**PKPdf**	**13 52 47.5**	**+0.6**

IDC ***15*** *13:38:01.6±0.6,31°.40N×41°.00W,h0km,mb4.1/25, mb1 4.3/25,mb1mx4.2/47,mbtmp4.1/25,MS3.8/30, Ms1 3.8/30,ms1mx3.8/38,Error ellipse: s-maj=16.6km s-min=12.7km az=163.0*

NEIC ***15*** *13:38:02.0±1.9,31°.50N±0°.05×41°.2W±0°.1,h10km±1km, mb4.6/116,Error ellipse: s-maj=16.7km s-min=8.8km az=262.0*

GCMT ***15*** *13:38:06.0±0.2,31°.66N±0°.03×41°.07W±0°.02,h12km, MW4.9/103,Moment Tensor Solution. s25,c26; s103,c131; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.53±.07; Mθθ0.79±.09; Mϕϕ1.75±.06; Mrθ1.87±.34; Mθϕ0.91±.06; Mrϕ-0.87±.23; Best double couple: M=2.97000×10^16^ NP1:ϕs9.00000°,δ47.00000°, λ-129.00000°. NP2:ϕs239.00000°,δ55.00000°, λ-56.00000°. Principal axes: T 2.3130, Plg4.0000°, Azm305.0000°; N 1.3200, Plg28.0000°, Azm38.0000°; P -3.6260, Plg62.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 13:38:02.5±0.5,31°.48N±0°.09×41°.14W±0°.07,h14km,n176, σ1§**30**/151,**mb4.6**/79,**MS3.8**/30,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**20.31**	**80**	*e*LR	LR	13 47 04.8	
PMAR	**Madeira**	**20.56**	**80**	*e*LR	LR	13 47 04.8	
PMPST	**Porto Santo, M**	**21.03**	**79**	*e*LR	LR	13 47 16.5	
LMN	**Caledonia Moun**	**23.28**	**315**	P	**P**	**13 43 10.1**	**+0.4**
LMN				IAmb	IAmb	13 43 16.2	
	comp=Z,28nm,1.1s						
F64A	**Sherman**	**25.49**	**312**	P	**P**	**13 43 27.9**	**-2.2**
F64A				IAmb	IAmb	13 43 35.8	
	comp=Z,17nm,1.4s						
SJG	**San Juan**	**26.24**	**245**	LR	LR	13 52 08.6	
	comp=Z,104nm,20.6s,baz=75,slow=32						
EMPR	**Esperanza - Ma**	**26.33**	**247**	P	**P**	**13 43 36.9**	**-1.1**
PVAQ	**Vaqueiros**	**28.10**	**69**	*e*LR	LR	13 50 57.6	
	comp=Z,655nm,20.0s						
MDP	**Montagnes des**	**28.37**	**205**	LR	LR	13 52 34.4	
	comp=Z,221nm,22.0s,baz=54,slow=31						
MTE	**Manteigas**	**28.48**	**62**	*e*LR	LR	13 51 12.5	
	comp=Z,191nm,20.0s						
MVO	**Moncorvo**	**28.98**	**61**	*e*LR	LR	13 51 21.8	
	comp=Z,186nm,20.0s						
SCHQ	**Schefferville**	**29.62**	**330**	P	**P**	**13 44 09.2**	**+2.0**
	comp=Z,4.9nm,0.8s,baz=184,slow=12,SNR=4.2						
SCHQ				LR	LR	13 55 32.0	
	comp=Z,630nm,18.6s,baz=107,slow=35						
SCHQ	**Schefferville**	**29.62**	**330**	P	**P**	**13 44 08.0**	**+0.7**
SCHQ				IAmb	IAmb	13 44 17.2	
	comp=Z,9.5nm,1.0s						
PECO	**Prince Edward**	**30.73**	**304**	P	**P**	**13 44 16.9**	**-0.1**
PECO				IAmb	IAmb	13 44 27.3	
	comp=Z,8.3nm,1.1s						
MDT	**Midelt**	**30.87**	**78**	P	**P**	**13 44 19.6**	**+1.1**
	comp=Z,4.1nm,1.1s,baz=261,slow=14,SNR=3.6						
ESDC	**Sonseca Array**	**31.15**	**64**	P	**P**	**13 44 22.2**	**+1.3**
	comp=Z,3.2nm,1.3s,baz=253,slow=7.9,SNR=7.7						
ESDC				LR	LR	13 54 47.5	
	comp=Z,80nm,18.1s,baz=215,slow=32						
SADO	**Sadowa**	**32.40**	**305**	P	**P**	**13 44 34.0**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=114,slow=9.8,SNR=2.3						
SADO	**Sadowa**	**32.40**	**305**	IAmb	IAmb	13 44 47.0	
	comp=Z,18nm,1.4s						
W57A	**Gilead**	**32.53**	**287**	P	**P**	**13 44 33.1**	**+0.1**
I49A	**Point Hope**	**34.89**	**303**	P	**P**	**13 44 54.3**	**+0.9**
SDV	**Santo Domingo**	**35.45**	**237**	P	**P**	**13 45 01.5**	**+2.7**
	comp=Z,5.6nm,0.2s,baz=38,slow=9.8,SNR=3.7						
GOGA	**Godfrey**	**35.59**	**285**	P	**P**	**13 44 58.0**	**-1.6**
GOGA				IAmb	IAmb	13 45 04.3	
	comp=Z,13nm,1.4s						
PTGA	**Pitinga**	**36.67**	**213**	P	**P**	**13 45 10.2**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=344,slow=22,SNR=2.4						
PTGA	**Pitinga**	**36.67**	**213**	IAmb	IAmb	13 45 11.9	
	comp=Z,8.7nm,1.3s						
CLTN	**Cedars of Leba**	**37.58**	**290**	P	**P**	**13 45 15.6**	**-1.0**
KOWA	**Kowa**	**37.90**	**108**	P	**P**	**13 45 18.0**	**-1.5**
	comp=Z,5.3nm,1.0s,baz=318,slow=13,SNR=4.5						
KOWA	**Kowa**	**37.90**	**108**	P	**P**	**13 45 18.5**	**-0.9**
KOWA				IAmb	IAmb	13 45 22.8	
	comp=Z,11nm,1.1s						
PLAL	**Pickwick Lake**	**39.14**	**288**	P	**P**	**13 45 28.4**	**-1.3**
D41A	**Chassel**	**39.25**	**307**	P	**P**	**13 45 28.9**	**-1.6**
D41A				IAmb	IAmb	13 45 41.6	
	comp=Z,18nm,1.2s						
S44A	**Carbondale**	**39.74**	**293**	P	**P**	**13 45 34.4**	**-0.3**
ECH	**Echery**	**39.97**	**51**	P	**P**	**13 45 35.9**	**-0.5**
JFWS	**Jewell Farm**	**40.23**	**301**	P	**P**	**13 45 38.5**	**-0.2**
FVM	**French Village**	**40.64**	**293**	P	**P**	**13 45 40.4**	**-1.7**
FVM				IAmb	IAmb	13 45 52.0	
	comp=Z,18nm,1.4s						
N41A	**Harden Midland**	**40.75**	**297**	P	**P**	**13 45 41.4**	**-1.6**
N41A				IAmb	IAmb	13 45 53.0	
	comp=Z,9.8nm,0.8s						
BFO	**Black Forest**	**40.76**	**51**	P	**P**	**13 45 42.6**	**-0.4**
BFO				IAmb	IAmb	13 45 53.5	
	comp=Z,15nm,1.4s						
ROSC	**El Rosal**	**40.88**	**236**	LR	LR	14 01 36.4	
	comp=Z,152nm,20.9s,baz=56,slow=35						
L40A	**Anamosa**	**40.97**	**299**	P	**P**	**13 45 43.0**	**-1.8**
L40A				IAmb	IAmb	13 45 50.8	
	comp=Z,17nm,1.4s						
SUMG	**Summit**	**41.18**	**1**	P	**P**	**13 45 46.7**	**+0.1**
SUMG				IAmb	IAmb	13 45 59.3	
	comp=Z,19nm,1.4s						
TUE	**Stuetta**	**41.30**	**54**	P	**P**	**13 45 47.7**	**0.0**
TUE				IAmb	IAmb	13 45 51.8	
	comp=Z,17nm,1.4s						
EYMN	**Ely**	**41.31**	**308**	P	**P**	**13 45 46.7**	**-0.9**
LCAR	**Lake Charles**	**41.46**	**290**	P	**P**	**13 45 47.8**	**-1.1**
LCAR				IAmb	IAmb	13 45 57.6	
	comp=Z,20nm,1.5s						
P40A	**Paris**	**41.75**	**296**	P	**P**	**13 45 50.2**	**-1.0**
P40A				IAmb	IAmb	13 46 03.2	
	comp=Z,11nm,1.1s						
KEST	**Kesra**	**41.89**	**70**	LR	LR	14 00 33.8	
	comp=Z,94nm,20.2s,baz=354,slow=32						
DBIC	**Dimbokro**	**41.92**	**118**	LR	LR	14 00 27.0	
	comp=Z,415nm,21.7s,baz=298,slow=32						
DBIC	**Dimbokro**	**41.92**	**118**	P	**P**	**13 45 52.3**	**-0.6**
DBIC				IAmb	IAmb	13 45 52.9	
	comp=Z,21nm,1.4s						
MGMO	**Mountain Grove**	**42.19**	**292**	P	**P**	**13 45 54.5**	**-0.4**
FCAR	**Ozark Folk Cen**	**42.26**	**290**	P	**P**	**13 45 56.0**	**+0.5**
WHAR	**Wooly Hollow**	**42.50**	**289**	P	**P**	**13 45 54.9**	**-2.5**
U40A	**Yellville**	**42.77**	**291**	P	**P**	**13 45 58.6**	**-1.1**
B35A	**Bob, Littlefor**	**42.83**	**309**	P	**P**	**13 45 59.6**	**-0.3**
P38A	**Dawn**	**42.88**	**296**	P	**P**	**13 46 00.4**	**-0.1**
S39A	**Bolivar**	**42.95**	**293**	P	**P**	**13 46 01.5**	**+0.4**
TOA0	**Torodi Ar. Sit**	**43.30**	**105**	P	**P**	**13 46 02.6**	**-1.6**
TOA0				IAmb	IAmb	13 46 12.7	
	comp=Z,16nm,1.4s						
TORD	**Torodi Ar. Bea**	**43.30**	**105**	P	**P**	**13 46 04.0**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=295,slow=6.8,SNR=9.7						
TORD				LR	LR	14 01 43.0	
	comp=Z,136nm,21.4s,baz=290,slow=33						
TORD	**Torodi Ar. Bea**	**43.30**	**105**	P	**P**	**13 46 02.2**	**-1.9**
STAL	**STALIGIAL**	**43.62**	**54**	P	**P**	**13 46 06.5**	**0.0**
STAL				IAmb	IAmb	13 46 15.3	
	comp=Z,8.1nm,0.6s						
MIAR	**Mount Ida**	**43.67**	**289**	P	**P**	**13 46 06.6**	**-0.3**
MIAR				IAmb	IAmb	13 46 36.0	
	comp=Z,15nm,1.4s						
CLL	**Collm**	**44.06**	**47**	*i* (P)	**P**	**13 46 13.1**	**+3.3**
	comp=Z,8.0nm,1.0s						
CLL				*e*S	**S**	**13 52 42.0**	**+0.4**
CLL				*e*SSS	SSS	13 56 42.0	
ULM	**Lac du Bonnet**	**44.35**	**311**	LR	LR	14 02 47.5	
	comp=Z,134nm,21.8s,baz=90,slow=33						
GERES	**GERESS Array B**	**44.35**	**51**	P	**P**	**13 46 14.0**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=260,slow=7.6,SNR=5.4						
GERES	**GERESS Array B**	**44.35**	**51**	P	**P**	**13 46 12.9**	**+0.6**
BRG	**Berggiesshubel**	**44.61**	**48**	*e*P	**P**	**13 46 17.4**	**+3.2**
BRG				Amp		13 46 24.8	
	comp=Z,11nm,1.4s						
BRG				Amp		14 02 39.0	
	comp=E,0.2nm,21.2s						
BRG				Amp		14 02 43.0	
	comp=Z,0.3nm,17.7s						
ECSD	**EROS Data Cent**	**44.85**	**302**	P	**P**	**13 46 15.2**	**-1.0**
NOA	**NORSAR Array B**	**44.94**	**33**	P	**P**	**13 46 16.8**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=254,slow=8.4,SNR=3.8						
NOA				LR	LR	14 01 48.0	
	comp=Z,37nm,21.6s,baz=245,slow=32						
T35A	**Sooner Cattle**	**45.58**	**293**	P	**P**	**13 46 20.5**	**-1.7**
T35A				IAmb	IAmb	13 46 32.3	
	comp=Z,11nm,1.1s						
H10N2	**ASCENSION HYDR**	**46.66**	**142**	T	T	14 36 13.0	
	baz=328,slow=75,SNR=556						
H10N3	**ASCENSION HYDR**	**46.67**	**142**	T	T	14 36 09.9	
	baz=328,slow=75,SNR=433						
H10N1	**ASCENSION HYDR**	**46.68**	**142**	T	T	14 36 12.0	
	baz=328,slow=75,SNR=550						
TULEG	**Thule**	**46.97**	**351**	P	**P**	**13 46 32.7**	**+0.3**
TULEG				IAmb	IAmb	13 46 40.2	
	comp=Z,9.3nm,1.1s						
WHTX	**Lake Whitney,**	**47.42**	**286**	P	**P**	**13 46 37.5**	**+0.9**
H10S3	**ASCENSION HYDR**	**47.53**	**143**	T	T	14 37 16.0	
	baz=328,slow=74,SNR=430						
H10S2	**ASCENSION HYDR**	**47.54**	**143**	T	T	14 37 17.1	
	baz=252,slow=74,SNR=151						
WMOK	**Wichita Mounta**	**47.83**	**290**	P	**P**	**13 46 40.6**	**+0.8**
FFC	**Flin Flon**	**48.33**	**317**	P	**P**	**13 46 42.8**	**-0.6**
FFC				IAmb	IAmb	13 46 54.1	
	comp=Z,5.8nm,0.8s						
PSZ	**Piszkesteto**	**48.49**	**52**	P	**P**	**13 46 44.1**	**-0.6**
PSZ				IAmb	IAmb	13 46 53.4	
	comp=Z,6.6nm,1.0s						
ABTX	**Abilene, Hawle**	**49.04**	**288**	P	**P**	**13 46 48.9**	**-0.3**
JCT	**Junction City**	**49.77**	**285**	P	**P**	**13 46 54.5**	**-0.3**
RES	**Resolute Bay**	**50.57**	**344**	P	**P**	**13 47 03.2**	**+3.1**
	comp=Z,4.7nm,0.9s,baz=128,slow=4.2,SNR=4.3						
RES	**Resolute Bay**	**50.57**	**344**	IAmb	IAmb	13 47 05.7	
	comp=Z,9.1nm,1.1s						
SIV	**San Ignacio**	**50.93**	**205**	P	**P**	**13 47 05.4**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=66,slow=12,SNR=5.1						
MSTX	**Muleshoe**	**51.22**	**290**	P	**P**	**13 47 04.1**	**-1.7**
T25A	**Trinidad**	**51.72**	**295**	P	**P**	**13 47 09.8**	**+0.2**
T25A				IAmb	IAmb	13 47 20.0	
	comp=Z,8.1nm,1.1s						
EUNU	**Eureka**	**51.96**	**351**	P	**P**	**13 47 11.3**	**+0.7**
EUNU				IAmb	IAmb	13 47 16.3	
	comp=Z,11nm,1.4s						
ISCO	**Idaho Springs**	**52.05**	**298**	P	**P**	**13 47 11.6**	**-0.6**
FINES	**FINESS Array B**	**52.07**	**34**	P	**P**	**13 47 13.3**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=263,slow=9.4,SNR=1.4						
FINES				LR	LR	14 05 47.7	
	comp=Z,55nm,20.6s,baz=248,slow=32						
BURAR	**Bucovina Array**	**52.09**	**52**	P	**P**	**13 47 11.0**	**-1.1**
SDCO	**Great Sand Dun**	**52.42**	**296**	P	**P**	**13 47 14.1**	**-0.9**
ARCES	**ARCESS Array B**	**52.73**	**24**	P	**P**	**13 47 18.7**	**+2.3**
	comp=Z,2.5nm,0.9s,baz=251,slow=7.6,SNR=4.1						
ARCES				LR	LR	14 06 07.8	
	comp=Z,26nm,21.1s,baz=205,slow=32						
MLR	**Muntele Rosu**	**52.89**	**54**	P	**P**	**13 47 18.0**	**-0.1**
SMCO	**Snowmass**	**53.21**	**298**	P	**P**	**13 47 19.9**	**-1.0**
TX31	**Lajitas Ar. Si**	**53.31**	**285**	P	**P**	**13 47 18.7**	**-2.7**
TX31				IAmb	IAmb	13 47 29.1	
	comp=Z,12nm,1.3s						
TXAR	**Lajitas Array**	**53.31**	**285**	P	**P**	**13 47 24.0**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=74,slow=6.7,SNR=3.4						
TXAR				LR	LR	14 10 04.0	
	comp=Z,103nm,18.4s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**53.31**	**285**	P	**P**	**13 47 21.7**	**+0.3**
EGMT	**Eagleton**	**53.54**	**309**	P	**P**	**13 47 20.7**	**-2.1**
RLMT	**Red Lodge**	**53.68**	**305**	P	**P**	**13 47 24.7**	**+0.7**
RLMT				IAmb	IAmb	13 47 29.1	
	comp=Z,14nm,1.4s						
ANMO	**Albuquerque**	**53.88**	**292**	P	**P**	**13 47 26.1**	**+0.5**
ANMO				IAmb	IAmb	13 47 36.4	
	comp=Z,6.7nm,1.1s						
LPAZ	**La Paz**	**54.10**	**213**	P	**P**	**13 47 28.6**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=347,slow=4.4,SNR=6.9						
LPAZ				LR	LR	14 09 09.0	
	comp=Z,129nm,19.7s,baz=18,slow=34						
LPAZ	**La Paz**	**54.10**	**213**	P	**P**	**13 47 26.4**	**-1.4**
BNM	**Barren Site**	**54.24**	**292**	P	**P**	**13 47 27.3**	**-1.1**
AKASG	**Malin Array Be**	**54.30**	**48**	P	**P**	**13 47 28.4**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=275,slow=6.4,SNR=8.5						
AKASG				LR	LR	14 08 58.3	
	comp=Z,112nm,18.0s,baz=260,slow=34						
AKASG	**Malin Array Be**	**54.30**	**48**	P	**P**	**13 47 28.4**	**+0.2**
AKBB	**Malin Array Si**	**54.30**	**48**	P	**P**	**13 47 27.8**	**-0.3**
BW06	**Boulder Array**	**54.34**	**303**	P	**P**	**13 47 29.0**	**+0.1**
PD31	**Pinedale Array**	**54.34**	**303**	P	**P**	**13 47 28.3**	**-0.6**
PDAR	**Pinedale Array**	**54.34**	**303**	P	**P**	**13 47 31.0**	**+2.1**
	comp=Z,2.9nm,0.8s,baz=79,slow=8.0,SNR=17						
PDAR				LR	LR	14 09 58.4	
	comp=Z,468nm,18.3s,baz=113,slow=35						
PDAR	**Pinedale Array**	**54.34**	**303**	P	**P**	**13 47 28.2**	**-0.6**
IDI	**Anoyia**	**54.35**	**67**	P	**P**	**13 47 29.0**	**+0.1**
IDI				IAmb	IAmb	13 47 39.5	
	comp=Z,9.6nm,1.3s						
RDMU	**Red Mountain**	**54.83**	**300**	P	**P**	**13 47 31.8**	**-0.7**
YKA	**Yellowknife Ar**	**55.03**	**327**	P	**P**	**13 47 35.2**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=89,slow=7.7,SNR=3.2						
YKA				LR	LR	14 10 15.4	
	comp=Z,327nm,20.2s,baz=0.0,slow=35						
YHL	**Hebgen Lake**	**55.06**	**305**	P	**P**	**13 47 34.0**	**-0.1**
YHB	**Horse Butte**	**55.09**	**305**	P	**P**	**13 47 34.8**	**+0.5**
YHB				IAmb	IAmb	13 47 45.5	
	comp=Z,9.3nm,1.1s						
REDW	**Red Top Meadow**	**55.14**	**304**	P	**P**	**13 47 33.3**	**-1.4**
TPAW	**Teton Pass**	**55.18**	**304**	P	**P**	**13 47 32.9**	**-2.1**
TPAW				IAmb	IAmb	13 47 45.7	
	comp=Z,9.0nm,1.3s						
SRU	**San Rafael Swe**	**55.91**	**298**	P	**P**	**13 47 39.7**	**-0.5**
DLMT	**Dillon**	**55.94**	**306**	P	**P**	**13 47 40.3**	**0.0**
DLMT				IAmb	IAmb	13 47 50.9	
	comp=Z,7.8nm,1.4s						
TMUT	**Trail Mountain**	**56.37**	**299**	P	**P**	**13 47 41.5**	**-2.2**
BCYI	**Bear Canyon**	**56.73**	**305**	P	**P**	**13 47 46.1**	**0.0**
NLU	**North Lily Min**	**56.84**	**300**	P	**P**	**13 47 46.7**	**-0.3**
NLU				IAmb	IAmb	13 47 57.9	
	comp=Z,5.9nm,1.1s						
PB11	**IPOC Station P**	**57.83**	**212**	P	**P**	**13 47 53.1**	**-0.8**
X16A	**Lo Mia Camp, P**	**57.96**	**293**	P	**P**	**13 47 55.5**	**+0.6**
X16A				IAmb	IAmb	13 48 06.9	
	comp=Z,7.4nm,1.2s						
TUC	**Tucson**	**58.12**	**291**	P	**P**	**13 47 53.0**	**-2.9**
TUC				IAmb	IAmb	13 48 06.3	
	comp=Z,7.1nm,1.4s						
NEW	**Newport**	**58.34**	**310**	P	**P**	**13 47 56.4**	**-0.7**
NEW				IAmb	IAmb	13 48 07.3	
	comp=Z,6.3nm,0.8s						
PSUT	**Pine Spring**	**58.57**	**299**	P	**P**	**13 47 59.8**	**+0.7**
PSUT				IAmb	IAmb	13 48 10.5	
	comp=Z,8.0nm,1.1s						
KLMR	**Klimovskoe**	**58.60**	**34**	*e*P	**P**	**13 47 56.4**	**-2.2**
KLMR				AMP		13 48 08.7	
	comp=Z,25nm,1.8s						
MFID	**Camas Ranch**	**58.65**	**305**	P	**P**	**13 47 59.3**	**-0.2**
MFID				IAmb	IAmb	13 48 05.2	
	comp=Z,6.4nm,1.1s						
SPR3	**Spring Creek 3**	**58.79**	**299**	P	**P**	**13 47 59.2**	**-1.6**
SPR3				IAmb	IAmb	13 48 12.9	
	comp=Z,8.4nm,1.2s						
CPUP	**Villa Florida**	**59.53**	**197**	LR	LR	14 15 29.8	
	comp=Z,21nm,18.4s,baz=28,slow=38						
BRTR	**Keskin Array B**	**59.75**	**59**	P	**P**	**13 48 07.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=267,slow=6.2,SNR=7.8						
BRTR				LR	LR	14 13 13.5	
	comp=Z,54nm,18.7s,baz=281,slow=35						
BRTR	**Keskin Array B**	**59.75**	**59**	P	**P**	**13 48 06.7**	**-0.5**
R11A	**Troy Canyon, C**	**59.92**	**299**	P	**P**	**13 48 07.5**	**-0.9**
G08A	**Pilot Rock**	**60.31**	**307**	P	**P**	**13 48 09.6**	**-1.3**
G08A				IAmb	IAmb	13 48 17.1	
	comp=Z,5.4nm,1.3s						
HAWA	**Hanford**	**60.39**	**309**	P	**P**	**13 48 10.1**	**-1.1**
HAWA				IAmb	IAmb	13 48 16.9	
	comp=Z,7.6nm,1.0s						
J08A	**Circle Bar Ran**	**60.52**	**305**	P	**P**	**13 48 12.4**	**0.0**
J08A				IAmb	IAmb	13 48 18.4	
	comp=Z,6.6nm,1.1s						
TPNV	**Topopah Spring**	**60.86**	**298**	P	**P**	**13 48 13.7**	**-1.2**
WVOR	**Wild Horse Val**	**60.90**	**304**	P	**P**	**13 48 14.7**	**-0.3**
WVOR				IAmb	IAmb	13 48 25.2	
	comp=Z,6.1nm,1.1s						
KVN	**Kaiserville**	**61.56**	**300**	P	**P**	**13 48 17.5**	**-2.2**
KVN				IAmb	IAmb	13 48 30.3	
	comp=Z,5.9nm,1.0s						
NVAR	**Mina Array Bea**	**61.92**	**300**	P	**P**	**13 48 23.2**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=68,slow=6.3,SNR=4.4						
NVAR				LR	LR	14 14 28.0	
	comp=Z,589nm,19.4s,baz=56,slow=35						
NVAR	**Mina Array Bea**	**61.92**	**300**	P	**P**	**13 48 21.6**	**-0.4**
INK	**Inuvik**	**62.02**	**335**	P	**P**	**13 48 20.1**	**-1.8**
INK				IAmb	IAmb	13 48 32.3	
	comp=Z,7.4nm,1.1s						
ISA	**Isabella, Lake**	**62.99**	**297**	P	**P**	**13 48 28.0**	**-1.0**
KBZ	**Khabaz**	**65.02**	**53**	P	**P**	**13 48 44.1**	**+1.9**
	comp=Z,4.0nm,1.0s,baz=270,slow=4.0,SNR=4.6						
KBZ				LR	LR	14 17 40.9	
	comp=Z,25nm,18.1s,baz=338,slow=37						
DAWY	**Dawson**	**65.62**	**331**	P	**P**	**13 48 43.8**	**-2.0**
DAWY				IAmb	IAmb	13 48 56.6	
	comp=Z,5.0nm,1.1s						
EGAK	**Eagle**	**66.06**	**333**	P	**P**	**13 48 47.0**	**-1.5**
EGAK				IAmb	IAmb	13 48 59.1	
	comp=Z,4.7nm,1.1s						
PRP	**Porcupine Dome**	**67.42**	**334**	P	**P**	**13 48 56.4**	**-1.0**
PRP				IAmb	IAmb	13 49 08.3	
	comp=Z,4.5nm,0.9s						
GNI	**Garni**	**67.62**	**56**	P	**P**	**13 48 56.7**	**-2.4**
GRNC	**Granite Creek**	**67.96**	**329**	P	**P**	**13 49 00.9**	**0.0**
GRNC				IAmb	IAmb	13 49 06.9	
	comp=Z,7.1nm,1.4s						
ILAR	**Eielson Array**	**68.28**	**334**	P	**P**	**13 49 04.6**	**+2.0**
	comp=Z,2.5nm,1.0s,baz=49,slow=4.2,SNR=14						
ILAR				LR	LR	14 18 51.9	
	comp=Z,231nm,19.3s,baz=92,slow=36						
ILAR	**Eielson Array**	**68.28**	**334**	P	**P**	**13 49 02.4**	**-0.2**
HDA	**Harding Lake**	**68.47**	**333**	P	**P**	**13 49 03.2**	**-0.6**
WRH	**Wood River Hil**	**68.88**	**334**	P	**P**	**13 49 05.4**	**-0.9**
I23K	**Minto, Yukon-K**	**69.02**	**335**	P	**P**	**13 49 06.4**	**-0.8**
I23K				IAmb	IAmb	13 49 14.6	
	comp=Z,9.3nm,1.4s						
BMRM	**Bremner River**	**69.11**	**329**	P	**P**	**13 49 08.4**	**+0.5**
BMRM				IAmb	IAmb	13 49 17.1	
	comp=Z,9.7nm,1.4s						
ARU	**Arti**	**69.39**	**36**	P	**P**	**13 49 09.7**	**0.0**
BWN	**Browne**	**69.55**	**334**	P	**P**	**13 49 08.3**	**-2.2**
TRF	**Thorofare Moun**	**70.23**	**333**	P	**P**	**13 49 13.9**	**-1.1**
TRF				IAmb	IAmb	13 49 21.1	
	comp=Z,6.5nm,1.2s						
KTH	**Kantishna Hill**	**70.42**	**333**	P	**P**	**13 49 16.5**	**+0.6**
KTH				IAmb	IAmb	13 49 22.4	
	comp=Z,9.3nm,1.2s						
PPLA	**Purkeypile**	**71.25**	**333**	P	**P**	**13 49 22.1**	**+0.9**
CAPN	**Captain Cook N**	**71.99**	**331**	P	**P**	**13 49 24.7**	**-0.7**
ABKAR	**Akbulak array**	**73.45**	**42**	P	**P**	**13 49 34.7**	**+0.4**
ABKAR	**Akbulak array**	**73.45**	**42**	P	**P**	**13 49 34.1**	**-0.1**
SVW2	**Sparrevohn**	**73.59**	**333**	P	**P**	**13 49 35.2**	**+0.3**
SVW2				IAmb	IAmb	13 49 36.6	
	comp=Z,6.4nm,0.7s						
PLCA	**Paso Flores**	**76.83**	**203**	LR	LR	14 24 02.9	
	comp=Z,44nm,18.4s,baz=50,slow=36						
TIXI	**Tiksi**	**76.92**	**3**	P	**P**	**13 49 52.8**	**-1.0**
BRVK	**Borovoye**	**76.94**	**35**	P	**P**	**13 49 52.2**	**-2.1**
BRVK				IAmb	IAmb	13 50 04.0	
	comp=Z,5.8nm,1.2s						
ZALV	**Zalesovo Beam**	**82.96**	**29**	P	**P**	**13 50 28.1**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=297,slow=4.8,SNR=7.8						
ZALV				LR	LR	14 26 41.8	
	comp=Z,25nm,20.0s,baz=288,slow=35						
ZALV	**Zalesovo Beam**	**82.96**	**29**	P	**P**	**13 50 26.5**	**-0.4**
CHGR	**Chuyangaron**	**84.77**	**48**	P

230nm,0.2s
THN Thein Dam 5.67 138 *e*P Pn 14 22 30.5 -7.6
THN *e*S **Sn** **14 23 41.0 -0.9**
AML Almayashu 5.70 19 P **Pn** **14 22 40.5 +1.6**
SNR=135
DHRM DHARAMSHALA 6.13 136 *e*P **Pn** **14 22 43.7 -0.9**
DHRM *e*S **Sn** **14 23 48.6 -4.8**
DHRM IAML 14 23 52.7
comp=N,262nm,0.2s
DHRM IAML 14 23 54.1
comp=E,224nm,0.2s
KK31 Karatay Array 6.37 355 ⇑P **Pn** **14 22 46.8 -0.9**
comp=E,11nm,0.5s,baz=192,slow=20,SNR=113
KK31 ⇓S **Sn** **14 23 54.8 -4.1**
comp=E,11nm,0.4s,baz=173,slow=22,SNR=5.4
KK31 Karatay Array 6.37 355 PN **Pn** **14 22 48.0 +0.4**
KK31 Karatay Array 6.37 355 Pn **Pn** **14 22 48.0 +0.4**
KKAR Karatay Array 6.37 355 PN **Pn** **14 22 48.1 +0.4**
KKAR Karatay Array 6.37 355 Pn **Pn** **14 22 48.0 +0.4**
KKAR Karatay Array 6.37 355 **14 22 48.0 +0.4**
AAK Ala-Archa 6.39 22 Pn **Pn** **14 22 49.8 +1.7**
comp=E,5.5nm,0.3s,baz=203,slow=8,9,SNR=45
AAK Sn **Sn** **14 23 58.2 -1.5**
comp=E,1.4nm,0.3s,baz=124,slow=18,SNR=2.3
AAK Ala-Archa 6.39 22 P **Pn** **14 22 50.0 +2.0**
SNR=20
AAK Ala-Archa 6.39 22 ⇑P **Pn** **14 22 48.6 +0.5**
comp=E,25nm,0.6s
AAK ⇑S **Sn** **14 23 58.2 -1.5**
comp=E,34nm,0.7s
AAK Ala-Archa 6.39 22*c i*PN **Pn** **14 22 49.9 +1.8**
AAK pmax pmax
comp=E,99nm,0.8s
AAK Ala-Archa 6.39 22 Pn **Pn** **14 22 49.5 +1.5**
KBK Karagaybulak 6.56 25 P **Pn** **14 22 53.2 +2.9**
SNR=9.1
CHMS Chumysh 6.80 22 P **Pn** **14 22 55.1 +1.7**
SNR=19
USP Ospenovka 6.97 20 P **Pn** **14 22 57.6 +1.8**
SNR=7.2
TKM2 Tokmak 2 7.02 27 P **Pn** **14 22 58.1 +1.6**
SNR=40
TKM2 Tokmak 2 7.02 27 ⇓P **Pn** **14 22 57.9 +1.4**
comp=Z,37nm,1.1s
TKM2 ⇓S **Sn** **14 24 13.8 -1.1**
comp=Z,12nm,0.8s
SGDS Sogindy 7.18 20 *e*PN **Pn** **14 22 59.5 +0.8**
SMLA Simla 7.46 137 *e*P **Pn** **14 23 01.6 -0.9**
SMLA *e*S **Sn** **14 24 19.0 -6.5**
SMLA IAML 14 24 25.3
comp=N,115nm,0.5s
SMLA IAML 14 24 25.6
comp=E,80nm,0.2s
MDOK Medeo 7.80 33 P **Pn** **14 23 09.0 +1.8**
comp=E,13nm,0.8s
BTLS Baital 8.55 14 *e*PN **Pn** **14 23 18.0 +0.8**
KPKS Kokpek 8.80 38 *e*PN **Pn** **14 23 21.9 +1.1**
ARXS Arharly 8.98 32 *e*PN **Pn** **14 23 22.9 -0.3**
PDGK Podgornoye 9.12 41 ⇑P **Pn** **14 23 25.5 +0.4**
comp=E,4.8nm,0.8s
GEYT Alibeck 10.51 280 Pn **Pn** **14 23 39.5 -4.5**
comp=E,4.2nm,0.3s,baz=114,slow=11,SNR=20
GEYT Sn **Sn** **14 25 33.8 -6.0**
comp=E,4.0nm,0.3s,baz=97,slow=22,SNR=9.3
GEYT Alibeck 10.51 280 Pn **Pn** **14 23 42.1 -1.9**
GYA0 ALIBECK ARRAY 10.51 280 P **Pn** **14 23 41.3 -2.7**
GYA0B ALIBECK ARRAY 10.51 280 ⇑P **Pn** **14 23 41.7 -2.3**
GYA0B ⇑S **Sn** **14 25 36.8 -3.0**
GYA0B ALIBECK ARRAY 10.51 280 Pn **Pn** **14 23 41.3 -2.7**
OTUK Ortayu 11.52 4 ⇓P **Pn** **14 23 56.1 -1.3**
comp=E,3.2nm,0.6s
OTUK ⇑S **Sn** **14 26 00.2 -3.8**
comp=E,10nm,0.9s
MAKZ Makanchi 12.84 35 ⇑P **Pn** **14 24 13.8 -1.2**
comp=E,6.3nm,0.9s
MAKZ Makanchi 12.84 35 P **Pn** **14 24 14.6 -0.4**
MAKZ Makanchi 12.84 35 **Pn** **14 24 14.6 -0.4**
MK31 Makanchi Array 12.98 36 ⇑P **Pn** **14 24 16.4 -0.4**
comp=E,6.0nm,1.0s,baz=223,slow=11,SNR=29
MK31 Makanchi Array 12.98 36 P **Pn** **14 24 16.0 -0.8**
MK31 Makanchi Array 12.98 36 Pn **Pn** **14 24 16.0 -0.8**
MKAR Makanchi Array 12.98 36 Pn **Pn** **14 24 16.3 -0.6**
comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=28
MKAR Makanchi Array 12.98 36 P **Pn** **14 24 15.9 -0.9**
MKAR Makanchi Array 12.98 36 Pn **Pn** **14 24 15.9 -0.9**
PYUN Piuthan 13.14 128 *e*P **Pn** **14 24 16.3 -3.0**
comp=E,41nm,0.3s
DANN Dangsing 13.47 125 *e*P **Pn** **14 24 19.9 -3.7**
comp=E,21nm,0.2s
KOLN Koldanda 13.76 127 *e*P **Pn** **14 24 25.0 -2.3**
comp=E,15nm,0.2s
GKN Gorkha 14.28 124 *e*P **Pn** **14 24 30.5 -3.5**
comp=E,28nm,0.3s
WMQ Urumqi 14.40 56 *e*P **P** **14 24 37.0 -2.3**
KURBB Kurchatov Arra 14.83 18 Pn **Pn** **14 24 38.9 -1.7**
comp=E,0.0nm,0.3s,baz=216,slow=13,SNR=3.6
KURBB Kurchatov Arra 14.83 18 ⇑P **Pn** **14 24 39.8 -0.9**
comp=E,3.4nm,0.6s
KKN Kakani 14.85 123 *e*P **Pn** **14 24 37.7 -3.6**
DMN Daman 14.85 124 *e*P **Pn** **14 24 37.7 -3.7**
comp=E,16nm,0.4s
KURK Kurchatov 14.93 18 P **Pn** **14 24 38.9 -3.1**
KURK Kurchatov 14.93 18 **Pn** **14 24 38.9 -3.1**
AB31 Akbulak array 14.96 330 P **Pn** **14 24 40.6 -1.8**
comp=E,2.8nm,0.5s,baz=140,slow=12,SNR=107
AB31 S **Sn** **14 27 21.4 -5.9**
comp=E,1.6nm,0.5s,baz=162,slow=21,SNR=7.0
ABKAR Akbulak array 14.96 330 Pn **Pn** **14 24 40.3 -2.1**
PKIN Phulchoki 15.07 123 *e*P **Pn** **14 24 40.2 -3.9**
comp=E,26nm,0.4s
PKI Pulchoki 15.08 123 *e*P **Pn** **14 24 40.3 -4.1**
comp=E,9.5nm,0.2s
GUN Gumba 15.18 121 *e*P **Pn** **14 24 41.3 -4.4**
comp=E,33nm,0.5s
RAMN Ramite 16.29 123 *e*P **Pn** **14 24 57.0 -2.4**
comp=E,35nm,0.5s
BVAR Borovoye Array 16.29 358 Pn **Pn** **14 24 58.7 -0.3**
comp=E,0.5nm,0.3s,baz=209,slow=20,SNR=7.1
BRVK Borovoye 16.32 358 ⇑P **Pn** **14 24 57.3 -2.0**
comp=E,2.8nm,0.7s
BRVK Borovoye 16.32 358*i*P **P** **14 24 59.5 -1.0**
BRVK Borovoye 16.32 358 Pn **Pn** **14 24 58.1 -1.3**
AKTO Aktyubinsk 16.66 329 P **P** **14 25 03.5 -0.8**
comp=E,0.7nm,0.3s,baz=143,slow=13,SNR=16
AKTO Aktyubinsk 16.66 329 ⇑P **Pn** **14 25 02.8 -0.8**
comp=E,7.3nm,0.7s
AKTO ⇓S **Sn** **14 28 02.7 -5.6**
comp=E,8.2nm,0.9s
TAPN Taplejung 16.80 119 *e*P **Pn** **14 25 03.3 -2.4**
comp=E,18nm,0.3s
ODAN Odare 16.88 121 *e*P **Pn** **14 25 05.1 -1.6**
comp=E,24nm,0.6s
DGZ Jazzator, Alta 17.47 37 *i*P **P** **14 25 12.3 -1.0**
ZAA0 Zalesovo Array 19.61 24 ⇑P **P** **14 25 36.7 +0.2**
comp=E,0.8nm,0.5s
ZAA0 Zalesovo Array 19.61 24 P **P** **14 25 36.6 0.0**
ZAA0 IAmb IAmb 14 25 39.5
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 19.61 24 P **P** **14 25 37.0 +0.5**
comp=Z,1.6nm,0.3s,baz=221,slow=11,SNR=18
ZALV Zalesovo Beam 19.61 24 *i*P **Pn** **14 25 37.4 -1.4**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV Zalesovo Beam 19.61 24 P **P** **14 25 36.3 -0.2**
ARU Arti 21.46 341*c i*P **P** **14 26 02.8 +6.4**
ARU 14 26 33.8
ARU S **S** **14 29 48.3 -0.2**
ARU pmax pmax
comp=Z,3.0nm,0.8s
GTA Gaotai 22.61 75 ⇑P **P** **14 26 11.3 +2.5**
GTA sP sP 14 26 47.8 +5.0
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,44nm,4.7s
GTA L L
comp=Z,57nm,13.4s
GTA L L
comp=Z,65nm,17.4s
GTA L L
comp=Z,58nm,15.6s
KBZ Khabaz 22.66 297*c i*P P 14 26 22.7 +14
KBZ pmax pmax
comp=Z,3.0nm,0.9s
NEY Neytrino 22.72 295 *i*P P 14 26 22.3 +12
NEY pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 22.84 297 *i*P P 14 26 22.9 +12
KIV pmax pmax
comp=Z,13nm,1.0s
MOY Mondy 25.80 45 *e*P **P** **14 26 43.3 +5.3**
SONM Songino Array 28.04 56 P **P** **14 26 59.7 +1.6**
comp=Z,1.1nm,0.7s,baz=258,slow=9.1,SNR=6.0
SONM Songino Array 28.04 56 IAmb IAmb 14 27 00.9
comp=Z,0.8nm,0.8s
ULN Ulaanbaatar 28.48 56⇑*i*P **P** **14 27 03.7 +1.6**
ULN pmax pmax
comp=Z,3.0nm,1.5s
BRTR Keskin Array B 29.54 287 P **P** **14 27 14.5 +2.9**
comp=Z,0.6nm,0.6s,baz=73,slow=6.3,SNR=2.6
HHC Hu-ho-hao-te 31.50 70 *e*P **P** **14 27 29.4 +0.7**
NRIK Noril'sk 33.85 10 P **P** **14 27 51.4 +2.6**
comp=Z,2.2nm,0.5s,baz=202,slow=6.2,SNR=2.9
NRIK Noril'sk 33.85 10‖*e*P **P** **14 27 51.0 +2.3**
NRIK pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 37.38 326 P **P** **14 28 21.2 +2.2**
comp=Z,1.2nm,0.6s,baz=112,slow=11,SNR=1.5
FINES LR LR 14 47 05.1
comp=Z,30nm,18.0s,baz=85,slow=41
ARCES ARCESS Array B 40.99 337 P **P** **14 28 51.5 +2.6**
comp=Z,0.5nm,0.3s,baz=120,slow=9.5,SNR=11
ARCES ARCESS Array B 40.99 337 P **P** **14 28 51.5 +2.6**
ARCES pmax pmax
comp=Z,7.0nm,1.3s
ARCES ARCESS Array B 40.99 337 IAmb IAmb 14 28 57.9
comp=Z,7.0nm,1.2s
NC303 NORSAR Array S 44.24 323 P **P** **14 29 18.1 +2.8**
NB201 NORSAR Array S 44.26 323 P **P** **14 29 17.7 +2.1**
NOA NORSAR Array B 44.30 323 P **P** **14 29 18.0 +2.2**
comp=Z,0.6nm,0.4s,baz=96,slow=7.7,SNR=6.2
NC204 NORSAR Array S 44.53 323 P **P** **14 29 19.8 +2.0**
NC204 IAmb IAmb 14 29 42.0
comp=Z,10nm,1.1s
KLR Kul'dur 44.84 54 P **P** **14 29 21.5 +1.2**
comp=Z,0.7nm,0.5s,baz=331,slow=9.0,SNR=3.0
TIXI Tiksi 45.47 22⇑*i*P **P** **14 29 25.6 +0.7**
TIXI Tiksi 45.47 22 P **P** **14 29 25.4 +0.5**
TIXI IAmb IAmb 14 29 27.7
comp=Z,2.0nm,0.8s
TOA0 Torodi Ar. Sit 65.91 269 P **P** **14 31 52.7 +0.8**
TOA0 IAmb IAmb 14 32 07.5
comp=Z,8.5nm,1.4s
TORD Torodi Ar. Bea 65.91 269 P **P** **14 31 52.6 +0.7**
comp=Z,0.8nm,0.4s,baz=48,slow=5.9,SNR=9.3
TORD Torodi Ar. Bea 65.91 269 P **P** **14 31 52.6 +0.7**
TORD IAmb IAmb 14 32 08.1
comp=Z,3.6nm,1.4s
TOLK Toolik Lake Re 70.63 15 P **P** **14 32 22.1 +1.6**
TOLK IAmb IAmb 14 32 40.9
comp=Z,3.0nm,1.3s
IMAR Indian Mountai 71.88 18 P **P** **14 32 28.9 +0.8**
BMAR Burnt Mountain 72.65 14 P **P** **14 32 34.7 +2.0**
MLY Manley 73.38 17 P **P** **14 32 38.2 +1.1**
KIWB Kanaga Island 73.51 37 P **P** **14 32 38.5 +0.6**
C36M Paulatuk 73.61 6 P **P** **14 32 39.5 +1.3**
C36M IAmb IAmb 14 32 55.7
comp=Z,4.4nm,1.1s
INK Inuvik 73.63 9 P **P** **14 32 40.1 +1.8**
INK pmax pmax
comp=Z,4.0nm,1.3s
INK Inuvik 73.63 9 P **P** **14 32 40.1 +1.8**
INK IAmb IAmb 14 32 40.4
comp=Z,4.0nm,1.2s
POKR Poker Plat Res 74.07 16 P **P** **14 32 42.7 +1.7**
ILAR Eielson Array 74.49 16 P **P** **14 32 46.0 +2.6**
comp=Z,0.3nm,0.8s,baz=317,slow=5.0,SNR=2.6
ILAR Eielson Array 74.49 16 P **P** **14 32 46.0 +2.6**
DBIC Dimbokro 74.90 267 P **P** **14 32 47.6 +1.0**
DBIC pmax pmax
comp=Z,34nm,1.5s
DBIC Dimbokro 74.90 267 P **P** **14 32 47.6 +1.0**
KNRA Kununurra 75.20 123 P **P** **14 32 48.1 0.0**
KNRA IAmb IAmb 14 33 09.3
comp=Z,8.0nm,1.2s
WRA Warramunga Arr 81.96 122 P **P** **14 33 24.9 -0.4**
comp=Z,0.5nm,0.5s,baz=325,slow=4.9,SNR=19
WRA Warramunga Arr 81.96 122 IAmb IAmb 14 33 27.7
comp=Z,0.1nm,0.9s
ASAR Alice Springs 84.24 125 P **P** **14 33 36.9 0.0**
comp=Z,0.5nm,0.6s,baz=310,slow=5.0,SNR=20
ASAR LR LR 15 15 38.2
comp=Z,159nm,20.4s,baz=0.5,slow=39

*JMA **15** 14:24:22.8±0.2,30.2°84N×143.7°05E, h51km, M3.7*
*IDC **15** 14:24:23.9±3.8, 30.2°56N×142.7°53E, h0km, mb3.4/3, mb1 3.3/6, mb1mx3.2/34, mbtmp3.4/6, ML2.7/3, Error ellipse: s-maj=125.4km s-min=21.7km az=71.0*
ISC 15 14:24:27.2±1.3, 30.7°6N±0.1°07×142.7°9E±0.1°2, h50km, n13, σ3§44/18, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.51**	**313**	P	**Pn**	**14 25 17.2**	**-2.0**
JHJ2				*e*S	**Sn**	**14 25 57.5**	**-1.9**
JHJ	**Hachijo jima 2**	**3.53**	**313**	Pn	**Pn**	**14 25 17.1**	**-2.5**
	1.2nm,0.3s,baz=66,slow=19,SNR=1.8						
JHJ				Sn	**Sn**	**14 25 54.2**	**-5.9**
	4.8nm,0.3s,baz=238,slow=18,SNR=1.6						
CBIJ	**Chichi jima**	**3.70**	**190**	P	**Pn**	**14 25 20.4**	**-1.5**
JCJ	**Chichijima**	**3.70**	**190**	Pn	**Pn**	**14 25 18.9**	**-2.9**
	2.1nm,0.3s,baz=4.1,slow=21,SNR=9.5						
JCJ				Sn	**Sn**	**14 25 59.2**	**-5.1**
	2.9nm,0.3s,baz=285,slow=22,SNR=2.2						
BSO1	**Boso 1**	**4.20**	**338**	P	**Pn**	**14 25 25.7**	**-2.5**
JHU	**Hanno**	**5.91**	**330**	*e*S	**Sn**	**14 26 56.5**	**-1.9**
JHO	**Hitachi**	**6.15**	**342**	P	**Pn**	**14 25 52.5**	**-2.9**
JHO				*e*S	**Sn**	**14 26 59.7**	**-4.6**
JAG	**Ashikaga**	**6.33**	**334**	P	**Pn**	**14 25 56.4**	**-1.6**
MJAR	**Matsushiro Arr**	**6.96**	**327**	Pn	**Pn**	**14 26 05.0**	**-1.6**
	0.1nm,0.3s,baz=161,slow=11,SNR=4.5						
MJAR				Sn	**Sn**	**14 27 20.5**	**-3.9**
	0.1nm,0.3s,baz=138,slow=22,SNR=4.6						
KSRS	**Korea Array**	**14.07**	**302**	Pn	**Pn**	**14 27 46.7**	**+3.0**
	0.1nm,0.3s,baz=105,slow=12,SNR=1.8						
SONM	**Songino Array**	**32.61**	**312**	P	**P**	**14 30 57.6**	**+3.5**
	0.6nm,0.6s,baz=116,slow=9.8,SNR=3.9						
MKAR	**Makanchi Array**	**48.69**	**307**	P	**P**	**14 33 09.6**	**+3.2**
	0.6nm,0.9s,baz=92,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**54.80**	**190**	P	**P**	**14 33 53.5**	**+1.4**
	0.2nm,0.7s,baz=4.4,slow=6.1,SNR=6.5						

IDC 15 15:00:44.5±3.6, 27.7°4N×85.3°8E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/37, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=118.0km s-min=30.7km az=78.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.17**	**354**	P	P	15 05 09.7	+0.1
	0.1nm,0.3s,baz=176,slow=13,SNR=5.5						
SONM	**Songino Array**	**25.89**	**34**	P	P	15 06 18.1	-0.1
	0.8nm,0.6s,baz=224,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**67.02**	**130**	P	P	15 11 40.0	+0.4
	0.2nm,0.8s,baz=319,slow=7.0,SNR=1.5						
ASAR	**Alice Springs**	**69.31**	**133**	P	P	15 11 53.6	-0.3
	0.2nm,0.9s,baz=304,slow=6.6,SNR=1.3						

*IDC **15** 15:24:28.0±1.4, 10.°39S×118.°42E, h0km, mb3.9/4, mb1 4.0/9, mb1mx3.8/32, mbtmp3.9/9, ML3.7/5, MS2.7/2, Ms1 2.7/2, ms1mx2.3/32, Error ellipse: s-maj=49.8km s-min=18.6km az=48.0*
*DJA **15** 15:24:31.8±0.5, 10.°5±5.°×11.°9E±.°, h10km, M4.2/11, mb4.6/4, mB5.0/1, MLv4.0/11, Mw(mB)4.4/1*
*NEIC **15** 15:24:33.9±1.8, 10.°33S±0.°09×118.°59E±0.°04, h40km±10km, mb4.0/10, Md4.0(DJA), Error ellipse: s-maj=12.8km s-min=5.2km az=167.0*
ISC 15 15:24:29.0±0.7, 10.°35S±0.°05×118.°65E±0.°05, h10km, n45, σ1§91/46, mb4.2/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.01**	**46**	P	**Pg**	**15 24 47.4**	**-1.1**
WBSI				S	**Sg**	**15 25 01.4**	**-0.3**
PLAI	**Plampang**	**1.74**	**330**	P	**Pb**	**15 25 00.9**	**-0.1**
PLAI				S	**Sg**	**15 25 24.5**	**-0.4**
BASI	**Baing, Sumba**	**1.90**	**86**	P	**Pn**	**15 25 03.0**	**+1.5**
TWSI	**Taliwang, Sumb**	**2.37**	**312**	P	**Pb**	**15 25 11.6**	**-0.1**
EDFI	**Ende, Flores**	**3.39**	**62**	P	**Pn**	**15 25 23.3**	**+1.2**
KHKI	**Kahang-Kahang**	**3.59**	**303**	P	**Pb**	**15 25 28.9**	**-3.7**
MMRI	**Maumere**	**3.93**	**65**		**Pn**	**15 25 31.0**	**+1.6**
MMRI	**Maumere**	**3.93**	**65**	P	**Pn**	**15 25 31.3**	**+1.9**
JAGI	**Jajag, Banyuwa**	**4.81**	**292**	Pn	**Pn**	**15 25 43.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**4.81**	**292**	P	**Pn**	**15 25 43.6**	**+2.0**
BATI	**Baumata**	**4.94**	**89**	Pn	**Pn**	**15 25 46.5**	**+3.2**
	5.9nm,0.3s,baz=136,slow=0.8,SNR=10.0						
BATI				Sn	**Sn**	**15 26 39.7**	**-0.8**
	8.6nm,0.3s,baz=246,slow=21,SNR=7.6						
BATI	**Baumata**	**4.94**	**89**	P	**Pn**	**15 25 44.5**	**+1.2**
MKS	**Makassar**	**5.16**	**9**	P	**Pn**	**15 25 49.0**	**+2.7**
	0.6nm2µm153nm,0.5s						
KAPI	**Kappang**	**5.41**	**12**	Pn	**Pn**	**15 25 52.0**	**+2.3**
	7.7nm,0.3s,baz=232,slow=3.8,SNR=9.7						
KAPI				Sn	**Sn**	**15 26 51.2**	**-0.9**
	11nm,0.3s,baz=79,slow=22,SNR=8.8						
KAPI				LR	LR	15 28 06.3	
	comp=Z,69nm,19.2s,baz=200,slow=40						
KAPI	**Kappang**	**5.41**	**12**		**Pn**	**15 25 52.9**	**+3.2**
KAPI	**Kappang**	**5.41**	**12**	P	**Pn**	**15 25 51.8**	**+2.0**
	0.2nm39nm,0.9s						
SOEI	**Soe**	**5.56**	**84**	Pn	**Pn**	**15 25 54.9**	**+2.9**
SOEI	**Soe**	**5.56**	**84**	P	**Pn**	**15 25 53.7**	**+1.7**
	0.2nm32nm,1.1s						
BNSI	**Bone**	**6.08**	**14**	P	**Pn**	**15 26 01.5**	**+2.5**
FITZ	**Fitzroy Crossi**	**10.26**	**139**	Pn	**Pn**	**15 26 58.3**	**+2.0**
	0.6nm,0.3s,baz=316,slow=11,SNR=20						
FITZ				Sn	**Sn**	**15 28 45.5**	**-6.0**
	0.1nm,0.3s,baz=257,slow=9.5,SNR=1.3						
FITZ				LR		15 31 46.9	
	comp=Z,35nm,19.1s,baz=212,slow=42						
CISI	**Cisompet, Garu**	**11.06**	**284**	Pn	**Pn**	**15 27 06.8**	**-0.5**
WB0	**Warramunga Arr**	**17.84**	**123**	P	**P**	**15 28 40.1**	**+1.9**
WB0				IAmb	IAmb	15 29 04.2	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**17.88**	**124**	P	**Pn**	**15 28 38.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=297,slow=12,SNR=13						
WRA				S	Sn	15 31 48.1	-10
	comp=Z,0.0nm,0.3s,baz=305,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**17.88**	**124**	IAmb	IAmb	15 28 42.2	
	comp=Z,0.3nm,1.2s						
WRAB	**Tennant Creek**	**17.89**	**124**		**Pn**	**15 28 38.8**	**+0.7**
WB2	**Warramunga Arr**	**17.89**	**124**	Pn	**Pn**	**15 28 38.0**	**-0.2**
WB2				IAmb	IAmb	15 28 59.6	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**18.06**	**124**		**Pn**	**15 28 41.2**	**+1.1**
AS31	**Alice Springs**	**19.68**	**134**		**Pn**	**15 29 01.7**	**+1.9**
ASAR	**Alice Springs**	**19.68**	**134**	P	**Pn**	**15 29 01.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=310,slow=9.0,SNR=41						
ASAR	**Alice Springs**	**19.68**	**134**	Pn	**Pn**	**15 29 01.8**	**+2.0**
CM31	**Chiang Mai Arr**	**34.60**	**326**	P	**P**	**15 31 16.5**	**-2.0**
CM31				IAmb	IAmb	15 31 26.6	
	comp=Z,3.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**34.60**	**326**	P	**P**	**15 31 18.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=158,slow=7.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**34.60**	**326**	P	**P**	**15 31 16.7**	**-1.7**
H08S2	**Diego Garcia H**	**45.64**	**269**	T	T	16 22 07.2	
	baz=96,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**45.65**	**269**	T	T	16 22 08.0	
	baz=96,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**45.66**	**269**	T	T	16 22 08.5	
	baz=96,slow=75,SNR=8.2						
JSD	**Sado**	**51.51**	**20**	P	**P**	**15 33 33.5**	**-1.4**
USA0B	**Ussuriysk Arra**	**55.62**	**12**	P	**P**	**15 34 05.0**	**+0.1**
USA0B				IAmb	IAmb	15 34 30.8	
	comp=Z,2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**55.62**	**12**	P	**P**	**15 34 05.5**	**+0.6**
SONM	**Songino Array**	**58.94**	**350**	P	**P**	**15 34 29.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=171,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**65.50**	**333**	P	**P**	**15 35 13.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=152,slow=7.8,SNR=8.6						
MKAR	**Makanchi Array**	**65.50**	**333**	P	**P**	**15 35 12.8**	**+0.4**
ZAA0	**Zalesovo Array**	**70.17**	**340**	P	**P**	**15 35 41.9**	**+0.2**
ZAA0				IAmb	IAmb	15 35 42.0	
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**70.17**	**340**	P	**P**	**15 35 41.3**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=150,slow=6.2,SNR=6.3						
ABKAR	**Akbulak array**	**78.46**	**325**	P	**P**	**15 36 30.6**	**+0.5**

*IDC **15** 15:25:27.4±5.0, 3.°99S×129.°40E, h141km±63km, mb3.2/2, mb1 3.3/4, mb1mx3.0/33, mbtmp3.6/4, MS3.0/1, Ms1 2.9/1, ms1mx2.2/19, Error ellipse: s-maj=82.5km s-min=20.0km az=82.0*
*DJA **15** 15:25:30.7±0.6, 4.°5±6.°×12.°9E±.°, h75km±8km, M3.4/7, MLv3.4/7*
ISC 15 15:25:27.1±1.1, 3.°99S±0.°08×129.°27E±0.°07, h150km, n12, σ1§49/12, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.72**	**332**	P	**Pn**	**15 25 47.3**	**-2.4**
MSAI				S	Sn	15 25 57.1	-10
BNDI	**Bandanaira**	**0.83**	**130**	P	**Pn**	**15 25 48.9**	**-1.6**
KRAI	**Karang Ratu**	**1.09**	**307**	P	**Pn**	**15 25 51.1**	**-1.6**
NLAI	**Namlea**	**2.29**	**289**	P	**Pn**	**15 26 06.0**	**+0.4**
FAKI	**Fak Fak**	**3.16**	**70**	P	**Pn**	**15 26 16.9**	**+0.4**
SIJI	**Sorong**	**3.69**	**33**	P	**Pn**	**15 26 23.6**	**+0.4**
	1.3nm,0.3s,baz=209,slow=19,SNR=31						
SIJI				S	**Sn**	**15 27 05.3**	**-1.6**
	9.1nm,0.3s,baz=200,slow=23,SNR=27						
SIJI	**Sorong**	**3.69**	**33**	P	**Pn**	**15 26 23.3**	**0.0**
SWI	**Sorong**	**3.69**	**33**	P	**Pn**	**15 26 22.0**	**-1.3**
WRA	**Warramunga Arr**	**16.61**	**163**	P	**P**	**15 29 10.7**	**-0.5**
	0.4nm,0.3s,baz=339,slow=12,SNR=19						
ASAR	**Alice Springs**	**20.07**	**168**	P	**P**	**15 29 49.8**	**+0.9**
	1.5nm,0.3s,baz=348,slow=12,SNR=23						
STKA	**Stephens Creek**	**30.06**	**159**	LR	LR	15 44 43.1	
	comp=Z,26nm,20.0s,baz=318,slow=38						
MKAR	**Makanchi Array**	**65.32**	**326**	P	**P**	**15 35 55.0**	**+1.8**
	0.2nm,0.6s,baz=141,slow=6.0,SNR=1.6						

IDC 15 15:40:28.4±4.8, 13.°04N×143.°21E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/50, mbtmp3.7/4, Error ellipse: s-maj=168.0km s-min=31.9km az=80.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.91**	**195**	P	P	15 47 13.3	-0.1
	2.7nm,0.7s,baz=17,slow=9.5,SNR=44						
FITZ	**Fitzroy Crossi**	**35.46**	**210**	P	P	15 47 27.5	+0.8
	1.0nm,0.7s,baz=34,slow=8.5,SNR=2.1						
ASAR	**Alice Springs**	**37.60**	**194**	P	P	15 47 44.5	-0.5
	0.6nm,0.5s,baz=16,slow=13,SNR=27						
MKAR	**Makanchi Array**	**60.77**	**317**	P	P	15 50 42.1	-0.1
	0.2nm,0.6s,baz=107,slow=7.7,SNR=2.0						

*IDC **15** 15:43:08.4±0.9, 52.°07N×31.°32W, h0km, mb3.6/12, mb1 3.9/13, mb1mx3.7/43, mbtmp3.7/13, ML4.7/1, MS3.1/11, Ms1 3.1/11, ms1mx2.9/39, Error ellipse: s-maj=31.2km s-min=16.7km az=16.0*
*NEIC **15** 15:43:10.4±1.8, 52.°1N±0.°1×31.°23W±0.°07, h10km±1km, mb4.4/12, Error ellipse: s-maj=24.7km s-min=4.9km az=192.0*
ISC 15 15:43:10.4±0.7, 52.°0N±0.°1×31.°27W±0.°07, h14km, n41, σ0§75/29, mb3.7/15, MS2.9/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**11.99**	**325**	Pn	**Pn**	**15 46 01.3**	**+0.7**
H07N1	**FLORES T-PHASE**	**12.34**	**179**	T	T	15 58 53.2	
	SNR=28						
**D

comp=Z,39nm,21.9s,baz=278,slow=31
NOA **NORSAR Array B** 24.68 52 LR LR 15 57 19.6
comp=Z,36nm,18.6s,baz=260,slow=34
HFS **Hagfors** 25.90 54 LR LR 15 57 28.7
comp=Z,44nm,21.5s,baz=261,slow=33
DAVOX **Davos/Dischmat** 27.01 85 LR LR 15 58 44.8
comp=Z,33nm,18.6s,baz=264,slow=35
CLL **Collm** 27.15 74 *iP* **P** **15 48 52.5 -0.4**
VRAC **Vranov** 30.02 76 LR LR 15 59 52.8
comp=Z,25nm,18.4s,baz=288,slow=33
ARCES **ARCESS Array B** 31.22 35 LR LR 15 59 06.2
comp=Z,26nm,19.6s,baz=275,slow=31
FINES **FINESS Array B** 31.81 50 LR LR 16 00 42.0
comp=Z,44nm,21.5s,baz=246,slow=33
M54A **Oil Creek Stat** 34.19 272 P **P** **15 49 55.0 0.0**
N54A **Moraine State** 34.70 271 P **P** **15 49 58.7 -0.9**
AKASG **Malin Array Be** 36.83 67 P **P** **15 50 17.0 -0.6**
comp=Z,0.6nm,0.6s,baz=293,slow=8.3,SNR=4.9
H05N1 **Guadeloupe/Mar** 42.75 225 T T 16 36 41.5
YKA **Yellowknife Ar** 43.14 318 P **P** **15 51 08.9 -1.0**
comp=Z,1.1nm,0.8s,baz=60,slow=8.8,SNR=3.0
BRTR **Keskin Array B** 45.36 79 P **P** **15 51 28.1 0.0**
comp=Z,0.7nm,0.7s,baz=289,slow=3.8,SNR=3.6
BRTR **Keskin Array B** 45.36 79 P **P** **15 51 27.5 -0.6**
TOA0 **Torodi Ar. Sit** 46.95 134 P **P** **15 51 41.3 +0.7**
TORD **Torodi Ar. Bea** 46.95 134 P **P** **15 51 41.4 +0.8**
comp=Z,1,2nm,0.6s,baz=331,slow=8.1,SNR=8.2
TORD **Torodi Ar. Bea** 46.95 134 IAmb IAmb 15 51 54.1
comp=Z,7.2nm,1.5s
PDAR **Pinedale Array** 51.37 293 P **P** **15 52 13.9 -0.6**
comp=Z,0.4nm,0.4s,baz=64,slow=6.1,SNR=1.9
SCRK **Sand Creek** 53.10 329 P **P** **15 52 28.6 +1.6**
SCRK IAmb IAmb 15 52 36.3
comp=Z,3.5nm,1.0s
ILAR **Eielson Array** 53.42 331 P **P** **15 52 28.1 -1.0**
comp=Z,0.4nm,0.6s,baz=32,slow=4.0,SNR=4.2
ILAR LR LR 16 13 30.0
comp=Z,41nm,18.6s,baz=245,slow=34
ABKAR **Akbulak array** 54.16 54 P **P** **15 52 34.7 0.0**
TXAR **Lajitas Array** 56.88 276 P **P** **15 52 55.3 +0.5**
comp=Z,0.1nm,0.5s,baz=50,slow=7.2,SNR=1.7
SEW **Seward** 57.70 329 P **P** **15 52 58.7 -1.2**
SEW IAmb IAmb 15 53 24.0
comp=Z,4.9nm,1.1s
NVAR **Mina Array Bea** 59.22 294 P **P** **15 53 10.3 -0.8**
comp=Z,0.2nm,0.6s,baz=59,slow=8.7,SNR=2.4
ZALV **Zalesovo Beam** 61.73 37 P **P** **15 53 27.9 +0.2**
comp=Z,0.5nm,0.4s,baz=316,slow=6.0,SNR=2.1
MK31 **Makanchi Array** 66.31 43 P **P** **15 53 58.5 +0.4**
MK31 IAmb IAmb 15 54 04.1
comp=Z,2.9nm,1.4s
MKAR **Makanchi Array** 66.31 43 P **P** **15 53 58.5 +0.5**
comp=Z,0.8nm,0.7s,baz=328,slow=5.2,SNR=8.4
MKAR **Makanchi Array** 66.31 43 P **P** **15 53 58.2 +0.1**
SONM **Songino Array** 74.13 28 P **P** **15 54 47.1 +1.1**
comp=Z,0.1nm,0.4s,baz=320,slow=5.6,SNR=1.2
WRA **Warramunga Arr** 146.05 25 PKPbc **PKPab** **16 02 50.6 +0.3**
comp=Z,1.0nm,0.7s,baz=344,slow=3.3,SNR=11
WRA **Warramunga Arr** 146.05 25 PKPbc **PKPab** **16 02 50.1 -0.2**
ASAR **Alice Springs** 149.48 28 PKPbc **PKiKP** **16 02 59.4 -0.7**
comp=Z,0.4nm,0.5s,baz=352,slow=2.1,SNR=24

*IDC **15** 15:45:37.3±0.8, 5.°34S×152.°45E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.1/38, mbtmp4.1/16, ML2.6/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/27, Error ellipse: s-maj=23.3km s-min=16.1km az=101.0*
*NEIC **15** 15:45:45.1±1.6, 5.°4S±0.°1×152.°38E±0.°09, h54km±7km, mb4.3/19, Error ellipse: s-maj=15.1km s-min=12.2km az=159.0*
ISC 15 15:45:43.3±0.5, **5.°37S**±0.°07×**152.°33E**±0.°08, **h40**km, **n53**, σ1**°08**/45, **mb4.2**/24, **MS3.6**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.51**	**232**	Pn	**Pn**	**15 47 16.6**	**0.0**
	2.7nm,0.3s,baz=64,slow=7.5,SNR=9.4						
PMG				Sn	**Sn**	**15 48 29.8**	**+0.1**
	6.3nm,0.3s,baz=332,slow=21,SNR=3.1						
PMG	**Port Moresby**	**6.51**	**232**	Pn	**Pn**	**15 47 19.0**	**+2.3**
HNR	**Honiara**	**8.56**	**119**	LR	LR	15 50 45.7	
	comp=Z,339nm,19.8s,baz=294,slow=36						
HNR	**Honiara**	**8.56**	**119**		**Pn**	**15 47 47.1**	**+2.3**
CTA	**Charters Tower**	**15.78**	**201**	Pn	**Pn**	**15 49 21.9**	**-0.9**
	0.0nm,0.3s,baz=36,slow=14,SNR=1.1						
DZM	**Mont Dzumac**	**21.50**	**142**	P	**P**	**15 50 27.7**	**-1.3**
	3.9nm,0.7s,baz=276,slow=21,SNR=1.8						
DZM	**Mont Dzumac**	**21.50**	**142**		**P**	**15 50 28.0**	**-1.0**
DZM				IAmb	IAmb	15 50 34.3	
	comp=Z,38nm,1.4s						
SIJI	**Sorong**	**21.50**	**281**	P	**P**	**15 50 30.6**	**+1.6**
	comp=Z,4.4nm,0.6s,baz=70,slow=12,SNR=3.0						
WB0	**Warramunga Arr**	**22.57**	**229**	P	**P**	**15 50 40.1**	**-0.3**
WB0				IAmb	IAmb	15 50 46.7	
	comp=Z,8.2nm,0.7s						
WR0	**Warramunga Arr**	**22.58**	**228**	P	**P**	**15 50 40.4**	**-0.1**
WR0				IAmb	IAmb	15 51 06.2	
	comp=Z,8.3nm,0.8s						
WRAB	**Tennant Creek**	**22.71**	**229**	P	**P**	**15 50 41.6**	**-0.2**
WRAB				IAmb	IAmb	15 50 47.9	
	comp=Z,8.5nm,0.7s						
WB2	**Warramunga Arr**	**22.71**	**229**		**P**	**15 50 41.3**	**-0.6**
WB2				IAmb	IAmb	15 50 54.7	
	comp=Z,19nm,1.2s						
WRA	**Warramunga Arr**	**22.72**	**229**	P	**P**	**15 50 42.5**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=53,slow=9.8,SNR=27						
WRA				S	**S**	**15 54 45.2**	**-2.8**
	comp=Z,5.2nm,1.2s,baz=56,slow=18,SNR=6.3						
WRA	**Warramunga Arr**	**22.72**	**229**		**P**	**15 50 41.5**	**-0.5**
AS31	**Alice Springs**	**25.42**	**222**	P	**P**	**15 51 07.3**	**-0.1**
ASAR	**Alice Springs**	**25.42**	**222**	P	**P**	**15 51 07.3**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=59,slow=8.5,SNR=58						
ASAR	**Alice Springs**	**25.42**	**222**	P	**P**	**15 51 07.5**	**+0.1**
STKA	**Stephens Creek**	**28.23**	**200**	P	**P**	**15 51 31.1**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=29,slow=11,SNR=5.0						
STKA				LR	LR	16 02 42.8	
	comp=Z,145nm,19.7s,baz=20,slow=36						
STKA	**Stephens Creek**	**28.23**	**200**	P	**P**	**15 51 31.9**	**-0.6**
BATI	**Baumata**	**28.80**	**259**	LR	LR	16 05 28.2	
	comp=Z,248nm,20.9s,baz=84,slow=41						
FITZ	**Fitzroy Crossi**	**28.98**	**242**	P	**P**	**15 51 39.9**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=61,slow=10,SNR=2.7						
JCJ	**Chichijima**	**33.73**	**344**	LR	LR	16 04 47.2	
	comp=Z,64nm,21.8s,baz=125,slow=34						
JWT	**Wachi**	**43.46**	**340**	P	**P**	**15 53 41.3**	**-1.3**
JWT				IAmb	IAmb	15 53 59.8	
	comp=Z,5.5nm,1.2s						
JOHN	**Johnston Islan**	**43.63**	**59**	P	**P**	**15 53 42.7**	**-1.6**
MJAR	**Matsushiro Arr**	**43.74**	**343**	LR	LR	16 09 51.7	
	comp=Z,36nm,21.5s,baz=200,slow=33						
LEM	**Lembang**	**44.47**	**266**	LR	LR	16 15 12.7	
	comp=Z,50nm,20.6s,baz=63,slow=40						
JSD	**Sado**	**45.12**	**344**	P	**P**	**15 53 53.6**	**-2.2**
JSD				IAmb	IAmb	15 54 18.6	
	comp=Z,5.9nm,1.2s						
KSRS	**Korea Array**	**48.30**	**334**	P	**P**	**15 54 19.4**	**-1.3**
	comp=Z,1.0nm,1.1s,baz=151,slow=9.4,SNR=2.1						
PSI	**Prapat**	**53.96**	**277**	LR	LR	16 20 58.0	
	comp=Z,52nm,18.3s,baz=202,slow=39						
CMAR	**Chiang Mai Arr**	**57.70**	**296**	P	**P**	**15 55 31.1**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=122,slow=4.7,SNR=6.8						
CMAR				LR	LR	16 21 19.0	
	comp=Z,14nm,19.1s,baz=85,slow=37						
PETK	**Petropavlovsk-**	**58.43**	**4**	LR	LR	16 16 52.3	
	comp=Z,33nm,21.0s,baz=183,slow=32						
PETK	**Petropavlovsk-**	**58.43**	**4**	P	**P**	**15 55 34.7**	**-0.2**
HHC	**Hu-ho-hao-te**	**59.24**	**325**	*eP*	**P**	**15 55 42.1**	**+1.2**
GTA	**Gaotai**	**65.76**	**318**	*eP*	**P**	**15 56 25.3**	**+0.8**
GTA				pP	pP	15 56 29.9	-6.1
GTA				sP	pwP	15 56 33.0	-3.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**66.56**	**328**	P	**P**	**15 56 29.9**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=137,slow=5.4,SNR=8.2						
SONM	**Songino Array**	**66.56**	**328**	P	**P**	**15 56 30.4**	**+1.0**
VNDA	**Vanda**	**72.28**	**178**	P	**P**	**15 57 05.2**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=298,slow=4.3,SNR=5.6						
VNDA	**Vanda**	**72.28**	**178**	IAmb	IAmb	15 57 26.2	
	comp=Z,4.2nm,1.4s						
SII	**Sitkinak Islan**	**75.48**	**27**	P	**P**	**15 57 23.0**	**-0.3**
WMQ	**Urumqi**	**75.84**	**318**	*eP*	**P**	**15 57 26.0**	**+0.3**
OHAK	**Old Harbor**	**76.27**	**27**	P	**P**	**15 57 27.7**	**+0.1**
SVW2	**Sparrevohn**	**77.53**	**23**	P	**P**	**15 57 36.0**	**+1.3**
SVW2				IAmb	IAmb	15 57 37.1	
	comp=Z,3.6nm,0.9s						
CNPM	**China Poot**	**78.43**	**26**	P	**P**	**15 57 40.0**	**+0.2**
SEW	**Seward**	**79.50**	**26**	P	**P**	**15 57 45.4**	**-0.1**
SEW				IAmb	IAmb	15 57 47.0	
	comp=Z,7.5nm,1.1s						
RC01	**Rabbit Creek A**	**79.88**	**25**	P	**P**	**15 57 47.7**	**0.0**
RC01				IAmb	IAmb	15 57 48.9	
	comp=Z,9.4nm,1.2s						
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**15 57 51.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=110,slow=7.4,SNR=7.7						
MKAR				LR	LR	16 31 48.5	
	comp=Z,30nm,21.3s,baz=50,slow=34						
ZALV	**Zalesovo Beam**	**81.36**	**326**	P	**P**	**15 57 56.1**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=155,slow=5.2,SNR=7.6						
ILAR	**Eielson Array**	**82.86**	**22**	P	**P**	**15 58 02.7**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=247,slow=5.4,SNR=18						
ILAR				LR	LR	16 36 29.0	
	comp=Z,26nm,18.1s,baz=236,slow=37						
MAW	**Mawson**	**84.87**	**203**	LR	LR	16 34 15.5	
	comp=Z,27nm,18.9s,baz=63,slow=34						
NVAR	**Mina Array Bea**	**92.80**	**52**	P	**P**	**15 58 52.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=274,slow=5.3,SNR=3.8						
NVAR				LR	LR	16 33 25.9	
	comp=Z,57nm,21.2s,baz=272,slow=31						
YKA	**Yellowknife Ar**	**96.14**	**28**	LR	LR	16 39 01.2	
	comp=Z,53nm,19.7s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**99.57**	**48**	LR	LR	16 45 58.6	
	comp=Z,28nm,18.3s,baz=277,slow=36						
TORD	**Torodi Ar. Bea**	**150.03**	**287**	PKPbc	**PKiKP**	**16 05 30.5**	**-1.0**
	comp=Z,3.2nm,0.8s,baz=108,slow=0.8,SNR=4.1						
TORD				PKPab	**pPKPdf**	**16 05 36.7**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=80,slow=3.9,SNR=9.6						

IDC 15 15:46:28.9±2.2, **13.°43N**×**93.°91E**, **h0**km, **mb3.6**/3, **mb1 3.5**/4, **mb1mx3.3**/48, **mbtmp3.5**/4, **ML3.5**/1, **Error ellipse: s-maj=63.9km s-min=30.6km az=62.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.96**	**43**	Pn	Pn	15 48 12.3	+0.1
	0.2nm,0.3s,baz=235,slow=15,SNR=6.7						
MKAR	**Makanchi Array**	**34.66**	**346**	P	P	15 53 19.4	-0.8
	0.6nm,0.7s,baz=157,slow=8.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**41.05**	**352**	P	P	15 54 14.5	+0.5
	0.7nm,0.4s,baz=164,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**53.75**	**133**	P	P	15 55 53.4	0.0
	0.2nm,0.5s,baz=311,slow=7.0,SNR=2.2						

*DJA **15** 15:46:49.0±0.8, 10.°S±6.°×11.°9E±.°, h14km±5km, M4.2/12, mb4.5/3, MLv4.1/12*
ISC 15 15:46:50.3±1.7, **10.°1S**±0.°1×**118.°82E**±0.°05, **h33**km, **n17**, σ1**°31**/17, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.70**	**53**	P	**Pn**	**15 47 02.3**	**-1.7**
WBSI				S	**Sn**	**15 47 13.8**	**+0.1**
PLAI	**Plampang**	**1.61**	**320**	P	**Pn**	**15 47 16.0**	**-0.4**
BASI	**Baing, Sumba**	**1.73**	**95**	P	**Pn**	**15 47 19.4**	**+1.3**
TWSI	**Taliwang, Sumb**	**2.33**	**305**	P	**Pn**	**15 47 26.3**	**0.0**
EDFI	**Ende, Flores**	**3.12**	**65**	P	**Pn**	**15 47 38.4**	**+1.1**
EDFI				S	**Sn**	**15 48 14.0**	**+0.5**
KHKI	**Kahang-Kahang**	**3.60**	**298**	P	**Pn**	**15 47 44.4**	**+0.6**
MMRI	**Maumere**	**3.66**	**67**	P	**Pn**	**15 47 44.9**	**+0.3**
DNP	**Denpasar**	**3.83**	**291**	P	Pb	15 48 55.9	+59
SRBI	**Singaraja**	**4.08**	**299**	P	**Pn**	**15 47 51.4**	**+1.1**
BATI	**Baumata**	**4.77**	**92**	P	**Pn**	**15 48 01.5**	**+1.6**
MKS	**Makassar**	**4.87**	**8**	P	**Pn**	**15 48 03.9**	**+2.7**
JAGI	**Jajag, Banyuwa**	**4.88**	**289**	P	**Pn**	**15 48 00.8**	**-0.6**
SOEI	**Soe**	**5.37**	**87**	P	**Pn**	**15 48 08.9**	**+0.6**
	0.3nm36nm,1.1s						
BNSI	**Bone**	**5.78**	**13**	P	**Pn**	**15 48 15.6**	**+1.9**
	0.2nm38nm,0.6s						
KKSI	**Kolaka, Sulawe**	**6.50**	**26**	P	Pb	15 48 37.4	-5.3
TTSI	**Tana Toraja**	**7.05**	**8**	P	**Pb**	**15 48 50.6**	**-1.4**
PCJI	**Pacitan**	**7.78**	**283**	P	**Pn**	**15 48 41.4**	**+0.2**

*IDC **15** 15:59:10.2±0.8, 5.°33S×152.°48E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/38, mbtmp4.0/15, ML2.0/1, MS3.5/3, Ms1 3.4/3, ms1mx2.9/36, Error ellipse: s-maj=25.0km s-min=16.4km az=114.0*
*NEIC **15** 15:59:16.0±1.3, 5.°38S±0.°08×152.°48E±0.°09, h33km±6km, mb4.5/40, Error ellipse: s-maj=17.0km s-min=3.0km az=132.0*
ISC 15 15:59:16.1±0.5, **5.°40S**±0.°08×**152.°45E**±0.°08, **h40**km, **n62**, σ0**°73**/62, **mb4.4**/32, **MS3.3**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.58**	**233**	Pn	**Pn**	**16 00 51.3**	**+0.9**
	1.7nm,0.3s,baz=17,slow=11,SNR=3.1						
PMG				Sn	**Sn**	**16 02 04.3**	**0.0**
	14nm,0.3s,baz=249,slow=11,SNR=11						
PATS	**Pohnpei**	**13.49**	**26**	Pn	**Pn**	**16 02 26.1**	**+0.9**
GUMO	**Guam**	**20.32**	**338**	P	**P**	**16 03 48.2**	**-0.7**
DZM	**Mont Dzumac**	**21.40**	**142**	P	**P**	**16 04 00.2**	**-0.5**
	6.7nm,0.8s,baz=307,slow=9.4,SNR=2.3						
DZM				LR	LR	16 10 51.1	
	comp=Z,246nm,20.6s,baz=295,slow=33						
SIJI	**Sorong**	**21.62**	**281**	P	**P**	**16 04 03.4**	**+0.3**
	2.0nm,0.5s,baz=344,slow=22,SNR=1.9						
WB0	**Warramunga Arr**	**22.64**	**229**	P	**P**	**16 04 14.7**	**+0.8**
WR0	**Warramunga Arr**	**22.65**	**229**	P	**P**	**16 04 14.8**	**+0.8**
WRAB	**Tennant Creek**	**22.77**	**229**	P	**P**	**16 04 16.8**	**+1.5**
WB2	**Warramunga Arr**	**22.78**	**229**	P	**P**	**16 04 16.4**	**+1.0**
WB2				IAmb	IAmb	16 04 23.0	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**22.79**	**229**	P	**P**	**16 04 15.4**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=53,slow=9.9,SNR=19						
WRA	**Warramunga Arr**	**22.79**	**229**	P	**P**	**16 04 16.0**	**+0.5**
AS31	**Alice Springs**	**25.47**	**223**	P	**P**	**16 04 39.7**	**-1.1**
ASAR	**Alice Springs**	**25.47**	**223**	P	**P**	**16 04 41.3**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=56,slow=9.2,SNR=32						
ASAR	**Alice Springs**	**25.47**	**223**	P	**P**	**16 04 40.0**	**-0.7**
FUNA	**Funafuti**	**26.72**	**98**	P	**P**	**16 04 50.5**	**-1.6**
STKA	**Stephens Creek**	**28.23**	**200**	P	**P**	**16 05 05.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=13,slow=15,SNR=3.6						
STKA				LR	LR	16 17 13.9	
	comp=Z,75nm,18.3s,baz=21,slow=38						
WAKE	**Wake Island**	**28.24**	**29**	P	**P**	**16 05 04.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**29.07**	**242**	P	**P**	**16 05 12.3**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=58,slow=7.8,SNR=20						
RAO	**Raoul Island**	**36.70**	**134**	P	**P**	**16 06 20.3**	**+0.8**
MJAR	**Matsushiro Arr**	**43.81**	**343**	LR	LR	16 25 18.2	
	comp=Z,26nm,19.1s,baz=150,slow=36						
MJB9	**Matsu-Tunnel**	**43.81**	**343**	P	**P**	**16 07 19.1**	**+0.8**
MJB9				IAmb	IAmb	16 07 20.2	
	comp=Z,11nm,0.6s						
JSD	**Sado**	**45.19**	**344**	P	**P**	**16 07 28.7**	**-0.5**
KSRS	**Korea Array**	**48.38**	**334**	P	**P**	**16 07 53.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=158,slow=6.6,SNR=1.6						
ENH	**Enshi**	**54.31**	**313**	P	**P**	**16 08 38.3**	**-0.6**
ENH				IAmb	IAmb	16 08 40.4	
	comp=Z,6.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.82**	**296**	P	**P**	**16 09 03.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=106,slow=5.8,SNR=5.7						
PEA0B	**Petropavlovsk-**	**58.46**	**4**	P	**P**	**16 09 08.3**	**+0.5**
PETK	**Petropavlovsk-**	**58.46**	**4**	P	**P**	**16 09 07.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=186,slow=10,SNR=1.9						
PETK	**Petropavlovsk-**	**58.46**	**4**	P	**P**	**16 09 08.3**	**+0.4**
GSTR	**Great Sitkin T**	**63.25**	**21**	P	**P**	**16 09 41.3**	**+0.9**
SONM	**Songino Array**	**66.65**	**328**	P	**P**	**16 10 02.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=134,slow=5.8,SNR=6.7						
SONM	**Songino Array**	**66.65**	**328**	IAmb	IAmb	16 10 06.4	
	comp=Z,3.2nm,1.4s						
SDPT	**Sand Point**	**71.91**	**26**	P	**P**	**16 10 35.7**	**+0.7**
SII	**Sitkinak Islan**	**75.46**	**27**	P	**P**	**16 10 56.2**	**+0.3**
CNPM	**China Poot**	**78.41**	**26**	P	**P**	**16 11 12.8**	**+0.3**
TTA	**Tatalina**	**78.45**	**21**	P	**P**	**16 11 13.3**	**+0.6**
TTA				IAmb	IAmb	16 11 16.0	
	comp=Z,3.8nm,1.0s						
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**16 11 24.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=95,slow=7.9,SNR=9.5						
KTH	**Kantishna Hill**	**80.70**	**22**	P	**P**	**16 11 25.4**	**+0.5**
KTH				IAmb	IAmb	16 11 26.8	
	comp=Z,4.2nm,0.9s						
SML	**Sawmill**	**80.81**	**24**	P	**P**	**16 11 25.9**	**+0.4**
SML				IAmb	IAmb	16 11 28.2	
	comp=Z,5.8nm,0.7s						
TRF	**Thorofare Moun**	**80.89**	**23**	P	**P**	**16 11 26.3**	**+0.3**
IMAR	**Indian Mountai**	**81.06**	**20**	P	**P**	**16 11 27.6**	**+0.9**
ZALV	**Zalesovo Beam**	**81.46**	**326**	P	**P**	**16 11 28.6**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=116,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**81.46**	**326**	P	**P**	**16 11 29.4**	**+0.4**
MCK	**McKinley**	**81.55**	**23**	P	**P**	**16 11 29.6**	**+0.2**
MLY	**Manley**	**81.57**	**21**	P	**P**	**16 11 30.0**	**+0.5**
MLY				IAmb	IAmb	16 11 31.7	
	comp=Z,4.5nm,0.6s						
KLU	**Klutina**	**81.67**	**25**	P	**P**	**16 11 31.2**	**+1.1**
KLU				IAmb	IAmb	16 11 48.9	
	comp=Z,4.1nm,1.0s						
WRH	**Wood River Hil**	**82.25**	**22**	P	**P**	**16 11 33.7**	**+0.7**
WRH				IAmb	IAmb	16 11 35.4	
	comp=Z,5.9nm,1.0s						
CCB	**Clear Creek Bu**	**82.44**	**22**	P	**P**	**16 11 34.0**	**+0.1**
CCB				IAmb	IAmb	16 11 35.7	
	comp=Z,5.9nm,1.1s						
GLB	**Gilahina Butte**	**82.55**	**26**	P	**P**	**16 11 34.9**	**+0.2**
GLB				IAmb	IAmb	16 11 49.4	
	comp=Z,4.1nm,1.0s						
HDA	**Harding Lake**	**82.65**	**22**	P	**P**	**16 11 34.5**	**-0.6**
HDA				IAmb	IAmb	16 11 36.5	
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	**16 11 36.0**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=245,slow=5.6,SNR=20						
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	**16 11 35.8**	**-0.3**
COLD	**Coldfoot**	**82.94**	**19**	P	**P**	**16 11 37.2**	**+0.7**
COLD				IAmb	IAmb	16 11 39.5	
	comp=Z,5.0nm,1.2s						
DOT	**Dot Lake**	**83.42**	**24**	P	**P**	**16 11 39.8**	**+0.7**
DOT				IAmb	IAmb	16 11 42.0	
	comp=Z,3.8nm,0.9s						
SCRK	**Sand Creek**	**83.59**	**23**	P	**P**	**16 11 40.7**	**+0.6**
SCRK				IAmb	IAmb	16 11 43.0	
	comp=Z,4.6nm,1.2s						
L27K	**Beaver Creek,**	**84.08**	**25**	P	**P**	**16 11 43.5**	**+0.9**
L27K				IAmb	IAmb	16 12 06.0	
	comp=Z,5.3nm,1.4s						
BCAR	**Beaver Creek A**	**84.10**	**25**	P	**P**	**16 11 43.6**	**+1.0**
K27K	**Chicken**	**84.38**	**24**	P	**P**	**16 11 45.4**	**+1.5**
K27K				IAmb	IAmb	16 11 48.1	
	comp=Z,3.2nm,1.1s						
HYT	**Haines Junctio**	**85.13**	**28**	P	**P**	**16 11 49.3**	**+1.4**
HYT				IAmb	IAmb	16 12 03.6	
	comp=Z,4.0nm,0.8s						
ARSB	**Arslanbob**	**85.67**	**312**	P	**P**	**16 11 52.6**	**+1.5**
NVAR	**Mina Array Bea**	**92.73**	**52**	P	**P**	**16 12 24.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=261,slow=6.6,SNR=4.4						
NVAR	**Mina Array Bea**	**92.73**	**52**	P	**P**	**16 12 24.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.16**	**287**	PKPbc	**PKPbc**	**16 19 03.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=73,slow=3.6,SNR=3.3						
TORD				PKPab	**PKPab**	**16 19 09.6**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=69,slow=3.6,SNR=9.2						

*DJA **15** 16:06:13.4±1.0, 6.°N±9.°×12.°6E±.°, h158km±10km, M4.5/10, mb4.5/10, mB5.0/6, MLv4.8/7, Mw(mB)4.3/6, MwMwp5.5/1, Mwp5.7/1*
*NEIC **15** 16:06:14.9±1.6, 6.°35N±0.°08×126.°2E±0.°1, h131km±7km, mb4.3/23, Error ellipse: s-maj=20.5km s-min=10.0km az=73.0*
*IDC **15** 16:06:15.4±0.7, 6.°29N×126.°22E, h142km±7km, mb3.5/12, mb1 3.7/14, mb1mx3.5/43, mbtmp4.0/14, Error ellipse: s-maj=30.9km s-min=10.3km az=79.0*
*MAN **15** 16:06:20.9, 6.°85N×125.°85E, h4km, MS3.6*
ISC 15 16:06:14.7±0.7, **6.°30N**±0.°05×**126.°33E**±0.°08, **h135**km±7km, **n64**, σ1**°15**/73, **mb4.0**/23, **2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.64**	**252**	*eP*	**Pn**	**16 06 35.0**	**-0.2**
DDMP				*eS*	**Sn**	**16 06 50.2**	**-0.6**
DAV	**Davao City (W)**	**1.06**	**316**	P	**Pn**	**16 06 39.1**	**+0.4**
	285nm,0.3s,baz=244,slow=3.6,SNR=26						
DAV				S	**Sn**	**16 06 58.2**	**+1.2**
	686nm,0.3s,baz=104,slow=24,SNR=25						
DAV	**Davao City (W)**	**1.06**	**316**	P	**Pn**	**16 06 39.1**	**+0.4**
DAV				S	**Sn**	**16 06 58.5**	**+1.5**
SKMP	**Bagumbayan, Su**	**1.79**	**277**	*eP*	**Pn**	**16 06 45.2**	**-1.2**
BUKP	**Musuan**	**2.01**	**321**	*eP*	**Pn**	**16 06 49.5**	**+0.4**
BUKP				*eS*	**Sn**	**16 07 16.5**	**+0

USA0B	**Ussuriysk Arra**	**38.07**	**7**	P	**P**	**16 13 20.5**	**+0.3**
USA0B				IAmb	IAmb	16 13 21.9	
	comp=Z,2.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.07**	**7**	P	**P**	**16 13 20.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=183,slow=7.1,SNR=7.9						
NWAO	**Narrogin (SRO)**	**39.96**	**192**	P	**P**	**16 13 35.5**	**-0.4**
	comp=Z,9.4nm,1.0s,baz=40,slow=7.9,SNR=2.1						
NWAO	**Narrogin (SRO)**	**39.96**	**192**	P	**P**	**16 13 36.6**	**+0.7**
NWAO				IAmb	IAmb	16 13 39.0	
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**40.66**	**160**	P	**P**	**16 13 42.3**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=342,slow=10.0,SNR=3.4						
SONM	**Songino Array**	**44.75**	**341**	P	**P**	**16 14 15.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=163,slow=6.0,SNR=1.6						
SANVU	**Saraoutou**	**45.90**	**118**	P	**P**	**16 14 25.2**	**+1.2**
PETK	**Petropavlovsk-**	**53.23**	**23**	P	**P**	**16 15 19.8**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=227,slow=5.7,SNR=2.5						
MKAR	**Makanchi Array**	**55.23**	**324**	P	**P**	**16 15 33.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=114,slow=7.6,SNR=16						
ZALV	**Zalesovo Beam**	**58.13**	**333**	P	**P**	**16 15 53.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=108,slow=9.3,SNR=2.6						
TIXI	**Tiksi**	**65.29**	**1**	P	**P**	**16 16 42.3**	**+0.6**
TIXI				IAmb	IAmb	16 16 43.4	
	comp=Z,4.2nm,1.2s						
BILL	**Bilibino**	**67.19**	**15**	P	**P**	**16 16 53.6**	**-0.3**
BILL				IAmb	IAmb	16 17 02.2	
	comp=Z,8.8nm,1.5s						
NRIK	**Noril'sk**	**67.85**	**346**	P	**P**	**16 16 58.1**	**+0.1**
NIKH	**Nikolski High**	**69.96**	**36**	P	**P**	**16 17 12.1**	**+0.8**
ILAR	**Eielson Array**	**82.97**	**26**	P	**P**	**16 18 24.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=253,slow=5.1,SNR=8.6						

*JMA **15** 16:25:52.7,23°.77N×121°.76E,h40km±2km,M2.3*
*TAP **15** 16:25:53.0,23°.81N×121°.75E,h48km,ML2.6,C*
ISC 15 16:25:53.7±1.3,23°.79N±0°.02×121°.79E±0°.02,h39km±2km, n93,σ0§95/181,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.19**	**295**	P	**Pn**	**16 26 01.0**	**-0.4**
	baz=306						
TEYL				S	**Sn**	**16 26 07.4**	**0.0**
	baz=306						
TEGC	**Jichi Village**	**0.24**	**251**	P	**Pn**	**16 26 01.3**	**-0.2**
	baz=236						
TEGC				S	**Sn**	**16 26 07.6**	**+0.1**
	baz=236						
HWA	**Hwalien**	**0.25**	**319**	*i* P	**Pn**	**16 26 01.4**	**-0.3**
	baz=323						
HWA				*i* S	**Sn**	**16 26 07.9**	**+0.3**
	baz=323						
ETM	**Tongmen**	**0.32**	**303**	P	**Pn**	**16 26 01.7**	**-0.5**
	baz=296						
ETM				*i* S	**Sn**	**16 26 08.1**	**-0.2**
	baz=296						
ESL	**Shilin**	**0.32**	**275**	P	**Pn**	**16 26 01.8**	**-0.4**
	baz=271						
ESL				S	**Sn**	**16 26 08.0**	**-0.4**
	baz=271						
TWD	**Chiawan**	**0.34**	**329**	*i* P	**Pn**	**16 26 01.9**	**-0.5**
	baz=338						
TWD				*i* S	**Sn**	**16 26 08.2**	**-0.4**
	baz=338						
EGFH	**Guangfu**	**0.35**	**250**	P	**Pn**	**16 26 02.2**	**-0.3**
	baz=252						
EGFH				S	**Sn**	**16 26 08.7**	**0.0**
	baz=252						
ETL	**Fush Village**	**0.40**	**338**	*i* P	**Pn**	**16 26 02.5**	**-0.6**
	baz=345						
ETL				S	**Sn**	**16 26 09.4**	**-0.4**
	baz=345						
NACB	**Ninganchiao**	**0.42**	**336**	P	**Pn**	**16 26 02.6**	**-0.8**
	baz=342						
NACB				S	**Sn**	**16 26 09.4**	**-0.8**
	baz=342						
HGSD	**Ruisui**	**0.44**	**228**	P	**Pn**	**16 26 03.2**	**-0.4**
	baz=230						
HGSD				S	**Sn**	**16 26 11.7**	**+1.1**
	baz=230						
ETLH	**Xiulin Townshi**	**0.50**	**326**	P	**Pn**	**16 26 03.8**	**-0.8**
	baz=318						
ETLH				S	**Sn**	**16 26 11.1**	**-1.1**
	baz=318						
EHY	**Hungye**	**0.51**	**237**	P	**Pn**	**16 26 03.8**	**-0.8**
	baz=242						
EHY				S	**Sn**	**16 26 11.0**	**-1.3**
	baz=242						
OWD	**Renai**	**0.58**	**287**	P	**Pn**	**16 26 05.0**	**-0.7**
	baz=286						
OWD				*e*S	**Sn**	**16 26 13.1**	**-1.1**
	baz=286						
WHF	**Hehuan Shan**	**0.59**	**307**	P	**Pn**	**16 26 05.1**	**-1.1**
	baz=308						
WHF				S	**Sn**	**16 26 13.9**	**-0.9**
	baz=308						
YULB	**Yu-li**	**0.60**	**229**	*e*P	**Pn**	**16 26 04.4**	**-1.4**
	baz=234						
YULB				*e*S	**Sn**	**16 26 13.1**	**-1.2**
	baz=234						
EYUL	**Yuli**	**0.61**	**224**	*e*P	**Pn**	**16 26 05.7**	**-0.3**
	baz=230						
EYUL				*e*S	**Sn**	**16 26 14.4**	**-0.3**
	baz=230						
CHGB	**Renai**	**0.62**	**296**	*i* P	**Pn**	**16 26 05.7**	**-0.6**
	baz=301						
CHGB				*e*S	**Sn**	**16 26 13.8**	**-1.4**
	baz=301						
TWF1	**Yuli**	**0.62**	**226**	P	**Pn**	**16 26 05.3**	**-0.9**
	baz=232						
TWF1				S	**Sn**	**16 26 13.3**	**-1.6**
	baz=232						
FUSS	**Fushou**	**0.67**	**313**	P	**Pn**	**16 26 06.5**	**-0.6**
	baz=320						
FUSS				S	**Sn**	**16 26 15.7**	**-0.9**
	baz=320						
TWT	**Tachien**	**0.72**	**310**	*e*P	**Pn**	**16 26 07.3**	**-0.4**
	baz=309						
TWT				*e*S	**Sn**	**16 26 16.9**	**-0.8**
	baz=309						
NNSB	**Datong**	**0.74**	**330**	P	**Pn**	**16 26 07.2**	**-0.6**
	baz=327						
NNSB				S	**Sn**	**16 26 16.8**	**-1.1**
	baz=327						
NNSH	**Datong**	**0.74**	**330**	P	**Pn**	**16 26 07.1**	**-0.7**
	baz=327						
NNSH				S	**Sn**	**16 26 16.7**	**-1.1**
	baz=327						
TDCB	**Techi**	**0.74**	**309**	P	**Pn**	**16 26 07.4**	**-0.5**
	baz=309						
TDCB				S	**Sn**	**16 26 16.6**	**-1.4**
	baz=309						
FULB	**Fuli**	**0.74**	**218**	*e*P	**Pn**	**16 26 07.3**	**-0.4**
	baz=226						
FULB				*e*S	**Sn**	**16 26 18.2**	**+0.4**
	baz=226						
NNS	**Nan Shan**	**0.75**	**330**	P	**Pn**	**16 26 07.3**	**-0.7**
	baz=328						
NNS				S	**Sn**	**16 26 17.4**	**-0.8**
	baz=328						
SSLB	**Suanglung**	**0.76**	**270**	P	**Pn**	**16 26 07.5**	**-0.6**
	baz=264						
SSLB				S	**Sn**	**16 26 18.0**	**-0.4**
	baz=264						
CHKT	**Chengkung**	**0.79**	**209**	*e*P	**Pn**	**16 26 07.3**	**-1.1**
	baz=197						
CHKT				*e*S	**Sn**	**16 26 17.1**	**-1.9**
	baz=197						
WPL	**Puli Township**	**0.79**	**287**	P	**Pn**	**16 26 07.9**	**-0.5**
	baz=282						
WPL				*e*S	**Sn**	**16 26 17.9**	**-1.2**
	baz=282						
SMLT	**Sun Moon Lake**	**0.82**	**277**	P	**Pn**	**16 26 08.5**	**-0.4**
	baz=277						
SMLT				*e*S	**Sn**	**16 26 19.9**	**+0.1**
	baz=277						
TWC	**Suao**	**0.82**	**4**	*e*P	**Pn**	**16 26 08.6**	**-0.2**
	baz=7.0						
YUS	**Yu-Shan**	**0.82**	**249**	*e*P	**Pn**	**16 26 09.1**	**-0.2**
	baz=246						
YUS				*e*S	**Sn**	**16 26 19.1**	**-1.3**
	baz=246						
DPDB	**Guoxing**	**0.82**	**287**	*e*P	**Pn**	**16 26 08.5**	**-0.4**
	baz=285						
DPDB				*e*S	**Sn**	**16 26 19.1**	**-0.8**
	baz=285						
WCS	**Beigang Elemen**	**0.84**	**289**	P	**Pn**	**16 26 08.7**	**-0.4**
	baz=286						
WCS				*e*S	**Sn**	**16 26 19.5**	**-0.8**
	baz=286						
NDS	**Dongshan**	**0.84**	**356**	*e*P	**Pn**	**16 26 08.8**	**-0.4**
	baz=347						
NDS				*e*S	**Sn**	**16 26 19.4**	**-0.9**
	baz=347						
NDT	**Datong Townshi**	**0.85**	**343**	*e*P	**Pn**	**16 26 09.7**	**+0.5**
	baz=337						
NDT				*e*S	**Sn**	**16 26 19.7**	**-0.8**
	baz=337						
TYC	**Yuchr**	**0.86**	**278**	P	**Pn**	**16 26 09.0**	**-0.3**
	baz=281						
TYC				*e*S	**Sn**	**16 26 21.1**	**+0.4**
	baz=281						
WHYT	**Xinyi Township**	**0.86**	**264**	*e*P	**Pn**	**16 26 09.8**	**+0.4**
	baz=260						
WHYT				*e*S	**Sn**	**16 26 20.6**	**-0.1**
	baz=260						
ECS	**Chishang**	**0.86**	**217**	*e*P	**Pn**	**16 26 09.3**	**-0.1**
	baz=214						
ECS				*e*S	**Sn**	**16 26 20.7**	**-0.1**
	baz=214						
ENTT	**Nioudou**	**0.87**	**347**	P	**Pn**	**16 26 10.4**	**+0.9**
	baz=349						
ENTT				*e*S	**Sn**	**16 26 20.1**	**-1.0**
	baz=349						
WHP	**Taichung City**	**0.91**	**303**	*e*P	**Pn**	**16 26 10.4**	**+0.3**
	baz=306						
WHP				*e*S	**Sn**	**16 26 21.4**	**-0.7**
	baz=306						
EDH	**Donghe**	**0.92**	**209**	*e*P	**Pn**	**16 26 09.3**	**-1.0**
	baz=218						
EDH				*e*S	**Sn**	**16 26 21.1**	**-1.2**
	baz=218						
ELDTW	**Lidau**	**0.92**	**230**	P	**Pn**	**16 26 09.3**	**-1.0**
	baz=225						
ELDTW				*e*S	**Sn**	**16 26 20.9**	**-1.5**
	baz=225						
TWE	**Neicheng**	**0.94**	**353**	P	**Pn**	**16 26 10.1**	**-0.3**
	baz=347						
TWE				*e*S	**Sn**	**16 26 21.7**	**-0.9**
	baz=347						
ALS	**Alishan**	**0.94**	**253**	*e*P	**Pn**	**16 26 10.9**	**+0.2**
	baz=251						
ALS				*e*S	**Sn**	**16 26 22.5**	**-0.7**
	baz=251						
YHNB	**Yeheng**	**0.95**	**337**	P	**Pn**	**16 26 10.4**	**-0.3**
	baz=338						
YHNB				S	**Sn**	**16 26 21.4**	**-1.8**
	baz=338						
WJS	**Zhushan**	**0.97**	**272**	*e*P	**Pn**	**16 26 10.7**	**-0.2**
	baz=271						
WJS				*e*S	**Sn**	**16 26 25.1**	**+1.6**
	baz=271						
WNT	**Mingjian**	**1.01**	**275**	*e*P	**Pn**	**16 26 12.2**	**+0.7**
	baz=274						
WNT				*e*S	**Sn**	**16 26 25.5**	**+1.1**
	baz=274						
NWLT	**Wulai**	**1.02**	**345**	P	**Pn**	**16 26 11.8**	**+0.2**
	baz=340						
NWLT				S	**Sn**	**16 26 23.6**	**-1.0**
	baz=340						
WNT1	**Nantou City**	**1.02**	**277**	*e*P	**Pn**	**16 26 12.0**	**+0.5**
	baz=276						
WNT1				*e*S	**Sn**	**16 26 25.9**	**+1.3**
	baz=276						
WWF	**Wufeng**	**1.03**	**285**	*e*P	**Pn**	**16 26 12.7**	**+1.0**
	baz=284						
WWF				*e*S	**Sn**	**16 26 27.3**	**+2.5**
	baz=284						
CHN5	**Tsauling**	**1.03**	**260**	*e*P	**Pn**	**16 26 12.1**	**+0.3**
	baz=258						
CHN5				*e*S	**Sn**	**16 26 26.1**	**+1.0**
	baz=258						
NTC	**Toucheng**	**1.06**	**2**	*e*P	**Pn**	**16 26 12.2**	**+0.1**
	baz=4.0						
NTC				*e*S	**Sn**	**16 26 26.3**	**+0.6**
	baz=4.0						
LONT	**Longtian**	**1.06**	**215**	*e*P	**Pn**	**16 26 10.9**	**-1.3**
	baz=214						
TWQ1	**Liyutan**	**1.08**	**301**	*e*P	**Pn**	**16 26 12.7**	**+0.3**
	baz=301						
TWQ1				*e*S	**Sn**	**16 26 27.2**	**+1.0**
	baz=301						
NSTT	**Nanjuang**	**1.10**	**320**	P	**Pn**	**16 26 13.5**	**+0.8**
	baz=308						
NSTT				S	**Sn**	**16 26 26.9**	**+0.2**
	baz=308						
LIOB	**Emei**	**1.11**	**321**	P	**Pn**	**16 26 13.5**	**+0.7**
	baz=309						
LIOB				S	**Sn**	**16 26 27.6**	**+0.8**
	baz=309						
STYH	**Taoyuan**	**1.11**	**237**	*e*P	**Pn**	**16 26 13.0**	**+0.2**
	baz=229						
STYH				*e*S	**Sn**	**16 26 26.5**	**-0.4**
	baz=229						
STYT	**Tauyuan**	**1.13**	**237**	P	**Pn**	**16 26 13.3**	**+0.2**
	baz=229						
STYT				*e*S	**Sn**	**16 26 27.6**	**+0.2**
	baz=229						
LDUT	**Ludao**	**1.15**	**195**	*e*P	**Pn**	**16 26 11.7**	**-1.6**
	baz=185						
LDUT				*e*S	**Sn**	**16 26 25.7**	**-2.1**
	baz=185						
WDLH	**Douliu**	**1.15**	**265**	*e*P	**Pn**	**16 26 14.1**	**+0.8**
	baz=264						
WDLH				*e*S	**Sn**	**16 26 28.9**	**+1.1**
	baz=264						
TWGBT	**Beinan**	**1.16**	**214**	*e*P	**Pn**	**16 26 12.0**	**-1.5**
	baz=211						
TWGBT				*e*S	**Sn**	**16 26 27.0**	**-1.2**
	baz=211						
TWG	**Pinlang**	**1.17**	**214**	*e*P	**Pn**	**16 26 12.4**	**-1.1**
	baz=211						
TWG				*e*S	**Sn**	**16 26 26.6**	**-1.6**
	baz=211						
TPUB	**Ta-pu**	**1.17**	**246**	P	**Pn**	**16 26 14.4**	**+0.8**
	baz=244						
TPUB				S	**Sn**	**16 26 29.6**	**+1.3**
	baz=244						
CHN4	**Tsaushan**	**1.18**	**249**	*e*P	**Pn**	**16 26 14.5**	**+0.8**
	baz=246						
CHN4				S	**Sn**	**16 26 29.9**	**+1.4**
	baz=246						
TIPB	**Shuangxi**	**1.18**	**2**	*e*P	**Pn**	**16 26 14.1**	**+0.3**
	baz=354						
TIPB				*e*S	**Sn**	**16 26 29.7**	**+1.1**
	baz=354						
TWA	**Mucha**	**1.20**	**351**	*e*P	**Pn**	**16 26 14.4**	**+0.4**
	baz=344						
TWA				*e*S	**Sn**	**16 26 29.3**	**+0.1**
	baz=344						
WTP	**Ta-pu**	**1.20**	**244**	*e*P	**Pn**	**16 26 14.9**	**+0.8**
	baz=241						
WTP				*e*S	**Sn**	**16 26 30.4**	**+1.2**
	baz=241						
TATO	**Taipei**	**1.21**	**347**	*e*P	**Pn**	**16 26 13.9**	**-0.3**
	baz=349						
TATO				*e*S	**Sn**	**16 26 29.4**	**0.0**
	baz=349						
JYNG	**Yonagunijimaku**	**1.25**	**58**	P	**Pn**	**16 26 14.8**	**+0.1**
JYNG				*e*S	**Sn**	**16 26 30.6**	**+0.3**
WTK	**Tuku**	**1.28**	**266**	*e*P	**Pn**	**16 26 16.1**	**+0.9**
	baz=264						
WTK				*e*S	**Sn**	**16 26 32.4**	**+1.2**
	baz=264						
WRL	**Guolierlin Hig**	**1.29**	**275**	*e*P	**Pn**	**16 26 15.9**	**+0.6**
	baz=285						
WRL				*e*S	**Sn**	**16 26 32.6**	**+1.2**
	baz=285						
TWK	**Hsinying**	**1.30**	**247**	*e*P	**Pn**	**16 26 15.9**	**+0.4**
	baz=244						
TWK				*e*S	**Sn**	**16 26 32.7**	**+1.0**
	baz=244						
CHN1	**Nanshi**	**1.30**	**243**	*e*P	**Pn**	**16 26 16.7**	**+1.3**
	baz=241						
CHN1				*e*S	**Sn**	**16 26 34.0**	**+2.3**
	baz=241						
YOJ	**Yonaguni jima**	**1.30**	**59**	P	**Pn**	**16 26 15.6**	**+0.1**
YOJ				S	**Sn**	**16 26 32.0**	**+0.3**
YOJ	**Yonaguni jima**	**1.30**	**59**	*e*P	**Pn**	**16 26 16.1**	**+0.7**
	baz=60						
YOJ				*e*S	**Sn**	**16 26 32.2**	**+0.5**
	baz=60						
SGST	**Jiashian**	**1.31**	**238**	*e*P	**Pn**	**16 26 15.8**	**+0.2**
	baz=235						
SGST				*e*S	**Sn**	**16 26 33.3**	**+1.5**
	baz=235						
SNST	**Tainan City**	**1.31**	**245**	*e*P	**Pn**	**16 26 16.6**	**+1.1**
	baz=242						
SNST				*e*S	**Sn**	**16 26 32.3**	**+0.5**
	baz=242						
SLGT	**Liugui**	**1.31**	**233**	*e*P	**Pn**	**16 26 16.4**	**+0.8**
	baz=221						
SLGT				*e*S	**Sn**	**16 26 32.9**	**+1.0**
	baz=221						
YM01	**YM01**	**1.37**	**352**	*e*P	**Pn**	**16 26 15.6**	**-0.8**
	baz=342						
YM01				*e*S	**Sn**	**16 26 33.4**	**+0.1**
	baz=342						
SSD	**Sandimen**	**1.48**	**226**	*e*P	**Pn**	**16 26 19.5**	**+1.5**
	baz=223						
SSD				*e*S	**Sn**	**16 26 37.1**	**+1.0**
	baz=223						
SCST	**Cishan**	**1.49**	**233**	*e*P	**Pn**	**16 26 19.9**	**+1.9**
	baz=242						
SCST				*e*S	**Sn**	**16 26 39.8**	**+3.6**
	baz=242						
TSMG	**Majia**	**1.50**	**224**	*e*P	**Pn**	**16 26 19.6**	**+1.4**
	baz=222						
TSMG				*e*S	**Sn**	**16 26 38.7**	**+2.1**
	baz=222						
EAST	**Anshuo**	**1.64**	**212**	*e*P	**Pn**	**16 26 19.2**	**-0.9**
	baz=209						
EAST				*e*S	**Sn**	**16 26 38.7**	**-1.4**
	baz=209						
SLIU	**Shizi**	**1.81**	**210**	*e*P	**Pn**	**16 26 22.9**	**+0.5**
	baz=211						
IRIF	**Iriomote-Funau**	**1.86**	**73**	P	**Pn**	**16 26 23.4**	**+0.3**
IRIF				S	**Sn**	**16 26 46.0**	**+0.7**
HATJ	**Hateruma jima**	**1.87**	**81**	*e*S	**Sn**	**16 26 46.1**	**+0.6**
PHUB	**P'eng-hu**	**2.05**	**263**	*e*S	**Sn**	**16 26 49.1**	**-0.9**
	baz=273						
JKRS	**Kuro-shima**	**2.08**	**77**	P	**Pn**	**16 26 26.7**	**+0.6**
JKRS				S	**Sn**	**16 26 51.9**	**+1.1**
JIJ	**Ishigaki jima**	**2.23**	**75**	P	**Pn**	**16 26 28.1**	**-0.1**
JIJ				S	**Sn**	**16 26 53.3**	**-1.2**
JISG	**Ishigakijimahi**	**2.44**	**70**	P	**Pn**	**16 26 31.1**	**+0.1**
JISG				S	**Sn**	**16 26 58.6**	**-1.0**
VWUC	**VWUC**	**2.44**	**300**	*e*P	**Pn**	**16 26 29.9**	**-1.2**
	baz=299						
VWUC				*e*S	**Sn**	**16 26 59.1**	**-0.6**
	baz=299						
PTMZ	**Houxiangcun**	**2.73**	**298**	*e*P	**Pn**	**16 26 35.0**	**0.0**
	baz=297						
PTMZ				*e*S	**Sn**	**16 27 06.2**	**-0.7**
	baz=297						
JTJ	**Tarama**	**2.79**	**72**	P	**Pn**	**16 26 36.3**	**+0.4**
JTJ				*e*S	**Sn**	**16 27 08.6**	**+0.2**

*IDC **15** 16:43:49.2±0.9,11°.36S×163°.22E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.9/32,mbtmp3.9/11,ML3.5/2,Error ellipse: s-maj=25.0km s-min=21.5km az=95.0*
*NEIC **15** 16:43:54.9±2.1,11°.42S±0°.10×163°.2E±0°.1,h35km±7km, mb4.4/20,Error ellipse: s-maj=16.8km s-min=10.9km az=225.0*
ISC 15 16:43:54.2±0.5,11°.40S±0°.08×163°.20E±0°.08,h35km,n43, σ1§10/35,mb4.2/16,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.75**	**301**	Pn	**Pn**	**16 44 49.1**	**-0.5**
	4.9nm,0.3s,baz=179,slow=12,SNR=7.1						
HNR				Sn	**Sn**	**16 45 32.4**	**-0.1**
	5.3nm,0.3s,baz=271,slow=18,SNR=1.0						
SANVU	**Saraoutou**	**5.60**	**136**	Pn	**Pn**	**16 45 13.8**	**-1.3**
LIFNC	**LIFOU**	**10.10**	**158**	Pn	**Pn**	**16 46 15.9**	**-0.9**
DZM	**Mont Dzumac**	**11.06**	**164**	*e*Pn	**Pn**	**16 46 30.9**	**+0.8**
	1.5nm,0.2s						
DZM				*e*LR	LR	16 49 07.4	
	comp=Z,367nm,24.6s						
DZM	**Mont Dzumac**	**11.06**	**164**	Pn	**Pn**	**16 46 29.9**	**-0.2**
	0.3nm,0.3s,baz=315,slow=23,SNR=13						
DZM	**Mont Dzumac**	**11.06**	**164**	Pn	**Pn**	**16 46 30.6**	**+0.5**
PINNC	**Pines Island,**	**11.87**	**161**	Pn	**Pn**	**16 46 41.7**	**+0.7**
MSVF	**Nonsavu**	**15.69**	**115**	Pn	**Pn**	**16 47 33.9**	**+1.0**
MSVF				IAmb	IAmb	16 48 00.7	
	comp=Z,37nm,1.4s						
CTAO	**Charters Tower**	**18.44**	**240**	P	**P**	**16 48 04.5**	**-2.4**
WR0	**Warramunga Arr**	**28.83**	**249**	P	**P**	**16 49 50.7**	**+1.2**
WB0	**Warramunga Arr**	**28.93**	**250**	P	**P**	**16 49 51.8**	**+1.4**
WB0				IAmb	IAmb	16 50 17.2	
	comp=Z,6.4nm,1.4s						
WB2	**Warramunga Arr**	**29.00**	**249**	P	**P**	**16 49 51.7**	**+0.7**
WRA	**Warramunga Arr**	**29.02**	**249**	P	**P**	**16 49 50.7**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=80,slow=8.9,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**29.90**	**7**	T	T	17 21 32.9	
	baz=189,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.90**	**7**	T	T	17 21 42.3	
	baz=189,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.92**	**7**	T	T	17 21 31.2	
	baz=189						
AS31	**Alice Springs**	**30.40**	**242**	P	**P**	**16 50 03.7**	**+0.2**
ASAR	**Alice Springs**	**30.41**	**242**	P	**P**	**16 50 03.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=69,slow=9.3,SNR=23						
H11N1	**WAKE ISLAND Hy**	**31.13**	**7**	T	T	17 23 12.1	
	baz=191						
H11N3	**WAKE ISLAND Hy**	**31.14**	**7**	T	T	17 23 04.2	
	baz=191,slow=74						
H11N2	**WAKE ISLAND Hy**	**31.15**	**7**	T	T	17 23 03.7	
	baz=191,slow=74						
SOEI	**Soe**	**38.28**	**269**	P	**P**	**16 51 10.9**	**-0.9**
NWAO	**Narrogin (SRO)**	**47.20**	**235**	P	**P**	**16 52 23.0**	**-0.7**
USA0B	**Ussuriysk Arra**	**62.17**	**335**	P	**P**	**16 54 13.3**	**+1.3**
USA0B				IAmb	IAmb	16 54 14.5	
	comp=Z,5.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**62.17**	**335**	P	**P**	**16 54 12.6**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=156,slow=7.4,SNR=11						
USRK	**Ussuriysk Ar.**	**62.17**	**335**	P	**P**	**16 54 13.1**	**+1.1**
ADK	**Adak**	**65.38**	**14**	P	**P**	**16 54 33.6**	**+0.6**
VNDA	**Vanda**	**66.11**	**180**	P	**P**	**16 54 38.7**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=334,slow=4.1,SNR=4.1						
VNDA	**Vanda**	**66.11**	**180**	IAmb	IAmb	16 54 40.8	
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**77.49**	**325**	P	**P**	**16 55 47.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=142,slow=5.7,SNR=4.6						
SONM	**Songino Array**	**77.49**	**325**	IAmb	IAmb	16 55 48.7	
	comp=Z,0.9nm,0.8s						
KDAK	**Kodiak Island**	**77.84**	**22**	P	**P**	**16 55 48.4**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=101,slow=4.1,SNR=3.5						
KDAK	**Kodiak Island**	**77.84**	**22**	IAmb	IAmb	16 55 59.0	
	comp=Z,6.2nm,1.4s						
QSPA	**South Pole Qui**	**78.61**	**180**	P	**P**	**16 55 53.6**	**+1.3**
QSPA				IAmb	IAmb	16 55 57.2	
	comp=Z,5.3nm,1.0s						
SVW2	**Sparrevohn**	**79.24**	**19**	P	**P**	**16 55 55.8**	**+0.2**
BILL	**Bilibino**	**79.26**	**1**	P	**P**	**16 55 56.2**	**+0.7**
BILL				IAmb	IAmb	16 55 58.8	
	comp=Z,6.0nm,1.2s						
WRH	**Wood River Hil**	**84.07**	**19**	P	**P**	**16 56 21.2**	**+0.2**
WRH				IAmb	IAmb	16 56 23.0	
	comp=Z,2.6nm,1.0s						
HDA	**Harding Lake**	**84.39**	**19**	P	**P**	**16 56 23.1**	**+0.5**
HDA				IAmb	IAmb	16 56 24.5	
	comp=Z,2.7nm,0.8s						
ILAR	**Eielson Array**	**84.65**	**19**	P	**P**	**16 56 24.0**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=216,slow=4.1,SNR=5.0						
EGAK	**Eagle**	**86.58**	**21**	P	**P**	**16 56 34.6**	**+1.1**
EGAK				IAmb	IAmb	16 56 37.6	
	comp=Z,2.5nm,0.9s						
NVAR	**Mina Array Bea**	**88.17**	**

HNR	**Honiara**	**3.73**	**300**	Pn		**Pn**	**16 45 54.7**	**-2.2**
	8.4nm,0.3s,baz=250,slow=8.8,SNR=2.0							
HNR				Sn		**Sn**	**16 46 42.1**	**+2.6**
	7.4nm,0.3s,baz=240,slow=18,SNR=1.8							
SANVU	**Saraoutou**	**5.63**	**137**	Pn		**Pn**	**16 46 21.6**	**-1.5**
DZM	**Mont Dzumac**	**11.10**	**164**	Pn		**Pn**	**16 47 37.7**	**-0.6**
	0.4nm,0.3s,baz=301,slow=16,SNR=2.2							
DZM				LR		LR	16 51 03.7	
	comp=Z,396nm,19.0s,baz=32,slow=33							
DZM	**Mont Dzumac**	**11.10**	**164**	Pn		**Pn**	**16 47 38.2**	**-0.1**
MSVF	**Nonsavu**	**15.71**	**116**	LR		LR	16 53 14.7	
	comp=Z,133nm,19.9s,baz=236,slow=31							
PMG	**Port Moresby**	**15.90**	**275**	LR		LR	16 54 24.4	
	comp=Z,42nm,18.1s,baz=59,slow=36							
RAO	**Raoul Island**	**25.05**	**138**	LR		LR	16 58 09.7	
	comp=Z,142nm,20.2s,baz=315,slow=32							
WR0	**Warramunga Arr**	**28.86**	**249**	P		**P**	**16 50 57.1**	**-0.2**
WR0				IAmb		IAmb	16 51 12.2	
	comp=Z,5.9nm,1.3s							
WB0	**Warramunga Arr**	**28.95**	**250**	P		**P**	**16 50 57.6**	**-0.5**
WB0				IAmb		IAmb	16 51 17.5	
	comp=Z,5.7nm,1.1s							
WRAB	**Tennant Creek**	**29.02**	**249**	P		**P**	**16 50 55.6**	**-3.2**
WRAB				IAmb		IAmb	16 50 56.6	
	comp=Z,7.3nm,1.1s							
WB2	**Warramunga Arr**	**29.03**	**249**	P		**P**	**16 50 58.7**	**-0.1**
WB2				IAmb		IAmb	16 51 09.1	
	comp=Z,6.7nm,1.3s							
WRA	**Warramunga Arr**	**29.04**	**249**	P		**P**	**16 50 57.8**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=79,slow=9.0,SNR=7.3							
H11S2	**WAKE ISLAND Hy**	**29.85**	**7**	T		T	17 22 40.6	
	baz=186							
H11S3	**WAKE ISLAND Hy**	**29.85**	**7**	T		T	17 22 38.1	
	baz=186							
H11S1	**WAKE ISLAND Hy**	**29.87**	**7**	T		T	17 22 37.9	
	baz=186							
AS31	**Alice Springs**	**30.43**	**242**	P		**P**	**16 51 09.9**	**-1.4**
ASAR	**Alice Springs**	**30.43**	**242**	P		**P**	**16 51 09.3**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=65,slow=9.8,SNR=12							
H11N1	**WAKE ISLAND Hy**	**31.08**	**7**	T		T	17 24 08.3	
	baz=188							
H11N3	**WAKE ISLAND Hy**	**31.09**	**7**	T		T	17 24 13.1	
	baz=188							
H11N2	**WAKE ISLAND Hy**	**31.10**	**7**	T		T	17 24 10.7	
	baz=188							
USRK	**Ussuriysk Ar.**	**62.13**	**335**	P		**P**	**16 55 19.3**	**0.0**
	comp=Z,2.6nm,1.1s,baz=153,slow=6.4,SNR=6.0							
VNDA	**Vanda**	**66.16**	**180**	P		**P**	**16 55 46.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=335,slow=7.7,SNR=3.1							
VNDA	**Vanda**	**66.16**	**180**	P		**P**	**16 55 48.8**	**+3.4**
VNDA				IAmb		IAmb	16 55 49.8	
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**77.45**	**325**	P		**P**	**16 56 53.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=140,slow=6.2,SNR=3.0							
QSPA	**South Pole Qui**	**78.66**	**180**	P		**P**	**16 57 01.2**	**+1.1**
BILL	**Bilibino**	**79.21**	**1**	P		**P**	**16 57 03.3**	**+0.5**
ILAR	**Eielson Array**	**84.61**	**19**	P		**P**	**16 57 31.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=225,slow=3.7,SNR=2.5							
MKAR	**Makanchi Array**	**92.04**	**317**	P		**P**	**16 58 06.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=93,slow=5.8,SNR=2.3							

*NIED **15** 16:46:02.9,33.00N×137.12E,h37km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr0.15; Mθθ-1.24; Mφφ 1.09; Mrθ-0.12; Mrφ-2.08; Mθφ 0.79; Fault plane solution: M0 2.52000×10^{14} NP1:ϕs 16.00000°, δ 83.00000°, λ 17.00000°. NP2:ϕs 283.00000°, δ 73.00000°, λ 172.00000°.*

JMA 15 16:46:02.8±0.1,33.00N×137.12E,h37km±1km,M3.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.68**	**336**	P	Pn	16 46 16.2	+0.5
TTO1				X		16 46 25.6	
TTO2	**TONANKAI O.B.S**	**0.74**	**354**	P	Pn	16 46 17.1	+0.7
TTO2				X		16 46 27.2	
TK01	**Tokai 1**	**0.86**	**27**	P	Pn	16 46 18.5	+0.4
TTO3	**TONANKAI O.B.S**	**0.89**	**15**	P	Pn	16 46 19.3	+0.6
TTO3				*eX*		16 46 30.6	
TTO4	**TONANKAI O.B.S**	**1.06**	**19**	P	Pn	16 46 21.5	+0.6
TTO4				S	Sn	16 46 34.0	-0.3
TK02	**Tokai 2**	**1.08**	**29**	P	Pn	16 46 21.8	+0.6
TK02				S	Sn	16 46 35.2	+0.3
JMMH	**Miemihama**	**1.23**	**312**	P	Pn	16 46 23.8	+0.4
JMMH				S	Sn	16 46 37.3	-1.4
JWKM	**Wakayamakushim**	**1.23**	**292**	P	Pn	16 46 23.7	+0.3
JWKM				S	Sn	16 46 37.5	-1.2
TTO5	**TONANKAI O.B.S**	**1.34**	**22**	P	Pn	16 46 25.4	+0.5
TTO5				S	Sn	16 46 40.9	-0.5
TK03	**Tokai 3**	**1.36**	**31**	P	Pn	16 46 25.8	+0.7
TK03				S	Sn	16 46 42.2	+0.4
JKN2	**Miekihoku**	**1.42**	**330**	P	Pn	16 46 26.4	+0.3
JKN2				S	Sn	16 46 41.8	-1.7
JIE	**Ise**	**1.43**	**346**	P	Pn	16 46 26.8	+0.6
JIE				S	Sn	16 46 42.4	-1.3
MAT	**Matsushiro**	**3.65**	**14**	P	Pn	16 46 59.1	+2.4
MAT				*eS*	Sn	16 47 38.4	0.0

WEL 15 16:52:40.3±1.0,32.5S±10.1×18.0E±1.8,h427km±21km, M4.2/18,mB4.3/4,ML4.6/13,MLv4.5/18,Mw(mB)3.4/4, Error ellipse: s-maj=0.0km s-min=0.0km az=101.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**5.29**	**222**	P	P	16 54 07.1	+0.8
MXZ	**Matakaoa Point**	**5.32**	**193**	P	P	16 54 07.7	+1.2
MXZ				S	S	16 55 18.1	+1.0
KUZ	**Kuaotunu**	**5.52**	**217**	P	P	16 54 10.5	+1.9
WMGZ	**Waiomatatini S**	**5.55**	**192**	P	P	16 54 07.7	-1.2
WMGZ				S	S	16 55 23.1	+1.7
HAZ	**Te Kaha**	**5.62**	**197**	P	P	16 54 08.3	-1.3
HAZ				S	S	16 55 21.5	-1.2
PKGZ	**Pakihiroa**	**5.68**	**194**	P	P	16 54 09.9	-0.4
PKGZ				S	S	16 55 23.8	-0.2
PUZ	**Puketiti**	**5.82**	**192**	P	P	16 54 13.9	+2.1
PUZ				S	S	16 55 26.1	-0.5
RUGZ	**Raukumara Rang**	**5.84**	**197**	P	P	16 54 12.0	-0.1
RUGZ				S	S	16 55 26.9	-0.3
OUZ	**Omahuta**	**5.92**	**240**	P	P	16 54 11.5	-1.2
TWGZ	**Tauwhareparae**	**5.98**	**194**	P	P	16 54 11.9	-1.5
TWGZ				S	S	16 55 31.1	+1.4
OPRZ	**Ohinepanea**	**6.08**	**205**	P	P	16 54 16.2	+1.9
CNGZ	**Carnagh Statio**	**6.23**	**192**	P	P	16 54 17.0	+1.0
TKGZ	**Te Karaka**	**6.26**	**194**	P	P	16 54 16.8	+0.6
TKGZ				S	S	16 55 34.1	-0.9
URZ	**Urewera**	**6.27**	**200**	P	P	16 54 14.3	-2.1
URZ				S	S	16 55 34.9	-0.3
MUGZ	**Murupara**	**6.58**	**202**	P	P	16 54 20.8	+0.8
MUGZ				S	S	16 55 43.6	+2.3
RAHZ	**Arahi**	**6.89**	**198**	P	P	16 54 23.5	0.0
MTHZ	**Maungataniwha**	**6.90**	**200**	P	P	16 54 24.5	+0.9
MTHZ				S	S	16 55 48.3	+0.6
MRHZ	**Matea Rd**	**7.01**	**202**	P	P	16 54 24.3	-0.5
BKZ	**Black Stump Fm**	**7.29**	**201**	P	P	16 54 26.5	-1.3
BKZ				S	S	16 55 56.6	+1.0
MCHZ	**McNeill Hill**	**7.49**	**199**	P	P	16 54 30.3	+0.4
KRHZ	**Kereru**	**7.77**	**200**	P	P	16 54 32.3	-0.7
KRHZ				S	S	16 56 05.2	0.0
KAHZ	**Kahuranaki**	**7.78**	**197**	P	P	16 54 33.3	+0.2

*IDC **15** 17:16:36.8±1.2, 13.98N×56.80E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/49, mbtmp3.7/8, MS3.0/4, Ms1 3.0/4, ms1mx2.6/46, Error ellipse: s-maj=36.2km s-min=24.0km az=38.0*

ISC 15 17:16:39.2±1.2,14.0N±0.2×56.8E±0.2,h15km,n15, σ0 66/8,mb3.9/8,MS2.8/3,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.33**	**10**	LR	LR	17 22 11.5	
	comp=Z,104nm,20.2s,baz=196,slow=36						
GEYT	**Ailbeck**	**23.84**	**3**	LR	LR	17 32 40.6	
	comp=Z,29nm,18.7s,baz=215,slow=40						
PALK	**Pallekele**	**24.40**	**103**	LR	LR	17 29 00.2	
	comp=Z,34nm,21.7s,baz=45,slow=30						
MBAR	**Mbarara**	**29.63**	**243**	LR	LR	17 34 31.7	
	comp=Z,42nm,18.2s,baz=78,slow=36						
MKAR	**Makanchi Array**	**39.02**	**28**	P	**P**	**17 24 05.5**	**+0.2**
	0.2nm,0.7s,baz=208,slow=4.9,SNR=2.2						
CMAR	**Chiang Mai Arr**	**40.63**	**78**	P	**P**	**17 24 18.9**	**-0.1**
	0.5nm,0.8s,baz=283,slow=8.2,SNR=2.6						
AKASG	**Malin Array Be**	**42.88**	**334**	P	**P**	**17 24 35.9**	**-1.0**
	2.1nm,0.7s,baz=140,slow=7.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**45.52**	**23**	P	**P**	**17 24 58.9**	**+0.8**
	0.5nm,0.4s,baz=238,slow=8.0,SNR=2.2						
FINES	**FINESS Array B**	**52.27**	**342**	P	**P**	**17 25 50.0**	**+0.3**
	3.9nm,0.8s,baz=123,slow=9.4,SNR=12						
TORD	**Torodi Ar. Bea**	**53.48**	**276**	P	**P**	**17 25 59.9**	**+0.4**
	0.5nm,0.5s,baz=59,slow=5.5,SNR=2.7						
H01W3	**Cape Leeuwin H**	**72.92**	**134**	T	T	18 47 41.4	
	baz=302,slow=75,SNR=5.1						
H01W2	**Cape Leeuwin H**	**72.92**	**134**	T	T	18 47 40.0	
	baz=302,slow=75,SNR=5.8						
H01W1	**Cape Leeuwin H**	**72.94**	**134**	T	T	18 47 41.9	
	baz=302,slow=75,SNR=6.2						
WRA	**Warramunga Arr**	**83.36**	**112**	P	**P**	**17 29 05.9**	**-0.5**
	0.9nm,1.0s,baz=298,slow=4.2,SNR=6.4						
ASAR	**Alice Springs**	**84.11**	**116**	P	**P**	**17 29 10.2**	**+0.1**
	0.7nm,0.7s,baz=289,slow=4.7,SNR=16						

*ISU **15** 17:21:43,40.14N×72.07E,h10km*
*KRNET **15** 17:21:43.1±0.1,40.14N×72.00E,h30km,mb3.2*
*SOME **15** 17:21:45.3,40.13N×72.17E,h15km*
*NNC **15** 17:21:50.6±1.8,40.52N×72.05E,h19km±10km,mb3.7, mpv3.4,Error ellipse: s-maj=14.3km s-min=7.2km az=1.0*

ISC 15 17:21:41.6±1.2,40.10N±0.03×72.10E±0.02,h7km±10km, n53,σ1 54/91,24C-22D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMI	**Chimion**	**0.47**	**291**	*eP*	**Pg**	**17 21 51.0**	**+0.3**
CHMI				*eS*	**Sg**	**17 21 58.0**	**+1.2**
DRK	**Karamyk**	**0.66**	**200**	⇓*iP*	**Pn**	**17 21 56.6**	**-1.1**
	baz=93						
DRK				⇓*iS*	**Sb**	**17 22 06.5**	**+1.3**
	baz=93						
OHH	**Osh**	**0.67**	**51**	⇓*iP*	**Pn**	**17 21 57.1**	**-0.6**
	baz=57						
OHH				⇓*iS*	**Sn**	**17 22 07.6**	**-0.9**
	baz=57						
FRG	**Fergana**	**0.68**	**339**	*i* P	Pg	17 21 43.0	-12
FRG				*i* S	Sg	17 21 54.0	-9.4
ANR	**Andizhan**	**0.68**	**17**	*i* P	**Pb**	**17 21 56.0**	**+0.1**
ANR				*i* S	**Sb**	**17 22 06.0**	**+0.5**
BTK	**Batken**	**0.98**	**268**	⇑*eP*	**Pg**	**17 22 00.4**	**0.0**
	baz=65						
BTK				⇑*iS*	**Sg**	**17 22 12.7**	**-0.5**
	baz=65						
BTK	**Batken**	**0.98**	**268**	*eP*	**Pg**	**17 22 00.0**	**-0.4**
BTK				*eS*	**Sb**	**17 22 14.0**	**-0.2**
SFK	**Sufi-Kurgan**	**1.08**	**94**	⇑*iP*	**Pn**	**17 22 04.2**	**+0.8**
	baz=96						
SFK				⇑*iS*	**Sn**	**17 22 19.9**	**+1.1**
	baz=96						
SFK	**Sufi-Kurgan**	**1.08**	**94**	*eP*	**Pn**	**17 22 03.0**	**-0.4**
SFK				*eS*	**Sn**	**17 22 18.0**	**-0.8**
ARSB	**Arslanbob**	**1.39**	**29**	⇓*iP*	**Pg**	**17 22 08.5**	**+0.2**
	baz=32						
ARSB				⇓*iS*	**Sg**	**17 22 26.6**	**+0.2**
	baz=32						
ARSB	**Arslanbob**	**1.39**	**29**	*eP*	**Pg**	**17 22 09.0**	**+0.7**
ARSB				*eS*	**Sn**	**17 22 26.0**	**-0.4**
TRKS	**Terek-Say**	**1.60**	**333**	⇓*iP*	**Pn**	**17 22 09.4**	**-1.1**
	baz=35						
TRKS				⇓*iS*	**Sn**	**17 22 28.1**	**-3.4**
	baz=35						
GAR	**Garm**	**1.76**	**232**	⇑*eP*	**Pn**	**17 22 12.8**	**+0.1**
	baz=29						
GAR				⇑*iS*	**Sn**	**17 22 33.9**	**-1.5**
	baz=29						
CHMG	**Chimgan**	**2.15**	**313**	*eP*	**Pb**	**17 22 21.0**	**+0.1**
CHMG				*eS*	**Sg**	**17 22 49.0**	**-1.5**
CHRV	**Charvak**	**2.24**	**314**	*eP*	**Pg**	**17 22 24.0**	**-0.5**
CHRV				*eS*	**Sg**	**17 22 52.0**	**-1.5**
YBZ	**Yangibazar**	**2.25**	**303**	*eP*	**Pb**	**17 22 23.0**	**+0.3**
YBZ				*eS*	**Sb**	**17 22 52.0**	**+1.2**
AML	**Almayashu**	**2.36**	**30**	⇑*iP*	**Pn**	**17 22 22.0**	**+0.9**
	baz=32						
AML				⇑*iS*	**Sn**	**17 22 50.2**	**-0.4**
	baz=32						
TGS	**TashGRES**	**2.36**	**305**	*eP*	**Pg**	**17 22 28.0**	**+1.2**
TGS				*eS*	**Sg**	**17 22 59.0**	**+1.6**
MNAS	**Manas**	**2.40**	**7**	⇓*eP*	**Pn**	**17 22 22.0**	**+0.5**
	baz=9.0						
MNAS				⇓*iS*	**Sn**	**17 22 50.2**	**-1.1**
	baz=9.0						
ARLS	**Aral**	**2.44**	**43**	⇑*iP*	**Pn**	**17 22 23.2**	**+1.3**
	baz=45						
ARLS				⇑*iS*	**Sn**	**17 22 52.3**	**+0.2**
	baz=45						
TAS	**Tashkent**	**2.46**	**301**	*eP*	**Pg**	**17 22 28.0**	**-0.6**
TAS				*eS*	**Sg**	**17 23 00.0**	**-0.4**
CHGR	**Chuyangaron**	**2.70**	**239**	⇓*eP*	**Pn**	**17 22 25.6**	**+0.1**
	baz=37						
CHGR				⇓*iS*	**Sn**	**17 22 56.4**	**-2.0**
	baz=37						
MRKS	**Merke**	**2.77**	**17**	*eP*	**Pg**	**17 22 34.8**	**+0.1**
	8.5nm,0.3s						
MRKS				*eS*	**Sg**	**17 23 10.2**	**-0.5**
	74nm,0.4s						
MRKS	**Merke**	**2.77**	**17**	Pg	**Pg**	**17 22 35.8**	**+1.1**
	8.5nm,0.3s						
MRKS				Lg	Lg	17 23 08.7	
	74nm,0.4s						
DZA	**Taraz**	**2.85**	**349**	*eP*	**Pg**	**17 22 34.7**	**-1.4**
	55nm,0.1s						
DZA				*eS*	**Sb**	**17 23 08.7**	**+0.8**
	223nm,0.3s						
EKS2	**Erkin-Say**	**2.85**	**26**	⇓*iP*	**Pn**	**17 22 28.8**	**+1.1**
	baz=27						
EKS2				⇓*eS*	**Sn**	**17 23 01.6**	**-0.8**
	baz=27						
CHM	**Chimkent**	**2.91**	**320**	*eP*	**Pg**	**17 22 37.3**	**+0.1**
	3.8nm,0.2s						
CHM				*eS*	**Sg**	**17 23 13.9**	**-1.1**
	487nm,0.4s						
AAK	**Ala-Archa**	**3.11**	**35**	⇑*iP*	**Pn**	**17 22 32.4**	**+1.2**
	baz=36						
AAK				⇑*iS*	**Sn**	**17 23 08.2**	**-0.5**
	baz=36						
AAK	**Ala-Archa**	**3.11**	**35**	⇑Pg	**Pg**	**17 22 40.2**	**-0.9**
	7.5nm,0.6s						
AAK				⇓Lg	Lg	17 23 19.2	
	31nm,0.7s						
KK31	**Karatay Array**	**3.23**	**339**	⇑Pn	**Pn**	**17 22 34.8**	**+2.1**
	0.3nm,0.3s,baz=147,slow=12,SNR=33						
KK31				⇑Pg	**Pb**	**17 22 40.9**	**+1.7**
	1.4nm,0.2s,baz=163,slow=17,SNR=16						
KK31				⇓Lg	Lg	17 23 20.1	
	6.8nm,0.3s,baz=157,slow=31,SNR=6.0						
FRU1	**Bishkek**	**3.31**	**34**	⇓*iP*	**Pn**	**17 22 35.2**	**+1.3**
	baz=35						
FRU1				⇓*iS*	**Sn**	**17 23 12.9**	**-0.6**
	baz=35						
KBK	**Karagaybulak**	**3.33**	**39**	⇑*iP*	**Pn**	**17 22 35.7**	**+1.4**
	baz=40						
KBK				⇑*iS*	**Sn**	**17 23 13.7**	**-0.6**
	baz=40						
CHMS	**Chumysh**	**3.51**	**34**	⇑*eP*	**Pn**	**17 22 37.8**	**+1.1**
	baz=35						
CHMS				⇑*iS*	**Sn**	**17 23 17.8**	**-0.7**
	baz=35						
USP	**Ospenovka**	**3.64**	**29**	⇑*iP*	**Pn**	**17 22 39.7**	**+1.3**
	baz=30						
USP				⇑*iS*	**Sn**	**17 23 20.4**	**-1.2**
	baz=30						
BOOM	**Boomskoye usch**	**3.75**	**49**	⇓*iP*	**Pn**	**17 22 41.7**	**+1.6**
	baz=50						
BOOM				⇓*iS*	**Sn**	**17 23 24.3**	**-0.3**
	baz=50						
SGDS	**Sogindy**	**3.85**	**29**	Pg	**Pg**	**17 22 55.7**	**+0.4**
	5.7nm,0.3s						
SGDS				Lg	Lg	17 23 42.1	
	9.4nm,0.4s						
TKM2	**Tokmak 2**	**3.85**	**42**	⇑*eP*	**Pn**	**17 22 43.1**	**+1.6**
	baz=43						
TKM2				⇑*iS*	**Sn**	**17 23 26.3**	**-0.8**
	baz=43						
TKM2	**Tokmak 2**	**3.85**	**42**	⇓Pn	**Pn**	**17 22 44.9**	**+3.5**
	8.1nm,0.8s						
TKM2				⇑Lg	Lg	17 23 43.5	
	8.9nm,0.6s						
KST	**Kastek**	**4.13**	**43**	*eP*	**Pg**	**17 22 59.1**	**-1.5**
	4.1nm,0.5s						
KST				*eS*	**Sg**	**17 23 51.7**	**-2.4**
	15nm,0.9s						
KST	**Kastek**	**4.13**	**43**	Pg	**Pg**	**17 23 01.0**	**+0.3**
	10nm,0.5s						
KST				Lg	Lg	17 23 51.7	
	15nm,0.9s						
DGS	**Degeres**	**4.17**	**40**	*eP*	**Pg**	**17 22 59.6**	**-1.9**
	4.1nm,0.4s						
DGS				*eS*	**Sg**	**17 23 53.0**	**-2.5**
	12nm,0.3s						
DGS	**Degeres**	**4.17**	**40**	Pg	**Pg**	**17 23 02.7**	**+1.2**
	5.5nm,0.4s						
DGS				Lg	Lg	17 23 54.1	
	12nm,0.3s						
MTBS	**Maitube**	**4.44**	**46**	*eP*	**Pg**	**17 23 05.5**	**-1.1**
	2.7nm,0.4s						
MTBS				*eS*	**Sg**	**17 24 02.5**	**-1.6**
	12nm,0.5s						
MTBS	**Maitube**	**4.44**	**46**	Pg	**Pg**	**17 23 07.5**	**+1.0**
	3.0nm,0.3s						
MTBS				Lg	Lg	17 24 02.5	
	12nm,0.5s						
KOTS	**Kotyrbulak**	**4.89**	**49**	*eP*	**Pg**	**17 23 14.5**	**-0.7**
	13nm,0.4s						
KOTS				*eS*	**Sg**	**17 24 17.8**	**-0.7**
	9.5nm,0.7s						
KOTS	**Kotyrbulak**	**4.89**	**49**	Pg	**Pg**	**17 23 16.6**	**+1.4**
	13nm,0.4s						
KOTS				Lg	Lg	17 24 17.8	
	9.5nm,0.7s						
KUU	**Kurty**	**4.93**	**38**	*eP*	**Pg**	**17 23 14.1**	**-1.9**
	2.5nm,0.3s						
KUU				*eS*	**Sg**	**17 24 16.2**	**-3.7**
	12nm,0.3s						
KUU	**Kurty**	**4.93**	**38**	Pg	**Pg**	**17 23 15.5**	**-0.5**
	2.5nm,0.3s						
KUU				Lg	Lg	17 24 16.2	
	12nm,0.3s						
KTBS	**Karatobe**	**4.97**	**42**	*eP*	**Pg**	**17 23 14.0**	**-2.7**
	1.7nm,0.4s						
KTBS				*eS*	**Sg**	**17 24 17.4**	**-3.7**
	16nm,0.6s						
KTBS	**Karatobe**	**4.97**	**42**	Pg	**Pg**	**17 23 16.0**	**-0.8**
	1.7nm,0.4s						
KTBS				Lg	Lg	17 24 17.4	
	16nm,0.6s						
BTLS	**Baital**	**5.14**	**16**	*eP*	**Pb**	**17 23 15.8**	**+4.0**
	2.4nm,0.4s						
BTLS				*eS*	**Sg**	**17 24 21.1**	**-5.5**
	4.7nm,0.4s						
BTLS	**Baital**	**5.14**	**16**	Pg	**Pg**	**17 23 18.0**	**-2.0**
	2.4nm,0.4s						
BTLS				Lg	Lg	17 24 21.1	
	4.7nm,0.4s						
PDGK	**Podgornoye**	**6.40**	**57**	⇓Lg	Lg	17 25 05.6	
	8.8nm,0.9s						

IDC 15 17:21:59.6±3.9,35.52N×68.14E,h0km,mb3.5/2, mb1 3.5/4,mb1mx3.2/45,mbtmp3.5/4,ML3.1/2,Error ellipse: s-maj=105.6km s-min=29.8km az=137.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.48**	**39**	Pn	Pn	17 25 39.1	-0.1
	0.0nm,0.3s,baz=215,slow=12,SNR=2.0						
BVAR	**Borovoye Array**	**17.58**	**4**	Pn	Pn	17 26 01.9	-4.0
	0.4nm,0.3s,baz=198,slow=14,SNR=12						
ZALV	**Zalesovo Beam**	**21.81**	**27**	P	P	17 26 51.7	-1.4
	1.3nm,0.6s,baz=220,slow=9.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**63.37**	**267**	P	P	17 32 31.1	+0.1
	0.2nm,0.4s,baz=61,slow=7.1,SNR=1.2						

KRSC 15 17:24:15.3±2.0,50.95N×160.67E,h80km±25km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.84**	**299**	*eP*	Pn	17 24 46.4	+1.4
KDTR				*eS*	Sn	17 25 08.9	+1.3
RUS	**Russkaya**	**2.00**	**319**	*eP*	Pn	17 24 48.5	+1.3
MTVR	**Mutnovka**	**2.18**	**316**	*eP*	Pn	17 24 51.6	+1.9
MTVR				*eS*	Sn	17 25 17.7	+1.7
SPN	**Mys Shipunski**	**2.19**	**350**	*eP*	Pn	17 24 50.7	+1.0
SPN				*eS*	Sn	17 25 16.1	+0.2
GRL	**Gorelyy**	**2.27**	**316**	*eP*	Pn	17 24 53.8	+2.8
GRL				*eS*	Sn	17 25 21.6	+3.4
NLC	**Nalytchevo**	**2.37**	**340**	*eP*	Pn	17 24 54.1	+2.0
NLC				*eS*	Sn	17 25 21.9	+1.6
DALK	**Dalny**	**2.40**	**331**	*eP*	Pn	17 24 54.2	+1.7
DALK				*eS*	Sn	17 25 23.0	+2.1
PET	**Petropavlovsk**	**2.42**	**330**	*eP*	Pn	17 24 55.3	+2.5
PET				*eS*	Sn	17 25 24.1	+2.6
KRMR	**Karymshinskiy**	**2.45**	**321**	*eP*	Pn	17 24 55.8	+2.6
KRMR				*eS*	Sn	17 25 25.1	+2.8
PAU	**Pauzhetka**	**2.48**	**284**	*eS*	Sn	17 25 25.0	+2.0
UGLR	**Uglovaya**	**2.53**	**334**	*eP*	Pn	17 24 56.7	+2.3
SDLR	**Sedlovina**	**2.58**	**335**	*eP*	Pn	17 24 57.5	+2.4
SMAR	**Somma**	**2.59**	**334**	*eP*	Pn	17 24 58.9	+3.6
AVH	**Avacha**	**2.61**	**334**	*eP*	Pn	17 24 58.0	+2.6
AVH				*eS*	Sn	17 25 29.1	+3.0
KRER	**Koryakskii**	**2.64**	**334**	*eP*	Pn	17 24 59.4	+3.5
KOK	**Koryaka**	**2.66**	**333**	*eP*	Pn	17 24 58.9	+2.8
KRX	**Arik**	**2.71**	**333**	*eP*	Pn	17 24 59.7	+2.8
MIPR	**Malaya Ipel'ka**	**2.78**	**300**	*eP*	Pn	17 25 00.6	+3.0
SKR	**Severo-Kuril's**	**2.90**	**266**	*eP*	Pn	17 25 01.2	+1.9
SKR				*eS*	Sn	17

cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

KLM ***15*** *17:41:00, 9.°77S×125.°16E, h82km, mb5.8*

NEIC ***15*** *17:41:00, 9.°63S×125.°19E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.93; $M_{\theta\theta}$-4.56; $M_{\phi\phi}$-1.36; $M_{r\theta}$4.35; $M_{r\phi}$-1.26; $M_{\theta\phi}$1.87; Fault plane solution: $M_0$7.27000×10^{17} NP1:ϕ_s252.00000°, δ25.00000°, λ94.00000°. NP2:ϕ_s68.00000°, δ65.00000°, λ88.00000°. Principal axes: T 7.6965, Plg69.0000°, Azm335.0000°; N -0.9381, Plg2.0000°, Azm69.0000°; P -6.7584, Plg20.0000°, Azm160.0000°;*

NEIC ***15*** *17:41:01, 9.°61S×125.°18E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.98; $M_{\theta\theta}$-4.97; $M_{r\theta}$-0.01; $M_{r\phi}$4.45; $M_{\theta\phi}$-2.40; $M_{\phi\phi}$-0.51; Fault plane solution: $M_0$7.11000×10^{17} NP1:ϕ_s228.00000°, δ30.00000°, λ56.00000°. NP2:ϕ_s86.00000°, δ65.00000°, λ108.00000°. Principal axes: T 6.9462, Plg65.0000°, Azm27.0000°; N 0.3191, Plg16.0000°, Azm259.0000°; P -7.2653, Plg19.0000°, Azm163.0000°;*

ISC 15 17:40:58.6±0.4, **9.°53S**±0.°03×**125.°07E**±0.°03, **h35**km±1km, **h35**km:**pP-P, n1234**, σ2=**39**/1155, **mb5.6**/233, **MS5.5**/310, **93C-40D, Fault plane solution: NP1:**ϕ_s157.97475°, δ52.56039°, λ15.74985°. **NP2:**ϕ_s58.24592°, δ77.55395°, λ141.49703°. **Principal axes:** T Plg35.6099°, Azm11.1400°; N Plg49.8345°, Azm223.0874°; P Plg16.1094°, Azm113.0775°; **Fault plane solution: NP1:**ϕ_s44.95606°, δ65.90951°, λ81.11462°. **NP2:** ϕ_s245.91313°, δ25.58489°, λ109.05746°. **Principal axes:** T Plg67.8802°, Azm298.0948°; N Plg8.1060°, Azm48.6073°; P Plg20.4351°, Azm141.6493°; **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.82**	**254**		**Pn**	**17 41 12.8**	**-1.1**
SOEI	**Soe**	**0.82**	**254**	P	**Pb**	**17 41 15.0**	**+0.3**
BATI	**Baumata**	**1.54**	**244**	Pn	**Pb**	**17 41 25.6**	**-1.1**
	259nm,0.3s,baz=51,slow=4.0,SNR=216						
BATI				Sn	**Sb**	**17 41 47.6**	**+1.7**
	2μm,0.3s,baz=224,slow=22,SNR=7.3						
BATI	**Baumata**	**1.54**	**244**	P	**Pb**	**17 41 25.4**	**-1.3**
MMRI	**Maumere**	**2.94**	**287**	Pn	**Pn**	**17 41 44.2**	**+1.4**
MMRI	**Maumere**	**2.94**	**287**	P	**Pn**	**17 41 45.0**	**+2.1**
EDFI	**Ende, Flores**	**3.43**	**283**	P	**Pn**	**17 41 51.2**	**+1.5**
BASI	**Baing, Sumba**	**4.48**	**261**	P	**Pn**	**17 42 05.3**	**+1.2**
KKSI	**Kolaka, Sulawe**	**6.31**	**327**	P	**Pn**	**17 42 31.8**	**+2.5**
	4.7nm154μm17μm1μm,0.8s						
SAUI	**Saumlaki**	**6.34**	**76**	Pn	**Pn**	**17 42 27.0**	**-2.7**
SAUI	**Saumlaki**	**6.34**	**76**	P	**Pn**	**17 42 31.7**	**+1.9**
	46nm81μm46μm3μm,1.0s						
NLAI	**Namlea**	**6.56**	**18**	P	**Pn**	**17 42 37.0**	**+4.2**
	3.5nm18μm862nm,1.2s						
MTN	**Manton Dam**	**6.80**	**120**	P	**Pn**	**17 42 35.8**	**-0.2**
	baz=6.9,SNR=1000						
MTN				S	**Sn**	**17 43 47.4**	**-4.8**
	baz=6.9						
BNDI	**Bandanaira**	**6.91**	**44**	P	**Pn**	**17 42 38.6**	**+1.1**
	13nm51μm42μm2μm,1.2s						
KAPI	**Kappang**	**6.92**	**310**	Pn	**Pn**	**17 42 40.3**	**+2.6**
	26nm,0.3s,baz=135,slow=8.5,SNR=49						
KAPI				LR	LR	17 45 32.1	
	comp=Z,82μm,19.9s,baz=128,slow=42						
KAPI	**Kappang**	**6.92**	**310**	P	**Pn**	**17 42 39.2**	**+1.5**
KAPI	**Kappang**	**6.92**	**310**	Pn	**Pn**	**17 42 39.2**	**+1.5**
KAPI	**Kappang**	**6.92**	**310**	P	Pn	17 42 43.8	+6.1
KAPI				P	Pn	17 42 43.8	+6.1
KAPI	**Kappang**	**6.92**	**310**	P	**Pn**	**17 42 40.8**	**+3.1**
	1.9nm68μm10μm448nm,1.3s						
KRAI	**Karang Ratu**	**7.00**	**28**	P	**Pn**	**17 42 42.1**	**+3.4**
	2.5nm77μm12μm540nm,0.9s						
MKS	**Makassar**	**7.01**	**307**	P	**Pn**	**17 42 42.3**	**+3.4**
	3.0nm11μm730nm,1.4s						
BNSI	**Bone**	**7.09**	**316**	P	**Pn**	**17 42 43.3**	**+3.4**
	8.8nm75μm43μm3μm,1.1s						
KNRA	**Kununurra**	**7.09**	**150**	P	**Pn**	**17 42 39.4**	**-0.6**
	baz=7.1,SNR=1000						
KNRA				S	**Sn**	**17 43 57.2**	**-2.3**
	baz=7.1						
PLAI	**Plampang**	**7.24**	**275**	P	**Pn**	**17 42 42.6**	**+0.6**
	4.9nm33μm21μm1μm,1.0s						
MSAI	**Masohi**	**7.24**	**32**	P	**Pn**	**17 42 45.0**	**+3.0**
	1.4nm6μm332nm,1.1s						
SANI	**Sanana**	**7.49**	**7**	P	**Pn**	**17 42 47.7**	**+2.3**
	5.8nm44μm19μm1μm,1.1s						
KDU	**Kakadu**	**7.91**	**114**	P	**Pn**	**17 42 50.8**	**-0.5**
	baz=8.0,SNR=569						
TWSI	**Taliwang, Sumb**	**8.12**	**275**	P	**Pn**	**17 42 54.4**	**+0.2**
	17μm5μm204nm,0.7s						
TTSI	**Tana Toraja**	**8.29**	**321**	P	**Pn**	**17 43 00.3**	**+3.8**
	56μm12μm685nm,1.1s						
FITZ	**Fitzroy Crossi**	**8.54**	**176**	Pn	**Pn**	**17 42 57.9**	**-2.0**
	31nm,0.3s,baz=2.9,slow=9.4,SNR=568						
FITZ				Sn	**Sn**	**17 44 31.7**	**-3.3**
	114nm,0.3s,baz=117,slow=12,SNR=14						
FITZ				LR	LR	17 47 03.9	
	comp=Z,62μm,18.2s,baz=1.0,slow=42						
FITZ	**Fitzroy Crossi**	**8.54**	**176**	P	**Pn**	**17 42 58.3**	**-1.6**
	baz=8.5,SNR=1000						
PMSI	**Majene**	**8.56**	**314**	P	**Pn**	**17 43 03.4**	**+3.2**
	33μm7μm247nm,1.3s						
LUWI	**Luwuk**	**8.73**	**345**	Pn	**Pn**	**17 43 04.3**	**+1.8**
LUWI	**Luwuk**	**8.73**	**345**	P	**Pn**	**17 43 04.8**	**+2.2**
	62μm38μm3μm,1.1s						
APSI	**Ampana**	**9.21**	**338**	P	**Pn**	**17 43 11.0**	**+1.9**
	32μm18μm1μm,1.0s						
KHKI	**Kahang-Kahang**	**9.42**	**276**	P	**Pn**	**17 43 10.9**	**-1.1**
	23μm4μm278nm,1.0s						
FAKI	**Fak Fak**	**9.69**	**48**	Pn	**Pn**	**17 43 15.8**	**+0.1**
FAKI	**Fak Fak**	**9.69**	**48**	P	**Pn**	**17 43 16.2**	**+0.5**
	32μm17μm550nm,0.7s						
DNP	**Denpasar**	**9.78**	**274**	P	**Pn**	**17 43 19.8**	**+3.0**
	26μm16μm429nm,0.7s						
SRBI	**Singaraja**	**9.85**	**278**	P	**Pn**	**17 43 17.4**	**-0.4**
	31μm5μm397nm,1.0s						
KMSI	**Cibinong**	**10.10**	**354**	P	**Pn**	**17 43 25.7**	**+4.5**
	742nm11μm823nm,0.9s						
KMPI	**Kaimana, Papua**	**10.37**	**56**	P	**Pn**	**17 43 23.9**	**-1.1**
	15μm941nm,0.5s						
MRSI	**Marisa**	**10.42**	**342**	P	**Pn**	**17 43 27.1**	**+1.5**
	38μm7μm342nm,0.7s						
TNTI	**Ternate**	**10.48**	**13**	Pn	**Pn**	**17 43 27.8**	**+1.2**
TNTI	**Ternate**	**10.48**	**13**	P	**Pn**	**17 43 30.2**	**+3.6**
	18μm12μm586nm,1.4s						
SIJI	**Sorong**	**10.58**	**36**	Pn	**Pn**	**17 43 26.6**	**-1.4**
	5.0nm,0.3s,baz=199,slow=8.4,SNR=45						
SIJI				LR	LR	17 47 52.1	
	comp=Z,24μm,21.8s,baz=216,slow=40						
SIJI	**Sorong**	**10.58**	**36**	P	**Pn**	**17 43 28.8**	**+0.9**
	11μm5μm187nm,1.1s						
SWI	**Sorong**	**10.58**	**36**	P	**Pn**	**17 43 29.1**	**+1.2**
	20μm10μm556nm,1.2s						
JAGI	**Jajag, Banyuwa**	**10.84**	**275**	Pn	**Pn**	**17 43 26.9**	**-4.5**
JAGI	**Jajag, Banyuwa**	**10.84**	**275**	P	**Pn**	**17 43 28.0**	**-3.4**
	22μm4μm184nm,0.7s						
ABJI	**Asem Bagus**	**10.85**	**278**	P	**Pn**	**17 43 32.4**	**+0.8**
	25μm8μm279nm,0.9s						
MPSI	**Mapaga**	**11.07**	**332**	P	**Pn**	**17 43 36.9**	**+2.3**
	63μm7μm342nm,0.8s						
KMMI	**Kalianget**	**11.26**	**282**	P	**Pn**	**17 43 39.2**	**+2.0**
	23μm6μm195nm,1.2s						
TOLI2	**Tolitoli**	**11.40**	**338**	Pn	**Pn**	**17 43 41.3**	**+2.2**
BKB	**Balikpapan**	**11.56**	**315**	Pn	**Pn**	**17 43 44.0**	**+2.7**
BKB	**Balikpapan**	**11.56**	**315**	P	Pn	17 43 47.5	+6.2
	40μm14μm309nm,1.2s						
GAMI	**Galela, Maluku**	**11.61**	**14**	P	**Pn**	**17 43 45.8**	**+3.8**
	13μm510nm,1.0s						
BBKI	**Banjar Baru**	**11.81**	**300**	P	**Pn**	**17 43 48.6**	**+3.8**
	19μm11μm303nm,1.2s						
SGSI	**Sangihe**	**13.13**	**2**	P	**Pn**	**17 44 06.2**	**+3.4**
	5μm649nm,0.9s						
PKKI	**Palangkaraya**	**13.20**	**303**	P	**Pn**	**17 44 05.5**	**+1.8**
	25μm8μm231nm,0.9s						
PWJI	**Pagerwojo**	**13.20**	**275**	P	**Pn**	**17 44 02.6**	**-1.1**
	4μm340nm,1.1s						
MTKI	**Muara Teweh, K**	**13.24**	**310**	P	**Pn**	**17 44 06.7**	**+2.4**
	15μm6μm160nm,0.9s						
SJI	**Sawahan**	**13.27**	**277**	P	**Pn**	**17 44 04.3**	**-0.5**
	17μm7μm398nm,0.5s						
TBJI	**Tambak Boyo**	**13.36**	**281**	P	**Pn**	**17 44 08.0**	**+2.0**
	10μm5μm297nm,1.0s						
SRPI	**Serui, Papua**	**13.46**	**56**	P	**Pn**	**17 44 05.7**	**-1.6**
	8μm4μm374nm,0.8s						
WB0	**Warramunga Arr**	**13.59**	**140**	Pn	Pn	17 44 03.6	-5.5
I07AU	**WARRAMUNGA INF**	**13.68**	**140**	*i*		19 03 00.0	
	baz=320,slow=317,SNR=2.5						
WRA	**Warramunga Arr**	**13.69**	**140**	Pn	**Pn**	**17 44 05.9**	**-4.5**
	45nm,0.3s,baz=317,slow=13,SNR=624						
WRA				Sn	Sn	17 46 31.4	-10
	47nm,0.3s,baz=310,slow=25,SNR=13						
WRA				LR	LR	17 50 41.5	
	comp=Z,40μm,18.2s,baz=320,slow=42						
WRA				P3KPbc		18 20 13.0	
	0.1nm,0.3s,baz=50,slow=3.1,SNR=5.1						
WRA	**Warramunga Arr**	**13.69**	**140**	*i* P	**Pn**	**17 44 05.9**	**-4.5**
WRA				pmax	pmax		
	comp=Z,319nm,0.5s						
WRA	**Warramunga Arr**	**13.69**	**140**	Pn	Pn	17 44 03.6	-6.8
WRAB	**Tennant Creek**	**13.69**	**140**	*d* iP	**Pn**	**17 44 06.3**	**-4.1**
WRAB				MLR	MLR		
	comp=Z,104μm,12.0s						
WRAB	**Tennant Creek**	**13.69**	**140**	Pn	Pn	17 44 04.5	-5.9
WB2	**Warramunga Arr**	**13.70**	**140**	P	Pn	17 44 05.5	-5.0
	baz=14						
WB2	**Warramunga Arr**	**13.70**	**140**	Pn	Pn	17 44 04.0	-6.5
BAKI	**Biak**	**13.75**	**54**	P	**Pn**	**17 44 09.7**	**-1.6**
	comp=Z,10μmcomp=Z,18μmcomp=Z,1μm,1.0s						
PCJI	**Pacitan**	**13.79**	**274**	P	**Pn**	**17 44 09.3**	**-2.5**
	comp=Z,7μmcomp=Z,800nm,0.7s						
WR0	**Warramunga Arr**	**13.83**	**140**		Pn	17 44 07.0	-5.3
UGM	**Wanagama**	**14.47**	**275**	Pn	**Pn**	**17 44 18.0**	**-3.1**
UGM	**Wanagama**	**14.47**	**275**	P	**Pn**	**17 44 18.9**	**-2.2**
	comp=Z,12μmcomp=Z,9μmcomp=Z,722nm,1.4s						
SMRI	**Semarang**	**14.69**	**279**	Pn	**Pn**	**17 44 21.0**	**-3.1**
SMRI	**Semarang**	**14.69**	**279**	P	**Pn**	**17 44 22.9**	**-1.1**
	comp=Z,18μmcomp=Z,7μmcomp=Z,593nm,0.8s						
PBKI	**Pangkalan Bun**	**14.94**	**296**	P	**Pn**	**17 44 28.7**	**+1.2**
	comp=Z,6μmcomp=Z,467nm,1.3s						
MMPI	**Merauke**	**15.16**	**87**	P	**Pn**	**17 44 27.9**	**-2.4**
	comp=Z,13μmcomp=Z,922nm,0.8s						
DDMP	**Don Marcelino,**	**15.54**	**2**	*e*P	**Pn**	**17 44 35.1**	**-0.2**
WRKA	**Warakurna**	**15.73**	**169**	P	**Pn**	**17 44 33.9**	**-3.8**
	baz=16,SNR=527						
CTJI	**Waduk Cacaban**	**15.92**	**278**	P	**Pn**	**17 44 37.5**	**-2.7**
	comp=Z,8μmcomp=Z,3μmcomp=Z,226nm,1.3s						
SKMP	**Bagumbayan, Su**	**15.95**	**358**	*e*P	**P**	**17 44 42.4**	**-1.4**
KPJI	**Karang Pucung**	**16.11**	**277**	P	**Pn**	**17 44 42.1**	**-0.6**
	comp=Z,11μmcomp=Z,6μmcomp=Z,444nm,0.7s						
ASPA	**Alice Springs**	**16.40**	**150**	P	**Pn**	**17 44 42.4**	**-3.9**
	baz=16						
AS31	**Alice Springs**	**16.40**	**150**	P	**Pn**	**17 44 41.8**	**-4.5**
ASAR	**Alice Springs**	**16.40**	**150**	Pn	**Pn**	**17 44 42.4**	**-3.9**
	comp=Z,16nm,0.3s,baz=319,slow=10,SNR=686						
ASAR				Sn	**Sn**	**17 47 38.8**	**-8.6**
	comp=Z,24nm,0.3s,baz=317,slow=17,SNR=8.7						
ASAR				P3KPbc		18 20 00.9	
	comp=Z,0.0nm,0.3s,baz=156,slow=4.6,SNR=4.3						
ASAR	**Alice Springs**	**16.40**	**150**	P	**Pn**	**17 44 41.8**	**-4.5**
ASAR	**Alice Springs**	**16.40**	**150**	P	**Pn**	**17 44 41.8**	**-4.5**
MATI	**Mati**	**16.41**	**4**	*e*P	**Pn**	**17 44 46.5**	**+0.1**
DAV	**Davao City (W)**	**16.50**	**2**	Pn	**P**	**17 44 49.7**	**-0.2**
	comp=Z,19nm,0.3s,baz=79,slow=4.6,SNR=1.2						
DAV				LR	LR	17 51 44.4	
	comp=Z,76nm,19.1s,baz=212,slow=40						
DAV	**Davao City (W)**	**16.50**	**2**		**Pn**	**17 44 47.8**	**+0.3**
DAV				IAmb	IAmb	17 45 15.7	
	comp=Z,771nm,1.1s						
DAV	**Davao City (W)**	**16.50**	**2**	P	**P**	**17 44 52.7**	**+2.8**
	comp=Z,525nmcomp=Z,6μmcomp=Z,334nm,0.7s						
GENI	**Genyem**	**16.51**	**66**	P	**Pn**	**17 44 46.7**	**-1.0**
	comp=Z,10μmcomp=Z,16μmcomp=Z,514nm,0.6s						
STKI	**Sintang**	**16.55**	**304**	P	**P**	**17 44 50.1**	**-0.4**
	comp=Z,18μmcomp=Z,23μmcomp=Z,94nm,0.9s						
GIRL	**Giralia**	**16.67**	**217**	P	**Pn**	**17 44 49.6**	**-0.1**
	baz=17,SNR=36						
JCJI	**Jatiwangi**	**16.91**	**279**	P	**Pn**	**17 44 51.6**	**-1.1**
	comp=Z,11μmcomp=Z,1μm,0.8s						
CISI	**Cisompet, Garu**	**17.18**	**275**		**Pn**	**17 44 51.2**	**-4.9**
CISI				IAmb	IAmb	17 44 59.5	
	comp=Z,499nm,0.6s						
BUKP	**Musuan**	**17.29**	**360**	*e*P	**P**	**17 45 00.6**	**+1.8**
PAGZ	**Pagadian**	**17.34**	**354**	*e*P	**P**	**17 45 00.4**	**+1.2**
SBUM	**Sibu**	**17.48**	**312**	P	**P**	**17 45 03.0**	**+2.2**
LEM	**Lembang**	**17.48**	**278**	P	**Pn**	**17 44 58.0**	**-2.1**
	comp=Z,5.3nm,0.3s,baz=58,slow=8.7,SNR=21						
LEM				LR	LR	17 52 20.4	
	comp=Z,24μm,21.4s,baz=95,slow=40						
LEM	**Lembang**	**17.48**	**278**	P	**Pn**	**17 44 58.0**	**-2.1**
QIS	**Mount Isa**	**17.79**	**130**	P	**Pn**	**17 45 01.4**	**-2.3**
	baz=18,SNR=87						
CNJI	**Cibinong**	**17.88**	**276**	P	**Pn**	**17 45 01.0**	**-3.8**
	comp=Z,11μmcomp=Z,1μm,0.9s						
DCPH	**Dipolog City**	**18.07**	**355**	‖*e*P	**P**	**17 45 12.0**	**+4.7**
MEEK	**Meekatharra**	**18.08**	**199**	P	**Pn**	**17 45 05.6**	**-1.6**
	baz=18,SNR=129						
PTKI	**Ponak**	**18.17**	**300**	P	**P**	**17 45 08.3**	**0.0**
	comp=Z,24μmcomp=Z,8μmcomp=Z,496nm,0.8s						
CBJI	**Citeko**	**18.31**	**278**	P	**P**	**17 45 06.3**	**-3.6**
	comp=Z,15μmcomp=Z,15μmcomp=Z,1μm,0.8s						
KSM	**Kuching**	**18.32**	**306**	P	**Pn**	**17 45 12.0**	**+1.8**
DBJI	**Dramaga**	**18.38**	**278**	P	**P**	**17 45 08.8**	**-1.9**
	comp=Z,6μmcomp=Z,408nm,0.9s						
TPI	**Tanjungpandan**	**18.57**	**290**	P	**P**	**17 45 12.2**	**-0.6**
	comp=Z,16μmcomp=Z,3μmcomp=Z,78nm,1.3s						
SNPH	**Sibulan**	**18.84**	**354**	‖*e*P	**Pn**	**17 45 17.6**	**+1.1**
GLSP	**General Luna,**	**19.21**	**3**	*e*P	**P**	**17 45 20.3**	**+0.4**
CNOP	**Candoni, Negro**	**19.38**	**353**	*e*P	**Pn**	**17 45 22.9**	**-0.1**
CGJI	**Cibinong**	**19.40**	**277**	P	**P**	**17 45 19.6**	**-2.3**
	comp=Z,9μmcomp=Z,568nm,0.6s						
MSLP	**Maasin**	**19.53**	**359**	*e*P	**Pn**	**17 45 26.9**	**+2.1**
MSLP	**Maasin**	**19.53**	**359**	*e*P	Pn	17 45 57.8	+33
BATP	**Bataraza**	**19.59**	**338**	*e*P	**P**	**17 45 24.4**	**+0.4**
LLP	**Lapu-Lapu**	**19.75**	**357**	*e*P	**Pn**	**17 45 26.7**	**-0.6**
LLP				*e*S	Sn	17 49 25.8	+18
BLSI	**Bandar Lampung**	**20.09**	**280**	P	**P**	**17 45 28.4**	**-1.0**
	comp=Z,9μmcomp=Z,4μmcomp=Z,239nm,0.7s						
PPBI	**Pangkal Pinang**	**20.20**	**290**	P	**P**	**17 45 29.7**	**-0.9**
	comp=Z,12μmcomp=Z,5μmcomp=Z,169nm,1.1s						
OCLP	**Ormoc**	**20.45**	**359**	*e*P	Pn	17 45 37.1	+1.5
MTSU	**Mount Surprise**	**20.54**	**117**	P	Pn	17 45 36.5	-0.1
	baz=21,SNR=169						
KASI	**Kota Agung**	**20.78**	**280**	P	**P**	**17 45 34.2**	**-2.7**
	comp=Z,4μmcomp=Z,348nm,0.9s						
RCP	**Roxas**	**21.08**	**354**	‖*e*P	**P**	**17 45 44.9**	**+4.8**
MORW	**Morawa**	**21.20**	**202**	P	**P**	**17 45 41.4**	**0.0**
	baz=21,SNR=36						
PMBI	**Palembang**	**21.21**	**287**	IAMs_20	IAMs_20	17 55 02.9	
	comp=Z,20μm,19.0s						
PMBI	**Palembang**	**21.21**	**287**	P	**P**	**17 45 42.4**	**+0.9**
	comp=Z,9μmcomp=Z,323nm,0.7s						
LWLI	**Liwa**	**21.31**	**281**	P	**P**	**17 45 41.5**	**-1.3**
	comp=Z,5μmcomp=Z,451nm,0.7s						
FORT	**Forrest**	**21.33**	**173**	P	**P**	**17 45 43.9**	**+1.2**
	baz=21,SNR=64						
MDSI	**Maura Dua**	**21.33**	**282**	P	**P**	**17 45 42.0**	**-0.8**
	comp=Z,5μmcomp=Z,1μmcomp=Z,42nm,0.9s						
ENPP	**El Nido**	**21.35**	**345**	*e*P	**P**	**17 45 44.1**	**+1.1**
PMG	**Port Moresby**	**21.79**	**92**	P	**P**	**17 45 51.0**	**+3.3**
	comp=Z,187nm,0.9s,baz=193,slow=1.9,SNR=16						
PMG				S	**S**	**17 49 47.3**	**+0.3**
	comp=Z,35nm,0.6s,baz=165,slow=23,SNR=9.4						
PMG				LR	LR	17 55 52.6	
	comp=Z,22μm,20.5s,baz=257,slow=41						
PMG	**Port Moresby**	**21.79**	**92**	P	**P**	**17 45 41.7**	**-6.0**
PMG	**Port Moresby**	**21.79**	**92**	IAMs_20	IAMs_20	17 55 30.0	
	comp=Z,23μm,20.0s						
PMG	**Port Moresby**	**21.79**	**92**	P	**P**	**17 45 51.7**	**+3.9**
BUSP	**Coron**	**21.93**	**347**	*e*P	**P**	**17 45 50.8**	**+1.6**
KMBL	**Kambalda**	**21.93**	**187**	P	**P**	**17 45 49.6**	**+0.4**
	baz=22,SNR=27						
LHSI	**Lahat**	**22.13**	**283**	P	**P**	**17 45 51.1**	**-0.4**
	comp=Z,3μmcomp=Z,202nm,1.0s						
SJMP	**San Jose**	**22.20**	**350**	*e*P	**P**	**17 45 51.9**	**-0.2**
BLDU	**Ballidu**	**22.38**	**199**	P	**P**	**17 45 54.1**	**+0.1**
	baz=22,SNR=33						
MNAI	**Manna**	**22.54**	**282**	P	**P**	**17 45 54.1**	**-1.8**
JMBI	**JAMBI**	**22.71**	**289**	P	**P**	**17 45 58.7**	**+1.1**
	comp=Z,4μmcomp=Z,273nm,1.2s						
AUQP	**San Andres**	**22.83**	**354**	*e*P	**P**	**17 46 00.9**	**+2.1**
KLBR	**Kellerberrin**	**22.98**	**196**	P	**P**	**17 46 00.3**	**0.0**
	baz=23,SNR=36						
CTA	**Charters Tower**	**22.98**	**120**	P	**P**	**17 46 03.5**	**+3.0**
	comp=Z,337nm,0.9s,baz=293,slow=12,SNR=89						
CTA				S	**S**	**17 50 14.2**	**+5.4**
	comp=Z,16nm,0.8s,baz=333,slow=18,SNR=1.7						
CTA				LR	LR	17 56 17.5	
	comp=Z,34μm,18.4s,baz=300,slow=40						
CTAO	**Charters Tower**	**22.98**	**120**	P	**P**	**17 45 59.6**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,540nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,34μm,18.0s						
CTAO	**Charters Tower**	**22.98**	**120**	P	**P**	**17 45 59.6**	**-0.9**
BOAC	**Boac**	**23.06**	**352**	*e*P	**P**	**17 46 01.4**	**+0.2**
SCSP	**San Jose Seism**	**23.08**	**356**	*e*P	**P**	**17 46 02.4**	**+1.0**
PGP	**Puerto Galera**	**23.24**	**350**	‖*e*P	**P**	**17 46 04.0**	**+1.0**
LUBP	**Lubang**	**23.60**	**348**	*e*P	**P**	**17 46 06.7**	**+0.2**
LQP	**Lukban**	**23.75**	**351**	‖*e*P	**P**	**17 46 08.2**	**0.0**
JCNP	**Jose Panganiba**	**23.78**	**354**	*e*P	**P**	**17 46 05.9**	**-2.3**
JCNP	**Jose Panganiba**	**23.78**	**354**	‖*e*P	**P**	**17 46 07.1**	**-1.1**
JCNP				*i* S	Sn	17 50 46.2	+1.2
MUN	**Mundaring**	**23.80**	**199**	P	**P**	**17 46 08.6**	**+0.3**
	baz=24,SNR=18						
BTDF	**Bukit Timah Da**	**23.81**	**296**	P	**P**	**17 46 07.9**	**-0.7**
	comp=Z,5μmcomp=Z,2μmcomp=Z,119nm,1.2s						
MYKOM	**Kota Tinggi**	**23.94**	**297**	P	**P**	**17 46 11.0**	**+1.2**
MACP	**Maragondon, Ca**	**24.03**	**350**	*e*P	**P**	**17 46 09.0**	**-1.5**
NWAO	**Narrogin (SRO)**	**24.39**	**196**	P	**P**	**17 46 14.2**	**+0.5**
	comp=Z,57nm,1.0s,baz=6.3,slow=10,SNR=14						
NWAO				S	**S**	**17 50 36.8**	**+5.7**
	comp=Z,24nm,0.6s,baz=318,slow=18,SNR=1.5						
NWAO				LR	LR	17 57 05.2	
	comp=Z,25um,18.5s,baz=18,slow=39						
NWAO	**Narrogin (SRO)**	**24.39**	**196**	P	**P**	**17 46 14.3**	**+0.6**
	baz=24,SNR=10.0						
QLP	**Quilpie**	**24.83**	**136**	P	**P**	**17 46 19.9**	**+2.0**
	baz=25,SNR=61						
PCPH	**Palayan**	**25.24**	**351**	‖*e*P	**P**	**17 46 20.9**	**-0.6**
BBOO	**Buckleboo**	**25.30**	**158**	P	**P**	**17 46 23.1**	**+1.2**
	baz=25,SNR=128						
BKNI	**Bangkinang**	**25.85**	**291**	P	**P**	**17 46 25.0**	**-2.2**
BKNI				IAmb	IAmb	17 46 35.8	
	comp=Z,230nm,1.1s						
BKNI				IAMs_20	IAMs_20	17 57 54.4	
	comp=Z,17μm,19.0s						
BKNI	**Bangkinang**	**25.85**	**291**	P	**P**	**17 46 26.8**	**-0.4**
	comp=Z,8μmcomp=Z,3μmcomp=Z,226nm,1.4s						
SMPP	**San Manuel, Pa**	**25.88**	**350**	*e*P	**P**	**17 46 25.1**	**-2.3**
PDSI	**Padang**	**25.94**	**288**	P	**P**	**17 46 24.8**	**-3.2**
	comp=Z,4μmcomp=Z,596nmcomp=Z,22nm,1.2s						
BOLP	**Bolinao**	**26.24**	**349**	*e*P	**P**	**17 46 28.9**	**-1.8**
CAUP	**Cauayan**	**26.50**	**353**	*e*P	**P**	**17 46 34.1**	**+1.2**
SAMP	**Sagada Mountai**	**26.76**	**351**	*e*P	**P**	**17 46 32.2**	**-3.1**
HTT	**Hallett**	**26.99**	**154**	P	**P**	**17 46 39.3**	**+1.9**
	baz=27,SNR=98						
STKA	**Stephens Creek**	**27.01**	**148**	P	**P**	**17 46 39.5**	**+2.1**
	comp=Z,66nm,0.7s,baz=318,slow=9.4,SNR=102						
STKA				S	**S**	**17 51 16.1**	**+3.3**
	comp=Z,26nm,1.0s,baz=234,slow=20,SNR=1.5						
STKA				LR	LR	17 59 21.4	
	comp=Z,13μm,20.3s,baz=311,slow=40						
STKA	**Stephens Creek**	**27.01**	**148**	P	**P**	**17 46 39.2**	**+1.7**
	baz=27,SNR=131						
STKA	**Stephens Creek**	**27.01**	**148**	P	**P**	**17 46 37.2**	**-0.3**
SZP	**Santa**	**27.29**	**350**	P	**P**	**17 46 37.2**	**-2.9**
SZP				IAmb	IAmb	17 47 05.8	
	comp=Z,129nm,1.2s			

comp=Z,5µm,20.4s
NONG Nongkai 34.93 322 P **P** **17 47 49.1 +1.7**
comp=Z,14µmcomp=Z,37nm,0.8s
MILA Mila 35.01 145 P **P** **17 47 47.9 -0.1**
baz=35,SNR=3.4
UTHA Uthaitani 35.58 314 P **P** **17 47 53.7 +0.7**
comp=Z,308nmcomp=Z,41nm,1.0s
LOEI Loei 35.71 319 P **P** **17 47 52.0 -2.1**
comp=Z,58nm,0.9s
PHIT Phitsanulok 36.04 317 P **P** **17 47 57.0 +0.1**
comp=Z,545nmcomp=Z,48nm,0.7s
JOW Kunigami 36.28 5 P **P** **17 47 57.6 -1.3**
JOW IAmb IAmb 17 48 00.9
comp=Z,95nm,1.0s
UMPA Umpang Tak 36.43 314 P **P** **17 48 00.2 -0.1**
comp=Z,298nmcomp=Z,44nm,0.9s
PATS Pohnpei 36.89 65 P P 17 47 58.7 -5.7
PATS IAmb IAmb 17 48 20.2
comp=Z,184nm,1.1s
PATS IAMs_20 IAMs_20 18 03 11.9
comp=Z,8µm,22.0s
SLVN Son La 37.05 326 P **P** **17 48 02.6 -3.0**
CM04 Chiang Mai Arr 37.86 317 P **P** **17 48 13.0 +0.6**
comp=Z,542nmcomp=Z,84nm,0.9s
CM36 Chiang Mai Arr 37.86 317 P **P** **17 48 12.0 -0.5**
CM09 Chiang Mai Arr 37.88 317 P **P** **17 48 13.0 +0.4**
comp=Z,527nmcomp=Z,86nm,0.9s
CM05 Chiang Mai Arr 37.88 317 P **P** **17 48 13.2 +0.6**
comp=Z,375nmcomp=Z,58nm,1.0s
CM01 Chiang Mai Arr 37.89 317 P **P** **17 48 13.3 +0.7**
comp=Z,533nmcomp=Z,77nm,0.9s
CM02 Chiang Mai Arr 37.90 317 P **P** **17 48 13.4 +0.6**
comp=Z,447nmcomp=Z,70nm,0.9s
CM13 Chiang Mai Arr 37.92 317 P **P** **17 48 13.0 0.0**
comp=Z,421nmcomp=Z,65nm,0.9s
CM31 Chiang Mai Arr 37.92 317 P **P** **17 48 13.6 +0.6**
comp=Z,13µmcomp=Z,2µm,0.9s
CM31 Chiang Mai Arr 37.92 317 P **P** **17 48 13.7 +0.6**
CM31 IAmb IAmb 17 48 15.2
comp=Z,66nm,0.8s
CMAR Chiang Mai Arr 37.92 317 P **P** **17 48 12.1 -0.9**
comp=Z,54nm,0.9s,baz=145,slow=6.2,SNR=240
CMAR PcP **PcP** **17 50 30.5 +1.8**
comp=Z,21nm,0.9s,baz=173,slow=2.7,SNR=9.5
CMAR ScP **ScP** **17 54 19.4 +5.5**
comp=Z,4.7nm,1.0s,baz=162,slow=2.5,SNR=5.8
CMAR LR LR 18 07 29.2
comp=Z,7µm,18.1s,baz=197,slow=42
CM15 Chiang Mai Arr 37.93 317 P **P** **17 48 13.6 +0.5**
comp=Z,487nmcomp=Z,72nm,0.9s
CM35 Chiang Mai Arr 37.94 318 P **P** **17 48 13.0 -0.1**
CM34 Chiang Mai Arr 38.06 318 P **P** **17 48 14.0 -0.2**
CMMT Chiang Mai 38.17 318 P **P** **17 48 14.5 -0.6**
comp=Z,1µmcomp=Z,91nm,1.0s
CMMT Chiang Mai 38.17 318 P **P** **17 48 14.5 -0.6**
comp=Z,1µmcomp=Z,87nm,1.0s
CHTO Chiang Mai 38.17 318 P **P** **17 48 13.0 -2.1**
CHTO pmax pmax
comp=Z,72nm,0.9s
CHTO MLR MLR
comp=Z,7µm,20.0s
CHTO Chiang Mai 38.17 318 P **P** **17 48 12.9 -2.1**
CHTO IAmb IAmb 17 48 17.2
comp=Z,72nm,0.9s
CHTO Chiang Mai 38.17 318 IAMs_20 IAMs_20 18 04 21.9
comp=Z,7µm,20.0s
CHTO Chiang Mai 38.17 318 P **P** **17 48 14.1 -1.0**
CHTO P **P** **17 48 14.1 -1.0**
CHTO P **P** **17 48 14.1 -1.0**
CHTO Chiang Mai 38.17 318 P **P** **17 48 15.2 +0.1**
comp=Z,3µmcomp=Z,848nmcomp=Z,52nm,1.0s
CM33 Chiang Mai Arr 38.17 318 P **P** **17 48 15.0 -0.1**
MHMT Maesarieng 38.41 316 P **P** **17 48 16.9 -0.2**
comp=Z,2µmcomp=Z,106nm,0.9s
TAU Tasmania Unive 38.53 153 P P 17 48 10.0 -7.8
TAU pmax pmax
comp=Z,72nm,1.2s
TAU MLR MLR
comp=Z,23µm,18.0s
TAU Tasmania Unive 38.53 153 P P 17 48 10.0 -7.8
DGPR DIGLIPUR 39.08 305 *e*P **P** **17 48 21.1 -1.7**
KOUNC Koumac, New Ca 39.32 111 P **P** **17 48 28.4 +3.6**
GYA Guiyang 39.99 334 ⇑P **P** **17 48 29.8 -0.5**
GYA pP pP 17 48 37.8 -2.8
GYA sP sP 17 48 44.1 -0.2
GYA PcP **PcP** **17 50 36.5 +1.3**
GYA S **S** **17 54 38.5 +4.7**
GYA sS sS 17 54 50.6 -0.2
GYA SS **SS** **17 57 31.3 -0.6**
GYA pmax pmax
comp=Z,18nm,0.9s
GYA pmax pmax
comp=Z,130nm,4.3s
GYA L L
comp=Z,470nm,21.3s
GYA L L
comp=Z,470nm,16.3s
GYA L L
comp=Z,590nm,17.1s
JCJ Chichijima 40.01 24 P **P** **17 48 27.6 -2.8**
JCJ IAmb IAmb 17 48 31.4
comp=Z,180nm,1.0s
SSE Sheshan 40.56 355 P **P** **17 48 34.0 -0.8**
SSE S **S** **17 54 46.3 +4.4**
SSE pmax pmax
comp=Z,24nm,0.7s
SSE pmax pmax
comp=Z,380nm,9.0s
SSE L L
comp=Z,660nm,17.4s
SSE L L
comp=Z,820nm,18.3s
KMI Kunming 40.74 328 ⇑P **P** **17 48 35.5 -1.2**
KMI pP pP 17 48 45.3 -1.7
KMI sP sP 17 48 47.8 -2.9
KMI PP **PP** **17 50 13.1 +2.0**
KMI PcS **PcS** **17 54 27.6 -1.3**
KMI S **S** **17 54 50.3 +5.0**
KMI pmax pmax
comp=Z,100nm,1.1s
KMI pmax pmax
comp=Z,880nm,8.6s
KMI L L
comp=Z,2µm,14.0s
KMI L L
comp=Z,5µm,19.7s
KMI L L
comp=Z,6µm,21.2s
JSU Suzuyama 41.12 7 P **P** **17 48 37.0 -2.5**
WHN Wuhan 41.15 346 ⇑P **P** **17 48 39.4 -0.3**
WHN pmax pmax
comp=Z,380nm,1.3s
WHN pmax pmax
comp=Z,2µm,4.5s
WHN L L
comp=Z,8µm,16.4s
WHN L L
comp=Z,4µm,14.3s
WHN L L
comp=Z,15µm,18.4s
NOUC Port Laguerre 41.45 113 P **P** **17 48 46.0 +3.6**
SANVU Saraoutou 41.50 103 P **P** **17 48 40.5 -2.4**
SANVU IAmb IAmb 17 49 00.3
comp=Z,174nm,0.9s
SANVU IAMs_20 IAMs_20 18 07 48.9
comp=Z,7µm,19.0s
DZM Mont Dzumac 41.58 113 *e*P **P** **17 48 41.9 -1.6**
comp=Z,169nm,1.3s
DZM *e*S S 17 54 47.7 -10
comp=Z,5µm,29.8s
DZM *e*LQ LQ 17 58 11.4
comp=Z,7µm,28.1s
DZM *e*LR LR 17 59 58.0
comp=Z,10µm,23.8s
DZM Mont Dzumac 41.58 113 P **P** **17 48 45.5 +1.9**
comp=Z,39nm,1.0s,baz=268,slow=5.0,SNR=8.3
DZM Mont Dzumac 41.58 113 P **P** **17 48 40.2 -3.3**
DZM IAmb IAmb 17 48 47.6
comp=Z,118nm,1.3s
DZM Mont Dzumac 41.58 113 P **P** **17 48 47.3 +3.8**
ONTNC Ouen Toro 41.63 113 P P 17 48 38.2 -5.7
ONTNC IAmb IAmb 17 48 47.8
comp=Z,153nm,1.1s
NJ2 Nanjing 41.77 352 ⇑*i*P **P** **17 48 44.3 -0.4**
NJ2 pP **pP** **17 48 51.5 -3.5**
NJ2 sP **sP** **17 48 55.8 -3.3**
NJ2 PP **PP** **17 50 18.4 -3.4**
NJ2 S **S** **17 54 59.3 -0.5**
NJ2 sS **sS** **17 55 18.8 +1.9**
NJ2 pmax pmax
comp=Z,56nm,0.7s
NJ2 pmax pmax
comp=Z,990nm,4.7s
NJ2 L L
comp=Z,2µm,18.9s
NJ2 L L
comp=Z,2µm,19.9s
NJ2 L L
comp=Z,3µm,21.5s
YATNC Mamie plateau, 41.98 112 P **P** **17 48 50.6 +3.8**
OUENC Ouen Island, N 42.01 113 P P 17 48 40.1 -6.8
OUENC IAmb IAmb 17 49 08.1
comp=Z,113nm,1.1s
LIFNC LIFOU 42.09 110 IAMs_20 IAMs_20 18 04 43.5
comp=Z,7µm,22.0s
ENH Enshi 42.31 340 P **P** **17 48 47.4 -1.9**
ENH IAmb IAmb 17 48 51.5
comp=Z,96nm,0.8s
JNU Nakatsue 42.77 7 P **P** **17 48 50.6 -2.3**
JMN Monobe 43.82 11 P **P** **17 49 00.5 -0.9**
JTU Tsushima 44.00 5 P **P** **17 49 00.1 -2.6**
JTU IAmb IAmb 17 49 05.1
comp=Z,62nm,0.9s
JHJ2 Mitsune 44.67 18 P **P** **17 49 06.4 -1.7**
KSBUS Busan 44.70 5 P **P** **17 49 08.1 -0.2**
SNR=21
KSBUS Busan 44.70 5 P **P** **17 49 09.0 +0.6**
SNR=21
JHS Saijyo 44.93 9 P **P** **17 49 10.0 -0.2**
CD2 Chengdu 45.11 334 P **P** **17 49 10.6 -1.2**
CD2 PcP **PcP** **17 50 52.0 -0.1**
CD2 S **S** **17 55 52.5 +3.6**
CD2 pmax pmax
comp=Z,140nm,0.6s
CD2 pmax pmax
comp=Z,1µm,5.9s
CD2 L L
comp=Z,6µm,16.5s
CD2 L L
comp=Z,5µm,17.5s
CD2 L L
comp=Z,6µm,15.7s
KSDAG Daegu 45.20 4 P **P** **17 49 13.0 +0.7**
SNR=8.0
KSCPR CHUPUNGNYEONG 45.59 3 P **P** **17 49 15.5 +0.1**
SNR=8.9
JWT Wachi 45.62 12 P **P** **17 49 15.1 -0.6**
JSG Sagara 45.68 15 P **P** **17 49 13.7 -2.4**
OKCB Cheongsan-myeo 45.70 3 P **P** **17 49 16.1 -0.2**
SNR=58
TJN Taejon 45.71 3*ce*P **P** **17 49 16.7 +0.4**
KSEUS ULSEONG 45.76 4 P **P** **17 49 18.4 +1.7**
SNR=5.4
KSADO Andong 45.84 4 P **P** **17 49 22.0 +4.7**
SNR=6.0
KSBON Boeun 45.85 3 P **P** **17 49 18.2 +0.6**
SNR=12
XAN Xi'an 45.96 341 P **P** **17 49 17.3 -1.2**
XAN pP pP 17 49 26.0 -2.9
XAN PP **PP** **17 51 11.3 +4.6**
XAN S **S** **17 56 05.6 +4.5**
XAN pmax pmax
comp=Z,24nm,1.2s
XAN pmax pmax
comp=Z,990nm,6.0s
XAN L L
comp=Z,3µm,19.5s
XAN L L
comp=Z,3µm,16.0s
XAN L L
comp=Z,6µm,18.9s
INU Inuyama 46.04 14 P **P** **17 49 16.5 -2.5**
INU IAmb IAmb 17 49 25.7
comp=Z,98nm,1.0s
INU IAMs_20 IAMs_20 18 08 56.4
comp=Z,5µm,19.0s
TIA Tai'an 46.11 351 P **P** **17 49 17.9 -1.6**
TIA sP **pP** **17 49 26.3 -3.6**
TIA S **S** **17 56 02.1 -0.9**
TIA pmax pmax
comp=Z,12nm,0.9s
TIA pmax pmax
comp=Z,680nm,4.9s
TIA L L
comp=Z,2µm,23.5s
TIA L L
comp=Z,1µm,17.8s
TIA L L
comp=Z,3µm,21.4s
KSCEA Cheonan 46.15 2 P **P** **17 49 19.7 -0.1**
SNR=35
KSULJ Ulji n 46.16 5 P **P** **17 49 21.0 +1.0**
SNR=7.8
KSCHJ Chungju 46.23 3 P **P** **17 49 20.3 -0.2**
SNR=35
LKP Lekhapani 46.32 323 *e*P **P** **17 49 20.0 -1.3**
LKP IAmb IAmb 17 49 24.0
comp=Z,59nm,0.8s
JGF Kuroka 46.36 14 P **P** **17 49 19.7 -1.8**
MOKO MOKOCHONG 46.38 321 *e*P **P** **17 49 20.6 -1.5**
MOKO IAmb IAmb 17 49 27.7
comp=Z,330nm,1.0s
HAWB Hwaseong-si 46.39 2 P **P** **17 49 23.0 +1.3**
SNR=10.0
KSDEI Deokjeokdo 46.55 1 P **P** **17 49 23.7 +0.8**
SNR=8.1
KSTBA Taebaek 46.55 4 P **P** **17 49 24.5 +1.4**
SNR=39
KSYOW Yeongwol 46.56 4 P **P** **17 49 23.7 +0.7**
SNR=29
KSSWO Suwon 46.58 2 P **P** **17 49 23.3 +0.1**
SNR=21
KSSWO Suwon 46.58 2 P **P** **17 49 24.8 +1.6**
SNR=16
KSGWL Sabuk 46.62 4 P **P** **17 49 24.8 +1.4**
SNR=11
KSICN Icheon 46.62 3 P **P** **17 49 23.5 0.0**
SNR=9.2
SHHB Siheung-si 46.65 2 P **P** **17 49 24.0 +0.3**
SNR=11
SHHB Siheung-si 46.65 2 P **P** **17 49 26.2 +2.5**
SNR=7.3
IMWB Imwonan-gil 46.69 5 P **P** **17 49 27.0 +2.9**
SNR=6.2
KSWJU Wonju 46.77 3 P **P** **17 49 26.0 +1.3**
SNR=12
KSAR Wonju Array Be 46.80 3 P **P** **17 49 22.8 -2.1**
KSAR Wonju Array Be 46.80 3 P **P** **17 49 22.8 -2.1**
KSSEO Seoul 46.80 2 P **P** **17 49 25.2 +0.3**
SNR=14
KSSEO Seoul 46.80 2 P **P** **17 49 26.0 +1.1**
SNR=16
KSSEO Seoul 46.80 2 P **P** **17 49 28.0 +3.1**
SNR=11
KSRS Korea Array 46.81 3 P **P** **17 49 24.4 -0.6**
comp=Z,61nm,1.0s,baz=180,slow=9.5,SNR=171
KSRS LR LR 18 12 46.0
comp=Z,2µm,18.0s,baz=168,slow=41
KSRS PKP2bc 18 21 11.3
comp=Z,0.8nm,0.9s,baz=354,slow=1.1,SNR=5.2
AGT Agartala 46.85 316 *e*P **P** **17 49 26.6 +1.1**
AGT IAmb IAmb 17 49 28.3
comp=Z,130nm,0.7s
KS19 Wonju Array Si 46.85 3 P **P** **17 49 22.8 -2.5**
KS19 IAmb IAmb 17 49 27.6
comp=Z,63nm,1.2s
KSSOD Songwoldong 46.88 2 P **P** **17 49 26.4 +0.8**
SNR=10
KSGAH Ganghwa 47.01 1 P **P** **17 49 27.9 +1.4**
SNR=7.0
DACB Daecheong-do R 47.11 360 P **P** **17 49 30.4 +3.1**
SNR=9.8
KSCHC Chuncheon 47.13 3 P **P** **17 49 31.0 +3.5**
SNR=9.5
PALK Pallekele 47.25 289 P **P** **17 49 27.2 -1.7**
comp=Z,20nm,0.9s,baz=214,slow=6.1,SNR=4.8
PALK Pallekele 47.25 289*c i*P **P** **17 49 26.7 -2.2**
PALK Pallekele 47.25 289 P **P** **17 49 25.6 -3.3**
PALK IAmb IAmb 17 49 46.5
comp=Z,89nm,1.4s
KSBAR Backryungdo 47.26 360 P **P** **17 49 31.5 +3.0**
SNR=6.9
KSBAR Backryungdo 47.26 360 P **P** **17 49 29.9 +1.5**
SNR=11
KSCWO Cheorwon 47.42 3 P **P** **17 49 33.3 +3.6**
SNR=8.3
MAJO Matsushiro 47.46 14 P **P** **17 49 27.9 -2.2**
MAJO pmax pmax
comp=Z,133nm,0.8s
MAJO Matsushiro 47.46 14 P **P** **17 49 27.9 -2.2**
MAT Matsushiro 47.46 14 P **P** **17 49 28.5 -1.6**
MAT S **S** **17 56 20.4 -2.0**
MJAR Matsushiro Arr 47.46 14 P **P** **17 49 28.6 -1.6**
comp=Z,164nm,0.9s,baz=187,slow=8.3,SNR=178
MJAR LR LR 18 07 41.7
comp=Z,3µm,22.0s,baz=175,slow=34
MJAR Matsushiro Arr 47.46 14 P **P** **17 49 28.5 -1.6**
MJAR pmax pmax
comp=Z,141nm,0.9s
MJAR Matsushiro Arr 47.46 14 P **P** **17 49 28.5 -1.7**
MJB9 Matsu-Tunnel 47.46 14 P **P** **17 49 28.4 -1.7**
ITAN ITANAGAR 47.47 321 *e*P **P** **17 49 29.6 -0.7**
ITAN IAML 17 49 39.3
comp=Z,489nm,1.5s
SHL Shillong 47.55 318 *e*P **P** **17 49 29.8 -1.4**
SHL *e*P **P** **17 49 31.0 -0.2**
SHL IAmb IAmb 17 49 32.2
comp=Z,72nm,0.8s
SHL *i*S S 17 56 36.0 +12
SHL Shillong 47.55 318 IAMs_20 IAMs_20 18 13 29.1
comp=Z,6µm,20.0s
JYT Yasato 47.69 17 P **P** **17 49 28.1 -3.7**
GUWA GUWAHATI 48.10 318 *e*P **P** **17 49 33.7 -1.5**
GUWA IAmb IAmb 17 49 36.5
comp=Z,101nm,0.8s
DL2 Dalian 48.29 356 P **P** **17 49 35.3 -1.1**
DL2 PP **PP** **17 51 29.5 +0.2**
DL2 S **S** **17 56 33.6 -0.4**
DL2 pmax pmax
comp=Z,66nm,0.9s
DL2 pmax pmax
comp=Z,740nm,4.5s
DL2 L L
comp=Z,2µm,21.8s
DL2 L L
comp=Z,1µm,18.0s
DL2 L L
comp=Z,3µm,21.6s
TIY Taiyuan 48.46 347 *e*P **P** **17 49 35.9 -2.0**
TIY sP **sP** **17 49 52.9 +0.5**
TIY PP **PP** **17 51 31.8 +0.8**
TIY S **S** **17 56 31.4 -5.2**
TIY pmax pmax
comp=Z,500nm,5.7s
TIY L L
comp=Z,2µm,13.9s
TIY L L
comp=Z,710nm,12.3s
TIY L L
comp=Z,3µm,22.0s
TARA Tarawa 48.86 80 IAMs_20 IAMs_20 18 14 02.8
comp=Z,6µm,18.0s
JSD Sado 48.90 14 P **P** **17 49 40.1 -1.0**
JSD IAmb IAmb 17 49 47.6
comp=Z,124nm,1.2s
VIS Vishakhapatnam 49.33 303 *e*P **P** **17 49 44.1 -0.7**
VIS IAmb IAmb 17 50 15.8
comp=Z,93nm,1.1s
JMM Marumori 49.39 16 P **P** **17 49 44.7 -0.2**
LZH Lanzhou 49.58 337 *e*P **P** **17 49 46.6 -0.1**
LZH pP pP 17 49 52.0 -5.2
LZH sP sP 17 49 55.0 -5.8
LZH *e*S **S** **17 56 56.0 +3.3**
LZH sS sS 17 57 09.0 -1.0
LZH pmax pmax
comp=Z,69nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.1s
LZH L L
comp=Z,3µm,14.9s
LZH L L
comp=Z,3µm,19.0s
LZH L L
comp=Z,3µm,19.0s
BJT Baijiatuau 49.98 351 P **P** **17 49 48.8 -0.6**
BJT pmax pmax
comp=Z,51nm,1.0s
BJT Baijiatuau 49.98 351 P **P** **17 49 48.8 -0.6**
BJT IAmb IAmb 17 50 10.7
comp=Z,51nm,1.0s
BJI Beijing 50.00 351 P **P** **17 49 48.3 -1.2**
BJI PP **PP** **17 51 45.3 +0.4**
BJI PcS **PcS** **17 55 05.5 -0.6**
BJI S **S** **17 56 57.8 -0.2**
BJI pmax pmax
comp=Z,17nm,0.8s
BJI pmax pmax
comp=Z,690nm,4.8s
BJI L L
comp=Z,2µm,21.9s
BJI L L
comp=Z,2µm,19.9s
BJI L L
comp=Z,3µm,20.8s
BOK Bokaro 50.63 312 *e*P **P** **17 49 54.2 -0.5**
LSA Lhasa 50.87 321 P **P** **17 49 57.1 +0.2**
LSA S **S** **17 57 09.4 -2.0**
LSA L L
comp=Z,3µm,15.7s
LSA L L
comp=Z,3µm,22.8s
LSA L L
comp=Z,4µm,20.6s
LSA Lhasa 50.87 321 P **P** **17 49 56.6 -0.3**
LSA Lhasa 50.87 321 P **P** **17 49 56.5 -0.4**
LSA pmax pmax
comp=Z,201nm,1.0s
LSA Lhasa 50.87 321 P **P** **17 49 56.5 -0.4**
GTK Tadong 50.90 317 *e*P **P** **17 49 55.5 -1.3**
GTK IAmb IAmb 17 50 00.6
comp=Z,70nm,0.8s
SNY Shenyang 51.12 359 ⇓P **P** **17 49 56.8 -1.1**
SNY S **S** **17 57 11.3 -2.2**
SNY pmax pmax
comp=Z,27nm,0.9s
SNY pmax pmax
comp=Z,830nm,4.5s
SNY L L
comp=Z,2µm,21.1s
SNY L L
comp=Z,2µm,21.6s
SNY L L
comp=Z,3µm,25.5s
ODAN Odare 51.43 316 *e*P **P** **17 50 00.5 -0.4**
comp=Z,166nm,0.6s
WHZ Wether Hill Ro 51.50 143 P P 17 49 54.8 -6.1
WHZ IAmb IAmb 17 50 05.2
comp=Z,194nm,1.4s
TAPN Taplejung 51.52 316 *e*P **P** **17 50 01.3 -0.3**
comp=Z,510nm,1.0s
HHC Hu-ho-hao-te 51.65 347 *e*P **P** **17 50 02.3 +0.2**
HHC PP **PP** **17 52 01.6 +1.6**
HHC ScP **ScP** **17 55 03.6 -6.1**
HHC S **S** **17 57 18.8 -2.3**
HHC sS sS 17 57 40.0 +1.5
HHC SS **SS** **18 01 00.8 +2.7**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,880nm,5.1s
HHC L L
comp=Z,2µm,18.7s
HHC L L
comp=Z,2µm,21.3s
HHC L L
comp=Z,3µm,18.7s
BTO Baotou 51.78 345 *e*P **P** **17 50 02.8 -0.3**
BTO S S 17 57 13.4 -10
BTO L L
comp=Z,5µm,17.6s
BTO L L
comp=Z,4µm,21.1s
H08S2 Diego Garcia H 51.98 268 T T 18 46 13.9
baz=96,slow=76,SNR=3.5
H08S3 Diego Garcia H 51.99 268 T T 18 46 10.2
baz=96,slow=76,SNR=3.8
H08S1 Diego Carcia H 52.00 268 T T 18 46 13.9

baz=96,slow=76,SNR=3.3
RAMN Ramite 52.03 315 *e*P **P 17 50 05.3 -0.1**
comp=Z,230nm,0.6s
LBZ Lake Benmore 52.14 140 P P 17 49 59.3 -6.4
LBZ IAmb IAmb 17 50 17.6
comp=Z,65nm,1.3s
MSHR Mys Shultsa 52.15 6*c*eP **P 17 50 05.4 -0.2**
MSHR pmax pmax
comp=Z,117nm,0.8s
MSHR MLR MLR
comp=Z,2μm,15.0s
JTM Tenmabayashi 52.20 15 P P **17 50 02.5 -3.5**
ODZ Otahua Downs 52.74 140 P P 17 50 02.9 -7.2
ODZ IAmb IAmb 17 50 21.7
comp=Z,60nm,1.3s
CN2 Changchun 53.08 0 *e*P **P 17 50 11.1 -1.4**
CN2 *e*S **S 17 57 36.8 -3.5**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,800nm,10.0s
CN2 L L
comp=Z,2μm,19.0s
CN2 L L
comp=Z,2μm,19.0s
CN2 L L
comp=Z,3μm,20.0s
GUN Gumba 53.13 316 *e*P **P 17 50 12.8 -0.8**
comp=Z,277nm,0.7s
HYB Hyderabad 53.19 300 *i* P **P 17 50 11.0 -2.9**
HYB Hyderabad 53.19 300 *e*P **P 17 50 10.8 -3.1**
HYB IAmb IAmb 17 50 13.6
comp=Z,31nm,1.0s
PKI Pulchoki 53.25 315 *e*P **P 17 50 13.8 -0.7**
comp=Z,173nm,0.6s
PKIN Phulchoki 53.26 315 *e*P **P 17 50 13.8 -0.7**
comp=Z,122nm,0.5s
KKN Kakani 53.47 315 *e*P **P 17 50 15.5 -0.5**
comp=Z,210nm,1.0s
DMN Daman 53.48 315 *e*P **P 17 50 15.7 -0.4**
comp=Z,279nm,1.0s
WNVZ Wahianoa 53.83 132 P P 17 50 23.7 +5.2
USA0B Ussuriysk Arra 53.84 6 P **P 17 50 17.6 -0.5**
USA0B pmax pmax
comp=Z,47nm,0.7s
USA0B Ussuriysk Arra 53.84 6 P **P 17 50 17.6 -0.5**
USA0B IAmb IAmb 17 50 19.9
comp=Z,47nm,0.7s
USRK Ussuriysk Ar. 53.84 6 P **P 17 50 17.5 -0.6**
comp=Z,46nm,0.7s,baz=192,slow=7.0,SNR=60
USRK Ussuriysk Ar. 53.84 6 P **P 17 50 17.0 -1.1**
USRK Ussuriysk Ar. 53.84 6 P **P 17 50 17.0 -1.1**
ERM Erimo 53.91 17 P **P 17 50 16.1 -2.5**
ERM pmax pmax
comp=Z,60nm,0.9s
ERM Erimo 53.91 17 P **P 17 50 16.1 -2.5**
ERM IAmb IAmb 17 50 27.6
comp=Z,60nm,0.8s
MOVZ Moawhango 53.97 132 P **P 17 50 22.3 +2.9**
HSRZ Hossack Road 53.98 131 P P 17 50 11.6 -7.8
MDJ Mudanjiang 54.05 4 P **P 17 50 19.4 -0.2**
MDJ pP pP 17 50 26.1 -4.1
MDJ sP sP 17 50 29.3 -4.8
MDJ S S 17 57 43.5 -10
MDJ ScS **ScS 18 00 01.6 -4.6**
MDJ pmax pmax
comp=Z,30nm,1.0s
MDJ pmax pmax
comp=Z,2μm,3.3s
MDJ L L
comp=Z,2μm,19.6s
MDJ L L
comp=Z,2μm,18.2s
MDJ L L
comp=Z,2μm,22.6s
MDJ Mudanjiang 54.05 4 P **P 17 50 19.2 -0.4**
GTA Gaotai 54.05 336 ⇑P **P 17 50 19.3 -0.6**
GTA pP pP 17 50 24.8 -5.7
GTA sP sP 17 50 27.8 -6.2
GTA S **S 17 57 58.4 +4.5**
GTA pmax pmax
comp=Z,91nm,1.0s
GTA pmax pmax
comp=Z,970nm,4.9s
GTA L L
comp=Z,2μm,18.9s
GTA L L
comp=Z,3μm,19.6s
GTA L L
comp=Z,3μm,20.0s
GKN Gorkha 54.05 315 *e*P **P 17 50 19.1 -1.1**
JEW Eniwo 54.22 15 P **P 17 50 18.7 -2.2**
BHHZ Black Hill Sta 54.23 132 P **P 17 50 24.0 +2.8**
BKZ Black Stump Fm 54.44 132 P P 17 50 16.4 -6.3
BKZ IAmb IAmb 17 50 32.4
comp=Z,61nm,1.2s
BKZ Black Stump Fm 54.44 132 P **P 17 50 25.8 +3.1**
MTHZ Maungataniwha 54.59 131 P **P 17 50 26.8 +3.0**
URZ Urewera 54.62 130 P P 17 50 15.7 -8.2
URZ IAmb IAmb 17 50 34.5
comp=Z,60nm,1.4s
URZ Urewera 54.62 130 P **P 17 50 26.2 +2.2**
KOLN Koldanda 54.64 314 *e*P **P 17 50 23.6 -0.9**
comp=Z,300nm,0.7s
MCHZ McNeill Hill 54.67 132 P **P 17 50 27.6 +3.2**
RAHZ Arahi 54.80 131 P **P 17 50 29.8 +4.5**
DANN Dangsing 54.88 315 *e*P **P 17 50 25.3 -1.0**
comp=Z,325nm,0.6s
SNGZ Shannon Statio 54.94 131 P **P 17 50 29.4 +3.0**
PYUN Piuthan 55.27 314 *e*P **P 17 50 28.8 -0.3**
comp=Z,589nm,0.7s
TEY Ternei 55.30 10⇑*e*P **P 17 50 28.0 -0.6**
TEY pmax pmax
comp=N,40nm,0.4s
TEY pmax pmax
comp=Z,90nm,0.6s
ASAJ Asahikawa 55.71 15 P **P 17 50 31.3 -0.3**
ASAJ pmax pmax
comp=Z,85nm,1.0s
JKA Kamikawa-asahi 55.71 15 P **P 17 50 31.3 -0.3**
JKA IAmb IAmb 17 50 44.4
comp=Z,85nm,1.0s
YUK Yuzh-Kuril'sk 56.55 18 *e*P **P 17 50 36.0 -1.6**
YUK *i* S **S 17 58 25.3 -1.6**
YUK pmax pmax
comp=Z,223nm,0.8s
YUK pmax pmax
comp=N,31nm,0.6s
YUK pmax pmax
comp=E,42nm,0.8s
YUK pmax pmax
comp=Z,304nm,2.1s
BHPL Bhopal 56.86 306 *e*P **P 17 50 37.5 -2.8**
BHPL IAmb IAmb 17 50 41.8
comp=Z,32nm,0.9s
CASY Casey 57.54 187 P P 17 50 39.4 -4.9
CASY IAmb IAmb 17 50 59.8
comp=Z,43nm,1.1s
POO Poona 57.71 299 *ex* P 17 50 36.0 -10
KUR Kuril'sk 58.25 19*c i*P **P 17 50 49.5 -0.1**
KUR *i* 17 52 56.3
KUR *i* PPP PPP 17 54 27.9
KUR *i* S **S 17 58 52.9 +3.7**
KUR *e*SS **SS 18 02 45.4 +3.7**
KUR pmax pmax
comp=Z,235nm,1.6s
KUR pmax pmax
comp=N,116nm,1.5s
KUR pmax pmax
comp=Z,1μm,4.9s
KUR pmax pmax
comp=N,548nm,2.8s
KUR pmax pmax
comp=E,289nm,2.7s
KUR pmax pmax
comp=Z,608nm,14.0s
KUR pmax pmax
comp=E,352nm,13.0s
YSS Yuzh-Sakhalins 58.40 14*c*eP **P 17 50 51.6 +1.0**
YSS pmax pmax
comp=Z,78nm,1.7s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 58.40 14 P **P 17 50 49.3 -1.3**
YSS IAmb IAmb 17 51 02.5
comp=Z,26nm,0.8s
YSS IAMs_20 IAMs_20 18 13 30.5
comp=Z,4μm,22.0s
HIA Hailar 58.73 356 P **P 17 50 50.5 -2.4**
HIA pmax pmax
comp=Z,76nm,1.2s
HIA MLR MLR
comp=Z,3μm,22.0s
HIA Hailar 58.73 356 P **P 17 50 50.5 -2.4**
HIA IAmb IAmb 17 51 06.1
comp=Z,76nm,1.2s
KLR Kul'dur 58.80 5 S **S 17 59 02.7 +6.4**
comp=Z,1.2nm,0.9s,baz=61,slow=14,SNR=4.0
KLR Kul'dur 58.80 5*c*eP **P 17 50 52.4 -1.0**
KLR pmax pmax
comp=Z,22nm,0.9s
KLR MLR MLR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 59.33 346*c*eP **P 17 50 56.6 -0.7**
ULN pmax pmax
comp=Z,95nm,1.1s
ULN MLR MLR
comp=Z,2μm,18.0s
ULN Ulaanbaatar 59.33 346 P **P 17 50 55.9 -1.4**
ULN IAmb IAmb 17 51 01.0
comp=Z,93nm,1.1s
ULN Ulaanbaatar 59.33 346 P **P 17 50 56.7 -0.7**
ULN P **P 17 50 56.7 -0.7**
ULN Ulaanbaatar 59.33 346 P **P 17 50 56.5 -0.7**
comp=Z,12μmcomp=Z,6μmcomp=Z,324nm,1.1s
SONM Songino Array 59.47 345 P **P 17 50 57.5 -0.7**
comp=Z,43nm,0.9s,baz=155,slow=9.1,SNR=101
SONM S **S 17 59 00.3 -4.9**
comp=Z,0.3nm,0.5s,baz=111,slow=40,SNR=1.7
SONM PKP2bc 18 20 38.4
comp=Z,0.5nm,0.7s,baz=207,slow=1.0,SNR=3.7
SONM PKP2ab 18 20 52.3
comp=Z,0.9nm,0.8s,baz=294,slow=0.4,SNR=6.3
SONM Songino Array 59.47 345 P **P 17 50 57.2 -1.0**
SONM pmax pmax
comp=Z,64nm,1.1s
SONM Songino Array 59.47 345 P **P 17 50 57.2 -1.0**
SONM IAmb IAmb 17 51 00.2
comp=Z,64nm,1.1s
NDI New Delhi 59.80 311 *e*P **P 17 50 59.0 -1.7**
DDI Dehra Dun 60.07 313 *e*P **P 17 51 00.8 -1.8**
UGL Uglegorsk 60.24 13 *e*P **P 17 51 04.0 +0.7**
UGL *e* 17 53 21.7
UGL *e*S **S 17 59 15.0 +0.2**
UGL pmax pmax
comp=Z,900nm,3.2s
UGL pmax pmax
comp=Z,70nm,0.8s
UGL smax smax
comp=E,2μm,6.0s
UGL MLR MLR
comp=E,700nm,10.0s
UGL MLR MLR
comp=N,1μm,20.0s
UGL MLR MLR
comp=Z,2μm,19.0s
GRNR Gornyy 60.85 8⇓*i*P **P 17 51 08.1 +0.6**
GRNR *e*S **S 17 59 26.1 +3.4**
GRNR pmax pmax
comp=N,6.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR smax smax
comp=N,1.0nm,0.9s
GRNR MLR MLR
comp=E,380nm,17.0s
SMLA Simla 61.16 313 *e*P **P 17 51 08.8 -1.1**
SMLA IAmb IAmb 17 51 15.9
comp=Z,417nm,1.0s
TYV Tymovskoe 62.05 13 *e*P **P 17 51 16.3 +0.8**
TYV *e*S **S 17 59 39.7 +1.9**
TYV pmax pmax
comp=Z,1μm,4.0s
TYV pmax pmax
comp=Z,34nm,1.0s
TYV smax smax
comp=N,12nm,1.8s
TYV smax smax
comp=E,300nm,8.3s
CIT Chita 62.10 352 *e*P **P 17 51 17.4 +1.5**
CIT *e* 17 51 59.6
CIT pmax pmax
comp=Z,185nm,2.8s
DHRM DHARAMSHALA 62.39 314 *e*P **P 17 51 16.7 -1.8**
DHRM IAmb IAmb 17 51 20.8
comp=Z,279nm,0.4s
ZAK Zakamensk 62.61 344 *e*P **P 17 51 18.2 -1.2**
ZAK *e* 17 59 42.9
ZAK pmax pmax
comp=Z,61nm,1.1s
WMQ Urumqi 63.01 330 *e*P **P 17 51 22.9 +0.7**
WMQ pP pP 17 51 28.8 -3.9
WMQ sP sP 17 51 34.3 -2.2
WMQ S **S 17 59 51.0 +0.7**
WMQ sS sS 18 00 07.5 +0.2
WMQ pmax pmax
comp=Z,180nm,1.1s
WMQ pmax pmax
comp=Z,2μm,3.9s
WMQ L L
comp=Z,3μm,17.9s
WMQ L L
comp=Z,3μm,19.3s
WMQ L L
comp=Z,5μm,20.9s
TLY Talaya 63.70 345 P **P 17 51 26.3 -0.3**
comp=Z,43nm,1.0s,baz=164,slow=5.4,SNR=3.9
TLY S **S 17 59 58.5 -0.1**
comp=Z,0.5nm,0.4s,baz=275,slow=17,SNR=0.8
TLY Talaya 63.70 345 P **P 17 51 27.1 +0.5**
TLY P **P 17 51 27.1 +0.5**
IRK Irkutsk 64.07 346 *e*P **P 17 51 27.6 -1.3**
IRK pmax pmax
comp=Z,153nm,2.6s
MOY Mondy 64.39 344 *e*P **P 17 51 31.0 -0.2**
MOY pmax pmax
comp=Z,179nm,2.1s
NIL Nilore 65.30 314 P **P 17 51 35.5 -1.9**
NIL pmax pmax
comp=Z,136nm,0.8s
NIL MLR MLR
comp=Z,3μm,20.0s
NIL Nilore 65.30 314 P **P 17 51 35.5 -1.9**
NIL Nilore 65.30 314 IAMs_20 IAMs_20 18 24 13.9
comp=Z,3μm,20.0s
SKR Severo-Kuril's 65.75 21 *e*P **P 17 51 38.4 -1.4**
SKR *e*S **S 18 00 30.9 +7.2**
SKR pmax pmax
comp=Z,1μm,3.8s
SKR pmax pmax
comp=Z,500nm,11.3s
SKR MLR MLR
comp=Z,900nm,16.0s
SKR MLR MLR
comp=Z,1μm,18.0s
KSH Kashi 66.71 320 P **P 17 51 47.4 +0.9**
KSH PP **PP 17 54 15.4 +1.6**
KSH ScP 17 56 08.8
KSH S **S 18 00 36.4 +0.2**
KSH pmax pmax
comp=Z,58nm,0.8s
KSH pmax pmax
comp=Z,490nm,4.1s
KSH L L
comp=Z,670nm,11.6s
KSH L L
comp=Z,1μm,15.2s
KSH L L
comp=Z,1μm,14.2s
SHLS Shalkode 66.87 325 *e*P **P 17 51 45.2 -2.2**
comp=Z,108nm,1.2s,baz=326
SHLS *e*S **S 18 00 32.5 -5.5**
comp=Z,64nm,2.4s,baz=326
SHLS Shalkode 66.87 325 *e*P **P 17 51 45.2 -2.2**
SHLS *e*S **S 18 00 32.4 -5.5**
SHLS pmax pmax
comp=Z,108nm,1.2s
SHLS smax smax
comp=N,64nm,2.4s
PDGK Podgornoye 66.96 326 P **P 17 51 47.1 -0.9**
PDGK pmax pmax
comp=Z,98nm,1.0s
ZSN Zaisan 67.01 332 *e*P **P 17 51 47.0 -1.1**
comp=Z,51nm,1.1s,baz=332
ZSN *e*S **S 18 00 37.5 -1.9**
baz=332
ZSN Zaisan 67.01 332 *e*P **P 17 51 47.0 -1.1**
ZSN *e*S **S 18 00 37.4 -1.9**
ZSN pmax pmax
comp=Z,51nm,1.1s
UZB Uzynbulak 67.11 325 *e*P **P 17 51 47.9 -1.1**
comp=Z,109nm,1.7s,baz=325
UZB *e*S **S 18 00 38.6 -2.4**
baz=325
UZB Uzynbulak 67.11 325 *e*P **P 17 51 47.8 -1.1**
UZB *e*S **S 18 00 38.5 -2.4**
UZB pmax pmax
comp=Z,109nm,1.7s
SATY Saty 67.40 325 *e*P **P 17 51 50.3 -0.5**
comp=Z,102nm,1.3s,baz=325
SATY *e*S **S 18 00 44.3 -0.2**
comp=Z,59nm,1.9s,baz=325
SATY Saty 67.40 325 *e*P **P 17 51 50.3 -0.5**
SATY *e*S **S 18 00 44.2 -0.2**
SATY pmax pmax
comp=Z,102nm,1.3s
SATY smax smax
comp=N,59nm,1.9s
KPKS Kokpek 67.50 325 *e*P **P 17 51 50.5 -1.0**
baz=325
KPKS *e*S **S 18 00 42.6 -2.9**
baz=325
KPKS Kokpek 67.50 325 *e*P **P 17 51 50.4 -1.0**
KPKS *e*S **S 18 00 42.6 -2.9**
DGZ Jazzator, Alta 67.54 335*c i*P **P 17 51 51.0 -0.5**
DGZ pmax pmax
comp=Z,179nm,0.9s
DGZ MLR MLR
comp=Z,2μm,18.0s
KDJ Kajisay 67.54 323 P **P 17 51 50.7 -1.1**
KDJ pmax pmax
comp=Z,103nm,1.1s
KDJ Kajisay 67.54 323 P **P 17 51 50.7 -1.1**
BOD Bodaibo 67.72 354 *e*P **P 17 51 51.9 -0.4**
BOD pmax pmax
comp=Z,90nm,1.7s
MK31 Makanchi Array 67.80 330 *i* P **P 17 51 52.4 -0.7**
MK31 pmax pmax
comp=Z,198nm,1.1s
MK31 Makanchi Array 67.80 330 P **P 17 51 51.8 -1.3**
MKAR Makanchi Array 67.80 330 P **P 17 51 52.3 -0.7**
comp=Z,242nm,1.1s,baz=130,slow=6.3,SNR=343
MKAR S **S 18 00 46.6 -2.1**
comp=Z,1.0nm,1.0s,baz=120,slow=4.6,SNR=2.0
MKAR PKP2ab 18 20 22.0
comp=Z,0.6nm,0.7s,baz=242,slow=4.8,SNR=3.9
MKAR P4KPbc 18 28 42.7
comp=Z,0.9nm,0.8s,baz=125,slow=6.1,SNR=8.9
MKAR Makanchi Array 67.80 330 P **P 17 51 52.1 -0.9**
MKAR Makanchi Array 67.80 330 P **P 17 51 52.1 -0.9**
MAKZ Makanchi 67.96 330 P **P 17 51 52.7 -1.4**
MAKZ pmax pmax
comp=Z,86nm,1.1s
MAKZ Makanchi 67.96 330 P **P 17 51 52.8 -1.3**
MDOK Medeo 68.25 324 *e*P **P 17 51 55.0 -1.2**
baz=324
MDOK *i* S **S 18 00 53.0 -1.5**
baz=324
MDOK *e*LR LR 18 22 34.4
comp=Z,19468μm,100.0s,baz=324
MDOK Medeo 68.25 324 *e*P **P 17 51 54.9 -1.2**
MDOK *i* S **S 18 00 53.0 -1.5**
PEA0B Petropavlovsk- 68.31 20*c i*P **P 17 51 56.6 +0.5**
PEA0B Petropavlovsk- 68.31 20 P **P 17 51 54.8 -1.3**
PETK Petropavlovsk- 68.31 20 P **P 17 51 56.8 +0.7**
comp=Z,43nm,0.8s,baz=190,slow=2.7,SNR=50
PETK Petropavlovsk- 68.31 20 P **P 17 51 54.9 -1.2**
AAA Alma-Ata 68.35 324 *e*P **P 17 51 55.6 -1.1**
comp=Z,474nm,2.3s,baz=324
AAA *e*S **S 18 00 55.5 -0.2**
baz=324
AAA Alma-Ata 68.35 324 *e*P **P 17 51 55.6 -1.1**
AAA *e*S **S 18 00 55.4 -0.2**
AAA pmax pmax
comp=Z,474nm,2.3s
ARXS Arharly 68.45 325 *e*P **P 17 51 56.1 -1.2**
BOOM Boomskoye usch 68.49 323 P **P 17 51 57.2 -0.5**
BOOM pmax pmax
comp=Z,114nm,1.0s
BOOM Boomskoye usch 68.49 323 P **P 17 51 57.2 -0.5**
PET Petropavlovsk 68.57 21 *e*P **P 17 51 57.8 +0.1**
PET *e* 17 52 21.6
PET *e*S **S 18 00 58.4 +0.8**
PET *e* 18 01 51.6
PET *e*SS **SS 18 05 29.0 +6.4**
PET pmax pmax
comp=Z,1μm,13.7s
PET pmax pmax
comp=Z,99nm,1.2s
PET pmax pmax
comp=Z,1μm,7.0s
PET Petropavlovsk 68.57 21 P **P 17 51 56.2 -1.5**
PET IAmb IAmb 17 52 01.8
comp=Z,101nm,1.2s
MTBS Maitube 68.58 324 *e*P **P 17 51 57.5 -0.7**
baz=324
MTBS *e*S **S 18 00 57.3 -1.1**
baz=324
MTBS Maitube 68.58 324 *e*P **P 17 51 57.5 -0.7**
MTBS *e*S **S 18 00 57.3 -1.1**
TDK Taldyqorghan 68.63 326 *e*P **P 17 51 57.6 -0.8**
comp=Z,123nm,1.2s,baz=326
TDK *e*S **S 18 01 07.2 +8.5**
baz=326
TDK Taldyqorghan 68.63 326 *e*P **P 17 51 57.5 -0.8**
TDK pmax pmax
comp=Z,123nm,1.2s
CHKK Chushkaly 68.70 325 *e*P **P 17 51 58.0 -0.8**
baz=325
CHKK Chushkaly 68.70 325 *e*P **P 17 51 58.0 -0.8**
KBL Kabul 68.77 313 P **P 17 51 57.5 -2.1**
KBL pmax pmax
comp=Z,62nm,0.8s
KBL Kabul 68.77 313 P **P 17 51 57.5 -2.1**
KBL IAmb IAmb 17 52 02.3
comp=Z,62nm,0.8s
KBL Kabul 68.77 313 P **P 17 51 59.6 0.0**
SNR=34
KBL P **P 17 51 59.6 0.0**
SNR=34
KBL P **P 17 51 59.6 0.0**
SNR=34
TKM2 Tokmak 2 68.95 323 P **P 17 52 01.3 +0.7**
SNR=21
TKM2 Tokmak 2 68.95 323 P **P 17 52 00.4 -0.2**
TKM2 pmax pmax
comp=Z,60nm,1.0s
KUU Kurty 69.10 324 *e*P **P 17 52 00.2 -1.1**
comp=Z,218nm,1.0s,baz=324
KUU *i* S **S 18 01 04.3 -0.1**
comp=Z,129nm,1.9s,baz=324
KUU Kurty 69.10 324 *e*P **P 17 52 00.1 -1.1**
KUU *i* S **S 18 01 04.3 -0.1**
KUU pmax pmax
comp=Z,217nm,1.0s
KUU smax smax
comp=N,129nm,1.9s
MSEY Mahe Island 69.14 269 P **P 17 52 04.3 +2.1**
MSEY P **P 17 52 04.3 +2.1**
KBK Karagaybulak 69.18 323 P **P 17 52 03.7 +1.7**
SNR=40
DRK Karamyk 69.37 318 P **P 17 52 02.4 -1.0**
AAK Ala-Archa 69.44 322 P **P 17 52 03.4 -0.2**
comp=N,91nm,0.9s,baz=139,slow=5.5,SNR=92
AAK Ala-Archa 69.44 322 P **P 17 52 04.0 +0.4**
SNR=49
AAK Ala-Archa 69.44 322 *i* P **P 17 52 03.1 -0.4**
SNR=54
AAK Ala-Archa 69.44 322*c i*P **P 17 52 03.3 -0.2**
AAK pmax pmax
comp=Z,264nm,0.8s
AAK MLR MLR
comp=Z,5μm,20.0s
AAK Ala-Archa 69.44 322 P **P 17 52 02.5 -1.1**
AAK Ala-Archa 69.44 322 IAMs_20 IAMs_20 18 27 26.9
comp=Z,3μm,21.0s
FRU1 Bishkek 69.46 323 P **P 17 52 01.2 -2.4**

FRU1 pmax pmax
comp=Z,51nm,1.0s
FRU1 Bishkek 69.46 323 P **P** **17 52 01.2 -2.4**
FRU1 IAmb IAmb 17 52 29.9
comp=Z,51nm,1.0s
CHMS Chumysh 69.49 323 P **P** **17 52 04.8 +1.0**
SNR=26
ARSB Arslanbob 69.62 321 P **P** **17 52 03.7 -1.0**
ARSB pmax pmax
comp=Z,217nm,1.2s
ARSB Arslanbob 69.62 321 P **P** **17 52 03.7 -1.0**
AML Almayashu 69.63 322 P **P** **17 52 05.3 +0.2**
SNR=55
AML Almayashu 69.63 322 *i* P **P** **17 52 04.2 -0.8**
SNR=11
USP Ospenovka 69.80 323 P **P** **17 52 05.0 -0.7**
SNR=57
SGDS Sogindy 69.83 323 *e*P **P** **17 52 04.9 -1.0**
comp=Z,43nm,1.1s,baz=323
SGDS *e*S **S** **18 01 11.7 -1.4**
baz=323
SGDS Sogindy 69.83 323 *e*P **P** **17 52 04.8 -1.0**
SGDS *e*S **S** **18 01 11.7 -1.4**
SGDS pmax pmax
comp=Z,43nm,1.1s
EKS2 Erkin-Say 69.88 322 P **P** **17 52 08.1 +1.8**
SNR=42
GAR Garm 70.09 317 P **P** **17 52 05.1 -2.5**
GAR IAmb IAmb 17 52 11.1
comp=Z,80nm,1.0s
BTK Batken 70.31 319 P **P** **17 52 06.6 -2.3**
BTK pmax pmax
comp=Z,48nm,1.0s
BTK Batken 70.31 319 P **P** **17 52 06.6 -2.3**
BTK IAmb IAmb 17 52 32.4
comp=Z,48nm,0.9s
VNDA Vanda 70.59 172 P **P** **17 52 12.8 +2.9**
comp=Z,15nm,1.1s,baz=321,slow=6.4,SNR=42
VNDA S **S** **18 01 17.4 -3.5**
comp=Z,1.5nm,1.3s,baz=280,slow=5.2,SNR=1.3
VNDA PKPPKP **P'P'df** **18 20 09.8 -1.1**
comp=Z,0.7nm,1.0s,baz=298,slow=4.7,SNR=3.7
VNDA LR LR 18 23 14.9
comp=Z,14μm,18.4s,baz=349,slow=36
VNDA Vanda 70.59 172 P **P** **17 52 10.9 +1.0**
VNDA pmax pmax
comp=Z,54nm,1.4s
VNDA Vanda 70.59 172 P **P** **17 52 10.9 +1.0**
VNDA IAmb IAmb 17 52 14.5
comp=Z,54nm,1.4s
CHGR Chuyangaron 70.70 317 P **P** **17 52 09.9 -1.5**
MAW Mawson 70.84 201 P **P** **17 52 14.9 +3.3**
comp=Z,23nm,0.9s,baz=84,slow=6.7,SNR=18
MAW LR LR 18 21 18.2
comp=Z,4μm,18.9s,baz=58,slow=34
MAW Mawson 70.84 201 P **P** **17 52 12.3 +0.8**
baz=71,SNR=16
MAW Mawson 70.84 201 P **P** **17 52 11.6 +0.1**
MAW Mawson 70.84 201 P **P** **17 52 11.6 +0.1**
BTLS Baital 71.10 324 *e*P **P** **17 52 12.2 -1.3**
comp=Z,24nm,0.9s,baz=324
BTLS *i* S **S** **18 01 25.1 -2.6**
comp=Z,30nm,1.8s,baz=324
BTLS Baital 71.10 324 *e*P **P** **17 52 12.2 -1.3**
BTLS *i* S **S** **18 01 26.0 -1.7**
BTLS pmax pmax
comp=Z,24nm,0.9s
BTLS smax smax
comp=E,31nm,1.8s
SEM Semipalatinsk 71.26 332⇑ *i*P **P** **17 52 12.6 -2.1**
comp=E,145nm,2.7s,baz=332
SEM *e*S **S** **18 01 26.0 -3.8**
baz=332
SEM *e*LR LR 18 27 16.6
comp=E,665nm,18.9s,baz=332
SEM Semipalatinsk 71.26 332*c* *i*P **P** **17 52 12.5 -2.1**
SEM *e*S **S** **18 01 26.0 -3.8**
SEM pmax pmax
comp=Z,145nm,2.7s
SEM MLR MLR
comp=Z,665nm,19.0s
YAK Yakutsk 71.43 2 S **S** **18 01 32.7 +2.0**
comp=Z,0.9nm,0.4s,baz=161,slow=21,SNR=7.1
YAK Yakutsk 71.43 2*c* *i*P **P** **17 52 14.3 -0.8**
YAK *e**PP **pP** **17 52 22.1 -3.9**
YAK *e* 17 52 34.3
YAK *e*S **S** **18 01 29.3 -1.4**
YAK *e* 18 02 10.8
YAK *e*SSS SSS 18 09 07.9
YAK pmax pmax
comp=Z,316nm,0.9s
YAK pmax pmax
comp=N,65nm,1.1s
YAK pmax pmax
comp=E,12nm,1.0s
YAK pmax pmax
comp=Z,151nm,3.2s
YAK pmax pmax
comp=N,65nm,1.6s
YAK pmax pmax
comp=E,13nm,1.4s
YAK smax smax
comp=N,146nm,2.8s
YAK smax smax
comp=E,65nm,1.6s
YAK Yakutsk 71.43 2 P **P** **17 52 13.4 -1.6**
DZA Taraz 71.50 321 *e*P **P** **17 52 16.1 0.0**
baz=321
DZA *e*S **S** **18 01 30.3 -2.3**
baz=321
DZA Taraz 71.50 321 *e*P **P** **17 52 16.0 0.0**
DZA *e*S **S** **18 01 30.2 -2.3**
SBA Scott Base 71.53 171 P **P** **17 52 18.5 +2.9**
SBA pmax pmax
comp=Z,30nm,1.1s
SBA MLR MLR
comp=Z,5μm,18.0s
SBA Scott Base 71.53 171 P **P** **17 52 18.4 +2.9**
JLN Jalan Bani Buh 71.62 297 P **P** **17 52 17.3 +0.2**
JLN P **P** **17 52 17.3 +0.2**
ZAA0 Zalesovo Array 71.80 336 P **P** **17 52 15.9 -1.6**
ZALV Zalesovo Beam 71.80 336 P **P** **17 52 15.9 -1.5**
comp=Z,113nm,0.9s,baz=131,slow=4.1,SNR=231
ZALV S **S** **18 01 29.0 -6.3**
comp=Z,1.5nm,0.6s,baz=116,slow=9.8,SNR=3.2
ZALV PKPPKP P'P'df 18 20 14.2 +8.7
comp=Z,0.3nm,0.3s,baz=248,slow=1.6,SNR=3.9
ZALV Zalesovo Beam 71.80 336 P **P** **17 52 16.0 -1.5**
ZALV Zalesovo Beam 71.80 336 P **P** **17 52 15.8 -1.7**
MA2 Magadan 71.89 13*c* *i*P **P** **17 52 18.2 +0.3**
MA2 pmax pmax
comp=Z,110nm,1.0s
MA2 MLR MLR
comp=Z,949nm,18.0s
MA2 Magadan 71.89 13 P **P** **17 52 16.6 -1.3**
KK31 Karatay Array 72.12 321 P **P** **17 52 17.0 -2.7**
KK31 pmax pmax
comp=Z,24nm,1.0s
KK31 Karatay Array 72.12 321 P **P** **17 52 17.0 -2.7**
KKAR Karatay Array 72.12 321 P **P** **17 52 17.5 -2.2**
KKAR pmax pmax
comp=Z,24nm,1.0s
KKAR Karatay Array 72.12 321 P **P** **17 52 17.2 -2.5**
KKAR Karatay Array 72.12 321 P **P** **17 52 17.5 -2.2**
KKAR IAmb IAmb 17 52 23.7
comp=Z,24nm,0.9s
WBK Wadi Bani Khal 72.16 297 P **P** **17 52 21.0 +0.6**
SNR=7.5
WBK P **P** **17 52 21.0 +0.6**
SNR=7.5
KURBB Kurchatov Arra 72.22 331 P **P** **17 52 19.1 -0.9**
comp=Z,43nm,0.7s,baz=141,slow=5.3,SNR=174
KURBB S **S** **18 01 33.8 -6.6**
comp=Z,1.4nm,1.1s,baz=137,slow=14,SNR=6.2
KURBB Kurchatov Arra 72.22 331 P **P** **17 52 18.9 -1.2**
KURBB pmax pmax
comp=Z,90nm,1.2s
KURK Kurchatov 72.24 331 P **P** **17 52 19.2 -1.0**
KURK Kurchatov 72.24 331 P **P** **17 52 19.1 -1.0**
MHTO MHTO 72.54 296 P **P** **17 52 22.0 -0.6**
SNR=6.3
MHTO P **P** **17 52 22.0 -0.6**
SNR=6.3
DQM DQM 72.61 294 P **P** **17 52 22.9 -0.2**
DQM P **P** **17 52 22.9 -0.2**
WSAR Wadi Sarin 72.66 298 P **P** **17 52 23.8 +0.5**
comp=Z,77nm,0.9s,baz=144,slow=5.7,SNR=32
WSAR S **S** **18 01 38.7 -7.7**
comp=Z,5.1nm,0.9s,baz=308,slow=9.5,SNR=2.4
WSAR LR LR 18 25 16.6
comp=Z,2μm,20.4s,baz=108,slow=37
WSAR Wadi Sarin 72.66 298 P **P** **17 52 23.5 +0.2**
SNR=14
JMDO Jabal Madar 72.84 297 P **P** **17 52 23.4 -1.0**
SNR=9.3
JMDO P **P** **17 52 23.4 -1.0**
SNR=9.3
SMDO Samad 73.11 298 P **P** **17 52 25.5 -0.6**
SNR=8.4
SMDO P **P** **17 52 25.5 -0.6**
SNR=8.4
BIDO Bidbid 73.18 298 P **P** **17 52 26.7 +0.3**
SNR=28
BIDO P **P** **17 52 26.7 +0.3**
SNR=28
HRA Herat 73.73 310 P **P** **17 52 26.6 -3.2**
HRA IAMs_20 IAMs_20 18 30 47.5
comp=Z,4μm,20.0s
BSY Bisya 73.75 297 P **P** **17 52 29.7 -0.1**
SNR=9.1
BSY P **P** **17 52 29.7 -0.1**
SNR=9.1
SHAO Shalim 73.80 292 P **P** **17 52 30.9 +0.7**
SHAO P **P** **17 52 30.9 +0.7**
SOCY Socotra 73.85 286 P **P** **17 52 28.7 -1.9**
HOQ Hoqain 73.91 298 P **P** **17 52 30.9 +0.2**
SNR=17
HOQ P **P** **17 52 30.9 +0.2**
SNR=17
OTUK Ortayu 73.92 326 P **P** **17 52 26.5 -3.8**
OTUK pmax pmax
comp=Z,58nm,1.1s
ARQ Araqi 74.53 297 P **P** **17 52 34.6 +0.3**
ARQ P **P** **17 52 34.6 +0.3**
BRZS Berezniki 74.75 328⇑ *i*P **P** **17 52 34.3 -0.8**
comp=Z,157nm,3.1s,baz=328
BRZS *i* S **S** **18 02 06.9 -2.3**
comp=Z,38nm,2.7s,baz=328
BRZS Berezniki 74.75 328*c* *i*P **P** **17 52 34.2 -0.8**
BRZS *i* S **S** **18 02 06.8 -2.3**
BRZS pmax pmax
comp=Z,157nm,3.1s
BRZS smax smax
comp=N,38nm,2.7s
SOHO SOHO 74.76 298 *i*P **P** **17 52 35.0 -0.6**
SNR=15
SOHO SOHO 74.76 298 P **P** **17 52 35.9 +0.2**
SOHO P **P** **17 52 35.9 +0.2**
SMY Shemya 74.77 28 P **P** **17 52 30.4 -4.6**
SMY pmax pmax
comp=Z,94nm,1.0s
SMY Shemya 74.77 28 P **P** **17 52 30.4 -4.6**
SMY IAmb IAmb 17 52 37.8
comp=Z,94nm,1.0s
RBK Rabkut 74.97 291 P **P** **17 52 37.8 +0.8**
RBK P **P** **17 52 37.8 +0.8**
UOSS Minazif 75.29 299 *i*P **P** **17 52 37.6 -1.1**
SNR=11
UOSS Minazif 75.29 299 P **P** **17 52 34.9 -3.8**
UOSS IAmb IAmb 17 52 46.0
comp=Z,52nm,1.0s
UOSS Minazif 75.29 299 P **P** **17 52 38.6 -0.2**
HATD Hatta, Dubai 75.32 299 *i*P **P** **17 52 38.4 -0.5**
SNR=12
HATD Hatta, Dubai 75.32 299 P **P** **17 52 39.5 +0.6**
SNR=11
HATD P **P** **17 52 39.5 +0.6**
SNR=11
MDH Madha 75.32 299 P **P** **17 52 37.5 -1.3**
MDH Madha 75.32 299 P **P** **17 52 37.1 -1.8**
MDH P **P** **17 52 37.1 -1.8**
DOK Doka 75.33 292 P **P** **17 52 38.7 -0.3**
DOK P **P** **17 52 38.7 -0.3**
ASHO Ashiyiah 75.34 299 *i*P **P** **17 52 38.4 -0.6**
SNR=15
ASHO Ashiyiah 75.34 299 P **P** **17 52 39.5 +0.5**
SNR=13
ASHO P **P** **17 52 39.5 +0.5**
SNR=13
ALNE Al Ain 75.42 298 *i*P **P** **17 52 39.1 -0.4**
SNR=7.2
ALNE Al Ain 75.42 298 P **P** **17 52 40.2 +0.7**
SNR=14
ALNE P **P** **17 52 40.2 +0.7**
SNR=14
MSFE Esma-Masafi 75.46 299 *i*P **P** **17 52 40.1 +0.5**
SNR=11
MASF Masafi 75.46 299 P **P** **17 52 40.6 +0.9**
SNR=7.0
MASF P **P** **17 52 40.6 +0.9**
SNR=7.0
WHFO Wadi Hawf 75.47 291 P **P** **17 52 39.7 -0.3**
WHFO P **P** **17 52 39.7 -0.3**
BANOM Banah 75.52 300 *i*P **P** **17 52 40.5 +0.5**
SNR=6.4
BANOM Banah 75.52 300 P **P** **17 52 39.9 -0.1**
ABPO Ambohimpanom 75.53 253 P **P** **17 52 39.7 -0.8**
ABPO pmax pmax
comp=Z,32nm,1.1s
ABPO MLR MLR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 75.53 253 P **P** **17 52 39.7 -0.8**
UMZA Um Al Zommool 75.54 296 P **P** **17 52 39.7 -0.4**
UMZA P **P** **17 52 39.7 -0.4**
OPO Ambohidratompo 75.61 253 P **P** **17 52 43.1 +2.2**
comp=Z,14nm,0.6s,baz=95,slow=3.8,SNR=21
SHME Shamm 75.69 300 *i*P **P** **17 52 40.4 -0.5**
SNR=13
SHME Shamm 75.69 300 P **P** **17 52 41.5 +0.5**
SNR=8.1
SHME P **P** **17 52 41.5 +0.5**
SNR=8.1
VOI Vohitsoka 75.69 250 P **P** **17 52 41.0 -0.2**
VOI IAmb IAmb 17 53 03.6
comp=Z,33nm,0.9s
VOI IAMs_20 IAMs_20 18 24 46.1
comp=Z,3μm,20.0s
FAQ Al Faqa, Dubai 75.76 299 *i*P **P** **17 52 40.5 -0.8**
SNR=18
FAQ Al Faqa, Dubai 75.76 299 P **P** **17 52 41.8 +0.4**
SNR=11
FAQ P **P** **17 52 41.8 +0.4**
SNR=11
ABTO Aybut 75.77 291 P **P** **17 52 42.2 +0.6**
ABTO P **P** **17 52 42.2 +0.6**
NAZ Nazwa, Dubai 75.78 299 *i*P **P** **17 52 41.0 -0.5**
SNR=15
NAZ Nazwa, Dubai 75.78 299 P **P** **17 52 42.1 +0.6**
SNR=11
NAZ P **P** **17 52 42.1 +0.6**
SNR=11
ASUD Al Ashush, Dub 75.95 298 *i*P **P** **17 52 42.6 +0.1**
SNR=9.4
ASUD Al Ashush, Dub 75.95 298 P **P** **17 52 42.8 +0.4**
SNR=6.4
ASUD P **P** **17 52 42.8 +0.4**
SNR=6.4
BVAR Borovoye Array 77.68 330 P **P** **17 52 50.3 -1.3**
comp=Z,27nm,0.9s,baz=228,slow=16,SNR=64
BRVK Borovoye 77.75 330*c* *i*P **P** **17 52 51.2 -0.8**
BRVK pmax pmax
comp=Z,57nm,1.0s
BRVK MLR MLR
comp=Z,2μm,20.0s
BRVK Borovoye 77.75 330 P **P** **17 52 50.6 -1.4**
BRVK IAmb IAmb 17 52 53.1
comp=Z,51nm,1.0s
BRVK Borovoye 77.75 330 P **P** **17 52 51.6 -0.4**
BRVK P **P** **17 52 51.6 -0.4**
ASHT Ashkhabad 78.00 312 IAMs_20 IAMs_20 18 32 22.4
comp=Z,2μm,20.0s
GEYT Alibeck 78.19 312 P **P** **17 52 55.3 +0.5**
comp=Z,42nm,0.9s,baz=174,slow=5.7,SNR=42
GEYT S **S** **18 02 41.5 -5.8**
comp=Z,1.0nm,0.5s,baz=204,slow=44,SNR=1.4
GEYT LR LR 18 34 43.8
comp=Z,2μm,19.2s,baz=130,slow=42
GEYT Alibeck 78.19 312 P **P** **17 52 54.3 -0.5**
GEYT IAmb IAmb 17 52 56.6
comp=Z,45nm,0.9s
GYA0B ALIBECK ARRAY 78.19 312 P **P** **17 52 54.6 -0.3**
GYA0B IAmb IAmb 17 52 59.7
comp=Z,72nm,1.0s
GYA0B IAMs_20 IAMs_20 18 32 16.4
comp=Z,3μm,22.0s
SYO Syowa Base 79.55 201⇑ *e*P **P** **17 52 57.6 -4.0**
SYO Syowa Base 79.55 201⇓ *e*pP **P** **17 53 04.2 +2.6**
SYO Syowa Base 79.55 201⇑ *es*P P 17 53 07.8 +6.2
TRNA Turayna 79.58 297 P **P** **17 53 03.2 +0.5**
SHMA Al-Shehemyia 80.09 298 P **P** **17 53 05.5 +0.1**
QSPA South Pole Qui 80.47 180 P **P** **17 53 09.0 +2.1**
comp=Z,56nm,1.0s,baz=327,slow=2.4,SNR=74
QSPA South Pole Qui 80.47 180 IAmb IAmb 17 53 32.4
comp=Z,66nm,0.9s
SAKB Bahrain 80.50 298 P **P** **17 53 05.1 -2.5**
TIXI Tiksi 81.04 1 S **S** **18 03 11.5 -4.5**
comp=Z,0.6nm,0.3s,baz=346,slow=18,SNR=3.4
TIXI Tiksi 81.04 1*c* *i*P **P** **17 53 08.2 -1.3**
TIXI Tiksi 81.04 1 P **P** **17 53 07.2 -2.3**
TIXI IAmb IAmb 17 53 12.2
comp=Z,118nm,1.1s
TIXI Tiksi 81.04 1 IAMs_20 IAMs_20 18 28 58.9
comp=Z,2μm,19.0s
AB31 Akbulak array 81.51 323 *i* P **P** **17 53 11.2 -1.3**
AB31 pmax pmax
comp=Z,34nm,0.8s
ABKAR Akbulak array 81.51 323 P **P** **17 53 10.8 -1.7**
TBI Tubuai 82.16 112 *e*S **S** **18 03 21.4 -8.1**
comp=Z,2μm,27.2s
TBI Tubuai 82.16 112 *e*LQ LQ 18 15 20.8
comp=Z,4μm,31.8s
TBI *e*LR LR 18 18 44.6
comp=Z,3μm,29.0s
BILL Bilibino 82.72 14*d* *i*P **P** **17 53 18.8 +0.4**
BILL *i* 17 53 22.2
BILL *i**PP **pP** **17 53 28.8 -0.4**
BILL *e* 17 56 26.9
BILL *e*S **S** **18 03 36.6 +3.2**
BILL *e*PS 18 04 27.6
BILL *e*PPS PPS 18 04 44.3
BILL *e*SS **SS** **18 08 55.6 -0.8**
BILL pmax pmax
comp=Z,14nm,1.0s
BILL MLR MLR
comp=Z,740nm,18.0s
BILL Bilibino 82.72 14 P **P** **17 53 15.0 -3.4**
PPT2 Papeete2 82.78 107 *e*S **S** **18 03 27.5 -8.8**
comp=Z,2μm,25.5s
PPT2 Papeete2 82.78 107 *e*LQ LQ 18 15 31.1
comp=Z,7μm,36.0s
PPT2 *e*LR LR 18 19 05.0
comp=Z,3μm,28.2s
PPT Papeete 82.79 107 LR LR 18 29 36.2
comp=Z,285nm,18.1s,baz=258,slow=35
NRIK Noril'sk 82.88 347 P **P** **17 53 19.5 +0.2**
comp=Z,11nm,0.5s,baz=117,slow=4.2,SNR=21
NRIK S **S** **18 03 32.0 -3.0**
comp=Z,0.6nm,0.3s,baz=190,slow=7.3,SNR=1.7
NRIK LR LR 18 33 13.7
comp=Z,2μm,21.0s,baz=160,slow=38
NRIK Noril'sk 82.88 347*ce*P **P** **17 53 19.3 +0.1**
NRIK pmax pmax
comp=Z,10.0nm,0.4s
NRIK MLR MLR
comp=Z,2μm,20.0s
NRIK Noril'sk 82.88 347 P **P** **17 53 18.2 -1.0**
NRIK IAmb IAmb 17 53 23.3
comp=Z,48nm,1.1s
KHLU Kahalu`u 82.99 69 IAMs_20 IAMs_20 18 27 47.3
comp=Z,2μm,20.0s
AKTO Aktyubinsk 83.14 324 P **P** **17 53 19.9 -1.1**
comp=Z,71nm,0.9s,baz=114,slow=6.5,SNR=105
AKTO S **S** **18 03 34.9 -3.5**
comp=Z,1.2nm,0.6s,baz=245,slow=22,SNR=2.7
QRN Al-Qurain 83.46 300 *e*P **P** **17 53 22.4 -0.7**
NIKH Nikolski High 83.63 34 P 17 53 23.5
baz=245
RDF Al-Radifah 83.82 301 *e*P **P** **17 53 24.4 -0.5**
UMR Umm Al-Rimmam 83.83 301 *e*P **P** **17 53 24.7 -0.4**
MIB Mutribah 84.21 301 *e*P **P** **17 53 26.2 -0.7**
RAYN Ar Rayn 84.34 295 *i*P **P** **17 53 27.9 0.0**
SNR=101
RAYN Ar Rayn 84.34 295 P **P** **17 53 27.8 0.0**
RAYN pmax pmax
comp=Z,81nm,0.9s
RAYN MLR MLR
comp=Z,4μm,18.0s
RAYN Ar Rayn 84.34 295 P **P** **17 53 27.8 0.0**
ATD Arta Tunnel 84.37 283 P **P** **17 53 29.1 +0.9**
comp=Z,30nm,1.0s,baz=25,slow=5.4
ATD Arta Tunnel 84.37 283 P **P** **17 53 30.6 +2.5**
SVE Sverdlovsk 84.45 330*de*P **P** **17 53 26.9 -0.7**
SVE *e*S **S** **18 03 45.4 -6.0**
SVE pmax pmax
comp=Z,94nm,1.1s
SPIA Saint Paul Isl 84.73 30 P 17 53 29.3
baz=243
ARU Arti 85.31 329 P **P** **17 53 31.4 -0.5**
comp=Z,7.6nm,0.6s,baz=112,slow=2.5,SNR=54
ARU S **SKSac** **18 03 49.9 -4.2**
comp=Z,0.3nm,0.3s,baz=288,slow=22,SNR=1.3
ARU Arti 85.31 329*c* *i*P **P** **17 53 30.8 -1.1**
ARU *PP **pP** **17 53 44.1 +1.2**
ARU 17 56 51.3
ARU PPP PPP 17 58 40.4
ARU S **SKSac** **18 03 49.7 -4.4**
ARU SS **SS** **18 09 37.2 +2.0**
ARU pmax pmax
comp=Z,73nm,1.2s
ARU Arti 85.31 329 P **P** **17 53 29.4 -2.5**
ARU IAmb IAmb 17 53 34.9
comp=Z,70nm,1.1s
ARU IAMs_20 IAMs_20 18 37 06.8
comp=Z,2μm,21.0s
TEND Ethiopian Broa 86.19 283 *e*P P 17 53 44.5 +7.3
TEND *e*S S 18 04 20.0 +10
KIBK Kibwezi 86.69 268 IAMs_20 IAMs_20 18 29 08.1
comp=Z,2μm,20.0s
KIBK Kibwezi 86.69 268 P **P** **17 53 41.6 +1.8**
SNR=7.5
ANKE Ethiopia-Afar 87.03 280 *e*P P 17 53 48.9 +7.1
ANKE *e*S **S** **18 04 23.1 +3.9**
GAMB Gambell 87.13 23 P 17 53 40.6
baz=242
FALS False Pass 87.32 33 P 17 53 41.0
baz=249
DESE Dese 87.39 282 *e*P P 17 53 50.9 +7.4
DESE *e*S S 18 04 36.7 +14
MAK Makhachkala 87.47 314 *e*P **P** **17 53 41.6 -1.1**
MAK *e* 17 57 03.0
MAK *e* 18 04 06.5
MAK *e*SS SS 18 09 59.5 -7.9
MAK pmax pmax
comp=Z,210nm,1.0s
KMBO Kilima Mbogo 87.67 269 P **P** **17 53 46.2 +1.5**
comp=Z,36nm,0.9s,baz=70,slow=6.7,SNR=55
AAE Adis Abeba 87.87 279 *e*P P 17 53 50.9 +5.1
AAE *e*S **S** **18 04 30.6 +3.4**
DILA Dilla 87.90 277 *e*P P 17 53 50.9 +5.1
DILA *e*S **S** **18 04 28.9 +1.7**
FURI Furi 87.93 279 IAMs_20 IAMs_20 18 29 55.7
comp=Z,3μm,22.0s
GROC Groznyy 88.74 314 *e*P **P** **17 53 48.2 -0.6**
GROC *e*S **SKSac** **18 04 15.6 -0.1**
GROC pmax pmax
comp=Z,53nm,0.9s
GNI Garni 88.78 311 P **P** **17 53 47.6 -1.6**
comp=Z,5.4nm,0.6s,baz=64,slow=23,SNR=2.0
GNI S **S** **18 04 29.4 -5.0**
comp=Z,3.5nm,0.4s,baz=231,slow=18,SNR=1.6
GNI Garni 88.78 311 P **P** **17 53 49.6 +0.3**
SDPT Sand Point 89.08 33 P 17 53 50.0
baz=252
TNA Tin City 89.38 23 P 17 53 51.0
baz=245
BELG Belogornoye 89.92 323 P **P** **17 53 53.3 -0.8**
comp=Z,121nm,0.9s,baz=109,slow=1.8,SNR=32
BELG Belogornoye 89.92 323*c* *i*P **P** **17 53 53.1 -1.0**
BELG pmax pmax
comp=Z,23nm,0.9s
BELG MLR MLR
comp=Z,214nm,22.0s
ANM Nome 89.97 24 P 17 53 54.2
baz=247
ZEI Tsey 89.99 313 *e*P **P** **17 53 54.7 -0.3**
ZEI pmax pmax
comp=Z,34nm,1.3s

LODK **Lodwar** **90.27 273** IAMs_20 IAMs_20 18 29 54.0
comp=Z,2μm,22.0s
LODK **Lodwar** **90.27 273** P **P** **17 53 58.8 +2.0**
SNR=16
KIRV **Kirov** **90.69 330** P **P** **17 53 57.5 -0.1**
comp=Z,18nm,1.0s,baz=295,slow=5.0,SNR=7.7
KIRV S **SKSac** **18 04 26.4 +0.1**
comp=Z,2.7nm,0.5s,baz=248,slow=16,SNR=1.2
KBZ **Khabaz** **90.91 314** P **P** **17 53 59.3 +0.4**
comp=Z,32nm,0.8s,baz=122,slow=2.4,SNR=59
KBZ S **SKSac** **18 04 27.9 -0.4**
comp=Z,1.3nm,0.8s,baz=179,slow=4.2,SNR=1.8
KBZ LR LR 18 45 38.4
comp=Z,615nm,18.4s,baz=102,slow=43
KBZ **Khabaz** **90.91 314** *ce*P **P** **17 53 58.8 -0.1**
KBZ pmax pmax
comp=Z,34nm,0.9s
KVAR **Kislovodsk Arr** **91.10 314** P **P** **17 54 01.2 +1.2**
comp=Z,9.5nm,0.9s,baz=270,slow=20,SNR=3.4
KIV **Kislovodsk** **91.11 314** *i* P **P** **17 54 00.2 +0.2**
SNR=5.3
KIV **Kislovodsk** **91.11 314** *e*P **P** **17 54 00.0 0.0**
KIV *e* 17 57 38.1
KIV *e* 18 04 26.4
KIV pmax pmax
comp=Z,69nm,1.0s
KIV pmax pmax
comp=Z,388nm,4.2s
KIV MLR MLR
comp=Z,2μm,20.0s
KIV **Kislovodsk** **91.11 314** P **P** **17 53 59.2 -0.8**
KIV P **P** **17 53 59.2 -0.8**
SNAA **Sanae** **92.05 194** P **P** **17 54 06.3 +2.4**
RDOG **Red Dog Mine** **92.17 21** P 17 54 03.7
baz=250
SII **Sitkinak Islan** **92.81 33** P 17 54 07.2
baz=257
SOC **Sochi** **93.15 313** *e*P **P** **17 54 05.6 -3.7**
SOC *e* 17 57 50.4
SOC *e*PPP PPP 17 59 49.0
SOC *e*S **SKSac** **18 04 33.9 -7.1**
SOC pmax pmax
comp=Z,8.0nm,0.5s
VRH **Novokhopyorsk** **93.21 321** *e*P **P** **17 54 08.3 -1.1**
VRH *e*SP SP 18 06 28.5 +2.2
VRH pmax pmax
comp=Z,30nm,0.7s
VRH MLR MLR
comp=Z,2μm,22.0s
TAOE **Nuku Hiva Isla** **93.22 99** *e*LR LR 18 23 54.4
comp=Z,2μm,24.0s
PRGR **Permogore** **93.34 332** *e*P **P** **17 54 07.2 -2.5**
PRGR pmax pmax
comp=Z,43nm,1.0s
TTA **Tatalina** **93.41 27** P **P** **17 54 09.2 -1.0**
TTA pmax pmax
comp=Z,7.0nm,1.0s
TTA **Tatalina** **93.41 27** P **P** **17 54 09.2 -1.0**
TTA **Tatalina** **93.41 27** P 17 54 10.4
baz=256
OHAK **Old Harbor** **93.44 33** P 17 54 09.8
baz=258
OHAK **Old Harbor** **93.44 33** P **P** **17 54 06.2 -4.1**
KDAK **Kodiak Island** **93.93 32** P 17 54 12.6
baz=258
KDAK **Kodiak Island** **93.93 32** *c i*P **P** **17 54 13.2 +0.7**
KDAK pmax pmax
comp=Z,15nm,1.0s
KDAK MLR MLR
comp=Z,1μm,18.0s
KDAK **Kodiak Island** **93.93 32** P **P** **17 54 10.1 -2.5**
VNA3 **Neumayer Olymp** **93.96 193** P **P** **17 54 15.3 +2.7**
BOSA **Boshof** **93.98 240** P **P** **17 54 15.6 +1.8**
comp=Z,5.1nm,0.9s,baz=94,slow=2.6,SNR=8.5
BOSA LR LR 18 30 56.6
comp=Z,2μm,21.2s,baz=106,slow=32
GAZ **Gaziantep** **93.99 307** P **P** **17 54 11.0 -2.5**
GAZ IAmb IAmb 17 54 14.6
comp=Z,20nm,1.0s
GAZ IAMs_20 IAMs_20 18 40 44.4
comp=Z,2μm,22.0s
VNA1 **Neumayer--Stat** **94.05 194** P **P** **17 54 15.8 +2.9**
MBAR **Mbarara** **94.17 269** P **P** **17 54 17.4 +2.4**
MBAR P **P** **17 54 17.4 +2.4**
RSO **Redoubt South** **94.38 29** P **P** **17 54 10.8 -4.0**
GHAJ **Ghor Haditha** **94.46 301** P **P** **17 54 11.5 -4.1**
GHAJ IAmb IAmb 17 54 17.6
comp=Z,35nm,1.2s
VORD **Divnogorie** **94.67 321** *e*P **P** **17 54 15.0 -1.1**
VORD pmax pmax
comp=Z,30nm,0.8s
SPCR **Spurr Chakacha** **94.78 29** P 17 54 15.7
baz=259
VSR **Storozhevoye** **94.79 321** *e*P **P** **17 54 14.9 -1.8**
VSR *e*SP SP 18 06 43.7 0.0
VSR pmax pmax
comp=Z,40nm,0.8s
VSR MLR MLR
comp=Z,810nm,17.0s
CNPM **China Poot** **94.95 31** P **P** **17 54 16.2 -1.1**
ANN **Anapa** **94.97 314** *e*P **P** **17 54 15.5 -2.1**
ANN *e* 18 04 44.1
ANN pmax pmax
comp=Z,49nm,0.9s
IMAR **Indian Mountai** **95.06 24** P **P** **17 54 15.9 -1.6**
PPLA **Purkeypile** **95.11 27** P **P** **17 54 15.2 -2.9**
PPLA IAmb IAmb 17 54 26.4
comp=Z,22nm,1.2s
PPLA **Purkeypile** **95.11 27** P 17 54 17.4
baz=259
LPSR **Galich'ya Gora** **95.16 322** *e*P **P** **17 54 16.9 -1.4**
LPSR *e*SP SP 18 06 50.4 +2.8
LPSR pmax pmax
comp=Z,50nm,1.0s
CAPN **Captain Cook N** **95.21 29** IAMs_20 IAMs_20 18 39 22.6
comp=Z,1μm,20.0s
CAPN **Captain Cook N** **95.21 29** P 17 54 18.1
baz=260
BRSE **Bradley Lake S** **95.23 30** P 17 54 18.3
baz=260
A21K **Barrow** **95.24 18** P **P** **17 54 15.5 -2.8**
A21K IAmb IAmb 17 54 31.3
comp=Z,39nm,1.5s
A21K **Barrow** **95.24 18** P 17 54 17.8
baz=256
CHUM **Lake Minchumin** **95.24 26** P 17 54 17.8
baz=259
SKT **Skwentna** **95.24 28** P 17 54 17.5
baz=259
BNN **Bunyan** **95.30 308** P **P** **17 54 18.2 -1.3**
BNN IAmb IAmb 17 54 20.2
comp=Z,27nm,1.0s
H21K **Melozitna Rive** **95.37 24** P 17 54 18.9
baz=259
SUA **Susitna One** **95.52 29** P 17 54 18.8
baz=260
SUA **Susitna One** **95.52 29** P **P** **17 54 17.9 -2.1**
SUA IAmb IAmb 17 54 21.6
comp=Z,20nm,0.8s
FIS **Fire Island** **95.72 29** IAMs_20 IAMs_20 18 32 14.1
comp=Z,1μm,21.0s
KTH **Kantishna Hill** **95.79 27** P **P** **17 54 18.0 -3.1**
BPAW **Bear Paw Mtn.** **95.86 26** P 17 54 20.2
baz=260
BPAW **Bear Paw Mtn.** **95.86 26** P **P** **17 54 19.8 -1.5**
O22K **Cooper Landing** **95.86 30** IAMs_20 IAMs_20 18 32 30.7
comp=Z,2μm,22.0s
CUT **Chulitna** **95.90 28** IAMs_20 IAMs_20 18 33 09.9
comp=Z,2μm,22.0s
CUT **Chulitna** **95.90 28** P 17 54 20.6
baz=261
SEW **Seward** **95.93 30** P 17 54 21.0
baz=261
SEW **Seward** **95.93 30** P **P** **17 54 19.4 -2.3**
RC01 **Rabbit Creek A** **95.94 29** P **P** **17 54 18.7 -3.0**
RC01 IAMs_20 IAMs_20 18 34 33.9
comp=Z,2μm,22.0s
RC01 **Rabbit Creek A** **95.94 29** P 17 54 21.0
baz=261
TRF **Thorofare Moun** **96.06 27** P **P** **17 54 19.3 -3.1**
TRF **Thorofare Moun** **96.06 27** P 17 54 21.4
baz=261
KLMR **Klimovskoe** **96.08 331** *c i*P **P** **17 54 19.9 -2.4**
KLMR 17 58 22.4
KLMR S **SKSac** **18 04 51.3 -4.7**
KLMR SSS SSS 18 15 58.4
KLMR pmax pmax
comp=Z,29nm,0.8s
KLMR **Klimovskoe** **96.08 331** ⇑ *i*P **P** **17 54 19.9 -2.4**
KLMR ⇓ *i*P **P** **17 54 19.9 -2.4**
KLMR ⇓ *i*P **P** **17 54 19.9 -2.4**
KLMR AMP 17 54 22.3
comp=Z,29nm,0.8s
KLMR PP **PP** **17 58 22.5 +7.1**
KLMR S **SKSac** **18 04 51.3 -4.7**
KLMR S **SKSac** **18 04 51.3 -4.7**
KLMR SSS SSS 18 15 58.5
KLMR SSS SSS 18 15 58.5
KLMR LQ LQ 18 28 51.2
KLMR LQ LQ 18 28 51.2
KLMR LR LR 18 29 24.8
KLMR AMP 18 42 40.2
comp=Z,1μm,23.8s
MLY **Manley** **96.11 25** P 17 54 22.3
baz=260,SNR=11
MLY **Manley** **96.11 25** P **P** **17 54 20.4 -2.1**
PMR **Palmer** **96.31 29** P 17 54 22.6
baz=262
MOS **Moscow** **96.36 325** *e*P **P** **17 54 21.4 -2.3**
MOS *e* 17 58 13.6
MOS *e*PPP PPP 18 00 16.1
MOS *e* 18 04 50.5
MOS *e*SS SS 18 12 09.6 -5.0
MOS *e*SSS SSS 18 15 59.0
MOS pmax pmax
comp=Z,37nm,1.0s
GHO **Glory Hole Cre** **96.43 29** IAMs_20 IAMs_20 18 32 34.8
comp=Z,2μm,22.0s
BWN **Browne** **96.53 26** P **P** **17 54 22.2 -2.1**
BWN IAmb IAmb 17 54 33.2
comp=Z,18nm,0.9s
PWL **Port Wells** **96.59 29** P **P** **17 54 22.9 -1.8**
PWL IAmb IAmb 17 54 31.9
comp=Z,16nm,1.0s
PWL IAMs_20 IAMs_20 18 32 54.1
comp=Z,2μm,22.0s
KNK **Knik Glacier** **96.60 29** P **P** **17 54 23.5 -1.2**
KNK IAmb IAmb 17 54 39.6
comp=Z,20nm,0.9s
KNK IAMs_20 IAMs_20 18 35 07.4
comp=Z,2μm,21.0s
KNK **Knik Glacier** **96.60 29** P 17 54 24.1
baz=262,SNR=8.5
COLD **Coldfoot** **96.67 23** P **P** **17 54 24.8 -0.2**
COLD **Coldfoot** **96.67 23** P 17 54 24.7
baz=261,SNR=14
RND **Reindeer** **96.69 27** P **P** **17 54 23.4 -1.8**
RND pmax pmax
comp=Z,21nm,0.9s
RND MLR MLR
comp=Z,2μm,22.0s
RND **Reindeer** **96.69 27** P **P** **17 54 23.4 -1.8**
RND IAmb IAmb 17 54 32.8
comp=Z,21nm,0.9s
RND IAMs_20 IAMs_20 18 34 54.8
comp=Z,2μm,22.0s
MCK **McKinley** **96.70 27** P 17 54 23.9
baz=262
MCK **McKinley** **96.70 27** P **P** **17 54 23.6 -1.6**
MCK pmax pmax
comp=Z,11nm,0.9s
MCK MLR MLR
comp=Z,1μm,22.0s
MCK **McKinley** **96.70 27** P **P** **17 54 23.6 -1.6**
MCK IAmb IAmb 17 54 33.0
comp=Z,11nm,0.9s
I23K **Minto, Yukon-K** **96.71 25** P 17 54 24.4
baz=262,SNR=17
I23K **Minto, Yukon-K** **96.71 25** P **P** **17 54 24.6 -0.5**
I23K IAmb IAmb 17 54 28.3
comp=Z,17nm,1.1s
SML **Sawmill** **96.71 29** P 17 54 25.2
baz=262,SNR=6.7
H23K **Yukon River** **96.73 24** P 17 54 25.1
baz=262,SNR=9.4
WAT2 **Susitna Watana** **96.75 27** P 17 54 24.7
baz=262
NEA2 **Nenana** **96.75 26** P 17 54 23.9
baz=262
CSS **Mathiatis** **96.80 304** IAMs_20 IAMs_20 18 42 14.1
comp=Z,2μm,22.0s
OBN **Obninsk** **96.88 325** *c i*P **P** **17 54 24.8 -1.3**
OBN *e* 17 54 32.7
OBN *e**PP **pP** **17 54 37.2 +0.1**
OBN *e* 17 58 19.0
OBN *e*S **SKSac** **18 05 03.3 +3.0**
OBN *e* 18 05 47.8
OBN pmax pmax
comp=Z,39nm,0.9s
OBN MLR MLR
comp=Z,2μm,23.0s
OBN **Obninsk** **96.88 325** IAMs_20 IAMs_20 18 44 58.5
comp=Z,2μm,20.0s
WAT6 **Susitna Watana** **97.09 28** P 17 54 26.3
baz=263
BRTR **Keskin Array B** **97.11 309** P **P** **17 54 26.9 -0.8**
comp=Z,7.2nm,0.9s,baz=127,slow=5.4,SNR=30
BRTR PP PP 17 58 15.6 -8.5
comp=Z,2.3nm,1.0s,baz=110,slow=6.8,SNR=4.6
BRTR LR LR 18 44 10.3
comp=Z,1μm,20.7s,baz=111,slow=39
BRTR **Keskin Array B** **97.11 309** *i* P **P** **17 54 26.8 -0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR **Keskin Array B** **97.11 309** P **P** **17 54 25.7 -2.0**
BR131 **Keskin Array S** **97.11 309** P **P** **17 54 24.7 -3.0**
BR131 pmax pmax
comp=Z,12nm,0.9s
BR131 **Keskin Array S** **97.11 309** P **P** **17 54 24.6 -3.0**
BR131 IAmb IAmb 17 54 28.5
comp=Z,12nm,0.9s
BR131 **Keskin Array S** **97.11 309** P **P** **17 54 27.0 -0.8**
SNR=8.6
BR131 P **P** **17 54 27.0 -0.8**
SNR=8.6
TOLK **Toolik Lake Re** **97.11 22** P **P** **17 54 26.2 -0.7**
TOLK IAmb IAmb 17 54 53.5
comp=Z,21nm,1.4s
TOLK **Toolik Lake Re** **97.11 22** P 17 54 27.5
baz=262,SNR=9.6
MDM **Murphy Dome** **97.16 25** P **P** **17 54 24.2 -3.0**
WRH **Wood River Hil** **97.16 26** P **P** **17 54 25.0 -2.2**
GLI **Glacier Island** **97.19 30** P 17 54 26.7
baz=263
GLI **Glacier Island** **97.19 30** IAMs_20 IAMs_20 18 35 09.6
comp=Z,2μm,22.0s
CCB **Clear Creek Bu** **97.30 26** P **P** **17 54 25.5 -2.3**
TCOL **CIGO, UAF Yank** **97.31 25** P 17 54 28.9
baz=263
COLA **College** **97.31 25** P 17 54 28.2
baz=263
Q23K **Middleton Isla** **97.40 31** P 17 54 28.7
baz=264
H24K **Noodor Dome** **97.41 24** P 17 54 28.5
baz=263,SNR=16
HIN **Hinchinbrook I** **97.43 30** IAMs_20 IAMs_20 18 38 07.3
comp=Z,2μm,21.0s
FID **Port Fidalgo** **97.48 30** IAMs_20 IAMs_20 18 37 36.9
comp=Z,2μm,20.0s
POKR **Poker Plat Res** **97.51 25** P 17 54 29.9
baz=263
HDA **Harding Lake** **97.64 26** P **P** **17 54 26.9 -2.5**
HDA **Harding Lake** **97.64 26** P 17 54 28.0
baz=264
HDA P 17 54 28.0
baz=264
IL31 **97.71 26** P **P** **17 54 26.1 -3.5**
ILAR **Eielson Array** **97.71 26** P **P** **17 54 27.6 -2.1**
comp=Z,2.6nm,1.0s,baz=284,slow=4.3,SNR=13
ILAR PP **PP** **17 58 25.1 -2.8**
comp=Z,2.5nm,0.9s,baz=258,slow=6.8,SNR=5.6
ILAR PKKP **PKKPdf** **18 11 09.3 -1.0**
comp=Z,0.7nm,0.9s,baz=50,slow=1.4,SNR=4.6
ILAR LR LR 18 34 22.9
comp=Z,658nm,21.4s,baz=272,slow=33
ILAR **Eielson Array** **97.71 26** P **P** **17 54 26.7 -3.0**
ILAR **Eielson Array** **97.71 26** P **P** **17 54 26.7 -3.0**
M24K **Tolsona, Glenn** **97.76 28** P 17 54 30.4
baz=264
ANTO **Ankara** **97.77 309** IAMs_20 IAMs_20 18 44 01.4
comp=Z,2μm,22.0s
EYAK **Cordova Ski Ar** **97.81 30** P 17 54 30.6
baz=264
KLU **Klutina** **97.82 29** IAMs_20 IAMs_20 18 33 33.7
comp=Z,2μm,22.0s
KLU **Klutina** **97.82 29** P 17 54 30.2
baz=264
PAX **Paxson** **98.17 27** P **P** **17 54 30.3 -1.6**
PAX pmax pmax
comp=Z,13nm,1.3s
PAX **Paxson** **98.17 27** P **P** **17 54 30.2 -1.6**
PAX **Paxson** **98.17 27** P 17 54 31.9
baz=265
HARP **HAARP** **98.26 28** P 17 54 30.2
baz=265
PRP **Porcupine Dome** **98.35 25** P 17 54 33.2
baz=265
BMRM **Bremner River** **98.41 30** IAMs_20 IAMs_20 18 38 26.9
comp=Z,2μm,21.0s
BMRM **Bremner River** **98.41 30** P 17 54 32.2
baz=265
N25K **Chitina, Valde** **98.46 29** P **P** **17 54 31.6 -1.7**
N25K IAMs_20 IAMs_20 18 36 04.5
comp=Z,2μm,22.0s
N25K **Chitina, Valde** **98.46 29** P 17 54 33.6
baz=265
HMT **Hamilton** **98.53 30** IAMs_20 IAMs_20 18 38 42.4
comp=Z,2μm,21.0s
FYU **Fort Yukon** **98.55 24** P Pdif 17 54 34.5 +1.1
FYU IAmb IAmb 17 55 00.2
comp=Z,21nm,1.1s
SUCK **Suckling Hills** **98.76 30** IAMs_20 IAMs_20 18 34 14.3
comp=Z,2μm,22.0s
GLB **Gilahina Butte** **98.83 29** P **P** **17 54 30.7 -4.1**
GLB IAMs_20 IAMs_20 18 36 25.2
comp=Z,2μm,21.0s
DOT **Dot Lake** **98.85 27** P **P** **17 54 31.3 -3.5**
BMAR **Burnt Mountain** **98.86 23** P Pdif 17 54 34.8 0.0
SCRK **Sand Creek** **98.90 27** P **P** **17 54 34.5 -0.7**
SCRK **Sand Creek** **98.90 27** P 17 54 35.2
baz=266
LVZ **Lovozero** **98.91 337** IAMs_20 IAMs_20 18 46 09.7
comp=Z,2μm,20.0s
VRDI **Verde Repeater** **98.99 29** IAMs_20 IAMs_20 18 38 49.4
comp=Z,2μm,21.0s
BGLC **Bering Glacier** **99.00 30** P 17 54 35.2
baz=266
CRQE **Cirque** **99.14 30** P 17 54 36.7
baz=267
MCARA **McCarthy VSAT** **99.20 29** IAMs_20 IAMs_20 18 39 18.2
comp=Z,1μm,21.0s
MCARA **McCarthy VSAT** **99.20 29** P 17 54 36.4
baz=267
APA **Apatity** **99.37 337** ⇓ *i*P **Pdif** **17 54 24.4 -13**
APA *i* 18 05 14.0
APA *i* PS PS 18 08 21.0 +43
APA pmax pmax
comp=Z,10.0nm,1.2s
MESA **MESA** **99.67 30** P 17 54 39.3
baz=268
MESA **MESA** **99.67 30** IAMs_20 IAMs_20 18 40 00.6
comp=Z,2μm,22.0s
K27K **Chicken** **99.75 26** IAMs_20 IAMs_20 18 38 01.4
comp=Z,1μm,22.0s
YAH **Yahtse** **99.78 30** IAMs_20 IAMs_20 18 41 45.4
comp=Z,2μm,22.0s
GRNC **Granite Creek** **99.79 30** IAMs_20 IAMs_20 18 34 49.7
comp=Z,2μm,21.0s
L27K **Beaver Creek,** **99.83 27** P 17 54 38.7
baz=268,SNR=8.5
BARN **Barnard Glacie** **99.85 30** IAMs_20 IAMs_20 18 39 28.2
comp=Z,1μm,21.0s
CTG **Chitna Glacier** **100.00 30** P 17 54 40.5
baz=268
CTGM **Chitina Glacie** **100.00 30** IAMs_20 IAMs_20 18 39 20.3
comp=Z,1μm,20.0s
TABL **Table Mountain** **100.08 30** IAMs_20 IAMs_20 18 38 09.1
comp=Z,2μm,22.0s
EGAK **Eagle** **100.16 26** P 17 54 40.5
baz=269
PINM **Pinnacle** **100.52 31** P 17 54 42.8
baz=269
AKASG **Malin Array Be** **101.00 320** P **Pdif** **17 54 43.0 -1.6**
comp=Z,11nm,0.9s,baz=74,slow=4.6,SNR=27
AKASG PP **PP** **17 58 55.3 +2.0**
comp=Z,5.1nm,0.9s,baz=85,slow=6.1,SNR=7.0
AKASG PKiKP **PKiKP** **17 59 11.2 +1.3**
comp=Z,1.8nm,0.5s,baz=82,slow=2.2,SNR=9.7
AKASG **Malin Array Be** **101.00 320** P **Pdif** **17 54 42.9 -1.7**
AKASG **Malin Array Be** **101.00 320** Pdif **Pdif** **17 54 42.9 -1.7**
TIRR **Tirgusor** **101.34 313** IAMs_20 IAMs_20 18 43 26.6
comp=Z,2μm,21.0s
KEV **Kevo** **101.67 339** IAMs_20 IAMs_20 18 49 28.4
comp=Z,2μm,21.0s
MNK **Minsk** **101.86 324** *i* P **Pdif** **17 54 47.9 -0.5**
MNK *i* 17 59 02.6
MNK *i* PPP PPP 18 01 13.2
MNK *i* SS SS 18 13 40.5 +8.9
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,1μm,22.0s
MNK MLR MLR
comp=E,117nm,26.0s
MNK MLR MLR
comp=Z,1μm,22.0s
MNK **Minsk** **101.86 324** *i* P **Pdif** **17 54 47.9 -0.5**
comp=E,2.0nm,0.8s,baz=89
MNK *i* P **Pdif** **17 54 47.9 -0.5**
comp=N,15nm,0.7s
MNK *i* P **Pdif** **17 54 47.9 -0.5**
comp=Z,17nm,0.7s
MNK *i* pP **sPdif** **17 55 05.0 +1.5**
MNK *i* PP **PP** **17 59 02.6 +3.0**
MNK *i* PPP PPP 18 01 13.3
MNK *i* S 18 05 41.2
MNK *i* PS **PS** **18 08 12.5 +7.5**
MNK *i* SS **SS** **18 13 40.6 +8.9**
MNK *i* SSS SSS 18 17 35.4
MNK *i* LQ LQ 18 35 26.0
MNK *i* LR LR 18 38 27.7
MNK *i* LRM MLR 18 39 36.7
comp=N,1μm,21.9s
MNK *i* LRM MLR 18 41 47.9
comp=E,117nm,25.6s
MNK *i* LRM MLR 18 41 47.9
comp=Z,1μm,21.8s
HYT **Haines Junctio** **101.88 30** IAMs_20 IAMs_20 18 36 54.9
comp=Z,2μm,22.0s
ARA0 **ARCESS Array S** **102.22 339** *e*Pdif **Pdif** **17 54 48.8 -0.9**
ARCES **ARCESS Array S** **102.22 339** P **Pdif** **17 54 48.1 -1.5**
comp=Z,8.3nm,0.9s,baz=77,slow=5.5,SNR=14
ARCES PKiKP **PKiKP** **17 59 13.2 +1.6**
comp=Z,3.5nm,0.9s,baz=72,slow=1.5,SNR=7.8
NACGM **Naroch** **102.50 324** *i* PKP PKiKP 17 58 49.7 -23
FINES **FINESS Array B** **102.61 331** P **Pdif** **17 54 50.3 -1.2**
comp=Z,2.3nm,0.7s,baz=57,slow=7.0,SNR=7.4
FINES PKiKP **PKiKP** **17 59 14.5 +2.1**
comp=Z,5.9nm,0.9s,baz=105,slow=3.6,SNR=8.5
HAMF **Hammerfest** **102.71 340** *e*Pdif **Pdif** **17 54 51.0 -0.8**
INK **Inuvik** **103.01 22** P 17 54 53.0
baz=277
SPA0 **Spitsbergen Ar** **103.07 348** *e*Pdif **Pdif** **17 54 52.6 -0.8**
KTK1 **Kautokeino** **103.08 339** *e*Pdif **Pdif** **17 54 52.5 -1.0**
TSUM **Tsumeb** **103.08 248** IAMs_20 IAMs_20 18 46 15.8
comp=Z,1μm,19.0s
SIT **Sitka** **103.16 34** P 17 54 52.3
baz=272
WHY **Whitehorse** **103.17 30** P 17 54 55.3
baz=274
KBS **Kingsbay** **103.67 349** *e*Pdif **Pdif** **17 54 55.0 -0.9**
KBS **Kingsbay** **103.67 349** IAMs_20 IAMs_20 18 45 01.0
comp=Z,2μm,22.0s
IDI **Anoyia** **103.72 304** Pdiff **Pdif** **17 54 56.8 -0.4**
comp=Z,5.0nm,0.9s,baz=77,slow=6.9,SNR=5.5
IDI PKiKP **PKiKP** **17 59 18.4 +3.0**
comp=Z,12nm,1.0s,baz=84,slow=6.1,SNR=6.9
JETT **Jettan, Norway** **103.99 339** *e*Pdif **Pdif** **17 54 56.1 -1.5**
TRO **Tromso** **104.48 340** *e*Pdif **Pdif** **17 54 58.6 -1.1**
CRAG **Craig** **104.48 35** P 17 55 00.5
baz=274
SUW **Suwalki** **104.64 323** IAMs_20 IAMs_20 18 44 16.4
comp=Z,2μm,22.0s
VTS **Vitosha** **105.09 312** IAMs_20 IAMs_20 18 48 35.7
comp=Z,2μm,22.0s

C36M	**Paulatuk**	**106.16**	**20**	P			17 59 18.9			
	baz=286									
STEI	**Steigen**	**106.18**	**338**	*e*Pdif		**Pdif**	**17 55 06.2**	**-1.1**		
FAUS	**Fauske**	**106.31**	**338**	*e*Pdif		**Pdif**	**17 55 06.8**	**-1.1**		
LOF	**Lofoten**	**106.74**	**339**	*e*Pdif		**Pdif**	**17 55 09.3**	**-0.5**		
MOR8	**Moi Rana**	**106.95**	**337**	*e*Pdif		**Pdif**	**17 55 09.1**	**-1.7**		
OJC	**Ojcow**	**107.03**	**320**	IAMs_20	IAMs_20		18 48 04.2			
	comp=Z,2µm,22.0s									
OKC	**Ostrava-Krasne**	**108.13**	**319**	*e*P		**Pdif**	**17 55 15.4**	**-1.0**		
OKC				MLR	MLR					
	comp=Z,2µm,21.7s									
OKC	**Ostrava-Krasne**	**108.13**	**319**	*e*PDIFF		**Pdif**	**17 55 15.4**	**-1.0**		
OKC				*e*PP	PP		17 59 36.1	-10		
OKC				*e*SKS			18 05 26.8			
OKC				AMS	AMS		18 48 40.0			
	comp=Z,2µm,21.7s									
NSS	**Namsos**	**108.40**	**335**	*e*Pdif		**Pdif**	**17 55 16.4**	**-0.8**		
MORC	**Moravsky Berou**	**108.53**	**319**	*e*PKP		**PKiKP**	**17 59 26.4**	**+2.6**		
MORC	**Moravsky Berou**	**108.53**	**319**	IAMs_20	IAMs_20		18 49 12.7			
	comp=Z,2µm,21.0s									
JAVC	**Velka Javorina**	**108.56**	**318**	*e*PKP		**PKiKP**	**17 59 27.3**	**+3.4**		
KRLC	**Kraliky**	**108.98**	**320**	*e*P		**Pdif**	**17 55 20.3**	**+0.1**		
KRLC				*e*			18 05 50.3			
KRLC				MLR	MLR					
	comp=Z,2µm,23.4s									
KRLC	**Kraliky**	**108.98**	**320**	*e*PDIFF		**Pdif**	**17 55 20.3**	**+0.1**		
KRLC				*e*PKP		**PKiKP**	**17 59 26.9**	**+2.3**		
KRLC				*e*PP	PP		17 59 43.5	-8.9		
KRLC				*e*SKS		**SKSac**	**18 05 50.3**	**-7.2**		
KRLC				AMS	AMS		18 48 30.0			
	comp=Z,2µm,23.4s									
VRAC	**Vranov**	**109.20**	**319**	*e*PKP		**PKiKP**	**17 59 27.4**	**+2.4**		
DPC	**Dobruska-Polom**	**109.23**	**320**	*e*P		**Pdif**	**17 55 22.8**	**+1.4**		
DPC				*e*			17 59 49.6			
DPC				*e*			18 06 02.5			
DPC				MLR	MLR					
	comp=Z,2µm,22.8s									
DPC	**Dobruska-Polom**	**109.23**	**320**	*e*PDIFF		**Pdif**	**17 55 22.8**	**+1.4**		
DPC				*e*PKP		**PKiKP**	**17 59 27.1**	**+2.0**		
DPC				*e*PP		**PP**	**17 59 49.6**	**-4.7**		
DPC				*e*SKS		**SKSac**	**18 06 02.5**	**+3.9**		
DPC				AMS	AMS		18 48 00.0			
	comp=Z,2µm,22.8s									
OSTC	**Ostas**	**109.27**	**320**	*e*PDIFF		**Pdif**	**17 55 21.2**	**-0.3**		
OSTC				*e*PP	PP		17 59 39.8	-15		
OSTC				*e*SKS		**SKSac**	**18 06 04.3**	**+5.6**		
OSTC				AMS	AMS		18 48 00.0			
	comp=Z,2µm,22.4s									
CHVC	**Chvalec**	**109.36**	**320**	*e*PKP		**PKiKP**	**17 59 27.5**	**+2.2**		
CHVC				*e*PP	PP		17 59 47.1	-8.1		
CHVC				AMS	AMS		18 48 00.0			
	comp=Z,2µm,24.8s									
KRUC	**Moravsky**	**109.37**	**319**	*e*PKP		**PKiKP**	**17 59 27.6**	**+2.3**		
UPC	**Upice**	**109.40**	**320**	*e*PP		**PP**	**17 59 50.8**	**-4.7**		
UPC				AMS	AMS		18 48 10.0			
	comp=Z,2µm,24.5s									
NOA	**NORSAR Array B**	**109.74**	**332**	PKiKP		**PKiKP**	**17 59 27.5**	**+1.7**		
	comp=Z,2.6nm,0.7s,baz=270,slow=3.5,SNR=12									
CONA	**Conrad Observa**	**109.88**	**318**	*i* P		**PKiKP**	**17 59 28.6**	**+2.2**		
	comp=Z,3.0nm,0.7s									
CONA				*e*P		**PP**	**17 59 59.3**	**+0.2**		
	comp=Z,15nm,1.1s									
TREC	**Trest**	**109.92**	**319**	*e*P		**Pdif**	**17 55 26.1**	**+1.7**		
TREC				MLR	MLR					
	comp=Z,2µm,20.0s									
TREC	**Trest**	**109.92**	**319**	*e*PDIFF		**Pdif**	**17 55 26.1**	**+1.7**		
TREC				AMS	AMS		18 49 50.0			
	comp=Z,2µm,20.0s									
ARSA	**Arzberg**	**110.20**	**317**	*e*P		**PKiKP**	**17 59 29.1**	**+2.1**		
	comp=Z,5.4nm,0.9s									
ARSA				*i* P		**PP**	**18 00 00.1**	**-1.2**		
	comp=Z,10nm,1.1s									
RGN	**Rugen**	**110.28**	**325**	IAMs_20	IAMs_20		18 51 14.8			
	comp=Z,2µm,21.0s									
PVCC	**Panska Ves**	**110.31**	**320**	*e*PKP		**PKiKP**	**17 59 29.4**	**+2.3**		
PVCC				*e*PP	PP		17 59 53.3	-8.7		
PVCC				AMS	AMS		18 48 40.0			
	comp=Z,1µm,22.0s									
PRU	**Pruhonice**	**110.42**	**320**	*e*P		**Pdif**	**17 55 22.8**	**-3.8**		
PRU				MLR	MLR					
	comp=Z,2µm,22.7s									
PRU	**Pruhonice**	**110.42**	**320**	*e*PDIFF		**Pdif**	**17 55 22.8**	**-3.8**		
PRU				*e*PKP		**PKiKP**	**17 59 29.3**	**+2.0**		
PRU				*e*PP	PP		17 59 45.9	-17		
PRU				*e*SKS	SKSac		18 05 51.9	-12		
PRU				AMS	AMS		18 49 30.0			
	comp=Z,2µm,22.7s									
PRA	**Prague**	**110.47**	**320**	*e*PP		PP	17 59 54.5	-8.7		
PRA				AMS	AMS		18 49 20.0			
	comp=Z,2µm,23.0s									
SOKA	**Soboth**	**110.61**	**316**	*i* P		**PKiKP**	**17 59 30.0**	**+2.2**		
	comp=Z,15nm,1.1s,SNR=7.7									
SOKA				*e*P		**PP**	**18 00 02.0**	**-2.4**		
	comp=Z,11nm,1.2s									
BOJS	**Bojanci**	**110.62**	**315**	*i* PKiKP		**PKiKP**	**17 59 29.9**	**+2.1**		
BRG	**Berggiesshubel**	**110.64**	**321**	*ex*		x	17 59 05.2			
BRG				||Piff		**Pdif**	**17 55 30.0**	**+2.5**		
BRG				Amp			17 59 05.9			
	comp=Z,10.0nm,1.8s									
BRG				*ex*		x	17 59 30.0			
BRG				Amp			17 59 31.3			
	comp=Z,3.8nm,0.8s									
BRG	**Berggiesshubel**	**110.64**	**321**	PP		**PP**	**18 00 03.0**	**-1.4**		
BRG				*ex*		x	18 00 10.0			
BRG				Amp			18 00 12.1			
	comp=Z,5.1nm,0.9s									
BRG	**Berggiesshubel**	**110.64**	**321**	SS		SS	18 15 44.0	+13		
BRG				Amp			18 48 01.0			
	comp=Z,1.3nm,21.9s									
BRG				Amp			18 48 40.0			
	comp=E,0.5nm,19.1s									
BRG				Amp			18 48 40.0			
	comp=N,1.2nm,24.0s									
BRG	**Berggiesshubel**	**110.64**	**321**	*e*PKPdf		**PKiKP**	**17 59 29.6**	**+1.9**		
	baz=80,slow=1.9									
BRG				*e*PP		**PP**	**18 00 08.8**	**+4.5**		
	baz=78,slow=6.0									
CKRC	**Cesky Krumlov**	**110.76**	**319**	*e*PDIFF		**Pdif**	**17 55 26.3**	**-1.9**		
CKRC				*e*PKP		**PKiKP**	**17 59 30.0**	**+2.0**		
CKRC				*e*PP	PKiKP		17 59 38.6	+11		
CKRC				*e*SKS		**SKSac**	**18 06 01.4**	**-3.6**		
KONO	**Kongsberg**	**110.92**	**331**	IAMs_20	IAMs_20		18 51 55.8			
	comp=Z,2µm,22.0s									
MOA	**Molln**	**110.95**	**318**	*i* P		**PKiKP**	**17 59 31.1**	**+2.7**		
	comp=Z,3.7nm,0.9s									
MOA				*e*P		**PP**	**18 00 05.9**	**-0.8**		
	comp=Z,9.0nm,1.4s									
OBKA	**Obir**	**110.96**	**316**	*i* P		**PKiKP**	**17 59 30.6**	**+2.1**		
	comp=Z,7.5nm,0.9s									
OBKA				*i* P		**PP**	**18 00 05.1**	**-1.9**		
	comp=Z,13nm,1.0s									
FBE	**Freiberg**	**111.00**	**321**	*e*PKPdf		**PKiKP**	**17 59 30.8**	**+2.5**		
	baz=80,slow=1.9									
FBE				*e*PP		**PP**	**18 00 11.4**	**+4.5**		
	baz=78,slow=6.0									
CLL	**Collm**	**111.14**	**321**	*e*Pdif		**Pdif**	**17 55 24.0**	**-5.7**		
CLL				*i* PKiKP		**PKiKP**	**17 59 30.5**	**+1.9**		
	comp=Z,11nm,1.0s									
CLL				*e*(pPKiKP)			17 59 37.0			
CLL				*e*PP		**PP**	**18 00 09.0**	**+1.1**		
	comp=Z,12nm,1.1s									
CLL				*e*(PPP)			18 02 12.0			
CLL				*e*			18 03 42.0			
CLL				*e*SKSac		**SKSac**	**18 06 06.0**	**-0.3**		
CLL				*e*Sdif		**Sdif**	**18 07 40.0**	**-5.3**		
CLL				*e*PS		**PS**	**18 09 42.0**	**+2.3**		
CLL				*e*PKKPdf		**PKKPab**	**18 10 38.0**	**+3.3**		
CLL				*e*PPS	PPS		18 10 42.0			
CLL				*e*SS		**SS**	**18 15 36.0**	**-1.8**		
CLL				*e*SSS	SSS		18 19 42.0			
CLL				*e*			18 21 18.0			
CLL				*e*			18 24 48.0			
CLL				LmV			18 50 00.0			
	comp=Z,1µm,21.5s									
CLL	**Collm**	**111.14**	**321**	*i* PKIKP		**PKiKP**	**17 59 30.5**	**+1.9**		
CLL				*e*			17 59 37.0			
CLL				pmax	pmax					
	comp=Z,11nm,1.0s									
CLL	**Collm**	**111.14**	**321**	IAMs_20	IAMs_20		18 50 58.6			
	comp=Z,1µm,21.0s									
CLL	**Collm**	**111.14**	**321**	*e*PKPdf		**PKiKP**	**17 59 30.4**	**+1.9**		
	baz=80,slow=1.9									
CLL				*e*PP		**PP**	**18 00 11.5**	**+3.6**		
	baz=78,slow=6.0									
GEC2	**GERESS Array S**	**111.16**	**319**	IAMs_20	IAMs_20		18 50 44.1			
	comp=Z,2µm,21.0s									
GEC2	**GERESS Array S**	**111.16**	**319**	*e*PKPdf		**PKiKP**	**17 59 30.4**	**+1.5**		
	baz=80,slow=1.9									
GEC2				*e*PP		**PP**	**18 00 10.6**	**+2.4**		
	baz=78,slow=6.0									
GERES	**GERESS Array B**	**111.16**	**319**	Pdiff		**Pdif**	**17 55 33.5**	**+3.5**		
	comp=Z,0.3nm,0.6s,baz=90,slow=1.7,SNR=3.9									
GERES				PKiKP		**PKiKP**	**17 59 31.0**	**+2.1**		
	comp=Z,7.3nm,0.9s,baz=86,slow=1.7,SNR=21									
GERES	**GERESS Array B**	**111.16**	**319**	*i* PKIKP		**PKiKP**	**17 59 31.0**	**+2.1**		
KHC	**Kasperske Hory**	**111.19**	**319**	*e*P		**Pdif**	**17 55 32.1**	**+2.0**		
KHC				*e*			18 00 02.1			
KHC				*e*			18 06 07.6			
KHC				MLR	MLR					
	comp=Z,2µm,20.9s									
KHC	**Kasperske Hory**	**111.19**	**319**	*e*PDIFF		**Pdif**	**17 55 32.1**	**+2.0**		
KHC				*e*PKP		**PKiKP**	**17 59 31.1**	**+2.3**		
KHC				*e*PP		**PP**	**18 00 02.1**	**-6.3**		
KHC				*e*SKS		**SKSac**	**18 06 07.6**	**+0.9**		
KHC				AMS	AMS		18 50 20.0			
	comp=Z,2µm,20.9s									
PGC	**Sidney**	**111.26**	**41**	IAMs_20	IAMs_20		18 42 27.0			
	comp=Z,1µm,21.0s									
CADS	**Cadrg**	**111.56**	**316**	*i* PKiKP		**PKiKP**	**17 59 30.9**	**+1.3**		
CADS				*i* PP		**PP**	**18 00 09.8**	**-1.4**		
CADS				*e*SKSac		**SKSac**	**18 06 12.8**	**+4.4**		
CADS				*i*			18 06 28.9			
CADS				*e*			18 09 35.3			
CADS				*e*SS		**SS**	**18 15 48.0**	**+4.0**		
MYKA	**Terra Mystica**	**111.56**	**316**	*i* P		**PKiKP**	**17 59 31.4**	**+1.7**		
	comp=Z,4.6nm,1.2s									
WET	**Wettzell**	**111.64**	**319**	*e*PKPdf		**PKiKP**	**17 59 31.8**	**+2.1**		
	baz=80,slow=1.9									
TANN	**Tannenbergstha**	**111.65**	**321**	*e*PKPdf		**PKiKP**	**17 59 31.9**	**+2.2**		
	baz=80,slow=1.9									
TANN				*e*PP		**PP**	**18 00 14.8**	**+3.1**		
	baz=78,slow=6.0									
D03D	**Eldon**	**111.69**	**43**	P			17 59 28.4			
	baz=280									
KBA	**Koelnbreinsper**	**111.69**	**317**	*i* P		**PKiKP**	**17 59 31.4**	**+1.4**		
	comp=Z,10nm,1.2s									
I02D	**Swisshome**	**111.69**	**46**	P			17 59 27.5			
	baz=278									
NKC	**Novy Kostel**	**111.70**	**320**	*e*PP		PP	18 00 03.0	-9.0		
NKC				AMS	AMS		18 49 20.0			
	comp=Z,1µm,25.3s									
A04D	**Lummi Island**	**111.73**	**41**	P			17 59 28.9			
	baz=280									
WERN	**Wernitzgruen**	**111.73**	**320**	*e*PP		**PP**	**18 00 16.1**	**+3.8**		
	baz=78,slow=6.0									
WERD	**Werda**	**111.75**	**321**	*e*PKPdf		**PKiKP**	**17 59 30.9**	**+1.1**		
	baz=80,slow=1.9									
WERD				*e*PP		**PP**	**18 00 15.9**	**+3.6**		
	baz=78,slow=6.0									
GUNZ	**Gunzen**	**111.75**	**321**	*e*PKPdf		**PKiKP**	**17 59 31.7**	**+1.8**		
	baz=80,slow=1.9									
GUNZ				*e*PP		**PP**	**18 00 16.1**	**+3.8**		
	baz=78,slow=6.0									
J01E	**Myrtle Point**	**111.76**	**47**	P			17 59 27.4			
	baz=277									
PLN	**Plauen**	**111.83**	**321**	*e*PP		**PP**	**18 00 16.6**	**+3.6**		
	baz=78,slow=6.0									
ROTZ	**Rotzenmuhle**	**111.94**	**320**	*e*PP		**PP**	**18 00 17.4**	**+3.7**		
	baz=78,slow=6.0									
RJOB	**Jochberg**	**111.94**	**318**	*e*PKPdf		**PKiKP**	**17 59 31.7**	**+1.4**		
	baz=80,slow=1.9									
G03D	**McMinnville, O**	**111.95**	**45**	P			17 59 28.7			
	baz=278									
MANZ	**Manzenberg**	**111.96**	**320**	*e*PKPdf		**PKiKP**	**17 59 31.9**	**+1.6**		
	baz=80,slow=1.9									
MANZ				*e*PP		**PP**	**18 00 16.5**	**+2.6**		
	baz=78,slow=6.0									
FLTG	**Flechtingen**	**111.99**	**323**	*e*PKPdf		**PKiKP**	**17 59 31.5**	**+1.4**		
	baz=80,slow=1.9									
FLTG				*e*PP		**PP**	**18 00 16.5**	**+2.6**		
	baz=78,slow=6.0									
COR	**Corvallis**	**112.01**	**46**	IAMs_20	IAMs_20		18 44 03.7			
	comp=Z,2µm,20.0s									
A05A	**Maple Falls**	**112.08**	**41**	IAMs_20	IAMs_20		18 39 26.4			
	comp=Z,1µm,21.0s									
I03D	**Drain, OR**	**112.11**	**47**	P			17 59 28.6			
	baz=278									
L02E	**Cave Junction**	**112.13**	**48**	P			17 59 28.2			
	baz=277									
MOX	**Moxa**	**112.14**	**321**	*e*L		L	18 49 21.8			
	comp=Z,780nm,21.5s									
BSEG	**Bad Segeberg**	**112.14**	**325**	*e*PKPdf		**PKiKP**	**17 59 32.6**	**+2.3**		
	baz=80,slow=1.9									
YKA	**Yellowknife Ar**	**112.14**	**26**	PKiKP		**PKiKP**	**17 59 31.9**	**+1.7**		
	comp=Z,10nm,0.9s,baz=299,slow=1.6,SNR=14									
STAL	**STALIGIAL**	**112.26**	**316**	IAMs_20	IAMs_20		18 55 50.4			
	comp=Z,1µm,20.0s									
ABTA	**Abfaltersbach**	**112.31**	**317**	*e*P		**PKiKP**	**17 59 32.7**	**+1.6**		
	comp=Z,19nm,0.9s,SNR=9.5									
HUMO	**Hull Mountain**	**112.54**	**48**	IAMs_20	IAMs_20		18 39 59.3			
	comp=Z,1µm,22.0s									
GRF	**Grafenberg Arr**	**112.59**	**320**	*e*PKPdf		**PKiKP**	**17 59 34.0**	**+2.6**		
	baz=80,slow=1.9									
GRF				*e*L		L	18 51 19.6			
	comp=Z,884nm,22.0s									
TULEG	**Thule**	**112.59**	**3**	IAMs_20	IAMs_20		18 51 40.5			
	comp=Z,1µm,20.0s									
NRDL	**Niedersach Rie**	**112.62**	**323**	*e*PKPdf		**PKiKP**	**17 59 34.1**	**+2.8**		
	baz=80,slow=1.9									
NRDL				*e*PP		**PP**	**18 00 21.1**	**+2.7**		
	baz=78,slow=6.0									
CLZ	**Clausthal**	**112.62**	**322**	*e*PKPdf		**PKiKP**	**17 59 33.6**	**+2.1**		
	baz=80,slow=1.9									
CLZ				*e*PP		**PP**	**18 00 21.1**	**+2.5**		
	baz=78,slow=6.0									
H04A	**Detroit Lake**	**112.78**	**46**	IAMs_20	IAMs_20		18 44 39.7			
	comp=Z,1µm,21.0s									
WTTA	**Wattenberg**	**112.81**	**317**	*e*P		**PKiKP**	**17 59 34.4**	**+2.3**		
	comp=Z,39nm,1.1s,SNR=15									
WATA	**Walderalm**	**112.83**	**317**	*e*P		**PKiKP**	**17 59 34.1**	**+1.9**		
	comp=Z,24nm,1.1s,SNR=6.9									
YBH	**Yreka Blue Hor**	**112.84**	**49**	IAMs_20	IAMs_20		18 45 07.7			
	comp=Z,1µm,20.0s									
FUR	**Furstenfeldbru**	**112.87**	**318**	*e*PKPdf		**PKiKP**	**17 59 34.2**	**+2.2**		
	baz=80,slow=1.9									
HOPS	**Hopland Field**	**112.91**	**52**	IAMs_20	IAMs_20		18 46 25.7			
	comp=Z,2µm,20.0s									
WDC	**Whiskeytown Da**	**113.12**	**50**	IAMs_20	IAMs_20		18 51 38.5			
	comp=Z,1µm,19.0s									
TEOL	**Teolo**	**113.13**	**315**	IAMs_20	IAMs_20		18 54 22.4			
	comp=Z,1µm,22.0s									
MOTA	**Moosalm**	**113.14**	**317**	*e*P		**PKiKP**	**17 59 34.9**	**+2.1**		
	comp=Z,24nm,1.1s,SNR=7.9									
RETA	**Reutte**	**113.34**	**318**	*i* P		**PKiKP**	**17 59 35.0**	**+2.0**		
	comp=Z,8.0nm,1.2s									
FETA	**Feichten**	**113.46**	**317**	*e*P		**PKiKP**	**17 59 35.7**	**+2.3**		
	comp=Z,15nm,1.0s,SNR=6.3									
M04C	**Macdoel**	**113.48**	**49**	P			17 59 33.7			
	baz=278									
O03E	**Paynes Creek**	**113.72**	**50**	P			17 59 32.4			
	baz=278									
UBR	**Ueberruh**	**113.74**	**318**	*e*PKPdf		**PKiKP**	**17 59 35.3**	**+1.6**		
	baz=80,slow=1.9									
UBR				*e*PP		**PP**	**18 00 26.7**	**+0.1**		
	baz=78,slow=6.0									
MILB	**Miltenberg**	**113.77**	**320**	*e*PKPdf		**PKiKP**	**17 59 36.0**	**+2.3**		
	baz=80,slow=1.9									
PINE	**Pine Mountain**	**113.82**	**46**	IAMs_20	IAMs_20		18 43 49.0			
	comp=Z,1µm,21.0s									
KASTN	**Kahler Asten**	**113.97**	**322**	*e*PKPdf		**PKiKP**	**17 59 35.9**	**+1.8**		
	baz=80,slow=1.9									
DAVA	**Damuels**	**113.97**	**318**	*i* P		**PKiKP**	**17 59 36.7**	**+2.3**		
	comp=Z,40nm,1.1s,SNR=13									
B08A	**Colville Reser**	**114.00**	**41**	IAMs_20	IAMs_20		18 40 16.6			
	comp=Z,1µm,22.0s									
K05A	**Summer Lake**	**114.03**	**47**	IAMs_20	IAMs_20		18 42 45.1			
	comp=Z,1µm,20.0s									
F07A	**Phinny Hill Vi**	**114.13**	**44**	IAMs_20	IAMs_20		18 51 46.4			
	comp=Z,1µm,20.0s									
PRMA	**PARMA**	**114.19**	**315**	IAMs_20	IAMs_20		18 56 54.4			
	comp=Z,1µm,20.0s									
TNS	**Taunus Mts**	**114.20**	**321**	*e*PKPdf		**PKiKP**	**17 59 36.7**	**+2.1**		
	baz=80,slow=1.9									
VLC	**Villacollemand**	**114.25**	**314**	IAMs_20	IAMs_20		18 58 02.0			
	comp=Z,1µm,21.0s									
HAWA	**Hanford**	**114.30**	**43**	IAMs_20	IAMs_20		18 41 12.8			
	comp=Z,1µm,21.0s									
SAO	**San Andreas Ge**	**114.43**	**54**	IAMs_20	IAMs_20		18 54 24.0			
	comp=Z,1µm,18.0s									
AFDM	**Forest Hills D**	**114.54**	**52**	IAMs_20	IAMs_20		18 45 18.8			
	comp=Z,1µm,20.0s									
BUG	**Bochum--Univer**	**114.59**	**322**	*e*PKPdf		PKPdf	17 59 37.0	+1.9		
	baz=80,slow=1.9									
MOD	**Modoc Plateau**	**114.60**	**48**	IAMs_20	IAMs_20		18 48 56.6			
	comp=Z,1µm,19.0s									
BFO	**Black Forest**	**114.75**	**319**	IAMs_20	IAMs_20		18 51 01.2			
	comp=Z,1µm,22.0s									
BFO	**Black Forest**	**114.75**	**319**	*e*PKPdf	PKPdf		17 59 36.1	+0.4		
	baz=80,slow=1.9									
AHRW	**Bad Neuenahr-A**	**114.96**	**322**	*e*PKPdf	PKPdf		17 59 38.5	+2.6		
	baz=80,slow=1.9									
NEW	**Newport**	**115.45**	**41**	P			17 59 37.0			
	baz=285									
BTNL	**Ternell**	**115.53**	**322**	*d*pPKP		**PKPdf**	**17 59 38.3**	**+1.2**		
BTNL				*d*PP		**PP**	**18 00 39.5**	**+0.4**		
ECH	**Echery**	**115.54**	**319**	*e*PKPdf		**PKPdf**	**17 59 38.9**	**+1.7**		
	baz=80,slow=1.9									
MEM	**Membach**	**115.60**	**322**	*d*pPKP		**PKPdf**	**17 59 39.4**	**+2.3**		
MEM				*d*PP		**PP**	**18 00 35.1**	**-4.4**		
WVOR	**Wild Horse Val**	**115.72**	**47**	IAMs_20	IAMs_20		18 43 37.9			
	comp=Z,1µm,21.0s									
WLF	**Walferdange**	**115.78**	**321**	*d*pPKP		**PKPdf**	**17 59 40.6**	**+3.1**		
SENIN	**Lac Senin/Sane**	**115.91**	**317**	IAMs_20	IAMs_20		18 54 02.9			
	comp=Z,1µm,22.0s									
PKM	**Mcpherson Peak**	**115.96**	**56**	P			17 59 37.1			
	baz=276									
BCLA	**Clavier**	**116.08**	**322**	*d*pPKP		**PKiKP**	**17 59 40.1**	**+2.0**		
BMO	**Blue Mountains**	**116.16**	**45**	IAMs_20	IAMs_20		18 46 38.6			
	comp=Z,1µm,21.0s									
BGES	**Gesves**	**116.23**	**322**	*d*pPKP		**PKiKP**	**17 59 40.0**	**+1.6**		
BGES				*d*sPKP			17 59 44.1			
KEST	**Kesra**	**116.36**	**305**	PKP		**PKiKP**	**17 59 41.2**	**+2.1**		
	comp=Z,13nm,0.8s,baz=240,slow=1.0,SNR=12									
KEST				PP		**PP**	**18 00 49.1**	**+3.5**		
	comp=Z,22nm,1.2s,baz=103,slow=4.0,SNR=5.7									
KEST	**Kesra**	**116.36**	**305**	IAMs_20	IAMs_20		18 55 26.5			
	comp=Z,2µm,19.0s									
SNCC	**San Nicolas Is**	**116.38**	**58**	P			17 59 35.8			
	baz=276									
VES	**Vestal, Richgr**	**116.44**	**55**	P			17 59 35.9			
	baz=277									
BMRD	**Maredsous**	**116.45**	**322**	*d*pPKP		**PKiKP**	**17 59 41.2**	**+2.4**		
BMRD				*d*PP		**PP**	**18 00 44.0**	**-1.5**		
UCC	**Uccle**	**116.54**	**322**	IAMs_20	IAMs_20		18 56 55.4			
	comp=Z,1µm,20.0s									
DOU	**Dourbes**	**116.61**	**322**	*d*pPKP		**PKiKP**	**17 59 41.3**	**+2.2**		
BNI	**Bardonecchia**	**116.64**	**316**	IAMs_20	IAMs_20		18 55 06.5			
	comp=Z,2µm,22.0s									
SNF	**Seneffe**	**116.68**	**322**	*d*pPKP		**PKiKP**	**17 59 41.1**	**+1.9**		
SNF				*d*sPKP			17 59 46.0			
SNF				*d*PP		**PP**	**18 00 44.7**	**-2.4**		
NVAR	**Mina Array Bea**	**116.68**	**52**	PKP		**PKiKP**	**17 59 43.0**	**+3.0**		
	comp=Z,6.8nm,0.9s,baz=248,slow=2.0,SNR=22									
NVAR				Pdiff		**Pdif**	**17 56 06.4**	**+11**		
	comp=Z,0.9nm,0.9s,baz=258,slow=5.9,SNR=5.5									
TIN	**Tinemaha, Big**	**116.95**	**53**	P			17 59 39.8			
	baz=278									
ISA	**Isabella, Lake**	**116.95**	**55**	IAMs_20	IAMs_20		18 54 08.8			
	comp=Z,1µm,18.0s									
CWC	**Cottonwood Cre**	**117.16**	**54**	P			17 59 40.4			
	baz=278									
PASC	**Pasadena Art C**	**117.39**	**56**	IAMs_20	IAMs_20		18 51 18.4			
	comp=Z,2µm,18.0s									
EDW2	**Edwards Air Fo**	**117.45**	**56**	P			17 59 42.6			
	baz=277,SNR=15									
MFID	**Camas Ranch**	**117.53**	**46**	IAMs_20	IAMs_20		18 51 58.2			
	comp=Z,1µm,19.0s									
LRMC	**Laurel Mtn Rad**	**

baz=290
DYA Yadsworthy 121.56 324 eP PKiKP 17 59 50.2 +1.4
HTL Hartland 121.63 325 eP PKiKP 17 59 49.9 +1.0
BW06 Boulder Array 122.12 45 IAMs_20 IAMs_20 18 50 42.3
comp=Z,1µm,20.0s
BW06 Boulder Array 122.12 45 P 17 59 51.6
baz=288
PDAR Pinedale Array 122.12 45 PKP PKiKP 17 59 52.5 +2.0
comp=Z,12nm,0.9s,baz=218,slow=1.7,SNR=46
214A Organ Pipe Nat 122.17 58 IAMs_20 IAMs_20 18 52 42.7
comp=Z,1µm,20.0s
214A Organ Pipe Nat 122.17 58 P 17 59 50.9
baz=279
SFJD Kangerlussuaq 122.53 358 IAMs_20 IAMs_20 19 00 22.6
comp=Z,995nm,21.0s
WUAZ Wupatki 122.68 54 IAMs_20 IAMs_20 18 49 29.3
comp=Z,1µm,21.0s
WUAZ Wupatki 122.68 54 P 17 59 52.4
baz=282,SNR=14
LAO LASA Array 122.95 40 IAMs_20 IAMs_20 18 45 51.8
comp=Z,1µm,22.0s
LAO LASA Array 122.95 40 P 17 59 53.9
baz=293
DGMT Dagmar 123.44 37 P 17 59 54.9
baz=296
TUC Tucson 123.80 57 IAMs_20 IAMs_20 18 53 54.9
comp=Z,1µm,19.0s
TUC Tucson 123.80 57 P 17 59 55.9
baz=280
O20A White River Ci 123.88 48 IAMs_20 IAMs_20 18 54 34.6
comp=Z,1µm,19.0s
O20A White River Ci 123.88 48 P 17 59 55.2
baz=287
W18A Petrified Fore 124.07 54 IAMs_20 IAMs_20 18 55 39.2
comp=Z,2µm,19.0s
W18A Petrified Fore 124.07 54 P 17 59 56.4
baz=283,SNR=5.4
RWWY Rawlins 124.12 46 IAMs_20 IAMs_20 18 49 54.7
comp=Z,2µm,21.0s
CART Cartagena 124.14 309 IAMs_20 IAMs_20 19 00 22.7
comp=Z,1µm,21.0s
HSIG 124.21 61 IAMs_20 IAMs_20 18 51 32.0
comp=Z,1µm,20.0s
K22A Casper 124.27 44 P 17 59 57.0
baz=290
TOC3 Torodi Ar. Sit 124.43 279 IAMs_20 IAMs_20 18 50 39.2
comp=Z,1µm,20.0s
TOC2 Torodi Ar. Sit 124.43 279 IAMs_20 IAMs_20 18 50 38.2
comp=Z,1µm,20.0s
TOB3 Torodi Ar. Sit 124.45 279 IAMs_20 IAMs_20 18 51 10.6
comp=Z,1µm,20.0s
TOC1 Torodi Ar. Sit 124.45 279 IAMs_20 IAMs_20 18 51 20.7
comp=Z,2µm,21.0s
TOC4 Torodi Ar. Sit 124.45 279 IAMs_20 IAMs_20 18 51 10.7
comp=Z,1µm,20.0s
TOA2 Torodi Ar. Sit 124.45 279 IAMs_20 IAMs_20 18 51 20.7
comp=Z,1µm,21.0s
TOA0 Torodi Ar. Sit 124.46 279 IAMs_20 IAMs_20 18 50 40.8
comp=Z,1µm,20.0s
TORD Torodi Ar. Bea 124.46 279 PKP PKiKP 17 59 56.0 +0.5
comp=Z,13nm,0.8s,baz=68,slow=1.4,SNR=38
TOA3 Torodi Ar. Sit 124.46 279 IAMs_20 IAMs_20 18 51 10.9
comp=Z,1µm,20.0s
TOB1 Torodi Ar. Sit 124.46 279 IAMs_20 IAMs_20 18 50 39.9
comp=Z,1µm,20.0s
TOB4 Torodi Ar. Sit 124.47 279 IAMs_20 IAMs_20 18 50 41.1
comp=Z,1µm,20.0s
TOB5 Torodi Ar. Sit 124.47 279 IAMs_20 IAMs_20 18 50 40.2
comp=Z,1µm,20.0s
TOC7 Torodi Ar. Sit 124.47 279 IAMs_20 IAMs_20 18 50 40.3
comp=Z,1µm,20.0s
TOC5 Torodi Ar. Sit 124.47 279 IAMs_20 IAMs_20 18 50 51.3
comp=Z,1µm,20.0s
MVCO Mesa Verde 124.52 51 IAMs_20 IAMs_20 18 51 20.1
comp=Z,1µm,21.0s
MVCO Mesa Verde 124.52 51 P 17 59 57.3
baz=285,SNR=6.9
SMCO Snowmass 125.10 49 IAMs_20 IAMs_20 18 55 48.6
comp=Z,1µm,20.0s
N23A Red Feather La 125.29 46 P 17 59 59.0
baz=290
LL02 Futaleuf 125.31 165 IAMs_20 IAMs_20 18 55 43.7
comp=Z,2µm,20.0s
RSSD Black Hills 125.39 42 IAMs_20 IAMs_20 18 52 20.3
comp=Z,1µm,21.0s
RSSD Black Hills 125.39 42 P 17 59 57.8
baz=294
PHWY Pilot Hill 125.49 46 IAMs_20 IAMs_20 18 50 15.9
comp=Z,1µm,19.0s
S22A 4UR Ranch, Cre 125.64 50 P 17 59 58.7
baz=287,SNR=27
ESDC Sonseca Array 125.73 312 PKP PKiKP 17 59 59.5 +2.0
comp=Z,18nm,1.0s,baz=18,slow=3.0,SNR=60
ESDC PP PP 18 01 48.0 -1.4
comp=Z,6.8nm,1.1s,baz=63,slow=6.9,SNR=4.9
ISCO Idaho Springs 125.90 47 IAMs_20 IAMs_20 18 52 16.7
comp=Z,1µm,21.0s
ISCO Idaho Springs 125.90 47 P 17 59 59.7
baz=289
121A Cookes Peak, D 126.24 57 P 18 00 00.5
baz=283,SNR=9.2
MDND Maddock 126.44 36 IAMs_20 IAMs_20 18 54 58.3
comp=Z,925nm,21.0s
MDND Maddock 126.44 36 P 17 59 59.8
baz=300
Q24A Divide 126.51 48 P 17 59 59.7
baz=289
Y22D IRIS PASSCAL I 126.58 55 IAMs_20 IAMs_20 18 49 20.9
comp=Z,2µm,21.0s
SDCO Great Sand Dun 126.64 50 IAMs_20 IAMs_20 18 53 05.6
comp=Z,1µm,20.0s
SDCO Great Sand Dun 126.64 50 P 18 00 01.4
baz=288,SNR=30
ANMO Albuquerque 126.72 53 IAMs_20 IAMs_20 18 57 06.3
comp=Z,1µm,19.0s
ANMO Albuquerque 126.72 53 P 18 00 01.2
baz=285
PBRG Braganca 126.93 316 ePKPdf PKiKP 18 00 02.0 +2.2
ULM Lac du Bonnet 127.19 32 PKP PKiKP 18 00 00.8 +0.8
comp=Z,28nm,0.8s,baz=302,slow=3.3,SNR=21
MVO Moncorvo 127.38 315 ePKPdf PKiKP 18 00 03.3 +2.6
EPT El Paso 127.47 57 IAMs_20 IAMs_20 18 50 47.3
comp=Z,960nm,20.0s
T25A Trinidad 127.66 50 IAMs_20 IAMs_20 18 53 16.1
comp=Z,1µm,20.0s
T25A Trinidad 127.66 50 P 18 00 01.8
baz=288,SNR=15
PLCA Paso Flores 127.95 165 PKP PKiKP 18 00 03.6 +1.6
comp=Z,5.5nm,1.0s,baz=164,slow=5.2,SNR=3.2
OGNE Ogallala 128.02 45 IAMs_20 IAMs_20 18 59 07.0
comp=Z,926nm,20.0s
OGNE Ogallala 128.02 45 P 18 00 02.1
baz=293
MTE Manteigas 128.04 314 ePKPdf PKiKP 18 00 04.9 +2.8
PMRV Marv??o 128.30 313 ePKPdf PKiKP 18 00 05.0 +2.5
D32A Dogwood Acres, 128.31 36 IAMs_20 IAMs_20 18 52 44.3
comp=Z,1µm,19.0s
AGMN Agassiz Nation 128.32 34 P 18 00 03.7
baz=304
KSCO Kaye Shedlock' 128.34 47 IAMs_20 IAMs_20 18 54 07.1
comp=Z,1µm,22.0s
KSCO Kaye Shedlock' 128.34 47 P 18 00 03.8
baz=291
MNTX Cornudas Mount 128.41 57 IAMs_20 IAMs_20 18 55 27.1
comp=Z,1µm,20.0s
MNTX Cornudas Mount 128.41 57 P 18 00 04.2
baz=284
SFS San Fernando 128.45 309 IAMs_20 IAMs_20 19 06 30.7
comp=Z,1µm,20.0s
PBAR Barrancos 128.50 312 ePKPdf PKiKP 18 00 05.4 +2.5
SUSD Miller 128.52 40 IAMs_20 IAMs_20 18 49 05.7
comp=Z,1µm,22.0s
SUSD Miller 128.52 40 P 18 00 03.7
baz=298
PESTR Estremoz 128.65 313 ePKPdf PKiKP 18 00 05.5 +2.2
COI Coimbra 128.72 315 IAMs_20 IAMs_20 19 05 59.4
comp=Z,927nm,21.0s
PCAS Casmilo, Conde 128.85 314 ePKPdf PKiKP 18 00 06.1 +2.5
PMTG Montargil 129.03 313 ePKPdf PKiKP 18 00 06.0 +2.0
EVO Evora 129.08 312 ePKPdf PKiKP 18 00 07.0 +2.9
HPIG 129.15 63 IAMs_20 IAMs_20 18 56 38.0
comp=Z,1µm,18.0s
PVAQ Vaqueiros 129.28 311 ePKPdf PKiKP 18 00 07.3 +2.8
F33A 5 Mile Ranch, 129.43 37 IAMs_20 IAMs_20 18 48 51.3
comp=Z,1µm,22.0s
PCVE Castro Verde 129.43 311 ePKPdf PKiKP 18 00 07.7 +2.9
B35A Bob, Littlefor 129.44 33 IAMs_20 IAMs_20 19 02 13.2
comp=Z,968nm,19.0s
MESJ Messejana 129.49 312 ePKPdf PKPdf 18 00 00.8 -3.4
MESJ IAMs_20 IAMs_20 19 00 42.7
comp=E,1µm,23.7s
MESJ Messejana 129.49 312 ePKIKP PKPdf 18 00 00.6 -3.6
PBDV Barranco-do-Ve 129.49 311 ePKPdf PKiKP 18 00 08.3 +3.3
K31A O'Neill 129.51 41 IAMs_20 IAMs_20 18 54 28.9
comp=Z,1µm,20.0s
PNCL Nicolau / Gran 129.62 312 ePKPdf PKiKP 18 00 08.0 +2.8
LIS Lisbon 129.84 313 ePKPdf PKPdf 18 00 01.4 -3.4
LIS Lisbon 129.84 313 ePKIKP PKPdf 18 00 01.4 -3.4
PMAFR Mafra 129.84 313 ePKPdf PKiKP 18 00 08.8 +3.2
MSTX Mulehoe 129.91 53 P 18 00 05.8
baz=287,SNR=10
PFVI Vila Bisbo 130.20 311 ePKPdf PKiKP 18 00 09.2 +2.8
PFVI Vila Bisbo 130.20 311 IAMs_20 IAMs_20 19 04 08.3
comp=Z,1µm,21.0s
KIC Kosan Boka 130.23 270 eP PKiKP 18 00 09.7 +2.6
comp=Z,54nm,1.4s
ECSD EROS Data Cent 130.34 39 IAMs_20 IAMs_20 18 55 49.2
comp=Z,1µm,21.0s
ECSD EROS Data Cent 130.34 39 P 18 00 06.4
baz=300,SNR=22
DBIC Dimbokro 130.38 271 PKP PKiKP 18 00 09.8 +2.4
comp=Z,5.5nm,0.5s,baz=80,slow=2.0,SNR=9.4
DBIC SKPbc SKPbc 18 03 31.3 +3.8
comp=Z,22nm,1.2s,baz=72,slow=18,SNR=4.4
TXAR Lajitas Array 130.40 60 PKhKP PKPpre 17 59 55.5
comp=Z,1.0nm,1.0s,baz=325,slow=1.5,SNR=5.5
TXAR PKP PKiKP 18 00 08.6 +1.5
comp=Z,2.8nm,0.7s,baz=181,slow=2.8,SNR=19
TXAR SKPbc SKPbc 18 03 33.1 +5.9
comp=Z,7.3nm,0.9s,baz=254,slow=4.1,SNR=12
TXAR Lajitas Array 130.40 60 PKPpre 17 59 52.2
BGNE Belgrade 130.47 43 IAMs_20 IAMs_20 18 55 23.8
comp=Z,1µm,20.0s
BGNE Belgrade 130.47 43 P 18 00 06.7
baz=297,SNR=7.6
AMTX Amarillo 130.48 52 P 18 00 07.4
baz=289
LIC Lamto 130.49 270 eP PKiKP 18 00 12.4 +4.8
comp=Z,95nm,1.7s
CBKS Cedar Bluff 130.49 46 IAMs_20 IAMs_20 18 53 36.4
comp=Z,1µm,20.0s
CBKS Cedar Bluff 130.49 46 P 18 00 06.9
baz=294,SNR=5.9
TIC Toumodi 130.54 271 eP PKiKP 18 00 10.3 +2.6
EYMN Ely 130.87 32 IAMs_20 IAMs_20 18 50 25.6
comp=Z,820nm,20.0s
EYMN Ely 130.87 32 P 18 00 06.7
baz=309
F36A Milaca 131.02 35 IAMs_20 IAMs_20 18 54 47.1
comp=Z,1µm,22.0s
L34A Svendsen Farm, 131.37 41 IAMs_20 IAMs_20 18 50 53.7
comp=Z,1µm,22.0s
SPMN Marine on St. 131.81 36 P 18 00 08.7
baz=305
I37A Lemond, Waseca 132.15 37 IAMs_20 IAMs_20 18 54 36.2
comp=Z,1µm,21.0s
OK032 Sad Plains WL 132.41 48 IAMs_20 IAMs_20 18 47 05.6
comp=Z,950nm,21.0s
KSU1 Kansas State U 132.57 45 IAMs_20 IAMs_20 19 01 32.9
comp=Z,1µm,19.0s
KSU1 Kansas State U 132.57 45 P 18 00 11.6
baz=297
WMOK Wichita Mounta 132.77 51 PKHKP PKPpre 17 59 58.8
WMOK MLR MLR
comp=Z,1µm,19.0s
WMOK Wichita Mounta 132.77 51 PKPpre 17 59 58.8
WMOK Wichita Mounta 132.77 51 IAMs_20 IAMs_20 19 01 05.6
comp=Z,1µm,19.0s
WMOK Wichita Mounta 132.77 51 P 18 00 11.7
baz=291,SNR=7.8
ABTX Abilene, Hawle 132.82 54 IAMs_20 IAMs_20 19 05 25.4
comp=Z,1µm,19.0s
ABTX Abilene, Hawle 132.82 54 P 18 00 12.7
baz=289
G40A Rib Lake 133.25 34 PKPpre 18 00 05.6
JCT Junction City 133.35 57 IAMs_20 IAMs_20 19 04 51.9
comp=Z,1µm,18.0s
JCT Junction City 133.35 57 P 18 00 13.7
baz=286
SCIA State Center 133.42 40 P 18 00 11.5
baz=302
T35A Sooner Cattle 133.60 47 IAMs_20 IAMs_20 18 55 33.1
comp=Z,1µm,20.0s
OK031 S. Brethren Rd 133.77 49 IAMs_20 IAMs_20 19 07 28.9
comp=Z,1µm,19.0s
SCHQ Schefferville 133.83 10 PKhKP PKPpre 18 00 03.4
comp=Z,6.0nm,1.0s,baz=280,slow=3.6,SNR=3.8
SCHQ PKP PKiKP 18 00 14.2 +1.0
comp=Z,7.3nm,0.5s,baz=158,slow=0.5,SNR=13
E43A Lone Tree Farm 134.22 31 PKPpre 18 00 07.9
833A Chaparral WMA, 134.29 60 P 18 00 15.1
baz=285
P38A Dawn 134.41 42 IAMs_20 IAMs_20 19 01 29.6
comp=Z,1µm,20.0s
TUL1 Leonard 134.56 48 P 18 00 15.4
baz=295,SNR=5.3
JFWS Jewell Farm 134.66 37 PKIKP PKPpre 18 00 08.0
JFWS Jewell Farm 134.66 37 PKPpre 18 00 08.0
JFWS Jewell Farm 134.66 37 P 18 00 14.0
baz=306,SNR=14
WHTX Lake Whitney, 134.78 54 P 18 00 16.9
baz=290
I42A Draeger Farm, 134.82 35 PKPpre 18 00 09.8
435B Jarrell 135.08 56 IAMs_20 IAMs_20 19 02 45.6
comp=Z,1µm,20.0s
435B Jarrell 135.08 56 P 18 00 16.6
baz=288
MATQ Matagami 135.67 21 P 18 00 18.3
baz=327
R40A Maddies Statio 135.94 43 PKPpre 18 00 10.6
W39A Magazine 136.34 48 P 18 00 19.4
baz=296,SNR=9.5
L44A Lake County Fo 136.47 36 P 18 00 18.8
baz=308
U40A Yellville 136.48 46 IAMs_20 IAMs_20 18 56 27.8
comp=Z,1µm,20.0s
U40A Yellville 136.48 46 P 18 00 18.1
baz=298,SNR=13
LSQQ Lebel-sur-Quev 136.49 21 P 18 00 18.3
baz=327
GLMI Grayling 136.50 31 P 18 00 18.9
baz=314
MGMO Mountain Grove 136.51 45 PKPpre 18 00 07.0
MGMO IAMs_20 IAMs_20 18 59 05.1
comp=Z,1µm,21.0s
CHGQ Chibougamau 136.62 18 P 18 00 18.1
baz=331
HDIL Hopedale 136.63 39 PKPpre 18 00 02.5
HDIL Hopedale 136.63 39 P 18 00 19.6
baz=306
CCM Cathedral Cave 136.75 43 IAMs_20 IAMs_20 18 59 38.0
comp=Z,1µm,21.0s
MIAR Mount Ida 136.78 49 P 18 00 19.8
baz=296
P43A Skeggs, Pawnee 137.01 40 IAMs_20 IAMs_20 19 12 44.5
comp=Z,1µm,20.0s
NATX Nacogdoches 137.08 53 P 18 00 20.8
baz=292
FVM French Village 137.34 43 IAMs_20 IAMs_20 18 59 47.1
comp=Z,1µm,20.0s
X40A Basin Creek Fa 137.36 49 P 18 00 19.7
baz=296
W41B Gary Mavity, V 137.47 47 P 18 00 20.1
baz=298
Z41A Richland Creek 137.92 50 P 18 00 19.9
baz=295
SFIN Lafayette 138.07 37 P 18 00 21.7
baz=308
OLIL Olney 138.44 40 PKPpre 18 00 04.8
PARMO Parma 138.49 44 IAMs_20 IAMs_20 18 59 23.6
comp=Z,966nm,20.0s
N47A Urbana 138.58 36 PKPpre 18 00 14.1
ALGO Algonquin Park 138.65 24 P 18 00 21.8
baz=324
HENM Henderson Moun 138.66 44 IAMs_20 IAMs_20 18 59 38.5
comp=Z,1µm,20.0s
PENMO Penman 138.69 44 IAMs_20 IAMs_20 19 11 35.4
comp=Z,1µm,19.0s
D55A Sainte-Anne-du 138.76 21 P 18 00 22.3
baz=328
AAM Ann Arbor 138.76 33 IAMs_20 IAMs_20 18 59 11.3
comp=Z,1µm,22.0s
HICK Hickman 138.91 44 IAMs_20 IAMs_20 19 00 06.8
comp=Z,1µm,22.0s
D56A ZEC Mazanza, M 138.98 21 P 18 00 21.7
baz=329
E55A Montcerf-Lytto 139.02 22 P 18 00 22.6
baz=327
G54A Lake Saint Pet 139.08 25 P 18 00 23.7
baz=323
BLO Bloomington 139.16 39 IAMs_20 IAMs_20 19 00 10.4
comp=Z,1µm,21.0s
E56A St. Veronique 139.32 21 P 18 00 23.7
baz=328
H53A Bobcaygeon 139.53 26 P 18 00 23.2
baz=322
D58A Chemin du LacG 139.57 19 P 18 00 22.7
baz=332,SNR=8.6
P48A Milroy 139.65 37 IAMs_20 IAMs_20 19 07 22.3
comp=Z,962nm,21.0s
PLVO Plevna 139.79 24 PKPdf PKPpre 18 00 15.4
OXF Oxford 139.84 46 PKHKP PKPpre 18 00 17.0
OXF MLR MLR
comp=Z,1µm,19.0s
OXF Oxford 139.84 46 PKPdf PKPpre 18 00 17.0
OXF IAMs_20 IAMs_20 19 06 16.2
comp=Z,1µm,19.0s
OXF Oxford 139.84 46 P 18 00 23.2
baz=300
WCI Wyandotte Cave 139.88 40 P 18 00 23.3
baz=307
P49A Miami Univ. Ec 140.02 37 PKPdf PKPpre 18 00 14.9
P49A Miami Univ. Ec 140.02 37 P 18 00 24.0
baz=310,SNR=6.1
Y45A Yeager Farm, C 140.06 47 IAMs_20 IAMs_20 19 01 04.0
comp=Z,1µm,20.0s
F57A Harrington 140.07 22 P 18 00 24.4
baz=328
E58A La Victoria 140.08 20 P 18 00 22.7
baz=331
WVT Waverly 140.09 43 PKHKP PKPpre 18 00 16.4
WVT MLR MLR
comp=Z,1µm,20.0s
WVT Waverly 140.09 43 PKPdf PKPpre 18 00 16.4
WVT Waverly 140.09 43 IAMs_20 IAMs_20 19 00 40.3
comp=Z,1µm,20.0s
T47A Sharon Grove 140.09 42 PKPpre 18 00 11.1
WVT Waverly 140.09 43 P 18 00 25.6
baz=303
VBMS Vicksburg 140.10 50 IAMs_20 IAMs_20 19 06 40.7
comp=Z,1µm,21.0s
VBMS Vicksburg 140.10 50 P 18 00 24.1
baz=296
D61A St Aubert, Com 140.28 16 P 18 00 24.5
baz=336
D60A Saint Jean D'O 140.33 17 P 18 00 23.2
baz=334
F58A St-Lin Laurent 140.33 21 P 18 00 23.9
baz=330
CMIG Matias Romero 140.46 75 PKhKP PKPpre 18 00 23.8
comp=Z,7.7nm,0.9s,baz=339,slow=8.4,SNR=6.3
PLAL Pickwick Lake 140.53 45 PKPpre 18 00 17.8
PLAL IAMs_20 IAMs_20 18 59 02.2
comp=Z,1µm,22.0s
R49A Shelbyville 140.54 39 PKPpre 18 00 12.2
R49A IAMs_20 IAMs_20 19 00 49.8
comp=Z,1µm,20.0s
G57A Newington 140.56 22 P 18 00 24.5
baz=328
E60A Ste Agathe de 140.67 18 P 18 00 24.5
baz=333
D62A Allapoint, All 140.69 15 PKPpre 18 00 19.3
D62A Allapoint, All 140.69 15 P 18 00 24.6
baz=337
F59A Saint Guilaume 140.70 20 P 18 00 25.0
baz=331
MEDO Medina 140.70 27 IAMs_20 IAMs_20 19 14 27.8
comp=Z,1µm,21.0s
PECO Prince Edward 140.73 25 PKPpre 18 00 19.3
ERPA Erie 140.78 30 IAMs_20 IAMs_20 19 08 56.6
comp=Z,1µm,21.0s
ERPA Erie 140.78 30 P 18 00 26.1
baz=318
F60A Warwick 140.87 19 P 18 00 25.7
baz=332,SNR=7.3
G58A Ormstown 140.87 22 P 18 00 26.0
baz=329
E61A Lac Etchemin 140.90 17 P 18 00 26.3
baz=335,SNR=11
M53A WI Miller and 140.93 31 IAMs_20 IAMs_20 18 57 09.8
comp=Z,1µm,22.0s
M53A WI Miller and 140.94 31 P 18 00 26.7
baz=317
H57A Richville 140.94 23 P 18 00 26.4
baz=326
D63A Stockholm 140.97 14 P 18 00 26.0
baz=339
V48A Smith Brothers 140.98 43 PKPdf PKPpre 18 00 20.3
E62A Clayton Lake 141.00 16 P 18 00 25.3
baz=336,SNR=7.4
146A Union 141.00 49 PKPpre 18 00 20.9
P51A Williamsport 141.02 35 PKPpre 18 00 19.3
R50A Paris 141.06 38 PKPpre 18 00 20.0
CLTN Cedars of Leba 141.11 42 PKPdf PKPpre 18 00 20.7
LONY Lake Ozonia 141.12 22 PKPdf PKPpre 18 00 19.6
LONY Lake Ozonia 141.12 23 P 18 00 25.5
baz=328,SNR=6.1
Q51A Peebles 141.16 36 PKPpre 18 00 14.0
F61A St Evariste 141.16 18 P 18 00 26.6
baz=334
WVNY West Valley, N 141.22 28 IAMs_20 IAMs_20 19 17 38.1
comp=Z,1µm,22.0s
U49A Red Boiling Sp 141.23 41 PKPpre 18 00 21.2
I57A Carthage 141.28 24 P 18 00 25.3
baz=326,SNR=6.8
MMNY Mt. Morris Dam 141.29 27 PKPpre 18 00 20.9
J56A Wolcott 141.32 26 PKPpre 18 00 21.2
J56A Wolcott 141.32 26 P 18 00 26.7
baz=324,SNR=6.7
PQI Presque Isle 141.34 14 PKPpre 18 00 22.5
M54A Oil Creek Stat 141.39 30 PKPdf PKPpre 18 00 21.4
M54A Oil Creek Stat 141.39 30 P 18 00 27.2
baz=318,SNR=11
H59A Cadyville 141.43 22 P 18 00 26.8
baz=329
P52A Corning 141.44 34 IAMs_20 IAMs_20 19 08 04.0
comp=Z,946nm,19.0s
P52A Corning 141.44 34 P 18 00 27.0
baz=313,SNR=8.1
H58A Gabriels 141.45 22 P 18 00 27.9
baz=328
E63A Oxbow 141.47 15 P 18 00 26.9
baz=338
G60A Masonville 141.51 20 P 18 00 27.4
baz=331
O53A New Philadelph 141.51 33 P 18 00 26.9
baz=315
T50A Nancy 141.53 40 PKPpre 18 00 22.2
F62A Pittston Farm, 141.53 17 P 18 00 27.7
baz=335
X48A Hartselle 141.53 45 PKPdf PKPpre 18 00 21.7
J57A Williamstown 141.57 25 PKPpre 18 00 23.1
J57A IAMs_20 IAMs_20 19 04 06.7
comp=Z,1µm,20.0s
J57A Williamstown 141.57 25 P 18 00 26.8
baz=325
K56A Middlesex 141.58 27 P 18 00 27.3
baz=322
G61A St-Isidore-de- 141.61 19 P 18 00 27.6
baz=333
E64A Bridgewater 141.62 14 P 18 00 28.6
baz=339
N54A Moraine State 141.64 31 P 18 00 27.6
baz=317
I58A Old Forge 141.76 24 P 18 00 27.9
baz=326
NCB Newcomb 141.81 23 PKPpre 18 00 23.5
Q52A Bidwell 141.82 35 PKPpre 18 00 21.2
H60A Morristown 141.86 21 P 18 00 28.3
baz=330
M55A Ridgway 141.86 29 PKPpre 18 00 24.0
SWET Sewanee 141.88 43 PKPpre 18 00 22.6
K57A Scipio Center 141.91 26 PKPdf PKPpre 18 00 24.6
J58A Remsen 141.91 24 P 18 00 26.9
baz=326,SNR=11
S51A Beattyville 141.91 38 PKPpre 18 00 22.0
F63A Nahmakanta, Br 141.95 16 P 18 00 28.8
baz=337
P53A Whipple 141.95 34 PKPdf PKPpre 18 00 22.1
G62A West of Eustis 141.98 18 P 18 00 27.3
baz=334
F64A Sherman 142.01 15 P 18 00 26.9

baz=338
VT1 Waterbury 142.04 21 IAMs_20 IAMs_20 19 10 34.4
comp=Z,1μm,20.0s
I59A Olmsteadville 142.09 22 P 18 00 28.2
baz=328,SNR=7.0
H61A Lyndonville 142.15 20 P 18 00 28.8
baz=332
I60A Shoreham 142.27 22 P 18 00 27.6
baz=329,SNR=11
Y49A Blount Mountai 142.30 45 **PKPdf** **18 00 24.0 -4.1**
W50A Signal Mountai 142.30 43 **PKPdf** **18 00 24.9 -3.2**
PKME Peaks-Kenny Pk 142.30 17 P 18 00 26.7
baz=336
G63A Kingsbury 142.35 17 P 18 00 26.7
baz=336
H62A Milan 142.36 19 P 18 00 28.2
baz=333
LBNH Lisbon 142.41 20 P 18 00 28.8
baz=331
R53A Hurricane 142.43 36 **PKPdf** **18 00 25.9 -2.3**
G64A Maxfield 142.46 16 P 18 00 27.2
baz=337
FPAL Fort Paine 142.47 44 **PKPdf** **18 00 25.2 -3.3**
BINY Binghamton 142.56 26 IAMs_20 IAMs_20 19 05 01.1
comp=Z,1μm,20.0s
BINY Binghamton 142.57 26 P 18 00 27.6
baz=324,SNR=9.2
V51A Loudon 142.58 41 **PKPdf** **18 00 25.4 -3.1**
V51A IAMs_20 IAMs_20 19 05 57.8
comp=Z,1μm,21.0s
I61A Oroboro, Fairl 142.58 21 P 18 00 27.6
baz=331
Q54A Coxs Mills 142.61 34 **PKPdf** **18 00 25.6 -3.0**
TZTN Tazewell 142.63 39 **PKPdf** **18 00 25.3 -3.3**
TZTN Tazewell 142.63 39 P 18 00 26.6
baz=308
MCWV Mont Chateau 142.67 32 P 18 00 27.5
baz=316
CPCT Cooper Cave 142.68 42 **PKPdf** **18 00 23.8 -5.0**
J60A Lant Hill Farm 142.74 23 P 18 00 28.9
baz=328,SNR=5.2
M57A Sunshine Farm, 142.74 28 **PKPdf** **18 00 23.8 -4.9**
L58A Harry Jones Me 142.75 26 P 18 00 28.2
baz=324
G65A Princeton 142.83 15 P 18 00 28.6
baz=339
LMN Caledonia Moun 142.83 11 PKPdf **PKPdf** **18 00 25.0 -3.7**
O56A Blue Knob Stat 142.87 31 **PKPdf** **18 00 23.9 -5.1**
O56A IAMs_20 IAMs_20 19 05 24.8
comp=Z,1μm,19.0s
O56A Blue Knob Stat 142.87 31 P 18 00 27.9
baz=319
H64A Troy 142.90 17 P 18 00 27.9
baz=336
I62A Tamworth 142.93 20 P 18 00 28.5
baz=332
SSPA Standing Stone 142.93 30 **PKPdf** **18 00 23.4 -5.6**
SSPA Standing Stone 142.93 30 IAMs_20 IAMs_20 19 09 32.6
comp=Z,1μm,20.0s
SSPA Standing Stone 142.93 30 P 18 00 28.3
baz=320
J61A Chester 142.97 22 P 18 00 28.8
baz=330
X51A Calhoun 142.97 43 **PKPdf** **18 00 25.9 -3.4**
I63A Otisfield 143.02 19 P 18 00 28.6
baz=333
TKL Tuckaleechee C 143.04 41 IAMs_20 IAMs_20 19 11 09.6
comp=Z,1μm,20.0s
H65A Eastbrook 143.12 16 P 18 00 28.2
baz=337
CCIG Comitan 143.16 76 IAMs_20 IAMs_20 19 10 41.5
comp=Z,1μm,18.0s
BRAL Brewton 143.20 50 P 18 00 27.0
baz=298
H66A Whiting 143.28 15 P 18 00 28.1
baz=339
W52A Murphy 143.28 42 PKPab 18 00 24.8 -0.9
K61A Williamstown 143.28 23 P 18 00 28.3
baz=328
EMMW East Machias 143.31 15 IAMs_20 IAMs_20 19 11 42.0
comp=Z,1μm,19.0s
N58A Sunbury 143.33 28 PKPab 18 00 24.6 -1.1
J62A Henniker 143.34 21 P 18 00 27.7
baz=331
250A Grady 143.38 48 IAMs_20 IAMs_20 19 04 06.7
comp=Z,1μm,19.0s
I64A Boothbay 143.43 18 P 18 00 28.2
baz=335
Q56A Snyder Ridge, 143.47 33 PKPab 18 00 25.0 -1.3
R55A Marlinton 143.50 34 PKPbc 18 00 27.0 -0.4
R55A IAMs_20 IAMs_20 19 12 15.4
comp=Z,1μm,20.0s
J63A Strafford 143.54 20 P 18 00 27.6
baz=332
K62A Royalston 143.67 22 P 18 00 28.8
baz=330
L61B Northampton 143.69 22 P 18 00 28.8
baz=329
N59A State Game Lan 143.70 27 PKPab 18 00 27.1 -0.1
N59A State Game Lan 143.70 27 P 18 00 28.6
baz=323
P57A Homestead Farm 143.75 31 PKPbc 18 00 28.5 +0.5
PAGS Pennsylvania G 143.81 29 PKPbc 18 00 28.1 0.0
PAGS IAMs_20 IAMs_20 19 02 21.0
comp=Z,1μm,22.0s
K63A Dunstable 143.91 21 P 18 00 28.7
baz=331
BG3 Lake Jocassee 143.99 41 IAMs_20 IAMs_20 19 02 56.2
comp=Z,880nm,22.0s
HRV Adam Dziewonsk 144.06 21 P 18 00 29.7
baz=331
BLA Blacksburg 144.08 36 IAMs_20 IAMs_20 19 05 19.0
comp=Z,1μm,20.0s
BLA Blacksburg 144.08 36 P 18 00 29.0
baz=313
HAL Halifax 144.22 11 IAMs_20 IAMs_20 19 08 13.3
comp=Z,1μm,20.0s
CPUP Villa Florida 144.28 176 PKP **PKPdf** **18 00 32.5 +0.6**
comp=Z,31nm,0.9s,baz=180,slow=2.8,SNR=40
PAL Palisades 144.43 25 P 18 00 29.4
baz=326
YLE Yale 144.57 24 IAMs_20 IAMs_20 19 07 47.3
comp=Z,1μm,21.0s
GOGA Godfrey 144.58 44 IAMs_20 IAMs_20 19 02 13.8
comp=Z,1μm,21.0s
GOGA Godfrey 144.58 44 P 18 00 31.3
baz=305
L63A North Scituate 144.60 22 P 18 00 30.2
baz=330
P60A Greenville 144.64 28 P 18 00 30.1
baz=323
L64A Middleborough 144.81 21 IAMs_20 IAMs_20 19 04 38.7
comp=Z,1μm,21.0s
L64A Middleborough 144.81 21 P 18 00 31.4
baz=332
KMSC Kings Mountain 144.91 39 P 18 00 31.9
baz=310
M64A Tiverton 145.02 22 IAMs_20 IAMs_20 19 05 07.8
comp=Z,1μm,21.0s
M64A Tiverton 145.02 22 P 18 00 32.1
baz=331
CBN Corbin Frederi 145.04 32 P 18 00 32.3
baz=318
Q61A Milford 145.53 29 P 18 00 34.4
baz=322
TIGA Tifton 145.60 47 P 18 00 35.2
baz=303
V58A Windy Hill, Pi 145.82 36 IAMs_20 IAMs_20 19 10 06.7
comp=Z,1μm,20.0s
CNNC Cliffs of the 146.92 36 IAMs_20 IAMs_20 19 10 59.3
comp=Z,1μm,19.0s
CNNC Cliffs of the 146.92 36 P 18 00 37.4
baz=315
NHSC New Hope 146.95 41 P 18 00 39.8
baz=309
TGUH Tegucigalpa,Un 148.04 79 IAMs_20 IAMs_20 19 02 56.2
comp=Z,854nm,20.0s
TGUH Tegucigalpa,Un 148.04 79 *e*P **PKPdf** **18 00 32.9 -5.8**
CRIN San Cristobal 148.34 81 IAMs_20 IAMs_20 19 14 21.1
comp=Z,650nm,18.0s
DWPF Disney Wildern 148.96 50 **PKPbc** **18 00 44.2 +0.6**
DWPF Disney Wildern 148.96 50 P 18 00 44.5
baz=301
NNA Nana 149.48 134 PKPbc **PKiKP** **18 00 48.2 +1.8**
comp=Z,49nm,1.1s,baz=309,slow=1.4,SNR=5.2
NNA Nana 149.48 134 PKP2 **PKiKP** **18 00 48.0 +1.5**
NNA MLR MLR
comp=Z,2μm,20.0s
NNA Nana 149.48 134 **PKiKP** **18 00 48.0 +1.5**
BOAB BOACO BROADBAN 150.70 82 **PKPdf** **18 00 41.9 +0.8**
SOR Soroa 150.05 60 PKIKP **PKiKP** **18 00 48.1 +0.7**
SOR Soroa 150.05 60 **PKiKP** **18 00 48.1 +0.7**
CAO2 Cobano, Puntar 150.25 87 **PKPdf** **18 00 35.8 -6.3**
060A Indiantown 150.33 51 **PKPbc** **18 00 47.0 0.0**
JTS Las Juntas de 150.42 86 *e*P **PKiKP** **18 00 50.8 +2.4**
061Z Ochoppi 150.49 53 **PKiKP** **18 00 49.1 +0.9**
JACO JACO, Garabito 150.69 87 **PKiKP** **18 00 51.0 +2.1**
ESPN Las Esperanzas 151.04 82 **PKiKP** **18 00 50.9 +1.3**
ESPN IAMs_20 IAMs_20 19 02 04.5
comp=Z,1μm,22.0s
LPAZ La Paz 151.21 153 PKPbc **PKiKP** **18 00 52.4 +1.7**
comp=Z,18nm,0.9s,baz=56,slow=1.5,SNR=14
LPAZ PKPab **pPKPbc** **18 01 00.5 -0.8**
comp=Z,46nm,0.8s,baz=198,slow=3.4,SNR=26
LPAZ La Paz 151.21 153 *e*P **PKiKP** **18 00 52.8 +2.1**
LPAZ La Paz 151.21 153 *e*P **PKPdf** **18 00 44.1 -0.1**
NBIT Itapeh - BA 151.25 212 *e*P **PKPdf** **18 00 44.7 +1.2**
CVTR Volcan Turrial 151.59 87 **PKPdf** **18 00 45.2 +0.6**
RIOS Rincon, Osa 151.77 89 **PKPbc** **18 00 48.9 -1.8**
SRBA San Rafael, Bu 151.95 88 **PKPdf** **18 00 43.7 -1.1**
CDITO Canoas 152.39 90 **PKPdf** **18 00 44.4 -0.9**
SIV San Ignacio 153.93 166 PKP **PKPdf** **18 00 50.7 +3.1**
comp=Z,0.8nm,0.4s,baz=229,slow=4.2,SNR=6.6
SIV PKPab **sPKPbc** **18 01 10.7 0.0**
comp=Z,12nm,0.6s,baz=197,slow=4.1,SNR=20
BDFB Brasilia 154.07 195 PKPbc **PKiKP** **18 00 58.3 +2.3**
comp=Z,2.7nm,0.4s,baz=110,slow=4.2,SNR=3.3
PAC1 Pacto, Paraso 154.53 110 *e*P PKPdf 18 00 35.9 -13
OTAV Otavalo 154.84 110 *e*P **PKPbc** **18 00 53.9 -4.2**
AZU Azuero 154.89 92 *e*P **PKPab** **18 01 16.3 +3.4**
BCIP Isla Barro Col 155.42 89 *e*P **PKPab** **18 01 19.2 +4.0**
BBSR BB Station 155.54 20 IAMs_20 IAMs_20 19 11 18.3
comp=Z,758nm,18.0s
TULM Tulcingo del 155.63 110 *e*P **PKPdf** **18 00 51.3 +0.8**
GCUF Volcan Galeras 156.23 109 *e*P **PKPdf** **18 00 54.2 +2.8**
BBAC Balboa, Cauca 156.59 107 *e*P **PKPdf** **18 00 52.8 +1.3**
NBPA Parau_RN 156.64 230 *e*P **PKPdf** **18 00 51.2 0.0**
SOTA Rioblanco 157.23 107 *e*P **PKPdf** **18 00 52.9 +0.3**
PIZC Pizarro, Choco 157.30 100 *e*P **PKPdf** **18 00 54.9 +2.8**
POPC Popayan, Colom 157.30 106⇑*e*P **PKPdf** **18 00 47.9 -4.5**
PCON Cinco Dias 157.49 107⇑*e*P **PKPdf** **18 00 55.3 +2.3**
FLOC Florencia 157.93 110⇑*e*P **PKPdf** **18 00 55.5 +2.5**
GTBY Guantanamo Bay 157.94 60 *e*P **PKPdf** **18 00 55.2 +2.5**
YOTC Yotoco, Valle 158.04 103⇑*e*P **PKPdf** **18 00 53.6 +0.5**
MARP Paez Belalcaza 158.08 106 *e*P **PKPdf** **18 00 54.6 +1.2**
PTLC Puerto Leguiza 158.15 114 *e*P **PKPdf** **18 00 57.0 +3.8**
GARC Garzon, Huila 158.29 108 *e*P **PKPdf** **18 00 57.8 +4.1**
SNDB Serra Nova Dou 158.34 190 *e*P **PKPdf** **18 00 54.1 +0.8**
CBOC Ciudad Bolivar 158.79 98 *e*P **PKPdf** **18 00 58.2 +4.1**
ORTC Ortega, Tolima 159.07 104⇑*e*P **PKPdf** **18 00 55.2 +0.9**
ANIL Santa Ana 159.08 102 *e*P **PKPdf** **18 00 55.9 +1.3**
TOLC Tolima 159.18 102 *e*P **PKPdf** **18 00 56.8 +2.0**
RREF El Recreo 159.23 101⇑*e*P **PKPdf** **18 00 55.9 +0.6**
GUY2C Guyana, Caldas 159.29 100 *e*P **PKPdf** **18 00 57.7 +2.6**
HELC Santa Helena 159.33 98 *e*P **PKPdf** **18 00 56.6 +1.6**
PRAC Prado 159.36 105⇑*e*P **PKPdf** **18 00 55.5 +0.8**
MOTC Monteria, Cord 159.51 90 *e*P **PKPdf** **18 00 55.6 +0.9**
UREC San Jos de Ur 159.55 93 *e*P **PKPdf** **18 00 56.7 +1.9**
TBTG Tabatinga, AM 159.79 132 *e*P **PKPdf** **18 00 53.8 -1.3**
MACC Macarena, Meta 159.81 110 *e*P **PKPdf** **18 00 56.2 +1.0**
NORC Norcasia 159.85 100⇑*e*P **PKPdf** **18 00 56.6 +1.4**
SJCC San Jacinto, C 160.03 87⇑*e*P **PKPdf** **18 00 57.1 +1.7**
ZARC Zaragoza, Cauc 160.19 94⇑*e*P **PKPdf** **18 00 55.1 -0.4**
CHIC Chingaza 160.72 103 *e*P **PKPdf** **18 00 56.6 -0.1**
SMLC San Martn de 161.09 91⇑*e*P **PKPdf** **18 00 55.9 -0.6**
BRRC Barranca, Sant 161.26 96⇑*e*P **PKPdf** **18 00 57.9 +1.2**
SDRB Presa de Saban 161.58 90⇑*e*P **PKPdf** **18 00 58.5 +1.6**
RUSC La Rusia 161.65 100⇑*e*P **PKPdf** **18 00 56.2 -1.5**
LL2C La Loma 2 Cana 161.75 88 *e*P **PKPdf** **18 00 57.3 +0.2**
OCAC Ocana 161.78 93⇑*e*P **PKPdf** **18 00 58.8 +1.4**
PAMC Pamplona, Colo 162.29 96 *e*P **PKPdf** **18 00 58.5 +0.1**
URIC Uribia, Colomb 163.09 81 *e*P **PKPdf** **18 00 52.5 -6.0**
SOCV Socops 164.22 93 *e*P **PKPdf** **18 00 57.8 -1.8**
SDV Santo Domingo 164.48 91 PKP **PKPdf** **18 01 02.0 +2.0**
comp=Z,9.0nm,0.3s,baz=165,slow=6.5,SNR=4.9
SDV Santo Domingo 164.48 91⇑*e*P **PKPdf** **18 00 56.2 -3.9**
ELOV Elorza 165.38 99 *e*P **PKPdf** **18 01 00.1 -0.5**
SJG San Juan 166.17 51 PKPab **PKPab** **18 02 03.4 +1.6**
comp=Z,15nm,0.4s,baz=270,slow=6.0,SNR=6.0
SJG San Juan 166.17 51⇑*e*P **PKPdf** **18 01 00.4 -0.7**
PTGA Pitinga 168.64 154 PKP **PKPdf** **18 01 08.4 +5.4**
comp=Z,3.9nm,0.8s,baz=281,slow=23,SNR=1.9

*GCG **15** 18:02:08.3±0.4, 14°.45N×92°.72W, h90km, MD4.3*
*MEX **15** 18:02:10.8±0.7, 14°.36N×92°.64W, h16km±29km, MD4.2*
*SNET **15** 18:02:10.3±0.9, 14°.48N×92°.60W, h28km±4km, ML4.6*
*UCR **15** 18:02:10.4±1.0, 14°.48N×92°.60W, h28km±4km, ML4.2*
ISC 15 18:02:09.5±3.7, 14°.48N±0°.07×92°.66W±0°.05, h20km±16km, n36, σ0.966/54, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.57**	**41**	*e*P		**Pb**		**18 02 20.5**	**-0.3**
THIG				*e*S		**Sb**		**18 02 40.0**	**-0.5**
RTAL	**Retalhuleu**	**0.93**	**87**⇑	*e*P		**Pb**		**18 02 26.9**	**-0.1**
RTAL				*e*S		**Sb**		**18 02 39.0**	**+0.2**
PCIG		**1.34**	**336**	*e*P		**Pn**		**18 02 32.9**	**-0.1**
PCIG				*i* S		**Sn**		**18 02 49.4**	**-0.8**
HUEH	**Huehuetenango**	**1.39**	**53**	*e*P		**Pn**		**18 02 34.3**	**+0.3**
HUEH				*e*S		**Sb**		**18 02 52.4**	**0.0**
FUG	**Fuego 3**	**1.76**	**91**⇓	*e*P		**Pn**		**18 02 38.8**	**-0.1**
FUG				⇓*i*P		**Pn**		**18 02 38.8**	**-0.1**
FUG				*e*S		**Sn**		**18 02 57.7**	**-3.1**
CCIG	**Comitan**	**1.86**	**15**	*e*P		**Pb**		**18 02 42.4**	**-0.6**
CCIG				*e*S		**Sb**		**18 03 05.5**	**-0.4**
PCG	**Pacaya**	**1.98**	**92**	*e*P		**Pn**		**18 02 42.5**	**+0.4**
NBG	**Las Nubes**	**2.24**	**87**	*e*P		**Pn**		**18 02 46.9**	**+1.3**
TGIG		**2.33**	**349**	*e*P		**Pn**		**18 02 47.0**	**+0.3**
TGIG				*i* S		**Sn**		**18 03 15.3**	**+0.4**
RTR	**El Retiro**	**2.98**	**101**	*e*P		**Pn**		**18 02 55.8**	**+0.1**
RTR	**El Retiro**	**2.98**	**101**	*e*P		**Pn**		**18 02 55.8**	**+0.1**
SBLS	**San Blas**	**3.01**	**102**	*e*P		**Pn**		**18 02 56.5**	**+0.2**
SBLS	**San Blas**	**3.01**	**102**	*e*P		**Pn**		**18 02 56.5**	**+0.2**
CEVE	**Cerro Verde**	**3.01**	**102**	*e*P		**Pn**		**18 02 56.5**	**+0.2**
CEVE				*e*S		**Sn**		**18 03 31.9**	**+0.1**
CEVE				IAML				18 03 45.6	
	comp=Z,4μm,0.5s								
CEVE	**Cerro Verde**	**3.01**	**102**	*e*P		**Pn**		**18 02 56.5**	**+0.2**
CEVE				*e*S		**Sn**		**18 03 31.9**	**+0.1**
CEVE				IAML				18 03 45.6	
	comp=Z,4μm,0.5s								
SNJE	**San Jose**	**3.02**	**101**	*e*P		**Pn**		**18 02 56.2**	**-0.1**
SNJE	**San Jose**	**3.02**	**101**	*e*P		**Pn**		**18 02 56.2**	**-0.1**
JAYA	**Jayaque - finc**	**3.22**	**104**	*e*P		**Pn**		**18 02 58.0**	**-1.0**
JAYA				IAML				18 03 40.0	
	comp=Z,1μm,0.2s								
JAYA	**Jayaque - finc**	**3.22**	**104**	*e*P		**Pn**		**18 02 58.0**	**-1.0**
JAYA				IAML				18 03 40.0	
	comp=Z,1μm,0.2s								
TACO	**Tacachico**	**3.24**	**99**	*e*P		**Pn**		**18 02 58.4**	**-0.8**
TACO				*e*S		**Sn**		**18 03 36.3**	**-0.9**
TACO	**Tacachico**	**3.24**	**99**	*e*P		**Pn**		**18 02 58.4**	**-0.8**
TACO				*e*S		**Sn**		**18 03 36.3**	**-0.9**
PMON	**Piamonte**	**3.33**	**103**	*e*P		**Pn**		**18 03 00.6**	**+0.1**
PMON				*e*S		**Sn**		**18 03 40.0**	**+0.4**
PMON	**Piamonte**	**3.33**	**103**	*e*P		**Pn**		**18 03 00.6**	**+0.1**
PMON				*e*S		**Sn**		**18 03 40.0**	**+0.4**
CMIG	**Matias Romero**	**3.37**	**321**	*e*P		**Pn**		**18 03 01.6**	**+0.6**
CMIG				*i* S		**Sn**		**18 03 40.7**	**+0.3**
HUIG	**Huatulco**	**3.57**	**291**	*e*P		**Pn**		**18 03 03.7**	**0.0**
HUIG				*e*S		**Sn**		**18 03 44.7**	**-0.7**
LFRS	**El Faro**	**3.59**	**103**	*e*P		**Pn**		**18 03 04.3**	**+0.2**
LFRS	**El Faro**	**3.59**	**103**	*e*P		**Pn**		**18 03 04.3**	**+0.2**
SJTE	**Alcalda de S**	**3.64**	**103**	*e*P		**Pn**		**18 03 04.8**	**+0.1**
SJTE				*e*S		**Sn**		**18 03 47.4**	**+0.2**
SJTE	**Alcalda de S**	**3.64**	**103**	*e*P		**Pn**		**18 03 04.8**	**+0.1**
SJTE				*e*S		**Sn**		**18 03 47.4**	**+0.2**
PAVA	**Las Pavas**	**3.69**	**101**	*e*P		**Pn**		**18 03 05.0**	**-0.4**
PAVA	**Las Pavas**	**3.69**	**101**	*e*P		**Pn**		**18 03 05.0**	**-0.4**
COEG	**Centro de Oper**	**3.76**	**103**	IAML				18 04 06.7	
	comp=Z,880nm,0.4s								
COEG	**Centro de Oper**	**3.76**	**103**	IAML				18 04 06.7	
	comp=Z,880nm,0.4s								
TECO	**Alcaldia de Te**	**3.88**	**103**	*e*P		**Pn**		**18 03 07.6**	**-0.3**
LCND	**La Caada**	**4.77**	**104**	*e*P		**Pn**		**18 03 20.6**	**+0.3**
LCND				*e*S		**Sn**		**18 04 15.5**	**+0.6**
LCND				IAML				18 04 28.6	
	comp=Z,289nm,0.4s								
LCND	**La Caada**	**4.77**	**104**	*e*P		**Pn**		**18 03 20.6**	**+0.3**
LCND				*e*S		**Sn**		**18 04 15.5**	**+0.6**
LCND				IAML				18 04 28.6	
	comp=Z,289nm,0.4s								

*IDC **15** 18:07:50.2±1.4, 9°.14S×125°.37E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, Error ellipse: s-maj=39.5km s-min=27.4km az=76.0*
ISC 15 18:07:52.7±1.0, 9°.57S±0°.09×125°.54E±0°.09, h35km, n9, σ1.193/12, mb3.6/5, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.95**	**251**			Pn		**18 08 24.7**	**+1.3**
	21nm,0.3s,baz=58,slow=1.6,SNR=14								
BATI						Sn		**18 08 44.8**	**-1.9**
	36nm,0.3s,baz=179,slow=9.4,SNR=8.8								
FITZ	**Fitzroy Crossi**	**8.48**	**179**			Pn		**18 09 56.5**	**+3.5**
	1.8nm,0.3s,baz=359,slow=8.1,SNR=22								
FITZ						Sn		**18 11 26.4**	**-1.1**
	4.3nm,0.3s,baz=96,slow=8.2,SNR=9.5								
WRA	**Warramunga Arr**	**13.36**	**141**			Pn		**18 11 01.6**	**+1.6**
	1.4nm,0.3s,baz=318,slow=13,SNR=53								
WRA						Sn		**18 13 24.5**	**-2.9**
	1.4nm,0.3s,baz=317,slow=26,SNR=5.9								
ASAR	**Alice Springs**	**16.14**	**151**			Pn		**18 11 39.5**	**-0.3**
	1.1nm,0.3s,baz=320,slow=10,SNR=123								
ASAR						Sn		**18 14 33.0**	**-1.9**
	0.7nm,0.3s,baz=317,slow=19,SNR=7.9								
STKA	**Stephens Creek**	**26.73**	**148**			P		18 13 35.9	+6.9
	0.6nm,0.4s,baz=337,slow=7.7,SNR=2.8								
CMAR	**Chiang Mai Arr**	**38.27**	**317**			P		**18 15 10.1**	**+0.2**
	0.3nm,0.5s,baz=140,slow=5.7,SNR=2.4								
MKAR	**Makanchi Array**	**68.07**	**330**			P		**18 18 49.0**	**+0.2**
	0.6nm,0.6s,baz=125,slow=8.2,SNR=8.6								
ZALV	**Zalesovo Beam**	**72.03**	**336**			P		**18 19 12.3**	**-0.5**
	0.5nm,0.4s,baz=106,slow=4.7,SNR=1.8								
KURBB	**Kurchatov Arra**	**72.48**	**331**			P		**18 19 15.4**	**-0.2**
	0.2nm,0.6s,baz=143,slow=5.5,SNR=4.7								

*IDC **15** 18:16:56.0±5.4, 35°.78N×71°.55E, h73km±34km, mb3.5/6, mb1 3.5/12, mb1mx3.2/59, mbtmp3.8/12, ML3.6/6, Error ellipse: s-maj=65.4km s-min=26.1km az=149.0*
*NEIC **15** 18:17:02.6±1.7, 36°.40N±0°.06×71°.41E±0°.10, h110km±9km, mb4.2/10, Error ellipse: s-maj=11.4km s-min=7.8km az=104.0*
*NNC **15** 18:17:07.7±3.3, 36°.78N×70°.99E, h120km±56km, mb3.2, mpv3.6, Error ellipse: s-maj=28.1km s-min=24.4km az=33.0*
ISC 15 18:17:01.4±0.6, 36°.32N±0°.06×71°.63E±0°.07, h114km, n56, σ1.279/60, mb3.9/8, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.75**	**231**				**Pn**	**18 17 44.2**	**-0.3**
GAR	**Garm**	**2.87**	**339**				**Pn**	**18 17 44.6**	**-1.3**
NIL	**Nilore**	**2.98**	**153**			Pn	**Pn**	**18 17 49.8**	**+2.5**
CHGR	**Chuyangaron**	**3.05**	**321**				**Pn**	**18 17 46.1**	**-2.1**
BTK	**Batken**	**3.79**	**351**				**Pn**	**18 17 57.1**	**-0.9**
KSH	**Kashi**	**4.69**	**46**			P	**Pn**	**18 18 08.8**	**-1.4**
KSH						S	**Sn**	**18 18 57.1**	**-6.5**
KSH						SMN			
	98nm,0.4s								
KSH						SME			
	60nm,0.3s								
ARSB	**Arslanbob**	**5.11**	**12**			Pn	**Pn**	**18 18 15.9**	**+0.1**
DHRM	**DHARAMSHALA**	**5.61**	**135**	*e*P			**Pn**	**18 18 23.2**	**+0.6**
DHRM				*e*S			**Sn**	**18 19 24.0**	**-1.9**
DHRM				IAML				18 19 27.1	
	comp=E,276nm,0.2s								
AAK	**Ala-Archa**	**6.69**	**18**	P		P	**Pn**	**18 18 38.8**	**+1.6**
	comp=E,1.4nm,0.3s,baz=186,slow=6.7,SNR=6.5								
AAK				S			**Sn**	**18 19 53.8**	**+1.9**
	comp=E,0.7nm,0.3s,baz=346,slow=19,SNR=2.0								
AAK	**Ala-Archa**	**6.69**	**18**	P		P	**Pn**	**18 18 39.3**	**+2.1**
	comp=E,3.5nm,0.6s								
AAK				S			**Sn**	**18 19 52.9**	**+0.9**
AAK	**Ala-Archa**	**6.69**	**18**	P		Pn	**Pn**	**18 18 37.4**	**+0.2**
KK31	**Karatay Array**	**6.83**	**353**	P		Pn	**Pn**	**18 18 39.1**	**+0.2**
	comp=E,1.6nm,0.3s,baz=25,slow=12,SNR=64								
KK31				S			**Sn**	**18 19 50.6**	**-4.6**
	comp=E,9.4nm,0.3s,baz=185,slow=25,SNR=4.7								
KK31	**Karatay Array**	**6.83**	**353**				**Pn**	**18 18 39.2**	**+0.2**
KKAR	**Karatay Array**	**6.83**	**353**				**Pn**	**18 18 39.0**	**+0.1**
KKAR	**Karatay Array**	**6.83**	**353**				**Pn**	**18 18 39.2**	**+0.2**
SMLA	**Simla**	**6.94**	**137**	*e*P		P	**Pn**	**18 18 40.8**	**+0.4**
SMLA				*e*S		**Sn**	**Sn**	**18 19 56.2**	**-1.6**
SMLA				IAML				18 19 59.4	
	comp=N,44nm,0.2s								
SMLA				IAML				18 19 59.5	
	comp=E,41nm,0.2s								
BOOM	**Boomskoye usch**	**7.01**	**27**			Pn	**Pn**	**18 18 43.2**	**+1.7**
GEYT	**Alibeck**	**10.91**	**283**			P	**Pn**	18 19 29.9	-4.3
	comp=E,0.9nm,0.3s,baz=146,slow=11,SNR=6.5								
GEYT						S	Sn	18 21 25.0	-9.2
	comp=E,2.5nm,0.3s,baz=97,slow=24,SNR=10.0								
PYUN	**Piuthan**	**12.63**	**127**	*e*P			**Pn**	**18 19 55.9**	**-1.3**
	comp=E,69nm,0.5s								
DANN	**Dangsing**	**12.97**	**124**	*e*P			**Pn**	**18 20 00.6**	**-1.1**
	comp=E,19nm,0.4s								
MKAR	**Makanchi Array**	**13.15**	**34**	P		P	**P**	**18 20 07.6**	**-1.8**
	comp=E,0.1nm,0.3s,baz=254,slow=14,SNR=5.1								
MKAR	**Makanchi Array**	**13.15**	**34**	Pn		Pn	**Pn**	**18 20 05.3**	**+1.6**
KOLN	**Koldanda**	**13.25**	**127**	*e*P		Pn	**Pn**	**18 20 04.4**	**-0.9**
	comp=E,16nm,0.3s								
GKN	**Gorkha**	**13.78**	**123**	*e*P			**Pn**	**18 20 11.0**	**-1.1**
	comp=E,16nm,0.3s								
KKN	**Kakani**	**14.35**	**122**	*e*P			**Pn**	**18 20 17.9**	**-1.6**
	comp=E,6.9nm,0.4s								
WMQ	**Urumqi**	**14.39**	**54**	*e*P		P	**P**	**18 20 22.9**	**-0.4**
PKIN	**Phulchoki**	**14.57**	**123**	*e*P		Pn	**Pn**	**18 20 20.8**	**-1.5**
	comp=E,6.2nm,0.3s								
PKI	**Pulchoki**	**14.58**	**123**	*e*P		Pn	**Pn**	**18 20 21.7**	**-0.8**
	comp=E,9.5nm,0.3s								
GUN	**Gumba**	**14.69**	**121**	*e*P		Pn	**Pn**	**18 20 22.4**	**-1.5**
	comp=E,12nm,0.4s								
KURBB	**Kurchatov Arra**	**15.14**	**17**	P		P	**P**	**18 20 33.4**	**+2.0**
	comp=E,0.0nm,0.3s,baz=203,slow=11,SNR=11								
KURK	**Kurchatov**	**15.25**	**17**	P		P	**P**	**18 20 33.4**	**+0.8**
AB31	**Akbulak array**	**15.49**	**330**	P		P	**Pn**	**18 20 31.5**	**-1.9**
	comp=E,0.6nm,0.3s,baz=139,slow=12,SNR=46								
AB31				⇓S			Sn	18 23 14.6	-10
	comp=E,1.5nm,0.5s,baz=151,slow=22,SNR=7.2								
ABKAR	**Akbulak array**	**15.49**	**330**	Pn		Pn	**Pn**	**18 20 31.5**	**-1.9**
ABKAR	**Akbulak array**	**15.49**	**330**	Pn		Pn	**Pn**	**18 20 31.6**	**-1.8**
**R

comp=Z,11nm,1.1s
NB201 NORSAR Array S 44.79 323 P P 18 25 04.6 +1.2
NOA NORSAR Array B 44.83 323 P P 18 25 05.6 +1.8
comp=Z,1.0nm,0.6s,baz=96,slow=7.7,SNR=5.3
NC204 NORSAR Array S 45.07 323 P P 18 25 07.4 +1.8
TORD Torodi Ar. Bea 66.22 269 P P 18 27 35.9 -1.4
comp=Z,0.3nm,0.5s,baz=49,slow=5.4,SNR=1.9
KTH Kantishna Hill 74.88 18 P P 18 28 30.9 +1.6
KTH IAmb IAmb 18 28 32.5
comp=Z,3.6nm,0.7s

IDC ***15*** *18:25:06.6±1.6,8.°67S×124.°67E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/26, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=38.9km s-min=20.5km az=85.0*
DJA ***15*** *18:25:13.4±0.4, 9.°S×12.°4E±.°, h10km, M4.0/7, mb4.2/6, MLv3.9/7*
ISC 15 18:25:07.4±1.0, 8.°88S±0.°06×124.°59E±0.°07, h10km, n18, σ2°74/22, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.93**	**200**	P	**Pn**	**18 25 27.7**	**+1.0**
SOEI				S	**Sb**	**18 25 39.6**	**+1.4**
BATI	**Baumata**	**1.60**	**214**	Pn	**Pg**	**18 25 39.9**	**+1.6**
	79nm,0.3s,baz=57,slow=2.7,SNR=135						
BATI				Sn	**Sg**	**18 26 02.9**	**+3.7**
	162nm,0.3s,baz=134,slow=19,SNR=15						
BATI	**Baumata**	**1.60**	**214**	P	**Pb**	**18 25 38.2**	**+1.0**
MMRI	**Maumere**	**2.33**	**276**	P	**Pn**	**18 25 43.8**	**-2.1**
MMRI				S	**Sn**	**18 26 09.4**	**-5.2**
EDFI	**Ende, Flores**	**2.86**	**272**	P	**Pn**	**18 25 51.5**	**-1.8**
BASI	**Baing, Sumba**	**4.17**	**251**	P	**Pn**	**18 26 09.6**	**-1.6**
WBSI	**Waikabubak, Su**	**5.18**	**261**	P	**Pn**	**18 26 23.3**	**-1.9**
BNSI	**Bone**	**6.29**	**315**	P	**Pn**	**18 26 42.9**	**+2.6**
	0.1nm20nm,1.0s						
PLAI	**Plampang**	**6.73**	**270**	P	**Pn**	**18 26 46.9**	**+0.5**
	0.2nm26nm,0.5s						
TWSI	**Taliwang, Sumb**	**7.61**	**270**	P	**Pn**	**18 26 59.4**	**+0.9**
	0.1nm10nm,1.4s						
LUWI	**Luwuk**	**7.99**	**347**	P	Pn	18 27 10.4	+6.7
	28nm,1.4s						
FITZ	**Fitzroy Crossi**	**9.23**	**174**	Pn	**Pn**	**18 27 23.1**	**+2.5**
	0.8nm,0.3s,baz=13,slow=9.4,SNR=18						
FITZ				Sn	**Sn**	**18 29 01.0**	**-3.6**
	2.3nm,0.3s,baz=110,slow=9.5,SNR=11						
SRBI	**Singaraja**	**9.30**	**274**	P	**Pn**	**18 27 21.2**	**-0.5**
	27nm,0.9s						
GTOI	**Gorontalo**	**9.58**	**350**	P	Pn	18 27 33.9	+8.4
WRA	**Warramunga Arr**	**14.49**	**140**	Pn	**Pn**	**18 28 35.0**	**+2.2**
	0.5nm,0.3s,baz=317,slow=13,SNR=10						
WRA				Sn	**Sn**	**18 31 10.4**	**-3.3**
	0.5nm,0.3s,baz=314,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**17.20**	**150**	Pn	**Pn**	**18 29 09.8**	**+1.8**
	0.2nm,0.3s,baz=320,slow=11,SNR=20						
ASAR				Sn	**Sn**	**18 32 13.6**	**-6.0**
	0.1nm,0.3s,baz=320,slow=23,SNR=5.1						
CMAR	**Chiang Mai Arr**	**37.12**	**317**	P	**P**	**18 32 18.0**	**-0.5**
	0.3nm,0.3s,baz=146,slow=6.6,SNR=2.4						
MKAR	**Makanchi Array**	**66.99**	**330**	P	**P**	**18 36 00.6**	**+0.1**
	0.3nm,0.5s,baz=146,slow=6.9,SNR=5.9						

IDC 15 18:26:00.0±2.9, 41.°93N×124.°17E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.1/37, mbtmp3.0/3, ML2.1/2, Error ellipse: s-maj=34.6km s-min=23.6km az=93.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**5.33**	**146**	Pn	Pn	18 27 20.2	-0.5
	0.1nm,0.3s,baz=340,slow=12,SNR=2.0						
KSRS				Pg	Pg	18 27 38.6	-3.5
	0.4nm,0.3s,baz=329,slow=17,SNR=5.9						
KSRS				Sn	Sn	18 28 19.0	-3.8
	0.2nm,0.3s,baz=323,slow=24,SNR=4.8						
KSRS				Lg	Lg	18 28 48.0	
	1.1nm,0.3s,baz=330,slow=31,SNR=5.1						
USRK	**Ussuriysk Ar.**	**6.16**	**66**	Pn	Pn	18 27 31.7	-0.5
	baz=264,slow=13,SNR=1.1						
USRK				Pg	Pb	18 27 52.6	+4.5
	baz=221,slow=15,SNR=6.1						
USRK				Lg	Lg	18 29 16.4	
	baz=252,slow=27,SNR=7.6						
NVAR	**Mina Array Bea**	**81.88**	**45**	P	P	18 38 21.5	0.0
	0.2nm,0.5s,baz=296,slow=4.9,SNR=2.0						

IDC ***15*** *19:10:17.4±1.5,9.°66N×93.°11E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/44, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=60.9km s-min=16.6km az=63.0*
NEIC ***15*** *19:10:26.8±2.0, 9.°73N±0.°09×93.°4E±0.°1, h59km±7km, mb4.3/16, Error ellipse: s-maj=20.1km s-min=12.9km az=104.0*
ISC 15 19:10:23.4±0.8, 9.°7N±0.°1×93.°3E±0.°2, h35km, n30, σ1°18/26, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.32**	**31**	Pn	**Pn**	**19 12 50.0**	**+1.0**
	0.3nm,0.3s,baz=221,slow=14,SNR=6.3						
LSA	**Lhasa**	**20.05**	**355**	P	**P**	**19 14 54.0**	**0.0**
LSA				IAmb	IAmb	19 14 56.1	
	comp=Z,8.6nm,0.6s						
H08S3	**Diego Garcia H**	**26.93**	**231**	T	T	19 43 14.1	
	baz=52,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**26.93**	**231**	T	T	19 42 44.1	
	baz=52,slow=76,SNR=19						
H08S1	**Diego Carcia H**	**26.95**	**231**	T	T	19 42 57.8	
	baz=52,slow=76,SNR=10						
DRK	**Karamyk**	**35.37**	**331**	P	**P**	**19 17 18.0**	**+1.9**
ARSB	**Arslanbob**	**36.30**	**334**	P	**P**	**19 17 25.6**	**+1.8**
ARSB				IAmb	IAmb	19 17 26.0	
	comp=Z,4.1nm,0.6s						
MK31	**Makanchi Array**	**38.19**	**348**	P	**P**	**19 17 40.3**	**+0.7**
MK31				IAmb	IAmb	19 18 00.6	
	comp=Z,1.9nm,1.2s						
MKAR	**Makanchi Array**	**38.19**	**348**	P	**P**	**19 17 37.8**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=164,slow=8.9,SNR=17						
MKAR	**Makanchi Array**	**38.19**	**348**	P	**P**	**19 17 39.0**	**-0.6**
MAKZ	**Makanchi**	**38.27**	**347**	P	**P**	**19 17 40.3**	**0.0**
MAKZ				IAmb	IAmb	19 18 06.4	
	comp=Z,3.8nm,1.3s						
SONM	**Songino Array**	**39.63**	**14**	P	**P**	**19 17 49.6**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=186,slow=8.5,SNR=3.8						
FAKI	**Fak Fak**	**40.75**	**106**	P	**P**	**19 18 01.2**	**-0.1**
KURBB	**Kurchatov Arra**	**42.64**	**346**	P	**P**	**19 18 15.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=165,slow=6.4,SNR=5.1						
KURK	**Kurchatov**	**42.70**	**346**	P	**P**	**19 18 15.0**	**-1.8**
ZAA0	**Zalesovo Array**	**44.70**	**353**	P	**P**	**19 18 31.0**	**-1.8**
ZAA0				IAmb	IAmb	19 18 32.9	
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**44.70**	**353**	P	**P**	**19 18 32.3**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=163,slow=7.7,SNR=7.7						
ABKAR	**Akbulak array**	**48.29**	**331**	P	**P**	**19 19 01.9**	**+0.9**
ABKAR	**Akbulak array**	**48.29**	**331**	P	**P**	**19 19 02.0**	**+0.9**
ABKAR				IAmb	IAmb	19 19 02.3	
	comp=Z,0.8nm,0.7s						
WB0	**Warramunga Arr**	**49.91**	**126**	P	**P**	**19 19 14.1**	**+0.1**
WB0				IAmb	IAmb	19 19 24.2	
	comp=Z,2.4nm,1.0s						
WRA	**Warramunga Arr**	**49.96**	**126**	P	**P**	**19 19 14.5**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=307,slow=8.3,SNR=49						
WB2	**Warramunga Arr**	**49.97**	**126**	P	**P**	**19 19 14.8**	**+0.4**
WR0	**Warramunga Arr**	**50.13**	**126**	P	**P**	**19 19 15.4**	**-0.2**
WR0				IAmb	IAmb	19 19 19.8	
	comp=Z,7.9nm,1.5s						
AS31	**Alice Springs**	**51.68**	**130**	P	**P**	**19 19 28.6**	**+1.3**
ASAR	**Alice Springs**	**51.68**	**131**	P	**P**	**19 19 27.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=304,slow=7.1,SNR=29						
ASAR	**Alice Springs**	**51.68**	**131**	P	**P**	**19 19 28.7**	**+1.4**
STKA	**Stephens Creek**	**61.92**	**134**	P	**P**	**19 20 39.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=297,slow=6.9,SNR=7.5						
CRZF	**Crozet Islands**	**66.99**	**210**	P	**P**	**19 21 11.8**	**-0.7**
ARCES	**ARCESS Array B**	**73.33**	**340**	P	**P**	**19 21 50.7**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=99,slow=7.5,SNR=3.6						
ARCES	**ARCESS Array B**	**73.33**	**340**	IAmb	IAmb	19 21 53.8	
	comp=Z,13nm,1.4s						

JMA 15 19:12:52.7±0.1, 36.°80N×138.°40E, h6km±3km, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.30**	**211**	P	Pg	19 12 58.3	-0.3

JMA 15 19:12:53.4±0.1, 36.°81N×138.°41E, h6km±2km, M0.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.31**	**212**	P	Pg	19 12 58.9	-0.6
MAT				S	Sg	19 13 03.1	-0.5
MAT	**Matsushiro**	**0.31**	**212**	P	Pg	19 12 59.0	-0.5
MAT				S	Sg	19 13 03.1	-0.5

IDC ***15*** *19:43:47.8±1.1, 39.°77N×143.°77E, h0km, mb3.7/9, mb1 3.7/12, mb1mx3.6/47, mbtmp3.6/12, ML2.9/3, Error ellipse: s-maj=29.9km s-min=17.9km az=92.0*
JMA ***15*** *19:43:49.4±0.3, 39.°90N×143.°62E, h12km±4km, M3.5*
ISC 15 19:43:49.1±0.9, 39.°83N±0.°06×143.°64E±0.°08, h6km, n33, σ0°95/35, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.37**	**275**	P	**Pn**	**19 44 13.8**	**-1.0**
MIYJ	**Miyakonagasawa**	**1.43**	**260**	P	**Pn**	**19 44 15.3**	**-0.2**
MIYJ				eS	**Sn**	**19 44 34.3**	**-0.3**
JKEN	**Kujiedanarisaw**	**1.53**	**285**	P	**Pn**	**19 44 16.0**	**-0.9**
JKEN				eS	**Sn**	**19 44 35.6**	**-1.5**
JANG	**Nango**	**1.72**	**289**	P	**Pn**	**19 44 18.7**	**-0.8**
JOM	**Ohasama**	**1.85**	**260**	P	**Pn**	**19 44 21.8**	**+0.5**
JOM				eS	**Sn**	**19 44 44.9**	**-0.1**
JMK	**Ichinoseki**	**2.07**	**246**	P	**Pn**	**19 44 24.5**	**+0.1**
JMK				eS	**Sn**	**19 44 50.0**	**-0.5**
JTM	**Tenmabayashi**	**2.19**	**297**	P	**Pn**	**19 44 26.0**	**0.0**
JEM	**Erimo**	**2.21**	**351**	P	**Pn**	**19 44 26.2**	**-0.1**
JEM				eS	**Sn**	**19 44 52.7**	**-1.3**
JIO	**Ouri**	**2.25**	**233**	P	**Pn**	**19 44 26.3**	**-0.5**
JAH	**Hinai**	**2.34**	**280**	P	**Pn**	**19 44 28.6**	**+0.6**
JOT	**Ohata**	**2.51**	**309**	P	**Pn**	**19 44 30.5**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.54**	**345**	P	**Pn**	**19 44 31.4**	**+0.6**
JNBK				eS	**Sn**	**19 45 02.2**	**+0.2**
JYK	**Kaneyama**	**2.70**	**251**	P	**Pn**	**19 44 33.7**	**+0.7**
JCH	**Churui**	**2.79**	**356**	P	**Pn**	**19 44 33.6**	**-0.6**
JCH				S	**Sn**	**19 45 06.0**	**-2.2**
JKB	**Kayabe**	**2.85**	**317**	P	**Pn**	**19 44 35.7**	**+0.6**
ASAJ	**Asahikawa**	**4.35**	**350**	Pn	**Pn**	**19 44 56.7**	**+1.0**
	1.6nm,0.3s,baz=197,slow=8.2,SNR=22						
ASAJ				Sn	**Sn**	**19 45 47.2**	**+0.4**
	1.4nm,0.3s,baz=259,slow=27,SNR=3.6						
MJAR	**Matsushiro Arr**	**5.39**	**234**	Pn	**Pn**	**19 45 11.3**	**+1.2**
	0.2nm,0.3s,baz=42,slow=12,SNR=7.1						
USRK	**Ussuriysk Ar.**	**9.71**	**301**	Pn	**Pn**	**19 46 12.1**	**+2.9**
	baz=82,slow=13,SNR=2.6						
SEY	**Seymchan**	**23.73**	**10**	P	**P**	**19 49 02.3**	**+0.8**
	2.0nm,0.7s,baz=190,slow=17,SNR=4.1						
YAK	**Yakutsk**	**23.80**	**344**	P	**P**	**19 49 01.2**	**-1.1**
	2.9nm,0.4s,baz=194,slow=1.7,SNR=4.1						
SONM	**Songino Array**	**27.82**	**299**	P	**P**	**19 49 39.9**	**+0.8**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.29**	**128**	T	T	20 20 33.5	
	baz=321,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.30**	**128**	T	T	20 19 25.2	
	baz=321,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.31**	**128**	T	T	20 21 00.0	
	baz=321,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.11**	**130**	T	T	20 20 53.0	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**29.12**	**130**	T	T	20 20 46.3	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**29.13**	**130**	T	T	20 20 48.4	
	baz=323						
ZALV	**Zalesovo Beam**	**41.39**	**310**	P	**P**	**19 51 36.0**	**+0.2**
	0.5nm,0.3s,baz=81,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**44.18**	**300**	P	**P**	**19 51 58.7**	**+0.2**
	0.4nm,0.7s,baz=88,slow=9.2,SNR=2.8						
ILAR	**Eielson Array**	**46.20**	**34**	P	**P**	**19 52 14.7**	**+0.4**
	0.2nm,0.7s,baz=287,slow=6.5,SNR=1.9						
WRA	**Warramunga Arr**	**60.09**	**190**	P	**P**	**19 53 56.1**	**-1.0**
	0.5nm,0.7s,baz=8.8,slow=6.8,SNR=6.4						
ASAR	**Alice Springs**	**63.82**	**190**	P	**P**	**19 54 21.4**	**-0.7**
	0.2nm,0.7s,baz=5.4,slow=4.9,SNR=1.6						
FINES	**FINESS Array B**	**67.15**	**332**	P	**P**	**19 54 43.6**	**+0.3**
	1.7nm,0.8s,baz=101,slow=6.0,SNR=4.2						

IASPEI ***15*** *19:49:06.2±1.1, 37.°05N±0.°03×97.°91W±0.°03, h9km±7km, Error ellipse: s-maj=4.6km s-min=4.0km az=168.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ANF ***15*** *19:49:06.6±0.3, 37.°05N×97.°92W, h5km, ML4.3/13, Error ellipse: s-maj=4.0km s-min=2.9km az=59.0*
NEIC ***15*** *19:49:06.6±1.2, 37.°02N±0.°03×97.°91W±0.°04, h5km±2km, mb_Lg3.4/107, Error ellipse: s-maj=6.5km s-min=3.0km az=306.0*
IDC ***15*** *19:49:06.1±0.9, 37.°20N×98.°04W, h0km, mb3.4/1, mb1 3.9/6, mb1mx3.6/43, mbtmp3.6/6, ML4.2/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/39, Error ellipse: s-maj=14.0km s-min=11.4km az=171.0*
ISC 15 19:49:06.2±0.9, 37.°04N±0.°02×97.°90W±0.°02, h6km±6km, n125, σ0°86/109, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN05	**Bluff City Nor**	**0.07**	**18**		**Pg**	**19 49 08.0**	**0.0**
KAN14	**Manchester OK**	**0.10**	**211**		**Pg**	**19 49 08.6**	**+0.2**
KAN14				Sg	**Sg**	**19 49 10.2**	**+0.3**
KAN17	**Caldwell West**	**0.11**	**88**		**Pg**	**19 49 09.0**	**+0.5**
KAN10	**Anthony SW Sta**	**0.18**	**298**		**Pg**	**19 49 09.7**	**0.0**
KAN10				Sg	**Sg**	**19 49 12.3**	**+0.1**
GC02	**Grant County #**	**0.19**	**170**		**Pg**	**19 49 10.4**	**-0.4**
KAN08	**Anthony NE Sta**	**0.20**	**343**		**Pg**	**19 49 10.1**	**0.0**
KAN16	**Harper SW Stat**	**0.23**	**325**		**Pg**	**19 49 10.6**	**-0.1**
KAN16				Sg	**Sg**	**19 49 14.0**	**+0.2**
KAN09	**Caldwell North**	**0.24**	**67**		**Pg**	**19 49 11.4**	**+0.4**
KS20	**Mayfield South**	**0.33**	**55**		**Pg**	**19 49 13.1**	**+0.3**
KAN13	**South Haven SW**	**0.34**	**95**		**Pg**	**19 49 13.2**	**+0.5**
OK032	**Salt Plains WL**	**0.34**	**227**		**Pg**	**19 49 13.1**	**+0.2**
CROK	**Carrier**	**0.54**	**187**		**Pg**	**19 49 16.8**	**+0.3**
BLOK	**Blackwell**	**0.62**	**117**	Pg	**Pg**	**19 49 18.4**	**+0.4**
U32A	**Winter Ranch,**	**1.10**	**234**	Pg	**Pg**	**19 49 26.9**	**-0.4**
U32A	**Winter Ranch,**	**1.10**	**234**	P	**Pg**	**19 49 27.0**	**-0.4**
	baz=53,SNR=41						
U32A	**Winter Ranch,**	**1.10**	**234**	P		19 49 27.0	
	baz=53,SNR=41						
T35A	**Sooner Cattle**	**1.12**	**96**		**Pg**	**19 49 27.5**	**-0.1**
T35B	**Sooner Cattle**	**1.12**	**96**	P	**Pg**	**19 49 27.4**	**-0.2**
	baz=277						
T35B				S	**Sg**	**19 49 42.2**	**+0.1**
	baz=277						
T35B	**Sooner Cattle**	**1.12**	**96**	P		19 49 27.4	
	baz=277						
T35B				S		19 49 42.2	
	baz=277						
OK029	**Liberty Lake**	**1.29**	**164**		**Pn**	**19 49 30.6**	**-0.1**
QUOK	**Quay**	**1.29**	**132**		**Pn**	**19 49 30.6**	**-0.1**
OK031	**S. Brethren Rd**	**1.38**	**141**		**Pn**	**19 49 32.1**	**+0.2**
BCOK	**Bluff Creek, N**	**1.40**	**170**		**Pn**	**19 49 32.3**	**+0.1**
OK030	**Cody Creek RV**	**1.43**	**141**		**Pn**	**19 49 32.9**	**+0.3**
OK009	**Oakdale Elemen**	**1.51**	**165**	Pn	**Pn**	**19 49 32.9**	**-0.8**
R32A	**Long Quarter,**	**1.52**	**335**		**Pn**	**19 49 34.0**	**0.0**
R32A	**Long Quarter,**	**1.52**	**335**	P	**Pn**	**19 49 33.9**	**0.0**
	baz=155,SNR=169						
R32A				S	**Sn**	**19 49 53.8**	**-0.2**
	baz=155						
R32A	**Long Quarter,**	**1.52**	**335**	P		19 49 33.9	
	baz=155,SNR=169						
R32A				S		19 49 53.8	
	baz=155						
OK025	**Westminster Rd**	**1.52**	**163**		**Pn**	**19 49 34.5**	**+0.6**
OKCFA	**Oklahoma City**	**1.66**	**167**		**Pn**	**19 49 36.5**	**+0.7**
OKCFA	**Oklahoma City**	**1.66**	**167**	P	**Pn**	**19 49 36.8**	**+1.0**
	baz=348,SNR=11						
OKCFA				S	**Sg**	**19 49 59.8**	**+0.2**
	baz=348						
OKCFA	**Oklahoma City**	**1.66**	**167**	P		19 49 36.8	
	baz=348,SNR=11						
OKCFA				S		19 49 59.8	
	baz=348						
OKCSW	**OKLAHOMA CITY**	**1.67**	**167**		**Pn**	**19 49 36.8**	**+0.8**

FNO	**Franklin**	**1.82**	**167**		**Pn**	**19 49 39.2**	**+1.1**
TUL1	**Leonard**	**2.04**	**123**	P	**Pb**	**19 49 42.8**	**-0.8**
	baz=304,SNR=20						
TUL1				S	**Sg**	**19 50 10.9**	**-0.8**
	baz=304						
TUL1	**Leonard**	**2.04**	**123**	P		19 49 42.8	
	baz=304,SNR=20						
TUL1				S		19 50 10.9	
	baz=304						
CBKS	**Cedar Bluff**	**2.29**	**321**	Pn	**Pn**	**19 49 45.3**	**+0.7**
CBKS	**Cedar Bluff**	**2.29**	**321**	P	**Pn**	**19 49 45.2**	**+0.7**
	baz=140,SNR=13						
CBKS				S	**Sn**	**19 50 14.5**	**+1.5**
	baz=140						
CBKS	**Cedar Bluff**	**2.29**	**321**	P		19 49 45.2	
	baz=140,SNR=13						
CBKS				S		19 50 14.5	
	baz=140						
KSU1	**Kansas State U**	**2.29**	**26**	Pn	**Pn**	**19 49 45.4**	**+0.8**
KSU1	**Kansas State U**	**2.29**	**26**	P	**Pn**	**19 49 45.3**	**+0.8**
	baz=207,SNR=10.0						
KSU1				S	**Sb**	**19 50 16.7**	**+0.1**
	baz=207						
KSU1	**Kansas State U**	**2.29**	**26**	P		19 49 45.3	
	baz=207,SNR=10.0						
KSU1				S		19 50 16.7	
	baz=207						
WMOK	**Wichita Mounta**	**2.41**	**198**		**Pn**	**19 49 46.8**	**+0.7**
WMOK	**Wichita Mounta**	**2.41**	**198**	P	**Pn**	**19 49 46.9**	**+0.8**
	baz=17,SNR=45						
WMOK	**Wichita Mounta**	**2.41**	**198**	P		19 49 46.9	
	baz=17,SNR=45						
X34A	**Smith Ranch, M**	**2.44**	**179**	Pn	**Pn**	**19 49 47.8**	**+1.3**
X34A				IAmb_Lg		19 50 28.4	
	comp=Z,140nm,0.8s						
U38A	**Gravette**	**2.88**	**101**		**Pn**	**19 49 53.5**	**+0.9**
LOOK	**Love County**	**3.10**	**169**	Pn	**Pn**	**19 49 56.6**	**+1.0**
X37A	**Clayton**	**3.19**	**139**	Pn	**Pn**	**19 49 57.9**	**+1.0**
X37A	**Clayton**	**3.19**	**139**	P	**Pn**	**19 49 58.2**	**+1.3**
	baz=321,SNR=16						
X37A	**Clayton**	**3.19**	**139**	P		19 49 58.2	
	baz=321,SNR=16						
HHAR	**Hobbs**	**3.27**	**102**		**Pn**	**19 49 59.0**	**+1.0**
S39A	**Bolivar**	**3.70**	**79**	Pn	**Pn**	**19 50 04.7**	**+0.8**
N33B	**J Bar K, Exete**	**3.71**	**5**	S	**Sn**	**19 50 50.1**	**+2.1**
	baz=186						
N33B	**J Bar K, Exete**	**3.71**	**5**	S		19 50 50.1	
	baz=186						
N33A	**J Bar K, Exete**	**3.71**	**5**		**Pn**	**19 50 04.5**	**+0.5**
N33A				IAmb_Lg		19 51 14.1	
	comp=Z,114nm,0.9s						
Z35A	**Perchaven, San**	**3.74**	**172**		**Pn**	**19 50 04.4**	**+0.1**
Z35A				IAmb_Lg		19 51 15.0	
	comp=Z,61nm,0.9s						
Z35A	**Perchaven, San**	**3.74**	**172**	P	**Pn**	**19 50 05.1**	**+0.7**
	baz=352						
Z35A				S	**Sn**	**19 50 50.0**	**+1.3**
	baz=352						
Z35A	**Perchaven, San**	**3.74**	**172**	P		19 50 05.1	
	baz=352						
Z35A				S		19 50 50.0	
	baz=352						
AMTX	**Amarillo**	**3.75**	**236**	Pn	**Pn**	**19 50 04.3**	**-0.3**
AMTX	**Amarillo**	**3.75**	**236**	P	**Pn**	**19 50 06.1**	**+1.5**
	baz=54,SNR=6.4						
AMTX	**Amarillo**	**3.75**	**236**	P		19 50 06.1	
	baz=54,SNR=6.4						
W39A	**Magazine**	**3.81**	**118**		**Pn**	**19 50 06.1**	**+0.8**
U40A	**Yellville**	**4.11**	**98**		**Pn**	**19 50 10.3**	**+0.8**
N35A	**Tabor**	**4.20**	**24**		**Pn**	**19 50 11.6**	**+0.8**
KSCO	**Kaye Shedlock'**	**4.22**	**299**	Pn	**Pn**	**19 50 11.7**	**+0.6**
KSCO				IAmb_Lg		19 51 25.1	
	comp=Z,110nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.22**	**299**	P	**Pn**	**19 50 11.5**	**+0.4**
	baz=116						
KSCO	**Kaye Shedlock'**	**4.22**	**299**	P		19 50 11.5	
	baz=116						
P38A	**Dawn**	**4.29**	**52**		**Pn**	**19 50 12.6**	**+0.6**
P38A				IAmb_Lg		19 51 26.6	
	comp=Z,63nm,0.8s						
MIAR	**Mount Ida**	**4.31**	**124**	Pn	**Pn**	**19 50 13.2**	**+1.0**
MIAR				IAmb_Lg		19 51 28.0	
	comp=Z,84nm,0.8s						
BGNE	**Belgrade**	**4.37**	**358**		**Pn**	**19 50 13.8**	**+0.7**
BGNE				IAmb_Lg		19 51 30.2	
	comp=Z,101nm,0.8s						
Z38A	**Mt. Pleasant**	**4.46**	**147**		**Pn**	**19 50 14.1**	**-0.2**
Z38A				IAmb_Lg		19 51 32.9	
	comp=Z,90nm,0.8s						
MGMO	**Mountain Grove**	**4.50**	**87**		**Pn**	**19 50 16.1**	**+1.2**
ABTX	**Abilene, Hawle**	**4.63**	**199**		**Pn**	**19 50 16.9**	**+0.2**
ABTX				IAmb_Lg		19 51 33.0	
	comp=Z,46nm,0.8s						
R40A	**Maddies Statio**	**4.64**	**73**		**Pn**	**19 50 17.5**	**+0.8**
R40A				IAmb_Lg		19 51 34.4	
	comp=Z,52nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.79**	**102**		**Pn**	**19 50 19.9**	**+1.0**
FCAR				IAmb_Lg		19 51 37.2	
	comp=Z,61nm,1.0s						
X40A	**Basin Creek Fa**	**4.84**	**120**		**Pn**	**19 50 20.7**	**+1.2**
X40A				IAmb_Lg		19 51 41.6	
	comp=Z,83nm,0.9s						
WHAR	**Woody Hollow**	**4.86**	**109**	Pn	**Pn**

	comp=Z,3.2nm,0.3s,baz=159,slow=23,SNR=5.4							
ANMO	**Albuquerque**	**7.25**	**256**	Pn	**Pn**	**19 50 53.5**	**+0.8**	
PHWY	**Pilot Hill**	**7.25**	**308**		**Pn**	**19 50 51.8**	**-1.1**	
PHWY				lAmb_Lg		19 52 56.4		
	comp=Z,45nm,0.9s							
OXF	**Oxford**	**7.35**	**108**	Pn	**Pn**	**19 50 54.0**	**+0.1**	
OXF				lAmb_Lg		19 53 03.5		
	comp=Z,47nm,0.8s							
T45A	**Paducah**	**7.40**	**87**	lAmb_Lg		19 53 21.6		
	comp=Z,58nm,0.8s							
SUSD	**Miller**	**7.44**	**354**	lAmb_Lg		19 53 14.0		
	comp=Z,48nm,0.8s							
SMCO	**Snowmass**	**7.47**	**289**	Pn	**Pn**	**19 50 55.5**	**-0.5**	
BNM	**Barren Site**	**7.67**	**251**		**Pn**	**19 50 58.6**	**-0.1**	
I37A	**Lemond, Waseca**	**7.76**	**25**	lAmb_Lg		19 53 24.7		
	comp=Z,40nm,0.8s							
O44A	**Mansfield**	**8.01**	**64**	lAmb_Lg		19 53 24.4		
	comp=Z,47nm,0.8s							
L42A	**Oliver, Polo**	**8.06**	**50**	lAmb_Lg		19 53 33.6		
	comp=Z,42nm,0.8s							
MNTX	**Cornudas Mount**	**8.16**	**231**		**Pn**	**19 51 04.8**	**-0.3**	
MNTX				lAmb_Lg		19 53 34.9		
	comp=Z,30nm,1.1s							
USIN	**University of**	**8.19**	**80**		**Pn**	**19 51 05.3**	**-0.1**	
USIN				lAmb_Lg		19 53 38.5		
	comp=Z,34nm,0.9s							
JFWS	**Jewell Farm**	**8.30**	**43**	lAmb_Lg		19 53 40.3		
	comp=Z,34nm,0.7s							
RSSD	**Black Hills**	**8.47**	**328**	Pn	**Pn**	**19 51 10.4**	**+0.8**	
RSSD				lAmb_Lg		19 53 42.7		
	comp=Z,27nm,0.8s							
RWWY	**Rawlins**	**8.57**	**306**	lAmb_Lg		19 53 46.6		
	comp=Z,33nm,0.9s							
T47A	**Sharon Grove**	**8.63**	**87**	lAmb_Lg		19 53 54.1		
	comp=Z,33nm,1.1s							
K22A	**Casper**	**8.68**	**313**		**Pn**	**19 51 11.0**	**-1.4**	
P46A	**Rosedale**	**8.79**	**70**	lAmb_Lg		19 53 46.3		
	comp=Z,41nm,0.8s							
M44A	**Midewin, Midew**	**8.79**	**57**	lAmb_Lg		19 53 49.5		
	comp=Z,34nm,0.8s							
I40A	**Norwalk**	**8.81**	**37**	lAmb_Lg		19 54 06.1		
	comp=Z,19nm,0.8s							
F33A	**5 Mile Ranch,**	**8.87**	**7**	lAmb_Lg		19 53 48.9		
	comp=Z,21nm,0.9s							
SPMN	**Marine on St.**	**9.03**	**24**	lAmb_Lg		19 53 59.5		
	comp=Z,20nm,0.8s							
TXAR	**Lajitas Array**	**9.08**	**214**	Pn	**Pn**	**19 51 17.7**	**-0.1**	
	comp=Z,0.4nm,0.3s,baz=33,slow=11,SNR=12							
TXAR				Pg		19 51 51.3		
	comp=Z,0.7nm,0.3s,baz=44,slow=16,SNR=3.8							
TXAR				Lg	Lg	19 53 49.8		
	comp=Z,1.1nm,0.3s,baz=51,slow=20,SNR=5.7							
SFIN	**Lafayette**	**9.08**	**65**	lAmb_Lg		19 53 56.2		
	comp=Z,29nm,0.8s							
BLO	**Bloomington**	**9.22**	**73**	lAmb_Lg		19 53 60.0		
	comp=Z,46nm,0.7s							
K43A	**Burlington**	**9.28**	**49**	lAmb_Lg		19 54 05.1		
	comp=Z,33nm,0.8s							
WCI	**Wyandotte Cave**	**9.28**	**79**	lAmb_Lg		19 54 08.4		
	comp=Z,25nm,0.9s							
I42A	**Draeger Farm,**	**9.68**	**42**	lAmb_Lg		19 54 15.2		
	comp=Z,22nm,0.9s							
PDAR	**Pinedale Array**	**10.62**	**306**	Pn	**Pn**	**19 51 38.2**	**-0.9**	
	comp=Z,0.7nm,0.3s,baz=121,slow=14,SNR=11							
PDAR				Pg		19 52 24.1		
	comp=Z,0.7nm,0.3s,baz=109,slow=16,SNR=8.0							
PDAR				Lg	Lg	19 54 31.6		
	comp=Z,0.3nm,0.3s,baz=111,slow=36,SNR=2.7							
TKL	**Tuckaleechee C**	**11.48**	**93**	Pn	**Pn**	**19 51 51.1**	**+0.5**	
	comp=Z,0.3nm,0.3s,baz=257,slow=7.8,SNR=3.7							
TKL				Lg	Lg	19 55 06.1		
	comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=6.5							
SADO	**Sadowa**	**16.12**	**56**	Pn	**Pn**	**19 52 50.0**	**-3.3**	
	comp=Z,0.5nm,0.3s,baz=255,slow=20,SNR=3.6							
SADO				Lg	Lg	19 57 28.8		
	comp=Z,0.4nm,0.3s,baz=334,slow=21,SNR=4.5							
LPIG	**La Paz**	**16.73**	**223**	Pn	**Pn**	**19 53 00.8**	**-0.3**	
	comp=Z,9.3nm,0.3s,baz=14,slow=4.1,SNR=4.1							
CMIG	**Matias Romero**	**20.05**	**172**	LR	LR	20 02 58.7		
	comp=Z,213nm,18.8s,baz=54,slow=41							
ILAR	**Eielson Array**	**39.92**	**330**	P	**P**	**19 56 41.5**	**+0.9**	
	comp=Z,0.6nm,0.9s,baz=106,slow=7.9,SNR=4.6							

IDC ***15*** *20:12:29.1±6.8,23°.29S×179°.73W,h435km±50km, mb3.3/5, mb1 3.4/6, mb1mx3.1/34, mbtmp4.1/6, Error ellipse: s-maj=109.7km s-min=21.3km az=141.0*

ISC 15 20:12:29.9±1.5,23°.2S±0°.2×179°.7W±0°.2, h450km, n13, σ0§82/12, mb3.6/5, South Pacific Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.79**	**339**	P	**P**	**20 14 02.1**	**-0.2**
	3.3nm,0.3s,baz=137,slow=18,SNR=18						
CTA	**Charters Tower**	**31.72**	**269**	P	**P**	**20 18 15.1**	**-0.4**
	2.1nm,0.3s,baz=90,slow=3.0,SNR=1.9						
STKA	**Stephens Creek**	**35.22**	**247**	P	**P**	**20 18 43.9**	**-1.2**
	0.8nm,0.6s,baz=100,slow=9.9,SNR=5.3						
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**20 19 43.9**	**+0.2**
	1.1nm,0.5s,baz=92,slow=6.4,SNR=24						
WRA	**Warramunga Arr**	**42.70**	**265**	P	**P**	**20 19 46.1**	**0.0**
	0.9nm,0.3s,baz=99,slow=8.3,SNR=10						
FITZ	**Fitzroy Crossi**	**51.13**	**265**	P	**P**	**20 20 51.8**	**+1.7**
	1.9nm,0.8s,baz=118,slow=4.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**114.88**	**317**	PKP	**PKiKP**	**20 30 19.0**	**+0.7**
	0.2nm,0.7s,baz=112,slow=1.0,SNR=2.2						
SPITS	**Spitsbergen Ar**	**124.41**	**356**	PKP	**PKiKP**	**20 30 35.8**	**-0.5**
	3.5nm,0.9s,baz=27,slow=6.8,SNR=1.0						
ARCES	**ARCESS Array B**	**131.22**	**348**	PKP	**PKiKP**	**20 30 50.6**	**+0.5**
	3.6nm,1.0s,baz=54,slow=3.1,SNR=4.2						
HFS	**Hagfors**	**141.87**	**349**	PKhKP	PKPpre	20 31 06.3	
	0.7nm,0.3s,baz=62,slow=3.5,SNR=8.9						
BRTR	**Keskin Array B**	**147.32**	**308**	PKPbc	**PKPbc**	**20 31 22.0**	**-0.3**
	0.4nm,0.7s,baz=80,slow=3.4,SNR=2.9						
EKA	**Eskdalemuir Ar**	**147.77**	**4**	PKPbc	**PKiKP**	**20 31 23.6**	**-0.7**
	0.2nm,0.4s,baz=351,slow=2.7,SNR=6.4						
VRAC	**Vranov**	**150.90**	**338**	PKPbc	**PKiKP**	**20 31 31.3**	**+0.3**
	2.0nm,0.4s,baz=77,slow=15,SNR=3.6						

IDC ***15*** *20:14:03.7±1.4,6°.45S×147°.22E,h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/38, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=46.5km s-min=23.3km az=101.0*

ISC 15 20:14:08.9±1.2,6°.4S±0°.1×147°.1E±0°.3, h35km, n9, σ1§30/10, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**179**	Pn	**Pn**	**20 14 53.0**	**-0.5**
	4.1nm,0.3s,baz=335,slow=14,SNR=3.3						
PMG				Sn	**Sn**	**20 15 29.4**	**+1.6**
	7.9nm,0.3s,baz=334,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**18.30**	**222**	P	**P**	**20 18 18.6**	**-1.5**
	0.1nm,0.3s,baz=49,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**21.34**	**215**	P	**P**	**20 18 54.5**	**+1.3**
	1.5nm,0.7s,baz=42,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**23.95**	**239**	P	**P**	**20 19 19.0**	**-1.1**
	1.4nm,1.1s,baz=59,slow=12,SNR=1.4						
STKA	**Stephens Creek**	**25.84**	**191**	P	**P**	**20 19 35.9**	**-1.3**
	1.4nm,0.8s,baz=5.0,slow=18,SNR=2.4						
QSPA	**South Pole Qui**	**83.54**	**180**	P	**P**	**20 26 32.7**	**-0.5**
	0.6nm,0.7s,baz=53,slow=10,SNR=1.7						
ILAR	**Eielson Array**	**85.82**	**23**	P	**P**	**20 26 44.4**	**-0.1**
	0.3nm,0.6s,baz=239,slow=7.0,SNR=2.3						
GEYT	**Alibeck**	**93.12**	**308**	P	**P**	**20 27 20.7**	**+1.0**
	14nm,0.8s,baz=111,slow=7.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**145.31**	**284**	PKPbc	**PKPab**	**20 33 45.0**	**+0.9**
	0.8nm,0.7s,baz=71,slow=4.0,SNR=5.1						

BJI ***15*** *20:18:56.3±0.0,29°.10S×178°.29W,h317km, mB4.8/22, mb4.8/46*

NOU ***15*** *20:18:58.2,29°.70S×178°.26W,h345km, mb5.2, Kermadec Islands, New Zealand*

IDC ***15*** *20:18:59.4±0.6,29°.23S×178°.91W,h321km±5km, mb4.6/27, mb1 4.6/30, mb1mx4.6/35, mbtmp5.3/30, Error ellipse: s-maj=10.0km s-min=8.7km az=172.0*

NEIC ***15*** *20:18:59.6±2.1,29°.28S±0°.09×179°.0W±0°.1, h317km±4km, mb4.9/187, Error ellipse: s-maj=16.1km s-min=12.8km az=112.0*

GCMT ***15*** *20:19:00.6±0.6,29°.32S±0°.07×178°.76W±0°.05, h335km±2km, MW5.2/46, Moment Tensor Solution. s46,c61; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr-0.48±.04; Mθθ-0.16±.07; Mϕϕ0.64±.05; Mrθ-0.49±.06;*

Mrϕ0.15±.06; Mθϕ-0.31±.06; Best double couple: M=0.83500×10^17 NP1:ϕ=162.00000°, δ35.00000°, λ-143.00000°. NP2:ϕ=41.00000°, δ70.00000°, λ-60.00000°. Principal axes: T 0.8110, Plg19.0000°, Azm109.0000°; N 0.0470, Plg28.0000°, Azm210.0000°; P -0.8580, Plg55.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function

ISC 15 20:18:57.9±0.2, 29°.52S±0°.04×178°.93W±0°.05, h315km, n735, σ1§62/794, mb5.0/167, 49C-64D, Fault plane solution: NP1:ϕ=207.24594°, δ11.76293°, λ-118.68725°. NP2:ϕ=56.44819°, δ79.69785°, λ-84.29173°. Principal axes: T Plg34.4578°, Azm141.5551°; N Plg5.6159°, Azm235.4240°; P Plg54.9564°, Azm333.4838°;

Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.92**	**73**	P	**Pn**	**20 19 41.3**	**+1.8**
RIZ				S	**S**	**20 20 17.4**	**+4.7**
GLKZ	**Green Lake**	**0.92**	**74**	P	**Pn**	**20 19 42.4**	**+2.9**
GLKZ				S	**S**	**20 20 12.7**	**0.0**
RAO	**Raoul Island**	**0.92**	**74**	P	**Pn**	**20 19 41.7**	**+2.2**
	7μm,0.3s,baz=94,slow=3.8,SNR=229						
RAO				S	**S**	**20 20 11.3**	**-1.5**
	2μm,0.3s,baz=53,slow=24,SNR=11						
RAO	**Raoul Island**	**0.92**	**74**	P	**Pn**	**20 19 42.0**	**+2.4**
GRZ	**Great Barrier**	**8.21**	**214**	P	**P**	**20 20 58.6**	**+0.1**
MXZ	**Matakaoa Point**	**8.35**	**195**	Pn	**P**	**20 20 59.5**	**-0.6**
MXZ	**Matakaoa Point**	**8.35**	**195**	P	**Pn**	**20 20 52.9**	**-2.8**
MXZ				S	**S**	**20 22 22.7**	**-8.9**
KUZ	**Kuaotunu**	**8.49**	**210**	P	**P**	**20 21 01.8**	**+0.1**
OUZ	**Omahuta**	**8.50**	**226**		**P**	**20 21 03.9**	**+2.0**
WMGZ	**Waiomatatini S**	**8.57**	**194**	P	**Pn**	**20 20 59.1**	**+0.7**
WMGZ				S	**S**	**20 22 35.2**	**-1.3**
PKGZ	**Pakihiroa**	**8.71**	**196**	P	**Pn**	**20 20 59.1**	**-1.1**
PKGZ				S	S	20 22 29.5	-10
PUZ	**Puketiti**	**8.85**	**195**	P	**Pn**	**20 21 00.7**	**-1.1**
PUZ				S	**S**	**20 22 38.9**	**-3.9**
TWGZ	**Tauwhareparae**	**9.01**	**196**	P	**P**	**20 21 06.5**	**-1.3**
TWGZ				S	**S**	**20 22 44.6**	**-1.8**
TKGZ	**Te Karaka**	**9.29**	**196**	P	**Pn**	**20 21 04.4**	**-2.8**
TKGZ				S	**S**	**20 22 44.1**	**-8.6**
URZ	**Urewera**	**9.32**	**200**	P	**Pn**	**20 21 08.0**	**+0.5**
	6.1nm,0.3s,baz=300,slow=23,SNR=45						
URZ				S	**S**	**20 22 52.5**	**-0.8**
	35nm,0.3s,baz=221,slow=14,SNR=6.0						
URZ	**Urewera**	**9.32**	**200**	Pn	**Pn**	**20 21 07.4**	**-0.1**
BKZ	**Black Stump Fm**	**10.34**	**200**	Pn	**Pn**	**20 21 17.9**	**-2.1**
HIZ	**Hauiti**	**10.35**	**208**		**Pn**	**20 21 19.2**	**-0.9**
KWHZ	**Kaweka Forest**	**10.60**	**200**	P	**Pn**	**20 21 20.9**	**-2.3**
KWHZ				S	S	20 23 11.7	-11
VRZ	**Vera Road**	**10.91**	**207**	P	**P**	**20 21 29.3**	**+0.5**
PKE	**Pukeiti**	**11.28**	**209**	P	**P**	**20 21 36.1**	**+3.1**
NEZ	**North Egmont**	**11.30**	**209**	P	**P**	**20 21 37.2**	**+3.9**
TSZ	**Takapari Road**	**11.32**	**200**	P	**Pn**	**20 21 28.4**	**-3.4**
TSZ				S	S	20 23 28.5	-10
WAZ	**Wanganui**	**11.37**	**204**	P	**Pn**	**20 21 32.7**	**+0.2**
WAZ				S	**S**	**20 23 36.4**	**-3.1**
NFK	**Norfolk Island**	**11.47**	**269**	P	**P**	**20 21 39.2**	**+3.9**
	baz=12,SNR=4.7						
BFZ	**Birch Farm**	**11.82**	**198**	P	**Pn**	**20 21 37.4**	**-0.4**
BFZ	**Birch Farm**	**11.82**	**198**	P	**Pn**	**20 21 35.0**	**-2.8**
MRZ	**Mangatainoka R**	**11.99**	**201**	P	**Pn**	**20 21 36.0**	**-3.9**
MRZ				S	S	20 23 43.2	-10
TIWZ	**Tintock**	**12.01**	**199**	P	**Pn**	**20 21 38.0**	**-2.1**
MSVF	**Nonsavu**	**12.05**	**346**	P	**Pn**	**20 21 40.4**	**-0.5**
	84nm,0.3s,baz=186,slow=7.1,SNR=457						
MSVF				S	**S**	**20 23 55.6**	**+0.4**
	baz=99,slow=12,SNR=5.1						
MSVF	**Nonsavu**	**12.05**	**346**	P	**Pn**	**20 21 39.6**	**-1.3**
HOWZ	**Holdsworth Sta**	**12.23**	**200**	P	**Pn**	**20 21 41.0**	**-1.8**
HOWZ				S	**S**	**20 23 49.7**	**-8.9**
OGWZ	**Otaki Gorge**	**12.26**	**202**	P	**Pn**	**20 21 39.8**	**-3.3**
OGWZ				S	**S**	**20 23 52.7**	**-6.5**
TMWZ	**Te Maipa**	**12.31**	**199**	P	**Pn**	**20 21 41.5**	**-2.3**
TMWZ				S	**S**	**20 23 52.3**	**-8.2**
KIW	**Kapiti Island**	**12.38**	**202**	P	**Pn**	**20 21 41.8**	**-2.8**
KIW				S	**S**	**20 23 55.2**	**-6.8**
MTW	**Mount Morrison**	**12.47**	**200**	P	**Pn**	**20 21 43.4**	**-2.2**
MTW				S	**S**	**20 23 55.8**	**-8.1**
CAW	**Cannon Point**	**12.56**	**201**	P	**Pn**	**20 21 44.1**	**-2.6**
CAW				S	**S**	**20 23 58.8**	**-7.0**
TRWZ	**Traveller**	**12.64**	**199**	P	**Pn**	**20 21 45.1**	**-2.6**
TRWZ				S	**S**	**20 23 59.8**	**-7.8**
DUWZ	**D'Urville Isla**	**12.68**	**205**	P	**Pn**	**20 21 46.3**	**-1.9**
PAWZ	**Paruwai Farm**	**12.70**	**200**	P	**Pn**	**20 21 45.7**	**-2.7**
PAWZ				S	S	20 23 59.9	-9.0
MSWZ	**Moikau Station**	**12.78**	**200**		**Pn**	**20 21 47.4**	**-2.0**
MSWZ	**Moikau Station**	**12.78**	**200**	P	**Pn**	**20 21 47.6**	**-1.8**
MSWZ				S	S	20 24 01.8	-9.0
SNZO	**South Karori**	**12.86**	**202**	P	**Pn**	**20 21 47.2**	**-3.0**
BHW	**Baring Head**	**12.89**	**201**	P	**Pn**	**20 21 47.7**	**-3.0**
BHW	**Baring Head**	**12.89**	**201**	P	**Pn**	**20 21 48.8**	**-1.9**
PLWZ	**Palliser**	**12.92**	**200**	P	**Pn**	**20 21 47.3**	**-3.8**
PLWZ	**Palliser**	**12.92**	**200**	P	**Pn**	**20 21 49.7**	**-1.4**
PLWZ				S	**S**	**20 24 05.4**	**-8.3**
TUWZ	**Tuamarina**	**13.22**	**204**	P	**P**	**20 21 50.2**	**-4.2**
TUWZ	**Tuamarina**	**13.22**	**204**	P	**P**	**20 21 51.5**	**-3.0**
NNZ	**Nelson**	**13.25**	**206**	P	**P**	**20 21 51.5**	**-3.2**
NNZ	**Nelson**	**13.25**	**206**	P	**P**	**20 21 52.5**	**-2.2**
QRZ	**Quartz Range**	**13.26**	**209**	P	**P**	**20 21 53.2**	**-1.7**
CMWZ	**Cape Campbell**	**13.41**	**203**	P	**P**	**20 21 54.0**	**-2.6**
BSWZ	**Blackbirch Sta**	**13.50**	**204**	P	**P**	**20 21 55.8**	**-1.7**
THZ	**Tophouse**	**13.90**	**206**	P	**P**	**20 21 57.9**	**-4.1**
PINNC	**Pines Island,**	**14.03**	**296**	P	**P**	**20 21 59.5**	**-4.1**
KHZ	**Kahutara**	**14.23**	**203**	P	**P**	**20 22 03.4**	**-2.2**
OUENC	**Ouen Island, N**	**14.61**	**296**	P	**Pn**	**20 22 12.6**	**+1.3**
OUENC	**Ouen Island, N**	**14.61**	**296**	P	Pn	20 22 16.8	+5.5
YATNC	**Mamie plateau,**	**14.76**	**297**	P	**Pn**	**20 22 17.7**	**+4.6**
ONTNC	**Ouen Toro**	**14.97**	**295**	P	**Pn**	**20 22 18.5**	**+2.9**
ONTNC	**Ouen Toro**	**14.97**	**295**	P	**Pn**	**20 22 19.6**	**+4.0**
LTZ	**Lake Taylor**	**15.01**	**206**	P	**P**	**20 22 13.2**	**-1.0**
DZM	**Mont Dzumac**	**15.11**	**296**	*e*P	**Pn**	**20 22 20.7**	**+3.5**
	154nm,0.5s						
DZM	**Mont Dzumac**	**15.11**	**296**	P	**Pn**	**20 22 21.2**	**+4.0**
	49nm,0.3s,baz=117,slow=13,SNR=198						
DZM	**Mont Dzumac**	**15.11**	**296**	P	**Pn**	**20 22 18.4**	**+1.2**
DZM	**Mont Dzumac**	**15.11**	**296**	P	**Pn**	**20 22 20.2**	**+3.0**
NOUC	**Port Laguerre**	**15.20**	**296**	P	**Pn**	**20 22 22.0**	**+3.8**
LIFNC	**LIFOU**	**15.23**	**302**	P	**P**	**20 22 14.4**	**-2.4**
LIFNC	**LIFOU**	**15.23**	**302**	P	**Pn**	**20 22 21.5**	**+2.9**
OXZ	**Oxford**	**15.57**	**205**	P	**P**	**20 22 18.2**	**-2.0**
OXZ				lAmb	lAmb	20 22 27.0	
	comp=Z,32nm,0.6s						
MQZ	**McQueen's Vall**	**15.68**	**203**	P	**P**	**20 22 19.2**	**-2.1**
MQZ				lAmb	lAmb	20 22 28.9	
	comp=Z,78nm,1.2s						
RPZ	**Rata Peaks**	**16.27**	**207**	P	**P**	**20 22 25.4**	**-2.5**
FOZ	**Fox Glacier**	**16.63**	**210**	P	**P**	**20 22 32.4**	**+0.6**
FOZ				lAmb	lAmb	20 22 33.7	
	comp=Z,91nm,1.3s						
AFI	**Afiamalu**	**16.88**	**25**	P	**P**	**20 22 32.8**	**-2.1**
	comp=Z,47nm,0.3s,baz=86,slow=2.4,SNR=28						
AFI				S	**S**	**20 25 25.6**	**-9.4**
	comp=Z,4.6nm,0.3s,baz=231,slow=20,SNR=1.7						
AFI	**Afiamalu**	**16.88**	**25**	P	**P**	**20 22 32.2**	**-2.6**
AFI	**Afiamalu**	**16.88**	**25**	P	**P**	**20 22 33.3**	**-1.6**
LBZ	**Lake Benmore**	**17.18**	**207**	P	**P**	**20 22 35.8**	**-2.0**
LBZ				lAmb	lAmb	20 22 51.4	
	comp=Z,45nm,1.3s						
ODZ	**Otahua Downs**	**17.55**	**205**	P	**P**	**20 22 42.6**	**+0.8**
ODZ				lAmb	lAmb	20 22 47.9	
	comp=Z,51nm,1.3s						
KOUNC	**Koumac, New Ca**	**17.62**	**297**	P	**Pn**	**20 22 47.7**	**+1.4**
WKZ	**Wanaka**	**18.02**	**209**	P	**P**	**20 22 45.7**	**-1.1**
WKZ				lAmb	lAmb	20 22 50.0	
	comp=Z,75nm,1.2s						
SANVU	**Saraoutou**	**18.95**	**315**	P	**P**	**20 22 56.7**	**-0.2**
SANVU	**Saraoutou**	**18.95**	**315**	P	**P**	**20 23 00.0**	**+3.1**
RAR	**Rarotonga**	**19.17**	**69**	P	**P**	**20 22 59.4**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=213,slow=7.3,SNR=5.0						
ARMA	**Armidale**	**25.49**	**261**	P	**P**	**20 24 02.0**	**+3.6**
	baz=26,SNR=18						
EIDS	**Eidsvold**	**26.89**	**272**	P	**P**	**20 24 13.5**	**+2.7**
	baz=27,SNR=5.0						
TBI	**Tubuai**	**27.05**	**84**	*e*T	T	20 51 59.5	
	comp=Z,10nm,0.3s						
CAN	**Canberra**	**27.61**	**250**	P	**P**	**20 24 17.7**	**+0.6**
CAN				lAmb	lAmb	20 24 20.6	
	comp=Z,49nm,1.5s						
HNR	**Honiara**	**28.11**	**311**	P	**P**	**20 24 20.4**	**-1.3**
	comp=Z,79nm,0.5s,baz=27,slow=0.7,SNR=6.5						
HNR	**Honiara**	**28.11**	**311**	P	**P**	**20 24 20.4**	**-1.3**
RMQ	**Roma**	**28.64**	**268**	P	**P**	**20 24 29.4**	**+3.1**
	baz=29,SNR=12						
PAE	**Paea**	**29.29**	**73**	*e*T	T	20 54 42.2	
	comp=Z,3.7nm,0.2s						
PPT	**Papeete**	**29.34**	**73**	P	**P**	**20 24 32.3**	**-0.1**
	comp=Z,36nm,0.6s,baz=264,slow=18,SNR=2.5						
CMSA	**Cobar Meteorol**	**30.46**	**257**	P	**P**	**20 24 44.7**	**+2.5**
	baz=31,SNR=16						
TARA	**Tarawa**	**31.67**	**344**	P	**P**	**20 24 51.3**	**-1.5**
VAH	**Vaihoa**	**32.12**	**71**	*e*T	T	20 58 14.7	
	comp=Z,16nm,0.2s						
CTA	**Charters Tower**	**32.86**	**279**	P	**P**	**20 25 05.0**	**+1.8**
	comp=Z,64nm,0.7s,baz=101,slow=11,SNR=81						
CTAO	**Charters Tower**	**32.86**	**279**	P	**P**	**20 25 04.7**	**+1.5**
STKA	**Stephens Creek**	**33.90**	**256**	P	**P**	**20 25 14.1**	**+2.2**
	comp=Z,5.9nm,0.3s,baz=97,slow=8.1,SNR=35						
STKA				S	**S**	**20 30 12.2**	**-0.5**
	comp=Z,8.1nm,1.2s,baz=225,slow=20,SNR=2.8						
STKA	**Stephens Creek**	**33.90**	**256**	P	**P**	**20 25 13.9**	**+2.0**
	baz=34,SNR=25						
STKA	**Stephens Creek**	**33.90**	**256**	P	**P**	**20 25 13.5**	**+1.5**
MTSU	**Mount Surprise**	**35.34**	**280**	P	**P**	**20 25 26.4**	**+2.1**
	baz=36,SNR=38						
HTT	**Hallett**	**35.98**	**253**	P	**P**	**20 25 31.3**	**+1.7**
	baz=36,SNR=16						
PMG	**Port Moresby**	**37.50**	**295**	P	**P**	**20 25 42.4**	**-0.1**
	comp=Z,36nm,1.0s,baz=104,slow=7.7,SNR=5.9						
PMG	**Port Moresby**	**37.50**	**295**	P	**P**	**20 25 42.7**	**+0.3**
PMG				lAmb	lAmb	20 25 44.1	
	comp=Z,64nm,1.2s						
BBOO	**Buckleboo**	**38.44**	**253**	P	**P**	**20 25 50.9**	**+0.8**
	baz=39,SNR=31						
QIS	**Mount Isa**	**38.44**	**274**	P	**P**	**20 25 51.2**	**+0.9**
	baz=39,SNR=8.3						
PATS	**Pohnpei**	**42.25**	**325**	P	**P**	**20 26 19.3**	**-2.0**
PATS				lAmb	lAmb	20 26 21.3	
	comp=Z,176nm,1.2s						
AS31	**Alice Springs**	**42.35**	**266**	P	**P**	**20 26 22.5**	**+0.4**
ASAR	**Alice Springs**	**42.35**	**266**	P	**P**	**20 26 22.8**	**+0.7**
	comp=Z,24nm,0.6s,baz=95,slow=6.9,SNR=440						
ASAR				PcP	**PcP**	**20 28 09.4**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=112,slow=4.7,SNR=6.9						
ASAR				ScP	**ScP**	**20 31 29.0**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=123,slow=4.3,SNR=7.9						
ASAR				S	**S**	**20 32 16.9**	**-2.4**
	comp=Z,1.9nm,0.8s,baz=108,slow=15,SNR=4.6						
ASAR	**Alice Springs**	**42.35**	**266**	P	**P**	**20 26 22.5**	**+0.4**
WR0	**Warramunga Arr**	**43.08**	**272**	P	**P**	**20 26 28.0**	**+0.1**
WB2	**Warramunga Arr**	**43.25**	**272**	P	**P**	**20 26 29.4**	**+0.1**
WB2				lAmb	lAmb	20 26 30.8	
	comp=Z,49nm,0.8s						
WRAB	**Tennant Creek**	**43.25**	**272**	P	**P**	**20 26 29.6**	**+0.3**
WRAB				lAmb	lAmb	20 26 30.8	
	comp=Z,48nm,0.8s						
WRA	**Warramunga Arr**	**43.26**	**272**	P	**P**	**20 26 30.2**	**+0.9**
	comp=Z,48nm,0.7s,baz=111,slow=7.2,SNR=564						
WRA				PcP	**PcP**	**20 28 12.5**	**+0.3**
	comp=Z,11nm,0.9s,baz=110,slow=3.5,SNR=6.2						
WRA				ScP	**ScP**	**20 31 32.4**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=110,slow=4.2,SNR=7.0						
WRA				S	**S**	**20 32 28.8**	**-3.7**
	comp=Z,6.2nm,0.6s,baz=107,slow=13,SNR=14						
WRA	**Warram

KAPI IAmb IAmb 20 28 52.3
comp=Z,32nm,1.3s
KAPI Kappang 62.66 280 P **P** **20 28 50.1 +0.1**
comp=Z,23nm,1.4s
KAPI Kappang 62.66 280 P **P** **20 28 47.3 -2.7**
comp=Z,23nm,1.4s
BNSI Bone 62.66 281 P **P** **20 28 50.1 0.0**
comp=Z,42nm,1.3s
BNSI Bone 62.66 281 P **P** **20 28 48.1 -2.0**
comp=Z,42nm,1.3s
MKS Makassar 62.79 280 P **P** **20 28 52.4 +1.5**
comp=Z,34nm,1.1s
GTOI Gorontalo 62.89 288 P **P** **20 28 52.6 +1.1**
comp=Z,440nmcomp=Z,49nm,0.6s
APSI Ampana 63.18 285 P **P** **20 28 51.4 -2.1**
comp=Z,366nmcomp=Z,40nm,1.1s
APSI Ampana 63.18 285 P **P** **20 28 53.2 -0.3**
comp=Z,365nmcomp=Z,40nm,1.1s
TWSI Taliwang, Sumb 63.31 275 P **P** **20 28 54.6 +0.3**
comp=Z,41nm,0.7s
TTSI Tana Toraja 63.60 282 P **P** **20 28 54.5 -1.7**
comp=Z,33nm,0.8s
MRSI Marisa 63.69 287 P **P** **20 28 56.1 -0.7**
comp=Z,507nmcomp=Z,61nm,0.7s
MRSI Marisa 63.69 287 P **P** **20 28 54.1 -2.7**
KHKI Kahang-Kahang 64.59 275 P **P** **20 29 02.7 +0.1**
comp=Z,83nm,0.9s,comp=Z,768nm
KHKI Kahang-Kahang 64.59 275 P **P** **20 29 01.2 -1.4**
comp=Z,763nmcomp=Z,83nm,0.9s
TOLI2 Tolitoli 65.01 287 P **P** **20 29 03.7 -1.6**
TOLI2 IAmb IAmb 20 29 13.5
comp=Z,19nm,0.6s
SRBI Singaraja 65.07 275 P **P** **20 29 06.3 +0.7**
comp=Z,111nm,0.8s
SRBI Singaraja 65.07 275 P **P** **20 29 05.3 -0.3**
comp=Z,111nm,0.8s
JAGI Jajag, Banyuwa 65.81 274 P **P** **20 29 08.7 -1.6**
JAGI Jajag, Banyuwa 65.81 274 P **P** **20 29 10.1 -0.3**
comp=Z,102nm,0.9s
JAGI Jajag, Banyuwa 65.81 274 P **P** **20 29 09.4 -1.0**
comp=Z,102nm,0.9s
KMMI Kalianget 66.65 275 P **P** **20 29 17.5 +1.9**
comp=Z,109nm,0.8s
JCJ Chichijima 67.49 323 P **P** **20 29 18.8 -1.8**
PWJI Pagerwojo 68.06 273 P **P** **20 29 24.9 +0.4**
comp=Z,52nm,0.7s
SJI Sawahan 68.23 273 P **P** **20 29 26.2 +0.6**
comp=Z,49nm,0.7s
PCJI Pacitan 68.53 273 P **P** **20 29 28.4 +1.1**
comp=Z,236nm,0.8s
UGM Wanagama 69.23 273 P **P** **20 29 31.1 -0.6**
SPMM Sapulut 70.57 287 P **P** **20 29 40.0 +0.2**
CTJI Waduk Cacaban 70.83 273 P **P** **20 29 42.0 +0.7**
comp=Z,61nm,0.9s
KPJI Karang Pucung 70.89 272 P **P** **20 29 42.1 +0.4**
comp=Z,65nm,0.9s
CISI Cisompet, Garu 71.76 272 P **P** **20 29 45.7 -1.2**
CISI IAmb IAmb 20 29 47.3
comp=Z,41nm,0.9s
CISI Cisompet, Garu 71.76 272 P **P** **20 29 46.8 -0.1**
comp=Z,474nmcomp=Z,59nm,1.0s
LEM Lembang 72.28 272 P **P** **20 29 50.8 +0.7**
comp=Z,85nm,0.7s,baz=98,slow=8.2
MAW Mawson 72.85 201 P **P** **20 29 54.3 +2.1**
comp=Z,4.9nm,0.6s,baz=132,slow=6.9,SNR=24
MAW Mawson 72.85 201 P **P** **20 29 54.4 +2.1**
baz=73,SNR=13
MAW Mawson 72.85 201 P **P** **20 29 53.5 +1.3**
SBUM Sibu 72.94 283 P **P** **20 29 55.0 +1.3**
DBJI Dramaga 73.16 272 P **P** **20 29 55.5 +0.4**
comp=Z,2µmcomp=Z,79nm,0.8s
PMSA Palmer Station 73.40 156 P **P** **20 29 55.4 -0.1**
comp=Z,3.5nm,0.3s,baz=141,slow=11,SNR=5.3
CGJI Cibinong 74.06 271 P **P** **20 29 59.8 -0.4**
comp=Z,997nmcomp=Z,107nm,1.1s
KSM Kuching 74.06 281 P **P** **20 30 01.0 +0.7**
JOW Kunigami 75.47 313 P **P** **20 30 07.7 -0.2**
JSG Sagara 75.59 325 P **P** **20 30 08.9 +0.5**
KASI Kota Agung 75.62 272 P **P** **20 30 08.6 -0.5**
comp=Z,77nm,0.9s
KASI Kota Agung 75.62 272 P **P** **20 30 05.9 -3.2**
comp=Z,77nm,0.9s
PPBI Pangkal Pinang 75.83 276 P **P** **20 30 10.2 -0.1**
comp=Z,4µmcomp=Z,25nm,0.5s
JYT Yasato 75.85 327 P **P** **20 30 09.7 -0.1**
LWLI Liwa 76.24 272 P **P** **20 30 13.8 +1.0**
comp=Z,1µmcomp=Z,90nm,0.6s
LWLI Liwa 76.24 272 P P 20 30 07.7 -5.1
MDSI Maura Dua 76.40 273 P **P** **20 30 12.4 -1.1**
comp=Z,583nmcomp=Z,76nm,0.7s
MDSI Maura Dua 76.40 273 P **P** **20 30 11.8 -1.7**
comp=Z,582nmcomp=Z,76nm,0.7s
INU Inuyama 76.71 324 P **P** **20 30 14.8 +0.1**
JGF Kuroka 76.74 325 P **P** **20 30 14.9 0.0**
JGF IAmb IAmb 20 30 15.4
comp=Z,26nm,0.7s
JMM Marumori 76.89 328 P **P** **20 30 14.8 -0.8**
JMM IAmb IAmb 20 30 16.8
comp=Z,51nm,1.5s
MJAR Matsushiro Arr 77.06 326 P **P** **20 30 15.9 -0.7**
comp=Z,30nm,0.9s,baz=161,slow=5.7,SNR=55
MJAR Matsushiro Arr 77.06 326 P **P** **20 30 16.0 -0.7**
MJAR IAmb IAmb 20 30 17.3
comp=Z,50nm,1.1s
MAJO Matsushiro 77.06 326 P **P** **20 30 16.0 -0.7**
MAT Matsushiro 77.06 326 P **P** **20 30 16.0 -0.6**
MJB9 Matsu-Tunnel 77.06 326 P **P** **20 30 16.3 -0.3**
JMN Monobe 77.13 321 P **P** **20 30 17.2 +0.1**
LHSI Lahat 77.29 273 P **P** **20 30 16.7 -1.7**
comp=Z,20µmcomp=Z,87nm,1.4s
JSU Suzuyama 77.44 317 P **P** **20 30 18.7 -0.1**
JWT Wachi 77.50 323 P **P** **20 30 18.8 -0.2**
EGSI Enggano, Bengk 77.64 271 P **P** **20 30 20.5 +0.1**
comp=Z,44nm,0.9s
TWG Pinlang 77.69 305 P **P** **20 30 18.4 -2.0**
SYO Syowa Base 77.79 193 ||*eP* **P** **20 30 21.4 +1.2**
SYO Syowa Base 77.79 193 ||*ePcP* **PcP** **20 30 28.5 -0.4**
YULB Yu-li 77.89 306 P **P** **20 30 19.4 -2.2**
YULB IAmb IAmb 20 30 20.7
comp=Z,18nm,0.5s
JSD Sado 78.22 327 P **P** **20 30 22.8 -0.1**
TPUB Ta-pu 78.31 305 P **P** **20 30 22.5 -1.3**
JNU Nakatsue 78.36 319 P **P** **20 30 23.9 0.0**
SSLB Suanglung 78.39 306 P **P** **20 30 22.6 -1.6**
JHS Saijyo 78.50 322 P **P** **20 30 24.6 0.0**
TATO Taipei 78.77 307 P **P** **20 30 25.5 -0.7**
SNAA Sanae 79.06 179 P **P** **20 30 29.0 +1.8**
SNAA Sanae 79.06 179 pP pP 20 31 42.7 +3.5
SNAA Sanae 79.06 179 P **P** **20 30 29.1 +1.9**
JTM Tenmabayashi 79.16 330 P **P** **20 30 28.1 +0.1**
VNA3 Neumayer Olymp 79.24 176 P **P** **20 30 29.9 +1.8**
VNA3 Neumayer Olymp 79.24 176 pP pP 20 31 44.3 +4.2
ERM Erimo 79.30 332 P **P** **20 30 30.2 +1.5**
ERM IAmb IAmb 20 30 33.1
comp=Z,19nm,0.8s
BTDF Bukit Timah Da 79.62 277 P **P** **20 30 30.9 -0.2**
comp=Z,34nm,0.9s
MYKOM Kota Tinggi 79.77 278 P **P** **20 30 33.0 +1.1**
VNA1 Neumayer--Stat 79.90 177 P **P** **20 30 33.7 +2.2**
VNA1 Neumayer--Stat 79.90 177 pP pP 20 31 47.4 +3.6
AMKA Amchitka 80.56 359 P **P** **20 30 35.0 -0.1**
JEW Eniwo 80.69 332 P **P** **20 30 36.6 +0.6**
KIWB Kanaga Island 81.03 1 P **P** **20 30 37.7 +0.1**
ADK Adak 81.07 1 P **P** **20 30 37.5 -0.3**
JKA Kamikawa-asahi 81.28 333 P **P** **20 30 40.5 +1.4**
PDSI Padang 81.37 274 P **P** **20 30 39.1 -1.3**
comp=Z,24nm,0.9s
PDSI Padang 81.37 274 P **P** **20 30 35.8 -4.6**
ATKA Atka Island 81.47 3 P **P** **20 30 39.6 -0.2**
BKNI Bangkinang 81.48 275 P **P** **20 30 41.2 +0.3**
comp=Z,87nm,1.1s
BKNI Bangkinang 81.48 275 P **P** **20 30 39.0 -1.9**
comp=Z,87nm,1.1s
NIKH Nikolski High 82.61 6 P 20 30 45.5
baz=189
NIKH Nikolski High 82.61 6 P **P** **20 30 45.7 0.0**
MNSI Mandailing Nat 82.98 275 P **P** **20 30 48.7 +0.1**
comp=Z,44nm,0.9s
KSRS Korea Array 83.15 320 P **P** **20 30 49.6 +0.8**
comp=Z,14nm,0.8s,baz=140,slow=5.8,SNR=84
KSAR Wonju Array Be 83.16 320 P **P** **20 30 49.5 +0.5**
KS19 Wonju Array Si 83.22 320 P **P** **20 30 49.4 +0.2**
KS19 IAmb IAmb 20 30 50.9
comp=Z,21nm,0.9s
YSS Yuzh-Sakhalins 83.60 335 P **P** **20 30 51.9 +1.0**

PLCA Paso Flores 83.70 133 P **P** **20 30 54.1 +2.1**
comp=Z,5.7nm,0.8s,baz=218,slow=5.6,SNR=7.8
PET Petropavlovsk 84.48 347 P **P** **20 30 54.7 -0.5**
RPSI Rantau Prapat 84.48 276 P **P** **20 30 55.8 -0.5**
RPSI Rantau Prapat 84.48 276 P **P** **20 30 56.1 -0.1**
PSI Prapat 84.54 276 P **P** **20 30 56.1 -0.6**
comp=Z,19nm,0.7s,baz=189,slow=0.5,SNR=13
PSI Prapat 84.54 276 P **P** **20 30 55.3 -1.3**
comp=Z,51nm,1.1s,comp=Z,18nm,1.1s
PSI P **P** **20 30 55.3 -1.3**
comp=Z,51nm,1.1s,comp=Z,18nm,1.1s
PEA0B Petropavlovsk- 84.76 346 P **P** **20 30 56.7 +0.1**
PETK Petropavlovsk- 84.76 346 P **P** **20 30 56.8 +0.2**
comp=Z,51nm,0.6s,baz=128,slow=7.2,SNR=135
PKM Mcpherson Peak 84.91 45 P 20 30 58.2
baz=229
GSI Gunungsitoli 84.97 274 P **P** **20 30 59.5 +0.9**
GSI Gunungsitoli 84.97 274 P **P** **20 31 00.0 +1.4**
comp=Z,118nm,0.9s
GSI Gunungsitoli 84.97 274 P **P** **20 30 59.5 +0.9**
comp=Z,118nm,0.9s
NJ2 Nanjing 85.06 311 ||P **P** **20 30 59.5 +0.9**
NJ2 pmax pmax
comp=Z,34nm,0.8s
PAGB Antelope Grade 85.20 44 P **P** **20 30 59.8 +0.5**
SPX San Pedro Mart 85.25 50 P **P** **20 31 00.9 +0.9**
CBX Cerro Bola 85.26 49 P **P** **20 31 01.0 +1.3**
DECC Green Verdugo 85.42 46 P 20 31 01.1
baz=230
MWC Mount Wilson 85.58 47 P **P** **20 31 01.9 +0.6**
ARVC Arvin 85.68 45 P 20 31 02.6
baz=229
MURC Murrieta 85.73 47 P 20 31 03.0
baz=230
MONP2 Monument Peak 85.78 48 P 20 31 03.5
baz=231,SNR=11
IKP In-Ko-Pah, Jac 85.83 49 P 20 31 03.8
baz=231,SNR=6.7
BFSC Mount Baldy Ra 85.84 47 P 20 31 03.3
baz=230,SNR=8.5
USA0B Usuriysk Arra 85.98 327 P **P** **20 31 03.1 +0.3**
USRK Ussuriysk Ar. 85.98 327 P **P** **20 31 03.6 +0.8**
comp=Z,24nm,0.8s,baz=136,slow=3.6,SNR=44
USRK Ussuriysk Ar. 85.98 327 P **P** **20 31 03.3 +0.5**
VES Vestal, Richgr 85.98 45 P 20 31 03.9
baz=229
SDPT Sand Point 85.99 10 P 20 31 02.6
baz=196
SDPT Sand Point 85.99 10 P **P** **20 31 02.5 -0.1**
EDW2 Edwards Air Fo 86.04 46 P 20 31 04.4
baz=230,SNR=17
PFO Pinyon Flats O 86.21 48 P 20 31 05.6
baz=231,SNR=5.6
TPFO Pinon Flats 86.21 48 P 20 31 05.5
baz=231,SNR=7.1
PFO Pinyon Flats O 86.21 48 P **P** **20 31 05.4 +1.0**
PFO IAmb IAmb 20 31 06.6
comp=Z,12nm,1.0s
SWSC Sam W. Stewart 86.22 49 P 20 31 05.5
baz=231
ISA Isabella, Lake 86.25 45 P 20 31 05.4
baz=230,SNR=16
ISA Isabella, Lake 86.25 45 P **P** **20 31 05.5 +1.0**
ISA IAmb IAmb 20 31 06.6
comp=Z,21nm,0.8s
TPTI 86.27 276 P **P** **20 31 05.0 0.0**
TPTI 86.27 276 P **P** **20 31 04.7 -0.3**
LRMC Laurel Mtn Rad 86.62 46 P 20 31 07.6
baz=230
CMB Columbia Colle 86.65 42 P **P** **20 31 06.8 +0.5**
CMB IAmb IAmb 20 31 07.9
comp=Z,9.8nm,0.8s
O02D Mt. Diablo Mer 86.73 40 P 20 31 08.2
baz=226,SNR=7.5
BELC Belle Mtn. Jos 86.75 48 P 20 31 08.2
baz=231,SNR=12
BC3 Big Chuckawall 86.89 48 P 20 31 09.1
baz=231,SNR=9.2
AFDM Forest Hills D 86.92 41 P **P** **20 31 08.0 +0.4**
GLA Glamis 86.92 49 P 20 31 09.3
baz=232
CWC Cottonwood Cre 86.99 45 P 20 31 08.8
baz=230
ORV Oroville 87.03 41 P **P** **20 31 08.5 +0.5**
GSC Goldstone, Bar 87.06 46 P 20 31 09.3
baz=230,SNR=6.6
HEC Hector,Ludlow 87.06 47 P 20 31 09.5
baz=231,SNR=5.1
GSC Goldstone, Bar 87.06 46 P **P** **20 31 09.3 +0.9**
GSC IAmb IAmb 20 31 10.5
comp=Z,24nm,1.1s
WDC Whiskeytown Da 87.14 39 P **P** **20 31 09.1 +0.6**
WHN Wuhan 87.17 307 ||P **P** **20 31 09.5 +0.7**
WHN pmax pmax
comp=Z,240nm,2.0s
TIN Tinemaha, Big 87.30 44 P 20 31 10.5
baz=230
N02D Trinity Center 87.32 39 P 20 31 10.7
baz=226
O03E Paynes Creek 87.36 40 P 20 31 10.0
baz=227
IRM Iron Mountain 87.40 48 P 20 31 11.5
baz=232,SNR=12
MDJ Mudanjiang 87.44 326 P **P** **20 31 10.8 +1.0**
MDJ pmax pmax
comp=Z,32nm,1.3s
MDJ pmax pmax
comp=Z,130nm,3.7s
MDJ Mudanjiang 87.44 326 P **P** **20 31 09.7 -0.1**
MDJ IAmb IAmb 20 31 11.8
comp=Z,29nm,1.0s
113A Mohawk Valley, 87.45 50 P **P** **20 31 11.4 +1.3**
113A IAmb IAmb 20 31 12.8
comp=Z,18nm,1.2s
GMRC Granite Mounta 87.46 47 P 20 31 11.3
baz=231,SNR=7.9
WAKR Walker 87.52 43 P **P** **20 31 11.8 +1.2**
WAKR IAmb IAmb 20 31 12.7
comp=Z,12nm,1.0s
M02C Callahan 87.53 39 P 20 31 11.6
baz=226,SNR=6.3
214A Organ Pipe Nat 87.61 51 P 20 31 12.6
baz=233
214A Organ Pipe Nat 87.61 51 P **P** **20 31 12.5 +1.6**
214A IAmb IAmb 20 31 14.6
comp=Z,15nm,1.2s
FURC Furnace Creek, 87.76 45 P 20 31 12.8
baz=230
GRAC Grapevine Rang 87.79 45 P 20 31 13.0
baz=230
PNTR Pine Nut 87.81 42 P **P** **20 31 13.1 +1.1**
PNTR IAmb IAmb 20 31 13.8
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 87.84 39 P **P** **20 31 12.8 +0.9**
LHV Little Huntoon 87.91 43 P **P** **20 31 13.3 +1.2**
LHV IAmb IAmb 20 31 14.3
comp=Z,15nm,0.9s
YERR Yerington 87.95 42 P **P** **20 31 13.0 +0.3**
YERR IAmb IAmb 20 31 14.2
comp=Z,12nm,1.0s
K02D Willamette Mer 88.00 37 P 20 31 14.3
baz=226
RYN Ryan 88.14 43 P **P** **20 31 14.0 +0.5**
PDMCI Parker Dam,Lak 88.14 49 P 20 31 15.2
baz=232
NVAR Mina Array Bea 88.14 43 P **P** **20 31 14.3 +0.7**
comp=Z,11nm,0.8s,baz=222,slow=8.6,SNR=53
NVAR PKPPKP **P'P'df** **20 57 05.7 +3.3**
comp=Z,0.6nm,0.8s,baz=172,slow=3.0,SNR=4.0
NVAR Mina Array Bea 88.14 43 P **P** **20 31 13.9 +0.3**
NV11 Mina Array Sit 88.23 43 P **P** **20 31 14.7 +0.8**
NV11 IAmb IAmb 20 31 15.6
comp=Z,16nm,1.1s
PAHR Pah Rah Range 88.34 42 P **P** **20 31 15.2 +0.8**
M04C Macdoel 88.35 39 P 20 31 15.0
baz=227
L04D Klamath Falls 88.39 38 P 20 31 15.2
baz=227
TPNV Topopah Spring 88.45 45 P 20 31 16.0
baz=231,SNR=5.8
TPNV Topopah Spring 88.45 45 P **P** **20 31 15.7 +0.7**
TPNV IAmb IAmb 20 31 16.6
comp=Z,9.3nm,0.8s
TPH Tonopah 88.57 44 P **P** **20 31 16.5 +1.0**
KVN Kaiserville 88.67 43 P **P** **20 31 16.4 +0.4**
KVN IAmb IAmb 20 31 17.6

comp=Z,14nm,1.1s
Y14A Wickenburg 88.67 49 P **P** **20 31 17.0 +1.1**
Y14A IAmb IAmb 20 31 18.4
comp=Z,16nm,0.9s
TIA Tai'an 88.78 313 P **P** **20 31 17.4 +1.1**
TIA pmax pmax
comp=Z,44nm,0.7s
W13A Hualapai Mount 88.80 48 P **P** **20 31 17.9 +1.2**
SHPR Sheep Range 88.85 46 P **P** **20 31 18.3 +1.4**
I03D Drain, OR 88.86 37 P 20 31 18.0
baz=226
CN2 Changchun 88.95 323 *eP* **P** **20 31 17.4 +0.5**
CN2 pmax pmax
comp=Z,70nm,0.9s
OHAK Old Harbor 89.07 14 P 20 31 17.2
baz=202
OHAK Old Harbor 89.08 14 P **P** **20 31 17.1 0.0**
OHAK IAmb IAmb 20 31 18.6
comp=Z,28nm,1.0s
J04D Umpqua Nationa 89.20 38 P 20 31 19.2
baz=227,SNR=6.6
TUC Tucson 89.20 52 P 20 31 20.6
baz=234
TUC Tucson 89.20 52 P **P** **20 31 20.2 +1.7**
TUC IAmb IAmb 20 31 21.6
comp=Z,20nm,0.9s
MOD Modoc Plateau 89.28 40 P **P** **20 31 19.1 +0.4**
MOD IAmb IAmb 20 31 20.4
comp=Z,16nm,1.1s
I04A Tendick Farm, 89.42 37 P 20 31 19.9
baz=227
PRN Pahroc Range 89.48 46 P **P** **20 31 20.6 +0.9**
PRN IAmb IAmb 20 31 22.3
comp=Z,18nm,1.1s
K05A Summer Lake 89.50 39 P **P** **20 31 21.1 +1.3**
K05A IAmb IAmb 20 31 22.0
comp=Z,25nm,1.0s
319A Douglas 89.70 53 P **P** **20 31 22.5 +1.6**
319A IAmb IAmb 20 31 23.7
comp=Z,20nm,0.9s
R11A Troy Canyon, C 89.74 45 P 20 31 21.5
baz=231
KDAK Kodiak Island 89.74 14 P 20 31 20.3
baz=203
KDAK Kodiak Island 89.74 14 P **P** **20 31 20.8 +0.5**
KDAK IAmb IAmb 20 31 21.6
comp=Z,9.0nm,0.9s
H04D Lebanon 89.75 36 P 20 31 21.6
baz=226
SLVN Son La 89.81 295 P **P** **20 31 23.0 +1.5**
SLVN IAmb IAmb 20 31 32.1
comp=Z,11nm,0.9s
X16A Lo Mia Camp, P 90.00 50 P **P** **20 31 23.8 +1.5**
X16A IAmb IAmb 20 31 25.1
comp=Z,15nm,1.0s
H04A Detroit Lake 90.14 37 P **P** **20 31 22.8 +0.2**
H04A IAmb IAmb 20 31 23.5
comp=Z,12nm,0.8s
PINE Pine Mountain 90.20 38 P **P** **20 31 23.8 +0.8**
I05D Terrebonne, OR 90.35 37 P 20 31 24.3
baz=227
LCMT Little Creek M 90.38 47 P **P** **20 31 25.0 +1.1**
GYA Guiyang 90.41 300 ⇑P **P** **20 31 25.4 +1.1**
ENH Enshi 90.43 305 P **P** **20 31 24.6 +0.4**
PHIT Phitsanulok 90.49 289 P **P** **20 31 26.7 +2.0**
comp=Z,247nmcomp=Z,22nm,0.8s
WVOR Wild Horse Val 90.56 40 P **P** **20 31 25.3 +0.7**
WVOR IAmb IAmb 20 31 26.4
comp=Z,12nm,1.1s
CCUT Cedar City 90.63 46 P **P** **20 31 26.6 +1.4**
U15A North Rim 90.63 48 P **P** **20 31 26.3 +1.0**
U15A IAmb IAmb 20 31 27.8
comp=Z,13nm,0.8s
KNB Kanab 90.65 47 P **P** **20 31 26.3 +1.1**
KNB IAmb IAmb 20 31 27.7
comp=Z,18nm,1.3s
WUAZ Wupatki 90.69 49 P 20 31 26.5
baz=234
WUAZ Wupatki 90.69 49 P **P** **20 31 26.5 +1.1**
WUAZ IAmb IAmb 20 31 27.8
comp=Z,8.7nm,0.8s
SPR3 Spring Creek 3 90.91 45 P **P** **20 31 26.9 +0.3**
PSUT Pine Spring 90.92 45 P **P** **20 31 27.1 +0.7**
X18A Snowflake 91.06 50 P **P** **20 31 28.7 +1.5**
I07A Izee 91.16 38 P **P** **20 31 28.1 +0.8**
I07A IAmb IAmb 20 31 29.3
comp=Z,14nm,0.9s
PKCU Pink Cliffs 91.23 47 P **P** **20 31 28.5 +0.4**
PKCU IAmb IAmb 20 31 31.1
comp=Z,24nm,1.4s
E04D Cinebar 91.23 35 P 20 31 28.6
baz=227
J08A Circle Bar Ran 91.25 39 P **P** **20 31 28.3 +0.5**
J08A IAmb IAmb 20 31 29.6
comp=Z,14nm,1.1s
121A Cookes Peak, D 91.40 53 P 20 31 30.1
baz=236
ELK Elko 91.44 43 P **P** **20 31 29.2 +0.3**
W18A Petrified Fore 91.54 50 P 20 31 30.3
baz=235
W18A Petrified Fore 91.54 50 P **P** **20 31 30.0 +0.6**
CNPM China Poot 91.62 14 P **P** **20 31 28.7 -0.2**
CNPM IAmb IAmb 20 31 30.1
comp=Z,23nm,0.9s
D03D Eldon 91.65 34 P 20 31 30.0
baz=226
MTPU Mount Pierson 91.67 47 P **P** **20 31 31.4 +1.3**
BJT Baijiatuau 91.72 316 P **P** **20 31 30.3 +0.4**
BJT IAmb IAmb 20 31 31.7
comp=Z,19nm,1.0s
BJI Beijing 91.73 316 P **P** **20 31 30.5 +0.6**
BJI S **S** **20 42 05.9 +3.3**
BJI pmax pmax
comp=Z,18nm,1.0s
BRLK Bradley Lake 91.92 14 P **P** **20 31 30.1 -0.3**
BRLK IAmb IAmb 20 31 31.9
comp=Z,14nm,1.0s
BRSE Bradley Lake S 91.92 14 P 20 31 30.5
baz=204
G08A Pilot Rock 92.25 38 P **P** **20 31 32.9 +0.6**
G08A IAmb IAmb 20 31 34.1
comp=Z,12nm,1.1s
CM04 Chiang Mai Arr 92.28 290 P **P** **20 31 35.5 +2.5**
comp=Z,93nmcomp=Z,9.9nm,0.7s
CM01 Chiang Mai Arr 92.31 290 P **P** **20 31 35.9 +2.8**
comp=Z,73nmcomp=Z,7.0nm,0.9s
CM05 Chiang Mai Arr 92.31 290 P **P** **20 31 35.0 +1.9**
comp=Z,53nmcomp=Z,7.2nm,1.0s
CM02 Chiang Mai Arr 92.33 290 P **P** **20 31 35.7 +2.5**
comp=Z,66nmcomp=Z,7.5nm,0.9s
CMAR Chiang Mai Arr 92.34 290 P **P** **20 31 34.9 +1.6**
comp=Z,3.7nm,0.6s,baz=146,slow=3.6,SNR=31
CMAR PP **PP** **20 35 17.4 -1.7**
comp=Z,0.4nm,0.5s,baz=146,slow=5.9,SNR=5.3
CMAR Chiang Mai Arr 92.34 290 P **P** **20 31 34.2 +0.9**
CM13 Chiang Mai Arr 92.35 290 P **P** **20 31 35.6 +2.3**
comp=Z,64nmcomp=Z,9.0nm,0.9s
CHTO Chiang Mai 92.52 290 P **P** **20 31 34.7 +0.6**
SEW Seward 92.53 14 P 20 31 32.9
baz=206
SEW Seward 92.53 14 P **P** **20 31 32.4 -0.7**
SEW IAmb IAmb 20 31 33.8
comp=Z,10nm,1.1s
DUG Dugway, Tooele 92.57 45 P 20 31 34.4
baz=233
TXAR Lajitas Array 92.60 58 P **P** **20 31 34.7 +0.4**
comp=Z,1.2nm,0.8s,baz=201,slow=6.7,SNR=12
MNTX Cornudas Mount 92.63 55 P 20 31 34.9
baz=237
MNTX Cornudas Mount 92.63 55 P **P** **20 31 35.1 +0.8**
KMI Kunming 92.70 297 ||P **P** **20 31 36.4 +1.4**
KMI pmax pmax
comp=Z,12nm,1.0s
MFID Camas Ranch 92.77 41 P **P** **20 31 35.5 +0.7**
MFID IAmb IAmb 20 31 36.3
comp=Z,9.4nm,0.8s
BMO Blue Mountains 92.86 39 P **P** **20 31 35.0 -0.1**
LENM Lemitar 92.88 52 P **P** **20 31 35.7 +0.1**
XAN Xi'an 92.93 308 P **P** **20 31 36.5 +0.8**
XAN pmax pmax
comp=Z,9.0nm,1.2s
SPCR Spurr Chakacha 92.97 13 P 20 31 33.9
baz=203
TMUT Trail Mountain 93.03 46 P **P** **20 31 37.2 +0.9**
TMUT IAmb IAmb 20 31 38.4
comp=Z,21nm,1.5s

RC01	**Rabbit Creek A**	**93.36**	**14**	P			20 31 36.6	
	baz=205							
RC01	**Rabbit Creek A**	**93.36**	**14**	P		**P**	**20 31 36.7**	**-0.2**
RC01				IAmb		IAmb	20 31 38.4	
	comp=Z,12nm,1.1s							
D08A	**Wollman Farm,**	**93.43**	**36**	P		**P**	**20 31 38.0**	**+0.4**
D08A				IAmb		IAmb	20 31 39.1	
	comp=Z,8.7nm,0.8s							
PWL	**Port Wells**	**93.45**	**14**	P		**P**	**20 31 37.1**	**-0.3**
PWL				IAmb		IAmb	20 31 38.0	
	comp=Z,8.5nm,0.9s							
HVU	**Hansel Valley**	**93.54**	**43**	P		**P**	**20 31 39.1**	**+0.6**
HVU				IAmb		IAmb	20 31 40.0	
	comp=Z,8.3nm,0.8s							
F10A	**Beach Ranch, E**	**93.62**	**38**	P		**P**	**20 31 37.8**	**-0.8**
F10A				IAmb		IAmb	20 31 39.3	
	comp=Z,5.5nm,0.8s							
ANMO	**Albuquerque**	**93.66**	**52**	P			20 31 39.1	
	baz=236							
HLID	**Hailey**	**93.67**	**41**	P			20 31 39.5	
	baz=232							
HLID	**Hailey**	**93.67**	**41**	P		**P**	**20 31 39.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**93.76**	**16**	P			20 31 38.7	
	baz=209							
SKT	**Skwentna**	**93.82**	**13**	P			20 31 37.3	
	baz=204							
SKT	**Skwentna**	**93.82**	**13**	P		**P**	**20 31 37.7**	**-1.3**
KNK	**Knik Glacier**	**93.92**	**14**	P			20 31 39.2	
	baz=206							
KNK	**Knik Glacier**	**93.92**	**14**	P		**P**	**20 31 39.5**	**0.0**
KNK				IAmb		IAmb	20 31 40.4	
	comp=Z,7.5nm,0.8s							
TTA	**Tatalina**	**93.93**	**10**	P			20 31 39.4	
	baz=200							
TTA	**Tatalina**	**93.93**	**10**	P		**P**	**20 31 39.8**	**+0.2**
TTA				IAmb		IAmb	20 31 40.8	
	comp=Z,8.4nm,1.2s							
HMT	**Hamilton**	**93.94**	**16**	P		**P**	**20 31 39.4**	**-0.2**
HMT				IAmb		IAmb	20 31 40.7	
	comp=Z,9.7nm,1.0s							
GHO	**Glory Hole Cre**	**94.15**	**14**	P		**P**	**20 31 40.3**	**-0.3**
GHO				IAmb		IAmb	20 31 43.0	
	comp=Z,14nm,0.8s							
WRAK	**Wrangell Islan**	**94.28**	**24**	P			20 31 41.4	
	baz=220							
MESA	**MESA**	**94.39**	**18**	P		**P**	**20 31 42.6**	**+0.8**
BMRM	**Bremner River**	**94.40**	**16**	P			20 31 41.9	
	baz=210							
BMRM	**Bremner River**	**94.40**	**16**	P		**P**	**20 31 41.5**	**-0.3**
BMRM				IAmb		IAmb	20 31 42.7	
	comp=Z,10nm,0.9s							
CUT	**Chulitna**	**94.45**	**13**	P			20 31 40.8	
	baz=205							
PPLA	**Purkeypile**	**94.54**	**12**	P			20 31 40.8	
	baz=203							
SCM	**Sheep Creek Mo**	**94.54**	**14**	P		**P**	**20 31 42.5**	**+0.1**
SCM				IAmb		IAmb	20 31 43.8	
	comp=Z,11nm,0.8s							
KLU	**Klutina**	**94.55**	**15**	P			20 31 42.2	
	baz=208							
CRQM	**Cirque**	**94.58**	**17**	P		**P**	**20 31 42.9**	**+0.2**
CRQM				IAmb		IAmb	20 31 43.8	
	comp=Z,12nm,0.9s							
CRQE	**Cirque**	**94.58**	**17**	P			20 31 42.9	
	baz=211							
YAH	**Yahtse**	**94.60**	**18**	P		**P**	**20 31 42.6**	**-0.3**
YAH				IAmb		IAmb	20 31 44.3	
	comp=Z,9.6nm,0.8s							
TGL	**Tana Glacier**	**94.66**	**17**	P		**P**	**20 31 40.5**	**-2.5**
VRDI	**Verde Repeater**	**94.91**	**16**	P		**P**	**20 31 43.7**	**-0.6**
VRDI				IAmb		IAmb	20 31 45.3	
	comp=Z,7.0nm,1.0s							
GRNC	**Granite Creek**	**94.91**	**17**	P		**P**	**20 31 44.3**	**0.0**
GRNC				IAmb		IAmb	20 31 45.4	
	comp=Z,7.2nm,0.9s							
N25K	**Chitina, Valde**	**94.96**	**16**	P			20 31 44.2	
	baz=210							
S22A	**4UR Ranch, Cre**	**94.96**	**49**	P			20 31 45.9	
	baz=236							
N25K	**Chitina, Valde**	**94.96**	**16**	P		**P**	**20 31 44.3**	**0.0**
N25K				IAmb		IAmb	20 31 46.7	
	comp=Z,5.5nm,0.8s							
GLB	**Gilahina Butte**	**95.01**	**16**	P		**P**	**20 31 44.1**	**-0.4**
M24K	**Tolsona, Glenn**	**95.04**	**15**	P			20 31 44.8	
	baz=208							
HHC	**Hu-ho-hao-te**	**95.04**	**314**	*e*P		**P**	**20 31 45.3**	**+0.1**
WAT6	**Susitna Watana**	**95.12**	**14**	P			20 31 44.6	
	baz=207							
MCARA	**McCarthy VSAT**	**95.15**	**16**	P			20 31 44.9	
	baz=211							
MCARA	**McCarthy VSAT**	**95.15**	**16**	P		**P**	**20 31 45.5**	**+0.4**
MCARA				IAmb		IAmb	20 31 46.9	
	comp=Z,12nm,1.0s							
TNA	**Tin City**	**95.15**	**5**	P			20 31 44.9	
	baz=190							
BARN	**Barnard Glacie**	**95.22**	**17**	P		**P**	**20 31 46.0**	**+0.4**
BARN				IAmb		IAmb	20 31 46.8	
	comp=Z,9.7nm,0.9s							
CTG	**Chitna Glacier**	**95.22**	**17**	P			20 31 45.4	
	baz=212							
CTGM	**Chitina Glacie**	**95.22**	**17**	P		**P**	**20 31 44.6**	**-1.0**
CTGM				IAmb		IAmb	20 31 46.7	
	comp=Z,6.4nm,1.0s							
WAT2	**Susitna Watana**	**95.29**	**13**	P			20 31 45.4	
	baz=206							
MCMT	**McKenzie Canyo**	**95.33**	**41**	P		**P**	**20 31 47.8**	**+1.1**
TRF	**Thorofare Moun**	**95.40**	**12**	P			20 31 45.4	
	baz=205							
TRF	**Thorofare Moun**	**95.40**	**12**	P		**P**	**20 31 45.4**	**-1.0**
TRF				IAmb		IAmb	20 31 48.8	
	comp=Z,9.4nm,0.8s							
CHUM	**Lake Minchumin**	**95.43**	**11**	P			20 31 45.9	
	baz=203							
HARP	**HAARP**	**95.52**	**15**	P			20 31 46.7	
	baz=209							
RND	**Reindeer**	**95.64**	**13**	P		**P**	**20 31 47.4**	**+0.1**
RND				IAmb		IAmb	20 31 48.5	
	comp=Z,11nm,0.9s							
MSTX	**Muleshoe**	**95.70**	**54**	P			20 31 48.3	
	baz=238							
SDCO	**Great Sand Dun**	**95.84**	**50**	P			20 31 49.1	
	baz=237							
BPAW	**Bear Paw Mtn.**	**95.86**	**12**	P			20 31 49.7	
	baz=204							
MCK	**McKinley**	**95.91**	**13**	P			20 31 48.8	
	baz=206							
MCK	**McKinley**	**95.92**	**13**	P		**P**	**20 31 48.6**	**0.0**
MCK				IAmb		IAmb	20 31 51.1	
	comp=Z,6.2nm,0.8s							
MSO	**Missoula**	**95.93**	**39**	P			20 31 50.1	
	baz=233							
BW06	**Boulder Array**	**96.06**	**44**	P			20 31 50.1	
	baz=235							
PDAR	**Pinedale Array**	**96.06**	**44**	P		**P**	**20 31 49.9**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=199,slow=3.1,SNR=6.9							
PDAR				PKKPbc		**PKKPbc**	**20 48 37.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=282,slow=2.9,SNR=3.8							
PDAR	**Pinedale Array**	**96.06**	**44**	P		**P**	**20 31 49.8**	**-0.2**
NEA2	**Nenana**	**96.67**	**12**	P			20 31 50.9	
	baz=206							
WRH	**Wood River Hil**	**96.75**	**13**	P		**P**	**20 31 51.6**	**-0.6**
WRH				IAmb		IAmb	20 31 55.6	
	comp=Z,5.8nm,0.8s							
MLY	**Manley**	**96.76**	**12**	P			20 31 52.3	
	baz=205							
MLY	**Manley**	**96.76**	**12**	P		**P**	**20 31 52.4**	**+0.1**
WHY	**Whitehorse**	**96.78**	**20**	P			20 31 54.0	
	baz=218							
DOT	**Dot Lake**	**96.86**	**15**	P		**P**	**20 31 52.6**	**-0.2**
DOT				IAmb		IAmb	20 31 53.6	
	comp=Z,6.1nm,0.9s							
L27K	**Beaver Creek,**	**96.88**	**16**	P			20 31 52.9	
	baz=212							
L27K	**Beaver Creek,**	**96.88**	**16**	P		**P**	**20 31 53.2**	**+0.3**
BCAR	**Beaver Creek A**	**96.89**	**16**	P		**P**	**20 31 53.3**	**+0.3**
HDA	**Harding Lake**	**96.92**	**13**	P			20 31 52.9	
	baz=208							
HDA				P			20 31 52.9	
	baz=208							
HDA	**Harding Lake**	**96.92**	**13**	P		**P**	**20 31 52.5**	**-0.5**
CCB	**Clear Creek Bu**	**96.96**	**13**	P		**P**	**20 31 52.1**	**-1.0**
CCB				IAmb		IAmb	20 31 56.3	
	comp=Z,7.2nm,1.0s							
I23K	**Minto, Yukon-K**	**97.11**	**12**	P			20 31 54.5	
	baz=206							
IMAR	**Indian Mountai**	**97.14**	**10**	P		Pdif	20 31 54.0	0.0
MDM	**Murphy Dome**	**97.16**	**13**	P		**P**	**20 31 53.0**	**-1.1**
MDM				IAmb		IAmb	20 31 55.0	
	comp=Z,5.8nm,1.0s							
SCRK	**Sand Creek**	**97.16**	**15**	P			20 31 54.1	
	baz=210							
SCRK	**Sand Creek**	**97.16**	**15**	P		**P**	**20 31 53.7**	**-0.6**
IL31		**97.25**	**13**	P		Pdif	20 31 54.6	+0.2
ILAR	**Eielson Array**	**97.25**	**13**	P		**P**	**20 31 53.9**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=226,slow=5.9,SNR=16							
ILAR				PP		**PP**	**20 35 51.3**	**-4.8**
	comp=Z,1.4nm,1.0s,baz=225,slow=7.3,SNR=4.5							
ILAR	**Eielson Array**	**97.25**	**13**	P		**P**	**20 31 53.5**	**-1.0**
ABTX	**Abilene, Hawle**	**97.25**	**57**	P			20 31 55.5	
	baz=240							
N23A	**Red Feather La**	**97.26**	**47**	P			20 31 56.3	
	baz=237							
POKR	**Poker Plat Res**	**97.45**	**13**	P			20 31 55.7	
	baz=207							
LZH	**Lanzhou**	**97.54**	**307**	*e*P		Pdif	20 32 00.3	+3.5
LZH				pP		pP	20 33 14.6	+3.0
LZH				sP		sP	20 33 44.6	+0.4
LZH				pmax		pmax		
	comp=Z,13nm,1.0s							
K27K	**Chicken**	**97.64**	**15**	P		Pdif	20 31 56.8	+0.5
K27K				IAmb		IAmb	20 31 57.9	
	comp=Z,4.8nm,1.1s							
PRP	**Porcupine Dome**	**98.18**	**13**	P			20 31 59.3	
	baz=209							
PRP	**Porcupine Dome**	**98.18**	**13**	P		Pdif	20 31 57.3	-1.6
EGAK	**Eagle**	**98.49**	**15**	P			20 32 00.9	
	baz=213							
EGAK	**Eagle**	**98.49**	**15**	P		Pdif	20 31 59.9	-0.1
EGAK				IAmb		IAmb	20 32 14.8	
	comp=Z,5.9nm,1.2s							
COLD	**Coldfoot**	**98.85**	**11**	P			20 32 03.1	
	baz=205							
YAK	**Yakutsk**	**100.12**	**338**	P		**Pdif**	**20 32 06.7**	**-0.7**
	comp=Z,4.4nm,0.4s,baz=60,slow=0.8,SNR=3.1							
YAK				PP		**PP**	**20 36 15.6**	**-2.3**
	comp=Z,3.3nm,0.4s,baz=109,slow=0.9,SNR=5.5							
RSSD	**Black Hills**	**100.16**	**45**	P			20 32 09.3	
	baz=239							
LAO	**LASA Array**	**100.20**	**42**	P			20 32 09.5	
	baz=238							
TOLK	**Toolik Lake Re**	**100.24**	**11**	P			20 32 06.9	
	baz=206							
SONM	**Songino Array**	**101.94**	**318**	P		**Pdif**	**20 32 15.3**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=84,slow=4.5,SNR=2.7							
SONM				PP		**PP**	**20 36 26.8**	**-5.3**
	comp=Z,1.1nm,0.9s,baz=119,slow=8.6,SNR=5.7							
GTA	**Gaotai**	**101.96**	**308**	*e*P		**Pdif**	**20 32 17.4**	**+1.1**
TIXI	**Tiksi**	**107.20**	**345**	PKiKP		**PKiKP**	**20 36 44.9**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=280,slow=1.2,SNR=5.5							
TIXI	**Tiksi**	**107.20**	**345**	PKiKP		**PKiKP**	**20 36 44.7**	**-1.0**
WMQ	**Urumqi**	**112.04**	**309**	*e*PKP		**PKiKP**	**20 36 55.4**	**-0.4**
M53A	**WI Miller and**	**114.66**	**55**	P			20 37 00.6	
	baz=252							
M54A	**Oil Creek Stat**	**115.41**	**55**	P			20 37 01.4	
	baz=252							
O56A	**Blue Knob Stat**	**115.82**	**57**	P			20 37 02.9	
	baz=252							
MK31	**Makanchi Array**	**116.58**	**311**	PKPdf		**PKPdf**	**20 37 03.4**	**-1.0**
MKAR	**Makanchi Array**	**116.58**	**311**	PKP		**PKPdf**	**20 37 03.5**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=204,slow=0.9,SNR=31							
MKAR				PP		**PP**	**20 38 15.2**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=94,slow=8.6,SNR=3.7							
MKAR				PKKPbc		**PKKPbc**	**20 47 34.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=278,slow=2.9,SNR=7.2							
MKAR	**Makanchi Array**	**116.58**	**311**	PKPdf		**PKPdf**	**20 37 03.2**	**-1.1**
MAKZ	**Makanchi**	**116.80**	**311**	PKPdf		**PKPdf**	**20 37 03.5**	**-1.2**
ZAA0	**Zalesovo Array**	**116.83**	**319**	PKPdf		**PKPdf**	**20 37 03.5**	**-1.0**
ZALV	**Zalesovo Beam**	**116.83**	**319**	PKP		**PKPdf**	**20 37 03.5**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=165,slow=0.8,SNR=13							
ZALV	**Zalesovo Beam**	**116.83**	**319**	PKPdf		**PKPdf**	**20 37 03.2**	**-1.4**
H53A	**Bobcaygeon**	**117.05**	**52**	P			20 37 04.6	
	baz=254							
K56A	**Middlesex**	**117.42**	**54**	P			20 37 05.5	
	baz=254							
G54A	**Lake Saint Pet**	**117.60**	**51**	P			20 37 05.2	
	baz=255							
BOSA	**Boshof**	**117.75**	**204**	PKP		**PKiKP**	**20 37 08.6**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=155,slow=2.4,SNR=6.0							
ALGO	**Algonquin Park**	**117.77**	**51**	P			20 37 06.0	
	baz=255							
J56A	**Wolcott**	**117.90**	**54**	P			20 37 06.1	
	baz=255							
L58A	**Harry Jones Me**	**118.29**	**55**	P			20 37 07.4	
	baz=255							
NRIK	**Noril'sk**	**118.50**	**336**	PKP		**PKPdf**	**20 37 05.7**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=138,slow=3.8,SNR=6.1							
NRIK				PP		**pPKPdf**	**20 38 27.1**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=101,slow=8.8,SNR=3.9							
NRIK	**Noril'sk**	**118.50**	**336**	PKPdf		**PKPdf**	**20 37 06.0**	**-1.3**
J57A	**Williamstown**	**118.54**	**54**	P			20 37 07.6	
	baz=255							
I57A	**Carthage**	**118.91**	**53**	P			20 37 08.6	
	baz=256							
J58A	**Remsen**	**119.03**	**54**	P			20 37 08.5	
	baz=256							
EUNU	**Eureka**	**119.30**	**11**			**PKPdf**	**20 37 08.0**	**-0.7**
I58A	**Old Forge**	**119.33**	**54**	P			20 37 09.6	
	baz=256							
D55A	**Sainte-Anne-du**	**119.75**	**50**	P			20 37 10.0	
	baz=258							
LONY	**Lake Ozonia**	**119.83**	**53**	P			20 37 10.1	
	baz=257							
KURK	**Kurchatov**	**119.85**	**314**			**PKPdf**	**20 37 09.8**	**-0.7**
KURBB	**Kurchatov Arra**	**119.89**	**314**	PKP		**PKPdf**	**20 37 09.8**	**-0.7**
	comp=Z,13nm,0.7s,baz=112,slow=1.9,SNR=129							
KURBB				PP		**PP**	**20 38 37.0**	**-2.8**
	comp=Z,2.0nm,0.9s,baz=103,slow=6.7,SNR=6.8							
E56A	**St. Veronique**	**119.94**	**51**	P			20 37 10.4	
	baz=258							
TKM2	**Tokmak 2**	**120.22**	**305**	P		**PKPdf**	**20 37 11.6**	**-0.1**
	SNR=6.4							
D56A	**ZEC Mazanza, M**	**120.24**	**50**	P			20 37 11.0	
	baz=258							
G58A	**Ormstown**	**120.31**	**52**	P			20 37 10.8	
	baz=258							
J60A	**Lant Hill Farm**	**120.33**	**55**	P			20 37 10.2	
	baz=257							
H59A	**Cadyville**	**120.45**	**53**	P			20 37 10.8	
	baz=257							
I60A	**Shoreham**	**120.56**	**54**	P			20 37 11.6	
	baz=257							
L61B	**Northampton**	**120.67**	**56**	P			20 37 11.7	
	baz=257							
CHMS	**Chumysh**	**120.84**	**305**	P		**PKPdf**	**20 37 12.4**	**-0.3**
	SNR=8.5							
AAK	**Ala-Archa**	**120.95**	**304**	PKP		**PKPdf**	**20 37 12.1**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=149,slow=3.3,SNR=7.0							
AAK	**Ala-Archa**	**120.95**	**304**			**PKPdf**	**20 37 12.4**	**-0.6**
CHGQ	**Chibougamau**	**121.03**	**47**	P			20 37 11.0	
	baz=260							
USP	**Ospenovka**	**121.08**	**305**	P		**PKiKP**	**20 37 13.2**	**-0.1**
	SNR=5.5							
I61A	**Oroboro, Fairl**	**121.34**	**54**	P			20 37 13.1	
	baz=258							
AML	**Almayashu**	**121.41**	**304**	P		**PKiKP**	**20 37 14.6**	**+0.1**
	SNR=9.3							
EKS2	**Erkin-Say**	**121.47**	**304**	P		**PKiKP**	**20 37 14.5**	**+0.3**
	SNR=5.2							
J62A	**Henniker**	**121.47**	**55**	P			20 37 13.7	
	baz=258							
D58A	**Chemin du LacG**	**121.50**	**50**	P			20 37 13.3	
	baz=259							
K63A	**Dunstable**	**121.56**	**56**	P			20 37 14.1	
	baz=258							
LBNH	**Lisbon**	**121.60**	**54**	P			20 37 14.6	
	baz=258							
ARSB	**Arslanbob**	**121.75**	**303**	PKPdf		**PKPdf**	**20 37 14.6**	**-0.1**
F60A	**Warwick**	**121.92**	**52**	P			20 37 13.8	
	baz=259							
G61A	**St-Isidore-de-**	**122.09**	**53**	P			20 37 14.5	
	baz=259							
H62A	**Milan**	**122.21**	**54**	P			20 37 15.4	
	baz=259							
E60A	**Ste Agathe de**	**122.34**	**51**	P			20 37 15.0	
	baz=260							
G62A	**West of Eustis**	**122.77**	**53**	P			20 37 16.0	
	baz=260							
E61A	**Lac Etchemin**	**123.00**	**51**	P			20 37 16.7	
	baz=260							
BTK	**Batken**	**123.08**	**301**			**PKPdf**	**20 37 17.2**	**0.0**
KBL	**Kabul**	**123.12**	**294**	PKPdf		**PKiKP**	**20 37 18.0**	**+0.2**
TULEG	**Thule**	**123.14**	**15**			**PKPdf**	**20 37 15.6**	**-0.5**
I64A	**Boothbay**	**123.16**	**55**	P			20 37 16.7	
	baz=259							
GAR	**Garm**	**123.22**	**299**	PKPdf		**PKiKP**	**20 37 18.0**	**+0.3**
F62A	**Pittston Farm,**	**123.27**	**52**	P			20 37 17.0	
	baz=260							
D61A	**St Aubert, Com**	**123.33**	**51**	P			20 37 16.9	
	baz=261							
G63A	**Kingsbury**	**123.38**	**53**	P			20 37 16.8	
	baz=260							
H64A	**Troy**	**123.58**	**54**	P			20 37 17.8	
	baz=260							
PKME	**Peaks-Kenny Pk**	**123.64**	**53**	P			20 37 18.0	
	baz=260							
E62A	**Clayton Lake**	**123.69**	**51**	P			20 37 18.0	
	baz=261							
F63A	**Nahmakanta, Br**	**123.84**	**53**	P			20 37 17.8	
	baz=261							
KK31	**Karatay Array**	**123.91**	**304**	PKPdf		**PKPdf**	**20 37 18.6**	**0.0**
KKAR	**Karatay Array**	**123.91**	**304**	PKPdf		**PKPdf**	**20 37 18.5**	**-0.1**
KKAR	**Karatay Array**	**123.91**	**304**			**PKPdf**	**20 37 18.6**	**+0.1**
G64A	**Maxfield**	**124.01**	**53**	P			20 37 18.4	
	baz=261							
CHGR	**Chuyangaron**	**124.03**	**299**			**PKiKP**	**20 37 19.4**	**0.0**
D62A	**Allapoint, All**	**124.08**	**51**	P			20 37 18.2	
	baz=262							
F64A	**Sherman**	**124.38**	**52**	P			20 37 18.6	
	baz=262							
E63A	**Oxbow**	**124.42**	**52**	P			20 37 18.7	
	baz=262							
D63A	**Stockholm**	**124.72**	**51**	P			20 37 19.1	
	baz=262							
PQI	**Presque Isle**	**124.73**	**52**			**PKPdf**	**20 37 19.5**	**-0.5**
E64A	**Bridgewater**	**124.82**	**52**	P			20 37 19.9	
	baz=262							
G65A	**Princeton**	**124.83**	**53**	P			20 37 20.1	
	baz=262							
FRB	**Frobisher Bay**	**125.03**	**31**	PKP		**PKPdf**	**20 37 18.7**	**-1.3**
	comp=Z,3.7nm,0.6s,baz=271,slow=6.3,SNR=4.2							
BVAR	**Borovoye Array**	**125.21**	**316**	PKP		**PKPdf**	**20 37 19.1**	**-1.6**
	comp=Z,11nm,0.7s,baz=218,slow=9.4,SNR=41							
BRVK	**Borovoye**	**125.27**	**316**			**PKPdf**	**20 37 20.8**	**0.0**
SCHQ	**Schefferville**	**126.12**	**42**	PKhKP		PKPpre	20 37 17.4	
	comp=Z,4.2nm,0.8s,baz=208,slow=17,SNR=4.2							
LMN	**Caledonia Moun**	**126.84**	**53**			**PKPdf**	**20 37 23.6**	**-0.4**
SPA0	**Spitsbergen Ar**	**130.77**	**356**	*e*PKPdf		**PKiKP**	**20 37 31.2**	**-0.4**
SPITS	**Spitsbergen Ar**	**130.77**	**356**	PKP		**PKPdf**	**20 37 29.9**	**-0.8**
	comp=Z,8.8nm,0.6s,baz=99,slow=5.3,SNR=15							
SPITS				SKPbc		**SKPbc**	**20 40 23.6**	**-1.0**
	comp=Z,14nm,0.9s,baz=117,slow=8.5,SNR=9.0							
ABKAR	**Akbulak array**	**131.72**	**311**			**PKPdf**	**20 37 33.4**	**+0.2**
ARU	**Arti**	**131.90**	**321**	PKP		**PKPdf**	**20 37 33.2**	**-0.1**
	baz=114,slow=3.0							
ARU	**Arti**	**131.90**	**321**			**PKPdf**	**20 37 33.1**	**-0.2**
SUMG	**Summit**	**132.06**	**15**			**PKiKP**	**20 37 34.8**	**0.0**
GEYT	**Alibeck**	**132.45**	**296**	PKP		**PKPdf**	**20 37 34.9**	**-0.2**
	comp=Z,6.1nm,0.7s,baz=112,slow=1.6,SNR=9.8							
GEYT				SKPbc		**SKPbc**	**20 40 32.2**	**+0.4**
	comp=Z,9.4nm,0.9s,baz=217,slow=4.7,SNR=9.6							
AKTO	**Aktyubinsk**	**132.91**	**313**	PKP		**PKPdf**	**20 37 35.5**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=87,slow=2.3,SNR=23							
AKTO				SKPbc		**SKPbc**	**20 40 32.8**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=78,slow=6.9,SNR=5.0							
KMBO	**Kilima Mbogo**	**133.93**	**235**	PKP		**PKPdf**	**20 37 39.4**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=336,slow=0.6,SNR=5.3							
KMBO				SKPbc		**SKPbc**	**20 40 38.7**	**+0.9**
	comp=Z,5.8nm,1.0s,baz=54,slow=4.2,SNR=8.2							
KIRV	**Kirov**	**136.13**	**326**	PKP		**PKPdf**	**20 37 41.1**	**0.0**
	comp=Z,17nm,0.6s,baz=142,slow=3.1,SNR=8.6							
HAMF	**Hammerfest**	**136.92**	**349**	*e*PKPdf		**PKPdf**	**20 37 42.0**	**-0.3**
ARCES	**ARCESS Array B**	**137.56**	**348**	PKiKP		PKPpre	20 37 34.5	
	comp=Z,3.7nm,0.6s,baz=47,slow=1.9,SNR=18							
ARCES				PKP		**PKPdf**	**20 37 44.3**	**+0.8**
	comp=Z,6.7nm,0.6s,baz=65,slow=0.5,SNR=13							
ARCES				PP		**PP**	**20 40 33.3**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=333,slow=26,SNR=2.3							
ARCES				SKPbc		**SKPbc**	**20 40 45.8**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=46,slow=3.5,SNR=4.7							
KTK1	**Kautokeino**	**138.42**	**348**	*e*PKPdf		**PKPdf**	**20 37 45.0**	**-0.1**
TRO	**Tromso**	**138.55**	**351**	*e*PKPdf		**PKPdf**	**20 37 45.5**	**+0.2**
BELG	**Belogornoye**	**138.99**	**317**	PKP		**PKPdf**	**20 37 46.9**	**+0.3**
	comp=Z,52nm,0.9s,baz=85,slow=0.7,SNR=13							
KLMR	**Klimovskoe**	**139.60**	**332**	*e*PKPdf		**PKPdf**	**20 37 46.1**	**-1.4**
KLMR				*e*PP		**PP**	**20 40 48.9**	**+2.4**
STEI	**Steigen**	**140.64**	**352**	*e*PKPdf		**PKPdf**	**20 37 49.0**	**-0.2**
FAUS	**Fauske**	**141.15**	**351**	*e*SKPdf		**SKPbc**	**20 40 53.7**	**-2.8**
GNI	**Garni**	**142.94**	**299**	PKP		**PKPdf**	**20 37 54.6**	**+0.3**
	comp=Z,12nm,0.9s,baz=331,slow=18,SNR=3.6							
ONI	**Oni**	**143.70**	**303**	PKPdf		**PKPdf**	**20 37 55.7**	**+0.2**
AKH	**Akhalkalaki**	**143.80**	**301**	⇑P		**PKPdf**	**20 37 55.7**	**-0.2**
KBZ	**Khabaz**	**143.94**	**305**	PKP	

comp=Z,61nm,0.7s,baz=48,slow=2.7,SNR=30
AKASG **Malin Array Be** 150.11 323 **PKPbc** **20 38 10.9 -0.2**
AKBB **Malin Array Si** 150.11 323 **PKPbc** **20 38 10.9 -0.2**
KMY **Karmoy** 150.17 356 *e*PKPbc **PKPbc** **20 38 11.2 +0.2**
GHAJ **Ghor Haditha** 150.26 282 **PKiKP** **20 38 12.8 0.0**
TJOU **Tjoern** 150.56 349 *i* P **PKPbc** **20 38 11.4 -0.5**
BZK **Bozkurt** 150.71 304 ⇓P **PKiKP** **20 38 13.8 +0.4**
BZK **Bozkurt** 150.71 304 **PKiKP** **20 38 13.2 -0.1**
SUW **Suwalki** 150.72 333 *e*PKP **PKPbc** **20 38 12.6 +0.1**
SUW **Suwalki** 150.72 333 *e*P **PKPbc** **20 38 12.6 +0.1**
SUW **Suwalki** 150.72 333 **PKPbc** **20 38 12.3 -0.1**
BORU **Boraas** 150.73 347 ⇓*i*P **PKPbc** **20 38 11.6 -0.7**
BORU *i* 20 38 19.8
HOMB **Homborsund** 150.79 352 ⇓*i*P **PKiKP** **20 38 12.7 -0.3**
HOMB IAmb IAmb 20 38 13.7
comp=Z,111nm,0.8s
HOMB **Homborsund** 150.79 352 *e*PKPbc **PKPbc** **20 38 12.6 +0.1**
SNART **Snartemo** 150.87 353 ⇓*i*P **PKPbc** **20 38 12.7 0.0**
SNART IAmb IAmb 20 38 13.5
comp=Z,73nm,0.8s
SNART **Snartemo** 150.87 353 *e*PKPbc **PKPbc** **20 38 12.7 0.0**
ONAU **Onsala** 151.11 348 *i* P **PKPbc** **20 38 12.6 -0.6**
BLEU **Blekinge** 151.25 343 ⇓*i*P **PKPbc** **20 38 12.9 -0.7**
BLEU *i* 20 38 21.7
FABU **Falkenberg** 151.33 347 ⇓*i*P **PKPbc** **20 38 13.2 -0.5**
BR131 **Keskin Array S** 151.46 300 **PKPbc** **20 38 14.6 -0.2**
BRTR **Keskin Array B** 151.46 300 PKP **PKPdf** **20 38 08.2 -0.2**
comp=Z,1.5nm,0.9s,baz=186,slow=1.2,SNR=8.8
BRTR PKPbc **PKPbc** **20 38 14.7 -0.2**
comp=Z,11nm,0.8s,baz=145,slow=5.4,SNR=48
BRTR PKPab **PKPab** **20 38 25.2 +0.6**
comp=Z,6.5nm,0.7s,baz=92,slow=3.8,SNR=8.0
BRTR PP **PP** **20 41 53.9 -3.7**
comp=Z,0.7nm,0.8s,baz=64,slow=3.4,SNR=2.6
BRTR **Keskin Array B** 151.46 300 **PKPdf** **20 38 07.5 -0.9**
BRTR **PKPbc** **20 38 14.5 -0.3**
DEL **Delary** 151.57 345 ⇓*i*P **PKPbc** **20 38 14.1 -0.3**
DEL IAmb IAmb 20 38 14.8
comp=Z,2.4nm,0.5s
DEL *i* 20 38 23.4
SORM **Soroca** 151.99 319 ⇑P **PKPbc** **20 38 15.0 -0.5**
ANTO **Ankara** 152.07 300 PKPdf **PKPdf** **20 38 09.6 +0.4**
ANTO **PKiKP** **20 38 16.3 -0.1**
BR231 **Keskin MP Arra** 152.09 300 **PKPbc** **20 38 16.3 +0.1**
BJUU **Bjuv** 152.13 346 ⇓*i*P **PKPbc** **20 38 15.4 -0.2**
BJUU *i* 20 38 25.8
CSS **Mathiatis** 152.25 290 **PKPbc** **20 38 16.6 0.0**
BSD **Bornholm Skovb** 152.55 343 *e*P **PKPbc** **20 38 16.3 -0.3**
BSD **Bornholm Skovb** 152.55 343 ⇓*i*P **PKPbc** **20 38 16.4 -0.1**
BSD IAmb IAmb 20 38 17.0
comp=Z,6.8nm,0.3s
VASR **Vaslui** 153.08 317 ⇑P **PKiKP** **20 38 18.5 +0.3**
MDUB **Mudurnu** 153.13 302 **PKPbc** **20 38 17.5 -1.0**
TLCR 153.13 313 ⇑P **PKiKP** **20 38 18.7 +0.5**
JURR **Jurilovca** 153.28 312 ⇑P **PKiKP** **20 38 19.5 +0.9**
BEL **Belsk** 153.32 332 *e*PKP **PKiKP** **20 38 18.7 +0.2**
RGN **Rugen** 153.46 344 *e*PKPab **PKPab** **20 38 32.5 +0.3**
baz=25,slow=4.3
GKP **Gorka Klasztor** 153.47 338 *e*PKP **PKiKP** **20 38 19.0 +0.3**
GKP **Gorka Klasztor** 153.47 338 *e*P **PKiKP** **20 38 19.3 +0.6**
TPGR **Topolog** 153.53 313 ⇑P **PKiKP** **20 38 19.6 +0.4**
CFR **Carcaliu** 153.57 314 ⇑P **PKiKP** **20 38 19.2 +0.1**
GIRR **Girov** 153.68 318 ⇑P **PKPbc** **20 38 19.1 -0.2**
TIRR **Tirgusor** 153.71 312 ⇓P **PKPbc** **20 38 18.7 -0.7**
TIRR **Tirgusor** 153.71 312 ⇓P **PKPbc** **20 38 18.7 -0.7**
TIRR **Tirgusor** 153.71 312 PKPab **PKPab** **20 38 34.2 +0.5**
TESR **Tescani** 153.82 317 ⇑P **PKiKP** **20 38 20.0 +0.3**
TLBR **Topalu** 153.91 312 ⇑P **PKiKP** **20 38 20.7 +0.8**
BIZ **Bicaz** 153.91 319 ⇑P **PKiKP** **20 38 20.2 +0.3**
ODBI **Odobesti** 153.96 316 ⇑P **PKiKP** **20 38 21.1 +1.1**
CVD1 **Cernavoda-Powe** 154.00 312 P **PKiKP** **20 38 20.8 +0.8**
BURAR **Bucovina Array** 154.03 321 PKPdf **PKPdf** **20 38 12.8 +0.9**
BURAR **PKiKP** **20 38 20.9 +0.7**
KWP **Kalwaria Pacla** 154.05 327 **PKiKP** **20 38 20.3 +0.2**
KWP PKPab **PKPab** **20 38 35.1 +0.1**
SKMB **Sankelmark Bun** 154.10 349 *e*PKPab **PKPab** **20 38 35.3 +0.4**
baz=25,slow=4.3
VRI **Vrincioaia** 154.11 316 ⇓P **PKiKP** **20 38 21.0 +0.6**
PLOR **Plostina** 154.16 316 ⇑P **PKiKP** **20 38 21.1 +0.7**
LNIZ **Loecknitz** 154.18 342 *e*PKPab **PKPab** **20 38 35.0 -0.3**
baz=25,slow=4.3
ICOR **Ion Corvin** 154.25 312 ⇑P **PKPab** **20 38 37.0 +1.0**
BISRR **Bisoca** 154.28 316 ⇓P **PKiKP** **20 38 21.2 +0.5**
OZUR 154.55 317 ⇑P **PKPbc** **20 38 20.3 -1.0**
BSEG **Bad Segeberg** 154.69 347 *e*PKPdf **PKPdf** **20 38 12.7 +0.3**
baz=22,slow=1.3
BSEG *e*PKPab **PKPab** **20 38 37.4 -0.1**
baz=25,slow=4.3
KOLS **Kolonicke sedl** 154.74 326 *e*PKP **PKPdf** **20 38 15.1 +2.4**
KOLS *e* 20 38 22.8
KOLS *e* 20 38 38.0
MLR **Muntele Rosu** 154.77 316 PKP **PKPdf** **20 38 12.3 -0.6**
comp=Z,1.8nm,1.0s,baz=20,slow=8.2,SNR=3.4
MLR PKPbc **PKPbc** **20 38 21.7 -0.1**
baz=339,slow=4.9
MLR **Muntele Rosu** 154.77 316 ⇑P **PKiKP** **20 38 21.9 +0.1**
MLR **Muntele Rosu** 154.77 316 **PKPbc** **20 38 21.1 -0.8**
DOPR **Dopca** 154.85 317 ⇑P **PKiKP** **20 38 22.9 +1.1**
ELL **Elmali** 154.86 294 **PKiKP** **20 38 22.6 +0.2**
OJC **Ojcow** 154.95 331 *e*PKP **PKiKP** **20 38 22.2 +0.3**
OJC **Ojcow** 154.95 331 **PKPdf** **20 38 13.0 +0.1**
CRVS **Cervenica-Dubn** 155.15 327 *e*PKP PKPdf 20 38 24.1 +11
CRVS *e* 20 38 40.1
RUE **Ruedersdorf** 155.21 341 *e*PKPab **PKPab** **20 38 39.8 +0.1**
baz=25,slow=4.3
VOIR 155.34 317 ⇓P PKPdf 20 38 23.4 +10
HUMR **Humele** 155.85 315 ⇑P **PKPab** **20 38 43.2 +0.3**
DRGR 155.90 322 ⇑P **PKPab** **20 38 42.8 -0.3**
COPA **Copaceanca** 155.90 314 ⇑P **PKPab** **20 38 43.5 +0.5**
FLTG **Flechtingen** 155.99 345 *e*PKPab **PKPab** **20 38 42.6 -0.6**
baz=25,slow=4.3
OSTC **Ostas** 156.09 336 *e*PKPDF **PKPdf** **20 38 14.9 +0.5**
OSTC *ex* x 20 38 24.6
OSTC *e*PKPAB **PKPab** **20 38 43.3 -0.4**
NRDL **Niedersach Rie** 156.09 346 *e*PKPab **PKPab** **20 38 43.2 -0.3**
baz=25,slow=4.3
CHVC **Chvalec** 156.12 336 *e*PKPDF **PKPdf** **20 38 14.8 +0.3**
CHVC *ex* x 20 38 24.7
CHVC *e*PKPAB **PKPab** **20 38 44.0 +0.2**
UPC **Upice** 156.20 336 *e*PKPAB **PKPab** **20 38 44.3 +0.1**
MORC **Moravsky Berou** 156.22 333 *e*PKP **PKPdf** **20 38 15.5 +0.8**
MORC *e* 20 38 44.2
MORC **Moravsky Berou** 156.22 333 **PKPdf** **20 38 15.8 +1.2**
DPC **Dobruska-Polom** 156.22 335 *e*PKPDF **PKPdf** **20 38 14.7 +0.1**
DPC *ex* x 20 38 25.1
DPC *e*PKPAB **PKPab** **20 38 44.7 +0.4**
KRLC **Kraliky** 156.27 334 *e*PKPDF **PKPdf** **20 38 15.4 +0.7**
KRLC *ex* x 20 38 25.0
KRLC *e*PKPAB **PKPab** **20 38 44.7 +0.2**
ASSE **Asse, Remlinge** 156.31 345 *e*PKPab **PKPab** **20 38 44.3 -0.1**
baz=25,slow=4.3
CLL **Collm** 156.47 341 *e*PKPdf **PKPdf** **20 38 14.0 -0.8**
CLL *i* PKPdiff PKPab 20 38 25.0 -20
comp=Z,10.0nm,1.0s
CLL *i* PKPab **PKPab** **20 38 45.0 -0.3**
comp=Z,35nm,0.8s
CLL *e*PP **PP** **20 42 27.0 +3.0**
CLL **Collm** 156.47 341 *e*PKPdf **PKPdf** **20 38 14.5 -0.4**
baz=22,slow=1.3
CLL *e*PKPab **PKPab** **20 38 45.0 -0.3**
baz=25,slow=4.3
BRG **Berggiesshubel** 156.58 339 ⇓*e*PKPf 20 38 15.1
BRG Amp 20 38 16.6
comp=Z,10.0nm,1.3s
BRG ⇑PKP PKPdf 20 38 25.7 +11
BRG Amp 20 38 28.0
comp=Z,5.2nm,0.9s
BRG *i* PKPab **PKPab** **20 38 45.9 +0.2**
BRG Amp 20 38 46.6
comp=Z,26nm,0.9s
BRG **Berggiesshubel** 156.58 339 *e*PKPdf **PKPdf** **20 38 15.1 +0.1**
baz=22,slow=1.3
BRG *e*PKPab **PKPab** **20 38 45.8 +0.1**
baz=25,slow=4.3
PSZ **Piszkesteto** 156.58 327 ⇑P **PKPab** **20 38 46.4 +0.4**
PSZ **Piszkesteto** 156.58 327 PKPdf **PKPdf** **20 38 16.1 +0.9**
PSZ PKPab **PKPab** **20 38 46.0 0.0**
CLZ **Clausthal** 156.65 345 *e*PKPab **PKPab** **20 38 46.0 -0.1**
baz=25,slow=4.3
PVCC **Panska Ves** 156.68 338 *e*PKPAB **PKPab** **20 38 46.3 +0.1**
IBBN **Ibbenburen** 156.70 350 *e*PKPab **PKPab** **20 38 46.1 -0.1**
baz=25,slow=4.3
FBE **Freiberg** 156.71 340 *e*PKPdf **PKPdf** **20 38 15.5 +0.3**
baz=22,slow=1.3
FBE *e*PKPab **PKPab** **20 38 46.6 +0.3**
baz=25,slow=4.3
ALN **Alexandroupoli** 156.72 306 PKPab **PKPab** **20 38 46.5 -0.2**
SIRR **Siria** 156.79 322 ⇑P PKPdf 20 38 26.4 +11
JAVC **Velka Javorina** 156.88 331 *e*PKP **PKPdf** **20 38 17.2 +1.6**
JAVC *e* 20 38 48.4
NEUB **Neuenburg** 156.89 343 *e*PKPab **PKPab** **20 38 47.0 -0.1**
baz=25,slow=4.3
VRAC **Vranov** 156.96 333 *e*PKP **PKPdf** **20 38 16.1 +0.5**
VRAC *e* 20 38 47.7
GTTG **Gottingen** 157.01 346 *e*PKPab **PKPab** **20 38 47.6 0.0**
baz=25,slow=4.3
PRK **Paraskevi** 157.11 302 P PKPab 20 38 58.2 +10
PRU **Pruhonice** 157.15 337 *e*PKPAB **PKPab** **20 38 47.1 -1.1**
BZS **Buzias** 157.22 320 ⇑P **PKPab** **20 38 48.8 0.0**
KRUC **Moravsky** 157.24 333 *e*PKP **PKPdf** **20 38 16.2 +0.3**
KRUC *e* 20 38 48.7
TANN **Tannenbergstha** 157.42 341 *e*PKPab **PKPab** **20 38 49.6 +0.1**
baz=25,slow=4.3
SIGR **SIGRI** 157.43 302 P **PKPab** **20 38 49.0 -0.9**
WERD **Werda** 157.44 341 *e*PKPab **PKPab** **20 38 49.7 +0.2**
baz=25,slow=4.3
PLN **Plauen** 157.45 341 *e*PKPab **PKPab** **20 38 49.6 0.0**
baz=25,slow=4.3
MOX **Moxa** 157.45 342 *e*PKPab **PKPab** **20 38 49.4 -0.1**
baz=25,slow=4.3
GUNZ **Gunzen** 157.51 341 *e*PKPdf **PKPdf** **20 38 16.6 +0.3**
baz=22,slow=1.3
GUNZ *e*PKPab **PKPab** **20 38 50.1 +0.2**
baz=25,slow=4.3
WERN **Wernitzgruen** 157.56 341 *e*PKPdf **PKPdf** **20 38 16.3 0.0**
baz=22,slow=1.3
WERN *e*PKPab **PKPab** **20 38 50.5 +0.4**
baz=25,slow=4.3
PBCC **Pribram** 157.59 338 *e*PKPAB **PKPab** **20 38 49.9 -0.3**
NKC **Novy Kostel** 157.59 341 *e*PKPAB **PKPab** **20 38 50.2 0.0**
BUG **Bochum--Univer** 157.61 350 *e*PKPab **PKPab** **20 38 50.3 +0.2**
baz=25,slow=4.3
KASTN **Kahler Asten** 157.65 348 *e*PKPab **PKPab** **20 38 50.0 -0.4**
baz=25,slow=4.3
MDVR **Moldovita** 157.66 319 ⇑P **PKPab** **20 38 51.2 +0.5**
UBBA **Unterbreizbach** 157.69 345 *e*PKPab **PKPab** **20 38 50.1 -0.3**
baz=25,slow=4.3
LIA **Limnos Island** 157.69 304 P PKPab 20 38 41.3 -10
VTS **Vitosha** 157.90 312 ⇑P **PKPab** **20 38 53.3 +1.3**
VTS **Vitosha** 157.90 312 PKPab **PKPab** **20 38 53.2 +1.2**
MANZ **Manzenberg** 157.91 341 *e*PKPab **PKPab** **20 38 51.6 0.0**
baz=25,slow=4.3
ROTZ **Rotzenmuhle** 158.08 340 *e*PKPab **PKPab** **20 38 52.7 +0.4**
baz=25,slow=4.3
KHC **Kasperske Hory** 158.21 337 *e*PKPDF **PKPdf** **20 38 16.5 -0.7**
KHC *ex* x 20 38 29.0
KHC *e*PKPAB **PKPab** **20 38 53.1 +0.2**
CKRC **Cesky Krumlov** 158.22 336 *e*PKPDF **PKPdf** **20 38 16.2 -1.0**
CKRC *ex* x 20 38 52.9
BOVS **Bovan** 158.32 316 ⇓P **PKPab** **20 38 53.8 +0.1**
CONA **Conrad Observa** 158.36 332 *i* P **PKPab** **20 38 54.2 +0.5**
comp=Z,18nm,1.5s,SNR=6.3
GEC2 **GERESS Array S** 158.41 337 PKPab **PKPab** **20 38 53.7 -0.2**
GEC2 **GERESS Array S** 158.41 337 *e*PKPdf **PKPdf** **20 38 17.9 +0.4**
baz=22,slow=1.3
GEC2 *e*PKPab **PKPab** **20 38 53.8 -0.1**
baz=25,slow=4.3
GERES **GERESS Array B** 158.41 337 PKP **PKPdf** **20 38 16.9 -0.5**
comp=Z,1.3nm,0.8s,baz=52,slow=2.2,SNR=7.6
GERES PKPab **PKPab** **20 38 53.8 -0.1**
comp=Z,4.8nm,0.6s,baz=36,slow=4.3,SNR=23
GERES **GERESS Array B** 158.41 337 PKPab **PKPab** **20 38 53.2 -0.7**
GRA1 **Grafenberg Arr** 158.42 342 **PKPab** **20 38 53.9 +0.1**
GRF **Grafenberg Arr** 158.42 342 *e*PKPab **PKPab** **20 38 54.2 +0.4**
baz=25,slow=4.3
WET **Wettzell** 158.42 339 *e*PKPdf **PKPdf** **20 38 16.9 -0.5**
baz=22,slow=1.3
WET *e*PKPab **PKPab** **20 38 54.3 +0.5**
baz=25,slow=4.3
GRFO **Grafenberg** 158.42 342 PKPab **PKPab** **20 38 54.1 +0.3**
FRGS **Fruska Gora** 158.50 322 ⇑P **PKPab** **20 38 54.8 +0.5**
AHRW **Bad Neuenahr-A** 158.51 349 *e*PKPab **PKPab** **20 38 54.2 +0.1**
baz=25,slow=4.3
TNS **Taunus Mts** 158.58 347 *e*PKPab **PKPab** **20 38 54.2 -0.3**
baz=25,slow=4.3
MEM **Membach** 158.60 351 *d*PKPab **PKPab** **20 38 53.7 -0.8**
BTNL **Ternell** 158.61 351 *d*PKPab **PKPab** **20 38 54.3 -0.3**
BSTI **Sart Tilman** 158.68 352 *d*PKPab **PKPab** **20 38 54.1 -0.7**
MILB **Miltenberg** 158.77 345 *e*PKPab **PKPab** **20 38 55.0 -0.3**
baz=25,slow=4.3
BHOU **Houvegnez** 158.85 351 *d*PKPab **PKPab** **20 38 55.2 -0.5**
BCLA **Clavier** 158.88 352 *d*PKPab **PKPab** **20 38 55.1 -0.6**
SNF **Seneffe** 158.89 354 *d*PKPab **PKPab** **20 38 55.3 -0.4**
BGES **Gesves** 158.94 353 *d*PKPab **PKPab** **20 38 55.1 -0.9**
VAY **Valandovo** 158.95 310 *i* P **PKPab** **20 38 56.6 +0.2**
STIP **Stip** 159.03 311 *i* P **PKPab** **20 38 56.1 -0.6**
ARSA **Arzberg** 159.04 332 *e*P **PKPab** **20 38 56.7 +0.1**
comp=Z,8.5nm,1.3s
MOA **Molln** 159.05 335 *e*P **PKPab** **20 38 56.9 +0.3**
comp=Z,16nm,1.3s,SNR=7.5
BMRD **Maredsous** 159.05 353 *d*PKPab **PKPab** **20 38 55.9 -0.6**
DIVS **Divibare** 159.06 319 PKPab **PKPab** **20 38 56.9 0.0**
IDI **Anoyia** 159.10 292 ⇑P **PKPab** **20 38 57.0 -0.3**
IDI **Anoyia** 159.10 292 PKPab **PKPab** **20 38 57.1 -0.3**
DOU **Dourbes** 159.27 354 *d*PKPab **PKPab** **20 38 56.4 -1.0**
ATHU **Athens Univers** 159.35 300 P **PKPab** **20 39 04.5 +6.2**
SKO **Skopje** 159.37 313 *i* P **PKPab** **20 38 59.3 +1.0**
WLF **Walferdange** 159.51 351 *d*PKPab **PKPab** **20 38 58.2 -0.2**
WLF **Walferdange** 159.51 351 PKPab **PKPab** **20 38 58.3 -0.2**
WLF **Walferdange** 159.51 351 *e*PKPab **PKPab** **20 38 58.5 +0.1**
baz=25,slow=4.3
LIT **Litokhoron** 159.53 307 PKPab **PKPab** **20 38 58.5 -0.6**
RJOB **Jochberg** 159.67 337 *e*PKPab **PKPab** **20 38 59.9 +0.5**
baz=25,slow=4.3
PERS **Pernice** 159.69 331 *i* PKPab **PKPab** **20 38 59.2 -0.4**
SOKA **Soboth** 159.70 331 *e*P **PKPab** **20 38 59.4 -0.1**
comp=Z,18nm,1.4s,SNR=6.0
FUR **Furstenfeldbru** 159.78 340 *e*PKPab **PKPab** **20 39 00.3 +0.5**
baz=25,slow=4.3
STU **Stuttgart** 159.78 344 **PKPab** **20 38 59.2 -0.5**
STU **Stuttgart** 159.78 344 *e*PKPab **PKPab** **20 38 59.6 -0.2**
baz=25,slow=4.3
FNA **Florina** 160.00 310 **PKPab** **20 39 00.4 -0.7**
KBA **Koelnbreinsper** 160.03 335 *i* P **PKPab** **20 39 01.7 +0.6**
comp=Z,6.8nm,0.8s
AGG **Agios Georgios** 160.07 304 PKPab **PKPab** **20 39 00.0 -1.4**
MYKA **Terra Mystica** 160.30 334 *i* P **PKPab** **20 39 01.5 -0.6**
comp=Z,5.8nm,0.5s
BFO **Black Forest** 160.40 345 PKPab **PKPab** **20 39 01.9 -0.6**
BFO **Black Forest** 160.40 345 *e*PKPab **PKPab** **20 39 02.0 -0.4**
baz=25,slow=4.3
WATA **Walderalm** 160.43 338 *e*P **PKPab** **20 39 03.0 +0.2**
comp=Z,9.8nm,0.6s,SNR=8.5
WTTA **Wattenberg** 160.47 338 *e*P **PKPab** **20 39 03.4 +0.4**
comp=Z,21nm,1.0s,SNR=5.6
PDG **Podgorica** 160.49 316 ⇑P **PKPab** **20 39 03.4 +0.3**
PDG **Podgorica** 160.49 316 PKPab **PKPab** **20 39 03.2 +0.2**
BOJS **Bojanci** 160.52 329 *e*PKPab **PKPab** **20 39 02.7 -0.4**
RETA **Reutte** 160.55 340 *i* P **PKPab** **20 39 03.5 +0.3**
comp=Z,32nm,1.0s,SNR=12
UBR **Ueberruh** 160.56 341 *e*PKPab **PKPab** **20 39 03.1 -0.1**
baz=25,slow=4.3
MOTA **Moosalm** 160.57 339 *i* P **PKPab** **20 39 03.6 +0.2**
comp=Z,37nm,1.1s,SNR=15
ABTA **Abfaltersbach** 160.62 336 *e*P **PKPab** **20 39 02.9 -0.7**
comp=Z,12nm,0.7s,SNR=5.2
TIR **Tirane** 160.71 313 ⇑P **PKPab** **20 39 04.4 +0.3**
TIR **Tirane** 160.71 313 **PKPab** **20 39 04.0 -0.1**
ECH **Ecbery** 160.75 348 **PKPab** **20 39 03.5 -0.4**
STAL **STALIGIAL** 160.96 335 **PKPab** **20 39 03.8 -1.2**
FETA **Feichten** 160.97 339 *e*P **PKPab** **20 39 05.4 +0.2**
comp=Z,17nm,1.0s,SNR=8.4
DAVA **Damuels** 160.98 341 *i* P **PKPab** **20 39 05.5 +0.2**
comp=Z,21nm,0.6s,SNR=9.3
DAVOX **Davos/Dischmat** 161.44 341 PKP **PKPdf** **20 38 20.4 -0.7**
comp=Z,1.6nm,0.7s,baz=92,slow=8.9,SNR=4.2
DAVOX PKPab **PKPab** **20 39 07.7 +0.4**
comp=Z,26nm,0.6s,baz=17,slow=2.2,SNR=41
CLF **Chambon-Foret** 161.49 357 **PKPab** **20 39 07.0 -0.2**
CTI **Castel Tesino** 161.53 336 PKPab **PKPab** **20 39 06.6 -1.0**
TUE **Stuetta** 161.88 341 PKPab **PKPab** **20 39 08.7 -0.5**
SENIN **Lac Senin/Sane** 162.49 346 PKPab **PKPab** **20 39 11.9 0.0**
SGRT **San Giovanni R** 162.96 320 **PKPab** **20 39 14.0 0.0**
NRCA **Norcia** 163.56 327 **PKPab** **20 39 16.2 -0.4**
TORD **Torodi Ar. Bea** 163.70 182 PKP **PKPdf** **20 38 24.0 +0.1**
comp=Z,3.9nm,0.9s,baz=296,slow=1.3,SNR=11
TORD PKPab **PKPab** **20 39 18.9 +1.3**
comp=Z,2.3nm,0.5s,baz=179,slow=2.7,SNR=11
INTR **Introdacqua** 163.78 324 PKPab **PKPab** **20 39 17.1 -0.5**
AQU **L'Aquila** 163.78 325 PKPab **PKPab** **20 39 17.8 +0.2**
BNI **Bardonecchia** 163.87 346 PKPab **PKPab** **20 39 18.1 +0.2**
TIP **Timpagrande** 163.87 311 ⇑P **PKPab** **20 39 19.4 +1.2**
TIP **Timpagrande** 163.87 311 PKPab **PKPab** **20 39 19.0 +0.9**
CEL **Celeste** 164.93 309 **PKPab** **20 39 22.7 -0.1**
RAFF **Raffo Rosso** 166.50 308 **PKPab** **20 39 30.6 +0.8**
PAB **San Pablo** 169.04 23 **PKPdf** **20 38 28.6 +1.1**
ESDC **Sonseca Array** 169.05 21 PKP **PKPdf** **20 38 27.9 +0.4**
comp=Z,3.5nm,1.0s,baz=345,slow=3.4,SNR=13
ESDC PKPab **PKPab** **20 39 40.9 0.0**
comp=Z,5.0nm,1.0s,baz=330,slow=3.7,SNR=14
ESDC **Sonseca Array** 169.05 21 **PKPdf** **20 38 28.4 +0.9**
ESDC PKPab **PKPab** **20 39 40.7 -0.1**
KEST **Kesra** 170.67 314 PKPab **PKPab** **20 39 49.2 +0.9**
comp=Z,6.7nm,0.9s,baz=282,slow=5.1,SNR=5.2
KEST **Kesra** 170.67 314 **PKPab** **20 39 49.0 +0.7**

ISK ***15*** *20:24:50.9,39°.52N×26°.02E,h8km,ML2.5/21*
IASPEI ***15*** *20:24:51.1±0.8,39°.50N±0°.02×26°.03E±0°.02,h17km±5km, Error ellipse: s-maj=3.4km s-min=2.5km az=88.7,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
DDA ***15*** *20:24:51.5,39°.50N×26°.08E,h15km,ML2.1*
ATH ***15*** *20:24:51.7,39°.49N×26°.00E,h24km±6km,ML2.0/6, Error ellipse: s-maj=6.4km s-min=1.4km az=154.0*
THE ***15*** *20:24:52.7,39°.46N×25°.89E,h16km±1km,ML1.9/5, Error ellipse: s-maj=2.0km s-min=0.5km az=248.0*
ISC 15 20:24:51.3±0.8, 39°.50N±0°.02×26°.03E±0°.02, h17km±5km, n56, σ0°69°/79, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.09**	**87**	*i* P		**Pg**	**20 24 54.5**	**-0.1**
KOCA					IAML		20 24 56.0	
	comp=N,963nm,0.5s							
KOCA				*i* S		**Sg**	**20 24 56.5**	**-0.4**
KOCA					IAML		20 24 57.0	
	comp=E,1μm,0.2s							
PRK	**Paraskevi**	**0.32**	**143**	P		**Pb**	**20 24 59.2**	**+0.8**
PRK				S		**Sb**	**20 25 04.0**	**+0.7**
PRK					AML	AML	20 25 06.1	
	comp=N,1409μm,0.4s							
PRK					AML	AML	20 25 06.5	
	comp=E,978μm,0.2s							
SIGR	**SIGRI**	**0.32**	**205**	P		**Pg**	**20 24 58.1**	**+0.1**
SIGR				S		**Sg**	**20 25 02.8**	**+0.3**
SIGR					AML	AML	20 25 03.3	
	comp=E,1488μm,0.2s							
SIGR					AML	AML	20 25 03.9	
	comp=N,1212μm,0.2s							
SIGR	**SIGRI**	**0.32**	**205**	P		**Pg**	**20 24 58.0**	**+0.1**
SIGR				S		**Sg**	**20 25 02.7**	**+0.3**
	comp=N,660nm,0.2s							
SIGR	**SIGRI**	**0.32**	**205**	PG		**Pg**	**20 24 58.2**	**+0.3**
SIGR				SG		**Sg**	**20 25 03.1**	**+0.6**
EZN	**Ezine**	**0.40**	**35**	PG		**Pg**	**20 24 59.3**	**-0.2**
EZN				SG		**Sg**	**20 25 05.1**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.47**	**59**	*i* P		**Pg**	**20 25 00.2**	**-0.5**
AYVA	**Ayvalik**	**0.55**	**110**	*i* P		**Pg**	**20 25 01.8**	**-0.3**
ECEA	**Canakkale, Ece**	**0.56**	**12**	*i* P		**Pg**	**20 25 02.5**	**+0.1**
ECEA					IAML		20 25 10.0	
	comp=N,116nm,0.4s							
ECEA				*i* S		**Sg**	**20 25 10.2**	**+0.4**
ECEA					IAML		20 25 11.0	
	comp=E,182nm,0.3s							
GOKA	**anakkale-Gk**	**0.70**	**353**	*i* P		**Pg**	**20 25 04.8**	**-0.1**
GADA	**Gvkgeada**	**0.70**	**352**	PG		**Pg**	**20 25 04.4**	**-0.6**
GADA				SG		**Sg**	**20 25 14.2**	**-0.1**
LIA	**Limnos Island**	**0.76**	**302**	P		**Pb**	**20 25 06.4**	**+0.3**
LIA				S		**Sg**	**20 25 16.7**	**+0.5**
LIA					AML	AML	20 25 17.7	
	comp=E,193μm,0.2s							
LIA					AML	AML	20 25 18.5	
	comp=N,101μm,0.2s							
LIA	**Limnos Island**	**0.76**	**302**	P		**Pb**	**20 25 06.4**	**+0.3**
LIA				S		**Sb**	**20 25 16.0**	**-0.2**
	comp=N,72nm,0.2s							
DKL	**Dikili**	**0.80**	**122**	PG		**Pb**	**20 25 07.0**	**+0.2**
DKL				SG		**Sg**	**20 25 18.6**	**+1.0**
CAND	**Candarli**	**0.81**	**132**	PG		**Pb**	**20 25 07.3**	**+0.4**
BUHA	**Balikesir, Bur**	**0.81**	**89**	*i* P		**Pb**	**20 25 06.6**	**-0.3**
BUHA				*i* S		**Sb**	**20 25 17.5**	**-0.1**
BUHA					IAML		20 25 22.0	
	comp=E,57nm,0.5s							
FOCM	**Foa**	**0.96**	**145**	PG		**Pb**	**20 25 10.0**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.96**	**21**	PG		**Pb**	**20 25 09.6**	**+0.1**
GELI				SG		**Sg**	**20 25 23.0**	**+0.4**
ZEDA	**zmir-Bergama**	**0.97**	**123**	*i* P		**Pb**	**20 25 10.0**	**+0.4**
ZEDA					IAML		20 25 25.0	
	comp=N,40nm,0.4s							
ZEDA					IAML		20 25 26.0	
	comp=E,42nm,0.4s							
PSRA	**Psara**	**1.02**	**201**	P		**Pb**	**20 25 10.0**	**-0.5**
LPK	**Lapseki**	**1.04**	**33**	PG		**Pb**	**20 25 10.1**	**-0.7**
SMTH	**Samothraki Isl**	**1.04**	**339**	P		**Pb**	**20 25 10.9**	**-0.1**
SMTH					AML	AML	20 25 26.3	
	comp=N,126μm,0.2s							
SMTH					AML	AML	20 25 26.9	
	comp=E,107μm,0.2s							
SMTH	**Samothraki Isl**	**1.04**	**339**	P		**Pb**	**20 25 11.1**	**+0.2**
SMTH				S		**Sn**	**20 25 26.4**	**+1.0**
	comp=E,48nm,0.2s							
CHOS	**Chios island**	**1.11**	**179**	P		**Pb**	**20 25 11.6**	**-0.4**
CHOS					AML	AML	20 25 30.6	
	comp=N,128μm,0.2s							
CHOS					AML	AML	20 25 32.4	
	comp=E,174μm,0.2s							
CHOS	**Chios island**	**1.11**	**179**	P		**Pb**	**20 25 11.7**	**-0.4**
CHOS				S		**Sn**	**20 25 27.4**	**+0.3**
	comp=E,75nm,0.2s							
CHOS	**Chios island**	**1.11**	**179**	PN		**Pb**	**20 25 12.6**	**+0.5**
CHOS				SN		**Sg**	**20 25 29.3**	**+2.0**
CAVK	**Edirne/Enez-Ca**	**1.20**	**5**	*i* P		**Pn**	**20 25 12.3**	**-0.9**
CAVK					IAML		20 25 30.0	
	comp=E,48nm,0.9s							
CAVK					IAML		20 25 35.0	
	comp=N,41nm,0.7s							
URLA	**Izmir**	**1.22**	**158**	*i* P		**Pn**	**20 25 12.1**	**-1.5**
URLA				*i* S		**Sb**	**20 25 26.7**	**-2.7**
ERIK	**Erikli-Kesan**	**1.23**	**18**	PN		**Pn**	**20 25 13.8**	**+0.1**
ERIK				SN		**Sn**	**20 25 30.8**	**+0.9**
ENEZ	**Enez**	**1.24**	**4**	PN		**Pn**	**20 25 14.4**	**+0.5**
BALY	**Balya**	**1.25**	**78**	*i* P

MAR2	**Marsite Statio**	**1.57**	**39**	PN	**Pb**	**20 25 19.8**	**0.0**
MAR3	**Marsite Statio**	**1.58**	**38**	PN	**Pb**	**20 25 19.8**	**-0.2**
DGB	**zmir**	**1.59**	**155**	*i* P	**Pn**	**20 25 18.8**	**+0.2**
DGB				IAML		20 25 45.0	
	comp=E,26nm,0.3s						
GZKV	**Gazikoy-Tekird**	**1.60**	**38**	PN	**Pb**	**20 25 20.6**	**+0.3**
MAR4	**Marsite Statio**	**1.62**	**37**	PN	**Pb**	**20 25 20.6**	**-0.1**
MRMT	**Marmara Adasi**	**1.63**	**47**	PN	**Pb**	**20 25 20.8**	**-0.2**
EDC	**Edincik**	**1.65**	**58**	PN	**Pn**	**20 25 20.6**	**+1.1**
RDO	**Rodhopi**	**1.69**	**347**	P	**Pn**	**20 25 20.5**	**+0.5**
RDO	**Rodhopi**	**1.69**	**347**	PN	**Pb**	**20 25 21.4**	**-0.5**
MAR9	**Marsite Statio**	**1.71**	**48**	PN	**Pb**	**20 25 21.9**	**-0.3**
OUR	**Ouranopolis**	**1.78**	**299**	PN	**Pb**	**20 25 23.8**	**+0.4**
DURS	**Dursunbey**	**1.90**	**86**	*i* P	**Pn**	**20 25 22.8**	**-0.1**
DEMI	**Demirci**	**2.14**	**101**	*i* P	**Pb**	**20 25 30.8**	**+1.3**

IDC ***15*** *20:38:21.7±1.9, 10°.42S×118°.38E, h0km, mb3.5/2, mb1 3.7/7, mb1mx3.5/32, mbtmp3.6/7, ML3.6/5, Error ellipse: s-maj=53.6km s-min=21.7km az=54.0*

DJA ***15*** *20:38:27.1±0.9, 10°.S±8°×11°.9E±°, h13km±6km, M3.9/8, mb4.2/1, MLv3.7/8*

ISC 15 20:38:23.6±0.8, **10°.33S**±0.07×**118°.78E**±0.05, **h10**km, **n18,** σ**2**§**45**/22, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.92**	**42**	P	**Pb**	**20 38 41.0**	**-0.6**
BASI	**Baing, Sumba**	**1.78**	**87**	P	**Pg**	**20 38 57.9**	**+0.2**
PLAI	**Plampang**	**1.79**	**326**	P	**Pn**	**20 38 54.2**	**-0.3**
TWSI	**Taliwang, Sumb**	**2.45**	**310**	P	**Pn**	**20 39 04.5**	**+0.9**
EDFI	**Ende, Flores**	**3.27**	**62**	P	**Pn**	**20 39 16.5**	**+1.4**
EDFI				S	**Sn**	**20 39 53.5**	**-0.7**
MMRI	**Maumere**	**3.81**	**64**	P	**Pn**	**20 39 24.2**	**+1.9**
SRBI	**Singaraja**	**4.17**	**302**	P	**Pn**	**20 39 29.8**	**+2.6**
BATI	**Baumata**	**4.81**	**89**	Pn	**Pn**	**20 39 39.9**	**+3.8**
	5.9nm,0.3s,baz=266,slow=19,SNR=4.8						
BATI				S	**Sn**	**20 40 32.4**	**+0.4**
	baz=219,slow=23,SNR=1.3						
JAGI	**Jajag, Banyuwa**	**4.92**	**292**	P	**Pn**	**20 39 38.6**	**+0.9**
MKS	**Makassar**	**5.13**	**8**	P	**Pn**	**20 39 38.9**	**-1.6**
KAPI	**Kappang**	**5.37**	**10**	Pn	**Pn**	**20 39 45.9**	**+2.1**
	4.6nm,0.3s,baz=184,slow=2.7,SNR=26						
KAPI				S	**Sn**	**20 40 45.3**	**-0.4**
	5.0nm,0.3s,baz=151,slow=22,SNR=9.2						
KAPI	**Kappang**	**5.37**	**10**	P	**Pn**	**20 39 46.3**	**+2.5**
BNSI	**Bone**	**6.04**	**13**	P	Pn	20 39 57.5	+4.5
FITZ	**Fitzroy Crossi**	**10.19**	**140**	Pn	**Pn**	**20 40 51.7**	**+1.7**
	0.4nm,0.3s,baz=331,slow=9.3,SNR=7.9						
FITZ				S	**Sn**	**20 42 39.9**	**-4.5**
	0.2nm,0.3s,baz=287,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**17.79**	**124**	P	**P**	**20 42 32.6**	**+0.3**
	0.1nm,0.3s,baz=298,slow=13,SNR=4.7						
WRA				S	**Sn**	**20 45 43.5**	**-6.4**
	0.0nm,0.3s,baz=330,slow=22,SNR=2.4						
ASAR	**Alice Springs**	**19.60**	**134**	P	**Pn**	**20 42 55.9**	**+2.4**
	0.2nm,0.3s,baz=301,slow=9.7,SNR=14						
SONM	**Songino Array**	**58.94**	**350**	P	**P**	**20 48 22.5**	**-0.7**
	0.3nm,0.4s,baz=160,slow=7.9,SNR=2.2						
MKAR	**Makanchi Array**	**65.54**	**333**	P	**P**	**20 49 06.7**	**-0.6**
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.7						

DJA ***15*** *20:46:08.5±0.9, 8°.S±10°×12°.8E±°, h202km±27km, M4.3/7, mb4.3/6, mB4.8/6, MLv4.6/7, Mw(mB)4.1/6*

IDC ***15*** *20:46:10.4±2.0, 7°.54S×127°.89E, h149km±20km, mb3.5/9, mb1 3.7/11, mb1mx3.5/32, mbtmp4.1/11, Error ellipse: s-maj=22.0km s-min=12.8km az=79.0*

ISC 15 20:46:09.4±0.6, **7°.63S**±0.07×**127°.93E**±0.08, **h142**km, **n25,** σ**1**§**41**/26, **mb3.6/9, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.20**	**239**	P	**Pn**	**20 47 14.0**	**+1.9**
KRAI	**Karang Ratu**	**4.30**	**6**	P	**Pn**	**20 47 15.6**	**+2.1**
BATI	**Baumata**	**4.94**	**238**	P	**Pn**	**20 47 23.5**	**+1.6**
	184nm,0.3s,baz=102,slow=2.0,SNR=270						
BATI				S	**Sn**	**20 48 15.9**	**-2.4**
	21nm,0.3s,baz=158,slow=5.4,SNR=2.0						
BATI	**Baumata**	**4.94**	**238**	P	**Pn**	**20 47 23.7**	**+1.8**
	2.2nm7µm507nm,0.5s						
MMRI	**Maumere**	**5.73**	**260**	P	**Pn**	**20 47 33.7**	**+1.3**
	0.3nm67nm,1.1s						
EDFI	**Ende, Flores**	**6.28**	**259**	P	**Pn**	**20 47 41.6**	**+1.7**
	0.1nm325nm8.4nm,0.8s						
FAKI	**Fak Fak**	**6.35**	**43**	P	**Pn**	**20 47 39.8**	**-0.9**
	0.2nm931nm55nm,0.7s						
SIJI	**Sorong**	**7.49**	**26**	P	**Pn**	**20 47 55.9**	**-0.1**
	16nm,0.3s,baz=254,slow=24,SNR=70						
SIJI	**Sorong**	**7.49**	**26**	P	**Pn**	**20 47 55.7**	**-0.3**
	0.3nm2µm39nm,0.5s						
SWI	**Sorong**	**7.49**	**26**	P	**Pn**	**20 47 55.8**	**-0.2**
	0.4nm2µm74nm,0.7s						
WBSI	**Waikabubak, Su**	**8.68**	**256**	P	**Pn**	**20 48 12.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.65**	**192**	P	**Pn**	**20 48 35.9**	**-2.2**
	4.5nm,0.3s,baz=19,slow=11,SNR=114						
FITZ				S	Sn	20 50 23.6	-12
	2.8nm,0.3s,baz=49,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**13.73**	**154**	P	**Pn**	**20 49 15.8**	**-2.4**
	1.8nm,0.3s,baz=320,slow=15,SNR=72						
WRA				S	Sn	20 51 35.9	-14
	5.3nm,0.3s,baz=318,slow=24,SNR=15						
ASAR	**Alice Springs**	**16.95**	**161**	P	**Pn**	**20 49 59.4**	**+1.2**
	3.3nm,0.3s,baz=340,slow=11,SNR=354						
CTA	**Charters Tower**	**21.64**	**127**	P	**P**	**20 50 50.2**	**+1.5**
	3.3nm,0.5s,baz=301,slow=12,SNR=5.5						
NWAO	**Narrogin (SRO)**	**27.06**	**200**	P	**P**	**20 51 39.3**	**+0.7**
	5.8nm,0.8s,baz=45,slow=8.6,SNR=1.4						
STKA	**Stephens Creek**	**27.28**	**154**	P	**P**	**20 51 41.8**	**+1.2**
	5.4nm,0.6s,baz=329,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**38.60**	**312**	P	**P**	**20 53 18.8**	**-0.1**
	0.2nm,0.4s,baz=144,slow=6.5,SNR=2.6						
KSRS	**Korea Array**	**44.84**	**360**	P	**P**	**20 54 08.9**	**-0.4**
	1.0nm,0.7s,baz=178,slow=10,SNR=8.0						
SONM	**Songino Array**	**58.41**	**343**	P	**P**	**20 55 50.5**	**+0.3**
	0.2nm,0.4s,baz=127,slow=3.8,SNR=2.4						
MKAR	**Makanchi Array**	**67.64**	**328**	P	**P**	**20 56 49.6**	**-1.4**
	0.2nm,0.5s,baz=137,slow=7.9,SNR=5.9						
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**20 57 18.0**	**+0.3**
	0.4nm,0.7s,baz=314,slow=8.6,SNR=6.5						
MAW	**Mawson**	**73.62**	**201**	P	**P**	**20 57 27.6**	**+0.8**
	1.2nm,0.4s,baz=67,slow=5.8,SNR=9.7						
CPUP	**Villa Florida**	**145.86**	**172**	PKPbc	**PKPbc**	**21 05 33.1**	**+0.3**
	0.9nm,0.4s,baz=150,slow=1.2,SNR=3.6						
LPAZ	**La Paz**	**151.41**	**146**	PKPbc	**PKiKP**	**21 05 48.6**	**-0.1**
	0.9nm,0.5s,baz=217,slow=5.1,SNR=2.5						

IDC ***15*** *21:02:11.9±1.1, 0°.88N×28°.09W, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/44, mbtmp4.0/9, MS3.9/9, Ms1 3.9/9, ms1mx3.4/45, Error ellipse: s-maj=58.2km s-min=19.3km az=150.0*

NEIC ***15*** *21:02:14.7±0.8, 1°.0N±0°.2×28°.1W±0°.1, h10km±1km, mb4.4/7, Error ellipse: s-maj=46.2km s-min=8.2km az=151.0*

ISC 15 21:02:13.3±0.6, **1°.0N**±0°.1×**28°.2W**±0°.1, **h10**km, **n53,** σ1§**53**/40, **mb4.0/9, MS3.8/9, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBPV	**Pedro Velho**	**10.17**	**224**	*eP*	**Pn**	**21 04 37.4**	**-2.1**
NBPA	**Parau_RN**	**11.10**	**233**	*eP*	**Pn**	**21 04 49.6**	**-2.6**
NBCL	**Cascavel-CE**	**11.29**	**243**	*eP*	**Pn**	**21 04 52.5**	**-2.4**
NBRF	**Rio Formoso -**	**11.80**	**215**	*eP*	**Pn**	**21 04 59.6**	**-2.2**
NBPB	**Pedra_Branca-C**	**13.05**	**240**	*eP*	**Pn**	**21 05 17.4**	**-1.5**
NBAN	**Anadia - AL**	**13.26**	**217**	*eP*	**Pn**	**21 05 20.4**	**-1.4**
NBMA	**Muriti-CE**	**13.38**	**232**	*eP*	**Pn**	**21 05 21.0**	**-2.4**
NBPS	**Pedro II - PI**	**14.23**	**248**	*eP*	**Pn**	**21 05 33.3**	**-1.9**
SACV	**Santiago Islan**	**14.63**	**18**	Pn	**Pn**	**21 05 39.5**	**-1.1**
H10N3	**ASCENSION HYDR**	**16.27**	**123**	T	T	21 22 36.4	
	baz=302,slow=75,SNR=98						
H10N2	**ASCENSION HYDR**	**16.27**	**123**	T	T	21 22 42.7	
	baz=302,slow=75,SNR=104						
H10N1	**ASCENSION HYDR**	**16.29**	**123**	T	T	21 22 42.8	
	baz=302,slow=75,SNR=102						
ROSB	**Rosrio**	**16.34**	**256**	*eP*	**Pn**	**21 06 03.2**	**+0.2**
NBPN	**Ponto Novo - B**	**16.72**	**225**	*eP*	**Pn**	**21 06 07.1**	**-0.8**
H10S3	**ASCENSION HYDR**	**16.75**	**126**	T	T	21 23 19.0	
	baz=304,slow=74,SNR=86						
H10S2	**ASCENSION HYDR**	**16.77**	**126**	T	T	21 23 21.2	
	baz=276,slow=74,SNR=20						
GDU01	**Guandu, BA**	**18.43**	**217**	*eP*	**P**	**21 06 27.8**	**-1.2**
GUA01	**Guaratinga, BA**	**20.85**	**213**	*eP*	Pn	21 06 56.3	-1.7
SDBA	**SAO DESIDERIO**	**21.23**	**231**	*eP*	**P**	**21 07 02.6**	**+3.0**
SMTB	**Santa Maria do**	**21.61**	**243**	*eP*	**P**	**21 07 03.2**	**-0.6**
NAN01	**Guarapari, ES**	**22.07**	**211**	*eP*	**P**	**21 07 09.8**	**+1.2**
JANB	**Januaria**	**22.51**	**224**	*eP*	**P**	**21 07 13.3**	**-0.1**
SJMB	**Sao Joao De Ma**	**23.34**	**212**	*eP*	**P**	**21 07 23.5**	**+1.5**
PEXB	**Peixe**	**23.79**	**236**	*eP*	**P**	**21 07 25.8**	**-0.7**
DBIC	**Dimbokro**	**24.00**	**76**	P	**P**	**21 07 27.6**	**-0.9**
	8.3nm,0.8s,baz=231,slow=11,SNR=8.1						
DBIC	**Dimbokro**	**24.00**	**76**	P	**P**	**21 07 27.9**	**-0.6**
DBIC				IAmb	IAmb	21 07 29.0	
	comp=Z,9.1nm,0.8s						
ALF01	**Guarapari-ES**	**24.70**	**209**	*eP*	**P**	**21 07 37.2**	**+2.5**
BDFB	**Brasilia**	**25.58**	**229**	LR	LR	21 16 40.2	
	comp=Z,271nm,21.4s,baz=87,slow=34						
CAM01	**Campos-RJ**	**26.18**	**209**	*eP*	**P**	**21 07 51.1**	**+2.9**
BSCB	**Bom Sucesso**	**27.18**	**216**	*eP*	**P**	**21 08 00.1**	**+2.7**
KOWA	**Kowa**	**27.46**	**60**	P	**P**	**21 07 58.8**	**-1.0**
	comp=Z,8.8nm,0.8s,baz=245,slow=8.3,SNR=12						
KOWA				LR	LR	21 17 37.5	
	comp=Z,230nm,18.7s,baz=228,slow=34						
KOWA	**Kowa**	**27.46**	**60**	P	**P**	**21 07 59.7**	**-0.2**
KOWA				IAmb	IAmb	21 08 02.9	
	comp=Z,8.7nm,0.8s						
SALV	**Santo Antonio**	**31.88**	**237**	*eP*	**P**	**21 08 39.4**	**+0.3**
TOA0	**Torodi Ar. Sit**	**32.02**	**66**	P	**P**	**21 08 39.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**32.02**	**66**	P	**P**	**21 08 39.8**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=258,slow=9.8,SNR=14						
TORD				LR	LR	21 19 38.0	
	comp=Z,77nm,20.3s,baz=220,slow=33						
TORD	**Torodi Ar. Bea**	**32.02**	**66**	P	**P**	**21 08 39.8**	**-0.5**
TORD				IAmb	IAmb	21 08 40.7	
	comp=Z,4.6nm,1.1s						
SIV	**San Ignacio**	**36.54**	**241**	P	**P**	**21 09 21.0**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=80,slow=14,SNR=1.6						
CPUP	**Villa Florida**	**39.05**	**224**	LR	LR	21 25 07.0	
	comp=Z,234nm,20.8s,baz=77,slow=35						
H09W1	**TRISTAN DA CUN**	**40.66**	**160**	T	T	21 53 01.8	
	SNR=14						
LPAZ	**La Paz**	**42.94**	**245**	P	**P**	**21 10 13.8**	**+0.3**
	comp=Z,3.8nm,1.2s,baz=46,slow=8.0,SNR=3.8						
LPAZ				LR	LR	21 27 44.6	
	comp=Z,72nm,20.4s,baz=109,slow=36						
LPAZ	**La Paz**	**42.94**	**245**	P	**P**	**21 10 14.6**	**+1.0**
LPAZ	**La Paz**	**42.94**	**245**	*eP*	**P**	**21 10 14.8**	**+1.2**
ESDC	**Sonseca Array**	**44.42**	**27**	P	**P**	**21 10 25.5**	**+1.1**
	comp=Z,1.7nm,1.0s,baz=222,slow=8.6,SNR=6.4						
ESDC	**Sonseca Array**	**44.42**	**27**	P	**P**	**21 10 25.8**	**+1.3**
ESDC				IAmb	IAmb	21 10 34.7	
	comp=Z,4.4nm,1.4s						
KEST	**Kesra**	**49.12**	**41**	LR	LR	21 34 10.2	
	comp=Z,116nm,18.0s,baz=206,slow=39						
LSZ	**Lusaka**	**58.06**	**109**	LR	LR	21 32 16.5	
	comp=Z,260nm,21.9s,baz=82,slow=31						
MATP	**Matopo**	**59.45**	**114**	LR	LR	21 32 37.7	
	comp=Z,157nm,20.3s,baz=118,slow=31						
GERES	**GERESS Array B**	**59.73**	**31**	P	**P**	**21 12 18.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=206,slow=6.5,SNR=1.8						
BORG	**Borgarnes**	**63.82**	**3**	LR	LR	21 35 02.5	
	comp=Z,53nm,20.8s,baz=63,slow=31						
BRTR	**Keskin Array B**	**68.02**	**47**	P	**P**	**21 13 13.1**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=226,slow=6.6,SNR=4.7						
BRTR	**Keskin Array B**	**68.02**	**47**	P	**P**	**21 13 13.8**	**+0.5**
AKASG	**Malin Array Be**	**69.20**	**35**	P	**P**	**21 13 19.6**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=241,slow=6.5,SNR=9.2						
AKASG	**Malin Array Be**	**69.20**	**35**	P	**P**	**21 13 19.9**	**-0.3**
AKASG				IAmb	IAmb	21 13 30.1	
	comp=Z,4.8nm,1.5s						

BJI ***15*** *21:04:19.7±0.0, 3°.65N×126°.04E, h148km, mB5.0/59, mb4.9/77*

MOS ***15*** *21:04:23.9±1.0, 4°.18N×125°.78E, h152km, mb5.0/41, MS4.6/4, Error ellipse: s-maj=8.1km s-min=4.4km az=111.2*

NEIC ***15*** *21:04:24.7±2.8, 4°.15N±0°.06×125°.85E±0°.07, h136km±1km, mb5.4/137, Mwb5.7/44, Mww5.7, Mwc5.8(GCMT), Error ellipse: s-maj=12.6km s-min=9.9km az=251.0*

NEIC ***15*** *21:04:24.4, 4°.18N×125°.87E, h128km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.42; Mθθ2.14; Mθφ-3.57; Mrθ-2.80; Mφφ-0.05; Mφr3.15; Fault plane solution: M₀5.24000×10¹⁷ NP1:φ₁218.78000°, δ33.16000°, λ162.61000°. NP2:φ₂323.48000°, δ80.59000°, λ58.06000°. Principal axes: T 5.1756, Plg45.0000°, Azm202.0000°; N 0.1195, Plg31.0000°, Azm329.0000°; P -5.2951, Plg28.0000°, Azm79.0000°;*

DJA ***15*** *21:04:25.8±0.3, 4°.N±2°×12°.6E±°, h148km±3km, M5.7/69, mB6.1/67, mb5.8/69, MLv6.2/14, Mw(mB)5.7/67, MwMwp5.5/42, Mwp5.6/42*

IDC ***15*** *21:04:25.3±0.5, 4°.16N×125°.83E, h147km±4km, mb4.9/41, mb1 5.0/44, mb1mx4.9/48, mbtmp5.4/44, MS4.4/19, Ms1 4.4/19, ms1mx4.2/48, Error ellipse: s-maj=9.0km s-min=5.6km az=93.0*

NEIC ***15*** *21:04:25, 4°.09N×125°.95E, h137km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.86; Mθθ3.05; Mφφ-3.91; Mrθ-2.57; Mφθ-1.32; Mφr3.28; Fault plane solution: M₀5.64000×10¹⁷ NP1:φ₁232.00000°, δ42.00000°, λ171.00000°. NP2:φ₂328.00000°, δ84.00000°, λ49.00000°. Principal axes: T 5.6910, Plg37.0000°, Azm203.0000°; N -0.1108, Plg41.0000°, Azm334.0000°; P -5.5802, Plg27.0000°, Azm90.0000°;*

KLM ***15*** *21:04:25, 4.20N×126°.02E, h148km, mb5.8*

GCMT ***15*** *21:04:25.7±0.1, 4°.10N±0°.01×125°.95E±0°.01, h137km, MW5.8/159, Moment Tensor Solution. s157,c288; s159,c346; Duration: 1§9 Moment tensor: Scale 10¹⁷ Nm; Mrr0.79±.04; Mθθ3.00±.04; Mφφ-3.79±.05; Mrθ-2.57±.03; Mθφ-1.35±.05; Mφr3.13±.03; Best double couple: M₀5.49300×10¹⁷ NP1:φ₁232.00000°, δ42.00000°, λ171.00000°. NP2:φ₂328.00000°, δ84.00000°, λ48.00000°. Principal axes: T 5.6080, Plg36.0000°, Azm202.0000°; N -0.2300, Plg42.0000°, Azm334.0000°; P -5.3790, Plg27.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *21:04:29, 4.09N×125°.88E, h140km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.74; Mθθ1.40; Mφφ-2.13; Mrθ-2.52; Mφθ-0.86; Mφr2.91; Fault plane solution: M₀4.37000×10¹⁷ NP1:φ₁228.00000°, δ28.00000°, λ170.00000°. NP2:φ₂327.00000°, δ85.00000°, λ62.00000°. Principal axes: T 4.6511, Plg43.0000°, Azm211.0000°; N -0.6238, Plg27.0000°, Azm330.0000°; P -4.0273, Plg35.0000°, Azm81.0000°;*

ISC 15 21:04:25.3±0.2, **4°.16N**±0°.02×**125°.88E**±0°.03, **h153**km±1km, **h153**km:**pP-P, n724,** σ**2**§**01**/921, **mb5.2**/212, **58C-53D, Fault plane solution: NP1:**φ₁148.15543°, δ84.79909°, λ-68.24240°. **NP2:**φ₂250.95163°, δ22.34119°, λ-166.20360°. **Principal axes:** T Plg36.1521°, Azm219.2132°; N Plg21.6635°, Azm326.0834°; P Plg45.9001°, Azm80.2814°; **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.59**	**217**	P	**Pn**	**21 04 46.4**	**-1.1**
DDMP	**Don Marcelino,**	**1.94**	**355**	*eP*	**Pn**	**21 04 58.7**	**-1.2**
DDMP				*eS*	**Sn**	**21 05 23.8**	**-2.8**
SKMP	**Bagumbayan, Su**	**2.69**	**330**	*eP*	**Pn**	**21 05 09.6**	**+0.6**
SKMP				*eS*	**Sn**	**21 05 42.1**	**-0.7**
MATI	**Mati**	**2.79**	**8**	*eP*	**Pn**	**21 05 09.2**	**-1.0**
MATI				*eS*	**Sn**	**21 05 47.5**	**+2.5**
DAV	**Davao City (W)**	**2.91**	**354**	P	**Pn**	**21 05 12.3**	**+0.7**
	321nm,0.3s,baz=157,slow=1.2,SNR=63						
DAV				S	**Sn**	**21 05 46.9**	**-0.6**
	776nm,0.3s,baz=113,slow=22,SNR=3.9						
DAV	**Davao City (W)**	**2.91**	**354**		**Pn**	**21 05 12.2**	**+0.6**
DAV	**Davao City (W)**	**2.91**	**354**	P	**Pn**	**21 05 12.4**	**+0.7**
GAMI	**Galela, Maluku**	**2.99**	**140**	P	**Pn**	**21 05 10.6**	**-2.1**
TNTI	**Ternate**	**3.68**	**156**	Pn	**Pn**	**21 05 20.6**	**-1.0**
TNTI	**Ternate**	**3.68**	**156**	P	**Pn**	**21 05 20.7**	**-0.8**
BUKP	**Musuan**	**3.78**	**348**	*eP*	**Pn**	**21 05 22.6**	**-0.3**
BUKP				*eS*	**Sn**	**21 06 08.4**	**+0.7**
CGP	**Cagayan de Oro**	**4.42**	**345**‖	*eP*	**Pn**	**21 05 32.4**	**+1.1**
PAGZ	**Pagadian**	**4.42**	**326**‖	*iP*	**Pn**	**21 05 30.4**	**-0.9**
GTOI	**Gorontalo**	**4.53**	**219**	P	**Pn**	**21 05 33.4**	**+0.8**
BUTP	**Butuan**	**4.78**	**357**	*eP*	**Pn**	**21 05 36.8**	**+0.9**
BUTP				*eS*	**Sn**	**21 06 35.2**	**+4.1**
DCPH	**Dipolog City**	**5.06**	**330**‖	*eP*	**Pn**	**21 05 42.6**	**+3.0**
MRSI	**Marisa**	**5.38**	**227**	P	**Pn**	**21 05 45.5**	**+1.7**
	50nm21µm97µm7µm,1.0s						
GLSP	**General Luna,**	**5.59**	**2**	*eP*	**Pn**	**21 05 45.3**	**-1.3**
GLSP				*eS*	**Sn**	**21 06 43.9**	**-6.4**
SCPH	**Surigao**	**5.60**	**356**‖	*eP*	**Pn**	**21 05 47.4**	**+0.7**
SNPH	**Sibulan**	**5.78**	**333**‖	*eP*	**Pn**	**21 05 50.3**	**+1.1**
SNPH				*eS*	Sn	21 06 41.9	-13
TOLI2	**Tolitoli**	**5.93**	**239**	Pn	**Pn**	**21 05 52.0**	**+0.9**
MSLP	**Maasin**	**6.02**	**350**	*eP*	**Pn**	**21 05 51.9**	**-0.4**
LUWI	**Luwuk**	**6.03**	**211**	Pn	**Pn**	**21 05 53.7**	**+1.2**
LUWI	**Luwuk**	**6.03**	**211**	P	**Pn**	**21 05 53.7**	**+1.2**
	52nm38µm99µm7µm,0.7s						
SANI	**Sanana**	**6.17**	**179**	P	**Pn**	**21 05 51.0**	**-3.4**
	40nm20µm136µm7µm,0.7s						
LLP	**Lapu-Lapu**	**6.40**	**343**‖	*eP*	**Pn**	**21 05 58.2**	**+0.7**
LLP				*eS*	**Sn**	**21 07 12.2**	**+2.5**
CNOP	**Candoni, Negro**	**6.48**	**330**⇑	*iP*	**Pn**	**21 05 58.9**	**+0.4**
CNOP				*i* S	**Sn**	**21 07 13.6**	**+2.0**
APSI	**Ampana**	**6.58**	**220**	P	**Pn**	**21 06 02.1**	**+2.3**
	15nm13µm46µm4µm,1.3s						
OCLP	**Ormoc**	**6.96**	**350**	*eP*	**Pn**	**21 06 05.1**	**+0.2**
MPSI	**Mapaga**	**7.08**	**238**	P	**Pn**	**21 06 08.7**	**+2.2**
	6.3nm20µm7µm633nm,0.7s						
SWI	**Sorong**	**7.33**	**133**	P	**Pn**	**21 06 08.8**	**-1.1**
	1.6nm13µm5µm483nm,1.1s						
SIJI	**Sorong**	**7.34**	**133**	P	**Pn**	**21 06 09.1**	**-1.0**
	30nm,0.3s,baz=330,slow=12,SNR=112						
SIJI				S	**Sn**	**21 07 28.5**	**-3.8**
	44nm,0.3s,baz=192,slow=23,SNR=2.4						
SIJI				LR	LR	21 09 12.6	
	comp=Z,5µm,18.8s,baz=280,slow=39						
SIJI	**Sorong**	**7.34**	**133**	P	**Pn**	**21 06 09.0**	**-1.0**
	0.7nm5µm3µm184nm,0.6s						
NLAI	**Namlea**	**7.45**	**171**	P	**Pn**	**21 06 09.3**	**-2.2**
	75nm62nm3µm,1.1s						
JAP	**San Jose, Anti**	**7.62**	**329**⇑	*eP*	**Pn**	**21 06 15.7**	**+2.1**
KRAI	**Karang Ratu**	**7.84**	**161**	P	**Pn**	**21 06 15.6**	**-1.1**
	6.7nm17µm25µm1µm,0.6s						
RCP	**Roxas**	**7.98**	**337**‖	*eP*	**Pn**	**21 06 19.9**	**+1.4**
MSAI	**Masohi**	**8.06**	**158**	P	**Pn**	**21 06 19.3**	**-0.2**
	1.7nm3µm216nm,0.7s						
KKSI	**Kolaka, Sulawe**	**9.29**	**207**	P	**Pn**	**21 06 35.0**	**-1.0**
	8µm348nm,0.6s						
TTSI	**Tana Toraja**	**9.38**	**220**	P	**Pn**	**21 06 39.2**	**+2.1**
	18µm64µm4µm,1.6s						
SPMM	**Sapulut**	**9.40**	**274**	P	**Pn**	**21 06 40.0**	**+2.5**
ENPP	**El Nido**	**9.48**	**318**	*eP*	**Pn**	**21 06 41.3**	**+2.9**
FAKI	**Fak Fak**	**9.48**	**138**	Pn	**Pn**	**21 06 37.7**	**-0.9**
FAKI	**Fak Fak**	**9.48**	**138**	P	**Pn**	**21 06 38.4**	**-0.2**
	6µm5µm430nm,1.3s						
BNDI	**Bandanaira**	**9.52**	**155**	P	**Pn**	**21 06 38.7**	**-0.3**
	17µm965nm,1.4s						
BUSP	**Coron**	**9.61**	**325**	*eP*	Pn	21 06 49.8	+10
AUQP	**San Andres**	**9.64**	**341**	*eP*	**Pn**	**21 06 44.9**	**+4.3**
SCSP	**San Jose Seism**	**9.71**	**346**	*eP*	**Pn**	**21 06 42.9**	**+1.4**
BOAC	**Boac**	**10.06**	**337**	*eP*	**Pn**	**21 06 45.0**	**-1.1**
GQP	**Guinayangan**	**10.26**	**341**‖	*eP*	**Pn**	**21 06 51.5**	**+2.8**
BNSI	**Bone**	**10.28**	**214**	P	**Pn**	**21 06 50.3**	**+1.3**
	16µm17µm825nm,1.2s						
PMSI	**Majene**	**10.31**	**223**	P	**Pn**	**21 06 51.2**	**+1.6**
	14µm29µm2µm,1.8s						
BKB	**Balikpapan**	**10.47**	**239**	Pn	**Pn**	**21 06 54.1**	**+2.5**
BKB	**Balikpapan**	**10.47**	**239**	P	**Pn**	**21 06 52.9**	**+1.3**
	12µm22µm3µm,1.2s						
PGP	**Puerto Galera**	**10.48**

SSLB **Suanglung** **20.08 347** P **P** **21 08 45.2 -1.8**
KPJI **Karang Pucung** **20.41 236** P **P** **21 08 52.0 +1.4**
comp=Z,14µmcomp=Z,15µmcomp=Z,1µm,1.5s
JCJI **Jatiwangi** **20.52 239** P Pn 21 08 55.7 -0.1
comp=Z,19µmcomp=Z,2µm,1.4s
PPBI **Pangkal Pinang** **20.71 253** P Pn 21 08 57.2 -0.9
comp=Z,11µmcomp=Z,250nm,0.8s
YHNB **Yeheng** **20.85 348** P **P** **21 08 54.0 -1.3**
YHNB IAmb IAmb 21 09 48.0
comp=Z,160nm,1.6s
LEM **Lembang** **21.25 239** P **P** **21 09 01.2 +1.4**
comp=Z,174nm,0.7s,baz=56,slow=8.4,SNR=47
LEM S **S** **21 12 48.0 +0.8**
comp=Z,15nm,0.4s,baz=157,slow=23,SNR=1.9
LEM LR LR 21 18 26.5
comp=Z,1µm,19.5s,baz=47,slow=40
CISI **Cisompet, Garu** **21.46 237** P **P** **21 09 01.5 -0.4**
CISI **Cisompet, Garu** **21.46 237** P **P** **21 09 01.9 0.0**
comp=Z,5µmcomp=Z,5µmcomp=Z,339nm,1.3s
QIZ **Qiongzhong** **21.53 315** P **P** **21 09 02.3 -0.3**
QIZ S **S** **21 12 50.5 -1.4**
QIZ pmax pmax
comp=Z,21nm,1.6s
QIZ pmax pmax
comp=Z,340nm,7.2s
QIZ L L
comp=Z,1µm,18.7s
QIZ L L
comp=Z,820nm,18.4s
QIZ L L
comp=Z,2µm,14.9s
CBJI **Citeko** **21.71 241** P **P** **21 09 05.7 +1.1**
comp=Z,13µmcomp=Z,17µmcomp=Z,2µm,1.4s
QZH **Quanzhou** **21.82 342** P **P** **21 09 07.8 +2.3**
QZH pP **pP** **21 09 37.8 +4.8**
QZH S **S** **21 12 55.0 -1.5**
QZH pmax pmax
comp=Z,39nm,0.9s
QZH L L
comp=Z,1µm,21.3s
QZH L L
comp=Z,2µm,18.0s
QZH L L
comp=Z,1µm,17.1s
DBJI **Dramaga** **21.86 241** P **P** **21 09 07.1 +0.9**
comp=Z,11µmcomp=Z,721nm,1.8s
CNJI **Cibinong** **21.91 239** P **P** **21 09 06.8 +0.2**
comp=Z,12µmcomp=Z,592nm,1.1s
FITZ **Fitzroy Crossi** **22.12 181** P **P** **21 09 07.2 -1.4**
comp=Z,463nm,0.5s,baz=18,slow=8.3,SNR=235
FITZ S **S** **21 12 59.0 -2.7**
comp=Z,54nm,0.8s,baz=181,slow=19,SNR=6.6
FITZ ScP **ScP** **21 16 23.3 -0.2**
comp=Z,13nm,0.8s,baz=333,slow=4.5,SNR=2.1
FITZ **Fitzroy Crossi** **22.12 181** P **P** **21 09 07.4 -1.3**
baz=22,SNR=1000
MYKOM **Kota Tinggi** **22.12 265** P **P** **21 09 10.0 +1.2**
PMBI **Palembang** **22.24 252** P **P** **21 09 11.0 +1.1**
PMBI **Palembang** **22.24 252** P **P** **21 09 13.9 +4.0**
comp=Z,9µmcomp=Z,16µmcomp=Z,832nm,0.9s
BTDF **Bukit Timah Da** **22.25 263** P **P** **21 09 11.7 +1.6**
comp=Z,8µmcomp=Z,5µmcomp=Z,153nm,0.9s
GZH **Guangzhou** **22.38 328** P **P** **21 09 15.3 +4.2**
GZH pP **pwP** **21 09 43.5 +0.5**
GZH sP **sP** **21 10 00.1 +3.7**
GZH S **S** **21 13 11.8 +6.0**
GZH pmax pmax
comp=Z,14nm,0.6s
JOW **Kunigami** **22.66 6** P **P** **21 09 15.4 +1.7**
comp=Z,41nm,0.6s,baz=177,slow=12,SNR=24
JOW S **S** **21 13 10.8 +0.5**
comp=Z,6.7nm,0.8s,baz=267,slow=16,SNR=1.2
JOW **Kunigami** **22.66 6** P **P** **21 09 15.6 +1.8**
JOW IAmb IAmb 21 09 28.4
comp=Z,94nm,0.8s
BLSI **Bandar Lampung** **22.68 246** P **P** **21 09 16.0 +1.9**
comp=Z,11µmcomp=Z,10µmcomp=Z,308nm,0.7s
CGJI **Cibinong** **22.82 242** P **P** **21 09 14.9 -0.5**
comp=Z,10µmcomp=Z,348nm,0.7s
ANA2 **Anatahan** **22.93 57** P **P** **21 09 18.4 +2.0**
ANA2 **Anatahan** **22.93 57** P **P** **21 09 18.5 +2.1**
JMBI **JAMBI** **22.96 256** P **P** **21 09 20.9 +4.3**
comp=Z,8µmcomp=Z,267nm,0.7s
SARN **Sarigan** **23.16 56** P **P** **21 09 21.0 +2.4**
MDSI **Maura Dua** **23.32 249** P **P** **21 09 20.6 +0.6**
comp=Z,5µmcomp=Z,5µmcomp=Z,89nm,1.1s
KASI **Kota Agung** **23.42 246** P **P** **21 09 21.8 +0.9**
comp=Z,8µmcomp=Z,203nm,0.9s
LWLI **Liwa** **23.63 248** P **P** **21 09 24.2 +1.3**
comp=Z,12µmcomp=Z,546nm,0.8s
LHSI **Lahat** **23.71 251** P **P** **21 09 25.5 +2.0**
comp=Z,21µmcomp=Z,357nm,1.2s
IPM **Ipoh** **24.79 272** P **P** **21 09 34.0 +0.7**
UBSI **University, Be** **24.87 252** P **P** **21 09 34.5 +0.4**
comp=Z,391nm,0.6s
BKNI **Bangkinang** **25.11 262** P **P** **21 09 36.8 +0.6**
BKNI **Bangkinang** **25.11 262** P **P** **21 09 38.1 +1.9**
comp=Z,9µmcomp=Z,8µmcomp=Z,419nm,1.2s
PMG **Port Moresby** **25.13 123** P **P** **21 09 37.0 +0.6**
comp=Z,34nm,0.6s,baz=37,slow=3.7,SNR=13
PMG S **S** **21 13 48.8 -1.2**
comp=Z,5.2nm,0.5s,baz=11,slow=22,SNR=1.4
PMG **Port Moresby** **25.13 123***d i* P **P** **21 09 35.6 -0.8**
PMG pmax pmax
comp=Z,90nm,1.3s
PMG **Port Moresby** **25.13 123** P **P** **21 09 37.0 +0.6**
PMG IAmb IAmb 21 10 29.5
comp=Z,82nm,1.1s
PMG **Port Moresby** **25.13 123** P **P** **21 09 37.3 +0.9**
comp=Z,3µmcomp=Z,2µmcomp=Z,68nm,0.8s
PMG **Port Moresby** **25.13 123** P **P** **21 09 37.7 +1.3**
WB0 **Warramunga Arr** **25.21 161** P **P** **21 09 36.8 -0.2**
WB0 PcP **PcP** **21 13 04.0 -2.8**
WRAB **Tennant Creek** **25.35 161***ce* P **P** **21 09 38.1 -0.2**
WRAB pmax pmax
comp=Z,936nm,1.7s
WRAB **Tennant Creek** **25.35 161** P **P** **21 09 38.2 -0.1**
WRA **Warramunga Arr** **25.36 161** P **P** **21 09 38.4 0.0**
comp=Z,247nm,0.5s,baz=342,slow=10,SNR=612
WRA S **S** **21 13 49.5 -4.0**
comp=Z,86nm,1.3s,baz=327,slow=15,SNR=11
WRA ScP **ScP** **21 16 33.0 +0.8**
comp=Z,13nm,0.7s,baz=337,slow=2.9,SNR=5.5
WRA **Warramunga Arr** **25.36 161** *i* P **P** **21 09 36.0 -2.4**
WRA pmax pmax
comp=Z,247nm,0.4s
WRA **Warramunga Arr** **25.36 161** P **P** **21 09 38.2 -0.2**
WB2 **Warramunga Arr** **25.36 161** P **P** **21 09 38.0 -0.4**
EGSI **Enggano, Bengk** **25.40 248** P **P** **21 09 44.1 +5.2**
comp=Z,5µmcomp=Z,7µmcomp=Z,219nm,1.3s
WR0 **Warramunga Arr** **25.44 161** P **P** **21 09 38.6 -0.5**
MBWA **Marble Bar** **25.88 193** P **P** **21 09 43.2 +0.2**
PDSI **Padang** **25.90 259** P **P** **21 09 44.2 +0.8**
comp=Z,4µmcomp=Z,3µmcomp=Z,68nm,1.3s
NONG **Nongkai** **26.19 304** P **P** **21 09 47.0 +1.1**
comp=Z,13µmcomp=Z,65nm,1.5s
CHAI **Chaiyaphum** **26.22 298** P **P** **21 09 47.0 +0.8**
comp=Z,248nmcomp=Z,25nm,0.9s
MNSI **Mandailing Nat** **26.48 263** P **P** **21 09 49.4 +0.8**
comp=Z,7µmcomp=Z,3µmcomp=Z,131nm,1.4s
PSI **Prapat** **26.94 268** P **P** **21 09 53.6 +0.7**
comp=Z,32nm,0.9s,baz=0.6,slow=4.4,SNR=24
PSI S **S** **21 14 15.8 -3.2**
comp=Z,5.4nm,0.6s,baz=360,slow=16,SNR=12
PSI **Prapat** **26.94 268** P **P** **21 09 53.9 +1.0**
comp=Z,3µmcomp=Z,2µmcomp=Z,31nm,1.6s,comp=Z,8µm,1.6s,
comp=Z,4µm,1.6s,comp=Z,80nm,1.6s
PSI P **P** **21 09 55.5 +2.6**
comp=Z,3µmcomp=Z,2µmcomp=Z,31nm,1.6s,comp=Z,8µm,1.6s,
comp=Z,4µm,1.6s,comp=Z,80nm,1.6s
RPSI **Rantau Prapat** **26.95 268** P **P** **21 09 52.7 -0.1**
SSE **Sheshan** **27.15 351** P **P** **21 09 56.1 +1.7**
SSE S **S** **21 14 25.6 +4.0**
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,59nm,5.8s
SSE L L
comp=Z,260nm,21.4s
SSE L L
comp=Z,750nm,20.6s
TSI **Tuntungan** **27.26 270** P P 21 10 10.3 +15
SURT **Suratani** **27.32 281** P **P** **21 10 01.5 +5.4**
comp=Z,32nmcomp=Z,2,1nm,1.1s
SLVN **Son La** **27.33 311** P **P** **21 09 57.4 +1.3**
PHET **Kaeng Krachan** **27.35 290** P **P** **21 09 59.9 +3.5**
comp=Z,11nm,0.9s
JSU **Suzuyama** **27.54 8** P **P** **21 09 57.8 -0.1**
JCJ **Chichijima** **27.62 33** P **P** **21 09 58.0 -0.5**
comp=Z,168nm,0.7s,baz=290,slow=5.5,SNR=13
JCJ S **S** **21 14 23.9 -5.2**
comp=Z,13nm,0.5s,baz=302,slow=22,SNR=1.5
JCJ **Chichijima** **27.62 33** P **P** **21 09 57.6 -1.0**
PKDT **Phuket** **27.64 279** P **P** **21 10 00.4 +1.5**
comp=Z,3µmcomp=Z,64nm,1.1s
QIS **Mount Isa** **28.02 152** P **P** **21 10 02.7 +0.5**
baz=28,SNR=24
PHIT **Phitsanulok** **28.12 299** P **P** **21 10 05.6 +2.5**
comp=Z,510nmcomp=Z,26nm,0.9s
UTTA **Uttaradit** **28.23 300** P **P** **21 10 06.7 +2.5**
comp=Z,142nmcomp=Z,8.0nm,0.6s
UTHA **Uthaitani** **28.36 295** P **P** **21 10 07.4 +2.1**
comp=Z,121nmcomp=Z,7.4nm,0.7s
GSI **Gunungsitoli** **28.41 265** P **P** **21 10 05.2 -0.7**
GSI **Gunungsitoli** **28.41 265** P **P** **21 10 06.1 +0.3**
comp=Z,235nm,0.8s
NJ2 **Nanjing** **28.52 347** *e* P **P** **21 10 07.3 +0.8**
NJ2 pP **pP** **21 10 37.1 -1.2**
NJ2 sP **sP** **21 10 56.1 +0.3**
NJ2 S **S** **21 14 50.0 +6.9**
NJ2 sS **sS** **21 15 41.6 +2.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,92nm,3.5s
NJ2 L L
comp=Z,770nm,16.6s
NJ2 L L
comp=Z,980nm,19.4s
NJ2 L L
comp=Z,1µm,11.4s
TPTI **28.65 269** P **P** **21 10 10.9 +2.9**
comp=Z,1µmcomp=Z,25nm,1.1s
MTSU **Mount Surprise** **28.66 141** P **P** **21 10 09.3 +1.3**
baz=29,SNR=5.1
AS31 **Alice Springs** **28.74 165** P **P** **21 10 08.2 -0.5**
AS31 IAmb IAmb 21 10 10.7
comp=Z,62nm,0.5s
ASAR **Alice Springs** **28.75 165** P **P** **21 10 08.8 +0.1**
comp=Z,105nm,0.5s,baz=344,slow=7.5,SNR=1635
ASAR S **S** **21 14 43.4 -3.5**
comp=Z,8.9nm,0.8s,baz=339,slow=13,SNR=4.5
ASAR ScP **ScP** **21 16 42.6 +0.2**
comp=Z,7.8nm,0.7s,baz=357,slow=2.5,SNR=5.6
ASAR LR LR 21 21 33.9
comp=Z,883nm,20.2s,baz=342,slow=36
ASAR **Alice Springs** **28.75 165** P **P** **21 10 08.9 +0.2**
GYA **Guiyang** **28.81 322** ⇑P **P** **21 10 12.5 +3.2**
GYA pP pwP 21 10 46.1 +0.1
GYA sP sP 21 11 01.4 +4.1
GYA S **S** **21 14 50.9 +2.8**
GYA SS **SnSn** **21 16 29.9 +1.4**
GYA ScS **ScS** **21 20 36.8 -0.1**
GYA L L
comp=Z,220nm,11.4s
GYA L L
comp=Z,240nm,15.2s
GYA L L
comp=Z,300nm,21.0s
GIRL **Giralia** **28.97 203** P **P** **21 10 11.8 +1.2**
baz=29,SNR=63
UMPA **Umpang Tak** **29.11 296** P P 21 10 17.9 +5.9
comp=Z,111nmcomp=Z,5.9nm,0.8s
WRKA **Warakurna** **29.12 175** P **P** **21 10 12.2 +0.3**
baz=29,SNR=526
JNU **Nakatsue** **29.19 9** P **P** **21 10 13.2 +0.7**
comp=Z,36nm,0.8s,baz=234,slow=2.7,SNR=17
JNU S **S** **21 14 52.5 -1.2**
comp=Z,4.9nm,0.9s,baz=226,slow=17,SNR=1.2
JNU **Nakatsue** **29.19 9** IAmb IAmb 21 11 00.6
comp=Z,53nm,0.9s
CM36 **Chiang Mai Arr** **29.82 301** P **P** **21 10 21.0 +2.8**
CM35 **Chiang Mai Arr** **29.84 301** P **P** **21 10 20.0 +1.6**
CM04 **Chiang Mai Arr** **29.87 300** P **P** **21 10 21.4 +2.7**
comp=Z,233nmcomp=Z,17nm,0.9s
CM09 **Chiang Mai Arr** **29.88 300** P **P** **21 10 21.6 +2.8**
comp=Z,257nmcomp=Z,24nm,0.8s
CM01 **Chiang Mai Arr** **29.89 300** P **P** **21 10 22.0 +3.1**
comp=Z,226nmcomp=Z,20nm,0.9s
CM05 **Chiang Mai Arr** **29.90 300** P **P** **21 10 21.6 +2.7**
comp=Z,162nmcomp=Z,11nm,0.9s
CM02 **Chiang Mai Arr** **29.91 300** P **P** **21 10 21.8 +2.8**
comp=Z,242nmcomp=Z,20nm,0.8s
CM34 **Chiang Mai Arr** **29.91 301** P **P** **21 10 21.2 +2.1**
CM31 **Chiang Mai Arr** **29.92 300** P **P** **21 10 21.7 +2.5**
comp=Z,210nmcomp=Z,633nm,0.5s
CM31 **Chiang Mai Arr** **29.92 300** P **P** **21 10 20.6 +1.4**
CMAR **Chiang Mai Arr** **29.92 300** P **P** **21 10 20.1 +0.9**
comp=Z,8.0nm,0.6s,baz=125,slow=7.6,SNR=72
CMAR PcP **PcP** **21 13 20.2 +1.9**
comp=Z,4.3nm,0.9s,baz=140,slow=1.1,SNR=4.5
CMAR S **S** **21 15 05.4 -0.1**
comp=Z,1.8nm,0.9s,baz=197,slow=2.7,SNR=1.3
CMAR ScP **ScP** **21 16 48.0 +1.7**
comp=Z,3.7nm,0.7s,baz=105,slow=2.1,SNR=11
CMAR **Chiang Mai Arr** **29.92 300** P **P** **21 10 20.1 +0.9**
CMAR PcP **PcP** **21 13 22.5 +4.2**
CM15 **Chiang Mai Arr** **29.94 300** P **P** **21 10 21.6 +2.4**
comp=Z,204nmcomp=Z,24nm,0.8s
CM13 **Chiang Mai Arr** **29.94 300** P **P** **21 10 22.0 +2.7**
comp=Z,218nmcomp=Z,15nm,0.9s
CMMT **Chiang Mai** **30.07 301** P **P** **21 10 20.6 +0.1**
comp=Z,1µmcomp=Z,38nm,0.7s
CMMT **Chiang Mai** **30.07 301** P **P** **21 10 20.5 +0.1**
comp=Z,1µmcomp=Z,36nm,0.7s
CM33 **Chiang Mai Arr** **30.07 301** P **P** **21 10 21.0 +0.5**
CHTO **Chiang Mai** **30.07 301** P **P** **21 10 21.1 +0.6**
CHTO pmax pmax
comp=Z,251nm,2.0s
CHTO **Chiang Mai** **30.07 301** P **P** **21 10 21.1 +0.6**
CHTO **Chiang Mai** **30.07 301** P **P** **21 10 21.4 +1.0**
CHTO P **P** **21 10 21.4 +1.0**
CHTO **Chiang Mai** **30.07 301** P **P** **21 10 21.5 +1.0**
comp=Z,726nmcomp=Z,22nm,0.7s
CM32 **Chiang Mai Arr** **30.09 301** P **P** **21 10 23.0 +2.4**
ENH **Enshi** **30.24 331** P **P** **21 10 21.6 -0.2**
ENH IAmb IAmb 21 11 16.4
comp=Z,49nm,1.1s
KOHB **KOHEUNG** **30.33 2** P **P** **21 10 24.3 +1.8**
SNR=8.2
KOHB **KOHEUNG** **30.33 2** P **P** **21 10 24.3 +1.8**
SNR=8.2
JMN **Monobe** **30.35 13** IAmb IAmb 21 10 25.9
comp=Z,63nm,0.9s
BOSB **Boseong-gun** **30.47 2** P **P** **21 10 26.0 +2.2**
SNR=6.0
BOSB **Boseong-gun** **30.47 2** P **P** **21 10 26.0 +2.2**
SNR=6.0
KMI **Kunming** **30.48 315** ⇑P **P** **21 10 25.6 +1.4**
KMI pP pP 21 10 57.0 +2.0
KMI sP sP 21 11 15.4 +3.4
KMI PP **PP** **21 11 36.8 +0.7**
KMI S **S** **21 15 14.6 +0.1**
KMI sS sS 21 16 10.5 -0.6
KMI SS **SnSn** **21 17 17.8 +8.1**
KMI pmax pmax
comp=Z,12nm,1.6s
KMI pmax pmax
comp=Z,130nm,5.0s
KMI L L
comp=Z,610nm,10.9s
KMI L L
comp=Z,1µm,15.0s
KMI L L
comp=Z,1µm,16.6s
MHMT **Maesarieng** **30.68 299** P **P** **21 10 26.5 +0.6**
comp=Z,2µmcomp=Z,90nm,0.8s
KSSCH **SUNCHEON** **30.78 2** P **P** **21 10 29.2 +2.8**
SNR=6.0
KSSCH **SUNCHEON** **30.78 2** P **P** **21 10 29.2 +2.8**
SNR=6.0
KSKWJ **Gwangju** **30.86 2** P **P** **21 10 30.4 +3.2**
SNR=5.9
KSKWJ **Gwangju** **30.86 2** P **P** **21 10 30.4 +3.2**
SNR=5.9
SUCA **Sunchang** **31.08 2** P **P** **21 10 32.0 +2.9**
SNR=9.2
SUCA **Sunchang** **31.08 2** P **P** **21 10 32.0 +2.9**
SNR=9.2
NAWB **Namwon** **31.14 2** P **P** **21 10 32.0 +2.4**
SNR=8.9
NAWB **Namwon** **31.14 2** P **P** **21 10 32.0 +2.4**
SNR=8.9
CTA **Charters Tower** **31.33 141** P **P** **21 10 32.8 +1.3**
comp=Z,14nm,0.8s,baz=324,slow=11,SNR=11
CTA S **S** **21 15 28.2 +0.7**
comp=Z,6.8nm,0.8s,baz=204,slow=23,SNR=1.8
CTAO **Charters Tower** **31.33 141** P **P** **21 10 32.4 +0.9**
CTAO pmax pmax
comp=Z,49nm,1.1s
CTAO **Charters Tower** **31.33 141** P **P** **21 10 32.4 +0.9**
CTAO IAmb IAmb 21 10 46.1
comp=Z,49nm,1.1s
MEEK **Meekatharra** **31.41 193** P **P** **21 10 31.9 -0.3**
baz=32,SNR=271
OKCB **Cheongsan-myeo** **32.08 3** P **P** **21 10 39.3 +1.5**
SNR=47
OKCB **Cheongsan-myeo** **32.08 3** P **P** **21 10 39.3 +1.5**
SNR=47
TJN **Taejon** **32.09 2** *i* P **P** **21 10 37.0 -0.9**
JWT **Wachi** **32.20 15** IAmb IAmb 21 11 28.8
comp=Z,64nm,1.2s
KSBON **Boeun** **32.23 3** P **P** **21 10 41.2 +2.0**
SNR=71
KSBON **Boeun** **32.23 3** P **P** **21 10 41.2 +2.0**
SNR=71
PATS **Pohnpei** **32.39 84** P **P** **21 10 41.5 +0.6**
baz=32
KSCHJ **Chungju** **32.61 3** P **P** **21 10 43.9 +1.4**
SNR=16
KSCHJ **Chungju** **32.61 3** P **P** **21 10 45.0 +2.5**
SNR=16
KSCHJ **Chungju** **32.61 3** P **P** **21 10 43.9 +1.4**
SNR=16
KSCHJ **Chungju** **32.61 3** P **P** **21 10 45.0 +2.5**
SNR=16
INU **Inuyama** **32.70 17** IAmb IAmb 21 10 45.8
comp=Z,55nm,0.9s
TIA **Tai'an** **32.90 347** P **P** **21 10 45.9 +0.9**
TIA S **S** **21 15 49.8 -1.7**
TIA pmax pmax
comp=Z,7.0nm,0.6s
TIA pmax pmax
comp=Z,48nm,3.7s
TIA L L
comp=Z,1µm,12.1s
TIA L L
comp=Z,1µm,8.5s
TIA L L
comp=Z,160nm,10.7s
KSYOW **Yeongwol** **32.94 4** P **P** **21 10 47.3 +1.9**
SNR=19
KSYOW **Yeongwol** **32.94 4** P **P** **21 10 47.1 +1.8**
SNR=10
KSWJU **Wonju** **33.14 3** P **P** **21 10 51.0 +3.9**
SNR=6.4
KSWJU **Wonju** **33.14 3** P **P** **21 10 51.0 +3.9**
SNR=6.4
INCN **Inchon** **33.17 1** P **P** **21 10 48.3 +0.9**
INCN pmax pmax
comp=Z,17nm,0.8s
INCN **Inchon** **33.17 1** P **P** **21 10 48.2 +0.9**
KSAR **Wonju Array Be** **33.17 3** P **P** **21 10 48.8 +1.5**
KSAR **Wonju Array Be** **33.17 3** P **P** **21 10 48.8 +1.5**
KSRS **Korea Array** **33.19 3** P **P** **21 10 49.0 +1.6**
comp=Z,18nm,0.6s,baz=176,slow=10.0,SNR=127
KSRS PcP **PcP** **21 13 28.6 +1.9**
comp=Z,2.1nm,0.6s,baz=182,slow=2.8,SNR=2.9
KSRS S **S** **21 15 52.5 -3.3**
comp=Z,0.5nm,0.4s,baz=2.2,slow=20,SNR=1.2
KSRS ScP **ScP** **21 16 58.0 +1.1**
comp=Z,1.8nm,0.6s,baz=184,slow=2.9,SNR=5.0
KSRS LR LR 21 25 19.7
comp=Z,454nm,20.1s,baz=199,slow=38
KSDGY **Daegwallycong** **33.47 4** P **P** **21 10 52.0 +2.0**
SNR=29
KSDGY **Daegwallycong** **33.47 4** P **P** **21 10 52.0 +2.0**
SNR=29
KSCHC **Chuncheon** **33.50 3** P P 21 10 56.0 +5.8
SNR=6.2
XAN **Xi'an** **33.66 334** P **P** **21 10 51.6 -0.1**
XAN S **S** **21 15 58.8 -4.5**
XAN pmax pmax
comp=Z,7.0nm,0.7s
XAN pmax pmax
comp=Z,77nm,3.5s
XAN L L
comp=Z,2µm,22.1s
XAN L L
comp=Z,3µm,20.6s
XAN L L
comp=Z,1µm,25.0s
KSJMJ **Jumunjin** **33.66 4** P **P** **21 10 54.0 +2.4**
SNR=30
KSJMJ **Jumunjin** **33.66 4** P **P** **21 10 54.0 +2.4**
SNR=30
CD2 **Chengdu** **33.80 324** P **P** **21 10 53.8 +0.8**
CD2 pP pP 21 11 22.5 -1.6
CD2 S **S** **21 16 02.6 -3.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 L L
comp=Z,3µm,21.1s
CD2 L L
comp=Z,3µm,15.2s
CD2 L L
comp=Z,2µm,16.7s
MJAR **Matsushiro Arr** **34.16 18** P **P** **21 10 55.5 -0.5**
comp=Z,18nm,0.8s,baz=200,slow=9.0,SNR=56
MJAR S **S** **21 16 08.4 -2.6**
comp=Z,0.6nm,0.4s,baz=126,slow=16,SNR=1.4
MJAR ScP **ScP** **21 17 01.5 +1.1**
comp=Z,0.9nm,0.5s,baz=180,slow=4.1,SNR=4.3
MJAR LR LR 21 24 08.0
comp=Z,673nm,21.4s,baz=205,slow=35
MJAR **Matsushiro Arr** **34.16 18** P **P** **21 10 55.6 -0.3**
MAJO **Matsushiro** **34.16 18***d i* P **P** **21 10 55.1 -0.9**
MAJO pmax pmax
comp=Z,28nm,0.8s
MAJO **Matsushiro** **34.16 18** P **P** **21 10 55.5 -0.5**
MAJO IAmb IAmb 21 11 46.7
comp=Z,114nm,1.6s
MAT **Matsushiro** **34.16 18** P **P** **21 10 55.3 -0.7**
MAT S **S** **21 16 09.2 -1.8**
MJB9 **Matsu-Tunnel** **34.16 18** IAmb IAmb 21 10 58.4
comp=Z,32nm,0.8s
MORW **Morawa** **34.37 195** P **P** **21 10 57.7 -0.1**
baz=34,SNR=55
JYT **Yasato** **34.53 21** IAmb IAmb 21 11 00.2
comp=Z,36nm,0.7s
DL2 **Dalian** **34.80 354** P **P** **21 11 03.1 +1.8**
DL2 pP **pP** **21 11 32.0 -1.5**
DL2 S **S** **21 16 20.5 -0.1**
DL2 sS **sS** **21 17 20.8 +3.0**
DL2 ScS **ScS** **21 21 07.8 +1.6**
DL2 pmax pmax
comp=Z,52nm,0.7s
DL2 pmax pmax
comp=Z,140nm,6.5s
DL2 L L
comp=Z,1µm,14.7s
DL2 L L
comp=Z,1µm,17.1s
DL2 L L
comp=Z,1µm,15.5s
FORT **Forrest** **34.81 177** P **P** **21 11 01.9 +0.4**
baz=35,SNR=338
QLP **Quilpie** **35.35 151** P **P** **21 11 06.8 +0.6**
baz=35,SNR=5.1
KMBL **Kambalda** **35.53 186** P **P** **21 11 08.0 +0.2**
baz=36,SNR=230
JSD **Sado** **35.56 17** IAmb IAmb 21 11 08.9
comp=Z,41nm,0.7s
BLDU **Ballidu** **35.67 194** P **P** **21 11 08.8 -0.1**
baz=36,SNR=367
JMM **Marumori** **36.21 20** P **P** **21 11 14.4 +1.0**
KLBR **Kellerberrin** **36.39 192** P **P** **21 11 15.0 0.0**
baz=36,SNR=454
HNR **Honiara** **36.54 112** P **P** **21 11 14.0 -2.5**
comp=Z,90nm,0.7s,baz=236,slow=11,SNR=1.5
HNR **Honiara** **36.54 112** P **P** **21 11 15.4 -1.1**
HNR pmax pmax
comp=Z,171nm,1.0s
HNR **Honiara** **36.54 112** P **P** **21 11 15.4 -1.1**
BJT **Baijiatuau** **36.76 347** IAmb IAmb 21 11 57.5
comp=Z,44nm,1.1s
BJI **Beijing** **36.78 348** P **P** **21 11 19.3 +1.1**
BJI pP **pP** **21 11 47.4 -3.4**
BJI S **S** **21 16 48.4 -2.4**

BJI ScP **ScP** **21 17 09.9 +0.1**
BJI ScS **ScS** **21 21 19.5 +2.4**
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI pmax pmax
comp=Z,120nm,3.5s
BJI L L
comp=Z,420nm,18.2s
BJI L L
comp=Z,790nm,23.1s
BJI L L
comp=Z,480nm,18.8s
MUN Mundaring 37.10 194 P **P** **21 11 21.2 +0.1**
baz=37,SNR=171
LZH Lanzhou 37.71 330 *e*P **P** **21 11 29.3 +3.0**
LZH pP pP 21 11 58.6 -0.1
LZH sP sP 21 12 15.6 -0.2
LZH *e*S **S** **21 17 01.9 -3.5**
LZH SS **SS** **21 19 51.0 -6.6**
LZH pmax pmax
comp=Z,53nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH L L
comp=Z,3µm,13.8s
LZH L L
comp=Z,3µm,16.5s
LZH L L
comp=Z,2µm,17.6s
NWAO Narrogin (SRO) 37.79 192 P **P** **21 11 27.1 +0.4**
comp=Z,192nm,0.5s,baz=23,slow=7.4,SNR=397
NWAO Narrogin (SRO) 37.79 192 P **P** **21 11 27.2 +0.4**
baz=38,SNR=295
NWAO Narrogin (SRO) 37.79 192 P **P** **21 11 27.5 +0.7**
BRDH Bariadhala 37.89 302 P **P** **21 11 29.8 +2.0**
comp=Z,189nm,0.4s,baz=76,slow=18,SNR=6.5
BBOO Buckleboo 38.02 166 P **P** **21 11 29.3 +0.6**
baz=38,SNR=1000
EIDS Eidsvold 38.21 141 P **P** **21 11 30.8 +0.3**
baz=38,SNR=12
MSHR Mys Shultsa 38.54 6*ce*P **P** **21 11 34.8 +1.8**
MSHR pmax pmax
comp=Z,56nm,1.0s
HHC Hu-ho-hao-te 38.73 343 *e*P **P** **21 11 36.4 +1.7**
HHC pP pP 21 12 05.0 -2.6
HHC sP sP 21 12 26.3 +1.5
HHC PcP **PcP** **21 13 44.5 +1.1**
HHC ScP **ScP** **21 17 18.0 +0.6**
HHC S **S** **21 17 19.8 -0.7**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,64nm,5.0s
HHC L L
comp=Z,840nm,15.3s
HHC L L
comp=Z,1µm,13.6s
HHC L L
comp=Z,1µm,21.3s
STKA Stephens Creek 38.84 158 P **P** **21 11 36.5 +0.9**
comp=Z,117nm,0.9s,baz=332,slow=8.6,SNR=299
STKA S **S** **21 17 17.2 -4.8**
comp=Z,8.5nm,0.6s,baz=315,slow=7.1,SNR=3.5
STKA LR LR 21 28 19.4
comp=Z,572nm,19.1s,baz=331,slow=37
STKA Stephens Creek 38.84 158 P **P** **21 11 36.3 +0.7**
baz=39,SNR=189
STKA Stephens Creek 38.84 158 P **P** **21 11 36.3 +0.7**
SHL Shillong 38.94 307 *e*P **P** **21 11 36.6 -0.2**
SHL IAmb IAmb 21 11 38.4
comp=Z,115nm,0.5s
SHL *i* S **S** **21 17 25.0 +0.8**
SHL Shillong 38.94 307 P **P** **21 11 37.2 +0.3**
SNR=20
JTM Tenmabayashi 38.94 18 IAmb IAmb 21 11 39.4
comp=Z,50nm,0.7s
VLA Vladivostok 39.16 7*d i*P **P** **21 11 38.7 +0.6**
VLA pmax pmax
comp=Z,46nm,0.8s
HTT Hallett 39.37 163 P **P** **21 11 41.4 +1.3**
baz=40,SNR=88
GUWA GUWAHATI 39.38 307 *e*P **P** **21 11 39.5 -0.7**
GUWA IAmb IAmb 21 11 42.6
comp=Z,51nm,0.6s
CN2 Changchun 39.48 360 *e*P **P** **21 11 41.6 +0.8**
CN2 *ep*P pwP 21 12 16.8 +0.2
CN2 PcP **PcP** **21 13 46.8 +1.3**
CN2 *e*S **S** **21 17 32.8 +1.4**
CN2 SS **SS** **21 20 28.8 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,600nm,17.0s
CN2 L L
comp=Z,900nm,17.0s
CN2 L L
comp=Z,500nm,18.0s
CMSA Cobar Meteorol 40.21 153 P **P** **21 11 48.2 +1.3**
baz=40,SNR=18
USA0B Ussuriysk Arra 40.24 7 IAmb IAmb 21 11 50.2
comp=Z,64nm,0.8s
USRK Ussuriysk Ar. 40.24 7 P **P** **21 11 48.5 +1.5**
comp=Z,58nm,0.7s,baz=191,slow=6.9,SNR=103
USRK S **S** **21 17 42.5 -0.2**
comp=Z,1.7nm,0.6s,baz=150,slow=41,SNR=1.5
H01W3 Cape Leeuwin H 40.38 195 P **P** **21 11 50.4 +2.3**
baz=12,slow=6.9,SNR=4.2
H01W1 Cape Leeuwin H 40.38 195 P **P** **21 11 50.2 +2.1**
baz=12,slow=6.9,SNR=4.6
H01W2 Cape Leeuwin H 40.40 195 P **P** **21 11 50.0 +1.9**
baz=12,slow=6.9,SNR=4.9
MDJ Mudanjiang 40.42 4 P **P** **21 11 50.3 +1.8**
MDJ pP pP 21 12 19.6 -1.7
MDJ sP sP 21 12 37.8 -0.5
MDJ S **S** **21 17 48.1 +2.7**
MDJ SS **SS** **21 20 50.9 -0.2**
MDJ ScS **ScS** **21 21 40.4 +2.3**
MDJ pmax pmax
comp=Z,42nm,0.7s
MDJ L L
comp=Z,540nm,12.9s
MDJ L L
comp=Z,1µm,12.5s
MDJ L L
comp=Z,520nm,15.3s
MDJ Mudanjiang 40.42 4 IAmb IAmb 21 11 51.9
comp=Z,79nm,0.7s
ERM Erimo 40.73 20*ce*P **P** **21 11 52.5 +1.4**
ERM pmax pmax
comp=Z,59nm,1.7s
ERM Erimo 40.73 20 P **P** **21 11 52.8 +1.8**
ERM IAmb IAmb 21 12 19.1
comp=Z,34nm,0.7s
JEW Eniwo 40.93 18 IAmb IAmb 21 12 45.4
comp=Z,83nm,0.9s
LSA Lhasa 41.52 312 *i* P **P** **21 12 00.2 +1.8**
SNR=7.2
LSA Lhasa 41.52 312 P **P** **21 11 60.0 +1.6**
LSA IAmb IAmb 21 12 01.6
comp=Z,36nm,0.6s
LSA PcP **PcP** **21 13 55.9 +2.9**
LSA Lhasa 41.52 312 P **P** **21 12 00.2 +1.8**
TEY Ternei 41.78 11⇓*e*P **P** **21 12 01.3 +1.7**
TEY pmax pmax
comp=N,80nm,0.6s
TEY pmax pmax
comp=Z,140nm,0.6s
ARMA Armidale 42.29 146 P **P** **21 12 04.4 +0.2**
baz=42,SNR=9.4
GTA Gaotai 42.30 330 ⇑P **P** **21 12 04.8 +0.7**
GTA pP pP 21 12 37.0 0.0
GTA sP sP 21 12 54.4 +0.6
GTA PcP **PcP** **21 13 57.4 +2.4**
GTA ScP **ScP** **21 17 32.3 +0.8**
GTA PcS **PcS** **21 17 41.5 -5.7**
GTA S **S** **21 18 13.3 -0.2**
GTA ScS **ScS** **21 21 49.1 -0.9**
GTA pmax pmax
comp=Z,13nm,1.4s
GTA pmax pmax
comp=Z,94nm,5.8s
GTA L L
comp=Z,760nm,17.1s
GTA L L
comp=Z,910nm,18.5s
GTA L L
comp=Z,1µm,19.3s
ASAJ Asahikawa 42.44 18 P **P** **21 12 06.7 +1.8**
comp=Z,49nm,0.7s,baz=232,slow=11,SNR=76
JKA Kamikawa-asahi 42.44 18 P **P** **21 12 06.2 +1.2**
JKA IAmb IAmb 21 12 08.5
comp=Z,56nm,0.8s
BOK Bokaro 43.21 301 *e*P **P** **21 12 11.4 -0.2**
BOK IAmb IAmb 21 12 14.1
comp=Z,15nm,0.6s
ARPS Mount Arapiles 43.36 161 P **P** **21 12 13.9 +1.4**
baz=44,SNR=63
YUK Yuzh-Kuril'sk 43.45 21 *e*P P 21 12 07.3 -5.8
YUK *i* *PP pP 21 12 42.6 -3.3
YUK *i* S **S** **21 18 23.8 -6.1**
YUK *i* *SS sS 21 19 18.9 -10
YUK *i* SS **SS** **21 21 46.7 -3.7**
YUK pmax pmax
comp=Z,131nm,0.9s
YUK pmax pmax
comp=N,86nm,0.8s
YUK pmax pmax
comp=E,52nm,0.9s
YNG Young 43.75 153 P **P** **21 12 17.1 +1.3**
baz=44,SNR=8.1
CAN Canberra 44.88 153 P **P** **21 12 24.0 -0.7**
CAN pmax pmax
comp=Z,54nm,0.8s
CAN Canberra 44.88 153 P **P** **21 12 23.9 -0.7**
CAN IAmb IAmb 21 12 29.1
comp=Z,54nm,0.8s
PALK Pallekele 45.05 276 P **P** **21 12 26.7 +0.4**
comp=Z,15nm,0.7s,baz=165,slow=5.3,SNR=9.2
PALK PcP **PcP** **21 14 06.1 +1.3**
comp=Z,42nm,0.6s,baz=127,slow=2.7,SNR=21
PALK Pallekele 45.05 276 P **P** **21 12 27.1 +0.7**
PALK 21 14 05.5
PALK pmax pmax
comp=Z,181nm,1.6s
PALK Pallekele 45.05 276 P **P** **21 12 27.1 +0.7**
PALK PcP **PcP** **21 14 05.5 +0.7**
PALK IAmb IAmb 21 14 07.4
comp=Z,181nm,1.6s
PALK Pallekele 45.05 276 P **P** **21 12 27.4 +1.0**
YSS Yuzh-Sakhalins 45.06 16*ce*P **P** **21 12 26.4 +0.6**
YSS pmax pmax
comp=Z,46nm,0.7s
YSS Yuzh-Sakhalins 45.06 16 P **P** **21 12 26.5 +0.6**
YSS IAmb IAmb 21 12 29.4
comp=Z,46nm,0.7s
KLR Kul'dur 45.18 5 P **P** **21 12 27.8 +0.9**
comp=Z,24nm,0.8s,baz=203,slow=4.6,SNR=64
KLR Kul'dur 45.18 5*ce*P **P** **21 12 27.6 +0.8**
KLR pmax pmax
comp=Z,30nm,0.9s
KUR Kuril'sk 45.21 22*de*P **P** **21 12 28.2 +1.2**
KUR *i* 21 14 02.8
KUR *i* PPP PPP 21 14 54.7
KUR *e*S **S** **21 19 00.4 +5.1**
KUR pmax pmax
comp=Z,79nm,1.7s
KUR pmax pmax
comp=N,32nm,1.6s
KUR pmax pmax
comp=E,28nm,1.0s
KUR pmax pmax
comp=Z,535nm,3.2s
KUR pmax pmax
comp=E,116nm,3.1s
KUR pmax pmax
comp=Z,327nm,18.0s
SANVU Saraoutou 45.31 116 P **P** **21 12 29.7 +1.4**
SANVU IAmb IAmb 21 12 31.8
comp=Z,78nm,0.8s
TOO Toolangi 45.35 158 P **P** **21 12 30.1 +1.7**
baz=46,SNR=19
ULN Ulaanbaatar 46.45 343*ce*P **P** **21 12 37.1 +0.1**
ULN pmax pmax
comp=Z,19nm,1.3s
ULN Ulaanbaatar 46.45 343 P **P** **21 12 37.2 +0.2**
ULN Ulaanbaatar 46.45 343 P **P** **21 12 37.9 +0.9**
SONM Songino Array 46.62 342 P **P** **21 12 38.9 +0.6**
comp=Z,6.3nm,0.8s,baz=155,slow=9.2,SNR=18
SONM PcP **PcP** **21 14 10.5 +0.8**
comp=Z,7.4nm,0.6s,baz=158,slow=4.7,SNR=5.1
SONM ScP **ScP** **21 17 48.3 -0.7**
comp=Z,1.3nm,0.7s,baz=176,slow=5.3,SNR=2.1
SONM LR LR 21 33 37.9
comp=Z,726nm,19.6s,baz=154,slow=38
SONM Songino Array 46.62 342 P **P** **21 12 38.7 +0.4**
UGL Uglegorsk 46.83 15 *e*P **P** **21 12 41.7 +2.0**
UGL *e*S **S** **21 19 19.4 +1.0**
UGL pmax pmax
comp=Z,130nm,0.7s
UGL smax smax
comp=N,1µm,12.0s
TARA Tarawa 47.06 92 P **P** **21 12 43.5 +1.4**
TARA IAmb IAmb 21 12 45.0
comp=Z,58nm,0.8s
TARA Tarawa 47.06 92 P **P** **21 12 43.9 +1.8**
GRNR Gornyy 47.29 9⇑*i*P **P** **21 12 45.1 +1.9**
GRNR pmax pmax
comp=Z,20nm,0.9s
DZM Mont Dzumac 47.48 125 *e*P **P** **21 12 46.5 +1.3**
comp=Z,106nm,0.9s
DZM *e*S **S** **21 19 27.8 -0.7**
comp=Z,3µm,26.4s
DZM *e*LR LR 21 26 16.3
comp=Z,885nm,31.3s
DZM Mont Dzumac 47.48 125 P **P** **21 12 45.9 +0.6**
DZM IAmb IAmb 21 12 52.5
comp=Z,45nm,0.9s
DZM Mont Dzumac 47.48 125 P **P** **21 12 46.9 +1.7**
YATNC Mamie plateau, 47.84 125 P **P** **21 12 49.6 +1.7**
HYB Hyderabad 48.17 290 *i* P **P** **21 12 51.0 +0.4**
comp=Z,38nm,0.8s
HYB *ep*P **pP** **21 13 23.5 -0.1**
HYB *es*P **sP** **21 13 38.0 -2.0**
HYB *e*PcP **PcP** **21 14 13.0 -2.7**
HYB *e*S **S** **21 19 39.0 +0.6**
HYB Hyderabad 48.17 290 *e*P **P** **21 12 50.4 -0.2**
HYB IAmb IAmb 21 12 51.3
comp=Z,34nm,0.6s
ZEA Zeya 49.43 1 *e*P **P** **21 13 00.3 +0.7**
ZEA *e* 21 19 53.5
ZEA pmax pmax
comp=E,10.0nm,1.1s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=N,100nm,5.2s
ZEA pmax pmax
comp=Z,200nm,5.6s
BHPL Bhopal 50.45 297 *e*P **P** **21 13 07.3 -0.6**
BHPL IAmb IAmb 21 13 09.3
comp=Z,33nm,1.0s
TAU Tasmania Unive 50.72 160 P **P** **21 13 10.9 +1.5**
TAU pmax pmax
comp=Z,60nm,1.1s
TAU Tasmania Unive 50.72 160 P **P** **21 13 10.9 +1.5**
TAU IAmb IAmb 21 13 13.0
comp=Z,60nm,1.1s
TLY Talaya 50.86 342 *i* P **P** **21 13 11.3 +0.9**
TLY pmax pmax
comp=Z,14nm,0.9s
IRK Irkutsk 51.17 343 *e*P **P** **21 13 16.5 +3.8**
IRK *e* 21 13 47.5
IRK *e* 21 22 48.3
IRK pmax pmax
comp=Z,31nm,2.3s
MOY Mondy 51.69 340 *e*P **P** **21 13 17.5 +0.8**
MOY pmax pmax
comp=Z,43nm,1.7s
WMQ Urumqi 51.89 325 P **P** **21 13 20.5 +2.2**
WMQ pP pP 21 13 52.8 +0.5
WMQ PcP **PcP** **21 14 31.1 +2.2**
WMQ S **S** **21 20 29.6 +0.3**
WMQ ScS **ScS** **21 22 51.5 -1.5**
WMQ pmax pmax
comp=Z,40nm,1.3s
WMQ pmax pmax
comp=Z,190nm,3.9s
WMQ L L
comp=Z,3µm,15.9s
WMQ L L
comp=Z,1µm,18.1s
WMQ L L
comp=Z,2µm,17.9s
SMLA Simla 53.03 306 *e*P **P** **21 13 26.3 -0.4**
SMLA IAmb IAmb 21 13 28.0
comp=Z,64nm,0.5s
DHRM DHARAMSHALA 54.11 307 *e*P **P** **21 13 33.7 -1.3**
DHRM IAmb IAmb 21 13 35.0
comp=Z,71nm,0.6s
BOD Bodaibo 54.32 352 *e*P **P** **21 13 37.5 +1.8**
BOD pmax pmax
comp=Z,35nm,1.5s
THN Thein Dam 54.63 307 *e*P **P** **21 13 40.0 +1.6**
PEA0B Petropavlovsk- 55.36 23*ce*P **P** **21 13 44.3 +1.1**
PEA0B Petropavlovsk- 55.36 23 IAmb IAmb 21 14 21.8
comp=Z,66nm,1.0s
PETK Petropavlovsk- 55.36 23 P **P** **21 13 44.7 +1.4**
comp=Z,46nm,0.7s,baz=193,slow=5.6,SNR=90
PETK pP **pP** **21 14 17.9 +0.3**
comp=Z,22nm,0.7s,baz=193,slow=6.1,SNR=4.1
PETK ScP **ScP** **21 18 24.9 -1.5**
comp=Z,2.5nm,0.7s,baz=186,slow=4.7,SNR=3.4
PETK LR LR 21 36 38.7
comp=Z,271nm,20.8s,baz=209,slow=35
PET Petropavlovsk 55.66 23 *e*P **P** **21 13 44.7 -0.7**
PET *e**PP **pP** **21 14 18.7 -1.0**
PET *e**SP **sP** **21 14 34.4 -1.7**
PET *e* 21 14 45.2
PET *e* 21 15 53.2
PET *e*S **S** **21 21 17.9 -1.7**
PET *e* 21 23 15.9
PET *e*SS **SS** **21 25 06.1 -1.1**
PET pmax pmax
comp=Z,500nm,8.0s
PET pmax pmax
comp=Z,300nm,15.2s
PET pmax pmax
comp=Z,46nm,1.2s
ZSN Zaisan 55.69 327 *e*P **P** **21 13 44.7 -1.0**
baz=327
ZSN Zaisan 55.69 327 *e*P **P** **21 13 44.7 -1.0**
DGZ Jazzator, Alta 55.80 331 *i* P **P** **21 13 47.8 +1.1**
DGZ pmax pmax
comp=Z,7.0nm,0.6s
MSVF Nonsavu 55.86 115 P **P** **21 13 49.1 +1.6**
MSVF pmax pmax
comp=Z,38nm,1.0s
MSVF Nonsavu 55.86 115 P **P** **21 13 49.1 +1.6**
MSVF IAmb IAmb 21 14 41.3
comp=Z,38nm,0.9s
MSVF Nonsavu 55.86 115 P **P** **21 13 49.9 +2.4**
SHLS Shalkode 56.48 321 *e*P **P** **21 13 49.0 -2.6**
comp=Z,36nm,1.9s,baz=320
SHLS *ep*P **pP** **21 14 21.6 -5.0**
baz=320
SHLS *i* S **S** **21 21 26.6 -4.4**
comp=Z,53nm,3.5s,baz=320
SHLS Shalkode 56.48 321 *e*P **P** **21 13 48.9 -2.6**
SHLS *e**PP **pP** **21 14 21.5 -5.0**
SHLS *i* S **S** **21 21 26.6 -4.4**
SHLS pmax pmax
comp=Z,36nm,1.9s
SHLS smax smax
comp=N,53nm,3.5s
PDGK Podgornoye 56.54 321 *i* P **P** **21 13 52.3 +0.2**
PDGK pmax pmax
comp=Z,17nm,0.8s
MK31 Makanchi Array 56.72 325 P **P** **21 13 52.7 -0.4**
MK31 pmax pmax
comp=Z,18nm,0.8s
MK31 Makanchi Array 56.72 325 P **P** **21 13 52.7 -0.4**
MK31 **PcP** **21 14 48.0 +0.7**
MKAR Makanchi Array 56.72 325 P **P** **21 13 52.9 -0.2**
comp=Z,18nm,0.5s,baz=122,slow=7.1,SNR=173
MKAR pP **pP** **21 14 26.4 -2.2**
comp=Z,6.8nm,0.6s,baz=116,slow=8.2,SNR=2.2
MKAR PcP **PcP** **21 14 48.0 +0.6**
comp=Z,30nm,0.6s,baz=119,slow=4.9,SNR=16
MKAR ScP **ScP** **21 18 31.9 -0.7**
comp=Z,6.0nm,0.6s,baz=113,slow=5.4,SNR=7.5
MKAR S **S** **21 21 31.0 -2.9**
comp=Z,0.6nm,0.8s,baz=147,slow=11,SNR=1.5
MKAR Makanchi Array 56.72 325 P **P** **21 13 52.8 -0.3**
MKAR **PcP** **21 14 47.1 -0.3**
UZB Uzunbulak 56.75 320 *e*P **P** **21 13 53.2 -0.4**
comp=Z,34nm,1.7s,baz=320
UZB *ep*P **pP** **21 14 26.8 -1.8**
baz=320
UZB *e*S **S** **21 21 31.8 -2.9**
comp=Z,56nm,4.5s,baz=320
UZB *es*S **sS** **21 22 29.8 -6.4**
baz=320
UZB Uzunbulak 56.75 320 *e*P **P** **21 13 53.1 -0.4**
UZB *e**PP **pP** **21 14 26.7 -1.8**
UZB *e*S **S** **21 21 31.7 -2.9**
UZB pmax pmax
comp=Z,34nm,1.7s
UZB smax smax
comp=E,56nm,4.5s
TARG Taragay, Kyrgy 56.87 318 IAmb IAmb 21 14 47.6
comp=Z,35nm,1.2s
MAKZ Makanchi 56.91 325 P **P** **21 13 54.1 -0.3**
MAKZ pmax pmax
comp=Z,23nm,0.6s
MAKZ Makanchi 56.91 325 P **P** **21 13 54.1 -0.3**
MAKZ IAmb IAmb 21 14 49.5
comp=Z,23nm,0.6s
NIL Nilore 56.99 308 P **P** **21 13 55.1 -0.2**
NIL pmax pmax
comp=Z,62nm,1.1s
NIL Nilore 56.99 308 P **P** **21 13 55.1 -0.2**
NIL IAmb IAmb 21 14 32.7
comp=Z,62nm,1.1s
NIL Nilore 56.99 308 P **P** **21 13 55.4 +0.1**
SATY Saty 57.10 320 *e*P **P** **21 13 56.2 +0.2**
comp=Z,14nm,0.7s,baz=320
SATY *ep*P **pP** **21 14 28.4 -2.7**
baz=320
SATY *e*S **S** **21 21 38.2 -1.0**
comp=Z,45nm,2.6s,baz=320
SATY *es*S **sS** **21 22 35.4 -3.7**
baz=320
SATY Saty 57.10 320 *e*P **P** **21 13 56.2 +0.2**
SATY *e**PP **pP** **21 14 28.3 -2.7**
SATY *e*S **S** **21 21 38.2 -1.0**
SATY pmax pmax
comp=Z,14nm,0.7s
SATY smax smax
comp=E,45nm,2.6s
KPKS Kokpek 57.12 321 *e*P **P** **21 13 55.5 -0.7**
comp=E,14nm,0.6s,baz=320
KPKS *ep*P **pP** **21 14 27.6 -3.6**
baz=320
KPKS *i* S **S** **21 21 36.8 -2.6**
baz=320
KPKS *es*S **sS** **21 22 36.8 -2.3**
baz=320
KPKS Kokpek 57.12 321 *e*P **P** **21 13 55.4 -0.7**
KPKS *e**PP **pP** **21 14 27.5 -3.6**
KPKS *i* S **S** **21 21 36.8 -2.6**
KPKS pmax pmax
comp=Z,13nm,0.6s
KSH Kashi 57.14 315 P **P** **21 13 57.8 +1.5**
KSH pP pwP 21 14 33.6 -0.5
KSH S **S** **21 21 42.0 +2.1**
KSH ScS **ScS** **21 23 32.1 +1.3**
KSH pmax pmax
comp=Z,20nm,1.9s
KSH pmax pmax
comp=Z,210nm,4.2s
KSH L L
comp=Z,970nm,16.2s
KSH L L
comp=Z,380nm,12.0s
KSH L L
comp=Z,690nm,15.2s
YAK Yakutsk 57.81 2*d i*P **P** **21 14 01.4 +1.1**
YAK *e**PP **pP** **21 14 35.2 -0.5**
YAK *e* 21 14 45.2
YAK *e* 21 16 11.7
YAK *e*S **S** **21 21 47.2 -0.2**
YAK *e* 21 23 32.6

YAK eSS **SS** **21 25 45.5 +4.9**
YAK eSSS SSS 21 28 06.8
YAK pmax pmax
comp=Z,116nm,0.8s
YAK pmax pmax
comp=N,11nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,19nm,0.7s
YAK smax smax
comp=E,446nm,3.1s
YAK smax smax
comp=N,484nm,2.5s
YAK Yakutsk 57.81 2 P **P** **21 14 00.9 +0.5**
MDOK Medeo 58.03 320 *e*P **P** **21 13 59.9 -2.6**
baz=319
MDOK *e*pP **pP** **21 14 34.9 -2.7**
baz=319
MDOK *i* S **S** **21 21 49.6 -1.7**
baz=319
MDOK *e*sS **sS** **21 22 48.9 -4.3**
baz=319
MDOK Medeo 58.03 320 *e*P **P** **21 13 59.9 -2.6**
MDOK *e**PP **pP** **21 14 34.8 -2.7**
MDOK *i* S **S** **21 21 49.6 -1.7**
AAA Alma-Ata 58.13 320 *e*P **P** **21 14 04.2 +1.1**
baz=319
AAA *e*S **S** **21 21 49.7 -2.9**
baz=319
AAA *e*sS **sS** **21 22 50.9 -3.6**
baz=319
AAA Alma-Ata 58.13 320 *e*P **P** **21 14 04.1 +1.0**
AAA *e*S **S** **21 21 49.6 -2.9**
CHKK Chushkaly 58.39 320 *e*P **P** **21 14 03.7 -1.1**
baz=320
CHKK *e*pP **pP** **21 14 39.3 -0.6**
baz=320
CHKK Chushkaly 58.39 320 *e*P **P** **21 14 03.7 -1.1**
CHKK *e**PP **pP** **21 14 39.2 -0.6**
MTBS Maitube 58.41 319 *e*P **P** **21 14 04.2 -0.9**
baz=319
MTBS *e*pP **pP** **21 14 37.2 -3.0**
baz=319
MTBS *e*S **S** **21 21 53.5 -2.8**
baz=319
MTBS *e*sS **sS** **21 22 54.3 -2.8**
baz=319
MTBS Maitube 58.41 319 *e*P **P** **21 14 04.2 -0.9**
MTBS *e**PP **pP** **21 14 37.1 -3.0**
MTBS *e*S **S** **21 21 53.4 -2.8**
MA2 Magadan 58.50 15 P **P** **21 14 06.3 +1.1**
comp=N,13nm,0.8s,baz=187,slow=11,SNR=2.1
MA2 Magadan 58.50 15 P **P** **21 14 04.7 -0.5**
MA2 lAmb lAmb 21 14 30.6
comp=Z,52nm,1.1s
KUU Kurty 58.82 320 *e*P **P** **21 14 07.6 -0.2**
comp=Z,160nm,1.7s,baz=320
KUU *e*pP **pP** **21 14 41.1 -1.8**
baz=320
KUU *i* S **S** **21 21 59.7 -1.7**
comp=Z,108nm,3.6s,baz=320
KUU *e*sS **sS** **21 22 56.9 -5.8**
baz=320
KUU Kurty 58.82 320 *e*P **P** **21 14 07.6 -0.2**
KUU *e**PP **pP** **21 14 41.1 -1.8**
KUU *i* S **S** **21 21 59.6 -1.7**
KUU pmax pmax
comp=Z,160nm,1.7s
KUU smax smax
comp=E,108nm,3.6s
TKM2 Tokmak 2 58.86 319 P **P** **21 14 09.9 +1.6**
SNR=15
TKM2 Tokmak 2 58.86 319 *i* P **P** **21 14 08.2 -0.2**
TKM2 pmax pmax
comp=Z,14nm,0.6s
KBK Karagaybulak 59.18 318 P **P** **21 14 12.3 +1.8**
SNR=12
CHMS Chumysh 59.46 318 P **P** **21 14 13.1 +0.8**
SNR=6.9
AAK Ala-Archa 59.47 318 P **P** **21 14 14.5 +2.0**
SNR=5.7
AAK Ala-Archa 59.47 318 *i* P **P** **21 14 14.6 +2.1**
SNR=5.9
AAK Ala-Archa 59.47 318 *i* P **P** **21 14 12.0 -0.5**
AAK pmax pmax
comp=Z,95nm,1.7s
AAK Ala-Archa 59.47 318 P **P** **21 14 13.6 +1.1**
AAK lAmb lAmb 21 14 56.2
comp=Z,87nm,1.7s
AAK Ala-Archa 59.47 318 P **P** **21 14 12.9 +0.4**
SGDS Sogindy 59.73 319 *e*P **P** **21 14 12.7 -1.4**
baz=319
SGDS *e*pP **pP** **21 14 46.8 -3.0**
baz=319
SGDS *i* S **S** **21 22 11.4 -1.8**
comp=Z,62nm,5.8s,baz=319
SGDS *e*sS **sS** **21 23 11.8 -2.0**
baz=319
SGDS Sogindy 59.73 319 *e*P **P** **21 14 12.7 -1.4**
SGDS *e**PP **pP** **21 14 46.7 -3.0**
SGDS *i* S **S** **21 22 11.4 -1.8**
SGDS smax smax
comp=E,62nm,5.8s
USP Ospenovka 59.74 319 P **P** **21 14 15.3 +1.1**
SNR=17
AML Almayashu 59.80 317 P **P** **21 14 16.9 +1.9**
SNR=22
AML Almayashu 59.80 317 *i* P **P** **21 14 16.7 +1.6**
SNR=5.7
ZALV Zalesovo Beam 59.82 333 P **P** **21 14 13.6 -0.9**
comp=E,10.0nm,0.7s,baz=129,slow=6.3,SNR=31
ZALV pP **pP** **21 14 49.1 -0.9**
comp=E,3.6nm,0.4s,baz=122,slow=6.5,SNR=2.3
ZALV S **S** **21 22 07.9 -5.8**
comp=E,0.4nm,0.3s,baz=18,slow=30,SNR=1.4
ZALV LR LR 21 40 17.1
comp=E,259nm,21.4s,baz=126,slow=36
ZALV PKP2bc 21 43 51.0
comp=E,0.7nm,0.6s,baz=324,slow=7.3,SNR=3.9
ZALV Zalesovo Beam 59.82 333 P **P** **21 14 13.2 -1.2**
SEM Semipalatinsk 59.89 328 *e*P **P** **21 14 14.2 -1.1**
baz=328
SEM *e*pP **pP** **21 14 48.5 -2.6**
baz=328
SEM *i* S **S** **21 22 12.1 -3.2**
baz=328
SEM Semipalatinsk 59.89 328 *e*P **P** **21 14 14.2 -1.1**
SEM *e**PP **pP** **21 14 48.4 -2.6**
SEM *i* S **S** **21 22 12.0 -3.2**
ARSB Arslanbob 59.96 316 P **P** **21 14 16.1 +0.2**
ARSB pmax pmax
comp=Z,55nm,1.4s
ARSB Arslanbob 59.96 316 P **P** **21 14 16.1 +0.2**
ARSB lAmb lAmb 21 15 09.1
comp=Z,55nm,1.4s
EKS2 Erkin-Say 59.96 318 P **P** **21 14 17.7 +1.9**
SNR=20
DRK Karamyk 60.10 314 lAmb lAmb 21 14 20.5
comp=Z,26nm,0.6s
KBL Kabul 60.59 308 P **P** **21 14 19.6 -0.7**
KBL pmax pmax
comp=Z,27nm,0.9s
KBL Kabul 60.59 308 P **P** **21 14 19.6 -0.7**
KBL lAmb lAmb 21 15 08.1
comp=Z,27nm,0.9s
KBL Kabul 60.59 308 P **P** **21 14 20.1 -0.2**
SNR=12
KBL P **P** **21 14 20.1 -0.2**
SNR=12
BTLS Baital 60.80 320 *e*P **P** **21 14 20.5 -0.8**
baz=320
BTLS *e*pP **pP** **21 14 54.4 -2.6**
baz=320
BTLS *i* S **S** **21 22 25.0 -1.6**
comp=Z,29nm,3.0s,baz=320
BTLS *e*sS **sS** **21 23 20.7 -6.0**
baz=320
BTLS Baital 60.80 320 *e*P **P** **21 14 20.5 -0.8**
BTLS *e**PP **pP** **21 14 54.4 -2.6**
BTLS *i* S **S** **21 22 25.0 -1.6**
BTLS smax smax
comp=E,29nm,3.0s
BTK Batken 61.01 314 lAmb lAmb 21 15 13.4
comp=Z,94nm,1.4s
DZA Taraz 61.70 317 *e*P **P** **21 14 27.2 -0.3**
baz=317
DZA *e*S **S** **21 22 35.5 -2.7**
baz=317
DZA *i* sS **sS** **21 23 36.0 -2.5**
baz=317
DZA Taraz 61.70 317 *e*P **P** **21 14 27.2 -0.3**
DZA *e*S **S** **21 22 35.4 -2.7**
SEY Seymchan 61.81 13 P **P** **21 14 29.5 +1.8**
comp=Z,9.1nm,0.9s,baz=228,slow=4.1,SNR=15
KK31 Karatay Array 62.34 317 *i* P **P** **21 14 31.3 -0.4**
KK31 pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 62.34 317 lAmb lAmb 21 14 33.8
comp=Z,111nm,1.9s
KKAR Karatay Array 62.34 317 P **P** **21 14 31.3 -0.4**
KKAR pmax pmax
comp=Z,111nm,1.9s
KKAR Karatay Array 62.34 317 P **P** **21 14 31.6 -0.1**
KKAR lAmb lAmb 21 14 33.8
comp=Z,111nm,1.9s
KKAR Karatay Array 62.34 317 P **P** **21 14 31.3 -0.4**
LBZ Lake Benmore 62.51 146 P **P** **21 14 34.2 +1.4**
LBZ lAmb lAmb 21 14 35.9
comp=Z,56nm,0.9s
OTUK Ortayu 63.27 323 *i* P **P** **21 14 37.4 -0.3**
OTUK pmax pmax
comp=Z,18nm,0.7s
BKZ Black Stump Fm 63.47 138 P **P** **21 14 39.1 -0.1**
BKZ lAmb lAmb 21 14 52.8
comp=Z,57nm,0.9s
BRZS Berezniki 63.85 325 *e*P **P** **21 14 40.8 -0.7**
comp=Z,8.1nm,0.6s,baz=325
BRZS *i* S **S** **21 23 03.1 -1.5**
comp=Z,30nm,2.5s,baz=325
BRZS *e*sS **sS** **21 24 03.8 -4.1**
baz=325
BRZS Berezniki 63.85 325 *e*P **P** **21 14 40.8 -0.7**
BRZS *i* S **S** **21 23 03.1 -1.5**
BRZS pmax pmax
comp=Z,8.0nm,0.6s
BRZS smax smax
comp=E,30nm,2.5s
AMKA Amchitka 64.62 34 P **P** **21 14 47.9 +1.5**
HRA Herat 66.00 306 lAmb lAmb 21 14 57.2
comp=Z,119nm,2.0s
BRVK Borovoye 66.57 327 P **P** **21 14 58.6 -0.3**
BRVK pmax pmax
comp=Z,53nm,1.2s
BRVK Borovoye 66.57 327 P **P** **21 14 58.6 -0.3**
BRVK lAmb lAmb 21 15 41.0
comp=Z,52nm,1.1s
BRVK Borovoye 66.57 327 P **P** **21 14 58.9 0.0**
JLN Jalan Bani Buh 66.66 292 P **P** **21 14 59.2 -0.9**
WBK Wadi Bani Khal 67.11 293 P **P** **21 15 01.9 -1.0**
TIXI Tiksi 67.43 1 P **P** **21 15 04.6 +0.6**
comp=Z,20nm,0.3s,baz=168,slow=4.1,SNR=88
TIXI S **S** **21 23 44.4 -2.8**
comp=Z,1.9nm,0.8s,baz=171,slow=5.2,SNR=3.9
TIXI Tiksi 67.43 1 P **P** **21 15 03.8 -0.1**
TIXI pmax pmax
comp=Z,31nm,0.9s
TIXI Tiksi 67.43 1 P **P** **21 15 03.8 -0.1**
TIXI lAmb lAmb 21 15 22.1
comp=Z,31nm,0.9s
WSAR Wadi Sarin 67.48 293 P **P** **21 15 04.7 -0.5**
JMDO Jabal Madar 67.89 292 P **P** **21 15 07.1 -0.7**
MHTO MHTO 67.91 291 P **P** **21 15 07.1 -0.8**
SNR=8.4
MHTO P **P** **21 15 07.1 -0.8**
SNR=8.4
BIDO Bidbid 67.96 294 P **P** **21 15 07.7 -0.6**
SNR=6.2
SMDO Samad 67.99 293 P **P** **21 15 07.5 -1.2**
DQM DQM 68.24 290 P **P** **21 15 09.1 -0.9**
SNR=6.0
ATKA Atka Island 68.63 35 P **P** **21 15 12.6 +0.8**
HOQ Hoqain 68.71 294 P **P** **21 15 12.1 -0.9**
SNR=5.6
HOQ P **P** **21 15 12.1 -0.9**
SNR=5.6
BSY Bisya 68.75 293 P **P** **21 15 12.4 -0.8**
BILL Bilibino 69.36 15 *i* P **P** **21 15 16.9 +0.9**
BILL 21 15 40.0
BILL *i**PP **pP** **21 15 49.6 -2.6**
BILL *i* S **S** **21 24 08.9 -1.3**
BILL *e*SS **SS** **21 28 46.2 +6.0**
BILL pmax pmax
comp=Z,11nm,1.1s
ARQ Araqi 69.42 293 P **P** **21 15 16.7 -0.7**
SOHO SOHO 69.47 294 P **P** **21 15 16.5 -1.1**
MDH Madha 69.78 295 P **P** **21 15 19.3 -0.2**
NRIK Noril'sk 69.81 346 P **P** **21 15 19.8 +1.0**
comp=Z,26nm,0.5s,baz=124,slow=5.8,SNR=34
NRIK PcP **PcP** **21 15 41.9 +1.5**
comp=Z,9.7nm,0.4s,baz=140,slow=5.5,SNR=5.0
NRIK pP **pP** **21 15 55.4 -0.3**
comp=Z,10nm,0.6s,baz=135,slow=7.9,SNR=2.1
NRIK S **S** **21 24 13.4 -2.1**
comp=Z,2.9nm,0.7s,baz=273,slow=22,SNR=6.1
NRIK LR LR 21 48 39.8
comp=Z,714nm,19.5s,baz=148,slow=38
NRIK Noril'sk 69.81 346*c**e*P **P** **21 15 19.3 +0.5**
NRIK pmax pmax
comp=Z,22nm,0.6s
NRIK Noril'sk 69.81 346 P **P** **21 15 19.7 +0.9**
NRIK lAmb lAmb 21 15 21.8
comp=Z,26nm,0.6s
BANOM Banah 69.84 296 P **P** **21 15 20.3 +0.4**
BANOM Banah 69.84 296 P **P** **21 15 19.4 -0.4**
UOSS Minazif 69.84 295 P **P** **21 15 20.0 +0.2**
UOSS Minazif 69.84 295 P **P** **21 15 18.8 -1.1**
HATD Hatta, Dubai 69.89 295 P **P** **21 15 20.7 +0.5**
HATD Hatta, Dubai 69.89 295 P **P** **21 15 19.5 -0.7**
MASF Masafi 69.91 295 P **P** **21 15 19.7 -0.6**
ASHO Ashiyiah 69.95 295 P **P** **21 15 20.1 -0.5**
ASHO Ashiyiah 69.95 295 P **P** **21 15 19.9 -0.7**
SHAO Shalim 69.95 288 P **P** **21 15 21.7 +1.0**
GEYT Alibeck 69.97 309 P **P** **21 15 20.6 +0.2**
comp=Z,4.7nm,0.6s,baz=183,slow=13,SNR=7.8
GEYT S **S** **21 24 19.7 +1.1**
comp=Z,2.4nm,0.7s,baz=316,slow=38,SNR=1.8
GEYT Alibeck 69.97 309 P **P** **21 15 20.8 +0.3**
SHME Shamm 69.99 296 P **P** **21 15 22.0 +1.2**
SHME Shamm 69.99 296 P **P** **21 15 20.4 -0.4**
ALNE Al Ain 70.18 294 *i* P **P** **21 15 22.5 +0.6**
SNR=6.9
ALNE Al Ain 70.18 294 P **P** **21 15 21.5 -0.4**
SNR=11
FAQ Al Faqa, Dubai 70.37 295 P **P** **21 15 22.1 -1.1**
DMTO DMTO 70.59 287 P **P** **21 15 25.0 +0.5**
ASUD Al Ashush, Dub 70.60 295 P **P** **21 15 24.4 -0.1**
UMZA Um Al Zommool 70.62 292 P **P** **21 15 23.8 -0.8**
AJN Ajban 70.91 294 P **P** **21 15 25.5 -0.9**
CASY Casey 71.14 186 P **P** **21 15 27.8 +0.9**
ABKAR Akbulak array 71.28 321 P **P** **21 15 27.2 -0.9**
GHWR Ruwais 72.79 294 P **P** **21 15 37.0 -0.6**
JRN Qarnain Island 72.87 295 P **P** **21 15 37.0 -1.1**
SVE Sverdlovsk 73.15 329 *e*P **P** **21 15 39.1 0.0**
SLWR Sila 73.88 294 P **P** **21 15 43.3 -0.6**
AKUT Akutan 74.05 35 lAmb lAmb 21 15 46.2
comp=Z,65nm,0.8s
ARU Arti 74.12 328*c* *i* P **P** **21 15 43.8 -0.9**
ARU 21 15 56.8
ARU *PP **pP** **21 16 20.7 -1.4**
ARU *SP **sP** **21 16 36.1 -2.3**
ARU 21 18 30.0
ARU S **S** **21 25 05.8 +0.6**
ARU 21 25 51.8
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU MLR MLR
comp=Z,398nm,21.0s
ARU Arti 74.12 328 P **P** **21 15 43.8 -0.9**
TRNA Turayna 74.35 294 P **P** **21 15 46.0 -0.7**
SDPT Sand Point 77.31 34 P **P** **21 16 03.7 +0.9**
POHA Pohakuloa 77.87 71 P **P** **21 16 09.4 +2.4**
POHA lAmb lAmb 21 16 10.8
comp=Z,86nm,0.8s
HMH Humu'ula Sheep 77.92 71 P **P** **21 16 10.1 +2.7**
MLH Mauna Loa 78.01 71 P **P** **21 16 09.9 +2.1**
MAK Makhachkala 78.67 313 *e*P **P** **21 16 07.3 -3.3**
MAK *e**PP **pP** **21 16 44.4 -3.5**
MAK *e*SP **sP** **21 16 59.7 -4.2**
MAK *e*S **S** **21 25 50.9 -4.3**
MAK *e**SS **sS** **21 26 58.4 +0.9**
MAK *e*SSS SSS 21 34 16.0
MAK pmax pmax
comp=Z,247nm,1.4s
MAK MLR MLR
comp=Z,261nm,20.0s
KIRV Kirov 79.42 329 *i* P **P** **21 16 13.7 -0.6**
RAYN Ar Rayn 79.53 293 *i* P **P** **21 16 15.2 -0.6**
SNR=32
RAYN Ar Rayn 79.53 293 P **P** **21 16 15.0 -0.8**
RAYN pmax pmax
comp=Z,30nm,0.9s
RAYN Ar Rayn 79.53 293 P **P** **21 16 15.0 -0.8**
GROC Groznyy 79.94 313 *e*P **P** **21 16 18.1 +0.6**
GROC *e* **21 16 25.0**
GROC *e**PP **pP** **21 16 52.5 -2.4**
GROC *e**SP **sP** **21 17 09.7 -1.2**
GROC *e* 21 19 21.5
GROC *e*S **S** **21 26 06.5 -2.1**
GROC *e**SS **sS** **21 27 16.7 +5.6**
CHIR Chirikof Islan 80.11 34 lAmb lAmb 21 16 21.2
comp=Z,54nm,0.7s
GNI Garni 80.56 310 *i* P **P** **21 16 19.0 -2.1**
GNI pmax pmax
comp=Z,37nm,1.5s
OPO Ambohidratompo 80.64 251 P **P** **21 16 21.8 -0.1**
comp=Z,19nm,0.7s,baz=77,slow=7.0,SNR=5.1
ABPO Ambohimpanom 80.66 250 P **P** **21 16 21.4 -0.7**
ABPO pmax pmax
comp=Z,35nm,0.8s
ABPO Ambohimpanom 80.66 250 P **P** **21 16 21.4 -0.7**
ABPO lAmb lAmb 21 16 23.8
comp=Z,35nm,0.8s
ZEI Tsey 81.30 312 *e*P **P** **21 16 24.7 -0.4**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
VOI Vohitsoka 81.45 247 P **P** **21 16 25.3 -0.9**
VOI lAmb lAmb 21 16 27.0
comp=Z,66nm,0.7s
AKH Akhalkalaki 81.55 311 ⇓*i* P **P** **21 16 27.7 +1.3**
NCK Nalchik 81.55 313 *i* P **P** **21 16 26.3 +0.2**
NCK pmax pmax
comp=Z,6.0nm,0.8s
PRGR Permogore 81.72 332 *e*P **P** **21 16 24.3 -2.3**
PRGR *e**PP **pP** **21 17 01.1 -3.4**
PRGR *e*S **S** **21 26 22.6 -3.8**
PRGR pmax pmax
comp=Z,18nm,0.9s
KARS Kars 81.84 310 lAmb lAmb 21 17 13.9
comp=Z,95nm,1.0s
KBZ Khabaz 82.07 313 P **P** **21 16 28.6 -0.2**
comp=Z,1.6nm,0.6s,baz=77,slow=7.5,SNR=5.0
KBZ S **S** **21 26 27.5 -3.2**
comp=Z,1.0nm,0.8s,baz=18,slow=4.7,SNR=1.3
KBZ LR LR 21 58 10.2
comp=Z,233nm,19.5s,baz=62,slow=39
KBZ Khabaz 82.07 313*c* *i* P **P** **21 16 28.5 -0.2**
KBZ pmax pmax
comp=Z,10.0nm,2.0s
KIV Kislovodsk 82.23 314 *e*P **P** **21 16 29.2 -0.6**
KIV *e*S **S** **21 26 32.0 -0.6**
KIV pmax pmax
comp=Z,19nm,1.0s
ATD Arta Tunnel 82.36 281 P **P** **21 16 31.9 +1.0**
GURO Guroymak-BITLI 82.61 308 lAmb lAmb 21 17 19.5
comp=Z,49nm,1.3s
VRH Novokhopyorsk 83.11 321 *e*P **P** **21 16 33.3 -0.7**
VRH *e**PP **pP** **21 17 15.1 +3.0**
VRH pmax pmax
comp=Z,20nm,0.6s
MAW Mawson 83.86 200 P **P** **21 16 38.6 +1.2**
comp=Z,27nm,0.8s,baz=67,slow=5.4,SNR=41
MAW Mawson 83.86 200 P **P** **21 16 38.5 +1.0**
baz=84,SNR=41
MAW Mawson 83.86 200 P **P** **21 16 38.4 +1.0**
VNDA Vanda 83.96 173 P **P** **21 16 39.0 +1.2**
comp=Z,38nm,0.5s,baz=318,slow=6.2,SNR=541
VNDA S **S** **21 26 43.5 -4.9**
comp=Z,0.6nm,0.9s,baz=138,slow=18,SNR=6.3
VNDA LR LR 21 52 29.1
comp=Z,162nm,21.9s,baz=334,slow=34
VNDA Vanda 83.96 173 P **P** **21 16 39.0 +1.2**
VNDA Vanda 83.96 173 P **P** **21 16 38.6 +0.9**
SOC Sochi 84.38 313*c* *i* P **P** **21 16 38.6 -2.0**
SOC *e**SP **sP** **21 17 29.5 -4.7**
SOC *e*S **S** **21 26 47.0 -6.9**
SOC *e*SS **SS** **21 32 26.8 -0.6**
SOC *e*SSS SSS 21 35 59.2
SOC pmax pmax
comp=Z,11nm,0.5s
KLMR Klimovskoe 84.61 331*c* *i* P **P** **21 16 41.1 -0.3**
KLMR pmax pmax
comp=Z,52nm,1.5s
KLMR Klimovskoe 84.61 331 ⇑*i* P **P** **21 16 41.2 -0.2**
KLMR ⇓*i* P **P** **21 16 41.2 -0.2**
KLMR ⇓*i* P **P** **21 16 41.2 -0.2**
KLMR AMP 21 16 43.8
comp=Z,52nm,1.5s
VORD Divnogorie 84.64 321 *e*P **P** **21 16 41.2 -0.6**
VORD *e**PP **pP** **21 17 20.7 +1.0**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 84.72 321 *e*P **P** **21 16 40.0 -2.2**
VSR *e**PP **pP** **21 17 19.5 -0.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 84.87 322 *e*P **P** **21 16 41.7 -1.2**
LPSR *e**PP **pP** **21 17 22.1 +1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SBA Scott Base 84.88 172 P **P** **21 16 43.8 +1.4**
SBA pmax pmax
comp=Z,157nm,1.7s
SBA Scott Base 84.88 172 P **P** **21 16 43.8 +1.4**
SBA lAmb lAmb 21 16 46.3
comp=Z,157nm,1.7s
ILAR Eielson Array 85.08 25 S **S** **21 26 51.4 -8.7**
comp=Z,0.2nm,0.5s,baz=122,slow=27,SNR=1.5
ILAR PKKP 21 34 44.2
comp=Z,0.6nm,0.8s,baz=20,slow=1.7,SNR=4.6
ILAR LR LR 21 55 18.9
comp=Z,143nm,19.4s,baz=265,slow=36
MOS Moscow 85.61 325 *e*P **P** **21 16 45.3 -1.1**
MOS *e**PP **pP** **21 17 23.4 -1.4**
MOS *e* 21 20 03.9
MOS *e*S **SKSac** **21 26 52.9 -4.5**
MOS *e**SS **pS** **21 27 58.9 +7.0**
MOS pmax pmax
comp=Z,45nm,0.6s
ANN Anapa 85.99 314 *e*P **P** **21 16 45.3 -3.3**
ANN *e**PP **pP** **21 17 21.7 -5.1**
ANN *e*S **SKSac** **21 26 54.3 -6.0**
ANN pmax pmax
comp=Z,29nm,0.6s
PPT Papeete 86.05 108 LR LR 21 49 40.4
comp=Z,107nm,21.8s,baz=280,slow=32
PPT2 Papeete2 86.05 108 *e*S **S** **21 27 10.7 -0.8**
comp=Z,1μm,26.8s
PPT2 Papeete2 86.05 108 *e*LR LR 21 44 17.0
comp=Z,861nm,29.8s
OBN Obninsk 86.22 325*c**e*P **P** **21 16 49.1 -0.4**
OBN *e* 21 17 29.8
OBN 21 20 14.0
OBN *i* S **SKSac** **21 26 58.1 -3.1**
OBN *i* 21 27 11.0
OBN *e*SS **SS** **21 32 48.2 -5.6**
OBN pmax pmax
comp=Z,31nm,0.6s
OBN MLR MLR
comp=Z,430nm,19.0s
OBN Obninsk 86.22 325 P **P** **21 16 49.1 -0.4**
OBN lAmb lAmb 21 16 51.5
comp=Z,41nm,0.5s
TBI Tubuai 86.74 114 *e*S **S** **21 27 16.2 -1.6**
comp=Z,620nm,34.5s
TBI Tubuai 86.74 114 *e*LR LR 21 44 35.3
comp=Z,943nm,32.5s
KIBK Kibwezi 88.01 268 P **P** **21 16 59.5 +0.3**
KIBK lAmb lAmb 21 17 02.7
comp=Z,26nm,1.0s
KIBK Kibwezi 88.01 268 P **P** **21 16 59.8 +0.7**
SNR=5.8
GHAJ Ghor Haditha 88.13 301 lAmb lAmb 21 17 45.6
comp=Z,56nm,1.2s
HOPEN Hopen 88.52 347 *e*P **P** **21 17 00.8 +0.8**

KMBO	Kilima Mbogo	88.71	269	P	P	21 17 03.2	+0.6	
	comp=Z,14nm,1.0s,baz=74,slow=7.5,SNR=26							
EIL	Elat	88.77	299	S	SKSac	21 27 17.0	-0.8	
	comp=Z,1.1nm,0.6s,baz=127,slow=13,SNR=1.3							
BR131	Keskin Array S	89.09	310	P	P	21 17 03.1	-0.7	
	SNR=6.0							
BRTR	Keskin Array B	89.09	310	P	P	21 17 02.5	-1.2	
	comp=Z,3.2nm,0.6s,baz=131,slow=4.6,SNR=32							
BRTR				pP	pP	21 17 41.2	-0.9	
	comp=Z,3.0nm,0.8s,baz=122,slow=6.6,SNR=3.7							
BRTR				LR	LR	22 02 45.2		
	comp=Z,222nm,21.1s,baz=72,slow=39							
ARA0	ARCESS Array S	89.75	340	eP	P	21 17 06.6	+0.5	
ARCES	ARCESS Array B	89.75	340	P	P	21 17 05.8	-0.2	
	comp=Z,14nm,0.8s,baz=81,slow=5.5,SNR=21							
ARCES				LR	LR	22 01 20.4		
	comp=Z,234nm,20.4s,baz=80,slow=38							
ARCES	ARCESS Array B	89.75	340	P	P	21 17 06.0	0.0	
ARCES				pmax	pmax			
	comp=Z,15nm,0.8s							
ARCES	ARCESS Array B	89.75	340	P	P	21 17 06.0	0.0	
SPA0	Spitsbergen Ar	89.89	349	eP	P	21 17 07.2	+0.6	
INK	Inuvik	90.07	21	PKKPbc	PKKPbc	21 34 38.0	-2.5	
	comp=Z,3.9nm,0.6s,baz=65,slow=4.1,SNR=13							
HAMF	Hammerfest	90.13	341	eP	P	21 17 08.2	+0.5	
LODK	Lodwar	90.27	273	P	P	21 17 09.2	-0.5	
LODK	Lodwar	90.27	273	P	P	21 17 09.9	+0.3	
	SNR=6.3							
KBS	Kingsbay	90.43	350	eP	P	21 17 09.5	+0.5	
KTK1	Kautokeino	90.65	339	eP	P	21 17 10.6	+0.3	
AKASG	Malin Array Be	91.03	321	P	P	21 17 11.1	-1.2	
	comp=Z,3.9nm,0.5s,baz=66,slow=4.9,SNR=20							
AKASG				pP	pP	21 17 49.8	-0.8	
	comp=Z,0.4nm,0.3s,baz=63,slow=4.4,SNR=2.0							
AKASG	Malin Array Be	91.03	321	P	P	21 17 11.1	-1.2	
AKASG				pmax	pmax			
	comp=Z,7.0nm,1.3s							
AKASG	Malin Array Be	91.03	321	P	P	21 17 11.1	-1.2	
FINES	FINESS Array B	91.05	332	P	P	21 17 11.9	-0.3	
	comp=Z,7.0nm,0.6s,baz=54,slow=6.0,SNR=55							
FINES				LR	LR	22 01 43.7		
	comp=Z,368nm,19.2s,baz=72,slow=38							
VSU	Vasula	91.26	329	eP	P	21 17 13.4	+0.2	
MNK	Minsk	91.28	325	i P	P	21 17 17.5	+4.1	
MNK				i *PP	pP	21 17 55.5	+3.5	
MNK				i		21 21 01.1		
MNK				i PPP	PPP	21 23 02.0		
MNK				i PS	PS	21 29 42.2	+15	
MNK				pmax	pmax			
	comp=Z,21nm,0.9s							
MNK				pmax	pmax			
	comp=E,2.0nm,0.9s							
MNK				pmax	pmax			
	comp=N,9.0nm,0.7s							
MNK				MLR	MLR			
	comp=E,33nm,22.0s							
MNK				MLR	MLR			
	comp=Z,226nm,23.0s							
MNK				MLR	MLR			
	comp=N,237nm,21.0s							
MNK	Minsk	91.28	325	i P	P	21 17 17.5	+4.1	
	comp=E,2.0nm,0.8s							
MNK				i P	P	21 17 17.5	+4.1	
	comp=N,9.0nm,0.7s							
MNK				i P	P	21 17 17.5	+4.1	
	comp=Z,21nm,0.9s,baz=261							
MNK				i pP	pP	21 17 55.5	+3.5	
MNK				i PP	PP	21 21 01.1	+8.6	
MNK				i PPP	PPP	21 23 02.1		
MNK				i S	SKSac	21 27 36.5	+5.2	
MNK				i PS	PnS	21 29 42.2	+13	
MNK				i SS	SS	21 34 27.8	+21	
MNK				i SSS	SSS	21 38 08.7		
MNK				i LR	LR	21 50 35.9		
MNK				i LRM	MLR	21 59 17.2		
	comp=E,33nm,22.0s							
MNK				i LRM	MLR	22 00 13.6		
	comp=N,237nm,21.3s							
MNK				i LRM	MLR	22 00 13.6		
	comp=Z,226nm,23.0s							
JETT	Jettan, Norway	91.49	340	eP	P	21 17 14.8	+0.6	
IDID	Didziasalis	91.80	326	eP	P	21 17 16.3	+0.5	
NACGM	Naroch	91.85	325	i P	P	21 17 15.4	-0.6	
SORM	Soroca	91.95	318	⇑P	P	21 17 15.3	-1.3	
TRO	Tromso	91.97	340	eP	P	21 17 16.9	+0.7	
MEF	Metsahovi	92.10	331	eP	P	21 17 16.8	-0.3	
ELL	Elmali	92.32	307	lAmb	lAmb	21 18 17.8		
	comp=Z,39nm,1.2s							
SYO	Syowa Base	92.52	201	⇓eP	P	21 17 18.4	-0.3	
SYO	Syowa Base	92.52	201	⇑ePcP	PcP	21 17 19.5	+0.1	
SYO	Syowa Base	92.52	201	⇓epP	pP	21 17 58.2	+0.8	
NOR	Nord	92.59	355	i P	P	21 17 18.5	-0.4	
NOR				lAmb	lAmb	21 17 22.6		
	comp=Z,6.4nm,0.8s							
NOR	Nord	92.59	355	i P	P	21 17 19.2	+0.2	
NOR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HARR	Harsova	92.74	315	⇓P	P	21 17 20.4	+0.1	
RAF	Rauma	93.18	332	eP	P	21 17 21.7	-0.3	
PABE	Paberze	93.32	326	eP	P	21 17 22.6	-0.1	
PABE	Paberze	93.32	326	P	P	21 17 22.0	-0.8	
TESR	Tescani	93.35	317	⇑P	P	21 17 22.7	-0.5	
VRI	Vrincioaia	93.40	316	⇑P	P	21 17 22.9	-0.5	
PLOR	Plostina	93.45	316	⇑P	P	21 17 22.8	-0.9	
H02S1	DAWSON INLET T	93.64	36	T	T	23 02 35.5		
	SNR=6.8							
BIZ	Bicaz	93.64	317	⇑P	P	21 17 22.4	-2.1	
NEHR	Nehoiu	93.77	316	⇑P	P	21 17 25.2	0.0	
STEI	Steigen	93.79	339	eP	P	21 17 24.7	0.0	
DLBC	Dease Lake	93.81	31	P	P	21 17 26.2	+1.1	
	comp=Z,8.7nm,0.7s,baz=308,slow=8.8,SNR=11							
DLBC	Dease Lake	93.81	31	lAmb	lAmb	21 17 28.4		
	comp=Z,13nm,1.0s							
FAUS	Fauske	93.97	339	eP	P	21 17 26.2	+0.7	
MLR	Muntele Rosu	94.00	316	⇑P	P	21 17 25.8	-0.6	
QSPA	South Pole Qui	94.06	180	P	P	21 17 27.2	+1.1	
	comp=Z,31nm,0.7s,baz=300,slow=1.3,SNR=14							
QSPA	South Pole Qui	94.06	180	P	P	21 17 26.7	+0.6	
SUW	Suwalki	94.08	325	eP	P	21 17 25.8	-0.5	
SUW	Suwalki	94.08	325	lAmb	lAmb	21 18 09.1		
	comp=Z,37nm,1.1s							
BURAR	Bucovina Array	94.12	318	P	P	21 17 26.5	-0.3	
BURAR				lAmb	lAmb	21 17 27.9		
	comp=Z,9.7nm,0.6s							
AAL	Aland	94.25	331	eP	P	21 17 25.9	-1.0	
LOF	Lofoten	94.31	340	eP	P	21 17 27.1	0.0	
TAOE	Nuku Hiva Isla	94.55	99	eLR	LR	21 48 07.1		
	comp=Z,803nm,29.7s							
VOIR		94.63	316	⇑P	P	21 17 28.2	-0.9	
LOT	Lotru	95.52	316	⇑P	P	21 17 33.5	+0.2	
KOLS	Kolonicke sedl	95.77	320	i P	P	21 17 34.4	+0.2	
KOLS	Kolonicke sedl	95.77	320	ePDIFF	P	21 17 34.4	+0.2	
UZH	Uzhgorod	95.83	320	eP	P	21 17 34.7	+0.3	
UZH				e		21 18 12.9		
UZH				i S	S	21 28 35.1	-4.1	
UZH				MLR	MLR			
	comp=N,80nm,18.0s							
UZH				MLR	MLR			
	comp=E,60nm,18.0s							
UZH				MLR	MLR			
	comp=Z,50nm,18.0s							
GZR	Gura Zlata	96.21	316	⇑P	P	21 17 36.8	+0.4	
CRVS	Cervenica-Dubn	96.30	320	i P	P	21 17 37.5	+0.9	
CRVS	Cervenica-Dubn	96.30	320	ePDIFF	P	21 17 37.5	+0.9	
NSS	Namsos	96.31	337	eP	P	21 17 35.7	-0.5	
VTS	Vitosha	96.46	314	⇓P	P	21 17 37.0	-0.7	
DAG	Danmarks Havn	96.72	352	i P	P	21 17 36.8	-1.1	
DAG				lAmb	lAmb	21 17 40.8		
	comp=Z,6.0nm,0.6s							
DAG	Danmarks Havn	96.72	352	i P	P	21 17 37.0	-0.9	
DAG				e		21 18 11.8		
DAG				pmax	pmax			
	comp=Z,6.0nm,0.6s							
SIRR	Siria	96.78	317	⇑P	P	21 17 38.5	-0.4	
BZS	Buzias	96.96	317	⇓P	P	21 17 38.8	-0.8	
MDVR	Moldovita	97.08	316	⇑P	P	21 17 39.9	-0.4	
LIT	Litokhoron	97.52	311	P	P	21 17 40.6	-1.8	
LIT				pmax	pmax			
	comp=Z,35nm,2.0s							
LIT	Litokhoron	97.52	311	P	P	21 17 40.6	-1.8	
LIT				lAmb	lAmb	21 17 41.8		
	comp=Z,35nm,2.0s							
NC602	NORSAR Array S	98.00	333	ePdif	P	21 17 43.3	-0.7	
NB2	NORSAR Subarra	98.03	333	P	P	21 17 43.0	-1.1	
	baz=67,slow=4.6							
NOA	NORSAR Array B	98.03	333	P	P	21 17 43.4	-0.8	
	comp=Z,4.0nm,0.6s,baz=67,slow=4.5,SNR=28							
NOA				LR	LR	22 06 19.9		
	comp=Z,202nm,18.8s,baz=60,slow=38							
VYHS	Vyhne	98.08	320	i P	Pdif	21 17 45.2	+0.5	
MATP	Matopo	98.35	250	P	P	21 17 45.7	-0.9	
	comp=Z,8.3nm,0.9s,baz=88,slow=3.5,SNR=20							
NEEM	North Greenlan	98.48	359	i P	P	21 17 45.7	-0.5	
NEEM				lAmb	lAmb	21 17 47.8		
	comp=Z,5.5nm,0.7s							
LSZ	Lusaka	98.50	255	P	P	21 17 46.5	-0.8	
	comp=Z,6.7nm,0.6s,baz=115,slow=4.2,SNR=23							
DOMB	Dombas	98.54	335	ePdif	Pdif	21 17 46.6	+0.2	
DBG	Daneborg	98.97	351	i P	Pdif	21 17 48.2	+0.1	
DBG				lAmb	lAmb	21 17 51.9		
	comp=Z,6.0nm,1.2s							
KONO	Kongsberg	99.33	333	ePdif	Pdif	21 17 50.2	+0.3	
AKN	Aaknes	99.34	335	ePdif	Pdif	21 17 49.4	-0.5	
YKA	Yellowknife Ar	99.46	24	PKKPbc	PKKPbc	21 34 12.5	-2.9	
	comp=Z,0.8nm,0.5s,baz=115,slow=3.1,SNR=7.7							
YKA				LR	LR	22 03 57.4		
	comp=Z,105nm,21.0s,baz=0.0,slow=36							
SKAR	Skarslia	99.47	334	ePdif	Pdif	21 17 51.0	+0.4	
BRG	Berggiesshubel	100.39	323	⇓Piff	Pdif	21 17 55.0	+0.2	
BRG	Berggiesshubel	100.39	323	eP	Pdif	21 18 33.3	+38	
BRG				Amp		21 18 37.9		
	comp=Z,3.0nm,1.0s							
BRG	Berggiesshubel	100.39	323	SS	SS	21 36 22.0	+6.1	
BRG				Amp		21 58 51.0		
	comp=N,0.3nm,23.8s							
BRG				Amp		21 59 12.0		
	comp=Z,0.3nm,24.4s							
BRG				Amp		21 59 24.0		
	comp=E,0.3nm,22.7s							
CLL	Collm	100.79	324	ePdif	Pdif	21 17 56.0	-0.6	
CLL				i		21 18 37.8		
CLL				e		21 18 59.0		
CLL				ePP	PP	21 22 05.0	-0.8	
CLL				epPP		21 22 42.0		
CLL				eSKSac	SKSac	21 28 20.0	-1.3	
CLL				eSdif	Sdif	21 29 21.0	-0.1	
CLL				eSdiff	pS	21 30 18.0	+8.0	
CLL				ePPS	PPS	21 31 48.0		
CLL				eSS	SS	21 36 24.0	+2.5	
CLL				e		21 41 42.0		
CLL				e(SSSS)		21 43 06.0		
CLL				e		21 46 36.0		
CLL				LmH		22 03 00.0		
	comp=N,400nm,21.4s							
CLL				LmH		22 03 00.0		
	comp=E,200nm,20.9s							
CLL	Collm	100.79	324	eP	Pdif	21 17 56.0	-0.6	
CLL				e		21 28 20.0		
CLL				eS	Sdif	21 29 17.0	-4.1	
BLS5	Blasjo	100.87	333	ePdif	Pdif	21 17 57.0	+0.2	
LBTB	Lobatse	101.06	245	P	Pdif	21 17 58.2	-0.3	
	comp=E,6.6nm,0.8s,baz=102,slow=2.7,SNR=7.6							
GERES	GERESS Array B	101.22	321	P	Pdif	21 17 58.9	+0.2	
	comp=E,0.6nm,0.5s,baz=56,slow=6.2,SNR=6.5							
GERES	GERESS Array B	101.22	321	Pdif	Pdif	21 17 58.7	-0.1	
BOSA	Boshof	101.31	242	P	Pdif	21 17 59.1	-0.4	
	comp=E,1.9nm,0.5s,baz=106,slow=3.4,SNR=12							
SNAA	Sanae	105.41	195	P	Pdif	21 18 10.1	-6.7	
SNAA	Sanae	105.41	195	PP	PP	21 22 39.3	-0.5	
	comp=E,14nm,1.0s,baz=127,slow=7.7,SNR=14							
NVAR	Mina Array Bea	107.25	48	PP	PP	21 22 55.0	+0.5	
	comp=E,2.2nm,1.0s,baz=273,slow=7.0,SNR=4.4							
NVAR				PKKPbc	PKKPbc	21 33 52.0	+0.2	
	comp=E,1.9nm,0.6s,baz=133,slow=4.0,SNR=17							
NVAR				PKKPab	PKKPab	21 34 06.5	-0.2	
	comp=E,4.0nm,0.7s,baz=121,slow=4.2,SNR=17							
ELK	Elko	108.61	45	PKKPbc	PKKPbc	21 33 47.1	-0.5	
	comp=E,2.1nm,0.6s,baz=81,slow=2.4,SNR=10							
ELK				PKKPab	PKKPab	21 34 00.5	-0.2	
	comp=E,0.8nm,0.3s,baz=118,slow=3.7,SNR=7.5							
PFO	Pinyon Flats O	110.28	52	PKKPab	PKKPab	21 33 53.7	+0.6	
	comp=E,3.7nm,0.8s,baz=126,slow=3.0,SNR=7.4							
PDAR	Pinedale Array	111.59	41	PP	PP	21 23 24.9	-0.7	
	comp=E,0.4nm,0.7s,baz=289,slow=2.8,SNR=3.6							
PDAR				PKKPbc	PKKPbc	21 33 35.5	-2.7	
	comp=E,1.4nm,0.5s,baz=126,slow=5.5,SNR=14							
PDAR				PKKPab	PKKPab	21 33 46.2	-1.3	
	comp=E,4.1nm,0.6s,baz=117,slow=6.5,SNR=22							
ANMO	Albuquerque	117.36	47	PKP	PKiKP	21 22 55.2	+1.7	
	comp=E,1.0nm,0.5s,baz=267,slow=4.2,SNR=3.7							
ANMO	Albuquerque	117.36	47	PKiKP	PKiKP	21 22 55.5	+2.0	
SCHQ	Schefferville	120.27	8	PKP	PKPdf	21 22 58.2	-0.1	
	comp=E,1.0nm,0.3s,baz=38,slow=6.5,SNR=6.2							
SCHQ				SKP		21 26 20.2		
	comp=E,1.9nm,0.6s,baz=270,slow=1.0,SNR=1.8							
SCHQ				PKKPbc	PKKPbc	21 33 05.8	-2.4	
	comp=E,2.2nm,0.8s,baz=168,slow=7.9,SNR=3.5							
SCHQ	Schefferville	120.27	8		PKiKP	21 22 58.8	+0.4	
MDT	Midelt	120.43	312	PKP	PKiKP	21 22 59.5	+0.1	
	comp=E,1.7nm,0.6s,baz=175,slow=1.4,SNR=7.6							
MDT				SKP		21 26 20.5		
	comp=E,1.2nm,0.7s,baz=70,slow=1.4,SNR=1.9							
TOA0	Torodi Ar. Sit	121.98	288	PKPdf	PKPdf	21 23 02.3	-0.4	
TORD	Torodi Ar. Bea	121.98	288	PKP	PKPdf	21 23 02.7	+0.1	
	comp=E,7.7nm,0.6s,baz=46,slow=2.3,SNR=38							
TORD				SKP		21 26 23.9		
	comp=E,1.8nm,0.6s,baz=39,slow=2.3,SNR=3.0							
TORD				PKKPab	PKKPab	21 33 01.9	+0.4	
	comp=E,1.0nm,0.7s,baz=279,slow=3.0,SNR=4.1							
TORD	Torodi Ar. Bea	121.98	288	PKPdf	PKPdf	21 23 02.3	-0.3	
TXAR	Lajitas Array	122.00	52	PKP	PKiKP	21 23 03.2	+0.5	
	comp=E,0.8nm,0.7s,baz=333,slow=1.4,SNR=4.3							
TXAR				PKKPbc	PKKPab	21 33 01.7	+0.2	
	comp=E,1.5nm,0.5s,baz=129,slow=6.4,SNR=15							
TXAR	Lajitas Array	122.00	52	PKIKP	PKiKP	21 23 03.4	+0.7	
TXAR	Lajitas Array	122.00	52	PKPdf	PKiKP	21 23 03.4	+0.7	
JCT	Junction City	124.41	48	PKIKP	PKiKP	21 23 08.3	+1.0	
JCT	Junction City	124.41	48	PKPdf	PKiKP	21 23 08.3	+1.0	
S39A	Bolivar	124.70	38	PKPdf	PKiKP	21 23 08.0	+0.3	
U40A	Yellville	125.84	39	PKPdf	PKiKP	21 23 10.4	+0.5	
KOWA	Kowa	126.99	292	PKP	PKPdf	21 23 11.8	-0.5	
	comp=E,14nm,1.1s,baz=54,slow=3.0,SNR=10							
KOWA	Kowa	126.99	292		PKiKP	21 23 12.8	0.0	
KIC	Kosan Boka	129.60	282	ePKP1	PKiKP	21 23 18.1	0.0	
	comp=E,16nm,0.5s							
DBIC	Dimbokro	129.66	282	PKP	PKPdf	21 23 15.6	-1.8	
	comp=E,4.6nm,0.6s,baz=80,slow=3.9,SNR=13							
DBIC				SKPbc	SKPbc	21 26 25.9	+0.3	
	comp=E,10nm,0.6s,baz=61,slow=4.2,SNR=14							
TIC	Toumodi	129.82	282	ePKP1	PKiKP	21 23 18.9	+0.4	
LIC	Lamto	129.91	282	ePKP1	PKiKP	21 23 18.6	-0.1	
	comp=E,25nm,0.5s							
TKL	Tuckaleechee C	131.61	33	PKP	PKPdf	21 23 20.0	-0.6	
	comp=E,3.7nm,0.7s,baz=100,slow=6.2,SNR=1.4							
TKL				SKPbc	SKPab	21 26 33.7	+1.0	
	comp=E,22nm,0.6s,baz=12,slow=1.6,SNR=29							
TKL	Tuckaleechee C	131.61	33	PKIKP	PKPdf	21 23 21.0	+0.5	
TKL	Tuckaleechee C	131.61	33		PKPdf	21 23 21.0	+0.5	
CMIG	Matias Romero	134.54	61	PKP	PKiKP	21 23 27.3	-0.6	
	comp=E,1.3nm,0.6s,baz=189,slow=21,SNR=2.1							
CMIG				SKPbc	SKPbc	21 26 44.1	+1.7	
	comp=E,1.5nm,0.4s,baz=276,slow=1.5,SNR=7.0							
PLCA	Paso Flores	140.70	160	PKhKP	PKPpre	21 23 31.0		
	comp=E,1.2nm,0.5s,baz=231,slow=13,SNR=2.5							
PLCA				SKPbc	SKiKP	21 27 01.4	-0.6	
	comp=E,3.8nm,0.7s,baz=223,slow=4.8,SNR=6.0							
JTS	Las Juntas de	146.10	65	eP	PKiKP	21 23 50.7	-1.0	
SRBA	San Rafael, Bu	147.96	65		PKPab	21 23 56.6	-0.3	
CO02	Combarbal	148.76	151		PKPbc	21 23 56.1	+0.6	
MOTC	Monteria, Cord	154.97	59	eP	PKPab	21 24 19.3	-6.7	
UREC	San Jos de Ur	155.58	61	eP	PKPdf	21 24 06.9	+4.9	
BBAC	Balboa, Cauca	156.09	76	eP	PKPab	21 24 29.6	-1.5	
ZARC	Zaragoza, Cauc	156.29	61	eP	PKPdf	21 24 04.0	+1.1	
YOTC	Yotoco, Valle	156.37	70	eP	PKPdf	21 24 12.6	+9.4	
SOTA	Rioblanco	156.67	75	eP	PKPab	21 24 37.4	+3.4	
GUY2C	Guyana, Caldas	156.82	66	eP	PKPab	21 24 35.5	+0.9	
PCON	Cinco Dias	156.82	74	eP	PKPab	21 24 31.6	-3.1	
TOLC	Tolima	157.11	68	eP	PKPdf	21 24 15.4	+11	
ORTC	Ortega, Tolima	157.42	69	eP	PKPdf	21 24 16.4	+12	
BRRC	Barranca, Sant	157.47	60	eP	PKPab	21 24 34.9	-1.8	
FLOC	Florencia	157.74	76	eP	PKPab	21 24 40.2	+2.2	
CPUP	Villa Florida	157.74	172	PKP	PKPdf	21 24 05.3	+0.9	
	comp=E,1.3nm,0.7s,baz=13,slow=12,SNR=1.8							
CPUP				PKPab	PKPab	21 24 38.5	+1.2	
	comp=E,12nm,0.7s,baz=182,slow=3.6,SNR=18							
CPUP	Villa Florida	157.74	172		PKPdf	21 24 03.8	-0.6	
BARC	Barichara	158.18	61	eP	PKPab	21 24 41.6	+1.5	
VILC	Villavicencio,	158.79	67	eP	PKPab	21 24 43.1	+0.4	
MACC	Macarena, Meta	159.31	73	eP	PKPab	21 24 44.0	-0.8	
LPAZ	La Paz	161.71	132	PKP	PKPdf	21 24 09.9	+0.1	
	comp=E,1.7nm,0.8s,baz=24,slow=5.3,SNR=6.2							
LPAZ	La Paz	161.71	132	PKIKP	PKPdf	21 24 10.0	+0.1	
LPAZ	La Paz	161.71	132	eP	PKPdf	21 24 10.7	+0.8	
SIV	San Ignacio	166.40	150	PKP	PKPdf	21 24 13.4	0.0	
	comp=E,2.9nm,1.0s,baz=270,slow=6.1							
BDFB	Brasilia	167.11	207	PKPab	PKPab	21 25 20.3	+1.5	
	comp=E,15nm,0.7s,baz=201,slow=1.9,SNR=14							

JMA 15 21:09:36.1±0.2, 29.64N×130.56E, h25km±4km, M2.4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYAK	Yakushimahirau	0.60	356	P	Pb	21 09 47.6	-0.4
JYAK				eS	Sb	21 09 55.9	-0.1
JNN	Nakanoshima	0.63	289	P	Pb	21 09 48.5	0.0
JNN				eS	Sb	21 09 57.2	+0.3
JMTN	Minamitane	0.81	21	P	Pb	21 09 51.7	+0.1
JKC	Kuchinoerabu	0.88	339	P	Pb	21 09 52.6	-0.1
JKC				eS	Sn	21 10 04.5	-0.3
JTN	Tanegashima 3	1.07	20	P	Pn	21 09 55.7	+0.1
JTAJ	Takarajima	1.28	248	P	Pn	21 09 58.4	0.0
JAM	Amami Oshima	1.48	215	eS	Sn	21 10 20.1	+0.4
JTSR	Tashiro 2	1.55	12	eS	Sb	21 10 23.0	-0.5
JAMN	Amaminishikomi	1.85	221	P	Pn	21 10 06.7	+0.5
JAMN				eS	Sn	21 10 29.0	+0.3

NEIC ***15*** *21:13:38.9, 63.27N×150.67W, h110km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.32; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$0.54; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.97; Fault plane solution: $M_0$1.43000×10^{15} NP1:$\phi_0$33.54000°, δ82.06000°, λ.54.06000°. NP2:$\phi_0$292.76000°, δ36.69000°, λ166.64000°. Principal axes: T 1.4036, Plg42.0000°, Azm270.0000°; N 0.0445, Plg36.0000°, Azm39.0000°; P -1.4481, Plg28.0000°, Azm152.0000°;*

IDC ***15*** *21:13:38.6±1.3, 63.33N×150.82W, h122km±12km, mb3.8/21,mb1 3.9/26,mb1mx3.7/66,mbtmp4.2/26,MS4.1/1, Ms1 4.1/1,ms1mx2.9/47 Error ellipse: s-maj=13.4km s-min=9.1km az=36.0*

ANF ***15*** *21:13:39.4±0.2, 63.22N×150.69W, h122km±1km, ML4.4/50, Error ellipse: s-maj=2.9km s-min=1.8km az=103.0, Hypocentre not reviewed by the ISC*

AEIC ***15*** *21:13:39±1.4, 63.24N±0.04×150.62W±0.08, h130km±3km, ML4.1/170,mb4.4/81(NEIC),ML4.5/130(NEIC), Mwr4.0/52(NEIC),Error ellipse: s-maj=5.2km s-min=4.9km az=219.0*

NEIC ***15*** *21:13:39.0±1.6, 63.25N±0.04×150.69W±0.08, h133km±3km, Error ellipse: s-maj=5.2km s-min=5.0km az=182.0*

ISC 15 21:13:39.3±0.5, 63.24N±0.03×150.67W±0.03, h133km±4km, n294, σ1°14/310, mb4.3/60, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	Thorofare Moun	0.28	38		Pn	21 13 58.0	+0.1
TRF				Sn	Sn	21 14 11.5	-0.6
TRF				lAML		21 14 12.6	
	comp=E,5μm,0.8s						
TRF				lAML		21 14 14.3	
	comp=N,6μm,0.6s						
TRF	Thorofare Moun	0.28	38	P		21 13 58.0	
	baz=216,SNR=1000						
TRF				S		21 14 11.6	
	baz=216						
KTH	Kantishna Hill	0.34	341		Pn	21 13 58.0	0.0
KTH				Sn	Sn	21 14 11.3	-1.0
KTH				lAML		21 14 12.3	
	comp=N,8μm,0.8s						
KTH				lAML		21 14 12.7	
	comp=E,8μm,1.0s						
HUR	Hurricane	0.54	118		Pn	21 13 58.6	-0.3
CAST	Castle Rocks	0.66	287		Pn	21 13 59.3	-0.4
CAST				Sn	Sn	21 14 13.9	-1.3
CAST	Castle Rocks	0.66	287	P		21 13 59.5	
	baz=105,SNR=50						
CAST				S		21 14 13.9	
	baz=105						
PPLA	Purkeypile	0.77	244		Pn	21 14 00.6	-0.1
PPLA	Purkeypile	0.77	244		Sn	21 14 16.3	-0.6
PPLA	Purkeypile	0.77	244	P		21 14 00.7	
	baz=64,SN

comp=E,3µm,0.3s
PMR IAML 21 14 43.2
comp=N,2µm,0.5s
PMR Palmer 1.80 156 P 21 14 10.4
baz=338,SNR=68
PMR S 21 14 34.1
baz=338
SML Sawmill 1.80 142 Pn **Pn 21 14 10.7 -0.3**
SML IAML 21 14 35.8
comp=E,5µm,0.3s
SML Sawmill 1.80 142 P 21 14 10.6
baz=325,SNR=556
SML S 21 14 34.9
baz=325
MLY Manley 1.80 359 Pn Pn 21 14 10.8 -0.2
MLY Manley 1.80 359 Sn 21 14 33.2 -2.2
MLY Manley 1.80 359 P 21 14 10.9
baz=178,SNR=1000
MLY S 21 14 33.6
baz=178
STLK Strandline Lak 1.82 198 Pn 21 14 10.9 -0.5
CCB Clear Creek Bu 1.90 40 Pn 21 14 12.0 -0.1
I23K Minto, Yukon-K 2.00 16 Pn 21 14 13.3 0.0
I23K Minto, Yukon-K 2.00 16 Sn 21 14 37.2 -2.3
I23K Minto, Yukon-K 2.00 16 P 21 14 13.4
baz=197,SNR=653
I23K S 21 14 38.0
baz=197
HDA Harding Lake 2.03 53 Pn 21 14 13.4 -0.2
HDA IAML 21 14 44.2
comp=N,2µm,0.6s
HDA Harding Lake 2.03 53 P 21 14 13.3
baz=236,SNR=407
HDA P 21 14 13.3
baz=236,SNR=407
HDA S 21 14 38.6
baz=236
HDA S 21 14 38.6
baz=236
I21K Tanana 2.04 344 Pn 21 14 13.8 0.0
MDM Murphy Dome 2.04 31 Pn 21 14 13.7 -0.1
MDM Sn **21 14 38.2 -2.1**
SPCG Spurr Capps Gl 2.05 199 Pn 21 14 13.6 -0.5
TCOL CIGO, UAF Yank 2.06 36 Pn 21 14 14.1 +0.1
TCOL CIGO, UAF Yank 2.06 36 IAML 21 14 42.0
comp=N,2µm,0.8s
TCOL IAML 21 14 43.2
comp=E,2µm,0.6s
TCOL CIGO, UAF Yank 2.06 36 P 21 14 14.0
baz=218,SNR=31
TCOL S 21 14 39.2
baz=218
COLA College 2.06 36 Pn 21 14 13.8 -0.2
COLA College 2.06 36 IAML 21 14 41.9
comp=E,2µm,0.8s
COLA IAML 21 14 43.2
comp=E,2µm,0.6s
COLA College 2.06 36 P 21 14 14.0
baz=218
COLA S 21 14 39.2
baz=218
SCM Sheep Creek Mo 2.09 131 Pn 21 14 13.9 -0.7
SCM Sheep Creek Mo 2.09 131 IAML 21 14 44.5
comp=E,3µm,0.6s
SCM IAML 21 14 44.7
comp=N,3µm,0.6s
SPCP Crater Peak Br 2.09 200 Pn 21 14 14.4 -0.3
KNK Knik Glacier 2.10 150 Pn **Pn 21 14 14.1 -0.5**
KNK IAML 21 14 44.4
comp=N,3µm,0.6s
KNK Knik Glacier 2.10 150 P 21 14 14.2
baz=332,SNR=264
KNK S 21 14 41.3
baz=332
FIS Fire Island 2.11 174 Pn 21 14 15.2 +0.5
SPBG Spurr Blockage 2.14 203 Pn 21 14 15.1 -0.1
SPBG Sn **21 14 42.3 -0.3**
SPCN Chakachatna No 2.14 200 Pn 21 14 14.9 -0.2
PS08 TAPS Pump Stn8 2.15 51 Pn 21 14 14.8 -0.4
SPCR Spurr Chakacha 2.17 200 Pn 21 14 15.1 -0.4
SPCR Spurr Chakacha 2.17 200 P 21 14 15.0
baz=19,SNR=29
SPCR S 21 14 42.5
baz=19
RC01 Rabbit Creek A 2.20 168 Pn **Pn 21 14 15.5 -0.3**
RC01 IAML 21 14 44.0
comp=E,3µm,0.2s
RC01 Rabbit Creek A 2.20 168 P 21 14 15.1
baz=350,SNR=182
RC01 S 21 14 42.7
baz=350
IL31 2.27 46 Pn **Pn 21 14 16.4 -0.2**
ILAR Eielson Array 2.27 46 P **Pn 21 14 16.4 -0.2**
comp=E,65nm,0.3s,baz=226,slow=12,SNR=2375
ILAR S **Sn 21 14 43.8 -1.6**
comp=E,38nm,0.3s,baz=334,slow=22,SNR=11
ILAR Eielson Array 2.27 46 Pn **Pn 21 14 16.4 -0.2**
PS07 TAPS Pump Stn7 2.33 26 Pn 21 14 17.2 -0.2
POKR Poker Plat Res 2.36 35 Pn 21 14 17.9 +0.2
POKR Sn **21 14 45.4 -2.0**
POKR Poker Plat Res 2.36 35 P 21 14 17.8
baz=218,SNR=44
POKR S 21 14 45.9
baz=218
M24K Tolsona, Glenn 2.36 117 Pn **Pn 21 14 18.1 +0.2**
M24K IAML 21 14 57.8
comp=N,3µm,0.9s
M24K Tolsona, Glenn 2.36 117 P 21 14 18.0
baz=301,SNR=922
PAX Paxson 2.38 94 Pn **Pn 21 14 18.2 +0.1**
PAX Paxson 2.38 94 P 21 14 18.2
baz=279,SNR=475
TTA Tatalina 2.45 265 Pn **Pn 21 14 18.4 -0.6**
TTA Tatalina 2.45 265 P 21 14 18.4
baz=80,SNR=218
TT01 Tatalina 2.46 265 Pn 21 14 18.6 -0.3
CAPN Captain Cook N 2.49 185 Pn **Pn 21 14 21.1 +1.8**
CAPN Captain Cook N 2.49 185 P 21 14 21.0
baz=5.5
H21K Melozitna Rive 2.60 340 Pn 21 14 20.6 -0.2
H21K Melozitna Rive 2.60 340 P 21 14 20.7
baz=158,SNR=1000
PWL Port Wells 2.63 154 Pn 21 14 20.5 -0.7
H23K Yukon River 2.65 10 Pn 21 14 21.6 +0.3
H23K Sn **21 14 52.1 -1.7**
H23K Yukon River 2.65 10 P 21 14 21.3
baz=191,SNR=838
PS06 TAPS Pump Stn6 2.66 8 Pn 21 14 21.7 +0.2
PS11 TAPS Pump St11 2.67 113 Pn 21 14 21.9 +0.3
HARP HAARP 2.67 106 Pn 21 14 21.6 0.0
HARP HAARP 2.67 106 P 21 14 21.6
baz=291,SNR=324
SLKM Skilak Lake 2.75 175 Pn 21 14 22.1 -0.6
O22K Cooper Landing 2.80 170 Pn 21 14 23.1 -0.2
O22K Cooper Landing 2.80 170 P 21 14 23.0
baz=352,SNR=120
DFR Drift River 2.82 201 Pn 21 14 23.3 -0.4
KLU Klutina 2.82 126 Pn **Pn 21 14 22.9 -0.8**
KLU Sn **21 14 56.3 -1.7**
KLU IAML 21 14 57.2
comp=N,2µm,0.4s
KLU IAML 21 15 09.8
comp=E,2µm,0.6s
KLU Klutina 2.82 126 P 21 14 22.7
baz=311,SNR=633
H24K Noodor Dome 2.88 24 Pn 21 14 24.1 -0.2
H24K Noodor Dome 2.88 24 P 21 14 24.2
baz=206,SNR=128
NCT North Crescent 2.89 203 Pn 21 14 24.4 -0.2
GLI Glacier Island 2.90 143 Pn 21 14 23.9 -0.8
GLI Glacier Island 2.90 143 P 21 14 23.7
baz=327
RSO Redoubt South 2.95 200 Pn **Pn 21 14 25.2 -0.3**
RED Redoubt Volcan 3.00 200 Pn 21 14 25.8 -0.2
DOT Dot Lake 3.00 79 Pn 21 14 25.5 -0.4
DOT Sn **21 14 59.8 -2.1**
N19K Bonanza Creek 3.02 218 Pn 21 14 26.1 -0.2
IM03 3.06 336 Pn 21 14 26.3 -0.3
IMAR Indian Mountai 3.06 336 Pn **Pn 21 14 26.2 -0.4**
SCRK Sand Creek 3.08 73 Pn **Pn 21 14 26.5 -0.5**
SCRK IAML 21 15 07.8
comp=E,716nm,0.7s
SCRK IAML 21 15 07.8
comp=N,744nm,0.9s
SCRK Sand Creek 3.08 73 P 21 14 26.6
baz=259,SNR=1000
DIV Divide 3.12 130 Pn 21 14 26.1 -1.4
DIV Sn **21 15 02.6 -2.2**
SVW2 Sparrevohn 3.15 229 Pn 21 14 27.2 -0.6
MENT Mentasta 3.18 92 Pn 21 14 27.9 -0.3
FID Port Fidalgo 3.18 140 Pn 21 14 27.5 -0.8
SEW Seward 3.19 169 Pn 21 14 27.6 -0.8
SEW Seward 3.19 169 P 21 14 27.6
baz=350,SNR=127
PRP Porcupine Dome 3.20 42 Pn 21 14 28.1 -0.5
PRP Porcupine Dome 3.20 42 P 21 14 28.4
baz=226,SNR=56
N25K Chitina, Valde 3.26 117 Pn **Pn 21 14 29.1 -0.3**
N25K IAML 21 15 10.4
comp=N,1µm,0.7s
N25K IAML 21 15 10.7
comp=E,970nm,0.4s
N25K Chitina, Valde 3.26 117 P 21 14 28.9
baz=303,SNR=234
IVE Iliamna Volcan 3.42 200 Pn 21 14 30.8 -0.6
HIN Hinchinbrook I 3.47 143 Pn 21 14 31.3 -0.7
HIN Hinchinbrook I 3.47 143 IAML 21 15 14.1
comp=N,1µm,0.4s
ILS Iliamna Low So 3.48 200 Pn 21 14 32.2 0.0
BRLK Bradley Lake 3.48 182 Pn **Pn 21 14 32.0 -0.3**
BRLK IAML 21 15 14.3
comp=N,1µm,0.4s
BRLK IAML 21 15 16.1
comp=E,785nm,0.4s
BRSE Bradley Lake S 3.51 181 Pn 21 14 31.9 -0.6
BRSE Sn **21 15 12.1 -1.6**
BRSE Bradley Lake S 3.51 181 P 21 14 32.0
baz=0.9,SNR=112
N18K Kilae Creek 3.56 226 Pn 21 14 32.6 -0.5
EYAK Cordova Ski Ar 3.56 137 Pn **Pn 21 14 33.1 -0.1**
EYAK Cordova Ski Ar 3.56 137 P 21 14 32.7
baz=322,SNR=50
PS05 TAPS Pump Stn5 3.59 0 Pn 21 14 33.8 +0.3
HOM Homer 3.62 188 Pn 21 14 34.3 +0.4
HOM Homer 3.62 188 P 21 14 34.1
baz=7.4,SNR=13
BMRM Bremner River 3.65 126 Pn 21 14 33.3 -1.1
BMRM IAML 21 15 33.7
comp=E,780nm,0.4s
BMRM IAML 21 15 35.1
comp=N,985nm,0.6s
BMRM Bremner River 3.65 126 P 21 14 33.2
baz=312,SNR=31
GLB Gilahina Butte 3.67 116 Pn 21 14 34.3 -0.4
GLB Gilahina Butte 3.67 116 Sn 21 15 15.9 -1.7
GLB IAML 21 15 18.3
comp=N,989nm,0.6s
GLB IAML 21 15 18.5
comp=E,887nm,0.5s
CNPM China Poot 3.73 184 Pn 21 14 35.1 -0.4
CNPM China Poot 3.73 184 IAML 21 15 19.8
comp=N,1µm,0.4s
OPT Oil Point 3.80 200 Pn 21 14 36.5 +0.1
K27K Chicken 3.92 74 Pn 21 14 37.7 -0.2
K27K IAML 21 15 27.7
comp=E,500nm,0.7s
VRDI Verde Repeater 3.93 118 Pn **Pn 21 14 37.6 -0.7**
VRDI IAML 21 15 24.6
comp=N,552nm,0.8s
VRDI IAML 21 15 25.6
comp=E,477nm,0.6s
COLD Coldfoot 4.01 3 Pn **Pn 21 14 39.1 0.0**
COLD Coldfoot 4.01 3 Sn 21 15 24.4 -1.3
COLD Coldfoot 4.01 3 P 21 14 39.2
baz=183,SNR=163
L27K Beaver Creek, 4.02 89 Pn **Pn 21 14 38.6 -0.6**
L27K Beaver Creek, 4.02 89 P 21 14 38.5
baz=276,SNR=381
MCARA McCarthy VSAT 4.02 114 Pn **Pn 21 14 39.5 +0.2**
MCARA IAML 21 15 29.1
comp=E,966nm,0.7s
MCARA IAML 21 15 37.0
comp=N,701nm,0.9s
MCARA McCarthy VSAT 4.02 114 P 21 14 39.2
baz=301,SNR=60
BC03 4.04 88 Pn 21 14 38.8 -0.6
BCAR Beaver Creek A 4.04 88 Pn **Pn 21 14 38.8 -0.7**
FYU Fort Yukon 4.07 32 Pn **Pn 21 14 39.6 -0.2**
AU22 Augustine Moun 4.09 200 Pn 21 14 39.7 -0.5
AUL Augustine Lava 4.09 200 Pn 21 14 40.4 +0.2
AUW Augustine West 4.11 200 Pn 21 14 40.4 0.0
HMT Hamilton 4.21 131 Pn **Pn 21 14 41.4 -0.4**
CRQM Cirque 4.33 122 Pn 21 14 43.1 -0.5
CRQM Cirque 4.33 122 Sn 21 15 31.3 -2.3
CRQM IAML 21 15 53.2
comp=E,642nm,0.6s
Q23K Middleton Isla 4.35 149 Pn **Pn 21 14 43.5 -0.1**
Q23K IAML 21 15 51.5
comp=N,276nm,1.1s
Q23K IAML 21 16 07.0
comp=E,399nm,1.0s
Q23K Middleton Isla 4.35 149 P 21 14 43.4
baz=334,SNR=16
MID Middleton Isla 4.35 149 Pn **Pn 21 14 43.0 -0.6**
MID IAML 21 15 51.6
comp=N,285nm,1.0s
MID IAML 21 16 07.0
comp=E,371nm,1.0s
CRQE Cirque 4.36 121 P 21 14 43.2
baz=308,SNR=14
PTPK Patty Peak 4.36 114 Pn 21 14 43.7 -0.2
NICHA Nichawak Mount 4.38 130 Pn 21 14 43.5 -0.6
TGL Tana Glacier 4.46 120 Pn **Pn 21 14 44.1 -1.0**
TGL IAML 21 15 37.1
comp=N,525nm,0.5s
TGL IAML 21 15 37.2
comp=E,586nm,1.1s
EGAK Eagle 4.46 65 Pn 21 14 44.6 -0.5
EGAK Eagle 4.46 65 IAML 21 15 52.4
comp=E,340nm,0.9s
EGAK IAML 21 15 53.9
comp=E,391nm,0.8s
EGAK Eagle 4.46 65 P 21 14 44.4
baz=254,SNR=220
BALM Baldy 4.49 116 Pn 21 14 44.8 -0.8
BALM Sn **21 15 35.1 -2.0**
KHIT Khitrov Hills 4.50 125 Pn 21 14 44.6 -1.0
KIAG Kiagna River 4.54 117 Pn 21 14 45.3 -1.1
SUCK Suckling Hills 4.57 131 Pn 21 14 45.7 -0.8
SUCK IAML 21 16 00.5
comp=E,569nm,0.6s
BVCY Beaver Creek 4.58 96 Pn 21 14 46.1 -0.5
GRIN Grindle Hills 4.58 127 Pn 21 14 46.5 -0.2
BGLC Bering Glacier 4.71 128 P 21 14 48.3
baz=315,SNR=7.0
BARN Barnard Glacie 4.76 113 Pn 21 14 49.2 -0.1
BARN IAML 21 15 46.0
comp=E,243nm,0.9s
BARN IAML 21 15 46.9
comp=N,204nm,0.8s
YUK2 White River 4.78 103 Pn 21 14 49.6 +0.1
KULT Kultieth River 4.82 125 Pn 21 14 49.6 -0.3
GRNC Granite Creek 4.90 117 Pn 21 14 50.5 -0.6
GRNC Granite Creek 4.90 117 IAML 21 16 07.7
comp=N,186nm,0.6s
BMAR Burnt Mountain 4.92 29 Pn **Pn 21 14 51.0 -0.2**
CTG Chitna Glacier 4.94 113 P 21 14 51.3
baz=302,SNR=43
CTGM Chitina Glacie 4.94 113 Pn 21 14 51.4 -0.2
CTGM Chitina Glacie 4.94 113 Sn 21 15 47.0 -1.0
YUK3 Moose Creek 4.96 103 Pn 21 14 52.2 +0.4
DAWY Dawson 5.10 76 Pn **Pn 21 14 53.1 -0.4**
DAWY IAML 21 16 08.8
comp=E,167nm,0.7s
DAWY IAML 21 16 09.1
comp=N,210nm,0.8s
YAH Yahtse 5.12 120 Pn 21 14 53.2 -0.9
YAH Yahtse 5.12 120 IAML 21 15 54.2
comp=N,232nm,0.5s
YAH IAML 21 15 55.0
comp=E,245nm,0.5s
MESA MESA 5.16 123 Pn 21 14 54.3 -0.3
MESA Sn **21 15 50.9 -2.3**
MESA IAML 21 16 20.9
comp=E,429nm,0.8s
MESA MESA 5.16 123 P 21 14 54.2
baz=310,SNR=10
TABL Table Mountain 5.31 118 Pn 21 14 55.5 -1.1
RKAV Rock Avalanche 5.32 119 Pn 21 14 56.4 -0.3
TOLK Toolik Lake Re 5.45 4 Pn **Pn 21 14 59.0 +0.7**
TOLK Toolik Lake Re 5.45 4 P 21 14 58.8
baz=185,SNR=45
KABU Katmai Buttres 5.47 206 Pn 21 14 58.6 0.0
KDAK Kodiak Island 5.55 191 P **Pn 21 14 58.3 -1.3**
comp=E,5.9nm,0.3s,baz=70,slow=5.6,SNR=98
KDAK S **Sn 21 15 56.8 -5.5**
comp=E,15nm,0.3s,baz=182,slow=19,SNR=16
KDAK LR LR 21 16 54.6
comp=E,79nm,18.6s,baz=157,slow=35
KDAK Kodiak Island 5.55 191 Pn **Pn 21 14 56.4 -3.2**
KDAK Kodiak Island 5.55 191 P 21 14 57.0
baz=9.2
SAMH Samovar Hills 5.64 119 Pn 21 15 01.8 +0.8
PCA Pinnacle 5.87 118 Pn **Pn 21 15 03.6 -0.4**
PINM Pinnacle 5.88 118 P 21 15 03.5
baz=307,SNR=30
OHAK Old Harbor 6.17 193 Pn 21 15 05.4 -2.5
OHAK Old Harbor 6.17 193 P 21 15 05.3
baz=11
BCPM Bancas Point 6.21 117 Pn **Pn 21 15 07.7 -0.8**
PNL Peninsula 6.48 118 Pn 21 15 11.5 -0.6
HYT Haines Junctio 6.65 105 Pn 21 15 14.3 -0.2
SII Sitkinak Islan 6.92 196 Pn **Pn 21 15 16.2 -1.9**
SII Sitkinak Islan 6.92 196 P 21 15 15.6
baz=13
RDOG Red Dog Mine 6.99 319 Pn **Pn 21 15 19.3 +0.4**
RDOG Red Dog Mine 6.99 319 P 21 15 20.3
baz=128,SNR=17
PLBC Pleasant Camp 7.85 112 Pn 21 15 29.9 -0.6
CHIR Chirikof Islan 7.85 201 Pn **Pn 21 15 27.5 -2.9**
CHIR Chirikof Islan 7.85 201 P 21 15 27.5
baz=17
WHY Whitehorse 7.88 102 Pn **Pn 21 15 30.9 0.0**
A21K Barrow 8.44 347 Pn **Pn 21 15 36.5 -1.7**
A21K Barrow 8.44 347 P 21 15 37.0
baz=161,SNR=5.2
INK Inuvik 8.67 47 P **Pn 21 15 41.5 +0.1**
comp=E,0.3nm,0.3s,baz=247,slow=13,SNR=10
INK Inuvik 8.67 47 Pn **Pn 21 15 41.4 0.0**
INK Inuvik 8.67 47 P 21 15 40.9
baz=242,SNR=8.1
BESE Bessie Mountai 9.00 114 Pn **Pn 21 15 44.8 -1.2**
JIS Juneau Island 9.38 115 Pn **Pn 21 15 49.8 -1.2**
SIT Sitka 9.83 122 Pn **Pn 21 15 57.2 +0.2**
SIT Sitka 9.83 122 P 21 15 56.2
baz=316
DLBC Dease Lake 11.13 106 P **Pn 21 16 14.6 +0.1**
comp=E,0.1nm,0.3s,baz=300,slow=16,SNR=1.0
DLBC Dease Lake 11.13 106 Pn 21 16 15.3 +0.8
WRAK Wrangell Islan 11.44 118 Pn **Pn 21 16 19.1 +0.7**
WRAK Wrangell Islan 11.44 118 P 21 16 16.9
baz=314
CRAG Craig 11.83 123 P 21 16 22.7
baz=318
C36M Paulatuk 12.24 49 P 21 16 26.2
baz=253
DIB Dawson Inlet, 13.83 128 P **P 21 16 54.1 +0.7**
YKA Yellowknife Ar 16.34 76 P **Pn 21 17 20.2 -0.4**
comp=E,0.7nm,0.3s,baz=287,slow=9.8,SNR=13
YKA Yellowknife Ar 16.34 76 P **Pn 21 17 20.2 -0.4**
ADK Adak 17.84 243 P **P 21 17 37.2 -0.4**
B05A Bryant 21.71 120 P 21 18 19.7
baz=324
D03D Eldon 21.93 123 P 21 18 21.8
baz=326
B08A Colville Reser 22.74 116 P **P 21 18 31.0 +1.2**
LTY Liberty 23.09 120 P **P 21 18 34.4 +1.3**
NEW Newport 23.72 113 P **P 21 18 40.1 +1.3**
comp=E,2.9nm,0.5s,baz=307,slow=9.1,SNR=7.3
NEW Newport 23.72 113 P **P 21 18 40.3 +1.5**
NEW Newport 23.72 113 P 21 18 40.0
baz=322
F05D White Salmon 23.92 123 P 21 18 42.7
baz=327
D08A Wollman Farm, 23.95 118 P **P 21 18 41.5 +0.7**
E07A Sunnyside 23.99 120 P **P 21 18 41.8 +0.6**
E07A IAmb IAmb 21 18 43.3
comp=Z,8.3nm,0.5s
EUNU Eureka 24.18 22 P **P 21 18 42.9 +0.2**
WALA Waterton Lakes 24.47 108 P **P 21 18 47.1 +1.5**
WALA IAmb IAmb 21 18 49.9
comp=Z,14nm,1.1s
I02D Swisshome 24.57 129 P 21 18 48.5
baz=331
SEY Seymchan 25.06 295 P **P 21 18 50.2 -0.5**
comp=Z,5.8nm,0.5s,baz=63,slow=5.5,SNR=21
SEY Seymchan 25.06 295 P **P 21 18 50.2 -0.5**
JTMT Jette 25.32 111 P **P 21 18 54.7 +1.3**
JTMT IAmb IAmb 21 18 58.3
comp=Z,8.3nm,0.7s
J01E Myrtle Point 25.36 130 P 21 18 54.7
baz=332
G08A Pilot Rock 25.39 120 P **P 21 18 54.9 +0.9**
KEBM Edson Butte 25.48 131 P **P 21 18 57.4 +2.6**
K02D Willamette Mer 25.87 130 P 21 19 00.2
baz=332
MSO Missoula 26.18 111 P **P 21 19 02.3 +1.1**
MSO IAmb IAmb 21 19 02.9
comp=Z,4.8nm,0.5s
MSO Missoula 26.18 111 P 21 19 02.0
baz=322,SNR=6.2
HUMO Hull Mountain 26.19 129 P **P 21 19 03.7 +2.5**
HUMO IAmb IAmb 21 19 14.0
comp=Z,10.0nm,1.2s
L04D Klamath Falls 26.77 128 P 21 19 08.1
baz=332
KRMB Red Mountain 26.82 131 P **P 21 19 08.5 +1.6**
KRMB IAmb IAmb 21 19 18.8
comp=Z,26nm,1.5s
YBH Yreka Blue Hor 27.05 129 P **P 21 19 09.2 +0.3**
comp=Z,3.5nm,0.8s,baz=257,slow=3.3,SNR=4.8
M02C Callahan 27.30 130 P 21 19 13.4
baz=333
M04C Macdoel 27.31 128 P 21 19 13.1
baz=332
N02D Trinity Center 27.72 130 P 21 19 17.3
baz=333
WDC Whiskeytown Da 28.13 130 P **P 21 19 21.0 +2.6**
PETK Petropavlovsk- 28.26 273 P **P 21 19 18.9 -0.5**
comp=Z,2.1nm,0.7s,baz=68,slow=14,SNR=4.6
PETK Petropavlovsk- 28.26 273 P **P 21 19 19.1 -0.3**
HLID Hailey 28.64 116 P 21 19 24.6
baz=326
O03E Paynes Creek 28.64 130 P 21 19 24.4
baz=333
YHH Holmes Hill 29.12 110 P **P 21 19 29.3 +1.8**
YHH IAmb IAmb 21 19 30.6
comp=Z,5.9nm,0.9s
RLMT Red Lodge 29.53 108 P **P 21 19 33.2 +2.2**
RLMT IAmb IAmb 21 19 34.6
comp=Z,11nm,1.1s
RLMT Red Lodge 29.53 108 P 21 19 33.3
baz=323
FLWY Flagg Ranch 29.75 111 P **P 21 19 35.8 +2.9**
FLWY IAmb IAmb 21 19 36.8
comp=Z,6.0nm,0.7s
ELK Elko 30.68 120 P **P 21 19 43.4 +2.1**
comp=Z,3.0nm,0.9s,baz=278,slow=11,SNR=3.7
ELK Elko 30.68 120 P **P 21 19 43.1 +1.9**
BW06 Boulder Array 31.30 111 P **P 21 19 48.5 +1.8**
BW06 IAmb IAmb 21 19 50.0
comp=Z,8.2nm,1.2s
BW06 Boulder Array 31.30 111 P 21 19 48.5
baz=325
PD31 Pinedale Array 31.30 111 P **P 21 19 47.9 +1.2**
PD31 IAmb IAmb 21 19 50.0
comp=Z,7.7nm,1.2s
PDAR Pinedale Array 31.30 111 P **P 21 19 48.5 +1.9**
comp=Z,4.4nm,0.9s,baz=320,slow=6.6,SNR=21
PDAR Pinedale Array 31.30 111 P **P 21 19 48.1 +1.4**
NVAR Mina Array Bea 31.54 127 P **P 21 19 51.1 +2.3**
comp=Z,2.3nm,0.7s,baz=319,slow=8.5,SNR=12
NVAR LR LR 21 33 28.0
comp=Z,312nm,19.6s,baz=242,slow=38
NVAR Mina Array Bea 31.54 127 P **P 21 19 51.0 +2.2**
NV11 Mina Array Sit 31.59 126 P **P 21 19 51.3 +2.1**
ULM Lac du Bonnet 31.66 88 P **P 21 19 50.2 +0.8**
comp=Z,2.3nm,0.5s,baz=311,slow=5.8,SNR=2.6
ULM Lac du Bonnet 31.66 88 P **P 21 19 49.4 0.0**
TPH Tonopah 32.25 125 P **P 21 19 57.0 +2.1**
RSSD Black Hills 32.60 104 P **P 21 19 58.5 +0.6**
RSSD Black Hills 32.60 104 P 21 19 58.6
baz=322
R11A Troy Canyon, C 32.62 123 P **P 21 19 59.7 +1.5**
R11A Troy Canyon, C 32.62 123 P 21 19 58.5

baz=331
K22A Casper 32.69 108 P **P** **21 19 59.9 +1.2**
K22A IAmb IAmb 21 20 01.5
comp=Z,4.6nm,0.8s
K22A Casper 32.69 108 P 21 19 59.7
baz=324
RDMU Red Mountain 33.12 114 P **P** **21 20 03.8 +1.2**
RDMU IAmb IAmb 21 20 06.0
comp=Z,6.2nm,0.9s
CWC Cottonwood Cre 33.39 128 P 21 20 06.8
baz=334
Q16A Castle Valley 33.86 117 P **P** **21 20 11.5 +2.5**
Q16A IAmb IAmb 21 20 12.1
comp=Z,6.5nm,0.9s
ISA Isabella, Lake 33.95 129 P 21 20 11.3
baz=334
SRU San Rafael Swe 33.96 116 P **P** **21 20 11.6 +1.8**
SRU IAmb IAmb 21 20 12.7
comp=Z,7.9nm,1.0s
CCUT Cedar City 34.17 121 P **P** **21 20 13.6 +1.9**
PKM Mcpherson Peak 34.19 131 P 21 20 13.7
baz=336
MTPU Mount Pierson 34.21 119 P **P** **21 20 14.5 +2.3**
MTPU IAmb IAmb 21 20 15.7
comp=Z,7.0nm,1.2s
SZCU Shurtz Canyon 34.24 121 P **P** **21 20 12.9 +0.7**
LCMT Little Creek M 34.69 121 P **P** **21 20 17.9 +1.9**
LCMT IAmb IAmb 21 20 31.9
comp=Z,5.7nm,0.6s
KNB Kanab 34.85 121 P **P** **21 20 19.0 +1.5**
KNB IAmb IAmb 21 20 20.8
comp=Z,5.9nm,1.0s
GSC Goldstone, Bar 34.87 127 P **P** **21 20 19.0 +1.5**
GSC IAmb IAmb 21 20 20.6
comp=Z,10nm,1.2s
GSC Goldstone, Bar 34.87 127 P 21 20 19.4
baz=334
EYMN Ely 35.31 87 P **P** **21 20 21.0 -0.1**
EYMN **PcP** **21 22 46.0 -2.3**
EYMN Ely 35.31 87 P 21 20 21.3
baz=318
BFSC Mount Baldy Ra 35.52 129 P 21 20 25.3
baz=335
GMRC Granite Mounta 35.75 126 P 21 20 27.3
baz=334
W13A Hualapai Mount 36.13 124 P **P** **21 20 29.5 +1.1**
W13A IAmb IAmb 21 20 31.4
comp=Z,6.4nm,1.2s
ECSD EROS Data Cent 36.21 97 P 21 20 29.4
baz=322
MVCO Mesa Verde 36.41 115 P 21 20 32.1
baz=329
IRM Iron Mountain 36.50 126 P 21 20 33.5
baz=334
PFO Pinyon Flats O 36.51 128 P 21 20 33.0
baz=335
S22A 4UR Ranch, Cre 36.64 113 P 21 20 34.3
baz=328
WUAZ Wupatki 36.73 120 P **P** **21 20 35.4 +2.0**
WUAZ IAmb IAmb 21 20 36.4
comp=Z,11nm,1.1s
WUAZ Wupatki 36.73 120 P 21 20 35.4
baz=332
MONP2 Monument Peak 37.18 128 P 21 20 38.9
baz=335
SDCO Great Sand Dun 37.20 112 P **P** **21 20 39.0 +1.5**
SDCO Great Sand Dun 37.20 112 P 21 20 39.3
baz=328,SNR=5.5
I37A Lemond, Waseca 37.44 93 P **P** **21 20 40.7 +1.6**
CBX Cerro Bola 37.62 129 P **P** **21 20 43.4 +2.4**
X16A Lo Mia Camp, P 37.66 121 P **P** **21 20 43.4 +2.0**
X16A IAmb IAmb 21 20 56.8
comp=Z,4.2nm,0.6s
G40A Rib Lake 37.92 89 P **P** **21 20 43.5 +0.3**
G40A IAmb IAmb 21 20 44.9
comp=Z,4.8nm,0.7s
F42A Maple Grove Fa 38.48 87 P **P** **21 20 49.3 +1.5**
N35A Tabor 38.93 98 P **P** **21 20 53.1 +1.4**
ANMO Albuquerque 39.20 115 P **P** **21 20 55.1 +0.9**
comp=Z,1.4nm,0.6s,baz=337,slow=12,SNR=6.2
R32A Long Quarter, 39.56 104 P **P** **21 20 58.0 +1.1**
P32A PcP **PcP** **21 23 00.6 -0.9**
E46A Sault Ste Mari 39.74 83 P **P** **21 20 58.4 +0.1**
BNM Barren Site 39.81 116 P **P** **21 21 01.0 +1.6**
KSU1 Kansas State U 39.93 101 P **P** **21 21 00.7 +0.7**
KSU1 Kansas State U 39.93 101 P 21 21 00.5
baz=325
L40A Anamosa 39.96 93 P **P** **21 20 59.8 -0.4**
MATQ Matagami 40.15 74 P 21 21 01.6
baz=318
LSQQ Lebel-sur-Quev 40.96 74 P 21 21 08.2
baz=319
KAN17 Caldwell West 41.12 104 P **P** **21 21 10.3 +0.6**
AMTX Amarillo 41.25 110 P **P** **21 21 11.8 +0.8**
AMTX IAmb IAmb 21 21 13.5
comp=Z,8.8nm,0.9s
AMTX Amarillo 41.25 110 P 21 21 12.1
baz=329
KAN13 South Haven SW 41.27 104 P **P** **21 21 11.3 +0.3**
MSTX Muleshoe 41.57 112 P **P** **21 21 14.3 +0.7**
MSTX Muleshoe 41.57 112 P 21 21 15.0
baz=330,SNR=6.5
OK030 Cody Creek RV 42.49 104 P **P** **21 21 21.1 +0.2**
WMOK Wichita Mounta 42.62 107 P **P** **21 21 22.2 +0.2**
WMOK IAmb IAmb 21 21 24.0
comp=Z,6.3nm,0.9s
WMOK Wichita Mounta 42.62 107 P 21 21 22.9
baz=328,SNR=7.2
ALGO Algonquin Park 42.85 78 P 21 21 24.0
baz=321
U38A Gravette 43.12 101 P **P** **21 21 25.6 -0.4**
U38A IAmb IAmb 21 21 26.5
comp=Z,6.5nm,0.7s
D55A Sainte-Anne-du 43.16 75 P 21 21 26.4
baz=320
SFIN Lafayette 43.17 91 P 21 21 26.8
baz=324
D56A ZEC Mazanza, M 43.45 75 P 21 21 28.6
baz=320
MGMO Mountain Grove 43.47 98 P **P** **21 21 28.3 -0.5**
MGMO IAmb IAmb 21 21 30.0
comp=Z,9.2nm,0.9s
H53A Bobcaygeon 43.69 80 P 21 21 30.5
baz=322
E56A St. Veronique 43.72 75 P 21 21 30.7
baz=321
U40A Yellville 43.87 100 P 21 21 31.7
baz=327
D58A Chemin du LacG 44.23 73 P 21 21 34.6
baz=321
W39A Magazine 44.42 101 P 21 21 37.0
baz=327
MIAR Mount Ida 45.06 102 P **P** **21 21 41.5 +0.1**
MIAR IAmb IAmb 21 21 43.2
comp=Z,5.6nm,0.8s
MIAR Mount Ida 45.06 102 P 21 21 41.6
baz=326,SNR=5.1
W41B Gary Mavity, V 45.13 100 P 21 21 42.0
baz=327
M53A WI Miller and 45.23 84 P 21 21 43.6
baz=323
TX31 Lajitas Ar. Si 45.24 116 P **P** **21 21 44.0 +1.0**
TX31 IAmb IAmb 21 21 45.7
comp=Z,16nm,1.2s
TX32 Lajitas Array 45.24 116 P **P** **21 21 44.7 +1.7**
TXAR Lajitas Array 45.24 116 P **P** **21 21 44.8 +1.8**
comp=Z,2.2nm,0.6s,baz=329,slow=6.0,SNR=12
TXAR Lajitas Array 45.24 116 P **P** **21 21 44.2 +1.2**
G58A Ormstown 45.24 76 P 21 21 43.0
baz=322
E60A Ste Agathe de 45.42 73 P 21 21 44.6
baz=321
J56A Wolcott 45.48 80 P 21 21 44.7
baz=322
I57A Carthage 45.48 78 P 21 21 45.0
baz=322
F60A Warwick 45.52 73 P 21 21 45.1
baz=322
WHTX Lake Whitney, 45.54 108 P 21 21 45.6
baz=330
M54A Oil Creek Stat 45.63 83 P 21 21 46.2
baz=323
H58A Gabriels 45.76 77 P 21 21 47.7
baz=322
E61A Lac Etchemin 45.78 72 P 21 21 47.2
baz=322

H59A Cadyville 45.80 76 P 21 21 46.9
baz=322
JCT Junction City 45.84 111 P **P** **21 21 48.1 +0.4**
JCT IAmb IAmb 21 21 49.2
comp=Z,7.5nm,0.6s
JCT PcP **PcP** **21 23 19.4 -3.2**
JCT Junction City 45.84 111 P 21 21 48.4
baz=331
N54A Moraine State 45.92 84 P 21 21 47.6
baz=324
F61A St Evariste 45.93 73 P 21 21 47.3
baz=322
I58A Old Forge 45.98 78 P 21 21 49.4
baz=322
E62A Clayton Lake 46.05 71 P 21 21 48.8
baz=322
WVT Waverly 46.31 95 P **P** **21 21 51.9 +0.6**
WVT IAmb IAmb 21 22 03.4
comp=Z,6.1nm,0.6s
WVT Waverly 46.31 95 P 21 21 51.9
baz=326
G62A West of Eustis 46.72 73 P 21 21 54.8
baz=322
OXF Oxford 46.95 98 P **P** **21 21 55.0 -1.2**
CLTN Cedars of Leba 47.02 94 **P** **21 21 57.3 +0.6**
CLTN IAmb IAmb 21 21 58.6
comp=Z,12nm,1.0s
SSPA Standing Stone 47.12 83 P 21 21 57.5
baz=324
F64A Sherman 47.15 71 P 21 21 58.1
baz=322
PLAL Pickwick Lake 47.16 96 P **P** **21 21 58.2 +0.4**
PLAL IAmb IAmb 21 21 59.3
comp=Z,6.5nm,0.9s
ARCES ARCESS Array B 47.48 2 P **P** **21 21 59.5 -0.5**
comp=Z,1.1nm,0.6s,baz=8.9,slow=8.6,SNR=4.6
ARCES ARCESS Array B 47.48 2 P **P** **21 22 00.2 +0.2**
143A Socs Landing, 47.58 101 P **P** **21 22 02.8 +1.7**
TZTN Tazewell 47.91 91 P 21 22 04.5
baz=326
X48A Hartselle 48.06 96 P **P** **21 22 04.5 -0.3**
X48A IAmb IAmb 21 22 21.5
comp=Z,6.8nm,0.8s
CN2 Changchun 49.46 289 *eP* **P** **21 22 15.3 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MJAR Matsushiro Arr 49.72 273 P **P** **21 22 17.6 +0.2**
comp=Z,0.9nm,0.6s,baz=8.9,slow=8.9,SNR=4.6
MJAR Matsushiro Arr 49.72 273 P **P** **21 22 17.3 -0.1**
KSRS Korea Array 53.58 282 P **P** **21 22 46.6 +0.7**
comp=Z,1.6nm,0.6s,baz=29,slow=6.1,SNR=8.4
KSRS Korea Array 53.58 282 P **P** **21 22 46.6 +0.7**
KSAR Wonju Array Be 53.60 282 P **P** **21 22 46.3 +0.1**
SONM Songino Array 53.80 306 P **P** **21 22 49.0 +1.3**
comp=Z,3.3nm,0.7s,baz=24,slow=6.1,SNR=14
SONM Songino Array 53.80 306 P **P** **21 22 48.7 +1.0**
SONM IAmb IAmb 21 22 49.6
comp=Z,3.7nm,0.9s
NOA NORSAR Array B 55.29 11 P **P** **21 22 57.6 -0.5**
comp=Z,0.4nm,0.5s,baz=340,slow=7.6,SNR=2.3
ZAA0 Zalesovo Array 55.42 324 P **P** **21 22 57.7 -1.4**
ZAA0 IAmb IAmb 21 22 59.2
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 55.42 324 P **P** **21 22 58.5 -0.6**
comp=Z,4.2nm,0.5s,baz=18,slow=7.4,SNR=14
ZALV Zalesovo Beam 55.42 324 P **P** **21 22 57.6 -1.5**
FINES FINESS Array B 55.61 2 P **P** **21 23 00.3 0.0**
comp=Z,1.8nm,0.8s,baz=14,slow=8.6,SNR=4.1
FINES FINESS Array B 55.61 2 P **P** **21 23 00.7 +0.3**
HHC Hu-ho-hao-te 57.69 297 *eP* **P** **21 23 17.3 +1.8**
ARU Arti 58.54 341 P **P** **21 23 20.6 -0.4**
BRVK Borovoye 59.70 333 P **P** **21 23 28.6 -0.4**
BRVK IAmb IAmb 21 23 29.4
comp=Z,7.4nm,1.1s
MK31 Makanchi Array 62.58 322 P **P** **21 23 47.4 -1.2**
MK31 IAmb IAmb 21 23 48.0
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 62.58 322 P **P** **21 23 47.8 -0.9**
comp=Z,3.0nm,0.5s,baz=44,slow=6.7,SNR=40
MKAR Makanchi Array 62.58 322 P **P** **21 23 47.2 -1.5**
WMQ Urumqi 63.68 317 *eP* **P** **21 23 59.8 +3.8**
ABKAR Akbulak array 65.27 338 P **P** **21 24 05.2 -0.9**
ABKAR IAmb IAmb 21 24 06.7
comp=Z,3.5nm,0.6s
ABKAR PcP **pP** **21 24 38.0 -0.4**
AKASG Malin Array Be 66.41 0 P **P** **21 24 12.7 -0.7**
comp=Z,1.6nm,0.4s,baz=3.9,slow=6.5,SNR=11
AKASG Malin Array Be 66.41 0 P **P** **21 24 13.2 -0.1**
KOLS Kolonicke sedl 68.04 5 *eP* **P** **21 24 23.7 0.0**
KKAR Karatay Array 69.05 329 P **P** **21 24 29.6 -0.5**
CHGR Chuyangaron 73.59 328 P **P** **21 24 57.0 -0.5**
SLVN Son La 77.86 293 P **P** **21 25 22.1 +0.2**
SLVN IAmb IAmb 21 25 23.1
comp=Z,5.2nm,0.8s
CMAR Chiang Mai Arr 82.48 296 P **P** **21 25 46.4 -0.3**
comp=Z,1.5nm,0.6s,baz=7.9,slow=6.4,SNR=15
CMAR Chiang Mai Arr 82.48 296 P **P** **21 25 46.2 -0.5**
MMAI Mount Meron Ar 83.96 355 P **P** **21 25 54.1 0.0**
comp=Z,2.6nm,1.1s,baz=22,slow=4.7,SNR=2.0
BOSA Boshof 145.27 6 PKPbc **PKPdf** **21 33 00.4 -0.2**
comp=Z,1.7nm,0.8s,baz=56,slow=6.4,SNR=3.3
BOSA Boshof 145.27 6 **PKPdf** **21 33 00.2 -0.4**
QSPA South Pole Qui 153.05 180 PKPbc **PKPbc** **21 33 18.8 -0.3**
comp=Z,0.3nm,0.4s,baz=247,slow=3.8,SNR=1.2

*IDC **15** 21:22:44.7±3.1,2˚.98S×137˚.50E, h52km±27km, mb4.1/9, mb1 4.3/13, mb1mx4.0/35, mbtmp4.5/13, ML4.4/2, Error ellipse: s-maj=31.3km s-min=14.5km az=58.0*
*DJA **15** 21:22:44.1±0.5, 3˚S±20˚×13˚7E±˚, h106km±25km, M4.6/5, mb4.7/3, mB4.7/1, MLv4.5/5, Mw(mB)3.9/1*
*NEIC **15** 21:22:46.0±2.3, 3.17S±0.08×137.37E±0.08, h59km±6km, mb4.6/42, Error ellipse: s-maj=13.2km s-min=11.4km az=224.0*
ISC 15 21:22:44.6±0.4,**3.14S**±0.05×**137.40E**±0.06,**h50km,n107,**
σ1s22/114,mb4.5/41,1C-1D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SRPI	**Serui, Papua**	**1.71**	**318**	P	**Pn**	**21 23 12.5**	**+0.4**
SRPI				S	**Sn**	**21 23 33.7**	**+0.9**
BAKI	**Biak**	**2.33**	**326**	P	**Pn**	**21 23 19.4**	**-1.1**
GENI	**Genyem**	**2.82**	**79**	P	**Pn**	**21 23 25.7**	**-1.6**
FAKI	**Fak Fak**	**5.14**	**272**	Pn	**Pn**	**21 24 00.4**	**+1.2**
SIJI	**Sorong**	**6.53**	**290**	P	**Pn**	**21 24 18.7**	**+0.5**
	6.4nm,0.3s,baz=135,slow=23,SNR=22						
SIJI				S	**Sn**	**21 25 29.6**	**-1.8**
	4.2nm,0.3s,baz=274,slow=23,SNR=6.4						
SIJI	**Sorong**	**6.53**	**290**	P	**Pn**	**21 24 19.8**	**+1.6**
SIJI	**Sorong**	**6.53**	**290**	P	**Pn**	**21 24 19.2**	**+1.0**
	0.1nm798nm24nm,0.7s						
SIJI				S	**Sn**	**21 25 28.8**	**-2.6**
	0.1nm798nm24nm,0.7s						
SWI	**Sorong**	**6.54**	**290**	P	**Pn**	**21 24 20.1**	**+1.8**
SWI	**Sorong**	**6.54**	**290**	P	**Pn**	**21 24 19.9**	**+1.6**
	0.4nm60nm,0.6s						
PMG	**Port Moresby**	**11.52**	**123**	P	**Pn**	**21 25 27.6**	**+1.0**
	0.7nm,0.3s,baz=194,slow=14,SNR=2.4						
PMG	**Port Moresby**	**11.52**	**123**		**Pn**	**21 25 28.1**	**+1.5**
SOEI	**Soe**	**14.60**	**243**		**Pn**	**21 26 10.4**	**+1.9**
BATI	**Baumata**	**15.33**	**242**	P	**Pn**	**21 26 20.0**	**+2.0**
	4.9nm,0.3s,baz=94,slow=2.9,SNR=6.7						
BATI				S	**Sn**	**21 29 02.4**	**-4.5**
	2.9nm,0.3s,baz=144,slow=20,SNR=2.0						
WB0	**Warramunga Arr**	**16.78**	**190**	Pn	**Pn**	**21 26 34.5**	**-1.8**
WB0				IAmb	IAmb	21 26 42.1	
	comp=Z,57nm,0.9s						
WR0	**Warramunga Arr**	**16.95**	**189**	P	**Pn**	**21 26 37.3**	**-1.1**
WR0				IAmb	IAmb	21 26 44.1	
	comp=Z,37nm,0.9s						
WRAB	**Tennant Creek**	**16.95**	**190**	P	**Pn**	**21 26 36.6**	**-1.8**
WRAB				IAmb	IAmb	21 26 44.2	
	comp=Z,60nm,1.0s						
WB2	**Warramunga Arr**	**16.96**	**190**		**Pn**	**21 26 37.0**	**-1.6**
WRA	**Warramunga Arr**	**16.96**	**190**	P	**Pn**	**21 26 36.4**	**-2.1**
	comp=Z,2.2nm,0.3s,baz=13,slow=13,SNR=33						
WRA				S	Sn	21 29 38.4	-7.9
	comp=Z,1.1nm,0.3s,baz=10.0,slow=21,SNR=4.7						
WRA	**Warramunga Arr**	**16.96**	**190**		**Pn**	**21 26 37.2**	**-1.4**
TOLI2	**Tolitoli**	**17.14**	**284**		**P**	**21 26 44.0**	**+2.1**
TOLI2				IAmb	IAmb	21 26 45.3	
	comp=Z,40nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.80**	**217**	P	**P**	**21 26 56.5**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=14,slow=8.8,SNR=7.1						
FITZ				S	Sn	21 30 18.9	-12
	comp=Z,0.6nm,0.3s,baz=165,slow=5.8,SNR=2.6						
CTA	**Charters Tower**	**18.93**	**154**	P	**Pn**	**21 27 03.0**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=326,slow=12,SNR=7.4						
CTAO	**Charters Tower**	**18.93**	**154**	P	**Pn**	**21 27 03.3**	**+0.7**
AS31	**Alice Springs**	**20.68**	**189**		**P**	**21 27 22.2**	**+1.6**
AS31				IAmb	IAmb	21 27 23.7	
	comp=Z,23nm,0.6s						
ASAR	**Alice Springs**	**20.68**	**189**	P	**P**	**21 27 22.4**	**+1.7**
	comp=Z,39nm,0.6s,baz=17,slow=11,SNR=393						
ASAR				S	**S**	**21 31 07.5**	**-1.5**
	comp=Z,4.1nm,0.8s,baz=11,slow=26,SNR=4.3						
ASAR	**Alice Springs**	**20.68**	**189**	P	**P**	**21 27 22.6**	**+1.9**
STKA	**Stephens Creek**	**28.85**	**173**	P	**P**	**21 28 38.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=348,slow=7.7,SNR=7.7						
STKA	**Stephens Creek**	**28.85**	**173**	P	**P**	**21 28 38.7**	**+0.2**
CISI	**Cisompet, Garu**	**29.77**	**260**	P	**P**	**21 28 47.1**	**+0.2**
CISI				IAmb	IAmb	21 28 49.4	
	comp=Z,24nm,1.3s						
YOJ	**Yonaguni jima**	**30.80**	**334**	P	**P**	**21 28 55.7**	**-0.1**
BKNI	**Bangkinang**	**36.50**	**275**	P	**P**	**21 29 45.1**	**-0.5**
JHS	**Saijyo**	**38.15**	**354**	P	**P**	**21 29 58.6**	**-0.7**
JWT	**Wachi**	**38.27**	**357**	P	**P**	**21 29 58.7**	**-1.4**
JWT				IAmb	IAmb	21 30 16.6	
	comp=Z,5.6nm,0.8s						
NJ2	**Nanjing**	**39.18**	**335**	*eP*	**P**	**21 30 08.4**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NONG	**Nongkai**	**39.79**	**303**	P	**P**	**21 30 13.0**	**-0.2**
	comp=Z,29nm,0.8s						
NONG	**Nongkai**	**39.79**	**303**	P	**P**	**21 30 13.0**	**-0.2**
	comp=Z,29nm,0.8s						
CHAI	**Chaiyaphum**	**39.80**	**299**	P	**P**	**21 30 13.9**	**+0.6**
	comp=Z,91nmcomp=Z,3.2nm,0.8s						
CHAI	**Chaiyaphum**	**39.80**	**299**	P	**P**	**21 30 13.9**	**+0.6**
GSI	**Gunungsitoli**	**40.05**	**276**	P	**P**	**21 30 14.6**	**-0.8**
SLVN	**Son La**	**40.83**	**308**	P	**P**	**21 30 21.5**	**-0.3**
SLVN				IAmb	IAmb	21 30 23.2	
	comp=Z,7.1nm,0.8s						
LHMI	**Lhok Sumawe**	**41.25**	**282**	P	**P**	**21 30 25.9**	**+0.6**
KSRS	**Korea Array**	**41.34**	**349**	PcP	**PcP**	**21 32 23.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=185,slow=4.3,SNR=4.5						
UTTA	**Uttaradit**	**41.84**	**301**	P	**P**	**21 30 30.7**	**+0.7**
	comp=Z,3.7nm,0.9s						
UTHA	**Uthaitani**	**41.90**	**297**	P	**P**	**21 30 32.9**	**+2.4**
	comp=Z,4.2nm,1.0s						
ENH	**Enshi**	**42.61**	**323**	P	**P**	**21 30 35.9**	**-0.3**
ENH				IAmb	IAmb	21 30 36.6	
	comp=Z,6.5nm,0.9s						
CM01	**Chiang Mai Arr**	**43.49**	**301**	P	**P**	**21 30 44.0**	**+0.5**
	comp=Z,109nmcomp=Z,14nm,0.9s						
CM31	**Chiang Mai Arr**	**43.52**	**301**	P	**P**	**21 30 43.7**	**0.0**
CM31				IAmb	IAmb	21 30 45.2	
	comp=Z,18nm,1.1s						
CMAR	**Chiang Mai Arr**	**43.52**	**301**	P	**P**	**21 30 44.3**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=123,slow=6.7,SNR=35						
CMAR				pP	**pP**	**21 30 59.8**	**+2.6**
	comp=Z,2.4nm,0.7s,baz=122,slow=7.4,SNR=3.7						
CMAR				PcP	**PcP**	**21 32 30.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=173,slow=3.1,SNR=1.7						
CMAR	**Chiang Mai Arr**	**43.52**	**301**	P	**P**	**21 30 43.7**	**0.0**
CM15	**Chiang Mai Arr**	**43.54**	**301**	P	**P**	**21 30 44.6**	**+0.8**
	comp=Z,15nm,0.8s						
CMMT	**Chiang Mai**	**43.67**	**301**	P	**P**	**21 30 44.4**	**-0.5**
	comp=Z,16nm,1.1s						
CMMT	**Chiang Mai**	**43.67**	**301**	P	**P**	**21 30 44.4**	**-0.5**
CHTO	**Chiang Mai**	**43.68**	**301**	P	**P**	**21 30 44.7**	**-0.3**
CHTO				IAmb	IAmb	21 30 46.1	
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**43.68**	**301**	P	**P**	**21 30 45.4**	**+0.4**
KMI	**Kunming**	**43.82**	**312**	⇑P	**P**	**21 30 47.5**	**+1.2**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
CD2	**Chengdu**	**46.63**	**319**	*eP*	**P**	**21 31 09.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**47.38**	**355**	P	**P**	**21 31 12.2**	**-1.6**
HHC	**Hu-ho-hao-te**	**49.74**	**334**	*eP*	**P**	**21 31 34.0**	**+1.9**
SHL	**Shillong**	**52.51**	**306**	P	**P**	**21 31 52.9**	**-0.5**
GTA	**Gaotai**	**54.65**	**325**	⇓P	**P**	**21 32 08.8**	**+0.1**
GTA				pP	pP	21 32 24.8	+2.3
GTA				sP	sP	21 32 33.3	+5.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TAPN	**Taplejung**	**56.65**	**306**	*eP*	**P**	**21 32 23.9**	**+0.4**
	comp=Z,24nm,0.6s						
ODAN	**Odare**	**56.72**	**305**	*eP*	**P**	**21 32 24.3**	**+0.4**
	comp=Z,58nm,0.7s						
ULN	**Ulaanbaatar**	**57.32**	**336**	P	**P**	**21 32 27.5**	**-0.1**
ULN				IAmb	IAmb	21 32 27.9	
	comp=Z,2.3nm,0.6s						
RAMN	**Ramite**	**57.40**	**305**	*eP*	**P**	**21 32 29.4**	**+0.7**
	comp=Z,33nm,0.7s						
GUN	**Gumba**	**58.36**	**306**	*eP*	**P**	**21 32 36.1**	**+0.5**
PKI	**Pulchoki**	**58.62**	**305**	*eP*	**P**	**21 32 37.3**	**0.0**
PKIN	**Phulchoki**	**58.63**	**305**	*eP*	**P**	**21 32 37.4**	**+0.1**
KKN	**Kakani**	**58.80**	**305**	*eP*	**P**	**21 32 39.1**	**+0.6**
DMN	**Daman**	**58.88**	**305**	*eP*	**P**	**21 32 39.6**	**+0.5**
	comp=Z,28nm,0.6s						
GKN	**Gorkha**	**59.41**	**305**	*eP*	**P**	**21 32 42.9**	**+0.3**
	comp=Z,53nm,0.7s						
KOLN	**Koldanda**	**60.17**	**304**	*eP*	**P**	**21 32 48.4**	**+0.5**
DANN	**Dangsing**	**60.26**	**305**	*eP*	**P**	**21 32 48.7**	**+0.1**
	comp=Z,26nm,0.7s						
PYUN	**Piuthan**	**60.80**	**305**	*eP*	**P**	**21 32 52.6**	**+0.4**
	comp=Z,74nm,0.7s						
WMQ	**Urumqi**	**64.54**	**322**	*eP*	**P**	**21 33 17.9**	**+1.2**
MKAR	**Makanchi Array**	**69.34**	**323**	P	**P**	**21 33 46.1**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=111,slow=7.5,SNR=8.2						
MAKZ	**Makanchi**	**69.53**	**323**	P	**P**	**21 33 47.9**	**-0.4**
MAKZ				IAmb	IAmb	21 33 48.7	
	comp=Z,6.5nm,1.2s						
NIL	**Nilore**	**70.54**	**307**	P	**P**	**21 33 53.8**	**-0.9**
ZAA0	**Zalesovo Array**	**71.66**	**330**	P	**P**	**21 34 00.7**	**-0.2**
ZALV	**Zalesovo Beam**	**71.66**	**330**	P	**P**	**21 33 60.0**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=124,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**71.66**	**330**	P	**P**	**21 34 00.1**	**-0.8**
ARSB	**Arslanbob**	**73.20**	**315**	P	**P**	**21 34 11.2**	**+0.5**
GAR	**Garm**	**74.40**	**312**	P	**P**	**21 34 16.8**	**-1.0**
GAR				IAmb	IAmb	21 34 18.2	
	comp=Z,10nm,0.9s						
TIXI	**Tiksi**	**74.86**	**357**	P	**P**	**21 34 18.8**	**-0.7**
CHGR	**Chuyangaron**	**75.17**	**311**	P	**P**	**21 34 22.0**	**-0.2**
VNDA	**Vanda**	**75.47**	**175**	P	**P**	**21 34 23.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=326,slow=6.6,SNR=13						
VNDA	**Vanda**	**75.47**	**175**	P	**P**	**21 34 23.3**	**+0.2**
KKAR	**Karatay Array**	**75.52**	**316**	P	**P**	**21 34 23.7**	**-0.2**
BRVK	**Borovoye**	**78.99**	**325**	P	**P**	**21 34 42.8**	**-0.4**
BRVK				IAmb	IAmb	21 34 43.6	
	comp=Z,8.6nm,1.4s						
GEYT	**Alibeck**	**83.48**	**309**	P	**P**	**21 35 07.3**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=64,slow=13,SNR=2.1						
GEYT	**Alibeck**	**83.48**	**309**	P	**P**	**21 35 07.7**	**+0.3**
GEYT				IAmb	IAmb	21 35 21.5	
	comp=Z,4.2nm,0.8s						
ABKAR	**Akbulak array**	**84.20**	**320**	P	**P**	**21 35 10.6**	**-0.2**
MLY	**Manley**	**85.26**	**24**	P	**P**	**21 35 15.3**	**-0.5**
SCM	**Sheep Creek Mo**	**85.84**	**27**	P	**P**	**21 35 16.0**	**-2.8**
SCM				IAmb	IAmb	21 35 19.9	
	comp=Z,5.5nm,0.7s						
ILAR	**Eielson Array**	**86.77**	**25**	P	**P**	**21 35 20.7**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=276,slow=4.1,SNR=7.0						
ILAR	**Eielson Array**	**86.77**	**25**	P	**P**	**21 35 22.3**	**-0.9**
QSPA	**South Pole Qui**	**86.81**	**180**	P	**P**	**21 35 23.5**	**0.0**
	comp=Z,5.2nm,0.7s,baz=330,slow=1.7,SNR=12						
QSPA	**South Pole Qui**	**86.81**	**180**	P	**P**	**21 35 23.6**	**0.0**
PAX	**Paxson**	**86.95**	**26**	P	**P**	**21 35 23.6**	**-0.7**
PAX				IAmb	IAmb	21 35 33.1	
	comp=Z,3.9nm,0.7s						
PRP	**Porcupine Dome**	**87.50**	**24**	P	**P**	**21 35 29.1**	**+2.2**
PRP				IAmb	IAmb	21 35 29.6	
	comp=Z,2.4nm,0.7s						
DOT	**Dot Lake**	**87.72**	**26**	P	**P**	**21 35 27.4**	**-0.5**
DOT				IAmb	IAmb	21 35 28.2	
	comp=Z,2.8nm,0.8s						
L27K	**Beaver Creek,**	**88.60**	**27**	P	**P**	**21 35 32.8**	**+0.7**
L27K				IAmb	IAmb	21 35 33.0	
	comp=Z,2.8nm,1.0s						
BCAR	**Beaver Creek A**	**88.62**	**27**	P	**P**	**21 35 32.2**	**0.0**
K27K	**Chicken**	**88.66**	**26**	P	**P**	**21 35 32.2**	**0.0**
K27K				IAmb	IAmb	21 35 33.3	
	comp=Z,4.2nm,0.8s						
CPUP	**Villa Florida**	**147.42**	**155**	PKPbc	**PKPbc**	**21 42 24.7**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=269,slow=2.5,SNR=8.1						
LPAZ	**La Paz**	**148.23**	**128**	PKPbc	**PKPbc**	**21 42 27.6**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=255,slow=3.8,SNR=15						
LPAZ	**La Paz**	**148.23**	**128**		**PKPbc**	**21 42 26.3**	**-0.7**

SIV	**San Ignacio**	**153.63**	**137**	PKPbc	**PKPbc**	**21**	**42**	**38.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=0.0,slow=1.0,SNR=4.5								

IDC ***15*** *21:23:10.3±13.0, 1˚.83S×124˚.86E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/45, mbtmp4.0/4, ML4.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/45, Error ellipse: s-maj=320.4km s-min=32.2km az=127.0*

DJA ***15*** *21:23:11.4±0.3, 2˚.5S×12˚.5E±˚, h10km, M4.0/9, mb4.0/2, MLv3.9/9*

NEIC ***15*** *21:23:12.9±1.9, 2˚.2S±0˚.1×125˚.18E±0˚.10, h21km±11km, mb4.2/6, Error ellipse: s-maj=22.1km s-min=11.3km az=156.0*

ISC 15 21:23:12.4±0.8, 2˚.14S±0˚.08×125˚.14E±0˚.05, h26km, n27, σ1§25/27, mb4.2/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
SANI	**Sanana**	**0.85**	**84**	P	**Pb**	**21**	**23**	**26.6**	**-1.9**
NLAI	**Namlea**	**2.24**	**119**	P	**Pn**	**21**	**23**	**48.2**	**+0.4**
LUWI	**Luwuk**	**2.61**	**295**	Pn	**Pn**	**21**	**23**	**52.5**	**-0.4**
LUWI	**Luwuk**	**2.61**	**295**	P	**Pn**	**21**	**23**	**52.7**	**-0.2**
KRAI	**Karang Ratu**	**3.45**	**110**	P	**Pn**	**21**	**24**	**06.4**	**+1.9**
KRAI	**Karang Ratu**	**3.45**	**110**	P	**Pn**	**21**	**24**	**05.6**	**+1.1**
TNTI	**Ternate**	**3.65**	**38**	Pn	**Pn**	**21**	**24**	**07.8**	**+0.7**
APSI	**Ampana**	**3.70**	**289**	P	**Pn**	**21**	**24**	**08.2**	**+0.3**
MRSI	**Marisa**	**4.12**	**309**	P	**Pn**	**21**	**24**	**14.7**	**+1.0**
TTSI	**Tana Toraja**	**5.39**	**260**	P	**Pn**	**21**	**24**	**32.1**	**+0.9**
TOLI2	**Tolitoli**	**5.42**	**306**	Pn	**Pn**	**21**	**24**	**34.1**	**+2.5**
KAPI	**Kappang**	**6.09**	**242**	Pn	**Pn**	**21**	**24**	**41.1**	**+0.4**
	6.4nm,0.3s,baz=153,slow=3.4,SNR=8.8								
KAPI				Sn	**Sn**	**21**	**25**	**48.6**	**-1.1**
	1.5nm,0.3s,baz=178,slow=23,SNR=1.2								
KAPI	**Kappang**	**6.09**	**242**		**Pn**	**21**	**24**	**42.6**	**+1.9**
SIJI	**Sorong**	**6.25**	**78**	LR	LR	21	27	37.4	
	comp=Z,376nm,18.0s,baz=301,slow=41								
EDFI	**Ende, Flores**	**7.41**	**207**	P	**Pn**	**21**	**24**	**58.4**	**-0.6**
SONM	**Songino Array**	**52.40**	**344**	P	**P**	**21**	**32**	**21.5**	**-1.1**
	1.2nm,0.6s,baz=152,slow=6.5,SNR=5.4								
SONM	**Songino Array**	**52.40**	**344**	P	**P**	**21**	**32**	**22.7**	**+0.1**
SONM				IAmb	IAmb	21	32	29.3	
	comp=Z,1.6nm,0.8s								
MK31	**Makanchi Array**	**61.55**	**328**	P	**P**	**21**	**33**	**28.6**	**+1.2**
MK31				IAmb	IAmb	21	33	29.2	
	comp=Z,2.1nm,0.9s								
MKAR	**Makanchi Array**	**61.55**	**328**	P	**P**	**21**	**33**	**27.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=124,slow=8.2,SNR=17								
MKAR	**Makanchi Array**	**61.55**	**328**	P	**P**	**21**	**33**	**28.1**	**+0.8**
MAKZ	**Makanchi**	**61.73**	**328**	P	**P**	**21**	**33**	**29.2**	**+0.7**
MAKZ				IAmb	IAmb	21	33	40.3	
	comp=Z,2.6nm,1.2s								
ARSB	**Arslanbob**	**64.07**	**319**	P	**P**	**21**	**33**	**46.6**	**+2.2**
ARSB				IAmb	IAmb	21	33	50.2	
	comp=Z,3.1nm,1.0s								
GAR	**Garm**	**64.83**	**315**	P	**P**	**21**	**33**	**49.9**	**+0.5**
ZALV	**Zalesovo Beam**	**65.14**	**335**	P	**P**	**21**	**33**	**49.2**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=102,slow=7.5,SNR=4.0								
ZALV	**Zalesovo Beam**	**65.14**	**335**	P	**P**	**21**	**33**	**50.9**	**0.0**
KKAR	**Karatay Array**	**66.52**	**319**	P	**P**	**21**	**34**	**02.0**	**+1.9**
ABKAR	**Akbulak array**	**75.72**	**322**	P	**P**	**21**	**34**	**56.0**	**+0.4**

NDI ***15*** *21:39:19.9±2.0, 22˚.26N×94˚.12E, h60km±59km, mb4.3, ML3.8, mb4.3(NEIC)*

IDC ***15*** *21:39:20.0±1.5, 21˚.86N×93˚.93E, h77km±16km, mb3.5/9, mb1 3.7/11, mb1mx3.4/44, mbtmp3.9/11, Error ellipse: s-maj=35.4km s-min=9.4km az=36.0*

NEIC ***15*** *21:39:20.2±0.7, 22˚.1N±0˚.1×94˚.14E±0˚.09, h75km±7km, mb4.3/11, Error ellipse: s-maj=19.7km s-min=9.4km az=208.0*

ISC 15 21:39:19.0±0.5, 22˚.18N±0˚.07×94˚.09E±0˚.06, h64km, n46, σ1§96/52, mb4.0/16, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
BRDH	**Bariadhala**	**2.32**	**283**	P	**Pn**	**21**	**39**	**57.1**	**+2.2**
	75nm,0.3s,baz=253,slow=22,SNR=16								
BRDH				S	**Sn**	**21**	**40**	**22.8**	**+0.5**
	195nm,0.3s,baz=244,slow=22,SNR=14								
SHL	**Shillong**	**3.93**	**330**	*e*P	**Pn**	**21**	**40**	**18.1**	**+1.0**
SHL				*e*S	**Sn**	**21**	**40**	**58.2**	**-3.9**
SHL				IAML		21	41	05.4	
	comp=E,289nm,0.1s								
GUWA	**GUWAHATI**	**4.56**	**332**	*e*P	**Pn**	**21**	**40**	**24.5**	**-1.0**
GUWA				*e*S	**Sn**	**21**	**41**	**12.0**	**-5.1**
MHMT	**Maesarieng**	**5.37**	**137**	P	**Pn**	**21**	**40**	**36.2**	**-0.5**
CM33	**Chiang Mai Arr**	**5.65**	**125**	P	**Pn**	**21**	**40**	**39.9**	**-0.6**
CHTO	**Chiang Mai**	**5.65**	**125**		**Pn**	**21**	**40**	**40.1**	**-0.4**
CMMT	**Chiang Mai**	**5.65**	**125**	P	**Pn**	**21**	**40**	**39.6**	**-0.9**
CM31	**Chiang Mai Arr**	**5.87**	**128**		**Pn**	**21**	**40**	**43.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**5.87**	**128**	P	**Pn**	**21**	**40**	**43.5**	**0.0**
	comp=E,3.3nm,0.3s,baz=304,slow=14,SNR=188								
CMAR				S	**Sn**	**21**	**41**	**49.7**	**+0.2**
	baz=300,slow=18,SNR=1.1								
CMAR	**Chiang Mai Arr**	**5.87**	**128**	Pn	**Pn**	**21**	**40**	**43.2**	**-0.3**
CM02	**Chiang Mai Arr**	**5.89**	**128**	P	**Pn**	**21**	**40**	**43.9**	**+0.2**
CM05	**Chiang Mai Arr**	**5.91**	**129**	P	**Pn**	**21**	**40**	**44.3**	**+0.3**
CM04	**Chiang Mai Arr**	**5.93**	**128**	P	**Pn**	**21**	**40**	**44.5**	**+0.2**
GTK	**Tadong**	**7.14**	**317**	*e*P	**Pn**	**21**	**41**	**01.9**	**+0.8**
GTK				*e*S	**Sn**	**21**	**42**	**14.7**	**-6.1**
GTK				IAML		21	42	20.7	
	comp=E,110nm,0.2s								
UTTA	**Uttaradit**	**7.51**	**125**	P	**Pn**	**21**	**41**	**05.6**	**-0.4**
BOK	**Bokaro**	**7.73**	**284**	*e*P	**Pn**	**21**	**41**	**09.4**	**+0.5**
BOK				*e*S	**Sn**	**21**	**42**	**29.1**	**-5.9**
BOK				IAML		21	42	35.5	
	comp=E,48nm,0.2s								
PHIT	**Phitsanulok**	**7.76**	**129**	P	**Pn**	**21**	**41**	**09.9**	**+0.6**
LSA	**Lhasa**	**7.94**	**341**	Pn	**Pn**	**21**	**41**	**14.1**	**+1.8**
SLVN	**Son La**	**9.16**	**93**	Pn	**Pn**	**21**	**41**	**29.9**	**+1.3**
BHPL	**Bhopal**	**15.42**	**277**	*e*P	**Pn**	**21**	**42**	**52.6**	**-0.2**
BHPL				IAmb	IAmb	21	42	53.3	
	comp=Z,15nm,0.5s								
BHPL				*e*S	Sn	21	45	29.5	-13
SMLA	**Simla**	**17.54**	**304**	*e*P	**P**	**21**	**43**	**25.5**	**+1.0**
DHRM	**DHARAMSHALA**	**18.71**	**306**	*e*P	**Pn**	**21**	**43**	**38.1**	**+4.5**
DHRM				IAmb	IAmb	21	43	39.1	
	comp=Z,9.3nm,0.6s								
DHRM				*e*S	S	21	46	46.9	-15
MK31	**Makanchi Array**	**26.35**	**342**	P	**P**	**21**	**44**	**49.9**	**+0.8**
MKAR	**Makanchi Array**	**26.35**	**342**	P	**P**	**21**	**44**	**50.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=149,slow=11,SNR=2.5								
MKAR	**Makanchi Array**	**26.35**	**342**	P	**P**	**21**	**44**	**49.6**	**+0.6**
ZALV	**Zalesovo Beam**	**32.49**	**350**	P	**P**	**21**	**45**	**45.6**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=155,slow=7.2,SNR=1.9								
ABKAR	**Akbulak array**	**38.17**	**323**	P	**P**	**21**	**46**	**33.4**	**+1.2**
ABKAR				IAmb	IAmb	21	46	38.3	
	comp=Z,0.9nm,0.7s								
AKTO	**Aktyubinsk**	**39.86**	**324**	P	**P**	**21**	**46**	**47.3**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=113,slow=7.7,SNR=4.0								
WB0	**Warramunga Arr**	**57.35**	**134**	P	**P**	**21**	**48**	**59.3**	**-1.6**
WRA	**Warramunga Arr**	**57.44**	**134**	P	**P**	**21**	**48**	**59.7**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=322,slow=7.5,SNR=22								
WRA	**Warramunga Arr**	**57.44**	**134**	P	**P**	**21**	**48**	**59.7**	**-1.8**
WRAB	**Tennant Creek**	**57.44**	**134**	P	**P**	**21**	**48**	**59.8**	**-1.7**
WB2	**Warramunga Arr**	**57.44**	**134**	P	**P**	**21**	**48**	**59.9**	**-1.6**
WB2				IAmb	IAmb	21	49	05.6	
	comp=Z,6.6nm,1.4s								
WR0	**Warramunga Arr**	**57.58**	**134**	P	**P**	**21**	**49**	**01.0**	**-1.5**
WR0				IAmb	IAmb	21	49	15.3	
	comp=Z,3.6nm,1.1s								
ASAR	**Alice Springs**	**59.80**	**137**	P	**P**	**21**	**49**	**16.8**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=318,slow=6.9,SNR=8.5								
ASAR	**Alice Springs**	**59.80**	**137**	P	**P**	**21**	**49**	**17.4**	**-0.5**
FINES	**FINESS Array B**	**60.27**	**329**	P	**P**	**21**	**49**	**22.4**	**+1.9**
	comp=Z,2.4nm,0.9s,baz=64,slow=9.4,SNR=1.9								
ARCES	**ARCESS Array B**	**61.94**	**338**	P	**P**	**21**	**49**	**33.0**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=92,slow=8.1,SNR=1.9								
TIP	**Timpagrande**	**66.79**	**304**	P	**P**	**21**	**50**	**03.6**	**-0.4**
TIP				IAmb	IAmb	21	50	14.4	
	comp=Z,8.3nm,1.4s								
GERES	**GERESS Array B**	**67.42**	**315**	P	**P**	**21**	**50**	**07.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=19,slow=5.8,SNR=3.5								
LSZ	**Lusaka**	**74.52**	**246**	P	**P**	**21**	**50**	**51.2**	**-0.2**
LSZ				IAmb	IAmb	21	51	09.1	
	comp=Z,1.9nm,0.8s								
BMAR	**Burnt Mountain**	**80.78**	**20**	P	**P**	**21**	**51**	**25.7**	**+0.3**
LBTB	**Lobatse**	**81.35**	**239**	P	**P**	**21**	**51**	**29.0**	**-0.1**
LBTB				IAmb	IAmb	21	51	43.9	
	comp=Z,9.9nm,1.4s								
SCRK	**Sand Creek**	**83.07**	**22**	P	**P**	**21**	**51**	**36.1**	**-1.5**
SCRK				IAmb	IAmb	21	51	37.4	
	comp=Z,3.2nm,1.4s								
TORD	**Torodi Ar. Bea**	**87.30**	**283**	P	**P**	**21**	**51**	**59.3**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=86,slow=6.1,SNR=2.6								
FVM	**French Village**	**120.01**	**4**		**PKPdf**	**21**	**58**	**01.1**	**-1.6**

IDC ***15*** *22:09:49.6±0.4, 9˚.28S×125˚.10E, h0km, mb4.7/27, mb1 4.8/28, mb1mx4.6/45, mbtmp4.7/28, ML5.0/1, MS4.0/12, Ms1 4.0/12, ms1mx3.6/32, Error ellipse: s-maj=12.2km s-min=9.8km az=119.0*

NEIC ***15*** *22:09:50.4±3.2, 9˚.50S±0˚.06×125˚.21E±0˚.06, h10km±1km, mb5.0/59, Error ellipse: s-maj=10.4km s-min=9.1km az=153.0*

MOS ***15*** *22:09:52.3±0.9, 9˚.24S×125˚.08E, h34km, mb5.1/21, Error ellipse: s-maj=12.3km s-min=5.9km az=115.3*

DJA ***15*** *22:09:54.9±0.3, 10˚.S×12˚.5E±˚, h70km±8km, M4.7/22, mB5.2/19, mb5.0/22, MLv4.9/13, Mw(mB)4.5/19, MwMwp5.3/1, Mwp5.5/1*

GCMT ***15*** *22:09:54.4±0.4, 9˚.46S±0˚.03×125˚.52E±0˚.04, h26km±1km, MW4.9/49, Moment Tensor Solution. s33,c38; s49,c72; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.10±.20; Mθθ-1.53±.13; Mφφ-0.56±.13; Mrθ-0.93±.23; Mθφ-0.60±.08; Mφr2.08±.34; Best double couple: Mo2.65400×10^16 NP1:φ265.00000°, δ48.00000°, λ134.00000°. NP2: φ31.00000°, δ58.00000°, λ53.00000°. Principal axes: T 3.4840, Plg59.0000°, Azm245.0000°; N -1.6510, Plg31.0000°, Azm53.0000°; P -1.8250, Plg6.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 22:09:53.8±0.3, 9˚.44S±0˚.04×125˚.12E±0˚.04, h33km, n301, σ1§80/289, mb4.9/86, MS3.9/9, 13C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
SOEI	**Soe**	**0.90**	**250**		**Pb**	**22**	**10**	**12.2**	**+1.1**
SOEI	**Soe**	**0.90**	**250**	P	**Pb**	**22**	**10**	**11.9**	**+0.8**
SOEI				S	**Sb**	**22**	**10**	**25.9**	**+3.1**
BATI	**Baumata**	**1.63**	**242**	Pg	**Pb**	**22**	**10**	**22.3**	**-0.9**
	130nm,0.3s,baz=72,slow=0.9,SNR=191								
BATI				Lg	Lg	22	10	44.3	
	225nm,0.3s,baz=213,slow=21,SNR=11								
BATI	**Baumata**	**1.63**	**242**	P	**Pb**	**22**	**10**	**22.4**	**-0.8**
MMRI	**Maumere**	**2.96**	**285**	Pn	**Pn**	**22**	**10**	**41.1**	**+2.5**
MMRI	**Maumere**	**2.96**	**285**	P	**Pb**	**22**	**10**	**42.0**	**-3.9**
EDFI	**Ende, Flores**	**3.46**	**281**	P	**Pn**	**22**	**10**	**47.9**	**+2.4**
BASI	**Baing, Sumba**	**4.55**	**260**	P	**Pn**	**22**	**11**	**02.1**	**+1.8**
WBSI	**Waikabubak, Su**	**5.66**	**268**	P	**Pn**	**22**	**11**	**17.0**	**+1.3**
	1.1nm3µm342nm,0.7s								
KKSI	**Kolaka, Sulawe**	**6.27**	**326**	P	Pn	22	11	29.5	+5.5
	0.5nm3µm157nm,0.9s								
SAUI	**Saumlaki**	**6.28**	**77**	Pn	**Pn**	**22**	**11**	**25.6**	**+1.5**
SAUI	**Saumlaki**	**6.28**	**77**	P	**Pn**	**22**	**11**	**26.1**	**+2.0**
	3.1nm467nm,0.6s								
NLAI	**Nanga**	**6.47**	**18**	P	**Pn**	**22**	**11**	**28.8**	**+2.0**
	0.3nm2µm87nm,0.7s								
MTN	**Manton Dam**	**6.80**	**120**	P	**Pn**	**22**	**11**	**31.7**	**+0.4**
	baz=6.7,SNR=70								
KRAI	**Karang Ratu**	**6.90**	**28**	P	**Pn**	**22**	**11**	**37.0**	**+4.3**
	0.7nm15µm7µm43nm,0.9s								
KAPI	**Kappang**	**6.91**	**309**	Pn	Pn	22	11	38.1	+5.3
	2.9nm,0.3s,baz=142,slow=11,SNR=16								
KAPI				LR	LR	22	14	25.1	
	comp=Z,2µm,19.7s,baz=126,slow=41								
KAPI	**Kappang**	**6.91**	**309**	P	Pn	22	11	37.3	+4.5
KAPI	**Kappang**	**6.91**	**309**	Pn	Pn	22	11	37.3	+4.5
KAPI	**Kappang**	**6.91**	**309**	P	Pn	22	11	38.0	+5.2
	0.2nm32nm,0.8s								
MKS	**Makassar**	**7.00**	**306**	P	Pn	22	11	38.8	+4.7
	0.4nm93nm,1.2s								
BNSI	**Bone**	**7.06**	**315**	P	Pn	22	11	39.8	+4.9
	0.9nm2µm248nm,1.1s								
MSAI	**Masohi**	**7.14**	**32**	P	**Pn**	**22**	**11**	**39.6**	**+3.6**
	0.1nm1µm29nm,0.8s								
KNRA	**Kununurra**	**7.14**	**151**	P	**Pn**	**22**	**11**	**35.2**	**-0.7**
	baz=7.0,SNR=150								
PLAI	**Plampang**	**7.28**	**274**	P	**Pn**	**22**	**11**	**39.8**	**+1.9**
	1.0nm3µm297nm,0.8s								
SANI	**Sanana**	**7.39**	**7**	P	Pn	22	11	44.8	+5.3
	0.5nm2µm151nm,0.7s								
KDU	**Kakadu**	**7.90**	**115**	P	**Pn**	**22**	**11**	**46.6**	**+0.2**
	baz=7.9,SNR=183								
TWSI	**Taliwang, Sumb**	**8.17**	**274**	P	**Pn**	**22**	**11**	**50.7**	**+0.6**
	657nm56nm,0.6s								
TTSI	**Tana Toraja**	**8.26**	**320**	P	Pn	22	11	57.0	+5.7
	1µm86nm,1.0s								
FITZ	**Fitzroy Crossi**	**8.62**	**177**	Pn	**Pn**	**22**	**11**	**54.3**	**-1.9**
	9.6nm,0.3s,baz=350,slow=9.2,SNR=199								
FITZ				Sn	**Sn**	**22**	**13**	**25.0**	**-7.4**
	19nm,0.3s,baz=90,slow=11,SNR=9.3								
FITZ				LR	LR	22	15	51.1	
	comp=Z,498nm,19.7s,baz=1.5,slow=41								
FITZ	**Fitzroy Crossi**	**8.62**	**177**	P	**Pn**	**22**	**11**	**54.3**	**-1.9**
	baz=8.4,SNR=209								
LUWI	**Luwuk**	**8.67**	**344**	P	**Pn**	**22**	**11**	**59.5**	**+2.5**
	3µm295nm,1.1s								
APSI	**Ampana**	**9.15**	**338**	P	Pn	22	12	08.5	+4.9
	1µm121nm,0.9s								
FAKI	**Fak Fak**	**9.60**	**48**	Pn	**Pn**	**22**	**12**	**10.9**	**+1.1**
FAKI	**Fak Fak**	**9.60**	**48**	P	**Pn**	**22**	**12**	**11.4**	**+1.7**
	906nm111nm,0.7s								
GTOI	**Gorontalo**	**10.23**	**348**	P	Pn	22	12	26.7	+8.3
	260nm25nm,0.8s								
KMPI	**Kaimana, Papua**	**10.28**	**57**	P	**Pn**	**22**	**12**	**21.8**	**+2.8**
	9µm344nm,0.6s								
MRSI	**Marisa**	**10.35**	**342**	P	**Pn**	**22**	**12**	**24.4**	**+4.3**
SIJI	**Sorong**	**10.48**	**36**	Pn	**Pn**	**22**	**12**	**22.5**	**+0.6**
	0.9nm,0.3s,baz=190,slow=22,SNR=5.5								
SIJI				LR	LR	22	16	44.6	
	comp=Z,359nm,18.1s,baz=141,slow=40								
SIJI	**Sorong**	**10.48**	**36**	P	**Pn**	**22**	**12**	**23.8**	**+1.9**
	322nm116nm,0.6s								
SWI	**Sorong**	**10.48**	**36**	P	**Pn**	**22**	**12**	**24.6**	**+2.7**
	652nm37nm,0.7s								
JAGI	**Jajag, Banyuwa**	**10.88**	**274**	Pn	**Pn**	**22**	**12**	**25.7**	**-1.7**
MPSI	**Mapaga**	**11.02**	**332**	P	Pn	22	12	34.0	+4.8
	544nm46nm,1.1s								
PWJI	**Pagerwojo**	**13.24**	**275**	P	**Pn**	**22**	**12**	**59.2**	**-0.4**
	58nm,0.8s								
SJI	**Sawahan**	**13.32**	**276**	P	**Pn**	**22**	**13**	**02.3**	**+1.6**
	1µm65nm,0.5s								
WB0	**Warramunga Arr**	**13.62**	**140**	Pn	Pn	22	13	00.1	-4.7
BAKI	**Biak**	**13.66**	**54**	P	**Pn**	**22**	**13**	**06.3**	**+1.0**
WRA	**Warramunga Arr**	**13.72**	**141**	Pn	Pn	22	13	01.1	-5.1
	10nm,0.3s,baz=318,slow=13,SNR=421								
WRA				Sn	Sn	22	15	26.4	-11
	7.1nm,0.3s,baz=310,slow=24,SNR=20								
WRA				LR	LR	22	19	46.2	
	comp=Z,912nm,18.6s,baz=320,slow=43								
WRA	**Warramunga Arr**	**13.72**	**141**	P	Pn	22	13	00.3	-5.8
WRA	**Warramunga Arr**	**13.72**	**141**		Pn	22	13	00.3	-5.8
WRAB	**Tennant Creek**	**13.72**	**141**	*ce*P	**Pn**	**22**	**13**	**01.9**	**-4.2**
WRAB				pmax	pmax				
	comp=Z,147nm,0.6s								
WRAB	**Tennant Creek**	**13.72**	**141**		Pn	22	13	01.5	-4.6
WB2	**Warramunga Arr**	**13.73**	**141**	P	Pn	22	13	01.6	-4.7
	baz=14								
WB2	**Warramunga Arr**	**13.73**	**141**	Pn	Pn	22	13	01.1	-5.1
WR0	**Warramunga Arr**	**13.86**	**140**	Pn	Pn	22	13	03.4	-4.6
UGM	**Wanagama**	**14.51**	**275**	Pn	**Pn**	**22**	**13**	**14.7**	**-2.4**
SMRI	**Semarang**	**14.72**	**278**	Pn	**Pn**	**22**	**13**	**17.6**	**-2.3**
WRKA	**Warakurna**	**15.80**	**169**	P	**Pn**	**22**	**13**	**30.7**	**-3.3**
	baz=16,SNR=93								
AS31	**Alice Springs**	**16.45**	**150**		**Pn**	**22**	**13**	**38.8**	**-3.4**
ASPA	**Alice Springs**	**16.45**	**150**	P	**Pn**	**22**	**13**	**38.2**	**-4.0**
	baz=16								
ASAR	**Alice Springs**	**16.45**	**150**	Pn	**Pn**	**22**	**13**	**38.2**	**-4.0**
	comp=Z,11nm,0.3s,baz=319,slow=11,SNR=396								
ASAR				Sn	Sn	22	16	30.5	-13
	comp=Z,3.6nm,0.3s,baz=312,slow=19,SNR=14								
ASAR				LR	LR	22	20	49.9	
	comp=Z,586nm,18.1s,baz=330,slow=40								
ASAR	**Alice Springs**	**16.45**	**150**	P	**Pn**	**22**	**13**	**37.8**	**-4.4**
ASAR	**Alice Springs**	**16.45**	**150**		**Pn**	**22**	**13**	**37.8**	**-4.4**
GIRL	**Giralia**	**16.77**	**217**	P	**Pn**	**22**	**13**	**46.6**	**+0.3**
	baz=17,SNR=5.5								
CISI	**Cisompet, Garu**	**17.22**	**275**		**Pn**	**22**	**13**	**49.0**	**-3.0**
CISI				IAmb	IAmb	22	14	08.1	
	comp=Z,65nm,0.7s								
SBUM	**Sibu**	**17.46**	**312**	P	**P**	**22**	**13**	**59.0**	**+3.1**
LEM	**Lembang**	**17.52**	**277**	P	**Pn**	**22**	**13**	**54.5**	**-1.4**
	comp=Z,5.2nm,0.3s,baz=40,slow=12,SNR=7.1								
QIS	**Mount Isa**	**17.81**	**130**	P	**Pn**	**22**	**13**	**57.3**	**-1.9**
	baz=18,SNR=46								
MEEK	**Meekatharra**	**18.18**	**199**	P	**Pn**	**22**	**14**	**03.4**	**-0.4**
	baz=18,SNR=15								
KSM	**Kuching**	**18.31**	**306**	P	**Pn**	**22**	**14**	**08.0**	**+2.6**
MTSU	**Mount Surprise**	**20.53**	**117**	P	Pn	22	14	31.7	-0.2
	baz=20,SNR=28								
MORW	**Morawa**	**21.30**	**202**	P	P	**22**	**14**	**38.1**	**+0.3**
	baz=21,SNR=12								
FORT	**Forrest**	**21.40**	**173**	P	P	**22**	**14**	**39.5**	**+0.7**
	baz=21,SNR=32								
PMG	**Port Moresby**	**21.74**	**92**	P	**P**	**22**	**14**	**42.8**	**+0.3**
	comp=Z,15nm,0.6s,baz=259,slow=12,SNR=2.8								
PMG	**Port Moresby**	**21.74**	**92**	*i* P	**P**	**22**	**14**	**39.5**	**-3.1**
PMG				pmax	pmax				
	comp=Z,54nm,0.7s								
PMG	**Port Moresby**	**21.74**	**92**	P	**P**	**22**	**14**	**39.9**	**-2.7**
PMG				IAmb	IAmb	22	14	51.4	
	comp=Z,54nm,0.7s								
BLDU	**Ballidu**	**22.48**	**199**	P	**P**	**22**	**14**	**50.4**	**0.0**
	baz=22,SNR=13								
CTA	**Charters Tower**	**22.98**	**120**	P	**P**	**22**	**14**	**57.1**	**+1.3**
	comp=Z,58nm,0.8s,baz=301,slow=12,SNR=44								
CTA	**Charters Tower**	**22.98**	**120**	P	**P**	**22**	**14**	**57.3**	**+1.5**
	baz=23								
CTAO	**Charters Tower**	**22.98**	**120**	P	**P**	**22**	**14**	**56.4**	**+0.6**
CTAO				pmax	pmax				
	comp=Z,64nm,0.8s								
CTAO	**Charters Tower**	**22.98**	**120**	P	**P**	**22**	**14**	**56.4**	**+0.6**
CTAO				IAmb	IAmb	22	14	59.4	
	comp=Z,64nm,0.8s								
KLBR	**Kellerberrin**	**23.08**	**196**	P	**P**	**22**	**14**	**56.6**	**-0.1**
	baz=23,SNR=6.8								
MUN	**Mundaring**	**23.90**	**199**	P	**P**	**22**	**15**	**05.6**	**+1.0**
	baz=24,SNR=3.1								
NWAO	**Narrogin (SRO)**	**24.48**	**196**	P	**P**	**22**	**15**	**10.1**	**+0.1**
	comp=Z,17nm,0.7s,baz=47,slow=7.0,SNR=14								
NWAO				LR	LR	22	26	10.7	
	comp=Z,458nm,20.2s,baz=358,slow=40								
NWAO	**Narrogin (SRO)**	**24.48**	**196**	P	**P**	**22**	**15**	**10.5**	**+0.6**
	baz=24,SNR=11								
QLP	**Quilpie**	**24.86**	**136**	P	**P**	**22**	**15**	**15.7**	**+2.3**
	baz=25,SNR=9.9								
BBOO	**Buckleboo**	**25.35**	**158**	P	**P**	**22**	**15**	**19.0**	**+1.1**
	baz=25,SNR=24								
HTT	**Hallett**	**27.05**	**154**	P	**P**	**22**	**15**	**35.1**	**+1.8**
	baz=27,SNR=18								
STKA	**Stephens Creek**	**27.05**	**148**	P	**P**	**22**	**15**	**34.6**	**+1.4**
	comp=Z,17nm,0.7s,baz=316,slow=9.3,SNR=32								
STKA				LR	LR	22	27	44.7	
	comp=Z,447nm

	comp=Z,14nm,0.8s								
JYT	**Yasato**	**47.59**	**17**	P	**P**	**22 18 26.2**	**-0.3**		
JSD	**Sado**	**48.80**	**14**	P	**P**	**22 18 35.5**	**-0.3**		
JSD				IAmb	IAmb	22 18 40.6			
	comp=Z,16nm,1.1s								
JMM	**Marumori**	**49.29**	**16**	P	**P**	**22 18 39.4**	**-0.2**		
LZH	**Lanzhou**	**49.53**	**337**	*eP*	**P**	**22 18 42.5**	**+0.9**		
LZH				pP	sP	22 18 56.3	+0.9		
LZH				sP	pP	22 19 00.9	+9.1		
LZH				pmax	pmax				
	comp=Z,22nm,1.1s								
LSA	**Lhasa**	**50.84**	**321**	P	**P**	**22 18 52.6**	**+0.6**		
LSA				pmax	pmax				
	comp=Z,95nm,0.9s								
LSA	**Lhasa**	**50.84**	**321**	P	**P**	**22 18 52.7**	**+0.7**		
LSA				pmax	pmax				
	comp=Z,27nm,1.1s								
LSA	**Lhasa**	**50.84**	**321**	P	**P**	**22 18 52.7**	**+0.7**		
LSA				IAmb	IAmb	22 18 53.4			
	comp=Z,27nm,1.1s								
HHC	**Hu-ho-hao-te**	**51.58**	**347**	*eP*	**P**	**22 18 59.8**	**+2.8**		
MSHR	**Mys Shultsa**	**52.06**	**6**	*ceP*	**P**	**22 19 00.3**	**-0.1**		
MSHR				pmax	pmax				
	comp=Z,25nm,1.7s								
JTM	**Tenmabayashi**	**52.10**	**15**	P	**P**	**22 19 00.3**	**-0.4**		
CN2	**Changchun**	**52.99**	**0**	*eP*	**P**	**22 19 10.5**	**+3.3**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
USA0B	**Ussuriysk Arra**	**53.75**	**6**	P	**P**	**22 19 12.3**	**-0.5**		
USA0B				pmax	pmax				
	comp=Z,7.0nm,0.7s								
USA0B	**Ussuriysk Arra**	**53.75**	**6**	P	**P**	**22 19 12.3**	**-0.5**		
USA0B				IAmb	IAmb	22 19 13.4			
	comp=Z,6.8nm,0.7s								
USRK	**Ussuriysk Ar.**	**53.75**	**6**	P	**P**	**22 19 12.8**	**-0.1**		
	comp=Z,6.4nm,0.6s,baz=194,slow=7.1,SNR=28								
USRK	**Ussuriysk Ar.**	**53.75**	**6**	P	**P**	**22 19 12.4**	**-0.4**		
USRK	**Ussuriysk Ar.**	**53.75**	**6**	P	**P**	**22 19 12.3**	**-0.4**		
MDJ	**Mudanjiang**	**53.96**	**4**	P	**P**	**22 19 14.3**	**0.0**		
MDJ				pmax	pmax				
	comp=Z,15nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,44nm,2.0s								
MDJ	**Mudanjiang**	**53.96**	**4**	P	**P**	**22 19 14.1**	**-0.2**		
MDJ				IAmb	IAmb	22 19 15.3			
	comp=Z,16nm,0.9s								
GTA	**Gaotai**	**53.99**	**336**	‖P	**P**	**22 19 15.1**	**+0.2**		
GTA				pP	sP	22 19 31.6	+2.9		
GTA				sP	pP	22 19 37.8	+13		
GTA				pmax	pmax				
	comp=Z,9.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,34nm,5.1s								
GTA				L	L				
	comp=Z,61nm,14.5s								
GTA				L	L				
	comp=Z,77nm,16.7s								
GTA				L	L				
	comp=Z,76nm,15.6s								
ASAJ	**Asahikawa**	**55.61**	**15**	P	**P**	**22 19 26.4**	**+0.1**		
	comp=Z,6.3nm,0.5s,baz=239,slow=11,SNR=9.3								
JKA	**Kamikawa-asahi**	**55.62**	**15**	P	**P**	**22 19 26.6**	**+0.3**		
JKA				IAmb	IAmb	22 19 28.2			
	comp=Z,8.8nm,0.8s								
CASY	**Casey**	**57.63**	**187**	P	**P**	**22 19 42.0**	**+1.6**		
KLR	**Kul'dur**	**58.71**	**5**	*ceP*	**P**	**22 19 46.8**	**-1.3**		
KLR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ULN	**Ulaanbaatar**	**59.27**	**346**	*ceP*	**P**	**22 19 52.1**	**-0.1**		
ULN				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ULN	**Ulaanbaatar**	**59.27**	**346**	P	**P**	**22 19 51.9**	**-0.3**		
ULN				IAmb	IAmb	22 19 54.1			
	comp=Z,9.8nm,1.1s								
SONM	**Songino Array**	**59.40**	**345**	P	**P**	**22 19 52.9**	**-0.2**		
	comp=Z,5.4nm,1.0s,baz=164,slow=8.1,SNR=18								
SONM	**Songino Array**	**59.40**	**345**	P	**P**	**22 19 52.5**	**-0.6**		
SONM				pmax	pmax				
	comp=Z,9.0nm,1.2s								
SONM	**Songino Array**	**59.40**	**345**	P	**P**	**22 19 52.5**	**-0.6**		
SMLA	**Simla**	**61.13**	**313**	*eP*	**P**	**22 20 04.6**	**-0.5**		
DHRM	**DHARAMSHALA**	**62.37**	**314**	*eP*	**P**	**22 20 11.2**	**-2.5**		
ZAK	**Zakamensk**	**62.54**	**344**	*eP*	**P**	**22 20 13.1**	**-1.3**		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.5s								
WMQ	**Urumqi**	**62.96**	**330**	*eP*	**P**	**22 20 17.8**	**+0.5**		
WMQ				sP	sP	22 20 35.5	+4.3		
WMQ				PcP	**PcP**	**22 20 56.0**	**+0.9**		
WMQ				pmax	pmax				
	comp=Z,26nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,210nm,3.9s								
MOY	**Mondy**	**64.33**	**344**	*eP*	**P**	**22 20 26.2**	**0.0**		
MOY				pmax	pmax				
	comp=Z,18nm,1.7s								
NIL	**Nilore**	**65.28**	**314**	P	**P**	**22 20 32.2**	**-0.5**		
NIL				pmax	pmax				
	comp=Z,15nm,0.7s								
NIL	**Nilore**	**65.28**	**314**	P	**P**	**22 20 32.2**	**-0.5**		
KSH	**Kashi**	**66.68**	**320**	P	**P**	**22 20 42.1**	**+0.4**		
KSH				pP	sP	22 20 54.8	-0.9		
KSH				pmax	pmax				
	comp=Z,12nm,0.7s								
KSH				PPMZ					
	comp=Z,89nm,5.1s								
TARG	**Taragay, Kyrgy**	**66.89**	**323**	P	**P**	**22 20 43.7**	**+0.4**		
ZSN	**Zaisan**	**66.96**	**332**	*eP*	**P**	**22 20 42.1**	**-1.1**		
	baz=332								
ZSN	**Zaisan**	**66.96**	**332**	*eP*	**P**	**22 20 42.0**	**-1.1**		
UZB	**Uzynbulak**	**67.07**	**325**	*eP*	**P**	**22 20 43.4**	**-0.7**		
	comp=Z,7.4nm,0.9s,baz=325								
UZB	**Uzynbulak**	**67.07**	**325**	*eP*	**P**	**22 20 43.4**	**-0.7**		
UZB				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SATY	**Saty**	**67.36**	**325**	*eP*	**P**	**22 20 45.3**	**-0.7**		
	comp=Z,14nm,1.3s,baz=325								
SATY	**Saty**	**67.36**	**325**	*eP*	**P**	**22 20 45.2**	**-0.7**		
SATY				pmax	pmax				
	comp=Z,13nm,1.3s								
KPKS	**Kokpek**	**67.46**	**325**	*eP*	**P**	**22 20 45.1**	**-1.4**		
	comp=Z,13nm,0.8s,baz=325								
KPKS	**Kokpek**	**67.46**	**325**	*eP*	**P**	**22 20 45.9**	**-0.6**		
KPKS				pmax	pmax				
	comp=Z,13nm,0.8s								
DGZ	**Jazzator, Alta**	**67.48**	**335**	*c iP*	**P**	**22 20 46.3**	**-0.3**		
DGZ				pmax	pmax				
	comp=Z,19nm,0.8s								
MK31	**Makanchi Array**	**67.75**	**330**	*c iP*	**P**	**22 20 47.4**	**-0.8**		
MK31	**Makanchi Array**	**67.75**	**330**	P	**P**	**22 20 47.6**	**-0.5**		
MK31				IAmb	IAmb	22 20 48.9			
	comp=Z,15nm,0.9s								
MKAR	**Makanchi Array**	**67.75**	**330**	P	**P**	**22 20 47.8**	**-0.4**		
	comp=Z,9.3nm,0.7s,baz=130,slow=7.8,SNR=83								
MAKZ	**Makanchi**	**67.92**	**330**	P	**P**	**22 20 48.5**	**-0.7**		
MAKZ				pmax	pmax				
	comp=Z,11nm,1.0s								
MAKZ	**Makanchi**	**67.92**	**330**	P	**P**	**22 20 48.5**	**-0.7**		
MAKZ				IAmb	IAmb	22 20 49.8			
	comp=Z,11nm,1.0s								
MDOK	**Medeo**	**68.21**	**324**	*eP*	**P**	**22 20 50.4**	**-1.0**		
	baz=324								
MDOK	**Medeo**	**68.21**	**324**	*eP*	**P**	**22 20 50.3**	**-1.0**		
PETK	**Petropavlovsk-**	**68.21**	**20**	P	**P**	**22 20 51.5**	**+0.7**		
	comp=Z,4.6nm,0.7s,baz=191,slow=6.9,SNR=7.6								
PETK	**Petropavlovsk-**	**68.21**	**20**	P	**P**	**22 20 50.7**	**-0.2**		
PETK	**Petropavlovsk-**	**68.21**	**20**	P	**P**	**22 20 50.7**	**-0.2**		
BOOM	**Boomskoye usch**	**68.45**	**323**	P	**P**	**22 20 51.3**	**-1.6**		
BOOM				pmax	pmax				
	comp=Z,26nm,1.3s								
BOOM	**Boomskoye usch**	**68.45**	**323**	P	**P**	**22 20 51.3**	**-1.6**		
MTBS	**Maitube**	**68.55**	**324**	*eP*	**P**	**22 20 50.7**	**-2.7**		
	baz=324								
MTBS	**Maitube**	**68.55**	**324**	*eP*	**P**	**22 20 50.6**	**-2.7**		
TDK	**Taldyqorghan**	**68.59**	**326**	*eP*	**P**	**22 20 52.3**	**-1.2**		
	baz=326								
TDK	**Taldyqorghan**	**68.59**	**326**	*eP*	**P**	**22 20 52.2**	**-1.2**		
CHKK	**Chushkaly**	**68.67**	**325**	*eP*	**P**	**22 20 51.9**	**-2.1**		
	baz=325								
CHKK	**Chushkaly**	**68.67**	**325**	*eP*	**P**	**22 20 51.8**	**-2.1**		
KBL	**Kabul**	**68.75**	**313**	P	**P**	**22 20 53.8**	**-1.1**		
KBL				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KBL	**Kabul**	**68.75**	**313**	P	**P**	**22 20 53.8**	**-1.1**		
KBL				IAmb	IAmb	22 20 55.2			
	comp=Z,8.2nm,0.8s								
KUU	**Kurty**	**69.06**	**324**	*eP*	**P**	**22 20 56.4**	**-0.1**		
	comp=Z,18nm,0.6s,baz=324								
KUU	**Kurty**	**69.06**	**324**	*eP*	**P**	**22 20 56.3**	**-0.1**		
KUU				pmax	pmax				
	comp=Z,18nm,0.6s								
DRK	**Karamyk**	**69.34**	**318**	P	**P**	**22 20 58.9**	**+0.3**		
AAK	**Ala-Archa**	**69.40**	**322**	*ceP*	**P**	**22 20 57.4**	**-1.4**		
AAK				pmax	pmax				
	comp=Z,57nm,1.3s								
AAK	**Ala-Archa**	**69.40**	**322**	P	**P**	**22 20 59.8**	**+1.0**		
AAK				IAmb	IAmb	22 21 00.6			
	comp=Z,21nm,1.2s								
ARSB	**Arslanbob**	**69.58**	**321**	P	**P**	**22 20 59.5**	**-0.4**		
ARSB				pmax	pmax				
	comp=Z,66nm,1.4s								
ARSB	**Arslanbob**	**69.58**	**321**	P	**P**	**22 20 59.5**	**-0.4**		
SGDS	**Sogindy**	**69.80**	**323**	*eP*	**P**	**22 20 59.7**	**-1.4**		
	comp=Z,5.1nm,1.0s,baz=323								
SGDS	**Sogindy**	**69.80**	**323**	*eP*	**P**	**22 20 59.6**	**-1.4**		
SGDS				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GAR	**Garm**	**70.07**	**317**	P	**P**	**22 21 03.0**	**+0.1**		
BTK	**Batken**	**70.28**	**319**	P	**P**	**22 21 03.5**	**-0.7**		
BTK				pmax	pmax				
	comp=Z,6.0nm,1.2s								
BTK	**Batken**	**70.28**	**319**	P	**P**	**22 21 03.5**	**-0.7**		
VNDA	**Vanda**	**70.66**	**172**	P	**P**	**22 21 07.5**	**+1.8**		
	comp=Z,2.5nm,0.6s,baz=323,slow=7.0,SNR=34								
VNDA				LR	LR	22 52 10.9			
	comp=Z,237nm,18.1s,baz=318,slow=36								
CHGR	**Chuyangaron**	**70.67**	**317**	P	**P**	**22 21 05.9**	**-0.6**		
CHGR				IAmb	IAmb	22 21 08.0			
	comp=Z,13nm,0.9s								
MAW	**Mawson**	**70.94**	**201**	P	**P**	**22 21 09.4**	**+1.9**		
	comp=Z,5.7nm,0.7s,baz=85,slow=6.7,SNR=17								
MAW				LR	LR	22 50 49.4			
	comp=Z,83nm,18.8s,baz=68,slow=35								
MAW	**Mawson**	**70.94**	**201**	P	**P**	**22 21 09.2**	**+1.7**		
	baz=71,SNR=9.5								
MAW	**Mawson**	**70.94**	**201**	P	**P**	**22 21 09.3**	**+1.8**		
MAW				pmax	pmax				
	comp=Z,4.0nm,1.4s								
MAW	**Mawson**	**70.94**	**201**	P	**P**	**22 21 09.3**	**+1.8**		
BTLS	**Baital**	**71.06**	**324**	*eP*	**P**	**22 21 07.0**	**-1.7**		
	comp=Z,6.5nm,1.5s,baz=324								
BTLS	**Baital**	**71.06**	**324**	*eP*	**P**	**22 21 06.9**	**-1.7**		
BTLS				pmax	pmax				
	comp=Z,7.0nm,1.5s								
SEM	**Semipalatinsk**	**71.21**	**332**	*eP*	**P**	**22 21 07.0**	**-2.7**		
	baz=332								
SEM	**Semipalatinsk**	**71.21**	**332**	*eP*	**P**	**22 21 07.0**	**-2.7**		
YAK	**Yakutsk**	**71.34**	**2**	*eP*	**P**	**22 21 09.2**	**-0.7**		
YAK				pmax	pmax				
	comp=Z,32nm,1.0s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.0s								
YAK	**Yakutsk**	**71.34**	**2**	P	**P**	**22 21 09.3**	**-0.7**		
SBA	**Scott Base**	**71.61**	**171**	P	**P**	**22 21 14.7**	**+3.2**		
SBA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SBA	**Scott Base**	**71.61**	**171**	P	**P**	**22 21 14.7**	**+3.2**		
ZAA0	**Zalesovo Array**	**71.74**	**336**	P	**P**	**22 21 11.3**	**-1.2**		
ZAA0				IAmb	IAmb	22 21 12.3			
	comp=Z,17nm,0.8s								
ZALV	**Zalesovo Beam**	**71.74**	**336**	P	**P**	**22 21 11.6**	**-1.0**		
	comp=Z,12nm,0.6s,baz=130,slow=4.6,SNR=53								
ZALV	**Zalesovo Beam**	**71.74**	**336**	P	**P**	**22 21 11.0**	**-1.5**		
ZALV	**Zalesovo Beam**	**71.74**	**336**	P	**P**	**22 21 11.0**	**-1.5**		
KK31	**Karatay Array**	**72.09**	**321**	P	**P**	**22 21 14.1**	**-0.8**		
KK31				pmax	pmax				
	comp=Z,7.0nm,1.6s								
KK31	**Karatay Array**	**72.09**	**321**	P	**P**	**22 21 14.1**	**-0.8**		
KKAR	**Karatay Array**	**72.09**	**321**	P	**P**	**22 21 13.4**	**-1.5**		
KKAR				pmax	pmax				
	comp=Z,7.0nm,1.6s								
KKAR	**Karatay Array**	**72.09**	**321**	P	**P**	**22 21 13.4**	**-1.5**		
KKAR	**Karatay Array**	**72.09**	**321**	P	**P**	**22 21 14.5**	**-0.4**		
KKAR				IAmb	IAmb	22 21 33.3			
	comp=Z,7.4nm,1.6s								
WSAR	**Wadi Sarin**	**72.66**	**298**	P	**P**	**22 21 18.7**	**0.0**		
	comp=Z,8.6nm,0.7s,baz=136,slow=3.6,SNR=7.5								
HRA	**Herat**	**73.72**	**310**	P	**P**	**22 21 24.8**	**-0.3**		
HRA				IAmb	IAmb	22 22 34.7			
	comp=Z,6.7nm,0.7s								
BRZS	**Berezniki**	**74.71**	**328**	*eP*	**P**	**22 21 28.5**	**-1.7**		
	baz=328								
BRZS	**Berezniki**	**74.71**	**328**	*eP*	**P**	**22 21 28.5**	**-1.7**		
SEY	**Seymchan**	**75.15**	**13**	P	**P**	**22 21 32.8**	**+0.4**		
	comp=Z,8.4nm,0.9s,baz=198,slow=6.0,SNR=12								
UOSS	**Minazif**	**75.30**	**299**	P	**P**	**22 21 33.9**	**-0.2**		
UOSS				IAmb	IAmb	22 21 34.6			
	comp=Z,28nm,1.3s								
BRVK	**Borovoye**	**77.70**	**330**	*ceP*	**P**	**22 21 46.3**	**-0.8**		
BRVK				pmax	pmax				
	comp=Z,23nm,2.5s								
BRVK	**Borovoye**	**77.70**	**330**	P	**P**	**22 21 46.0**	**-1.2**		
BRVK				IAmb	IAmb	22 21 47.8			
	comp=Z,11nm,1.2s								
GEYT	**Alibeck**	**78.17**	**312**	P	**P**	**22 21 50.5**	**+0.4**		
	comp=Z,4.7nm,0.8s,baz=122,slow=5.4,SNR=7.4								
GEYT	**Alibeck**	**78.17**	**312**	P	**P**	**22 21 50.2**	**+0.1**		
GEYT				IAmb	IAmb	22 22 54.0			
	comp=Z,20nm,0.9s								
TIXI	**Tiksi**	**80.95**	**1**	P	**P**	**22 22 03.6**	**-0.9**		
	comp=Z,10nm,0.8s,baz=179,slow=5.3,SNR=15								
TIXI	**Tiksi**	**80.95**	**1**	P	**P**	**22 22 03.0**	**-1.4**		
TIXI				pmax	pmax				
	comp=Z,11nm,0.9s								
TIXI	**Tiksi**	**80.95**	**1**	P	**P**	**22 22 03.0**	**-1.4**		
TIXI				IAmb	IAmb	22 22 05.1			
	comp=Z,11nm,0.9s								
ABKAR	**Akbulak array**	**81.48**	**323**	P	**P**	**22 22 06.4**	**-1.3**		
ABKAR				IAmb	IAmb	22 22 08.0			
	comp=Z,13nm,1.3s								
BILL	**Bilibino**	**82.62**	**14**	‖*eP*	**P**	**22 22 11.2**	**-2.1**		
BILL				*e*		22 22 17.0			
BILL				*e**PP	**sP**	**22 22 26.7**	**-0.8**		
BILL				SS	SS	22 37 51.0	+0.5		
BILL				pmax	pmax				
	comp=Z,16nm,2.3s								
NRIK	**Noril'sk**	**82.81**	**347**	P	**P**	**22 22 13.6**	**-0.6**		
	comp=Z,1.8nm,0.5s,baz=149,slow=6.0,SNR=4.2								
NRIK	**Noril'sk**	**82.81**	**347**	*ceP*	**P**	**22 22 13.0**	**-1.3**		
NRIK				pmax	pmax				
	comp=Z,7.0nm,1.3s								
NRIK	**Noril'sk**	**82.81**	**347**	P	**P**	**22 22 13.7**	**-0.6**		
AKTO	**Aktyubinsk**	**83.10**	**324**	P	**P**	**22 22 15.4**	**-0.7**		
	comp=Z,8.8nm,0.9s,baz=119,slow=6.9,SNR=20								
RAYN	**Ar Rayn**	**84.35**	**295**	P	**P**	**22 22 23.0**	**-0.3**		
RAYN				pmax	pmax				
	comp=Z,19nm,0.9s								
RAYN	**Ar Rayn**	**84.35**	**295**	P	**P**	**22 22 23.0**	**-0.3**		
ARU	**Arti**	**85.27**	**329**	*c iP*	**P**	**22 22 26.0**	**-1.1**		
ARU				*PP	**sP**	**22 22 41.0**	**-0.3**		
ARU				S	**S**	**22 32 46.3**	**-8.7**		
ARU				SS	**SS**	**22 38 21.8**	**-8.3**		
ARU				pmax	pmax				
	comp=Z,12nm,1.2s								
ARU	**Arti**	**85.27**	**329**	P	**P**	**22 22 25.4**	**-1.6**		
ARU				IAmb	IAmb	22 22 27.4			
	comp=Z,12nm,1.2s								
KMBO	**Kilima Mbogo**	**87.72**	**269**	P	**P**	**22 22 42.0**	**+1.7**		
	comp=Z,5.3nm,0.9s,baz=54,slow=7.9,SNR=12								
GURO	**Guroymak-BITLI**	**90.47**	**309**	P	**P**	**22 22 52.9**	**+0.2**		
GURO				IAmb	IAmb	22 22 54.8			
	comp=Z,5.3nm,0.8s								
KBZ	**Khabaz**	**90.89**	**314**	P	**P**	**22 22 54.0**	**-0.3**		
	comp=Z,3.5nm,0.8s,baz=89,slow=3.9,SNR=6.9								
KBZ	**Khabaz**	**90.89**	**314**	*ceP*	**P**	**22 22 53.8**	**-0.4**		
KBZ				pmax	pmax				
	comp=Z,5.0nm,0.9s								
NEY	**Neytrino**	**90.92**	**314**	*i* P	**P**	**22 22 51.9**	**-2.7**		
NEY				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SNAA	**Sanae**	**92.14**	**194**	PcP	**PcP**	**22 23 02.4**	**+1.9**		
BOSA	**Boshof**	**94.07**	**240**	P	**P**	**22 23 10.0**	**+0.5**		
	comp=Z,2.0nm,0.8s,baz=114,slow=6.2,SNR=3.5								
MMAI	**Mount Meron Ar**	**94.84**	**303**	P	**P**	**22 23 13.3**	**+0.4**		
	comp=Z,1.0nm,0.6s,baz=64,slow=7.5,SNR=4.3								
KLMR	**Klimovskoe**	**96.03**	**331**	*eP*	**P**	**22 23 13.0**	**-4.5**		
KLMR				pmax	pmax				
	comp=Z,22nm,2.1s								
KLMR	**Klimovskoe**	**96.03**	**331**	*eP*	**P**	**22 23 13.1**	**-4.5**		
KLMR				AMP		22 23 18.1			
	comp=Z,22nm,2.1s								
OBN	**Obninsk**	**96.84**	**325**	‖*eP*	**P**	**22 23 19.5**	**-1.8**		
OBN				pmax	pmax				
	comp=Z,6.0nm,0.9s								
BRTR	**Keskin Array B**	**97.09**	**309**	P	**P**	**22 23 21.9**	**-1.2**		
	comp=Z,0.9nm,0.8s,baz=115,slow=5.0,SNR=6.4								
BRTR	**Keskin Array B**	**97.09**	**309**	*i* P	**P**	**22 23 21.8**	**-1.3**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**97.61**	**26**	P	**P**	**22 23 22.4**	**-2.2**		
	comp=Z,1.2nm,1.1s,baz=232,slow=2.7,SNR=4.8								
ILAR				PP	**PP**	**22 27 24.9**	**+2.5**		
	comp=Z,0.7nm,0.9s,baz=250,slow=5.6,SNR=5.2								
AKASG	**Malin Array Be**	**100.97**	**320**	P	**Pdif**	**22 23 38.5**	**-1.4**		
	comp=Z,0.9nm,0.5s,baz=73,slow=4.4,SNR=4.4								
AKASG	**Malin Array Be**	**100.97**	**320**	*i* P	**Pdif**	**22 23 38.7**	**-1.2**		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NVAR	**Mina Array Bea**	**116.58**	**52**	PKP	**PKiKP**	**22 28 37.7**	**+2.5**		
	comp=Z,1.1nm,0.6s,baz=254,slow=2.4,SNR=9.7								
YNM	**Yellowstone No**	**120.62**	**43**		**PKPdf**	**22 28 40.8**	**-2.0**		
PDAR	**Pinedale Array**	**122.03**	**45**	PKP	**PKiKP**	**22 28 47.2**	**+1.6**		
	comp=Z,3.2nm,0.8s,baz=252,slow=0.8,SNR=19								
PDAR	**Pinedale Array**	**122.03**	**45**	PKPdf	**PKiKP**	**22 28 48.1**	**+2.4**		
TORD	**Torodi Ar. Bea**	**124.49**	**279**	PKP	**PKiKP**	**22 28 52.5**	**+1.5**		
	comp=Z,2.9nm,0.6s,baz=74,slow=1.9,SNR=12								
TORD	**Torodi Ar. Bea**	**124.49**	**279**	PKPdf	**PKiKP**	**22 28 52.2**	**+1.2**		
ESDC	**Sonseca Array**	**125.72**	**312**	PKP	**PKiKP**	**22 28 53.9**	**+1.0**		
	comp=Z,4.3nm,1.1s,baz=25,slow=2.8,SNR=12								
ULM	**Lac du Bonnet**	**127.09**	**32**	PKP	**PKiKP**	**22 28 55.8**	**+0.6**		
	comp=Z,6.1nm,0.8s,baz=271,slow=2.9,SNR=5.4								
TXAR	**Lajitas Array**	**130.32**	**59**	PKP	**PKiKP**	**22 29 04.1**	**+1.6**		
	comp=Z,1.1nm,0.6s,baz=254,slow=2.1,SNR=11								
TXAR	**Lajitas Array**	**130.32**	**59**	PKIKP	**PKiKP**	**22 29 02.8**	**+0.4**		
TXAR	**Lajitas Array**	**130.32**	**59**	PKPdf	**PKiKP**	**22 29 02.8**	**+0.4**		
CPUP	**Villa Florida**	**144.36**	**176**	PKP	**PKPdf**	**22 29 27.8**	**+0.4**		
	comp=Z,7.9nm,0.8s,baz=183,slow=2.1,SNR=14								
CPUP	**Villa Florida**	**144.36**	**176**	PKIKP	**PKPdf**	**22 29 27.0**	**-0.4**		
CPUP	**Villa Florida**	**144.36**	**176**	PKPdf	**PKPdf**	**22 29 27.0**	**-0.4**		
LPAZ	**La Paz**	**151.26**	**153**	PKPbc	**PKiKP**	**22 29 47.1**	**+0.9**		
	comp=Z,4.1nm,0.8s,baz=182,slow=2.4,SNR=14								
BDFB	**Brasilia**	**154.17**	**195**	PKPbc	**PKiKP**	**22 29 52.0**	**+0.4**		
	comp=Z,2.8nm,0.7s,baz=148,slow=3.8,SNR=3.6								

UPP **15** *22:12:29.6±0.0,67.19N×20.68E,h0km,ML2.2, Explosion*
HEL 15 22:12:30.2±0.0, 67.18N×20.68E, h0km, ML1.7, ML2.2 (UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**216**	P	Pg	22 12 31.4	-0.1
DUNU				S	Sg	22 12 32.4	0.0
DUNU	**Dundret**	**0.07**	**216**	*i* P	Pg	22 12 31.4	-0.1
DUNU				*i* S	Sg	22 12 32.4	0.0
MASU	**Masugnsbyn**	**0.58**	**61**	P	Pg	22 12 40.7	-0.6
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	22 12 40.7	-0.6
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	22 12 44.0	-1.0
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	Pg	22 12 44.0	-1.0
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	22 12 44.2	-1.1
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	22 12 44.2	-1.1
SALU	**Saltoluokta**	**0.87**	**284**	P	Pg	22 12 46.1	-0.6
SALU	**Saltoluokta**	**0.87**	**284**	*i* P	Pg	22 12 46.1	-0.6
NIKU	**Nikkaluokta**	**0.94**	**318**	P	Pg	22 12 47.1	-1.1
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	22 12 47.1	-1.1
PAJU	**Pajala**	**0.96**	**98**	P	Pg	22 12 47.4	-1.2
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	22 12 47.5	-1.2
	baz=273						
PAJU				*e*SB

RPSI					IAmb	IAmb	23 20 31.5		
	comp=Z,9.9nm,1.0s								
JTU	**Tsushima**	**44.04**	**5**	P	**P**	**P**	**23 22 33.7**	**-1.3**
JHS	**Saijyo**	**44.96**	**9**	P	**P**	**P**	**23 22 41.8**	**-0.5**
JHS					IAmb	IAmb	23 22 50.4		
	comp=Z,11nm,1.4s								
JWT	**Wachi**	**45.64**	**12**	P	**P**	**P**	**23 22 46.3**	**-1.4**
JWT					IAmb	IAmb	23 22 54.1		
	comp=Z,8.2nm,1.2s								
MJAR	**Matsushiro Arr**	**47.47**	**14**	P	**P**	**P**	**23 23 01.7**	**-0.4**
MJAR					IAmb	IAmb	23 23 11.0		
	comp=Z,3.7nm,1.4s								
AIS	**Amsterdam Isla**	**51.20**	**229**	P	**P**	**P**	**23 23 30.9**	**+0.2**
PLWZ	**Palliser**	**54.17**	**135**	P	**P**	**P**	**23 23 53.2**	**+0.6**
SONM	**Songino Array**	**59.58**	**345**	P	**P**	**P**	**23 24 29.2**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=159,slow=12,SNR=2.7								
MKAR	**Makanchi Array**	**67.96**	**330**	P	**P**	**P**	**23 25 26.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=128,slow=7.9,SNR=8.4								
MKAR	**Makanchi Array**	**67.96**	**330**	P	**P**	**P**	**23 25 25.8**	**-0.2**
VNDA	**Vanda**	**70.50**	**172**	P	**P**	**P**	**23 25 44.0**	**+2.8**
	comp=Z,0.6nm,1.0s,baz=332,slow=7.8,SNR=3.1								
ZALV	**Zalesovo Beam**	**71.94**	**336**	P	**P**	**P**	**23 25 49.6**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=149,slow=6.1,SNR=4.7								
ZALV	**Zalesovo Beam**	**71.94**	**336**	P	**P**	**P**	**23 25 49.0**	**-1.2**

*GRAL **15** 23:33:44.4±0.5, 35.°10N×36.°54E, h0^{km}±4^{km}, MD3.3*
*ISK **15** 23:33:45.9, 35.°04N×36.°23E, h7^{km}, ML2.7/17*
*DDA **15** 23:33:46.1, 35.°15N×36.°63E, h35^{km}±1^{km}, ML2.7*

ISC 15 23:33:44.1±1.2, 35.°02N±0.°03×36.°57E±0.°05, h15^{km}±10^{km}, n38, σ1°28/53, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HWQ	**Hawqa**	**0.90**	**215**	*eP*		**Pb**	**23 34 01.6**	**+0.1**
HWQ				*eS*		**Sg**	**23 34 14.0**	**+0.5**
YAYL	**Yayladag**	**1.07**	**340**	*i* P		**Pg**	**23 34 05.0**	**+0.1**
YAYL				*i* S		**Sb**	**23 34 18.1**	**-0.4**
YAYL	**Yayladag**	**1.07**	**340**	PG		**Pg**	**23 34 05.2**	**+0.3**
YAYL				SG		**Sn**	**23 34 19.8**	**+0.2**
BHL	**Bhannes**	**1.35**	**214**	*eP*		**Pb**	**23 34 09.4**	**+0.2**
BHL				*eS*		**Sg**	**23 34 27.8**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.38**	**347**	PN		**Pg**	**23 34 11.5**	**+0.7**
TAHT				SN		**Sg**	**23 34 29.8**	**+1.0**
ASUZ	**Hatay-Arsuz**	**1.42**	**334**	*i* P		**Pg**	**23 34 10.8**	**-0.5**
ASUZ				*i* S		**Sg**	**23 34 29.3**	**-0.5**
DQRL	**Deir Qamar**	**1.55**	**212**	*eP*		**Pb**	**23 34 12.7**	**0.0**
RCY	**Rachaya**	**1.64**	**202**	*eP*		**Pb**	**23 34 13.9**	**-0.3**
RCY				*eS*		**Sg**	**23 34 36.3**	**-0.7**
QRWL	**Qaraoun**	**1.64**	**207**	*eP*		**Pb**	**23 34 14.0**	**-0.2**
KUZU	**Kuzuini**	**1.79**	**13**	*i* P		**Pn**	**23 34 15.4**	**+0.7**
KUZU				*i* S		**Sb**	**23 34 38.6**	**-0.5**
KUZU				IAML			23 34 43.0	
	comp=E,148nm,0.3s							
KUZU				IAML			23 34 45.0	
	comp=N,101nm,0.8s							
KRTS	**Karatas**	**1.82**	**328**	PN		**Pb**	**23 34 16.9**	**-0.3**
YURE	**YUREGIR**	**1.95**	**337**	*i* P		**Pb**	**23 34 18.4**	**-1.0**
YURE				*i* S		**Sb**	**23 34 42.8**	**-0.8**
CEYT	**Ceyhan**	**2.09**	**342**	PN		**Pb**	**23 34 20.9**	**-0.9**
KAMA	**Osmaniye**	**2.16**	**2**	*i* P		**Pn**	**23 34 19.9**	**+0.2**
GAZ	**Gaziantep**	**2.21**	**14**	PN		**Pb**	**23 34 24.9**	**+1.1**
HCB	**Kahramanmara**	**2.33**	**7**	*i* P		**Pn**	**23 34 24.7**	**-2.0**
HCB				*i* S		**Sn**	**23 34 49.5**	**-1.0**
DED	**Mersin**	**2.41**	**324**	*i* P		**Pb**	**23 34 25.1**	**-2.0**
KIZK	**Mersin**	**2.45**	**307**	*i* P		**Pn**	**23 34 25.3**	**+1.7**
KIZK				*i* S		**Sn**	**23 34 52.7**	**-0.5**
KIZK	**Mersin**	**2.45**	**307**	PN		**Pn**	**23 34 24.2**	**+0.6**
GZT	**Gaziantep**	**2.46**	**19**	*i* P		**Pn**	**23 34 25.1**	**+1.2**
GZT				*i* S		**Sn**	**23 34 52.6**	**-1.3**
GZT				IAML			23 35 12.0	
	comp=E,39nm,0.3s							
GZT				IAML			23 35 12.0	
	comp=N,38nm,0.3s							
MERS	**Mersin**	**2.48**	**319**	PN		**Pn**	**23 34 25.2**	**+1.1**
KMRS	**Kahramanmaras**	**2.49**	**6**	PN		**Pb**	**23 34 28.6**	**0.0**
KOZT	**Kozan**	**2.52**	**347**	PN		**Pb**	**23 34 26.9**	**-2.3**
ANDN	**Andirin**	**2.56**	**356**	*i* P		**Pn**	**23 34 26.9**	**+1.7**
ANDN				*i* S		**Sn**	**23 34 54.2**	**-1.9**
ANDN				IAML			23 34 59.0	
	comp=E,74nm,0.5s							
ANDN				IAML			23 35 03.0	
	comp=N,21nm,0.6s							
AKO	**Adana**	**2.60**	**340**	*i* P		**Pn**	**23 34 27.4**	**+1.8**
IKL	**Isikli**	**2.64**	**298**	PN		**Pn**	**23 34 26.5**	**+0.3**
CSS	**Mathiatis**	**2.66**	**270**	PN		**Pn**	**23 34 26.3**	**-0.2**
GULE	**Gulek**	**2.68**	**328**	*i* P		**Pn**	**23 34 28.1**	**+1.2**
GULE				*i* S		**Sn**	**23 35 00.5**	**+1.3**
GULE				IAML			23 35 09.0	
	comp=N,69nm,0.5s							
AKKU	**Akkuyu-Mersin**	**2.71**	**296**	PN		**Pn**	**23 34 27.5**	**+0.4**
KEBE	**Keben-Mersin**	**2.72**	**302**	PN		**Pn**	**23 34 27.9**	**+0.5**
MMLI	**Mount Malkishu**	**2.75**	**201**	PN		**Pb**	**23 34 30.6**	**-2.4**
CMRD	**Camardi-Nigde**	**2.92**	**335**	PN		**Pn**	**23 34 32.5**	**+2.2**
SAIM	**ADANA**	**2.97**	**353**	*i* P		**Pn**	**23 34 33.1**	**+2.2**
BERE	**Bereket-Mersin**	**3.02**	**297**	PN		**Pn**	**23 34 32.0**	**+0.4**
URFA	**Urfa**	**3.02**	**36**	PN		**Pb**	**23 34 37.9**	**+0.2**
TEKE	**Tekeli-Mersin**	**3.03**	**293**	PN		**Pn**	**23 34 31.9**	**+0.4**
KERG	**Konya-Eregli**	**3.10**	**321**	*i* P		**Pn**	**23 34 35.4**	**+2.7**
KERG				*i* S		**Sn**	**23 35 12.4**	**+3.0**
MALT	**Malatya**	**3.61**	**24**	PN		**Pb**	**23 34 45.6**	**-2.1**

IDC 15 23:40:42.4±6.9, 9.°12S×129.°88E, h88^{km}±78^{km}, mb3.0/1, mb1 3.4/4, mb1mx3.2/24, mbtmp3.5/4, ML3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/11, Error ellipse: s-maj=50.3km s-min=40.6km az=13.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.83**	**204**	P		Pn	23 43 02.2	+1.4
	0.3nm,0.3s,baz=27,slow=12,SNR=13							
FITZ				S		Sn	23 44 50.6	+1.1
	0.5nm,0.3s,baz=130,slow=18,SNR=6.4							
FITZ				LR		LR	23 47 55.5	
	comp=Z,49nm,21.1s,baz=194,slow=44							
WRA	**Warramunga Arr**	**11.59**	**159**	P		Pn	23 43 24.4	-0.5
	0.4nm,0.3s,baz=337,slow=13,SNR=29							
WRA				S		Sn	23 45 32.2	-0.2
	0.2nm,0.3s,baz=330,slow=22,SNR=2.8							
ASAR	**Alice Springs**	**14.97**	**166**	P		Pn	23 44 09.9	+0.5
	0.2nm,0.3s,baz=341,slow=9.3,SNR=9.6							
ASAR				S		Sn	23 46 53.0	-1.4
	baz=350,slow=25,SNR=2.1							
MKAR	**Makanchi Array**	**69.93**	**327**	P		P	23 51 44.0	-0.2
	0.2nm,0.4s,baz=136,slow=7.2,SNR=4.5							

*DJA **15** 23:45:52.3±4.7, 2.°N±13.°×9.°4E±4.°0, h10^{km}, M4.6/6, mb6.2/1, mB5.9/2, MLv3.8/6, Mw(mB)5.5/2*

ISC 15 23:45:54.0±8.0, 2.°3N±0.°2×94.°5E±0.°6, h20^{km}, n6, σ0°44/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TPTI		**2.88**	**70**	P		**Pn**	**23 46 39.2**	**+0.4**
GSI	**Gunungsitoli**	**3.24**	**107**	P		**Pn**	**23 46 43.5**	**-0.3**
LHMI	**Lhok Sumawe**	**3.85**	**40**	P		**Pn**	**23 46 52.0**	**-0.1**
PSI	**Prapat**	**4.48**	**83**	P		Pb	23 47 00.6	-11
PSI				P		**Pn**	**23 47 00.4**	**-0.5**
MNSI	**Mandailing Nat**	**5.31**	**106**	P		**Pn**	**23 47 12.4**	**+0.2**
RGRI	**Rengat**	**8.28**	**108**	P		**Pn**	**23 47 53.1**	**+0.1**

*IDC **16** 00:23:06.6±1.4, 42.°54S×15.°71W, h0^{km}, mb4.0/5, mb1 4.1/5, mb1mx3.8/23, mbtmp4.0/5, MS4.0/14, Ms1 4.0/14, ms1mx4.0/15, Error ellipse: s-maj=98.8km s-min=24.2km az=90.0*
*GCMT **16** 00:23:11.0±0.3, 43.°26S±0.°03×15.°94W±0.°02, h17^{km}±1^{km}, MW5.1/92, Moment Tensor Solution. s16,c17; s92,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.32±.20; M$_{\theta\theta}$-0.53±.15; M$_{\phi\phi}$2.85±.13; M$_{r\theta}$-5.39±.66; M$_{r\phi}$-0.05±.09; M$_{\theta\phi}$0.26±.30; Best double couple: M$_o$5.48300×10^{16} NP1:ϕ$_s$325.00000°, δ7.00000°, λ-43.00000°. NP2: ϕ$_s$98.00000°, δ85.00000°, λ-95.00000°. Principal axes: T 4.0730, Plg40.0000°, Azm193.0000°; N 2.8180, Plg5.0000°, Azm98.0000°; P -6.8920, Plg50.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 16 00:23:08.2±1.2, 42.°6S±0.°1×15.°7W±0.°5, h10^{km}, n25, σ1°20/7, mb4.1/5, MS4.0/14, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**29.88**	**172**	P		**P**	**00 29 15.3**	**-0.3**
	2.7nm,1.3s,baz=347,slow=6.9,SNR=3.2							
H10S2	**ASCENSION HYDR**	**33.47**	**2**	T		T	01 05 11.5	
	baz=182,slow=74,SNR=14							
H10S3	**ASCENSION HYDR**	**33.48**	**2**	T		T	01 05 11.9	
	baz=38,slow=74,SNR=34							
H10N1	**ASCENSION HYDR**	**34.58**	**2**	T		T	01 06 45.7	
	baz=180							
H10N3	**ASCENSION HYDR**	**34.59**	**2**	T		T	01 06 39.8	
	baz=180,slow=74							
H10N2	**ASCENSION HYDR**	**34.60**	**2**	T		T	01 06 45.7	
	baz=180,slow=74							
BOSA	**Boshof**	**35.76**	**81**	LR		LR	00 42 43.8	
	comp=Z,239nm,18.1s,baz=236,slow=33							
CPUP	**Villa Florida**	**37.53**	**282**	LR		LR	00 44 36.1	
	comp=Z,297nm,18.1s,baz=132,slow=34							
BDFB	**Brasilia**	**38.52**	**304**	LR		LR	00 43 26.3	
	comp=Z,259nm,18.5s,baz=144,slow=32							
PLCA	**Paso Flores**	**40.41**	**253**	LR		LR	00 43 57.5	
	comp=Z,256nm,20.5s,baz=128,slow=31							
MAW	**Mawson**	**47.29**	**149**	P		**P**	**00 31 41.2**	**0.0**
	3.0nm,1.0s,baz=261,slow=9.6,SNR=2.8							
MAW				LR		LR	00 47 40.4	
	comp=Z,117nm,20.7s,baz=242,slow=31							
DBIC	**Dimbokro**	**49.97**	**14**	LR		LR	00 47 45.6	
	comp=Z,59nm,20.4s,baz=152,slow=30							
LPAZ	**La Paz**	**51.63**	**284**	LR		LR	00 53 17.7	
	comp=Z,494nm,20.1s,baz=130,slow=35							
TORD	**Torodi Ar. Bea**	**57.69**	**20**	P		**P**	**00 32 58.4**	**-0.5**
	1.4nm,0.8s,baz=187,slow=6.9,SNR=5.1							
TORD				LR		LR	00 53 39.1	
	comp=Z,63nm,18.1s,baz=185,slow=32							
VNDA	**Vanda**	**60.20**	**179**	P		**P**	**00 33 16.3**	**+0.7**
	1.7nm,1.2s,baz=253,slow=6.4,SNR=4.6							
VNDA				LR		LR	00 56 06.9	
	comp=Z,47nm,21.3s,baz=161,slow=33							
KMBO	**Kilima Mbogo**	**62.74**	**64**	LR		LR	00 58 20.8	
	comp=Z,350nm,20.0s,baz=210,slow=34							
ROSC	**El Rosal**	**70.90**	**296**	LR		LR	01 03 52.8	
	comp=Z,372nm,20.2s,baz=114,slow=34							
KEST	**Kesra**	**81.21**	**20**	LR		LR	01 07 02.0	
	comp=Z,77nm,21.2s,baz=282,slow=32							
ESDC	**Sonseca Array**	**82.53**	**9**	P		**P**	**00 35 32.4**	**+1.5**
	1.6nm,1.2s,baz=149,slow=4.3,SNR=4.8							
ESDC				LR		LR	01 08 45.3	
	comp=Z,35nm,18.1s,baz=160,slow=33							
H01W2	**Cape Leeuwin H**	**90.32**	**141**	T		T	02 17 35.5	
	baz=215,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**90.33**	**141**	T		T	02 17 36.1	
	baz=215,slow=75,SNR=11							
H01W3	**Cape Leeuwin H**	**90.33**	**141**	T		T	02 17 36.1	
	baz=215,slow=75,SNR=11							
BRTR	**Keskin Array B**	**93.31**	**36**	LR		LR	01 17 18.5	
	comp=Z,73nm,20.6s,baz=178,slow=35							
ILAR	**Eielson Array**	**144.81**	**326**	PKP		**PKPab**	**00 42 41.9**	**-1.3**
	3.7nm,0.7s,baz=82,slow=1.7,SNR=31							
KSRS	**Korea Array**	**151.83**	**88**	PKPbc		**PKiKP**	**00 43 02.3**	**-1.0**
	0.4nm,0.3s,baz=284,slow=2.0,SNR=4.5							

MAN 16 00:23:43.1, 14.°09N×120.°31E, h21^{km}, mb3.8, ML2.6, MS2.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.36**	**190**	*i* P		Pn	00 23 52.3	-0.8
LUBP				*i* S		Sn	00 24 01.2	+1.6
MACP	**Maragondon, Ca**	**0.43**	**67**	*eP*		Pb	00 23 52.7	+0.7
MACP				*eS*		Sn	00 24 03.0	+1.6
PGP	**Puerto Galera**	**0.86**	**133**	*eP*		Pb	00 23 54.6	-4.8
PGP				*eS*		Sb	00 24 05.6	-4.8

*NIC **16** 00:27:00.1±0.0, 35.°59N×29.°81E, h22^{km}±1^{km}, MI2.9/3*
*DDA **16** 00:27:04.6, 35.°92N×29.°66E, h26^{km}±1^{km}, ML1.9*

ISC 16 00:26:58.7±1.5, 35.°64N±0.°05×29.°64E±0.°04, h27^{km}±13^{km}, n26, σ1°43/44, 3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KSL	**Kastellorizon**	**0.52**	**355**	P		**Pn**	**00 27 11.2**	**+1.0**
KSL				S		**Sn**	**00 27 21.3**	**+3.1**
AKAS	**Kas**	**0.60**	**358**	*i* P		**Pn**	**00 27 11.4**	**-0.1**
AKAS				*i* S		**Sb**	**00 27 16.2**	**-2.7**
AKUM	**Antalya-Kumluc**	**0.90**	**40**	*i* P		**Pn**	**00 27 16.9**	**+1.4**
AKUM				*i* S		**Sb**	**00 27 26.5**	**-0.6**
AKUM				IAML			00 27 32.0	
	comp=E,50nm,0.3s							
ELL	**Elmali**	**1.13**	**11**	P		**Pb**	**00 27 20.5**	**+0.8**
ELL				S		**Sn**	**00 27 36.1**	**+2.5**
ARG	**Arkhangelos**	**1.35**	**296**	P		**Pb**	**00 27 25.7**	**+2.3**
DALY	**Dalyan (Mula)**	**1.42**	**326**	*i* P		**Pb**	**00 27 27.0**	**+2.5**
DALY				*i* S		**Sn**	**00 27 36.9**	**-3.6**
KORT	**Korkueli**	**1.48**	**23**	*i* P		**Pb**	**00 27 26.1**	**+0.5**
KORT				*i* S		**Sb**	**00 27 43.4**	**-0.7**
CAEL	**Denizli, Camel**	**1.51**	**350**	*i* P		**Pb**	**00 27 26.3**	**+0.2**
CAEL				*i* S		**Sn**	**00 27 42.1**	**-0.7**
CAEL				IAML			00 27 50.0	
	comp=N,26nm,0.6s							
GOLH	**Golhisar**	**1.60**	**358**	*i* P		**Pb**	**00 27 27.6**	**0.0**
GOLH				*i* S		**Sb**	**00 27 46.8**	**-0.7**
GOLH				IAML			00 27 52.0	
	comp=N,17nm,0.4s							
TURN	**Turunc**	**1.60**	**316**	*i* P		**Pn**	**00 27 24.7**	**-0.4**
TURN				*i* S		**Sn**	**00 27 42.8**	**-2.1**
TURN				IAML			00 27 48.0	
	comp=E,18nm,0.6s							
TURN				IAML			00 27 50.0	
	comp=N,16nm,0.3s							
BUCA	**Burdur, Bucak-**	**1.85**	**24**	*i* P		**Pb**	**00 27 32.9**	**+1.1**
BUCA				IAML			00 28 03.0	
	comp=E,12nm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.92**	**343**	*i* P		**Pn**	**00 27 31.1**	**+1.5**
TAVA				*i* S		**Sn**	**00 27 52.2**	**-0.7**
MULA	**Mugla, Merkez-**	**1.93**	**327**	*i* P		**Pn**	**00 27 30.9**	**+1.0**
MULA				IAML			00 27 57.0	
	comp=E,16nm,0.9s							
MULA				IAML			00 27 59.0	
	comp=N,11nm,0.8s							
KEPZ	**Antalya-Kepez**	**2.03**	**51**	*i* P		**Pn**	**00 27 29.0**	**-2.1**
KEPZ				*i* S		**Sn**	**00 27 56.4**	**+0.7**
KEPZ				IAML			00 27 59.0	
	comp=E,9.7nm,0.6s							
GAZI	**Gazipasa**	**2.26**	**74**	*i* P		**Pn**	**00 27 34.6**	**+0.4**
GAZI				*i* S		**Sn**	**00 27 58.5**	**-2.6**
BDRM	**Kayabasi**	**2.27**	**310**	*i* P		**Pn**	**00 27 33.2**	**-1.3**
BDRM				IAML			00 28 02.0	
	comp=E,12nm,0.5s							
BDRM				IAML			00 28 04.0	
	comp=N,16nm,0.3s							
AKMS	**Akamas**	**2.29**	**105**	⇓P		**Pn**	**00 27 34.7**	**0.0**
AKMS				S		**Sn**	**00 28 01.2**	**-0.8**
AKMS				AML	AML		00 28 02.8	
	comp=N,0.2nm,0.5s							
AKMS				AML	AML		00 28 02.8	
	comp=N,0.2nm,0.5s							
AKMS				AML	AML		00 28 03.0	
	comp=N,0.2nm,0.3s							
AKMS				AML	AML		00 28 03.0	
	comp=N,0.2nm,0.3s							
AYDN	**Tasoluk**	**2.47**	**326**	*i* P		**Pn**	**00 27 38.2**	**+1.0**
AYDN				IAML			00 28 09.0	
	comp=E,9.0nm,0.3s							
AYDN				IAML			00 28 09.0	
	comp=N,6.7nm,0.3s							
ALFC	**Alefka**	**2.47**	**100**	P		**Pn**	**00 27 37.0**	**-0.2**
ALFC				AML	AML		00 28 07.1	
	comp=N,0.2nm,0.3s							
ALFC				AML	AML		00 28 07.1	
	comp=N,0.2nm,0.3s							
ALFC				S		**Sn**	**00 28 07.1**	**+0.7**
ALFC				AML	AML		00 28 08.1	
	comp=N,0.3nm,0.3s							
ALFC				AML	AML		00 28 08.1	
	comp=N,0.3nm,0.3s							
NATA	**Nata**	**2.55**	**109**	⇓P		**Pn**	**00 27 38.3**	**0.0**
NATA				S		**Sn**	**00 28 08.0**	**-0.4**
SZAC	**Souni**	**2.80**	**107**	P		**Pn**	**00 27 41.8**	**+0.1**
SZAC				S		**Sn**	**00 28 14.2**	**-0.4**
SZAC				AML	AML		00 28 14.4	
	comp=N,0.2nm,0.6s							
SZAC				AML	AML		00 28 15.1	
	comp=N,0.2nm,0.3s							
SZAC				AML	AML		00 28 15.1	
	comp=N,0.2nm,0.3s							
GCAM	**G?zelcaml?**	**2.82**	**318**	*i* P		**Pn**	**00 27 41.7**	**-0.3**
ASGA	**Asgata**	**3.08**	**105**	⇓P		**Pn**	**00 27 45.6**	**+0.1**
CSS	**Mathiatis**	**3.10**	**101**	P		**Pn**	**00 27 46.0**	**+0.3**
CSS				S		**Sn**	**00 28 22.6**	**+0.7**
DGB	**zmir**	**3.27**	**318**	*i* P		**Pn**	**00 27 46.6**	**-1.5**
DGB				IAML			00 28 23.0	
	comp=E,5.4nm,0.7s							
DGB				IAML			00 28 26.0	
	comp=N,3.9nm,0.2s							
MVOU	**Mavrovouni**	**3.33**	**100**	P		**Pn**	**00 27 48.6**	**-0.3**
MVOU				S		**Sn**	**00 28 27.5**	**0.0**

*MOS **16** 01:01:11.7±0.8, 31.°88N×137.°66E, h406^{km}, mb4.4/29, Error ellipse: s-maj=9.0km s-min=5.8km az=110.8*
*NIED **16** 01:01:12.9, 31.°92N×137.°80E, h416^{km}, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M$_{rr}$-0.23; M$_{\theta\theta}$1.45; M$_{\phi\phi}$-1.22; M$_{r\theta}$1.52; M$_{\theta\phi}$-1.43; M$_{r\phi}$-3.82; Fault plane solution: M$_o$4.56000×10^{15} NP1: ϕ$_s$337.00000°, δ88.00000°, λ-65.00000°. NP2:ϕ$_s$70.00000°, δ25.00000°, λ-176.00000°.*
*JMA **16** 01:01:12.8±0.1, 31.°92N×137.°80E, h416^{km}±2^{km}, M3.7*
*IDC **16** 01:01:13.3±0.9, 31.°90N×137.°66E, h404^{km}±9^{km}, mb3.7/23, mb1 3.9/28, mb1mx3.8/40, mbtmp4.5/28, Error ellipse: s-maj=10.8km s-min=9.0km az=111.0*
*NEIC **16** 01:01:13.0±1.0, 31.°82N±0.°07×137.°75E±0.°08, h402^{km}±6^{km}, mb4.3/162, Error ellipse: s-maj=10.2km s-min=9.5km az=91.0*

ISC 16 01:01:12.5±0.5, 31.°85N±0.°05×137.°75E±0.°05, h403^{km}±4^{km}, n309, σ1°24/293, mb4.3/133, 15C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.81**	**70**	P		**P**	**01 02 09.3**	**+1.7**
JAOM				*eS*		**S**	**01 02 53.7**	**+1.6**
TK01	**Tokai 1**	**1.92**	**356**	*eS*		**S**	**01 02 55.0**	**+2.5**
TK02	**Tokai 2**	**2.09**	**0**	P		**P**	**01 02 11.1**	**+2.2**
TK02				*eS*		**S**	**01 02 56.7**	**+2.1**
JHJ	**Hachijo jima 2**	**2.13**	**53**	P		**P**	**01 02 10.8**	**+1.3**
	300nm,0.3s,baz=91,slow=5.7,SNR=90							
JHJ				S		**S**	**01 02 53.0**	**-2.6**
	40nm,0.3s,baz=84,slow=21,SNR=1.4							
JHJ2	**Mitsune**	**2.15**	**54**	P		**P**	**01 02 10.7**	**+1.2**
JHJ2	**Mitsune**	**2.15**	**54**	Pn		**P**	**01 02 10.5**	**+1.0**
JHJ2						Sn	**S**	**01 02 55.4**	**-0.4**
JTNC	**Tanabenakahech**	**2.67**	**318**	P		**P**	**01 02 14.6**	**+1.5**
JTNC				S		**S**	**01 03 03.1**	**+0.7**
JIE	**Ise**	**2.68**	**341**	P		**P**	**01 02 15.0**	**+1.8**
JIE				S		**S**	**01 03 03.4**	**+0.8**
JKN2	**Miekihoku**	**2.69**	**333**	P		**P**	**01 02 14.6**	**+1.3**
JKN2				S		**S**	**01 03 03.5**	**+0.8**
JSG	**Sagara**	**2.84**	**7**	Pn		**P**	**01 02 15.0**	**+0.6**
JSG				Sn		**S**	**01 03 06.6**	**+1.8**
JWY	**Kouya**	**2.98**	**323**	P		**P**	**01 02 17.5**	**+1.9**
HMMJ	**Hamamatsu 2**	**3.00**	**360**	P		**P**	**01 02 17.2**	**+1.5**
HMMJ				*eS*		**S**	**01 03 07.6**	**+0.5**
JAI	**Aioi**	**3.39**	**306**	P		**P**	**01 02 20.6**	**+1.6**
JAI				S		**S**	**01 03 13.9**	**+0.8**
JAO	**Obara**	**3.43**	**353**	P		**P**	**01 02 21.1**	**+1.7**
JAO				*eS*		**S**	**01 03 14.7**	**+0.8**
JNY	**Yasuok**	**3.50**	**1**	P		**P**	**01 02 21.6**	**+1.6**
INU	**Inuyama**	**3.54**	**350**	Pn		**P**	**01 02 21.6**	**+1.4**
JOD2	**Odawara 2**	**3.58**	**18**	P		**P**	**01 02 21.1**	**+0.4**
JOD2				*eS*		**S**	**01 03 15.6**	**-0.7**
JYN	**Shimob**	**3.70**	**10**	P		**P**	**01 02 22.9**	**+1.1**
JGF	**Kuroka**	**3.76**	**355**	Pn		**P**	**01 02 22.7**	**+0.4**
JMN	**Monobe**	**3.76**	**301**	P		**P**	**01 02 24.4**	**+2.1**
JMN				S		**S**	**01 03 20.9**	**+1.6**
JMN	**Monobe**	**3.76**	**301**	Pn		**P**	**01 02 23.8**	**+1.5**
JMN				Sn		**S**	**01 03 20.3**	**+1.0**
JYTA	**Yamagatataniai**	**3.83**	**347**	P		**P**	**01 02 24.4**	**+1.6**
JWT	**Wachi**	**3.95**	**331**	Pn		**P**	**01 02 24.4**	**+0.5**
JWT				Sn		**S**	**01 03 21.8**	**-0.5**
JRY	**Ryogami san**	**4.26**	**13**	P		**P**	**01 02 27.7**	**+0.7**
JTO	**Tosashimizu**	**4.31**	**285**	P		**P**	**01 02 29.3**	**+1.8**
MJAR	**

INCN	**Inchon**	**10.74**	**305**	P		**P**		**01 03 38.5**	**+0.4**
ERM	**Erimo**	**11.03**	**22**	*ce*P		**P**		**01 03 41.8**	**+0.6**
ERM				pmax		pmax			
	comp=Z,97nm,1.0s								
ERM	**Erimo**	**11.03**	**22**	P		**P**		**01 03 41.9**	**+0.8**
JEW	**Eniwo**	**11.36**	**14**	P		**P**		**01 03 45.2**	**+0.4**
ASAJ	**Asahikawa**	**12.82**	**16**	P		**P**		**01 03 59.0**	**-2.0**
	comp=Z,2.6nm,0.3s,baz=216,slow=14,SNR=6.6								
ASAJ				S		**S**		**01 06 17.9**	**-2.4**
	baz=57,slow=30,SNR=1.3								
ASAJ	**Asahikawa**	**12.82**	**16**	P		**P**		**01 04 01.8**	**+0.8**
JKA	**Kamikawa-asahi**	**12.82**	**16**	P		**P**		**01 04 01.8**	**+0.8**
USA0B	**Ussuriysk Arra**	**13.13**	**341**	P		**P**		**01 04 03.9**	**-0.5**
USA0B	**Ussuriysk Arra**	**13.13**	**341**	P		**P**		**01 04 03.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**13.13**	**341**	P		**P**		**01 04 01.5**	**-2.9**
	baz=131,slow=43,SNR=5.8								
CN2	**Changchun**	**15.37**	**324**	*e*P		**P**		**01 04 30.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**15.57**	**13**	*ci* P		**P**		**01 04 31.9**	**+1.2**
YSS				*e*S		**S**		**01 07 09.6**	**-5.2**
YSS				pmax		pmax			
	comp=Z,200nm,3.3s								
YSS				pmax		pmax			
	comp=Z,80nm,1.0s								
YSS				smax		smax			
	comp=N,30nm,0.6s								
YSS	**Yuzh-Sakhalins**	**15.57**	**13**	P		**P**		**01 04 31.4**	**+0.7**
YULB	**Yu-li**	**16.83**	**244**	P		**P**		**01 04 43.3**	**-1.3**
YULB				IAmb		IAmb		01 04 47.7	
	comp=Z,10nm,0.8s								
SSLB	**Suanglung**	**16.88**	**246**	P		**P**		**01 04 44.4**	**-0.8**
TIA	**Tai'an**	**17.64**	**290**	P		**P**		**01 04 52.3**	**-0.7**
TIA				pmax		pmax			
	comp=Z,23nm,0.9s								
KLR	**Kul'dur**	**17.94**	**347**	P		**P**		**01 04 54.4**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=161,slow=9.8,SNR=15								
BJT	**Baijiatuau**	**19.25**	**301**	P		**P**		**01 05 08.5**	**-1.2**
BJT				pmax		pmax			
	comp=Z,13nm,0.8s								
BJT	**Baijiatuau**	**19.25**	**301**	P		**P**		**01 05 08.5**	**-1.2**
BJT				IAmb		IAmb		01 05 14.8	
	comp=Z,13nm,0.8s								
WHN	**Wuhan**	**20.06**	**272**	⇑P		**P**		**01 05 17.3**	**0.0**
WHN				sP		sP		01 06 52.4	-15
TIY	**Taiyuan**	**21.57**	**293**	*e*P		**P**		**01 05 31.5**	**+0.4**
TIY				sP		**sP**		**01 07 24.3**	**+0.6**
TIY				S		**S**		**01 08 59.8**	**-1.9**
TIY				pmax		pmax			
	comp=Z,63nm,0.9s								
TIY				pmax		pmax			
	comp=Z,120nm,8.5s								
TIY				L		L			
	comp=Z,69nm,4.4s								
TIY				L		L			
	comp=Z,84nm,4.4s								
TIY				L		L			
	comp=Z,100nm,6.8s								
HHC	**Hu-ho-hao-te**	**22.86**	**300**	*e*P		**P**		**01 05 41.9**	**-0.9**
HHC				pmax		pmax			
	comp=Z,29nm,0.7s								
HHC				pmax		pmax			
	comp=Z,100nm,5.8s								
ENH	**Enshi**	**24.24**	**274**	P		**P**		**01 05 54.6**	**-0.6**
XAN	**Xi'an**	**24.26**	**283**	P		**P**		**01 05 54.8**	**-0.6**
XAN				pmax		pmax			
	comp=Z,36nm,0.7s								
PETK	**Petropavlovsk-**	**25.68**	**28**	P		**P**		**01 06 07.9**	**+0.2**
	comp=Z,7.8nm,0.9s,baz=214,slow=7.2,SNR=6.9								
PETK	**Petropavlovsk-**	**25.68**	**28**	P		**P**		**01 06 08.7**	**+1.0**
PETK	**Petropavlovsk-**	**25.68**	**28**	P		**P**		**01 06 08.7**	**+1.0**
ULN	**Ulaanbaatar**	**28.24**	**313**	*ce*P		**P**		**01 06 30.8**	**+0.2**
ULN				pmax		pmax			
	comp=Z,17nm,1.3s								
ULN	**Ulaanbaatar**	**28.24**	**313**	P		**P**		**01 06 31.1**	**+0.5**
ULN				IAmb		IAmb		01 06 32.3	
	comp=Z,10nm,0.8s								
LZH	**Lanzhou**	**28.35**	**288**	*e*P		**P**		**01 06 31.6**	**-0.2**
LZH				pmax		pmax			
	comp=Z,39nm,1.0s								
SONM	**Songino Array**	**28.64**	**313**	P		**P**		**01 06 34.7**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=112,slow=8.3,SNR=18								
SONM	**Songino Array**	**28.64**	**313**	P		**P**		**01 06 34.5**	**+0.4**
MA2	**Magadan**	**29.07**	**14**	P		**P**		**01 06 38.3**	**+0.8**
	comp=Z,16nm,0.6s,baz=191,slow=8.9,SNR=4.5								
GTA	**Gaotai**	**31.57**	**295**	⇑P		**P**		**01 06 59.8**	**0.0**
GTA				pmax		pmax			
	comp=Z,16nm,0.9s								
GTA				pmax		pmax			
	comp=Z,67nm,4.7s								
GTA				L		L			
	comp=Z,46nm,22.2s								
GTA				L		L			
	comp=Z,59nm,20.7s								
GTA				L		L			
	comp=Z,85nm,21.8s								
SEY	**Seymchan**	**32.47**	**12**	P		**P**		**01 07 07.7**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=224,slow=9.1,SNR=5.3								
NONG	**Nongkai**	**34.09**	**255**	P		**P**		**01 07 22.7**	**+1.3**
	comp=Z,20nm,0.9s								
CHAI	**Chaiyaphum**	**36.16**	**252**	P		**P**		**01 07 38.9**	**0.0**
	comp=Z,137nmcomp=Z,11nm,0.6s								
PHIT	**Phitsanulok**	**36.77**	**256**	P		**P**		**01 07 45.0**	**+1.0**
	comp=Z,8.6nm,0.9s								
CM33	**Chiang Mai Arr**	**37.20**	**259**	P		**P**		**01 07 47.0**	**-0.5**
CMMT	**Chiang Mai**	**37.20**	**259**	P		**P**		**01 07 46.8**	**-0.7**
	comp=Z,16nm,1.0s								
CHTO	**Chiang Mai**	**37.20**	**259**	P		**P**		**01 07 47.6**	**0.0**
CHTO				pmax		pmax			
	comp=Z,12nm,0.9s								
CHTO	**Chiang Mai**	**37.20**	**259**	P		**P**		**01 07 47.5**	**0.0**
CHTO				IAmb		IAmb		01 07 48.5	
	comp=Z,12nm,0.9s								
CM36	**Chiang Mai Arr**	**37.22**	**259**	P		**P**		**01 07 48.0**	**+0.3**
CM09	**Chiang Mai Arr**	**37.34**	**258**	P		**P**		**01 07 49.5**	**+0.9**
	comp=Z,9.1nm,0.8s								
CM04	**Chiang Mai Arr**	**37.37**	**258**	P		**P**		**01 07 50.0**	**+1.1**
	comp=Z,118nmcomp=Z,6.9nm,0.7s								
CMAR	**Chiang Mai Arr**	**37.37**	**259**	P		**P**		**01 07 49.2**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=50,slow=7.3,SNR=23								
CMAR	**Chiang Mai Arr**	**37.37**	**259**	P		**P**		**01 07 48.7**	**-0.3**
CM02	**Chiang Mai Arr**	**37.38**	**259**	P		**P**		**01 07 49.8**	**+0.7**
	comp=Z,80nmcomp=Z,9.5nm,0.8s								
CM15	**Chiang Mai Arr**	**37.39**	**259**	P		**P**		**01 07 50.0**	**+0.9**
CM05	**Chiang Mai Arr**	**37.40**	**258**	P		**P**		**01 07 50.0**	**+0.8**
	comp=Z,64nmcomp=Z,6.0nm,0.7s								
CM13	**Chiang Mai Arr**	**37.42**	**259**	P		**P**		**01 07 50.1**	**+0.7**
	comp=Z,72nmcomp=Z,7.2nm,0.7s								
BILL	**Bilibino**	**39.84**	**16**	*ce*P		**P**		**01 08 08.3**	**-0.2**
BILL				*e**PP		**pP**		**01 09 22.7**	**-2.6**
BILL				*e*				01 09 49.9	
BILL				*e*				01 10 05.4	
BILL				pmax		pmax			
	comp=Z,28nm,1.0s								
BILL	**Bilibino**	**39.84**	**16**	P		**P**		**01 08 09.8**	**+1.3**
TIXI	**Tiksi**	**40.15**	**356**	*ce*P		**P**		**01 08 09.8**	**-1.1**
KAPI	**Kappang**	**40.47**	**208**	P		**P**		**01 08 14.0**	**-0.3**
KAPI				pmax		pmax			
	comp=Z,17nm,1.1s								
KAPI	**Kappang**	**40.47**	**208**	P		**P**		**01 08 14.0**	**-0.3**
KAPI				IAmb		IAmb		01 08 16.0	
	comp=Z,17nm,1.1s								
SHL	**Shillong**	**40.48**	**273**	P		**P**		**01 08 13.6**	**-1.0**
SHL				pmax		pmax			
	comp=Z,17nm,0.6s								
SHL	**Shillong**	**40.48**	**273**	P		**P**		**01 08 13.6**	**-1.0**
WMQ	**Urumqi**	**40.73**	**302**	*e*P		**P**		**01 08 17.9**	**+1.8**
DGZ	**Jazzator, Alta**	**41.22**	**311**	*i* P		**P**		**01 08 19.6**	**-0.5**
DGZ				pmax		pmax			
	comp=Z,11nm,0.8s								
ZALV	**Zalesovo Beam**	**43.38**	**317**	P		**P**		**01 08 36.7**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=107,slow=9.5,SNR=5.2								
ZALV				PcP		**PcP**		**01 10 17.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=88,slow=2.6,SNR=4.0								
ZALV	**Zalesovo Beam**	**43.38**	**317**	P		**P**		**01 08 36.1**	**-0.9**
NIKH	**Nikolski High**	**43.52**	**45**	P				01 08 37.6	
	baz=263								
ODAN	**Odare**	**43.87**	**277**	*e*P		**P**		**01 08 41.5**	**0.0**
	comp=Z,73nm,0.5s								
RAMN	**Ramite**	**44.50**	**277**	*e*P		**P**		**01 08 46.6**	**+0.1**
	comp=Z,93nm,0.6s								
MK31	**Makanchi Array**	**44.52**	**306**	P		**P**		**01 08 46.0**	**-0.1**
MK31				pmax		pmax			
	comp=Z,6.0nm,0.7s								
MK31	**Makanchi Array**	**44.52**	**306**	P		**P**		**01 08 46.0**	**-0.1**
MKAR	**Makanchi Array**	**44.52**	**306**	P		**P**		**01 08 46.1**	**0.0**
	comp=Z,8.3nm,0.7s,baz=90,slow=10.0,SNR=60								
MKAR				PcP		**PcP**		**01 10 20.7**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=94,slow=5.1,SNR=3.9								
MKAR				ScP		**ScP**		**01 13 33.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=81,slow=5.8,SNR=5.6								
MAKZ	**Makanchi**	**44.73**	**306**	P		**P**		**01 08 45.9**	**-1.8**
MAKZ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
MAKZ	**Makanchi**	**44.73**	**306**	P		**P**		**01 08 45.9**	**-1.8**
GUN	**Gumba**	**44.80**	**279**	*e*P		**P**		**01 08 49.4**	**+0.4**
	comp=Z,95nm,0.6s								
MTN	**Manton Dam**	**44.89**	**189**	P		**P**		**01 08 48.4**	**-0.8**
MTN				IAmb		IAmb		01 08 50.0	
	comp=Z,15nm,0.8s								
PKI	**Pulchoki**	**45.31**	**279**	*e*P		**P**		**01 08 52.6**	**-0.3**
	comp=Z,34nm,0.8s								
PKIN	**Phulchoki**	**45.32**	**279**	*e*P		**P**		**01 08 52.5**	**-0.4**
	comp=Z,32nm,0.7s								
KKN	**Kakani**	**45.35**	**279**	*e*P		**P**		**01 08 53.5**	**+0.5**
DMN	**Daman**	**45.55**	**279**	*e*P		**P**		**01 08 54.8**	**+0.1**
GKN	**Gorkha**	**45.82**	**280**	*e*P		**P**		**01 08 56.8**	**+0.2**
DANN	**Dangsing**	**46.45**	**280**	*e*P		**P**		**01 09 02.1**	**+0.5**
	comp=Z,61nm,0.5s								
KOLN	**Koldanda**	**46.76**	**280**	*e*P		**P**		**01 09 04.1**	**+0.2**
TNA	**Tin City**	**46.84**	**28**	P				01 09 04.5	
	baz=251								
UZB	**Uzynbulak**	**47.07**	**301**	*e*P		**P**		**01 09 05.6**	**-0.3**
PYUN	**Piuthan**	**47.17**	**280**	*e*P		**P**		**01 09 07.4**	**+0.4**
KPKS	**Kokpek**	**47.28**	**302**	*e*P		**P**		**01 09 06.6**	**-0.9**
ANM	**Nome**	**47.59**	**29**	P				01 09 10.2	
	baz=255								
ARXS	**Arharly**	**47.81**	**303**	*e*P		**P**		**01 09 11.3**	**-0.2**
KNRA	**Kununurra**	**48.03**	**192**	P		**P**		**01 09 13.3**	**0.0**
KNRA				IAmb		IAmb		01 09 14.7	
	comp=Z,11nm,0.8s								
TARG	**Taragay, Kyrgy**	**48.15**	**300**	P		**P**		**01 09 14.3**	**-0.2**
TARG				IAmb		IAmb		01 09 16.1	
	comp=Z,11nm,0.9s								
CISI	**Cisompet, Garu**	**48.51**	**221**	P		**P**		**01 09 15.8**	**-1.1**
CISI				IAmb		IAmb		01 09 22.9	
	comp=Z,15nm,1.0s								
GSI	**Gunungsitoli**	**48.55**	**239**	P		**P**		**01 09 17.3**	**0.0**
SDPT	**Sand Point**	**48.63**	**42**	P				01 09 16.5	
	baz=268								
BOOM	**Boomskoye usch**	**49.40**	**301**	P		**P**		**01 09 24.0**	**+0.4**
BOOM				pmax		pmax			
	comp=Z,12nm,1.2s								
BOOM	**Boomskoye usch**	**49.40**	**301**	P		**P**		**01 09 24.0**	**+0.4**
SGDS	**Sogindy**	**50.20**	**302**	*e*P		**P**		**01 09 28.9**	**-0.5**
AAK	**Ala-Archa**	**50.43**	**301**	P		**P**		**01 09 30.6**	**-0.6**
	comp=Z,4.8nm,0.6s,baz=126,slow=6.4,SNR=8.3								
AAK	**Ala-Archa**	**50.43**	**301**	P		**P**		**01 09 31.4**	**+0.2**
AAK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
AAK	**Ala-Archa**	**50.43**	**301**	P		**P**		**01 09 31.4**	**+0.2**
BRZS	**Berezniki**	**50.76**	**311**	*e*P		**P**		**01 09 32.8**	**-0.5**
CHIR	**Chirikof Islan**	**51.39**	**42**	P				01 09 38.5	
	baz=271								
TTA	**Tatalina**	**51.40**	**32**	P		**P**		**01 09 38.8**	**+1.0**
TTA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
TTA	**Tatalina**	**51.40**	**32**	P		**P**		**01 09 38.8**	**+1.0**
TTA	**Tatalina**	**51.40**	**32**	P				01 09 39.0	
	baz=265								
WB0	**Warramunga Arr**	**51.42**	**184**	P		**P**		**01 09 38.1**	**-0.3**
WRAB	**Tennant Creek**	**51.59**	**184**	*ce*P		**P**		**01 09 39.4**	**-0.3**
WRAB				pmax		pmax			
	comp=Z,8.0nm,1.7s								
WRA	**Warramunga Arr**	**51.60**	**184**	P		**P**		**01 09 40.2**	**+0.4**
	comp=Z,3.4nm,0.3s,baz=360,slow=7.6,SNR=94								
WRA	**Warramunga Arr**	**51.60**	**184**	P		**P**		**01 09 39.5**	**-0.2**
WR0	**Warramunga Arr**	**51.61**	**184**	P		**P**		**01 09 39.7**	**-0.1**
WR0				IAmb		IAmb		01 09 40.6	
	comp=Z,7.9nm,0.3s								
BRVK	**Borovoye**	**52.01**	**315**	*ce*P		**P**		**01 09 42.1**	**-0.3**
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
BRVK	**Borovoye**	**52.01**	**315**	P		**P**		**01 09 42.8**	**+0.4**
SII	**Sitkinak Islan**	**52.17**	**41**	P				01 09 44.2	
	baz=272								
A21K	**Barrow**	**52.39**	**22**	P		**P**		**01 09 45.8**	**+1.0**
A21K	**Barrow**	**52.39**	**22**	P				01 09 46.2	
	baz=258								
OHAK	**Old Harbor**	**52.64**	**40**	P		**P**		**01 09 47.6**	**+0.8**
OHAK				IAmb		IAmb		01 09 47.9	
	comp=Z,6.8nm,0.6s								
OHAK	**Old Harbor**	**52.64**	**40**	P				01 09 47.3	
	baz=272								
RSO	**Redoubt South**	**52.85**	**36**	P		**P**		**01 09 49.6**	**+1.0**
KDAK	**Kodiak Island**	**53.00**	**39**	P		**P**		**01 09 50.3**	**+0.9**
KDAK				pmax		pmax			
	comp=Z,14nm,0.7s								
KDAK	**Kodiak Island**	**53.00**	**39**	P		**P**		**01 09 50.3**	**+0.9**
KDAK				IAmb		IAmb		01 09 51.0	
	comp=Z,14nm,0.7s								
KDAK	**Kodiak Island**	**53.00**	**39**	P				01 09 50.1	
	baz=272								
H21K	**Melozitna Rive**	**53.00**	**29**	P				01 09 51.1	
	baz=266								
DRK	**Karamyk**	**53.06**	**298**	P		**P**		**01 09 50.4**	**-0.2**
DRK				IAmb		IAmb		01 09 51.9	
	comp=Z,13nm,0.7s								
SPCR	**Spurr Chakacha**	**53.12**	**35**	P				01 09 51.7	
	baz=270								
PPLA	**Purkeypile**	**53.15**	**33**	IAmb		IAmb		01 09 53.4	
	comp=Z,12nm,0.7s								
PPLA	**Purkeypile**	**53.15**	**33**	P				01 09 52.5	
	baz=269,SNR=12								
KK31	**Karatay Array**	**53.23**	**303**	IAmb		IAmb		01 09 52.3	
	comp=Z,12nm,0.7s								
KKAR	**Karatay Array**	**53.23**	**303**	IAmb		IAmb		01 09 52.3	
	comp=Z,12nm,0.7s								
SKT	**Skwentna**	**53.44**	**34**	P		**P**		**01 09 53.6**	**+1.0**
SKT	**Skwentna**	**53.44**	**34**	P				01 09 53.4	
	baz=270								
NIL	**Nilore**	**53.47**	**290**	P		**P**		**01 09 53.4**	**+0.1**
NIL				pmax		pmax			
	comp=Z,18nm,0.7s								
NIL	**Nilore**	**53.47**	**290**	P		**P**		**01 09 53.4**	**+0.1**
BTK	**Batken**	**53.66**	**299**	P		**P**		**01 09 54.8**	**+0.2**
BTK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
BTK	**Batken**	**53.66**	**299**	P		**P**		**01 09 54.8**	**+0.2**
BPAW	**Bear Paw Mtn.**	**53.71**	**31**	P		**P**		**01 09 55.4**	**+0.9**
BPAW	**Bear Paw Mtn.**	**53.71**	**31**	P				01 09 55.8	
	baz=269								
KTH	**Kantishna Hill**	**53.73**	**32**	P		**P**		**01 09 55.4**	**+0.7**
BRLK	**Bradley Lake**	**53.80**	**36**	P		**P**		**01 09 56.0**	**+0.8**
BRLK				IAmb		IAmb		01 09 57.7	
	comp=Z,24nm,1.2s								
SUA	**Susitna One**	**53.82**	**34**	P				01 09 55.9	
	baz=271								
MLY	**Manley**	**53.84**	**30**	P		**P**		**01 09 56.5**	**+1.1**
MLY				IAmb		IAmb		01 09 58.2	
	comp=Z,12nm,0.8s								
MLY	**Manley**	**53.84**	**30**	P				01 09 57.0	
	baz=268,SNR=21								
BRSE	**Bradley Lake S**	**53.88**	**36**	P				01 09 56.5	
	baz=272,SNR=5.4								
TRF	**Thorofare Moun**	**54.02**	**32**	P				01 09 57.4	
	baz=270								
COLD	**Coldfoot**	**54.14**	**27**	P		**P**		**01 09 58.6**	**+1.1**
COLD	**Coldfoot**	**54.14**	**27**	P				01 09 58.8	
	baz=267								
RC01	**Rabbit Creek A**	**54.32**	**35**	P				01 09 59.2	
	baz=272								
H23K	**Yukon River**	**54.36**	**29**	P				01 10 01.2	
	baz=269,SNR=9.6								
BWN	**Browne**	**54.38**	**31**	P		**P**		**01 10 00.5**	**+1.3**
I23K	**Minto, Yukon-K**	**54.43**	**30**	P				01 10 01.0	
	baz=270,SNR=6.7								
TOLK	**Toolik Lake Re**	**54.45**	**25**	P		**P**		**01 10 00.7**	**+1.0**
TOLK	**Toolik Lake Re**	**54.45**	**25**	P				01 10 00.9	
	baz=267								
SEW	**Seward**	**54.51**	**36**	P		**P**		**01 10 00.6**	**+0.5**
SEW				IAmb		IAmb		01 10 01.6	
	comp=Z,13nm,0.6s								
SEW	**Seward**	**54.51**	**36**	P				01 10 00.5	
	baz=273								
NEA2	**Nenana**	**54.55**	**30**	IAmb		IAmb		01 10 02.9	
	comp=Z,23nm,1.0s								
NEA2	**Nenana**	**54.55**	**30**	P				01 10 01.8	
	baz=270,SNR=24								
PMR	**Palmer**	**54.59**	**34**	P				01 10 01.4	
	baz=272								
MCK	**McKinley**	**54.62**	**32**	IAmb		IAmb		01 10 03.5	
	comp=Z,11nm,0.8s								
MCK	**McKinley**	**54.62**	**32**	P				01 10 01.5	
	baz=271,SNR=6.6								
RND	**Reindeer**	**54.66**	**32**	IAmb		IAmb		01 10 02.9	
	comp=Z,20nm,0.8s								
GHO	**Glory Hole Cre**	**54.68**	**34**	IAmb		IAmb		01 10 04.3	
	comp=Z,10.0nm,0.6s								
WAT2	**Susitna Watana**	**54.80**	**32**	P				01 10 02.7	
	baz=272,SNR=10								
MDM	**Murphy Dome**	**54.91**	**30**	IAmb		IAmb		01 10 05.5	
	comp=Z,17nm,0.8s								
KNK	**Knik Glacier**	**54.92**	**34**	IAmb		IAmb		01 10 04.9	
	comp=Z,16nm,0.6s								
KNK	**Knik Glacier**	**54.92**	**34**	P				01 10 04.0	
	baz=273,SNR=8.7								
SML	**Sawmill**	**54.96**	**34**	P		**P**		**01 10 04.5**	**+1.0**
SML				IAmb		IAmb		01 10 05.3	
	comp=Z,12nm,0.7s								
SML	**Sawmill**	**54.96**	**34**	P				01 10 04.3	
	baz=273,SNR=9.3								
PWL	**Port Wells**	**55.02**	**35**	IAmb		IAmb		01 10 05.3	
	comp=Z,10nm,0.6s								
H24K	**Noodor Dome**	**55.04**	**29**	P				01 10 05.9	
	baz=270,SNR=20								
TCOL	**CIGO, UAF Yank**	**55.06**	**30**	P		**P**		**01 10 05.1**	**+1.1**
TCOL	**CIGO, UAF Yank**	**55.06**	**30**	P				01 10 06.0	
	baz=271								
COLA	**College**	**55.07**	**30**	*i* P		**P**		**01 10 05.0**	**+1.0**
COLA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
COLA	**College**	**55.07**	**30**	P		**P**		**01 10 05.2**	**+1.2**
COLA	**College**	**55.07**	**30**	P				01 10 05.9	
	baz=271								
WAT6	**Susitna Watana**	**55.20**	**33**	P				01 10 05.8	
	baz=273,SNR=10								
POKR	**Poker Plat Res**	**55.24**	**30**	P				01 10 07.1	
	baz=271,SNR=7.9								
CHGR	**Chuyangaron**	**55.26**	**297**	P		**P**		**01 10 06.3**	**+0.3**
AS31	**Alice Springs**	**55.32**	**184**	P		**P**		**01 10 06.5**	**+0.1**
ASAR	**Alice Springs**	**55.33**	**184**	P		**P**		**01 10 07.3**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=11,slow=12,SNR=21								
ASAR	**Alice Springs**	**55.33**	**184**	P		**P**		**01 10 06.4**	**0.0**
SCM	**Sheep Creek Mo**	**55.44**	**34**	IAmb		IAmb		01 10 08.9	
	comp=Z,14nm,0.7s								
HDA	**Harding Lake**	**55.47**	**31**	IAmb		IAmb		01 10 08.2	
	comp=Z,11nm,0.8s								
HDA	**Harding Lake**	**55.47**	**31**	P				01 10 07.2	
	baz=272,SNR=6.2								
HDA				P				01 10 07.2	
	baz=272,SNR=6.2								
ILAR	**Eielson Array**	**55.48**	**30**	P		**P**		**01 10 07.2**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=275,slow=5.3,SNR=37								
GLI	**Glacier Island**	**55.62**	**35**	IAmb		IAmb		01 10 09.9	
	comp=Z,12nm,0.7s								
GLI	**Glacier Island**	**55.62**	**35**	P				01 10 08.8	
	baz=275								
FID	**Port Fidalgo**	**55.93**	**35**	IAmb		IAmb		01 10 12.1	
	comp=Z,14nm,0.7s								
M24K	**Tolsona, Glenn**	**55.96**	**33**	P				01 10 12.0	
	baz=275								
PRP	**Porcupine Dome**	**56.03**	**29**	P				01 10 12.0	
	baz=273								
Q23K	**Middleton Isla**	**56.13**	**37**	P				01 10 12.0	
	baz=276								
KLU	**Klutina**	**56.13**	**34**	IAmb		IAmb		01 10 14.4	
	comp=Z,5.5nm,0.5s								
KLU	**Klutina**	**56.13**	**34**	P				01 10 12.8	
	baz=275,SNR=8.0								
PAX	**Paxson**	**56.22**	**32**	P				01 10 13.3	
	baz=275,SNR=5.1								
EYAK	**Cordova Ski Ar**	**56.31**	**35**	IAmb		IAmb		01 10 14.8	
	comp=Z,7.2nm,0.5s								
EYAK	**Cordova Ski Ar**	**56.31**	**35**	P				01 10 14.1	
	baz=276								
HARP	**HAARP**	**56.41**	**33**	P				01 10 14.8	
	baz=275								
KBL	**Kabul**	**56.53**	**293**	P		**P**		**01 10 15.0**	**-0.1**
KBL				pmax		pmax			
	comp=Z,11nm,0.7s								
KBL	**Kabul**	**56.53**	**293**	P		**P**		**01 10 15.0**	**-0.1**
KBL				IAmb		IAmb		01 10 15.8	
	comp=Z,11nm,0.7s								
N25K	**Chitina, Valde**	**56.75**	**34**	P				01 10 17.5	
	baz=276,SNR=6.8								
SCRK	**Sand Creek**	**56.79**	**31**	IAmb		IAmb		01 10 18.0	
	comp=Z,11nm,1.0s								
SCRK	**Sand Creek**	**56.79**	**31**	P				01 10 16.9	
	baz=275,SNR=20								
BMRM	**Brem

OBN *e* 01 14 25.5
OBN pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 71.97 332 P **P** **01 11 53.5 +0.2**
comp=Z,1.7nm,0.4s,baz=71,slow=5.7,SNR=27
FINES FINESS Array B 71.97 332 P **P** **01 11 53.9 +0.7**
FINES FINESS Array B 71.97 332 P **P** **01 11 53.9 +0.7**
KBZ Khabaz 71.97 311 P **P** **01 11 54.0 +0.5**
comp=Z,9.1nm,0.8s,baz=80,slow=5.2,SNR=18
KBZ Khabaz 71.97 311 *ce*P **P** **01 11 53.7 +0.1**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 72.00 311 *e*P **P** **01 11 52.4 -1.5**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV Kislovodsk 72.00 311 P **P** **01 11 53.9 0.0**
KIV IAmb IAmb 01 11 56.2
comp=Z,8.0nm,0.8s
A04D Lummi Island 72.54 43 P 01 11 58.5
baz=298
D03D Eldon 72.88 44 P 01 12 00.7
baz=298
B05A Bryant 73.11 43 P 01 12 01.6
baz=299
E04D Cinebar 73.66 45 P 01 12 05.5
baz=299
H04D Lebanon 74.55 47 P 01 12 09.9
baz=300
I03D Drain, OR 74.57 48 P 01 12 10.4
baz=299
B08A Colville Reser 74.67 42 IAmb IAmb 01 12 11.4
comp=Z,4.5nm,0.9s
K02D Willamette Mer 74.86 49 P 01 12 11.9
baz=299
GURO Guroymak-BITLI 74.97 306 IAmb IAmb 01 12 12.8
comp=Z,3.9nm,0.7s
I04A Tendick Farm, 75.12 48 P 01 12 13.6
baz=300
I05D Terrebonne, OR 75.51 47 P 01 12 16.0
baz=300
HAWA Hanford 75.56 44 P **P** **01 12 14.3 +0.1**
HAWA IAmb IAmb 01 12 16.6
comp=Z,7.3nm,1.1s
J04D Umpqua Nationa 75.58 48 P 01 12 16.3
baz=300
SUMG Summit 75.82 359 P **P** **01 12 16.6 +0.9**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 75.82 359 P **P** **01 12 16.6 +0.9**
L04D Klamath Falls 75.97 49 P 01 12 18.5
baz=300
NEW Newport 75.98 42 IAmb IAmb 01 12 18.8
comp=Z,4.4nm,0.8s
NEW Newport 75.98 42 P 01 12 18.1
baz=302
M02C Callahan 76.03 50 P 01 12 19.1
baz=300
PINE Pine Mountain 76.04 47 P **P** **01 12 17.4 +0.3**
K04D Chiloquin, OR 76.12 48 P 01 12 19.3
baz=300
E09A Wood Farm, Sta 76.31 44 IAmb IAmb 01 12 21.0
comp=Z,6.7nm,0.9s
N02D Trinity Center 76.34 50 P 01 12 20.7
baz=300
M04C Macdoel 76.49 49 P 01 12 21.3
baz=301
AKASG Malin Array Be 76.51 322 P **P** **01 12 19.1 -0.2**
comp=Z,3.6nm,0.6s,baz=53,slow=6.2,SNR=11
AKBB Malin Array Si 76.51 322 *ce*P **P** **01 12 20.1 +0.8**
O02D Mt. Diablo Mer 76.69 51 P 01 12 22.3
baz=300
O03E Paynes Creek 77.28 50 P 01 12 25.4
baz=301
WALA Waterton Lakes 77.33 40 IAmb IAmb 01 12 27.0
comp=Z,8.1nm,1.1s
MOD Modoc Plateau 77.41 48 P **P** **01 12 26.0 +1.2**
MOD IAmb IAmb 01 12 27.2
comp=Z,4.9nm,0.7s
BMO Blue Mountains 77.70 45 IAmb IAmb 01 12 28.6
comp=Z,4.7nm,0.8s
NOA NORSAR Array B 77.75 336 P **P** **01 12 25.6 -0.4**
comp=Z,0.5nm,0.7s,baz=55,slow=6.7,SNR=1.9
ORV Oroville 77.86 51 IAmb IAmb 01 12 28.4
comp=Z,3.3nm,0.7s
WVOR Wild Horse Val 78.18 47 IAmb IAmb 01 12 31.5
comp=Z,5.4nm,0.9s
MSO Missoula 78.57 42 P 01 12 32.4
baz=305
PAHR Pah Rah Range 79.16 50 IAmb IAmb 01 12 36.4
comp=Z,4.7nm,0.8s
MFID Camas Ranch 79.38 45 IAmb IAmb 01 12 37.4
comp=Z,2.8nm,0.6s
CMB Columbia Colle 79.39 52 IAmb IAmb 01 12 37.4
comp=Z,2.8nm,0.6s
RAYN Ar Rayn 79.76 291 P **P** **01 12 37.7 +0.1**
RAYN pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 79.76 291 P **P** **01 12 37.7 +0.1**
BR131 Keskin Array S 79.97 311 P **P** **01 12 38.7 +0.2**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 79.97 311 P **P** **01 12 38.7 +0.2**
BR131 IAmb IAmb 01 12 40.0
comp=Z,6.6nm,0.9s
BRTR Keskin Array B 79.97 311 P **P** **01 12 39.0 +0.5**
comp=Z,3.4nm,0.8s,baz=99,slow=4.7,SNR=23
BRTR Keskin Array B 79.97 311 P **P** **01 12 39.0 +0.5**
HLID Hailey 80.15 45 P 01 12 40.9
baz=305
DLMT Dillon 80.17 42 IAmb IAmb 01 12 41.9
comp=Z,7.4nm,0.9s
EGMT Eagleton 80.17 39 P 01 12 40.8
baz=307
KVN Kaiserville 80.36 50 IAmb IAmb 01 12 43.0
comp=Z,4.6nm,0.8s
NVAR Mina Array Bea 80.56 51 P **P** **01 12 43.3 +1.5**
comp=Z,1.3nm,0.6s,baz=288,slow=6.0,SNR=13
PKM Mcpherson Peak 81.47 54 P 01 12 47.6
baz=303
HVU Hansel Valley 82.16 45 IAmb IAmb 01 12 52.8
comp=Z,5.1nm,0.8s
RLMT Red Lodge 82.20 41 P 01 12 51.9
baz=308
R11A Troy Canyon, C 82.38 49 P 01 12 52.5
baz=305
MPMC Manual Prospec 82.41 52 P 01 12 52.5
baz=304
FURC Furnace Creek, 82.60 52 P 01 12 53.6
baz=304
EDW2 Edwards Air Fo 82.72 53 P 01 12 54.1
baz=304
TPNV Topopah Spring 82.74 51 IAmb IAmb 01 12 55.2
comp=Z,7.1nm,0.9s
TPNV Topopah Spring 82.74 51 P 01 12 54.7
baz=304
LAO LASA Array 82.89 39 P 01 12 54.9
baz=310
HWUT Hardware Ranch 82.99 45 IAmb IAmb 01 12 57.1
comp=Z,9.8nm,1.0s
DUG Dugway, Tooele 83.07 47 IAmb IAmb 01 12 57.3
comp=Z,7.3nm,0.8s
DUG Dugway, Tooele 83.07 47 P 01 12 56.4
baz=306
PRN Pahroc Range 83.26 50 IAmb IAmb 01 12 58.8
comp=Z,7.1nm,1.1s
GSC Goldstone, Bar 83.29 53 IAmb IAmb 01 12 57.9
comp=Z,6.7nm,1.1s
GSC Goldstone, Bar 83.30 53 P 01 12 57.4
baz=304
BFSC Mount Baldy Ra 83.31 54 P 01 12 57.1
baz=304
PD31 Pinedale Array 83.48 43 P **P** **01 12 57.0 +0.3**
PDAR Pinedale Array 83.48 43 P **P** **01 12 57.6 +0.9**
comp=Z,1.7nm,0.8s,baz=300,slow=2.9,SNR=14
BW06 Boulder Array 83.48 43 P 01 12 57.5
baz=308
SHPR Sheep Range 83.71 51 P **P** **01 12 58.1 +0.2**
SHPR IAmb IAmb 01 13 00.4
comp=Z,4.2nm,0.9s
HEC Hector,Ludlow 83.88 53 P 01 12 59.6
baz=305
MURC Murrieta 83.99 54 P 01 12 60.0
baz=304
GMRC Granite Mounta 84.36 52 P 01 13 02.3
baz=305
PFO Pinyon Flats O 84.48 54 P **P** **01 13 01.9 +0.2**
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO Pinyon Flats O 84.48 54 P **P** **01 13 01.9 +0.2**
PFO IAmb IAmb 01 13 03.8
comp=Z,7.7nm,1.0s
PFO Pinyon Flats O 84.48 54 P 01 13 02.7
baz=305
TPFO Pinon Flats 84.49 54 P 01 13 02.2
baz=305
MTPU Mount Pierson 84.74 48 P **P** **01 13 04.3 +1.2**
MTPU IAmb IAmb 01 13 06.2
comp=Z,3.2nm,0.8s
P17A Butcher Ranch, 84.78 46 P **P** **01 13 04.0 +0.9**
RDMU Red Mountain 84.82 45 P **P** **01 13 03.9 +0.6**
RDMU IAmb IAmb 01 13 05.4
comp=Z,3.5nm,0.7s
Q16A Castle Valley 84.85 47 P **P** **01 13 04.5 +1.0**
Q16A IAmb IAmb 01 13 06.3
comp=Z,4.0nm,1.0s
KNB Kanab 84.94 49 P **P** **01 13 05.1 +1.1**
KNB pmax pmax
comp=Z,7.0nm,0.8s
KNB Kanab 84.94 49 P **P** **01 13 05.0 +1.1**
IRM Iron Mountain 85.07 53 P 01 13 05.6
baz=305
SRU San Rafael Swe 85.13 46 P **P** **01 13 05.3 +0.4**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 85.13 46 P **P** **01 13 05.3 +0.4**
SRU IAmb IAmb 01 13 07.2
comp=Z,5.8nm,0.8s
BC3 Big Chuckawall 85.15 53 P 01 13 06.0
baz=305
IKP In-Ko-Pah, Jac 85.27 54 P 01 13 06.5
baz=305
K22A Casper 85.30 42 P 01 13 06.1
baz=310
RWWY Rawlins 85.52 43 P **P** **01 13 06.6 -0.2**
U15A North Rim 85.63 49 P **P** **01 13 08.3 +0.8**
RSSD Black Hills 85.72 40 P 01 13 08.7
baz=311
O20A White River Ci 85.89 45 P 01 13 09.5
baz=309
GLA Glamis 85.92 53 P 01 13 09.8
baz=306
WUAZ Wupatki 86.77 50 P 01 13 14.3
baz=307
SMCO Snowmass 87.25 45 P **P** **01 13 16.4 +1.1**
ISCO Idaho Springs 87.66 44 P 01 13 18.5
baz=310
S22A 4UR Ranch, Cre 88.25 46 P 01 13 21.0
baz=310
SDCO Great Sand Dun 89.06 45 P 01 13 25.1
baz=311
ECSD EROS Data Cent 89.87 36 P 01 13 28.0
baz=316
T25A Trinidad 90.11 45 P 01 13 29.4
baz=311
ANMO Albuquerque 90.27 48 *ce*P **P** **01 13 29.3 +0.1**
ANMO pmax pmax
comp=Z,8.0nm,3.0s
ANMO Albuquerque 90.27 48 P 01 13 30.6
baz=310
121A Cookes Peak, D 90.95 50 P 01 13 34.0
baz=309
MNTX Cornudas Mount 93.05 50 P 01 13 43.2
baz=311
LSQQ Lebel-sur-Quev 93.70 22 P 01 13 45.0
baz=331
TX31 Lajitas Ar. Si 95.71 50 P **P** **01 13 55.1 +1.0**
TX32 Lajitas Array 95.71 50 P **P** **01 13 54.9 +0.7**
TXAR Lajitas Array 95.71 50 P **P** **01 13 55.7 +1.5**
comp=Z,1.1nm,0.7s,baz=318,slow=3.8,SNR=9.5
TORD Torodi Ar. Bea 118.57 310 PKP **PKPdf** **01 19 13.1 -0.9**
comp=Z,0.2nm,0.4s,baz=37,slow=0.7,SNR=5.9
TORD Torodi Ar. Bea 118.57 310 **PKPdf** **01 19 13.7 -0.2**
PTGA Pitinga 144.81 32 **PKPdf** **01 20 02.9 -0.1**

KRNET ***16*** *01:19:31.2±0.1,39.˚68N×73.˚20E,h18km,mb3.3*
ISU ***16*** *01:19:32,39.˚82N×73.˚16E,h15km*
SOME ***16*** *01:19:34.7,40.˚08N×72.˚92E,h10km*
NNC ***16*** *01:19:35.8±1.5,39.˚99N×73.˚14E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=11.4km s-min=5.3km az=179.0
ISC 16 01:19:31.2±1.2**,39.˚88N**±0.˚04×**73.˚14E**±0.˚02**,h10**km±10km,
n66,σ**1s91**/108**,30C-16D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.31**	**65**	⇑*i*P		**Pb**	**01 19 39.5**	**+0.4**
	baz=34							
SFK				⇑*i*S		**Sb**	**01 19 45.1**	**+0.7**
	baz=34							
SFK	**Sufi-Kurgan**	**0.31**	**65**	*e*P		**Pb**	**01 19 39.0**	**-0.1**
SFK				*e*S		**Sb**	**01 19 45.0**	**+0.7**
OHH	**Osh**	**0.70**	**338**	*e*P		**Pn**	**01 19 47.0**	**-0.3**
OHH				*e*S		**Sn**	**01 19 57.0**	**-1.2**
ANR	**Andizhan**	**1.06**	**326**	*e*S		**Sn**	**01 20 10.8**	**+3.0**
DRK	**Karamyk**	**1.10**	**249**	⇓*i*P		**Pg**	**01 19 51.8**	**-0.6**
	baz=60							
DRK				⇓*i*S		**Sg**	**01 20 06.4**	**-0.4**
	baz=60							
FRG	**Fergana**	**1.34**	**310**	*e*P		**Pn**	**01 19 54.0**	**-2.0**
FRG				*e*S		**Sb**	**01 20 09.0**	**-4.7**
ARSB	**Arslanbob**	**1.45**	**355**	⇓*i*P		**Pg**	**01 20 01.6**	**+2.6**
	baz=54							
ARSB				⇓*i*S		**Sg**	**01 20 23.8**	**+6.0**
	baz=54							
ARSB	**Arslanbob**	**1.45**	**355**	*e*P		**Pg**	**01 20 01.0**	**+2.0**
ARSB				*e*S		**Sg**	**01 20 24.0**	**+6.2**
BTK	**Batken**	**1.79**	**276**	⇑*i*P		**Pb**	**01 20 04.5**	**+0.4**
	baz=83							
BTK				⇑*i*S		**Sg**	**01 20 29.7**	**+1.0**
	baz=83							
BTK	**Batken**	**1.79**	**276**	*e*P		**Pb**	**01 20 04.0**	**-0.1**
BTK				*e*S		**Sg**	**01 20 31.0**	**+2.3**
ARLS	**Aral**	**2.17**	**24**	⇑*i*P		**Pb**	**01 20 11.6**	**+0.8**
	baz=21							
ARLS				⇑*i*S		**Sg**	**01 20 41.2**	**+0.1**
	baz=21							
TRKS	**Terek-Say**	**2.24**	**318**	⇑*i*P		**Pb**	**01 20 11.7**	**-0.2**
	baz=20							
TRKS				⇑*i*S		**Sg**	**01 20 41.8**	**-1.4**
	baz=20							
AML	**Almayashu**	**2.29**	**10**	⇑*i*P		**Pg**	**01 20 14.0**	**-1.1**
	baz=9.0							
AML				⇑*i*S		**Sg**	**01 20 44.7**	**-0.1**
	baz=9.0							
MNAS	**Manas**	**2.65**	**350**	⇑*i*P		**Pb**	**01 20 18.7**	**-0.1**
	baz=50							
MNAS				⇑*i*S		**Sg**	**01 20 53.7**	**-2.6**
	baz=50							
EKS2	**Erkin-Say**	**2.82**	**10**	⇑*i*P		**Pb**	**01 20 21.2**	**-0.6**
	baz=8.0							
EKS2				⇑*i*S		**Sb**	**01 20 57.0**	**+0.6**
	baz=8.0							
MRKS	**Merke**	**2.86**	**1**	*e*P		**Pg**	**01 20 26.4**	**+0.3**
	22nm,0.3s							
MRKS				*e*S		**Sg**	**01 21 02.7**	**-0.4**
	82nm,0.3s							
MRKS	**Merke**	**2.86**	**1**	Pg		**Pg**	**01 20 26.4**	**+0.3**
	22nm,0.3s							
MRKS				Lg		Lg	01 21 03.6	
	82nm,0.3s							
AAK	**Ala-Archa**	**2.94**	**20**	⇑*i*P		**Pb**	**01 20 22.6**	**-1.2**
	baz=18							
AAK				⇑*i*S		**Sb**	**01 20 59.5**	**-0.4**
	baz=18							
AAK	**Ala-Archa**	**2.94**	**20**	⇓Pg		**Pb**	**01 20 24.6**	**+0.8**
	9.1nm,0.4s							
AAK				⇑Lg		Lg	01 21 05.5	
	43nm,0.7s							
CHRV	**Charvak**	**2.99**	**307**	*e*S		**Sg**	**01 21 08.0**	**+0.8**
KBK	**Karagaybulak**	**3.09**	**26**	⇓*i*P		**Pb**	**01 20 24.5**	**-1.9**
	baz=23							
KBK				⇓*i*S		**Sb**	**01 21 03.5**	**-0.8**
	baz=23							
FRU1	**Bishkek**	**3.14**	**21**	⇓*e*P		**Pb**	**01 20 25.9**	**-1.2**
	baz=18							
FRU1				⇓*i*S		**Sb**	**01 21 05.1**	**-0.3**
	baz=18							
DZA	**Taraz**	**3.30**	**336**	*e*P		**Pb**	**01 20 31.6**	**+1.7**
	64nm,0.1s							
DZA				*e*S		**Sb**	**01 21 11.8**	**+1.6**
	78nm,0.2s							
DZA	**Taraz**	**3.30**	**336**	Pg		**Pb**	**01 20 31.6**	**+1.7**
	64nm,0.1s							
DZA				Lg		Lg	01 21 12.4	
	78nm,0.2s							
ULHL	**Ulahol**	**3.33**	**44**	⇑*i*P		**Pn**	**01 20 27.0**	**+3.4**
	baz=41							
ULHL				⇑*i*S		**Sb**	**01 21 08.2**	**-3.0**
	baz=41							
CHMS	**Chumysh**	**3.34**	**21**	⇓*i*P		**Pb**	**01 20 28.0**	**-2.6**
	baz=19							
CHMS				⇓*i*S		**Sb**	**01 21 09.3**	**-2.1**
	baz=19							
BOOM	**Boomskoye usch**	**3.36**	**38**	⇑*e*P		**Pn**	**01 20 27.4**	**+3.5**
	baz=36							
BOOM				⇑*i*S		**Sb**	**01 21 08.7**	**-3.2**
	baz=36							
USP	**Ospenovka**	**3.54**	**16**	⇑*e*P		**Pb**	**01 20 30.7**	**-3.2**
	baz=15							
USP				⇑*i*S		**Sb**	**01 21 13.9**	**-3.0**
	baz=15							
TKM2	**Tokmak 2**	**3.56**	**31**	⇑*e*P		**Pb**	**01 20 30.7**	**-3.7**
	baz=28							
TKM2				⇑*e*S		**Sb**	**01 21 13.9**	**-3.8**
	baz=28							
TKM2	**Tokmak 2**	**3.56**	**31**	⇓Pg		**Pg**	**01 20 37.3**	**-2.1**
	4.6nm,0.6s							
TKM2				⇓Lg		Lg	01 21 25.9	
	8.4nm,0.5s							
SGDS	**Sogindy**	**3.74**	**17**	Pg		**Pg**	**01 20 43.3**	**+0.4**
	5.0nm,0.3s							
SGDS				Lg		Lg	01 21 31.4	
	28nm,0.6s							
KK31	**Karatay Array**	**3.78**	**329**	⇓Pn		**Pn**	**01 20 32.3**	**+2.8**
	1.3nm,0.5s,baz=141,slow=13,SNR=14							
KK31				⇓Pg		**Pg**	**01 20 42.4**	**-1.1**
	2.1nm,0.3s,baz=145,slow=15,SNR=9.1							
KK31				⇑Sn		**Sb**	**01 21 21.1**	**-2.7**
	30nm,0.7s,baz=146,slow=23,SNR=10							
KST	**Kastek**	**3.81**	**33**	*e*P		**Pg**	**01 20 45.2**	**+1.1**
	7.2nm,0.5s							
KST				*e*S		**Sg**	**01 21 34.8**	**+1.3**
	15nm,0.8s							
KST	**Kastek**	**3.81**	**33**	Pg		**Pg**	**01 20 45.2**	**+1.1**
	7.2nm,0.5s							
KST				Lg		Lg	01 21 34.8	
	15nm,0.8s							
DGS	**Degeres**	**3.90**	**30**	*e*P		**Pg**	**01 20 46.2**	**+0.4**
	93nm,0.9s							
DGS				*e*S		**Sg**	**01 21 37.0**	**+0.6**
	13nm,0.8s							
DGS	**Degeres**	**3.90**	**30**	Pg		**Pg**	**01 20 46.2**	**+0.4**
	93nm,0.9s							
DGS				Lg		Lg	01 21 37.0	
	13nm,0.8s							
MTBS	**Maitube**	**4.08**	**36**	*e*P		**Pg**	**01 20 49.8**	**+0.4**
	2.4nm,0.2s							
MTBS				*e*S		**Sg**	**01 21 43.0**	**+0.8**
	16nm,0.6s							
MTBS	**Maitube**	**4.08**	**36**	Pg		**Pg**	**01 20 49.3**	**0.0**
	4.1nm,0.4s							
MTBS				Lg		Lg	01 21 42.6	
	16nm,0.6s							
IZV	**Izvestkoviy**	**4.10**	**39**	*e*P		**Pg**	**01 20 50.4**	**+0.8**
	4.3nm,0.4s							
IZV				*e*S		**Sg**	**01 21 43.9**	**+1.2**
	18nm,0.8s							
IZV	**Izvestkoviy**	**4.10**	**39**	Pg		**Pg**	**01 20 50.4**	**+0.8**
	4.3nm,0.4s							
IZV				Lg		Lg	01 21 43.9	
	18nm,0.8s							
MDOK	**Medeo**	**4.40**	**41**	*e*P		**Pg**	**01 20 55.9**	**+0.3**
	4.5nm,0.5s							
MDOK				*e*S		**Sg**	**01 21 52.9**	**+0.4**
	14nm,0.7s							
MDOK	**Medeo**	**4.40**	**41**	Pg		**Pg**	**01 20 55.9**	**+0.3**
	4.5nm,0.5s							
MDOK				Lg		Lg	01 21 52.9	
	14nm,0.7s							
KOTS	**Kotyrbulak**	**4.49**	**40**	*e*P		**Pg**	**01 20 57.5**	**+0.4**
	16nm,0.4s							
KOTS				*e*S		**Sg**	**01 21 56.0**	**+0.7**
	30nm,0.6s							
KOTS	**Kotyrbulak**	**4.49**	**40**	Pg		**Pg**	**01 20 57.5**	**+0.4**
	16nm,0.4s							
KOTS				Lg		Lg	01 21 56.0	
	30nm,0.6s							
KTBS	**Karatobe**	**4.66**	**34**	*e*P		**Pg**	**01 21 00.1**	**-0.2**
	3.9nm,0.7s							
KTBS				*e*S		**Sg**	**01 22 00.3**	**-0.4**
	22nm,0.6s							
KTBS	**Karatobe**	**4.66**	**34**	Pg		**Pg**	**01 21 00.1**	**-0.2**
	3.9nm,0.7s							
KTBS				Lg		Lg	01 22 00.3	
	22nm,0.6s							
KUU	**Kurty**	**4.67**	**30**	*e*P		**Pg**	**01 20 59.6**	**-1.0**
	1.9nm,0.1s							
KUU				*e*S		**Sg**	**01 21 59.4**	**-1.7**
	24nm,0.6s							
KUU	**Kurty**	**4.67**	**30**	Pg		**Pg**	**01 20 59.6**	**-1.0**
	1.9nm,0.1s							
KUU				Lg		Lg	01 21 59.4	
	24nm,0.6s							
CHKK	**Chushkaly**	**4.90**	**35**	*e*P		**Pg**	**01 21 04.3**	**-0.7**
	1.0nm,0.1s							
CHKK				*e*S		**Sg**	**01 22 08.0**	**-0.5**
	11nm,0.4s							
CHKK	**Chushkaly**	**4.90**	**35**	Pg		**Pg**	**01 21 04.3**	**-0.7**
	1.0nm,0.1s							
CHKK				Lg		Lg	01 22 08.0	
	11nm,0.4s							
SATY	**Saty**	**5.08**	**50**	*e*P		**Pg**	**01 21 08.2**	**-0.2**
	3.0nm,0.1s							
SATY				*e*S		**Sg**	**01 22 14.1**	**-0.1**
	12nm,0.6s							
SATY	**Saty**	**5.08**	**50**	Pg		**Pg**	**01 21 08.2**	**-0.2**
	3.0nm,0.1s							
SATY				Lg		Lg	01 22 14.1	
	12nm,0.6s							
BTLS	**Baital**	**5.20**	**7**	*e*P		**Pg**	**01 21 08.1**	**-2.7**
	1.8nm,0.4s							
BTLS				*e*S		**Sg**	**01 22 14.5**	**-3.6**
	4.5nm,0.5s							
BTLS	**Baital**	**5.20**	**7**	Pg		**Pg**	**01 21 08.1**	**-2.7**
	1.8nm,0.4s							
BTLS				Lg		Lg	01 22 14.5	
	4.5nm,0.5s							
KPKS	**Kokpek**	**5.49**	**47**	*e*P		**Pg**	**01 21 15.6**	**-0.6**
	5.7nm,0.5s							
KPKS				*e*S		**Sg**	**01 22 27.0**	**-0.3**
	13nm,0.5s							
UZB	**Uzynbulak**	**5.49**	**52**	*e*P		**Pg**	**01 21 15.7**	**-0.7**
	3.6nm,0.6s							
UZB				*e*S		**Sg**	**01 22 27.0**	**-0.5**
	8.9nm,0.6s							
UZB	**Uzynbulak**	**5.49**	**52**	Pg		**Pg**	**01 21 15.7**	**-0.7**
	3.6nm,0.6s							
UZB				Lg		Lg	01 22 27.0	
	8.9nm,0.6s							
ARXS	**Arharly**	**5.56**	**37**	*e*P		**Pg**	**01 21 15.9**	**-1.8**
	7.9nm,0.6s							
ARXS				*e*S		**Sg**	**01 22 27.9**	**-1.9**
	11nm,0.6s							
ARXS	**Arharly**	**5.56**	**37**	Pg		**Pg**	**01 21 15.9**	**-1.8**
	7.9nm,0.6s							
ARXS				Lg		Lg	01 22 27.9	
	11nm,0.6s							
PDGK	**Podgornoye**	**5.88**	**52**	Pg		**Pg**	**01 21 22.3**	**-1.5**
	1.2nm,0.6s							
PDGK				Lg		Lg	01 22 38.2	
	5.1nm,1.0s							
PDGK	**Podgornoye**	**5.88**	**52**	⇑Pg		**Pg**	**01 21 20.1**	**-3.6**
	2.8nm,0.7s							
PDGK				⇑Sn		**Sn**	**01 22 09.6**	**+3.6**
	5.0nm,1.0s							
PDGK				⇑Lg		Lg	01 22 37.4	
	6.8nm,0.8s							
DJR	**Jarkent**	**6.65**	**46**	*e*P		**Pg**	**01 21 36.9**	**-1.6**
DJR				*e*S		**Sg**	**01 23 03.7**	**-1.0**
	0.4nm,0.4s							
DJR	**Jarkent**	**6.65**	**46**	Pg		**Pg**	**01 21 36.9**	**-1.6**
DJR				Lg		Lg	01 23 03.7	
	0.4nm,0.4s							
KAPS	**Kapalarasan**	**7.09**	**38**	*e*P		**Pg**	**01 21 45.1**	**-1.8**
	1.5nm,1.0s							
KAPS				*e*S		**Sg**	**01 23 17.5**	**-1.1**
	0.2nm,0.5s							
KAPS	**Kapalarasan**	**7.09**	**38**	Pg		**Pg**	**01 21 45.1**	**-1.8**
	1.5nm,1.0s							
KAPS				Lg		Lg	01 23 17.5	

0.2nm,0.5s
OTUK Ortayu 8.38 356 ⇓Sn Sb 01 23 30.5 -5.6
1.2nm,0.6s
OTUK ⇑Lg Lg 01 24 00.9
4.3nm,0.8s

*IDC **16** 01:40:42.2±1.6,52°.61N×131°.98W,h0km,mb3.3/1, mb1 3.5/6,mb1mx3.3/46,mbtmp3.2/6,ML3.5/5,MS2.9/2, Ms1 2.9/2,ms1mx2.4/19,Error ellipse: s-maj=21.7km s-min=6.1km az=42.0*
*PGC **16** 01:40:43.2±0.7,52°.64N×132°.11W,h22km,ML3.4/22, 70km Ssw of Sandspit, Bc Haida Gwaii Region*
ISC 16 01:40:42.3±1.2,52°.61N±0°.04×132°.08W±0°.04,h14km±8km, n50,σ1°51/74,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.20**	**99**	P	**Pb**	**01 40 48.7**	**+0.9**
BNB				S	**Sb**	**01 40 52.5**	**+1.0**
HG1B	**Mitchell Dam**	**0.33**	**355**	P	**Pb**	**01 40 49.6**	**-0.3**
HG1B				S	**Sg**	**01 40 54.1**	**+0.4**
MOBC	**Moresby Island**	**0.54**	**7**	P	**Pb**	**01 40 53.4**	**-0.3**
MOBC				S	**Sg**	**01 41 00.2**	**-0.1**
HG4B	**Hotspring**	**0.62**	**120**	P	**Pn**	**01 40 55.8**	**-1.0**
HG4B				S	**Sn**	**01 41 04.4**	**-2.1**
DIB	**Dawson Inlet,**	**0.64**	**338**	P	**Pg**	**01 40 54.5**	**-0.3**
DIB				S	**Sg**	**01 41 02.8**	**-0.5**
H02S1	**DAWSON INLET T**	**0.64**	**338**	Pg	**Pg**	**01 40 54.7**	**-0.2**
H02S1				Lg	Lg	01 41 03.0	
BNAB	**Bonilla**	**1.24**	**44**	P	**Pn**	**01 41 04.5**	**-0.7**
BNAB				S	**Sn**	**01 41 20.8**	**-0.9**
MASB	**Masset**	**1.41**	**1**	Pn	**Pn**	**01 41 07.4**	**-0.1**
NDB	**Naden**	**1.45**	**339**	Pn	**Pn**	**01 41 07.3**	**-0.8**
NDB				Sn	**Sn**	**01 41 25.5**	**-1.3**
BNKB	**Banks Island**	**1.50**	**60**	Pn	**Pn**	**01 41 07.8**	**-1.0**
BNKB				Sg	**Sg**	**01 41 29.5**	**-1.2**
LIB	**Langara Island**	**1.75**	**341**	Pn	**Pn**	**01 41 11.1**	**-1.1**
LIB				Sn	**Sn**	**01 41 32.5**	**-1.8**
GRNB	**Grenville Isla**	**1.78**	**45**	Pn	**Pn**	**01 41 12.1**	**-0.6**
GRNB				Pg	**Pb**	**01 41 14.8**	**+0.1**
GRNB				Sg	**Sg**	**01 41 38.1**	**-1.4**
HWKB	**Hawksbury Isla**	**2.02**	**59**	Pn	**Pn**	**01 41 16.3**	**+0.2**
HWKB				Pg	**Pb**	**01 41 19.2**	**+0.3**
RUBB	**Prince Rupert**	**2.04**	**32**	Pn	**Pn**	**01 41 15.5**	**-0.6**
RUBB				Sg	**Sg**	**01 41 45.0**	**-2.8**
BUTB	**Butedale**	**2.24**	**77**	Pn	**Pn**	**01 41 18.8**	**-0.2**
BUTB				Pg	**Pb**	**01 41 22.5**	**-0.1**
BUTB				Sn	**Sn**	**01 41 45.2**	**-1.3**
BBB	**Bella Bella**	**2.47**	**98**	Pn	**Pn**	**01 41 21.8**	**-0.3**
4.3nm,0.3s,baz=284,slow=9.2,SNR=102							
BBB				Pg	**Pb**	**01 41 25.3**	**-1.0**
18nm,0.3s,baz=282,slow=16,SNR=16							
BBB				Sn	**Sn**	**01 41 51.5**	**-0.4**
29nm,0.3s,baz=164,slow=21,SNR=15							
BBB				Lg	Lg	01 41 58.3	
122nm,0.3s,baz=22,slow=20,SNR=18							
BBB	**Bella Bella**	**2.47**	**98**	Pn	**Pn**	**01 41 21.8**	**-0.3**
BBB				Sn	**Sn**	**01 41 51.5**	**-0.4**
BBB				Sg	**Sg**	**01 42 00.0**	**-1.5**
KITB	**Kitimat**	**2.54**	**53**	Pn	**Pn**	**01 41 22.8**	**-0.2**
KITB				Pg	**Pb**	**01 41 28.1**	**+0.6**
KITB				Sn	**Sn**	**01 41 53.5**	**-0.1**
HOLB	**Holberg**	**3.15**	**127**	Pn	**Pn**	**01 41 30.6**	**-0.8**
HOLB				Sn	**Sn**	**01 42 08.1**	**-0.8**
PHC	**Port Hardy**	**3.46**	**121**	Pn	**Pn**	**01 41 35.0**	**-0.7**
PHC				Sn	**Sn**	**01 42 15.0**	**-1.5**
PACB	**Port Alice, BC**	**3.60**	**125**	Pn	**Pn**	**01 41 37.5**	**0.0**
PACB				Sn	**Sn**	**01 42 19.1**	**-0.6**
BPBC	**Brooks Peninsu**	**3.65**	**131**	Pn	**Pn**	**01 41 39.1**	**+0.8**
BPBC				Sn	**Sn**	**01 42 20.3**	**-0.8**
MAYB	**Maynard**	**3.78**	**124**	Pn	**Pn**	**01 41 39.7**	**-0.5**
TLCB	**Telegraph Cove**	**3.87**	**120**	Pn	**Pn**	**01 41 41.4**	**+0.2**
TLCB				Sn	**Sn**	**01 42 25.1**	**-1.3**
WOSB	**Woss**	**4.23**	**123**	Pn	**Pn**	**01 41 47.2**	**+0.8**
WOSB				Sn	**Sn**	**01 42 33.0**	**-2.6**
NCRB	**Newcastle Ridg**	**4.36**	**118**	Pn	**Pn**	**01 41 49.2**	**+1.0**
GDR	**Gold River**	**4.74**	**124**	Pn	**Pn**	**01 41 53.7**	**+0.5**
UBRB	**Upper Baezaeko**	**4.87**	**83**	Pn	**Pn**	**01 41 57.3**	**+2.2**
UBRB				Sn	**Sn**	**01 42 48.7**	**-2.6**
CBB	**Campbell River**	**4.94**	**119**	Pn	**Pn**	**01 41 57.1**	**+1.1**
CBB				Sn	**Sn**	**01 42 50.8**	**-2.1**
FSB	**Fort Saint Jam**	**4.99**	**65**	Pn	**Pn**	**01 41 57.0**	**+0.3**
BTB	**Buttle Lake**	**5.20**	**125**	Pn	**Pn**	**01 42 00.5**	**+0.8**
TXB	**Texada**	**5.62**	**118**	Pn	**Pn**	**01 42 05.9**	**+0.5**
MGB	**Mount Grey**	**5.91**	**125**	Pn	**Pn**	**01 42 09.7**	**+0.2**
DLBC	**Dease Lake**	**5.96**	**10**	Pn	**Pn**	**01 42 13.4**	**+3.4**
1.0nm,0.3s,baz=191,slow=14,SNR=12							
DLBC				Pg	**Pb**	**01 42 29.2**	**+3.3**
1.1nm,0.3s,baz=188,slow=11,SNR=9.9							
DLBC				Sn	**Sn**	**01 43 19.6**	**+1.5**
0.7nm,0.3s,baz=184,slow=21,SNR=1.9							
DLBC				Lg	Lg	01 43 41.7	
0.9nm,0.3s,baz=273,slow=9.3,SNR=3.3							
DLBC	**Dease Lake**	**5.96**	**10**	Pn	**Pn**	**01 42 12.2**	**+2.2**
DLBC				Sn	**Sn**	**01 43 13.1**	**-5.0**
NBC5	**NorthernBC 5**	**7.30**	**44**	Pn	**Pn**	**01 42 29.9**	**+1.3**
WHY	**Whitehorse**	**8.22**	**350**	Pn	**Pn**	**01 42 41.5**	**+0.4**
MNB	**Mounoet Dainar**	**8.39**	**87**	Pn	**Pn**	**01 42 45.4**	**+1.8**
YKA	**Yellowknife Ar**	**13.59**	**36**	Pn	**Pn**	**01 43 54.0**	**-0.3**
0.1nm,0.3s,baz=233,slow=15,SNR=4.9							
ILAR	**Eielson Array**	**14.37**	**334**	Pn	**P**	**01 44 09.2**	**-2.8**
0.0nm,0.3s,baz=145,slow=9.2,SNR=4.2							
ELK	**Elko**	**16.51**	**129**	LR	LR	01 50 58.6	
comp=Z,28nm,19.9s,baz=276,slow=37							
PDAR	**Pinedale Array**	**18.01**	**114**	Pn	**P**	**01 44 57.1**	**+4.5**
0.1nm,0.3s,baz=321,slow=9.9,SNR=2.2							
ULM	**Lac du Bonnet**	**22.55**	**81**	LR	LR	01 53 45.3	
comp=Z,45nm,18.0s,baz=157,slow=35							
TXAR	**Lajitas Array**	**31.28**	**127**	P	**P**	**01 47 03.0**	**+1.2**
0.2nm,0.6s,baz=332,slow=7.1,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**57.02**	**259**	T	T	02 52 20.2	
baz=38,slow=76,SNR=754							
H11N3	**WAKE ISLAND Hy**	**57.03**	**259**	T	T	02 52 21.1	
baz=38,slow=76,SNR=1053							
H11N1	**WAKE ISLAND Hy**	**57.04**	**259**	T	T	02 52 20.8	
baz=38,slow=76,SNR=720							
H11S1	**WAKE ISLAND Hy**	**58.08**	**258**	T	T	02 53 41.2	
baz=39,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**58.09**	**258**	T	T	02 53 40.0	
baz=39,slow=76,SNR=54							
H11S3	**WAKE ISLAND Hy**	**58.10**	**258**	T	T	02 53 42.5	
baz=39,slow=76,SNR=51							

ATH 16 02:00:40.9,40°.15N×21°.67E,h16km±2km,ML1.2/3,Error ellipse: s-maj=2.2km s-min=1.3km az=124.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.17**	**27**	P	Pg	02 00 45.2	-0.2
KZN				S	Sg	02 00 48.4	0.0
KZN				AML	AML	02 00 50.3	
comp=N,171μm,0.2s							
KZN				AML	AML	02 00 50.8	
comp=E,185μm,0.2s							
KPRO	**Kipourio**	**0.31**	**230**	P	Pg	02 00 46.8	-0.7
KPRO				S	Sb	02 00 52.6	-0.3
KPRO				AML	AML	02 00 55.2	
comp=E,123μm,0.4s							
KPRO				AML	AML	02 00 56.5	
comp=N,74μm,0.3s							
NEST	**Nestorio**	**0.54**	**299**	P	Pg	02 00 51.1	-0.7
LIT	**Litokhoron**	**0.63**	**95**	P	Pg	02 00 53.2	-0.2
LIT				AML	AML	02 01 07.2	
comp=N,54μm,0.3s							
LIT				AML	AML	02 01 08.3	
comp=E,59μm,0.4s							
THL	**Klokotos Trika**	**0.65**	**156**	P	Pg	02 00 53.2	-0.4
FNA	**Florina**	**0.67**	**341**	P	Pg	02 00 53.8	-0.3
FNA				S	Sg	02 01 03.0	+0.1

BUC 16 02:01:36.5±0.2,45°.62N×22°.90E,h7km±6km,ml0.8/3, 12C-16D,Error ellipse: s-maj=1.5km s-min=1.5km az=123.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.24**	**200**	⇑P	Pg	02 01 41.9	+0.5
GZR				⇑S	Sg	02 01 45.0	+0.3
GZR	**Gura Zlata**	**0.24**	**200**	⇑P	Pg	02 01 41.9	+0.5
GZR				⇑S	Sg	02 01 45.0	+0.3
LOT	**Lotru**	**0.64**	**106**	⇓P	Pg	02 01 49.3	+0.4
LOT				⇓S	Sg	02 01 57.8	+0.6
LOT	**Lotru**	**0.64**	**106**	⇓P	Pg	02 01 49.3	+0.4
LOT				⇓S	Sg	02 01 57.8	+0.6
HERR	**Herculane**	**0.82**	**205**	⇑P	Pg	02 01 52.0	-0.2
HERR				⇓S	Sb	02 02 03.7	-0.5
HERR	**Herculane**	**0.82**	**205**	⇑P	Pg	02 01 52.0	-0.2
HERR				⇓S	Sb	02 02 03.7	-0.5
BZS	**Buzias**	**0.90**	**270**	⇓P	Pb	02 01 54.1	-0.3
BZS				⇓S	Sg	02 02 05.1	-0.3
BZS	**Buzias**	**0.90**	**270**	⇓P	Pb	02 01 54.1	-0.3
BZS				⇓S	Sg	02 02 05.1	-0.3
SIRR	**Siria**	**1.08**	**307**	⇓P	Pg	02 01 56.7	-0.5
SIRR				⇓S	Sb	02 02 12.4	+0.7
SIRR	**Siria**	**1.08**	**307**	⇓P	Pg	02 01 56.7	-0.5
SIRR				⇓S	Sb	02 02 12.4	+0.7
DRGR		**1.18**	**354**	⇓P	Pg	02 01 58.9	-0.2
DRGR				⇓S	Sn	02 02 15.8	+0.1
DRGR		**1.18**	**354**	⇓P	Pg	02 01 58.9	-0.2
DRGR				⇓S	Sn	02 02 15.8	+0.1
MDVR	**Moldovita**	**1.19**	**225**	⇑P	Pg	02 01 58.9	-0.4
MDVR				⇑S	Sn	02 02 16.3	+0.3
MDVR	**Moldovita**	**1.19**	**225**	⇑P	Pg	02 01 58.9	-0.4
MDVR				⇑S	Sn	02 02 16.3	+0.3

*NEIC **16** 02:08:23.1±0.9, 12°.9N±0°.1×149°.5E±0°.2,h15km±5km, mb4.4/9,Error ellipse: s-maj=27.7km s-min=18.8km az=89.0*
*IDC **16** 02:08:30.0±4.0, 12°.87N×146°.81E,h0km,mb3.9/5, mb1 3.9/5,mb1mx3.6/38,mbtmp3.8/5,Error ellipse: s-maj=158.0km s-min=31.1km az=86.0*
ISC 16 02:08:21.3±0.8,12°.9N±0°.1×149°.5E±0°.2,h10km,n20, σ0s68/18,mb4.2/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**29.56**	**350**	P	**P**	**02 14 25.8**	**-0.4**
ERM				IAmb	IAmb	02 14 32.9	
comp=Z,14nm,1.1s							
KNRA	**Kununurra**	**35.03**	**217**	P	**P**	**02 15 14.4**	**0.0**
KNRA				IAmb	IAmb	02 15 31.9	
comp=Z,14nm,1.5s							
WB2	**Warramunga Arr**	**35.87**	**205**	P	**P**	**02 15 22.0**	**+0.3**
WB2				IAmb	IAmb	02 15 38.0	
comp=Z,6.5nm,1.3s							
WRA	**Warramunga Arr**	**35.88**	**205**	P	**P**	**02 15 23.0**	**+1.3**
comp=Z,0.4nm,0.8s,baz=26,slow=9.5,SNR=5.8							
WRA	**Warramunga Arr**	**35.88**	**205**	P	**P**	**02 15 22.4**	**+0.7**
PETK	**Petropavlovsk-**	**40.66**	**8**	P	**P**	**02 16 01.9**	**+0.3**
MSVF	**Nonsavu**	**41.44**	**137**	P	**P**	**02 16 07.7**	**-0.9**
MKAR	**Makanchi Array**	**65.16**	**316**	P	P	02 19 01.2	-1.5
comp=Z,0.7nm,0.6s,baz=100,slow=8.2,SNR=7.7							
MKAR	**Makanchi Array**	**65.16**	**316**	P	**P**	**02 19 01.7**	**-1.0**
MAKZ	**Makanchi**	**65.38**	**316**	P	**P**	**02 19 03.7**	**-0.5**
MAKZ				IAmb	IAmb	02 19 17.3	
comp=Z,1.9nm,1.1s							
FID	**Port Fidalgo**	**66.24**	**29**	P	**P**	**02 19 10.1**	**+0.7**
KURK	**Kurchatov**	**68.06**	**320**	P	**P**	**02 19 20.6**	**-0.5**
KURBB	**Kurchatov Arra**	**68.11**	**320**	P	**P**	**02 19 20.6**	**-0.8**
comp=Z,0.7nm,0.5s,baz=101,slow=6.5,SNR=11							
BVAR	**Borovoye Array**	**73.30**	**322**	P	**P**	**02 19 53.4**	**+0.4**
comp=Z,0.4nm,0.5s,baz=62,slow=6.5,SNR=3.7							
BVAR	**Borovoye Array**	**73.30**	**322**	P	**P**	**02 19 53.4**	**+0.4**
BRVK	**Borovoye**	**73.36**	**322**	P	**P**	**02 19 53.4**	**0.0**
BRVK				IAmb	IAmb	02 20 11.3	
comp=Z,1.1nm,0.7s							
ABKAR	**Akbulak array**	**80.11**	**318**	P	**P**	**02 20 31.8**	**+0.2**
ABKAR	**Akbulak array**	**80.11**	**318**	P	**P**	**02 20 31.1**	**-0.5**
ABKAR				IAmb	IAmb	02 20 33.5	
comp=Z,1.1nm,1.1s							
FINES	**FINESS Array B**	**93.68**	**336**	P	P	02 21 43.9	+5.9
comp=Z,2.2nm,0.9s,baz=80,slow=7.8,SNR=4.7							
FINES	**FINESS Array B**	**93.68**	**336**	P	**P**	**02 21 38.5**	**+0.5**

*TUL **16** 02:20:36.9±1.4,36°.30N±0°.01×96°.66W±0°.02,h5km±6km, ML3.2,mb_Lg3.1/87(NEIC),Error ellipse: s-maj=2.5km s-min=1.5km az=118.0*
*NEIC **16** 02:20:37.3±0.8,36°.31N±0°.01×96°.69W±0°.04,h3km±7km, Error ellipse: s-maj=4.9km s-min=1.8km az=88.0*
*ANF **16** 02:20:37.3±0.2,36°.31N×96°.69W,h5km, ML3.7/14,Error ellipse: s-maj=2.4km s-min=2.1km az=152.0*
ISC 16 02:20:37.3±1.1,36°.31N±0°.02×96°.69W±0°.02,h5km±9km, n103,σ0s56/85,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.14**	**185**	Pg	**Pg**	**02 20 40.1**	**+0.2**
QUOK				Sg	**Sg**	**02 20 42.2**	**+0.4**
OK031	**S. Brethren Rd**	**0.37**	**199**	Pg	**Pg**	**02 20 44.5**	**+0.1**
OK031				Sg	**Sg**	**02 20 49.8**	**+0.5**
OK030	**Cody Creek RV**	**0.39**	**191**	Pg	**Pg**	**02 20 44.7**	**0.0**
OK030				Sg	**Sg**	**02 20 49.9**	**+0.2**
BLOK	**Blackwell**	**0.62**	**317**	Pg	**Pg**	**02 20 49.3**	**+0.2**
BLOK				Sg	**Sg**	**02 20 57.6**	**+0.4**
T35A	**Sooner Cattle**	**0.62**	**13**	Pg	**Pg**	**02 20 49.1**	**-0.2**
T35A				Sg	**Sg**	**02 20 56.8**	**-0.6**
T35B	**Sooner Cattle**	**0.62**	**13**	P	**Pg**	**02 20 49.1**	**-0.2**
baz=193							
T35B				S	**Sg**	**02 20 57.5**	**+0.1**
baz=193							
T35B	**Sooner Cattle**	**0.62**	**13**	P		02 20 49.1	
baz=193							
T35B				S		02 20 57.5	
baz=193							
OK005	**Luther M Schoo**	**0.77**	**212**	Pg	**Pg**	**02 20 52.0**	**0.0**
OK029	**Liberty Lake**	**0.80**	**231**	Pg	**Pg**	**02 20 52.6**	**0.0**
OK029				Sg	**Sg**	**02 21 03.7**	**+0.6**
OK011	**Prague**	**0.82**	**180**	Pg	**Pg**	**02 20 52.7**	**-0.3**
TUL1	**Leonard**	**0.83**	**118**	P	**Pg**	**02 20 52.6**	**-0.6**
baz=299,SNR=42							
TUL1				S	**Sg**	**02 21 03.1**	**-0.8**
baz=299							
TUL1	**Leonard**	**0.83**	**118**	P		02 20 52.6	
baz=299,SNR=42							
TUL1				S		02 21 03.1	
baz=299							
OK025	**Westminster Rd**	**0.89**	**216**		**Pg**	**02 20 53.9**	**-0.5**
OK025					**Sg**	**02 21 06.6**	**+0.6**
BCOK	**Bluff Creek, N**	**0.99**	**229**		**Pg**	**02 20 56.4**	**+0.3**
CROK	**Carrier**	**1.06**	**281**		**Pg**	**02 20 57.4**	**-0.2**
OKCFA	**Oklahoma City**	**1.08**	**215**		**Pg**	**02 20 57.1**	**-0.9**
OKCFA	**Oklahoma City**	**1.08**	**215**	P	**Pg**	**02 20 57.1**	**-0.9**
baz=34							
OKCFA				S	**Sg**	**02 21 12.4**	**+0.4**
baz=34							
OKCFA	**Oklahoma City**	**1.08**	**215**	P		02 20 57.1	
baz=34							
OKCFA				S		02 21 12.4	
baz=34							
OKCSW	**OKLAHOMA CITY**	**1.08**	**214**		**Pg**	**02 20 57.1**	**-1.0**
GC02	**Grant County #**	**1.09**	**300**		**Pg**	**02 20 57.8**	**-0.3**
KAN09	**Caldwell North**	**1.11**	**318**		**Pg**	**02 20 58.5**	**-0.2**
KAN17	**Caldwell West**	**1.13**	**311**		**Pg**	**02 20 58.7**	**-0.3**
KS20	**Mayfield South**	**1.15**	**323**	Pg	**Pg**	**02 20 59.2**	**-0.1**
FNO	**Franklin**	**1.20**	**209**	Pg	**Pg**	**02 21 59.0**	**-1.2**
KAN14	**Manchester OK**	**1.21**	**303**	Pg	**Pg**	**02 21 00.1**	**-0.4**
KAN05	**Bluff City Nor**	**1.24**	**311**	Pg	**Pg**	**02 21 00.8**	**-0.3**
OK032	**Salt Plains WL**	**1.32**	**293**		**Pn**	**02 21 00.6**	**-1.8**
KAN08	**Anthony NE Sta**	**1.38**	**312**		**Pn**	**02 21 03.2**	**0.0**
KAN10	**Anthony SW Sta**	**1.39**	**306**	Pn	**Pn**	**02 21 03.1**	**-0.3**
KAN16	**Harper SW Stat**	**1.43**	**310**		**Pn**	**02 21 04.0**	**0.0**
U32A	**Winter Ranch,**	**1.87**	**273**	Pn	**Pn**	**02 21 09.8**	**-0.1**
U32A				IAmb_Lg		02 21 40.7	
comp=Z,111nm,0.9s							
U32A	**Winter Ranch,**	**1.87**	**273**	Sb	**Sg**	**02 21 37.2**	**-0.1**
baz=92							
U32A	**Winter Ranch,**	**1.87**	**273**	Sb		02 21 37.2	
baz=92							
U38A	**Gravette**	**1.87**	**85**		**Pn**	**02 21 10.1**	**+0.2**
U38A	**Gravette**	**1.87**	**85**	P	**Pn**	**02 21 09.9**	**0.0**
baz=267,SNR=31							
U38A				S	**Sb**	**02 21 35.1**	**-0.4**
baz=267							
U38A	**Gravette**	**1.87**	**85**	P		02 21 09.9	
baz=267,SNR=31							
U38A				S		02 21 35.1	
baz=267							
X34A	**Smith Ranch, M**	**1.94**	**209**		**Pn**	**02 21 10.8**	**-0.2**
X34A				IAmb_Lg		02 21 41.3	
comp=Z,58nm,0.7s							
X37A	**Clayton**	**2.02**	**147**		**Pn**	**02 21 12.5**	**+0.4**
X37A	**Clayton**	**2.02**	**147**	S	**Sb**	**02 21 39.1**	**-0.9**
baz=328							
X37A	**Clayton**	**2.02**	**147**	S		02 21 39.1	
baz=328							
HHAR	**Hobbs**	**2.22**	**90**		**Pn**	**02 21 15.1**	**+0.3**
HHAR	**Hobbs**	**2.22**	**90**	P	**Pn**	**02 21 15.1**	**+0.3**
baz=272							
HHAR	**Hobbs**	**2.22**	**90**	P		02 21 15.1	
baz=272							
WMOK	**Wichita Mounta**	**2.31**	**228**	Pn	**Pn**	**02 21 17.1**	**+1.0**
WMOK	**Wichita Mounta**	**2.31**	**228**	P	**Pn**	**02 21 16.8**	**+0.7**
baz=47,SNR=6.8							
WMOK				S	**Sb**	**02 21 46.9**	**-1.5**
baz=47							
WMOK	**Wichita Mounta**	**2.31**	**228**	P		02 21 16.8	
baz=47,SNR=6.8							
WMOK				S		02 21 46.9	
baz=47							
LOOK	**Love County**	**2.34**	**190**	Pn	**Pn**	**02 21 16.9**	**+0.5**
LOOK				IAmb_Lg		02 21 53.8	
comp=Z,54nm,1.0s							
W39A	**Magazine**	**2.61**	**114**		**Pn**	**02 21 21.1**	**+1.0**
W39A				IAmb_Lg		02 22 00.9	
comp=Z,43nm,0.9s							
W39A	**Magazine**	**2.61**	**114**	P	**Pn**	**02 21 21.2**	**+1.1**
baz=296,SNR=16							
W39A	**Magazine**	**2.61**	**114**	P		02 21 21.2	
baz=296,SNR=16							
R32A	**Long Quarter,**	**2.66**	**323**		**Pn**	**02 21 21.3**	**+0.5**
R32A	**Long Quarter,**	**2.66**	**323**	S	**Sn**	**02 21 54.1**	**+0.7**
baz=142							
R32A	**Long Quarter,**	**2.66**	**323**	S		02 21 54.1	
baz=142							
KSU1	**Kansas State U**	**2.79**	**1**		**Pn**	**02 21 23.2**	**+0.6**
Z35A	**Perchaven, San**	**3.00**	**189**		**Pn**	**02 21 25.3**	**-0.2**
Z35A	**Perchaven, San**	**3.00**	**189**	P	**Pn**	**02 21 25.9**	**+0.4**
baz=8.7,SNR=6.5							
Z35A	**Perchaven, San**	**3.00**	**189**	P		02 21 25.9	
baz=8.7,SNR=6.5							
S39A	**Bolivar**	**3.03**	**62**		**Pn**	**02 21 26.3**	**+0.4**
S39A	**Bolivar**	**3.03**	**62**	P	**Pn**	**02 21 25.9**	**0.0**
baz=244,SNR=10							
S39A	**Bolivar**	**3.03**	**62**	P		02 21 25.9	
baz=244,SNR=10							
MIAR	**Mount Ida**	**3.09**	**124**		**Pn**	**02 21 26.4**	**-0.4**
MIAR	**Mount Ida**	**3.09**	**124**	P	**Pn**	**02 21 27.0**	**+0.3**
baz=306,SNR=15							
MIAR	**Mount Ida**	**3.09**	**124**	P		02 21 27.0	
baz=306,SNR=15							
U40A	**Yellville**	**3.10**	**88**		**Pn**	**02 21 26.8**	**-0.1**
U40A	**Yellville**	**3.10**	**88**	P	**Pn**	**02 21 26.9**	**0.0**
baz=270,SNR=38							
U40A	**Yellville**	**3.10**	**88**	P		02 21 26.9	
baz=270,SNR=38							
U40A				P		02 21 26.9	
baz=270,SNR=38							
Z38A	**Mt. Pleasant**	**3.35**	**155**	Pn	**Pn**	**02 21 30.8**	**+0.5**
CBKS	**Cedar Bluff**	**3.48**	**317**		**Pn**	**02 21 32.9**	**+0.7**
X40A	**Baezaeko Fa**	**3.64**	**119**		**Pn**	**02 21 34.4**	**+0.1**
X40A				IAmb_Lg		02 22 41.0	
comp=Z,32nm,0.7s							
MGMO	**Mountain Grove**	**3.65**	**75**		**Pn**	**02 21 34.7**	**+0.2**
MGMO				IAmb_Lg		02 22 34.8	
comp=Z,78nm,0.9s							
WHAR	**Wooly Hollow**	**3.72**	**105**		**Pn**	**02 21 35.5**	**+0.2**
WHAR				IAmb_Lg		02 22 37.6	
comp=Z,56nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.72**	**95**	Pn	**Pn**	**02 21 35.9**	**+0.4**
W41B	**Gary Mavity, V**	**3.79**	**106**	P	**Pn**	**02 21 36.7**	**+0.4**
baz=289,SNR=27							
W41B				S	**Sn**	**02 22 22.3**	**+1.0**
baz=289							
W41B	**Gary Mavity, V**	**3.79**	**106**	P		02 21 36.7	
baz=289,SNR=27							
W41B				S		02 22 22.3	
baz=289							
WLAR	**White Oak Lake**	**3.93**	**131**		**Pn**	**02 21 38.8**	**+0.5**
WLAR				IAmb_Lg		02 22 47.5	
comp=Z,25nm,0.8s							
R40A	**Maddies Statio**	**4.04**	**59**		**Pn**	**02 21 39.7**	**-0.1**
R40A				IAmb_Lg		02 22 53.0	
comp=Z,38nm,0.7s							
P38A	**Dawn**	**4.15**	**36**		**Pn**	**02 21 41.4**	**+0.1**
P38A				IAmb_Lg		02 22 49.6	
comp=Z,47nm,0.7s							
P38A	**Dawn**	**4.15**	**36**	P	**Pn**	**02 21 41.5**	**+0.2**
baz=218							
P38A	**Dawn**	**4.15**	**36**	P		02 21 41.5	
baz=218							
AMTX	**Amarillo**	**4.31**	**252**	IAmb_Lg		02 22 56.6	
comp=Z,33nm,0.8s							
WHTX	**Lake Whitney,**	**4.35**	**189**	Pn	**Pn**	**02 21 44.4**	**+0.3**
237A	**Washetta, Mont**	**4.36**	**170**	Pn	**Pn**	**02 21 44.1**	**0.0**
ABTX	**Abilene, Hawle**	**4.41**	**214**		**Pn**	**02 21 45.2**	**+0.3**
LCAR	**Lake Charles**	**4.49**	**91**		**Pn**	**02 21 46.6**	**+0.7**
N35A	**Tabor**	**4.62**	**10**		**Pn**	**02 21 48.8**	**+1.0**
N35A				IAmb_Lg		02 23 10.1	
comp=Z,26nm,0.7s							
CCAR	**Cane Creek**	**4.69**	**

K22A Casper 9.89 313 IAmb_Lg 02 25 57.7
comp=Z,14nm,1.1s

IDC **16** *02:29:00.9±5.1,51°.98N×178°.33E,h96km±46km,mb3.4/11, mb1 3.6/13,mb1mx3.3/68,mbtmp3.8/13,MS3.5/1, Ms1 3.5/1,ms1mx2.4/35,Error ellipse: s-maj=28.4km s-min=16.7km az=172.0*
NEIC **16** *02:29:02.6±1.4,51°.8N±0°.2×178°.3E±0°.1,h131km±2km, mb4.0/31,ML3.3/17(AEIC),Error ellipse: s-maj=30.0km s-min=10.2km az=183.0*
AEIC **16** *02:29:04±1.6,51°.9N±0°.1×178°.5E±0°.1,h118km±5km,Error ellipse: s-maj=21.8km s-min=8.9km az=192.0*
ISC 16 02:29:03.1±0.7,51°.9N±0°.1×178°.35E±0°.05,h122km±5km, n76,σ1°33/76,mb3.8/22,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.12**	**64**		**Pn**	**02 29 20.6**	**+0.8**
LSSA					**Sn**	**02 29 33.5**	**+1.1**
LSNW	**Little Sitkin**	**0.13**	**56**		**Pn**	**02 29 20.3**	**+0.5**
LSPA	**Little Sitkin**	**0.15**	**68**		**Pn**	**02 29 20.6**	**+0.9**
LSPA					**Sn**	**02 29 35.1**	**+2.7**
CESW	**Semis' Southwe**	**0.75**	**89**		**Pn**	**02 29 23.6**	**+0.6**
CESW					**Sn**	**02 29 38.7**	**+0.6**
CEAP	**Semis' Anvil P**	**0.77**	**82**		**Pn**	**02 29 24.1**	**+0.9**
AMKA	**Amchitka**	**0.79**	**131**	Pn	**Pn**	**02 29 24.3**	**+1.0**
AMKA					**Sn**	**02 29 38.6**	**0.0**
CERAA	**Semis' Rag'd T**	**0.83**	**89**		**Pn**	**02 29 24.6**	**+0.9**
TANO	**Tanaga North**	**2.19**	**88**		**Pn**	**02 29 39.6**	**+0.7**
TANO					**Sn**	**02 30 06.2**	**-0.2**
TAFP	**Tanaga Falls P**	**2.27**	**89**		**Pn**	**02 29 40.4**	**+0.4**
SMY	**Shemya**	**2.74**	**289**	Pn	**Pn**	**02 29 45.3**	**-0.5**
KIMD	**Kanaga Island**	**2.75**	**91**		**Pn**	**02 29 46.3**	**+0.3**
KICM	**Kanaga Island**	**2.76**	**88**		**Pn**	**02 29 46.7**	**+0.5**
KIWB	**Kanaga Island**	**2.79**	**89**	Pn	**Pn**	**02 29 47.2**	**+0.6**
ADK	**Adak**	**3.08**	**85**	Pn	**Pn**	**02 29 50.6**	**+0.3**
GSTR	**Great Sitkin T**	**3.48**	**85**	Pn	**Pn**	**02 29 55.8**	**+0.3**
ATKA	**Atka Island**	**4.61**	**83**	Pn	**Pn**	**02 30 11.1**	**+0.4**
NIKH	**Nikolski High**	**7.90**	**77**	Pn	**Pn**	**02 30 55.6**	**+0.6**
SPIA	**Saint Paul Isl**	**8.48**	**47**	Pn	**Pn**	**02 31 04.9**	**+2.1**
AKUT	**Akutan**	**9.83**	**71**	Pn	**Pn**	**02 31 21.7**	**+0.7**
PETK	**Petropavlovsk-**	**12.63**	**284**	P	**Pn**	**02 31 57.2**	**-1.0**
	0.1nm,0.3s,baz=82,slow=22,SNR=3.6						
SDPT	**Sand Point**	**13.02**	**66**	Pn	**Pn**	**02 32 01.0**	**-2.3**
CHIR	**Chirikof Islan**	**15.81**	**65**	Pn	**Pn**	**02 32 35.9**	**-2.6**
SII	**Sitkinak Islan**	**16.66**	**63**		**P**	**02 32 46.7**	**-2.7**
OHAK	**Old Harbor**	**17.21**	**61**		**P**	**02 32 53.4**	**-1.9**
OHAK				IAmb	IAmb	02 32 56.0	
	comp=Z,3.9nm,0.6s						
TTA	**Tatalina**	**17.54**	**41**		**P**	**02 32 59.7**	**+0.7**
KDAK	**Kodiak Island**	**17.66**	**59**	P	**P**	**02 32 58.1**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=290,slow=3.5,SNR=22						
KDAK	**Kodiak Island**	**17.66**	**59**	P	**P**	**02 32 58.3**	**-1.9**
KDAK				IAmb	IAmb	02 33 01.7	
	comp=Z,3.7nm,0.8s						
CNPM	**China Poot**	**18.62**	**54**	P	**P**	**02 33 11.3**	**+0.5**
BRLK	**Bradley Lake**	**18.84**	**53**	P	**P**	**02 33 13.5**	**+0.3**
PPLA	**Purkeypile**	**19.12**	**43**	P	**P**	**02 33 16.1**	**-0.3**
PPLA				IAmb	IAmb	02 33 22.7	
	comp=Z,8.5nm,0.8s						
RC01	**Rabbit Creek A**	**19.68**	**50**	P	**P**	**02 33 21.0**	**-1.2**
RC01				IAmb	IAmb	02 33 26.8	
	comp=Z,4.8nm,1.1s						
IMAR	**Indian Mountai**	**19.90**	**34**	P	**P**	**02 33 25.2**	**+0.6**
PWL	**Port Wells**	**20.30**	**51**	P	**P**	**02 33 27.2**	**-1.8**
PWL				IAmb	IAmb	02 33 31.6	
	comp=Z,7.4nm,1.0s						
SML	**Sawmill**	**20.51**	**48**	P	**P**	**02 33 32.4**	**+1.2**
SML				IAmb	IAmb	02 33 33.8	
	comp=Z,5.7nm,0.8s						
SCM	**Sheep Creek Mo**	**20.98**	**48**	P	**P**	**02 33 35.9**	**-0.4**
SCM				IAmb	IAmb	02 33 39.6	
	comp=Z,12nm,1.4s						
NEA2	**Nenana**	**21.04**	**40**	P	**P**	**02 33 37.4**	**+0.6**
NEA2				IAmb	IAmb	02 33 37.5	
	comp=Z,4.8nm,0.5s						
HIN	**Hinchinbrook I**	**21.11**	**53**	P	**P**	**02 33 37.9**	**+0.2**
HIN				IAmb	IAmb	02 33 40.0	
	comp=Z,6.2nm,0.8s						
MDM	**Murphy Dome**	**21.51**	**40**	P	**P**	**02 33 41.8**	**0.0**
MDM				IAmb	IAmb	02 33 44.1	
	comp=Z,2.9nm,0.7s						
KLU	**Klutina**	**21.57**	**50**	P	**P**	**02 33 42.8**	**+0.2**
HDA	**Harding Lake**	**21.84**	**42**	P	**P**	**02 33 46.0**	**+0.7**
IL31		**21.98**	**41**	P	**P**	**02 33 45.9**	**-0.9**
ILAR	**Eielson Array**	**21.98**	**41**	P	**P**	**02 33 46.1**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=247,slow=8.3,SNR=14						
N25K	**Chitina, Valde**	**22.21**	**50**	P	**P**	**02 33 49.7**	**+0.4**
N25K				IAmb	IAmb	02 33 52.8	
	comp=Z,6.5nm,1.4s						
GLB	**Gilahina Butte**	**22.56**	**50**	P	**P**	**02 33 52.8**	**0.0**
DOT	**Dot Lake**	**22.85**	**45**	P	**P**	**02 33 54.9**	**-0.7**
DOT				IAmb	IAmb	02 33 56.5	
	comp=Z,3.1nm,0.8s						
SCRK	**Sand Creek**	**22.96**	**44**	P	**P**	**02 33 55.7**	**-1.0**
CTGM	**Chitina Glacie**	**23.70**	**52**	P	**P**	**02 34 05.3**	**+1.7**
CTGM				IAmb	IAmb	02 34 05.5	
	comp=Z,5.7nm,0.9s						
L27K	**Beaver Creek,**	**23.72**	**46**	P	**P**	**02 34 03.8**	**+0.2**
L27K				IAmb	IAmb	02 34 06.3	
	comp=Z,4.7nm,0.7s						
BCAR	**Beaver Creek A**	**23.74**	**46**	P	**P**	**02 34 03.8**	**0.0**
TABL	**Table Mountain**	**23.77**	**53**	P	**P**	**02 34 05.3**	**+1.1**
TABL				IAmb	IAmb	02 34 09.8	
	comp=Z,4.5nm,1.0s						
K27K	**Chicken**	**23.79**	**44**	P	**P**	**02 34 04.5**	**+0.3**
BMAR	**Burnt Mountain**	**23.81**	**35**	P	**P**	**02 34 04.2**	**-0.1**
EGAK	**Eagle**	**24.34**	**42**	P	**P**	**02 34 09.3**	**+0.2**
EGAK				IAmb	IAmb	02 34 10.2	
	comp=Z,7.2nm,0.8s						
DAWY	**Dawson**	**24.96**	**44**	P	**P**	**02 34 15.2**	**+0.4**
DAWY				IAmb	IAmb	02 34 18.3	
	comp=Z,3.6nm,0.8s						
HYT	**Haines Junctio**	**25.57**	**52**	P	**P**	**02 34 21.2**	**+0.8**
INK	**Inuvik**	**28.07**	**36**	P	**P**	**02 34 43.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=256,slow=8.3,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	03 10 57.6	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	03 11 00.5	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.35**	**200**	T	T	03 10 55.9	
	baz=11						
H11S1	**WAKE ISLAND Hy**	**34.56**	**200**	T	T	03 12 28.1	
	baz=11						
H11S2	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	03 12 33.0	
	baz=11						
H11S3	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	03 12 30.9	
	baz=11						
YKA	**Yellowknife Ar**	**36.16**	**46**	P	**P**	**02 35 52.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=286,slow=7.7,SNR=4.5						
TLY	**Talaya**	**44.27**	**301**	LR	LR	02 56 02.5	
	comp=Z,64nm,22.0s,baz=94,slow=37						
NVAR	**Mina Array Bea**	**45.24**	**81**	P	**P**	**02 37 08.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=291,slow=7.7,SNR=3.9						
HHC	**Hu-ho-hao-te**	**45.84**	**284**	*eP*	**P**	**02 37 09.5**	**-3.2**
HHC				S	**S**	**02 43 52.0**	**+4.6**
HHC				SS	**ScS**	**02 46 59.1**	**+3.3**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,74nm,7.0s						
HHC				L	L		
	comp=Z,220nm,13.6s						
HHC				L	L		
	comp=Z,490nm,13.6s						
HHC				L	L		
	comp=Z,600nm,14.1s						
KURBB	**Kurchatov Arra**	**57.47**	**312**	P	**P**	**02 38 39.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=42,slow=6.9,SNR=2.9						
WMQ	**Urumqi**	**57.55**	**301**	*eP*	**P**	**02 38 41.3**	**+1.6**
MKAR	**Makanchi Array**	**58.30**	**307**	P	**P**	**02 38 44.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=56,slow=5.4,SNR=2.4						
BVAR	**Borovoye Array**	**59.33**	**318**	P	**P**	**02 38 51.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=350,slow=4.5,SNR=4.1						
TXAR	**Lajitas Array**	**60.32**	**79**	P	**P**	**02 38 59.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=305,slow=5.2,SNR=5.1						
AKTO	**Aktyubinsk**	**66.21**	**323**	P	**P**	**02 39 37.7**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=45,slow=4.1,SNR=4.2						
WRA	**Warramunga Arr**	**81.19**	**221**	P	**P**	**02 41 05.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=32,slow=6.1,SNR=7.0						
ASAR	**Alice Springs**	**84.70**	**220**	P	**P**	**02 41 24.7**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=20,slow=5.5,SNR=2.0						
MAW	**Mawson**	**145.80**	**218**	PKPbc	**PKiKP**	**02 48 26.8**	**-2.9**
	comp=Z,1.0nm,0.6s,baz=170,slow=23,SNR=1.6						
BOSA	**Boshof**	**149.29**	**309**	PKPbc	**PKiKP**	**02 48 37.8**	**-0.5**
	comp=Z,3.4nm,1.1s,baz=141,slow=2.9,SNR=4.3						

IDC **16** *02:36:38.4±0.5,45°.74N×152°.11E,h0km,mb4.3/36, mb1 4.4/41,mb1mx4.3/63,mbtmp4.3/41,ML3.2/5,MS3.8/23, Ms1 3.8/23,ms1mx3.6/48,Error ellipse: s-maj=14.2km s-min=11.0km az=146.0*
NIED **16** *02:36:40.9,45°.78N×152°.32E,h30km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.30; Mθθ1.41; Mφφ-4.71; Mrθ-2.48; Mrφ-2.39; Mθφ2.02; Fault plane solution: M₀5.78000×10¹⁵ NP1: φs346.00000°,δ63.00000°,λ46.00000°. NP2: φs231.00000°,δ50.00000°,λ144.00000°.*
SKHL **16** *02:36:40.3±0.3,45°.30N×152°.60E,h54km±3km,mb5.0/10, mbv4.6/2,ms4.2/4*
JMA **16** *02:36:40.8±0.7,45°.78N×152°.32E,h30km,M4.8*
MOS **16** *02:36:42.1±1.2,45°.64N×152°.17E,h41km,mb5.1/39, MS3.6/10,Error ellipse: s-maj=5.9km s-min=4.8km az=104.1*
BJI **16** *02:36:42.3±0.0,45°.60N×152°.12E,h38km,mB4.8/37, mb4.8/52,Ms4.3/39,Ms7 4.1/37*
NEIC **16** *02:36:45.2±1.8,45°.63N±0°.10×152°.2E±0°.1,h48km±6km, mb4.7/92,Error ellipse: s-maj=15.7km s-min=9.4km az=143.0*
BGR **16** *02:36:45.1±0.0,45°.79N×152°.63E,h33km,mb4.8*
ISC 16 02:36:43.2±0.5,45°.48N±0°.05×152°.25E±0°.04,h42km±3km, h42km:pP-P,n418,σ1°63/464,mb4.7/129,MS4.0/29, 12C-16D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.10**	**267**	*c iP*	**Pn**	**02 37 31.0**	**+1.4**
KUR				*i* S	**Sn**	**02 38 08.3**	**+2.9**
KUR				pmax	pmax		
	comp=Z,574nm,1.2s						
KUR				pmax	pmax		
	comp=N,173nm,0.3s						
KUR				pmax	pmax		
	comp=E,99nm,0.3s						
KUR				pmax	pmax		
	comp=Z,370nm,0.3s						
KUR				smax	smax		
	comp=N,4μm,1.4s						
KUR				smax	smax		
	comp=E,2μm,1.8s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR				smax	smax		
	comp=E,884nm,0.5s						
KUR				MLR	MLR		
	comp=Z,2μm,9.0s						
KUR	**Kuril'sk**	**3.10**	**267**	*eP*	**Pn**	**02 37 30.3**	**+0.7**
KUR				AMB	AMB	02 37 33.4	
	comp=Z,600nm,1.0s						
KUR				AMB	AMB	02 37 35.2	
	comp=Z,370nm,0.3s						
KUR				*i* S	**Sn**	**02 38 07.6**	**+2.2**
KUR				A	A	02 38 13.7	
	comp=Z,4μm,2.0s						
KUR				A	A	02 38 13.7	
	comp=Z,1μm,2.0s						
KUR				A	A	02 38 21.4	
	comp=Z,2μm,0.6s						
KUR				A	A	02 38 21.4	
	comp=Z,880nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.77**	**255**	*e*PN	**Pn**	**02 37 52.8**	**+0.2**
YUK				*i* S	**Sn**	**02 38 47.3**	**+0.7**
YUK				pmax	pmax		
	comp=Z,335nm,0.3s						
YUK				pmax	pmax		
	comp=E,94nm,0.2s						
YUK				pmax	pmax		
	comp=N,114nm,0.1s						
YUK				smax	smax		
	comp=N,457nm,0.7s						
YUK				smax	smax		
	comp=E,910nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.77**	**255**	*e*P	**Pn**	**02 37 52.8**	**+0.2**
YUK				AMB	AMB	02 38 06.4	
	comp=E,340nm,0.3s						
YUK				*i* S	**Sn**	**02 38 47.4**	**+0.8**
YUK				A	A	02 39 01.2	
	comp=E,460nm,0.7s						
YUK				A	A	02 39 01.2	
	comp=E,910nm,0.7s						
GRPR	**Tuman**	**4.85**	**254**	*e*PN	**Pn**	**02 37 54.3**	**+0.7**
GRPR				*i* S	**Sn**	**02 38 50.2**	**+1.7**
GRPR				pmax	pmax		
	comp=N,151nm,0.2s						
GRPR				pmax	pmax		
	comp=E,108nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,242nm,0.3s						
GRPR				smax	smax		
	comp=N,728nm,0.5s						
GRPR				smax	smax		
	comp=E,380nm,0.4s						
GRPR	**Tuman**	**4.85**	**254**	*e*P	**Pn**	**02 37 54.3**	**+0.7**
GRPR				AMB	AMB	02 37 56.9	
	comp=E,240nm,0.3s						
GRPR				*i* S	**Sn**	**02 38 50.2**	**+1.7**
GRPR				A	A	02 39 08.4	
	comp=E,730nm,0.5s						
GRPR				A	A	02 39 08.4	
	comp=E,380nm,0.5s						
GLVR	**Golovnino**	**5.11**	**253**	*e*PN	**Pn**	**02 37 58.5**	**+1.3**
GLVR				pmax	pmax		
	comp=Z,263nm,0.5s						
GLVR				pmax	pmax		
	comp=E,178nm,0.3s						
GLVR				pmax	pmax		
	comp=N,186nm,0.2s						
GLVR	**Golovnino**	**5.11**	**253**	*e*P	**Pn**	**02 37 58.5**	**+1.3**
GLVR				AMB	AMB	02 38 12.0	
	comp=N,260nm,0.5s						
NEM2	**Nemuro 2**	**5.12**	**248**	P	**Pn**	**02 37 56.6**	**-0.7**
NEM2				*e*S	**Sn**	**02 38 53.7**	**-1.3**
NMR	**Nemuro--Hokkai**	**5.12**	**248**	*e*PN	**Pn**	**02 37 56.7**	**-0.7**
NMR	**Nemuro--Hokkai**	**5.12**	**248**	*e*P	**Pn**	**02 37 56.9**	**-0.5**
NMR				*e*S	**Sn**	**02 38 55.1**	**-0.1**
RUSJ	**Misakicho**	**5.17**	**257**	*e*PN	**Pn**	**02 38 00.7**	**+2.7**
RUSJ				*i* S	**Sn**	**02 39 01.7**	**+5.3**
JRA	**Rausu**	**5.31**	**256**	P	**Pn**	**02 38 01.5**	**+1.6**
JNK	**Nakash**	**5.71**	**253**	P	**Pn**	**02 38 06.0**	**+0.6**
JNK				*e*S	**Sn**	**02 39 10.4**	**+0.8**
SKR	**Severo-Kuril's**	**5.82**	**25**	*e*PN	**Pn**	**02 38 07.8**	**+0.9**
SKR				pmax	pmax		
	comp=Z,78nm,0.8s						
SKR				MLR	MLR		
	comp=Z,600nm,15.0s						
SKR				MLR	MLR		
	comp=N,700nm,13.0s						
SKR				MLR	MLR		
	comp=E,800nm,12.0s						
SKR				MLR	MLR		
	comp=Z,500nm,12.0s						
SKR				MLR	MLR		
	comp=N,500nm,13.0s						
SKR				MLR	MLR		
	comp=E,700nm,13.0s						
SKR	**Severo-Kuril's**	**5.82**	**25**	*e*P	**Pn**	**02 38 06.0**	**-0.9**
SKR				AMB	AMB	02 38 09.1	
	comp=E,80nm,0.8s						
SKR				*e*S	**Sn**	**02 39 09.1**	**-3.1**
SKR				A	A	02 39 38.1	
	comp=E,220nm,0.7s						
SKR				A	A	02 39 38.1	
	comp=E,260nm,0.7s						
SKR				AMS	AMS	02 40 33.1	
	comp=E,700nm,14.0s						
SKR				AMS	AMS	02 40 33.1	
	comp=E,800nm,14.0s						
SKR				AMS	AMS	02 40 33.1	
	comp=E,600nm,14.0s						
JAK	**Akkeshi**	**5.97**	**248**	P	**Pn**	**02 38 08.4**	**-0.5**
JTKR	**Abashiri--Toko**	**6.13**	**259**	P	**Pn**	**02 38 12.7**	**+1.5**
JAR	**Ashorobuto**	**6.46**	**253**	P	**Pn**	**02 38 16.7**	**+1.0**
JAR				*e*S	**Sn**	**02 39 29.2**	**+1.2**
JMP	**Maruseppu**	**6.50**	**260**	P	**Pn**	**02 38 18.7**	**+2.4**
JOB	**Onbets**	**6.57**	**250**	P	**Pn**	**02 38 17.3**	**0.0**
JOB				*e*S	**Sn**	**02 39 28.9**	**-2.0**
PAU	**Pauzhetka**	**6.72**	**25**	*e*P	**Pn**	**02 38 16.9**	**-2.3**
PAU				AMB	AMB	02 38 19.6	
	comp=E,20nm,0.5s						
PAU				*e*S	**Sn**	**02 39 29.6**	**-4.8**
PAU				A	A	02 39 37.7	
	comp=E,80nm,0.6s						
PAU				A	A	02 39 37.7	
	comp=E,120nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.75**	**286**	*e*PN	**Pn**	**02 38 21.7**	**+2.0**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				pmax	pmax		
	comp=Z,100nm,3.1s						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YSS				MLR	MLR		
	comp=E,700nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.75**	**286**	Pn	**Pn**	**02 38 21.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.75**	**286**	*e*P	**Pn**	**02 38 22.0**	**+2.3**
YSS				AMB	AMB	02 38 24.2	
	comp=E,60nm,0.7s						
YSS				AMB	AMB	02 38 24.4	
	comp=E,100nm,3.0s						
YSS				*e*S	**Sn**	**02 39 38.4**	**+3.1**
YSS				A	A	02 39 40.3	
	comp=E,10.0nm,0.5s						
YSS				A	A	02 39 40.3	
	comp=E,10.0nm,0.5s						
YSS				AMS	AMS	02 40 51.0	
	comp=E,700nm,17.0s						
YSS				AMS	AMS	02 40 51.0	
	comp=E,1μm,17.0s						
JSE	**Soyaes**	**6.85**	**269**	P	**Pn**	**02 38 23.4**	**+2.4**
JKK2	**Kamakawa 2**	**6.96**	**260**	P	**Pn**	**02 38 24.4**	**+1.8**
JKA	**Kamikawa-asahi**	**7.00**	**262**	Pn	**Pn**	**02 38 24.8**	**+1.7**
JKA	**Kamikawa-asahi**	**7.00**	**262**	*e*P	**Pn**	**02 38 24.8**	**+1.7**
ASAJ	**Asahikawa**	**7.00**	**262**	Pn	**Pn**	**02 38 25.6**	**+2.5**
	comp=E,3.2nm,0.3s,baz=91,slow=17,SNR=12						
ASAJ				LR	LR	02 41 15.9	
	comp=E,1μm,18.1s,baz=3.0,slow=40						
ASAJ	**Asahikawa**	**7.00**	**262**	P	**Pn**	**02 38 25.5**	**+2.3**
ASAJ	**Asahikawa**	**7.00**	**262**	PN	**Pn**	**02 38 24.8**	**+1.6**
JCH	**Churui**	**7.01**	**249**	P	**Pn**	**02 38 23.4**	**+0.1**
JCH				*e*S	**Sn**	**02 39 39.6**	**-2.1**
JWK2	**Keihoku**	**7.29**	**272**	P	**Pn**	**02 38 31.4**	**+4.3**
ERM	**Erimo**	**7.44**	**245**	*ce*PN	**Pn**	**02 38 30.1**	**+1.0**
ERM				pmax	pmax		
	comp=Z,130nm,1.0s						
ERM	**Erimo**	**7.44**	**245**	Pn	**Pn**	**02 38 29.8**	**+0.7**
ERM				Sn	**Sn**	**02 39 56.2**	**+4.1**
JEM	**Erimo**	**7.44**	**246**	P	**Pn**	**02 38 30.0**	**+0.9**
JEM	**Erimo**	**7.44**	**246**		**Pn**	**02 38 27.6**	**-1.6**
JAB	**Ashibetsu**	**7.44**	**258**	P	**Pn**	**02 38 31.7**	**+2.6**
JNBK	**Urakawa-nobuka**	**7.57**	**248**	P	**Pn**	**02 38 30.2**	**-0.7**
JBT2	**Biratori 2**	**7.61**	**253**	P	**Pn**	**02 38 31.9**	**+0.4**
JBT2				*e*S	**Sn**	**02 39 57.0**	**+0.7**
JHR	**Hokuryu**	**7.71**	**261**	P	**Pn**	**02 38 35.9**	**+3.0**
UGL	**Uglegorsk**	**7.81**	**301**	*e*S	**Sn**	**02 40 04.5**	**+3.3**
UGL				A	A	02 40 08.9	
	comp=Z,100nm,0.5s						
UGL				A	A	02 40 08.9	
	comp=Z,130nm,0.5s						
JRBN	**Rebuntou**	**7.87**	**274**	P	**Pn**	**02 38 39.0**	**+4.0**
TYV	**Tymovskoe**	**8.38**	**314**	*e*PN	**Pn**	**02 38 43.8**	**+1.9**
TYV				*e*S	**Sn**	**02 40 21.2**	**+6.1**
TYV				pmax	pmax		
	comp=Z,23nm,0.9s						
TYV				smax	smax		
	comp=N,19nm,0.4s						
TYV				MLR	MLR		
	comp=Z,1μm,17.0s						
TYV	**Tymovskoe**	**8.38**	**314**	*e*P	**Pn**	**02 38 43.8**	**+1.9**
TYV				AMB	AMB	02 38 44.6	
	comp=Z,20nm,0.7s						
TYV				*e*S	**Sn**	**02 40 17.9**	**+2.8**
TYV				A	A	02 40 20.4	
	comp=Z,20nm,0.3s						
TYV				A	A	02 40 20.4	
	comp=Z,20nm,0.3s						
TYV				AMS	AMS	02 41 51.3	
	comp=Z,2μm,16.0s						
TYV				AMS	AMS	02 41 51.3	
	comp=Z,1μm,16.0s						
PEA0B	**Petropavlovsk-**	**8.43**	**23**	PN	**Pn**	**02 38 40.9**	**-1.7**
PEA0B	**Petropavlovsk-**	**8.43**	**23**	Pn	**Pn**	**02 38 40.9**	**-1.7**
PETK	**Petropavlovsk-**	**8.43**	**23**	Pn	**Pn**	**02 38 41.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=181,slow=10,SNR=9.9						
PETK	**Petropavlovsk-**	**8.43**	**23**	PN	**Pn**	**02 38 41.0**	**-1.6**
PETK	**Petropavlovsk-**	**8.43**	**23**	Pn	**Pn**	**02 38 41.0**	**-1.6**
JNB	**Noboribetsu**	**8.63**	**254**	P	**Pn**	**02 38 45.9**	**+0.5**
JNB				*e*S	**Sn**	**02 40 19.0**	**-2.4**
PET	**Petropavlovsk**	**8.63**	**27**	*e*PN	**Pn**	**02 38 45.5**	**0.0**
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PET	**Petropavlovsk**	**8.63**	**27**	*e*P	**Pn**	**02 38 44.8**	**-0.7**
PET				*e*S	**Sn**	**02 40 18.3**	**-3.1**
PET				AMS	AMS	02 42 46.1	
	comp=Z,300nm,16.0s						
JKB	**Kayabe**	**8.88**	**250**	*e*S	**Sn**	**02 40 21.7**	**-6.0**
JYM2	**Yakumo 2**	**9.22**	**253**	P	**Pn**	**02 38 53.5**	**-0.1**
JANG	**Nango**	**9.38**	**241**	P	**Pn**	**02 38 53.3**	**-2.5**
JANG				*e*S	**Sn**	**02 40 32.4**	**-7.4**
JTM	**Tenmabayashi**	**9.42**	**244**	P	**Pn**	**02 38 55.1**	**-1.2**
JTM				*e*S	**Sn**	**02 40 33.4**	**-7.5**
JTH	**Tanohata**	**9.44**	**238**	*e*S	Sn	02 40 32.3	-8.9
JOSM	**Okushiri--Mats**	**9.84**	**254**	P	**Pn**	**02 39 02.0**	**-0.1**
OKH	**Okha**	**10.09**	**327**	*de*PN	**Pn**	**02 39 04.7**	**-0.7**
OKH				pmax	pmax		
	comp=Z,100nm,10.6s						
OKH				MLR	MLR		
	comp=E,700nm,16.0s						
OKH				MLR	MLR		
	comp=Z,300nm,16.0s						
OKH				MLR	MLR		
	comp=N,300nm,15.0s						
OKH	**Okha**	**10.09**	**327**	*e*P	**Pn**	**02 39 08.4**	**+3.0**
OKH				AMB	AMB	02 39 14.7	
	comp=N,100nm,10.0s						
OKH				AMS	AMS	02 43 16.9	
	comp=N,300nm,16.0s						
OKH				AMS	AMS	02 43 16.9	
	comp=N,700nm,16.0s						
OKH				AMS	AMS	02 43 16.9	
	comp=N,300nm,16.0s						
OFUJ	**Ofunato**	**10.11**	**235**	P	**Pn**	**02 39 04.1**	**-1.7**
OFUJ				*e*S	**Sn**	**02 40 49.6**	**-8.2**

comp=Z,769nm,18.1s,baz=98,slow=39
KLR Kul'dur 14.39 292 *c i* P **Pn 02 40 04.4 +0.4**
KLR Kul'dur 14.39 292 *e* P **Pn 02 40 04.4 +0.4**
USA0B Ussuriysk Arra 14.43 272 P **Pn 02 40 04.7 0.0**
USA0B Ussuriysk Arra 14.43 272 Pn **Pn 02 40 04.7 0.0**
USRK Ussuriysk Ar. 14.43 272 Pn **Pn 02 40 04.2 -0.5**
baz=84,slow=12,SNR=27
USRK LR LR 02 45 34.4
comp=Z,459nm,19.0s,baz=68,slow=37
USRK Ussuriysk Ar. 14.43 272 P **Pn 02 40 04.5 -0.2**
USRK Ussuriysk Ar. 14.43 272 Pn **Pn 02 40 04.5 -0.2**
EKMR Ekimchan 14.68 308 *e* P **Pn 02 40 07.8 -0.2**
EKMR AMB AMB 02 40 20.8
comp=Z,7.0nm,0.7s
MDJ Mudanjiang 16.03 275 P **Pn 02 40 25.4 -0.2**
MDJ pP P 02 40 32.0 +3.5
MDJ S **Sn 02 43 22.0 -0.2**
MDJ pmax pmax
comp=Z,44nm,1.0s
MDJ pmax pmax
comp=Z,83nm,3.5s
MDJ L L
comp=Z,220nm,13.5s
MDJ L L
comp=Z,460nm,16.4s
MDJ L L
comp=Z,750nm,17.1s
MDJ Mudanjiang 16.03 275 Pn **Pn 02 40 24.8 -0.8**
MDJ IAmb IAmb 02 40 29.1
comp=Z,46nm,1.1s
JWT Wachi 16.36 237 P **Pn 02 40 31.0 +1.3**
SEY Seymchan 17.49 0 P **Pn 02 40 41.2 -2.5**
comp=Z,0.2nm,0.3s,baz=180,slow=11,SNR=6.9
BMKR Bomnak 17.56 310 *e* P **Pn 02 40 42.4 -2.2**
BMKR AMB AMB 02 40 47.8
comp=Z,5.0nm,0.8s
ZEA Zeya 18.12 306 *e* P **Pn 02 40 55.2 +3.8**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA pmax pmax
comp=Z,100nm,7.9s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,200nm,12.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
ZEA Zeya 18.12 306 *e* P **Pn 02 40 53.9 +2.5**
CN2 Changchun 19.12 275 *e* P **P 02 41 02.8 +0.3**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 L L
comp=Z,300nm,15.0s
CN2 L L
comp=Z,500nm,15.0s
CN2 L L
comp=Z,600nm,15.0s
KSRS Korea Array 19.86 255 P **Pn 02 41 12.1 -0.4**
comp=Z,0.3nm,0.3s,baz=62,slow=11,SNR=23
KSRS LR LR 02 48 50.4
comp=Z,215nm,18.1s,baz=62,slow=37
KSAR Wonju Array Be 19.89 255 P **P 02 41 11.8 +0.8**
KSAR Wonju Array Be 19.89 255 P **P 02 41 11.8 +0.8**
JNU Nakatsue 20.56 241 P Pn 02 41 20.8 0.0
comp=Z,2.7nm,0.5s,baz=3.6,slow=6.7,SNR=1.3
JNU Nakatsue 20.56 241 P **P 02 41 19.2 +0.9**
TJN Taejon 20.82 253 *i* P **P 02 41 21.4 +0.4**
YAK Yakutsk 21.10 330 P **P 02 41 22.5 -1.2**
comp=Z,12nm,0.4s,baz=49,slow=1.1,SNR=1.6
YAK LR LR 02 49 22.3
comp=Z,160nm,20.4s,baz=90,slow=37
YAK Yakutsk 21.10 330 *e* P **P 02 41 22.4 -1.4**
YAK *e* 02 41 39.4
YAK *e* S **S 02 45 14.3 -1.7**
YAK *e** SS **sS 02 45 31.1 +1.5**
YAK *e* SS **SnSn 02 45 38.8 -0.3**
YAK *e* SSS SSS 02 45 53.9
YAK *e* 02 52 45.6
YAK pmax pmax
comp=Z,39nm,1.5s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,18nm,1.2s
YAK smax smax
comp=N,14nm,1.3s
YAK smax smax
comp=E,16nm,1.5s
BILL Bilibino 23.77 13 *e* P **P 02 41 50.9 -0.5**
BILL *e* PPP PPP 02 42 26.6
BILL pmax pmax
comp=Z,5.0nm,0.8s
BILL MLR MLR
comp=Z,244nm,18.0s
BILL Bilibino 23.77 13 P **P 02 41 50.9 -0.5**
BILL Bilibino 23.77 13 *e* P **P 02 41 50.9 -0.5**
BJI Beijing 26.88 271 P **P 02 42 23.0 +3.0**
BJI S **S 02 46 51.3 -2.4**
BJI pmax pmax
comp=Z,19nm,0.9s
BJI pmax pmax
comp=Z,39nm,4.0s
BJI L L
comp=Z,160nm,14.2s
BJI L L
comp=Z,270nm,16.6s
BJI L L
comp=Z,400nm,15.6s
BJT Baijiatuau 26.90 271 P **P 02 42 20.8 +0.7**
BJT pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 26.90 271 P **P 02 42 20.8 +0.7**
BJT IAmb IAmb 02 42 24.2
comp=Z,15nm,0.8s
SSE Sheshan 28.09 250 P **P 02 42 29.8 -1.0**
SSE S **S 02 47 09.4 -3.4**
SSE pmax pmax
comp=Z,24nm,0.6s
SSE pmax pmax
comp=Z,57nm,4.6s
SSE L L
comp=Z,92nm,20.2s
SSE L L
comp=Z,88nm,18.8s
H11N2 WAKE ISLAND Hy 28.39 150 T T 03 13 07.6
baz=338,slow=75,SNR=271
H11N1 WAKE ISLAND Hy 28.40 150 T T 03 13 09.0
baz=338,slow=75,SNR=123
H11N3 WAKE ISLAND Hy 28.41 150 T T 03 13 09.8
baz=338,slow=75,SNR=146
TIXI Tiksi 28.53 345 P **P 02 42 31.8 -2.6**
comp=Z,2.0nm,0.6s,baz=129,slow=11,SNR=4.3
NJ2 Nanjing 29.06 254 *e* P **P 02 42 40.3 +0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 L L
comp=Z,320nm,23.1s
NJ2 L L
comp=Z,370nm,18.4s
NJ2 L L
comp=Z,380nm,19.9s
H11S1 WAKE ISLAND Hy 29.45 151 T T 03 14 25.9
baz=339,slow=76,SNR=96
H11S3 WAKE ISLAND Hy 29.46 151 T T 03 14 28.2
baz=339,slow=76,SNR=106
H11S2 WAKE ISLAND Hy 29.47 151 T T 03 14 27.0
baz=339,slow=76,SNR=91
HHC Hu-ho-hao-te 29.80 276 *e* P **P 02 42 47.3 +1.2**
HHC S **S 02 47 34.3 -5.6**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,87nm,6.1s
HHC L L
comp=Z,220nm,13.6s
HHC L L
comp=Z,490nm,13.6s
HHC L L
comp=Z,600nm,13.6s
ULN Ulaanbaatar 30.77 291 *i* P **P 02 42 53.2 -1.5**
ULN pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 30.77 291 P **P 02 42 55.9 +1.2**
ULN Ulaanbaatar 30.77 291 *e* P **P 02 42 53.2 -1.5**

SONM Songino Array 31.21 291 LR LR 02 56 22.2
comp=Z,268nm,19.9s,baz=64,slow=38
TLY Talaya 32.25 299 *e* P **P 02 43 07.4 -0.1**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 32.25 299 *e* P **P 02 43 07.4 -0.1**
ZAK Zakamensk 32.69 297 *e* P **P 02 43 08.8 -2.7**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
WHN Wuhan 33.04 256 ⇑P P 02 43 21.8 +7.3
XAN Xi'an 34.82 266 P **P 02 43 31.0 +1.0**
XAN pP pP 02 43 40.3 +0.5
XAN sP sP 02 43 44.4 +0.2
XAN pmax pmax
comp=Z,7.0nm,0.7s
IMAR Indian Mountai 35.15 35 P **P 02 43 32.9 +0.4**
KDAK Kodiak Island 35.38 49 P **P 02 43 34.2 -0.3**
comp=Z,3.1nm,0.7s,baz=348,slow=3.5,SNR=5.6
BWN Browne 36.79 38 **P 02 43 47.6 +1.1**
NEA2 Nenana 36.98 38 P **P 02 43 49.0 +0.9**
SML Sawmill 37.31 42 P **P 02 43 51.3 +0.3**
SML IAmb IAmb 02 44 03.9
comp=Z,5.4nm,0.8s
LZH Lanzhou 37.34 273 *e* P **P 02 43 53.9 +2.2**
LZH pP pP 02 44 04.0 +2.5
LZH sP pwP 02 44 09.5 +0.6
LZH pmax pmax
comp=Z,39nm,1.0s
COLA College 37.51 37 *i* P **P 02 43 50.3 -2.3**
COLA pmax pmax
comp=Z,4.0nm,1.0s
POKR Poker Plat Res 37.70 37 P **P 02 43 55.8 +1.6**
POKR IAmb IAmb 02 44 09.1
comp=Z,9.3nm,1.1s
HDA Harding Lake 37.89 38 P **P 02 43 56.5 +0.7**
ILAR Eielson Array 37.92 38 P **P 02 43 56.5 +0.4**
comp=Z,1.3nm,1.0s,baz=268,slow=6.9,SNR=13
ILAR LR LR 03 01 26.5
comp=Z,67nm,19.7s,baz=287,slow=39
ILAR Eielson Array 37.92 38 P **P 02 43 57.2 +1.1**
GTA Gaotai 38.59 280 ⇓P **P 02 44 03.9 +1.7**
GTA pP pP 02 44 14.8 +2.5
GTA sP pwP 02 44 18.4 -0.1
GTA pmax pmax
comp=Z,22nm,1.1s
GTA pmax pmax
comp=Z,87nm,6.0s
GTA L L
comp=Z,100nm,14.9s
GTA L L
comp=Z,200nm,13.8s
GTA L L
comp=Z,270nm,14.5s
BMAR Burnt Mountain 38.91 33 P **P 02 44 05.9 +1.5**
NRIK Noril'sk 39.55 330 P **P 02 44 07.8 -1.8**
comp=Z,3.8nm,1.1s,baz=117,slow=6.1,SNR=5.0
NRIK LR LR 03 03 59.6
comp=Z,46nm,18.4s,baz=64,slow=42
NRIK Noril'sk 39.55 330 P **P 02 44 08.3 -1.3**
NRIK pmax pmax
comp=Z,7.0nm,1.2s
NRIK Noril'sk 39.55 330 P **P 02 44 08.3 -1.3**
K27K Chicken 40.04 39 P **P 02 44 14.3 +0.5**
CD2 Chengdu 40.18 266 *e* P **P 02 44 15.0 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
L27K Beaver Creek, 40.24 40 P **P 02 44 17.2 +1.7**
BCAR Beaver Creek A 40.26 40 P **P 02 44 17.4 +1.8**
EGAK Eagle 40.37 37 P **P 02 44 16.8 +0.2**
GRNC Granite Creek 40.58 44 P **P 02 44 19.6 +1.1**
GYA Guiyang 40.86 258 P **P 02 44 22.6 +1.5**
GYA pP sP 02 44 36.0 +0.5
GYA sP pwP 02 44 40.6 +2.5
DGZ Jazzator, Alta 42.71 300 *i* P **P 02 44 34.5 -1.5**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 42.88 307 PcP **PcP 02 46 28.9 +1.6**
comp=Z,3.8nm,0.8s,baz=90,slow=4.4,SNR=9.9
ZALV LR LR 03 03 21.8
comp=Z,311nm,19.2s,baz=71,slow=38
INK Inuvik 43.05 32 P **P 02 44 38.6 +0.3**
comp=Z,2.0nm,0.7s,baz=300,slow=7.6,SNR=8.2
INK Inuvik 43.05 32 P **P 02 44 39.6 +1.3**
WMQ Urumqi 44.84 292 *e* P **P 02 44 56.3 +3.2**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.5s
C36M Paulatuk 46.22 29 P **P 02 45 04.7 +1.1**
C36M IAmb IAmb 02 45 19.9
comp=Z,11nm,1.4s
DLBC Dease Lake 46.92 45 P **P 02 45 10.6 +1.3**
comp=Z,0.9nm,0.5s,baz=302,slow=13,SNR=3.3
DLBC Dease Lake 46.92 45 P **P 02 45 10.3 +1.0**
MK31 Makanchi Array 47.00 298 *i* P **P 02 45 08.2 -1.9**
MK31 Makanchi Array 47.00 298 P **P 02 45 09.0 -1.1**
MKAR Makanchi Array 47.00 298 P **P 02 45 09.1 -1.0**
comp=Z,1.9nm,0.9s,baz=67,slow=8.4,SNR=14
MKAR PcP **PcP 02 46 42.9 +1.2**
comp=Z,2.5nm,0.8s,baz=56,slow=3.9,SNR=8.5
MKAR LR LR 03 05 51.7
comp=Z,402nm,18.4s,baz=72,slow=38
MKAR Makanchi Array 47.00 298 *i* P **P 02 45 09.3 -0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 47.00 298 P **P 02 45 09.3 -0.8**
MKAR PcP **PcP 02 46 42.7 +0.9**
MAKZ Makanchi 47.19 298 P **P 02 45 10.7 -0.8**
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
MAKZ Makanchi 47.19 298 P **P 02 45 10.7 -0.8**
KURK Kurchatov 47.58 304 P **P 02 45 13.4 -1.0**
KURK 02 46 44.8
KURK Kurchatov 47.58 304 P **P 02 45 13.4 -1.0**
KURK PcP **PcP 02 46 44.8 +1.2**
KURK Kurchatov 47.58 304 *e* P **P 02 45 13.4 -1.0**
KURBB Kurchatov Arra 47.67 304 P **P 02 45 13.4 -1.7**
comp=Z,2.3nm,0.7s,baz=69,slow=8.5,SNR=19
KURBB PcP **PcP 02 46 44.8 +0.8**
comp=Z,1.7nm,0.8s,baz=64,slow=3.8,SNR=7.7
EUNU Eureka 50.49 11 P **P 02 45 36.1 -0.3**
EUNU IAmb IAmb 02 45 37.3
comp=Z,5.7nm,0.9s
BVAR Borovoye Array 51.21 310 P **P 02 45 40.6 -1.5**
comp=Z,0.8nm,0.6s,baz=206,slow=6.1,SNR=5.2
BVAR PcP **PcP 02 46 58.1 +1.2**
comp=Z,1.8nm,0.9s,baz=48,slow=2.1,SNR=4.9
CHTO Chiang Mai 51.24 257 P **P 02 45 44.9 +2.1**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 51.24 257 P **P 02 45 44.9 +2.1**
CHTO IAmb IAmb 02 45 57.4
comp=Z,6.8nm,0.8s
BRVK Borovoye 51.25 310 P **P 02 45 40.8 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,1.1s
BRVK Borovoye 51.25 310 P **P 02 45 40.8 -1.6**
BRVK Borovoye 51.25 310 *e* P **P 02 45 40.8 -1.6**
CMAR Chiang Mai Arr 51.49 257 P **P 02 45 44.2 -0.4**
comp=Z,2.2nm,0.3s,baz=38,slow=7.8,SNR=9.4
CMAR LR LR 03 09 01.7
comp=Z,84nm,19.3s,baz=55,slow=38
CMAR Chiang Mai Arr 51.49 257 P **P 02 45 46.6 +1.9**
SHL Shillong 51.74 269 P **P 02 45 48.1 +1.4**
SHL pmax pmax
comp=Z,15nm,1.0s
SHL Shillong 51.74 269 P **P 02 45 48.1 +1.4**
SHL IAmb IAmb 02 45 55.9
comp=Z,15nm,1.0s
TARG Taragay, Kyrgy 52.23 294 P **P 02 45 50.0 -0.4**
TARG IAmb IAmb 02 45 53.2
comp=Z,8.4nm,0.9s
YKA Yellowknife Ar 52.31 36 P **P 02 45 49.6 -0.5**
comp=Z,1.7nm,0.8s,baz=299,slow=7.3,SNR=6.3
TKM2 Tokmak 2 53.03 297 P **P 02 45 56.7 +0.7**
SNR=5.1
BOOM Boomskoye usch 53.03 296 P **P 02 45 55.7 -0.3**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
BOOM Boomskoye usch 53.03 296 P **P 02 45 55.7 -0.3**
BOOM IAmb IAmb 02 45 58.2
comp=Z,8.9nm,0.9s
KBK Karagaybulak 53.57 297 P **P 02 46 00.9 +0.9**
SNR=5.5
KBS Kingsbay 53.66 351 *i* P **P 02 45 58.7 -1.2**

KBS pmax pmax
comp=Z,11nm,1.1s
AAK Ala-Archa 53.87 297 P **P 02 46 01.8 -0.3**
comp=Z,8.6nm,0.8s,baz=106,slow=4.8,SNR=13
AAK Ala-Archa 53.87 297 P **P 02 46 03.4 +1.3**
SNR=5.8
AAK Ala-Archa 53.87 297 *c i* P **P 02 46 00.1 -2.0**
AAK pmax pmax
comp=Z,27nm,0.9s
AAK Ala-Archa 53.87 297 P **P 02 46 02.1 0.0**
AAK IAmb IAmb 02 46 04.3
comp=Z,8.2nm,0.8s
EKS2 Erkin-Say 54.30 297 P **P 02 46 06.1 +0.9**
SNR=7.6
GUN Gumba 54.52 275 *e* P **P 02 46 09.2 +1.9**
KSH Kashi 54.59 293 P **P 02 46 12.0 +4.6**
KSH sP pwP 02 46 28.4 +3.7
KSH pmax pmax
comp=Z,6.0nm,0.4s
KSH pmax pmax
comp=Z,97nm,4.5s
KSH L L
comp=Z,510nm,22.5s
KSH L L
comp=Z,340nm,18.0s
KSH L L
comp=Z,160nm,8.8s
AML Almayashu 54.64 297 P **P 02 46 08.8 +0.8**
SNR=5.8
PKI Pulchoki 55.05 275 *e* P **P 02 46 13.3 +2.1**
DMN Daman 55.24 276 *e* P **P 02 46 13.6 +1.2**
GKN Gorkha 55.33 276 *e* P **P 02 46 14.5 +1.6**
comp=Z,13nm,0.6s
ARSB Arslanbob 55.52 296 P **P 02 46 13.4 -0.7**
ARSB pmax pmax
comp=Z,17nm,1.0s
ARSB Arslanbob 55.52 296 P **P 02 46 13.4 -0.7**
ARU Arti 55.55 318 P **P 02 46 11.6 -2.3**
comp=Z,0.6nm,0.3s,baz=35,slow=4.7,SNR=6.6
ARU PcP **PcP 02 47 12.9 -0.4**
comp=Z,1.0nm,0.4s,baz=42,slow=5.5,SNR=5.4
ARU Arti 55.55 318 *d i* P **P 02 46 11.1 -2.8**
ARU *PP **pP 02 46 21.3 -3.4**
ARU S **S 02 53 53.8 -2.3**
ARU SS **SS 02 57 36.0 -4.7**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU MLR MLR
comp=Z,125nm,17.0s
ARU Arti 55.55 318 P **P 02 46 12.0 -1.9**
ARU IAmb IAmb 02 46 13.2
comp=Z,10nm,1.2s
DANN Dangsing 55.73 277 *e* P **P 02 46 18.1 +2.1**
KK31 Karatay Array 56.09 299 P **P 02 46 17.7 -0.3**
KK31 IAmb IAmb 02 46 19.3
comp=Z,5.8nm,0.8s
KK31 PcP **PcP 02 47 16.1 +0.4**
KKAR Karatay Array 56.09 299 P **P 02 46 18.0 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 56.09 299 P **P 02 46 17.9 -0.1**
KKAR IAmb IAmb 02 46 19.3
comp=Z,5.8nm,0.8s
KOLN Koldanda 56.20 277 *e* P **P 02 46 21.1 +1.9**
comp=Z,16nm,0.6s
PYUN Piuthan 56.42 277 *e* P **P 02 46 22.8 +2.0**
comp=Z,43nm,0.9s
NEEM North Greenlan 56.49 6 *i* P **P 02 46 20.1 -0.6**
NEEM IAmb IAmb 02 46 20.6
comp=Z,6.8nm,0.8s
BTK Batken 57.59 296 P **P 02 46 28.4 -0.4**
BTK pmax pmax
comp=Z,18nm,1.0s
BTK Batken 57.59 296 P **P 02 46 28.4 -0.4**
DAG Danmarks Havn 57.89 358 *i* P **P 02 46 29.6 -0.7**
DAG IAmb IAmb 02 46 30.4
comp=Z,21nm,1.3s
DAG Danmarks Havn 57.89 358 *i* P **P 02 46 29.5 -0.7**
DAG pmax pmax
comp=Z,21nm,1.3s
PRGR Permogore 58.12 327 *e* P **P 02 46 29.4 -2.6**
PRGR pmax pmax
comp=Z,40nm,1.4s
KIRV Kirov 58.44 323 *i* P **P 02 46 33.5 -0.7**
GAR Garm 58.51 295 P **P 02 46 35.3 0.0**
ABKAR Akbulak array 58.78 310 P **P 02 46 36.1 -0.7**
ABKAR IAmb IAmb 02 46 37.9
comp=Z,6.1nm,1.4s
ARCES ARCESS Array B 58.86 341 P **P 02 46 35.2 -1.9**
comp=Z,7.9nm,0.9s,baz=27,slow=4.1,SNR=7.5
ARCES LR LR 03 16 21.6
comp=Z,82nm,18.2s,baz=35,slow=41
ARCES ARCESS Array B 58.86 341 P **P 02 46 37.1 0.0**
ARCES pmax pmax
comp=Z,14nm,1.2s
ARCES ARCESS Array B 58.86 341 P **P 02 46 37.0 0.0**
CHGR Chuyangaron 59.45 296 P **P 02 46 42.5 +0.8**
WALA Waterton Lakes 59.72 49 P **P 02 46 41.4 -2.1**
WALA IAmb IAmb 02 46 59.2
comp=Z,4.7nm,1.1s
NIL Nilore 59.74 289 P **P 02 46 44.5 +0.8**
NIL pmax pmax
comp=Z,31nm,1.0s
NIL Nilore 59.74 289 P **P 02 46 44.5 +0.8**
DBG Daneborg 60.40 358 *i* P **P 02 46 47.2 -0.4**
DBG IAmb IAmb 02 46 48.3
comp=Z,6.3nm,1.0s
KLMR Klimovskoe 60.89 329 *e* P **P 02 46 48.8 -2.3**
KLMR pmax pmax
comp=Z,23nm,2.1s
KLMR Klimovskoe 60.89 329 *e* P **P 02 46 48.9 -2.2**
KLMR AMP 02 46 52.4
comp=Z,23nm,2.1s
MSO Missoula 61.02 52 P **P 02 46 54.2 +1.8**
MSO IAmb IAmb 02 47 12.2
comp=Z,6.8nm,1.1s
KBL Kabul 61.98 292 P **P 02 46 58.5 -0.7**
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 61.98 292 P **P 02 46 58.5 -0.7**
SUMG Summit 62.01 4 *i* P **P 02 46 58.8 -0.2**
SUMG IAmb IAmb 02 47 01.7
comp=Z,22nm,1.0s
SUMG Summit 62.01 4 *i* P **P 02 46 58.8 -0.2**
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 62.01 4 P **P 02 46 58.9 -0.1**
FFC Flin Flon 62.10 39 P **P 02 47 00.8 +1.4**
FFC pmax pmax
comp=Z,8.0nm,1.1s
FFC Flin Flon 62.10 39 P **P 02 47 00.8 +1.4**
FFC IAmb IAmb 02 47 02.0
comp=Z,7.9nm,1.1s
NVAR Mina Array Bea 63.56 61 P **P 02 47 09.7 0.0**
comp=Z,1.1nm,0.8s,baz=294,slow=7.2,SNR=7.3
FIA1 FINESS Array S 64.94 335 P **P 02 47 17.3 -0.6**
FINES FINESS Array B 64.94 335 P **P 02 47 17.0 -1.0**
comp=Z,16nm,0.9s,baz=34,slow=8.2,SNR=28
FINES LR LR 03 18 17.8
comp=Z,75nm,18.7s,baz=62,slow=39
FINES FINESS Array B 64.94 335 P **P 02 47 17.0 -1.0**
FINES FINESS Array B 64.94 335 P **P 02 47 16.8 -1.2**
GSI Gunungsitoli 64.99 244 P **P 02 47 18.0 -1.0**
ICESG Greenland Ices 65.41 5 *i* P **P 02 47 21.4 0.0**
ICESG IAmb IAmb 02 47 23.2
comp=Z,16nm,1.0s
PD31 Pinedale Array 65.99 53 P **P 02 47 24.9 -0.5**
PDAR Pinedale Array 65.99 53 P **P 02 47 24.8 -0.6**
comp=Z,1.0nm,0.8s,baz=310,slow=1.2,SNR=6.1
PDAR LR LR 03 13 48.4
comp=Z,22nm,21.5s,baz=286,slow=34
PDAR Pinedale Array 65.99 53 P **P 02 47 26.7 +1.3**
OBN Obninsk 66.02 325 *e* P **P 02 47 24.4 -0.6**
OBN *e* 02 47 53.3
OBN *e* PPP PPP 02 51 22.6
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,78nm,16.0s
OBN Obninsk 66.02 325 *e* P **P 02 47 24.4 -0.6**
HRA Herat 66.46 296 P **P 02 47 29.2 +0.7**
HRA IAmb IAmb 02 47 30.9
comp=Z,11nm,1.2s
GEYT Alibeck 66.74 301 P **P 02 47 28.5 -1.6**
comp=Z,12nm,0.9s,baz=267,slow=2.8,SNR=13

GEYT	Alibeck	66.74	301	P		P	02 47 30.5	+0.4
GYA0B	ALIBECK ARRAY	66.74	301	P		P	02 47 30.5	+0.5
WRAB	Tennant Creek	67.10	198	*i* P		P	02 47 31.8	-0.5
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WRA	Warramunga Arr	67.11	198	P		P	02 47 34.4	+2.1
	comp=Z,1.5nm,0.8s,baz=14,slow=6.8,SNR=8.0							
WRA	Warramunga Arr	67.11	198	P		P	02 47 35.0	+2.6
DY2G	Dye2	67.48	8	*eP*		P	02 47 34.8	+0.3
FITZ	Fitzroy Crossi	67.73	207	P		P	02 47 39.2	+2.9
	comp=Z,1.7nm,0.8s,baz=349,slow=1.2,SNR=3.6							
SRU	San Rafael Swe	67.81	56	P		P	02 47 38.2	+1.2
SRU				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SRU	San Rafael Swe	67.81	56	P		P	02 47 38.2	+1.2
SRU				IAmb	IAmb		02 47 55.1	
	comp=Z,4.2nm,0.9s							
ULM	Lac du Bonnet	67.88	40	P		P	02 47 37.0	0.0
	comp=Z,2.2nm,0.7s,baz=321,slow=6.3,SNR=3.9							
ULM				LR	LR		03 19 10.7	
	comp=Z,34nm,20.9s,baz=328,slow=38							
ULM	Lac du Bonnet	67.88	40	P		P	02 47 37.6	+0.6
ULM				IAmb	IAmb		02 47 38.7	
	comp=Z,4.2nm,0.9s							
NC405	NORSAR Array S	69.06	341	P		P	02 47 44.1	0.0
NC204	NORSAR Array S	69.13	341	P		P	02 47 45.1	+0.4
NOA	NORSAR Array B	69.24	341	P		P	02 47 45.4	0.0
	comp=Z,9.1nm,0.9s,baz=30,slow=6.6,SNR=19							
NOA				LR	LR		03 23 32.7	
	comp=Z,53nm,18.4s,baz=10.0,slow=41							
AGMN	Agassiz Nation	69.28	41	P		P	02 47 46.2	+0.4
AGMN				IAmb	IAmb		02 47 47.6	
	comp=Z,11nm,1.2s							
NC602	NORSAR Array S	69.43	341	P		P	02 47 46.4	-0.1
MNK	Minsk	69.79	329	*i* P		P	02 47 49.5	+0.8
MNK				*i* *PP		pP	02 48 02.5	+2.8
MNK				*i*			02 48 11.7	
MNK				*i*			02 50 23.9	
MNK				*i* PPP		PPP	02 52 05.8	
MNK				*i* S		S	02 56 55.8	+1.2
MNK				*i*			02 57 47.3	
MNK				*i* SS		SS	03 01 25.9	+3.4
MNK				pmax	pmax			
	comp=N,17nm,0.9s							
MNK				pmax	pmax			
	comp=Z,21nm,0.7s							
MNK				pmax	pmax			
	comp=E,3.0nm,1.5s							
MNK				MLR	MLR			
	comp=N,178nm,22.0s							
MNK				MLR	MLR			
	comp=Z,92nm,19.0s							
MNK	Minsk	69.79	329	*i* P		P	02 47 49.5	+0.8
	comp=E,3.0nm,1.5s							
MNK				*i* P		P	02 47 49.5	+0.8
	comp=N,17nm,0.9s							
MNK				*i* P		P	02 47 49.5	+0.8
	comp=Z,21nm,0.7s,baz=218							
MNK				*i* pP		sP	02 48 02.6	-1.4
MNK				*i* PcP		PcP	02 48 11.7	+0.5
MNK				*i* PP		PP	02 50 24.0	+1.2
MNK				*i* PPP		PPP	02 52 05.8	
MNK				*i* S		S	02 56 55.9	+1.3
MNK				*i* ScS		ScS	02 57 47.3	+0.4
MNK				*i* SS		SS	03 01 25.9	+3.4
MNK				*i* SSS		SSS	03 04 44.0	
MNK				*i* LQ		LQ	03 13 40.6	
MNK				*i* LR		LR	03 18 35.1	
MNK				*i* LRM		MLR	03 20 59.8	
	comp=N,178nm,21.9s							
MNK				*i* LRM		MLR	03 21 04.9	
	comp=Z,92nm,18.7s							
MNK				*i* LRM		MLR	03 21 06.4	
	comp=E,7.0nm,27.7s							
NACGM	Naroch	69.86	330	*i* P		P	02 47 48.2	-1.0
AKT	Akhty	70.35	309	⇓*i* P		P	02 47 54.0	+1.4
AKT				*e*			02 48 15.1	
AKT				pmax	pmax			
	comp=Z,20nm,0.8s							
ASAR	Alice Springs	70.81	198	P		P	02 47 58.8	+3.4
	comp=Z,1.4nm,0.9s,baz=7,1,slow=4.6,SNR=8.9							
ASAR	Alice Springs	70.81	198	P		P	02 47 57.5	+2.2
ASAR	Alice Springs	70.81	198	P		P	02 47 57.5	+2.2
NCK	Nalchik	71.12	313	*i* P		P	02 47 56.6	-0.5
NCK				pmax	pmax			
	comp=Z,14nm,1.0s							
KIV	Kislovodsk	71.26	314	*eP*		P	02 47 58.2	+0.2
KIV				pmax	pmax			
	comp=Z,54nm,1.0s							
KIV				MLR	MLR			
	comp=Z,303nm,18.0s							
KIV	Kislovodsk	71.26	314	P		P	02 47 58.7	+0.7
KIV				IAmb	IAmb		02 48 01.1	
	comp=Z,15nm,0.9s							
KIV	Kislovodsk	71.26	314	*eP*		P	02 47 58.2	+0.2
KBZ	Khabaz	71.31	314	P		P	02 47 59.4	+1.1
	comp=Z,15nm,0.9s,baz=44,slow=3.6,SNR=25							
KBZ				LR	LR		03 23 29.2	
	comp=Z,182nm,18.4s,baz=38,slow=40							
KBZ	Khabaz	71.31	314	P		P	02 47 57.8	-0.4
KBZ				pmax	pmax			
	comp=Z,19nm,0.9s							
KBZ	Khabaz	71.31	314	*eP*		P	02 47 57.8	-0.4
SHA1	Shidzhatmaz	71.43	314	*i* P		P	02 47 59.4	+0.2
ZEI	Tsey	71.47	313	*eP*		P	02 47 59.6	+0.1
ZEI				pmax	pmax			
	comp=Z,13nm,1.2s							
SUW	Suwalki	71.83	331	*eP*		P	02 48 01.4	+0.3
SUW	Suwalki	71.83	331	P		P	02 48 01.4	+0.3
SUW				pmax	pmax			
	comp=Z,29nm,1.3s							
SUW	Suwalki	71.83	331	P		P	02 48 01.4	+0.3
ONI	Oni	71.84	313	P		P	02 48 01.8	+0.3
ONI				pmax	pmax			
	comp=Z,13nm,1.0s							
ONI	Oni	71.84	313	P		P	02 48 01.8	+0.3
ONI				IAmb	IAmb		02 48 05.2	
	comp=Z,13nm,1.0s							
ECSD	EROS Data Cent	72.20	45	P		P	02 48 04.4	+0.7
ECSD				IAmb	IAmb		02 48 21.2	
	comp=Z,8.0nm,1.1s							
AKASG	Malin Array Be	72.27	326	P		P	02 48 03.2	-0.7
	comp=Z,3.4nm,0.4s,baz=35,slow=6.3,SNR=22							
AKASG				LR	LR		03 21 52.6	
	comp=Z,83nm,20.1s,baz=25,slow=38							
AKASG	Malin Array Be	72.27	326	P		P	02 48 03.9	0.0
AKBB	Malin Array Si	72.27	326	P		P	02 48 03.5	-0.3
AKBB				pmax	pmax			
	comp=Z,14nm,0.8s							
AKBB	Malin Array Si	72.27	326	P		P	02 48 03.5	-0.3
AKBB				IAmb	IAmb		02 48 04.6	
	comp=Z,14nm,0.8s							
GNI	Garni	72.90	310	P		P	02 48 09.1	+1.1
	comp=Z,5.9nm,0.6s,baz=173,slow=14,SNR=6.6							
GNI	Garni	72.90	310	*i* P		P	02 48 07.1	-0.9
GNI				pmax	pmax			
	comp=Z,13nm,1.1s							
GNI	Garni	72.90	310	P		P	02 48 08.2	+0.2
GNI				IAmb	IAmb		02 48 11.4	
	comp=Z,13nm,0.9s							
ANN	Anapa	73.22	318	*eP*		P	02 48 07.0	-2.6
ANN				*e* *PP		pP	02 48 20.6	+0.4
ANN				*e*S		S	02 57 33.5	-0.9
ANN				pmax	pmax			
	comp=Z,11nm,0.7s							
GKP	Gorka Klasztor	74.38	334	*eP*		P	02 48 16.3	+0.1
BEL	Belsk	74.44	331	*eP*		P	02 48 17.7	+1.0
SORM	Soroca	74.65	325	⇓P		P	02 48 18.2	+0.4
LVV	L'vov	74.97	328	*eP*		P	02 48 19.9	+0.2
GURO	Guroymak-BITLI	75.50	311	P		P	02 48 23.3	+0.1
GURO				IAmb	IAmb		02 48 26.8	
	comp=Z,20nm,1.4s							
OJC	Ojcow	76.14	331	*eP*		P	02 48 27.1	+0.7
OJC	Ojcow	76.14	331	P		P	02 48 26.6	+0.2
OJC				pmax	pmax			
	comp=Z,20nm,1.1s							
OJC	Ojcow	76.14	331	P		P	02 48 26.6	+0.2
OJC				IAmb	IAmb		02 48 28.1	
	comp=Z,20nm,1.1s							
BURAR	Bucovina Array	76.32	326	P		P	02 48 28.1	+0.4
BURAR				IAmb	IAmb		02 48 29.6	
	comp=Z,13nm,0.8s							
GIRR	Girov	76.34	325	P		P	02 48 28.5	+0.8
KOLS	Kolonicke sedl	76.34	329	*eP*		P	02 48 28.4	+0.8
KOLS	Kolonicke sedl	76.34	329	*eP*		P	02 48 28.4	+0.8
BIZ	Bicaz	76.52	325	⇑P		P	02 48 29.4	+0.7
UZH	Uzhgorod	76.59	328	*eP*		P	02 48 30.7	+1.7
UZH				*i*			02 48 42.2	
TESR	Tescani	76.64	325	⇓P		P	02 48 30.1	+0.7
NIE	Niedzica	76.65	330	*eP*		P	02 48 30.6	+1.2
CRVS	Cervenica-Dubn	76.67	329	*eP*		P	02 48 30.8	+1.3
CRVS	Cervenica-Dubn	76.67	329	*eP*		P	02 48 30.8	+1.3
KSP	Ksiaz	76.77	333	*eP*		P	02 48 30.5	+0.5
OSTC	Ostas	77.04	333	*eP*		P	02 48 32.4	+0.8
CHVC	Chvalec	77.07	333	*eP*		P	02 48 32.2	+0.5
CHVC				*ex*	x		02 48 37.6	
CFR	Carcaliu	77.10	323	⇓P		P	02 48 32.7	+0.8
VRI	Vrincioaia	77.13	324	⇑P		P	02 48 31.9	-0.2
UPC	Upice	77.15	333	*eP*		P	02 48 32.4	+0.3
UPC	Upice	77.15	333	*eP*		P	02 48 32.4	+0.3
LANS	Liptovska Anna	77.16	330	*eP*		P	02 48 34.2	+1.9
LANS	Liptovska Anna	77.16	330	*eP*		P	02 48 34.2	+1.9
DPC	Dobruska-Polom	77.19	333	*eP*		P	02 48 33.2	+0.8
DPC	Dobruska-Polom	77.19	333	*eP*		P	02 48 33.2	+0.8
TPGR	Topolog	77.24	323	⇑P		P	02 48 33.5	+0.8
KRLC	Kraliky	77.28	332	*eP*		P	02 48 33.4	+0.5
KRLC				*e*			02 48 47.0	
KRLC	Kraliky	77.28	332	*eP*		P	02 48 33.4	+0.5
KRLC				*ex*	x		02 48 47.0	
MORC	Moravsky Berou	77.28	332	⇓P		P	02 48 34.2	+1.2
MORC	Moravsky Berou	77.28	332	*eP*		P	02 48 33.4	+0.4
MORC	Moravsky Berou	77.28	332	P		P	02 48 33.3	+0.4
MORC				pmax	pmax			
	comp=Z,16nm,1.1s							
MORC	Moravsky Berou	77.28	332	P		P	02 48 33.3	+0.4
MORC				IAmb	IAmb		02 48 34.9	
	comp=Z,16nm,1.1s							
CLL	Collm	77.37	335	*i* P		P	02 48 33.0	-0.3
	comp=Z,15nm,1.2s							
CLL				LmV			03 29 00.0	
	comp=Z,100nm,19.2s							
CLL	Collm	77.37	335	*i* P		P	02 48 33.0	-0.3
CLL				pmax	pmax			
	comp=Z,15nm,1.2s							
CLL	Collm	77.37	335	P		P	02 48 33.0	-0.3
CLL				IAmb	IAmb		02 48 34.6	
	comp=Z,17nm,1.2s							
BISRR	Bisoca	77.40	324	P		P	02 48 35.1	+1.4
BRG	Berggiesshubel	77.47	334	*eP*		P	02 48 33.5	-0.5
BRG				Amp			02 48 36.1	
	comp=Z,8.7nm,1.3s							
HARR	Harsova	77.58	323	⇑P		P	02 48 34.1	-0.5
PVCC	Panska Ves	77.59	334	*eP*		P	02 48 35.3	+0.7
PVCC	Panska Ves	77.59	334	*eP*		P	02 48 35.3	+0.7
STKA	Stephens Creek	77.59	189	P		P	02 48 37.6	+3.0
	comp=Z,1.6nm,0.9s,baz=359,slow=6.6,SNR=3.0							
STKA				LR	LR		03 22 59.3	
	comp=Z,30nm,20.2s,baz=32,slow=36							
MLR	Muntele Rosu	77.76	325	P		P	02 48 35.6	-0.2
	comp=Z,4.8nm,0.7s,baz=168,slow=7.9,SNR=12							
MLR	Muntele Rosu	77.76	325	⇓P		P	02 48 36.8	+1.0
MLR	Muntele Rosu	77.76	325	P		P	02 48 35.9	+0.1
MLR				IAmb	IAmb		02 48 37.9	
	comp=Z,8.9nm,1.0s							
VYHS	Vyhne	77.94	330	*eP*		P	02 48 37.7	+1.1
VYHS	Vyhne	77.94	330	*eP*		P	02 48 37.7	+1.1
DRGR		77.96	327	⇓P		P	02 48 37.6	+0.8
VRAC	Vranov	78.00	332	*eP*		P	02 48 37.8	+0.9
JAVC	Velka Javorina	78.03	331	*eP*		P	02 48 38.7	+1.6
PRU	Pruhonice	78.07	334	*eP*		P	02 48 37.7	+0.5
PRU	Pruhonice	78.07	334	*eP*		P	02 48 37.7	+0.5
VOIR		78.17	325	⇓P		P	02 48 39.4	+1.4
KRUC	Moravsky	78.28	332	*eP*		P	02 48 39.0	+0.6
MODS	Modra-Piesok	78.58	331	*eP*		P	02 48 41.0	+0.9
MODS	Modra-Piesok	78.58	331	*eP*		P	02 48 41.0	+0.9
TX31	Lajitas Ar. Si	78.65	60	P		P	02 48 42.3	+1.3
TX31				IAmb	IAmb		02 48 43.4	
	comp=Z,8.1nm,0.8s							
TX32	Lajitas Array	78.65	60	P		P	02 48 42.1	+1.2
TXAR	Lajitas Array	78.65	60	P		P	02 48 42.8	+1.8
	comp=Z,2.1nm,0.8s,baz=299,slow=4.1,SNR=23							
TXAR	Lajitas Array	78.65	60	P		P	02 48 41.7	+0.8
TXAR	Lajitas Array	78.65	60	P		P	02 48 41.7	+0.8
ZST	Bratislava	78.79	331	*eP*		P	02 48 42.4	+1.1
ZST	Bratislava	78.79	331	*eP*		P	02 48 42.4	+1.1
BR131	Keskin Array S	78.90	316	P		P	02 48 42.7	+0.5
BR131				pmax	pmax			
	comp=Z,11nm,1.2s							
BR131	Keskin Array S	78.90	316	P		P	02 48 42.7	+0.4
BR131				IAmb	IAmb		02 48 44.4	
	comp=Z,11nm,1.2s							
BRTR	Keskin Array B	78.90	316	P		P	02 48 42.8	+0.5
	comp=Z,2.8nm,0.9s,baz=62,slow=3.4,SNR=18							
BRTR				LR	LR		03 29 20.4	
	comp=Z,103nm,18.2s,baz=38,slow=40							
BRTR	Keskin Array B	78.90	316	P		P	02 48 42.7	+0.4
GZR	Gura Zlata	79.10	326	⇓P		P	02 48 43.7	+0.6
KHC	Kasperske Hory	79.12	334	*eP*		P	02 48 43.6	+0.5
KHC				*e*			02 48 47.6	
KHC				*e*			02 48 56.7	
KHC	Kasperske Hory	79.12	334	*eP*		P	02 48 43.6	+0.5
KHC				*ex*	x		02 48 47.6	
KHC				*ep*P		pP	02 48 56.7	+2.7
CKRC	Cesky Krumlov	79.17	333	*eP*		P	02 48 42.8	-0.6
CKRC				*ex*	x		02 48 47.6	
GRF	Grafenberg Arr	79.33	335	*eP*		P	02 48 45.1	+0.9
	comp=Z,17nm,1.8s,baz=27,slow=4.9							
GEC2	GERESS Array S	79.33	334	P		P	02 48 44.8	+0.5
GERES	GERESS Array B	79.33	334	P		P	02 48 44.9	+0.5
	comp=Z,0.9nm,0.6s,baz=37,slow=5.7,SNR=11							
BZS	Buzias	79.36	327	⇓P		P	02 48 44.9	+0.4
CONA	Conrad Observa	79.44	332	*eP*		P	02 48 45.8	+0.9
	comp=Z,8.8nm,1.1s							
MDUB	Mudurnu	79.48	318	P		P	02 48 45.1	-0.2
U40A	Yellville	79.61	48	P		P	02 48 46.7	+0.7
U40A				IAmb	IAmb		02 49 00.9	
	comp=Z,8.4nm,1.1s							
BMRD	Maredsous	80.52	340	*dP*		P	02 48 51.0	+0.5
BMRD				*dp*P		sP	02 49 04.8	-0.9
BMRD				*dx*	x		02 49 15.1	
SOKA	Soboth	80.81	332	*eP*		P	02 48 52.8	+0.5
	comp=Z,6.3nm,1.0s							
KBA	Koelnbreinsper	81.01	333	*eP*		P	02 48 55.4	+1.9
	comp=Z,15nm,1.2s							
VTS	Vitosha	81.23	325	⇑P		P	02 48 55.7	+1.0
VTS	Vitosha	81.23	325	P		P	02 48 55.0	+0.2
VTS	Vitosha	81.23	325	P		P	02 48 55.0	+0.2
VTS				IAmb	IAmb		02 48 57.8	
	comp=Z,13nm,1.1s							
DIVS	Divibare	81.27	327	P		P	02 48 55.1	+0.3
WATA	Walderalm	81.33	334	*i* P		P	02 48 56.0	+0.8
	comp=Z,15nm,1.5s							
WTTA	Wattenberg	81.38	334	*i* P		P	02 48 56.4	+0.9
	comp=Z,10nm,1.0s							
RETA	Reutte	81.44	335	*eP*		P	02 48 57.3	+1.6
	comp=Z,6.8nm,1.0s							
ALN	Alexandroupoli	81.47	322	P		P	02 48 56.3	+0.5
ALN				pmax	pmax			
	comp=Z,11nm,1.3s							
ALN	Alexandroupoli	81.47	322	P		P	02 48 56.3	+0.5
ALN				IAmb	IAmb		02 48 58.8	
	comp=Z,11nm,1.3s							
MOTA	Moosalm	81.47	334	*i* P		P	02 48 57.5	+1.6
	comp=Z,18nm,1.4s							
ABTA	Abfaltersbach	81.56	333	*eP*		P	02 48 59.1	+2.7
	comp=Z,6.2nm,1.1s							
ECH	Echery	81.82	337	P		P	02 48 58.1	+0.5
ECH				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ECH	Echery	81.82	337	P		P	02 48 58.1	+0.5
ECH				IAmb	IAmb		02 48 59.8	
	comp=Z,4.5nm,0.9s							
FETA	Feichten	81.87	335	*eP*		P	02 48 58.4	+0.3
	comp=Z,9.2nm,1.1s							
DAVA	Damuels	81.89	335	*i* P		P	02 48 59.3	+1.2
	comp=Z,8.5nm,1.0s							
PDG	Podgorica	82.97	327	P		P	02 49 04.1	+0.4
PDG				IAmb	IAmb		02 49 11.5	
	comp=Z,8.2nm,1.0s							
ELL	Elmali	83.05	317	P		P	02 49 04.8	+0.4
ELL				pmax	pmax			
	comp=Z,20nm,0.9s							
ELL	Elmali	83.05	317	P		P	02 49 04.8	+0.4
T50A	Nancy	83.11	43	P		P	02 49 05.0	+0.5
T50A				IAmb	IAmb		02 49 06.6	
	comp=Z,10nm,1.2s							
MMAI	Mount Meron Ar	83.20	311	P		P	02 49 05.2	0.0
	comp=Z,11nm,0.9s,baz=31,slow=7.0,SNR=11							
SENIN	Lac Senin/Sane	83.47	336	P		P	02 49 06.8	+0.3
SENIN				IAmb	IAmb		02 49 11.7	
	comp=Z,7.6nm,1.1s							
RAYN	Ar Rayn	84.50	298	P		P	02 49 11.4	-0.5
RAYN				pmax	pmax			
	comp=Z,13nm,1.3s							
RAYN	Ar Rayn	84.50	298	P		P	02 49 11.4	-0.5
RAYN				IAmb	IAmb		02 49 14.5	
	comp=Z,13nm,1.3s							
NRCA	Norcia	84.84	331	P		P	02 49 13.4	+0.1
NRCA				IAmb	IAmb		02 49 15.5	
	comp=Z,10nm,1.0s							
AQU	L'Aquila	85.17	331	P		P	02 49 15.2	+0.3
AQU				pmax	pmax			
	comp=Z,20nm,1.1s							
AQU	L'Aquila	85.17	331	P		P	02 49 15.2	+0.3
INTR	Introdacqua	85.30	330	P		P	02 49 16.0	+0.4
INTR				IAmb	IAmb		02 49 18.0	
	comp=Z,10.0nm,0.9s							
EIL	Elat	86.04	309	P		P	02 49 20.9	+1.4
	comp=Z,9.7nm,1.0s,baz=95,slow=0.8,SNR=7.9							
IDI	Anoyia	86.60	319	P		P	02 49 22.6	+0.4
TIP	Timpagrande	86.73	327	P		P	02 49 22.8	+0.1
KEST	Kesra	92.49	331	P		P	02 49 50.6	+0.7
	comp=Z,5.8nm,1.0s,baz=292,slow=9.9,SNR=4.3							
KEST	Kesra	92.49	331	P		P	02 49 49.3	-0.6
ESDC	Sonseca Array	92.58	342	P		P	02 49 49.3	-0.9
	comp=Z,1.0nm,1.0s,baz=0.0,slow=4.4,SNR=4.4							
ESDC				LR	LR		03 36 59.6	
	comp=Z,28nm,19.3s,baz=190,slow=39							
ESDC	Sonseca Array	92.58	342	P		P	02 49 48.7	-1.5
ESDC				IAmb	IAmb		02 49 50.8	
	comp=Z,2.9nm,1.3s							
KMBO	Kilima Mbogo	108.13	288	PKiKP		PKiKP	02 55 06.0	-1.2
	comp=Z,2.4nm,1.1s,baz=128,slow=1.8,SNR=3.6							
LPAZ	La Paz	135.46	63	PKP		PKiKP	02 56 01.9	+0.7
	comp=Z,0.6nm,0.7s,baz=131,slow=2.4,SNR=3.5							
CPUP	Villa Florida	149.61	61	PKPbc		PKPbc	02 56 27.9	-0.1
	comp=Z,1.0nm,0.6s,baz=345,slow=1.4,SNR=3.5							
CPUP	Villa Florida	149.61	61	PKHKP		PKPdf	02 56 24.3	+0.8
CPUP	Villa Florida	149.61	61			PKPdf	02 56 24.3	+0.8

NEIC ***16*** *02:45:24.9±1.7, 4˚.12N±0˚.06×126˚.57E±0˚.08, h93km±5km, mb4.7/33, Error ellipse: s-maj=11.8km s-min=8.4km az=60.0*

BJI ***16*** *02:45:25.4±0.0, 4˚.28N×126˚.45E, h103km, mB4.9/20, mb4.8/36*

IDC ***16*** *02:45:26.5±1.3, 4˚.08N×126˚.48E, h115km±12km, mb4.0/20, mb1 4.1/23, mb1mx4.0/39, mbtmp4.4/23, MS2.9/2, Ms1 2.9/2, ms1mx2.5/32, Error ellipse: s-maj=20.8km s-min=8.4km az=76.0*

DJA ***16*** *02:45:27.1±0.5, 4˚.N±4˚×12˚.7E±˚, h74km±7km, M4.8/15, mB5.2/7, mb4.7/15, MLv4.9/13, Mw(mB)4.6/7*

ISC 16 02:45:24.7±0.4, **4˚.06N**±0˚.04×**126˚.55E**±0˚.06, **h100**km, **n119, σ1ş76**/132, **mb4.7**/51, **2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.08	250	P	Pn	02 45 46.3	+0.2
SGSI				S	Sn	02 46 02.6	+0.4
GAMI	Galela, Maluku	2.53	151	P	Pn	02 46 04.1	-0.2
GAMI				S	Sn	02 46 32.4	-2.3
DAV	Davao City (W)	3.14	342	P	Pn	02 46 15.7	+3.3
	73nm,0.3s,baz=44,slow=11,SNR=4.8						
DAV				S	Sn	02 46 50.4	+1.3
	77nm,0.3s,baz=138,slow=21,SNR=2.0						
DAV	Davao City (W)	3.14	342	Pn	Pn	02 46 12.3	-0.1
DAV	Davao City (W)	3.14	342	P	Pn	02 46 16.0	+3.6
KCP	Kidapawan	3.27	334	⇓*e*P	Pn	02 46 15.0	+0.8
KCP				*i* S	Sn	02 46 52.9	+0.6
TNTI	Ternate	3.37	166	Pn	Pn	02 46 16.0	+0.5
TNTI				Sn	Sn	02 46 56.0	+1.4
TNTI	Ternate	3.37	166	P	Pn	02 46 15.8	+0.3
TNTI				S	Sn	02 46 53.5	-1.2
BUKP	Musuan	4.07	339	⇓*e*P	Pn	02 46 25.3	+0.4
BUKP				*i* S	Sn	02 47 17.8	+6.1
KMSI	Cibinong	4.31	217	P	Pn	02 46 30.0	+1.8
LBMI	Labuha	4.77	168	P	Pn	02 46 35.4	+1.1
PAGZ	Pagadian	4.90	320	*eP*	Pn	02 46 36.0	-0.2
GTOI	Gorontalo	4.91	226	P	Pn	02 46 37.8	+1.6
MRSI	Marisa	5.82	232	P	Pn	02 46 50.8	+2.2
	2.1nm6μm529nm,0.6s						
SANI	Sanana	6.10	185	P	Pn	02 46 50.7	-1.7
	0.7nm3μm145nm,0.7s						
LUWI	Luwuk	6.32	217		Pn	02 46 57.4	+1.9
LUWI	Luwuk	6.32	217	P	Pn	02 46 58.9	+3.5
	1.3nm382nm,0.7s						
TOLI2	Tolitoli	6.46	243	Pn	Pn	02 46 57.1	-0.3
SWI	Sorong	6.79	136	P	Pn	02 47 02.8	+1.0
	0.2nm45nm,1.0s						
SIJI	Sorong	6.80	136	P	Pn	02 47 02.9	+0.8
	6.0nm,0.3s,baz=340,slow=11,SNR=11						
SIJI				S	Sn	02 48 16.8	-1.2
	4.2nm,0.3s,baz=198,slow=22,SNR=13						
SIJI	Sorong	6.80	136	P	Pn	02 47 02.8	+0.8
	0.1nm578nm17nm,0.8s						
NLAI	Namlea	7.27	176	P	Pn	02 47 08.3	-0.1
	1.0nm5μm142nm,0.7s						
KRAI	Karang Ratu	7.56	166	P	Pn	02 47 13.0	+0.7
	0.4nm60nm,0.4s						
MPSI

ENH	**Enshi**	**30.65**	**330**			**P**		**02 51 29.3**	**-0.5**
ENH				IAmb		IAmb		02 51 30.0	
	comp=Z,12nm,0.7s								
CHTO	**Chiang Mai**	**30.70**	**301**	P		**P**		**02 51 29.6**	**-0.8**
CHTO				IAmb		IAmb		02 51 32.0	
	comp=Z,6.8nm,0.7s								
KSRS	**Korea Array**	**33.26**	**2**	P		**P**		**02 51 53.4**	**+0.9**
	comp=Z,3.9nm,0.6s,baz=181,slow=9.8,SNR=11								
XAN	**Xi'an**	**34.04**	**333**	P		**P**		**02 51 58.1**	**-1.3**
XAN				pmax		pmax			
	comp=Z,14nm,0.7s								
MJAR	**Matsushiro Arr**	**34.06**	**17**	LR		LR		03 04 34.8	
	comp=Z,14nm,21.3s,baz=230,slow=34								
CD2	**Chengdu**	**34.27**	**324**	P		**P**		**02 52 02.0**	**+0.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
FORT	**Forrest**	**34.68**	**178**	P		**P**		**02 52 05.9**	**+1.0**
BJT	**Baijiatuan**	**37.00**	**347**			**P**		**02 52 24.6**	**0.0**
BJI	**Beijing**	**37.02**	**347**	P		**P**		**02 52 25.9**	**+1.1**
BJI				pmax		pmax			
	comp=Z,23nm,0.5s								
BBOO	**Buckleboo**	**37.77**	**167**	P		**P**		**02 52 31.4**	**+0.2**
BBOO				IAmb		IAmb		02 52 32.8	
	comp=Z,9.0nm,0.9s								
NWAO	**Narrogin (SRO)**	**37.83**	**193**	P		**P**		**02 52 33.0**	**+1.3**
NWAO				IAmb		IAmb		02 52 33.6	
	comp=Z,11nm,0.8s								
LZH	**Lanzhou**	**38.13**	**330**	*eP*		**P**		**02 52 33.3**	**-1.1**
LZH				sP		sP		02 53 10.6	+3.2
LZH				*eS*		**S**		**02 58 20.3**	**0.0**
LZH				sS		sS		02 59 03.1	+4.0
LZH				SS		**SS**		**03 00 58.8**	**-13**
LZH				pmax		pmax			
	comp=Z,27nm,1.0s								
LZH				pmax		pmax			
	comp=Z,81nm,4.1s								
STKA	**Stephens Creek**	**38.50**	**159**	P		**P**		**02 52 38.8**	**+1.4**
	comp=Z,5.8nm,0.6s,baz=338,slow=7.9,SNR=15								
STKA	**Stephens Creek**	**38.50**	**159**	P		**P**		**02 52 38.5**	**+1.1**
HHC	**Hu-ho-hao-te**	**39.03**	**342**	*eP*		**P**		**02 52 43.8**	**+2.0**
HHC				pmax		pmax			
	comp=Z,14nm,0.7s								
HHC				pmax		pmax			
	comp=Z,66nm,4.3s								
SHL	**Shillong**	**39.53**	**306**	P		**P**		**02 52 45.8**	**-0.6**
USA0B	**Ussuriysk Arra**	**40.26**	**6**	P		**P**		**02 52 53.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**40.26**	**6**	P		**P**		**02 52 52.4**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=190,slow=6.9,SNR=11								
MDJ	**Mudanjiang**	**40.48**	**3**	P		**P**		**02 52 55.0**	**+1.4**
MDJ				pmax		pmax			
	comp=Z,13nm,0.8s								
MDJ				pmax		pmax			
	comp=Z,150nm,6.5s								
ARMA	**Armidale**	**41.84**	**147**	P		**P**		**02 53 04.4**	**-0.7**
ARMA				IAmb		IAmb		02 53 18.1	
	comp=Z,23nm,1.5s								
GTA	**Gaotai**	**42.72**	**329**	*eP*		**P**		**02 53 11.9**	**-0.3**
GTA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TAPN	**Taplejung**	**43.67**	**306**	*eP*		**P**		**02 53 19.6**	**-0.7**
	comp=Z,11nm,0.5s								
ODAN	**Odare**	**43.73**	**305**	*eP*		**P**		**02 53 20.5**	**-0.1**
	comp=Z,17nm,0.4s								
GUN	**Gumba**	**45.38**	**306**	*eP*		**P**		**02 53 33.4**	**-0.5**
	comp=Z,24nm,0.5s								
PKI	**Pulchoki**	**45.63**	**305**	*eP*		**P**		**02 53 35.1**	**-0.7**
	comp=Z,5.9nm,0.4s								
SONM	**Songino Array**	**46.93**	**341**	P		**P**		**02 53 45.9**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=153,slow=11,SNR=5.2								
KOLN	**Koldanda**	**47.19**	**305**	*eP*		**P**		**02 53 47.5**	**-0.4**
	comp=Z,42nm,0.6s								
DANN	**Dangsing**	**47.28**	**305**	*eP*		**P**		**02 53 48.0**	**-0.7**
	comp=Z,51nm,0.5s								
OUENC	**Ouen Island, N**	**47.36**	**126**	P		**P**		**02 53 50.9**	**+1.9**
OUENC				IAmb		IAmb		02 53 58.9	
	comp=Z,31nm,1.2s								
PYUN	**Piuthan**	**47.81**	**305**	*eP*		**P**		**02 53 52.4**	**-0.3**
	comp=Z,26nm,0.5s								
TLY	**Talaya**	**51.16**	**342**	P		**P**		**02 54 18.8**	**+1.3**
	comp=Z,2.3nm,0.5s,baz=217,slow=22,SNR=5.3								
TLY	**Talaya**	**51.16**	**342**	P		**P**		**02 54 17.6**	**0.0**
TLY				IAmb		IAmb		02 54 19.3	
	comp=Z,3.5nm,0.6s								
WMQ	**Urumqi**	**52.35**	**325**	*eP*		**P**		**02 54 28.3**	**+1.7**
PETK	**Petropavlovsk-**	**55.19**	**22**	P		**P**		**02 54 46.1**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=213,slow=7.7,SNR=3.0								
MK31	**Makanchi Array**	**57.18**	**325**	P		**P**		**02 55 00.9**	**-0.4**
MK31				IAmb		IAmb		02 55 04.3	
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**57.18**	**325**	P		**P**		**02 55 00.9**	**-0.4**
	comp=Z,3.0nm,0.4s,baz=120,slow=7.8,SNR=46								
MKAR				pP		**pP**		**02 55 24.4**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=125,slow=9.2,SNR=3.5								
MKAR				PcP		**PcP**		**02 55 54.1**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=121,slow=3.1,SNR=4.7								
MKAR	**Makanchi Array**	**57.18**	**325**	P		**P**		**02 55 01.4**	**0.0**
MAKZ	**Makanchi**	**57.37**	**325**	P		**P**		**02 55 02.3**	**-0.4**
MAKZ				IAmb		IAmb		02 55 04.0	
	comp=Z,4.7nm,1.1s								
ZALV	**Zalesovo Beam**	**60.21**	**333**	P		**P**		**02 55 21.1**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=126,slow=6.8,SNR=8.8								
GAR	**Garm**	**61.56**	**313**	P		**P**		**02 55 30.9**	**-1.0**
GAR				IAmb		IAmb		02 55 32.9	
	comp=Z,8.7nm,0.9s								
KK31	**Karatay Array**	**62.87**	**317**	P		**P**		**02 55 40.1**	**-0.2**
KK31				pP		**pP**		**02 56 03.7**	**-0.6**
KKAR	**Karatay Array**	**62.87**	**317**	P		**P**		**02 55 40.0**	**-0.3**
KKAR				pP		**pP**		**02 56 00.8**	**-3.4**
NIUE	**Niue**	**66.56**	**113**	P		**P**		**02 56 05.0**	**+0.3**
BRVK	**Borovoye**	**67.02**	**327**	P		**P**		**02 56 06.5**	**-0.4**
BRVK				IAmb		IAmb		02 56 09.0	
	comp=Z,6.7nm,0.8s								
NRIK	**Noril'sk**	**70.06**	**346**	P		**P**		**02 56 26.0**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=141,slow=7.5,SNR=7.8								
ABKAR	**Abkulak array**	**71.78**	**321**	P		**P**		**02 56 35.9**	**-0.4**
ARU	**Arti**	**74.56**	**328**	P		**P**		**02 56 50.9**	**-1.7**
ARU				IAmb		IAmb		02 56 54.5	
	comp=Z,7.6nm,0.6s								
MLY	**Manley**	**83.26**	**25**	P		**P**		**02 57 41.2**	**+1.1**
VNDA	**Vanda**	**83.78**	**173**	P		**P**		**02 57 43.4**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=324,slow=5.9,SNR=5.7								
VNDA	**Vanda**	**83.78**	**173**	P		**P**		**02 57 44.1**	**+1.7**
ILAR	**Eielson Array**	**84.88**	**25**	P		**P**		**02 57 49.1**	**+0.9**
	comp=Z,0.4nm,1.0s,baz=258,slow=6.5,SNR=4.6								
ILAR	**Eielson Array**	**84.88**	**25**	P		**P**		**02 57 48.6**	**+0.4**
KLMR	**Klimovskoe**	**85.03**	**331**	*eP*		**P**		**02 57 47.8**	**-1.2**
KLMR				AMP				02 57 49.9	
	comp=Z,16nm,0.7s								
PAX	**Paxson**	**85.49**	**27**	P		**P**		**02 57 50.3**	**-1.1**
BRTR	**Keskin Array B**	**89.67**	**310**	P		**P**		**02 58 10.7**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=120,slow=4.5,SNR=5.9								
BRTR	**Keskin Array B**	**89.67**	**310**	P		**P**		**02 58 11.3**	**-0.7**
ARCES	**ARCESS Array B**	**90.08**	**340**	P		**P**		**02 58 11.6**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=60,slow=7.4,SNR=4.4								
FINES	**FINESS Array B**	**91.45**	**332**	P		**P**		**02 58 18.4**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=93,slow=3.8,SNR=4.9								
AKASG	**Malin Array Be**	**91.52**	**321**	P		**P**		**02 58 18.9**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=67,slow=4.7,SNR=9.2								
BURAR	**Bucovina Array**	**94.63**	**318**	P		**P**		**02 58 34.6**	**-0.1**
BURAR				IAmb		IAmb		02 58 35.6	
	comp=Z,2.9nm,0.7s								
NOA	**NORSAR Array B**	**98.41**	**334**	P		**P**		**02 58 49.6**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=66,slow=4.7,SNR=3.7								
GERES	**GERESS Array B**	**101.71**	**322**	P		**Pdif**		**02 59 06.0**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=62,slow=6.2,SNR=5.2								
TORD	**Torodi Ar. Bea**	**122.64**	**288**	PKP		**PKPdf**		**03 04 08.3**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=99,slow=1.1,SNR=2.7								

*IDC **16** 03:01:26.5±3.7, 10°.53N×41°.14W, h0km, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.5**/28, **mbtmp3.8**/4, **MS3.2**/4, **Ms1 3.2**/4, **ms1mx2.8**/29, **Error ellipse: s-maj=201.1km s-min=28.2km az=14.0, Northern Mid-Atlantic Ridge***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**19.61**	**283**	T	T	03 26 05.5	
	SNR=3.1						
H05N1	**Guadeloupe/Mar**	**20.20**	**289**	T	T	03 26 44.2	
	SNR=3.6						
H10N3	**ASCENSION HYDR**	**32.19**	**124**	T	T	03 41 52.7	
	baz=304,slow=75,SNR=37						
H10N2	**ASCENSION HYDR**	**32.20**	**123**	T	T	03 41 53.1	
	baz=304,slow=75,SNR=40						
H10N1	**ASCENSION HYDR**	**32.21**	**123**	T	T	03 41 54.3	
	baz=304,slow=75,SNR=41						
H10S3	**ASCENSION HYDR**	**32.70**	**125**	T	T	03 42 27.7	
	baz=304,slow=74,SNR=0.8						
H10S2	**ASCENSION HYDR**	**32.71**	**125**	T	T	03 42 33.9	
	baz=276,slow=74,SNR=15						
DBIC	**Dimbokro**	**36.07**	**93**	P	P	03 08 29.9	-0.3
	5.8nm,1.1s,baz=270,slow=6.1,SNR=3.5						
LPAZ	**La Paz**	**37.73**	**225**	LR	LR	03 23 23.4	
	comp=Z,30nm,21.7s,baz=48,slow=35						
CPUP	**Villa Florida**	**39.88**	**203**	LR	LR	03 25 34.3	
	comp=Z,45nm,18.2s,baz=231,slow=36						
TORD	**Torodi Ar. Bea**	**41.97**	**82**	P	P	03 09 19.9	+0.2
	1.2nm,0.7s,baz=280,slow=8.3,SNR=5.8						
TXAR	**Lajitas Array**	**61.01**	**298**	P	P	03 11 42.5	+0.1
	0.2nm,0.7s,baz=125,slow=7.8,SNR=3.8						
NOA	**NORSAR Array B**	**63.20**	**26**	LR	LR	03 34 07.2	
	comp=Z,12nm,21.3s,baz=10.0,slow=31						
PDAR	**Pinedale Array**	**67.09**	**312**	LR	LR	03 40 20.2	
	comp=Z,16nm,18.6s,baz=134,slow=35						
ILAR	**Eielson Array**	**87.15**	**336**	P	P	03 14 14.0	-0.3
	0.3nm,1.0s,baz=52,slow=3.7,SNR=2.5						

*IDC **16** 03:05:30.8±3.7, 2°.18N×128°.28E, h108km±36km, mb3.6/6, mb1 3.8/7, mb1mx3.4/41, mbtmp4.1/7, Error ellipse: s-maj=58.0km s-min=19.3km az=68.0*
*NEIC **16** 03:05:31.4±0.8, 2°.14N×0°.08×128°.1E±0°.1, h109km±8km, mb4.0/8, Error ellipse: s-maj=18.7km s-min=10.7km az=76.0*
ISC 16 03:05:29.8±1.1, 2°.2N±0°.1×128°.2E±0°.1, h100km, n25, σ0^{s}76/27, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.54**	**229**	P	**Pn**	**03 05 46.6**	**+0.7**
TNTI	**Ternate**	**1.64**	**210**		**Pn**	**03 05 58.8**	**+1.0**
TNTI	**Ternate**	**1.64**	**210**	P	**Pn**	**03 05 59.0**	**+1.2**
SWI	**Sorong**	**4.32**	**135**	P	**Pn**	**03 06 34.2**	**+0.9**
SIJI	**Sorong**	**4.32**	**135**	P	**Pn**	**03 06 34.4**	**+0.9**
	32nm,0.3s,baz=124,slow=23,SNR=35						
SIJI				S	**Sn**	**03 07 22.2**	**-0.6**
	4.7nm,0.3s,baz=146,slow=22,SNR=8.5						
SIJI	**Sorong**	**4.32**	**135**	P	**Pn**	**03 06 34.1**	**+0.7**
KRAI	**Karang Ratu**	**5.48**	**178**	P	Pn	03 06 55.0	+5.9
FAKI	**Fak Fak**	**6.50**	**141**		**Pn**	**03 07 03.7**	**+0.7**
TOLI2	**Tolitoli**	**7.49**	**262**		**Pn**	**03 07 16.7**	**+0.3**
KNRA	**Kununurra**	**17.77**	**178**		P	**03 09 31.2**	**+0.9**
KNRA				IAmb	IAmb	03 09 35.4	
	comp=Z,5.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.32**	**187**	P	P	**03 09 57.7**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=22,slow=13,SNR=1.6						
FITZ	**Fitzroy Crossi**	**20.32**	**187**	P	P	**03 09 57.4**	**-0.7**
WB0	**Warramunga Arr**	**22.66**	**165**	P	P	**03 10 22.9**	**+0.1**
WB0				IAmb	IAmb	03 10 23.2	
	comp=Z,4.9nm,0.6s						
WRAB	**Tennant Creek**	**22.80**	**165**	P	P	**03 10 24.4**	**+0.1**
WRAB				IAmb	IAmb	03 10 25.3	
	comp=Z,6.5nm,0.7s						
WRA	**Warramunga Arr**	**22.81**	**165**	P	P	**03 10 24.2**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=343,slow=10,SNR=80						
WRA	**Warramunga Arr**	**22.81**	**165**	P	P	**03 10 23.4**	**-1.1**
WB2	**Warramunga Arr**	**22.82**	**165**	P	P	**03 10 22.9**	**-1.6**
WR0	**Warramunga Arr**	**22.88**	**164**	P	P	**03 10 25.1**	**0.0**
WR0				IAmb	IAmb	03 10 26.0	
	comp=Z,7.8nm,1.0s						
XMIS	**Christmas Isla**	**25.73**	**240**	P	P	**03 10 50.0**	**-1.2**
ASAR	**Alice Springs**	**26.30**	**168**	P	P	**03 10 56.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=354,slow=8.1,SNR=25						
ASAR				PcP	**PcP**	**03 14 19.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=351,slow=1.6,SNR=4.5						
ASAR	**Alice Springs**	**26.30**	**168**	P	P	**03 10 55.8**	**-0.5**
ASAR					**PcP**	**03 14 19.7**	**-0.5**
STKA	**Stephens Creek**	**36.20**	**160**	P	P	**03 12 23.2**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=344,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**59.64**	**325**	P	**P**	**03 15 23.9**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=118,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**59.64**	**325**	P	**P**	**03 15 24.0**	**+0.5**
VNDA	**Vanda**	**81.73**	**173**	P	**P**	**03 17 36.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=316,slow=6.6,SNR=12						

*DJA **16** 03:06:34.7±1.7, 10°.5S±4°×10°.9E±°, h24km±16km, M4.6/12, mb4.8/7, mB5.2/2, MLv4.5/12, Mw(mB)4.6/2*
*NEIC **16** 03:06:36.3±1.7, 10°.14S±0°.05×108°.94E±0°.06, h25km±6km, mb4.3/4, Error ellipse: s-maj=8.6km s-min=7.1km az=60.0*
*IDC **16** 03:06:36.2±1.4, 9°.65S×109°.26E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.9/47, mbtmp4.0/14, ML3.9/3, MS3.1/7, Ms1 3.2/7, ms1mx2.9/36, Error ellipse: s-maj=40.7km s-min=16.7km az=42.0*
ISC 16 03:06:36.8±0.7, 10°.15S±0°.07×108°.93E±0°.06, h31km, n58, σ1^{s}63/58, mb4.1/11, MS3.1/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.73**	**35**		**Pn**	**03 07 18.3**	**-0.2**
UGM				Sn	**Sn**	**03 07 48.5**	**-2.0**
UGM	**Wanagama**	**2.73**	**35**	P	**Pn**	**03 07 18.3**	**-0.2**
KPJI	**Karang Pucung**	**2.80**	**360**	P	**Pn**	**03 07 19.2**	**-0.4**
CISI	**Cisompet, Garu**	**2.81**	**337**	Pn	**Pn**	**03 07 19.4**	**-0.3**
CISI				Sn	**Sn**	**03 07 50.8**	**-1.7**
CISI	**Cisompet, Garu**	**2.81**	**337**	P	**Pn**	**03 07 18.4**	**-1.3**
CISI				S	**Sn**	**03 07 51.4**	**-1.1**
PCJI	**Pacitan**	**2.95**	**49**	P	**Pn**	**03 07 20.9**	**-0.7**
CTJI	**Waduk Cacaban**	**3.14**	**5**	P	**Pn**	**03 07 24.0**	**-0.2**
XMIS	**Christmas Isla**	**3.25**	**264**	Pn	**Pn**	**03 07 25.8**	**+0.1**
CNJI	**Cibinong**	**3.34**	**328**	P	**Pn**	**03 07 24.5**	**-2.5**
CNJI				S	**Sn**	**03 08 05.8**	**+0.2**
SMRI	**Semarang**	**3.43**	**26**		**Pn**	**03 07 28.5**	**+0.3**
SMRI	**Semarang**	**3.43**	**26**	P	**Pn**	**03 07 28.5**	**+0.3**
PWJI	**Pagerwojo**	**3.54**	**53**	P	**Pn**	**03 07 29.2**	**-0.5**
LEM	**Lembang**	**3.55**	**338**	Pn	**Pn**	**03 07 30.3**	**+0.3**
	24nm,0.3s,baz=96,slow=6.2,SNR=24						
LEM				Sn	**Sn**	**03 08 12.7**	**+1.6**
	baz=216,slow=18,SNR=2.0						
LEM				LR	LR	03 09 16.0	
	comp=Z,439nm,20.6s,baz=174,slow=49						
LEM	**Lembang**	**3.55**	**338**	P	**Pn**	**03 07 29.6**	**-0.4**
SJI	**Sawahan**	**3.69**	**50**	P	**Pn**	**03 07 32.1**	**+0.3**
DBJI	**Dramaga**	**4.18**	**329**	P	**Pn**	**03 07 41.7**	**+3.2**
CGJI	**Cibinong**	**4.76**	**317**	P	**Pn**	**03 07 46.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**5.42**	**72**	Pn	**Pn**	**03 07 56.1**	**+0.6**
JAGI				Sn	**Sn**	**03 08 54.6**	**-2.2**
JAGI	**Jajag, Banyuwa**	**5.42**	**72**	P	**Pn**	**03 07 55.1**	**-0.4**
	0.7nm2µm239nm,0.8s						
BYJI	**Banyuwangi**	**5.69**	**71**	P	Pn	03 07 46.7	-13
ABJI	**Asem Bagus**	**5.74**	**66**	P	**Pn**	**03 08 00.9**	**+1.0**
	0.4nm2µm93nm,0.6s						
SRBI	**Singaraja**	**6.53**	**72**	P	**Pn**	**03 08 11.1**	**+0.3**
	0.4nm122nm,0.7s						
KHKI	**Kahang-Kahang**	**6.82**	**75**	P	**Pn**	**03 08 14.8**	**-0.1**
	69nm,0.7s						
KLNI	**Mataram**	**7.28**	**77**	P	**Pn**	**03 08 22.3**	**+1.2**
	0.2nm23nm,0.6s						
TWSI	**Taliwang, Sumb**	**7.97**	**80**	P	**Pn**	**03 08 30.4**	**-0.2**
	26nm,0.6s						
EGSI	**Enggano, Bengk**	**8.14**	**305**	P	**Pn**	**03 08 29.3**	**-3.6**
PLAI	**Plampang**	**8.82**	**82**	P	**Pn**	**03 08 43.3**	**+1.0**
	74nm,1.0s						
KSI	**Kapahiang**	**9.02**	**315**	P	Pn	03 08 32.2	-13
MTKI	**Muara Teweh, K**	**10.90**	**33**	P	**Pn**	**03 09 14.7**	**+3.8**
KAPI	**Kappang**	**11.88**	**65**	Pn	**Pn**	**03 09 20.9**	**-3.3**
	0.4nm,0.3s,baz=269,slow=18,SNR=2.1						
EDFI	**Ende, Flores**	**12.66**	**85**	P	**Pn**	**03 09 34.9**	**-0.1**
TTSI	**Tana Toraja**	**12.91**	**58**	P	Pn	03 09 43.2	+4.9
GIRL	**Giralia**	**13.42**	**158**	Pn	**Pn**	**03 09 43.7**	**-1.5**
TOLI2	**Tolitoli**	**16.26**	**47**	Pn	**Pn**	**03 10 22.8**	**-0.3**
TOLI2				IAmb	IAmb	03 10 37.1	
	comp=Z,16nm,0.8s						
MRSI	**Marisa**	**16.70**	**52**	P	**P**	**03 10 31.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.01**	**118**	P	**P**	**03 10 47.6**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=313,slow=9.5,SNR=6.0						
FITZ				S	Sn	03 13 50.1	-15
	comp=Z,0.1nm,0.3s,baz=269,slow=13,SNR=2.5						
FITZ				LR	LR	03 19 15.1	
	comp=Z,39nm,18.5s,baz=292,slow=42						
FITZ	**Fitzroy Crossi**	**18.01**	**118**		**P**	**03 10 45.5**	**+0.2**
SIJI	**Sorong**	**24.05**	**69**	P	**P**	**03 11 47.5**	**-1.9**
	comp=Z,2.6nm,0.3s,baz=322,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**26.36**	**115**	P	**P**	**03 12 13.7**	**+3.2**
	comp=Z,1.0nm,0.9s,baz=267,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**27.35**	**123**	P	**P**	**03 12 24.1**	**+4.7**
	comp=Z,0.7nm,0.5s,baz=299,slow=9.6,SNR=8.9						
CMAR	**Chiang Mai Arr**	**30.09**	**341**	P	**P**	**03 12 43.9**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=178,slow=9.0,SNR=7.2						
CMAR				LR	LR	03 26 57.1	
	comp=Z,44nm,20.1s,baz=203,slow=41						
CMAR	**Chiang Mai Arr**	**30.09**	**341**	P	**P**	**03 12 43.2**	**-0.5**
PALK	**Pallekele**	**33.02**	**301**	LR	LR	03 24 54.4	
	comp=Z,45nm,19.2s,baz=253,slow=33						
KSRS	**Korea Array**	**50.59**	**20**	LR	LR	03 41 14.7	
	comp=Z,11nm,18.1s,baz=216,slow=42						
MJAR	**Matsushiro Arr**	**54.00**	**29**	P	**P**	**03 15 58.9**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=208,slow=8.8,SNR=2.7						
MJAR				LR	LR	03 38 36.7	
	comp=Z,15nm,20.9s,baz=130,slow=36						
SONM	**Songino Array**	**57.77**	**358**	P	**P**	**03 16 26.3**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=181,slow=7.7,SNR=7.1						
SONM				LR	LR	03 43 21.7	
	comp=Z,27nm,18.5s,baz=86,slow=38						
SONM	**Songino Array**	**57.77**	**358**	P	**P**	**03 16 24.5**	**-0.6**
SONM				IAmb	IAmb	03 16 27.8	
	comp=Z,2.8nm,0.9s						
ULN	**Ulaanbaatar**	**57.78**	**359**	P	**P**	**03 16 24.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**58.00**	**19**	P	**P**	**03 16 26.5**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=82,slow=4.0,SNR=4.5						
USRK	**Ussuriysk Ar.**	**58.00**	**19**	P	**P**	**03 16 26.1**	**-0.5**
MKAR	**Makanchi Array**	**61.49**	**339**	P	**P**	**03 16 52.0**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=152,slow=7.5,SNR=22						
MKAR	**Makanchi Array**	**61.49**	**339**	P	**P**	**03 16 49.7**	**-0.9**
KLR	**Kul'dur**	**62.44**	**17**	P	**P**	**03 16 56.0**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=254,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**67.05**	**345**	P	**P**	**03 17 29.7**	**+2.8**
	comp=Z,1.2nm,0.5s,baz=185,slow=6.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**67.05**	**345**	P	**P**	**03 17 27.0**	**+0.2**
BRTR	**Keskin Array B**	**85.34**	**312**	P	**P**	**03 19 14.0**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=131,slow=6.6,SNR=3.0						
BRTR	**Keskin Array B**	**85.34**	**312**	P	**P**	**03 19 11.0**	**-0.3**
TXAR	**Lajitas Array**	**144.06**	**53**	PKhKP	PKPpre	03 26 08.7	
	comp=Z,0.2nm,0.7s,baz=181,slow=5.3,SNR=2.9						

*IDC **16** 03:18:43.0±2.8, 0°.60S×100°.56E, h101km±24km, mb3.6/7, mb1 3.6/8, mb1mx3.4/50, mbtmp3.9/8, Error ellipse: s-maj=72.6km s-min=15.9km az=56.0*
ISC 16 03:18:42.9±1.7, 0°.6S±0°.3×100°.5E±0°.4, h100km, n8, σ1^{s}10/9, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.71**	**334**	P	**Pn**	**03 19 39.1**	**+0.7**
	1.5nm,0.3s,baz=360,slow=2.5,SNR=4.4						
PSI				S	**Sn**	**03 20 20.0**	**-1.3**
	0.9nm,0.3s,baz=0.2,slow=17,SNR=1.5						
WRA	**Warramunga Arr**	**38.27**	**122**	P	**P**	**03 25 52.8**	**-1.0**
	0.4nm,0.3s,baz=303,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**39.68**	**128**	P	**P**	**03 26 04.6**	**-0.9**
	0.7nm,0.6s,baz=299,slow=7.9,SNR=9.2						
STKA	**Stephens Creek**	**49.71**	**133**	P	**P**	**03 27 26.0**	**+1.0**
	0.7nm,0.3s,baz=325,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**49.81**	**344**	P	**P**	**03 27 26.5**	**+1.0**
	0.3nm,0.4s,baz=151,slow=7.8,SNR=6.6						
USRK	**Ussuriysk Ar.**	**52.64**	**28**	P	**P**	**03 27 47.1**	**+0.4**
	0.9n

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.67**	**116**	LR	LR	03 30 49.1	
	comp=Z,1μm,18.9s,baz=294,slow=32						
TAOE	**Nuku Hiva Isla**	**27.68**	**300**	eLR	LR	03 40 02.2	
	comp=Z,487nm,26.9s						
TBI	**Tubuai**	**30.55**	**265**	eLR	LR	03 41 19.4	
	comp=Z,480nm,28.6s						
PPT2	**Papeete2**	**31.97**	**276**	eLR	LR	03 41 56.1	
	comp=Z,419nm,29.5s						
PPT	**Papeete**	**31.97**	**276**	LR	LR	03 42 40.8	
	comp=Z,238nm,18.7s,baz=106,slow=29						
H03N2	**Juan Fernandez**	**33.60**	**114**	T	T	04 09 13.8	
	baz=281,slow=75,SNR=132						
H03N3	**Juan Fernandez**	**33.61**	**114**	T	T	04 09 15.0	
	baz=281,slow=75,SNR=181						
H03N1	**Juan Fernandez**	**33.62**	**114**	T	T	04 09 15.0	
	baz=281,slow=75,SNR=238						
PLCA	**Paso Flores**	**41.22**	**125**	LR	LR	03 48 06.4	
	comp=Z,139nm,18.2s,baz=273,slow=30						
PB07	**IPOC Station P**	**42.41**	**96**	P	**P**	**03 35 09.8**	**-0.7**
LPAZ	**La Paz**	**45.46**	**89**	P	**P**	**03 35 35.9**	**+0.3**
	1.1nm,0.7s,baz=296,slow=5.0,SNR=6.6						
LPAZ				LR	LR	03 50 41.1	
	comp=Z,97nm,18.0s,baz=276,slow=31						
LPAZ	**La Paz**	**45.46**	**89**	P	**P**	**03 35 35.2**	**-0.4**
CMIG	**Matias Romero**	**46.04**	**29**	P	**P**	**03 35 39.0**	**-0.3**
	1.2nm,0.7s,baz=176,slow=3.8,SNR=2.7						
ROSC	**El Rosal**	**49.89**	**60**	LR	LR	03 54 17.6	
	comp=Z,165nm,18.0s,baz=276,slow=33						
CPUP	**Villa Florida**	**52.71**	**105**	LR	LR	03 54 42.6	
	comp=Z,78nm,20.7s,baz=244,slow=31						
AFI	**Afiamalu**	**53.37**	**270**	LR	LR	03 54 01.4	
	comp=Z,182nm,18.0s,baz=102,slow=30						
TXAR	**Lajitas Array**	**54.65**	**13**	P	**P**	**03 36 44.4**	**0.0**
	0.4nm,0.9s,baz=198,slow=5.6,SNR=2.8						
TXAR	**Lajitas Array**	**54.65**	**13**	P	**P**	**03 36 44.2**	**-0.2**
RAO	**Raoul Island**	**54.91**	**250**	LR	LR	03 54 01.8	
	comp=Z,150nm,21.7s,baz=264,slow=29						
MNTX	**Cornudas Mount**	**56.62**	**11**	P	**P**	**03 36 59.1**	**+0.7**
MNTX				IAmb	IAmb	03 37 11.3	
	comp=Z,10.0nm,1.6s						
JCT	**Junction City**	**56.66**	**17**	P	**P**	**03 36 59.2**	**+0.4**
URZ	**Urewera**	**57.66**	**239**	LR	LR	03 56 02.2	
	comp=Z,182nm,18.6s,baz=210,slow=30						
MSTX	**Muleshoe**	**59.32**	**13**	P	**P**	**03 37 17.4**	**0.0**
MSTX				IAmb	IAmb	03 37 18.0	
	comp=Z,5.9nm,0.9s						
SHPR	**Sheep Range**	**60.50**	**1**	P	**P**	**03 37 26.1**	**+0.5**
SHPR				IAmb	IAmb	03 37 39.9	
	comp=Z,11nm,1.3s						
U15A	**North Rim**	**60.52**	**3**	P	**P**	**03 37 26.8**	**+1.0**
U15A				IAmb	IAmb	03 37 39.9	
	comp=Z,9.4nm,1.2s						
PRN	**Pahroc Range**	**61.40**	**1**	P	**P**	**03 37 32.6**	**+1.0**
PRN				IAmb	IAmb	03 37 46.1	
	comp=Z,9.1nm,1.4s						
CCUT	**Cedar City**	**61.59**	**2**	P	**P**	**03 37 33.9**	**+0.8**
CCUT				IAmb	IAmb	03 37 47.4	
	comp=Z,9.5nm,1.2s						
MVCO	**Mesa Verde**	**61.61**	**7**	P	**P**	**03 37 34.1**	**+0.9**
MVCO				IAmb	IAmb	03 37 35.0	
	comp=Z,9.1nm,1.4s						
NVAR	**Mina Array Bea**	**62.45**	**358**	P	**P**	**03 37 38.7**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=192,slow=9.0,SNR=6.9						
NVAR	**Mina Array Bea**	**62.45**	**358**	P	**P**	**03 37 39.9**	**+1.1**
SDCO	**Great Sand Dun**	**62.52**	**9**	P	**P**	**03 37 39.6**	**+0.2**
SDCO				IAmb	IAmb	03 37 52.4	
	comp=Z,8.3nm,1.2s						
SPR3	**Spring Creek 3**	**63.00**	**1**	P	**P**	**03 37 43.5**	**+0.9**
Q16A	**Castle Valley**	**63.07**	**4**	P	**P**	**03 37 43.7**	**+0.8**
SRU	**San Rafael Swe**	**63.30**	**5**	P	**P**	**03 37 45.0**	**+0.5**
SRU				IAmb	IAmb	03 37 57.5	
	comp=Z,5.0nm,1.1s						
P17A	**Butcher Ranch,**	**63.65**	**5**	P	**P**	**03 37 46.9**	**+0.2**
P17A				IAmb	IAmb	03 37 59.9	
	comp=Z,6.3nm,1.0s						
ISCO	**Idaho Springs**	**64.52**	**9**	P	**P**	**03 37 53.1**	**+0.5**
VNDA	**Vanda**	**64.73**	**194**	P	**P**	**03 37 54.0**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=93,slow=4.5,SNR=4.7						
VNDA	**Vanda**	**64.73**	**194**	P	**P**	**03 37 54.0**	**+0.8**
RDMU	**Red Mountain**	**64.83**	**5**	P	**P**	**03 37 55.3**	**+0.8**
HWUT	**Hardware Ranch**	**65.72**	**4**	P	**P**	**03 38 02.0**	**+1.8**
BG3	**Lake Jocassee**	**66.82**	**29**	P	**P**	**03 38 07.3**	**+0.1**
BG3				IAmb	IAmb	03 38 17.6	
	comp=Z,4.4nm,0.8s						
P38A	**Dawn**	**66.99**	**19**	P	**P**	**03 38 07.7**	**-0.5**
P38A				IAmb	IAmb	03 38 14.8	
	comp=Z,6.4nm,0.7s						
PDAR	**Pinedale Array**	**67.01**	**5**	P	**P**	**03 38 08.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=169,slow=6.3,SNR=11						
K22A	**Casper**	**67.21**	**8**	P	**P**	**03 38 09.9**	**+0.2**
HLID	**Hailey**	**67.56**	**1**	P	**P**	**03 38 12.6**	**+0.7**
HLID				IAmb	IAmb	03 38 25.5	
	comp=Z,6.7nm,1.1s						
TPAW	**Teton Pass**	**67.63**	**4**	P	**P**	**03 38 12.4**	**-0.1**
TPAW				IAmb	IAmb	03 38 21.3	
	comp=Z,6.6nm,1.0s						
LOHW	**Long Hollow**	**67.78**	**4**	P	**P**	**03 38 13.7**	**+0.4**
PINE	**Pine Mountain**	**67.92**	**356**	P	**P**	**03 38 15.0**	**+0.8**
BMO	**Blue Mountains**	**68.84**	**359**	P	**P**	**03 38 20.2**	**+0.4**
YHH	**Holmes Hill**	**68.93**	**4**	P	**P**	**03 38 20.7**	**0.0**
RSSD	**Black Hills**	**68.98**	**9**	P	**P**	**03 38 20.6**	**-0.3**
G08A	**Pilot Rock**	**69.32**	**358**	P	**P**	**03 38 23.4**	**+0.6**
G08A				IAmb	IAmb	03 38 36.7	
	comp=Z,7.3nm,1.2s						
DZM	**Mont Dzumac**	**70.37**	**254**	eLR	LR	03 59 47.0	
	comp=Z,217nm,26.6s						
LAO	**LASA Array**	**71.22**	**7**	P	**P**	**03 38 34.6**	**+0.2**
LAO				IAmb	IAmb	03 38 46.7	
	comp=Z,14nm,1.4s						
F36A	**Milaca**	**72.78**	**16**	P	**P**	**03 38 44.0**	**+0.4**
F36A				IAmb	IAmb	03 38 56.0	
	comp=Z,6.5nm,1.0s						
G40A	**Rib Lake**	**73.15**	**19**	P	**P**	**03 38 45.7**	**-0.1**
SNAA	**Sanae**	**74.06**	**162**	P	**P**	**03 38 51.5**	**+0.4**
COWI	**Conover**	**74.22**	**19**	P	**P**	**03 38 52.1**	**0.0**
COWI				IAmb	IAmb	03 38 59.4	
	comp=Z,7.2nm,0.8s						
HNR	**Honiara**	**80.76**	**264**	LR	LR	04 09 53.8	
	comp=Z,58nm,18.3s,baz=70,slow=32						
DLBC	**Dease Lake**	**83.26**	**353**	P	**P**	**03 39 41.5**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**86.45**	**292**	T	T	05 15 50.9	
	baz=117,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy**	**86.46**	**292**	T	T	05 15 31.7	
	baz=117,slow=75,SNR=100						
H11S3	**WAKE ISLAND Hy**	**86.46**	**292**	T	T	05 15 39.5	
	baz=117,slow=75,SNR=72						
YKA	**Yellowknife Ar**	**86.51**	**1**	P	**P**	**03 39 57.7**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=170,slow=5.4,SNR=16						
STKA	**Stephens Creek**	**87.19**	**236**	P	**P**	**03 40 02.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=200,slow=23,SNR=1.8						
STKA				LR	LR	04 11 55.4	
	comp=Z,68nm,18.6s,baz=33,slow=31						
GRNC	**Granite Creek**	**87.29**	**348**	P	**P**	**03 40 02.3**	**+0.4**
GRNC				IAmb	IAmb	03 40 03.1	
	comp=Z,7.7nm,1.1s						
BARN	**Barnard Glacie**	**87.57**	**348**	P	**P**	**03 40 03.5**	**+0.2**
SVW2	**Sparrevohn**	**90.92**	**342**	P	**P**	**03 40 18.2**	**-0.5**
WRH	**Wood River Hil**	**91.94**	**347**	P	**P**	**03 40 25.0**	**+1.6**
WRH				IAmb	IAmb	03 40 25.4	
	comp=Z,7.5nm,1.5s						
PMG	**Port Moresby**	**92.30**	**259**	LR	LR	04 15 46.4	
	comp=Z,100nm,18.2s,baz=95,slow=32						
MDM	**Murphy Dome**	**92.40**	**347**	P	**P**	**03 40 24.8**	**-0.8**
MDM				IAmb	IAmb	03 40 25.8	
	comp=Z,5.7nm,1.2s						
ASAR	**Alice Springs**	**97.09**	**240**	P	**P**	**03 40 46.4**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=116,slow=4.2,SNR=2.5						
WRA	**Warramunga Arr**	**98.59**	**244**	P	Pdif	03 40 55.9	+0.9
	comp=Z,0.7nm,0.9s,baz=117,slow=4.5,SNR=3.5						
WRA				LR	LR	04 23 24.1	
	comp=Z,46nm,18.0s,baz=120,slow=34						
ZALV	**Zalesovo Beam**	**146.53**	**338**	PKPbc	**PKPdf**	**03 46 55.7**	**+0.6**
	comp=Z,4.4nm,0.8s,baz=316,slow=4.1,SNR=8.6						
ZALV	**Zalesovo Beam**	**146.53**	**338**		**PKPbc**	**03 46 55.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**146.97**	**267**	PKPbc	**PKPab**	**03 47 00.3**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=128,slow=0.7,SNR=9.5						
CMAR	**Chiang Mai Arr**	**146.97**	**267**	PKPdf	**PKPdf**	**03 46 57.1**	**+0.2**
BRTR	**Keskin Array B**	**150.23**	**52**	PKPbc	**PKPbc**	**03 47 06.3**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=253,slow=2.1,SNR=10						
BRTR	**Keskin Array B**	**150.23**	**52**	PKPdf	**PKPdf**	**03 47 02.4**	**+0.6**
MKAR	**Makanchi Array**	**153.19**	**331**	PKPbc	**PKPbc**	**03 47 12.1**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=46,slow=3.3,SNR=11						

IDC **16** *03:33:22.1±2.1, 10.26S×118.59E, h0km, mb3.4/1, mb1 3.6/6, mb1mx3.4/32, mbtmp3.5/6, ML3.5/5, Error ellipse: s-maj=48.5km s-min=22.5km az=62.0*

DJA **16** *03:33:25.6±0.8, 10.8S×11.9E±°, h10km, M3.6/6, mb4.0/1, MLv3.4/6*

ISC 16 03:33:23.7±1.0, 10.32S±0.07×118.73E±0.06, h10km, n14, σ1.967/18, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.94**	**44**	P	**Pg**	**03 33 41.1**	**-0.6**
PLAI	**Plampang**	**1.76**	**328**	P	**Pn**	**03 33 54.1**	**-0.1**
PLAI				S	**Sb**	**03 34 17.9**	**-0.2**
BASI	**Baing, Sumba**	**1.82**	**87**	Pg	**Pg**	**03 33 59.4**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.41**	**311**	P	**Pn**	**03 34 05.1**	**+1.9**
KLNI	**Mataram**	**3.21**	**306**	P	**Pn**	**03 34 16.1**	**+1.9**
EDFI	**Ende, Flores**	**3.31**	**62**	P	**Pn**	**03 34 16.9**	**+1.2**
BSSI	**Bau Bau, Buton**	**4.50**	**23**	P	**Pn**	**03 34 33.2**	**+1.2**
BATI	**Baumata**	**4.86**	**89**	Pn	**Pn**	**03 34 37.1**	**+0.3**
	6.2nm,0.3s,baz=174,slow=7.0,SNR=1.8						
BATI				Sn	**Sn**	**03 35 33.2**	**0.0**
	3.9nm,0.3s,baz=212,slow=21,SNR=1.9						
KAPI	**Kappang**	**5.37**	**11**	Pn	**Pn**	**03 34 45.2**	**+1.3**
	2.6nm,0.3s,baz=212,slow=11,SNR=12						
KAPI				Sn	**Sn**	**03 35 45.5**	**-0.3**
	3.9nm,0.3s,baz=257,slow=13,SNR=7.0						
KAPI	**Kappang**	**5.37**	**11**	P	**Pn**	**03 34 45.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**10.23**	**140**	Pn	**Pn**	**03 35 52.9**	**+2.3**
	0.3nm,0.3s,baz=324,slow=7.5,SNR=9.8						
FITZ				Sn	**Sn**	**03 37 41.2**	**-4.2**
	0.1nm,0.3s,baz=246,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**17.83**	**124**	P	**Pn**	**03 37 32.1**	**-0.1**
	0.1nm,0.3s,baz=298,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**19.64**	**134**	P	**Pn**	**03 37 55.4**	**+1.4**
	0.1nm,0.3s,baz=310,slow=9.0,SNR=8.4						
MKAR	**Makanchi Array**	**65.51**	**333**	P	**P**	**03 44 05.9**	**-1.4**
	0.3nm,0.7s,baz=148,slow=8.5,SNR=2.8						

KISR **16** *03:35:16.8±0.3, 30.53N×49.18E, h267km±24km, ML3.6*

THR **16** *03:35:20.3±0.3, 31.66N×49.13E, h14km±4km, ML3.0*

TEH 16 03:35:20.0, 31.65N×49.13E, h12km, ML3.1, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.52**	**233**	*e*Pg	Pb	03 35 30.9	-0.2
SHGR	**Shooshtar-Gavs**	**0.54**	**329**	*e*Pg	Pg	03 35 30.5	0.0
SHGR				IAML		03 35 40.6	
	comp=E,955nm,0.3s						
SHGR				IAML		03 35 41.3	
	comp=N,1μm,0.5s						
SHGR	**Shooshtar-Gavs**	**0.54**	**329**	*e*Pg	Pg	03 35 30.5	0.0
ABEH	**Behbahan**	**1.42**	**137**	*e*Pg	Pn	03 35 46.0	+0.3
SHK1	**Shahrekord**	**1.64**	**65**	*e*Pn	Pb	03 35 50.6	+0.3
SHK1				*e*		03 36 23.2	
	comp=Z,1μm,0.4s						
IPIR	**Pirpir**	**1.82**	**55**	*e*Pn	Pb	03 35 53.6	+0.2
IPIR				*e*		03 36 20.5	
	comp=Z,3μm,0.6s						
BMDN	**Meydan**	**2.03**	**353**	*e*Pn	Pn	03 35 55.4	+1.1
BMDN				*e*		03 36 35.8	
	comp=Z,2μm,0.7s						
IKFM	**Kafar-mosalman**	**2.16**	**330**	*e*Pn	Pb	03 35 57.7	-1.4
KHMZ	**Khomeyn**	**2.20**	**18**	*e*Pn	Pb	03 35 58.4	-1.4
KHMZ	**Khomeyn**	**2.20**	**18**	*e*Pn	Pb	03 35 58.4	-1.5
KLNJ	**Kolanjah**	**2.20**	**106**	*e*Pn	Pb	03 35 58.6	-1.4
KLNJ				*e*		03 36 34.9	
	comp=Z,2μm,0.4s						
IDOB	**Doab**	**2.28**	**340**	*e*Pn	Pn	03 35 59.0	+1.3
MIB	**Mutribah**	**2.40**	**220**	*e*P	Pb	03 36 01.4	-1.7
UMR	**Umm Al-Rimmam**	**2.42**	**211**	*e*P	Pn	03 36 00.2	+0.8
UMR				*e*S	Sb	03 36 32.6	-0.6
UMR				IAML		03 36 36.2	
	comp=Z,200nm,0.4s						
IGAR	**Gharneh**	**2.58**	**72**	*e*Pn	Pn	03 36 04.1	+2.2
IGAR				*e*		03 36 43.2	
	comp=Z,822nm,0.3s						
HSAM	**Samen**	**2.59**	**350**	*e*Pn	Pn	03 36 03.7	+1.6
IKLH	**Kolahrood**	**2.66**	**51**	*e*		03 36 06.1	
	comp=Z,1μm,0.2s						
IKLH				*e*Pn	Pb	03 36 05.3	-2.4
IRAM	**Ramesheh**	**2.77**	**86**	*e*		03 36 50.2	
	comp=Z,308nm,0.4s						
IRAM				*e*Pn	Pn	03 36 06.8	+2.3
QAMS	**Qamsar**	**2.83**	**42**	*e*		03 36 51.7	
	comp=Z,854nm,0.5s						
QAMS				*e*Pn	Pn	03 36 07.7	+2.5
IZEF	**Zefreh**	**2.98**	**64**	*e*		03 36 11.6	
	comp=Z,287nm,0.2s						
IZEF				*e*Pn	Pn	03 36 09.2	+1.8
ASAO	**Ashtian**	**2.99**	**14**	*e*Pn	Pn	03 36 09.3	+1.9
ASAO	**Ashtian**	**2.99**	**14**	*e*Pn	Pn	03 36 09.3	+1.9
IBZA	**Bozab**	**3.01**	**340**	*e*Pn	Pn	03 36 09.8	+2.0
HAGD	**Aghdareh**	**3.17**	**0**	*e*Pn	Pn	03 36 11.0	+1.1
HAGD				*e*		03 37 07.4	
	comp=Z,331nm,0.5s						
IALM	**Almabolaq**	**3.30**	**346**	*e*Pn	Pn	03 36 13.6	+1.8
NASN	**Na'in**	**3.32**	**69**	*e*Pn	Pn	03 36 14.1	+2.0
NASN	**Na'in**	**3.32**	**69**	*e*Pn	Pn	03 36 14.1	+2.0
GHVR	**GHOM**	**3.36**	**32**	*e*Pn	Pn	03 36 14.0	+1.6
GHVR				*e*Sg	Sb	03 37 03.7	+3.4
GHVR	**GHOM**	**3.36**	**32**	*e*Pn	Pn	03 36 14.0	+1.6
KRSH	**Karshahi**	**3.43**	**47**	*e*Pn	Pn	03 36 15.5	+2.1
KRSH				*e*		03 37 01.4	
	comp=Z,343nm,0.4s						
IQOM	**Qom**	**3.58**	**27**	*e*Pn	Pn	03 36 17.1	+1.6
ILIN	**Lien**	**3.73**	**331**	*e*Pn	Pn	03 36 19.0	+1.3
ISFB	**Sefidab**	**3.75**	**43**	*e*Pn	Pn	03 36 19.1	+1.3
IRAZ	**Razeghan**	**3.81**	**10**	*e*Pn	Pn	03 36 20.5	+1.8
IDHR	**Dehrash**	**3.81**	**324**	*e*Pn	Pn	03 36 21.6	+2.8
IDHR				*e*		03 37 09.4	
	comp=Z,672nm,0.3s						
ISAD	**Sadrabad**	**3.89**	**85**	*e*Pn	Pn	03 36 21.4	+1.6
IVRN	**Varamin**	**3.98**	**32**	*e*Pn	Pn	03 36 22.5	+1.5
ANAR	**Anarak**	**4.18**	**67**	*e*Pn	Pn	03 36 25.6	+1.9
IMEH	**Mehriz**	**4.69**	**92**	*e*Pn	Pn	03 36 32.9	+2.1
QSDN	**Sirdan**	**4.84**	**0**	*e*Pn	Pn	03 36 34.3	+1.4
ISHM	**Shahmirzad**	**5.41**	**39**	*e*Pn	Pn	03 36 42.6	+1.9

KLM **16** *03:41:38, 0.12S×123.56E, h114km, mb5.1*

NEIC **16** *03:41:38.8±1.5, 0.04S±0.06×123.28E±0.04, h120km±5km, mb4.8/101, Error ellipse: s-maj=8.7km s-min=5.4km az=191.0*

GCMT **16** *03:41:38.8±0.3, 0.01N±0.03×123.37E±0.04, h131km±3km, MW4.8/73, Moment Tension Solution. s22,c25; s73,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.78±.08; Mθθ=-1.42±.11; Mϕϕ-0.35±.15; Mrθ-0.06±.08; Mϕϕ-1.15±.09; Mϕr-0.43±.10; Best double couple: M=2.02500×10^16 NP1:ϕs70.00000°,δ42.00000°,λ109.00000°. NP2: ϕs226.00000°,δ50.00000°,λ74.00000°. Principal axes: T 1.8730, Plg77.0000°, Azm75.0000°; N 0.3060, Plg12.0000°, Azm236.0000°; P -2.1770, Plg4.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI **16** *03:41:39.0±0.0, 0.01N×123.30E, h132km, mB4.8/28, mb4.9/50*

IDC **16** *03:41:39.8±1.3, 0.02S×123.18E, h135km±11km, mb4.2/24, mb1 4.3/29, mb1mx4.2/43, mbtmp4.6/29, MS3.2/6, Ms1 3.3/6, ms1mx2.9/37, Error ellipse: s-maj=13.4km s-min=8.0km az=81.0*

DJA **16** *03:41:39.6±0.2, 0.5S±2.2×12.3E±°, h126km±2km, M4.9/33, mb4.8/33, mB5.3/15, MLv5.4/23, Mw(mB)4.7/15, MwMwp4.7/1, Mwp5.0/1*

ISC 16 03:41:40.0±0.5, 0.08S±0.04×123.27E±0.05, h139km±4km, n245, σ1.940/268, mb4.7/86, 3C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.75**	**340**	P	**Pn**	**03 42 01.2**	**-0.6**
KMSI	**Cibinong**	**0.97**	**48**	P	**Pn**	**03 42 02.0**	**-1.5**
LUWI	**Luwuk**	**1.08**	**207**		**Pn**	**03 42 02.3**	**-2.2**
LUWI				Sn	**Sn**	**03 42 19.2**	**-3.9**
LUWI	**Luwuk**	**1.08**	**207**	P	**Pn**	**03 42 02.6**	**-1.9**
MRSI	**Marisa**	**1.44**	**293**	P	**Pn**	**03 42 06.1**	**-2.0**
APSI	**Ampana**	**1.81**	**243**	P	**Pn**	**03 42 11.3**	**-1.0**
TOLI2	**Tolitoli**	**2.75**	**295**	Pn	**Pn**	**03 42 22.3**	**-1.5**
TOLI2				Sn	**Sn**	**03 42 54.6**	**-3.0**
SANI	**Sanana**	**3.35**	**126**	P	**Pn**	**03 42 27.7**	**-3.9**
MPSI	**Mapaga**	**3.39**	**277**	P	**Pn**	**03 42 32.0**	**0.0**
TNTI	**Ternate**	**4.19**	**78**	Pn	**Pn**	**03 42 40.9**	**-1.5**
TNTI	**Ternate**	**4.19**	**78**	P	**Pn**	**03 42 41.0**	**-1.5**
LBMI	**Labuha**	**4.27**	**97**	P	**Pn**	**03 42 42.7**	**-0.9**
SGSI	**Sangihe**	**4.37**	**31**	P	**Pn**	**03 42 43.9**	**-1.0**
KKSI	**Kolaka, Sulawe**	**4.37**	**202**	P	**Pn**	**03 42 44.0**	**-1.0**
TTSI	**Tana Toraja**	**4.53**	**229**	P	**Pn**	**03 42 47.5**	**+0.4**
GAMI	**Galela, Maluku**	**4.91**	**67**	P	**Pn**	**03 42 51.0**	**-1.1**
NLAI	**Namlea**	**4.95**	**129**	P	**Pn**	**03 42 52.2**	**-0.5**
BNSI	**Bone**	**5.33**	**216**	P	**Pn**	**03 42 58.7**	**+1.0**
	2.4nm4μm256nm,0.6s						
PMSI	**Majene**	**5.52**	**232**	P	**Pn**	**03 43 01.3**	**+1.1**
	1.8nm3μm148nm,0.7s						
SGKI	**Sangatta, Kali**	**5.68**	**265**	P	**Pn**	**03 43 02.4**	**0.0**
	2.0nm4μm286nm,0.8s						
KAPI	**Kappang**	**6.03**	**216**	P	**Pn**	**03 43 08.0**	**+0.9**
	16nm,0.3s,baz=51,slow=5.7,SNR=20						
KAPI				S	**Sn**	**03 44 14.3**	**-0.7**
	33nm,0.3s,baz=50,slow=22,SNR=10						
KAPI	**Kappang**	**6.03**	**216**	Pn	**Pn**	**03 43 07.5**	**+0.4**
KAPI					**Sn**	**03 44 13.2**	**-1.9**
KAPI	**Kappang**	**6.03**	**216**	P	**Pn**	**03 43 07.1**	**+0.1**
	1.4nm2μm195nm,1.1s						
KRAI	**Karang Ratu**	**6.05**	**122**	P	**Pn**	**03 43 07.2**	**-0.2**
	3.1nm24μm837nm,0.7s						
MKS	**Makassar**	**6.36**	**217**	P	**Pn**	**03 43 12.2**	**+0.7**
	2.0nm2μm289nm,1.0s						
BKB	**Balikpapan**	**6.47**	**260**	Pn	**Pn**	**03 43 13.4**	**+0.4**
BKB	**Balikpapan**	**6.47**	**260**	P	**Pn**	**03 43 13.4**	**+0.4**
	2.0nm5μm531nm,1.1s						
MSAI	**Masohi**	**6.53**	**120**	P	**Pn**	**03 43 13.2**	**-0.5**
	0.8nm1μm86nm,0.7s						
BSSI	**Bau Bau, Buton**	**6.63**	**205**	P	**Pn**	**03 43 16.0**	**+0.9**
	1.3nm2μm208nm,0.6s						
KCP	**Kidapawan**	**7.27**	**14**	*e*P	**Pn**	**03 43 25.7**	**+1.9**
DAV	**Davao City (W)**	**7.47**	**18**	P	**Pn**	**03 43 29.1**	**+2.8**
	38nm,0.3s,baz=123,slow=1.0,SNR=6.1						
DAV	**Davao City (W)**	**7.47**	**18**	Pn	**Pn**	**03 43 26.7**	**+0.3**
BNDI	**Bandanaira**	**7.97**	**124**	P	**Pn**	**03 43 32.8**	**-0.3**
	3.8nm1μm,0.6s						
SWI	**Sorong**	**8.03**	**96**	P	**Pn**	**03 43 33.4**	**-0.5**
	0.9nm2μm321nm,0.7s						
SIJI	**Sorong**	**8.04**	**96**	P	**Pn**	**03 43 33.5**	**-0.6**
	24nm,0.3s,baz=294,slow=10,SNR=36						
SIJI				S	**Sn**	**03 45 02.7**	**-0.9**
	4.7nm,0.3s,baz=101,slow=21,SNR=1.6						
SIJI	**Sorong**	**8.04**	**96**	P	**Pn**	**03 43 33.3**	**-0.8**
	0.3nm2μm75nm,0.9s						
BUKP	**Musuan**	**8.11**	**13**	*e*P	**Pn**	**03 43 36.9**	**+1.9**
MTKI	**Muara Teweh, K**	**8.41**	**264**	P	**Pn**	**03 43 40.6**	**+1.6**
	96nm,1.2s						
MMRI	**Maumere**	**8.56**	**187**	Pn	**Pn**	**03 43 42.1**	**+1.1**
MMRI	**Maumere**	**8.56**	**187**	P	**Pn**	**03 43 42.4**	**+1.4**
	2μm81nm,1.0s						
EDFI	**Ende, Flores**	**8.76**	**190**	P	**Pn**	**03 43 45.0**	**+1.3**
	852nm22nm,0.5s						
BBKI	**Banjar Baru**	**9.06**	**248**	P	**Pn**	**03 43 49.5**	**+1.7**
	67nm,0.7s						
FAKI	**Fak Fak**	**9.41**	**108**	Pn	**Pn**	**03 43 49.6**	**-2.8**
FAKI	**Fak Fak**	**9.41**	**108**	P	**Pn**	**03 43 50.8**	**-1.6**
	2μm122nm,0.8s						
SOEI	**Soe**	**9.66**	**174**	Pn	**Pn**	**03 43 56.0**	**0.0**
SOEI	**Soe**	**9.66**	**174**	P	Pn	03 44 02.9	+7.0
BATI	**Baumata**	**10.07**	**178**	P	**Pn**	**03 44 03.2**	**+1.9**
	4.0nm,0.3s,baz=88,slow=18,SNR=2.4						
BATI				LR	LR	03 48 13.8	
	comp=Z,330nm,20.6s,baz=290,slow=39						
PLAI	**Plampang**	**10.27**	**212**	P	**Pn**	**03 44 04.6**	**+0.8**
	51nm,1.3s						
STKI	**Sintang**	**11.79**	**271**	P	**Pn**	**03 44 26.0**	**+2.0

MORW IAmb IAmb 03 47 35.4
comp=Z,36nm,1.4s
CM04 Chiang Mai Arr 30.11 309 P **P** **03 47 40.0 +3.3**
comp=Z,7.9nm,0.8s
CM01 Chiang Mai Arr 30.14 309 P P 03 47 42.0 +5.1
comp=Z,8.6nm,0.6s
CM02 Chiang Mai Arr 30.16 309 P **P** **03 47 41.4 +4.2**
comp=Z,8.7nm,0.8s
CMAR Chiang Mai Arr 30.17 309 P **P** **03 47 38.4 +1.1**
comp=Z,4.4nm,0.6s,baz=132,slow=6.9,SNR=14
CMAR PcP **PcP** **03 50 36.4 +1.1**
comp=Z,2.4nm,0.6s,baz=176,slow=2.5,SNR=5.9
CMAR LR LR 04 01 40.1
comp=Z,34nm,19.1s,baz=168,slow=40
CMAR Chiang Mai Arr 30.17 309 P **P** **03 47 37.0 -0.3**
CMAR **PcP** **03 50 34.2 -1.0**
CM13 Chiang Mai Arr 30.18 309 P **P** **03 47 41.0 +3.7**
comp=Z,13nm,0.8s
CM15 Chiang Mai Arr 30.18 309 P **P** **03 47 42.0 +4.6**
CMMT Chiang Mai 30.37 310 P **P** **03 47 41.5 +2.5**
comp=Z,18nm,0.9s
CMMT Chiang Mai 30.37 310 P **P** **03 47 40.2 +1.1**
comp=Z,431nmcomp=Z,17nm,1.4s
CHTO Chiang Mai 30.38 310 P **P** **03 47 41.4 +2.3**
CHTO IAmb IAmb 03 47 43.1
comp=Z,13nm,0.8s
CHTO Chiang Mai 30.38 310 P **P** **03 47 41.2 +2.1**
comp=Z,10.0nm,0.8s
MHMT Maesarieng 30.81 307 P **P** **03 47 45.6 +2.8**
GYA Guiyang 30.85 330 ⇑P **P** **03 47 45.8 +2.5**
GYA sP sP 03 48 28.9 -0.4
GYA pmax pmax
comp=Z,4.0nm,0.8s
FORT Forrest 30.87 172 P **P** **03 47 43.9 +0.7**
WHN Wuhan 31.61 345 ⇑P **P** **03 47 52.9 +3.2**
NJ2 Nanjing 32.23 353 *e*P **P** **03 47 57.3 +2.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
JCJ Chichijima 32.57 32 P **P** **03 47 58.0 -0.2**
ENH Enshi 32.91 338 P **P** **03 48 01.2 +0.1**
ENH IAmb IAmb 03 48 12.5
comp=Z,17nm,0.7s
NWAO Narrogin (SRO) 33.16 189 P **P** **03 48 03.5 +0.2**
comp=Z,7.1nm,0.8s,baz=7.2,slow=7.2,SNR=6.0
JMN Monobe 35.08 15 P **P** **03 48 19.4 -0.4**
CD2 Chengdu 35.96 331 *e*P **P** **03 48 28.0 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
STKA Stephens Creek 36.07 153 P **P** **03 48 29.6 +1.3**
comp=Z,8.1nm,0.4s,baz=327,slow=8.5,SNR=32
STKA PcP **PcP** **03 50 52.1 +0.6**
comp=Z,2.1nm,0.8s,baz=262,slow=1.7,SNR=3.7
STKA Stephens Creek 36.07 153 P **P** **03 48 29.1 +0.9**
JHS Saijyo 36.09 14 P **P** **03 48 29.4 +0.9**
JHS IAmb IAmb 03 48 34.8
comp=Z,32nm,1.5s
XAN Xi'an 36.51 340 P **P** **03 48 33.1 +1.0**
XAN pmax pmax
comp=Z,19nm,0.8s
JWT Wachi 36.96 17 P **P** **03 48 35.6 -0.2**
INU Inuyama 37.51 19 P **P** **03 48 40.4 -0.1**
KSAR Wonju Array Be 37.58 6 P **P** **03 48 41.3 +0.3**
KSRS Korea Array 37.59 6 P **P** **03 48 41.2 +0.2**
comp=Z,6.6nm,0.6s,baz=183,slow=9.8,SNR=24
KSRS LR LR 04 03 35.9
comp=Z,42nm,21.8s,baz=185,slow=35
KS19 Wonju Array Si 37.64 6 P **P** **03 48 42.1 +0.6**
KS19 IAmb IAmb 03 48 46.3
comp=Z,5.4nm,0.7s
JGF Kuroka 37.85 19 P **P** **03 48 42.8 -0.6**
JGF IAmb IAmb 03 48 44.4
comp=Z,19nm,0.7s
MAJO Matsushiro 38.99 19 P **P** **03 48 51.6 -1.2**
MAT Matsushiro 38.99 19 P **P** **03 48 51.7 -1.1**
MJAR Matsushiro Arr 38.99 19 P **P** **03 48 51.8 -1.0**
comp=Z,31nm,0.7s,baz=190,slow=9.4,SNR=70
MJAR ScP **ScP** **03 54 35.7 -0.3**
comp=Z,1.3nm,0.6s,baz=185,slow=5.3,SNR=2.1
MJAR Matsushiro Arr 38.99 19 P **P** **03 48 51.6 -1.2**
LZH Lanzhou 40.26 335 *e*P **P** **03 49 00.1 -3.4**
LZH sP sP 03 49 44.3 -6.0
LZH pmax pmax
comp=Z,18nm,1.1s
JSD Sado 40.37 18 P **P** **03 49 03.3 -0.9**
ARMA Armidale 40.46 141 P **P** **03 49 05.9 +0.6**
ARMA IAmb IAmb 03 49 09.1
comp=Z,11nm,0.9s
JMM Marumori 41.07 21 P **P** **03 49 10.1 +0.1**
HHC Hu-ho-hao-te 42.10 347 *e*P **P** **03 49 18.6 +0.1**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,39nm,4.6s
TOO Toolangi 42.58 154 P **P** **03 49 22.7 +0.4**
TOO IAmb IAmb 03 49 26.3
comp=Z,27nm,1.1s
LSA Lhasa 42.59 317 P **P** **03 49 22.9 -0.1**
JTM Tenmabayashi 43.77 20 P **P** **03 49 30.7 -1.1**
USA0B Ussuriysk Arra 44.77 9 P **P** **03 49 39.4 -0.2**
USA0B IAmb IAmb 03 49 40.3
comp=Z,10nm,0.8s
USRK Ussuriysk Ar. 44.77 9 P **P** **03 49 39.5 -0.1**
comp=Z,5.8nm,0.5s,baz=191,slow=7.1,SNR=26
USRK Ussuriysk Ar. 44.77 9 P **P** **03 49 39.0 -0.6**
GTA Gaotai 44.78 334 ⇓P **P** **03 49 42.0 +2.0**
GTA sP sP 03 50 30.3 +3.2
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,110nm,5.3s
GTA L L
comp=Z,41nm,16.4s
GTA L L
comp=Z,68nm,15.6s
GTA L L
comp=Z,58nm,16.7s
MDJ Mudanjiang 44.86 6 P **P** **03 49 40.4 +0.1**
MDJ pmax pmax
comp=Z,26nm,0.7s
MDJ pmax pmax
comp=Z,42nm,4.1s
MDJ Mudanjiang 44.86 6 P **P** **03 49 39.8 -0.5**
MDJ IAmb IAmb 03 49 42.1
comp=Z,17nm,0.6s
ERM Erimo 45.59 21 P **P** **03 49 46.5 +0.4**
ERM IAmb IAmb 03 49 54.5
comp=Z,16nm,0.8s
JKA Kamikawa-asahi 47.26 19 P **P** **03 49 59.6 +0.5**
ULN Ulaanbaatar 49.79 346 P **P** **03 50 18.6 0.0**
ULN IAmb IAmb 03 50 20.5
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 49.79 346 P **P** **03 50 19.6 +0.9**
comp=Z,55nm,0.7s
YSS Yuzh-Sakhalins 49.85 17 P **P** **03 50 18.7 -0.2**
YSS IAmb IAmb 03 50 23.6
comp=Z,21nm,0.9s
SONM Songino Array 49.93 345 P **P** **03 50 19.6 0.0**
comp=Z,8.2nm,0.4s,baz=160,slow=9.4,SNR=27
SONM LR LR 04 12 16.6
comp=Z,29nm,19.4s,baz=42,slow=37
WMQ Urumqi 54.00 329 *e*P **P** **03 50 52.5 +2.7**
TLY Talaya 54.17 345 P **P** **03 50 51.0 +0.1**
TLY IAmb IAmb 03 50 54.2
comp=Z,5.6nm,0.6s
MSVF Nonsavu 56.63 111 P **P** **03 51 10.5 +1.4**
comp=Z,2.1nm,0.4s,baz=284,slow=23,SNR=4.6
MSVF Nonsavu 56.63 111 P **P** **03 51 08.9 -0.2**
MSVF IAmb IAmb 03 51 18.4
comp=Z,30nm,1.4s
NIL Nilore 57.64 311 P **P** **03 51 16.0 +0.1**
NIL IAmb IAmb 03 51 17.4
comp=Z,8.4nm,0.6s
KSH Kashi 58.41 318 *e*P **P** **03 51 21.9 +0.6**
KSH sP sP 03 52 09.3 -0.1
KSH L L
comp=Z,360nm,15.2s
KSH L L
comp=Z,310nm,13.0s
KSH L L
comp=Z,240nm,9.2s
MK31 Makanchi Array 58.82 328 P **P** **03 51 24.0 +0.1**
MKAR Makanchi Array 58.82 328 P **P** **03 51 23.7 -0.1**
comp=Z,2.9nm,0.5s,baz=121,slow=8.9,SNR=36
MKAR ScP **ScP** **03 55 57.8 -1.7**
comp=Z,1.0nm,0.8s,baz=125,slow=5.0,SNR=4.0

BOOM Boomskoye usch 59.97 321 P **P** **03 51 31.8 -0.2**
PEA0B Petropavlovsk- 60.25 23 P **P** **03 51 34.2 +0.7**
PETK Petropavlovsk- 60.25 23 P **P** **03 51 34.5 +0.9**
comp=Z,12nm,0.6s,baz=196,slow=6.1,SNR=20
PETK Petropavlovsk- 60.25 23 P **P** **03 51 34.1 +0.6**
RPZ Rata Peaks 60.78 142 P **P** **03 51 38.2 +0.9**
AAK Ala-Archa 60.96 321 P **P** **03 51 37.9 -0.8**
AAK IAmb IAmb 03 51 39.9
comp=Z,4.3nm,0.6s
KBL Kabul 61.19 310 P **P** **03 51 40.4 -0.1**
ARSB Arslanbob 61.29 319 P **P** **03 51 41.0 0.0**
ARSB IAmb IAmb 03 51 43.0
comp=Z,22nm,1.4s
TUWZ Tuamarina 61.48 139 P **P** **03 51 42.4 +0.3**
GAR Garm 62.05 315 P **P** **03 51 44.6 -1.5**
YAK Yakutsk 62.14 3 P **P** **03 51 45.0 -1.0**
BKZ Black Stump Fm 62.21 135 P **P** **03 51 47.0 -0.1**
URZ Urewera 62.27 134 P **P** **03 51 48.0 +0.7**
comp=Z,5.8nm,0.4s,baz=127,slow=21,SNR=7.2
URZ Urewera 62.27 134 P **P** **03 51 47.7 +0.4**
URZ IAmb IAmb 03 51 54.2
comp=Z,30nm,1.3s
ZALV Zalesovo Beam 62.49 336 P **P** **03 51 48.2 -0.3**
comp=Z,3.3nm,0.6s,baz=118,slow=5.7,SNR=6.4
ZALV Zalesovo Beam 62.49 336 P **P** **03 51 48.3 -0.2**
CHGR Chuyangaron 62.73 314 P **P** **03 51 49.7 -0.8**
CHGR IAmb IAmb 03 51 54.1
comp=Z,11nm,0.8s
MA2 Magadan 63.24 15 P **P** **03 51 54.0 +0.6**
KK31 Karatay Array 63.75 319 P **P** **03 51 56.8 -0.3**
KKAR Karatay Array 63.75 319 P **P** **03 51 57.4 +0.3**
CASY Casey 66.68 186 P **P** **03 52 15.8 +0.3**
CASY IAmb IAmb 03 52 17.1
comp=Z,22nm,1.2s
TIXI Tiksi 71.70 2 P **P** **03 52 44.9 -1.4**
TIXI IAmb IAmb 03 52 45.9
comp=Z,11nm,0.8s
KIWB Kanaga Island 71.76 34 P **P** **03 52 48.2 +1.2**
ABKAR Akbulak array 72.95 322 P **P** **03 52 53.0 -1.2**
NRIK Noril'sk 73.33 348 P **P** **03 52 54.3 -1.7**
comp=Z,4.6nm,0.7s,baz=126,slow=6.0,SNR=6.1
NRIK Noril'sk 73.33 348 P **P** **03 52 55.4 -0.6**
ATKA Atka Island 73.58 35 P **P** **03 52 58.0 +0.2**
AKTO Aktyubinsk 74.53 323 LR LR 04 28 03.6
comp=Z,11nm,21.0s,baz=122,slow=37
NIKH Nikolski High 76.90 35 P 03 53 16.8
baz=252
RAYN Ar Rayn 78.81 294 P **P** **03 53 27.8 -0.3**
AKUT Akutan 79.00 35 P **P** **03 53 29.1 +0.7**
MAW Mawson 79.01 200 P **P** **03 53 29.1 +0.9**
comp=Z,5.3nm,1.0s,baz=63,slow=7.1,SNR=6.3
MAW Mawson 79.01 200 P **P** **03 53 29.0 +0.8**
VNDA Vanda 80.13 172 P **P** **03 53 34.7 +0.6**
comp=Z,3.9nm,0.8s,baz=316,slow=6.2,SNR=31
VNDA Vanda 80.13 172 P **P** **03 53 34.8 +0.7**
FALS False Pass 80.51 34 P 03 53 36.5
baz=256
SBA Scott Base 81.08 172 P **P** **03 53 40.6 +1.5**
ANM Nome 82.14 24 P 03 53 45.4
baz=253
SDPT Sand Point 82.27 34 P 03 53 45.8
baz=259
GURO Guroymak-BITLI 83.19 309 P **P** **03 53 51.1 0.0**
GURO IAmb IAmb 03 53 53.1
comp=Z,5.3nm,0.7s
RDOG Red Dog Mine 84.06 21 P 03 53 56.5
baz=255
CHIR Chirikof Islan 85.06 34 P 03 54 00.4
baz=263
TTA Tatalina 85.84 27 P 03 54 04.1
baz=262
SII Sitkinak Islan 85.95 33 P **P** **03 54 05.2 +0.8**
SII Sitkinak Islan 85.95 33 P 03 54 05.2
baz=264,SNR=6.4
KMBO Kilima Mbogo 86.01 269 P **P** **03 54 04.3 -1.6**
comp=Z,0.5nm,0.3s,baz=38,slow=7.7,SNR=3.7
OHAK Old Harbor 86.51 33 P **P** **03 54 06.8 -0.2**
OHAK IAmb IAmb 03 54 08.7
comp=Z,23nm,1.2s
OHAK Old Harbor 86.51 33 P 03 54 07.2
baz=264,SNR=7.4
A21K Barrow 86.90 19 P 03 54 09.7
baz=261
KDAK Kodiak Island 86.94 32 P **P** **03 54 09.1 -0.1**
KDAK Kodiak Island 86.94 32 P 03 54 09.3
baz=265
KLMR Klimovskoe 87.01 331 *e*P **P** **03 54 07.5 -1.9**
KLMR AMP 03 54 08.9
comp=Z,16nm,0.7s
IMAR Indian Mountai 87.21 24 P **P** **03 54 10.9 +0.6**
H21K Melozitna Rive 87.56 24 P 03 54 12.3
baz=264
PPLA Purkeypile 87.57 27 P 03 54 12.0
baz=265
SYO Syowa Base 87.65 201 ⇓*e*P **P** **03 54 12.4 +0.1**
BRLK Bradley Lake 87.97 30 P **P** **03 54 13.4 -0.7**
BRLK IAmb IAmb 03 54 14.2
comp=Z,8.2nm,1.0s
BRSE Bradley Lake S 88.04 30 P 03 54 14.0
baz=266
BPAW Bear Paw Mtn. 88.20 26 P **P** **03 54 14.9 -0.2**
BPAW Bear Paw Mtn. 88.20 26 P 03 54 14.6
baz=266
MLY Manley 88.37 25 P **P** **03 54 16.2 +0.3**
MLY Manley 88.37 25 P 03 54 15.7
baz=266,SNR=7.3
TRF Thorofare Moun 88.47 27 P 03 54 16.2
baz=267
RC01 Rabbit Creek A 88.61 29 P 03 54 16.2
baz=267
SEW Seward 88.71 30 P 03 54 16.8
baz=268
COLD Coldfoot 88.72 23 P 03 54 17.6
baz=267,SNR=5.3
COLD Coldfoot 88.72 23 P **P** **03 54 18.1 +0.7**
COLD IAmb IAmb 03 54 18.9
comp=Z,4.2nm,0.8s
H23K Yukon River 88.92 24 P 03 54 18.5
baz=267,SNR=5.1
I23K Minto, Yukon-K 88.96 25 IAmb IAmb 03 54 19.2
comp=Z,5.3nm,0.8s
I23K P P **03 54 19.4 +0.9**
I23K Minto, Yukon-K 88.96 25 P 03 54 18.5
baz=268,SNR=9.2
TOLK Toolik Lake Re 89.03 21 P 03 54 18.9
baz=267
NEA2 Nenana 89.06 26 P 03 54 18.7
baz=268
MCK McKinley 89.09 26 P 03 54 19.0
baz=268
WAT2 Susitna Watana 89.22 27 P 03 54 18.8
baz=268,SNR=5.0
KNK Knik Glacier 89.24 29 P 03 54 19.4
baz=268
SML Sawmill 89.31 28 P **P** **03 54 20.4 0.0**
SML IAmb IAmb 03 54 20.8
comp=Z,6.2nm,0.8s
SML Sawmill 89.31 28 P 03 54 19.8
baz=269
WRH Wood River Hil 89.48 26 P **P** **03 54 20.7 -0.4**
H24K Noodor Dome 89.60 24 P 03 54 21.3
baz=269,SNR=6.0
WAT6 Susitna Watana 89.60 28 P 03 54 21.2
baz=269,SNR=8.0
CCB Clear Creek Bu 89.61 25 P **P** **03 54 21.4 -0.2**
BR131 Keskin Array S 89.76 310 P **P** **03 54 22.9 -0.2**
BRTR Keskin Array B 89.76 310 P **P** **03 54 21.6 -1.5**
comp=Z,1.1nm,0.7s,baz=122,slow=5.6,SNR=8.4
HDA Harding Lake 89.98 26 P **P** **03 54 22.0 -1.4**
HDA Harding Lake 89.98 26 P 03 54 22.2
baz=270
HDA P 03 54 22.2
baz=270
ILAR Eielson Array 90.01 25 P **P** **03 54 22.4 -1.2**
comp=Z,0.8nm,0.6s,baz=238,slow=5.3,SNR=15
M24K Tolsona, Glenn 90.33 28 P **P** **03 54 24.9 -0.3**
M24K IAmb IAmb 03 54 26.4
comp=Z,10nm,0.8s
M24K Tolsona, Glenn 90.33 28 P 03 54 25.3
baz=270
KLU Klutina 90.46 29 P 03 54 25.9
baz=271
PRP Porcupine Dome 90.58 25 P **P** **03 54 26.5 +0.2**
PRP Porcupine Dome 90.58 25 P 03 54 26.6
baz=271
HARP HAARP 90.80 28 P 03 54 27.9
baz=271
BMAR Burnt Mountain 90.90 23 P **P** **03 54 28.6 +0.9**
N25K Chitina, Valde 91.09 29 P **P** **03 54 29.2 +0.5**
N25K IAmb IAmb 03 54 29.9
comp=Z,3.8nm,0.8s
N25K Chitina, Valde 91.09 29 P 03 54 28.7
baz=272
BMRM Bremner River 91.11 29 P **P** **03 54 28.9 +0.1**
BMRM IAmb IAmb 03 54 29.7
comp=Z,5.6nm,0.9s
BMRM Bremner River 91.11 29 P 03 54 28.4
baz=272
SCRK Sand Creek 91.28 26 P **P** **03 54 29.6 0.0**
SCRK Sand Creek 91.28 26 P 03 54 29.4
baz=272
GLB Gilahina Butte 91.47 29 P **P** **03 54 30.3 -0.1**
GLB IAmb IAmb 03 54 32.5
comp=Z,4.8nm,1.1s
TGL Tana Glacier 91.98 29 P **P** **03 54 33.2 +0.3**
TGL IAmb IAmb 03 54 35.1
comp=Z,5.5nm,0.8s
K27K Chicken 92.12 26 P **P** **03 54 34.0 +0.7**
K27K IAmb IAmb 03 54 34.8
comp=Z,5.8nm,1.1s
K27K Chicken 92.12 26 P 03 54 34.4
baz=274
L27K Beaver Creek, 92.30 27 P **P** **03 54 34.8 +0.6**
L27K IAmb IAmb 03 54 36.8
comp=Z,3.6nm,0.9s
L27K Beaver Creek, 92.30 27 P 03 54 35.0
baz=274
BCAR Beaver Creek A 92.32 27 P **P** **03 54 35.2 +0.8**
EGAK Eagle 92.46 25 P 03 54 35.0
baz=275
GRNC Granite Creek 92.51 29 P **P** **03 54 35.3 -0.2**
GRNC IAmb IAmb 03 54 37.9
comp=Z,5.9nm,0.8s
BARN Barnard Glacie 92.53 29 P **P** **03 54 36.1 +0.5**
BARN IAmb IAmb 03 54 37.2
comp=Z,7.5nm,0.7s
AKASG Malin Array Be 92.63 321 P **P** **03 54 33.8 -2.1**
comp=Z,1.9nm,0.7s,baz=67,slow=4.9,SNR=6.3
CTG Chitna Glacier 92.70 29 P 03 54 36.8
baz=275
ARCES ARCESS Array B 92.80 340 P **P** **03 54 34.6 -1.7**
comp=Z,3.0nm,0.7s,baz=69,slow=4.9,SNR=4.3
ARCES LR LR 04 39 09.9
comp=Z,14nm,21.6s,baz=55,slow=37
MNK Minsk 93.20 324 *i* P **P** **03 54 34.8 -3.7**
comp=E,4.0nm,1.0s
MNK *i* P **P** **03 54 34.8 -3.7**
comp=N,13nm,0.8s
MNK *i* P **P** **03 54 34.8 -3.7**
comp=Z,2.0nm,0.7s,baz=266
MNK *i* PcP **PcP** **03 54 36.9 -2.1**
MNK *i* pP **pP** **03 55 12.2 -1.4**
MNK *i* PP **PP** **03 58 21.0 -2.7**
MNK *i* PPP PPP 04 00 19.8
MNK *i* S **SKSac** **04 04 56.6 -2.9**
MNK *i* ScS **S** **04 05 31.7 -1.8**
MNK *i* sS pS 04 06 01.8 -18
MNK *i* SS **SS** **04 11 48.3 -3.6**
MNK *i* SSS SSS 04 15 30.1
MNK *i* LRM MLR 04 34 42.0
comp=Z,205nm,24.5s
MNK *i* LRM MLR 04 34 47.2
comp=N,391nm,24.5s
MNK *i* LRM MLR 04 35 13.0
comp=E,15nm,11.6s
DAWY Dawson 93.29 26 P **P** **03 54 38.9 +0.1**
DAWY IAmb IAmb 03 54 40.1
comp=Z,5.3nm,1.1s
PINM Pinnacle 93.31 30 P 03 54 38.3
baz=276
FINES FINESS Array B 93.52 331 P **P** **03 54 38.3 -1.4**
comp=Z,2.6nm,0.9s,baz=46,slow=6.0,SNR=2.2
HYT Haines Junctio 94.58 29 P **P** **03 54 45.7 +0.8**
HYT IAmb IAmb 03 54 46.5
comp=Z,5.3nm,0.7s
INK Inuvik 94.95 21 P **P** **03 54 45.4 -0.8**
comp=Z,2.0nm,0.7s,baz=242,slow=4.5,SNR=4.1
INK Inuvik 94.95 21 P 03 54 45.8
baz=282
WHY Whitehorse 95.88 29 P **P** **03 54 51.6 +0.8**
WHY Whitehorse 95.88 29 P 03 54 51.1
baz=280
C36M Paulatuk 97.93 19 P 03 54 59.3
baz=291
A04D Lummi Island 105.70 39 P 03 59 47.2
baz=288
M02C Callahan 107.79 46 P 03 59 51.3
baz=286
L04D Klamath Falls 107.95 45 P 03 59 51.7
baz=287
MSO Missoula 111.89 38 P 03 59 59.1
baz=295
PKM Mcpherson Peak 111.90 52 P 03 59 59.0
baz=286
NVAR Mina Array Bea 112.01 48 PKiKP **PKiKP** **04 00 00.9 +1.4**
comp=Z,1.4nm,0.8s,baz=259,slow=1.8,SNR=7.2
HLID Hailey 112.93 42 P 04 00 02.2
baz=294
MPMC Manual Prospec 113.37 50 P 04 00 02.3
baz=288
TPNV Topopah Spring 114.03 49 P 04 00 04.3
baz=289
MONP2 Monument Peak 115.17 53 P 04 00 06.6
baz=288
GMRC Granite Mounta 115.19 51 P 04 00 06.6
baz=289
DUG Dugway, Tooele 115.36 45 P 04 00 06.2
baz=293
PDAR Pinedale Array 116.48 41 PKP **PKiKP** **04 00 08.3 +0.3**
comp=Z,0.7nm,0.6s,baz=262,slow=3.0,SNR=5.6
WUAZ Wupatki 118.22 49 P 04 00 12.0
baz=292
K22A Casper 118.50 40 P 04 00 11.7
baz=300
O20A White River Ci 118.56 43 P 04 00 12.3
baz=297
RSSD Black Hills 119.30 37 P 04 00 13.2
baz=303
W18A Petrified Fore 119.61 49 P 04 00 14.8
baz=293
MDND Maddock 119.65 32 P 04 00 13.8
baz=309
MVCO Mesa Verde 119.67 46 P 04 00 14.7
baz=295
N23A Red Feather La 119.75 41 P 04 00 15.0
baz=299
TUC Tucson 119.86 52 P 04 00 15.2
baz=291
ULM Lac du Bonnet 119.93 28 PKP **PKPdf** **04 00 13.5 -0.6**
comp=Z,3.7nm,0.6s,baz=352,slow=4.0,SNR=6.7
ISCO Idaho Springs 120.50 42 P 04 00 16.0
baz=299
S22A 4UR Ranch, Cre 120.62 45 P 04 00 16.8
baz=297
TORD Torodi Ar. Bea 120.68 285 PKP **PKPdf** **04 00 16.2 -0.2**
comp=Z,1.5nm,0.6s,baz=49,slow=1.7,SNR=7.8
TORD Torodi Ar. Bea 120.68 285 PKPdf **PKPdf** **04 00 16.1 -0.4**
121A Cookes Peak, D 122.12 51 P 04 00 19.8
baz=293
ANMO Albuquerque 122.13 48 PKP **PKiKP** **04 00 19.9 +0.7**
comp=Z,3.5nm,0.8s,baz=213,slow=3.6,SNR=15
ANMO Albuquerque 122.13 48 P 04 00 20.2
baz=296
T25A Trinidad 122.61 45 P 04 00 20.0
baz=299,SNR=5.9
EYMN Ely 123.60 27 P 04 00 21.9
baz=317
ECSD EROS Data Cent 123.86 34 P 04 00 21.8
baz=310
MNTX Cornudas Mount 124.33 51 P 04 00 23.6
baz=295
BGNE Belgrade 124.40 37 P 04 00 22.4
baz=307,SNR=5.1
SPMN Marine on St. 124.91 30 P 04 00 23.5
baz=314
TXAR Lajitas Array 126.65 53 PKP **PKiKP** **04 00 29.0 +0.8**
comp=Z,1.2nm,0.8s,baz=210,slow=1.3,SNR=13
MATQ Matagami 127.37 17 P 04 00 27.8
baz=333
JFWS Jewell Farm 127.84 31 P 04 00 29.3
baz=316
CHGQ Chibougamau 128.11 14 P 04 00 30.0
baz=337

LSQQ	Lebel-sur-Quev	128.19	17	P			04 00 30.1	
	baz=334							
HDIL	Hopedale	130.02	32	P			04 00 34.1	
	baz=316							
D55A	Sainte-Anne-du	130.46	17	P			04 00 34.6	
	baz=335							
D56A	ZEC Mazanza, M	130.64	16	P			04 00 34.9	
	baz=336							
LATQ	La Tuque	130.85	14	P			04 00 35.8	
	baz=339							
E56A	St. Veronique	131.02	17	P			04 00 35.9	
	baz=336							
G54A	Lake Saint Pet	131.09	20	P			04 00 36.2	
	baz=331							
H53A	Bobcaygeon	131.63	21	P			04 00 37.4	
	baz=330							
D62A	Aliapoint, All	131.97	11	P			04 00 37.9	
	baz=343							
E61A	Lac Etchemin	132.28	13	P			04 00 38.9	
	baz=341							
LONY	Lake Ozonia	132.90	17	P			04 00 39.6	
	baz=335							
P49A	Miami Univ. Ec	133.14	30	P			04 00 40.0	
	baz=320							
I57A	Carthage	133.18	19	P			04 00 40.3	
	baz=334							
H58A	Gabriels	133.21	17	P			04 00 40.1	
	baz=336							
J56A	Wolcott	133.37	20	P			04 00 40.5	
	baz=332							
M53A	WI Miller and	133.48	25	P			04 00 40.7	
	baz=326							
J57A	Williamstown	133.54	19	P			04 00 40.8	
	baz=333							
J58A	Remsen	133.82	19	P			04 00 41.6	
	baz=334							
M54A	Oil Creek Stat	133.84	24	P			04 00 41.6	
	baz=327							
I59A	Olmsteadville	133.86	17	P			04 00 41.6	
	baz=336							
WVT	Waverly	133.95	36	P			04 00 42.3	
	baz=314							
N54A	Moraine State	134.16	25	P			04 00 42.4	
	baz=327							
O53A	New Philadelph	134.22	26	P			04 00 41.9	
	baz=325							
P52A	Corning	134.31	28	P			04 00 42.2	
	baz=323							
BINY	Binghamton	134.62	20	P			04 00 42.6	
	baz=332							
SSPA	Standing Stone	135.29	23	P			04 00 44.6	
	baz=329							
N59A	State Game Lan	135.83	21	P			04 00 46.2	
	baz=332							
TZTN	Tazewell	136.02	32	P			04 00 46.7	
	baz=320							
TKL	Tuckaleechee C	136.56	33	PKP		PKiKP	04 00 47.3	-0.6
	comp=Z,4.1nm,0.6s,baz=144,slow=4.9,SNR=9.6							
P60A	Greenville	136.85	21	P			04 00 47.3	
	baz=332							
BLA	Blacksburg	137.05	28	P			04 00 47.4	
	baz=324							
BRAL	Brewton	137.79	40	P			04 00 49.2	
	baz=311							
CPUP	Villa Florida	153.74	179	PKPbc		PKiKP	04 01 24.4	+0.9
	comp=Z,1.9nm,0.5s,baz=76,slow=1.0,SNR=9.8							
CPUP	Villa Florida	153.74	179			PKiKP	04 01 23.9	+0.4
LPAZ	La Paz	160.23	146	PKP		PKPdf	04 01 25.3	+0.6
	comp=Z,2.3nm,1.1s,baz=360,slow=3.1,SNR=4.8							
LPAZ				PKPab		PKPab	04 02 06.3	+0.8
	comp=Z,2.0nm,0.8s,baz=110,slow=3.0,SNR=3.6							
LPAZ	La Paz	160.23	146			PKPab	04 02 04.6	-0.9
SIV	San Ignacio	163.47	165	PKP		PKPdf	04 01 27.1	-0.2
	comp=Z,1.6nm,0.9s,baz=157,slow=2.7,SNR=4.2							
SIV				PKPab		PKPab	04 02 18.7	-0.1
	comp=Z,2.1nm,0.8s,baz=216,slow=5.0,SNR=5.3							
SDV	Santo Domingo	163.62	57	PKP		PKPdf	04 01 27.4	-0.3
	comp=Z,8.9nm,0.4s,baz=314,slow=2.2,SNR=3.4							

IDC ***16*** *03:58:37.7±3.6, 14.93N×92.39W, h0km, mb3.8/4, mb1 4.2/6, mb1mx3.8/36, mbtmp3.8/6, ML4.0/2, MS2.8/5, Ms1 2.9/5, ms1mx2.6/32, Error ellipse: s-maj=112.2km s-min=50.6km az=35.0*

NEIC ***16*** *03:58:50.6±2.2, 15.14N±0.06×93.11W±0.07, h68km±10km, Error ellipse: s-maj=10.6km s-min=8.0km az=47.0*

MEX ***16*** *03:58:50.0±0.9, 14.97N×93.21W, h61km±14km, MD4.4*

ISC 16 03:58:48.6±1.0, 14.99N±0.07×93.22W±0.05, h62km±10km, n47, σ1s26/54, mb4.3/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		0.71	0	*e*P		Pn	03 59 03.1	0.0
PCIG				*i* S		Sn	03 59 13.4	-0.3
THIG		0.93	95	*i* P		Pn	03 59 05.3	-0.5
THIG				*i* S		Sn	03 59 17.7	-0.8
RTAL	Retalhuleu	1.55	107	Pn		Pn	03 59 13.6	-0.4
RTAL						Sn	03 59 32.1	-1.1
CCIG	Comitan	1.66	39	*e*P		Pn	03 59 16.6	+0.9
CCIG				*i* S		Sn	03 59 36.3	+0.3
CCIG	Comitan	1.66	39	Pn		Pn	03 59 16.1	+0.5
CCIG				Sn		Sn	03 59 31.7	-4.3
HUEH	Huehuetenango	1.69	79	Pn		Pn	03 59 16.4	+0.2
HUEH				Sn		Sn	03 59 38.3	+1.3
TGIG		1.78	3	*e*P		Pn	03 59 17.0	-0.2
TGIG				*e*S		Sn	03 59 38.1	-0.8
CMIG	Matias Romero	2.63	323	Pn		Pn	03 59 29.2	+0.5
	9.1nm,0.3s,baz=134,slow=12,SNR=74							
CMIG				Sn		Sn	03 59 59.6	+0.2
	43nm,0.3s,baz=104,slow=8.8,SNR=4.8							
CMIG	Matias Romero	2.63	323	*e*P		Pn	03 59 29.2	+0.5
CMIG				*e*S		Sn	04 00 00.4	+0.9
HUIG	Huatulco	2.89	286	*e*P		Pn	03 59 32.3	+0.1
HUIG				*i* S		Sn	04 00 01.9	-3.9
ESQI	Esquipulas	3.78	96	Pn		Pn	03 59 45.6	+1.1
TLIG	Tlapa	5.73	297	Pn		Pn	04 00 12.0	+0.7
TGUH	Tegucigalpa,Un	5.84	98	Pn		Pn	04 00 13.0	+0.2
BOAB	BOACO BROADBAN	7.77	108	Pn		Pn	04 00 38.3	-0.7
ORTG	Ortega, Santa	8.86	120	Pn		Pn	04 00 55.6	+1.5
DUNO	Dulce Nombre,	8.99	122	Pn		Pn	04 00 56.8	+1.0
JTS	Las Juntas de	9.32	119	Pn		Pn	04 01 00.9	+0.5
RIMA	Rio Macho	10.51	119	Pn		Pn	04 01 17.7	+0.9
TXAR	Lajitas Array	17.23	328	P		P	04 02 47.5	+1.5
	0.2nm,0.3s,baz=148,slow=12,SNR=12							
TXAR				LR		LR	04 10 51.0	
	comp=Z,16nm,20.8s,baz=0.0,slow=41							
GOGA	Godfrey	20.36	24	P		P	04 03 18.9	-1.2
W45A	Hickory Valley	20.41	10	P		P	04 03 20.8	+0.3
121A	Cookes Peak, D	21.92	325	P		P	04 03 39.0	+1.9
121A				IAmb		IAmb	04 03 40.5	
	comp=Z,10nm,0.9s							
TKL	Tuckaleechee C	22.25	21	LR		LR	04 12 53.3	
	comp=Z,32nm,20.8s,baz=182,slow=39							
ANMO	Albuquerque	23.16	331	P		P	04 03 50.5	+0.3
	comp=Z,1.8nm,0.6s,baz=150,slow=12,SNR=2.2							
TUC	Tucson	23.52	320	P		P	04 03 54.9	+1.6
WCI	Wyandotte Cave	23.94	14	P		P	04 03 55.6	-1.4
WCI				IAmb		IAmb	04 03 56.7	
	comp=Z,6.4nm,0.6s							
SJG	San Juan	26.13	79	LR		LR	04 13 07.2	
	comp=Z,23nm,19.8s,baz=216,slow=34							
HVU	Hansel Valley	31.60	331	P		P	04 05 06.8	+1.1
REDW	Red Top Meadow	32.05	335	P		P	04 05 10.5	+0.8
SNOW	Snow King Moun	32.09	336	P		P	04 05 10.1	-0.1
LOHW	Long Hollow	32.16	336	P		P	04 05 10.8	+0.1
LOHW				IAmb		IAmb	04 05 12.5	
	comp=Z,4.0nm,0.8s							
NVAR	Mina Array Bea	32.16	321	P		P	04 05 12.6	+1.8
	comp=Z,1.7nm,0.7s,baz=134,slow=8.9,SNR=11							
NVAR				LR		LR	04 20 20.4	
	comp=Z,30nm,18.8s,baz=107,slow=40							
NVAR	Mina Array Bea	32.16	321	P		P	04 05 12.3	+1.5
TPAW	Teton Pass	32.20	335	P		P	04 05 12.1	+1.1
TPAW				IAmb		IAmb	04 05 13.2	
	comp=Z,6.6nm,1.1s							
HLID	Hailey	33.74	332	P		P	04 05 25.2	+0.7
MCMT	McKenzie Canyo	34.07	335	P		P	04 05 28.1	+0.8
J08A	Circle Bar Ran	35.57	328	P		P	04 05 41.5	+1.3
J08A				IAmb		IAmb	04 05 42.4	
	comp=Z,3.4nm,0.7s							
YKA	Yellowknife Ar	49.80	347	P		P	04 07 32.5	-2.4
	comp=Z,0.7nm,0.8s,baz=141,slow=7.7,SNR=4.1							
INK	Inuvik	59.16	344	P		P	04 08 42.6	-0.1
GHO	Glory Hole Cre	60.98	333	P		P	04 08 56.1	+0.7
GHO				IAmb		IAmb	04 08 56.6	
	comp=Z,3.2nm,0.8s							
ILAR	Eielson Array	61.47	337	P		P	04 08 57.9	-0.6
	comp=Z,0.7nm,0.8s,baz=120,slow=5.5,SNR=6.4							
ILAR	Eielson Array	61.47	337	P		P	04 08 58.6	0.0
BMAR	Burnt Mountain	61.96	340	P		P	04 09 02.7	+0.9
TRF	Thorofare Moun	62.24	335	P		P	04 09 04.1	+0.1
TRF				IAmb		IAmb	04 09 04.9	
	comp=Z,2.9nm,0.8s							
NOA	NORSAR Array B	83.84	28	LR		LR	04 47 51.5	
	comp=Z,5.1nm,18.4s,baz=270,slow=35							
CMAR	Chiang Mai Arr	144.67	340	PKPbc		PKPab	04 18 17.6	-0.4
	comp=Z,1.0nm,0.4s,baz=344,slow=3.7,SNR=7.0							
CMAR	Chiang Mai Arr	144.67	340			PKPab	04 18 17.1	-0.9

ANF ***16*** *03:59:16.0±0.2, 36.47N×98.65W, h5km, ML3.5/10, Error ellipse: s-maj=2.4km s-min=1.9km az=177.0*

TUL ***16*** *03:59:15.5±1.4, 36.51N±0.03×98.71W±0.05, h5km±2km, ML3.1, mb_Lg2.8/61(NEIC), Error ellipse: s-maj=6.7km s-min=4.3km az=281.0*

NEIC ***16*** *03:59:16.6±1.6, 36.49N±0.03×98.61W±0.03, h5km±1km, Error ellipse: s-maj=4.7km s-min=4.2km az=288.0*

ISC 16 03:59:15.8±1.1, 36.49N±0.02×98.66W±0.02, h4km±12km, n85, σ0s82/75, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
U32A	Winter Ranch,	0.30	249	Pg		Pg	03 59 21.1	-0.4
U32A				Sg		Sg	03 59 25.2	-0.3
U32A	Winter Ranch,	0.30	249	P		Pg	03 59 21.2	-0.4
	baz=70,SNR=803							
U32A				S		Sg	03 59 25.5	0.0
	baz=70							
U32A	Winter Ranch,	0.30	249	P			03 59 21.2	
	baz=70,SNR=803							
U32A				S			03 59 25.5	
	baz=70							
OK032	Salt Plains WL	0.48	49	Pg		Pg	03 59 25.2	+0.1
OK032				Sg		Sg	03 59 32.3	+1.0
CROK	Carrier	0.54	88	Pg		Pg	03 59 26.9	+0.6
CROK				Sg		Sb	03 59 35.0	-1.0
KAN14	Manchester OK	0.73	50	Pg		Pg	03 59 29.7	-0.2
KAN14				Sg		Sg	03 59 39.8	+0.5
GC02	Grant County #	0.74	60	Pg		Pg	03 59 30.1	+0.1
GC02				Sg		Sb	03 59 40.5	-1.2
KAN10	Anthony SW Sta	0.78	35	Pg		Pg	03 59 30.5	-0.3
KAN10				Sg		Sg	03 59 41.3	+0.4
KAN16	Harper SW Stat	0.88	33	Pg		Pg	03 59 32.2	-0.4
KAN16				Sg		Sg	03 59 44.1	0.0
KAN05	Bluff City Nor	0.89	45	Pg		Pg	03 59 32.7	-0.1
KAN17	Caldwell West	0.91	52	Pg		Pg	03 59 33.1	-0.1
KAN08	Anthony NE Sta	0.92	37	Pg		Pg	03 59 33.1	-0.4
KAN09	Caldwell North	1.06	52	Pg		Pg	03 59 35.7	-0.4
KAN13	South Haven SW	1.08	61	Pg		Pg	03 59 36.3	-0.3
KS20	Mayfield South	1.16	50	Pg		Pg	03 59 37.4	-0.5
BCOK	Bluff Creek, N	1.19	134	Pg		Pg	03 59 38.3	-0.2
BLOK	Blackwell	1.19	76			Pg	03 59 38.3	-0.4
OK029	Liberty Lake	1.19	125			Pg	03 59 38.4	-0.3
OK025	Westminster Rd	1.40	130	Pn		Pn	03 59 41.8	-0.3
OKCFA	Oklahoma City	1.45	137			Pn	03 59 42.5	-0.2
OKCFA	Oklahoma City	1.45	137	P		Pn	03 59 42.7	-0.1
	baz=319,SNR=9.5							
OKCFA				S		Sg	04 00 02.8	+0.4
	baz=319							
OKCFA	Oklahoma City	1.45	137	P			03 59 42.7	
	baz=319,SNR=9.5							
OKCFA				S			04 00 02.8	
	baz=319							
OKCSW	OKLAHOMA CITY	1.47	137	Pn		Pn	03 59 42.7	-0.3
OK031	S. Brethren Rd	1.56	109	Pn		Pn	03 59 44.3	-0.1
FNO	Franklin	1.60	140			Pn	03 59 45.2	+0.4
QUOK	Quay	1.61	101	Pn		Pn	03 59 45.3	+0.3
OK030	Cody Creek RV	1.62	110	Pn		Pn	03 59 45.3	+0.2
WMOK	Wichita Mounta	1.75	183			Pn	03 59 46.7	-0.2
WMOK	Wichita Mounta	1.75	183	P		Pn	03 59 46.5	-0.4
	baz=4.5,SNR=121							
WMOK	Wichita Mounta	1.75	183	P			03 59 46.5	
	baz=4.5,SNR=121							
T35A	Sooner Cattle	1.78	75			Pn	03 59 48.0	+0.7
T35B	Sooner Cattle	1.78	75	P		Pn	03 59 47.8	+0.6
	baz=256,SNR=75							
T35B				Sb		Sg	04 00 12.4	-0.5
	baz=256							
T35B	Sooner Cattle	1.78	75	P			03 59 47.8	
	baz=256,SNR=75							
T35B				Sb			04 00 12.4	
	baz=256							
R32A	Long Quarter,	1.93	359			Pn	03 59 49.9	+0.5
R32A	Long Quarter,	1.93	359	P		Pn	03 59 49.8	+0.4
	baz=178,SNR=92							
R32A				S		Sb	04 00 15.4	-0.6
	baz=178							
R32A	Long Quarter,	1.93	359	P			03 59 49.8	
	baz=178,SNR=92							
R32A				S			04 00 15.4	
	baz=178							
W35A	Tecumseh	1.97	132			Pn	03 59 50.3	+0.4
X34A	Smith Ranch, M	2.00	160			Pn	03 59 51.6	+1.3
TUL1	Leonard	2.39	103	P		Pn	03 59 55.7	0.0
	baz=285,SNR=44							
TUL1				Sb		Sb	04 00 29.9	+0.8
	baz=285							
TUL1	Leonard	2.39	103	P			03 59 55.7	
	baz=285,SNR=44							
TUL1				Sb			04 00 29.9	
	baz=285							
CBKS	Cedar Bluff	2.48	340			Pn	03 59 58.6	+1.7
CBKS	Cedar Bluff	2.48	340	S		Sb	04 00 30.1	-1.6
	baz=159							
CBKS	Cedar Bluff	2.48	340	S			04 00 30.1	
	baz=159							
LOOK	Love County	2.77	154			Pn	04 00 01.6	+0.7
AMTX	Amarillo	2.94	238	Pn		Pn	04 00 04.2	+0.9
AMTX				IAmb_Lg			04 00 52.8	
	comp=Z,42nm,0.8s							
AMTX	Amarillo	2.94	238	P		Pn	04 00 04.1	+0.9
	baz=56							
AMTX	Amarillo	2.94	238	P			04 00 04.1	
	baz=56							
KSU1	Kansas State U	3.07	31	Pn		Pn	04 00 05.5	+0.4
KSU1	Kansas State U	3.07	31	P		Pn	04 00 05.4	+0.4
	baz=212							
KSU1	Kansas State U	3.07	31	P			04 00 05.4	
	baz=212							
X37A	Clayton	3.28	124	Pn		Pn	04 00 08.6	+0.6
X37A				IAmb_Lg			04 01 06.2	
	comp=Z,22nm,0.7s							
Z35A	Perchaven, San	3.35	159	Pn		Pn	04 00 09.7	+0.8
Z35A	Perchaven, San	3.35	159	P		Pn	04 00 09.8	+0.8
	baz=341							
Z35A	Perchaven, San	3.35	159	P			04 00 09.8	
	baz=341							
U38A	Gravette	3.44	90	Pn		Pn	04 00 10.8	+0.6
U38A				IAmb_Lg			04 01 06.1	
	comp=Z,25nm,0.8s							
HHAR	Hobbs	3.81	92	Pn		Pn	04 00 15.7	+0.5
KSCO	Kaye Shedlock'	4.03	310	Pn		Pn	04 00 20.2	+1.8
KSCO				IAmb_Lg			04 01 33.5	
	comp=Z,18nm,0.7s							
MSTX	Muleshoe	4.20	234	IAmb_Lg			04 01 33.6	
	comp=Z,18nm,0.8s							
N33A	J Bar K, Exete	4.35	12	Pn		Pn	04 00 21.6	-1.1
N33A				IAmb_Lg			04 01 43.7	
	comp=Z,24nm,1.1s							
Z38A	Mt. Pleasant	4.41	136	IAmb_Lg			04 01 40.1	
	comp=Z,23nm,0.8s							
S39A	Bolivar	4.43	73	Pn		Pn	04 00 23.9	+0.1
S39A				IAmb_Lg			04 01 39.4	
	comp=Z,19nm,0.7s							
S39A	Bolivar	4.43	73	P		Pn	04 00 24.0	+0.2
	baz=256,SNR=10							
S39A	Bolivar	4.43	73	P			04 00 24.0	
	baz=256,SNR=10							
MIAR	Mount Ida	4.58	114	Pn		Pn	04 00 26.5	+0.8
T25A	Trinidad	4.66	280	IAmb_Lg			04 01 42.4	
	comp=Z,16nm,0.8s							
U40A	Yellville	4.68	90	Pn		Pn	04 00 27.6	+0.4
U40A				IAmb_Lg			04 01 52.7	
	comp=Z,15nm,0.8s							
BGNE	Belgrade	4.93	4	Pn		Pn	04 00 30.8	+0.2
N35A	Tabor	4.96	27	Pn		Pn	04 00 32.5	+1.4
P38A	Dawn	5.12	51	Pn		Pn	04 00 32.9	-0.3
P38A				IAmb_Lg			04 02 10.1	
	comp=Z,16nm,0.9s							
X40A	Basin Creek Fa	5.15	111	Pn		Pn	04 00 34.1	+0.4
X40A				IAmb_Lg			04 02 04.8	
	comp=Z,17nm,0.8s							
MGMO	Mountain Grove	5.17	81	Pn		Pn	04 00 34.8	+0.9
OGNE	Ogallala	5.17	330	Pn		Pn	04 00 35.2	+1.1
OGNE				IAmb_Lg			04 02 12.7	
	comp=Z,22nm,0.8s							
WHAR	Wooly Hollow	5.31	101	Pn		Pn	04 00 33.8	-2.0
WHAR				IAmb_Lg			04 02 13.7	
	comp=Z,13nm,0.9s							
FCAR	Ozark Folk Cen	5.32	95	Pn		Pn	04 00 36.8	+0.9
WLAR	White Oak Lake	5.34	120	IAmb_Lg			04 02 17.9	
	comp=Z,20nm,1.0s							
R40A	Maddies Statio	5.40	69	Pn		Pn	04 00 34.0	-3.0
SDCO	Great Sand Dun	5.61	285	Pn		Pn	04 00 41.3	+1.1
435B	Jarrell	5.76	171	IAmb_Lg			04 02 32.0	
	comp=Z,11nm,0.8s							
P40A	Paris	6.04	58	Pn		Pn	04 00 47.3	+1.5
JCT	Junction City	6.07	189	IAmb_Lg			04 02 35.3	
	comp=Z,12nm,0.7s							
LCAR	Lake Charles	6.08	92	IAmb_Lg			04 02 28.5	
	comp=Z,9.7nm,0.8s							
CCM	Cathedral Cave	6.12	73	IAmb_Lg			04 02 37.6	
	comp=Z,12nm,0.7s							
K31A	O'Neill	6.13	359	IAmb_Lg			04 02 46.2	
	comp=Z,20nm,0.8s							
PBMO	Poplar Bluff	6.62	85	IAmb_Lg			04 03 00.4	
	comp=Z,9.4nm,0.7s							
SCIA	State Center	6.87	36	IAmb_Lg			04 03 00.7	
	comp=Z,12nm,0.8s							
PHWY	Pilot Hill	7.16	314	IAmb_Lg			04 03 01.7	
	comp=Z,14nm,0.9s							
S44A	Carbondale	7.61	78	IAmb_Lg			04 03 20.3	
	comp=Z,13nm,0.8s							
K38A	Parkersburg	7.65	35	IAmb_Lg			04 03 26.3	
	comp=Z,17nm,0.8s							
W45A	Hickory Valley	7.81	97	IAmb_Lg			04 03 25.3	
	comp=Z,37nm,1.2s							
L40A	Anamosa	8.01	44	IAmb_Lg			04 03 35.0	
	comp=Z,17nm,0.7s							
121A	Cookes Peak, D	8.50	245	IAmb_Lg			04 03 44.8	
	comp=Z,5.6nm,0.8s							
K22A	Casper	8.64	318	IAmb_Lg			04 04 06.8	
	comp=Z,10nm,1.1s							
RSSD	Black Hills	8.66	333	IAmb_Lg			04 04 07.5	
	comp=Z,6.3nm,0.8s							
O44A	Mansfield	8.80	62	IAmb_Lg			04 03 59.9	
	comp=Z,14nm,0.9s							
L42A	Oliver, Polo	8.88	49	IAmb_Lg			04 03 58.2	
	comp=Z,13nm,0.8s							
JFWS	Jewell Farm	9.12	43	IAmb_Lg			04 04 15.8	
	comp=Z,8.8nm,0.7s							

TRN 16 03:59:56.9, 10.40N×62.36W, h3km, MD3.7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TPP	Pointe-a-Pierr	0.90	95	*e*P		Pb	04 00 15.0	-0.1
TRN	Trinidad (W)	0.97	75	*e*P		Pg	04 00 14.5	-1.1
TRN				*e*S		Sb	04 00 29.9	+0.2
TBH	Brigand Hill	1.28	86	*e*P		Pn	04 00 22.2	+0.5
GRGR	Grenville	1.85	22	*e*P		Pn	04 00 29.9	+0.3
GRGR				*e*S		Sn	04 00 54.3	+0.6
TOSP	Speyside	2.00	63	*e*P		Pn	04 00 32.5	+0.8
GCMP	Grenada, Carri	2.27	24	*e*P		Pn	04 00 35.9	+0.7
GCMP				*e*S		Sn	04 01 04.4	+0.6
BAUV	El Baul	5.79	256	*e*P		Pn	04 01 23.9	+0.2
BAUV	El Baul	5.79	256	*e*S		Sn	04 02 29.7	-1.0

IDC ***16*** *04:06:01.3±1.6, 35.00N×26.91E, h0km, mb3.8/4, mb1 3.6/6, mb1mx3.5/27, mbtmp3.6/6, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/39, Error ellipse: s-maj=48.6km s-min=20.5km az=149.0*

DDA ***16*** *04:06:01.4, 34.93N×26.77E, h6km±3km, ML2.9*

ATH ***16*** *04:06:02.8, 35.14N×27.01E, h10km±4km, ML3.1/4, Error ellipse: s-maj=4.3km s-min=1.3km az=170.0*

NIC ***16*** *04:06:03.9±0.0, 34.84N×26.79E, h34km±15km, Ml3.8/3*

ISK ***16*** *04:06:03.6, 35.11N×26.92E, h8km, ML3.1/13*

THE ***16*** *04:06:05.2, 35.11N×26.86E, h0km±2km, ML2.9/4, Error ellipse: s-maj=5.8km s-min=1.4km az=150.0*

ISC 16 04:06:03.7±1.1, 35.09N±0.04×26.93E±0.02, h14km±8km, n103, σ1s61/142, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZKR	Zakros	0.59	273	P		Pg	04 06 15.0	-0.2
ZKR				S		Sb	04 06 23.7	-0.2
ZKR	Zakros	0.59	273	P		Pg	04 06 15.0	-0.2
ZKR				S		Sb	04 06 23.7	-0.2
ZKR				AML		AML	04 06 24.4	
	comp=N,8982µm,0.3s							
ZKR				AML		AML	04 06 24.8	
	comp=E,9325µm,0.2s							
ZKR	Zakros	0.59	273	PG		Pg	04 06 15.1	-0.2
ZKR				SG		Sb	04 06 24.0	+0.1
ZKR	Zakros	0.59	273	P		Pg	04 06 15.0	-0.2
ZKR				AML		AML	04 06 23.2	
	comp=E,8.3nm,0.3s							
ZKR				AML		AML	04 06 23.2	
	comp=E,8.3nm,0.3s							
ZKR				AML		AML	04 06 23.5	
	comp=E,7.7nm,0.2s							
ZKR				AML		AML	04 06 23.5	
	comp=E,7.7nm,0.2s							
ZKR				S		Sb	04 06 23.9	0.0
STIA	Sitia Lasithi	0.70	280	P		Pg	04 06 17.1	-0.2
STIA				S		Sb	04 06 28.3	+1.2
FRMA	Ierapetra Chan	0.99	266	P		Pg	04 06 20.1	-2.6
FRMA				S		Sg	04 06 34.4	-1.2
	comp=E,690nm,0.4s							
LAST	Lasithi	1.19	274	P		Pg	04 06 26.1	-0.6
LAST				S		Sn	04 06 43.5	+1.5
	comp=E,585nm,0.5s							
LAST	Lasithi	1.19	274	P		Pg	04 06 25.7	-1.0
LAST				S		Sn	04 06 43.5	+1.5
LAST				AML		AML	04 06 48.6	
	comp=N,1302µm,0.

CMBO	**Columbo, Santo**	**1.86**	**318**	P		**Pn**	**04 06 35.9**	**+0.9**
CMBO	**Columbo, Santo**	**1.86**	**318**	P		**Pn**	**04 06 35.6**	**+0.6**
SAP3	**Santorini-Thir**	**1.86**	**317**	P		**Pb**	**04 06 37.1**	**-0.4**
SAP3	**Santorini-Thir**	**1.86**	**317**	P		**Pb**	**04 06 36.6**	**-0.9**
TURN	**Turunc**	**1.99**	**32**	*i* P		**Pn**	**04 06 38.4**	**+1.5**
TURN				*i* S		**Sb**	**04 07 06.0**	**+1.6**
TURN				IAML			04 07 17.0	
	comp=N,82nm,0.5s							
BODT	**Bodrum**	**1.99**	**9**	PN		**Pn**	**04 06 37.9**	**+0.9**
BDRM	**Kayabasi**	**2.02**	**12**	*i* P		**Pn**	**04 06 37.9**	**+0.7**
BDRM				*i* S		**Sn**	**04 07 02.1**	**-0.2**
BDRM				IAML			04 07 16.0	
	comp=N,62nm,0.4s							
DALY	**Dalyan (Mula)**	**2.22**	**39**	*i* P		**Pn**	**04 06 41.9**	**+1.9**
DALY				*i* S		**Sb**	**04 07 11.7**	**+0.8**
DALY				IAML			04 07 22.0	
	comp=N,65nm,0.6s							
VAM	**Vamos**	**2.26**	**279**	P		**Pb**	**04 06 45.0**	**+0.8**
VAM	**Vamos**	**2.26**	**279**	P		**Pb**	**04 06 43.9**	**-0.4**
VAM				S		**Sb**	**04 07 12.3**	**+0.3**
APE	**Apeiranthos**	**2.28**	**331**	P		**Pn**	**04 06 41.8**	**+0.9**
APE	**Apeiranthos**	**2.28**	**331**	P		**Pn**	**04 06 41.8**	**+0.9**
APE	**Apeiranthos**	**2.28**	**331**	PN		**Pn**	**04 06 41.9**	**+0.9**
APE				SN		**Sn**	**04 07 10.5**	**+1.7**
APE	**Apeiranthos**	**2.28**	**331**	P		**Pn**	**04 06 41.8**	**+0.9**
APE				S		**Sn**	**04 07 10.0**	**+1.1**
YER	**Yerkesik**	**2.32**	**28**	PN		**Pn**	**04 06 43.0**	**+1.5**
GVDS	**Gavdos**	**2.35**	**265**	PN		**Pn**	**04 06 43.8**	**+2.0**
GVD	**Gavdhos**	**2.35**	**265**	P		**Pb**	**04 06 44.6**	**-1.2**
GVD	**Gavdhos**	**2.35**	**265**	PN		**Pn**	**04 06 43.5**	**+1.7**
DDIM	**Aydin, Didim**	**2.38**	**6**	*i* P		**Pn**	**04 06 42.8**	**+0.6**
DDIM				*i* S		**Sb**	**04 07 14.7**	**-0.7**
DDIM				IAML			04 07 28.0	
	comp=E,71nm,0.8s							
DDIM				IAML			04 07 39.0	
	comp=N,66nm,0.6s							
KSL	**Kastellorizon**	**2.41**	**63**	P		**Pn**	**04 06 43.8**	**+1.2**
KSL	**Kastellorizon**	**2.41**	**63**	P		**Pn**	**04 06 43.8**	**+1.2**
KSL				S		**Sn**	**04 07 14.0**	**+2.2**
KSL	**Kastellorizon**	**2.41**	**63**	P		**Pn**	**04 06 44.1**	**+1.5**
KSL				S		**Sb**	**04 07 15.6**	**-0.7**
MULA	**Mugla, Merkez-**	**2.44**	**27**	*i* P		**Pn**	**04 06 44.0**	**+0.9**
MULA				*i* S		**Sn**	**04 07 14.8**	**+2.0**
IMMV	**Iera Moni Meta**	**2.44**	**280**	P		**Pb**	**04 06 46.0**	**-1.4**
IMMV	**Iera Moni Meta**	**2.44**	**280**	P		**Pb**	**04 06 46.0**	**-1.4**
IMMV				S		**Sb**	**04 07 18.7**	**+1.4**
IMMV	**Iera Moni Meta**	**2.44**	**280**	PN		**Pn**	**04 06 44.9**	**+1.8**
AKAS	**Kas**	**2.46**	**62**	*i* P		**Pn**	**04 06 43.5**	**0.0**
AKAS				*i* S		**Sn**	**04 07 10.7**	**-2.7**
AKAS				IAML			04 07 17.0	
	comp=N,45nm,0.4s							
GCAM	**G?zelcaml?**	**2.62**	**5**	*i* P		**Pn**	**04 06 47.2**	**+1.7**
GCAM	**G?zelcaml?**	**2.62**	**5**	PN		**Pn**	**04 06 47.0**	**+1.5**
CAME	**Cameli-Denizli**	**2.67**	**45**	PN		**Pn**	**04 06 48.1**	**+1.7**
AYDN	**Tasoluk**	**2.68**	**16**	*i* P		**Pn**	**04 06 48.4**	**+1.9**
AYDN				*i* S		**Sn**	**04 07 16.4**	**-2.3**
CAEL	**Denizli, Camel**	**2.80**	**43**	*i* P		**Pn**	**04 06 50.3**	**+2.1**
CAEL				*i* S		**Sb**	**04 07 26.6**	**-1.3**
CAEL				IAML			04 07 49.0	
	comp=N,101nm,0.7s							
CAEL				IAML			04 07 52.0	
	comp=E,118nm,0.9s							
TAVA	**DENIZLI_Tavas**	**2.86**	**33**	*i* P		**Pn**	**04 06 50.6**	**+1.6**
TAVA				*i* S		**Sn**	**04 07 25.3**	**+2.0**
TAVA				IAML			04 07 39.0	
	comp=N,41nm,1.1s							
TAVA				IAML			04 07 47.0	
	comp=E,33nm,0.6s							
ELL	**Elmali**	**2.93**	**55**	PN		**Pn**	**04 06 51.8**	**+1.9**
ELL	**Elmali**	**2.93**	**55**	P		**Pn**	**04 06 52.3**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**2.96**	**15**	PN		**Pn**	**04 06 51.7**	**+1.4**
DGB	**zmir**	**2.96**	**359**	*i* P		**Pn**	**04 06 51.0**	**+0.8**
GOLH	**Golhisar**	**3.02**	**44**	*i* P		**Pn**	**04 06 53.0**	**+1.8**
GOLH				*i* S		**Sn**	**04 07 30.3**	**+3.1**
GOLH				IAML			04 08 02.0	
	comp=N,38nm,0.8s							
GOLH				IAML			04 08 50.0	
	comp=E,72nm,3.9s							
AKUM	**Antalya-Kumluc**	**3.04**	**65**	*i* P		**Pn**	**04 06 52.2**	**+0.9**
AKUM				*i* S		**Sn**	**04 07 26.6**	**-1.9**
ZEYE	**Izmir, Urla-Ze**	**3.16**	**354**	*i* P		**Pn**	**04 06 53.6**	**+0.6**
ZEYE				*i* S		**Sn**	**04 07 32.9**	**+2.4**
ZEYE				IAML			04 07 54.0	
	comp=N,28nm,0.5s							
ZEYE				IAML			04 07 54.0	
	comp=E,27nm,1.0s							
URLA	**Izmir**	**3.28**	**355**	*i* P		**Pn**	**04 06 53.8**	**-0.9**
URLA	**Izmir**	**3.28**	**355**	PN		**Pn**	**04 06 56.4**	**+1.8**
KORT	**Korkueli**	**3.36**	**54**	PN		**Pn**	**04 06 58.4**	**+2.5**
CHOS	**Chios island**	**3.37**	**348**	PN		**Pn**	**04 06 57.9**	**+2.0**
MANT	**Manisa**	**3.64**	**21**	*i* P		**Pn**	**04 07 00.7**	**+1.0**
MANT				*i* S		**Sn**	**04 07 35.7**	**-6.9**
BUCA	**Burdur, Bucak-**	**3.69**	**52**	*i* P		**Pn**	**04 07 03.1**	**+2.8**
USAK	**Uak-Merkez**	**3.99**	**24**	*i* P		**Pn**	**04 07 05.3**	**+0.9**
USAK				IAML			04 09 32.0	
	comp=N,16nm,5.0s							
USAK				IAML			04 09 32.0	
	comp=E,30nm,5.5s							
KZIL	**AFYON_Kizioren**	**4.08**	**38**	*i* P		**Pn**	**04 07 06.4**	**+0.6**
DEMI	**Demirci**	**4.20**	**19**	*i* P		**Pn**	**04 07 09.0**	**+1.7**
DEMI				*i* S		**Sn**	**04 07 54.1**	**-2.0**
KEPZ	**Antalya-Kepez**	**4.20**	**63**	*i* P		**Pn**	**04 07 09.1**	**+1.8**
KEPZ				*i* S		**Sn**	**04 07 52.1**	**-4.1**
KEPZ				IAML			04 09 23.0	
	comp=N,20nm,0.2s							
BUHA	**Balikesir, Bur**	**4.41**	**1**	*i* P		**Pn**	**04 07 12.0**	**+1.9**
BUHA				*i* S		**Sn**	**04 07 59.1**	**-2.1**
BUHA				IAML			04 08 17.0	
	comp=N,18nm,0.6s							
BUHA				IAML			04 08 18.0	
	comp=E,11nm,0.2s							
AKMS	**Akamas**	**4.43**	**89**	P		**Pn**	**04 07 11.3**	**+0.8**
AKMS				AML	AML		04 08 01.5	
	comp=E,0.3nm,0.4s							
AKMS				AML	AML		04 08 01.9	
	comp=E,0.3nm,1.0s							
KOCA	**Canakkale, Ayv**	**4.45**	**352**	*i* P		**Pn**	**04 07 08.6**	**-2.1**
KOCA				*i* S		**Sn**	**04 07 59.9**	**-2.4**
GAZI	**Gazipasa**	**4.53**	**74**	*i* P		**Pn**	**04 07 10.5**	**-1.4**
GAZI				*i* S		Sn	04 07 53.0	-11
ALFC	**Alefka**	**4.65**	**88**	P		**Pn**	**04 07 14.5**	**+1.0**
ALFC				AML	AML		04 08 06.5	
	comp=E,0.3nm,0.8s							
ALFC				AML	AML		04 08 06.5	
	comp=E,0.4nm,0.8s							
BAYC	**CANAKKALE_Bayr**	**4.66**	**356**	*i* P		**Pn**	**04 07 14.5**	**+1.0**
BAYC				*i* S		**Sn**	**04 08 02.7**	**-4.7**
DURS	**Dursunbey**	**4.67**	**15**	*i* P		**Pn**	**04 07 15.3**	**+1.5**
DURS				*i* S		Sn	04 07 53.2	-15
BALY	**Balya**	**4.68**	**7**	*i* P		**Pn**	**04 07 14.1**	**+0.2**
BALY				IAML			04 08 47.0	
	comp=N,8.7nm,0.7s							
SZAC	**Souni**	**4.90**	**92**	P		**Pn**	**04 07 17.8**	**+0.8**
KONT	**Konya--Tatoy**	**5.22**	**55**	*i* P		**Pn**	**04 07 23.0**	**+1.7**
KKBE	**Karaman, Kazim**	**5.31**	**65**	*i* P		**Pn**	**04 07 24.3**	**+1.7**
KKBE				*i* S		Sn	04 08 13.6	-10
KERG	**Konya-Eregli**	**6.26**	**66**	*i* P		**Pn**	**04 07 36.6**	**+0.9**
KERG				*i* S		**Sn**	**04 08 42.2**	**-4.9**
KERG				IAML			04 09 04.0	
	comp=E,5.8nm,0.7s							
KERG				IAML			04 09 06.0	
	comp=N,5.9nm,0.4s							
BRTR	**Keskin Array B**	**7.06**	**47**	Pn		**Pn**	**04 07 47.6**	**+0.8**
	comp=N,0.1nm,0.3s,baz=236,slow=13,SNR=3.4							
BRTR				Sn		**Sn**	**04 09 09.3**	**+2.4**
	comp=N,0.1nm,0.3s,baz=94,slow=33,SNR=1.2							
BRTR				LR		LR	04 11 20.1	
	comp=N,38nm,18.6s,baz=192,slow=45							
AKASG	**Malin Array Be**	**15.69**	**5**	Pn		**Pn**	**04 09 45.7**	**+1.5**
	comp=N,0.6nm,0.3s,baz=192,slow=12,SNR=3.9							
ESDC	**Sonseca Array**	**24.91**	**290**	P		**P**	**04 11 25.2**	**-1.1**
	comp=N,0.5nm,0.8s,baz=80,slow=9.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**31.58**	**232**	P		**P**	**04 12 25.7**	**-0.2**
	comp=N,0.4nm,0.4s,baz=38,slow=9.0,SNR=2.7							
MKAR	**Makanchi Array**	**42.60**	**57**	P		**P**	**04 13 59.8**	**+0.5**
	comp=N,1.2nm,0.6s,baz=282,slow=7.0,SNR=14							
ZALV	**Zalesovo Beam**	**44.01**	**46**	P		**P**	**04 14 10.4**	**0.0**
	comp=N,1.7nm,0.4s,baz=275,slow=8.5,SNR=5.9							

*IDC **16** 04:11:30.6±4.7, 31°.23S×138°.71E, h0km, mb1 3.0/3, mb1mx3.0/26, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=93.1km s-min=18.3km az=32.0*
*AUST **16** 04:11:31.2±0.9, 31°.34S×138°.67E, h10km, Error ellipse: s-maj=11.4km s-min=7.8km az=55.0*

ISC 16 04:11:31.0±0.8, 31°.29S±0°.05×138°.69E±0°.05, h14km, n12, σ2§26/21, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.93**	**334**	P		**Pg**		**04 11 51.2**	**+2.2**
	baz=1.0,SNR=36								
HTT	**Hallett**	**2.14**	**175**	P		**Pn**		**04 12 06.7**	**+0.3**
	baz=2.1,SNR=22								
HTT				S		**Sn**		**04 12 34.5**	**+1.7**
	baz=2.1								
STKA	**Stephens Creek**	**2.55**	**104**	Pn		**Pn**		**04 12 12.3**	**+0.4**
	0.3nm,0.3s,baz=288,slow=16,SNR=3.0								
STKA				Pg		**Pb**		**04 12 17.7**	**+1.2**
	4.6nm,0.3s,baz=282,slow=16,SNR=2.4								
STKA				Lg		Lg		04 12 51.7	
	6.7nm,0.3s,baz=9.4,slow=22,SNR=5.3								
STKA	**Stephens Creek**	**2.55**	**104**	P		**Pn**		**04 12 12.3**	**+0.4**
	baz=2.6,SNR=28								
BBOO	**Buckleboo**	**2.70**	**235**	P		**Pn**		**04 12 14.7**	**+0.7**
	baz=2.7,SNR=12								
BBOO				S		**Sn**		**04 12 46.7**	**+0.3**
	baz=2.7								
MULG	**Mulgathing**	**4.11**	**283**	P		**Pn**		**04 12 34.9**	**+1.5**
	baz=4.1,SNR=5.7								
MULG				S		**Sn**		**04 13 22.2**	**+0.9**
	baz=4.1								
OOD	**Oodnadatta**	**4.36**	**322**	P		**Pn**		**04 12 39.6**	**+2.8**
	baz=4.4,SNR=4.0								
OOD				S		**Sn**		**04 13 28.6**	**+1.3**
	baz=4.4								
CMSA	**Cobar Meteorol**	**5.99**	**94**	P		**Pn**		**04 12 59.1**	**-0.1**
	baz=6.0								
CMSA				S		**Sn**		**04 14 04.8**	**-2.9**
	baz=6.0								
ARPS	**Mount Arapiles**	**6.06**	**155**	P		**Pn**		**04 12 59.8**	**-0.3**
	baz=6.0								
ASAR	**Alice Springs**	**8.70**	**330**	Pn		**Pn**		**04 13 38.3**	**+1.8**
	0.1nm,0.3s,baz=156,slow=12,SNR=2.0								
ASAR				Sn		**Sn**		**04 15 11.3**	**-3.2**
	0.3nm,0.3s,baz=153,slow=22,SNR=8.0								
FORT	**Forrest**	**9.13**	**270**	P		**Pn**		**04 13 42.1**	**-0.3**
	baz=9.1								
FORT				S		**Sn**		**04 15 19.7**	**-5.4**
	baz=9.1								
WRA	**Warramunga Arr**	**11.96**	**340**	Pn		**Pn**		**04 14 20.9**	**-0.2**
	0.1nm,0.3s,baz=158,slow=12,SNR=5.9								
WRA				Sn		**Sn**		**04 16 30.2**	**-4.3**
	0.1nm,0.3s,baz=166,slow=23,SNR=1.7								

*IDC **16** 04:42:22.6±1.1, 37°.51N×138°.14E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.5/5, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=42.9km s-min=11.1km az=88.0*
*JMA **16** 04:42:25.5, 37°.47N×138°.48E, h18km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs177.00000°, δ45.00000°, λ70.00000°. NP2:φs24.00000°, δ49.00000°, λ109.00000°. Principal axes: T Plg76.0000°, Azm3.0000°; N Plg14.0000°, Azm191.0000°; P Plg2.0000°, Azm101.0000°;*
JMA Felt II J1.
*NIED **16** 04:42:25.5, 37°.47N×138°.48E, h18km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr2.14; Mθθ0.31; Mφφ-2.45; Mrθ0.74; Mrφ-0.53; Mθφ0.96; Fault plane solution: Mo2.65000×10¹⁴ NP1:φs24.00000°, δ59.00000°, λ106.00000°. NP2:φs175.00000°, δ35.00000°, λ65.00000°.*

ISC 16 04:42:24.7±1.2, 37°.46N±0°.03×138°.45E±0°.05, h16km±9km, n17, σ0§68/25, mb3.6/5, 2C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.22**	**71**	⇓P		**Pg**		**04 42 30.4**	**+0.8**
JJN	**Nakama**	**0.42**	**213**	⇓P		**Pb**		**04 42 34.4**	**+0.6**
JJN				S		**Sb**		**04 42 40.6**	**+0.6**
JSD	**Sado**	**0.60**	**345**	⇑P		**Pb**		**04 42 36.8**	**0.0**
JSD				S		**Sb**		**04 42 45.3**	**+0.3**
JNS	**Sasagawa**	**0.78**	**62**	P		**Pg**		**04 42 39.7**	**-0.1**
JNS				S		**Sg**		**04 42 49.8**	**-0.2**
JSZ	**Suzu**	**0.87**	**270**	⇓P		**Pn**		**04 42 41.5**	**-0.7**
JSZ				S		**Sn**		**04 42 53.5**	**-1.0**
MAT	**Matsushiro**	**0.94**	**192**	P		**Pg**		**04 42 42.4**	**-0.4**
MAT				S		**Sb**		**04 42 55.4**	**+0.7**
MAT	**Matsushiro**	**0.94**	**192**	P		**Pb**		**04 42 42.6**	**+0.1**
MAT				S		**Sb**		**04 42 55.4**	**+0.7**
MJAR	**Matsushiro Arr**	**0.94**	**192**	Pg		**Pb**		**04 42 42.6**	**0.0**
	3.9nm,0.3s,baz=23,slow=16,SNR=52								
MJAR				Lg		Lg		04 42 55.3	
	14nm,0.3s,baz=76,slow=31,SNR=21								
JKT	**Katashina**	**0.94**	**137**	⇓P		**Pg**		**04 42 42.4**	**-0.5**
JKT				S		**Sg**		**04 42 54.8**	**-0.5**
JFY	**Yanaizu**	**1.00**	**93**	P		**Pg**		**04 42 43.3**	**-0.7**
JFY				S		**Sg**		**04 42 56.3**	**-0.8**
JAW	**Awa shima**	**1.18**	**32**	⇑P		**Pb**		**04 42 46.3**	**-0.4**
JAW				S		**Sb**		**04 43 01.9**	**+0.2**
KSRS	**Korea Array**	**8.37**	**273**	LR		LR		04 47 20.8	
	comp=Z,37nm,19.0s,baz=88,slow=37								
KURBB	**Kurchatov Arra**	**43.87**	**307**	P		**P**		**04 50 29.3**	**-0.8**
	0.1nm,0.3s,baz=84,slow=8.5,SNR=2.3								
ILAR	**Eielson Array**	**50.40**	**32**	P		**P**		**04 51 21.8**	**+0.9**
	0.4nm,0.7s,baz=276,slow=6.3,SNR=6.4								
WRA	**Warramunga Arr**	**57.23**	**185**	P		**P**		**04 52 10.9**	**-0.3**
	0.7nm,0.8s,baz=1.1,slow=7.5,SNR=6.6								
ASAR	**Alice Springs**	**60.95**	**185**	P		**P**		**04 52 36.9**	**-0.1**
	0.4nm,0.8s,baz=7.6,slow=7.7,SNR=2.2								
PDAR	**Pinedale Array**	**79.03**	**44**	P		**P**		**04 54 29.8**	**+1.5**
	0.4nm,0.6s,baz=298,slow=2.9,SNR=3.8								

*IDC **16** 04:44:11.2±1.6, 2°.50S×122°.15E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=373.6km s-min=26.5km az=60.0*
*DJA **16** 04:44:13.6±0.2, 3°.5S±2°×122°.2E±°, h10km, M4.1/13, mb4.1/2, mB6.2/2, MLv4.1/13, Mw(mB)5.9/2*

ISC 16 04:44:12.3±0.8, 2°.55S±0°.04×121°.80E±0°.06, h10km, n23, σ1§50/24, mb3.7/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.62**	**185**	P		**Pb**		**04 44 41.6**	**-0.8**
APSI	**Ampana**	**1.63**	**355**	P		**Pn**		**04 44 41.4**	**+0.3**
APSI				S		**Sb**		**04 45 03.2**	**+0.1**
LUWI	**Luwuk**	**1.78**	**33**	P		**Pn**		**04 44 42.9**	**-0.2**
LUWI				S		**Sg**		**04 45 09.1**	**-0.5**
TTSI	**Tana Toraja**	**2.04**	**256**	P		**Pn**		**04 44 47.0**	**+0.2**
TTSI				S		**Sn**		**04 45 12.8**	**+0.4**
BNSI	**Bone**	**2.50**	**223**	P		**Pn**		**04 44 54.1**	**+1.0**
MRSI	**Marisa**	**3.00**	**3**	P		**Pn**		**04 45 00.9**	**+0.9**
PMSI	**Majene**	**3.04**	**252**	P		**Pn**		**04 45 02.9**	**+2.4**
KAPI	**Kappang**	**3.19**	**220**	P		**Pn**		**04 45 03.9**	**+1.3**
GTOI	**Gorontalo**	**3.38**	**21**	P		**Pn**		**04 45 06.5**	**+1.3**
MPSI	**Mapaga**	**3.44**	**326**	P		**Pn**		**04 45 06.6**	**+0.6**
MKS	**Makassar**	**3.53**	**221**	P		**Pn**		**04 45 08.7**	**+1.4**
KMSI	**Cibinong**	**3.79**	**35**	P		**Pn**		**04 45 13.4**	**+2.6**
BSSI	**Bau Bau, Buton**	**3.81**	**200**	P		**Pn**		**04 45 12.5**	**+1.4**
EDFI	**Ende, Flores**	**6.17**	**181**	P		**Pn**		**04 45 42.6**	**-1.0**
	0.0nm6.7nm,0.8s								
KRAI	**Karang Ratu**	**6.63**	**97**	P		**Pn**		**04 45 53.4**	**+3.5**
CBJI	**Citeko**	**15.39**	**255**	P		**P**		**04 47 52.7**	**-1.7**
DBJI	**Dramaga**	**15.52**	**255**	P		**Pn**		**04 47 52.3**	**+0.8**
WRA	**Warramunga Arr**	**21.19**	**146**	P		**P**		**04 48 56.4**	**-1.8**
	1.9nm,0.6s,baz=323,slow=11,SNR=37								
ASAR	**Alice Springs**	**24.04**	**152**	P		**P**		**04 49 27.4**	**-0.4**
	1.7nm,0.7s,baz=329,slow=8.4,SNR=23								
CMAR	**Chiang Mai Arr**	**30.69**	**314**	LR		LR		05 03 42.2	
	comp=Z,16nm,19.1s,baz=130,slow=38								
STKA	**Stephens Creek**	**34.62**	**150**	P		**P**		**04 51 00.8**	**-1.0**
	3.1nm,0.7s,baz=312,slow=9.2,SNR=7.4								
STKA				LR		LR		05 05 57.6	
	comp=Z,48nm,19.0s,baz=231,slow=38								
ULN	**Ulaanbaatar**	**51.84**	**347**	P		P		04 53 37.4	+17
MKAR	**Makanchi Array**	**60.16**	**330**	P		**P**		**04 54 21.7**	**+1.4**
	0.3nm,0.7s,baz=134,slow=8.3,SNR=2.6								

*IDC **16** 04:58:13.9±1.4, 8°.30S×107°.11E, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.7/27, mbtmp3.8/6, Error ellipse: s-maj=34.7km s-min=18.1km az=66.0*
*DJA **16** 04:58:18.2±0.6, 8°.5S±3°×107°.7E±°, h10km±4km, M4.5/15, mb4.8/2, MLv4.3/15*

ISC 16 04:58:17.5±2.1, 8°.23S±0°.08×107°.37E±0°.06, h16km±12km, n27, σ1§29/28, mb3.8/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.80**	**34**	P		**Pn**		**04 58 34.6**	**+0.4**
CISI				S		**Sg**		**04 58 43.7**	**-0.1**
CNJI	**Cibinong**	**0.94**	**345**	P		**Pn**		**04 58 36.7**	**+0.6**
CNJI				S		**Sg**		**04 58 47.8**	**-0.4**
LEM	**Lembang**	**1.41**	**10**	Pn		**Pg**		**04 58 44.8**	**0.0**
	153nm,0.3s,baz=84,slow=6.2,SNR=44								
LEM				Sn		**Sg**		**04 59 03.0**	**-0.3**
	311nm,0.3s,baz=153,slow=13,SNR=17								
LEM	**Lembang**	**1.41**	**10**	P		**Pg**		**04 58 44.6**	**-0.2**
LEM				S		**Sn**		**04 59 02.2**	**+1.1**
DBJI	**Dramaga**	**1.77**	**340**	P		**Pn**		**04 58 49.1**	**+1.6**
DBJI				S		**Sn**		**04 59 10.6**	**+0.8**
KPJI	**Karang Pucung**	**1.79**	**60**	P		**Pb**		**04 58 49.4**	**-0.5**
CTJI	**Waduk Cacaban**	**2.17**	**56**	P		**Pn**		**04 58 55.1**	**+2.1**
CGJI	**Cibinong**	**2.31**	**314**	P		**Pn**		**04 58 55.8**	**+0.9**
UGM	**Wanagama**	**3.14**	**84**	P		**Pn**		**04 59 07.1**	**+0.7**
SMRI	**Semarang**	**3.26**	**69**	P		**Pn**		**04 59 09.4**	**+1.4**
PCJI	**Pacitan**	**3.77**	**90**	P		**Pn**		**04 59 16.1**	**+1.1**
KASI	**Kota Agung**	**3.92**	**313**	P		**Pn**		**04 59 19.2**	**+2.2**
SJI	**Sawahan**	**4.38**	**84**	P		**Pn**		**04 59 24.6**	**+1.1**
PWJI	**Pagerwojo**	**4.40**	**88**	P		**Pn**		**04 59 24.4**	**+0.8**
MDSI	**Maura Dua**	**4.88**	**319**	P		**Pn**		**04 59 32.8**	**+2.5**
EGSI	**Enggano, Bengk**	**5.81**	**299**	P		**Pn**		**04 59 44.9**	**+1.9**
	0.4nm75nm,0.8s								
JAGI	**Jajag, Banyuwa**	**6.72**	**93**	P		**Pn**		**04 59 55.5**	**-0.1**
BYJI	**Banyuwangi**	**6.92**	**90**	P		Pn		05 00 07.2	+8.9
FITZ	**Fitzroy Crossi**	**20.30**	**121**	P		**P**		**05 02 53.9**	**+1.1**
	4.6nm,0.7s,baz=273,slow=5.9,SNR=14								
WRA	**Warramunga Arr**	**28.58**	**117**	P		**P**		**05 04 12.7**	**-0.5**
	0.7nm,0.9s,baz=291,slow=10,SNR=5.1								
ASAR	**Alice Springs**	**29.69**	**124**	P		**P**		**05 04 23.1**	**+0.1**
	0.5nm,0.8s,baz=300,slow=8.5,SNR=4.6								
H08S2	**Diego Garcia H**	**34.54**	**268**	T		T		05 42 10.6	
	baz=92,slow=76,SNR=48								
H08S3	**Diego Garcia H**	**34.55**	**268**	T		T		05 42 11.3	
	baz=92,slow=76,SNR=16								
H08S1	**Diego Carcia H**	**34.56**	**268**	T		T		05 42 12.0	
	baz=92,slow=76,SNR=21								
STKA	**Stephens Creek**	**39.56**	**131**	P		**P**		**05 05 48.8**	**+0.8**
	2.6nm,0.6s,baz=315,slow=9.6,SNR=8.3								
MKAR	**Makanchi Array**	**59.16**	**340**	P		**P**		**05 08 15.0**	**-2.5**
	0.4nm,0.5s,baz=162,slow=7.6,SNR=3.8								
BRTR	**Keskin Array B**	**82.91**	**312**	P		**P**		**05 10 40.8**	**-1.2**
	0.6nm,0.7s,baz=108,slow=4.0,SNR=4.2								

*IDC **16** 05:15:57.8±2.3, 6°.89S×129°.54E, h132km±20km, mb3.7/5, mb1 4.0/9, mb1mx3.7/29, mbtmp4.4/9, Error ellipse: s-maj=24.7km s-min=15.7km az=92.0*
*NEIC **16** 05:15:58.3±2.6, 6°.83S±0°.06×129°.63E±0°.08, h137km±7km, mb4.0/9, Error ellipse: s-maj=11.3km s-min=8.9km az=87.0*
*DJA **16** 05:15:58.5±0.4, 7°.5S±3°×13°.0E±°, h185km±8km, M4.6/13, mb4.5/7, mB5.2/5, MLv4.6/13, Mw(mB)4.5/5*

ISC 16 05:15:58.0±0.6, 6°.85S±0°.05×129°.63E±0°.06, h139km, n48, σ2§10/50, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.00**	**124**	Pn		**Pn**		**05 16 35.5**	**+3.0**
SAUI						**Sn**		**05 16 55.9**	**-3.1**
SAUI	**Saumlaki**	**2.00**	**124**	P		**Pn**		**05 16 34.5**	**+2.0**
SAUI				S		**Sn**		**05

mb4.3/6,mB5.3/1,MLv4.2/7,Mw(mB)4.7/1
ISC 16 05:36:49.5±1.1,**9°55S**×0.08×**125°32E**±0.07,**h35**km,**n16,**
σ1§**87**/21,**Timor region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.06**	**259**	P		**Pn**	**Pn**	**05 37 08.2**	**+0.3**
SOEI				S		**Sn**	**Sn**	**05 37 20.5**	**-1.0**
BATI	**Baumata**	**1.76**	**248**	Pn		**Pn**	**Pn**	**05 37 19.2**	**+1.8**
	70nm,0.3s,baz=256,slow=2.5,SNR=13								
BATI				Sn		**Sn**	**Sn**	**05 37 42.0**	**+3.3**
	147nm,0.3s,baz=85,slow=20,SNR=5.5								
BATI	**Baumata**	**1.76**	**248**	P		**Pn**	**Pn**	**05 37 18.0**	**+0.5**
BATI				S		**Sn**	**Sn**	**05 37 36.9**	**-1.7**
MMRI	**Maumere**	**3.18**	**286**	P		**Pn**	**Pn**	**05 37 36.8**	**-0.2**
EDFI	**Ende, Flores**	**3.67**	**282**	P		**Pn**	**Pn**	**05 37 43.7**	**-0.2**
EDFI				S		**Sn**	**Sn**	**05 38 24.4**	**-1.6**
BASI	**Baing, Sumba**	**4.72**	**262**	P		**Pn**	**Pn**	**05 37 58.0**	**-0.2**
WBSI	**Waikabubak, Su**	**5.85**	**269**	P		**Pn**	**Pn**	**05 38 12.8**	**-1.0**
	0.2nm38nm,0.6s								
KAPI	**Kappang**	**7.13**	**309**	LR		LR	LR	05 41 15.0	
	comp=Z,90nm,19.1s,baz=142,slow=38								
PLAI	**Plampang**	**7.48**	**275**	P		**Pn**	**Pn**	**05 38 36.4**	**+0.2**
	0.1nm20nm,0.5s								
TWSI	**Taliwang, Sumb**	**8.37**	**275**	P		**Pn**	**Pn**	**05 38 47.5**	**-0.9**
	7.4nm,1.1s								
TTSI	**Tana Toraja**	**8.46**	**319**	P		**Pn**	**Pn**	**05 38 50.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**8.50**	**178**	Pn		**Pn**	**Pn**	**05 38 53.1**	**+2.9**
	0.7nm,0.3s,baz=358,slow=12,SNR=14								
FITZ				Sn		**Sn**	**Sn**	**05 40 26.4**	**+1.5**
	0.9nm,0.3s,baz=146,slow=6.6,SNR=10								
WRA	**Warramunga Arr**	**13.51**	**141**	Pn		**Pn**	**Pn**	**05 40 00.7**	**+1.9**
	0.5nm,0.3s,baz=318,slow=13,SNR=19								
WRA				Sn		**Sn**	**Sn**	**05 42 24.1**	**-3.7**
	0.2nm,0.3s,baz=310,slow=22,SNR=6.1								
ASAR	**Alice Springs**	**16.26**	**151**	Pn		**P**	**P**	**05 40 37.2**	**-0.8**
	0.3nm,0.3s,baz=318,slow=12,SNR=16								
ASAR				Sn		**Sn**	**Sn**	**05 43 31.6**	**-3.1**
	0.1nm,0.3s,baz=206,slow=22,SNR=3.2								
CMAR	**Chiang Mai Arr**	**38.11**	**317**	LR		LR	LR	06 03 11.3	
	comp=Z,8.3nm,18.4s,baz=190,slow=42								
MKAR	**Makanchi Array**	**67.94**	**330**	P		**P**	**P**	**05 47 45.0**	**+0.3**
	0.9nm,0.7s,baz=136,slow=8.1,SNR=7.7								

*TAP **16** 05:43:24.1,24°.87N×122°.46E,h112km,ML3.5,C*
*JMA **16** 05:43:24.0±0.1,24°.80N×122°.42E,h116km±2km,M2.6*
ISC 16 05:43:24.1±1.4,**24°86N**±0°.04×**122°45E**±0°.03,**h115**km±8km,
n81,σ0§**69**/134,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**290**	P		**Pn**	**Pn**	**05 43 41.2**	**0.0**
	baz=287								
TWB1					*e*S		**Sn**	**05 43 54.2**	**+0.1**
	baz=287								
EGS		**0.47**	**269**		*e*P	**Pn**	**Pn**	**05 43 41.7**	**+0.3**
	baz=260								
NTC	**Toucheng**	**0.56**	**270**	P		**Pn**	**Pn**	**05 43 42.0**	**0.0**
	baz=263								
TIPB	**Shuangxi**	**0.58**	**282**	P		**Pn**	**Pn**	**05 43 42.2**	**+0.1**
	baz=277								
TIPB				S		**Sn**	**Sn**	**05 43 55.4**	**-0.3**
	baz=277								
TWC	**Suao**	**0.60**	**246**	P		**Pn**	**Pn**	**05 43 42.0**	**-0.2**
	baz=239								
TWC					*e*S		**Sn**	**05 43 55.6**	**-0.2**
	baz=239								
JYNG	**Yonagunijimaku**	**0.60**	**132**	P		**Pn**	**Pn**	**05 43 42.2**	**-0.1**
JYNG				S		**Sn**	**Sn**	**05 43 56.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.64**	**128**	P		**Pn**	**Pn**	**05 43 42.5**	**-0.1**
YOJ				S		**Sn**	**Sn**	**05 43 56.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.64**	**128**	P		**Pn**	**Pn**	**05 43 42.6**	**+0.1**
	baz=136								
YOJ				S		**Sn**	**Sn**	**05 43 56.4**	**-0.1**
	baz=136								
NWF	**Wu-fen Shan**	**0.65**	**289**	P		**Pn**	**Pn**	**05 43 42.9**	**+0.2**
	baz=287								
NWF				S		**Sn**	**Sn**	**05 43 56.7**	**0.0**
	baz=287								
WFSB	**Wu-fen Shan**	**0.65**	**289**	P		**Pn**	**Pn**	**05 43 42.8**	**+0.2**
	baz=287								
WFSB					*e*S		**Sn**	**05 43 56.7**	**+0.2**
	baz=287								
TNOU	**National Taiwa**	**0.68**	**296**		*e*P	**Pn**	**Pn**	**05 43 43.1**	**+0.3**
	baz=296								
NDS	**Dongshan**	**0.70**	**252**	P		**Pn**	**Pn**	**05 43 43.1**	**0.0**
	baz=246								
NDS				S		**Sn**	**Sn**	**05 43 57.0**	**-0.3**
	baz=246								
TWE	**Neicheng**	**0.73**	**259**	P		**Pn**	**Pn**	**05 43 43.4**	**+0.2**
	baz=257								
TWE					*e*S		**Sn**	**05 43 57.1**	**-0.5**
	baz=257								
TWA	**Mucha**	**0.80**	**279**		*e*P	**Pn**	**Pn**	**05 43 43.8**	**-0.1**
	baz=269								
TWA				S		**Sn**	**Sn**	**05 43 58.3**	**-0.4**
	baz=269								
ENTT	**Nioudou**	**0.83**	**255**	P		**Pn**	**Pn**	**05 43 44.6**	**+0.4**
	baz=257								
ENTT					*e*S		**Sn**	**05 43 59.2**	**-0.1**
	baz=257								
PCYT	**Pengchaiyu**	**0.84**	**336**		*e*P	**Pn**	**Pn**	**05 43 44.8**	**+0.6**
	baz=330								
YM08	**YM08**	**0.85**	**293**		*e*P	**Pn**	**Pn**	**05 43 44.5**	**+0.2**
	baz=291								
YM08					*e*S		**Sn**	**05 43 59.1**	**-0.4**
	baz=291								
YM01	**YM01**	**0.85**	**290**		*e*P	**Pn**	**Pn**	**05 43 44.6**	**+0.2**
	baz=288								
YM01					*e*S		**Sn**	**05 43 59.6**	**0.0**
	baz=288								
NWLT	**Wulai**	**0.87**	**265**	P		**Pn**	**Pn**	**05 43 44.3**	**-0.2**
	baz=260								
NDT	**Datong Townshi**	**0.89**	**254**	P		**Pn**	**Pn**	**05 43 45.3**	**+0.6**
	baz=254								
NDT					*e*S		**Sn**	**05 44 01.0**	**+0.8**
	baz=254								
NTST	**Danshui**	**0.96**	**289**		*e*S	**Sn**	**Sn**	**05 44 01.5**	**+0.1**
	baz=287								
TWS1	**Kuangyinshan**	**0.97**	**285**		*e*P	**Pn**	**Pn**	**05 43 45.8**	**+0.4**
	baz=283								
TWS1					*e*S		**Sn**	**05 44 01.5**	**0.0**
	baz=283								
YHNB	**Yeheng**	**1.00**	**259**		*e*P	**Pn**	**Pn**	**05 43 46.0**	**+0.2**
	baz=263								
YHNB					*e*S		**Sn**	**05 44 02.0**	**-0.2**
	baz=263								
ETL	**Fush Village**	**1.03**	**228**		*e*P	**Pn**	**Pn**	**05 43 46.1**	**+0.1**
	baz=220								
ETL					*e*S		**Sn**	**05 44 02.3**	**-0.3**
	baz=220								
NACB	**Ninganchiao**	**1.03**	**229**		*e*P	**Pn**	**Pn**	**05 43 46.0**	**-0.1**
	baz=222								
NACB					*e*S		**Sn**	**05 44 02.3**	**-0.4**
	baz=222								
NNSB	**Datong**	**1.06**	**247**		*e*P	**Pn**	**Pn**	**05 43 46.9**	**+0.3**
	baz=239								
NNSB					*e*S		**Sn**	**05 44 03.5**	**+0.1**
	baz=239								
NNSH	**Datong**	**1.06**	**247**		*e*P	**Pn**	**Pn**	**05 43 46.9**	**+0.3**
	baz=239								
NNSH					*e*S		**Sn**	**05 44 03.4**	**0.0**
	baz=239								
NNS	**Nan Shan**	**1.07**	**247**		*e*P	**Pn**	**Pn**	**05 43 47.0**	**+0.4**
	baz=239								
NNS				S		**Sn**	**Sn**	**05 44 03.6**	**+0.1**
	baz=239								
ETLH	**Xiulin Townshi**	**1.09**	**234**		*e*P	**Pn**	**Pn**	**05 43 46.8**	**-0.1**
	baz=233								
ETLH					*e*S		**Sn**	**05 44 03.6**	**-0.4**
	baz=233								
TWD	**Chiawan**	**1.10**	**225**		*e*P	**Pn**	**Pn**	**05 43 46.6**	**-0.2**
	baz=220								
TWD					*e*S		**Sn**	**05 44 03.2**	**-0.6**
	baz=220								
NCUH	**Zhongli**	**1.16**	**276**	S			**Sn**	**05 44 05.4**	**+0.5**
	baz=274								
HWA	**Hwalien**	**1.17**	**222**		*e*P	**Pn**	**Pn**	**05 43 48.0**	**+0.5**
	baz=216								
TEYL	**Yanliau Villag**	**1.25**	**219**		*e*P	**Pn**	**Pn**	**05 43 48.4**	**-0.1**
	baz=214								
TEYL					*e*S		**Sn**	**05 44 06.0**	**-0.9**
	baz=214								
FUSS	**Fushou**	**1.26**	**241**		*e*P	**Pn**	**Pn**	**05 43 49.2**	**+0.4**
	baz=237								
FUSS					*e*S		**Sn**	**05 44 07.1**	**-0.3**
	baz=237								
IRIF	**Iriomote-Funau**	**1.27**	**114**	P			**Pn**	**05 43 49.1**	**+0.4**
IRIF				S			**Sn**	**05 44 07.2**	**0.0**
WHF	**Hehuan Shan**	**1.29**	**237**		*e*P	**Pn**	**Pn**	**05 43 49.6**	**+0.2**
	baz=231								
WHF					*e*S		**Sn**	**05 44 07.7**	**-0.7**
	baz=231								
TWT	**Tachien**	**1.31**	**243**		*e*S		**Sn**	**05 44 08.4**	**+0.2**
	baz=242								
TDCB	**Techi**	**1.32**	**243**		*e*P		**Pn**	**05 43 50.2**	**+0.8**
	baz=242								
TDCB					*e*S		**Sn**	**05 44 08.5**	**0.0**
	baz=242								
LIOB	**Emei**	**1.32**	**261**		*e*P		**Pn**	**05 43 49.5**	**+0.3**
	baz=260								
LIOB					*e*S		**Sn**	**05 44 08.1**	**-0.2**
	baz=260								
NSTT	**Nanjuang**	**1.34**	**261**		*e*P		**Pn**	**05 43 49.7**	**+0.3**
	baz=259								
NSTT					*e*S		**Sn**	**05 44 08.3**	**-0.3**
	baz=259								
ESL	**Shilin**	**1.39**	**222**		*e*P		**Pn**	**05 43 49.9**	**-0.1**
	baz=229								
HATJ	**Hateruma jima**	**1.47**	**123**	S			**Sn**	**05 44 11.3**	**+0.1**
OWD	**Renai**	**1.47**	**233**		*e*P		**Pn**	**05 43 51.2**	**+0.2**
	baz=227								
OWD					*e*S		**Sn**	**05 44 10.9**	**-0.6**
	baz=227								
WHP	**Taichung City**	**1.49**	**248**		*e*P		**Pn**	**05 43 52.1**	**+0.9**
	baz=254								
WHP					*e*S		**Sn**	**05 44 11.9**	**+0.1**
	baz=254								
EGFH	**Guangfu**	**1.51**	**219**		*e*P		**Pn**	**05 43 50.8**	**-0.6**
	baz=226								
EGFH					*e*S		**Sn**	**05 44 11.0**	**-1.0**
	baz=226								
JKRS	**Kuro-shima**	**1.55**	**113**	P			**Pn**	**05 43 52.4**	**+0.6**
JKRS				S			**Sn**	**05 44 13.0**	**+0.2**
WPL	**Puli Township**	**1.60**	**239**		*e*P		**Pn**	**05 43 53.1**	**+0.6**
	baz=234								
DPDB	**Guoxing**	**1.61**	**240**		*e*P		**Pn**	**05 43 53.6**	**+0.9**
	baz=248								
WCS	**Beigang Elemen**	**1.61**	**241**		*e*P		**Pn**	**05 43 53.3**	**+0.7**
	baz=247								
WCS					*e*S		**Sn**	**05 44 14.7**	**+0.4**
	baz=247								
JIJ	**Ishigaki jima**	**1.61**	**107**	P			**Pn**	**05 43 52.9**	**+0.3**
JIJ				S			**Sn**	**05 44 13.8**	**-0.5**
HGSD	**Ruisui**	**1.65**	**215**		*e*P		**Pn**	**05 43 52.9**	**-0.1**
	baz=208								
HGSD					*e*S		**Sn**	**05 44 14.7**	**-0.4**
	baz=208								
EHY	**Hungye**	**1.69**	**218**		*e*P		**Pn**	**05 43 53.7**	**0.0**
	baz=225								
EHY					*e*S		**Sn**	**05 44 14.2**	**-1.9**
	baz=225								
JISG	**Ishigakijimahi**	**1.71**	**99**	P			**Pn**	**05 43 54.0**	**+0.2**
JISG				S			**Sn**	**05 44 16.2**	**-0.2**
SMLT	**Sun Moon Lake**	**1.71**	**236**		*e*P		**Pn**	**05 43 55.3**	**+1.3**
	baz=231								
SMLT					*e*S		**Sn**	**05 44 18.8**	**+2.1**
	baz=231								
SSLB	**Suanglung**	**1.73**	**232**		*e*P		**Pn**	**05 43 55.1**	**+1.0**
	baz=227								
SSLB					*e*S		**Sn**	**05 44 17.5**	**+0.6**
	baz=227								
TYC	**Yuchr**	**1.74**	**237**		*e*P		**Pn**	**05 43 55.4**	**+1.3**
	baz=233								
TYC					*e*S		**Sn**	**05 44 18.3**	**+1.4**
	baz=233								
YULB	**Yu-li**	**1.80**	**216**		*e*P		**Pn**	**05 43 54.3**	**-0.6**
	baz=223								
TWF1	**Yuli**	**1.83**	**215**		*e*P		**Pn**	**05 43 54.8**	**-0.6**
	baz=222								
WJS	**Zhushan**	**1.88**	**237**		*e*P		**Pn**	**05 43 56.2**	**+0.3**
	baz=244								
WJS					*e*S		**Sn**	**05 44 20.1**	**+0.1**
	baz=244								
FULB	**Fuli**	**1.96**	**213**		*e*P		**Pn**	**05 43 57.3**	**+0.4**
	baz=207								
FULB					*e*S		**Sn**	**05 44 21.6**	**-0.3**
	baz=207								
CHKT	**Chengkung**	**2.01**	**210**		*e*P		**Pn**	**05 43 56.8**	**-0.7**
	baz=204								
CHKT					*e*S		**Sn**	**05 44 21.0**	**-2.0**
	baz=204								
ALS	**Alishan**	**2.01**	**229**		*e*P		**Pn**	**05 43 59.1**	**+1.2**
	baz=221								
ALS					*e*S		**Sn**	**05 44 25.2**	**+1.6**
	baz=221								
CHN5	**Tsauling**	**2.05**	**233**		*e*P		**Pn**	**05 43 59.8**	**+1.7**
	baz=241								
CHN5					*e*S		**Sn**	**05 44 25.1**	**+1.1**
	baz=241								
JTJ	**Tarama**	**2.06**	**96**	P			**Pn**	**05 43 58.8**	**+0.7**
JTJ				S			**Sn**	**05 44 24.0**	**0.0**
ELDTW	**Lidau**	**2.12**	**219**		*e*P		**Pn**	**05 43 58.9**	**0.0**
	baz=212								
ELDTW					*e*S		**Sn**	**05 44 24.7**	**-0.9**
	baz=212								
EDH	**Donghe**	**2.15**	**209**		*e*P		**Pn**	**05 43 59.0**	**-0.3**
	baz=205								
EDH					*e*S		**Sn**	**05 44 25.0**	**-1.2**
	baz=205								
CHN4	**Tsaushan**	**2.27**	**229**		*e*P		**Pn**	**05 44 02.1**	**+1.3**
	baz=237								
CHN4					*e*S		**Sn**	**05 44 29.6**	**+0.8**
	baz=237								
TPUB	**Ta-pu**	**2.27**	**227**		*e*P		**Pn**	**05 44 02.5**	**+1.6**
	baz=237								
LONT	**Longtian**	**2.29**	**212**		*e*S		**Sn**	**05 44 28.9**	**-0.5**
	baz=212								
STYT	**Tauyuan**	**2.29**	**223**		*e*P		**Pn**	**05 44 02.6**	**+1.5**
	baz=222								
WTP	**Ta-pu**	**2.32**	**227**		*e*P		**Pn**	**05 44 02.3**	**+0.7**
	baz=237								
LDUT	**Ludao**	**2.35**	**203**		*e*P		**Pn**	**05 44 01.2**	**-0.6**
	baz=205								
LDUT					*e*S		**Sn**	**05 44 29.6**	**-1.2**
	baz=205								
TWK	**Hsinying**	**2.39**	**229**		*e*P		**Pn**	**05 44 03.0**	**+0.6**
	baz=238								
CHN1	**Nanshi**	**2.42**	**227**		*e*P		**Pn**	**05 44 04.2**	**+1.4**
	baz=236								
SLGT	**Liugui**	**2.48**	**222**		*e*P		**Pn**	**05 44 05.1**	**+1.6**
	baz=229								
MATB	**Ma-tsu**	**2.61**	**300**		*e*P		**Pn**	**05 44 04.3**	**-0.8**
	baz=290								
VWUC	**VWUC**	**2.73**	**273**		*e*P		**Pn**	**05 44 06.2**	**-0.5**
	baz=272								
XPSS	**Dashiqiu**	**2.90**	**316**		*e*P		**Pn**	**05 44 08.1**	**-0.8**
	baz=313								
LYJJ	**Jianjiangzhen**	**2.96**	**305**		*e*P		**Pn**	**05 44 09.0**	**-0.6**
	baz=295								
PTMZ	**Houxiangcun**	**3.03**	**274**		*e*P		**Pn**	**05 44 10.3**	**-0.4**
	baz=273								
MHZQ	**Yeshan**	**3.33**	**293**		*e*P		**Pn**	**05 44 14.2**	**-0.5**
	baz=282								

*NNC **16** 06:09:48.6±8.4,40°.62N×80°.26E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=62.0km s-min=43.4km az=170.0
*KRNET **16** 06:09:52.8±0.1,40°.64N×80°.09E,mb2.8*
*SOME **16** 06:09:53.1,40°.88N×79°.85E,h10km*
ISC 16 06:09:55.4±3.0,**41°0N**±0°.1×**79°75E**±0°.07,**h9**km±16km,**n25,**
σ1§**70**/42,**13C-4D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.66**	**299**	⇑*i*P			**Pg**	**06 10 27.7**	**+0.4**
	baz=3.0								
TARG				⇑*i*S			**Sg**	**06 10 53.4**	**+4.6**
	baz=3.0								
PRZ	**Przheval'sk**	**1.84**	**327**	⇑*i*P			**Pg**	**06 10 30.7**	**0.0**
	baz=26								
PRZ				⇑*i*S			**Sg**	**06 10 58.4**	**+3.9**
	baz=26								
SHLS	**Shalkode**	**2.22**	**355**		*e*P		**Pb**	**06 10 35.1**	**-0.7**
	18nm,0.2s								
SHLS					*e*S		**Sg**	**06 11 05.2**	**-1.5**
	25nm,0.4s								
SHLS	**Shalkode**	**2.22**	**355**	Pg			**Pb**	**06 10 34.8**	**-1.0**
	18nm,0.2s								
SHLS					Lg		Lg	06 11 05.2	
	25nm,0.4s								
KDJ	**Kajisay**	**2.26**	**302**	⇑*e*P			**Pb**	**06 10 36.1**	**-0.4**
	baz=5.0								
KDJ				⇑*i*S			**Sg**	**06 11 07.5**	**-0.6**
	baz=5.0								
UZB	**Uzynbulak**	**2.26**	**346**		*e*P		**Pb**	**06 10 36.5**	**-0.1**
	5.7nm,0.2s								
UZB					*e*S		**Sg**	**06 11 07.6**	**-0.6**
	11nm,0.3s								
UZB	**Uzynbulak**	**2.26**	**346**	Pg			**Pb**	**06 10 36.2**	**-0.3**
	5.7nm,0.2s								
UZB					Lg		Lg	06 11 07.2	
	11nm,0.3s								
SATY	**Saty**	**2.33**	**335**		*e*P		**Pb**	**06 10 37.8**	**0.0**
	5.0nm,0.3s								
SATY					*e*S		**Sg**	**06 11 09.9**	**-0.5**
	5.8nm,0.3s								
SATY	**Saty**	**2.33**	**335**	Pg			**Pb**	**06 10 37.8**	**0.0**
	5.0nm,0.3s								
SATY					Lg		Lg	06 11 09.9	
	5.8nm,0.3s								
PDGK	**Podgornoye**	**2.39**	**356**	Pg			**Pb**	**06 10 38.2**	**-0.5**
	2.6nm,0.2s								
PDGK					Lg		Lg	06 11 10.7	
	2.3nm,0.3s								
PDGK	**Podgornoye**	**2.39**	**356**	⇑Pn			**Pb**	**06 10 37.1**	**-1.6**
	1.6nm,0.3s								
PDGK				⇑Sn			**Sb**	**06 11 09.5**	**+1.2**
	4.1nm,0.5s								
ANVS	**Anan'yevo**	**2.40**	**320**	⇑*i*P			**Pb**	**06 10 38.4**	**-0.6**
	baz=21								
ANVS				⇑*i*S			**Sg**	**06 11 11.6**	**-1.1**
	baz=21								
KTMS	**Ketmen**	**2.54**	**10**		*e*P		**Pb**	**06 10 40.2**	**-1.0**
	0.9nm,0.1s								
KTMS					*e*S		**Sb**	**06 11 13.7**	**+1.1**
	18nm,0.4s								
KTMS	**Ketmen**	**2.54**	**10**	Pg			**Pb**	**06 10 40.2**	**-1.0**
	0.9nm,0.1s								
KTMS					Lg		Lg	06 11 13.7	
	18nm,0.4s								
KPKS	**Kokpek**	**2.64**	**343**		*e*P		**Pb**	**06 10 42.6**	**-0.3**
	10nm,0.2s								
KPKS					*e*S		**Sg**	**06 11 18.2**	**-2.0**
	16nm,0.3s								
ULHL	**Ulahol**	**2.93**	**297**	⇓*i*P			**Pb**	**06 10 45.5**	**-2.5**
	baz=0.0								
ULHL				⇓*i*S			**Sb**	**06 11 24.1**	**+0.1**
	baz=0.0								
MDOK	**Medeo**	**2.99**	**319**		*e*P		**Pb**	**06 10 49.2**	**+0.3**
	2.2nm,0.4s								
MDOK					*e*S		**Sg**	**06 11 29.5**	**-2.0**
	4.8nm,0.6s								
MDOK	**Medeo**	**2.99**	**319**	⇑Pn			**Pg**	**06 10 54.0**	**+1.3**
	1.4nm,0.3s								
MDOK				⇑Sn			**Sg**	**06 11 29.4**	**-2.0**
	3.5nm,0.5s								
BOOM	**Boomskoye usch**	**3.24**	**300**	⇓*e*P			**Pb**	**06 10 49.7**	**-3.5**
	baz=2.0								
BOOM				⇓*i*S			**Sb**	**06 11 31.3**	**-1.5**
	baz=2.0								
KST	**Kastek**	**3.51**	**308**		*e*P		**Pb**	**06 10 59.1**	**+1.3**
	1.9nm,0.5s								
KST					*e*S		**Sg**	**06 11 46.4**	**-1.9**
	5.2nm,0.3s								
KST	**Kastek**	**3.51**	**308**	Pg			**Pb**	**06 10 59.1**	**+1.3**
	1.9nm,0.5s								
KST					Lg		Lg	06 11 46.4	
	5.2nm,0.3s								
CHKK	**Chushkaly**	**3.55**	**326**		*e*P		**Pb**	**06 10 59.6**	**+1.1**
	1.9nm,0.0s								
CHKK					*e*S		**Sg**	**06 11 47.1**	**-2.4**
	4.1nm,0.4s								
KTBS	**Karatobe**	**3.58**	**322**		*e*P		**Pb**	**06 10 59.6**	**+0.7**
	1.7nm,0.4s								
KTBS					*e*S		**Sg**	**06 11 47.2**	**-3.1**
	3.1nm,0.4s								
KTBS	**Karatobe**	**3.58**	**322**	Pg			**Pb**	**06 10 59.6**	**+0.7**
	1.7nm,0.4s								
KTBS					Lg		Lg	06 11 47.2	
	3.1nm,0.4s								
MK31	**Makanchi Array**	**6.13**	**17**	Pg			**Pn**	**06 11 26.9**	**+0.8**
	0.1nm,0.2s,baz=192,slow=14,SNR=23								
MK31				⇑Lg			Lg	06 12 37.9	
	0.3nm,0.5s,baz=189,slow=24								

IDC 16 06:14:58.5±3.4,**30°29S**×**138°38E**,**h0**km,**mb1 2.9**/3,
mb1mx2.9/46,**mbtmp2.6**/3,**ML2.3**/3,**Error ellipse:**
s-maj=85.5km s-min=16.3km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.19**	**121**	Pn			Pn	06 15 50.9	+1.0
	0.2nm,0.3s,baz=306,slow=8.7,SNR=1.9								
STKA					Pg		Pg	06 15 57.9	-1.7
	0.7nm,0.3s,baz=301,slow=15,SNR=7.0								
STKA					Sn		Sn	06 16 28.1	-0.5
	1.8nm,0.3s,baz=286,slow=17,SNR=11								
STKA					Lg		Lg	06 16 38.2	
	1.5nm,0.3s,baz=315,slow=2.9,SNR=6.1								
ASAR	**Alice Springs**	**7.70**	**328**	Pn			Pn	06 16 52.0	0.0
	0.1nm,0.3s,baz=151,slow=13,SNR=2.5								
ASAR					Sn		Sn	06 18 23.4	+3.3
	0.1nm,0.3s,baz=155,slow=22,SNR=4.8								
WRA	**Warramunga Arr**	**10.93**	**340**	Pn			Pn	06 17 34.5	-1.7
	0.0nm,0.3s,baz=160,slow=14,SNR=1.0								

*BJI **16** 06:16:57.9±0.0,20°.06S×178°.46W,h649km,mB5.5/63,*
mb5.4/74
*NOU **16** 06:16:59.9,20°.45S×178°.85W,h660km,ML5.5,Fiji*
Islands Region
*MOS **16** 06:16:59.5±1.0,20°.31S×179°.05W,h653km,mb5.4/34,*
Error ellipse: s-maj=8.2km s-min=7.1km az=113.7
*BGR **16** 06:17:00.9±0.0,20°.85S×179°.02W,h666km±8km*
*IDC **16** 06:17:00.6±0.3,20°.41S×179°.02W,h652km±3km,mb5.0/50,*
mb1 5.0/55,mb1mx4.9/59,mbtmp5.9/55,Error ellipse:
*s-ma

λ-107.29813°. **Principal axes:** T Plg34.2469°, Azm91.8394°; N Plg3.3056°, Azm184.0929°; P Plg55.5486°, Azm278.9225°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.15**	**3**	P	**P**	**06 18 22.2**	**+2.0**
TAVE	**Taveuni**	**3.79**	**346**	P	**P**	**06 18 29.1**	**+0.6**
MSVF	**Nonsavu**	**3.90**	**312**	P	**P**	**06 18 29.9**	**+0.7**
	562nm,0.3s,baz=240,slow=22,SNR=1041						
MSVF				S	**S**	**06 19 43.1**	**+1.4**
	baz=147,slow=22,SNR=0.7						
MSVF	**Nonsavu**	**3.90**	**312**	P	**P**	**06 18 29.9**	**+0.7**
MSVF	**Nonsavu**	**3.90**	**312**	P	**P**	**06 18 29.7**	**+0.5**
DGTI	**Dogotuki**	**4.27**	**342**	P	**P**	**06 18 33.8**	**+2.2**
NIUE	**Niue**	**8.57**	**83**	P	**P**	**06 19 06.3**	**-0.3**
	baz=8.6,SNR=28						
NIUE				S	**S**	**06 20 52.5**	**+2.3**
	baz=8.6						
NIUE	**Niue**	**8.57**	**83**		**P**	**06 19 06.3**	**-0.3**
NIUE	**Niue**	**8.57**	**83**	P	**P**	**06 19 06.4**	**-0.3**
RIZ	**Raoul Island**	**8.86**	**174**	P	**P**	**06 19 08.3**	**-0.7**
RAO	**Raoul Island**	**8.86**	**174**	P	**P**	**06 19 09.0**	**-0.1**
	484nm,0.3s,baz=98,slow=22,SNR=9.5						
RAO				S	**S**	**06 20 54.3**	**-0.6**
	252nm,0.3s,baz=292,slow=23,SNR=4.6						
RAO	**Raoul Island**	**8.86**	**174**	P	**P**	**06 19 08.5**	**-0.6**
RAO	**Raoul Island**	**8.86**	**174**		**S**	**06 20 54.3**	**-0.6**
GLKZ	**Green Lake**	**8.87**	**174**	P	**P**	**06 19 07.6**	**-1.6**
GLKZ				S	**S**	**06 20 52.7**	**-2.4**
AFI	**Afiamalu**	**9.39**	**48**	P	**P**	**06 19 12.1**	**-2.3**
	69nm,0.3s,baz=155,slow=0.4,SNR=54						
AFI				S	**S**	**06 20 58.8**	**-5.6**
	20nm,0.3s,baz=33,slow=20,SNR=6.5						
AFI	**Afiamalu**	**9.39**	**48**	P	**P**	**06 19 12.1**	**-2.3**
AFI	**Afiamalu**	**9.39**	**48**	P	**P**	**06 19 12.2**	**-2.2**
FUNA	**Funafuti**	**11.94**	**351**		**P**	**06 19 37.7**	**-0.6**
PINNC	**Pines Island,**	**12.88**	**258**	P	**P**	**06 19 47.6**	**+0.9**
PINNC	**Pines Island,**	**12.88**	**258**	P	**P**	**06 19 47.4**	**+0.6**
LIFNC	**LIFOU**	**12.97**	**266**	P	**P**	**06 19 46.8**	**-0.8**
LIFNC	**LIFOU**	**12.97**	**266**	P	**P**	**06 19 47.7**	**+0.1**
YATNC	**Mamie plateau,**	**13.34**	**260**	P	**P**	**06 19 51.7**	**+0.7**
OUENC	**Ouen Island, N**	**13.41**	**259**		**P**	**06 19 52.8**	**+1.1**
OUENC	**Ouen Island, N**	**13.41**	**259**	P	**P**	**06 19 52.6**	**+0.9**
DZM	**Mont Dzumac**	**13.75**	**260**	P	**P**	**06 19 56.4**	**+1.5**
	42nm,0.3s,baz=85,slow=14,SNR=187						
DZM				S	**S**	**06 22 20.0**	**+2.6**
	baz=343,slow=22,SNR=5.9						
DZM				ScP	**ScP**	**06 27 02.0**	**+2.8**
	1.1nm,0.3s,baz=78,slow=8.2,SNR=9.6						
DZM				ScS	**ScS**	**06 30 44.5**	**+7.5**
	0.2nm,0.3s,baz=346,slow=18,SNR=6.3						
DZM	**Mont Dzumac**	**13.75**	**260**		**P**	**06 19 55.8**	**+1.0**
DZM	**Mont Dzumac**	**13.75**	**260**		**S**	**06 22 20.0**	**+2.6**
DZM	**Mont Dzumac**	**13.75**	**260**	P	**P**	**06 19 55.9**	**+1.0**
ONTNC	**Ouen Toro**	**13.76**	**259**		**P**	**06 19 55.6**	**+0.8**
ONTNC	**Ouen Toro**	**13.76**	**259**	P	**P**	**06 19 55.8**	**+1.0**
NOUC	**Port Laguerre**	**13.88**	**260**	P	**P**	**06 19 57.2**	**+1.2**
SANVU	**Saraoutou**	**14.09**	**288**	P	**P**	**06 19 58.4**	**+0.5**
SANVU	**Saraoutou**	**14.09**	**288**	P	**P**	**06 19 58.4**	**+0.5**
NFK	**Norfolk Island**	**14.71**	**232**	P	**P**	**06 20 06.3**	**+2.9**
	baz=15,SNR=7.2						
NFK	**Norfolk Island**	**14.71**	**232**	P	**P**	**06 20 04.6**	**+1.2**
KOUNC	**Koumac, New Ca**	**15.74**	**267**	P	**P**	**06 20 15.0**	**+2.0**
OUZ	**Omahuta**	**16.17**	**203**	P	**P**	**06 20 18.8**	**+2.1**
OUZ	**Omahuta**	**16.17**	**203**	P	**P**	**06 20 18.0**	**+1.3**
GRZ	**Great Barrier**	**16.55**	**196**	P	**P**	**06 20 21.7**	**+1.7**
WCZ	**Waipu Caves**	**16.57**	**199**	P	**P**	**06 20 23.5**	**+3.2**
KUZ	**Kuaotunu**	**16.95**	**195**	P	**P**	**06 20 24.2**	**+0.4**
ABAZ	**Army Bay**	**17.04**	**197**	P	**P**	**06 20 23.8**	**-0.8**
MXZ	**Matakaoa Point**	**17.27**	**187**	P	**P**	**06 20 25.3**	**-1.3**
MXZ				IAmb	IAmb	06 20 37.9	
	comp=Z,131nm,0.7s						
MXZ	**Matakaoa Point**	**17.27**	**187**	P	**P**	**06 20 23.9**	**-2.8**
MXZ				S	**S**	**06 23 05.0**	**-9.1**
RVAZ	**Riverhead Bore**	**17.27**	**198**	P	**P**	**06 20 26.8**	**+0.1**
RVAZ				S	S	06 22 56.5	-18
HBAZ	**Herne Bay Bore**	**17.31**	**197**	P	**P**	**06 20 26.9**	**0.0**
EPAZ	**Eden Park BICE**	**17.33**	**197**	P	**P**	**06 20 29.7**	**+2.6**
ETAZ	**East Tamaki Re**	**17.35**	**197**	P	**P**	**06 20 26.3**	**-1.1**
WTAZ	**Waiatarua**	**17.43**	**198**	P	**P**	**06 20 30.3**	**+2.1**
WMGZ	**Waiomatatini S**	**17.52**	**187**	P	**P**	**06 20 28.5**	**-0.3**
WMGZ				S	**S**	**06 23 08.7**	**-8.3**
AWAZ	**Awhitu Peninsu**	**17.53**	**197**	P	**P**	**06 20 30.7**	**+1.6**
HAZ	**Te Kaha**	**17.53**	**189**	P	**P**	**06 20 28.3**	**-0.7**
HAZ				S	**S**	**06 23 13.8**	**-4.5**
PKGZ	**Pakihiroa**	**17.62**	**188**	P	**P**	**06 20 31.2**	**+1.2**
RUGZ	**Raukumara Rang**	**17.75**	**189**	P	**P**	**06 20 29.7**	**-1.4**
WHRZ	**Whale Island**	**17.76**	**191**	P	**P**	**06 20 30.4**	**-0.8**
TGRZ	**Tauranga**	**17.77**	**193**	P	**P**	**06 20 33.1**	**+1.9**
PUZ	**Puketiti**	**17.78**	**187**	P	**P**	**06 20 30.9**	**-0.4**
PUZ				S	**S**	**06 23 19.1**	**-3.3**
OPRZ	**Ohinepanea**	**17.82**	**192**	P	**P**	**06 20 32.1**	**+0.4**
RAR	**Rarotonga**	**17.92**	**96**	P	**P**	**06 20 33.6**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=242,slow=6.1,SNR=18						
RAR	**Rarotonga**	**17.92**	**96**	P	**P**	**06 20 30.9**	**-1.9**
RAR	**Rarotonga**	**17.92**	**96**	P	**P**	**06 20 33.9**	**+1.1**
TWGZ	**Tauwhareparae**	**17.92**	**188**	P	**P**	**06 20 32.5**	**-0.1**
TWGZ				S	**S**	**06 23 13.9**	**-4.9**
MARZ	**Manawahe**	**17.94**	**191**	P	**P**	**06 20 32.9**	**+0.1**
TOZ	**Tahuroa Road**	**17.94**	**194**	P	**P**	**06 20 34.5**	**+1.7**
KMRZ	**Kaimai**	**17.95**	**193**	P	**P**	**06 20 34.6**	**+1.7**
EDRZ	**Edgecumbe**	**18.05**	**191**	P	**P**	**06 20 35.1**	**+1.3**
KARZ	**Kaharoa**	**18.06**	**192**	P	**P**	**06 20 36.2**	**+2.4**
OMRZ	**Omania**	**18.11**	**192**	P	**P**	**06 20 35.6**	**+1.2**
URZ	**Urewera**	**18.13**	**190**	P	**P**	**06 20 33.1**	**-1.3**
	comp=Z,35nm,0.3s,baz=41,slow=1.6,SNR=109						
URZ				S	**S**	**06 23 24.0**	**-3.8**
	comp=Z,6.0nm,0.3s,baz=214,slow=18,SNR=2.7						
URZ	**Urewera**	**18.13**	**190**	P	**P**	**06 20 31.8**	**-2.6**
URZ	**Urewera**	**18.13**	**190**	P	**P**	**06 20 31.8**	**-2.6**
URZ				S	**S**	**06 23 18.2**	**-10**
CNGZ	**Carnagh Statio**	**18.20**	**187**	P	**P**	**06 20 34.5**	**-0.5**
CNGZ				S	**S**	**06 23 24.4**	**-4.5**
TKGZ	**Te Karaka**	**18.20**	**188**	P	**P**	**06 20 34.5**	**-0.5**
TKGZ				S	**S**	**06 23 20.0**	**-8.9**
TARZ	**Mount Tarawera**	**18.21**	**192**	P	**P**	**06 20 36.2**	**+0.9**
UTU	**Utuhina**	**18.22**	**192**	P	**P**	**06 20 37.3**	**+2.1**
HLRZ	**Highlands Stat**	**18.26**	**192**	P	**P**	**06 20 36.8**	**+1.1**
RRRZ	**Republican Roa**	**18.31**	**191**	P	**P**	**06 20 36.0**	**-0.1**
RAGZ	**Rawiri**	**18.31**	**189**	P	**P**	**06 20 36.4**	**+0.2**
HSRZ	**Hossack Road**	**18.34**	**192**	P	**P**	**06 20 39.1**	**+2.7**
MUGZ	**Murupara**	**18.40**	**191**	P	**P**	**06 20 35.5**	**-1.4**
MUGZ				S	**S**	**06 23 25.4**	**-6.7**
GRRZ	**Galatos Road**	**18.40**	**192**	P	**P**	**06 20 38.8**	**+1.8**
HRRZ	**Handcock Road**	**18.41**	**192**	P	**P**	**06 20 37.3**	**+0.3**
RIGZ	**Rimuhau**	**18.47**	**188**	P	**P**	**06 20 37.2**	**-0.3**
RIGZ				S	**S**	**06 23 27.1**	**-6.2**
PRRZ	**Plateau Road**	**18.49**	**192**	P	**P**	**06 20 37.0**	**-0.7**
RTZ	**Ruatahuna**	**18.50**	**190**	P	**P**	**06 20 36.6**	**-1.2**
TLZ	**Tolley Road**	**18.50**	**194**	P	**P**	**06 20 39.5**	**+1.6**
WPRZ	**Whakapapatarin**	**18.55**	**192**	P	**P**	**06 20 39.7**	**+1.4**
KUTZ	**Kaahu Road**	**18.59**	**193**	P	**P**	**06 20 39.8**	**+1.1**
SNGZ	**Shannon Statio**	**18.60**	**189**	P	**P**	**06 20 37.9**	**-0.9**
SNGZ				S	**S**	**06 23 33.0**	**-2.4**
PRGZ	**Paritu Road**	**18.67**	**188**	P	**P**	**06 20 40.9**	**+1.6**
PRGZ				S	**S**	**06 23 32.6**	**-3.9**
MTHZ	**Maungataniwha**	**18.75**	**190**	P	**P**	**06 20 39.2**	**-0.9**
MTHZ				S	**S**	**06 23 29.9**	**-7.9**
RAHZ	**Arahi**	**18.77**	**190**	P	**P**	**06 20 39.8**	**-0.5**
RAHZ				S	**S**	**06 23 34.9**	**-3.2**
KNZ	**Kokohu**	**18.79**	**188**	P	**P**	**06 20 39.4**	**-1.0**
KNZ				S	**S**	**06 23 31.0**	**-7.3**
MRHZ	**Matea Rd**	**18.81**	**191**	P	**P**	**06 20 39.2**	**-1.4**
MRHZ				S	**S**	**06 23 31.7**	**-7.0**
WATZ	**Wairara**	**18.82**	**193**	P	**P**	**06 20 42.8**	**+2.0**
HIZ	**Hauiti**	**18.84**	**195**	P	**P**	**06 20 41.1**	**+0.3**
HIZ	**Hauiti**	**18.84**	**195**	P	**P**	**06 20 43.2**	**+2.3**
KNTN	**Kanton**	**18.87**	**23**	P	**P**	**06 20 40.9**	**-0.6**
KNTN	**Kanton**	**18.87**	**23**	P	**P**	**06 20 41.3**	**-0.2**
MHGZ	**Mahia Peninsul**	**18.89**	**188**	P	**P**	**06 20 42.3**	**+1.0**
WHHZ	**Waihua**	**18.91**	**189**	P	**P**	**06 20 41.4**	**0.0**
WHHZ				S	**S**	**06 23 35.7**	**-4.5**
HATZ	**Hinemaiaia**	**18.93**	**192**	P	**P**	**06 20 41.1**	**-0.6**
RATZ	**Rangitukua**	**18.97**	**193**	P	**P**	**06 20 42.3**	**+0.3**
NMHZ	**Naumai**	**19.00**	**190**	P	**P**	**06 20 41.1**	**-1.3**
NMHZ				S	**S**	**06 23 38.9**	**-2.9**
RITZ	**Rihia Road**	**19.06**	**193**	P	**P**	**06 20 42.7**	**-0.1**
BKZ	**Black Stump Fm**	**19.12**	**191**	P	**P**	**06 20 40.8**	**-2.6**
BKZ				IAmb	IAmb	06 20 59.5	
	comp=Z,108nm,0.7s						
BKZ	**Black Stump Fm**	**19.12**	**191**	P	**P**	**06 20 41.1**	**-2.4**
BKZ				S	**S**	**06 23 37.1**	**-6.5**
ARHZ	**Aropaoanui**	**19.13**	**190**	P	**P**	**06 20 43.7**	**+0.2**
ARHZ				S	**S**	**06 23 41.4**	**-2.2**
NTVZ	**North Tongarir**	**19.21**	**193**	P	**P**	**06 20 45.4**	**+1.1**
KRVZ	**Karewarewa**	**19.21**	**193**	P	**P**	**06 20 44.4**	**+0.1**
TMVZ	**Te Maari**	**19.22**	**193**	P	**P**	**06 20 43.5**	**-0.9**
TWVZ	**Taurewa**	**19.24**	**193**	P	**P**	**06 20 43.7**	**-0.9**
ETVZ	**East Tongariro**	**19.24**	**193**	P	**P**	**06 20 44.1**	**-0.5**
WTVZ	**West Tongariro**	**19.25**	**193**	P	**P**	**06 20 44.1**	**-0.6**
NNVZ	**North Ngauruho**	**19.26**	**193**	P	**P**	**06 20 44.4**	**-0.4**
OTVZ	**Oturere**	**19.28**	**193**	P	**P**	**06 20 43.6**	**-1.4**
NGZ	**Ngauruhoe**	**19.30**	**193**	P	**P**	**06 20 44.4**	**-0.7**
SNVZ	**South Ngauruho**	**19.30**	**193**	P	**P**	**06 20 44.1**	**-1.2**
MCHZ	**McNeill Hill**	**19.35**	**190**	P	**P**	**06 20 44.0**	**-1.4**
MCHZ				S	**S**	**06 23 44.4**	**-2.8**
TUVZ	**Tukino**	**19.38**	**193**	P	**P**	**06 20 44.9**	**-1.0**
KWHZ	**Kaweka Forest**	**19.38**	**191**	P	**P**	**06 20 43.8**	**-2.0**
KWHZ				S	**S**	**06 23 40.7**	**-7.1**
FWVZ	**Far West T-bar**	**19.39**	**193**	P	**P**	**06 20 45.4**	**-0.6**
WHVZ	**Whangaehu Hut**	**19.41**	**193**	P	**P**	**06 20 45.7**	**-0.5**
TRVZ	**Turoa**	**19.43**	**193**	P	**P**	**06 20 45.3**	**-1.1**
WNVZ	**Wahianoa**	**19.45**	**193**	P	**P**	**06 20 44.9**	**-1.6**
PKVZ	**Pokaka**	**19.46**	**193**	P	**P**	**06 20 46.0**	**-0.5**
MOVZ	**Moawhango**	**19.49**	**192**	P	**P**	**06 20 46.1**	**-0.8**
MTVZ	**Mangateitei**	**19.53**	**193**	P	**P**	**06 20 47.1**	**-0.1**
KRHZ	**Kereru**	**19.60**	**191**	P	**P**	**06 20 45.7**	**-2.1**
KAHZ	**Kahuranaki**	**19.67**	**190**	P	**P**	**06 20 47.1**	**-1.2**
PKE	**Pukeiti**	**19.70**	**197**	P	**P**	**06 20 51.6**	**+2.9**
KHEZ	**Kahui Hut**	**19.79**	**196**	P	**P**	**06 20 52.1**	**+2.6**
LREZ	**Lake Rotokare**	**19.85**	**195**	P	**P**	**06 20 52.7**	**+2.8**
PNHZ	**Pukenui**	**19.90**	**191**	P	**P**	**06 20 49.0**	**-1.4**
PXZ	**Pawanui**	**19.90**	**191**	P	**P**	**06 20 49.3**	**-1.1**
WPHZ	**Paiapukurau**	**20.00**	**190**	P	**P**	**06 20 50.8**	**-0.5**
TSZ	**Takapari Road**	**20.08**	**192**	P	**P**	**06 20 50.9**	**-1.2**
PRHZ	**Porangahau**	**20.17**	**190**	P	**P**	**06 20 52.8**	**+0.1**
DVHZ	**Dannevirke**	**20.28**	**191**	P	**P**	**06 20 52.7**	**-1.1**
BFZ	**Birch Farm**	**20.64**	**190**	IAmb	IAmb	06 20 58.7	
	comp=Z,113nm,0.6s						
SNZO	**South Karori**	**21.54**	**193**	P	**P**	**06 21 03.5**	**-1.5**
QRZ	**Quartz Range**	**21.63**	**198**	P	**P**	**06 21 04.9**	**-0.9**
QRZ				IAmb	IAmb	06 21 07.5	
	comp=Z,220nm,0.8s						
PLWZ	**Palliser**	**21.68**	**192**	P	**P**	**06 21 04.8**	**-1.5**
NNZ	**Nelson**	**21.76**	**196**	IAmb	IAmb	06 21 09.0	
	comp=Z,274nm,1.2s						
TUWZ	**Tunarina**	**21.82**	**195**	P	**P**	**06 21 05.7**	**-1.8**
THZ	**Tophouse**	**22.40**	**196**	IAmb	IAmb	06 21 18.3	
	comp=Z,105nm,0.8s						
LHI	**Lord Howe Isla**	**22.64**	**236**	P	**P**	**06 21 16.4**	**+1.5**
	baz=23,SNR=22						
LHI	**Lord Howe Isla**	**22.64**	**236**	P	**P**	**06 21 15.3**	**+0.4**
LHI	**Lord Howe Isla**	**22.64**	**236**	P	**P**	**06 21 16.6**	**+1.7**
TARA	**Tarawa**	**23.05**	**339**	P	**P**	**06 21 18.6**	**-0.1**
TARA	**Tarawa**	**23.05**	**339**	P	**P**	**06 21 18.9**	**+0.2**
MQZ	**McQueen's Vall**	**24.29**	**195**	P	**P**	**06 21 28.9**	**-0.3**
MQZ				IAmb	IAmb	06 21 29.3	
	comp=Z,162nm,1.4s						
RPZ	**Rata Peaks**	**24.71**	**198**	P	**P**	**06 21 32.1**	**-0.9**
RPZ				IAmb	IAmb	06 21 42.1	
	comp=Z,103nm,0.8s						
LBZ	**Lake Benmore**	**25.58**	**198**	P	**P**	**06 21 38.4**	**-2.2**
ODZ	**Otahua Downs**	**26.05**	**197**	IAmb	IAmb	06 21 45.6	
	comp=Z,97nm,1.1s						
WKZ	**Wanaka**	**26.34**	**200**	P	**P**	**06 21 46.2**	**-1.0**
MLZ	**Mavora Lakes**	**27.11**	**200**	P	**P**	**06 21 52.5**	**-1.4**
TBI	**Tubuai**	**27.47**	**102**	*eP*	**P**	**06 21 58.2**	**+0.8**
	comp=Z,638nm,0.9s						
DCZ	**Deep Cove**	**27.51**	**202**	P	**P**	**06 21 58.0**	**+0.7**
WHZ	**Wether Hill Ro**	**27.63**	**200**	P	**P**	**06 21 58.4**	**0.0**
PAE	**Paea**	**27.85**	**89**	*eP*	**P**	**06 22 00.9**	**+0.2**
	comp=Z,118nm,1.2s						
PPT2	**Papeete2**	**27.87**	**89**	*eP*	**P**	**06 22 01.5**	**+0.5**
	comp=Z,612nm,1.3s						
PPT	**Papeete**	**27.87**	**89**	P	**P**	**06 22 02.1**	**+1.2**
	comp=Z,478nm,0.9s,baz=84,slow=4.5,SNR=18						
PPT				ScP	**ScP**	**06 27 37.6**	**+3.5**
	comp=Z,91nm,1.0s,baz=71,slow=6.4,SNR=4.0						
PPTF	**Pamatai, Papee**	**27.88**	**89**	P	**P**	**06 22 00.9**	**-0.1**
EIDS	**Eidsvold**	**28.04**	**254**	P	**P**	**06 22 02.5**	**+0.2**
	baz=28,SNR=57						
EIDS	**Eidsvold**	**28.04**	**254**	P	**P**	**06 22 01.9**	**-0.4**
TIAR	**Tiarei**	**28.09**	**89**	*eP*	**P**	**06 22 03.3**	**+0.5**
	comp=Z,71nm,0.8s						
PYZ	**Puysegur Point**	**28.29**	**201**	P	**P**	**06 22 04.6**	**+0.5**
ARMA	**Armidale**	**28.34**	**243**	P	**P**	**06 22 05.9**	**+1.0**
	baz=28,SNR=248						
ARMA	**Armidale**	**28.34**	**243**	P	**P**	**06 22 05.7**	**+0.7**
MEH	**Mehetia**	**29.24**	**90**	*eP*	**P**	**06 22 12.9**	**+0.2**
	comp=Z,224nm,1.0s						
MGCD	**Mangrove Creek**	**29.53**	**238**	P	**P**	**06 22 16.0**	**+1.1**
	baz=30,SNR=94						
RIV	**Riverview**	**29.68**	**237**	P	**P**	**06 22 17.8**	**+1.6**
	baz=30,SNR=9.8						
VAH	**Vaihoa**	**30.20**	**85**	*eP*	**P**	**06 22 20.9**	**0.0**
	comp=Z,688nm,0.9s						
RMQ	**Roma**	**30.21**	**252**	P	**P**	**06 22 21.9**	**+1.0**
	baz=30,SNR=288						
XMAS	**Kiritimati**	**30.67**	**46**	P	**P**	**06 22 25.3**	**+0.4**
XMAS	**Kiritimati**	**30.67**	**46**	P	**P**	**06 22 25.9**	**+1.0**
KWAJ	**Kwajalein Atol**	**31.90**	**334**	P	**P**	**06 22 34.8**	**-0.4**
KWAJ				pmax	pmax		
	comp=Z,968nm,1.2s						
KWAJ	**Kwajalein Atol**	**31.90**	**334**	P	**P**	**06 22 34.8**	**-0.4**
KWAJ	**Kwajalein Atol**	**31.90**	**334**	P	**P**	**06 22 36.4**	**+1.2**
YNG	**Young**	**32.01**	**238**	P	**P**	**06 22 36.7**	**+0.8**
	baz=32,SNR=44						
MILA	**Mila**	**32.35**	**232**	P	**P**	**06 22 39.4**	**+0.6**
	baz=32,SNR=18						
RABL	**Rabaul**	**32.42**	**296**	P	**P**	**06 22 38.5**	**-1.2**
RABL	**Rabaul**	**32.42**	**296**	P	**P**	**06 22 40.0**	**+0.2**
CTA	**Charters Tower**	**32.64**	**264**	P	**P**	**06 22 41.9**	**+0.4**
	comp=Z,493nm,0.4s,baz=86,slow=9.7,SNR=479						
CTA				PcP	**PcP**	**06 25 07.7**	**+1.0**
	comp=Z,36nm,0.9s,baz=86,slow=3.3,SNR=3.5						
CTA				S	**S**	**06 27 12.3**	**-1.7**
	comp=Z,24nm,0.9s,baz=292,slow=19,SNR=3.5						
CTA				ScP	**ScP**	**06 27 52.7**	**+2.7**
	comp=Z,131nm,1.0s,baz=108,slow=2.0,SNR=10						
CTAO	**Charters Tower**	**32.64**	**264**	P	**P**	**06 22 41.5**	**0.0**
CTAO				pmax	pmax		
	comp=Z,893nm,0.8s						
CTAO	**Charters Tower**	**32.64**	**264**	P	**P**	**06 22 41.5**	**0.0**
CMSA	**Cobar Meteorol**	**33.56**	**243**	P	**P**	**06 22 49.4**	**+0.5**
	baz=34,SNR=643						
QLP	**Quilpie**	**34.27**	**253**	P	**P**	**06 22 55.1**	**+0.2**
	baz=34,SNR=214						
PMG	**Port Moresby**	**34.48**	**283**	P	**P**	**06 22 57.3**	**+0.5**
	comp=Z,2µm,0.9s,baz=88,slow=5.8,SNR=162						
PMG				S	**S**	**06 27 39.6**	**-2.1**
	comp=Z,52nm,1.0s,baz=307,slow=18,SNR=3.1						
PMG				ScP	**ScP**	**06 27 59.2**	**+2.7**
	comp=Z,68nm,0.9s,baz=30,slow=2.4,SNR=5.0						
PMG	**Port Moresby**	**34.48**	**283**	P	**P**	**06 22 57.3**	**+0.5**
MTSU	**Mount Surprise**	**34.73**	**267**	P	**P**	**06 22 59.3**	**+0.4**
	baz=35,SNR=611						
PATS	**Pohnpei**	**35.12**	**318**	P	**P**	**06 23 03.1**	**+1.0**
	baz=35,SNR=14						
PATS	**Pohnpei**	**35.12**	**318**	P	**P**	**06 23 02.5**	**+0.5**
TOO	**Toolangi**	**35.26**	**233**	P	**P**	**06 23 03.5**	**+0.5**
	baz=35,SNR=384						
TOO	**Toolangi**	**35.26**	**233**	P	**P**	**06 23 03.5**	**+0.5**
TOO				pmax	pmax		
	comp=Z,593nm,0.8s						
TOO	**Toolangi**	**35.26**	**233**	P	**P**	**06 23 03.5**	**+0.5**
MOO	**Moorlands**	**35.97**	**225**	P	**P**	**06 23 10.0**	**+1.3**
	baz=36,SNR=11						
TAU	**Tasmania Unive**	**36.10**	**224**	P	**P**	**06 23 10.0**	**+0.3**
TAU				pmax	pmax		
	comp=Z,419nm,1.5s						
TAU	**Tasmania Unive**	**36.10**	**224**	P	**P**	**06 23 10.0**	**+0.3**
STKA	**Stephens Creek**	**37.06**	**244**	P	**P**	**06 23 18.4**	**+0.7**
	comp=Z,520nm,0.8s,baz=90,slow=10,SNR=490						
STKA				ScP	**ScP**	**06 28 08.2**	**+2.4**
	comp=Z,47nm,1.0s,baz=57,slow=5.4,SNR=5.6						
STKA				S	**S**	**06 28 18.4**	**-1.1**
	comp=Z,15nm,0.8s,baz=187,slow=5.6,SNR=2.0						
STKA				P3KPbc		06 53 28.6	
	comp=Z,3.9nm,0.8s,baz=275,slow=7.3,SNR=7.9						
STKA	**Stephens Creek**	**37.06**	**244**	P	**P**	**06 23 18.4**	**+0.7**
	baz=37,SNR=250						
STKA	**Stephens Creek**	**37.06**	**244**	IAmb	IAmb	06 23 20.6	
	comp=Z,200nm,1.1s						
MANU	**Manus Island**	**37.62**	**295**	P	**P**	**06 23 23.3**	**+0.9**
ARPS	**Mount Arapiles**	**37.83**	**236**	P	**P**	**06 23 24.0**	**+0.2**
	baz=38,SNR=184						
JOHN	**Johnston Islan**	**38.03**	**15**	P	**P**	**06 23 24.4**	**-1.2**
QIS	**Mount Isa**	**38.78**	**262**	P	**P**	**06 23 31.2**	**-0.5**
	baz=39,SNR=154						
TAOE	**Nuku Hiva Isla**	**39.13**	**79**	*eP*	**P**	**06 23 35.0**	**+0.3**
	comp=Z,1µm,1.0s						
TAOE	**Nuku Hiva Isla**	**39.13**	**79**	P	**P**	**06 23 35.8**	**+1.2**
TAOE	**Nuku Hiva Isla**	**39.13**	**79**	P	**P**	**06 23 35.6**	**+0.9**
HTT	**Hallett**	**39.51**	**242**	P	**P**	**06 23 37.8**	**+0.4**
	baz=40,SNR=748						
MMPI	**Merauke**	**41.04**	**281**	P	**P**	**06 23 50.1**	**+0.4**
	comp=Z,3µm,0.7s						
BBOO	**Buckleboo**	**41.82**	**243**	P	**P**	**06 23 55.6**	**+0.1**
	baz=42,SNR=1000						
BBOO	**Buckleboo**	**41.82**	**243**	P	**P**	**06 23 55.5**	**0.0**
WAKE	**Wake Island**	**41.89**	**339**	P	**P**	**06 23 55.1**	**-1.0**
H11N3	**WAKE ISLAND Hy**	**42.22**	**340**	P	**P**	**06 23 58.7**	**+0.3**
	baz=176,slow=10,SNR=12						
H11N1	**WAKE ISLAND Hy**	**42.22**	**340**	P	**P**	**06 23 58.7**	**+0.2**
	baz=176,slow=10,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**42.23**	**340**	P	**P**	**06 23 58.8**	**+0.3**
	baz=176,slow=10,SNR=9.7						
GENI	**Genyem**	**43.63**	**289**	P	**P**	**06 24 10.5**	**+0.7**
	comp=Z,8µmcomp=Z,24µmcomp=Z,2µm,0.9s						
AS31	**Alice Springs**	**43.70**	**257**	P	**P**	**06 24 10.2**	**0.0**
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**06 24 10.2**	**-0.1**
	comp=Z,1µm,0.8s,baz=91,slow=8.0,SNR=1753						
ASAR				PcP	**PcP**	**06 25 43.0**	**+1.0**
	comp=Z,98nm,0.8s,baz=103,slow=4.1,SNR=7.3						
ASAR				ScP	**ScP**	**06 28 35.1**	**+2.6**
	comp=Z,26nm,0.6s,baz=99,slow=4.5,SNR=9.1						
ASAR				S	**S**	**06 29 53.7**	**-1.6**
	comp=Z,111nm,0.8s,baz=90,slow=14,SNR=30						
ASAR				ScS	**ScS**	**06 32 59.0**	**+1.8**
	comp=Z,9.7nm,0.9s,baz=102,slow=6.5,SNR=4.5						
ASAR				P3KPbc		06 53 00.1	
	comp=Z,0.4nm,0.6s,baz=286,slow=4.2,SNR=4.8						
ASAR				PKP2bc		06 56 04.1	
	comp=Z,3.9nm,1.1s,baz=282,slow=4.3,SNR=12						
ASAR				P4KPbc		07 01 55.9	
	comp=Z,0.8nm,0.8s,baz=90,slow=4.6,SNR=6.8						
ASAR	**Alice Springs**	**43.70**

SANI Sanana 56.72 281 P **P** **06 25 44.1 -0.3**
comp=Z,6µmcomp=Z,688nm,1.2s
PSA00 Pilbara Seismi 56.85 257 P **P** **06 25 44.5 -0.7**
MBWA Marble Bar 57.03 258 P **P** **06 25 46.0 -0.5**
MEEK Meekatharra 57.14 251 P **P** **06 25 46.3 -0.9**
baz=57,SNR=166
KLBR Kellerberrin 57.32 245 P **P** **06 25 47.7 -0.5**
baz=57,SNR=292
NWAO Narrogin (SRO) 57.64 243 P **P** **06 25 50.9 +0.5**
comp=Z,293nm,1.0s,baz=94,slow=6.7,SNR=59
NWAO Narrogin (SRO) 57.64 243 P **P** **06 25 50.4 0.0**
baz=58,SNR=44
NWAO Narrogin (SRO) 57.64 243 IAmb IAmb 06 25 52.5
comp=Z,446nm,1.2s
NWAO Narrogin (SRO) 57.64 243 P **P** **06 25 50.5 0.0**
MMRI Maumere 57.89 273 P **P** **06 25 51.9 -0.4**
MMRI Maumere 57.89 273 P **P** **06 25 52.1 -0.2**
comp=Z,4µmcomp=Z,9µmcomp=Z,1µm,0.9s
SBA Scott Base 57.92 184 P **P** **06 25 53.8 +2.4**
SBA pmax pmax
comp=Z,270nm,1.1s
SBA Scott Base 57.92 184 P **P** **06 25 53.8 +2.4**
SBA IAmb IAmb 06 25 55.7
comp=Z,270nm,1.1s
VNDA Vanda 57.94 185 P **P** **06 25 53.1 +1.6**
comp=Z,23nm,0.4s,baz=17,slow=7.6,SNR=257
VNDA PKP2bc 06 55 33.5
comp=Z,1.1nm,1.0s,baz=231,slow=1.8,SNR=4.0
VNDA P4KPbc 07 02 54.1
comp=Z,0.5nm,0.8s,baz=356,slow=5.1,SNR=4.1
VNDA Vanda 57.94 185 P **P** **06 25 53.2 +1.6**
BLDU Ballidu 58.31 246 P **P** **06 25 54.3 -0.6**
baz=58,SNR=204
EDFI Ende, Flores 58.36 272 P **P** **06 25 55.2 -0.5**
comp=Z,5µmcomp=Z,517nm,0.9s
MUN Mundaring 58.59 244 P **P** **06 25 56.9 +0.1**
baz=59,SNR=42
BASI Baing, Sumba 58.95 270 P **P** **06 25 59.6 +0.2**
comp=Z,7µmcomp=Z,614nm,0.9s
MORW Morawa 59.07 248 P **P** **06 25 59.5 -0.5**
baz=59,SNR=76
MORW Morawa 59.07 248 IAmb IAmb 06 26 01.7
comp=Z,448nm,1.1s
MNI Manado 59.17 285 P **P** **06 26 00.5 -0.4**
comp=Z,7µmcomp=Z,662nm,0.9s
SGSI Sangihe 59.51 287 P **P** **06 26 03.0 -0.1**
comp=Z,4µmcomp=Z,407nm,0.7s
KMSI Cibinong 59.60 283 P **P** **06 26 04.0 +0.3**
comp=Z,653nm,0.9s
KKSI Kolaka, Sulawe 59.94 277 P **P** **06 26 05.9 -0.1**
comp=Z,3µmcomp=Z,218nm,1.0s
H01W1 Cape Leeuwin H 60.03 241 P **P** **06 26 08.6 +2.6**
baz=111,slow=7.0,SNR=29
H01W3 Cape Leeuwin H 60.05 241 P **P** **06 26 08.7 +2.6**
baz=111,slow=7.0,SNR=20
H01W2 Cape Leeuwin H 60.05 241 P **P** **06 26 08.7 +2.7**
baz=111,slow=7.0,SNR=19
LUWI Luwuk 60.07 281 P **P** **06 26 07.7 +0.9**
LUWI Luwuk 60.07 281 P **P** **06 26 07.6 +0.8**
comp=Z,12µmcomp=Z,1µm,1.0s
WBSI Waikabubak, Su 60.24 270 P **P** **06 26 08.1 +0.1**
comp=Z,6µmcomp=Z,504nm,1.5s
BSSI Bau Bau, Buton 60.34 275 P **P** **06 26 08.1 -0.5**
comp=Z,3µmcomp=Z,184nm,0.9s
JCJ Chichijima 60.40 320 P **P** **06 26 08.8 0.0**
comp=Z,126nm,0.5s,baz=268,slow=22,SNR=16
JCJ Chichijima 60.40 320 IAmb IAmb 06 26 09.7
comp=Z,370nm,1.2s
GTOI Gorontalo 60.51 283 P **P** **06 26 10.7 +1.0**
comp=Z,3µmcomp=Z,300nm,0.8s
BKSI Bulukumba 60.96 275 P **P** **06 26 12.1 -0.6**
comp=Z,3µmcomp=Z,259nm,0.9s
DAV Davao City (W) 60.99 291 P **P** **06 26 12.2 -0.6**
comp=Z,265nm,0.4s,baz=50,slow=4.0,SNR=10
DAV Davao City (W) 60.99 291 P **P** **06 26 12.2 -0.6**
DAV Davao City (W) 60.99 291 IAmb IAmb 06 26 15.0
comp=Z,1µm,1.2s
DAV Davao City (W) 60.99 291 P **P** **06 26 13.8 +1.0**
comp=Z,238nmcomp=Z,573nm,1.0s
APSI Ampana 61.15 281 P **P** **06 26 14.8 +0.9**
comp=Z,5µmcomp=Z,484nm,1.0s
BNSI Bone 61.30 276 P **P** **06 26 14.7 -0.1**
comp=Z,5µmcomp=Z,468nm,1.2s
KAPI Kappang 61.42 276 P **P** **06 26 15.6 0.0**
comp=Z,82nm,0.8s,baz=132,slow=6.8,SNR=28
KAPI Kappang 61.42 276 P **P** **06 26 15.8 +0.2**
KAPI pmax pmax
comp=Z,139nm,1.0s
KAPI Kappang 61.42 276 P **P** **06 26 15.8 +0.2**
MRSI Marisa 61.43 282 P **P** **06 26 15.1 -0.6**
comp=Z,4µmcomp=Z,334nm,1.1s
MKS Makassar 61.61 275 P **P** **06 26 17.2 +0.4**
comp=Z,3µmcomp=Z,152nm,1.1s
GIRL Giralia 61.75 255 P **P** **06 26 18.4 +0.8**
baz=62,SNR=93
GIRL Giralia 61.75 255 P **P** **06 26 18.5 +0.8**
PLAI Plampang 62.01 271 P **P** **06 26 19.2 -0.2**
comp=Z,3µmcomp=Z,13µmcomp=Z,1µm,0.9s
TTSI Tana Toraja 62.05 278 P **P** **06 26 19.0 -0.7**
comp=Z,2µmcomp=Z,101nm,0.9s
PMSI Majene 62.73 277 P **P** **06 26 24.7 +0.6**
comp=Z,4µmcomp=Z,406nm,1.0s
TOLI2 Tolitoli 62.74 282 P **P** **06 26 24.4 +0.3**
TWSI Taliwang, Sumb 62.88 270 P **P** **06 26 24.6 -0.4**
comp=Z,6µmcomp=Z,631nm,1.1s
MPSI Mapaga 63.25 281 P **P** **06 26 27.1 -0.2**
comp=Z,3µmcomp=Z,5µmcomp=Z,520nm,1.0s
RPN Rapa Nui 63.34 111 P **P** **06 26 30.5 +2.8**
comp=Z,179nm,0.9s,baz=298,slow=4.8,SNR=5.9
RPN Rapa Nui 63.34 111 P **P** **06 26 30.5 +2.8**
RPN Rapa Nui 63.34 111 IAmb IAmb 06 26 31.9
comp=Z,420nm,1.2s
CASY Casey 63.69 205 P **P** **06 26 29.5 +0.3**
CASY IAmb IAmb 06 26 31.6
comp=Z,378nm,1.1s
KHKI Kahang-Kahang 64.19 270 P **P** **06 26 32.6 -0.7**
comp=Z,4µmcomp=Z,4µmcomp=Z,341nm,1.0s
DNP Denpasar 64.46 270 P **P** **06 26 35.5 +0.5**
comp=Z,1µm,0.9s
SRBI Singaraja 64.65 271 P **P** **06 26 36.0 -0.2**
comp=Z,4µmcomp=Z,7µmcomp=Z,734nm,0.9s
BYJI Banyuwangi 65.41 270 P **P** **06 26 41.7 +0.8**
comp=Z,40µmcomp=Z,482nm,0.9s
BKB Balikpapan 65.42 278 P **P** **06 26 43.7 +2.7**
BKB IAmb IAmb 06 27 48.8
comp=Z,319nm,1.2s
BKB Balikpapan 65.42 278 P **P** **06 26 43.2 +2.2**
comp=Z,5µmcomp=Z,4µmcomp=Z,216nm,2.1s
SMKI Samarinda 65.43 279 P **P** **06 26 43.1 +2.0**
comp=Z,4µmcomp=Z,440nm,1.5s
JAGI Jajag, Banyuwa 65.52 270 P **P** **06 26 40.5 -1.1**
comp=Z,6µmcomp=Z,717nm,0.9s
ABJI Asem Bagus 65.66 271 P **P** **06 26 42.9 +0.4**
comp=Z,5µmcomp=Z,566nm,1.0s
KMMI Kalianget 66.15 271 P **P** **06 26 46.3 +0.8**
comp=Z,4µmcomp=Z,5µmcomp=Z,538nm,0.9s
JHJ Hachijo jima 2 66.23 323 P **P** **06 26 45.9 +0.4**
comp=Z,518nm,0.7s,baz=90,slow=23,SNR=20
BBKI Banjar Baru 66.54 275 P **P** **06 26 48.8 +0.9**
comp=Z,5µmcomp=Z,205nm,1.0s
MTKI Muara Teweh, K 67.39 278 P **P** **06 26 53.8 +0.7**
comp=Z,5µmcomp=Z,284nm,0.9s
PKKI Palangkaraya 67.78 276 P **P** **06 26 56.4 +0.9**
comp=Z,11µmcomp=Z,1µm,1.0s
PWJI Pagerwojo 67.87 269 P **P** **06 26 55.9 0.0**
comp=Z,5µmcomp=Z,530nm,0.9s
SJI Sawahan 67.99 270 P **P** **06 26 57.2 +0.4**
comp=Z,4µmcomp=Z,450nm,0.9s
SPMM Sapulut 68.13 284 P **P** **06 26 59.0 +1.4**
TBJI Tambak Boyo 68.21 271 P **P** **06 26 58.9 +0.9**
comp=Z,6µmcomp=Z,560nm,1.0s
JYT Yasato 68.31 325 IAmb IAmb 06 26 59.8
comp=Z,207nm,1.1s
PCJI Pacitan 68.40 269 P **P** **06 26 59.5 +0.3**
comp=Z,12µmcomp=Z,1µm,1.0s
UGM Wanagama 69.10 269 P **P** **06 27 03.4 -0.1**
UGM Wanagama 69.10 269 P **P** **06 27 03.3 -0.1**
comp=Z,6µmcomp=Z,720nm,0.8s
JMM Marumori 69.23 327 IAmb IAmb 06 27 05.2
comp=Z,126nm,1.0s
JOW Kunigami 69.44 311 P **P** **06 27 05.7 +0.6**
comp=Z,170nm,0.9s,baz=158,slow=8.1,SNR=18
JOW Kunigami 69.44 311 IAmb IAmb 06 27 08.2
comp=Z,250nm,1.1s
SMRI Semarang 69.46 270 P **P** **06 27 05.9 +0.4**
comp=Z,6µmcomp=Z,592nm,1.0s
MJAR Matsushiro Arr 69.62 324 P **P** **06 27 06.0 +0.1**
comp=Z,87nm,0.9s,baz=157,slow=5.9,SNR=107
MJAR Matsushiro Arr 69.62 324 P **P** **06 27 05.7 -0.3**
MAJO Matsushiro 69.62 324 *d* iP **P** **06 27 05.8 -0.1**
MAJO pmax pmax
comp=Z,84nm,1.0s
MAJO Matsushiro 69.62 324 P **P** **06 27 05.7 -0.3**
MAT Matsushiro 69.62 324 P **P** **06 27 06.1 +0.1**
MAT S **S** **06 35 25.6 +1.3**
MJB9 Matsu-Tunnel 69.62 324 IAmb IAmb 06 27 07.1
comp=Z,95nm,0.7s
QSPA South Pole Qui 69.67 180 P **P** **06 27 06.8 +0.9**
comp=Z,301nm,1.0s,baz=24,slow=1.4,SNR=317
QSPA S **S** **06 35 25.3 +1.1**
comp=Z,8.2nm,1.1s,baz=175,slow=23,SNR=4.2
QSPA PKP2bc 06 54 52.2
comp=Z,5.0nm,1.1s,baz=241,slow=3.4,SNR=6.4
QSPA South Pole Qui 69.67 180 P **P** **06 27 06.9 +0.9**
PBKI Pangkalan Bun 69.77 275 P **P** **06 27 08.8 +1.5**
comp=Z,11µmcomp=Z,1µm,1.2s
JMN Monobe 70.14 319 IAmb IAmb 06 27 12.4
comp=Z,235nm,1.1s
JWT Wachi 70.31 322 IAmb IAmb 06 27 11.7
comp=Z,121nm,0.9s
JSD Sado 70.69 325 IAmb IAmb 06 27 15.1
comp=Z,298nm,1.3s
KPJI Karang Pucung 70.78 269 P **P** **06 27 13.2 -0.1**
comp=Z,4µmcomp=Z,492nm,1.0s
JSU Suzuyama 70.85 316 IAmb IAmb 06 27 15.9
comp=Z,181nm,1.0s
STKI Sintang 70.94 277 P **P** **06 27 15.3 +1.1**
comp=Z,309nm,1.3s
SBUM Sibu 71.14 280 P **P** **06 27 16.0 +0.7**
ERM Erimo 71.31 331 *c* iP **P** **06 27 16.0 +0.3**
ERM pmax pmax
comp=Z,63nm,1.0s
ERM Erimo 71.31 331 P **P** **06 27 15.9 +0.2**
JTM Tenmabayashi 71.33 329 P **P** **06 27 16.9 +1.1**
JTM IAmb IAmb 06 27 17.7
comp=Z,122nm,1.0s
JNU Nakatsue 71.61 317 P **P** **06 27 18.1 +0.4**
comp=Z,191nm,0.9s,baz=92,slow=4.7,SNR=32
JNU Nakatsue 71.61 317 IAmb IAmb 06 27 19.6
comp=Z,228nm,1.0s
JCJI Jatiwangi 71.68 270 P **P** **06 27 18.5 +0.1**
comp=Z,13µmcomp=Z,1µm,1.0s
CISI Cisompet, Garu 71.76 269 IAmb IAmb 06 27 20.1
comp=Z,241nm,1.0s
CISI Cisompet, Garu 71.76 269 P **P** **06 27 18.1 -0.9**
comp=Z,1µmcomp=Z,5µmcomp=Z,280nm,1.0s
YUK Yuzh-Kuril'sk 71.78 334 *e* P **P** **06 27 16.7 -1.6**
YUK *i* 06 27 30.8
YUK *i* *PP **pP** **06 29 24.6 -4.6**
YUK *i* 06 30 10.4
YUK *i* S **SKiKP** **06 35 45.7 -1.3**
YUK *i* SS **SS** **06 40 42.4 -1.7**
YUK pmax pmax
comp=Z,304nm,1.0s
YUK pmax pmax
comp=N,265nm,0.9s
YUK pmax pmax
comp=E,186nm,1.0s
KUR Kuril'sk 71.98 336 *d* iP **P** **06 27 20.7 +1.3**
KUR *i* 06 29 34.9
KUR *i* S **S** **06 35 54.4 +4.2**
KUR *i* SSS SSS 06 44 09.1
KUR pmax pmax
comp=Z,197nm,1.1s
KUR pmax pmax
comp=Z,962nm,4.1s
KUR pmax pmax
comp=E,387nm,3.0s
KUR MLR MLR
comp=Z,187nm,17.0s
LEM Lembang 72.18 269 P **P** **06 27 22.1 +0.6**
comp=Z,1µm,0.9s,baz=69,slow=4.6,SNR=12
LEM Lembang 72.18 269 P **P** **06 27 22.3 +0.8**
comp=Z,2µmcomp=Z,7µmcomp=Z,768nm,1.0s
CNJI Cibinong 72.48 269 P **P** **06 27 22.8 -0.2**
comp=Z,8µmcomp=Z,874nm,1.0s
KSM Kuching 72.54 278 P **P** **06 27 24.0 +0.6**
YULB Yu-li 72.72 304 P **P** **06 27 23.1 -1.1**
YULB IAmb IAmb 06 27 24.4
comp=Z,84nm,0.7s
PTKI Pontianak 72.80 276 P **P** **06 27 25.2 +0.3**
comp=Z,2µm,0.5s
XMI Christmas Isla 72.83 265 P **P** **06 27 26.3 +1.2**
comp=Z,591nm,0.9s
XMIS Christmas Isla 72.86 265 P **P** **06 27 25.7 +0.5**
XMIS Christmas Isla 72.86 265 P **P** **06 27 26.2 +1.0**
comp=Z,500nm,0.9s
NACB Ninganchiao 72.91 305 IAmb IAmb 06 27 26.8
comp=Z,196nm,0.9s
CBJI Citeko 73.03 269 P **P** **06 27 25.6 -0.6**
comp=Z,12µmcomp=Z,817nm,0.9s
DBJI Dramaga 73.08 269 P **P** **06 27 26.5 0.0**
comp=Z,10µmcomp=Z,875nm,1.0s
JKA Kamikawa-asahi 73.23 332 P **P** **06 27 27.5 +0.9**
JKA IAmb IAmb 06 27 29.8
comp=Z,153nm,1.0s
ASAJ Asahikawa 73.23 332 P **P** **06 27 28.6 +2.0**
comp=Z,102nm,0.8s,baz=213,slow=6.6,SNR=66
TATO Taipei 73.42 305 P **P** **06 27 27.6 -0.5**
JTU Tsushima 73.46 317 **PcP** **06 27 39.1 -0.8**
TPI Tanjungpandan 73.51 273 P **P** **06 27 29.3 +0.4**
comp=Z,3µmcomp=Z,293nm,1.0s
NIKH Nikolski High 73.58 6 P 06 27 28.1
baz=190
NIKH S 06 36 06.1
baz=190
CGJI Cibinong 74.05 269 P **P** **06 27 30.8 -1.2**
comp=Z,7µmcomp=Z,903nm,1.0s
SKR Severo-Kuril's 74.12 344 *e* P **P** **06 27 30.9 -0.5**
SKR *e* S **S** **06 36 15.2 +1.9**
SKR *e* 06 36 51.2
SKR pmax pmax
comp=Z,89nm,1.2s
SKR pmax pmax
comp=Z,300nm,2.1s
SKR pmax pmax
comp=Z,100nm,2.0s
BLSI Bandar Lampung 74.89 270 P **P** **06 27 36.0 -0.6**
comp=Z,6µmcomp=Z,718nm,0.9s
PPBI Pakal Pinang 75.14 273 P **P** **06 27 38.8 +0.8**
comp=Z,22µmcomp=Z,407nm,1.1s
YSS Yuzh-Sakhalins 75.42 334 *k* iP **P** **06 27 40.0 +1.2**
YSS *e* *PP **pP** **06 29 51.5 +0.4**
YSS *e* 06 30 41.0
YSS *i* S **S** **06 36 30.6 +3.0**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,900nm,3.3s
YSS pmax pmax
comp=N,300nm,3.6s
YSS smax smax
comp=N,2µm,5.9s
YSS Yuzh-Sakhalins 75.42 334 P **P** **06 27 40.1 +1.4**
YSS IAmb IAmb 06 27 41.3
comp=Z,79nm,0.9s
KASI Kota Agung 75.53 269 P **P** **06 27 39.2 -1.0**
comp=Z,10µmcomp=Z,1µm,1.0s
KNMB Chin-men Tao 75.55 303 IAmb IAmb 06 27 41.8
comp=Z,132nm,0.9s
QZH Quanzhou 75.64 304 ⇓ iP **P** **06 27 41.3 +0.8**
QZH pP **pP** **06 29 51.5 -1.8**
QZH PP **PP** **06 30 41.0 -2.2**
QZH S **S** **06 36 31.3 +0.5**
QZH ScS **ScS** **06 36 53.0 -2.0**
QZH pmax pmax
comp=Z,140nm,1.0s
PET Petropavlovsk 75.66 346 *e* P **P** **06 27 39.3 -0.6**
PET *e* *PP **pP** **06 29 51.5 -1.6**
PET *e* *SP **sP** **06 30 53.9 -5.1**
PET *e* S **S** **06 36 28.0 -1.8**
PET *e* 06 36 50.5
PET *e* SP **SPn** **06 37 14.4 +2.0**
PET *e* SS **SS** **06 41 44.7 +2.8**
PET *e* SSS SSS 06 45 11.9
PET pmax pmax
comp=Z,49nm,1.1s
PET pmax pmax
comp=Z,400nm,3.7s
PET pmax pmax
comp=Z,300nm,12.9s
TJN Taejon 75.91 318 *d* iP **P** **06 27 42.0 +0.3**
PEA0B Petropavlovsk- 75.96 346 *d* iP **P** **06 27 41.6 0.0**
PEA0B Petropavlovsk- 75.96 346 IAmb IAmb 06 27 43.1
comp=Z,111nm,0.9s
PETK Petropavlovsk- 75.96 346 P **P** **06 27 42.0 +0.4**
comp=Z,75nm,0.8s,baz=130,slow=8.0,SNR=73
PETK Petropavlovsk- 75.96 346 P **P** **06 27 42.0 +0.4**
PETK Petropavlovsk- 75.96 346 P **P** **06 27 42.0 +0.4**
LWLI Liwa 76.11 270 P **P** **06 27 43.0 -0.5**
comp=Z,9µmcomp=Z,1µm,0.8s
PMBI Palembang 76.15 272 P **P** **06 27 44.8 +1.2**
MDSI Maura Dua 76.18 270 P **P** **06 27 42.7 -1.0**
comp=Z,3µmcomp=Z,343nm,0.9s
KSRS Korea Array 76.24 319 P **P** **06 27 44.5 +1.0**
comp=Z,42nm,0.9s,baz=142,slow=6.2,SNR=130
KSRS PP **PP** **06 30 46.3 -1.6**
comp=Z,11nm,1.1s,baz=132,slow=8.5,SNR=4.8
KSRS P3KP 06 53 37.0
comp=Z,0.5nm,0.3s,baz=318,slow=3.4,SNR=4.4
KSAR Wonju Array Be 76.26 319 P **P** **06 27 44.4 +0.8**
KSAR Wonju Array Be 76.26 319 P **P** **06 27 44.4 +0.8**
SSE Sheshan 76.96 310 P **P** **06 27 48.9 +1.3**
SSE S **S** **06 36 46.4 +1.8**
SSE pmax pmax
comp=Z,55nm,0.9s
SSE pmax pmax
comp=Z,320nm,6.4s
LHSI Lahat 77.02 271 P **P** **06 27 48.0 -0.3**
comp=Z,8µmcomp=Z,625nm,1.1s
INCN Inchon 77.06 318 P **P** **06 27 49.4 +1.4**
INCN pmax pmax
comp=Z,129nm,1.1s
INCN Inchon 77.06 318 P **P** **06 27 49.4 +1.4**
INCN IAmb IAmb 06 27 51.3
comp=Z,129nm,1.1s
SDPT Sand Point 77.06 11 P 06 27 46.9
baz=198,SNR=9.0
SDPT S 06 36 43.0
baz=198
SDPT Sand Point 77.06 11 P **P** **06 27 47.6 +0.1**
SDPT IAmb IAmb 06 27 49.6
comp=Z,86nm,0.6s
DSRI Dabo 77.18 274 P **P** **06 27 49.9 +0.7**
comp=Z,2µmcomp=Z,171nm,1.1s
MNAI Manna 77.37 270 P **P** **06 27 50.5 +0.2**
MNAI Manna 77.37 270 P **P** **06 27 49.6 -0.6**
comp=Z,1µm,0.9s
UGL Uglegorsk 77.40 335 *e* P **P** **06 27 50.4 +1.0**
UGL *e* S **S** **06 36 50.6 +2.3**
UGL pmax pmax
comp=Z,190nm,1.0s
UGL pmax pmax
comp=Z,1µm,4.0s
UGL smax smax
comp=E,2µm,7.0s
UGL smax smax
comp=N,2µm,6.0s
SPIA Saint Paul Isl 77.61 5 P 06 27 51.0
baz=188
EGSI Enggano, Bengk 77.67 269 P **P** **06 27 52.6 +0.8**
comp=N,4µmcomp=N,445nm,0.9s
VLA Vladivostok 77.71 325 *d* iP **P** **06 27 52.4 +1.1**
VLA pmax pmax
comp=Z,104nm,1.1s
MSHR Mys Shultsa 77.73 325 *d* iP **P** **06 27 52.7 +1.3**
MSHR pmax pmax
comp=Z,216nm,1.0s
SNCC San Nicolas Is 77.81 48 P 06 27 53.2
baz=236
KSI Kapahiang 77.95 271 P **P** **06 27 53.0 -0.4**
SCZ2 Santa Cruz Isl 78.16 47 P 06 27 54.7
baz=235
UBSI University, Be 78.22 270 P **P** **06 27 54.3 -0.4**
comp=Z,661nm,1.0s
SCI2 San Clemente I 78.34 48 P 06 27 56.7
baz=236
SBC Santa Barbara 78.35 46 P 06 27 55.5
baz=235
USA0B Ussuriysk Arra 78.40 326 IAmb IAmb 06 27 58.5
comp=Z,208nm,1.2s
USRK Ussuriysk Ar. 78.40 326 P **P** **06 27 56.1 +1.2**
comp=Z,96nm,0.9s,baz=128,slow=3.6,SNR=193
USRK Ussuriysk Ar. 78.40 326 P **P** **06 27 55.8 +0.9**
USRK **pP** **06 30 14.2 +5.1**
CHIR Chirikof Islan 78.45 13 P 06 27 55.9
baz=202,SNR=5.9
CHIR S 06 36 59.7
baz=202
CHIR Chirikof Islan 78.45 13 IAmb IAmb 06 27 57.8
comp=Z,94nm,1.0s
PKM Mcpherson Peak 78.54 46 P 06 27 58.3
baz=235,SNR=7.7
SAO San Andreas Ge 78.55 44 P **P** **06 27 57.7 +1.8**
SAO pmax pmax
comp=Z,138nm,1.1s
SAO San Andreas Ge 78.55 44 P **P** **06 27 57.7 +1.8**
SAO IAmb IAmb 06 27 60.0
comp=Z,138nm,1.1s
BTDF Bukit Timah Da 78.59 276 P **P** **06 27 57.5 +0.8**
comp=Z,2µmcomp=Z,3µmcomp=Z,312nm,1.0s
TYV Tymovskoe 78.60 336 *e* P **P** **06 27 57.0 +1.2**
TYV *e* S **S** **06 36 56.0 -4.7**
TYV pmax pmax
comp=Z,116nm,1.0s
TYV smax smax
comp=E,18nm,1.4s
TYV smax smax
comp=N,2µm,6.9s
PMPB Monarch Peak 78.65 44 IAmb IAmb 06 28 00.8
comp=Z,351nm,1.7s
SMMC Simmler 78.66 46 P 06 27 58.7
baz=235,SNR=7.9
CIS Catalina Islan 78.67 48 P 06 27 58.0
baz=236
MYKOM Kota Tinggi 78.67 276 P **P** **06 27 58.0 +0.9**
PAGB Antelope Grade 78.73 45 P **P** **06 27 58.1 +1.1**
PAGB IAmb IAmb 06 28 01.2
comp=Z,327nm,1.9s
HOPS Hopland Field 78.86 41 IAmb IAmb 06 28 01.6
comp=Z,199nm,1.1s
GZH Guangzhou 78.92 300 P **P** **06 27 59.0 +0.8**
GZH pP **pP** **06 30 13.3 +1.0**
GZH PP **PP** **06 31 13.1 +3.0**
GZH S **S** **06 37 08.5 +3.3**
GZH pmax pmax
comp=Z,1µm,6.7s
FMP Fort Macarthur 78.92 48 P 06 27 59.5
baz=236
KCPM Cahto Peak 78.97 40 IAmb IAmb 06 28 02.5
comp=Z,219nm,1.2s
OSI Osito Audit: C 79.13 47 IAmb IAmb 06 28 03.0
comp=Z,109nm,1.3s
OSI Osito Audit: C 79.13 47 P 06 28 00.9
baz=236
OSI S 06 37 09.1
baz=236
NJ2 Nanjing 79.15 310 ⇓ iP **P** **06 28 00.3 +1.1**
NJ2 PcP **PcP** **06 28 04.9 +0.1**
NJ2 pP **pP** **06 30 15.8 +1.9**
NJ2 PP **PP** **06 31 11.0 -0.9**
NJ2 sP **sP** **06 31 19.0 -0.5**
NJ2 S **S** **06 37 10.3 +3.1**
NJ2 SKS **SKSac** **06 37 15.3 +1.3**
NJ2 SS **SS** **06 42 39.1 +4.6**
NJ2 pmax pmax
comp=Z,140nm,1.0s
NJ2 pmax pmax
comp=Z,1µm,3.5s
DECC Green Verdugo 79.19 47 P 06 28 00.4
baz=236
KMRM Mail Ridge 79.22 40 P **P** **06 28 01.6 +2.1**
PASC Pasadena Art C 79.25 47 IAmb IAmb 06 28 03.2
comp=Z,109nm,1.3s
109C Camp Elliot, M 79.31 49 P 06 28 01.2
baz=237,SNR=9.8
109C S 06 37 13.0
baz=237
109C Camp Elliot, M 79.31 49 IAmb IAmb 06 28 03.7
comp=Z,125nm,1.2s
RGRI Rengat 79.33 274 P **P** **06 28 02.4 +1.8**
comp=Z,483nmcomp=Z,971nm,0.4s
ARVC Arvin 79.34 46 P 06 28 01.8
baz=236,SNR=13
MWC Mount Wilson 79.37 47 IAmb IAmb 06 28 04.0
comp=Z,124nm,1.2s
SII Sitkinak Islan 79.44 14 P 06 28 01.1
baz=204,SNR=9.9
SII S 06 37 10.9

baz=204
SII Sitkinak Islan 79.44 14 IAmb IAmb 06 28 03.2
comp=Z,111nm,1.0s
TKX Tecate 79.49 50 IAmb IAmb 06 28 04.8
comp=Z,126nm,1.3s
TKX pP 06 30 17.3 +2.2
SPX San Pedro Mart 79.51 51 P **P** **06 28 03.0 +1.5**
SPX IAmb IAmb 06 28 05.7
comp=Z,180nm,2.0s
KRJI Kerinci 79.54 272 P **P** **06 28 02.1 +0.3**
comp=Z,37µmcomp=Z,342nm,1.0s
VES Vestal, Richgr 79.57 46 P 06 28 02.6
baz=235,SNR=33
VES S 06 37 16.3
baz=235
KHMM Horse Mountain 79.62 39 P **P** **06 28 04.0 +2.3**
KHMM IAmb IAmb 06 28 06.1
comp=Z,143nm,1.1s
MURC Murrieta 79.63 48 P 06 28 03.0
baz=237,SNR=26
MURC S 06 37 18.8
baz=237
VOG Valley Oaks Go 79.64 45 P 06 28 02.4
baz=235
VOG S 06 37 17.8
baz=235
BFSC Mount Baldy Ra 79.65 48 P 06 28 02.9
baz=237,SNR=19
BFSC S 06 37 18.4
baz=237
O02D Mt. Diablo Mer 79.75 40 P 06 28 04.6
baz=232,SNR=46
O02D S 06 37 19.9
baz=232
EDW2 Edwards Air Fo 79.77 47 P 06 28 03.4
baz=236,SNR=52
EDW2 S 06 37 18.2
baz=236
MONP2 Monument Peak 79.79 49 P 06 28 04.3
baz=238,SNR=59
MONP2 S 06 37 20.7
baz=238
ISA Isabella, Lake 79.88 46 P 06 28 04.7
baz=236,SNR=74
ISA S 06 37 19.6
baz=236
ISA Isabella, Lake 79.88 46 IAmb IAmb 06 28 07.0
comp=Z,154nm,1.1s
RMX La Rumorosa 79.89 50 IAmb IAmb 06 28 07.3
comp=Z,126nm,1.0s
KRMB Red Mountain 79.92 39 IAmb IAmb 06 28 07.7
comp=Z,159nm,1.2s
MDJ Mudanjiang 79.94 325 P **P** **06 28 04.8 +1.8**
MDJ sP sP 06 31 25.1 +1.5
MDJ S **S** **06 37 19.3 +4.5**
MDJ SS **SS** **06 42 44.4 -1.3**
MDJ pmax pmax
comp=Z,160nm,0.9s
MDJ pmax pmax
comp=Z,1µm,5.6s
MDJ Mudanjiang 79.94 325 IAmb IAmb 06 28 06.6
comp=Z,190nm,1.1s
CMB Columbia Colle 79.97 43 IAmb IAmb 06 28 07.9
comp=Z,144nm,1.2s
QIZ Qiongzhong 80.03 295 P **P** **06 28 04.8 +0.7**
QIZ S **S** **06 37 18.4 +1.7**
QIZ SS **SS** **06 42 48.6 +0.8**
QIZ pmax pmax
comp=Z,48nm,1.4s
QIZ pmax pmax
comp=Z,670nm,3.9s
QIZ Qiongzhong 80.03 295 IAmb IAmb 06 28 07.2
comp=Z,239nm,1.9s
SRIG Santa Rosalia 80.08 56 IAmb IAmb 06 28 08.1
comp=Z,249nm,1.2s
LPIG La Paz 80.10 60 P **P** **06 28 06.1 +1.8**
comp=Z,88nm,0.9s,baz=326,slow=0.8,SNR=10.0
AFDM Forest Hills D 80.14 42 P **P** **06 28 05.6 +1.4**
AFDM IAmb IAmb 06 28 07.9
comp=Z,134nm,1.2s
WDC Whiskeytown Da 80.15 40 IAmb IAmb 06 28 08.4
comp=Z,179nm,1.2s
WDC pwP 06 30 22.0 -0.1
PFO Pinyon Flats O 80.15 49 P 06 28 06.1
baz=237,SNR=31
PFO S 06 37 22.3
baz=237
PFO Pinyon Flats O 80.15 49 P **P** **06 28 06.1 +1.6**
comp=Z,36nm,1.1s,baz=238,slow=4.1,SNR=30
PFO Pinyon Flats O 80.15 49 P **P** **06 28 06.0 +1.4**
TPFO Pinon Flats 80.15 49 P 06 28 06.1
baz=238,SNR=28
TPFO S 06 37 22.3
baz=238
ORV Oroville 80.17 41 IAmb IAmb 06 28 08.1
comp=Z,131nm,1.1s
ORV pwP 06 30 23.5 +1.6
BBRC Big Bear Solar 80.18 48 P 06 28 06.4
baz=237,SNR=6.8
BBRC S 06 37 22.4
baz=237
SLBS Sierra La Lagu 80.20 60 P **P** **06 28 07.3 +2.3**
SLBS IAmb IAmb 06 28 09.1
comp=Z,177nm,1.2s
OHAK Old Harbor 80.25 14 P 06 28 05.3
baz=204,SNR=25
OHAK S 06 37 18.7
baz=204
SWSC Sam W. Stewart 80.26 50 P 06 28 06.3
baz=238,SNR=18
SWSC S 06 37 22.6
baz=238
N02D Trinity Center 80.29 40 P 06 28 07.0
baz=232,SNR=57
N02D S 06 37 23.2
baz=232
LRMC Laurel Mtn Rad 80.32 47 P 06 28 06.7
baz=236,SNR=5.2
CPBX Cerro Prieto 80.34 50 IAmb IAmb 06 28 09.7
comp=Z,168nm,1.2s
O03E Paynes Creek 80.42 41 P 06 28 06.8
baz=233,SNR=74
O03E S 06 37 24.4
baz=233
GUVIX Guadalupe Vict 80.45 50 IAmb IAmb 06 28 10.5
comp=Z,238nm,1.1s
M02C Callahan 80.46 39 P 06 28 08.0
baz=232,SNR=79
M02C S 06 37 25.4
baz=232
RRX Edison Barstow 80.46 47 P 06 28 07.0
baz=237,SNR=5.5
RRX S 06 37 25.3
baz=237
L02E Cave Junction 80.49 38 P 06 28 08.1
baz=231,SNR=9.2
L02E S 06 37 27.0
baz=231
KEBM Edson Butte 80.52 37 P **P** **06 28 07.8 +1.7**
COCO West Island 80.52 260 P **P** **06 28 06.5 -0.2**
COCO pmax pmax
comp=Z,364nm,1.0s
COCO West Island 80.52 260 P **P** **06 28 06.5 -0.2**
CWC Cottonwood Cre 80.58 46 P 06 28 08.3
baz=236
CWC S 06 37 27.6
baz=236
MDPB Devils Postpil 80.59 44 IAmb IAmb 06 28 11.3
comp=Z,148nm,1.1s
BELC Belle Mtn. Jos 80.68 49 P 06 28 09.3
baz=238,SNR=43
BELC S 06 37 27.8
baz=238
RUBR Rubicon Trail 80.71 42 IAmb IAmb 06 28 12.1
comp=Z,302nm,1.4s
MLAC Mammoth, Mammo 80.75 44 P 06 28 09.5
baz=235,SNR=10.0
MLAC S 06 37 29.6
baz=235
YBH Yreka Blue Hor 80.75 39 P **P** **06 28 09.3 +1.9**
comp=Z,76nm,0.9s,baz=201,slow=4.4,SNR=84
YBH Yreka Blue Hor 80.75 39 IAmb IAmb 06 28 11.8
comp=Z,127nm,1.0s
YBH pwP 06 30 25.6 +0.2
MPMC Manual Prospec 80.77 46 P 06 28 09.0
baz=236,SNR=95
MPMC S 06 37 28.0

baz=236
BKNI Bangkinang 80.78 274 P **P** **06 28 08.7 +0.6**
comp=Z,3µmcomp=Z,5µmcomp=Z,359nm,1.4s
K02D Willamette Mer 80.79 38 P 06 28 08.8
baz=231,SNR=14
K02D S 06 37 29.1
baz=231
GSC Goldstone, Bar 80.82 47 P 06 28 09.3
baz=237,SNR=60
GSC S 06 37 29.3
baz=237
GSC Goldstone, Bar 80.82 47 IAmb IAmb 06 28 11.6
comp=Z,130nm,1.2s
TIN Tinemaha, Big 80.82 45 P 06 28 09.6
baz=236,SNR=7.4
TIN S 06 37 29.4
baz=236
WAKR Walker 80.86 43 IAmb IAmb 06 28 12.3
comp=Z,204nm,1.1s
BC3 Big Chuckawall 80.88 49 P 06 28 10.1
baz=238,SNR=35
BC3 S 06 37 31.8
baz=238
PDSI Padang 80.89 272 P **P** **06 28 07.8 -0.9**
comp=Z,2µmcomp=Z,130nm,1.0s
HEC Hector,Ludlow 80.89 48 P 06 28 09.6
baz=237,SNR=26
HEC S 06 37 29.7
baz=237
KDAK Kodiak Island 80.92 14 P 06 28 08.6
baz=205
KDAK S 06 37 25.4
baz=205
KDAK Kodiak Island 80.92 14 P **P** **06 28 08.9 +1.2**
comp=Z,18nm,0.8s,baz=278,slow=3.7,SNR=32
KDAK pP **pwP** **06 30 24.9 -0.9**
comp=Z,23nm,1.2s,baz=220,slow=6.9,SNR=5.2
KDAK S **S** **06 37 26.0 +2.0**
comp=Z,38nm,1.4s,baz=336,slow=22,SNR=17
KDAK Kodiak Island 80.92 14 P **P** **06 28 08.4 +0.6**
KDAK pP **pwP** **06 30 24.8 -1.1**
J01E Myrtle Point 80.93 37 P 06 28 10.2
baz=231,SNR=5.4
J01E S 06 37 29.5
baz=231
GLA Glamis 81.02 50 P 06 28 10.9
baz=239,SNR=76
GLA S 06 37 31.4
baz=239
GLA Glamis 81.02 50 P **P** **06 28 11.1 +2.2**
GLA pmax pmax
comp=Z,215nm,1.2s
GLA Glamis 81.02 50 P **P** **06 28 11.1 +2.2**
GLA IAmb IAmb 06 28 13.3
comp=Z,215nm,1.1s
GRNR Gornyy 81.02 333 *j* /P **P** **06 28 09.9 +1.4**
GRNR *e* 06 30 25.5
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=Z,60nm,1.0s
BEKR Beckworth 81.06 42 P **P** **06 28 10.5 +1.3**
BEKR IAmb IAmb 06 28 12.9
comp=Z,150nm,1.2s
BEKR **pwP** **06 30 27.8 +0.5**
DL2 Dalian 81.07 317 P P 06 28 03.6 -5.3
DL2 pP pP 06 30 22.1 -2.5
DL2 sP **PP** **06 31 21.5 -5.7**
DL2 S **S** **06 37 22.8 -3.5**
DL2 Dalian 81.07 317 sS **sS** **06 41 27.8 +1.0**
DL2 pmax pmax
comp=Z,63nm,1.0s
DL2 pmax pmax
comp=Z,620nm,7.3s
HUMO Hull Mountain 81.14 38 IAmb IAmb 06 28 13.8
comp=Z,146nm,1.1s
VCNR Virginia City 81.17 42 IAmb IAmb 06 28 13.7
comp=Z,159nm,1.2s
YERR Yerington 81.26 43 IAmb IAmb 06 28 13.9
comp=Z,202nm,1.2s
L04D Klamath Falls 81.29 39 P 06 28 11.8
baz=232,SNR=40
L04D S 06 37 32.4
baz=232
M04C Macdoel 81.30 39 P 06 28 11.8
baz=233,SNR=42
M04C S 06 37 32.7
baz=233
LHV Little Huntoon 81.31 44 IAmb IAmb 06 28 14.4
comp=Z,164nm,1.1s
GMRC Granite Mounta 81.33 48 P 06 28 12.3
baz=238,SNR=69
GMRC S 06 37 33.0
baz=238
GRAC Grapevine Rang 81.36 45 P 06 28 12.4
baz=236,SNR=46
GRAC S 06 37 34.0
baz=236
IRM Iron Mountain 81.37 49 P 06 28 12.0
baz=238,SNR=67
MAW Mawson 81.37 200 P **P** **06 28 10.4 +0.4**
comp=Z,65nm,0.9s,baz=122,slow=7.2,SNR=41
MAW Mawson 81.37 200 P **P** **06 28 10.3 +0.4**
baz=81,SNR=15
MAW Mawson 81.37 200 P **P** **06 28 10.6 +0.6**
MAW pmax pmax
comp=Z,21nm,1.0s
MAW Mawson 81.37 200 P **P** **06 28 10.6 +0.6**
FURC Furnace Creek, 81.41 46 P 06 28 11.9
baz=237,SNR=33
FURC S 06 37 34.8
baz=237
TUQ Turquoise Moun 81.50 47 P 06 28 12.7
baz=238,SNR=66
TUQ S 06 37 34.4
baz=238
SHOC Shoshone, Teco 81.50 47 P 06 28 12.5
baz=237,SNR=17
SHOC S 06 37 33.1
baz=237
RYN Ryan 81.52 44 P **P** **06 28 13.1 +1.6**
RYN IAmb IAmb 06 28 15.2
comp=Z,134nm,1.3s
NVAR Mina Array Bea 81.55 44 P **P** **06 28 13.0 +1.3**
comp=Z,121nm,1.1s,baz=225,slow=7.8,SNR=169
NVAR pP **pwP** **06 30 28.8 -1.4**
comp=Z,8.8nm,1.2s,baz=226,slow=5.3,SNR=4.3
NVAR PKKPbc **PKKPbc** **06 46 41.7 +1.5**
comp=Z,2.2nm,0.7s,baz=85,slow=3.0,SNR=15
NVAR PKPPKP **P'P'df** **06 54 41.8 -0.9**
comp=Z,0.8nm,1.0s,baz=8.5,slow=1.8,SNR=3.5
NVAR Mina Array Bea 81.55 44 pwP pwP 06 30 28.9 -1.3
I02D Swisshome 81.57 37 P 06 28 12.9
baz=231
I02D S 06 37 35.2
baz=231
SNY Shenyang 81.58 320 ‖P **P** **06 28 12.1 +0.7**
SNY pP **pP** **06 30 26.0 -1.2**
SNY sP **PP** **06 31 30.1 -1.2**
SNY SKS **SKSac** **06 37 28.0 -1.8**
SNY S **SKKSac** **06 37 38.0 +3.4**
SNY pmax pmax
comp=Z,50nm,0.8s
SNY pmax pmax
comp=Z,650nm,8.0s
PAHR Pah Rah Range 81.58 42 IAmb IAmb 06 28 15.6
comp=Z,159nm,1.1s
I03D Drain, OR 81.59 37 P 06 28 13.4
baz=231,SNR=15
I03D S 06 37 34.5
baz=231
113A Mohawk Valley, 81.64 51 IAmb IAmb 06 28 16.1
comp=Z,140nm,1.1s
NV11 Mina Array Sit 81.64 44 IAmb IAmb 06 28 15.8
comp=Z,142nm,1.1s
WHN Wuhan 81.69 307 *j* /P **P** **06 28 13.3 +1.0**
WHN pP **pwP** **06 30 29.0 -0.9**
WHN sP **PP** **06 31 30.8 -1.6**
WHN S **S** **06 37 30.3 -2.6**
WHN pmax pmax
comp=Z,160nm,1.1s
WHN pmax pmax
comp=Z,2µm,2.6s
CN2 Changchun 81.69 323 *e*P **P** **06 28 12.8 +0.8**
CN2 *e*pP pP 06 30 30.3 +2.5
CN2 SKS **SKSac** **06 37 28.0 -2.5**
CN2 *e*S **S** **06 37 32.4 0.0**

CN2 pmax pmax
comp=Z,110nm,1.0s
CN2 pmax pmax
comp=Z,800nm,3.0s
PMSA Palmer Station 81.72 157 P **P** **06 28 13.0 +1.2**
comp=Z,46nm,0.7s,baz=249,slow=2.5,SNR=29
PMSA Palmer Station 81.72 157 P **P** **06 28 13.1 +1.2**
K04D Chiloquin, OR 81.86 39 P 06 28 14.6
baz=233,SNR=16
K04D S 06 37 38.6
baz=233
HSIG 81.90 55 IAmb IAmb 06 28 17.2
comp=Z,126nm,1.1s
214A Organ Pipe Nat 81.92 52 IAmb IAmb 06 28 17.8
comp=Z,131nm,1.1s
214A pwP 06 30 33.7 +1.8
214A Organ Pipe Nat 81.92 52 P 06 28 15.2
baz=240,SNR=58
214A S 06 37 37.3
baz=240
KLR Kul'dur 82.00 330 P **P** **06 28 14.6 +1.2**
comp=Z,38nm,0.9s,baz=108,slow=4.4,SNR=83
KLR PKKPbc **PKKPbc** **06 46 38.2 -1.2**
comp=Z,0.5nm,0.4s,baz=331,slow=6.4,SNR=3.6
KLR Kul'dur 82.00 330 *d* /P **P** **06 28 14.1 +0.7**
KLR pmax pmax
comp=Z,52nm,1.0s
J04D Umpqua Nationa 82.02 38 P 06 28 15.8
baz=232,SNR=52
J04D S 06 37 39.7
baz=232
KVN Kaiserville 82.03 43 IAmb IAmb 06 28 17.6
comp=Z,152nm,1.1s
SISI Saibi 82.03 272 P **P** **06 28 15.1 +0.7**
comp=Z,2µmcomp=Z,76nm,1.3s
TPH Tonopah 82.05 45 P **P** **06 28 15.8 +1.5**
TPH pmax pmax
comp=Z,738nm,1.1s
TPH Tonopah 82.05 45 P **P** **06 28 15.8 +1.5**
NEE2 Needles Airpor 82.06 49 P 06 28 15.8
baz=238,SNR=12
NEE2 S 06 37 38.3
baz=238
TPNV Topopah Spring 82.09 46 IAmb IAmb 06 28 18.1
comp=Z,147nm,1.1s
TPNV Topopah Spring 82.09 46 P 06 28 15.9
baz=237,SNR=130
TPNV S 06 37 38.5
baz=237
PDMCI Parker Dam,Lak 82.15 49 P 06 28 16.4
baz=239,SNR=52
PDMCI S 06 37 38.5
baz=239
COR Corvallis 82.17 37 P **P** **06 28 16.0 +1.6**
COR pmax pmax
comp=Z,115nm,1.4s
COR Corvallis 82.17 37 P **P** **06 28 16.0 +1.6**
COR IAmb IAmb 06 28 17.1
comp=Z,115nm,1.4s
I04A Tendick Farm, 82.19 38 P 06 28 15.3
baz=232,SNR=21
I04A S 06 37 41.6
baz=232
IPM Ipoh 82.26 278 P **P** **06 28 17.0 +1.4**
MOD Modoc Plateau 82.29 40 IAmb IAmb 06 28 19.1
comp=Z,216nm,1.2s
MNSI Mandalling Nat 82.31 274 P **P** **06 28 15.6 -0.2**
comp=Z,300nm,0.9s
K05A Summer Lake 82.43 39 IAmb IAmb 06 28 20.2
comp=Z,182nm,0.9s
H04D Lebanon 82.45 37 P 06 28 17.6
baz=232,SNR=16
H04D S 06 37 44.0
baz=232
TIA Tai'an 82.57 313 P **P** **06 28 17.3 +0.7**
TIA S **SKSac** **06 37 33.3 -3.3**
TIA pmax pmax
comp=Z,68nm,1.3s
TIA pmax pmax
comp=Z,740nm,4.3s
G03D McMinnville, O 82.59 36 P 06 28 18.1
baz=231
G03D S 06 37 45.5
baz=231
SHPR Sheep Range 82.59 47 IAmb IAmb 06 28 20.9
comp=Z,91nm,1.2s
W13A Hualapai Mount 82.74 49 IAmb IAmb 06 28 21.7
comp=Z,87nm,1.2s
Y14A Wickenburg 82.78 50 IAmb IAmb 06 28 21.6
comp=Z,106nm,1.2s
CNPM China Poot 82.80 14 pP pP 06 30 35.7 +2.7
HOM Homer 82.83 14 P 06 28 18.3
baz=206,SNR=10
HOM S 06 37 44.0
baz=206
H04A Detroit Lake 82.86 37 IAmb IAmb 06 28 21.3
comp=Z,104nm,1.1s
PINE Pine Mountain 83.03 38 P **P** **06 28 20.8 +1.8**
BRLK Bradley Lake 83.10 14 IAmb IAmb 06 28 21.3
comp=Z,84nm,1.1s
BRLK pP pP 06 30 37.3 +2.7
BRSE Bradley Lake S 83.11 14 P 06 28 19.2
baz=206,SNR=49
BRSE S 06 37 46.2
baz=206
I05D Terrebonne, OR 83.13 38 P 06 28 20.9
baz=233,SNR=31
I05D S 06 37 49.6
baz=233
PRN Pahroc Range 83.14 46 IAmb IAmb 06 28 23.7
comp=Z,146nm,1.2s
PBSI Pulau Batu 83.23 272 P **P** **06 28 22.2 +1.8**
comp=Z,158nm,0.9s
E03A Lebam 83.26 35 IAmb IAmb 06 28 24.3
comp=Z,196nm,1.0s
F04D Rainier, OR 83.27 35 P 06 28 22.0
baz=231
F04D S 06 37 52.2
baz=231
R11A Troy Canyon, C 83.28 45 P 06 28 21.3
baz=237,SNR=13
R11A S 06 37 52.7
baz=237
TRSI Tarutung 83.32 275 P **P** **06 28 22.1 +1.1**
comp=Z,312nm,0.4s
MA2 Magadan 83.46 345 P **P** **06 28 20.2 -0.2**
comp=Z,38nm,0.8s,baz=155,slow=4.1,SNR=7.0
MA2 Magadan 83.46 345 P **P** **06 28 20.2 -0.2**
MA2 Magadan 83.46 345 IAmb IAmb 06 28 21.5
comp=Z,42nm,0.9s
H02S1 DAWSON INLET T 83.56 26 P **P** **06 28 21.9 +0.8**
H02S1 DAWSON INLET T 83.56 26 P **P** **06 28 21.9 +0.8**
TUC Tucson 83.60 52 P 06 28 24.1
baz=241
TUC Tucson 83.60 52 P **P** **06 28 22.8 +0.9**
TUC IAmb IAmb 06 28 26.4
comp=Z,137nm,1.1s
TUC **pwP** **06 30 42.6 +1.4**
WVOR Wild Horse Val 83.61 40 IAmb IAmb 06 28 25.7
comp=Z,134nm,1.1s
PSI Prapat 83.62 275 P **P** **06 28 22.4 -0.1**
comp=Z,137nm,0.9s,baz=0.8,slow=1.5,SNR=63
PSI PP **sP** **06 31 44.3 +1.5**
comp=Z,13nm,0.8s,baz=180,slow=2.4,SNR=5.7
PSI Prapat 83.62 275 P **P** **06 28 22.4 -0.1**
comp=Z,3µmcomp=Z,278nm,1.0s,comp=Z,991nm,1.0s,
comp=Z,102nm,1.0s
PSI P **P** **06 28 21.8 -0.7**
comp=Z,3µmcomp=Z,278nm,1.0s,comp=Z,991nm,1.0s,
comp=Z,102nm,1.0s
NLWA Neilton Lookou 83.63 34 P **P** **06 28 23.5 +1.8**
NLWA IAmb IAmb 06 28 25.7
comp=Z,80nm,0.9s
G05D Wamic, OR 83.69 37 P 06 28 23.7
baz=233,SNR=8.6
G05D S 06 37 55.9
baz=233
SEW Seward 83.73 14 P 06 28 22.3
baz=208,SNR=11
SEW S 06 37 51.1
baz=208
E04D Cinebar 83.80 35 P 06 28 24.0
baz=232,SNR=24
E04D S 06 37 55.6
baz=232
Q23K Middleton Isla 83.90 16 P 06 28 23.2
baz=210

Q23K					S			06 37 54.7
	baz=210							
CAPN	**Captain Cook N**	**83.94**	**13**	S				06 37 56.3
	baz=206							
O22K	**Cooper Landing**	**84.00**	**14**	P				06 28 23.4
	baz=207							
F05D	**White Salmon**	**84.00**	**36**	P				06 28 25.0
	baz=233,SNR=9.8							
F05D				S				06 37 58.5
	baz=233							
O22K	**Cooper Landing**	**84.00**	**14**	IAmb	IAmb			06 28 31.3
	comp=Z,123nm,1.1s							
I07A	**Izee**	**84.04**	**39**	IAmb	IAmb			06 28 27.8
	comp=Z,113nm,1.0s							
D04E	**Lakebay**	**84.08**	**35**	P				06 28 25.8
	baz=232,SNR=6.5							
D04E				S				06 38 00.6
	baz=232							
GAMB	**Gambell**	**84.08**	**3**	P				06 28 24.9
	baz=187							
GAMB				S				06 37 57.8
	baz=187							
SPCR	**Spurr Chakacha**	**84.11**	**13**	P				06 28 23.3
	baz=205,SNR=6.3							
SPCR				S				06 37 55.2
	baz=205							
D03D	**Eldon**	**84.13**	**34**	P				06 28 25.5
	baz=231,SNR=11							
D03D				S				06 38 00.8
	baz=231							
X16A	**Lo Mia Camp, P**	**84.14**	**50**	IAmb	IAmb			06 28 28.8
	comp=Z,91nm,1.2s							
LCMT	**Little Creek M**	**84.17**	**47**	P	**P**			**06 28 25.7 +1.0**
TSI	**Tuntungan**	**84.21**	**276**	P	**P**			**06 28 25.6 +0.4**
	comp=Z,36µmcomp=Z,340nm,0.9s							
J08A	**Circle Bar Ran**	**84.23**	**40**	IAmb	IAmb			06 28 28.6
	comp=Z,142nm,1.1s							
GSI	**Gunungsitoli**	**84.36**	**273**	P	**P**			**06 28 27.6 +1.6**
	comp=Z,6µmcomp=Z,687nm,1.0s							
KNB	**Kanab**	**84.46**	**47**	IAmb	IAmb			06 28 31.1
	comp=Z,85nm,1.1s							
D05A	**Enumclaw**	**84.51**	**35**	IAmb	IAmb			06 28 30.8
	comp=Z,203nm,1.2s							
U15A	**North Rim**	**84.53**	**48**	P	**P**			**06 28 28.6 +1.9**
U15A				IAmb	IAmb			06 28 30.6
	comp=Z,159nm,1.2s							
RC01	**Rabbit Creek A**	**84.54**	**14**	P				06 28 26.1
	baz=207,SNR=20							
RC01				S				06 37 59.7
	baz=207							
PGC	**Sidney**	**84.65**	**33**	IAmb	IAmb			06 28 30.1
	comp=Z,96nm,1.1s							
SUA	**Susitna One**	**84.65**	**13**	P				06 28 26.7
	baz=206,SNR=5.9							
SUA				S				06 38 00.5
	baz=206							
SUA	**Susitna One**	**84.65**	**13**	IAmb	IAmb			06 28 51.9
	comp=Z,49nm,0.7s							
PWL	**Port Wells**	**84.66**	**14**	IAmb	IAmb			06 28 28.7
	comp=Z,66nm,1.0s							
BBB	**Bella Bella**	**84.72**	**29**	P	**P**			**06 28 28.2 +1.4**
	comp=Z,34nm,1.0s,baz=245,slow=6.1,SNR=9.1							
WUAZ	**Wupatki**	**84.73**	**49**	P				06 28 28.6
	baz=240							
WUAZ	**Wupatki**	**84.73**	**49**	P	**P**			**06 28 28.7 +1.2**
WUAZ				IAmb	IAmb			06 28 31.4
	comp=Z,93nm,1.1s							
ELK	**Elko**	**84.79**	**43**	PKPPKP				06 54 40.6
	comp=Z,0.8nm,0.7s,baz=106,slow=4.1,SNR=4.2							
F07A	**Phinny Hill Vi**	**84.86**	**37**	IAmb	IAmb			06 28 31.4
	comp=Z,88nm,1.3s							
SKT	**Skwentna**	**84.95**	**13**	P				06 28 26.9
	baz=206,SNR=8.2							
SKT				S				06 38 01.1
	baz=206							
GLI	**Glacier Island**	**84.97**	**15**	P				06 28 28.0
	baz=210							
GLI				S				06 38 03.1
	baz=210							
GLI	**Glacier Island**	**84.97**	**15**	IAmb	IAmb			06 28 30.1
	comp=Z,97nm,1.0s							
CRAG	**Craig**	**84.97**	**24**	P				06 28 29.2
	baz=222,SNR=5.6							
CRAG				S				06 38 07.4
	baz=222							
TTA	**Tatalina**	**85.00**	**10**	P				06 28 28.7
	baz=202,SNR=5.4							
TTA				S				06 38 06.8
	baz=202							
TTA	**Tatalina**	**85.00**	**10**			pwP		06 30 49.1 +2.1
EYAK	**Cordova Ski Ar**	**85.02**	**16**	P				06 28 28.4
	baz=211,SNR=28							
EYAK				S				06 38 04.4
	baz=211							
G08A	**Pilot Rock**	**85.06**	**38**	P	**P**			**06 28 30.1 +1.4**
G08A				IAmb	IAmb			06 28 32.5
	comp=Z,140nm,1.1s							
G08A					**pwP**			**06 30 49.0 +0.4**
A04D	**Lummi Island**	**85.07**	**34**	P				06 28 30.0
	baz=231,SNR=12							
A04D				S				06 38 07.8
	baz=231							
LASI	**Langsa, Aceh**	**85.10**	**277**	P	**P**			**06 28 31.1 +1.6**
	comp=Z,578nm,1.0s							
B05A	**Bryant**	**85.11**	**34**	P				06 28 30.1
	baz=232,SNR=21							
B05A				S				06 38 08.0
	baz=232							
HPIG		**85.11**	**59**	IAmb	IAmb			06 28 33.1
	comp=Z,84nm,1.0s							
KNK	**Knik Glacier**	**85.11**	**14**	P				06 28 28.8
	baz=208,SNR=16							
KNK				S				06 38 05.2
	baz=208							
PMR	**Palmer**	**85.12**	**14**	P				06 28 28.5
	baz=208,SNR=20							
PMR				S				06 38 04.7
	baz=208							
PMR	**Palmer**	**85.12**	**14**			pP		06 30 47.7 +2.5
BJT	**Baijiatuan**	**85.21**	**316**	IAmb	IAmb			06 28 32.5
	comp=Z,104nm,1.4s							
BJI	**Beijing**	**85.22**	**316**	P	**P**			**06 28 29.9 +0.5**
BJI				pP	**pP**			**06 30 48.3 +1.5**
BJI				sP	**sP**			**06 31 53.5 +2.0**
BJI				ScS	**S**			**06 38 14.1 +7.4**
BJI				sS	**sS**			**06 42 14.8 +4.1**
BJI				pmax	pmax			
	comp=Z,43nm,0.8s							
BJI				pmax	pmax			
	comp=Z,720nm,3.5s							
LTY	**Liberty**	**85.26**	**36**	IAmb	IAmb			06 28 33.0
	comp=Z,77nm,1.2s							
X18A	**Snowflake**	**85.27**	**51**	IAmb	IAmb			06 28 34.0
	comp=Z,71nm,1.2s							
E07A	**Sunnyside**	**85.30**	**36**	IAmb	IAmb			06 28 33.6
	comp=Z,86nm,1.0s							
BGLC	**Bering Glacier**	**85.31**	**17**	P				06 28 30.8
	baz=213							
BGLC				S				06 38 09.9
	baz=213							
GHO	**Glory Hole Cre**	**85.33**	**14**	IAmb	IAmb			06 28 32.1
	comp=Z,78nm,0.8s							
ANM	**Nome**	**85.33**	**6**	S				06 38 10.1
	baz=193							
SIT	**Sitka**	**85.35**	**22**	P				06 28 31.1
	baz=220							
SIT				S				06 38 09.2
	baz=220							
HAWA	**Hanford**	**85.38**	**37**	P	**P**			**06 28 31.6 +1.6**
HAWA				IAmb	IAmb			06 28 34.0
	comp=Z,123nm,1.1s							
TPTI		**85.42**	**275**	P	**P**			**06 28 31.5 +0.5**
	comp=Z,1µmcomp=Z,78nm,1.3s							
MTPU	**Mount Pierson**	**85.42**	**47**	IAmb	IAmb			06 28 35.4
	comp=Z,104nm,1.2s							
SML	**Sawmill**	**85.49**	**14**	P				06 28 30.7
	baz=209,SNR=14							
SML				S				06 38 08.0
	baz=209							
C06D	**Leavenworth**	**85.54**	**35**	P				06 28 31.4
	baz=233							
CUT	**Chulitna**	**85.60**	**13**	P				06 28 30.7
	baz=207,SNR=16							
CUT				S				06 38 09.1
	baz=207							
CUT	**Chulitna**	**85.60**	**13**	IAmb	IAmb			06 28 32.1
	comp=Z,84nm,1.0s							
PPLA	**Purkeypile**	**85.66**	**12**	P				06 28 30.1
	baz=205,SNR=7.7							
PPLA				S				06 38 07.2
	baz=205							
BMRM	**Bremner River**	**85.67**	**16**	P				06 28 31.4
	baz=212,SNR=30							
BMRM				S				06 38 11.3
	baz=212							
W18A	**Petrified Fore**	**85.71**	**50**	P				06 28 33.2
	baz=241,SNR=51							
W18A				S				06 38 20.1
	baz=241							
W18A	**Petrified Fore**	**85.71**	**50**	P	**P**			**06 28 32.9 +0.8**
W18A				IAmb	IAmb			06 28 36.6
	comp=Z,102nm,1.2s							
MESA	**MESA**	**85.73**	**18**	P				06 28 32.5
	baz=214,SNR=16							
MESA				S				06 38 13.0
	baz=214							
SCM	**Sheep Creek Mo**	**85.75**	**14**	IAmb	IAmb			06 28 34.2
	comp=Z,88nm,0.9s							
BMO	**Blue Mountains**	**85.78**	**39**	IAmb	IAmb			06 28 35.5
	comp=Z,99nm,1.2s							
KLU	**Klutina**	**85.79**	**15**	P				06 28 32.2
	baz=211,SNR=18							
KLU				S				06 38 12.4
	baz=211							
GYA	**Guiyang**	**85.85**	**300**	↑P	**P**			**06 28 34.3 +1.4**
GYA				pP	pP			06 30 49.3 -1.5
GYA				sP	sP			06 31 56.3 +0.5
GYA				PP	**PP**			**06 32 04.8 -1.1**
GYA				SKS	**SKSac**			**06 37 56.3 -1.5**
GYA				S	**S**			**06 38 12.5 -1.2**
GYA				sS	sS			06 42 21.8 +3.7
GYA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GYA				pmax	pmax			
	comp=Z,120nm,4.1s							
MFID	**Camas Ranch**	**85.87**	**41**	IAmb	IAmb			06 28 36.3
	comp=Z,123nm,1.1s							
MOIG	**Morelia**	**85.88**	**67**	IAmb	IAmb			06 28 36.7
	comp=Z,131nm,1.1s							
CRQE	**Cirque**	**85.89**	**17**	P				06 28 33.0
	baz=213,SNR=14							
YAH	**Yahtse**	**85.94**	**18**	P	**P**			**06 28 32.9 +0.2**
YAH				IAmb	IAmb			06 28 35.9
	comp=Z,48nm,0.9s							
121A	**Cookes Peak, D**	**85.94**	**53**	P				06 28 35.4
	baz=243,SNR=32							
121A	**Cookes Peak, D**	**85.94**	**53**	P	**P**			**06 28 33.9 +0.6**
121A				IAmb	IAmb			06 28 37.6
	comp=Z,110nm,1.2s							
WRAK	**Wrangell Islan**	**85.97**	**24**	P				06 28 33.6
	baz=223							
WRAK				S				06 38 17.3
	baz=223							
DUG	**Dugway, Tooele**	**86.08**	**45**	P				06 28 34.9
	baz=239,SNR=22							
DUG				S				06 38 20.6
	baz=239							
SEY	**Seymchan**	**86.08**	**347**	P	**P**			**06 28 33.5 +0.5**
	comp=Z,52nm,0.9s,baz=148,slow=5.1,SNR=66							
TNA	**Tin City**	**86.10**	**5**	S				06 38 16.1
	baz=190							
D08A	**Wollman Farm,**	**86.11**	**36**	IAmb	IAmb			06 28 37.3
	comp=Z,148nm,1.3s							
PINM	**Pinnacle**	**86.15**	**18**	P				06 28 34.2
	baz=216,SNR=13							
PINM				S				06 38 16.3
	baz=216							
TABL	**Table Mountain**	**86.17**	**18**	IAmb	IAmb			06 28 36.8
	comp=Z,67nm,1.1s							
VRDI	**Verde Repeater**	**86.19**	**16**	P	**P**			**06 28 34.5 +0.7**
N25K	**Chitina, Valde**	**86.22**	**16**	P				06 28 34.2
	baz=212,SNR=38							
N25K				S				06 38 16.1
	baz=212							
E09A	**Wood Farm, Sta**	**86.23**	**37**	IAmb	IAmb			06 28 38.2
	comp=Z,151nm,1.3s							
M24K	**Tolsona, Glenn**	**86.26**	**15**	P				06 28 34.6
	baz=210,SNR=11							
M24K				S				06 38 16.6
	baz=210							
M24K	**Tolsona, Glenn**	**86.26**	**15**	IAmb	IAmb			06 28 37.2
	comp=Z,110nm,1.4s							
WAT6	**Susitna Watana**	**86.31**	**14**	P				06 28 34.1
	baz=209,SNR=51							
WAT6				S				06 38 16.2
	baz=209							
LHMI	**Lhok Sumawe**	**86.32**	**277**	P	**P**			**06 28 36.7 +1.4**
	comp=Z,2µmcomp=Z,4µmcomp=Z,635nm,0.9s							
MCARA	**McCarthy VSAT**	**86.44**	**16**	P				06 28 35.3
	baz=213,SNR=12							
MCARA				S				06 38 18.2
	baz=213							
F10A	**Beach Ranch, E**	**86.45**	**38**	P	**P**			**06 28 36.3 +1.0**
WAT2	**Susitna Watana**	**86.45**	**13**	P				06 28 34.6
	baz=208,SNR=36							
WAT2				S				06 38 17.2
	baz=208							
MLSI	**Meulaboh, Aceh**	**86.49**	**276**	P	**P**			**06 28 36.7 +0.6**
	comp=Z,113µmcomp=Z,5µmcomp=Z,442nm,1.1s							
CHUM	**Lake Minchumin**	**86.53**	**11**	P				06 28 34.5
	baz=205,SNR=9.3							
CHUM				S				06 38 16.5
	baz=205							
TRF	**Thorofare Moun**	**86.53**	**12**	P				06 28 34.7
	baz=207,SNR=103							
TRF				S				06 38 17.0
	baz=207							
TRF	**Thorofare Moun**	**86.53**	**12**	IAmb	IAmb			06 28 37.1
	comp=Z,92nm,0.9s							
BARN	**Barnard Glacie**	**86.54**	**17**	IAmb	IAmb			06 28 39.3
	comp=Z,135nm,1.5s							
CTG	**Chitna Glacier**	**86.55**	**17**	P				06 28 35.9
	baz=215,SNR=20							
CTG				S				06 38 20.6
	baz=215							
TIY	**Taiyuan**	**86.57**	**312**	*e*P	**P**			**06 28 35.8 -0.2**
TIY				pP	**pwP**			**06 30 56.3 +0.1**
TIY				sP	**sP**			**06 31 57.9 -0.5**
TIY				SKS	**SKSac**			**06 38 00.8 -0.7**
TIY				S	**S**			**06 38 22.8 +3.0**
TIY				pmax	pmax			
	comp=Z,580nm,3.5s							
SYO	**Syowa Base**	**86.63**	**193**	‖*i*P	**P**			**06 28 35.1 -0.6**
SYO	**Syowa Base**	**86.63**	**193**	‖*i*PcP	**P**			**06 28 36.3 +0.6**
SYO	**Syowa Base**	**86.63**	**193**	‖*e*pP	pP			06 30 52.8 -0.4
B08A	**Colville Reser**	**86.64**	**35**	IAmb	IAmb			06 28 39.0
	comp=Z,82nm,1.0s							
B08A				pP	pP			06 30 56.4 +2.8
TMUT	**Trail Mountain**	**86.70**	**46**	IAmb	IAmb			06 28 41.0
	comp=Z,126nm,1.2s							
HARP	**HAARP**	**86.75**	**15**	P				06 28 36.8
	baz=211,SNR=16							
HARP				S				06 38 21.1
	baz=211							
H03S2	**Juan Fernandez**	**86.76**	**125**	P	**P**			**06 28 35.8 -0.8**
	baz=242,slow=75,SNR=17							
H03S1	**Juan Fernandez**	**86.77**	**125**	P	**P**			**06 28 39.3 +2.6**
	baz=242,slow=75,SNR=16							
H03S3	**Juan Fernandez**	**86.78**	**125**	P	**P**			**06 28 36.4 -0.3**
	baz=242,slow=75,SNR=18							
RND	**Reindeer**	**86.79**	**13**	IAmb	IAmb			06 28 38.8
	comp=Z,109nm,1.0s							
COYC	**Coyhaique**	**86.80**	**138**	IAmb	IAmb			06 28 41.6
	comp=Z,112nm,1.0s							
HLID	**Hailey**	**86.81**	**41**	P				06 28 38.7
	baz=238,SNR=155							
HLID				S				06 38 28.5
	baz=238							
HLID	**Hailey**	**86.81**	**41**	IAmb	IAmb			06 28 41.1
	comp=Z,103nm,1.1s							
SPUT	**South Promonto**	**86.89**	**44**	IAmb	IAmb			06 28 42.0
	comp=Z,112nm,1.3s							
C09A	**Chrisman Ranch**	**86.90**	**36**	P	**P**			**06 28 38.2 +1.0**
C09A				IAmb	IAmb			06 28 40.6
	comp=Z,69nm,0.9s							
HVU	**Hansel Valley**	**86.92**	**43**	IAmb	IAmb			06 28 42.1
	comp=Z,124nm,1.2s							
BPAW	**Bear Paw Mtn.**	**86.98**	**12**	P				06 28 36.0
	baz=206							
BPAW				S				06 38 19.1
	baz=206							
MCK	**McKinley**	**87.06**	**13**	P				06 28 37.3
	baz=208,SNR=43							
MCK				S				06 38 22.5
	baz=208							
MCK	**McKinley**	**87.06**	**13**	IAmb	IAmb			06 28 39.8
	comp=Z,62nm,0.9s							
SRU	**San Rafael Swe**	**87.08**	**46**	IAmb	IAmb			06 28 42.8
	comp=Z,195nm,1.4s							
P17A	**Butcher Ranch,**	**87.11**	**46**	IAmb	IAmb			06 28 43.3
	comp=Z,175nm,1.5s							
P17A					pwP			06 31 00.8 +1.3
ZEA	**Zeya**	**87.12**	**331**	*e*P	**P**			**06 28 39.2 +1.1**
ZEA				*e*				06 30 57.2
ZEA				*e*				06 38 05.1
ZEA				pmax	pmax			
	comp=E,10.0nm,0.7s							
ZEA				pmax	pmax			
	comp=N,20nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,40nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,100nm,7.9s							
PAX	**Paxson**	**87.17**	**15**	P				06 28 38.0
	baz=211,SNR=22							
PAX				S				06 38 23.3
	baz=211							
JLU	**Jordanelle**	**87.19**	**45**	IAmb	IAmb			06 28 42.6
	comp=Z,98nm,1.5s							
Y22D	**IRIS PASSCAL I**	**87.28**	**52**	P				06 28 40.9
	baz=243,SNR=6.4							
Y22D				S				06 38 31.9
	baz=243							
Y22D	**IRIS PASSCAL I**	**87.28**	**52**	P	**P**			**06 28 41.4 +1.9**
Y22D				IAmb	IAmb			06 28 43.6
	comp=Z,108nm,1.1s							
LENM	**Lemitar**	**87.28**	**52**	P	**P**			**06 28 40.4 +0.8**
BWN	**Browne**	**87.34**	**12**	IAmb	IAmb			06 28 40.1
	comp=Z,46nm,0.7s							
TLIG	**Tlapa**	**87.36**	**70**	IAmb	IAmb			06 28 44.4
	comp=Z,116nm,1.2s							
XAN	**Xi'an**	**87.39**	**308**	P	**P**			**06 28 40.8 +0.9**
XAN				pP	pP			06 30 57.4 -0.4
XAN				sP	sP			06 32 02.4 -0.2
XAN				SKS	**SKSac**			**06 38 05.1 -1.4**
XAN				S	**S**			**06 38 30.4 +2.9**
XAN				pmax	pmax			
	comp=Z,810nm,4.2s							
MNTX	**Cornudas Mount**	**87.40**	**55**	IAmb	IAmb			06 28 43.8
	comp=Z,86nm,1.1s							
MNTX	**Cornudas Mount**	**87.40**	**55**	P				06 28 41.4
	baz=244,SNR=110							
MNTX				S				06 38 37.0
	baz=244							
PV05	**Paradox Valley**	**87.56**	**48**	IAmb	IAmb			06 28 45.4
	comp=Z,107nm,1.3s							
MVCO	**Mesa Verde**	**87.57**	**49**	P				06 28 41.4
	baz=242,SNR=14							
MVCO				S				06 38 36.0
	baz=242							
HWUT	**Hardware Ranch**	**87.61**	**44**	P	**P**			**06 28 40.5 -0.4**
HWUT				IAmb	IAmb			06 28 44.1
	comp=Z,64nm,1.2s							
TX32	**Lajitas Array**	**87.73**	**58**	IAmb	IAmb			06 28 45.9
	comp=Z,148nm,1.1s							
TXAR	**Lajitas Array**	**87.73**	**58**	P	**P**			**06 28 43.8 +2.1**
	comp=Z,82nm,1.0s,baz=220,slow=4.9,SNR=306							
TXAR				pP	**pwP**			**06 31 02.2 -0.3**
	comp=Z,13nm,1.0s,baz=224,slow=5.2,SNR=13							
TXAR				PKKPbc	**PKKPbc**			**06 46 25.7 +0.6**
	comp=Z,3.6nm,0.8s,baz=88,slow=2.8,SNR=18							
TXAR				PKPPKP	**P'P'df**			**06 54 30.8 -1.4**
	comp=Z,0.6nm,0.9s,baz=180,slow=0.8,SNR=2.5							
TXAR	**Lajitas Array**	**87.73**	**58**	P	**P**			**06 28 43.4 +1.7**
PV10	**Paradox Valley**	**87.74**	**48**	IAmb	IAmb			06 28 45.6
	comp=Z,113nm,1.4s							
PV19	**Morning Glory**	**87.75**	**48**	IAmb	IAmb			06 28 45.8
	comp=Z,92nm,1.3s							
PV14	**Lion Creek, Pa**	**87.75**	**48**	IAmb	IAmb			06 28 45.0
	comp=Z,83nm,1.1s							
PV17	**East Wray Mesa**	**87.75**	**48**	IAmb	IAmb			06 28 45.8
	comp=Z,87nm,1.2s							
PV18	**Skein Mesa, Pa**	**87.77**	**48**	P	**P**			**06 28 42.4 +0.5**
PV18				IAmb	IAmb			06 28 45.0
	comp=Z,72nm,1.3s							
PV20	**West Nyswonger**	**87.78**	**48**	IAmb	IAmb			06 28 45.8
	comp=Z,72nm,1.2s							
PV13	**Radium Mtn., P**	**87.79**	**48**	IAmb	IAmb			06 28 45.9
	comp=Z,73nm,1.2s							
NEW	**Newport**	**87.80**	**36**	P				06 28 42.2
	baz=236,SNR=29							
NEW				S				06 38 33.7
	baz=236							
NEA2	**Nenana**	**87.80**	**12**	P				06 28 40.2
	baz=208,SNR=39							
NEA2				S				06 38 26.8
	baz=208							
NEW	**Newport**	**87.80**	**36**	P	**P**			**06 28 42.4 +0.9**
	comp=Z,20nm,1.0s,baz=231,slow=3.6,SNR=31							
NEW				pP	**pwP**			**06 31 01.3 -1.1**
	comp=Z,2.1nm,0.9s,baz=206,slow=5.8,SNR=1.9							
NEW				PP	**PP**			**06 32 20.9 +0.2**
	comp=Z,5.7nm,1.1s,baz=253,slow=4.0,SNR=3.5							
PV16	**Nyswonger Mesa**	**87.80**	**48**	IAmb	IAmb			06 28 46.1
	comp=Z,92nm,1.4s							
PV11	**David Mesa, Pa**	**87.82**	**48**	IAmb	IAmb			06 28 46.1
	comp=Z,99nm,1.3s							
PV04	**Paradox Valley**	**87.84**	**48**	P	**P**			**06 28 43.0 +0.9**
PV04				IAmb	IAmb			06 28 45.5
	comp=Z,78nm,1.2s							
MLY	**Manley**	**87.86**	**12**	P				06 28 40.5
	baz=206,SNR=68							
MLY				S				06 38 27.1
	baz=206							
PV02	**Paradox Valley**	**87.87**	**48**	IAmb	IAmb			06 28 45.6
	comp=Z,70nm,1.3s							
PV12	**Saucer Basin,**	**87.88**	**48**	IAmb	IAmb			06 28 46.5
	comp=Z,141nm,1.3s							
WRH	**Wood River Hil**	**87.89**	**13**	IAmb	IAmb			06 28 43.6
	comp=Z,55nm,0.8s							
PV01	**Paradox Valley**	**87.95**	**48**	IAmb	IAmb			06 28 45.8
	comp=Z,58nm,1.1s							
PV22	**Blue Mesa, Par**	**87.99**	**48**	IAmb	IAmb			06 28 47.0
	comp=Z,96nm,1.3s							
LL02	**Futaleuf**	**88.00**	**136**	P	**P**			**06 28 44.5 +1.8**
LL02				IAmb	IAmb			06 28 46.3
	comp=Z,57nm,0.8s							
ANMO	**Albuquerque**	**88.01**	**52**	P				06 28 44.2
	baz=243							
ANMO				S				06 38 41.0
	baz=243							
ANMO	**Albuquerque**	**88.02**	**52**	PKPPKP				06 54 33.4
	comp=Z,1.4nm,1.1s,baz=165,slow=3.3,SNR=3.7							
ANMO	**Albuquerque**	**88.02**	**52***c*	*i*P	**P**			**06 28 44.4 +1.4**
ANMO				pmax	pmax			
	comp=Z,110nm,1.3s							
ANMO	**Albuquerque**	**88.02**	**52**	P	**P**			**06 28 43.8 +0.8**
ANMO				IAmb	IAmb			06 28 47.1
	comp=Z,101nm,1.2s							
ANMO					**pwP**			**06 31 05.4 +1.0**
H21K	**Melozitna Rive**	**88.06**	**11**	P				06 28 42.4
	baz=204							
H21K				S				06 38 32.6
	baz=204							
HDA	**Harding Lake**	**88.08**	**13**	P				06 28 42.0
	baz=210,SNR=67							
HDA				P				06 28 42.0
	baz=210,SNR=67							
HDA				S				06 38 30.8
	baz=210							
HDA				S				06 38 30.8
	baz=210							
HDA	**Harding Lake**	**88.08**	**13**			pP		06 31 02.9 +2.5
CCB	**Clear Creek Bu**	**88.11**	**13**	IAmb	IAmb			06 28 43.4
	comp=Z,46nm,0.6s							
PV15	**Paradox Valley**	**88.11**	**48**	IAmb	IAmb			06 28 46.6
	comp=Z,70nm,1.2s							
SNAA	**Sanae**	**88.13**	**179**	P	**P**			**06 28 42.3 -0.5**
SNAA	**Sanae**	**88.13**	**179**	PKKPdf	PKKPdf			**06 46 22.8 +5.7**
SNAA	**Sanae**	**88.13**	**179**	PKiKP	**PKiKP**			**06 33 39.5 +0.3**
**

SNAA **Sanae** **88.13 179** PKKPdf 06 46 21.9 +4.8
SNAA **Sanae** **88.13 179** P **P** **06 28 42.0 -0.7**
SNAA IAmb IAmb 06 28 43.8
comp=Z,126nm,1.7s
L27K **Beaver Creek,** **88.15 16** P 06 28 43.0
baz=214,SNR=28
L27K S 06 38 34.4
baz=214
L27K **Beaver Creek,** **88.15 16** pwP 06 31 04.3 +0.2
BCAR **Beaver Creek A** **88.16 16** P **P** **06 28 43.0 +0.2**
BCAR pP **pwP** **06 31 03.3 -0.9**
IMAR **Indian Mountai** **88.20 10** P **P** **06 28 42.9 +0.1**
IMAR pP **pwP** **06 31 02.4 -1.4**
I23K **Minto, Yukon-K** **88.23 12** P 06 28 42.3
baz=208,SNR=31
I23K S 06 38 32.1
baz=208
WHY **Whitehorse** **88.25 20** P 06 28 44.6
baz=221,SNR=30
WHY S 06 38 37.3
baz=221
MDM **Murphy Dome** **88.29 13** IAmb IAmb 06 28 44.3
comp=Z,53nm,1.0s
MDM pP 06 31 02.6 +1.0
TCOL **CIGO, UAF Yank** **88.29 13** P 06 28 42.8
baz=209,SNR=20
TCOL S 06 38 31.5
baz=209
TCOL **CIGO, UAF Yank** **88.29 13** IAmb IAmb 06 28 44.4
comp=Z,55nm,0.8s
TCOL pP 06 31 03.0 +1.6
COLA **College** **88.29 13** P 06 28 42.9
baz=209
COLA S 06 38 32.1
baz=209
COLA **College** **88.30 13** P **P** **06 28 42.9 -0.3**
COLA pmax pmax
comp=Z,54nm,0.8s
COLA **College** **88.30 13** P **P** **06 28 42.9 -0.3**
COLA IAmb IAmb 06 28 44.4
comp=Z,54nm,0.8s
DLBC **Dease Lake** **88.30 23** P **P** **06 28 45.1 +1.6**
comp=Z,16nm,0.9s,baz=227,slow=6.1,SNR=32
DLBC pP **pP** **06 31 02.9 +1.2**
comp=Z,3.9nm,1.0s,baz=150,slow=6.5,SNR=2.2
DLBC PP **PP** **06 32 24.2 -0.1**
comp=Z,1.3nm,0.8s,baz=215,slow=7.4,SNR=4.1
DLBC PKKPbc **PKKPbc** **06 46 23.3 -1.6**
comp=Z,1.5nm,0.6s,baz=276,slow=6.1,SNR=4.0
VNA3 **Neumayer Olymp** **88.30 177** P **P** **06 28 43.3 -0.2**
VNA3 **Neumayer Olymp** **88.30 177** PKKPdf PKKPdf 06 46 22.1 +5.4
VNA3 **Neumayer Olymp** **88.30 177** PKiKP **PKiKP** **06 33 39.8 +0.4**
VNA3 **Neumayer Olymp** **88.30 177** pP pP 06 31 02.7 +0.7
SCRK **Sand Creek** **88.38 15** P 06 28 44.2
baz=212
SCRK S 06 38 36.3
baz=212
IL31 **88.41 13** P **P** **06 28 42.9 -0.8**
ILAR **Eielson Array** **88.41 13** P **P** **06 28 43.4 -0.5**
comp=Z,18nm,0.8s,baz=227,slow=5.2,SNR=124
ILAR pP **pP** **06 31 03.2 +1.2**
comp=Z,3.6nm,0.9s,baz=225,slow=5.8,SNR=4.8
ILAR PKiKP **PKiKP** **06 33 38.9 -0.7**
comp=Z,0.7nm,0.5s,baz=268,slow=3.0,SNR=7.1
ILAR S **SKSac** **06 38 10.7 -0.3**
comp=Z,0.5nm,0.7s,baz=212,slow=5.1,SNR=4.8
ILAR PKKP **PKKPbc** **06 46 22.1 -2.6**
comp=Z,0.6nm,0.6s,baz=357,slow=2.4,SNR=7.5
ILAR PKPPKP **P'P'df** **06 54 30.3 +2.3**
comp=Z,0.6nm,0.9s,baz=345,slow=2.1,SNR=4.8
ILAR **Eielson Array** **88.41 13** P **P** **06 28 43.4 -0.5**
RDMU **Red Mountain** **88.42 45** IAmb IAmb 06 28 48.1
comp=Z,102nm,1.2s
AHID **Auburn Hatcher** **88.49 43** IAmb IAmb 06 28 49.3
comp=Z,120nm,1.1s
LL03 **Petrohue** **88.53 134** P **P** **06 28 47.4 +2.3**
KMI **Kunming** **88.54 297** ⇓P **P** **06 28 47.0 +1.3**
KMI pP pP 06 31 02.8 -1.8
KMI sP sP 06 32 07.6 -1.8
KMI PP **PP** **06 32 28.1 +1.0**
KMI SKS **SKSac** **06 38 14.6 +0.6**
KMI S **S** **06 38 38.1 -0.7**
KMI pmax pmax
comp=Z,120nm,1.0s
KMI pmax pmax
comp=Z,610nm,3.9s
POKR **Poker Plat Res** **88.59 13** P 06 28 43.8
baz=209,SNR=13
POKR S 06 38 34.5
baz=209
POKR S 06 38 37.8
baz=209
HHC **Hu-ho-hao-te** **88.67 315** *e*P **P** **06 28 46.5 +0.7**
HHC pP pwP 06 31 06.3 -0.8
HHC sP sP 06 32 08.1 -0.5
HHC SKS **SKSac** **06 38 14.5 +0.7**
HHC S **S** **06 38 36.9 -2.2**
HHC pmax pmax
comp=Z,79nm,1.1s
HHC pmax pmax
comp=Z,490nm,6.7s
H23K **Yukon River** **88.80 12** P 06 28 45.6
baz=207,SNR=8.3
H23K S 06 38 36.9
baz=207
MSO **Missoula** **88.82 38** P 06 28 46.5
baz=238,SNR=21
MSO S 06 38 43.3
baz=238
MSO **Missoula** **88.82 38** P **P** **06 28 46.7 +0.3**
MSO pP **pwP** **06 31 07.6 -0.1**
BILL **Bilibino** **88.85 354** *c i*P **P** **06 28 46.1 +0.3**
BILL *e**PP **pP** **06 31 06.8 +2.3**
BILL pmax pmax
comp=Z,26nm,1.3s
BILL **Bilibino** **88.85 354** P **P** **06 28 46.1 +0.3**
BILL pP **pP** **06 31 06.9 +2.3**
DLMT **Dillon** **88.86 40** IAmb IAmb 06 28 50.3
comp=Z,56nm,1.1s
K27K **Chicken** **88.89 15** P 06 28 47.2
baz=214,SNR=61
K27K S 06 38 41.9
baz=214
TPAW **Teton Pass** **88.94 42** IAmb IAmb 06 28 51.0
comp=Z,76nm,1.1s
VNA1 **Neumayer--Stat** **88.96 177** P **P** **06 28 46.6 +0.2**
VNA1 **Neumayer--Stat** **88.96 177** PKKPdf PKKPdf 06 46 20.7 +5.2
VNA1 **Neumayer--Stat** **88.96 177** PKiKP **PKiKP** **06 33 41.3 +0.9**
RDOG **Red Dog Mine** **88.97 6** P 06 28 48.3
baz=195
S22A **4UR Ranch, Cre** **89.00 49** P 06 28 48.9
baz=243,SNR=65
S22A S 06 38 48.4
baz=243
SNOW **Snow King Moun** **89.05 43** IAmb IAmb 06 28 51.5
comp=Z,113nm,1.0s
O20A **White River Ci** **89.11 46** P 06 28 49.3
baz=242,SNR=67
O20A S 06 38 46.5
baz=242
O20A **White River Ci** **89.11 46** P **P** **06 28 48.4 +0.5**
O20A IAmb IAmb 06 28 51.3
comp=Z,115nm,1.1s
H24K **Noodor Dome** **89.14 12** P 06 28 46.2
baz=209,SNR=7.9
H24K S 06 38 39.5
baz=209
LOHW **Long Hollow** **89.22 42** IAmb IAmb 06 28 51.9
comp=Z,49nm,1.1s
CMAR **Chiang Mai Arr** **89.27 290** P **P** **06 28 50.5 +1.6**
comp=Z,137nm,0.9s,baz=122,slow=3.0,SNR=294
CMAR PP **PP** **06 32 30.1 -2.6**
comp=Z,9.2nm,1.0s,baz=126,slow=6.8,SNR=4.8
CMAR PKKPbc **PKKPbc** **06 46 22.0 +1.1**
comp=Z,2.6nm,0.5s,baz=286,slow=4.0,SNR=8.3
CMAR **Chiang Mai Arr** **89.27 290** P **P** **06 28 50.4 +1.5**
PRP **Porcupine Dome** **89.34 13** P 06 28 48.4
baz=211,SNR=11
PRP S 06 38 42.4
baz=211
FLWY **Flagg Ranch** **89.39 42** IAmb IAmb 06 28 53.2
comp=Z,84nm,1.1s
CMMT **Chiang Mai** **89.39 290** P **P** **06 28 49.6 +0.1**
comp=Z,1µmcomp=Z,172nm,1.1s
CHTO **Chiang Mai** **89.40 290** P **P** **06 28 50.9 +1.4**
CHTO pmax pmax
comp=Z,124nm,0.9s
CHTO **Chiang Mai** **89.40 290** P **P** **06 28 50.9 +1.4**
CHTO **Chiang Mai** **89.40 290** P **P** **06 28 50.8 +1.2**
CHTO **Chiang Mai** **89.40 290** P **P** **06 28 50.7 +1.2**
comp=Z,674nmcomp=Z,852nmcomp=Z,102nm,1.1s
YHB **Horse Butte** **89.41 41** IAmb IAmb 06 28 53.6
comp=Z,77nm,1.3s
BW06 **Boulder Array** **89.48 44** P 06 28 50.1
baz=241,SNR=45
BW06 S 06 38 51.2
baz=241
BW06 **Boulder Array** **89.48 44** P **P** **06 28 50.3 +0.6**
BW06 IAmb IAmb 06 28 52.6
comp=Z,57nm,1.0s
PD31 **Pinedale Array** **89.48 44** IAmb IAmb 06 28 52.6
comp=Z,51nm,1.0s
PDAR **Pinedale Array** **89.48 44** P **P** **06 28 50.6 +0.9**
comp=Z,27nm,0.5s,baz=208,slow=2.9,SNR=124
PDAR pP **pP** **06 31 09.3 +1.1**
comp=Z,2.9nm,1.0s,baz=185,slow=6.8,SNR=5.1
PDAR PP **PP** **06 32 32.8 -1.4**
comp=Z,4.9nm,1.0s,baz=238,slow=5.1,SNR=5.9
PDAR PKKPbc **PKKPbc** **06 46 19.4 -2.2**
comp=Z,2.8nm,0.8s,baz=94,slow=5.9,SNR=16
PDAR SKKPbc SKKPbc 06 49 00.2 -0.8
comp=Z,1.3nm,1.1s,baz=84,slow=5.2,SNR=4.7
PDAR PKPPKP **P'P'df** **06 54 27.9 -0.2**
comp=Z,0.9nm,0.8s,baz=80,slow=1.8,SNR=6.5
SMCO **Snowmass** **89.54 48** IAmb IAmb 06 28 54.2
comp=Z,57nm,1.0s
BTO **Baotou** **89.59 314** *e*P **P** **06 28 51.1 +1.1**
BTO pmax pmax
comp=Z,140nm,1.2s
DAWY **Dawson** **89.60 16** IAmb IAmb 06 28 52.4
comp=Z,37nm,0.9s
H17A **Grant Village** **89.62 42** P 06 28 52.6
baz=241,SNR=17
H17A S 06 38 56.6
baz=241
H17A **Grant Village** **89.62 42** IAmb IAmb 06 28 55.0
comp=Z,41nm,1.1s
YHH **Holmes Hill** **89.64 41** IAmb IAmb 06 28 55.6
comp=Z,176nm,2.0s
YNR **Norris Junctio** **89.71 41** P **P** **06 28 50.8 +0.1**
YNR IAmb IAmb 06 28 56.2
comp=Z,61nm,1.4s
EGAK **Eagle** **89.73 15** P 06 28 50.3
baz=215,SNR=53
EGAK S 06 38 47.4
baz=215
EGAK **Eagle** **89.73 15** P **P** **06 28 50.0 +0.1**
LKWY **Lake** **89.81 42** P **P** **06 28 52.0 +0.8**
LKWY pmax pmax
comp=Z,40nm,1.2s
LKWY **Lake** **89.81 42** P **P** **06 28 52.0 +0.8**
COLD **Coldfoot** **89.94 11** P 06 28 51.6
baz=207,SNR=34
COLD S 06 38 50.6
baz=207
COLD **Coldfoot** **89.94 11** pP pP 06 31 12.7 +3.0
SDCO **Great Sand Dun** **89.94 49** P 06 28 52.9
baz=244,SNR=67
SDCO S 06 38 56.6
baz=244
SDCO **Great Sand Dun** **89.94 49** P **P** **06 28 52.1 +0.2**
SDCO IAmb IAmb 06 28 55.8
comp=Z,53nm,1.3s
PLCA **Paso Flores** **89.97 134** P **P** **06 28 53.9 +2.0**
comp=Z,35nm,0.7s,baz=230,slow=4.7,SNR=65
PLCA **Paso Flores** **89.97 134** IAmb IAmb 06 28 55.2
comp=Z,39nm,0.8s
CD2 **Chengdu** **90.01 303** P **P** **06 28 53.6 +1.5**
CD2 pP pP 06 31 10.5 -0.7
CD2 sP sP 06 32 13.0 -2.4
CD2 SKS **SKSac** **06 38 20.4 -1.4**
CD2 S **ScS** **06 38 55.8 +2.4**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,580nm,5.7s
WALA **Waterton Lakes** **90.02 37** pP pP 06 31 13.4 +2.8
YNE **Yellowstone No** **90.27 41** IAmb IAmb 06 28 57.2
comp=Z,42nm,1.0s
MSTX **Muleshoe** **90.35 54** IAmb IAmb 06 28 56.6
comp=Z,76nm,1.1s
MSTX **Muleshoe** **90.35 54** P 06 28 54.5
baz=246
MSTX S 06 38 59.7
baz=246
T25A **Trinidad** **90.46 50** IAmb IAmb 06 28 57.3
comp=Z,52nm,1.1s
T25A **Trinidad** **90.46 50** P 06 28 55.1
baz=245,SNR=40
T25A S 06 38 59.2
baz=245
RWWY **Rawlins** **90.52 45** P **P** **06 28 54.0 -0.5**
RWWY IAmb IAmb 06 28 56.6
comp=Z,62nm,0.9s
Q24A **Divide** **90.72 48** P 06 28 56.3
baz=244,SNR=7.4
Q24A S 06 39 02.9
baz=244
833A **Chaparral WMA,** **90.75 60** P 06 28 56.2
baz=247
833A S 06 39 01.8
baz=247
ISCO **Idaho Springs** **90.76 48** P 06 28 56.3
baz=244,SNR=12
ISCO S 06 39 03.7
baz=244
RLMT **Red Lodge** **90.79 42** P 06 28 56.9
baz=242,SNR=10
RLMT S 06 39 05.0
baz=242
N23A **Red Feather La** **91.02 46** P 06 28 57.9
baz=244,SNR=74
N23A S 06 39 06.8
baz=244
BMAR **Burnt Mountain** **91.18 13** P **P** **06 28 57.5 +0.9**
BMAR pP **pP** **06 31 13.9 -1.7**
JCT **Junction City** **91.26 58** P 06 28 58.1
baz=247
JCT S 06 39 07.7
baz=247
JCT **Junction City** **91.26 58** IAmb IAmb 06 29 00.4
comp=Z,35nm,1.0s
TOLK **Toolik Lake Re** **91.31 10** P 06 28 58.1
baz=207
TOLK S 06 39 00.7
baz=207
K22A **Casper** **91.41 45** P 06 28 59.2
baz=243,SNR=20
K22A S 06 39 09.9
baz=243
K22A **Casper** **91.41 45** IAmb IAmb 06 29 01.6
comp=Z,62nm,1.2s
PHWY **Pilot Hill** **91.53 46** IAmb IAmb 06 29 02.1
comp=Z,31nm,0.9s
AMTX **Amarillo** **91.54 53** P 06 28 59.2
baz=246
AMTX S 06 39 11.2
baz=246
AMTX **Amarillo** **91.54 53** P **P** **06 28 59.0 -0.2**
AMTX IAmb IAmb 06 29 01.8
comp=Z,49nm,1.4s
GO05 **Hualla** **91.55 128** IAmb IAmb 06 29 01.8
comp=Z,55nm,1.2s
YAK **Yakutsk** **91.70 338** P **P** **06 28 58.7 -0.3**
comp=Z,27nm,0.7s,baz=320,slow=1.5,SNR=9.8
YAK **Yakutsk** **91.70 338** *e*P **P** **06 28 57.3 -1.8**
YAK *e**PP **pP** **06 31 18.5 +0.5**
YAK *e*S **SKSac** **06 38 27.5 -2.1**
YAK *e* 06 39 04.1
YAK *e*SS **SS** **06 45 33.8 -0.5**
YAK *e*SSS SSS 06 49 25.3
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,123nm,2.5s
YAK pmax pmax
comp=N,34nm,2.3s
YAK pmax pmax
comp=E,66nm,2.3s
YAK smax smax
comp=N,46nm,1.3s
YAK smax smax
comp=E,10.0nm,1.1s
YAK **Yakutsk** **91.70 338** P **P** **06 28 58.8 -0.3**
EGMT **Eagleton** **91.88 39** P 06 29 01.1
baz=241
EGMT S 06 39 11.9
baz=241
LZH **Lanzhou** **92.02 308** *e*P **P** **06 29 02.6 +1.1**
LZH pP pwP 06 31 22.8 -0.9
LZH sP sP 06 32 23.8 -0.7
LZH PP **PP** **06 32 53.8 -0.1**
LZH SKS **SKSac** **06 38 29.8 -3.3**
LZH *e*S **ScS** **06 39 15.8 +5.5**
LZH pmax pmax
comp=E,98nm,1.1s
LZH pmax pmax
comp=E,320nm,4.1s
ABTX **Abilene, Hawle** **92.21 56** P 06 29 02.7
baz=247
ABTX S 06 39 16.7
baz=247
ABTX **Abilene, Hawle** **92.21 56** IAmb IAmb 06 29 05.8
comp=Z,84nm,1.2s
BO01 **Tunca** **92.45 128** IAmb IAmb 06 29 05.6
comp=Z,24nm,0.8s
KSCO **Kaye Shedlock'** **92.52 49** P 06 29 04.5
baz=246,SNR=17
A21K **Barrow** **92.77 7** P 06 29 03.7
baz=201
A21K S 06 39 12.3
baz=201
A21K **Barrow** **92.77 7** P **P** **06 29 02.5 -1.3**
A21K IAmb IAmb 06 29 05.0
comp=Z,27nm,0.9s
MT09 **Talagante** **92.80 127** IAmb IAmb 06 29 13.0
comp=Z,26nm,0.9s
CIT **Chita** **92.92 325** *e*P **P** **06 29 03.4 -1.6**
CIT *e* 06 38 36.5
CIT pmax pmax
comp=Z,54nm,1.6s
435B **Jarrell** **93.14 58** P 06 29 07.1
baz=248
435B **Jarrell** **93.14 58** IAmb IAmb 06 29 09.5
comp=Z,30nm,1.0s
LAO **LASA Array** **93.39 41** P 06 29 08.1
baz=244,SNR=6.8
LAO S 06 39 24.5
baz=244
LAO **LASA Array** **93.40 41** IAmb IAmb 06 29 11.1
comp=Z,32nm,0.9s
LAO pwP 06 31 30.9 +1.4
RSSD **Black Hills** **93.68 44** P **P** **06 29 09.6 +0.7**
RSSD pmax pmax
comp=Z,42nm,1.2s
RSSD **Black Hills** **93.68 44** P **P** **06 29 09.6 +0.7**
RSSD IAmb IAmb 06 29 11.4
comp=Z,42nm,1.1s
RSSD **Black Hills** **93.68 44** P 06 29 08.5
baz=245
RSSD S 06 39 29.3
baz=245
WMOK **Wichita Mounta** **93.68 54** pwP 06 31 32.7 +1.4
WMOK **Wichita Mounta** **93.68 54** P 06 29 09.0
baz=248
WMOK S 06 39 28.1
baz=248
WHTX **Lake Whitney,** **93.69 57** P 06 29 09.2
baz=248
OGNE **Ogallala** **93.72 48** IAmb IAmb 06 29 11.9
comp=Z,22nm,1.0s
Z35A **Perchaven, San** **94.34 56** P **P** **06 29 11.1 -0.8**
Z35A IAmb IAmb 06 31 37.4
comp=Z,68nm,1.6s
X34A **Smith Ranch, M** **94.36 55** P **P** **06 29 10.6 -1.3**
X34A IAmb IAmb 06 31 39.4
comp=Z,50nm,1.4s
INK **Inuvik** **94.40 15** P 06 29 11.1
baz=222
INK S 06 39 26.4
baz=222
INK **Inuvik** **94.40 15** P **P** **06 29 11.0 -0.3**
comp=Z,9.8nm,1.0s,baz=218,slow=4.9,SNR=22
INK pP **pwP** **06 31 32.7 -0.5**
comp=Z,2.0nm,1.0s,baz=223,slow=5.0,SNR=2.0
INK **Inuvik** **94.40 15** pP 06 31 33.6 +3.0
CBKS **Cedar Bluff** **94.52 50** P 06 29 12.9
baz=248
ULN **Ulaanbaatar** **94.72 319** *c i*P **P** **06 29 13.2 -0.2**
ULN pmax pmax
comp=Z,10.0nm,0.9s
ULN **Ulaanbaatar** **94.72 319** P **P** **06 29 13.7 +0.3**
ULN **Ulaanbaatar** **94.72 319** P **P** **06 29 13.3 -0.2**
comp=Z,42nm,0.9s
SONM **Songino Array** **95.11 319** P **P** **06 29 15.1 -0.1**
comp=Z,4.5nm,0.9s,baz=115,slow=3.4,SNR=14
SONM PP **PP** **06 33 15.1 -2.1**
comp=Z,6.9nm,1.0s,baz=116,slow=5.9,SNR=5.8
SONM PKKPbc **PKKPbc** **06 46 07.7 +0.5**
comp=Z,0.4nm,0.3s,baz=270,slow=4.4,SNR=5.1
SONM **Songino Array** **95.11 319** P **P** **06 29 15.1 -0.1**
SONM **pwP** **06 31 39.5 +2.0**
KAN17 **Caldwell West** **95.30 53** P **P** **06 29 14.7 -1.4**
KAN17 IAmb IAmb 06 31 43.1
comp=Z,46nm,1.5s
DGMT **Dagmar** **95.40 40** P 06 29 17.6
baz=245,SNR=7.5
DGMT S 06 39 41.1
baz=245
KAN09 **Caldwell North** **95.45 53** IAmb IAmb 06 31 43.8
comp=Z,38nm,1.3s
KAN13 **South Haven SW** **95.51 53** pwP 06 31 41.1 +1.6
BLOK **Blackwell** **95.61 53** **pwP** **06 31 41.5 +1.6**
BLOK IAmb IAmb 06 31 44.5
comp=Z,35nm,1.1s
OK030 **Cody Creek RV** **95.64 54** pwP 06 31 42.0 +1.9
NATX **Nacogdoches** **95.83 58** Pdiff 06 29 19.3
baz=250
T35A **Sooner Cattle** **96.19 53** IAmb IAmb 06 31 47.1
comp=Z,39nm,1.3s
GTA **Gaotai** **96.24 310** ⇓P **P** **06 29 21.1 +0.6**
GTA sP sP 06 32 47.1 +3.3
GTA PP **PP** **06 33 23.8 -2.2**
GTA SKS **SKSac** **06 38 53.3 -1.9**
GTA S **S** **06 39 43.8 -1.4**
GTA pmax pmax
comp=Z,22nm,1.5s
GTA pmax pmax
comp=Z,81nm,5.3s
TUL1 **Leonard** **96.38 54** Pdiff 06 29 21.2
baz=250
TUL1 S 06 39 52.5
baz=250
BGNE **Belgrade** **96.61 48** Pdiff 06 29 23.0
baz=249
YKA **Yellowknife Ar** **96.78 25** P **P** **06 29 22.4 +0.3**
comp=Z,3.4nm,0.8s,baz=240,slow=4.3,SNR=15
YKA pP **pP** **06 31 42.7 +1.2**
comp=Z,4.1nm,1.1s,baz=228,slow=4.2,SNR=3.8
YKA PP **PP** **06 33 22.7 -6.5**
comp=Z,0.3nm,0.5s,baz=237,slow=6.9,SNR=3.6
YKA PKiKP **PKiKP** **06 33 55.0 +1.1**
comp=Z,0.4nm,0.5s,baz=230,slow=1.1,SNR=4.7
YKA PKKPbc **PKKPbc** **06 46 00.8 -2.2**
comp=Z,0.4nm,0.5s,baz=352,slow=5.1,SNR=5.3
YKA PKPPKP **P'P'df** **06 54 14.5 +1.8**
comp=Z,0.7nm,0.8s,baz=54,slow=3.4,SNR=4.6
YKA **Yellowknife Ar** **96.78 25** pP 06 31 42.7 +1.2
KSU1 **Kansas State U** **96.89 51** Pdiff 06 29 24.1
baz=249
KSU1 **Kansas State U** **96.89 51** P **P** **06 29 22.0 -1.2**
KSU1 IAmb IAmb 06 29 26.7
comp=Z,15nm,0.8s
SUSD **Miller** **97.16 45** Pdiff 06 29 24.6
baz=248
JTS **Las Juntas de** **97.20 82** *c i*P **P** **06 29 27.4 +2.2**
JTS pmax pmax
comp=Z,14nm,0.9s
C36M **Paulatuk** **97.60 17** pP pP 06 31 47.6 +2.2
C36M **Paulatuk** **97.60 17** Pdiff 06 29 25.7
baz=231
MIAR **Mount Ida** **97.63 56** Pdiff 06 29 27.3
baz=250
U38A **Gravette** **97.63 54** pwP 06 31 51.4 +2.1
W39A **Magazine** **97.68 55** Pdiff 06 29 27.8

baz=250
Z41A Richland Creek 97.81 58 Pdiff 06 29 27.4
baz=251
HHAR Hobbs 97.92 54 pP 06 31 53.0 +2.4
MDND Maddock 97.99 42 Pdiff 06 29 28.1
baz=248
ZAK Zakamensk 98.00 321 *e*P Pdiff 06 29 27.1 -0.9
ZAK pmax pmax
comp=Z,7.0nm,1.1s
X40A Basin Creek Fa 98.19 56 Pdiff 06 29 29.0
baz=251
TIXI Tiksi 98.43 345 P Pdiff 06 29 28.8 -0.4
comp=Z,1.5nm,0.3s,baz=127,slow=5.0,SNR=6.4
TIXI PP **PP 06 33 36.8 -4.6**
comp=Z,1.4nm,0.3s,baz=127,slow=9.8,SNR=5.9
TIXI Tiksi 98.43 345 Pdif Pdif 06 29 28.7 -0.6
ECSD EROS Data Cent 98.49 47 Pdiff 06 29 30.3
baz=250
ECSD EROS Data Cent 98.49 47 pP pP 06 31 52.9 +3.0
U40A Yellville 98.77 55 Pdiff 06 29 31.2
baz=251
W41B Gary Mavity, V 98.86 56 Pdiff 06 29 32.3
baz=251
N38A Joes South For 99.90 50 pP 06 31 57.4 +1.1
SCIA State Center 100.26 49 Pdiff 06 29 38.7
baz=252
AGMN Agassiz Nation 100.50 42 Pdiff 06 29 38.9
baz=251
OXF Oxford 100.88 57 Pdiff 06 29 40.7
baz=253
ULM Lac du Bonnet 101.11 40 PKiKP **PKiKP 06 34 04.5 +2.3**
comp=Z,1.8nm,0.5s,baz=198,slow=3.2,SNR=3.1
BRAL Brewton 101.81 61 Pdiff 06 29 46.3
baz=253
TAPN Taplejung 101.97 295 *e*P **PKiKP 06 33 58.7 -6.1**
comp=Z,100nm,1.2s
ODAN Odare 102.10 294 *e*P **PKiKP 06 34 03.5 -1.5**
comp=Z,63nm,1.0s
PALK Pallekele 102.19 273 PKiKP **PKiKP 06 34 08.6 +3.3**
comp=Z,41nm,1.0s,baz=216,slow=3.7,SNR=7.9
PALK PKKPbc **PKKPbc 06 45 44.6 -2.0**
comp=Z,23nm,0.8s,baz=31,slow=22,SNR=7.3
JFWS Jewell Farm 102.66 49 Pdiff 06 29 49.5
baz=254
RAMN Ramite 102.80 294 *e*P **PKiKP 06 34 06.4 +0.1**
comp=Z,25nm,0.7s
LPAZ La Paz 102.89 113 P **Pdif 06 29 52.9 +1.7**
comp=Z,6.8nm,0.8s,baz=229,slow=3.1,SNR=28
LPAZ PKiKP **PKiKP 06 34 10.9 +3.7**
comp=Z,2.6nm,1.0s,baz=225,slow=1.4,SNR=3.6
LPAZ PKKPbc **PKKPbc 06 45 45.5 -0.1**
comp=Z,2.1nm,0.7s,baz=66,slow=4.9,SNR=5.9
EYMN Ely 103.19 44 Pdiff 06 29 51.8
baz=254
PKI Pulchoki 103.99 294 *e*P **PKiKP 06 34 07.4 -1.2**
GKN Gorkha 104.77 295 *e*P **PKiKP 06 34 09.4 -0.4**
ROSC El Rosal 105.35 90 PKKPbc PKKPbc 06 45 40.9 +3.0
comp=Z,7.8nm,0.9s,baz=51,slow=7.4,SNR=4.9
DANN Dangsing 105.61 295 *e*P **PKiKP 06 34 10.5 -1.0**
TKL Tuckaleechee C 105.64 57 PKKPab PKKPab 06 45 57.8 +2.2
comp=Z,6.9nm,0.8s,baz=99,slow=2.9,SNR=8.9
HYB Hyderabad 107.30 283 *i* PKP PKiKP 06 34 32.0 +17
HYB *e*PP **PP 06 34 45.0 -2.6**
BLA Blacksburg 108.62 56 PKiKP 06 34 16.8
baz=258
ZSN Zaisan 108.87 315 *e*PKiKP **PKiKP 06 34 15.8 -0.8**
baz=314
ZSN *e*PP **PP 06 34 54.1 -4.0**
baz=314
M53A WI Miller and 109.24 52 PKiKP 06 34 17.8
baz=260
MCWV Mont Chateau 109.54 54 PKiKP 06 34 18.0
baz=259
N54A Moraine State 109.67 53 PKiKP 06 34 18.3
baz=260
ERPA Erie 109.87 51 PKiKP 06 34 19.0
baz=260
ZALV Zalesovo Beam 109.87 321 PKiKP **PKiKP 06 34 18.4 +0.1**
comp=Z,7.4nm,0.6s,baz=111,slow=2.1,SNR=4.5
ZALV S **SKSac 06 39 51.7 -4.9**
comp=Z,0.7nm,0.3s,baz=91,slow=5.9,SNR=4.4
M54A Oil Creek Stat 110.00 52 PKiKP 06 34 19.0
baz=260
NRIK Noril'sk 110.14 338 SKP 06 36 53.1
comp=Z,7.1nm,1.0s,baz=50,slow=1.5,SNR=3.9
NRIK Noril'sk 110.14 338 *i* PKiKP **PKiKP 06 34 18.1 -0.2**
MK31 Makanchi Array 110.50 314 *c* PKiKP **PKiKP 06 34 18.9 -0.9**
MKAR Makanchi Array 110.50 314 Pdiff **Pdif 06 30 25.3 +1.7**
comp=Z,3.9nm,1.0s,baz=104,slow=3.9,SNR=18
MKAR PKiKP **PKiKP 06 34 19.0 -0.8**
comp=Z,11nm,0.8s,baz=147,slow=0.6,SNR=38
MKAR PP PP 06 35 01.4 -8.3
comp=Z,4.8nm,1.0s,baz=108,slow=6.8,SNR=4.7
MKAR S **SKSac 06 39 59.0 -0.6**
comp=Z,5.5nm,1.1s,baz=96,slow=4.9,SNR=5.7
MKAR PKKPbc **PKKPbc 06 45 21.9 -0.3**
comp=Z,4.2nm,0.8s,baz=275,slow=3.8,SNR=21
MKAR PKKPab **PKKPab 06 45 35.0 +1.2**
comp=Z,2.9nm,0.7s,baz=280,slow=3.7,SNR=12
MKAR Makanchi Array 110.50 314 *i* PKiKP **PKiKP 06 34 19.0 -0.8**
MKAR Makanchi Array 110.50 314 Pdif **Pdif 06 30 23.9 +0.4**
O56A Blue Knob Stat 110.61 54 PKiKP 06 34 19.7
baz=260
MAKZ Makanchi 110.72 314 PKiKP **PKiKP 06 34 18.6 -1.6**
MAKZ pmax pmax
comp=Z,17nm,0.9s
SADO Sadowa 110.89 49 PKKPbc PKKPbc 06 45 19.7 -1.2
comp=Z,2.7nm,0.8s,baz=131,slow=4.4,SNR=4.1
SADO PKKPab **PKKPab 06 45 33.4 +1.4**
comp=Z,8.5nm,0.8s,baz=96,slow=5.6,SNR=9.2
SSPA Standing Stone 111.18 53 PKiKP 06 34 20.5
baz=261
H53A Bobcaygeon 111.26 49 PKiKP 06 34 20.6
baz=262
G54A Lake Saint Pet 111.72 48 PKiKP 06 34 21.4
baz=263
ALGO Algonquin Park 111.82 48 PKiKP 06 34 21.7
baz=263
SMLA Simla 111.82 296 *e*P **PKiKP 06 34 21.5 -1.1**
K56A Middlesex 111.91 51 PKiKP 06 34 21.7
baz=262
SHLS Shalkode 111.99 309 *e*PP PP 06 35 11.4 -8.9
baz=309
UZB Uzynbulak 112.30 309 *e*PKiKP **PKiKP 06 34 22.0 -1.5**
baz=309
UZB *e*PP **PP 06 35 15.5 -7.1**
baz=309
UZB Uzynbulak 112.30 309 *i* PKiKP **PKiKP 06 34 21.9 -1.5**
J56A Wolcott 112.32 51 PKiKP 06 34 22.7
baz=263
KPKS Kokpek 112.59 310 *e*PKiKP **PKiKP 06 34 22.4 -1.5**
baz=310
KPKS *e*PP **PP 06 35 21.1 -3.4**
baz=310
KPKS Kokpek 112.59 310 *i* PKiKP **PKiKP 06 34 22.4 -1.5**
KPKS *e* 06 35 21.0
SATY Saty 112.74 309 *e*PKiKP **PKiKP 06 34 22.6 -1.7**
baz=309
SATY *e*PP **PP 06 35 23.1 -2.5**
baz=309
SATY Saty 112.74 309 *i* PKiKP **PKiKP 06 34 22.6 -1.7**
SATY *e* 06 35 23.0
DHRM DHARAMSHALA 112.75 297 *e*P **PKiKP 06 34 18.2 -6.5**
P60A Greenville 112.77 54 PKiKP 06 34 24.1
baz=262
N59A State Game Lan 112.82 53 PKiKP 06 34 23.9
baz=262
BINY Binghamton 112.82 52 PKiKP 06 34 24.1
baz=263
L58A Harry Jones Me 112.90 52 PKiKP 06 34 24.2
baz=263
J57A Williamstown 112.96 50 PKiKP 06 34 24.1
baz=263
TDK Taldyqorghan 112.97 311 *e*PKiKP **PKiKP 06 34 23.3 -1.3**
baz=311
TDK *e*PP **PP 06 35 24.6 -2.3**
baz=311
TDK Taldyqorghan 112.97 311 *i* PKiKP **PKiKP 06 34 23.2 -1.3**
TDK *e* 06 35 24.6
E55A Montcerf-Lytto 113.25 47 PKiKP 06 34 24.8
baz=264
I57A Carthage 113.27 50 PKiKP 06 34 24.0
baz=264
ARXS Arharly 113.29 310 *e*PKiKP **PKiKP 06 34 30.6 +5.4**
KURK Kurchatov 113.34 317 *i* PKiKP **PKiKP 06 34 24.4 -0.6**
KURBB Kurchatov Arra 113.39 317 PKiKP **PKiKP 06 34 24.4 -0.7**
comp=Z,9.6nm,0.7s,baz=96,slow=1.9,SNR=61

KURBB PP **PP 06 35 24.8 -4.9**
comp=Z,8.1nm,1.0s,baz=96,slow=7.4,SNR=7.8
KURBB SKP 06 36 59.5
comp=Z,7.0nm,0.9s,baz=99,slow=1.8,SNR=5.4
KURBB PKKPbc **PKKPbc 06 45 11.9 -1.0**
comp=Z,3.2nm,0.7s,baz=270,slow=4.1,SNR=19
KURBB PKKPab **PKKPab 06 45 22.4 +1.5**
comp=Z,3.6nm,0.8s,baz=272,slow=5.1,SNR=14
KURBB SKKPbc SKKPbc 06 47 54.5 -3.2
comp=Z,3.3nm,0.7s,baz=277,slow=3.6,SNR=12
J58A Remsen 113.47 51 PKiKP 06 34 24.1
baz=264
H57A Richville 113.52 49 PKiKP 06 34 24.2
baz=264
D55A Sainte-Anne-du 113.70 47 PKiKP 06 34 24.8
baz=265
I58A Old Forge 113.73 50 PKiKP 06 34 25.0
baz=264
MDOK Medeo 113.74 309 *e*PKiKP **PKiKP 06 34 24.8 -1.5**
baz=309
MDOK *e*PP **PP 06 35 29.3 -3.3**
baz=309
MDOK Medeo 113.74 309 *i* PKiKP **PKiKP 06 34 24.7 -1.5**
MDOK *e* 06 35 29.3
CHKK Chushkaly 113.86 310 *e*PKiKP **PKiKP 06 34 24.6 -1.6**
baz=310
CHKK Chushkaly 113.86 310 *i* PKiKP **PKiKP 06 34 24.6 -1.6**
G57A Newington 113.86 49 PKiKP 06 34 25.0
baz=265
E56A St. Veronique 113.96 47 PKiKP 06 34 25.3
baz=265
LONY Lake Ozonia 114.11 49 PKiKP 06 34 25.5
baz=265
KSH Kashi 114.12 305 *e*PKP **PKiKP 06 34 27.5 +0.5**
KSH SKKS 06 41 28.8
KSH PPMZ
comp=Z,620nm,4.0s
MTBS Maitube 114.19 309 *e*PKiKP PKPdf 06 34 25.7 -1.3
baz=309
MTBS *e*PP **PP 06 35 33.7 -1.9**
baz=309
MTBS Maitube 114.19 309 *i* PKiKP PKPdf 06 34 25.6 -1.4
MTBS *e* 06 35 33.6
D56A ZEC Mazanza, M 114.19 47 PKiKP 06 34 26.3
baz=266
PAL Palisades 114.23 53 PKiKP 06 34 26.5
baz=263
H58A Gabriels 114.37 50 PKiKP 06 34 26.7
baz=265
G58A Ormstown 114.53 49 PKiKP 06 34 26.4
baz=265
I59A Olmsteadville 114.54 50 PKiKP 06 34 26.3
baz=265
CHGQ Chibougamau 114.62 44 PKiKP 06 34 26.0
baz=267
J60A Lant Hill Farm 114.81 51 PKiKP 06 34 27.7
baz=265
K61A Williamstown 114.87 52 PKiKP 06 34 28.2
baz=265
E58A La Victoria 115.16 47 PKiKP 06 34 27.8
baz=266
L61B Northampton 115.29 52 PKiKP 06 34 28.3
baz=265
J61A Chester 115.45 51 PKiKP 06 34 28.8
baz=265
D58A Chemin du LacG 115.47 47 PKiKP 06 34 28.6
baz=267
SGDS Sogindy 115.53 309 *e*PKiKP **PKPdf 06 34 27.9 -1.7**
baz=309
SGDS *e*PP **PP 06 35 42.7 -2.1**
baz=309
SGDS Sogindy 115.53 309 *i* PKiKP **PKPdf 06 34 27.8 -1.7**
SGDS *e* 06 35 42.6
AAK Ala-Archa 115.56 308 PKP **PKPdf 06 34 29.3 -0.4**
comp=Z,8.3nm,0.9s,baz=166,slow=6.6,SNR=6.3
AAK PP **PP 06 35 42.8 -2.3**
comp=Z,5.8nm,1.1s,baz=119,slow=8.6,SNR=6.3
AAK PKKPbc **PKKPbc 06 45 04.1 -1.5**
comp=Z,2.1nm,0.6s,baz=180,slow=4.7,SNR=3.9
AAK PKKPab **PKKPab 06 45 12.9 +1.2**
comp=Z,7.4nm,0.8s,baz=224,slow=3.4,SNR=9.9
AAK Ala-Archa 115.56 308 *i* PKiKP **PKPdf 06 34 28.9 -0.9**
K62A Royalston 115.63 52 PKiKP 06 34 29.2
baz=265
I61A Oroboro, Fairl 115.75 50 PKiKP 06 34 29.8
baz=266
LBNH Lisbon 115.97 50 PKiKP 06 34 30.6
baz=266
J62A Henniker 115.98 51 PKiKP 06 34 30.4
baz=266
H61A Lyndonville 115.99 50 PKiKP 06 34 30.5
baz=266
L63A North Scituate 116.03 53 PKiKP 06 34 30.4
baz=265
BTLS Baital 116.05 311 *e*PKiKP **PKPdf 06 34 29.3 -1.1**
baz=311
BTLS *e*PP **PP 06 35 45.6 -2.6**
baz=311
BTLS Baital 116.05 311 *i* PKiKP **PKPdf 06 34 29.3 -1.1**
BTLS *e* 06 35 45.6
F60A Warwick 116.05 48 PKiKP 06 34 30.0
baz=267
HRV Adam Dziewonsk 116.12 52 PKiKP 06 34 30.2
baz=266
E60A Ste Agathe de 116.42 48 PKiKP 06 34 30.6
baz=268
F61A St Evariste 116.72 48 PKiKP 06 34 31.5
baz=268
I63A Otisfield 116.93 50 PKiKP 06 34 31.9
baz=267
PDPR Patillas Dam, 116.99 80 **PKPdf 06 34 31.5 -1.4**
GCPR Guaynabo City 117.00 79 **PKPdf 06 34 32.1 -0.9**
G62A West of Eustis 117.02 49 PKiKP 06 34 31.9
baz=268
E61A Lac Etchemin 117.09 47 PKiKP 06 34 32.1
baz=267
FRB Frobisher Bay 117.10 28 PKKPab PKKPab 06 45 04.5 +0.4
comp=Z,5.1nm,0.6s,baz=87,slow=4.5,SNR=7.6
BRZS Berezniki 117.11 317 *e*PKiKP **PKPdf 06 34 31.1 -1.3**
baz=316
BRZS *e*PP **PP 06 35 51.9 -3.5**
baz=316
BRZS Berezniki 117.11 317 *i* PKiKP **PKPdf 06 34 31.0 -1.3**
BRZS *e* 06 35 51.8
H63A New Sharon 117.35 49 PKiKP 06 34 32.9
baz=268
F62A Pittston Farm, 117.44 48 PKiKP 06 34 32.7
baz=268
I64A Boothbay 117.60 50 PKiKP 06 34 32.8
baz=268
NEEM North Greenlan 117.65 11 *i* P **PKPdf 06 34 32.8 -0.2**
NEEM IAmb IAmb 06 34 34.0
comp=Z,17nm,0.6s
G63A Kingsbury 117.66 49 PKiKP 06 34 33.0
baz=268
E62A Clayton Lake 117.76 47 **PKPdf 06 34 33.3 -0.4**
E62A Clayton Lake 117.76 47 PKiKP 06 34 33.4
baz=269
PKME Peaks-Kenny Pk 117.89 49 PKiKP 06 34 33.5
baz=269
H64A Troy 117.93 50 PKiKP 06 34 33.7
baz=268
F63A Nahmakanta, Br 118.03 48 PKiKP 06 34 33.8
baz=269
D62A Allapoint, All 118.09 47 PKiKP 06 34 33.7
baz=270
BTK Batken 118.13 305 PKiKP **PKPdf 06 34 34.2 -0.5**
BTK Batken 118.13 305 **PKPdf 06 34 34.2 -0.5**
G64A Maxfield 118.27 49 PKiKP 06 34 34.5
baz=269
BVAR Borovoye Array 118.45 320 PKP **PKPdf 06 34 33.4 -1.4**
comp=Z,14nm,0.5s,baz=47,slow=5.1,SNR=47
BVAR PP **PP 06 36 00.6 -3.7**
comp=Z,5.9nm,0.9s,baz=235,slow=10,SNR=4.0
BVAR PKKPab **PKKPab 06 44 58.8 +0.4**
comp=Z,2.0nm,0.7s,baz=132,slow=4.2,SNR=5.5
BRVK Borovoye 118.51 320 *d* PKiKP **PKPdf 06 34 33.9 -1.0**
BRVK pmax pmax
comp=Z,38nm,1.0s
BRVK Borovoye 118.51 320 PKPdf **PKPdf 06 34 34.6 -0.3**
BRVK Borovoye 118.51 320 P **PKPdf 06 34 34.7 -0.1**
KKAR Karatay Array 118.51 309 PKiKP **PKPdf 06 34 34.8 -0.4**
KKAR Karatay Array 118.51 309 PKPdf **PKPdf 06 34 34.8 -0.4**
E63A Oxbow 118.52 48 PKiKP 06 34 34.8
baz=270
F64A Sherman 118.56 48 PKiKP 06 34 34.9
baz=270

H65A Eastbrook 118.62 49 PKiKP 06 34 35.3
baz=269
VOI Vohitsoka 118.67 229 PKPdf **PKiKP 06 34 37.6 +1.2**
VOI Vohitsoka 118.67 229 P **PKPdf 06 34 35.7 -0.7**
D63A Stockholm 118.73 47 PKiKP 06 34 35.0
baz=270
PQI Presque Isle 118.80 47 **PKPdf 06 34 34.7 -0.9**
E64A Bridgewater 118.93 48 PKiKP 06 34 35.6
baz=270
KBL Kabul 119.08 299 PKiKP **PKiKP 06 34 37.1 +0.2**
KBL Kabul 119.08 299 PKPdf **PKiKP 06 34 37.1 +0.2**
KBL Kabul 119.08 299 P **PKiKP 06 34 36.9 0.0**
SNR=8.7
G65A Princeton 119.11 49 PKiKP 06 34 36.1
baz=270
SCHQ Schefferville 119.12 38 PKP **PKPdf 06 34 35.5 -0.5**
comp=Z,4.2nm,0.6s,baz=228,slow=4.6,SNR=6.7
SCHQ PKKPbc **PKKPbc 06 44 50.3 -3.1**
comp=Z,3.2nm,0.8s,baz=24,slow=8.7,SNR=2.7
BDFB Brasilia 119.93 123 PKP **PKPdf 06 34 38.3 -0.6**
comp=Z,4.5nm,0.6s,baz=239,slow=3.3,SNR=9.1
BDFB PKKPbc **PKKPbc 06 44 50.1 -0.2**
comp=Z,8.4nm,0.8s,baz=26,slow=12,SNR=5.8
BDFB Brasilia 119.93 123 **PKPdf 06 34 38.3 -0.6**
NUUG Nuugaatsiaq 120.19 17 *i* P **PKPdf 06 34 37.1 -0.4**
NUUG IAmb IAmb 06 34 38.4
comp=Z,18nm,0.8s
OPO Ambohidratompo 120.48 232 PKP **PKiKP 06 34 40.6 +0.5**
comp=Z,19nm,0.8s,baz=115,slow=4.1,SNR=8.3
OPO Ambohidratompo 120.48 232 **PKiKP 06 34 40.6 +0.5**
LMN Caledonia Moun 121.04 48 PKPdf **PKPdf 06 34 39.8 -0.2**
KBS Kingsbay 121.20 358 *i* P **PKiKP 06 34 40.0 +0.4**
KBS IAmb IAmb 06 34 41.0
comp=Z,27nm,0.8s
KBS Kingsbay 121.20 358 *c* PKiKP **PKiKP 06 34 39.7 +0.1**
KBS pmax pmax
comp=Z,71nm,2.5s
KBS Kingsbay 121.20 358 *e*PKPdf **PKiKP 06 34 40.1 +0.6**
KBS *e*PP **PP 06 36 22.2 +0.3**
SPA0 Spitsbergen Ar 121.71 356 *e*PKPdf **PKiKP 06 34 40.9 +0.3**
SPITS Spitsbergen Ar 121.71 356 PKP **PKiKP 06 34 40.5 -0.1**
comp=Z,23nm,0.6s,baz=66,slow=4.8,SNR=63
SPITS SKP 06 37 16.6
comp=Z,16nm,1.0s,baz=207,slow=1.7,SNR=5.9
SPITS PKKPbc **PKKPab 06 44 40.5 -3.2**
comp=Z,8.7nm,0.9s,baz=186,slow=1.4,SNR=5.3
ILULI Ilulissat 121.94 19 PKiKP **PKPdf 06 34 40.7 -0.3**
ILULI Ilulissat 121.94 19 **PKPdf 06 34 40.7 -0.3**
HAL Halifax 121.94 50 PKiKP **PKPdf 06 34 41.6 -0.1**
HAL Halifax 121.94 50 **PKPdf 06 34 41.6 -0.1**
HOPEN Hopen 122.55 354 *e*PKPdf **PKPdf 06 34 41.4 -0.6**
DAG Danmarks Havn 122.72 5 *i* P **PKPdf 06 34 41.3 -1.0**
DAG IAmb IAmb 06 34 42.3
comp=Z,12nm,0.7s
DAG Danmarks Havn 122.72 5 *i* PKiKP **PKPdf 06 34 41.3 -1.0**
DAG pmax pmax
comp=Z,12nm,0.7s
SFJD Kangerlussuaq 123.17 22 *i* P **PKPdf 06 34 43.2 -0.2**
SFJD Kangerlussuaq 123.17 22 *i* PKiKP **PKPdf 06 34 43.1 -0.2**
SUMG Summit 123.25 13 *i* P **PKiKP 06 34 44.5 +0.2**
SUMG IAmb IAmb 06 34 46.3
comp=Z,19nm,1.0s
SUMG Summit 123.25 13 IAmb IAmb 06 44 40.2
comp=Z,14nm,1.0s
SUMG Summit 123.25 13 *i* PKiKP **PKiKP 06 34 44.4 +0.2**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 123.25 13 PKPdf **PKPdf 06 34 43.1 -0.8**
SUMG Summit 123.25 13 *i* P **PKKPbc 06 34 38.2 -0.7**
GBN Guysborough 123.37 48 PKPdf **PKiKP 06 34 45.0 +0.3**
SVE Sverdlovsk 123.42 325 *e*PKiKP **PKPdf 06 34 44.1 -0.1**
SVE pmax pmax
comp=Z,45nm,1.0s
NUUK Nuuk 124.04 25 *i* P **PKPdf 06 34 45.3 +0.2**
NUUK IAmb IAmb 06 34 47.0
comp=Z,19nm,0.8s
SUR Sutherland 124.23 200 PKP **PKiKP 06 34 47.2 0.0**
comp=Z,38nm,0.9s,baz=124,slow=2.9,SNR=13
SUR Sutherland 124.23 200 PKPdf **PKiKP 06 34 47.4 +0.2**
SUR Sutherland 124.23 200 P **PKPdf 06 34 45.9 -1.0**
ARU Arti 124.63 325 PKP **PKPdf 06 34 46.4 -0.1**
comp=Z,12nm,0.5s,baz=88,slow=0.6,SNR=51
ARU PP **PP 06 36 42.0 -3.2**
comp=Z,2.4nm,0.5s,baz=61,slow=7.2,SNR=5.3
ARU PKKPbc **PKKPbc 06 44 32.9 0.0**
comp=Z,1.2nm,0.3s,baz=277,slow=3.8,SNR=7.0
ARU SKKPbc SKKPbc 06 47 19.5 -2.8
comp=Z,1.2nm,0.4s,baz=238,slow=4.5,SNR=4.8
ARU Arti 124.63 325 *i* PKiKP **PKPdf 06 34 46.2 -0.3**
ARU 06 36 41.6
ARU 06 40 50.1
ARU SP SP 06 45 41.1 +0.3
ARU Arti 124.63 325 PKPdf **PKPdf 06 34 46.4 -0.1**
DBG Daneborg 124.84 7 *i* P **PKPdf 06 34 45.9 -0.5**
DBG IAmb IAmb 06 34 47.8
comp=Z,11nm,0.7s
DY2G Dye2 124.92 21 *i* P **PKPdf 06 34 47.1 0.0**
DY2G IAmb IAmb 06 34 48.9
comp=Z,25nm,0.7s
ICESG Greenland Ices 125.35 17 *i* P **PKPdf 06 34 47.4 -0.6**
ICESG IAmb IAmb 06 34 48.9
comp=Z,27nm,0.8s
AB31 Akbulak array 125.42 317 *i* PKiKP **PKPdf 06 34 47.9 -0.3**
AB31 pmax pmax
comp=Z,34nm,1.1s
ABKAR Akbulak array 125.42 317 PKPdf **PKPdf 06 34 47.9 -0.4**
JLN Jalan Bani Buh 125.91 283 P **PKiKP 06 34 50.3 -0.2**
BOSA Boshof 125.97 206 PKP **PKiKP 06 34 51.1 +0.4**
comp=Z,33nm,1.0s,baz=115,slow=2.6,SNR=21
BOSA PP **PP 06 36 59.1 +5.7**
comp=Z,6.6nm,1.0s,baz=72,slow=3.7,SNR=3.3
BOSA Boshof 125.97 206 PKPdf **PKPdf 06 34 50.4 +0.1**
AKTO Aktyubinsk 126.42 318 PKP **PKPdf 06 34 50.0 -0.1**
comp=Z,24nm,0.9s,baz=90,slow=2.9,SNR=59
AKTO PP **PP 06 37 00.5 +3.4**
comp=Z,5.2nm,1.0s,baz=129,slow=7.2,SNR=4.0
AKTO PKKPbc **PKKPbc 06 44 25.8 0.0**
comp=Z,3.4nm,0.7s,baz=248,slow=3.5,SNR=11
AKTO SKKPbc SKKPbc 06 47 14.9 -1.1
comp=Z,1.2nm,0.8s,baz=140,slow=0.4,SNR=4.9
WSAR Wadi Sarin 126.79 284 PKP **PKPdf 06 34 51.6 0.0**
comp=Z,18nm,1.1s,baz=73,slow=4.2,SNR=5.0
WSAR PKKPbc **PKKPbc 06 44 24.9 +1.0**
comp=Z,6.6nm,0.8s,baz=242,slow=4.8,SNR=5.0
WSAR Wadi Sarin 126.79 284 P **PKiKP 06 34 52.7 +0.4**
MHTO MHTO 127.03 281 P **PKPdf 06 34 52.1 -0.1**
SNR=5.0
JMDO Jabal Madar 127.14 283 P **PKiKP 06 34 52.9 -0.1**
DQM DQM 127.23 280 P **PKiKP 06 34 52.9 -0.3**
SMDO Samad 127.29 284 P **PKPdf 06 34 52.4 -0.4**
SNR=6.1
HAMF Hammerfest 127.98 351 *e*PKPdf **PKPdf 06 34 52.4 -0.1**
GEYT Alibeck 128.00 303 PKP **PKiKP 06 34 54.5 +0.2**
comp=Z,28nm,0.9s,baz=232,slow=3.6,SNR=26
GEYT PP **PP 06 37 06.0 -1.9**
comp=Z,22nm,1.1s,baz=62,slow=3.4,SNR=10
GEYT Alibeck 128.00 303 PKPpre 06 34 43.6
GEYT **PKPdf 06 34 53.7 +0.1**
BSY Bisya 128.02 283 P **PKPdf 06 34 53.7 -0.3**
HOQ Hoqain 128.04 284 P **PKPdf 06 34 54.1 +0.1**
SCO Scoresbysund 128.06 10 *i* P **PKiKP 06 34 53.9 +0.5**
SCO IAmb IAmb 06 34 54.1
comp=Z,22nm,1.1s
SCO Scoresbysund 128.06 10 *i* PKiKP **PKiKP 06 34 53.8 +0.5**
SCO pmax pmax
comp=Z,22nm,1.1s
KIRV Kirov 128.45 330 PKP **PKPdf 06 34 54.0 +0.3**
comp=Z,28nm,0.5s,baz=90,slow=2.3,SNR=20
KIRV PP **PP 06 37 14.7 +5.0**
comp=Z,26nm,0.7s,baz=42,slow=8.2,SNR=6.0
KIRV Kirov 128.45 330 PKiKP **PKPdf 06 34 54.0 +0.3**
PRGR Permogore 128.59 335 *e*PKiKP **PKPdf 06 34 53.5 -0.4**
PRGR *e* 06 37 13.2
PRGR pmax pmax
comp=Z,29nm,0.9s
ARA0 ARCESS Array S 128.66 349 *e*PKPdf **PKiKP 06 34 54.4 -0.2**
ARA0 *e*PP **PP 06 37 12.0 +1.3**
ARCES ARCESS Array B 128.66 349 PKhKP PKPpre 06 34 44.8
comp=Z,2.6nm,0.9s,baz=90,slow=1.2,SNR=5.5
ARCES PKP **PKPdf 06 34 54.0 +0.2**
comp=Z,22nm,0.7s,baz=49,slow=1.5,SNR=60
ARCES PP **PP 06 37 11.9 +1.2**
comp=Z,18nm,0.8s,baz=23,slow=4.9,SNR=12
ARCES SKP 06 37 29.9
comp=Z,6.9nm,0.8s,baz=44,slow=2.9,SNR=3.9

ARCES **ARCES Array B** 128.66 349 PKPdf **PKiKP** 06 34 54.6 0.0
ARCES pPKPdf **PP** 06 37 15.7 +5.0
SOHO SOHO 128.82 285 *i* PKPdf **PKPdf** 06 34 55.2 -0.2
SNR=6.5
SOHO SOHO 128.82 285 P **PKPdf** 06 34 54.9 -0.6
MDH Madha 129.17 286 PKPdf **PKPdf** 06 34 56.5 +0.3
MDH Madha 129.17 286 P **PKPdf** 06 34 56.2 0.0
UOSS Minazif 129.22 286 *i* PKPdf **PKPdf** 06 34 56.1 -0.1
SNR=9.7
UOSS Minazif 129.22 286 PKPdf **PKPdf** 06 34 55.4 -0.8
UOSS Minazif 129.22 286 P **PKPdf** 06 34 56.1 -0.1
BANOM Banah 129.24 287 *i* PKPdf PKPdf 06 34 42.9 -13
SNR=14
HATD Hatta, Dubai 129.27 286 *i* PKiKP **PKiKP** 06 34 57.1 -0.1
SNR=16
HATD Hatta, Dubai 129.27 286 P **PKiKP** 06 34 56.9 -0.3
SNR=7.4
MSFE Esma-Masafi 129.30 287 *i* PKiKP **PKiKP** 06 34 57.2 -0.1
SNR=10
MASF Masafi 129.30 287 P **PKPdf** 06 34 56.5 +0.1
ASHO Ashiyiah 129.32 286 *i* PKPdf **PKPdf** 06 34 56.1 -0.4
SNR=19
ASHO Ashiyiah 129.32 286 P **PKPdf** 06 34 56.1 -0.4
SNR=6.5
JETT Jettan, Norway 129.45 351 *e*PKPdf **PKPdf** 06 34 55.8 +0.4
JETT *e*PP **PP** 06 37 16.9 +1.2
KTK1 Kautokeino 129.51 350 *e*PKPdf **PKiKP** 06 34 56.3 0.0
KTK1 *e*PP **PP** 06 37 15.9 -0.2
ALNE Al Ain 129.52 285 PKiKP **PKiKP** 06 34 57.5 -0.2
TRO Tromso 129.58 352 *e*PKPdf **PKiKP** 06 34 56.3 -0.1
TRO *e*PP **PP** 06 37 17.9 +1.5
NAZ Nazwa, Dubai 129.71 286 *i* PKPdf **PKPdf** 06 34 57.3 +0.1
SNR=6.4
NAZ Nazwa, Dubai 129.71 286 P **PKPdf** 06 34 57.5 +0.4
SNR=5.7
FAQ Al Faqa, Dubai 129.75 286 P **PKPdf** 06 34 57.0 -0.3
UMZA Um Al Zommool 129.88 283 P **PKPdf** 06 34 57.5 0.0
ASUD Al Ashush, Dub 129.97 285 *i* PKiKP **PKiKP** 06 34 59.0 +0.5
SNR=7.6
ASUD Al Ashush, Dub 129.97 285 P **PKPdf** 06 34 57.8 +0.1
DOK Doka 130.14 278 P **PKPdf** 06 34 57.8 -0.3
WHFO Wadi Hawf 130.34 277 P **PKPdf** 06 34 58.6 0.0
MATP Matopo 131.36 215 PKhKP PKPpre 06 34 47.9
comp=Z,3.2nm,0.7s,baz=162,slow=1.7,SNR=11
MATP PKP **PKiKP** 06 35 01.6 -0.1
comp=Z,31nm,0.8s,baz=162,slow=2.0,SNR=37
MATP SKPbc **SKPab** 06 37 27.3 -0.1
comp=Z,157nm,1.0s,baz=152,slow=4.1,SNR=38
KLMR Klimovskoe 131.44 336 *e*PKiKP **PKPdf** 06 34 59.1 -0.2
KLMR *e* 06 37 22.8
KLMR pmax pmax
comp=Z,40nm,1.0s
KLMR Klimovskoe 131.44 336 *e*PKPdf **PKPdf** 06 34 59.1 -0.2
KLMR AMP 06 35 01.3
comp=Z,40nm,1.0s
KLMR *e*PP **pPKPdf** 06 37 22.8 -5.3
KLMR *e*SKKPbc SKKPbc 06 46 53.8 -5.2
LOF Lofoten 131.64 354 *e*PKPdf **PKiKP** 06 35 00.1 -0.6
STEI Steigen 131.65 353 *e*PKPdf **PKiKP** 06 35 00.3 -0.3
FAUS Fauske 132.16 353 *e*PKPdf **PKPdf** 06 35 00.7 +0.2
JRN Qarnain Island 132.25 286 P **PKPdf** 06 35 02.1 +0.2
KONS Konsvik 133.26 353 *e*PKPdf **PKiKP** 06 35 03.5 -0.5
MOR8 Moi Rana 133.42 353 *e*PKPdf **PKPdf** 06 35 03.0 +0.1
SHMA Al-Shehemyia 134.02 287 P **PKiKP** 06 35 06.2 -0.5
MAK Makhachkala 135.23 311 *i* P **Pdif** 06 32 11.3 -2.2
MAK *i* 06 35 06.8
MAK *e* 06 37 34.5
MAK *e* 06 37 50.8
MAK *e* 06 38 40.8
MAK *e* 06 41 17.9
MAK *e*SS SS 06 54 52.9 -6.1
MAK *e*SSS SSS 07 00 10.5
MAK pmax pmax
comp=Z,180nm,1.1s
NSS Namsos 135.29 353 *e* PKPdf 06 34 54.5 -12
NSS *e*PKPdf **PKiKP** 06 35 07.4 -0.7
MOS Moscow 135.40 331 *i* PKiKP **PKPdf** 06 35 05.6 -1.3
MOS *e* 06 37 29.0
MOS *e* 06 37 50.9
MOS pmax pmax
comp=Z,50nm,0.8s
FINES FINESS Array B 135.43 343 PKhKP PKPpre 06 34 54.9
comp=Z,2.7nm,0.8s,baz=30,slow=3.2,SNR=8.5
FINES PKP **PKPdf** 06 35 07.1 +0.3
comp=Z,9.5nm,0.5s,baz=58,slow=2.9,SNR=10
FINES SKPbc **SKPbc** 06 37 39.2 +1.3
comp=Z,111nm,1.1s,baz=49,slow=3.5,SNR=34
FINES SKKPbc **SKKPbc** 06 46 42.1 -2.4
comp=Z,2.3nm,0.9s,baz=301,slow=1.1,SNR=3.9
FINES FINESS Array B 135.43 343 PKPdf **PKPdf** 06 35 03.7 -3.0
AKT Akhty 135.44 309 *e*PKiKP **PKiKP** 06 35 08.5 -0.8
AKT *e* 06 37 51.6
AKT *e* 06 38 41.5
AKT pmax pmax
comp=Z,49nm,0.9s
LSZ Lusaka 135.66 219 PKhKP PKPpre 06 34 58.8
comp=Z,4.1nm,0.5s,baz=81,slow=1.5,SNR=8.8
LSZ PKP **PKiKP** 06 35 10.0 -0.5
comp=Z,23nm,0.6s,baz=47,slow=2.2,SNR=9.9
LSZ SKPbc **SKPbc** 06 37 41.9 +1.7
comp=Z,32nm,0.9s,baz=142,slow=3.2,SNR=15
LSZ Lusaka 135.66 219 PKPpre 06 34 58.8
VRH Novokhopyorsk 135.82 324 *e*PKiKP **PKPdf** 06 35 07.8 0.0
VRH pmax pmax
comp=Z,40nm,0.6s
OBN Obninsk 136.25 331 PKP **PKiKP** 06 35 09.5 -0.9
comp=Z,7.2nm,0.4s,baz=32,slow=5.9,SNR=7.8
OBN SKPbc **SKPbc** 06 37 41.9 +1.4
comp=Z,22nm,0.6s,baz=331,slow=2.5,SNR=36
OBN Obninsk 136.25 331 *e*PKiKP **PKPdf** 06 35 08.6 +0.1
OBN *e* 06 38 00.5
OBN pmax pmax
comp=Z,79nm,1.4s
GROC Groznyy 136.37 312 *e*PKiKP **PKPdf** 06 35 08.9 -0.2
GROC *e* 06 37 58.6
GROC *e* 06 38 36.6
GROC pmax pmax
comp=Z,29nm,0.5s
LPSR Galich'ya Gora 136.58 327 *e*PKiKP **PKPdf** 06 35 07.9 -1.3
LPSR pmax pmax
comp=Z,60nm,1.2s
QRN Al-Qurain 136.82 291 *e*P PKPdf 06 34 59.4 -11
VSR Storozhevoye 137.20 325 *e*PKiKP **PKPdf** 06 35 08.9 -1.5
VSR pmax pmax
comp=Z,50nm,1.2s
VORD Divnogorie 137.26 325 *e*PKiKP **PKPdf** 06 35 10.3 -0.2
VORD pmax pmax
comp=Z,30nm,0.8s
MIB Mutribah 137.31 292 *e*P PKPdf 06 34 60.0 -11
TSUM Tsumeb 137.45 203 PKhKP PKPpre 06 35 04.0
comp=Z,2.3nm,0.4s,baz=98,slow=1.4,SNR=4.5
TSUM PKP **PKPdf** 06 35 13.0 +0.9
comp=Z,24nm,1.1s,baz=144,slow=3.3,SNR=8.6
TSUM SKPbc **SKPbc** 06 37 46.2 +0.7
comp=Z,9.4nm,0.8s,baz=162,slow=2.1,SNR=7.2
TSUM Tsumeb 137.45 203 PKPpre 06 35 06.4
RST Umm Al-Ruwaisa 137.62 292 *e*P PKPdf 06 35 00.9 -11
VSU Vasula 137.66 340 *e*P **SKPbc** 06 37 46.5 +2.0
ZEI Tsey 137.82 312 *e*PKHKP PKPpre 06 35 05.5
ZEI pmax pmax
comp=Z,14nm,1.0s
GNI Garni 137.96 308 PKhKP PKPpre 06 35 05.2
comp=Z,4.4nm,0.4s,baz=238,slow=7.9,SNR=3.1
GNI PKP **PKPdf** 06 35 13.0 +0.6
comp=Z,14nm,0.8s,baz=200,slow=5.7,SNR=7.7
GNI SKPbc **SKPbc** 06 37 47.7 +1.5
comp=Z,17nm,0.9s,baz=167,slow=8.9,SNR=6.8
GNI Garni 137.96 308 PKiKP **PKPdf** 06 35 13.0 +0.6
GNI Garni 137.96 308 PKPdf **PKPdf** 06 35 11.8 -0.6
DOMB Dombas 138.02 354 *e* 06 35 02.3 -9.4
DOMB *e*PKPdf **PKiKP** 06 35 12.4 -1.4
DOMB *e*SKPdf **SKPdf** 06 37 46.8 +1.0
AKN Aaknes 138.05 356 *e* PKPdf 06 35 03.0 -8.6
AKN *e*SKPdf **SKPbc** 06 37 47.1 +1.5
KBZ Khabaz 138.20 314 PKhKP PKPpre 06 35 04.4
comp=Z,4.9nm,0.9s,baz=98,slow=4.9,SNR=6.3
KBZ PKP **PKiKP** 06 35 14.1 -0.6
comp=Z,11nm,0.9s,baz=130,slow=2.5,SNR=9.3
KBZ SKPbc **SKiKP** 06 37 48.3 -1.7
comp=Z,13nm,1.0s,baz=359,slow=2.2,SNR=6.5
KIV Kislovodsk 138.26 314 *e*PKiKP **PKPdf** 06 35 11.8 -0.9
KIV *e* 06 41 21.5
KIV *e*SS SS 06 55 33.9 -0.6
KIV pmax pmax
comp=Z,46nm,1.0s
AKH Akhalkalaki 138.53 310 ⇑P **PKPdf** 06 35 06.8 -6.5
KMBO Kilima Mbogo 138.62 243 PKhKP PKPpre 06 35 06.9
comp=Z,2.4nm,0.3s,baz=144,slow=9.3,SNR=19
KMBO SKPbc **SKiKP** 06 37 50.9 -1.3
comp=Z,37nm,1.1s,baz=52,slow=3.2,SNR=15
KMBO Kilima Mbogo 138.62 243 PKPpre 06 35 06.9
NOA NORSAR Array B 138.77 353 PKhKP PKPpre 06 35 04.5
comp=Z,8.0nm,0.8s,baz=18,slow=2.8,SNR=18
NOA PKP **PKiKP** 06 35 14.4 -1.0
comp=Z,3.4nm,0.6s,baz=14,slow=4.1,SNR=12
NOA SKPbc **SKiKP** 06 37 49.5 -1.2
comp=Z,18nm,1.1s,baz=6.3,slow=4.0,SNR=19
RAYN Ar Rayn 138.80 283 *i* PKPdf **PKPdf** 06 35 06.7 -7.5
SNR=7.4
RAYN Ar Rayn 138.80 283 PKHKP PKPpre 06 35 06.7
RAYN Ar Rayn 138.80 283 PKPpre 06 35 06.7
UPP Uppsala 138.84 347 *e*P PKPdf 06 35 05.2 -7.8
ATD Arta Tunnel 138.99 264 SKPbc **SKiKP** 06 37 53.6 +1.0
comp=Z,110nm,1.0s,baz=252,slow=1.3,SNR=17
NC602 NORSAR Array S 139.03 352 *e* **PKPdf** 06 35 06.5 -6.9
NC602 *e*PKPdf **PKiKP** 06 35 14.2 -1.7
NC602 *e*SKPdf **SKPbc** 06 37 49.3 +1.1
HYA Hoyanger 139.11 356 *e*PKPdf **PKPdf** 06 35 14.1 +0.6
HFS Hagfors 139.30 350 PKhKP PKPpre 06 35 05.9
comp=Z,7.1nm,0.4s,baz=53,slow=3.3,SNR=6.8
HFS PKP **PKPdf** 06 35 14.8 +0.9
comp=Z,9.6nm,0.5s,baz=29,slow=3.3,SNR=5.7
HFS SKPbc **SKPbc** 06 37 50.1 +1.1
comp=Z,33nm,0.9s,baz=29,slow=3.4,SNR=17
HFS SKKPbc **SKKPbc** 06 46 31.1 +1.3
comp=Z,7.1nm,1.0s,baz=238,slow=8.5,SNR=4.6
HFS Hagfors 139.30 350 **PKPdf** 06 35 14.8 +0.9
SKAR Skarslia 139.43 355 *e* PKPdf 06 35 03.0 -11
SKAR *e*PKPdf **PKiKP** 06 35 14.8 -2.0
ASK Askoy 139.85 357 *e* **PKPdf** 06 35 09.6 -5.3
ASK *e*PKPdf **PKiKP** 06 35 15.4 -2.1
BCA Borcka 139.85 311 ⇑P **PKPdf** 06 35 09.5 -6.1
BER Bergen 139.94 357 *e* PKPdf 06 34 59.6 -15
BER *e*PKPdf **PKiKP** 06 35 15.6 -2.2
ISAL Salakas 140.16 338 *e*P **PKPdf** 06 35 10.0 -5.6
ISAL Salakas 140.16 338 *e*P **SKPbc** 06 37 53.8 +2.4
IIGN Ignalina 140.30 338 *e*P **PKPdf** 06 35 12.1 -3.8
IIGN Ignalina 140.30 338 *e*P **SKPbc** 06 37 54.0 +2.2
KONO Kongsberg 140.32 353 *e* **PKPdf** 06 35 08.4 -7.4
KONO *e*PKPdf **PKiKP** 06 35 16.1 -2.5
KONO *e*SKPdf **SKiKP** 06 37 53.1 -0.8
ODD1 Odda 140.33 356 *e* **PKPdf** 06 35 09.2 -6.6
ODD1 *e*PKPdf **PKiKP** 06 35 16.5 -2.1
MNK Minsk 140.34 336 *i* PKiKP **PKPdf** 06 35 14.0 -2.0
MNK *i* 06 37 42.1
MNK *i* 06 38 21.7
MNK *i* 06 38 43.9
MNK *i* 06 41 23.6
MNK *i* PPP PPP 06 41 34.0
MNK *i* SS SS 06 55 56.5 -0.3
MNK *i* SSS SSS 07 01 22.5
MNK pmax pmax
comp=Z,66nm,1.2s
MNK pmax pmax
comp=E,5.0nm,1.2s
MNK pmax pmax
comp=N,19nm,1.2s
MNK MLR MLR
comp=Z,184nm,23.0s
MNK MLR MLR
comp=N,303nm,17.0s
MNK MLR MLR
comp=E,26nm,17.0s
MNK Minsk 140.34 336 *i* PKP **PKPdf** 06 35 14.0 -2.0
comp=E,5.0nm,1.2s
MNK *i* PKP **PKPdf** 06 35 14.0 -2.0
comp=N,19nm,1.2s
MNK *i* PKP **PKPdf** 06 35 14.0 -2.0
comp=Z,66nm,1.2s,baz=222
MNK *i* pPKP **pPKPdf** 06 37 42.1 -2.9
MNK *i* SKP 06 37 49.4
MNK *i* PP **PP** 06 38 21.8 -1.5
MNK *i* sPKP 06 38 43.9
MNK *i* PKS **PKSdf** 06 38 49.9 -1.7
MNK *i* SKS **SKSdf** 06 41 23.6 -1.5
MNK *i* PPP PPP 06 41 34.0
MNK *i* sSKS 06 45 55.5
MNK *i* SKKS **SKKSdf** 06 50 48.8 -4.4
MNK *i* SS **SS** 06 55 56.6 -0.2
MNK *i* SSS SSS 07 01 22.5
MNK *i* LRM MLR 07 38 15.8
comp=Z,184nm,22.6s
MNK *i* LRM MLR 07 38 21.0
comp=N,303nm,17.4s
MNK *i* LRM MLR 07 38 37.1
comp=E,26nm,17.4s
SOC Sochi 140.40 315 *e*PKHKP **PKPdf** 06 35 11.0 -5.4
SOC *i* 06 35 14.7
SOC *e* 06 37 37.5
SOC *e*PPP PPP 06 41 19.8
SOC pmax pmax
comp=Z,18nm,0.9s
SOC pmax pmax
comp=Z,24nm,1.0s
NACGM Naroch 140.44 337 *i* PKP **PKPdf** 06 35 11.4 -4.7
BLS5 Blasjo 140.83 356 *e* **PKPdf** 06 35 10.8 -5.9
BLS5 *e*PKPdf **PKiKP** 06 35 17.4 -2.2
PABE Paberze 140.95 339 *e*P **PKPdf** 06 35 13.1 -4.0
PABE Paberze 140.95 339 *e*P **SKPbc** 06 37 55.8 +2.3
KMY Karmoy 141.11 357 *e* **PKPdf** 06 35 12.5 -4.7
KMY *e*SKPdf **SKPbc** 06 37 52.3 -1.4
PBUR Paburge 141.16 341 *e*P **PKPdf** 06 35 14.2 -3.2
PBUR Paburge 141.16 341 *e*P **SKPbc** 06 37 56.0 +2.0
ANN Anapa 141.37 317 *i* PKHKP **PKPdf** 06 35 13.6 -4.5
ANN *e* 06 38 27.4
ANN *e* 06 41 25.9
ANN pmax pmax
comp=Z,58nm,1.2s
TJOU Tjoern 141.63 351 *e*P **PKPdf** 06 35 14.7 -3.4
HOMB Homborsund 141.79 354 *i* P **PKPdf** 06 35 16.4 -2.0
HOMB Homborsund 141.79 354 *e*PKPdf **PKPdf** 06 35 16.3 -2.2
SNART Snartemo 141.84 355 *i* P **PKPdf** 06 35 15.0 -3.5
FURI Furi 141.97 258 **PKPdf** 06 35 19.5 -1.0
ONAU Onsala 142.19 350 *i* P **PKPdf** 06 35 15.4 -3.7
SUW Suwalki 142.43 339 *e*PKP **PKPdf** 06 35 16.7 -3.0
SUW Suwalki 142.43 339 *e*P **PKPdf** 06 35 17.6 -2.1
FABU Falkenberg 142.44 350 *i* P **PKPdf** 06 35 14.7 -2.9
BLEU Blekinge 142.50 347 *i* P **PKPdf** 06 35 16.5 -3.2
AKASG Malin Array Be 142.50 330 PKhKP **PKPdf** 06 35 16.4 -3.5
comp=Z,67nm,0.5s,baz=42,slow=4.7,SNR=316
AKASG SKPbc **SKiKP** 06 37 58.8 +0.2
comp=Z,13nm,0.7s,baz=40,slow=3.1,SNR=5.8
AKASG SKKPbc **SKKPab** 06 46 15.0 -1.1
comp=Z,1.6nm,0.7s,baz=240,slow=3.9,SNR=11
AKASG Malin Array Be 142.50 330 PKPpre 06 35 16.4
LODK Lodwar 142.59 248 PKPdf **PKPdf** 06 35 19.6 -1.8
LODK Lodwar 142.59 248 P **PKPdf** 06 35 20.0 -1.3
SNR=74
MCD Coleburn Disti 142.73 4 *e*P **PKPdf** 06 35 17.4 -2.7
DEL Delary 142.74 348 *i* P **PKPdf** 06 35 17.6 -2.6
KPL Plockton 142.77 6 *e*P **PKPdf** 06 35 16.8 -3.4
MDO Dochfour 142.79 5 *e*P **PKPdf** 06 35 17.4 -2.8
GOET G??ttrup 142.92 353 *i* P **PKPdf** 06 35 19.7 -0.7
GOET *i* P **PKPdf** 06 35 19.8 -0.7
GOET IAmb IAmb 06 35 20.1
comp=Z,193nm,0.9s
SHEL Horse Pasture 143.25 169 PKiKP **PKPdf** 06 35 22.6 +0.2
SHEL Horse Pasture 143.25 169 **PKPdf** 06 35 22.6 +0.2
BJUU Bjuv 143.27 349 *i* P PKPab 06 35 19.8 0.0
SIM Simferopol' 143.36 320 *e*PKiKP PKPab 06 35 20.3 -0.2
SIM pmax pmax
comp=Z,551nm,1.0s
DRUM Mains of Drumt 143.44 3 *e*P PKPab 06 35 19.4 -1.0
MUD Monsted U'grnd 143.49 352 ⇓*i* P PKPbc 06 35 20.5 -0.1
MUD IAmb IAmb 06 35 21.9
comp=Z,187nm,0.8s
MUD Monsted U'grnd 143.49 352 ⇓*i*PKiKP PKPbc 06 35 20.4 -0.2
MUD pmax pmax
comp=Z,190nm,0.8s
LUNU Lund 143.61 348 *i* P PKPab 06 35 21.0 -0.1
COP Copenhagen 143.75 349 *i* P **PKPdf** 06 35 21.9 0.0
COP IAmb IAmb 06 35 22.6
comp=Z,111nm,0.9s
COP Copenhagen 143.75 349 *i* PKiKP **PKPdf** 06 35 21.9 0.0
COP pmax pmax
comp=Z,110nm,0.9s
EDU Dundee 143.77 4 *e*P PKPbc 06 35 21.4 -0.1
BSD Bornholm Skovb 143.79 347 *e*P PKPab 06 35 21.8 0.0
BSD Bornholm Skovb 143.79 347 *e*P **SKPbc** 06 38 03.2 +2.9
BSD Bornholm Skovb 143.79 347 ⇓*i*P PKPbc 06 35 21.0 -0.5
BSD IAmb IAmb 06 35 22.6
comp=Z,241nm,1.0s
BSD Bornholm Skovb 143.79 347 ⇓*i*PKiKP PKPbc 06 35 21.0 -0.5
BSD pmax pmax
comp=Z,240nm,1.0s
INVG Invergeldie, C 143.82 5 *e*P PKPbc 06 35 21.2 -0.4
LAWE Loch Awe, Argy 143.86 5 *e*P PKPbc 06 35 20.9 -0.8
EAB Aberfoyle 144.03 5 *e*P PKPbc 06 35 22.2 -0.1
EBH Black Hill 144.04 4 *e*P PKPbc 06 35 22.3 0.0
DIKM Dikmen 144.19 314 ⇑P **PKPab** 06 35 23.9 +0.1
MBAR Mbarara 144.24 238 PKP **PKPab** 06 35 25.3 +0.3
comp=Z,201nm,0.8s
MBAR SKPbc **SKiKP** 06 38 05.8 +2.2
comp=Z,12nm,0.8s,baz=90,slow=3.9,SNR=3.7
MBAR Mbarara 144.24 238 **PKPab** 06 35 25.1 +0.1
MBAR Mbarara 144.24 238 P **PKPab** 06 35 24.9 -0.1
PGBU Glenifferbraes 144.39 5 *e*P **PKPdf** 06 35 22.8 -0.3
EBL Broad Law 144.54 4 *e*P **PKPdf** 06 35 22.9 -0.5
SORM Soroca 144.66 328 ⇓P **PKPdf** 06 35 21.7 -2.1
SORM Soroca 144.66 328 ⇓PKHKP **PKPdf** 06 35 21.7 -2.1
BZK Bozkurt 144.89 315 ⇓P PKPbc 06 35 24.9 -0.4
BNN Bunyan 144.90 309 PKPdf **PKPdf** 06 35 24.1 -0.6
GKP Gorka Klasztor 144.90 343 *e*PKP **PKPdf** 06 35 22.2 -1.8
GKP Gorka Klasztor 144.90 343 *e*P PKPbc 06 35 25.5 +0.5
ESK Eskdalemuir 144.99 4 *e*P **PKPdf** 06 35 23.9 -0.2
ESK Eskdalemuir 144.99 4 PKiKP PKPbc 06 35 25.1 -0.1
ESK Eskdalemuir 144.99 4 PKPbc 06 35 25.1 0.0
BEL Belsk 145.05 339 *e*PKP **PKPab** 06 35 26.4 -0.4
NEWG New Galloway 145.10 5 *e*P **PKPbc** 06 35 25.2 -0.3
SKMB Sankelmark Bun 145.15 352 *e*PKPbc **PKPab** 06 35 26.7 -0.4
baz=18,slow=2.4
KIS Kishinev 145.17 326 *e* **PKPdf** 06 35 25.0 +0.3
GAL1 Galloway 145.31 6 *e*P **PKPdf** 06 35 25.0 +0.3
LVV L'vov 145.44 334 *e*PKiKP **PKPbc** 06 35 26.5 -0.1
LNIZ Loecknitz 145.45 346 *e*PKPbc **PKPbc** 06 35 27.4 +0.8
baz=18,slow=2.4
EDMD Edmundbyers 145.54 3 *e*P **PKPbc** 06 35 26.6 -0.2
BSEG Bad Segeberg 145.78 350 *e*PKPdf **PKPdf** 06 35 25.8 +0.3
baz=20,slow=1.6
BSEG *e*PKPbc **PKPbc** 06 35 28.2 +0.8
baz=18,slow=2.4
HLG Helgoland 145.87 353 *e*PKPbc **PKPbc** 06 35 28.8 +1.1
baz=18,slow=2.4
IOMK Kirk Michael 145.92 6 *e*P **PKPdf** 06 35 26.6 +0.9
VASR Vaslui 145.94 326 ⇑P **PKPdf** 06 35 25.3 -0.7
GDLE Glaisdale, N Y 146.00 2 *e*P **PKPbc** 06 35 28.4 +0.4
WIM Isle of Man 146.02 6 *e*P **PKPbc** 06 35 27.3 -0.8
BR131 Keskin Array S 146.13 312 P **PKPbc** 06 35 28.5 -0.6
SNR=49
BRTR Keskin Array B 146.13 312 PKPbc **PKPbc** 06 35 28.2 -0.9
comp=Z,41nm,0.8s,baz=134,slow=2.0,SNR=67
BRTR SKP 06 38 00.1
comp=Z,24nm,1.2s,baz=101,slow=1.3,SNR=7.6
BRTR SKKPbc SKKPbc 06 46 00.1 -1.3
comp=Z,5.6nm,0.9s,baz=224,slow=3.4,SNR=13
BRTR Keskin Array B 146.13 312 PKPdf **PKPdf** 06 35 26.1 -0.7
PRAR RASCA 146.24 329 ⇑P **PKPdf** 06 35 27.1 +0.6
TLCR 146.32 324 ⇑P **PKPdf** 06 35 26.6 -0.1
TLCR 146.32 324 ⇑PKiKP **PKPdf** 06 35 26.6 -0.1
H07N1 FLORES T-PHASB 146.40 48 *e*PKP **PKiKP** 06 35 30.7 -1.0
VARL Varlezi 146.40 325 ⇑P **PKPdf** 06 35 26.8 0.0
HPK Haverah Park 146.43 3 *e*P **PKPbc** 06 35 28.4 -0.8
H07S1 FLORES T-PHASB 146.47 49 PKPbc **PKPdf** 06 35 28.4 +1.2
SNR=5.6
H07S1 FLORES T-PHASB 146.47 49 *e*PKP **PKPbc** 06 35 30.1 +0.2
H07S1 *e*pPKP **pPKPdf** 06 37 56.9 0.0
RUE Ruedersdorf 146.49 346 *e*PKPdf **PKPdf** 06 35 27.0 +0.3
baz=20,slow=1.6
RUE *e*PKPbc **PKPbc** 06 35 30.1 +0.7
baz=18,slow=2.4
RUE *e*PKPab **PKPab** 06 35 33.6 +1.1
baz=16,slow=4.2
GHRR 146.52 326 ⇑P **PKPbc** 06 35 28.7 -1.1
JURR Jurilovca 146.54 323 ⇑P **PKPdf** 06 35 27.4 +0.4
BURAR Bucovina Array 146.54 330 PKPdf **PKPdf** 06 35 27.6 +0.4
BIZ Bicaz 146.59 328 ⇓P **PKPbc** 06 35 29.1 -0.8
TESR Tescani 146.61 327 ⇑P **PKPdf** 06 35 28.0 +0.8
ANTO Ankara 146.66 313 PKiKP **PKPdf** 06 35 27.7 +0.2
ANTO Ankara 146.66 313 PKPdf **PKPdf** 06 35 27.7 +0.2
CFR Carcaliu 146.70 324 ⇓P **PKPdf** 06 35 27.1 -0.2
CFR Carcaliu 146.70 324 ⇓PKiKP **PKPdf** 06 35 27.1 -0.2
TPGR Topolog 146.74 323 ⇑P **PKPdf** 06 35 28.2 +0.8
OJC Ojcow 146.75 338 *e*PKP **PKPdf** 06 35 27.5 +0.2
OJC *e*PP pPKPbc 06 37 57.0 +0.4
WPS Cemaes, Angles 146.78 6 *e*P **PKPdf** 06 35 28.2 +1.1
WME Myndd Eilian 146.80 6 *e*P **PKPdf** 06 35 27.8 +0.6
KOLS Kolonicke sedl 146.85 334 *e*PKiKP **PKPdf** 06 35 28.8 +1.3
KOLS *e* 06 35 31.9
KOLS Kolonicke sedl 146.85 334 *e*PKP **PKPdf** 06 35 28.8 +1.3
KOLS *e* 06 35 31.9
KOLS *e* 06 37 58.2
STHS Stebnicka Huta 146.87 336 *e*PKP2 **PKPbc** 06 35 30.7 +0.1
STHS Stebnicka Huta 146.87 336 *e*PKP **PKPbc** 06 35 30.7 +0.1
WLF1 Llynfaes 146.90 6 *e*P **PKPbc** 06 35 30.4 -0.1
ODBI Odobesti 146.90 326 ⇑P **PKiKP** 06 35 31.7 -0.9
LBWR Ladybower, Pea 146.98 3 *e*P **PKPdf** 06 35 27.0 -0.6
TIRR Tirgusor 146.99 323 ⇓P **PKPdf** 06 35 28.2 +0.4
VRI Vrincioaia 147.01 326 ⇑P **PKPdf** 06 35 27.3 -0.5
VRI Vrincioaia 147.01 326 ⇑PKiKP **PKPdf** 06 35 27.3 -0.5
PLOR Plostina 147.06 326 ⇓P **PKPbc** 06 35 31.0 -0.3
PLOR Plostina 147.06 326 ⇓PKiKP **PKPbc** 06 35 31.0 -0.3
YLL Llanberis 147.07 6 *e*P **PKPbc** 06 35 30.9 0.0
UZH Uzhgorod 147.08 334 ⇓PKP2 **PKiKP** 06 35 32.0 -0.8
EFOR EFORIE 147.10 322 ⇑P **PKPdf** 06 35 29.4 +1.4
HARR Harsova 147.12 324 ⇑P **PKPdf** 06 35 28.8 +0.8
HARR Harsova 147.12 324 ⇑PKiKP **PKPdf** 06 35 28.8 +0.8
MFTR Murfatlar 147.16 322 ⇑P **PKPdf** 06 35 28.2 +0.1
FLTG Flechtingen 147.16 348 *e*PKPdf **PKPdf** 06 35 27.6 -0.3
baz=20,slow=1.6
FLTG *e*PKPbc **PKPbc** 06 35 31.6 +0.4
baz=18,slow=2.4
FLTG *e*pPKPbc **pPKPab** 06 37 58.5 +0.6
baz=16,slow=2.7
GRER 147.20 325 ⇑P **PKPdf** 06 35 29.3 +1.2
CRVS Cervenica-Dubn 147.20 335 *e*PKiKP **PKPdf** 06 35 29.1 +1.0
CRVS Cervenica-Dubn 147.20 335 *e*PKP **PKPdf** 06 35 29.1 +1.0
CRVS *e* 06 35 32.5
CRVS *e* 06 37 59.5
NRDL Niedersach Rie 147.20 350 *e*PKPdf **PKPdf** 06 35 28.1 +0.3
baz=20,slow=1.6
NRDL *e*PKPbc **PKPbc** 06 35 31.9 +0.7
baz=18,slow=2.4
NRDL *e*PKPab **PKPab** 06 35 35.6 +0.3
baz=16,slow=4.2
NRDL *e*pPKPbc **pPKPab** 06 37 59.2 +0.8
baz=16,slow=2.7
BISRR Bisoca 147.23 326 ⇑P **PKiKP** 06 35 33.3 0.0
NIE Niedzica 147.23 337 *e*PKP **PKPdf** 06 35 29.7 +1.6
NIE *e*PP **pPKPdf** 06 37 55.5 -1.9
BMR Baia Mare 147.29 332 ⇑P **PKPbc** 06 35 32.4 +0.7
BMR Baia Mare 147.29 332 ⇑PKP2 **PKPbc** 06 35 32.4 +0.7
ARCR ARCALIA 147.33 330 ⇑P **PKiKP** 06 35 33.0 -0.4
KSP Ksiaz 147.33 342 *e*PKP **PKPdf** 06 35 28.7 +0.5
KSP *e*PP **pPKPab** 06 37 59.6 +1.2
OZUR 147.34 327 ⇑P **PKPbc** 06 35 32.6 +0.6
FOEL Foel Wylfa 147.40 5 *e*P **PKPdf** 06 35 27.7 -0.6
ICOR Ion Corvin 147.55 323 ⇑P **PKPdf** 06 35 29.9 +1.2
ISR Istrita 147.60 325 ⇓P **PKPdf** 06 35 30.4 +1.5
ISR Istrita 147.60 325 ⇓PKiKP **PKPdf** 06 35 30.4 +1.5
OSTC Ostas 147.61 342 *e*PKPDF **PKPdf** 06 35 29.7 +1.0
OSTC ⇑*e*PKP **PKiKP** 06 35 33.4 -0.5
OSTC *e*SKP 06 37 57.3
DOPC Dopca 147.62 328 ⇑P **PKPdf** 06 35 31.4 -1.3
CHVC Chvalec 147.63 342 *e*PKPDF **PKPdf** 06 35 29.9 +1.2
CHVC ⇑*e*PKP **PKPbc** 06 35 33.0 +0.5
CHVC *e*SKP 06 38 01.3
OKC Ostrava-Krasne 147.64 339 *e*PKP2 **PKiKP** 06 35 33.3 -0.6
OKC *e*SS SS 06 57 17.3 -1.6
OKC Ostrava-Krasne 147.64 339⇑*e*PKP **PKiKP** 06 35 33.3 -0.6
OKC *e*PKPAB **PKPab** 06 35 38.4 +1.1
OKC *e*SKP 06 37 59.3
OKC *e*SS SS 06 57 17.3 -1.6
MLR Muntele Rosu 147.67 326 PKPbc **PKPbc** 06 35 32.8 -0.1
comp=Z,103nm,1.0s,baz=344,slow=3.1,SNR=44
MLR SKP 06 38 00.7
comp=Z,6.4nm,1.0s,baz=95,slow=4.6,SNR=4.1
MLR SKKPbc 06 45 54.0
comp=Z,5.0nm,0.9s,baz=346,slow=1.5,SNR=6.9
MLR Muntele Rosu 147.67 326 ⇑P **PKPdf** 06 35 29.6 +0.5

UPC	**Upice**	**147.71 342**	*e*PKIKP	**PKPdf**	**06 35 30.1**	**+1.2**
UPC			*e*		06 37 56.3	
UPC	**Upice**	**147.71 342**	*e*PKPDF	**PKPdf**	**06 35 30.1**	**+1.2**
UPC		⇑	*e*PKP	**PKiKP**	**06 35 33.4**	**-0.7**
UPC			*e*SKP		06 37 56.3	
IBBN	**Ibbenburen**	**147.73 352**	*e*PKPdf	**PKPdf**	**06 35 29.2**	**+0.5**
	baz=20,slow=1.6					
IBBN			*e*PKPbc	**PKiKP**	**06 35 33.4**	**-0.6**
	baz=18,slow=2.4					
IBBN			*e*PKPab	**PKPab**	**06 35 37.7**	**+0.2**
	baz=16,slow=4.2					
IBBN			*ep*PKPbc	**pPKPab**	**06 38 00.7**	**+0.4**
	baz=16,slow=2.7					
LANS	**Liptovska Anna**	**147.76 337**	*e*PKP2	**PKiKP**	**06 35 34.4**	**+0.1**
LANS	**Liptovska Anna**	**147.76 337**	*e*PKP	**PKiKP**	**06 35 34.4**	**+0.1**
CLL	**Collm**	**147.76 346**	*e*PKPdf	**PKPdf**	**06 35 29.0**	**+0.2**
CLL			*i* PKPbc	**PKPbc**	**06 35 33.1**	**+0.3**
	comp=Z,181nm,0.8s					
CLL			*i* PKPab	**PKPab**	**06 35 37.8**	**+0.1**
	comp=Z,72nm,0.9s					
CLL			*ep*PKPab	**pPKPab**	**06 38 00.0**	**+0.1**
CLL			*e*SKPdf	**SKPdf**	**06 38 04.0**	**+1.9**
	comp=Z,98nm,1.5s					
CLL			*e*PP	**PP**	**06 39 07.0**	**+0.4**
CLL			*e*		06 40 27.0	
CLL			*e*PPP	PPP	06 42 32.0	
CLL			*e*		06 43 55.0	
CLL			*e*SKKSac	**SKKSac**	**06 44 48.0**	**-5.5**
CLL			*e*		06 48 24.0	
CLL			*e*PSKS		06 49 24.0	
CLL			*e*PPS	PPS	06 52 06.0	
CLL			*e*		06 56 06.0	
CLL			*e*SS	**SS**	**06 57 16.0**	**-4.0**
CLL			*e*PSPS		06 58 23.0	
CLL			*e*SSS		07 01 19.0	
CLL			*e*		07 02 06.0	
CLL			*e*SSS	SSS	07 02 52.0	
CLL			*e*SSSS		07 06 54.0	
CLL			LmH		08 26 00.0	
	comp=N,100nm,20.0s					
CLL			LmH		08 26 00.0	
	comp=E,100nm,22.0s					
CLL			LmV		08 30 00.0	
	comp=Z,200nm,18.8s					
CLL	**Collm**	**147.76 346**	*e*PKIKP	**PKPdf**	**06 35 29.0**	**+0.2**
CLL			*i*		06 35 37.8	
CLL			pmax	pmax		
	comp=Z,181nm,0.8s					
CLL			pmax	pmax		
	comp=Z,72nm,0.9s					
CLL	**Collm**	**147.76 346**	*e*PKPdf	**PKPdf**	**06 35 29.1**	**+0.2**
	baz=20,slow=1.6					
CLL			*e*PKPbc	**PKPbc**	**06 35 33.3**	**+0.6**
	baz=18,slow=2.4					
CLL			*ep*PKPbc	**pPKPab**	**06 38 00.5**	**+0.6**
	baz=16,slow=2.7					
DPC	**Dobruska-Polom**	**147.76 342**	*e*PKIKP	**PKPdf**	**06 35 29.5**	**+0.5**
DPC			*e*		06 37 58.3	
DPC			*e*SS	SS	06 57 16.6	-3.7
DPC	**Dobruska-Polom**	**147.76 342**	*e*PKPDF	**PKPdf**	**06 35 29.5**	**+0.5**
DPC		⇑	*e*PKP	**PKiKP**	**06 35 33.7**	**-0.5**
DPC			*e*SKP		06 37 58.3	
DPC			*e*SS	SS	06 57 16.6	-3.7
CLZ	**Clausthal**	**147.79 349**	*e*PKPdf	**PKPdf**	**06 35 29.3**	**+0.3**
	baz=20,slow=1.6					
CLZ			*e*PKPbc	**PKiKP**	**06 35 33.8**	**-0.4**
	baz=18,slow=2.4					
CLZ			*ep*PKPbc	**pPKPab**	**06 38 00.8**	**+0.3**
	baz=16,slow=2.7					
HLM1	**Long Mynd**	**147.79 5**	*e*P	**PKPdf**	**06 35 29.3**	**+0.4**
KRLC	**Kraliky**	**147.87 341**	*e*PKHKP	**PKPdf**	**06 35 30.4**	**+1.2**
KRLC	**Kraliky**	**147.87 341**	*e*PKPDF	**PKPdf**	**06 35 30.4**	**+1.2**
KRLC		⇑	*e*PKP	**PKiKP**	**06 35 34.0**	**-0.5**
KRLC			*e*SKP		06 37 55.3	
KRLC			*e*SS	SS	06 57 14.9	-6.6
MORC	**Moravsky Berou**	**147.89 340**	⇑P	**PKPdf**	**06 35 29.3**	**+0.1**
MORC	**Moravsky Berou**	**147.89 340**	*e*PKP	**PKPdf**	**06 35 29.5**	**+0.3**
MORC			*e*		06 35 33.9	
MORC			*ep*PKP	**pPKPab**	**06 38 01.0**	**+0.4**
MORC	**Moravsky Berou**	**147.89 340**	⇑PKHKP	**PKPdf**	**06 35 29.3**	**+0.1**
MORC	**Moravsky Berou**	**147.89 340**	PKPdf	**PKPdf**	**06 35 28.8**	**-0.4**
KECS	**Kecovo**	**147.92 335**	*e*PKP2	**PKiKP**	**06 35 34.5**	**-0.1**
KECS	**Kecovo**	**147.92 335**	*e*PKP	**PKiKP**	**06 35 34.5**	**-0.1**
KECS			*e*		06 38 02.2	
BRG	**Berggiesshubel**	**147.94 345**	⇓*e*PKPf		06 35 29.9	
BRG			Amp		06 35 31.1	
	comp=Z,13nm,1.1s					
BRG		⇑	*i*PKP	**PKiKP**	**06 35 34.0**	**-0.5**
BRG			Amp		06 35 35.4	
	comp=Z,82nm,0.9s					
BRG			pPKP	pPKPab	06 38 02.5	+2.0
BRG			Amp		06 38 05.4	
	comp=Z,87nm,1.5s					
BRG	**Berggiesshubel**	**147.94 345**	*e*PKPdf	**PKPdf**	**06 35 29.8**	**+0.7**
	baz=20,slow=1.6					
BRG			*e*PKPbc	**PKPbc**	**06 35 33.5**	**+0.2**
	baz=18,slow=2.4					
BRG			*ep*PKPbc	**pPKPab**	**06 38 01.3**	**+0.8**
	baz=16,slow=2.7					
CJR	**Cluj-Napoca**	**147.96 330**	⇑P	**PKPbc**	**06 35 31.5**	**-2.0**
CJR	**Cluj-Napoca**	**147.96 330**	⇑PKHKP	**PKPbc**	**06 35 31.5**	**-2.0**
ASCN	**Ascension**	**148.01 150**		**PKiKP**	**06 35 35.7**	**-0.1**
H10N3	**ASCENSION HYDR**	**148.03 150**	PKPbc	**PKPbc**	**06 35 32.9**	**-1.3**
	baz=173,slow=74,SNR=3.3					
H10N1	**ASCENSION HYDR**	**148.03 150**	PKPbc	**PKPbc**	**06 35 33.0**	**-1.3**
	baz=32,slow=74,SNR=5.9					
FBE	**Freiberg**	**148.04 345**	*e*PKPdf	**PKPdf**	**06 35 29.9**	**+0.5**
	baz=20,slow=1.6					
FBE			*e*PKPbc	**PKPbc**	**06 35 34.0**	**+0.5**
	baz=18,slow=2.4					
FBE			*e*PKPab	**PKPab**	**06 35 39.4**	**+0.5**
	baz=16,slow=4.2					
FBE			*ep*PKPbc	**pPKPab**	**06 38 01.7**	**+0.7**
	baz=16,slow=2.7					
H10N2	**ASCENSION HYDR**	**148.04 150**	PKPbc	**PKPbc**	**06 35 34.7**	**+0.4**
PVCC	**Panska Ves**	**148.09 344**	*e*PKP2	**PKiKP**	**06 35 34.5**	**-0.3**
PVCC	**Panska Ves**	**148.09 344**	⇑*e*PKP	**PKiKP**	**06 35 34.5**	**-0.3**
PVCC			*e*SKP		06 37 57.3	
NEUB	**Neuenburg**	**148.12 347**	*e*PKPdf	**PKPdf**	**06 35 30.2**	**+0.7**
	baz=20,slow=1.6					
NEUB			*e*PKPbc	**PKiKP**	**06 35 34.4**	**-0.4**
	baz=18,slow=2.4					
NEUB			*e*PKPab	**PKPab**	**06 35 39.7**	**+0.5**
	baz=16,slow=4.2					
NEUB			*ep*PKPbc	**pPKPab**	**06 38 02.6**	**+1.0**
	baz=16,slow=2.7					
GTTG	**Gottingen**	**148.14 349**	*e*PKPdf	**PKPdf**	**06 35 30.1**	**+0.6**
	baz=20,slow=1.6					
GTTG			*e*PKPbc	**PKiKP**	**06 35 34.6**	**-0.3**
	baz=18,slow=2.4					
GTTG			*ep*PKPbc	**pPKPab**	**06 38 02.2**	**+0.3**
	baz=16,slow=2.7					
VOIR		**148.16 327**	⇓P	**PKPdf**	**06 35 31.7**	**+1.9**
VOIR		**148.16 327**	⇓PKHKP	**PKPdf**	**06 35 31.7**	**+1.9**
LTVH	**Ltavrtes, Hu**	**148.21 333**	⇑P	**PKPbc**	**06 35 33.3**	**-0.8**
MCH1	**Michaelchurch**	**148.30 5**	*e*P	**PKPdf**	**06 35 30.0**	**+0.3**
DRGR		**148.31 331**	⇑P	**PKPdf**	**06 35 31.7**	**+1.7**
DRGR		**148.31 331**	⇑PKHKP	**PKPdf**	**06 35 31.7**	**+1.7**
LEF	**Lefka**	**148.42 304**	⇑P	**PKPdf**	**06 35 30.8**	**+0.4**
PCAPE	**Capelo, Faial**	**148.48 48**	*e*PKP	**PKiKP**	**06 35 36.2**	**+0.2**
VYHS	**Vyhne**	**148.54 337**	*e*PKP2	**PKiKP**	**06 35 35.7**	**-0.1**
VYHS	**Vyhne**	**148.54 337**	*e*PKP	**PKiKP**	**06 35 35.7**	**-0.1**
VYHS			*e*		06 35 41.9	
VYHS			*e*		06 38 03.6	
PRA	**Prague**	**148.55 343**	*e*PKP2	**PKiKP**	**06 35 35.5**	**-0.3**
PRA	**Prague**	**148.55 343**	⇑*e*PKP	**PKiKP**	**06 35 35.5**	**-0.3**
PRA			*e*SKP		06 38 02.3	
PCED	**Cedros**	**148.55 48**	*e*PKP	**PKiKP**	**06 35 35.7**	**-0.5**
PCED			*ep*PKP	**pPKPdf**	**06 37 59.6**	**-0.7**
CALA	**Caldeira**	**148.57 48**	*e*PKP	**PKiKP**	**06 35 35.9**	**-0.4**
CALA			*ep*PKP	**pPKPab**	**06 38 03.3**	**-0.3**
PFCBR	**Castelo Branco**	**148.59 48**	*e*PKP	**PKiKP**	**06 35 36.3**	**+0.1**
PRU	**Pruhonice**	**148.59 343**	*e*PKHKP	**PKPbc**	**06 35 35.1**	**+0.2**
PRU			*e*		06 35 41.2	
PRU	**Pruhonice**	**148.59 343**	⇑*e*PKP	**PKPbc**	**06 35 35.1**	**+0.2**
PRU			*e*PKPAB	**PKPab**	**06 35 41.2**	**0.0**
PRU			*e*SKP		06 37 55.3	
PRU			*e*SS	SS	06 57 23.6	-5.7
VRAC	**Vranov**	**148.60 340**	⇓P	**PKiKP**	**06 35 36.0**	**+0.1**
VRAC	**Vranov**	**148.60 340**	*e*PKP	**PKPdf**	**06 35 30.5**	**+0.2**
VRAC			*e*		06 35 35.3	
VRAC			*e*		06 35 42.0	
VRAC			*ep*PKP	**pPKPab**	**06 38 03.6**	**+0.6**
VRAC	**Vranov**	**148.60 340**	⇓PKP2	**PKiKP**	**06 35 36.0**	**+0.1**
PSZ	**Piszkesteto**	**148.61 335**	⇑P	**PKPdf**	**06 35 31.3**	**+0.8**
PSZ	**Piszkesteto**	**148.61 335**	⇑PKHKP	**PKPdf**	**06 35 31.3**	**+0.8**
JAVC	**Velka Javorina**	**148.64 339**	*e*PKP	**PKPdf**	**06 35 31.8**	**+1.3**
JAVC			*e*		06 35 36.8	
JAVC			*ep*PKP	**pPKPab**	**06 38 04.9**	**+1.6**
BUG	**Bochum--Univer**	**148.64 353**	*e*PKPdf	**PKPdf**	**06 35 30.5**	**+0.2**
	baz=20,slow=1.6					
BUG			*e*PKPbc	**PKPbc**	**06 35 35.1**	**+0.2**
	baz=18,slow=2.4					
BUG			*ep*PKPbc	**pPKPab**	**06 38 03.5**	**-0.2**
	baz=16,slow=2.7					
HOR	**Horta**	**148.65 48**	*e*PKP	**PKPbc**	**06 35 34.2**	**-1.2**
MOX	**Moxa**	**148.69 347**	*e*PKPdf	**PKPdf**	**06 35 30.7**	**+0.3**
	baz=20,slow=1.6					
MOX			*e*PKPbc	**PKPbc**	**06 35 35.6**	**+0.5**
	baz=18,slow=2.4					
MOX			*e*PKPab	**PKPab**	**06 35 41.8**	**+0.2**
	baz=16,slow=4.2					
MOX			*ep*PKPbc	**pPKPab**	**06 38 04.0**	**+0.5**
	baz=16,slow=2.7					
TANN	**Tannenbergstha**	**148.72 346**	*e*PKPdf	**PKPdf**	**06 35 30.6**	**+0.1**
	baz=20,slow=1.6					
TANN			*e*PKPbc	**PKPbc**	**06 35 35.6**	**+0.4**
	baz=18,slow=2.4					
TANN			*e*PKPab	**PKPab**	**06 35 42.0**	**+0.2**
	baz=16,slow=4.2					
TANN			*ep*PKPbc	**pPKPab**	**06 38 04.8**	**+1.0**
	baz=16,slow=2.7					
KASTN	**Kahler Asten**	**148.72 351**	*e*PKPdf	**PKPdf**	**06 35 30.6**	**+0.1**
	baz=20,slow=1.6					
KASTN			*e*PKPbc	**PKiKP**	**06 35 35.8**	**-0.4**
	baz=18,slow=2.4					
KASTN			*ep*PKPbc	**pPKPab**	**06 38 04.4**	**+0.5**
	baz=16,slow=2.7					
PLN	**Plauen**	**148.72 346**	*e*PKPdf	**PKPdf**	**06 35 30.6**	**+0.1**
	baz=20,slow=1.6					
PLN			*e*PKPbc	**PKPbc**	**06 35 35.6**	**+0.3**
	baz=18,slow=2.4					
PLN			*e*PKPab	**PKPab**	**06 35 42.2**	**+0.5**
	baz=16,slow=4.2					
PLN			*ep*PKPbc	**pPKPab**	**06 38 04.8**	**+1.1**
	baz=16,slow=2.7					
WERD	**Werda**	**148.72 346**	*e*PKPdf	**PKPdf**	**06 35 30.6**	**+0.1**
	baz=20,slow=1.6					
WERD			*e*PKPbc	**PKPbc**	**06 35 35.6**	**+0.4**
	baz=18,slow=2.4					
WERD			*e*PKPab	**PKPab**	**06 35 42.3**	**+0.6**
	baz=16,slow=4.2					
WERD			*ep*PKPbc	**pPKPab**	**06 38 04.6**	**+0.8**
	baz=16,slow=2.7					
PCAN	**Candelaria**	**148.78 48**	*e*PKP	**PKiKP**	**06 35 36.3**	**-0.4**
PCAN			*ep*PKP	**pPKPdf**	**06 38 00.1**	**-0.7**
GUNZ	**Gunzen**	**148.80 346**	*e*PKPdf	**PKPdf**	**06 35 30.7**	**0.0**
	baz=20,slow=1.6					
GUNZ			*e*PKPbc	**PKiKP**	**06 35 35.9**	**-0.4**
	baz=18,slow=2.4					
GUNZ			*e*PKPab	**PKPab**	**06 35 42.8**	**+0.7**
	baz=16,slow=4.2					
GUNZ			*ep*PKPbc	**pPKPab**	**06 38 04.7**	**+0.7**
	baz=16,slow=2.7					
LOT	**Lotru**	**148.80 328**	⇑P	**PKPdf**	**06 35 31.0**	**+0.1**
PICO	**Pico**	**148.80 48**	*e*PKP	**PKiKP**	**06 35 36.6**	**-0.2**
PICO			*ep*PKP	**pPKPdf**	**06 38 00.7**	**-0.2**
SRBC	**Serra Branca**	**148.82 47**	*e*PKP	**PKPbc**	**06 35 35.6**	**-0.2**
HUMR	**Humele**	**148.82 326**	⇑P	**PKPbc**	**06 35 33.9**	**-1.8**
ROSA	**Rosais**	**148.83 48**	*e*PKP	**PKiKP**	**06 35 36.5**	**-0.3**
ROSA			*ep*PKP	**pPKPdf**	**06 38 00.4**	**-0.4**
ROSA	**Rosais**	**148.83 48**		**PKPbc**	**06 35 35.3**	**-0.6**
UBBA	**Unterbreizbach**	**148.84 349**	*e*PKPdf	**PKPdf**	**06 35 30.7**	**+0.2**
	baz=20,slow=1.6					
UBBA			*e*PKPbc	**PKPbc**	**06 35 35.6**	**+0.3**
	baz=18,slow=2.4					
UBBA			*ep*PKPbc	**pPKPab**	**06 38 05.1**	**+1.0**
	baz=16,slow=2.7					
WERN	**Wernitzgruen**	**148.86 346**	*e*PKPdf	**PKPdf**	**06 35 30.9**	**+0.2**
	baz=20,slow=1.6					
WERN			*e*PKPbc	**PKiKP**	**06 35 36.4**	**-0.1**
	baz=18,slow=2.4					
WERN			*e*PKPab	**PKPab**	**06 35 43.3**	**+1.0**
	baz=16,slow=4.2					
WERN			*ep*PKPbc	**pPKPab**	**06 38 05.4**	**+1.1**
	baz=16,slow=2.7					
PGRA	**Graciosa**	**148.87 47**	*e*PKP	**PKPbc**	**06 35 34.2**	**-1.7**
PGRA			*ep*PKP	**pPKPdf**	**06 37 59.8**	**-1.0**
KRUC	**Moravsky**	**148.88 340**	*e*PKP	**PKPdf**	**06 35 30.8**	**0.0**
KRUC			*e*		06 35 36.0	
KRUC			*e*		06 35 43.0	
KRUC			*ep*PKP	**pPKPab**	**06 38 03.8**	**-0.3**
NKC	**Novy Kostel**	**148.89 346**	*e*PKHKP	**PKPdf**	**06 35 32.1**	**+1.3**
NKC			*e*		06 35 43.3	
NKC	**Novy Kostel**	**148.89 346**	*e*PKPDF	**PKPdf**	**06 35 32.1**	**+1.3**
NKC		⇑	*e*PKP	**PKPbc**	**06 35 35.8**	**+0.1**
NKC			*e*PKPAB	**PKPab**	**06 35 43.3**	**+0.8**
NKC			*e*SKP		06 38 04.4	
DEV	**Deva**	**148.90 330**	⇑P	**PKPbc**	**06 35 34.3**	**-1.4**
DEV	**Deva**	**148.90 330**	⇑PKHKP	**PKPbc**	**06 35 34.3**	**-1.4**
TREC	**Trest**	**148.95 342**	*e*SKP		06 38 05.4	
COPA	**Copaceanca**	**148.96 325**	⇑P	**PKPdf**	**06 35 31.8**	**+0.7**
PMAN	**Manadas**	**148.97 48**	*e*PKP	**PKPbc**	**06 35 36.6**	**+0.4**
PMAN			*ep*PKP	**pPKPbc**	**06 38 03.8**	**+0.5**
PBCC	**Pribram**	**149.01 344**	⇑*e*PKP	**PKiKP**	**06 35 36.7**	**-0.1**
PBCC			*e*PKPAB	**PKPab**	**06 35 43.2**	**+0.2**
SMOL	**Smolenice**	**149.02 339**	*e*PKP2	**PKiKP**	**06 35 37.3**	**+0.5**
SMOL	**Smolenice**	**149.02 339**	*e*PKP	**PKiKP**	**06 35 37.3**	**+0.5**
SMOL			*e*		06 35 44.5	
PID	**Ribeirinha**	**149.04 48**	*e*PKP	**PKPbc**	**06 35 36.5**	**+0.1**
PID			*ep*PKP	**pPKPbc**	**06 38 02.8**	**-0.7**
SIRR	**Siria**	**149.18 332**	⇑P	**PKPdf**	**06 35 32.4**	**+1.1**
MODS	**Modra-Piesok**	**149.19 339**	*e*PKHKP	**PKPbc**	**06 35 36.6**	**+0.2**
MODS	**Modra-Piesok**	**149.19 339**	*e*PKP	**PKPbc**	**06 35 36.6**	**+0.2**
MODS			*e*		06 38 04.9	
MANZ	**Manzenberg**	**149.20 346**	*e*PKPdf	**PKPdf**	**06 35 31.3**	**0.0**
	baz=20,slow=1.6					
MANZ			*e*PKPbc	**PKiKP**	**06 35 37.3**	**+0.1**
	baz=18,slow=2.4					
MANZ			*ep*PKPbc	**pPKPab**	**06 38 06.0**	**+0.4**
	baz=16,slow=2.7					
GZR	**Gura Zlata**	**149.32 329**	⇑P	**PKPbc**	**06 35 35.7**	**-1.2**
GZR	**Gura Zlata**	**149.32 329**	⇑PKIKP	**PKPbc**	**06 35 35.7**	**-1.2**
ROTZ	**Rotzenmuhle**	**149.38 346**	*e*PKPdf	**PKPdf**	**06 35 32.0**	**+0.4**
	baz=20,slow=1.6					
ROTZ			*e*PKPbc	**PKPbc**	**06 35 37.2**	**+0.3**
	baz=18,slow=2.4					
ROTZ			*ep*PKPbc	**pPKPab**	**06 38 06.7**	**+0.4**
	baz=16,slow=2.7					
ZST	**Bratislava**	**149.40 339**	*e*PKHKP	**PKPbc**	**06 35 38.3**	**+1.4**
ZST	**Bratislava**	**149.40 339**	*e*PKP	**PKPbc**	**06 35 38.3**	**+1.4**
ZST			*e*		06 35 46.5	
ZST			*e*		06 38 04.8	
PAGU	**Agualva, Azore**	**149.54 47**	*e*PKP	**PKPbc**	**06 35 35.3**	**-2.2**
PAGU			*ep*PKP	**pPKPbc**	**06 38 04.7**	**-0.1**
AHRW	**Bad Neuenahr-A**	**149.55 352**	*e*PKPdf	**PKPdf**	**06 35 32.3**	**+0.6**
	baz=20,slow=1.6					
AHRW			*e*PKPbc	**PKiKP**	**06 35 37.7**	**-0.1**
	baz=18,slow=2.4					
UCC	**Uccle**	**149.55 356**	PKHKP	**PKPbc**	**06 35 36.3**	**-0.8**
UCC	**Uccle**	**149.55 356**		**PKPbc**	**06 35 36.3**	**-0.8**
ADH	**Angra Heroismo**	**149.56 47**	*e*PKP	**PKiKP**	**06 35 40.0**	**+1.8**
MEM	**Membach**	**149.60 354**	*d*PKPdf	**PKPdf**	**06 35 32.5**	**+0.7**
MEM			*d*PKP	**PKiKP**	**06 35 37.8**	**-0.2**
MEM			*d*PKPab	**PKPab**	**06 35 44.9**	**-0.5**
BTNL	**Ternell**	**149.61 354**	*d*PKPdf	**PKPdf**	**06 35 32.0**	**+0.1**
BTNL			*d*PKP	**PKPbc**	**06 35 36.7**	**-0.6**
PSCM	**Serra do Cume**	**149.61 47**	*e*PKP	**PKPbc**	**06 35 37.7**	**0.0**
PSCM			*ep*PKP	**pPKPbc**	**06 38 04.5**	**-0.5**
KHC	**Kasperske Hory**	**149.63 344**	*e*PKIKP	**PKPdf**	**06 35 32.2**	**+0.2**
KHC			*e*		06 35 46.5	
KHC			*e*SS	SS	06 57 36.3	-4.5
KHC	**Kasperske Hory**	**149.63 344**	*e*PKPDF	**PKPdf**	**06 35 32.2**	**+0.2**
KHC		⇑	*e*PKP	**PKiKP**	**06 35 38.2**	**+0.1**
KHC			*e*PKPAB	**PKPab**	**06 35 46.5**	**+0.9**
KHC			*e*SKP		06 38 06.0	
KHC			*e*SS	SS	06 57 36.3	-4.5
SRE	**Strehaia**	**149.64 328**	⇑P	**PKPbc**	**06 35 35.1**	**-2.5**
SRE	**Strehaia**	**149.64 328**	⇑PKHKP	**PKPbc**	**06 35 35.1**	**-2.5**
BSTI	**Sart Tilman**	**149.67 354**	*d*PKP	**PKPbc**	**06 35 37.5**	**+0.1**
TNS	**Taunus Mts**	**149.67 351**	*e*PKPdf	**PKPdf**	**06 35 32.6**	**+0.6**
	baz=20,slow=1.6					
TNS			*e*PKPbc	**PKiKP**	**06 35 38.2**	**0.0**
	baz=18,slow=2.4					
TNS			*e*PKPab	**PKPab**	**06 35 46.2**	**+0.5**
	baz=16,slow=4.2					
TNS			*ep*PKPbc	**pPKPab**	**06 38 07.0**	**-0.8**
	baz=16,slow=2.7					
GRF	**Grafenberg Arr**	**149.67 347**	*e*PKPbc	**PKiKP**	**06 35 38.2**	**0.0**
	baz=18,slow=2.4					
GRF			*e*PKPab	**PKPab**	**06 35 46.5**	**+0.8**
	baz=16,slow=4.2					
GRFO	**Grafenberg**	**149.67 347**	PKHKP	**PKPbc**	**06 35 38.9**	**+1.4**
GRFO	**Grafenberg**	**149.67 347**		**PKPbc**	**06 35 38.9**	**+1.4**
BZS	**Buzias**	**149.69 331**	⇑P	**PKPdf**	**06 35 32.9**	**+0.8**
BZS	**Buzias**	**149.69 331**	⇑PKHKP	**PKPdf**	**06 35 32.9**	**+0.8**
CKRC	**Cesky Krumlov**	**149.72 343**	*e*PKPDF	**PKPdf**	**06 35 32.4**	**+0.3**
CKRC		⇑	*e*PKP	**PKPbc**	**06 35 37.8**	**+0.1**
CKRC			*e*SKP		06 37 52.3	
CKRC			*e*SS	SS	06 57 32.8	-8.9
WET	**Wettzell**	**149.80 345**	*e*PKPdf	**PKPdf**	**06 35 32.4**	**+0.1**
	baz=20,slow=1.6					
WET			*e*PKPbc	**PKiKP**	**06 35 38.5**	**0.0**
	baz=18,slow=2.4					
WET			*e*PKPab	**PKPab**	**06 35 47.2**	**+0.9**
	baz=16,slow=4.2					
WET			*ep*PKPbc	**pPKPab**	**06 38 07.3**	**-0.8**
	baz=16,slow=2.7					
SNF	**Seneffe**	**149.84 356**	*d*PKPdf	**PKPdf**	**06 35 32.5**	**+0.3**
SNF			*d*PKP	**PKiKP**	**06 35 38.4**	**0.0**
SNF			*d*PKPab	**PKPab**	**06 35 45.9**	**-0.4**
BHOU	**Houvegnez**	**149.85 354**	*d*PKPdf	**PKPdf**	**06 35 32.7**	**+0.5**
BHOU			*d*PKP	**PKiKP**	**06 35 38.4**	**-0.1**
BHOU			*dx*	x	06 35 43.0	
BHOU			*d*PKPab	**PKPab**	**06 35 46.9**	**+0.4**
BCLA	**Clavier**	**149.85 355**	*d*PKPdf	**PKPdf**	**06 35 32.8**	**+0.6**
BCLA			*d*PKPbc	**PKPbc**	**06 35 38.2**	**+0.4**
BCLA			*d*PKPab	**PKPab**	**06 35 46.2**	**-0.2**
GEC2	**GERESS Array S**	**149.86 343**	*e*PKPdf	**PKPdf**	**06 35 32.4**	**0.0**
	baz=20,slow=1.6					
GEC2			*e*PKPbc	**PKiKP**	**06 35 38.5**	**-0.2**
	baz=18,slow=2.4					
GEC2			*ep*PKPbc	**pPKPab**	**06 38 07.6**	**-0.6**
	baz=16,slow=2.7					
GERES	**GERESS Array B**	**149.86 343**	PKP	**PKPdf**	**06 35 32.4**	**0.0**
	comp=Z,3.1nm,0.8s,baz=48,slow=2.0,SNR=20					
GERES			PKPbc	**PKiKP**	**06 35 38.5**	**-0.2**
	comp=Z,43nm,0.9s,baz=33,slow=2.2,SNR=66					
GERES			SKP		06 38 07.5	
	comp=Z,3.4nm,0.9s,baz=72,slow=3.2,SNR=3.0					
GERES	**GERESS Array B**	**149.86 343**		**PKiKP**	**06 35 38.5**	**-0.2**
GERES	**GERESS Array B**	**149.86 343**	PKPdf	**PKPdf**	**06 35 31.8**	**-0.6**
HERR	**Herculane**	**149.87 329**	⇑P	**PKPbc**	**06 35 36.6**	**-1.5**
BGES	**Gesves**	**149.91 355**	*d*PKPdf	**PKPdf**	**06 35 32.6**	**+0.3**
BGES			*d*PKP	**PKPbc**	**06 35 38.1**	**+0.1**
BGES			*dx*	x	06 35 41.4	
BGES			*d*PKPab	**PKPab**	**06 35 46.2**	**-0.5**
MILB	**Miltenberg**	**149.91 349**	*e*PKPdf	**PKPdf**	**06 35 32.3**	**-0.1**
	baz=20,slow=1.6					
MILB			*e*PKPbc	**PKiKP**	**06 35 38.8**	**+0.2**
	baz=18,slow=2.4					
MILB			*e*PKPab	**PKPab**	**06 35 47.6**	**+0.9**
	baz=16,slow=4.2					
MILB			*ep*PKPbc	**pPKPab**	**06 38 07.5**	**-1.0**
	baz=16,slow=2.7					
BMRD	**Maredsous**	**150.02 355**	*d*PKPdf	**PKPdf**	**06 35 33.0**	**+0.6**
BMRD			*d*PKP	**PKiKP**	**06 35 38.6**	**-0.2**
BMRD			*d*PKPab	**PKPab**	**06 35 45.7**	**-1.3**
CONA	**Conrad Observa**	**150.04 340**	*i* P	**PKPdf**	**06 35 33.0**	**+0.3**
	comp=Z,10.0nm,1.2s,SNR=50					
CONA			*e*P	**PKiKP**	**06 35 38.8**	**-0.3**
	comp=Z,68nm,0.8s					
CONA			*e*P	**PKPab**	**06 35 48.0**	**+0.6**
	comp=Z,46nm,1.0s					
CONA			*i* P	**pPKPab**	**06 38 09.2**	**+0.3**
	comp=Z,46nm,1.8s					
BANR	**Banloc**	**150.09 331**	⇓P	**PKiKP**	**06 35 40.3**	**+1.2**
DOU	**Dourbes**	**150.23 355**	*d*PKP	**PKiKP**	**06 35 39.3**	**0.0**
DOU			*d*PKPab	**PKPab**	**06 35 47.4**	**-0.6**
MDVR	**Moldovita**	**150.28 330**	⇑P	**PKPdf**	**06 35 33.6**	**+0.4**
MORH	**Mrgy, Hungar**	**150.50 335**	⇓P	**PKP

BFO				*e*PKPab	**PKPab**	06 35 53.6	0.0	
	baz=16,slow=4.2							
BFO				*ep*PKPbc	**pPKPbc**	06 38 11.2	+1.3	
	baz=16,slow=2.7							
NVR	**Nevrokopi**	**151.54**	**322**	P	**PKPbc**	06 35 41.4	-0.7	
KBA	**Koelnbreinsper**	**151.57**	**342**	*e*P	**PKPdf**	06 35 34.3	-0.9	
	comp=Z,12nm,1.4s							
KBA				*i* P	**PKPbc**	06 35 41.3	-0.8	
	comp=Z,27nm,0.9s,SNR=7.2							
KBA				*e*P	**PKPab**	06 35 54.0	-0.1	
	comp=Z,26nm,1.0s							
KBA				*e*P	**pPKPab**	06 38 12.7	-2.7	
	comp=Z,9.5nm,0.8s							
DIVS	**Divibare**	**151.60**	**331**	*e*P	**PKPdf**	06 35 34.9	-0.3	
DIVS	**Divibare**	**151.60**	**331**	PKPbc	**PKiKP**	06 35 43.2	+0.8	
SIGR	**SIGRI**	**151.62**	**317**	P	**PKPbc**	06 35 41.7	-0.6	
LIA	**Limnos Island**	**151.65**	**319**	P	**PKPbc**	06 35 41.6	-0.7	
OBKA	**Obir**	**151.72**	**340**	*e*P	**PKPdf**	06 35 34.9	-0.5	
	comp=Z,1.8nm,0.5s							
OBKA				*e*P	**PKPbc**	06 35 41.5	-0.8	
	comp=Z,17nm,1.2s							
OBKA				*e*P	**PKPab**	06 35 55.1	+0.6	
	comp=Z,17nm,0.9s							
OBKA				*e*P	**pPKPbc**	06 38 12.1	+1.8	
	comp=Z,6.3nm,0.8s							
BODT	**Bodrum**	**151.77**	**312**	P	**PKPbc**	06 35 40.5	-2.2	
WATA	**Walderalm**	**151.81**	**345**	*e*P	**PKPdf**	06 35 35.2	-0.3	
	comp=Z,15nm,1.3s							
WATA				*i* P	**PKPbc**	06 35 42.3	-0.3	
	comp=Z,32nm,0.6s,SNR=7.3							
WATA				*e*P	**PKPab**	06 35 55.2	+0.2	
	comp=Z,36nm,1.1s							
WATA				*e*P	**pPKPbc**	06 38 13.1	+2.6	
	comp=Z,18nm,1.3s							
PSMA	**Santa Maria**	**151.81**	**48**	*e*PKP	**PKPdf**	06 35 36.6	+1.0	
PSMA				*ep*PKP	**pPKPdf**	06 38 05.8	0.0	
UBR	**Ueberruh**	**151.81**	**347**	*e*PKPdf	**PKPdf**	06 35 35.0	-0.4	
	baz=20,slow=1.6							
UBR				*e*PKPbc	**PKPbc**	06 35 42.5	0.0	
	baz=18,slow=2.4							
UBR				*ep*PKPbc	**pPKPbc**	06 38 11.1	+0.5	
	baz=16,slow=2.7							
ECH	**Echery**	**151.82**	**351**	PKIKP	**PKPdf**	06 35 34.9	-0.4	
ECH	**Echery**	**151.82**	**351**		**PKPdf**	06 35 34.9	-0.4	
PSMN	**Pico do Norte,**	**151.85**	**48**	*e*PKP	**PKPdf**	06 35 36.3	+0.6	
PSMN				*ep*PKP	**pPKPdf**	06 38 04.0	-1.8	
RETA	**Reutte**	**151.85**	**346**	*e*P	**PKPdf**	06 35 35.4	-0.1	
	comp=Z,4.6nm,0.7s							
RETA				*i* P	**PKPbc**	06 35 42.4	-0.2	
	comp=Z,22nm,0.9s,SNR=5.4							
RETA				*e*P	**PKPab**	06 35 55.2	+0.2	
	comp=Z,47nm,1.0s							
RETA				*e*P	**pPKPab**	06 38 14.3	-2.2	
	comp=Z,4.3nm,0.6s							
WTTA	**Wattenberg**	**151.86**	**345**	*e*P	**PKPdf**	06 35 35.5	-0.1	
	comp=Z,14nm,1.0s							
WTTA				*i* P	**PKPbc**	06 35 42.5	-0.3	
	comp=Z,58nm,0.7s,SNR=12							
WTTA				*e*P	**PKPab**	06 35 55.7	+0.5	
	comp=Z,64nm,1.1s							
WTTA				*e*P	**pPKPbc**	06 38 13.6	+2.9	
	comp=Z,36nm,1.5s							
MYKA	**Terra Mystica**	**151.89**	**341**	*e*P	**PKPdf**	06 35 35.3	-0.2	
	comp=Z,4.7nm,0.8s							
MYKA				*i* P	**PKPbc**	06 35 41.9	-0.8	
	comp=Z,21nm,0.7s,SNR=8.0							
MYKA				*e*P	**PKPab**	06 35 54.7	-0.5	
	comp=Z,26nm,1.0s							
MYKA				*e*P	**pPKPbc**	06 38 12.5	+1.8	
	comp=Z,18nm,1.3s							
MOTA	**Moosalm**	**151.91**	**345**	*i* P	**PKPdf**	06 35 35.4	-0.3	
	comp=Z,22nm,1.1s,SNR=6.1							
MOTA				*e*P	**PKPbc**	06 35 42.4	-0.4	
	comp=Z,45nm,0.8s							
MOTA				*e*P	**PKPab**	06 35 55.5	+0.1	
	comp=Z,46nm,0.9s							
MOTA				*e*P	**pPKPbc**	06 38 09.8	-1.0	
	comp=Z,15nm,1.1s							
MOZS	**Mozjanca**	**151.94**	**340**	*e*PKPdf	**PKPdf**	06 35 36.7	+1.1	
MOZS				*i* PKPbc	**PKPbc**	06 35 42.7	-0.1	
MOZS				*e*		06 38 10.3		
CRES	**Cresnjev**	**152.02**	**338**	*e*P	**PKPbc**	06 35 41.3	-1.7	
BBLS	**Lazići**	**152.05**	**331**	*e*P	**PKPdf**	06 35 35.9	0.0	
HAPS	**Han Pijesak,BI**	**152.08**	**332**	*e*P	**PKPdf**	06 35 36.9	+0.9	
ABTA	**Abfaltersbach**	**152.11**	**343**	*i* P	**PKPdf**	06 35 35.4	-0.5	
	comp=Z,28nm,1.0s,SNR=12							
ABTA				*e*P	**PKPbc**	06 35 42.7	-0.6	
	comp=Z,58nm,0.7s							
ABTA				*e*P	**PKPab**	06 35 55.6	-0.6	
	comp=Z,36nm,0.8s							
ABTA				*e*P	**pPKPbc**	06 38 09.7	-1.6	
	comp=Z,24nm,1.1s							
LJU	**Ljubljana**	**152.14**	**340**	*i* PKPbc	**PKiKP**	06 35 43.4	+0.1	
LJU				*e*		06 38 11.3		
ZOU	**Zoufplan**	**152.15**	**342**	PKPdf	**PKPdf**	06 35 34.6	-1.5	
MRAK	**Mrakovica**	**152.18**	**336**	*e*P	**PKPbc**	06 35 41.8	-1.6	
KNT	**Kendrikon**	**152.22**	**323**	P	**PKPbc**	06 35 42.5	-1.0	
CADS	**Cadrg**	**152.22**	**341**	*e*PKPdf	**PKPdf**	06 35 35.2	-0.8	
CADS				*i* PKPbc	**PKPbc**	06 35 43.0	-0.5	
DAVA	**Damuels**	**152.24**	**347**	*e*P	**PKPdf**	06 35 36.0	-0.1	
	comp=Z,6.9nm,0.9s							
DAVA				*i* P	**PKPbc**	06 35 43.4	-0.2	
	comp=Z,21nm,0.6s,SNR=7.3							
DAVA				*e*P	**PKPab**	06 35 56.8	0.0	
	comp=Z,33nm,0.9s							
DAVA				*e*P	**pPKPab**	06 38 15.8	-2.5	
	comp=Z,23nm,1.3s							
RUDO	**Rudo**	**152.26**	**331**	*e*P	**PKPdf**	06 35 36.8	+0.7	
BLY	**Banja Luka**	**152.29**	**335**	*e*P	**PKPbc**	06 35 43.4	-0.1	
FETA	**Feichten**	**152.30**	**346**	*i* P	**PKPdf**	06 35 36.2	-0.1	
	comp=Z,22nm,1.1s,SNR=10							
FETA				*e*P	**PKPbc**	06 35 43.8	0.0	
	comp=Z,38nm,0.8s							
FETA				*e*P	**PKPab**	06 35 57.0	-0.1	
	comp=Z,26nm,0.9s							
FETA				*i* P	**pPKPbc**	06 38 11.0	-0.9	
	comp=Z,14nm,1.0s							
CLF	**Chambon-Foret**	**152.42**	**358**		**PKPdf**	06 35 37.0	+0.9	
CLF				PKPbc	**PKiKP**	06 35 45.0	+1.1	
CLF					**PKPab**	06 35 58.3	+1.0	
CEY	**Cerknica**	**152.44**	**340**	*e*P	**PKPbc**	06 35 41.9	-2.0	
STAL	**STALIGIAL**	**152.50**	**342**		**PKPdf**	06 35 35.4	-1.0	
STAL				PKPbc	**PKPbc**	06 35 42.7	-1.3	
STAL				PKPab	**PKPab**	06 35 57.2	-0.6	
MGRS	**Mrkonjic Grad**	**152.60**	**335**	*e*P	**PKPab**	06 35 56.2	-2.1	
GRG	**Griva**	**152.63**	**323**	P	**PKPab**	06 35 58.7	+0.1	
UPM	**Unac-Piva**	**152.79**	**331**	*e*P	**PKPdf**	06 35 36.8	-0.3	
CTI	**Castel Tesino**	**152.98**	**344**	PKIKP	**PKPbc**	06 35 44.5	-0.6	
CTI						06 36 00.2		
CTI	**Castel Tesino**	**152.98**	**344**	PKPdf	**PKPdf**	06 35 37.4	+0.2	
CTI					**PKPbc**	06 35 44.5	-0.6	
CTI				PKPab	**PKPab**	06 36 00.2	+0.2	
APE	**Apeiranthos**	**153.00**	**313**	⇑P	**PKPbc**	06 35 44.2	-1.2	
APE	**Apeiranthos**	**153.00**	**313**	⇑PKIKP	**PKPbc**	06 35 44.2	-1.2	
TUE	**Stuetta**	**153.12**	**347**	PKPdf	**PKPdf**	06 35 38.0	+0.5	
TUE				PKPbc	**PKiKP**	06 35 45.7	0.0	
TUE				PKPab	**PKPab**	06 36 01.2	+0.6	
BRY	**Bratogost**	**153.19**	**331**	*e*P	**PKPdf**	06 35 37.4	-0.2	
PDG	**Podgorica**	**153.22**	**329**	⇑P	**PKPdf**	06 35 37.9	+0.4	
PDG	**Podgorica**	**153.22**	**329**	*e*P	**PKPbc**	06 35 44.4	-1.2	
FNA	**Florina**	**153.32**	**324**	P	**PKPdf**	06 35 37.0	-0.8	
SANT	**Santorini**	**153.40**	**312**	PKPdf	**PKPdf**	06 35 36.8	-1.2	
SANT				PKPbc	**PKPbc**	06 35 45.1	-1.2	
SANT				PKPab	**PKPab**	06 36 01.6	-0.4	
TREB	**Trebinje**	**153.43**	**331**	*e*P	**PKPbc**	06 35 43.6	-2.5	
DRME	**Dracevica, Mon**	**153.44**	**329**	*e*P	**PKPbc**	06 35 44.1	-2.0	
HCY	**Herceg Novi**	**153.57**	**330**	*e*P	**PKPbc**	06 35 42.7	-3.7	
STON	**Ston**	**153.60**	**332**	*e*P	**PKPdf**	06 35 36.1	-1.9	
SALO	**Salr**	**153.67**	**345**	PKPdf	**PKPdf**	06 35 37.6	-0.5	
AGG	**Agios Georgios**	**153.94**	**320**	P	**PKPbc**	06 35 45.2	-2.1	
LSK	**Leskovik**	**154.19**	**324**	P	**PKPab**	06 36 05.9	+0.6	
IDI	**Anoyia**	**154.34**	**310**	⇑P	**PKPdf**	06 35 39.6	+0.2	
IDI	**Anoyia**	**154.34**	**310**	PKPdf	**PKPdf**	06 35 37.7	-1.7	
ANX	**Ano Chora**	**154.45**	**320**	P	**PKPdf**	06 35 40.8	+1.3	
KLV	**Kalavryta, Ach**	**154.66**	**318**	P	**PKiKP**	06 35 46.8	-2.1	
IGT	**Igoumenitsa**	**154.76**	**323**	P	**PKPab**	06 36 04.5	-3.2	
PDO	**Prodromos**	**154.89**	**321**	P	**PKiKP**	06 35 47.5	-1.8	
IMMV	**Iera Moni Meta**	**154.90**	**312**	P	**PKPab**	06 36 08.1	-0.4	
KEK	**Kerkira**	**154.93**	**324**	P	**PKPab**	06 36 07.7	-0.7	
VLI	**Veliai**	**154.93**	**315**	P	**PKPab**	06 36 06.9	-1.7	
LKD2	**Lefkada island**	**155.08**	**322**	P	**PKPab**	06 36 08.7	-0.4	
KTHA	**Kythira Island**	**155.11**	**314**	P	**PKPab**	06 36 07.3	-2.1	
MURB	**Monte Urbino**	**155.26**	**340**		**PKPdf**	06 35 40.6	+0.2	
ITM	**Ithomi**	**155.32**	**317**	P	**PKPab**	06 36 10.3	+0.1	
ITM	**Ithomi**	**155.32**	**317**	PKPdf	**PKPdf**	06 35 41.9	+1.3	
SGRT	**San Giovanni R**	**155.35**	**333**	PKPdf	**PKPdf**	06 35 39.5	-1.1	
FSK	**Fiskardo**	**155.35**	**321**	P	**PKPab**	06 36 08.8	-1.5	
KEF5	**Kardakata, Kep**	**155.53**	**321**	P	**PKPab**	06 36 11.2	+0.1	
PCAB	**Cabril**	**157.39**	**18**	*e*PKPdf	**PKPdf**	06 35 42.8	-0.3	
PCAB	**Cabril**	**157.39**	**18**	*e*PKPab	**PKPab**	06 36 19.8	+0.8	
PBRG	**Braganca**	**157.65**	**16**	*e*PKPab	**PKPab**	06 36 20.3	+0.1	
POLO	**Lamas de Olo**	**157.77**	**18**	*e*PKPdf	**PKPdf**	06 35 42.3	-1.4	
POLO	**Lamas de Olo**	**157.77**	**18**	*e*PKPab	**PKPab**	06 36 21.1	+0.3	
PVRL	**Vila Real**	**157.88**	**18**	*e*PKPab	**PKPab**	06 36 22.5	+1.3	
MVO	**Moncorvo**	**158.18**	**17**	*e*PKPdf	**PKPdf**	06 35 44.9	+0.8	
MVO	**Moncorvo**	**158.18**	**17**	*e*PKPab	**PKPab**	06 36 23.0	+0.5	
PVIS	**Viseu**	**158.35**	**19**	*e*PKPab	**PKPab**	06 36 24.5	+1.3	
MTE	**Manteigas**	**158.74**	**18**	*e*PKPdf	**PKPdf**	06 35 45.2	+0.4	
MTE	**Manteigas**	**158.74**	**18**	*e*PKPab	**PKPab**	06 36 25.9	+0.9	
PCAS	**Casmilo, Conde**	**158.76**	**21**	*e*PKPab	**PKPab**	06 36 26.8	+1.8	
PSBE	**So Bento**	**159.14**	**22**	*e*PKPab	**PKPab**	06 36 27.2	+0.5	
PCBR	**Castelo Branco**	**159.28**	**19**	*e*PKPdf	**PKPdf**	06 35 45.9	+0.6	
PCBR	**Castelo Branco**	**159.28**	**19**	*e*PKPab	**PKPab**	06 36 30.2	+3.0	
PMAFR	**Mafra**	**159.46**	**24**	*e*PKPab	**PKPab**	06 36 29.5	+1.4	
PMOZ	**Porto Moniz, M**	**159.54**	**49**	*e*PKPdf	PKPdf	06 35 35.8	-10	
PMOZ	**Porto Moniz, M**	**159.54**	**49**	*e*PKPab	**PKPab**	06 36 33.0	+4.1	
PMRV	**Marv??o**	**159.68**	**19**	*e*PKPdf	**PKPdf**	06 35 46.9	+1.1	
PMRV	**Marv??o**	**159.68**	**19**	*e*PKPab	**PKPab**	06 36 30.2	+1.2	
PMTG	**Montargil**	**159.74**	**21**	*e*PKPab	**PKPab**	06 36 29.9	+0.6	
PMAR	**Madeira**	**159.79**	**49**	*e*PKPab	**PKPab**	06 36 30.1	0.0	
PESTR	**Estremoz**	**160.13**	**20**	*e*PKPdf	**PKPdf**	06 35 46.9	+0.6	
PESTR	**Estremoz**	**160.13**	**20**	*e*PKPab	**PKPab**	06 36 31.2	+0.2	
EVO	**Evora**	**160.29**	**22**	*e*PKPdf	**PKPdf**	06 35 44.3	-2.2	
EVO	**Evora**	**160.29**	**22**	*e*PKPab	**PKPab**	06 36 32.5	+0.8	
ESDC	**Sonseca Array**	**160.30**	**12**	PKP	**PKPdf**	06 35 46.6	+0.1	
	comp=Z,1.8nm,0.8s,baz=338,slow=3.6,SNR=9.8							
ESDC				PKPab	**PKPab**	06 36 32.0	+0.2	
	comp=Z,9.5nm,0.9s,baz=345,slow=4.1,SNR=26							
ESDC	**Sonseca Array**	**160.30**	**12**	PKPdf	**PKPdf**	06 35 46.7	+0.1	
PAB	**San Pablo**	**160.35**	**13**	PKIKP	**PKPdf**	06 35 47.8	+1.2	
PAB	**San Pablo**	**160.35**	**13**	PKPdf	**PKPdf**	06 35 47.8	+1.2	
PNCL	**Nicolau / Gran**	**160.48**	**23**	*e*PKPab	**PKPab**	06 36 32.7	+0.2	
PBEJ	**Beja**	**160.79**	**22**	*e*PKPdf	**PKPdf**	06 35 48.1	+1.1	
PBEJ	**Beja**	**160.79**	**22**	*e*PKPab	**PKPab**	06 36 36.0	+2.1	
PTEO	**Sao Teotonio**	**160.90**	**24**	*e*PKPab	**PKPab**	06 36 35.9	+1.5	
PBAR	**Barrancos**	**160.94**	**20**	*e*PKPdf	**PKPdf**	06 35 47.7	+0.5	
PBAR	**Barrancos**	**160.94**	**20**	*e*PKPab	**PKPab**	06 36 35.4	+0.9	
PCVE	**Castro Verde**	**161.09**	**23**	*e*PKPdf	**PKPdf**	06 35 47.8	+0.4	
PCVE	**Castro Verde**	**161.09**	**23**	*e*PKPab	**PKPab**	06 36 36.1	+0.9	
PVAQ	**Vaqueiros**	**161.40**	**22**	*e*PKPdf	**PKPdf**	06 35 48.4	+0.7	
PVAQ	**Vaqueiros**	**161.40**	**22**	*e*PKPab	**PKPab**	06 36 37.6	+1.0	
PBDV	**Barranco-do-Ve**	**161.47**	**23**	*e*PKPdf	**PKPdf**	06 35 49.0	+1.2	
PBDV	**Barranco-do-Ve**	**161.47**	**23**	*e*PKPab	**PKPab**	06 36 36.1	-0.9	
KEST	**Kesra**	**163.08**	**336**	PKP	**PKPdf**	06 35 49.8	+0.3	
	comp=Z,4.0nm,0.9s,baz=83,slow=2.0,SNR=3.9							
KEST				PKPab	**PKPab**	06 36 44.8	+0.6	
	comp=Z,30nm,0.9s,baz=302,slow=4.8,SNR=20							
KEST	**Kesra**	**163.08**	**336**	PKPdf	**PKPdf**	06 35 49.3	-0.2	
LIC	**Lamto**	**164.72**	**156**	*e*PKIKP	**PKPdf**	06 35 50.4	-1.1	
	comp=Z,145nm,1.3s							
LIC	**Lamto**	**164.72**	**156**	*e*PKP2	**PKPab**	06 36 52.4	+0.7	
	comp=Z,144nm,0.9s							
KIC	**Kosan Boka**	**164.95**	**157**	*e*PKIKP	**PKPdf**	06 35 50.3	-1.4	
	comp=Z,88nm,1.3s							
KIC	**Kosan Boka**	**164.95**	**157**	*e*PKP2	**PKPab**	06 36 53.5	+0.8	
	comp=Z,95nm,0.9s							
TIC	**Toumodi**	**165.10**	**156**	*e*PKIKP	**PKPdf**	06 35 51.0	-0.8	
TIC	**Toumodi**	**165.10**	**156**	*e*PKP2	**PKPab**	06 36 54.2	+0.8	
DBIC	**Dimbokro**	**165.19**	**156**	PKP	**PKPdf**	06 35 51.2	-0.7	
	comp=Z,22nm,1.1s,baz=80,slow=3.3,SNR=6.3							
DBIC				PKPab	**PKPab**	06 36 55.0	+1.2	
	comp=Z,21nm,0.8s,baz=167,slow=6.1,SNR=15							
KOWA	**Kowa**	**172.38**	**140**		**PKPdf**	06 35 55.7	-0.6	
KOWA					**PKPab**	06 37 26.4	+0.7	
TOA0	**Torodi Ar. Sit**	**172.77**	**185**	PKPab	**PKPab**	06 37 27.3	0.0	
TORD	**Torodi Ar. Bea**	**172.77**	**185**	PKP	**PKPdf**	06 35 55.7	-0.8	
	comp=Z,12nm,1.0s,baz=344,slow=1.6,SNR=27							
TORD				PKPab	**PKPab**	06 37 27.3	+0.1	
	comp=Z,14nm,0.9s,baz=185,slow=3.3,SNR=16							
TORD				pPKPab	**pPKPab**	06 39 47.9	+0.5	
	comp=Z,5.8nm,1.3s,baz=133,slow=2.8,SNR=4.4							
TORD				PP	**PP**	06 41 19.6	+1.4	
	comp=Z,11nm,1.0s,baz=169,slow=4.1,SNR=8.9							
TORD	**Torodi Ar. Bea**	**172.77**	**185**		**PKPdf**	06 35 55.4	-1.1	

IDC 16 06:20:22.6±2.7, 53°58N×87°94E, h0km, mb1 3.4/2, mb1mx3.1/64, mbtmp3.4/2, ML3.0/2 Error ellipse: s-maj=23.2km s-min=15.0km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	*i*		06 31 50.0	
	baz=96,slow=308,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pg	Pn	06 20 55.7	-0.4
	4.2nm,0.3s,baz=97,slow=16,SNR=54						
ZALV				Lg	Lg	06 21 22.8	
	9.5nm,0.3s,baz=104,slow=24,SNR=28						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	06 22 00.2	+0.7
	0.3nm,0.3s,baz=61,slow=14,SNR=17						
KURBB				Sn	Sn	06 23 13.3	-1.1
	0.1nm,0.3s,baz=64,slow=26,SNR=5.6						
KURBB				Lg	Lg	06 23 50.2	
	0.1nm,0.3s,baz=63,slow=30,SNR=11						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	06 22 17.4	+1.6
	0.3nm,0.3s,baz=28,slow=12,SNR=9.4						
MKAR				Sn	Sn	06 23 42.6	-1.1
	0.1nm,0.3s,baz=32,slow=26,SNR=3.4						
MKAR				Lg	Lg	06 24 26.4	
	0.2nm,0.3s,baz=32,slow=32,SNR=10.0						

*CRAAG **16** 06:22:05.2, 36°.63N×2°.53E, Ml3.4*
*CNRM **16** 06:22:06.0, 36°.81N×2°.50E, h121km, Hypocentre not reviewed by the ISC*
*MDD **16** 06:22:06.5±0.5, 36°.64N×2°.62E, h34km±21km, mb4.2/20, Error ellipse: s-maj=8.8km s-min=5.6km az=135.0, PRXIMO*
*LDG **16** 06:22:06.5, 36°.67N×2°.71E, h30km*
ISC 16 06:22:05.0±0.7, 36°.83N±0°.03×2°.66E±0°.02, h35km, n70, σ2s 11/84, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.30**	**95**	P	**Pn**	06 22 14.6	+1.7
ABA	**Alger-Bouzarea**	**0.30**	**95**	P	**Pn**	06 22 14.6	+1.7
EMHD	**Djebel Mahouad**	**0.67**	**159**	P	**Pn**	06 22 17.0	-1.1
EMHD	**Djebel Mahouad**	**0.67**	**159**	P	**Pn**	06 22 17.0	-1.1
EBNR	**Beni Rached**	**1.05**	**240**	P	**Pn**	06 22 22.4	-0.9
ECHA	**Ech Chlef**	**1.24**	**237**	P	**Pn**	06 22 24.9	-0.9
ECHF	**Ech Chlef**	**1.25**	**238**	P	**Pn**	06 22 24.9	-1.1
EANR	**'Ain N'Sour**	**1.53**	**236**	P	**Pn**	06 22 28.6	-1.3
EANR	**'Ain N'Sour**	**1.53**	**236**	P	**Pn**	06 22 28.6	-1.3
ETRT	**Tiaret**	**1.81**	**218**	P	**Pn**	06 22 36.6	+2.9
ETRT	**Tiaret**	**1.81**	**218**	P	**Pn**	06 22 36.6	+2.9
EIBI	**Ibiza**	**2.43**	**335**	P	**Pn**	06 22 45.5	+3.3
	11nm,0.1s,SNR=12						
EIBI				S	**Sn**	06 23 12.5	+1.9
	48nm,0.3s,SNR=14						
EBEN2	**Beniarda presa**	**2.92**	**310**	P	**Pn**	06 22 50.8	+2.0
	1.6nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	06 23 23.1	+0.4
	31nm,0.5s,SNR=7.9						
ETOS	**Mallorca**	**2.94**	**2**	P	**Pn**	06 22 52.8	+3.6
	11nm,0.3s,SNR=22						
ETOS				S	**Sn**	06 23 25.9	+2.6
	10.0nm,0.3s						
CART	**Cartagena**	**3.02**	**286**	P	**Pn**	06 22 51.9	+1.6
CART				S	**Sn**	06 23 23.2	-1.9
CART	**Cartagena**	**3.02**	**286**	*e*P	**Pn**	06 22 51.9	+1.6
CART				*e*S	**Sn**	06 23 23.2	-1.9
AFON	**Font Roja**	**3.13**	**307**	S	**Sn**	06 23 29.6	+1.5
	SNR=7.9						
EMUR	**La Murta**	**3.27**	**289**	P	**Pn**	06 22 55.8	+2.0
	2.4nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	06 23 30.5	-0.9
	7.4nm,0.5s,SNR=7.9						
MAHO	**Mahon**	**3.31**	**22**	P	**Pn**	06 22 58.0	+3.7
MAHO				S	**Sn**	06 23 35.5	+3.1
MAHO	**Mahon**	**3.31**	**22**	*e*P	**Pn**	06 22 58.0	+3.7
MAHO				*e*S	**Sn**	06 23 35.5	+3.1
ETOB	**Tobarra**	**3.80**	**300**	P	**Pn**	06 23 03.5	+2.5
	6.5nm,0.2s,SNR=24						
ETOB				S	**Sn**	06 23 44.9	+0.4
	18nm,0.5s,SNR=7.5						
ECHE	**Chera**	**3.97**	**315**	P	**Pn**	06 23 06.7	+3.3
ECHE				S	**Sn**	06 23 49.0	+0.2
	1.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.30**	**326**	P	**Pn**	06 23 11.5	+3.5
	3.9nm,0.1s,SNR=45						
EMOS				S	**Sn**	06 23 57.5	+0.5
	35nm,0.4s,SNR=12						
SESP	**Santiago Espad**	**4.34**	**289**	P	**Pn**	06 23 11.0	+2.5
	5.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	06 23 57.7	-0.2
	6.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.45**	**273**	P	**Pn**	06 23 10.7	+0.6
	1.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	06 23 59.1	-1.6
	1.4nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.50**	**337**	P	**Pn**	06 23 13.9	+3.2
	1.5nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	06 24 02.4	+0.5
	4.0nm,0.4s,SNR=7.9						
TAF	**Taforalt**	**4.58**	**246**	P		06 23 11.4	
TAF				S		06 24 03.5	
EQES	**Quesada**	**4.67**	**284**	P	**Pn**	06 23 15.3	+2.2
	2.3nm,0.4s,SNR=7.9						
EQES				S	**Sn**	06 24 07.7	+1.7
	10nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**4.68**	**345**	P	Pn	06 23 18.6	+5.4
	1.3nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	06 24 06.1	-0.2
	2.2nm,0.3s,SNR=7.9						
JBK	**JBK**	**4.93**	**241**	P		06 23 18.1	
JBK				S		06 24 13.7	
CFON	**Fontmartina**	**4.93**	**358**	P	**Pn**	06 23 19.3	+2.7
	2.3nm,0.2s,SNR=7.9						
CFON				S	**Sn**	06 24 11.7	-0.7
	4.5nm,0.3s,SNR=4.0						
TDRA	**Tendrara**	**5.39**	**227**	P		06 23 25.5	
TDRA				S		06 24 27.7	
ETOR	**Torete**	**5.42**	**319**	P	**Pn**	06 23 22.4	-1.0
	4.3nm,0.5s,SNR=7.9						
ETOR				S	**Sn**	06 24 26.3	+1.7
	8.7nm,0.4s,SNR=7.9						
PALE	**Palemas**	**5.58**	**255**	P		06 23 25.5	
PALE				S		06 24 27.7	
EJON	**La Jonquera**	**5.62**	**2**	P	**Pn**	06 23 29.1	+3.1
	1.6nm,0.3s,SNR=7.9						
EJON				S	**Sn**	06 24

KOKV						Sn	06 27 01.7	+2.4
KONE	**Korovin Northe**	**1.03**	**327**			**Pn**	**06 26 45.8**	**+0.5**
GSMY	**Great Sitkin M**	**1.85**	**287**			**Pn**	**06 26 57.2**	**+0.7**
GSTR	**Great Sitkin T**	**1.86**	**289**			**Pn**	**06 26 57.8**	**+1.1**
GSTD	**Great Sitkin T**	**1.91**	**287**			**Pn**	**06 26 58.3**	**+1.0**
GSTD						**Sb**	**06 27 22.5**	**-1.0**
ADAG	**Mount Adagdak**	**2.17**	**283**			**Pn**	**06 27 02.3**	**+1.5**
ADK	**Adak**	**2.20**	**281**			**Pn**	**06 27 01.8**	**+0.6**
KIWB	**Kanaga Island**	**2.48**	**279**			**Pn**	**06 27 06.2**	**+1.0**
TAFP	**Tanaga Falls P**	**3.00**	**279**			**Pn**	**06 27 13.8**	**+1.5**
TAFP						**Sn**	**06 27 49.3**	**+1.2**
NIKH	**Nikolski High**	**3.03**	**60**			**Pn**	**06 27 14.5**	**+1.8**
ILAR	**Eielson Array**	**19.00**	**36**	P		**P**	**06 30 45.1**	**-1.0**
	0.3nm,0.3s,baz=222,slow=9.2,SNR=6.8							
INK	**Inuvik**	**25.35**	**34**	P		**P**	**06 31 50.0**	**-1.2**
	2.8nm,0.8s,baz=237,slow=7.0,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**35.38**	**214**	T		T	07 11 28.0	
	baz=21,slow=75,SNR=7.3							
H11N3	**WAKE ISLAND Hy**	**35.39**	**214**	T		T	07 11 27.1	
	baz=21,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**35.40**	**214**	T		T	07 11 37.2	
	baz=21,slow=75,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**36.58**	**213**	T		T	07 12 52.7	
	baz=20,slow=75,SNR=7.6							
H11S2	**WAKE ISLAND Hy**	**36.60**	**213**	T		T	07 12 48.9	
	baz=20,slow=75,SNR=5.9							
H11S3	**WAKE ISLAND Hy**	**36.60**	**213**	T		T	07 12 55.2	
	baz=20,slow=75,SNR=4.4							
NVAR	**Mina Array Bea**	**40.05**	**87**	P		**P**	**06 33 59.4**	**-0.5**
	0.3nm,0.7s,baz=288,slow=9.3,SNR=1.9							
PDAR	**Pinedale Array**	**42.90**	**76**	P		**P**	**06 34 23.9**	**+0.7**
	1.2nm,0.8s,baz=281,slow=2.8,SNR=3.6							
TXAR	**Lajitas Array**	**55.15**	**85**	P		**P**	**06 35 56.2**	**-0.9**
	0.6nm,0.8s,baz=317,slow=6.2,SNR=3.9							
ZALV	**Zalesovo Beam**	**56.41**	**316**	P		**P**	**06 36 03.9**	**-1.9**
	2.6nm,0.6s,baz=64,slow=3.7,SNR=1.8							
ASAR	**Alice Springs**	**88.07**	**227**	P		**P**	**06 39 14.7**	**-0.2**
	0.5nm,0.7s,baz=52,slow=3.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**115.44**	**6**	PKP		**PKPdf**	**06 45 08.5**	**+1.9**
	6.2nm,1.2s,baz=356,slow=1.9,SNR=3.9							

*ATH **16** 06:33:29.4,38.˚62N×23.˚40E,h17km±1km,ML2.0/9, Error ellipse: s-maj=2.0km s-min=0.9km az=221.0*

THE 16 06:33:29.7,38.˚62N×23.˚41E,h6km±9km,ML2.0/8, Error ellipse: s-maj=9.2km s-min=0.5km az=245.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.30**	**328**	P	Pg	06 33 36.2	+0.6
SMIA				S	Sg	06 33 40.0	+0.4
	695nm,0.2s						
SMIA	**Simia**	**0.30**	**328**	P	Pg	06 33 36.1	+0.5
SMIA				S	Sg	06 33 39.5	-0.2
SMIA				AML	AML	06 33 41.6	
	comp=E,1392µm,0.3s						
SMIA				AML	AML	06 33 42.0	
	comp=N,1361µm,0.2s						
ATAL	**Atalanti**	**0.31**	**283**	P	Pg	06 33 35.7	-0.1
ATAL				S	Sg	06 33 40.4	+0.4
	comp=N,258nm,0.1s						
ATAL	**Atalanti**	**0.31**	**283**	P	Pg	06 33 35.7	-0.1
ATAL				S	Sg	06 33 40.2	+0.3
ATAL				AML	AML	06 33 42.0	
	comp=N,530µm,0.1s						
ATAL				AML	AML	06 33 42.1	
	comp=E,475µm,0.1s						
LKR	**Lokris**	**0.32**	**275**	P	Pg	06 33 35.8	-0.2
LKR				S	Sg	06 33 40.4	+0.1
	comp=E,338nm,0.1s						
LKR	**Lokris**	**0.32**	**275**	P	Pg	06 33 35.6	-0.4
LKR				S	Sg	06 33 40.4	+0.1
LKR				AML	AML	06 33 42.9	
	comp=E,774µm,0.1s						
LKR				AML	AML	06 33 43.0	
	comp=N,715µm,0.2s						
VIL2	**Platees**	**0.42**	**195**	P	Pg	06 33 38.7	+0.7
VIL2				S	Sb	06 33 45.4	-0.8
VIL2				AML	AML	06 33 46.8	
	comp=E,1384µm,0.4s						
VIL2				AML	AML	06 33 47.4	
	comp=N,492µm,0.2s						
EREA	**Eretria**	**0.46**	**116**	P	Pg	06 33 39.0	+0.5
EREA				S	Sg	06 33 45.3	+0.8
	comp=N,225nm,0.2s						
EREA	**Eretria**	**0.46**	**116**	P	Pg	06 33 39.0	+0.5
EREA				S	Sg	06 33 45.3	+0.8
EREA				AML	AML	06 33 47.5	
	comp=E,457µm,0.3s						
EREA				AML	AML	06 33 49.6	
	comp=N,503µm,0.2s						
VILL	**Villia**	**0.46**	**190**	P	Pg	06 33 38.7	0.0
VILL				S	Sg	06 33 45.6	+0.9
	comp=N,520nm,0.3s						
KYMI	**Kymi, Euboea I**	**0.54**	**89**	P	Pg	06 33 39.9	-0.2
KYMI				S	Sg	06 33 47.3	+0.1
	comp=N,105nm,0.4s						
KYMI	**Kymi, Euboea I**	**0.54**	**89**	P	Pg	06 33 39.9	-0.2
KYMI				S	Sg	06 33 47.3	+0.2
KYMI				AML	AML	06 33 51.6	
	comp=N,166µm,0.5s						
KYMI				AML	AML	06 33 52.9	
	comp=E,252µm,0.4s						
DION	**Dionisos Attik**	**0.68**	**143**	P	Pg	06 33 42.7	-0.1
DION				S	Sg	06 33 51.6	-0.1
DION	**Dionisos Attik**	**0.68**	**143**	P	Pg	06 33 41.7	-1.1
DION				S	Sg	06 33 51.6	-0.1
DION				AML	AML	06 33 55.8	
	comp=N,444µm,0.5s						
DION				AML	AML	06 33 56.0	
	comp=E,264µm,0.2s						
NEO	**Neokhori**	**0.70**	**348**	P	Pg	06 33 43.1	-0.1
NEO				S	Sb	06 33 53.5	-0.7
	comp=E,282nm,0.3s						
NEO	**Neokhori**	**0.70**	**348**	P	Pg	06 33 43.1	0.0
NEO				S	Sb	06 33 53.5	-0.8
NEO				AML	AML	06 33 57.1	
	comp=N,656µm,0.3s						
NEO				AML	AML	06 33 57.2	
	comp=E,476µm,0.3s						
XOR	**Xorichti**	**0.76**	**347**	P	Pg	06 33 44.2	-0.2
XOR				S	Sg	06 33 54.4	+0.1
	comp=E,100nm,0.4s						
XOR	**Xorichti**	**0.76**	**347**	P	Pg	06 33 44.0	-0.4
XOR				S	Sg	06 33 54.4	+0.1
XOR				AML	AML	06 33 57.9	
	comp=E,175µm,0.4s						
XOR				AML	AML	06 33 57.9	
	comp=N,232µm,0.3s						
AGG	**Agios Georgios**	**0.93**	**296**	P	Pg	06 33 47.0	-0.6
AGG				S	Sg	06 34 00.2	+0.5
AGG	**Agios Georgios**	**0.93**	**296**	P	Pg	06 33 46.3	-1.3
AGG				S	Sg	06 33 58.4	-1.3

*IDC **16** 06:45:28.1±1.0,1.˚56N×123.˚50E,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.7/62,mbtmp3.9/9,ML4.1/2,Error ellipse: s-maj=56.6km s-min=17.6km az=72.0*

*DJA **16** 06:45:30.7±0.4,1.˚1N±3.˚1×122.˚3E±.˚1,h10km,M4.6/10,mb4.9/4, mB5.1/2,MLv4.4/10,Mw(mB)4.5/2*

*NEIC **16** 06:45:37.1±2.5,1.˚2N±0.˚1×122.˚7E±0.˚1,h61km±10km, mb4.0/10,Error ellipse: s-maj=23.1km s-min=9.8km az=47.0*

ISC 16 06:45:30.1±0.7,1.˚45N±0.˚06×122.˚90E±0.˚06,h10km,n33, σ1s59/36,mb4.0/10,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.81**	**172**	P	**Pg**	**06 45 44.8**	**-1.0**
GTOI				S	**Sg**	**06 45 53.9**	**-2.5**
MRSI	**Marisa**	**1.36**	**225**	P	**Pn**	**06 46 55.6**	**+0.8**
MRSI				S	**Sn**	**06 46 13.7**	**+0.4**
KMSI	**Cibinong**	**1.38**	**129**	P	**Pg**	**06 45 57.4**	**+0.7**
KMSI				S	**Sg**	**06 46 15.1**	**+0.5**
TOLI2	**Tolitoli**	**2.15**	**261**		**Pn**	**06 46 06.2**	**+0.2**
LUWI	**Luwuk**	**2.48**	**183**		**Pn**	**06 46 12.5**	**+2.0**
LUWI	**Luwuk**	**2.48**	**183**	P	**Pn**	**06 46 12.1**	**+1.6**
APSI	**Ampana**	**2.66**	**208**	P	**Pn**	**06 46 15.3**	**+2.3**
MPSI	**Mapaga**	**3.20**	**250**	P	**Pn**	**06 46 21.3**	**+0.8**
SGSI	**Sangihe**	**3.44**	**50**	P	**Pn**	**06 46 22.6**	**-1.2**
TTSI	**Tana Toraja**	**5.42**	**215**	P	**Pn**	**06 46 52.4**	**+1.3**
	0.5nm2µm154nm,0.9s						
KKSI	**Kolaka, Sulawe**	**5.72**	**193**	P	**Pn**	**06 46 56.4**	**+1.2**
	0.5nm72nm,0.5s						

BNSI	**Bone**	**6.45**	**206**	P		**Pn**	**06 47 06.2**	**+1.0**
KAPI	**Kappang**	**7.15**	**206**	Pn		**Pn**	**06 47 19.3**	**+4.5**
	3.7nm,0.3s,baz=34,slow=8.7,SNR=7.9							
KAPI				Sn		**Sn**	**06 48 38.1**	**+2.0**
	2.7nm,0.3s,baz=137,slow=18,SNR=1.6							
KAPI	**Kappang**	**7.15**	**206**			**Pn**	**06 47 15.9**	**+1.1**
MTN	**Manton Dam**	**16.38**	**150**	Pn		**Pn**	**06 49 19.9**	**-0.4**
MTN				IAmb		IAmb	06 49 26.1	
	comp=E,14nm,1.2s							
KNRA	**Kununurra**	**17.97**	**161**	P		**P**	**06 49 41.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.61**	**172**	P		**P**	**06 49 58.3**	**-0.4**
	comp=E,0.4nm,0.3s,baz=342,slow=12,SNR=9.1							
FITZ	**Fitzroy Crossi**	**19.61**	**172**	P		**P**	**06 49 58.6**	**-0.2**
FITZ				IAmb		IAmb	06 49 58.8	
	comp=E,7.3nm,1.0s							
WB0	**Warramunga Arr**	**23.91**	**152**	P		**P**	**06 50 42.5**	**-1.8**
WB0				IAmb		IAmb	06 50 53.8	
	comp=E,4.5nm,0.9s							
WRAB	**Tennant Creek**	**24.03**	**153**	P		**P**	**06 50 42.5**	**-3.0**
WRA	**Warramunga Arr**	**24.04**	**153**	P		**P**	**06 50 44.2**	**-1.4**
	comp=Z,1.9nm,0.5s,baz=336,slow=10,SNR=31							
WRA	**Warramunga Arr**	**24.04**	**153**	P		**P**	**06 50 43.7**	**-1.9**
WB2	**Warramunga Arr**	**24.04**	**153**	P		**P**	**06 50 43.9**	**-1.7**
WB2				IAmb		IAmb	06 50 48.7	
	comp=E,6.2nm,1.1s							
WR0	**Warramunga Arr**	**24.14**	**152**	P		**P**	**06 50 44.7**	**-1.9**
WR0				IAmb		IAmb	06 51 12.3	
	comp=E,6.2nm,1.1s							
SLVN	**Son La**	**27.09**	**318**	P		**P**	**06 51 13.9**	**+0.6**
ASAR	**Alice Springs**	**27.16**	**157**	P		**P**	**06 51 13.5**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=342,slow=14,SNR=8.9							
SONM	**Songino Array**	**48.37**	**345**	P		**P**	**06 54 13.6**	**+1.3**
	comp=E,1.0nm,0.7s,baz=168,slow=7.4,SNR=4.0							
SONM	**Songino Array**	**48.37**	**345**	IAmb		IAmb	06 54 40.3	
	comp=E,1.1nm,0.8s							
MKAR	**Makanchi Array**	**57.34**	**328**	P		**P**	**06 55 19.4**	**+0.9**
	comp=E,0.3nm,0.6s,baz=134,slow=8.7,SNR=3.8							
KURBB	**Kurchatov Arra**	**61.67**	**330**	P		**P**	**06 55 48.8**	**+0.5**
	comp=E,0.3nm,0.6s,baz=125,slow=5.7,SNR=2.7							
KURK	**Kurchatov**	**61.69**	**330**	P		**P**	**06 55 48.8**	**+0.4**
VNDA	**Vanda**	**81.68**	**172**	P		**P**	**06 57 47.5**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=322,slow=6.2,SNR=12							
QSPA	**South Pole Qui**	**91.37**	**180**	P		**P**	**06 58 34.5**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=349,slow=16,SNR=2.1							

*IDC **16** 07:11:13.8±0.8,11.˚32S×163.˚23E,h0km,mb4.2/15, mb1 4.3/17,mb1mx4.2/34,mbtmp4.1/17,ML3.8/2,MS2.5/1, Ms1 2.5/1,ms1mx2.4/25,Error ellipse: s-maj=27.5km s-min=16.3km az=112.0*

*NEIC **16** 07:11:19.3±1.4,11.˚29S±0.˚04×163.˚4E±0.˚1,h39km,8km, mb4.3/23,Error ellipse: s-maj=17.1km s-min=4.0km az=72.0*

ISC 16 07:11:18.9±0.6,11.˚34S±0.˚09×163.˚3E±0.˚1,h35km,n54, σ0s95/48,mb4.2/23,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.81**	**300**	LR	LR	07 13 12.7	
	comp=Z,57nm,19.2s,baz=356,slow=32						
SANVU	**Saraoutou**	**5.58**	**137**	Pn	**Pn**	**07 12 38.4**	**-0.9**
DZM	**Mont Dzumac**	**11.09**	**165**	Pn	**Pn**	**07 13 53.8**	**-1.3**
	0.3nm,0.3s,baz=279,slow=19,SNR=1.5						
DZM				Sn	Sn	07 15 46.8	-11
	0.2nm,0.3s,baz=251,slow=16,SNR=1.1						
DZM	**Mont Dzumac**	**11.09**	**165**	Pn	**Pn**	**07 13 55.4**	**+0.3**
CTA	**Charters Tower**	**18.56**	**240**	P	**Pn**	**07 15 33.5**	**+0.3**
	0.4nm,0.3s,baz=70,slow=13,SNR=2.9						
CTAO	**Charters Tower**	**18.56**	**240**	Pn	**Pn**	**07 15 35.3**	**+2.0**
CTAO				IAmb	IAmb	07 15 37.2	
	comp=Z,16nm,1.3s						
ARMA	**Armidale**	**21.86**	**208**	P	**P**	**07 16 09.5**	**+0.8**
ARMA				IAmb	IAmb	07 16 36.1	
	comp=Z,18nm,1.5s						
STKA	**Stephens Creek**	**28.61**	**221**	P	**P**	**07 17 12.4**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=35,slow=13,SNR=7.3						
STKA	**Stephens Creek**	**28.61**	**221**	P	**P**	**07 17 12.2**	**+0.1**
WR0	**Warramunga Arr**	**28.95**	**249**	P	**P**	**07 17 14.7**	**-0.5**
WB0	**Warramunga Arr**	**29.04**	**250**	P	**P**	**07 17 15.3**	**-0.7**
WB0				IAmb	IAmb	07 17 17.3	
	comp=Z,3.3nm,0.8s						
WB2	**Warramunga Arr**	**29.12**	**249**	P	**P**	**07 17 15.6**	**-1.1**
WB2				IAmb	IAmb	07 17 19.2	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**29.13**	**249**	P	**P**	**07 17 15.6**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=79,slow=8.8,SNR=14						
WRA				PcP	**PcP**	**07 20 24.5**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=77,slow=3.5,SNR=5.3						
WRA	**Warramunga Arr**	**29.13**	**249**	P	**P**	**07 17 16.3**	**-0.5**
H11S2	**WAKE ISLAND Hy**	**29.83**	**7**	T	T	07 48 53.4	
	baz=188,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.83**	**6**	T	T	07 48 53.7	
	baz=188,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.83**	**6**	T	T	07 48 52.4	
	baz=188,slow=76,SNR=8.0						
AS31	**Alice Springs**	**30.52**	**242**	P	**P**	**07 17 28.0**	**-1.1**
ASAR	**Alice Springs**	**30.52**	**242**	P	**P**	**07 17 27.6**	**-1.5**
	comp=Z,4.5nm,0.8s,baz=63,slow=10,SNR=48						
H11N1	**WAKE ISLAND Hy**	**31.06**	**7**	T	T	07 50 35.9	
	baz=188,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**31.07**	**7**	T	T	07 50 25.3	
	baz=188,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**31.08**	**7**	T	T	07 50 28.7	
	baz=188,slow=76,SNR=3.1						
BBOO	**Buckleboo**	**32.90**	**225**	P	**P**	**07 17 48.9**	**-1.0**
KNRA	**Kununurra**	**33.83**	**259**	P	**P**	**07 17 57.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**36.99**	**255**	P	**P**	**07 18 25.4**	**+0.1**
FITZ				IAmb	IAmb	07 18 40.0	
	comp=Z,3.6nm,1.1s						
PSA00	**Pilbara Seismi**	**42.77**	**251**	P	**P**	**07 19 13.2**	**-0.2**
PSA00				IAmb	IAmb	07 19 13.8	
	comp=Z,3.2nm,0.8s						
PSA00	**Pilbara Seismi**	**42.77**	**251**	P	**P**	**07 19 13.4**	**0.0**
PSA00				IAmb	IAmb	07 19 33.1	
	comp=Z,14nm,1.3s						
MORW	**Morawa**	**47.38**	**241**	P	**P**	**07 19 49.4**	**-0.5**
ASAJ	**Asahikawa**	**58.32**	**343**	P	**P**	**07 21 10.7**	**+0.4**
	comp=Z,3.6nm,0.5s,baz=233,slow=20,SNR=1.9						
KSRS	**Korea Array**	**58.80**	**327**	P	**P**	**07 21 13.9**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=142,slow=6.2,SNR=2.3						
USRK	**Ussuriysk Ar.**	**62.17**	**335**	P	**P**	**07 21 37.6**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=158,slow=5.7,SNR=5.6						
USRK	**Ussuriysk Ar.**	**62.17**	**335**	P	**P**	**07 21 36.1**	**-0.5**
VNDA	**Vanda**	**66.17**	**180**	P	**P**	**07 22 03.3**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=6.0,slow=6.2,SNR=6.7						
VNDA	**Vanda**	**66.17**	**180**	P	**P**	**07 22 02.8**	**+0.4**
VNDA				IAmb	IAmb	07 22 21.6	
	comp=Z,4.2nm,1.5s						
KLR	**Kul'dur**	**66.40**	**338**	P	**P**	**07 22 04.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=31,slow=1.2,SNR=4.0						
SBA	**Scott Base**	**66.53**	**179**	P	**P**	**07 22 05.1**	**+0.4**
OHAK	**Old Harbor**	**77.08**	**23**	P	**P**	**07 23 07.9**	**-0.3**
OHAK				IAmb	IAmb	07 23 35.3	
	comp=Z,6.2nm,1.4s						
SONM	**Songino Array**	**77.50**	**325**	P	**P**	**07 23 11.0**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=134,slow=4.2,SNR=5.2						
SONM	**Songino Array**	**77.50**	**325**	P	**P**	**07 23 10.5**	**-0.6**
SONM				IAmb	IAmb	07 23 11.9	
	comp=Z,1.8nm,1.0s						
KDAK	**Kodiak Island**	**77.75**	**22**	P	**P**	**07 23 11.8**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=270,slow=3.1,SNR=5.3						
KDAK	**Kodiak Island**	**77.75**	**22**	P	**P**	**07 23 11.5**	**-0.5**
KDAK				IAmb	IAmb	07 23 15.6	
	comp=Z,3.4nm,1.1s						
QSPA	**South Pole Qui**	**78.66**	**180**	P	**P**	**07 23 18.3**	**+1.0**
QSPA				IAmb	IAmb	07 23 20.1	
	comp=Z,11nm,1.5s						
KLU	**Klutina**	**82.76**	**22**	P	**P**	**07 23 35.4**	**-3.6**
IMAR	**Indian Mountai**	**83.37**	**16**	P	**P**	**07 23 41.8**	**-0.1**
MCARA	**McCarthy VSAT**	**83.78**	**23**	P	**P**	**07 23 43.7**	**-0.5**
ILAR	**Eielson Array**	**84.57**	**19**	P	**P**	**07 23 48.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=223,slow=5.0,SNR=5.0						
ILAR	**Eielson Array**	**84.57**	**19**	P	**P**	**07 23 47.1**	**-1.0**
BCAR	**Beaver Creek A**	**85.25**	**22**	P	**P**	**07 23 52.0**	**+0.4**
TIXI	**Tiksi**	**85.94**	**350**	P	**P**	**07 23 55.6**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=90,slow=6.1,SNR=1.3						
EGAK	**Eagle**	**86.49**	**21**	P	**P**	**07 23 58.0**	**+0.3**
EGAK				IAmb	IAmb	07 23 59.7	
	comp=Z,3.3nm,0.9s						
NVAR	**Mina Array Bea**	**88.05**	**50**	P	**P**	**07 24 07.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=251,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**92.10**	**317**	P	**P**	**07 24 24.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=108,slow=5.4,SNR=8.6						
MKAR	**Makanchi Array**	**92.10**	**317**	P	**P**	**07 24 23.9**	**-0.7**

YKA	**Yellowknife Ar**	**96.34**	**28**	P		**P**	**07 24 42.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=256,slow=3.8,SNR=3.0							

*INET **16** 07:18:58.8,11.˚11N×87.˚66W,h12km,MW3.4*

*IDC **16** 07:19:03.7±2.0,11.˚47N×87.˚40W,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.8/31,mbtmp3.7/8,ML3.5/2,Error ellipse: s-maj=56.3km s-min=20.6km az=33.0*

ISC 16 07:19:08.2±1.4,11.˚4N±0.˚3×87.˚5W±0.˚2,h37km,n10, σ0s93/11,mb3.6/7,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**2.72**	**113**	Pn	**Pn**	**07 19 49.0**	**-0.3**
	5.3nm,0.3s,baz=179,slow=23,SNR=22						
JTS				Sn	**Sn**	**07 20 21.5**	**+0.6**
	63nm,0.3s,baz=345,slow=21,SNR=16						
CMIG	**Matias Romero**	**9.15**	**309**	Pn	**Pn**	**07 21 17.0**	**-0.7**
	0.6nm,0.3s,baz=86,slow=9.6,SNR=6.1						
TXAR	**Lajitas Array**	**23.39**	**322**	P	**P**	**07 24 14.6**	**+0.8**
	1.3nm,0.6s,baz=140,slow=9.9,SNR=14						
TKL	**Tuckaleechee C**	**24.41**	**7**	P	**P**	**07 24 24.1**	**+0.8**
	1.1nm,0.4s,baz=165,slow=6.0,SNR=5.7						
PDAR	**Pinedale Array**	**36.70**	**332**	P	**P**	**07 26 11.8**	**-0.2**
	0.2nm,0.6s,baz=110,slow=7.8,SNR=2.3						
NVAR	**Mina Array Bea**	**38.49**	**320**	P	**P**	**07 26 28.4**	**+1.3**
	0.5nm,0.7s,baz=108,slow=8.6,SNR=5.2						
SCHQ	**Schefferville**	**46.32**	**16**	P	**P**	**07 27 29.5**	**-0.8**
	3.0nm,0.9s,baz=241,slow=2.7,SNR=5.6						
YKA	**Yellowknife Ar**	**54.64**	**345**	P	**P**	**07 28 32.1**	**-0.9**
	0.7nm,0.8s,baz=140,slow=8.5,SNR=3.3						
ILAR	**Eielson Array**	**66.98**	**336**	P	**P**	**07 29 58.0**	**+1.0**
	0.4nm,0.8s,baz=97,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**138.92**	**253**	PKP	**PKPdf**	**07 38 30.9**	**-0.8**
	0.5nm,1.1s,baz=94,slow=2.2,SNR=1.6						

KRSC 16 07:32:15.0±1.8,49.˚95N×156.˚80E,h47km±22km,ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.86**	**329**	*eP*	Pn	07 32 30.9	+0.2
SKR				*eS*	Sn	07 32 42.6	+0.4
ALID	**Alaid**	**1.22**	**320**	*eP*	Pn	07 32 36.2	+0.4
ALID				*eS*	Sn	07 32 52.2	+0.9
PAU	**Pauzhetka**	**1.52**	**0**	*eP*	Pn	07 32 41.9	+2.2
PAU				*eS*	Sn	07 33 01.4	+3.1
KDTR	**Khodutka, Kamc**	**2.03**	**23**	*eP*	Pn	07 32 48.8	+2.1
KDTR				*eS*	Sn	07 33 14.2	+3.4
MIPR	**Malaya Ipel'ka**	**2.33**	**359**	*eP*	Pn	07 32 54.2	+3.3
MTVR	**Mutnovka**	**2.68**	**18**	*eP*	Pn	07 32 58.8	+3.0
MTVR				*eS*	Sn	07 33 31.1	+4.0
RUS	**Russkaya**	**2.71**	**23**	*eP*	Pn	07 32 58.3	+2.3
RUS				*eS*	Sn	07 33 30.8	+3.2
GRL	**Gorelyy**	**2.73**	**17**	*eP*	Pn	07 32 59.5	+3.1
GRL				*eS*	Sn	07 33 32.7	+4.5
APC	**Apacha**	**2.99**	**4**	P	Pn	07 33 03.6	+3.8
KRMR	**Karymshinskiy**	**3.00**	**16**	*eS*	Sn	07 33 39.0	+4.2
DALK	**Dalny**	**3.32**	**21**	*eP*	Pn	07 33 07.6	+3.2
DALK				*eS*	Sn	07 33 47.0	+4.5
UGLR	**Uglovaya**	**3.50**	**20**	*eP*	Pn	07 33 10.3	+3.3
AVH	**Avacha**	**3.54**	**19**	*eP*	Pn	07 33 12.1	+4.7
KOK	**Koryaka**	**3.54**	**18**	*eP*	Pn	07 33 12.5	+5.0
SMAR	**Somma**	**3.55**	**20**	*eP*	Pn	07 33 12.7	+5.0
KRER	**Koryakskii**	**3.57**	**19**	*eP*	Pn	07 33 13.1	+5.1
SDLR	**Sedlovina**	**3.58**	**20**	*eP*	Pn	07 33 11.1	+3.1
NLC	**Nalytchevo**	**3.60**	**25**	*eS*	Sn	07 33 52.1	+2.8
KRX	**Arik**	**3.60**	**18**	*eP*	Pn	07 33 13.0	+4.6
SPN	**Mys Shipunski**	**3.74**	**31**	*eP*	Pn	07 33 13.2	+3.1
SPN				*eS*	Sn	07 33 56.4	+3.5
GNL	**Ganaly**	**3.82**	**10**	*eP*	Pn	07 33 14.5	+3.2
KII	**Karymskiy**	**4.41**	**21**	*eP*	Pn	07 33 24.1	+4.7
MKZ	**Mys Kozlova**	**5.52**	**31**

121A	Cookes Peak, D	7.07	15	P			07 40 57.4		
	baz=196,SNR=9.8								
SPX	San Pedro Mart	7.19	319			Pn	07 41 00.4	+2.5	
MNTX	Cornudas Mount	7.21	33	eP		Pn	07 40 57.6	-0.2	
MNTX	Cornudas Mount	7.21	33	Pn		Pn	07 40 58.7	+0.8	
113A	Mohawk Valley,	7.79	336	Pn		Pn	07 41 07.5	+1.7	
GLA	Glamis	8.46	331			Pn	07 41 15.4	+0.3	
GLA	Glamis	8.46	331	P			07 41 17.2		
	baz=149								
Y14A	Wickenburg	8.62	343			Pn	07 41 17.8	+0.4	
X16A	Lo Mia Camp, P	8.78	352			Pn	07 41 21.0	+1.3	
X18A	Snowflake	8.80	0			Pn	07 41 20.5	+0.6	
CBX	Cerro Bola	8.82	320	Pn		Pn	07 41 21.4	+1.3	
CBX	Cerro Bola	8.82	320	IAML			07 44 49.0		
	comp=E,8.5nm,1.2s								
CBX				⇓e			07 44 49.0		
CBX				IAML			07 44 56.3		
	comp=N,9.3nm,1.9s								
CBX				⇑e			07 44 56.3		
LENM	Lemitar	8.83	16			Pn	07 41 19.8	-0.5	
BNM	Barren Site	8.91	18	Pn		Pn	07 41 22.6	+1.2	
TKX	Tecate	8.97	321	Pn		Pn	07 41 24.3	+2.2	
BAR	Barrett	9.09	321	Pn		Pn	07 41 25.5	+1.8	
MONP2	Monument Peak	9.12	323	P			07 41 27.9		
	baz=140								
BC3	Big Chuckawall	9.25	330	P			07 41 29.2		
	baz=148								
PDMCI	Parker Dam,Lak	9.31	338	P			07 41 29.9		
	baz=156								
W18A	Petrified Fore	9.39	1			Pn	07 41 29.7	+1.7	
W18A	Petrified Fore	9.39	1	P			07 41 30.0		
	baz=181								
109C	Camp Elliot, M	9.49	321	Pn		Pn	07 41 30.8	+1.6	
109C	Camp Elliot, M	9.49	321	P			07 41 31.4		
	baz=137								
IRM	Iron Mountain	9.55	333	P			07 41 34.2		
	baz=150,SNR=5.9								
TPFO	Pinon Flats	9.69	326	P			07 41 34.6		
	baz=143								
PFO	Pinyon Flats O	9.70	326	Pn		Pn	07 41 34.2	+2.1	
	comp=N,0.2nm,0.3s,baz=141,slow=12,SNR=6.0								
PFO				Lg		Lg	07 44 25.7		
	comp=N,0.1nm,0.3s,baz=177,slow=5.2,SNR=2.1								
PFO				LR		LR	07 44 36.5		
	comp=N,625nm,21.7s,baz=156,slow=33								
PFO	Pinyon Flats O	9.70	326	Pn		Pn	07 41 33.8	+1.7	
PFO	Pinyon Flats O	9.70	326	P			07 41 35.1		
	baz=143								
ANMO	Albuquerque	9.70	17	Pn		Pn	07 41 35.2	+3.0	
	comp=N,0.1nm,0.3s,baz=197,slow=13,SNR=15								
ANMO				Sn		Sn	07 43 22.3	+0.5	
	comp=N,0.1nm,0.3s,baz=164,slow=12,SNR=1.2								
ANMO				Lg		Lg	07 44 14.2		
	comp=N,0.3nm,0.3s,baz=172,slow=7.9,SNR=3.5								
ANMO				LR		LR	07 44 55.3		
	comp=N,1μm,18.3s,baz=193,slow=35								
ANMO	Albuquerque	9.70	17	eP		Pn	07 41 31.1	-1.1	
ANMO	Albuquerque	9.70	17	Pn		Pn	07 41 33.1	+0.9	
ANMO	Albuquerque	9.70	17	P			07 41 34.0		
	baz=199								
833A	Chaparral WMA,	9.79	72	P			07 41 32.2		
	baz=256								
BELC	Belle Mtn. Jos	9.79	329	P			07 41 36.4		
	baz=146								
WUAZ	Wupatki	9.86	353	Pn		Pn	07 41 36.0	+1.6	
WUAZ	Wupatki	9.86	353	P			07 41 37.1		
	baz=172,SNR=7.4								
W13A	Hualapai Mount	9.96	341			Pn	07 41 38.7	+2.9	
MURC	Murrieta	10.07	323	P			07 41 40.5		
	baz=140								
JCT	Junction City	10.16	60			Pn	07 41 38.2	-0.2	
JCT	Junction City	10.16	60	P			07 41 38.0		
	baz=244								
BBRC	Big Bear Solar	10.45	326	P			07 41 45.7		
	baz=143								
BFSC	Mount Baldy Ra	10.81	324	P			07 41 50.3		
	baz=140								
U15A	North Rim	10.88	350			Pn	07 41 51.2	+2.7	
TUQ	Turquoise Moun	10.98	334	P			07 41 52.3		
	baz=150								
MWC	Mount Wilson	11.01	322	Pn		Pn	07 41 50.7	+0.5	
PASC	Pasadena Art C	11.04	322	Pn		Pn	07 41 52.5	+2.0	
GSC	Goldstone, Bar	11.24	330			Pn	07 41 54.9	+1.7	
EDW2	Edwards Air Fo	11.48	325	P			07 41 59.9		
	baz=141								
KNB	Kanab	11.54	349			Pn	07 42 00.2	+2.8	
MVCO	Mesa Verde	11.54	6	Pn		Pn	07 41 59.8	+2.3	
MVCO	Mesa Verde	11.54	6	P			07 41 58.3		
	baz=186,SNR=11								
LCMT	Little Creek M	11.62	347			Pn	07 41 59.2	+0.7	
SHPR	Sheep Range	11.65	339	Pn		Pn	07 42 00.7	+1.8	
OSI	Osito Audit: C	11.67	322	P			07 42 01.2		
	baz=137								
OSI	Osito Audit: C	11.67	322	Pn		Pn	07 42 01.0	+1.9	
PKCU	Pink Cliffs	11.88	351			Pn	07 42 03.4	+1.2	
435B	Jarrell	12.03	62	Pn		Pn	07 42 02.8	-1.2	
ARVC	Arvin	12.11	323	P			07 42 08.2		
	baz=138								
SZCU	Shurtz Canyon	12.15	348			Pn	07 42 08.4	+2.5	
CCUT	Cedar City	12.16	347	Pn		Pn	07 42 06.9	+0.9	
MPMC	Manual Prospec	12.17	330	P			07 42 10.3		
	baz=146,SNR=7.5								
FURC	Furnace Creek,	12.25	333	P			07 42 10.4		
	baz=149,SNR=7.2								
S22A	4UR Ranch, Cre	12.30	12	P			07 42 10.2		
	baz=193								
ISA	Isabella, Lake	12.33	326	Pn		Pn	07 42 10.2	+2.0	
ISA	Isabella, Lake	12.33	326	P			07 42 10.8		
	baz=141,SNR=8.9								
T25A	Trinidad	12.35	21	P			07 42 10.5		
	baz=204								
PV05	Paradox Valley	12.37	3			Pn	07 42 11.1	+2.3	
TPNV	Topopah Spring	12.43	336			Pn	07 42 11.0	+1.4	
TPNV	Topopah Spring	12.43	336	P			07 42 13.1		
	baz=153,SNR=16								
PRN	Pahroc Range	12.45	341			Pn	07 42 11.6	+1.8	
MTPU	Mount Pierson	12.45	352			Pn	07 42 10.6	+0.6	
PV01	Paradox Valley	12.46	5			Pn	07 42 10.6	+0.6	
PV13	Radium Mtn., P	12.46	4			Pn	07 42 10.5	+0.4	
PKM	Mcpherson Peak	12.49	319	P			07 42 13.0		
	baz=135								
PV02	Paradox Valley	12.52	4			Pn	07 42 12.4	+1.6	
PV18	Skein Mesa, Pa	12.54	4			Pn	07 42 12.3	+1.1	
PV03	Paradox Valley	12.55	4			Pn	07 42 13.4	+2.1	
PV17	East Wray Mesa	12.57	4			Pn	07 42 13.0	+1.4	
SDCO	Great Sand Dun	12.60	16			Pn	07 42 12.9	+0.9	
SDCO	Great Sand Dun	12.60	16	P			07 42 14.3		
	baz=198,SNR=7.7								
PV11	David Mesa, Pa	12.60	4			Pn	07 42 13.1	+1.2	
PV19	Morning Glory	12.60	4			Pn	07 42 14.1	+2.1	
PV16	Nyswonger Mesa	12.61	4			Pn	07 42 13.0	+1.0	
WHTX	Lake Whitney,	12.63	57	P			07 42 12.8		
	baz=243								
CWC	Cottonwood Cre	12.76	329	P			07 42 17.6		
	baz=145								
VES	Vestal, Richgr	12.78	324	P			07 42 17.3		
	baz=140								
SMMC	Simmler	12.90	320	P			07 42 18.5		
	baz=135								
GRAC	Grapevine Rang	12.91	333	P			07 42 19.4		
	baz=149,SNR=7.1								
WMOK	Wichita Mounta	13.21	44			Pn	07 42 20.9	+0.9	
PSUT	Pine Spring	13.21	347	Pn		Pn	07 42 21.5	+1.2	
VOG	Valley Oaks Go	13.31	325	P			07 42 24.6		
	baz=140								
SRU	San Rafael Swe	13.38	358			Pn	07 42 24.4	+1.8	
R11A	Troy Canyon, C	13.48	341			Pn	07 42 25.6	+1.7	
R11A	Troy Canyon, C	13.48	341	P			07 42 27.1		
	baz=158,SNR=11								
TMUT	Trail Mountain	13.60	356			Pn	07 42 27.9	+2.2	
SMCO	Snowmass	13.68	10			Pn	07 42 28.8	+2.0	
X34A	Smith Ranch, M	13.74	47	Pn		Pn	07 42 27.1	-0.1	
P17A	Butcher Ranch,	13.75	357			Pn	07 42 29.9	+2.3	
SPR3	Spring Creek 3	13.76	346	Pn		Pn	07 42 30.3	+2.4	
TPH	Tonopah	13.79	335			Pn	07 42 29.6	+1.5	
LOOK	Love County	13.83	50	Pn		Pn	07 42 27.8	-0.7	
Q24A	Divide	13.84	16	P			07 42 30.2		
	baz=198								
MDPB	Devils Postpil	14.19	329			Pn	07 42 36.7	+3.0	
NLU	North Lily Min	14.33	353			Pn	07 42 38.3	+2.8	
MPU	Maple Canyon	14.35	355	Pn		Pn	07 42 36.3	+0.6	
LHV	Little Huntoon	14.45	332	Pn		Pn	07 42 39.0	+2.0	
NV11	Mina Array Sit	14.46	333			Pn	07 42 39.6	+2.4	
O20A	White River Ci	14.47	5			Pn	07 42 39.6	+2.2	
	baz=186								
NVAR	Mina Array Bea	14.52	333	Pn		Pn	07 42 41.8	+3.7	
	comp=N,0.1nm,0.3s,baz=156,slow=11,SNR=5.2								
NVAR				Lg		Lg	07 47 04.3		
	baz=129,slow=19,SNR=1.3								
NVAR				LR		LR	07 47 39.8		
	comp=N,365nm,20.2s,baz=150,slow=35								
NVAR	Mina Array Bea	14.52	333			Pn	07 42 40.7	+2.6	
ISCO	Idaho Springs	14.53	13	Pn		Pn	07 42 40.6	+2.3	
ISCO	Idaho Springs	14.53	13	P			07 42 40.0		
	baz=196								
DUG	Dugway, Tooele	14.65	351	Pn		Pn	07 42 42.4	+2.5	
DUG	Dugway, Tooele	14.65	351	P			07 42 42.3		
	baz=170,SNR=7.7								
OK025	Westminster Rd	14.66	45	Pn		Pn	07 42 40.7	+0.8	
NATX	Nacogdoches	14.72	62	P			07 42 40.8		
	baz=249								
RYN	Ryan	14.78	333			Pn	07 42 42.4	+0.8	
RDMU	Red Mountain	14.84	1	Pn		Pn	07 42 44.2	+1.7	
JLU	Jordanelle	14.91	356			Pn	07 42 45.6	+2.1	
KVN	Kaiserville	14.97	335	Pn		Pn	07 42 46.8	+2.5	
CTU	Camp Tracy	15.03	355	Pn		Pn	07 42 46.7	+1.7	
WAKR	Walker	15.07	330			Pn	07 42 48.6	+3.0	
CMB	Columbia Colle	15.14	327	Pn		Pn	07 42 48.1	+1.7	
OK031	S. Brethren Rd	15.21	45			Pn	07 42 47.6	+0.4	
OK030	Cody Creek RV	15.22	45			Pn	07 42 48.1	+0.6	
OK030				IAmb		IAmb	07 42 58.3		
	comp=Z,18nm,1.0s								
YERR	Yerington	15.38	332			Pn	07 42 50.1	+0.4	
BGU	Big Grassy Mou	15.40	351			Pn	07 42 50.6	+0.7	
X37A	Clayton	15.41	51	Pn		Pn	07 42 51.3	+1.3	
N23A	Red Feather La	15.52	11	P			07 42 53.6		
	baz=193								
PNTR	Pine Nut	15.62	331	Pn		Pn	07 42 55.1	+2.2	
ELK	Elko	15.63	345	Pn		P	07 42 56.1	-1.3	
	comp=Z,0.1nm,0.3s,baz=160,slow=11,SNR=14								
ELK				Lg		Lg	07 47 23.8		
	comp=Z,0.1nm,0.3s,baz=122,slow=8.8,SNR=1.5								
ELK				LR		LR	07 48 51.7		
	comp=Z,785nm,22.0s,baz=172,slow=37								
ELK	Elko	15.63	345	Pn		Pn	07 42 54.2	+1.1	
ELK				IAmb		IAmb	07 43 03.2		
	comp=Z,42nm,1.5s								
CBKS	Cedar Bluff	15.66	31	P			07 42 55.0		
	baz=216								
CBKS	Cedar Bluff	15.67	31			Pn	07 42 54.0	+0.7	
CBKS				IAmb		IAmb	07 43 03.6		
	comp=Z,20nm,0.9s								
SPUT	South Promonto	15.71	353	Pn		Pn	07 42 55.7	+1.8	
SPUT				IAmb		IAmb	07 43 02.1		
	comp=Z,22nm,1.3s								
VCNR	Virginia City	15.81	331			P	07 42 57.9	-1.4	
VCNR				IAmb		IAmb	07 43 05.5		
	comp=Z,28nm,1.1s								
RUBR	Rubicon Trail	15.84	330	Pn		P	07 42 58.4	-1.2	
R32A	Long Quarter,	15.86	34			Pn	07 42 55.4	-0.4	
R32A				IAmb		IAmb	07 43 14.5		
	comp=Z,23nm,1.1s								
HWUT	Hardware Ranch	15.92	356	Pn		P	07 42 59.0	-1.6	
HWUT				IAmb		IAmb	07 43 13.5		
	comp=Z,38nm,1.4s								
T35A	Sooner Cattle	16.02	43			Pn	07 42 57.5	-0.4	
PAHR	Pah Rah Range	16.05	333	Pn		P	07 43 00.7	-1.1	
PAHR				IAmb		IAmb	07 43 12.1		
	comp=Z,30nm,1.4s								
AFDM	Forest Hills D	16.14	328			P	07 43 01.5	-1.2	
HVU	Hansel Valley	16.21	352	Pn		P	07 43 02.6	-1.1	
CMIG	Matias Romero	16.40	118	Pn		Pn	07 43 02.6	-0.8	
	comp=Z,0.4nm,0.3s,baz=22,slow=18,SNR=4.5								
CMIG				LR		LR	07 48 57.0		
	comp=Z,941nm,18.0s,baz=277,slow=36								
OGNE	Ogallala	16.58	22	P			07 43 07.2		
	baz=206								
BEKR	Beckworth	16.59	331			P	07 43 07.8	-0.1	
WLAR	White Oak Lake	16.66	58	Pn		Pn	07 43 06.3	+0.3	
WLAR				IAmb		IAmb	07 43 26.6		
	comp=Z,42nm,1.3s								
MIAR	Mount Ida	16.68	54	Pn		Pn	07 43 07.3	+0.9	
MIAR	Mount Ida	16.68	54	P			07 43 07.0		
	baz=242								
Z41A	Richland Creek	16.73	59	P			07 43 06.6		
	baz=247								
W39A	Magazine	16.84	52	P			07 43 08.9		
	baz=240								
ORV	Oroville	16.87	328	P		P	07 43 11.8	+1.0	
BW06	Boulder Array	17.03	1	P			07 43 11.7		
	baz=181,SNR=13								
BW06	Boulder Array	17.03	1			Pn	07 43 11.8	+0.8	
BW06				IAmb		IAmb	07 43 24.9		
	comp=Z,30nm,1.5s								
PD31	Pinedale Array	17.03	1			P	07 43 12.2	-0.7	
PDAR	Pinedale Array	17.03	1	P		P	07 43 12.2	-0.7	
	baz=180,slow=10,SNR=14								
PDAR				Lg		Lg	07 48 16.4		
	comp=Z,0.0nm,0.3s,baz=164,slow=17,SNR=6.6								
PDAR				LR		LR	07 50 04.6		
	comp=Z,2μm,18.4s,baz=182,slow=38								
AHID	Auburn Hatcher	17.05	357	P		P	07 43 12.9	-0.1	
AHID				IAmb		IAmb	07 43 16.3		
	comp=Z,26nm,1.5s								
K22A	Casper	17.15	9			P	07 43 13.8	-0.2	
K22A				IAmb		IAmb	07 43 22.7		
	comp=Z,33nm,1.2s								
K22A	Casper	17.15	9	P			07 43 13.8		
	baz=190								
X40A	Basin Creek Fa	17.20	55			Pn	07 43 11.5	-1.5	
X40A	Basin Creek Fa	17.20	55	P			07 43 11.4		
	baz=244								
HHAR	Hobbs	17.30	49	P		P	07 43 14.9	-0.8	
ECR	Eagle Creek	17.35	357	P		P	07 43 17.4	+1.0	
KSU1	Kansas State U	17.46	37	P			07 43 16.4		
	baz=224								
O03E	Paynes Creek	17.59	329	P			07 43 21.6		
	baz=142,SNR=9.2								
REDW	Red Top Meadow	17.64	358			Pn	07 43 18.8	+0.3	
REDW				IAmb		IAmb	07 43 37.1		
	comp=Z,24nm,1.4s								
SNOW	Snow King Moun	17.73	358	P		P	07 43 21.6	+1.0	
SNOW				IAmb		IAmb	07 43 38.5		
	comp=Z,28nm,1.5s								
TPAW	Teton Pass	17.77	358	Pn		Pn	07 43 20.0	-0.1	
TPAW				IAmb		IAmb	07 43 47.0		
	comp=Z,24nm,1.3s								
LOHW	Long Hollow	17.88	358	P		P	07 43 23.1	+0.9	
W41B	Gary Mavity, V	17.94	54	P			07 43 21.9		
	baz=243								
WHAR	Wooly Hollow	17.96	54			P	07 43 23.8	+0.9	
WHAR				IAmb		IAmb	07 43 31.5		
	comp=Z,23nm,1.4s								
U40A	Yellville	18.08	50	P		Pn	07 43 23.6	-0.2	
U40A	Yellville	18.08	50	P			07 43 23.9		
	baz=238								
WVOR	Wild Horse Val	18.16	339	P		P	07 43 26.9	+1.7	
HLID	Hailey	18.19	350	P		P	07 43 27.1	+1.5	
HLID	Hailey	18.19	350	P			07 43 27.7		
	baz=167,SNR=7.5								
VBMS	Vicksburg	18.21	65	P			07 43 25.6		
	baz=254								
MOD	Modoc Plateau	18.28	335			P	07 43 28.5	+1.9	
MOD				IAmb		IAmb	07 43 32.0		
	comp=Z,36nm,1.5s								
MFID	Camas Ranch	18.31	346	P		P	07 43 28.1	+1.2	
FLWY	Flagg Ranch	18.35	358	P		P	07 43 28.4	+0.9	
FLWY				IAmb		IAmb	07 43 51.1		
	comp=Z,43nm,1.4s								
FCAR	Ozark Folk Cen	18.36	52			Pn	07 43 26.6	-0.7	
S39A	Bolivar	18.50	46	P		Pn	07 43 30.3	+1.3	
BCYI	Bear Canyon	18.78	352	P		P	07 43 31.6	-0.5	
M04C	Macdoel	18.80	331	P			07 43 35.0		
	baz=145,SNR=8.1								
MGMO	Mountain Grove	18.90	49	P		Pn	07 43 34.0	+0.2	
MGMO				IAmb		IAmb	07 43 49.9		
	comp=Z,20nm,1.2s								
J08A	Circle Bar Ran	18.94	341	P		Pn	07 43 35.0	+0.7	
J08A				IAmb		IAmb	07 43 44.3		
	comp=Z,16nm,1.2s								
YMR	Madison River	18.95	358	P		Pn	07 43 35.3	+0.8	
M02C	Callahan	18.95	329	P			07 43 36.4		
	baz=142								
YMP	Mirror Lake Pl	19.00	360	P		P	07 43 34.4	-0.3	
YMP				IAmb		IAmb	07 43 57.0		
	comp=Z,28nm,1.4s								
YHH	Holmes Hill	19.06	358	P		P	07 43 35.7	+0.4	
QLMT	Earthquake Lak	19.13	357			Pn	07 43 37.7	+1.0	
YBH	Yreka Blue Hor	19.15	330	LR		LR	07 50 28.6		
	comp=Z,263nm,18.9s,baz=157,slow=35								
K05A	Summer Lake	19.21	335	P		P	07 43 37.4	+0.6	
K05A				IAmb		IAmb	07 43 47.9		
	comp=Z,31nm,1.3s								
MCMT	McKenzie Canyo	19.23	354	P		Pn	07 43 39.1	+1.1	
YNE	Yellowstone No	19.27	360	P		Pn	07 43 39.2	+0.8	
YNE				IAmb		IAmb	07 43 54.5		
	comp=Z,23nm,1.4s								
L04D	Klamath Falls	19.36	331	P			07 43 40.6		
	baz=144								
RLMT	Red Lodge	19.39	1			P	07 43 38.6	-0.2	
RLMT				IAmb		IAmb	07 44 06.4		
	comp=Z,16nm,1.4s								
RLMT	Red Lodge	19.39	1	P			07 43 40.9		
	baz=182								
R40A	Maddies Statio	19.53	46	P		P	07 43 40.0	-0.1	
DLMT	Dillon	19.74	355	P		Pn	07 43 44.6	+0.7	
DLMT				IAmb		IAmb	07 43 50.0		
	comp=Z,18nm,1.4s								
I07A	Izee	19.91	339	P		Pn	07 43 45.9	-0.1	
I07A				IAmb		IAmb	07 44 08.5		
	comp=Z,18nm,1.4s								
BMO	Blue Mountains	20.01	345	P		P	07 43 45.9	+0.4	
BMO				IAmb		IAmb	07 44 06.4		
	comp=Z,13nm,1.3s								
GCMT	Greycliff	20.05	1	P		P	07 43 46.3	+0.4	
CCM	Cathedral Cave	20.07	48	P		P	07 43 45.0	-1.0	
PINE	Pine Mountain	20.14	336	P		Pn	07 43 48.5	-0.4	
W45A	Hickory Valley	20.22	57	P		P	07 43 47.4	-0.2	
P40A	Paris	20.39	43	P		P	07 43 50.0	+0.4	
P40A				IAmb		IAmb	07 44 09.1		
	comp=Z,18nm,1.2s								
Z47A	Carrollton	20.46	63	P		Pn	07 43 51.6	-0.8	
I04A	Tendick Farm,	20.70	334	P			07 43 55.7		
	baz=147								
I05D	Terrebonne, OR	20.76	336	P			07 43 55.9		
	baz=150								
G08A	Pilot Rock	20.85	342	P		P	07 43 54.5	0.0	
G08A				IAmb		IAmb	07 43 59.5		
	comp=Z,12nm,1.3s								
PLAL	Pickwick Lake	21.00	59	P		P	07 43 56.0	-0.2	
HRY	Holter Researc	21.02	356	P		P	07 43 57.8	+1.3	
ECSD	EROS Data Cent	21.03	28	P		P	07 43 55.7	-0.7	
ECSD				IAmb		IAmb	07 44 15.7		
	comp=Z,17nm,1.4s								
ECSD	EROS Data Cent	21.03	28	P			07 43 57.1		
	baz=215,SNR=5.5								
F10A	Beach Ranch, E	21.05	346	P		P	07 43 58.0	+1.2	
F10A				IAmb		IAmb	07 44 04.3		
	comp=Z,27nm,1.4s								
LAO	LASA Array	21.16	7	P		P	07 43 58.0	+0.1	
S44A	Carbondale	21.25	51	P		P	07 43 58.9	+0.1	
S44A				IAmb		IAmb	07 44 02.5		
	comp=Z,12nm,0.8s								
SIUC	Southern Illin	21.28	51	P		P	07 43 59.5	+0.3	
MSO	Missoula	21.32	352	P		P	07 43 60.0	+0.3	
MSO				IAmb		IAmb	07 44 23.9		
	comp=Z,17nm,1.4s								
MSO	Missoula	21.32	352	P			07 44 00.6		
	baz=170,SNR=6.7								
H04D	Lebanon	21.44	334	P			07 44 03.2		
	baz=147								
WVT	Waverly	21.61	56	P		P	07 44 03.8	+1.1	
WVT				IAmb		IAmb	07 44 31.4		
	comp=Z,12nm,1.1s								
WVT	Waverly	21.61	56	P			07 44 02.6		
	baz=247								
HAWA	Hanford	22.02	342	P		P	07 44 07.6	+0.5	
HAWA				IAmb		IAmb	07 44 22.4		
	comp=Z,23nm,1.4s								
K38A	Parkersburg	22.03	36	P		P	07 44 08.3	+1.2	
E28A	Huff	22.11	17	P		P	07 44 08.9	+0.9	
D08A	Wollman Farm,	22.47	344	P		P	07 44 13.2	+1.3	
D08A				IAmb		IAmb	07 44 20.6		
	comp=Z,16nm,1.5s								
T47A	Sharon Grove	22.48	54	P		P	07 44 10.8	-1.3	
T47A				IAmb		IAmb	07 44 33.4		
	comp=Z,14nm,1.2s								
HDIL	Hopedale	22.71	44	P		P	07 44 14.6	+0.1	
FPAL	Fort Paine	22.79	61	P		P	07 44 14.0	-1.4	
FPAL				IAmb		IAmb	07 44 35.3		
	comp=Z,6.8nm,1.0s								
F33A	5 Mile Ranch,	22.90	25	P		P	07 44 17.2	+0.8	
F33A				IAmb		IAmb	07 44 21.5		
	comp=Z,11nm,1.1s								
LON	Longmire	23.03	339	P		P	07 44 18.1	+0.3	
152A	Waverly Hall	23.08	67	P		P	07 44 18.8	+0.3	
152A				IAmb		IAmb	07 44 33.4		
	comp=Z,10.0nm,1.0s								
NEW	Newport	23.22	348	P		P	07 44 19.5	-0.2	
	comp=Z,3.3nm,0.7s,baz=166,slow=12,SNR=9.7								
NEW				LR		LR	07 53 59.6		
	comp=Z,533nm,18.1s,baz=177,slow=38								
NEW	Newport	23.22	348	P		P	07 44 20.0	+0.3	
NEW				IAmb		IAmb	07 44 44.0		
	comp=Z,12nm,1.2s								
NEW	Newport	23.22	348	P			07 44 19.8		
	baz=163,SNR=6.2								
W50A	Signal Mountai	23.22	60

SKT	**Skwentna**	**45.66**	**334**	P			07 47 34.9
	baz=123						
IL31		**45.67**	**339**	P		**P**	**07 47 34.0 +0.8**
IL31				IAmb		IAmb	07 47 38.3
	comp=Z,3.3nm,0.9s						
ILAR	**Eielson Array**	**45.67**	**339**	P		**P**	**07 47 34.3 +1.1**
	comp=Z,1.4nm,0.8s,baz=152,slow=6.9,SNR=17						
ILAR	**Eielson Array**	**45.67**	**339**	P		**P**	**07 47 33.1 -0.1**
NEA2	**Nenana**	**46.28**	**338**	P			07 47 40.0
	baz=128						
PPLA	**Purkeypile**	**46.42**	**335**	P		**P**	**07 47 40.1 +0.7**
PPLA	**Purkeypile**	**46.42**	**335**	P			07 47 40.8
	baz=123						
BPAW	**Bear Paw Mtn.**	**46.65**	**337**	P			07 47 42.7
	baz=126						
H24K	**Noodor Dome**	**46.68**	**340**	P			07 47 43.0
	baz=130						
I23K	**Minto, Yukon-K**	**46.72**	**338**	P			07 47 43.3
	baz=128						
MLY	**Manley**	**47.12**	**338**	P		**P**	**07 47 46.6 +2.0**
MLY				IAmb		IAmb	07 47 49.8
	comp=Z,3.5nm,0.9s						
MLY	**Manley**	**47.12**	**338**	P			07 47 45.9
	baz=126						
H21K	**Melozitna Rive**	**48.19**	**338**	P			07 47 54.2
	baz=125						
COLD	**Coldfoot**	**48.29**	**340**	P			07 47 55.2
	baz=129						
IMAR	**Indian Mountai**	**48.69**	**338**	P		**P**	**07 47 57.3 +0.5**
TOLK	**Toolik Lake Re**	**49.01**	**342**	P		**P**	**07 48 00.6 +1.3**
TOLK				IAmb		IAmb	07 48 05.2
	comp=Z,4.1nm,0.9s						
TOLK	**Toolik Lake Re**	**49.01**	**342**	P			07 48 01.3
	baz=130						
PPT2	**Papeete2**	**57.76**	**226**	*e*LR		LR	08 05 44.0
	comp=Z,255nm,25.8s						
LPAZ	**La Paz**	**58.31**	**131**	LR		LR	08 11 46.6
	comp=Z,68nm,20.8s,baz=28,slow=34						
SUMG	**Summit**	**60.17**	**153**	P		**P**	**07 49 22.2 +1.6**
H03N2	**Juan Fernandez**	**65.80**	**152**	T		T	09 01 38.8
	baz=331,slow=77,SNR=130						
H03N1	**Juan Fernandez**	**65.81**	**152**	T		T	09 01 40.1
	baz=331,slow=77,SNR=182						
H03N3	**Juan Fernandez**	**65.82**	**152**	T		T	09 01 39.1
	baz=331,slow=77,SNR=144						
PETK	**Petropavlovsk-**	**71.22**	**320**	P		**P**	**07 50 32.5 +0.7**
	comp=Z,5.5nm,1.0s,baz=16,slow=2.2,SNR=4.9						
PETK	**Petropavlovsk-**	**71.22**	**320**	P		**P**	**07 50 32.0 +0.1**
BDFB	**Brasilia**	**72.95**	**117**	LR		LR	08 25 18.1
	comp=Z,99nm,19.2s,baz=2.3,slow=38						
PLCA	**Paso Flores**	**75.56**	**150**	LR		LR	08 17 55.0
	comp=Z,96nm,18.1s,baz=124,slow=31						
ARCES	**ARCESS Array B**	**79.78**	**15**	LR		LR	08 28 44.1
	comp=Z,108nm,19.1s,baz=330,slow=37						
NOA	**NORSAR Array B**	**81.41**	**25**	LR		LR	08 27 41.8
	comp=Z,29nm,18.5s,baz=325,slow=36						
ESDC	**Sonseca Array**	**85.28**	**48**	LR		LR	08 29 03.0
	comp=Z,139nm,18.4s,baz=290,slow=35						
FINES	**FINESS Array B**	**86.21**	**20**	LR		LR	08 30 08.0
	comp=Z,121nm,18.6s,baz=290,slow=35						
DZM	**Mont Dzumac**	**93.88**	**248**	*e*LR		LR	08 22 25.8
	comp=Z,187nm,23.6s						
AKASG	**Malin Array Be**	**95.82**	**25**	LR		LR	08 37 02.9
	comp=Z,71nm,18.4s,baz=320,slow=36						
KEST	**Kesra**	**96.24**	**46**	LR		LR	08 35 53.2
	comp=Z,113nm,19.4s,baz=298,slow=35						
ZALV	**Zalesovo Beam**	**99.66**	**351**	LR		LR	08 44 22.6
	comp=Z,47nm,18.1s,baz=9.0,slow=39						

NEIC ***16*** *07:47:50.6±1.2, 12.80N±0.06×146.5E±0.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=24.9km s-min=4.3km az=247.0*

IDC ***16*** *07:47:56.4±0.7, 12.87N×146.27E, h53km±6km, mb3.6/11, mb1 3.8/11, mb1mx3.6/47, mbtmp3.9/11, MS3.4/4, Ms1 3.4/4, ms1mx3.0/36, Error ellipse: s-maj=24.5km s-min=13.8km az=104.0*

ISC 16 07:47:52.6±0.5, 12.77N±0.09×146.4E±0.1, h31km, n41, σ1f12/42, mb4.3/19, MS3.3/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ANA2	**Anatahan**	**3.61**	**349**	Pn		**Pn**	**Pn**	**07 48 46.6**	**+0.1**
PATS	**Pohnpei**	**13.13**	**116**			**Pn**	**Pn**	**07 50 56.5**	**-0.7**
SIJI	**Sorong**	**20.23**	**229**	LR		LR	LR	08 00 06.5	
	comp=Z,52nm,20.0s,baz=169,slow=36								
JHJ	**Hachijo jima 2**	**21.14**	**344**	LR		LR	LR	07 59 50.8	
	comp=Z,159nm,19.2s,baz=305,slow=34								
JOW	**Kunigami**	**22.02**	**312**	LR		LR	LR	07 59 59.1	
	comp=Z,82nm,18.9s,baz=112,slow=33								
MJAR	**Matsushiro Arr**	**24.79**	**344**	LR		LR	LR	08 01 44.4	
	comp=Z,120nm,19.1s,baz=130,slow=34								
KSRS	**Korea Array**	**29.62**	**329**	P		**P**	**P**	**07 53 54.7**	**-0.4**
	0.7nm,0.5s,baz=158,slow=10,SNR=1.9								
WB0	**Warramunga Arr**	**34.43**	**200**	P		**P**	**P**	**07 54 38.4**	**+0.9**
WB0						IAmb	IAmb	07 54 40.6	
	comp=Z,8.0nm,1.4s								
WR0	**Warramunga Arr**	**34.56**	**200**	P		**P**	**P**	**07 54 38.3**	**-0.4**
WRAB	**Tennant Creek**	**34.60**	**200**	P		**P**	**P**	**07 54 39.0**	**0.0**
WRAB						IAmb	IAmb	07 54 56.0	
	comp=Z,17nm,1.5s								
WB2	**Warramunga Arr**	**34.60**	**200**	P		**P**	**P**	**07 54 41.2**	**+2.2**
WB2						IAmb	IAmb	07 54 56.0	
	comp=Z,11nm,1.2s								
WRA	**Warramunga Arr**	**34.61**	**200**	P		**P**	**P**	**07 54 39.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=19,slow=9.2,SNR=7.0								
WRA				pP			**pwP**	**07 54 54.6**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=22,slow=9.6,SNR=16								
SANVU	**Saraoutou**	**34.78**	**143**	P		**P**	**P**	**07 54 40.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**36.88**	**214**	P		**P**	**P**	**07 54 59.5**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=55,slow=12,SNR=2.1								
FITZ				pP			**pwP**	**07 55 13.7**	**-1.4**
	comp=Z,4.0nm,1.0s,baz=97,slow=9.3,SNR=4.3								
ASAR	**Alice Springs**	**38.22**	**199**	P		**P**	**P**	**07 55 12.2**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=22,slow=9.3,SNR=4.6								
ASAR				pP			**pwP**	**07 55 25.6**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=22,slow=7.8,SNR=9.2								
CMAR	**Chiang Mai Arr**	**45.95**	**283**	P		**P**	**P**	**07 56 13.3**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=78,slow=5.8,SNR=4.2								
SONM	**Songino Array**	**48.26**	**325**	P		**P**	**P**	**07 56 31.9**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=157,slow=7.7,SNR=2.5								
POHA	**Pohakuloa**	**55.96**	**75**	P		**P**	**P**	**07 57 27.9**	**-0.9**
MK31	**Makanchi Array**	**63.11**	**316**	P		**P**	**P**	**07 58 18.1**	**+0.7**
MKAR	**Makanchi Array**	**63.11**	**316**	P		**P**	**P**	**07 58 17.9**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=93,slow=8.7,SNR=8.9								
MKAR				pP			**pwP**	**07 58 32.8**	**-3.0**
	comp=Z,1.8nm,0.7s,baz=94,slow=9.0,SNR=7.7								
MKAR	**Makanchi Array**	**63.11**	**316**	P		**P**	**P**	**07 58 18.1**	**+0.7**
MAKZ	**Makanchi**	**63.33**	**316**	P		**P**	**P**	**07 58 19.1**	**+0.3**
MAKZ						IAmb	IAmb	07 58 36.1	
	comp=Z,4.2nm,0.9s								
KDAK	**Kodiak Island**	**63.98**	**31**	P		**P**	**P**	**07 58 24.6**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=344,slow=5.7,SNR=6.3								
KDAK	**Kodiak Island**	**63.98**	**31**	P		**P**	**P**	**07 58 23.8**	**+0.9**
KDAK						IAmb	IAmb	07 58 29.6	
	comp=Z,4.2nm,1.2s								
CNPM	**China Poot**	**65.19**	**30**	P		**P**	**P**	**07 58 31.2**	**+0.5**
IMAR	**Indian Mountai**	**66.36**	**23**	P		**P**	**P**	**07 58 39.5**	**+1.3**
IL31		**68.67**	**25**	P		**P**	**P**	**07 58 53.0**	**+0.3**
ILAR	**Eielson Array**	**68.67**	**25**	P		**P**	**P**	**07 58 52.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=247,slow=5.5,SNR=9.9								
ILAR				pP			**pwP**	**07 59 07.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=250,slow=5.8,SNR=4.9								
ILAR	**Eielson Array**	**68.67**	**25**	P		**P**	**P**	**07 58 53.2**	**+0.4**
BCAR	**Beaver Creek A**	**70.47**	**27**	P		**P**	**P**	**07 59 05.9**	**+1.8**
EGAK	**Eagle**	**71.06**	**26**	P		**P**	**P**	**07 59 08.2**	**+0.7**
EGAK						IAmb	IAmb	07 59 11.9	
	comp=Z,5.7nm,1.4s								
KK31	**Karatay Array**	**71.11**	**311**	P		**P**	**P**	**07 59 07.8**	**-0.5**
KK31						IAmb	IAmb	07 59 24.9	
	comp=Z,6.7nm,1.4s								
KKAR	**Karatay Array**	**71.11**	**311**	P		**P**	**P**	**07 59 08.7**	**+0.4**
C36M	**Paulatuk**	**77.98**	**21**	P		**P**	**P**	**07 59 47.8**	**+0.2**
C36M						IAmb	IAmb	07 59 49.3	
	comp=Z,11nm,1.4s								
ABKAR	**Akbulak array**	**78.15**	**318**	P		**P**	**P**	**07 59 49.4**	**+0.4**
NVAR	**Mina Array Bea**	**86.26**	**52**	P		**P**	**P**	**08 00 33.8**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=265,slow=6.2,SNR=4.0								
NVAR	**Mina Array Bea**	**86.26**	**52**	P		**P**	**P**	**08 00 32.0**	**0.0**
ELK	**Elko**	**87.99**	**49**	P		**P**	**P**	**08 00 39.4**	**-1.0**
ELK						IAmb	IAmb	08 00 43.9	
	comp=Z,2.6nm,1.1s								
FINES	**FINESS Array B**	**92.53**	**335**	P		**P**	**P**	**08 00 59.3**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=66,slow=6.7,SNR=2.4								
MAW	**Mawson**	**99.25**	**203**	P		**P**	**Pdif**	**08 01 32.8**	**+1.8**
LPAZ	**La Paz**	**146.41**	**100**	PKPbc		**PKPab**		**08 07 34.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=292,slow=5.4,SNR=2.7								

IDC ***16*** *07:48:21.4±3.2, 22.32N×143.79E, h146km±29km, mb3.5/13, mb1 3.6/15, mb1mx3.4/46, mbtmp3.9/15, MS3.0/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=39.0km s-min=13.6km az=87.0*

ISC 16 07:48:22.2±1.1, 22.43N±0.10×143.7E±0.3, h150km, n16, σ1f31/16, mb3.7/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JCJ	**Chichijima**	**4.84**	**344**	P		**Pn**	**Pn**	**07 49 33.0**	**-0.5**
	6.2nm,0.3s,baz=299,slow=22,SNR=2.0								
JCJ				S			**Sn**	**07 50 26.1**	**-3.1**
	21nm,0.3s,baz=294,slow=23,SNR=13								
MJAR	**Matsushiro Arr**	**14.85**	**343**	P		**P**	**P**	**07 51 47.0**	**+0.4**
	baz=184,slow=11,SNR=4.0								
KSRS	**Korea Array**	**20.22**	**321**	P		**P**	**P**	**07 52 46.3**	**+0.8**
	2.9nm,0.6s,baz=145,slow=10,SNR=5.9								
USRK	**Ussurisk Ar.**	**23.76**	**339**	P		**P**	**P**	**07 53 22.9**	**+2.1**
	1.5nm,0.7s,baz=169,slow=12,SNR=5.1								
KLR	**Kul'dur**	**28.37**	**343**	P		**P**	**P**	**07 54 03.9**	**+1.7**
	3.7nm,0.5s,baz=144,slow=6.9,SNR=16								
SONM	**Songino Array**	**39.08**	**320**	P		**P**	**P**	**07 55 35.5**	**+0.7**
	0.8nm,0.5s,baz=129,slow=7.7,SNR=3.5								
CMAR	**Chiang Mai Arr**	**42.00**	**273**	LR		LR	LR	08 15 49.0	
	comp=Z,20nm,19.3s,baz=1.0,slow=39								
WRA	**Warramunga Arr**	**43.09**	**193**	P		**P**	**P**	**07 56 06.6**	**-1.0**
	0.3nm,0.4s,baz=13,slow=8.6,SNR=13								
FITZ	**Fitzroy Crossi**	**43.98**	**205**	P		**P**	**P**	**07 56 13.9**	**-0.8**
	0.5nm,0.4s,baz=16,slow=7.4,SNR=1.4								
ASAR	**Alice Springs**	**46.80**	**192**	P		**P**	**P**	**07 56 35.7**	**-1.2**
	0.3nm,0.4s,baz=9.9,slow=7.6,SNR=4.8								
ZALV	**Zalesovo Beam**	**53.93**	**321**	P		**P**	**P**	**07 57 30.5**	**+0.4**
	1.2nm,0.4s,baz=127,slow=9.3,SNR=1.4								
MKAR	**Makanchi Array**	**54.55**	**312**	P		**P**	**P**	**07 57 35.6**	**+0.8**
	0.6nm,0.5s,baz=88,slow=9.1,SNR=7.4								
ILAR	**Eielson Array**	**61.18**	**27**	P		**P**	**P**	**07 58 20.5**	**-0.1**
	0.4nm,0.9s,baz=243,slow=5.9,SNR=3.5								
ARCES	**ARCESS Array B**	**78.38**	**342**	P		**P**	**P**	**08 00 05.9**	**+0.2**
	5.6nm,1.1s,baz=64,slow=6.1,SNR=3.6								
KBZ	**Khabaz**	**82.20**	**314**	P		**P**	**P**	**08 00 26.3**	**-0.3**
	1.7nm,0.7s,baz=6.3,slow=9.2,SNR=2.5								
FINES	**FINESS Array B**	**82.72**	**335**	P		**P**	**P**	**08 00 28.7**	**-0.3**
	0.9nm,0.3s,baz=52,slow=4.9,SNR=9.4								

NEIC ***16*** *07:51:02.2±0.9, 17.25S±0.08×66.3W±0.2, h130km±40km, ML3.1/12, Error ellipse: s-maj=22.4km s-min=10.4km az=106.0*

SCB ***16*** *07:51:02.3±4.2, 17.00S×66.20W, h160km±70km, ML3.6/3, Error ellipse: s-maj=30.2km s-min=20.2km az=1.0*

ISC 16 07:51:01.8±1.4, 17.14S±0.07×66.30W±0.09, h150km, n17, σ1f67/21, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BBOE	**La Paz, Chanca**	**1.64**	**281**	P		**Pn**	**Pn**	**07 51 30.9**	**-2.6**
LPAZ	**La Paz**	**1.95**	**295**			**Pn**	**Pn**	**07 51 36.2**	**-0.8**
LPAZ						Sn	**Sn**	**07 52 04.4**	**+0.6**
LPAZ	**La Paz**	**1.95**	**295**	P		**Pn**	**Pn**	**07 51 36.0**	**-1.0**
LPAZ				S			**Sn**	**07 52 04.3**	**+0.4**
LPAZ				IAML				07 52 09.6	
	138nm,0.5s								
BBOB	**La Paz, Bander**	**2.02**	**299**	P		**Pn**	**Pn**	**07 51 37.0**	**-0.7**
BBOB				S			**Sn**	**07 52 06.0**	**+0.8**
BBOB				IAML				07 52 10.1	
	276nm,0.2s								
PB16	**IPOC Station P**	**3.28**	**248**	Pn		**Pn**	**Pn**	**07 51 50.9**	**-2.4**
MNMC	**Minye Minye**	**3.71**	**237**	Pn		**Pn**	**Pn**	**07 51 59.3**	**+0.8**
MNMC				IAML				07 52 46.1	
	comp=E,23nm,3.8s								
MNMC				IAML				07 53 25.0	
	comp=N,24nm,3.5s								
MNMC	**Minye Minye**	**3.71**	**237**	P		**Pn**	**Pn**	**07 52 02.3**	**+3.8**
PB08	**IPOC Station P**	**4.03**	**222**	Pn		**Pn**	**Pn**	**07 52 00.9**	**-1.9**
PB08				IAML				07 54 48.0	
	comp=E,17nm,4.2s								
PB11	**IPOC Station P**	**4.12**	**230**	Pn		**Pn**	**Pn**	**07 52 02.4**	**-1.4**
PB11				IAML				07 53 06.7	
	comp=E,29nm,4.3s								
MOCB	**Mochara**	**4.14**	**171**	P		**Pn**	**Pn**	**07 52 03.1**	**-1.2**
MOCB				S			**Sn**	**07 52 53.7**	**+0.8**
MOCB				IAML				07 53 00.5	
	comp=E,118nm,0.6s								
PSGCX	**Pisagua**	**4.38**	**235**	Pn		**Pn**	**Pn**	**07 52 06.3**	**-0.8**
PSGCX				IAML				07 54 29.3	
	comp=N,24nm,4.6s								
PSGCX				IAML				07 54 49.8	
	comp=E,26nm,4.5s								
PB01	**IPOC Station P**	**4.92**	**217**			**Pn**	**Pn**	**07 52 13.2**	**-1.0**
SIV	**San Ignacio**	**5.14**	**78**	P		**Pn**	**Pn**	**07 52 15.7**	**-1.5**
PB07	**IPOC Station P**	**5.68**	**216**	Pn		**Pn**	**Pn**	**07 52 23.5**	**-1.0**
LVC	**Limon Verde**	**5.97**	**204**	Pn		**Pn**	**Pn**	**07 52 27.0**	**-1.5**
PB04	**IPOC Station P**	**6.31**	**214**	Pn		**Pn**	**Pn**	**07 52 31.5**	**-1.4**
SAML	**Samuel**	**8.69**	**21**	Pn		**Pn**	**Pn**	**07 53 06.2**	**+1.7**

JMA 16 08:12:24.8±0.3, 38.51N×148.31E, h50km, M3.8, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MIYJ	**Miyakonagasawa**	**5.16**	**284**	P		Pn	Pn	08 13 41.7	+2.2
OFUJ	**Ofunato**	**5.22**	**278**	P		Pn	Pn	08 13 42.0	+1.7
OFUJ				eS		Sn	Sn	08 14 41.5	+2.4
NEM2	**Nemuro 2**	**5.22**	**339**	*e*S		Sn	Sn	08 14 41.5	+2.3
JMK	**Ichinoseki**	**5.56**	**277**	P		Pn	Pn	08 13 47.1	+2.2
JMK				*e*S		Sn	Sn	08 14 48.5	+1.0
JCH	**Churui**	**5.57**	**319**	P		Pn	Pn	08 13 47.0	+2.0
JCH				*e*S		Sn	Sn	08 14 49.7	+2.1
JOT	**Ohata**	**6.27**	**299**	P		Pn	Pn	08 13 57.2	+2.5

IDC ***16*** *08:23:26.5±3.2, 30.94N×143.03E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.4/49, mbtmp3.7/7, ML3.3/4, Error ellipse: s-maj=95.9km s-min=20.8km az=68.0*

ISC 16 08:23:29.1±1.8, 30.8N±0.1×142.7E±0.2, h10km, n7, σ1f77/9, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JHJ	**Hachijo jima 2**	**3.38**	**314**	Pn		**Pn**	**Pn**	**08 24 21.8**	**-0.1**
	6.6nm,0.3s,baz=122,slow=22,SNR=7.5								
JHJ				Sn			**Sn**	**08 24 59.8**	**-2.3**
	6.9nm,0.3s,baz=151,slow=23,SNR=8.8								
JCJ	**Chichijima**	**3.71**	**187**	Pn		**Pn**	**Pn**	**08 24 27.7**	**+1.2**
	4.7nm,0.3s,baz=8.7,slow=19,SNR=10								
JCJ				Sn			**Sn**	**08 25 07.3**	**-3.0**
	2.4nm,0.3s,baz=298,slow=23,SNR=1.0								
MJAR	**Matsushiro Arr**	**6.83**	**328**	Pn		**Pn**	**Pn**	**08 25 08.6**	**-0.8**
	0.3nm,0.3s,baz=165,slow=13,SNR=12								
KSRS	**Korea Array**	**13.90**	**302**	Pn		**Pn**	**Pn**	**08 26 47.5**	**+1.4**
	0.1nm,0.3s,baz=114,slow=12,SNR=4.7								
MKAR	**Makanchi Array**	**48.52**	**307**	P		**P**	**P**	**08 32 12.4**	**+0.1**
	0.9nm,0.8s,baz=90,slow=9.6,SNR=3.5								
WRA	**Warramunga Arr**	**51.08**	**190**	P		**P**	**P**	**08 32 32.1**	**+0.3**
	0.5nm,0.4s,baz=7.5,slow=7.6,SNR=15								
ASAR	**Alice Springs**	**54.80**	**190**	P		**P**	**P**	**08 32 59.6**	**+0.3**
	0.6nm,1.2s,baz=10,slow=7.7,SNR=1.4								

IDC ***16*** *08:33:39.5±2.2, 54.58S×159.15E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/21, mbtmp4.1/7, MS3.4/5, Ms1 3.4/5, ms1mx3.2/14, Error ellipse: s-maj=122.6km s-min=19.6km az=71.0*

NEIC ***16*** *08:33:42.2±0.8, 54.66S±0.08×158.7E±0.2, h15km±5km, mb4.4/10, Error ellipse: s-maj=20.2km s-min=6.9km az=121.0*

ISC 16 08:33:42.1±2.0, 54.64S±0.10×158.7E±0.2, h15km±14km, n38, σ0s51/29, mb4.4/12, MS3.3/5, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MCQ	**Macquarie Isla**	**0.23**	**52**			**Pg**	**Pg**	**08 33 46.8**	**-0.3**
MCQ				Sg			**Sg**	**08 33 51.0**	**+0.5**
WHZ	**Wether Hill Ro**	**10.57**	**38**	Pn		**Pn**	**Pn**	**08 36 13.2**	**+0.2**
MLZ	**Mavora Lakes**	**11.09**	**37**	Pn		**Pn**	**Pn**	**08 36 19.8**	**-0.3**
WKZ	**Wanaka**	**11.88**	**38**	Pn		**Pn**	**Pn**	**08 36 30.8**	**-0.1**
TAU	**Tasmania Unive**	**13.89**	**323**	Pn		**Pn**	**Pn**	**08 36 58.0**	**-0.3**
TOO	**Toolangi**	**19.30**	**327**	P		**P**	**P**	**08 38 06.2**	**-0.2**
TOO						IAmb	IAmb	08 38 28.6	
	comp=Z,28nm,1.4s								
VNDA	**Vanda**	**23.01**	**178**	P		**P**	**P**	**08 38 46.2**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=327,slow=10,SNR=3.7								
VNDA				LR			LR	08 45 54.7	
	comp=Z,77nm,18.9s,baz=20,slow=32								
VNDA	**Vanda**	**23.01**	**178**	P		**P**	**P**	**08 38 45.6**	**-0.3**
STKA	**Stephens Creek**	**25.79**	**325**	P		**P**	**P**	**08 39 13.3**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=153,slow=16,SNR=4.2								
STKA				LR			LR	08 47 45.5	
	comp=Z,67nm,19.9s,baz=189,slow=33								
QSPA	**South Pole Qui**	**35.47**	**180**	P		**P**	**P**	**08 40 38.2**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=342,slow=3.2,SNR=2.2								
QSPA				PcP			**PcP**	**08 43 06.4**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=307,slow=2.7,SNR=2.5								
QSPA	**South Pole Qui**	**35.47**	**180**	P		**P**	**P**	**08 40 37.5**	**-0.2**
ASAR	**Alice Springs**	**36.02**	**319**	P		**P**	**P**	**08 40 43.7**	**+1.1**
	comp=Z,8.3nm,0.8s,baz=158,slow=8.4,SNR=62								
ASAR				PcP			**PcP**	**08 43 08.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=148,slow=4.0,SNR=6.8								
AS31	**Alice Springs**	**36.02**	**319**	P		**P**	**P**	**08 40 42.1**	**-0.5**
AS31						IAmb	IAmb	08 40 44.7	
	comp=Z,3.1nm,0.9s								
H01W1	**Cape Leeuwin H**	**36.47**	**284**	T		T	T	09 19 20.3	
	baz=136,slow=76,SNR=4018								
H01W2	**Cape Leeuwin H**	**36.48**	**284**	T		T	T	09 19 20.8	
	baz=136,slow=76,SNR=4743								
H01W3	**Cape Leeuwin H**	**36.48**	**284**	T		T	T	09 19 21.3	
	baz=136,slow=76,SNR=3717								
WR0	**Warramunga Arr**	**39.17**	**323**	P		**P**	**P**	**08 41 09.3**	**0.0**
WB2	**Warramunga Arr**	**39.26**	**322**	P		**P**	**P**	**08 41 10.4**	**+0.4**
WB2						IAmb	IAmb	08 41 11.5	
	comp=Z,12nm,1.1s								
WRA	**Warramunga Arr**	**39.26**	**322**	P		**P**	**P**	**08 41 10.5**	**+0.4**
	comp=Z,6.4nm,0.9s,baz=157,slow=7.2,SNR=26								
WRA				PcP			**PcP**	**08 43 18.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=154,slow=2.6,SNR=4.5								
WRA				LR			LR	08 56 32.2	
	comp=Z,135nm,19.9s,baz=155,slow=35								
WRAB	**Tennant Creek**	**39.27**	**322**	P		**P**	**P**	**08 41 10.5**	**+0.4**
WRAB						IAmb	IAmb	08 41 11.5	
	comp=Z,9.2nm,1.0s								
WB0	**Warramunga Arr**	**39.41**	**322**	P		**P**	**P**	**08 41 11.0**	**-0.2**
WB0						IAmb	IAmb	08 41 12.5	
	comp=Z,8.6nm,0.9s								
FITZ	**Fitzroy Crossi**	**44.37**	**312**	P		**P**	**P**	**08 41 51.6**	**-0.2**
FITZ						IAmb	IAmb	08 41 54.1	
	comp=Z,10nm,1.2s								
KNRA	**Kununurra**	**45.25**	**317**				**P**	**08 41 58.7**	**-0.1**
H03S2	**Juan Fernandez**	**78.95**	**134**	T		T	T	10 12 58.8	
	baz=208,slow=74,SNR=535								
H03S1	**Juan Fernandez**	**78.96**	**134**	T		T	T	10 13 00.2	
	baz=208,slow=74,SNR=514								
H03S3	**Juan Fernandez**	**78.97**	**134**	T		T	T	10 12 59.5	
	baz=208,slow=74,SNR=521								
H03N3	**Juan Fernandez**	**79.28**	**134**	T		T	T	10 13 29.4	
	baz=199,slow=79,SNR=585								
H03N2	**Juan Fernandez**	**79.30**	**134**	T		T	T	10 13 26.6	
	baz=199,slow=79,SNR=602								
H03N1	**Juan Fernandez**	**79.30**	**134**	T		T	T	10 13 17.0	
	baz=199,slow=79,SNR=273								
H08S2	**Diego Garcia H**	**81.60**	**269**	T		T	T	10 15 48.3	
	baz=144,slow=76,SNR=468								
**H08

AGPR IAML 08 59 05.4
comp=Z,1μm,1.1s
MPR Mayaguez 3.29 115 Pn 08 58 09.8 +1.5
MPR Mayaguez 3.29 115 *i* P **Pn 08 58 10.7 +2.4**
MPR ⇓*e*S **Sn 08 58 48.6 +1.2**
MLPR Magueyes Islan 3.48 118 Pn 08 58 12.8 +1.9
AOPR Arecibo Observ 3.57 110 Pn **Pn 08 58 12.6 +0.4**
EMPR Esperanza - Ma 3.73 107 Pn 08 58 15.1 +0.7
OBIP Obispado Ponce 3.82 114 Pn **Pn 08 58 16.4 +0.8**
ICMP Isla Caja de M 3.95 115 Pn 08 58 16.7 -0.8
GCPR Guaynabo City 4.18 108 Pn 08 58 21.0 +0.5
SJG San Juan 4.19 110 Pn Pn **08 58 20.5 -0.2**
comp=Z,6.7nm,0.3s,baz=315,slow=9.5,SNR=8.1
SJG Sn **Sn 08 59 09.3 -0.3**
comp=Z,46nm,0.3s,baz=90,slow=20,SNR=1.7
SJG LR LR 08 59 52.4
comp=Z,277nm,19.2s,baz=284,slow=38
SJG San Juan 4.19 110 Pn 08 58 21.1 +0.4
SJG San Juan 4.19 110 *e*P **Pn 08 58 20.9 +0.2**
PDPR Patillas Dam, 4.34 111 Pn 08 58 23.6 +0.8
CBYP Canovanas 4.40 107 Pn 08 58 24.3 +0.7
GTBY Guantanamo Bay 4.56 275 Pn **Pn 08 58 24.0 -1.8**
GTBY Guantanamo Bay 4.56 275 *i* P **Pn 08 58 27.9 +2.0**
CUPR Culebra, Puert 4.91 105 Pn **Pn 08 58 30.4 -0.2**
STVI Saint Thomas 5.20 103 Pn 08 58 35.2 +0.7
CDVI St. Croix 5.55 109 Pn **Pn 08 58 40.2 +0.9**
ABVI Anegada Island 5.69 98 Pn **Pn 08 58 42.1 +0.8**
MTDJ Mount Denham 7.01 260 Pn **Pn 08 58 59.5 -0.1**
DABV Dabajuro 8.66 182 *e*P **Pn 08 59 22.9 +0.7**
CBCY The Bluff, Cay 8.93 272 Pn **Pn 08 59 26.5 +0.6**
FSCY Frank Sound, G 10.29 270 Pn **Pn 08 59 44.7 +0.2**
SDV Santo Domingo 10.68 182 Pn **Pn 08 59 53.1 +3.1**
comp=Z,3.1nm,0.3s,baz=357,slow=6.4,SNR=3.6
SDV Sn **Sn 09 01 45.7 -4.1**
comp=Z,2.8nm,0.3s,baz=3.5,slow=19,SNR=2.5
SDV Santo Domingo 10.68 182 Pn **Pn 08 59 51.2 +1.2**
PCRV Puerto La Cruz 10.86 149 Pn **Pn 08 59 54.8 +2.4**
comp=Z,9.0nm,0.3s,baz=304,slow=3.8,SNR=40
PCRV Sn **Sn 09 01 49.0 -5.0**
comp=Z,1.6nm,0.3s,baz=41,slow=19,SNR=2.4
GRGR Grenville 11.15 131 Pn **Pn 08 59 56.4 +0.1**
061Z Ochoppi 11.61 304 Pn **Pn 09 00 02.2 -0.3**
BBGH Gun Hill 12.13 120 Pn **Pn 09 00 10.9 +1.1**
ELOV Elorza 12.57 176 *e*P **Pn 09 00 16.6 +0.8**
ZARC Zaragoza, Cauc 12.85 201 *e*P **Pn 09 00 22.5 +2.8**
UREC San Jos de Ur 12.86 204 *e*P **Pn 09 00 20.6 +0.9**
BARC Barichara 13.26 193 *e*P **Pn 09 00 26.4 +1.1**
BBSR BB Station 13.65 20 Pn **Pn 09 00 30.3 0.0**
BCIP Isla Barro Col 13.91 223 Pn **Pn 09 00 34.0 -0.1**
BCIP Isla Barro Col 13.91 223 *e*P **Pn 09 00 30.0 -4.1**
HELC Santa Helena 14.29 202 *e*P **Pn 09 00 42.8 +3.2**
NORC Norcasia 14.67 198 *e*P **Pn 09 00 46.9 +2.4**
CBOC Ciudad Bolivar 14.77 203 *e*P **Pn 09 00 47.8 +1.8**
656A Willston 14.77 313 Pn **Pn 09 00 44.5 -1.3**
SOLC Bahia Solano 15.01 208 *e*P **P 09 00 53.0 -1.5**
GUY2C Guyana, Caldas 15.15 200 *e*P **P 09 00 56.1 -0.5**
ROSC El Rosal 15.21 196 Pn **P 09 00 56.1 -1.0**
comp=Z,1.8nm,0.3s,baz=270,slow=20,SNR=1.9
ROSC Sn **Sn 09 03 42.5 +1.5**
comp=Z,0.6nm,0.3s,baz=6.0,slow=19,SNR=1.3
ROSC El Rosal 15.21 196 Pn 09 00 52.9 +0.8
ROSC IAmb IAmb 09 01 04.7
comp=Z,25nm,1.1s
AZU Azuero 15.24 221 *e*P **Pn 09 00 51.6 -0.6**
CHIC Chingaza 15.28 193 *e*P **P 09 00 59.4 +1.4**
456A Hilliard 15.32 318 Pn **Pn 09 00 52.5 -0.7**
ESPN Las Esperanzas 15.37 243 Pn **Pn 09 00 53.1 -0.8**
RREF El Recreo 15.44 199 *e*P **P 09 00 59.3 -0.8**
TOLC Tolima 15.73 199 *e*P **P 09 01 03.6 +0.6**
ANIL Santa Ana 15.85 199 *e*P **P 09 01 07.1 +3.0**
Y60A Bolivia 15.97 335 Pn **Pn 09 01 00.7 -0.8**
CVTR Volcan Turrial 16.14 236 P **P 09 01 07.3 -0.2**
ACON Acoyapa 16.22 244 Pn **Pn 09 01 05.5 +0.7**
ACON IAmb IAmb 09 01 15.1
comp=Z,13nm,1.0s
DRK0 Durika 16.23 232 Pn **Pn 09 01 04.8 -0.3**
DRK0 IAmb IAmb 09 01 17.5
comp=Z,31nm,1.0s
ORTC Ortega, Tolima 16.35 198 *e*P **P 09 01 08.8 -0.7**
Y58A Scranton 16.50 331 Pn **Pn 09 01 06.5 -1.7**
YOTC Yotoco, Valle 16.63 202 *e*P **P 09 01 12.2 -0.5**
X58A Rowland 16.91 333 Pn **Pn 09 01 13.2 -0.2**
X58A IAmb IAmb 09 01 30.3
comp=Z,14nm,0.9s
Y57A Sumter 16.92 330 Pn **Pn 09 01 12.5 -1.2**
Y57A IAmb IAmb 09 01 35.1
comp=Z,12nm,0.6s
JTS Las Juntas de 16.93 239 P **P 09 01 18.4 +2.5**
comp=Z,0.5nm,0.3s,baz=114,slow=19,SNR=3.1
JTS LR LR 09 07 54.7
comp=Z,121nm,18.7s,baz=142,slow=37
GUVC San Jose del G 17.13 188 *e*P Pn 09 01 05.2 -11
BIRD Birdtown, Kers 17.48 331 Pn 09 01 20.1 -0.5
JSC Jenkinsville 17.56 328 Pn 09 01 21.5 -0.1
W57A Gilead 17.69 333 P **P 09 01 24.1 -0.1**
352A Blakely 17.70 315 P **Pn 09 01 22.9 -0.5**
352A IAmb IAmb 09 01 25.7
comp=Z,31nm,1.5s
MACC Macarena, Meta 17.72 192 *e*P **Pn 09 01 23.4 -0.3**
V58A Windy Hill, Pi 17.89 336 Pn 09 01 24.7 -1.1
U59A Littleton 17.93 340 P **P 09 01 26.5 -0.2**
HODGE Hodges 18.03 326 P **Pn 09 01 26.8 -0.6**
GOGA Godfrey 18.08 322 P **Pn 09 01 27.7 -0.4**
PAULI Pauline 18.26 328 Pn 09 01 29.2 -1.1
FLOC Florencia 18.68 197 *e*P **Pn 09 01 35.6 0.0**
BBAC Balboa, Cauca 18.77 202 *e*P **Pn 09 01 38.0 +1.1**
V55A Taylorsville 18.82 331 P **P 09 01 35.8 -0.8**
V53A Saluda 19.43 328 P **P 09 01 42.5 -0.9**
R58B Mineral 19.44 342 P **P 09 01 41.9 -1.4**
TKL Tuckaleechee C 19.92 326 P **P 09 01 49.0 +0.4**
comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=7.0
TKL S S 09 05 19.8 -13
comp=Z,0.2nm,0.3s,baz=204,slow=18,SNR=2.9
TKL LR LR 09 08 42.3
comp=Z,101nm,20.5s,baz=140,slow=34
TKL Tuckaleechee C 19.92 326 P **P 09 01 47.4 -1.2**
CPCT Cooper Cave 20.16 324 P **P 09 01 50.5 -0.8**
W50A Signal Mountai 20.43 323 P **P 09 01 53.8 -0.4**
TZTN Tazewell 20.49 328 P **P 09 01 54.4 -0.4**
TZTN IAmb IAmb 09 01 56.4
comp=Z,9.7nm,0.8s
S54A Dingess, Beckl 20.50 334 P **P 09 01 54.2 -0.8**
S54A IAmb IAmb 09 02 21.4
comp=Z,9.2nm,0.8s
Q56A Snyder Ridge, 20.83 340 P **P 09 01 57.6 -0.8**
Q56A IAmb IAmb 09 02 19.9
comp=Z,11nm,1.1s
Z47A Carrollton 20.86 314 P **P 09 01 58.3 -0.5**
Z47A IAmb IAmb 09 02 13.9
comp=Z,11nm,0.9s
OTAV Otavalo 20.86 204 P **P 09 01 59.9 +0.4**
OTAV IAmb IAmb 09 02 11.7
comp=Z,20nm,1.1s
X48A Hartselle 20.96 318 P **P 09 01 59.9 -0.1**
CCIG Comitan 21.05 264 P **P 09 02 01.6 +0.3**
Q54A Coxs Mills 21.34 337 P **P 09 02 02.4 -1.7**
Q54A IAmb IAmb 09 02 12.8
comp=Z,17nm,1.4s
S51A Beattyville 21.38 330 P **P 09 02 04.1 -0.3**
S51A IAmb IAmb 09 02 25.0
comp=Z,8.4nm,0.9s
T50A Nancy 21.51 327 P **P 09 02 05.3 -0.5**
CLTN Cedars of Leba 21.64 323 P **P 09 02 07.0 -0.3**
CLTN IAmb IAmb 09 02 08.7
comp=Z,6.3nm,0.9s
V48A Smith Brothers 21.68 321 P 09 02 06.9 -0.8
N59A State Game Lan 21.74 349 P **P 09 02 07.8 -0.4**
N59A IAmb IAmb 09 02 35.0
comp=Z,18nm,1.3s
Q52A Bidwell 21.89 334 P **P 09 02 09.8 -0.1**
SSPA Standing Stone 21.93 344 P **P 09 02 09.8 -0.6**
SSPA IAmb IAmb 09 02 37.4
comp=Z,13nm,1.1s
PLAL Pickwick Lake 21.95 318 P **P 09 02 09.6 -1.0**
PLAL IAmb IAmb 09 02 27.0
comp=Z,8.5nm,0.8s
P53A Whipple 21.99 337 P **P 09 02 10.6 -0.4**
P53A IAmb IAmb 09 02 18.9
comp=Z,11nm,1.1s
R50A Paris 22.24 330 P **P 09 02 13.2 -0.4**
R50A IAmb IAmb 09 02 26.9
comp=Z,14nm,1.3s
Y45A Yeager Farm, C 22.24 314 P **P 09 02 13.4 -0.3**

Q51A Peebles 22.39 332 P **P 09 02 14.6 -0.8**
Q51A IAmb IAmb 09 02 42.3
comp=Z,11nm,0.7s
P52A Corning 22.41 335 P **P 09 02 14.7 -0.8**
P52A IAmb IAmb 09 02 24.0
comp=Z,19nm,1.4s
MDP Montagnes des 22.44 128 P **P 09 02 17.0 +1.1**
comp=Z,29nm,1.1s,baz=25,slow=7.3,SNR=3.9
MDP LR LR 09 13 35.8
comp=Z,43nm,18.0s,baz=138,slow=44
OXF Oxford 22.53 315 P **P 09 02 16.1 -0.7**
WVT Waverly 22.55 320 P **P 09 02 16.6 -0.3**
WVT IAmb IAmb 09 02 29.2
comp=Z,16nm,1.4s
PTGA Pitinga 22.62 152 P **P 09 02 16.7 -1.2**
comp=Z,1.2nm,0.3s,baz=297,slow=23,SNR=2.2
PTGA LR LR 09 12 32.8
comp=Z,86nm,18.6s,baz=331,slow=40
PTGA Pitinga 22.62 152 P **P 09 02 17.8 -0.1**
PTGA IAmb IAmb 09 02 41.9
comp=Z,7.9nm,0.9s
HRV Adam Dziewonsk 22.84 358 P **P 09 02 18.7 -1.3**
J57A Williamstown 24.20 350 P **P 09 02 32.8 -0.6**
J57A IAmb IAmb 09 03 00.1
comp=Z,4.4nm,0.8s
X40A Basin Creek Fa 24.87 311 P **P 09 02 39.0 -0.6**
X40A IAmb IAmb 09 02 52.3
comp=Z,7.3nm,0.9s
FCAR Ozark Folk Cen 25.14 315 P **P 09 02 41.8 -0.2**
FCAR IAmb IAmb 09 03 09.4
comp=Z,8.6nm,1.2s
U40A Yellville 25.89 315 P **P 09 02 48.5 -0.3**
U40A IAmb IAmb 09 02 57.0
comp=Z,6.5nm,1.0s
MGMO Mountain Grove 25.96 317 P **P 09 02 49.2 -0.3**
MGMO IAmb IAmb 09 03 00.9
comp=Z,6.9nm,1.1s
PLVO Plevna 25.97 349 P **P 09 02 49.0 -0.4**
PLVO IAmb IAmb 09 03 14.1
comp=Z,9.4nm,1.2s
SADO Saelowa 26.14 346 LR LR 09 12 22.8
comp=Z,89nm,19.4s,baz=178,slow=35
HHAR Hobbs 26.58 314 P **P 09 02 54.7 -0.4**
HHAR IAmb IAmb 09 03 03.3
comp=Z,12nm,1.3s
R40A Maddies Statio 26.65 319 P **P 09 02 55.0 -0.6**
R40A IAmb IAmb 09 03 10.0
comp=Z,3.8nm,0.7s
S39A Bolivar 26.95 317 P **P 09 02 58.2 -0.2**
S39A IAmb IAmb 09 03 09.4
comp=Z,9.1nm,1.3s
ATAH Atahualpa 27.77 198 LR LR 09 13 46.9
comp=Z,57nm,18.5s,baz=140,slow=35
SAML Samuel 29.24 166 P **P 09 03 19.1 +0.1**
SAML IAmb IAmb 09 03 28.4
comp=Z,4.2nm,0.9s
WMOK Wichita Mounta 29.36 307 P **P 09 03 19.7 -0.2**
TXAR Lajitas Array 31.79 294 P **P 09 03 42.4 +0.8**
comp=Z,0.5nm,0.8s,baz=115,slow=14,SNR=4.0
TXAR LR LR 09 20 21.6
comp=Z,79nm,19.1s,baz=0.0,slow=44
TXAR Lajitas Array 31.79 294 P **P 09 03 41.0 -0.6**
MNTX Comudas Mount 33.70 298 P **P 09 03 58.0 -0.2**
ANMO Albuquerque 35.37 303 P **P 09 04 14.6 +1.8**
comp=Z,0.5nm,0.8s,baz=119,slow=11,SNR=1.7
ANMO Albuquerque 35.37 303 P **P 09 04 11.9 -0.9**
SDCO Great Sand Dun 35.52 308 P **P 09 04 13.4 -0.8**
LPAZ La Paz 35.75 176 P **P 09 04 18.5 +1.9**
comp=Z,0.5nm,0.4s,baz=347,slow=3.0,SNR=1.9
LPAZ LR LR 09 19 38.2
comp=Z,90nm,20.0s,baz=322,slow=37
LPAZ La Paz 35.75 176 P **P 09 04 17.2 +0.5**
LPAZ IAmb IAmb 09 04 43.4
comp=Z,4.3nm,1.4s
ULM Lac du Bonnet 36.70 332 LR LR 09 17 32.4
comp=Z,39nm,21.8s,baz=179,slow=33
PDAR Pinedale Array 40.26 314 P **P 09 04 55.3 +1.1**
comp=Z,0.2nm,0.4s,baz=116,slow=10,SNR=2.1
ELK Elko 43.63 309 P **P 09 05 22.4 +0.7**
comp=Z,0.6nm,0.7s,baz=83,slow=8.1,SNR=3.8
ELK Elko 43.63 309 P **P 09 05 21.5 -0.2**
NV11 Mina Array Sit 45.31 305 P **P 09 05 34.3 -0.9**
NV11 IAmb IAmb 09 05 47.2
comp=Z,3.2nm,0.9s
NVAR Mina Array Bea 45.43 305 P **P 09 05 37.1 +0.9**
comp=Z,0.8nm,0.7s,baz=88,slow=7.1,SNR=6.3
NVAR LR LR 09 27 27.5
comp=Z,69nm,18.1s,baz=108,slow=40
NVAR Mina Array Bea 45.43 305 P **P 09 05 35.2 -0.9**
LHV Little Huntoon 45.55 305 P **P 09 05 36.0 -0.8**
LHV IAmb IAmb 09 05 44.5
comp=Z,5.8nm,1.4s
NEW Newport 47.22 318 P **P 09 05 49.5 -0.3**
CPUP Villa Florida 47.38 164 LR LR 09 26 06.1
comp=Z,49nm,20.4s,baz=342,slow=36
YKA Yellowknife Ar 52.50 336 P **P 09 06 29.7 0.0**
comp=Z,0.6nm,0.8s,baz=107,slow=6.9,SNR=3.8
YKA LR LR 09 28 48.6
comp=Z,43nm,18.4s,baz=0.0,slow=36
ESDC Sonseca Array 59.70 55 P **P 09 07 21.9 +0.2**
comp=Z,2.5nm,0.8s,baz=275,slow=6.8,SNR=12
ESDC LR LR 09 28 31.4
comp=Z,53nm,20.9s,baz=310,slow=32
DAWY Dawson 63.41 333 P **P 09 07 46.0 -0.3**
DAWY IAmb IAmb 09 08 06.1
comp=Z,2.0nm,1.0s
TABL Table Mountain 63.70 328 P **P 09 07 48.6 +0.1**
EGAK Eagle 64.28 333 P **P 09 07 51.6 -0.4**
EGAK IAmb IAmb 09 08 04.7
comp=Z,2.6nm,0.9s
BCAR Beaver Creek A 64.32 331 P **P 09 07 52.0 -0.3**
DBIC Dimbokro 64.66 92 LR LR 09 32 55.3
comp=Z,24nm,21.1s,baz=229,slow=33
SCRK Sand Creek 65.40 332 P **P 09 07 60.0 +0.5**
BMAR Burnt Mountain 66.02 336 P **P 09 08 03.1 -0.2**
ILAR Eielson Array 66.72 333 P **P 09 08 09.0 +1.2**
comp=Z,5.1nm,0.3s,baz=96,slow=3.6,SNR=4.8
RND Reindeer 67.53 331 P **P 09 08 11.8 -1.2**
TOA0 Torodi Ar. Sit 68.92 83 P **P 09 08 22.6 +0.2**
TORD Torodi Ar. Bea 68.92 83 P **P 09 08 22.7 +0.2**
comp=Z,1.9nm,0.7s,baz=292,slow=7.2,SNR=8.1
TORD Torodi Ar. Bea 68.92 83 P **P 09 08 22.0 -0.5**
TORD IAmb IAmb 09 08 29.3
comp=Z,1.7nm,0.8s
IMAR Indian Mountai 69.61 334 P **P 09 08 25.9 +0.1**
KEST Kesra 70.60 58 P **P 09 08 32.9 +0.3**
comp=Z,2.9nm,0.7s,baz=256,slow=4.7,SNR=3.9
KEST Kesra 70.60 58 P **P 09 08 31.9 -0.7**
GERES GERESS Array B 71.58 44 LR LR 09 35 09.3
comp=Z,27nm,21.0s,baz=258,slow=32
VRAC Vranov 73.38 43 LR LR 09 37 19.2
comp=Z,38nm,18.8s,baz=277,slow=33
FINES FINESS Array B 75.96 29 P **P 09 09 04.1 +0.5**
comp=Z,1.0nm,0.5s,baz=292,slow=6.0,SNR=5.3
FINES LR LR 09 38 23.0
comp=Z,19nm,20.9s,baz=90,slow=33
EIL Elat 92.93 57 LR LR 09 48 29.9
comp=Z,24nm,20.8s,baz=65,slow=33
WRA Warramunga Arr 156.84 265 PKP **PKPdf 09 17 14.7 +1.5**
comp=Z,0.5nm,0.9s,baz=57,slow=1.0,SNR=2.3
WRA Warramunga Arr 156.84 265 PKPdf 09 17 10.0 -3.3
ASAR Alice Springs 157.17 256 PKP **PKPdf 09 17 15.6 +2.0**
comp=Z,0.2nm,0.8s,baz=99,slow=2.0,SNR=2.1

*NNC **16** 08:59:50.7±0.4,48˚.44N×78˚.38E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=6.2km s-min=2.2km az=13.0*
*SOME **16** 08:59:50.3, 48˚.25N×78˚.33E, h5km*
ISC 16 08:59:51.8±0.9, 48˚24N±0˚.03×78˚29E±0˚.04, h10km, n22, σ2s54/42, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**2.52**	**30**	*e*P		**Pg**	**09 00 37.7**	**-2.4**
	4.7nm,0.1s							
SEM				*e*S		**Sg**	**09 01 12.1**	**-0.6**
	24nm,0.1s							
MAKZ	**Makanchi**	**2.88**	**118**	⇑Pg		**Pg**	**09 00 43.8**	**-3.1**
	2.6nm,0.3s							
MAKZ				⇑Lg		Lg	09 01 23.3	
	13nm,0.6s							
KAPS	**Kapalarasan**	**3.05**	**166**	*e*P		**Pg**	**09 00 49.1**	**-1.0**
	0.2nm,0.1s							
KAPS				*e*S		**Sg**	**09 01 31.9**	**+2.3**
	3.7nm,0.2s							
MK31	**Makanchi Array**	**3.07**	**117**	⇓Pn		**Pn**	**09 00 41.4**	**+1.0**
	0.1nm,0.2s							
MK31				⇑Pg		**Pg**	**09 00 47.6**	**-3.0**
	0.6nm,0.2s,baz=304,slow=14							
MK31				⇑Lg		Lg	09 01 29.1	
	8.0nm,0.3s,baz=304,slow=28,SNR=16							
TDK	**Taldyqorghan**	**3.24**	**179**	*e*P		**Pg**	**09 00 53.1**	**-0.7**
	93nm,0.4s							
TDK				*e*S		**Sg**	**09 01 38.6**	**+2.8**
	92nm,0.6s							
OTUK	**Ortayu**	**3.98**	**272**	⇓Pg		**Pb**	**09 01 03.8**	**+1.8**
	1.6nm,0.3s							
OTUK				⇑Sn		**Sn**	**09 01 42.8**	**+3.3**
	1.9nm,0.2s							
OTUK				⇓Lg		Lg	09 01 59.5	
	16nm,0.7s							
ARXS	**Arharly**	**4.04**	**185**	*e*P		**Pg**	**09 01 06.3**	**-2.8**
	4.0nm,0.3s							
ARXS				*e*S		**Sg**	**09 02 01.2**	**-0.3**
	29nm,0.4s							
DJR	**Jarkent**	**4.05**	**165**	*e*P		**Pg**	**09 01 06.5**	**-2.7**
	0.3nm,0.3s							
DJR				*e*S		**Sg**	**09 02 01.7**	**+0.1**
	2.4nm,0.3s							
BRZS	**Berezniki**	**4.08**	**297**	*e*P		**Pg**	**09 01 06.4**	**-3.4**
	4.4nm,0.3s							
BRZS				*e*S		**Sg**	**09 02 01.6**	**-1.0**
	13nm,0.3s							
CHKK	**Chushkaly**	**4.48**	**192**	*e*P		**Pg**	**09 01 14.8**	**-2.7**
	2.4nm,0.3s							
CHKK				*e*S		**Sg**	**09 02 15.4**	**-0.1**
	49nm,0.3s							
KUU	**Kurty**	**4.56**	**198**	*e*P		**Pg**	**09 01 15.3**	**-3.7**
	1.7nm,0.1s							
KUU				*e*S		**Sg**	**09 02 16.3**	**-1.7**
	22nm,0.3s							
KTBS	**Karatobe**	**4.67**	**194**	*e*P		**Pg**	**09 01 17.8**	**-3.3**
	1.8nm,0.3s							
KTBS				*e*S		**Sg**	**09 02 20.6**	**-1.0**
	39nm,0.3s							
KPKS	**Kokpek**	**4.78**	**177**	*e*P		**Pg**	**09 01 20.1**	**-3.3**
	2.7nm,0.1s							
KPKS				*e*S		**Sg**	**09 02 24.4**	**-0.9**
	28nm,0.5s							
PDGK	**Podgornoye**	**4.98**	**170**	⇓Pn		**Pn**	**09 01 10.0**	**+3.2**
	1.5nm,0.8s							
PDGK				⇑Pg		**Pg**	**09 01 24.5**	**-2.7**
	2.9nm,1.1s							
PDGK				⇑Lg		Lg	09 02 33.9	
	10nm,0.6s							
KTMS	**Ketmen**	**5.01**	**163**	*e*P		**Pg**	**09 01 23.6**	**-4.1**
	0.2nm,0.0s							
KTMS				*e*S		**Sg**	**09 02 30.4**	**-2.1**
	10nm,0.4s							
KOTS	**Kotyrbulak**	**5.08**	**190**	*e*P		**Pg**	**09 01 26.1**	**-2.9**
	5.7nm,0.4s							
KOTS				*e*S		**Sg**	**09 02 34.7**	**0.0**
	16nm,0.4s							
UZB	**Uzynbulak**	**5.12**	**174**	*e*P		**Pg**	**09 01 26.3**	**-3.5**
	1.7nm,0.1s							
UZB				*e*S		**Sg**	**09 02 35.5**	**-0.6**
	7.2nm,0.5s							
SHLS	**Shalkode**	**5.15**	**170**	*e*P		**Pg**	**09 01 27.3**	**-3.1**
	4.7nm,0.3s							
SHLS				*e*S		**Sg**	**09 02 37.2**	**+0.2**
	18nm,0.7s							
SATY	**Saty**	**5.18**	**179**	*e*P		**Pg**	**09 01 27.6**	**-3.4**
	1.8nm,0.2s							
SATY				*e*S		**Sg**	**09 02 37.7**	**-0.5**
	13nm,0.2s							
MTBS	**Maitube**	**5.28**	**195**	*e*P		Pg	09 01 27.8	-4.9
	2.9nm,0.2s							
MTBS				*e*S		**Sg**	**09 02 38.5**	**-2.5**
	12nm,0.3s							
DGS	**Degeres**	**5.30**	**200**	*e*P		**Pg**	**09 01 30.1**	**-3.2**
	2.0nm,0.2s							
DGS				*e*S		**Sg**	**09 02 41.5**	**-0.4**
	18nm,0.5s							
KST	**Kastek**	**5.45**	**198**	*e*P		**Pg**	**09 01 31.8**	**-4.3**
	2.8nm,0.4s							
KST				*e*S		**Sg**	**09 02 44.5**	**-2.1**
	4.4nm,0.5s							

*IDC **16** 09:44:06.4±1.2, 18˚.96N×145˚.60E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/45, mbtmp3.6/5, MS3.4/2, Ms1 3.3/2, ms1mx2.5/41, Error ellipse: s-maj=45.2km s-min=25.7km az=90.0*
*NEIC **16** 09:44:07.2±0.8, 19˚.1N±0˚.1×146˚.0E±0˚.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=39.6km s-min=17.4km az=98.0*
ISC 16 09:44:07.0±0.8, 19˚.1N±0˚.1×145˚.8E±0˚.2, h10km, n18, σ0s91/16, mb4.0/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.72**	**181**		Pn	**Pn**	**09 44 50.8**	**0.0**
WB0	**Warramunga Arr**	**40.19**	**197**		P	**P**	**09 51 43.9**	**+0.2**
WB0					IAmb	IAmb	09 51 50.9	
	comp=Z,8.7nm,1.4s							
WR0	**Warramunga Arr**	**40.33**	**196**		P	**P**	**09 51 44.6**	**-0.3**
WR0					IAmb	IAmb	09 51 59.1	
	comp=Z,5.6nm,1.2s							
WRAB	**Tennant Creek**	**40.36**	**197**		P	**P**	**09 51 45.1**	**0.0**
WB2	**Warramunga Arr**	**40.37**	**197**		P	**P**	**09 51 45.0**	**-0.1**
WB2					IAmb	IAmb	09 51 45.1	
	comp=Z,3.4nm,0.9s							
WRA	**Warramunga Arr**	**40.37**	**197**		P	**P**	**09 51 44.7**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=18,slow=8.2,SNR=19							
WRA	**Warramunga Arr**	**40.37**	**197**		P	**P**	**09 51 45.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.91**	**209**		P	**P**	**09 51 57.7**	**-0.2**
FITZ					IAmb	IAmb	09 52 01.6	
	comp=Z,7.9nm,1.4s							
ASAR	**Alice Springs**	**44.04**	**196**		P	**P**	**09 52 14.5**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=12,slow=9.9,SNR=2.2							
STKA	**Stephens Creek**	**50.83**	**185**		LR	LR	10 15 04.6	
	comp=Z,32nm,19.0s,baz=193,slow=37							
MKAR	**Makanchi Array**	**58.26**	**314**		P	**P**	**09 54 02.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=94,slow=6.1,SNR=4.6							
PPLA	**Purkeypile**	**60.53**	**28**		P	**P**	**09 54 15.8**	**-1.5**
O22K	**Cooper Landing**	**61.05**	**31**		P	**P**	**09 54 20.3**	**-0.4**
KURBB	**Kurchatov Arra**	**61.09**	**318**		P	**P**	**09 54 21.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=92,slow=7.6,SNR=4.0							
DLBC	**Dease Lake**	**70.93**	**34**		P	**P**	**09 55 23.6**	**-0.9**
DLBC					IAmb	IAmb	09 55 51.4	
	comp=Z,5.3nm,1.4s							
ABKAR	**Akbulak array**	**73.12**	**317**		P	**P**	**09 55 36.8**	**-0.8**
NVAR	**Mina Array Bea**	**82.84**	**52**		P	**P**	**09 56 34.4**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=263,slow=5.5,SNR=6.7							
FINES	**FINESS Array B**	**86.57**	**335**		LR	LR	10 37 51.7	
	comp=Z,20nm,18.2s,baz=92,slow=37							

*IDC **16** 10:10:08.4±1.9, 6˚.24S×151˚.71E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.6/49, mbtmp4.0/5, ML2.4/1, Error ellipse: s-maj=105.4km s-min=23.9km az=132.0*
ISC 16 10:10:14.8±2.1, 6˚2S±0˚.7×151˚.5E±0˚.6, h41km, n6, σ1s51/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**234**		Pn	**Pn**	**10 11 32.7**	**+0.8**
	8.4nm,0.3s,baz=54,slow=8.7,SNR=14							
PMG					Sn	**Sn**	**10 12 30.5**	**-1.6**
	4.5nm,0.3s,baz=172,slow=16,SNR=2.5							
WRA	**Warramunga Arr**	**21.53**	**229**		P	**P**	**10 15 00.1**	**-0.6**
	0.4nm,0.3s,baz=55,slow=11,SNR=9.5							
ASAR	**Alice Springs**	**24.22**	**223**		P	**P**	**10 15 27.9**	**-0.1**
	1.5nm,0.7s,baz=51,slow=9.0,SNR=22							
FITZ	**Fitzroy Crossi**	**27.85**	**243**		P	**P**	**10 16 02.9**	**+2.1**
	1.3nm,0.3s,baz=58,slow=9.6,SNR=13							
ILAR	**Eielson Array**	**83.97**	**22**		P	**P**	**10 22 40.0**	**-0.5**
	0.9nm,0.7s,baz=245,slow=5.9,SNR=12							
TORD	**Torodi Ar. Bea**	**149.49**	**285**		PKPbc	**PKPbc**	**10 29 59.9**	**-0.9**
	0.6nm,0.6s,baz=87,slow=1.8,SNR=3.2							

IDC 16 10:13:18.4±2.7, 53˚.47N×87˚.59E, h0km, mb1 3.2/2, mb1mx3.0/52, mbtmp3.2/2, ML2.6/2, 2C, Error ellipse: s-maj=22.8km s-min=13.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**287**	*i*			10 24 08.5	
	baz=100,slow=314,SNR=4.4							
ZALV	**Zalesovo Beam**	**1.71**	**287**		Pg	Pn	10 13 48.7	-0.8

	1.3nm,0.3s,baz=104,slow=14,SNR=19							
ZALV				Lg	Lg	10 14 12.5		
	1.6nm,0.3s,baz=109,slow=27,SNR=13							
KURBB	**Kurchatov Arra**	**6.27 247**		Pn	Pn	10 14 53.0	+1.0	
	0.1nm,0.3s,baz=62,slow=14,SNR=14							
KURBB				Sn	Sn	10 16 04.4	+0.1	
	0.0nm,0.3s,baz=64,slow=28,SNR=2.2							
KURBB				Lg	Lg	10 16 35.9		
	0.1nm,0.3s,baz=62,slow=31,SNR=9.5							
MKAR	**Makanchi Array**	**7.50 209**		Pn	Pn	10 15 10.1	+1.1	
	0.2nm,0.3s,baz=25,slow=12,SNR=11							
MKAR				Sn	Sn	10 16 34.1	-0.5	
	0.1nm,0.3s,baz=26,slow=18,SNR=7.2							
MKAR				Lg	Lg	10 17 14.3		
	0.2nm,0.3s,baz=26,slow=30,SNR=12							
MAKZ	**Makanchi**	**7.58 211**	⇑	Sn	Sn	10 16 33.4	-3.1	
	2.1nm,0.8s							
MAKZ			⇑	Lg	Lg	10 17 29.0		
	5.9nm,1.3s							

*IDC **16** 10:14:50.1±2.2,30.97N×143.17E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/66, mbtmp3.9/10, ML3.4/5, MS2.3/2, Ms1 2.3/2, ms1mx2.0/53, Error ellipse: s-maj=70.6km s-min=17.4km az=72.0*

*NEIC **16** 10:14:52±1.8, 31.13N±0.05×143.1E±0.1, h10km±2km, mb4.4/10, Error ellipse: s-maj=21.2km s-min=6.6km az=75.0*

*JMA **16** 10:14:53.1±0.2, 31.07N×143.04E, h57km, M4.0*

ISC 16 10:14:53.3±0.9, 31.08N±0.06×143.2E±0.1, h30km, n45, σ1s95/52, mb4.3/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.48 307**		P	**Pn**	**10 15 45.3**	**-0.1**
JHJ2	**Mitsune**	**3.48 307**		Pn	**Pn**	**10 15 45.8**	**+0.3**
JHJ	**Hachijo jima 2**	**3.51 306**		Pn	**Pn**	**10 15 45.4**	**-0.5**
	17nm,0.3s,baz=336,slow=18,SNR=12						
JHJ				Sn	**Sn**	**10 16 21.1**	**-5.2**
	13nm,0.3s,baz=59,slow=22,SNR=2.2						
JHJ				LR	LR	10 17 23.3	
	comp=Z,31nm,19.8s,baz=253,slow=43						
BSO1	**Boso 1**	**4.01 333**		P	**Pn**	**10 15 53.1**	**+0.9**
CBIJ	**Chichi jima**	**4.05 192**		P	**Pn**	**10 15 53.6**	**+0.2**
JCJ	**Chichijima**	**4.05 192**		Pn	**Pn**	**10 15 51.0**	**-2.4**
	3.5nm,0.3s,baz=3.0,slow=22,SNR=9.0						
JCJ				Sn	**Sn**	**10 16 32.4**	**-7.5**
	5.5nm,0.3s,baz=288,slow=21,SNR=1.7						
JCJ	**Chichijima**	**4.05 192**		Pn	**Pn**	**10 15 53.7**	**+0.3**
BSO3	**Boso 3**	**4.33 330**		P	**Pn**	**10 15 57.4**	**+0.6**
BSO4	**Boso 4**	**4.56 330**		P	**Pn**	**10 16 01.3**	**+1.1**
JOD2	**Odawara 2**	**5.39 322**		P	**Pn**	**10 16 11.9**	**+0.2**
JOD2				*e*S	**Sn**	**10 17 10.9**	**-1.8**
JYT	**Yasato**	**5.70 335**		Pn	**Pn**	**10 16 16.1**	**+0.2**
JHU	**Hanno**	**5.75 327**		P	**Pn**	**10 16 17.3**	**+0.6**
JHU				*e*S	**Sn**	**10 17 20.1**	**-1.6**
JRY	**Ryogami san**	**6.07 325**		P	**Pn**	**10 16 21.5**	**+0.4**
JRY				*e*S	**Sn**	**10 17 29.0**	**-0.5**
JAG	**Ashikaga**	**6.16 331**		P	**Pn**	**10 16 22.7**	**+0.5**
JAG				S	**Sn**	**10 17 29.2**	**-2.4**
JGF	**Kuroka**	**6.62 315**		Pn	**Pn**	**10 16 29.0**	**+0.4**
INU	**Inuyama**	**6.67 311**		Pn	**Pn**	**10 16 31.4**	**+2.1**
MJAR	**Matsushiro Arr**	**6.83 324**		Pn	**Pn**	**10 16 32.3**	**+0.9**
	0.4nm,0.3s,baz=162,slow=10,SNR=14						
MJAR	**Matsushiro Arr**	**6.83 324**			**Pn**	**10 16 32.1**	**+0.6**
MAJO	**Matsushiro**	**6.83 324**			**Pn**	**10 16 33.4**	**+1.9**
JMM	**Marumori**	**7.05 345**		Pn	**Pn**	**10 16 34.1**	**-0.3**
JWT	**Wachi**	**7.73 305**		Pn	**Pn**	**10 16 43.4**	**-0.4**
JSD	**Sado**	**8.03 331**		Pn	**Pn**	**10 16 48.6**	**+0.7**
JHS	**Saijyo**	**9.28 298**		Pn	**Pn**	**10 17 05.8**	**+0.7**
JTM	**Tenmabayashi**	**9.84 351**		Pn	**Pn**	**10 17 12.9**	**+0.2**
ERM	**Erimo**	**10.92 0**		Pn	**Pn**	**10 17 26.7**	**-0.7**
ASAJ	**Asahikawa**	**13.03 358**		Pn	**Pn**	**10 17 56.4**	**+0.2**
	0.2nm,0.3s,baz=180,slow=19,SNR=1.7						
ASAJ				Sn	**Sn**	**10 20 13.8**	**-6.3**
	0.1nm,0.3s,baz=5.9,slow=26,SNR=2.1						
KSRS	**Korea Array**	**14.10 301**		Pn	**Pn**	**10 18 12.4**	**+1.5**
	0.2nm,0.3s,baz=112,slow=13,SNR=2.1						
KSRS				LR	LR	10 25 09.8	
	comp=Z,13nm,19.0s,baz=80,slow=44						
TPUB	**Ta-pu**	**21.45 254**			**P**	**10 19 38.8**	**-0.5**
SONM	**Songino Array**	**32.57 312**		P	**P**	**10 21 24.4**	**+2.4**
	1.3nm,0.8s,baz=104,slow=7.4,SNR=3.1						
MTN	**Manton Dam**	**45.17 197**		P	**P**	**10 23 08.7**	**+1.2**
MTN				IAmb	IAmb	10 23 31.3	
	comp=Z,9.4nm,1.4s						
ZALV	**Zalesovo Beam**	**47.11 317**		P	**P**	**10 23 24.2**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=95,slow=12,SNR=1.6						
ZALV	**Zalesovo Beam**	**47.11 317**		P	**P**	**10 23 22.6**	**+0.1**
MK31	**Makanchi Array**	**48.68 307**		P	**P**	**10 23 35.6**	**+0.8**
MKAR	**Makanchi Array**	**48.68 307**		P	**P**	**10 23 37.2**	**+2.5**
	comp=Z,1.2nm,0.8s,baz=91,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**48.68 307**		P	**P**	**10 23 35.7**	**+1.0**
CTAO	**Charters Tower**	**50.96 176**		P	**P**	**10 23 54.1**	**+1.9**
WB0	**Warramunga Arr**	**51.25 191**		P	**P**	**10 23 55.0**	**+0.6**
WB0				IAmb	IAmb	10 24 23.4	
	comp=Z,6.8nm,1.4s						
WR0	**Warramunga Arr**	**51.41 190**		P	**P**	**10 23 56.4**	**+0.8**
WR0				IAmb	IAmb	10 24 17.6	
	comp=Z,5.2nm,1.3s						
WRAB	**Tennant Creek**	**51.42 191**		P	**P**	**10 23 56.6**	**+1.0**
WRAB				IAmb	IAmb	10 23 56.9	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**51.42 191**		P	**P**	**10 23 56.5**	**+0.8**
WB2				IAmb	IAmb	10 24 09.7	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**51.43 191**		P	**P**	**10 23 56.4**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=7.6,slow=7.5,SNR=27						
WRA	**Warramunga Arr**	**51.43 191**		P	**P**	**10 23 55.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.71 201**		P	**P**	**10 23 59.7**	**+1.9**
FITZ				IAmb	IAmb	10 24 25.9	
	comp=Z,5.3nm,1.4s						
ASAR	**Alice Springs**	**55.15 190**		P	**P**	**10 24 23.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=6.7,slow=6.9,SNR=8.1						
ABKAR	**Akbulak array**	**62.97 313**		P	**P**	**10 25 17.1**	**+0.1**

*TAP **16** 10:16:44.4, 24.66N×122.60E, h86km, ML3.4, D*

*JMA **16** 10:16:44.4±0.1, 24.59N×122.58E, h88km±1km, M2.3*

ISC 16 10:16:45.1±1.3, 24.61N±0.04×122.58E±0.02, h80km±8km, n84, σ1s22/162, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.36 115**		P	**Pn**	**10 16 58.1**	**+0.3**
JYNG				S	**Sn**	**10 17 08.2**	**+1.0**
YOJ	**Yonaguni jima**	**0.42 110**		P	**Pn**	**10 16 58.3**	**+0.2**
YOJ				S	**Sn**	**10 17 08.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.42 110**		P	**Pn**	**10 16 58.4**	**+0.2**
	baz=123						
YOJ				S	**Sn**	**10 17 08.6**	**+0.9**
	baz=123						
TWC	**Suao**	**0.67 270**	*i*	P	**Pn**	**10 17 00.3**	**-0.1**
	baz=264						
TWC				S	**Sn**	**10 17 11.6**	**-0.2**
	baz=264						
NTC	**Toucheng**	**0.73 290**	*i*	P	**Pn**	**10 17 00.3**	**-0.7**
	baz=280						
NTC				*i* S	**Sn**	**10 17 13.3**	**+0.4**
	baz=280						
TIPB	**Shuangxi**	**0.78 298**		P	**Pn**	**10 17 01.0**	**-0.7**
	baz=290						
TIPB				S	**Sn**	**10 17 13.5**	**-0.4**
	baz=290						
NDS	**Dongshan**	**0.79 272**		P	**Pn**	**10 17 01.7**	**-0.1**
	baz=268						
NDS				S	**Sn**	**10 17 13.9**	**-0.3**
	baz=268						
TWE	**Neicheng**	**0.84 278**	*i*	P	**Pn**	**10 17 02.5**	**+0.2**
	baz=274						
TWE				*e*S	**Sn**	**10 17 13.3**	**-1.7**
	baz=274						
NWF	**Wu-fen Shan**	**0.86 302**		P	**Pn**	**10 17 03.0**	**+0.3**
	baz=292						
NWF				*e*S	**Sn**	**10 17 14.0**	**-1.7**
	baz=292						
WFSB	**Wu-fen Shan**	**0.86 302**		*e*P	**Pn**	**10 17 00.8**	**-1.7**
	baz=292						
WFSB				*e*S	**Sn**	**10 17 13.9**	**-1.7**
	baz=292						
ENTT	**Nioudou**	**0.93 272**		*e*P	**Pn**	**10 17 04.3**	**+1.0**
ENTT				S	**Sn**	**10 17 17.6**	**+0.7**
	baz=269						
NDT	**Datong Townshi**	**0.97 270**		P	**Pn**	**10 17 04.3**	**+0.5**
	baz=264						
NDT				*e*S	**Sn**	**10 17 19.0**	**+1.2**
	baz=264						
TWA	**Mucha**	**0.98 292**		P	**Pn**	**10 17 03.7**	**-0.2**
	baz=282						
TWA				S	**Sn**	**10 17 17.1**	**-0.9**
	baz=282						
ETL	**Fush Village**	**0.98 243**		P	**Pn**	**10 17 03.7**	**-0.3**
	baz=233						
ETL				S	**Sn**	**10 17 18.1**	**0.0**
	baz=233						
NWLT	**Wulai**	**1.00 280**		P	**Pn**	**10 17 04.8**	**+0.7**
	baz=284						
NWLT				*e*S	**Sn**	**10 17 19.7**	**+1.3**
	baz=284						
NACB	**Ninganchiao**	**1.00 245**		P	**Pn**	**10 17 03.7**	**-0.4**
	baz=235						
NACB				S	**Sn**	**10 17 18.2**	**-0.2**
	baz=235						
TWD	**Chiawan**	**1.04 240**		P	**Pn**	**10 17 04.3**	**-0.3**
	baz=230						
TWD				S	**Sn**	**10 17 18.7**	**-0.6**
	baz=230						
TATO	**Taipei**	**1.06 290**		*e*P	**Pn**	**10 17 04.5**	**-0.4**
	baz=279						
TATO				S	**Sn**	**10 17 20.2**	**+0.5**
	baz=279						
YM01	**YM01**	**1.06 300**		P	**Pn**	**10 17 04.2**	**-0.8**
	baz=297						
YM01				S	**Sn**	**10 17 19.8**	**0.0**
	baz=297						
IRIF	**Iriomote-Funau**	**1.08 104**		P	**Pn**	**10 17 04.8**	**-0.3**
IRIF				S	**Sn**	**10 17 20.0**	**-0.1**
ETLH	**Xiulin Townshi**	**1.08 249**		P	**Pn**	**10 17 05.3**	**+0.1**
	baz=246						
ETLH				S	**Sn**	**10 17 20.3**	**0.0**
	baz=246						
HWA	**Hwalien**	**1.09 235**		P	**Pn**	**10 17 04.5**	**-0.8**
	baz=226						
HWA				S	**Sn**	**10 17 21.1**	**+0.8**
	baz=226						
YHNB	**Yeheng**	**1.10 273**		P	**Pn**	**10 17 05.8**	**+0.3**
	baz=263						
YHNB				S	**Sn**	**10 17 21.3**	**+0.6**
	baz=263						
NNSB	**Datong**	**1.11 261**		P	**Pn**	**10 17 05.6**	**0.0**
	baz=250						
NNSB				S	**Sn**	**10 17 20.6**	**-0.3**
	baz=250						
NNSH	**Datong**	**1.11 261**		P	**Pn**	**10 17 05.8**	**+0.2**
	baz=251						
NNSH				S	**Sn**	**10 17 20.5**	**-0.4**
	baz=251						
NNS	**Nan Shan**	**1.11 262**		P	**Pn**	**10 17 06.1**	**+0.4**
	baz=251						
NNS				S	**Sn**	**10 17 21.0**	**-0.1**
	baz=251						
TEYL	**Yanliau Villag**	**1.16 231**		P	**Pn**	**10 17 05.6**	**-0.5**
	baz=231						
TEYL				S	**Sn**	**10 17 21.9**	**0.0**
	baz=231						
ETM	**Tongmen**	**1.18 237**		P	**Pn**	**10 17 06.0**	**-0.5**
	baz=229						
ETM				S	**Sn**	**10 17 22.2**	**-0.1**
	baz=229						
HATJ	**Hateruma jima**	**1.24 116**		P	**Pn**	**10 17 07.4**	**+0.3**
HATJ				*e*S	**Sn**	**10 17 24.5**	**+0.8**
FUSS	**Fushou**	**1.27 254**		P	**Pn**	**10 17 07.9**	**+0.1**
	baz=245						
FUSS				S	**Sn**	**10 17 24.5**	**-0.3**
	baz=245						
WHF	**Hehuan Shan**	**1.29 249**		P	**Pn**	**10 17 08.5**	**+0.4**
	baz=247						
WHF				S	**Sn**	**10 17 25.5**	**+0.1**
	baz=247						
TEGC	**Jichi Village**	**1.31 227**		P	**Pn**	**10 17 08.2**	**+0.2**
	baz=233						
TEGC				S	**Sn**	**10 17 26.0**	**+0.8**
	baz=233						
ESL	**Shilin**	**1.31 233**		*e*P	**Pn**	**10 17 06.8**	**-1.3**
	baz=225						
ESL				S	**Sn**	**10 17 25.0**	**-0.3**
	baz=225						
TDCB	**Techi**	**1.35 255**		P	**Pn**	**10 17 09.5**	**+0.9**
	baz=248						
TDCB				S	**Sn**	**10 17 26.1**	**-0.1**
	baz=248						
JKRS	**Kuro-shima**	**1.35 106**		P	**Pn**	**10 17 08.7**	**+0.2**
JKRS				S	**Sn**	**10 17 26.8**	**+0.7**
CHGB	**Renai**	**1.40 247**		P	**Pn**	**10 17 09.8**	**+0.5**
	baz=239						
CHGB				S	**Sn**	**10 17 27.8**	**+0.3**
	baz=239						
EGFH	**Guangfu**	**1.41 229**		P	**Pn**	**10 17 08.9**	**-0.4**
	baz=223						
EGFH				S	**Sn**	**10 17 27.2**	**-0.3**
	baz=223						
LIOB	**Emei**	**1.43 272**		P	**Pn**	**10 17 10.5**	**+1.0**
	baz=269						
LIOB				S	**Sn**	**10 17 27.7**	**-0.2**
	baz=269						
NSTT	**Nanjuang**	**1.44 271**		P	**Pn**	**10 17 10.0**	**+0.3**
	baz=269						
NSTT				S	**Sn**	**10 17 28.5**	**+0.4**
	baz=269						
OWD	**Renai**	**1.44 243**		P	**Pn**	**10 17 09.7**	**-0.1**
	baz=236						
OWD				S	**Sn**	**10 17 27.9**	**-0.5**
	baz=236						
JIJ	**Ishigaki jima**	**1.44 99**		P	**Pn**	**10 17 09.2**	**-0.5**
JIJ				S	**Sn**	**10 17 27.8**	**-0.4**
WHP	**Taichung City**	**1.53 258**		P	**Pn**	**10 17 11.9**	**+1.0**
	baz=252						
WHP				*e*S	**Sn**	**10 17 32.2**	**+1.9**
	baz=252						
HGSD	**Ruisui**	**1.54 224**		P	**Pn**	**10 17 10.8**	**-0.1**
	baz=220						
HGSD				S	**Sn**	**10 17 29.7**	**-0.7**
	baz=220						
JISG	**Ishigakijimahi**	**1.57 90**		P	**Pn**	**10 17 11.3**	**-0.1**
JISG				*e*S	**Sn**	**10 17 31.2**	**0.0**
EHY	**Hungye**	**1.59 227**		P	**Pn**	**10 17 11.1**	**-0.5**
	baz=226						
EHY				*e*S	**Sn**	**10 17 29.7**	**-2.0**
	baz=226						
DPDB	**Guoxing**	**1.62 250**		P	**Pn**	**10 17 13.2**	**+1.2**
	baz=244						
DPDB				*e*S	**Sn**	**10 17 34.5**	**+2.1**
	baz=244						
WCS	**Beigang Elemen**	**1.62 251**		P	**Pn**	**10 17 13.1**	**+1.1**
	baz=249						
WCS				*e*S	**Sn**	**10 17 34.4**	**+2.0**
	baz=249						
YULB	**Yu-li**	**1.69 224**		P	**Pn**	**10 17 12.6**	**-0.3**
	baz=232						
YULB				*e*S	**Sn**	**10 17 32.2**	**-1.7**
	baz=232						
SMLT	**Sun Moon Lake**	**1.70 245**		*e*P	**Pn**	**10 17 14.7**	**+1.5**
	baz=239						
SMLT				*e*S	**Sn**	**10 17 37.1**	**+2.7**
	baz=239						
SSLB	**Suanglung**	**1.70 242**		P	**Pn**	**10 17 13.9**	**+0.8**
	baz=236						
SSLB				S	**Sn**	**10 17 34.4**	**+0.1**
	baz=236						
EYUL	**Yuli**	**1.71 223**		P	**Pn**	**10 17 13.4**	**+0.2**
	baz=231						
EYUL				*e*S	**Sn**	**10 17 35.5**	**+1.1**
	baz=231						
TWF1	**Yuli**	**1.72 224**		P	**Pn**	**10 17 13.2**	**-0.1**
	baz=231						
TWF1				S	**Sn**	**10 17 33.7**	**-1.0**
	baz=231						
WHYT	**Xinyi Township**	**1.82 240**		*e*P	**Pn**	**10 17 16.8**	**+2.1**
	baz=237						
WHYT				*e*S	**Sn**	**10 17 39.0**	**+1.8**
	baz=237						
FULB	**Fuli**	**1.83 220**		P	**Pn**	**10 17 15.0**	**+0.1**
	baz=213						
FULB				S	**Sn**	**10 17 36.9**	**-0.5**
	baz=213						
WJS	**Zhushan**	**1.87 246**		*e*P	**Pn**	**10 17 16.9**	**+1.7**
	baz=255						
WJS				*e*S	**Sn**	**10 17 40.3**	**+2.2**
	baz=255						
CHKT	**Chengkung**	**1.87 217**		P	**Pn**	**10 17 14.8**	**-0.5**
	baz=211						
CHKT				*e*S	**Sn**	**10 17 36.5**	**-1.8**
	baz=211						
WNT1	**Nantou City**	**1.87 248**		*e*P	**Pn**	**10 17 17.4**	**+2.1**
	baz=247						
WNT1				*e*S	**Sn**	**10 17 40.1**	**+1.9**
	baz=247						
WNT	**Mingjian**	**1.88 248**		P	**Pn**	**10 17 16.1**	**+0.7**
	baz=246						
WNT				*e*S	**Sn**	**10 17 40.1**	**+1.7**
	baz=246						
JTJ	**Tarama**	**1.93 89**		P	**Pn**	**10 17 16.3**	**+0.3**
JTJ				S	**Sn**	**10 17 40.1**	**+0.5**
ALS	**Alishan**	**1.96 236**		*e*P	**Pn**	**10 17 18.1**	**+1.3**
	baz=229						
ALS				*e*S	**Sn**	**10 17 42.1**	**+1.3**
	baz=229						
EDH	**Donghe**	**2.01 216**		P	**Pn**	**10 17 16.6**	**-0.5**
	baz=211						
EDH				*e*S	**Sn**	**10 17 39.8**	**-1.6**
	baz=211						
CHN5	**Tsauling**	**2.01 240**		*e*P	**Pn**	**10 17 18.7**	**+1.4**
	baz=231						
CHN5				*e*S	**Sn**	**10 17 44.4**	**+2.6**
	baz=231						
ELDTW	**Lidau**	**2.01 226**		P	**Pn**	**10 17 18.2**	**+0.9**
	baz=223						
ELDTW				S	**Sn**	**10 17 40.5**	**-1.3**
	baz=223						
WDLH	**Douliu**	**2.08 244**		*e*S	**Sn**	**10 17 45.3**	**+2.1**
	baz=254						
LONT	**Longtian**	**2.15 218**		*e*P	**Pn**	**10 17 20.2**	**+1.1**
	baz=225						
LONT				*e*S	**Sn**	**10 17 43.5**	**-1.5**
	baz=225						
LDUT	**Ludao**	**2.18 208**		*e*P	**Pn**	**10 17 18.7**	**-0.7**
	baz=205						
LDUT				*e*S	**Sn**	**10 17 43.9**	**-1.8**
	baz=205						
STYH	**Taoyuan**	**2.19 229**		*e*S	**Sn**	**10 17 47.1**	**+1.3**
	baz=229						
CHN4	**Tsaushan**	**2.21 236**		*e*P	**Pn**	**10 17 21.8**	**+1.9**
	baz=235						
CHN4				*e*S	**Sn**	**10 17 49.0**	**+2.7**
	baz=235						
TPUB	**Ta-pu**	**2.21 234**		*e*P	**Pn**	**10 17 21.4**	**+1.6**
	baz=233						
TPUB				*e*S	**Sn**	**10 17 47.9**	**+1.5**
	baz=233						
TWGBT	**Beinan**	**2.25 218**		*e*P	**Pn**	**10 17 19.5**	**-0.9**
	baz=224						
TWGBT				S	**Sn**	**10 17 46.5**	**-0.9**
	baz=224						
TWG	**Pinlang**	**2.25 218**		*e*P	**Pn**	**10 17 19.4**	**-1.1**
	baz=224						
TWG				S	**Sn**	**10 17 46.5**	**-1.0**
	baz=224						
WTP	**Ta-pu**	**2.25 233**		*e*P	**Pn**	**10 17 22.2**	**+1.8**
	baz=232						
WTP				*e*S	**Sn**	**10 17 50.8**	**+3.3**
	baz=232						
CHN1	**Nanshi**	**2.35 233**		P	**Pn**	**10 17 22.7**	**+0.9**
	baz=233						
CHN1				*e*S	**Sn**	**10 17 51.6**	**+1.7**
	baz=233						
JIRB	**Irabujima**	**2.37 84**		S	**Sn**	**10 17 50.0**	**0.0**
SLGT	**Liugui**	**2.39 228**		*e*P	**Pn**	**10 17 24.5**	**+2.2**
	baz=238						
SLGT				*e*S	**Sn**	**10 17 54.2**	**+3.4**
	baz=238						
JMJ2	**Miyako jima3**	**2.50 86**		S	**Sn**	**10 17 54.3**	**+1.0**
TSMG	**Majia**	**2.60 224**		P	**Pn**	**10 17 25.8**	**+0.8**
	baz=223						
TSMG				*e*S	**Sn**	**10 17 57.1**	**+1.4**
	baz=223						
LAY	**Lan-yu**	**2.73 201**		*e*P	**Pn**	**10 17 25.8**	**-1.0**
	baz=199						
LAY				*e*S	**Sn**	**10 17 54.8**	**-4.1**
	baz=199						
EAST	**Anshuo**	**2.73 216**		*e*P	**Pn**	**10 17 28.2**	**+1.4**
	baz=216						
EAST				S	**Sn**	**10 17 57.7**	**-1.2**
	baz=216						
VWUC	**VWUC**	**2.87 278**		*e*P	**Pn**	**10 17 27.7**	**-1.0**
	baz=276						
VWUC				*e*S	**Sn**	**10 17 59.2**	**-3.1**
	baz=276						
SLIU	**Shizi**	**2.89 215**		P	**Pn**	**10 17 28.9**	**-0.2**
	baz=215						
SLIU				S	**Sn**	**10 18 02.1**	**-0.7**
	baz=215						
PHUB	**P'eng-hu**	**2.96 249**		*e*S	**Sn**	**10 18 02.2**	**-2.2**
	baz=248						
WDGT	**Dungji**	**2.99 244**		P	**Pn**	**10 17 30.0**	**-0.4**
	baz=243						
WDGT				*e*S	**Sn**	**10 18 03.1**	**-2.2**
	baz=243						
VCHM	**Qimei**	**3.21 245**		S	**Sn**	**10 18 08.9**	**-1.5**
	baz=244						

IDC 16 10:22:18.2±53.0, 22.72S×177.69W, h338km±99km, mb2.9/3, mb1 3.1/4, mb1mx2.9/20, mbtmp3.7/4, Error ellipse: s-maj=1005.0km s-min=120.2km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.37 320**		P	Pn	10 23 53.0	-0.1
	0.6nm,0.3s,baz=194,slow=20,SNR=2.6						
STKA	**Stephens Creek**	**37.13 247**		P	P	10 28 57.9	+0.1
	0.4nm,0.2s,baz=108,slow=9.6,SNR=1.1						
ASAR	**Alice Springs**	**44.33 259**		P	P	10 29 55.8	-0.4
	0.2nm,0.4s,baz=92,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**44.62 264**		P	P	10 29 58.4	-0.1
	0.4nm,0.4s,baz=103,slow=8.2,SNR=22						

*IDC **16** 10:30:56.4±2.1, 20.63S×178.67W, h586km±22km, mb3.1/5, mb1 3.3/6, mb1mx3.0/29, mbtmp4.0/6, Error ellipse: s-maj=28.0km s-min=26.3km az=88.0*

ISC 16 10:30:56.2±1.3, 20.6S±0.2×178.7W±0.2, h587km, n7, σ0s94/8, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.24 312**		P	**P**	**10 32 22.6**	**0.0**
	3.3nm,0.3s,baz=204,slow=23,SNR=20						
ASAR	**Alice Springs**	**43.88 257**		P	**P**	**10 38 12.4**	**+0.2**
	1.5nm,0.6s,baz=99,slow=7.7,SNR=25						
ASAR				PcP	**PcP**	**10 39 45.5**	**+0.3**
	0.5nm,0.6s,baz=109,slow=4.2,SNR=7.1						
WRA	**Warramunga Arr**	**43.97 262**		P	**P**	**10 38 12.3**	**-0.5**
	1.1nm,0.7s,baz=96,slow=6.9,SNR=13						
SIJI	**Sorong**	**52.67 285**		P	**P**	**10 39 17.8**	**+0.4**
	10nm,0.7s,baz=80,slow=2.8,SNR=5.6						
VNDA	**Vanda**	**57.73 185**		P	**P**	**10 39 51.6**	**+0.2**
	0.5nm,0.6s,baz=5.1,slow=5.8,SNR=7.3						
ILAR	**Eielson Array**	**88.58 13**		P	**P**	**10 42 47.5**	**+0.6**
	0.4nm,0.5s,baz=214,slow=5.4,SNR=6.1						
AKASG	**Malin Array Be**	**142.82 331**		PKP	**PKPdf**	**10 49 21.6**	**-1.8**
	1.7nm,0.4s,baz=42,slow=4.3,SNR=8.8						

*IDC **16** 10:39:13.7±1.1, 28.62N×61.74E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/54, mbtmp3.6/6, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/47, Error ellipse: s-maj=39.7km s-min=25.6km az=131.0*

*TE

KHGB	**Koh Gabri**	**4.98**	**294**	*e*		Pg	10 41 05.5	+14
	comp=Z,280nm,0.6s							
WSAR	**Wadi Sarin**	**5.89**	**209**	Pn		**Pn**	**10 40 44.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=148,slow=6.5,SNR=2.0							
WSAR				Sn		**Sn**	**10 41 50.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=200,slow=21,SNR=2.5							
TPRV	**Parvadeh(Tabas**	**6.31**	**318**	*eP*n		**Pn**	**10 40 52.7**	**+3.6**
GEYT	**Alibeck**	**9.94**	**343**	LR		LR	10 45 57.9	
	comp=Z,48nm,18.4s,baz=170,slow=41							
MKAR	**Makanchi Array**	**24.39**	**36**	P		**P**	**10 44 33.0**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=213,slow=10,SNR=1.8							
KURBB	**Kurchatov Area**	**25.55**	**25**	P		**P**	**10 44 42.1**	**-2.6**
	comp=Z,0.5nm,0.4s,baz=220,slow=8.7,SNR=6.6							
KSRS	**Korea Array**	**55.26**	**62**	LR		LR	11 13 56.8	
	comp=Z,29nm,18.6s,baz=200,slow=38							
TORD	**Torodi Ar. Bea**	**57.63**	**268**	P		**P**	**10 49 06.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=64,slow=6.5,SNR=5.3							
WRA	**Warramunga Arr**	**65.00**	**116**	P		**P**	**10 51 52.7**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=314,slow=4.4,SNR=3.1							
ASAR	**Alice Springs**	**86.66**	**119**	P		**P**	**10 51 59.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=305,slow=5.1,SNR=4.8							

IDC 16 10:39:35.4±0.8,4°97S×132°99E, *h*0km, mb3.2/1, mb1 3.5/5, mb1mx3.3/50, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=37.1km s-min=4.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.42**	**337**	Pn	Pn	10 40 44.2	+0.4
	0.7nm,0.3s,baz=70,slow=24,SNR=7.5						
SIJI				Sn	Sn	10 41 36.3	+0.3
	0.9nm,0.3s,baz=115,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	**14.90**	**208**	Pn	Pn	10 43 07.5	0.0
	0.1nm,0.3s,baz=27,slow=11,SNR=1.2						
FITZ				Sn	Sn	10 45 60.0	+6.6
	0.1nm,0.3s,baz=105,slow=15,SNR=1.6						
WRA	**Warramunga Arr**	**14.94**	**175**	Pn	Pn	10 43 06.2	-1.9
	0.1nm,0.3s,baz=360,slow=12,SNR=5.1						
WRA				Sn	Sn	10 45 47.5	-7.1
	0.1nm,0.3s,baz=354,slow=24,SNR=3.5						
ASAR	**Alice Springs**	**18.61**	**177**	P	Pn	10 43 54.8	0.0
	0.2nm,0.3s,baz=5.9,slow=11,SNR=12						
MKAR	**Makanchi Array**	**68.22**	**325**	P	P	10 50 37.4	-0.5
	0.1nm,0.5s,baz=111,slow=7.9,SNR=1.7						

*IDC **16** 10:41:28.2±1.6,2°47S×122°05E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.5/58, mbtmp3.8/6, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/45, Error ellipse: s-maj=46.0km s-min=25.9km az=59.0*
*DJA **16** 10:41:30.6±0.3, 3°S±2°×12°2E±°, h14km, M3.9/10, mb4.0/1, MLv3.9/10*
ISC 16 10:41:30.1±0.8, 2°59S±0°04×121°84E±0°06, h10km, n17, σ0°76/22, mb3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.58**	**187**	P	**Pn**	**10 41 57.9**	**-0.4**
KKSI				S	**Sb**	**10 42 19.8**	**+0.1**
APSI	**Ampana**	**1.68**	**353**	P	**Pn**	**10 41 59.1**	**-0.5**
APSI				S	**Sn**	**10 42 21.5**	**+0.4**
LUWI	**Luwuk**	**1.80**	**31**	P	**Pn**	**10 42 00.9**	**-0.3**
LUWI				S	**Sn**	**10 42 24.8**	**+0.7**
TTSI	**Tana Toraja**	**2.07**	**257**	P	**Pn**	**10 42 04.3**	**-0.6**
TTSI				S	**Sn**	**10 42 31.0**	**+0.2**
BNSI	**Bone**	**2.50**	**224**	P	**Pn**	**10 42 11.1**	**+0.3**
MRSI	**Marisa**	**3.05**	**2**	P	**Pn**	**10 42 18.0**	**-0.4**
PMSI	**Majene**	**3.06**	**253**	P	**Pn**	**10 42 19.6**	**+1.0**
KAPI	**Kappang**	**3.19**	**221**	Pn	**Pn**	**10 42 21.6**	**+1.2**
KAPI	9.0nm,0.3s,baz=322,slow=2.2,SNR=16						
				S	**Sn**	**10 42 57.0**	**-1.4**
	9.9nm,0.3s,baz=185,slow=20,SNR=9.2						
GTOI	**Gorontalo**	**3.41**	**20**	P	**Pn**	**10 42 24.0**	**+0.6**
MPSI	**Mapaga**	**3.49**	**326**	P	**Pn**	**10 42 24.3**	**-0.3**
MKS	**Makassar**	**3.52**	**222**	P	**Pn**	**10 42 24.8**	**-0.2**
EDFI	**Ende, Flores**	**6.12**	**181**	P	**Pn**	**10 43 00.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**15.86**	**167**	Pn	**Pn**	**10 45 15.3**	**+1.6**
	0.1nm,0.3s,baz=355,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**21.13**	**146**	P	**P**	**10 46 14.4**	**-1.1**
	2.0nm,0.8s,baz=328,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.99**	**152**	P	**P**	**10 46 44.6**	**-0.6**
	1.1nm,0.6s,baz=327,slow=8.4,SNR=26						
ASAR				LR	LR	10 56 16.7	
	comp=Z,94nm,19.6s,baz=344,slow=37						
STKA	**Stephens Creek**	**34.57**	**150**	P	**P**	**10 48 18.9**	**-0.3**
	2.1nm,0.7s,baz=329,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**60.22**	**330**	P	**P**	**10 51 38.5**	**-0.1**
	0.3nm,0.8s,baz=127,slow=6.9,SNR=1.9						

IDC 16 10:51:30.1±7.6,20°79S×178°28W, h451km±55km, mb3.0/3, mb1 3.2/4, mb1mx2.9/24, mbtmp3.9/4, Error ellipse: s-maj=143.2km s-min=43.9km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**311**	P	P	10 52 51.0	+0.1
	2.3nm,0.3s,baz=264,slow=22,SNR=12						
STKA	**Stephens Creek**	**37.43**	**244**	P	P	10 58 02.5	-0.9
	1.1nm,0.4s,baz=85,slow=9.8,SNR=3.9						
ASAR	**Alice Springs**	**44.20**	**257**	P	P	10 58 58.0	+0.1
	1.3nm,0.6s,baz=96,slow=8.0,SNR=19						
ASAR				PcP	PcP	11 00 33.8	+0.5
	0.5nm,0.9s,baz=97,slow=3.8,SNR=2.5						
WRA	**Warramunga Arr**	**44.30**	**262**	P	P	10 58 58.5	-0.2
	1.0nm,0.9s,baz=95,slow=7.4,SNR=6.9						
AKASG	**Malin Array Be**	**143.14**	**331**	PKP	PKPbc	11 10 10.4	+0.9
	0.9nm,0.3s,baz=41,slow=4.6,SNR=5.2						

IDC 16 11:10:09.9±7.6,5°32S×146°07E, h180km±81km, mb2.9/3, mb1 3.2/5, mb1mx2.9/44, mbtmp3.5/5, MS2.4/1, Ms1 2.4/1, ms1mx2.2/13, Error ellipse: s-maj=90.1km s-min=25.5km az=140.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.20**	**165**	P	Pn	11 11 13.6	0.0
	2.4nm,0.3s,baz=7.1,slow=16,SNR=1.8						
PMG				S	Sn	11 12 03.8	+0.2
	8.7nm,0.3s,baz=163,slow=21,SNR=17						
PMG				LR	LR	11 13 02.1	
	comp=Z,44nm,19.7s,baz=170,slow=41						
WRA	**Warramunga Arr**	**18.48**	**217**	P	P	11 14 12.3	-0.2
	0.2nm,0.3s,baz=35,slow=18,SNR=18						
ASAR	**Alice Springs**	**21.68**	**212**	P	P	11 14 47.0	+0.3
	0.4nm,0.5s,baz=39,slow=8.3,SNR=8.3						
ASAR				pP	pP	11 15 12.3	-5.6
	1.0nm,0.8s,baz=34,slow=12,SNR=7.6						
FITZ	**Fitzroy Crossi**	**23.66**	**236**	P	P	11 15 04.7	-0.4
	0.7nm,0.6s,baz=46,slow=9.2,SNR=1.3						
ILAR	**Eielson Array**	**85.22**	**23**	P	P	11 22 26.0	+0.1
	0.5nm,0.8s,baz=256,slow=5.7,SNR=7.3						

*IDC **16** 11:47:59.4±1.5,0°66S×131°50E, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.8/36, mbtmp3.9/7, ML3.9/3, MS3.2/5, Ms1 3.1/5, ms1mx2.8/31, Error ellipse: s-maj=55.3km s-min=14.6km az=74.0*
*DJA **16** 11:48:04.8±0.7, 1°S±5°×13°1E±°, h10km, M4.1/7, MLv4.1/7*
*NEIC **16** 11:48:06.4±1.6, 0°8S±0°1×131°0E±0°1, h39km±6km, mb3.8/6, Error ellipse: s-maj=24.0km s-min=10.9km az=46.0*
ISC 16 11:48:01.6±2.2, 0°56S±0°10×131°3E±0°1, h13km±10km, n34, σ1°85/30, mb4.0/5, MS3.1/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.31**	**189**	P	**Pg**	**11 48 08.4**	**+0.4**
SWI				S	**Sg**	**11 48 12.6**	**+0.4**
SIJI	**Sorong**	**0.31**	**187**	P	**Pg**	**11 48 07.9**	**-0.2**
SIJI				S	**Sg**	**11 48 12.3**	**-0.1**
FAKI	**Fak Fak**	**2.53**	**158**	Pn	**Pn**	**11 48 42.7**	**+0.3**
FAKI	**Fak Fak**	**2.53**	**158**	P	**Pn**	**11 48 42.4**	**0.0**
MSAI	**Masohi**	**3.65**	**221**	P	**Pn**	**11 48 59.9**	**+2.1**
KRAI	**Karang Ratu**	**4.00**	**227**	P	**Pn**	**11 49 05.8**	**+3.2**
TNTI	**Ternate**	**4.15**	**289**	Pn	**Pn**	**11 49 04.3**	**-0.4**
BNDI	**Bandanaira**	**4.18**	**200**	P	**Pn**	**11 49 06.2**	**+1.1**
GAMI	**Galela, Maluku**	**4.25**	**304**	P	Pn	11 49 12.8	+6.7
LUWI	**Luwuk**	**8.55**	**267**	Pn	**Pn**	**11 50 02.9**	**-2.2**
MTN	**Manton Dam**	**12.21**	**181**	Pn	**Pn**	**11 50 53.1**	**-2.2**
KAPI	**Kappang**	**12.36**	**249**	Pn	**Pn**	**11 50 59.8**	**+2.4**
	0.4nm,0.3s,baz=142,slow=17,SNR=1.2						
KNRA	**Kununurra**	**15.23**	**189**	Pn	**Pn**	**11 51 31.9**	**-4.7**
PMG	**Port Moresby**	**18.06**	**120**	LR	LR	12 00 02.5	
	comp=Z,60nm,18.7s,baz=272,slow=40						
FITZ	**Fitzroy Crossi**	**18.30**	**197**	P	**Pn**	**11 52 13.2**	**-2.1**
	0.3nm,0.3s,baz=30,slow=11,SNR=13						
FITZ				LR	LR	11 59 33.6	
	comp=Z,48nm,20.5s,baz=34,slow=38						
FITZ	**Fitzroy Crossi**	**18.30**	**197**	P	**Pn**	**11 52 13.1**	**-2.2**
WB0	**Warramunga Arr**	**19.33**	**171**		**P**	**11 52 25.5**	**-1.3**
WB0				IAmb	IAmb	11 52 37.4	
	comp=Z,6.7nm,1.1s						
WRAB	**Tennant Creek**	**19.48**	**171**	P	**P**	**11 52 27.2**	**-1.3**
WRAB				IAmb	IAmb	11 52 42.8	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**19.49**	**171**	P	**P**	**11 52 26.8**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=353,slow=13,SNR=23						
WRA	**Warramunga Arr**	**19.49**	**171**	P	**P**	**11 52 26.0**	**-2.6**
WB2	**Warramunga Arr**	**19.50**	**171**	P	**P**	**11 52 26.6**	**-2.0**
WR0	**Warramunga Arr**	**19.54**	**171**	P	**P**	**11 52 27.8**	**-1.4**
WR0				IAmb	IAmb	11 52 41.9	
	comp=Z,4.6nm,0.8s						
AS31	**Alice Springs**	**23.11**	**174**	P	**P**	**11 53 07.9**	**+0.4**
AS31				IAmb	IAmb	11 53 15.2	
	comp=Z,2.3nm,0.7s						
ASAR	**Alice Springs**	**23.11**	**174**	P	**P**	**11 53 07.1**	**-0.4**
	comp=Z,3.6nm,0.7s,baz=353,slow=10,SNR=37						
ASAR				S	**S**	**11 57 18.4**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=354,slow=24,SNR=4.8						
ASAR				LR	LR	12 04 17.8	
	comp=Z,38nm,18.1s,baz=340,slow=43						
ASAR	**Alice Springs**	**23.11**	**174**	P	**P**	**11 53 08.4**	**+0.9**
STKA	**Stephens Creek**	**32.63**	**164**	LR	LR	12 11 12.5	
	comp=Z,66nm,18.8s,baz=23,slow=43						
CMAR	**Chiang Mai Arr**	**37.00**	**302**	P	**P**	**11 55 12.5**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=126,slow=7.2,SNR=1.4						
KSRS	**Korea Array**	**37.95**	**356**	LR	LR	12 11 30.1	
	comp=Z,32nm,19.3s,baz=158,slow=37						
H11N1	**WAKE ISLAND Hy**	**40.28**	**58**	T	T	12 38 33.1	
	baz=245,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.29**	**58**	T	T	12 38 33.7	
	baz=245,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**40.30**	**58**	T	T	12 38 35.0	
	baz=245,slow=75,SNR=12						
MKAR	**Makanchi Array**	**63.67**	**325**	P	**P**	**11 58 33.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=122,slow=8.5,SNR=8.2						
KURK	**Kurchatov**	**67.80**	**327**	P	**P**	**11 59 00.3**	**+1.1**
KURBB	**Kurchatov Area**	**67.80**	**327**	P	**P**	**11 59 00.3**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=125,slow=5.9,SNR=10						

*IDC **16** 11:49:18.1±0.9, 11°83N×144°19E, h0km, mb4.1/6, mb1 4.4/6, mb1mx3.8/40, mbtmp4.1/6, MS3.2/5, Ms1 3.2/5, ms1mx2.8/36, Error ellipse: s-maj=39.9km s-min=22.3km az=117.0*
ISC 16 11:49:22.2±0.9, 11°8N±0°2×144°2E±0°2, h26km, n17, σ1°07/7, mb4.2/6, MS3.1/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**17.97**	**226**	LR	LR	11 59 33.8	
	comp=Z,97nm,18.7s,baz=281,slow=34						
JHJ	**Hachijo jima 2**	**21.61**	**350**	LR	LR	12 01 04.4	
	comp=Z,49nm,20.1s,baz=142,slow=33						
H11S3	**WAKE ISLAND Hy**	**22.71**	**70**	T	T	12 18 58.5	
	baz=253,slow=71						
H11S1	**WAKE ISLAND Hy**	**22.73**	**70**	T	T	12 19 15.7	
	baz=253,slow=71						
H11S2	**WAKE ISLAND Hy**	**22.73**	**70**	T	T	12 19 13.7	
	baz=253,slow=71						
H11N1	**WAKE ISLAND Hy**	**23.21**	**67**	T	T	12 19 49.3	
	baz=254,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**23.22**	**67**	T	T	12 19 42.9	
	baz=254,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**23.23**	**67**	T	T	12 19 34.4	
	baz=254,slow=75,SNR=14						
WRA	**Warramunga Arr**	**32.99**	**197**	P	**P**	**11 55 54.3**	**-0.9**
	2.1nm,0.6s,baz=17,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**36.65**	**196**	P	**P**	**11 56 27.0**	**+0.2**
	0.4nm,0.6s,baz=18,slow=12,SNR=3.2						
PETK	**Petropavlovsk-**	**42.61**	**12**	LR	LR	12 16 32.1	
	comp=Z,21nm,18.2s,baz=213,slow=38						
CMAR	**Chiang Mai Arr**	**44.08**	**284**	P	**P**	**11 57 28.8**	**+0.3**
	1.2nm,0.4s,baz=81,slow=7.2,SNR=6.1						
CMAR				LR	LR	12 13 53.4	
	comp=Z,22nm,20.5s,baz=192,slow=34						
SONM	**Songino Array**	**47.82**	**326**	LR	LR	12 17 46.6	
	comp=Z,30nm,19.6s,baz=222,slow=36						
ILAR	**Eielson Array**	**70.47**	**25**	P	**P**	**12 00 32.7**	**-1.5**
	2.0nm,0.6s,baz=248,slow=5.8,SNR=26						
YKA	**Yellowknife Ar**	**84.75**	**27**	P	**P**	**12 01 54.3**	**+0.4**
	1.6nm,0.7s,baz=280,slow=5.0,SNR=6.7						
NVAR	**Mina Array Bea**	**88.56**	**51**	P	**P**	**12 02 14.0**	**+0.6**
	0.5nm,0.5s,baz=271,slow=5.4,SNR=6.5						
LPAZ	**La Paz**	**148.36**	**102**	PKPbc	**PKPbc**	**12 09 08.9**	**+0.9**
	2.2nm,0.8s,baz=291,slow=5.1,SNR=8.2						

IDC 16 12:33:20.3±2.5, 5°24S×147°33E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/31, mbtmp3.3/3, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/18, Error ellipse: s-maj=300.4km s-min=32.0km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.32**	**220**	P	P	12 37 47.2	-0.1
	0.1nm,0.3s,baz=44,slow=9.6,SNR=9.2						
ASAR	**Alice Springs**	**22.43**	**214**	P	P	12 38 20.9	-0.1
	0.4nm,0.7s,baz=46,slow=8.2,SNR=5.9						
BATI	**Baumata**	**23.96**	**257**	LR	LR	12 50 23.3	
	comp=Z,75nm,18.3s,baz=148,slow=43						
NWAO	**Narrogin (SRO)**	**39.31**	**222**	LR	LR	12 56 45.2	
	comp=Z,45nm,18.3s,baz=285,slow=36						
ILAR	**Eielson Array**	**84.66**	**23**	P	P	12 45 55.8	+0.1
	0.3nm,0.6s,baz=237,slow=5.0,SNR=3.2						

*SOME **16** 12:44:11.3, 39°27N×72°07E, h5km*
*KRNET **16** 12:44:14.5±0.1, 39°25N×71°86E, h18km, mb3.4*
*NNC **16** 12:44:16.0±4.4, 39°35N×71°87E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=40.1km s-min=15.4km az=170.0*
*IDC **16** 12:44:19.5±13.0, 38°36N×73°01E, h122km±113km, mb3.3/2, mb1 3.2/4, mb1mx3.0/47, mbtmp3.6/4, ML2.9/2, Error ellipse: s-maj=144.5km s-min=40.3km az=164.0*
ISC 16 12:44:14.0±1.5, 39°15N±0°06×71°73E±0°04, h5km±10km, n28, σ2°33/44, 19C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.33**	**9**	↓*iP*	**Pg**	**12 44 19.6**	**-1.0**
	baz=50						
DRK				↓*iS*	**Sg**	**12 44 23.3**	**-1.7**
	baz=50						
GAR	**Garm**	**1.11**	**262**	↑*iP*	**Pn**	**12 44 37.3**	**+0.9**
	baz=59						
GAR				↑*iS*	**Sn**	**12 44 53.4**	**+1.2**
	baz=59						
BTK	**Batken**	**1.15**	**322**	↑*iP*	**Pb**	**12 44 35.3**	**-1.1**
	baz=15						
BTK				↑*iS*	**Sn**	**12 44 51.1**	**-1.9**
	baz=15						
SFK	**Sufi-Kurgan**	**1.61**	**57**	↓*iP*	**Pn**	**12 44 41.5**	**-1.9**
	baz=59						
SFK				↓*iS*	**Sn**	**12 45 01.8**	**-3.0**
	baz=59						
CHGR	**Chuyangaron**	**2.07**	**257**	↓*iP*	**Pg**	**12 44 52.5**	**-1.2**
	baz=55						
CHGR				↓*iS*	**Sg**	**12 45 20.6**	**+0.1**
	baz=55						
ARSB	**Arslanbob**	**2.37**	**23**	↑*iP*	**Pn**	**12 44 53.7**	**0.0**
	baz=22						
ARSB				↑*iS*	**Sn**	**12 45 21.9**	**-1.4**
	baz=22						
TRKS	**Terek-Say**	**2.42**	**349**	*eP*	**Pn**	**12 44 53.8**	**-0.6**
	baz=47						
TRKS				↑*iS*	**Sn**	**12 45 22.5**	**-1.9**
	baz=47						
AML	**Almayashu**	**3.33**	**26**	↑*iP*	**Pn**	**12 45 06.7**	**-0.4**
	baz=25						
AML				↑*iS*	**Sn**	**12 45 45.1**	**-2.1**
	baz=25						
ARLS	**Aral**	**3.35**	**35**	↑*iP*	**Pn**	**12 45 06.7**	**-0.5**
	baz=35						
ARLS				↑*iS*	**Sn**	**12 45 45.1**	**-2.3**
	baz=35						
MRKS	**Merke**	**3.76**	**17**	*eP*	**Pb**	**12 45 19.1**	**-1.9**
	10nm,0.7s						
MRKS				*eS*	**Sb**	**12 46 11.0**	**+4.1**
	25nm,0.5s						
EKS2	**Erkin-Say**	**3.83**	**23**	↓*eP*	**Pn**	**12 45 14.0**	**+0.2**
	baz=23						
EKS2				↓*iS*	**Sn**	**12 45 57.2**	**-2.1**
	baz=23						
KK31	**Karatay Array**	**4.05**	**347**	↑Pn	**Pn**	**12 45 18.2**	**+1.5**
	4.2nm,0.4s,baz=164,slow=12,SNR=56						
KK31				↓Pg	**Pb**	**12 45 27.8**	**+1.9**
	6.7nm,0.5s,baz=169,slow=17,SNR=10.0						
KK31				↓Lg	Lg	12 46 07.5	
	4.0nm,0.3s,baz=170,slow=26						
AAK	**Ala-Archa**	**4.06**	**30**	↑*eP*	**Pn**	**12 45 16.9**	**-0.1**
	baz=30						
AAK				↑*iS*	**Sn**	**12 46 02.4**	**-2.6**
	baz=30						
CHMS	**Chumysh**	**4.47**	**30**	↑*iP*	**Pn**	**12 45 22.6**	**+0.1**
	baz=29						
CHMS				↑*iS*	**Sn**	**12 46 11.8**	**-3.0**
	baz=29						
USP	**Ospenovka**	**4.61**	**26**	↑*iP*	**Pn**	**12 45 24.5**	**+0.1**
	baz=26						
USP				↑*iS*	**Sn**	**12 46 15.2**	**-3.1**
	baz=26						
KST	**Kastek**	**5.03**	**38**	*eP*	**Pb**	**12 45 42.2**	**-0.5**
	4.7nm,0.8s						
KST				*eS*	**Sb**	**12 46 50.5**	**+7.0**
	6.7nm,0.4s						
KST	**Kastek**	**5.03**	**38**	Pg	**Pb**	**12 45 44.8**	**+2.2**
	7.4nm,1.1s						
KST				Lg	Lg	12 46 51.2	
	6.7nm,0.4s						
MTBS	**Maitube**	**5.32**	**40**	Pg	**Pb**	**12 45 49.1**	**+1.5**
	1.6nm,0.1s						
MTBS				Lg	Lg	12 46 58.6	
	7.0nm,0.4s						
KUU	**Kurty**	**5.86**	**35**	Pg	**Pb**	**12 45 57.7**	**+1.0**
	1.6nm,0.1s						
KUU				Lg	Lg	12 47 13.3	
	4.4nm,0.3s						
KTBS	**Karatobe**	**5.88**	**38**	Pg	**Pb**	**12 45 57.9**	**+0.9**
	1.2nm,0.5s						
KTBS				Lg	Lg	12 47 13.7	
	9.6nm,0.4s						
BTLS	**Baital**	**6.13**	**16**	*eP*	**Pb**	**12 46 01.4**	**+0.1**
	1.2nm,0.2s						
BTLS				*eS*	**Sb**	**12 47 21.4**	**+6.5**
	3.3nm,0.7s						
BTLS	**Baital**	**6.13**	**16**	Pg	**Pb**	**12 46 01.5**	**+0.2**
	1.2nm,0.2s						
BTLS				Lg	Lg	12 47 19.8	
	3.3nm,0.7s						
SATY	**Saty**	**6.37**	**50**	Pg	**Pb**	**12 46 07.5**	**+2.0**
	2.0nm,0.4s						
SATY				Lg	Lg	12 47 30.2	
	2.7nm,0.1s						
UZB	**Uzynbulak**	**6.79**	**52**	Pg	**Pb**	**12 46 15.5**	**+2.8**
	2.1nm,0.3s						
UZB				Lg	Lg	12 47 44.0	
	4.3nm,0.6s						
MKAR	**Makanchi Array**	**10.86**	**42**	P	**Pn**	**12 46 51.2**	**+1.1**
	0.1nm,0.3s,baz=218,slow=11,SNR=6.4						
ZALV	**Zalesovo Beam**	**17.27**	**27**	P		**12 48 15.8**	**-0.1**
	0.3nm,0.3s,baz=220,slow=10.0,SNR=6.1						
SONM	**Songino Array**	**26.42**	**59**	P	P	12 49 40.8	-11
	0.4nm,0.3s,baz=262,slow=8.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**66.38**	**268**	P	**P**	**12 55 01.8**	**-2.4**
	0.2nm,0.4s,baz=56,slow=5.9,SNR=1.6						

*TEH **16** 12:44:46.9, 32°86N×47°61E, h16km, ML3.4*
*ISN **16** 12:44:46.1±0.9, 32°90N×47°51E, h0km±4km, ML3.2*
*THR **16** 12:44:47.0±0.4, 32°88N×47°55E, h14km±6km, ML3.3*
*KISR **16** 12:44:47.0±0.5, 32°59N×47°42E, h173km±34km, ML3.8*
ISC 16 12:44:46.8±1.2, 32°85N±0°03×47°63E±0°03, h11km±11km, n47, σ1°39/56, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.70**	**15**	*e*Pg	**Pg**	**12 44 59.6**	**-0.8**
IDOB	**Doab**	**1.04**	**26**	*e*Pg	**Pb**	**12 45 06.8**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.23**	**126**	*e*Pg	**Pg**	**12 45 11.2**	**+0.7**
SHGR				*e*Sg	**Sg**	**12 45 28.9**	**+2.3**
SHGR				IAML		12 45 32.3	
	comp=E,457nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.23**	**126**	*e*Pg	**Pg**	**12 45 11.2**	**+0.7**
BMDN	**Meydan**	**1.30**	**50**	*e*Pg	**Pb**	**12 45 11.2**	**-0.2**
BMDN				*e*		12 45 35.1	
	comp=Z,11μm,0.3s						
IBDR	**Badra**	**1.45**	**281**	*e*Pg	**Pb**	**12 45 13.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**12 45 34.0**	**+0.4**
IBDR				AML	AML	12 45 37.2	
	comp=N,369nm,0.4s						
IBDR				AML	AML	12 45 38.4	
	comp=E,294nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.51**	**341**	*e*Pg	**Pb**	**12 45 14.6**	**-0.4**
KCHF				*e*		12 45 41.0	
	comp=Z,6μm,0.3s						
HSAM	**Samen**	**1.58**	**31**	*e*Pg	**Pb**	**12 45 16.4**	**+0.1**
HSAM				*e*		12 45 22.4	
	comp=Z,5μm,0.4s						
KER	**Kermanshah**	**1.59**	**345**	*e*Pn	**Pb**	**12 45 15.8**	**-0.6**
IBZA	**Bozab**	**1.63**	**7**	*e*Pg

QRN	**Al-Qurain**	**4.10**	**176**	*e*P	**Pn**	**12 45 49.7**	**+0.3**
QRN				IAML		12 46 36.3	
	comp=Z,122nm,0.3s						
QRN				*e*S	**Sn**	**12 46 36.4**	**-1.0**
IGZV	**Ghazvin**	**4.13**	**30**	*e*Pn	**Pn**	**12 45 52.2**	**+2.1**
ISFB	**Sefidab**	**4.13**	**67**	*e*Pn	**Pn**	**12 45 51.2**	**+1.2**
IRAM	**Ramesheh**	**4.15**	**103**	*e*Pn	**Pn**	**12 45 51.0**	**+0.6**
QALM	**Alamut, Qazvin**	**4.36**	**34**	*e*Pn	**Pn**	**12 45 53.3**	**+0.1**
ANAR	**Anarak**	**5.13**	**85**	*e*Pn	**Pn**	**12 46 04.7**	**+0.9**
IANJ	**Anjilo**	**5.83**	**62**	*e*Pn	**Pn**	**12 46 15.9**	**+2.4**

IDC ***16*** *12:47:29.2±1.3,2°.76N×94°.24E, h0km, mb3.9/8, mb1 4.0/10,mb1mx3.6/64,mbtmp3.9/10, ML4.0/2, MS2.5/1, Ms1 2.5/1,ms1mx2.2/40, Error ellipse: s-maj=38.3km s-min=18.0km az=51.0*

NEIC ***16*** *12:47:33.8±0.7,2°.8N±0°.1×94°.2E±0°.1, h27km±3km, mb4.1/7, Error ellipse: s-maj=20.5km s-min=12.7km az=52.0*

ISC 16 12:47:31.8±1.0, 2°.8N±0°.1×94°.18E±0°.09, h18km, n31, σ0s75/29, mb4.1/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**3.68**	**49**	Pn	**Pn**	**12 48 27.6**	**-0.3**
GSI	**Gunungsitoli**	**3.70**	**113**	Pn	**Pn**	**12 48 27.5**	**-0.6**
PSI	**Prapat**	**4.74**	**90**	Pn	**Pn**	**12 48 42.8**	**+0.3**
	1.0nm,0.3s,baz=360,slow=13,SNR=4.0						
PSI				Sn	**Sn**	**12 49 37.8**	**+0.7**
	0.7nm,0.3s,baz=360,slow=15,SNR=1.7						
PSI				LR	LR	12 50 02.1	
	comp=Z,45nm,18.4s,baz=68,slow=33						
RPSI	**Rantau Prapat**	**4.74**	**91**		**Pn**	**12 48 42.8**	**+0.4**
RPSI					**Sn**	**12 49 37.8**	**+0.8**
RPSI	**Rantau Prapat**	**4.74**	**91**	Pn	**Pn**	**12 48 42.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.27**	**16**	Pn	**Pn**	**12 51 19.2**	**-0.4**
	0.7nm,0.3s,baz=212,slow=12,SNR=16						
CHTO	**Chiang Mai**	**16.60**	**16**	P	**P**	**12 51 25.1**	**-1.1**
H08S2	**Diego Garcia H**	**23.99**	**244**	T	T	13 17 45.9	
	baz=64,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**23.99**	**244**	T	T	13 17 51.3	
	baz=64,slow=75,SNR=36						
H08S1	**Diego Garcia H**	**24.00**	**244**	T	T	13 17 51.9	
	baz=64,slow=75,SNR=22						
H01W3	**Cape Leeuwin H**	**41.89**	**155**	T	T	13 40 11.0	
	baz=332,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**	**41.90**	**155**	T	T	13 40 11.6	
	baz=332,slow=76,SNR=7.8						
H01W1	**Cape Leeuwin H**	**41.91**	**155**	T	T	13 40 11.3	
	baz=332,slow=76,SNR=6.6						
HRA	**Herat**	**43.27**	**320**	P	**P**	**12 55 33.8**	**+1.0**
MK31	**Makanchi Array**	**45.05**	**348**	P	**P**	**12 55 46.6**	**0.0**
MK31				IAmb	IAmb	12 55 47.2	
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**45.05**	**348**	P	**P**	**12 55 46.5**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=165,slow=8.9,SNR=23						
MKAR	**Makanchi Array**	**45.05**	**348**	P	**P**	**12 55 46.1**	**-0.4**
MAKZ	**Makanchi**	**45.12**	**348**	P	**P**	**12 55 47.2**	**0.0**
MAKZ				IAmb	IAmb	12 55 56.5	
	comp=Z,2.0nm,0.9s						
KK31	**Karatay Array**	**45.35**	**336**	P	**P**	**12 55 48.6**	**-0.4**
KK31				IAmb	IAmb	12 55 49.1	
	comp=Z,1.4nm,0.7s						
KKAR	**Karatay Array**	**45.35**	**336**	P	**P**	**12 55 48.4**	**-0.6**
WB0	**Warramunga Arr**	**45.40**	**121**		**P**	**12 55 49.4**	**-0.4**
WB0				IAmb	IAmb	12 56 15.2	
	comp=Z,6.5nm,1.2s						
WRA	**Warramunga Arr**	**45.43**	**122**	P	**P**	**12 55 48.3**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=302,slow=9.1,SNR=4.2						
WRA				PcP	**PcP**	**12 57 30.9**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=52,slow=10,SNR=1.0						
SONM	**Songino Array**	**46.11**	**11**	P	**P**	**12 55 55.0**	**0.0**
	comp=Z,0.7nm,0.4s,baz=190,slow=7.3,SNR=2.5						
KSRS	**Korea Array**	**46.36**	**38**	P	**P**	**12 55 57.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=219,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**46.75**	**126**	P	**P**	**12 55 60.0**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=304,slow=7.8,SNR=3.7						
ASAR				PcP	**PcP**	**12 57 33.3**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=289,slow=3.3,SNR=5.1						
GEYT	**Alibeck**	**48.09**	**321**	P	**P**	**12 56 12.2**	**+1.6**
	comp=Z,2.5nm,0.5s,baz=189,slow=8.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**49.48**	**347**	P	**P**	**12 56 21.1**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=170,slow=7.1,SNR=15						
KURK	**Kurchatov**	**49.54**	**347**	P	**P**	**12 56 21.1**	**-0.4**
ZAA0	**Zalesovo Array**	**51.58**	**353**	P	**P**	**12 56 36.8**	**0.0**
ZAA0				IAmb	IAmb	12 56 46.3	
	comp=Z,3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**51.58**	**353**	P	**P**	**12 56 36.6**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=185,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**51.58**	**353**	P	**P**	**12 56 37.0**	**+0.1**

IDC 16 12:50:01.7±3.1, 2°.60N×94°.08E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/62, mbtmp3.6/5, ML4.4/1, Error ellipse: s-maj=116.9km s-min=31.6km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.46**	**16**	Pn	Pn	12 53 54.7	+0.4
	0.5nm,0.3s,baz=207,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**45.20**	**349**	P	P	12 58 20.3	-0.2
	0.5nm,0.5s,baz=172,slow=8.7,SNR=5.3						
WRA	**Warramunga Arr**	**45.42**	**121**	P	P	12 58 22.5	-0.2
	1.1nm,1.2s,baz=299,slow=8.6,SNR=2.0						
KURBB	**Kurchatov Arra**	**49.63**	**347**	P	P	12 58 55.1	+0.2
	0.3nm,0.6s,baz=165,slow=6.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**51.75**	**353**	P	P	12 59 10.5	-0.3
	0.5nm,0.3s,baz=155,slow=4.8,SNR=2.8						

IDC ***16*** *12:50:28.4±3.0,2°.73N×94°.09E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/60, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=100.3km s-min=31.3km az=59.0*

ISC 16 12:50:30.6±2.7, 2°.9N±0°.3×94°.3E±0°.5, h10km, n12, σ0s74/6, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.15**	**16**	Pn	**P**	**12 54 21.6**	**+0.5**
	0.1nm,0.3s,baz=208,slow=11,SNR=5.4						
H08S2	**Diego Garcia H**	**24.13**	**244**	T	T	13 20 36.7	
	baz=66						
H08S3	**Diego Garcia H**	**24.13**	**244**	T	T	13 20 37.8	
	baz=66						
H08S1	**Diego Carcia H**	**24.14**	**244**	T	T	13 20 39.0	
	baz=66						
H01W3	**Cape Leeuwin H**	**41.93**	**155**	T	T	13 42 49.6	
	baz=330						
H01W2	**Cape Leeuwin H**	**41.94**	**155**	T	T	13 42 50.7	
	baz=330						
H01W1	**Cape Leeuwin H**	**41.94**	**155**	T	T	13 42 49.0	
	baz=330						
MKAR	**Makanchi Array**	**44.98**	**348**	P	**P**	**12 58 46.7**	**+0.6**
	0.7nm,0.5s,baz=158,slow=8.6,SNR=5.9						
WRA	**Warramunga Arr**	**45.38**	**122**	P	**P**	**12 58 49.8**	**+0.1**
	0.4nm,0.8s,baz=300,slow=8.6,SNR=2.4						
SONM	**Songino Array**	**45.99**	**11**	P	**P**	**12 58 53.4**	**-0.9**
	0.5nm,0.5s,baz=184,slow=8.7,SNR=1.6						
KURBB	**Kurchatov Arra**	**49.41**	**347**	P	**P**	**12 59 20.3**	**-0.2**
	0.3nm,0.5s,baz=168,slow=7.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**51.50**	**353**	P	**P**	**12 59 36.8**	**+0.5**
	0.8nm,0.4s,baz=168,slow=5.5,SNR=2.7						

UPP ***16*** *12:51:02.4±1.6,54°.93N×14°.57E, h22km, ML2.5, Suspected explosion*

DNK 16 12:51:00.2±0.9, 54°.89N×14°.69E, h0km, ML2.5(UPP), 1C, Suspected explosion, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSD	**Bornholm Skovb**	**0.26**	**31**	*e*	Pg	12 51 06.0	+0.9
	baz=32,slow=12						
BSD				⇑*i*	Pb	12 51 06.2	-1.5
BSD				*i* S	Sb	12 51 11.4	-1.3
BSD				IAML		12 51 11.8	
	comp=Z,43nm,0.3s						
LUNU	**Lund**	**1.03**	**317**	*i* P	Pg	12 51 19.8	0.0
LUNU				*i* S	Sn	12 51 36.9	0.0
LUNU	**Lund**	**1.03**	**317**	P	Pg	12 51 19.7	-0.1
LUNU	**Lund**	**1.03**	**317**	P	Pg	12 51 19.7	-0.1
BJUU	**Bjuv**	**1.52**	**322**	*i* P	Pn	12 51 28.4	-0.1
BJUU				*i* S	Sn	12 51 50.4	+1.4
BJUU	**Bjuv**	**1.52**	**322**	P	Pn	12 51 27.9	-0.6
BJUU				S	Sg	12 51 47.2	-1.6
BJUU	**Bjuv**	**1.52**	**322**	P	Pn	12 51 27.9	-0.6
BJUU				S	Sg	12 51 47.2	-1.6
BLEU	**Blekinge**	**1.55**	**24**	*i* P	Pn	12 51 28.9	-0.1
BLEU	**Blekinge**	**1.55**	**24**	P	Pn	12 51 28.5	-0.5
BLEU				S	Sn	12 51 48.7	-1.2
BLEU	**Blekinge**	**1.55**	**24**	P	Pn	12 51 28.5	-0.5
BLEU				S	Sn	12 51 48.7	-1.2
DEL	**Delary**	**1.65**	**344**	*i* P	Pn	12 51 29.6	-0.7
DEL				IAML		12 51 57.8	
	comp=Z,2.9nm,0.4s						
DEL	**Delary**	**1.65**	**344**	P	Pn	12 51 29.6	-0.7
DEL	**Delary**	**1.65**	**344**	P	Pn	12 51 29.6	-0.7
VXJU	**Vaexsjoe**	**2.04**	**4**	P	Pn	12 51 35.7	0.0
VXJU	**Vaexsjoe**	**2.04**	**4**	P	Pn	12 51 35.7	0.0
FABU	**Falkenberg**	**2.38**	**333**	*i* P	Pn	12 51 40.5	0.0
FABU	**Falkenberg**	**2.38**	**333**	P	Pn	12 51 40.2	-0.2
FABU	**Falkenberg**	**2.38**	**333**	P	Pn	12 51 40.2	-0.2
OSKU	**Oskarshamn**	**2.44**	**18**	P	Pn	12 51 41.1	-0.1
OSKU	**Oskarshamn**	**2.44**	**18**	P	Pn	12 51 41.1	-0.1
GNOU	**Gnosjoe**	**2.46**	**348**	P	Pn	12 51 40.9	-0.6
GNOU	**Gnosjoe**	**2.46**	**348**	P	Pn	12 51 40.9	-0.6
EKSU	**Eksjoe**	**2.71**	**7**	P	Pn	12 51 45.1	+0.2
EKSU	**Eksjoe**	**2.71**	**7**	P	Pn	12 51 45.1	+0.2
BYXU	**Byxelkrok**	**2.73**	**27**	P	Pn	12 51 45.5	+0.3
BYXU	**Byxelkrok**	**2.73**	**27**	P	Pn	12 51 45.5	+0.3
BORU	**Boraas**	**2.95**	**340**	*i* P	Pn	12 51 48.3	0.0

JMA ***16*** *12:52:34.6±0.8, 45°.87N×152°.26E, h30km, M3.8*

SKHL 16 12:52:35.1±0.7, 45°.00N×152°.50E, h40km±5km, mb4.2/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.29**	**276**	*i* P	Pn	12 53 24.5	+0.5
KUR				AMB	AMB	12 53 30.5	
	30nm,0.4s						
KUR				*e*S	Sn	12 54 01.6	-0.3
KUR				A	A	12 54 12.0	
	50nm,0.4s						
KUR				A	A	12 54 12.0	
	130nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.84**	**261**	*e*P	Pn	12 53 47.0	+1.6
YUK				AMB	AMB	12 53 49.9	
	20nm,0.4s						
YUK				*e*S	Sn	12 54 40.3	+0.1
YUK				A	A	12 54 51.0	
	110nm,0.6s						
YUK				A	A	12 54 51.0	
	80nm,0.6s						
NEM2	**Nemuro 2**	**5.13**	**254**	P	Pn	12 53 50.5	+1.2
NEM2				*e*S	Sn	12 54 46.7	-0.5
NMR	**Nemuro--Hokkai**	**5.14**	**254**	*i* P	Pn	12 53 50.6	+1.2
NMR				*e*S	Sn	12 54 47.7	+0.3
JRA	**Rausu**	**5.39**	**261**	P	Pn	12 53 55.3	+2.5
JNK	**Nakash**	**5.76**	**259**	P	Pn	12 54 00.2	+2.2
JAK	**Akkeshi**	**5.97**	**253**	P	Pn	12 54 02.0	+1.1
JTKR	**Abashiri--Toko**	**6.23**	**264**	P	Pn	12 54 06.6	+2.1
JAR	**Ashorobuto**	**6.51**	**258**	P	Pn	12 54 10.9	+2.6
JAR				*e*S	Sn	12 55 22.2	+1.0
JMP	**Maruseppu**	**6.61**	**265**	P	Pn	12 54 12.5	+2.8
JCH	**Churui**	**7.03**	**253**	P	Pn	12 54 17.3	+1.9
JCH				*e*S	Sn	12 55 33.1	-0.9
JKK2	**Kamakawa 2**	**7.07**	**264**	P	Pn	12 54 18.5	+2.5
ASAJ	**Asahikawa**	**7.13**	**266**	P	Pn	12 54 19.4	+2.6
JFR	**Furan**	**7.37**	**259**	P	Pn	12 54 23.8	+3.7
JNBK	**Urakawa-nobuka**	**7.58**	**252**	P	Pn	12 54 24.3	+1.4
JBT2	**Biratori 2**	**7.65**	**257**	P	Pn	12 54 25.3	+1.3

KRSC 16 12:59:29.6±2.4, 48°.86N×156°.43E, h6km±43km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.83**	**354**	*e*P	Pn	13 00 01.3	-0.2
SKR				*e*S	Sn	13 00 24.1	-0.9
ALID	**Alaid**	**2.09**	**344**	*e*P	Pn	13 00 03.6	-1.6
PAU	**Pauzhetka**	**2.62**	**5**	*e*S	Sb	13 00 48.1	-1.1
KDTR	**Khodutka, Kamc**	**3.13**	**19**	*e*P	Pb	13 00 23.5	-2.1
KDTR				*e*S	Sb	13 01 01.6	-2.3
MTVR	**Mutnovka**	**3.79**	**16**	*e*P	Pb	13 00 33.6	-3.3
MTVR				*e*S	Sb	13 01 19.8	-3.3
RUS	**Russkaya**	**3.81**	**20**	*e*P	Pn	13 00 31.9	+3.2
RUS				*e*S	Sn	13 01 17.4	+3.7
GRL	**Gorelyy**	**3.84**	**15**	*e*P	Pn	13 00 33.3	+4.1
GRL				*e*S	Sn	13 01 19.3	+4.7
DALK	**Dalny**	**4.42**	**18**	*e*P	Pn	13 00 41.0	+3.9
DALK				*e*S	Sn	13 01 34.5	+5.7
UGLR	**Uglovaya**	**4.61**	**18**	*e*P	Pn	13 00 44.3	+4.6
AVH	**Avacha**	**4.64**	**17**	*e*P	Pn	13 00 45.2	+5.0
KOK	**Koryaka**	**4.65**	**17**	*e*P	Pn	13 00 45.4	+5.1
SDLR	**Sedlovina**	**4.68**	**18**	*e*P	Pn	13 00 44.2	+3.4
KRX	**Arik**	**4.71**	**16**	*e*P	Pn	13 00 46.5	+5.3
SPN	**Mys Shipunski**	**4.81**	**27**	*e*P	Pn	13 00 46.8	+4.4
MKZ	**Mys Kozlova**	**6.58**	**28**	*e*P	Pn	13 01 10.0	+3.3

GCG ***16*** *13:14:21.5±0.4, 15°.88N×93°.77W, h130km, MD4.8*

IDC ***16*** *13:14:25.4±0.6, 15°.89N×93°.18W, h99km±4km, mb4.0/21, mb1 4.2/23,mb1mx4.1/44, mbtmp4.4/23, MS3.4/17, Ms1 3.4/17,ms1mx3.3/33, Error ellipse: s-maj=20.0km s-min=9.5km az=53.0*

MEX ***16*** *13:14:26.4±1.9, 15°.77N×93°.58W, h100km±13km, MD4.8*

NEIC ***16*** *13:14:26.6±1.6, 15°.93N±0°.08×93°.35W±0°.07, h107km±5km, mb4.8/271, Error ellipse: s-maj=12.7km s-min=7.6km az=214.0*

GCMT ***16*** *13:14:26.5±0.3, 15°.89N±0°.02×93°.44W±0°.02, h81km±3km, MW4.9/91,Moment Tensor Solution. s31,c36; s91,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.40±. 10; Mθθ-0.04±. 10; Mφφ 1.44±. 10; Mrθ 1.52±. 05; Mθφ -1.30±. 10; Mφr-1.25±. 06; Best double couple: Mo2.70900×10^16 NP1:φs311.00000°, δ71.00000°, λ-109.00000°. Principal axes: T 2.9920, Plg23.0000°, Azm55.0000°; N -0.5700, Plg18.0000°, Azm317.0000°; P -2.4260, Plg60.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

UCR ***16*** *13:14:34.2±1.0, 16°.07N×92°.36W, h107km, ML4.2, mb4.8(NEIC)*

SNET ***16*** *13:14:35.7±1.2, 15°.83N×92°.32W, h139km±9km, ML4.5*

ISC 16 13:14:24.5±0.4, 15°.75N±0°.04×93°.52W±0°.03, h103km±3km, h103km:pP-P, n503, σ1s47/542, mb4.7/113, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.29**	**99**	*i* P	**Pn**	**13 14 39.7**	**+0.4**
PCIG				*i* S	**Sn**	**13 14 50.6**	**+0.2**
TGIG		**1.09**	**20**	*e*P	**Pn**	**13 14 46.6**	**+0.5**
TGIG				*i* S	**Sn**	**13 15 02.2**	**-0.3**
TGBT	**Tuxtla Gutierr**	**1.10**	**22**	*e*P	**Pn**	**13 14 46.5**	**+0.3**
TGBT				*i* S	**Sn**	**13 15 01.6**	**-0.9**
CCIG	**Comitan**	**1.43**	**68**	*e*P	**Pn**	**13 14 51.1**	**+0.9**
CCIG				*i* S	**Sn**	**13 15 12.1**	**+2.4**
CCIG	**Comitan**	**1.43**	**68**		**Pn**	**13 14 51.0**	**+0.8**
THIG		**1.47**	**125**	*e*P	**Pn**	**13 14 51.3**	**+0.8**
THIG				*e*P	**Pn**	**13 14 52.0**	**+1.5**
THIG				*e*S	**Sn**	**13 15 12.2**	**+1.9**
CMIG	**Matias Romero**	**1.87**	**316**	P	**Pn**	**13 14 56.4**	**+0.9**
	151nm,0.3s,baz=133,slow=12,SNR=503						
CMIG				S	**Sn**	**13 15 18.9**	**-0.2**
	1μm,0.3s,baz=105,slow=13,SNR=15						
CMIG	**Matias Romero**	**1.87**	**316**	*e*P	**Pn**	**13 14 56.0**	**+0.5**
CMIG				*i* S	**Sn**	**13 15 18.9**	**-0.2**
HUEH	**Huehuetenango**	**1.99**	**102**	*e*P	**Pn**	**13 14 58.9**	**+1.6**
HUEH				*e*S	**Sn**	**13 15 19.3**	**-3.0**
HUEH				IAML		13 15 29.9	
	comp=Z,8μm,0.4s						
HUEH	**Huehuetenango**	**1.99**	**102**		**Pn**	**13 14 58.2**	**+0.9**
RTAL	**Retalhuleu**	**2.14**	**124**	*e*S	**Sn**	**13 15 26.0**	**+0.5**
RTAL	**Retalhuleu**	**2.14**	**124**		**Pn**	**13 15 00.9**	**+1.9**
HUIG	**Huatulco**	**2.49**	**271**	*i* P	**Pn**	**13 15 02.4**	**-1.2**
HUIG				*i* S	**Sn**	**13 15 30.3**	**-3.2**
FUG	**Fuego 3**	**2.89**	**116**	*e*P	**Pn**	**13 15 11.4**	**+2.3**
FUG				*e*S	**Sn**	**13 15 50.6**	**+7.2**

PCG	**Pacaya**	**3.12**	**115**	*e*P	Pn	13 15 18.3	+6.1
NBG	**Las Nubes**	**3.28**	**110**	*e*P	**Pn**	**13 15 17.1**	**+2.8**
OXBJ	**Oaxaca**	**3.34**	**293**	*i* S	**Sn**	**13 15 54.3**	**+0.2**
VHO	**Vista Hermosa**	**3.35**	**294**	*i* P	**Pn**	**13 15 16.5**	**+1.4**
VHO				*i* S	**Sn**	**13 15 53.6**	**-0.7**
PEIG	**Puerto Escondi**	**3.50**	**274**	*i* P	**Pn**	**13 15 16.1**	**-0.9**
PEIG				*i* S	**Sn**	**13 15 52.4**	**-5.2**
SCIG	**Sabancuy**	**3.90**	**35**	*i* P	**Pn**	**13 15 22.6**	**+0.3**
SCIG				*i* S	**Sn**	**13 16 05.2**	**-1.9**
YOIG	**Yosondua**	**4.02**	**286**	*i* P	**Pn**	**13 15 25.0**	**+0.8**
YOIG				*i* S	**Sn**	**13 16 07.8**	**-2.7**
TOIG	**Toxpalan**	**4.12**	**305**	*e*P	**Pn**	**13 15 26.6**	**+1.2**
TOIG				*i* S	**Sn**	**13 16 13.8**	**+1.2**
ESQI	**Esquipulas**	**4.21**	**106**	*e*P	**Pn**	**13 15 26.0**	**-0.6**
ESQI				*e*S	Sn	13 16 04.0	-11
ESQI				*i* Sg		13 16 04.1	
ESQI	**Esquipulas**	**4.21**	**106**		**Pn**	**13 15 26.8**	**+0.2**
SBLS	**San Blas**	**4.22**	**116**	*e*P	**Pn**	**13 15 27.4**	**+0.4**
SBLS	**San Blas**	**4.22**	**116**	*e*P	**Pn**	**13 15 27.4**	**+0.4**
CEVE	**Cerro Verde**	**4.23**	**116**	IAML		13 16 31.6	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**4.23**	**116**	IAML		13 16 31.6	
	comp=Z,1μm,0.3s						
MTO3	**Montecristo**	**4.24**	**108**	*e*P	**Pn**	**13 15 27.0**	**-0.1**
MTO3	**Montecristo**	**4.24**	**108**	*e*P	**Pn**	**13 15 27.0**	**-0.1**
MTO3	**Montecristo**	**4.24**	**108**	Pn	**Pn**	**13 15 26.6**	**-0.5**
TACO	**Tacachico**	**4.40**	**113**	*e*P	**Pn**	**13 15 28.3**	**-0.8**
TACO	**Tacachico**	**4.40**	**113**	*e*P	**Pn**	**13 15 28.3**	**-0.8**
CEDA	**San Andres**	**4.44**	**115**	IAML		13 16 40.5	
	comp=Z,459nm,0.3s						
CEDA	**San Andres**	**4.44**	**115**	IAML		13 16 40.5	
	comp=Z,459nm,0.3s						
TPIG	**Tehuac#an**	**4.53**	**306**	*i* P	**Pn**	**13 15 33.6**	**+2.5**
TPIG				*i* S	**Sn**	**13 16 23.6**	**+0.8**
PMON	**Piamonte**	**4.55**	**116**	*e*P	**Pn**	**13 15 32.1**	**+0.9**
PMON	**Piamonte**	**4.55**	**116**	*e*P	**Pn**	**13 15 32.1**	**+0.9**
HLIG	**Huajuapan de L**	**4.59**	**297**	*i* P	**Pn**	**13 15 34.0**	**+2.1**
HLIG				*i* S	**Sn**	**13 16 22.0**	**-2.3**
SNET	**Serv Nac Est T**	**4.63**	**116**		**Pn**	**13 15 33.8**	**+1.5**
LFRS	**El Faro**	**4.81**	**116**	*e*P	**Pn**	**13 15 35.1**	**+0.4**
LFRS	**El Faro**	**4.81**	**116**	*e*P	**Pn**	**13 15 35.1**	**+0.4**
PAVA	**Las Pavas**	**4.88**	**114**	*e*P	**Pn**	**13 15 36.0**	**+0.4**
PAVA	**Las Pavas**	**4.88**	**114**	*e*P	**Pn**	**13 15 36.0**	**+0.4**
SNVI	**San Vicente**	**5.00**	**115**	*e*P	**Pn**	**13 15 37.1**	**-0.4**
SNVI	**San Vicente**	**5.00**	**115**	*e*P	**Pn**	**13 15 37.1**	**-0.4**
TLIG	**Tlapa**	**5.16**	**291**	*i* P	**Pn**	**13 15 41.3**	**+1.8**
TLIG				*i* S	Sn	13 16 19.1	-19
TLIG	**Tlapa**	**5.16**	**291**	Pn	**Pn**	**13 15 41.3**	**+1.8**
DAIG	**Los Arroyos**	**6.02**	**283**	*i* P	**Pn**	**13 15 51.6**	**+0.6**
DAIG				*i* S	**Sn**	**13 16 51.5**	**-7.1**
TGUH	**Tegucigalpa,Un**	**6.27**	**105**		**Pn**	**13 15 54.1**	**-0.5**
TGUH	**Tegucigalpa,Un**	**6.27**	**105**	*e*P	**Pn**	**13 15 53.9**	**-0.7**
MYIG	**Mrida**	**6.30**	**34**	*i* P	**Pn**	**13 15 57.3**	**+2.4**
MYIG				*i* S	**Sn**	**13 17 02.5**	**-2.9**
CRIN	**San Cristobal**	**6.97**	**115**	Pn	**Pn**	**13 16 06.1**	**+2.1**
CNGN	**Cerro Negro**	**7.37**	**115**	Pn	**Pn**	**13 16 10.6**	**+1.2**
MATN	**Matagalpa**	**7.88**	**110**	Pn	**Pn**	**13 16 18.0**	**+1.6**
MOIG	**Morelia**	**8.29**	**299**		**Pn**	**13 16 25.6**	**+3.5**
BOAB	**BOACO BROADBAN**	**8.30**	**112**		**Pn**	**13 16 22.9**	**+0.9**
ACON	**Acoyapa**	**8.94**	**114**	Pn	**Pn**	**13 16 31.2**	**+1.1**
HZTE	**Horizontes, Gu**	**9.20**	**122**		**Pn**	**13 16 36.7**	**+2.4**
LAPC	**Finca la Perla**	**9.30**	**121**	*e*P	**Pn**	**13 16 37.0**	**+1.2**
GB1A	**Borinquen Arri**	**9.30**	**121**	*e*P	**Pn**	**13 16 37.2**	**+1.3**
BUEV	**Buena Vista**	**9.31**	**121**	*e*P	**Pn**	**13 16 37.4**	**+1.5**
BUAI	**Buenos Aires**	**9.33**	**120**	*e*P	**Pn**	**13 16 37.5**	**+1.4**
GPS2	**Hotel Rincn d**	**9.38**	**121**	*e*P	**Pn**	**13 16 38.4**	**+1.6**
SAJU	**San Juanillo,**	**9.48**	**126**	*e*P	**Pn**	**13 16 40.3**	**+2.2**
LIM1	**Limonal**	**9.49**	**121**	*e*P	**Pn**	**13 16 40.1**	**+1.8**
ORTG	**Ortega, Santa**	**9.51**	**123**		**Pn**	**13 16 40.6**	**+2.1**
GUAI	**GUAI**	**9.52**	**124**	*e*P	**Pn**	**13 16 41.0**	**+2.4**
HORNC	**Hornillas**	**9.54**	**121**	*e*P	**Pn**	**13 16 40.5**	**+1.5**
COLC	**Colonia**	**9.54**	**121**

250A Grady 17.45 21 P **P** 13 18 20.0 -1.1
250A IAmb IAmb 13 18 28.1
comp=Z,47nm,0.6s
Z38A Mt. Pleasant 17.48 356 P **P** 13 18 21.1 -0.4
Z38A IAmb IAmb 13 18 37.9
comp=Z,50nm,1.4s
352A Blakely 17.51 25 P **P** 13 18 21.2 -0.6
ABTX Abilene, Hawle 17.69 343 P **P** 13 18 23.5 -0.3
ABTX IAmb IAmb 13 18 35.3
comp=Z,30nm,0.5s
ABTX Abilene, Hawle 17.69 343 P 13 18 24.9
baz=160,SNR=5.9
LPIG La Paz 17.82 300 LR LR 13 26 15.4
comp=Z,59nm,18.4s,baz=78,slow=39
Z35A Perchaven, San 17.82 350 P **P** 13 18 25.1 -0.2
Z35A IAmb IAmb 13 18 36.3
comp=Z,39nm,0.7s
WLAR White Oak Lake 17.86 1 P **Pn** 13 18 25.9 -0.4
WLAR IAmb IAmb 13 18 31.3
comp=Z,138nm,1.5s
GTBY Guantanamo Bay 18.01 74 P **P** 13 18 27.6 +0.3
TIGA Tifton 18.05 28 P 13 18 27.2
baz=212
TIGA Tifton 18.06 28 P **P** 13 18 27.1 -0.7
Z47A Carrollton 18.06 15 P **P** 13 18 27.0 -0.8
CCAR Cane Creek 18.16 5 P **P** 13 18 28.3 -0.5
CCAR IAmb IAmb 13 18 34.5
comp=Z,81nm,1.0s
LOOK Love County 18.46 350 P **P** 13 18 32.1 -0.1
LOOK IAmb IAmb 13 18 59.6
comp=Z,28nm,0.6s
152A Waverly Hall 18.64 24 P **P** 13 18 32.9 -1.3
152A IAmb IAmb 13 18 39.0
comp=Z,39nm,0.7s
X40A Basin Creek Fa 18.67 2 P **P** 13 18 33.9 -0.6
X40A Basin Creek Fa 18.67 2 P 13 18 34.7
baz=182
MIAR Mount Ida 18.71 360 P **P** 13 18 34.7 -0.3
MIAR IAmb IAmb 13 18 42.2
comp=Z,33nm,1.0s
MIAR Mount Ida 18.71 360 P 13 18 35.1
baz=179,SNR=23
MOTC Monteria, Cord 18.77 110 eP **P** 13 18 34.1 -1.6
SJCC San Jacinto, C 18.80 106 P **P** 13 18 35.0 -1.2
SJCC IAmb IAmb 13 18 40.5
comp=Z,54nm,1.4s
SJCC San Jacinto, C 18.80 106 eP **P** 13 18 35.9 -0.2
X37A Clayton 18.83 355 P **P** 13 18 36.1 -0.1
X37A IAmb IAmb 13 18 48.0
comp=Z,22nm,0.6s
255A Hazlehurst 18.98 30 P **P** 13 18 37.1 -0.8
OXF Oxford 19.04 10 P **P** 13 18 37.7 -0.8
OXF IAmb IAmb 13 18 50.2
comp=Z,49nm,0.7s
OXF Oxford 19.04 10 P 13 18 38.2
baz=192
Z51A Franklin 19.05 22 Pn **P** 13 18 38.9 +0.2
Z51A IAmb IAmb 13 19 07.8
comp=Z,30nm,1.0s
Y49A Blount Mountai 19.14 18 P **P** 13 18 39.3 -0.2
Y49A IAmb IAmb 13 18 44.5
comp=Z,26nm,0.8s
X34A Smith Ranch, M 19.17 349 **Pn** 13 18 41.7 -0.2
X34A IAmb IAmb 13 19 04.2
comp=Z,42nm,0.5s
MNTX Cornudas Mount 19.21 328 P **P** 13 18 40.8 +0.4
MNTX Cornudas Mount 19.21 328 P 13 18 41.4
baz=142,SNR=30
154A Montrose 19.27 28 P **P** 13 18 40.0 -1.0
UREC San Jos de Ur 19.31 112 eP **P** 13 18 38.5 -3.2
W39A Magazine 19.36 359 P 13 18 42.2
baz=179
W39A Magazine 19.36 359 P **P** 13 18 41.3 -0.8
W41B Gary Mavity, V 19.37 3 P 13 18 41.8
baz=183,SNR=8.8
WHAR Wooly Hollow 19.49 3 P **P** 13 18 42.9 -0.5
WMOK Wichita Mounta 19.49 347 P **P** 13 18 43.3 -0.1
WMOK Wichita Mounta 19.49 347 P 13 18 43.8
baz=164,SNR=13
X48A Hartselle 19.51 16 P **P** 13 18 42.5 -1.1
FNO Franklin 19.73 351 P **P** 13 18 46.0 0.0
PLAL Pickwick Lake 19.76 13 P **P** 13 18 45.5 -0.8
PLAL IAmb IAmb 13 18 51.7
comp=Z,22nm,0.7s
CBOC Ciudad Bolivar 19.79 118 eP **P** 13 18 48.0 +1.0
GOGA Godfrey 19.79 26 P **P** 13 18 45.3 -1.4
GOGA IAmb IAmb 13 18 50.7
comp=Z,21nm,0.7s
GOGA Godfrey 19.79 26 P 13 18 45.7
baz=209,SNR=20
Y52A Lilburn 19.95 24 P **P** 13 18 47.1 -1.3
MSTX Muleshoe 19.97 337 P 13 18 49.1
baz=152,SNR=15
FPAL Fort Paine 20.02 19 P **P** 13 18 48.3 -0.8
FPAL IAmb IAmb 13 18 54.8
comp=Z,36nm,0.6s
ZARC Zaragoza, Cauc 20.02 112 eP **P** 13 18 47.0 -2.4
HELC Santa Helena 20.04 116 eP **P** 13 18 49.0 -0.9
OK025 Westminster Rd 20.04 351 P **P** 13 18 48.4 -1.0
FCAR Ozark Folk Cen 20.09 3 P **P** 13 18 48.6 -1.3
FCAR IAmb IAmb 13 19 18.3
comp=Z,23nm,0.6s
BCOK Bluff Creek, N 20.16 350 P **P** 13 18 50.5 -0.1
BCOK **pP** 13 19 11.2 +0.9
TUL1 Leonard 20.18 355 P 13 18 51.2
baz=173
SMLC San Martn de 20.21 108 eP **P** 13 18 48.5 -2.8
OK029 Liberty Lake 20.27 351 P **P** 13 18 51.4 -0.4
OK029 **pP** 13 19 12.2 +0.7
OK029 sP **sP** 13 19 25.0 +0.4
X51A Calhoun 20.29 21 P **P** 13 18 50.3 -1.8
X51A IAmb IAmb 13 18 57.7
comp=Z,19nm,0.7s
OK030 Cody Creek RV 20.30 352 P **P** 13 18 51.7 -0.5
OK030 **pP** 13 19 12.6 +0.8
OK030 IAmb IAmb 13 19 15.9
comp=Z,35nm,0.6s
OK030 **sP** 13 19 25.1 +0.2
OK031 S. Brethren Rd 20.34 352 P **P** 13 18 51.9 -0.7
OK031 IAmb IAmb 13 18 56.8
comp=Z,27nm,0.6s
LCAR Lake Charles 20.34 6 P **P** 13 18 52.3 -0.3
LCAR IAmb IAmb 13 19 00.8
comp=Z,65nm,1.4s
AMTX Amarillo 20.41 340 P 13 18 54.7
baz=156
AMTX Amarillo 20.41 340 P **P** 13 18 54.0 +0.6
HHAR Hobbs 20.45 359 P **P** 13 18 53.1 -0.7
HHAR IAmb IAmb 13 19 03.5
comp=Z,23nm,0.8s
U40A Yellville 20.53 2 P 13 18 54.2
baz=181,SNR=13
U40A Yellville 20.53 2 P **P** 13 18 54.4 -0.3
QUOK Quay 20.53 353 P **P** 13 18 53.7 -1.0
QUOK IAmb IAmb 13 19 22.9
comp=Z,26nm,0.5s
SWET Sewanee 20.54 18 P **P** 13 18 53.3 -1.5
SWET IAmb IAmb 13 19 20.8
comp=Z,42nm,0.7s
YOTC Yotoco, Valle 20.54 123 eP **P** 13 18 55.5 +0.3
U38A Gravette 20.62 358 P **P** 13 18 55.3 -0.3
U38A IAmb IAmb 13 19 05.6
comp=Z,48nm,1.4s
GUY2C Guyana, Caldas 20.67 118 eP **P** 13 18 57.1 +0.2
W50A Signal Mountai 20.72 19 P **P** 13 18 55.6 -1.1
W50A IAmb IAmb 13 19 02.8
comp=Z,30nm,0.6s
V48A Smith Brothers 20.79 16 P **P** 13 18 56.2 -1.2
V48A IAmb IAmb 13 19 23.2
comp=Z,21nm,0.7s
RREF El Recreo 20.86 119 eP **P** 13 18 59.1 +0.1
WVT Waverly 20.92 13 P **P** 13 18 57.5 -1.3
WVT IAmb IAmb 13 19 04.7
comp=Z,25nm,0.7s
WVT Waverly 20.92 13 P 13 18 58.4
baz=195
HODGE Hodges 21.01 27 P **P** 13 18 58.9 -0.9
ANIL Santa Ana 21.03 120 eP **P** 13 19 02.5 +2.0
CROK Carrier 21.05 350 P **P** 13 18 58.8 -1.4
TOLC Tolima 21.05 120 eP **P** 13 18 59.1 -1.7
BBAC Balboa, Cauca 21.06 129 eP **P** 13 19 02.1 +1.4
W52A Murphy 21.09 22 P **P** 13 18 59.4 -1.4
W52A IAmb IAmb 13 19 28.6
comp=Z,14nm,0.4s

PBMO Poplar Bluff 21.12 7 P **P** 13 18 58.1 -2.9
PBMO IAmb IAmb 13 19 27.2
comp=Z,35nm,0.7s
121A Cookes Peak, D 21.14 325 P 13 19 03.0
baz=138,SNR=27
BLOK Blackwell 21.18 352 P **P** 13 19 00.9 -0.7
BLOK IAmb IAmb 13 19 05.2
comp=Z,26nm,0.5s
CPCT Cooper Cave 21.21 21 P **P** 13 19 00.7 -1.2
T35A Sooner Cattle 21.25 353 P **P** 13 19 01.3 -1.1
T35A IAmb IAmb 13 19 25.3
comp=Z,28nm,0.8s
CLTN Cedars of Leba 21.25 16 P **P** 13 18 59.5 -2.8
MGMO Mountain Grove 21.35 3 P **P** 13 19 02.6 -0.8
MGMO IAmb IAmb 13 19 14.0
comp=Z,29nm,1.1s
GC02 Grant County # 21.37 350 P **P** 13 19 02.6 -1.0
OK032 Salt Plains WL 21.38 350 P **P** 13 19 02.7 -1.0
BG3 Lake Jocassee 21.39 24 P **P** 13 19 02.7 -1.1
BG3 IAmb IAmb 13 19 21.8
comp=Z,25nm,0.6s
SDDR Presa de Saban 21.46 78 P **P** 13 19 03.8 -1.0
SDDR IAmb IAmb 13 19 07.1
comp=Z,24nm,0.6s
SDDR Presa de Saban 21.46 78 eP **P** 13 19 04.6 -0.2
KAN13 South Haven SW 21.47 351 P **P** 13 19 03.5 -1.1
KAN13 IAmb IAmb 13 19 07.4
comp=Z,32nm,0.5s
ORTC Ortega, Tolima 21.48 121 eP **P** 13 19 06.0 +0.9
JSC Jenkinsville 21.50 29 P **P** 13 19 03.7 -1.3
MARP Paez Belalcaza 21.53 125 eP **P** 13 19 09.4 +3.6
KAN17 Caldwell West 21.54 351 P **P** 13 19 03.7 -1.7
KAN17 IAmb IAmb 13 19 28.9
comp=Z,37nm,1.1s
CRUC La Cruz 21.58 129 eP **P** 13 19 09.7 +3.3
V51A Loudon 21.59 21 P **P** 13 19 03.5 -2.4
KAN09 Caldwell North 21.61 351 P **P** 13 19 04.8 -1.4
KAN09 IAmb IAmb 13 19 10.0
comp=Z,18nm,0.6s
KAN05 Bluff City Nor 21.62 351 P **P** 13 19 05.1 -1.2
KAN05 IAmb IAmb 13 19 27.2
comp=Z,21nm,0.6s
TKL Tuckaleechee C 21.66 22 P **P** 13 19 06.0 -0.7
comp=Z,5.1nm,0.5s,baz=198,slow=12,SNR=9.9
TKL pP **pP** 13 19 23.3 -3.3
comp=Z,8.8nm,0.5s,baz=187,slow=14,SNR=6.8
TKL S **S** 13 23 05.7 +5.2
comp=Z,7.0nm,0.6s,baz=90,slow=10,SNR=3.5
TKL Tuckaleechee C 21.66 22 P **P** 13 19 04.8 -1.9
KAN10 Anthony SW Sta 21.67 350 P **P** 13 19 06.5 -0.3
KAN10 IAmb IAmb 13 19 10.1
comp=Z,15nm,0.5s
KS20 Mayfield South 21.69 351 P **P** 13 19 07.0 0.0
KS20 IAmb IAmb 13 19 31.9
comp=Z,40nm,1.3s
PAULI Pauline 21.70 27 P **P** 13 19 05.0 -2.2
ROSC El Rosal 21.76 118 P **P** 13 19 07.4 -1.0
comp=Z,7.8nm,0.3s,baz=246,slow=20,SNR=1.8
U49A Red Boiling Sp 21.80 17 P **P** 13 19 06.3 -1.9
U49A IAmb IAmb 13 19 33.5
comp=Z,64nm,1.3s
BNM Barren Site 21.80 330 P **P** 13 19 09.2 +0.8
S39A Bolivar 21.85 0 P **P** 13 19 07.7 -1.1
S39A IAmb IAmb 13 19 12.1
comp=Z,19nm,0.7s
V52A Sevierville 21.88 22 P **P** 13 19 07.4 -1.7
PRAC Prado 21.89 121 eP **P** 13 19 08.9 -0.5
T47A Sharon Grove 21.91 14 P **P** 13 19 08.3 -1.0
GRTK Grand Turk 21.96 71 P **P** 13 19 08.1 -2.0
LENM Lemitar 21.98 329 P **P** 13 19 11.9 +1.6
V53A Saluda 22.02 24 P **P** 13 19 09.4 -1.3
V53A IAmb IAmb 13 19 32.4
comp=Z,23nm,0.7s
PAMC Pamplona, Colo 22.03 110 eP **P** 13 19 07.5 -3.9
BIRD Birdtown, Kers 22.17 30 P **P** 13 19 10.0 -2.1
S44A Carbondale 22.18 9 P **P** 13 19 11.4 -0.7
S44A IAmb IAmb 13 19 20.9
comp=Z,39nm,0.7s
KMSC Kings Mountain 22.19 27 P **P** 13 19 10.5 -1.8
SIUC Southern Illin 22.21 9 P **P** 13 19 11.6 -0.9
SIUC IAmb IAmb 13 19 21.1
comp=Z,40nm,0.6s
ANMO Albuquerque 22.36 331 P **P** 13 19 16.2 +1.9
comp=Z,8.5nm,0.6s,baz=130,slow=12,SNR=17
ANMO pP **pP** 13 19 36.1 +1.5
comp=Z,4.0nm,0.6s,baz=150,slow=12,SNR=3.8
ANMO Albuquerque 22.36 331 P **P** 13 19 14.0 -0.4
ANMO Albuquerque 22.36 331 P 13 19 16.0
baz=145
CHIC Chingaza 22.37 118 eP **P** 13 19 15.6 +0.8
R40A Maddies Statio 22.48 3 P **P** 13 19 14.2 -1.1
TZTN Tazewell 22.53 21 P **P** 13 19 14.0 -1.8
TZTN IAmb IAmb 13 19 36.9
comp=Z,20nm,0.8s
TZTN Tazewell 22.53 21 P 13 19 15.5
baz=205
T50A Nancy 22.54 18 P **P** 13 19 14.3 -1.7
TUC Tucson 22.76 319 P 13 19 20.4
baz=132
W57A Gilead 22.81 30 P **P** 13 19 17.1 -1.5
W57A IAmb IAmb 13 19 38.5
comp=Z,42nm,1.4s
V55A Taylorsville 22.84 26 P **P** 13 19 16.5 -2.5
SLM Saint Louis 22.98 7 P **P** 13 19 19.0 -1.3
SLM IAmb IAmb 13 19 43.9
comp=Z,43nm,0.6s
R32A Long Quarter, 23.04 350 P **P** 13 19 19.9 -1.1
R32A IAmb IAmb 13 19 23.2
comp=Z,30nm,0.6s
U54A Nelsons Funny 23.16 25 P **P** 13 19 20.8 -1.4
WCI Wyandotte Cave 23.28 15 P 13 19 22.5
baz=197
WCI Wyandotte Cave 23.28 15 P **P** 13 19 21.9 -1.2
WCI **pP** 13 19 44.8 +0.7
WCI IAmb IAmb 13 19 47.6
comp=Z,39nm,0.7s
OLIL Olney 23.39 11 P **P** 13 19 22.5 -1.6
OLIL IAmb IAmb 13 19 49.5
comp=Z,44nm,0.8s
T25A Trinidad 23.39 338 P 13 19 26.1
baz=152,SNR=22
Q44A Meyer Farm, Va 23.40 9 P **P** 13 19 22.5 -1.7
Q44A IAmb IAmb 13 19 48.2
comp=Z,50nm,0.9s
KSU1 Kansas State U 23.42 354 P **P** 13 19 23.6 -0.7
KSU1 IAmb IAmb 13 19 25.9
comp=Z,26nm,0.6s
KSU1 Kansas State U 23.42 354 P 13 19 24.7
baz=172,SNR=5.5
CBKS Cedar Bluff 23.61 348 P **P** 13 19 24.9 -1.3
CBKS IAmb IAmb 13 19 28.7
comp=Z,34nm,0.6s
CBKS Cedar Bluff 23.61 348 P 13 19 26.2
baz=164,SNR=8.6
U56A King 23.62 27 P **P** 13 19 25.3 -1.0
U56A IAmb IAmb 13 19 50.6
comp=Z,28nm,0.5s
R49A Shelbyville 23.63 17 P **P** 13 19 25.0 -1.2
R49A pP **pP** 13 19 47.2 -0.7
R49A IAmb IAmb 13 19 50.4
comp=Z,30nm,0.9s
MACC Macarena, Meta 23.64 123 eP **P** 13 19 27.1 +0.5
P40A Paris 23.72 3 P **P** 13 19 25.5 -1.6
P40A IAmb IAmb 13 19 50.2
comp=Z,21nm,0.6s
V58A Windy Hill, Pi 23.75 30 P **P** 13 19 25.6 -1.7
V58A IAmb IAmb 13 19 51.3
comp=Z,33nm,1.2s
P38A Dawn 23.78 360 P **P** 13 19 25.8 -1.9
214A Organ Pipe Nat 23.84 316 P 13 19 29.3
baz=128
R50A Paris 23.86 18 P **P** 13 19 26.2 -2.2
P43A Skaggs, Pawnee 24.06 8 P **P** 13 19 29.2 -0.9
SDCO Great Sand Dun 24.33 336 P **P** 13 19 33.4 +0.4
SDCO Great Sand Dun 24.33 336 P 13 19 32.9
baz=150,SNR=19
P46A Rosedale 24.41 12 P **P** 13 19 32.1 -1.2
P48A Milroy 24.66 15 P **P** 13 19 33.4 -2.2
T57A Hurt 24.66 28 P **P** 13 19 34.5 -1.1
R53A Hurricane 24.69 22 P **P** 13 19 35.2 -0.7
R53A **pP** 13 19 57.6 -1.0
R53A IAmb IAmb 13 20 01.5
comp=Z,16nm,0.6s
O44A Mansfield 24.71 9 P **P** 13 19 34.9 -1.1

O44A IAmb IAmb 13 20 01.2
comp=Z,21nm,0.6s
Q51A Peebles 24.85 19 P **P** 13 19 35.2 -2.1
Q51A IAmb IAmb 13 20 03.2
comp=Z,33nm,1.1s
S22A 4UR Ranch, Cre 24.87 334 P 13 19 38.4
baz=148,SNR=5.9
P49A Miami Univ. Ec 24.91 16 P **P** 13 19 35.0 -2.9
P49A IAmb IAmb 13 20 02.1
comp=Z,29nm,0.6s
P49A Miami Univ. Ec 24.91 16 P 13 19 37.7
baz=200
N38A Joes South For 24.95 1 P **P** 13 19 37.6 -0.7
HDIL Hopedale 24.99 8 P **P** 13 19 36.9 -1.7
HDIL Hopedale 24.99 8 P 13 19 37.7
baz=189
N35A Tabor 25.09 356 P **P** 13 19 38.5 -0.9
N35A IAmb IAmb 13 20 03.8
comp=Z,24nm,0.8s
MVCO Mesa Verde 25.16 331 P **P** 13 19 40.6 +0.1
MVCO Mesa Verde 25.16 331 P 13 19 40.8
baz=144
SFIN Lafayette 25.17 12 P **P** 13 19 38.7 -1.4
SFIN IAmb IAmb 13 20 05.6
comp=Z,15nm,0.6s
SFIN Lafayette 25.17 12 P 13 19 40.0
baz=194
WUAZ Wupatki 25.35 324 P 13 19 42.6
baz=136
P51A Williamsport 25.35 19 P **P** 13 19 39.8 -2.1
P51A IAmb IAmb 13 20 06.1
comp=Z,17nm,0.7s
R55A Marlinton 25.36 25 P **P** 13 19 40.7 -1.4
T59A Double "B" Far 25.45 31 P **P** 13 19 41.4 -1.3
O49A Covington 25.63 16 P **P** 13 19 42.7 -1.7
O49A IAmb IAmb 13 20 08.9
comp=Z,28nm,0.7s
Q54A Coxs Mills 25.68 23 P **P** 13 19 43.3 -1.6
GLA Glamis 25.86 316 P 13 19 47.1
baz=126
BGNE Belgrade 25.88 352 P 13 19 46.9
baz=169
N47A Urbana 25.94 14 P **P** 13 19 45.8 -1.5
N47A IAmb IAmb 13 20 11.0
comp=Z,27nm,0.7s
PV01 Paradox Valley 25.95 332 P **P** 13 19 48.0 +0.4
M44A Midewin, Midew 25.98 9 P **P** 13 19 46.1 -1.5
M44A IAmb IAmb 13 20 11.5
comp=Z,12nm,0.6s
SCIA State Center 26.07 1 P **P** 13 19 47.4 -0.9
SCIA IAmb IAmb 13 20 12.4
comp=Z,23nm,0.7s
SCIA State Center 26.07 1 P 13 19 47.8
baz=180
PV13 Radium Mtn., P 26.08 332 P **P** 13 19 50.2 +1.4
PV02 Paradox Valley 26.08 332 P **P** 13 19 49.1 +0.3
SMCO Snowmass 26.15 336 P **P** 13 19 48.1 -1.5
OGNE Ogallala 26.17 345 P **P** 13 19 48.8 -0.6
OGNE Ogallala 26.17 345 P 13 19 49.2
baz=161
PV03 Paradox Valley 26.17 332 P **P** 13 19 48.6 -1.0
ISCO Idaho Springs 26.18 339 P **P** 13 19 50.0 +0.2
PV12 Saucer Basin, 26.20 332 P **P** 13 19 51.6 +1.8
PV12 IAmb IAmb 13 19 57.0
comp=Z,19nm,0.7s
PV07 Paradox Valley 26.23 332 P **P** 13 19 49.6 -0.5
L34A Svendsen Farm, 26.24 355 P **P** 13 19 48.9 -1.0
L34A IAmb IAmb 13 20 16.7
comp=Z,35nm,0.8s
PV17 East Wray Mesa 26.24 332 P **P** 13 19 50.5 +0.2
PV16 Nyswonger Mesa 26.25 332 P **P** 13 19 51.1 +0.8
PV19 Morning Glory 26.28 332 P **P** 13 19 50.9 +0.3
SJG San Juan 26.28 81 LR LR 13 30 33.7
comp=Z,44nm,19.8s,baz=255,slow=37
L40A Anamosa 26.29 4 P **P** 13 19 49.4 -1.0
L40A IAmb IAmb 13 20 14.7
comp=Z,24nm,0.6s
PV20 West Nyswonger 26.30 332 P **P** 13 19 51.7 +1.0
PV04 Paradox Valley 26.31 332 P **P** 13 19 52.0 +1.2
PV04 IAmb IAmb 13 20 00.1
comp=Z,13nm,0.7s
L42A Oliver, Polo 26.37 6 P **P** 13 19 49.7 -1.4
L42A IAmb IAmb 13 20 16.6
comp=Z,17nm,0.8s
PV22 Blue Mesa, Par 26.37 332 P **P** 13 19 51.8 +0.4
PDPR Patillas Dam, 26.40 81 P **P** 13 19 48.6 -3.0
PDPR IAmb IAmb 13 20 16.1
comp=Z,25nm,1.2s
IKP In-Ko-Pah, Jac 26.51 313 P 13 19 53.2
baz=124
BC3 Big Chuckawall 26.64 316 P 13 19 54.6
baz=126,SNR=10
IRM Iron Mountain 26.74 317 P 13 19 55.8
baz=128
K38A Parkersburg 26.81 1 P **P** 13 19 54.2 -0.8
K38A IAmb IAmb 13 20 23.2
comp=Z,12nm,0.7s
O54A Avella 26.90 23 P **P** 13 19 54.6 -1.3
BELC Belle Mtn. Jos 27.21 316 P 13 20 00.2
baz=126
JFWS Jewell Farm 27.21 5 P **P** 13 19 57.0 -1.6
JFWS IAmb IAmb 13 20 26.1
comp=Z,28nm,0.7s
JFWS Jewell Farm 27.21 5 P 13 19 57.7
baz=186,SNR=5.0
K43A Burlington 27.23 8 P **P** 13 19 57.8 -0.9
L48A N Adams 27.25 15 P **P** 13 19 57.6 -1.3
L48A IAmb IAmb 13 20 23.1
comp=Z,29nm,0.8s
O20A White River Ci 27.47 335 P 13 20 02.0
baz=148
N54A Moraine State 27.73 22 P **P** 13 20 01.2 -2.0
N54A Moraine State 27.73 22 P 13 20 02.2
baz=209
M53A WI Miller and 27.90 21 P 13 20 04.0
baz=207
ECSD EROS Data Cent 28.01 355 P **P** 13 20 04.9 -0.9
ECSD IAmb IAmb 13 20 07.2
comp=Z,16nm,0.8s
ECSD EROS Data Cent 28.01 355 P 13 20 05.2
baz=173,SNR=28
I40A Norwalk 28.16 4 P **P** 13 20 05.5 -1.5
SSPA Standing Stone 28.27 26 P 13 20 07.5
baz=213
I42A Draeger Farm, 28.32 7 P **P** 13 20 06.8 -1.6
I42A IAmb IAmb 13 20 09.5
comp=Z,18nm,0.7s
I42A **pP** 13 20 31.1 -0.4
M54A Oil Creek Stat 28.32 22 P 13 20 07.2
baz=209
M55A Ridgway 28.62 24 P **P** 13 20 09.9 -1.3
K22A Casper 29.04 340 P **P** 13 20 14.6 -0.5
K22A Casper 29.04 340 P 13 20 15.5
baz=153
SPMN Marine on St. 29.39 1 P 13 20 17.9
baz=181
SPMN Marine on St. 29.39 1 P **P** 13 20 17.3 -0.6
SPMN IAmb IAmb 13 20 23.1
comp=Z,18nm,0.5s
MPMC Manual Prospec 29.42 318 P 13 20 19.1
baz=127
N59A State Game Lan 29.42 28 P **P** 13 20 17.1 -1.2
WVNY West Valley, N 29.49 23 P **P** 13 20 17.7 -1.2
RSSD Black Hills 29.66 345 P **P** 13 20 21.9 +1.3
RSSD Black Hills 29.66 345 P 13 20 20.6
baz=159
F36A Milaca 30.02 360 P **P** 13 20 22.8 -0.6
F33A 5 Mile Ranch, 30.09 356 P **P** 13 20 22.9 -1.2
HWUT Hardware Ranch 30.11 332 P **P** 13 20 24.3 -0.2
PDAR Pinedale Array 30.23 336 P **P** 13 20 26.5 +0.8
comp=Z,0.9nm,0.6s,baz=134,slow=8.4,SNR=8.9
PDAR PcP **PcP** 13 23 25.7 +1.5
comp=Z,0.7nm,0.6s,baz=147,slow=5.4,SNR=3.8
PDAR LR LR 13 36 06.3
comp=Z,50nm,18.5s,baz=156,slow=43
K56A Middlesex 30.23 24 P 13 20 24.6
baz=212
L58A Harry Jones Me 30.30 27 P 13 20 25.3
baz=215
PAL Palisades 30.36 30 P 13 20 25.8
baz=220
COWI Conover 30.48 6 P **P** 13 20 25.6 -2.0
COWI IAmb IAmb 13 20 52.7
comp=Z,9.6nm,0.9s
J56A Wolcott 30.90 24 P 13 20 30.6

baz=212
CZSB Cruzeiro do Su 31.14 137 *e*P P **13 20 34.5 +0.8**
ECR Eagle Creek 31.20 334 P P **13 20 35.5 +1.3**
REDW Red Top Meadow 31.24 335 P P **13 20 35.0 +0.4**
REDW IAmb IAmb 13 20 39.9
comp=Z,42nm,1.4s
E28A Huff 31.31 350 P P **13 20 35.1 +0.2**
LOHW Long Hollow 31.35 336 P P **13 20 35.8 +0.2**
LOHW IAmb IAmb 13 20 40.1
comp=Z,19nm,1.4s
SADO Sadowa 31.38 20 P P **13 20 33.9 -1.6**
SADO IAmb IAmb 13 20 59.3
comp=Z,9.2nm,0.8s
H53A Bobcaygeon 31.39 21 P 13 20 35.0
baz=208
NVAR Mina Array Bea 31.39 321 P P **13 20 39.0 +3.0**
comp=Z,10nm,0.6s,baz=134,slow=9.0,SNR=33
NVAR pP pP **13 21 01.7 +2.6**
comp=Z,1.5nm,0.6s,baz=199,slow=30,SNR=4.5
NVAR PcP PcP **13 23 30.2 +2.9**
comp=Z,0.3nm,0.5s,baz=116,slow=2.1,SNR=3.7
NVAR LR LR 13 34 22.7
comp=Z,65nm,18.2s,baz=140,slow=38
NVAR Mina Array Bea 31.39 321 P P **13 20 38.9 +3.0**
LHV Little Huntoon 31.40 320 P P **13 20 38.3 +2.5**
LHV IAmb IAmb 13 20 44.0
comp=Z,7.9nm,0.6s
J58A Remsen 31.61 26 P P **13 20 36.1 -1.5**
J58A Remsen 31.61 26 P 13 20 37.1
baz=215
DELO Deloro Mine 31.68 22 P P **13 20 36.3 -1.8**
DELO pP **13 21 00.7 -0.6**
DELO IAmb IAmb 13 21 02.2
comp=Z,11nm,0.7s
I57A Carthage 31.93 25 P 13 20 39.5
baz=214
H17A Grant Village 32.00 337 P 13 20 41.5
baz=148
I58A Old Forge 32.01 26 P 13 20 39.7
baz=215
EYMN Ely 32.15 3 P P **13 20 40.5 -1.6**
EYMN Ely 32.15 3 P 13 20 41.2
baz=183
L63A North Scituate 32.15 32 P 13 20 40.8
baz=222
RLMT Red Lodge 32.15 339 P P **13 20 41.1 -1.4**
RLMT IAmb IAmb 13 20 45.7
comp=Z,6.6nm,0.7s
RLMT Red Lodge 32.15 339 P 13 20 42.1
baz=150,SNR=5.9
G54A Lake Saint Pet 32.28 21 P 13 20 42.6
baz=206
YNE Yellowstone No 32.31 338 P P **13 20 45.1 +1.1**
YNE IAmb IAmb 13 20 47.8
comp=Z,8.0nm,0.7s
J60A Lant Hill Farm 32.33 28 P 13 20 43.3
baz=218
MDND Maddock 32.40 352 P P **13 20 43.5 -0.9**
MDND Maddock 32.40 352 P 13 20 44.2
baz=169,SNR=6.4
AGMN Agassiz Nation 32.51 357 P P **13 20 44.2 -1.1**
AGMN Agassiz Nation 32.51 357 P 13 20 45.1
baz=176,SNR=11
B35A Bob, Littlefor 32.52 360 P P **13 20 43.8 -1.6**
B35A pP pP **13 21 07.8 -0.9**
B35A IAmb IAmb 13 21 09.4
comp=Z,20nm,1.2s
NCB Newcomb 32.56 26 P P **13 20 44.1 -1.7**
NCB IAmb IAmb 13 20 45.2
comp=Z,6.8nm,0.7s
I59A Olmsteadville 32.57 27 P 13 20 45.0
baz=217
K63A Dunstable 32.80 31 P 13 20 47.6
baz=222
J61A Chester 32.81 29 P 13 20 47.3
baz=219
I60A Shoreham 32.86 27 P 13 20 47.9
baz=218
GCMT Greycliff 32.87 339 P P **13 20 49.5 +0.8**
LONY Lake Ozonia 32.93 25 P 13 20 48.4
baz=215
H58A Gabriels 32.94 26 P 13 20 48.1
baz=216
HLID Hailey 32.94 332 P P **13 20 50.5 +1.1**
HLID Hailey 32.94 332 P 13 20 50.3
baz=140,SNR=8.2
BCYI Bear Canyon 33.08 333 P P **13 20 50.9 +0.2**
G57A Newington 33.17 24 P 13 20 50.1
baz=214
MCMT McKenzie Canyo 33.27 335 P P **13 20 54.0 +1.7**
H59A Cadyville 33.33 26 P 13 20 51.4
baz=216
DLMT Dillon 33.60 335 P P **13 20 57.4 +2.4**
DLMT IAmb IAmb 13 21 24.9
comp=Z,16nm,1.2s
E56A St. Veronique 34.35 23 P 13 21 00.6
baz=212
HRY Holter Researc 34.43 338 P P **13 21 03.9 +1.7**
ULM Lac du Bonnet 34.46 357 P P **13 21 00.8 -1.4**
comp=Z,4.3nm,0.5s,baz=181,slow=7.0,SNR=7.7
ULM pP pP **13 21 24.9 -0.8**
comp=Z,3.0nm,0.6s,baz=174,slow=11,SNR=2.4
ULM LR LR 13 37 00.2
comp=Z,51nm,20.2s,baz=120,slow=40
D55A Sainte-Anne-du 34.60 22 P 13 21 02.9
baz=211
J08A Circle Bar Ran 34.78 327 P P **13 21 07.5 +2.2**
J08A IAmb IAmb 13 21 32.4
comp=Z,14nm,0.6s
E58A La Victoria 34.90 25 P 13 21 05.6
baz=215
BOAV Boa Vista 35.10 109 *e*P P 13 20 58.1 -10
BMO Blue Mountains 35.28 330 P P **13 21 11.0 +1.5**
MSO Missoula 35.34 336 P P **13 21 11.3 +1.3**
MSO IAmb IAmb 13 21 38.9
comp=Z,11nm,1.3s
D58A Chemin du LacG 35.64 24 P 13 21 11.1
baz=215
LSQQ Lebel-sur-Quev 35.86 19 P 13 21 13.0
baz=208
F10A Beach Ranch, E 36.08 332 P P **13 21 17.6 +1.3**
JTMT Jette 36.22 336 P P **13 21 18.8 +1.2**
JTMT IAmb IAmb 13 21 47.0
comp=Z,26nm,1.4s
MATQ Matagami 36.29 17 P 13 21 16.9
baz=206
PTGA Pitinga 36.97 113 P P **13 21 22.9 -1.2**
comp=Z,2.4nm,0.3s,baz=294,slow=7.6,SNR=8.8
ETMB Extrema 37.10 131 *e*P P **13 21 23.8 -1.5**
D62A Allapoint, All 37.26 28 P 13 21 25.1
baz=221
H04A Detroit Lake 37.65 326 P P **13 21 30.9 +1.3**
H04A IAmb IAmb 13 21 56.3
comp=Z,9.1nm,0.8s
D63A Stockholm 37.66 29 P 13 21 28.2
baz=222
NEW Newport 37.78 334 P 13 21 30.9
baz=141
NEW Newport 37.79 334 P P **13 21 31.7 +1.0**
H04D Lebanon 37.84 325 P 13 21 31.3
baz=130
C09A Chrisman Ranch 37.93 333 P P **13 21 33.6 +1.7**
C09A IAmb IAmb 13 22 01.3
comp=Z,7.6nm,0.6s
FFC Flin Flon 39.44 352 P P **13 21 44.2 -0.2**
FFC IAmb IAmb 13 21 46.0
comp=Z,8.5nm,0.7s
LPAZ La Paz 40.52 141 P P **13 21 54.4 0.0**
comp=Z,1.4nm,0.4s,baz=327,slow=8.4,SNR=3.8
LPAZ LR LR 13 38 28.6
comp=Z,53nm,18.4s,baz=320,slow=36
LPAZ La Paz 40.52 141 P P **13 21 54.3 -0.1**
LPAZ La Paz 40.52 141 *e*P P **13 21 55.3 +0.9**
ITTB Itaituba 42.40 115 *e*P P 13 22 03.1 -6.2
MALB Monte Alegre 42.56 111 *e*P P 13 22 03.3 -7.2
VILB Vilhena 43.59 129 *e*P P **13 22 18.1 -0.7**
MCPB Macapa, AP 43.95 107 *e*P P 13 22 14.4 -7.4
NPGB Novo Progresso 44.06 118 *e*P P 13 22 17.8 -4.8
SCHQ Schefferville 44.13 22 LR LR 13 42 32.3
comp=Z,59nm,18.1s,baz=40,slow=38
SIV San Ignacio 44.95 133 P P **13 22 29.7 +0.1**
comp=Z,4.7nm,0.5s,baz=314,slow=7.7,SNR=17
LVC Limon Verde 45.10 147 *e*P P 13 22 39.8 +8.7
CLDB Colider 45.77 123 *e*P P **13 22 33.5 -2.6**
PTLB Pontes e Lacer 45.98 131 *e*P P **13 22 38.4 +0.7**
SALV Santo Antonio 48.82 128 *e*P P **13 22 60.0 +0.2**

YKA Yellowknife Ar 49.00 347 P P **13 23 00.8 +0.4**
comp=Z,7.5nm,0.5s,baz=160,slow=4.0,SNR=54
YKA pP pP **13 23 24.2 -1.0**
comp=Z,4.7nm,0.7s,baz=146,slow=8.0,SNR=5.1
YKA LR LR 13 47 37.1
comp=Z,17nm,19.1s,baz=0.0,slow=41
SNDB Serra Nova Dou 50.05 121 *e*P P **13 23 07.5 -1.6**
DLBC Dease Lake 50.46 336 P P **13 23 14.1 +2.4**
DLBC IAmb IAmb 13 23 43.3
comp=Z,16nm,1.0s
PP1B Ponte de Pedra 50.49 129 *e*P P **13 23 13.7 +1.3**
SMTB Santa Maria do 51.64 115 *e*P P **13 23 18.3 -2.8**
ARAG Araguaiana, MT 51.70 125 *e*P P **13 23 21.2 -0.3**
AQDB Aquidauana 51.73 133 *e*P P **13 23 23.9 +2.3**
ROSB Rosrio 52.24 106 *e*P P **13 23 21.2 -4.3**
PEXB Peixe 52.62 119 *e*P P **13 23 27.4 -0.9**
MT09 Talagante 53.73 157 P P **13 23 37.8 +1.5**
MT09 IAmb IAmb 13 24 06.9
comp=Z,18nm,1.1s
WHY Whitehorse 53.79 336 P P **13 23 38.1 +1.7**
WHY IAmb IAmb 13 24 04.5
comp=Z,6.2nm,0.9s
BO01 Tunca 54.24 157 P P **13 23 41.4 +1.6**
CPUP Villa Florida 54.66 139 P P **13 23 42.7 -0.3**
comp=Z,2.2nm,0.7s,baz=338,slow=7.6,SNR=5.4
CPUP Villa Florida 54.66 139 P P **13 23 43.0 +0.1**
CPUP IAmb IAmb 13 23 47.1
comp=Z,9.9nm,1.4s
BDFB Brasilia 54.70 123 P P **13 23 43.4 -0.2**
comp=Z,9.5nm,0.4s,baz=292,slow=6.6,SNR=14
BDFB Brasilia 54.70 123 P P **13 23 42.8 -0.8**
HYT Haines Junctio 54.92 335 P P **13 23 45.2 +0.6**
HYT IAmb IAmb 13 24 13.1
comp=Z,14nm,1.3s
ITRB Iturama 55.16 128 *e*P P **13 23 49.5 +2.7**
NBPS Pedro II - PI 55.28 107 *e*P P **13 23 45.0 -2.8**
SDBA SAO DESIDERIO 55.65 117 *e*P P **13 23 49.6 -0.8**
CTGM Chitina Glacie 56.57 334 pP 13 24 22.8 +1.4
CTG Chitina Glacier 56.57 334 P 13 23 56.4
baz=121
GRNC Granite Creek 56.62 334 pP 13 24 23.4 +1.5
BARN Barnard Glacie 56.75 334 P P **13 23 58.9 +1.2**
BARN pP **13 24 24.1 +1.3**
BARN IAmb IAmb 13 24 26.8
comp=Z,8.6nm,0.8s
C36M Paulatuk 56.88 348 P 13 23 58.4
baz=144
TGL Tana Glacier 57.09 334 pP 13 24 26.6 +1.5
SUCK Suckling Hills 57.17 333 pP 13 24 27.1 +1.5
CRQM Cirque 57.22 334 pP 13 24 27.8 +1.6
NBPB Pedra_Branca-C 57.43 107 *e*P P **13 24 00.7 -2.3**
JANB Januaria 57.45 120 *e*P P **13 24 03.2 +0.1**
MCARA McCarthy VSAT 57.48 334 pP 13 24 29.1 +1.1
MCARA McCarthy VSAT 57.49 334 P 13 24 03.1
baz=120
HMT Hamilton 57.51 333 pP 13 24 29.3 +1.3
DAWY Dawson 57.51 338 P P **13 24 03.5 +0.7**
DAWY pP **13 24 28.5 +0.3**
DAWY IAmb IAmb 13 24 29.4
comp=Z,4.6nm,0.6s
VRDI Verde Repeater 57.59 334 pP pP 13 24 30.0 +1.2
GLB Gilahina Butte 57.84 334 P P **13 24 06.0 +0.8**
GLB pP **13 24 31.8 +1.2**
BCAR Beaver Creek A 57.85 336 P P **13 24 05.9 +0.6**
BCAR pP **13 24 31.1 +0.5**
L27K Beaver Creek, 57.87 336 P P **13 24 06.1 +0.8**
L27K pP **13 24 31.7 +1.0**
L27K IAmb IAmb 13 24 33.6
comp=Z,11nm,0.9s
L27K Beaver Creek, 57.87 336 P 13 24 06.0
baz=122,SNR=9.9
FRTB Fartura 57.94 131 *e*P P **13 24 10.9 +4.5**
BMRM Bremner River 57.96 333 pP 13 24 32.6 +1.4
BMRM Bremner River 57.96 333 P 13 24 06.7
baz=118
NBCL Cascavel-CE 58.13 105 *e*P P **13 24 06.1 -1.8**
N25K Chitina, Valde 58.25 334 P P **13 24 09.6 +1.5**
N25K pP **13 24 35.0 +1.4**
N25K Chitina, Valde 58.25 334 P 13 24 08.8
baz=118
EYAK Cordova Ski Ar 58.26 333 P P **13 24 09.1 +1.1**
EYAK pP **13 24 34.7 +1.4**
EYAK Cordova Ski Ar 58.26 333 P 13 24 08.9
baz=116,SNR=5.4
INK Inuvik 58.35 344 P P **13 24 08.8 +0.3**
INK pP **13 24 33.5 -0.4**
INK Inuvik 58.35 344 P 13 24 09.4
baz=133,SNR=15
HIN Hinchinbrook I 58.53 332 pP 13 24 36.8 +1.5
MENT Mentasta 58.54 336 P P **13 24 11.1 +1.1**
MENT pP **13 24 36.5 +1.1**
MENT IAmb IAmb 13 24 37.8
comp=Z,5.6nm,0.8s
EGAK Eagle 58.55 338 P P **13 24 10.3 +0.4**
EGAK pP **13 24 34.9 -0.5**
EGAK IAmb IAmb 13 24 39.0
comp=Z,5.1nm,0.8s
EGAK Eagle 58.55 338 P 13 24 10.9
baz=123
MC01 Montes Claros 58.58 121 *e*P P **13 24 11.5 +0.5**
ITAB Concordia 58.64 136 P P **13 24 11.5 +0.4**
ITAB Concordia 58.64 136 *e*P P 13 24 18.3 +7.2
FID Port Fidalgo 58.67 333 P P **13 24 12.4 +1.4**
FID pP **13 24 37.5 +1.4**
HATHI Halema'uma'u T 58.70 283 P P **13 24 13.4 +1.4**
KLU Klutina 58.76 334 P P **13 24 13.0 +1.4**
KLU pP **13 24 38.2 +1.3**
KLU IAmb IAmb 13 24 39.9
comp=Z,13nm,1.0s
KLU Klutina 58.76 334 P 13 24 12.4
baz=117
RES Resolute Bay 58.94 360 P P **13 24 11.7 -0.8**
RES IAmb IAmb 13 24 13.6
comp=Z,9.0nm,0.7s
GLI Glacier Island 59.00 333 P 13 24 14.5
baz=115
NBPN Ponto Novo - B 59.03 113 *e*P P **13 24 13.0 -1.1**
DOT Dot Lake 59.03 336 P P **13 24 14.1 +0.6**
DOT pP **13 24 39.8 +0.9**
M24K Tolsona, Glenn 59.15 334 P P **13 24 14.8 +0.6**
M24K pP **13 24 41.1 +1.3**
M24K Tolsona, Glenn 59.15 334 P 13 24 14.9
baz=117
SCRK Sand Creek 59.17 337 P P **13 24 15.1 +0.6**
SCRK IAmb IAmb 13 24 42.2
comp=Z,5.7nm,0.9s
SCRK Sand Creek 59.17 337 P 13 24 15.7
baz=120
PAX Paxson 59.26 335 pP 13 24 41.0 +0.5
PAX Paxson 59.26 335 P 13 24 15.3
baz=118
SCM Sheep Creek Mo 59.52 334 P P **13 24 18.5 +1.6**
SCM pP **13 24 42.9 +0.6**
PWL Port Wells 59.55 332 pP 13 24 42.7 +0.4
SEW Seward 59.75 331 P P **13 24 18.7 +0.4**
SEW pP **13 24 44.1 +0.5**
SEW Seward 59.75 331 P 13 24 18.1
baz=112
NBPA Parau_RN 59.78 106 *e*P P **13 24 18.3 -1.0**
KNK Knik Glacier 59.83 333 pP pP 13 24 44.9 +0.7
KNK Knik Glacier 59.83 333 P 13 24 19.1
baz=114
SML Sawmill 59.94 333 pP pP 13 24 46.0 +0.8
WAT6 Susitna Watana 60.02 334 P 13 24 21.2
baz=115
PLCA Paso Flores 60.11 160 P P **13 24 22.7 +1.6**
comp=Z,3.5nm,0.7s,baz=294,slow=5.9,SNR=3.4
PLCA Paso Flores 60.11 160 IAmb IAmb 13 24 24.8
comp=Z,22nm,1.5s
PET01 Itanhaem-SP 60.18 131 *e*P P 13 24 26.9 +5.1
PMR Palmer 60.20 333 pP 13 24 47.8 +1.2
RC01 Rabbit Creek A 60.27 332 P P **13 24 23.1 +1.2**
RC01 pP **13 24 48.2 +1.0**
RC01 Rabbit Creek A 60.27 332 P 13 24 22.6
baz=113
BRLK Bradley Lake 60.30 331 P P **13 24 23.7 +1.5**
BRLK pP **13 24 48.7 +1.2**
CNPM China Poot 60.38 330 P P **13 24 23.2 +0.6**
CNPM pP **13 24 49.1 +1.0**
CNPM IAmb IAmb 13 24 50.8
comp=Z,6.9nm,0.7s
KDAK Kodiak Island 60.46 328 P P **13 24 24.7 +1.5**
KDAK pP **13 24 50.0 +1.3**

KDAK IAmb IAmb 13 24 51.5
comp=Z,7.7nm,0.7s
PRP Porcupine Dome 60.51 338 pP 13 24 49.7 +0.5
HDA Harding Lake 60.52 336 P P **13 24 24.5 +1.0**
HDA pP **13 24 49.0 -0.1**
HDA Harding Lake 60.52 336 P 13 24 24.2
baz=117,SNR=8.1
HDA P 13 24 24.2
baz=117,SNR=8.1
WAT2 Susitna Watana 60.53 335 P 13 24 24.8
baz=115,SNR=18
OHAK Old Harbor 60.65 327 pP 13 24 51.1 +1.3
OHAK Old Harbor 60.65 327 P 13 24 26.1
baz=107
IL31 60.66 337 P P **13 24 25.2 +0.8**
IL31 pP **13 24 50.1 +0.2**
ILAR Eielson Array 60.66 337 P P **13 24 25.8 +1.3**
comp=Z,2.5nm,0.8s,baz=130,slow=5.3,SNR=19
ILAR pP pP **13 24 50.0 0.0**
comp=Z,6.3nm,0.8s,baz=157,slow=5.4,SNR=16
ILAR LR LR 13 54 48.9
comp=Z,34nm,18.2s,baz=148,slow=40
ILAR Eielson Array 60.66 337 P P **13 24 25.1 +0.6**
ILAR pP **13 24 49.9 -0.2**
RND Reindeer 60.83 335 P P **13 24 27.1 +1.3**
RND pP **13 24 52.0 +0.6**
GDU01 Guandu, BA 60.84 116 *e*P P **13 24 26.8 +0.3**
PARB Paraibuna 60.85 129 *e*P P 13 24 31.4 +4.9
SUA Susitna One 60.86 332 P P **13 24 27.0 +1.0**
SUA pP **13 24 52.6 +1.2**
SUA Susitna One 60.86 332 P 13 24 26.9
baz=112
SII Sitkinak Islan 60.93 326 pP 13 24 53.6 +1.7
RCBR Riachuelo 60.93 106 *e*P P **13 24 26.4 -0.8**
CCB Clear Creek Bu 60.95 336 P P **13 24 26.9 +0.5**
CCB pP **13 24 51.5 -0.5**
CCB IAmb IAmb 13 24 53.1
comp=Z,6.5nm,0.7s
MCK McKinley 61.00 335 P P **13 24 27.8 +0.9**
MCK pP **13 24 52.5 0.0**
CUT Chulitna 61.01 334 P P **13 24 26.7 -0.1**
CUT pP **13 24 53.2 +0.7**
TCOL CIGO, UAF Yank 61.08 337 pP 13 24 53.2 +0.3
BMAR Burnt Mountain 61.15 340 P P **13 24 29.2 +1.3**
BMAR pP **13 24 53.7 +0.3**
MDM Murphy Dome 61.26 337 P P **13 24 29.6 +1.0**
MDM pP **13 24 53.9 -0.3**
MDM IAmb IAmb 13 24 55.5
comp=Z,6.0nm,0.7s
SPU Mount Spurr 61.34 332 P P **13 24 29.9 +0.6**
SPU pP **13 24 55.9 +1.2**
BWN Browne 61.40 336 P P **13 24 30.5 +1.0**
BWN pP **13 24 54.8 -0.3**
SKT Skwentna 61.40 333 P P **13 24 30.1 +0.6**
SKT pP **13 24 55.8 +0.5**
SKT Skwentna 61.40 333 P 13 24 29.9
baz=111
RSO Redoubt South 61.42 331 P P **13 24 29.9 0.0**
RSO pP **13 24 56.1 +0.7**
NEA2 Nenana 61.42 336 P P **13 24 30.0 +0.4**
NEA2 pP **13 24 55.4 +0.1**
NEA2 IAmb IAmb 13 24 57.5
comp=Z,6.0nm,0.8s
NEA2 Nenana 61.42 336 P 13 24 30.7
baz=115
TRF Thorofare Moun 61.44 335 P P **13 24 30.6 +0.6**
TRF pP pP **13 24 56.0 +0.4**
TRF Thorofare Moun 61.44 335 P 13 24 31.1
baz=113,SNR=15
H24K Noodor Dome 61.52 338 P 13 24 31.4
baz=117,SNR=11
ESAR Angra dos Reis 61.56 128 *e*P P 13 24 36.2 +5.0
CMC01 Camacan, BA 61.64 118 *e*P P **13 24 31.7 -0.1**
KTH Kantishna Hill 61.74 335 P P **13 24 32.7 +0.8**
KTH pP **13 24 57.4 -0.2**
SJMB Sao Joao De Ma 61.86 122 *e*P P **13 24 36.5 +3.2**
LL02 Futaleuf 61.94 162 P P **13 24 34.2 +0.9**
GUA01 Guaratinga, BA 61.97 119 *e*P P **13 24 36.3 +2.2**
BPAW Bear Paw Mtn. 61.98 335 P P **13 24 34.1 +0.7**
BPAW pP **13 24 59.0 -0.1**
BPAW Bear Paw Mtn. 61.98 335 P 13 24 34.5
baz=113
PPLA Purkeypile 62.02 334 P P **13 24 34.6 +0.8**
PPLA pP **13 24 59.6 0.0**
PPLA Purkeypile 62.02 334 P 13 24 34.8
baz=111
NBAN Anadia - AL 62.05 110 *e*P P **13 24 34.2 -0.5**
H23K Yukon River 62.13 337 P 13 24 35.3
baz=115
MLY Manley 62.25 336 P P **13 24 35.9 +0.6**
MLY pP pP **13 25 01.0 +0.1**
MLY Manley 62.25 336 P 13 24 36.0
baz=114,SNR=13
SVW2 Sparrevohn 62.94 331 P P **13 24 39.4 -0.4**
SVW2 pP **13 25 05.3 0.0**
SVW2 IAmb IAmb 13 25 07.1
comp=Z,8.7nm,0.6s
COLD Coldfoot 62.97 339 pP 13 25 06.3 +0.6
COLD Coldfoot 62.97 339 P 13 24 41.2
baz=115
H21K Melozitna Rive 63.30 336 P 13 24 43.1
baz=112
TOLK Toolik Lake Re 63.38 340 P P **13 24 44.1 +1.4**
TOLK pP pP **13 25 08.8 +0.3**
TOLK IAmb IAmb 13 25 10.3
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 63.38 340 P 13 24 43.2
baz=116,SNR=9.3
TTA Tatalina 63.68 333 P P **13 24 45.3 +0.5**
TTA pP **13 25 10.2 -0.4**
TTA IAmb IAmb 13 25 12.3
comp=Z,21nm,1.2s
TTA Tatalina 63.68 333 P 13 24 45.6
baz=107
IMAR Indian Mountai 63.78 337 P P **13 24 45.6 +0.4**
IMAR pP pP **13 25 10.5 -0.6**
SDPT Sand Point 64.10 324 pP pP 13 25 14.1 +0.9
EUNU Eureka 64.42 1 P P **13 24 49.4 +0.1**
EUNU pP pP **13 25 14.1 -1.2**
EUNU IAmb IAmb 13 25 15.7
comp=Z,7.2nm,0.6s
ANM Nome 68.11 334 pP pP 13 25 40.5 +1.5
SCO Scoresbysund 69.12 20 pP pP 13 25 45.0 -0.4
ATKA Atka Island 72.02 320 pP pP 13 26 04.3 +1.2
MBO M'Bour 73.54 79 P P **13 25 45.5 -1.3**
ADK Adak 73.58 320 pP pP 13 26 13.7 +1.2
BILL Bilibino 79.29 338 pP 13 26 45.1 -0.1
ESDC Sonseca Array 79.79 52 P P **13 26 20.8 -0.9**
comp=Z,0.2nm,0.2s,baz=288,slow=3.9,SNR=5.3
ESDC pP pP **13 26 47.3 -1.3**
comp=Z,1.9nm,0.8s,baz=292,slow=5.0,SNR=6.9
ESDC LR LR 13 56 59.4
comp=Z,35nm,20.4s,baz=315,slow=32
NOA NORSAR Array B 83.31 28 P P **13 26 40.5 +0.7**
comp=Z,1.0nm,0.6s,baz=291,slow=5.2,SNR=7.6
NOA LR LR 14 01 18.0
comp=Z,25nm,21.6s,baz=280,slow=34
HFS Hagfors 84.78 29 P P **13 26 47.6 +0.4**
comp=Z,1.3nm,0.6s,baz=322,slow=9.4,SNR=4.8
HFS LR LR 14 03 48.8
comp=Z,48nm,20.1s,baz=308,slow=35
ARCES ARCESS Array B 84.94 18 P P **13 26 48.4 +0.6**
comp=Z,3.1nm,0.8s,baz=297,slow=8.0,SNR=2.0
ARCES pP pP **13 27 13.2 -1.7**
comp=Z,3.7nm,0.8s,baz=307,slow=4.4,SNR=2.6
ARCES LR LR 14 05 16.9
comp=Z,29nm,19.6s,baz=305,slow=36
ARCES ARCESS Array B 84.94 18 IAmb IAmb 13 26 49.6
comp=Z,31nm,1.4s
DBIC Dimbokro 86.94 84 LR LR 14 02 26.3
comp=Z,16nm,20.2s,baz=254,slow=33
TIXI Tiksi 88.25 348 P P **13 27 04.7 +0.9**
GERES GERESS Array B 89.19 39 P P **13 27 08.3 -0.6**
comp=Z,0.2nm,0.2s,baz=273,slow=7.5,SNR=1.3
GERES LR LR 14 04 07.0
comp=Z,32nm,19.8s,baz=288,slow=34
FINES FINESS Array B 89.54 25 P P **13 27 09.8 -0.3**
comp=Z,1.8nm,0.7s,baz=318,slow=1.9,SNR=1.6
TORD Torodi Ar. Bea 91.39 76 P P **13 27 19.7 +0.1**
comp=Z,0.6nm,0.7s,baz=280,slow=5.5,SNR=2.6
TORD LR LR 14 05 28.3
comp=Z,28nm,19.6s,baz=130,slow=34
TORD Torodi Ar. Bea 91.39 76 IAmb IAmb 13 27 22.1
comp=Z,1.6nm,1.1s

NACGM **Naroch** 93.46 30 *i* P P 13 27 23.5 -4.9
MKAR Makanchi Array 117.63 3 PKP **PKPdf** **13 32 58.6 -0.1**
comp=Z,0.5nm,0.6s,baz=359,slow=2.6,SNR=5.4
LZH Lanzhou 125.89 343 *e*PKP **PKPdf** **13 33 09.6 -5.5**
STKA Stephens Creek 127.61 242 PKP **PKiKP** **13 33 19.5 +0.8**
comp=Z,1.9nm,0.7s,baz=69,slow=0.9,SNR=6.2
WRA Warramunga Arr 134.37 257 PKP **PKPdf** **13 33 31.8 +0.5**
comp=Z,1.6nm,0.6s,baz=81,slow=1.9,SNR=27
WRA pPKP **pPKPdf** **13 34 00.3 +0.8**
comp=Z,1.6nm,0.6s,baz=84,slow=2.0,SNR=5.8
WRA Warramunga Arr 134.37 257 **PKPdf** **13 33 32.1 +0.8**
ASAR Alice Springs 134.83 252 PKhKP PKPpre 13 33 25.2
comp=Z,0.4nm,0.6s,baz=103,slow=3.1,SNR=7.3
ASAR PKP **PKPdf** **13 33 33.0 +0.9**
comp=Z,0.9nm,0.7s,baz=77,slow=2.1,SNR=9.5
ASAR pPKP pPKPdf 13 34 01.9 +1.6
comp=Z,0.8nm,0.6s,baz=88,slow=1.7,SNR=3.1
FITZ Fitzroy Crossi 142.51 261 PKhKP PKPpre 13 33 44.2
comp=Z,1.6nm,0.8s,baz=299,slow=1.5,SNR=8.8
CMAR Chiang Mai Arr 143.86 340 PKP **PKPdf** **13 33 48.9 +0.2**
comp=Z,1.6nm,0.6s,baz=337,slow=2.7,SNR=12
KAPI Kappang 145.63 284 PKPbc **PKPab** **13 33 53.9 +1.2**
comp=Z,2.4nm,0.3s,baz=239,slow=6.7,SNR=4.1
HYB Hyderabad 146.13 14 *i* PKP **PKPdf** **13 33 53.0 +0.4**

IDC 16 13:19:37.8±13.0, **3°.48S**×**126°.95E**, **h0**km, **mb3.4/2, mb1 3.6/3, mb1mx3.4/26, mbtmpb3.4/3, ML2.8/1, Error ellipse: s-maj=341.0km s-min=181.4km az=77.0, Buru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.88**	**157**	P		Pn	13 23 48.4	+0.2
	0.0nm,0.3s,baz=332,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**21.16**	**162**	P		P	13 24 24.9	0.0
	0.6nm,1.1s,baz=346,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**31.42**	**156**	P		P	13 26 00.8	-0.1
	0.4nm,0.3s,baz=339,slow=14,SNR=1.7						

IDC 16 13:33:07.5±2.0, **10°.62S**×**123°.07E**, **h0**km, **mb3.2/1, mb1 3.5/3, mb1mx3.3/25, mbtmpb3.3/3, ML3.6/2, MS2.2/1, Ms1 2.2/1, ms1mx2.0/16, Error ellipse: s-maj=34.4km s-min=14.0km az=146.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.71**	**55**	Pg		Pb	13 33 22.9	+0.1
	712nm,0.3s,baz=258,slow=2.8,SNR=633						
BATI				Lg		Lg	13 33 29.8	
	3μm,0.3s,baz=100,slow=5.3,SNR=31						
BATI				LR		LR	13 33 53.6	
	comp=Z,232nm,20.3s,baz=50,slow=64						
KAPI	**Kappang**	**6.47**	**329**	LR		LR	13 37 45.8	
	comp=Z,18nm,20.3s,baz=154,slow=43						
FITZ	**Fitzroy Crossi**	**7.84**	**162**	Pn		Pn	13 35 09.8	+6.9
	0.4nm,0.3s,baz=322,slow=17,SNR=50						
FITZ				Sn		Sn	13 36 33.9	+1.5
	6.4nm,0.3s,baz=142,slow=5.0,SNR=15						
WRA	**Warramunga Arr**	**14.28**	**132**	Pn		Pn	13 36 29.3	-1.8
	0.3nm,0.3s,baz=305,slow=14,SNR=19						
WRA				Sn		Sn	13 38 54.6	-16
	1.6nm,0.3s,baz=309,slow=24,SNR=12						
ASAR	**Alice Springs**	**16.58**	**143**	Pn		Pn	13 37 01.7	+0.1
	0.2nm,0.3s,baz=314,slow=11,SNR=13						
ASAR				Sn		Sn	13 39 56.5	-10
	0.5nm,0.3s,baz=311,slow=22,SNR=8.8						
MKAR	**Makanchi Array**	**67.77**	**331**	P		P	13 44 06.3	-0.8
	0.1nm,0.4s,baz=117,slow=5.0,SNR=1.8						

*IDC **16** 13:49:35.2*±0.8, *27°.93N*×*139°.32E, h482*km±*13*km, *mb3.0/6, mb1 3.1/11, mb1mx2.8/61, mbtmpb3.8/11, Error ellipse: s-maj=29.4km s-min=12.7km az=71.0*
*JMA **16** 13:49:36.9±0.1, 28°.26N×140°.28E, h514km, M3.6*
ISC 16 13:49:35.7±0.8, **28°.04N**±0.10×**139°.6E**±0.1, **h507**km, **n21, σ1§73/25, mb3.4/6, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.52**	**111**	P	**P**	**13 50 43.7**	**-0.6**
CBIJ				*e*S	**S**	**13 51 37.0**	**-2.9**
JCJ	**Chichijima**	**2.52**	**111**	P	**P**	**13 50 43.6**	**-0.7**
	11nm,0.3s,baz=82,slow=23,SNR=30						
JCJ				S	**S**	**13 51 36.9**	**-3.1**
	18nm,0.3s,baz=276,slow=21,SNR=3.6						
JHH2	**Haha-jima-NKT2**	**2.72**	**120**	P	**P**	**13 50 45.7**	**+0.2**
JHH2				S	**S**	**13 51 39.5**	**-2.7**
JHJ2	**Mitsune**	**5.06**	**3**	P	**P**	**13 51 04.1**	**+0.7**
JHJ	**Hachijo jima 2**	**5.07**	**2**	P	**P**	**13 51 04.0**	**+0.5**
	3.2nm,0.3s,baz=221,slow=20,SNR=1.3						
BSO3	**Boso 3**	**5.79**		P	**P**	**13 51 20.5**	**+0.9**
JOD2	**Odawara 2**	**7.21**	**357**	P	**P**	**13 51 25.1**	**+1.0**
JHU	**Hanno**	**7.79**	**358**	P	**P**	**13 51 30.6**	**+0.6**
JRY	**Ryogami san**	**7.97**	**356**	P	**P**	**13 51 32.6**	**+0.7**
JYT	**Yasato**	**8.18**	**4**	P	**P**	**13 51 34.3**	**+0.4**
JAG	**Ashikaga**	**8.36**	**359**	P	**P**	**13 51 35.8**	**0.0**
JAG				S	**S**	**13 53 10.4**	**-4.1**
MJAR	**Matsushiro Arr**	**8.55**	**353**	P	**P**	**13 51 37.7**	**-0.1**
	0.1nm,0.3s,baz=299,slow=16,SNR=3.4						
JHO	**Hitachi**	**8.59**	**5**	P	**P**	**13 51 38.8**	**+0.6**
JNU	**Nakatsue**	**9.03**	**306**	P	**P**	**13 51 41.4**	**-1.5**
	1.7nm,0.3s,baz=78,slow=0.8,SNR=4.5						
KSRS	**Korea Array**	**13.55**	**317**	P		**13 52 28.7**	**-1.7**
	0.1nm,0.3s,baz=123,slow=9.5,SNR=2.2						
WRA	**Warramunga Arr**	**47.97**	**187**	P	**P**	**13 57 28.5**	**+0.5**
	0.5nm,0.3s,baz=1.4,slow=7.8,SNR=50						
MKAR	**Makanchi Array**	**48.07**	**309**	P	**P**	**13 57 28.9**	**+0.3**
	0.3nm,0.5s,baz=104,slow=6.6,SNR=3.2						
KURBB	**Kurchatov Arra**	**50.71**	**314**	P	**P**	**13 57 49.0**	**+1.1**
	1.3nm,0.5s,baz=91,slow=8.3,SNR=17						
ASAR	**Alice Springs**	**51.69**	**187**	P	**P**	**13 57 55.8**	**+0.4**
	0.3nm,0.3s,baz=22,slow=12,SNR=8.6						
YKA	**Yellowknife Ar**	**72.42**	**28**	P	**P**	**14 00 13.2**	**+3.4**
	0.8nm,0.7s,baz=316,slow=5.2,SNR=3.7						
FINES	**FINESS Array B**	**76.06**	**333**	P	**P**	**14 00 31.1**	**+0.7**
	0.7nm,0.3s,baz=57,slow=5.3,SNR=5.4						

*IDC **16** 13:50:36.7*±0.8, *43°.09N*×*47°.51E, h0km, mb3.6/6, mb1 3.8/15, mb1mx3.6/48, mbtmpb3.8/15, ML3.4/7, Error ellipse: s-maj=11.6km s-min=7.9km az=158.0*
*DRS **16** 13:50:37.0±0.0, 43°.13N×47°.86E, h15km, ML4.0/7, FELT I=II-III MSK at Makhachkala*
*MOS **16** 13:50:38.6±0.0, 42°.96N×47°.66E, h14km, MPVA4.4*
*NEIC **16** 13:50:39.2±1.1, 43°.06N±0°.08×47°.65E±0°.09, h19km±6km, mb4.1/13, Error ellipse: s-maj=12.3km s-min=9.1km az=180.0*
ISC 16 13:50:37.0±1.2, **43°.07N**±0°.03×**47°.85E**±0°.03, **h8**km±8km, **n127, σ1§63/201, mb3.8/10, 11C-7D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.28**	**247**	⇑*i*PG	**Pg**	**13 50 42.3**	**-0.2**
MAK				pmax	pmax		
	comp=Z,3μm,0.2s						
MAK	**Makhachkala**	**0.28**	**247**	*i* Pg	**Pg**	**13 50 42.5**	**0.0**
	comp=Z,3μm,0.5s						
KANR	**Karaman**	**0.29**	**296**	⇓*i*PG	**Pb**	**13 50 46.2**	**+1.7**
KANR				*e*S	**Sb**	**13 50 51.0**	**+1.5**
KANR	**Karaman**	**0.29**	**296**	*i* Pg	**Pb**	**13 50 46.2**	**+1.7**
	comp=Z,26μm,0.5s						
KANR				*e*Sg	**Sb**	**13 50 51.0**	**+1.5**
BUJR	**Buynaksk**	**0.60**	**246**	⇓*e*PG	**Pg**	**13 50 48.4**	**-0.1**
BUJR				*e*S	**Sg**	**13 50 55.6**	**-0.8**
BUJR	**Buynaksk**	**0.60**	**246**	*e*Pg	**Pg**	**13 50 48.4**	**-0.1**
BUJR				*i* Sg	**Sg**	**13 50 55.6**	**-0.8**
	comp=Z,16μm,0.5s						
SGKR	**Sergokala**	**0.62**	**193**	⇑*i*PG	**Pb**	**13 50 50.1**	**-0.1**
SGKR				*e*S	**Sb**	**13 50 58.3**	**-0.8**
SGKR	**Sergokala**	**0.62**	**193**	*i* Pg	**Pb**	**13 50 50.1**	**-0.1**
SGKR				*i* Sg	**Sb**	**13 50 58.3**	**-0.8**
	comp=Z,8μm,0.3s						
KRNR	**Karanay**	**0.73**	**251**	⇑*i*PG	**Pg**	**13 50 50.4**	**-0.8**
KRNR				*e*S	**Sg**	**13 51 00.8**	**+0.1**
KRNR	**Karanay**	**0.73**	**251**	*i* Pg	**Pg**	**13 50 50.4**	**-0.8**
KRNR				*e*Sg	**Sg**	**13 51 00.8**	**+0.1**
DBC	**Dubki**	**0.75**	**267**	*e*PG	**Pg**	**13 50 50.8**	**-0.7**
DBC				*e*S	**Sg**	**13 50 59.9**	**-1.3**
DBC	**Dubki**	**0.75**	**267**	*e*Pg	**Pg**	**13 50 50.8**	**-0.7**
DBC				*i* Sg	**Sg**	**13 50 59.9**	**-1.3**
	comp=Z,1μm,0.5s						
ARKR	**Arakani**	**0.78**	**234**	*e*PG	**Pg**	**13 50 51.3**	**-0.8**
ARKR				*e*S	**Sg**	**13 51 01.2**	**-1.1**
ARKR	**Arakani**	**0.78**	**234**	*e*Pg	**Pg**	**13 50 51.3**	**-0.8**
ARKR				*i* Sg	**Sg**	**13 51 01.2**	**-1.1**
	comp=Z,2μm,0.5s						
DLMR	**Dylym**	**0.89**	**271**	*e*PG	**Pb**	**13 50 55.0**	**+0.2**
DLMR				*e*S	**Sg**	**13 51 06.1**	**+0.3**
DLMR				pmax	pmax		
	comp=Z,314nm,0.2s						
DLMR	**Dylym**	**0.89**	**271**	*e*Pg	**Pg**	**13 50 54.4**	**+0.2**
DLMR				*e*Sg	**Sg**	**13 51 05.6**	**-0.2**
URKR	**Urkarakh**	**0.92**	**190**	*e*PG	**Pn**	**13 50 55.7**	**-0.6**
URKR				*e*S	**Sb**	**13 51 06.8**	**-0.8**
URKR				pmax	pmax		
	comp=Z,347nm,0.3s						
URKR	**Urkarakh**	**0.92**	**190**	*e*Pg	**Pn**	**13 50 55.7**	**-0.6**
URKR				*e*Sg	**Sb**	**13 51 06.3**	**-1.2**
GNBR	**Gunib**	**0.94**	**224**	*e*PG	**Pg**	**13 50 54.9**	**-0.2**
GNBR				*e*S	**Sg**	**13 51 06.7**	**-0.7**
GNBR	**Gunib**	**0.94**	**224**	*e*Pg	**Pg**	**13 50 54.9**	**-0.2**
GNBR				*e*Sg	**Sg**	**13 51 06.7**	**-0.7**
XNZR	**Khunzakh**	**0.99**	**238**	*e*PG	**Pg**	**13 50 55.8**	**-0.4**
XNZR				*e*S	**Sg**	**13 51 08.1**	**-0.9**
XNZR	**Khunzakh**	**0.99**	**238**	*e*Pg	**Pg**	**13 50 55.8**	**-0.4**
XNZR				*e*Sg	**Sg**	**13 51 08.1**	**-0.9**
KMKR	**Kumukh**	**1.09**	**211**	⇓*i*PG	**Pn**	**13 50 58.7**	**0.0**
KMKR				*e*S	**Sb**	**13 51 13.5**	**+0.9**
KMKR				pmax	pmax		
	comp=Z,6μm,0.4s						
KMKR	**Kumukh**	**1.09**	**211**	*i* Pg	**Pn**	**13 50 58.7**	**0.0**
KMKR				*e*Sg	**Sb**	**13 51 13.5**	**+0.9**
BTLR	**Botlikh**	**1.26**	**252**	⇓*e*PG	**Pg**	**13 51 00.0**	**-1.3**
BTLR				*e*S	**Sg**	**13 51 16.4**	**-1.2**
BTLR	**Botlikh**	**1.26**	**252**	*e*Pg	**Pg**	**13 50 60.0**	**-1.3**
BTLR				*i* Sg	**Sg**	**13 51 16.4**	**-1.2**
	comp=Z,1μm,0.4s						
DVE	**Vedeno**	**1.27**	**266**	⇓*i*PG	**Pg**	**13 51 00.9**	**-0.5**
DVE				*e*S	**Sg**	**13 51 17.3**	**-0.6**
DVE	**Vedeno**	**1.27**	**266**	*i* Pg	**Pg**	**13 51 00.8**	**-0.5**
DVE				*e*Sg	**Sg**	**13 51 17.3**	**-0.6**
KSMR	**Kasumkent**	**1.48**	**172**	*e*PG	**Pg**	**13 51 05.6**	**+0.2**
KSMR				*e*S	**Sn**	**13 51 25.3**	**+1.8**
KSMR	**Kasumkent**	**1.48**	**172**	*e*Pg	**Pg**	**13 51 05.6**	**+0.2**
KSMR				*e*Sg	**Sn**	**13 51 25.3**	**+1.8**
GROC	**Groznyy**	**1.51**	**276**	⇑*i*PG	**Pb**	**13 51 05.5**	**+0.3**
GROC				*e*		13 51 25.9	
GROC				pmax	pmax		
	comp=Z,392nm,0.4s						
GROC				smax	smax		
	comp=N,408nm,0.6s						
GROC				smax	smax		
	comp=E,585nm,0.4s						
GROC				smax	smax		
	comp=E,493nm,0.5s						
GROC	**Groznyy**	**1.51**	**276**	*i* Pg	**Pb**	**13 51 05.7**	**+0.4**
GROC				*e*Sg	**Sg**	**13 51 26.4**	**+0.8**
AKT	**Akhty**	**1.59**	**183**	⇓*i*PN	**Pg**	**13 51 06.5**	**-1.0**
AKT				*e*S	**Sg**	**13 51 26.9**	**-1.3**
AKT	**Akhty**	**1.59**	**183**	*i* Pg	**Pg**	**13 51 06.5**	**-1.0**
AKT				*i* Sg	**Sg**	**13 51 26.9**	**-1.3**
	comp=E,3μm,0.3s						
SEKA	**Sheki**	**1.92**	**195**	PN	**Pg**	**13 51 12.5**	**-1.3**
KMGR	**Komgaron**	**2.19**	**271**	*e*PN	**Pn**	**13 51 15.3**	**+1.6**
KMGR				*e*S	**Sn**	**13 51 41.6**	**+0.7**
KMGR	**Komgaron**	**2.19**	**271**	*e*Pg	**Pn**	**13 51 15.3**	**+1.6**
KMGR				*e*Sg	**Sn**	**13 51 41.6**	**+0.7**
VLKR	**Vladikavkaz**	**2.33**	**271**	*e*PN	**Pn**	**13 51 17.4**	**+1.8**
VLKR				*e*S	**Sn**	**13 51 45.8**	**+1.4**
VLKR	**Vladikavkaz**	**2.33**	**271**	*e*Pg	**Pn**	**13 51 17.4**	**+1.8**
VLKR				*e*Sg	**Sn**	**13 51 45.8**	**+1.4**
MNGR	**Mingechevir, A**	**2.36**	**194**	PN	**Pb**	**13 51 18.8**	**-1.0**
TRKR	**Terskaya**	**2.37**	**287**	*e*PN	**Pn**	**13 51 17.6**	**+1.5**
TRKR				*e*S	**Sn**	**13 51 47.0**	**+1.8**
TRKR	**Terskaya**	**2.37**	**287**	*e*Pn	**Pn**	**13 51 17.6**	**+1.5**
TRKR				*e*Sn	**Sn**	**13 51 47.0**	**+1.8**
BTKR	**Batakoyurt**	**2.44**	**278**	*e*PN	**Pn**	**13 51 17.8**	**+0.7**
BTKR				*e*S	**Sn**	**13 51 47.9**	**+0.8**
BTKR	**Batakoyurt**	**2.44**	**278**	*e*Pn	**Pn**	**13 51 17.8**	**+0.7**
BTKR				*e*Sn	**Sn**	**13 51 47.9**	**+0.8**
ARNR	**Ardon**	**2.61**	**274**	*e*PN	**Pn**	**13 51 20.8**	**+1.3**
ARNR				*e*S	**Sn**	**13 51 52.7**	**+1.3**
ARNR	**Ardon**	**2.61**	**274**	*e*Pn	**Pn**	**13 51 20.8**	**+1.3**
ARNR				*e*Sn	**Sn**	**13 51 52.6**	**+1.3**
LACR	**Lac**	**2.62**	**266**	*e*PN	**Pn**	**13 51 21.4**	**+1.7**
LACR				*e*S	**Sn**	**13 51 51.7**	**0.0**
LACR	**Lac**	**2.62**	**266**	*e*Pn	**Pn**	**13 51 21.4**	**+1.7**
LACR				*e*Sn	**Sn**	**13 51 51.7**	**0.0**
GANJ	**Ganja**	**2.68**	**206**	PN	**Pn**	**13 51 21.7**	**+1.3**
PRTR	**Priterechnaya**	**2.69**	**286**	*e*PN	**Pn**	**13 51 21.9**	**+1.4**
PRTR				*e*S	**Sn**	**13 51 54.9**	**+1.7**
PRTR	**Priterechnaya**	**2.69**	**286**	*e*Pn	**Pn**	**13 51 21.9**	**+1.4**
PRTR				*e*Sn	**Sn**	**13 51 54.9**	**+1.7**
KORR	**Kora**	**2.77**	**272**	*e*PN	**Pn**	**13 51 23.2**	**+1.5**
KORR				*e*S	**Sn**	**13 51 55.7**	**+0.4**
KORR	**Kora**	**2.77**	**272**	*e*Pn	**Pn**	**13 51 23.2**	**+1.5**
KORR				*e*Sn	**Sn**	**13 51 55.7**	**+0.4**
ZEI	**Tsey**	**2.91**	**266**	*e*PN	**Pn**	**13 51 24.4**	**+0.6**
ZEI				*e*S	**Sn**	**13 51 58.0**	**-1.1**
ZEI	**Tsey**	**2.91**	**266**	*e*Pn	**Pn**	**13 51 24.4**	**+0.6**
ZEI				*e*Sn	**Sn**	**13 51 58.0**	**-1.1**
LSNR	**Lesken**	**2.95**	**275**	*e*PN	**Pn**	**13 51 24.6**	**+0.4**
LSNR				*e*S	**Sn**	**13 52 01.5**	**+1.7**
LSNR	**Lesken**	**2.95**	**275**	*e*Pn	**Pn**	**13 51 24.6**	**+0.4**
LSNR				*e*Sn	**Sn**	**13 52 01.5**	**+1.7**
DIGR	**Digorskoe uzhe**	**3.14**	**268**	*e*PN	**Pn**	**13 51 27.2**	**+0.3**
DIGR				*e*S	**Sn**	**13 52 05.6**	**+1.0**
DIGR	**Digorskoe uzhe**	**3.14**	**268**	*e*Pn	**Pn**	**13 51 27.2**	**+0.3**
DIGR				*e*Sn	**Sn**	**13 52 05.6**	**+1.0**
ONI	**Oni**	**3.27**	**263**	*e*PN	**Pn**	**13 51 30.9**	**+2.3**
ONI				*e*S	**Sn**	**13 52 07.4**	**-0.3**
ONI	**Oni**	**3.27**	**263**	*e*Pn	**Pn**	**13 51 30.9**	**+2.3**
ONI				*e*Sn	**Sn**	**13 52 07.4**	**-0.3**
ONI	**Oni**	**3.27**	**263**	Pn	**Pn**	**13 51 27.5**	**-1.1**
PYA1	**Pyatigorsk**	**3.59**	**288**	⇑*e*PN	**Pn**	**13 51 33.4**	**+0.4**
PYA1	**Pyatigorsk**	**3.59**	**288**	*e*Pn	**Pn**	**13 51 33.4**	**+0.4**
PYA1				*e*Sn	**Sn**	**13 52 14.9**	**-0.7**
KBZ	**Khabaz**	**3.67**	**282**	Pn	**Pn**	**13 51 33.6**	**-0.4**
	comp=E,4.0nm,0.3s,baz=137,slow=5.7,SNR=20						
KBZ				Sn	**Sn**	**13 52 14.2**	**-3.2**
	comp=E,4.7nm,0.3s,baz=310,slow=15,SNR=2.3						
KBZ				Lg	Lg	13 52 25.4	
	comp=E,5.0nm,0.3s,baz=105,slow=19,SNR=4.5						
KBZ	**Khabaz**	**3.67**	**282**	⇑*e*PN	**Pn**	**13 51 33.4**	**-0.6**
KBZ				*e*S	**Sn**	**13 52 15.9**	**-1.4**
KBZ	**Khabaz**	**3.67**	**282**	*e*Pn	**Pn**	**13 51 33.4**	**-0.6**
KBZ				*e*Sn	**Sn**	**13 52 15.9**	**-1.4**
GNI	**Garni**	**3.73**	**220**	Pn	**Pn**	**13 51 36.9**	**+1.9**
	comp=E,3.8nm,0.3s,baz=3.5,slow=11,SNR=5.7						
GNI				Sn	**Sn**	**13 52 21.5**	**+2.2**
	comp=E,4.0nm,0.3s,baz=42,slow=17,SNR=2.9						
GNI				Lg	Lg	13 52 31.2	
	comp=E,4.9nm,0.3s,baz=6.7,slow=20,SNR=3.6						
GNI	**Garni**	**3.73**	**220**	*ce*PN	**Pn**	**13 51 38.6**	**+3.5**
GNI	**Garni**	**3.73**	**220**	*e*Pn	**Pn**	**13 51 38.5**	**+3.5**
GNI				*e*Sn	**Sn**	**13 52 22.0**	**+2.8**
GNI	**Garni**	**3.73**	**220**		**Pn**	**13 51 34.8**	**-0.2**
NEY	**Neytrino**	**3.76**	**274**	*e*PN	**Pn**	**13 51 36.0**	**+0.6**
NEY				*e*S	**Sn**	**13 52 20.3**	**+0.5**
NEY	**Neytrino**	**3.76**	**274**	*e*Pn	**Pn**	**13 51 36.0**	**+0.6**
NEY				*e*Sn	**Sn**	**13 52 20.3**	**+0.5**
SHA1	**Shidzhatmaz**	**3.84**	**282**	⇑*i*PN	**Pn**	**13 51 36.0**	**-0.6**
SHA1				*e*S	**Sn**	**13 52 19.9**	**-2.2**
SHA1	**Shidzhatmaz**	**3.84**	**282**	*i* Pn	**Pn**	**13 51 36.0**	**-0.6**
SHA1				*e*Sn	**Sn**	**13 52 19.9**	**-2.2**
KVAR	**Kislovodsk Ar**	**3.85**	**285**	Pn	**Pn**	**13 51 36.1**	**-0.5**
	baz=107,slow=19,SNR=5.1						
KVAR				Sn	**Sn**	**13 52 19.1**	**-3.0**
	baz=194,slow=8.3,SNR=5.3						
KVAR				Lg	Lg	13 52 32.5	
	baz=156,slow=17,SNR=2.4						
KIV	**Kislovodsk**	**3.86**	**285**	*e*PN	**Pn**	**13 51 36.2**	**-0.5**
KIV				*e*S	**Sn**	**13 52 23.5**	**+1.3**
KIV				pmax	pmax		
	comp=Z,37nm,1.0s						
KIV				MLR	MLR		
	comp=Z,25nm,8.0s						
KIV	**Kislovodsk**	**3.86**	**285**	*e*Pn	**Pn**	**13 51 36.3**	**-0.5**
KIV				*e*Sn	**Sn**	**13 52 20.3**	**-2.0**
KIV	**Kislovodsk**	**3.86**	**285**		**Pn**	**13 51 35.4**	**-1.3**
GOF	**Gofitskoye**	**3.99**	**302**	*e*PN	**Pn**	**13 51 41.2**	**+2.7**
GOF				*e*S	**Sg**	**13 52 42.0**	**-3.3**
GOF				pmax	pmax		
	comp=Z,32nm,0.6s						
GOF				smax	smax		
	comp=N,69nm,0.5s						
GOF	**Gofitskoye**	**3.99**	**302**	*e*Pn	**Pn**	**13 51 41.0**	**+2.6**
GOF				*e*Sn	**Sn**	**13 52 27.1**	**+1.7**
NVNR	**Nevinnomyssk**	**4.53**	**292**	*e*PN	**Pn**	**13 51 46.5**	**+0.6**
NVNR	**Nevinnomyssk**	**4.53**	**292**	*e*Pn	**Pn**	**13 51 46.5**	**+0.6**
NVNR				*e*Sn	**Sn**	**13 52 40.9**	**+2.3**
GUZR	**Guzeripl'**	**5.70**	**282**	*e*P	**Pn**	**13 52 03.5**	**+1.6**
GUZR				*e*S	**Sn**	**13 53 08.8**	**+1.3**
GUZR	**Guzeripl'**	**5.70**	**282**	*e*Pn	**Pn**	**13 52 03.5**	**+1.6**
GUZR				*e*Sn	**Sn**	**13 53 08.8**	**+1.3**
BELG	**Belogornoye**	**9.33**	**359**	Pn	**Pn**	**13 52 52.7**	**+1.0**
	comp=N,4.9nm,0.3s,baz=342,slow=0.8,SNR=10						
BELG				Sn	**Sn**	**13 54 32.3**	**-4.4**
	comp=N,2.1nm,0.3s,baz=0.0,slow=18,SNR=2.3						
GEYT	**Alibeck**	**9.35**	**120**	Pn	**Pn**	**13 52 55.1**	**+3.1**
	comp=N,0.8nm,0.3s,baz=298,slow=15,SNR=3.0						
GEYT	**Alibeck**	**9.35**	**120**		**Pn**	**13 52 53.0**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**9.35**	**120**	Pn	**Pn**	**13 52 53.1**	**+1.0**
AKTO	**Aktyubinsk**	**10.14**	**40**	Pn	**Pn**	**13 53 04.6**	**+1.8**
	comp=N,0.3nm,0.3s,baz=225,slow=13,SNR=3.6						
AKTO				Sn	**Sn**	**13 54 52.5**	**-4.1**
	comp=N,0.9nm,0.3s,baz=237,slow=22,SNR=4.6						
AB31	**Akbulak array**	**10.42**	**49**	Pn	**Pn**	**13 53 08.9**	**+2.4**
	comp=N,0.4nm,0.3s,baz=233,slow=13,SNR=20						
AB31				⇑Pg		13 53 22.3	
	comp=N,0.4nm,0.3s,baz=260,slow=25,SNR=5.0						
AB31				⇑Lg	Lg	13 55 02.9	
	comp=N,1.6nm,0.5s,baz=234,slow=21,SNR=9.2						
ABKAR	**Akbulak array**	**10.42**	**49**	Pn	**Pn**	**13 53 08.6**	**+2.0**
OBN	**Obninsk**	**14.12**	**333**	⇓*e*P	**Pn**	**13 53 55.3**	**-1.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
OBN	**Obninsk**	**14.12**	**333**	Pn	**Pn**	**13 53 55.2**	**-1.8**
AKASG	**Malin Array Be**	**14.82**	**307**	Pn	**Pn**	13 54 00.0	-6.7
	comp=Z,0.9nm,0.3s,baz=109,slow=13,SNR=4.6						
ARU	**Arti**	**15.03**	**23**	Pn	**Pn**	**13 54 07.4**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=263,slow=1.5,SNR=3.9						
ARU				Sn	**Sn**	**13 56 45.9**	**-10**
	comp=Z,0.0nm,0.3s,baz=261,slow=23,SNR=2.5						
ARU	**Arti**	**15.03**	**23**	P	**Pn**	**13 54 07.0**	**-2.5**
ARU				S	**Sn**	**13 56 53.6**	**-2.4**
BALB	**Balikesir**	**15.38**	**264**	Pn	**Pn**	**13 54 13.1**	**-1.2**
MLR	**Muntele Rosu**	**15.87**	**286**	P	**Pn**	**13 54 22.7**	**+2.0**
MLR				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MLR	**Muntele Rosu**	**15.87**	**286**	P	**Pn**	**13 54 22.7**	**+2.0**
MLR				IAmb	IAmb	13 54 24.8	
	comp=Z,9.1nm,1.5s						
CHGR	**Chuyangaron**	**16.70**	**98**		**P**	**13 54 34.8**	**+1.1**
CHGR				IAmb	IAmb	13 54 40.6	
	comp=Z,9.3nm,0.5s						
GAR	**Garm**	**17.42**	**96**		**P**	**13 54 43.1**	**+1.4**
LIT	**Litokhoron**	**19.18**	**270**	P	**P**	**13 55 00.0**	**-1.0**
LIT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LIT	**Litokhoron**	**19.18**	**270**	P	**P**	**13 54 60.0**	**-1.0**
IDI	**Anoyia**	**19.38**	**254**	P	**P**	**13 55 00.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=12,slow=14,SNR=1.7						
IDI	**Anoyia**	**19.38**	**254**	IAmb	IAmb	13 55 28.5	
	comp=Z,6.2nm,1.0s						
KURBB	**Kurchatov Arra**	**22.18

	comp=Z,4.7nm,1.1s							
WRAB	**Tennant Creek**	**44.55**	**259**	P	**P**	**14 17 32.7**	**-1.6**
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**14 17 32.7**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=95,slow=7.3,SNR=78							
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**14 17 32.7**	**-1.7**
AS31	**Alice Springs**	**44.76**	**254**	P	**P**	**14 17 35.2**	**-0.7**
AS31				IAmb	IAmb	14 17 35.9		
	comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**14 17 35.5**	**-0.5**
	comp=Z,8.8nm,0.4s,baz=88,slow=8.1,SNR=202							
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**14 17 35.2**	**-0.7**
MTN	**Manton Dam**	**48.66**	**268**	P	**P**	**14 18 04.7**	**-0.7**
MTN				IAmb	IAmb	14 18 17.6		
	comp=Z,14nm,1.4s							
FORT	**Forrest**	**50.06**	**244**	P	**P**	**14 18 14.1**	**-1.4**
FORT				IAmb	IAmb	14 18 33.8		
	comp=Z,23nm,1.1s							
KNRA	**Kununurra**	**50.38**	**264**	P	**P**	**14 18 17.0**	**-1.0**
KNRA				IAmb	IAmb	14 18 38.2		
	comp=Z,14nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.95**	**260**	P	**P**	**14 18 35.9**	**-0.6**
MORW	**Morawa**	**60.52**	**246**	P	**P**	**14 19 27.3**	**-1.0**
MORW				IAmb	IAmb	14 19 32.9		
	comp=Z,17nm,1.2s							
GIRL	**Giralia**	**62.87**	**253**	P	**P**	**14 19 43.6**	**-0.1**
GIRL				IAmb	IAmb	14 20 10.7		
	comp=Z,66nm,1.5s							
QSPA	**South Pole Qui**	**72.57**	**180**	P	**P**	**14 20 41.3**	**-0.9**
FALS	**False Pass**	**73.19**	**9**	P	**P**	**14 20 45.2**	**-0.5**
NVAR	**Mina Array Bea**	**79.22**	**44**	P	**P**	**14 21 20.3**	**+0.8**
	comp=Z,1.3nm,1.1s,baz=214,slow=7.2,SNR=5.0							
SEY	**Seymchan**	**83.33**	**347**	P	**P**	**14 21 39.4**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=21,slow=23,SNR=4.1							
TXAR	**Lajitas Array**	**85.89**	**58**	P	**P**	**14 21 54.6**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=215,slow=6.4,SNR=6.6							
TXAR	**Lajitas Array**	**85.89**	**58**	P	**P**	**14 21 53.4**	**+0.2**
PDAR	**Pinedale Array**	**87.14**	**44**	P	**P**	**14 21 59.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=211,slow=1.7,SNR=3.8							
INK	**Inuvik**	**91.51**	**15**	P	**P**	**14 22 18.5**	**+0.2**
	comp=Z,1.7nm,0.4s,baz=197,slow=7.6,SNR=6.7							
INK	**Inuvik**	**91.51**	**15**	P	**P**	**14 22 16.9**	**-1.3**
INK				IAmb	IAmb	14 22 31.3		
	comp=Z,3.3nm,0.9s							
GERES	**GERESS Array B**	**147.16**	**345**	PKPbc	**PKPbc**	**14 28 52.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=20,slow=4.3,SNR=5.2							
GERES	**GERESS Array B**	**147.16**	**345**	PKPbc	**PKPbc**	**14 28 52.3**	**-0.3**
DAVOX	**Davos/Dischmat**	**149.96**	**348**	PKPbc	**PKPbc**	**14 28 57.6**	**-2.1**
	comp=Z,2.1nm,0.4s,baz=24,slow=10,SNR=4.2							

JMA 16 14:15:03.5, 37.77N×140.06E, h7km±1km, M2.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYAR	**Yonezawaarcadi**	**0.16**	**25**	P	Pg	14 15 06.8	0.0
JYAR				S	Sg	14 15 09.2	+0.2
JFT	**Otama**	**0.33**	**139**	P	Pg	14 15 10.1	+0.1
JFT				S	Sg	14 15 14.6	+0.2
JYS	**Shirataka**	**0.45**	**1**	P	Pg	14 15 12.6	+0.4
JYS				S	Sg	14 15 18.6	+0.4
JFY	**Yanaizu**	**0.46**	**218**	P	Pg	14 15 12.4	0.0
JFY				S	Sg	14 15 18.3	-0.1
JMM	**Marumori**	**0.59**	**80**	P	Pg	14 15 14.7	-0.1
JNS	**Sasagawa**	**0.59**	**275**	P	Pg	14 15 14.7	-0.2
JFK	**Kawauchi**	**0.76**	**122**	P	Pg	14 15 18.0	-0.2
JFK				*eS*	Sg	14 15 28.3	+0.2
JOU	**Okura**	**0.76**	**39**	P	Pg	14 15 18.2	0.0
JOU				S	Sg	14 15 28.2	+0.1
JYA	**Atsumi**	**0.87**	**342**	P	Pg	14 15 20.0	-0.1
JYA				S	Sg	14 15 31.8	+0.4
JAW	**Awa shima**	**0.94**	**317**	P	Pg	14 15 21.5	0.0
JAW				*eS*	Sg	14 15 31.8	+0.4
MAT	**Matsushiro**	**1.92**	**231**	P	Pn	14 15 37.4	+0.8
MAT				*eS*	Sb	14 16 02.9	-0.2

*SOF **16** 14:15:53.7, 41.92N×26.83E, h5km, MD2.5*
*ISK **16** 14:15:54.2, 41.95N×26.81E, h7km, ML2.0/6*
ISC 16 14:15:54.4±1.1, 41.95N±0.04×26.81E±0.05, h8km±8km, n12, σ0.32/14, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDRB	**Edirne**	**0.12**	**206**	PG	**Pg**	**14 15 57.0**	**0.0**
EDRB				SG	**Sg**	**14 15 59.1**	**+0.3**
JMB	**Yambol**	**0.54**	**342**	Pg	**Pb**	**14 16 05.8**	**-0.4**
DIM	**Dimitrovgrad**	**0.96**	**276**	Pg	**Pg**	**14 16 12.4**	**-0.4**
ALN	**Alexandroupoli**	**1.20**	**209**	PN	**Pn**	**14 16 17.4**	**0.0**
ALN				SN	**Sn**	**14 16 34.4**	**+0.5**
MAR4	**Marsite Statio**	**1.22**	**162**	PN	**Pn**	**14 16 17.9**	**+0.1**
RDO	**Rodhopi**	**1.25**	**230**	PN	**Pn**	**14 16 18.3**	**+0.2**
MAR3	**Marsite Statio**	**1.26**	**163**	PN	**Pn**	**14 16 18.5**	**+0.2**
ERIK	**Erikli-Kesan**	**1.30**	**190**	PN	**Pg**	**14 16 19.1**	**-0.2**
ENEZ	**Enez**	**1.31**	**202**	PN	**Pg**	**14 16 19.3**	**-0.2**
PRD	**Provadia**	**1.32**	**19**	P	**Pg**	**14 16 19.8**	**+0.1**
CTKS	**Kestanelik-??a**	**1.46**	**119**	PN	**Pb**	**14 16 21.3**	**-0.4**
SZH	**Strazhica**	**1.47**	**334**	P	**Pb**	**14 16 21.9**	**0.0**

*AEIC **16** 14:16:33±1.5, 56.65N±0.04×158.73W±0.07, h5km±4km, ML3.6, mb4.3/8(NEIC), ML3.9/18(NEIC), Error ellipse: s-maj=6.6km s-min=4.4km az=128.0*
*NEIC **16** 14:16:33.2±1.1, 56.75N±0.04×158.72W±0.09, h11km±2km, Error ellipse: s-maj=7.7km s-min=4.6km az=124.0*
*IDC **16** 14:16:38.3±3.4, 57.03N×158.74W, h47km±33km, mb3.6/8, mb1 3.9/12, mb1mx3.5/64, mbtmp3.8/12, ML3.5/3, MS3.0/5, Ms1 3.0/5, ms1mx2.6/51, Error ellipse: s-maj=40.8km s-min=16.9km az=8.0*
ISC 16 14:16:33.6±1.5, 56.74N±0.06×158.76W±0.04, h14km±10km, n118, σ0.93/118, mb4.0/12, MS3.0/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNHG	**Veniaminof 1**	**0.56**	**204**		**Pg**	**14 16 44.8**	**+0.2**
VNHG					**Sg**	**14 16 51.9**	**-0.2**
VNFG	**Fog Glacier, M**	**0.63**	**224**		**Pb**	**14 16 46.6**	**+0.2**
VNFG					**Sg**	**14 16 54.9**	**+0.6**
VNFG	**Fog Glacier, M**	**0.63**	**224**	P		14 16 46.6	
	baz=51						
VNFG				S		14 16 54.9	
	baz=51						
VNSG	**Veniaminof 6**	**0.64**	**197**		**Pg**	**14 16 45.6**	**-0.5**
VNSG					**Sg**	**14 16 54.4**	**-0.1**
SDPT	**Sand Point**	**1.69**	**215**		**Pn**	**14 17 02.6**	**0.0**
SDPT					**Sn**	**14 17 24.7**	**+0.6**
SDPT	**Sand Point**	**1.69**	**215**	IAML		14 17 30.1	
	comp=E,2μm,0.5s						
SDPT				IAML		14 17 38.5	
	comp=N,2μm,0.7s						
SDPT	**Sand Point**	**1.69**	**215**	P		14 17 02.6	
	baz=36						
SDPT				S		14 17 24.7	
	baz=36						
CHIR	**Chirikof Islan**	**1.98**	**116**		**Pn**	**14 17 06.6**	**0.0**
CHIR					**Sb**	**14 17 33.2**	**-0.6**
CHIR	**Chirikof Islan**	**1.98**	**116**	IAML		14 17 40.4	
	comp=N,858nm,0.9s						
CHIR				IAML		14 17 41.6	
	comp=E,998nm,0.9s						
CHIR	**Chirikof Islan**	**1.98**	**116**	P		14 17 06.6	
	baz=297						
CHIR				S		14 17 33.2	
	baz=297						
HAG	**Hague Volcano**	**2.27**	**232**		**Pn**	**14 17 11.3**	**+0.7**
SII	**Sitkinak Islan**	**2.53**	**92**		**Pn**	**14 17 13.9**	**-0.4**
SII					**Sb**	**14 17 48.0**	**-1.8**
SII	**Sitkinak Islan**	**2.53**	**92**	IAML		14 18 01.7	
	comp=N,990nm,0.6s						
SII	**Sitkinak Islan**	**2.53**	**92**	P		14 17 13.9	
	baz=274						
SII				S		14 17 48.0	
	baz=274						
DT1	**Dutton Round H**	**2.57**	**232**		**Pn**	**14 17 15.5**	**+0.8**
OHAK	**Old Harbor**	**3.04**	**78**		**Pn**	**14 17 20.6**	**-0.5**
OHAK	**Old Harbor**	**3.04**	**78**	IAML		14 18 11.4	
	comp=N,238nm,0.9s						
OHAK				IAML		14 18 20.8	
	comp=E,166nm,1.4s						
OHAK	**Old Harbor**	**3.04**	**78**	P		14 17 20.6	
	baz=261						
FALS	**False Pass**	**3.23**	**236**		**Pn**	**14 17 23.2**	**-0.6**
FALS	**False Pass**	**3.23**	**236**	P		14 17 24.4	
	baz=54						
KDAK	**Kodiak Island**	**3.52**	**70**	P	**Pn**	**14 17 27.4**	**-0.3**
	comp=E,7.2nm,0.3s,baz=260,slow=7.1,SNR=200						
KDAK				S	**Sn**	**14 18 11.0**	**+2.0**
	comp=E,0.9nm,0.3s,baz=311,slow=18,SNR=1.9						
KDAK				LR	LR	14 19 06.4	
	comp=E,153nm,18.7s,baz=248,slow=43						
WESE	**West Dahl East**	**4.01**	**238**		**Pn**	**14 17 35.8**	**+1.3**
SVW2	**Sparrevohn**	**4.67**	**19**		**Pn**	**14 17 42.9**	**-0.8**
SVW2				IAML		14 19 07.0	
	comp=N,172nm,0.8s						
HOM	**Homer**	**4.77**	**49**	Pn	**Pn**	**14 17 44.6**	**-0.4**
CNPM	**China Poot**	**4.87**	**52**	Pn	**Pn**	**14 17 46.7**	**+0.3**
RSO	**Redoubt South**	**4.88**	**38**		**Pn**	**14 17 46.6**	**0.0**
BRLK	**Bradley Lake**	**5.15**	**51**	Pn	**Pn**	**14 17 50.2**	**+0.1**
BRLK				IAML		14 19 27.8	
	comp=N,33nm,0.2s						
BRLK				IAML		14 20 17.3	
	comp=E,58nm,0.0s						
SPU	**Mount Spurr**	**5.65**	**35**		**Pn**	**14 17 57.7**	**+0.7**
SEW	**Seward**	**5.94**	**52**	Pn	**Pn**	**14 18 01.4**	**+0.4**
O22K	**Cooper Landing**	**6.03**	**48**		**Pn**	**14 18 03.7**	**+1.4**
SUA	**Susitna One**	**6.28**	**38**		**Pn**	**14 18 05.3**	**-0.6**
SPIA	**Saint Paul Isl**	**6.30**	**279**	Pn	**Pn**	**14 18 05.6**	**-0.3**
TTA	**Tatalina**	**6.37**	**11**	Pn	**Pn**	**14 18 06.2**	**-0.7**
RC01	**Rabbit Creek A**	**6.39**	**43**	Pn	**Pn**	**14 18 07.4**	**+0.2**
SKT	**Skwentna**	**6.42**	**32**	Pn	**Pn**	**14 18 05.9**	**-1.8**
PWL	**Port Wells**	**6.81**	**48**	Pn	**Pn**	**14 18 12.0**	**-1.0**
NIKH	**Nikolski High**	**6.94**	**241**	Pn	**Pn**	**14 18 13.0**	**-1.7**
PMR	**Palmer**	**6.94**	**41**		**Pn**	**14 18 13.6**	**-1.1**
PPLA	**Purkeypile**	**7.01**	**25**		**Pn**	**14 18 15.5**	**-0.3**
KNK	**Knik Glacier**	**7.08**	**44**		**Pn**	**14 18 15.9**	**-0.7**
MID	**Middleton Isla**	**7.12**	**63**	Pn	**Pn**	**14 18 17.0**	**-0.1**
CUT	**Chuilitna**	**7.13**	**34**		**Pn**	**14 18 17.0**	**-0.3**
GLI	**Glacier Island**	**7.34**	**51**	Pn	**Pn**	**14 18 19.9**	**-0.3**
SML	**Sawmill**	**7.37**	**42**	Pn	**Pn**	**14 18 20.2**	**-0.4**
HIN	**Hinchinbrook I**	**7.38**	**55**	Pn	**Pn**	**14 18 20.4**	**-0.5**
FID	**Port Fidalgo**	**7.55**	**53**		**Pn**	**14 18 21.7**	**-1.3**
SCM	**Sheep Creek Mo**	**7.76**	**44**		**Pn**	**14 18 25.4**	**-0.7**
EYAK	**Cordova Ski Ar**	**7.79**	**55**	Pn	**Pn**	**14 18 25.9**	**-0.3**
KTH	**Kantishna Hill**	**7.87**	**26**	Pn	**Pn**	**14 18 26.9**	**-0.7**
TRF	**Thorofare Moun**	**7.95**	**29**		**Pn**	**14 18 29.3**	**+0.6**
KLU	**Klutina**	**8.14**	**49**		**Pn**	**14 18 30.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**8.32**	**24**	Pn	**Pn**	**14 18 32.6**	**-1.1**
M24K	**Tolsona, Glenn**	**8.37**	**45**		**Pn**	**14 18 34.5**	**+0.2**
HMT	**Hamilton**	**8.40**	**59**	Pn	**Pn**	**14 18 34.1**	**-0.6**
BMRM	**Bremner River**	**8.47**	**54**		**Pn**	**14 18 35.5**	**-0.2**
ANM	**Nome**	**8.49**	**340**	Pn	**Pn**	**14 18 35.8**	**-0.2**
MCK	**McKinley**	**8.54**	**31**		**Pn**	**14 18 38.4**	**+1.7**
SUCK	**Suckling Hills**	**8.54**	**61**	Pn	**Pn**	**14 18 36.7**	**0.0**
BWN	**Browne**	**8.75**	**28**	Pn	**Pn**	**14 18 40.5**	**+1.0**
N25K	**Chitina, Valde**	**8.75**	**50**		**Pn**	**14 18 38.9**	**-0.7**
GLB	**Gilahina Butte**	**9.02**	**52**	Pn	**Pn**	**14 18 42.5**	**-0.7**
CRQM	**Cirque**	**9.06**	**57**	Pn	**Pn**	**14 18 43.4**	**-0.5**
VRDI	**Verde Repeater**	**9.09**	**54**	Pn	**Pn**	**14 18 43.5**	**-0.9**
PAX	**Paxson**	**9.14**	**41**		**Pn**	**14 18 45.0**	**0.0**
MLY	**Manley**	**9.19**	**22**		**Pn**	**14 18 45.0**	**-0.5**
WRH	**Wood River Hil**	**9.35**	**30**		**Pn**	**14 18 47.1**	**-0.6**
CCB	**Clear Creek Bu**	**9.57**	**29**		**Pn**	**14 18 50.5**	**-0.1**
IMAR	**Indian Mountai**	**9.58**	**12**	Pn	**Pn**	**14 18 50.1**	**-0.8**
YAH	**Yahtse**	**9.60**	**61**		**Pn**	**14 18 50.7**	**-0.7**
HDA	**Harding Lake**	**9.63**	**32**		**Pn**	**14 18 50.6**	**-1.0**
GRNC	**Granite Creek**	**9.70**	**59**		**Pn**	**14 18 51.4**	**-1.3**
MDM	**Murphy Dome**	**9.70**	**27**		**Pn**	**14 18 51.8**	**-0.8**
TCOL	**CIGO, UAF Yank**	**9.73**	**29**		**Pn**	**14 18 53.1**	**+0.2**
COLA	**College**	**9.73**	**29**		**Pn**	**14 18 53.1**	**+0.2**
MENT	**Mentasta**	**9.78**	**44**		**Pn**	**14 18 53.8**	**+0.1**
BARN	**Barnard Glacie**	**9.84**	**57**	Pn	**Pn**	**14 18 54.4**	**-0.3**
TNA	**Tin City**	**9.89**	**337**	Pn	**Pn**	**14 18 55.5**	**+0.5**
TABL	**Table Mountain**	**9.91**	**61**		**Pn**	**14 18 54.7**	**-0.9**
IL31		**9.92**	**31**		**Pn**	**14 18 55.2**	**-0.2**
ILAR	**Eielson Array**	**9.92**	**31**	P	**Pn**	**14 18 55.2**	**-0.2**
	comp=E,0.3nm,0.3s,baz=220,slow=13,SNR=37						
ILAR				Lg	Lg	14 21 46.8	
	comp=E,0.1nm,0.3s,baz=243,slow=27,SNR=5.9						
ILAR	**Eielson Array**	**9.92**	**31**		**Pn**	**14 18 54.9**	**-0.5**
CTGM	**Chitina Glacie**	**9.96**	**58**		**Pn**	**14 18 56.4**	**+0.1**
SCRK	**Sand Creek**	**10.29**	**39**	Pn	**Pn**	**14 18 59.5**	**-1.2**
L27K	**Beaver Creek,**	**10.58**	**46**		**Pn**	**14 19 04.1**	**-0.5**
BCAR	**Beaver Creek A**	**10.60**	**46**	Pn	**Pn**	**14 19 04.6**	**-0.4**
K27K	**Chicken**	**11.00**	**42**	Pn	**Pn**	**14 19 08.8**	**-1.5**
GSTR	**Great Sitkin T**	**11.09**	**253**	Pn	**Pn**	**14 19 13.5**	**+1.9**
COLD	**Coldfoot**	**11.26**	**17**	Pn	**Pn**	**14 19 17.5**	**+3.7**
ADK	**Adak**	**11.53**	**253**	Pn	**Pn**	**14 19 19.7**	**+2.2**
HYT	**Haines Junctio**	**11.71**	**61**		**Pn**	**14 19 20.2**	**-0.4**
EGAK	**Eagle**	**11.75**	**40**		**Pn**	**14 19 20.1**	**-0.5**
DAWY	**Dawson**	**12.03**	**44**	Pn	**Pn**	**14 19 23.9**	**-0.5**
BMAR	**Burnt Mountain**	**12.57**	**26**	Pn	**Pn**	**14 19 31.4**	**-0.4**
TOLK	**Toolik Lake Re**	**12.65**	**15**		**Pn**	**14 19 34.6**	**+1.7**
WHY	**Whitehorse**	**12.99**	**62**	Pn	**Pn**	**14 19 35.9**	**-1.7**
A21K	**Barrow**	**14.67**	**3**	P	**P**	**14 20 07.6**	**+1.0**
DLBC	**Dease Lake**	**15.45**	**72**	P	**Pn**	**14 20 10.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=315,slow=8.1,SNR=3.9						
INK	**Inuvik**	**16.27**	**34**	P	**Pn**	**14 20 20.4**	**-0.8**
	baz=154,slow=1.2,SNR=2.4						
INK	**Inuvik**	**16.27**	**34**	P	**P**	**14 20 24.6**	**+0.3**
BBB	**Bella Bella**	**18.30**	**91**	LR	LR	14 27 08.0	
	comp=E,30nm,18.2s,baz=256,slow=34						
YKA	**Yellowknife Ar**	**22.69**	**57**	P	**P**	**14 21 33.5**	**-0.7**
	comp=E,2.5nm,0.8s,baz=280,slow=11,SNR=7.4						
SEY	**Seymchan**	**24.79**	**305**	P	**P**	**14 21 54.2**	**-0.3**
	comp=E,2.0nm,0.7s,baz=55,slow=13,SNR=2.5						
PEA0B	**Petropavlovsk-**	**24.96**	**280**	P	**P**	**14 21 55.5**	**-0.8**
PEA0B				IAmb	IAmb	14 22 02.9	
	comp=Z,13nm,1.3s						
PETK	**Petropavlovsk-**	**24.96**	**280**	P	**P**	**14 21 57.6**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=72,slow=13,SNR=8.7						
PETK				LR	LR	14 33 06.8	
	comp=Z,20nm,18.3s,baz=141,slow=40						
PETK	**Petropavlovsk-**	**24.96**	**280**	P	**P**	**14 21 56.2**	**0.0**
YBH	**Yreka Blue Hor**	**27.52**	**108**	LR	LR	14 31 08.0	
	comp=Z,46nm,18.2s,baz=255,slow=32						
KCPM	**Cahto Peak**	**28.56**	**112**	P	**P**	**14 22 29.1**	**+0.3**
HRY	**Holter Researc**	**30.18**	**89**	P	**P**	**14 22 43.6**	**+0.4**
NVAR	**Mina Array Bea**	**32.24**	**107**	P	**P**	**14 23 03.8**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=310,slow=10.0,SNR=6.8						
NVAR				LR	LR	14 33 20.1	
	comp=Z,30nm,19.4s,baz=328,slow=31						
TIXI	**Tiksi**	**32.40**	**326**	P	**P**	**14 23 02.3**	**0.0**
TIXI				IAmb	IAmb	14 23 03.3	
	comp=Z,3.6nm,0.8s						
EYMN	**Ely**	**40.46**	**73**	P	**P**	**14 24 11.6**	**+0.3**
EYMN				IAmb	IAmb	14 24 14.4	
	comp=Z,5.3nm,1.1s						
USA0B	**Ussuriysk Arra**	**43.93**	**284**	P	**P**	**14 24 38.1**	**-1.5**
USA0B				IAmb	IAmb	14 24 38.9	
	comp=Z,4.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.93**	**284**	P	**P**	**14 24 37.8**	**-1.8**
TXAR	**Lajitas Array**	**46.99**	**102**	P	**P**	**14 24 05.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=295,slow=5.5,SNR=4.5						
TXAR	**Lajitas Array**	**46.99**	**102**	P	**P**	**14 25 04.5**	**+0.3**
SCHQ	**Schefferville**	**47.94**	**51**	P	**P**	**14 25 10.5**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=328,slow=5.2,SNR=4.2						
KSRS	**Korea Array**	**50.86**	**281**	P	**P**	**14 25 33.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=58,slow=7.5,SNR=2.6						
NC303	**NORSAR Array S**	**62.12**	**5**	P	**P**	**14 26 53.9**	**+0.5**
NC405	**NORSAR Array S**	**62.25**	**5**	P	**P**	**14 26 54.4**	**0.0**
KURBB	**Kurchatov Arra**	**63.02**	**323**	PcP	**PcP**	**14 27 36.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=33,slow=5.2,SNR=5.1						
ABKAR	**Akbulak array**	**69.60**	**334**	P	**P**	**14 27 42.2**	**+0.4**
RAR	**Rarotonga**	**77.65**	**181**	LR	LR	15 00 03.2	
	comp=Z,232nm,18.4s,baz=106,slow=33						
CMAR	**Chiang Mai Arr**	**81.30**	**290**	P	**P**	**14 28 48.5**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=12,slow=5.8,SNR=5.9						
BOSA	**Boshof**	**151.75**	**353**	PKPbc	**PKPbc**	**14 36 25.8**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=19,slow=2.5,SNR=4.5						

*IDC **16** 14:29:50.9±2.6, 3.33N×92.91E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/70, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=100.5km s-min=27.0km az=56.0*
*NEIC **16** 14:29:56.4±1.4, 3.5N±0.1×93.01E±0.07, h30km±5km, mb4.5/15, Error ellipse: s-maj=20.0km s-min=5.9km az=155.0*
ISC 16 14:29:56.1±0.9, 3.5N±0.1×93.0E±0.1, h35km, n26, σ0.71/22, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.98**	**21**	Pn	**Pn**	**14 33 38.6**	**+0.2**
	0.2nm,0.3s,baz=212,slow=12,SNR=6.6						
CHTO	**Chiang Mai**	**16.31**	**20**	Pn	**Pn**	**14 33 41.2**	**-1.4**
H08S2	**Diego Garcia H**	**23.27**	**242**	T	T	15 00 04.3	
	baz=64,slow=75,SNR=5.8						
H08S3	**Diego Garcia H**	**23.27**	**242**	T	T	15 00 02.5	
	baz=64,slow=75,SNR=6.1						
H08S1	**Diego Carcia H**	**23.29**	**242**	T	T	15 00 13.8	
	baz=64,slow=75,SNR=4.7						
TPUB	**Ta-pu**	**33.19**	**51**	P	**P**	**14 36 30.1**	**+0.4**
TPUB				IAmb	IAmb	14 36 59.3	
	comp=Z,17nm,1.2s						
YOJ	**Yonaguni jima**	**35.65**	**51**	P	**P**	**14 36 51.1**	**+0.2**
MSEY	**Mahe Island**	**38.37**	**258**	P	**P**	**14 37 14.2**	**-0.1**
FAKI	**Fak Fak**	**39.72**	**99**	P	**P**	**14 37 26.1**	**+0.5**
FAKI				IAmb	IAmb	14 37 39.2	
	comp=Z,61nm,1.5s						
MK31	**Makanchi Array**	**44.15**	**349**	P	**P**	**14 38 02.6**	**+1.3**
MKAR	**Makanchi Array**	**44.15**	**349**	P	**P**	**14 38 02.4**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=171,slow=8.6,SNR=4.3						
WB0	**Warramunga Arr**	**46.75**	**121**	P	**P**	**14 38 22.9**	**+0.5**
WB0				IAmb	IAmb	14 38 29.1	
	comp=Z,4.0nm,1.2s						
WRA	**Warramunga Arr**	**46.77**	**122**	P	**P**	**14 38 22.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=289,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	**46.77**	**122**	IAmb	IAmb	14 38 28.8	
	comp=Z,0.3nm,1.4s						
WB2	**Warramunga Arr**	**46.79**	**122**	P	**P**	**14 38 22.2**	**-0.4**
WB2				IAmb	IAmb	14 38 23.9	
	comp=Z,2.5nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**46.83**	**322**	P	**P**	**14 38 22.5**	**-0.3**
GYA0B				IAmb	IAmb	14 38 29.2	
	comp=Z,4.1nm,0.6s						
WR0	**Warramunga Arr**	**46.95**	**121**	P	**P**	**14 38 22.9**	**-1.1**
WR0				IAmb	IAmb	14 38 39.3	
	comp=Z,5.8nm,1.3s						
KURBB	**Kurchatov Arra**	**48.55**	**348**	P	**P**	**14 38 36.5**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=170,slow=6.8,SNR=5.4						
KURK	**Kurchatov**	**48.62**	**348**	P	**P**	**14 38 36.5**	**+0.2**
ZAA0	**Zalesovo Array**	**50.76**	**354**	P	**P**	**14 38 53.0**	**+0.5**
ZAA0				IAmb	IAmb	14 38 53.7	
	comp=Z,2.2nm,1.1s						
ZALV	**Zalesovo Beam**	**50.76**	**354**	P	**P**	**14 38 53.2**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=188,slow=5.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**50.76**	**354**	P	**P**	**14 38 52.8**	**+0.2**
BVAR	**Borovoye Array**	**52.81**	**343**	P	**P**	**14 39 08.8**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=149,slow=3.4,SNR=2.2						
MJB9	**Matsu-Tunnel**	**52.97**	**46**	P	**P**	**14 39 09.4**	**0.0**
PEA0B	**Petropavlovsk-**	**72.22**	**35**	P	**P**	**14 41 16.9**	**-0.6**
PEA0B				IAmb	IAmb	14 41 18.9	
	comp=Z,15nm,1.2s						
PETK	**Petropavlovsk-**	**72.22**	**35**	P	**P**	**14 41 17.0**	**-0.5**

*DJA **16** 14:32:40.7±0.4, 9°S±5°×107°E±°, h10km, M3.8/9, mb3.9/1, MLv3.7/9*
ISC 16 14:32:42.0±2.9, 9.0S±0.2×108.5E±0.1, h31km, n11, σ0.86/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.58**	**334**	P	**Pn**	**14 33 07.8**	**-0.1**
CISI				S	**Sn**	**14 33 26.1**	**-1.2**
KPJI	**Karang Pucung**	**1.70**	**14**	P	**Pn**	**14 33 09.7**	**+0.2**
CNJI	**Cibinong**	**2.15**	**321**	P	**Pn**	**14 33 16.1**	**+0.3**

THL					AML	AML	14 36 08.0			
	comp=E,2034μm,0.7s									
THL					AML	AML	14 36 08.3			
	comp=N,1412μm,0.7s									
THE	**Thessaloniki**	**0.72**	**41**		P	**Pg**	**14 35 57.2**	**-0.1**		
THE					S	**Sg**	**14 36 07.4**	**+0.7**		
THE					AML	AML	14 36 12.6			
	comp=E,1763μm,0.5s									
THE					AML	AML	14 36 13.2			
	comp=N,910μm,0.6s									
THE	**Thessaloniki**	**0.72**	**41**	*i*	Pg	**Pg**	**14 35 57.5**	**+0.2**		
THE				*i*	Sg	**Sb**	**14 36 09.0**	**+0.1**		
KPRO	**Kipourio**	**0.76**	**260**		P	**Pg**	**14 35 56.9**	**-1.2**		
KPRO					S	**Sg**	**14 36 08.0**	**+0.1**		
	comp=N,2μm,0.5s									
KPRO	**Kipourio**	**0.76**	**260**		P	**Pg**	**14 35 57.0**	**-1.1**		
KPRO					AML	AML	14 36 13.6			
	comp=N,3888μm,0.5s									
KPRO					AML	AML	14 36 16.0			
	comp=E,3672μm,0.5s									
HORT	**Hortiatis**	**0.77**	**49**		P	**Pg**	**14 35 58.2**	**-0.1**		
HORT					S	**Sb**	**14 36 09.6**	**-0.8**		
	comp=E,472nm,0.7s									
HORT	**Hortiatis**	**0.77**	**49**		P	**Pg**	**14 35 58.4**	**+0.1**		
HORT					AML	AML	14 36 15.4			
	comp=N,928μm,0.6s									
HORT					AML	AML	14 36 15.9			
	comp=E,900μm,0.7s									
HORT	**Hortiatis**	**0.77**	**49**		PG	**Pg**	**14 35 58.4**	**+0.1**		
GRG	**Griva**	**0.86**	**3**		P	**Pg**	**14 35 59.0**	**-1.1**		
GRG					S	**Sg**	**14 36 12.0**	**+0.7**		
	comp=E,750nm,0.6s									
GRG	**Griva**	**0.86**	**3**		PG	**Pg**	**14 35 59.6**	**-0.5**		
GRG					SG	**Sb**	**14 36 12.5**	**-0.6**		
GRG	**Griva**	**0.86**	**3**	*i*	Pg	**Pg**	**14 35 59.3**	**-0.7**		
GRG				*i*	Sg	**Sn**	**14 36 14.5**	**-1.2**		
PLG	**Polygyros**	**0.89**	**71**		P	**Pg**	**14 36 00.2**	**-0.4**		
PLG					S	**Sg**	**14 36 12.8**	**+0.6**		
	comp=E,1μm,0.6s									
PLG	**Polygyros**	**0.89**	**71**		P	**Pg**	**14 36 00.4**	**-0.2**		
PLG					AML	AML	14 36 14.9			
	comp=N,1623μm,0.7s									
PLG					AML	AML	14 36 16.2			
	comp=E,2492μm,0.5s									
PENT	**Pentalofos**	**0.93**	**277**		P	**Pg**	**14 35 59.6**	**-1.6**		
PENT	**Pentalofos**	**0.93**	**277**		P	**Pg**	**14 36 00.3**	**-0.9**		
PENT					AML	AML	14 36 17.8			
	comp=E,2925μm,0.5s									
PENT					AML	AML	14 36 20.1			
	comp=N,3136μm,0.6s									
XOR	**Xorichti**	**0.98**	**137**		P	**Pg**	**14 36 01.2**	**-1.0**		
XOR					S	**Sb**	**14 36 16.0**	**-0.3**		
	comp=N,1μm,0.9s									
XOR	**Xorichti**	**0.98**	**137**		P	**Pg**	**14 36 01.3**	**-0.9**		
XOR					AML	AML	14 36 23.0			
	comp=N,4067μm,0.9s									
XOR					AML	AML	14 36 23.3			
	comp=E,1871μm,0.8s									
FNA	**Florina**	**1.01**	**314**		P	**Pg**	**14 36 01.2**	**-1.6**		
FNA					S	**Sg**	**14 36 16.1**	**+0.2**		
	comp=E,1μm,0.7s									
FNA	**Florina**	**1.01**	**314**		P	**Pg**	**14 36 01.6**	**-1.2**		
FNA					AML	AML	14 36 24.4			
	comp=N,2300μm,0.6s									
FNA					AML	AML	14 36 25.9			
	comp=E,3375μm,0.6s									
FNA	**Florina**	**1.01**	**314**		PG	**Pg**	**14 36 01.4**	**-1.4**		
FNA	**Florina**	**1.01**	**314**		P	**Pg**	**14 36 01.9**	**-0.9**		
	baz=312									
FNA					S	**Sn**	**14 36 18.4**	**-0.8**		
	baz=312									
FNA	**Florina**	**1.01**	**314**	*i*	Pg	**Pg**	**14 36 01.4**	**-1.4**		
NEST	**Nestorio**	**1.04**	**289**		P	**Pg**	**14 36 02.0**	**-1.3**		
NEST	**Nestorio**	**1.04**	**289**		P	**Pg**	**14 36 02.1**	**-1.3**		
NEST					AML	AML	14 36 24.2			
	comp=N,2460μm,0.6s									
NEST					AML	AML	14 36 26.8			
	comp=E,4530μm,0.6s									
NEO	**Neokhori**	**1.04**	**139**		P	**Pg**	**14 36 02.2**	**-1.2**		
NEO	**Neokhori**	**1.04**	**139**		P	**Pg**	**14 36 02.8**	**-0.6**		
NEO					AML	AML	14 36 24.4			
	comp=E,3154μm,0.6s									
NEO					AML	AML	14 36 25.6			
	comp=N,2834μm,0.6s									
PAIG	**Paliouri**	**1.04**	**99**		P	**Pg**	**14 36 02.9**	**-0.6**		
PAIG	**Paliouri**	**1.04**	**99**		P	**Pg**	**14 36 03.3**	**-0.2**		
PAIG					AML	AML	14 36 19.8			
	comp=N,1322μm,0.5s									
PAIG					AML	AML	14 36 20.4			
	comp=E,697μm,0.4s									
SOH	**Sokhos**	**1.06**	**46**		P	**Pg**	**14 36 02.9**	**-1.0**		
SOH	**Sokhos**	**1.06**	**46**		P	**Pg**	**14 36 03.2**	**-0.7**		
SOH					AML	AML	14 36 23.9			
	comp=E,3740μm,0.6s									
SOH					AML	AML	14 36 25.2			
	comp=N,3860μm,0.5s									
SOH	**Sokhos**	**1.06**	**46**	*i*	Pg	**Pg**	**14 36 03.1**	**-0.7**		
AGG	**Agios Georgios**	**1.07**	**180**		P	**Pg**	**14 36 03.4**	**-0.5**		
AGG	**Agios Georgios**	**1.07**	**180**		P	**Pg**	**14 36 03.5**	**-0.4**		
AGG					AML	AML	14 36 25.1			
	comp=E,2607μm,0.6s									
AGG					AML	AML	14 36 27.0			
	comp=N,1528μm,0.4s									
AGG	**Agios Georgios**	**1.07**	**180**		PG	**Pg**	**14 36 03.4**	**-0.5**		
MAKR	**Makrakomi, Fth**	**1.09**	**188**		P	**Pg**	**14 36 03.6**	**-0.7**		
MAKR	**Makrakomi, Fth**	**1.09**	**188**		P	**Pg**	**14 36 03.8**	**-0.5**		
MAKR					AML	AML	14 36 23.3			
	comp=E,3009μm,0.7s									
MAKR					AML	AML	14 36 26.4			
	comp=N,2218μm,0.9s									
KNT	**Kendrikon**	**1.15**	**22**		P	**Pg**	**14 36 05.1**	**-0.5**		
KNT					AML	AML	14 36 24.6			
	comp=E,1220μm,0.7s									
KNT					AML	AML	14 36 25.0			
	comp=N,1082μm,0.6s									
KNT	**Kendrikon**	**1.15**	**22**		PN	**Pg**	**14 36 04.9**	**-0.6**		
KNT	**Kendrikon**	**1.15**	**22**	*i*	Pg	**Pg**	**14 36 04.9**	**-0.6**		
JAN	**Janina**	**1.22**	**250**		P	**Pn**	**14 36 07.2**	**-0.2**		
VAY	**Valandovo**	**1.24**	**8**	*i*	Pg	**Pb**	**14 36 07.2**	**-0.3**		
VAY				*i*	Sg	**Sn**	**14 36 25.7**	**+0.8**		
VAY				*e*	Lg	Lg	14 36 25.8			
	comp=N,412nm,0.9s									
VAY				*e*	Lg	Lg	14 36 26.5			
	comp=E,530nm,0.7s									
EVR	**Evrytania**	**1.24**	**199**		P	**Pg**	**14 36 06.5**	**-0.8**		
EVR					S	**Sb**	**14 36 23.7**	**-0.3**		
EVR					AML	AML	14 36 35.1			
	comp=E,1884μm,1.0s									
EVR					AML	AML	14 36 36.4			
	comp=N,1379μm,1.0s									
OUR	**Ouranopolis**	**1.28**	**79**		P	**Pg**	**14 36 07.1**	**-1.0**		
OUR					AML	AML	14 36 27.9			
	comp=N,1530μm,1.3s									
OUR					AML	AML	14 36 30.1			
	comp=E,1814μm,0.6s									
OUR	**Ouranopolis**	**1.28**	**79**		PN	**Pg**	**14 36 06.9**	**-1.1**		
KBN	**Korca**	**1.30**	**295**		P	**Pg**	**14 36 07.5**	**-0.9**		
	baz=294									
KBN					S	**Sn**	**14 36 28.3**	**+1.9**		
	baz=294									
KBN					AMP					
	comp=N,8.2nm,0.5s,baz=294									
LSK	**Leskovik**	**1.33**	**273**		P	**Pg**	**14 36 08.4**	**-0.6**		
	baz=274									
LSK					S	**Sn**	**14 36 29.8**	**+2.6**		
	baz=274									
LSK					AMP					
	comp=E,4.7nm,0.6s,baz=274									
SMIA	**Simia**	**1.39**	**151**		P	**Pn**	**14 36 09.0**	**-0.7**		
SMIA					AML	AML	14 36 40.1			
	comp=N,2365μm,0.9s									
SMIA					AML	AML	14 36 44.4			
	comp=E,2616μm,1.0s									
ATAL	**Atalanti**	**1.49**	**159**		P	**Pn**	**14 36 10.8**	**-0.3**		
ATAL					AML	AML	14 36 40.8			
	comp=E,323μm,0.7s									
ATAL					AML	AML	14 36 47.4			
	comp=N,422μm,0.9s									
ANX	**Ano Chora**	**1.53**	**192**		P	**Pn**	**14 36 11.4**	**-0.3**		
ANX					AML	AML	14 36 39.5			
	comp=E,1850μm,0.6s									
ANX					AML	AML	14 36 41.2			
	comp=N,1411μm,0.6s									
OHR	**Ohrid**	**1.55**	**311**	*i*	Pn	**Pb**	**14 36 12.7**	**-0.2**		
PVO	**Paravola**	**1.60**	**203**		P	**Pb**	**14 36 13.1**	**-0.6**		
PVO					AML	AML	14 36 48.1			
	comp=N,791μm,1.0s									
PVO					AML	AML	14 36 50.0			
	comp=E,609μm,0.7s									
STIP	**Stip**	**1.60**	**356**	*i*	Pn	**Pb**	**14 36 13.2**	**-0.5**		
IGT	**Igoumenitsa**	**1.64**	**251**		P	**Pb**	**14 36 13.9**	**-0.4**		
IGT					AML	AML	14 36 41.4			
	comp=N,932μm,0.7s									
IGT					AML	AML	14 36 51.6			
	comp=E,721μm,0.7s									
IGT	**Igoumenitsa**	**1.64**	**251**		P	**Pb**	**14 36 14.1**	**-0.2**		
	baz=252									
IGT					S	**Sg**	**14 36 39.5**	**+3.3**		
	baz=252									
SERG	**Sergoula**	**1.69**	**188**		P	**Pn**	**14 36 13.1**	**-0.7**		
SERG					AML	AML	14 36 43.2			
	comp=N,691μm,0.5s									
SERG					AML	AML	14 36 45.8			
	comp=E,924μm,0.5s									
EFP	**Efpalio**	**1.70**	**192**		P	**Pn**	**14 36 13.6**	**-0.3**		
EFP					AML	AML	14 36 43.1			
	comp=N,1165μm,0.6s									
EFP					AML	AML	14 36 48.4			
	comp=E,1565μm,0.8s									
NVR	**Nevrokopi**	**1.71**	**42**		P	**Pn**	**14 36 13.5**	**-0.6**		
NVR					AML	AML	14 36 41.4			
	comp=N,308μm,0.5s									
NVR					AML	AML	14 36 43.4			
	comp=E,402μm,0.7s									
TRIZ	**Trizonia**	**1.74**	**187**		P	**Pn**	**14 36 14.1**	**-0.4**		
PDO	**Prodromos**	**1.74**	**211**		P	**Pb**	**14 36 16.0**	**0.0**		
PDO					AML	AML	14 36 46.3			
	comp=E,995μm,1.0s									
PDO					AML	AML	14 36 48.0			
	comp=N,1042μm,0.6s									
SRN	**Sarande**	**1.81**	**264**		P	**Pb**	**14 36 17.0**	**-0.2**		
	baz=265									
SRN					S	**Sg**	**14 36 44.4**	**+2.8**		
	baz=265									
TSLK	**Tsoukalades, L**	**1.82**	**226**		P	**Pb**	**14 36 16.9**	**-0.4**		
TSLK					AML	AML	14 36 48.4			
	comp=N,602μm,0.8s									
TSLK					AML	AML	14 36 49.7			
	comp=E,616μm,0.9s									
MMB	**Musomiste**	**1.83**	**35**		P	**Pn**	**14 36 15.1**	**-0.7**		
LKD2	**Lefkada island**	**1.84**	**226**		P	**Pb**	**14 36 17.3**	**-0.4**		
LKD2					AML	AML	14 36 51.1			
	comp=E,790μm,0.7s									
LKD2					AML	AML	14 36 53.8			
	comp=N,990μm,0.8s									
KKB	**Krupnik**	**1.86**	**17**		P	**Pn**	**14 36 15.8**	**-0.4**		
LAKA	**Lakka**	**1.87**	**189**		P	**Pn**	**14 36 16.6**	**+0.3**		
NYDR	**Nydri-Lefkada**	**1.87**	**223**		P	**Pb**	**14 36 18.0**	**-0.2**		
KAVA	**Kavala**	**1.89**	**61**		P	**Pn**	**14 36 15.9**	**-0.6**		
KAVA					AML	AML	14 36 47.3			
	comp=N,593μm,0.6s									
KAVA					AML	AML	14 36 49.8			
	comp=E,510μm,0.5s									
THAS	**Thassos island**	**1.89**	**73**		P	**Pn**	**14 36 15.7**	**-0.8**		
THAS					AML	AML	14 36 49.7			
	comp=N,352μm,1.3s									
THAS					AML	AML	14 36 50.2			
	comp=E,237μm,1.3s									
DRAG	**Dragano-Lefkad**	**1.96**	**225**		P	**Pb**	**14 36 19.3**	**-0.4**		
EVGI	**Lefkada island**	**1.96**	**222**		P	**Pb**	**14 36 19.6**	**-0.2**		
KEK	**Kerkira**	**1.99**	**260**		P	**Pb**	**14 36 19.7**	**-0.6**		
VIL2	**Platees**	**2.01**	**159**		P	**Pn**	**14 36 18.6**	**+0.3**		
KLV	**Kalavryta, Ach**	**2.05**	**184**		P	**Pn**	**14 36 18.6**	**-0.2**		
EREA	**Eretria**	**2.08**	**143**		P	**Pn**	**14 36 18.8**	**-0.4**		
EREA					AML	AML	14 36 57.7			
	comp=E,224μm,0.5s									
EREA					AML	AML	14 36 58.8			
	comp=N,391μm,1.1s									
FSK	**Fiskardo**	**2.13**	**221**		P	**Pb**	**14 36 21.7**	**-1.0**		
FSK					AML	AML	14 37 05.9			
	comp=N,451μm,0.9s									
FSK					AML	AML	14 37 09.3			
	comp=E,565μm,0.9s									
DRO	**Drossia**	**2.19**	**193**		P	**Pn**	**14 36 21.4**	**+0.7**		
DRO					AML	AML	14 37 07.1			
	comp=N,604μm,0.7s									
DRO					AML	AML	14 37 12.1			
	comp=E,505μm,1.3s									
DION	**Dionisos Attik**	**2.36**	**148**		P	**Pn**	**14 36 23.4**	**+0.3**		
RZN	**Rozhen**	**2.41**	**48**		P	**Pn**	**14 36 24.2**	**+0.3**		
KEF3	**Kipouria, Keph**	**2.44**	**220**		P	**Pn**	**14 36 25.5**	**+1.4**		
VLY	**Voula,Athens**	**2.51**	**153**		P	**Pn**	**14 36 26.0**	**+0.9**		
VTS	**Vitosha**	**2.61**	**15**	⇓	P	**Pn**	**14 36 27.7**	**+1.1**		
VTS	**Vitosha**	**2.61**	**15**		P	**Pn**	**14 36 27.5**	**+0.8**		
PUK	**Puka**	**2.69**	**317**		P	**Pb**	**14 36 30.5**	**-1.7**		
	baz=317									
BARS	**Barje**	**2.75**	**352**	*i*	Pn	**Pn**	**14 36 25.7**	**-2.7**		
SIGR	**SIGRI**	**2.85**	**107**		PN	**Pn**	**14 36 29.5**	**-0.3**		
BOZC	**Bozcaada**	**2.87**	**94**		PN	**Pn**	**14 36 29.5**	**-0.5**		
ALN	**Alexandroupoli**	**2.94**	**73**		PN	**Pn**	**14 36 30.5**	**-0.5**		
EZN	**Ezine**	**3.08**	**94**		PN	**Pn**	**14 36 32.7**	**-0.2**		
GELI	**Tayfur-Gelibol**	**3.18**	**83**		PN	**Pn**	**14 36 34.2**	**-0.1**		
PDG	**Podgorica**	**3.29**	**316**	⇑	P	**Pn**	**14 36 38.5**	**+2.6**		
CHOS	**Chios island**	**3.35**	**119**		PN	**Pn**	**14 36 36.6**	**-0.1**		
MPEP	**Malo Peshtene**	**3.43**	**17**		P	**Pn**	**14 36 39.1**	**+1.4**		
BOVS	**Bovan**	**3.57**	**353**	⇓	P	**Pn**	**14 36 39.9**	**+0.2**		
APE	**Apeiranthos**	**3.92**	**139**		PN	**Pn**	**14 36 44.2**	**-0.3**		
MATE	**Matera**	**4.34**	**279**	⇑	P	**Pn**	**14 36 51.0**	**+0.8**		
TIP	**Timpagrande**	**4.40**	**260**	⇑	P	**Pn**	**14 36 51.9**	**+0.7**		
VOIR		**5.70**	**20**	⇑	P	**Pn**	**14 37 09.8**	**+0.7**		
MLR	**Muntele Rosu**	**6.01**	**25**		Pn	**Pn**	**14 37 14.4**	**+1.0**		
	comp=E,0.6nm,0.3s,baz=171,slow=12,SNR=14									
MLR					Lg	Lg	14 39 03.3			
	comp=E,0.7nm,0.3s,baz=124,slow=19,SNR=3.2									
MLR	**Muntele Rosu**	**6.01**	**25**	⇑	P	**Pn**	**14 37 14.7**	**+1.4**		
PLOR	**Plostina**	**6.57**	**27**	⇓	P	**Pn**	**14 37 22.6**	**+1.7**		
VRI	**Vrincioaia**	**6.61**	**28**	⇓	P	**Pn**	**14 37 23.0**	**+1.6**		
BRTR	**Keskin Array B**	**8.70**	**89**		Pn	**Pn**	**14 37 50.9**	**+0.8**		
	comp=E,0.2nm,0.3s,baz=264,slow=10,SNR=2.0									
BRTR					LR	LR	14 41 13.8			
	comp=E,26nm,20.7s,baz=220,slow=38									
KHC	**Kasperske Hory**	**10.98**	**328**	*e*	SN	**Sn**	**14 40 26.0**	**+1.5**		
ESDC	**Sonseca Array**	**20.17**	**277**		P	**P**	**14 40 17.9**	**-1.0**		
	comp=E,0.7nm,0.8s,baz=82,slow=10,SNR=2.6									
FINES	**FINESS Array B**	**21.50**	**5**		P	**P**	**14 40 33.9**	**+0.9**		
	comp=E,2.5nm,0.9s,baz=191,slow=18,SNR=1.8									
NOA	**NORSAR Array B**	**22.07**	**346**		P	**P**	**14 40 38.9**	**-0.3**		
	comp=E,1.8nm,0.9s,baz=145,slow=9.8,SNR=3.6									
EKA	**Eskdalemuir Ar**	**22.77**	**321**		P	**P**	**14 40 45.4**	**-1.3**		
	comp=E,0.7nm,0.5s,baz=113,slow=9.5,SNR=4.8									
TORD	**Torodi Ar. Bea**	**32.40**	**220**		P	**P**	**14 42 15.0**	**+0.5**		
	comp=E,1.1nm,0.7s,baz=33,slow=9.2,SNR=7.0									
KURBB	**Kurchatov Arra**	**39.97**	**55**		P	**P**	**14 43 17.9**	**-1.0**		
	comp=E,0.3nm,0.8s,baz=290,slow=9.9,SNR=3.6									
MKAR	**Makanchi Array**	**43.11**	**60**		P	**P**	**14 43 45.0**	**+0.2**		
	comp=E,0.9nm,0.7s,baz=289,slow=7.6,SNR=5.6									
ZALV	**Zalesovo Beam**	**43.37**	**50**		P	**P**	**14 43 47.4**	**+0.6**		
	comp=E,1.3nm,0.6s,baz=279,slow=8.5,SNR=4.7									
CMAR	**Chiang Mai Arr**	**68.25**	**84**		P	**P**	**14 46 45.1**	**-0.6**		
	comp=E,0.7nm,0.7s,baz=308,slow=8.2,SNR=5.3									
KSRS	**Korea Array**	**77.03**	**52**		P	**P**	**14 47 38.0**	**+0.4**		
	comp=E,0.8nm,0.7s,baz=314,slow=4.1,SNR=5.3									

IDC ***16*** *14:35:52.7±6.4,2.˚11N×128.˚24E,h75km±70km,mb3.3/5, mb1 3.4/6,mb1mx3.1/57,mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=93.0km s-min=21.3km az=71.0*

ISC 16 14:35:55.2±1.3,2.˚1N±0.˚3×128.˚4E±0.˚3,h100km,n6, σ0s48/7,mb3.4/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.12**	**136**	P	**Pn**	**14 36 56.5**	**+0.4**
	1.5nm,0.3s,baz=128,slow=23,SNR=7.2						
SIJI				S	**Sn**	**14 37 42.7**	**-0.5**
	1.3nm,0.3s,baz=208,slow=22,SNR=7.3						
WRA	**Warramunga Arr**	**22.88**	**165**	P	**P**	**14 40 48.2**	**-0.4**
	0.8nm,0.5s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.18**	**169**	P	**P**	**14 41 20.5**	**-0.1**
	0.2nm,0.5s,baz=355,slow=8.3,SNR=6.5						
STKA	**Stephens Creek**	**36.05**	**161**	P	**P**	**14 42 47.4**	**+0.3**
	0.5nm,0.3s,baz=349,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**59.83**	**325**	P	**P**	**14 45 50.4**	**+0.2**
	0.2nm,0.4s,baz=127,slow=3.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**63.99**	**327**	P	**P**	**14 46 17.5**	**-0.5**
	0.2nm,0.4s,baz=129,slow=6.1,SNR=6.7						

SKHL ***16*** *14:44:26.3±0.5,45.˚50N×152.˚50E,h35km±3km,mb4.9/4*
NEIC ***16*** *14:44:26.7±2.1,45.˚82N±0.˚10×152.˚0E±0.˚1,h6km±5km, mb4.5/17,Error ellipse: s-maj=17.4km s-min=9.7km az=133.0*
JMA ***16*** *14:44:27.8±0.7,45.˚73N×152.˚21E,h30km,M4.3*
NIED ***16*** *14:44:27.9,45.˚73N×152.˚22E,h30km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.36; $M_{\theta\theta}$1.24; $M_{\phi\phi}$-5.60; $M_{r\theta}$-2.43; $M_{\theta\phi}$-4.88; $M_{\phi r}$4.89; Fault plane solution: M_o8.92000×10^{14} NP1: ϕ_s354.00000°,δ70.00000°,λ49.00000°. NP2: ϕ_s242.00000°,δ45.00000°,λ151.00000°.*
MOS ***16*** *14:44:27.9±1.1,45.˚66N×152.˚16E,h35km,mb4.8/5 Error ellipse: s-maj=9.0km s-min=7.3km az=142.3*
IDC ***16*** *14:44:31.7±0.8,45.˚74N×151.˚99E,h47km±7km,mb3.6/15, mb1 3.8/20,mb1mx3.7/46,mbtmp3.8/20,ML3.2/5,MS3.2/11, Ms1 3.3/11,ms1mx3.0/42,Error ellipse: s-maj=20.3km s-min=14.0km az=159.0*

ISC 16 14:44:26.3±0.6,45.˚55N±0.˚07×152.˚26E±0.˚06,h10km,n148, σ1s83/139,mb4.3/27,MS3.5/8,4C-6D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.11**	**266**	⇑ *i*	PN	**Pn**	**14 45 16.1**	**+0.7**
KUR				*e*	S	**Sn**	**14 45 53.3**	**+0.8**
KUR					pmax	pmax		
	comp=Z,129nm,0.5s							
KUR					pmax	pmax		
	comp=E,17nm,0.1s							
KUR					pmax	pmax		
	comp=N,53nm,0.4s							
KUR					smax	smax		
	comp=E,501nm,0.6s							
KUR					smax	smax		
	comp=N,721nm,0.5s							
KUR	**Kuril'sk**	**3.11**	**266**	*i*	P	**Pn**	**14 45 16.1**	**+0.7**
KUR					AMB	AMB	14 45 18.8	
	comp=N,140nm,0.5s							
KUR				*e*	S	**Sn**	**14 45 52.9**	**+0.4**
KUR					A	A	14 45 59.9	
	comp=N,1μm,2.0s							
KUR					A	A	14 45 59.9	
	comp=N,800nm,2.0s							
KUR					A	A	14 46 00.2	
	comp=N,720nm,0.6s							
KUR					A	A	14 46 00.2	
	comp=N,500nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**4.80**	**254**	*e*	PN	**Pn**	**14 45 39.0**	**+0.4**
YUK					pmax	pmax		
	comp=Z,111nm,0.4s							
YUK					pmax	pmax		
	comp=N,64nm,0.3s							
YUK					pmax	pmax		
	comp=E,64nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.80**	**254**	*e*	P	**Pn**	**14 45 39.0**	**+0.4**
YUK					AMB	AMB	14 45 41.9	
	comp=E,110nm,0.4s							
YUK				*e*	S	**Sn**	**14 46 33.6**	**-0.6**
YUK					A	A	14 46 44.9	
	comp=E,280nm,0.6s							
YUK					A	A	14 46 44.9	
	comp=E,330nm,0.6s							
GRPR	**Tuman**	**4.87**	**254**	*e*	PN	**Pn**	**14 45 40.0**	**+0.4**
GRPR					pmax	pmax		
	comp=Z,86nm,0.3s							
GRPR					pmax	pmax		
	comp=N,65nm,0.4s							
GRPR					pmax	pmax		
	comp=E,62nm,0.3s							
GRPR	**Tuman**	**4.87**	**254**	*e*	P	**Pn**	**14 45 40.0**	**+0.4**
GRPR					AMB	AMB	14 45 42.7	
	comp=E,90nm,0.3s							
GRPR				*e*	S	**Sn**	**14 46 35.6**	**-0.4**
GRPR					A	A	14 46 44.5	
	comp=E,180nm,0.4s							
GRPR					A	A	14 46 44.5	
	comp=E,140nm,0.4s							
GLVR	**Golovnino**	**5.14**	**252**	*e*	PN	**Pn**	**14 45 43.9**	**+0.7**
GLVR					pmax	pmax		
	comp=N,16nm,0.5s							
GLVR					pmax	pmax		
	comp=Z,147nm,0.5s							
GLVR					pmax	pmax		
	comp=E,25nm,0.3s							
NEM2	**Nemuro 2**	**5.15**	**247**		P	**Pn**	**14 45 42.5**	**-0.9**
NEM2					S	**Sn**	**14 46 37.7**	**-5.1**
NMR	**Nemuro--Hokkai**	**5.16**	**247**	⇓ *i*	PN	**Pn**	**14 45 42.6**	**-0.9**
NMR	**Nemuro--Hokkai**	**5.16**	**247**	*i*	P	**Pn**	**14 45 42.6**	**-0.9**
NMR				*i*	S	**Sn**	**14 46 40.0**	**-3.0**
RUSJ	**Misakicho**	**5.19**	**256**	*e*	PN	**Pn**	**14 45 46.1**	**+2.1**
RUSJ				*e*	S	**Sn**	**14 46 46.2**	**+2.3**
JRA	**Rausu**	**5.33**	**255**		P	**Pn**	**14 45 47.5**	**+1.6**
JRA				*e*	S	**Sn**	**14 46 48.3**	**+1.0**
JNK	**Nakash**	**5.73**	**253**		P	**Pn**	**14 45 52.0**	**+0.6**
JNK				*e*	S	**Sn**

TYV						pmax	pmax			
	comp=Z,12nm,0.8s									
TYV	**Tymovskoe**	**8.33**	**313**	*eP*		**Pn**		**14 46 29.2**	**+2.2**	
TYV					AMB	AMB		14 46 29.8		
	comp=Z,10.0nm,0.8s									
PEA0B	**Petropavlovsk-**	**8.35**	**23**	⇓*e*PN		**Pn**		**14 46 27.8**	**+0.4**	
PEA0B	**Petropavlovsk-**	**8.35**	**23**	Pn		**Pn**		**14 46 26.8**	**-0.5**	
PETK	**Petropavlovsk-**	**8.35**	**23**	P		**Pn**		**14 46 27.1**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=176,slow=6.1,SNR=10									
PETK					LR	LR		14 49 47.0		
	comp=Z,40nm,19.3s,baz=170,slow=38									
PETK	**Petropavlovsk-**	**8.35**	**23**	Pn		**Pn**		**14 46 26.9**	**-0.5**	
PET	**Petropavlovsk**	**8.56**	**27**	*e*PN		Pn		14 46 27.9	-2.3	
PET					MLR	MLR				
	comp=Z,100nm,14.0s									
PET	**Petropavlovsk**	**8.56**	**27**	*eP*		**Pn**		**14 46 29.9**	**-0.3**	
PET				*eS*		**Sn**		**14 48 01.9**	**-4.9**	
PET					AMS	AMS		14 50 37.9		
	comp=Z,100nm,14.0s									
JNB	**Noboribetsu**	**8.65**	**253**	P		**Pn**		**14 46 32.0**	**+0.5**	
JNB				*eS*		**Sn**		**14 48 06.2**	**-2.9**	
JKB	**Kayabe**	**8.91**	**250**	P		**Pn**		**14 46 34.4**	**-0.6**	
JKB				*eS*		Sn		14 48 07.7	-7.8	
JYM2	**Yakumo 2**	**9.25**	**252**	P		**Pn**		**14 46 39.9**	**+0.2**	
JANG	**Nango**	**9.42**	**240**	*eS*		Sn		14 48 17.8	-10	
JTM	**Tenmabayashi**	**9.46**	**244**	P		**Pn**		**14 46 40.9**	**-1.6**	
JTM				*eS*		Sn		14 48 20.2	-8.7	
JTH	**Tanohata**	**9.48**	**237**	P		Pn		14 46 39.7	-3.1	
JTH				*eS*		Sn		14 48 17.6	-12	
JOSM	**Okushiri--Mats**	**9.87**	**254**	P		**Pn**		**14 46 48.2**	**+0.1**	
OFUJ	**Ofunato**	**10.16**	**234**	P		**Pn**		**14 46 49.9**	**-2.2**	
OFUJ				*eS*		Sn		14 48 36.0	-10	
JRG	**Rokugo**	**10.56**	**238**	P		**Pn**		**14 46 56.1**	**-1.5**	
JRG				*eS*		Sn		14 48 47.9	-7.9	
JIO	**Ouri**	**10.77**	**233**	P		**Pn**		**14 46 58.1**	**-2.4**	
JIO				*eS*		Sn		14 48 49.5	-12	
TEY	**Ternei**	**11.04**	**273**	*eP*		**Pn**		**14 47 04.8**	**+0.6**	
MA2	**Magadan**	**14.08**	**357**	LR		LR		14 53 18.7		
	comp=Z,65nm,18.1s,baz=134,slow=38									
KLR	**Kul'dur**	**14.36**	**292**	P		**Pn**		**14 47 49.5**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=2.4									
KLR					LR	LR		14 53 32.5		
	comp=Z,126nm,18.7s,baz=108,slow=38									
KLR	**Kul'dur**	**14.36**	**292**	⇓*eP*		**Pn**		**14 47 50.9**	**+1.4**	
KLR					pmax	pmax				
	comp=Z,4.0nm,1.0s									
KLR	**Kul'dur**	**14.36**	**292**	*eP*		**Pn**		**14 47 50.9**	**+1.4**	
USA0B	**Ussuriysk Arra**	**14.44**	**272**	P		**Pn**		**14 47 49.4**	**-1.2**	
USA0B	**Ussuriysk Arra**	**14.44**	**272**	Pn		**Pn**		**14 47 49.4**	**-1.2**	
USRK	**Ussuriysk Ar.**	**14.44**	**272**	P		**Pn**		**14 47 49.8**	**-0.8**	
	baz=83,slow=14,SNR=8.8									
USRK	**Ussuriysk Ar.**	**14.44**	**272**	P		**Pn**		**14 47 50.0**	**-0.6**	
USRK	**Ussuriysk Ar.**	**14.44**	**272**			**Pn**		**14 47 50.0**	**-0.6**	
EKMR	**Ekimchan**	**14.64**	**308**	*eP*		**Pn**		**14 47 52.2**	**-1.1**	
EKMR					AMB	AMB		14 48 06.0		
	comp=Z,6.0nm,0.8s									
MDJ	**Mudanjiang**	**16.03**	**275**	P		**Pn**		**14 48 12.3**	**+0.6**	
MDJ					pmax	pmax				
	comp=Z,8.0nm,0.7s									
MDJ					pmax	pmax				
	comp=Z,100nm,4.3s									
MDJ					L	L				
	comp=Z,76nm,17.1s									
MDJ					L	L				
	comp=Z,140nm,17.1s									
MDJ					L	L				
	comp=Z,170nm,18.5s									
MDJ	**Mudanjiang**	**16.03**	**275**			**Pn**		**14 48 11.6**	**-0.2**	
JWT	**Wachi**	**16.40**	**237**			**Pn**		**14 48 18.8**	**+2.4**	
BMKR	**Bomnak**	**17.52**	**310**	*eP*		**Pn**		**14 48 29.0**	**-1.4**	
BMKR					AMB	AMB		14 48 33.8		
	comp=Z,4.0nm,0.9s									
ZEA	**Zeya**	**18.07**	**306**	*eP*		**P**		**14 48 41.5**	**+3.8**	
ZEA	**Zeya**	**18.07**	**306**	*eP*		**P**		**14 48 40.9**	**+3.2**	
CN2	**Changchun**	**19.12**	**274**	*eP*		**P**		**14 48 46.6**	**-2.6**	
CN2					pmax	pmax				
	comp=Z,10.0nm,0.6s									
CN2					L	L				
	comp=Z,100nm,13.0s									
CN2					L	L				
	comp=Z,100nm,13.0s									
CN2					L	L				
	comp=Z,200nm,15.0s									
KSRS	**Korea Array**	**19.89**	**255**	P		**P**		**14 48 57.5**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=64,slow=11,SNR=13									
KSRS					LR	LR		14 56 35.5		
	comp=Z,49nm,18.4s,baz=50,slow=37									
KSRS	**Korea Array**	**19.89**	**255**	*eP*		**P**		**14 49 01.0**	**+3.3**	
TJN	**Taejon**	**20.84**	**253**	⇓*eP*		**P**		**14 49 09.4**	**+1.3**	
YAK	**Yakutsk**	**21.03**	**330**	*eP*		**P**		**14 49 14.9**	**+5.0**	
YAK					pmax	pmax				
	comp=Z,34nm,0.9s									
YAK					pmax	pmax				
	comp=E,7.0nm,1.0s									
YAK					pmax	pmax				
	comp=N,8.0nm,1.1s									
BILL	**Bilibino**	**23.69**	**13**	*eP*		**P**		**14 49 36.6**	**-1.2**	
BILL				*e*PPP		PPP		14 50 13.3		
BILL				*e*				14 53 21.5		
BILL					pmax	pmax				
	comp=Z,5.0nm,1.3s									
BILL	**Bilibino**	**23.69**	**13**	*eP*		**P**		**14 49 36.6**	**-1.2**	
H11N2	**WAKE ISLAND Hy**	**28.45**	**150**	T		T		15 20 49.3		
	baz=338,slow=76,SNR=11									
H11N1	**WAKE ISLAND Hy**	**28.47**	**150**	T		T		15 21 03.5		
	baz=338,slow=76,SNR=48									
H11N3	**WAKE ISLAND Hy**	**28.47**	**150**	T		T		15 20 58.0		
	baz=338,slow=76,SNR=14									
NJ2	**Nanjing**	**29.09**	**254**	*eP*		**P**		**14 50 26.9**	**0.0**	
NJ2					pmax	pmax				
	comp=Z,5.0nm,0.5s									
H11S1	**WAKE ISLAND Hy**	**29.52**	**151**	T		T		15 22 17.3		
	baz=339,slow=76,SNR=47									
H11S3	**WAKE ISLAND Hy**	**29.52**	**151**	T		T		15 22 23.0		
	baz=339,slow=76,SNR=37									
H11S2	**WAKE ISLAND Hy**	**29.54**	**151**	T		T		15 22 11.1		
	baz=339,slow=76,SNR=39									
HHC	**Hu-ho-hao-te**	**29.80**	**276**	*eP*		**P**		**14 50 31.8**	**-1.5**	
HHC					pmax	pmax				
	comp=Z,12nm,0.6s									
HHC					pmax	pmax				
	comp=Z,45nm,5.4s									
HHC					L	L				
	comp=Z,100nm,14.5s									
HHC					L	L				
	comp=Z,140nm,14.5s									
HHC					L	L				
	comp=Z,140nm,13.6s									
IMAR	**Indian Mountai**	**35.09**	**35**	P		**P**		**14 51 18.9**	**-0.2**	
KDAK	**Kodiak Island**	**35.33**	**49**	P		**P**		**14 51 23.4**	**+2.1**	
	comp=Z,1.5nm,0.8s,baz=328,slow=13,SNR=2.9									
KDAK	**Kodiak Island**	**35.33**	**49**	IAmb		IAmb		14 51 43.3		
	comp=Z,4.8nm,1.4s									
LZH	**Lanzhou**	**37.34**	**273**	*eP*		**P**		**14 51 38.8**	**-0.2**	
LZH				pP		sP		14 51 46.5	+5.6	
LZH				sP		pwP		14 51 50.6	+2.7	
LZH					pmax	pmax				
	comp=Z,16nm,1.1s									
ILAR	**Eielson Array**	**37.86**	**38**	P		**P**		**14 51 43.9**	**+1.1**	
	comp=Z,0.3nm,0.7s,baz=285,slow=7.1,SNR=2.5									
GTA	**Gaotai**	**38.58**	**280**	⇑P		**P**		**14 51 49.4**	**0.0**	
GTA				pP		pwP		14 51 59.3	+1.0	
GTA				sP		sP		14 52 02.5	+11	
GTA					pmax	pmax				
	comp=Z,7.0nm,1.0s									
GTA					pmax	pmax				
	comp=Z,72nm,4.4s									
GTA					L	L				
	comp=Z,41nm,14.5s									
GTA					L	L				
	comp=Z,53nm,15.3s									
GTA					L	L				
	comp=Z,76nm,15.3s									
BCAR	**Beaver Creek A**	**40.20**	**40**	P		**P**		**14 52 03.9**	**+1.4**	
ZALV	**Zalesovo Beam**	**42.84**	**307**	PcP		**PcP**		**14 54 15.0**	**-0.1**	
	comp=Z,1.3nm,0.8s,baz=86,slow=4.6,SNR=4.7									
ZALV					LR	LR		15 11 07.2		
	comp=Z,55nm,19.8s,baz=40,slow=38									
WMQ	**Urumqi**	**44.81**	**292**	*eP*		**P**		**14 52 40.8**	**+0.5**	
MK31	**Makanchi Array**	**46.97**	**298**	⇓*eP*		P		14 52 55.2	-2.0	
MK31	**Makanchi Array**	**46.97**	**298**	P		P		14 52 54.6	-2.6	
MKAR	**Makanchi Array**	**46.97**	**298**	P		P		14 52 55.2	-2.0	
	comp=Z,0.3nm,0.5s,baz=71,slow=7.8,SNR=4.8									
MKAR					PcP	**PcP**		**14 54 28.9**	**-0.6**	
	comp=Z,0.8nm,0.8s,baz=46,slow=3.5,SNR=5.1									
MKAR					LR	LR		15 13 36.9		
	comp=Z,67nm,19.5s,baz=87,slow=37									
MKAR	**Makanchi Array**	**46.97**	**298**	P		P		14 52 54.5	-2.8	
KURK	**Kurchatov**	**47.54**	**304**	P		P		14 52 58.9	-2.6	
KURK	**Kurchatov**	**47.54**	**304**	P		P		14 52 58.9	-2.6	
KURK	**Kurchatov**	**47.54**	**304**	*eP*		P		14 52 58.9	-2.6	
KURBB	**Kurchatov Arra**	**47.63**	**304**	P		P		14 52 58.9	-3.3	
	comp=Z,0.6nm,0.7s,baz=70,slow=8.7,SNR=7.5									
CMAR	**Chiang Mai Arr**	**51.51**	**257**	P		**P**		**14 53 33.0**	**+0.8**	
	comp=Z,0.7nm,0.7s,baz=40,slow=8.2,SNR=6.4									
AAK	**Ala-Archa**	**53.84**	**297**	LR		LR		15 17 49.8		
	comp=Z,40nm,20.5s,baz=73,slow=37									
AAK	**Ala-Archa**	**53.84**	**297**	⇓*eP*		**P**		**14 53 49.0**	**-0.4**	
AAK					pmax	pmax				
	comp=Z,6.0nm,0.7s									
AAK	**Ala-Archa**	**53.84**	**297**	*eP*		**P**		**14 53 49.0**	**-0.4**	
KKAR	**Karatay Array**	**56.06**	**299**	P		**P**		**14 54 03.6**	**-1.7**	
KKAR	**Karatay Array**	**56.06**	**299**	P		**P**		**14 54 03.6**	**-1.7**	
BTK	**Batken**	**57.56**	**296**	P		**P**		**14 54 15.2**	**-0.9**	
BTK					pmax	pmax				
	comp=Z,6.0nm,0.9s									
BTK	**Batken**	**57.56**	**296**	P		**P**		**14 54 15.2**	**-0.9**	
BTK					lAmb	lAmb		14 54 16.5		
	comp=Z,5.7nm,0.9s									
GAR	**Garm**	**58.49**	**295**	P		**P**		**14 54 21.0**	**-1.6**	
ABKAR	**Akbulak array**	**58.74**	**310**	P		P		14 54 21.3	-2.7	
CHGR	**Chuyangaron**	**59.42**	**295**	P		**P**		**14 54 27.9**	**-1.2**	
SUMG	**Summit**	**61.94**	**4**	P		**P**		**14 54 45.1**	**-0.9**	
SUMG					pmax	pmax				
	comp=Z,8.0nm,1.1s									
SUMG	**Summit**	**61.94**	**4**	P		**P**		**14 54 45.1**	**-0.9**	
SUMG					lAmb	lAmb		14 54 47.1		
	comp=Z,7.7nm,1.1s									
NVAR	**Mina Array Bea**	**63.52**	**61**	P		**P**		**14 54 57.5**	**+0.6**	
	comp=Z,0.3nm,0.6s,baz=305,slow=9.8,SNR=3.6									
NVAR					pP	**pwP**		**14 55 11.5**	**+5.4**	
	comp=Z,0.6nm,0.6s,baz=303,slow=8.3,SNR=4.3									
FIA1	**FINESS Array S**	**64.87**	**335**	P		P		14 55 03.1	-1.9	
FINES	**FINESS Array B**	**64.87**	**335**	P		**P**		**14 55 03.4**	**-1.7**	
	comp=Z,3.5nm,0.7s,baz=32,slow=12,SNR=12									
FINES					LR	LR		15 26 12.0		
	comp=Z,20nm,18.4s,baz=304,slow=39									
FINES	**FINESS Array B**	**64.87**	**335**	P		P		14 55 03.0	-2.1	
GEYT	**Alibeck**	**66.71**	**301**	P		**P**		**14 55 16.9**	**-0.5**	
	comp=Z,1.9nm,0.7s,baz=59,slow=12,SNR=3.7									
GEYT	**Alibeck**	**66.71**	**301**	P		**P**		**14 55 16.4**	**-1.1**	
GEYT					lAmb	lAmb		14 55 17.9		
	comp=Z,6.0nm,1.1s									
GYA0B	**ALIBECK ARRAY**	**66.71**	**301**	P		**P**		**14 55 16.8**	**-0.6**	
GYA0B					lAmb	lAmb		14 55 17.8		
	comp=Z,8.3nm,1.1s									
WRA	**Warramunga Arr**	**67.19**	**198**	P		**P**		**14 55 20.2**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=16,slow=6.1,SNR=3.4									
NB201	**NORSAR Array S**	**69.14**	**341**	P		**P**		**14 55 31.0**	**-1.3**	
NOA	**NORSAR Array B**	**69.17**	**341**	P		**P**		**14 55 31.4**	**-1.1**	
	comp=Z,1.3nm,0.6s,baz=29,slow=6.5,SNR=6.2									
NOA					pP	**pwP**		**14 55 45.2**	**+3.7**	
	comp=Z,0.9nm,0.6s,baz=27,slow=6.1,SNR=3.0									
NOA					LR	LR		15 31 17.6		
	comp=Z,14nm,18.2s,baz=305,slow=41									
ASAR	**Alice Springs**	**70.88**	**198**	P		**P**		**14 55 44.5**	**+1.1**	
	comp=Z,0.4nm,0.8s,baz=7.6,slow=4.4,SNR=4.7									
KBZ	**Khabaz**	**71.26**	**314**	P		**P**		**14 55 45.6**	**0.0**	
	comp=Z,3.7nm,0.8s,baz=18,slow=6.0,SNR=6.5									
KBZ	**Khabaz**	**71.26**	**314**	*eP*		**P**		**14 55 46.2**	**+0.7**	
AKASG	**Malin Array Be**	**72.21**	**326**	P		P		14 55 49.1	-2.0	
	comp=Z,3.7nm,0.8s,baz=35,slow=6.2,SNR=7.0									
AKASG	**Malin Array Be**	**72.21**	**326**	*eP*		**P**		**14 55 49.9**	**-1.2**	
AKASG					pmax	pmax				
	comp=Z,4.0nm,0.8s									
AKASG	**Malin Array Be**	**72.21**	**326**	lAmb		lAmb		14 55 51.7		
	comp=Z,2.6nm,1.4s									
AKBB	**Malin Array Si**	**72.21**	**326**	*ceP*		**P**		**14 55 50.1**	**-1.0**	
AKBB	**Malin Array Si**	**72.21**	**326**	P		P		14 55 49.2	-1.9	
AKBB					lAmb	lAmb		14 55 50.3		
	comp=Z,3.6nm,0.8s									
COCO	**West Island**	**76.08**	**236**	*i* P		**P**		**14 56 13.7**	**-0.4**	
BURAR	**Bucovina Array**	**76.26**	**326**	P		**P**		**14 56 13.5**	**-1.5**	
CLL	**Collm**	**77.31**	**335**	*eP*		**P**		**14 56 19.0**	**-1.7**	
CLL	**Collm**	**77.31**	**335**	*eP*		**P**		**14 56 19.0**	**-1.7**	
TX31	**Lajitas Ar. Si**	**78.60**	**60**	P		**P**		**14 56 28.6**	**+0.2**	
TX31					lAmb	lAmb		14 56 42.9		
	comp=Z,4.2nm,0.8s									
TX32	**Lajitas Array**	**78.60**	**60**	P		**P**		**14 56 28.8**	**+0.4**	
TXAR	**Lajitas Array**	**78.61**	**60**	P		**P**		**14 56 28.9**	**+0.5**	
	comp=Z,0.7nm,0.7s,baz=303,slow=4.7,SNR=7.4									
TXAR					pP	**pwP**		**14 56 42.2**	**+4.6**	
	comp=Z,1.0nm,0.6s,baz=302,slow=4.1,SNR=9.0									
TXAR	**Lajitas Array**	**78.61**	**60**	P		**P**		**14 56 28.7**	**+0.3**	
BRTR	**Keskin Array B**	**78.85**	**316**	LR		LR		15 35 02.6		
	comp=Z,18nm,18.2s,baz=75,slow=39									
GERES	**GERESS Array B**	**79.27**	**334**	P		**P**		**14 56 30.2**	**-1.5**	
	comp=Z,0.3nm,0.4s,baz=15,slow=5.5,SNR=3.6									

*IDC **16** 14:46:32.0±4.9, 32°.45S×68°.73W, h118^{km}±41^{km}, mb3.5/6, mb1 3.7/8, mb1mx3.5/27, mbtmp3.8/8, Error ellipse: s-maj=43.6km s-min=25.2km az=73.0*
*NEIC **16** 14:46:32.4±2.9, 32°.43S±0°.05×68°.7W±0°.1, h136^{km}±7^{km}, Error ellipse: s-maj=16.4km s-min=6.6km az=99.0*
*GUC **16** 14:46:33.4±0.6, 32°.48S×69°.10W, h168^{km}±6^{km}, ML4.2*
ISC 16 14:46:32.8±0.6, **32°.36S**±0°.05×**68°.79W**±0°.06, **h132**^{km}±6^{km}, **n64**,σ1°**38**/82, **mb3.9**/8, **12C-1D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.82**	**7**		**Pn**	**14 46 55.7**	**+1.2**
ZON				Sn	**Sn**	**14 47 11.8**	**+0.9**
RTLL	**Cerro Villicun**	**1.07**	**15**	⇑*i*P	**Pn**	**14 46 58.1**	**+1.5**
RTLL				*i* S	**Sn**	**14 47 16.1**	**+1.3**
VA03	**San Esteban**	**1.54**	**254**	⇑*i*P	**Pn**	**14 47 02.8**	**+1.1**
VA03				*i* S	**Sn**	**14 47 24.8**	**+1.3**
VA03				lAML		14 47 26.7	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**1.54**	**254**		**Pn**	**14 47 02.5**	**+0.9**
MT03	**Universidad Ad**	**1.83**	**232**	⇑*i*P	**Pn**	**14 47 05.6**	**+0.6**
MT03				*i* S	**Sn**	**14 47 30.3**	**+0.7**
MT03				lAML		14 47 35.8	
	comp=E,2μm,0.3s						
MT03	**Universidad Ad**	**1.83**	**232**		**Pn**	**14 47 05.5**	**+0.5**
LMEL	**Las Melosas**	**1.90**	**218**	⇑*i*P	**Pn**	**14 47 06.8**	**+0.9**
LMEL				*e*S	**Sn**	**14 47 31.9**	**+0.8**
MT05	**Renca**	**1.93**	**237**	⇑*i*P	**Pn**	**14 47 06.7**	**+0.5**
MT05				*e*S	**Sn**	**14 47 32.0**	**+0.4**
MT05				lAML		14 47 34.2	
	comp=E,3μm,0.4s						
MT05	**Renca**	**1.93**	**237**	Pn	**Pn**	**14 47 06.5**	**+0.4**
ROCH	**El Roble**	**1.97**	**251**	⇑*i*P	**Pn**	**14 47 06.9**	**+0.2**
ROCH				*i* S	**Sn**	**14 47 32.2**	**-0.5**
ROCH				lAML		14 47 33.7	
	comp=N,3μm,0.3s						
MT02	**Curacav**	**2.17**	**245**	⇑*i*P	**Pn**	**14 47 08.7**	**-0.3**
MT02				*e*S	**Sn**	**14 47 35.5**	**-1.2**
MT02	**Curacav**	**2.17**	**245**		**Pn**	**14 47 08.4**	**-0.6**
CO03	**El Pedregal**	**2.22**	**313**	⇑*i*P	**Pn**	**14 47 11.7**	**+2.0**
CO03				*i* S	**Sn**	**14 47 40.0**	**+2.0**
CO03				lAML		14 47 42.4	
	comp=E,1μm,0.5s						
CO03	**El Pedregal**	**2.22**	**313**		**Pn**	**14 47 11.5**	**+1.7**
MT09	**Talagante**	**2.32**	**232**	⇑*i*P	**Pn**	**14 47 10.7**	**-0.3**
MT09				*e*S	**Sn**	**14 47 39.7**	**-0.6**
MT09				lAML		14 47 43.2	
	comp=N,1μm,0.1s						
MT09	**Talagante**	**2.32**	**232**		**Pn**	**14 47 10.5**	**-0.5**
VA01	**Torpederas**	**2.50**	**254**	*eP*	**Pn**	**14 47 12.4**	**-0.6**
VA01				*e*S	**Sn**	**14 47 42.3**	**-1.6**
VA01				lAML		14 47 49.3	
	comp=E,768nm,0.3s						
VA01	**Torpederas**	**2.50**	**254**		**Pn**	**14 47 11.8**	**-1.2**
MT01	**Popeta**	**2.55**	**233**	⇑*i*P	**Pn**	**14 47 12.7**	**-1.0**
MT01				*e*S	**Sn**	**14 47 42.8**	**-2.4**
MT01				lAML		14 47 43.9	
	comp=N,592nm,0.3s						
MT01	**Popeta**	**2.55**	**233**	Pn	**Pn**	**14 47 12.4**	**-1.3**
VA05	**Santo Domingo**	**2.70**	**241**	*eP*	**Pn**	**14 47 14.7**	**-0.9**
VA05				*e*S	**Sn**	**14 47 45.9**	**-2.7**
VA05				lAML		14 47 56.4	
	comp=N,1μm,0.4s						
VA05	**Santo Domingo**	**2.70**	**241**		**Pn**	**14 47 14.4**	**-1.2**
GO04	**Tololo Observa**	**2.78**	**321**	⇑*i*P	**Pn**	**14 47 18.1**	**+1.1**
GO04				*e*S	**Sn**	**14 47 51.5**	**+0.6**
GO04	**Tololo Observa**	**2.78**	**321**	Pn	**Pn**	**14 47 17.9**	**+0.9**
BO01	**Tunca**	**2.79**	**223**	⇓*i*P	**Pn**	**14 47 16.0**	**-0.8**
BO01				*e*S	**Sn**	**14 47 49.0**	**-1.7**
BO01				lAML		14 47 50.3	
	comp=N,345nm,0.4s						
BO01	**Tunca**	**2.79**	**223**	Pn	**Pn**	**14 47 15.7**	**-1.1**
BO02	**Sierra Bellavi**	**2.94**	**214**	⇑*i*P	**Pn**	**14 47 19.1**	**+0.3**
BO02				*e*S	**Sn**	**14 47 54.0**	**-0.3**
BO02				lAML		14 48 01.1	
	comp=E,568nm,0.2s						
BO02	**Sierra Bellavi**	**2.94**	**214**		**Pn**	**14 47 18.9**	**+0.1**
CO05	**La Serena**	**3.21**	**319**	*eP*	**Pn**	**14 47 22.9**	**+0.6**
CO05				*e*S	**Sn**	**14 47 59.3**	**-1.3**
GO05	**Huala**	**3.71**	**224**		**Pn**	**14 47 26.1**	**-2.8**
AC04	**Llanos de Chal**	**4.59**	**334**	Pn	**Pn**	**14 47 41.0**	**+0.4**
GO03	**Copiap**	**4.92**	**345**	Pn	**Pn**	**14 47 45.5**	**+0.5**
AC02	**Maricunga**	**5.52**	**357**	Pn	**Pn**	**14 47 54.5**	**+1.1**
AC01	**Pan de Azucar**	**6.39**	**345**	Pn	**Pn**	**14 48 04.0**	**-0.7**
GO02	**Mina Guanaco**	**7.21**	**354**	Pn	**Pn**	**14 48 15.7**	**-0.3**
PB14	**IPOC Station P**	**7.84**	**349**	Pn	**Pn**	**14 48 23.8**	**-0.6**
PB15	**IPOC Station P**	**9.14**	**356**	Pn	**Pn**	**14 48 40.7**	**-1.2**
LVC	**Limon Verde**	**9.72**	**359**	P	**Pn**	**14 48 49.4**	**-0.3**
	comp=E,0.6nm,0.3s,baz=198,slow=6.4,SNR=2.0						
LVC				S	**Sn**	**14 50 33.4**	**-3.9**
	comp=E,0.3nm,0.3s,baz=159,slow=17,SNR=1.6						
LVC	**Limon Verde**	**9.72**	**359**	Pn	**Pn**	**14 48 47.3**	**-2.4**
PB04	**IPOC Station P**	**10.06**	**353**	Pn	**Pn**	**14 48 52.7**	**-1.5**
PB09	**IPOC Station P**	**10.53**	**358**	Pn	**Pn**	**14 48 59.3**	**-1.2**
PB07	**IPOC Station P**	**10.64**	**354**	Pn	**Pn**	**14 49 01.0**	**-0.9**
ITQB	**Itaqui**	**10.78**	**79**	Pn	**Pn**	**14 49 01.2**	**-2.4**
PB01	**IPOC Station P**	**11.29**	**357**	Pn	**Pn**	**14 49 09.7**	**-0.8**
PSGCX	**Pisagua**	**12.77**	**354**	Pn	**Pn**	**14 49 27.1**	**-2.8**
PLTB	**Pedras Altas**	**12.90**	**91**	Pn	**Pn**	**14 49 27.9**	**-3.4**
LPAZ	**La Paz**	**16.02**	**2**	P	**P**	**14 50 14.3**	**+2.1**
	comp=E,0.1nm,0.3s,baz=184,slow=7.7,SNR=5.4						
LPAZ	**La Paz**	**16.02**	**2**	lAmb	lAmb	14 50 20.0	
	comp=Z,2.6nm,0.9s						
PTGA	**Pitinga**	**32.55**	**17**	P	**P**	**14 52 51.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=191,slow=11,SNR=5.0						
PTGA	**Pitinga**	**32.55**	**17**	lAmb	lAmb	14 53 08.2	
	comp=Z,9.7nm,1.4s						
BANI	**BANI**	**50.49**	**358**	P	**P**	**14 55 14.6**	**-2.9**
STVI	**Saint Thomas**	**50.56**	**5**	P	**P**	**14 55 19.0**	**+1.1**
SNAA	**Sanae**	**52.09**	**159**	P	**P**	**14 55 29.2**	**+0.4**
	comp=Z,2.0nm,1.1s,baz=264,slow=4.7,SNR=4.1						
SNAA	**Sanae**	**52.09**	**159**	P	**P**	**14 55 28.8**	**0.0**
SNAA				lAmb	lAmb	14 55 36.2	
	comp=Z,9.7nm,1.5s						
TXAR	**Lajitas Array**	**69.72**	**328**	P	**P**	**14 57 30.2**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=160,slow=11,SNR=3.1						
WVT	**Waverly**	**70.43**	**344**	P	**P**	**14 57 32.1**	**-0.4**
WVT				lAmb	lAmb	14 57 34.2	
	comp=Z,5.6nm,0.8s						
LCAR	**Lake Charles**	**71.23**	**341**	P	**P**	**14 57 37.8**	**+0.5**
LCAR				lAmb	lAmb	14 57 38.7	
	comp=Z,4.0nm,0.6s						
TORD	**Torodi Ar

APLL	**PUNTA DE LOS L**	**3.15**	**103**	*eP*		**Pn**	**15 07 16.0**	**+1.2**
APLL				*eS*		**Sn**	**15 07 57.0**	**+3.9**
ARCO	**CERRO ARCO**	**3.23**	**163**	*eP*		**Pn**	**15 07 19.3**	**+3.2**
ARCO				*eS*		**Sb**	**15 08 05.4**	**+3.1**
ARCO				IAML			15 08 09.1	
	comp=Z,1μm,0.8s							
ACHE	**Chepes**	**3.27**	**116**	*eP*		**Pn**	**15 07 17.5**	**+0.9**
ACHE				*eS*		**Sn**	**15 07 59.8**	**+3.6**
ROCH	**El Roble**	**3.31**	**194**⇓	*eP*		**Pn**	**15 07 19.2**	**+2.1**
ROC1	**El Roble**	**3.31**	**194**	*eP*		**Pn**	**15 07 19.4**	**+2.2**
ROC1				*eS*		**Sb**	**15 08 06.0**	**+1.4**
AAGR	**Agrelo**	**3.49**	**162**	*eP*		**Pn**	**15 07 22.8**	**+3.2**
AAGR				*eS*		**Sb**	**15 08 13.3**	**+3.6**
AAGR				IAML			15 08 21.9	
	comp=Z,932nm,0.6s							
VA01	**Torpederas**	**3.52**	**202**	*eP*		**Pn**	**15 07 18.4**	**-1.5**
VA01	**Torpederas**	**3.52**	**202**			**Pn**	**15 07 19.2**	**-0.7**
ACAN	**Cantantal**	**3.54**	**136**	*eP*		**Pn**	**15 07 21.8**	**+1.7**
MT02	**Curacav**	**3.61**	**194**⇑	*iP*		**Pn**	**15 07 22.3**	**+1.2**
MT02				*i* S		**Sn**	**15 08 09.7**	**+5.3**
MT02	**Curacav**	**3.61**	**194**			**Pn**	**15 07 22.4**	**+1.3**
AC01	**Pan de Azucar**	**3.62**	**353**	*eP*		**Pn**	**15 07 23.3**	**+2.0**
AC01	**Pan de Azucar**	**3.62**	**353**	Pn		**Pn**	**15 07 23.4**	**+2.2**
MT05	**Renca**	**3.67**	**189**	*eP*		**Pn**	**15 07 24.5**	**+2.5**
MT05				*i* S		**Sb**	**15 08 12.3**	**-2.5**
MT05	**Renca**	**3.67**	**189**			**Pn**	**15 07 24.3**	**+2.3**
FSR	**Penalolen**	**3.73**	**186**	*eP*		**Pb**	**15 07 28.5**	**-2.3**
MT03	**Universidad Ad**	**3.75**	**185**	*eP*		**Pn**	**15 07 27.6**	**+4.5**
MT03				*i* S		**Sb**	**15 08 17.6**	**+0.5**
MT03	**Universidad Ad**	**3.75**	**185**			**Pn**	**15 07 26.1**	**+3.0**
MT03	**Universidad Ad**	**3.75**	**185**	*eP*		**Pn**	**15 07 26.8**	**+3.7**
MT03				IAML			15 08 27.4	
	comp=Z,632nm,0.6s							
CYA	**Choya**	**3.97**	**72**	*eP*		**Pn**	**15 07 27.8**	**+1.7**
CYA				IAML			15 08 32.4	
	comp=Z,247nm,0.7s							
LMEL	**Las Melosas**	**4.08**	**181**⇓	*iP*		**Pn**	**15 07 31.8**	**+4.1**
LMEL				*i* S		**Sb**	**15 08 24.7**	**-2.1**
MT09	**Talagante**	**4.08**	**191**	*eP*		**Pn**	**15 07 29.9**	**+2.1**
MT09	**Talagante**	**4.08**	**191**			**Pn**	**15 07 29.1**	**+1.4**
VA05	**Santo Domingo**	**4.11**	**198**	*eP*		**Pn**	**15 07 29.5**	**+1.6**
VA05	**Santo Domingo**	**4.11**	**198**			**Pn**	**15 07 28.6**	**+0.7**
MT01	**Popeta**	**4.22**	**193**	*eP*		**Pn**	**15 07 31.0**	**+1.6**
MT01				*i* S		**Sb**	**15 08 27.7**	**-2.8**
MT01	**Popeta**	**4.22**	**193**			**Pn**	**15 07 30.9**	**+1.4**
GO02	**Mina Guanaco**	**4.59**	**6**			**Pn**	**15 07 37.1**	**+2.2**
MRA	**San Martin**	**4.59**	**126**	*eP*		**Pn**	**15 07 36.0**	**+1.3**
MRA				IAML			15 08 50.3	
	comp=Z,455nm,0.5s							
BO01	**Tunca**	**4.70**	**190**	*eP*		**Pn**	**15 07 37.9**	**+1.8**
BO01	**Tunca**	**4.70**	**190**	Pn		**Pn**	**15 07 36.6**	**+0.5**
BO02	**Sierra Bellavi**	**5.06**	**187**			**Pn**	**15 07 41.9**	**+0.8**
BO02	**Sierra Bellavi**	**5.06**	**187**	*eP*		**Pn**	**15 07 43.8**	**+2.7**
BO02				IAML			15 09 05.8	
	comp=Z,264nm,0.9s							
PB14	**IPOC Station P**	**5.11**	**357**	Pn		**Pn**	**15 07 43.3**	**+1.2**
PB14	**IPOC Station P**	**5.11**	**357**	*eP*		**Pn**	**15 07 43.0**	**+0.9**
PB14				IAML			15 09 13.0	
	comp=Z,162nm,0.7s							
FSA	**Cafayete**	**5.13**	**46**	*eP*		**Pn**	**15 07 46.2**	**+4.0**
RFA	**San Rafael**	**5.19**	**165**	*eP*		**Pn**	**15 07 44.4**	**+1.5**
RFA				IAML			15 09 18.2	
	comp=Z,422nm,0.6s							
LAMA	**Las Malvinas**	**5.22**	**172**	*eP*		**Pn**	**15 07 46.2**	**+2.9**
GO05	**Huala**	**5.47**	**196**			**Pn**	**15 07 46.3**	**-0.4**
GO05	**Huala**	**5.47**	**196**	*eP*		**Pn**	**15 07 48.2**	**+1.5**
PB10	**IPOC Station P**	**6.23**	**356**	Pn		**Pn**	**15 07 58.6**	**+1.5**
PB15	**IPOC Station P**	**6.54**	**5**			**Pn**	**15 08 02.1**	**+0.5**
PB15	**IPOC Station P**	**6.54**	**5**	*eP*		**Pn**	**15 08 04.4**	**+2.8**
PB15				IAML			15 09 54.8	
	comp=Z,250nm,0.8s							
PB05	**IPOC Station P**	**6.87**	**359**	*eP*		**Pn**	**15 08 06.0**	**0.0**
PB05				IAML			15 10 05.7	
	comp=Z,150nm,1.0s							
PB06	**IPOC Station P**	**7.03**	**4**			**Pn**	**15 08 08.5**	**+0.2**
LVC	**Limon Verde**	**7.19**	**9**	Pn		**Pn**	**15 08 11.8**	**+1.1**
	comp=Z,4.8nm,0.3s,baz=176,slow=8.2,SNR=20							
LVC				Lg	Lg		15 10 06.1	
	comp=Z,9.4nm,0.3s,baz=313,slow=18,SNR=17							
LVC				LR		LR	15 11 00.0	
	comp=Z,498nm,19.6s,baz=202,slow=38							
LVC	**Limon Verde**	**7.19**	**9**	Pn		**Pn**	**15 08 10.6**	**-0.1**
LVC	**Limon Verde**	**7.19**	**9**	*eP*		**Pn**	**15 08 11.6**	**+1.0**
LVC	**Limon Verde**	**7.19**	**9**	*eP*		**Pn**	**15 08 13.6**	**+3.0**
LVC				IAML			15 10 16.9	
	comp=Z,136nm,0.9s							
PB04	**IPOC Station P**	**7.39**	**360**	Pn		**Pn**	**15 08 12.6**	**-0.6**
PB09	**IPOC Station P**	**7.96**	**6**			**Pn**	**15 08 21.5**	**+0.5**
PB09	**IPOC Station P**	**7.96**	**6**	*eP*		**Pn**	**15 08 22.6**	**+1.6**
PB07	**IPOC Station P**	**7.99**	**1**	Pn		**Pn**	**15 08 19.7**	**-1.8**
H03N1	**Juan Fernandez**	**8.38**	**242**	Pn		**Pn**	**15 08 26.7**	**+0.3**
	baz=112,slow=19,SNR=17							
H03N1				T	T		15 16 23.4	
	baz=60,slow=74,SNR=690							
H03N2	**Juan Fernandez**	**8.39**	**242**	Pn		**Pn**	**15 08 26.9**	**+0.3**
	baz=112,slow=19,SNR=19							
H03N2				T	T		15 15 52.4	
	baz=60,slow=74,SNR=612							
H03N3	**Juan Fernandez**	**8.39**	**242**	Pn		**Pn**	**15 08 26.8**	**+0.2**
	baz=112,slow=19,SNR=17							
H03N3				T	T		15 15 51.1	
	baz=60,SNR=733							
PB01	**IPOC Station P**	**8.69**	**4**			**Pn**	**15 08 29.6**	**-1.4**
TA01	**Diego Aracena**	**9.15**	**359**	Pn		**Pn**	**15 08 35.3**	**-1.8**
PB08	**IPOC Station P**	**9.61**	**5**	Pn		**Pn**	**15 08 41.1**	**-2.8**
PB11	**IPOC Station P**	**9.96**	**2**	Pn		**Pn**	**15 08 45.7**	**-2.7**
PSGCX	**Pisagua**	**10.11**	**360**	Pn		**Pn**	**15 08 47.5**	**-3.0**
MNMC	**Minye Minye**	**10.58**	**3**	Pn		**Pn**	**15 08 54.1**	**-3.0**
PLCA	**Paso Flores**	**10.96**	**182**	Lg	Lg		15 12 06.2	
	comp=Z,0.2nm,0.3s,baz=243,slow=16,SNR=1.4							
PLCA				LR		LR	15 13 17.4	
	comp=Z,387nm,20.5s,baz=8.5,slow=38							
AP01	**Chacalluta**	**11.33**	**359**	Pn		**Pn**	**15 09 04.3**	**-2.8**
ITQB	**Itaqui**	**11.71**	**93**	Pn		**Pn**	**15 09 09.8**	**-2.4**
ITQB	**Itaqui**	**11.71**	**93**	*eP*		**Pn**	**15 09 10.3**	**-1.9**
CPUP	**Villa Florida**	**11.77**	**76**	Pn		**Pn**	**15 09 10.9**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=232,slow=12,SNR=7.4							
CPUP				Lg	Lg		15 12 30.4	
	comp=Z,0.6nm,0.3s,baz=31,slow=19,SNR=1.9							
CPUP	**Villa Florida**	**11.77**	**76**	*eP*		**Pn**	**15 09 12.1**	**-1.0**
LPAZ	**La Paz**	**13.52**	**8**	Pn		**Pn**	**15 09 36.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=190,slow=8.6,SNR=7.7							
LPAZ				LR		LR	15 15 17.9	
	comp=Z,96nm,20.8s,baz=222,slow=40							
LPAZ	**La Paz**	**13.52**	**8**	Pn		**Pn**	**15 09 35.5**	**-2.1**
LPAZ	**La Paz**	**13.52**	**8**	*eP*		**Pn**	**15 09 37.8**	**+0.2**
PLTB	**Pedras Altas**	**14.32**	**102**	*eP*		**Pn**	**15 09 45.4**	**-2.5**
CPSB	**Cacapava Do Su**	**14.43**	**97**	*eP*		**Pn**	**15 09 46.8**	**-2.7**
AQDB	**Aquidauana**	**15.96**	**58**	*eP*		**Pn**	**15 10 08.6**	**-1.2**
ITAB	**Concordia**	**15.98**	**85**	*eP*		**Pn**	**15 10 09.4**	**-0.8**
SIV	**San Ignacio**	**16.01**	**33**	Pn		**Pn**	**15 10 06.5**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=209,slow=19,SNR=1.3							
PTGB	**Pitanga**	**16.79**	**77**	*eP*		**Pn**	**15 10 20.0**	**-0.5**
PTLB	**Pontes e Lacer**	**17.44**	**38**	*eP*		**Pn**	**15 10 29.8**	**+1.1**
PP1B	**Ponte de Pedra**	**18.42**	**52**	*eP*		**P**	**15 10 40.5**	**-0.4**
PCMB	**Pacaembu**	**18.79**	**69**	*eP*		**P**	**15 10 44.1**	**-0.7**
VILB	**Vilhena**	**19.07**	**31**	*eP*		**Pn**	**15 10 49.7**	**+1.0**
SALV	**Santo Antonio**	**19.10**	**47**	*eP*		**P**	**15 10 48.5**	**+0.1**
TIJ01	**Guaruva-PR**	**19.20**	**82**	*eP*		**P**	**15 10 48.8**	**-0.7**
FRTB	**Fartura**	**19.43**	**76**	*eP*		**P**	**15 10 51.8**	**0.0**
ETMB	**Extrema**	**20.16**	**11**	*eP*		**P**	**15 11 01.4**	**+1.5**
ITRB	**Iturama**	**20.49**	**65**	*eP*		**P**	**15 11 03.3**	**-0.2**
PET01	**Itanhaem-SP**	**21.02**	**80**	*eP*		**P**	**15 11 08.1**	**-1.1**
BB19B	**Bebedouro**	**21.28**	**71**	*eP*		**P**	**15 11 12.1**	**0.0**
VAO	**Valinhos**	**21.76**	**77**	*eP*		**P**	**15 11 16.5**	**-0.7**
ARAG	**Araguaiana, MT**	**21.85**	**54**	*eP*		**P**	**15 11 18.8**	**+0.6**
CZSB	**Cruzeiro do Su**	**22.05**	**353**	*eP*		**P**	**15 11 23.5**	**+3.2**
PARB	**Paraibuna**	**22.77**	**80**	*eP*		**P**	**15 11 27.9**	**-0.2**
CLDB	**Colider**	**23.03**	**38**	*eP*		**P**	**15 11 29.0**	**-1.7**
IPMB	**Ipameri, GO**	**23.14**	**64**	*eP*		**P**	**15 11 29.6**	**-2.3**
BSCB	**Bom Sucesso**	**24.43**	**75**	*eP*		**P**	**15 11 43.6**	**-0.9**
BDFB	**Brasilia**	**24.67**	**60**	P		**P**	**15 11 45.0**	**-1.7**
	comp=Z,16nm,1.0s,baz=217,slow=7.7,SNR=10							
BDFB	**Brasilia**	**24.67**	**60**	P		**P**	**15 11 45.8**	**-0.9**
SNDB	**Serra Nova Dou**	**24.86**	**49**	*eP*		**P**	**15 11 48.1**	**-0.2**
VAS01	**Vassouras-RJ**	**25.04**	**79**	*eP*		**P**	**15 11 49.0**	**-0.9**
PEXB	**Peixe**	**26.79**	**54**	*eP*		**P**	**15 12 06.0**	**+0.2**
MC01	**Montes Claros**	**27.23**	**67**	*eP*		**P**	**15 12 09.6**	**-0.2**
JANB	**Januaria**	**27.87**	**64**	*eP*		**P**	**15 12 14.5**	**-1.0**
SJMB	**Sao Joao De Ma**	**28.48**	**74**	*eP*		**P**	**15 12 20.9**	**0.0**
ITTB	**Itaituba**	**28.67**	**31**	*eP*		**P**	**15 12 23.0**	**+0.4**
BSFB	**Barra de Sao F**	**28.70**	**74**	*eP*		**P**	**15 12 22.8**	**-0.1**

RIB01	**Linhares ES**	**28.86**	**76**	*eP*		**P**	**15 12 25.2**	**+0.9**
SDBA	**SAO DESIDERIO**	**29.05**	**59**	*eP*		**P**	**15 12 25.8**	**-0.2**
SMTB	**Santa Maria do**	**29.60**	**50**	*eP*		**P**	**15 12 32.3**	**+1.5**
TULM	**Tulcn-Chalpat**	**31.18**	**345**	*eP*		P	15 12 59.9	+15
CMC01	**Camacan, BA**	**31.53**	**70**	*eP*		**P**	**15 12 48.1**	**+0.2**
NBIT	**Itapeh - BA**	**31.83**	**69**	*eP*		**P**	**15 12 51.5**	**+0.9**
GDU01	**Guandu, BA**	**32.39**	**67**	*eP*		**P**	**15 12 55.3**	**-0.2**
BOAV	**Boa Vista**	**33.25**	**18**	*eP*		**P**	**15 13 03.4**	**+0.5**
NBPN	**Ponto Novo - B**	**33.59**	**62**	*eP*		**P**	**15 13 05.7**	**-0.4**
ORTC	**Ortega, Tolima**	**33.83**	**351**	*eP*		**P**	**15 13 09.0**	**+1.0**
PMSA	**Palmer Station**	**35.24**	**176**	*eP*		**P**	**15 13 20.6**	**+0.8**
ROSB	**Rosrio**	**36.33**	**48**	*eP*		**P**	**15 13 28.4**	**-1.2**
SMLC	**San Martn de**	**38.52**	**354**	*eP*		**P**	**15 13 46.8**	**-1.4**
CMIG	**Matias Romero**	**52.35**	**330**	LR		LR	15 33 00.1	
	comp=Z,26nm,21.2s,baz=180,slow=30							
VNA3	**Neumayer Olymp**	**52.70**	**159**	P		**P**	**15 15 39.5**	**-0.2**
VNA1	**Neumayer--Stat**	**52.96**	**158**	P		**P**	**15 15 41.5**	**-0.1**
SNAA	**Sanae**	**54.92**	**159**	P		**P**	**15 15 55.7**	**-0.4**
SNAA	**Sanae**	**54.92**	**159**	P		**P**	**15 15 55.2**	**-0.8**
SNAA				IAmb	IAmb		15 15 58.9	
	comp=Z,6.2nm,0.8s							
QSPA	**South Pole Qui**	**60.47**	**180**	P		**P**	**15 16 35.2**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=149,slow=2.1,SNR=8.1							
W50A	**Signal Mountai**	**66.18**	**346**	P		**P**	**15 17 12.5**	**-0.7**
TX31	**Lajitas Ar. Si**	**66.92**	**328**	P		**P**	**15 17 19.4**	**+1.2**
TXAR	**Lajitas Array**	**66.92**	**328**	P		**P**	**15 17 19.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=149,slow=8.6,SNR=8.3							
TXAR	**Lajitas Array**	**66.92**	**328**	P		**P**	**15 17 19.5**	**+1.3**
LCAR	**Lake Charles**	**68.41**	**342**	P		**P**	**15 17 28.6**	**+1.3**
LCAR				IAmb	IAmb		15 17 35.2	
	comp=Z,5.8nm,1.0s							
MNTX	**Cornudas Mount**	**69.71**	**328**	P		**P**	**15 17 35.8**	**+0.3**
MGMO	**Mountain Grove**	**69.73**	**341**	P		**P**	**15 17 35.6**	**+0.1**
MGMO				IAmb	IAmb		15 17 42.6	
	comp=Z,3.7nm,1.1s							
R40A	**Maddies Statio**	**70.79**	**342**	P		**P**	**15 17 42.3**	**+0.3**
319A	**Douglas**	**71.30**	**325**	P		**P**	**15 17 45.9**	**+0.5**
DBIC	**Dimbokro**	**72.25**	**71**	P		**P**	**15 17 50.6**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=198,slow=6.4,SNR=1.5							
ANMO	**Albuquerque**	**72.92**	**329**	LR		LR	15 45 35.9	
	comp=Z,35nm,19.3s,baz=188,slow=32							
ANMO	**Albuquerque**	**72.92**	**329**	P		**P**	**15 17 56.7**	**+1.6**
T25A	**Trinidad**	**73.91**	**332**	P		**P**	**15 18 02.6**	**+1.7**
T25A				IAmb	IAmb		15 18 05.4	
	comp=Z,4.0nm,0.9s							
SADO	**Sadowa**	**74.62**	**353**	LR		LR	15 53 27.5	
	comp=Z,23nm,19.7s,baz=111,slow=38							
X16A	**Lo Mia Camp, P**	**74.82**	**326**	P		**P**	**15 18 08.0**	**+1.8**
X16A				IAmb	IAmb		15 18 11.3	
	comp=Z,3.4nm,1.0s							
MVCO	**Mesa Verde**	**75.72**	**329**	P		**P**	**15 18 13.1**	**+1.6**
MVCO				IAmb	IAmb		15 18 15.5	
	comp=Z,4.7nm,0.9s							
MAW	**Mawson**	**76.76**	**163**	P		**P**	**15 18 16.6**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=234,slow=6.7,SNR=4.3							
PV17	**East Wray Mesa**	**76.81**	**330**	P		**P**	**15 18 18.7**	**+1.2**
PV17				IAmb	IAmb		15 18 23.9	
	comp=Z,18nm,1.8s							
PV22	**Blue Mesa, Par**	**76.94**	**330**	P		**P**	**15 18 19.6**	**+1.3**
PV22				IAmb	IAmb		15 18 31.0	
	comp=Z,11nm,1.8s							
ECSD	**EROS Data Cent**	**77.06**	**341**	P		**P**	**15 18 18.8**	**+0.2**
ECSD				IAmb	IAmb		15 18 20.2	
	comp=Z,3.0nm,0.7s							
KNB	**Kanab**	**77.57**	**326**	P		**P**	**15 18 23.7**	**+1.9**
KNB				IAmb	IAmb		15 18 25.2	
	comp=Z,7.4nm,1.3s							
MTPU	**Mount Pierson**	**78.08**	**327**	P		**P**	**15 18 26.4**	**+1.4**
SRU	**San Rafael Swe**	**78.19**	**329**	P		**P**	**15 18 26.4**	**+1.2**
SRU				IAmb	IAmb		15 18 27.4	
	comp=Z,2.9nm,0.8s							
CCUT	**Cedar City**	**78.25**	**326**	P		**P**	**15 18 27.7**	**+2.0**
CCUT				IAmb	IAmb		15 18 29.0	
	comp=Z,3.3nm,1.0s							
D41A	**Chassel**	**78.25**	**347**	P		**P**	**15 18 25.6**	**+0.5**
SHPR	**Sheep Range**	**78.33**	**324**	P		**P**	**15 18 25.5**	**-0.5**
SHPR				IAmb	IAmb		15 19 02.5	
	comp=Z,9.6nm,1.9s							
TSUM	**Tsumeb**	**78.77**	**106**	P		**P**	**15 18 30.1**	**+1.1**
TSUM				IAmb	IAmb		15 18 31.0	
	comp=Z,4.7nm,0.7s							
RWWY	**Rawlins**	**78.92**	**333**	P		**P**	**15 18 29.4**	**+0.1**
RWWY				IAmb	IAmb		15 18 30.3	
	comp=Z,4.9nm,0.8s							
PSUT	**Pine Spring**	**79.27**	**326**	P		**P**	**15 18 32.4**	**+1.2**
BOSA	**Boshof**	**80.56**	**117**	P		**P**	**15 18 38.1**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=263,slow=3.1,SNR=6.5							
BOSA				LR		LR	15 51 20.5	
	comp=Z,9.5nm,18.3s,baz=194,slow=34							
B35A	**Bob, Littlefor**	**80.59**	**344**	P		**P**	**15 18 36.9**	**-1.0**
B35A				IAmb	IAmb		15 18 38.6	
	comp=Z,3.4nm,0.7s							
PDAR	**Pinedale Array**	**80.78**	**332**	P		**P**	**15 18 39.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=138,slow=9.6,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**81.18**	**69**	P		**P**	**15 18 40.3**	**-1.5**
TOA0				IAmb	IAmb		15 20 52.0	
	comp=Z,22nm,1.8s							
TORD	**Torodi Ar. Bea**	**81.18**	**69**	P		**P**	**15 18 40.9**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=272,slow=5.1,SNR=16							
TORD	**Torodi Ar. Bea**	**81.18**	**69**	P		**P**	**15 18 40.5**	**-1.4**
TORD				IAmb	IAmb		15 18 43.2	
	comp=Z,3.0nm,0.7s							
NVAR	**Mina Array Bea**	**81.40**	**324**	P		**P**	**15 18 44.2**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=149,slow=5.1,SNR=3.9							
ULM	**Lac du Bonnet**	**82.87**	**344**	P		**P**	**15 18 49.2**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=173,slow=8.1,SNR=3.0							
WRA	**Warramunga Arr**	**125.27**	**208**	PKP		**PKPdf**	**15 25 25.2**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=153,slow=1.7,SNR=1.8							
YAK	**Yakutsk**	**145.21**	**344**	PKPbc		**PKPbc**	**15 26 02.2**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=248,slow=1.1,SNR=5.8							
KURBB	**Kurchatov Arra**	**148.59**	**40**	PKPbc		**PKPbc**	**15 26 11.8**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=306,slow=3.1,SNR=17							
ZALV	**Zalesovo Beam**	**149.74**	**30**	PKPbc		**PKPbc**	**15 26 15.2**	**0.0**
	comp=Z,5.8nm,0.4s,baz=308,slow=3.2,SNR=19							
ZALV	**Zalesovo Beam**	**149.74**	**30**			**PKPbc**	**15 26 14.9**	**-0.3**
JKA	**Kamikawa-asahi**	**150.42**	**308**			**PKPbc**	**15 26 16.8**	**-0.4**
ASAJ	**Asahikawa**	**150.42**	**308**	PKPbc		**PKPbc**	**15 26 16.8**	**-0.4**
	comp=Z,5.7nm,0.9s,baz=14,slow=4.2,SNR=7.1							
MKAR	**Makanchi Array**	**152.64**	**44**	PKPbc		**PKPbc**	**15 26 21.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=310,slow=1.5,SNR=8.5							
SONM	**Songino Array**	**161.74**	**8**	PKPab		**PKPab**	**15 27 13.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=321,slow=2.0,SNR=1.7							

BJI ***16*** *15:16:06.3±0.0,23°.59N×121°.72E,h12km,mB4.4/25, mb4.2/36,ML4.0/8,Ms3.9/33,Ms7 3.8/32*
ASIES ***16*** *15:16:07.5,23°.50N×121°.78E,h27km,MW4.1*
NEIC ***16*** *15:16:07.7±1.6,23°.44N±0°.04×121°.76E±0°.02,h25km±5km, mb4.5/62,ML4.5(TAP), Error ellipse: s-maj=6.6km s-min=2.1km az=171.0*
NIED ***16*** *15:16:07.4,23°.49N×121°.72E,h33km,MW4.3,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr1.28; Mθθ0.73; Mϕϕ-2.01; Mrθ-2.19; Mθϕ-0.77; Mϕr-1.63; Fault plane solution: M₀3.34000×10¹⁵ NP1: ϕs227.00000°,δ77.00000°,λ116.00000°. NP2: ϕs342.00000°,δ29.00000°,λ27.00000°.*
JMA ***16*** *15:16:07.4±0.1,23°.49N×121°.72E,h33km±3km,M4.2*
TAP ***16*** *15:16:08.2,23°.50N×121°.72E,h32km,ML4.7,B*
IDC ***16*** *15:16:08.1±6.4,23°.43N×121°.75E,h33km±50km,mb3.7/17, mb1 3.9/18,mb1mx3.8/47,mbtmp3.9/18,ML3.8/1,MS3.4/11, Ms1 3.5/11,ms1mx3.2/31,Error ellipse: s-maj=21.1km s-min=14.2km az=69.0*

ISC 16 15:16:06.4±0.9,23°46N±0°01×121°77E±0°02,h18km±3km, n297,σ1s00/447,mb4.4/55,MS3.5/10,19C-61D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.32**	**275**⇓	*iP*		**Pn**	**15 16 15.0**	**-1.2**
	baz=269							
HGSD				S		**Sb**	**15 16 19.9**	**+1.4**
	baz=269							
TEGC	**Jichi Village**	**0.32**	**319**⇑	*iP*		**Pn**	**15 16 15.1**	**-1.1**
	baz=323							
TEGC				*i* S		**Sn**	**15 16 20.7**	**-1.8**
	baz=323							
EGFH	**Guangfu**	**0.38**	**303**⇑	*iP*		**Pb**	**15 16 15.7**	**+1.1**
	baz=303							
EGFH				*i* S		**Sb**	**15 16 21.3**	**+1.1**
	baz=303							
EHY	**Hungye**	**0.41**	**276**⇓	*iP*		**Pn**	**15 16 16.6**	**-1.0**
	baz=271							
EHY				*i* S		**Sb**	**15 16 22.7**	**+1.5**
	baz=271							
EYUL	**Yuli**	**0.43**	**255**⇓	*iP*		**Pn**	**15 16 17.0**	**-0.7**
	baz=248							
EYUL				*eS*		**Sb**	**15 16 23.1**	**+1.4**
	baz=248							
TEYL	**Yanliau Villag**	**0.43**	**339**⇑	*iP*		**Pn**	**15 16 17.2**	**-0.5**
	baz=345							
TEYL				S		**Sn**	**15 16 24.1**	**-1.2**
	baz=345							
YULB	**Yu-li**	**0.44**	**261**⇓	*iP*		**Pn**	**15 16 16.9**	**-0.9**
	baz=255							
YULB				S		**Sn**	**15 16 23.9**	**-1.5**
	baz=255							
YULB	**Yu-li**	**0.44**	**261**			**Pn**	**15 16 16.7**	**-1.1**
TWF1	**Yuli**	**0.45**	**256**⇓	*iP*		**Pn**	**15 16 17.1**	**-0.9**
	baz=249							
TWF1				*eS*		**Sn**	**15 16 24.4**	**-1.2**
	baz=249							
ESL	**Shilin**	**0.47**	**319**⇑	*iP*		**Pb**	**15 16 16.7**	**+0.6**
	baz=321							
ESL				*i* S		**Sb**	**15 16 22.9**	**+0.2**
	baz=321							
FULB	**Fuli**	**0.51**	**239**	*i* P		**Pn**	**15 16 17.9**	**-0.9**
	baz=233							
FULB				*eS*		**Sn**	**15 16 25.7**	**-1.5**
	baz=233							
CHKT	**Chengkung**	**0.52**	**226**⇑	*iP*		**Pn**	**15 16 18.0**	**-0.9**
	baz=219							
CHKT				S		**Sb**	**15 16 24.9**	**+0.7**
	baz=219							
HWA	**Hwalien**	**0.54**	**344**⇑	*iP*		**Pn**	**15 16 18.3**	**-0.9**
	baz=349							
HWA				*eS*		**Sb**	**15 16 26.0**	**+1.4**
	baz=349							
ETM	**Tongmen**	**0.56**	**333**⇑	*iP*		**Pb**	**15 16 18.3**	**+0.6**
	baz=336							
ETM				S		**Sb**	**15 16 25.6**	**+0.2**
	baz=336							
ECS	**Chishang**	**0.62**	**234**	P		**Pn**	**15 16 20.5**	**+0.1**
	baz=229							
ECS				*eS*		**Sn**	**15 16 29.4**	**-0.5**
	baz=229							
TWD	**Chiawan**	**0.64**	**345**⇑	*iP*		**Pg**	**15 16 19.4**	**+0.4**
	baz=350

CHN5	baz=276		eS	Sn	15 16 39.8	+0.2
WJS	**Zhushan** baz=290	1.02 291	⇓iP	Pg	15 16 26.8	+0.5
WJS	baz=290		eS	Sn	15 16 40.0	+0.3
NNSB	**Datong** baz=342	1.02 340	⇓iP	Pb	15 16 25.7	-0.1
NNSB	baz=342		S	Sb	15 16 37.8	-1.2
NNSH	**Datong** baz=341	1.02 340	⇓iP	Pb	15 16 25.6	-0.1
NNSH	baz=341		S	Sb	15 16 37.7	-1.2
NNS	**Nan Shan** baz=342	1.04 340	⇓iP	Pb	15 16 25.9	-0.1
NNS	baz=342		S	Sb	15 16 38.5	-0.9
TPUB	**Ta-pu** baz=259	1.06 262	eP	Pg	15 16 27.2	+0.2
TPUB	baz=259		eS	Sg	15 16 41.0	0.0
TPUB	**Ta-pu**	1.06 262		Pg	15 16 27.2	+0.2
WNT	**Mingjian** baz=292	1.08 293	⇓iP	Pg	15 16 27.7	+0.3
WNT	baz=292		eS	Sg	15 16 42.7	+1.1
WTP	**Ta-pu** baz=256	1.08 259	⇓P	Pg	15 16 27.6	+0.1
WTP	baz=256		eS	Sg	15 16 42.3	+0.6
CHN4	**Tsaushan** baz=262	1.09 264	⇓eP	Pg	15 16 27.8	+0.3
CHN4	baz=262		eS	Sg	15 16 42.7	+0.9
WNT1	**Nantou City** baz=293	1.09 294	⇓iP	Pg	15 16 28.1	+0.4
WNT1	baz=293		eS	Sg	15 16 44.0	+1.9
WHP	**Taichung City** baz=313	1.11 317	⇓iP	Pn	15 16 27.3	+0.2
WHP	baz=313		eS	Sb	15 16 41.0	-0.3
WGK	**Gukeng** baz=280	1.13 282	P	Pg	15 16 28.4	+0.1
WGK	baz=280		eS	Sg	15 16 42.9	-0.3
SLGT	**Liugui** baz=243	1.14 246	eP	Pg	15 16 28.2	-0.2
SLGT	baz=243		eS	Sn	15 16 42.3	-0.2
WWF	**Wufeng** baz=300	1.14 301	⇓iP	Pg	15 16 28.9	+0.4
WWF	baz=300		eS	Sg	15 16 45.9	+2.4
ECL	**Taimali** baz=218	1.14 221	eP	Pn	15 16 26.6	-1.0
ECL	baz=218		eS	Sb	15 16 40.3	-1.8
TWC	**Suao** baz=7.0	1.14 4	⇑P	Pb	15 16 27.7	0.0
TWC	baz=7.0		eS	Sb	15 16 41.9	-0.3
WDLH	**Douliu** baz=280	1.15 282	⇓iP	Pg	15 16 28.8	0.0
WDLH	baz=280		eS	Sg	15 16 44.8	+0.8
SGST	**Jiashian** baz=248	1.16 251	⇓eP	Pb	15 16 27.8	-0.1
SGST	baz=248		eS	Sb	15 16 42.2	-0.4
NDT	**Datong Townshi** baz=350	1.16 348	eP	Pn	15 16 27.8	0.0
NDT	baz=350		eS	Sb	15 16 42.0	-0.7
NDS	**Dongshan** baz=360	1.17 358	⇑P	Pn	15 16 27.8	-0.1
NDS	baz=360		eS	Sb	15 16 42.0	-0.9
CHN1	**Nanshi** baz=254	1.18 257	⇓eP	Pg	15 16 29.3	+0.1
CHN1	baz=254		eS	Sg	15 16 45.2	+0.6
ENTT	**Nioudou** baz=353	1.19 351	eP	Pb	15 16 28.3	-0.2
ENTT	baz=353		eS	Sb	15 16 42.6	-0.9
CHN2	**Minshiung** baz=272	1.19 274	⇓eP	Pg	15 16 29.7	+0.2
CHN2	baz=272		eS	Sg	15 16 46.0	+0.9
SNST	**Tainan City** baz=256	1.20 259	⇓eP	Pg	15 16 29.6	0.0
SNST	baz=256		eS	Sg	15 16 45.3	+0.1
TWK	**Hsinying** baz=258	1.20 261	⇓P	Pg	15 16 29.4	-0.1
TWK	baz=258		eS	Sg	15 16 45.3	0.0
TCU	**Taichung** baz=304	1.21 304	⇓P	Pg	15 16 29.9	0.0
TCU	baz=304		eS	Sg	15 16 46.9	+1.1
CHY	**Chiayi** baz=270	1.24 272	⇓eP	Pg	15 16 30.1	-0.3
CHY	baz=270		eS	Sn	15 16 45.7	+0.7
YHNB	**Yeheng** baz=345	1.25 343	⇓iP	Pb	15 16 29.4	-0.3
YHNB	baz=345		eS	Sb	15 16 44.2	-1.3
YHNB	**Yeheng**	1.25 343		Pn	15 16 29.1	0.0
TWE	**Neicheng** baz=358	1.26 356	eP	Pb	15 16 29.4	-0.2
TWE	baz=358		eS	Sb	15 16 44.4	-1.1
NSK	**Sanguang** baz=345	1.27 343	⇓eP	Pb	15 16 29.6	-0.2
NSK	baz=345		eS	Sb	15 16 44.6	-1.2
SSD	**Sandimen** baz=233	1.27 236	eP	Pb	15 16 29.5	-0.2
SSD	baz=233		eS	Sg	15 16 47.0	-0.5
TWQ1	**Liyutan** baz=315	1.27 314	⇓iP	Pg	15 16 30.8	-0.2
TWQ1	baz=315		eS	Sg	15 16 47.4	-0.2
TSMG	**Majia** baz=231	1.28 234	eP	Pn	15 16 29.6	+0.2
TSMG	baz=231		eS	Sn	15 16 46.8	+0.7
WTK	**Tuku** baz=279	1.29 280	⇓P	Pb	15 16 30.6	+0.4
WTK	baz=279		eS	Sn	15 16 45.8	-0.5
ILA	**Ilan** baz=2.0	1.30 359	eP	Pb	15 16 30.4	+0.1
ILA	baz=2.0		eS	Sb	15 16 46.5	-0.1
SCST	**Cishan** baz=242	1.31 244	⇓eP	Pg	15 16 31.7	0.0
SCST	baz=242		eS	Sg	15 16 48.9	+0.1
NSY	**Sanyi** baz=316	1.32 316	⇓P	Pg	15 16 31.7	-0.3
NSY	baz=316		eS	Sg	15 16 48.6	-0.8
NWLT	**Wulai** baz=351	1.33 349	eP	Pn	15 16 30.4	+0.2
NWLT	baz=351		eS	Sn	15 16 45.5	-2.0
CHN3	**Shinhua** baz=251	1.35 254	eP	Pg	15 16 33.0	+0.5
CHN3	baz=251		eS	Sg	15 16 52.1	+2.0
WDJ	**Dajia District** baz=311	1.36 311	eP	Pg	15 16 32.0	-0.7
WDJ	baz=311		eS	Sb	15 16 49.2	+0.8
NSTT	**Nanjuang** baz=330	1.36 329	⇓P	Pb	15 16 31.8	+0.4
NSTT	baz=330		eS	Sn	15 16 47.8	-0.3
TAW	**Tawu** baz=213	1.36 216	eP	Pn	15 16 30.6	+0.1
LIOB	**Emei** baz=331	1.37 330	⇓P	Pg	15 16 32.1	-0.8
LIOB	baz=331		eS	Sn	15 16 47.6	-0.6
EAST	**Anshuo** baz=216	1.37 219	⇑eP	Pn	15 16 30.1	-0.6
ICHU	**Yijhu** baz=264	1.37 266	⇓eP	Pb	15 16 32.0	+0.4
ICHU	baz=264		eS	Sb	15 16 49.0	+0.2
EGS	baz=9.0	1.39 6	eP	Pb	15 16 31.7	-0.1
NTC	**Toucheng** baz=4.0	1.39 2	eP	Pb	15 16 31.8	0.0
NTC	baz=4.0		eS	Sn	15 16 48.1	-0.6
SGLT	**Jiouru** baz=236	1.39 238	eP	Pg	15 16 34.0	+0.8
TWM1	**Shoushan** baz=240	1.39 243	eP	Pg	15 16 33.7	+0.4
NMLH	**Miaoli** baz=321	1.40 320	⇓P	Pb	15 16 32.4	+0.4
NMLH	baz=321		eS	Sb	15 16 49.7	+0.2
TSPT	**Pingtung City** baz=234	1.41 237	eP	Pg	15 16 34.5	+0.9
TSPT	baz=234		eS	Sg	15 16 54.2	+2.2
NJD	**Zhudong** baz=335	1.41 334	eP	Pg	15 16 33.3	-0.4
NJD	baz=335		eS	Sb	15 16 50.3	+0.3
WTCT	**Ta-ch'eng** baz=285	1.42 287	eP	Pb	15 16 32.8	+0.4
WTCT	baz=285		eS	Sg	15 16 51.3	-1.2
LAY	**Lan-yu** baz=186	1.43 188	eP	Pn	15 16 30.8	-0.7
LAY	baz=186		eS	Sn	15 16 47.1	-2.7
WSF	**Szhu** baz=276	1.43 277	eP	Pb	15 16 32.0	-0.6
WSF	baz=276		eS	Sb	15 16 50.2	-0.2
CHN8	**Yiju** baz=264	1.44 266	eP	Pb	15 16 32.9	+0.2
CHN8	baz=264		eS	Sg	15 16 51.7	-1.2
JYNG	**Yonagunijimaku**	1.46 47	P	Pb	15 16 33.0	0.0
JYNG			S	Sn	15 16 50.6	+0.1
WMLT	**Mailiao** baz=283	1.46 284	eP	Pb	15 16 33.4	+0.4
WMLT	baz=283		eS	Sb	15 16 51.9	+0.6
NJN	**Zhunan** baz=327	1.47 326	eP	Pb	15 16 33.0	-0.2
NJN	baz=327		eS	Sb	15 16 52.3	+0.8
SSPT	**Xinbi** baz=226	1.48 229	eP	Pb	15 16 33.9	+0.5
SCLT	**Jiali** baz=257	1.48 259	eP	Pb	15 16 34.0	+0.7
SCLT	baz=257		eS	Sg	15 16 53.3	-0.9
TAI1	**Yung-k'ang** baz=251	1.48 254	eP	Pg	15 16 34.6	-0.3
SNJT	**Kaohsiung City** baz=240	1.50 242	eP	Pg	15 16 35.5	+0.2
SNJT	baz=240		eS	Sg	15 16 53.9	-0.9
TIPB	**Shuangxi** baz=4.0	1.50 2	eP	Pb	15 16 33.6	-0.3
TIPB	baz=4.0		eS	Sn	15 16 51.4	-0.3
SBCB	**Hsinchu** baz=333	1.51 332	eP	Pb	15 16 34.2	+0.3
SBCB	baz=333		eS	Sb	15 16 52.8	+0.2
YOJ	**Yonaguni jima**	1.51 48	P	Pb	15 16 33.8	-0.1
YOJ			S	Sn	15 16 51.9	+0.1
YOJ	**Yonaguni jima** baz=51	1.51 48	eP	Pb	15 16 33.7	-0.1
YOJ	baz=51		eS	Sn	15 16 52.1	+0.3
YOJ	**Yonaguni jima**	1.51 48		Pb	15 16 33.5	-0.4
NHDH	**Xindian Distri** baz=353	1.51 352	eP	Pb	15 16 33.3	-0.7
NHDH	baz=353		eS	Sn	15 16 51.3	-0.5
SCZT	**Fangliau** baz=222	1.52 225	eP	Pb	15 16 33.4	-0.7
SCZT	baz=222		eS	Sb	15 16 52.9	0.0
TWA	**Mucha** baz=356	1.52 354	eP	Pb	15 16 33.8	-0.3
TWA	baz=356		eS	Sn	15 16 48.5	-3.6
HSN	**Hsinchu** baz=334	1.52 331	eP	Pb	15 16 34.6	+0.5
HSN	baz=334		eS	Sg	15 16 54.4	-1.2
TATO	**Taipei** baz=352	1.53 350	eP	Pb	15 16 33.5	-0.7
TATO	baz=352		eS	Sn	15 16 51.8	-0.4
TATO	**Taipei**	1.53 350	Pn	Pn	15 16 33.3	+0.5
SLIU	**Shizi** baz=214	1.53 216	eP	Pn	15 16 32.5	-0.4
SLIU	baz=214		eS	Sg	15 16 54.8	-1.1
TWB1	**Santiao Chiao** baz=10.0	1.55 7	eP	Pb	15 16 34.1	-0.5
TWB1	baz=10.0		eS	Sn	15 16 52.5	-0.3
BACT	**New Taipei Cit** baz=350	1.56 349	eP	Pn	15 16 33.3	0.0
TAP1	**Taipei** baz=353	1.59 352	eP	Pb	15 16 34.7	-0.5
TAP1	baz=353		eS	Sn	15 16 53.1	-0.5
NTY	**Taoyuan** baz=346	1.59 344	eP	Pb	15 16 35.2	-0.1
NTY	baz=346		eS	Sb	15 16 55.6	+0.5
NCUH	**Zhongli** baz=342	1.59 340	eP	Pb	15 16 35.1	-0.2
NCUH	baz=342		eS	Sb	15 16 54.7	-0.4
NCU	**National Centr** baz=342	1.59 341	eP	Pb	15 16 35.5	+0.2
NCU	baz=342		eS	Sb	15 16 55.7	+0.5
NWF	**Wu-fen Shan** baz=2.0	1.60 0	eP	Pb	15 16 35.1	-0.4
NWF	baz=2.0		eS	Sb	15 16 54.9	-0.6
WFSB	**Wu-fen Shan** baz=2.0	1.60 0	eP	Pb	15 16 35.3	-0.2
WFSB	baz=2.0		eS	Sn	15 16 54.2	+0.2
TWS1	**Kuangyinshan** baz=350	1.66 349	eP	Pb	15 16 35.8	-0.7
NHW	**Xinwu Township** baz=338	1.67 337	eP	Pb	15 16 36.4	-0.3
NHW	baz=338		eS	Sb	15 16 57.4	-0.1
TNOU	**National Taiwa** baz=2.0	1.68 0	eP	Pn	15 16 35.5	+0.5
YM01	**YM01** baz=355	1.69 354	eP	Pn	15 16 35.6	+0.5
YM01	baz=355		eS	Sn	15 16 56.1	-0.1
WLCH	**Liuqiu** baz=227	1.69 230	eP	Pg	15 16 39.7	+0.6
TWP	**Hsiaoliuchiu** baz=227	1.71 230	eP	Pg	15 16 39.2	-0.2
NTST	**Danshui** baz=352	1.72 350	eP	Pn	15 16 36.2	+0.7
YM08	**YM08** baz=356	1.73 355	eP	Pn	15 16 35.8	+0.2
ANP	**Anpu** baz=354	1.73 352	eP	Pn	15 16 36.2	+0.5
HEN	**Hengchun** baz=211	1.73 214	eP	Pb	15 16 36.8	-1.0
TSEB	**Hengchuen, Pin** baz=207	1.75 208	eP	Pn	15 16 36.9	+1.0
TSEB	baz=207		eS	Sn	15 16 58.0	+0.3
TWKBT	**Hengchun** baz=208	1.75 210	⇑eP	Pn	15 16 36.2	+0.3
TWKBT	baz=208		eS	Sn	15 16 57.4	-0.4
TWK1	**Hengchun** baz=208	1.75 211	eP	Pn	15 16 36.2	+0.3
TWK1	baz=208		eS	Sn	15 16 57.4	-0.4
TWY	**Chenhua** baz=357	1.81 355	eP	Pb	15 16 38.4	-0.7
WDGT	**Dungji** baz=263	1.95 264	⇓eP	Pn	15 16 39.3	+0.7
WDGT	baz=263		eS	Sn	15 17 01.8	-0.8
HATJ	**Hateruma jima**	1.96 72	P	Pn	15 16 39.7	+1.0
HATJ			S	Sn	15 17 02.8	0.0
IRIF	**Iriomote-Funau**	1.99 64	P	Pn	15 16 40.4	+1.2
IRIF			S	Sn	15 17 03.9	+0.2
PHUB	**P'eng-hu** baz=270	2.02 272	⇓eP	Pn	15 16 40.0	+0.4
PHUB	baz=270		eS	Sn	15 17 03.6	-0.8
PNG	**Penghu** baz=272	2.04 273	eP	Pn	15 16 40.5	+0.7
PNG	baz=272		eS	Sn	15 17 04.0	-0.7
VCHM	**Qimei** baz=262	2.17 264	⇓eP	Pn	15 16 42.2	+0.6
VCHM	baz=262		eS	Sn	15 17 06.6	-1.4
PCYT	**Pengchaiyu** baz=9.0	2.17 7	eP	Pn	15 16 42.4	+0.7
JKRS	**Kuro-shima**	2.19 69	P	Pn	15 16 43.2	+1.3
JKRS			S	Sn	15 17 09.1	+0.5
JIJ	**Ishigaki jima**	2.35 67	P	Pn	15 16 44.8	+0.7
JIJ			S	Sn	15 17 11.8	-0.7
JISG	**Ishigakijimahi**	2.58 64	P	Pn	15 16 47.9	+0.6
JISG			S	Sn	15 17 17.2	-1.0
VWUC	**VWUC** baz=306	2.61 306	⇓eP	Pn	15 16 47.6	-0.1
VWUC	baz=306		eS	Sn	15 17 16.6	-2.4
PTMZ	**Houxiangcun** baz=303	2.88 304	eP	Pn	15 16 51.5	0.0
PTMZ	baz=303		eS	Sn	15 17 23.6	-2.1
JTJ	**Tarama**	2.92 66	P	Pn	15 16 53.0	+1.0
JTJ			S	Sn	15 17 26.2	-0.5
BBP	**Basco**	3.01 177	eP	Pn	15 16 53.0	-0.2
BBP			iS	Sn	15 17 27.2	-1.6
MATB	**Ma-tsu** baz=328	3.15 329	eP	Pn	15 16 54.7	-0.4
MATB	baz=328		eS	Sn	15 17 29.2	-3.0
MSUT	**Lienchiang** baz=328	3.17 328	eP	Pn	15 16 55.4	0.0
MSUT	baz=328		eS	Sn	15 17 30.2	-2.7
KNM	**Kinmen** baz=286	3.20 288	⇓eP	Pn	15 16 57.6	+1.8
KNM	baz=286		eS	Sn	15 17 34.0	+0.5
KNMB	**Chin-men Tao** baz=288	3.25 289	⇓eP	Pn	15 16 56.7	+0.2
KNMB	baz=288		eS	Sn	15 17 32.2	-2.6
KNMB	**Chin-men Tao**	3.25 289	Pn	Pn	15 16 56.3	-0.3
QZH	**Quanzhou**	3.25 298	⇓iPn	Pn	15 16 56.6	0.0
QZH			Sn	Sn	15 17 32.5	-2.4
QZH	360nm,0.6s		SMN			
QZH	270nm,0.8s		SME			
QZH	comp=N,890nm,16.8s		L	L		
QZH	comp=E,780nm,13.5s		L	L		
QZH	comp=Z,1μm,11.1s		L	L		
JIRB	**Irabujima**	3.39 66	P	Pn	15 16 59.2	+0.7
JIRB			S	Sn	15 17 37.2	-1.0
JMJ	**Miyako jima 2** baz=68	3.49 67	eP	Pn	15 17 00.9	+1.2
JMJ	baz=68		eS	Sn	15 17 40.5	-0.1
JMJ2	**Miyako jima3**	3.49 68	P	Pn	15 17 01.1	+1.3
JMJ2			S	Sn	15 17 40.7	0.0
JIKM	**Ikemajima**	3.49 65	P	Pn	15 17 01.2	+1.4
JIKM			S	Sn	15 17 40.0	-0.7
JOGS	**Gusukube**	3.56 68	P	Pn	15 17 02.1	+1.3
JOGS			eS	Sn	15 17 42.3	-0.2
LYJJ	**Jianjiangzhen** baz=330	3.58 330	eP	Pn	15 17 00.5	-0.4
LYJJ	baz=330		eS	Sn	15 17 40.1	-2.6
MHZQ	**Yeshan** baz=317	3.62 317	eP	Pn	15 17 01.6	0.0
MHZQ	baz=317		eS	Sn	15 17 41.7	-2.1
ZPLA	**Ao Xicun** baz=277	3.71 278	eP	Pn	15 17 03.1	+0.3
ZPLA	baz=277		eS	Sn	15 17 43.2	-3.0
XPSS	**Dashiqiu** baz=338	3.74 338	eP	Pn	15 17 03.0	-0.2
XPSS	baz=338		eS	Sn	15 17 44.1	-2.7
AXDP	**Jialang** baz=292	3.75 293	⇓eP	Pn	15 17 03.8	+0.4
AXDP	baz=292		eS	Sn	15 17 44.7	-2.5
SZP	**Santa**	6.01 192	Pn	Pn	15 17 34.1	-0.3
JOW	**Kunigami** 4.4nm,0.3s,baz=170,slow=16,SNR=12	6.78 59	Pn	Pn	15 17 44.2	-0.8
JOW	2.5nm,0.3s,baz=123,slow=23,SNR=1.7		Sn	Sn	15 18 59.4	-2.5
JOW	**Kunigami** baz=61	6.78 59	eP	Pn	15 17 44.0	-1.1
JOW	**Kunigami**	6.78 59	Pn	Pn	15 17 44.0	-1.1
GZH	**Guangzhou**	7.76 269	Pn	Pn	15 17 55.4	-3.1
GZH			Sn	Sn	15 19 20.9	-5.0
GZH	83nm,1.6s		SMN			
GZH	46nm,1.0s		SME			
NJ2	**Nanjing**	8.94 344	eP	Pn	15 18 15.1	+0.5
NJ2			S	Sn	15 19 51.4	-3.4
NJ2	comp=Z,8.0nm,0.5s		pmax	pmax		
NJ2	34nm,0.7s		SMN			
NJ2	21nm,0.9s		SME			
NJ2	comp=N,180nm,4.7s		L	L		
NJ2	comp=E,150nm,3.8s		L	L		
NJ2	comp=Z,540nm,11.8s		L	L		
WHN	**Wuhan**	9.67 318	⇑P	Pn	15 18 24.3	-0.4
QIZ	**Qiongzhong**	11.96 251	P	Pn	15 18 55.4	-0.8
QIZ			S	Sn	15 21 10.8	+1.6
QIZ	comp=N,120nm,10.6s		L	L		
QIZ	comp=E,140nm,11.3s		L	L		
QIZ	comp=Z,160nm,17.7s		L	L		
ENH	**Enshi**	12.89 304	Pn	Pn	15 19 09.1	+0.4
GYA	**Guiyang**	14.02 285	eP	Pn	15 19 25.6	+1.2
GYA			S	Sn	15 22 00.8	+1.1
GYA	comp=Z,1.0nm,1.1s		pmax	pmax		
GYA	comp=N,24nm,11.3s		L	L		
GYA	comp=E,64nm,12.4s		L	L		
GYA	comp=Z,87nm,13.7s		L	L		
KSRS	**Korea Array** 0.4nm,0.3s,baz=196,slow=12,SNR=12	14.91 19	Pn	P	15 19 40.5	-1.3
KSRS	comp=Z,136nm,18.5s,baz=184,slow=41		LR	LR	15 26 22.0	
KS19	**Wonju Array Si**	14.94 19	P	P	15 19 42.8	+0.6
XAN	**Xi'an**	15.41 316	P	Pn	15 19 44.3	+1.3
XAN			pP	pP	15 19 50.9	-0.9
XAN	comp=Z,10.0nm,0.8s		pmax	pmax		

XAN					pmax	pmax			
	comp=Z,50nm,5.2s								
XAN					L	L			
	comp=N,250nm,10.8s								
XAN					L	L			
	comp=E,310nm,15.2s								
XAN					L	L			
	comp=Z,470nm,13.2s								
SLVN	**Son La**	**16.66**	**266**		Pn	**Pn**	**15 19 58.8**	**-0.3**	
CD2	**Chengdu**	**17.65**	**299**		P	**P**	**15 20 13.5**	**+1.2**	
CD2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
CD2					L	L			
	comp=N,350nm,9.8s								
CD2					L	L			
	comp=E,400nm,15.7s								
CD2					L	L			
	comp=Z,510nm,15.7s								
JHJ2	**Mitsune**	**18.55**	**55**		P	**P**	**15 20 20.8**	**-1.4**	
MJB9	**Matsu-Tunnel**	**19.27**	**44**		P	**P**	**15 20 28.2**	**-1.9**	
MJAR	**Matsushiro Arr**	**19.27**	**44**		LR	LR	15 28 05.6		
	comp=Z,41nm,20.3s,baz=245,slow=37								
HHC	**Hu-ho-hao-te**	**19.34**	**336**		*e*P	**Pn**	**15 20 32.8**	**+0.7**	
HHC					pmax	pmax			
	comp=Z,16nm,0.6s								
HHC					pmax	pmax			
	comp=Z,89nm,5.5s								
HHC					L	L			
	comp=N,190nm,11.9s								
HHC					L	L			
	comp=E,150nm,10.6s								
HHC					L	L			
	comp=Z,180nm,12.8s								
LZH	**Lanzhou**	**19.97**	**313**		*e*P	**P**	**15 20 37.3**	**-0.6**	
LZH					pP	sP	15 20 44.0	+0.5	
LZH					sP	pwP	15 20 47.0	+0.8	
LZH					*e*S	**S**	**15 24 20.3**	**-1.7**	
LZH					SS	**SnSn**	**15 24 43.5**	**+5.1**	
LZH					pmax	pmax			
	comp=Z,12nm,1.1s								
LZH					pmax	pmax			
	comp=Z,81nm,4.6s								
LZH					L	L			
	comp=N,260nm,12.5s								
LZH					L	L			
	comp=E,250nm,13.3s								
LZH					L	L			
	comp=Z,330nm,14.4s								
CMMT	**Chiang Mai**	**21.78**	**262**		P	**P**	**15 20 59.8**	**+2.4**	
	3.2nm,1.0s								
CHTO	**Chiang Mai**	**21.78**	**262**		P	**P**	**15 21 00.6**	**+3.2**	
	1.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**21.88**	**261**		P	**P**	**15 20 59.4**	**+0.8**	
	0.9nm,0.6s,baz=64,slow=9.1,SNR=1.4								
CMAR					LR	LR	15 30 16.2		
	comp=Z,76nm,19.1s,baz=152,slow=39								
TOLI2	**Tolitoli**	**22.24**	**183**		P	**P**	**15 21 03.1**	**+0.8**	
USRK	**Ussuriysk Ar.**	**22.32**	**20**		LR	LR	15 30 44.2		
	comp=Z,50nm,19.7s,baz=175,slow=39								
GTOI	**Gorontalo**	**22.72**	**177**		P	**P**	**15 21 05.9**	**-1.6**	
	4.3nm,0.7s								
MPSI	**Mapaga**	**23.06**	**185**		P	**P**	**15 21 11.3**	**+0.3**	
	7.6nm,0.6s								
LUWI	**Luwuk**	**24.38**	**178**		P	**P**	**15 21 23.0**	**-0.7**	
GTA	**Gaotai**	**24.48**	**316**	⇓	P	**P**	**15 21 26.8**	**+2.2**	
GTA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
GTA					pmax	pmax			
	comp=Z,52nm,4.0s								
GTA					L	L			
	comp=N,110nm,14.5s								
GTA					L	L			
	comp=E,170nm,13.5s								
GTA					L	L			
	comp=Z,230nm,15.3s								
ASAJ	**Asahikawa**	**26.77**	**35**		P	**P**	**15 21 46.8**	**+1.6**	
	0.7nm,0.4s,baz=283,slow=11,SNR=5.2								
KLR	**Kul'dur**	**26.89**	**15**		P	**P**	**15 21 47.2**	**+0.9**	
	0.7nm,0.4s,baz=225,slow=8.6,SNR=2.3								
SONM	**Songino Array**	**27.24**	**337**		P	**P**	**15 21 48.8**	**-0.8**	
	0.8nm,0.4s,baz=141,slow=8.7,SNR=2.9								
SONM					LR	LR	15 34 07.1		
	comp=Z,117nm,18.3s,baz=137,slow=40								
EDFI	**Ende, Flores**	**32.01**	**180**		P	**P**	**15 22 30.3**	**-1.8**	
	514nm12nm,0.9s								
TWSI	**Taliwang, Sumb**	**32.36**	**189**		P	**P**	**15 22 35.5**	**+0.5**	
	7.7nm,1.1s								
MDSI	**Maura Dua**	**32.65**	**214**		P	**P**	**15 22 37.9**	**+0.3**	
	7.7nm,0.8s								
WMQ	**Urumqi**	**34.54**	**314**		*e*P	**P**	**15 22 56.9**	**+3.0**	
WMQ					pP	pwP	15 23 03.3	+1.1	
WMQ					sP	sP	15 23 07.3	+6.9	
WMQ					pmax	pmax			
	comp=Z,15nm,0.9s								
WMQ					pmax	pmax			
	comp=Z,100nm,4.5s								
MK31	**Makanchi Array**	**39.23**	**316**		P	**P**	**15 23 33.9**	**+0.2**	
MKAR	**Makanchi Array**	**39.23**	**316**		P	**P**	**15 23 34.1**	**+0.4**	
	1.6nm,0.5s,baz=105,slow=11,SNR=10								
MKAR					PcP	**PcP**	**15 25 41.4**	**-1.2**	
	0.2nm,0.4s,baz=103,slow=3.1,SNR=1.3								
MKAR					LR	LR	15 41 09.8		
	comp=Z,107nm,18.1s,baz=91,slow=38								
MKAR	**Makanchi Array**	**39.23**	**316**		P	**P**	**15 23 33.8**	**+0.1**	
KNRA	**Kununurra**	**39.49**	**169**		P	**P**	**15 23 34.2**	**-1.8**	
KNRA					IAmb	IAmb	15 23 54.0		
	comp=Z,10nm,1.2s								
PETK	**Petropavlovsk-**	**40.17**	**33**		LR	LR	15 40 23.1		
	comp=Z,49nm,19.9s,baz=197,slow=36								
ZALV	**Zalesovo Beam**	**41.14**	**327**		P	**P**	**15 23 47.7**	**-1.7**	
	comp=Z,1.8nm,0.8s,baz=113,slow=6.5,SNR=4.8								
ZALV					LR	LR	15 42 11.6		
	comp=Z,72nm,18.1s,baz=121,slow=38								
FITZ	**Fitzroy Crossi**	**41.48**	**174**		P	**P**	**15 23 50.4**	**-2.1**	
H11N1	**WAKE ISLAND Hy**	**41.99**	**86**		T	T	16 09 08.3		
	baz=283,slow=75,SNR=83								
H11N2	**WAKE ISLAND Hy**	**42.00**	**86**		T	T	16 09 00.5		
	baz=283,slow=75,SNR=50								
H11N3	**WAKE ISLAND Hy**	**42.01**	**86**		T	T	16 09 03.1		
	baz=283,slow=75,SNR=57								
H11S3	**WAKE ISLAND Hy**	**42.10**	**88**		T	T	16 09 11.7		
	baz=284,slow=75,SNR=122								
H11S1	**WAKE ISLAND Hy**	**42.11**	**88**		T	T	16 09 10.3		
	baz=284,slow=75,SNR=119								
H11S2	**WAKE ISLAND Hy**	**42.12**	**88**		T	T	16 09 13.1		
	baz=284,slow=75,SNR=104								
KURK	**Kurchatov**	**42.99**	**320**		P	**P**	**15 24 04.1**	**-0.4**	
KURBB	**Kurchatov Arra**	**43.00**	**320**		P	**P**	**15 24 04.1**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=99,slow=9.7,SNR=8.0								
WB0	**Warramunga Ar**	**44.70**	**163**		P	**P**	**15 24 17.1**	**-1.5**	
PSA00	**Pilbara Seismi**	**44.80**	**183**		P	**P**	**15 24 17.3**	**-2.0**	
PSA00					IAmb	IAmb	15 24 18.4		
	comp=Z,5.4nm,0.7s								
WRAB	**Tennant Creek**	**44.84**	**163**		P	**P**	**15 24 18.6**	**-1.1**	
WRA	**Warramunga Arr**	**44.85**	**163**		P	**P**	**15 24 18.7**	**-1.1**	
	comp=Z,2.1nm,0.9s,baz=344,slow=8.7,SNR=19								
WRA	**Warramunga Arr**	**44.85**	**163**		P	**P**	**15 24 18.7**	**-1.1**	
WB2	**Warramunga Ar**	**44.85**	**163**		P	**P**	**15 24 18.4**	**-1.3**	
WB2					IAmb	IAmb	15 24 43.2		
	comp=Z,7.1nm,1.3s								
WR0	**Warramunga Arr**	**44.92**	**163**		P	**P**	**15 24 18.8**	**-1.5**	
WR0					IAmb	IAmb	15 24 39.7		
	comp=Z,9.3nm,1.4s								
KKAR	**Karatay Array**	**46.34**	**308**		P	**P**	**15 24 31.7**	**+0.3**	
GIRL	**Giralia**	**46.41**	**190**		P	**P**	**15 24 32.2**	**+0.2**	
ASAR	**Alice Springs**	**48.31**	**165**		P	**P**	**15 24 46.5**	**-0.3**	
	comp=Z,1.7nm,0.8s,baz=350,slow=6.0,SNR=10								
BVAR	**Borovoye Array**	**48.57**	**321**		P	**P**	**15 24 48.8**	**+0.2**	
	comp=Z,0.4nm,0.5s,baz=112,slow=19,SNR=3.3								
NRIK	**Noril'sk**	**50.24**	**345**		LR	LR	15 48 07.4		
	comp=Z,32nm,19.5s,baz=120,slow=38								
ABKAR	**Akbulak array**	**54.33**	**315**		P	**P**	**15 25 31.5**	**-0.3**	
BBOO	**Buckleboo**	**57.59**	**166**		P	**P**	**15 25 55.0**	**-0.3**	
STKA	**Stephens Creek**	**58.20**	**160**		P	**P**	**15 25 58.3**	**-1.2**	
	comp=Z,2.6nm,0.7s,baz=346,slow=7.8,SNR=6.5								
STKA	**Stephens Creek**	**58.20**	**160**		P	**P**	**15 25 59.4**	**-0.1**	
NIKH	**Nikolski High**	**59.27**	**41**		P	**P**	**15 26 07.3**	**+0.5**	
IMAR	**Indian Mountai**	**66.59**	**26**		P	**P**	**15 26 55.9**	**+0.6**	
SII	**Sitkinak Islan**	**67.52**	**37**		P	**P**	**15 27 01.6**	**+0.3**	
PPLA	**Purkeypile**	**67.61**	**30**		P	**P**	**15 27 03.0**	**+1.1**	
PPLA					IAmb	IAmb	15 27 04.2		
	comp=Z,7.4nm,1.2s								
TOLK	**Toolik Lake Re**	**67.90**	**23**		P	**P**	**15 27 04.7**	**+1.1**	
TOLK					IAmb	IAmb	15 27 06.3		
	comp=Z,3.2nm,0.7s								
MLY	**Manley**	**67.94**	**27**		P	**P**	**15 27 05.3**	**+1.4**	
MLY					IAmb	IAmb	15 27 06.2		
	comp=Z,3.4nm,0.9s								
BPAW	**Bear Paw Mtn.**	**67.97**	**28**		P	**P**	**15 27 05.2**	**+1.1**	
KDAK	**Kodiak Island**	**68.18**	**35**		P	**P**	**15 27 05.7**	**+0.2**	
KDAK					IAmb	IAmb	15 27 25.6		
	comp=Z,3.7nm,1.1s								
TRF	**Thorofare Moun**	**68.38**	**29**		P	**P**	**15 27 08.0**	**+1.2**	
TRF					IAmb	IAmb	15 27 18.8		
	comp=Z,6.5nm,1.3s								
SUA	**Susitna One**	**68.49**	**31**		P	**P**	**15 27 08.2**	**+0.7**	
CUT	**Chulitna**	**68.56**	**30**		P	**P**	**15 27 08.5**	**+0.7**	
NEA2	**Nenana**	**68.72**	**28**		P	**P**	**15 27 09.4**	**+0.7**	
MCK	**McKinley**	**68.93**	**28**		P	**P**	**15 27 10.6**	**+0.6**	
MCK					IAmb	IAmb	15 27 12.1		
	comp=Z,4.6nm,1.0s								
MDM	**Murphy Dome**	**69.01**	**27**		P	**P**	**15 27 11.3**	**+0.8**	
RND	**Reindeer**	**69.02**	**29**		P	**P**	**15 27 10.8**	**+0.1**	
WRH	**Wood River Hil**	**69.16**	**28**		P	**P**	**15 27 12.4**	**+1.0**	
SEW	**Seward**	**69.36**	**32**		P	**P**	**15 27 12.3**	**-0.4**	
SEW					IAmb	IAmb	15 27 13.7		
	comp=Z,5.9nm,1.1s								
SML	**Sawmill**	**69.56**	**30**		P	**P**	**15 27 14.5**	**+0.5**	
SML					IAmb	IAmb	15 27 31.8		
	comp=Z,4.2nm,1.0s								
ILAR	**Eielson Array**	**69.61**	**27**		P	**P**	**15 27 13.6**	**-0.6**	
	comp=Z,0.4nm,0.7s,baz=288,slow=8.7,SNR=9.1								
HDA	**Harding Lake**	**69.65**	**28**		P	**P**	**15 27 14.5**	**0.0**	
HDA					IAmb	IAmb	15 27 15.0		
	comp=Z,2.2nm,0.7s								
PWL	**Port Wells**	**69.75**	**31**		P	**P**	**15 27 14.5**	**-0.7**	
PWL					IAmb	IAmb	15 27 16.2		
	comp=Z,5.1nm,0.8s								
BMAR	**Burnt Mountain**	**69.96**	**24**		P	**P**	**15 27 17.6**	**+1.1**	
PRP	**Porcupine Dome**	**70.01**	**26**		P	**P**	**15 27 18.0**	**+1.1**	
PRP					IAmb	IAmb	15 27 18.7		
	comp=Z,3.0nm,0.7s								
SCM	**Sheep Creek Mo**	**70.02**	**30**		P	**P**	**15 27 17.1**	**+0.1**	
GLI	**Glacier Island**	**70.34**	**31**		P	**P**	**15 27 19.9**	**+1.0**	
M24K	**Tolsona, Glenn**	**70.49**	**30**		P	**P**	**15 27 20.4**	**+0.6**	
PAX	**Paxson**	**70.61**	**29**		P	**P**	**15 27 20.8**	**+0.2**	
FID	**Port Fidalgo**	**70.67**	**31**		P	**P**	**15 27 20.7**	**-0.1**	
FID					IAmb	IAmb	15 27 33.9		
	comp=Z,5.3nm,0.9s								
HIN	**Hinchinbrook I**	**70.74**	**32**		P	**P**	**15 27 21.4**	**+0.1**	
HIN					IAmb	IAmb	15 27 22.6		
	comp=Z,5.1nm,0.8s								
SCRK	**Sand Creek**	**71.02**	**28**		P	**P**	**15 27 22.7**	**-0.4**	
DOT	**Dot Lake**	**71.06**	**28**		P	**P**	**15 27 22.9**	**-0.4**	
DOT					IAmb	IAmb	15 27 24.6		
	comp=Z,2.8nm,1.0s								
N25K	**Chitina, Valde**	**71.34**	**30**		P	**P**	**15 27 25.9**	**+0.9**	
N25K					IAmb	IAmb	15 27 29.0		
	comp=Z,2.9nm,0.9s								
MENT	**Mentasta**	**71.40**	**29**		P	**P**	**15 27 25.9**	**+0.6**	
BMRM	**Bremner River**	**71.50**	**31**		P	**P**	**15 27 26.1**	**+0.2**	
BMRM					IAmb	IAmb	15 27 27.5		
	comp=Z,3.1nm,0.8s								
GLB	**Gilahina Butte**	**71.75**	**30**		P	**P**	**15 27 27.2**	**-0.2**	
GLB					IAmb	IAmb	15 27 29.1		
	comp=Z,2.9nm,0.6s								
K27K	**Chicken**	**71.81**	**27**		P	**P**	**15 27 28.3**	**+0.6**	
K27K					IAmb	IAmb	15 27 29.8		
	comp=Z,3.4nm,0.8s								
HMT	**Hamilton**	**71.83**	**31**		P	**P**	**15 27 27.9**	**0.0**	
HMT					IAmb	IAmb	15 27 56.1		
	comp=Z,5.3nm,1.2s								
VRDI	**Verde Repeater**	**71.97**	**30**		P	**P**	**15 27 28.7**	**-0.3**	
EGAK	**Eagle**	**71.98**	**27**		P	**P**	**15 27 28.8**	**+0.1**	
SUCK	**Suckling Hills**	**72.14**	**32**		P	**P**	**15 27 30.0**	**+0.3**	
SUCK					IAmb	IAmb	15 27 31.2		
	comp=Z,6.0nm,0.9s								
L27K	**Beaver Creek,**	**72.19**	**28**		P	**P**	**15 27 31.0**	**+1.0**	
L27K					IAmb	IAmb	15 27 32.3		
	comp=Z,2.7nm,0.8s								
BCAR	**Beaver Creek A**	**72.21**	**28**		P	**P**	**15 27 31.1**	**+0.9**	
FINES	**FINESS Array B**	**72.34**	**330**		P	**P**	**15 27 29.9**	**-1.0**	
	comp=Z,2.1nm,0.8s,baz=65,slow=5.0,SNR=5.7								
FINES					LR	LR	16 02 18.8		
	comp=Z,48nm,19.2s,baz=82,slow=38								
FINES	**FINESS Array B**	**72.34**	**330**		P	**P**	**15 27 30.0**	**-0.8**	
BARN	**Barnard Glacie**	**72.85**	**30**		P	**P**	**15 27 34.9**	**+0.7**	
BARN					IAmb	IAmb	15 27 36.0		
	comp=Z,2.8nm,0.7s								
CTGM	**Chitina Glacie**	**73.03**	**30**		P	**P**	**15 27 34.6**	**-0.6**	
CTGM					IAmb	IAmb	15 27 37.1		
	comp=Z,3.5nm,0.6s								
BRTR	**Keskin Array B**	**74.03**	**307**		P	**P**	**15 27 41.3**	**-0.2**	
HYT	**Haines Junctio**	**74.85**	**30**		P	**P**	**15 27 46.7**	**+0.9**	
HYT					IAmb	IAmb	15 27 47.9		
	comp=Z,3.4nm,0.9s								
WHY	**Whitehorse**	**76.11**	**30**		P	**P**	**15 27 53.5**	**+0.5**	
WHY					IAmb	IAmb	15 27 55.0		
	comp=Z,3.8nm,0.9s								
NOA	**NORSAR Array B**	**79.11**	**332**		P	**P**	**15 28 07.9**	**-1.8**	
	comp=Z,0.6nm,0.6s,baz=61,slow=5.2,SNR=4.7								
NOA					LR	LR	16 06 06.2		
	comp=Z,41nm,18.9s,baz=65,slow=38								
YKA	**Yellowknife Ar**	**83.42**	**23**		P	**P**	**15 28 32.3**	**-0.1**	
	comp=Z,1.1nm,0.7s,baz=333,slow=3.6,SNR=4.4								
GERES	**GERESS Array B**	**83.74**	**321**		P	**P**	**15 28 34.0**	**-0.5**	
	comp=Z,1.2nm,0.8s,baz=70,slow=5.8,SNR=8.7								
NVAR	**Mina Array Bea**	**96.59**	**43**		P	**P**	**15 29 35.8**	**+0.1**	
	comp=Z,0.3nm,0.7s,baz=304,slow=6.4,SNR=2.1								

*TUL **16** 15:35:57.6±0.7,36.52N±0.02×97.28W±0.04,h5km±7km, ML3.1,mb_Lg3.0/83(NEIC),Error ellipse: s-maj=4.6km s-min=2.4km az=65.0*
*ANF **16** 15:35:57.8±0.3,36.49N×97.27W,h5km,ML3.6/10,Error ellipse: s-maj=2.9km s-min=2.7km az=9.0*
*NEIC **16** 15:35:57.5±0.8,36.51N±0.02×97.26W±0.04,h4km±7km, Error ellipse: s-maj=5.4km s-min=0.9km az=67.0*

ISC 16 15:35:57.5±1.3,36.50N±0.02×97.27W±0.02,h3km±12km, n92,σ0948/62,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.26**	**10**	Pg	**Pg**	**15 36 02.9**	**+0.3**
KAN13	**South Haven SW**	**0.54**	**342**		**Pg**	**15 36 08.0**	**+0.2**
QUOK	**Quay**	**0.56**	**126**	Pg	**Pg**	**15 36 08.7**	**+0.4**
CROK	**Carrier**	**0.57**	**270**		**Pg**	**15 36 08.8**	**+0.3**
CROK				Sg	**Sg**	**15 36 16.6**	**+0.7**
GC02	**Grant County #**	**0.59**	**307**		**Pg**	**15 36 08.9**	**+0.2**
OK031	**S. Brethren Rd**	**0.65**	**147**	Pg	**Pg**	**15 36 10.4**	**+0.4**
KAN17	**Caldwell West**	**0.67**	**324**		**Pg**	**15 36 10.4**	**0.0**
KAN09	**Caldwell North**	**0.69**	**336**		**Pg**	**15 36 10.8**	**0.0**
OK030	**Cody Creek RV**	**0.70**	**145**	Pg	**Pg**	**15 36 11.2**	**+0.3**
KAN14	**Manchester OK**	**0.72**	**309**		**Pg**	**15 36 11.2**	**0.0**
OK029	**Liberty Lake**	**0.72**	**192**	Pg	**Pg**	**15 36 11.7**	**+0.4**
T35A	**Sooner Cattle**	**0.74**	**56**	Pg	**Pg**	**15 36 11.7**	**0.0**
T35B	**Sooner Cattle**	**0.74**	**56**	P	**Pg**	**15 36 11.5**	**-0.1**
	baz=237,SNR=201						
T35B	**Sooner Cattle**	**0.74**	**56**	P		15 36 11.5	
	baz=237,SNR=201						
KS20	**Mayfield South**	**0.76**	**343**		**Pg**	**15 36 12.0**	**-0.1**
KAN05	**Bluff City Nor**	**0.77**	**322**		**Pg**	**15 36 12.3**	**0.0**
OK032	**Salt Plains WL**	**0.81**	**292**		**Pg**	**15 36 12.9**	**-0.1**
BCOK	**Bluff Creek, N**	**0.89**	**198**	Pg	**Pg**	**15 36 14.7**	**+0.2**
KAN10	**Anthony SW Sta**	**0.91**	**313**		**Pg**	**15 36 14.7**	**-0.2**
KAN08	**Anthony NE Sta**	**0.91**	**322**		**Pg**	**15 36 14.8**	**-0.2**
OK025	**Westminster Rd**	**0.92**	**183**	Pg	**Pg**	**15 36 15.2**	**+0.1**
KAN16	**Harper SW Stat**	**0.96**	**319**	Pg	**Pg**	**15 36 15.7**	**-0.2**
OKCFA	**Oklahoma City**	**1.09**	**188**	Pg	**Pg**	**15 36 18.7**	**+0.2**
OKCFA	**Oklahoma City**	**1.09**	**188**	P	**Pg**	**15 36 18.4**	**-0.1**
	baz=7.1,SNR=5.6						
OKCFA				S	**Sb**	**15 36 33.5**	**-0.3**
	baz=7.1						
OKCFA	**Oklahoma City**	**1.09**	**188**	P		15 36 18.4	
	baz=7.1,SNR=5.6						
OKCFA				S		15 36 33.5	
	baz=7.1						
FNO	**Franklin**	**1.25**	**185**	Pg	**Pg**	**15 36 20.9**	**-0.5**
TUL1	**Leonard**	**1.34**	**116**	P	**Pn**	**15 36 22.3**	**-0.7**
	baz=297,SNR=54						
TUL1				S	**Sg**	**15 36 40.5**	**0.0**
	baz=297						
TUL1	**Leonard**	**1.34**	**116**	P		15 36 22.3	
	baz=297,SNR=54						
TUL1				S		15 36 40.5	
	baz=297						
U32A	**Winter Ranch,**	**1.40**	**265**		**Pn**	**15 36 23.5**	**-0.5**
U32A				IAmb_Lg		15 36 43.8	
	comp=Z,85nm,0.9s						
U32A	**Winter Ranch,**	**1.40**	**265**	P	**Pn**	**15 36 23.7**	**-0.3**
	baz=84						
U32A				S	**Sb**	**15 36 42.6**	**+0.1**
	baz=84						
U32A	**Winter Ranch,**	**1.40**	**265**	P		15 36 23.7	
	baz=84						
U32A				S		15 36 42.6	
	baz=84						
X34A	**Smith Ranch, M**	**1.95**	**194**		**Pb**	**15 36 32.8**	**-0.9**
WMOK	**Wichita Mounta**	**2.15**	**215**		**Pn**	**15 36 34.9**	**+0.7**
WMOK	**Wichita Mounta**	**2.15**	**215**	P	**Pn**	**15 36 34.8**	**+0.6**
	baz=34,SNR=118						
WMOK	**Wichita Mounta**	**2.15**	**215**	P		15 36 34.8	
	baz=34,SNR=118						
R32A	**Long Quarter,**	**2.23**	**330**		**Pn**	**15 36 36.4**	**+1.0**
R32A	**Long Quarter,**	**2.23**	**330**	P	**Pn**	**15 36 36.2**	**+0.8**
	baz=149,SNR=30						
R32A				S	**Sn**	**15 37 04.5**	**+1.0**
	baz=149						
R32A	**Long Quarter,**	**2.23**	**330**	P		15 36 36.2	
	baz=149,SNR=30						
R32A				S		15 37 04.5	
	baz=149						
U38A	**Gravette**	**2.33**	**91**		**Pn**	**15 36 38.3**	**+1.6**
X37A	**Clayton**	**2.46**	**140**		**Pn**	**15 36 38.7**	**+0.2**
X37A	**Clayton**	**2.46**	**140**	P	**Pn**	**15 36 39.1**	**+0.6**
	baz=322,SNR=50						
X37A	**Clayton**	**2.46**	**140**	P		15 36 39.1	
	baz=322,SNR=50						
LOOK	**Love County**	**2.51**	**178**	Pn	**Pn**	**15 36 39.1**	**-0.1**
KSU1	**Kansas State U**	**2.65**	**11**		**Pn**	**15 36 40.6**	**-0.4**
HHAR	**Hobbs**	**2.70**	**94**		**Pn**	**15 36 41.4**	**-0.4**
Z35A	**Perchaven, San**	**3.17**	**180**	Pn	**Pn**	**15 36 48.3**	**+0.1**
S39A	**Bolivar**	**3.37**	**68**	Pn	**Pn**	**15 36 51.1**	**+0.1**
S39A	**Bolivar**	**3.37**	**68**	P	**Pn**	**15 36 51.6**	**+0.5**
	baz=251,SNR=11						
S39A	**Bolivar**	**3.37**	**68**	P		15 36 51.6	
	baz=251,SNR=11						
U40A	**Yellville**	**3.57**	**91**	Pn	**Pn**	**15 36 53.9**	**+0.2**
U40A				IAmb_Lg		15 37 58.5	
	comp=Z,27nm,0.7s						
U40A	**Yellville**	**3.57**	**91**	P	**Pn**	**15 36 54.6**	**+0.9**
	baz=274						
U40A	**Yellville**	**3.57**	**91**	P		15 36 54.6	
	baz=274						
U40A				P		15 36 54.6	
	baz=274						
MIAR	**Mount Ida**	**3.59**	**122**	IAmb_Lg		15 38 00.6	
	comp=Z,33nm,0.8s						
Z38A	**Mt. Pleasant**	**3.74**	**149**	Pn	**Pn**	**15 36 55.7**	**-0.4**
AMTX	**Amarillo**	**3.94**	**247**		**Pn**	**15 36 58.7**	**-0.2**
AMTX				IAmb_Lg		15 38 06.2	
	comp=Z,25nm,0.7s						
AMTX	**Amarillo**	**3.94**	**247**	P	**Pn**	**15 36 59.4**	**+0.5**
	baz=64,SNR=6.4						
AMTX	**Amarillo**	**3.94**	**247**	P		15 36 59.4	
	baz=64,SNR=6.4						
MGMO	**Mountain Grove**	**4.07**	**79**		**Pn**	**15 37 00.8**	**+0.1**
MGMO				IAmb_Lg		15 38 17.9	
	comp=Z,26nm,0.8s						
X40A	**Basin Creek Fa**	**4.14**	**118**	Pn	**Pn**	**15 37 01.6**	**0.0**
X40A				IAmb_Lg		15 38 16.7	
	comp=Z,29nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.21**	**97**	IAmb_Lg		15 38 09.9	
	comp=Z,35nm,0.7s						
N33A	**J Bar K, Exete**	**4.23**	**358**	IAmb_Lg		15 38 23.1	
	comp=Z,27nm,1.0s						
P38A	**Dawn**	**4.29**	**42**	Pn	**Pn**	**15 37 03.2**	**-0.5**
P38A				IAmb_Lg		15 38 18.7	
	comp=Z,26nm,0.8s						
R40A	**Maddies Statio**	**4.37**	**64**		**Pn**	**15 37 04.9**	**+0.2**
R40A	**Maddies Statio**	**4.37**	**64**	P	**Pn**	**15 37 05.1**	**+0.4**
	baz=248,SNR=10						
R40A	**Maddies Statio**	**4.37**	**64**	P		15 37 05.1	
	baz=248,SNR=10						
WLAR	**White Oak Lake**	**4.42**	**128**	Pn	**Pn**	**15 37 05.6**	**+0.2**
WLAR				IAmb_Lg		15 38 19.1	
	comp=Z,21nm,0.7s						
N35A	**Tabor**	**4.53**	**16**	Pn	**Pn**	**15 37 06.3**	**-0.7**
237A	**Washetta, Mont**	**4.65**	**164**	Pn	**Pn**	**15 37 08.2**	**-0.4**
KSCO	**Kaye Shedlock'**	**4.93**	**302**	IAmb_Lg		15 38 43.7	
	comp=Z,19nm,0.9s						
BGNE	**Belgrade**	**4.95**	**352**	Pn	**Pn**	**15 37 12.3**	**-0.4**
LCAR	**Lake Charles**	**4.96**	**93**	IAmb_Lg		15 38 34.6	
	comp=Z,20nm,0.9s						
T42A	**Van Buren**	**

	SNR=223							
KSMUS	**Musan**	**1.02**	**119**	P		Pg	15 55 25.8	+0.1
	SNR=50							
KSMUS				S		Sg	15 55 39.8	+0.8
KSMUS	**Musan**	**1.02**	**119**	P		Pg	15 55 25.8	+0.1
	SNR=50							
KSMUS				S		Sg	15 55 39.8	+0.8
YNCB	**YEONCHEON**	**1.08**	**108**	P		Pg	15 55 26.3	-0.5
	SNR=13							
YNCB	**YEONCHEON**	**1.08**	**108**	P		Pg	15 55 26.3	-0.5
	SNR=13							
YJD	**YOUNGJONGDO**	**1.12**	**145**	P		Pg	15 55 27.6	+0.1
KSDEI	**Deokjeokdo**	**1.19**	**161**	P		Pg	15 55 29.0	0.0
	SNR=15							
KSDEI	**Deokjeokdo**	**1.19**	**161**	P		Pg	15 55 29.0	0.0
	SNR=15							
KSDDC	**Dongducheon**	**1.23**	**113**	P		Pg	15 55 29.5	-0.2
	SNR=18							
KSDDC	**Dongducheon**	**1.23**	**113**	P		Pg	15 55 29.5	-0.2
	SNR=18							
KSNOW	**Nowan**	**1.34**	**121**	P		Pg	15 55 31.7	-0.1
SHHB	**Siheung-si**	**1.34**	**140**	P		Pg	15 55 31.8	0.0
KSSEO	**Seoul**	**1.36**	**131**	P		Pg	15 55 31.9	-0.3
	SNR=13							
KSSEO	**Seoul**	**1.36**	**131**	P		Pg	15 55 31.9	-0.3
	SNR=13							
KSCWO	**Cheorwon**	**1.52**	**101**	P		Pn	15 55 34.3	-0.3
	SNR=26							
KSCWO	**Cheorwon**	**1.52**	**101**	P		Pn	15 55 34.3	-0.3
	SNR=26							
KSSWO	**Suwon**	**1.54**	**136**	P		Pn	15 55 35.0	+0.1
	SNR=8.9							
KSSWO	**Suwon**	**1.54**	**136**	P		Pn	15 55 35.0	+0.1
	SNR=8.9							
HWCB	**Hwacheon**	**1.62**	**95**	P		Pn	15 55 36.2	+0.2
	SNR=14							

IDC ***16*** *16:21:07.5±1.0,23˚.45N×121˚.92E, h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/39,mbtmp3.6/7,ML3.3/1,MS2.9/4, Ms1 3.0/4,ms1mx2.6/45,Error ellipse: s-maj=32.0km s-min=20.7km az=82.0*

NEIC ***16*** *16:21:10.6±1.8,23˚.48N±0˚.04×121˚.74E±0˚.05,h25km±7km, mb4.3/8,ML4.1(TAP),Error ellipse: s-maj=7.5km s-min=4.3km az=115.0*

JMA ***16*** *16:21:11.2±0.1,23˚.51N×121˚.73E,h33km±3km,M4.0*

NIED ***16*** *16:21:11.3,23˚.51N×121˚.73E,h33km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr3.01; Mθθ1.72; Mϕϕ-4.74; Mrθ-4.02; Mθϕ-2.87; Mϕr-3.23; Fault plane solution: M₀7.12000×10¹⁴ NP1: ϕs230.00000°,δ74.00000°,λ120.00000°. NP2: ϕs345.00000°,δ33.00000°,λ29.00000°.*

TAP ***16*** *16:21:12.2,23˚.51N×121˚.72E,h28km,ML4.2,B*

ISC 16 16:21:11.3±0.8,23˚.49N±0˚.02×121˚.76E±0˚.02,h31km±6km, n198,σ0.92/258,mb3.6/10,MS2.8/3,9C-54D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.30**	**316**	⇑P			**Pb**	**16 21 19.0**	**+0.1**
	baz=320								
TEGC				S			**Sn**	**16 21 24.2**	**-0.7**
	baz=320								
HGSD	**Ruisui**	**0.31**	**270**	⇓*i*P			**Pb**	**16 21 19.0**	**0.0**
	baz=266								
HGSD				*i* S			**Sn**	**16 21 23.8**	**-1.5**
	baz=266								
EGFH	**Guangfu**	**0.35**	**300**	P			**Pb**	**16 21 19.8**	**+0.2**
	baz=304								
TEYL	**Yanliau Villag**	**0.40**	**338**	⇑P			**Pb**	**16 21 21.0**	**+0.7**
	baz=344								
TEYL				S			**Sb**	**16 21 27.4**	**+1.0**
	baz=344								
EHY	**Hungye**	**0.41**	**272**	⇓*i*P			**Pb**	**16 21 20.6**	**+0.2**
	baz=269								
EHY				S			**Sb**	**16 21 26.7**	**+0.2**
	baz=269								
EYUL	**Yuli**	**0.43**	**251**	⇓*i*P			**Pb**	**16 21 21.2**	**+0.5**
	baz=240								
EYUL				*i* S			**Sb**	**16 21 28.4**	**+1.1**
	baz=240								
YULB	**Yu-li**	**0.44**	**257**	⇓*i*P			**Pb**	**16 21 21.0**	**+0.1**
	baz=268								
YULB				*i* S			**Sb**	**16 21 28.0**	**+0.5**
	baz=268								
YULB	**Yu-li**	**0.44**	**257**	Pg			**Pb**	**16 21 20.5**	**-0.4**
ESL	**Shilin**	**0.44**	**317**	*i* P			**Pb**	**16 21 20.6**	**-0.3**
	baz=323								
ESL				*i* S			**Sb**	**16 21 26.5**	**-0.9**
	baz=323								
TWF1	**Yuli**	**0.45**	**252**	⇓P			**Pb**	**16 21 21.2**	**+0.1**
	baz=241								
TWF1				S			**Sb**	**16 21 28.1**	**+0.4**
	baz=241								
HWA	**Hwalien**	**0.50**	**343**	*e*P			**Pb**	**16 21 21.8**	**-0.1**
	baz=355								
FULB	**Fuli**	**0.52**	**236**	P			**Pb**	**16 21 22.1**	**-0.1**
	baz=221								
ETM	**Tongmen**	**0.53**	**332**	P			**Pn**	**16 21 22.1**	**-0.7**
	baz=338								
ETM				S			**Sb**	**16 21 29.7**	**-0.2**
	baz=338								
CHKT	**Chengkung**	**0.54**	**223**	⇑*i*P			**Pn**	**16 21 22.0**	**-0.8**
	baz=208								
CHKT				*i* S			**Sb**	**16 21 28.9**	**-1.1**
	baz=208								
TWD	**Chiawan**	**0.60**	**345**	⇑*i*P			**Pn**	**16 21 23.2**	**-0.6**
	baz=349								
TWD				S			**Sn**	**16 21 31.0**	**-1.5**
	baz=349								
ECS	**Chishang**	**0.64**	**232**	*e*P			**Pn**	**16 21 24.5**	**+0.2**
	baz=227								
EDH	**Donghe**	**0.67**	**219**	P			**Pn**	**16 21 24.1**	**-0.6**
	baz=214								
ETL	**Fush Village**	**0.68**	**349**	P			**Pn**	**16 21 24.2**	**-0.6**
	baz=352								
NACB	**Ninganchiao**	**0.69**	**347**	⇑*i*P			**Pn**	**16 21 24.4**	**-0.6**
	baz=358								
NACB				S			**Sn**	**16 21 33.6**	**-1.1**
	baz=358								
NACB	**Ninganchiao**	**0.69**	**347**	Pn			**Pn**	**16 21 24.2**	**-0.8**
NACB				Sg			**Sn**	**16 21 32.8**	**-2.0**
OWD	**Renai**	**0.71**	**311**	*e*P			**Pn**	**16 21 24.9**	**-0.5**
	baz=320								
YUS	**Yu-Shan**	**0.74**	**270**	⇓*i*P			**Pn**	**16 21 26.1**	**-0.1**
	baz=268								
YUS				*i* S			**Sn**	**16 21 35.5**	**-1.2**
	baz=268								
ELDTW	**Lidau**	**0.75**	**246**	⇓*i*P			**Pn**	**16 21 25.4**	**-0.5**
	baz=243								
ELDTW				S			**Sn**	**16 21 34.3**	**-2.0**
	baz=243								
ETLH	**Xiulin Townshi**	**0.76**	**340**	⇓*i*P			**Pn**	**16 21 25.8**	**-0.2**
	baz=331								
ETLH				S			**Sn**	**16 21 35.5**	**-0.9**
	baz=331								
CHGB	**Renai**	**0.78**	**316**	⇓P			**Pn**	**16 21 26.4**	**0.0**
	baz=325								
CHGB				S			**Sn**	**16 21 36.2**	**-1.0**
	baz=325								
WHF	**Hehuan Shan**	**0.79**	**325**	⇓*i*P			**Pn**	**16 21 26.2**	**-0.5**
	baz=327								
WHF				S			**Sn**	**16 21 36.8**	**-1.0**
	baz=327								
SSLB	**Suanglung**	**0.80**	**292**	⇓*i*P			**Pn**	**16 21 26.3**	**-0.2**
	baz=299								
SSLB				*e*S			**Sn**	**16 21 36.0**	**-1.4**
	baz=299								
SSLB	**Suanglung**	**0.80**	**292**	Pn			**Pn**	**16 21 26.0**	**-0.5**
EHP	**Heping Village**	**0.81**	**359**	*e*P			**Pb**	**16 21 27.4**	**+0.4**
	baz=2.0								
LONT	**Longtian**	**0.82**	**225**	⇑P			**Pn**	**16 21 26.5**	**-0.3**
	baz=221								
WHYT	**Xinyi Township**	**0.86**	**284**	⇓*i*P			**Pn**	**16 21 27.9**	**+0.6**
	baz=283								
LDUT	**Ludao**	**0.86**	**198**	*e*P			**Pn**	**16 21 26.4**	**-0.9**
	baz=195								
ALS	**Alishan**	**0.88**	**271**	⇓*i*P			**Pn**	**16 21 28.4**	**+0.6**
	baz=270								
ALS				S			**Sn**	**16 21 39.4**	**-0.3**
	baz=270								
SMLT	**Sun Moon Lake**	**0.88**	**296**	⇓*i*P			**Pn**	**16 21 28.0**	**+0.3**
	baz=302								
SMLT				S			**Sn**	**16 21 38.9**	**-0.7**
	baz=302								
FUSS	**Fushou**	**0.89**	**328**	⇓*i*P			**Pn**	**16 21 28.1**	**+0.2**
	baz=329								
FUSS				S			**Sn**	**16 21 39.1**	**-0.8**
	baz=329								
WPL	**Puli Township**	**0.90**	**305**	⇓*i*P			**Pn**	**16 21 28.1**	**+0.3**
	baz=306								
TWGBT	**Beinan**	**0.92**	**223**	⇑*i*P			**Pn**	**16 21 27.5**	**-0.6**
	baz=231								
TWGBT				*e*S			**Sn**	**16 21 39.0**	**-1.3**
	baz=231								
TWG	**Pinlang**	**0.92**	**224**	⇓*i*P			**Pn**	**16 21 27.7**	**-0.5**
	baz=231								
TWG				S			**Sn**	**16 21 39.0**	**-1.4**
	baz=231								
TWG	**Pinlang**	**0.92**	**224**	Pn			**Pn**	**16 21 27.2**	**-1.0**
TYC	**Yuchr**	**0.93**	**296**	⇓*i*P			**Pn**	**16 21 28.6**	**+0.4**
	baz=302								
TYC				S			**Sn**	**16 21 41.1**	**+0.7**
	baz=302								
TTN	**Taitung**	**0.93**	**218**	*e*P			**Pn**	**16 21 28.7**	**+0.5**
	baz=203								
TWT	**Tachien**	**0.93**	**325**	⇓*i*P			**Pn**	**16 21 28.9**	**+0.5**
	baz=325								
TWT				S			**Sn**	**16 21 40.0**	**-0.8**
	baz=325								
DPDB	**Guoxing**	**0.94**	**305**	⇓*i*P			**Pn**	**16 21 29.0**	**+0.5**
	baz=306								
TDCB	**Techi**	**0.94**	**324**	⇓*i*P			**Pn**	**16 21 28.9**	**+0.4**
	baz=325								
TDCB				S			**Sn**	**16 21 39.7**	**-1.3**
	baz=325								
WCS	**Beigang Elemen**	**0.96**	**306**	⇓*i*P			**Pn**	**16 21 29.3**	**+0.6**
	baz=306								
STYH	**Taoyuan**	**0.96**	**251**	⇓*i*P			**Pn**	**16 21 29.2**	**+0.5**
	baz=239								
STYH				S			**Sn**	**16 21 41.0**	**-0.3**
	baz=239								
STYT	**Tauyuan**	**0.98**	**251**	⇓*i*P			**Pn**	**16 21 29.6**	**+0.5**
	baz=236								
NNSB	**Datong**	**0.99**	**340**	⇓P			**Pn**	**16 21 29.5**	**+0.2**
	baz=341								
NNSB				S			**Sn**	**16 21 41.6**	**-0.7**
	baz=341								
NNSH	**Datong**	**0.99**	**340**	⇓*i*P			**Pn**	**16 21 29.6**	**+0.3**
	baz=341								
NNSH				*i* S			**Sn**	**16 21 41.5**	**-0.9**
	baz=341								
CHN5	**Tsauling**	**1.00**	**276**	⇓*i*P			**Pb**	**16 21 30.6**	**+0.4**
	baz=275								
CHN5				*e*S			**Sb**	**16 21 44.1**	**+1.0**
	baz=275								
WJS	**Zhushan**	**1.00**	**289**	⇓P			**Pb**	**16 21 30.7**	**+0.5**
	baz=289								
WJS				S			**Sb**	**16 21 44.8**	**+1.7**
	baz=289								
NNS	**Nan Shan**	**1.01**	**339**	⇑*i*P			**Pn**	**16 21 29.9**	**+0.4**
	baz=342								
NNS				*i* S			**Sn**	**16 21 41.9**	**-0.8**
	baz=342								
TPUB	**Ta-pu**	**1.06**	**260**	⇓*i*P			**Pb**	**16 21 31.3**	**+0.1**
	baz=258								
TPUB				*i* S			**Sb**	**16 21 45.2**	**+0.5**
	baz=258								
TPUB	**Ta-pu**	**1.06**	**260**	Pn			**Pb**	**16 21 31.2**	**+0.1**
WNT	**Mingjian**	**1.06**	**291**	⇓*i*P			**Pb**	**16 21 31.6**	**+0.5**
	baz=290								
WNT1	**Nantou City**	**1.08**	**293**	*e*P			**Pb**	**16 21 32.3**	**+0.9**
	baz=292								
WHP	**Taichung City**	**1.08**	**316**	⇓*i*P			**Pn**	**16 21 31.3**	**+0.8**
	baz=317								
CHN4	**Tsaushan**	**1.08**	**263**	⇓*i*P			**Pb**	**16 21 32.0**	**+0.5**
	baz=256								
CHN4				S			**Sb**	**16 21 47.0**	**+1.7**
	baz=256								
WTP	**Ta-pu**	**1.08**	**257**	⇓*i*P			**Pb**	**16 21 31.7**	**+0.1**
	baz=255								
WTP				*e*S			**Sn**	**16 21 45.5**	**+1.1**
	baz=255								
TWC	**Suao**	**1.11**	**4**	P			**Pn**	**16 21 31.6**	**+0.7**
	baz=8.0								
WGK	**Gukeng**	**1.12**	**280**	⇓*i*P			**Pb**	**16 21 32.5**	**+0.3**
	baz=278								
WWF	**Wufeng**	**1.12**	**299**	⇓P			**Pb**	**16 21 32.9**	**+0.7**
	baz=300								
NDT	**Datong Townshi**	**1.13**	**348**	*e*P			**Pn**	**16 21 31.4**	**+0.4**
	baz=351								
NDS	**Dongshan**	**1.14**	**358**	*e*P			**Pn**	**16 21 31.9**	**+0.7**
	baz=10.0								
WDLH	**Douliu**	**1.14**	**280**	⇓*e*P			**Pb**	**16 21 32.9**	**+0.4**
	baz=278								
SLGT	**Liugui**	**1.14**	**244**	*e*P			**Pb**	**16 21 32.8**	**+0.2**
	baz=241								
ENTT	**Nioudou**	**1.16**	**351**	⇓P			**Pn**	**16 21 32.0**	**+0.6**
	baz=354								
SGST	**Jiashian**	**1.16**	**250**	*e*P			**Pn**	**16 21 32.0**	**+0.6**
	baz=237								
ECL	**Taimali**	**1.16**	**220**	*e*P			**Pn**	**16 21 30.7**	**-0.7**
	baz=225								
CHN1	**Nanshi**	**1.18**	**255**	⇓*i*P			**Pb**	**16 21 33.4**	**+0.3**
	baz=253								
CHN1				*e*S			**Sb**	**16 21 49.0**	**+0.9**
	baz=253								
CHN2	**Minshiung**	**1.18**	**272**	⇓*i*P			**Pb**	**16 21 34.1**	**+0.9**
	baz=271								
CHN2				S			**Sb**	**16 21 50.0**	**+1.8**
	baz=271								
TCU	**Taichung**	**1.19**	**303**	*e*P			**Pb**	**16 21 34.0**	**+0.7**
	baz=304								
TWK	**Hsinying**	**1.19**	**259**	*i* P			**Pb**	**16 21 33.5**	**+0.1**
	baz=258								
TWK				*i* S			**Sb**	**16 21 49.4**	**+0.9**
	baz=258								
SNST	**Tainan City**	**1.20**	**257**	*e*P			**Pb**	**16 21 33.6**	**+0.2**
	baz=254								
YHNB	**Yeheng**	**1.22**	**343**	⇓*i*P			**Pn**	**16 21 33.2**	**+0.8**
	baz=345								
YHNB				S			**Sn**	**16 21 47.8**	**-0.2**
	baz=345								
YHNB	**Yeheng**	**1.22**	**343**	Pn			**Pn**	**16 21 33.1**	**+0.7**
TWE	**Neicheng**	**1.23**	**356**	⇓P			**Pn**	**16 21 33.1**	**+0.8**
	baz=360								
CHY	**Chiayi**	**1.23**	**270**	*e*P			**Pb**	**16 21 34.5**	**+0.5**
	baz=268								
NSK	**Sanguang**	**1.23**	**343**	⇓P			**Pn**	**16 21 33.3**	**+0.8**
	baz=345								
NSK				S			**Sn**	**16 21 47.8**	**-0.4**
	baz=345								
TWQ1	**Liyutan**	**1.24**	**313**	⇓*i*P			**Pb**	**16 21 34.7**	**+0.5**
	baz=324								
TWQ1				S			**Sb**	**16 21 50.8**	**+0.9**
	baz=324								
ILA	**Ilan**	**1.27**	**359**	*e*P			**Pb**	**16 21 34.2**	**-0.4**
	baz=3.0								
WTK	**Tuku**	**1.28**	**279**	*e*P			**Pb**	**16 21 35.0**	**+0.2**
	baz=277								
SSD	**Sandimen**	**1.28**	**235**	*e*P			**Pn**	**16 21 34.2**	**+1.1**
	baz=221								
TSMG	**Majia**	**1.29**	**233**	*e*P			**Pn**	**16 21 34.4**	**+1.2**
	baz=220								
NSY	**Sanyi**	**1.30**	**315**	⇓*i*P			**Pb**	**16 21 35.6**	**+0.4**
	baz=317								
NWLT	**Wulai**	**1.30**	**349**	*e*P			**Pn**	**16 21 34.4**	**+0.9**
	baz=352								
SCST	**Cishan**	**1.32**	**243**	*e*P			**Pb**	**16 21 36.5**	**+1.1**
	baz=239								
NSTT	**Nanjuang**	**1.33**	**329**	⇓*i*P			**Pb**	**16 21 35.6**	**-0.1**
	baz=330								
NSTT				*i* S			**Sn**	**16 21 51.2**	**+0.8**
	baz=330								
WDJ	**Dajia District**	**1.33**	**310**	*e*P			**Pb**	**16 21 36.1**	**+0.3**
	baz=311								
WDJ				S			**Sb**	**16 21 54.1**	**+1.6**
	baz=311								
LIOB	**Emei**	**1.34**	**329**	P			**Pb**	**16 21 36.0**	**+0.2**
	baz=332								
CHN3	**Shinhua**	**1.35**	**252**	*e*P			**Pb**	**16 21 37.0**	**+1.0**
	baz=249								
NTC	**Toucheng**	**1.36**	**3**	*e*P			**Pb**	**16 21 35.9**	**-0.2**
	baz=6.0								
NMLH	**Miaoli**	**1.37**	**320**	*e*P			**Pb**	**16 21 36.2**	**-0.1**
	baz=321								
NJD	**Zhudong**	**1.38**	**334**	*e*P			**Pb**	**16 21 36.6**	**0.0**
	baz=336								
EAST	**Anshuo**	**1.39**	**218**	*e*P			**Pn**	**16 21 34.2**	**-0.4**
	baz=213								
SGLT	**Jiouru**	**1.40**	**237**	*e*P			**Pb**	**16 21 38.6**	**+1.8**
	baz=224								
SGLT				*e*S			**Sb**	**16 21 57.6**	**+3.3**
	baz=224								
TWM1	**Shoushan**	**1.40**	**242**	*e*P			**Pb**	**16 21 38.3**	**+1.4**
	baz=238								
WTCT	**Ta-ch'eng**	**1.41**	**285**	*e*P			**Pb**	**16 21 36.5**	**-0.5**
	baz=273								
WTCT				S			**Sb**	**16 21 55.0**	**+0.4**
	baz=273								
TSPT	**Pingtung City**	**1.42**	**235**	*e*P			**Pb**	**16 21 38.9**	**+1.6**
	baz=231								
WSF	**Szhu**	**1.42**	**276**	*e*P			**Pn**	**16 21 36.4**	**+1.4**
	baz=274								
CHN8	**Yiju**	**1.43**	**264**	*e*P			**Pb**	**16 21 36.9**	**-0.6**
	baz=261								
NJN	**Zhunan**	**1.44**	**326**	*e*P			**Pb**	**16 21 36.9**	**-0.6**
	baz=328								
JYNG	**Yonagunijimaku**	**1.44**	**48**	P			**Pb**	**16 21 36.8**	**-0.8**
JYNG				S			**Sn**	**16 21 54.0**	**+0.8**
WMLT	**Mailiao**	**1.45**	**283**	*e*P			**Pn**	**16 21 36.8**	**+1.4**
	baz=281								
LAY	**Lan-yu**	**1.46**	**188**	*e*P			**Pn**	**16 21 34.7**	**-0.9**
	baz=184								
TIPB	**Shuangxi**	**1.47**	**2**	*e*P			**Pb**	**16 21 37.8**	**-0.3**
	baz=5.0								
SBCB	**Hsinchu**	**1.48**	**331**	*e*P			**Pb**	**16 21 38.8**	**+0.7**
	baz=334								
SCLT	**Jiali**	**1.48**	**258**	*e*P			**Pb**	**16 21 37.5**	**-0.6**
	baz=254								
NHDH	**Xindian Distri**	**1.48**	**352**	*e*P			**Pb**	**16 21 37.4**	**-0.8**
	baz=355								
TWA	**Mucha**	**1.49**	**354**	*e*P			**Pn**	**16 21 37.4**	**+1.3**
	baz=357								
SSPT	**Xinbi**	**1.49**	**228**	*e*P			**Pb**	**16 21 37.8**	**-0.7**
	baz=214								
HSN	**Hsinchu**	**1.49**	**331**	*e*P			**Pb**	**16 21 37.9**	**-0.5**
	baz=321								
HSN				S			**Sb**	**16 21 57.6**	**+0.7**
	baz=321								
YOJ	**Yonaguni jima**	**1.49**	**50**	P			**Pb**	**16 21 37.4**	**-1.0**
YOJ				S			**Sn**	**16 21 55.6**	**+1.1**
YOJ	**Yonaguni jima**	**1.49**	**50**	⇓P			**Pb**	**16 21 37.4**	**-1.0**
	baz=51								
YOJ				S			**Sn**	**16 21 55.0**	**+0.5**
	baz=51								
YOJ	**Yonaguni jima**	**1.49**	**50**	Pn			**Pb**	**16 21 37.4**	**-1.0**
TATO	**Taipei**	**1.50**	**350**	*e*P			**Pn**	**16 21 37.5**	**+1.4**
	baz=354								
TATO	**Taipei**	**1.50**	**350**	Pn			**Pn**	**16 21 36.9**	**+0.9**
SNJT	**Kaohsiung City**	**1.51**	**241**	*e*P			**Pb**	**16 21 39.9**	**+1.2**
	baz=237								
TWB1	**Santiao Chiao**	**1.52**	**8**	*e*P			**Pb**	**16 21 38.6**	**-0.4**
	baz=28								
SCZT	**Fangliau**	**1.54**	**224**	*e*P			**Pn**	**16 21 37.7**	**+1.1**
	baz=209								
SLIU	**Shizi**	**1.55**	**215**	*e*P			**Pn**	**16 21 36.8**	**-0.1**
	baz=211								
TAP	**Taipei**	**1.56**	**351**	*e*P			**Pb**	**16 21 39.2**	**-0.4**
	baz=355								
NTY	**Taoyuan**	**1.56**	**344**	*e*P			**Pb**	**16 21 38.9**	**-0.7**
	baz=4.0								
NCUH	**Zhongli**	**1.56**	**340**	*e*P			**Pb**	**16 21 39.4**	**-0.2**
	baz=343								
NCU	**National Centr**	**1.56**	**340**	*e*P			**Pb**	**16 21 40.1**	**+0.5**
	baz=344								
NWF	**Wu-fen Shan**	**1.57**	**1**	*e*P			**Pb**	**16 21 39.1**	**-0.7**
	baz=349								
WFSB	**Wu-fen Shan**	**1.57**	**1**	*e*P			**Pb**	**16 21 39.0**	**-0.7**
	baz=350								
KAU	**Kaohsiung**	**1.63**	**236**	*e*P			**Pb**	**16 21 41.3**	**+0.6**
	baz=231								
TWS1	**Kuangyinshan**	**1.63**	**349**	*e*P			**Pb**	**16 21 40.0**	**-0.7**
	baz=352								
TNOU	**National Taiwa**	**1.65**	**0**	*e*P			**Pn**	**16 21 39.6**	**+1.4**
	baz=347								
YM01	**YM01**	**1.66**	**354**	*e*P			**Pn**	**16 21 39.0**	**+0.7**
	baz=357								
NTST	**Danshui**	**1.69**	**350**	*e*P			**Pb**	**16 21 42.0**	**+0.3**
	baz=353								
YM08	**YM08**	**1.69**	**355**	*e*P			**Pn**	**16 21 39.5**	**+0.7**
	baz=358								
ANP	**Anpu**	**1.70**	**353**	*e*P			**Pn**	**16 21 40.5**	**+1.6**
	baz=356								
WLCH	**Liuqiu**	**1.71**	**229**	*e*P			**Pb**	**16 21 43.1**	**+1.0**
	baz=209								
TWP	**Hsiaoliuchiu**	**1.72**	**229**	*e*P			**Pb**	**16 21 43.1**	**+0.8**
	baz=224								
TSEB	**Hengchuen, Pin**	**1.77**	**207**	*e*P			**Pn**	**16 21 40.5**	**+0.7**
	baz=196								
TWKBT	**Hengchun**	**1.78**	**210**	*e*P			**Pn**	**16 21 40.5**	**+0.5**
	baz=198								
TWK1	**Hengchun**	**1.78**	**210**	*e*P			**Pn**	**16 21 40.6**	**+0.7**
	baz=208								
TWK1				*e*S			**Sn**	**16 22 01.2**	**-0.3**
	baz=208								
TWY	**Chenhua**	**1.78**	**355**	*e*P			**Pb**	**16 21 43.2**	**-0.2**
	baz=359								
WDGT	**Dungji**	**1.95**	**264**	⇓*i*P			**Pn**	**16 21 43.3**	**+1.1**
	baz=262								
WDGT				*e*S			**Sn**	**16 22 05.6**	**-0.1**
	baz=262								
HATJ	**Hateruma jima**	**1.95**	**73**	P			**Pn**	**16 21 43.4**	**+1.1**
HATJ				S			**Sn**	**16 22 06.3**	**+0.5**
IRIF	**Iriomote-Funau**	**1.98**	**65**	P			**Pn**	**16 21 44.1**	**+1.3**
IRIF				S			**Sn**	**16 22 08.4**	**+1.8**
PHUB	**P'eng-hu**	**2.01**	**271**	⇓P			**Pn**	**16 21 44.2**	**+1.1**
	baz=270								
PHUB				S			**Sn**	**16 22 07.5**	**+0.2**
	baz=270								
PNG	**Penghu**	**2.03**	**273**	⇓*i*P			**Pn**	**16 21 44.5**	**+1.2**
	baz=271								
PNG				*e*S			**Sn**	**16 22 08.1**	**+0.4**
	baz=271								
PCYT	**Pengchaiyu**	**2.15**	**7**	*e*P			**Pn**	**16 21 46.5**	**+1.5**
	baz=11								
VCHM	**Qimei**	**2.16**	**263**	⇓P			**Pn**	**16 21 46.2**	**+1.0**
	baz=261								
VCHM				*e*S			**Sn**	**16 22 11.0**	**0.0**
	baz=261								
JKRS	**Kuro-shima**	**2.19**	**70**	P			**Pn**	**16 21 46.9**	**+1.4**
JKRS				S			**Sn**	**16 22 13.0**	**+1.5**
**JIJ

INCN	**Inchon**	**14.56**	**16**	Pn	**Pn**	**16 24 34.0**	**-0.1**	**2.2**
KSRS	**Korea Array**	**14.89**	**19**	Pn	**P**	**16 24 43.7**	**-1.2**	
	0.1nm,0.3s,baz=199,slow=12,SNR=4.1							
KSRS				LR	LR	16 31 16.1		
	comp=Z,32nm,19.0s,baz=140,slow=41							
CM31	**Chiang Mai Arr**	**21.88**	**261**	P	**P**	**16 26 00.2**	**-1.6**	
CMAR	**Chiang Mai Arr**	**21.88**	**261**	LR	LR	16 34 59.2		
	comp=Z,18nm,20.2s,baz=225,slow=38							
KLR	**Kul'dur**	**26.87**	**15**	LR	LR	16 38 44.6		
	comp=Z,27nm,19.1s,baz=136,slow=39							
MKAR	**Makanchi Array**	**39.20**	**316**	P	**P**	**16 28 37.9**	**+1.2**	
	0.4nm,0.6s,baz=105,slow=10,SNR=5.2							
FITZ	**Fitzroy Crossi**	**41.51**	**174**	P	**P**	**16 28 56.5**	**+0.6**	
	1.2nm,0.9s,baz=342,slow=6.4,SNR=1.7							
H11N1	**WAKE ISLAND Hy**	**42.00**	**86**	T	T	17 14 03.4		
	baz=283,slow=75,SNR=32							
H11N2	**WAKE ISLAND Hy**	**42.00**	**86**	T	T	17 14 04.1		
	baz=283,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hy**	**42.02**	**86**	T	T	17 14 05.1		
	baz=283,slow=75,SNR=27							
H11S3	**WAKE ISLAND Hy**	**42.11**	**88**	T	T	17 14 16.3		
	baz=285,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**42.12**	**88**	T	T	17 14 25.2		
	baz=285,slow=75,SNR=17							
H11S2	**WAKE ISLAND Hy**	**42.13**	**88**	T	T	17 14 24.8		
	baz=285,slow=75,SNR=22							
WRA	**Warramunga Arr**	**44.88**	**163**	P	**P**	**16 29 22.4**	**-0.7**	
	0.8nm,0.9s,baz=346,slow=8.8,SNR=7.8							
WRA	**Warramunga Arr**	**44.88**	**163**	P	**P**	**16 29 22.1**	**-1.0**	
WB2	**Warramunga Arr**	**44.88**	**163**	P	**P**	**16 29 22.2**	**-1.0**	
WB2				IAmb	IAmb	16 29 28.6		
	comp=Z,4.8nm,1.2s							
WR0	**Warramunga Arr**	**44.95**	**163**	P	**P**	**16 29 23.1**	**-0.5**	
WR0				IAmb	IAmb	16 29 23.8		
	comp=Z,6.2nm,1.4s							
GIRL	**Giralia**	**46.44**	**190**	P	**P**	**16 29 35.9**	**+0.5**	
AS31	**Alice Springs**	**48.34**	**165**	P	**P**	**16 29 50.2**	**+0.1**	
AS31				IAmb	IAmb	16 30 11.1		
	comp=Z,1.6nm,1.4s							
ASAR	**Alice Springs**	**48.34**	**165**	P	**P**	**16 29 50.6**	**+0.4**	
	comp=Z,0.3nm,0.5s,baz=342,slow=6.7,SNR=9.9							
ASAR	**Alice Springs**	**48.34**	**165**	P	**P**	**16 29 50.1**	**-0.1**	
HNR	**Honiara**	**49.65**	**127**	P	**P**	**16 29 58.8**	**-1.6**	
BBOO	**Buckleboo**	**57.63**	**166**	P	**P**	**16 30 57.6**	**-0.9**	
BBOO				IAmb	IAmb	16 30 60.0		
	comp=Z,9.4nm,1.1s							
ILAR	**Eielson Array**	**69.58**	**27**	P	**P**	**16 32 18.1**	**+1.0**	
	comp=Z,0.2nm,0.5s,baz=286,slow=4.6,SNR=2.3							
BCAR	**Beaver Creek A**	**72.19**	**28**	P	**P**	**16 32 32.6**	**-0.4**	
NOA	**NORSAR Array B**	**79.08**	**332**	P	**P**	**16 33 14.6**	**+2.1**	
	comp=Z,0.5nm,0.9s,baz=66,slow=5.3,SNR=2.1							
NOA				LR	LR	17 11 08.6		
	comp=Z,10nm,18.8s,baz=245,slow=38							

IDC ***16*** *16:24:57.8±0.7,7.74N×126.45E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.9/38, mbtmp4.1/12, ML4.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/38, Error ellipse: s-maj=16.9km s-min=10.8km az=121.0*

MAN ***16*** *16:25:01.1,7.65N×126.25E, h35km, mb5.0, ML3.9, MS4.0*

NEIC ***16*** *16:25:06.3±1.7,7.52N±0.05×125.8E±0.1, h48km±8km, mb4.4/18, Error ellipse: s-maj=15.7km s-min=6.9km az=100.0*

DJA ***16*** *16:25:11.2±0.9,7.7N±8.8×12.6E±, h10km, M4.4/12, mB4.8/4, mb4.4/12, ML4.4/7, Mw(mB)4.1/4*

ISC 16 16:25:05.4±0.9,7.60N±0.03×126.11E±0.05,h48km±9km, n83,σ2s00/88,mb4.2/19,6C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.67**	**167**	*eS*		**Sn**		**16 25 25.2**	**-3.0**
MATI	**Mati**	**0.67**	**167**	*eP*		**Pn**		**16 25 14.7**	**-4.0**
DAV	**Davao City (W)**	**0.75**	**225**	Pg		**Pn**		**16 25 18.5**	**-1.2**
	300nm,0.3s,baz=258,slow=6.9,SNR=21								
DAV				Lg		Lg		16 25 34.7	
	872nm,0.3s,baz=276,slow=23,SNR=9.4								
DAV				LR		LR		16 25 45.6	
	comp=Z,99nm,20.3s,baz=41,slow=44								
DAV	**Davao City (W)**	**0.75**	**225**			**Pn**		**16 25 17.2**	**-2.5**
DAV	**Davao City (W)**	**0.75**	**225**	P		**Pn**		**16 25 18.2**	**-1.5**
BUKP	**Musuan**	**1.08**	**285**	*eP*		**Pn**		**16 25 21.0**	**-3.2**
BUKP				*eS*		**Sn**		**16 25 37.1**	**-1.0**
KCP	**Kidapawan**	**1.17**	**240**	*iP*		**Pn**		**16 25 23.6**	**-1.9**
KCP				*iS*		**Sn**		**16 25 41.6**	**+1.2**
BUTP	**Butuan**	**1.44**	**340**	*eP*		**Pn**		**16 25 26.5**	**-2.7**
BUTP				*eS*		**Sn**		**16 25 49.5**	**+2.6**
DDMP	**Don Marcelino,**	**1.54**	**195**	*eP*		**Pn**		**16 25 27.6**	**-2.8**
DDMP				*eS*		**Sn**		**16 25 48.6**	**-0.7**
CGP	**Cagayan de Oro**	**1.64**	**301**	*iP*		**Pn**		**16 25 29.9**	**-1.9**
CGP				*iS*		**Sn**		**16 25 52.2**	**+0.5**
SKMP	**Bagumbayan, Su**	**1.89**	**235**	*eP*		**Pn**		**16 25 32.8**	**-2.4**
SKMP				*eS*		**Sn**		**16 26 02.3**	**+4.4**
GLSP	**General Luna,**	**2.17**	**0**	*eP*		**Pn**		**16 25 35.9**	**-3.2**
GLSP				*eS*		**Sn**		**16 26 04.5**	**-0.2**
SCPH	**Surigao**	**2.25**	**344**	*iP*		**Pn**		**16 25 41.2**	**+1.0**
PAGZ	**Pagadian**	**2.72**	**275**	*eP*		**Pn**		**16 25 44.2**	**-2.3**
PAGZ				*eS*		**Sn**		**16 26 18.6**	**+0.4**
PAGZ	**Pagadian**	**2.72**	**275**	*eP*		**Pn**		**16 25 45.3**	**-1.3**
MSLP	**Maasin**	**2.80**	**334**	*eP*		**Pn**		**16 25 44.5**	**-3.3**
MSLP				*eS*		Sn		16 26 34.1	+14
DCPH	**Dipolog City**	**2.90**	**290**	*eP*		**Pn**		**16 25 51.6**	**+2.4**
SNPH	**Sibulan**	**3.33**	**302**	*eP*		**Pn**		**16 25 54.2**	**-0.8**
SNPH				*eS*		**Sn**		**16 26 34.8**	**+1.3**
LLP	**Lapu-Lapu**	**3.43**	**322**	*eP*		**Pn**		**16 25 54.7**	**-1.7**
LLP				*eS*		**Sn**		**16 26 34.1**	**-1.7**
OCLP	**Ormoc**	**3.73**	**337**	*eP*		**Pn**		**16 26 03.8**	**+3.2**
SGSI	**Sangihe**	**3.93**	**189**	P		**Pn**		**16 26 03.6**	**+0.3**
CNOP	**Candoni, Negro**	**4.08**	**303**	*eP*		**Pn**		**16 26 03.1**	**-2.2**
CNOP				*eS*		**Sn**		**16 26 44.7**	**-7.2**
GAMI	**Galela, Maluku**	**5.96**	**164**	P		**Pn**		**16 26 33.0**	**+1.8**
	0.3nm51nm,0.6s								
TNTI	**Ternate**	**6.90**	**169**	Pn		**Pn**		**16 26 45.8**	**+1.8**
TNTI	**Ternate**	**6.90**	**169**	P		**Pn**		**16 26 45.4**	**+1.4**
	0.2nm517nm31nm,0.6s								
KMSI	**Cibinong**	**7.30**	**197**	P		Pn		16 27 04.6	+15
GTOI	**Gorontalo**	**7.58**	**204**	P		**Pn**		**16 26 52.2**	**-1.2**
	0.2nm542nm25nm,0.5s								
LQP	**Lukban**	**7.88**	**326**	*eP*		**Pn**		**16 27 01.2**	**+3.6**
MRSI	**Marisa**	**8.21**	**211**	P		**Pn**		**16 27 01.7**	**-0.3**
	0.1nm445nm35nm,0.8s								
TOLI2	**Tolitoli**	**8.35**	**220**	Pn		**Pn**		**16 27 00.4**	**-3.6**
SANI	**Sanana**	**9.59**	**181**	P		**Pn**		**16 27 20.6**	**-0.3**
	47nm,0.8s								
SWI	**Sorong**	**9.85**	**148**	P		**Pn**		**16 27 27.6**	**+3.1**
	11nm,0.8s								
SIJI	**Sorong**	**9.86**	**148**	Pn		**Pn**		**16 27 26.1**	**+1.4**
	1.9nm,0.3s,baz=336,slow=20,SNR=9.1								
SIJI	**Sorong**	**9.86**	**148**	P		**Pn**		**16 27 27.3**	**+2.6**
	5.7nm,1.1s								
NLAI	**Namlea**	**10.81**	**175**	P		**Pn**		**16 27 37.7**	**0.0**
KRAI	**Karang Ratu**	**11.08**	**168**	P		**Pn**		**16 27 43.2**	**+1.8**
	15nm,0.7s								
FAKI	**Fak Fak**	**12.11**	**149**	Pn		**Pn**		**16 27 57.7**	**+2.2**
KAPI	**Kappang**	**14.05**	**207**	LR		LR		16 34 15.8	
	comp=Z,47nm,18.6s,baz=58,slow=39								
TWG	**Pinlang**	**15.89**	**343**	Pn		**P**		**16 28 46.7**	**-2.2**
TWG				IAmb		IAmb		16 29 06.7	
	comp=Z,21nm,0.3s								
EDFI	**Ende, Flores**	**16.83**	**195**	P		**P**		**16 29 01.2**	**+1.7**
	comp=Z,5.8nm,0.8s								
BATI	**Baumata**	**17.86**	**188**	P		**P**		**16 29 11.6**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=308,slow=1.5,SNR=8.0								
BATI	**Baumata**	**17.86**	**188**	P		**P**		**16 29 13.6**	**+2.9**
	comp=Z,26nm,0.8s								
MTN	**Manton Dam**	**20.91**	**166**	P		**P**		**16 29 44.4**	**+0.3**
MTN				IAmb		IAmb		16 29 54.0	
	comp=Z,7.8nm,0.8s								
KNRA	**Kununurra**	**23.28**	**174**	P		**P**		**16 30 08.7**	**-0.4**
KNRA				IAmb		IAmb		16 30 23.4	
	comp=Z,13nm,0.8s								
FITZ	**Fitzroy Crossi**	**25.54**	**181**	P		**P**		**16 30 29.3**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=340,slow=6.8,SNR=16								
FITZ	**Fitzroy Crossi**	**25.54**	**181**	P		**P**		**16 30 29.5**	**-0.3**
FITZ				IAmb		IAmb		16 30 36.4	
	comp=Z,7.0nm,1.1s								
BKNI	**Bangkinang**	**26.02**	**255**	P		P		16 30 43.7	+9.4
WB0	**Warramunga Arr**	**28.39**	**163**	P		**P**		**16 30 55.1**	**-0.4**
WB0				IAmb		IAmb		16 31 14.9	
	comp=Z,10nm,1.4s								
CMAR	**Chiang Mai Arr**	**28.54**	**295**	P		**P**		**16 30 57.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=129,slow=9.6,SNR=4.0								
WRA	**Warramunga Arr**	**28.54**	**164**	P		**P**		**16 30 55.1**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=343,slow=9.7,SNR=3.6								
WRA	**Warramunga Arr**	**28.54**	**164**	P		**P**		**16 30 56.0**	**-0.9**
WB2	**Warramunga Arr**	**28.55**	**164**	P		**P**		**16 30 55.8**	**-1.1**
WR0	**Warramunga Arr**	**28.62**	**163**	P		**P**		**16 30 56.5**	**-1.0**
WR0				IAmb		IAmb		16 31 16.0	
	comp=Z,5.9nm,1.2s								
MJAR	**Matsushiro Arr**	**30.85**	**19**	LR		LR		16 42 53.1	
	comp=Z,20nm,21.1s,baz=165,slow=35								
AS31	**Alice Springs**	**32.00**	**166**	P		**P**		**16 31 28.1**	**+0.8**
ASAR	**Alice Springs**	**32.00**	**166**	P		**P**		**16 31 27.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=339,slow=7.2,SNR=26								
ASAR	**Alice Springs**	**32.00**	**166**	P		**P**		**16 31 27.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**35.56**	**341**	*eP*		**P**		**16 32 00.8**	**+2.6**
HHC				pmax		pmax			
	comp=Z,15nm,0.7s								
HHC				pmax		pmax			
	comp=Z,76nm,6.7s								
ERM	**Erimo**	**37.45**	**21**	P		**P**		**16 32 15.8**	**+1.6**
FORT	**Forrest**	**38.21**	**177**	P		**P**		**16 32 20.5**	**-0.1**
ASAJ	**Asahikawa**	**39.12**	**19**	P		**P**		**16 32 26.8**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=212,slow=7.0,SNR=6.1								
JKA	**Kamikawa-asahi**	**39.12**	**19**	P		**P**		**16 32 29.2**	**+1.0**
JKA				IAmb		IAmb		16 32 37.1	
	comp=Z,15nm,1.5s								
NWAO	**Narrogin (SRO)**	**41.18**	**191**	P		**P**		**16 32 44.5**	**-0.9**
NWAO				IAmb		IAmb		16 32 56.5	
	comp=Z,29nm,1.4s								
BBOO	**Buckleboo**	**41.29**	**167**	P		**P**		**16 32 46.5**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**41.30**	**69**	T		T		17 16 19.0	
	baz=265,slow=75,SNR=5.1								
H11N2	**WAKE ISLAND Hy**	**41.31**	**69**	T		T		17 16 22.4	
	baz=265,slow=75,SNR=7.5								
H11N3	**WAKE ISLAND Hy**	**41.32**	**69**	T		T		17 16 42.8	
	baz=265,slow=75,SNR=4.2								
STKA	**Stephens Creek**	**41.95**	**160**	P		**P**		**16 32 51.0**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=347,slow=9.8,SNR=8.3								
STKA				LR		LR		16 52 14.8	
	comp=Z,60nm,19.1s,baz=206,slow=39								
STKA	**Stephens Creek**	**41.95**	**160**	P		**P**		**16 32 51.8**	**+0.1**
WMQ	**Urumqi**	**49.24**	**324**	*eP*		**P**		**16 33 50.1**	**+0.8**
PETK	**Petropavlovsk-**	**52.12**	**24**	P		**P**		**16 34 08.1**	**-2.8**
	comp=Z,2.2nm,1.1s,baz=145,slow=3.5,SNR=1.2								
PETK	**Petropavlovsk-**	**52.12**	**24**	P		**P**		**16 34 11.3**	**+0.5**
MK31	**Makanchi Array**	**54.06**	**324**	P		**P**		**16 34 25.1**	**-0.1**
MK31				IAmb		IAmb		16 34 26.1	
	comp=Z,3.5nm,0.7s								
MKAR	**Makanchi Array**	**54.06**	**324**	P		**P**		**16 34 25.5**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=124,slow=8.2,SNR=49								
MKAR				PcP		**PcP**		**16 35 29.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=104,slow=5.1,SNR=4.3								
MKAR	**Makanchi Array**	**54.06**	**324**	P		**P**		**16 34 25.1**	**-0.1**
ZALV	**Zalesovo Beam**	**56.89**	**332**	P		**P**		**16 34 44.2**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=120,slow=5.3,SNR=4.2								
KKAR	**Karatay Array**	**60.02**	**316**	P		**P**		**16 35 07.1**	**-0.3**
BRVK	**Borovoye**	**63.84**	**326**	P		**P**		**16 35 32.3**	**-0.6**
BRVK				IAmb		IAmb		16 35 33.0	
	comp=Z,2.5nm,0.7s								
BKZ	**Black Stump Fm**	**65.87**	**139**	P		**P**		**16 35 48.2**	**+1.8**
ABKAR	**Akbulak array**	**68.80**	**320**	P		**P**		**16 36 03.2**	**-1.4**
FINES	**FINESS Array B**	**88.15**	**332**	P		**P**		**16 37 49.7**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=98,slow=3.9,SNR=7.7								
AKASG	**Malin Array Be**	**88.52**	**321**	P		**P**		**16 37 51.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=72,slow=3.0,SNR=2.4								
TORD	**Torodi Ar. Bea**	**121.07**	**290**	PKP		**PKPdf**		**16 43 52.5**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=340,slow=2.1,SNR=2.7								

DJA 16 16:39:17.4±2.0,10°S±10°×12°5E±°,h24km±18km,M3.9/6, mb4.0/6,MLv3.9/6,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.88**	**262**	P		Pn		16 39 34.0	-0.1
SOEI				S		Sn		16 39 46.6	+0.1
BATI	**Baumata**	**1.57**	**249**	P		Pn		16 39 43.9	0.0
EDFI	**Ende, Flores**	**3.53**	**284**	P		Pn		16 40 10.9	+0.1
BASI	**Baing, Sumba**	**4.54**	**262**	P		Pn		16 40 25.7	+1.0
WBSI	**Waikabubak, Su**	**5.68**	**269**	P		Pn		16 40 40.0	-0.4
	0.2nm30nm,0.9s								
PLAI	**Plampang**	**7.32**	**276**	P		Pn		16 41 03.4	+0.5
	0.1nm18nm,1.4s								
TWSI	**Taliwang, Sumb**	**8.21**	**276**	P		Pn		16 41 14.0	-1.1
	5.3nm,0.9s								

JMA ***16*** *16:39:49.1±0.6,45.97N×152.28E, h30km, M3.6*

SKHL 16 16:39:49.7±0.5,44.90N×152.50E,h39km±2km,mb3.9/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.30**	**277**	*eP*		Pn		16 40 39.9	+1.1
KUR				AMB		AMB		16 40 42.2	
	10.0nm,0.5s								
KUR				*i* S		Sn		16 41 17.3	+0.6
YUK	**Yuzh-Kuril'sk**	**4.83**	**262**	*eP*		Pn		16 41 01.6	+1.8
YUK				AMB		AMB		16 41 10.0	
	10.0nm,0.3s								
YUK				*eS*		Sn		16 41 55.3	+0.9
YUK				A		A		16 42 02.1	
	60nm,0.6s								
YUK				A		A		16 42 02.1	
	60nm,0.6s								
NEM2	**Nemuro 2**	**5.10**	**255**	P		Pn		16 41 05.8	+2.3
NEM2				*eS*		Sn		16 42 02.8	+1.7
NMR	**Nemuro--Hokkai**	**5.11**	**255**	*iP*		Pn		16 41 05.6	+2.0
NMR				*eS*		Sn		16 42 02.9	+1.6
JRA	**Rausu**	**5.37**	**262**	P		Pn		16 41 11.0	+3.8
JNK	**Nakash**	**5.74**	**260**	P		Pn		16 41 15.5	+3.2
JNK				*eS*		Sn		16 42 19.0	+2.1
JAK	**Akkeshi**	**5.95**	**254**	P		Pn		16 41 17.5	+2.4
JAK				*eS*		Sn		16 42 22.0	+0.1
JTKR	**Abashiri--Toko**	**6.22**	**264**	P		Pn		16 41 21.9	+3.0
JAR	**Ashorobuto**	**6.49**	**259**	P		Pn		16 41 26.2	+3.6
JAR				*eS*		Sn		16 42 38.5	+3.2
JMP	**Maruseppu**	**6.60**	**265**	P		Pn		16 41 27.4	+3.2
JCH	**Churui**	**7.00**	**254**	P		Pn		16 41 32.5	+2.9
JCH				*eS*		Sn		16 42 48.7	+0.8
JFR	**Furan**	**7.35**	**260**	P		Pn		16 41 38.0	+3.6
JNBK	**Urakawa-nobuka**	**7.54**	**253**	P		Pn		16 41 39.3	+2.2
JBT2	**Biratori 2**	**7.63**	**257**	P		Pn		16 41 40.8	+2.6
JNB	**Noboribetsu**	**8.65**	**259**	P		Pn		16 41 54.4	+2.1
JKB	**Kayabe**	**8.88**	**254**	*eS*		Sn		16 43 31.4	-2.5
JANG	**Nango**	**9.27**	**245**	P		Pn		16 42 02.6	+1.8

WEL 16 16:47:06.2±1.7,35°S±26°×17°9E±3°,h222km±26km, M3.4/9,ML3.7/6,MLv3.4/9,Error ellipse: s-maj=0.1km s-min=0.0km az=119.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.10**	**186**	P		Pn		16 47 46.7	-0.6
MXZ				S		S		16 48 19.0	-0.5
HAZ	**Te Kaha**	**2.37**	**195**	P		Pn		16 47 50.4	+0.4
HAZ				S		S		16 48 24.7	+0.4
PKGZ	**Pakihiroa**	**2.45**	**189**	P		Pn		16 47 51.9	+1.0
RUGZ	**Raukumara Rang**	**2.59**	**196**	P		Pn		16 47 52.7	+0.1
RUGZ				S		S		16 48 29.1	+0.3
PUZ	**Puketiti**	**2.61**	**185**	S		S		16 48 29.6	+0.6
TWGZ	**Tauwhareparae**	**2.74**	**190**	S		S		16 48 33.3	+1.7
URZ	**Urewera**	**3.02**	**202**	P		Pn		16 47 57.2	0.0
TKGZ	**Te Karaka**	**3.02**	**191**	P		Pn		16 47 57.1	0.0
TKGZ				S		S		16 48 38.1	+1.0
MUGZ	**Murupara**	**3.33**	**205**	P		Pn		16 48 01.4	+0.7
BKZ	**Black Stump Fm**	**4.04**	**204**	P		Pn		16 48 09.6	+0.3
OTVZ	**Oturere**	**4.35**	**211**	P		Pn		16 48 13.3	+0.1
KRHZ	**Kereru**	**4.52**	**202**	P		Pn		16 48 14.2	-0.9
TSZ	**Takapari Road**	**5.02**	**203**	P		Pn		16 48 20.4	-1.0

IDC ***16*** *16:47:06.2±1.2,34.14N×85.43E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.3/50, mbtmp3.5/6, ML2.7/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/51, Error ellipse: s-maj=54.0km s-min=23.6km az=62.0*

ISC 16 16:47:11.4±1.3,34.3N±0.2×85.5E±0.3,h35km,n7,σ0s43/6, mb3.6/3,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.71**	**350**	Pn		**Pn**		**16 50 09.4**	**-0.1**
	0.1nm,0.3s,baz=162,slow=13,SNR=4.4								
MKAR				LR		LR		16 56 34.8	
	comp=Z,24nm,20.3s,baz=129,slow=44								
KURBB	**Kurchatov Arra**	**17.09**	**345**	P		**P**		**16 51 09.1**	**+0.3**
	0.0nm,0.3s,baz=161,slow=11,SNR=5.5								
ZALV	**Zalesovo Beam**	**19.64**	**359**	P		**Pn**		**16 51 38.1**	**-0.3**
	baz=171,slow=10,SNR=4.3								
PALK	**Pallekele**	**27.27**	**190**	LR		LR		17 04 28.1	
	comp=Z,33nm,18.4s,baz=349,slow=38								
WRA	**Warramunga Arr**	**71.19**	**132**	P		**P**		**16 58 27.3**	**+0.4**
	0.6nm,0.6s,baz=325,slow=6.5,SNR=8.5								
ASAR	**Alice Springs**	**73.74**	**134**	P		**P**		**16 58 41.6**	**-0.4**
	0.5nm,0.7s,baz=331,slow=6.0,SNR=7.7								
TORD	**Torodi Ar. Bea**	**77.66**	**278**	P		**P**		**16 59 04.6**	**0.0**
	0.5nm,0.7s,baz=38,slow=7.3,SNR=2.1								

IDC 16 16:53:19.9±3.6,6.56S×154.73E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/37,mbtmp3.5/4,MS2.9/1,Ms1 2.9/1, ms1mx2.4/25,Error ellipse: s-maj=109.8km s-min=31.1km az=110.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.01**	**249**	LR		LR		16 58 03.1	
	comp=Z,86nm,19.3s,baz=120,slow=35								
WRA	**Warramunga Arr**	**23.85**	**234**	P		P		16 58 35.3	+0.1
	0.9nm,0.7s,baz=60,slow=9.7,SNR=13								
ASAR	**Alice Springs**	**26.27**	**227**	P		P		16 58 57.1	-0.1
	0.3nm,0.7s,baz=56,slow=9.7,SNR=1.8								
H11S3	**WAKE ISLAND Hy**	**27.55**	**25**	T		T		17 27 44.4	
	baz=203								
H11S2	**WAKE ISLAND Hy**	**27.55**	**25**	T		T		17 27 23.3	
	baz=203,SNR=3.9								
H11S1	**WAKE ISLAND Hy**	**27.57**	**25**	T		T		17 27 26.8	
	baz=203								
KSRS	**Korea Array**	**50.43**	**332**	P		P		17 02 19.4	0.0
	0.5nm,0.8s,baz=146,slow=7.6,SNR=4.4								
MKAR	**Makanchi Array**	**82.90**	**319**	P		P		17 05 46.9	+0.2
	0.3nm,0.5s,baz=91,slow=5.9,SNR=3.2								
TORD	**Torodi Ar. Bea**	**152.65**	**286**	PKPbc		PKPbc		17 13 19.1	-0.5
	0.7nm,0.8s,baz=37,slow=0.7,SNR=2.6								

IDC ***16*** *16:59:43.2±2.1,2.07N×125.06E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/38, mbtmp3.2/3, Error ellipse: s-maj=198.6km s-min=27.9km az=64.0*

DJA ***16*** *16:59:49.8±2.0,3.3N±4.4×12.6E±, h28km±21km, M3.5/7, mb3.6/1, MLv3.4/7*

ISC 16 16:59:45.7±1.0,2.74N±0.08×126.43E±0.08,h10km,n9, σ2s14/11,mb3.2/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.30**	**316**	P		**Pg**		**17 00 11.9**	**+1.1**
SGSI				S		**Sg**		**17 00 28.8**	**+1.1**
GAMI	**Galela, Maluku**	**1.62**	**123**	P		**Pb**		**17 00 17.0**	**+1.3**
MNI	**Manado**	**2.04**	**231**	P		**Pn**		**17 00 21.0**	**+0.9**
MNI				S		**Sn**		**17 00 45.5**	**-0.2**
TNTI	**Ternate**	**2.16**	**154**	P		**Pn**		**17 00 24.0**	**+2.2**
KMSI	**Cibinong**	**3.26**	**229**	P		**Pn**		**17 00 38.2**	**+1.4**
GTOI	**Gorontalo**	**4.00**	**239**	P		**Pn**		**17 00 49.0**	**+1.9**
WRA	**Warramunga Arr**	**23.84**	**161**	P		**P**		**17 04 56.0**	**-3.2**
	0.3nm,0.4s,baz=336,slow=10,SNR=7.8								
ASAR	**Alice Springs**	**27.23**	**165**	P		**P**		**17 05 28.1**	**-2.0**
	0.2nm,0.7s,baz=348,slow=8.5,S

NVAR	**Mina Array Bea**	**78.60**	**41**	P		**P**	**17 19 29.5**	**-0.5**
KSRS	**Korea Array**	**79.61**	**317**	P		**P**	**17 19 38.5**	**+3.2**
	comp=Z,1.6nm,1.0s,baz=140,slow=6.7,SNR=11							
KSAR	**Wonju Array Be**	**79.63**	**317**	P		**P**	**17 19 37.8**	**+2.4**
SYO	**Syowa Base**	**87.33**	**191**	*eP*		**P**	**17 20 13.5**	**-1.0**
ILAR	**Eielson Array**	**87.72**	**11**	P		P	17 20 22.8	+6.6
	comp=Z,0.2nm,0.7s,baz=205,slow=4.0,SNR=2.0							
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P		**P**	**17 20 47.9**	**+2.3**
	comp=Z,1.5nm,0.9s,baz=129,slow=3.6,SNR=9.7							
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P		**P**	**17 20 47.7**	**+2.0**
MKAR	**Makanchi Array**	**114.12**	**313**	PKP		**PKiKP**	**17 26 08.6**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=72,slow=1.8,SNR=2.8							
KURK	**Kurchatov**	**116.73**	**317**			**PKiKP**	**17 26 13.0**	**+1.0**
KURBB	**Kurchatov Arra**	**116.79**	**317**	PKP		**PKiKP**	**17 26 13.0**	**+0.9**
	comp=Z,0.2nm,0.2s,baz=89,slow=2.0,SNR=4.8							
AKASG	**Malin Array Be**	**144.95**	**334**	PKPbc		**PKPdf**	**17 27 06.2**	**+1.2**
	comp=Z,3.3nm,0.6s,baz=41,slow=4.4,SNR=22							
AKASG	**Malin Array Be**	**144.95**	**334**			**PKPdf**	**17 27 05.0**	**+0.1**
CLL	**Collm**	**148.98**	**352**	*e*PKPdf		**PKPbc**	**17 27 14.0**	**-1.7**
CLL				*i* PKPbc		**pPKPdf**	**17 27 18.5**	**-1.1**
	comp=Z,9.0nm,1.3s							
CLL				*e*(PKPab)		**pPKPbc**	**17 27 24.0**	**+0.4**
OSTC	**Ostas**	**149.15**	**347**	*e*PKPAB		**PKPab**	**17 27 19.3**	**-1.2**
DPC	**Dobruska-Polom**	**149.32**	**347**	*e*PKPAB		**PKPab**	**17 27 20.4**	**-0.9**
KRLC	**Kraliky**	**149.49**	**346**	*e*PKPAB		**PKPab**	**17 27 20.3**	**-1.7**
BRTR	**Keskin Array B**	**149.75**	**315**	PKPbc		**PKiKP**	**17 27 19.3**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=198,slow=0.5,SNR=5.7							
KHC	**Kasperske Hory**	**151.01**	**350**	*e*PKP		**PKPbc**	**17 27 19.2**	**-1.6**
KHC				*e*pPKP		**pPKPdf**	**17 27 23.5**	**+0.5**
CKRC	**Cesky Krumlov**	**151.18**	**349**	*e*PKP		**PKiKP**	**17 27 24.1**	**+2.4**
GERES	**GERESS Array B**	**151.26**	**349**	PKPbc		**PKiKP**	**17 27 24.4**	**+2.5**
	comp=Z,0.6nm,0.6s,baz=194,slow=1.1,SNR=6.2							
GERES	**GERESS Array B**	**151.26**	**349**			**PKPbc**	**17 27 20.3**	**-1.1**

NEIC ***16*** *17:19:42.3±1.9, 47°.59N±0°.04×92°.61W±0°.08, h0km±2km, mb_Lg2.6/20, Error ellipse: s-maj=11.1km s-min=3.1km az=52.0*
IDC ***16*** *17:19:43.8±4.1, 47°.57N×92°.81W, h0km, mb1 2.4/1, mb1mx2.4/41, mbtmp2.4/1, ML0.4/1, Error ellipse: s-maj=81.8km s-min=28.1km az=54.0*

ISC 16 17:19:42.0±1.1, **47°.59N**±0°.05×**92°.64W**±0°.04, **h0**km, **n24,** σ1§15/22, **Minnesota**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EYMN	**Ely**	**0.85**	**65**			**Pg**	**17 19 57.9**	**-0.4**
B35A	**Bob, Littlefor**	**1.06**	**317**			**Pg**	**17 20 02.3**	**-0.1**
E38A	**The Farm, Brul**	**1.23**	**143**			**Pg**	**17 20 05.2**	**-0.4**
F36A	**Milaca**	**1.83**	**200**			**Pn**	**17 20 13.7**	**-1.0**
AGMN	**Agassiz Nation**	**2.28**	**289**	Pn		**Pn**	**17 20 20.0**	**-0.9**
SPMN	**Marine on St.**	**2.37**	**183**			**Pn**	**17 20 22.1**	**0.0**
D41A	**Chassel**	**2.82**	**99**			**Pn**	**17 20 28.6**	**+0.3**
D41A				IAmb_Lg			17 21 13.2	
	comp=Z,20nm,1.2s							
COWI	**Conover**	**2.83**	**120**			**Pn**	**17 20 28.8**	**+0.4**
COWI				IAmb_Lg			17 21 18.6	
	comp=Z,13nm,0.8s							
G40A	**Rib Lake**	**2.87**	**143**			**Pn**	**17 20 29.3**	**+0.3**
F33A	**5 Mile Ranch,**	**3.06**	**237**			**Pn**	**17 20 31.1**	**-0.6**
F33A				IAmb_Lg			17 21 19.8	
	comp=Z,22nm,0.8s							
ULM	**Lac du Bonnet**	**3.41**	**322**	Pn		**Pn**	**17 20 36.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=1.4							
ULM				Pg		**Pb**	**17 20 43.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=146,slow=16,SNR=6.3							
ULM				Lg		Lg	17 21 27.9	
	comp=Z,1.8nm,0.3s,baz=179,slow=7.4,SNR=19							
ULM				Rg		Rg	17 21 40.4	
	comp=Z,10nm,0.8s,baz=149,slow=13,SNR=3.7							
ULM	**Lac du Bonnet**	**3.41**	**322**	Pn		**Pn**	**17 20 37.9**	**+1.5**
I10CA	**LAC DU BONNET**	**3.44**	**321**	*i*			17 39 20.0	
	baz=139,slow=318,SNR=5.2							
I37A	**Lemond, Waseca**	**3.61**	**189**	Pn		**Pn**	**17 20 39.0**	**-0.2**
I37A				IAmb_Lg			17 21 39.6	
	comp=Z,15nm,1.1s							
I40A	**Norwalk**	**3.96**	**158**			**Pn**	**17 20 44.6**	**+0.7**
I40A				IAmb_Lg			17 21 53.3	
	comp=Z,11nm,1.0s							
E43A	**Lone Tree Farm**	**4.05**	**105**	Pn		**Pn**	**17 20 45.2**	**0.0**
I42A	**Draeger Farm,**	**4.52**	**143**	Pn		**Pn**	**17 20 52.7**	**+1.0**
I42A				IAmb_Lg			17 22 03.2	
	comp=Z,14nm,0.9s							
MDND	**Maddock**	**4.71**	**276**	Pn		**Pn**	**17 20 56.0**	**+1.7**
MDND				IAmb_Lg			17 22 12.1	
	comp=Z,14nm,0.7s							
ECSD	**EROS Data Cent**	**4.76**	**217**	Pn		**Pn**	**17 20 58.3**	**+3.3**
K38A	**Parkersburg**	**4.94**	**181**	IAmb_Lg			17 22 18.0	
	comp=Z,16nm,1.1s							
JFWS	**Jewell Farm**	**4.97**	**159**			**Pn**	**17 20 59.3**	**+1.5**
JFWS				IAmb_Lg			17 22 15.7	
	comp=Z,11nm,0.9s							
L40A	**Anamosa**	**5.62**	**169**	Pn		**Pn**	**17 21 06.6**	**-0.1**
L40A				IAmb_Lg			17 22 43.4	
	comp=Z,9.0nm,1.0s							
E46A	**Sault Ste Mari**	**5.83**	**99**	Pn		**Pn**	**17 21 08.2**	**-1.5**
I56US	**NEWPORT INFRAS**	**16.41**	**281**	*i*			18 54 30.0	
	baz=82,slow=314,SNR=2.8							

TAP ***16*** *17:30:38.6, 24°.95N×122°.92E, h27km±1km, ML2.9, D*
JMA ***16*** *17:30:40.3±0.2, 24°.84N×122°.86E, h27km±3km, M1.9*

ISC 16 17:30:38.9±1.2, **24°.94N**±0°.03×**122°.89E**±0°.02, **h22**km±6km, **n70,** σ0§64/123, **1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.49**	**167**	P		**Pb**	**17 30 48.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.49**	**167**	⇑P		**Pb**	**17 30 48.6**	**-0.3**
	baz=171							
YOJ				S		**Sn**	**17 30 57.3**	**-1.2**
	baz=171							
JYNG	**Yonagunijimaku**	**0.49**	**174**	P		**Pb**	**17 30 48.6**	**-0.3**
JYNG				S		**Sb**	**17 30 54.8**	**-0.8**
TWB1	**Santiao Chiao**	**0.82**	**275**	P		**Pb**	**17 30 54.0**	**-0.5**
	baz=273							
TWB1				S		**Sn**	**17 31 07.0**	**+0.4**
	baz=273							
TIPB	**Shuangxi**	**0.97**	**272**	*i* P		**Pn**	**17 30 56.5**	**-0.7**
	baz=271							
TIPB				S		**Sb**	**17 31 08.8**	**-0.5**
	baz=271							
IRIF	**Iriomote-Funau**	**0.98**	**128**	P		**Pb**	**17 30 57.4**	**+0.3**
TWC	**Suao**	**1.00**	**251**	P		**Pn**	**17 30 57.0**	**-0.7**
	baz=250							
TWC				S		**Sn**	**17 31 09.9**	**-1.2**
	baz=250							
PCYT	**Pengchaiyu**	**1.01**	**313**	*i* P		**Pb**	**17 30 58.4**	**+0.7**
	baz=311							
PCYT				S		**Sb**	**17 31 10.8**	**+0.3**
	baz=311							
NWF	**Wu-fen Shan**	**1.01**	**277**	P		**Pn**	**17 30 57.7**	**-0.3**
	baz=276							
NWF				S		**Sn**	**17 31 10.0**	**-1.5**
	baz=276							
WFSB	**Wu-fen Shan**	**1.01**	**277**	*e*P		**Pn**	**17 30 57.5**	**-0.3**
	baz=276							
TNOU	**National Taiwa**	**1.03**	**282**	*e*S		**Sb**	**17 31 11.9**	**+0.7**
	baz=280							
ILA	**Ilan**	**1.05**	**261**	*e*P		**Pn**	**17 30 58.1**	**-0.2**
	baz=259							
ILA				*e*S		**Sb**	**17 31 12.8**	**+1.1**
	baz=259							
NDS	**Dongshan**	**1.11**	**254**	*e*P		**Pn**	**17 30 58.4**	**-0.8**
	baz=253							
NDS				S		**Sn**	**17 31 13.6**	**-0.2**
	baz=253							
TWE	**Neicheng**	**1.13**	**259**	P		**Pn**	**17 30 57.8**	**-1.7**
	baz=258							
TWE				S		**Sn**	**17 31 14.0**	**-0.3**
	baz=258							
TWA	**Mucha**	**1.19**	**272**	*e*P		**Pb**	**17 31 00.6**	**-0.1**
	baz=271							
TWA				*e*S		**Sn**	**17 31 15.8**	**+0.1**
	baz=271							
YM08	**YM08**	**1.20**	**282**	P		**Pn**	**17 31 00.5**	**0.0**
	baz=280							
YM08				*e*S		**Sb**	**17 31 16.6**	**+0.4**
	baz=280							
YM01	**YM01**	**1.21**	**280**	P		**Pn**	**17 31 00.8**	**+0.1**
	baz=278							
YM01				S		**Sb**	**17 31 16.7**	**+0.2**
	baz=278							
TWY	**Chenhua**	**1.22**	**286**	*e*P		**Pn**	**17 30 59.9**	**-0.7**
	baz=284							
TWY				*e*S		**Sb**	**17 31 16.6**	**+0.1**
	baz=284							
JKRS	**Kuro-shima**	**1.24**	**124**	P		**Pb**	**17 31 01.5**	**-0.1**
ENTT	**Nioudou**	**1.24**	**256**	*e*P		**Pb**	**17 31 01.4**	**-0.3**
	baz=255							
ENTT				S		**Sb**	**17 31 17.4**	**+0.2**
	baz=255							
ANP	**Anpu**	**1.27**	**281**	*e*P		**Pn**	**17 31 00.6**	**-0.8**
	baz=280							
ANP				*e*S		**Sn**	**17 31 17.0**	**-0.8**
	baz=280							
NWLT	**Wulai**	**1.27**	**263**	*e*P		**Pn**	**17 31 01.4**	**0.0**
	baz=262							
NWLT				*e*S		**Sb**	**17 31 18.4**	**+0.4**
	baz=262							
JIJ	**Ishigaki jima**	**1.28**	**117**	P		**Pb**	**17 31 02.7**	**+0.4**
JIJ				*e*S		**Sb**	**17 31 18.5**	**+0.2**
NDT	**Datong Townshi**	**1.30**	**255**	*e*P		**Pn**	**17 31 02.2**	**-0.4**
	baz=254							
NDT				S		**Sn**	**17 31 18.5**	**+0.1**
	baz=254							
BACT	**New Taipei Cit**	**1.31**	**273**	*e*S		**Sb**	**17 31 19.4**	**+0.1**
	baz=271							
JISG	**Ishigakijimahi**	**1.34**	**105**	P		**Pb**	**17 31 03.4**	**+0.1**
JISG				*e*S		**Sb**	**17 31 20.9**	**+0.8**
TWS1	**Kuangyinshan**	**1.34**	**277**	*e*P		**Pb**	**17 31 02.9**	**-0.5**
	baz=276							
TWS1				S		**Sb**	**17 31 20.2**	**+0.1**
	baz=276							
ETL	**Fush Village**	**1.39**	**236**	*e*P		**Pb**	**17 31 03.7**	**-0.5**
	baz=236							
ETL				S		**Sb**	**17 31 21.8**	**+0.2**
	baz=236							
YHNB	**Yeheng**	**1.40**	**259**	*e*P		**Pn**	**17 31 03.6**	**+0.3**
	baz=258							
YHNB				S		**Sn**	**17 31 21.4**	**+0.3**
	baz=258							
NACB	**Ninganchiao**	**1.41**	**237**	P		**Pn**	**17 31 03.7**	**+0.5**
	baz=237							
NACB				S		**Sn**	**17 31 21.3**	**+0.2**
	baz=237							
TWD	**Chiawan**	**1.46**	**234**	P		**Pb**	**17 31 04.9**	**-0.4**
	baz=234							
TWD				*e*S		**Sn**	**17 31 22.5**	**+0.1**
	baz=234							
NNSB	**Datong**	**1.46**	**250**	P		**Pn**	**17 31 03.8**	**-0.3**
	baz=249							
NNSB				*e*S		**Sn**	**17 31 23.4**	**+0.7**
	baz=249							
NNSH	**Datong**	**1.46**	**250**	*e*P		**Pn**	**17 31 04.4**	**+0.2**
	baz=249							
NNSH				*e*S		**Sn**	**17 31 22.4**	**-0.2**
	baz=249							
NNS	**Nan Shan**	**1.47**	**250**	P		**Pb**	**17 31 04.9**	**-0.7**
	baz=249							
NNS				S		**Sn**	**17 31 22.6**	**-0.3**
	baz=249							
ETLH	**Xiulin Townshi**	**1.48**	**241**	*e*P		**Pb**	**17 31 05.5**	**-0.3**
	baz=240							
ETLH				S		**Sb**	**17 31 24.2**	**+0.1**
	baz=240							
HWA	**Hwalien**	**1.51**	**231**	*e*P		**Pn**	**17 31 04.3**	**-0.5**
	baz=230							
HWA				S		**Sn**	**17 31 23.3**	**-0.5**
	baz=230							
NCU	**National Centr**	**1.54**	**271**	*e*P		**Pn**	**17 31 05.8**	**+0.6**
	baz=270							
NCU				*e*S		**Sn**	**17 31 25.1**	**+0.5**
	baz=270							
NCUH	**Zhongli**	**1.55**	**271**	*e*P		**Pn**	**17 31 05.5**	**+0.3**
	baz=270							
NCUH				*e*S		**Sn**	**17 31 25.1**	**+0.5**
	baz=270							
ETM	**Tongmen**	**1.60**	**233**	*e*P		**Pn**	**17 31 06.6**	**+0.7**
	baz=232							
ETM				*e*S		**Sn**	**17 31 26.6**	**+0.6**
	baz=232							
FUSS	**Fushou**	**1.65**	**246**	*e*S		**Sn**	**17 31 27.8**	**+0.3**
	baz=245							
WHF	**Hehuan Shan**	**1.68**	**242**	*i* P		**Pb**	**17 31 08.4**	**-1.0**
	baz=241							
WHF				S		**Sn**	**17 31 28.4**	**0.0**
	baz=241							
TWT	**Tachien**	**1.70**	**247**	P		**Pn**	**17 31 07.9**	**+0.4**
	baz=246							
TWT				*e*S		**Sn**	**17 31 28.6**	**-0.1**
	baz=246							
TDCB	**Techi**	**1.72**	**247**	*e*P		**Pn**	**17 31 07.8**	**+0.2**
	baz=246							
TDCB				*e*S		**Sn**	**17 31 29.0**	**-0.1**
	baz=246							
LIOB	**Emei**	**1.73**	**261**	*e*P		**Pn**	**17 31 08.8**	**+1.1**
	baz=259							
LIOB				*e*S		**Sn**	**17 31 29.4**	**+0.3**
	baz=259							
ESL	**Shilin**	**1.74**	**230**	P		**Pn**	**17 31 07.8**	**0.0**
	baz=229							
ESL				S		**Sn**	**17 31 29.6**	**+0.2**
	baz=229							
NSTT	**Nanjuang**	**1.74**	**260**	*e*P		**Pb**	**17 31 10.1**	**-0.1**
	baz=259							
NSTT				*e*S		**Sn**	**17 31 28.9**	**-0.5**
	baz=259							
HSN	**Hsinchu**	**1.75**	**266**	*e*P		**Pn**	**17 31 07.9**	**-0.1**
	baz=265							
HSN				*e*S		**Sn**	**17 31 28.5**	**-1.1**
	baz=265							
CHGB	**Renai**	**1.79**	**241**	*e*P		**Pb**	**17 31 10.3**	**-0.9**
	baz=240							
CHGB				*e*S		**Sn**	**17 31 31.6**	**+0.6**
	baz=240							
EGFH	**Guangfu**	**1.84**	**227**	*e*P		**Pn**	**17 31 09.4**	**+0.2**
	baz=226							
EGFH				*e*S		**Sn**	**17 31 32.6**	**+0.7**
	baz=226							
OWD	**Renai**	**1.84**	**238**	*e*P		**Pn**	**17 31 09.7**	**+0.3**
	baz=237							
OWD				*e*S		**Sn**	**17 31 31.7**	**-0.4**
	baz=237							
NJN	**Zhunan**	**1.85**	**262**	*e*P		**Pn**	**17 31 10.4**	**+1.1**
	baz=261							
HGSD	**Ruisui**	**1.97**	**223**	*e*P		**Pn**	**17 31 10.8**	**-0.2**
	baz=223							
HGSD				*e*S		**Sn**	**17 31 35.7**	**+0.7**
	baz=223							
WPL	**Puli Township**	**1.99**	**243**	*e*P		**Pn**	**17 31 12.0**	**+0.8**
	baz=242							
TWQ1	**Liyutan**	**2.01**	**253**	*e*P		**Pb**	**17 31 13.5**	**-1.4**
	baz=252							
EHY	**Hungye**	**2.02**	**225**	*e*P		**Pn**	**17 31 12.0**	**+0.2**
	baz=225							
EHY				S		**Sn**	**17 31 37.0**	**+0.6**
	baz=225							
SMLT	**Sun Moon Lake**	**2.10**	**240**	*e*P		**Pn**	**17 31 13.9**	**+1.0**
	baz=239							
SMLT				S		**Sn**	**17 31 38.7**	**+0.4**
	baz=239							
SSLB	**Suanglung**	**2.11**	**237**	*e*P		**Pn**	**17 31 13.6**	**+0.7**
	baz=237							
SSLB				*e*S		**Sn**	**17 31 39.4**	**+0.9**
	baz=237							
YULB	**Yu-li**	**2.12**	**224**	*e*P		**Pn**	**17 31 12.3**	**-0.8**
	baz=223							
TYC	**Yuchr**	**2.12**	**241**	*e*P		**Pn**	**17 31 14.5**	**+1.4**
	baz=240							
EYUL	**Yuli**	**2.14**	**222**	*e*P		**Pn**	**17 31 13.4**	**+0.1**
	baz=222							
EYUL				*e*S		**Sn**	**17 31 39.6**	**+0.4**
	baz=222							
TWF1	**Yuli**	**2.15**	**223**	*e*P		**Pn**	**17 31 14.2**	**+0.7**
	baz=222							
TWF1				*e*S		**Sn**	**17 31 39.3**	**-0.2**
	baz=222							
WWF	**Wufeng**	**2.19**	**246**	P		**Pn**	**17 31 14.9**	**+0.9**
	baz=245							
WWF				*e*S		**Sn**	**17 31 41.5**	**+1.1**
	baz=245							
JMJ	**Miyako jima 2**	**2.19**	**93**	*e*P		**Pn**	**17 31 13.8**	**-0.2**
	baz=93							
JMJ				*e*S		**Sn**	**17 31 38.9**	**-1.5**
	baz=93							
FULB	**Fuli**	**2.27**	**220**	*e*P		**Pn**	**17 31 16.0**	**+0.8**
	baz=220							
FULB				*e*S		**Sn**	**17 31 42.6**	**+0.2**
	baz=220							
ALS	**Alishan**	**2.38**	**234**	*e*P		**Pn**	**17 31 18.6**	**+1.7**
	baz=233							
EDH	**Donghe**	**2.44**	**217**	*e*P		**Pn**	**17 31 17.0**	**-0.4**
	baz=216							
ELDTW	**Lidau**	**2.44**	**225**	*e*P		**Pn**	**17 31 18.1**	**+0.4**
	baz=224							
LDUT	**Ludao**	**2.61**	**210**	*e*P		**Pn**	**17 31 19.9**	**+0.1**
	baz=210							
STYH	**Taoyuan**	**2.62**	**228**	*e*P		**Pn**	**17 31 20.9**	**+1.1**
	baz=227							
STYT	**Tauyuan**	**2.63**	**228**	*e*P		**Pn**	**17 31 21.2**	**+1.0**
	baz=227							
STYT				*e*S		**Sn**	**17 31 51.5**	**0.0**
	baz=227							

IDC ***16*** *17:43:14.1±0.8, 9°.81S×114°.84E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.8/31, mbtmp3.9/12, ML3.8/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/33, Error ellipse: s-maj=28.3km s-min=12.5km az=51.0*
DJA ***16*** *17:43:16.9±0.3, 10°.5S×3°.×11°.5E±°, h10km, M4.4/12, mb4.4/6, mB4.9/2, MLv4.4/12, Mw(mB)4.2/2*
NEIC ***16*** *17:43:19.5±3.0, 9°.92S±0°.06×114°.87E±0°.05, h37km±4km, mb4.2/17, Error ellipse: s-maj=10.0km s-min=6.8km az=210.0*

ISC 16 17:43:19.1±0.5, **9°.91S**±0°.06×**114°.89E**±0°.05, **h35**km, **n66,** σ1§81/70, **mb3.9**/12, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DNP	**Denpasar**	**1.27**	**15**	P		**Pn**	**17 43 42.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**1.61**	**333**			**Pn**	**17 43 46.0**	**+1.1**
JAGI				Sn		**Sn**	**17 44 04.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**1.61**	**333**	P		**Pn**	**17 43 46.1**	**+1.1**
KHKI	**Kahang-Kahang**	**1.70**	**25**	P		**Pn**	**17 43 47.5**	**+1.3**
BYJI	**Banyuwangi**	**1.77**	**343**	P		**Pn**	**17 43 49.4**	**+2.2**
SRBI	**Singaraja**	**1.85**	**10**	P		**Pn**	**17 43 50.1**	**+1.8**
TWSI	**Taliwang, Sumb**	**2.29**	**60**	P		**Pn**	**17 43 55.8**	**+1.4**
KMMI	**Kalianget**	**2.99**	**342**	P		**Pn**	**17 44 07.5**	**+3.5**
PLAI	**Plampang**	**3.05**	**70**	P		**Pn**	**17 44 06.8**	**+1.9**
PWJI	**Pagerwojo**	**3.58**	**301**	P		**Pn**	**17 44 14.0**	**+1.9**
SJI	**Sawahan**	**3.77**	**305**	P		**Pn**	**17 44 18.0**	**+3.2**
PCJI	**Pacitan**	**4.04**	**295**	P		**Pn**	**17 44 21.3**	**+2.8**
WBSI	**Waikabubak, Su**	**4.45**	**87**	P		**Pn**	**17 44 23.3**	**-0.9**
UGM	**Wanagama**	**4.75**	**294**	Pn		**Pn**	**17 44 30.0**	**+1.7**
UGM				Sn		**Sn**	**17 45 19.6**	**-2.4**
UGM	**Wanagama**	**4.75**	**294**	P		**Pn**	**17 44 29.9**	**+1.7**
KPJI	**Karang Pucung**	**6.42**	**293**	P		**Pn**	**17 44 53.6**	**+2.4**
	0.1nm20nm,0.7s							
EDFI	**Ende, Flores**	**6.81**	**81**	P		**Pn**	**17 44 56.8**	**+0.1**
	0.0nm7.3nm,0.5s							
KAPI	**Kappang**	**6.85**	**45**	Pn		**Pn**	**17 44 57.5**	**+0.3**
	2.0nm,0.3s,baz=204,slow=2.5,SNR=6.9							
KAPI				Sn		**Sn**	**17 46 13.4**	**-0.6**
	2.0nm,0.3s,baz=277,slow=22,SNR=8.6							
KAPI				LR		LR	17 47 55.9	
	comp=Z,108nm,18.7s,baz=228,slow=41							
KAPI	**Kappang**	**6.85**	**45**			**Pn**	**17 44 59.0**	**+1.8**
KAPI				Sn		**Sn**	**17 46 11.9**	**-2.1**
MMRI	**Maumere**	**7.37**	**81**	Pn		**Pn**	**17 45 06.7**	**+2.4**
MMRI				Sn		**Sn**	**17 46 26.9**	**+0.2**
CISI	**Cisompet, Garu**	**7.37**	**288**			**Pn**	**17 45 06.5**	**+2.2**
CISI	**Cisompet, Garu**	**7.37**	**288**	P		**Pn**	**17 45 06.5**	**+2.2**
	0.1nm741nm27nm,0.6s							
BNSI	**Bone**	**7.54**	**44**	P		**Pn**	**17 45 10.2**	**+3.6**
	0.1nm17nm,0.7s							
LEM	**Lembang**	**7.82**	**293**	LR		LR	17 48 43.7	
	comp=Z,31nm,19.3s,baz=99,slow=43							
BATI	**Baumata**	**8.65**	**93**	Pn		**Pn**	**17 45 23.1**	**+1.3**
	0.9nm,0.3s,baz=232,slow=23,SNR=1.7							
BATI				Sn		**Sn**	**17 46 55.4**	**-2.9**
	3.9nm,0.3s,baz=326,slow=23,SNR=4.5							
MTKI	**Muara Teweh, K**	**8.91**	**0**	P		**Pn**	**17 45 28.7**	**+3.2**
XMIS	**Christmas Isla**	**9.11**	**266**	Pn		**Pn**	**17 45 26.8**	**-1.3**
SOEI	**Soe**	**9.25**	**90**	Pn		**Pn**	**17 45 30.7**	**+0.5**
CGJI	**Cibinong**	**9.67**	**289**	P		**Pn**	**17 45 37.9**	**+2.1**
	22nm,0.9s							
PSA00	**Pilbara Seismi**	**12.54**	**158**	Pn		**Pn**	**17 46 12.3**	**-2.8**
PSA00	**Pilbara Seismi**	**12.54**	**158**	Pn		**Pn**	**17 46 13.7**	**-1.4**
GIRL	**Giralia**	**12.67**	**183**	Pn		**Pn**	**17 46 15.7**	**-1.2**
MNAI	**Manna**	**13.06**	**294**	Pn		**Pn**	**17 46 22.2**	**0.0**
FITZ	**Fitzroy Crossi**	**13.23**	**129**	Pn		**Pn**	**17 46 23.1**	**-1.4**
	0.4nm,0.3s,baz=258,slow=5.6,SNR=22							
FITZ				Sn		Sn	17 48 40.4	-10
	1.0nm,0.3s,baz=0.5,slow=23,SNR=7.6							
FITZ				LR		LR	17 51 11.7	
	comp=Z,55nm,20.9s,baz=304,slow=36							
FITZ	**Fitzroy Crossi**	**13.23**	**129**	Pn		**Pn**	**17 46 21.6**	**-2.9**
EGSI	**Enggano, Bengk**	**13.29**	**289**	P		**Pn**	**17 46 24.1**	**-1.3**
KNRA	**Kununurra**	**14.69**	**114**	Pn		**Pn**	**17 46 42.8**	**-1.7**
MTN	**Manton Dam**	**16.19**	**102**	Pn		**Pn**	**17 47 04.5**	**+0.4**
FAKI	**Fak Fak**	**18.59**	**69**	P		P	**17 47 31.2**	**-2.2**
FAKI				IAmb		IAmb	17 47 48.4	
	comp=Z,51nm,1.5s							
MORW	**Morawa**	**19.09**	**177**	P		**P**	**17 47 39.1**	**+0.3**
MORW				IAmb		IAmb	17 48 34.8	
	comp=Z,32nm,1.6s							
GSI	**Gunungsitoli**	**20.52**	**302**	P		**P**	**17 47 52.6**	**-2.0**
WB0	**Warramunga Arr**	**21.23**	**120**	P		**P**	**17 48 00.9**	**-1.2**
WB0				IAmb		IAmb	17 48 43.1	
	comp=Z,18nm,1.7s							

SAUI	**Saumlaki**	**1.86**	**138**	Pn	**Pn**	17 50 17.2	+4.3
SAUI	**Saumlaki**	**1.86**	**138**	P	**Pn**	17 50 17.3	+4.3
BNDI	**Bandanaira**	**2.05**	**356**	P	**Pn**	17 50 18.6	+3.4
MSAI	**Masohi**	**3.41**	**341**	P	**Pn**	17 50 34.9	+2.9
KRAI	**Karang Ratu**	**3.64**	**333**	P	**Pn**	17 50 38.8	+3.8
FAKI	**Fak Fak**	**4.25**	**31**	Pn	**Pn**	17 50 42.3	-0.7
FAKI	**Fak Fak**	**4.25**	**31**	P	**Pn**	17 50 42.9	-0.1
NLAI	**Namlea**	**4.43**	**318**	P	Pn	17 50 51.1	+5.7
KMPI	**Kaimana, Papua**	**4.66**	**52**	P	**Pn**	17 50 49.9	+1.6
SIJI	**Sorong**	**5.81**	**12**	P	**Pn**	17 51 03.0	-0.6
	15nm,0.3s,baz=215,slow=23,SNR=79						
SIJI				S	**Sn**	17 52 03.5	-5.9
	12nm,0.3s,baz=213,slow=23,SNR=4.9						
SIJI	**Sorong**	**5.81**	**12**	P	**Pn**	17 51 02.7	-0.9
SWI	**Sorong**	**5.81**	**12**	P	**Pn**	17 51 02.8	-0.9
	1.3nm3µm53nm,0.5s						
SANI	**Sanana**	**6.06**	**318**	P	**Pn**	17 51 10.0	+3.1
	0.3nm64nm,0.6s						
MTN	**Manton Dam**	**6.31**	**170**	Pn	**Pn**	17 51 12.2	+1.9
SOEI	**Soe**	**6.53**	**241**	Pn	**Pn**	17 51 15.2	+1.8
SOEI	**Soe**	**6.53**	**241**	P	**Pn**	17 51 15.7	+2.3
	1.0nm2µm92nm,0.8s						
BATI	**Baumata**	**7.27**	**240**	P	**Pn**	17 51 24.6	+1.4
	26nm,0.3s,baz=71,slow=18,SNR=48						
BATI				S	**Sn**	17 52 41.2	-3.2
	16nm,0.3s,baz=20,slow=3.9,SNR=3.2						
BATI	**Baumata**	**7.27**	**240**	P	**Pn**	17 51 24.9	+1.8
	0.8nm1µm92nm,0.7s						
SRPI	**Serui, Papua**	**7.75**	**53**	P	**Pn**	17 51 29.6	+0.1
	0.9nm149nm,1.0s						
TNTI	**Ternate**	**7.78**	**340**	Pn	**Pn**	17 51 28.6	-1.4
MMRI	**Maumere**	**8.01**	**255**	Pn	**Pn**	17 51 34.7	+1.8
MMRI	**Maumere**	**8.01**	**255**	P	**Pn**	17 51 35.0	+2.1
	23nm,0.5s						
BAKI	**Biak**	**8.08**	**49**	P	**Pn**	17 51 35.9	+2.0
	5µm417nm,0.6s						
EDFI	**Ende, Flores**	**8.56**	**255**	P	**Pn**	17 51 42.9	+2.5
	8.3nm,0.9s						
KNRA	**Kununurra**	**9.12**	**188**	Pn	**Pn**	17 51 47.9	+0.1
BASI	**Baing, Sumba**	**10.04**	**248**	P	**Pn**	17 52 01.3	+1.3
	73nm,0.9s						
GTOI	**Gorontalo**	**10.04**	**315**	P	Pn	17 52 05.5	+5.5
	191nm10nm,0.7s						
APSI	**Ampana**	**10.10**	**304**	P	**Pn**	17 52 05.0	+4.2
	422nm48nm,1.1s						
MRSI	**Marisa**	**10.71**	**311**	P	**Pn**	17 52 11.8	+2.9
	2µm214nm,0.8s						
WBSI	**Waikabubak, Su**	**10.98**	**253**	P	**Pn**	17 52 13.3	+0.9
	31nm,1.0s						
TOLI2	**Tolitoli**	**12.00**	**309**	Pn	**Pn**	17 52 25.0	-0.8
FITZ	**Fitzroy Crossi**	**12.22**	**200**	P	**Pn**	17 52 28.7	+0.1
	3.3nm,0.3s,baz=32,slow=11,SNR=38						
FITZ				S	**Sn**	17 54 36.6	-7.2
	5.7nm,0.3s,baz=136,slow=22,SNR=8.6						
FITZ	**Fitzroy Crossi**	**12.22**	**200**		**Pn**	17 52 27.6	-1.0
PLAI	**Plampang**	**12.36**	**259**	P	**Pn**	17 52 30.4	-0.1
	20nm,0.8s						
TWSI	**Taliwang, Sumb**	**13.22**	**260**	P	**Pn**	17 52 40.0	-1.5
	4.7nm,0.6s						
WB0	**Warramunga Arr**	**13.77**	**163**	P	**Pn**	17 52 47.3	-1.1
WRAB	**Tennant Creek**	**13.91**	**163**	P	**Pn**	17 52 49.1	-1.2
WRA	**Warramunga Arr**	**13.92**	**163**	P	**Pn**	17 52 50.0	-0.4
	1.8nm,0.3s,baz=339,slow=12,SNR=34						
WRA				S	Sn	17 55 14.9	-10
	5.0nm,0.3s,baz=343,slow=22,SNR=12						
WRA	**Warramunga Arr**	**13.92**	**163**	P	**Pn**	17 52 48.4	-2.0
WB2	**Warramunga Arr**	**13.92**	**163**		**Pn**	17 52 48.7	-1.7
WR0	**Warramunga Arr**	**13.99**	**162**		**Pn**	17 52 50.0	-1.3
JAGI	**Jajag, Banyuwa**	**15.87**	**262**	P	**Pn**	17 53 11.6	-3.1
JAGI				IAmb	IAmb	17 53 39.5	
	comp=Z,40nm,1.4s						
PMG	**Port Moresby**	**17.18**	**101**	P	**Pn**	17 53 33.1	+2.6
	comp=Z,0.6nm,0.3s,baz=317,slow=9.4,SNR=4.0						
PMG				S	**S**	17 56 36.8	-4.5
	comp=Z,0.3nm,0.3s,baz=207,slow=20,SNR=1.7						
AS31	**Alice Springs**	**17.38**	**168**	P	**Pn**	17 53 34.0	+1.1
ASAR	**Alice Springs**	**17.38**	**168**	P	**Pn**	17 53 34.9	+1.9
	comp=Z,1.1nm,0.3s,baz=340,slow=8.6,SNR=47						
ASAR				S	**S**	17 56 36.9	-8.7
	comp=Z,0.5nm,0.3s,baz=323,slow=14,SNR=4.7						
ASAR				ScP	**ScP**	18 01 25.0	-2.2
	comp=Z,0.3nm,0.3s,baz=359,slow=1.8,SNR=6.7						
ASAR	**Alice Springs**	**17.38**	**168**	P	**Pn**	17 53 34.2	+1.2
PSA00	**Pilbara Seismi**	**17.87**	**212**	P	**P**	17 53 39.2	+1.9
PSA00				IAmb	IAmb	17 53 57.2	
	comp=Z,13nm,0.8s						
PSA00	**Pilbara Seismi**	**17.87**	**212**	P	**P**	17 53 39.1	+1.9
PSA00				IAmb	IAmb	17 53 40.2	
	comp=Z,8.6nm,1.3s						
UGM	**Wanagama**	**19.41**	**265**	P	**P**	17 53 53.2	-1.0
CTA	**Charters Tower**	**20.68**	**132**	P	**P**	17 54 09.2	+1.4
	comp=Z,4.4nm,0.9s,baz=308,slow=13,SNR=3.7						
CTAO	**Charters Tower**	**20.68**	**132**	P	Pn	17 54 09.7	-2.2
CTAO				IAmb	IAmb	17 54 12.5	
	comp=Z,16nm,1.1s						
GIRL	**Giralia**	**22.07**	**222**	P	**P**	17 54 23.0	+0.5
CISI	**Cisompet, Garu**	**22.08**	**266**	P	**P**	17 54 22.1	-0.7
LEM	**Lembang**	**22.28**	**268**	P	**P**	17 54 26.4	+1.6
	comp=Z,29nm,0.8s,baz=60,slow=4.1,SNR=6.5						
FORT	**Forrest**	**24.14**	**184**	P	**P**	17 54 40.9	-0.7
BBOO	**Buckleboo**	**26.69**	**169**	P	**P**	17 55 06.3	+1.7
BBOO				IAmb	IAmb	17 55 16.6	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**27.38**	**158**	P	**P**	17 55 12.6	+1.8
	comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**27.38**	**158**	P	**P**	17 55 12.7	+1.9
NWAO	**Narrogin (SRO)**	**28.79**	**203**	P	**P**	17 55 24.6	+1.3
	comp=Z,2.8nm,0.3s,baz=44,slow=7.1,SNR=7.2						
NWAO	**Narrogin (SRO)**	**28.79**	**203**	P	**P**	17 55 24.6	+1.3
GSI	**Gunungsitoli**	**33.34**	**282**	P	**P**	17 56 05.0	+1.4
CHAI	**Chaiyaphum**	**35.65**	**309**	P	**P**	17 56 22.8	-0.5
	comp=Z,71nmcomp=Z,5.9nm,0.6s						
UTHA	**Uthaitani**	**37.46**	**306**	P	**P**	17 56 38.6	0.0
	comp=Z,61nmcomp=Z,6.2nm,0.6s						
PHIT	**Phitsanulok**	**37.63**	**309**	P	**P**	17 56 40.4	+0.4
	comp=Z,11nm,0.7s						
SLVN	**Son La**	**37.79**	**318**	P	**P**	17 56 40.8	-0.6
UTTA	**Uttaradit**	**37.85**	**310**	P	**P**	17 56 42.0	+0.1
	comp=Z,41nmcomp=Z,4.5nm,0.7s						
CM04	**Chiang Mai Arr**	**39.44**	**310**	P	**P**	17 56 55.6	+0.4
	comp=Z,58nmcomp=Z,7.6nm,0.8s						
CM05	**Chiang Mai Arr**	**39.47**	**310**	P	**P**	17 56 56.0	+0.6
	comp=Z,56nmcomp=Z,5.7nm,0.7s						
CM01	**Chiang Mai Arr**	**39.47**	**310**	P	**P**	17 56 56.0	+0.6
	comp=Z,5.4nm,0.6s						
CM02	**Chiang Mai Arr**	**39.49**	**310**	P	**P**	17 56 56.0	+0.4
	comp=Z,44nmcomp=Z,5.8nm,1.1s						
CM31	**Chiang Mai Arr**	**39.50**	**310**	P	P	17 57 03.4	+7.7
CM31	**Chiang Mai Arr**	**39.50**	**310**	P	**P**	17 56 55.2	-0.5
CM31				IAmb	IAmb	17 57 03.4	
	comp=Z,4.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.50**	**310**	P	**P**	17 56 55.5	-0.2
	comp=Z,3.5nm,0.6s,baz=135,slow=7.0,SNR=49						
CMAR				PcP	**PcP**	17 59 01.7	+1.1
	comp=Z,0.7nm,0.7s,baz=165,slow=3.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**39.50**	**310**	P	**P**	17 56 54.9	-0.8
CM13	**Chiang Mai Arr**	**39.51**	**309**	P	**P**	17 56 56.4	+0.6
	comp=Z,56nmcomp=Z,4.9nm,0.7s						
CM15	**Chiang Mai Arr**	**39.52**	**310**	P	**P**	17 56 56.1	+0.4
	comp=Z,50nmcomp=Z,6.6nm,0.7s						
CM34	**Chiang Mai Arr**	**39.58**	**310**	P	**P**	17 56 56.0	-0.3
CMMT	**Chiang Mai**	**39.71**	**310**	P	**P**	17 56 56.5	-0.9
CHTO	**Chiang Mai**	**39.71**	**310**	P	**P**	17 56 57.1	-0.3
CHTO				IAmb	IAmb	17 56 58.1	
	comp=Z,5.6nm,0.6s						
CM33	**Chiang Mai Arr**	**39.71**	**310**	P	**P**	17 56 57.0	-0.4
JMN	**Monobe**	**40.26**	**5**	P	**P**	17 57 01.2	-0.5
JMN				IAmb	IAmb	17 57 34.2	
	comp=Z,19nm,1.3s						
ENH	**Enshi**	**41.62**	**333**	P	**P**	17 57 12.2	-0.7
ENH				IAmb	IAmb	17 57 12.8	
	comp=Z,5.3nm,0.8s						
JSG	**Sagara**	**41.75**	**10**	P	**P**	17 57 13.1	-0.8
JWT	**Wachi**	**41.95**	**7**	P	**P**	17 57 16.0	+0.6
JWT				IAmb	IAmb	17 57 16.6	
	comp=Z,8.3nm,0.6s						
MJAR	**Matsushiro Arr**	**43.58**	**10**	P	**P**	17 57 27.6	-1.0
	comp=Z,1.6nm,0.5s,baz=188,slow=9.5,SNR=4.6						
MAT	**Matsushiro**	**43.58**	**10**	P	**P**	17 57 27.5	-1.1
KSRS	**Korea Array**	**43.85**	**358**	P	**P**	17 57 31.1	+0.3
	comp=Z,0.8nm,0.7s,baz=172,slow=10,SNR=6.6						
KSRS				PcP	**PcP**	17 59 15.0	+0.6
	comp=Z,0.7nm,0.7s,baz=183,slow=3.8,SNR=5.5						
KSRS				LR	LR	18 16 39.0	
	comp=Z,7.1nm,18.7s,baz=184,slow=37						
JSD	**Sado**	**45.05**	**9**	P	**P**	17 57 39.4	-0.8
JSD				IAmb	IAmb	17 57 44.4	
	comp=Z,18nm,1.6s						
HHC	**Hu-ho-hao-te**	**50.17**	**342**	*e*P	**P**	17 58 21.8	+2.0
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,6.4s						
USA0B	**Ussuriysk Arra**	**50.58**	**2**	P	**P**	17 58 22.5	-0.2
USRK	**Ussuriysk Ar.**	**50.58**	**2**	P	**P**	17 58 22.9	+0.2
	comp=Z,1.6nm,0.5s,baz=182,slow=8.1,SNR=9.2						
LSA	**Lhasa**	**51.93**	**316**	P	**P**	17 58 33.9	+0.2
LSA				IAmb	IAmb	17 58 34.9	
	comp=Z,7.6nm,0.6s						
GTA	**Gaotai**	**53.63**	**331**	||P	**P**	17 58 46.1	+0.5
GTA				sP	PcP	18 00 10.8	+21
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**57.89**	**342**	P	**P**	17 59 16.3	+0.5
ULN				IAmb	IAmb	17 59 17.2	
	comp=Z,4.8nm,0.7s						
SONM	**Songino Array**	**58.07**	**341**	P	**P**	17 59 16.9	0.0
	comp=Z,1.4nm,0.9s,baz=156,slow=6.2,SNR=7.5						
SONM	**Songino Array**	**58.07**	**341**	P	**P**	17 59 17.0	0.0
WMQ	**Urumqi**	**63.08**	**327**	*e*P	**P**	17 59 51.9	+1.0
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.3s						
MK31	**Makanchi Array**	**67.91**	**327**	P	**P**	18 00 22.3	+0.4
MK31				IAmb	IAmb	18 00 23.1	
	comp=Z,8.2nm,0.8s						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	18 00 22.2	+0.4
	comp=Z,9.8nm,0.5s,baz=121,slow=8.0,SNR=170						
MAKZ	**Makanchi**	**68.09**	**327**	P	**P**	18 00 23.3	+0.3
KDJ	**Kajisay**	**68.29**	**320**	P	**P**	18 00 24.4	-0.1
KDJ				IAmb	IAmb	18 00 26.1	
	comp=Z,5.5nm,0.7s						
YAK	**Yakutsk**	**68.41**	**360**	P	**P**	18 00 24.6	0.0
BOOM	**Boomskoye usch**	**69.26**	**320**	P	**P**	18 00 31.6	+1.0
BOOM				IAmb	IAmb	18 00 32.1	
	comp=Z,10nm,0.8s						
TKM2	**Tokmak 2**	**69.70**	**320**	P	**P**	18 00 33.9	+0.6
	SNR=14						
AAK	**Ala-Archa**	**70.26**	**320**	P	**P**	18 00 37.9	+1.3
	SNR=5.1						
AAK	**Ala-Archa**	**70.26**	**320**	P	**P**	18 00 37.3	+0.7
AAK				IAmb	IAmb	18 00 38.5	
	comp=Z,7.4nm,0.8s						
AML	**Almayashu**	**70.53**	**319**	P	**P**	18 00 39.6	+1.0
	SNR=13						
USP	**Ospenovka**	**70.56**	**320**	P	**P**	18 00 39.0	+0.7
	SNR=14						
DRK	**Karamyk**	**70.58**	**316**	P	**P**	18 00 39.0	+0.2
DRK				IAmb	IAmb	18 00 40.3	
	comp=Z,9.3nm,0.8s						
ARSB	**Arslanbob**	**70.62**	**318**	P	**P**	18 00 39.1	+0.3
EKS2	**Erkin-Say**	**70.73**	**319**	P	**P**	18 00 40.2	+0.8
	SNR=15						
ZAA0	**Zalesovo Array**	**71.23**	**334**	P	**P**	18 00 41.2	-0.9
ZAA0				IAmb	IAmb	18 00 42.2	
	comp=Z,5.7nm,1.3s						
ZALV	**Zalesovo Beam**	**71.23**	**334**	P	**P**	18 00 41.5	-0.5
	comp=Z,1.5nm,0.5s,baz=139,slow=5.9,SNR=8.3						
ZALV	**Zalesovo Beam**	**71.23**	**334**	P	**P**	18 00 41.0	-1.0
GAR	**Garm**	**71.41**	**315**	P	**P**	18 00 43.6	0.0
BTK	**Batken**	**71.51**	**316**	P	**P**	18 00 43.6	-0.6
BTK				IAmb	IAmb	18 00 46.3	
	comp=Z,6.3nm,1.1s						
CHGR	**Chuyangaron**	**72.09**	**314**	P	**P**	18 00 47.2	-0.4
VNDA	**Vanda**	**72.85**	**173**	P	**P**	18 00 52.6	+1.3
	comp=Z,0.7nm,0.8s,baz=330,slow=6.1,SNR=5.0						
VNDA	**Vanda**	**72.85**	**173**	P	**P**	18 00 52.8	+1.5
KK31	**Karatay Array**	**73.06**	**319**	P	**P**	18 00 53.2	0.0
KK31				IAmb	IAmb	18 00 54.4	
	comp=Z,5.7nm,0.9s						
KKAR	**Karatay Array**	**73.06**	**319**	P	**P**	18 00 53.2	0.0
SBA	**Scott Base**	**73.74**	**172**	P	**P**	18 00 58.8	+2.3
MAW	**Mawson**	**75.35**	**201**	P	**P**	18 01 07.4	+1.4
	comp=Z,2.1nm,0.6s,baz=90,slow=5.4,SNR=6.6						
MAW	**Mawson**	**75.35**	**201**	P	**P**	18 01 06.3	+0.3
BRVK	**Borovoye**	**77.81**	**328**	P	**P**	18 01 19.1	-0.9
TIXI	**Tiksi**	**78.08**	**360**	P	**P**	18 01 20.4	-0.7
TIXI				IAmb	IAmb	18 01 21.6	
	comp=Z,2.9nm,0.5s						
UOSS	**Minazif**	**78.28**	**297**	P	**P**	18 01 24.0	+0.8
UOSS				IAmb	IAmb	18 01 36.5	
	comp=Z,9.6nm,1.0s						
ABKAR	**Akbulak array**	**82.22**	**322**	P	**P**	18 01 42.8	-0.9
QSPA	**South Pole Qui**	**83.39**	**180**	P	**P**	18 01 49.2	-0.5
AKTO	**Aktyubinsk**	**83.78**	**322**	P	**P**	18 01 51.2	-0.6
	comp=Z,1.7nm,0.7s,baz=119,slow=6.0,SNR=6.7						
ARU	**Arti**	**85.38**	**328**	P	**P**	18 01 58.6	-1.1
	comp=Z,0.8nm,0.6s,baz=263,slow=1.2,SNR=4.4						
ARU	**Arti**	**85.38**	**328**	IAmb	IAmb	18 01 60.0	
	comp=Z,3.9nm,1.0s						
RAYN	**Ar Rayn**	**87.62**	**294**	P	**P**	18 02 11.2	-0.2
RAYN				IAmb	IAmb	18 02 12.5	
	comp=Z,6.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**128.77**	**282**	PKP	**PKPdf**	18 08 29.8	-0.2
	comp=Z,0.7nm,0.7s,baz=82,slow=2.1,SNR=2.8						
CPUP	**Villa Florida**	**146.51**	**168**	PKPbc	**PKPbc**	18 09 04.2	+0.4
	comp=Z,2.6nm,0.8s,baz=250,slow=5.6,SNR=4.4						
LPAZ	**La Paz**	**151.01**	**142**	PKPbc	**PKPbc**	18 09 17.2	+0.8
	comp=Z,0.7nm,0.4s,baz=45,slow=1.4,SNR=4.9						

*IDC **16** 17:59:32.0±8.4, 38°.23N×141°.65E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/48, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=171.4km s-min=56.4km az=2.0*
*JMA **16** 17:59:36.2, 37°.97N×141°.08E, h14km±1km, M3.5*
JMA Felt I J1.
*NIED **16** 17:59:36.2, 37°.97N×141°.08E, h14km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^13Nm; M_{rr}9.05; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-8.94; $M_{r\theta}$-0.82; $M_{\theta\phi}$-0.88; $M_{\phi r}$0.17; Fault plane solution: $M_0$9.08000×10^13 NP1:ϕ_s0.00000°, δ46.00000°, λ83.00000°. NP2:ϕ_s191.00000°, δ45.00000°, λ97.00000°.*

ISC 16 17:59:35.7±1.0, 37°.97N±0°.03×141°.09E±0°.04, h16km±8km, n21, σ0°66/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMM	**Marumori**	**0.26**	**246**	P	**Pg**	17 59 41.4	+0.1
JMM				S	**Sg**	17 59 45.0	-0.2
JMST	**Minamisoumatoc**	**0.29**	**213**	P	**Pb**	17 59 42.4	-0.2
JMST				S	**Sg**	17 59 46.6	+0.3
JIKH	**Ishinomakikobu**	**0.45**	**41**	P	**Pb**	17 59 45.2	0.0
JIKH				S	**Sb**	17 59 51.3	-0.4
JOU	**Okura**	**0.52**	**320**	P	**Pg**	17 59 46.4	+0.4
JOU				S	**Sg**	17 59 53.3	+0.4
JIO	**Ouri**	**0.52**	**23**	P	**Pb**	17 59 46.4	-0.1
JIO				S	**Sb**	17 59 53.3	-0.5
JFK	**Kawauchi**	**0.63**	**196**	P	**Pg**	17 59 48.0	-0.1
JFK				S	**Sg**	17 59 56.6	+0.1
JFT	**Otama**	**0.75**	**233**	P	**Pg**	17 59 50.5	+0.2
JFT				S	**Sb**	18 00 00.3	-0.1
JYS	**Shirataka**	**0.84**	**287**	P	**Pg**	17 59 52.2	+0.1
JYS				S	**Sb**	18 00 03.4	+0.3
JKMT	**Kesennumamotoy**	**0.89**	**20**	P	**Pg**	17 59 52.6	-0.4
JMK	**Ichinoseki**	**0.98**	**6**	P	**Pg**	17 59 54.3	-0.4
JYK	**Kaneyama**	**1.10**	**329**	P	**Pb**	17 59 56.3	-0.1
JYK				S	**Sn**	18 00 10.7	-0.7
MJAR	**Matsushiro Arr**	**2.71**	**239**	Pn	**Pb**	18 00 24.0	+0.2
	0.5nm,0.3s,baz=57,slow=14,SNR=22						
MAT	**Matsushiro**	**2.71**	**239**	P	**Pb**	18 00 21.7	-2.1
MAT				*e*S	**Sb**	18 00 55.8	-0.9
H11N2	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	18 35 41.9	
	baz=315,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	18 35 39.4	
	baz=315,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**28.87**	**122**	T	T	18 35 40.3	
	baz=315,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.59**	**124**	T	T	18 36 30.4	
	baz=317,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**29.59**	**124**	T	T	18 36 33.1	
	baz=317,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**29.61**	**124**	T	T	18 36 35.1	
	baz=317,slow=76,SNR=26						
WRA	**Warramunga Arr**	**57.95**	**187**	P	**P**	18 09 28.2	+0.8
	0.4nm,0.4s,baz=3.0,slow=7.4,SNR=7.2						
ASAR	**Alice Springs**	**61.68**	**187**	P	**P**	18 09 54.0	+1.1
	0.3nm,0.8s,baz=3.2,slow=5.0,SNR=5.0						

TAP 16 18:00:29.7, 23°.15N×120°.77E, h7km, ML0.8, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.01**	**324**	*i* P	Pg	18 00 31.2	+0.2
	baz=4.0						
STYT				*i* S	Sg	18 00 32.3	+0.4
	baz=4.0						
STYH	**Taoyuan**	**0.02**	**30**	*i* P	Pg	18 00 31.3	+0.4
	baz=30						
STYH				S	Sg	18 00 32.4	+0.6
	baz=30						
WTP	**Ta-pu**	**0.17**	**304**	*e*P	Pg	18 00 34.1	+1.0
	baz=304						
WTP				S	Sg	18 00 36.9	+1.5
	baz=304						
SGST	**Jiashian**	**0.18**	**247**	*e*P	Pg	18 00 33.9	+0.5
	baz=245						
SGST				*e*S	Sg	18 00 37.4	+1.6
	baz=245						
TPUB	**Ta-pu**	**0.19**	**320**	*e*P	Pg	18 00 34.5	+0.9
	baz=319						
TPUB				S	Sg	18 00 38.1	+1.9
	baz=319						
CHN1	**Nanshi**	**0.22**	**278**	P	Pg	18 00 35.3	+1.2
	baz=278						
CHN1				*e*S	Sg	18 00 39.3	+2.2
	baz=278						
CHN4	**Tsaushan**	**0.25**	**321**	*e*P	Pg	18 00 35.5	+0.8
	baz=321						
CHN4				S	Sb	18 00 40.4	-0.9
	baz=321						
SNST	**Tainan City**	**0.26**	**285**	*e*P	Pg	18 00 35.3	+0.6
	baz=285						
SNST				*e*S	Sb	18 00 40.8	-0.5
	baz=285						
TWK	**Hsinying**	**0.28**	**294**	*e*S	Sb	18 00 40.6	-1.5
	baz=294						
ALS	**Alishan**	**0.36**	**6**	*e*P	Pg	18 00 37.1	+0.3
	baz=7.0						
ALS				*e*S	Sb	18 00 43.3	-1.2
	baz=7.0						
SCST	**Cishan**	**0.36**	**223**	*e*P	Pb	18 00 37.9	-0.6
	baz=223						
SCST				*e*S	Sb	18 00 44.5	0.0
	baz=223						
CHN3	**Shinhua**	**0.38**	**258**	P	Pg	18 00 37.8	+0.8
	baz=258						
CHN3				S	Sb	18 00 44.1	-0.7
	baz=258						
LONT	**Longtian**	**0.42**	**126**	*e*S	Sb	18 00 45.9	-0.1
	baz=126						
ECS	**Chishang**	**0.42**	**98**	*e*P	Pb	18 00 39.0	-0.5
	baz=97						
ECS				*e*S	Sb	18 00 45.4	-0.7
	baz=97						
SSD	**Sandimen**	**0.42**	**197**	*e*S	Sb	18 00 44.9	-1.3
	baz=195						
TWG	**Pinlang**	**0.43**	**139**	*e*P	Pb	18 00 39.5	-0.2
	baz=138						
TWG				*e*S	Sb	18 00 47.1	+0.6
	baz=138						
TWG	**Pinlang**	**0.43**	**139**	*e*S	Sb	18 00 47.3	+0.8
	baz=151						
TWGBT	**Beinan**	**0.44**	**139**	*e*P	Pb	18 00 39.7	-0.1
	baz=139						
TWGBT				*e*S	Sb	18 00 47.0	+0.3
	baz=139						
TWGBT	**Beinan**	**0.44**	**139**	*e*S	Sb	18 00 47.1	+0.4
	baz=151						
CHN5	**Tsauling**	**0.45**	**350**	*e*P	Pb	18 00 39.9	-0.1
	baz=349						
CHN5				*e*S	Sb	18 00 47.2	+0.2
	baz=349						
TWM1	**Shoushan**	**0.46**	**224**	*e*S	Sb	18 00 47.0	-0.1
	baz=223						
TSMG	**Majia**	**0.46**	**194**	*e*P	Pb	18 00 40.3	+0.2
	baz=193						
TSMG				*e*S	Sb	18 00 47.2	+0.1
	baz=193						

TAP 16 18:00:37.4, 23°.07N×120°.93E, h8km±1km, ML0.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELDTW	**Lidau**	**0.14**	**34**	*i* P

BC3P	**Paso Ancho**	**0.95**	**30**	⇓*iP*	**Pg**	**18 28 23.1**	**+0.1**
BC3P				*eS*	**Sn**	**18 28 36.8**	**+0.2**
GUAL3	**Gualaca, Chiri**	**0.96**	**56**	⇓*iP*	**Pg**	**18 28 22.9**	**-0.2**
GUAL3				*eS*	**Sb**	**18 28 34.7**	**-0.4**
LNBQ3	**Los Naranjos,**	**1.03**	**39**	*eP*	**Pb**	**18 28 24.0**	**+0.1**
LNBQ3				*eS*	**Sb**	**18 28 35.7**	**-1.5**
EDPN	**Palmar Norte**	**1.03**	**340**	⇑*iP*	**Pb**	**18 28 23.8**	**-0.1**
EDPN				*eS*	**Sn**	**18 28 38.3**	**+0.1**
PSOM3	**Paja de Sombre**	**1.03**	**48**	*eP*	**Pb**	**18 28 24.0**	**0.0**
PSOM3				*eS*	**Sg**	**18 28 37.8**	**-0.2**
LPLA	**Las Palmas La**	**1.03**	**5**	⇑*eP*	**Pb**	**18 28 24.1**	**0.0**
LPLA				*eS*	**Sn**	**18 28 39.6**	**+1.0**
EDBA	**Buenos Aires**	**1.18**	**351**	*eP*	**Pn**	**18 28 26.6**	**+0.3**
EDBA				*eS*	**Sg**	**18 28 43.5**	**+0.7**
DRK0	**Durika**	**1.27**	**353**	⇓*iP*	**Pn**	**18 28 27.8**	**+0.1**
DRK0				*eS*	**Sg**	**18 28 45.7**	**-0.1**
DRK0	**Durika**	**1.27**	**353**	⇓*iP*	**Pn**	**18 28 27.8**	**+0.1**
DRK0				*eS*	**Sg**	**18 28 45.2**	**-0.5**
CHGR2	**Aguacate**	**1.33**	**45**	*eP*	**Pn**	**18 28 28.6**	**+0.2**
CHGR2				*eS*	**Sn**	**18 28 46.1**	**+0.4**
EDLM	**Las Mercedes**	**1.37**	**339**	*eP*	**Pn**	**18 28 27.6**	**-1.3**
EDDO	**Dominical**	**1.47**	**329**	*eP*	**Pn**	**18 28 30.9**	**+0.7**
EDDO				*eS*	**Sb**	**18 28 50.3**	**+0.6**
PEZE	**Perez Zeledon,**	**1.50**	**337**	*eP*	**Pn**	**18 28 30.9**	**+0.2**
CNI2	**El Empalme, Bo**	**1.55**	**23**	*eP*	**Pb**	**18 28 32.6**	**-0.3**
CNI2				*eS*	**Sg**	**18 28 53.5**	**-1.1**
CDM	**Cerro de Muert**	**1.69**	**337**	⇑*eP*	**Pn**	**18 28 33.8**	**+0.1**
CDM				*eS*	**Sb**	**18 28 56.2**	**-0.3**
RIMA	**Rio Macho**	**1.92**	**337**	*eP*	**Pn**	**18 28 37.2**	**+0.6**
LCR2	**La Lucha 2**	**1.96**	**333**	*eP*	**Pn**	**18 28 37.7**	**+0.6**
OCM	**Ochomogo**	**2.08**	**336**	*eP*	**Pn**	**18 28 40.3**	**+1.5**
BATAN	**Batan**	**2.11**	**352**	⇑*eP*	**Pb**	**18 28 41.5**	**-0.9**
CVTR	**Volcan Turrial**	**2.12**	**342**	*eP*	**Pb**	**18 28 42.4**	**-0.4**
HDC	**Heredia**	**2.24**	**333**	*eP*	**Pn**	**18 28 42.0**	**+1.1**
JACO	**JACO, Garabito**	**2.27**	**317**	*eP*	**Pn**	**18 28 40.6**	**-0.6**
LAFE	**Finca La Fe, P**	**2.54**	**315**	*eP*	**Pn**	**18 28 44.6**	**-0.5**
JTS	**Las Juntas de**	**2.93**	**321**	*eP*	**Pn**	**18 28 51.5**	**+1.1**
JTS	**Las Juntas de**	**2.93**	**321**	*eP*	**Pn**	**18 28 51.5**	**+1.1**
SAJU	**San Juanillo,**	**3.31**	**309**	*eP*	**Pn**	**18 28 54.9**	**-0.6**

IDC ***16*** *18:28:37.8±1.0, 0.°29N×121.°64E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/47, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=115.5km s-min=18.2km az=65.0*

ISC 16 18:28:39.3±1.1, 0.°2N±0.°3×121.°4E±0.°8, h10km, n6, σ0°78/6, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.64**	**167**	P	**Pn**	**18 32 57.5**	**0.0**
	0.0nm,0.3s,baz=343,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**23.67**	**148**	P	**P**	**18 33 51.2**	**0.0**
	0.7nm,0.8s,baz=327,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**26.63**	**154**	P	**P**	**18 34 18.4**	**+0.1**
	0.2nm,0.5s,baz=343,slow=14,SNR=7.3						
SONM	**Songino Array**	**49.23**	**347**	P	**P**	**18 37 28.2**	**+0.2**
	0.6nm,0.6s,baz=164,slow=8.1,SNR=5.0						
MKAR	**Makanchi Array**	**57.63**	**329**	P	**P**	**18 38 30.5**	**+0.8**
	0.4nm,0.3s,baz=130,slow=8.5,SNR=16						
KURBB	**Kurchatov Arra**	**62.02**	**331**	P	**P**	**18 38 58.7**	**-1.1**
	0.2nm,0.3s,baz=113,slow=5.8,SNR=3.6						

IDC ***16*** *18:30:34.5±4.4, 30.°79S×177.°34W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, Error ellipse: s-maj=159.5km s-min=49.5km az=154.0*

NEIC ***16*** *18:30:37.2±2.9, 30.°41S±0.°03×177.°6W±0.°3, h2km±8km, mb4.5/12, Error ellipse: s-maj=33.9km s-min=3.8km az=95.0*

ISC 16 18:30:40.7±1.4, 30.°29S±0.°08×177.°7W±0.°2, h33km, n22, σ1°36/22, mb4.2/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.06**	**349**		**Pb**	**18 30 59.7**	**-0.8**
RAO				Sn	**Sn**	**18 31 11.6**	**-1.3**
BKZ	**Black Stump Fm**	**10.07**	**207**	Pn	**Pn**	**18 33 00.0**	**-3.0**
OUENC	**Ouen Island, N**	**15.93**	**296**	P	P	18 34 36.0	+10
OUENC				IAmb	IAmb	18 35 08.7	
	comp=Z,64nm,1.4s						
CTA	**Charters Tower**	**34.06**	**279**	P	**P**	**18 37 24.3**	**+2.2**
	comp=Z,2.6nm,0.6s,baz=126,slow=8.8,SNR=2.1						
CTAO	**Charters Tower**	**34.06**	**279**	P	**P**	**18 37 24.1**	**+2.0**
STKA	**Stephens Creek**	**34.77**	**257**	P	**P**	**18 37 27.8**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=100,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**34.77**	**257**	P	**P**	**18 37 27.9**	**-0.3**
BBOO	**Buckleboo**	**39.27**	**254**	P	**P**	**18 38 05.3**	**-1.1**
BBOO				IAmb	IAmb	18 38 05.5	
	comp=Z,15nm,1.2s						
AS31	**Alice Springs**	**43.39**	**267**	P	**P**	**18 38 41.4**	**+1.0**
ASAR	**Alice Springs**	**43.39**	**267**	P	**P**	**18 38 41.4**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=105,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**43.39**	**267**	P	**P**	**18 38 41.1**	**+0.7**
WR0	**Warramunga Arr**	**44.19**	**272**	P	**P**	**18 38 48.0**	**+1.1**
WR0				IAmb	IAmb	18 39 07.1	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**44.36**	**272**	P	**P**	**18 38 49.5**	**+1.3**
WB2				IAmb	IAmb	18 39 11.0	
	comp=Z,13nm,1.7s						
WRA	**Warramunga Arr**	**44.37**	**272**	P	**P**	**18 38 49.2**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=110,slow=8.0,SNR=24						
WRA	**Warramunga Arr**	**44.37**	**272**	P	**P**	**18 38 47.8**	**-0.5**
WB0	**Warramunga Arr**	**44.39**	**272**	P	**P**	**18 38 48.5**	**+0.1**
WB0				IAmb	IAmb	18 39 07.5	
	comp=Z,13nm,1.6s						
FITZ	**Fitzroy Crossi**	**52.64**	**270**	P	**P**	**18 39 52.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=135,slow=11,SNR=1.8						
FITZ	**Fitzroy Crossi**	**52.64**	**270**	P	**P**	**18 39 53.8**	**+1.9**
FITZ				IAmb	IAmb	18 39 55.7	
	comp=Z,10nm,1.5s						
QSPA	**South Pole Qui**	**59.82**	**180**	P	**P**	**18 40 44.4**	**+1.8**
SSLB	**Suanglung**	**79.72**	**305**	P	**P**	**18 42 45.3**	**-0.2**
FINES	**FINESS Array B**	**145.14**	**340**	PKPbc	**PKPab**	**18 50 13.7**	**0.0**
	comp=Z,2.8nm,0.7s,baz=56,slow=3.5,SNR=8.9						
FINES	**FINESS Array B**	**145.14**	**340**		**PKPbc**	**18 50 13.5**	**-0.2**

IDC ***16*** *18:37:58.0±0.8, 30.°83N×143.°28E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/41, mbtmp3.8/12, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/41, Error ellipse: s-maj=26.1km s-min=17.3km az=96.0*

JMA ***16*** *18:37:58.4±0.3, 30.°93N×143.°00E, h63km, M4.2*

NEIC ***16*** *18:38:02.8±2.8, 30.°99N±0.°07×143.°2E±0.°1, h35km±6km, mb4.3/20, Error ellipse: s-maj=14.2km s-min=9.9km az=88.0*

ISC 16 18:38:01.7±0.6, 31.°01N±0.°05×143.°05E±0.°08, h30km, n76, σ2°34/75, mb4.2/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.44**	**307**	*eS*	**Sn**	**18 39 30.6**	**-2.6**
JHJ2	**Mitsune**	**3.46**	**308**	P	**Pn**	**18 38 51.9**	**-1.6**
JHJ2				*eS*	**Sn**	**18 39 31.3**	**-2.1**
JHJ2	**Mitsune**	**3.46**	**308**	Pn	**Pn**	**18 38 52.1**	**-1.4**
JHJ	**Hachijo jima 2**	**3.48**	**308**	Pn	**Pn**	**18 38 52.3**	**-1.6**
	22nm,0.3s,baz=39,slow=22,SNR=10						
JHJ				Sn	**Sn**	**18 39 30.3**	**-3.7**
	27nm,0.3s,baz=276,slow=22,SNR=6.0						
CBIJ	**Chichi jima**	**3.98**	**191**	*eS*	**Sn**	**18 39 40.4**	**-5.9**
JCJ	**Chichijima**	**3.98**	**191**	Pn	**Pn**	**18 38 58.7**	**-1.9**
	5.3nm,0.3s,baz=1.5,slow=20,SNR=6.4						
JCJ				Sn	**Sn**	**18 39 38.6**	**-7.7**
	17nm,0.3s,baz=101,slow=23,SNR=2.5						
JCJ	**Chichijima**	**3.98**	**191**		**Pn**	**18 38 58.2**	**-2.4**
BSO1	**Boso 1**	**4.03**	**335**	P	**Pn**	**18 39 00.0**	**-0.9**
BSO1				*eS*	**Sn**	**18 39 46.5**	**-0.3**
JMKN	**Mikurajimanish**	**4.10**	**315**	*eS*	**Sn**	**18 39 47.4**	**-1.9**
BSO3	**Boso 3**	**4.34**	**331**	P	**Pn**	**18 39 04.2**	**-1.2**
BSO4	**Boso 4**	**4.58**	**331**	P	**Pn**	**18 39 07.6**	**-1.2**
JIM2	**Oshima 3**	**4.79**	**321**	*eS*	**Sn**	**18 40 03.5**	**-2.9**
JOD2	**Odawara 2**	**5.39**	**323**	P	**Pn**	**18 39 18.5**	**-1.6**
JOD2				*eS*	**Sn**	**18 40 20.0**	**-1.1**
JSG	**Sagara**	**5.49**	**313**	Pn	**Pn**	**18 39 21.6**	**+0.2**
JYT	**Yasato**	**5.72**	**336**	*eS*	**Sn**	**18 40 27.8**	**-1.5**
JYT	**Yasato**	**5.72**	**336**	Pn	**Pn**	**18 39 21.6**	**-3.1**
JHU	**Hanno**	**5.76**	**328**	P	**Pn**	**18 39 24.3**	**-0.9**
JRY	**Ryogami san**	**6.08**	**326**	P	**Pn**	**18 39 28.5**	**-1.1**
JFK	**Kawauchi**	**6.59**	**345**	*eS*	**Sn**	**18 40 43.0**	**-7.8**
INU	**Inuyama**	**6.66**	**312**	Pn	**Pn**	**18 39 39.9**	**+2.4**
MJAR	**Matsushiro Arr**	**6.83**	**325**	Pn	**Pn**	**18 39 39.6**	**-0.4**
	0.3nm,0.3s,baz=162,slow=9.9,SNR=13						
MJAR				Sn	**Sn**	**18 40 55.4**	**-1.3**
	0.3nm,0.3s,baz=129,slow=16,SNR=5.5						
MJAR	**Matsushiro Arr**	**6.83**	**325**		**Pn**	**18 39 39.4**	**-0.5**
MAJO	**Matsushiro**	**6.83**	**325**		**Pn**	**18 39 39.9**	**0.0**
MAT	**Matsushiro**	**6.83**	**325**	P	**Pn**	**18 39 39.7**	**-0.2**
MAT				*eS*	**Sn**	**18 40 54.7**	**-2.0**
MJB9	**Matsu-Tunnel**	**6.84**	**325**		**Pn**	**18 39 39.0**	**-1.0**
JMM	**Marumori**	**7.09**	**345**	Pn	**Pn**	**18 39 40.9**	**-2.5**
JWT	**Wachi**	**7.70**	**306**		**Pn**	**18 39 53.6**	**+1.8**
JSD	**Sado**	**8.05**	**332**		**Pn**	**18 39 55.4**	**-1.1**
JMK	**Ichinoseki**	**8.06**	**350**	P	**Pn**	**18 39 54.7**	**-2.1**
JMK				*eS*	**Sn**	**18 41 19.4**	**-7.5**
JMN	**Monobe**	**8.22**	**292**	Pn	**Pn**	**18 40 00.5**	**+1.5**
JHS	**Saijyo**	**9.24**	**298**	Pn	**Pn**	**18 40 15.4**	**+2.4**
JTM	**Tenmabayashi**	**9.89**	**351**	Pn	**Pn**	**18 40 19.6**	**-2.2**
ERM	**Erimo**	**10.98**	**0**	Pn	**Pn**	**18 40 34.4**	**-2.3**
JKA	**Kamikawa-asahi**	**13.09**	**359**		**Pn**	**18 41 02.8**	**-2.7**
ASAJ	**Asahikawa**	**13.09**	**359**	Pn	**Pn**	**18 41 03.0**	**-2.5**
	0.5nm,0.3s,baz=222,slow=11,SNR=6.6						
ASAJ				Sn	Sn	18 43 19.0	-11
	0.2nm,0.3s,baz=331,slow=34,SNR=1.3						
KSRS	**Korea Array**	**14.06**	**301**	Pn	**Pn**	**18 41 21.3**	**+2.5**
	0.2nm,0.3s,baz=111,slow=13,SNR=11						
KSRS				LR	LR	18 46 42.2	
	comp=Z,23nm,20.5s,baz=185,slow=37						
KLR	**Kul'dur**	**20.11**	**338**	P	Pn	18 42 36.2	+1.4
	0.6nm,0.5s,baz=163,slow=14,SNR=2.2						
YULB	**Yu-li**	**20.76**	**254**	P	**P**	**18 42 39.2**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**24.24**	**112**	T	T	19 08 09.8	
	baz=305,slow=74,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**24.25**	**112**	T	T	19 08 19.0	
	baz=305,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**24.26**	**112**	T	T	19 08 09.1	
	baz=305,slow=74,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**24.76**	**115**	T	T	19 08 51.3	
	baz=305,slow=75,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**24.76**	**115**	T	T	19 08 49.3	
	baz=305,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**24.77**	**115**	T	T	19 08 52.5	
	baz=305,slow=75,SNR=3.1						
SEY	**Seymchan**	**32.49**	**8**	P	**P**	**18 44 30.1**	**+0.8**
	1.2nm,0.7s,baz=180,slow=11,SNR=1.7						
SONM	**Songino Array**	**32.55**	**312**	P	P	18 44 34.0	+3.8
	0.7nm,0.6s,baz=118,slow=8.5,SNR=5.6						
SONM	**Songino Array**	**32.55**	**312**	P	**P**	**18 44 32.4**	**+2.2**
MTN	**Manton Dam**	**45.08**	**197**	P	**P**	**18 46 14.2**	**-1.0**
KNRA	**Kununurra**	**48.41**	**199**	P	**P**	**18 46 40.9**	**-0.3**
MK31	**Makanchi Array**	**48.65**	**307**	P	**P**	**18 46 44.2**	**+1.3**
MKAR	**Makanchi Array**	**48.65**	**307**	P	**P**	**18 46 45.5**	**+2.6**
	1.5nm,0.6s,baz=90,slow=8.3,SNR=20						
MKAR	**Makanchi Array**	**48.65**	**307**	P	**P**	**18 46 43.8**	**+0.8**
MAKZ	**Makanchi**	**48.87**	**307**	P	**P**	**18 46 45.1**	**+0.5**
MAKZ				IAmb	IAmb	18 46 50.7	
	comp=Z,1.5nm,0.7s						
KDAK	**Kodiak Island**	**50.81**	**39**	P	**P**	**18 46 59.9**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=268,slow=4.8,SNR=4.4						
KDAK	**Kodiak Island**	**50.81**	**39**	IAmb	IAmb	18 47 00.8	
	comp=Z,3.0nm,1.1s						
WB0	**Warramunga Arr**	**51.17**	**190**	P	**P**	**18 47 02.0**	**-0.2**
WB0				IAmb	IAmb	18 47 22.3	
	comp=Z,5.8nm,1.2s						
IMAR	**Indian Mountai**	**51.23**	**28**	P	**P**	**18 47 03.0**	**+0.8**
WR0	**Warramunga Arr**	**51.33**	**190**		**P**	**18 47 03.1**	**-0.3**
WR0				IAmb	IAmb	18 47 23.9	
	comp=Z,3.8nm,1.1s						
WB2	**Warramunga Arr**	**51.35**	**191**	P	**P**	**18 47 03.1**	**-0.4**
WB2				IAmb	IAmb	18 47 29.9	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**51.35**	**191**	P	**P**	**18 47 03.2**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=7.2,slow=7.8,SNR=19						
WRA	**Warramunga Arr**	**51.35**	**191**	P	**P**	**18 47 02.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.62**	**201**	P	**P**	**18 47 05.3**	**-0.3**
FITZ				IAmb	IAmb	18 47 07.9	
	comp=Z,4.0nm,1.1s						
TOLK	**Toolik Lake Re**	**53.27**	**25**	P	**P**	**18 47 18.2**	**+0.8**
TOLK				IAmb	IAmb	18 47 20.1	
	comp=Z,6.0nm,1.4s						
ILAR	**Eielson Array**	**53.94**	**30**	P	**P**	**18 47 22.7**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=274,slow=5.3,SNR=3.0						
ASAR	**Alice Springs**	**55.07**	**190**	P	**P**	**18 47 30.3**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=9.9,slow=6.3,SNR=9.3						
HMT	**Hamilton**	**55.12**	**35**	P	**P**	**18 47 31.5**	**+0.5**
HMT				IAmb	IAmb	18 47 57.9	
	comp=Z,3.4nm,0.9s						
SCRK	**Sand Creek**	**55.17**	**31**	P	**P**	**18 47 32.1**	**+0.7**
SUCK	**Suckling Hills**	**55.38**	**36**	P	**P**	**18 47 31.2**	**-1.6**
BARN	**Barnard Glacie**	**56.36**	**34**	P	**P**	**18 47 38.8**	**-1.2**
BARN				IAmb	IAmb	18 47 40.0	
	comp=Z,7.3nm,1.4s						
KK31	**Karatay Array**	**57.47**	**304**	P	**P**	**18 47 50.2**	**+2.2**
KK31				IAmb	IAmb	18 47 53.6	
	comp=Z,1.8nm,0.6s						
KKAR	**Karatay Array**	**57.47**	**304**	P	**P**	**18 47 50.6**	**+2.6**
C36M	**Paulatuk**	**62.35**	**24**	P	**P**	**18 48 21.0**	**0.0**
ABKAR	**Akbulak array**	**62.95**	**313**	P	**P**	**18 48 25.7**	**+0.4**
EUNU	**Eureka**	**65.93**	**8**	P	**P**	**18 48 45.2**	**+0.7**
NVAR	**Mina Array Bea**	**77.53**	**53**	P	**P**	**18 49 56.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=290,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**92.66**	**53**	P	**P**	**18 51 13.1**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=284,slow=2.4,SNR=4.1						

JMA ***16*** *18:57:11.9±0.3, 24.°87N×122.°83E, h13km±4km, M2.4*

IDC ***16*** *18:57:11.3±1.3, 24.°43N×121.°82E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/41, mbtmp3.5/5, ML3.4/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/36, Error ellipse: s-maj=70.1km s-min=22.1km az=69.0*

ISC 16 18:57:11.9±0.9, 24.°87N±0.°07×122.°86E±0.°09, h10km, n15, σ0°93/13, mb3.4/4, MS2.7/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.42**	**170**	P	**Pg**	**18 57 20.3**	**+0.2**
JYNG				S	**Sg**	**18 57 26.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.42**	**161**	P	**Pg**	**18 57 20.4**	**+0.2**
IRIF	**Iriomote-Funau**	**0.95**	**124**	P	**Pg**	**18 57 29.2**	**-1.0**
HATJ	**Hateruma jima**	**1.18**	**133**	*eS*	**Sb**	**18 57 49.3**	**-0.3**
JKRS	**Kuro-shima**	**1.22**	**121**	P	**Pn**	**18 57 34.9**	**-0.1**
JIJ	**Ishigaki jima**	**1.27**	**113**	P	**Pb**	**18 57 36.3**	**+0.4**
JISG	**Ishigakijimahi**	**1.35**	**102**	P	**Pn**	**18 57 37.1**	**+0.3**
KSRS	**Korea Array**	**13.27**	**18**	Pn	**P**	**19 00 32.2**	**+1.9**
	0.2nm,0.3s,baz=195,slow=14,SNR=6.7						
KSRS				LR	LR	19 05 27.4	
	comp=Z,32nm,19.4s,baz=200,slow=36						
ASAJ	**Asahikawa**	**25.05**	**35**	LR	LR	19 14 08.7	
	comp=Z,23nm,18.1s,baz=194,slow=39						
KLR	**Kul'dur**	**25.30**	**14**	LR	LR	19 13 15.4	
	comp=Z,18nm,18.4s,baz=179,slow=37						
SONM	**Songino Array**	**26.37**	**335**	P	**P**	**19 02 48.1**	**-0.4**
	0.6nm,0.8s,baz=147,slow=8.8,SNR=5.1						
MKAR	**Makanchi Array**	**38.93**	**315**	P	**P**	**19 04 36.5**	**-1.4**
	0.6nm,0.8s,baz=114,slow=9.6,SNR=4.8						
WRA	**Warramunga Arr**	**45.92**	**165**	P	**P**	**19 05 34.0**	**-0.9**
	0.8nm,0.7s,baz=346,slow=8.5,SNR=7.8						
ASAR	**Alice Springs**	**49.42**	**167**	P	**P**	**19 06 02.1**	**0.0**
	0.5nm,0.9s,baz=354,slow=8.2,SNR=2.6						
NOA	**NORSAR Array B**	**78.33**	**332**	LR	LR	19 49 26.3	
	comp=Z,6.1nm,18.4s,baz=345,slow=40						

TAP ***16*** *19:00:13.7, 24.°79N×122.°88E, h25km±1km, ML2.6, D*

JMA ***16*** *19:00:14.2, 24.°75N×122.°85E, h29km±2km, M1.6*

ISC 16 19:00:11.8±1.5, 24.°82N±0.°07×122.°92E±0.°05, h17km±10km, n34, σ0°80/44, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.37**	**167**	P	**Pn**	**19 00 21.5**	**-0.9**
YOJ				*eS*	**Sb**	**19 00 26.8**	**+1.4**
YOJ	**Yonaguni jima**	**0.37**	**167**	*i* P	**Pn**	**19 00 21.4**	**-0.9**
	baz=155						
YOJ				*i* S	**Sb**	**19 00 26.7**	**+1.4**
	baz=155						
JYNG	**Yonagunijimaku**	**0.37**	**176**	P	**Pn**	**19 00 21.4**	**-1.0**
JYNG				*eS*	**Sb**	**19 00 26.5**	**+1.1**
TWB1	**Santiao Chiao**	**0.86**	**283**	*eP*	**Pn**	**19 00 30.1**	**+0.9**
	baz=285						
TWC	**Suao**	**0.99**	**258**	*eP*	**Pg**	**19 00 31.0**	**-0.2**
	baz=259						
TWC				*eS*	**Sb**	**19 00 43.5**	**+0.1**
	baz=259						
TIPB	**Shuangxi**	**1.00**	**279**	*eP*	**Pb**	**19 00 28.8**	**-2.0**
	baz=281						
NWF	**Wu-fen Shan**	**1.06**	**284**	*eP*	**Pg**	**19 00 32.8**	**+0.3**
	baz=286						
WFSB	**Wu-fen Shan**	**1.06**	**284**	*eP*	**Pg**	**19 00 32.9**	**+0.5**
	baz=286						
NDS	**Dongshan**	**1.11**	**261**	*eP*	**Pb**	**19 00 32.8**	**+0.2**
	baz=262						
NDS				*eS*	**Sn**	**19 00 46.9**	**-0.6**
	baz=262						
TWE	**Neicheng**	**1.14**	**265**	*eP*	**Pb**	**19 00 32.7**	**-0.4**
	baz=266						
TWA	**Mucha**	**1.22**	**278**	*eP*	**Pn**	**19 00 33.7**	**-0.5**
	baz=279						
NWLT	**Wulai**	**1.29**	**268**	*eP*	**Pn**	**19 00 34.5**	**-0.6**
	baz=256						
NWLT				*eS*	**Sb**	**19 00 52.1**	**+0.2**
	baz=256						
JISG	**Ishigakijimahi**	**1.29**	**100**	P	**Pg**	**19 00 37.2**	**+0.5**
NDT	**Datong Townshi**	**1.30**	**261**	*eP*	**Pb**	**19 00 36.0**	**+0.2**
	baz=262						
NACB	**Ningamchiao**	**1.37**	**242**	*eP*	**Pn**	**19 00 36.2**	**+0.1**
	baz=248						
NACB				*eS*	**Sn**	**19 00 53.2**	**-0.6**
	baz=248						
YHNB	**Yeheng**	**1.41**	**264**	*eP*	**Pb**	**19 00 37.9**	**+0.2**
	baz=265						
YHNB				*eS*	**Sb**	**19 00 55.6**	**+0.1**
	baz=265						
ETLH	**Xiulin Townshi**	**1.44**	**245**	*eP*	**Pb**	**19 00 37.9**	**-0.4**
	baz=245						
ETLH				*eS*	**Sn**	**19 00 56.2**	**+0.3**
	baz=245						
NNSB	**Datong**	**1.45**	**255**	*eP*	**Pb**	**19 00 38.7**	**+0.2**
	baz=255						
NNSH	**Datong**	**1.45**	**255**	*eP*	**Pb**	**19 00 38.4**	**-0.1**
	baz=255						
NNS	**Nan Shan**	**1.46**	**255**	*eP*	**Pb**	**19 00 38.4**	**-0.2**
	baz=267						
NNS				*eS*	**Sn**	**19 00 56.4**	**+0.1**
	baz=267						
FUSS	**Fushou**	**1.63**	**250**	*eP*	**Pb**	**19 00 40.6**	**-0.9**
	baz=236						
WHF	**Hehuan Shan**	**1.65**	**246**	*eP*	**Pn**	**19 00 41.1**	**+0.7**
	baz=246						
CHGB	**Renai**	**1.76**	**245**	*eP*	**Pb**	**19 00 43.1**	**-0.7**
	baz=232						
HGSD	**Ruisui**	**1.90**	**226**	*eP*	**Pn**	**19 00 43.7**	**+0.2**
	baz=225						
WCS	**Beigang Elemen**	**1.98**	**248**	*eP*	**Pn**	**19 00 45.5**	**+0.9**
	baz=236						
YULB	**Yu-li**	**2.05**	**227**	*eP*	**Pn**	**19 00 45.0**	**-0.6**
	baz=215						
TWF1	**Yuli**	**2.08**	**226**	*eP*	**Pn**	**19 00 46.4**	**+0.4**
	baz=214						
FULB	**Fuli**	**2.19**	**223**	*eP*	**Pn**	**19 00 48.2**	**+0.7**
	baz=222						
EDH	**Donghe**	**2.36**	**219**	*eP*	**Pn**	**19 00 50.1**	**+0.4**
	baz=217						
LONT	**Longtian**	**2.51**	**221**	*eP*	**Pn**	**19 00 52.5**	**+0.6**
	baz=219						
STYT	**Tauyuan**	**2.58**	**231**	*eP*	**Pn**	**19 00 53.3**	**+0.5**
	baz=229						
CHN4	**Tsaushan**	**2.58**	**236**	*eP*	**Pb**	**19 00 55.6**	**-2.1**
	baz=234						
TPUB	**Ta-pu**	**2.58**	**235**	*eP*	**Pn**	**19 00 53.8**	**+0.9**
	baz=222						
WTP	**Ta-pu**	**2.63**	**234**	*eP*	**Pn**	**19 00 54.5**	**+1.0**
	baz=232						

IDC ***16*** *19:04:31.2±1.5, 29.°45S×179.°81W, h0km,

WRA	**Warramunga Arr**	**43.12 272**	P	**P**	**19 12 28.3**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=110,slow=8.0,SNR=7.4					
WRA	**Warramunga Arr**	**43.12 272**	IAmb	IAmb	19 12 35.9	
	comp=Z,0.4nm,1.5s					
WB0	**Warramunga Arr**	**43.14 272**	P	**P**	**19 12 29.4**	**+0.8**
WB0			IAmb	IAmb	19 12 33.6	
	comp=Z,6.6nm,1.2s					
SBA	**Scott Base**	**48.51 184**	P	**P**	**19 13 10.2**	**+0.2**
SBA			IAmb	IAmb	19 13 11.9	
	comp=Z,1.9nm,0.7s					
VNDA	**Vanda**	**48.54 185**	P	**P**	**19 13 08.9**	**-1.4**
VNDA			IAmb	IAmb	19 13 33.4	
	comp=Z,3.0nm,1.6s					
QSPA	**South Pole Qui**	**60.25 180**	P	**P**	**19 14 33.0**	**-2.4**
QSPA			IAmb	IAmb	19 14 36.3	
	comp=Z,3.9nm,1.4s					

JMA ***16*** *19:15:48.1±0.2,24°.86N×122°.86E,h29km±2km,M2.1*
IDC ***16*** *19:15:52.3±5.8,24°.21N×123°.45E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.1/43,mbtmp3.3/3,ML3.0/1,MS2.3/1, Ms1 2.3/1,ms1mx2.1/24,Error ellipse: s-maj=309.6km s-min=40.7km az=95.0*

ISC 16 19:15:49.5±2.0,24°.79N±0°.08×123°.1E±0°.1,h13km±15km, n10,σ0°64/15,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.33**	**186**	P	**Pb**	**19 15 57.0**	**-0.3**
YOJ				*e*S	**Sb**	**19 16 03.2**	**+0.6**
JYNG	**Yonagunijimaku**	**0.35**	**196**	P	**Pg**	**19 15 56.9**	**+0.2**
IRIF	**Iriomote-Funau**	**0.77**	**126**	P	**Pn**	**19 16 05.4**	**-0.7**
IRIF				*e*S	**Sn**	**19 16 17.2**	**-0.3**
HATJ	**Hateruma jima**	**1.00**	**137**	P	**Pn**	**19 16 09.5**	**+0.1**
JKRS	**Kuro-shima**	**1.03**	**122**	P	**Pn**	**19 16 09.3**	**-0.4**
JKRS				*e*S	**Sn**	**19 16 24.8**	**+0.7**
JIJ	**Ishigaki jima**	**1.08**	**113**	P	**Pn**	**19 16 10.0**	**-0.4**
JIJ				*e*S	**Sn**	**19 16 25.4**	**+0.1**
JISG	**Ishigakijimahi**	**1.16**	**100**	P	**Pn**	**19 16 11.1**	**-0.5**
JISG				S	**Sn**	**19 16 28.3**	**+1.0**
KSRS	**Korea Array**	**13.29**	**17**	Pn	**P**	**19 19 08.1**	**+0.4**
	0.1nm,0.3s,baz=198,slow=16,SNR=5.3						
KSRS				LR	LR	19 23 40.8	
	comp=Z,14nm,21.4s,baz=196,slow=34						
WRA	**Warramunga Arr**	**45.80**	**165**	P	**P**	**19 24 10.3**	**-1.0**
	0.3nm,0.4s,baz=347,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**49.31**	**167**	P	**P**	**19 24 38.8**	**+0.3**
	0.1nm,0.6s,baz=354,slow=6.8,SNR=3.3						

JMA ***16*** *19:28:24.2±0.1,24°.90N×122°.85E,h28km±2km,M2.8*
TAP ***16*** *19:28:24.3,24°.89N×122°.83E,h26km,ML3.5,C*
IDC ***16*** *19:28:39.6±9.4,24°.73N×122°.41E,h147km±100km, mb3.2/5,mb1 3.4/6,mb1mx3.0/45,mbtmp3.7/6,MS3.1/8, Ms1 3.1/8,ms1mx3.0/14,Error ellipse: s-maj=89.6km s-min=16.1km az=66.0*

ISC 16 19:28:24.4±1.1,24°.89N±0°.04×122°.86E±0°.02,h17km±7km, n125,σ1§31/145,mb3.8/5,MS3.0/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.44**	**170**	P	**Pg**	**19 28 33.5**	**+0.1**
JYNG				*e*S	**Sg**	**19 28 40.1**	**+0.7**
YOJ	**Yonaguni jima**	**0.45**	**162**	P	**Pg**	**19 28 33.6**	**+0.2**
YOJ				*e*S	**Sg**	**19 28 40.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.45**	**162**	*i* P	**Pg**	**19 28 33.7**	**+0.2**
	baz=160						
YOJ				S	**Sg**	**19 28 40.3**	**+0.7**
	baz=160						
TWB1	**Santiao Chiao**	**0.80**	**279**	*e*P	**Pb**	**19 28 38.1**	**-1.8**
	baz=279						
TWB1				*e*S	**Sg**	**19 28 48.6**	**-2.0**
	baz=279						
EGS		**0.84**	**267**	*e*P	**Pb**	**19 28 39.8**	**-0.9**
	baz=267						
EGS				*e*S	**Sb**	**19 28 51.6**	**-0.1**
	baz=267						
NTC	**Toucheng**	**0.94**	**268**	*e*P	**Pb**	**19 28 41.6**	**-0.7**
	baz=268						
TIPB	**Shuangxi**	**0.94**	**275**	P	**Pb**	**19 28 41.6**	**-0.8**
	baz=275						
TWC	**Suao**	**0.96**	**253**	*e*P	**Pb**	**19 28 40.7**	**-1.9**
	baz=263						
TWC				*e*S	**Sb**	**19 28 53.1**	**-2.0**
	baz=263						
IRIF	**Iriomote-Funau**	**0.96**	**125**	P	**Pb**	**19 28 41.9**	**-0.8**
IRIF				*e*S	**Sb**	**19 28 54.7**	**-0.5**
NWF	**Wu-fen Shan**	**1.00**	**281**	*e*P	**Pb**	**19 28 42.3**	**-1.1**
	baz=281						
WFSB	**Wu-fen Shan**	**1.00**	**281**	*e*P	**Pb**	**19 28 42.1**	**-1.2**
	baz=281						
TNOU	**National Taiwa**	**1.02**	**285**	*e*P	**Pb**	**19 28 42.4**	**-1.3**
	baz=285						
PCYT	**Pengchaiyu**	**1.03**	**316**	*i* P	**Pb**	**19 28 43.2**	**-0.6**
	baz=317						
NDS	**Dongshan**	**1.07**	**257**	P	**Pb**	**19 28 42.7**	**-1.9**
	baz=256						
NDS				*e*S	**Sb**	**19 28 56.6**	**-1.7**
	baz=256						
TWE	**Neicheng**	**1.10**	**262**	P	**Pb**	**19 28 43.8**	**-1.2**
	baz=261						
TWE				*e*S	**Sb**	**19 28 57.3**	**-1.7**
	baz=261						
TWA	**Mucha**	**1.16**	**275**	*e*P	**Pn**	**19 28 44.8**	**-1.2**
	baz=275						
YM08	**YM08**	**1.19**	**285**	*e*P	**Pn**	**19 28 45.1**	**-1.3**
	baz=285						
HATJ	**Hateruma jima**	**1.19**	**134**	P	**Pn**	**19 28 45.8**	**-0.6**
YM01	**YM01**	**1.20**	**283**	*e*P	**Pn**	**19 28 45.3**	**-1.2**
	baz=283						
ENTT	**Nioudou**	**1.20**	**258**	*e*P	**Pn**	**19 28 46.8**	**+0.2**
	baz=268						
TWY	**Chenhua**	**1.21**	**289**	*e*P	**Pn**	**19 28 45.3**	**-1.3**
	baz=289						
NHDH	**Xindian Distri**	**1.22**	**274**	*e*P	**Pn**	**19 28 45.7**	**-1.0**
	baz=274						
JKRS	**Kuro-shima**	**1.23**	**122**	P	**Pn**	**19 28 46.3**	**-0.6**
NWLT	**Wulai**	**1.24**	**265**	*e*P	**Pn**	**19 28 45.8**	**-1.3**
	baz=275						
TATO	**Taipei**	**1.25**	**274**	*e*P	**Pn**	**19 28 45.9**	**-1.2**
	baz=275						
ANP	**Anpu**	**1.25**	**284**	*e*P	**Pn**	**19 28 46.1**	**-1.2**
	baz=284						
NDT	**Datong Townshi**	**1.26**	**257**	*e*P	**Pn**	**19 28 47.1**	**-0.2**
	baz=257						
JIJ	**Ishigaki jima**	**1.28**	**114**	P	**Pn**	**19 28 46.9**	**-0.7**
JIJ				*e*S	**Sb**	**19 29 01.9**	**-2.3**
ETL	**Fush Village**	**1.34**	**237**	*e*P	**Pn**	**19 28 49.2**	**+0.7**
	baz=237						
JISG	**Ishigakijimahi**	**1.35**	**103**	P	**Pn**	**19 28 47.1**	**-1.5**
JISG				*e*S	**Sn**	**19 29 02.7**	**-3.4**
NACB	**Ninganchiao**	**1.35**	**239**	*e*P	**Pn**	**19 28 47.7**	**-0.9**
	baz=239						
NACB				*e*S	**Sn**	**19 29 05.6**	**-0.7**
	baz=239						
YHNB	**Yeheng**	**1.37**	**261**	*e*P	**Pn**	**19 28 48.0**	**-0.9**
	baz=270						
TWD	**Chiawan**	**1.41**	**235**	*e*P	**Pn**	**19 28 49.4**	**+0.1**
	baz=235						
TWD				*e*S	**Sn**	**19 29 07.3**	**-0.2**
	baz=235						
NNSH	**Datong**	**1.42**	**252**	*e*P	**Pn**	**19 28 48.7**	**-0.9**
	baz=262						
NNSH				*e*S	**Sn**	**19 29 05.2**	**-2.9**
	baz=262						
NNSB	**Datong**	**1.42**	**252**	P	**Pn**	**19 28 48.7**	**-0.9**
	baz=251						
NNS	**Nan Shan**	**1.43**	**252**	P	**Pn**	**19 28 49.3**	**-0.4**
	baz=252						
NNS				*e*S	**Sn**	**19 29 05.0**	**-3.2**
	baz=252						
ETLH	**Xiulin Townshi**	**1.43**	**242**	P	**Pn**	**19 28 49.0**	**-0.6**
	baz=227						
ETLH				*e*S	**Sn**	**19 29 08.3**	**+0.2**
	baz=227						
TEYL	**Yanliau Villag**	**1.54**	**229**	*e*P	**Pn**	**19 28 49.8**	**-1.3**
	baz=215						
ETM	**Tongmen**	**1.55**	**234**	*e*P	**Pn**	**19 28 49.9**	**-1.4**
	baz=234						
FUSS	**Fushou**	**1.60**	**247**	*e*P	**Pn**	**19 28 53.1**	**+0.9**
	baz=247						
FUSS				*e*S	**Sn**	**19 29 13.5**	**+0.8**
	baz=247						
WHF	**Hehuan Shan**	**1.63**	**243**	*e*P	**Pn**	**19 28 53.0**	**+0.2**
	baz=243						
WHF				*e*S	**Sn**	**19 29 13.3**	**-0.4**
	baz=243						
TWT	**Tachien**	**1.66**	**248**	*e*P	**Pn**	**19 28 53.2**	**+0.3**
	baz=235						
TDCB	**Techi**	**1.67**	**248**	*e*P	**Pn**	**19 28 52.8**	**-0.4**
	baz=235						
TEGC	**Jichi Village**	**1.68**	**226**	*e*P	**Pn**	**19 28 52.1**	**-1.0**
	baz=214						
ESL	**Shilin**	**1.69**	**231**	*e*P	**Pn**	**19 28 52.3**	**-0.9**
	baz=230						
LIOB	**Emei**	**1.69**	**262**	*e*P	**Pn**	**19 28 53.1**	**-0.2**
	baz=263						
NSTT	**Nanjuang**	**1.71**	**262**	*e*P	**Pn**	**19 28 55.1**	**+1.6**
	baz=262						
CHGB	**Renai**	**1.74**	**242**	*e*P	**Pn**	**19 28 54.7**	**+0.5**
	baz=242						
CHGB				*e*S	**Sn**	**19 29 14.8**	**-1.4**
	baz=242						
EGFH	**Guangfu**	**1.79**	**227**	*e*P	**Pn**	**19 28 53.6**	**-0.9**
	baz=216						
OWD	**Renai**	**1.79**	**239**	*e*P	**Pn**	**19 28 54.6**	**-0.2**
	baz=226						
WHP	**Taichung City**	**1.85**	**251**	*e*P	**Pn**	**19 28 56.4**	**+0.9**
	baz=239						
HGSD	**Ruisui**	**1.91**	**224**	P	**Pn**	**19 28 55.4**	**-0.8**
	baz=212						
HGSD				*e*S	**Sn**	**19 29 17.3**	**-2.6**
	baz=212						
NMLH	**Miaoli**	**1.92**	**260**	*e*P	**Pn**	**19 28 57.9**	**+1.5**
	baz=273						
WPL	**Puli Township**	**1.94**	**244**	*e*P	**Pn**	**19 28 57.5**	**+0.8**
	baz=231						
DPDB	**Guoxing**	**1.96**	**245**	*e*P	**Pn**	**19 28 58.1**	**+1.1**
	baz=232						
WCS	**Beigang Elemen**	**1.96**	**245**	*e*P	**Pn**	**19 28 58.0**	**+1.0**
	baz=233						
EHY	**Hungye**	**1.97**	**226**	*e*P	**Pn**	**19 28 56.0**	**-1.0**
	baz=226						
EHY				*e*S	**Sn**	**19 29 20.6**	**-0.7**
	baz=226						
NSY	**Sanyi**	**1.97**	**257**	*e*P	**Pn**	**19 28 57.9**	**+0.8**
	baz=271						
TWQ1	**Liyutan**	**1.98**	**255**	*e*P	**Pb**	**19 28 59.3**	**-0.7**
	baz=269						
SMLT	**Sun Moon Lake**	**2.05**	**241**	*e*P	**Pn**	**19 28 59.5**	**+1.3**
	baz=229						
SMLT				*e*S	**Sn**	**19 29 22.8**	**-0.7**
	baz=229						
SSLB	**Suanglung**	**2.06**	**238**	*e*P	**Pn**	**19 28 58.1**	**-0.2**
	baz=225						
YULB	**Yu-li**	**2.06**	**224**	*e*P	**Pn**	**19 28 57.0**	**-1.4**
	baz=238						
TYC	**Yuchr**	**2.07**	**242**	*e*P	**Pn**	**19 28 59.3**	**+0.8**
	baz=229						
EYUL	**Yuli**	**2.08**	**223**	*e*P	**Pn**	**19 28 58.6**	**-0.1**
	baz=237						
TWF1	**Yuli**	**2.09**	**223**	*e*P	**Pn**	**19 28 58.9**	**+0.2**
	baz=238						
TWF1				*e*S	**Sn**	**19 29 22.2**	**-2.3**
	baz=238						
WHYT	**Xinyi Township**	**2.18**	**237**	*e*P	**Pn**	**19 29 01.7**	**+1.7**
	baz=225						
FULB	**Fuli**	**2.21**	**221**	*e*P	**Pn**	**19 28 59.8**	**-0.6**
	baz=208						
JMJ	**Miyako jima 2**	**2.21**	**91**	*e*P	**Pb**	**19 29 03.2**	**-0.8**
	baz=91						
WJS	**Zhushan**	**2.22**	**242**	*e*P	**Pb**	**19 29 03.3**	**-0.8**
	baz=229						
WNT	**Mingjian**	**2.23**	**244**	*e*P	**Pn**	**19 29 02.3**	**+1.7**
	baz=244						
YUS	**Yu-Shan**	**2.23**	**232**	*e*P	**Pn**	**19 29 01.5**	**+0.3**
	baz=232						
CHKT	**Chengkung**	**2.25**	**218**	*e*P	**Pn**	**19 29 01.1**	**+0.2**
	baz=217						
ALS	**Alishan**	**2.33**	**234**	*e*P	**Pn**	**19 29 03.2**	**+0.9**
	baz=222						
ECS	**Chishang**	**2.33**	**220**	*e*P	**Pn**	**19 29 02.1**	**0.0**
	baz=234						
CHN5	**Tsauling**	**2.37**	**238**	*e*P	**Pn**	**19 29 04.4**	**+1.7**
	baz=238						
EDH	**Donghe**	**2.38**	**217**	*e*P	**Pn**	**19 29 01.0**	**-1.7**
	baz=217						
ELDTW	**Lidau**	**2.39**	**225**	*e*P	**Pn**	**19 29 03.2**	**+0.2**
	baz=225						
WGK	**Gukeng**	**2.42**	**241**	*e*P	**Pn**	**19 29 04.1**	**+0.9**
	baz=241						
WDLH	**Douliu**	**2.43**	**241**	*e*P	**Pn**	**19 29 05.6**	**+2.1**
	baz=241						
LONT	**Longtian**	**2.53**	**219**	*e*P	**Pn**	**19 29 04.5**	**-0.3**
	baz=219						
LDUT	**Ludao**	**2.55**	**210**	*e*P	**Pn**	**19 29 02.9**	**-2.1**
	baz=219						
WTK	**Tuku**	**2.55**	**243**	*e*P	**Pn**	**19 29 06.5**	**+1.4**
	baz=243						
STYH	**Taoyuan**	**2.56**	**229**	*e*P	**Pn**	**19 29 04.8**	**-0.4**
	baz=228						
CHN2	**Minshiung**	**2.56**	**239**	*e*P	**Pn**	**19 29 07.1**	**+1.9**
	baz=239						
CHN2				*e*S	**Sn**	**19 29 37.3**	**+1.2**
	baz=239						
CHN4	**Tsaushan**	**2.58**	**234**	*e*P	**Pn**	**19 29 07.1**	**+1.7**
	baz=234						
STYT	**Tauyuan**	**2.58**	**229**	*e*P	**Pn**	**19 29 06.5**	**+1.0**
	baz=228						
TPUB	**Ta-pu**	**2.58**	**233**	*e*P	**Pn**	**19 29 06.5**	**+1.0**
	baz=222						
TPUB				*e*S	**Sn**	**19 29 35.5**	**-1.0**
	baz=222						
WTP	**Ta-pu**	**2.62**	**232**	*e*P	**Pn**	**19 29 07.6**	**+1.5**
	baz=221						
TWGBT	**Beinan**	**2.63**	**219**	*e*P	**Pn**	**19 29 04.4**	**-1.8**
	baz=218						
TWG	**Pinlang**	**2.63**	**219**	*e*P	**Pn**	**19 29 04.6**	**-1.6**
	baz=218						
TWK	**Hsinying**	**2.70**	**234**	*e*P	**Pn**	**19 29 08.9**	**+1.7**
	baz=234						
WSF	**Szhu**	**2.71**	**243**	*e*P	**Pn**	**19 29 07.4**	**+0.1**
	baz=244						
CHN1	**Nanshi**	**2.73**	**232**	*e*P	**Pn**	**19 29 08.9**	**+1.5**
	baz=232						
SNST	**Tainan City**	**2.73**	**233**	*e*P	**Pn**	**19 29 09.2**	**+1.7**
	baz=233						
SGST	**Jiashian**	**2.75**	**230**	*e*P	**Pn**	**19 29 08.0**	**+0.1**
	baz=229						
SLGT	**Liugui**	**2.77**	**227**	*e*P	**Pn**	**19 29 09.3**	**+1.2**
	baz=227						
ECL	**Taimali**	**2.87**	**218**	*e*P	**Pn**	**19 29 08.0**	**-1.5**
	baz=217						
MATB	**Ma-tsu**	**2.92**	**296**	*e*P	**Pn**	**19 29 09.6**	**-0.6**
	baz=297						
SCST	**Cishan**	**2.94**	**228**	*e*P	**Pn**	**19 29 12.9**	**+2.4**
	baz=228						
SSD	**Sandimen**	**2.95**	**224**	*e*P	**Pn**	**19 29 12.7**	**+2.1**
	baz=215						
TSMG	**Majia**	**2.97**	**223**	*e*P	**Pn**	**19 29 11.1**	**+0.2**
	baz=214						
TWM1	**Shoushan**	**3.03**	**228**	*e*P	**Pn**	**19 29 12.7**	**+0.9**
	baz=241						
LAY	**Lan-yu**	**3.08**	**203**	*e*P	**Pn**	**19 29 11.0**	**-1.4**
	baz=202						
EAST	**Anshuo**	**3.10**	**217**	*e*P	**Pn**	**19 29 12.4**	**-0.3**
	baz=216						
SCZT	**Fangliau**	**3.24**	**220**	*e*P	**Pn**	**19 29 15.6**	**+1.0**
	baz=237						
LYJJ	**Jianjiangzhen**	**3.25**	**301**	*e*P	**Pn**	**19 29 13.7**	**-1.0**
	baz=301						
SLIU	**Shizi**	**3.26**	**216**	*e*P	**Pn**	**19 29 14.4**	**-0.5**
	baz=215						
PNG	**Penghu**	**3.29**	**247**	*e*P	**Pn**	**19 29 14.8**	**-0.4**
	baz=248						
PHUB	**P'eng-hu**	**3.30**	**246**	*e*P	**Pn**	**19 29 14.5**	**-0.9**
	baz=248						
WDGT	**Dungji**	**3.34**	**242**	*e*P	**Pn**	**19 29 17.0**	**+1.0**
	baz=243						
WLCH	**Liuqiu**	**3.40**	**223**	*e*P	**Pn**	**19 29 19.8**	**+3.0**
	baz=223						
TWP	**Hsiaoliuchiu**	**3.41**	**223**	*e*P	**Pn**	**19 29 19.2**	**+2.2**
	baz=223						
TWKBT	**Hengchun**	**3.48**	**213**	*e*P	**Pn**	**19 29 17.6**	**-0.3**
	baz=212						
TWK1	**Hengchun**	**3.49**	**213**	*e*P	**Pn**	**19 29 16.8**	**-1.2**
	baz=212						
KSRS	**Korea Array**	**13.25**	**18**	P	**P**	**19 31 45.8**	**+4.2**
	0.1nm,0.3s,baz=194,slow=12,SNR=14						
KSRS				LR	LR	19 37 10.9	
	comp=Z,50nm,19.4s,baz=196,slow=38						
MJAR	**Matsushiro Arr**	**17.55**	**45**	LR	LR	19 39 31.6	
	comp=Z,45nm,21.2s,baz=245,slow=36						
CMAR	**Chiang Mai Arr**	**23.11**	**259**	LR	LR	19 43 15.3	
	comp=Z,46nm,18.3s,baz=120,slow=39						
SONM	**Songino Array**	**26.35**	**335**	P	**P**	**19 34 01.0**	**+1.2**
	0.4nm,0.7s,baz=151,slow=9.5,SNR=4.3						
SONM				LR	LR	19 44 45.9	
	comp=Z,37nm,18.3s,baz=115,slow=37						
PETK	**Petropavlovsk-**	**38.44**	**34**	LR	LR	19 51 07.4	
	comp=Z,27nm,21.7s,baz=141,slow=35						
MKAR	**Makanchi Array**	**38.91**	**315**	P	**P**	**19 35 49.6**	**+0.3**
	0.5nm,0.7s,baz=108,slow=8.3,SNR=5.8						
MKAR				LR	LR	19 52 40.0	
	comp=Z,23nm,18.6s,baz=90,slow=37						
WRA	**Warramunga Arr**	**45.94**	**165**	P	**P**	**19 36 47.1**	**+0.5**
	1.6nm,0.7s,baz=347,slow=8.7,SNR=18						
NRIK	**Noril'sk**	**49.13**	**344**	LR	LR	19 59 39.0	
	comp=Z,39nm,18.6s,baz=110,slow=38						
ASAR	**Alice Springs**	**49.44**	**167**	P	**P**	**19 37 14.5**	**+0.7**
	0.9nm,0.9s,baz=348,slow=9.0,SNR=7.8						
ARCES	**ARCESS Array B**	**69.46**	**338**	LR	LR	20 13 09.7	
	comp=Z,13nm,20.4s,baz=355,slow=38						
FINES	**FINESS Array B**	**71.61**	**330**	P	**P**	**19 39 44.4**	**-0.3**
	0.6nm,0.4s,baz=64,slow=6.6,SNR=7.0						

IDC ***16*** *19:57:03.8±2.1,35°.64N×140°.93E,h48km±17km,mb3.5/9, mb1 3.7/14,mb1mx3.5/36,mbtmp3.9/14,ML3.6/5,MS2.8/9, Ms1 2.8/9,ms1mx2.6/38,Error ellipse: s-maj=30.5km s-min=11.8km az=83.0*
NEIC ***16*** *19:57:04.3±1.1,35°.69N±0°.05×140°.86E±0°.09,h44km±9km, mb4.3/12,Error ellipse: s-maj=11.0km s-min=6.7km az=80.0*
JMA ***16*** *19:57:04.1±0.2,35°.69N×140°.75E,h45km±2km,M3.4 Broadband fault plane solution: P waves. NP1: φs192.00000°,δ14.00000°,λ74.00000°. NP2:φs28.00000°, δ77.00000°,λ94.00000°. Principal axes: T Plg58.0000°, Azm303.0000°; N Plg4.0000°, Azm207.0000°; P Plg32.0000°, Azm115.0000°;*
JMA Felt I J1.
NIED ***16*** *19:57:04.1,35°.69N×140°.75E,h45km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.89; Mθθ-0.03; Mφφ-0.86; Mrθ-0.11; Mθφ0.14; Mφr0.95; Fault plane solution: M₀1.31000×10¹⁵ NP1: φs353.00000°,δ69.00000°,λ91.00000°. NP2: φs169.00000°,δ21.00000°,λ86.00000°.*

ISC 16 19:57:03.2±0.8,35°.65N±0°.04×140°.89E±0°.06,h44km±7km, n69,σ1§52/68,mb3.8/15,MS2.5/3,5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.06**	**335**	P	**Pn**	**19 57 11.3**	**+1.1**
CHOJ				S	**Sn**	**19 57 15.8**	**+0.7**
JSMT	**Sammumatsuo**	**0.36**	**269**	↓P	**Pn**	**19 57 12.7**	**+0.3**
JSMT				S	**Sn**	**19 57 19.8**	**+0.9**
JIHU	**Itakohorinouch**	**0.43**	**317**	↓P	**Pn**	**19 57 13.7**	**+0.4**
JIHU				S	**Sn**	**19 57 21.0**	**+0.5**
JCN	**Nagara**	**0.61**	**248**	↓P	**Pn**	**19 57 16.0**	**+0.5**
JCN				S	**Sn**	**19 57 23.7**	**-0.6**
BSO4	**Boso 4**	**0.80**	**215**	P	**Pn**	**19 57 18.9**	**+0.9**
JYT	**Yasato**	**0.81**	**316**	↓P	**Pn**	**19 57 17.5**	**-0.7**
JYT				*e*S	**Sn**	**19 57 27.7**	**-1.4**
JYT	**Yasato**	**0.81**	**316**		**Pn**	**19 57 17.5**	**-0.7**
JYT				Sn	**Sn**	**19 57 28.0**	**-1.1**
BSO3	**Boso 3**	**0.90**	**200**	P	**Pn**	**19 57 20.5**	**+1.3**
JHO	**Hitachi**	**1.00**	**345**	↓P	**Pn**	**19 57 21.1**	**+0.3**
JMM	**Marumori**	**2.22**	**358**		**Pn**	**19 57 39.1**	**+1.6**
MJAR	**Matsushiro Arr**	**2.35**	**293**	P	**Pn**	**19 57 40.0**	**+0.7**
	4.2nm,0.3s,baz=96,slow=14,SNR=98						
MJAR				LR	LR	19 58 40.1	
	comp=Z,229nm,18.6s,baz=105,slow=41						
MJAR	**Matsushiro Arr**	**2.35**	**293**		**Pn**	**19 57 39.9**	**+0.5**
MAJO	**Matsushiro**	**2.35**	**293**		**Pn**	**19 57 40.1**	**+0.7**
MAT	**Matsushiro**	**2.35**	**293**	P	**Pn**	**19 57 40.1**	**+0.7**
MAT				S	**Sn**	**19 58 03.0**	**-4.0**
MJB9	**Matsu-Tunnel**	**2.35**	**293**		**Pn**	**19 57 39.9**	**+0.5**
JSG	**Sagara**	**2.42**	**247**	Pn	**Pn**	**19 57 42.2**	**+1.9**
JHJ2	**Mitsune**	**2.68**	**200**	Pn	**Pn**	**19 57 44.6**	**+0.7**
JHJ	**Hachijo jima 2**	**2.68**	**200**	P	**Pn**	**19 57 45.0**	**+1.1**
	19nm,0.3s,baz=337,slow=18,SNR=18						
JHJ				S	**Sn**	**19 58 16.1**	**+0.9**
	47nm,0.3s,baz=236,slow=21,SNR=7.5						
JHJ				LR	LR	19 59 01.2	
	comp=Z,117nm,20.2s,baz=26,slow=44						
JGF	**Kuroka**	**2.88**	**270**	Pn	**Pn**	**19 57 48.2**	**+1.5**
INU	**Inuyama**	**3.17**	**266**	Pn	**Pn**	**19 57 50.9**	**+0.2**
JSD	**Sado**	**3.19**	**319**	Pn	**Pn**	**19 57 51.4**	**+0.6**
JWT	**Wachi**	**4.50**	**267**		**Pn**	**19 58 09.3**	**+0.5**
JTM	**Tenmabayashi**	**5.13**	**2**	Pn	**Pn**	**19 58 17.8**	**+0.3**
JMN	**Monobe**	**6.08**	**254**	Pn	**Pn**	**19 58 32.5**	**+1.8**
JHS	**Saijyo**	**6.39**	**266**	Pn	**Pn**	**19 58 36.3**	**+1.5**
ERM	**Erimo**	**6.60**	**15**	Pn	**Pn**	**19 58 37.6**	**0.0**
JEW	**Eniwo**	**7.20**	**3**	Pn	**Pn**	**19 58 47.0**	**+1.2**
ASAJ	**Asahikawa**	**8.56**	**8**	P	**Pn**	**19 59 04.3**	**-0.2**
	1.0nm,0.3s,baz=220,slow=14,SNR=11						
ASAJ				S	**Sn**	**20 00 34.5**	**-5.2**
	0.1nm,0.3s,baz=294,slow=32,SNR=1.2						
ASAJ				LR	LR	20 03 01.5	
	comp=Z,30nm,19.1s,baz=192,slow=42						
JKA	**Kamikawa-asahi**	**8.56**	**8**	Pn	**Pn**	**19 59 04.7**	**+0.2**
JCJ	**Chichijima**	**8.60**	**172**	P	**Pn**	**19 59 04.4**	**-0.7**
	5.9nm,0.3s,baz=5.7,slow=10,SNR=1.6						
JCJ				S	**Sn**	**20 00 34.8**	**-6.0**
	5.6nm,0.3s,baz=297,slow=17,SNR=1.9						
JCJ	**Chichijima**	**8.60**	**172**	Pn	**Pn**	**19 59 04.5**	**-0.6**
JNU	**Nakatsue**	**8.65**	**256**	LR	LR	20 01 54.6	
	comp=Z,2μm,20.8s,baz=47,slow=34						
KSRS	**Korea Array**	**10.59**	**284**	P	**Pn**	**19 59 34.9**	**+2.6**
	0.1nm,0.3s,baz=101,slow=14,SNR=7.2						
KSRS				LR	LR	20 03 28.6	
	comp=Z,

WB2	**Warramunga Arr**	**55.63**	**187**	P	**P**	**20 06 35.3 +0.5**
WB2				IAmb	IAmb	20 06 52.1
	comp=Z,3.9nm,1.1s					
WRA	**Warramunga Arr**	**55.63**	**187**	P	**P**	**20 06 35.2 +0.4**
	comp=Z,0.4nm,0.4s,baz=0.7,slow=7.6,SNR=12					
WRA	**Warramunga Arr**	**55.63**	**187**	P	**P**	**20 06 35.7 +0.9**
ARU	**Arti**	**57.12**	**319**	P	**P**	**20 06 45.2 +0.2**
ARU				IAmb	IAmb	20 06 46.2
	comp=Z,5.1nm,1.1s					
ASAR	**Alice Springs**	**59.36**	**187**	P	**P**	**20 07 01.3 +0.3**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=5.1					
FINES	**FINESS Array B**	**69.84**	**332**	P	**P**	**20 08 09.0 0.0**
	comp=Z,2.3nm,0.9s,baz=100,slow=9.9,SNR=4.5					
FINES	**FINESS Array B**	**69.84**	**332**	P	**P**	**20 08 09.1 +0.2**
AKASG	**Malin Array Be**	**75.13**	**322**	P	**P**	**20 08 40.3 -0.3**
	comp=Z,0.3nm,0.3s,baz=52,slow=4.8,SNR=1.7					
NOA	**NORSAR Array B**	**75.30**	**337**	P	**P**	**20 08 42.4 +0.9**
	comp=Z,0.7nm,0.6s,baz=39,slow=5.8,SNR=4.1					
CLL	**Collm**	**82.08**	**330**	*e*P	**P**	**20 09 19.0 +0.1**

ATH 16 19:59:35.6, 39°.13N×20°.10E, h12km±6km, ML1.2/1, Error ellipse: s-maj=6.8km s-min=1.3km az=82.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.44**	**24**	P	Pg	19 59 43.9	-0.3
IGT				S	Sg	19 59 50.4	+0.3
IGT				AML	AML	19 59 51.3	
	comp=E,76μm,0.3s						
IGT				AML	AML	19 59 52.5	
	comp=N,70μm,0.2s						
IGT	**Igoumenitsa**	**0.44**	**24**	P	Pg	19 59 44.0	-0.2
IGT				S	Sg	19 59 50.3	+0.2
IGT				AML	AML	19 59 51.3	
	comp=E,76μm,0.3s						
IGT				AML	AML	19 59 52.5	
	comp=N,70μm,0.2s						
TSLK	**Tsoukalades, L**	**0.53**	**125**	P	Pg	19 59 45.3	-0.7
TSLK				S	Sg	19 59 52.9	-0.2
TSLK	**Tsoukalades, L**	**0.53**	**125**	P	Pg	19 59 45.4	-0.6
TSLK				S	Sg	19 59 53.1	+0.1
LKD2	**Lefkada island**	**0.56**	**128**	P	Pg	19 59 46.0	-0.5
LKD2				S	Sg	19 59 54.3	+0.5
LKD2	**Lefkada island**	**0.56**	**128**	P	Pg	19 59 45.9	-0.6
LKD2				S	Sg	19 59 54.2	+0.4
DRAG	**Dragano-Lefkad**	**0.58**	**140**	P	Pg	19 59 47.2	+0.2
KEK	**Kerkira**	**0.62**	**338**	P	Pn	19 59 52.0	+1.8
NYDR	**Nydri-Lefkada**	**0.63**	**132**	P	Pg	19 59 47.1	-0.7
NYDR				S	Sg	19 59 56.4	+0.3
EVGI	**Lefkada island**	**0.67**	**140**	P	Pg	19 59 48.6	-0.1
KPRO	**Kipourio**	**1.28**	**50**	P	Pn	19 59 59.0	-0.3

*TAP **16** 20:11:06.5, 24°.96N×122°.89E, h108km, ML2.7, D*
*JMA **16** 20:11:06.9±0.2, 24°.95N×122°.94E, h118km, M1.7*
ISC 16 20:11:07.2±1.8, 24°.79N±0°.07×122°.89E±0°.03, h118km±11km, n48, σ0§86/86, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.34**	**171**	P	**Pn**	**20 11 24.9**	**+0.8**
JYNG				*e*S	**Sn**	**20 11 38.4**	**+1.6**
YOJ	**Yonaguni jima**	**0.35**	**161**	P	**Pn**	**20 11 24.8**	**+0.7**
YOJ				*e*S	**Sn**	**20 11 37.6**	**+0.8**
YOJ	**Yonaguni jima** baz=165	**0.35**	**161**	*e*P	**Pn**	**20 11 24.1**	**-0.1**
YOJ	baz=165			*e*S	**Sn**	**20 11 35.7**	**-1.1**
IRIF	**Iriomote-Funau**	**0.89**	**121**	P	**Pn**	**20 11 28.5**	**+0.5**
IRIF				S	**Sn**	**20 11 44.4**	**+0.7**
TIPB	**Shuangxi** baz=263	**0.98**	**281**	*e*P	**Pn**	**20 11 27.4**	**-1.5**
TIPB	baz=263			*e*S	**Sn**	**20 11 43.5**	**-1.8**
NDS	**Dongshan** baz=253	**1.08**	**262**	*e*P	**Pn**	**20 11 29.5**	**-0.3**
NDS	baz=253			*e*S	**Sn**	**20 11 45.6**	**-1.3**
HATJ	**Hateruma jima**	**1.11**	**131**	*e*S	**Sn**	**20 11 48.5**	**+0.9**
JKRS	**Kuro-shima**	**1.16**	**118**	P	**Pn**	**20 11 31.3**	**+0.6**
JKRS				S	**Sn**	**20 11 49.1**	**+0.6**
JIJ	**Ishigaki jima**	**1.22**	**110**	P	**Pn**	**20 11 31.2**	**-0.1**
JIJ				S	**Sn**	**20 11 49.0**	**-0.6**
YM01	**YM01** baz=286	**1.25**	**287**	*e*P	**Pn**	**20 11 30.0**	**-1.6**
NWLT	**Wulai** baz=256	**1.26**	**270**	*e*P	**Pn**	**20 11 32.5**	**+0.7**
NDT	**Datong Townshi** baz=256	**1.27**	**262**	*e*P	**Pn**	**20 11 31.1**	**-0.8**
NDT	baz=256			*e*S	**Sn**	**20 11 51.7**	**+1.2**
JISG	**Ishigakijimahi**	**1.31**	**99**	P	**Pn**	**20 11 32.0**	**-0.3**
JISG				*e*S	**Sn**	**20 11 50.0**	**-1.4**
ETL	**Fush Village** baz=235	**1.31**	**242**	*e*P	**Pn**	**20 11 31.9**	**-0.5**
ETL	baz=235			*e*S	**Sn**	**20 11 51.5**	**0.0**
NACB	**Ninganchiao** baz=229	**1.33**	**243**	*e*P	**Pn**	**20 11 32.2**	**-0.3**
NACB	baz=229			*e*S	**Sn**	**20 11 51.6**	**-0.1**
TWD	**Chiawan** baz=226	**1.38**	**239**	*e*P	**Pn**	**20 11 32.9**	**-0.1**
TWD	baz=226			*e*S	**Sn**	**20 11 52.8**	**+0.1**
YHNB	**Yeheng** baz=263	**1.38**	**265**	*e*P	**Pn**	**20 11 33.4**	**+0.2**
YHNB	baz=263			*e*S	**Sn**	**20 11 53.8**	**+0.8**
ETLH	**Xiulin Townshi** baz=232	**1.41**	**246**	P	**Pn**	**20 11 33.4**	**-0.2**
ETLH	baz=232			*e*S	**Sn**	**20 11 53.5**	**0.0**
NNSB	**Datong** baz=241	**1.42**	**255**	P	**Pn**	**20 11 33.0**	**-0.7**
NNSB	baz=241			*e*S	**Sn**	**20 11 53.5**	**-0.2**
NNSH	**Datong** baz=241	**1.42**	**255**	*e*P	**Pn**	**20 11 34.0**	**+0.3**
NNSH	baz=241			*e*S	**Sn**	**20 11 54.0**	**+0.2**
NNS	**Nan Shan** baz=241	**1.42**	**256**	*e*P	**Pn**	**20 11 33.0**	**-0.7**
NNS	baz=241			*e*S	**Sn**	**20 11 53.8**	**-0.1**
TEYL	**Yanliau Villag** baz=228	**1.49**	**232**	*e*P	**Pn**	**20 11 34.7**	**+0.3**
TEYL	baz=228			*e*S	**Sn**	**20 11 54.1**	**-1.0**
ETM	**Tongmen** baz=226	**1.52**	**237**	*e*P	**Pn**	**20 11 34.0**	**-0.7**
ETM	baz=226			*e*S	**Sn**	**20 11 55.1**	**-0.4**
FUSS	**Fushou** baz=238	**1.59**	**250**	*i* P	**Pn**	**20 11 36.0**	**+0.1**
FUSS	baz=238			S	**Sn**	**20 11 57.4**	**-0.2**
WHF	**Hehuan Shan** baz=235	**1.61**	**247**	*i* P	**Pn**	**20 11 36.4**	**+0.1**
WHF	baz=235			S	**Sn**	**20 11 58.3**	**-0.1**
TEGC	**Jichi Village** baz=220	**1.64**	**229**	*e*P	**Pn**	**20 11 35.7**	**-0.4**
TWT	**Tachien** baz=238	**1.65**	**251**	*e*S	**Sn**	**20 11 59.4**	**+0.7**
JTJ	**Tarama**	**1.66**	**95**	P	**Pn**	**20 11 36.1**	**-0.2**
LIOB	**Emei** baz=260	**1.71**	**265**	*e*P	**Pn**	**20 11 38.6**	**+1.6**
LIOB	baz=260			*e*S	**Sn**	**20 11 59.8**	**+0.1**
CHGB	**Renai** baz=234	**1.72**	**245**	*i* P	**Pn**	**20 11 38.0**	**+0.5**
CHGB	baz=234			S	**Sn**	**20 12 00.4**	**0.0**
NSTT	**Nanjuang** baz=259	**1.72**	**265**	*e*P	**Pn**	**20 11 38.2**	**+1.1**
NSTT	baz=259			*e*S	**Sn**	**20 11 59.9**	**-0.1**
EGFH	**Guangfu** baz=221	**1.74**	**230**	*e*P	**Pn**	**20 11 36.2**	**-1.1**
EGFH	baz=221			*e*S	**Sn**	**20 12 00.6**	**+0.2**
OWD	**Renai** baz=232	**1.77**	**242**	P	**Pn**	**20 11 38.6**	**+0.7**
OWD	baz=232			S	**Sn**	**20 12 01.4**	**+0.1**
WHP	**Taichung City** baz=242	**1.84**	**254**	*e*P	**Pn**	**20 11 39.1**	**+0.5**
WHP	baz=242			*e*S	**Sn**	**20 12 04.2**	**+1.5**
HGSD	**Ruisui** baz=220	**1.86**	**226**	*e*P	**Pn**	**20 11 39.8**	**+1.0**
HGSD	baz=220			*e*S	**Sn**	**20 12 02.9**	**-0.1**
EHY	**Hungye** baz=224	**1.92**	**228**	*e*P	**Pn**	**20 11 38.5**	**-1.1**
EHY	baz=224			*e*S	**Sn**	**20 12 03.7**	**-0.6**
WCS	**Beigang Elemen** baz=238	**1.94**	**248**	*e*P	**Pn**	**20 11 41.4**	**+1.5**
WCS	baz=238			*e*S	**Sn**	**20 12 06.3**	**+1.5**
YULB	**Yu-li** baz=230	**2.01**	**227**	*e*P	**Pn**	**20 11 40.2**	**-0.6**
YULB	baz=230			*e*S	**Sn**	**20 12 05.2**	**-1.2**
SSLB	**Suanglung** baz=233	**2.03**	**241**	*e*P	**Pn**	**20 11 41.4**	**+0.5**
SSLB	baz=233			*e*S	**Sn**	**20 12 06.5**	**-0.3**
FULB	**Fuli** baz=213	**2.15**	**223**	*e*P	**Pn**	**20 11 42.1**	**-0.5**
FULB	baz=213			*e*S	**Sn**	**20 12 09.3**	**-0.3**
CHKT	**Chengkung** baz=213	**2.19**	**220**	*e*P	**Pn**	**20 11 42.3**	**-0.6**
CHKT	baz=213			*e*S	**Sn**	**20 12 09.1**	**-1.2**
EDH	**Donghe** baz=212	**2.32**	**219**	*e*P	**Pn**	**20 11 44.0**	**-0.7**
EDH	baz=212			*e*S	**Sn**	**20 12 12.1**	**-1.2**
ELDTW	**Lidau** baz=222	**2.34**	**227**	*e*P	**Pn**	**20 11 44.5**	**-0.5**
ELDTW	baz=222			*e*S	**Sn**	**20 12 12.8**	**-1.2**
CHN5	**Tsauling** baz=246	**2.34**	**240**	*e*P	**Pn**	**20 11 47.0**	**+2.0**
LONT	**Longtian** baz=225	**2.47**	**221**	*e*P	**Pn**	**20 11 46.1**	**-0.5**
TPUB	**Ta-pu** baz=226	**2.54**	**235**	*e*P	**Pn**	**20 11 48.6**	**+1.1**
TPUB	baz=226			*e*S	**Sn**	**20 12 20.2**	**+1.8**
WTCT	**Ta-ch'eng** baz=252	**2.55**	**249**	*e*P	**Pn**	**20 11 48.5**	**+0.9**
TWGBT	**Beinan** baz=218	**2.57**	**220**	*e*P	**Pn**	**20 11 47.3**	**-0.6**

*DJA **16** 20:34:48.0±0.6, 8°.S±5°×107°.4E±°, h10km, M3.9/8, mb4.3/1, MLv3.7/8*
ISC 16 20:34:51.6±3.4, 7°.9S±0°.3×104°.4E±0°.2, h35km, n9, σ0§14/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.84**	**46**	P	**Pn**	**20 35 20.9**	**+0.1**
KASI	**Kota Agung**	**2.38**	**3**	P	**Pn**	**20 35 28.0**	**-0.1**
CNJI	**Cibinong**	**2.80**	**78**	P	**Pn**	**20 35 34.1**	**+0.1**
LWLI	**Liwa**	**2.89**	**354**	P	**Pn**	**20 35 35.4**	**0.0**
EGSI	**Enggano, Bengk**	**3.28**	**321**	P	**Pn**	**20 35 40.6**	**0.0**
MDSI	**Maura Dua**	**3.41**	**357**	P	**Pn**	**20 35 42.5**	**+0.1**
CISI	**Cisompet, Garu**	**3.43**	**84**	P	**Pn**	**20 35 42.7**	**-0.1**
MNAI	**Manna**	**3.80**	**338**	P	**Pn**	**20 35 47.6**	**-0.1**
PCJI	**Pacitan**	**6.75**	**93**	P	**Pn**	**20 36 28.1**	**-0.2**

ATH 16 21:10:25.8, 38°.63N×23°.43E, h13km±7km, ML1.3/4, Error ellipse: s-maj=7.3km s-min=0.9km az=264.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.30**	**324**	P	Pg	21 10 32.2	+0.1
SMIA				S	Sg	21 10 36.8	+0.5
SMIA				AML	AML	21 10 37.0	
	comp=E,507μm,0.2s						
SMIA				AML	AML	21 10 39.3	
	comp=N,425μm,0.3s						
ATAL	**Atalanti**	**0.33**	**280**	P	Pg	21 10 31.9	-0.6
ATAL				S	Sg	21 10 36.9	-0.1
ATAL				AML	AML	21 10 39.0	
	comp=E,80μm,0.1s						
ATAL				AML	AML	21 10 39.5	
	comp=N,73μm,0.2s						
LKR	**Lokris**	**0.34**	**273**	P	Pg	21 10 32.1	-0.6
LKR				S	Sg	21 10 37.4	0.0
LKR				AML	AML	21 10 39.2	
	comp=N,148μm,0.1s						
LKR				AML	AML	21 10 39.7	
	comp=E,186μm,0.2s						
VIL2	**Platees**	**0.44**	**197**	P	Pg	21 10 34.6	0.0
VIL2				S	Sb	21 10 42.5	+0.6
EREA	**Eretria**	**0.45**	**118**	P	Pg	21 10 34.3	-0.3
EREA				S	Sg	21 10 40.6	0.0
EREA				AML	AML	21 10 43.0	
	comp=E,78μm,0.2s						
EREA				AML	AML	21 10 45.5	
	comp=N,87μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.52**	**90**	P	Pg	21 10 35.5	-0.5
KYMI				S	Sg	21 10 43.1	+0.1
DION	**Dionisos Attik**	**0.68**	**145**	P	Pg	21 10 38.7	-0.3
NEO	**Neokhori**	**0.69**	**346**	P	Pg	21 10 39.3	0.0
XOR	**Xorichti**	**0.76**	**346**	P	Pg	21 10 40.3	-0.2
VLY	**Voula,Athens**	**0.83**	**160**	P	Pg	21 10 41.6	-0.3

*ROM **16** 21:11:41.6±0.5, 42°.62N±0°.03×15°.98E±0°.03, h10km, ML2.9/9, Error ellipse: s-maj=2.9km s-min=2.3km az=26.0*
ISC 16 21:11:43.1±1.1, 42°.52N±0°.02×15°.87E±0°.02, h13km±10km, n49, σ1§31/55, 1C, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TREM	**Isole Tremiti**	**0.48**	**214**	AML	AML		
	comp=E,774μm,0.6s						
TREM				AML	AML		
	comp=N,1004μm,0.5s						
TREM				AML	AML		
	comp=E,774μm,0.6s						
SGRT	**San Giovanni R**	**0.77**	**187**	P	**Pg**	**21 11 57.2**	**-0.8**
SGRT				S	**Sn**	**21 12 10.6**	**-0.7**
SGRT				AML	AML		
	comp=E,994μm,0.3s						
SGRT				AML	AML		
	comp=N,1875μm,0.4s						
SGRT				AML	AML		
	comp=E,995μm,0.3s						
LSTV	**Lastovo**	**0.79**	**72**	*e*Pg	**Pn**	**21 12 00.9**	**+0.9**
LSTV				Sg	**Sn**	**21 12 14.0**	**+2.3**
MSAG	**Monte S. Angel**	**0.81**	**178**	⇑P	**Pg**	**21 11 58.2**	**-0.6**
MSAG				S	**Sn**	**21 12 12.1**	**-0.1**
MSAG				AML	AML		
	comp=N,2595μm,0.7s						
MSAG				AML	AML		
	comp=E,1920μm,0.7s						
MSAG				AML	AML		
	comp=E,1855μm,0.7s						
MSAG				AML	AML		
	comp=N,2690μm,0.7s						
MELA	**Melanico ??? S**	**0.99**	**214**	P	**Pb**	**21 12 01.8**	**-0.2**
MELA				S	**Sn**	**21 12 16.0**	**-0.4**
MELA				AML	AML		
	comp=E,793μm,0.4s						
MELA				AML	AML		
	comp=N,874μm,0.7s						
MELA				AML	AML		
	comp=E,792μm,0.4s						
MELA				AML	AML		
	comp=N,876μm,0.7s						
MELA				AML	AML		
	comp=N,950μm,1.1s						
MELA				AML	AML		
	comp=E,840μm,0.4s						
FRES	**Fresagrandinar**	**1.05**	**239**	P	**Pn**	**21 12 03.4**	**-0.1**
CIGN	**Sant'Elia a Pi**	**1.13**	**220**	P	**Pn**	**21 12 04.3**	**-0.3**
ZIRJ	**Zirje**	**1.14**	**352**	*e*Pg	**Pn**	**21 12 05.5**	**+0.7**
ZIRJ				Sg	**Sn**	**21 12 23.1**	**+2.7**
GATE	**Gambatesa**	**1.24**	**216**	P	**Pg**	**21 12 06.2**	**-0.6**
TRIV	**Trivento**	**1.24**	**233**	P	**Pg**	**21 12 07.0**	**+0.1**
TRIV				AML	AML		
	comp=E,191μm,0.6s						
TRIV				AML	AML		
	comp=N,174μm,0.8s						
MOCO	**Biccari - m.te**	**1.27**	**205**	P	**Pg**	**21 12 07.3**	**-0.2**
MOCO				S	**Sg**	**21 12 25.8**	**+1.9**
MOCO				AML	AML		
	comp=N,249μm,0.7s						
MOCO				AML	AML		
	comp=E,348μm,0.6s						
LPEL	**Lama dei Pelig**	**1.34**	**250**	P	**Pg**	**21 12 08.0**	**-0.8**
RICI	**Ricice**	**1.34**	**43**	Sg	**Sg**	**21 12 29.6**	**+3.3**
RICI	**Ricice**	**1.34**	**43**	*e*Pn	**Pg**	**21 12 09.5**	**+0.7**
MORI	**Morici**	**1.35**	**355**	*e*Pg	**Pg**	**21 12 09.3**	**+0.3**
MORI				Sg	**Sg**	**21 12 28.4**	**+1.9**
BSSO	**Busso**	**1.36**	**225**	P	**Pb**	**21 12 08.0**	**-0.6**
STON	**Ston**	**1.39**	**75**	*e*Pn	**Pg**	**21 12 09.2**	**-0.6**
STON	**Ston**	**1.39**	**75**	*e*Pn	**Pg**	**21 12 09.8**	**0.0**
STON				Sg	**Sg**	**21 12 29.8**	**+2.0**
STON	**Ston**	**1.39**	**75**	P	**Pg**	**21 12 09.2**	**-0.6**
STON				AML	AML		
	comp=N,69μm,0.4s						
STON				AML	AML		
	comp=E,77μm,0.4s						
SACR	**S. Croce Del S**	**1.42**	**218**	P	**Pn**	**21 12 08.3**	**-0.4**
VCEL	**Villa Celiera**	**1.51**	**266**	AML	AML		
	comp=E,140μm,1.0s						
VCEL				AML	AML		
	comp=N,131μm,0.8s						
INTR	**Introdacqua**	**1.55**	**251**	AML	AML		
	comp=N,250μm,0.5s						
INTR				AML	AML		
	comp=E,168μm,0.8s						
VULT	**Monte Vulture**	**1.58**	**187**	P	**Pb**	**21 12 11.9**	**-0.2**
DUGI	**Dugi Otok**	**1.58**	**338**	*e*Pn	**Pg**	**21 12 12.3**	**-1.2**
DUGI				Sg	**Sg**	**21 12 33.6**	**-0.5**
RDM3	**Ruvo Del Monte**	**1.67**	**189**	P	**Pb**	**21 12 13.4**	**-0.2**
SNAL	**S. Angelo Dei**	**1.67**	**197**	AML	AML		
	comp=E,148μm,1.2s						
SNAL				AML	AML		
	comp=N,159μm,0.7s						
AMUR	**Altamura**	**1.70**	**161**	P	**Pn**	**21 12 12.4**	**-0.1**
AMUR				AML	AML		
	comp=E,125μm,1.4s						
AMUR				AML	AML		
	comp=N,118μm,0.4s						
ACER	**Acerenza**	**1.73**	**178**	P	**Pb**	**21 12 14.9**	**+0.1**
ACER				AML	AML		
	comp=N,268μm,0.5s						
ACER				AML	AML		
	comp=E,246μm,0.6s						
MRLC	**Muro Lucano**	**1.79**	**189**	P	**Pb**	**21 12 15.4**	**-0.3**
TREB	**Trebinje**	**1.84**	**83**	*e*Pn	**Pg**	**21 12 16.6**	**-1.7**
HCY	**Herceg Novi**	**1.94**	**91**	*e*Pn	**Pb**	**21 12 17.3**	**-1.0**
NOCI	**Noci**	**1.95**	**152**	P	**Pn**	**21 12 16.1**	**+0.2**
NOCI				AML	AML		
	comp=N,112μm,0.5s						
NOCI				AML	AML		
	comp=E,86μm,0.3s						
BRY	**Bratogost**	**2.00**	**78**	*e*Pn	**Pb**	**21 12 18.8**	**-0.6**
UDBI	**Udbina**	**2.01**	**358**	Sn	**Sg**	**21 12 46.2**	**-1.4**
UDBI	**Udbina**	**2.01**	**358**	*e*Pn	**Pg**	**21 12 20.5**	**-1.1**
MGRS	**Mrkonjic Grad**	**2.09**	**25**	*e*Pn	**Pg**	**21 12 22.0**	**-1.1**
NVLJ	**Novalja**	**2.17**	**341**	*e*Pn	**Pb**	**21 12 20.0**	**-2.1**
NVLJ				Sn	**Sb**	**21 12 47.8**	**-1.1**
RCAV	**Rocca di Cave**	**2.28**	**254**	S	**Sb**	**21 12 53.0**	**+0.8**
UPM	**Unac-Piva**	**2.33**	**72**	*e*Pn	**Pb**	**21 12 23.1**	**-2.0**
BLY	**Banja Luka**	**2.42**	**23**	*e*Pn	**Pb**	**21 12 25.3**	**-1.2**
DRNE	**Dracevica, Mon**	**2.48**	**97**	*e*Pn	**Pb**	**21 12 25.7**	**-1.8**
PDG	**Podgorica**	**2.50**	**91**	*e*Pn	**Pb**	**21 12 25.6**	**-2.3**
MRAK	**Mrakovica**	**2.60**	**16**	*e*Pn	**Pb**	**21 12 29.7**	**+0.1**
HAPS	**Han Pijesak,Bl**	**2.74**	**54**	*e*Pn	**Pb**	**21 12 29.7**	**-2.3**
BBLS	**Lazići**	**2.91**	**61**	*e*Pn	**Pb**	**21 12 32.2**	**-2.7**
SPS2	**Spezzano della**	**3.24**	**174**	S	**Sb**	**21 13 20.0**	**0.0**
CRES	**Cresnjev**	**3.32**	**355**	*e*Pn	**Pn**	**21 12 34.9**	**+0.2**
CEY	**Cerknica**	**3.38**	**343**	*e*Pn	**Pn**	**21 12 37.4**	**+1.8**
DIVS	**Divibare**	**3.39**	**61**	*e*Pn	**Pn**	**21 12 36.2**	**+0.4**

*NCEDC **16** 21:22:45.6±1.9, 38°.39N±0°.01×119°.39W±0°.01, h4km±6km, ML3.2/25, ML2.8/62(NEIC), Error ellipse: s-maj=2.4km s-min=1.3km az=145.0*
NEIC 16 21:22:46.0±2.0, 38°.396N±0°.007×119°.38W±0°.02, h4km±8km, Error ellipse: s-maj=2.8km s-min=0.8km az=75.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAKR	**Walker**	**0.12**	**339**		Pg	21 22 48.3	0.0
WAKR				Sg	Sg	21 22 50.7	+0.7
WAKR				IAML		21 22 50.9	
	comp=E,4μm,0.6s						
WAKR				IAML		21 22 51.0	
	comp=N,5μm,0.2s						
YERR	**Yerington**	**0.60**	**11**		Pg	21 22 57.2	-0.3
YERR				Sg	Sg	21 23 05.8	+0.5
YERR				IAML		21 23 08.9	
	comp=N,588nm,0.3s						
LHV	**Little Huntoon**	**0.71**	**102**		Pg	21 22 59.5	0.0
LHV				IAML		21 23 10.8	
	comp=E,565nm,0.4s						
LHV				IAML		21 23 12.9	
	comp=N,520nm,0.6s						
PNTR	**Pine Nut**	**0.71**	**346**	Pg	Pg	21 22 59.5	-0.1
PNTR				IAML		21 23 12.9	
	comp=E,354nm,0.4s						
RYN	**Ryan**	**0.71**	**71**		Pg	21 22 59.5	-0.1
MDCM	**Deadman Creek**	**0.74**	**158**		Pg	21 22 59.6	-0.5
MDPB	**Devils Postpil**	**0.80**	**162**	Pg	Pg	21 23 00.7	-0.6
MRDM	**Red Cones**	**0.84**	**162**		Pg	21 23 01.6	-0.4
NVAR	**Mina Array Bea**	**0.85**	**87**		Pg	21 23 01.8	-0.4
CMB	**Columbia Colle**	**0.87**	**246**		Pg	21 23 01.7	-0.9
CMB	**Columbia Colle**	**0.87**	**246**		Sg	21 23 13.4	-0.4
MDRNC	**Doe Ridge**	**0.87**	**150**		Pg	21 23 02.6	-0.1
RUBR	**Rubicon Trail**	**0.89**	**318**		Pg	21 23 03.0	0.0
RUBR				IAML		21 23 16.8	
	comp=N,404nm,0.4s						
VCNR	**Virginia City**	**0.92**	**347**		Pg	21 23 03.3	-0.4
VCNR				IAML		21 23 07.3	
	comp=N,209nm,0.3s						
VCNR				IAML		21 23 23.8	
	comp=E,221nm,1.0s						
NV11	**Mina Array Sit**	**0.97**	**87**	Pg	Pg	21 23 03.8	-0.7
KVN	**Kaiserville**	**1.20**	**57**	Pg	Pg	21 23 08.1	-0.8
MTUM	**Tungsten Hills**	**1.23**	**148**		Pg	21 23 08.9	-0.6
PAHR	**Pah Rah Range**	**1.31**	**360**	Pn	Pg	21 23 10.2	-0.9
PAHR				IAML		21 23 31.1	
	comp=N,123nm,0.3s						
AFDM	**Forest Hills D**	**1.36**	**294**	Pn	Pn	21 23 10.8	-1.0
AFDM				IAML		21 23 30.8	
	comp=N,152nm,0.4s						
AFDM				IAML		21 23 34.4	
	comp=E,164nm,0.3s						
BEKR	**Beckworth**	**1.65**	**333**		Pn	21 23 16.3	+0.3
BEKR				IAML		21 23 39.6	
	comp=E,157nm,0.5s						
BEKR				IAML		21 23 40.4	
	comp=N,82nm,0.3s						
TPH	**Tonopah**	**1.73**	**100**		Pn	21 23 16.9	-0.2
TPH	**Tonopah**	**1.73**	**100**	IAML		21 23 44.5	
	comp=E,85nm,0.6s						
TPH				IAML		21 23 50.5	
	comp=N,81nm,0.9s						
HELL	**Mitchell Peak,**	**1.74**	**170**		Pn	21 23 17.6	+0.5
COSM	**Mount Oso**	**1.81**	**241**		Pb	21 23 19.0	-0.6
CMPM	**Mikes Peak**	**1.85**	**236**		Pn	21 23 19.3	+0.8
BDM	**Black Diamond**	**2.00**	**258**		Pb	21 23 22.2	-0.8
ORV	**Oroville**	**2.02**	**306**		Pn	21 23 21.2	+0.4
ORV	**Oroville**	**2.02**	**306**		Pn	21 23 21.4	+0.6
ORV				IAML		21 23 50.7	
	comp=E,133nm,0.6s						
ORV				IAML		21 23 51.9	
	comp=N,106nm,0.6s						
PACP	**Pacheco Peak**	**2.05**	**228**		Pn	21 23 22.2	+0.9
SUTB	**Sutter Butte**	**2.05**	**295**		Pb	21 23 23.0	-0.8
MHC	**Mount Hamilton**	**2.07**	**240**		Pn	21 23 22.8	+1.1
GHS	**Gilroy Hot Spr**	**2.09**	**232**		Pn	21 23 22.7	+0.8
PDRM	**Domengine Ranc**	**2.20**	**201**		Pb	21 23 25.4	-0.9
BKS	**Berkeley--Byer**	**2.31**	**258**		Pn	21 23 25.7	+0.9
SAO	**San Andreas Ge**	**2.31**	**226**		Pn	21 23

BJCM	**Johnson Can.**	**2.44 221**			Pn	21 23 27.4	+0.7
PMPB	**Monarch Peak**	**2.45 208**		Pn	Pn	21 23 28.0	+1.1
BSMM	**Soledad Missio**	**2.59 220**			Pn	21 23 29.6	+1.0
HAST	**Hastings Reser**	**2.65 221**			Pn	21 23 30.3	+0.9
GDXM	**Geysers**	**2.70 280**			Pn	21 23 31.2	+0.9
GDXM				IAML		21 25 12.5	
	comp=N,41nm,0.1s						
PAGB	**Antelope Grade**	**2.75 195**			Pn	21 23 32.3	+1.4
TPNV	**Topopah Spring**	**2.88 119**			Pn	21 23 31.9	-0.9
TPNV				IAML		21 24 25.4	
	comp=N,24nm,1.9s						
TPNV				IAML		21 24 28.9	
	comp=N,26nm,0.7s						
HOPS	**Hopland Field**	**2.95 283**		Pn	Pn	21 23 32.9	-0.7
HOPS				IAML		21 24 30.8	
	comp=E,40nm,2.4s						
WDC	**Whiskeytown Da**	**3.27 313**		Pn	Pn	21 23 38.6	+0.5
WDC				IAML		21 24 32.7	
	comp=N,20nm,0.8s						
PRN	**Pahroc Range**	**3.57 105**			Pn	21 23 41.8	-0.4
PRN				IAML		21 24 50.3	
	comp=N,16nm,0.9s						
PRN				IAML		21 24 53.8	
	comp=E,23nm,1.0s						
GSC	**Goldstone, Bar**	**3.72 145**		Pn	Pn	21 23 43.6	-0.7
GSC				IAML		21 24 57.6	
	comp=E,17nm,0.5s						
SHPR	**Sheep Range**	**3.85 118**			Pn	21 23 45.7	-0.5
ELK	**Elko**	**3.97 52**		Pn	Pn	21 23 47.0	-0.8
ELK				IAML		21 24 53.0	
	comp=E,14nm,0.6s						
ELK				IAML		21 24 53.3	
	comp=E,10nm,0.5s						
YBH	**Yreka Blue Hor**	**4.20 324**		Pn	Pn	21 23 51.3	+0.5

IDC ***16*** *21:25:23.8±0.9,46°.12N×53°.52E,h0km,mb3.8/1, mb1 3.8/12,mb1mx3.5/48,mbtmp3.6/12,ML3.6/10,MS2.9/2, Ms1 2.9/2,ms1mx2.1/42,Error ellipse: s-maj=19.0km s-min=8.6km az=149.0*

ISC 16 21:25:23.7±0.7,46°.04N±0°.06×53°.39E±0°.05,h10km,n15, σ3§25/20,4C,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**5.37**	**33**	Pn	**Pn**	**21 26 44.9**	**+1.0**
AKTO	0.6nm,0.3s,baz=206,slow=11,SNR=9.7				Sn	**21 27 44.9**	**-0.9**
	1.1nm,0.3s,baz=183,slow=21,SNR=6.0						
AB31	**Akbulak array**	**5.47**	**52**	⇑Pn	**Pn**	**21 26 46.9**	**+1.7**
	0.6nm,0.3s,baz=235,slow=12,SNR=41						
AB31				⇑Pg	**Pb**	**21 27 03.8**	**+4.5**
	1.7nm,0.6s,baz=229,slow=13,SNR=7.5						
AB31				⇑Sn	**Sn**	**21 27 48.9**	**+0.7**
	1.0nm,0.3s,baz=233,slow=28,SNR=5.5						
AB31				⇑Lg	Lg	21 28 11.3	
	2.4nm,0.4s						
BELG	**Belogornoye**	**7.39**	**331**	Pn	**Pn**	**21 27 11.1**	**-0.4**
	0.9nm,0.3s,baz=139,slow=19,SNR=3.1						
BELG					Sn	**21 28 31.5**	**-3.9**
	2.3nm,0.3s,baz=206,slow=22,SNR=12						
KBZ	**Khabaz**	**7.80**	**257**	Pn	**Pn**	**21 27 19.2**	**+2.0**
	1.8nm,0.3s,baz=68,slow=19,SNR=31						
KBZ					Sn	**21 28 44.8**	**-0.8**
	1.8nm,0.3s,baz=274,slow=17,SNR=8.8						
KVAR	**Kislovodsk Arr**	**7.87**	**258**	Pn	**Pn**	**21 27 20.6**	**+2.3**
	baz=285,slow=20,SNR=2.6						
KVAR					Sn	**21 28 45.7**	**-1.6**
	baz=57,slow=7.4,SNR=7.9						
GEYT	**Alibeck**	**8.84**	**155**	Pn	**Pn**	**21 27 31.8**	**+0.3**
	0.5nm,0.3s,baz=313,slow=7.1,SNR=2.3						
GEYT					Sn	**21 29 05.7**	**-5.4**
	0.4nm,0.3s,baz=58,slow=44,SNR=1.9						
ARU	**Arti**	**10.89**	**15**	Pn	**Pn**	**21 27 57.7**	**-1.8**
	0.0nm,0.3s,baz=207,slow=16,SNR=5.1						
ARU					Sn	21 29 50.9	-10
	0.0nm,0.3s,baz=115,slow=22,SNR=1.4						
BVAR	**Borovoye Array**	**13.04**	**51**	Pn	Pn	21 28 24.5	-4.5
	0.3nm,0.3s,baz=225,slow=23,SNR=7.8						
BVAR					Sn	**21 30 45.4**	**-8.7**
	0.2nm,0.3s,baz=215,slow=4.9,SNR=4.4						
AAK	**Ala-Archa**	**15.47**	**95**	Pn	**Pn**	**21 29 00.5**	**-1.5**
	1.0nm,0.3s,baz=314,slow=2.2,SNR=4.5						
KURBB	**Kurchatov Arra**	**17.30**	**66**	P	**Pn**	**21 29 23.5**	**-1.6**
	0.0nm,0.3s,baz=271,slow=12,SNR=2.9						
MLR	**Muntele Rosu**	**19.13**	**278**	P	**Pn**	**21 29 51.2**	**+3.5**
	0.1nm,0.3s,baz=127,slow=2.4,SNR=4.6						
MKAR	**Makanchi Array**	**19.89**	**77**	P	**P**	**21 29 56.4**	**+1.2**
	0.1nm,0.3s,baz=270,slow=14,SNR=2.3						
FINES	**FINESS Array B**	**22.09**	**324**	P	**P**	**21 30 18.3**	**-0.4**
	1.2nm,0.3s,baz=133,slow=12,SNR=22						
WSAR	**Wadi Sarin**	**23.14**	**168**	LR	LR	21 42 29.7	
	comp=Z,48nm,18.2s,baz=102,slow=44						
VRAC	**Vranov**	**24.83**	**291**	LR	LR	21 42 55.4	
	comp=Z,14nm,18.7s,baz=277,slow=42						

JMA 16 21:40:52.6±0.4,46°.37N×149°.79E,h269km,M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.16**	**225**	P	Pn	21 41 59.6	+0.5
NEM2				*e*S	S	21 42 50.8	-1.3
JAK	**Akkeshi**	**4.96**	**229**	P	Pn	21 42 08.8	+0.4
JAK				*e*S	S	21 43 08.2	-0.9
JSE	**Soyaes**	**5.24**	**257**	P	Pn	21 42 12.1	+0.2
JAR	**Ashorobuto**	**5.27**	**236**	P	Pn	21 42 14.4	+2.2
JOB	**Onbets**	**5.48**	**233**	P	Pn	21 42 15.4	+0.6
JOB				*e*S	S	21 43 19.4	-1.2
ASAJ	**Asahikawa**	**5.56**	**249**	P	Pn	21 42 16.6	+0.9
JCH	**Churui**	**5.94**	**233**	P	Pn	21 42 20.6	+0.3
JCH				*e*S	S	21 43 27.3	-3.4
JNBK	**Urakawa-nobuka**	**6.49**	**234**	P	Pn	21 42 26.2	-1.0
JNBK				*e*S	S	21 43 38.8	-4.4
JNB	**Noboribetsu**	**7.38**	**241**	P	Pn	21 42 37.4	-0.8
JKB	**Kayabe**	**7.73**	**238**	P	Pn	21 42 40.9	-1.6
JKB				*e*S	S	21 44 04.0	-7.3
JYM2	**Yakumo 2**	**7.99**	**241**	P	Pn	21 42 44.9	-0.9
JTM	**Tenmabayashi**	**8.44**	**232**	P	Pn	21 42 52.9	+1.5
JANG	**Nango**	**8.50**	**228**	P	Pn	21 42 51.0	-1.2

VAO ***16*** *21:52:34.5±1.3,16°.89S×69°.87W,h178km,mb4.2*
NEIC ***16*** *21:52:36.4±1.7,16°.92S±0°.07×69°.67W±0°.09,h181km±8km, mb4.3/9,Error ellipse: s-maj=13.4km s-min=10.0km az=116.0*
IDC ***16*** *21:52:38.0±1.9,16°.93S×69°.34W,h187km±8km,mb3.9/4, mb1 3.6/8,mb1mx3.4/32,mbtmp4.2/8,Error ellipse: s-maj=34.3km s-min=20.3km az=105.0*
GUC ***16*** *21:52:38.0±0.5,17°.06S×69°.98W,h195km±4km,ML4.1*

ISC 16 21:52:35.7±0.7,16°.94S±0°.05×69°.65W±0°.07,h181km±7km, n70,σ1§18/79,mb4.3/5,3C-3D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB16	**IPOC Station P**	**1.39**	**174**		**Pn**	**21 53 09.5**	**+2.1**
PB16					Sn	**21 53 34.7**	**+2.6**
AP01	**Chacalluta**	**1.56**	**205**	*e*P	**Pn**	**21 53 08.6**	**+0.2**
AP01				*i* S	Sn	**21 53 33.4**	**-0.5**
AP01				IAML		21 53 35.7	
	comp=E,3μm,0.5s						
AP01	**Chacalluta**	**1.56**	**205**	Pn	**Pn**	**21 53 09.1**	**+0.7**
AP01				Sn	Sn	**21 53 33.8**	**-0.1**
LPAZ	**La Paz**	**1.60**	**66**	P	**Pn**	**21 53 10.1**	**+0.7**
	comp=E,78nm,0.3s,baz=280,slow=8.7,SNR=787						
LPAZ				S	**Sn**	**21 53 33.9**	**-1.5**
	comp=E,8.0nm,0.3s,baz=119,slow=13,SNR=3.8						
LPAZ	**La Paz**	**1.60**	**66**	*e*P	**Pn**	**21 53 10.3**	**+0.9**
MNMC	**Minye Minye**	**2.18**	**179**	*e*P	**Pn**	**21 53 16.7**	**+1.6**
MNMC				*i* S	**Sn**	**21 53 46.8**	**+0.9**
MNMC				IAML		21 53 52.4	
	comp=N,776nm,0.2s						
MNMC	**Minye Minye**	**2.18**	**179**	Pn	**Pn**	**21 53 16.8**	**+1.6**
PSGC	**Pisagua**	**2.68**	**190**	⇑*e*P	**Pn**	**21 53 20.9**	**+0.2**
PSGC				*i* S	**Sn**	**21 53 53.6**	**-2.2**
PSGC				IAML		21 53 58.2	
	comp=E,212nm,0.2s						
PSGCX	**Pisagua**	**2.68**	**190**		**Pn**	**21 53 20.9**	**+0.3**
PB11	**IPOC Station P**	**2.80**	**180**	*e*P	**Pn**	**21 53 23.4**	**+1.2**
PB11				*i* S	**Sn**	**21 53 58.4**	**-0.2**
PB11				IAML		21 54 01.2	
	comp=N,493nm,0.3s						
PB11	**IPOC Station P**	**2.80**	**180**		**Pn**	**21 53 23.2**	**+1.0**
PB08	**IPOC Station P**	**3.22**	**172**	*e*P	**Pn**	**21 53 29.6**	**+2.1**
PB08				*i* S	**Sn**	**21 54 08.8**	**+0.9**
PB08	**IPOC Station P**	**3.22**	**172**	Pn	**Pn**	**21 53 29.5**	**+2.1**
HMBC	**Humberstone**	**3.33**	**184**	*e*P	**Pn**	**21 53 29.0**	**+0.5**
HMBC				*e*S	**Sn**	**21 54 08.4**	**-1.5**
TA02	**Huaiquique**	**3.34**	**188**	*e*P	**Pn**	**21 53 29.7**	**+1.1**
TA02				*i* S	**Sn**	**21 54 07.5**	**-2.5**
TA02	**Huaiquique**	**3.34**	**188**		**Pn**	**21 53 29.4**	**+0.8**
TA01	**Diego Aracena**	**3.64**	**188**	*e*P	**Pn**	**21 53 32.4**	**+0.1**
TA01				*e*S	**Sn**	**21 54 13.6**	**-3.1**
TA01	**Diego Aracena**	**3.64**	**188**		**Pn**	**21 53 32.4**	**+0.1**
PB01	**IPOC Station P**	**4.08**	**178**		**Pn**	**21 53 38.9**	**+0.9**
PB07	**IPOC Station P**	**4.76**	**183**		**Pn**	**21 53 47.6**	**+0.8**
PB09	**IPOC Station P**	**4.84**	**175**	Pn	**Pn**	**21 53 49.1**	**+1.3**
PB04	**IPOC Station P**	**5.38**	**185**		**Pn**	**21 53 55.3**	**+0.4**
LVC	**Limon Verde**	**5.68**	**173**	P	**Pn**	**21 54 00.6**	**+1.6**
	comp=N,2.9nm,0.3s,baz=349,slow=11,SNR=51						
LVC				S	**Sn**	**21 55 02.2**	**-2.2**
	comp=N,9.4nm,0.3s,baz=132,slow=21,SNR=17						
LVC	**Limon Verde**	**5.68**	**173**		**Pn**	**21 54 00.5**	**+1.5**
PB06	**IPOC Station P**	**5.73**	**179**		**Pn**	**21 53 59.8**	**+0.4**
PB15	**IPOC Station P**	**6.24**	**178**		**Pn**	**21 54 06.6**	**+0.5**
PB10	**IPOC Station P**	**6.59**	**187**	Pn	**Pn**	**21 54 10.4**	**-0.1**
PB14	**IPOC Station P**	**7.68**	**185**	Pn	**Pn**	**21 54 24.3**	**-0.8**
ETMB	**Extrema**	**7.83**	**26**	*e*P	**Pn**	**21 54 25.7**	**-1.2**
GO02	**Mina Guanaco**	**8.18**	**180**		**Pn**	**21 54 31.8**	**+0.1**
SIV	**San Ignacio**	**8.29**	**85**	P	**Pn**	**21 54 31.0**	**-1.9**
	comp=N,2.5nm,0.3s,baz=279,slow=12,SNR=17						
SIV				S	Sn	21 55 51.9	-14
	comp=N,0.7nm,0.3s,baz=259,slow=19,SNR=1.6						
NNA	**Nana**	**8.53**	**304**	P	**Pn**	**21 54 35.0**	**-1.1**
	comp=N,15nm,0.3s,baz=121,slow=13,SNR=15						
NNA				S	Sn	21 56 02.5	-9.1
	baz=198,slow=15,SNR=1.3						
NNA	**Nana**	**8.53**	**304**		**Pn**	**21 54 35.4**	**-0.7**
AC02	**Maricunga**	**9.86**	**177**	Pn	**Pn**	**21 54 54.5**	**+0.6**
SAML	**Samuel**	**10.14**	**39**	Pn	**Pn**	**21 54 56.1**	**-1.1**
SALV	**Santo Antonio**	**13.44**	**88**	*e*P	**P**	**21 55 41.6**	**-1.0**
AQDB	**Aquiauana**	**13.68**	**107**	*e*P	**P**	**21 55 44.2**	**-1.1**
PP1B	**Ponte de Pedra**	**14.13**	**95**	*e*P	**P**	**21 55 49.2**	**-1.1**
CO02	**Combarbal**	**14.25**	**185**		**Pn**	**21 55 51.0**	**+1.4**
CPUP	**Villa Florida**	**14.77**	**131**	P	**Pn**	**21 55 55.9**	**-0.1**
	comp=N,0.1nm,0.3s,baz=315,slow=11,SNR=2.1						
CPUP	**Villa Florida**	**14.77**	**131**		**P**	**21 55 56.6**	**-0.7**
PTGB	**Pitanga**	**18.16**	**118**	*e*P	**Pn**	**21 56 36.8**	**0.0**
H03N1	**Juan Fernandez**	**18.42**	**205**	T	T	22 14 49.4	
	baz=27,slow=73,SNR=5.9						
H03N2	**Juan Fernandez**	**18.43**	**205**	T	T	22 14 49.2	
	baz=27,slow=73,SNR=5.9						
H03N3	**Juan Fernandez**	**18.44**	**205**	T	T	22 14 50.7	
	baz=27,slow=73,SNR=5.3						
SNDB	**Serra Nova Dou**	**18.45**	**77**	*e*P	**Pn**	**21 56 39.1**	**-1.1**
ITTB	**Itaituba**	**18.51**	**49**	*e*P	**P**	**21 56 39.0**	**+0.5**
PTGA	**Pitinga**	**18.72**	**32**	P	**P**	**21 56 40.7**	**-0.1**
	comp=N,0.7nm,0.3s,baz=343,slow=22,SNR=7.0						
PTGA	**Pitinga**	**18.72**	**32**	P	**P**	**21 56 40.9**	**+0.1**
ITAB	**Concordia**	**19.18**	**125**	P	**P**	**21 56 46.2**	**+0.5**
ITAB				IAmb	IAmb	21 56 50.1	
	comp=Z,13nm,0.9s						
CPSB	**Cacapava Do Su**	**19.97**	**135**	*e*P	**P**	**21 56 55.3**	**+1.2**
IPMB	**Ipameri, GO**	**20.48**	**96**	*e*P	**P**	**21 56 60.0**	**+0.2**
PLTB	**Pedras Altas**	**20.73**	**138**	P	**P**	**21 57 02.6**	**+0.3**
PLTB				IAmb	IAmb	21 57 06.3	
	comp=Z,16nm,1.2s						
PLTB	**Pedras Altas**	**20.73**	**138**	*e*P	**P**	**21 57 03.1**	**+0.8**
BDFB	**Brasilia**	**20.81**	**90**	P	**P**	**21 57 02.8**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=251,slow=5.6,SNR=4.7						
BDFB	**Brasilia**	**20.81**	**90**	P	**P**	**21 57 03.0**	**-0.4**
PEXB	**Peixe**	**21.22**	**80**	*e*P	**P**	**21 57 07.9**	**+0.3**
SMTB	**Santa Maria do**	**22.94**	**72**	*e*P	**P**	**21 57 25.4**	**+1.0**
MCPB	**Macapa, AP**	**23.92**	**48**	*e*P	**P**	**21 57 33.7**	**+0.5**
JANB	**Januaria**	**24.43**	**89**	*e*P	**P**	**21 57 38.5**	**+0.5**
MDP	**Montagnes des**	**27.61**	**39**	P	**P**	**21 58 06.6**	**+0.1**
	comp=Z,6.1nm,0.7s,baz=201,slow=8.6,SNR=1.3						
O56A	**Blue Knob Stat**	**57.52**	**352**	P	**P**	**22 02 07.8**	**+1.7**
O56A				IAmb	IAmb	22 02 21.9	
	comp=Z,7.8nm,1.4s						
U32A	**Winter Ranch,**	**59.85**	**333**	P	**P**	**22 02 22.5**	**+0.2**
DBIC	**Dimbokro**	**68.20**	**75**	P	**P**	**22 03 15.1**	**-2.1**
	comp=Z,3.4nm,0.9s,baz=231,slow=6.5,SNR=1.6						
DBIC	**Dimbokro**	**68.20**	**75**	P	**P**	**22 03 16.6**	**-0.5**
AHID	**Auburn Hatcher**	**70.59**	**329**	P	**P**	**22 03 33.0**	**+1.6**
AHID				IAmb	IAmb	22 03 49.9	
	comp=Z,9.1nm,1.3s						
TOA0	**Torodi Ar. Sit**	**76.54**	**72**	P	**P**	**22 04 07.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.54**	**72**	P	**P**	**22 04 07.2**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=261,slow=5.2,SNR=32						
TORD	**Torodi Ar. Bea**	**76.54**	**72**	P	**P**	**22 04 07.2**	**+0.7**
TORD				IAmb	IAmb	22 04 07.9	
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**149.02**	**5**	PKPbc	**PKiKP**	**22 12 03.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=351,slow=2.2,SNR=5.4						

IDC ***16*** *22:12:17.0±1.3,11°.47S×163°.35E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.9/26,mbtmp3.9/8,ML3.7/1,MS3.5/3, Ms1 3.4/3,ms1mx2.7/32,Error ellipse: s-maj=38.8km s-min=26.5km az=125.0*
NEIC ***16*** *22:12:19.6±1.4,11°.36S±0°.07×163°.3E±0°.1,h10km±1km, mb4.4/5,Error ellipse: s-maj=24.8km s-min=10.9km az=284.0*

ISC 16 22:12:22.8±0.7,11°.5S±0°.1×163°.3E±0°.1,h35km,n26, σ0§86/18,mb4.0/10,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**5.51**	**137**	Pn	**Pn**	**22 13 42.1**	**-0.2**
DZM	**Mont Dzumac**	**10.98**	**164**	Pn	**Pn**	**22 14 56.7**	**-0.8**
	0.5nm,0.3s,baz=271,slow=16,SNR=1.2						
DZM				LR	LR	22 18 00.3	
	comp=Z,70nm,20.3s,baz=242,slow=31						
DZM	**Mont Dzumac**	**10.98**	**164**	Pn	**Pn**	**22 14 58.0**	**+0.5**
RAO	**Raoul Island**	**24.92**	**138**	LR	LR	22 24 52.6	
	comp=Z,390nm,19.8s,baz=168,slow=30						
STKA	**Stephens Creek**	**28.51**	**221**	LR	LR	22 29 22.2	
	comp=Z,64nm,18.3s,baz=204,slow=36						
WB0	**Warramunga Arr**	**28.98**	**250**	P	**P**	**22 18 18.3**	**-1.1**
WRA	**Warramunga Arr**	**29.07**	**250**	P	**P**	**22 18 19.6**	**-0.6**
	0.7nm,0.8s,baz=79,slow=8.9,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**29.95**	**7**	T	T	22 50 02.5	
	baz=188,slow=76,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**29.95**	**6**	T	T	22 50 02.6	
	baz=188,slow=76,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**29.96**	**7**	T	T	22 50 03.8	
	baz=188,slow=76,SNR=3.5						
ASAR	**Alice Springs**	**30.45**	**243**	P	**P**	**22 18 32.0**	**-0.4**
	2.6nm,0.9s,baz=65,slow=10.0,SNR=18						
H11N1	**WAKE ISLAND Hy**	**31.18**	**7**	T	T	22 51 36.8	
	baz=190						
H11N3	**WAKE ISLAND Hy**	**31.18**	**7**	T	T	22 51 36.4	
	baz=190						
H11N2	**WAKE ISLAND Hy**	**31.19**	**7**	T	T	22 51 38.4	
	baz=190						
BBOO	**Bickleboo**	**32.80**	**225**	P	**P**	**22 18 52.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**36.93**	**255**	P	**P**	**22 19 28.8**	**+0.1**
FITZ				IAmb	IAmb	22 19 33.3	
	comp=Z,7.0nm,1.4s						
PSA00	**Pilbara Seismi**	**42.71**	**251**	P	**P**	**22 20 16.7**	**-0.1**
PSA00				IAmb	IAmb	22 20 23.2	
	comp=Z,10.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**62.26**	**335**	P	**P**	**22 22 42.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=164,slow=5.8,SNR=5.7						
USRK	**Ussuriysk Ar.**	**62.26**	**335**	P	**P**	**22 22 41.2**	**+0.1**
SONM	**Songino Array**	**77.58**	**325**	P	**P**	**22 24 15.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=134,slow=4.2,SNR=2.3						
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**22 24 22.4**	**+1.8**
QSPA				IAmb	IAmb	22 24 28.1	
	comp=Z,6.9nm,1.5s						
IMAR	**Indian Mountai**	**83.48**	**16**	P	**P**	**22 24 47.5**	**+1.0**
NVAR	**Mina Array Bea**	**88.14**	**50**	P	**P**	**22 25 09.2**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=238,slow=10.0,SNR=2.2						
MKAR	**Makanchi Array**	**92.17**	**317**	P	**P**	**22 25 28.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=122,slow=6.5,SNR=4.6						
MKAR	**Makanchi Array**	**92.17**	**317**	P	**P**	**22 25 28.8**	**0.0**
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**22 25 47.3**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=265,slow=4.6,SNR=1.7						

IDC ***16*** *22:21:12.6±1.9,25°.11S×178°.73W,h391km±21km,mb3.5/4, mb1 3.6/6,mb1mx3.2/36,mbtmp4.3/6,Error ellipse: s-maj=44.3km s-min=25.3km az=81.0*

ISC 16 22:21:12.4±1.5,25°.1S±0°.1×178°.6W±0°.3,h400km,n7, σ0§70/8,mb3.7/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.20**	**172**	P	**Pn**	**22 22 26.7**	**+0.5**
	97nm,0.3s,baz=272,slow=24,SNR=2.3						
RAO				S	**S**	**22 23 25.3**	**-0.9**
	120nm,0.3s,baz=129,slow=20,SNR=2.4						
MSVF	**Nonsavu**	**7.95**	**336**	P	**Pn**	**22 23 06.5**	**-0.5**
	1.0nm,0.3s,baz=277,slow=18,SNR=4.2						
CTA	**Charters Tower**	**32.78**	**272**	P	**P**	**22 27 10.8**	**+0.5**
	1.7nm,0.3s,baz=74,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**43.12**	**262**	P	**P**	**22 28 35.1**	**-0.5**
	0.3nm,0.4s,baz=90,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**43.62**	**267**	P	**P**	**22 28 39.0**	**-0.6**
	1.6nm,0.5s,baz=103,slow=7.9,SNR=20						
SIJI	**Sorong**	**54.03**	**288**	P	**P**	**22 29 58.1**	**+0.5**
	7.2nm,0.5s,baz=78,slow=11,SNR=6.3						
NOA	**NORSAR Array B**	**143.43**	**352**	PKP	**PKPdf**	**22 39 59.9**	**+0.4**
	0.6nm,0.7s,baz=17,slow=2.5,SNR=4.0						

JMA ***16*** *22:25:27.4±0.1,25°.61N×143°.12E,h18km±2km,M4.3*
NEIC ***16*** *22:25:31.8±1.1,25°.58N±0°.08×142°.7E±0°.1,h43km±7km, mb4.5/32,Error ellipse: s-maj=19.8km s-min=11.4km az=78.0*
IDC ***16*** *22:25:32.2±2.4,25°.51N×142°.64E,h55km±19km,mb3.7/19, mb1 3.9/21,mb1mx3.8/40,mbtmp3.9/21,ML3.0/2,MS3.4/14, Ms1 3.4/14,ms1mx3.2/47,Error ellipse: s-maj=20.6km s-min=15.3km az=97.0*

ISC 16 22:25:30.2±0.6,25°.46N±0°.07×142°.7E±0°.1,h38km,n77, σ0§94/71,mb4.4/32,MS3.5/10,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.27**	**338**	P	**Pn**	**22 25 51.1**	**-0.3**
JHH2				*e*S	**Sn**	**22 26 08.3**	**+1.2**
CBIJ	**Chichi jima**	**1.70**	**344**	P	**Pn**	**22 25 56.9**	**-0.4**
JCJ	**Chichijima**	**1.70**	**344**	P	**Pn**	**22 25 57.1**	**-0.2**
	223nm,0.3s,baz=299,slow=23,SNR=89						
JCJ				S	**Sn**	**22 26 18.9**	**+1.1**
	144nm,0.3s,baz=112,slow=23,SNR=17						
HMMJ	**Hamamatsu 2**	**10.31**	**336**	S	**Sn**	**22 29 54.1**	**+4.2**
MJAR	**Matsushiro Arr**	**11.70**	**342**	P	**Pn**	**22 28 14.3**	**-0.3**
	0.0nm,0.3s,baz=112,slow=26,SNR=1.4						
MJAR				LR	LR	22 32 49.3	
	comp=Z,134nm,18.6s,baz=185,slow=38						
JOW	**Kunigami**	**13.04**	**279**	LR	LR	22 33 18.3	
	comp=Z,103nm,18.4s,baz=302,slow=36						
JTU	**Tsushima**	**14.64**	**311**	Pn	**Pn**	**22 28 54.5**	**-0.2**
KSRS	**Korea Array**	**17.36**	**317**	P	**Pn**	**22 29 30.3**	**+0.8**
	0.2nm,0.3s,baz=127,slow=10,SNR=4.5						
KSRS				LR	LR	22 35 56.7	
	comp=Z,148nm,18.5s,baz=124,slow=36						
ASAJ	**Asahikawa**	**18.62**	**360**	LR	LR	22 37 46.4	
	comp=Z,25nm,21.4s,baz=183,slow=40						
USA0B	**Ussuriysk Arra**	**20.63**	**338**	P	**P**	**22 30 04.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**20.63**	**338**	P	**P**	**22 30 05.1**	**-1.2**
	0.9nm,0.3s,baz=150,slow=9.7,SNR=8.4						
USRK	**Ussuriysk Ar.**	**20.63**	**338**	P	**P**	**22 30 04.1**	**-2.2**
YSS	**Yuzh-Sakhalins**	**21.45**	**0**	P	**P**	**22 30 14.0**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**23.03**	**99**	T	T	22 54 15.1	
	baz=290						
H11N2	**WAKE ISLAND Hy**	**23.03**	**99**	T	T	22 54 21.9	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**23.04**	**99**	T	T	22 54 24.9	
	baz=290						
H11S3	**WAKE ISLAND Hy**	**23.26**	**103**	T	T	22 54 30.4	
	baz=296						
H11S1	**WAKE ISLAND Hy**	**23.27**	**102**	T	T	22 54 46.2	
	baz=296						
H11S2	**WAKE ISLAND Hy**	**23.28**	**103**	T	T	22 54 39.1	
	baz=296						
KLR	**Kul'dur**	**25.23**	**343**	P	**P**	**22 30 52.2**	**-0.1**
	4.0nm,0.8s,baz=145,slow=7.4,SNR=13			

ARU					IAmb	IAmb	22 36 13.2	
	comp=Z,4.8nm,0.9s							
ABKAR	**Akbulak array**	**66.58**	**315**	P	**P**		**22 36 16.3**	**-0.1**
URZ	**Urewera**	**71.12**	**152**	LR	LR		23 05 27.3	
	comp=Z,93nm,18.2s,baz=211,slow=34							
EUNU	**Eureka**	**71.45**	**8**	P	**P**		**22 36 46.7**	**+0.5**
EUNU					IAmb	IAmb	22 36 59.0	
	comp=Z,5.2nm,1.1s							
YKA	**Yellowknife Ar**	**73.35**	**28**	P	**P**		**22 36 57.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=300,slow=6.2,SNR=4.0							
ARCES	**ARCESS Array B**	**75.24**	**341**	LR	LR		23 14 35.5	
	comp=Z,36nm,18.1s,baz=345,slow=39							
KBZ	**Khabaz**	**79.47**	**313**	P	**P**		**22 37 33.2**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=152,slow=4.4,SNR=6.2							
FIA1	**FINESS Array S**	**79.62**	**334**	P	**P**		**22 37 33.4**	**+0.2**
FINES	**FINESS Array B**	**79.62**	**334**	P	**P**		**22 37 33.2**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=68,slow=5.1,SNR=16							
CMB	**Columbia Colle**	**79.83**	**53**	P	**P**		**22 37 35.6**	**+0.7**
PNR	**Pine Nut**	**79.96**	**52**	P	**P**		**22 37 36.2**	**+0.4**
PNTR					IAmb	IAmb	22 37 39.5	
	comp=Z,3.4nm,0.8s							
NVAR	**Mina Array Bea**	**81.15**	**52**	P	**P**		**22 37 43.3**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=276,slow=5.3,SNR=7.0							
NVAR	**Mina Array Bea**	**81.15**	**52**	P	**P**		**22 37 43.1**	**+0.8**
AKASG	**Malin Array Be**	**84.22**	**324**	P	**P**		**22 37 55.8**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=51,slow=5.1,SNR=2.6							
AKASG					LR	LR	23 18 34.9	
	comp=Z,37nm,18.4s,baz=75,slow=38							
PDAR	**Pinedale Array**	**85.04**	**45**	P	**P**		**22 38 02.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=256,slow=6.1,SNR=1.6							
NC405	**NORSAR Array S**	**85.08**	**338**	P	**P**		**22 38 01.6**	**-0.3**
NOA	**NORSAR Array B**	**85.30**	**339**	P	**P**		**22 38 02.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=45,slow=4.9,SNR=5.8							
NOA					LR	LR	23 19 18.8	
	comp=Z,14nm,18.1s,baz=325,slow=38							
RAYN	**Ar Rayn**	**86.25**	**294**	P	**P**		**22 38 08.8**	**+0.4**
GERES	**GERESS Array B**	**93.15**	**329**	P	**P**		**22 38 39.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=57,slow=3.6,SNR=4.4							
LPAZ	**La Paz**	**149.83**	**78**	PKPbc	**PKPbc**		**22 45 18.8**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=315,slow=3.5,SNR=8.3							

IDC ***16*** *22:31:55.2±1.2, 25°.52N×142°.61E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/35, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/35, Error ellipse: s-maj=55.6km s-min=21.9km az=90.0*

ISC 16 22:32:00.7±1.2, 25°.5N±0°.2×142°.6E±0°.3, h38km, n10, σ0°77/6, mb3.6/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**23.12**	**100**		T	T	23 00 54.6	
	baz=292							
H11N2	**WAKE ISLAND Hy**	**23.12**	**99**		T	T	23 00 55.2	
	baz=292							
H11N3	**WAKE ISLAND Hy**	**23.14**	**99**		T	T	23 01 00.1	
	baz=292							
KLR	**Kul'dur**	**25.15**	**343**	P		**P**	**22 37 23.1**	**+1.0**
	1.2nm,0.7s,baz=135,slow=8.6,SNR=5.0							
WRA	**Warramunga Arr**	**45.89**	**191**	P		**P**	**22 40 19.9**	**+0.3**
	0.7nm,0.4s,baz=8.9,slow=8.4,SNR=14							
LEM	**Lembang**	**46.81**	**231**	LR		LR	22 58 50.9	
	comp=Z,30nm,20.0s,baz=31,slow=34							
ASAR	**Alice Springs**	**49.61**	**191**	P		**P**	**22 40 48.3**	**-0.1**
	0.3nm,0.8s,baz=25,slow=11,SNR=1.6							
MKAR	**Makanchi Array**	**51.79**	**311**	P		**P**	**22 41 04.0**	**-0.7**
	0.1nm,0.3s,baz=79,slow=7.5,SNR=1.4							
ILAR	**Eielson Array**	**58.92**	**28**	P		**P**	**22 41 55.3**	**-0.4**
	0.4nm,0.7s,baz=242,slow=5.0,SNR=4.2							
FINES	**FINESS Array B**	**79.54**	**334**	P		**P**	**22 44 03.5**	**+0.3**
	0.9nm,0.5s,baz=60,slow=5.0,SNR=6.4							

IDC ***16*** *22:48:29.1±2.9, 9°.10S×121°.29E, h126km±23km, mb3.6/2, mb1 3.5/6, mb1mx3.2/38, mbtmp3.8/6, Error ellipse: s-maj=47.7km s-min=22.9km az=53.0*

DJA ***16*** *22:48:31.9±0.5, 9°.5S±0°.5×112°.1E±°, h101km±6km, M3.9/7, mb3.8/1, mB4.6/1, MLv3.9/7, Mw(mB)3.8/1*

ISC 16 22:48:30.4±0.8, 9°.16S±0°.07×121°.40E±0°.05, h150km, n18, σ2§52/24, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.50**	**36**	P		**Pn**	**22 48 49.1**	**-2.8**
EDFI				S		**Sn**	**22 49 01.1**	**-7.2**
MMRI	**Maumere**	**0.98**	**58**	P		**Pn**	**22 48 53.5**	**-1.5**
WSI	**Waingapu**	**1.20**	**245**	P		**Pn**	**22 48 55.4**	**-1.6**
BASI	**Baing, Sumba**	**1.33**	**217**	P		**Pn**	**22 48 56.7**	**-1.6**
BASI				S		**Sn**	**22 49 16.8**	**-2.8**
WBSI	**Waikabubak, Su**	**2.04**	**256**	P		**Pn**	**22 49 04.7**	**-1.4**
WBSI				S		**Sn**	**22 49 29.8**	**-3.6**
BATI	**Baumata**	**2.47**	**115**	P		**Pn**	**22 49 11.4**	**+0.2**
	7.2nm,0.3s,baz=294,slow=2.8,SNR=6.7							
BATI				S		**Sn**	**22 49 42.2**	**-0.4**
	25nm,0.3s,baz=289,slow=18,SNR=8.4							
BATI	**Baumata**	**2.47**	**115**	P		**Pn**	**22 49 11.6**	**+0.4**
SOEI	**Soe**	**2.89**	**102**	P		**Pn**	**22 49 16.8**	**+0.2**
PLAI	**Plampang**	**3.59**	**275**	P		**Pn**	**22 49 25.3**	**-0.1**
KAPI	**Kappang**	**4.43**	**338**	P		**Pn**	**22 49 37.0**	**+0.6**
	1.9nm,0.3s,baz=177,slow=16,SNR=4.2							
TWSI	**Taliwang, Sumb**	**4.48**	**275**	P		**Pn**	**22 49 37.0**	**0.0**
KLNI	**Mataram**	**5.29**	**278**	P		**Pn**	**22 49 47.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**9.80**	**156**	P		**Pn**	**22 50 47.2**	**-0.6**
	0.3nm,0.3s,baz=334,slow=12,SNR=15							
FITZ				S		Sn	22 52 27.0	-9.4
	0.5nm,0.3s,baz=214,slow=8.3,SNR=5.0							
WRA	**Warramunga Arr**	**16.48**	**132**	P		**P**	**22 52 14.0**	**+0.9**
	0.2nm,0.3s,baz=308,slow=12,SNR=5.8							
ASAR	**Alice Springs**	**18.74**	**142**	P		**P**	**22 52 39.8**	**+1.9**
	0.5nm,0.3s,baz=316,slow=8.4,SNR=15							
ASAR				S		**S**	**22 55 59.0**	**-4.5**
	0.0nm,0.3s,baz=311,slow=21,SNR=4.4							
ASAR				ScP		**ScP**	**23 00 24.1**	**+3.0**
	0.1nm,0.3s,baz=335,slow=2.0,SNR=4.2							
STKA	**Stephens Creek**	**29.37**	**143**	P		**P**	**22 54 22.1**	**+2.6**
	1.9nm,0.3s,baz=327,slow=9.1,SNR=5.7							
MKAR	**Makanchi Array**	**65.69**	**332**	P		**P**	**22 58 59.3**	**+0.4**
	0.4nm,0.7s,baz=142,slow=6.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**120.82**	**280**	PKP		**PKPdf**	**23 07 07.0**	**+1.2**
	0.7nm,0.7s,baz=81,slow=2.3,SNR=4.4							

NEIC ***16*** *22:49:06.3±1.7, 10°.7S±0°.1×162°.32E±0°.08, h22km±6km, mb4.5/11, Error ellipse: s-maj=19.6km s-min=5.6km az=211.0*

IDC ***16*** *22:49:08.6±3.3, 10°.81S×162°.44E, h74km±23km, mb3.6/8, mb1 3.9/11, mb1mx3.7/35, mbtmp4.1/11, MS3.7/12, Ms1 3.7/12, ms1mx3.6/21, Error ellipse: s-maj=29.6km s-min=18.8km az=73.0*

ISC 16 22:49:06.9±0.8, 10°.87S±0°.08×162°.4E±0°.1, h35km, n45, σ2§23/34, mb4.2/13, MS3.8/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.84**	**300**	P		**Pn**	**22 49 51.3**	**+1.5**
	172nm,0.3s,baz=187,slow=9.1,SNR=25							
HNR				S		**Sn**	**22 50 24.8**	**+1.9**
	647nm,0.3s,baz=172,slow=23,SNR=13							
HNR				LR		LR	22 51 01.5	
	comp=Z,2μm,19.6s,baz=136,slow=40							
HNR	**Honiara**	**2.84**	**300**			**Pn**	**22 49 50.8**	**+1.0**
HNR						**Sn**	**22 50 24.7**	**+1.9**
SANVU	**Saraoutou**	**6.50**	**135**	Pn		**Pn**	**22 50 43.4**	**+3.4**
DZM	**Mont Dzumac**	**11.78**	**162**	*e*Pn		**Pn**	**22 51 56.9**	**+4.3**
	1.9nm,0.2s							
DZM				*e*Sn		**Sn**	**22 53 59.0**	**-3.9**
	2.0nm,0.3s							
DZM				*e*LR		LR	22 54 34.0	
	comp=Z,576nm,23.9s							
DZM	**Mont Dzumac**	**11.78**	**162**	P		**Pn**	**22 51 54.4**	**+1.8**
	0.3nm,0.3s,baz=321,slow=23,SNR=1.0							
DZM				S		**Sn**	**22 53 59.2**	**-3.7**
	0.2nm,0.3s,baz=164,slow=20,SNR=1.8							
DZM				LR		LR	22 55 58.3	
	comp=Z,304nm,20.0s,baz=36,slow=35							
DZM	**Mont Dzumac**	**11.78**	**162**	Pn		**Pn**	**22 51 54.8**	**+2.2**
PMG	**Port Moresby**	**15.12**	**274**	LR		LR	22 58 14.5	
	comp=Z,686nm,19.5s,baz=144,slow=36							
MSVF	**Nonsavu**	**16.59**	**116**	LR		LR	22 58 01.9	
	comp=Z,319nm,21.8s,baz=176,slow=32							
EIDS	**Eidsvold**	**18.00**	**215**	P		**P**	**22 53 15.8**	**+1.2**
EIDS					IAmb	IAmb	22 53 17.7	
	comp=Z,18nm,1.1s							

CTA	**Charters Tower**	**18.08**	**238**	P		**P**	**22 53 15.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=67,slow=14,SNR=21							
CTAO	**Charters Tower**	**18.08**	**238**	P		**P**	**22 53 16.7**	**+1.1**
CTAO						IAmb	IAmb	22 53 20.5
	comp=Z,73nm,1.1s							
ARMA	**Armidale**	**21.90**	**206**	P		**P**	**22 54 00.0**	**+2.9**
ARMA						IAmb	IAmb	22 54 04.1
	comp=Z,20nm,1.2s							
AFI	**Afiamalu**	**25.36**	**100**	LR		LR	23 03 06.1	
	comp=Z,255nm,18.5s,baz=276,slow=33							
WB0	**Warramunga Arr**	**28.42**	**248**	P		**P**	**22 54 58.1**	**-0.4**
WB0						IAmb	IAmb	22 55 09.0
	comp=Z,25nm,1.5s							
WRA	**Warramunga Arr**	**28.52**	**248**	P		**P**	**22 54 57.7**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=79,slow=9.0,SNR=4.0							
WRA						LR	LR	23 06 35.6
	comp=Z,340nm,18.0s,baz=60,slow=37							
WRA	**Warramunga Arr**	**28.52**	**248**	P		**P**	**22 54 59.4**	**0.0**
H11S2	**WAKE ISLAND Hy**	**29.48**	**8**	T		T	23 26 04.7	
	baz=188,slow=76,SNR=35							
H11S3	**WAKE ISLAND Hy**	**29.48**	**8**	T		T	23 26 04.2	
	baz=188,slow=76,SNR=256							
H11S1	**WAKE ISLAND Hy**	**29.49**	**8**	T		T	23 26 06.0	
	baz=188,slow=76,SNR=233							
ASAR	**Alice Springs**	**30.00**	**241**	P		**P**	**22 55 10.8**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=63,slow=10,SNR=4.8							
ASAR						LR	LR	23 06 40.0
	comp=Z,139nm,18.4s,baz=66,slow=35							
H11N1	**WAKE ISLAND Hy**	**30.71**	**8**	T		T	23 27 36.5	
	baz=188,slow=76,SNR=142							
H11N3	**WAKE ISLAND Hy**	**30.71**	**8**	T		T	23 27 37.4	
	baz=188,slow=76,SNR=216							
H11N2	**WAKE ISLAND Hy**	**30.72**	**8**	T		T	23 27 38.2	
	baz=188,slow=76,SNR=160							
KNRA	**Kununurra**	**33.10**	**258**	P		**P**	**22 55 39.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**36.30**	**254**	P		**P**	**22 56 05.3**	**-2.1**
	comp=Z,2.9nm,0.9s,baz=59,slow=10,SNR=2.9							
FITZ	**Fitzroy Crossi**	**36.30**	**254**	P		**P**	**22 56 06.5**	**-0.9**
PPT2	**Papeete2**	**46.89**	**104**	*e*LR		LR	23 11 15.4	
	comp=Z,150nm,24.5s							
MJAR	**Matsushiro Arr**	**52.39**	**335**	P		**P**	**22 58 11.5**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=151,slow=9.6,SNR=1.8							
LEM	**Lembang**	**54.26**	**269**	P		**P**	**22 58 26.9**	**-3.3**
	comp=Z,5.4nm,0.4s,baz=90,slow=9.1,SNR=1.1							
KSRS	**Korea Array**	**57.95**	**328**	P		**P**	**22 58 53.5**	**-2.4**
	comp=Z,0.3nm,0.2s,baz=132,slow=8.4,SNR=1.9							
KSAR	**Wonju Array Be**	**57.96**	**328**	P		**P**	**22 58 55.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**61.39**	**335**	P		**P**	**22 59 17.9**	**-1.4**
USA0B						IAmb	IAmb	22 59 30.6
	comp=Z,8.1nm,1.4s							
USRK	**Ussuriysk Ar.**	**61.39**	**335**	P		**P**	**22 59 17.6**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.2,SNR=1.2							
USRK	**Ussuriysk Ar.**	**61.39**	**335**	P		**P**	**22 59 18.5**	**-0.9**
MDJ	**Mudanjiang**	**62.73**	**334**	P		**P**	**22 59 27.1**	**-1.3**
PETK	**Petropavlovsk-**	**63.85**	**357**	LR		LR	23 23 26.1	
	comp=Z,33nm,19.8s,baz=221,slow=32							
VNDA	**Vanda**	**66.64**	**180**	LR		LR	23 24 43.3	
	comp=Z,50nm,18.8s,baz=347,slow=32							
ULN	**Ulaanbaatar**	**76.28**	**325**	P		**P**	**23 00 52.5**	**+0.2**
ULN						IAmb	IAmb	23 01 04.6
	comp=Z,4.3nm,1.2s							
SONM	**Songino Array**	**76.63**	**325**	P		**P**	**23 00 51.5**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=142,slow=5.4,SNR=1.9							
SONM	**Songino Array**	**76.63**	**325**	P		**P**	**23 00 54.5**	**+0.3**
QSPA	**South Pole Qui**	**79.13**	**180**	P		**P**	**23 01 09.4**	**+1.6**
QSPA						IAmb	IAmb	23 01 12.3
	comp=Z,5.5nm,1.1s							
IMAR	**Indian Mountai**	**83.16**	**17**	P		**P**	**23 01 30.0**	**+1.1**
NVAR	**Mina Array Bea**	**88.40**	**51**	LR		LR	23 35 50.0	
	comp=Z,27nm,18.6s,baz=268,slow=32							
ZALV	**Zalesovo Beam**	**91.53**	**325**	LR		LR	23 43 08.1	
	comp=Z,9.8nm,19.1s,baz=116,slow=35							
TXAR	**Lajitas Array**	**98.60**	**62**	LR		LR	23 38 48.3	
	comp=Z,33nm,20.5s,baz=0.0,slow=30							

IDC ***16*** *22:51:19.4±5.8, 1°.25S×123°.45E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/38, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=133.3km s-min=38.6km az=113.0*

DJA ***16*** *22:51:22.9±0.4, 1°.3S±3°×112°.2E±°, h10km, M3.8/6, mb3.8/2, MLv3.7/6*

ISC 16 22:51:26.5±0.8, 0°.96S±0°.08×122°.26E±0°.05, h10km, n11, σ2§69/13, mb3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.51**	**100**	P		**Pb**	**22 51 36.2**	**-1.4**
LUWI				S		**Sb**	**22 51 44.8**	**-0.3**
APSI	**Ampana**	**0.62**	**274**	P		**Pg**	**22 51 37.4**	**-1.0**
APSI				S		**Sg**	**22 51 48.0**	**+1.4**
GTOI	**Gorontalo**	**1.75**	**25**	P		Pn	22 51 47.6	-9.3
MPSI	**Mapaga**	**2.69**	**298**	P		**Pn**	**22 52 05.2**	**-4.7**
TTSI	**Tana Toraja**	**3.21**	**230**	P		**Pn**	**22 52 18.4**	**+1.5**
BNSI	**Bone**	**4.04**	**212**	P		**Pn**	**22 52 30.1**	**+1.6**
KAPI	**Kappang**	**4.75**	**212**	Pn		**Pn**	**22 52 39.3**	**+1.1**
	5.1nm,0.3s,baz=29,slow=3.5,SNR=9.4							
KAPI				Sn		**Sn**	**22 53 29.0**	**-4.3**
	1.2nm,0.3s,baz=166,slow=14,SNR=1.4							
EDFI	**Ende, Flores**	**7.76**	**184**	P		**Pn**	**22 53 21.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**29.97**	**311**	P		**P**	**22 57 39.4**	**+4.1**
	1.4nm,0.4s,baz=133,slow=6.6,SNR=5.2							
SONM	**Songino Array**	**50.52**	**346**	P		**P**	**23 00 24.1**	**-1.0**
	0.4nm,0.7s,baz=161,slow=9.2,SNR=3.2							
MKAR	**Makanchi Array**	**59.04**	**329**	P		**P**	**23 01 27.1**	**+0.3**
	0.3nm,0.7s,baz=142,slow=7.3,SNR=3.6							

IDC 16 23:05:34.6±4.2, 28°.93N×64°.21E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/30, mbtmp3.7/4, Error ellipse: s-maj=111.9km s-min=32.3km az=147.0, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.75**	**33**	P		P	23 10 37.6	-0.8
	0.7nm,0.6s,baz=219,slow=9.4,SNR=5.4							
ZALV	**Zalesovo Beam**	**29.17**	**25**	P		P	23 11 38.2	+0.7
	1.2nm,0.6s,baz=236,slow=10.0,SNR=6.0							
FINES	**FINESS Array B**	**41.12**	**333**	P		P	23 13 19.9	-0.2
	1.2nm,0.8s,baz=123,slow=10,SNR=1.6							
TORD	**Torodi Ar. Bea**	**59.81**	**269**	P		P	23 15 42.1	-0.1
	0.4nm,0.6s,baz=62,slow=6.9,SNR=2.4							

BUC ***16*** *23:18:49.1±0.3, 45°.52N×26°.33E, h142km±2km, ml3.6/36, Error ellipse: s-maj=2.3km s-min=1.8km az=145.0*

ISC 16 23:18:47.8±1.4, 45°.53N±0°.03×26°.32E±0°.03, h154km±7km, n99, σ0°79/168, 80C-86D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.11**	**190**	↑P		**Pn**	**23 19 08.9**	**+0.5**
NEHR				↑S		**Sn**	**23 19 23.4**	**-0.7**
NEHR	**Nehoiu**	**0.11**	**190**	↑P		**Pn**	**23 19 08.9**	**+0.5**
NEHR				↑S		**Sn**	**23 19 23.4**	**-0.7**
MLR	**Muntele Rosu**	**0.27**	**261**	↑P		**Pn**	**23 19 09.1**	**+0.3**
MLR				↑S		**Sn**	**23 19 23.7**	**-1.1**
MLR	**Muntele Rosu**	**0.27**	**261**	↑P		**Pn**	**23 19 09.1**	**+0.3**
MLR				↑S		**Sn**	**23 19 23.7**	**-1.1**
BISRR	**Bisoca**	**0.27**	**86**	↓P		**Pn**	**23 19 09.5**	**+0.8**
BISRR				↑S		**Sn**	**23 19 24.8**	**+0.1**
BISRR	**Bisoca**	**0.27**	**86**	↓P		**Pn**	**23 19 09.5**	**+0.8**
BISRR				↑S		**Sn**	**23 19 24.8**	**+0.1**
PLOR	**Plostina**	**0.39**	**36**	↑P		**Pn**	**23 19 09.2**	**+0.1**
PLOR				↓S		**Sn**	**23 19 25.1**	**-0.4**
PLOR	**Plostina**	**0.39**	**36**	↑P		**Pn**	**23 19 09.2**	**+0.1**
PLOR				↓S		**Sn**	**23 19 25.1**	**-0.4**
VRI	**Vrincioaia**	**0.44**	**40**	↑P		**Pn**	**23 19 09.6**	**+0.3**
VRI				↓S		**Sn**	**23 19 25.0**	**-0.7**
VRI	**Vrincioaia**	**0.44**	**40**	↑P		**Pn**	**23 19 09.6**	**+0.3**
VRI				↓S		**Sn**	**23 19 25.0**	**-0.7**
ISR	**Istrita**	**0.44**	**159**	↑P		**Pn**	**23 19 10.0**	**+0.7**
ISR				↑S		**Sn**	**23 19 24.3**	**-1.5**
ISR	**Istrita**	**0.44**	**159**	↑P		**Pn**	**23 19 10.0**	**+0.7**
ISR				↑S		**Sn**	**23 19 24.3**	**-1.5**
SECR		**0.53**	**200**	↓P		**Pn**	**23 19 10.5**	**+0.7**
SECR				↑S		**Sn**	**23 19 26.5**	**+0.1**
SECR		**0.53**	**200**	↓P		**Pn**	**23 19 10.5**	**+0.7**
SECR				↑S		**Sn**	**23 19 26.5**	**+0.1**
ODBI	**Odobesti**	**0.56**	**66**	↓P		**Pn**	**23 19 11.2**	**+1.4**
ODBI	**Odobesti**	**0.56**	**66**	↓P		**Pn**	**23 19 11.2**	**+1.4**
PETR	**Petresti**	**0.67**	**73**	↓P		**Pn**	**23 19 11.5**	**+1.1**
PETR				↓S		**Sn**	**23 19 27.9**	**+0.2**
PETR	**Petresti**	**0.67**	**73**	↓P		**Pn**	**23 19 11.5**	**+1.1**
PETR				↓S		**Sn**	**23 19 27.9**	**+0.2**
OZUR		**0.68**	**327**	↓P		**Pn**	**23 19 10.7**	**+0.1**
OZUR		**0.68**	**327**	↓P		**Pn**	**23 19 10.7**	**+0.1**
PGOR	**Pogoanele**	**0.78**	**143**	↑P		**Pn**	**23 19 12.0**	**+0.8**
PGOR				↓S		**Sn**	**23 19 29.7**	**+0.7**
PGOR	**Pogoanele**	**0.78**	**143**	↑P		**Pn**	**23 19 12.0**	**+0.8**
PGOR				↓S		**Sn**	**23 19 29.7**	**+0.7**
SULR		**0.85**	**183**	↓P		**Pn**	**23 19 12.4**	**+0.7**
SULR				↓S		**Sn**	**23 19 30.2**	**+0.2**
SULR		**0.85**	**183**	↓P		**Pn**	**23 19 12.4**	**+0.7**
SULR				↓S		**Sn**	**23 19 30.2**	**+0.2**
VOIR		**0.90**	**264**	↑P		**Pn**	**23 19 12.2**	**0.0**
VOIR				↓S		**Sn**	**23 19 30.2**	**-0.6**
VOIR		**0.90**	**264**	↑P		**Pn**	**23 19 12.2**	**0.0**
VOIR				↓S		**Sn**	**23 19 30.2**	**-0.6**
GHRR		**0.93**	**55**	↓P		**Pn**	**23 19 13.0**	**+0.8**
GHRR				↓S		**Sn**	**23 19 31.3**	**+0.3**
GHRR		**0.93**	**55**	↓P		**Pn**	**23 19 13.0**	**+0.8**
GHRR				↓S		**Sn**	**23 19 31.3**	**+0.3**
MTUR	**Matau**	**0.94**	**251**	↓P		**Pn**	**23 19 12.8**	**+0.4**
MTUR	**Matau**	**0.94**	**251**	↓P		**Pn**	**23 19 12.8**	**+0.4**
TUDR		**0.95**	**86**	↓P		**Pn**	**23 19 12.6**	**+0.2**
TUDR				↓S		**Sn**	**23 19 30.5**	**-0.7**
TUDR		**0.95**	**86**	↓P		**Pn**	**23 19 12.6**	**+0.2**
TUDR				↓S		**Sn**	**23 19 30.5**	**-0.7**
TESR	**Tescani**	**1.01**	**13**	↑P		**Pn**	**23 19 13.3**	**+0.4**
TESR				↓S		**Sn**	**23 19 30.9**	**-1.3**
TESR	**Tescani**	**1.01**	**13**	↑P		**Pn**	**23 19 13.3**	**+0.4**
TESR				↓S		**Sn**	**23 19 30.9**	**-1.3**
SCHL	**Schela**	**1.06**	**91**	↑P		**Pn**	**23 19 13.6**	**+0.3**
SCHL				↓S		**Sn**	**23 19 31.3**	**-1.6**
SCHL	**Schela**	**1.06**	**91**	↑P		**Pn**	**23 19 13.6**	**+0.3**
SCHL				↓S		**Sn**	**23 19 31.3**	**-1.6**
INCR	**INCERC-Sediu C**	**1.10**	**186**	↑S		**Sn**	**23 19 33.8**	**+0.3**
INCR	**INCERC-Sediu C**	**1.10**	**186**	↑S		**Sn**	**23 19 33.8**	**+0.3**
LEHL	**Lehliu**	**1.11**	**161**	↓P		**Pn**	**23 19 14.6**	**+0.7**
LEHL				↓S		**Sn**	**23 19 33.6**	**-0.2**
LEHL	**Lehliu**	**1.11**	**161**	↓P		**Pn**	**23 19 14.6**	**+0.7**
LEHL				↓S		**Sn**	**23 19 33.6**	**-0.2**
VARL	**Varlezi**	**1.13**	**70**	↓P		**Pn**	**23 19 14.8**	**+0.9**
VARL				↓S		**Sn**	**23 19 33.1**	**-1.0**
VARL	**Varlezi**	**1.13**	**70**	↓P		**Pn**	**23 19 14.8**	**+0.9**
VARL				↓S		**Sn**	**23 19 33.1**	**-1.0**
AMRR	**Amara**	**1.17**	**142**	↓P		**Pn**	**23 19 15.1**	**+0.7**
AMRR				↓S		**Sn**	**23 19 34.3**	**-0.3**
AMRR	**Amara**	**1.17**	**142**	↓P		**Pn**	**23 19 15.1**	**+0.7**
AMRR				↓S		**Sn**	**23 19 34.3**	**-0.3**
BIR	**Birlad**	**1.17**	**51**	↓P		**Pn**	**23 19 15.2**	**+0.9**
BIR				↓S		**Sn**	**23 19 34.3**	**-0.5**
BIR	**Birlad**	**1.17**	**51**	↓P		**Pn**	**23 19 15.2**	**+0.9**
BIR				↓S		**Sn**	**23 19 34.3**	**-0.5**
BUC1	**Bucharest**	**1.20**	**190**	↑P		**Pn**	**23 19 15.4**	**+0.7**
BUC1				↓S		**Sn**	**23 19 34.8**	**-0.4**
BUC1	**Bucharest**	**1.20**	**190**	↑P		**Pn**	**23 19 15.4**	**+0.7**
BUC1				↓S		**Sn**	**23 19 34.8**	**-0.4**
GISR	**Galati**	**1.22**	**94**	↓P		**Pn**	**23 19 15.7**	**+0.9**
GISR				↓S		**Sn**	**23 19 35.3**	**-0.2**
GISR	**Galati**	**

MTN	**Manton Dam**	**16.66**	**243**	P	**P**	**23 37 54.5**	**+0.7**
MTN				IAmb	IAmb	23 37 55.3	
	comp=Z,18nm,0.8s						
WB0	**Warramunga Arr**	**18.32**	**218**	P	**Pn**	**23 38 13.2**	**-0.4**
WB0				IAmb	IAmb	23 38 16.0	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**18.38**	**217**	P	**P**	**23 38 13.6**	**+0.9**
WR0				IAmb	IAmb	23 38 17.1	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**18.48**	**218**	P	**P**	**23 38 14.2**	**+0.5**
WRAB				IAmb	IAmb	23 38 18.0	
	comp=Z,25nm,0.7s						
WB2	**Warramunga Arr**	**18.48**	**218**	P	**Pn**	**23 38 14.8**	**-0.6**
WB2				IAmb	IAmb	23 38 17.9	
	comp=Z,31nm,0.9s						
WRA	**Warramunga Arr**	**18.49**	**218**	P	**P**	**23 38 14.3**	**+0.5**
	comp=Z,4.2nm,0.3s,baz=40,slow=12,SNR=141						
WRA	**Warramunga Arr**	**18.49**	**218**	P	**P**	**23 38 13.9**	**+0.1**
KNRA	**Kununurra**	**19.98**	**238**	P	**P**	**23 38 30.0**	**-0.1**
KNRA				IAmb	IAmb	23 38 34.7	
	comp=Z,15nm,0.6s						
AS31	**Alice Springs**	**21.66**	**212**	P	**P**	**23 38 48.7**	**+0.6**
AS31				IAmb	IAmb	23 38 56.4	
	comp=Z,4.6nm,0.7s						
ASAR	**Alice Springs**	**21.66**	**212**	P	**P**	**23 38 49.0**	**+1.0**
	comp=Z,11nm,0.8s,baz=46,slow=7.9,SNR=83						
ASAR	**Alice Springs**	**21.66**	**212**	P	**P**	**23 38 49.2**	**+1.1**
BATI	**Baumata**	**22.91**	**257**	P	**P**	**23 39 02.1**	**+1.3**
	comp=Z,30nm,0.4s,baz=195,slow=3.6,SNR=8.2						
FITZ	**Fitzroy Crossi**	**23.76**	**236**	P	**P**	**23 39 08.8**	**+0.2**
	comp=Z,29nm,0.5s,baz=44,slow=7.7,SNR=132						
FITZ	**Fitzroy Crossi**	**23.76**	**236**	P	**P**	**23 39 08.9**	**+0.4**
DZM	**Mont Dzumac**	**25.51**	**132**	P	**P**	**23 39 22.7**	**-1.8**
	comp=Z,6.9nm,0.6s,baz=360,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**26.61**	**189**	P	**P**	**23 39 34.1**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=358,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**26.61**	**189**	P	**P**	**23 39 34.2**	**0.0**
BBOO	**Buckleboo**	**28.81**	**198**		**P**	**23 39 54.0**	**+0.2**
BBOO				IAmb	IAmb	23 40 04.5	
	comp=Z,9.7nm,1.2s						
PSA00	**Pilbara Seismi**	**30.20**	**236**	P	**P**	**23 40 06.0**	**-0.3**
PSA00				IAmb	IAmb	23 40 09.1	
	comp=Z,2.0nm,0.9s						
FORT	**Forrest**	**30.45**	**212**	P	**P**	**23 40 09.1**	**+0.8**
MORW	**Morawa**	**37.00**	**227**	P	**P**	**23 41 05.6**	**+0.5**
MORW				IAmb	IAmb	23 41 08.8	
	comp=Z,6.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.45**	**221**	P	**P**	**23 41 21.1**	**+3.9**
OUZ	**Omahuta**	**38.83**	**143**	P	**P**	**23 41 21.7**	**+1.4**
KSAR	**Wonju Array Be**	**46.04**	**340**	P	**P**	**23 42 17.1**	**-1.4**
HHC	**Hu-ho-hao-te**	**56.05**	**329**	*eP*	**P**	**23 43 34.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,6.3s						
WMQ	**Urumqi**	**71.97**	**319**	*eP*	**P**	**23 45 17.9**	**+0.4**
VNDA	**Vanda**	**72.45**	**176**	P	**P**	**23 45 19.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=345,slow=7.7,SNR=2.0						
VNDA	**Vanda**	**72.45**	**176**	P	**P**	**23 45 19.9**	**+0.1**
MK31	**Makanchi Array**	**76.67**	**321**	P	**P**	**23 45 43.2**	**-1.5**
MKAR	**Makanchi Array**	**76.67**	**321**	P	**P**	**23 45 42.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=91,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**76.67**	**321**	P	**P**	**23 45 43.2**	**-1.5**
IMAR	**Indian Mountai**	**83.26**	**21**	P	**P**	**23 46 18.5**	**-1.2**
GLI	**Glacier Island**	**83.66**	**27**	P	**P**	**23 46 20.9**	**-1.0**
GLI				IAmb	IAmb	23 46 21.0	
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**85.29**	**23**	P	**P**	**23 46 26.8**	**-3.2**
	comp=Z,0.6nm,0.5s,baz=262,slow=4.7,SNR=8.5						
ILAR	**Eielson Array**	**85.29**	**23**	P	**P**	**23 46 27.0**	**-3.0**
TORD	**Torodi Ar. Bea**	**144.30**	**285**	PKP	**PKPab**	**23 53 25.6**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=60,slow=4.6,SNR=2.3						

IDC ***16*** *23:46:02.0±0.8, 37.32S×52.24E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/42, mbtmp4.1/7, ML4.2/1, MS3.4/5, Ms1 3.3/5, ms1mx3.0/28, Error ellipse: s-maj=28.3km s-min=23.1km az=48.0*

NEIC ***16*** *23:46:04.2±1.6, 37.4S±0.1×52.2E±0.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=26.7km s-min=8.3km az=213.0*

ISC 16 23:46:03.7±0.8, 37.3S±0.1×52.2E±0.2, h10km, n26, σ0s88/19, mb4.3/7, MS3.4/5, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**16.06**	**342**		**Pn**	**23 49 48.5**	**-1.2**
ABPO	**Ambohimpanom**	**18.75**	**345**	P	**Pn**	**23 50 24.2**	**+0.8**
ABPO				IAmb	IAmb	23 50 30.7	
	comp=Z,35nm,1.5s						
OPO	**Ambohidratompo**	**19.19**	**345**	P	**P**	**23 50 28.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=142,slow=12,SNR=3.9						
BOSA	**Boshof**	**24.14**	**283**	P	**P**	**23 51 18.9**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=110,slow=12,SNR=1.6						
BOSA				LR	LR	23 59 39.8	
	comp=Z,37nm,19.0s,baz=178,slow=34						
BOSA	**Boshof**	**24.14**	**283**	P	**P**	**23 51 18.8**	**-1.3**
BOSA				IAmb	IAmb	23 51 37.4	
	comp=Z,7.7nm,1.2s						
MATP	**Matopo**	**26.60**	**303**	LR	LR	23 59 55.8	
	comp=Z,129nm,21.9s,baz=120,slow=31						
MAW	**Mawson**	**30.92**	**172**	LR	LR	00 02 25.3	
	comp=Z,61nm,18.9s,baz=52,slow=32						
SNAA	**Sanae**	**44.17**	**202**	P	**P**	**23 54 12.6**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=75,slow=5.3,SNR=8.1						
SNAA	**Sanae**	**44.17**	**202**	P	**P**	**23 54 12.7**	**+0.4**
SNAA				IAmb	IAmb	23 54 13.7	
	comp=Z,8.6nm,1.2s						
H01W2	**Cape Leeuwin H**	**49.30**	**107**	T	T	00 48 00.1	
	baz=248,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**49.31**	**107**	T	T	00 47 58.4	
	baz=248,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**49.32**	**107**	T	T	00 48 01.7	
	baz=248,slow=75,SNR=17						
QSPA	**South Pole Qui**	**52.86**	**180**	P	**P**	**23 55 19.0**	**-0.4**
	comp=Z,3.6nm,1.1s,baz=269,slow=4.6,SNR=9.2						
QSPA	**South Pole Qui**	**52.86**	**180**	P	**P**	**23 55 19.2**	**-0.1**
QSPA				IAmb	IAmb	23 55 20.2	
	comp=Z,10nm,1.4s						
VNDA	**Vanda**	**57.93**	**166**	LR	LR	00 18 14.7	
	comp=Z,43nm,18.6s,baz=284,slow=33						
TORD	**Torodi Ar. Bea**	**69.05**	**306**	P	**P**	**23 57 10.9**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=130,slow=6.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**69.05**	**306**	P	**P**	**23 57 11.6**	**+1.8**
ASAR	**Alice Springs**	**69.74**	**105**	P	**P**	**23 57 14.3**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=231,slow=5.9,SNR=8.3						
ASAR	**Alice Springs**	**69.74**	**105**	P	**P**	**23 57 13.9**	**-0.3**
WRA	**Warramunga Arr**	**72.11**	**102**	P	**P**	**23 57 28.1**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=230,slow=5.0,SNR=6.1						
WRA	**Warramunga Arr**	**72.11**	**102**	P	**P**	**23 57 28.5**	**-0.1**
WB2	**Warramunga Arr**	**72.12**	**102**	P	**P**	**23 57 28.7**	**0.0**
WB2				IAmb	IAmb	23 57 32.4	
	comp=Z,5.2nm,1.0s						
WB0	**Warramunga Arr**	**72.25**	**102**	P	**P**	**23 57 29.9**	**+0.4**
BRTR	**Keskin Array B**	**78.55**	**346**	LR	LR	00 31 06.1	
	comp=Z,15nm,18.7s,baz=140,slow=34						
ILAR	**Eielson Array**	**150.27**	**16**	PKPbc	**PKPbc**	**00 05 52.8**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=314,slow=3.4,SNR=14						
TXAR	**Lajitas Array**	**158.35**	**255**	PKP	**PKPdf**	**00 06 01.6**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=153,slow=3.0,SNR=3.2						

NEIC ***16*** *23:51:03.7±2.7, 6.60S±0.06×121.43E±0.07, h14km±5km, mb4.2/13, Error ellipse: s-maj=10.6km s-min=7.5km az=60.0*

DJA ***16*** *23:51:03.2±0.2, 7.3S×2.1E±°, h10km, M4.3/16, mb4.5/12, mB5.0/6, MLv4.3/16, Mw(mB)4.3/6, MwMwp4.9/1, Mwp5.2/1*

IDC ***16*** *23:51:05.8±2.1, 6.76S×121.39E, h43km±25km, mb3.9/7, mb1 4.1/10, mb1mx3.8/36, mbtmp4.1/10, ML3.9/3, MS3.1/6, Ms1 3.2/6, ms1mx2.8/38, Error ellipse: s-maj=64.1km s-min=11.3km az=55.0*

ISC 16 23:51:06.0±0.5, 6.64S±0.05×121.55E±0.07, h35km, n56, σ1s50/57, mb4.2/10, MS3.0/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.10**	**161**	Pn	**Pn**	**23 51 38.6**	**0.0**
MMRI	**Maumere**	**2.10**	**161**	P	**Pn**	**23 51 38.0**	**-0.6**
MMRI				S	**Sn**	**23 52 04.5**	**+1.0**
EDFI	**Ende, Flores**	**2.10**	**176**	P	**Pn**	**23 51 37.9**	**-0.9**
KAPI	**Kappang**	**2.41**	**312**	P	**Pn**	**23 51 42.1**	**-0.8**
	21nm,0.3s,baz=148,slow=11,SNR=44						
KAPI				S	**Sn**	**23 52 10.9**	**-0.3**
	69nm,0.3s,baz=316,slow=23,SNR=15						
KAPI				LR	LR	23 52 37.4	
	comp=Z,231nm,21.4s,baz=140,slow=38						
KKSI	**Kolaka, Sulawe**	**2.45**	**2**	P	**Pn**	**23 51 42.8**	**-0.7**
MKS	**Makassar**	**2.50**	**304**	P	**Pn**	**23 51 44.6**	**+0.4**
BNSI	**Bone**	**2.65**	**327**	P	**Pn**	**23 51 45.6**	**-0.6**
WBSI	**Waikabubak, Su**	**3.67**	**215**	P	**Pn**	**23 52 00.6**	**+0.3**
BASI	**Baing, Sumba**	**3.68**	**195**	P	**Pn**	**23 52 00.8**	**+0.4**
TTSI	**Tana Toraja**	**3.96**	**334**	P	**Pn**	**23 52 05.4**	**+1.1**
SOEI	**Soe**	**4.10**	**139**	Pn	**Pn**	**23 52 08.1**	**+1.8**
BATI	**Baumata**	**4.12**	**150**	P	**Pn**	**23 52 10.4**	**+4.0**
	27nm,0.3s,baz=8.7,slow=2.4,SNR=24						
BATI				LR	LR	23 53 59.2	
	comp=Z,392nm,19.0s,baz=10,slow=42						
BATI	**Baumata**	**4.12**	**150**	P	**Pn**	**23 52 10.8**	**+4.4**
PLAI	**Plampang**	**4.32**	**240**	P	**Pn**	**23 52 10.3**	**+1.0**
TWSI	**Taliwang, Sumb**	**5.07**	**245**	P	**Pn**	**23 52 20.7**	**+1.1**
	0.1nm24nm,0.6s						
KLNI	**Mataram**	**5.69**	**252**	P	**Pn**	**23 52 29.4**	**+1.4**
	0.1nm2µm12nm,1.0s						
APSI	**Ampana**	**5.69**	**1**	P	**Pn**	**23 52 27.8**	**-0.3**
	0.2nm31nm,0.7s						
LUWI	**Luwuk**	**5.69**	**12**		**Pn**	**23 52 27.9**	**-0.2**
LUWI	**Luwuk**	**5.69**	**12**	P	**Pn**	**23 52 28.4**	**+0.3**
	0.5nm2µm164nm,0.8s						
KHKI	**Kahang-Kahang**	**6.13**	**253**	P	**Pn**	**23 52 36.7**	**+2.6**
	0.1nm30nm,0.9s						
SANI	**Sanana**	**6.36**	**44**	P	**Pn**	**23 52 35.8**	**-1.4**
	0.2nm35nm,0.7s						
MRSI	**Marisa**	**7.08**	**3**	P	**Pn**	**23 52 46.0**	**-1.2**
	0.6nm2µm31nm,0.6s						
GTOI	**Gorontalo**	**7.37**	**11**	P	**Pn**	**23 52 52.7**	**+1.5**
	0.1nm342nm26nm,0.7s						
JAGI	**Jajag, Banyuwa**	**7.55**	**256**	Pn	**Pn**	**23 52 54.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**7.55**	**256**	P	**Pn**	**23 52 56.8**	**+3.1**
	0.1nm909nm24nm,1.1s						
TOLI2	**Tolitoli**	**7.74**	**354**	Pn	**Pn**	**23 52 55.6**	**-0.6**
KNRA	**Kununurra**	**11.43**	**142**	Pn	**Pn**	**23 53 45.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.07**	**161**	P	**Pn**	**23 53 54.5**	**-1.0**
	0.6nm,0.3s,baz=2.3,slow=9.6,SNR=16						
FITZ				LR	LR	23 58 32.6	
	comp=Z,80nm,18.4s,baz=344,slow=37						
FITZ	**Fitzroy Crossi**	**12.07**	**161**	Pn	**Pn**	**23 53 54.4**	**-1.2**
WB0	**Warramunga Arr**	**18.05**	**138**	Pn	**Pn**	**23 55 12.3**	**-1.9**
WB0				IAmb	IAmb	23 55 16.4	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**18.14**	**138**	P	**Pn**	**23 55 13.4**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=313,slow=12,SNR=19						
WRA	**Warramunga Arr**	**18.14**	**138**		**Pn**	**23 55 15.2**	**0.0**
WB2	**Warramunga Arr**	**18.15**	**138**	P	**Pn**	**23 55 14.9**	**-0.5**
WB2				IAmb	IAmb	23 55 18.1	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**18.29**	**138**	P	**P**	**23 55 16.7**	**-0.3**
AS31	**Alice Springs**	**20.68**	**146**	P	Pn	23 55 44.5	-1.1
AS31				IAmb	IAmb	23 55 48.0	
	comp=Z,4.3nm,0.6s						
ASAR	**Alice Springs**	**20.68**	**146**	P	**P**	**23 55 43.9**	**+0.8**
	comp=Z,15nm,0.8s,baz=330,slow=13,SNR=85						
ASAR				LR	LR	00 04 27.0	
	comp=Z,73nm,21.3s,baz=316,slow=39						
ASAR	**Alice Springs**	**20.68**	**146**	P	**P**	**23 55 44.2**	**+1.1**
MORW	**Morawa**	**22.91**	**192**	P	**P**	**23 56 05.0**	**-1.8**
MORW				IAmb	IAmb	23 56 07.4	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**29.33**	**154**	P	**P**	**23 57 05.2**	**-0.3**
STKA	**Stephens Creek**	**31.32**	**146**	P	**P**	**23 57 21.1**	**-2.0**
	comp=Z,1.2nm,0.4s,baz=316,slow=7.5,SNR=3.7						
STKA				LR	LR	00 11 54.3	
	comp=Z,49nm,18.8s,baz=204,slow=40						
STKA	**Stephens Creek**	**31.32**	**146**	P	**P**	**23 57 22.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**33.45**	**319**	P	**P**	**23 57 40.0**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=144,slow=6.6,SNR=4.5						
CMAR				LR	LR	00 12 18.9	
	comp=Z,30nm,18.7s,baz=195,slow=38						
KSRS	**Korea Array**	**44.27**	**7**	P	**P**	**23 59 12.1**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=195,slow=8.8,SNR=5.9						
SANVU	**Saraoutou**	**45.57**	**105**	P	**P**	**23 59 25.6**	**+2.7**
LSA	**Lhasa**	**46.46**	**323**	P	**P**	**23 59 31.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**48.14**	**350**	*eP*	**P**	**23 59 45.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,89nm,5.3s						
MDJ	**Mudanjiang**	**51.53**	**7**	P	**P**	**00 00 09.1**	**+0.8**
MDJ				IAmb	IAmb	00 00 09.3	
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**55.87**	**348**	P	**P**	**00 00 39.9**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=171,slow=8.4,SNR=9.4						
SONM	**Songino Array**	**55.87**	**348**	P	**P**	**00 00 39.9**	**-0.2**
SONM				IAmb	IAmb	00 00 41.1	
	comp=Z,1.8nm,0.9s						
WMQ	**Urumqi**	**58.81**	**332**	*eP*	**P**	**00 01 03.0**	**+2.0**
MK31	**Makanchi Array**	**63.58**	**331**	P	**P**	**00 01 32.8**	**-0.3**
MK31				IAmb	IAmb	00 01 33.7	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**63.58**	**331**	P	**P**	**00 01 33.1**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=137,slow=7.4,SNR=25						
MKAR	**Makanchi Array**	**63.58**	**331**	P	**P**	**00 01 32.9**	**-0.3**
ZALV	**Zalesovo Beam**	**67.79**	**338**	P	**P**	**00 01 58.7**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=145,slow=5.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**67.79**	**338**	P	**P**	**00 01 58.3**	**-1.8**
ABKAR	**Akbulak array**	**77.13**	**324**		**P**	**00 02 55.3**	**-0.6**

IDC ***16*** *23:52:27.4±0.8, 62.08N×124.08W, h0km, mb3.3/3, mb1 3.8/8, mb1mx3.5/47, mbtmp3.6/8, ML3.1/4, MS3.1/7, Ms1 3.1/7, ms1mx2.8/24, Error ellipse: s-maj=13.7km s-min=7.8km az=158.0*

NEIC ***16*** *23:52:28.5±2.7, 62.13N±0.07×123.8W±0.2, h15km±6km, Error ellipse: s-maj=12.5km s-min=10.6km az=88.0*

PGC ***16*** *23:52:29.3±0.0, 62.11N×124.00W, h15km, mb4.2, ML3.6/9, 148km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada*

ISC 16 23:52:25.8±0.5, 62.16N±0.03×124.17W±0.03, h5km, n83, σ2s36/94, mb3.5/4, MS3.1/4, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBC1	**NorthernBC 1**	**2.52**	**176**	Sg	**Sg**	**23 53 46.5**	**0.0**
NBC2	**NorthernBC 2**	**2.52**	**160**	Pn	**Pn**	**23 53 08.9**	**+1.4**
NBC2				Sn	**Sn**	**23 53 38.0**	**-0.6**
NBC3	**NorthernBC 3**	**3.05**	**144**	Pn	**Pn**	**23 53 15.5**	**+0.8**
NBC3				Sn	**Sn**	**23 53 49.7**	**-1.9**
FNBB	**Fort Nelson**	**3.33**	**170**	Pn	**Pn**	**23 53 19.8**	**+1.3**
NBC6	**NorthernBC 6**	**3.85**	**157**	Pn	**Pn**	**23 53 26.0**	**+0.3**
NBC6				Sn	**Sn**	**23 54 08.1**	**-3.2**
NBC6				Sg	**Sg**	**23 54 26.3**	**-3.0**
YKA	**Yellowknife Ar**	**4.47**	**81**	Pn	**Pn**	**23 53 35.7**	**+1.5**
	0.9nm,0.3s,baz=227,slow=15,SNR=24						
YKA				Pg	**Pg**	**23 53 51.1**	**-0.4**
	17nm,0.3s,baz=277,slow=18,SNR=34						
YKA				Sn	**Sn**	**23 54 26.4**	**-0.2**
	6.3nm,0.3s,baz=80,slow=8.6,SNR=4.4						
YKA				Lg	Lg	23 54 43.2	
	9.0nm,0.3s,baz=271,slow=32,SNR=1.9						
YKA				LR	LR	23 55 40.5	
	comp=Z,223nm,18.7s,baz=0.0,slow=43						
NBC5	**NorthernBC 5**	**4.71**	**170**	Pn	**Pn**	**23 53 37.7**	**+0.1**
DLBC	**Dease Lake**	**4.73**	**221**	Pn	**Pn**	**23 53 39.3**	**+1.5**
	2.1nm,0.3s,baz=44,slow=14,SNR=19						
DLBC				Sn	**Sn**	**23 54 32.5**	**-0.7**
	3.0nm,0.3s,baz=146,slow=22,SNR=8.9						
DLBC				Lg	Lg	23 54 55.0	
	5.7nm,0.3s,baz=190,slow=20,SNR=3.8						
DLBC	**Dease Lake**	**4.73**	**221**	Pn	**Pn**	**23 53 39.4**	**+1.5**
DLBC				Sn	**Sn**	**23 54 32.1**	**-1.0**
DHRN	**Dharma Camp**	**5.29**	**20**	Pn	**Pn**	**23 53 47.8**	**+2.4**
DHRN				Sn	**Sn**	**23 54 46.0**	**-0.6**
DHRN				Sg	**Sg**	**23 55 13.5**	**-1.9**
WHY	**Whitehorse**	**5.36**	**258**	Pn	**Pn**	**23 53 48.5**	**+2.0**
WHY				Sn	**Sn**	**23 54 47.7**	**-0.9**
WHY				Sg	**Sg**	**23 55 16.5**	**-1.3**
WHY	**Whitehorse**	**5.36**	**258**	Pn	**Pn**	**23 53 48.3**	**+1.8**
BESE	**Bessie Mountai**	**6.40**	**241**	Pn	**Pn**	**23 54 03.0**	**+2.2**
BESE				Sn	**Sn**	**23 55 10.8**	**-3.3**
BESE	**Bessie Mountai**	**6.40**	**241**	Pn	**Pn**	**23 54 03.1**	**+2.4**
JIS	**Juneau Island**	**6.41**	**237**	Pn	**Pn**	**23 54 03.7**	**+3.0**
HYT	**Haines Junctio**	**6.53**	**264**	Pn	**Pn**	**23 54 04.7**	**+2.2**
HYT				Sn	**Sn**	**23 55 15.8**	**-1.5**
HYT	**Haines Junctio**	**6.53**	**264**	Pn	**Pn**	**23 54 04.9**	**+2.4**
YUK5	**Granite Creek**	**6.61**	**267**	Pn	**Pn**	**23 54 06.2**	**+2.6**
NBC4	**NorthernBC 4**	**6.74**	**163**	Sn	**Sn**	**23 55 16.4**	**-6.0**
KUKN	**Kugluktuk,NWT**	**6.86**	**30**	Pn	**Pn**	**23 54 09.7**	**+2.8**
KUKN				Sn	**Sn**	**23 55 21.9**	**-3.4**
YUK6	**Outpost Mounta**	**6.89**	**266**	Pn	**Pn**	**23 54 10.1**	**+2.5**
YUK6				Sg	**Sg**	**23 56 06.1**	**-0.8**
YUK7	**Dusty Glacier**	**6.92**	**263**	Pn	**Pn**	**23 54 09.3**	**+1.4**
YUK7				Sn	**Sn**	**23 55 25.4**	**-1.6**
YUK7				Sg	**Sg**	**23 56 07.4**	**-0.3**
YUK4	**Talbot Arm**	**6.92**	**270**	Pn	**Pn**	**23 54 10.1**	**+2.1**
DAWY	**Dawson**	**7.16**	**292**	Pn	**Pn**	**23 54 14.3**	**+3.1**
DAWY	**Dawson**	**7.16**	**292**	Pn	**Pn**	**23 54 15.3**	**+4.1**
C36M	**Paulatuk**	**7.22**	**0**	Pn	**Pn**	**23 54 13.3**	**+1.4**
C36M				Sn	**Sn**	**23 55 29.7**	**-4.4**
C36M	**Paulatuk**	**7.22**	**0**	Pn	**Pn**	**23 54 13.5**	**+1.6**
INK	**Inuvik**	**7.31**	**332**	Pn	**Pn**	**23 54 15.1**	**+2.0**
	4.5nm,0.3s,baz=134,slow=12,SNR=17						
INK				Sn	**Sn**	**23 55 33.0**	**-3.3**
	2.6nm,0.3s,baz=200,slow=18,SNR=2.0						
INK				Lg	Lg	23 56 12.6	
	3.6nm,0.3s,baz=211,slow=14,SNR=4.5						
INK	**Inuvik**	**7.31**	**332**	Pn	**Pn**	**23 54 14.8**	**+1.7**
INK				Sn	**Sn**	**23 55 33.1**	**-3.2**
FSB	**Fort Saint Jam**	**7.70**	**181**	Pn	**Pn**	**23 54 17.2**	**-1.4**
PNL	**Peninsula**	**7.83**	**258**	Sg	**Sg**	**23 56 34.8**	**-2.1**
YUK2	**White River**	**7.87**	**275**	Pn	**Pn**	**23 54 23.6**	**+2.7**
EGAK	**Eagle**	**8.04**	**296**	Pn	**Pn**	**23 54 26.9**	**+3.7**
BCAR	**Beaver Creek A**	**8.17**	**284**	Pn	**Pn**	**23 54 29.5**	**+4.5**
L27K	**Beaver Creek,**	**8.19**	**284**	Pn	**Pn**	**23 54 28.6**	**+3.3**
CTGM	**Chitina Glacie**	**8.28**	**269**	Pn	**Pn**	23 54 31.6	+5.0
K27K	**Chicken**	**8.33**	**291**	Pn	**Pn**	**23 54 30.9**	**+3.8**
GRNC	**Granite Creek**	**8.54**	**268**	Pn	**Pn**	23 54 35.8	+5.6
SCRK	**Sand Creek**	**9.17**	**290**	Pn	**Pn**	**23 54 42.1**	**+3.4**
DOT	**Dot Lake**	**9.19**	**288**	Pn	**Pn**	**23 54 43.0**	**+4.0**
VRDI	**Verde Repeater**	**9.21**	**273**	Pn	Pn	23 54 44.8	+5.5
UBRB	**Upper Baezaeko**	**9.29**	**180**	Pn	**Pn**	**23 54 39.8**	**-0.6**
FYU	**Fort Yukon**	**10.11**	**305**	Pn	Pn	23 54 57.5	+6.0
BMAR	**Burnt Mountain**	**10.15**	**310**	Pn	**Pn**	**23 54 53.9**	**+1.9**
BBB	**Bella Bella**	**10.22**	**194**	LR	LR	23 59 10.2	
	comp=Z,57nm,18.5s,baz=228,slow=40						
MNB	**Mounoet Dainar**	**10.46**	**160**	Pn	**Pn**	**23 54 56.0**	**-0.5**
IL31		**10.47**	**294**	Pn	**Pn**	**23 55 00.3**	**+3.9**
ILAR	**Eielson Array**	**10.47**	**294**	Pn	**Pn**	**23 54 58.8**	**+2.4**
	0.1nm,0.3s,baz=102,slow=11,SNR=8.6						
ILAR				Sn	**Sn**	**23 56 50.2**	**-3.8**
	0.1nm,0.3s,baz=238,slow=27,SNR=1.3						
ILAR				Lg	Lg	23 57 52.5	
	0.2nm,0.3s,baz=116,slow=23,SNR=4.9						
ILAR				LR	LR	23 59 27.4	
	comp=Z,62nm,19.2s,baz=83,slow=40						
ILAR	**Eielson Array**	**10.47**	**294**	Pn	Pn	23 55 01.4	+5.0
CCB	**Clear Creek Bu**	**10.86**	**294**	Pn	**Pn**	**23 55 05.2**	**+3.5**
WRH	**Wood River Hil**	**10.98**	**293**	Pn	**Pn**	**23 55 06.4**	**+3.1**
MDM	**Murphy Dome**	**11.06**	**295**	Pn	**Pn**	**23 55 08.0**	**+3.5**
MLY	**Manley**	**12.13**	**295**	Pn	**Pn**	**23 55 21.9**	**+2.8**
COLD	**Coldfoot**	**12.18**	**306**	Pn	**Pn**	**23 55 21.5**	**+1.8**
TOLK	**Toolik Lake Re**	**12.34**	**313**	Pn	**Pn**	**23 55 22.7**	**+0.8**
IMAR	**Indian Mountai**	**13.42**	**299**	Pn	**Pn**	**23 55 40.3**	**+3.7**

KDJ				⇑*i*	S		**Sb**	**00 02 58.9**	**+0.5**
	baz=21								
KTBS	**Karatobe**	**1.33**	**298**		P		**Pb**	**00 02 43.4**	**-0.2**
	0.8nm,0.1s								
KTBS					S		**Sb**	**00 03 01.0**	**+0.6**
	3.6nm,0.2s								
TARG	**Taragay, Kyrgy**	**1.41**	**195**	⇑	*i* P		**Pn**	**00 02 44.3**	**+0.4**
	baz=95								
TARG				⇑	*i* S		**Sb**	**00 03 03.5**	**+0.8**
	baz=95								
DJR	**Jarkent**	**1.65**	**40**		*e*P		**Pb**	**00 02 49.3**	**+0.3**
	0.3nm,0.1s								
DJR					*e*S		**Sb**	**00 03 10.1**	**+0.7**
	2.1nm,0.2s								
DJR	**Jarkent**	**1.65**	**40**		P		**Pb**	**00 02 48.9**	**-0.1**
	0.3nm,0.1s								
DJR					S		**Sb**	**00 03 10.0**	**+0.7**
	2.1nm,0.2s								
ULHL	**Ulahol**	**1.74**	**242**	⇑	*i* P		**Pb**	**00 02 50.4**	**-0.2**
	baz=42								
ULHL				⇑	*i* S		**Sb**	**00 03 12.8**	**+0.8**
	baz=42								

NIED ***17*** *00:05:38.5, 41.39N × 142.61E, h23km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr 1.07; Mθθ 0.76; Mϕϕ -1.83; Mrθ -1.43; Mθϕ 1.17; Mϕr 0.04; Fault plane solution: M₀ 2.44000 × 10¹⁴ NP1: ϕs 303.00000°, δ 69.00000°, λ 42.00000°. NP2: ϕs 195.00000°, δ 52.00000°, λ 152.00000°.*

JMA 17 00:05:38.5 ± 0.1, 41.39N × 142.61E, h23km, M3.5, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.75**	**33**	⇓P			Pb	00 05 52.5	-0.3
JEM					*e*S		Sb	00 06 02.7	+0.1
JNBK	**Urakawa-nobuka**	**0.90**	**7**	P			Pb	00 05 55.1	-0.3
JNBK					*e*S		Sb	00 06 07.4	+0.5
JAHD	**Aomorihigashid**	**0.97**	**263**	⇓P			Pb	00 05 56.2	-0.3
JAHD					*e*S		Sb	00 06 08.9	0.0
JARK	**Aomorirokkasho**	**1.01**	**248**	⇓P			Pn	00 05 57.0	-0.3
JARK					*e*S		Sb	00 06 10.0	-0.2
JSHD	**Hidakashinhida**	**1.02**	**354**	P			Pb	00 05 58.1	+0.5
JTHR	**Tokachihiroo**	**1.04**	**30**	P			Pn	00 05 57.3	-0.3
JOT	**Ohata**	**1.18**	**270**	⇓P			Pn	00 05 59.2	-0.3
JKB	**Kayabe**	**1.28**	**293**	P			Pn	00 06 00.4	-0.6
JKB					*e*S		Sn	00 06 15.7	-1.7
JANG	**Nango**	**1.31**	**220**	P			Pn	00 06 01.1	-0.3
JTM	**Tenmabayashi**	**1.31**	**243**	⇓P			Pn	00 06 01.9	+0.5
JCH	**Churui**	**1.35**	**24**	P			Pn	00 06 01.9	0.0
JBT2	**Biratori 2**	**1.40**	**353**	P			Pn	00 06 02.8	+0.2
JNB	**Noboribetsu**	**1.59**	**313**	P			Pn	00 06 04.9	-0.4
JNB					*e*S		Sn	00 06 23.5	-1.6
JEW	**Eniwo**	**1.69**	**330**	P			Pn	00 06 07.2	+0.6
JEW					*e*S		Sn	00 06 28.4	+1.0
JOB	**Onbets**	**1.77**	**31**	P			Pn	00 06 08.8	+1.2
JYM2	**Yakumo 2**	**1.83**	**294**	P			Pn	00 06 09.0	+0.5
JAH	**Hinai**	**1.92**	**232**	P			Pn	00 06 10.9	+1.1

IDC ***17*** *00:13:17.8 ± 1.1, 27.62N × 85.33E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/35, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=37.3km s-min=21.3km az=63.0*

NEIC ***17*** *00:13:20.2 ± 2.0, 27.7N ± 0.2 × 85.3E ± 0.2, h6km ± 7km, mb4.0/8, Error ellipse: s-maj=27.4km s-min=18.8km az=50.0*

NDI ***17*** *00:13:21.7 ± 2.9, 27.50N × 85.03E, h10km, ML3.8, mb4.0(NEIC)*

ISC 17 00:13:19.4 ± 0.6, 27.68N ± 0.09 × 85.20E ± 0.06, h10km, n23, σ 19 97/26, mb3.5/9, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTK	**Tadong**	**3.04**	**96**		*e*P		**Pb**	**00 14 12.3**	**-1.5**
GTK					*e*S		**Sb**	**00 14 50.1**	**-0.9**
GTK					IAML			00 14 52.2	
	comp=E,266nm,0.2s								
BOK	**Bokaro**	**3.92**	**171**		*e*P		**Pn**	**00 14 19.3**	**-0.4**
SMLA	**Simla**	**7.80**	**298**		*e*P		**Pn**	**00 15 13.4**	**+0.5**
SMLA					*e*S		**Sn**	**00 16 38.9**	**-2.5**
SMLA					IAML			00 16 42.9	
	comp=E,32nm,0.3s								
BHPL	**Bhopal**	**8.30**	**240**		*e*P		**Pn**	**00 15 17.4**	**-2.5**
BHPL					*e*S		Sn	00 16 45.4	-8.5
DHRM	**DHARAMSHALA**	**8.96**	**303**		*e*P		**Pn**	**00 15 18.2**	**-0.9**
DHRM					*e*S		**Sn**	**00 17 04.1**	**-6.1**
DHRM					IAML			00 17 12.1	
	comp=E,222nm,0.4s								
NIL	**Nilore**	**11.88**	**303**				**Pn**	**00 16 07.5**	**-1.4**
KBL	**Kabul**	**15.43**	**300**		P		**P**	**00 17 01.9**	**0.0**
KBL					IAmb		IAmb	00 17 02.6	
	comp=E,4.1nm,0.5s								
CHGR	**Chuyangaron**	**17.30**	**313**		P		**P**	**00 17 25.3**	**+2.8**
CHGR					IAmb		IAmb	00 17 30.7	
	comp=E,5.7nm,0.6s								
MK31	**Makanchi Array**	**19.21**	**354**		P		**Pn**	**00 17 44.2**	**-0.2**
MKAR	**Makanchi Array**	**19.21**	**354**		P		**P**	**00 17 43.0**	**-0.4**
	comp=E,2.0nm,0.3s,baz=175,slow=12,SNR=14								
MKAR	**Makanchi Array**	**19.21**	**354**		P		**Pn**	**00 17 44.0**	**-0.5**
KURBB	**Kurchatov Arra**	**23.46**	**349**		P		**P**	**00 18 28.7**	**-0.2**
	comp=E,0.4nm,0.5s,baz=176,slow=9.6,SNR=6.8								
SONM	**Songino Array**	**26.03**	**34**		P		**P**	**00 18 53.7**	**+0.9**
	comp=E,0.6nm,0.6s,baz=218,slow=9.1,SNR=2.8								
ZALV	**Zalesovo Beam**	**26.24**	**359**		P		**P**	**00 18 56.4**	**+1.9**
	comp=E,0.4nm,0.4s,baz=160,slow=8.9,SNR=2.0								
RAYN	**Ar Rayn**	**35.93**	**272**		P		**P**	**00 20 23.2**	**+2.9**
RAYN					IAmb		IAmb	00 20 42.4	
	comp=E,4.2nm,1.4s								
ELL	**Elmali**	**47.09**	**296**		P		**P**	**00 21 52.1**	**+0.4**
ARCES	**ARCESS Array B**	**53.84**	**338**		P		**P**	**00 22 41.3**	**-0.9**
	comp=E,3.7nm,1.1s,baz=105,slow=10,SNR=1.3								
WRA	**Warramunga Arr**	**67.10**	**129**		P		**P**	**00 24 12.3**	**-1.1**
	comp=E,0.6nm,0.7s,baz=320,slow=6.3,SNR=3.1								
ASAR	**Alice Springs**	**69.38**	**133**		P		**P**	**00 24 26.6**	**-1.1**
	comp=E,0.5nm,0.6s,baz=314,slow=6.6,SNR=6.3								
ESDC	**Sonseca Array**	**72.31**	**306**		P		**P**	**00 24 47.3**	**+1.9**
	comp=E,2.0nm,0.7s,baz=85,slow=7.7,SNR=1.5								
BMAR	**Burnt Mountain**	**78.15**	**18**		P		**P**	**00 25 19.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**78.34**	**279**		P		**P**	**00 25 21.6**	**+1.1**
	comp=E,0.2nm,0.4s,baz=64,slow=3.7,SNR=1.3								
TORD	**Torodi Ar. Bea**	**78.34**	**279**		P		**P**	**00 25 22.1**	**+1.7**

IDC ***17*** *00:29:55.5 ± 0.6, 27.81N × 85.51E, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.0/43, mbtmp4.1/21, ML4.6/3, MS3.1/14, Ms1 3.1/14, ms1mx2.9/50, Error ellipse: s-maj=19.7km s-min=13.0km az=57.0*

NEIC ***17*** *00:29:59.0 ± 2.7, 27.94N ± 0.05 × 85.50E ± 0.04, h10km ± 1km, mb4.3/40, Error ellipse: s-maj=8.8km s-min=5.6km az=173.0*

NDI ***17*** *00:30:00.1 ± 3.7, 27.51N × 85.46E, h10km, ML4.1, mb4.3(NEIC)*

ISC 17 00:29:57.4 ± 0.4, 27.68N ± 0.05 × 85.40E ± 0.04, h10km, n114, σ 19 74/120, mb4.4/26, MS3.1/11, 1C, Nepal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTK	**Tadong**	**2.87**	**96**		*e*P		**Pn**	**00 30 45.1**	**+1.8**
GTK					*e*S		**Sn**	**00 31 19.9**	**+1.9**
GTK					IAML			00 31 26.1	
	comp=E,2μm,0.2s								
BOK	**Bokaro**	**3.89**	**173**		*i* S		**Sn**	**00 31 38.0**	**-5.1**
BOK					IAML			00 32 13.3	
	comp=E,560nm,0.5s								
LSA	**Lhasa**	**5.44**	**67**		P		**Pn**	**00 31 21.0**	**+2.0**
LSA					S		**Sn**	**00 32 18.3**	**-3.6**
LSA					pmax		pmax		
	comp=E,26nm,0.3s								
LSA					L		L		
	comp=E,300nm,7.1s								
LSA					L		L		
	comp=E,460nm,5.3s								
LSA					L		L		
	comp=E,560nm,4.6s								
LSA	**Lhasa**	**5.44**	**67**		Pn		**Pn**	**00 31 20.4**	**+1.4**
SHL	**Shillong**	**6.17**	**108**		*e*P		**Pn**	**00 31 28.9**	**+0.1**
SHL					*e*S		**Sn**	**00 32 33.7**	**-5.8**
SHL					IAML			00 32 42.5	
	comp=E,82nm,0.3s								
AGT	**Agartala**	**6.49**	**124**		*e*P		**Pn**	**00 31 35.7**	**+2.7**
AGT					IAmb		IAmb	00 31 38.0	
	comp=Z,157nm,0.5s								
NDI	**New Delhi**	**7.29**	**280**		*e*P		Pn	00 31 50.0	+6.0
NDI					*e*S		**Sn**	**00 33 07.0**	**+0.1**
BRDH	**Bariadhala**	**7.53**	**130**		Pn		**Pn**	**00 31 48.7**	**+1.4**
	comp=Z,19nm,0.3s,baz=244,slow=20,SNR=3.5								
SMLA	**Simla**	**7.96**	**298**		*e*P		**Pn**	**00 31 55.3**	**+2.1**
SMLA					*e*S		**Sn**	**00 33 23.6**	**+0.3**
SMLA					IAML			00 33 25.4	
	comp=E,241nm,0.5s								
BHPL	**Bhopal**	**8.45**	**240**		*e*P		**Pn**	**00 32 01.0**	**+1.0**
BHPL					*e*S		**Sn**	**00 33 30.6**	**-5.0**
BHPL					IAML			00 33 38.4	
	comp=E,106nm,0.1s								
DHRM	**DHARAMSHALA**	**9.11**	**302**		*e*P		**Pn**	**00 32 09.4**	**+0.2**
DHRM					*e*S		**Sn**	**00 33 49.2**	**-2.8**
DHRM					IAML			00 33 53.6	
	comp=N,100nm,0.5s								
AJM	**Ajmer**	**9.66**	**265**		*e*P		**Pn**	**00 32 18.0**	**+1.4**
AJM					*i* S		**Sn**	**00 34 02.0**	**-3.3**
HYB	**Hyderabad**	**12.01**	**213**		*i* P		**Pn**	**00 32 50.0**	**+1.3**
HYB					*e*S		**Sn**	**00 35 03.0**	**+0.2**
HYB	**Hyderabad**	**12.01**	**213**		*e*P		**Pn**	**00 32 48.8**	**0.0**
NIL	**Nilore**	**12.03**	**303**		Pn		**Pn**	**00 32 48.9**	**-0.1**
THW	**Thamme Wali**	**12.86**	**297**		P		**Pn**	**00 32 59.3**	**-1.0**
CHTO	**Chiang Mai**	**15.24**	**122**				**P**	**00 33 37.8**	**0.0**
CHTO					IAmb		IAmb	00 33 39.1	
	comp=Z,9.7nm,0.8s								
CM33	**Chiang Mai Arr**	**15.24**	**122**		P		**P**	**00 33 38.0**	**+0.2**
CMMT	**Chiang Mai**	**15.25**	**122**		P		**P**	**00 33 37.5**	**-0.4**
	comp=E,14nm,1.2s								
CM32	**Chiang Mai Arr**	**15.27**	**123**		P		**P**	**00 33 39.0**	**+0.9**
TARG	**Taragay, Kyrgy**	**15.34**	**338**				**Pn**	**00 33 32.7**	**-1.6**
TARG					IAmb		IAmb	00 33 50.9	
	comp=Z,9.9nm,1.0s								
CM34	**Chiang Mai Arr**	**15.38**	**122**		P		**P**	**00 33 40.0**	**+0.7**
CM15	**Chiang Mai Arr**	**15.45**	**124**		P		**P**	**00 33 42.0**	**+1.9**
CM13	**Chiang Mai Arr**	**15.46**	**124**		P		**P**	**00 33 42.1**	**+1.9**
	comp=Z,9.8nm,0.7s								
CM31	**Chiang Mai Arr**	**15.46**	**124**		P		**P**	**00 33 42.0**	**+1.8**
	comp=Z,8μmcomp=Z,336nm,0.7s								
CM31	**Chiang Mai Arr**	**15.46**	**124**		P		**P**	**00 33 41.0**	**+0.7**
CM31					IAmb		IAmb	00 33 42.8	
	comp=E,8.5nm,0.6s								
CMAR	**Chiang Mai Arr**	**15.46**	**124**		Pn		**Pn**	**00 33 34.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=302,slow=13,SNR=5.6								
CMAR					LR		LR	00 41 36.7	
	comp=Z,26nm,19.0s,baz=320,slow=45								
CMAR	**Chiang Mai Arr**	**15.46**	**124**		P		**P**	**00 33 40.7**	**+0.5**
CM02	**Chiang Mai Arr**	**15.48**	**124**		P		**P**	**00 33 41.6**	**+1.2**
CM35	**Chiang Mai Arr**	**15.48**	**122**		P		**P**	**00 33 40.0**	**-0.5**
CM01	**Chiang Mai Arr**	**15.50**	**124**		P		**P**	**00 33 42.9**	**+2.2**
	comp=E,8.0nm,0.8s								
CM05	**Chiang Mai Arr**	**15.50**	**124**		P		**P**	**00 33 42.5**	**+1.8**
	comp=E,55nmcomp=Z,7.7nm,0.7s								
CM09	**Chiang Mai Arr**	**15.51**	**123**		P		**P**	**00 33 42.5**	**+1.7**
	comp=Z,12nm,0.6s								
CM04	**Chiang Mai Arr**	**15.53**	**124**		P		**P**	**00 33 42.9**	**+1.9**
	comp=Z,70nmcomp=Z,9.5nm,0.7s								
CM36	**Chiang Mai Arr**	**15.54**	**123**		P		**P**	**00 33 42.0**	**+0.9**
KBL	**Kabul**	**15.58**	**300**		P		**P**	**00 33 41.2**	**-0.5**
KBL					IAmb		IAmb	00 33 49.8	
	comp=Z,23nm,1.4s								
WMQ	**Urumqi**	**16.22**	**6**		*e*P		**Pn**	**00 33 46.3**	**+0.9**
WMQ					pmax		pmax		
	comp=Z,16nm,0.9s								
WMQ					pmax		pmax		
	comp=Z,86nm,4.3s								
DRK	**Karamyk**	**16.32**	**320**		P		**P**	**00 33 50.1**	**+0.1**
DRK					IAmb		IAmb	00 33 55.5	
	comp=E,12nm,0.9s								
BOOM	**Boomskoye usch**	**16.67**	**335**		P		**Pn**	**00 33 52.2**	**+1.0**
GTA	**Gaotai**	**16.75**	**42**		*e*P		**Pn**	**00 33 53.0**	**+0.7**
GTA					pP		pP	00 33 58.4	+0.6
GTA					sP		sP	00 34 01.6	+2.3
GTA					pmax		pmax		
	comp=Z,6.0nm,1.0s								
GTA					pmax		pmax		
	comp=Z,40nm,3.8s								
GTA					L		L		
	comp=Z,110nm,12.7s								
GTA					L		L		
	comp=Z,200nm,14.5s								
GTA					L		L		
	comp=Z,100nm,13.1s								
GAR	**Garm**	**16.90**	**316**		Pn		**Pn**	**00 33 52.6**	**-1.5**
GAR					IAmb		IAmb	00 34 07.2	
	comp=Z,12nm,0.8s								
ARSB	**Arslanbob**	**17.01**	**326**		Pn		**Pn**	**00 33 53.2**	**-2.3**
UTTA	**Uttaradit**	**17.11**	**122**		P		**P**	**00 34 00.6**	**+2.1**
	comp=Z,1.6nm,0.7s								
BTK	**Batken**	**17.27**	**319**		Pn		**Pn**	**00 33 56.0**	**-2.7**
BTK					IAmb		IAmb	00 34 07.3	
	comp=Z,10nm,0.7s								
PHIT	**Phitsanulok**	**17.35**	**124**		P		**P**	**00 34 03.0**	**+1.9**
	comp=Z,7.3nm,0.9s								
AAK	**Ala-Archa**	**17.36**	**332**		P		**P**	**00 34 07.2**	**+5.8**
	comp=Z,0.5nm,0.3s,baz=166,slow=10,SNR=4.4								
AAK					LR		LR	00 41 34.0	
	comp=Z,74nm,18.1s,baz=142,slow=40								
AAK	**Ala-Archa**	**17.36**	**332**		P		**Pn**	**00 33 59.8**	**-0.2**
CHGR	**Chuyangaron**	**17.43**	**313**		Pn		**Pn**	**00 33 59.9**	**-0.9**
CHGR					IAmb		IAmb	00 34 14.3	
	comp=Z,26nm,0.7s								
NONG	**Nongkai**	**18.93**	**117**		P		**Pn**	**00 34 22.0**	**+2.9**
	comp=Z,6μmcomp=Z,11nm,1.0s								
GYA	**Guiyang**	**18.98**	**89**	⇑	P		**P**	**00 34 19.8**	**+0.6**
GYA					pP		sP	00 34 38.8	+15
GYA					pmax		pmax		
	comp=Z,3.0nm,0.9s								
MK31	**Makanchi Array**	**19.24**	**354**		P		**P**	**00 34 20.4**	**-1.4**
MKAR	**Makanchi Array**	**19.24**	**354**		P		**P**	**00 34 20.6**	**-1.3**
	comp=Z,2.4nm,0.3s,baz=177,slow=11,SNR=89								
MKAR					PcP		**PcP**	**00 38 44.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=173,slow=3.4,SNR=2.1								
MKAR					LR		LR	00 42 34.0	
	comp=Z,12nm,21.3s,baz=160,slow=40								
MKAR	**Makanchi Array**	**19.24**	**354**		P		**P**	**00 34 21.0**	**-0.8**
MAKZ	**Makanchi**	**19.29**	**353**		P		**P**	**00 34 21.8**	**-0.5**
MAKZ					IAmb		IAmb	00 34 25.0	
	comp=Z,10.0nm,1.0s								
KK31	**Karatay Array**	**19.55**	**326**		P		**P**	**00 34 24.7**	**-0.6**
KKAR	**Karatay Array**	**19.55**	**326**		P		**P**	**00 34 24.0**	**-1.3**
PALK	**Pallekele**	**20.78**	**193**		P		Pn	00 34 48.6	+7.4
	comp=Z,9.1nm,0.4s,baz=112,slow=12,SNR=12								
PALK					LR		LR	00 42 57.0	
	comp=Z,75nm,18.4s,baz=117,slow=37								
ENH	**Enshi**	**21.22**	**77**		P		**P**	**00 34 44.6**	**+1.1**
ENH					IAmb		IAmb	00 34 51.0	
	comp=Z,12nm,0.9s								
KURBB	**Kurchatov Arra**	**23.50**	**349**		P		**P**	**00 35 06.8**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=168,slow=10,SNR=27								
KURBB					PcP		**PcP**	**00 38 52.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=173,slow=1.7,SNR=2.8								
KURK	**Kurchatov**	**23.58**	**349**				**PcP**	**00 38 52.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**25.19**	**52**		*e*P		**P**	**00 35 23.5**	**+0.2**
HHC					pmax		pmax		
	comp=Z,14nm,0.6s								
HHC					pmax		pmax		
	comp=Z,85nm,6.6s								
SONM	**Songino Array**	**25.94**	**33**		P		**P**	**00 35 29.4**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=214,slow=11,SNR=17								
SONM					PcP		**PcP**	**00 38 58.3**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=226,slow=4.2,SNR=3.0								
SONM					LR		LR	00 46 46.7	
	comp=Z,109nm,18.2s,baz=260,slow=39								
SONM	**Songino Array**	**25.94**	**33**		P		**P**	**00 35 29.7**	**-0.2**
SONM					IAmb		IAmb	00 35 34.5	
	comp=Z,4.0nm,1.0s								
ZAA0	**Zalesovo Array**	**26.25**	**359**		P		**P**	**00 35 32.4**	**-0.2**
ZAA0					IAmb		IAmb	00 35 39.2	
	comp=Z,9.8nm,1.1s								
ZALV	**Zalesovo Beam**	**26.25**	**359**		P		**P**	**00 35 31.7**	**-0.8**
	comp=Z,3.9nm,0.4s,baz=183,slow=9.2,SNR=20								
ZALV					LR		LR	00 47 20.4	
	comp=Z,49nm,18.7s,baz=170,slow=40								
ZALV	**Zalesovo Beam**	**26.25**	**359**		P		**P**	**00 35 32.1**	**-0.5**
ULN	**Ulaanbaatar**	**26.28**	**34**		P		**P**	**00 35 32.7**	**-0.4**
ULN					IAmb		IAmb	00 35 37.9	
	comp=Z,5.7nm,0.7s								
TLY	**Talaya**	**27.63**	**25**		LR		LR	00 47 51.5	
	comp=Z,52nm,21.0s,baz=151,slow=39								
BVAR	**Borovoye Array**	**27.67**	**340**		P		**P**	**00 35 43.6**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=161,slow=9.9,SNR=4.9								
ABKAR	**Abkulak array**	**29.11**	**325**		P		**P**	**00 36 00.6**	**+2.3**
AKTO	**Aktyubinsk**	**30.82**	**325**		LR		LR	00 50 01.4	
	comp=Z,54nm,18.3s,baz=139,slow=39								
KSRS	**Korea Array**	**36.88**	**64**		P		**P**	**00 37 03.4**	**-2.7**
	comp=Z,0.7nm,0.4s,baz=263,slow=6.3,SNR=1.7								
KSRS					LR		LR	00 52 03.6	
	comp=Z,24nm,19.2s,baz=226,slow=36								
KIRV	**Kirov**	**39.69**	**331**		LR		LR	00 57 11.6	
	comp=Z,14nm,19.5s,baz=117,slow=41								
KLR	**Kul'dur**	**41.39**	**46**		P		**P**	**00 37 40.1**	**-3.6**
	comp=Z,0.7nm,0.5s,baz=248,slow=8.5,SNR=3.9								
NRIK	**Noril'sk**	**41.71**	**1**		P		**P**	**00 37 43.1**	**-3.0**
	comp=Z,2.0nm,0.4s,baz=168,slow=2.4,SNR=1.4								
NRIK	**Noril'sk**	**41.71**	**1**		P		**P**	**00 37 47.0**	**+0.9**
NRIK					IAmb		IAmb	00 37 52.2	
	comp=Z,12nm,1.1s								
MJAR	**Matsushiro Arr**	**45.12**	**65**		LR		LR	00 58 39.1	
	comp=Z,22nm,18.6s,baz=175,slow=38								
ELL	**Elmali**	**47.25**	**296**		P		**P**	**00 38 32.2**	**+1.2**
MLR	**Muntele Rosu**	**49.80**	**308**		P		**P**	**00 38 51.4**	**+0.9**
MLR					IAmb		IAmb	00 39 07.1	
	comp=Z,4.5nm,0.9s								
TIXI	**Tiksi**	**50.05**	**17**		P		**P**	**00 38 50.4**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=220,slow=3.2,SNR=2.0								
TIXI	**Tiksi**	**50.05**	**17**		P		**P**	**00 38 51.0**	**-0.8**
TIXI					IAmb		IAmb	00 38 58.7	
	comp=Z,4.0nm,0.9s								
BURAR	**Bucovina Array**	**50.31**	**310**		P		**P**	**00 38 55.0**	**+0.6**
FINES	**FINESS Array B**	**51.49**	**328**		P		**P**	**00 39 02.5**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=107,slow=7.9,SNR=14								
FINES					LR		LR	01 02 52.8	
	comp=Z,38nm,18.6s,baz=298,slow=38								
FINES	**FINESS Array B**	**51.49**	**328**		P		**P**	**00 39 03.4**	**+0.5**
ARCES	**ARCESS Array B**	**53.92**	**338**		P		**P**	**00 39 20.1**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=104,slow=7.8,SNR=23								
ARCES					LR		LR	01 03 36.2	
	comp=Z,16nm,18.9s,baz=85,slow=38								
ARCES	**ARCESS Array B**	**53.92**	**338**		P		**P**	**00 39 21.1**	**+0.4**
NOA	**NORSAR Array B**	**58.58**	**327**		P		**P**	**00 39 52.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=174,slow=7.2,SNR=5.2								
NOA					LR		LR	01 06 43.4	
	comp=Z,23nm,20.4s,baz=90,slow=38								
KEST	**Kesra**	**63.73**	**298**		P		**P**	**00 40 30.1**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=54,slow=2.0,SNR=4.9								
KEST	**Kesra**	**63.73**	**298**		P		**P**	**00 40 31.5**	**+1.9**
WRA	**Warramunga Arr**	**66.96**	**130**		P		**P**	**00 40 51.2**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=322,slow=6.5,SNR=23								
WRA	**Warramunga Arr**	**66.96**	**130**		P		**P**	**00 40 51.0**	**+0.5**
ASAR	**Alice Springs**	**69.25**	**133**		P		**P**	**00 40 51.4**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=319,slow=6.2,SNR=27								
ASAR	**Alice Springs**	**69.25**	**133**		P		**P**	**00 41 04.9**	**0.0**
ESDC	**Sonseca Array**	**72.46**	**306**		P		**P**	**00 41 24.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=64,slow=5.6,SNR=5.7								
ESDC	**Sonseca Array**	**72.46**	**306**		P		**P**	**00 41 25.1**	**+0.8**
TOLK	**Toolik Lake Re**	**75.91**	**18**		P		**P**	**00 41 45.8**	**+1.8**
TOLK					IAmb		IAmb	00 41 50.2	
	comp=Z,2.7nm,0.8s								
IMAR	**Indian Mountai**	**76.38**	**21**		P		**P**	**00 41 50.0**	**+3.3**
BBOO	**Buckleboo**	**77.04**	**138**		P		**P**	**00 41 51.7**	**+0.9**
LBTB	**Lobatse**	**77.85**	**233**		P		**P**	**00 41 57.5**	**+1.9**
BMAR	**Burnt Mountain**	**78.11**	**18**		P		**P**	**00 41 57.4**	**+1.1**
TOA0	**Torodi Ar. Sit**	**78.51**	**279**		P		**P**	**00 42 00.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**78.51**	**279**		P		**P**	**00 41 59.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=67,slow=4.3,SNR=5.3								
TORD	**Torodi Ar. Bea**	**78.51**	**279**		P		**P**	**00 42 00.1**	**+0.7**
ILAR	**Eielson Array**	**79.34**	**20**		P		**P**	**00 42 00.4**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=301,slow=5.1,SNR=2.8								
ILAR					PP		**PP**	**00 45 00.3**	**-2.1**
	comp=Z,0.3nm,0

	baz=357								
KRUC	**Moravsky**	**2.50**	**176**	*e*Pg		**Pb**	**01 22 14.8**	**-0.2**
	baz=357								
KRUC				*e*Sg		**Sb**	**01 22 46.6**	**+0.2**
	comp=Z,23nm,0.5s,baz=357								
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN		**Pn**	**01 22 14.3**	**+0.9**
NKC				*e*PG		**Pg**	**01 22 20.6**	**+0.3**
NKC				*e*SG		**Sg**	**01 22 56.2**	**+1.3**
	comp=Z,38nm,0.3s								
OJC	**Ojcow**	**2.69**	**118**	*e*Pg		**Pg**	**01 22 20.9**	**+0.2**
OJC				*e*Sg		**Sg**	**01 22 56.5**	**+0.9**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*PN		**Pn**	**01 22 16.6**	**+0.2**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Pn		**Pn**	**01 22 16.5**	**+0.2**
	baz=341								
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN		**Pn**	**01 22 17.1**	**+0.2**
KHC				*e*PG		**Pb**	**01 22 23.0**	**+0.9**
KHC				*e*SN		**Sn**	**01 22 52.4**	**-0.3**
KHC				*e*SG		**Sg**	**01 23 02.2**	**-0.7**
	comp=Z,14nm,0.4s								
CKRC	**Cesky Krumlov**	**2.97**	**204**	*e*PN		**Pn**	**01 22 18.4**	**+0.8**
CKRC				*e*PG		**Pb**	**01 22 23.5**	**+0.5**
GERES	**GERESS Array B**	**3.12**	**211**	Pn		**Pn**	**01 22 19.9**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=27,slow=13,SNR=23								
GERES				Pg		**Pb**	**01 22 26.4**	**+0.8**
	comp=Z,2.7nm,0.3s,baz=25,slow=17,SNR=22								
GERES				Lg		Lg	01 23 05.0		
	comp=Z,5.0nm,0.3s,baz=28,slow=27,SNR=2.4								
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PN		**Pn**	**01 22 21.8**	**+0.7**
LANS				*e*PG		**Pg**	**01 22 33.1**	**+2.1**
LANS				*e*SG		**Sg**	**01 23 12.4**	**-0.5**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG		**Pg**	**01 22 30.4**	**-1.5**
MODS				*e*SG		**Sg**	**01 23 11.8**	**-2.5**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN		**Pn**	**01 22 25.8**	**+0.5**
VYHS				*e*PG		**Pg**	**01 22 37.3**	**+0.4**
VYHS				*e*SG		**Sg**	**01 23 21.6**	**-1.1**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**01 22 26.8**	**+0.2**
BSD				*i* S		**Sn**	**01 23 08.1**	**-2.1**
BSD				IAML			01 23 12.3		
	comp=Z,2.1nm,0.3s								
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn		**Pn**	**01 22 26.3**	**-0.4**
	comp=Z,1.1nm,0.4s								
MOA	**Molln**	**3.90**	**199**	*i* Pn		**Pn**	**01 22 30.7**	**+0.4**
	comp=Z,1.0nm,0.2s								
ARSA	**Arzberg**	**4.33**	**185**	*e*Pn		**Pn**	**01 22 36.9**	**+0.7**
	comp=Z,0.5nm,0.2s								
ARSA				Sg		**Sg**	**01 23 48.4**	**+0.3**
	comp=Z,4.4nm,0.5s								
LUNU	**Lund**	**4.38**	**340**	*i* P		**Pn**	**01 22 37.3**	**+0.4**
LUNU				*i* S		**Sn**	**01 23 28.3**	**-0.2**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PN		**Pn**	**01 22 42.3**	**+0.3**
KOLS				*e*PG		**Pg**	**01 23 01.8**	**+1.7**
KOLS				*e*SG		**Sg**	**01 24 03.7**	**+2.1**
BLEU	**Blekinge**	**4.76**	**358**	*i* P		**Pn**	**01 22 43.2**	**+1.1**
BLEU				*i* S		**Sn**	**01 23 35.7**	**-2.1**
BJUU	**Bjuv**	**4.88**	**339**	*i* P		**Pn**	**01 22 44.2**	**+0.4**
DEL	**Delary**	**5.10**	**346**	*e*		**Pn**	**01 22 47.1**	**+0.4**
	baz=177,slow=14								
DEL				*i* P		**Pn**	**01 22 47.5**	**+0.7**
DEL				*e*S		**Sn**	**01 23 43.6**	**-2.6**
DEL				IAML			01 23 47.2		
	comp=Z,1.7nm,0.4s								
AKASG	**Malin Array Be**	**8.30**	**91**	Pn		**Pn**	**01 23 31.7**	**+1.1**
	baz=280,slow=12,SNR=2.4								
FINES	**FINESS Array B**	**11.32**	**25**	Pn		**Pn**	**01 24 10.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=1.1								

IDC 17 01:34:28.3±1.7, 3°34'S×147°55'E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/26, mbtmp3.8/4, Error ellipse: s-maj=111.5km s-min=26.4km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.94**	**217**	P	P	01 39 13.2	+0.3
	2.6nm,0.6s,baz=43,slow=11,SNR=21						
ASAR	**Alice Springs**	**24.13**	**212**	P	P	01 39 46.4	+0.2
	1.6nm,0.8s,baz=39,slow=7.0,SNR=7.4						
FITZ	**Fitzroy Crossi**	**25.99**	**234**	P	P	01 40 02.4	-0.7
	2.9nm,1.0s,baz=73,slow=7.4,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**28.75**	**40**	T	T	02 10 17.0	
	baz=223,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**28.75**	**40**	T	T	02 10 15.0	
	baz=223,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.76**	**40**	T	T	02 10 14.7	
	baz=223,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**29.77**	**39**	T	T	02 11 31.4	
	baz=221,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**29.79**	**39**	T	T	02 11 32.1	
	baz=221,slow=76,SNR=27						
H11N2	**WAKE ISLAND Hy**	**29.79**	**39**	T	T	02 11 32.8	
	baz=221,slow=76,SNR=19						
ILAR	**Eielson Array**	**82.84**	**23**	P	P	01 46 54.7	+0.3
	0.6nm,0.7s,baz=248,slow=4.9,SNR=7.3						
TORD	**Torodi Ar. Bea**	**144.88**	**288**	PKP	PKPab	01 54 07.4	-0.1
	0.6nm,0.8s,baz=48,slow=2.1,SNR=2.1						

ECX 17 01:35:08.0±0.6, 31°48N×115°51W, h5km±4km, MD2.8, ML3.0, Fault plane solution: NP1:φ=60.00000°, δ=71.00000°, λ=-42.00000°.
MEX 17 01:35:09.3±0.5, 31°41N×115°54W, h10km, MD3.8
ISC 17 01:35:04.9±1.2, 31°44N±0°03×115°53W±0°03, h10km±10km, n22, σ=79/38, 8C-7D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.40**	**172**	*e*P	**Pn**	**01 35 16.0**	**-1.0**
SPIG				*i* S	**Sb**	**01 35 22.1**	**+1.7**
SPIG	**San Pedro Mart**	**0.40**	**172**	*e*P	**Pn**	**01 35 16.0**	**-1.0**
SPIG				*e*S	**Sb**	**01 35 22.2**	**+1.7**
SPX	**San Pedro Mart**	**0.40**	**172**	*e*P	**Pn**	**01 35 16.0**	**-1.1**
SPX				*e*S	**Sb**	**01 35 22.3**	**+1.6**
ECBX	**El Chinero**	**0.41**	**85**	↑*i*P	**Pg**	**01 35 13.2**	**+0.1**
ECBX				*e*S	**Sg**	**01 35 18.2**	**-0.4**
SVX	**San Vicente**	**0.62**	**260**	↑*e*P	**Pn**	**01 35 19.6**	**-0.2**
SVX				*e*S	**Sn**	**01 35 28.5**	**-1.3**
SFX	**San Felipe**	**0.71**	**124**	*e*P	**Pn**	**01 35 20.9**	**0.0**
SFX				*e*S	**Sn**	**01 35 30.4**	**-1.5**
MBIG	**Mexicali**	**1.01**	**16**	*e*P	**Pn**	**01 35 26.3**	**+1.2**
MBIG				*i* S	**Sn**	**01 35 39.7**	**+0.4**
CCX	**Cicese**	**1.05**	**294**	↑*e*P	**Pn**	**01 35 26.5**	**+0.7**
CCX				*e*S	**Sn**	**01 35 40.6**	**+0.1**
CTLX	**Tlaxcala, TLX**	**1.08**	**18**	↓*e*P	**Pb**	**01 35 25.9**	**+0.1**
CTLX				*e*S	**Sg**	**01 35 39.8**	**-0.1**
RMX	**La Rumorosa**	**1.25**	**338**	*e*P	**Pn**	**01 35 28.4**	**-0.2**
YUH2	**Yuha Desert**	**1.25**	**345**	*e*S	**Sb**	**01 35 44.8**	**0.0**
CBX	**Cerro Bola**	**1.30**	**313**	↑*e*P	**Pg**	**01 35 30.5**	**+0.6**
CBX				*e*S	**Sn**	**01 35 47.2**	**+0.5**
CBX				IAML		01 35 48.2	
	comp=E,384nm,0.1s						
CBX				↓*e*		01 35 48.2	
CBX				↓*e*		01 35 48.3	
CBX				IAML		01 35 48.3	
	comp=N,389nm,0.2s						
IKP	**In-Ko-Pah, Jac**	**1.30**	**338**	↓*e*P	**Pb**	**01 35 29.7**	**+0.1**
IKP				*e*S	**Sb**	**01 35 46.0**	**-0.4**
EMSC	**East Mesa**	**1.38**	**20**	*e*P	**Pg**	**01 35 31.4**	**0.0**
EMSC				*e*S	**Sg**	**01 35 49.3**	**0.0**
TJIG	**Tijuana**	**1.39**	**316**	*e*P	**Pg**	**01 35 31.4**	**-0.2**
TJIG				*e*S	**Sb**	**01 35 48.9**	**+0.1**
TJIG	**Tijuana**	**1.39**	**316**	↑*e*P	**Pg**	**01 35 31.7**	**+0.1**
TJIG				*e*S	**Sb**	**01 35 48.9**	**+0.1**
BAR	**Barrett**	**1.57**	**322**	↓*e*P	**Pg**	**01 35 34.6**	**-0.5**
BAR				*e*S	**Sb**	**01 35 54.1**	**0.0**
BAR				↑*e*		01 35 56.5	
BAR				IAML		01 35 56.5	
	comp=E,195nm,0.4s						
OLP	**Otay Lakes Par**	**1.66**	**315**	*e*S	**Sb**	**01 35 57.2**	**+0.6**
GLA	**Glamis**	**1.72**	**20**	*e*P	**Pn**	**01 35 34.0**	**-0.9**
SDRC	**San Diego Road**	**1.76**	**318**	↓*e*P	**Pg**	**01 35 38.0**	**-0.7**
SDRC				*e*		01 36 00.4	
SDRC				IAML		01 36 00.4	
	comp=E,144nm,0.1s						
EML	**El Monte Cty P**	**1.83**	**323**	↓*e*P	**Pb**	**01 35 39.0**	**+0.6**
EML				*e*S	**Sb**	**01 36 01.2**	**-0.2**
MATG	**Mataguay Scout**	**1.99**	**332**	*e*P	**Pg**	**01 35 42.7**	**-0.5**

NOU 17 01:53:04.5, 40°07S×176°72E, h62km, MLv4.0, North Island, New Zealand
NEIC 17 01:53:04.6±1.4, 40°06S±0°04×176°7E±0°1, h41km±13km, mb4.0/5, Error ellipse: s-maj=11.8km s-min=4.6km az=107.0

WEL 17 01:53:06.5, 40°S±3°×17°7E±°, h44km±5km, M4.0/97, mB5.0/3, ML4.2/96, MLv4.0/97, Mw(mB)4.3/3, Error ellipse: s-maj=0.0km s-min=0.0km az=73.2
IDC 17 01:53:07.4±2.1, 39°11S×175°74E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/23, mbtmp3.9/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=62.6km s-min=18.3km az=159.0
ISC 17 01:53:06.5±0.8, 40°03S±0°03×176°64E±0°04, h54km±5km, n186, σ=19/57/201, mb3.8/5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	**Waipukurau**	**0.15**	**258**	P	**Pn**	**01 53 14.1**	**-1.0**
PXZ	**Pawanui**	**0.17**	**90**	P	**Pn**	**01 53 14.6**	**+0.5**
PXZ				S	**Sn**	**01 53 22.1**	**+0.7**
PRHZ	**Porangahau**	**0.23**	**181**	P	**Pn**	**01 53 15.4**	**-0.2**
PRHZ				S	**Sn**	**01 53 22.5**	**+0.4**
KAHZ	**Kahuranaki**	**0.30**	**38**	P	**Pn**	**01 53 15.5**	**-0.6**
KAHZ				S	**Sn**	**01 53 23.3**	**+0.3**
PNHZ	**Pukenui**	**0.36**	**289**	P	**Pn**	**01 53 15.1**	**-1.5**
PNHZ				S	**Sn**	**01 53 21.4**	**-2.5**
KRHZ	**Kereru**	**0.44**	**332**	P	**Pn**	**01 53 15.6**	**-1.8**
KRHZ				S	**Sn**	**01 53 23.0**	**-2.3**
ANWZ	**Angora Road**	**0.45**	**196**	P	**Pn**	**01 53 17.7**	**+0.2**
ANWZ				S	**Sn**	**01 53 26.3**	**+0.9**
DVHZ	**Dannevirke**	**0.45**	**233**	P	**Pn**	**01 53 16.9**	**-0.6**
DVHZ				S	**Sn**	**01 53 24.8**	**-0.7**
CKHZ	**Cape Kidnapper**	**0.50**	**42**	P	**Pn**	**01 53 17.6**	**-0.5**
CKHZ				S	**Sn**	**01 53 26.5**	**+0.1**
TSZ	**Takapari Road**	**0.52**	**267**	P	**Pn**	**01 53 17.2**	**-1.1**
MCHZ	**McNeill Hill**	**0.59**	**4**	P	**Pn**	**01 53 18.3**	**-0.8**
KWHZ	**Kaweka Forest**	**0.63**	**345**	P	**Pn**	**01 53 19.2**	**-1.4**
BHHZ	**Black Hill Sta**	**0.70**	**321**	P	**Pn**	**01 53 19.2**	**-1.3**
BFZ	**Birch Farm**	**0.71**	**205**			**01 53 20.7**	**0.0**
BFZ				Sn	**Sn**	**01 53 31.4**	**+0.4**
BFZ	**Birch Farm**	**0.71**	**205**	P	**Pn**	**01 53 20.6**	**0.0**
PRWZ	**Pori Road**	**0.73**	**224**	P	**Pn**	**01 53 20.9**	**+0.1**
POWZ	**Post Office Ro**	**0.76**	**241**	P	**Pn**	**01 53 20.8**	**-0.4**
ARHZ	**Aropaoanui**	**0.82**	**20**	P	**Pn**	**01 53 21.4**	**-0.5**
BKZ	**Black Stump Fm**	**0.87**	**353**			**01 53 21.5**	**-1.2**
BKZ				Sn	**Sn**	**01 53 32.4**	**-2.2**
BKZ	**Black Stump Fm**	**0.87**	**353**	P	**Pn**	**01 53 21.5**	**-1.2**
MOVZ	**Moawhango**	**0.93**	**312**	P	**Pn**	**01 53 22.7**	**-0.7**
CPWZ	**Castlepoint**	**0.94**	**201**	P	**Pn**	**01 53 24.1**	**+0.6**
TIWZ	**Tintock**	**0.94**	**217**	P	**Pn**	**01 53 23.4**	**-0.2**
NMHZ	**Naumai**	**0.94**	**8**	P	**Pn**	**01 53 23.2**	**-0.5**
MRZ	**Mangatainoka R**	**1.02**	**232**	P	**Pn**	**01 53 24.1**	**-0.5**
OHWZ	**Ohakea**	**1.03**	**260**	P	**Pn**	**01 53 25.3**	**+0.5**
WHHZ	**Waihua**	**1.06**	**26**	P	**Pn**	**01 53 24.6**	**-0.6**
WNVZ	**Wahianoa**	**1.07**	**311**	P	**Pn**	**01 53 25.2**	**-0.2**
TUVZ	**Tukino**	**1.08**	**315**	P	**Pn**	**01 53 25.4**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.10**	**312**	P	**Pn**	**01 53 25.7**	**-0.3**
MTVZ	**Mangateitei**	**1.11**	**305**	P	**Pn**	**01 53 25.8**	**-0.1**
TRVZ	**Turoa**	**1.12**	**311**	P	**Pn**	**01 53 25.9**	**-0.3**
DRZ	**Dome Shelter**	**1.12**	**312**	P	**Pn**	**01 53 26.1**	**-0.2**
FWVZ	**Far West T-bar**	**1.14**	**312**	P	**Pn**	**01 53 26.0**	**-0.4**
SNVZ	**South Ngauruho**	**1.14**	**317**	P	**Pn**	**01 53 26.0**	**-0.4**
ETVZ	**East Tongariro**	**1.15**	**321**	P	**Pn**	**01 53 26.0**	**-0.4**
OTVZ	**Oturere**	**1.15**	**319**	P	**Pn**	**01 53 26.1**	**-0.4**
TMVZ	**Te Maari**	**1.17**	**321**	P	**Pn**	**01 53 26.2**	**-0.5**
RAHZ	**Arahi**	**1.17**	**17**	P	**Pn**	**01 53 25.8**	**-0.8**
NGZ	**Ngauruhoe**	**1.17**	**317**	P	**Pn**	**01 53 26.4**	**-0.4**
MTHZ	**Maungataniwha**	**1.19**	**8**	P	**Pn**	**01 53 25.9**	**-1.0**
NTVZ	**North Tongarir**	**1.19**	**321**	P	**Pn**	**01 53 26.5**	**-0.5**
NNVZ	**North Ngauruho**	**1.20**	**318**	P	**Pn**	**01 53 26.7**	**-0.4**
MRHZ	**Matea Rd**	**1.21**	**352**	P	**Pn**	**01 53 26.6**	**-0.6**
KRVZ	**Karewarewa**	**1.21**	**320**	P	**Pn**	**01 53 26.8**	**-0.5**
RITZ	**Rinia Road**	**1.21**	**330**	P	**Pn**	**01 53 27.0**	**-0.3**
TMWZ	**Te Maipa**	**1.22**	**208**	P	**Pn**	**01 53 26.8**	**-0.5**
HATZ	**Hinemaiaia**	**1.22**	**339**	P	**Pn**	**01 53 26.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.22**	**224**	P	**Pn**	**01 53 26.5**	**-0.8**
WTVZ	**West Tongariro**	**1.22**	**318**	P	**Pn**	**01 53 26.9**	**-0.5**
PKVZ	**Pokaka**	**1.24**	**306**	P	**Pn**	**01 53 27.3**	**-0.4**
KATZ	**Kakaramea**	**1.28**	**325**	P	**Pn**	**01 53 27.8**	**-0.5**
KNZ	**Kokohu**	**1.29**	**39**	P	**Pn**	**01 53 27.3**	**-0.9**
WAZ	**Wanganui**	**1.30**	**282**	P	**Pn**	**01 53 29.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**1.32**	**49**	P	**Pn**	**01 53 28.1**	**-0.5**
TWVZ	**Taurewa**	**1.33**	**316**	P	**Pn**	**01 53 28.3**	**-0.7**
RATZ	**Rangitukua**	**1.34**	**330**	P	**Pn**	**01 53 28.6**	**-0.4**
SNGZ	**Shannon Statio**	**1.36**	**24**	P	**Pn**	**01 53 28.4**	**-0.9**
OGWZ	**Otaki Gorge**	**1.37**	**235**	P	**Pn**	**01 53 28.5**	**-0.8**
MTW	**Mount Morrison**	**1.42**	**217**	P	**Pn**	**01 53 28.8**	**-1.2**
RTZ	**Ruatahuna**	**1.44**	**11**	P	**Pn**	**01 53 29.3**	**-1.0**
WHTZ	**Whakaora**	**1.46**	**339**	P	**Pn**	**01 53 30.0**	**-0.6**
PRGZ	**Putiki Road**	**1.47**	**41**	P	**Pn**	**01 53 29.7**	**-1.0**
ALRZ	**Allen Road**	**1.49**	**351**	P	**Pn**	**01 53 29.8**	**-1.1**
WATZ	**Wairara**	**1.50**	**332**	P	**Pn**	**01 53 30.0**	**-1.1**
PRRZ	**Plateau Road**	**1.54**	**353**	P	**Pn**	**01 53 30.8**	**-0.9**
TRWZ	**Traveller**	**1.54**	**208**	P	**Pn**	**01 53 30.7**	**-1.0**
WPRZ	**Whakapapatarin**	**1.56**	**346**	P	**Pn**	**01 53 30.8**	**-1.1**
MUGZ	**Murupara**	**1.56**	**4**	P	**Pn**	**01 53 30.7**	**-1.1**
KIW	**Kapiti Island**	**1.56**	**237**	P	**Pn**	**01 53 31.0**	**-0.8**
RIGZ	**Rimuhau**	**1.58**	**34**	P	**Pn**	**01 53 31.2**	**-1.1**
CAW	**Cannon Point**	**1.61**	**228**	P	**Pn**	**01 53 31.4**	**-1.2**
PAWZ	**Paruwai Farm**	**1.63**	**214**	P	**Pn**	**01 53 31.6**	**-1.3**
RAGZ	**Rawiri**	**1.65**	**22**	P	**Pn**	**01 53 32.0**	**-1.2**
HRRZ	**Handcock Road**	**1.66**	**350**	P	**Pn**	**01 53 32.5**	**-0.9**
KUTZ	**Kaahu Road**	**1.67**	**337**	P	**Pn**	**01 53 32.4**	**-1.0**
RRRZ	**Republican Roa**	**1.69**	**357**	P	**Pn**	**01 53 32.5**	**-1.3**
VRZ	**Vera Road**	**1.71**	**301**	P	**Pn**	**01 53 33.4**	**-0.5**
GRRZ	**Galatos Road**	**1.73**	**346**	P	**Pn**	**01 53 33.4**	**-0.9**
MSWZ	**Moikau Station**	**1.74**	**217**			**01 53 32.9**	**-1.5**
MSWZ				Sn	**Sn**	**01 53 54.2**	**-1.2**
MSWZ	**Moikau Station**	**1.74**	**217**	P	**Pn**	**01 53 32.7**	**-1.6**
HSRZ	**Hossack Road**	**1.75**	**350**	P	**Pn**	**01 53 33.5**	**-1.0**
HLRZ	**Highlands Stat**	**1.79**	**353**	P	**Pn**	**01 53 35.3**	**+0.2**
TARZ	**Mount Tarawera**	**1.80**	**357**	P	**Pn**	**01 53 34.2**	**-1.0**
URZ	**Urewera**	**1.81**	**12**	Pn	**Pn**	**01 53 33.5**	**-1.8**
	19nm,0.3s,baz=225,slow=3.5,SNR=371						
URZ				Sn	**Sn**	**01 53 54.1**	**-2.9**
	38nm,0.3s,baz=226,slow=23,SNR=17						
URZ	**Urewera**	**1.81**	**12**	P	**Pn**	**01 53 33.7**	**-1.6**
LREZ	**Lake Rotokare**	**1.82**	**288**	P	**Pn**	**01 53 36.1**	**+0.8**
TKGZ	**Te Karaka**	**1.85**	**31**	P	**Pn**	**01 53 34.4**	**-1.4**
PLWZ	**Palliser**	**1.86**	**214**	Pn	**Pn**	**01 53 34.1**	**-1.9**
PLWZ				Sn	**Sn**	**01 53 55.4**	**-1.6**
PLWZ	**Palliser**	**1.86**	**214**	P	**Pn**	**01 53 34.3**	**-1.8**
WEL	**Wellington**	**1.89**	**228**	P	**Pn**	**01 53 35.1**	**-1.3**
MKRZ	**Makatiti**	**1.90**	**356**	P	**Pn**	**01 53 36.0**	**-0.6**
TLZ	**Tolley Road**	**1.90**	**333**	P	**Pn**	**01 53 35.4**	**-1.2**
BHW	**Baring Head**	**1.92**	**224**	Pn	**Pn**	**01 53 34.8**	**-2.0**
BHW				Sn	**Sn**	**01 53 58.2**	**-1.6**
BHW	**Baring Head**	**1.92**	**224**	P	**Pn**	**01 53 35.1**	**-1.7**
EDRZ	**Edgecumbe**	**1.92**	**2**	P	**Pn**	**01 53 35.6**	**-1.4**
OMRZ	**Omania**	**1.93**	**354**	P	**Pn**	**01 53 35.6**	**-1.4**
SNZO	**South Karori**	**1.95**	**228**	Pn	**Pn**	**01 53 35.4**	**-1.7**
SNZO				Sn	**Sn**	**01 53 58.9**	**-1.5**
CNGZ	**Carnagh Statio**	**1.97**	**39**	P	**Pn**	**01 53 36.3**	**-1.2**
MHEZ	**Mangahewa**	**2.03**	**297**	P	**Pn**	**01 53 41.0**	**+2.7**
PREZ	**Palmer Road**	**2.03**	**289**	P	**Pn**	**01 53 39.3**	**+0.9**
MARZ	**Manawahe**	**2.04**	**1**	P	**Pn**	**01 53 37.6**	**-0.9**
HIZ	**Hauiti**	**2.05**	**317**	Pn	**Pn**	**01 53 37.4**	**-1.2**
HIZ	**Hauiti**	**2.05**	**317**	P	**Pn**	**01 53 37.7**	**-0.9**
DREZ	**Durham Road**	**2.06**	**293**	P	**Pn**	**01 53 40.2**	**+1.4**
NEZ	**North Egmont**	**2.10**	**290**	P	**Pn**	**01 53 40.3**	**+0.9**
TWGZ	**Tauwhareparae**	**2.13**	**30**	P	**Pn**	**01 53 38.5**	**-1.1**
TCW	**Tory Channel**	**2.15**	**236**	P	**Pn**	**01 53 38.3**	**-1.6**
KHEZ	**Kahui Hut**	**2.15**	**289**	P	**Pn**	**01 53 41.1**	**+1.0**
OPRZ	**Ohinepanea**	**2.19**	**358**	P	**Pn**	**01 53 38.7**	**-1.7**
WHRZ	**Whale Island**	**2.19**	**7**	P	**Pn**	**01 53 39.1**	**-1.4**
DUWZ	**D'Urville Isla**	**2.21**	**249**	P	**Pn**	**01 53 39.4**	**-1.4**
PKE	**Pukeiti**	**2.21**	**291**	P	**Pn**	**01 53 41.4**	**+0.6**
NMEZ	**Namu Road**	**2.22**	**285**	P	**Pn**	**01 53 41.7**	**+0.9**
RUGZ	**Raukumara Rang**	**2.22**	**22**	P	**Pn**	**01 53 39.5**	**-1.5**
NBEZ	**Newall Road No**	**2.27**	**289**	P	**Pn**	**01 53 42.4**	**+0.8**
PUZ	**Puketiti**	**2.33**	**33**	P	**Pn**	**01 53 40.3**	**-2.1**
PKGZ	**Pakihiroa**	**2.42**	**28**	P	**Pn**	**01 53 42.2**	**-1.5**
HAZ	**Te Kaha**	**2.44**	**22**	P	**Pn**	**01 53 41.6**	**-2.4**
TUWZ	**Tuamarina**	**2.48**	**235**	Pn	**Pn**	**01 53 42.2**	**-2.2**
TUWZ	**Tuamarina**	**2.48**	**235**	P	**Pn**	**01 53 42.3**	**-2.1**
WMGZ	**Waiomatatini S**	**2.61**	**33**	P	**Pn**	**01 53 44.4**	**-1.8**
BSWZ	**Blackbirch Sta**	**2.69**	**230**	Pn	**Pn**	**01 53 45.1**	**-2.2**
BSWZ	**Blackbirch Sta**	**2.69**	**230**	P	**Pn**	**01 53 45.2**	**-2.0**
NNZ	**Nelson**	**2.75**	**243**	Pn	**Pn**	**01 53 46.4**	**-1.7**
NNZ	**Nelson**	**2.75**	**243**	P	**Pn**	**01 53 46.7**	**-1.4**
MYRZ	**Mayor Island**	**2.77**	**353**	P	**Pn**	**01 53 47.4**	**-1.0**
MXZ	**Matakaoa Point**	**2.79**	**28**	Pn	**Pn**	**01 53 46.6**	**-2.1**
MXZ	**Matakaoa Point**	**2.79**	**28**	P	**Pn**	**01 53 47.0**	**-1.7**
MKAZ	**Moumakai**	**3.14**	**338**	P	**Pn**	**01 53 53.0**	**-0.6**
QRZ	**Quartz Range**	**3.23**	**254**		**Pn**	**01 53 53.4**	**-1.4**
QRZ	**Quartz Range**	**3.23**	**254**	P	**Pn**	**01 53 53.2**	**-1.6**
THZ	**Tophouse**	**3.32**	**237**	Pn	**Pn**	**01 53 53.4**	**-2.6**
THZ	**Tophouse**	**3.32**	**237**	P	**Pn**	**01 53 53.7**	**-2.2**
KHZ	**Kahutara**	**3.34**	**223**	Pn	**Pn**	**01 53 53.4**	**-2.8**
KHZ	**Kahutara**	**3.34**	**223**	P	**Pn**	**01 53 53.2**	**-3.0**
AWAZ	**Awhitu Peninsu**	**3.35**	**332**	P	**Pn**	**01 53 55.4**	**-1.0**
KUZ	**Kuaotunu**	**3.36**	**347**	P	**Pn**	**01 53 55.5**	**-1.0**
WIAZ	**Waiheke Island**	**3.44**	**339**	P	**Pn**	**01 53 57.0**	**-0.7**
WTAZ	**Waiatarua**	**3.49**	**332**	P	**Pn**	**01 53 58.0**	**-0.3**
MBAZ	**Motutapu North**	**3.53**	**337**	P	**Pn**	**01 53 58.2**	**-0.7**
ABAZ	**Army Bay**	**3.71**	**337**	P	**Pn**	**01 54 00.9**	**-0.4**
GRZ	**Great Barrier**	**3.89**	**346**	P	**Pn**	**01 54 02.9**	**-0.9**
GVZ	**Greta Valley S**	**3.99**	**222**	P	**Pn**	**01 54 03.7**	**-1.4**
DSZ	**Denniston Nort**	**4.04**	**243**	P	**Pn**	**01 54 03.7**	**-2.3**
LTZ	**Lake Taylor**	**4.28**	**229**	Pn	**Pn**	**01 54 06.9**	**-2.3**
LTZ	**Lake Taylor**	**4.28**	**229**	P	**Pn**	**01 54 06.5**	**-2.6**
AMCZ	**Amberley**	**4.34**	**222**	P	**Pn**	**01 54 08.1**	**-1.7**
WCZ	**Waipu Caves**	**4.47**	**335**	P	**Pn**	**01 54 11.5**	**-0.2**
OKCZ	**Okains Bay**	**4.55**	**215**	P	**Pn**	**01 54 10.1**	**-2.8**
MQZ	**McQueen's Vall**	**4.72**	**218**	Pn	**Pn**	**01 54 13.3**	**-1.8**
MQZ	**McQueen's Vall**	**4.72**	**218**	P	**Pn**	**01 54 12.3**	**-2.9**
AKCZ	**Akaroa Harbour**	**4.74**	**215**	P	**Pn**	**01 54 13.2**	**-2.2**
INZ	**Inchbonnie**	**4.74**	**234**	P	**Pn**	**01 54 12.5**	**-2.9**
OXZ	**Oxford**	**4.76**	**225**	Pn	**Pn**	**01 54 13.3**	**-2.5**
OXZ	**Oxford**	**4.76**	**225**	P	**Pn**	**01 54 12.4**	**-3.3**
RACZ	**Rakaia**	**4.99**	**221**	P	**Pn**	**01 54 15.8**	**-3.0**
MHCZ	**Mount Hutt**	**5.16**	**226**	P	**Pn**	**01 54 18.0**	**-3.1**
WACZ	**Wakanui South**	**5.30**	**221**	P	**Pn**	**01 54 20.9**	**

CMAR Chiang Mai Arr 15.44 126 P 02 18 56.5 +0.1
CM35 Chiang Mai Arr 15.45 125 P P 02 18 56.0 -0.6
CM02 Chiang Mai Arr 15.45 126 P P 02 18 58.0 +1.3
comp=Z,82nmcomp=Z,9.3nm,0.9s
CM01 Chiang Mai Arr 15.47 126 P P 02 18 58.0 +1.1
comp=Z,139nmcomp=Z,11nm,0.9s
CM05 Chiang Mai Arr 15.47 126 P P 02 18 58.0 +1.1
comp=Z,76nmcomp=Z,6.9nm,0.7s
CM09 Chiang Mai Arr 15.48 126 P P 02 18 58.0 +1.0
comp=Z,15nm,0.9s
CM04 Chiang Mai Arr 15.50 126 P P 02 18 58.5 +1.4
comp=Z,161nmcomp=Z,14nm,0.8s
CM36 Chiang Mai Arr 15.51 125 P P 02 18 57.0 -0.3
KBL Kabul 15.67 298 P Pn 02 18 53.5 -1.5
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 15.67 298 Pn Pn 02 18 53.5 -1.5
KBL IAmb IAmb 02 19 10.0
comp=Z,14nm,0.8s
WMQ Urumqi 15.72 5 *eP* **Pn 02 18 53.5 -2.0**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.1s
CD2 Chengdu 15.87 76 *eP* **Pn 02 18 57.4 -0.2**
UZB Uzynbulak 15.94 342 *eP* **Pn 02 18 58.4 -0.1**
baz=340
UZB Uzynbulak 15.94 342 *eP* **Pn 02 18 58.3 -0.2**
SATY Saty 16.04 340 *eP* **Pn 02 19 00.2 +0.5**
baz=339
SATY Saty 16.04 340 *eP* **Pn 02 19 00.2 +0.5**
GTA Gaotai 16.16 42 *eP* **Pn 02 19 03.1 +1.7**
GTA pP P 02 19 07.3 +2.7
GTA sP pP 02 19 10.0 +1.2
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,56nm,4.7s
GTA L L
comp=Z,160nm,14.5s
GTA L L
comp=Z,170nm,16.4s
DRK Karamyk 16.20 318 Pn Pn 02 19 00.5 -1.5
DRK IAmb IAmb 02 19 15.9
comp=Z,13nm,0.5s
KPKS Kokpek 16.33 341 *eP* **Pn 02 19 03.9 +0.4**
baz=340
KPKS Kokpek 16.33 341 *eP* **Pn 02 19 03.8 +0.4**
BOOM Boomskoye usch 16.40 333 P Pn 02 19 02.7 -1.7
BOOM pmax pmax
comp=Z,8.0nm,1.1s
BOOM Boomskoye usch 16.40 333 Pn 02 19 02.7 -1.7
MDOK Medeo 16.57 337 *eP* **Pn 02 19 06.6 0.0**
baz=336
MDOK Medeo 16.57 337 *eP* **Pn 02 19 06.6 0.0**
MTBS Maitube 16.77 336 *eP* **Pn 02 19 09.2 +0.3**
baz=334
MTBS Maitube 16.77 336 *eP* **Pn 02 19 09.2 +0.3**
GAR Garm 16.82 314 Pn Pn 02 19 06.8 -2.9
ARSB Arslanbob 16.82 325 P Pn 02 19 07.4 -2.4
ARSB pmax pmax
comp=Z,9.0nm,0.7s
ARSB Arslanbob 16.82 325 Pn Pn 02 19 07.3 -2.4
ARSB IAmb IAmb 02 19 17.1
comp=Z,8.8nm,0.7s
AAK Ala-Archa 17.13 331 P Pn 02 19 15.4 +1.8
comp=Z,0.4nm,0.3s,baz=199,slow=13,SNR=3.0
AAK LR LR 02 26 16.5
comp=Z,105nm,18.6s,baz=136,slow=39
AAK Ala-Archa 17.13 331 P Pn 02 19 11.3 -2.3
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 17.13 331 Pn Pn 02 19 11.3 -2.3
BTK Batken 17.15 318 P Pn 02 19 12.0 -1.9
BTK pmax pmax
comp=Z,9.0nm,0.7s
BTK Batken 17.15 318 Pn 02 19 12.0 -1.9
BTK IAmb IAmb 02 19 18.5
comp=Z,8.8nm,0.7s
PHIT Phitsanulok 17.32 126 P P 02 19 18.9 +1.5
comp=Z,10.0nm,0.9s
CHGR Chuyangaron 17.38 311 Pn 02 19 18.4 +1.6
CHGR IAmb IAmb 02 19 22.5
comp=Z,58nm,1.0s
SGDS Sogindy 17.73 332 *eP* **P 02 19 24.4 +2.4**
baz=331
SGDS Sogindy 17.73 332 *eP* **P 02 19 24.3 +2.4**
SLVN Son La 17.78 108 P P 02 19 23.5 +1.0
UTHA Uthaitani 17.79 132 P P 02 19 24.0 +1.5
comp=Z,5.3nm,0.8s
MK31 Makanchi Array 18.82 353‖ *eP* **P 02 19 33.5 -0.3**
MK31 Makanchi Array 18.82 353 P 02 19 33.1 -0.6
MKAR Makanchi Array 18.82 353 P P 02 19 33.5 -0.3
comp=Z,0.5nm,0.3s,baz=171,slow=11,SNR=24
MKAR Makanchi Array 18.82 353 P P 02 19 32.6 -1.2
MKAR Makanchi Array 18.82 353 P 02 19 32.6 -1.2
NONG Nongkai 18.82 118 P Pn 02 19 37.1 +2.6
comp=Z,21nm,1.0s
MAKZ Makanchi 18.87 352 P P 02 19 33.2 -1.1
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 18.87 352 P P 02 19 33.2 -1.1
ZSN Zaisan 19.29 358 *eP* **P 02 19 38.9 0.0**
baz=357
ZSN Zaisan 19.29 358 *eP* **P 02 19 38.9 0.0**
BTLS Baital 19.29 334 *eP* **Pn 02 19 41.1 +1.1**
baz=333
BTLS Baital 19.29 334 *eP* **Pn 02 19 41.0 +1.1**
CHAI Chaiyaphum 19.30 126 P Pn 02 19 47.4 +7.2
KK31 Karatay Array 19.38 324 *i* P **P 02 19 39.4 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 19.38 324 P P 02 19 40.6 +0.7
KKAR Karatay Array 19.38 324 P P 02 19 38.9 -1.0
KKAR Karatay Array 19.38 324 P P 02 19 38.9 -1.0
ENH Enshi 20.78 78 P P 02 19 53.6 -1.7
ENH IAmb IAmb 02 20 04.3
comp=Z,19nm,0.7s
PALK Pallekele 21.31 194 LR LR 02 27 51.2
comp=Z,39nm,20.5s,baz=319,slow=35
DGZ Jazzator, Alta 21.56 3‖ *eP* **P 02 20 05.3 +1.6**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
OTUK Ortayu 22.62 336 P P 02 20 14.5 -0.4
OTUK pmax pmax
comp=Z,12nm,0.8s
SEM Semipalatinsk 22.63 351 *eP* **P 02 20 15.2 -0.1**
baz=350
SEM Semipalatinsk 22.63 351 *eP* **P 02 20 15.1 -0.1**
KURBB Kurchatov Arra 23.12 348 P P 02 20 19.4 -0.7
comp=Z,3.9nm,0.8s,baz=166,slow=9.8,SNR=15
KURK Kurchatov 23.19 348 P P 02 20 19.4 -1.4
KURK Kurchatov 23.19 348 P P 02 20 19.4 -1.4
BRZS Berezniki 24.00 339 *eP* **P 02 20 29.2 +0.4**
baz=338
BRZS Berezniki 24.00 339 *eP* **P 02 20 29.1 +0.4**
HHC Hu-ho-hao-te 24.63 52 *eP* **P 02 20 31.0 -3.7**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,84nm,5.4s
GEYT Alibeck 25.10 300 LR LR 02 31 42.6
comp=Z,45nm,20.5s,baz=90,slow=39
SONM Songino Array 25.35 34 P P 02 20 40.7 -0.6
comp=Z,9.1nm,0.7s,baz=217,slow=9.8,SNR=35
SONM PcP **PcP 02 24 13.8 +0.1**
comp=Z,0.8nm,0.7s,baz=204,slow=3.2,SNR=3.1
SONM Songino Array 25.35 34 P P 02 20 40.6 -0.6
SONM pmax pmax
comp=Z,13nm,1.0s
SONM Songino Array 25.35 34 P P 02 20 40.6 -0.6
SONM IAmb IAmb 02 20 48.5
comp=Z,13nm,1.0s
ULN Ulaanbaatar 25.70 34 *de* **P P 02 20 44.0 -0.4**
ULN pmax pmax
comp=Z,26nm,1.5s
ULN Ulaanbaatar 25.70 34 P P 02 20 43.9 -0.4
ULN IAmb IAmb 02 20 49.4
comp=Z,15nm,1.1s
ULN Ulaanbaatar 25.70 34 P P 02 20 44.4 0.0
comp=Z,69nm,1.2s
ZAA0 Zalesovo Array 25.79 359 P P 02 20 43.6 -1.3
ZAA0 IAmb IAmb 02 20 48.5
comp=Z,7.1nm,0.9s
ZALV Zalesovo Beam 25.79 359 P P 02 20 44.2 -0.7
comp=Z,3.6nm,0.5s,baz=192,slow=10,SNR=16
ZALV LR LR 02 32 39.3
comp=Z,35nm,19.6s,baz=164,slow=41
ZALV Zalesovo Beam 25.79 359 P P 02 20 43.8 -1.2
ZALV Zalesovo Beam 25.79 359 P P 02 20 43.8 -1.2
ZAK Zakamensk 25.88 26 *eP* **P 02 20 44.9 -1.1**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
MOY Mondy 26.12 22 *eP* **P 02 20 48.8 +0.7**
MOY pmax pmax
comp=Z,13nm,1.3s
TLY Talaya 27.06 25 P P 02 20 55.7 -0.7
comp=Z,3.0nm,0.5s,baz=238,slow=14,SNR=2.4
TLY Talaya 27.06 25‖ *eP* **P 02 20 56.1 -0.4**
TLY pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 27.36 340 P P 02 21 00.1 +1.0
comp=Z,0.6nm,0.5s,baz=174,slow=15,SNR=3.6
BRVK Borovoye 27.42 339 P P 02 21 01.8 +2.2
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 27.42 339 P P 02 21 01.8 +2.2
AB31 Akbulak array 28.94 324 *eP* **P 02 21 15.6 +2.3**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 28.94 324 P P 02 21 13.6 +0.3
BKNI Bangkinang 31.27 150 P P 02 21 35.0 +0.8
PDSI Padang 32.13 152 P P 02 21 42.2 +0.4
ARU Arti 34.28 333 *d* **iP P 02 22 03.4 +3.3**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 34.28 333 P P 02 22 01.0 +0.9
KSRS Korea Array 36.35 64 P P 02 22 14.8 -3.4
comp=Z,1.2nm,0.6s,baz=260,slow=9.0,SNR=4.9
KIRV Kirov 39.46 331 *d* **iP P 02 22 47.4 +3.3**
USRK Ussuriysk Ar. 40.03 54 P P 02 22 47.1 -2.0
comp=Z,0.6nm,0.5s,baz=249,slow=8.8,SNR=1.9
KLR Kul'dur 40.81 46 P P 02 22 52.9 -2.7
comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=1.7
NRIK Noril'sk 41.24 1 P P 02 22 57.8 -1.0
comp=Z,2.6nm,0.5s,baz=198,slow=8.4,SNR=2.3
COCO West Island 41.49 164 *i* **P P 02 23 05.6 +4.2**
TOLI2 Tolitoli 42.91 123 P P 02 23 13.3 +0.3
TOLI2 IAmb IAmb 02 23 14.5
comp=Z,6.2nm,0.9s
BRTR Keskin Array B 44.24 299 P P 02 23 25.6 +1.9
comp=Z,0.6nm,0.5s,baz=117,slow=5.7,SNR=2.5
OBN Obninsk 44.33 321 *i* **P P 02 23 26.6 +2.6**
OBN pmax pmax
comp=Z,15nm,1.3s
ELL Elmali 47.37 295 P P 02 23 50.0 +1.5
ELL pmax pmax
comp=Z,20nm,0.8s
ELL Elmali 47.37 295 P P 02 23 50.0 +1.5
AKASG Malin Array Be 47.82 314 P P 02 23 50.3 -1.3
comp=Z,2.0nm,0.6s,baz=82,slow=6.6,SNR=11
AKASG LR LR 02 46 41.8
comp=Z,34nm,19.8s,baz=45,slow=40
AKASG Malin Array Be 47.82 314 P P 02 23 50.6 -1.0
AKBB Malin Array Si 47.82 314 P P 02 23 51.3 -0.3
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 47.82 314 P P 02 23 51.3 -0.3
AKBB IAmb IAmb 02 23 54.7
comp=Z,4.1nm,0.8s
MNK Minsk 49.10 319 *i* **P P 02 24 01.1 -0.3**
MNK *i* 02 25 24.1
MNK *i* 02 25 55.0
MNK *i* PPP PPP 02 26 46.3
MNK *i* S **S 02 31 07.0 +0.7**
MNK *i* 02 33 53.3
MNK *i* SSS SSS 02 35 57.0
MNK pmax pmax
comp=Z,4.0nm,0.6s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK MLR MLR
comp=Z,58nm,16.0s
MNK MLR MLR
comp=E,6.0nm,17.0s
MNK MLR MLR
comp=N,30nm,24.0s
MNK Minsk 49.10 319 *i* **P P 02 24 01.2 -0.2**
comp=E,2.0nm,0.8s
MNK *i* P **P 02 24 01.2 -0.2**
comp=N,4.0nm,0.6s
MNK *i* P **P 02 24 01.2 -0.2**
comp=Z,4.0nm,0.6s,baz=279
MNK *i* PcP **PcP 02 25 24.1 -0.7**
MNK *i* PP **PP 02 25 55.1 +0.2**
MNK *i* PPP PPP 02 26 46.4
MNK *i* ScP **ScP 02 29 19.4 -0.8**
MNK *i* PcS **PcS 02 29 20.7 -0.3**
MNK *i* S **S 02 31 07.1 +0.8**
MNK *i* ScS **ScS 02 33 53.4 -0.2**
MNK *i* SS **SS 02 34 40.6 +3.5**
MNK *i* SSS SSS 02 35 57.1
MNK *i* LQ LQ 02 41 16.1
MNK *i* LR LR 02 43 33.9
MNK *i* LRM MLR 02 46 50.0
comp=Z,58nm,16.0s
MNK *i* LRM MLR 02 46 59.0
comp=E,6.0nm,17.2s
MNK *i* LRM MLR 02 47 18.1
comp=N,30nm,23.6s
TIXI Tiksi 49.50 17‖ *eP* **P 02 24 03.2 -1.0**
NACGM Naroch 49.79 320 *i* **P P 02 24 07.8 +1.1**
baz=188
MLR Muntele Rosu 49.80 307 P P 02 24 09.6 +2.5
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 49.80 307 P P 02 24 09.6 +2.5
MLR IAmb IAmb 02 24 17.7
comp=Z,5.5nm,0.9s
BURAR Bucovina Array 50.29 310 P P 02 24 11.0 +0.3
FINES FINESS Array B 51.29 328 P P 02 24 17.1 -0.8
comp=Z,3.9nm,0.6s,baz=107,slow=7.8,SNR=9.1
FINES FINESS Array B 51.29 328 P P 02 24 18.0 +0.2
PABE Paberze 51.46 320 P P 02 24 18.7 -0.6
BATI Baumata 52.86 131 LR LR 02 51 18.6
comp=Z,437nm,18.6s,baz=87,slow=41
ARCES ARCESS Array B 53.62 338 P P 02 24 35.1 0.0
comp=Z,8.5nm,1.0s,baz=91,slow=6.1,SNR=8.4
ARCES ARCESS Array B 53.62 338 P P 02 24 36.8 +1.7
KMBO Kilima Mbogo 54.88 246 *i* **P P 02 24 49.0 +3.7**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 57.89 312 P P 02 25 07.0 +0.9
comp=Z,0.3nm,0.5s,baz=82,slow=7.0,SNR=2.5
GERES GERESS Array B 57.89 312 P P 02 25 06.5 +0.3
GERES GERESS Array B 57.89 312 P P 02 25 06.5 +0.3
NOA NORSAR Array B 58.39 327 P P 02 25 07.8 -1.6
comp=Z,1.3nm,0.7s,baz=87,slow=7.0,SNR=6.9
BILL Bilibino 60.68 25 *i* **P P 02 25 23.5 -1.5**
BILL *i* 02 26 05.3
BILL *i* 02 27 40.5
BILL pmax pmax
comp=Z,2.0nm,0.7s
WB0 Warramunga Arr 66.90 130 P P 02 26 06.7 0.0
WRA Warramunga Arr 66.98 130 P P 02 26 07.1 -0.1
WRA Warramunga Arr 66.98 130 P P 02 26 07.1 -0.1
WRAB Tennant Creek 66.98 130 *de* **P P 02 26 07.5 +0.3**
WRAB pmax pmax
comp=Z,12nm,1.0s
WB2 Warramunga Arr 66.99 130 P P 02 26 07.7 +0.4
WR0 Warramunga Arr 67.13 130 P P 02 26 08.0 -0.1
AS31 Alice Springs 69.30 133 P P 02 26 22.1 +0.3
AS31 IAmb IAmb 02 26 22.6
comp=Z,1.4nm,0.6s
ASAR Alice Springs 69.30 133 P P 02 26 21.6 -0.1
comp=Z,2.9nm,0.6s,baz=316,slow=6.3,SNR=43
ASAR Alice Springs 69.30 133 P P 02 26 21.8 +0.1
ESDC Sonseca Array 72.47 306 P P 02 26 40.0 -0.9
comp=Z,0.7nm,0.7s,baz=55,slow=5.7,SNR=6.8
ESDC Sonseca Array 72.47 306 P P 02 26 41.0 0.0
ESDC IAmb IAmb 02 27 04.3
comp=Z,4.1nm,1.4s
TOLK Toolik Lake Re 75.36 18 P P 02 26 57.1 -0.2
TOLK IAmb IAmb 02 27 01.9
comp=Z,4.1nm,0.8s
BMAR Burnt Mountain 77.56 18 P P 02 27 10.1 +0.3
MDM Murphy Dome 78.24 21 P P 02 27 12.9 -0.7
MDM IAmb IAmb 02 27 18.1
comp=Z,3.4nm,1.1s
IL31 78.78 20 P P 02 27 15.1 -1.5
IL31 IAmb IAmb 02 27 26.0
comp=Z,1.8nm,0.9s
ILAR Eielson Array 78.78 20 P P 02 27 14.4 -2.1
comp=Z,0.8nm,0.7s,baz=311,slow=4.4,SNR=11
ILAR Eielson Array 78.78 20 P P 02 27 15.3 -1.3
TORD Torodi Ar. Bea 78.79 279 P P 02 27 17.8 +0.3
comp=Z,2.3nm,0.8s,baz=40,slow=4.6,SNR=6.9
TORD Torodi Ar. Bea 78.79 279 P P 02 27 18.1 +0.6
TORD IAmb IAmb 02 27 21.1
comp=Z,2.4nm,0.8s
STKA Stephens Creek 79.88 134 P P 02 27 21.0 -2.0
comp=Z,0.9nm,0.4s,baz=311,slow=5.2,SNR=3.9
STKA Stephens Creek 79.88 134 P P 02 27 21.0 -2.0
STKA Stephens Creek 79.88 134 P P 02 27 21.2 -1.7
STKA IAmb IAmb 02 27 31.5
comp=Z,2.8nm,1.4s
SCRK Sand Creek 80.24 20 P P 02 27 23.5 -1.2
SCRK IAmb IAmb 02 27 25.3
comp=Z,2.8nm,0.9s
SML Sawmill 80.38 23 P P 02 27 25.0 -0.4
SML IAmb IAmb 02 27 25.9
comp=Z,4.9nm,0.8s
KDAK Kodiak Island 81.48 27 P P 02 27 28.6 -2.6
comp=Z,1.1nm,0.6s,baz=281,slow=10
BCAR Beaver Creek A 81.58 20 P P 02 27 31.9 +0.1
N25K Chitina, Valde 81.78 22 P P 02 27 32.8 -0.1
N25K IAmb IAmb 02 27 34.0
comp=Z,3.5nm,0.8s
EYAK Cordova Ski Ar 82.15 23 P P 02 27 34.9 +0.2
DBIC Dimbokro 87.47 276 P P 02 28 02.8 +0.4
comp=Z,3.6nm,0.8s,baz=56,slow=7.3,SNR=1.4
YKA Yellowknife Ar 88.21 9 P P 02 28 03.9 -1.2
comp=Z,0.6nm,0.7s,baz=341,slow=4.1,SNR=4.5
YKA Yellowknife Ar 88.21 9 *ce* **P P 02 28 03.7 -1.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 122.13 10 PKP PKPdf 02 34 08.8 -0.8
comp=Z,2.0nm,0.5s,baz=244,slow=0.5,SNR=4.4
CPUP Villa Florida 147.25 264 PKPbc PKPbc 02 34 59.5 +1.4
comp=Z,0.9nm,0.7s,baz=98,slow=5.5,SNR=3.9

IDC ***17*** *02:24:19.6±0.6, 29.°94N×139.°23E, h380km±6km, mb3.3/21, mb1 3.5/28, mb1mx3.4/49, mbtmp4.1/28, Error ellipse: s-maj=12.3km s-min=7.3km az=80.0*
JMA ***17*** *02:24:19.4±0.2, 29.°97N×139.°57E, h419km±3km, M3.9*
ISC 17 02:24:20.4±0.5, 29.°98N±0.°06×139.°33E±0.°08, h388km, n46, σ1°44/61, mb3.6/20, Southeast of Honshu

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op		h m s	ISC
JHCJ	**Hachijojimakas**	**3.11**	**7**	P	**Pn**	**02 25 25.2**	**+1.7**
JHCJ				*eS*	**S**	**02 26 16.9**	**+2.3**
JHJ2	**Mitsune**	**3.15**	**7**	P	**Pn**	**02 25 25.8**	**+1.9**
JHJ2				*eS*	**S**	**02 26 16.8**	**+1.6**
JHJ	**Hachijo jima 2**	**3.15**	**7**	P	**Pn**	**02 25 24.1**	**+0.1**
	25nm,0.3s,baz=227,slow=19,SNR=30						
JHJ				S	**S**	**02 26 14.2**	**-1.1**
	39nm,0.3s,baz=102,slow=9.5,SNR=5.2						
CBIJ	**Chichi jima**	**3.82**	**138**	P	**Pn**	**02 25 29.8**	**-0.3**
CBIJ				S	**S**	**02 26 24.9**	**-1.6**
JCJ	**Chichijima**	**3.82**	**138**	P	**Pn**	**02 25 29.7**	**-0.4**
	36nm,0.3s,baz=1.6,slow=19,SNR=36						
JCJ				S	**S**	**02 26 24.3**	**-2.2**
	217nm,0.3s,baz=269,slow=21,SNR=27						
JMKN	**Mikurajimanish**	**3.91**	**3**	P	**Pn**	**02 25 32.1**	**+1.4**
JMKN				S	**S**	**02 26 29.3**	**+1.5**
TTO1	**TONANKAI O.B.S**	**4.23**	**330**	P	**Pn**	**02 25 36.7**	**+3.1**
BSO1	**Boso 1**	**4.86**	**16**	P	**Pn**	**02 25 40.9**	**+1.2**
BSO1				*eS*	**S**	**02 26 45.2**	**+0.9**
JIE	**Ise**	**4.93**	**334**	P	**Pn**	**02 25 43.4**	**+2.4**
JTNC	**Tanabenakahech**	**4.96**	**321**	P	**Pn**	**02 25 43.5**	**+2.1**
JOD2	**Odawara 2**	**5.27**	**358**	P	**Pn**	**02 25 45.4**	**+0.8**
JOD2				*eS*	**S**	**02 26 52.1**	**-1.0**
JRY	**Ryogami san**	**6.03**	**357**	P	**Pn**	**02 25 53.4**	**+0.5**
JRY				S	**S**	**02 27 06.5**	**-1.7**
JTO	**Tosashimizu**	**6.27**	**299**	P	**Pn**	**02 25 57.6**	**+2.0**
MJAR	**Matsushiro Arr**	**6.61**	**352**	P	**Pn**	**02 25 58.8**	**-0.4**
	0.6nm,0.3s,baz=164,slow=11,SNR=19						
MJAR				S	**S**	**02 27 16.2**	**-3.8**
	0.3nm,0.3s,baz=151,slow=13,SNR=3.3						
MAT	**Matsushiro**	**6.61**	**352**	P	**Pn**	**02 25 59.5**	**+0.2**
MAT				*eS*	**S**	**02 27 17.9**	**-2.1**
JHS	**Saijyo**	**7.25**	**315**	P	**P**	**02 26 08.8**	**+1.5**
JNU	**Nakatsue**	**7.86**	**296**	P	**Pn**	**02 26 12.6**	**-1.0**
	0.6nm,0.3s,baz=95,slow=7.6,SNR=1.8						
JOI	**OKI**	**8.10**	**323**	P	**Pn**	**02 26 17.6**	**+1.4**
JMK	**Ichinoseki**	**9.08**	**9**	P	**P**	**02 26 28.7**	**+0.7**
JMK				*eS*	**S**	**02 28 09.3**	**-2.8**
JTU	**Tsushima**	**9.55**	**301**	P	**P**	**02 26 35.1**	**+1.8**
JOW	**Kunigami**	**10.22**	**255**	P	**P**	**02 26 39.9**	**-1.1**
	3.6nm,0.3s,baz=108,slow=8.7,SNR=9.2						
JKE	**Kume jima 2**	**11.65**	**255**	P	**Pn**	**02 26 58.9**	**+1.2**
KSRS	**Korea Array**	**12.06**	**311**	P	**P**	**02 27 02.1**	**+1.0**
	0.9nm,0.3s,baz=124,slow=11,SNR=51						
JCH	**Churui**	**13.02**	**13**	P	**Pn**	**02 27 12.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**15.34**	**340**	P	**P**	**02 27 37.4**	**+0.5**
	baz=158,slow=11,SNR=18						
KLR	**Kul'dur**	**20.07**	**345**	P	**P**	**02 28 26.8**	**+0.7**
	3.0nm,0.6s,baz=152,slow=7.0,SNR=12						
SONM	**Songino Array**	**30.50**	**315**	P	**P**	**02 30 02.2**	**-0.6**
	0.9nm,0.5s,baz=115,slow=8.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**45.67**	**318**	P	**P**	**02 32 03.6**	**-0.4**
	1.6nm,0.7s,baz=72,slow=9.5,SNR=4.2						
MKAR	**Makanchi Array**	**46.72**	**308**	P	**P**	**02 32 11.9**	**-0.3**
	0.5nm,0.5s,baz=94,slow=9.7,SNR=6.5						
MKAR				PcP	**PcP**	**02 33 36.7**	**-1.8**
	0.3nm,0.5s,baz=100,slow=4.8,SNR=2.5						
MKAR				ScP	**ScP**	**02 36 52.0**	**-2.2**
	0.4nm,0.7s,baz=88,slow=3.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**49.59**	**197**	P	**P**	**02 32 34.0**	**-0.1**
	2.4nm,0.6s,baz=19,slow=7.0,SNR=6.3						
WRA	**Warramunga Arr**	**49.87**	**186**	P	**P**	**02 32 35.4**	**-0.8**
	2.5nm,0.5s,baz=1.4,slow=7.7,SNR=54						
WRA				PcP	**PcP**	**02 33 50.9**	**+0.8**
	0.3nm,0.4s,baz=356,slow=4.0,SNR=1.4						
ASAR	**Alice Springs**	**53.59**	**186**	P	**P**	**02 33 02.7**	**-0.7**
	1.0nm,0.5s,baz=22,slow=11,SNR=18						
KDAK	**Kodiak Island**	**53.61**	**38**	P	**P**	**02 33 03.6**	**+0.7**
	11nm,0.7s,baz=271,slow=5.2,SNR=25						
BVAR	**Borovoye Array**	**54.23**	**316**	P	**P**	**02 33 05.9**	**-1.6**
	0.9nm,0.6s,baz=165,slow=6.0,SNR=5.8						
ILAR	**Eielson Array**	**56.42**	**30**	P	**P**	**02 33 23.1**	**+0.3**
	1.2nm,0.8s,baz=278,slow=4.7,SNR=13						
INK	**Inuvik**	**61.47**	**25**	P	**P**	**02 33 57.1**	**+0.2**
	2.9nm,0.6s,baz=298,slow=4.0,SNR=5.2						
STKA	**Stephens Creek**	**61.56**	**178**	P	**P**	**02 33 57.6**	**-0.4**
	1.0nm,0.3s,baz=3.0,slow=5.2,SNR=4.5						
ARCES	**ARCESS Array B**	**69.99**	**340**	P	**P**	**02 34 51.2**	**+0.4**
	1.9nm,0.8s,baz=69,slow=6.6,SNR=3.6						
YKA	**Yellowknife Ar**	**70.80**	**28**	P	**P**	**02 34 55.7**	**0.0**
	1.0nm,0.7s,baz=294,slow=5.6,SNR=5.7						
KBZ	**Khabaz**	**74.22**	**312**	P	**P**	**02 35 16.1**	**+0.2**
	2.1nm,0.7s,baz=84,slow=3.8,SNR=4.6						
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**02 35 15.3**	**-0.4**
	0.6nm,0.4s,baz=68,slow=4.5,SNR=8.2						
NOA	**NORSAR Array B**	**80.00**	**337**	P	**P**	**02 35 47.2**	**-0.3**
	0.4nm,0.5s,baz=48,slow=4.7,SNR=3.4						
NVAR	**Mina Array Bea**	**80.69**	**51**	P	**P**	**02 35 53.1**	**+1.3**
	1.1nm,0.8s,baz=292,slow=5.6,SNR=7.1						
BRTR	**Keskin Array B**	**82.21**	**311**	P	**P**	**02 35 58.5**	**-1.0**
	1.2nm,0.7s,baz=78,slow=6.8,SNR=6.7						
PDAR	**Pinedale Array**	**83.90**	**44**	P	**P**	**02 36 09.6**	**+1.4**
	0.2nm,0.3s,baz=270,slow=2.3,SNR=1.6						
TXAR	**Lajitas Array**	**95.83**	**51**	P	**P**	**02 37 05.3**	**+1.1**
	0.3nm,0.7s,baz=279,slow=2.4,SNR=3.5						

IDC ***17*** *02:31:14.3±0.7, 2.°77S×147.°35E, h0km, mb4.2/15, mb1 4.4/18, mb1mx4.3/31, mbtmp4.2/18, ML2.8/2, MS4.2/26, Ms1 4.2/26, ms1mx4.2/30, Error ellipse: s-maj=26.2km s-min=14.7km az=105.0*
DJA ***17*** *02:31:16.9±0.7, 3.°5S×14.°8E±.°, h10km, M4.6/8, mB5.0/4, mb4.5/8, MLv4.8/2, Mw(mB)4.4/4*
BJI ***17*** *02:31:17.7±0.0, 3.°04S×147.°49E, h14km, mB5.0/36, mb4.8/51, Ms4.7/37, Ms7 4.6/35*
NEIC ***17*** *02:31:18.1±2.5, 2.°94S±0.°05×147.°30E±0.°06, h10km±1km, mb4.7/55, Error ellipse: s-maj=10.9km s-min=8.5km az=68.0*
GCMT ***17*** *02:31:23.1±0.2, 2.°96S±0.°01×147.°39E±0.°01, h17km,*

MW5.1/133,Moment Tensor Solution. s59,c79; s133,c218; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.12; $M_{\theta\theta}$0.19±.11; $M_{\phi\phi}$-0.36±.12; $M_{r\theta}$-0.24±.28; $M_{\theta\phi}$5.55±.11; $M_{r\phi}$-0.61±.27; Best double couple: M_o5.59600×10^{16} NP1:ϕ_s272.00000°,δ84.00000°, λ3.00000°. NP2:ϕ_s181.00000°,δ87.00000°,λ174.00000°. Principal axes: T 5.5380, Plg6.0000°, Azm136.0000°; N 0.1170, Plg83.0000°, Azm340.0000°; P -5.6550, Plg3.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 02:31:17.5±0.4,**3°00S**±0°.06×**147°55E**±0°.07,**h10**km,**n134,** σ**2°92**/117,**mb4.7**/51,**MS4.4**/37,**2C,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.97**	**349**		**Pg**	**02 31 33.4**	**-2.8**
RABL	**Rabaul**	**4.75**	**105**	Pn	Pn	02 32 34.9	+5.6
PMG	**Port Moresby**	**6.38**	**184**	Pn	**Pn**	**02 32 53.3**	**+1.7**
	1.8nm,0.3s,baz=14,slow=7.6,SNR=4.2						
PMG	**Port Moresby**	**6.38**	**184**	Pn	**Pn**	**02 32 51.7**	**+0.1**
GENI	**Genyem**	**7.39**	**273**	P	**Pn**	**02 33 06.9**	**+1.4**
	0.8nm3µm177nm,2.1s						
BAKI	**Biak**	**11.58**	**279**	P	Pn	02 34 14.5	+11
FAKI	**Fak Fak**	**15.28**	**270**	Pn	**Pn**	**02 34 50.7**	**-2.9**
FAKI				IAmb	IAmb	02 35 05.9	
	comp=Z,26nm,1.0s						
FAKI	**Fak Fak**	**15.28**	**270**	P	**Pn**	**02 34 52.1**	**-1.5**
SIJI	**Sorong**	**16.41**	**277**	Pn	**Pn**	**02 35 04.0**	**-4.2**
	comp=Z,1.6nm,0.3s,baz=37,slow=20,SNR=1.9						
SIJI				LR	LR	02 40 26.1	
	comp=Z,2µm,21.0s,baz=134,slow=34						
SIJI	**Sorong**	**16.41**	**277**	P	**P**	**02 35 10.2**	**-0.8**
	comp=Z,351nmcomp=Z,12nm,1.5s						
SWI	**Sorong**	**16.42**	**277**	P	**P**	**02 35 16.1**	**+5.0**
CTA	**Charters Tower**	**17.03**	**184**	P	**P**	**02 35 16.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=1.8						
CTA				LR	LR	02 41 22.2	
	comp=Z,912nm,18.8s,baz=7.5,slow=35						
CTAO	**Charters Tower**	**17.03**	**184**		**P**	**02 35 17.0**	**-0.8**
MTN	**Manton Dam**	**18.96**	**238**	P	**P**	**02 35 36.6**	**-2.5**
KRAI	**Karang Ratu**	**19.13**	**269**	P	Pn	02 35 55.3	+13
WB0	**Warramunga Arr**	**21.04**	**217**	P	**P**	**02 36 00.5**	**-1.3**
WB0				IAmb	IAmb	02 36 09.5	
	comp=Z,39nm,1.0s						
WR0	**Warramunga Arr**	**21.11**	**216**	P	**P**	**02 36 01.3**	**-1.2**
WR0				IAmb	IAmb	02 36 10.1	
	comp=Z,39nm,0.8s						
WRAB	**Tennant Creek**	**21.20**	**216**	P	**P**	**02 36 01.4**	**-2.0**
WRAB				IAmb	IAmb	02 36 07.2	
	comp=Z,37nm,0.8s						
WB2	**Warramunga Arr**	**21.20**	**216**	P	**P**	**02 36 02.1**	**-1.4**
WRA	**Warramunga Arr**	**21.21**	**216**	P	**P**	**02 36 02.0**	**-1.6**
	comp=Z,34nm,0.9s,baz=44,slow=10,SNR=94						
WRA				PcP	**PcP**	**02 40 09.4**	**+0.3**
	comp=Z,1.5nm,1.0s,baz=30,slow=2.2,SNR=3.7						
WRA				LR	LR	02 45 16.4	
	comp=Z,1µm,18.6s,baz=35,slow=40						
WRA	**Warramunga Arr**	**21.21**	**216**	P	**P**	**02 36 01.5**	**-2.1**
SANI	**Sanana**	**21.57**	**272**	P	P	02 36 14.5	+7.0
KNRA	**Kununurra**	**22.38**	**235**	P	**P**	**02 36 14.4**	**-1.8**
KNRA				IAmb	IAmb	02 36 38.5	
	comp=Z,23nm,0.9s						
AS31	**Alice Springs**	**24.42**	**212**	P	**P**	**02 36 37.9**	**+1.3**
ASAR	**Alice Springs**	**24.42**	**212**	P	**P**	**02 36 35.6**	**-0.9**
	comp=Z,9.7nm,0.9s,baz=42,slow=7.6,SNR=32						
ASAR				PcP	**PcP**	**02 40 16.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=46,slow=2.7,SNR=5.3						
ASAR				LR	LR	02 46 49.3	
	comp=Z,1µm,18.1s,baz=40,slow=38						
ASAR	**Alice Springs**	**24.42**	**212**	P	**P**	**02 36 35.4**	**-1.1**
BATI	**Baumata**	**24.77**	**252**	P	**P**	**02 36 36.6**	**-3.2**
	comp=Z,25nm,0.4s,baz=124,slow=17,SNR=1.6						
GTOI	**Gorontalo**	**24.80**	**278**	P	**P**	**02 36 44.3**	**+4.3**
APSI	**Ampana**	**25.97**	**274**	P	P	02 37 08.1	+17
FITZ	**Fitzroy Crossi**	**26.20**	**184**	P	**P**	**02 36 50.0**	**-2.7**
	comp=Z,3.7nm,0.6s,baz=46,slow=9.5,SNR=13						
FITZ				LR	LR	02 47 55.9	
	comp=Z,1µm,21.1s,baz=60,slow=38						
FITZ	**Fitzroy Crossi**	**26.20**	**234**	P	**P**	**02 36 52.1**	**-0.5**
FITZ				IAmb	IAmb	02 37 09.4	
	comp=Z,20nm,1.1s						
EDFI	**Ende, Flores**	**26.34**	**256**	P	**P**	**02 36 55.4**	**+1.3**
DZM	**Mont Dzumac**	**26.38**	**137**	LR	LR	02 45 49.7	
	comp=Z,2µm,21.3s,baz=297,slow=33						
DZM	**Mont Dzumac**	**26.38**	**137**	*e*S	**S**	**02 41 28.9**	**+1.0**
	comp=Z,268nm,23.9s						
DZM				*e*LR	LR	02 43 39.6	
	comp=Z,3µm,25.1s						
KAPI	**Kappang**	**27.80**	**265**	LR	LR	02 48 53.2	
	comp=Z,234nm,20.8s,baz=94,slow=38						
H11S3	**WAKE ISLAND Hy**	**28.48**	**41**	T	T	03 07 06.0	
	baz=223,slow=76,SNR=843						
H11S2	**WAKE ISLAND Hy**	**28.49**	**41**	T	T	03 07 04.6	
	baz=223,slow=76,SNR=562						
H11S1	**WAKE ISLAND Hy**	**28.50**	**41**	T	T	03 07 06.0	
	baz=223,slow=76,SNR=666						
STKA	**Stephens Creek**	**29.27**	**190**	LR	LR	02 49 42.8	
	comp=Z,795nm,20.4s,baz=4.7,slow=38						
H11N1	**WAKE ISLAND Hy**	**29.50**	**39**	T	T	03 08 22.6	
	baz=221,slow=76,SNR=177						
H11N3	**WAKE ISLAND Hy**	**29.52**	**39**	T	T	03 08 24.4	
	baz=221,slow=76,SNR=252						
H11N2	**WAKE ISLAND Hy**	**29.52**	**39**	T	T	03 08 22.2	
	baz=221,slow=76,SNR=179						
YULB	**Yu-li**	**36.65**	**317**	P	**P**	**02 38 25.9**	**+1.3**
YHNB	**Yeheng**	**37.46**	**319**	P	**P**	**02 38 32.7**	**+1.1**
JMN	**Monobe**	**38.74**	**342**	P	**P**	**02 38 44.3**	**+2.1**
INU	**Inuyama**	**39.41**	**346**	P	**P**	**02 38 48.7**	**+1.0**
INU				IAmb	IAmb	02 38 52.3	
	comp=Z,27nm,1.2s						
JHS	**Saijyo**	**40.16**	**341**	P	**P**	**02 38 55.1**	**+1.2**
JHS				IAmb	IAmb	02 38 58.2	
	comp=Z,14nm,1.0s						
MJAR	**Matsushiro Arr**	**40.29**	**348**	P	P	02 38 49.4	-5.6
	comp=Z,1.2nm,0.3s,baz=158,slow=13,SNR=2.3						
MJAR				LR	LR	02 54 19.2	
	comp=Z,294nm,18.2s,baz=155,slow=35						
MJAR	**Matsushiro Arr**	**40.29**	**348**	P	**P**	**02 38 54.2**	**-0.9**
JSD	**Sado**	**41.73**	**349**	P	**P**	**02 39 06.7**	**-0.2**
SSE	**Sheshan**	**42.20**	**325**	P	**P**	**02 39 11.3**	**+0.6**
SSE				S	**S**	**02 45 29.0**	**-2.0**
SSE				pmax	pmax		
	comp=Z,15nm,0.7s						
SSE				pmax	pmax		
	comp=Z,37nm,4.4s						
SSE				L	L		
	comp=Z,220nm,18.2s						
SSE				L	L		
	comp=Z,260nm,20.0s						
QIZ	**Qiongzhong**	**43.07**	**302**	P	**P**	**02 39 18.0**	**0.0**
QIZ				S	**S**	**02 45 45.3**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,130nm,4.1s						
QIZ				L	L		
	comp=Z,270nm,18.8s						
QIZ				L	L		
	comp=Z,380nm,22.8s						
QIZ				L	L		
	comp=Z,620nm,24.3s						
KSRS	**Korea Array**	**44.19**	**337**	LR	LR	02 56 18.5	
	comp=Z,448nm,18.3s,baz=156,slow=34						
NJ2	**Nanjing**	**44.24**	**324**	*e*P	**P**	**02 39 29.0**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				L	L		
	comp=Z,410nm,20.4s						
NJ2				L	L		
	comp=Z,560nm,20.6s						
NJ2				L	L		
	comp=Z,910nm,18.6s						
WHN	**Wuhan**	**46.01**	**319**	⇑P	**P**	**02 39 43.8**	**+2.5**
WHN				S	**S**	**02 46 31.1**	**+4.5**
WHN				L	L		
	comp=Z,5µm,31.9s						
WHN				L	L		
	comp=Z,1µm,15.9s						
WHN				L	L		
	comp=Z,2µm,20.8s						
USA0B	**Ussuriysk Arra**	**49.02**	**345**	P	**P**	**02 40 03.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**49.02**	**345**	LR	LR	02 58 40.8	
	comp=Z,143nm,18.4s,baz=141,slow=34						
USRK	**Ussuriysk Ar.**	**49.02**	**345**	P	**P**	**02 40 02.9**	**-1.7**
ENH	**Enshi**	**49.15**	**315**	P	**P**	**02 40 03.3**	**-2.6**
GYA	**Guiyang**	**49.18**	**309**	*e*P	P	02 40 11.4	+5.2
CN2	**Changchun**	**50.65**	**339**	*e*P	P	02 40 23.0	+6.0
CN2				*e*S	**S**	**02 47 32.9**	**+1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				L	L		
	comp=Z,300nm,19.0s						
CN2				L	L		
	comp=Z,200nm,19.0s						
CN2				L	L		
	comp=Z,300nm,18.0s						
KMI	**Kunming**	**51.67**	**305**	⇑P	**P**	**02 40 28.4**	**+3.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				L	L		
	comp=Z,250nm,19.4s						
KMI				L	L		
	comp=Z,200nm,19.3s						
KMI				L	L		
	comp=Z,390nm,28.8s						
XAN	**Xi'an**	**51.77**	**319**	P	**P**	**02 40 27.8**	**+2.2**
XAN				pP	sP	02 40 37.8	+8.2
XAN				pmax	pmax		
	comp=Z,14nm,1.6s						
XAN				L	L		
	comp=Z,410nm,15.7s						
XAN				L	L		
	comp=Z,280nm,12.9s						
XAN				L	L		
	comp=Z,550nm,19.1s						
CMAR	**Chiang Mai Arr**	**52.38**	**296**	P	**P**	**02 40 26.0**	**-4.4**
	comp=Z,1.3nm,0.3s,baz=108,slow=5.8,SNR=1.8						
CMAR				LR	LR	02 59 38.0	
	comp=Z,104nm,22.0s,baz=159,slow=33						
CMAR	**Chiang Mai Arr**	**52.38**	**296**	P	**P**	**02 40 28.9**	**-1.5**
CD2	**Chengdu**	**53.63**	**312**	P	**P**	**02 40 41.0**	**+1.5**
CD2				S	**S**	**02 48 16.4**	**+3.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,90nm,4.0s						
CD2				L	L		
	comp=Z,510nm,17.7s						
CD2				L	L		
	comp=Z,540nm,21.5s						
CD2				L	L		
	comp=Z,710nm,21.5s						
KLR	**Kul'dur**	**53.80**	**347**	LR	LR	03 01 19.5	
	comp=Z,117nm,20.8s,baz=176,slow=34						
HHC	**Hu-ho-hao-te**	**54.61**	**327**	*e*P	**P**	**02 40 50.3**	**+3.7**
HHC				S	**S**	**02 48 28.6**	**+2.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
HHC				L	L		
	comp=Z,380nm,17.9s						
HHC				L	L		
	comp=Z,310nm,17.0s						
HHC				L	L		
	comp=Z,530nm,17.0s						
LZH	**Lanzhou**	**56.34**	**318**	*e*P	**P**	**02 41 01.3**	**+2.1**
LZH				pP	sP	02 41 05.3	+2.2
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,6.1s						
LZH				L	L		
	comp=Z,200nm,16.0s						
LZH				L	L		
	comp=Z,310nm,15.9s						
LZH				L	L		
	comp=Z,200nm,18.0s						
PETK	**Petropavlovsk-**	**56.55**	**7**	P	**P**	**02 40 57.6**	**-2.5**
	comp=Z,1.5nm,0.7s,baz=177,slow=5.8,SNR=3.7						
PETK				LR	LR	03 01 17.7	
	comp=Z,287nm,21.7s,baz=187,slow=32						
PETK	**Petropavlovsk-**	**56.55**	**7**	P	**P**	**02 41 01.7**	**+1.6**
GTA	**Gaotai**	**60.83**	**319**	*e*P	**P**	**02 41 32.5**	**+2.1**
GTA				pP	sP	02 41 41.0	+6.7
GTA				sP	pP	02 41 44.8	+12
GTA				S	**S**	**02 49 50.1**	**+1.9**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,39nm,4.5s						
GTA				L	L		
	comp=Z,130nm,17.8s						
GTA				L	L		
	comp=Z,170nm,17.4s						
GTA				L	L		
	comp=Z,250nm,19.3s						
SONM	**Songino Array**	**62.09**	**330**	P	**P**	**02 41 36.0**	**-2.6**
	comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=2.6						
SONM				LR	LR	03 06 39.8	
	comp=Z,352nm,21.8s,baz=130,slow=34						
MA2	**Magadan**	**62.44**	**2**	LR	LR	03 04 32.5	
	comp=Z,71nm,21.6s,baz=126,slow=32						
PPT	**Papeete**	**63.26**	**108**	LR	LR	03 04 36.0	
	comp=Z,133nm,19.0s,baz=316,slow=32						
PPT2	**Papeete2**	**63.26**	**108**	*e*S	**S**	**02 50 21.6**	**+2.2**
	comp=Z,88nm,23.5s						
PPT2	**Papeete2**	**63.26**	**108**	*e*LR	LR	03 00 50.2	
	comp=Z,284nm,24.2s						
TBI	**Tubuai**	**64.06**	**114**	*e*S	**S**	**02 50 30.7**	**+1.6**
	comp=Z,330nm,28.5s						
TBI				*e*LQ	LQ	02 58 27.3	
	comp=Z,519nm,31.0s						
TBI				*e*LR	LR	03 01 11.5	
	comp=Z,658nm,31.5s						
TLY	**Talaya**	**65.97**	**332**	LR	LR	03 09 39.9	
	comp=Z,301nm,20.5s,baz=122,slow=35						
YAK	**Yakutsk**	**66.28**	**351**	LR	LR	03 09 58.9	
	comp=Z,72nm,18.5s,baz=85,slow=35						
WMQ	**Urumqi**	**70.91**	**319**	*e*P	**P**	**02 42 37.8**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.1s						
BILL	**Bilibino**	**72.09**	**7**	P	**P**	**02 42 41.7**	**0.0**
BILL				IAmb	IAmb	02 42 48.7	
	comp=Z,9.6nm,1.2s						
VNDA	**Vanda**	**74.86**	**177**	P	**P**	**02 42 57.3**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=322,slow=5.4,SNR=10						
VNDA				LR	LR	03 14 10.2	
	comp=Z,117nm,18.7s,baz=350,slow=34						
VNDA	**Vanda**	**74.86**	**177**	P	**P**	**02 42 58.6**	**+0.7**
MK31	**Makanchi Array**	**75.56**	**320**	P	**P**	**02 43 00.6**	**-2.0**
MKAR	**Makanchi Array**	**75.56**	**320**	P	**P**	**02 43 00.0**	**-2.6**
	comp=Z,1.3nm,1.0s,baz=97,slow=6.3,SNR=6.4						
MKAR				PP	**PP**	**02 45 47.7**	**-4.3**
	comp=Z,0.9nm,1.0s,baz=123,slow=8.8,SNR=4.0						
MKAR				LR	LR	03 16 39.8	
	comp=Z,213nm,18.7s,baz=74,slow=36						
MKAR	**Makanchi Array**	**75.56**	**320**	P	**P**	**02 43 01.4**	**-1.2**
ZALV	**Zalesovo Beam**	**76.79**	**327**	P	**P**	**02 43 06.0**	**-3.3**
	comp=Z,0.5nm,0.4s,baz=120,slow=5.8,SNR=2.1						
ZALV				LR	LR	03 16 55.8	
	comp=Z,273nm,19.4s,baz=106,slow=36						
ZALV	**Zalesovo Beam**	**76.79**	**327**		**P**	**02 43 08.0**	**-1.3**
KDAK	**Kodiak Island**	**77.02**	**28**	P	**P**	**02 43 10.8**	**+0.3**
KDAK				IAmb	IAmb	02 43 18.5	
	comp=Z,9.4nm,1.2s						
TTA	**Tatalina**	**78.09**	**23**	P	**P**	**02 43 17.5**	**+1.0**
TTA				IAmb	IAmb	02 43 24.7	
	comp=Z,8.8nm,1.3s						
CNPM	**China Poot**	**78.44**	**27**	P	**P**	**02 43 18.5**	**+0.1**
NIL	**Nilore**	**78.66**	**305**	P	**P**	**02 43 18.5**	**-1.7**
RC01	**Rabbit Creek A**	**79.80**	**26**	P	**P**	**02 43 26.5**	**+0.6**
RC01				IAmb	IAmb	02 43 32.6	
	comp=Z,8.8nm,1.2s						
KTH	**Kantishna Hill**	**80.40**	**24**	P	**P**	**02 43 29.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**80.63**	**23**	P	**P**	**02 43 30.8**	**+0.5**
SML	**Sawmill**	**80.72**	**26**	P	**P**	**02 43 31.1**	**+0.2**
SML				IAmb	IAmb	02 43 37.7	
	comp=Z,8.9nm,1.0s						
GLI	**Glacier Island**	**80.89**	**27**	P	**P**	**02 43 31.1**	**-0.6**
GLI				IAmb	IAmb	02 43 38.5	
	comp=Z,6.9nm,1.0s						
MLY	**Manley**	**81.15**	**22**	P	**P**	**02 43 34.3**	**+1.2**
MLY				IAmb	IAmb	02 43 40.1	
	comp=Z,7.9nm,1.2s						
SCM	**Sheep Creek Mo**	**81.17**	**26**	P	**P**	**02 43 31.7**	**-1.5**
SCM				IAmb	IAmb	02 43 40.9	
	comp=Z,11nm,1.2s						
MCK	**McKinley**	**81.28**	**24**	P	**P**	**02 43 34.2**	**+0.4**
MCK				IAmb	IAmb	02 43 40.0	
	comp=Z,9.0nm,1.0s						
NEA2	**Nenana**	**81.60**	**23**	P	**P**	**02 43 35.4**	**0.0**
WRH	**Wood River Hil**	**81.93**	**23**	P	**P**	**02 43 36.4**	**-0.8**
WRH				IAmb	IAmb	02 43 43.7	
	comp=Z,8.0nm,1.1s						
MDM	**Murphy Dome**	**82.08**	**23**	P	**P**	**02 43 38.5**	**+0.5**
CCB	**Clear Creek Bu**	**82.11**	**23**	P	**P**	**02 43 38.2**	**+0.1**
CCB				IAmb	IAmb	02 43 43.9	
	comp=Z,7.0nm,1.0s						
COLA	**College**	**82.19**	**23**	P	**P**	**02 43 41.0**	**+2.5**
COLD	**Coldfoot**	**82.35**	**20**	P	**P**	**02 43 41.0**	**+1.6**
A21K	**Barrow**	**82.44**	**16**	P	**P**	**02 43 42.1**	**+2.4**
IL31		**82.53**	**23**	P	**P**	**02 43 39.6**	**-0.6**
IL31				IAmb	IAmb	02 43 45.7	
	comp=Z,4.6nm,0.9s						
ILAR	**Eielson Array**	**82.53**	**23**	P	**P**	**02 43 38.0**	**-2.3**
	comp=Z,2.7nm,1.1s,baz=260,slow=4.8,SNR=19						
ILAR				LR	LR	03 17 56.7	
	comp=Z,90nm,20.1s,baz=268,slow=34						
ILAR	**Eielson Array**	**82.53**	**23**	P	**P**	**02 43 39.8**	**-0.5**
GLB	**Gilahina Butte**	**82.58**	**27**	P	**P**	**02 43 41.1**	**+0.5**
KKAR	**Karatay Array**	**82.61**	**314**	P	**P**	**02 43 41.8**	**+0.5**
NRIK	**Noril'sk**	**82.61**	**342**	P	**P**	**02 43 37.4**	**-3.2**
	comp=Z,1.5nm,0.5s,baz=148,slow=12,SNR=1.4						
NRIK	**Noril'sk**	**82.61**	**342**	P	**P**	**02 43 41.6**	**+1.0**
TOLK	**Toolik Lake Re**	**83.20**	**19**	P	**P**	**02 43 45.7**	**+1.9**
TOLK				IAmb	IAmb	02 43 49.7	
	comp=Z,5.0nm,1.1s						
BCAR	**Beaver Creek A**	**84.01**	**26**	P	**P**	**02 43 48.5**	**+0.4**
BMAR	**Burnt Mountain**	**84.42**	**21**	P	**P**	**02 43 52.2**	**+2.2**
MAW	**Mawson**	**85.21**	**203**	LR	LR	03 21 21.8	
	comp=Z,124nm,18.4s,baz=66,slow=35						
HYT	**Haines Junctio**	**85.31**	**28**	P	**P**	**02 43 56.4**	**+1.7**
HYT				IAmb	IAmb	02 44 02.8	
	comp=Z,7.5nm,1.1s						
DAWY	**Dawson**	**85.34**	**25**	P	**P**	**02 43 56.8**	**+2.1**
DAWY				IAmb	IAmb	02 44 03.4	
	comp=Z,8.0nm,1.2s						
WHY	**Whitehorse**	**86.52**	**29**	P	**P**	**02 44 02.0**	**+1.3**
WHY				IAmb	IAmb	02 44 08.1	
	comp=Z,6.4nm,1.2s						
QSPA	**South Pole Qui**	**86.95**	**180**	P	**P**	**02 44 03.4**	**+0.6**
QSPA				IAmb	IAmb	02 44 07.3	
	comp=Z,7.1nm,1.2s						
GEYT	**Alibeck**	**91.38**	**308**	LR	LR	03 27 34.7	
	comp=Z,135nm,19.6s,baz=75,slow=37						
AFDM	**Forest Hills D**	**93.02**	**51**	P	**P**	**02 44 33.6**	**+1.9**
AFDM				IAmb	IAmb	02 44 38.9	
	comp=Z,3.5nm,1.0s						
B08A	**Colville Reser**	**94.30**	**42**	P	**P**	**02 44 39.7**	**+2.3**
B08A				IAmb	IAmb	02 44 44.6	
	comp=Z,4.1nm,1.1s						
NVAR	**Mina Array Bea**	**95.10**	**52**	P	**P**	**02 44 39.4**	**-2.1**
	comp=Z,0.1nm,0.4s,baz=193,slow=20,SNR=4.0						
NEW	**Newport**	**95.77**	**42**	P	**P**	**02 44 46.6**	**+2.4**
F10A	**Beach Ranch, E**	**95.78**	**44**	P	**P**	**02 44 47.5**	**+3.2**
F10A				IAmb	IAmb	02 44 52.1	
	comp=Z,2.4nm,0.9s						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	**P**	**02 44 42.9**	**-3.2**
	comp=Z,0.4nm,0.9s,baz=274,slow=4.6,SNR=7.4						
YKA				LR	LR	03 25 18.4	
	comp=Z,108nm,20.0s,baz=0.0,slow=34						
CAO2	**Cobano, Puntar**	**127.29**	**80**	PKPdf	**PKPdf**	**02 50 20.9**	**-2.7**
TOA0	**Torodi Ar. Sit**	**144.78**	**289**	PKPdf	**PKPab**	**02 50 53.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**144.78**	**289**	PKP	**PKPab**	**02 50 52.1**	**-2.7**
	comp=Z,2.1nm,1.0s,baz=64,slow=3.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**144.78**	**289**		**PKPab**	**02 50 54.0**	**-0.7**

IDC 17 02:38:55.1±2.4,**3°36S**×**147°80E,h0**km,**mb3.5**/3, **mb1 3.8**/3,**mb1mx3.5**/26,**mbtmp3.5**/3,**MS3.9**/2,**Ms1 3.9**/2, **ms1mx3.1**/27,**Error ellipse: s-maj=332.4km s-min=31.8km az=121.0,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.50**	**117**	LR	LR	02 47 06.8	
	comp=Z,772nm,21.9s,baz=176,slow=36						
WRA	**Warramunga Arr**	**21.08**	**218**	P	P	02 43 41.5	+0.4
	2.0nm,0.7s,baz=42,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.25**	**212**	P	P	02 44 13.9	-0.2
	1.0nm,0.8s,baz=41,slow=8.6,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**28.59**	**40**	T	T	03 14 45.2	
	baz=223,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.60**	**40**	T	T	03 14 46.2	
	baz=223,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.61**	**40**	T	T	03 14 46.9	
	baz=223,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**29.63**	**39**	T	T	03 15 59.8	
	baz=221,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**29.64**	**39**	T	T	03 16 01.8	
	baz=221,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**29.64**	**39**	T	T	03 16 01.7	
	baz=221,slow=76,SNR=6.9						
BRDH	**Bariadhala**	**60.58**	**298**	LR	LR	03 14 52.7	
	comp=Z,68nm,18.2s,baz=96,slow=36						
ILAR	**Eielson Array**	**82.75**	**23**	P	P	02 51 20.6	-0.1
	0.3nm,0.9s,baz=238,slow=5.2,SNR=2.6						

*SJA **17** 02:41:22.6±0.6,21°.49S×66°.76W,h237km±4km, ML4.4, MW4.2*
*NEIC **17** 02:41:23.0±2.7,21°.45S±0°.06×66°.66W±0°.08, h209km±5km, mb4.6/269, Error ellipse: s-maj=10.6km s-min=8.6km az=79.0*
*IDC **17** 02:41:22.6±0.7,21°.36S×66°.63W, h208km±6km, mb4.2/19, mb1 4.3/27, mb1mx4.2/35, mbtmp4.7/27, Error ellipse: s-maj=10.0km s-min=7.7km az=102.0*
*GUC **17** 02:41:23.7±0.6,21°.36S×67°.41W, h276km±7km, ML5.0*
*VAO **17** 02:41:24.5±0.2,21°.38S×66°.93W, h261km, mb4.5*
*SCB **17** 02:41:28.7±2.6,21°.43S×66°.91W, h180km±17km, ML4.6/8, Error ellipse: s-maj=7.7km s-min=6.2km az=2.0*

ISC 17 02:41:23.3±0.5,**21°44S**±0°.03×**66.77W**±0°.03,**h221**km±4km, **n408,** σ**1°53**/386,**mb4.6**/139,**4C,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.08**	**80**	P	**Pn**	**02 41 56.8**	**+0.5**
MOCB				S	**S**	**02 42 19.6**	**-2.3**
MOCB				IAML		02 42 21.9	
	8µm,0.4s						
YJA	**Yavi**	**

PB01 IPOC Station P 2.56 278 *e*P Pn 02 42 10.2 +0.9
PB01 *e*S S 02 42 45.6 +0.5
PB01 IAML 02 42 48.1
comp=Z,1µm,0.2s
PB08 IPOC Station P 2.57 300 ⇑*i*P Pn 02 42 11.3 +1.5
PB08 *i* S S 02 42 47.4 +1.5
PB08 IPOC Station P 2.57 300 Pn 02 42 11.2 +1.5
PB08 S 02 42 46.5 +0.7
PB08 IPOC Station P 2.57 300 P Pn 02 42 11.4 +1.5
PB08 IPOC Station P 2.57 300 *e*P Pn 02 42 11.2 +1.4
PB08 *e*S S 02 42 47.5 +1.7
PB08 IAML 02 42 48.7
comp=Z,674nm,1.2s
PB03 IPOC Station P 2.83 257 *e*P Pn 02 42 13.3 +0.9
PB03 *i* S S 02 42 49.8 -0.8
PB03 IAML 02 42 50.6
comp=E,2µm,0.2s
PB03 IPOC Station P 2.83 257 P Pn 02 42 12.9 +0.6
PB03 IPOC Station P 2.83 257 *e*P Pn 02 42 13.0 +0.6
PB03 *e*S S 02 42 50.0 -0.6
PB03 IAML 02 42 53.0
comp=Z,2µm,0.2s
PB06 IPOC Station P 2.88 244 *e*P Pn 02 42 13.5 +0.6
PB06 *i* S S 02 42 51.4 -0.2
PB06 IAML 02 42 53.6
comp=E,1µm,0.1s
PB06 IPOC Station P 2.88 244 Pn 02 42 13.4 +0.5
PB06 IPOC Station P 2.88 244 P Pn 02 42 13.9 +1.0
PB06 IPOC Station P 2.88 244 *e*P Pn 02 42 13.3 +0.4
PB06 *e*S S 02 42 51.4 -0.2
PB06 IAML 02 42 56.6
comp=Z,783nm,0.2s
PB07 IPOC Station P 2.91 264 *e*P Pn 02 42 13.7 +0.4
PB07 *i* S S 02 42 51.3 -0.8
PB07 IAML 02 42 52.0
comp=E,4µm,0.3s
PB07 IPOC Station P 2.91 264 Pn 02 42 13.8 +0.6
PB07 IPOC Station P 2.91 264 P Pn 02 42 14.1 +0.9
PB07 IPOC Station P 2.91 264 *e*P Pn 02 42 13.3 +0.1
PB07 *e*S S 02 42 51.4 -0.8
PB07 IAML 02 42 52.6
comp=Z,2µm,0.4s
PB15 IPOC Station P 3.06 234 *e*P Pn 02 42 15.6 +0.7
PB15 *e*S S 02 42 56.0 +0.7
PB15 IPOC Station P 3.06 234 Pn Pn 02 42 15.7 +0.8
PB15 IPOC Station P 3.06 234 P Pn 02 42 15.8 +0.8
PB15 S S 02 42 51.4 -3.8
PB15 IAML 02 42 59.8
comp=Z,5µm,0.4s
PB15 IPOC Station P 3.06 234 *e*P Pn 02 42 15.4 +0.5
PB15 *e*S S 02 42 54.7 -0.5
PB15 IAML 02 42 58.6
comp=Z,8µm,0.2s
PB11 IPOC Station P 3.17 301 ⇑*i*P Pn 02 42 16.8 +0.5
PB11 *i* S S 02 42 56.5 -1.1
PB11 IPOC Station P 3.17 301 Pn Pn 02 42 16.9 +0.7
PB11 IPOC Station P 3.17 301 P Pn 02 42 17.0 +0.7
PB11 S S 02 42 54.9 -2.7
PB11 IAML 02 42 58.9
comp=Z,2µm,0.3s
PB11 IPOC Station P 3.17 301 *e*P Pn 02 42 17.0 +0.7
PB11 *e*S S 02 42 57.0 -0.6
PB11 IAML 02 42 60.0
comp=Z,2µm,0.5s
AZAP Zapla 3.19 151 *e*P Pn 02 42 16.6 +0.1
AZAP *e*S S 02 42 58.0 -0.1
AZAP IAML 02 43 02.3
comp=Z,3µm,0.5s
PB04 IPOC Station P 3.26 254 *e*P Pn 02 42 17.7 +0.4
PB04 *e*S S 02 42 57.8 -1.5
PB04 IAML 02 43 00.2
comp=N,1µm,0.3s
PB04 IPOC Station P 3.26 254 Pn 02 42 17.4 +0.2
PB04 IPOC Station P 3.26 254 P Pn 02 42 17.8 +0.6
PB04 IPOC Station P 3.26 254 *e*P Pn 02 42 17.8 +0.6
PB04 *e*S S 02 42 57.8 -1.5
PB04 IAML 02 43 00.3
comp=Z,630nm,0.2s
ASTB Santa Barbara 3.29 140 *e*P Pn 02 42 17.7 +0.2
ASTB *e*S S 02 42 57.4 -2.7
ASTB IAML 02 43 01.7
comp=Z,96nm,0.4s
TA01 Diego Aracena 3.30 285 *e*P Pn 02 42 17.3 -0.1
TA01 *e*S S 02 42 57.6 -2.2
TA01 IAML 02 42 59.2
comp=N,2µm,0.3s
TA01 Diego Aracena 3.30 285 Pn Pn 02 42 17.4 -0.1
TA02 Huaiquique 3.35 290 *e*P Pn 02 42 18.1 0.0
TA02 *i* S S 02 42 59.0 -1.9
TA02 Huaiquique 3.35 290 Pn Pn 02 42 18.0 -0.1
SLA San Lorenzo 3.47 161 *e*P Pn 02 42 21.0 +1.3
SLA *e*S S 02 43 07.1 +3.2
SLA IAML 02 43 14.3
comp=Z,335nm,1.0s
PB05 IPOC Station P 3.48 245 ⇑*i*P Pn 02 42 20.3 +0.5
PB05 *i* S S 02 43 02.0 -1.8
PB05 IAML 02 43 05.2
comp=E,957nm,0.4s
PB05 IPOC Station P 3.48 245 P Pn 02 42 20.5 +0.8
PB05 S S 02 42 58.9 -4.9
PB05 IAML 02 43 03.2
comp=E,442nm,0.6s
PB05 IPOC Station P 3.48 245 *e*P Pn 02 42 20.2 +0.5
PB05 *e*S S 02 43 02.4 -1.4
PB05 IAML 02 43 08.2
comp=Z,331nm,0.3s
ALOL LOMAS DE OLMED 3.50 133 *e*P Pn 02 42 19.6 -0.3
ALOL *e*S S 02 43 02.5 -1.7
MNMC Minye Minye 3.50 310 ⇑*i*P Pn 02 42 21.3 +1.0
MNMC *e*S S 02 43 04.9 +0.2
MNMC Minye Minye 3.50 310 Pn Pn 02 42 21.4 +1.2
MNMC Minye Minye 3.50 310 P Pn 02 42 21.5 +1.2
MNMC S S 02 43 01.2 -3.6
MNMC IAML 02 43 06.4
comp=Z,2µm,0.3s
PSGC Pisagua 3.63 300 *e*P Pn 02 42 21.2 -0.4
PSGC *i* S S 02 43 05.0 -2.2
PSGC IAML 02 43 07.1
comp=E,2µm,0.6s
PSGC Pisagua 3.63 300 P Pn 02 42 22.0 +0.4
PSGCX Pisagua 3.63 300 Pn Pn 02 42 21.6 -0.1
PB16 IPOC Station P 4.02 320 Pn 02 42 28.4 +1.7
PB10 IPOC Station P 4.06 239 Pn Pn 02 42 26.8 +0.2
PB10 IPOC Station P 4.06 239 P Pn 02 42 27.5 +0.9
PB10 S S 02 43 11.3 -5.0
PB10 IAML 02 43 14.7
comp=E,592nm,0.3s
PB10 IPOC Station P 4.06 239 *e*P Pn 02 42 26.6 0.0
PB10 *e*S S 02 43 13.8 -2.5
PB10 IAML 02 43 16.7
comp=Z,703nm,0.4s
GO02 Mina Guanaco 4.52 214 Pn 02 42 32.9 +0.4
AP01 Chacalluta 4.54 312 Pn 02 42 32.7 +0.2
PB14 IPOC Station P 4.61 226 Pn Pn 02 42 33.7 +0.1
PB14 IPOC Station P 4.61 226 *e*P Pn 02 42 33.9 +0.2
PB14 *e*S S 02 43 26.6 -2.5
PB14 IAML 02 43 30.7
comp=Z,842nm,0.2s
FSA Cafayete 4.71 171 *e*P Pn 02 42 36.0 +1.2
BBOE La Paz, Chanca 4.74 346 P Pn 02 42 38.2 +2.6
LPAZ La Paz 5.28 346 P Pn 02 42 42.9 +0.4
comp=E,61nm,0.3s,baz=156,slow=8.0,SNR=114.5
LPAZ S S 02 43 43.3 -1.6
comp=Z,4.7nm,0.3s,baz=254,slow=19,SNR=3.9
LPAZ La Paz 5.28 346 Pn Pn 02 42 43.8 +1.3
LPAZ La Paz 5.28 346 P Pn 02 42 43.9 +1.4
LPAZ S S 02 43 41.8 -3.1
LPAZ IAML 02 43 50.4
comp=Z,54nm,0.8s
LPAZ La Paz 5.28 346 *e*P Pn 02 42 43.7 +1.2
LPAZ La Paz 5.28 346 *e*P Pn 02 42 43.9 +1.4
LPAZ La Paz 5.28 346 *e*P Pn 02 42 43.8 +1.3
LPAZ *e*S S 02 43 47.9 +2.9
BBOB La Paz, Bander 5.42 346 P Pn 02 42 45.4 +1.2
AC02 Maricunga 5.79 201 Pn Pn 02 42 48.6 -0.1
AC01 Pan de Azucar 5.85 216 Pn Pn 02 42 47.7 -1.3
GO03 Copiap 6.89 207 Pn Pn 02 43 00.4 -1.9
GO03 Copiap 6.89 207 *e*P Pn 02 43 01.2 -1.1
GO03 *e*S S 02 44 16.2 -5.0
CYA Choya 7.03 173 *e*P Pn 02 43 04.4 +0.4
CYA IAML 02 45 29.3
comp=Z,15nm,0.9s

AANI Anillaco 7.34 181 *e*P Pn 02 43 00.4 -7.8
SIV San Ignacio 7.65 46 P Pn 02 43 10.4 -1.8
comp=Z,32nm,0.3s,baz=239,slow=12,SNR=38.1
SIV S S 02 44 26.3 -13
comp=Z,4.4nm,0.3s,baz=243,slow=17,SNR=5.8
AC04 Llanos de Chal 7.79 209 Pn Pn 02 43 10.7 -3.1
ACLC CERRO LA CRUZ 7.96 181 *e*P Pn 02 43 15.2 -0.9
ACLC IAML 02 44 46.6
comp=Z,23nm,0.8s
LCO Las Campanas 8.34 204 Pn Pn 02 43 19.2 -1.9
APLL PUNTA DE LOS L 8.92 179 *e*P Pn 02 43 26.6 -1.8
ACCO Cerro Coronel 9.34 192 *e*S S 02 45 15.3 -4.0
ACCO *e*S S 02 45 15.3 -4.0
GO04 Tololo Observa 9.42 202 Pn Pn 02 43 32.5 -2.5
CPUP Villa Florida 9.92 121 P Pn 02 43 39.5 -1.7
comp=Z,0.2nm,0.3s,baz=295,slow=11,SNR=11.1
CPUP Villa Florida 9.92 121 Pn Pn 02 43 39.7 -1.5
CO03 El Pedregal 10.00 200 Pn 02 43 39.4 -2.8
AQDB Aquidauana 10.39 87 Pn Pn 02 43 46.5 -0.8
CO02 Combarbal 10.44 200 Pn Pn 02 43 43.5 -4.4
RTCV Cerro Valdivia 10.50 188 *e*P Pn 02 43 47.2 -1.4
VILB Vilhena 10.52 38 *e*P Pn 02 43 48.3 -0.7
ETMB Extrema 11.57 3 *e*P Pn 02 44 01.2 -1.1
VA03 San Esteban 11.77 196 Pn Pn 02 44 03.7 -1.1
SALV Santo Antonio 11.86 64 *e*P Pn 02 44 06.6 +0.7
ITQB Itaqui 12.29 134 *e*P Pn 02 44 11.3 +0.1
MT02 Curacav 12.39 197 Pn 02 44 11.2 -1.3
MT05 Renca 12.41 196 Pn Pn 02 44 12.1 -0.8
MT03 Universidad Ad 12.46 195 Pn Pn 02 44 13.9 +0.5
MT09 Talagante 12.84 196 Pn Pn 02 44 17.0 -1.3
VA05 Santo Domingo 12.90 198 Pn 02 44 17.1 -1.7
MT01 Popeta 12.99 197 Pn 02 44 18.8 -1.2
TRCB Terra Rica 13.18 99 P P 02 44 25.0 +0.2
BO01 Tunca 13.45 195 Pn Pn 02 44 25.0 -0.7
NNA Nana 13.46 313 P Pn 02 44 26.2 +0.2
comp=Z,4.5nm,0.3s,baz=162,slow=9.9,SNR=8.6
NNA S S 02 46 49.8 -5.2
comp=Z,2.3nm,0.3s,baz=189,slow=19,SNR=2.9
NNA Nana 13.46 313 P P 02 44 29.1 +1.2
BO02 Sierra Bellavi 13.76 194 P Pn 02 44 30.0 +0.5
PTGB Pitanga 13.93 106 *e*P P 02 44 35.1 +2.0
GO05 Huala 14.26 197 Pn 02 44 34.5 -1.1
PCMB Pacaembu 14.44 94 *e*P P 02 44 40.4 +1.6
ITAB Concordia 14.54 116 *e*P P 02 44 40.5 +0.8
CZSB Cruzeiro do Su 14.78 336 *e*P Pn 02 44 37.7 -4.5
CLDB Colider 14.87 47 *e*P Pn 02 44 42.8 -0.4
CPSB Cacapava Do Su 14.94 129 *e*P Pn 02 44 43.8 -0.2
ARAG Araguaiana, MT 15.28 71 *e*P Pn 02 44 48.9 +0.7
ITRB Iturama 15.47 87 *e*P Pn 02 44 51.3 +0.9
PLTB Pedras Altas 15.62 134 P 02 44 50.9 -0.8
PLTB IAmb IAmb 02 44 53.0
comp=Z,24nm,0.7s
PLTB Pedras Altas 15.62 134 *e*P P 02 44 51.6 -0.1
FRTB Fartura 16.02 100 *e*P Pn 02 44 57.6 +0.4
TIJ01 Guaruva-PR 16.77 107 *e*P Pn 02 45 06.0 0.0
BB19B Bebedouro 17.02 92 *e*P P 02 45 07.8 +0.6
TRQA Tornquist 17.07 167 P P 02 45 07.0 -0.6
TRQA Tornquist 17.07 167 *e*P P 02 45 07.2 -0.4
TER01 Tubaro-SC 17.48 117 *e*P P 02 45 12.7 +0.6
SNDB Serra Nova Dou 17.55 60 *e*P P 02 45 12.8 -0.2
IPMB Ipameri, GO 17.81 82 *e*P P 02 45 16.5 +0.6
RCLB Rio Claro- Sao 17.88 97 *e*P P 02 45 16.6 0.0
SPB Sao Paulo 18.00 100 *e*P P 02 45 16.2 -1.5
NPGB Novo Progresso 18.07 39 *e*P P 02 45 17.5 -1.2
ATAH Atahualpa 18.12 320 P Pn 02 45 21.2 -1.0
comp=Z,0.3nm,0.3s,baz=213,slow=5.4,SNR=2.9
PET01 Itanhaem-SP 18.19 103 *e*P P 02 45 20.2 +0.4
VAO Valinhos 18.41 99 *e*P P 02 45 22.2 -0.1
BDFB Brasilia 18.69 75 P P 02 45 25.2 -0.3
comp=Z,3.5nm,0.3s,baz=257,slow=9.6,SNR=18
BDFB Brasilia 18.69 75 P P 02 45 25.9 +0.4
BDFB IAmb IAmb 02 45 28.8
comp=Z,13nm,0.5s
PLCA Paso Flores 19.50 189 P P 02 45 34.1 +0.2
comp=Z,1.1nm,0.3s,baz=19,slow=13,SNR=9.6
PLCA Paso Flores 19.50 189 P P 02 45 34.1 +0.2
PLCA IAmb IAmb 02 45 53.1
comp=Z,21nm,1.0s
PLCA Paso Flores 19.50 189 *e*P P 02 45 34.4 +0.5
PARB Paraibuna 19.65 99 *e*P P 02 45 35.3 -0.3
PEXB Peixe 19.96 65 *e*P P 02 45 38.1 -0.9
ITTB Itaituba 20.07 34 *e*P P 02 45 38.9 -1.2
BSCB Bom Sucesso 20.52 93 *e*P P 02 45 44.3 -0.7
ESAR Angra dos Reis 20.73 99 *e*P P 02 45 47.0 -0.1
LL01 San Ignacio de 21.41 192 P P 02 45 53.5 -0.3
LL01 IAmb IAmb 02 45 55.4
comp=Z,25nm,0.9s
PTGA Pitinga 21.63 19 P P 02 45 53.9 -2.4
comp=Z,8.6nm,0.3s,baz=199,slow=18,SNR=19
PTGA S S 02 49 35.6 -5.0
comp=Z,10.0nm,0.9s,baz=202,slow=19,SNR=6.3
PTGA Pitinga 21.63 19 P P 02 45 53.7 -2.6
PTGA IAmb IAmb 02 46 15.0
comp=Z,14nm,0.6s
VAS01 Vassouras-RJ 21.67 97 *e*P P 02 45 56.2 -0.5
MC01 Montes Claros 22.08 82 *e*P P 02 45 59.1 -1.6
LL02 Futaleuf 22.10 190 P P 02 46 00.7 +0.2
JANB Januaria 22.24 77 *e*P P 02 46 01.0 -1.3
SMTB Santa Maria do 22.31 59 *e*P P 02 46 02.0 -0.8
PRPB Parauapebas 22.36 50 *e*P P 02 46 01.6 -1.6
DUB01 Friburgo-RJ 22.67 96 *e*P P 02 46 05.0 -1.0
SDBA SAO DESIDERIO 22.75 70 *e*P P 02 46 05.9 -0.9
MALB Monte Alegre 22.97 34 *e*P P 02 46 07.9 -0.8
CAM01 Campos-RJ 23.35 96 *e*P P 02 46 10.4 -1.6
SJMB Sao Joao De Ma 24.18 88 *e*P P 02 46 18.6 -1.1
ALF01 Guarapari-ES 24.32 93 *e*P P 02 46 19.5 -1.5
MACC Macarena, Meta 24.44 343 *e*P P 02 46 29.6 +7.6
BOAV Boa Vista 24.46 15 *e*P P 02 46 29.7 -1.6
FLOC Florencia 24.47 338 P P 02 46 23.5 +1.1
FLOC IAmb IAmb 02 46 35.9
comp=Z,19nm,1.3s
FLOC Florencia 24.47 338 *e*P P 02 46 23.1 +0.7
BSFB Barra de Sao F 24.47 89 *e*P P 02 46 20.9 -1.4
RIB01 Linhares ES 24.81 90 *e*P P 02 46 24.2 -1.3
GARC Garzon, Huila 24.98 339 *e*P P 02 46 27.7 +0.5
NAN01 Guarapari, ES 25.34 87 *e*P P 02 46 29.6 -0.6
MCPB Macapa, AP 25.40 36 *e*P P 02 46 28.7 -2.0
BBAC Balboa, Cauca 25.47 335 *e*P P 02 46 33.3 +1.7
POPC Popayan, Colom 25.73 337 *e*P P 02 46 30.6 -3.3
GUA01 Guaratinga, BA 25.93 84 *e*P P 02 46 34.7 -0.8
TMAB Tom-Au,PA,Br 26.27 46 *e*P P 02 46 37.1 -1.4
ORTC Ortega, Tolima 26.52 341 *e*P P 02 46 40.1 -0.7
CMC01 Camacan, BA 26.54 81 *e*P P 02 46 39.1 -1.9
NBIT Itapeh - BA 26.74 81 *e*P P 02 46 41.7 -1.1
CHIC Chingaza 26.79 344 *e*P P 02 46 43.9 +0.3
YOTC Yotoco, Valle 26.95 339 *e*P P 02 46 42.0 -2.7
GDU01 Guandu, BA 27.01 78 *e*P P 02 46 43.3 -1.9
TOLC Tolima 27.19 341 *e*P P 02 46 46.8 -0.2
NBPN Ponto Novo - B 27.57 72 *e*P P 02 46 48.6 -1.5
GUY2C Guyana, Caldas 27.80 341 *e*P P 02 46 52.5 -0.2
RUSC La Rusia 27.86 346 P P 02 46 53.1 -0.1
RUSC IAmb IAmb 02 47 09.5
comp=Z,16nm,1.1s
RUSC La Rusia 27.86 346 *e*P P 02 46 52.5 -0.7
BARC Barichara 28.56 347 *e*P P 02 46 59.1 0.0
CBOC Ciudad Bolivar 28.61 341 *e*P P 02 46 59.7 +0.2
BRRC Barranca, Sant 29.17 346 *e*P P 02 47 00.3 -3.9
MDP Montagnes des 29.79 29 P P 02 47 08.3 -1.5
comp=Z,8.7nm,0.6s,baz=206,slow=9.3,SNR=7.7
ZARC Zaragoza, Cauc 29.83 344 *e*P P 02 47 08.7 -1.3
NBPS Pedro II - PI 29.85 59 *e*P P 02 47 10.5 0.0
NBMA Muriti-CE 30.45 67 *e*P P 02 47 14.2 -1.4
NBPB Pedra_Branca-C 30.71 63 *e*P P 02 47 16.1 -1.9
SMLC San Martn de 30.89 346 *e*P P 02 47 16.4 -3.0
NBAN Anadia - AL 31.56 73 *e*P P 02 47 23.7 -1.6
SJCC San Jacinto, C 32.22 344 *e*P P 02 47 28.8 -2.3
RCBR Riachuelo 33.67 67 *e*P P 02 47 42.5 -1.2
MTO3 Montecristo 41.95 326 P P 02 48 53.4 +0.4
MTO3 IAmb IAmb 02 48 55.8
comp=Z,9.8nm,0.7s
PMSA Palmer Station 43.35 178 P P 02 49 04.9 +1.6
comp=Z,4.3nm,0.5s,baz=18,slow=4.2,SNR=6.8
PMSA Palmer Station 43.35 178 P P 02 49 08.7 +5.4
PMSA IAmb IAmb 02 49 35.5
comp=Z,35nm,1.3s
CCIG Comitan 44.99 324 P P 02 49 17.5 +0.3
TLIG Tlapa 49.73 319 P P 02 49 54.9 +1.3
DWPF Disney Wildern 51.25 343 P 02 50 05.2
baz=162
TIGA Tifton 54.99 342 P 02 50 31.2
baz=161
352A Blakely 55.42 341 P P 02 50 34.8 -0.1

NHSC New Hope 55.73 346 P 02 50 37.2
baz=165
ZAIG Zacatecas 56.10 319 P P 02 50 42.4 +2.1
ZAIG IAmb IAmb 02 50 43.7
comp=Z,7.7nm,0.7s
250A Grady 56.30 340 P P 02 50 41.4 +0.3
250A IAmb IAmb 02 50 42.0
comp=Z,15nm,1.1s
GOGA Godfrey 56.82 343 P 02 50 44.6
baz=161
JSC Jenkinsville 57.10 346 P P 02 50 46.7 0.0
BIRD Birdtown, Kers 57.27 347 P P 02 50 48.4 +0.6
BIRD IAmb IAmb 02 50 49.3
comp=Z,9.9nm,0.8s
W57A Gilead 57.66 347 IAmb IAmb 02 50 51.8
comp=Z,11nm,0.9s
146A Union 57.84 338 IAmb IAmb 02 50 53.3
comp=Z,11nm,0.8s
KMSC Kings Mountain 57.94 346 P 02 50 53.0
baz=164
KMSC Kings Mountain 57.94 346 P P 02 50 53.0 +0.4
KMSC IAmb IAmb 02 50 54.1
comp=Z,7.8nm,0.8s
BG3 Lake Jocassee 58.18 344 P P 02 50 54.9 +0.7
X51A Calhoun 58.29 342 IAmb IAmb 02 50 56.0
comp=Z,14nm,0.9s
W52A Murphy 58.53 344 P P 02 50 56.4 -0.3
833A Chaparral WMA, 58.65 326 P 02 50 58.7
baz=144,SNR=11
V53A Saluda 58.79 345 P P 02 50 58.2 -0.3
V53A IAmb IAmb 02 50 59.7
comp=Z,8.8nm,0.7s
T59A Double "B" Far 58.98 350 P P 02 50 59.3 -0.4
W50A Signal Mountai 59.01 342 IAmb IAmb 02 51 01.1
comp=Z,15nm,0.9s
TKL Tuckaleechee C 59.03 344 P P 02 51 00.1 +0.1
comp=Z,11nm,0.8s,baz=160,slow=8.5,SNR=19
TKL Tuckaleechee C 59.03 344 IAmb IAmb 02 51 00.9
comp=Z,14nm,0.9s
CPCT Cooper Cave 59.03 343 P P 02 50 59.6 -0.4
V52A Sevierville 59.15 344 IAmb IAmb 02 51 01.9
comp=Z,15nm,0.8s
SWET Sewanee 59.20 342 IAmb IAmb 02 51 02.2
comp=Z,16nm,0.8s
NATX Nacogdoches 59.26 332 P 02 51 03.5
baz=150,SNR=11
U54A Nelsons Funny 59.37 346 P P 02 51 03.1 +0.6
VNA3 Neumayer Olymp 59.50 162 P P 02 51 04.6 +1.7
PLAL Pickwick Lake 59.65 340 IAmb IAmb 02 51 04.8
comp=Z,14nm,0.8s
OXF Oxford 59.66 338 P 02 51 03.7
baz=155
BLA Blacksburg 59.74 347 P 02 51 05.4
baz=165
BLA Blacksburg 59.74 347 P P 02 51 04.7 -0.2
BLA IAmb IAmb 02 51 07.4
comp=Z,11nm,1.1s
435B Jarrell 59.76 329 P 02 51 06.0
baz=146
Z41A Richland Creek 59.79 335 P 02 51 05.7
baz=152
TZTN Tazewell 59.81 344 P 02 51 05.5
baz=162
W45A Hickory Valley 60.17 339 P P 02 51 07.2 -0.6
U49A Red Boiling Sp 60.37 342 IAmb IAmb 02 51 09.8
comp=Z,9.5nm,0.7s
S54A Dingess, Beckl 60.49 347 P P 02 51 10.4 +0.4
T50A Nancy 60.59 343 IAmb IAmb 02 51 11.3
comp=Z,10nm,0.8s
JCT Junction City 60.60 327 P 02 51 11.8
baz=144,SNR=5.5
JCT Junction City 60.60 327 IAmb IAmb 02 51 12.7
comp=Z,17nm,0.9s
WVT Waverly 60.62 341 P 02 51 10.7
baz=157
WVT Waverly 60.62 341 P P 02 51 10.1 -0.8
WHTX Lake Whitney, 60.71 330 P 02 51 12.2
baz=147
R53A Hurricane 61.14 346 P P 02 51 14.6 +0.3
R53A IAmb IAmb 02 51 15.5
comp=Z,16nm,0.9s
MIAR Mount Ida 61.23 335 P 02 51 15.6
baz=151,SNR=11
W41B Gary Mavity, V 61.27 336 P 02 51 15.2
baz=153
WHAR Wooly Hollow 61.39 336 P P 02 51 15.9 -0.1
WHAR IAmb IAmb 02 51 17.2
comp=Z,9.1nm,0.8s
P60A Greenville 61.49 352 P 02 51 16.8
baz=170
Q54A Coxs Mills 61.53 348 IAmb IAmb 02 51 17.6
comp=Z,8.2nm,0.7s
LCAR Lake Charles 61.67 338 IAmb IAmb 02 51 18.8
comp=Z,9.8nm,0.6s
SNAA Sanae 61.69 161 P P 02 51 19.3 +1.6
PARMO Parma 61.73 339 P P 02 51 18.8 +0.5
TXAR Lajitas Array 61.74 323 P P 02 51 19.6 +1.0
comp=Z,2.6nm,0.7s,baz=146,slow=8.6,SNR=19
TX31 Lajitas Ar. Si 61.74 323 IAmb IAmb 02 51 20.6
comp=Z,7.2nm,0.8s
Q52A Bidwell 61.81 346 P P 02 51 18.6 -0.2
W39A Magazine 61.88 335 P 02 51 20.5
baz=151,SNR=5.9
MCWV Mont Chateau 61.99 349 P 02 51 20.5
baz=166
WCI Wyandotte Cave 62.12 343 P 02 51 20.1
baz=159
WCI Wyandotte Cave 62.12 343 P P 02 51 19.6 -1.2
ABTX Abilene, Hawle 62.27 329 P 02 51 22.9
baz=145
LOOK Love County 62.27 332 P P 02 51 23.3 +1.4
ABTX Abilene, Hawle 62.27 329 P P 02 51 22.6 +0.7
ABTX IAmb IAmb 02 51 23.8
comp=Z,6.5nm,0.7s
O56A Blue Knob Stat 62.36 350 P 02 51 22.7
baz=168
P52A Corning 62.42 347 P 02 51 22.8
baz=164,SNR=7.0
SIUC Southern Illin 62.52 340 IAmb IAmb 02 51 25.1
comp=Z,9.0nm,0.8s
U40A Yellville 62.55 336 P 02 51 24.0
baz=152,SNR=5.8
U40A Yellville 62.55 336 IAmb IAmb 02 51 24.8
comp=Z,8.1nm,0.6s
SSPA Standing Stone 62.61 350 P 02 51 24.5
baz=168
M64A Tiverton 62.80 356 P 02 51 25.4
baz=175
O53A New Philadelph 62.83 348 P 02 51 25.6
baz=165
HHAR Hobbs 62.89 336 P P 02 51 26.2 +0.2
HHAR IAmb IAmb 02 51 27.3
comp=Z,12nm,0.7s
P49A Miami Univ. Ec 62.93 344 P 02 51 25.7
baz=161,SNR=7.8
MGMO Mountain Grove 63.04 337 P P 02 51 26.5 -0.5
MGMO IAmb IAmb 02 51 28.2
comp=Z,13nm,0.9s
X34A Smith Ranch, M 63.07 331 IAmb IAmb 02 51 28.8
comp=Z,12nm,0.9s
L63A North Scituate 63.14 356 P 02 51 27.9
baz=175
U38A Gravette 63.20 335 IAmb IAmb 02 51 30.1
comp=Z,9.7nm,1.2s
N54A Moraine State 63.28 349 P 02 51 28.8
baz=166
TUL1 Leonard 63.31 334 P 02 51 29.7
baz=150
O49A Covington 63.46 345 IAmb IAmb 02 51 30.1
comp=Z,12nm,0.8s
WMOK Wichita Mounta 63.61 331 P 02 51 30.9
baz=147,SNR=5.8
L58A Harry Jones Me 63.72 352 P 02 51 31.4
baz=170
M54A Oil Creek Stat 63.76 349 P 02 51 31.7
baz=166
HRV Adam Dziewonsk 63.77 356 P 02 51 32.0
baz=175
OK031 S. Brethren Rd 63.78 333 P P 02 51 32.6 +0.7
L61B Northampton 63.80 355 P 02 51 31.5
baz=174
M53A WI Miller and 63.87 348 P 02 51 32.4
baz=166
BINY Binghamton 63.88 352 P 02 51 33.2
baz=170
SFIN Lafayette 64.35 343 P 02 51 34.5
baz=159,SNR=8.1

SFIN Lafayette 64.35 343 P P 02 51 34.5 -0.9
P43A Skaggs, Pawnee 64.37 341 IAmb IAmb 02 51 35.8
comp=Z,12nm,0.8s
ERPA Erie 64.40 349 P 02 51 35.7
baz=166
T35A Sooner Cattle 64.47 334 IAmb IAmb 02 51 38.2
comp=Z,19nm,1.1s
MNTX Cornudas Mount 64.50 324 P 02 51 37.0
baz=140,SNR=14
MNTX Cornudas Mount 64.50 324 IAmb IAmb 02 51 38.6
comp=Z,7.5nm,1.0s
J62A Henniker 64.51 356 P 02 51 38.1
baz=175
K56A Middlesex 64.55 351 P 02 51 37.0
baz=169
BLOK Blackwell 64.63 333 P P 02 51 37.6 +0.3
MSTX Muleshoe 64.89 327 P 02 51 39.9
baz=143,SNR=19
J58A Remsen 64.95 353 P 02 51 39.7
baz=171
J57A Williamstown 65.08 353 P 02 51 39.2
baz=170
AMTX Amarillo 65.09 329 P 02 51 41.1
baz=144
AMTX Amarillo 65.09 329 IAmb IAmb 02 51 42.7
comp=Z,21nm,1.2s
P40A Paris 65.09 339 IAmb IAmb 02 51 41.2
comp=Z,6.4nm,0.7s
KAN17 Caldwell West 65.10 333 P P 02 51 41.1 +0.8
KAN14 Manchester OK 65.11 333 IAmb IAmb 02 51 42.1
comp=Z,14nm,1.1s
I62A Tamworth 65.12 356 P 02 51 41.2
baz=175
HDIL Hopedale 65.14 341 P 02 51 40.1
baz=157
L48A N Adams 65.15 346 P P 02 51 40.2 -0.3
I60A Shoreham 65.23 355 P 02 51 41.5
baz=173
I59A Olmsteadville 65.24 354 P 02 51 41.6
baz=173
I61A Oroboro, Fairl 65.24 356 P 02 51 42.0
baz=174
I58A Old Forge 65.24 353 P 02 51 41.9
baz=172
I63A Otisfield 65.26 357 P 02 51 42.3
baz=176
LBNH Lisbon 65.53 356 P 02 51 44.1
baz=175
I57A Carthage 65.56 353 P 02 51 43.5
baz=171
P38A Dawn 65.69 338 P P 02 51 43.6 -0.5
H64A Troy 65.79 358 P 02 51 45.0
baz=177
H62A Milan 65.81 357 P 02 51 45.4
baz=175
H61A Lyndonville 65.82 356 P 02 51 45.6
baz=175
H65A Eastbrook 65.82 359 P 02 51 45.2
baz=178
H63A New Sharon 65.84 357 P 02 51 45.8
baz=177
H58A Gabriels 65.88 354 P 02 51 45.7
baz=172
H60A Morristown 65.90 355 P 02 51 46.7
baz=174
H66A Whiting 65.90 360 P 02 51 45.9
baz=179
H57A Richville 66.05 353 P 02 51 46.3
baz=171
H59A Cadyville 66.06 355 P 02 51 46.8
baz=173
LONY Lake Ozonia 66.12 354 P 02 51 46.8
baz=172
G63A Kingsbury 66.28 358 P 02 51 47.9
baz=177
G65A Princeton 66.32 359 P 02 51 48.1
baz=179
G65A Princeton 66.32 359 IAmb IAmb 02 51 49.8
comp=Z,15nm,0.9s
KSU1 Kansas State U 66.38 335 P 02 51 48.9
baz=150
G64A Maxfield 66.39 358 P 02 51 48.6
baz=178
G60A Masonville 66.41 356 P 02 51 48.7
baz=174
PKME Peaks-Kenny Pk 66.42 358 P 02 51 48.9
baz=177
G62A West of Eustis 66.42 357 P 02 51 49.5
baz=176,SNR=5.3
G62A West of Eustis 66.42 357 IAmb IAmb 02 51 50.5
comp=Z,17nm,0.8s
121A Cookes Peak, D 66.46 323 P 02 51 51.3
baz=138
121A Cookes Peak, D 66.46 323 IAmb IAmb 02 51 52.8
comp=Z,11nm,0.9s
G61A St-Isidore-de- 66.54 356 P 02 51 50.4
baz=175
H53A Bobcaygeon 66.57 351 P 02 51 49.7
baz=168
G58A Ormstown 66.59 354 P 02 51 49.8
baz=172
G57A Newington 66.64 354 P 02 51 50.4
baz=172,SNR=5.2
R32A Long Quarter, 66.66 333 IAmb IAmb 02 51 52.4
comp=Z,19nm,0.9s
DBIC Dimbokro 66.81 72 P P 02 51 51.2 -0.5
comp=Z,14nm,0.8s,baz=221,slow=6.7,SNR=9.9
DBIC Dimbokro 66.81 72 IAmb IAmb 02 51 51.9
comp=Z,17nm,0.8s
F64A Sherman 66.99 359 P 02 51 52.9
baz=178,SNR=5.5
F64A Sherman 66.99 359 IAmb IAmb 02 51 53.6
comp=Z,13nm,0.7s
BNM Barren Site 67.04 325 P P 02 51 54.8 +1.8
F62A Pittston Farm, 67.07 358 P 02 51 53.1
baz=177
L40A Anamosa 67.11 340 IAmb IAmb 02 51 53.8
comp=Z,13nm,0.8s
F61A St Evariste 67.20 357 P 02 51 53.3
baz=176
F60A Warwick 67.25 356 P 02 51 53.8
baz=175
G54A Lake Saint Pet 67.31 351 P 02 51 54.5
baz=168
CBKS Cedar Bluff 67.43 333 P 02 51 56.6
baz=147,SNR=6.3
E64A Bridgewater 67.54 359 P 02 51 55.8
baz=179
E63A Oxbow 67.55 359 P 02 51 56.3
baz=178
ANMO Albuquerque 67.55 325 P 02 51 58.2
baz=140
ANMO Albuquerque 67.56 325 P P 02 51 57.2 +1.0
ANMO IAmb IAmb 02 51 59.1
comp=Z,7.5nm,0.8s
JFWS Jewell Farm 67.59 342 P 02 51 55.9
baz=156,SNR=7.1
JFWS Jewell Farm 67.59 342 IAmb IAmb 02 51 57.0
comp=Z,21nm,1.1s
E60A Ste Agathe de 67.62 357 P 02 51 56.5
baz=175
E58A La Victoria 67.74 355 P 02 51 57.0
baz=173
E62A Clayton Lake 67.78 358 P 02 51 58.0
baz=177,SNR=5.9
E62A Clayton Lake 67.78 358 IAmb IAmb 02 51 58.9
comp=Z,18nm,0.9s
ALGO Algonquin Park 67.85 352 P 02 51 57.6
baz=169,SNR=8.2
TUC Tucson 68.03 321 P 02 52 00.4
baz=136
TUC Tucson 68.03 321 P P 02 52 00.6 +1.5
E56A St. Veronique 68.07 354 P 02 51 59.2
baz=172,SNR=9.5
I42A Draeger Farm, 68.11 343 IAmb IAmb 02 52 00.2
comp=Z,9.8nm,0.8s
K38A Parkersburg 68.13 340 IAmb IAmb 02 52 00.2
comp=Z,20nm,1.1s
D63A Stockholm 68.16 359 P 02 52 00.2
baz=179
T25A Trinidad 68.22 328 P 02 52 02.1
baz=142,SNR=8.0
T25A Trinidad 68.22 328 P P 02 52 01.1 +0.7
T25A IAmb IAmb 02 52 04.1
comp=Z,6.9nm,0.7s
D62A Allapoint, All 68.23 358 P 02 52 00.6
baz=178
D59A Saint-Raymond 68.28 356 P 02 52 00.7
baz=175
H43A Windswept, Lux 68.34 344 IAmb IAmb 02 52 01.3
comp=Z,14nm,0.7s
G45A Suttons Bay 68.36 346 IAmb IAmb 02 52 01.2
comp=Z,13nm,0.7s
D58A Chemin du LacG 68.43 356 P 02 52 01.7
baz=174,SNR=9.7
D56A ZEC Mazanza, M 68.54 354 P 02 52 02.3
baz=172,SNR=5.5
D55A Sainte-Anne-du 68.58 354 P 02 52 02.4
baz=171,SNR=12
I40A Norwalk 68.59 342 IAmb IAmb 02 52 03.0
comp=Z,9.6nm,0.9s
LATQ La Tuque 68.71 356 P 02 52 03.2
baz=174
LATQ La Tuque 68.71 356 IAmb IAmb 02 52 04.2
comp=Z,5.7nm,0.6s
QSPA South Pole Qui 68.75 180 P P 02 52 04.8 +1.7
BGNE Belgrade 68.97 335 P 02 52 05.3
baz=149
214A Organ Pipe Nat 69.00 319 P 02 52 07.3
baz=134
214A Organ Pipe Nat 69.00 319 P P 02 52 07.7 +2.7
214A IAmb IAmb 02 52 08.7
comp=Z,11nm,1.1s
SDCO Great Sand Dun 69.23 328 P 02 52 08.6
baz=142,SNR=24
SDCO Great Sand Dun 69.23 328 IAmb IAmb 02 52 09.5
comp=Z,13nm,0.9s
E46A Sault Ste Mari 69.33 347 P P 02 52 06.1 -0.5
E46A IAmb IAmb 02 52 07.1
comp=Z,12nm,0.7s
W18A Petrified Fore 69.46 323 P 02 52 08.6
baz=137
W18A Petrified Fore 69.46 323 P P 02 52 07.8 -0.2
W18A IAmb IAmb 02 52 11.1
comp=Z,17nm,0.9s
I37A Lemond, Waseca 69.56 340 IAmb IAmb 02 52 09.3
comp=Z,20nm,1.1s
VLDQ Val d'Or 69.89 352 IAmb IAmb 02 52 11.4
comp=Z,8.6nm,0.8s
S22A 4UR Ranch, Cre 69.89 327 P 02 52 12.5
baz=140,SNR=6.1
X16A Lo Mia Camp, P 69.92 322 IAmb IAmb 02 52 14.3
comp=Z,8.0nm,0.9s
Q24A Divide 70.01 329 P 02 52 13.0
baz=142,SNR=5.1
MVCO Mesa Verde 70.35 326 P 02 52 15.4
baz=139,SNR=12
MVCO Mesa Verde 70.35 326 P P 02 52 14.9 +1.5
MVCO IAmb IAmb 02 52 16.4
comp=Z,28nm,1.4s
ECSD EROS Data Cent 70.40 337 P 02 52 13.4
baz=150,SNR=12
ECSD EROS Data Cent 70.40 337 IAmb IAmb 02 52 14.5
comp=Z,17nm,1.4s
SPMN Marine on St. 70.45 341 P 02 52 13.2
baz=154
SPMN Marine on St. 70.46 341 P P 02 52 12.9 -0.7
SPMN IAmb IAmb 02 52 14.4
comp=Z,10nm,0.8s
Y14A Wickenburg 70.50 320 IAmb IAmb 02 52 17.3
comp=Z,11nm,1.2s
WUAZ Wupatki 70.67 323 P 02 52 17.9
baz=136,SNR=11
WUAZ Wupatki 70.67 323 IAmb IAmb 02 52 18.9
comp=Z,15nm,0.9s
LSQQ Lebel-sur-Quev 70.76 353 P 02 52 15.4
baz=170
ISCO Idaho Springs 70.89 329 P 02 52 18.3
baz=142
ISCO Idaho Springs 70.89 329 P P 02 52 18.2 +1.5
ISCO IAmb IAmb 02 52 19.6
comp=Z,14nm,1.5s
PV01 Paradox Valley 71.08 326 IAmb IAmb 02 52 21.1
comp=Z,16nm,1.2s
KOWA Kowa 71.18 65 P P 02 52 17.4 -1.1
KOWA IAmb IAmb 02 52 18.7
comp=Z,12nm,0.8s
PV15 Paradox Valley 71.19 326 P P 02 52 20.8 +2.4
PV15 IAmb IAmb 02 52 21.9
comp=Z,14nm,0.9s
PV02 Paradox Valley 71.22 326 IAmb IAmb 02 52 21.2
comp=Z,6.5nm,0.6s
PV13 Radium Mtn., P 71.23 326 IAmb IAmb 02 52 21.7
comp=Z,8.9nm,0.9s
F36A Milaca 71.25 341 P P 02 52 18.1 -0.2
F36A IAmb IAmb 02 52 19.3
comp=Z,10nm,0.8s
PV12 Saucer Basin, 71.34 326 P P 02 52 20.9 +1.6
PV12 IAmb IAmb 02 52 22.3
comp=Z,14nm,1.0s
PV18 Skein Mesa, Pa 71.34 326 IAmb IAmb 02 52 22.1
comp=Z,11nm,1.3s
CHGQ Chibougamau 71.35 355 P 02 52 18.6
baz=172
PV07 Paradox Valley 71.35 326 IAmb IAmb 02 52 22.3
comp=Z,13nm,1.2s
PDMCI Parker Dam,Lak 71.43 320 P 02 52 22.0
baz=134
PV14 Lion Creek, Pa 71.49 326 IAmb IAmb 02 52 22.7
comp=Z,9.2nm,0.9s
PV22 Blue Mesa, Par 71.49 326 IAmb IAmb 02 52 23.3
comp=Z,12nm,0.9s
IKP In-o-Pah, Jac 71.52 318 P 02 52 22.5
baz=132
MATQ Matagami 71.53 353 P 02 52 19.6
baz=169
CBX Cerro Bola 71.64 317 P P 02 52 22.6 +1.5
BC3 Big Chuckawall 71.78 319 P 02 52 23.8
baz=133
U15A North Rim 71.84 323 IAmb IAmb 02 52 26.3
comp=Z,11nm,0.8s
MONP2 Monument Peak 71.87 318 P 02 52 24.7
baz=132
BAR Barrett 71.89 317 P P 02 52 22.0 -0.5
N23A Red Feather La 71.91 330 P 02 52 24.6
baz=142,SNR=5.1
IRM Iron Mountain 71.93 319 P 02 52 25.2
baz=133,SNR=7.1
F33A 5 Mile Ranch, 72.13 339 IAmb IAmb 02 52 24.0
comp=Z,5.3nm,0.6s
BELC Belle Mtn. Jos 72.35 319 P 02 52 27.6
baz=132
TPFO Pinon Flats 72.37 318 P 02 52 27.6
baz=132
PFO Pinyon Flats O 72.37 318 P 02 52 27.5
baz=132
PFO Pinyon Flats O 72.37 318 P P 02 52 26.9 +1.5
O20A White River Ci 72.43 328 P 02 52 27.9
baz=140,SNR=6.8
O20A White River Ci 72.43 328 IAmb IAmb 02 52 28.8
comp=Z,14nm,0.8s
EYMN Ely 72.54 343 P 02 52 25.7
baz=156
KNB Kanab 72.56 323 P P 02 52 29.1 +2.6
GMRC Granite Mounta 72.67 319 P 02 52 29.9
baz=133,SNR=11
LCMT Little Creek M 72.79 323 IAmb IAmb 02 52 31.4
comp=Z,7.7nm,0.7s
MTPU Mount Pierson 72.94 324 P P 02 52 30.9 +1.9
MTPU IAmb IAmb 02 52 32.2
comp=Z,8.8nm,0.8s
HEC Hector,Ludlow 73.11 319 P 02 52 32.0
baz=132
RWWY Rawlins 73.12 329 IAmb IAmb 02 52 31.8
comp=Z,7.7nm,0.8s
P17A Butcher Ranch, 73.21 326 P P 02 52 31.9 +1.7
P17A IAmb IAmb 02 52 33.4
comp=Z,19nm,0.9s
CCUT Cedar City 73.24 323 IAmb IAmb 02 52 34.7
comp=Z,16nm,0.8s
RDMU Red Mountain 73.42 327 IAmb IAmb 02 52 34.3
comp=Z,12nm,0.7s
TCRU Three Creeks R 73.49 324 IAmb IAmb 02 52 35.2
comp=Z,7.1nm,0.8s
BFSC Mount Baldy Ra 73.53 318 P 02 52 33.8
baz=131
K22A Casper 73.55 331 P 02 52 34.0
baz=142
B35A Bob, Littlefor 73.56 342 IAmb IAmb 02 52 32.9
comp=Z,9.7nm,0.9s
RSSD Black Hills 73.62 333 P 02 52 34.3
baz=144
RSSD Black Hills 73.63 333 P P 02 52 33.8 +1.1
GSC Goldstone, Bar 73.71 319 P 02 52 35.4
baz=132
MPU Maple Canyon 74.07 326 IAmb IAmb 02 52 38.6
comp=Z,9.8nm,0.9s
AGMN Agassiz Nation 74.15 340 P 02 52 35.6
baz=152
AGMN Agassiz Nation 74.15 340 P P 02 52 35.0 -0.3
EDW2 Edwards Air Fo 74.16 318 P 02 52 37.8
baz=131,SNR=5.2
PSUT Pine Spring 74.21 323 IAmb IAmb 02 52 39.6
comp=Z,9.2nm,0.7s
E28A Huff 74.32 336 IAmb IAmb 02 52 38.6
comp=Z,17nm,0.9s
LRMC Laurel Mtn Rad 74.36 319 P 02 52 39.3
baz=131,SNR=5.2
JLU Jordanelle 74.40 326 P P 02 52 39.0 +1.7
JLU IAmb IAmb 02 52 40.5
comp=Z,12nm,0.7s
TPNV Topopah Spring 74.48 321 P 02 52 40.6
baz=133,SNR=17
TPNV Topopah Spring 74.49 321 IAmb IAmb 02 52 41.5
comp=Z,18nm,1.1s
FURC Furnace Creek, 74.53 320 P 02 52 40.5
baz=132,SNR=6.6
MPMC Manual Prospec 74.63 319 P 02 52 40.7
baz=132,SNR=9.2
DUG Dugway, Tooele 74.82 325 P 02 52 42.0
baz=136,SNR=6.3
DUG Dugway, Tooele 74.83 325 IAmb IAmb 02 52 43.0
comp=Z,8.0nm,0.9s
ISA Isabella, Lake 74.97 319 P 02 52 43.1
baz=131,SNR=9.6
ISA Isabella, Lake 74.97 319 IAmb IAmb 02 52 44.0
comp=Z,12nm,0.8s
MDND Maddock 75.00 338 P 02 52 41.5
baz=148,SNR=7.8
R11A Troy Canyon, C 75.06 322 P 02 52 43.7
baz=134,SNR=9.8
BW06 Boulder Array 75.07 329 P 02 52 42.2
baz=139,SNR=5.2
PDAR Pinedale Array 75.07 329 P P 02 52 42.1 +1.1
comp=Z,3.0nm,0.5s,baz=130,slow=7.3,SNR=17
PDAR Pinedale Array 75.07 329 P P 02 52 41.7 +0.7
GRAC Grapevine Rang 75.18 320 P 02 52 43.8
baz=132
HWUT Hardware Ranch 75.20 327 IAmb IAmb 02 52 44.0
comp=Z,7.2nm,0.6s
CWC Cottonwood Cre 75.24 319 P 02 52 44.2
baz=131
PKM Mcpherson Peak 75.31 317 P 02 52 44.5
baz=130
SPUT South Promonto 75.44 326 IAmb IAmb 02 52 46.0
comp=Z,12nm,0.7s
VES Vestal, Richgr 75.46 318 P 02 52 45.5
baz=130,SNR=7.3
TORD Torodi Ar. Bea 75.47 69 P P 02 52 43.0 -0.6
comp=Z,25nm,0.5s,baz=257,slow=5.3,SNR=297
TORD Torodi Ar. Bea 75.47 69 P P 02 52 43.0 -0.6
SMMC Simmler 75.69 317 P 02 52 46.9
baz=130
TIN Tinemaha, Big 75.73 320 P 02 52 46.8
baz=131
ULM Lac du Bonnet 75.88 341 P P 02 52 45.4 +0.3
comp=Z,14nm,0.6s,baz=148,slow=5.9,SNR=20
ULM Lac du Bonnet 75.88 341 P P 02 52 44.8 -0.3
HVU Hansel Valley 75.95 326 P P 02 52 47.9 +2.0
SCHQ Schefferville 75.96 360 P P 02 52 45.4 -0.1
comp=Z,8.0nm,0.6s,baz=216,slow=4.9,SNR=17
SCHQ Schefferville 75.96 360 IAmb IAmb 02 52 46.6
comp=Z,8.2nm,0.7s
REDW Red Top Meadow 76.14 328 IAmb IAmb 02 52 50.0
comp=Z,7.7nm,0.8s
SNOW Snow King Moun 76.17 329 IAmb IAmb 02 52 50.3
comp=Z,9.0nm,0.9s
TPAW Teton Pass 76.28 329 P P 02 52 49.8 +1.9
TPAW IAmb IAmb 02 52 51.0
comp=Z,6.8nm,0.8s
LAO LASA Array 76.60 333 P 02 52 50.6
baz=142
FLWY Flagg Ranch 76.61 329 P P 02 52 51.7 +2.1
FLWY IAmb IAmb 02 52 53.0
comp=Z,12nm,0.8s
NVAR Mina Array Bea 76.69 321 P P 02 52 52.0 +1.8
comp=Z,3.7nm,0.8s,baz=158,slow=7.0,SNR=22
NVAR Mina Array Bea 76.69 321 P P 02 52 52.5 +2.3
LHV Little Huntoon 76.69 321 IAmb IAmb 02 52 53.3
comp=Z,6.4nm,0.7s
RLMT Red Lodge 76.72 331 P 02 52 52.2
baz=140,SNR=9.0
RLMT Red Lodge 76.72 331 IAmb IAmb 02 52 52.7
comp=Z,9.2nm,0.6s
H17A Grant Village 76.78 329 P 02 52 53.3
baz=138
H17A Grant Village 76.78 329 P P 02 52 53.0 +2.3
KVN Kaiserville 76.98 321 IAmb IAmb 02 52 54.8
comp=Z,9.7nm,0.8s
YHH Holmes Hill 77.20 329 P P 02 52 55.9 +2.8
YHH IAmb IAmb 02 52 56.7
comp=Z,10.0nm,0.7s
DGMT Dagmar 77.22 336 P 02 52 53.7
baz=144
VNDA Vanda 77.25 190 P P 02 52 54.7 +2.1
comp=Z,0.7nm,0.7s,baz=123,slow=4.6,SNR=8.0
VNDA Vanda 77.25 190 P P 02 52 55.1 +2.6
YHB Horse Butte 77.34 329 IAmb IAmb 02 52 57.8
comp=Z,10.0nm,0.7s
YERR Yerington 77.60 321 IAmb IAmb 02 52 58.4
comp=Z,8.5nm,0.7s
VCNR Virginia City 78.05 321 IAmb IAmb 02 53 01.3
comp=Z,9.4nm,1.1s
HLID Hailey 78.06 327 P 02 53 00.3
baz=135,SNR=20
HLID Hailey 78.07 327 IAmb IAmb 02 53 01.3
comp=Z,10nm,0.7s
BCYI Bear Canyon 78.09 328 P P 02 52 59.8 +1.9
MFID Camas Ranch 78.69 326 P P 02 53 02.0 +0.9
EGMT Eagleton 79.15 332 P 02 53 04.6
baz=140
EGMT Eagleton 79.15 332 IAmb IAmb 02 53 05.6
comp=Z,9.1nm,0.9s
ORV Oroville 79.31 320 P P 02 53 06.2 +1.8
ORV IAmb IAmb 02 53 07.8
comp=Z,11nm,1.1s
O03E Paynes Creek 79.96 320 P 02 53 08.9
baz=129
MSO Missoula 80.17 329 P 02 53 10.7
baz=136
MDT Midelt 80.19 49 P P 02 53 10.1 +0.7
comp=Z,4.0nm,0.7s,baz=281,slow=4.8,SNR=10
BMO Blue Mountains 80.46 326 P P 02 53 12.3 +1.8
N02D Trinity Center 80.92 321 P 02 53 13.8
baz=129
M04C Macdoel 80.92 322 P 02 53 14.4
baz=129
K05A Summer Lake 80.98 323 IAmb IAmb 02 53 16.9
comp=Z,16nm,0.8s
JTMT Jette 80.99 330 IAmb IAmb 02 53 15.6
comp=Z,7.7nm,0.6s
FFC Flin Flon 81.63 340 P P 02 53 17.5 +1.2
PINE Pine Mountain 81.70 324 IAmb IAmb 02 53 20.6
comp=Z,10nm,0.8s
BOSA Boshof 81.72 117 P P 02 53 18.0 +0.3
comp=Z,6.3nm,0.7s,baz=248,slow=2.9,SNR=16
J04D Umpqua Nationa 82.00 323 P 02 53 20.5
baz=129
L02E Cave Junction 82.18 321 P 02 53 21.4
baz=128
I05D Terrebonne, OR 82.27 324 P 02 53 22.3
baz=130
I04A Tendick Farm, 82.52 323 P 02 53 22.1
baz=129
K02D Willamette Mer 82.55 321 P 02 53 23.2
baz=128
HAWA Hanford 82.65 326 P P 02 53 22.9 +1.1
HAWA IAmb IAmb 02 53 24.7
comp=Z,11nm,0.7s
NEW Newport 82.71 329 P 02 53 22.5
baz=134
D08A Wollman Farm, 82.78 327 IAmb IAmb 02 53 25.2
comp=Z,9.4nm,1.0s
G05D Wamic, OR 82.84 325 P 02 53 25.0
baz=130
FCC Fort Churchill 83.03 346 IAmb IAmb 02 53 25.2
comp=Z,15nm,0.9s
LTY Liberty 83.81 326 IAmb IAmb 02 53 30.2
comp=Z,7.4nm,0.7s
MAW Mawson 83.81 163 P P 02 53 29.2 +1.8
comp=Z,4.2nm,0.7s,baz=209,slow=5.9,SNR=12
MAW Mawson 83.81 163 P P 02 53 28.1 +0.6

PAB	San Pablo	84.09	44	P	P	02 53 29.9	+0.5
E04D	Cinebar	84.35	325	P		02 53 32.4	
	baz=129						
ESDC	Sonseca Array	84.41	44	P	P	02 53 31.5	+0.5
	comp=Z,5.1nm,1.0s,baz=252,slow=4.6,SNR=21						
ESDC	Sonseca Array	84.41	44	P	P	02 53 31.2	+0.3
ESBB	Sonseca Array	84.41	44	IAmb	IAmb	02 53 32.9	
	comp=Z,14nm,1.3s						
B05A	Bryant	85.19	327	P		02 53 35.4	
	baz=130						
D03D	Eldon	85.24	326	P		02 53 35.8	
	baz=129						
YKA	Yellowknife Ar	91.80	340	P	P	02 54 06.6	+1.1
	comp=Z,6.4nm,0.7s,baz=127,slow=4.8,SNR=54						
EKA	Eskdalemuir Ar	93.53	31	P	P	02 54 13.3	-0.4
	comp=Z,0.7nm,0.6s,baz=227,slow=3.3,SNR=2.4						
GERES	GERESS Array B	99.84	41	P	Pdif	02 54 41.5	-1.0
	comp=Z,0.2nm,0.4s,baz=266,slow=40,SNR=1.9						
ILAR	Eielson Array	105.06	334	PKiKP	PKiKP	02 59 17.9	-0.6
	comp=Z,0.3nm,0.8s,baz=116,slow=5.6,SNR=4.6						
MNK	Minsk	109.83	38	*i* P	Pdif	02 55 26.3	-0.4
	comp=E,2.0nm,0.8s						
MNK				*i* P	Pdif	02 55 26.3	-0.4
	comp=N,6.0nm,0.7s						
MNK				*i* P	Pdif	02 55 26.3	-0.4
	comp=Z,5.0nm,0.8s,baz=83						
MNK				*i* PP	PP	03 00 02.0	-1.8
MNK				*i* PP	PP	03 00 02.0	-1.8
MNK				*i* PP	PP	03 00 02.0	-1.8
MNK				*i* PPP	PPP	03 02 22.9	
MNK				*i* SKS	SKSdf	03 06 07.3	-11
MNK				*i* SP	SP	03 09 13.8	+5.0
MNK				*i* SS	SS	03 15 10.8	+0.2
MNK				*i* SKKS	SKKSdf	03 17 31.7	-9.0
MNK				*i* SSS	SSS	03 19 20.2	
MNK				*i* LRM	MLR	03 46 23.1	
	comp=E,7.0nm,21.7s						
MNK				*i* LRM	MLR	03 46 23.1	
	comp=N,39nm,21.7s						
MNK				*i* LRM	MLR	03 46 23.1	
	comp=Z,37nm,19.2s						
ABKAR	Akbulak array	129.75	43	PKPdf	PKiKP	03 00 07.0	+0.2
ASAR	Alice Springs	130.85	205	PKP	PKiKP	03 00 09.6	-0.4
	comp=Z,1.9nm,0.4s,baz=134,slow=1.8,SNR=28						
ASAR				SKPbc	SKPab	03 03 13.2	+0.4
	comp=Z,2.6nm,0.9s,baz=142,slow=3.5,SNR=15						
ASAR	Alice Springs	130.85	205	PKPdf	PKiKP	03 00 09.9	-0.1
WRA	Warramunga Arr	133.98	208	PKP	PKiKP	03 00 15.9	-0.5
	comp=Z,1.6nm,0.3s,baz=155,slow=1.8,SNR=29						
WRA				SKPbc	SKPbc	03 03 24.0	+0.6
	comp=Z,0.8nm,0.8s,baz=162,slow=3.0,SNR=5.2						
ZALV	Zalesovo Beam	141.03	27	PKhKP	PKPpre	03 00 23.5	
	comp=Z,5.4nm,0.8s,baz=6.7,slow=12,SNR=5.0						
ZALV				PKP	PKPdf	03 00 26.9	+0.1
	comp=Z,6.0nm,0.7s,baz=300,slow=3.2,SNR=5.8						
ZALV	Zalesovo Beam	141.03	27	PKPpre	PKPpre	03 00 22.1	
MKAR	Makanchi Array	144.40	37	PKP	PKPdf	03 00 33.1	0.0
	comp=Z,20nm,0.7s,baz=314,slow=3.8,SNR=199						
MKAR	Makanchi Array	144.40	37	PKPdf	PKPdf	03 00 33.1	0.0
MKAR				pPKPdf	pPKPdf	03 01 30.6	-0.8
JKA	Kamikawa-asahi	146.81	320		PKPab	03 00 41.0	-0.1
ASAJ	Asahikawa	146.81	320	PKPbc	PKPdf	03 00 38.0	+0.8
	comp=Z,5.5nm,0.7s,baz=346,slow=4.2,SNR=4.6						
KLR	Kul'dur	148.59	336	PKPbc	PKiKP	03 00 44.9	-0.4
	comp=Z,3.9nm,0.4s,baz=53,slow=3.7,SNR=18						
TLY	Talaya	148.91	12	PKPbc	PKPbc	03 00 43.1	-1.6
	baz=305,slow=15						
USRK	Ussuriysk Ar.	152.49	330	PKPbc	PKiKP	03 00 54.6	+1.2
	comp=Z,3.7nm,0.6s,baz=31,slow=1.2,SNR=12						
USRK	Ussuriysk Ar.	152.49	330	PKPdf	PKPdf	03 00 46.9	+0.7
USRK				PKPbc	PKiKP	03 00 54.4	+0.9
SONM	Songino Array	153.09	10	PKP	PKPdf	03 00 49.1	+2.0
	comp=Z,3.5nm,0.8s,baz=307,slow=0.7,SNR=18						
SONM				PKPbc	PKiKP	03 00 56.0	+1.1
	comp=Z,5.6nm,0.6s,baz=319,slow=1.6,SNR=21						
SONM				PKPab	PKPab	03 01 08.0	+1.0
	comp=Z,2.6nm,0.7s,baz=334,slow=4.0,SNR=6.7						
SONM	Songino Array	153.09	10	PKPdf	PKPdf	03 00 48.8	+1.6
SONM				PKPbc	PKiKP	03 00 55.9	+1.1
SONM				PKPab	PKPab	03 01 07.9	+0.8
MJAR	Matsushiro Arr	153.57	310	PKPbc	PKiKP	03 00 56.8	+0.8
	comp=Z,1.5nm,0.7s,baz=83,slow=2.1,SNR=4.5						
MJAR				PKPab	PKPab	03 01 10.4	+1.0
	comp=Z,1.0nm,0.5s,baz=45,slow=1.9,SNR=4.6						
KSRS	Korea Array	159.59	325	PKP	PKPdf	03 00 56.0	+0.4
	comp=Z,0.9nm,0.4s,baz=47,slow=0.5,SNR=8.3						
KSAR	Wonju Array Be	159.62	325	PKPdf	PKPdf	03 00 57.3	+1.5
KSAR				PKPab	PKPab	03 01 36.6	+1.4
CMAR	Chiang Mai Arr	166.25	100	PKP	PKPdf	03 01 02.6	-0.1
	comp=Z,2.2nm,0.3s,baz=267,slow=1.8,SNR=4.6						

IDC ***17*** *02:42:03.2±1.1,38.57N×29.41W,h0km,mb3.8/14, mb1 4.0/15,mb1mx3.9/43,mbtmp3.8/15,ML3.9/1,MS3.8/10, Ms1 3.8/10,ms1mx3.5/34,Error ellipse: s-maj=31.5km s-min=16.6km az=8.0*

NEIC ***17*** *02:42:06.5±2.6,38.7N±0.1×29.05W±0.04,h10km±1km, mb4.5/21,Error ellipse: s-maj=23.3km s-min=5.3km az=183.0*

ISC 17 02:42:05.0±1.7,38.78N±0.07×29.13W±0.05,h2km±10km, n76,σ1°53/82,mb4.2/23,MS3.7/9,1D,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCAPE	Capelo, Faial	0.30	127	*e*P	Pb	02 42 13.4	+0.4
PCAPE				*e*S	Sb	02 42 20.1	+1.7
PCAPE				A	A	02 42 22.5	
	26μm,0.3s						
PCED	Cedros	0.37	114	*e*P	Pb	02 42 14.4	+0.2
PCED				*e*S	Sb	02 42 22.1	+1.7
PCED				A	A	02 42 24.1	
	12μm,0.5s						
CALA	Caldeira	0.39	120	⇓*i*P	Pb	02 42 14.4	-0.2
CALA				*i* P	Pn	02 42 19.9	+2.2
CALA				*e*S	Sb	02 42 22.6	+1.5
CALA				A	A	02 42 25.4	
	8μm,0.4s						
PFCBR	Castelo Branco	0.41	128	*e*P	Pb	02 42 14.6	-0.4
PFCBR				*e*S	Sb	02 42 22.4	+0.7
PFCBR				A	A	02 42 24.2	
	2μm,0.3s						
HOR	Horta	0.47	122	*e*P	Pb	02 42 15.4	-0.5
HOR				*e*S	Sb	02 42 24.0	+0.8
HOR				A	A	02 42 24.9	
	9μm,0.5s						
PCAN	Candelaria	0.60	121	*e*P	Pb	02 42 17.2	-0.9
PCAN				*e*S	Sb	02 42 26.8	-0.2
PCAN				A	A	02 42 30.5	
	4μm,0.4s						
PICO	Pico	0.62	116	*e*P	Pb	02 42 18.2	-0.3
PICO				*e*S	Sb	02 42 28.6	+0.9
PICO				A	A	02 42 29.8	
	13μm,0.3s						
ROSA	Rosais	0.70	94	*e*P	Pg	02 42 19.4	+1.1
ROSA				*e*S	Sb	02 42 30.4	+0.4
ROSA				A	A	02 42 34.5	
	7μm,0.5s						
ROSA	Rosais	0.70	94		Pg	02 42 19.1	+0.7
PMAN	Manadas	0.83	100	*e*P	Pg	02 42 21.3	+0.5
PMAN				*e*S	Sb	02 42 34.0	+0.3
PMAN				A	A	02 42 38.0	
	2μm,0.4s						
PID	Ribeirinha	0.86	112	*e*P	Pg	02 42 21.6	+0.1
PID				*e*P	Pn	02 42 26.7	+2.5
PID				*e*S	Sb	02 42 34.7	0.0
PID				A	A	02 42 40.3	
	2μm,0.5s						
PGRA	Graciosa	0.93	74	*e*P	Pg	02 42 22.8	0.0
ADH	Angra Heroismo	1.49	94	*e*P	Pn	02 42 30.8	-2.0
ADH				*e*S	Sn	02 42 50.0	-2.8
ADH				A	A	02 42 53.6	
	773nm,0.4s						
PAGU	Agualva, Azore	1.52	90	*e*P	Pn	02 42 30.8	-2.4
PAGU				*e*S	Sn	02 42 51.2	-2.5
PAGU				A	A	02 42 54.6	
	594nm,0.2s						
PSCM	Serra do Cume	1.58	92	*e*P	Pn	02 42 31.6	-2.4
PSCM				*e*S	Sn	02 42 52.2	-2.8
PSCM				A	A	02 42 56.5	
	629nm,0.4s						
H07S1	FLORES T-PHASE	1.72	291	T	T	02 44 02.8	
	SNR=29						
H07N1	FLORES T-PHASE	1.79	301	T	T	02 44 11.9	
	SNR=12						

PSET	Sete Cidades	2.85	108	*e*P	Pn	02 42 49.3	-2.2
PDA	Ponta Delgada	2.92	110	*e*P	Pn	02 42 50.4	-2.0
GRON	Grota Negra	3.01	108	*e*P	Pn	02 42 53.5	-0.2
CMLA	Cha da Macela	3.02	108	*e*P	Pn	02 42 52.1	-1.7
CMLA	Cha da Macela	3.02	108		Pn	02 42 51.8	-2.0
PCALD	Caldeiras da R	3.03	108	*e*P	Pn	02 42 52.2	-1.8
BART	Pico Bartolome	3.27	107	*e*P	Pn	02 42 55.4	-2.0
PSMA	Santa Maria	3.63	118	*e*P	Pn	02 42 59.5	-2.7
PSMN	Pico do Norte,	3.67	118	*e*P	Pn	02 42 59.9	-2.9
PMOZ	Porto Moniz, M	11.36	118	Pn	Pn	02 44 47.2	-1.2
MACI	Morro de la Ar	14.85	131	Pn	Pn	02 45 33.9	-2.3
ESDC	Sonseca Array	19.51	79	P	Pn	02 46 35.3	+0.6
	0.1nm,0.3s,baz=287,slow=12,SNR=6.0						
ESDC				LR	LR	02 52 26.3	
	comp=Z,155nm,20.6s,baz=265,slow=32						
ESDC	Sonseca Array	19.51	79	P	Pn	02 46 35.6	+0.9
MDT	Midelt	20.73	99	P	P	02 46 46.7	-0.3
	2.1nm,0.9s,baz=284,slow=9.8,SNR=2.9						
MDT				LR	LR	02 53 16.3	
	comp=Z,171nm,21.2s,baz=302,slow=32						
EKA	Eskdalemuir Ar	24.02	38	P	P	02 47 21.2	+0.2
	0.3nm,0.5s,baz=226,slow=8.7,SNR=3.2						
GBN	Guysborough	24.81	296	P	P	02 47 30.9	+2.6
GBN				IAmb	IAmb	02 47 32.3	
	comp=Z,20nm,1.0s						
BORG	Borgarnes	26.41	8	LR	LR	02 55 17.1	
	comp=Z,504nm,20.4s,baz=192,slow=30						
SCHQ	Schefferville	29.94	315	P	P	02 48 11.1	-3.2
	comp=Z,4.4nm,1.2s,baz=139,slow=9.7,SNR=2.4						
SCHQ	Schefferville	29.94	315	P	P	02 48 16.2	+2.0
SCHQ				IAmb	IAmb	02 48 16.6	
	comp=Z,6.0nm,0.9s						
D62A	Allapoint, All	30.11	299	P	P	02 48 15.1	-0.8
D62A				IAmb	IAmb	02 48 17.7	
	comp=Z,8.1nm,0.8s						
CLL	Collm	31.86	53	*e*S	S	02 53 44.0	+1.6
GERES	GERESS Array B	32.12	58	P	P	02 48 36.5	+2.7
	comp=Z,0.2nm,0.3s,baz=280,slow=6.9,SNR=2.3						
GERES				LR	LR	03 00 27.3	
	comp=Z,41nm,20.0s,baz=280,slow=34						
KOWA	Kowa	32.79	131	P	P	02 48 39.9	+0.2
NOA	NORSAR Array B	33.41	35	LR	LR	03 00 47.5	
	comp=Z,202nm,19.2s,baz=250,slow=33						
TIP	Timpagrande	35.38	75	P	P	02 49 03.3	+1.2
TIP				IAmb	IAmb	02 49 07.7	
	comp=Z,12nm,1.3s						
TOA0	Torodi Ar. Sit	37.36	125	P	P	02 49 18.5	-0.7
TOA0				IAmb	IAmb	02 49 31.3	
	comp=Z,7.1nm,1.4s						
TORD	Torodi Ar. Bea	37.36	125	P	P	02 49 17.5	-1.6
	comp=Z,0.8nm,0.6s,baz=317,slow=8.1,SNR=7.1						
TORD	Torodi Ar. Bea	37.36	125	P	P	02 49 19.1	-0.1
DBIC	Dimbokro	38.76	139	LR	LR	03 03 55.2	
	comp=Z,101nm,19.0s,baz=302,slow=34						
FINES	FINESS Array B	40.42	37	P	P	02 49 46.5	+2.2
	comp=Z,0.9nm,0.6s,baz=264,slow=5.6,SNR=2.0						
FINES				LR	LR	03 05 15.7	
	comp=Z,241nm,18.9s,baz=279,slow=34						
FINES	FINESS Array B	40.42	37	P	P	02 49 46.1	+1.8
ARCES	ARCESS Array B	42.02	25	P	P	02 49 57.0	-0.4
	comp=Z,3.1nm,0.9s,baz=248,slow=9.6,SNR=2.0						
ARCES				LR	LR	03 04 22.1	
	comp=Z,101nm,21.4s,baz=255,slow=32						
AKASG	Malin Array Be	42.09	54	P	P	02 49 57.9	-0.2
	comp=Z,0.5nm,0.4s,baz=271,slow=8.2,SNR=4.3						
AKASG				LR	LR	03 07 20.1	
	comp=Z,80nm,18.3s,baz=265,slow=36						
E43A	Lone Tree Farm	42.44	300	P	P	02 50 01.7	+0.6
E43A				IAmb	IAmb	02 50 04.8	
	comp=Z,4.3nm,0.8s						
656A	Willston	44.67	275	P	P	02 50 16.5	-2.8
FCC	Fort Churchill	45.19	318	P	P	02 50 23.8	+0.8
553A	Crawfordville	45.78	277	P	P	02 50 26.5	-1.6
P40A	Paris	47.88	292	P	P	02 50 43.6	-0.8
P40A				IAmb	IAmb	02 50 48.5	
	comp=Z,5.1nm,0.8s						
H10N2	ASCENSION HYDR	48.33	160	T	T	03 41 49.2	
	baz=344,slow=75,SNR=18						
H10N3	ASCENSION HYDR	48.33	160	T	T	03 41 58.2	
	baz=344,slow=75,SNR=14						
H10N1	ASCENSION HYDR	48.34	160	T	T	03 41 50.6	
	baz=344,slow=75,SNR=19						
T35A	Sooner Cattle	52.12	290	P	P	02 51 17.6	+0.9
KBZ	Khabaz	52.81	60	P	P	02 51 23.8	+2.2
	comp=Z,2.1nm,0.9s,baz=217,slow=5.1,SNR=3.0						
YKA	Yellowknife Ar	54.47	325	P	P	02 51 33.2	-0.4
	comp=Z,0.5nm,0.8s,baz=56,slow=7.7,SNR=3.0						
PD31	Pinedale Array	58.82	302	P	P	02 52 04.9	-0.2
PDAR	Pinedale Array	58.82	302	P	P	02 52 03.1	-2.1
	comp=Z,0.9nm,0.6s,baz=72,slow=9.5,SNR=6.4						
PDAR	Pinedale Array	58.82	302	P	P	02 52 05.5	+0.3
TX31	Lajitas Ar. Si	60.92	286	P	P	02 52 18.8	-0.8
TX32	Lajitas Array	60.92	286	P	P	02 52 19.1	-0.5
TX32				IAmb	IAmb	02 52 22.2	
	comp=Z,3.3nm,0.8s						
TXAR	Lajitas Array	60.92	286	P	P	02 52 17.7	-1.9
	comp=Z,3.5nm,0.8s,baz=78,slow=5.9,SNR=14						
NEW	Newport	61.16	310	P	P	02 52 22.3	+1.4
NEW				IAmb	IAmb	02 52 24.8	
	comp=Z,3.5nm,0.9s						
J08A	Circle Bar Ran	64.33	306	P	P	02 52 41.8	-0.3
J08A				IAmb	IAmb	02 52 47.3	
	comp=Z,3.6nm,0.9s						
LPAZ	La Paz	65.82	221	LR	LR	03 17 43.7	
	comp=Z,115nm,21.9s,baz=331,slow=33						
TSUM	Tsumeb	72.39	134	P	P	02 53 33.1	+0.3
TSUM				IAmb	IAmb	02 53 56.2	
	comp=Z,7.5nm,1.1s						
MAKZ	Makanchi	74.93	42	P	P	02 53 47.5	+0.1
MK31	Makanchi Array	75.11	41	P	P	02 53 48.7	+0.2
MKAR	Makanchi Array	75.11	41	P	P	02 53 48.5	0.0
	comp=Z,1.1nm,0.9s,baz=339,slow=5.2,SNR=3.8						
MKAR	Makanchi Array	75.11	41	P	P	02 53 48.2	-0.2
SONM	Songino Array	85.12	28	P	P	02 54 42.0	-0.6
	comp=Z,0.3nm,0.4s,baz=320,slow=4.3,SNR=1.6						

IDC 17 02:44:51.0±1.9,3.22S×147.90E,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.5/24,mbtmp3.6/3,Error ellipse: s-maj=126.3km s-min=29.9km az=119.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.25	217	P	P	02 49 38.7	-0.2
	2.5nm,0.7s,baz=43,slow=11,SNR=11						
ASAR	Alice Springs	24.42	212	P	P	02 50 11.9	+0.3
	1.0nm,0.8s,baz=38,slow=7.7,SNR=6.9						
H11S3	WAKE ISLAND Hy	28.43	40	T	T	03 20 41.3	
	baz=223,slow=76,SNR=104						
H11S2	WAKE ISLAND Hy	28.43	40	T	T	03 20 40.7	
	baz=223,slow=76,SNR=68						
H11S1	WAKE ISLAND Hy	28.44	40	T	T	03 20 41.4	
	baz=223,slow=76,SNR=80						
H11N1	WAKE ISLAND Hy	29.46	39	T	T	03 21 60.0	
	baz=221,slow=76,SNR=22						
H11N3	WAKE ISLAND Hy	29.47	39	T	T	03 21 58.0	
	baz=221,slow=76,SNR=25						
H11N2	WAKE ISLAND Hy	29.47	39	T	T	03 21 58.6	
	baz=221,slow=76,SNR=22						
ILAR	Eielson Array	82.59	23	P	P	02 57 16.0	+0.2
	0.5nm,0.8s,baz=244,slow=5.8,SNR=4.1						
TORD	Torodi Ar. Bea	145.17	288	PKPbc	PKPbc	03 04 30.0	-1.3
	0.6nm,0.8s,baz=90,slow=1.4,SNR=2.5						

NOU ***17*** *02:56:56.4,38.04S×176.17E,h216km,MLv4.0,North Island, New Zealand*

WEL 17 02:57:04.3±0.7,38.3S×176.6E±,h146km±7km,M3.7/105, mB4.2/2,ML2.5/8,MLv3.7/105,Mw(mB)3.3/2,Error ellipse: s-maj=0.0km s-min=0.0km az=133.2,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UTU	Utuhina	0.11	105	P	Pn	02 57 25.1	+1.2
KARZ	Kaharoa	0.19	48	P	Pn	02 57 25.0	+1.0
GRRZ	Galatos Road	0.20	169	P	Pn	02 57 25.0	+0.9
OMRZ	Omania	0.25	80	P	Pn	02 57 25.2	+1.0
HRRZ	Handcock Road	0.30	144	P	Pn	02 57 25.6	+1.2
KMRZ	Kaimai	0.32	342	P	Pn	02 57 25.4	+1.0
MKRZ	Makatiti	0.32	88	P	Pn	02 57 26.0	+1.5
TARZ	Mount Tarawera	0.36	104	P	Pn	02 57 25.8	+1.2
WPRZ	Whakapapataran	0.38	168	P	Pn	02 57 25.5	+0.9
KUTZ	Kaahu Road	0.39	209	P	Pn	02 57 25.5	+0.9
RRRZ	Republican Roa	0.40	118	P	Pn	02 57 25.8	+1.1
TGRZ	Tauranga	0.45	21	P	Pn	02 57 25.7	+0.9
TLZ	Tolley Road	0.45	246	P	Pn	02 57 25.9	+1.0
OPRZ	Ohinepanea	0.49	52	P	Pn	02 57 25.9	+0.8
MARZ	Manawahe	0.51	72	P	Pn	02 57 25.4	+0.2
WHTZ	Whakaora	0.52	189	P	Pn	02 57 26.3	+1.0
EDRZ	Edgecumbe	0.54	86	P	Pn	02 57 26.2	+0.8
TOZ	Tahuroa Road	0.61	313	P	Pn	02 57 26.5	+0.8
WATZ	Wairara	0.62	205	P	Pn	02 57 26.5	+0.7
MUGZ	Murupara	0.65	121	P	Pn	02 57 26.7	+0.8
MUGZ				S	Sn	02 57 44.0	+1.5
MRHZ	Matea Rd	0.74	158	P	Pn	02 57 26.9	+0.3
MRHZ				S	Sn	02 57 44.4	+0.6
RATZ	Rangitukua	0.75	198	P	Pn	02 57 27.1	+0.4
WHRZ	Whale Island	0.78	68	P	Pn	02 57 28.1	+1.3
URZ	Urewera	0.83	98	P	Pn	02 57 27.3	+0.1
URZ				S	Sn	02 57 45.3	+0.5
RITZ	Rihia Road	0.84	191	P	Pn	02 57 28.1	+0.7
RTZ	Ruatahuna	0.86	123	P	Pn	02 57 28.0	+0.5
KATZ	Kakaramea	0.87	199	P	Pn	02 57 28.1	+0.4
MYRZ	Mayor Island	0.88	9	P	Pn	02 57 28.4	+0.8
MTHZ	Maungataniwha	0.93	139	P	Pn	02 57 28.6	+0.5
NTVZ	North Tongarir	1.00	198	P	Pn	02 57 28.9	+0.2
KRVZ	Karewarewa	1.00	199	P	Pn	02 57 28.8	0.0
TMVZ	Te Maari	1.01	196	P	Pn	02 57 29.0	+0.2
HIZ	Hauiti	1.02	249	P	Pn	02 57 29.0	+0.2
ETVZ	East Tongariro	1.02	195	P	Pn	02 57 29.2	+0.2
WTVZ	West Tongariro	1.03	201	P	Pn	02 57 29.1	+0.1
NNVZ	North Ngauruho	1.04	199	P	Pn	02 57 29.5	+0.3
TWVZ	Taurewa	1.04	208	P	Pn	02 57 29.2	+0.1
OTVZ	Oturere	1.06	197	P	Pn	02 57 29.5	+0.2
BKZ	Black Stump Fm	1.07	162	P	Pn	02 57 29.3	0.0
NGZ	Ngauruhoe	1.09	199	P	Pn	02 57 29.8	+0.2
SNVZ	South Ngauruho	1.09	198	P	Pn	02 57 29.6	0.0
RAHZ	Arahi	1.11	134	P	Pn	02 57 30.4	+0.8
NMHZ	Naumai	1.11	149	P	Pn	02 57 30.7	+1.0
RAGZ	Rawiri	1.12	108	P	Pn	02 57 30.4	+0.6
TUVZ	Tukino	1.16	196	P	Pn	02 57 30.3	0.0
FWVZ	Far West T-bar	1.18	200	P	Pn	02 57 30.5	0.0
SNGZ	Shannon Statio	1.19	123	P	Pn	02 57 31.1	+0.8
WHVZ	Whangaehu Hut	1.19	198	P	Pn	02 57 30.7	0.0
TRVZ	Turoa	1.22	199	P	Pn	02 57 30.8	0.0
WNVZ	Wahianoa	1.23	197	P	Pn	02 57 30.7	-0.2
MKAZ	Moumakai	1.26	325	P	Pn	02 57 31.4	+0.3
PKVZ	Pokaka	1.27	206	P	Pn	02 57 31.0	-0.2
MOVZ	Moawhango	1.28	191	P	Pn	02 57 30.8	-0.5
RUGZ	Raukumara Rang	1.29	82	P	Pn	02 57 30.7	-0.7
KWHZ	Kaweka Forest	1.30	168	P	Pn	02 57 31.5	-0.1
WHHZ	Waihua	1.30	136	P	Pn	02 57 32.0	+0.6
MTVZ	Mangateitei	1.32	200	P	Pn	02 57 31.4	-0.2
ARHZ	Aropaoanui	1.33	147	P	Pn	02 57 32.3	+0.6
BHHZ	Black Hill Sta	1.34	180	P	Pn	02 57 31.4	-0.5
MCHZ	McNeill Hill	1.39	159	P	Pn	02 57 32.8	+0.6
VRZ	Vera Road	1.41	226	P	Pn	02 57 32.5	0.0
HAZ	Te Kaha	1.42	74	P	Pn	02 57 32.0	-0.6
KUZ	Kuaotunu	1.43	349	P	Pn	02 57 32.9	+0.1
TKGZ	Te Karaka	1.44	102	P	Pn	02 57 33.3	+0.6
RIGZ	Rimuhau	1.45	113	P	Pn	02 57 33.4	+0.4
KRHZ	Kereru	1.51	171	P	Pn	02 57 33.3	-0.3
TWGZ	Tauwhareparae	1.51	92	P	Pn	02 57 34.2	+0.6
KNZ	Kokohu	1.54	125	P	Pn	02 57 33.8	0.0
WIAZ	Waiheke Island	1.54	331	P	Pn	02 57 34.1	+0.1
AWAZ	Awhitu Peninsu	1.56	313	P	Pn	02 57 34.0	-0.2
PKGZ	Pakihiroa	1.61	81	P	Pn	02 57 33.9	-0.8
PRGZ	Paritu Road	1.62	119	P	Pn	02 57 34.9	+0.1
MBAZ	Motutapu North	1.66	326	P	Pn	02 57 35.1	-0.1
CKHZ	Cape Kidnapper	1.70	153	P	Pn	02 57 35.7	0.0
CNGZ	Carnagh Statio	1.72	102	P	Pn	02 57 36.5	+0.6
PUZ	Puketiti	1.73	88	P	Pn	02 57 35.6	-0.4
MHGZ	Mahia Peninsul	1.76	125	P	Pn	02 57 36.5	+0.2
KAHZ	Kahuranaki	1.76	159	P	Pn	02 57 36.2	-0.2
PNHZ	Pukenui	1.77	177	P	Pn	02 57 35.4	-1.0
WAZ	Wanganui	1.81	207	P	Pn	02 57 36.1	-0.8
LREZ	Lake Rotokare	1.84	224	P	Pn	02 57 37.3	0.0
MXZ	Matakaoa Point	1.87	72	P	Pn	02 57 37.7	+0.1
WMGZ	Waiomatatini S	1.89	81	P	Pn	02 57 37.5	-0.3
NEZ	North Egmont	1.90	233	P	Pn	02 57 38.2	+0.2
TSZ	Takapari Road	1.91	182	P	Pn	02 57 36.8	-1.2
PKE	Pukeiti	1.93	237	P	Pn	02 57 38.2	-0.1
WPHZ	Wa

mb4.0/19,ML3.3(AEIC),Error ellipse: s-maj=49.7km s-min=8.5km az=170.0
AEIC ***17*** *03:23:31.3±0.9,52.3°N±0.3°×176.0°W±0.1°,h22km±6km, Error ellipse: s-maj=43.5km s-min=8.7km az=168.0*
IDC ***17*** *03:23:37.0±12.0,52.98°N×175.27°W,h225km±94km, mb3.0/4,mb1 3.4/6,mb1mx3.0/49,mbtmp3.7/6,Error ellipse: s-maj=91.5km s-min=56.4km az=64.0*

ISC 17 03:23:30.7±0.8,52.8°N±0.1°×176.06°W±0.06,h200km,n55, σ1§38/56,mb3.4/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSTR	**Great Sitkin T**	**0.68**	**180**			**Pn**	**03 23 59.4**	**+0.8**
GSTR	**Great Sitkin T**	**0.68**	**180**	Sn		**Sn**	**03 24 21.3**	**+1.1**
GSSP	**Great Sitkin S**	**0.68**	**186**			**Pn**	**03 23 59.2**	**+0.6**
GSTD	**Great Sitkin T**	**0.72**	**184**			**Pn**	**03 23 59.2**	**+0.3**
GSMY	**Great Sitkin M**	**0.73**	**180**			**Pn**	**03 23 59.2**	**+0.3**
GSIG	**Igitkin Island**	**0.79**	**174**			**Pn**	**03 23 59.2**	**0.0**
ADAG	**Mount Adagdak**	**0.86**	**203**			**Pn**	**03 24 00.1**	**+0.5**
ETKA	**Kagalaska Isla**	**0.93**	**193**			**Pn**	**03 24 00.1**	**+0.1**
ADK	**Adak**	**0.97**	**204**			**Pn**	**03 24 00.3**	**+0.1**
ADK	**Adak**	**0.97**	**204**	Sn		**Sn**	**03 24 22.5**	**-0.5**
KICM	**Kanaga Island**	**1.10**	**220**			**Pn**	**03 24 01.6**	**+0.5**
KIKV	**Kanaga Island**	**1.12**	**218**			**Pn**	**03 24 01.8**	**+0.4**
KIWB	**Kanaga Island**	**1.14**	**217**			**Pn**	**03 24 01.6**	**+0.2**
KOKL	**Mount Kliuchef**	**1.22**	**111**			**Pn**	**03 24 03.7**	**+1.6**
KIMD	**Kanaga Island**	**1.24**	**216**			**Pn**	**03 24 02.2**	**0.0**
ATKA	**Atka Island**	**1.27**	**116**			**Pn**	**03 24 03.5**	**+1.1**
ATKA	**Atka Island**	**1.27**	**116**	Sn		**Sn**	**03 24 27.6**	**+0.7**
KOFP	**Korovin Flat P**	**1.29**	**112**			**Pn**	**03 24 03.7**	**+1.1**
TAPA	**Tanaga Point A**	**1.44**	**229**			**Pn**	**03 24 04.0**	**+0.1**
TAFP	**Tanaga Falls P**	**1.47**	**234**			**Pn**	**03 24 04.6**	**+0.5**
TANO	**Tanaga North**	**1.53**	**237**			**Pn**	**03 24 05.4**	**+0.8**
TASE	**Tanaga Southea**	**1.54**	**233**			**Pn**	**03 24 05.3**	**+0.6**
GAEA	**Gareloi East**	**1.93**	**240**			**Pn**	**03 24 08.8**	**+0.4**
GALAA	**Gareloi Lava P**	**1.95**	**240**			**Pn**	**03 24 09.0**	**+0.4**
CERAA	**Semis' Rag'd T**	**2.75**	**253**			**Pn**	**03 24 17.8**	**+0.4**
CESW	**Semis' Southwe**	**2.83**	**254**			**Pn**	**03 24 18.3**	**0.0**
AMKA	**Amchitka**	**3.19**	**246**			**Pn**	**03 24 21.7**	**-0.8**
LSPA	**Little Sitkin**	**3.39**	**258**			**Pn**	**03 24 25.7**	**+0.7**
LSNW	**Little Sitkin**	**3.42**	**259**			**Pn**	**03 24 25.7**	**+0.4**
NIKH	**Nikolski High**	**4.37**	**84**			**Pn**	**03 24 38.4**	**+1.4**
KDAK	**Kodiak Island**	**14.25**	**60**	P		**Pn**	**03 26 42.0**	**-1.4**
	2.0nm,0.3s,baz=279,slow=5.4,SNR=63							
KDAK				S		**S**	**03 29 14.3**	**-7.4**
	0.1nm,0.3s,baz=171,slow=12,SNR=1.3							
CNPM	**China Poot**	**15.33**	**54**	P		**P**	**03 26 58.3**	**+1.4**
CNPM				IAmb		IAmb	03 26 59.5	
	comp=Z,4.1nm,0.4s							
PPLA	**Purkeypile**	**16.15**	**42**	P		**Pn**	**03 27 09.2**	**+2.5**
SEW	**Seward**	**16.35**	**53**	P		**Pn**	**03 27 09.5**	**+0.7**
SEW				IAmb		IAmb	03 27 14.7	
	comp=Z,5.3nm,0.9s							
PWL	**Port Wells**	**17.09**	**51**	P		**Pn**	**03 27 18.2**	**+0.5**
PWL				IAmb		IAmb	03 27 35.3	
	comp=Z,3.7nm,0.6s							
TRF	**Thorofare Moun**	**17.17**	**41**	P		**Pn**	**03 27 19.9**	**+1.1**
BPAW	**Bear Paw Mtn.**	**17.20**	**39**	P		**Pn**	**03 27 20.1**	**+1.1**
RND	**Reindeer**	**17.74**	**42**	P		**Pn**	**03 27 25.9**	**+0.6**
MLY	**Manley**	**17.77**	**36**	P		**Pn**	**03 27 26.4**	**+0.7**
MLY				IAmb		IAmb	03 27 27.1	
	comp=Z,5.5nm,0.9s							
HIN	**Hinchinbrook I**	**17.85**	**53**	P		**Pn**	**03 27 27.8**	**+1.2**
HIN				IAmb		IAmb	03 27 46.8	
	comp=Z,4.1nm,0.7s							
NEA2	**Nenana**	**18.17**	**39**	P		**P**	**03 27 29.8**	**+1.8**
NEA2				IAmb		IAmb	03 27 30.8	
	comp=Z,3.1nm,0.6s							
WRH	**Wood River Hil**	**18.50**	**40**	P		**P**	**03 27 31.9**	**+0.4**
MDM	**Murphy Dome**	**18.66**	**38**	P		**P**	**03 27 34.8**	**+1.5**
MDM				IAmb		IAmb	03 27 36.2	
	comp=Z,5.0nm,0.7s							
PAX	**Paxson**	**19.01**	**46**	P		**P**	**03 27 38.6**	**+1.5**
PAX				IAmb		IAmb	03 27 40.8	
	comp=Z,3.1nm,0.6s							
POKR	**Poker Plat Res**	**19.04**	**38**	P		**Pn**	**03 27 39.8**	**-0.6**
POKR				IAmb		IAmb	03 27 40.4	
	comp=Z,2.8nm,0.6s							
ILAR	**Eielson Array**	**19.09**	**40**	P		**P**	**03 27 37.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=236,slow=9.7,SNR=16							
GLB	**Glahina Butte**	**19.36**	**51**	P		**P**	**03 27 41.7**	**+0.8**
VRDI	**Verde Repeater**	**19.48**	**51**	P		**Pn**	**03 27 45.1**	**-0.9**
VRDI				IAmb		IAmb	03 27 46.2	
	comp=Z,2.3nm,0.6s							
TOLK	**Toolik Lake Re**	**20.24**	**28**	P		**P**	**03 27 52.0**	**+1.8**
TABL	**Table Mountain**	**20.48**	**54**	P		**P**	**03 27 54.6**	**+1.6**
TABL				IAmb		IAmb	03 28 03.6	
	comp=Z,7.8nm,1.2s							
L27K	**Beaver Creek,**	**20.63**	**47**	P		**P**	**03 27 54.4**	**0.0**
YKA	**Yellowknife Ar**	**33.04**	**48**	P		**P**	**03 29 47.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=291,slow=8.6,SNR=9.7							
NVAR	**Mina Array Bea**	**41.73**	**86**	P		**P**	**03 31 01.1**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=300,slow=8.2,SNR=2.7							
PDAR	**Pinedale Array**	**44.29**	**75**	P		**P**	**03 31 20.0**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=321,slow=4.0,SNR=7.2							
TXAR	**Lajitas Array**	**56.80**	**84**	P		**P**	**03 32 53.4**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=316,slow=6.3,SNR=3.9							

JMA ***17*** *03:39:23.1±0.1,24.50°N×122.16°E,h77km±1km,M1.8*
TAP ***17*** *03:39:23.1,24.57°N×122.17°E,h71km,ML2.7,B*

ISC 17 03:39:24.0±1.5,24.56°N±0.06°×122.18°E±0.03,h67km±10km, n45,σ0§46/73,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWC	**Suao**	**0.30**	**280**	*i* P		**Pn**	**03 39 34.6**	**-0.4**
	baz=277							
TWC				S		**Sn**	**03 39 43.1**	**+0.1**
	baz=277							
EGS		**0.36**	**322**	*eP*		**Pn**	**03 39 35.3**	**-0.1**
	baz=322							
EGS				*eS*		**Sn**	**03 39 44.3**	**+0.6**
	baz=322							
NDS	**Dongshan**	**0.43**	**280**	*eP*		**Pn**	**03 39 35.6**	**-0.3**
	baz=278							
NDS				S		**Sn**	**03 39 45.3**	**+0.6**
	baz=278							
TWE	**Neicheng**	**0.49**	**289**	*eP*		**Pn**	**03 39 36.3**	**-0.2**
	baz=288							
TIPB	**Shuangxi**	**0.52**	**322**	*eP*		**Pn**	**03 39 35.8**	**-1.1**
	baz=321							
TIPB				*eS*		**Sn**	**03 39 44.9**	**-1.4**
	baz=321							
ENTT	**Nioudou**	**0.56**	**278**	*eP*		**Pn**	**03 39 37.5**	**+0.2**
	baz=276							
ENTT				*eS*		**Sn**	**03 39 47.6**	**+0.5**
	baz=276							
NDT	**Datong Townshi**	**0.61**	**274**	*eP*		**Pn**	**03 39 37.9**	**+0.1**
	baz=272							
NDT				*eS*		**Sn**	**03 39 48.8**	**+0.9**
	baz=272							
ETL	**Fush Village**	**0.65**	**232**	*eS*		**Sn**	**03 39 48.8**	**+0.2**
	baz=230							
NWLT	**Wulai**	**0.65**	**290**	*eP*		**Pn**	**03 39 38.5**	**+0.2**
	baz=288							
NWLT				S		**Sn**	**03 39 49.0**	**+0.3**
	baz=288							
NACB	**Ninganchiao**	**0.66**	**234**	*eP*		**Pn**	**03 39 37.8**	**-0.4**
	baz=233							
NACB				S		**Sn**	**03 39 49.2**	**+0.5**
	baz=233							
JYNG	**Yonagunijimaku**	**0.70**	**99**	P		**Pn**	**03 39 38.8**	**0.0**
JYNG				*eS*		**Sn**	**03 39 50.4**	**+0.7**
TWD	**Chiawan**	**0.71**	**228**	*eP*		**Pn**	**03 39 38.8**	**-0.2**
	baz=226							
TWD				S		**Sn**	**03 39 50.4**	**+0.5**
	baz=226							
ETLH	**Xiulin Townshi**	**0.73**	**241**	P		**Pn**	**03 39 38.8**	**-0.4**
	baz=240							
ETLH				S		**Sn**	**03 39 50.4**	**+0.1**
	baz=240							
NNSB	**Datong**	**0.74**	**260**	P		**Pn**	**03 39 39.1**	**-0.2**
	baz=258							
NNSB				*eS*		**Sn**	**03 39 50.7**	**+0.1**
	baz=258							
NNSH	**Datong**	**0.74**	**260**	P		**Pn**	**03 39 39.0**	**-0.3**
	baz=258							
NNSH				S		**Sn**	**03 39 50.7**	**+0.1**
	baz=258							
YHNB	**Yeheng**	**0.74**	**279**	P		**Pn**	**03 39 39.2**	**-0.1**
	baz=277							
YHNB				*eS*		**Sn**	**03 39 50.6**	**0.0**
	baz=277							
NNS	**Nan Shan**	**0.74**	**261**	P		**Pn**	**03 39 39.2**	**-0.2**
	baz=259							
NNS				S		**Sn**	**03 39 50.8**	**0.0**
	baz=259							
YOJ	**Yonaguni jima**	**0.76**	**97**	P		**Pn**	**03 39 39.4**	**-0.1**
YOJ				S		**Sn**	**03 39 51.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.76**	**97**	P		**Pn**	**03 39 39.5**	**-0.1**
	baz=97							
YOJ				*eS*		**Sn**	**03 39 51.5**	**+0.6**
	baz=97							
TEYL	**Yanliau Villag**	**0.87**	**218**	P		**Pn**	**03 39 40.4**	**-0.4**
	baz=218							
FUSS	**Fushou**	**0.91**	**250**	*eP*		**Pn**	**03 39 41.7**	**+0.2**
	baz=249							
FUSS				S		**Sn**	**03 39 54.2**	**-0.2**
	baz=249							
WHF	**Hehuan Shan**	**0.93**	**244**	*eP*		**Pn**	**03 39 41.7**	**-0.3**
	baz=242							
WHF				S		**Sn**	**03 39 55.0**	**-0.2**
	baz=242							
TWT	**Tachien**	**0.96**	**252**	*eS*		**Sn**	**03 39 55.8**	**+0.3**
	baz=250							
TDCB	**Techi**	**0.98**	**252**	*eP*		**Pn**	**03 39 42.8**	**+0.5**
	baz=251							
TDCB				S		**Sn**	**03 39 55.9**	**0.0**
	baz=251							
ESL	**Shilin**	**1.01**	**223**	*eP*		**Pn**	**03 39 42.1**	**-0.4**
	baz=221							
TEGC	**Jichi Village**	**1.03**	**215**	*eP*		**Pn**	**03 39 42.5**	**-0.3**
	baz=213							
CHGB	**Renai**	**1.04**	**242**	*eP*		**Pn**	**03 39 43.0**	**-0.2**
	baz=240							
CHGB				*eS*		**Sn**	**03 39 57.2**	**-0.2**
	baz=240							
LIOB	**Emei**	**1.06**	**275**	*eS*		**Sn**	**03 39 57.7**	**+0.2**
	baz=274							
NSTT	**Nanjuang**	**1.08**	**274**	*eS*		**Sn**	**03 39 57.6**	**-0.2**
	baz=273							
OWD	**Renai**	**1.10**	**237**	*eP*		**Pn**	**03 39 43.5**	**-0.2**
	baz=236							
OWD				*eS*		**Sn**	**03 39 58.4**	**0.0**
	baz=236							
WHP	**Taichung City**	**1.16**	**256**	*eP*		**Pn**	**03 39 45.0**	**+0.4**
	baz=255							
WHP				*eS*		**Sn**	**03 40 00.1**	**+0.3**
	baz=255							
WCS	**Beigang Elemen**	**1.26**	**247**	*eP*		**Pn**	**03 39 46.0**	**+0.3**
	baz=246							
WCS				*eS*		**Sn**	**03 40 02.3**	**+0.3**
	baz=246							
HGSD	**Ruisui**	**1.27**	**213**	*eP*		**Pn**	**03 39 45.8**	**-0.1**
	baz=212							
EHY	**Hungye**	**1.31**	**217**	*eP*		**Pn**	**03 39 46.3**	**-0.1**
	baz=215							
SMLT	**Sun Moon Lake**	**1.35**	**240**	*eP*		**Pn**	**03 39 48.1**	**+1.1**
	baz=239							
SSLB	**Suanglung**	**1.36**	**236**	*eP*		**Pn**	**03 39 47.0**	**-0.1**
	baz=234							
TYC	**Yuchr**	**1.37**	**242**	*eP*		**Pn**	**03 39 47.8**	**+0.6**
	baz=240							
YULB	**Yu-li**	**1.41**	**215**	*eP*		**Pn**	**03 39 47.0**	**-0.8**
	baz=214							
IRIF	**Iriomote-Funau**	**1.43**	**99**	P		**Pn**	**03 39 47.6**	**-0.4**
IRIF				*eS*		**Sn**	**03 40 05.9**	**-0.1**
CHN5	**Tsauling**	**1.67**	**235**	*eP*		**Pn**	**03 39 51.8**	**+0.5**
	baz=234							
JKRS	**Kuro-shima**	**1.70**	**100**	P		**Pn**	**03 39 51.9**	**+0.3**
JKRS				S		**Sn**	**03 40 13.0**	**+0.6**
EDH	**Donghe**	**1.77**	**207**	*eS*		**Sn**	**03 40 12.9**	**-1.3**
	baz=206							
JIJ	**Ishigaki jima**	**1.80**	**96**	P		**Pn**	**03 39 52.6**	**-0.3**
JIJ				*eS*		**Sn**	**03 40 14.8**	**0.0**
CHN4	**Tsaushan**	**1.89**	**231**	*eP*		**Pn**	**03 39 54.1**	**0.0**
	baz=229							
JISG	**Ishigakijimahi**	**1.94**	**89**	P		**Pn**	**03 39 54.7**	**-0.1**
JISG				*eS*		**Sn**	**03 40 17.8**	**-0.4**

IDC ***17*** *03:51:39.5±1.1,2.80S×146.89E,h0km,mb4.2/6, mb1 4.4/6,mb1mx3.9/31,mbtmp4.1/6,MS3.6/13, Ms1 3.6/13,ms1mx3.3/31,Error ellipse: s-maj=114.2km s-min=21.6km az=126.0*
NEIC ***17*** *03:51:43.2±1.5,2.81S±0.06°×147.0E±0.1°,h24km±7km, mb4.3/10,Error ellipse: s-maj=21.4km s-min=8.1km az=102.0*

ISC 17 03:51:44.1±0.8,2.81S±0.08°×147.0E±0.1°,h35km,n37, σ1§35/23,mb4.2/9,MS3.5/13,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MANU	**Manus Island**	**0.83**	**25**	Pn		**Pn**	**03 51 56.4**	**-3.0**
MANU				Sn		**Sn**	**03 52 10.8**	**+0.4**
RABL	**Rabaul**	**5.32**	**105**	Pn		**Pn**	**03 52 58.9**	**-2.2**
HNR	**Honiara**	**14.44**	**118**	Pn		**Pn**	**03 55 06.5**	**+0.5**
MTN	**Manton Dam**	**18.61**	**237**	P		**P**	**03 55 58.5**	**-0.2**
MTN				IAmb		IAmb	03 56 01.0	
	comp=Z,18nm,1.1s							
WB0	**Warramunga Arr**	**20.89**	**215**	P		**P**	**03 56 22.9**	**-0.5**
WR0	**Warramunga Arr**	**20.95**	**215**	P		**P**	**03 56 23.9**	**-0.3**
WR0				IAmb		IAmb	03 56 30.7	
	comp=Z,18nm,0.9s							
WRAB	**Tennant Creek**	**21.04**	**215**	P		**P**	**03 56 22.0**	**-3.1**
WRAB				IAmb		IAmb	03 56 30.3	
	comp=Z,16nm,0.9s							
WB2	**Warramunga Arr**	**21.05**	**215**	P		**P**	**03 56 25.3**	**+0.1**
WRA	**Warramunga Arr**	**21.06**	**215**	P		**P**	**03 56 24.9**	**-0.4**
	comp=Z,7.4nm,0.9s,baz=43,slow=11,SNR=30							
WRA				LR		LR	04 05 39.6	
	comp=Z,195nm,20.6s,baz=220,slow=40							
WRA	**Warramunga Arr**	**21.06**	**215**	P		**P**	**03 56 24.8**	**-0.5**
KNRA	**Kununurra**	**22.06**	**233**	P		**P**	**03 56 34.4**	**-1.7**
KNRA				IAmb		IAmb	03 56 41.1	
	comp=Z,9.4nm,1.1s							
AS31	**Alice Springs**	**24.31**	**210**	P		**P**	**03 56 58.3**	**-0.2**
ASAR	**Alice Springs**	**24.31**	**210**	P		**P**	**03 56 58.2**	**-0.3**
	comp=Z,7.8nm,0.9s,baz=43,slow=7.3,SNR=22							
ASAR				LR		LR	04 06 28.3	
	comp=Z,145nm,19.5s,baz=18,slow=37							
ASAR	**Alice Springs**	**24.31**	**210**	P		**P**	**03 56 58.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**25.89**	**233**	P		**P**	**03 57 12.5**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=93,slow=6.8,SNR=7.4							
FITZ				LR		LR	04 08 27.9	
	comp=Z,265nm,19.4s,baz=58,slow=39							
FITZ	**Fitzroy Crossi**	**25.89**	**233**	P		**P**	**03 57 13.1**	**+0.2**
FITZ				IAmb		IAmb	03 57 16.0	
	comp=Z,7.1nm,1.1s							
H11S3	**WAKE ISLAND Hy**	**28.69**	**42**	T		T	04 27 24.2	
	baz=223,slow=76,SNR=196							
H11S2	**WAKE ISLAND Hy**	**28.70**	**42**	T		T	04 27 24.4	
	baz=223,slow=76,SNR=165							
H11S1	**WAKE ISLAND Hy**	**28.71**	**42**	T		T	04 27 28.5	
	baz=223,slow=76,SNR=150							
H11N1	**WAKE ISLAND Hy**	**29.70**	**40**	T		T	04 28 40.6	
	baz=221,slow=76,SNR=47							
H11N3	**WAKE ISLAND Hy**	**29.71**	**40**	T		T	04 28 41.2	
	baz=221,slow=76,SNR=70							
H11N2	**WAKE ISLAND Hy**	**29.71**	**40**	T		T	04 28 41.1	
	baz=221,slow=76,SNR=70							
MJAR	**Matsushiro Arr**	**40.00**	**349**	LR		LR	04 14 49.5	
	comp=Z,46nm,18.1s,baz=205,slow=35							
KSRS	**Korea Array**	**43.81**	**338**	LR		LR	04 16 31.3	
	comp=Z,61nm,18.8s,baz=173,slow=34							
CMAR	**Chiang Mai Arr**	**51.82**	**296**	LR		LR	04 20 51.6	
	comp=Z,20nm,21.8s,baz=185,slow=34							
RAR	**Rarotonga**	**54.86**	**114**	LR		LR	04 22 00.6	
	comp=Z,112nm,21.2s,baz=143,slow=33							
PETK	**Petropavlovsk-**	**56.43**	**8**	LR		LR	04 22 21.1	
	comp=Z,36nm,21.0s,baz=187,slow=33							
SONM	**Songino Array**	**61.65**	**330**	LR		LR	04 27 52.7	
	comp=Z,35nm,19.8s,baz=102,slow=35							
VNDA	**Vanda**	**75.08**	**177**	LR		LR	04 36 36.0	
	comp=Z,38nm,18.4s,baz=342,slow=36							
VNDA	**Vanda**	**75.08**	**177**	P		**P**	**04 03 21.9**	**0.0**
VNDA				IAmb		IAmb	04 03 39.9	
	comp=Z,4.1nm,1.5s							
ZALV	**Zalesovo Beam**	**76.34**	**327**	LR		LR	04 36 48.2	
	comp=Z,36nm,20.1s,baz=72,slow=36							
ILAR	**Eielson Array**	**82.56**	**23**	P		**P**	**04 04 04.5**	**+1.4**
	comp=Z,1.3nm,1.1s,baz=252,slow=4.3,SNR=6.8							
ILAR	**Eielson Array**	**82.56**	**23**	P		**P**	**04 04 04.9**	**+1.7**
GEYT	**Alibeck**	**90.84**	**308**	LR		LR	04 47 35.8	
	comp=Z,20nm,19.8s,baz=10.0,slow=37							
NVAR	**Mina Array Bea**	**95.40**	**52**	P		**P**	**04 05 06.9**	**+1.4**
	comp=Z,0.6nm,1.0s,baz=269,slow=3.6,SNR=1.7							
NVAR				LR		LR	04 39 03.8	
	comp=Z,48nm,21.9s,baz=256,slow=30							
YKA	**Yellowknife Ar**	**96.35**	**28**	P		**P**	**04 05 10.2**	**+1.2**
	comp=Z,1.2nm,1.1s,baz=270,slow=4.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**144.21**	**289**	PKP		**PKPdf**	**04 11 16.5**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=60,slow=4.2,SNR=3.5							

IDC 17 04:06:31.4±86.0,13.30S×166.81E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/27,mbtmp3.8/3,Error ellipse: s-maj=1446.0km s-min=126.4km az=62.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**29.61**	**227**	P		P	04 12 38.5	+0.1
	1.0nm,0.3s,baz=45,slow=13,SNR=4.0							
WRA	**Warramunga Arr**	**31.77**	**254**	P		P	04 12 57.9	+0.2
	0.8nm,1.0s,baz=85,slow=9.1,SNR=2.3							
ASAR	**Alice Springs**	**32.80**	**247**	P		P	04 13 06.5	-0.2
	0.6nm,0.3s,baz=74,slow=9.4,SNR=12							

IDC 17 04:14:29.0±2.1,2.66S×146.91E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.5/30,mbtmp3.6/3,MS3.3/4,Ms1 3.3/4, ms1mx2.9/20,Error ellipse: s-maj=299.4km s-min=31.3km az=119.0,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.11**	**215**	P		P	04 19 15.8	+0.3
	1.5nm,0.6s,baz=39,slow=11,SNR=16							
ASAR	**Alice Springs**	**24.38**	**210**	P		P	04 19 48.9	-0.3
	0.8nm,0.4s,baz=38,slow=7.2,SNR=13							
H11S3	**WAKE ISLAND Hy**	**28.66**	**42**	T		T	04 50 18.8	
	baz=223,slow=76,SNR=62							
H11S2	**WAKE ISLAND Hy**	**28.66**	**42**	T		T	04 50 18.9	
	baz=223,slow=76,SNR=90							
H11S1	**WAKE ISLAND Hy**	**28.67**	**42**	T		T	04 50 19.0	
	baz=223,slow=76,SNR=82							
STKA	**Stephens Creek**	**29.49**	**189**	LR		LR	04 32 18.9	
	comp=Z,1.0nm,18.1s,baz=211,slow=36							
H11N1	**WAKE ISLAND Hy**	**29.66**	**41**	T		T	04 51 35.0	
	baz=221,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**29.67**	**41**	T		T	04 51 35.0	
	baz=221,slow=76,SNR=27							
H11N2	**WAKE ISLAND Hy**	**29.68**	**41**	T		T	04 51 39.6	
	baz=221,slow=76,SNR=18							
KSRS	**Korea Array**	**43.63**	**338**	LR		LR	04 37 52.2	
	comp=Z,12nm,19.8s,baz=185,slow=32							
USRK	**Ussuriysk Ar.**	**48.53**	**346**	LR		LR	04 42 12.4	
	comp=Z,42nm,19.8s,baz=309,slow=34							
CMAR	**Chiang Mai Arr**	**51.66**	**296**	LR		LR	04 46 06.5	
	comp=Z,34nm,18.8s,baz=215,slow=37							
ILAR	**Eielson Array**	**82.47**	**23**	P		P	04 26 53.2	+0.1
	0.2nm,0.7s,baz=238,slow=5.0,SNR=2.3							

IDC 17 04:45:26.5±3.2,3.96S×153.43E,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.5/24,mbtmp3.8/3,ML2.3/1,Error ellipse: s-maj=158.2km s-min=41.1km az=127.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**8.25**	**229**	Pn		Pn	04 47 27.6	0.0
	1.9nm,0.3s,baz=252,slow=14,SNR=1.4							
PMG				Sn		Sn	04 49 03.4	+1.9
	0.9nm,0.3s,baz=255,slow=6.6,SNR=1.2							
WRA	**Warramunga Arr**	**24.47**	**228**	P		P	04 50 48.0	+0.5
	1.5nm,0.7s,baz=54,slow=10.0,SNR=11							
ASAR	**Alice Springs**	**27.19**	**222**	P		P	04 51 11.8	-0.4
	0.6nm,0.8s,baz=48,slow=9.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**150.63**	**290**	PKPbc		PKPbc	05 05 21.1	-0.6
	0.2nm,0.5s,baz=48,slow=2.1,SNR=3.6							

IDC ***17*** *05:00:04.5±0.7,9.93S×150.50E,h0km,mb4.3/13, mb1 4.4/16,mb1mx4.3/31,mbtmp4.3/16,ML4.0/2,MS3.8/1, Ms1 3.7/1,ms1mx2.8/28,Error ellipse: s-maj=16.4km s-min=15.7km az=146.0*
NEIC ***17*** *05:00:07.0±2.4,9.83S±0.09°×150.54E±0.08,h10km±1km, mb4.3/14,Error ellipse: s-maj=19.2km s-min=8.7km az=38.0*
DJA ***17*** *05:00:10.1±2.6,10°S±7°×15°0E±°,h27km±17km,M4.9/13, mB5.0/2,mb4.5/13,MLv5.1/1,Mw(mB)4.4/2*

ISC 17 05:00:06.3±0.7,9.96S±0.08°×150.51E±0.08,h10km,n42, σ1§54/44,mb4.3/13,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.35**	**279**	Pn		**Pn**	**05 00 58.6**	**-0.1**
	36nm,0.3s,baz=102,slow=5.9,SNR=28							
PMG				Pg		**Pb**	**05 01 05.6**	**-0.2**
	44nm,0.3s,baz=103,slow=8.7,SNR=18							
PMG				Sn		**Sn**	**05 01 40.8**	**+2.3**
	53nm,0.3s,baz=109,slow=13,SNR=3.8							
PMG				Lg		Lg	05 01 49.9

SONM Songino Array 69.54 330 P **P** 05 11 15.2 -0.3
MKAR Makanchi Array 82.75 320 P **P** 05 12 30.3 -0.2
comp=Z,1.6nm,0.8s,baz=110,slow=6.4,SNR=13
ZALV Zalesovo Beam 84.20 327 P **P** 05 12 36.8 -0.9
comp=Z,3.2nm,0.6s,baz=95,slow=5.1,SNR=13
ZALV Zalesovo Beam 84.20 327 P **P** 05 12 36.6 -1.2
ILAR Eielson Array 87.77 22 P **P** 05 12 54.5 -0.7
comp=Z,3.0nm,0.9s,baz=256,slow=4.7,SNR=24
ILAR Eielson Array 87.77 22 P **P** 05 12 54.1 -1.1
NVAR Mina Array Bea 97.03 52 P **P** 05 13 39.4 +0.4
comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=2.0
BDFB Brasilia 148.64 144 PKPbc **PKPbc** 05 19 54.5 -0.4
comp=Z,1.6nm,0.7s,baz=202,slow=7.4,SNR=1.8
TORD Torodi Ar. Bea 149.29 279 PKPbc **PKPbc** 05 19 56.1 -0.3
comp=Z,4.1nm,1.0s,baz=54,slow=2.8,SNR=11

*IDC **17** 05:04:59.9±1.3, 3.°12S×147.°23E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/28, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=57.8km s-min=25.2km az=113.0*
ISC 17 05:05:05.4±1.2, 3.°1S±0.°2×147.°2E±0.°3, h35km, n14, σ1§05/7, mb3.7/5, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**20.88**	**216**	P	**P**	**P**	**05 09 43.8**	**-0.9**
	3.4nm,0.7s,baz=42,slow=11,SNR=11							
ASAR	**Alice Springs**	**24.11**	**211**	P	**P**	**P**	**05 10 18.0**	**0.0**
	3.5nm,0.9s,baz=40,slow=9.5,SNR=13							
FITZ	**Fitzroy Crossi**	**25.82**	**233**	P	**P**	**P**	**05 10 32.8**	**-0.8**
	1.4nm,0.6s,baz=49,slow=10,SNR=2.6							
H11S3	**WAKE ISLAND Hy**	**28.83**	**41**	T	T	T	05 40 46.4	
	baz=223,slow=76,SNR=79							
H11S2	**WAKE ISLAND Hy**	**28.84**	**41**	T	T	T	05 40 48.3	
	baz=223,slow=76,SNR=82							
H11S1	**WAKE ISLAND Hy**	**28.85**	**41**	T	T	T	05 40 47.7	
	baz=223,slow=76,SNR=63							
H11N1	**WAKE ISLAND Hy**	**29.85**	**40**	T	T	T	05 42 01.0	
	baz=221,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**29.86**	**40**	T	T	T	05 42 04.5	
	baz=221,slow=76,SNR=23							
H11N2	**WAKE ISLAND Hy**	**29.87**	**40**	T	T	T	05 42 03.0	
	baz=221,slow=76,SNR=24							
JCJ	**Chichijima**	**30.45**	**351**	LR	LR	LR	05 21 21.7	
	comp=Z,79nm,20.3s,baz=122,slow=32							
VNDA	**Vanda**	**74.73**	**177**	P	**P**	**P**	**05 16 42.1**	**+0.8**
	0.6nm,0.8s,baz=32,slow=9.6,SNR=2.7							
MKAR	**Makanchi Array**	**75.43**	**320**	P	**P**	**P**	**05 16 46.8**	**+1.0**
	0.1nm,0.5s,baz=101,slow=7.5,SNR=1.9							
ILAR	**Eielson Array**	**82.80**	**23**	P	**P**	**P**	**05 17 24.6**	**-1.1**
	0.4nm,0.8s,baz=264,slow=4.8,SNR=5.1							
TORD	**Torodi Ar. Bea**	**144.47**	**288**	PKP	**PKPdf**	**PKPdf**	**05 24 39.4**	**+0.2**
	0.7nm,0.8s,baz=79,slow=3.1,SNR=3.2							

*IDC **17** 05:13:48.4±0.7, 3.°09S×147.°43E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/27, mbtmp4.0/12, MS3.7/13, Ms1 3.7/13, ms1mx3.4/35, Error ellipse: s-maj=29.4km s-min=16.4km az=102.0*
*NEIC **17** 05:13:50.7±1.8, 2.°99S±0.°06×147.°3E±0.°2, h10km±1km, mb4.5/11, Error ellipse: s-maj=31.9km s-min=10.2km az=92.0*
ISC 17 05:13:50.3±0.8, 3.°1S±0.°1×147.°4E±0.°2, h10km, n39, σ0§51/27, mb4.1/14, MS3.7/11, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
MANU	**Manus Island**	**1.03**	**1**	Pg	Pg	Pg	05 14 07.2	-3.0
PMG	**Port Moresby**	**6.28**	**182**	LR	LR	LR	05 18 06.5	
	comp=Z,469nm,18.9s,baz=6.5,slow=41							
HNR	**Honiara**	**14.01**	**117**	LR	LR	LR	05 22 32.8	
	comp=Z,344nm,18.5s,baz=305,slow=38							
MTN	**Manton Dam**	**18.75**	**238**	P	**P**	**P**	**05 18 08.5**	**-1.0**
MTN				IAmb	IAmb	IAmb	05 18 13.2	
	comp=Z,16nm,0.9s							
WB0	**Warramunga Arr**	**20.86**	**216**	P	**P**	**P**	**05 18 32.9**	**+0.3**
WB0				IAmb	IAmb	IAmb	05 18 38.6	
	comp=Z,31nm,1.4s							
WR0	**Warramunga Arr**	**20.92**	**216**	P	**P**	**P**	**05 18 33.3**	**+0.1**
WR0				IAmb	IAmb	IAmb	05 18 43.9	
	comp=Z,20nm,0.9s							
WRAB	**Tennant Creek**	**21.01**	**216**	P	**P**	**P**	**05 18 34.3**	**+0.1**
WB2	**Warramunga Arr**	**21.02**	**216**	P	**P**	**P**	**05 18 33.9**	**-0.4**
WB2				IAmb	IAmb	IAmb	05 18 41.0	
	comp=Z,32nm,1.2s							
WRA	**Warramunga Arr**	**21.03**	**216**	P	**P**	**P**	**05 18 34.6**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=48,slow=10,SNR=37							
WRA				PcP	**PcP**	**PcP**	**05 22 41.4**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=24,slow=2.3,SNR=4.1							
WRA				LR	LR	LR	05 27 30.7	
	comp=Z,308nm,19.3s,baz=30,slow=39							
WRA	**Warramunga Arr**	**21.03**	**216**	P	**P**	**P**	**05 18 34.1**	**-0.2**
KNRA	**Kununurra**	**22.17**	**234**	P	**P**	**P**	**05 18 46.7**	**0.0**
KNRA				IAmb	IAmb	IAmb	05 18 52.0	
	comp=Z,28nm,1.2s							
AS31	**Alice Springs**	**24.24**	**211**	P	**P**	**P**	**05 19 08.1**	**+0.4**
ASAR	**Alice Springs**	**24.24**	**211**	P	**P**	**P**	**05 19 07.9**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=39,slow=7.4,SNR=36							
ASAR				PcP	**PcP**	**PcP**	**05 22 47.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=49,slow=2.8,SNR=2.4							
ASAR				LR	LR	LR	05 28 48.6	
	comp=Z,296nm,20.8s,baz=32,slow=37							
ASAR	**Alice Springs**	**24.24**	**211**	P	**P**	**P**	**05 19 08.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.99**	**233**	P	**P**	**P**	**05 19 23.0**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=47,slow=6.6,SNR=8.8							
FITZ				LR	LR	LR	05 30 27.0	
	comp=Z,389nm,19.5s,baz=56,slow=38							
FITZ	**Fitzroy Crossi**	**25.99**	**233**	P	**P**	**P**	**05 19 23.2**	**-0.3**
FITZ				IAmb	IAmb	IAmb	05 19 32.0	
	comp=Z,9.5nm,1.1s							
DZM	**Mont Dzumac**	**26.45**	**137**	LR	LR	LR	05 28 22.3	
	comp=Z,438nm,20.6s,baz=274,slow=33							
H11S3	**WAKE ISLAND Hy**	**28.68**	**41**	T	T	T	05 49 36.5	
	baz=223,slow=76,SNR=876							
H11S2	**WAKE ISLAND Hy**	**28.69**	**41**	T	T	T	05 49 37.5	
	baz=223,slow=76,SNR=1276							
H11S1	**WAKE ISLAND Hy**	**28.70**	**41**	T	T	T	05 49 37.9	
	baz=223,slow=76,SNR=649							
STKA	**Stephens Creek**	**29.18**	**190**	LR	LR	LR	05 32 14.4	
	comp=Z,148nm,20.1s,baz=14,slow=38							
H11N1	**WAKE ISLAND Hy**	**29.70**	**39**	T	T	T	05 50 54.1	
	baz=222,slow=76,SNR=65							
H11N3	**WAKE ISLAND Hy**	**29.71**	**40**	T	T	T	05 50 54.5	
	baz=222,slow=76,SNR=84							
H11N2	**WAKE ISLAND Hy**	**29.71**	**39**	T	T	T	05 50 54.2	
	baz=222,slow=76,SNR=80							
JOW	**Kunigami**	**34.99**	**329**	LR	LR	LR	05 32 02.3	
	comp=Z,209nm,21.1s,baz=306,slow=31							
JHJ	**Hachijo jima 2**	**36.71**	**349**	LR	LR	LR	05 35 08.6	
	comp=Z,36nm,20.1s,baz=136,slow=35							
KSRS	**Korea Array**	**44.19**	**338**	P	**P**	**P**	**05 21 59.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=150,slow=9.7,SNR=6.6							
KSRS				LR	LR	LR	05 38 40.6	
	comp=Z,78nm,19.1s,baz=177,slow=34							
USRK	**Ussuriysk Ar.**	**49.05**	**345**	P	**P**	**P**	**05 22 37.8**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=140,slow=7.5,SNR=4.5							
CMAR	**Chiang Mai Arr**	**52.24**	**296**	P	**P**	**P**	**05 23 02.5**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=148,slow=5.3,SNR=1.4							
CMAR				LR	LR	LR	05 42 49.0	
	comp=Z,20nm,21.8s,baz=190,slow=33							
KLR	**Kul'dur**	**53.83**	**347**	LR	LR	LR	05 43 37.8	
	comp=Z,29nm,21.3s,baz=158,slow=33							
PETK	**Petropavlovsk-**	**56.66**	**7**	P	**P**	**P**	**05 23 33.0**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=164,slow=6.9,SNR=5.9							
SONM	**Songino Array**	**62.06**	**330**	P	**P**	**P**	**05 24 11.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=132,slow=5.9,SNR=1.8							
SONM				LR	LR	LR	05 49 31.0	
	comp=Z,62nm,20.8s,baz=135,slow=34							
VNDA	**Vanda**	**74.78**	**177**	P	**P**	**P**	**05 25 29.9**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=331,slow=5.3,SNR=11							
VNDA	**Vanda**	**74.78**	**177**	P	**P**	**P**	**05 25 30.5**	**+0.3**
VNDA				IAmb	IAmb	IAmb	05 25 37.9	
	comp=Z,6.1nm,1.5s							
MKAR	**Makanchi Array**	**75.50**	**320**	P	**P**	**P**	**05 25 34.9**	**0.0**
	comp=Z,0.4nm,0.8s,baz=111,slow=7.9,SNR=3.9							
CNPM	**China Poot**	**78.61**	**27**	P	**P**	**P**	**05 25 53.0**	**+0.9**
ILAR	**Eielson Array**	**82.68**	**23**	P	**P**	**P**	**05 26 12.6**	**-1.2**
	comp=Z,2.0nm,1.1s,baz=259,slow=4.9,SNR=8.2							
NVAR	**Mina Array Bea**	**95.31**	**52**	P	**P**	**P**	**05 27 15.7**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=269,slow=8.7,SNR=4.0							
SIV	**San Ignacio**	**146.10**	**125**	PKPbc	**PKPdf**	**PKPdf**	**05 33 30.4**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=193,slow=3.5,SNR=13							

*DDA **17** 05:15:16.9, 40.°70N×36.°50E, h7km±2km, ML2.0*
*ISK **17** 05:15:17.1, 40.°67N×36.°49E, h4km, ML2.8/13*
ISC 17 05:15:17.1±1.1, 40.°70N±0.°03×36.°53E±0.°03, h17km±10km, n23, σ0§76/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TOKA	**Tokat**	**0.37**	**186**	*i* P		**Pb**	**05 15 25.2**	**-0.1**
TOKA				IAML			05 15 30.0	
	comp=N,179nm,0.5s							
TOKA				*i* S		**Sb**	**05 15 30.4**	**-0.4**
TOKA				IAML			05 15 32.0	
	comp=E,145nm,0.2s							
TOKT	**Tokat**	**0.38**	**178**	PG		**Pb**	**05 15 25.2**	**-0.1**
TOKT				SG		**Sb**	**05 15 30.6**	**-0.2**
KUPE	**Kupecik-Ladik(**	**0.41**	**297**	PG		**Pb**	**05 15 25.6**	**-0.2**
KUPE				SG		**Sb**	**05 15 31.7**	**-0.1**
HKOY	**Hamitkoy-Ladik**	**0.45**	**296**	PG		**Pb**	**05 15 26.5**	**-0.2**
HKOY				SG		**Sb**	**05 15 33.3**	**+0.1**
KIZO	**Buyukkizoglu-L**	**0.49**	**295**	PG		**Pb**	**05 15 27.0**	**-0.4**
KIZO				SG		**Sb**	**05 15 34.4**	**+0.1**
AMSY	**Amasya-Merkez**	**0.53**	**264**	*i* P		**Pg**	**05 15 26.8**	**-0.9**
AMSY				*i* S		**Sg**	**05 15 35.0**	**+0.2**
KVT	**Kavak**	**0.53**	**317**	PG		**Pb**	**05 15 28.3**	**+0.4**
GULF	**Gulfidan-Ladik**	**0.54**	**294**	PG		**Pb**	**05 15 27.8**	**-0.3**
YARM	**Yarimca-Ladik(**	**0.58**	**293**	PG		**Pb**	**05 15 28.8**	**0.0**
KAYA	**Kayacik-Havza(**	**0.64**	**293**	PG		**Pb**	**05 15 29.8**	**-0.1**
SVSK	**Karacayir**	**0.86**	**155**	PG		**Pn**	**05 15 33.8**	**-0.5**
CKRK	**Yozgat, Cekere**	**1.00**	**232**	*i* P		**Pb**	**05 15 36.0**	**0.0**
CKRK				*i* S		**Sb**	**05 15 49.3**	**+0.5**
CKRK				IAML			05 15 52.0	
	comp=E,35nm,0.3s							
CKRK				IAML			05 15 53.0	
	comp=N,60nm,0.5s							
ORDU	**Ordu-Boztepe**	**1.05**	**73**	*i* P		**Pg**	**05 15 37.8**	**+0.3**
ORDU				*i* S		**Sn**	**05 15 52.0**	**+0.7**
ORDU				IAML			05 15 53.0	
	comp=E,69nm,0.2s							
ORDU				IAML			05 15 55.0	
	comp=N,54nm,0.4s							
HACI	**Hacifakili, Ak**	**1.16**	**212**	*i* P		**Pg**	**05 15 39.7**	**+0.1**
HACI				*i* S		**Sg**	**05 15 54.5**	**-0.3**
HACI				IAML			05 15 55.0	
	comp=N,43nm,0.4s							
HACI				IAML			05 15 55.0	
	comp=E,31nm,0.4s							
CUSAR	**Sarkisla-SIVAS**	**1.29**	**190**	*i* P		**Pg**	**05 15 41.5**	**-0.6**
CUSAR				*i* S		**Sg**	**05 15 59.5**	**+0.5**
CUSAR				IAML			05 16 00.0	
	comp=E,59nm,0.5s							
CUSAR				IAML			05 16 00.0	
	comp=N,67nm,0.4s							
DIKM	**Dikmen**	**1.35**	**315**	PN		**Pg**	**05 15 43.9**	**+0.8**
SUSE	**Susehri**	**1.37**	**110**	*i* P		**Pb**	**05 15 42.0**	**-0.3**
SUSE				*i* S		**Sg**	**05 16 00.9**	**-0.5**
SUSE				IAML			05 16 03.0	
	comp=E,40nm,0.7s							
SUSE				IAML			05 16 04.0	
	comp=N,32nm,0.3s							
YOZ	**Yozgat**	**1.40**	**222**	PN		**Pg**	**05 15 43.7**	**-0.4**
CUAYA	**Sivas-Altinyay**	**1.44**	**173**	*i* P		**Pg**	**05 15 44.7**	**-0.1**
CUAYA				*i* S		**Sg**	**05 16 06.7**	**+3.2**
CUAYA				IAML			05 16 07.0	
	comp=E,20nm,0.7s							
CUAYA				IAML			05 16 08.0	
	comp=N,12nm,0.3s							
CORM	**Corum**	**1.54**	**251**	PN		**Pb**	**05 15 44.9**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.56**	**152**	*i* P		**Pg**	**05 15 46.1**	**-1.0**
CUKAN				*i* S		**Sg**	**05 16 08.8**	**+1.5**
CUKAN				IAML			05 16 09.0	
	comp=E,29nm,0.5s							
CUKAN				IAML			05 16 15.0	
	comp=N,14nm,0.8s							
SNOP	**Sinop**	**1.65**	**324**	PN		**Pg**	**05 15 48.1**	**-0.8**
ESPY	**Espiye-Giresun**	**1.69**	**82**	PN		**Pg**	**05 15 48.7**	**-0.8**

*SJA **17** 05:20:43.6±0.5, 29.°32S×72.°36W, h12km, ML4.1, MW3.9*
*IDC **17** 05:20:47.0±1.2, 29.°22S×71.°89W, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.7/28, mbtmp3.7/7, ML3.6/4, MS2.9/3, Ms1 2.9/3, ms1mx2.7/22, Error ellipse: s-maj=37.8km s-min=24.2km az=120.0*
*NEIC **17** 05:20:47.4±2.2, 29.°40S±0.°04×72.°0W±0.°1, h10km±1km, ML4.2(GUC), Error ellipse: s-maj=20.8km s-min=7.6km az=270.0*
*GUC **17** 05:20:50.5±0.5, 29.°51S×71.°73W, h38km±2km, ML4.2*
ISC 17 05:20:44.6±1.6, 29.°42S±0.°04×72.°19W±0.°04, h3km±11km, n91, σ2§25/106, mb3.9/3, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
CO05	**La Serena**	**0.97**	**121**	‖*iP*		**Pg**	**05 21 03.0**	**-0.2**
CO05				*i* S		**Sg**	**05 21 12.4**	**-3.4**
LCO	**Las Campanas**	**1.36**	**73**	Pn		**Pn**	**05 21 09.5**	**-1.3**
GO04	**Tololo Observa**	**1.43**	**122**	‖*iP*		**Pn**	**05 21 10.6**	**-1.1**
GO04				*i* S		**Sn**	**05 21 26.0**	**-5.1**
GO04	**Tololo Observa**	**1.43**	**122**	Pn		**Pn**	**05 21 10.8**	**-0.9**
GO04	**Tololo Observa**	**1.43**	**122**	*eP*		**Pn**	**05 21 10.8**	**-0.9**
AC04	**Llanos de Chal**	**1.56**	**39**	‖*iP*		**Pb**	**05 21 13.5**	**-0.5**
AC04	**Llanos de Chal**	**1.56**	**39**			**Pb**	**05 21 13.6**	**-0.5**
CO03	**El Pedregal**	**1.93**	**138**	*eP*		**Pn**	**05 21 19.1**	**+0.6**
CO03				*i* S		**Sn**	**05 21 40.8**	**-2.4**
CO03				IAML			05 21 46.8	
	comp=E,3μm,0.3s							
CO03	**El Pedregal**	**1.93**	**138**			**Pn**	**05 21 18.6**	**+0.2**
CO02	**Combarbal**	**2.06**	**150**	*eP*		**Pn**	**05 21 21.7**	**+1.4**
CO02				*i* S		**Sn**	**05 21 45.5**	**-1.0**
CO02				IAML			05 21 52.1	
	comp=E,7μm,0.3s							
CO02	**Combarbal**	**2.06**	**150**			**Pn**	**05 21 21.5**	**+1.2**
AROD	**Rodeo**	**2.48**	**108**	*eP*		**Pn**	**05 21 28.3**	**+2.1**
AROD				*eS*		**Sn**	**05 21 58.9**	**+1.7**
GO03	**Copiap**	**2.50**	**44**	‖*iP*		**Pn**	**05 21 27.1**	**+0.7**
GO03				*i* S		**Sb**	**05 21 58.8**	**-2.8**
GO03				IAML			05 22 08.9	
	comp=N,1μm,0.2s							
GO03	**Copiap**	**2.50**	**44**			**Pn**	**05 21 27.0**	**+0.7**
GO03	**Copiap**	**2.50**	**44**	*eP*		**Pn**	**05 21 27.2**	**+0.9**
GO03				*eS*		**Sg**	**05 22 09.9**	**+3.8**
ACDV	**Cuesta del Vie**	**2.77**	**106**	*eP*		**Pn**	**05 21 32.6**	**+2.4**
ACDV				*eS*		**Sb**	**05 22 09.9**	**+0.4**
ACDV				IAML			05 22 12.6	
	comp=Z,502nm,0.4s							
ACCO	**Cerro Coronel**	**2.95**	**114**	*eP*		**Pn**	**05 21 36.2**	**+3.4**
ACCO				*eS*		**Sb**	**05 22 13.4**	**-1.4**
ACCO				IAML			05 22 19.4	
	comp=Z,521nm,0.6s							
AGUA	**GUANDACOL**	**3.23**	**92**	*eP*		**Pn**	**05 21 40.0**	**+3.6**
AGUA				IAML			05 22 35.9	
	comp=Z,173nm,0.3s							
RTLS	**Leoncito**	**3.45**	**134**	*eP*		**Pn**	**05 21 43.6**	**+4.1**
RTLS				IAML			05 22 42.6	
	comp=Z,113nm,1.1s							
AC01	**Pan de Azucar**	**3.55**	**24**	‖*iP*		**Pn**	**05 21 40.7**	**0.0**
AC01	**Pan de Azucar**	**3.55**	**24**	Pn		**Pn**	**05 21 41.0**	**+0.3**
VA03	**San Esteban**	**3.62**	**158**	*eP*		**Pn**	**05 21 44.1**	**+2.4**
VA03				*i* S		**Sn**	**05 22 25.4**	**+0.3**
VA03	**San Esteban**	**3.62**	**158**			**Pn**	**05 21 44.3**	**+2.6**
VA01	**Torpederas**	**3.63**	**173**	Pn		**Pn**	**05 21 43.0**	**+1.3**
ROCH	**El Roble**	**3.69**	**164**	*eP*		**Pn**	**05 21 44.8**	**+2.0**
ROCH				IAML			05 22 46.1	
	comp=E,683nm,0.5s							
AC02	**Maricunga**	**3.73**	**47**			**Pn**	**05 21 45.2**	**+1.6**
RTLL	**Cerro Villicun**	**3.74**	**122**	*eP*		**Pn**	**05 21 46.9**	**+3.6**
RTLL				IAML			05 22 49.5	
	comp=Z,267nm,0.8s							
MT02	**Curacav**	**3.94**	**167**	*eP*		**Pn**	**05 21 48.3**	**+2.3**
MT02	**Curacav**	**3.94**	**167**			**Pn**	**05 21 48.2**	**+2.3**
RTCV	**Cerro Valdivia**	**3.98**	**129**	*eP*		**Pn**	**05 21 50.2**	**+3.5**
RTCV				IAML			05 22 57.1	
	comp=Z,68nm,1.0s							
MT05	**Renca**	**4.15**	**163**	*eP*		**Pn**	**05 21 51.4**	**+2.3**
MT05	**Renca**	**4.15**	**163**	Pn		**Pn**	**05 21 51.1**	**+2.1**
VA05	**Santo Domingo**	**4.26**	**173**	*eP*		**Pn**	**05 21 51.3**	**+1.0**
VA05	**Santo Domingo**	**4.26**	**173**			**Pn**	**05 21 51.6**	**+1.2**
ASAL	**Salagasta**	**4.28**	**139**	*eP*		**Pn**	**05 21 55.5**	**+4.7**
ASAL				IAML			05 23 09.0	
	comp=Z,249nm,0.7s							
AVFE	**Valle Fertil**	**4.29**	**108**	*eP*		**Pn**	**05 21 53.2**	**+2.3**
AVFE				IAML			05 23 08.8	
	comp=Z,94nm,0.7s							
MT03	**Universidad Ad**	**4.31**	**161**	*eP*		**Pn**	**05 21 53.6**	**+2.4**
MT03	**Universidad Ad**	**4.31**	**161**			**Pn**	**05 21 53.7**	**+2.4**
MT03	**Universidad Ad**	**4.31**	**161**	*eP*		**Pn**	**05 21 54.1**	**+2.9**
MT03				IAML			05 23 12.1	
	comp=Z,274nm,0.5s							
ARCO	**CERRO ARCO**	**4.41**	**142**	*eP*		Pn	05 21 58.4	+5.7
ARCO				IAML			05 23 10.0	
	comp=Z,186nm,0.5s							
MT09	**Talagante**	**4.47**	**167**	*eP*		**Pn**	**05 21 55.5**	**+2.1**
MT09	**Talagante**	**4.47**	**167**			**Pn**	**05 21 55.4**	**+2.0**
MT01	**Popeta**	**4.51**	**170**	*eP*		**Pn**	**05 21 55.2**	**+1.4**
MT01	**Popeta**	**4.51**	**170**			**Pn**	**05 21 54.8**	**+1.0**
AANI	**Anillaco**	**4.64**	**84**	*eP*		**Pn**	**05 21 55.8**	**0.0**
AAGR	**Agrelo**	**4.66**	**143**	*eP*		**Pn**	**05 22 01.6**	**+5.6**
AAGR				IAML			05 23 22.5	
	comp=Z,187nm,1.3s							
LMEL	**Las Melosas**	**4.73**	**160**	*eP*		**Pn**	**05 22 00.1**	**+3.0**
GO02	**Mina Guanaco**	**4.83**	**29**			**Pn**	**05 21 59.3**	**+0.8**
BO01	**Tunca**	**5.05**	**170**			**Pn**	**05 22 02.9**	**+1.6**
ACHE	**Chepes**	**5.09**	**111**	*eP*		**Pn**	**05 22 04.0**	**+2.0**
ACAN	**Cantantal**	**5.16**	**125**	*eP*		**Pn**	**05 22 05.4**	**+2.5**
ACAN				IAML			05 23 42.7	
	comp=Z,26nm,0.3s							
BO02	**Sierra Bellavi**	**5.49**	**168**			**Pn**	**05 22 09.1**	**+1.6**
BO02	**Sierra Bellavi**	**5.49**	**168**	*eP*		**Pn**	**05 22 09.8**	**+2.4**
BO02				IAML			05 23 47.2	
	comp=Z,107nm,1.4s							
GO05	**Huala**	**5.58**	**178**			**Pn**	**05 22 09.7**	**+1.1**
CYA	**Choya**	**5.69**	**82**	*eP*		**Pn**	**05 22 12.0**	**+1.9**
CYA				IAML			05 23 26.0	
	comp=Z,43nm,0.6s							
CYA				*eS*		**Sb**	**05 23 26.1**	**-7.0**
PB10	**IPOC Station P**	**6.06**	**14**	Pn		**Pn**	**05 22 17.2**	**+2.0**
RFA	**San Rafael**	**6.21**	**150**	*eP*		**Pn**	**05 22 19.4**	**+2.2**
RFA				IAML			05 24 10.4	
	comp=Z,57nm,0.6s							
MRA	**San Martin**	**6.32**	**120**	*eP*		**Pn**	**05 22 20.2**	**+1.4**
MRA				IAML			05 24 10.9	
	comp=Z,22nm,1.0s							
FSA	**Cafayete**	**6.41**	**61**	*eP*		Pn	05 22 25.4	+5.1
PB15	**IPOC Station P**	**6.65**	**22**			**Pn**	**05 22 24.1**	**+0.6**
PB15	**IPOC Station P**	**6.65**	**22**	*eP*		**Pn**	**05 22 24.3**	**+0.8**
PB15				IAML			05 24 23.6	
	comp=Z,118nm,0.6s							
PB05	**IPOC Station P**	**6.78**	**16**	*eP*		**Pn**	**05 22 25.7**	**+0.6**
PB05				IAML			05 24 30.8	
	comp=Z,45nm,1.0s							
H03N1	**Juan Fernandez**	**7.00**	**233**	Pn		**Pn**	**05 22 30.5**	**+2.6**
	baz=115,slow=18,SNR=28							
H03N1					Sn	**Sn**	**05 23 45.8**	**-2.1**
	baz=77							
H03N1					T	T	05 30 14.2	
	baz=64,slow=71,SNR=2355							
H03N2	**Juan Fernandez**	**7.02**	**233**	Pn		**Pn**	**05 22 30.5**	**+2.4**
	baz=115,slow=18,SNR=22							
H03N2					Sn	**Sn**	**05 23 46.7**	**-1.5**
	baz=77							
H03N2					T	T	05 30 15.3	
	baz=64,slow=71,SNR=2183							
H03N3	**Juan Fernandez**	**7.02**	**233**	Pn		**Pn**	**05 22 30.1**	**+1.9**
	baz=115,slow=18,SNR=28							
H03N3					Sn	**Sn**	**05 23 44.9**	**-3.5**
	baz=77							
H03N3					T	T	05 30 14.5	
	baz=64,slow=71,SNR=1844							
PB06	**IPOC Station P**	**7.08**	**20**	Pn		**Pn**	**05 22 28.9**	**-0.5**
PB06	**IPOC Station P**	**7.08**	**20**	*eP*		**Pn**	**05 22 29.9**	**+0.5**
PB06				IAML			05 24 36.5	
	comp=Z,82nm,0.8s							
H03S3	**Juan Fernandez**	**7.22**	**231**	Pn		**Pn**	**05 22 32.3**	**+1.5**
	baz=78,slow=76,SNR=7.6							
H03S3					Sn	**Sn**	**05 23 47.9**	**-5.4**
	baz=78							
H03S1	**Juan Fernandez**	**7.23**	**231**	Pn		**Pn**	**05 22 32.5**	**+1.5**
	baz=78,slow=76,SNR=6.3							
H03S1					Sn	**Sn**	**05 23 49.8**	**-3.6**
	baz=78							
H03S2	**Juan Fernandez**	**7.24**	**231**	Pn	

1.4nm,0.8s,baz=42,slow=6.9,SNR=6.0
FITZ Fitzroy Crossi 26.23 235 P P 05 44 05.2 +0.6
3.0nm,1.0s,baz=56,slow=8.8,SNR=3.7
H11S3 WAKE ISLAND Hy 28.65 39 T T 06 14 14.3
baz=223,slow=76,SNR=29
H11S2 WAKE ISLAND Hy 28.66 39 T T 06 14 16.4
baz=223,slow=76,SNR=40
H11S1 WAKE ISLAND Hy 28.67 39 T T 06 14 17.4
baz=223,slow=76,SNR=32
H11N1 WAKE ISLAND Hy 29.69 38 T T 06 15 30.4
baz=222,slow=76,SNR=8.4
H11N3 WAKE ISLAND Hy 29.70 38 T T 06 15 33.8
baz=222,slow=76,SNR=15
H11N2 WAKE ISLAND Hy 29.70 38 T T 06 15 33.1
baz=222,slow=76,SNR=8.5
ILAR Eielson Array 82.91 23 P P 05 50 53.9 -0.1
1.2nm,1.1s,baz=261,slow=5.5,SNR=6.0
TORD Torodi Ar. Bea 145.45 288 PKPbc PKPbc 05 58 08.1 -0.7
1.0nm,1.0s,baz=88,slow=4.8,SNR=3.3

*IDC **17** 05:41:43.5±0.7,3.°02S×147.°46E, h0km, mb4.2/14, mb1 4.4/16,mb1mx4.3/29, mbtmp4.2/16,ML2.7/2,MS3.9/8, Ms1 3.9/8,ms1mx3.8/12, Error ellipse: s-maj=29.9km s-min=14.7km az=101.0*
*NEIC **17** 05:41:46.5±1.7,3.°00S±0.°06×147.°3E±0.°1,h10km±1km, mb4.6/19, Error ellipse: s-maj=19.9km s-min=9.4km az=96.0*
*DJA **17** 05:41:48.9±0.9,3.°S±7.°×14.°7E±1.°0,h34km±15km,M4.1/9, mB4.8/1,mb4.4/9,MLv4.0/1,Mw(mB)4.1/1*
*GCMT **17** 05:41:49.5±0.3,2.°92S±0.°02×147.°46E±0.°03,h29km±1km, MW4.9/85,Moment Tensor Solution. s14,c14; s85,c106; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.05±.20; Mθθ-0.26±.14; Mϕϕ0.21±.15; Mrθ-0.34±.21; Mθϕ2.83±.11; Mϕr0.11±.19; Best double couple: Mo2.86200×10^16^ NP1:ϕs178.00000°,δ83.00000°,λ-178.00000°. NP2: ϕs87.00000°, δ88.00000°,λ-7.00000°. Principal axes: T 2.8250, Plg3.0000°, Azm133.0000°; N 0.0750, Plg83.0000°, Azm249.0000°; P -2.9000, Plg6.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 05:41:48.7±0.5,2.°98S±0.°06×147.°26E±0.°10,h32km,n53, σ1ş43/43,mb4.4/21,MS3.9/6,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.93**	**7**		**Pn**	**05 42 02.3**	**-3.4**
RABL	**Rabaul**	**5.04**	**104**	Pn	**Pn**	**05 43 00.6**	**-1.6**
PMG	**Port Moresby**	**6.39**	**181**	Pn	**Pn**	**05 43 19.1**	**-1.6**
	2.0nm,0.3s,baz=206,slow=17,SNR=1.8						
PMG				LR	LR	05 45 53.9	
	comp=Z,942nm,18.4s,baz=6.0,slow=39						
HNR	**Honiara**	**14.15**	**118**	LR	LR	05 50 27.6	
	comp=Z,502nm,18.8s,baz=295,slow=38						
CTA	**Charters Tower**	**17.04**	**183**	P	**Pn**	**05 45 44.0**	**-0.7**
	0.1nm,0.3s,baz=349,slow=10,SNR=1.7						
CTAO	**Charters Tower**	**17.04**	**183**	P	**P**	**05 45 46.4**	**+0.2**
MTN	**Manton Dam**	**18.73**	**238**		**P**	**05 46 05.0**	**+0.1**
MTN				IAmb	IAmb	05 46 06.0	
	comp=Z,50nm,1.1s						
WB0	**Warramunga Arr**	**20.89**	**216**	P	**P**	**05 46 27.0**	**-1.5**
WB0				IAmb	IAmb	05 46 33.8	
	comp=Z,37nm,1.2s						
WR0	**Warramunga Arr**	**20.95**	**215**	P	**P**	**05 46 29.1**	**-0.2**
WR0				IAmb	IAmb	05 46 29.9	
	comp=Z,31nm,1.1s						
WRAB	**Tennant Creek**	**21.05**	**216**	P	**P**	**05 46 30.3**	**+0.1**
WB2	**Warramunga Arr**	**21.05**	**216**	P	**P**	**05 46 30.7**	**+0.4**
WRA	**Warramunga Arr**	**21.06**	**216**	P	**P**	**05 46 30.2**	**-0.2**
	comp=Z,24nm,1.1s,baz=42,slow=11,SNR=33						
WRA				PcP	**PcP**	**05 50 36.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=34,slow=2.8,SNR=3.3						
WRA				LR	LR	05 55 25.6	
	comp=Z,450nm,18.6s,baz=35,slow=39						
WRA	**Warramunga Arr**	**21.06**	**216**	P	**P**	**05 46 29.8**	**-0.6**
KNRA	**Kununurra**	**22.16**	**234**	P	**P**	**05 46 40.5**	**-1.6**
AS31	**Alice Springs**	**24.29**	**211**	P	**P**	**05 47 02.9**	**-0.6**
ASAR	**Alice Springs**	**24.29**	**211**	P	**P**	**05 47 03.4**	**-0.1**
	comp=Z,13nm,1.1s,baz=42,slow=8.3,SNR=19						
ASAR				PcP	**PcP**	**05 50 42.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=33,slow=3.5,SNR=2.3						
ASAR				LR	LR	05 57 16.3	
	comp=Z,324nm,18.1s,baz=38,slow=38						
ASAR	**Alice Springs**	**24.29**	**211**	P	**P**	**05 47 02.6**	**-0.9**
GTOI	**Gorontalo**	**24.50**	**278**	P	**P**	**05 47 04.1**	**-1.4**
	comp=Z,10nm,0.9s						
FITZ	**Fitzroy Crossi**	**25.98**	**233**	P	**P**	**05 47 19.6**	**+0.8**
	comp=Z,6.9nm,1.0s,baz=42,slow=6.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**25.98**	**233**	P	**P**	**05 47 19.8**	**+1.0**
FITZ				IAmb	IAmb	05 47 46.0	
	comp=Z,18nm,1.3s						
DZM	**Mont Dzumac**	**26.60**	**137**	LR	LR	05 56 16.4	
	comp=Z,554nm,21.2s,baz=339,slow=33						
H11S3	**WAKE ISLAND Hy 28.66**	**41**		T	T	06 17 33.1	
	baz=223,slow=76,SNR=104						
H11S2	**WAKE ISLAND Hy 28.67**	**41**		T	T	06 17 33.7	
	baz=223,slow=76,SNR=224						
H11S1	**WAKE ISLAND Hy 28.68**	**41**		T	T	06 17 34.4	
	baz=223,slow=76,SNR=110						
STKA	**Stephens Creek**	**29.24**	**190**	LR	LR	05 59 35.5	
	comp=Z,242nm,19.6s,baz=8.7,slow=37						
H11N1	**WAKE ISLAND Hy 29.67**	**40**		T	T	06 18 52.1	
	baz=222,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy 29.69**	**40**		T	T	06 18 49.9	
	baz=222,slow=76,SNR=49						
H11N2	**WAKE ISLAND Hy 29.69**	**40**		T	T	06 18 53.2	
	baz=222,slow=76,SNR=45						
KSRS	**Korea Array**	**44.05**	**338**	P	**P**	**05 49 54.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=158,slow=9.7,SNR=8.8						
KSRS	**Korea Array**	**44.05**	**338**	P	**P**	**05 49 54.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**48.92**	**345**	P	**P**	**05 50 32.5**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=150,slow=9.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**52.11**	**296**	P	**P**	**05 50 58.0**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=92,slow=6.3,SNR=1.7						
PETK	**Petropavlovsk-**	**56.57**	**8**	P	**P**	**05 51 28.5**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=180,slow=7.1,SNR=4.9						
SONM	**Songino Array**	**61.92**	**330**	P	**P**	**05 52 05.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=130,slow=4.3,SNR=2.2						
VNDA	**Vanda**	**74.90**	**177**	P	**P**	**05 53 25.1**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=349,slow=6.4,SNR=7.5						
VNDA	**Vanda**	**74.90**	**177**	IAmb	IAmb	05 53 29.1	
	comp=Z,5.2nm,1.3s						
MKAR	**Makanchi Array**	**75.35**	**320**	P	**P**	**05 53 29.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=72,slow=7.9,SNR=5.6						
KDAK	**Kodiak Island**	**77.13**	**28**	P	**P**	**05 53 42.4**	**+3.4**
KDAK				IAmb	IAmb	05 53 45.3	
	comp=Z,5.4nm,1.2s						
CNPM	**China Poot**	**78.55**	**27**	P	**P**	**05 53 48.7**	**+1.8**
MLY	**Manley**	**81.24**	**22**	P	**P**	**05 54 03.8**	**+2.4**
RND	**Reindeer**	**81.27**	**24**	P	**P**	**05 54 02.8**	**+1.2**
RND				IAmb	IAmb	05 54 06.3	
	comp=Z,5.5nm,0.8s						
WRH	**Wood River Hil**	**82.02**	**23**	P	**P**	**05 54 06.8**	**+1.3**
WRH				IAmb	IAmb	05 54 10.0	
	comp=Z,7.9nm,1.2s						
CCB	**Clear Creek Bu**	**82.21**	**23**	P	**P**	**05 54 08.9**	**+2.5**
CCB				IAmb	IAmb	05 54 11.3	
	comp=Z,3.9nm,1.1s						
NRIK	**Noril'sk**	**82.50**	**342**	P	**P**	**05 54 07.4**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=146,slow=2.7,SNR=3.6						
IL31		**82.62**	**23**	P	**P**	**05 54 09.1**	**+0.6**
IL31				IAmb	IAmb	05 54 12.5	
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**82.62**	**23**	P	**P**	**05 54 08.0**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=259,slow=5.0,SNR=15						
ILAR				LR	LR	06 28 12.5	
	comp=Z,26nm,20.0s,baz=265,slow=34						
ILAR	**Eielson Array**	**82.62**	**23**	P	**P**	**05 54 09.6**	**+1.0**
DOT	**Dot Lake**	**83.34**	**25**	P	**P**	**05 54 15.4**	**+3.0**
DOT				IAmb	IAmb	05 54 42.5	
	comp=Z,4.5nm,1.1s						
BMAR	**Burnt Mountain**	**84.50**	**21**	P	**P**	**05 54 20.9**	**+2.6**
MAW	**Mawson**	**85.12**	**203**	LR	LR	06 31 38.8	
	comp=Z,42nm,18.3s,baz=58,slow=35						
NVAR	**Mina Array Bea**	**95.31**	**52**	P	**P**	**05 55 10.6**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=258,slow=2.7,SNR=5.8						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**05 55 13.5**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=271,slow=3.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**144.49**	**288**	PKP	PKPbc	06 01 21.6	0.0
	comp=Z,0.5nm,0.8s,baz=68,slow=3.0,SNR=2.2						

*DDA **17** 05:46:25.2,34.°74N×26.°93E,h4km±5km,ML2.8*
*ISK **17** 05:46:27.2,35.°05N×26.°58E,h5km,ML2.7/12*
*THE **17** 05:46:28.6,35.°09N×26.°67E,h0km±3km,ML2.9/4, Error ellipse: s-maj=7.2km s-min=1.3km az=96.0*
*ATH **17** 05:46:31.5,35.°13N×26.°56E,h10km±3km,ML2.9/5, Error ellipse: s-maj=6.1km s-min=1.8km az=163.0*

ISC 17 05:46:28.3±1.4,35.°04N±0.°07×26.°69E±0.°03,h10km±10km, n33,σ1ş33/52,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.40**	**281**	P	**Pb**	**05 46 37.0**	**-0.4**
ZKR				S	**Sb**	**05 46 43.2**	**-0.4**
	5μm,0.1s						
ZKR	**Zakros**	**0.40**	**281**	P	**Pb**	**05 46 37.0**	**-0.4**
ZKR				S	**Sg**	**05 46 42.1**	**+0.8**
ZKR				AML	AML	05 46 43.9	
	comp=N,8001μm,0.1s						
ZKR				AML	AML	05 46 44.1	
	comp=E,11582μm,0.2s						
STIA	**Sitia Lasithi**	**0.52**	**288**	P	**Pg**	**05 46 38.2**	**-0.1**
STIA				S	**Sb**	**05 46 46.3**	**-0.8**
FRMA	**Ierapetra Chan**	**0.79**	**268**	P	**Pg**	**05 46 41.7**	**-1.7**
FRMA				S	**Sg**	**05 46 52.5**	**-1.2**
	comp=E,338nm,0.6s						
NPS	**Neapolis**	**0.91**	**284**	P	**Pb**	**05 46 46.8**	**+0.6**
NPS				S	**Sb**	**05 46 59.3**	**+0.9**
	comp=E,2μm,0.5s						
NPS	**Neapolis**	**0.91**	**284**	P	**Pb**	**05 46 46.8**	**+0.6**
NPS				S	**Sg**	**05 46 57.5**	**-0.2**
NPS				AML	AML	05 47 02.0	
	comp=N,3260μm,0.5s						
NPS				AML	AML	05 47 02.2	
	comp=E,4307μm,0.5s						
LAST	**Lasithi**	**1.00**	**277**	P	**Pg**	**05 46 47.5**	**-0.1**
LAST				S	**Sn**	**05 47 02.8**	**0.0**
	comp=E,538nm,0.5s						
LAST	**Lasithi**	**1.00**	**277**	P	**Pg**	**05 46 47.5**	**-0.1**
LAST				S	**Sg**	**05 47 00.1**	**-0.5**
LAST				AML	AML	05 47 08.9	
	comp=E,1084μm,0.5s						
LAST				AML	AML	05 47 11.2	
	comp=N,1091μm,0.6s						
IDI	**Anoyia**	**1.50**	**280**	P	**Pg**	**05 46 57.2**	**+0.2**
IDI				S	**Sb**	**05 47 15.3**	**0.0**
IDI				AML	AML	05 47 22.2	
	comp=N,272μm,0.5s						
IDI				AML	AML	05 47 26.9	
	comp=E,317μm,0.5s						
SIVA	**Sivas**	**1.54**	**270**	P	**Pb**	**05 46 57.6**	**+0.6**
SIVA				S	**Sn**	**05 47 16.1**	**+0.1**
NIS1	**Nisyros Isl.**	**1.61**	**14**	PN	**Pb**	**05 46 58.1**	**0.0**
NIS1				SN	**Sg**	**05 47 20.6**	**+0.6**
ARG	**Arkhangelos**	**1.66**	**45**	P	**Pg**	**05 47 01.0**	**+0.9**
ARG				S	**Sg**	**05 47 24.6**	**+3.1**
ARG				AML	AML	05 47 28.4	
	comp=E,461μm,0.6s						
ARG				AML	AML	05 47 30.4	
	comp=N,485μm,0.9s						
ARG	**Arkhangelos**	**1.66**	**45**	PN	**Pb**	**05 46 59.4**	**+0.5**
ARG				SN	**Sg**	**05 47 22.8**	**+1.3**
SANT	**Santorini**	**1.66**	**323**	P	**Pb**	**05 46 58.9**	**-0.2**
SANT	**Santorini**	**1.66**	**323**	PN	**Pn**	**05 46 58.2**	**+0.6**
SANT				SN	**Sg**	**05 47 20.0**	**-1.8**
KOSK	**Kos Island**	**1.72**	**8**	PN	**Pb**	**05 46 59.6**	**-0.4**
DAT	**Datca**	**1.83**	**23**	PN	**Pb**	**05 47 01.4**	**-0.6**
MRSB	**Marmaris-Mugla**	**2.07**	**36**	PN	**Pb**	**05 47 05.1**	**-0.9**
BODT	**Bodrum**	**2.08**	**14**	PN	**Pn**	**05 47 04.7**	**+1.4**
TURN	**Turunc**	**2.14**	**36**	*i* P	**Pb**	**05 47 06.8**	**-0.4**
TURN				*i* S	**Sg**	**05 47 35.7**	**-1.4**
TURN	**Turunc**	**2.14**	**36**	PN	**Pb**	**05 47 06.0**	**-1.2**
APE	**Apeiranthos**	**2.23**	**335**	PN	**Pn**	**05 47 05.9**	**+0.5**
DALY	**Dalyan (Mula)**	**2.38**	**41**	*i* P	**Pb**	**05 47 09.8**	**-1.6**
DALY				IAML		05 47 44.0	
	comp=N,46nm,0.7s						
DALY				*i* S	**Sg**	**05 47 44.0**	**-0.8**
DALY	**Dalyan (Mula)**	**2.38**	**41**	PN	**Pb**	**05 47 09.7**	**-1.6**
MLSB	**Milas**	**2.41**	**21**	PN	**Pn**	**05 47 09.8**	**+1.9**
YER	**Yerkesik**	**2.45**	**31**	PN	**Pn**	**05 47 10.6**	**+2.1**
AKAS	**Kas**	**2.65**	**63**	*i* P	**Pn**	**05 47 10.9**	**-0.4**
AKAS				*i* S	**Sn**	**05 47 41.0**	**-2.7**
AYDN	**Tasoluk**	**2.78**	**20**	*i* P	**Pn**	**05 47 15.7**	**+2.7**
CAME	**Cameli-Denizli**	**2.84**	**47**	PN	**Pn**	**05 47 15.9**	**+2.0**
TAVA	**DENIZLI_Tavas**	**3.01**	**36**	*i* P	**Pn**	**05 47 18.7**	**+2.5**
TAVA				*i* S	**Sb**	**05 47 57.5**	**-1.5**
GOLH	**Golhisar**	**3.19**	**46**	*i* P	**Pn**	**05 47 21.2**	**+2.5**
GOLH				*i* S	**Sb**	**05 48 02.3**	**-1.9**
GOLH				IAML		05 48 16.0	
	comp=N,24nm,0.7s						
URLA	**Izmir**	**3.31**	**359**	PN	**Pn**	**05 47 21.1**	**+0.8**
CHOS	**Chios island**	**3.38**	**351**	PN	**Pn**	**05 47 22.6**	**+1.4**

*ISK **17** 06:16:56.8,37.°85N×27.°26E,h5km,ML3.3/29*
*DDA **17** 06:16:57.6,37.°87N×27.°23E,h7km±1km,MW3.5*
*THE **17** 06:16:57.4,37.°88N×27.°27E,h2km±3km,ML3.3/3, Error ellipse: s-maj=3.5km s-min=1.0km az=61.0*
*ATH **17** 06:16:59.9,37.°81N×27.°10E,h20km±7km,ML3.6/2, Error ellipse: s-maj=7.9km s-min=1.7km az=248.0*

ISC 17 06:16:58.1±1.0,37.°85N±0.°02×27.°25E±0.°02,h6km±9km, n64,σ1ş03/88,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**zmir**	**0.35**	**304**	*i* P	**Pg**	**06 17 04.8**	**-0.1**
DGB				*i* S	**Sg**	**06 17 09.7**	**+0.2**
DGB				IAML		06 17 10.0	
	comp=N,1μm,0.3s						
SMG	**Samos**	**0.36**	**246**	P	**Pg**	**06 17 05.1**	**+0.1**
SMG				S	**Sg**	**06 17 10.5**	**+0.8**
	comp=N,7μm,0.2s						
SMG	**Samos**	**0.36**	**246**	P	**Pg**	**06 17 05.1**	**+0.1**
SMG				S	**Sg**	**06 17 10.4**	**+0.7**
DDIM	**Aydin, Didim**	**0.40**	**181**	*i* P	**Pg**	**06 17 05.9**	**+0.2**
DDIM				*i* S	**Sb**	**06 17 12.7**	**-1.1**
DDIM				IAML		06 17 13.0	
	comp=N,2μm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**0.52**	**79**	PG	**Pg**	**06 17 08.0**	**0.0**
AYDB				SG	**Sg**	**06 17 15.8**	**+1.0**
BLCB	**Balcova**	**0.56**	**343**	P	**Pg**	**06 17 06.3**	**-0.5**
BLCB				S	**Sg**	**06 17 15.6**	**-0.4**
MLSB	**Milas**	**0.70**	**143**	PG	**Pg**	**06 17 11.7**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.70**	**303**	*i* P	**Pg**	**06 17 11.2**	**-0.4**
ZEYE				*i* S	**Sg**	**06 17 20.8**	**0.0**
ZEYE				IAML		06 17 21.0	
	comp=N,3μm,0.4s						
BODT	**Bodrum**	**0.79**	**176**	P	**Pg**	**06 17 12.4**	**-0.9**
BODT				S	**Sb**	**06 17 24.8**	**-0.4**
BODT	**Bodrum**	**0.79**	**176**	PG	**Pg**	**06 17 12.7**	**-0.6**
BODT				SG	**Sb**	**06 17 24.9**	**-0.3**
BDRM	**Kayabasi**	**0.80**	**169**	*i* P	**Pg**	**06 17 13.0**	**-0.4**
CESE	**eme**	**0.89**	**303**	PG	**Pg**	**06 17 14.7**	**-0.4**
FOCM	**Foa**	**0.95**	**335**	PG	**Pg**	**06 17 15.8**	**-0.5**
GOMA	**Golmarmara-Man**	**1.00**	**31**	PG	**Pg**	**06 17 16.3**	**-1.0**
MULA	**Mugla, Merkez-**	**1.04**	**125**	*i* P	**Pn**	**06 17 19.2**	**-0.1**
MULA				*i* S	**Sb**	**06 17 32.9**	**+0.5**
MULA				IAML		06 17 35.0	
	comp=N,440nm,0.5s						
CHOS	**Chios island**	**1.08**	**300**	P	**Pg**	**06 17 18.6**	**-0.2**
CHOS				S	**Sg**	**06 17 33.5**	**+0.6**
	comp=N,3μm,0.3s						
CHOS	**Chios island**	**1.08**	**300**	P	**Pg**	**06 17 18.7**	**-0.2**
CHOS				S	**Sg**	**06 17 31.0**	**-1.9**
CHOS				AML	AML	06 17 34.3	
	comp=N,4388μm,0.4s						
CHOS				AML	AML	06 17 34.9	
	comp=E,7562μm,0.3s						
CHOS	**Chios island**	**1.08**	**300**	PN	**Pb**	**06 17 19.3**	**+0.1**
YER	**Yerkesik**	**1.09**	**131**	P	**Pg**	**06 17 18.8**	**-0.2**
YER				S	**Sb**	**06 17 33.7**	**-0.2**
YER	**Yerkesik**	**1.09**	**131**	PN	**Pg**	**06 17 19.0**	**0.0**
YER				SN	**Sn**	**06 17 34.8**	**-0.6**
ZEDA	**zmir-Bergama**	**1.12**	**353**	*i* P	**Pg**	**06 17 18.4**	**-1.1**
ZEDA				*i* S	**Sg**	**06 17 34.1**	**0.0**
ZEDA				IAML		06 17 36.0	
	comp=N,345nm,0.6s						
KOSK	**Kos Island**	**1.12**	**191**	PN	**Pb**	**06 17 19.7**	**-0.1**
CAND	**Candarli**	**1.15**	**342**	PN	**Pg**	**06 17 19.9**	**-0.3**
DAT	**Datca**	**1.15**	**167**	PN	**Pg**	**06 17 19.7**	**-0.5**
MANT	**Manisa**	**1.21**	**58**	*i* P	**Pg**	**06 17 18.1**	**-3.2**
MANT				*i* S	**Sg**	**06 17 34.8**	**-2.3**
MANT				IAML		06 17 40.0	
	comp=N,292nm,0.5s						
DKL	**Dikili**	**1.25**	**348**	PN	**Pg**	**06 17 21.6**	**-0.4**
NIS1	**Nisyros Isl.**	**1.25**	**183**	P	**Pg**	**06 17 21.1**	**-0.9**
NIS1	**Nisyros Isl.**	**1.25**	**183**	P	**Pg**	**06 17 21.7**	**-0.4**
KULA	**Kula-Manisa**	**1.29**	**59**	P	**Pg**	**06 17 20.9**	**-2.0**
KULA				S	**Sg**	**06 17 37.9**	**-1.8**
KULA	**Kula-Manisa**	**1.29**	**59**	PN	**Pg**	**06 17 22.4**	**-0.5**
TURN	**Turunc**	**1.34**	**143**	PN	**Pn**	**06 17 22.4**	**-0.8**
MRSB	**Marmaris-Mugla**	**1.36**	**146**	PN	**Pn**	**06 17 23.2**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.38**	**106**	*i* P	**Pn**	**06 17 22.5**	**-1.4**
TAVA				*i* S	**Sn**	**06 17 44.0**	**+1.5**
TAVA				IAML		06 17 48.0	
	comp=N,191nm,0.5s						
DALY	**Dalyan (Mula)**	**1.52**	**132**	*i* P	**Pg**	**06 17 27.5**	**+0.2**
DALY				*i* S	**Sg**	**06 17 48.0**	**+1.0**
DALY				IAML		06 17 58.0	
	comp=N,268nm,0.7s						
DALY	**Dalyan (Mula)**	**1.52**	**132**	PN	**Pb**	**06 17 26.5**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.56**	**13**	*i* P	**Pn**	**06 17 25.9**	**-0.5**
STEP				*i* S	**Sb**	**06 17 48.4**	**+0.9**
APE	**Apeiranthos**	**1.58**	**241**	P	**Pn**	**06 17 24.7**	**-1.9**
APE				S	**Sg**	**06 17 48.3**	**-0.4**
	comp=N,348nm,0.3s						
APE	**Apeiranthos**	**1.58**	**241**	P	**Pn**	**06 17 25.8**	**-0.8**
APE	**Apeiranthos**	**1.58**	**241**	PN	**Pb**	**06 17 27.4**	**-0.2**
PRK	**Paraskevi**	**1.59**	**331**	P	**Pb**	**06 17 28.1**	**+0.3**
PRK				S	**Sn**	**06 17 47.4**	**-0.1**
PRK				AML	AML	06 17 51.5	
	comp=N,3902μm,0.8s						
PRK				AML	AML	06 17 53.9	
	comp=E,3403μm,0.7s						
USAK	**Uak-Merkez**	**1.64**	**58**	*i* P	**Pn**	**06 17 27.7**	**+0.3**
SIGR	**SIGRI**	**1.74**	**322**	P	**Pn**	**06 17 27.8**	**-1.0**
SIGR	**SIGRI**	**1.74**	**322**	P	**Pn**	**06 17 29.2**	**+0.4**
SIGR	**SIGRI**	**1.74**	**322**	PN	**Pn**	**06 17 29.7**	**+0.9**
SIGR				SN	**Sb**	**06 17 52.8**	**+0.3**
ARG	**Arkhangelos**	**1.78**	**156**	PN	**Pn**	**06 17 30.0**	**+0.7**
CAEL	**Denizli, Camel**	**1.80**	**113**	*i* P	**Pg**	**06 17 32.5**	**-0.1**
CAEL				*i* S	**Sg**	**06 18 00.0**	**+4.0**
CAEL				IAML		06 18 12.0	
	comp=N,294nm,1.3s						
SIMA	**Simav-Kutahya**	**1.83**	**47**	PN	**Pn**	**06 17 30.5**	**+0.3**
BALB	**Balikesir**	**1.85**	**15**	PN	**Pn**	**06 17 31.3**	**+1.0**
CAME	**Cameli-Denizli**	**1.87**	**118**	PN	**Pn**	**06 17 31.1**	**+0.3**
FETY	**Fethiye**	**1.90**	**129**	P	**Pn**	**06 17 30.3**	**-0.8**
FETY	**Fethiye**	**1.90**	**129**	PN	**Pn**	**06 17 31.1**	**0.0**
EZN	**Ezine**	**2.10**	**340**	PN	**Pn**	**06 17 34.4**	**+0.7**
BOZC	**Bozcaada**	**2.19**	**335**	PN	**Pn**	**06 17 36.2**	**+1.1**
TVSB	**Tavsanli**	**2.35**	**47**	PN	**Pn**	**06 17 37.9**	**+0.5**
EDC	**Edincik**	**2.54**	**11**	PN	**Pn**	**06 17 40.9**	**+1.1**
KRBG	**Karabiga-Canak**	**2.54**	**1**	PN	**Pn**	**06 17 41.1**	**+1.4**
KCTX	**Karacabey (Bur**	**2.56**	**19**	PN	**Pn**	**06 17 41.4**	**+1.3**
GADA	**Gvkgeada**	**2.56**	**336**	PN	**Pn**	**06 17 41.3**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.61**	**347**	PN	**Pn**	**06 17 41.4**	**+0.6**
MRMT	**Marmara Adasi**	**2.76**	**5**	PN	**Pn**	**06 17 44.6**	**+1.7**
RKY	**Sarkoy-Tekirda**	**2.83**	**359**	PN	**Pn**	**06 17 45.3**	**+1.4**
ERIK	**Erikli-Kesan**	**2.87**	**349**	PN	**Pn**	**06 17 45.6**	**+1.3**
GZKV	**Gazikoy-Tekird**	**2.89**	**1**	PN	**Pn**	**06 17 46.3**	**+1.7**
MAR4	**Marsite Statio**	**2.93**	**1**	PN	**Pn**	**06 17 46.5**	**+1.2**

*IDC **17** 06:17:55.3±1.5,24.°09S×175.°05W,h0km,mb4.3/7, mb1 4.5/9,mb1mx4.2/25,mbtmp4.4/9,ML5.4/1,MS3.6/5, Ms1 3.6/5,ms1mx3.2/35, Error ellipse: s-maj=52.9km s-min=24.7km az=160.0*
*NEIC **17** 06:17:56.6±2.8,23.°3S±0.°2×174.°89W±0.°06,h10km±2km, mb4.5/5, Error ellipse: s-maj=26.0km s-min=9.1km az=186.0*

ISC 17 06:17:58.5±0.9,23.°0S±0.°1×175.°01W±0.°09,h10km,n27, σ2ş75/21,mb4.5/9,MS3.4/4,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.14**	**52**	Pn	**Pn**	**06 19 30.6**	**+1.2**
MSVF	**Nonsavu**	**8.35**	**308**	Pn	Pn	06 20 06.8	+7.0
	1.4nm,0.3s,baz=144,slow=13,SNR=10.0						
MSVF				LR	LR	06 23 05.7	
	comp=Z,545nm,18.6s,baz=178,slow=34						
MSVF	**Nonsavu**	**8.35**	**308**		**Pn**	**06 20 01.5**	**+1.7**
AFI	**Afiamalu**	**9.54**	**19**	Pn	**Pn**	**06 20 14.9**	**-1.2**
	2.0nm,0.3s,baz=266,slow=21,SNR=1.6						
AFI				Sn	**Sn**	**06 21 59.3**	**-4.2**
	1.0nm,0.3s,baz=53,slow=20,SNR=1.6						
AFI	**Afiamalu**	**9.54**	**19**	Pn	**Pn**	**06 20 15.4**	**-0.6**
RAR	**Rarotonga**	**14.23**	**86**	Pn	**Pn**

PB06					IAML			07 04 20.6	
	comp=E,854nm,0.2s								
PB01	**IPOC Station P**	**1.27**	**315**	⇑*iP*		**Pn**		**07 04 00.9**	**-0.2**
PB01				*i* S		**Sn**		**07 04 19.9**	**+0.3**
PB01				IAML				07 04 21.8	
	comp=N,988nm,0.2s								
PB07	**IPOC Station P**	**1.28**	**280**	⇑*iP*		**Pn**		**07 04 01.2**	**-0.1**
PB07				*i* S		**Sn**		**07 04 19.8**	**-0.1**
PB07				IAML				07 04 22.0	
	comp=E,1μm,0.4s								
PB15	**IPOC Station P**	**1.52**	**215**	⇑*iP*		**Pn**		**07 04 04.6**	**+0.4**
PB15				*i* S		**Sn**		**07 04 25.4**	**+0.4**
PB04	**IPOC Station P**	**1.54**	**255**	⇑*iP*		**Pn**		**07 04 04.0**	**-0.5**
PB04				*i* S		**Sn**		**07 04 24.7**	**-0.7**
PB04				IAML				07 04 26.6	
	comp=E,847nm,0.4s								
PB05	**IPOC Station P**	**1.79**	**240**	⇑*iP*		**Pn**		**07 04 06.7**	**-0.6**
PB05				*i* S		**Sn**		**07 04 29.6**	**-1.0**
PB05				IAML				07 04 34.2	
	comp=N,409nm,0.5s								
PB08	**IPOC Station P**	**1.89**	**342**	⇑*iP*		**Pn**		**07 04 09.6**	**+0.7**
PB08				*i* S		**Sn**		**07 04 34.7**	**+1.3**
PB08				IAML				07 04 36.6	
	comp=E,481nm,0.5s								
TA01	**Diego Aracena**	**2.06**	**312**	*eP*		**Pn**		**07 04 09.9**	**-0.8**
TA01				*i* S		**Sn**		**07 04 35.4**	**-1.2**
TA01				IAML				07 04 38.4	
	comp=N,709nm,0.4s								
TA02	**Huaiquique**	**2.24**	**318**	*eP*		**Pn**		**07 04 12.5**	**-0.5**
PB11	**IPOC Station P**	**2.42**	**334**	⇑*iP*		**Pn**		**07 04 14.7**	**-0.8**
PB11				*i* S		**Sn**		**07 04 44.3**	**-0.7**
PB10	**IPOC Station P**	**2.43**	**230**	*eP*		**Pn**		**07 04 14.8**	**-0.5**
PSGC	**Pisagua**	**2.77**	**327**	⇑*iP*		**Pn**		**07 04 18.1**	**-1.9**
MNMC	**Minye Minye**	**2.98**	**340**	⇓*iP*		**Pn**		**07 04 22.5**	**-0.4**
MNMC				*i* S		**Sn**		**07 04 58.3**	**0.0**
CPSB	**Cacapava Do Su**	**15.94**	**125**	*eP*		**Pn**		**07 07 14.0**	**-0.7**
FRTB	**Fartura**	**17.57**	**98**	*eP*		**P**		**07 07 32.5**	**-1.6**
SNDB	**Serra Nova Dou**	**19.23**	**62**	*eP*		**P**		**07 07 49.1**	**-3.2**
RCLB	**Rio Claro- Sao**	**19.46**	**95**	*eP*		**P**		**07 07 53.9**	**-0.9**
IPMB	**Ipameri, GO**	**19.50**	**82**	*eP*		**P**		**07 07 53.2**	**-2.2**
VAO	**Valinhos**	**19.96**	**97**	*eP*		**P**		**07 07 58.0**	**-2.3**
NBIT	**Itapeh - BA**	**28.44**	**81**	*eP*		**P**		**07 09 22.1**	**+0.9**
SDV	**Santo Domingo**	**30.72**	**356**	*eP*		**P**		**07 09 45.8**	**+4.3**

IDC ***17*** *07:08:19.6±1.3,3˚.31S×148˚.04E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/44, mbtmp4.0/6, MS3.5/8, Ms1 3.5/8, ms1mx3.2/30, Error ellipse: s-maj=63.8km s-min=22.4km az=123.0*

NEIC ***17*** *07:08:21.6±1.7,2˚.82S±0˚.06×147˚.5E±0˚.2, h10km±2km, mb4.4/7, Error ellipse: s-maj=40.9km s-min=9.8km az=88.0*

DJA ***17*** *07:08:24.4±0.9,3˚S±20˚×14˚8E±1˚0, h52km±23km, M4.5/6, mB4.9/2, mb4.4/6, MLv4.6/2, Mw(mB)4.2/2*

ISC 17 07:08:24.9±1.0, 2.88S±0˚.08×147.6E±0˚.2, h32km, n29, σ1s82/18, mb4.2/10, MS3.5/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MANU	**Manus Island**	**0.87**	**344**			**Pn**	**07**	**08**	**39.0**	**-1.9**
PMG	**Port Moresby**	**6.50**	**184**	LR		LR	07	11	46.5	
	comp=Z,114nm,20.0s,baz=288,slow=34									
PMG	**Port Moresby**	**6.50**	**184**	Pn		**Pn**	**07**	**09**	**57.5**	**-0.7**
GENI	**Genyem**	**7.43**	**272**	P		**Pn**	**07**	**10**	**11.0**	**-0.2**
	1.2nm2μm136nm,0.8s									
MTN	**Manton Dam**	**19.06**	**238**	P		**P**	**07**	**12**	**42.9**	**-1.8**
MTN				IAmb		IAmb	07	12	43.8	
	comp=Z,22nm,1.1s									
WB0	**Warramunga Arr**	**21.17**	**217**	P		**P**	**07**	**13**	**06.0**	**-1.6**
WR0	**Warramunga Arr**	**21.23**	**216**	P		**P**	**07**	**13**	**06.2**	**-2.1**
WR0				IAmb		IAmb	07	13	07.6	
	comp=Z,18nm,0.8s									
WRAB	**Tennant Creek**	**21.32**	**216**	P		**P**	**07**	**13**	**08.1**	**-1.2**
WRAB				IAmb		IAmb	07	13	08.6	
	comp=Z,19nm,0.8s									
WB2	**Warramunga Arr**	**21.33**	**216**	P		**P**	**07**	**13**	**08.2**	**-1.2**
WB2				IAmb		IAmb	07	13	12.4	
	comp=Z,23nm,1.1s									
WRA	**Warramunga Arr**	**21.34**	**216**	P		**P**	**07**	**13**	**07.2**	**-2.2**
	comp=Z,13nm,0.9s,baz=44,slow=11,SNR=60									
WRA				LR		LR	07	21	54.2	
	comp=Z,141nm,19.3s,baz=205,slow=38									
WRA	**Warramunga Arr**	**21.34**	**216**	P		**P**	**07**	**13**	**07.0**	**-2.4**
AS31	**Alice Springs**	**24.54**	**212**	P		**P**	**07**	**13**	**41.4**	**-0.5**
AS31				IAmb		IAmb	07	14	02.4	
	comp=Z,2.4nm,0.9s									
ASAR	**Alice Springs**	**24.55**	**212**	P		**P**	**07**	**13**	**41.0**	**-0.9**
	comp=Z,5.9nm,1.0s,baz=40,slow=7.2,SNR=36									
ASAR	**Alice Springs**	**24.55**	**212**	P		**P**	**07**	**13**	**40.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**26.31**	**233**	P		**P**	**07**	**13**	**57.5**	**-0.4**
	comp=Z,7.2nm,0.9s,baz=58,slow=9.5,SNR=6.7									
FITZ				LR		LR	07	23	35.2	
	comp=Z,131nm,20.7s,baz=60,slow=35									
DZM	**Mont Dzumac**	**26.43**	**138**	LR		LR	07	22	52.9	
	comp=Z,146nm,19.0s,baz=186,slow=34									
H11S3	**WAKE ISLAND Hy**	**28.36**	**41**	T		T	07	44	08.3	
	baz=223,slow=75									
H11S2	**WAKE ISLAND Hy**	**28.37**	**41**	T		T	07	44	06.8	
	baz=223,slow=75									
H11S1	**WAKE ISLAND Hy**	**28.38**	**41**	T		T	07	44	07.8	
	baz=223,slow=75									
H11N1	**WAKE ISLAND Hy**	**29.38**	**39**	T		T	07	45	25.1	
	baz=221,slow=76									
STKA	**Stephens Creek**	**29.39**	**190**	LR		LR	07	26	15.0	
	comp=Z,107nm,19.3s,baz=23,slow=37									
H11N3	**WAKE ISLAND Hy**	**29.40**	**39**	T		T	07	45	25.8	
	baz=221,slow=76									
H11N2	**WAKE ISLAND Hy**	**29.40**	**39**	T		T	07	45	25.5	
	baz=221,slow=76									
KSRS	**Korea Array**	**44.10**	**337**	LR		LR	07	33	03.0	
	comp=Z,29nm,18.1s,baz=194,slow=33									
KDAK	**Kodiak Island**	**76.89**	**28**	LR		LR	07	48	54.1	
	comp=Z,37nm,20.1s,baz=266,slow=32									
KURBB	**Kurchatov Arra**	**79.12**	**323**	P		**P**	**07**	**20**	**30.1**	**+3.8**
	comp=Z,0.4nm,0.8s,baz=91,slow=6.9,SNR=3.0									
ILAR	**Eielson Array**	**82.40**	**23**	P		**P**	**07**	**20**	**44.6**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=252,slow=5.1,SNR=8.2									
NVAR	**Mina Array Bea**	**94.99**	**52**	P		**P**	**07**	**21**	**43.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=5.3,SNR=1.8									
NVAR				LR		LR	07	57	20.3	
	comp=Z,41nm,19.8s,baz=207,slow=31									
TORD	**Torodi Ar. Bea**	**144.78**	**289**	PKPbc		**PKPab**	**07**	**27**	**58.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=57,slow=3.7,SNR=2.9									

IDC ***17*** *07:08:51.9±2.3,31˚.88S×177˚.88W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/37, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=55.2km s-min=34.3km az=125.0*

ISC 17 07:08:52.0±2.0, 32˚.1S±0˚.1×177˚.5W±0˚.3, h10km, n18, σ1s97/19, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
URZ	**Urewera**	**7.57**	**214**	Pn		**Pn**	**07**	**10**	**43.3**	**+1.0**
	0.4nm,0.3s,baz=308,slow=20,SNR=1.2									
URZ				Sn		**Sn**	**07**	**12**	**09.2**	**+1.0**
	4.2nm,0.3s,baz=204,slow=23,SNR=8.4									
BKZ	**Black Stump Fm**	**8.59**	**213**	P		**Sn**	**07**	**12**	**35.0**	**+1.8**
MCHZ	**McNeill Hill**	**8.72**	**211**	P		**Sn**	**07**	**12**	**39.1**	**+2.6**
KWHZ	**Kaweka Forest**	**8.83**	**212**	P		**Sn**	**07**	**12**	**40.0**	**+0.8**
ETVZ	**East Tongariro**	**8.94**	**216**	P		**Sn**	**07**	**12**	**44.2**	**+2.2**
NGZ	**Ngauruhoe**	**9.02**	**216**	P		**Sn**	**07**	**12**	**46.8**	**+2.6**
KRHZ	**Kereru**	**9.03**	**212**	P		**Sn**	**07**	**12**	**43.0**	**-1.1**
PXZ	**Pawanui**	**9.14**	**208**	P		**Sn**	**07**	**12**	**45.7**	**-1.2**
PNHZ	**Pukenui**	**9.32**	**211**	P		**Sn**	**07**	**12**	**50.7**	**-0.7**
PRHZ	**Porangahau**	**9.44**	**208**	P		**Sn**	**07**	**12**	**53.2**	**-0.9**
TSZ	**Takapari Road**	**9.55**	**212**	P		**Sn**	**07**	**12**	**54.9**	**-2.0**
DVHZ	**Dannevirke**	**9.66**	**210**	P		**Sn**	**07**	**12**	**57.4**	**-2.1**
ANWZ	**Angora Road**	**9.66**	**208**	P		**Sn**	**07**	**12**	**55.4**	**-4.2**
CTA	**Charters Tower**	**34.50**	**281**	P		**P**	**07**	**15**	**39.9**	**-0.5**
	3.8nm,0.7s,baz=90,slow=10.0,SNR=6.3									
ASAR	**Alice Springs**	**43.45**	**268**	P		**P**	**07**	**16**	**54.1**	**-1.3**
	0.8nm,0.5s,baz=106,slow=7.0,SNR=10									
WRA	**Warramunga Arr**	**44.59**	**274**	P		**P**	**07**	**17**	**02.9**	**-1.7**
	1.4nm,0.5s,baz=112,slow=7.9,SNR=18									
FINES	**FINESS Array B**	**146.85**	**339**	PKPbc		**PKPdf**	**07**	**28**	**33.0**	**+1.1**
	2.5nm,0.6s,baz=35,slow=5.1,SNR=7.7									
AKASG	**Malin Array Be**	**152.87**	**321**	PKPbc		**PKiKP**	**07**	**28**	**50.5**	**+1.4**
	0.2nm,0.4s,baz=55,slow=3.1,SNR=1.7									

IDC ***17*** *07:10:47.4±1.5, 17˚.71S×69˚.61W, h129km±11km, mb3.6/2, mb1 3.6/7, mb1mx3.3/35, mbtmp4.1/7, Error ellipse: s-maj=25.0km s-min=11.0km az=106.0*

GUC ***17*** *07:10:49.2±0.8, 17˚.70S×69˚.77W, h140km±5km, ML3.7*

ISC 17 07:10:46.9±0.8, 17.69S±0˚.05×69.70W±0˚.07, h146km±8km, n31, σ2s13/44, 6C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AP01	**Chacalluta**	**0.91**	**222**	⇑*iP*		**Pn**	**07**	**11**	**10.9**	**+0.4**
AP01				*i* S		**Sn**	**07**	**11**	**28.7**	**+0.1**
AP01				IAML			07	11	29.2	
	comp=N,4μm,0.4s									
MNMC	**Minye Minye**	**1.44**	**176**	⇑*iP*		**Pn**	**07**	**11**	**17.1**	**+1.2**
MNMC				*i* S		**Sn**	**07**	**11**	**38.3**	**+0.3**
MNMC				IAML			07	11	42.8	
	comp=E,770nm,0.2s									
PSGC	**Pisagua**	**1.94**	**192**	⇑*iP*		**Pn**	**07**	**11**	**22.0**	**+0.8**
PSGC				*i* S		**Sn**	**07**	**11**	**47.0**	**-0.6**
PSGC				IAML			07	11	48.4	
	comp=E,230nm,0.4s									
LPAZ	**La Paz**	**2.05**	**47**	P		**Pn**	**07**	**11**	**23.7**	**+0.7**
	comp=E,19nm,0.3s,baz=219,slow=1.9,SNR=855									
LPAZ				S		**Sn**	**07**	**11**	**48.6**	**-2.0**
	comp=E,3.0nm,0.3s,baz=32,slow=18,SNR=5.1									
LPAZ	**La Paz**	**2.05**	**47**	*eP*		**Pn**	**07**	**11**	**23.9**	**+0.9**
PB11	**IPOC Station P**	**2.06**	**179**	⇑*iP*		**Pn**	**07**	**11**	**24.1**	**+1.3**
PB11				*i* S		**Sn**	**07**	**11**	**50.2**	**-0.1**
PB11				IAML			07	11	53.5	
	comp=N,327nm,0.2s									
PB08	**IPOC Station P**	**2.50**	**168**	⇑*iP*		**Pn**	**07**	**11**	**30.2**	**+2.0**
PB08				*i* S		**Sn**	**07**	**12**	**01.1**	**+1.2**
PB08				IAML			07	12	02.6	
	comp=E,105nm,0.4s									
TA02	**Huaiquique**	**2.60**	**189**	IAML			07	12	07.3	
	comp=E,434nm,0.1s									
TA01	**Diego Aracena**	**2.90**	**189**	⇓*iP*		**Pn**	**07**	**11**	**33.3**	**+0.4**
TA01				*i* S		**Sn**	**07**	**12**	**06.0**	**-2.3**
PB01	**IPOC Station P**	**3.34**	**177**	⇑*iP*		**Pn**	**07**	**11**	**39.8**	**+1.2**
PB01				*i* S		**Sn**	**07**	**12**	**17.2**	**-1.5**
PB01				IAML			07	12	19.1	
	comp=E,221nm,0.4s									
PB07	**IPOC Station P**	**4.02**	**182**	*eP*		**Pn**	**07**	**11**	**48.7**	**+1.2**
PB07				*i* S		**Sn**	**07**	**12**	**31.4**	**-3.2**
PB03	**IPOC Station P**	**4.34**	**181**	*eP*		**Pn**	**07**	**11**	**52.6**	**+0.9**
PB03				*i* S		**Sn**	**07**	**12**	**38.2**	**-3.8**
PB04	**IPOC Station P**	**4.64**	**185**	*eP*		**Pn**	**07**	**11**	**56.5**	**+0.8**
LVC	**Limon Verde**	**4.95**	**172**	P		**Pn**	**07**	**12**	**01.4**	**+1.4**
	comp=E,3.3nm,0.3s,baz=2.6,slow=7.2,SNR=86									
LVC				S		**Sn**	**07**	**12**	**55.1**	**-1.8**
	comp=E,5.1nm,0.3s,baz=155,slow=17,SNR=14									
LVC	**Limon Verde**	**4.95**	**172**	*eP*		**Pn**	**07**	**12**	**01.7**	**+1.7**
LVC				*i* S		**Sn**	**07**	**12**	**55.1**	**-1.8**
PB06	**IPOC Station P**	**4.99**	**179**	*eP*		**Pn**	**07**	**12**	**00.9**	**+0.5**
PB06				*i* S		**Sn**	**07**	**12**	**52.7**	**-4.9**
PB05	**IPOC Station P**	**5.16**	**185**	⇓*iP*		**Pn**	**07**	**12**	**02.8**	**+0.3**
PB05				*i* S		**Sn**	**07**	**12**	**55.5**	**-6.0**
SIV	**San Ignacio**	**8.43**	**80**	P		**Pn**	**07**	**12**	**44.2**	**-2.0**
	comp=E,3.0nm,0.3s,baz=273,slow=8.4,SNR=66									
NNA	**Nana**	**8.93**	**308**	P		**Pn**	**07**	**12**	**54.0**	**+1.1**
	comp=E,1.0nm,0.3s,baz=249,slow=7.4,SNR=1.9									
NNA				S		**Sn**	**07**	**14**	**30.5**	**-1.6**
	comp=E,0.7nm,0.3s,baz=28,slow=1.6,SNR=2.1									
PTLB	**Pontes e Lacer**	**10.37**	**79**	*eP*		**Pn**	**07**	**13**	**07.8**	**-4.1**
CLDB	**Colider**	**15.08**	**65**	*eP*		**Pn**	**07**	**14**	**13.1**	**+0.5**
NPGB	**Novo Progresso**	**17.54**	**55**	*eP*		**P**	**07**	**14**	**41.5**	**-0.1**
ITTB	**Itaituba**	**19.03**	**48**	*eP*		**P**	**07**	**14**	**58.2**	**+0.3**
PTGA	**Pitinga**	**19.38**	**31**	P		**P**	**07**	**15**	**01.7**	**+0.1**
	comp=E,0.6nm,0.3s,baz=304,slow=22,SNR=6.8									
BDFB	**Brasília**	**20.88**	**88**	P		**P**	**07**	**15**	**20.2**	**+2.4**
	comp=E,2.3nm,0.5s,baz=261,slow=11,SNR=6.0									
MALB	**Monte Alegre**	**21.85**	**46**	*eP*		**P**	**07**	**15**	**26.2**	**-1.9**
BOAV	**Boa Vista**	**21.91**	**25**	*eP*		**P**	**07**	**15**	**26.7**	**-2.0**
SMTB	**Santa Maria do**	**23.22**	**71**	*eP*		P	07	15	32.8	-8.5
MCPB	**Macapa, AP**	**24.45**	**47**	*eP*		**P**	**07**	**15**	**49.0**	**-3.5**
TORD	**Torodi Ar. Bea**	**76.82**	**71**	P		**P**	**07**	**22**	**25.0**	**+1.8**
	comp=E,1.0nm,0.5s,baz=262,slow=5.6,SNR=16									
WRA	**Warramunga Arr**	**135.78**	**213**	PKP		**PKiKP**	**07**	**29**	**54.7**	**+2.0**
	comp=E,0.5nm,0.8s,baz=126,slow=1.7,SNR=2.0									

NNC ***17*** *07:12:15.9±0.4, 49˚.99N×78˚.73E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=4.5km s-min=2.3km az=74.0, Suspected Mining explosion.*

ISC 17 07:12:17.7±0.8, 50.05N±0˚.05×78.74E±0˚.03, h0km, n27, σ1s88/33, 10C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KURBB	**Kurchatov Arra**	**0.59**	**347**	⇑P		**Pg**	**07**	**12**	**28.6**	**-0.5**
	35nm,0.6s									
KURBB				⇑S		**Sg**	**07**	**12**	**37.8**	**+1.0**
	244nm,0.6s									
SEM	**Semipalatinsk**	**1.03**	**69**	P		**Pg**	**07**	**12**	**34.7**	**-2.8**
SEM				S		**Sg**	**07**	**12**	**51.7**	**+0.8**
MAKZ	**Makanchi**	**3.89**	**145**	P		**Pn**	**07**	**13**	**19.2**	**+0.5**
MAKZ				S		**Sn**	**07**	**14**	**08.0**	**+2.8**
MAKZ	**Makanchi**	**3.89**	**145**	⇓Pg		**Pb**	**07**	**13**	**26.0**	**-1.2**
	2.0nm,0.6s									
MAKZ				⇓Lg		Lg	07	14	17.2	
	12nm,0.7s									
BRZS	**Berezniki**	**3.91**	**271**	Pg		**Pb**	**07**	**13**	**27.0**	**-0.6**
	5.6nm,0.2s									
BRZS				Lg		Lg	07	14	20.8	
	12nm,0.4s									
MK31	**Makanchi Array**	**4.02**	**143**	⇑Pn		**Pn**	**07**	**13**	**20.6**	**0.0**
	0.7nm,0.5s,baz=325,slow=9.9,SNR=15									
MK31				⇑Pg		**Pb**	**07**	**13**	**29.8**	**+0.4**
	0.8nm,0.3s,baz=335,slow=15,SNR=14									
MK31				⇑Lg		Lg	07	14	22.1	
	7.6nm,0.5s,baz=344,slow=21,SNR=15									
OTUK	**Ortayu**	**4.58**	**249**	⇑Pn		**Pn**	**07**	**13**	**27.5**	**-0.7**
	1.5nm,0.3s									
OTUK				⇓Lg		Lg	07	14	41.6	
	7.8nm,0.8s									
KAPS	**Kapalarasan**	**4.78**	**175**	Pg		**Pb**	**07**	**13**	**40.5**	**-1.9**
	18nm,0.8s									
KAPS				Lg		Lg	07	14	45.0	
	12nm,0.3s									
ZSN	**Zaisan**	**4.81**	**120**	Pg		**Pb**	**07**	**13**	**42.5**	**-0.3**
ZSN				Lg		Lg	07	14	47.8	
DGZ	**Jazzator, Alta**	**5.63**	**90**	P		**Pn**	**07**	**13**	**44.5**	**+1.8**
DGZ				S		**Sn**	**07**	**14**	**50.4**	**+2.2**
ARTR	**Artybash**	**5.68**	**69**	P		**Pn**	**07**	**13**	**44.7**	**+1.5**
ARTR				S		**Sn**	**07**	**14**	**51.8**	**+2.7**
AKAR	**Aktash**	**5.71**	**84**	P		**Pn**	**07**	**13**	**43.9**	**0.0**
AKAR				S		**Sn**	**07**	**14**	**51.7**	**+1.6**
DJR	**Jarkent**	**5.76**	**172**	Pg		**Pb**	**07**	**13**	**58.7**	**-0.4**
	1.5nm,0.3s									
DJR				Lg		Lg	07	15	15.2	
	4.7nm,0.6s									
ARXS	**Arharly**	**5.87**	**186**	Pg		**Pb**	**07**	**13**	**58.8**	**-2.1**
	2.1nm,0.3s									
ARXS				Lg		Lg	07	15	13.9	
	16nm,0.3s									
BTLS	**Baital**	**5.93**	**214**	Pg		**Pb**	**07**	**14**	**02.9**	**+1.0**
	1.4nm,0.7s									
BTLS				Lg		Lg	07	15	21.0	
	3.5nm,0.4s									
BRVK	**Borovoye**	**6.08**	**303**	⇑Pg		**Pg**	**07**	**14**	**12.1**	**-2.0**
	1.2nm,0.5s									
BRVK				⇑Sn		**Sn**	**07**	**14**	**56.9**	**-2.1**
	3.8nm,0.5s									
BRVK				⇑Lg		Lg	07	15	26.0	
	1.9nm,0.4s									
CUR	**Chagan-Uzun**	**6.19**	**86**	P		**Pn**	**07**	**13**	**49.0**	**-1.4**
CUR				S		**Sn**	**07**	**15**	**04.3**	**+2.5**
CHKK	**Chushkaly**	**6.31**	**192**	Pg		**Pb**	**07**	**14**	**09.9**	**+1.5**
	0.8nm,0.2s									
CHKK				Lg		Lg	07	15	32.8	
	13nm,0.3s									
KTBS	**Karatobe**	**6.49**	**193**	Pg		**Pb**	**07**	**14**	**10.6**	**-0.9**
	0.3nm,0.1s									
KTBS				Lg		Lg	07	15	36.0	
	31nm,0.5s									
PDGK	**Podgornoye**	**6.74**	**175**	Pg		**Pb**	**07**	**14**	**15.9**	**+0.1**
	0.5nm,0.3s									
PDGK				Lg		Lg	07	15	45.1	
	2.8nm,0.5s									
PDGK	**Podgornoye**	**6.74**	**175**	⇓Lg		Lg	07	15	48.4	
	5.3nm,0.5s									
MDOK	**Medeo**	**6.98**	**190**	Pg		**Pb**	**07**	**14**	**21.6**	**+1.7**
	1.6nm,0.1s									
MDOK				Lg		Lg	07	15	54.5	
	7.1nm,0.4s									
DGS	**Degeres**	**7.11**	**198**	Pg		**Pb**	**07**	**14**	**26.6**	**+4.6**
	2.7nm,0.2s									
DGS				Lg		Lg	07	16	02.3	
	19nm,0.4s									
KST	**Kastek**	**7.26**	**196**	Pg		**Pb**	**07**	**14**	**27.2**	**+2.5**
	1.6nm,0.3s									
KST				Lg		Lg	07	16	02.4	
	7.3nm,0.6s									
TKM2	**Tokmak 2**	**7.45**	**198**	P		**Pn**	**07**	**14**	**05.3**	**-2.5**
TKM2	**Tokmak 2**	**7.45**	**198**	⇓Lg		Lg	07	16	11.3	
	3.4nm,0.6s									
AAK	**Ala-Archa**	**7.97**	**203**	⇑Lg		Lg	07	16	29.5	
	2.7nm,0.8s									

SJA ***17*** *07:21:11.5±0.8, 20˚.28S×70˚.92W, h20km±8km, ML4.5, MW4.5*

VAO ***17*** *07:21:15.0±0.3, 20˚.09S×70˚.58W, h10km, mb4.4*

NEIC ***17*** *07:21:15, 20˚.32S×70˚.72W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.35; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$-2.00; $M_{r\theta}$0.70; $M_{r\phi}$2.48; $M_{\theta\phi}$-5.56; Fault plane solution: $M_0$6.79000×10^{15} NP1:φs165.88000˚, δ74.78000˚, λ108.40000˚. NP2:φs294.16000˚, δ23.71000˚, λ40.76000˚. Principal axes: T 6.9112, Plg56.0000˚, Azm100.0000˚; N -0.2567, Plg18.0000˚, Azm341.0000˚; P -6.6545, Plg28.0000˚, Azm241.0000˚;*

GUC ***17*** *07:21:16.8±0.7, 20˚.25S×70˚.74W, h24km±3km, ML4.4*

NEIC ***17*** *07:21:16.1±2.4, 20˚.27S±0˚.04×70˚.67W±0˚.06, h22km±4km, Error ellipse: s-maj=7.8km s-min=6.1km az=91.0*

IDC ***17*** *07:21:18.1±1.9, 20˚.14S×70˚.59W, h42km±18km, mb3.9/10, mb1 4.2/14, mb1mx4.0/27, mbtmp4.2/14, ML3.9/4, MS3.9/11, Ms1 3.9/11, ms1mx3.7/25, Error ellipse: s-maj=21.0km s-min=12.3km az=65.0*

ISC 17 07:21:14.7±1.0, 20.23S±0˚.02×70.73W±0˚.04, h19km±3km, n170, σ1s69/167, mb4.6/26, MS3.9/10, 7C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TA02	**Huaiquique**	**0.56**	**94**	⇓*iP*		**Pn**	**07**	**21**	**26.7**	**-0.9**
TA02				*i* S		**Sn**	**07**	**21**	**34.9**	**-1.5**
TA02				IAML			07	21	38.3	
	comp=N,43μm,0.1s									
TA02	**Huaiquique**	**0.56**	**94**			**Pn**	**07**	**21**	**26.7**	**-0.9**
TA01	**Diego Aracena**	**0.61**	**123**	⇓*iP*		**Pn**	**07**	**21**	**27.3**	**-1.0**
TA01				*i* S		**Sb**	**07**	**21**	**35.8**	**+1.1**
TA01				IAML			07	21	39.4	
	comp=N,40μm,0.9s									
TA01	**Diego Aracena**	**0.61**	**123**			**Pn**	**07**	**21**	**27.3**	**-1.0**
PSGC	**Pisagua**	**0.85**	**42**	⇓*iP*		**Pn**	**07**	**21**	**31.4**	**-0.3**
PSGC				*i* S		**Sg**	**07**	**21**	**42.2**	**-0.4**
PSGCX	**Pisagua**	**0.85**	**42**			**Pn**	**07**	**21**	**31.4**	**-0.4**
PSGCX	**Pisagua**	**0.85

HJA	**Humahuaca**	**5.76**	**122**	*eP*		Pn	07 22 44.3	+4.8
AC01	**Pan de Azucar**	**5.89**	**179**	Pn		**Pn**	**07 22 39.3**	**-1.6**
AC02	**Maricunga**	**6.73**	**168**	Pn		**Pn**	**07 22 53.4**	**+0.4**
ASTB	**Santa Barbara**	**6.89**	**124**	*eP*		**Pn**	**07 22 59.5**	**+4.6**
ALOL	**LOMAS DE OLMED**	**7.20**	**121**	*eP*		**Pn**	**07 23 02.9**	**+3.9**
GO03	**Copiap**	**7.34**	**177**	Pn		**Pn**	**07 23 00.4**	**-0.6**
GO03	**Copiap**	**7.34**	**177**	*eP*		**Pn**	**07 22 59.3**	**-1.7**
GO03				*eS*		**Sn**	**07 24 18.8**	**-5.0**
AC04	**Llanos de Chal**	**7.94**	**182**	Pn		**Pn**	**07 23 06.7**	**-2.5**
AGUA	**GUANDACOL**	**9.43**	**168**	*eP*		**Pn**	**07 23 31.3**	**+1.6**
NNA	**Nana**	**10.09**	**323**	P		**Pn**	**07 23 41.1**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=101,slow=11,SNR=1.9							
NNA				S		**Sn**	**07 25 32.7**	**+1.3**
	comp=Z,2.2nm,0.3s,baz=203,slow=17,SNR=2.2							
NNA				LR		LR	07 27 42.4	
	comp=Z,215nm,19.3s,baz=158,slow=38							
SIV	**San Ignacio**	**10.10**	**67**	P		**Pn**	**07 23 38.6**	**-0.2**
	comp=Z,2.7nm,0.3s,baz=259,slow=8.7,SNR=32							
SIV				LR		LR	07 28 19.0	
	comp=Z,1μm,18.4s,baz=234,slow=42							
CO03	**El Pedregal**	**10.56**	**180**	*eP*		**Pn**	**07 23 42.5**	**-2.7**
CO02	**Combarbal**	**10.93**	**181**	Pn		**Pn**	**07 23 48.9**	**-1.3**
ETMB	**Extrema**	**11.23**	**23**	*eP*		**Pn**	**07 23 52.7**	**-1.6**
PTLB	**Pontes e Lacer**	**12.02**	**69**	*eP*		**Pn**	**07 24 03.8**	**-1.2**
VILB	**Vilhena**	**12.41**	**56**	*eP*		**Pn**	**07 24 09.7**	**-0.9**
CZSB	**Cruzeiro do Su**	**12.58**	**351**	*eP*		**Pn**	**07 24 12.8**	**0.0**
SAML	**Samuel**	**13.38**	**34**			**Pn**	**07 24 25.1**	**+1.5**
CPUP	**Villa Florida**	**13.72**	**119**	P		**Pn**	**07 24 30.8**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=291,slow=12,SNR=5.0							
CPUP				LR		LR	07 30 37.7	
	comp=Z,363nm,21.1s,baz=300,slow=41							
CPUP	**Villa Florida**	**13.72**	**119**	*eP*		**Pn**	**07 24 29.9**	**+1.7**
AQDB	**Aquidauana**	**14.10**	**94**	*eP*		**Pn**	**07 24 34.4**	**+1.0**
SALV	**Santo Antonio**	**14.93**	**76**	*eP*		**Pn**	**07 24 44.3**	**-0.5**
H03N1	**Juan Fernandez**	**15.04**	**207**	T		T	07 40 15.8	
	baz=33,slow=72							
H03N2	**Juan Fernandez**	**15.04**	**207**	T		T	07 40 15.5	
	baz=33,slow=72							
H03N3	**Juan Fernandez**	**15.05**	**207**	T		T	07 40 17.7	
	baz=33,slow=72							
PP1B	**Ponte de Pedra**	**15.22**	**83**	*eP*		**Pn**	**07 24 47.4**	**-1.4**
TRCB	**Terra Rica**	**17.03**	**102**	*eP*		**Pn**	**07 25 11.7**	**-0.2**
CLDB	**Colider**	**17.12**	**59**	*eP*		**Pn**	**07 25 12.3**	**-0.7**
PCMB	**Pacaembu**	**18.24**	**98**	*eP*		**P**	**07 25 28.1**	**+1.1**
ARAG	**Araguaiana, MT**	**18.54**	**79**	*eP*		**P**	**07 25 30.2**	**-0.2**
CPSB	**Cacapava Do Su**	**18.60**	**126**	*eP*		**Pn**	**07 25 31.3**	**+0.1**
TRQA	**Tornquist**	**19.31**	**159**	P		**P**	**07 25 39.1**	**+0.4**
NPGB	**Novo Progresso**	**19.85**	**51**	*eP*		**P**	**07 25 43.6**	**-1.1**
FRTB	**Fartura**	**19.89**	**103**	*eP*		**P**	**07 25 45.8**	**+0.6**
SNDB	**Serra Nova Dou**	**20.38**	**69**	*eP*		**P**	**07 25 48.8**	**-1.7**
PLCA	**Paso Flores**	**20.43**	**180**	P		**P**	**07 25 51.5**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=13,slow=11,SNR=4.8							
PLCA				LR		LR	07 34 19.5	
	comp=Z,232nm,20.3s,baz=352,slow=38							
PLCA	**Paso Flores**	**20.43**	**180**	*eP*		Pn	07 25 54.5	+1.4
TIJ01	**Guaruva-PR**	**20.65**	**108**	*eP*		**P**	**07 25 52.5**	**-1.0**
BB19B	**Bebedouro**	**20.79**	**96**	*eP*		**P**	**07 25 55.2**	**+0.3**
IPMB	**Ipameri, GO**	**21.39**	**88**	*eP*		**P**	**07 26 00.9**	**-0.6**
ITTB	**Itaituba**	**21.49**	**45**	*eP*		**P**	**07 26 00.4**	**-2.0**
RCLB	**Rio Claro- Sao**	**21.71**	**100**	*eP*		**P**	**07 26 04.9**	**0.0**
SPB	**Sao Paulo**	**21.86**	**103**	*eP*		**P**	**07 26 06.3**	**-0.1**
PTGA	**Pitinga**	**22.06**	**30**	P		**P**	**07 26 07.1**	**-1.4**
	comp=Z,4.4nm,0.3s,baz=312,slow=22,SNR=14							
PTGA	**Pitinga**	**22.06**	**30**	P		**P**	**07 26 07.3**	**-1.2**
PET01	**Itanhaem-SP**	**22.07**	**105**	*eP*		**P**	**07 26 09.3**	**+0.7**
BDFB	**Brasilia**	**22.08**	**82**	P		**P**	**07 26 08.9**	**0.0**
	comp=Z,2.8nm,0.4s,baz=239,slow=10.0,SNR=6.5							
BDFB				LR		LR	07 36 13.0	
	comp=Z,640nm,20.4s,baz=290,slow=41							
FLOC	**Florencia**	**22.21**	**347**	P		**P**	**07 26 12.0**	**+1.7**
FLOC				IAmb		IAmb	07 26 34.5	
	comp=Z,33nm,1.2s							
GCUF	**Volcan Galeras**	**22.29**	**342**	*eP*		**P**	**07 26 18.0**	**+6.4**
CRUC	**La Cruz**	**22.51**	**344**	*eP*		**P**	**07 26 20.2**	**+6.4**
PEXB	**Peixe**	**22.98**	**73**	*eP*		**P**	**07 26 18.6**	**+0.2**
BBAC	**Balboa, Cauca**	**23.02**	**343**	*eP*		**P**	**07 26 20.4**	**+1.4**
POPC	**Popayan, Colom**	**23.37**	**345**	*eP*		**P**	**07 26 18.9**	**-3.7**
PRAC	**Prado**	**24.15**	**350**	*eP*		**P**	**07 26 28.5**	**-1.3**
ORTC	**Ortega, Tolima**	**24.40**	**349**	*eP*		**P**	**07 26 32.3**	**+0.2**
BOAV	**Boa Vista**	**24.62**	**25**	*eP*		**P**	**07 26 34.4**	**+0.3**
PRPB	**Parauapebas**	**24.65**	**58**	*eP*		**P**	**07 26 34.5**	**+0.1**
YOTC	**Yotoco, Valle**	**24.69**	**346**	*eP*		**P**	**07 26 30.4**	**-4.5**
SMTB	**Santa Maria do**	**25.05**	**67**	*eP*		**P**	**07 26 37.7**	**-0.3**
ROSC	**El Rosal**	**25.17**	**352**	LR		LR	07 37 52.0	
	comp=Z,314nm,19.1s,baz=222,slow=40							
JANB	**Januaria**	**25.68**	**83**	*eP*		**P**	**07 26 44.1**	**+0.4**
GUY2C	**Guyana, Caldas**	**25.71**	**349**	*eP*		P	07 26 52.3	+7.9
RUSC	**La Rusia**	**26.07**	**355**	P		**P**	**07 26 46.5**	**-1.2**
RUSC				IAmb		IAmb	07 27 03.2	
	comp=Z,24nm,1.0s							
RUSC	**La Rusia**	**26.07**	**355**	*eP*		**P**	**07 26 44.7**	**-3.0**
CBOC	**Ciudad Bolivar**	**26.45**	**348**	*eP*		**P**	**07 26 56.2**	**+5.4**
HELC	**Santa Helena**	**26.68**	**349**	*eP*		**P**	**07 26 52.3**	**-0.8**
ZARC	**Zaragoza, Cauc**	**27.85**	**351**	*eP*		P	07 26 50.4	-13
SJCC	**San Jacinto, C**	**30.26**	**351**	P		**P**	**07 27 25.1**	**+0.4**
NBIT	**Itapeh - BA**	**30.26**	**85**	*eP*		**P**	**07 27 24.7**	**0.0**
NBPS	**Pedro II - PI**	**32.56**	**65**	*eP*		**P**	**07 27 45.0**	**0.0**
PMSA	**Palmer Station**	**44.74**	**176**	P		**P**	**07 29 28.2**	**+1.7**
	comp=Z,6.7nm,0.6s,baz=344,slow=14,SNR=2.5							
PMSA	**Palmer Station**	**44.74**	**176**	*eP*		**P**	**07 29 28.5**	**+2.0**
BIRD	**Birdtown, Kers**	**55.35**	**350**	IAmb		IAmb	07 30 49.0	
	comp=Z,5.3nm,1.0s							
V52A	**Sevierville**	**57.09**	**348**	IAmb		IAmb	07 31 00.6	
	comp=Z,5.8nm,0.9s							
WVT	**Waverly**	**58.35**	**344**	P		**P**	**07 31 08.1**	**-0.5**
WVT				IAmb		IAmb	07 31 20.6	
	comp=Z,5.1nm,1.1s							
TXAR	**Lajitas Array**	**58.63**	**326**	P		**P**	**07 31 11.5**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=134,slow=6.4,SNR=5.3							
MIAR	**Mount Ida**	**58.65**	**338**	P		**P**	**07 31 11.6**	**+0.8**
MIAR				IAmb		IAmb	07 31 12.4	
	comp=Z,6.7nm,1.1s							
T47A	**Sharon Grove**	**58.98**	**345**	IAmb		IAmb	07 31 13.7	
	comp=Z,7.3nm,1.1s							
W39A	**Magazine**	**59.31**	**338**	IAmb		IAmb	07 31 16.9	
	comp=Z,9.7nm,1.2s							
X37A	**Clayton**	**59.35**	**336**	P		**P**	**07 31 16.9**	**+1.3**
Q56A	**Snyder Ridge,**	**59.49**	**352**	P		**P**	**07 31 17.8**	**+1.2**
U40A	**Yellville**	**60.05**	**339**	P		**P**	**07 31 20.8**	**+0.4**
U40A				IAmb		IAmb	07 31 22.0	
	comp=Z,7.5nm,1.2s							
HHAR	**Hobbs**	**60.35**	**338**	IAmb		IAmb	07 31 50.3	
	comp=Z,11nm,1.4s							
CCM	**Cathedral Cave**	**61.10**	**342**	P		**P**	**07 31 28.3**	**+0.8**
CCM				IAmb		IAmb	07 31 40.9	
	comp=Z,6.9nm,1.3s							
MNTX	**Cornudas Mount**	**61.40**	**326**	P		**P**	**07 31 30.7**	**+0.9**
S39A	**Bolivar**	**61.42**	**340**	IAmb		IAmb	07 31 31.5	
	comp=Z,7.7nm,1.1s							
R40A	**Maddies Statio**	**61.63**	**341**	P		**P**	**07 31 29.4**	**-1.8**
R40A				IAmb		IAmb	07 31 43.3	
	comp=Z,4.2nm,0.9s							
VNA3	**Neumayer Olymp**	**61.81**	**161**	P		**P**	**07 31 33.1**	**+1.1**
SNAA	**Sanae**	**64.03**	**161**	P		**P**	**07 31 47.8**	**+1.0**
SDCO	**Great Sand Dun**	**66.31**	**330**	P		**P**	**07 32 02.8**	**+0.5**
SDCO				IAmb		IAmb	07 32 04.8	
	comp=Z,7.2nm,1.4s							
ECSD	**EROS Data Cent**	**67.94**	**340**	IAmb		IAmb	07 32 33.6	
	comp=Z,8.7nm,1.4s							
DBIC	**Dimbokro**	**70.02**	**75**	LR		LR	08 01 47.4	
	comp=Z,117nm,19.7s,baz=220,slow=35							
CCUT	**Cedar City**	**70.10**	**325**	IAmb		IAmb	07 32 41.3	
	comp=Z,5.3nm,1.1s							
TPNV	**Topopah Spring**	**71.26**	**323**	P		**P**	**07 32 33.4**	**+0.4**
TPNV				IAmb		IAmb	07 32 48.1	
	comp=Z,5.0nm,1.1s							
PDAR	**Pinedale Array**	**72.18**	**331**	P		**P**	**07 32 38.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=140,slow=4.7,SNR=5.0							
TBI	**Tubuai**	**72.30**	**251**	*eL*R		LR	07 54 45.9	
	comp=Z,90nm,30.0s							
NVAR	**Mina Array Bea**	**73.46**	**323**	P		**P**	**07 32 46.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=135,slow=6.0,SNR=6.9							
ULM	**Lac du Bonnet**	**73.61**	**343**	LR		LR	08 07 00.8	
	comp=Z,40nm,21.6s,baz=122,slow=37							
LAO	**LASA Array**	**73.92**	**335**	P		**P**	**07 32 48.4**	**-0.1**
PPT2	**Papeete2**	**73.95**	**257**	*eL*R		LR	07 55 42.3	
	comp=Z,99nm,24.2s							
HLID	**Hailey**	**75.08**	**329**	P		**P**	**07 32 55.6**	**+0.2**
TOA0	**Torodi Ar. Sit**	**78.55**	**71**	P		**P**	**07 33 14.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**78.55**	**71**	P		**P**	**07 33 14.3**	**-1.1**
	comp=Z,10nm,1.1s,baz=258,slow=4.8,SNR=20							
TORD				LR		LR	08 06 52.8	
	comp=Z,141nm,19.4s,baz=235,slow=35							
TORD	**Torodi Ar. Bea**	**78.55**	**71**	P		**P**	**07 33 13.5**	**-1.9**
ESDC	**Sonseca Array**	**86.14**	**45**	P		**P**	**07 33 53.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=254,slow=3.3,SNR=5.2							
ESDC				LR		LR	08 09 16.0	
	comp=Z,39nm,21.0s,baz=255,slow=34							
ESDC	**Sonseca Array**	**86.14**	**45**	IAmb		IAmb	07 33 56.3	
	comp=Z,2.9nm,1.3s							
YKA	**Yellowknife Ar**	**89.44**	**341**	P		**P**	**07 34 08.7**	**-1.2**
	comp=Z,4.8nm,1.0s,baz=137,slow=5.5,SNR=11							
DZM	**Mont Dzumac**	**110.11**	**236**	*eL*R		LR	08 12 17.3	
	comp=Z,71nm,22.7s							
H11S2	**WAKE ISLAND Hyl**	**26.02**	**279**	T		T	09 59 40.9	
	baz=102,slow=74							
H11S1	**WAKE ISLAND Hyl**	**26.03**	**279**	T		T	09 59 39.7	
	baz=102,slow=74							
H11S3	**WAKE ISLAND Hyl**	**26.04**	**279**	T		T	09 59 45.6	
	baz=102,slow=74							
H11N3	**WAKE ISLAND Hyl**	**26.08**	**280**	T		T	09 59 36.8	
	baz=102,slow=74							
H11N2	**WAKE ISLAND Hyl**	**26.09**	**280**	T		T	09 59 37.8	
	baz=102,slow=74							
H11N1	**WAKE ISLAND Hyl**	**26.09**	**280**	T		T	09 59 09.8	
	baz=102,slow=74							
ASAR	**Alice Springs**	**130.20**	**210**	PKP		**PKPdf**	**07 40 23.9**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=151,slow=2.1,SNR=4.5							
WRA	**Warramunga Arr**	**133.13**	**213**	PKP		**PKPdf**	**07 40 29.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=166,slow=1.7,SNR=5.6							
MKAR	**Makanchi Array**	**145.56**	**33**	PKPbc		**PKPab**	**07 40 52.5**	**+0.4**
	comp=Z,8.1nm,0.9s,baz=336,slow=2.7,SNR=50							
KSH	**Kashi**	**145.59**	**49**	PKPbc		**PKPdf**	**07 40 51.8**	**-0.3**
KSH				pPKP		sPKPab	07 41 05.5	+4.9
USRK	**Ussuriysk Ar.**	**149.53**	**327**	PKPbc		**PKiKP**	**07 41 04.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=44,slow=6.4,SNR=6.0							
USRK	**Ussuriysk Ar.**	**149.53**	**327**			**PKiKP**	**07 41 04.4**	**+0.4**
MJAR	**Matsushiro Arr**	**149.96**	**309**	PKPbc		**PKPbc**	**07 41 04.1**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=80,slow=4.0,SNR=6.2							
SONM	**Songino Array**	**152.37**	**4**	PKPbc		**PKPbc**	**07 41 08.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=241,slow=1.5,SNR=5.3							

PRE ***17*** *07:33:09.5±1.1,24.7°S×30.3°E,h5km,ML2.8*
ISC 17 07:33:10.1±1.6,24.74S±0.03×30.42E±0.05,h12km±13km, n16,σ1s95/32,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLN	**Carolina, Mapu**	**1.30**	**196**	*eP*	**Pn**	**07 33 34.8**	**+0.5**
CRLN				*eS*	**Sn**	**07 33 52.2**	**+0.6**
CRLN				AML	AML	07 33 59.1	
	comp=Z,117nm,0.1s						
MOPA	**Mopani**	**1.51**	**36**	*eP*	**Pg**	**07 33 38.9**	**-0.3**
MOPA				*eS*	**Sb**	**07 33 58.5**	**+1.1**
MOPA				AML	AML	07 34 01.4	
	comp=Z,160nm,0.1s						
MAGG	**Maguga Dam**	**1.53**	**150**	*eP*	**Pb**	**07 33 38.4**	**-0.1**
MAGG				*eS*	**Sg**	**07 33 58.9**	**-0.6**
MAGG				AML	AML	07 34 02.1	
	comp=Z,348nm,0.2s						
HAGI	**HAGI**	**1.53**	**153**	*eP*	**Pb**	**07 33 38.5**	**-0.1**
HAGI				*eS*	**Sn**	**07 33 58.2**	**+0.8**
HAGI				AML	AML	07 34 01.7	
	comp=Z,456nm,0.4s						
SLR	**Silverton**	**2.17**	**243**	*eP*	**Pn**	**07 33 46.9**	**+0.6**
SLR				*eS*	**Sn**	**07 34 13.6**	**+0.4**
SLR				AML	AML	07 34 19.3	
	comp=Z,100nm,0.4s						
POGA	**Pongola**	**2.84**	**156**	*eP*	**Pn**	**07 33 56.3**	**+1.0**
POGA				*eS*	**Sn**	**07 34 29.8**	**+0.3**
POGA				AML	AML	07 34 44.5	
	comp=Z,46nm,0.5s						
WDLM	**Western Deep L**	**3.18**	**238**	*eP*	**Pn**	**07 34 01.0**	**+0.8**
WDLM				*eS*	**Sn**	**07 34 37.8**	**-0.4**
WDLM				AML	AML	07 34 56.5	
	comp=Z,67nm,0.3s						
PRYS	**Parys**	**3.51**	**231**	*eP*	**Pn**	**07 34 05.7**	**+1.1**
PRYS				*eS*	**Sn**	**07 34 45.3**	**-0.9**
PRYS				AML	AML	07 35 05.5	
	comp=Z,28nm,0.6s						
LBTB	**Lobatse**	**4.39**	**265**	*eP*	**Pn**	**07 34 17.6**	**+0.8**
LBTB				*eS*	**Sn**	**07 35 06.6**	**-1.2**
LBTB				AML	AML	07 35 32.2	
	comp=Z,20nm,0.4s						
LBTB	**Lobatse**	**4.39**	**265**	*i* P	**Pn**	**07 34 19.7**	**+3.0**
LBTB				*i* S	**Sn**	**07 35 10.2**	**+2.4**
LBTB	**Lobatse**	**4.39**	**265**	*i* P	**Pn**	**07 34 19.7**	**+3.0**
LBTB				*i* S	**Sn**	**07 35 10.2**	**+2.4**
BLWY	**Bulawayo**	**4.88**	**340**	*i* P	**Pn**	**07 34 23.4**	**-0.1**
BLWY				*i* S	**Sn**	**07 35 18.4**	**-1.6**
BLWY	**Bulawayo**	**4.88**	**340**	*i* P	**Pn**	**07 34 23.4**	**-0.1**
BLWY				*i* S	**Sn**	**07 35 18.4**	**-1.6**
BOSA	**Boshof**	**6.01**	**229**	*eP*	**Pn**	**07 34 39.9**	**+0.8**
BOSA				*eS*	**Sn**	**07 35 45.2**	**-2.8**
BOSA				AML	AML	07 36 17.6	
	comp=Z,10.0nm,0.5s						
BOSA	**Boshof**	**6.01**	**229**	*i* P	**Pn**	**07 34 40.0**	**+0.9**
BOSA				*i* S	**Sn**	**07 35 42.8**	**-5.1**
BOSA	**Boshof**	**6.01**	**229**	*i* P	**Pn**	**07 34 40.0**	**+0.9**
BOSA				*i* S	**Sn**	**07 35 42.8**	**-5.1**

IDC ***17*** *07:40:38.9±2.0,21.83N×143.46E,h182km±18km, mb3.6/17,mb1 3.8/19,mb1mx3.6/50,mbtmp4.1/19,Error ellipse: s-maj=15.5km s-min=11.5km az=70.0*
NEIC ***17*** *07:40:39.0±1.6,21.8N±0.1×143.5E±0.2,h179km±5km, mb4.1/31,Error ellipse: s-maj=22.7km s-min=14.5km az=77.0*
JMA ***17*** *07:40:43.9±0.1,22.24N×143.90E,h208km*
ISC 17 07:40:40.8±0.7,21.91N±0.08×143.5E±0.1,h200km,n62, σ1s20/65,mb4.0/29,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.86**	**346**	P	**Pn**	**07 41 54.5**	**+1.0**
JHH2				S	**Sn**	**07 42 49.4**	**-1.4**
CBIJ	**Chichi jima**	**5.31**	**347**	P	**Pn**	**07 42 00.0**	**+0.8**
CBIJ				S	**Sn**	**07 42 59.3**	**-1.8**
JCJ	**Chichijima**	**5.31**	**347**	P	**Pn**	**07 41 58.2**	**-1.0**
	6.5nm,0.3s,baz=232,slow=17,SNR=2.4						
JCJ				S	**Sn**	**07 42 58.7**	**-2.4**
	24nm,0.3s,baz=270,slow=20,SNR=2.6						
JOD2	**Odawara 2**	**13.86**	**345**	P	**P**	**07 43 49.8**	**-1.3**
JNY	**Yasuok**	**14.29**	**341**	P	**P**	**07 43 55.4**	**-0.5**
JRY	**Ryogami san**	**14.63**	**345**	P	**P**	**07 43 59.1**	**-0.4**
JWT	**Wachi**	**15.11**	**334**	P	**P**	**07 44 05.1**	**+0.3**
JWT				IAmb	IAmb	07 44 08.5	
	comp=Z,7.0nm,0.9s						
MJAR	**Matsushiro Arr**	**15.30**	**344**	P	**P**	**07 44 05.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=163,slow=18,SNR=2.4						
JHS	**Saijyo**	**15.92**	**327**	P	**Pn**	**07 44 16.4**	**+2.2**
JHS	**Saijyo**	**15.92**	**327**	P	**Pn**	**07 44 13.4**	**-0.7**
JHS				IAmb	IAmb	07 44 22.6	
	comp=Z,8.0nm,0.6s						
JMM	**Marumori**	**16.08**	**352**	P	**Pn**	**07 44 15.7**	**-0.3**
JSD	**Sado**	**16.70**	**345**	P	**Pn**	**07 44 22.1**	**-1.4**
JSD				IAmb	IAmb	07 44 51.0	
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**20.54**	**322**	P	**P**	**07 45 04.7**	**+0.8**
	comp=Z,3.8nm,0.7s,baz=148,slow=9.7,SNR=23						
KSRS				S	**S**	**07 48 43.8**	**+1.5**
	comp=Z,4.4nm,1.0s,baz=321,slow=28,SNR=5.5						
SSLB	**Suanglung**	**20.88**	**279**	P	**P**	**07 45 07.9**	**+0.2**
KLR	**Kul'dur**	**28.83**	**344**	P	**P**	**07 46 21.1**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=156,slow=7.8,SNR=13						
SONM	**Songino Array**	**39.38**	**320**	P	**P**	**07 47 51.1**	**0.0**
	comp=Z,1.2nm,0.4s,baz=129,slow=7.2,SNR=6.9						
SONM	**Songino Array**	**39.38**	**320**	IAmb	IAmb	07 47 54.1	
	comp=Z,1.1nm,0.6s						
SEY	**Seymchan**	**41.45**	**6**	P	**P**	**07 48 07.7**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=190,slow=9.3,SNR=6.1						
WRA	**Warramunga Arr**	**42.55**	**193**	P	**P**	**07 48 15.2**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=96,slow=8.0,SNR=11						
ASAR	**Alice Springs**	**46.25**	**192**	P	**P**	**07 48 46.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=14,slow=9.3,SNR=1.8						
ZALV	**Zalesovo Beam**	**54.24**	**322**	P	**P**	**07 49 45.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=97,slow=5.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**54.24**	**322**	P	**P**	**07 49 44.3**	**-1.6**
MK31	**Makanchi Array**	**54.79**	**313**	P	**P**	**07 49 49.3**	**-0.7**
MKAR	**Makanchi Array**	**54.79**	**313**	P	**P**	**07 49 49.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=92,slow=7.8,SNR=9.8						
MKAR	**Makanchi Array**	**54.79**	**313**	P	**P**	**07 49 50.5**	**+0.5**
KDAK	**Kodiak Island**	**57.85**	**35**	P	**P**	**07 50 12.2**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=290,slow=5.6,SNR=23						
KDAK	**Kodiak Island**	**57.85**	**35**	P	**P**	**07 50 11.0**	**-0.3**
KDAK				IAmb	IAmb	07 50 14.0	
	comp=Z,3.4nm,1.1s						
BPAW	**Bear Paw Mtn.**	**59.84**	**28**	P	**P**	**07 50 25.2**	**+0.2**
BPAW				IAmb	IAmb	07 50 27.2	
	comp=Z,3.7nm,0.6s						
A21K	**Barrow**	**59.91**	**19**	P	**P**	**07 50 26.4**	**+1.2**
MLY	**Manley**	**60.15**	**26**	P	**P**	**07 50 28.7**	**+1.6**
MLY				IAmb	IAmb	07 50 29.2	
	comp=Z,1.6nm,0.8s						
PWL	**Port Wells**	**60.49**	**31**	P	**P**	**07 50 30.0**	**+0.6**
BWN	**Browne**	**60.51**	**28**	P	**P**	**07 50 31.9**	**+2.5**
COLD	**Coldfoot**	**60.85**	**24**	P	**P**	**07 50 33.6**	**+1.8**
COLD				IAmb	IAmb	07 50 34.1	
	comp=Z,1.8nm,0.7s						
GLI	**Glacier Island**	**61.09**	**32**	P	**P**	**07 50 34.2**	**+0.7**
GLI				IAmb	IAmb	07 50 42.5	
	comp=Z,4.0nm,0.9s						
MDM	**Murphy Dome**	**61.18**	**27**	P	**P**	**07 50 35.9**	**+1.9**
MDM				IAmb	IAmb	07 50 39.9	
	comp=Z,2.7nm,1.2s						
CCB	**Clear Creek Bu**	**61.30**	**27**	P	**P**	**07 50 35.2**	**+0.4**
TOLK	**Toolik Lake Re**	**61.41**	**23**	P	**P**	**07 50 37.6**	**+2.1**
HDA	**Harding Lake**	**61.63**	**28**	P	**P**	**07 50 36.6**	**-0.4**
HDA				IAmb	IAmb	07 50 38.2	
	comp=Z,2.4nm,0.6s						
IL31		**61.71**	**27**	P	**P**	**07 50 37.7**	**+0.2**
IL31				IAmb	IAmb	07 50 38.3	
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**61.71**	**27**	P	**P**	**07 50 37.4**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=258,slow=5.4,SNR=27						
ILAR	**Eielson Array**	**61.71**	**27**	P	**P**	**07 50 37.2**	**-0.4**
KLU	**Klutina**	**61.72**	**31**	P	**P**	**07 50 38.3**	**+0.5**
KLU				IAmb	IAmb	07 50 40.2	
	comp=Z,5.2nm,1.3s						
PAX	**Paxson**	**62.10**	**29**	P	**P**	**07 50 40.1**	**-0.1**
PAX				IAmb	IAmb	07 50 49.9	
	comp=Z,3.2nm,1.1s						
N25K	**Chitina, Valde**	**62.37**	**31**	P	**P**	**07 50 43.7**	**+1.6**
N25K				IAmb	IAmb	07 50 44.3	
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**62.78**	**319**	P	**P**	**07 50 44.8**	**0.0**
DOT	**Dot Lake**	**62.80**	**29**	P	**P**	**07 50 45.9**	**+1.0**
DOT				IAmb	IAmb	07 50 46.4	
	comp=Z,2.6nm,1.0s						
SCRK	**Sand Creek**	**62.87**	**28**	P	**P**	**07 50 46.3**	**+0.9**
SCRK				IAmb	IAmb	07 50 47.0	
	comp=Z,3.4nm,0.8s						
BMAR	**Burnt Mountain**	**63.03**	**24**	P	**P**	**07 50 48.8**	**+2.5**
K27K	**Chicken**	**63.71**	**28**	P	**P**	**07 50 52.7**	**+1.9**

HHC					pmax	pmax				
	comp=Z,19nm,0.8s									
HHC					pmax	pmax				
	comp=Z,62nm,4.9s									
WR0	**Warramunga Arr**	**40.94**	**123**		P	**P**	**07 50 27.8**	**-1.5**		
ASAR	**Alice Springs**	**42.23**	**128**		P	**P**	**07 50 38.2**	**-1.7**		
	comp=Z,2.4nm,0.5s,baz=302,slow=7.9,SNR=44									
FORT	**Forrest**	**42.42**	**142**		P	**P**	**07 50 41.0**	**-0.2**		
WMQ	**Urumqi**	**43.32**	**348**	*eP*		**P**	**07 50 49.9**	**+1.5**		
KSRS	**Korea Array**	**44.67**	**33**		P	**P**	**07 50 59.1**	**0.0**		
	comp=Z,5.5nm,0.8s,baz=221,slow=8.9,SNR=29									
KDJ	**Kajisay**	**44.92**	**337**		P	**P**	**07 51 01.4**	**0.0**		
KDJ					IAmb	IAmb	07 51 03.5			
	comp=Z,6.4nm,1.1s									
DRK	**Karamyk**	**45.16**	**330**		IAmb	IAmb	07 51 05.2			
	comp=Z,14nm,0.7s									
ARSB	**Arslanbob**	**46.04**	**333**		P	**P**	**07 51 10.8**	**+0.7**		
ARSB					IAmb	IAmb	07 51 11.8			
	comp=Z,7.3nm,0.7s									
SONM	**Songino Array**	**46.63**	**7**		P	**P**	**07 51 15.1**	**+0.5**		
	comp=Z,1.8nm,0.3s,baz=188,slow=9.6,SNR=15									
SONM					PcP	**PcP**	**07 52 46.9**	**-0.1**		
	comp=Z,1.1nm,0.5s,baz=185,slow=2.8,SNR=6.4									
SONM					ScP	**ScP**	**07 56 30.2**	**-1.4**		
	comp=Z,0.9nm,0.7s,baz=196,slow=4.1,SNR=5.2									
SONM	**Songino Array**	**46.63**	**7**		P	**P**	**07 51 15.3**	**+0.7**		
MK31	**Makanchi Array**	**47.40**	**345**		P	**P**	**07 51 20.5**	**0.0**		
MK31					IAmb	IAmb	07 51 22.8			
	comp=Z,3.4nm,0.5s									
MKAR	**Makanchi Array**	**47.40**	**345**		P	**P**	**07 51 20.7**	**+0.2**		
	comp=Z,3.7nm,0.4s,baz=156,slow=8.5,SNR=45									
MAKZ	**Makanchi**	**47.50**	**344**		P	**P**	**07 51 21.1**	**-0.2**		
MAKZ					IAmb	IAmb	07 51 24.2			
	comp=Z,3.1nm,0.6s									
BBOO	**Buckleboo**	**48.93**	**138**		P	**P**	**07 51 30.0**	**-2.5**		
TLY	**Talaya**	**50.18**	**4**		P	**P**	**07 51 41.5**	**-0.2**		
TLY					IAmb	IAmb	07 51 43.8			
	comp=Z,2.9nm,0.9s									
CTA	**Charters Tower**	**51.12**	**117**		P	**P**	**07 51 48.8**	**-0.5**		
	comp=Z,2.7nm,0.8s,baz=299,slow=11,SNR=3.7									
USRK	**Ussuriysk Ar.**	**51.67**	**30**		P	**P**	**07 51 53.4**	**+0.4**		
	comp=Z,3.7nm,0.8s,baz=215,slow=5.9,SNR=8.8									
USRK	**Ussuriysk Ar.**	**51.67**	**30**		P	**P**	**07 51 52.0**	**-0.9**		
GEYT	**Alibeck**	**52.09**	**319**		P	**P**	**07 51 55.2**	**-1.0**		
	comp=Z,36nm,0.9s,baz=204,slow=13,SNR=3.5									
GEYT	**Alibeck**	**52.09**	**319**		P	**P**	**07 51 55.3**	**-1.0**		
STKA	**Stephens Creek**	**52.30**	**133**		P	**P**	**07 51 56.0**	**-1.9**		
	comp=Z,1.8nm,0.6s,baz=322,slow=20,SNR=3.1									
ZAA0	**Zalesovo Array**	**53.57**	**350**		P	**P**	**07 52 06.6**	**-0.1**		
ZALV	**Zalesovo Beam**	**53.57**	**350**		P	**P**	**07 52 06.8**	**+0.1**		
	comp=Z,7.4nm,0.4s,baz=180,slow=6.1,SNR=16									
BRVK	**Borovoye**	**56.62**	**340**		P	**P**	**07 52 27.7**	**-1.1**		
BRVK					IAmb	IAmb	07 52 29.0			
	comp=Z,2.6nm,0.8s									
EIDS	**Eidsvold**	**57.08**	**122**		P	**P**	**07 52 32.1**	**-0.4**		
KBZ	**Khabaz**	**64.97**	**318**		P	**P**	**07 53 25.5**	**0.0**		
	comp=Z,5.4nm,0.8s,baz=127,slow=7.5,SNR=8.7									
BRTR	**Keskin Array B**	**70.18**	**312**		P	**P**	**07 53 57.9**	**-0.7**		
	comp=Z,1.9nm,0.7s,baz=128,slow=6.3,SNR=7.1									
BRTR	**Keskin Array B**	**70.18**	**312**		P	**P**	**07 53 58.0**	**-0.6**		
TIXI	**Tiksi**	**72.62**	**10**		P	**P**	**07 54 10.9**	**-1.6**		
AKASG	**Malin Array Be**	**76.07**	**322**		P	**P**	**07 54 31.2**	**-1.7**		
	comp=Z,0.6nm,0.4s,baz=89,slow=5.5,SNR=5.5									
AKASG	**Malin Array Be**	**76.07**	**322**		IAmb	IAmb	07 54 33.0			
	comp=Z,1.4nm,1.1s									
BOSA	**Boshof**	**76.39**	**240**		P	**P**	**07 54 36.3**	**+1.0**		
	comp=Z,3.3nm,0.7s,baz=140,slow=4.1,SNR=4.2									
BOSA	**Boshof**	**76.39**	**240**		IAmb	IAmb	07 54 37.1			
	comp=Z,5.1nm,0.9s									
MNK	**Minsk**	**77.84**	**326**	*i*	P	P	07 54 47.0	+4.3		
	comp=E,3.0nm,0.7s									
MNK				*i*	P	P	07 54 47.0	+4.3		
	comp=N,9.0nm,0.6s									
MNK				*i*	P	P	07 54 47.0	+4.3		
	comp=Z,10.0nm,0.6s,baz=106									
MNK				*i*	pP	sP	07 55 15.0	-4.3		
MNK				*i*	PP	**PP**	**07 57 44.1**	**+4.4**		
MNK				*i*	PPP	PPP	07 59 32.2			
MNK				*i*	S	**S**	**08 04 31.9**	**+4.5**		
MNK				*i*	ScS	**ScS**	**08 04 56.1**	**+3.2**		
MNK				*i*	sS	sS	08 05 20.6	+8.8		
MNK				*i*	SS	**SS**	**08 09 36.0**	**+6.0**		
MNK				*i*	SSS	SSS	08 13 15.1			
MNK				*i*	LRM	MLR	08 31 22.4			
	comp=Z,45nm,19.4s									
MNK				*i*	LRM	MLR	08 31 28.9			
	comp=E,10.0nm,19.3s									
MNK				*i*	LRM	MLR	08 31 28.9			
	comp=N,356nm,28.4s									
BURAR	**Bucovina Array**	**77.93**	**318**		P	**P**	**07 54 43.8**	**+0.3**		
FINES	**FINESS Array B**	**80.53**	**332**		P	**P**	**07 54 56.9**	**-0.3**		
	comp=N,1.6nm,0.6s,baz=108,slow=6.2,SNR=6.5									
ARCES	**ARCESS Array B**	**82.84**	**340**		P	**P**	**07 55 09.0**	**-0.3**		
	comp=N,4.7nm,0.9s,baz=104,slow=9.1,SNR=9.1									
GERES	**GERESS Array B**	**85.72**	**319**		P	**P**	**07 55 24.7**	**+0.4**		
	comp=N,0.2nm,0.3s,baz=104,slow=8.2,SNR=4.3									
TORD	**Torodi Ar. Bea**	**96.67**	**283**		P	**P**	**07 56 16.2**	**+0.1**		
	comp=N,0.4nm,0.5s,baz=102,slow=6.7,SNR=2.3									
TXAR	**Lajitas Array**	**142.52**	**33**		PKhKP	PKPpre	08 02 14.6			
	comp=N,0.1nm,0.4s,baz=250,slow=1.8,SNR=6.0									
BDFB	**Brasilia**	**144.46**	**245**		PKP	**PKPdf**	**08 02 21.4**	**-0.8**		
	comp=N,3.9nm,0.6s,baz=110,slow=4.7,SNR=4.9									
CPUP	**Villa Florida**	**146.34**	**221**		PKPbc	**PKPab**	**08 02 26.1**	**-1.1**		
	comp=N,1.8nm,0.8s,baz=61,slow=0.6,SNR=4.5									

IDC 17 08:06:26.1±4.3, 18°12S×178°43W, h542km±23km, mb3.2/3, mb1 3.3/4, mb1mx2.9/27, mbtmp4.1/4, Error ellipse: s-maj=103.3km s-min=60.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.38**	**276**	P	P	08 07 42.9	-0.1
	2.1nm,0.3s,baz=103,slow=22,SNR=13						
STKA	**Stephens Creek**	**38.51**	**241**	P	P	08 13 02.9	+0.6
	2.9nm,0.7s,baz=102,slow=6.6,SNR=3.0						
WRA	**Warramunga Array**	**44.58**	**260**	P	P	08 13 49.7	-0.7
	0.4nm,0.5s,baz=95,slow=6.7,SNR=15						
WRA				PcP	PcP	08 15 21.5	-0.3
	0.5nm,0.8s,baz=97,slow=3.4,SNR=2.2						
ASAR	**Alice Springs**	**44.72**	**254**	P	P	08 13 51.6	+0.1
	4.5nm,0.4s,baz=89,slow=8.2,SNR=91						
ASAR				PcP	PcP	08 15 21.9	-0.3
	0.3nm,0.4s,baz=99,slow=3.9,SNR=2.2						

GCG 17 08:11:12.3±0.4, 14°.50N×90°.01W, h0km±11km, MD3.4
INET 17 08:11:13.8, 14°.57N×90°.17W, h26km, MW3.2
SNET 17 08:11:17.0±1.2, 14°.52N×90°.20W, h5km±4km, ML2.9
ISC 17 08:11:17.0±1.1, 14°53N±0°.06×90°18W±0°.03, h14km±8km, n23, σ0°36/34, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NBG	**Las Nubes**	**0.17**	**289**	*i* P	**Pg**	**08 11 21.1**	**-0.2**
PCG	**Pacaya**	**0.43**	**251**	*i* P	**Pg**	**08 11 25.7**	**-0.1**
FUG	**Fuego 3**	**0.64**	**263**	*i* P	**Pg**	**08 11 29.3**	**-0.4**
FUG				*e*S	**Sn**	**08 11 42.3**	**+0.2**
MTO3	**Montecristo**	**0.81**	**99**	*e*P	**Pg**	**08 11 32.8**	**0.0**
MTO3				IAML		08 11 33.7	
	comp=Z,289nm,0.2s						
ESQI	**Esquipulas**	**0.81**	**88**	*e*P	**Pb**	**08 11 33.1**	**0.0**
ESQI				*e*S	**Sn**	**08 11 45.9**	**-0.4**
RTR	**El Retiro**	**0.82**	**140**	*e*P	**Pg**	**08 11 33.0**	**+0.1**
SNJE	**San Jose**	**0.86**	**140**	*e*P	**Pg**	**08 11 33.7**	**-0.1**
SBLS	**San Blas**	**0.88**	**142**	*e*P	**Pg**	**08 11 34.1**	**0.0**
CEVE	**Cerro Verde**	**0.88**	**142**	*e*P	**Pb**	**08 11 34.3**	**0.0**
CEVE				*e*S	**Sn**	**08 11 47.5**	**-0.6**
CEVE				IAML		08 11 56.2	
	comp=Z,458nm,0.3s						
TACO	**Tacachico**	**0.98**	**125**	*e*P	**Pb**	**08 11 35.5**	**-0.3**
TACO				*e*S	**Sg**	**08 11 49.2**	**+0.4**
CEDA	**San Andres**	**1.05**	**133**	*e*P	**Pb**	**08 11 36.7**	**-0.4**
CEDA				*e*S	**Sn**	**08 11 51.8**	**-0.2**
CEDA				IAML		08 11 56.1	
	comp=Z,472nm,0.7s						
JAYA	**Jayaque - finc**	**1.12**	**141**	*e*P	**Pb**	**08 11 38.2**	**-0.2**
JAYA				*e*S	**Sn**	**08 11 54.1**	**+0.2**
BOQS	**Boqueron**	**1.18**	**132**	*e*P	**Pn**	**08 11 39.4**	**0.0**
UEES	**Universidad Ev**	**1.22**	**131**	*e*P	**Pn**	**08 11 39.9**	**+0.1**
UEES				IAML		08 12 00.1	
	comp=Z,245nm,0.2s						
LFU	**La Fuente**	**1.30**	**127**	*e*P	**Pb**	**08 11 41.2**	**-0.1**
LFU				*e*S	**Sg**	**08 11 59.4**	**+0.5**
LBRS	**Las Brisas**	**1.36**	**125**	*e*P	**Pb**	**08 11 42.2**	**-0.1**
LFRS	**El Faro**	**1.41**	**130**	*e*P	**Pb**	**08 11 43.2**	**-0.1**
SJTE	**Alcalda de S**	**1.46**	**128**	*e*P	**Pb**	**08 11 44.5**	**+0.4**
SJTE				*e*S	**Sg**	**08 12 04.9**	**+0.7**
RTAL	**Retalhuleu**	**1.47**	**270**	*e*P	**Pn**	**08 11 43.1**	**-0.1**
RTAL				*e*S	**Sb**	**08 12 03.4**	**+0.7**
HUEH	**Huehuetenango**	**1.50**	**302**	*e*P	**Pn**	**08 11 43.9**	**+0.2**
COEG	**Centro de Oper**	**1.56**	**125**	*e*P	**Pb**	**08 11 45.0**	**-0.7**
COEG				*e*S	**Sg**	**08 12 07.0**	**-0.2**
COEG				IAML		08 12 09.4	
	comp=Z,178nm,0.2s						
TECO	**Alcaldia de Te**	**1.68**	**126**	*e*P	**Pb**	**08 11 47.4**	**-0.4**
TECO				*e*S	**Sg**	**08 12 10.8**	**-0.4**
PQSS	**Presa 15 de Se**	**1.81**	**120**	*e*P	**Pb**	**08 11 49.6**	**-0.5**

SOME 17 08:13:15.9, 41°.43N×78°.97E, h0km
NNC 17 08:13:16.9±1.6, 41°.33N×78°.87E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=11.4km s-min=7.4km az=166.0
KRNET 17 08:13:16.6±0.1, 41°.34N×78°.89E, h12km, mb2.8
ISC 17 08:13:14.5±2.4, 41°23N±0°.09×78°93E±0°.04, h3km±13km, n41, σ1°11/64, 16C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.98**	**301**	⇓*i* P	**Pg**	**08 13 34.3**	**+1.0**
TARG				⇓*i* S	**Sb**	**08 13 47.0**	**-0.9**
	baz=96						
PRZ	**Przheval'sk**	**1.31**	**343**	⇑*i* P	**Pb**	**08 13 39.9**	**0.0**
PRZ				⇑*i* S	**Sn**	**08 13 57.1**	**-0.9**
	baz=43						
KDJ	**Kajisay**	**1.59**	**305**	⇑*i* P	**Pb**	**08 13 45.1**	**+0.5**
KDJ				⇑*i* S	**Sg**	**08 14 05.7**	**+0.1**
	baz=2.0						
ANVS	**Anan'yevo**	**1.82**	**329**	⇑*i* P	**Pb**	**08 13 48.8**	**+0.3**
ANVS				⇑*i* S	**Sg**	**08 14 12.5**	**-0.3**
	baz=28						
SATY	**Saty**	**1.87**	**348**	*e*P	**Pb**	**08 13 49.8**	**+0.5**
SATY				*e*S	**Sg**	**08 14 14.5**	**-0.1**
	27nm,0.1s						
SATY	**Saty**	**1.87**	**348**	P	**Pb**	**08 13 49.8**	**+0.5**
SATY				S	**Sg**	**08 14 14.9**	**+0.3**
	27nm,0.1s						
UZB	**Uzynbulak**	**1.92**	**2**	*e*P	**Pb**	**08 13 50.0**	**-0.2**
UZB				*e*S	**Sb**	**08 14 14.4**	**-0.2**
	16nm,0.3s						
SHLS	**Shalkode**	**1.97**	**11**	*e*P	**Pg**	**08 13 52.7**	**+0.5**
SHLS				*e*S	**Sg**	**08 14 19.1**	**+1.4**
	46nm,0.1s						
SHLS	**Shalkode**	**1.97**	**11**	Pg	**Pg**	**08 13 52.7**	**+0.5**
SHLS				Lg	Lg	08 14 19.1	
	46nm,0.1s						
PDGK	**Podgornoye**	**2.14**	**11**	Pg	**Pb**	**08 13 53.8**	**-0.2**
PDGK				Lg	Lg	08 14 21.8	
	8.9nm,0.1s						
PDGK	**Podgornoye**	**2.14**	**11**	⇑Pn	**Pb**	**08 13 53.0**	**-1.0**
PDGK				⇑Sn	**Sb**	**08 14 20.4**	**-0.5**
	11nm,0.5s						
KPKS	**Kokpek**	**2.24**	**355**	*e*P	**Pb**	**08 13 55.7**	**0.0**
KPKS				*e*S	**Sg**	**08 14 24.4**	**-2.1**
	60nm,0.1s						
ULHL	**Ulahol**	**2.25**	**298**	⇑*i* P	**Pb**	**08 13 56.2**	**+0.3**
ULHL				⇑*i* S	**Sb**	**08 14 25.3**	**+1.0**
	268nm,0.2s						
KURS	**Kuram**	**2.33**	**346**	*e*P	**Pb**	**08 13 57.4**	**+0.3**
KURS				*e*S	**Sg**	**08 14 27.4**	**-1.8**
	baz=95						
KURS	**Kuram**	**2.33**	**346**	Pg	**Pb**	**08 13 57.4**	**+0.3**
KURS				Lg	Lg	08 14 27.4	
	18nm,0.2s						
MDOK	**Medeo**	**2.39**	**325**	*e*P	**Pb**	**08 13 58.7**	**+0.5**
MDOK				*e*S	**Sg**	**08 14 30.0**	**-1.2**
	4.8nm,0.1s						
MDOK	**Medeo**	**2.39**	**325**	Pn	**Pn**	**08 13 56.6**	**+2.0**
MDOK				Lg	Lg	08 14 29.7	
	89nm,0.4s						
MDOK	**Medeo**	**2.39**	**325**	Pg	**Pb**	**08 13 58.7**	**+0.5**
MDOK				Lg	Lg	08 14 30.0	
	7.6nm,0.5s						
BOOM	**Boomskoye usch**	**2.56**	**300**	⇑*e*P	**Pb**	**08 14 00.4**	**-0.8**
BOOM				⇑*i* S	**Sb**	**08 14 32.6**	**-0.6**
	4.8nm,0.2s						
MTBS	**Maitube**	**2.66**	**316**	*e*P	**Pb**	**08 14 03.8**	**+1.0**
MTBS				*e*S	**Sg**	**08 14 38.2**	**-1.6**
	3.8nm,0.2s						
MTBS	**Maitube**	**2.66**	**316**	Pg	**Pb**	**08 14 03.7**	**+1.0**
MTBS				Lg	Lg	08 14 38.3	
	3.8nm,0.2s						
KST	**Kastek**	**2.86**	**310**	*e*P	**Pb**	**08 14 07.3**	**+1.2**
KST				*e*S	**Sg**	**08 14 44.4**	**-1.8**
	4.1nm,0.1s						
KST	**Kastek**	**2.86**	**310**	Pg	**Pb**	**08 14 07.3**	**+1.2**
KST				Lg	Lg	08 14 44.4	
	4.1nm,0.1s						
KTBS	**Karatobe**	**2.99**	**327**	*e*P	**Pb**	**08 14 08.6**	**+0.3**
KTBS				*e*S	**Sb**	**08 14 46.6**	**+1.4**
	7.0nm,0.2s						
KTBS	**Karatobe**	**2.99**	**327**	Pg	**Pb**	**08 14 08.6**	**+0.3**
KTBS				Lg	Lg	08 14 47.6	
	7.0nm,0.2s						
CHKK	**Chushkaly**	**2.99**	**332**	*e*P	**Pb**	**08 14 09.4**	**+1.1**
CHKK				*e*S	**Sg**	**08 14 48.1**	**-2.5**
	4.2nm,0.2s						
CHKK	**Chushkaly**	**2.99**	**332**	Pg	**Pb**	**08 14 09.4**	**+1.1**
CHKK				Lg	Lg	08 14 48.1	
	4.2nm,0.2s						
TKM2	**Tokmak 2**	**3.00**	**305**	⇑*i* P	**Pb**	**08 14 06.9**	**-1.8**
TKM2				⇑*i* S	**Sb**	**08 14 43.0**	**-2.8**
	baz=4.0						
TKM2	**Tokmak 2**	**3.00**	**305**	⇓Pg	**Pb**	**08 14 08.0**	**-0.7**
TKM2				⇓Lg	Lg	08 14 47.7	
	1.6nm,0.7s						
ARXS	**Arharly**	**3.09**	**345**	*e*P	**Pb**	**08 14 11.4**	**+1.3**
ARXS				*e*S	**Sg**	**08 14 51.3**	**-2.4**
	6.6nm,0.6s						
	17nm,0.2s						
ARXS	**Arharly**	**3.09**	**345**	Pg	**Pb**	**08 14 11.4**	**+1.3**
ARXS				Lg	Lg	08 14 51.3	
	32nm,0.3s						
DJR	**Jarkent**	**3.17**	**11**	*e*P	**Pb**	**08 14 11.5**	**+0.1**
DJR				*e*S	**Sb**	**08 14 51.9**	**+1.5**
	3.4nm,0.1s						
DJR	**Jarkent**	**3.17**	**11**	Pg	**Pb**	**08 14 11.5**	**+0.1**
DJR				Lg	Lg	08 14 51.9	
	13nm,0.3s						
MAKZ	**Makanchi**	**5.99**	**20**	⇑Pn	Pn	08 14 49.7	+5.6
MAKZ				⇑Lg	Lg	08 16 23.6	
	0.5nm,0.6s						
MK31	**Makanchi Array**	**6.07**	**22**	⇓Pn	**Pn**	**08 14 44.3**	**-0.7**
MK31				⇓Lg	Lg	08 16 27.0	
	0.9nm,0.6s,baz=206,slow=14,SNR=3.0						
	0.3nm,0.6s,baz=214,slow=28						

IDC 17 08:13:43.1±2.5, 21°.70S×179°.38W, h410km±26km, mb3.4/7, mb1 3.6/8, mb1mx3.3/29, mbtmp4.2/8, Error ellipse: s-maj=34.0km s-min=20.0km az=151.0
ISC 17 08:13:42.3±1.0, 21°8S±0°.2×179°4W±0°.2, h400km, n9, σ0°67/9, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.69**	**328**	P	**Pn**	**08 15 02.1**	**+0.8**
	0.4nm,0.3s,baz=162,slow=9.9,SNR=0.9						
URZ	**Urewera**	**16.73**	**190**	P	**P**	**08 17 13.8**	**+0.6**
	0.5nm,0.3s,baz=308,slow=20,SNR=1.7						
STKA	**Stephens Creek**	**36.12**	**245**	P	**P**	**08 20 08.8**	**+0.4**
	1.5nm,0.5s,baz=95,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**43.02**	**258**	P	**P**	**08 21 04.4**	**-0.3**
	4.4nm,0.8s,baz=98,slow=7.6,SNR=57						
WRA	**Warramunga Arr**	**43.20**	**264**	P	**P**	**08 21 05.4**	**-0.7**
	4.0nm,0.8s,baz=97,slow=6.8,SNR=46						
FITZ	**Fitzroy Crossi**	**51.63**	**264**	P	**P**	**08 22 09.6**	**-0.5**
	1.7nm,0.5s,baz=100,slow=5.9,SNR=3.0						
SIJI	**Sorong**	**52.36**	**287**	P	**P**	**08 22 15.5**	**-0.1**
	15nm,0.7s,baz=104,slow=4.2,SNR=7.9						
NVAR	**Mina Array Bea**	**82.80**	**44**	P	**P**	**08 25 22.5**	**-0.7**
	0.5nm,0.9s,baz=238,slow=5.2,SNR=2.7						
TXAR	**Lajitas Array**	**88.79**	**58**	P	**P**	**08 25 52.6**	**+0.3**
	0.4nm,0.8s,baz=224,slow=5.0,SNR=4.5						

IDC 17 08:32:50.0±0.7, 16°.86S×35°.32E, h0km, mb4.0/12, mb1 4.3/18, mb1mx4.1/43, mbtmp4.2/18, ML4.0/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/39, Error ellipse: s-maj=20.3km s-min=18.8km az=120.0
NEIC 17 08:32:52.2±2.3, 16°.84S±0°.09×35°.23E±0°.09, h12km±4km, mb4.3/10, Error ellipse: s-maj=13.5km s-min=11.8km az=168.0
ISC 17 08:32:50.0±0.5, 17°02S±0°.05×35°14E±0°.05, h10km, n88, σ2°28/96, mb4.1/12, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZOMB	**Zomba**	**1.64**	**7**	*i* P	**Pn**	**08 33 18.4**	**-0.6**
ZOMB				*i* S	**Sn**	**08 33 37.3**	**-2.9**
ZOMB	**Zomba**	**1.64**	**7**	*i* P	**Pn**	**08 33 18.4**	**-0.6**
ZOMB				*i* S	**Sn**	**08 33 37.3**	**-2.9**
ZOMB	**Zomba**	**1.64**	**7**	*i* P	**Pn**	**08 33 18.3**	**-0.6**
ZOMB				*i* S	**Sn**	**08 33 37.2**	**-2.9**
ZOMB				IAML		08 33 37.4	
	comp=Z,4μm,0.5s						
THAN	**Thanula**	**5.59**	**350**	*i* P	**Pn**	**08 34 13.8**	**+0.5**
THAN				IAML		08 35 54.3	
	comp=Z,520nm,0.6s						
MBAM	**Mbamba Bay**	**5.75**	**357**	*i* P	**Pn**	**08 34 15.0**	**-0.4**
MBAM				IAML		08 35 48.5	
	comp=Z,1μm,0.3s						
LM118	**Lake Malawi, 1**	**5.81**	**353**	*i* P	**Pn**	**08 34 19.9**	**+3.7**
LM118				IAML		08 36 13.5	
	comp=Z,2μm,0.5s						
ENUK	**Enukweni**	**5.93**	**348**	*i* P	**Pn**	**08 34 20.8**	**+2.4**
ENUK				IAML		08 35 53.7	
	comp=Z,851nm,0.5s						
BOLE	**Bolero**	**6.15**	**347**	*i* P	**Pn**	**08 34 21.4**	**+0.3**
BOLE				IAML		08 36 10.9	
	comp=Z,537nm,0.9s						
NGON	**Ngonga**	**6.15**	**349**	*i* P	**Pn**	**08 34 21.2**	**+0.1**
NGON				IAML		08 36 05.7	
	comp=Z,422nm,0.5s						
LM302	**Lake Malawi, 3**	**6.18**	**352**	*i* P	Pb	08 34 29.4	-8.4
LM302				IAML		08 36 47.6	
	comp=Z,2μm,1.1s						
TIRI	**Matiri**	**6.22**	**358**	*i* P	**Pn**	**08 34 21.1**	**-1.0**
TIRI				IAML		08 36 06.0	
	comp=Z,543nm,0.5s						
LIGA	**Liganga**	**6.30**	**1**	*i* P	**Pn**	**08 34 21.7**	**-1.4**
LIGA				IAML		08 36 08.6	
	comp=Z,501nm,0.5s						
THAZ	**Thazima**	**6.33**	**346**	*i* P	**Pn**	**08 34 23.8**	**+0.2**
THAZ				IAML		08 36 09.0	
	comp=Z,575nm,0.8s						
KIMO	**Ikongo**	**6.35**	**8**	*i* P	**Pn**	**08 34 21.3**	**-2.5**
KIMO				IAML		08 36 05.6	
	comp=Z,947nm,1.1s						
LIVA	**Livingstonia**	**6.44**	**351**	*i* P	**Pn**	**08 34 24.6**	**-0.5**
LIVA				IAML		08 36 19.6	
	comp=Z,1μm,0.7s						
ZINI	**Mgazini**	**6.51**	**2**	*i* P	**Pn**	**08 34 24.8**	**-1.3**
ZINI				IAML		08 36 22.5	
	comp=Z,548nm,0.5s						
MANDA	**Manda**	**6.52**	**355**	*i* P	**Pn**	**08 34 25.4**	**-0.7**
MANDA				IAML		08 36 23.0	
	comp=Z,322nm,0.6s						
LM110	**Lake Malawi, 1**	**6.70**	**354**	*i* P	**Pn**	**08 34 29.3**	**+1.0**
LM110				IAML		08 36 49.2	
	comp=Z,1μm,0.6s						
NTHA	**Nthalire**	**6.79**	**347**	*i* P	**Pn**	**08 34 30.5**	**+0.7**
NTHA				IAML		08 36 24.9	
	comp=Z,432nm,0.7s						
NIND	**Nindi**	**6.86**	**355**	*i* P	Pn	08 34 22.1	-8.7
NIND				IAML		08 36 22.8	
	comp=Z,273nm,0.9s						
BANG	**Mbangamawe**	**6.88**	**4**	*i* P	**Pn**	**08 34 29.7**	**-1.4**
BANG				IAML		08 36 25.8	
	comp=Z,950nm,0.6s						
SCHM	**Mlare**	**6.89**	**351**	*i* P	**Pn**	**08 34 34.5**	**+3.4**
SCHM				IAML		08 36 29.8	
	comp=Z,257nm,1.0s						
LSZ	**Lusaka**	**6.90**	**284**	Pn	**Pn**	**08 34 33.7**	**+2.3**
	comp=Z,6.2nm,0.3s,baz=117,slow=12,SNR=46						
LSZ				Sn	**Sn**	**08 35 49.2**	**-1.0**
	comp=Z,8.5nm,0.3s,baz=187,slow=17,SNR=2.0						
LSZ				Lg	Lg	08 36 26.1	
	comp=Z,18nm,0.3s,baz=11,slow=18,SNR=6.0						
LSZ				LR	LR	08 37 08.5	
	comp=Z,252nm,20.4s,baz=186,slow=37						
LSZ	**Lusaka**	**6.90**	**284**	*i* P	**Pn**	**08 34 33.

KALO	**Kalowe**	**7.21**	**348**	*i* P	**Pn**	**08 34 36.3**	**+0.7**
KALO				IAML		08 36 46.4	
	comp=Z,242nm,0.7s						
LM103	**Lake Malawi, 1**	**7.33**	**352**	*i* P	**Pn**	**08 34 37.7**	**+0.6**
LM103				IAML		08 37 11.6	
	comp=Z,2μm,1.2s						
KAPK	**Kapoka**	**7.38**	**347**	*i* P	**Pn**	**08 34 37.5**	**-0.5**
KAPK				IAML		08 36 44.3	
	comp=Z,520nm,0.7s						
CPMW	**Chitipa**	**7.49**	**346**	*i* P	**Pn**	**08 34 40.1**	**+0.6**
CPMW				IAML		08 36 43.1	
	comp=Z,553nm,0.8s						
MFRI	**Mfriga**	**7.68**	**1**	*i* P	**Pn**	**08 34 40.7**	**-1.5**
MFRI				IAML		08 36 50.2	
	comp=Z,640nm,0.3s						
KIDE	**Kidegembe**	**7.70**	**359**	*i* P	**Pn**	**08 34 41.2**	**-1.2**
KIDE				IAML		08 36 54.7	
	comp=Z,295nm,1.1s						
ITUM	**Tunduma**	**7.81**	**346**	*i* P	**Pn**	**08 34 43.6**	**-0.2**
ITUM				IAML		08 36 55.1	
	comp=Z,360nm,0.6s						
ILOM	**Ilombo**	**7.88**	**347**	*i* P	**Pn**	**08 34 44.7**	**-0.4**
ILOM				IAML		08 37 00.9	
	comp=Z,448nm,1.0s						
ILIND	**Ilindi**	**8.08**	**347**	*i* P	**Pn**	**08 34 47.0**	**-0.7**
ILIND				IAML		08 37 12.2	
	comp=Z,817nm,0.6s						
BAKO	**Makambako**	**8.13**	**358**	*i* P	**Pn**	**08 34 46.8**	**-1.6**
BAKO				IAML		08 37 12.5	
	comp=Z,195nm,0.7s						
CHML	**Chimala**	**8.21**	**352**	*i* P	**Pn**	**08 34 49.0**	**-0.4**
CHML				IAML		08 37 25.3	
	comp=Z,614nm,1.2s						
JILO	**Lwanjilo**	**8.38**	**349**	*i* P	**Pn**	**08 34 51.8**	**-0.1**
JILO				IAML		08 37 21.4	
	comp=Z,159nm,0.8s						
LOSI	**Makongolosi**	**8.79**	**347**	*i* P	**Pn**	**08 34 59.1**	**+1.8**
LOSI				IAML		08 37 30.9	
	comp=Z,170nm,0.8s						
OPO	**Ambohidratompo**	**11.58**	**99**	Pn	**Pn**	**08 35 33.4**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=272,slow=16,SNR=2.9						
OPO				Sn	**Sn**	**08 37 40.7**	**-4.4**
	comp=Z,0.7nm,0.3s,baz=165,slow=20,SNR=1.4						
ABPO	**Ambohimpanom**	**11.67**	**102**	Pn	**Pn**	**08 35 38.0**	**+1.2**
ABPO	**Ambohimpanom**	**11.67**	**102**	*i* P	**Pn**	**08 35 38.0**	**+1.2**
LBTB	**Lobatse**	**11.94**	**227**		**Pn**	**08 35 43.4**	**+2.9**
LBTB	**Lobatse**	**11.94**	**227**	*i* P	**Pn**	**08 35 43.4**	**+2.9**
LBTB				IAML		08 39 06.6	
	comp=Z,118nm,0.9s						
VOI	**Vohitsoka**	**12.02**	**116**	Pn	**Pn**	**08 35 42.5**	**+1.0**
BOSA	**Boshof**	**14.70**	**217**	Pn	**P**	**08 36 22.1**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=44,slow=13,SNR=26						
BOSA				Sn	**Sn**	**08 39 01.2**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=144,slow=14,SNR=2.0						
BOSA				Lg	Lg	08 40 24.9	
	comp=Z,1.4nm,0.3s,baz=130,slow=21,SNR=3.3						
BOSA				LR	LR	08 41 49.7	
	comp=Z,124nm,18.4s,baz=70,slow=36						
BOSA	**Boshof**	**14.70**	**217**	Pn	**Pn**	**08 36 20.2**	**+2.0**
BOSA	**Boshof**	**14.70**	**217**	*i* P	**Pn**	**08 36 19.6**	**+1.4**
BOSA				*i* S	**Sn**	**08 38 57.0**	**-4.2**
BOSA	**Boshof**	**14.70**	**217**	*i* P	**Pn**	**08 36 19.6**	**+1.4**
BOSA				*i* S	**Sn**	**08 38 57.0**	**-4.2**
BOSA	**Boshof**	**14.70**	**217**	*i* P	**Pn**	**08 36 20.3**	**+2.1**
KIBK	**Kibwezi**	**14.86**	**11**	Pn	**Pn**	**08 36 16.3**	**-4.1**
TSUM	**Tsumeb**	**16.83**	**260**	P	**P**	**08 36 50.4**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=89,slow=14,SNR=2.2						
TSUM				S	**Sn**	**08 39 47.3**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=63,slow=23,SNR=1.9						
TSUM				Lg	Lg	08 41 37.9	
	comp=Z,1.0nm,0.3s,baz=208,slow=22,SNR=4.1						
TSUM				LR	LR	08 43 53.8	
	comp=Z,107nm,19.7s,baz=139,slow=39						
TSUM	**Tsumeb**	**16.83**	**260**		**Pn**	**08 36 46.9**	**+0.9**
TSUM				IAmb	IAmb	08 36 55.9	
	comp=Z,21nm,1.1s						
TSUM	**Tsumeb**	**16.83**	**260**	*i* P	**Pn**	**08 36 46.6**	**+0.6**
TSUM	**Tsumeb**	**16.83**	**260**	*i* P	**Pn**	**08 36 46.6**	**+0.6**
MBAR	**Mbarara**	**16.88**	**345**	Pn	**Pn**	**08 36 47.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=47,slow=24,SNR=1.3						
MBAR				Sn	**Sn**	**08 39 48.3**	**-6.1**
	comp=Z,1.8nm,0.3s,baz=86,slow=23,SNR=2.0						
MBAR				Lg	Lg	08 41 25.8	
	comp=Z,1.5nm,0.3s,baz=45,slow=18,SNR=5.6						
MBAR	**Mbarara**	**16.88**	**345**	Pn	**Pn**	**08 36 46.2**	**-0.5**
SUR	**Sutherland**	**20.05**	**218**	Pn	Pn	08 37 29.3	+3.9
	comp=Z,13nm,0.8s,baz=59,slow=9.6,SNR=8.0						
SUR				S	**S**	**08 41 02.7**	**-6.4**
	comp=Z,10nm,1.0s,baz=110,slow=18,SNR=1.4						
SUR				Lg	Lg	08 43 16.9	
	comp=Z,15nm,0.8s,baz=340,slow=17,SNR=2.0						
SUR				LR	LR	08 45 15.1	
	comp=Z,194nm,18.6s,baz=42,slow=37						
SUR	**Sutherland**	**20.05**	**218**	P	Pn	08 37 28.6	+3.2
TOA0	**Torodi Ar. Sit**	**44.61**	**310**	P	**P**	**08 41 02.8**	**0.0**
TOA0				IAmb	IAmb	08 41 09.7	
	comp=Z,4.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**44.61**	**310**	P	**P**	**08 41 03.8**	**+1.0**
	comp=Z,4.6nm,0.7s,baz=122,slow=6.0,SNR=14						
TORD				LR	LR	08 57 58.5	
	comp=Z,38nm,20.3s,baz=160,slow=34						
TORD	**Torodi Ar. Bea**	**44.61**	**310**	P	**P**	**08 41 04.2**	**+1.4**
TORD				IAmb	IAmb	08 41 09.7	
	comp=Z,3.3nm,0.8s						
BRTR	**Keskin Array B**	**56.46**	**359**	P	**P**	**08 42 33.7**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=198,slow=7.8,SNR=5.3						
BRTR	**Keskin Array B**	**56.46**	**359**	P	**P**	**08 42 31.1**	**-1.1**
GAR	**Garm**	**64.72**	**30**	P	**P**	**08 43 30.1**	**+1.6**
ESDC	**Sonseca Array**	**67.17**	**328**	P	**P**	**08 43 46.5**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=154,slow=6.7,SNR=4.4						
ESDC	**Sonseca Array**	**67.17**	**328**	IAmb	IAmb	08 43 47.5	
	comp=Z,1.8nm,1.1s						
AKASG	**Malin Array Be**	**67.62**	**356**	P	**P**	**08 43 46.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=179,slow=5.5,SNR=2.3						
KKAR	**Karatay Array**	**68.08**	**27**	P	**P**	**08 43 50.7**	**+0.9**
GERES	**GERESS Array B**	**68.29**	**345**	P	**P**	**08 43 51.7**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=153,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**76.36**	**31**	P	**P**	**08 44 40.6**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=215,slow=6.6,SNR=12						
FINES	**FINESS Array B**	**78.53**	**356**	P	**P**	**08 44 52.1**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=243,slow=9.2,SNR=1.6						
VNDA	**Vanda**	**80.82**	**170**	P	**P**	**08 45 06.1**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=255,slow=5.4,SNR=5.2						
VNDA	**Vanda**	**80.82**	**170**	IAmb	IAmb	08 45 12.2	
	comp=Z,3.4nm,1.2s						
ZALV	**Zalesovo Beam**	**82.45**	**27**	P	**P**	**08 45 12.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=249,slow=2.5,SNR=5.6						
ASAR	**Alice Springs**	**91.00**	**115**	P	**P**	**08 45 55.5**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=223,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**92.59**	**112**	P	**P**	**08 46 04.0**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=253,slow=2.9,SNR=3.8						
ILAR	**Eielson Array**	**132.27**	**1**	PKP	**PKiKP**	**08 52 05.2**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=351,slow=2.8,SNR=5.2						
TXAR	**Lajitas Array**	**140.39**	**296**	PKP	**PKiKP**	**08 52 23.2**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=105,slow=2.1,SNR=2.9						
NVAR	**Mina Array Bea**	**148.45**	**318**	PKPbc	**PKPbc**	**08 52 37.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=91,slow=2.9,SNR=11						
NVAR	**Mina Array Bea**	**148.45**	**318**		**PKiKP**	**08 52 38.6**	**-0.5**

NIC 17 08:36:46.0±0.0, 35.42N×33.84E, h11km±29km, Ml1.7/3, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVOU	**Mavrovouni**	**0.43**	**203**	P	Pb	08 36 55.3	-0.3
MVOU				S	Sb	08 37 01.8	-0.4
MVOU				AML	AML	08 37 04.2	
	0.3nm,0.3s						
MVOU				AML	AML	08 37 04.2	
	0.3nm,0.3s						
MVOU				AML	AML	08 37 06.3	
	0.2nm,0.3s						
MVOU				AML	AML	08 37 06.3	
	0.2nm,0.3s						
PARAL	**Paralimni**	**0.45**	**159**	P	Pg	08 36 54.7	-0.2
PARAL				S	Sb	08 37 02.4	-0.3
PARAL				AML	AML	08 37 03.6	
	0.6nm,0.6s						
PARAL				AML	AML	08 37 03.6	
	0.6nm,0.6s						
PARAL				AML	AML	08 37 04.8	
	0.4nm,0.4s						
PARAL				AML	AML	08 37 04.8	
	0.4nm,0.4s						
CSS	**Mathiatis**	**0.61**	**223**	P	Pg	08 36 58.1	+0.1
CSS				S	Sb	08 37 06.9	-0.5
ASGA	**Asgata**	**0.79**	**218**	P	Pg	08 37 00.8	-0.6
SZAC	**Souni**	**1.02**	**230**	P	Pg	08 37 05.7	0.0
SZAC				S	Sn	08 37 20.5	-0.2
SZAC				AML	AML	08 37 20.6	
	0.2nm,0.4s						
SZAC				AML	AML	08 37 20.6	
	0.2nm,0.4s						
SZAC				AML	AML	08 37 20.9	
	0.3nm,0.4s						
SZAC				AML	AML	08 37 20.9	
	0.3nm,0.4s						

DDA 17 08:37:30.9, 37.02N×34.88E, h7km±1km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DED	**Mersin**	**0.09**	**229**	*i* P	Pg	08 37 33.6	+0.6
DED				*i* S	Sg	08 37 35.6	+1.2
GULE	**Gulek**	**0.28**	**343**	*i* P	Pg	08 37 36.2	-0.3
GULE				*i* S	Sg	08 37 41.6	+1.4
GULE				IAML		08 37 45.0	
	comp=N,36nm,0.4s						
AKO	**Adana**	**0.63**	**45**	*i* P	Pg	08 37 43.2	+0.1
AKO				IAML		08 37 52.0	
	comp=E,11nm,0.7s						
AKO				*i* S	Sg	08 37 52.2	+0.9
KERG	**Konya-Eregli**	**0.72**	**304**	*i* P	Pg	08 37 44.9	+0.1
KERG				*i* S	Sb	08 37 55.4	-0.7

DJA ***17*** *08:48:19.1±0.6, 4.5S×154.8E±, h113km±7km, M4.7/14, mb4.7/14, mB5.0/5, MLv4.8/2, Mw(mB)4.3/5, MwMwp4.8/1, Mwp5.1/1*

IDC ***17*** *08:48:34.6±1.3, 5.52S×147.16E, h188km±12km, mb4.2/16, mb1 4.3/19, mb1mx4.2/30, mbtmp4.7/19, MS3.5/4, Ms1 3.5/4, ms1mx3.1/30, Error ellipse: s-maj=19.4km s-min=9.5km az=94.0*

BJI ***17*** *08:48:35.0±0.0, 5.31S×147.17E, h196km, mB4.7/17, mb4.7/34*

NEIC ***17*** *08:48:36.2±2.8, 5.51S±0.09×147.0E±0.1, h195km±7km, mb4.5/61, Error ellipse: s-maj=16.5km s-min=11.6km az=111.0*

ISC 17 08:48:35.8±0.4, 5.53S±0.05×147.00E±0.07, h195km, n123, σ1.9 06/117, mb4.5/47, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.85**	**178**	P	**Pn**	**08 49 35.5**	**-0.2**
	25nm,0.3s,baz=33,slow=4.9,SNR=49						
PMG				S	**Sn**	**08 50 19.8**	**-2.9**
	49nm,0.3s,baz=289,slow=3.5,SNR=3.5						
PMG	**Port Moresby**	**3.85**	**178**	P	**Pn**	**08 49 35.9**	**+0.2**
	2.2nm5μm4μm196nm,0.6s						
PMG	**Port Moresby**	**3.85**	**178**	P	**Pn**	**08 49 35.5**	**-0.2**
PMG	**Port Moresby**	**3.85**	**178**	P	**Pn**	**08 49 35.8**	**+0.1**
RABL	**Rabaul**	**5.32**	**76**	Pn	**Pn**	**08 49 54.6**	**+0.3**
MTSU	**Mount Surprise**	**12.80**	**192**	P	**P**	**08 51 33.4**	**-1.3**
	baz=13,SNR=26						
CTA	**Charters Tower**	**14.49**	**183**	P	**Pn**	**08 51 52.1**	**0.0**
	0.7nm,0.3s,baz=0.6,slow=14,SNR=13						
CTAO	**Charters Tower**	**14.49**	**183**	P	**P**	**08 51 53.8**	**+0.3**
KDU	**Kakadu**	**16.00**	**243**	P	**Pn**	**08 52 11.2**	**+0.7**
	baz=16,SNR=66						
QIS	**Mount Isa**	**16.57**	**205**	P	**Pn**	**08 52 18.5**	**+1.1**
	baz=17,SNR=15						
MTN	**Manton Dam**	**17.25**	**244**	P	**Pn**	**08 52 25.5**	**0.0**
	baz=17,SNR=48						
MTN	**Manton Dam**	**17.25**	**244**	P	**Pn**	**08 52 25.2**	**-0.3**
MTN				IAmb	IAmb	08 52 25.8	
	comp=Z,24nm,0.9s						
MTN					**S**	**08 55 32.4**	**-1.2**
WB0	**Warramunga Arr**	**18.73**	**220**		**P**	**08 52 41.1**	**+1.1**
WB0				IAmb	IAmb	08 52 43.1	
	comp=Z,20nm,1.0s						
WB0					**S**	**08 56 03.6**	**+0.7**
WR0	**Warramunga Arr**	**18.77**	**219**		**Pn**	**08 52 42.1**	**-1.2**
WR0					**S**	**08 56 04.3**	**+0.4**
WRAB	**Tennant Creek**	**18.87**	**220**	P	**P**	**08 52 42.8**	**+1.2**
WRAB				IAmb	IAmb	08 52 44.0	
	comp=Z,22nm,0.8s						
WC3	**Warramunga Arr**	**18.88**	**219**	P	**P**	**08 52 42.1**	**+0.4**
	baz=19						
WB2	**Warramunga Arr**	**18.88**	**220**		**P**	**08 52 43.0**	**+1.4**
WB2					**S**	**08 56 06.9**	**+0.9**
WRA	**Warramunga Arr**	**18.89**	**220**	P	**P**	**08 52 43.1**	**+1.4**
	comp=Z,5.9nm,0.3s,baz=42,slow=11,SNR=180						
WRA				S	**S**	**08 56 05.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=40,slow=20,SNR=12						
WRA				PcP	**PcP**	**08 56 59.2**	**-0.4**
	baz=21,slow=1.9,SNR=4.7						
WRA				ScP	**ScP**	**09 00 17.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=41,slow=2.5,SNR=6.3						
WRA	**Warramunga Arr**	**18.89**	**220**	P	**P**	**08 52 42.0**	**+0.2**
EIDS	**Eidsvold**	**20.11**	**169**	P	**P**	**08 52 56.1**	**+1.3**
	baz=20,SNR=3.5						
EIDS	**Eidsvold**	**20.11**	**169**	P	**P**	**08 52 55.5**	**+0.7**
EIDS				IAmb	IAmb	08 53 11.9	
	comp=Z,21nm,1.2s						
KNRA	**Kununurra**	**20.54**	**239**	P	**P**	**08 53 00.6**	**+1.1**
	baz=21,SNR=33						
KNRA	**Kununurra**	**20.54**	**239**	P	**P**	**08 52 59.1**	**-0.4**
KNRA					**S**	**08 56 36.8**	**-1.7**
RMQ	**Roma**	**20.91**	**176**	P	**P**	**08 53 05.4**	**+2.1**
	baz=21,SNR=8.1						
AS31	**Alice Springs**	**22.00**	**214**	P	**P**	**08 53 16.0**	**+1.4**
ASAR	**Alice Springs**	**22.00**	**214**	P	**P**	**08 53 15.9**	**+1.3**
	comp=Z,25nm,1.0s,baz=47,slow=8.0,SNR=149						
ASAR				S	**S**	**08 57 03.2**	**-0.2**
	comp=Z,7.0nm,0.9s,baz=32,slow=20,SNR=11						
ASAR				ScP	**ScP**	**09 00 24.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=42,slow=3.4,SNR=4.3						
ASAR				LR	LR	09 03 40.9	
	comp=Z,144nm,20.2s,baz=28,slow=41						
SOEI	**Soe**	**22.91**	**258**	P	**P**	**08 53 21.9**	**-1.2**
SOEI	**Soe**	**22.91**	**258**	P	**P**	**08 53 22.1**	**-1.1**
	comp=Z,1μmcomp=Z,71nm,0.9s						
BATI	**Baumata**	**23.57**	**257**	P	**P**	**08 53 30.3**	**+1.3**
	comp=Z,79nm,0.7s,baz=14,slow=0.4,SNR=7.9						
BATI	**Baumata**	**23.57**	**257**	P	**P**	**08 53 31.3**	**+2.3**
	comp=Z,56nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.31**	**237**	P	**P**	**08 53 36.5**	**+0.8**
	comp=Z,25nm,0.4s,baz=54,slow=12,SNR=106						
FITZ				S	**S**	**08 57 39.1**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=135,slow=20,SNR=1.1						
FITZ	**Fitzroy Crossi**	**24.31**	**237**	P	**P**	**08 53 36.5**	**+0.8**
	baz=24,SNR=133						
FITZ	**Fitzroy Crossi**	**24.31**	**237**	P	**P**	**08 53 36.3**	**+0.6**
ARMA	**Armidale**	**25.14**	**171**	P	**P**	**08 53 44.4**	**+1.2**
	baz=25,SNR=6.6						
ARMA	**Armidale**	**25.14**	**171**	P	**P**	**08 53 44.4**	**+1.2**
EDFI	**Ende, Flores**	**25.31**	**261**	P	**P**	**08 53 44.0**	**-0.9**
	comp=Z,322nmcomp=Z,43nm,0.8s						
WRKA	**Warakurna**	**26.42**	**221**	P	**P**	**08 53 55.4**	**+0.7**
	baz=26,SNR=6.0						
STKA	**Stephens Creek**	**26.69**	**190**	P	**P**	**08 53 57.5**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=75,slow=7.0,SNR=4.0						
WBSI	**Waikabubak, Su**	**27.66**	**260**	P	**P**	**08 54 04.7**	**-1.2**
	comp=Z,44nm,0.6s						
HTT	**Hallett**	**28.76**	**194**	P	**P**	**08 54 18.0**	**+2.6**
	baz=29,SNR=3.4						
BBOO	**Buckleboo**	**29.00**	**199**	P	**P**	**08 54 16.7**	**-0.7**
PSA00	**Pilbara Seismi**	**30.75**	**236**	P	**P**	**08 54 33.1**	**+0.1**
PSA00				IAmb	IAmb	08 54 34.4	
	comp=Z,7.6nm,0.8s						
PSA00	**Pilbara Seismi**	**30.75**	**236**	IAmb	IAmb	08 54 34.4	
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**30.79**	**213**	P	**P**	**08 54 32.3**	**-1.0**
MEEK	**Meekatharra**	**34.25**	**229**	P	**P**	**08 55 04.3**	**+0.8**
	baz=34,SNR=27						
KMBL	**Kambalda**	**34.86**	**219**	P	**P**	**08 55 09.3**	**+0.6**
	baz=35,SNR=5.5						
KLBR	**Kellerberrin**	**37.71**	**223**	P	**P**	**08 55 32.9**	**+0.1**
	baz=38,SNR=11						
BLDU	**Ballidu**	**37.86**	**225**	P	**P**	**08 55 34.6**	**+0.5**
	baz=38,SNR=7.2						
YULB	**Yu-li**	**38.16**	**320**	P	**P**	**08 55 36.8**	**+0.2**
YULB				IAmb	IAmb	08 55 38.7	
	comp=Z,14nm,0.7s						
OUZ	**Omahuta**	**38.40**	**144**	P	**P**	**08 55 39.7**	**+1.3**
OUZ				IAmb	IAmb	08 55 48.3	
	comp=Z,12nm,1.2s						
TPUB	**Ta-pu**	**38.53**	**319**	P	**P**	**08 55 38.8**	**-0.9**
NACB	**Ninganchiao**	**38.53**	**321**	P	**P**	**08 55 40.5**	**+0.8**
YHNB	**Yeheng**	**39.03**	**321**	P	**P**	**08 55 44.9**	**+0.9**
MJAR	**Matsushiro Arr**	**42.65**	**350**	P	**P**	**08 56 12.1**	**-1.2**
	comp=Z,3.7nm,0.7s,baz=168,slow=6.6,SNR=8.2						
MJAR	**Matsushiro Arr**	**42.65**	**350**	P	**P**	**08 56 14.0**	**+0.7**
MAT	**Matsushiro**	**42.66**	**350**	P	**P**	**08 56 12.3**	**-1.0**
MAT				S	**S**	**09 02 20.4**	**-1.2**
NJ2	**Nanjing**	**45.99**	**326**	⇑P	**P**	**08 56 40.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
KSRS	**Korea Array**	**46.32**	**339**	P	**P**	**08 56 41.9**	**-0.3**
	comp=Z,7.1nm,0.8s,baz=153,slow=8.8,SNR=38						
KSRS				PcP	**PcP**	**08 58 13.9**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=178,slow=2.9,SNR=4.9						
KSAR	**Wonju Array Be**	**46.32**	**339**	P	**P**	**08 56 41.3**	**-0.9**
KS19	**Wonju Array Si**	**46.38**	**339**	P	**P**	**08 56 42.2**	**-0.5**
WHN	**Wuhan**	**47.57**	**321**	⇑P	**P**	**08 56 53.0**	**+1.0**
ENH	**Enshi**	**50.57**	**317**	P	**P**	**08 57 15.3**	**+0.4**
ENH				IAmb	IAmb	08 57 16.0	
	comp=Z,12nm,1.0s						
USA0B	**Ussuriysk Arra**	**51.32**	**346**	P	**P**	**08 57 20.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**51.32**	**346**	P	**P**	**08 57 20.6**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=176,slow=8.0,SNR=15						
USRK	**Ussuriysk Ar.**	**51.32**	**346**	P	**P**	**08 57 19.6**	**-0.5**
CN2	**Changchun**	**52.82**	**341**	*e*P	**P**	**08 57 32.0**	**+0.8**
BJI	**Beijing**	**53.49**	**331**	P	**P**	**08 57 36.8**	**+0.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.6s						
HHC	**Hu-ho-hao-te**	**56.44**	**328**	*e*P	**P**	**08 58 00.3**	**+2.9**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,61nm,6.6s						
PETK	**Petropavlovsk-**	**59.12**	**7**	P	**P**	**08 58 16.3**	**+0.6**
	comp=Z,6.9nm,0.7s,baz=163,slow=6.6,SNR=9.7						
GTA	**Gaotai**	**62.38**	**320**	*e*P	**P**	**08 58 39.8**	**+1.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**63.70**	**331**	P	**P**	**08 58 47.5**	**+0.9**
ULN	**Ulaanbaatar**	**63.70**	**331**	P	**P**	**08 58 47.6**	**+0.9**
SONM	**Songino Array**	**63.99**	**331**	P	**P**	**08 58 49.1**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=150,slow=6.7,SNR=30						
SONM				LR	LR	09 23 03.3	
	comp=Z,22nm,21.9s,baz=107,slow=32						
SONM	**Songino Array**	**63.99**	**331**	P	**P**	**08 58 48.5**	**-0.2**
SONM				IAmb	IAmb	08 58 50.1	
	comp=Z,9.3nm,1.0s						
VNDA	**Vanda**	**72.38**	**177**	P	**P**	**08 59 39.5**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=322,slow=6.4,SNR=27						
VNDA	**Vanda**	**72.38**	**177**	P	**P**	**08 59 39.5**	**-0.5**
WMQ	**Urumqi**	**72.44**	**319**	*e*P	**P**	**08 59 42.8**	**+1.7**
SDPT	**Sand Point**	**74.50**	**28**	P		**08 59 54.0**	
	baz=235						
BILL	**Bilibino**	**74.65**	**7**	P	**P**	**08 59 53.2**	**-0.2**
BILL				IAmb	IAmb	08 59 55.3	
	comp=Z,6.4nm,0.9s						
MK31	**Makanchi Array**	**77.14**	**320**	P	**P**	**09 00 06.9**	**-1.0**
MKAR	**Makanchi Array**	**77.14**	**320**	P	**P**	**09 00 07.3**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=97,slow=7.3,SNR=20						
MAKZ	**Makanchi**	**77.34**	**320**	P	**P**	**09 00 07.5**	**-1.6**
MAKZ				IAmb	IAmb	09 00 10.3	
	comp=Z,8.8nm,1.1s						
TIXI	**Tiksi**	**77.95**	**354**	P	**P**	**09 00 10.9**	**-0.9**
TIXI				IAmb	IAmb	09 00 13.2	
	comp=Z,6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**78.61**	**328**	P	**P**	**09 00 14.4**	**-1.5**
	comp=Z,4.1nm,0.6s,baz=110,slow=5.9,SNR=15						
ZALV				LR	LR	09 33 57.8	
	comp=Z,26nm,19.9s,baz=108,slow=35						
ZALV	**Zalesovo Beam**	**78.61**	**328**	P	**P**	**09 00 13.9**	**-1.9**
OHAK	**Old Harbor**	**78.89**	**29**	P		09 00 17.1	
	baz=241						
KDJ	**Kajisay**	**78.96**	**315**	P	**P**	**09 00 18.4**	**+0.1**
N18K	**Kilae Creek**	**79.47**	**25**	P		09 00 20.9	
	baz=238						
KDAK	**Kodiak Island**	**79.49**	**28**	P		09 00 20.2	
	baz=242						
N19K	**Bonanza Creek**	**80.14**	**25**	P		09 00 23.4	
	baz=240						
TTA	**Tatalina**	**80.62**	**23**	P		09 00 26.1	
	baz=238						
HOM	**Homer**	**80.81**	**27**	P		09 00 27.7	
	baz=242						
CNPM	**China Poot**	**80.93**	**27**	P	**P**	**09 00 27.5**	**-0.7**
BRSE	**Bradley Lake S**	**81.25**	**27**	P		09 00 29.3	
	baz=243						
RDOG	**Red Dog Mine**	**81.30**	**17**	P		09 00 30.9	
	baz=231,SNR=6.4					

comp=Z,6.7nm,0.7s,baz=160,slow=5.8,SNR=6.6
NRIK Noril'sk 84.83 342 IAmb IAmb 09 00 48.5
comp=Z,9.7nm,0.8s
COLD Coldfoot 84.90 20 P 09 00 48.1
baz=243,SNR=7.5
A21K Barrow 85.02 16 P 09 00 48.6
baz=236
IL31 85.06 23 P P 09 00 47.4 -1.8
IL31 IAmb IAmb 09 00 48.2
comp=Z,7.2nm,0.8s
ILAR Eielson Array 85.06 23 P P 09 00 47.2 -2.0
comp=Z,5.7nm,0.7s,baz=256,slow=5.0,SNR=64
H24K Noodor Dome 85.12 22 P 09 00 49.0
baz=245,SNR=5.8
CRQE Cirque 85.15 28 P 09 00 49.6
baz=250
TOLK Toolik Lake Re 85.76 19 P P 09 00 53.1 +0.4
TOLK Toolik Lake Re 85.76 19 P 09 00 52.8
baz=243
SCRK Sand Creek 85.91 24 P 09 00 52.6
baz=249
FYU Fort Yukon 86.40 22 IAmb IAmb 09 00 57.5
comp=Z,15nm,1.4s
L27K Beaver Creek, 86.50 26 P 09 00 56.2
baz=251,SNR=8.6
L27K Beaver Creek, 86.50 26 IAmb IAmb 09 00 57.5
comp=Z,10nm,1.4s
BCAR Beaver Creek A 86.52 26 P P 09 00 56.1 -0.5
K27K Chicken 86.72 25 P 09 00 57.6
baz=250
BMAR Burnt Mountain 86.96 21 P P 09 00 58.9 +0.3
EGAK Eagle 87.34 24 P 09 00 59.8
baz=251,SNR=12
DAWY Dawson 87.85 25 IAmb IAmb 09 01 04.0
comp=Z,10.0nm,1.1s
INK Inuvik 91.22 21 P 09 01 17.6
baz=258
AKTO Aktyubinsk 93.57 320 LR LR 09 43 01.7
comp=Z,26nm,21.3s,baz=80,slow=35
O02D Mt. Diablo Mer 93.69 50 P 09 01 31.8
baz=266
M02C Callahan 93.73 49 P 09 01 30.7
baz=266
N02D Trinity Center 93.81 49 P 09 01 30.6
baz=266
E04D Cinebar 94.27 44 P 09 01 33.7
baz=267
O03E Paynes Creek 94.45 50 P 09 01 33.0
baz=267
M04C Macdoel 94.51 49 P 09 01 34.5
baz=267
NVAR Mina Array Bea 97.08 52 P P 09 01 46.1 -0.2
comp=Z,2.0nm,0.8s,baz=254,slow=6.5,SNR=15
LRMC Laurel Mtn Rad 97.51 55 P 09 01 48.6
baz=269
MPMC Manual Prospec 97.68 54 P 09 01 49.4
baz=269
NEW Newport 98.01 42 P 09 01 50.0
baz=271
MONP2 Monument Peak 98.50 58 P 09 01 53.2
baz=269
TPNV Topopah Spring 98.69 54 P 09 01 53.2
baz=270
BELC Belle Mtn. Jos 98.87 57 P 09 01 54.6
baz=269
HLID Hailey 100.01 47 P 09 01 59.5
baz=272
PDAR Pinedale Array 103.61 47 Pdiff Pdif 09 02 14.5 -0.8
comp=Z,0.7nm,0.8s,baz=298,slow=3.8,SNR=6.6
TXAR Lajitas Array 109.54 61 PKKPab PKKPab 09 18 00.7 -0.7
comp=Z,0.6nm,0.9s,baz=101,slow=4.9,SNR=5.3
ECSD EROS Data Cent 112.75 45 P 09 06 48.4
baz=285
JCT Junction City 112.76 59 P 09 06 48.7
baz=277
WMOK Wichita Mounta 113.00 55 P 09 06 49.5
baz=280
U40A Yellville 117.39 52 P 09 06 57.1
baz=284
W41B Gary Mavity, V 118.16 53 P 09 06 59.3
baz=284
HDIL Hopedale 118.88 46 P 09 07 00.7
baz=289
GERES GERESS Array B 121.52 326 PKP PKPdf 09 07 05.2 -1.1
comp=Z,1.5nm,0.5s,baz=89,slow=4.2,SNR=9.3
P49A Miami Univ. Ec 122.53 46 P 09 07 07.1
baz=292
LSQQ Lebel-sur-Quev 122.91 33 P 09 07 07.0
baz=305
CHGQ Chibougamau 123.78 31 P 09 07 08.9
baz=308
ALGO Algonquin Park 124.00 37 P 09 07 09.8
baz=302
G54A Lake Saint Pet 124.27 37 P 09 07 10.5
baz=302
P52A Corning 124.32 45 P 09 07 10.6
baz=294
TZTN Tazewell 124.48 49 P 09 07 11.6
baz=291
M53A WI Miller and 124.55 42 P 09 07 11.1
baz=297
O53A New Philadelph 124.70 44 P 09 07 11.4
baz=296
D55A Sainte-Anne-du 124.91 34 P 09 07 11.4
baz=305
M54A Oil Creek Stat 125.19 42 P 09 07 12.2
baz=298
N54A Moraine State 125.22 43 P 09 07 12.5
baz=297
D56A ZEC Mazanza, M 125.29 34 P 09 07 12.0
baz=306
GOGA Godfrey 125.63 53 P 09 07 13.5
baz=289
TIGA Tifton 126.15 55 P 09 07 14.7
baz=288
LATQ La Tuque 126.16 33 P 09 07 14.4
baz=308
O56A Blue Knob Stat 126.51 43 P 09 07 15.1
baz=298
BLA Blacksburg 126.54 47 P 09 07 15.3
baz=294
KMSC Kings Mountain 126.67 50 P 09 07 15.4
baz=292
LONY Lake Ozonia 126.78 36 P 09 07 15.4
baz=305
SSPA Standing Stone 126.79 42 P 09 07 15.5
baz=299
J58A Remsen 127.06 38 P 09 07 16.1
baz=303
H58A Gabriels 127.14 36 P 09 07 16.1
baz=305
I59A Olmsteadville 127.67 37 P 09 07 17.2
baz=305
E61A Lac Etchemin 127.99 32 P 09 07 18.3
baz=310
I60A Shoreham 127.99 36 P 09 07 18.1
baz=305
F61A St Evariste 128.01 33 P 09 07 18.9
baz=309
N59A State Game Lan 128.04 41 P 09 07 18.5
baz=301
E62A Clayton Lake 128.37 32 P 09 07 20.1
baz=311
H61A Lyndonville 128.37 35 P 09 07 19.0
baz=307
J61A Chester 128.71 37 P 09 07 19.1
baz=306
G62A West of Eustis 128.73 33 P 09 07 19.7
baz=309
H62A Milan 128.79 34 P 09 07 20.5
baz=308
I63A Otisfield 129.43 35 P 09 07 21.3
baz=308
HRV Adam Dziewonsk 129.80 37 P 09 07 22.3
baz=306
LPAZ La Paz 139.04 123 PKhKP PKPpre 09 07 31.1
comp=Z,1.0nm,0.7s,baz=282,slow=1.4,SNR=4.5
LPAZ PKP PKPdf 09 07 41.0 0.0
comp=Z,1.4nm,0.6s,baz=304,slow=2.8,SNR=6.4
CPUP Villa Florida 140.51 144 PKhKP PKPpre 09 07 35.3
comp=Z,2.5nm,0.9s,baz=309,slow=5.6,SNR=3.8
CPUP PKP PKPdf 09 07 42.1 -0.6
comp=Z,2.5nm,0.9s,baz=72,slow=0.4,SNR=5.0
TORD Torodi Ar. Bea 144.97 285 PKPbc PKPbc 09 07 49.4 -1.2
comp=Z,3.5nm,0.5s,baz=69,slow=3.5,SNR=36
TORD Torodi Ar. Bea 144.97 285 PKPbc 09 07 48.6 -1.9

IDC 17 09:00:29.1±0.9, 32°.31S×179°.56E, h363km±8km, mb4.1/14, mb1 4.2/19, mb1mx4.1/26, mbtmp4.8/19, Error ellipse: s-maj=12.4km s-min=10.0km az=140.0
NOU 17 09:00:29.9, 32°.61S×179°.73E, h384km, mb4.8, South of Kermadec Islands
NEIC 17 09:00:30.1±1.2, 32°.35S±0°.07×179°.57E±0°.10, h371km±4km, mb4.6/75, Error ellipse: s-maj=14.4km s-min=6.6km az=129.0
WEL 17 09:00:35.9±1.4, 33°.S±17°×18°0E±2°.2, h474km±12km, M4.8/55, mB5.3/55, MLv5.8/51, Mw(mB)4.7/55, Error ellipse: s-maj=0.0km s-min=0.0km az=112.3

ISC 17 09:00:29.5±0.3, 32°.38S±0°.05×179°.53E±0°.06, h372km, n257, σ1§56/264, mb4.6/53, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	3.81	36	P	Pn	09 01 36.2	-1.8
	209nm,0.3s,baz=301,slow=19,SNR=6.0						
RAO				S	S	09 02 29.3	-4.1
	306nm,0.3s,baz=71,slow=24,SNR=7.5						
RAO	Raoul Island	3.81	36	P	Pn	09 01 39.3	+1.2
MXZ	Matakaoa Point	5.27	191	Pn	Pn	09 01 52.5	-0.4
OUZ	Omahuta	5.70	239	Pn	Pn	09 02 00.4	+2.8
WHRZ	Whale Island	5.86	200	P	Pn	09 02 01.7	+2.3
WHRZ				S	S	09 03 12.6	+0.2
OPRZ	Ohinepanea	5.98	203	P	Pn	09 02 01.7	+1.0
OPRZ				S	S	09 03 14.9	+0.1
TGRZ	Tauranga	5.98	206	P	Pn	09 02 03.1	+2.4
MARZ	Manawahe	6.07	202	P	Pn	09 02 03.4	+1.6
EDRZ	Edgecumbe	6.16	201	P	Pn	09 02 04.9	+2.1
EDRZ				S	S	09 03 16.1	-2.7
LIRZ	Lichensteins R	6.18	204	P	Pn	09 02 06.0	+3.1
URZ	Urewera	6.20	198	P	Pn	09 02 02.0	-1.1
	107nm,0.3s,baz=122,slow=23,SNR=141						
URZ				S	S	09 03 15.5	-3.9
	220nm,0.3s,baz=27,slow=23,SNR=12						
KMRZ	Kaimai	6.20	207	P	Pn	09 02 07.3	+4.1
KARZ	Kaharoa	6.24	205	P	Pn	09 02 04.6	+0.9
MKRZ	Makatiti	6.27	203	P	Pn	09 02 08.2	+4.1
OMRZ	Omania	6.27	203	P	Pn	09 02 05.3	+1.2
TARZ	Mount Tarawera	6.35	202	P	Pn	09 02 08.5	+3.5
UTU	Utuhina	6.40	204	P	Pn	09 02 08.3	+2.9
HLRZ	Highlands Stat	6.41	203	P	Pn	09 02 06.6	+0.9
RRRZ	Republican Roa	6.44	202	P	Pn	09 02 06.8	+0.8
MUGZ	Murupara	6.49	200	P	Pn	09 02 05.7	-0.8
HSRZ	Hossack Road	6.50	203	P	P	09 02 09.6	+1.9
PRGZ	Paritu Road	6.67	191	P	Pn	09 02 07.6	-0.9
ALRZ	Allen Road	6.70	202	P	P	09 02 09.9	-0.1
KUTZ	Kaahu Road	6.81	205	P	P	09 02 11.0	-0.2
MHGZ	Mahia Peninsul	6.89	191	P	Pn	09 02 10.3	-0.7
WATZ	Wairara	7.04	205	P	P	09 02 14.7	+0.8
HIZ	Hauiti	7.21	211	P	P	09 02 16.6	+0.8
KATZ	Kakaramea	7.29	204	P	P	09 02 17.9	+1.1
KRVZ	Karewarewa	7.41	204	P	P	09 02 17.9	-0.3
ETVZ	East Tongariro	7.42	204	P	Pn	09 02 16.1	-1.2
NNVZ	North Ngauruho	7.45	204	P	Pn	09 02 17.1	-0.6
TWVZ	Taurewa	7.46	205	P	Pn	09 02 16.8	-0.9
KWHZ	Kaweka Forest	7.47	199	P	Pn	09 02 17.5	-0.3
SNVZ	South Ngauruho	7.49	204	P	Pn	09 02 17.2	-1.0
NGZ	Ngauruhoe	7.50	204	P	Pn	09 02 17.2	-1.0
CKHZ	Cape Kidnapper	7.53	195	P	Pn	09 02 17.5	-0.9
TUVZ	Tukino	7.56	203	P	Pn	09 02 18.9	0.0
FWVZ	Far West T-bar	7.59	204	P	Pn	09 02 18.3	-1.0
WHVZ	Whangaehu Hut	7.60	204	P	Pn	09 02 19.5	+0.1
TRVZ	Turoa	7.63	204	P	Pn	09 02 19.8	0.0
WNVZ	Wahianoa	7.63	204	P	Pn	09 02 18.0	-1.8
MOVZ	Moawhango	7.66	203	P	Pn	09 02 17.8	-2.2
PKVZ	Pokaka	7.69	205	P	Pn	09 02 18.6	-1.7
KRHZ	Kereru	7.69	199	P	Pn	09 02 17.7	-2.6
KAHZ	Kahuranaki	7.71	195	P	Pn	09 02 18.6	-1.9
MTVZ	Mangateitei	7.73	204	P	P	09 02 21.6	-0.2
VRZ	Vera Road	7.77	209	P	Pn	09 02 20.8	-0.4
MHEZ	Mangahewa	7.91	211	P	P	09 02 26.5	+2.8
PXZ	Pawanui	7.94	195	P	Pn	09 02 20.5	-2.6
PNHZ	Pukenui	7.99	199	P	Pn	09 02 20.5	-3.3
DREZ	Durham Road	8.06	211	P	P	09 02 27.8	+1.5
WPHZ	Waipukurau	8.07	197	P	Pn	09 02 24.5	-0.2
PKE	Pukeiti	8.16	212	P	P	09 02 27.4	0.0
NEZ	North Egmont	8.17	211	P	P	09 02 27.7	+0.1
TSZ	Takapari Road	8.19	200	P	Pn	09 02 22.8	-3.3
LREZ	Lake Rotokare	8.20	209	P	Pn	09 02 26.1	-0.1
PRHZ	Porangahau	8.21	196	P	Pn	09 02 25.9	-0.4
WAZ	Wanganui	8.23	205	P	Pn	09 02 25.0	-1.5
DVHZ	Dannevirke	8.36	198	P	Pn	09 02 25.1	-3.0
ANKZ	Angora Road	8.44	196	P	Pn	09 02 26.8	-2.1
OHWZ	Ohakea	8.52	202	P	Pn	09 02 29.4	-0.5
POWZ	Post Office Ro	8.55	200	P	Pn	09 02 29.3	-1.1
PRWZ	Pori Road	8.65	198	P	Pn	09 02 30.1	-1.4
BFZ	Birch Farm	8.70	197	P	Pn	09 02 29.1	-3.0
MRZ	Mangatainoka R	8.86	200	P	Pn	09 02 30.5	-3.4
TIWZ	Tintock	8.88	198	P	Pn	09 02 33.5	-0.7
CPWZ	Castlepoint	8.93	196	P	Pn	09 02 34.7	+0.1
HOWZ	Holdsworth Sta	9.10	200	P	Pn	09 02 32.9	-3.8
TMWZ	Te Maipa	9.19	197	P	Pn	09 02 35.8	-2.1
KIW	Kapiti Island	9.24	202	P	Pn	09 02 34.8	-3.6
MTW	Mount Morrison	9.34	199	P	Pn	09 02 37.1	-2.4
CAW	Cannon Point	9.42	201	P	Pn	09 02 37.0	-3.5
TRWZ	Traveller	9.52	198	P	Pn	09 02 39.9	-1.7
MSWZ	Moikau Station	9.65	200	Pn	Pn	09 02 40.3	-2.9
MSWZ	Moikau Station	9.65	200	P	Pn	09 02 40.4	-2.8
BHW	Baring Head	9.76	201	P	Pn	09 02 41.0	-3.4
PLWZ	Palliser	9.79	199	P	Pn	09 02 42.1	-2.8
TUWZ	Tuamarina	10.08	205	P	Pn	09 02 45.0	-3.2
NNZ	Nelson	10.11	207	P	Pn	09 02 44.9	-3.6
QRZ	Quartz Range	10.13	212	P	Pn	09 02 46.0	-2.9
CMWZ	Cape Campbell	10.27	203	P	Pn	09 02 48.7	-1.8
BSWZ	Blackbirch Sta	10.36	204	P	Pn	09 02 48.8	-2.7
THZ	Tophouse	10.76	208	P	Pn	09 02 52.7	-3.6
KHZ	Kahutara	11.09	204	P	P	09 02 56.1	-3.8
DSZ	Denniston Nort	11.20	211	P	P	09 02 58.8	-2.4
CTZ	Chatham Island	11.74	166	P	Pn	09 03 10.2	+2.5
GVZ	Greta Valley S	11.75	204	P	P	09 03 04.8	-2.5
LTZ	Lake Taylor	11.87	207	P	P	09 03 05.2	-3.4
AMCZ	Amberley	12.07	205	P	P	09 03 09.1	-1.6
INZ	Inchbonnie	12.15	209	P	P	09 03 09.8	-1.9
OKCZ	Okains Bay	12.42	202	P	P	09 03 14.0	-0.7
OXZ	Oxford	12.43	206	P	P	09 03 13.1	-1.6
MQZ	McQueen's Vall	12.54	204	P	P	09 03 13.1	-2.8
AKCZ	Akaroa Harbour	12.60	202	P	P	09 03 16.4	-0.2
RACZ	Rakaia	12.73	205	P	P	09 03 16.7	-1.4
WVZ	Waitaha Valley	12.74	211	P	P	09 03 16.7	-1.4
MHCZ	Mount Hutt	12.78	207	P	P	09 03 17.7	-0.9
WACZ	Wakanui South	13.03	205	P	P	09 03 21.0	-0.3
GCSZ	Gaunt Creek Bo	13.11	211	P	P	09 03 21.2	-1.0
RPZ	Rata Peaks	13.13	208	P	P	09 03 22.2	-0.4
ARCZ	Arundel	13.28	207	P	P	09 03 23.4	-0.8
FOZ	Fox Glacier	13.51	212	P	P	09 03 25.5	-1.1
TMZ	Timaru	13.72	207	P	P	09 03 29.0	0.0
LBZ	Lake Benmore	14.04	209	P	P	09 03 31.5	-1.0
MSVF	Nonsavu	14.64	354	P	P	09 03 40.0	+0.6
	1.3nm,0.3s,baz=189,slow=21,SNR=2.4						
MSVF	Nonsavu	14.64	354	P	Pn	09 03 40.7	-1.1
OUENC	Ouen Island, N	15.00	308	P	Pn	09 03 46.1	+0.3
ONTNC	Ouen Toro	15.33	308	P	Pn	09 03 49.7	+0.1
DZM	Mont Dzumac	15.50	308	P	Pn	09 03 50.4	-1.3
	2.1nm,0.3s,baz=128,slow=8.1,SNR=20						
DZM	Mont Dzumac	15.50	308	P	Pn	09 03 51.3	-0.4
DZM				IAmb	IAmb	09 03 52.2	
	comp=Z,24nm,0.8s						
DZM	Mont Dzumac	15.50	308	P	Pn	09 03 51.4	-0.3
NOUC	Port Laguerre	15.58	308	P	Pn	09 03 52.1	-0.3
LHI	Lord Howe Isla	17.39	267	P	P	09 04 09.2	+0.3
AFI	Afiamalu	20.03	25	P	P	09 04 37.1	+0.7
	comp=Z,14nm,0.3s,baz=238,slow=2.8,SNR=13						
AFI	Afiamalu	20.03	25	P	P	09 04 37.4	+1.0
AFI	Afiamalu	20.03	25	P	P	09 04 37.6	+1.2
SANVU	Saraoutou	20.24	323	P	P	09 04 38.5	+0.2
SANVU	Saraoutou	20.24	323	P	P	09 04 39.4	+1.1
ARMA	Armidale	23.87	267	P	P	09 05 10.8	-0.4
CAN	Canberra	25.48	255	P	P	09 05 26.1	+0.7
EIDS	Eidsvold	25.82	278	P	P	09 05 27.7	-0.8
EIDS				IAmb	IAmb	09 05 30.9	
	comp=Z,13nm,0.8s						
MCQ	Macquarie Isla	26.50	207	P	P	09 05 34.4	+0.2
TAU	Tasmania Unive	27.44	238	P	P	09 05 43.0	+0.4
TOO	Toolangi	28.27	250	P	P	09 05 49.9	-0.3
STKA	Stephens Creek	32.02	261	P	P	09 06 24.5	+1.6
	comp=Z,6.7nm,0.6s,baz=98,slow=10,SNR=17						
STKA	Stephens Creek	32.02	261	P	P	09 06 23.8	+0.9
CTA	Charters Tower	32.13	284	P	P	09 06 25.4	+1.5
	comp=Z,35nm,0.5s,baz=113,slow=10,SNR=127						
CTAO	Charters Tower	32.13	284	P	P	09 06 24.3	+0.4
BBOO	Buckleboo	36.44	257	P	P	09 07 00.8	+0.4
BBOO				IAmb	IAmb	09 07 01.3	
	comp=Z,51nm,1.4s						
PMG	Port Moresby	37.65	300	P	P	09 07 11.5	+0.8
	comp=Z,11nm,0.5s,baz=227,slow=18,SNR=2.6						
PMG	Port Moresby	37.65	300	P	P	09 07 11.5	+0.8
PMG				IAmb	IAmb	09 07 12.7	
	comp=Z,44nm,1.4s						
AS31	Alice Springs	40.95	270		P	09 07 37.8	+0.2
ASAR	Alice Springs	40.95	270	P	P	09 07 37.9	+0.2
	comp=Z,17nm,0.5s,baz=106,slow=7.8,SNR=256						
ASAR				ScP	ScP	09 12 42.0	-1.3
	comp=Z,0.2nm,0.4s,baz=110,slow=4.3,SNR=2.1						
ASAR				S	S	09 13 19.9	-1.4
	comp=Z,4.4nm,1.0s,baz=112,slow=16,SNR=16						
WR0	Warramunga Arr	41.95	276	P	P	09 07 45.8	+0.2
WR0				IAmb	IAmb	09 07 46.5	
	comp=Z,32nm,0.5s						
WB2	Warramunga Ar	42.11	276	P	P	09 07 47.1	+0.2
WRAB	Tennant Creek	42.12	276	P	P	09 07 47.0	0.0
WRAB				IAmb	IAmb	09 07 47.8	
	comp=Z,43nm,0.6s						
WRA	Warramunga Arr	42.12	276	P	P	09 07 47.1	0.0
	comp=Z,53nm,0.5s,baz=113,slow=7.8,SNR=1338						
WRA				S	S	09 13 36.5	-1.9
	comp=Z,3.5nm,0.9s,baz=116,slow=12,SNR=9.1						
WRA	Warramunga Arr	42.12	276	P	P	09 07 47.1	0.0
WB0	Warramunga Ar	42.16	276	P	P	09 07 47.5	+0.2
FORT	Forrest	43.53	258	P	P	09 07 58.2	+0.2
FORT				IAmb	IAmb	09 07 60.0	
	comp=Z,59nm,1.4s						
SBA	Scott Base	45.92	184	P	P	09 08 18.6	+2.6
VNDA	Vanda	45.93	185	P	P	09 08 17.6	+1.5
	comp=Z,0.7nm,0.7s,baz=14,slow=6.3,SNR=4.0						
VNDA				ScP	ScP	09 13 02.0	-0.6
	comp=Z,2.4nm,0.9s,baz=5.9,slow=2.6,SNR=12						
VNDA	Vanda	45.93	185	P	P	09 08 18.0	+2.0
MTN	Manton Dam	48.27	282	P	P	09 08 34.6	-0.2
MTN				IAmb	IAmb	09 08 35.3	
	comp=Z,24nm,0.6s						
KNRA	Kununurra	48.80	277	P	P	09 08 39.1	+0.3
KNRA				IAmb	IAmb	09 08 41.8	
	comp=Z,20nm,0.5s						
FITZ	Fitzroy Crossi	50.29	273	P	P	09 08 50.2	+0.4
	comp=Z,8.3nm,0.4s,baz=142,slow=4.8,SNR=82						
NWAO	Narrogin (SRO)	51.75	251	P	P	09 09 00.2	-0.1
	comp=Z,12nm,1.0s,baz=121,slow=12,SNR=2.2						
NWAO	Narrogin (SRO)	51.75	251	P	P	09 09 00.3	-0.1
NWAO				IAmb	IAmb	09 09 24.9	
	comp=Z,31nm,1.4s						
CASY	Casey	52.41	208	P	P	09 09 04.4	-0.2
FAKI	Fak Fak	53.11	293	P	P	09 09 10.8	+0.2
FAKI				IAmb	IAmb	09 09 11.2	
	comp=Z,22nm,0.7s						
PSA00	Pilbara Seismi	53.67	266	P	P	09 09 13.8	-0.8
PSA00	Pilbara Seismi	53.67	266	P	P	09 09 14.1	-0.4
PSA00				IAmb	IAmb	09 09 14.5	
	comp=Z,11nm,0.7s						
MORW	Morawa	53.97	256	P	P	09 09 16.4	-0.2
MORW				IAmb	IAmb	09 09 17.4	
	comp=Z,23nm,1.2s						
SOEI	Soe	55.60	281	P	P	09 09 28.2	-0.2
SOEI				IAmb	IAmb	09 09 31.3	
	comp=Z,51nm,1.0s						
SOEI	Soe	55.60	281	P	P	09 09 28.5	+0.1
	comp=Z,53nm,1.1s						
KRAI	Karang Ratu	55.89	290	P	P	09 09 29.3	-1.1
	comp=Z,15nm,0.9s						
KHLU	Kahalu`u	56.78	28	P	P	09 09 37.1	+0.6
QSPA	South Pole Qui	57.74	180	P	P	09 09 44.0	+1.5
	comp=Z,20nm,0.9s,baz=29,slow=4.1,SNR=41						
QSPA	South Pole Qui	57.74	180	P	P	09 09 44.1	+1.5
QSPA				IAmb	IAmb	09 09 45.2	
	comp=Z,19nm,0.9s						
GIRL	Giralia	57.95	262	P	P	09 09 45.2	+0.7
EDFI	Ende, Flores	58.28	280	P	P	09 09 46.7	-0.3
	comp=Z,12nm,1.1s						
TWSI	Taliwang, Sumb	62.30	277	P	P	09 10 14.5	+0.6
JAGI	Jajag, Banyuwa	64.74	276	P	P	09 10 29.3	-0.4
PMSA	Palmer Station	71.33	156	P	P	09 11 09.9	+0.6
PMSA				IAmb	IAmb	09 11 20.8	
	comp=Z,30nm,1.4s						
GO09	Cerro Castillo	75.57	142	P	P	09 11 32.0	-2.1
SNAA	Sanae	76.23	179	P	P	09 11 37.6	+0.1
SNAA	Sanae	76.23	179	PcP	PcP	09 11 46.8	-0.9
SNAA	Sanae	76.23	179	pP	pP	09 13 05.5	+5.1
SNAA	Sanae	76.23	179	P	P	09 11 37.5	-0.1
VNA3	Neumayer Olymp	76.47	177	P	P	09 11 39.1	+0.3
VNA3	Neumayer Olymp	76.47	177	sP	sP	09 13 50.0	+9.2
VNA1	Neumayer--Stat	77.12	177	P	P	09 11 42.8	+0.5
VNA1	Neumayer--Stat	77.12	177	PcP	PcP	09 11 50.9	-0.6
VNA1	Neumayer--Stat	77.12	177	pP	pP	09 13 10.3	+5.0
MJAR	Matsushiro Arr	78.70	327	P	P	09 11 50.5	-0.9
	comp=Z,3.3nm,0.9s,baz=153,slow=4.8,SNR=4.6						
JHS	Saijyo	79.94	323	P	P	09 11 58.1	0.0
JHS				IAmb	IAmb	09 11 58.6	
	comp=Z,14nm,1.0s						
EFI	East Falkland	82.27	148	P	P	09 12 11.1	+1.0
PLCA	Paso Flores	82.69	134	P	P	09 12 14.2	+1.6
	comp=Z,1.5nm,0.5s,baz=271,slow=4.6,SNR=6.0						
PLCA	Paso Flores	82.69	134	P	P	09 12 14.3	+1.7
JKA	Kamikawa-asahi	83.25	334	P	P	09 12 16.1	+1.1
JKA				IAmb	IAmb	09 12 16.3	
	comp=Z,7.4nm,1.1s						
GSI	Gunungsitoli	83.89	275	P	P	09 12 19.6	+0.6
KIWB	Kanaga Island	83.92	2	P	P	09 12 18.5	+0.4
ADK	Adak	83.96	2	P	P	09 12 18.5	+0.2
ADK				IAmb	IAmb	09 12 26.0	
	comp=Z,25nm,1.0s						
ATKA	Atka Island	84.40	4	P	P	09 12 20.2	-0.2
ATKA				IAmb	IAmb	09 12 21.1	
	comp=Z,14nm,0.9s						
KSRS	Korea Array	84.52	321	P	P	09 12 22.2	+0.7
	comp=Z,2.1nm,0.5s,baz=151,slow=6.2,SNR=7.2						
NIKH	Nikolski High	85.59	7	P	P	09 12 27.2	+0.9
NJ2	Nanjing	85.96	312	eP	P	09 12 29.4	+0.8
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BO02	Sierra Bellavi	86.10	129	P	P	09 12 31.4	+1.8
BO02				IAmb	IAmb	09 12 59.3	
	comp=Z,11nm,1.1s						
MT09	Talagante	86.57	128	P	P	09 12 32.8	+0.8
MT09				IAmb	IAmb	09 12 33.4	
	comp=Z,29nm,1.5s						
PEA0B	Petropavlovsk-	87.22	347	P	P	09 12 34.9	+0.7
PETK	Petropavlovsk-	87.22	347	P	P	09 12 34.6	+0.5
	comp=Z,6.6nm,0.5s,baz=123,slow=7.7,SNR=11						
PETK	Petropavlovsk-	87.22	347	P	P	09 12 35.0	+0.9
PFO	Pinyon Flats O	89.09	49	P	P	09 12 44.6	+1.0
PFO				IAmb	IAmb	09 12 46.6	
	comp=Z,6.2nm,1.0s						
ISA	Isabella, Lake	89.19	46	P	P	09 12 45.2	+1.3
ISA				IAmb	IAmb	09 12 46.8	
	comp=Z,7.2nm,1.0s						
CMB	Columbia Colle	89.64	43	P	P	09 12 47.2	+1.2
CMB				IAmb	IAmb	09 12 48.1	
	comp=Z,7.1nm,1.1s						
GLA	Glamis	89.78	50	P	P	09 12 48.1	+1.4
GLA				IAmb	IAmb	09 12 50.2	
	comp=Z,22nm,1.1s						
AFDM	Forest Hills D	89.93	42	P	P	09 12 47.3	+0.1
AFDM				IAmb	IAmb	09 12 49.3	
	comp=Z,10nm,1.3s						
GSC	Goldstone, Bar	89.97	47	P	P	09 12 48.5	+0.8
113A	Mohawk Valley,	90.29	51	P	P	09 12 48.8	-0.2
113A				IAmb	IAmb	09 12 52.2	
	comp=Z,8.2nm,1.3s						
214A	Organ Pipe Nat	90.42	52	P	P	09 12 49.6	-0.1
WAKR	Walker	90.51	43	P	P	09 12 50.3	+0.2
WAKR				IAmb	IAmb	09 12 52.7	
	comp=Z,6.2nm,1.0s						
PNTR	Pine Nut

KVN	**Kaiserville**	**91.65**	**44**	P	**P**	**09 12 55.9**	**+0.4**		
KVN				IAmb	IAmb	09 12 56.8			
	comp=Z,5.5nm,1.2s								
CMAR	**Chiang Mai Arr**	**92.08**	**290**	PP	PP	09 16 43.2	-0.5		
	comp=Z,0.7nm,0.3s,baz=160,slow=5.7,SNR=4.9								
MOD	**Modoc Plateau**	**92.31**	**40**	P	**P**	**09 12 57.6**	**-0.8**		
MOD				IAmb	IAmb	09 13 01.0			
	comp=Z,8.1nm,1.2s								
PRN	**Pahroc Range**	**92.41**	**46**	P	**P**	**09 12 59.7**	**+0.8**		
PRN				IAmb	IAmb	09 13 02.5			
	comp=Z,8.5nm,1.4s								
K05A	**Summer Lake**	**92.55**	**39**	P	**P**	**09 13 00.0**	**+0.5**		
K05A				IAmb	IAmb	09 13 02.0			
	comp=Z,12nm,1.1s								
PINE	**Pine Mountain**	**93.25**	**39**	P	**P**	**09 13 03.0**	**+0.3**		
PINE				IAmb	IAmb	09 13 05.3			
	comp=Z,10nm,0.9s								
U15A	**North Rim**	**93.52**	**49**	P	**P**	**09 13 04.6**	**+0.4**		
U15A				IAmb	IAmb	09 13 07.0			
	comp=Z,5.3nm,1.2s								
WVOR	**Wild Horse Val**	**93.59**	**41**	P	**P**	**09 13 03.7**	**-0.5**		
WVOR				IAmb	IAmb	09 13 08.4			
	comp=Z,3.4nm,0.8s								
J08A	**Circle Bar Ran**	**94.29**	**40**	P	**P**	**09 13 08.0**	**+0.7**		
J08A				IAmb	IAmb	09 13 09.4			
	comp=Z,6.2nm,1.2s								
TXAR	**Lajitas Array**	**95.22**	**59**	P	**P**	**09 13 13.7**	**+1.8**		
	comp=Z,0.4nm,0.8s,baz=211,slow=7.0,SNR=3.8								
MFID	**Camas Ranch**	**95.79**	**41**	P	**P**	**09 13 14.4**	**+0.3**		
HHC	**Hu-ho-hao-te**	**96.11**	**315**	*e*P	**P**	**09 13 16.3**	**+0.7**		
HHC				pmax	pmax				
	comp=Z,16nm,0.7s								
HHC				pmax	pmax				
	comp=Z,75nm,8.0s								
PDAR	**Pinedale Array**	**99.02**	**45**	P	**Pdif**	**09 13 30.2**	**+1.4**		
	comp=Z,0.3nm,0.6s,baz=191,slow=4.5,SNR=3.9								
ILAR	**Eielson Array**	**100.33**	**14**	P	**Pdif**	**09 13 34.4**	**+0.6**		
	comp=Z,0.6nm,1.0s,baz=212,slow=6.0,SNR=4.2								
ILAR				PP	**PP**	**09 17 39.5**	**-6.5**		
	comp=Z,1.5nm,1.1s,baz=228,slow=7.3,SNR=5.9								
WMQ	**Urumqi**	**112.79**	**308**	*e*P	**PKiKP**	**09 18 21.8**	**-0.6**		
WMQ				pmax	pmax				
	comp=Z,83nm,4.3s								
MKAR	**Makanchi Array**	**117.42**	**310**	PKP	**PKPdf**	**09 18 29.9**	**-1.2**		
	comp=Z,0.3nm,0.4s,baz=242,slow=1.6,SNR=6.7								
MKAR				PP	**PP**	**09 19 48.3**	**-1.1**		
	comp=Z,0.3nm,0.7s,baz=128,slow=6.4,SNR=2.0								
MKAR				PKKPbc	**PKKPbc**	**09 28 55.6**	**-0.1**		
	comp=Z,0.3nm,0.4s,baz=303,slow=2.4,SNR=5.8								
KKAR	**Karatay Array**	**124.39**	**303**		**PKPdf**	**09 18 44.1**	**-0.6**		
ARCES	**ARCESS Array B**	**140.03**	**346**	PKhKP	PKPpre	09 19 04.9			
	comp=Z,1.0nm,0.6s,baz=35,slow=3.0,SNR=5.2								
STEI	**Steigen**	**143.25**	**350**	*e*PKPbc	PKPab	09 19 16.3	+0.3		
LOF	**Lofoten**	**143.29**	**351**	*e*PKPab	PKPbc	09 19 17.5	+0.5		
FAUS	**Fauske**	**143.75**	**350**	*e*PKPbc	PKPbc	09 19 18.2	-0.2		
NBB30	**Finnes**	**144.35**	**350**	*e*PKPbc	PKPbc	09 19 19.4	-0.8		
KBZ	**Khabaz**	**144.39**	**301**	PKP	**PKPab**	**09 19 21.3**	**+0.2**		
	comp=Z,6.6nm,0.9s,baz=85,slow=0.6,SNR=10								
NBB17	**Glomfjord B▼r**	**144.47**	**350**	*e*PKPbc	**PKPdf**	**09 19 20.9**	**-0.1**		
NBB15	**Halsa Church**	**144.59**	**350**	*e*PKPdf	PKPbc	09 19 20.8	-0.2		
NBB15	**Halsa Church**	**144.59**	**350**	*e*PKPab	**PKPdf**	**09 19 22.2**	**+1.0**		
KONS	**Konsvik**	**144.88**	**351**	*e*PKPbc	**PKPab**	**09 19 22.3**	**0.0**		
NBB40	**Tonnes**	**144.89**	**351**	*e*PKPdf	PKPbc	09 19 21.9	0.0		
MOR8	**Moi Rana**	**145.00**	**349**	*e*PKPdf	**PKPdf**	**09 19 20.6**	**-1.5**		
STOK	**Stokkvagen**	**145.06**	**351**	*e*PKPbc	**PKPab**	**09 19 23.0**	**0.0**		
FIA1	**FINESS Array S**	**146.21**	**337**		**PKPdf**	**09 19 24.2**	**0.0**		
FINES	**FINESS Array B**	**146.21**	**337**	PKPbc	**PKPbc**	**09 19 25.1**	**-0.9**		
	comp=Z,11nm,0.4s,baz=45,slow=4.7,SNR=75								
FINES	**FINESS Array B**	**146.21**	**337**		**PKPdf**	**09 19 23.9**	**-0.3**		
FINES				PKPbc	**PKPbc**	**09 19 26.0**	**+0.1**		
DOMB	**Dombas**	**149.69**	**351**	*e*PKPab	**PKPab**	**09 19 41.5**	**-0.3**		
BNN	**Bunyan**	**149.92**	**293**	PKPdf	**PKPdf**	**09 19 31.6**	**+0.4**		
BNN					**PKPbc**	**09 19 35.2**	**-1.3**		
BNN				PKPab	**PKPab**	**09 19 42.1**	**-1.5**		
NC303	**NORSAR Array S**	**150.12**	**349**		**PKPbc**	**09 19 35.8**	**-0.2**		
NOA	**NORSAR Array B**	**150.32**	**349**	PKPbc	**PKPbc**	**09 19 36.3**	**-0.3**		
	comp=Z,3.9nm,0.7s,baz=17,slow=4.1,SNR=15								
NC602	**NORSAR Array S**	**150.55**	**349**	*e*PKPbc	**PKPbc**	**09 19 36.7**	**-0.4**		
SKAR	**Skarsla**	**151.10**	**351**	*e*PKPbc	**PKiKP**	**09 19 38.9**	**+0.1**		
AKASG	**Malin Array Be**	**151.49**	**319**	PKPbc	**PKPbc**	**09 19 39.3**	**-0.2**		
	comp=Z,1.6nm,0.4s,baz=54,slow=2.6,SNR=9.6								
AKASG	**Malin Array Be**	**151.49**	**319**		**PKPbc**	**09 19 39.1**	**-0.4**		
AKASG				PKPab	**PKPab**	**09 19 48.9**	**-0.6**		
BRTR	**Keskin Array B**	**151.59**	**295**	PKPbc	**PKPbc**	**09 19 39.7**	**-0.6**		
	comp=Z,1.8nm,0.5s,baz=176,slow=4.8,SNR=6.1								
BRTR	**Keskin Array B**	**151.59**	**295**		**PKPbc**	**09 19 39.9**	**-0.5**		
BRTR				PKPab	**PKPab**	**09 19 49.2**	**-1.4**		
KONO	**Kongsberg**	**151.90**	**349**	*e*PKPdf	**PKPdf**	**09 19 33.0**	**-0.4**		
VYHS	**Vyhne**	**158.30**	**324**	*e*PKP	**PKPdf**	**09 19 46.6**	**+4.3**		
VYHS				*e*		09 20 19.0			
CLL	**Collm**	**158.65**	**336**	*e*PKPab	**PKPab**	**09 20 20.0**	**-0.2**		
TORD	**Torodi Ar. Bea**	**160.76**	**186**	PKPab	**PKPab**	**09 20 29.4**	**-0.8**		
	comp=Z,0.8nm,0.6s,baz=177,slow=3.6,SNR=10.0								
TORD	**Torodi Ar. Bea**	**160.76**	**186**	PKPdf	**PKPdf**	**09 19 45.7**	**-0.4**		
TORD					**PKPab**	**09 20 29.6**	**-0.6**		
ESDC	**Sonseca Array**	**172.19**	**20**	PKPab	**PKPab**	**09 21 20.7**	**+0.4**		
	comp=Z,0.9nm,0.9s,baz=347,slow=6.1,SNR=5.0								

ISK ***17*** *09:32:48.6,39.87N×39.01E,h7km,ML2.5/7*
DDA ***17*** *09:32:49.4,39.88N×39.02E,h7km±3km,ML1.9*
ISC 17 09:32:47.8±1.2,39.82N±0.03×38.97E±0.03,h3km±11km, n16,σ1§61/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELT	**Kelkit**	**0.40**	**34**	*i* P	**Pg**	**09 32 56.3**	**+0.8**
KELT				*i* S	**Sg**	**09 33 00.7**	**-0.1**
KELT				IAML		09 33 01.0	
	comp=E,381nm,0.1s						
KELT				IAML		09 33 01.0	
	comp=N,324nm,0.2s						
REFA	**Refahiye_ERZN**	**0.45**	**200**	*i* P	**Pg**	**09 32 54.5**	**-2.0**
REFA				*i* S	**Sg**	**09 32 57.9**	**-4.4**
REFA				IAML		09 32 58.0	
	comp=N,161nm,0.2s						
REFA				IAML		09 32 59.0	
	comp=E,166nm,0.2s						
ERZN	**Erzincan**	**0.63**	**111**	PG	**Pb**	**09 33 00.7**	**-0.8**
ERZN				SG	**Sb**	**09 33 10.3**	**-0.4**
KEMA	**Kemaliye**	**0.66**	**214**	*i* P	**Pn**	**09 33 03.8**	**-0.2**
KEMA				*i* S	**Sn**	**09 33 14.6**	**-0.4**
KEMA				IAML		09 33 15.0	
	comp=E,68nm,0.4s						
KEMA				IAML		09 33 18.0	
	comp=N,40nm,0.4s						
SUSE	**Susehri**	**0.70**	**304**	*i* P	**Pb**	**09 33 02.8**	**0.0**
SUSE				IAML		09 33 13.0	
	comp=E,57nm,0.4s						
SUSE				*i* S	**Sb**	**09 33 13.1**	**+0.2**
SUSE				IAML		09 33 14.0	
	comp=N,92nm,0.2s						
GUMT	**Gumushane**	**0.75**	**31**	PG	**Pg**	**09 33 02.5**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.83**	**147**	*i* P	**Pn**	**09 33 07.1**	**+0.6**
TNCL				IAML		09 33 18.0	
	comp=E,42nm,1.2s						
TNCL				*i* S	**Sn**	**09 33 18.9**	**-0.4**
TNCL				IAML		09 33 19.0	
	comp=N,56nm,0.6s						
ARPR	**Arapgir-MALATY**	**0.87**	**214**	PG	**Pn**	**09 33 07.1**	**0.0**
ARPR				SG	**Sn**	**09 33 20.4**	**0.0**
CUZAR	**Zara_SIVAS**	**0.92**	**275**	*i* P	**Pn**	**09 33 07.5**	**-0.2**
CUZAR				*i* S	**Sn**	**09 33 22.2**	**+0.6**
CUZAR				IAML		09 33 27.0	
	comp=E,35nm,0.2s						
CUZAR				IAML		09 33 28.0	
	comp=N,39nm,0.4s						
BAYT	**Aydintepe-Bayb**	**1.07**	**57**	PG	**Pg**	**09 33 08.4**	**+0.1**
BAYB	**BAYBURT**	**1.09**	**66**	*i* P	**Pg**	**09 33 08.4**	**-0.2**
BAYB				*i* S	**Sb**	**09 33 22.9**	**-1.1**
BAYB				IAML		09 33 23.0	
	comp=N,47nm,0.3s						
BAYB				IAML		09 33 23.0	
	comp=E,58nm,0.3s						
ESPY	**Espiye-Giresun**	**1.11**	**351**	PG	**Pb**	**09 33 09.3**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.28**	**107**	PN	**Pg**	**09 33 13.3**	**+1.0**
KTUT	**Trabzon**	**1.32**	**27**	PN	**Pg**	**09 33 13.2**	**+0.1**
ELZG	**Elazig**	**1.32**	**179**	*i* P	**Pg**	**09 33 15.5**	**+2.5**
ELZG				*i* S	**Sg**	**09 33 34.7**	**+4.6**
ELZG				IAML		09 33 35.0	
	comp=N,33nm,0.2s						
ELZG				IAML		09 33 35.0	
	comp=E,25nm,0.4s						
SVSK	**Karacayir**	**1.52**	**274**	PN	**Pg**	**09 33 18.1**	**+1.3**

IDC ***17*** *09:39:48.8±1.1,56.01S×27.21W,h0km,mb3.7/3,*
mb1 3.9/3,mb1mx3.7/19,mbtmp3.7/3,Error ellipse:
s-maj=47.4km s-min=33.6km az=85.0
ISC 17 09:40:02.7±1.0,56.15S±0.2×27.4W±0.3,h112km,n8,
σ0§58/8,mb3.7/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.81**	**158**	P	**Pn**	**09 43 51.2**	**+0.4**
VNA3	**Neumayer Olymp**	**17.00**	**160**	P	**P**	**09 43 52.9**	**-0.4**
SNAA	**Sanae**	**18.76**	**156**	P	**P**	**09 44 12.2**	**-0.4**
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**09 48 18.6**	**+0.4**
	0.6nm,0.8s,baz=158,slow=4.1,SNR=5.4						
LPAZ	**La Paz**	**50.29**	**305**	P	**P**	**09 48 48.4**	**0.0**
	0.6nm,0.5s,baz=149,slow=5.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P	**P**	**09 51 21.2**	**+0.5**
	0.8nm,0.6s,baz=190,slow=5.9,SNR=6.0						
ILAR	**Eielson Array**	**150.04**	**312**	PKPbc	**PKPbc**	**09 59 38.1**	**-0.4**
	0.3nm,0.7s,baz=126,slow=1.8,SNR=3.3						
SONM	**Songino Array**	**150.85**	**87**	PKPbc	**PKPbc**	**09 59 40.3**	**-0.8**
	0.5nm,0.5s,baz=248,slow=1.6,SNR=1.8						

IDC ***17*** *09:49:23.1±1.2,19.17N×145.50E,h0km,mb3.8/5,*
mb1 4.1/5,mb1mx3.6/59,mbtmp3.8/5,MS2.7/2,Ms1 2.7/2,
ms1mx2.3/39,Error ellipse: s-maj=64.1km s-min=23.1km
az=99.0
NEIC ***17*** *09:49:48.4±0.5,19.09N±0.08×145.5E±0.3,h222km±11km,*
mb3.9/11,Error ellipse: s-maj=37.0km s-min=11.2km
az=82.0
ISC 17 09:49:47.0±1.0,19.1N±0.1×145.5E±0.3,h214km,n20,
σ0§46/18,mb3.9/9,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**14.90**	**341**	LR	LR	09 57 50.7	
	comp=Z,32nm,20.9s,baz=290,slow=34						
ASAJ	**Asahikawa**	**25.11**	**355**	LR	LR	10 04 00.9	
	comp=Z,15nm,19.3s,baz=165,slow=35						
USA0B	**Ussuriysk Arra**	**27.50**	**339**	P	**P**	**09 55 13.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**27.50**	**339**	P	**P**	**09 55 13.2**	**-0.2**
MDJ	**Mudanjiang**	**28.73**	**336**	P	**P**	**09 55 24.3**	**-0.1**
KNRA	**Kununurra**	**38.22**	**207**	P	**P**	**09 56 46.8**	**+0.4**
WB0	**Warramunga Arr**	**40.07**	**196**	P	**P**	**09 57 02.4**	**+0.7**
WB0				IAmb	IAmb	09 57 02.4	
	comp=Z,2.8nm,0.7s						
WR0	**Warramunga Arr**	**40.22**	**196**	P	**P**	**09 57 03.3**	**+0.4**
WRAB	**Tennant Creek**	**40.24**	**196**	P	**P**	**09 57 03.5**	**+0.4**
WB2	**Warramunga Arr**	**40.25**	**196**	P	**P**	**09 57 03.7**	**+0.5**
WB2				IAmb	IAmb	09 57 05.0	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**40.25**	**196**	P	**P**	**09 57 03.6**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=18,slow=8.6,SNR=57						
WRA	**Warramunga Arr**	**40.25**	**196**	P	**P**	**09 57 02.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.73**	**209**	P	**P**	**09 57 15.5**	**+0.2**
FITZ				IAmb	IAmb	09 57 17.9	
	comp=Z,3.3nm,0.8s						
ASAR	**Alice Springs**	**43.93**	**195**	P	**P**	**09 57 33.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=16,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**43.93**	**195**	P	**P**	**09 57 32.9**	**0.0**
STKA	**Stephens Creek**	**50.77**	**184**	P	**P**	**09 58 24.2**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=18,slow=13,SNR=2.3						
STKA	**Stephens Creek**	**50.77**	**184**	P	**P**	**09 58 25.6**	**+0.2**
KURBB	**Kurchatov Arra**	**60.91**	**318**	P	**P**	**09 59 37.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=90,slow=7.3,SNR=2.4						
BPAW	**Bear Paw Mtn.**	**61.55**	**27**	P	**P**	**09 59 41.4**	**+0.2**
BPAW				IAmb	IAmb	09 59 43.5	
	comp=Z,1.6nm,0.6s						
ILAR	**Eielson Array**	**63.44**	**26**	P	**P**	**09 59 53.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=253,slow=5.8,SNR=5.3						

KRNET ***17*** *10:42:54.7±0.1,41.19N×70.16E,mb2.4*
SOME ***17*** *10:42:54.3,41.07N±.70.23E,h10km*
NNC ***17*** *10:42:55.5±3.9,40.91N×70.35E,h0km,mb3.0,mpv2.6,*
Error ellipse: s-maj=31.0km s-min=16.8km az=38.0
ISC 17 10:42:57.4±1.8,41.10N±0.04×70.43E±0.07,h1km±13km,
n10,σ1§14/18,11C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.69**	**51**	⇑*i* P	**Pg**	**10 43 10.2**	**-0.4**
	baz=70						
TRKS				⇑*i* S	**Sb**	**10 43 21.5**	**-0.8**
	baz=70						
BTK	**Batken**	**1.08**	**164**	⇑*i* P	**Pg**	**10 43 18.0**	**-0.1**
	baz=56						
BTK				⇑*i* S	**Sn**	**10 43 35.2**	**-0.3**
	baz=56						
ARSB	**Arslanbob**	**1.94**	**83**	⇓*i* P	**Pb**	**10 43 33.4**	**-0.2**
	baz=86						
ARSB				⇓*i* S	**Sg**	**10 44 01.6**	**+1.9**
	baz=86						
KK31	**Karatay Array**	**2.00**	**2**	⇓Pn	**Pn**	**10 43 33.2**	**+0.8**
	0.7nm,0.3s,baz=196,slow=16,SNR=18						
KK31				⇓Sn	**Sg**	**10 44 02.2**	**+0.4**
	2.4nm,0.4s,baz=190,slow=26,SNR=6.5						
MNAS	**Manas**	**2.08**	**48**	⇑*i* P	**Pb**	**10 43 34.4**	**-1.6**
	baz=53						
MNAS				⇑*i* S	**Sb**	**10 44 02.7**	**+0.3**
	baz=53						
SFK	**Sufi-Kurgan**	**2.58**	**114**	⇑*i* P	**Pb**	**10 43 42.8**	**-1.8**
	baz=14						
SFK				⇑*i* S	**Sb**	**10 44 18.0**	**+1.1**
	baz=14						
AML	**Almayashu**	**2.66**	**66**	⇑*e*P	**Pn**	**10 43 42.6**	**+0.9**
	baz=69						
AML				⇑*i* S	**Sb**	**10 44 17.4**	**-1.8**
	baz=69						
MRKS	**Merke**	**2.66**	**51**	*e*P	**Pb**	**10 43 46.6**	**+0.8**
	1.2nm,0.2s						
MRKS				*e*S	**Sg**	**10 44 22.7**	**0.0**
	5.9nm,0.4s						
AAK	**Ala-Archa**	**3.40**	**62**	⇓Pg	**Pg**	**10 44 01.8**	**-0.8**
	1.4nm,0.6s						
AAK				⇓Lg	Lg	10 44 47.5	
	0.9nm,0.5s						
TKM2	**Tokmak 2**	**4.26**	**63**	⇓Pg	**Pb**	**10 44 13.6**	**+0.5**
	0.8nm,0.6s						
TKM2				⇑Lg	Lg	10 45 14.8	
	2.1nm,0.8s						

ISK ***17*** *10:44:50.4,40.01N×42.62E,h3km,ML2.5/9*
DDA ***17*** *10:44:50.3,40.03N×42.63E,h7km±5km,ML2.4*
ISC 17 10:44:50.1±1.1,40.02N±0.03×42.64E±0.02,h8km±10km,
n17,σ0§78/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOTA	**Agri, Merkez-K**	**0.49**	**116**	*i* P	**Pb**	**10 45 00.8**	**-0.2**
KOTA				*i* S	**Sb**	**10 45 08.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.52**	**148**	PG	**Pg**	**10 45 00.9**	**+0.7**
AGRB				SG	**Sb**	**10 45 09.4**	**+0.1**
HOMI	**Horasan**	**0.56**	**273**	*i* P	**Pg**	**10 45 00.6**	**-0.4**
HOMI				*i* S	**Sb**	**10 45 09.9**	**-0.6**
HOMI				IAML		10 45 12.0	
	comp=N,632nm,0.4s						
HOMI				IAML		10 45 13.0	
	comp=E,672nm,0.4s						
SENK	**Senkaya-Erzuru**	**0.59**	**338**	PG	**Pb**	**10 45 02.7**	**0.0**
SENK				SG	**Sb**	**10 45 11.3**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**0.60**	**268**	PG	**Pg**	**10 45 02.3**	**+0.6**
KOPR				SG	**Sb**	**10 45 11.5**	**-0.2**
DIGO	**Kars**	**0.69**	**55**	*i* P	**Pg**	**10 45 03.0**	**-0.4**
DIGO				*i* S	**Sg**	**10 45 12.5**	**+0.1**
DIGO				IAML		10 45 15.0	
	comp=N,150nm,0.8s						
DIGO				IAML		10 45 18.0	
	comp=E,157nm,0.7s						
EAK	**Akyaka**	**1.00**	**48**	*i* P	**Pn**	**10 45 10.1**	**-0.5**
EAK				*i* S	**Sn**	**10 45 25.5**	**+0.6**
EJDE	**Erzurum, Palan**	**1.04**	**260**	*i* P	**Pb**	**10 45 10.3**	**-0.2**
EJDE				*i* S	**Sn**	**10 45 25.5**	**-0.7**
EJDE				IAML		10 45 30.0	
	comp=E,301nm,0.6s						
EJDE				IAML		10 45 33.0	
	comp=N,149nm,0.7s						
DDEM	**Demirkent**	**1.10**	**323**	*i* P	**Pn**	**10 45 11.6**	**-0.4**
DDEM				*i* S	**Sn**	**10 45 30.4**	**+3.0**
DDEM				IAML		10 45 35.0	
	comp=E,268nm,0.4s						
DDEM				IAML		10 45 35.0	
	comp=N,193nm,0.4s						

ADCV	**BITLIS_Adilcev**	**1.21**	**177**	*i* P	**Pn**	**10 45 12.2**	**-1.3**
ADCV				IAML		10 45 18.0	
	comp=E,35nm,0.1s						
ADCV				*i* S	Sb	10 45 18.2	-11
ADCV				IAML		10 45 19.0	
	comp=N,31nm,0.3s						
CLDR	**Caldiran**	**1.32**	**131**	PN	**Pg**	**10 45 15.5**	**+0.1**
GURO	**Guroymak-BITLI**	**1.54**	**198**	PN	**Pg**	**10 45 19.4**	**-0.2**
GURO				SN	**Sg**	**10 45 40.3**	**+0.8**
GNI	**Garni**	**1.62**	**85**	PN	**Pg**	**10 45 20.9**	**-0.2**
BCA	**Borcka**	**1.62**	**332**	PN	**Pg**	**10 45 20.7**	**-0.5**
BCA				SN	**Sg**	**10 45 42.5**	**+0.3**
AKDM	**Akdamar-Van**	**1.71**	**171**	PN	**Pb**	**10 45 22.1**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.71**	**251**	PN	**Pb**	**10 45 21.9**	**0.0**
CHOM	**Cayeli-Rize**	**1.79**	**308**	PN	**Pb**	**10 45 23.1**	**0.0**

IDC 17 10:57:50.8±1.9,32.90S×56.83E,h0km,mb3.6/5,
mb1 3.8/5,mb1mx3.5/39,mbtmp3.6/5,MS3.1/3,Ms1 3.0/3,
ms1mx2.7/28,Error ellipse: s-maj=74.0km
s-min=35.2km az=25.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**27.41**	**271**	LR	LR	11 12 38.5	
	comp=Z,26nm,18.5s,baz=178,slow=32						
H08S1	**Diego Carcia H**	**29.02**	**33**	T	T	11 33 54.4	
	baz=207,slow=76,SNR=5.5						
H08S2	**Diego Garcia B**	**29.04**	**33**	T	T	11 33 42.4	
	baz=207,slow=76,SNR=4.8						
H08S3	**Diego Garcia H**	**29.04**	**33**	T	T	11 33 45.6	
	baz=207,slow=76,SNR=6.5						
SUR	**Sutherland**	**30.24**	**261**	LR	LR	11 13 31.6	
	comp=Z,48nm,19.8s,baz=128,slow=31						
LSZ	**Lusaka**	**31.34**	**297**	LR	LR	11 15 41.8	
	comp=Z,25nm,18.2s,baz=292,slow=34						
H01W2	**Cape Leeuwin H**	**47.05**	**109**	T	T	11 56 49.3	
	baz=255,slow=75,SNR=7.8						
H01W3	**Cape Leeuwin H**	**47.05**	**109**	T	T	11 56 47.5	
	baz=255,slow=75,SNR=7.9						
H01W1	**Cape Leeuwin H**	**47.06**	**109**	T	T	11 56 55.9	
	baz=255,slow=75,SNR=8.9						
CMAR	**Chiang Mai Arr**	**65.03**	**45**	P	P	11 08 33.2	+0.2
	0.6nm,0.3s,baz=220,slow=6.9,SNR=1.5						
ASAR	**Alice Springs**	**67.15**	**104**	P	P	11 08 45.9	-0.9
	0.2nm,0.7s,baz=243,slow=6.1,SNR=2.2						
WRA	**Warramunga Arr**	**69.24**	**101**	P	P	11 09 00.9	+1.0
	0.4nm,0.7s,baz=238,slow=5.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	**69.74**	**302**	P	P	11 09 03.0	+0.1
	0.5nm,0.7s,baz=134,slow=4.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**85.35**	**14**	P	P	11 10 29.0	-0.3
	0.1nm,0.5s,baz=216,slow=5.7,SNR=4.2						

IDC 17 11:21:30.2±1.5,25.58N×109.59W,h0km,mb1 3.5/5,
mb1mx3.4/46,mbtmp3.1/5,ML3.3/5,Error ellipse:
s-maj=30.1km s-min=11.3km az=110.0,Gulf of
California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.61**	**204**	Pg	Pn	11 21 57.5	-2.4
	3.5nm,0.3s,baz=17,slow=20,SNR=6.4						
LPIG				Lg	Lg	11 22 22.9	
	14nm,0.3s,baz=9.2,slow=19,SNR=8.0						
TXAR	**Lajitas Array**	**6.45**	**53**	Pn	Pn	11 23 06.7	+0.2
	0.1nm,0.3s,baz=231,slow=13,SNR=2.4						
TXAR				Sn	Sn	11 24 21.6	+0.5
	0.8nm,0.3s,baz=227,slow=15,SNR=7.2						
ANMO	**Albuquerque**	**9.72**	**15**	Pn	Pn	11 23 50.9	-0.6
	0.1nm,0.3s,baz=197,slow=18,SNR=1.6						
ANMO				Lg	Lg	11 26 39.3	
	0.1nm,0.3s,baz=198,slow=19,SNR=1.8						
NVAR	**Mina Array Bea**	**14.78**	**332**	Pn	P	11 25 05.0	-2.0
	0.1nm,0.3s,baz=152,slow=10,SNR=4.8						
ELK	**Elko**	**15.84**	**344**	Pn	P	11 25 17.0	-1.7
	0.0nm,0.3s,baz=168,slow=9.3,SNR=6.6						
PDAR	**Pinedale Array**	**17.14**	**0**	P	Pn	11 25 30.9	-0.5
	0.1nm,0.3s,baz=156,slow=7.6,SNR=4.2						
PDAR				Lg	Lg	11 30 34.5	
	baz=172,slow=25,SNR

ISC 17 11:22:49.4±2.4,1°38S±0°.08×28°.9E±0°.1,h10km,n8,
σ0°35/9,Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOBN	**Bobandana**	**0.36**	**155**	*i* S	**Sg**	**11 23 01.6**	**+0.1**
BOBN	**Bobandana**	**0.36**	**155**	*i* P	**Pg**	**11 22 56.4**	**-0.2**
GOM	**Goma**	**0.47**	**129**	*i* S	**Sb**	**11 23 07.3**	**+0.2**
GOM	**Goma**	**0.47**	**129**	*e*P	**Pb**	**11 23 00.2**	**+0.2**
RGB	**Rumangabo**	**0.51**	**86**	*i* P	**Pb**	**11 23 00.3**	**-0.2**
LWI	**Lwiro**	**0.86**	**184**	*i* S	**Sb**	**11 23 17.7**	**-0.5**
LWI	**Lwiro**	**0.86**	**184**	*i* P	**Pg**	**11 23 06.1**	**+0.1**
MBAR	**Mbarara**	**2.03**	**68**	*e*P	**Pb**	**11 23 26.9**	**+0.4**
MBAR				*e*S	**Sb**	**11 23 51.5**	**-0.4**

DRS ***17*** *11:29:38.1±0.0,43°.10N×47°.81E,h14km,ML3.0/9,FELT*
I=II-III MSK at Makhachkala
IDC ***17*** *11:29:38.2±1.0,43°.10N×47°.48E,h0km,mb3.5/5,*
mb1 3.7/11,mb1mx3.5/42,mbtmp3.6/11,ML3.5/4,MS2.4/1,
Ms1 2.4/1,ms1mx1.9/36,Error ellipse: s-maj=14.5km
s-min=10.0km az=157.0
MOS ***17*** *11:29:39.6±0.0,42°.91N×47°.61E,h10km,MPVA4.3*
ISC 17 11:29:39.9±0.7,43°.01N±0°.02×47°.71E±0°.03,h16km±4km,
n93,σ1°67/170,mb3.6/6,12C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.16**	**253**	⇑*i* PG	**Pg**	**11 29 43.5**	**-0.5**
MAK				pmax	pmax		
	comp=Z,2μm,0.1s						
MAK	**Makhachkala**	**0.16**	**253**	*e*Pg	**Pg**	**11 29 43.4**	**-0.6**
MAK				*e*Sg	**Sg**	**11 29 45.9**	**-0.7**
KANR	**Karaman**	**0.25**	**319**	⇑*e*PG	**Pg**	**11 29 47.0**	**+1.6**
KANR				*e*S	**Sb**	**11 29 53.5**	**+3.3**
KANR	**Karaman**	**0.25**	**319**	*e*Pg	**Pg**	**11 29 47.0**	**+1.6**
KANR				*i* Sg	**Sb**	**11 29 53.5**	**+3.3**
	comp=Z,2μm,0.5s						
BUJR	**Buynaksk**	**0.48**	**248**	⇑*i* PG	**Pb**	**11 29 50.0**	**0.0**
BUJR				*e*S	**Sb**	**11 29 58.4**	**+1.6**
BUJR				pmax	pmax		
	comp=Z,2μm,0.5s						
BUJR	**Buynaksk**	**0.48**	**248**	*e*Pg	**Pg**	**11 29 49.6**	**+0.1**
BUJR				*e*Sg	**Sg**	**11 29 55.6**	**-0.3**
SGKR	**Sergokala**	**0.55**	**184**	⇑*e*PG	**Pg**	**11 29 50.9**	**+0.2**
SGKR				*e*S	**Sb**	**11 29 59.0**	**+0.2**
SGKR	**Sergokala**	**0.55**	**184**	*e*Pg	**Pg**	**11 29 50.9**	**+0.2**
SGKR				*e*Sg	**Sb**	**11 29 59.0**	**+0.2**
KRNR	**Karanay**	**0.62**	**253**	⇑*i* PG	**Pg**	**11 29 52.0**	**-0.1**
KRNR				*e*S	**Sb**	**11 30 01.5**	**+0.6**
KRNR				pmax	pmax		
	comp=Z,497nm,0.3s						
KRNR	**Karanay**	**0.62**	**253**	*e*Pg	**Pg**	**11 29 51.3**	**-0.7**
KRNR				*i* Sg	**Sg**	**11 29 59.9**	**-0.4**
	comp=Z,806nm,0.9s						
DBC	**Dubki**	**0.65**	**271**	*e*PG	**Pg**	**11 29 52.0**	**-0.6**
DBC				*e*S	**Sg**	**11 30 00.8**	**-0.4**
DBC	**Dubki**	**0.65**	**271**	*e*Pg	**Pg**	**11 29 52.0**	**-0.6**
DBC				*i* Sg	**Sg**	**11 30 00.8**	**-0.4**
	comp=Z,544nm,0.5s						
ARKR	**Arakani**	**0.66**	**233**	⇑*i* PG	**Pg**	**11 29 52.2**	**-0.7**
ARKR				*e*S	**Sb**	**11 30 01.5**	**-0.7**
ARKR				pmax	pmax		
	comp=Z,287nm,0.4s						
ARKR	**Arakani**	**0.66**	**233**	*i* Pg	**Pg**	**11 29 52.2**	**-0.7**
	comp=Z,338nm,0.5s						
ARKR				*i* Sg	**Sb**	**11 30 01.4**	**-0.7**
	comp=Z,792nm,0.6s						
DLMR	**Dylym**	**0.80**	**275**	*e*PG	**Pg**	**11 29 54.9**	**-0.5**
DLMR				*e*S	**Sb**	**11 30 07.6**	**+1.7**
DLMR				pmax	pmax		
	comp=Z,238nm,0.7s						
DLMR	**Dylym**	**0.80**	**275**	*e*Pg	**Pg**	**11 29 55.2**	**-0.2**
DLMR				*e*Sg	**Sb**	**11 30 06.5**	**+0.6**
URKR	**Urkarakh**	**0.84**	**184**	*e*PG	**Pb**	**11 29 56.6**	**+0.4**
URKR				*e*S	**Sn**	**11 30 09.3**	**0.0**
URKR				pmax	pmax		
	comp=Z,240nm,0.3s						
URKR	**Urkarakh**	**0.84**	**184**	*e*Pg	**Pg**	**11 29 56.1**	**-0.2**
URKR				*e*Sg	**Sb**	**11 30 07.0**	**-0.4**
XNZR	**Khunzakh**	**0.87**	**238**	*e*PG	**Pg**	**11 29 56.4**	**-0.5**
XNZR				*e*S	**Sb**	**11 30 08.6**	**+0.3**
XNZR	**Khunzakh**	**0.87**	**238**	*e*Pg	**Pg**	**11 29 56.4**	**-0.5**
XNZR				*e*Sg	**Sb**	**11 30 08.6**	**+0.3**
KMKR	**Kumukh**	**0.98**	**208**	*e*PG	**Pg**	**11 29 58.5**	**-0.5**
KMKR				*e*S	**Sb**	**11 30 12.0**	**+0.5**
KMKR				pmax	pmax		
	comp=Z,6μm,1.0s						
BTLR	**Botlikh**	**1.15**	**253**	⇑*i* PG	**Pb**	**11 30 01.1**	**-0.3**
BTLR				*e*S	**Sn**	**11 30 17.3**	**+0.5**
BTLR				pmax	pmax		
	comp=Z,163nm,0.5s						
BTLR	**Botlikh**	**1.15**	**253**	*e*Pg	**Pb**	**11 30 01.2**	**-0.2**
BTLR				*e*Sg	**Sn**	**11 30 16.9**	**+0.1**
DVE	**Vedeno**	**1.16**	**268**	⇓*i* PG	**Pb**	**11 30 01.7**	**0.0**
DVE				*e*S	**Sn**	**11 30 18.2**	**+1.0**
DVE	**Vedeno**	**1.16**	**268**	*i* Pg	**Pb**	**11 30 01.7**	**0.0**
DVE				*e*Sg	**Sn**	**11 30 18.2**	**+1.0**
GROC	**Groznyy**	**1.42**	**279**	*e*PG	**Pn**	**11 30 06.6**	**+1.6**
GROC				*e*S	**Sn**	**11 30 25.1**	**+1.8**
GROC	**Groznyy**	**1.42**	**279**	*e*Pg	**Pn**	**11 30 06.5**	**+1.6**
GROC				*e*Sg	**Sn**	**11 30 25.1**	**+1.8**
KSMR	**Kasumkent**	**1.44**	**167**	*e*PG	**Pb**	**11 30 07.0**	**+0.7**
KSMR				*e*S	**Sg**	**11 30 26.8**	**+0.6**
KSMR	**Kasumkent**	**1.44**	**167**	*e*Pg	**Pn**	**11 30 06.5**	**+1.1**
KSMR				*e*Sg	**Sg**	**11 30 26.0**	**-0.3**
AKT	**Akhty**	**1.53**	**179**	⇑*i* PG	**Pn**	**11 30 07.5**	**+0.8**
AKT				*e*S	**Sb**	**11 30 27.6**	**+0.6**
AKT				pmax	pmax		
	comp=Z,317nm,0.6s						
AKT	**Akhty**	**1.53**	**179**	*e*Pg	**Pn**	**11 30 07.4**	**+0.8**
AKT				*i* Sg	**Sb**	**11 30 27.7**	**+0.7**
	comp=Z,586nm,0.6s						
SEKA	**Sheki**	**1.84**	**192**	PN	**Pb**	**11 30 13.8**	**+0.7**
KMGR	**Komgaron**	**2.09**	**272**	*e*PN	**Pn**	**11 30 15.6**	**+1.3**
KMGR				*e*S	**Sb**	**11 30 42.7**	**-0.4**
KMGR	**Komgaron**	**2.09**	**272**	*e*Pg	**Pn**	**11 30 15.6**	**+1.3**
KMGR				*e*Sg	**Sb**	**11 30 42.6**	**-0.4**
VLKR	**Vladikavkaz**	**2.23**	**272**	*e*PN	**Pn**	**11 30 17.7**	**+1.5**
VLKR				*e*S	**Sb**	**11 30 47.0**	**-0.1**
VLKR	**Vladikavkaz**	**2.23**	**272**	*e*Pg	**Pn**	**11 30 17.7**	**+1.5**
VLKR				*e*Sg	**Sb**	**11 30 47.0**	**-0.1**
MNGR	**Mingechevir, A**	**2.28**	**192**	PN	**Pn**	**11 30 18.1**	**+1.2**
TRKR	**Terskaya**	**2.29**	**289**	*e*PN	**Pn**	**11 30 18.2**	**+1.3**
TRKR				*e*S	**Sb**	**11 30 50.3**	**+1.5**
TRKR	**Terskaya**	**2.29**	**289**	*e*Pn	**Pn**	**11 30 18.2**	**+1.3**
TRKR				*e*Sn	**Sb**	**11 30 50.3**	**+1.5**
BTKR	**Batakoyurt**	**2.35**	**280**	*e*PN	**Pn**	**11 30 19.5**	**+1.6**
BTKR				*e*S	**Sn**	**11 30 48.5**	**+2.2**
BTKR	**Batakoyurt**	**2.35**	**280**	*e*Pn	**Pn**	**11 30 19.4**	**+1.6**
BTKR				*e*Sn	**Sn**	**11 30 48.5**	**+2.2**
LACR	**Lac**	**2.51**	**267**	*e*PN	**Pn**	**11 30 22.1**	**+1.9**
LACR				*e*S	**Sn**	**11 30 53.4**	**+2.8**
LACR	**Lac**	**2.51**	**267**	*e*Pn	**Pn**	**11 30 22.1**	**+1.9**
LACR				*e*Sn	**Sn**	**11 30 53.4**	**+2.8**
GANJ	**Ganja**	**2.58**	**204**	PN	**Pn**	**11 30 22.6**	**+1.6**
PRTR	**Priterechnaya**	**2.61**	**288**	*e*PN	**Pn**	**11 30 22.8**	**+1.4**
PRTR				*e*S	**Sn**	**11 30 55.7**	**+3.0**
PRTR	**Priterechnaya**	**2.61**	**288**	*e*Pn	**Pn**	**11 30 22.8**	**+1.4**
PRTR				*e*Sn	**Sn**	**11 30 55.7**	**+3.0**
KORR	**Kora**	**2.67**	**273**	*e*PN	**Pn**	**11 30 23.8**	**+1.5**
KORR				*e*S	**Sn**	**11 30 56.2**	**+1.9**
KORR	**Kora**	**2.67**	**273**	*e*Pn	**Pn**	**11 30 23.8**	**+1.5**
KORR				*e*Sn	**Sn**	**11 30 56.2**	**+1.9**
STDR	**Stavd-Durt**	**2.69**	**279**	*e*PN	**Pb**	**11 30 27.1**	**-0.6**
STDR				*e*S	**Sb**	**11 31 01.3**	**+0.8**
STDR	**Stavd-Durt**	**2.69**	**279**	*e*Pn	**Pb**	**11 30 27.1**	**-0.6**
STDR				*e*Sn	**Sb**	**11 31 01.3**	**+0.8**
ZEI	**Tsey**	**2.81**	**267**	*e*PN	**Pn**	**11 30 25.6**	**+1.3**
ZEI				*e*S	**Sn**	**11 30 59.3**	**+1.3**
ZEI	**Tsey**	**2.81**	**267**	*e*Pn	**Pn**	**11 30 25.6**	**+1.3**
ZEI				*e*Sn	**Sn**	**11 30 59.3**	**+1.3**
LSNR	**Lesken**	**2.86**	**277**	*e*PN	**Pn**	**11 30 27.6**	**+2.8**
LSNR				*e*S	**Sn**	**11 31 01.5**	**+2.6**
LSNR	**Lesken**	**2.86**	**277**	*e*Pn	**Pn**	**11 30 27.6**	**+2.8**
LSNR				*e*Sn	**Sn**	**11 31 01.5**	**+2.6**
DIGR	**Digorskoe uzhe**	**3.03**	**269**	*e*PN	**Pn**	**11 30 28.6**	**+1.2**
DIGR				*e*S	**Sn**	**11 31 04.5**	**+1.0**
DIGR	**Digorskoe uzhe**	**3.03**	**269**	*e*Pn	**Pn**	**11 30 28.6**	**+1.2**
DIGR				*e*Sn	**Sn**	**11 31 04.5**	**+1.0**
NCK	**Nalchik**	**3.05**	**281**	*e*PN	**Pn**	**11 30 28.8**	**+1.3**
NCK				*e*S	**Sn**	**11 30 28.8**	**+1.3**
NCK	**Nalchik**	**3.05**	**281**	*e*Pn	**Pn**	**11 30 28.8**	**+1.3**
NCK				*e*Sn	**Sn**	**11 31 06.2**	**+2.6**
ONI	**Oni**	**3.16**	**264**	*e*PN	**Pn**	**11 30 32.2**	**+3.2**
ONI				*e*S	**Sn**	**11 31 08.1**	**+1.6**
ONI	**Oni**	**3.16**	**264**	*e*Pn	**Pn**	**11 30 32.2**	**+3.2**
ONI				*e*Sn	**Sn**	**11 31 08.1**	**+1.6**
PYA1	**Pyatigorsk**	**3.52**	**289**	*e*PN	**Pn**	**11 30 34.2**	**+0.3**
PYA1				*e*S	**Sn**	**11 31 15.5**	**+0.2**
PYA1	**Pyatigorsk**	**3.52**	**289**	*e*Pn	**Pn**	**11 30 34.2**	**+0.3**
PYA1				*e*Sn	**Sn**	**11 31 15.5**	**+0.2**
KBZ	**Khabaz**	**3.58**	**283**	Pn	**Pn**	**11 30 34.5**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=138,slow=5.3,SNR=25						
KBZ				Sn	**Sn**	**11 31 15.2**	**-1.5**
	comp=Z,2.6nm,0.3s,baz=119,slow=5.4,SNR=4.0						
KBZ	**Khabaz**	**3.58**	**283**	*e*Pn	**Pn**	**11 30 34.4**	**-0.3**
KBZ				*e*Sn	**Sn**	**11 31 18.6**	**+1.9**
GNI	**Garni**	**3.62**	**219**	Pn	**Pn**	**11 30 39.4**	**+3.9**
	comp=Z,2.3nm,0.3s,baz=17,slow=19,SNR=2.5						
GNI				Sn	**Sn**	**11 31 22.4**	**+4.5**
	comp=Z,3.5nm,0.3s,baz=336,slow=20,SNR=4.8						
GNI	**Garni**	**3.62**	**219**	*d*Pn	**Pn**	**11 30 38.9**	**+3.4**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GNI	**Garni**	**3.62**	**219**	*e*Pn	**Pn**	**11 30 38.9**	**+3.4**
GNI				*e*Sn	**Sn**	**11 31 22.1**	**+4.1**
NEY	**Neytrino**	**3.66**	**275**	*e*PN	**Pn**	**11 30 37.2**	**+1.2**
NEY				*e*S	**Sn**	**11 31 22.1**	**+3.1**
NEY	**Neytrino**	**3.66**	**275**	*e*Pn	**Pn**	**11 30 37.2**	**+1.2**
NEY				*e*Sn	**Sn**	**11 31 22.1**	**+3.1**
SHA1	**Shidzhatmaz**	**3.76**	**283**	⇓*i* PN	**Pn**	**11 30 37.0**	**-0.4**
SHA1				*e*S	**Sn**	**11 31 20.3**	**-1.1**
SHA1	**Shidzhatmaz**	**3.76**	**283**	*i* Pn	**Pn**	**11 30 37.0**	**-0.4**
SHA1				*e*Sn	**Sn**	**11 31 20.3**	**-1.1**
KVAR	**Kislovodsk Arr**	**3.77**	**286**	Pn	**Pn**	**11 30 37.6**	**+0.1**
	baz=105,slow=20,SNR=4.0						
KVAR				Sn	**Sn**	**11 31 20.3**	**-1.3**
	baz=176,slow=16,SNR=4.7						
KIV	**Kislovodsk**	**3.78**	**286**	*e*PN	**Pn**	**11 30 37.8**	**+0.2**
KIV				*e*S	**Sn**	**11 31 20.3**	**-1.4**
KIV	**Kislovodsk**	**3.78**	**286**	*e*Pn	**Pn**	**11 30 37.8**	**+0.2**
KIV				*e*Sn	**Sn**	**11 31 20.3**	**-1.4**
GOF	**Gofitskoye**	**3.94**	**303**	⇑*e*PN	**Pn**	**11 30 39.4**	**-0.3**
GOF				*e*S	**Sg**	**11 31 44.0**	**-2.4**
GOF				pmax	pmax		
	comp=Z,12nm,0.6s						
GOF				smax	smax		
	comp=N,45nm,0.5s						
BELG	**Belogornoye**	**9.39**	**360**	Pn	**Pn**	**11 31 54.0**	**-0.4**
	comp=N,5.6nm,0.3s,baz=197,slow=20,SNR=10						
BELG				Sn	Sn	11 33 33.0	-6.7
	comp=N,1.1nm,0.3s,baz=217,slow=20,SNR=1.8						
AKTO	**Aktyubinsk**	**10.25**	**40**	Pn	**Pn**	**11 32 06.6**	**+0.3**
	comp=N,0.4nm,0.3s,baz=224,slow=14,SNR=4.0						
AKTO				Sn	Sn	11 33 53.6	-7.2
	comp=N,0.7nm,0.3s,baz=144,slow=19,SNR=3.6						
AKTO	**Aktyubinsk**	**10.25**	**40**	⇑Pn	**Pn**	**11 32 05.8**	**-0.5**
	comp=N,1.6nm,0.8s						
AKTO				⇑Sn	Sn	11 33 54.0	-6.8
	comp=N,5.4nm,1.0s						
AB31	**Akbulak array**	**10.54**	**49**	⇓Pn	**Pn**	**11 32 10.5**	**+0.3**
	comp=N,0.3nm,0.3s,baz=234,slow=14,SNR=16						
AB31				⇑Sn	**Sn**	**11 34 03.8**	**-3.9**
	comp=N,0.8nm,0.4s,baz=235,slow=28,SNR=9.3						
AKASG	**Malin Array Be**	**14.78**	**308**	Pn	Pn	11 33 02.5	-5.6
	comp=N,0.6nm,0.3s,baz=110,slow=13,SNR=2.7						
AKBB	**Malin Array Si**	**14.78**	**308**	*i* P	**Pn**	**11 33 08.1**	**0.0**
ARU	**Arti**	**15.13**	**24**	*i* P	**Pn**	**11 33 16.8**	**+4.0**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MNK	**Minsk**	**17.34**	**318**	*i* P	**Pn**	**11 33 38.7**	**-2.4**
MNK				*i* S	**Sn**	**11 36 51.4**	**-2.2**
MNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,29nm,0.9s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.7s						
MNK				MLR	MLR		
	comp=E,1.0nm,13.0s						
MNK				MLR	MLR		
	comp=N,47nm,21.0s						
MNK				MLR	MLR		
	comp=Z,23nm,15.0s						
MNK	**Minsk**	**17.34**	**318**	*i* P	**Pn**	**11 33 38.8**	**-2.3**
	comp=E,3.0nm,0.7s						
MNK				*i* P	**Pn**	**11 33 38.8**	**-2.3**
	comp=N,29nm,0.8s						
MNK				*i* P	**Pn**	**11 33 38.8**	**-2.3**
	comp=Z,5.0nm,0.6s,baz=305						
MNK				*i* PP	**sP**	**11 33 48.8**	**-0.1**
MNK				*i* PPP	PPP	11 33 56.5	
MNK				*i* S	**Sn**	**11 36 51.5**	**-2.1**
MNK				*i* SS	**S**	**11 37 07.1**	**+5.0**
MNK				*i* SSS	SSS	11 37 19.9	
MNK				*i* PcP	**PcP**	**11 38 20.8**	**-1.8**
MNK				*i* LQ	LQ	11 38 57.1	
MNK				*i* LR	LR	11 40 06.0	
MNK				*i* LRM	MLR	11 41 20.4	
	comp=E,1.0nm,12.7s						
MNK				*i* LRM	MLR	11 41 20.4	
	comp=N,47nm,21.0s						
MNK				*i* LRM	MLR	11 41 29.1	
	comp=Z,23nm,14.6s						
MNK				*i* ScS	ScS	11 45 10.1	-26
BRVK	**Borovoye**	**18.06**	**48**	*i* P	**Pn**	**11 33 51.6**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**19.63**	**82**	*i* P	**P**	**11 34 10.1**	**+2.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**22.30**	**59**	P	**P**	**11 34 37.1**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=266,slow=11,SNR=10						
FINES	**FINESS Array B**	**22.53**	**332**	P	**P**	**11 34 38.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=136,slow=12,SNR=10						
MKAR	**Makanchi Array**	**24.66**	**69**	P	**P**	**11 35 00.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=275,slow=10.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**26.62**	**53**	P	**P**	**11 35 15.0**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=233,slow=37,SNR=1.6						
HFS	**Hagfors**	**26.79**	**322**	P	**P**	**11 35 18.2**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=88,slow=22,SNR=2.5						
HFS				LR	LR	11 44 47.9	
	comp=Z,9.6nm,21.6s,baz=184,slow=34						
KMBO	**Kilima Mbogo**	**44.93**	**195**	*i* P	**P**	**11 37 54.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**49.47**	**247**	P	**P**	**11 38 27.4**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=30,slow=9.0,SNR=1.3						

THE ***17*** *11:32:52.3,37°.84N×27°.27E,h0km±1km,ML3.4/5,Error*
ellipse: s-maj=1.9km s-min=1.0km az=63.0
ISK ***17*** *11:32:52.2,37°.87N×27°.24E,h3km,ML3.4/35*
DDA ***17*** *11:32:52.2,37°.88N×27°.25E,h9km±1km,MW3.5*
ATH ***17*** *11:32:54.9,37°.81N×27°.07E,h18km±2km,ML3.3/5,Error*
ellipse: s-maj=3.5km s-min=1.5km az=241.0
ISC 17 11:32:52.9±0.9,37°.87N±0°.01×27°.25E±0°.02,h9km±7km,
n85,σ0°94/126,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.17**	**183**	*i* P	**Pg**	**11 32 56.6**	**0.0**
GCAM				*i* S	**Sg**	**11 32 59.2**	**+0.2**
GCAM	**G?zelcaml?**	**0.17**	**183**	PG	**Pg**	**11 32 56.4**	**-0.2**
GCAM				SG	**Sg**	**11 32 59.1**	**0.0**
DGB	**zmir**	**0.34**	**302**	*i* P	**Pg**	**11 32 59.7**	**+0.1**
DGB				*i* S	**Sg**	**11 33 04.1**	**0.0**
SMG	**Samos**	**0.36**	**243**	P	**Pg**	**11 33 00.0**	**-0.1**
SMG				S	**Sg**	**11 33 05.8**	**+0.9**
	7μm,0.2s						
SMG	**Samos**	**0.36**	**243**	P	**Pg**	**11 33 00.0**	**-0.1**
SMG				S	**Sg**	**11 33 03.4**	**-1.4**
SMG				AML	AML	11 33 06.4	
	comp=N,14882μm,0.3s						
SMG				AML	AML	11 33 07.2	
	comp=E,12973μm,0.2s						
DDIM	**Aydin, Didim**	**0.41**	**180**	*i* P	**Pg**	**11 33 01.1**	**0.0**
DDIM				*i* S	**Sg**	**11 33 07.2**	**+0.7**
DIDI	**Didim-Aydin**	**0.49**	**180**	PG	**Pg**	**11 33 02.6**	**0.0**
DIDI				SG	**Sg**	**11 33 10.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.52**	**82**	PG	**Pg**	**11 33 02.9**	**-0.1**
AYDB				SG	**Sb**	**11 33 10.7**	**-1.2**
BLCB	**Balcova**	**0.54**	**343**	P	**Pg**	**11 33 03.1**	**-0.3**
AYDN	**Tasoluk**	**0.55**	**113**	*i* P	**Pg**	**11 33 03.7**	**+0.2**
AYDN				*i* S	**Sg**	**11 33 10.3**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**0.69**	**302**	*i* P	**Pg**	**11 33 06.0**	**-0.2**
ZEYE				*i* S	**Sg**	**11 33 15.6**	**+0.3**
URLA	**Izmir**	**0.71**	**314**	*i* P	**Pg**	**11 33 05.4**	**-1.2**
URLA				*i* S	**Sg**	**11 33 14.8**	**-1.1**
URLA	**Izmir**	**0.71**	**314**	PG	**Pg**	**11 33 05.9**	**-0.7**
MLSB	**Milas**	**0.71**	**144**	PG	**Pg**	**11 33 06.6**	**-0.1**
BODT	**Bodrum**	**0.81**	**176**	P	**Pg**	**11 33 06.7**	**-1.9**
BODT				S	**Sg**	**11 33 18.6**	**-0.5**
BODT	**Bodrum**	**0.81**	**176**	PG	**Pg**	**11 33 07.9**	**-0.7**
BDRM	**Kayabasi**	**0.82**	**169**	*i* P	**Pg**	**11 33 07.8**	**-0.9**
BDRM				*i* S	**Sg**	**11 33 19.2**	**-0.2**
CESE	**eme**	**0.88**	**302**	PG	**Pg**	**11 33 09.4**	**-0.4**
FOCM	**Foa**	**0.93**	**334**	PG	**Pg**	**11 33 10.5**	**-0.4**
FOCM				SG	**Sg**	**11 33 23.2**	**+0.2**
GOMA	**Golmarmara-Man**	**0.99**	**32**	PG	**Pb**	**11 33 11.8**	**-0.4**
MULA	**Mugla, Merkez-**	**1.05**	**125**	*i* P	**Pg**	**11 33 12.8**	**-0.3**
MULA				*i* S	**Sb**	**11 33 27.5**	**+0.2**
CHOS	**Chios island**	**1.07**	**299**	P	**Pg**	**11 33 12.9**	**-0.6**
CHOS				S	**Sb**	**11 33 28.9**	**+1.1**
	comp=E,4μm,0.3s						
CHOS	**Chios island**	**1.07**	**299**	P	**Pg**	**11 33 13.3**	**-0.2**
CHOS				S	**Sg**	**11 33 26.4**	**-1.0**
CHOS				AML	AML	11 33 29.1	
	comp=N,6340μm,0.4s						
CHOS				AML	AML	11 33 29.7	
	comp=E,10651μm,0.3s						
CHOS	**Chios island**	**1.07**	**299**	PG	**Pb**	**11 33 13.6**	**0.0**
CHOS				SG	**Sb**	**11 33 28.5**	**+0.7**
AKHS	**Akhisar**	**1.10**	**24**	*i* P	**Pg**	**11 33 13.6**	**-0.5**
AKHS				*i* S	**Sg**	**11 33 27.6**	**-0.7**
ZEDA	**zmir-Bergama**	**1.10**	**353**	*i* P	**Pg**	**11 33 13.5**	**-0.6**
ZEDA				*i* S	**Sb**	**11 33 29.1**	**+0.5**
YER	**Yerkesik**	**1.11**	**131**	P	**Pg**	**11 33 13.6**	**-0.6**
YER				S	**Sb**	**11 33 28.8**	**0.0**
YER	**Yerkesik**	**1.11**	**131**	PN	**Pb**	**11 33 14.1**	**-0.2**
CAND	**Candarli**	**1.13**	**342**	PN	**Pg**	**11 33 14.5**	**-0.2**
CAND				SN	**Sn**	**11 33 31.1**	**+0.5**
KOSK	**Kos Island**	**1.14**	**191**	PN	**Pg**	**11 33 14.7**	**-0.1**
DAT	**Datca**	**1.17**	**167**	PN	**Pg**	**11 33 15.1**	**-0.4**
MANT	**Manisa**	**1.21**	**59**	*i* P	**Pg**	**11 33 15.1**	**-1.0**
MANT				*i* S	**Sg**	**11 33 29.5**	**-2.3**
DKL	**Dikili**	**1.23**	**348**	PN	**Pg**	**11 33 16.0**	**-0.5**
NIS1	**Nisyros Isl.**	**1.27**	**182**	P	**Pg**	**11 33 16.2**	**-1.1**
NIS1	**Nisyros Isl.**	**1.27**	**182**	P	**Pg**	**11 33 16.3**	**-1.1**
NIS1	**Nisyros Isl.**	**1.27**	**182**	PN	**Pg**	**11 33 16.9**	**-0.4**
KULA	**Kula-Manisa**	**1.29**	**60**	P	**Pg**	**11 33 15.8**	**-1.9**
KULA	**Kula-Manisa**	**1.29**	**60**	PN	**Pn**	**11 33 17.4**	**+0.3**
TURN	**Turunc**	**1.35**	**144**	PN	**Pg**	**11 33 18.5**	**-0.4**
MRSB	**Marmaris-Mugla**	**1.38**	**146**	PN	**Pg**	**11 33 19.3**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.39**	**107**	*i* P	**Pn**	**11 33 17.7**	**-0.8**
TAVA				*i* S	**Sg**	**11 33 36.1**	**-1.4**
AYVA	**Ayvalik**	**1.50**	**343**	*i* P	**Pg**	**11 33 21.4**	**-0.3**
AYVA				*i* S	**Sg**	**11 33 41.3**	**+0.2**
DALY	**Dalyan (Mula)**	**1.54**	**133**	*i* P	**Pg**	**11 33 22.5**	**0.0**
DALY				*i* S	**Sg**	**11 33 43.9**	**+1.4**
DALY	**Dalyan (Mula)**	**1.54**	**133**	PN	**Pg**	**11 33 21.9**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.55**	**14**	*i* P	**Pn**	**11 33 20.5**	**-0.2**
STEP				*i* S	**Sg**	**11 33 43.9**	**+1.2**
PRK	**Paraskevi**	**1.57**	**331**	P	**Pn**	**11 33 20.8**	**-0.1**
PRK				S	**Sg**	**11 33 43.5**	**+0.1**
	comp=E,2μm,0.9s						
PRK	**Paraskev

ELK				Sn	**Sn**	**11 44 39.8**	**+0.1**
	0.1nm,0.3s,baz=152,slow=17,SNR=1.2									
ELK				Lg	Lg	11 46 21.5	
	0.1nm,0.3s,baz=193,slow=12,SNR=1.6									
PDAR	**Pinedale Array**	**16.98**	**0**	P	**Pn**	**11 42 03.1**	**+0.1**
	0.0nm,0.3s,baz=172,slow=14,SNR=2.4									
PDAR				Lg	Lg	11 46 56.0	
	0.1nm,0.3s,baz=199,slow=22,SNR=1.4									
H03N2	**Juan Fernandez**	**65.73**	**152**	T	T	13 00 29.8	
	baz=331,slow=77,SNR=44									
H03N1	**Juan Fernandez**	**65.74**	**152**	T	T	13 00 30.3	
	baz=331,slow=77,SNR=54									
H03N3	**Juan Fernandez**	**65.75**	**152**	T	T	13 00 27.3	
	baz=331,slow=77,SNR=64									

*IDC **17** 11:52:39.3±1.2,33°.18S×179°.17W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.0/34,mbtmp4.2/6,ML4.0/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/26,Error ellipse: s-maj=36.8km s-min=27.4km az=48.0*

*WEL **17** 11:52:45.4±0.6,34°.S±4'×17°.9W±°,h33km,M4.7/19, mB5.2/11,ML4.9/19,MLv4.8/19,Mw(mB)4.6/11,Error ellipse: s-maj=0.0km s-min=0.0km az=110.7*

ISC 17 11:52:45.1±0.8,33°.53S±0'.06×179°.00W±0'.09,h48km,n78, σ2s06/94,mb4.2/5,MS3.6/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**4.35**	**12**	P	**Pn**	**11 53 47.1**	**-1.5**
GLKZ				S	**Sn**	**11 54 37.9**	**-0.2**
RAO	**Raoul Island**	**4.36**	**12**	LR	LR	11 55 12.7	
	comp=Z,378nm,20.4s,baz=184,slow=38						
MXZ	**Matakaoa Point**	**4.59**	**208**	P	**Pn**	**11 53 50.6**	**-1.3**
MXZ				S	**Sn**	**11 54 41.8**	**-2.1**
WMGZ	**Waiomatatini S**	**4.77**	**205**	P	**Pn**	**11 53 56.1**	**+1.6**
WMGZ				S	**Sn**	**11 54 49.4**	**+1.0**
HAZ	**Te Kaha**	**4.97**	**211**	P	**Pn**	**11 53 57.9**	**+0.8**
HAZ				S	**Sn**	**11 54 54.2**	**+1.0**
PUZ	**Puketiti**	**5.05**	**205**	P	**Pn**	**11 53 57.9**	**-0.4**
PUZ				S	**Sn**	**11 54 55.5**	**+0.1**
RUGZ	**Raukumara Rang**	**5.19**	**210**	P	**Pn**	**11 54 00.6**	**+0.4**
RUGZ				S	**Sn**	**11 54 57.3**	**-1.5**
TWGZ	**Tauwhareparae**	**5.25**	**207**	P	**Pn**	**11 54 01.2**	**+0.2**
TWGZ				S	**Sn**	**11 54 58.8**	**-1.4**
MYRZ	**Mayor Island**	**5.40**	**225**	P	**Pn**	**11 54 05.4**	**+2.4**
WHRZ	**Whale Island**	**5.42**	**216**	P	**Pn**	**11 54 04.0**	**+0.7**
WHRZ				S	**Sn**	**11 55 06.0**	**+1.5**
CNGZ	**Carnagh Statio**	**5.44**	**204**	P	**Pn**	**11 54 03.8**	**+0.2**
CNGZ				S	**Sn**	**11 55 04.0**	**-0.8**
OPRZ	**Ohinepanea**	**5.63**	**219**	P	**Pn**	**11 54 04.8**	**-1.3**
OPRZ				S	**Sn**	**11 55 09.3**	**-0.1**
MARZ	**Manawahe**	**5.67**	**217**	P	**Pn**	**11 54 07.9**	**+1.1**
MARZ				S	**Sn**	**11 55 12.4**	**+1.8**
URZ	**Urewera**	**5.68**	**213**	Pn	**Pn**	**11 54 06.3**	**-0.6**
	3.7nm,0.3s,baz=120,slow=24,SNR=37						
URZ				Sn	**Sn**	**11 55 08.2**	**-2.6**
	9.4nm,0.3s,baz=16,slow=20,SNR=1.5						
URZ	**Urewera**	**5.68**	**213**	P	**Pn**	**11 54 06.3**	**-0.6**
URZ				S	**Sn**	**11 55 08.2**	**-2.6**
TGRZ	**Tauranga**	**5.70**	**221**	P	**Pn**	**11 54 07.5**	**+0.4**
RIGZ	**Rimuhau**	**5.79**	**206**	P	**Pn**	**11 54 09.8**	**+1.3**
RIGZ				S	**Sn**	**11 55 08.7**	**-4.9**
OMRZ	**Omania**	**5.92**	**218**	P	**Pn**	**11 54 10.4**	**+0.3**
KARZ	**Kaharoa**	**5.92**	**219**	P	**Pn**	**11 54 14.4**	**+4.2**
PRGZ	**Paritu Road**	**5.95**	**204**	P	**Pn**	**11 54 10.2**	**-0.3**
PRGZ				S	**Sn**	**11 55 16.9**	**-0.4**
WCZ	**Waipu Caves**	**5.99**	**244**	P	**Pn**	**11 54 13.4**	**+2.3**
MUGZ	**Murupara**	**6.01**	**214**	P	**Pn**	**11 54 08.6**	**-2.8**
MUGZ				S	**Sn**	**11 55 17.0**	**-2.0**
RTZ	**Ruatahuna**	**6.03**	**212**	P	**Pn**	**11 54 10.9**	**-0.8**
RTZ				S	**Sn**	**11 55 17.1**	**-2.4**
MHGZ	**Mahia Peninsul**	**6.14**	**203**	P	**Pn**	**11 54 14.3**	**+1.1**
MHGZ				S	**Sn**	**11 55 22.2**	**+0.1**
RAHZ	**Arahi**	**6.24**	**209**	P	**Pn**	**11 54 15.5**	**+1.0**
RAHZ				S	**Sn**	**11 55 24.3**	**-0.2**
MTHZ	**Maungataniwha**	**6.29**	**211**	P	**Pn**	**11 54 14.7**	**-0.6**
MTHZ				S	**Sn**	**11 55 23.5**	**-2.3**
WHHZ	**Waihua**	**6.32**	**208**	P	**Pn**	**11 54 18.0**	**+2.4**
WHHZ				S	**Sn**	**11 55 22.5**	**-3.9**
OUZ	**Omahuta**	**6.35**	**253**	P	**Pn**	**11 54 17.2**	**+1.1**
OUZ				S	**Sn**	**11 55 21.7**	**-5.6**
MRHZ	**Matea Rd**	**6.46**	**214**	P	**Pn**	**11 54 18.4**	**+0.7**
MRHZ				S	**Sn**	**11 55 27.6**	**-2.5**
NMHZ	**Naumai**	**6.51**	**210**	P	**Pn**	**11 54 20.1**	**+1.8**
TLZ	**Tolley Road**	**6.53**	**221**	P	**Pn**	**11 54 21.7**	**+3.2**
ARHZ	**Arapoaonui**	**6.57**	**208**	P	**Pn**	**11 54 17.9**	**-1.2**
ARHZ				S	**Sn**	**11 55 30.5**	**-2.1**
BKZ	**Black Stump Fm**	**6.70**	**212**	P	**Pn**	**11 54 20.5**	**-0.4**
RATZ	**Rangitukua**	**6.80**	**217**	Pn	**Pn**	11 54 28.8	+6.5
MCHZ	**McNeill Hill**	**6.85**	**209**	P	**Pn**	**11 54 23.9**	**+1.1**
MCHZ				S	**Sn**	**11 55 38.8**	**-0.7**
TMVZ	**Te Maari**	**7.03**	**216**	P	**Pn**	**11 54 26.2**	**+0.8**
NTVZ	**North Tongarir**	**7.03**	**216**	P	**Pn**	**11 54 27.2**	**+1.7**
HIZ	**Hauiti**	**7.04**	**223**	P	**Pn**	**11 54 28.7**	**+3.2**
ETVZ	**East Tongariro**	**7.04**	**216**	P	**Pn**	**11 54 26.3**	**+0.7**
KAHZ	**Kahuranaki**	**7.08**	**207**	P	**Pn**	**11 54 24.1**	**-2.0**
KAHZ				S	**Sn**	**11 55 39.8**	**-5.4**
OTVZ	**Oturere**	**7.08**	**216**	P	**Pn**	**11 54 26.5**	**+0.3**
NNVZ	**North Ngauruho**	**7.08**	**216**	P	**Pn**	**11 54 28.2**	**+2.0**
WTVZ	**West Tongariro**	**7.08**	**217**	P	**Pn**	**11 54 29.2**	**+3.0**
SNVZ	**South Ngauruho**	**7.11**	**216**	P	**Pn**	**11 54 25.2**	**-1.5**
NGZ	**Ngauruhoe**	**7.12**	**216**	P	**Pn**	**11 54 27.1**	**+0.3**
TWVZ	**Taurewa**	**7.13**	**217**	P	**Pn**	**11 54 30.2**	**+3.4**
KRHZ	**Kereru**	**7.15**	**210**	P	**Pn**	**11 54 25.5**	**-1.5**
KRHZ				S	**Sn**	**11 55 41.7**	**-5.3**
BHHZ	**Black Hill Sta**	**7.16**	**212**	P	**Pn**	**11 54 26.4**	**-0.8**
BHHZ				S	**Sn**	**11 55 44.7**	**-2.5**
MOVZ	**Moawhango**	**7.23**	**214**	P	**Pn**	**11 54 28.2**	**-0.1**
PXZ	**Pawanui**	**7.29**	**206**	P	**Pn**	**11 54 27.2**	**-1.7**
PXZ				S	**Sn**	**11 55 45.9**	**-4.4**
PNHZ	**Pukenui**	**7.45**	**210**	P	**Pn**	**11 54 31.3**	**+0.1**
VRZ	**Vera Road**	**7.52**	**220**	P	**Pn**	**11 54 35.3**	**+3.2**
TSZ	**Takapari Road**	**7.67**	**210**	P	**Pn**	**11 54 32.3**	**-1.9**
WAZ	**Wanganui**	**7.87**	**216**	P	**Pn**	**11 54 37.5**	**+0.6**
BFZ	**Birch Farm**	**8.09**	**207**	P	**Pn**	**11 54 38.9**	**-1.0**
OGWZ	**Otaki Gorge**	**8.63**	**211**	P	**Pn**	**11 54 45.2**	**-2.2**
DZM	**Mont Dzumac**	**17.19**	**308**	*e*LR	LR	12 00 11.0	
	comp=Z,309nm,25.4s						
TBI	**Tubuai**	**27.80**	**76**	*e*LR	LR	12 05 35.1	
	comp=Z,162nm,27.8s						
PPT2	**Papeete2**	**30.78**	**66**	*e*LR	LR	12 07 02.3	
	comp=Z,178nm,26.0s,baz=220						
PPT	**Papeete**	**30.79**	**66**	LR	LR	12 11 33.7	
	comp=Z,82nm,18.2s,baz=142,slow=37						
STKA	**Stephens Creek**	**33.07**	**262**	LR	LR	12 11 20.3	
	comp=Z,104nm,18.6s,baz=28,slow=34						
CTA	**Charters Tower**	**33.61**	**285**	P	**P**	**11 59 20.8**	**-0.3**
	1.6nm,0.5s,baz=92,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**42.20**	**271**	P	**P**	**12 00 32.7**	**-0.8**
	2.1nm,0.7s,baz=111,slow=7.2,SNR=24						
ASAR				PcP	**PcP**	**12 02 26.4**	**-0.6**
	0.6nm,0.7s,baz=122,slow=3.8,SNR=1.3						
TAOE	**Nuku Hiva Isla**	**43.37**	**65**	*e*LR	LR	12 12 49.9	
	comp=Z,93nm,26.5s						
WRA	**Warramunga Arr**	**43.47**	**276**	P	**P**	**12 00 43.0**	**-0.8**
	1.8nm,0.5s,baz=118,slow=7.6,SNR=20						
WRA				PcP	**PcP**	**12 02 30.9**	**-0.3**
	0.5nm,0.7s,baz=107,slow=3.8,SNR=1.8						
FITZ	**Fitzroy Crossi**	**51.59**	**273**	P	**P**	**12 01 46.6**	**-0.1**
	1.9nm,0.7s,baz=150,slow=9.8,SNR=5.9						
FITZ				LR	LR	12 23 01.4	
	comp=Z,97nm,18.1s,baz=151,slow=35						
QSPA	**South Pole Qui**	**56.59**	**180**	P	**P**	**12 02 27.3**	**+4.5**
	3.4nm,0.9s,baz=35,slow=5.5,SNR=7.8						
SIJI	**Sorong**	**56.77**	**294**	LR	LR	12 24 16.3	
	comp=Z,27nm,20.4s,baz=278,slow=34						
H03S2	**Juan Fernandez**	**79.45**	**124**	T	T	13 33 06.9	
	baz=234,slow=74,SNR=19						
H03S1	**Juan Fernandez**	**79.46**	**124**	T	T	13 33 08.1	
	baz=234,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**79.47**	**124**	T	T	13 33 07.0	
	baz=234,slow=74,SNR=19						
H03N3	**Juan Fernandez**	**79.66**	**123**	T	T	13 33 21.8	
	baz=239,slow=72,SNR=28						
H03N2	**Juan Fernandez**	**79.66**	**123**	T	T	13 33 18.0	
	baz=239,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**79.67**	**123**	T	T	13 33 22.8	
	baz=239,slow=72,SNR=25						
MKAR	**Makanchi Array**	**119.10**	**309**	PKP	**PKPdf**	**12 11 27.8**	**-0.5**
	0.2nm,0.4s,baz=60,slow=1.2,SNR=3.5						
FINES	**FINESS Array B**	**147.75**	**338**	PKPbc	**PKPbc**	**12 12 24.1**	**+0.4**
	1.6nm,0.5s,baz=29,slow=4.4,SNR=10						
AKASG	**Malin Array Be**	**153.17**	**318**	PKPbc	**PKiKP**	**12 12 37.8**	**+0.6**
	0.6nm,0.4s,baz=51,slow=2.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**159.70**	**182**	PKPab	**PKPab**	**12 13 19.7**	**+2.0**
	1.2nm,1.0s,baz=143,slow=3.9,SNR=2.9						

*IDC **17** 11:56:38.6±3.1,37°.20N×72°.02E,h155km±26km,mb3.4/6, mb1 3.4/13,mb1mx3.2/56,mbtmp3.9/13,Error ellipse: s-maj=27.4km s-min=16.0km az=163.0*

*NEIC **17** 11:56:42.6±0.7,37°.40N±0°.03×72°.1E±0°.1,h188km±8km, mb4.0/4,Error ellipse: s-maj=12.7km s-min=3.2km az=80.0*

*NNC **17** 11:56:43.5±3.1,37°.58N×71°.66E,h163km±53km,mb3.2, mpv4.0,Error ellipse: s-maj=29.2km s-min=18.9km az=159.0*

ISC 17 11:56:41.3±0.6,37°.35N±0°.05×71°.97E±0°.05,h200km,n52, σ2s22/62,mb3.6/7,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.10**	**322**		**Pn**	**11 57 21.4**	**+0.5**
DRK	**Karamyk**	**2.13**	**356**		**Pn**	**11 57 21.9**	**+0.4**
CHGR	**Chuyangaron**	**2.58**	**301**		**Pn**	**11 57 26.9**	**+0.7**
BTK	**Batken**	**2.85**	**342**		**Pn**	**11 57 30.5**	**+1.3**
KBL	**Kabul**	**3.67**	**221**		**Pn**	**11 57 41.4**	**+2.1**
NIL	**Nilore**	**3.83**	**164**	Pn	**Pn**	**11 57 42.3**	**+1.2**
ARSB	**Arslanbob**	**4.05**	**11**	Pn	**Pn**	**11 57 43.0**	**-0.8**
AML	**Almayashu**	**4.96**	**15**	P	**Pn**	**11 57 55.0**	**-0.5**
	SNR=272						
EKS2	**Erkin-Say**	**5.49**	**14**	P	**Pn**	**11 58 01.9**	**-0.1**
	SNR=34						
AAK	**Ala-Archa**	**5.63**	**19**	P	**Pn**	**11 58 03.8**	**0.0**
	8.8nm,0.3s,baz=203,slow=10,SNR=51						
AAK				S	**Sn**	**11 59 05.4**	**-3.7**
	3.0nm,0.3s,baz=151,slow=23,SNR=13						
AAK	**Ala-Archa**	**5.63**	**19**	P	**Pn**	**11 58 03.4**	**-0.4**
	SNR=25						
AAK	**Ala-Archa**	**5.63**	**19**	⇑P	**Pn**	**11 58 03.3**	**-0.6**
	23nm,0.5s						
AAK				⇑S	**Sn**	**11 59 05.4**	**-3.7**
	21nm,0.7s						
KBK	**Karagaybulak**	**5.77**	**22**	P	**Pn**	**11 58 06.5**	**+0.8**
	SNR=7.1						
THN	**Thein Dam**	**5.79**	**147**	*e*P	**Pn**	**11 58 07.0**	**+1.1**
THN				*e*S	**Sn**	**11 59 09.0**	**-3.7**
KK31	**Karatay Array**	**5.86**	**349**	⇑P	**Pn**	**11 58 06.8**	**+0.1**
	2.0nm,0.3s,baz=169,slow=13,SNR=44						
KK31				⇓S	**Sn**	**11 59 09.3**	**-4.9**
	16nm,0.2s,baz=164,slow=22,SNR=24						
KK31	**Karatay Array**	**5.86**	**349**	Pn	**Pn**	**11 58 06.9**	**+0.3**
KKAR	**Karatay Array**	**5.86**	**349**	Pn	**Pn**	**11 58 07.0**	**+0.3**
ULHL	**Ulahol**	**5.89**	**33**	P	**Pn**	**11 58 06.3**	**-1.0**
	SNR=5.7						
CHMS	**Chumysh**	**6.03**	**20**	P	**Pn**	**11 58 08.9**	**0.0**
	SNR=5.8						
DHRM	**DHARAMSHALA**	**6.21**	**144**	*e*P	**Pn**	**11 58 10.4**	**-1.1**
DHRM				*e*S	**Sn**	**11 59 16.4**	**-6.4**
DHRM				IAML		11 59 18.6	
	comp=E,507nm,0.3s						
DHRM				IAML		11 59 19.0	
	comp=N,603nm,0.2s						
TKM2	**Tokmak 2**	**6.22**	**25**	P	**Pn**	**11 58 10.9**	**-0.6**
	SNR=22						
TKM2	**Tokmak 2**	**6.22**	**25**	⇓P	**Pn**	**11 58 10.7**	**-0.8**
	comp=N,10nm,0.7s						
TKM2				⇓S	**Sn**	**11 59 23.7**	**+0.6**
	comp=N,3.2nm,0.5s						
KDJ	**Kajisay**	**6.24**	**38**	Pn	**Pn**	**11 58 10.9**	**-0.9**
TARG	**Taragay, Kyrgy**	**6.28**	**44**		**Pn**	**11 58 11.8**	**-0.8**
PRZ	**Przheval'sk**	**7.12**	**42**	Pn	**Pn**	**11 58 23.2**	**0.0**
SMLA	**Simla**	**7.55**	**144**	*e*P	**Pn**	**11 58 27.8**	**-0.9**
SMLA				*e*S	Sn	11 59 46.2	-7.8
SMLA				IAML		11 59 48.8	
	comp=E,176nm,0.4s						
GEYT	**Alibeck**	**11.00**	**277**	P	**Pn**	**11 59 13.5**	**0.0**
	comp=E,1.5nm,0.3s,baz=130,slow=11,SNR=5.1						
GEYT				S	**Sn**	**12 01 12.9**	**-3.3**
	comp=E,1.9nm,0.3s,baz=113,slow=14,SNR=5.1						
GEYT	**Alibeck**	**11.00**	**277**	Pn	**Pn**	**11 59 15.5**	**+2.1**
GYA0B	**ALIBECK ARRAY**	**11.00**	**277**	⇑P	**Pn**	**11 59 11.3**	**-2.1**
GYA0B				S	**Sn**	**12 01 12.5**	**-3.7**
GYA0B	**ALIBECK ARRAY**	**11.00**	**277**	Pn	**Pn**	**11 59 12.9**	**-0.6**
MK31	**Makanchi Array**	**12.15**	**36**	Pn	**Pn**	**11 59 27.8**	**-0.1**
MKAR	**Makanchi Array**	**12.15**	**36**	P	**Pn**	**11 59 29.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=229,slow=15,SNR=4.1						
KURBB	**Kurchatov Arra**	**14.08**	**17**	P	**P**	**11 59 54.6**	**+0.8**
	comp=E,0.1nm,0.3s,baz=201,slow=11,SNR=1.7						
KURK	**Kurchatov**	**14.19**	**17**	P	**P**	**11 59 54.6**	**-0.4**
AB31	**Akbulak array**	**14.75**	**328**	P	**P**	**12 00 02.4**	**+1.1**
	comp=E,1.7nm,0.5s,baz=144,slow=11,SNR=57						
AB31				S	**S**	**12 02 37.9**	**-6.2**
	comp=E,3.6nm,0.6s,baz=150,slow=23,SNR=9.1						
ABKAR	**Akbulak array**	**14.75**	**328**		**P**	**12 00 03.0**	**+1.8**
BVAR	**Borovoye Array**	**15.72**	**356**	P	**Pn**	**12 00 13.2**	**+1.2**
	comp=E,0.3nm,0.3s,baz=184,slow=17,SNR=2.0						
AKTO	**Aktyubinsk**	**16.46**	**327**	P	**Pn**	**12 00 23.6**	**+2.6**
	comp=E,0.9nm,0.3s,baz=124,slow=9.6,SNR=12						
AKTO	**Aktyubinsk**	**16.46**	**327**	P	**Pn**	**12 00 23.5**	**+2.6**
	comp=E,2.4nm,0.5s						
AKTO				S	**S**	**12 03 17.6**	**-4.5**
	comp=E,2.0nm,0.6s						
ZAA0	**Zalesovo Array**	**18.82**	**24**	P	**P**	**12 00 46.6**	**+0.8**
ZAA0				IAmb	IAmb	12 00 47.8	
	comp=Z,4.8nm,0.8s						
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	**12 00 47.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=226,slow=12,SNR=8.3						
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	**12 00 46.9**	**+1.1**
ARU	**Arti**	**21.10**	**339**	P	**P**	**12 01 11.9**	**+1.8**
ARU				IAmb	IAmb	12 01 37.4	
	comp=Z,3.1nm,0.6s						
SONM	**Songino Array**	**27.22**	**56**	P	**P**	**12 02 08.2**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=318,slow=10,SNR=1.7						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**12 03 35.8**	**+2.7**
	comp=Z,0.6nm,0.4s,baz=120,slow=11,SNR=4.3						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**12 03 34.3**	**+1.2**
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**12 04 04.6**	**+3.0**
	comp=Z,0.9nm,0.4s,baz=104,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**12 04 04.5**	**+3.0**
ARCES				IAmb	IAmb	12 04 27.8	
	comp=Z,4.5nm,1.0s						
NOA	**NORSAR Array B**	**44.18**	**322**	P	**P**	**12 04 32.4**	**+2.4**
	comp=Z,0.6nm,0.5s,baz=94,slow=7.6,SNR=4.0						
NC204	**NORSAR Array S**	**44.41**	**323**	P	**P**	**12 04 34.6**	**+2.7**
TORD	**Torodi Ar. Bea**	**66.51**	**269**	P	**P**	**12 07 11.8**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=48,slow=5.7,SNR=21						
WRA	**Warramunga Arr**	**81.78**	**123**	P	**P**	**12 08 39.5**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=320,slow=4.1,SNR=1.5						

DNK 17 12:05:21.1±0.3,58°.39N×12°.94E,h0km,ML1.5(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANU	**Vaenersborg**	**0.47**	**283**	P	Pg	12 05 29.8	-0.2
VANU				S	Sg	12 05 35.8	-0.2
FKPU	**Falk**	**0.48**	**119**	P	Pg	12 05 29.9	-0.3
NASU	**Vaermlandsnaes**	**0.55**	**13**	P	Pg	12 05 31.2	-0.5
NASU				S	Sg	12 05 38.6	-0.3
BORU	**Boraas**	**0.76**	**187**	P	Pg	12 05 35.0	-0.8
TJOU	**Tjoern**	**0.78**	**243**	P	Pg	12 05 35.5	-0.5
FINU	**Finntorp**	**1.04**	**347**	P	Pg	12 05 40.1	-1.0
ASKU	**Askersund**	**1.11**	**62**	P	Pg	12 05 41.6	-0.8
ONAU	**Onsala**	**1.14**	**209**	P	Pg	12 05 41.7	-1.1

IDC 17 12:12:49.4±2.9,6°.98S×129°.36E,h129km±40km,mb3.2/1, mb1 3.3/5,mb1mx3.0/27,mbtmp3.6/5,Error ellipse: s-maj=63.1km s-min=21.3km az=91.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.37**	**17**	P	Pn	12 14 21.4	+0.5
	1.1nm,0.3s,baz=57,slow=22,SNR=15						
SIJI				S	Sn	12 15 26.5	-5.9
	1.7nm,0.3s,baz=248,slow=23,SNR=9.2						
FITZ	**Fitzroy Crossi**	**11.63**	**198**	P	Pn	12 15 32.3	+0.9
	0.2nm,0.3s,baz=36,slow=9.9,SNR=16						
FITZ				S	Sn	12 17 35.2	-4.4
	0.2nm,0.3s,baz=212,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**13.76**	**160**	P	Pn	12 15 57.2	-2.0
	0.2nm,0.3s,baz=339,slow=13,SNR=22						
WRA				S	Sn	12 18 23.8	-7.4
	0.3nm,0.3s,baz=347,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**17.15**	**166**	P	Pn	12 16 42.2	+0.8
	0.2nm,0.3s,baz=346,slow=9.9,SNR=24						
ASAR				S	Sn	12 19 43.1	-10
	0.0nm,0.3s,baz=346,slow=27,SNR=1.1						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	12 23 33.3	-0.5
	0.3nm,0.5s,baz=125,slow=6.4,SNR=2.9						

IDC 17 12:20:03.2±2.2,2°.03N×126°.40E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/29,mbtmp3.3/3,Error ellipse: s-maj=181.2km s-min=27.7km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.19**	**161**	P	P	12 25 09.9	-1.8
	0.5nm,0.7s,baz=339,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.57**	**164**	P	P	12 25 45.0	+1.8
	0.3nm,0.5s,baz=346,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**58.76**	**326**	P	P	12 30 02.9	-0.3
	0.2nm,0.4s,baz=122,slow=8.1,SNR=2.2						

*IDC **17** 12:51:27.9±0.4,35°.45S×17°.33W,h0km,mb4.7/42, mb1 4.8/42,mb1mx4.7/53,mbtmp4.7/42,MS6.5/21, Ms1 6.5/21,ms1mx6.4/37,Error ellipse: s-maj=13.2km s-min=10.0km az=175.0*

*MOS **17** 12:51:30.3±1.6,35°.41S×17°.70W,h10km,mb6.4/32, MS6.8/28,Error ellipse: s-maj=13.0km s-min=7.9km az=65.9*

*NEIC **17** 12:51:32.8±2.4,35°.36S±0°.10×17°.2W±0°.1,h10km±1km, mb6.1/118,Ms_20 6.6/443,Mwc6.9/55,Mww7.0, Mwc6.9(GCMT),Error ellipse: s-maj=17.1km s-min=15.6km az=148.0*

*BJI **17** 12:51:34.1±0.0,35°.34S×17°.56W,h10km,mB6.4/51, Ms7.1/48,Ms7 7.0/53*

*GCMT **17** 12:51:48.8±0.0,35°.38S×16°.40W,h22km,MW6.9/174, Moment Tensor Solution. s174,c451; s171,c830; Duration: 7s0 Moment tensor: Scale 10¹⁹Nm; Mrr0.08±.01; Mθθ-1.31±.01; Mϕϕ 1.23±.01; Mrθ-0.05±.02; Mθϕ2.64±.01; Mϕr 0.37±.02; Best double couple: Mo2.95300×10¹⁹ NP1:ϕs77.00000°,δ83.00000°, λ1.00000°. NP2:ϕs347.00000°,δ89.00000°,λ173.00000°. Principal axes: T 2.9180, Plg6.0000°, Azm302.0000°; N 0.0660, Plg83.0000°, Azm160.0000°; P -2.9880, Plg4.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **17** 12:51:49,35°.16S×16°.80W,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr-0.08; Mθθ-1.20; Mϕϕ 1.28; Mrθ-0.50; Mθϕ2.92; Mϕr-1.12; Fault plane solution: Mo3.40000×10¹⁹ NP1:ϕs260.00000°, δ74.00000°,λ.10.00000°. NP2:ϕs167.00000°,δ80.00000°, λ164.00000°. Principal axes: T 3.6087, Plg18.0000°, Azm123.0000°; N -0.4602, Plg71.0000°, Azm316.0000°; P -3.1485, Plg4.0000°, Azm214.0000°;*

*NEIC **17** 12:51:50,35°.42S×16°.38W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr0.13; Mθθ-1.29; Mϕϕ 1.16; Mrθ0.26; Mθϕ2.49; Mϕr0.42; Fault plane solution: Mo2.82000×10¹⁹ NP1:ϕs77.00000°, δ83.00000°,λ.7.00000°. NP2:ϕs346.00000°,δ83.00000°, λ173.00000°. Principal axes: T 2.7998, Plg10.0000°, Azm302.0000°; N 0.0402, Plg80.0000°, Azm122.0000°; P -2.8400, Plg0.0000°, Azm32.0000°;*

*NEIC **17** 12:51:51,35°.36S×16°.82W,h10km,Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr-0.09; Mθθ-1.30; Mϕϕ 1.40; Mrθ-0.39; Mθϕ2.93; Mϕr-0.45; Fault plane solution: Mo3.28000×10¹⁹ NP1:ϕs167.24000°, δ82.04000°,λ174.37000°. NP2:ϕs258.03000°,δ84.42000°, λ8.00000°. Principal axes: T 3.3751, Plg10.0000°, Azm123.0000°; N -0.1886, Plg80.0000°, Azm293.0000°; P -3.1865, Plg2.0000°, Azm32.0000°;*

ISC 17 12:51:35.7±0.6,35°.37S±0°.05×17°.81W±0°.05,h27km±3km, h27km:pP-P,n1490,σ3s57/694,mb6.0/180,MS6.7/301, 52C-106D,Southern Mid-Atlantic Ridge

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

EFI East Falkland 32.93 228 IAms_20 IAms_20 13 09 15.2
comp=Z,112µm,21.0s
NBPV Pedro Velho 33.00 327 *e*P **P** **12 58 06.2 -2.3**
BDFB Brasilia 33.40 298 P P 12 58 09.9 -2.2
comp=Z,11nm,0.9s,baz=113,slow=7.4,SNR=6.9
BDFB Brasilia 33.40 298 P **P** **12 58 15.2 +3.0**
BDFB IAmb IAmb 12 58 44.3
comp=Z,446nm,1.5s
SDBA SAO DESIDERIO 33.51 306 *e*P P 12 58 10.7 -2.4
UPI Upington 33.74 89 *i*P P 12 58 18.1 +3.0
RCBR Riachuelo 33.80 326 P **P** **12 58 13.5 -2.0**
comp=Z,15nm,0.9s,baz=349,slow=4.2,SNR=1.6
RCBR LR LR 13 09 44.3
comp=Z,103µm,18.9s,baz=152,slow=32
RCBR Riachuelo 33.80 326 P **P** **12 58 16.7 +1.2**
RCBR IAmb IAmb 12 58 38.4
comp=Z,206nm,1.1s
RCBR Riachuelo 33.80 326 IAms_20 IAms_20 13 08 54.5
comp=Z,96µm,21.0s
RCBR Riachuelo 33.80 326 ⇑P P 12 58 31.0 +15
RCBR Riachuelo 33.80 326 *e*P **P** **12 58 13.7 -1.9**
NBMA Muriti-CE 33.86 320 *e*P P 12 58 14.0 -2.1
NBPA Parau_RN 34.43 324 *e*P **P** **12 58 19.0 -2.0**
CPUP Villa Florida 34.92 274 P **P** **12 58 24.3 -0.8**
comp=Z,6.9nm,0.9s,baz=147,slow=4.6,SNR=5.8
CPUP LR LR 13 12 16.5
comp=Z,55µm,18.0s,baz=122,slow=35
CPUP Villa Florida 34.92 274 P P 12 58 23.0 -2.1
CPUP pmax pmax
comp=Z,50nm,1.0s
CPUP Villa Florida 34.92 274 P P 12 58 23.0 -2.1
CPUP Villa Florida 34.92 274 *e*P **P** **12 58 23.2 -1.9**
TSUM Tsumeb 35.11 72 P P 12 58 19.0 -8.1
comp=Z,16nm,1.0s,baz=232,slow=9.6,SNR=7.2
TSUM LR LR 13 09 17.7
comp=Z,92µm,18.8s,baz=228,slow=31
TSUM Tsumeb 35.11 72 P P 12 58 20.8 -6.2
TSUM IAmb IAmb 12 58 42.7
comp=Z,559nm,1.3s
TSUM Tsumeb 35.11 72 IAms_20 IAms_20 13 08 56.6
comp=Z,114µm,20.0s
TSUM Tsumeb 35.11 72 ⇑P P 12 58 21.4 -5.6
TSUM Tsumeb 35.11 72 *i*P **P** **12 58 28.5 +1.4**
TRQA Tornquist 35.26 252 P **P** **12 58 27.6 -0.5**
TRQA pmax pmax
comp=Z,44nm,0.9s
TRQA Tornquist 35.26 252 **P** **12 58 27.6 -0.5**
TRQA Tornquist 35.26 252 *e*P **P** **12 58 26.1 -2.0**
VNA1 Neumayer--Stat 35.71 175 P P **12 58 32.3 +0.8**
VNA1 Neumayer--Stat 35.71 175 pP pP 12 58 35.8 -2.7
NBPB Pedra_Branca-C 35.83 321 *e*P **P** **12 58 31.1 -2.0**
PEXB Peixe 36.02 302 *e*P **P** **12 58 33.0 -1.6**
ARAG Araguaiana, MT 36.14 294 *e*P P 12 58 33.8 -1.9
VNA3 Neumayer Olymp 36.20 176 P **P** **12 58 35.0 -0.6**
VNA3 Neumayer Olymp 36.20 176 pP pP 12 58 39.2 -3.5
NBCL Cascavel-CE 36.32 324 *e*P **P** **12 58 35.1 -2.1**
AQDB Aquidauana 36.38 284 P **P** **12 58 36.6 -1.1**
AQDB IAmb IAmb 12 59 05.1
comp=Z,127nm,0.9s
AQDB Aquidauana 36.38 284 *e*P **P** **12 58 36.2 -1.5**
NEPA Kaukuwa 36.61 71 *i*P **P** **12 58 43.3 +3.4**
BOSA Boshof 36.92 92 P P 12 58 33.5 -9.0
comp=Z,17nm,0.8s,baz=247,slow=8.4,SNR=16
BOSA Boshof 36.92 92 P P 12 58 33.1 -9.3
BOSA pmax pmax
comp=Z,538nm,1.1s
BOSA Boshof 36.92 92 P P 12 58 33.1 -9.3
BOSA IAmb IAmb 12 58 54.2
comp=Z,538nm,1.1s
BOSA Boshof 36.92 92 ⇓P P 12 58 33.0 -9.3
BOSA Boshof 36.92 92 *i*P **P** **12 58 41.4 -1.0**
BOSA IAmb IAmb 12 58 53.6
comp=Z,475nm,1.1s
SNAA Sanae 37.21 172 P **P** **12 58 43.2 -1.1**
SNAA Sanae 37.21 172 P P 12 58 39.0 -5.2
comp=Z,4.9nm,0.9s,baz=326,slow=9.7,SNR=12
SNAA Sanae 37.21 172 P **P** **12 58 43.2 -1.1**
SNAA IAmb IAmb 12 59 02.9
comp=Z,326nm,1.5s
SNAA Sanae 37.21 172 ⇓P **P** **12 58 42.8 -1.5**
PP1B Ponte de Pedra 37.33 289 *e*P P 12 58 44.0 -1.9
NBPS Pedro II - PI 37.78 319 *e*P **P** **12 58 48.0 -1.8**
SMTB Santa Maria do 37.89 307 *e*P P 12 58 48.1 -2.5
LBTB Lobatse 38.65 87 P P 12 58 48.9 -8.2
LBTB pmax pmax
comp=Z,747nm,1.1s
LBTB Lobatse 38.65 87 P P 12 58 48.9 -8.2
LBTB Lobatse 38.65 87 *i*P **P** **12 58 57.9 +0.9**
LBTB IAmb IAmb 12 59 09.4
comp=Z,650nm,1.1s
NVL N'lazarevskaya 38.82 165 *e*P P 12 59 09.9 +12
NVL *i* 13 00 24.1
NVL *e*S S 13 05 01.2 +7.7
NVL pmax pmax
comp=Z,13nm,0.8s
SALV Santo Antonio 38.96 290 *e*P **P** **12 58 58.1 -1.5**
PMSA Palmer Station 40.28 209 P **P** **12 59 07.2 -2.8**
comp=Z,20nm,0.9s,baz=37,slow=12,SNR=5.0
PMSA Palmer Station 40.28 209 P **P** **12 59 06.7 -3.3**
ROSB Rosrio 40.49 317 *e*P **P** **12 59 10.2 -2.0**
PRPB Parauapebas 41.36 307 *e*P **P** **12 59 17.7 -1.8**
PLCA Paso Flores 41.36 246 P **P** **12 59 17.5 -1.9**
comp=Z,2.1nm,0.7s,baz=52,slow=21,SNR=1.7
PLCA LR LR 13 15 28.8
comp=Z,48µm,19.8s,baz=100,slow=35
PLCA Paso Flores 41.36 246 P **P** **12 59 20.3 +0.9**
PLCA Paso Flores 41.36 246 *e*P **P** **12 59 17.5 -1.9**
GO09 Cerro Castillo 41.73 230 P **P** **12 59 25.0 +2.9**
COYC Coyhaique 41.81 239 P **P** **12 59 22.2 -0.7**
PTLB Pontes e Lacer 41.90 288 *e*P **P** **12 59 22.1 -1.8**
LL02 Futaleuf 41.93 242 P **P** **12 59 25.2 +1.3**
CLDB Colider 42.21 296 *e*P **P** **12 59 24.5 -1.9**
ZON Zonda 42.24 260 P **P** **12 59 27.9 +1.2**
ZON pmax pmax
comp=Z,83nm,1.6s
ZON Zonda 42.24 260 P **P** **12 59 27.9 +1.2**
LL01 San Ignacio de 42.46 243 P **P** **12 59 28.6 +0.4**
BO02 Sierra Bellavi 42.91 255 P **P** **12 59 34.8 +2.6**
MT03 Universidad Ad 43.08 257 P **P** **12 59 34.8 +1.3**
LIC Lamto 43.09 19 *e*P **P** **12 59 30.9 -2.6**
comp=Z,2µm,1.4s
SIV San Ignacio 43.10 285 P **P** **12 59 32.5 -1.2**
comp=Z,31nm,1.1s,baz=128,slow=7.8,SNR=61
SIV LR LR 13 16 45.8
comp=Z,68µm,18.2s,baz=132,slow=35
MATP Matopo 43.16 82 P P 12 59 26.0 -8.3
comp=Z,30nm,0.9s,baz=235,slow=8.5,SNR=38
MATP LR LR 13 14 34.8
comp=Z,30µm,19.7s,baz=240,slow=32
MATP Matopo 43.16 82 P P 12 59 26.0 -8.3
TMAB Tom-Au,PA,Br 43.22 313 *e*P **P** **12 59 32.7 -1.9**
BO01 Tunca 43.27 255 P **P** **12 59 36.7 +1.8**
BO01 IAmb IAmb 13 00 04.2
comp=Z,176nm,1.1s
KIC Kosan Boka 43.30 19 *e*P P 12 59 29.9 -5.3
comp=Z,2µm,1.2s
VA03 San Esteban 43.34 258 P **P** **12 59 37.2 +1.5**
MT09 Talagante 43.38 256 P **P** **12 59 35.0 -1.0**
TIC Toumodi 43.49 19 *e*P P 12 59 31.5 -5.3
MT01 Popeta 43.56 256 P P 12 59 33.8 -3.4
DBIC Dimbokro 43.56 19 P P 12 59 32.2 -5.1
comp=Z,22nm,1.0s,baz=171,slow=7.8,SNR=11
DBIC LR LR 13 13 18.0
comp=Z,93µm,20.6s,baz=172,slow=30
DBIC Dimbokro 43.56 19 P **P** **12 59 34.2 -3.1**
MT02 Curacav 43.65 257 P **P** **12 59 36.1 -1.9**
ITZ Itezhi-Tezhi 43.68 75 *i*P P 12 59 44.1 +5.6
GO05 Huala 43.76 254 P **P** **12 59 37.9 -1.0**
VA05 Santo Domingo 43.91 256 P **P** **12 59 41.4 +1.4**
CO03 El Pedregal 44.10 260 P P 12 59 38.9 -2.9
VILB Vilhena 44.21 290 *e*P **P** **12 59 40.8 -1.9**
AC02 Maricunga 44.35 266 P **P** **12 59 42.7 -1.5**
GO04 Tololo Observa 44.42 261 P P **12 59 42.9 -1.7**
NPGB Novo Progresso 44.49 300 *e*P P 12 59 42.4 -2.5
GO02 Mina Guanaco 45.42 268 P **P** **12 59 52.8 +0.2**
GO02 IAmb IAmb 13 00 16.0
comp=Z,189nm,1.3s
LSZ Lusaka 45.67 76 P P 12 59 47.3 -7.1
comp=Z,18nm,0.9s,baz=226,slow=7.8,SNR=13
LSZ Lusaka 45.67 76 P P 12 59 47.6 -6.8
LSZ Lusaka 45.67 76 IAms_20 IAms_20 13 15 33.9
comp=Z,124µm,22.0s
LSZ Lusaka 45.67 76 *i*P **P** **12 59 57.0 +2.6**
AC01 Pan de Azucar 45.83 266 P P 12 59 53.1 -2.4
AC01 IAmb IAmb 13 00 22.3
comp=Z,131nm,0.9s
SYO Syowa Base 45.88 155 ⇓*e*P P 12 59 48.5 -6.7
SYO Syowa Base 45.88 155 ⇓*e*pP **P** **12 59 51.0 -4.2**
SYO Syowa Base 45.88 155 ⇓*i*sP **P** **12 59 53.4 -1.8**
LVC Limon Verde 46.01 272 LR LR 13 18 03.5
comp=Z,27µm,21.6s,baz=132,slow=34
LVC Limon Verde 46.01 272 *e*P **P** **12 59 55.7 -1.7**
ITTB Itaituba 46.65 303 *e*P P 12 59 59.8 -2.2
EKNA AfricaArray - 46.92 39 *e*P P 13 00 13.8 +10
MCPB Macapa, AP 47.22 310 *e*P **P** **13 00 04.4 -2.0**
LBB Lubumbashi 47.26 71 *i*P P 13 00 13.0 +6.1
MALB Monte Alegre 47.51 306 *e*P **P** **13 00 07.0 -1.7**
PB11 IPOC Station P 48.00 275 P P 13 00 10.3 -2.4
PB11 IAmb IAmb 13 00 37.1
comp=Z,218nm,0.9s
MNMC Minye Minye 48.26 275 P **P** **13 00 13.2 -1.7**
MNMC IAmb IAmb 13 00 40.4
comp=Z,212nm,1.0s
PSGCX Pisagua 48.46 275 P P 13 00 13.4 -2.7
PSGCX IAmb IAmb 13 00 41.1
comp=Z,114nm,1.0s
LPAZ La Paz 48.57 280 P P 13 00 15.1 -2.4
comp=Z,7.1nm,0.8s,baz=100,slow=8.2,SNR=11
LPAZ LR LR 13 21 34.1
comp=Z,49µm,19.2s,baz=114,slow=37
LPAZ La Paz 48.57 280 *e*P **P** **13 00 16.8 -0.8**
LPAZ La Paz 48.57 280 *e*P P 13 00 14.3 -3.3
SAML Samuel 48.98 291 IAms_20 IAms_20 13 19 39.3
comp=Z,89µm,20.0s
H03S1 Juan Fernandez 49.59 253 P P 13 00 46.8 +23
baz=35,slow=9.4,SNR=3.8
H03S3 Juan Fernandez 49.60 253 P P 13 00 38.1 +14
baz=35,slow=9.4,SNR=5.8
H03S2 Juan Fernandez 49.61 253 P P 13 00 45.2 +21
baz=35,slow=9.4,SNR=3.3
ETMB Extrema 50.78 288 *e*P P 13 00 31.4 -2.3
KOWA Kowa 51.29 17 P P 13 00 32.0 -5.4
comp=Z,18nm,0.8s,baz=178,slow=5.3,SNR=12
KOWA Kowa 51.29 17 P **P** **13 00 35.6 -1.8**
KOWA IAms_20 IAms_20 13 17 56.5
comp=Z,93µm,22.0s
ZOMB Zomba 51.35 81 *i*P **P** **13 00 39.3 +1.2**
TOA0 Torodi Ar. Sit 51.67 24 P P 13 00 34.8 -5.5
TOA0 IAmb IAmb 13 00 59.2
comp=Z,311nm,1.1s
TORD Torodi Ar. Bea 51.67 24 P P 13 00 33.9 -6.4
comp=Z,22nm,0.9s,baz=202,slow=7.2,SNR=18
TORD PKP2bc 13 31 34.0
comp=Z,3.5nm,1.2s,baz=46,slow=4.2,SNR=5.4
MPGF Montagnes des 51.89 314 P **PKiKP** **13 08 36.0 +0.2**
PTGA Pitinga 52.19 302 P **P** **13 00 42.5 -1.8**
comp=Z,9.3nm,1.0s,baz=329,slow=23,SNR=1.0
PTGA Pitinga 52.19 302 P **P** **13 00 43.4 -0.9**
PTGA IAmb IAmb 13 01 10.9
comp=Z,155nm,1.3s
ITUM Tunduma 53.05 74 *i*P P 13 00 56.6 +5.7
MBAM Mbamba Bay 53.23 77 *i*P P 13 00 57.1 +5.1
ISOK Kyela 53.23 74 *i*P P 13 00 58.8 +6.6
ILOM Ilombo 53.25 74 *i*P P 13 00 58.8 +6.4
MKIL Mkili 53.35 76 *i*P P 13 00 57.7 +4.7
ILIND Ilindi 53.36 73 *i*P P 13 00 58.6 +5.4
MZUN Kiwira 53.47 74 *i*P P 13 00 59.6 +5.7
MANDA Manda 53.53 76 *i*P **P** **13 00 56.2 +2.0**
TIRI Matiri 53.58 76 *i*P P 13 00 59.1 +4.4
NKAL Nkalisi 53.64 74 *i*P P 13 01 03.4 +8.2
LOSI Makongolosi 53.66 73 *i*P P 13 01 00.1 +4.8
IGOM Igoma 53.66 74 *i*P **P** **13 00 58.6 +3.0**
NIND Nindi 53.71 75 *i*P P 13 01 01.1 +5.4
JILO Lwanjilo 53.76 73 *i*P P 13 01 02.8 +6.6
KURU Muhukuru 53.78 77 *i*P P 13 00 59.8 +3.6
UNDA Madunda 53.80 75 *i*P **P** **13 00 59.2 +2.9**
UKWA Ukwama 53.83 74 *i*P P 13 01 01.5 +4.8
MAKE Makete 53.85 74 *i*P P 13 01 02.0 +5.1
LIGA Liganga 53.92 76 *i*P P 13 01 02.3 +5.1
MATAM Matamba 53.93 74 *i*P P 13 01 02.8 +5.3
BUMI Ibumi 54.00 76 *i*P P 13 01 02.9 +5.0
TOLA Matola 54.04 75 *i*P **P** **13 01 00.8 +2.5**
CHML Chimala 54.06 74 *i*P P 13 01 02.2 +3.9
KIPE Kipengere 54.10 74 *i*P P 13 01 04.4 +5.7
ZINI Mgazini 54.12 76 *i*P **P** **13 01 01.8 +3.2**
MUDIN Mudindi 54.16 75 *i*P P 13 01 03.7 +4.8
NGEA Songea 54.26 77 *i*P P 13 01 03.5 +3.8
UWEM Njombe 54.27 75 *i*P P 13 01 03.6 +3.6
MAW Mawson 54.34 152 P P 13 00 52.7 -6.6
comp=Z,8.7nm,0.7s,baz=276,slow=8.6,SNR=14
MAW Mawson 54.34 152 P P 13 00 51.8 -7.5
baz=54,SNR=20
MAW Mawson 54.34 152 ⇓P P 13 00 52.4 -6.9
GAWA Igawa 54.38 74 *i*P P 13 01 04.9 +4.3
WINO Wino 54.51 76 *i*P P 13 01 06.5 +5.0
KIMO Ikongo 54.55 77 *i*P P 13 01 05.7 +4.0
KIDE Kidegembe 54.57 75 *i*P P 13 01 05.8 +3.7
BANG Mbangamawe 54.57 76 *i*P P 13 01 07.5 +5.5
BAKO Makambako 54.66 74 *i*P **P** **13 01 05.4 +2.8**
MFRI Mfriga 54.79 75 *i*P **P** **13 01 06.3 +2.6**
BOAV Boa Vista 54.83 304 *e*P **P** **13 01 01.4 -2.2**
QSPA South Pole Qui 54.88 180 IAms_20 IAms_20 13 20 57.6
comp=Z,53µm,21.0s
SKRH Sahara 55.25 95 *i*P P **13 01 06.0 -0.8**
MBAR Mbarara 56.84 64 P P 13 01 12.2 -6.1
comp=Z,18nm,0.9s,baz=211,slow=9.5,SNR=21
MBAR Mbarara 56.84 64 P **P** **13 01 16.4 -1.9**
MBAR Mbarara 56.84 64 P **P** **13 01 14.8 -3.5**
MBAR P **P** **13 01 14.8 -3.5**
MBAR Mbarara 56.84 64 ⇓P **P** **13 01 16.1 -2.1**
MBAR Mbarara 56.84 64 *i*P P 13 01 27.1 +8.9
DODT Dodoma, Tanzan 57.02 72 *i*P P 13 01 23.8 +4.3
TBTG Tabatinga, AM 57.15 290 *e*P P 13 01 15.1 -5.1
GETA Geita 57.20 68 *i*P **P** **13 01 21.9 +1.1**
VOI Vohitsoka 57.37 95 P P 13 01 15.5 -6.4
VOI Vohitsoka 57.37 95 P **P** **13 01 24.6 +2.7**
SNR=26
NNA Nana 57.97 278 P **P** **13 01 26.1 0.0**
comp=Z,16nm,0.8s,baz=344,slow=3.5,SNR=1.6
TEBE Entebbe 58.55 64 *i*P P 13 01 37.7 +7.4
ABPO Ambohimpanom 59.14 92 P P 13 01 29.1 -5.3
ABPO pmax pmax
comp=Z,388nm,1.2s
ABPO Ambohimpanom 59.14 92 P P 13 01 29.1 -5.3
ABPO Ambohimpanom 59.14 92 ⇑P P 13 01 38.9 +4.5
ABPO Ambohimpanom 59.14 92 *i*P **P** **13 01 35.5 +1.2**
KIBK Kibwezi 61.20 71 P **P** **13 01 45.3 -3.1**
KIBK Kibwezi 61.20 71 P **P** **13 01 45.1 -3.4**
SNR=35
ATAH Atahualpa 62.00 282 P **P** **13 01 53.0 -1.3**
comp=Z,5.6nm,0.7s,baz=13,slow=7.5,SNR=3.4
ATAH Atahualpa 62.00 282 P **P** **13 01 53.0 -1.3**
BBGH Gun Hill 62.37 313 IAms_20 IAms_20 13 32 12.4
comp=Z,38µm,20.0s
GRGR Grenville 62.87 310 *e*P P 13 02 15.0 +16
GRGR Grenville 62.87 310 P **P** **13 01 59.8 +0.4**
GRGR IAmb IAmb 13 02 18.8
comp=Z,185nm,1.0s
LODK Lodwar 62.94 64 P **P** **13 01 58.2 -1.9**
LODK IAmb IAmb 13 02 12.4
comp=Z,84nm,0.9s
GCMP Grenada, Carri 63.00 311 *e*P P 13 02 09.2 +8.9
MACI Morro de la Ar 63.29 1 P **P** **13 02 02.2 0.0**
MACI IAmb IAmb 13 02 29.7
comp=Z,143nm,1.0s
PCRV Puerto La Cruz 63.30 307 P **P** **13 02 00.3 -2.1**
comp=Z,7.1nm,0.8s,baz=31,slow=6.0,SNR=1.9
GUVC San Jose del G 63.58 294 *e*P P 13 01 59.6 -4.6
PTLC Puerto Leguiza 63.67 291 *e*P P 13 02 16.7 +12
SLBI Saint Lucia, B 63.91 312 *e*P P 13 02 15.7 +9.5
MACC Macarena, Meta 64.23 293 *e*P P 13 02 05.2 -3.3
SBV Sambava 64.24 89 P P 13 02 14.6 +6.0
SNR=19
PTGC Puerto Gaitan, 64.31 296 *e*P P 13 02 06.0 -3.1
ELOV Elorza 64.32 300 *e*P **P** **13 02 09.1 0.0**
BIM Bigot 64.35 313 *e*P P 13 02 19.5 +10
FDF Fort de France 64.57 313 *e*P P 13 02 18.9 +8.2
RER Riviere de l'E 64.99 99 IAms_20 IAms_20 13 22 06.0
comp=Z,50µm,22.0s
RER Riviere de l'E 64.99 99 P P 13 02 21.3 +7.8
FLOC Florencia 65.23 291 *e*P **P** **13 02 14.0 -1.1**
VILC Villavicencio, 65.41 295 *e*P P 13 02 13.4 -2.9
GARC Garzon, Huila 65.50 292 *e*P **P** **13 02 19.9 +2.8**
BETC Betania 65.78 292 *e*P **P** **13 02 16.3 -2.3**
CHIC Chingaza 65.78 295 *e*P **P** **13 02 18.2 -0.8**
CBE Ff, Capester 65.88 313 *e*P P 13 02 35.5 +16
PRAC Prado 66.03 294 *e*P **P** **13 02 22.5 +2.2**
ABD La Joyeuse, An 66.13 314 *e*P P 13 02 36.9 +16
RUSC La Rusia 66.15 297 P **P** **13 02 21.3 -0.3**
RUSC IAmb IAmb 13 02 48.8
comp=Z,112nm,1.0s
RUSC La Rusia 66.15 297 *e*P **P** **13 02 20.0 -1.5**
SOCV Socops 66.19 300 *e*P P 13 02 33.4 +12
CRUC La Cruz 66.21 290 *e*P P 13 02 29.1 +7.3
MARP Paez Belalcaza 66.27 292 *e*P P 13 02 12.1 -10
PCON Cinco Dias 66.28 291 *e*P **P** **13 02 20.6 -1.9**
GCUF Volcan Galeras 66.30 290 *e*P P 13 02 36.4 +14
SOTA Rioblanco 66.31 291 *e*P **P** **13 02 23.6 +1.0**
TULM Tulcn-Chalpat 66.31 289 *e*P P 13 02 17.1 -5.6
ROSC El Rosal 66.36 295 P **P** **13 02 23.4 +0.6**
comp=Z,9.6nm,0.4s,baz=174,slow=20,SNR=1.8
ROSC El Rosal 66.36 295 P **P** **13 02 24.0 +1.3**
ROSC IAmb IAmb 13 02 50.3
comp=Z,209nm,1.4s
ROSC El Rosal 66.36 295 *e*P **P** **13 02 23.6 +0.9**
ORTC Ortega, Tolima 66.43 293 *e*P P 13 02 19.9 -2.9
SDV Santo Domingo 66.45 301 P **P** **13 02 21.1 -1.9**
comp=Z,7.3nm,0.3s,baz=334,slow=3.9,SNR=4.0
SDV Santo Domingo 66.45 301 **P** **13 02 21.2 -1.9**
SDV IAmb IAmb 13 02 49.4
comp=Z,151nm,1.1s
SDV Santo Domingo 66.45 301 P **P** **13 02 21.1 -1.9**
SDV Santo Domingo 66.45 301 *e*P **P** **13 02 26.6 +3.5**
SDV Santo Domingo 66.45 301 *e*P P 13 02 20.1 -3.0
OTAV Otavalo 66.53 288 P **P** **13 02 24.1 +0.1**
OTAV pmax pmax
comp=Z,66nm,1.7s
OTAV Otavalo 66.53 288 P **P** **13 02 24.1 +0.1**
CUSE Cuicocha Este 66.53 288 *e*P P 13 02 38.5 +15
POPC Popayan, Colom 66.62 291 *e*P **P** **13 02 24.9 +0.6**
BARC Barichara 66.69 297 *e*P **P** **13 02 22.8 -1.9**
BBAC Balboa, Cauca 66.73 290 *e*P P 13 02 30.7 +5.8
ANBD Bethesda, Anti 66.74 314 *e*P P 13 02 33.9 +9.3
PAC1 Pacto, Paraso 66.81 288 *e*P P 13 02 22.5 -2.9
PAMC Pamplona, Colo 66.85 298 *e*P P 13 02 23.3 -2.7
ANIL Santa Ana 66.93 294 *e*P P 13 02 35.3 +9.0
TOLC Tolima 66.93 294 *e*P P 13 02 21.8 -4.5
SBA Scott Base 67.01 181 P **P** **13 02 25.9 +0.4**
SBA pmax pmax
comp=Z,264nm,1.1s
SBA Scott Base 67.01 181 P **P** **13 02 25.9 +0.4**
SBA Scott Base 67.01 181 IAms_20 IAms_20 13 26 44.8
comp=Z,33µm,21.0s
RREF El Recreo 67.16 294 *e*P **P** **13 02 28.8 +0.7**
ANWB Willy Bob 67.24 314 *e*P P 13 02 35.1 +7.4
ANWB Willy Bob 67.24 314 P **P** **13 02 29.0 +1.3**
NORC Norcasia 67.24 295 *e*P **P** **13 02 28.4 +0.4**
YOTC Yotoco, Valle 67.31 293 *e*P P 13 02 25.8 -2.7
VNDA Vanda 67.38 180 P **P** **13 02 24.3 -3.6**
comp=Z,3.3nm,1.1s,baz=200,slow=5.3,SNR=7.2
VNDA LR LR 13 29 57.5
comp=Z,39µm,18.8s,baz=178,slow=34
VNDA Vanda 67.38 180 P **P** **13 02 27.5 -0.4**
VNDA IAmb IAmb 13 02 52.1
comp=Z,374nm,1.6s
GUY2C Guyana, Caldas 67.39 294 *e*P **P** **13 02 29.4 0.0**
BRRC Barranca, Sant 67.43 297 *e*P P 13 02 22.9 -6.2
FUL Funchal 67.67 1 *e*P P 13 02 48.8 +19
comp=Z,295nm,1.9s
TUMC Tumaco 67.74 289 *e*P P 13 02 16.7 -14
PMAR Madeira 67.74 1 *e*P P 13 02 47.4 +17
comp=Z,381nm,1.7s
PMOZ Porto Moniz, M 67.84 1 *e*P P 13 02 41.0 +10
comp=Z,356nm,2.3s
PMOZ Porto Moniz, M 67.84 1 P **P** **13 02 31.5 +0.1**
DABV Dabajuro 67.88 302 *e*P **P** **13 02 32.4 +0.4**
OCAC Ocana 67.91 298 *e*P P 13 02 35.3 +2.9
GR1C Gorgona, Isla 68.06 291 *e*P P 13 02 29.2 -3.9
MALC Bahia Malaga 68.07 292 *e*P **P** **13 02 34.0 +0.8**
PTGL Punta Galera 68.10 288 *e*P P 13 02 51.0 +18
PMPST Porto Santo, M 68.11 1 *e*P P 13 02 26.6 -6.3
comp=Z,441nm,1.7s
HELC Santa Helena 68.15 295 *e*P P 13 02 29.3 -4.8
CBOC Ciudad Bolivar 68.29 294 *e*P **P** **13 02 35.5 +0.8**
ZARC Zaragoza, Cauc 68.52 297 *e*P P 13 02 29.9 -6.1
PIZC Pizarro, Choco 68.71 293 *e*P **P** **13 02 35.6 -1.5**
SMLC San Martn de 68.84 298 *e*P **P** **13 02 37.3 -0.6**
LL2C La Loma 2 Cana 68.90 299 *e*P P 13 02 46.9 +8.6
MDT Midelt 68.95 12 P **P** **13 02 34.7 -3.6**
comp=Z,5.1nm,1.0s,baz=203,slow=5.7,SNR=4.1
MDT Midelt 68.95 12 P **P** **13 02 34.7 -3.6**
LL1C La Loma 1 Cana 68.97 299 *e*P P 13 02 54.8 +16
AVE Averroes 69.00 9 P P 13 02 47.6 +9.1
AVE S S 13 11 55.5 +14
FURI Furi 69.06 62 *e*P P 13 02 44.8 +5.0
FURI ⇓*e*S S 13 12 01.6 +18
FUPI Furi 69.06 62 *i*P P 13 02 50.6 +11
CDVI St. Croix 69.09 312 *e*P P 13 02 57.1 +18
CDVI St. Croix 69.09 312 P **P** **13 02 39.9 +0.6**
CDVI IAmb IAmb 13 03 07.1
comp=Z,105nm,0.8s
UREC San Jos de Ur 69.19 296 *e*P **P** **13 02 41.4 +1.3**
URIC Uribia, Colomb 69.37 302 *e*P P 13 02 35.6 -5.5
IFR Ifrane 69.55 11 P P 13 02 48.9 +6.8
IFR S S 13 12 01.6 +13
SOLC Bahia Solano 69.57 294 *e*P P 13 02 28.2 -14
ABVI Anegada Island 69.58 313 P **P** **13 02 43.3 +1.0**
ARGC Ariguani, Magd 69.68 299 *e*P P 13 03 00.2 +17
MOTC Monteria, Cord 69.98 297 *e*P P 13 02 38.8 -6.2
CBYP Canovanas 70.15 311 P **P** **13 02 47.0 +1.1**
CBYP IAmb IAmb 13 03 15.1
comp=Z,126nm,1.4s
SJG San Juan 70.21 311 *e*P **P** **13 02 47.0 +0.7**
GCPR Guaynabo City 70.32 311 P **P** **13 02 47.9 +1.0**
GCPR IAmb IAmb 13 03 09.7
comp=Z,124nm,1.0s
SJCC San Jacinto, C 70.38 298 P **P** **13 02 45.8 -1.7**
SJCC San Jacinto, C 70.38 298 *e*P **P** **13 02 47.2 -0.3**
OBIP Obispado Ponce 70.44 311 P **P** **13 02 48.8 +1.1**
OBIP IAmb IAmb 13 03 16.5
comp=Z,164nm,1.3s
PTAC Punta Ardita, 70.47 294 *e*P P 13 03 05.3 +17
LCBC Los crdobas, 70.54 297 *e*P P 13 02 45.1 -3.3
SMRC Santa Marta, M 70.56 300 *e*P P 13 03 02.0 +13
AOPR Arecibo Observ 70.76 311 *e*P P 13 02 59.4 +10
AOPR Arecibo Observ 70.76 311 P **P** **13 02 50.9 +1.2**
CASY Casey 71.22 160 P **P** **13 02 49.8 -2.1**
CASY IAmb IAmb 13 03 17.7
comp=Z,228nm,1.4s
CASY Casey 71.22 160 IAms_20 IAms_20 13 29 36.0
comp=Z,51µm,22.0s
DESE Dese 71.26 61 *e*S **SKiKP** **13 12 24.1 -8.0**
DESE Dese 71.26 61 *e*P P 13 03 08.9 +16
PVLZ Peæn de 71.31 12 P P 13 03 00.3 +7.8
PVLZ S **S** **13 12 16.6 +8.3**
MAPC Malpelo 71.34 289 *e*P P 13 03 11.0 +18
MELI Melilla 71.66 13 P P 13 03 01.1 +6.4
MELI S **SKiKP** **13 12 26.0 -5.6**
CEU Ceuta 71.85 11 P **P** **13 02 57.1 +1.4**
CEU S **SKiKP** **13 12 25.1 -6.8**
OTSS Djebel Tessala 72.06 15 P P 13 03 05.0 +7.7
SFS San Fernando 72.28 10 P P 13 03 07.7 +9.3
SFS S **SKiKP** **13 12 34.4 +1.9**
PSMA Santa Maria 72.32 354 *e*P P 13 03 13.9 +15
comp=Z,227nm,1.6s
PSMN Pico do Norte, 72.32 354 *e*P P 13 03 15.3 +17
comp=Z,227nm,1.7s
USTO Oran 72.55 15 P P 13 03 11.0 +11
OJBR Djebel Berber 72.59 15 P P 13 03 09.0 +8.6
PFVI Vila Bisbo 72.62 8 *e*P P 13 03 09.2 +8.8
comp=Z,737nm,1.8s
TEND Ethiopian Broa 72.70 61 *e*S SKiKP 13 12 46.9 +13
TEND Ethiopian Broa 72.70 61 *e*P P 13 03 16.3 +15
PBDV Barranco-do-Ve 72.83 8 *e*P **P** **13 03 00.6 -1.1**
comp=Z,659nm,1.8s
LIJA Lijar 72.83 10 P **P** **13 03 02.0 +0.2**
ARNO Arenosillo 72.83 9 P P 13 03 09.2 +7.6
ARNO S **SKiKP** **13 12 40.6 +7.3**
EMAL Malaga-Limoner 72.84 11 P P 13 03 07.0 +5.3
EMAL S **S** **13 12 30.3 +4.4**
UPA Univ. de Panam 72.96 294 *e*P **P** **13 03 02.1 -0.9**
PVAQ Vaqueiros 73.01 8 *e*P **P** **13 03 03.3 +0.6**
comp=Z,633nm,1.7s
PTEO Sao Teotonio 73.04 8 *e*P **P** **13 03 06.7 +3.8**
comp=Z,322nm,1.7s
BART Pico Bartolome 73.10 354 *e*P P 13 03 20.5 +17
comp=Z,860nm,1.3s
CMLA Cha da Macela 73.12 354 *e*P P 13 03 19.9 +17
comp=Z,479nm,1.2s

GRON	**Grota Negra**	**73.12**	**354**	*e*P		P		13 03 19.9	+16	
	comp=Z,701nm,1.6s									
PCALD	**Caldeiras da R**	**73.15**	**354**	*e*P		P		13 03 20.0	+16	
	comp=Z,569nm,1.5s									
PSET	**Sete Cidades**	**73.20**	**353**	*e*P		P		13 03 21.0	+17	
	comp=Z,471nm,1.6s									
PCVE	**Castro Verde**	**73.20**	**8**	*e*P		P		13 03 11.9	+8.1	
	comp=Z,345nm,1.9s									
BCIP	**Isla Barro Col**	**73.31**	**294**	P		**P**		**13 03 06.2**	**+1.2**	
BCIP				pmax		pmax				
	comp=Z,62nm,1.1s									
BCIP	**Isla Barro Col**	**73.31**	**294**	P		**P**		**13 03 06.2**	**+1.2**	
BCIP	**Isla Barro Col**	**73.31**	**294**	*e*P		P		13 03 21.7	+17	
MESJ	**Messejana**	**73.38**	**8**	*e*P		**P**		**13 03 04.4**	**-0.5**	
MESJ				*e*S		**S**		**13 12 33.8**	**+1.7**	
MESJ				IAMs_20	IAMs_20			13 23 59.8		
	comp=E,37µm,18.1s									
MESJ	**Messejana**	**73.38**	**8**	*e*P		**P**		**13 03 04.4**	**-0.5**	
MESJ				*e*S		**S**		**13 12 33.8**	**+1.7**	
PBEJ	**Beja**	**73.61**	**8**	*e*P		**P**		**13 03 07.1**	**+0.9**	
	comp=E,276nm,1.6s									
PNCL	**Nicolau / Gran**	**73.62**	**8**	*e*P		**P**		**13 03 09.9**	**+3.6**	
	comp=E,390nm,1.8s									
MSEY	**Mahe Island**	**73.69**	**84**	*i* P		P		13 03 16.4	+9.0	
	SNR=5.9									
MSEY	**Mahe Island**	**73.69**	**84**	P		P		13 03 15.3	+7.9	
MSEY				P		P		13 03 15.3	+7.9	
MSEY				S		**SKiKP**		**13 12 40.9**	**+5.4**	
MSEY				S		**SKiKP**		**13 12 40.9**	**+5.4**	
ATAF	**Djebel Tarf**	**73.81**	**19**	P		**P**		**13 03 10.8**	**+3.2**	
ATD	**Arta Tunnel**	**73.86**	**63**	P		**P**		**13 03 03.9**	**-4.5**	
	comp=E,2.8nm,0.3s,baz=288,slow=20,SNR=1.4									
ATD	**Arta Tunnel**	**73.86**	**63**	P		**P**		**13 03 03.9**	**-4.5**	
ATD	**Arta Tunnel**	**73.86**	**63**	IAmb		IAmb		13 03 22.9		
	comp=Z,132nm,1.2s									
ATD	**Arta Tunnel**	**73.86**	**63**	⇓P		P		13 03 19.4	+11	
ATD	**Arta Tunnel**	**73.86**	**63**	*i* P		P		13 03 19.2	+11	
PBAR	**Barrancos**	**73.86**	**9**	*e*P		**P**		**13 03 08.0**	**+0.3**	
	comp=Z,580nm,1.6s									
ADJB	**Djebel Djouab**	**73.86**	**18**	P		**P**		**13 03 09.9**	**+2.0**	
AKET	**Djebel Ketaf**	**73.87**	**18**	P		**P**		**13 03 08.9**	**+0.9**	
PID	**Ribeirinha**	**74.06**	**352**	*e*P		P		13 03 23.4	+14	
	comp=Z,237nm,1.7s									
EVO	**Evora**	**74.09**	**8**	P		P		13 03 15.1	+6.0	
EVO				S		S		13 12 55.5	+15	
EVO	**Evora**	**74.09**	**8**	*e*P		**P**		**13 03 11.4**	**+2.4**	
	comp=Z,424nm,1.7s									
SDDR	**Presa de Saban**	**74.10**	**308**	IAMs_20	IAMs_20			13 40 46.1		
	comp=Z,23µm,19.0s									
SDDR	**Presa de Saban**	**74.10**	**308**	*e*P		P		13 03 14.9	+5.3	
PCAN	**Candelaria**	**74.13**	**351**	*e*P		P		13 03 26.1	+17	
	comp=Z,84nm,1.4s									
LIS	**Lisbon**	**74.15**	**7**	*e*P		**P**		**13 03 09.1**	**-0.3**	
LIS				*e*S		**S**		**13 12 42.2**	**+1.5**	
LIS				IAMs_20	IAMs_20			13 23 16.0		
	comp=E,203µm,47.2s									
LIS	**Lisbon**	**74.15**	**7**	*e*P		**P**		**13 03 09.1**	**-0.3**	
LIS				*e*S		**S**		**13 12 42.2**	**+1.5**	
LIS	**Lisbon**	**74.15**	**7**	*e*PcP		**PcP**		**13 03 24.4**	**+0.1**	
LIS				A		A		13 03 35.1		
	comp=E,587nm,1.6s									
PICO	**Pico**	**74.16**	**351**	*e*P		P		13 03 26.6	+17	
	comp=E,203nm,1.4s									
PMST	**Lisbon--Monsan**	**74.17**	**7**	*e*P		P		13 03 23.4	+14	
	comp=E,564nm,1.6s									
PSCM	**Serra do Cume**	**74.20**	**352**	*e*P		P		13 03 26.6	+17	
	comp=E,87nm,1.1s									
PMAN	**Manadas**	**74.25**	**352**	*e*P		P		13 03 27.8	+18	
	comp=E,239nm,1.2s									
CART	**Cartagena**	**74.25**	**14**	P		P		13 03 18.9	+8.9	
CART				S		S		13 12 54.2	+12	
CART	**Cartagena**	**74.25**	**14**	⇓P		P		13 03 18.6	+8.6	
CKHR	**Kef el Ahmar**	**74.27**	**19**	P		P		13 03 25.4	+15	
PAGU	**Agualva, Azore**	**74.28**	**352**	*e*P		P		13 03 27.4	+17	
	comp=E,244nm,1.3s									
PCED	**Cedros**	**74.32**	**351**	*e*P		P		13 03 26.8	+16	
	comp=E,188nm,1.4s									
ROSA	**Rosais**	**74.35**	**352**	*e*P		P		13 03 27.1	+17	
	comp=E,243nm,1.3s									
ROSA	**Rosais**	**74.35**	**352**	⇓P		P		13 03 29.0	+18	
PMAFR	**Mafra**	**74.38**	**7**	*e*P		**P**		**13 03 11.4**	**+0.7**	
	comp=E,506nm,1.8s									
ABA	**Alger-Bouzarea**	**74.38**	**17**	P		**P**		**13 03 13.5**	**+2.7**	
SET	**Setif**	**74.42**	**19**	P		P		13 03 25.0	+14	
PESTR	**Estremoz**	**74.47**	**8**	*e*P		**P**		**13 03 12.4**	**+1.1**	
	comp=E,414nm,1.9s									
PESTR	**Estremoz**	**74.47**	**8**	P		**P**		**13 03 10.8**	**-0.4**	
PESTR				IAmb		IAmb		13 03 30.3		
	comp=Z,97nm,1.0s									
PESTR	**Estremoz**	**74.47**	**8**	⇓P		P		13 03 19.2	+8.0	
PMTG	**Montargil**	**74.60**	**8**	*e*P		**P**		**13 03 12.8**	**+0.8**	
	comp=Z,359nm,1.7s									
PGRA	**Graciosa**	**74.63**	**352**	*e*P		P		13 03 25.9	+14	
	comp=Z,201nm,1.3s									
SRBC	**Serra Branca**	**74.64**	**352**	*e*P		P		13 03 30.1	+18	
	comp=Z,293nm,1.1s									
DFRA	**Djebel Bou Aff**	**74.87**	**20**	P		P		13 03 28.2	+14	
CKFL	**Kef-Lekhel**	**74.97**	**20**	P		P		13 03 28.6	+14	
PSBE	**So Bento**	**74.98**	**7**	*e*P		**P**		**13 03 16.3**	**+2.1**	
	comp=Z,703nm,1.8s									
PMRV	**Marv??o**	**75.05**	**8**	*e*P		**P**		**13 03 15.9**	**+1.3**	
	comp=Z,488nm,1.8s									
ABSA	**Djebel Ababsia**	**75.07**	**21**	P		P		13 03 27.0	+12	
KEST	**Kesra**	**75.13**	**23**	P		**P**		**13 03 12.9**	**-2.3**	
	comp=Z,18nm,1.0s,baz=245,slow=4.1,SNR=9.8									
KEST	**Kesra**	**75.13**	**23**	P		**P**		**13 03 15.3**	**+0.1**	
KEST	**Kesra**	**75.13**	**23**	P		P		13 03 26.7	+11	
	SNR=46									
KEST				P		P		13 03 26.7	+11	
	SNR=46									
KEST				S		S		13 13 01.5	+9.5	
KEST				S		S		13 13 01.5	+9.5	
PAYG	**Puerto Ayora**	**75.36**	**280**	*e*P		P		13 03 22.9	+5.9	
CMAH	**Djebel Manchou**	**75.38**	**21**	P		P		13 03 30.0	+13	
H07S1	**FLORES T-PHASE**	**75.40**	**349**	*e*P		P		13 03 33.8	+17	
PCBR	**Castelo Branco**	**75.44**	**8**	*e*P		**P**		**13 03 18.2**	**+1.4**	
	comp=Z,236nm,1.9s									
PCAS	**Casmilo, Conde**	**75.54**	**7**	*e*P		P		13 03 26.0	+8.6	
	comp=Z,411nm,1.8s									
PAB	**San Pablo**	**75.58**	**11**	P		**P**		**13 03 18.0**	**+0.3**	
PAB				pmax		pmax				
	comp=Z,136nm,1.5s									
PAB	**San Pablo**	**75.58**	**11**	P		**P**		**13 03 18.0**	**+0.3**	
PAB				IAmb		IAmb		13 03 43.9		
	comp=Z,136nm,1.4s									
PAB	**San Pablo**	**75.58**	**11**	IAMs_20	IAMs_20			13 33 11.1		
	comp=Z,31µm,19.0s									
PAB	**San Pablo**	**75.58**	**11**	⇑P		P		13 03 31.2	+13	
COI	**Coimbra**	**75.70**	**7**	*e*P		P		13 03 26.6	+8.3	
	comp=Z,301nm,1.8s									
ESDC	**Sonseca Array**	**75.76**	**11**	P		**P**		**13 03 15.3**	**-3.5**	
	comp=Z,3.9nm,1.0s,baz=187,slow=5.6,SNR=12									
ESDC				LR		LR		13 34 53.8		
	comp=Z,25µm,19.1s,baz=200,slow=34									
ESDC	**Sonseca Array**	**75.76**	**11**	P		**P**		**13 03 18.1**	**-0.7**	
ESDC				IAmb		IAmb		13 03 36.7		
	comp=Z,108nm,1.1s									
ESBB	**Sonseca Array**	**75.76**	**11**	P		**P**		**13 03 18.9**	**+0.1**	
ESBB				IAmb		IAmb		13 03 36.6		
	comp=Z,133nm,1.1s									
GRTK	**Grand Turk**	**75.85**	**310**	IAMs_20	IAMs_20			13 34 57.1		
	comp=Z,29µm,21.0s									
MTE	**Manteigas**	**75.99**	**8**	*e*P		**P**		**13 03 23.9**	**+3.8**	
	comp=Z,310nm,1.8s									
MTE	**Manteigas**	**75.99**	**8**	P		**P**		**13 03 19.7**	**-0.3**	
MTE				IAmb		IAmb		13 03 44.3		
	comp=Z,428nm,1.6s									
MTE	**Manteigas**	**75.99**	**8**	⇓P		P		13 03 27.4	+7.3	
PVIS	**Viseu**	**76.26**	**8**	*e*P		**P**		**13 03 20.5**	**-1.1**	
	comp=Z,272nm,1.8s									
UCM	**Universidad Co**	**76.49**	**11**	P		P		13 03 29.0	+6.1	
UCM				S		S		13 13 18.2	+11	
MVO	**Moncorvo**	**76.81**	**8**	*e*P		**P**		**13 03 24.4**	**-0.3**	
	comp=Z,555nm,1.7s									
PVRL	**Vila Real**	**76.84**	**8**	*e*P		P		13 03 38.9	+14	
	comp=Z,239nm,2.0s									
POLO	**Lamas de Olo**	**76.92**	**8**	*e*P		**P**		**13 03 25.5**	**+0.1**	
	comp=Z,162nm,1.8s									
WDD	**Wied Dalam**	**76.99**	**26**	IAMs_20	IAMs_20			13 33 41.1		
	comp=Z,38µm,19.0s									
HDC	**Heredia**	**77.05**	**292**	IAMs_20	IAMs_20			13 36 31.9		
	comp=Z,35µm,22.0s									
PCAB	**Cabril**	**77.23**	**7**	*e*P		**P**		**13 03 27.2**	**+0.2**	
	comp=Z,647nm,1.6s									
GTBY	**Guantanamo Bay**	**77.28**	**306**	IAMs_20	IAMs_20			13 36 45.7		
	comp=Z,31µm,21.0s									
GTBY	**Guantanamo Bay**	**77.28**	**306**	*e*P		P		13 03 19.4	-8.3	
PGAV	**Gavieira, Arco**	**77.46**	**7**	*e*P		**P**		**13 03 30.7**	**+2.4**	
	comp=Z,434nm,1.8s									
PBRG	**Braganca**	**77.47**	**8**	*e*P		**P**		**13 03 29.2**	**+0.8**	
	comp=Z,500nm,1.8s									
MAHO	**Mahon**	**77.61**	**17**	P		P		13 03 36.7	+7.6	
MAHO				S		S		13 13 31.3	+12	
MTDJ	**Mount Denham**	**77.73**	**303**	IAMs_20	IAMs_20			13 39 07.8		
	comp=Z,28µm,18.0s									
MTDJ	**Mount Denham**	**77.73**	**303**	*e*P		P		13 03 40.9	+10	
JTS	**Las Juntas de**	**77.87**	**292**	P		**P**		**13 03 29.9**	**-1.3**	
	comp=Z,3.9nm,0.3s,baz=238,slow=3.9,SNR=3.8									
JTS	**Las Juntas de**	**77.87**	**292**	IAMs_20	IAMs_20			13 37 05.6		
	comp=Z,33µm,22.0s									
JTS	**Las Juntas de**	**77.87**	**292**	*e*P		P		13 03 45.1	+14	
ESPN	**Las Esperanzas**	**78.59**	**294**	IAMs_20	IAMs_20			13 38 37.8		
	comp=Z,26µm,19.0s									
ACON	**Acoyapa**	**79.10**	**293**	IAMs_20	IAMs_20			13 37 24.4		
	comp=Z,28µm,22.0s									
CEL	**Celeste**	**79.64**	**26**	IAMs_20	IAMs_20			13 39 31.3		
	comp=Z,39µm,20.0s									
CEL	**Celeste**	**79.64**	**26**	⇓P		P		13 03 48.5	+8.0	
BOAB	**BOACO BROADBAN**	**79.78**	**293**	P		**P**		**13 03 43.8**	**+2.2**	
BOAB				IAmb		IAmb		13 04 06.9		
	comp=Z,490nm,1.6s									
CNGN	**Cerro Negro**	**80.59**	**293**	IAMs_20	IAMs_20			13 40 06.8		
	comp=Z,23µm,20.0s									
PYL	**PYLOS**	**80.75**	**31**	P		**P**		**13 03 44.4**	**-2.0**	
TIP	**Timpagrande**	**80.77**	**27**	P		**P**		**13 03 44.8**	**-1.7**	
TIP				IAmb		IAmb		13 04 01.4		
	comp=Z,304nm,1.1s									
IDI	**Anoyia**	**80.80**	**34**	P		**P**		**13 03 42.4**	**-4.3**	
	comp=Z,12nm,0.9s,baz=243,slow=5.9,SNR=7.1									
IDI				LR		LR		13 38 34.4		
	comp=Z,20µm,19.7s,baz=189,slow=35									
IDI	**Anoyia**	**80.80**	**34**	P		**P**		**13 03 45.8**	**-1.0**	
IDI				IAmb		IAmb		13 04 08.2		
	comp=Z,204nm,1.1s									
IDI				IAMs_20	IAMs_20			13 38 23.5		
	comp=Z,25µm,21.0s									
IDI	**Anoyia**	**80.80**	**34**	⇑P		**P**		**13 03 46.1**	**-0.6**	
CRIN	**San Cristobal**	**80.98**	**292**	IAMs_20	IAMs_20			13 40 19.1		
	comp=Z,32µm,21.0s									
LTHK	**Lithakia**	**81.07**	**30**	P		P		13 03 54.3	+6.3	
ITM	**Ithomi**	**81.07**	**31**	P		P		13 03 53.1	+5.0	
ITM	**Ithomi**	**81.07**	**31**	*e*P		P		13 03 57.9	+10	
ITM	**Ithomi**	**81.07**	**31**	P		**P**		**13 03 47.0**	**-1.1**	
VLMS	**Volimes, Zakyn**	**81.14**	**30**	P		P		13 03 55.9	+7.4	
PSDA	**Pessada-Kefalo**	**81.31**	**30**	P		**P**		**13 03 47.0**	**-2.3**	
VLS	**Valsamata**	**81.37**	**30**	P		P		13 04 01.9	+12	
KEF5	**Kardakata, Kep**	**81.41**	**30**	P		P		13 04 02.2	+12	
VLX	**Vlachokerasia**	**81.43**	**31**	P		**P**		**13 03 49.6**	**-0.5**	
EIL	**Elat**	**81.57**	**44**	P		**P**		**13 03 47.2**	**-3.7**	
	comp=Z,9.5nm,1.0s,baz=114,slow=15,SNR=2.9									
EIL	**Elat**	**81.57**	**44**	*e*P		P		13 04 01.0	+10	
EIL	**Elat**	**81.57**	**44**	P		**P**		**13 03 47.2**	**-3.7**	
EIL	**Elat**	**81.57**	**44**	⇓P		**P**		**13 03 50.1**	**-0.8**	
FSK	**Fiskardo**	**81.60**	**30**	P		P		13 03 56.7	+5.9	
RLS	**Riolos of Patr**	**81.63**	**30**	P		P		13 03 58.1	+7.1	
DRO	**Drossia**	**81.64**	**31**	P		**P**		**13 03 50.1**	**-1.0**	
EVGI	**Lefkada island**	**81.78**	**29**	P		P		13 03 57.1	+5.3	
HRFI	**Mount Harif**	**81.89**	**44**	*e*P		P		13 04 04.1	+11	
KLV	**Kalavryta, Ach**	**81.90**	**31**	P		P		13 04 05.0	+12	
LKD2	**Lefkada island**	**81.92**	**29**	P		P		13 04 00.3	+7.7	
SANT	**Santorini**	**81.95**	**34**	P		**P**		**13 03 50.4**	**-2.4**	
SANT				IAmb		IAmb		13 04 06.4		
	comp=Z,193nm,1.0s									
PDO	**Prodromos**	**81.97**	**30**	P		**P**		**13 03 51.2**	**-1.6**	
LAKA	**Lakka**	**81.99**	**31**	P		**P**		**13 03 52.9**	**-0.1**	
TGUH	**Tegucigalpa,Un**	**82.00**	**293**	*e*P		**P**		**13 03 53.1**	**-0.5**	
MATE	**Matera**	**82.04**	**26**	⇑P		P		13 04 05.2	+12	
EFP	**Efpalio**	**82.12**	**30**	P		**P**		**13 03 54.1**	**+0.5**	
TRIZ	**Trizonia**	**82.14**	**31**	P		**P**		**13 03 52.2**	**-1.5**	
SERG	**Sergoula**	**82.17**	**31**	P		**P**		**13 03 52.9**	**-1.0**	
LOUT	**Loutraki**	**82.20**	**31**	P		P		13 03 59.7	+5.7	
ANX	**Ano Chora**	**82.27**	**30**	P		**P**		**13 03 53.7**	**-0.8**	
INTR	**Introdacqua**	**82.31**	**23**	P		**P**		**13 03 53.8**	**-0.8**	
KEK	**Kerkira**	**82.38**	**28**	P		P		13 04 06.9	+12	
IGT	**Igoumenitsa**	**82.43**	**29**	P		**P**		**13 03 53.9**	**-1.3**	
VLY	**Voula,Athens**	**82.44**	**32**	P		**P**		**13 03 53.9**	**-1.4**	
AQU	**L'Aquila**	**82.46**	**23**	*e*P		P		13 04 06.1	+11	
AQU	**L'Aquila**	**82.46**	**23**	⇑P		P		13 04 07.9	+13	
ATH	**Athens Observa**	**82.50**	**32**	P		P		13 04 01.7	+6.1	
ATHU	**Athens Univers**	**82.53**	**32**	P		P		13 04 02.2	+6.5	
APE	**Apeiranthos**	**82.56**	**34**	P		**P**		**13 03 53.6**	**-2.4**	
APE	**Apeiranthos**	**82.56**	**34**	⇓P		**P**		**13 03 54.5**	**-1.5**	
SRN	**Sarande**	**82.60**	**28**	P		**P**		**13 03 54.0**	**-2.0**	
SOCY	**Socotra**	**82.60**	**69**	P		P		13 04 06.4	+10	
DION	**Dionisos Attik**	**82.69**	**32**	P		**P**		**13 03 55.4**	**-1.2**	
MAKR	**Makrakomi, Fth**	**82.71**	**30**	P		**P**		**13 03 55.2**	**-1.5**	
JAN	**Janina**	**82.74**	**29**	P		P		13 04 03.8	+7.0	
LKR	**Lokris**	**82.77**	**31**	P		**P**		**13 03 55.0**	**-1.9**	
AGG	**Agios Georgios**	**82.80**	**30**	P		**P**		**13 03 55.7**	**-1.5**	
AGG	**Agios Georgios**	**82.80**	**30**	*e*P		P		13 04 10.9	+14	
AGG	**Agios Georgios**	**82.80**	**30**	P		**P**		**13 03 57.0**	**-0.2**	
AGG				pmax		pmax				
	comp=Z,190nm,1.0s									
AGG	**Agios Georgios**	**82.80**	**30**	P		**P**		**13 03 57.0**	**-0.2**	
AGG				IAmb		IAmb		13 04 12.0		
	comp=Z,190nm,1.0s									
ATAL	**Atalanti**	**82.81**	**31**	P		**P**		**13 03 54.9**	**-2.3**	
NIS1	**Nisyros Isl.**	**82.93**	**35**	P		P		13 04 03.6	+5.7	
NIS1	**Nisyros Isl.**	**82.93**	**35**	*e*P		P		13 04 08.7	+11	
EREA	**Eretria**	**82.97**	**32**	P		**P**		**13 03 56.2**	**-1.9**	
ARG	**Arkhangelos**	**83.07**	**36**	P		**P**		**13 03 57.3**	**-1.3**	
ARG	**Arkhangelos**	**83.07**	**36**	⇑P		**P**		**13 03 58.4**	**-0.2**	
THL	**Klokotos Trika**	**83.13**	**30**	P		**P**		**13 03 56.6**	**-2.2**	
KPRO	**Kipourio**	**83.20**	**29**	P		**P**		**13 03 58.4**	**-0.9**	
KYMI	**Kymi, Euboea I**	**83.22**	**32**	P		**P**		**13 03 57.8**	**-1.5**	
BODT	**Bodrum**	**83.37**	**35**	P		**P**		**13 03 56.6**	**-3.5**	
MONC	**Moncucco Torin**	**83.40**	**18**	⇑P		P		13 04 13.6	+14	
NEO	**Neokhori**	**83.41**	**31**	P		P		13 04 06.8	+6.5	
XOR	**Xorichti**	**83.45**	**31**	P		**P**		**13 03 58.9**	**-1.6**	
TURN	**Turunc**	**83.58**	**36**	*e*P		P		13 04 12.0	+11	
KZN	**Kozani**	**83.66**	**29**	P		**P**		**13 04 00.1**	**-1.5**	
SMG	**Samos**	**83.68**	**34**	P		**P**		**13 03 59.6**	**-2.1**	
KSL	**Kastellorizon**	**83.72**	**37**	P		P		13 04 08.5	+6.8	
LIT	**Litokhoron**	**83.78**	**30**	P		**P**		**13 03 59.8**	**-2.4**	
LIT	**Litokhoron**	**83.78**	**30**	P		**P**		**13 04 01.2**	**-1.0**	
LIT				pmax		pmax				
	comp=Z,280nm,1.1s									
LIT	**Litokhoron**	**83.78**	**30**	P		**P**		**13 04 01.2**	**-1.0**	
RAYN	**Ar Rayn**	**83.79**	**56**	*i* P		P		13 04 09.7	+7.0	
	SNR=28									
RAYN	**Ar Rayn**	**83.79**	**56**	P		**P**		**13 04 02.0**	**-0.7**	
RAYN				pmax		pmax				
	comp=Z,370nm,1.7s									
RAYN				MLR		MLR				
	comp=Z,57µm,20.0s									
RAYN	**Ar Rayn**	**83.79**	**56**	P		**P**		**13 04 02.0**	**-0.7**	
RAYN				IAmb		IAmb		13 04 24.6		
	comp=Z,370nm,1.6s									
AKAS	**Kas**	**83.80**	**37**	*e*P		P		13 04 14.8	+12	
DALY	**Dalyan (Mula)**	**83.81**	**36**	P		P		13 04 16.1	+14	
TIR	**Tirane**	**83.81**	**28**	⇑P		P		13 04 15.9	+14	
TIR	**Tirane**	**83.81**	**28**	P		**P**		**13 04 02.5**	**+0.2**	
TIR				pmax		pmax				
	comp=Z,792nm,1.0s									
TIR	**Tirane**	**83.81**	**28**	P		**P**		**13 04 02.5**	**+0.2**	
TIR				IAMs_20	IAMs_20			13 36 42.5		
	comp=Z,36µm,22.0s									
GCAM	**G?zelcaml?**	**83.85**	**34**	P		P		13 04 16.1	+14	
CHOS	**Chios island**	**83.88**	**33**	P		**P**		**13 04 01.4**	**-1.4**	
CHOS	**Chios island**	**83.88**	**33**	*e*P		P		13 04 12.2	+9.4	
YER	**Yerkesik**	**83.89**	**35**	P		P		13 04 08.8	+6.0	
YER	**Yerkesik**	**83.89**	**35**	*e*P		**P**		**13 04 05.2**	**+2.4**	
FNA	**Florina**	**83.91**	**29**	P		**P**		**13 04 01.0**	**-1.9**	
FNA	**Florina**	**83.91**	**29**	*e*P		P		13 04 14.6	+12	
FNA	**Florina**	**83.91**	**29**	P		**P**		**13 04 02.4**	**-0.5**	
FNA				pmax		pmax				
	comp=Z,282nm,1.2s									
FNA	**Florina**	**83.91**	**29**	P		**P**		**13 04 02.4**	**-0.5**	
OHR	**Ohrid**	**83.97**	**28**	*i* P		P		13 04 17.8	+15	
URLA	**Izmir**	**84.10**	**34**	P		P		13 04 16.6	+13	
ULC	**Ulcinj**	**84.11**	**27**	⇑*i*P		P		13 04 16.9	+13	
PAIG	**Paliouri**	**84.12**	**31**	P		**P**		**13 04 01.8**	**-2.1**	
HCY	**Herceg Novi**	**84.26**	**26**	*e*P		P		13 04 16.7	+12	
HCY	**Herceg Novi**	**84.26**	**26**	⇓*i*P		P		13 04 17.6	+13	
BUM	**Brajici-Budva**	**84.28**	**26**	⇑*i*P		P		13 04 18.0	+13	
DRME	**Dracevica, Mon**	**84.29**	**27**	*e*P		P		13 04 16.7	+12	
DRME	**Dracevica, Mon**	**84.29**	**27**	⇓*i*P		P		13 04 17.5	+13	
PHP	**Peshkopia**	**84.32**	**28**	P		**P**		**13 04 02.0**	**-2.9**	
MMAI	**Mount Meron Ar**	**84.34**	**43**	P		**P**		**13 04 01.8**	**-3.5**	
	comp=Z,0.8nm,0.3s,baz=301,slow=45,SNR=1.3									
STON	**Ston**	**84.35**	**25**	*e*P		P		13 04 16.0	+11	
ELL	**Elmali**	**84.36**	**37**	*e*P		P		13 04 13.8	+8.5	
ELL	**Elmali**	**84.36**	**37**	P		**P**		**13 04 05.1**	**-0.2**	
ELL				pmax		pmax				
	comp=Z,1µm,1.5s									
ELL	**Elmali**	**84.36**	**37**	P		**P**		**13 04 05.1**	**-0.2**	
PLG	**Polygyros**	**84.40**	**30**	P		**P**		**13 04 02.9**	**-2.5**	
TREB	**Trebinje**	**84.45**	**26**	*e*P		P		13 04 13.9	+8.4	
HORT	**Hortiatis**	**84.45**	**30**	P		**P**		**13 04 04.0**	**-1.6**	
HORT	**Hortiatis**	**84.45**	**30**	*e*P		P		13 04 19.2	+14	
SIGR	**SIGRI**	**84.47**	**33**	P		**P**		**13 04 04.1**	**-1.5**	
SIGR	**SIGRI**	**84.47**	**33**	*e*P		P		13 04 19.5	+14	
GRG	**Griva**	**84.47**	**29**	P		P		13 04 12.0	+6.3	
GRG	**Griva**	**84.47**	**29**	*e*P		P		13 04 15.1	+9.4	
CEME	**Cevo**	**84.50**	**26**	⇓*i*P		P		13 04 19.1	+13	
PDG	**Podgorica**	**84.52**	**27**	⇑P		P		13 04 19.1	+13	
PDG	**Podgorica**	**84.52**	**27**	*e*P		P		13 04 18.6	+13	
PDG	**Podgorica**	**84.52**	**27**	P		**P**		**13 04 05.0**	**-0.9**	
PDG				IAmb		IAmb		13 04 20.5		
	comp=Z,147nm,1.0s									
PDG				IAMs_20	IAMs_20			13 37 52.6		
	comp=Z,30µm,22.0s									
PDG	**Podgorica**	**84.52**	**27**	⇓P		**P**		**13 04 05.2**	**-0.6**	
TTG	**Podgorica**	**84.52**	**27**	⇓*i*P		P		13 04 19.2	+13	
LEF	**Lefka**	**84.59**	**40**	⇓P		P		13 04 18.7	+12	
LEF	**Lefka**	**84.59**	**40**	*e*P		P		13 04 15.5	+9.1	
OUR	**Ouranopolis**	**84.59**	**31**	*i* P		P		13 04 20.1	+14	
BRY	**Bratogost**	**84.68**	**26**	⇓*i*P		P		13 04 19.6	+13	
PRK	**Paraskevi**	**84.68**	**33**	P		**P**		**13 04 04.8**	**-1.9**	
CSS	**Mathiatis**	**84.70**	**40**	*i* P		P		13 04 20.2	+13	
CSS	**Mathiatis**	**84.70**	**40**	IAMs_20	IAMs_20			13 40 12.7		
	comp=Z,30µm,20.0s									
CSS	**Mathiatis**	**84.70**	**40**	⇑P		P		13 04 13.1	+6.1	
NKME	**Niksic**	**84.71**	**26**	⇓*i*P		P		13 04 19.7	+13	
SOH	**Sokhos**	**84.74**	**30**	P		**P**		**13 04 05.0**	**-2.1**	
NKY	**Niksic**	**84.76**	**26**	⇓*i*P		P		13 04 20.1	+13	
KORT	**Korkueli**	**84.77**	**37**	*e*P		P		13 04 20.1	+13	
DKL	**Dikili**	**84.82**	**33**	*i* P		P		13 04 21.3	+14	
KNT

comp=Z,160nm,1.2s
VTS Vitosha 86.20 29 ⇑P P 13 04 27.5 +13
VTS Vitosha 86.20 29 P **P 13 04 14.0 -0.5**
VTS pmax pmax
comp=Z,205nm,1.3s
VTS Vitosha 86.20 29 P **P 13 04 14.0 -0.5**
VTS IAmb IAmb 13 04 35.4
comp=Z,205nm,1.3s
VTS Vitosha 86.20 29 ⇓P **P 13 04 13.2 -1.2**
CRES Cresnjev 86.22 23 *e*P P 13 04 27.0 +13
DIVS Divibare 86.24 26 *e*P P 13 04 25.3 +11
DIVS Divibare 86.24 26 P **P 13 04 14.5 0.0**
DIVS Divibare 86.24 26 ⇓P **P 13 04 13.9 -0.6**
RKY Sarkoy-Tekirda 86.26 33 P P 13 04 27.9 +13
EDC Edincik 86.28 33 *e*P P 13 04 28.0 +13
KIZK Mersin 86.28 39 P P 13 04 27.6 +13
KDZ Kurdzhali 86.29 31 *e*P P 13 04 23.9 +9.2
TVSB Tavsanli 86.29 35 *e*P P 13 04 24.5 +10
DYA Yadsworthy 86.31 9 *e*P P 13 04 29.1 +15
MOTA Moosalm 86.33 19 *i* P **P 13 04 13.3 -1.7**
comp=Z,10nm,1.1s,SNR=18
MOTA *e*P **pwP 13 04 27.0 +0.1**
comp=Z,65nm,1.2s
MOTA *e*P **PP 13 07 37.9 +1.1**
MOTA *e*S S 13 14 58.7 +10
MAR3 Marsite Statio 86.35 33 *e*P P 13 04 41.0 +26
PLD Plovdiv 86.37 30 *e*P P 13 04 28.7 +14
RETA Reutte 86.37 19 *i* P **P 13 04 15.3 +0.2**
comp=Z,10nm,1.3s,SNR=12
RETA *e*P **pwP 13 04 28.5 +1.5**
comp=Z,17nm,0.5s
RETA *e*P **PP 13 07 32.1 -4.9**
comp=Z,76nm,1.6s
MRMT Marmara Adasi 86.37 33 *e*P P 13 04 24.1 +8.9
UKOP Uzunkopru-Edir 86.38 32 *e*P P 13 04 29.4 +14
MAR4 Marsite Statio 86.39 33 *e*P P 13 04 28.6 +13
MYKA Terra Mystica 86.39 21 *i* P **P 13 04 16.0 +0.8**
comp=Z,8.5nm,1.3s
MYKA *e*P **pwP 13 04 29.2 +2.0**
comp=Z,38nm,1.0s
WTTA Wattenberg 86.40 20 *e*P **P 13 04 14.5 -0.8**
comp=Z,39nm,1.3s
WTTA *e*P **pwP 13 04 28.9 +1.6**
comp=Z,162nm,1.0s
MAR9 Marsite Statio 86.43 33 *e*P P 13 04 28.8 +13
KCTX Karacabey (Bur 86.44 34 *e*P P 13 04 22.5 +7.0
WATA Walderalm 86.45 20 *i* P **P 13 04 15.1 -0.5**
comp=Z,25nm,1.2s,SNR=17
WATA *e*P **pwP 13 04 28.1 +0.7**
comp=Z,90nm,1.1s
BOVS Bovan 86.47 28 ⇑P P 13 04 28.3 +13
KONT Konya--Tatoy 86.50 37 *e*P P 13 04 29.6 +14
BFO Black Forest 86.54 17 P **P 13 04 15.0 -0.8**
BFO pmax pmax
comp=Z,281nm,1.2s
BFO Black Forest 86.54 17 P **P 13 04 15.0 -0.8**
BFO IAmb IAmb 13 04 38.5
comp=Z,281nm,1.2s
BFO Black Forest 86.54 17 P **P 13 04 17.0 +1.2**
OBKA Obir 86.56 22 *e*P **P 13 04 18.8 +2.8**
comp=Z,11nm,1.1s,SNR=10
OBKA *e*P **pwP 13 04 29.0 +1.0**
comp=Z,50nm,0.9s
OBKA *e*S S 13 15 01.4 +11
LADK Ladik-KONYA 86.70 37 *e*P P 13 04 29.4 +12
DOK Doka 86.71 65 P P 13 04 29.0 +12
SNR=13
DOK P P 13 04 29.0 +12
SNR=13
DOK S **S 13 14 53.8 +0.6**
DOK S **S 13 14 53.8 +0.6**
KBA Koelnbreinsper 86.72 21 *i* P **P 13 04 16.7 -0.1**
comp=Z,8.1nm,1.1s,SNR=16
DMTO DMTO 86.75 66 P P 13 04 27.6 +10
DMTO P P 13 04 27.6 +10
DMTO S **S 13 14 55.4 +1.8**
DMTO S **S 13 14 55.4 +1.8**
MDNY Mudanya-Bursa 86.76 34 P P 13 04 24.9 +7.9
MERS Mersin 86.78 39 *e*P P 13 04 30.4 +13
HTL Hartland 86.79 8 *e*P P 13 04 32.0 +15
SOKA Soboth 86.86 22 *e*P **P 13 04 17.0 -0.5**
comp=Z,18nm,1.6s,SNR=24
SOKA *e*P **pwP 13 04 31.6 +2.2**
comp=Z,69nm,1.0s
SOKA *e*P **PP 13 07 39.9 -1.0**
comp=Z,68nm,1.5s
SOKA *e*S S 13 15 03.2 +10
comp=Z,2µm,0.0s
ARMT Armutlu 86.91 34 *e*P P 13 04 30.6 +13
AUBOZ BOZOYUK 86.93 35 *e*P P 13 04 30.4 +12
CIFT Cifteler, Eski 86.98 36 P P 13 04 31.9 +14
YALY Yayladag 86.98 41 *e*P P 13 04 26.1 +7.7
KIZT Kizilcal 87.00 37 *e*P P 13 04 32.3 +14
KRTS Karatas 87.00 40 *e*P P 13 04 30.7 +12
EDRB Edirne 87.01 32 P P 13 04 31.2 +13
CAVI Cavuskoy 87.07 35 *e*P P 13 04 28.7 +10
YESY Yesilyurt 87.07 38 *e*P P 13 04 32.3 +13
FRGS Fruska Gora 87.09 26 ⇑P P 13 04 31.8 +13
FRGS Fruska Gora 87.09 26 *e*P P 13 04 29.3 +11
DWPF Disney Wildern 87.10 308 P 13 04 20.6
baz=133
BORA Eskisehir 87.10 35 *e*P P 13 04 26.9 +8.1
DWPF Disney Wildern 87.10 308 P **P 13 04 20.1 +1.1**
DWPF IAmb IAmb 13 04 43.1
comp=Z,207nm,1.6s
DWPF Disney Wildern 87.10 308 IAMs_20 IAMs_20 13 42 18.4
comp=Z,29µm,22.0s
YLV Yalova 87.14 34 *e*P P 13 04 32.2 +13
SLVT Silivri 87.15 33 *e*P P 13 04 32.1 +13
STU Stuttgart 87.16 18 IAMs_20 IAMs_20 13 39 21.0
comp=Z,43µm,22.0s
PHSR Pinarhisar 87.17 32 *i* P P 13 04 26.7 +7.7
ADVT Abdulvahap 87.20 34 *e*P P 13 04 32.7 +14
BEHE Becsehely 87.22 23 *e*P P 13 04 32.2 +13
CHBY Cihanbeyli 87.26 37 *e*P P 13 04 30.9 +11
SVRH Sivrihisar-ESK 87.27 36 *e*P P 13 04 33.4 +14
AUSIV SIVRIHISAR 87.27 36 *e*P P 13 04 33.4 +14
SULT Sultanhani-AKS 87.28 38 *e*P P 13 04 30.0 +10
TAHT Tahtakopru-Hat 87.28 41 *i* P P 13 04 32.2 +13
CTKS Kestanelik-??a 87.29 33 *e*P **P 13 04 19.3 -0.3**
WLF Walferdange 87.29 15 *d*PcP **P 13 04 20.3 +1.0**
WLF *dx* x 13 04 28.8
WLF *dx* x 13 04 33.4
WLF *dx* x 13 04 41.7
WLF Walferdange 87.29 15 IAMs_20 IAMs_20 13 40 13.0
comp=Z,35µm,20.0s
SRCK Saricakaya, Es 87.31 35 *e*P P 13 04 30.7 +11
KARA Karaisali 87.35 40 *e*P P 13 04 33.2 +13
BGKT Bogazkoy 87.36 33 *e*P **P 13 04 24.5 +4.6**
DOU Dourbes 87.38 14 *d*PcP **P 13 04 20.9 +1.2**
DOU *dx* x 13 04 29.2
DOU *dx* x 13 04 33.7
DOU *dx* x 13 04 41.6
CTYL Yalikoy Yolu 87.39 33 *e*P **P 13 04 24.3 +4.3**
KAVV Kandilli-Istan 87.40 34 P **P 13 04 18.4 -1.7**
ISK Istanbul-Kandi 87.40 34 *e*P P 13 04 32.9 +13
SHAO Shalim 87.45 66 P P 13 04 28.6 +7.7
MDVR Moldovita 87.46 27 ⇑P P 13 04 33.9 +14
HRT Hereke 87.48 34 P P 13 04 30.2 +10
ARSA Arzberg 87.52 22 *i* P **P 13 04 21.2 +0.6**
comp=Z,10nm,1.1s,SNR=15
ARSA *e*P **pwP 13 04 34.7 +2.1**
comp=Z,63nm,1.0s
CEYT Ceyhan 87.53 40 P P 13 04 27.0 +6.2
KLYT Kilyos 87.54 33 *e*P P 13 04 33.8 +13
GULT Gulveren 87.56 35 *e*P P 13 04 34.6 +14
MORH Mrgy, Hungar 87.61 24 ⇓P P 13 04 34.4 +13
MORH Mrgy, Hungar 87.61 24 *e*P P 13 04 34.3 +13
BMRD Maredsous 87.61 14 *d*PcP **P 13 04 21.7 +0.9**
BMRD *dx* x 13 04 30.2
BMRD *dx* x 13 04 34.7
BMRD *dx* x 13 04 41.0
CMRD Camardi-Nigde 87.62 39 *e*P P 13 04 30.2 +8.7
KULU Kulu 87.67 37 *e*P P 13 04 33.9 +12
MOA Molln 87.68 21 *i* P **P 13 04 20.5 -0.8**
comp=Z,7.4nm,1.1s,SNR=16
MOA *e*P **pwP 13 04 35.0 +1.7**
comp=Z,36nm,0.9s
OLDB Oldbury-Upon-S 87.69 9 *e*P P 13 04 35.3 +14
RSBS Rosebush, Pemb 87.71 8 *e*P P 13 04 35.9 +15
SNF Seneffe 87.71 14 *dx* x 13 04 31.0
SNF *dx* x 13 04 35.7
SNF *dx* x 13 04 41.4

SAUV Serdivan-Sakar 87.72 34 P P 13 04 31.6 +10
SILT Sile 87.73 34 *e*P P 13 04 35.1 +13
BGES Gesves 87.75 14 *d*PcP **P 13 04 22.8 +1.2**
BGES *dx* x 13 04 29.2
BGES *dx* x 13 04 32.4
BGES *dx* x 13 04 35.6
BGES *dx* x 13 04 41.9
GULA Gulagac 87.75 38 *e*P P 13 04 33.3 +11
BANR Banloc 87.76 26 ⇓P P 13 04 35.9 +14
HERR Herculane 87.80 27 ⇓P P 13 04 35.4 +13
BCLA Clavier 87.83 15 *d*PcP **P 13 04 23.2 +1.2**
BCLA *dx* x 13 04 31.7
BCLA *dx* x 13 04 36.2
BCLA *dx* x 13 04 42.6
SERE Sereflikochisa 87.88 38 *e*P P 13 04 31.9 +9.3
BHOU Houvegnez 87.91 15 *d*PcP **P 13 04 23.2 +0.9**
BHOU *dx* x 13 04 31.6
BHOU *dx* x 13 04 41.6
MDUB Mudurnu 87.92 35 *i* P P 13 04 39.0 +16
SRE Strehaia 87.92 28 ⇓P P 13 04 35.7 +13
KOZT Kozan 87.92 40 *e*P **P 13 04 25.8 +3.1**
MCH1 Michaelchurch 87.96 9 *e*P P 13 04 30.8 +8.2
MCH1 Michaelchurch 87.96 9 ⇑P P 13 04 36.8 +14
YAYX Yaylak 87.99 38 *e*P P 13 04 33.3 +10
UCC Uccle 88.00 14 *d*PcP **P 13 04 23.2 +0.5**
UCC *dx* x 13 04 31.6
UCC *dx* x 13 04 36.9
AFSR Afar-Bala (An 88.02 37 *e*P P 13 04 30.7 +7.4
BSTI Sart Tilman 88.04 15 *dx* x 13 04 32.8
BSTI *dx* x 13 04 37.3
BSTI *dx* x 13 04 45.3
YUVA Yuva-Kibriscik 88.08 36 *i* P P 13 04 32.6 +9.0
BZS Buzias 88.13 26 ⇓P P 13 04 36.5 +13
MEM Membach 88.15 15 *dx* x 13 04 38.0
MEM *dx* x 13 04 46.5
BTNL Ternell 88.16 15 *dx* x 13 04 33.0
BTNL *dx* x 13 04 37.8
BTNL *dx* x 13 04 45.3
ANTO Ankara 88.21 37 *e*P P 13 04 33.9 +10
ANTO Ankara 88.21 37 IAMs_20 IAMs_20 13 42 18.3
comp=Z,20µm,21.0s
LOD Lodumlu 88.21 36 *e*P P 13 04 19.2 -4.9
CONA Conrad Observa 88.23 22 *e*P **P 13 04 24.8 +0.8**
comp=Z,8.0nm,1.3s,SNR=15
CONA *e*P **pwP 13 04 38.4 +2.4**
comp=Z,48nm,1.1s
BEBN Eben Emael 88.26 15 *d*PcP **P 13 04 25.4 +1.5**
BEBN *dx* x 13 04 33.2
BEBN *dx* x 13 04 38.2
BEBN *dx* x 13 04 43.9
COPA Copaceanca 88.26 29 ⇓P P 13 04 37.7 +14
GZR Gura Zlata 88.37 27 ⇓P P 13 04 38.1 +13
SLWR Sila 88.40 59 P P 13 04 35.9 +11
SLWR P P 13 04 35.9 +11
SLWR S **S 13 15 07.2 -1.9**
SLWR S **S 13 15 07.2 -1.9**
GERES GERESS Array B 88.42 20 P **P 13 04 22.4 -2.5**
comp=Z,2.0nm,0.9s,baz=216,slow=4.8,SNR=9.4
GERES PP PP 13 07 39.7 -14
comp=Z,9.9nm,1.1s,baz=186,slow=11,SNR=4.0
GERES LR LR 13 41 13.1
comp=Z,37µm,21.6s,baz=208,slow=34
GERES GERESS Array B 88.42 20 P **P 13 04 24.5 -0.4**
GAZ Gaziantep 88.42 41 *i* P P 13 04 39.9 +15
AMBH Ambrzfalva 88.44 26 ⇑P P 13 04 38.6 +14
HLM1 Long Mynd 88.49 9 *e*P P 13 04 33.4 +8.3
TRNA Turayna 88.50 58 P P 13 04 35.4 +10
TRNA S **S 13 15 06.9 -3.1**
HUMR Humele 88.50 29 ⇓P P 13 04 39.0 +14
KMRS Kahramanmaras 88.50 40 *e*P P 13 04 41.1 +16
BR131 Keskin Array S 88.51 37 P **P 13 04 24.4 -1.3**
BR131 pmax pmax
comp=Z,114nm,1.0s
BR131 Keskin Array S 88.51 37 P **P 13 04 24.4 -1.3**
BR131 IAmb IAmb 13 04 42.6
comp=Z,114nm,0.9s
BR131 Keskin Array S 88.51 37 P P 13 04 38.0 +12
SNR=24
BR131 P P 13 04 38.0 +12
SNR=24
BRTR Keskin Array B 88.51 37 P **P 13 04 22.9 -2.7**
comp=Z,3.5nm,0.9s,baz=193,slow=5.9,SNR=6.5
BRTR PP PP 13 07 44.2 -10
comp=Z,7.9nm,0.4s,baz=229,slow=10,SNR=35
BRTR LR LR 13 42 30.6
comp=Z,25µm,21.0s,baz=198,slow=35
BRTR Keskin Array B 88.51 37 *e*P P 13 04 38.7 +13
BRTR Keskin Array B 88.51 37 P **P 13 04 24.6 -1.1**
GRA1 Grafenberg Arr 88.52 18 P **P 13 04 26.1 +0.8**
GRF Grafenberg Arr 88.52 18 P **P 13 04 26.1 +0.8**
GRF MLR MLR
comp=Z,44µm,19.0s
CKRC Cesky Krumlov 88.57 21 *e*P P 13 04 32.0 +6.5
CKRC *e*S **S 13 15 13.3 +3.6**
CKRC AMS AMS 13 42 30.0
comp=Z,43µm,18.3s
KHC Kasperske Hory 88.64 20 *e*P **P 13 04 26.0 +0.1**
KHC *e*S **S 13 15 06.4 -4.0**
KHC MLR MLR
comp=Z,54µm,18.0s
KHC Kasperske Hory 88.64 20 *e*P **P 13 04 26.0 +0.1**
KHC *e*S **S 13 15 06.4 -4.0**
KHC AMS AMS 13 42 40.0
comp=Z,54µm,18.0s
KHC Kasperske Hory 88.64 20 ⇑P P 13 04 35.2 +9.3
KHC ⇑P PP 13 08 05.8 +11
SIRR Siria 88.70 26 ⇑P P 13 04 39.8 +14
LOT Lotru 88.79 28 ⇑P P 13 04 40.3 +14
LOT Lotru 88.79 28 *e*P P 13 04 37.5 +11
RST Umm Al-Ruwaisa 88.80 52 *e*P P 13 04 39.6 +13
FOEL Foel Wylfa 88.81 9 *e*P P 13 04 40.4 +14
DEV Deva 88.83 27 ⇑P P 13 04 40.5 +14
ZST Bratislava 88.85 23 *e*P P 13 04 41.3 +14
ZST pmax pmax
comp=Z,7µm,2.7s
ZST Bratislava 88.85 23 *e*P P 13 04 41.3 +14
ZST Bratislava 88.85 23 *e*S S 13 15 24.5 +12
ZST *e*SS **SS 13 21 07.3 +1.5**
SRO2 Moca 88.88 23 *e*P P 13 04 40.8 +14
SRO2 Moca 88.88 23 *e*P P 13 04 40.8 +14
QRN Al-Qurain 88.89 53 *e*P P 13 04 40.4 +13
SRO Srobarova 88.90 23 *e*P P 13 04 40.7 +14
SRO pmax pmax
comp=Z,3µm,3.0s
SRO Srobarova 88.90 23 *e*P P 13 04 40.7 +14
CWF Charnwood Fore 88.92 10 *e*P P 13 04 35.0 +8.0
SARI SarD1z-Kayseri 88.92 40 *e*P P 13 04 40.6 +13
YLL Llanberis 88.94 8 *e*P P 13 04 41.2 +14
BNN Bunyan 88.96 39 *e*P P 13 04 34.4 +6.6
YRC Rhoscolyn 89.00 8 *e*P P 13 04 39.0 +12
SHMA Al-Shehemyia 89.05 57 P P 13 04 38.4 +10
SHMA S **S 13 15 09.8 -5.4**
MODS Modra-Piesok 89.06 23 *e*P P 13 04 39.9 +12
MODS pmax pmax
comp=Z,1µm,2.3s
MODS Modra-Piesok 89.06 23 *e*P P 13 04 39.9 +12
MODS Modra-Piesok 89.06 23 *e*S **S 13 15 10.5 -3.8**
MODS *e*SS **SS 13 21 03.3 -5.7**
MODS *e*L L 13 36 27.3
WLF1 Llynfaes 89.06 8 *e*P P 13 04 42.5 +15
BSZH Besenyszg 89.10 25 ⇑P P 13 04 42.3 +14
SULR 89.13 30 ⇓P P 13 04 42.2 +14
STNC Stoke 89.14 9 *e*P P 13 04 43.1 +15
WPS Cemaes, Angles 89.16 8 *e*P P 13 04 39.8 +12
WME Myndd Eilian 89.18 8 *e*P P 13 04 41.7 +14
CANT Cankiri 89.18 37 P **P 13 04 31.0 +2.3**
WACR West Acre 89.19 11 *e*P P 13 04 37.9 +10
MIB Mutribah 89.22 52 *e*P P 13 04 41.4 +12
PBCC Pribram 89.26 20 *e*P P 13 04 41.8 +13
VOIR 89.28 29 ⇑P P 13 04 42.2 +13
YOZ Yozgat 89.29 38 *e*P P 13 04 42.2 +13
UMR Umm Al-Rimmam 89.30 52 *e*P P 13 04 41.3 +12
ICOR Ion Corvin 89.31 31 ⇑P P 13 04 42.7 +14
NKC Novy Kostel 89.33 19 *e*P P 13 04 39.4 +10
NKC Novy Kostel 89.33 19 *e*P P 13 04 39.4 +10
NKC AMS AMS 13 42 50.0
comp=Z,38µm,17.0s
TREC Trest 89.34 21 *e*P P 13 04 38.8 +10
TREC Trest 89.34 21 *e*P P 13 04 38.8 +10
TREC AMS AMS 13 41 20.0
comp=Z,60µm,20.1s
CORM Corum 89.35 37 *e*P P 13 04 42.2 +13

KRUC Moravsky 89.40 22 *e*P **P 13 04 28.6 -0.8**
KRUC *e* 13 04 42.7
KRUC Moravsky 89.40 22 *e*S **S 13 15 17.2 -0.2**
KRUC *e* 13 16 30.8
KRUC *e* 13 21 10.2
URFA Urfa 89.49 42 *e*P P 13 04 38.8 +8.6
LBWR Ladybower, Pea 89.50 10 *e*P P 13 04 38.0 +8.2
PSZ Piszkesteto 89.51 24 ⇓P P 13 04 43.3 +13
PSZ Piszkesteto 89.51 24 P **P 13 04 30.0 -0.1**
PSZ pmax pmax
comp=Z,187nm,1.0s
PSZ MLR MLR
comp=Z,36µm,19.0s
PSZ Piszkesteto 89.51 24 P **P 13 04 30.0 -0.1**
PSZ IAmb IAmb 13 04 45.9
comp=Z,187nm,1.0s
PSZ Piszkesteto 89.51 24 ⇓P P 13 04 38.4 +8.3
AMRR Amara 89.52 30 ⇑P P 13 04 43.2 +13
DRGR 89.53 27 ⇑P P 13 04 43.5 +13
Y59A Loris 89.55 313 P **P 13 04 31.6 +1.2**
Y59A IAmb IAmb 13 05 01.1
comp=Z,89nm,1.1s
DARE Darende-Malaty 89.60 40 *e*P P 13 04 41.7 +11
JAVC Velka Javorina 89.61 23 *e*P **P 13 04 31.1 +0.6**
JAVC *e* 13 04 43.8
JAVC Velka Javorina 89.61 23 *e*S **S 13 15 19.5 -0.1**
JAVC *e* 13 21 20.1
CMIG Matias Romero 89.63 291 P **P 13 04 31.0 -0.2**
comp=Z,3.6nm,0.9s,baz=121,slow=14,SNR=2.0
CMIG Matias Romero 89.63 291 P **P 13 04 31.0 -0.2**
VYHS Vyhne 89.66 23 *e*P P 13 04 43.4 +13
VYHS Vyhne 89.66 23 *e*S **S 13 15 18.4 -1.5**
VYHS *e*SS **SS 13 21 11.6 -6.1**
VYHS *e*L L 13 37 30.2
VRAC Vranov 89.68 22 P **P 13 04 28.2 -2.6**
comp=Z,1.2nm,0.4s,baz=219,slow=4.9,SNR=6.0
VRAC PP **PP 13 08 01.4 -2.0**
comp=Z,13nm,1.1s,baz=237,slow=6.9,SNR=2.4
VRAC Vranov 89.68 22 ⇑P P 13 04 44.8 +14
VRAC Vranov 89.68 22 *e*P **P 13 04 30.0 -0.7**
VRAC *e* 13 04 44.0
VRAC Vranov 89.68 22 *e*S **S 13 15 20.6 +0.6**
VRAC *e* 13 16 33.0
VRAC *e* 13 21 11.1
VRAC Vranov 89.68 22 P **P 13 04 28.2 -2.6**
MLR Muntele Rosu 89.68 29 P **P 13 04 28.2 -2.8**
comp=Z,1.5nm,0.5s,baz=183,slow=8.0,SNR=4.9
MLR LR LR 13 42 08.9
comp=Z,28µm,21.6s,baz=211,slow=34
MLR Muntele Rosu 89.68 29 ⇓P P 13 04 44.1 +13
MLR Muntele Rosu 89.68 29 P **P 13 04 30.8 -0.2**
MLR IAMs_20 IAMs_20 13 44 21.5
comp=Z,23µm,20.0s
PRU Pruhonice 89.69 20 *e*P P 13 04 37.4 +6.7
PRU *e*S **S 13 15 17.6 -2.4**
PRU MLR MLR
comp=Z,67µm,21.4s
PRU Pruhonice 89.69 20 *e*P P 13 04 37.4 +6.7
PRU *e*S **S 13 15 17.6 -2.4**
PRU AMS AMS 13 41 20.0
comp=Z,67µm,21.4s
KURC Kurucasile-Bar 89.72 35 *i* P **P 13 04 35.3 +4.3**
NHSC New Hope 89.72 312 P 13 04 37.3
baz=134
PRA Prague 89.73 20 *e*P P 13 04 38.3 +7.4
PRA *e*S **S 13 15 16.8 -3.6**
PRA MLR MLR
comp=Z,57µm,21.0s
PRA Prague 89.73 20 *e*P P 13 04 38.3 +7.4
PRA *e*S **S 13 15 16.8 -3.6**
PRA AMS AMS 13 41 20.0
comp=Z,57µm,21.0s
LTVH Ltavrtes, Hu 89.75 26 ⇓P P 13 04 44.4 +13
LMK Market Rasen 89.76 10 *e*P P 13 04 45.3 +14
CNNC Cliffs of the 89.85 315 P 13 04 37.9
baz=135
TIRR Tirgusor 89.85 31 ⇓P P 13 04 45.0 +13
TIRR Tirgusor 89.85 31 ⇓P P 13 04 45.0 +13
TIRR Tirgusor 89.85 31 ⇓P P 13 04 44.9 +13
CNNC Cliffs of the 89.85 315 IAMs_20 IAMs_20 13 38 21.9
comp=Z,25µm,21.0s
DOPR Dopca 89.85 29 ⇑P P 13 04 45.8 +14
MALT Malatya 89.91 41 *e*P P 13 04 46.9 +15
IOMK Kirk Michael 90.00 8 *e*P P 13 04 47.0 +15
UMZA Um Al Zommool 90.01 62 P P 13 04 44.1 +11
UMZA P P 13 04 44.1 +11
UMZA S **S 13 15 16.8 -7.5**
UMZA S **S 13 15 16.8 -7.5**
DQM DQM 90.04 66 P P 13 04 44.6 +11
SNR=16
DQM P P 13 04 44.6 +11
SNR=16
DQM S **S 13 15 19.0 -5.7**
DQM S **S 13 15 19.0 -5.7**
TPGR Topolog 90.17 31 ⇓P P 13 04 46.1 +13
PVCC Panska Ves 90.18 20 *e*P P 13 04 40.8 +7.8
PVCC MLR MLR
comp=Z,40µm,20.7s
PVCC Panska Ves 90.18 20 *e*P P 13 04 40.8 +7.8
PVCC AMS AMS 13 41 20.0
comp=Z,40µm,20.7s
KECS Kecovo 90.20 24 *e*P P 13 04 47.4 +14
PLOR Plostina 90.25 29 ⇑P P 13 04 47.5 +14
VRI Vrincioaia 90.30 29 ⇑P P 13 04 47.9 +14
VRI Vrincioaia 90.30 29 *e*P P 13 04 46.9 +13
CFR Carcaliu 90.31 31 ⇑P P 13 04 47.4 +14
BRG Berggiesshubel 90.32 19 *e*P **P 13 04 34.6 +1.0**
BRG Amp 13 04 39.1
comp=Z,8.7nm,1.2s
BRG *ex* x 13 04 47.2
BRG Amp 13 04 52.5
comp=Z,99nm,1.3s
BRG *ex* x 13 04 54.7
BRG Amp 13 04 57.3
comp=Z,789nm,2.1s
BRG PP PP 13 08 19.2 +11
BRG Amp 13 08 28.6
comp=Z,246nm,1.8s
BRG Berggiesshubel 90.32 19 SS SS 13 21 36.0 +9.0
BRG Amp 13 42 36.0
comp=N,39nm,19.2s
BRG Amp 13 42 41.0
comp=E,23nm,18.3s
BRG Amp 13 42 42.0
comp=Z,51nm,18.3s
SVSK Karacayir 90.35 39 *e*P P 13 04 47.5 +13
MORC Moravsky Berou 90.38 22 ⇓P P 13 04 47.3 +13
MORC Moravsky Berou 90.38 22 *e*P **P 13 04 33.7 -0.3**
MORC *e* 13 04 47.3
MORC Moravsky Berou 90.38 22 *e*S **S 13 15 25.8 -0.8**
MORC *e* 13 16 42.6
MORC *e* 13 21 25.3
MORC Moravsky Berou 90.38 22 P **P 13 04 33.9 -0.1**
MORC pmax pmax
comp=Z,113nm,1.2s
MORC Moravsky Berou 90.38 22 P **P 13 04 33.9 -0.1**
MORC IAmb IAmb 13 04 55.6
comp=Z,113nm,1.2s
MORC Moravsky Berou 90.38 22 ⇑P **P 13 04 34.6 +0.6**
ARCR ARCALIA 90.39 27 ⇑P P 13 04 48.0 +14
MAZI Mazidag 90.39 43 *e*P P 13 04 48.3 +14
BZK Bozkurt 90.40 36 *e*P **P 13 04 33.7 -0.5**
KRLC Kraliky 90.41 21 *e*P P 13 04 41.6 +7.4
KRLC MLR MLR
comp=Z,59µm,21.2s
KRLC Kraliky 90.41 21 *e*P P 13 04 41.6 +7.4
KRLC *e*PP PP 13 08 20.8 +11
KRLC AMS AMS 13 41 40.0
comp=Z,59µm,21.2s
TOKT Tokat 90.42 38 *e*P P 13 04 42.1 +7.6
SVRC Sivrice-ELAZID 90.43 41 *e*P P 13 04 46.0 +11
LANS Liptovska Anna 90.44 23 *e*P P 13 04 48.6 +14
CLL Collm 90.46 19 *e*P **P 13 04 35.0 +0.7**
comp=Z,841nm,1.9s
CLL *i* P(2) 13 04 47.8
comp=Z,139nm,1.1s
CLL *i* Pmax 13 04 56.9
comp=Z,841nm,1.9s
CLL *e*PP **PP 13 08 11.0 +1.4**
CLL *e* 13 08 20.0
CLL *e* 13 08 28.0
CLL *e*PPPP 13 11 42.0
CLL *e*SKSac **SKSac 13 15 00.0 -3.3**

CLL					*e*S	**S**	**13 15 28.0**	**+0.9**		
CLL					*e*PS	**PS**	**13 16 36.0**	**-1.8**		
CLL					*e*PPS	PPS	13 17 18.0			
CLL					*e*SS	**SS**	**13 21 37.0**	**+7.9**		
CLL					*e*SSS	SSS	13 25 06.0			
CLL					*e*SSSS		13 28 12.0			
CLL					Lm	MLR	13 43 00.0			
	comp=N,24µm,18.7s									
CLL					Lm	MLR	13 43 00.0			
	comp=E,23µm,18.1s									
CLL					Lm	MLR	13 43 00.0			
	comp=Z,38µm,18.0s									
CLL	**Collm**	**90.46**	**19**	*e*P	**P**	**13 04 35.0**	**+0.7**			
CLL				*e*		13 15 00.0				
CLL				*e*S	**S**	**13 15 28.0**	**+0.9**			
CLL				pmax	pmax					
	comp=Z,841nm,1.9s									
CLL				MLR	MLR					
	comp=Z,38µm,18.0s									
CLL	**Collm**	**90.46**	**19**	P	**P**	**13 04 34.5**	**+0.3**			
CLL				IAmb	IAmb	13 04 58.9				
	comp=Z,244nm,1.4s									
DPC	**Dobruska-Polom**	**90.52**	**21**	*e*P	P	13 04 42.4	+7.7			
DPC				*e*PP	PP	13 08 21.6	+11			
DPC				AMS	AMS	13 40 40.0				
	comp=E,65µm,23.1s									
UPC	**Upice**	**90.57**	**21**	*e*P	P	13 04 42.2	+7.4			
UPC				*e*S	**S**	**13 15 21.0**	**-7.2**			
UPC				MLR	MLR					
	comp=Z,82µm,23.2s									
UPC	**Upice**	**90.57**	**21**	*e*P	P	13 04 42.2	+7.4			
UPC				*e*S	**S**	**13 15 21.0**	**-7.2**			
UPC				AMS	AMS	13 40 40.0				
	comp=Z,82µm,23.2s									
DYBB	**Diyarbakir**	**90.58**	**42**	*e*P	P	13 04 44.7	+9.4			
OKC	**Ostrava-Krasne**	**90.62**	**22**	*e*P	P	13 04 44.8	+10			
OKC				*e*S	**S**	**13 15 21.9**	**-6.8**			
OKC				MLR	MLR					
	comp=Z,41µm,19.9s									
OKC	**Ostrava-Krasne**	**90.62**	**22**	*e*P	P	13 04 44.8	+10			
OKC				*e*S	**S**	**13 15 21.9**	**-6.8**			
OKC				AMS	AMS	13 42 20.0				
	comp=Z,41µm,19.9s									
CHVC	**Chvalec**	**90.66**	**21**	*e*P	P	13 04 45.7	+10			
CHVC				AMS	AMS	13 40 40.0				
	comp=Z,78µm,23.7s									
OSTC	**Ostas**	**90.67**	**21**	*e*P	P	13 04 42.9	+7.6			
OSTC				AMS	AMS	13 40 50.0				
	comp=Z,79µm,23.5s									
TIGA	**Tifton**	**90.72**	**309**	P		13 04 37.6				
	baz=132									
TIGA				S		13 15 44.2				
	baz=132									
KVT	**Kavak**	**90.74**	**38**	*e*P	P	13 04 49.5	+14			
DIKM	**Dikmen**	**90.77**	**37**	⇑P	P	13 04 48.8	+13			
DIKM	**Dikmen**	**90.77**	**37**	P	P	13 04 41.9	+5.9			
TESR	**Tescani**	**90.80**	**29**	⇓P	P	13 04 50.2	+14			
M64A	**Tiverton**	**90.86**	**323**	P		13 04 37.4				
	baz=139									
M64A				S		13 15 44.8				
	baz=139									
EDMD	**Edmundbyers**	**90.87**	**9**	*e*P	P	13 04 50.8	+15			
CRVS	**Cervenica-Dubn**	**90.89**	**25**	*e*P	P	13 04 49.7	+13			
CRVS	**Cervenica-Dubn**	**90.89**	**25**	*e*S	S	13 15 43.2	+12			
CRVS				*e*SS	**SS**	**13 21 33.4**	**-2.0**			
CRVS				*e*L	L	13 36 31.2				
BIZ	**Bicaz**	**90.94**	**28**	⇓P	P	13 04 49.4	+13			
NIE	**Niedzica**	**90.94**	**24**	*e*P	P	13 04 50.3	+14			
NIE				*e*S	S	13 15 21.6	-10			
NIE				*e*SS	**SS**	**13 21 35.4**	**-0.8**			
NIE				*e*L	L	13 37 58.3				
	comp=Z,35µm,30.9s									
UZH	**Uzhgorod**	**90.95**	**25**	*e*P	**P**	**13 04 40.0**	**+3.4**			
UZH				*e*		13 15 11.8				
UZH				*e*S	**S**	**13 15 37.3**	**+5.6**			
UZH				*e*		13 16 36.6				
FLTG	**Flechtingen**	**90.95**	**17**	P	P	13 04 50.5	+14			
V58A	**Windy Hill, Pi**	**90.95**	**315**	P	**P**	**13 04 36.7**	**-0.2**			
V58A				IAmb	IAmb	13 05 03.9				
	comp=Z,66nm,1.2s									
L64A	**Middleborough**	**90.97**	**323**	P		13 04 44.8				
	baz=139									
L64A				S		13 15 44.5				
	baz=139									
MHTO	**MHTO**	**91.01**	**65**	P	P	13 04 47.7	+10			
	SNR=16									
MHTO				P	P	13 04 47.7	+10			
	SNR=16									
MHTO				S	**S**	**13 15 28.8**	**-4.7**			
MHTO				S	**S**	**13 15 28.8**	**-4.7**			
Q61A	**Milford**	**91.01**	**319**	S		13 15 47.3				
	baz=136									
SNOP	**Sinop**	**91.03**	**37**	*i* P	P	13 04 46.5	+9.3			
BURAR	**Bucovina Array**	**91.15**	**28**	P	**P**	**13 04 37.9**	**+0.2**			
BURAR				IAmb	IAmb	13 05 01.2				
	comp=Z,116nm,1.2s									
ESK	**Eskdalemuir**	**91.19**	**8**	IAMs_20	IAMs_20	13 44 36.8				
	comp=Z,29µm,20.0s									
ESK	**Eskdalemuir**	**91.19**	**8**	⇓P	P	13 04 53.6	+16			
KOLS	**Kolonicke sedl**	**91.20**	**25**	*e*P	P	13 04 51.0	+13			
KOLS				*e*SS	SS	13 21 45.5	+5.6			
STHS	**Stebnicka Huta**	**91.26**	**24**	*e*P	P	13 04 51.9	+14			
ALNE	**Al Ain**	**91.27**	**61**	*i* P	P	13 04 47.8	+9.0			
	SNR=18									
ALNE	**Al Ain**	**91.27**	**61**	P	P	13 04 51.3	+13			
	SNR=23									
ALNE				P	P	13 04 51.3	+13			
	SNR=23									
ALNE				S	S	13 15 15.9	-20			
ALNE				S	S	13 15 15.9	-20			
L63A	**North Scituate**	**91.30**	**323**	P		13 04 42.9				
	baz=139									
L63A				S		13 15 48.6				
	baz=139									
SVAN	**Silvan-Diyarba**	**91.30**	**43**	*e*P	P	13 04 52.9	+14			
ASUD	**Al Ashush, Dub**	**91.32**	**61**	*i* P	P	13 04 48.9	+10			
	SNR=8.2									
ASUD	**Al Ashush, Dub**	**91.32**	**61**	P	P	13 04 50.7	+12			
	SNR=11									
ASUD				P	P	13 04 50.7	+12			
	SNR=11									
ASUD				S	S	13 15 26.4	-10			
ASUD				S	S	13 15 26.4	-10			
ARQ	**Araqi**	**91.38**	**62**	P	P	13 04 50.7	+11			
	SNR=27									
ARQ				P	P	13 04 50.7	+11			
	SNR=27									
ARQ				S	S	13 15 19.9	-17			
ARQ				S	S	13 15 19.9	-17			
OJC	**Ojcow**	**91.48**	**23**	*e*P	P	13 04 52.2	+13			
OJC				*e*S	S	13 15 27.6	-8.9			
OJC				*e*SS	**SS**	**13 21 44.9**	**+1.1**			
OJC				*e*L	L	13 37 41.5				
	comp=Z,57µm,30.2s									
OJC	**Ojcow**	**91.48**	**23**	IAMs_20	IAMs_20	13 42 36.2				
	comp=Z,36µm,21.0s									
OJC	**Ojcow**	**91.48**	**23**	⇑P	P	13 04 47.7	+8.6			
BSY	**Bisya**	**91.51**	**63**	P	P	13 04 48.6	+8.7			
	SNR=29									
BSY				P	P	13 04 48.6	+8.7			
	SNR=29									
BSY				S	**S**	**13 15 30.9**	**-7.2**			
BSY				S	**S**	**13 15 30.9**	**-7.2**			
H66A	**Whiting**	**91.53**	**327**	P		13 04 44.8				
	baz=141									
H66A				S		13 15 48.7				
	baz=141									
EMMW	**East Machias**	**91.53**	**327**	IAMs_20	IAMs_20	13 41 41.6				
	comp=Z,16µm,19.0s									
SIRT	**Sirnak**	**91.54**	**44**	*e*P	**P**	**13 04 44.3**	**+4.5**			
FAQ	**Al Faqa, Dubai**	**91.58**	**61**	*i* P	P	13 04 47.8	+7.6			
	SNR=20									
FAQ	**Al Faqa, Dubai**	**91.58**	**61**	P	P	13 04 51.6	+11			
	SNR=17									
FAQ				P	P	13 04 51.6	+11			
	SNR=17									
FAQ				S	S	13 15 21.4	-17			
FAQ				S	S	13 15 21.4	-17			
BNGB	**Bingl**	**91.62**	**42**	*e*P	P	13 04 47.8	+7.6			
CBN	**Corbin Frederi**	**91.65**	**317**	P		13 04 47.9				
	baz=135									
RUE	**Ruedersdorf**	**91.73**	**19**	⇑P	P	13 04 53.4	+13			
HRV	**Adam Dziewonsk**	**91.75**	**323**	P		13 04 45.0				
	baz=139									
HRV				S		13 15 51.5				
	baz=139									
NAZ	**Nazwa, Dubai**	**91.78**	**61**	*i* P	P	13 04 51.8	+11			
	SNR=6.7									
NAZ	**Nazwa, Dubai**	**91.78**	**61**	P	P	13 04 52.7	+12			
	SNR=13									
NAZ				P	P	13 04 52.7	+12			
	SNR=13									
NAZ				S	S	13 15 25.6	-15			
NAZ				S	S	13 15 25.6	-15			
KMSC	**Kings Mountain**	**91.81**	**313**	P		13 04 44.4				
	baz=133									
KMSC				S		13 15 52.7				
	baz=133									
PAL	**Palisades**	**91.81**	**321**	P		13 04 42.7				
	baz=137									
PAL				S		13 15 51.8				
	baz=137									
P60A	**Greenville**	**91.85**	**319**	P		13 04 44.6				
	baz=136									
P60A				S		13 15 53.7				
	baz=136									
P60A	**Greenville**	**91.85**	**319**	IAMs_20	IAMs_20	13 43 04.4				
	comp=Z,18µm,21.0s									
YEDI	**Yedisu-Bingol**	**91.86**	**41**	*i* P	P	13 04 47.4	+6.1			
H65A	**Eastbrook**	**91.87**	**327**	P		13 04 45.5				
	baz=141									
H65A				S		13 15 55.5				
	baz=141									
K63A	**Dunstable**	**91.88**	**324**	P		13 04 44.7				
	baz=139									
K63A				S		13 15 54.7				
	baz=139									
ASHO	**Ashiyiah**	**91.88**	**61**	*i* P	P	13 04 52.3	+11			
	SNR=21									
ASHO	**Ashiyiah**	**91.88**	**61**	P	P	13 04 52.9	+11			
	SNR=17									
ASHO				P	P	13 04 52.9	+11			
	SNR=17									
ASHO				S	S	13 15 27.1	-14			
ASHO				S	S	13 15 27.1	-14			
SOHO	**SOHO**	**91.88**	**62**	*i* P	P	13 04 52.4	+11			
	SNR=9.8									
SOHO	**SOHO**	**91.88**	**62**	P	P	13 04 52.4	+11			
SOHO				P	P	13 04 52.4	+11			
SOHO				S	S	13 15 28.0	-13			
SOHO				S	S	13 15 28.0	-13			
I64A	**Boothbay**	**91.91**	**325**	P		13 04 44.0				
	baz=140									
I64A				S		13 15 54.0				
	baz=140									
JMDO	**Jabal Madar**	**91.94**	**64**	P	P	13 04 54.0	+12			
	SNR=5.9									
JMDO				P	P	13 04 54.0	+12			
	SNR=5.9									
JMDO				S	S	13 15 25.1	-17			
JMDO				S	S	13 15 25.1	-17			
GOGA	**Godfrey**	**91.95**	**310**	P		13 04 48.5				
	baz=132									
GOGA				S		13 15 54.2				
	baz=132									
GOGA	**Godfrey**	**91.95**	**310**	IAMs_20	IAMs_20	13 44 12.5				
	comp=Z,21µm,20.0s									
G65A	**Princeton**	**91.96**	**327**	P		13 04 47.6				
	baz=141									
G65A				S		13 15 55.0				
	baz=141									
G65A	**Princeton**	**91.96**	**327**	IAMs_20	IAMs_20	13 42 48.0				
	comp=Z,20µm,20.0s									
ESPY	**Espiye-Giresun**	**91.98**	**39**	*e*P	P	13 04 49.1	+7.5			
MILM	**Milestii Mici**	**92.00**	**30**	⇑P	P	13 04 55.2	+14			
HATD	**Hatta, Dubai**	**92.02**	**61**	*i* P	P	13 04 52.8	+11			
	SNR=8.5									
HATD	**Hatta, Dubai**	**92.02**	**61**	P	P	13 04 54.6	+12			
	SNR=13									
HATD				P	P	13 04 54.6	+12			
	SNR=13									
HATD				S	S	13 15 26.5	-16			
HATD				S	S	13 15 26.5	-16			
CUKT	**Cukurca**	**92.02**	**45**	*e*P	**P**	**13 04 46.0**	**+3.9**			
KARO	**Karliova-Bingo**	**92.05**	**42**	*e*P	P	13 04 51.1	+8.9			
GURO	**Guroymak-BITLI**	**92.05**	**43**	*e*P	P	13 04 54.6	+12			
GURO	**Guroymak-BITLI**	**92.05**	**43**	P	**P**	**13 04 42.2**	**+0.1**			
KIS	**Kishinev**	**92.06**	**30**	*e*P	P	13 04 54.7	+13			
	comp=Z,900nm,4.0s									
KIS	**Kishinev**	**92.06**	**30**	*e*PP	PP	13 08 28.9	+6.5			
KIS	**Kishinev**	**92.06**	**30**	*e*P	P	13 04 54.7	+13			
KIS				*e*		13 08 28.9				
KIS				*e*PS	**PS**	**13 16 52.0**	**-3.8**			
KIS				*e*SS	SS	13 21 50.0	-2.3			
KIS				pmax	pmax					
	comp=Z,900nm,4.0s									
KIS				MLR	MLR					
	comp=Z,7µm,20.0s									
J63A	**Strafford**	**92.10**	**324**	P		13 04 48.3				
	baz=139									
J63A				S		13 15 54.9				
	baz=139									
HOQ	**Hoqain**	**92.10**	**63**	P	P	13 04 53.4	+11			
	SNR=32									
HOQ				P	P	13 04 53.4	+11			
	SNR=32									
HOQ				S	S	13 15 28.0	-15			
HOQ				S	S	13 15 28.0	-15			
UOSS	**Minazif**	**92.14**	**61**	*i* P	P	13 04 51.0	+8.2			
	SNR=11									
UOSS	**Minazif**	**92.14**	**61**	P	P	13 04 55.0	+12			
UOSS				P	P	13 04 55.0	+12			
UOSS				S	S	13 15 28.6	-15			
UOSS				S	S	13 15 28.6	-15			
UOSS	**Minazif**	**92.14**	**61**	⇓P	P	13 04 52.8	+10			
VRTB	**Varto-Mus**	**92.16**	**42**	*e*P	P	13 04 53.7	+11			
INVG	**Invergeldie, C**	**92.19**	**8**	*e*P	P	13 04 55.4	+13			
K62A	**Royalston**	**92.20**	**323**	P		13 04 47.0				
	baz=138									
K62A				S		13 15 57.9				
	baz=138									
K62A	**Royalston**	**92.20**	**323**	IAMs_20	IAMs_20	13 40 40.9				
	comp=Z,18µm,22.0s									
L61B	**Northampton**	**92.26**	**323**	P		13 04 47.3				
	baz=138									
L61B				S		13 15 55.6				
	baz=138									
H64A	**Troy**	**92.27**	**326**	P		13 04 46.5				
	baz=140									
H64A				S		13 15 59.1				
	baz=140									
SMDO	**Samad**	**92.32**	**63**	P	P	13 04 54.5	+11			
	SNR=17									
SMDO				P	P	13 04 54.5	+11			
	SNR=17									
MSFE	**Esma-Masafi**	**92.36**	**60**	*i* P	P	13 04 54.3	+10			
	SNR=7.9									
WVL	**Waterville**	**92.42**	**326**	IAMs_20	IAMs_20	13 40 57.3				
	comp=Z,20µm,20.0s									
J62A	**Henniker**	**92.42**	**324**	P		13 04 50.6				
	baz=138									
J62A				S		13 15 59.7				
	baz=138									
AKDM	**Akdamar-Van**	**92.42**	**43**	*e*P	P	13 04 55.9	+12			
MDH	**Madha**	**92.43**	**61**	*i* P	P	13 04 53.0	+8.9			
	SNR=5.2									
I63A	**Otisfield**	**92.45**	**325**	P		13 04 49.0				
	baz=139									
I63A				S		13 15 58.2				
	baz=139									
I63A	**Otisfield**	**92.45**	**325**	IAMs_20	IAMs_20	13 41 18.5				
	comp=Z,19µm,21.0s									
G64A	**Maxfield**	**92.53**	**327**	P		13 04 48.5				
	baz=140									
G64A				S		13 16 00.2				
	baz=140									
LVV	**L'vov**	**92.56**	**26**	*e*P	P	13 04 56.5	+12			
LVV				*e*SS	SS	13 22 04.0	+4.6			
LVV				pmax	pmax					
	comp=Z,230nm,1.3s									
KTUT	**Trabzon**	**92.57**	**40**	⇑P	P	13 04 57.9	+14			
KTUT	**Trabzon**	**92.57**	**40**	*e*P	P	13 04 55.9	+12			
BIDO	**Bidbid**	**92.66**	**63**	P	P	13 04 55.9	+11			
	SNR=15									
BIDO				P	P	13 04 55.9	+11			
	SNR=15									
H63A	**New Sharon**	**92.66**	**326**	P		13 04 47.4				
	baz=140									
H63A				S		13 15 60.0				
	baz=140									
I62A	**Tamworth**	**92.67**	**324**	P		13 04 49.2				
	baz=139									
I62A				S		13 16 00.9				
	baz=139									
I62A	**Tamworth**	**92.68**	**324**	IAMs_20	IAMs_20	13 41 45.1				
	comp=Z,17µm,21.0s									
BLA	**Blacksburg**	**92.69**	**315**	P		13 04 51.8				
	baz=133									
BLA				S		13 16 01.0				
	baz=133									
BLA	**Blacksburg**	**92.69**	**315**	IAMs_20	IAMs_20	13 39 47.0				
	comp=Z,21µm,21.0s									
K61A	**Williamstown**	**92.72**	**323**	P		13 04 52.8				
	baz=138									
K61A				S		13 15 59.4				
	baz=138									
N59A	**State Game Lan**	**92.72**	**320**	P		13 04 51.1				
	baz=136									
N59A				S		13 16 02.0				
	baz=136									
WBK	**Wadi Bani Khal**	**92.73**	**64**	P	P	13 04 57.7	+12			
	SNR=9.9									
WBK				P	P	13 04 57.7	+12			
	SNR=9.9									
SIM	**Simferopol'**	**92.74**	**34**	P	P	13 04 54.7	+10			
SIM				*e*S	**S**	**13 15 54.8**	**+6.7**			
SIM				*e*SS	SS	13 22 16.2	+14			
SIM				pmax	pmax					
	comp=Z,57nm,1.2s									
SIM				MLR	MLR					
	comp=Z,8µm,21.0s									
MLAZ	**Malazgirt-MUS**	**92.75**	**43**	*e*P	P	13 04 50.9	+5.4			
JLN	**Jalan Bani Buh**	**92.78**	**65**	P	P	13 04 58.8	+13			
	SNR=16									
JLN				P	P	13 04 58.8	+13			
	SNR=16									
SHME	**Shamm**	**92.78**	**60**	*i* P	P	13 04 57.4	+12			
	SNR=6.4									
BRAL	**Brewton**	**92.78**	**307**	P		13 04 52.3				
	baz=130									
BRAL	**Brewton**	**92.78**	**307**	IAMs_20	IAMs_20	13 44 20.0				
	comp=Z,34µm,22.0s									
PKME	**Peaks-Kenny Pk**	**92.78**	**326**	P		13 04 48.8				
	baz=140									
PKME				S		13 16 00.5				
	baz=140									
PKME	**Peaks-Kenny Pk**	**92.78**	**326**	IAMs_20	IAMs_20	13 40 49.9				
	comp=Z,18µm,21.0s									
SORM	**Soroca**	**92.79**	**29**	⇑P	P	13 04 58.5	+13			
BANOM	**Banah**	**92.81**	**60**	P	P	13 04 58.3	+12			
G63A	**Kingsbury**	**92.82**	**326**	P		13 04 49.0				
	baz=140									
G63A				S		13 16 02.4				
	baz=140									
F64A	**Sherman**	**92.82**	**327**	P		13 04 50.7				
	baz=141									
F64A				S		13 15 59.9				
	baz=141									
F64A	**Sherman**	**92.83**	**327**	IAMs_20	IAMs_20	13 43 12.8				
	comp=Z,19µm,21.0s									
VANB	**Van**	**92.84**	**43**	*e*P	P	13 04 57.5	+12			
WSAR	**Wadi Sarin**	**92.86**	**64**	LR	LR	13 45 00.3				
	comp=Z,27µm,18.2s,baz=224,slow=35									
WSAR	**Wadi Sarin**	**92.86**	**64**	P	P	13 04 57.1	+11			
J61A	**Chester**	**92.87**	**323**	P		13 04 50.9				
	baz=138									
J61A				S		13 16 00.1				
	baz=138									
KOPR	**Koprukoy-ERZUR**	**92.97**	**42**	*e*P	P	13 05 01.1	+15			
E64A	**Bridgewater**	**93.03**	**328**	P		13 04 49.9				
	baz=141									
E64A				S		13 16 00.8				
	baz=141									
F63A	**Nahmakanta, Br**	**93.03**	**327**	P		13 04 51.7				
	baz=140									
F63A				S		13 16 02.6				
	baz=140									
H62A	**Milan**	**93.12**	**325**	P		13 04 54.7				
	baz=139									
H62A				S		13 16 06.4				
	baz=139									
H62A	**Milan**	**93.12**	**325**	IAMs_20	IAMs_20	13 41 48.1				
	comp=Z,23µm,21.0s									
I61A	**Oroboro, Fairl**	**93.14**	**324**	P		13 04 52.2				
	baz=138									
I61A				S		13 16 03.0				
	baz=138									
CHOM	**Cayeli-Rize**	**93.17**	**40**	*e*P	P	13 04 57.0	+10			
J60A	**Lant Hill Farm**	**93.22**	**323**	P		13 04 54.3				
	baz=137									
J60A				S		13 16 06.8				
	baz=137									
LBNH	**Lisbon**	**93.23**	**324**	P		13 04 54.3				
	baz=138									
LBNH				S		13 16 06.0				
	baz=138									
E63A	**Oxbow**	**93.29**	**328**	P		13 04 52.8				
	baz=140									
E63A				S		13 16 02.8				
	baz=140									
E63A	**Oxbow**	**93.29**	**328**	IAMs_20	IAMs_20	13 42 29.0				
	comp=Z,17µm,19.0s									
AGRB	**Hanur-Agry**	**93.30**	**43**	*e*P	P	13 05 02.3	+14			
PQI	**Presque Isle**	**93.31**	**328**	IAMs_20	IAMs_20	13 43 31.4				
	comp=Z,19µm,20.0s									
G62A	**West of Eustis**	**93.31**	**326**	P		13 04 54.7				
	baz=139									
G62A				S		13 16 04.7				
	baz=139									
G62A	**West of Eustis**	**93.31**	**326**	IAMs_20	IAMs_20	13 41 35.1				
	comp=Z,23µm,20.0s									
H61A	**Lyndonville**	**93.45**	**325**	P		13 04 55.3				
	baz=138									
H61A				S		13 16 07.9				
	baz=138									
RGN	**Rugen**	**93.49**	**18**	IAMs_20	IAMs_20	13 43 25.3				
	comp=Z,35µm,22.0s									
CLDR	**Caldiran**	**93.51**	**43**	*e*P	P	13 05 00.5	+11			
L58A	**Harry Jones Me**	**93.57**	**321**	P		13 04 55.0				
	baz=136									
L58A				S		13 16 07.6				
	baz=136									
F62A	**Pittston Farm,**	**93.57**	**326**	P		13 04 55.9				
	baz=140									
F62A				S		13 16 08.4				
	baz=140									
F62A	**Pittston Farm,**	**93.57**	**326**	IAMs_20	IAMs_20	13 41 23.8				
	comp=Z,18µm,20.0s									
I60A	**Shoreham**	**93.59**	**323**	P		13 04 52.6				
	baz=137									
I60A				S		13 16 07.7				
	baz=137									
D63A	**Stockholm**	**93.63**	**328**	P		13 04 53.5				
	baz=141									
D63A				S		13 16 06.1				
	baz=141									
SENK	**Senkaya-Erzuru**	**93.64**	**41**	*i* P	P	13 04 55.5	+5.9			
SSPA	**Standing Stone**	**93.65**	**319**	P		13 04 53.7				
	baz=135									
SSPA				S		13 16 08.8				
	baz=135									
VT1	**Waterbury**	**93.70**	**324**	IAMs_20	IAMs_20	13 42 35.9				
	comp=Z,18µm,22.0s									
BINY	**Binghamton**	**93.75**	**321**	P		13 04 55.9				
	baz=136									
BINY				S		13 16 09.3				
	baz=136									
O56A	**Blue Knob Stat**	**93.76**	**318**	P		13 04 54.2				
	baz=134

baz=140
MCWV Mont Chateau 94.04 317 P 13 04 56.3
baz=134
MCWV S 13 16 09.8
baz=134
G60A Masonville 94.06 325 P 13 04 54.7
baz=138
G60A S 13 16 11.6
baz=138
D62A Allapoint, All 94.07 328 P 13 04 59.0
baz=140
D62A S 13 16 09.0
baz=140
D62A Allapoint, All 94.08 328 IAMs_20 IAMs_20 13 42 51.7
comp=Z,18µm,20.0s
KARS Kars 94.08 42 *e*P P 13 05 02.9 +11
TZTN Tazewell 94.08 313 P 13 04 55.7
baz=132
F61A St Evariste 94.10 326 P 13 04 54.8
baz=139
F61A S 13 16 10.8
baz=139
ANN Anapa 94.19 36 *e*P P 13 05 03.6 +12
ANN *e**PP pwP 13 05 07.1 +3.4
ANN *e**PP sP 13 05 08.0 +5.9
ANN *e* 13 08 47.1
ANN *e* 13 16 04.5
ANN *e*PS PS 13 17 25.6 +6.3
ANN *e*SS SS 13 22 21.5 -1.3
ANN *e*SSS SSS 13 26 10.9
ANN pmax pmax
comp=E,51nm,1.5s
ANN pmax pmax
comp=Z,362nm,1.5s
ANN pmax pmax
comp=N,126nm,1.4s
E61A Lac Etchemin 94.22 327 P 13 04 54.5
baz=139
E61A S 13 16 10.5
baz=139
J58A Remsen 94.23 322 P 13 04 56.3
baz=136
J58A S 13 16 13.2
baz=136
UNM Universidad Na 94.23 291 IAMs_20 IAMs_20 13 47 30.3
comp=Z,18µm,21.0s
TASB TASBURUN-IGDIR 94.27 43 *e*P P 13 05 08.0 +16
MUD Monsted U'grnd 94.30 15 *e*P P 13 05 00.4 +8.5
MUD IAMs_20 IAMs_20 13 46 48.8
comp=Z,18µm,17.0s
MUD Monsted U'grnd 94.30 15 *i*P P 13 05 07.0 +15
MUD Monsted U'grnd 94.30 15 *e*P P 13 05 00.4 +8.5
MUD MLR MLR
comp=Z,18µm,17.0s
COP Copenhagen 94.31 17 *e*P P 13 05 00.8 +8.9
COP IAMs_20 IAMs_20 13 41 02.9
comp=Z,25µm,26.9s
COP Copenhagen 94.31 17 *i*P P 13 05 10.4 +19
COP Copenhagen 94.31 17 *e*P P 13 05 00.8 +8.9
COP MLR MLR
comp=Z,25µm,27.0s
I58A Old Forge 94.31 322 P 13 04 57.5
baz=136
I58A S 13 16 14.4
baz=136
H59A Cadyville 94.38 324 P 13 04 57.8
baz=137
H59A S 13 16 11.3
baz=137
BSD Bornholm Skovb 94.40 18 *e*P P 13 05 00.8 +8.5
BSD IAMs_20 IAMs_20 13 44 06.8
comp=Z,26µm,21.6s
BSD Bornholm Skovb 94.40 18 *i*P P 13 05 06.4 +14
BSD Bornholm Skovb 94.40 18 *e*P P 13 05 00.8 +8.4
BSD MLR MLR
comp=Z,26µm,22.0s
SOC Sochi 94.42 38 *e*P P 13 05 01.2 +8.4
SOC *e**PP pwP 13 05 05.6 +0.7
SOC *e**SP sP 13 05 09.1 +5.9
SOC *e* 13 08 40.1
SOC *e* 13 17 18.7
SOC *e*SS SS 13 22 19.2 -7.0
SOC *e*SSS SSS 13 26 04.3
SOC pmax pmax
comp=Z,159nm,1.7s
H58A Gabriels 94.45 323 P 13 04 58.2
baz=137
H58A S 13 16 15.9
baz=137
F60A Warwick 94.53 325 P 13 04 57.7
baz=138
F60A S 13 16 15.4
baz=138
E60A Ste Agathe de 94.60 326 P 13 04 59.7
baz=138
E60A S 13 16 11.4
baz=138
J57A Williamstown 94.63 322 P 13 04 59.8
baz=136
J57A S 13 16 14.1
baz=136
D61A St Aubert, Com 94.67 327 P 13 04 57.4
baz=139
D61A S 13 16 13.4
baz=139
GNI Garni 94.67 43 P **P** **13 04 52.5 -1.8**
comp=Z,2.8nm,0.3s,baz=329,slow=3.3,SNR=4.8
GNI Garni 94.67 43 P P 13 05 07.8 +14
GNI Garni 94.67 43 *e*P P 13 05 03.2 +8.9
GNI Garni 94.67 43 *i*P **P** **13 04 52.7 -1.6**
GNI pmax pmax
comp=Z,55nm,1.9s
GNI MLR MLR
comp=Z,22µm,16.0s
GNI Garni 94.67 43 P **P** **13 04 52.2 -2.1**
GNI IAmb IAmb 13 05 15.3
comp=Z,212nm,1.5s
D60A Saint Jean D'O 94.78 327 P 13 04 57.0
baz=139
D60A S 13 16 13.1
baz=139
LONY Lake Ozonia 94.79 323 P 13 04 58.0
baz=136
LONY S 13 16 16.6
baz=136
K56A Middlesex 94.80 320 P 13 04 58.1
baz=135
K56A S 13 16 17.5
baz=135
F59A Saint Guilaume 94.83 325 P 13 04 59.9
baz=138
F59A S 13 16 13.3
baz=138
I57A Carthage 94.83 322 P 13 04 59.1
baz=136
I57A S 13 16 15.1
baz=136
AKH Akhalkalaki 94.85 41 ⇓P P 13 05 07.9 +13
AKH Akhalkalaki 94.85 41 *e*P P 13 05 03.4 +8.3
GOET G??ttrup 94.85 14 *e*P P 13 05 04.0 +10
GOET IAMs_20 IAMs_20 13 47 16.4
comp=Z,23µm,17.3s
GOET G??ttrup 94.85 14 *i*P P 13 05 13.4 +19
G58A Ormstown 94.92 324 P 13 05 02.0
baz=137
G58A S 13 16 18.0
baz=137
J56A Wolcott 94.97 321 P 13 05 00.5
baz=135
J56A S 13 16 16.6
baz=135
N54A Moraine State 95.02 318 P 13 05 00.8
baz=133
N54A S 13 16 15.9
baz=133
N54A Moraine State 95.02 318 IAMs_20 IAMs_20 13 43 42.5
comp=Z,18µm,22.0s
H57A Richville 95.08 323 P 13 04 59.3
baz=136
H57A S 13 16 16.2
baz=136
E59A St. Maurice 95.17 326 P 13 05 03.2
baz=138
AKASG Malin Array Be 95.19 28 P **P** **13 04 53.7 -2.5**
comp=Z,1.3nm,0.5s,baz=203,slow=3.7,SNR=1.7
AKASG PP **PP** **13 08 53.2 +6.4**
comp=Z,3.2nm,0.6s,baz=218,slow=8.0,SNR=4.1
AKASG LR LR 13 46 50.3
comp=Z,17µm,20.3s,baz=215,slow=35
AKASG Malin Array Be 95.19 28 P **P** **13 04 55.2 -1.0**
AKASG pmax pmax
comp=Z,219nm,1.3s
AKASG Malin Array Be 95.19 28 P **P** **13 04 55.2 -1.0**
AKBB Malin Array Si 95.19 28*ce*P **P** **13 04 57.3 +1.2**
O53A New Philadelph 95.21 317 P 13 04 59.9
baz=133
O53A S 13 16 15.9
baz=133
M54A Oil Creek Stat 95.22 318 P 13 04 59.9
baz=134
M54A S 13 16 20.3
baz=134
D59A Saint-Raymond 95.26 326 P 13 05 02.7
baz=138
P52A Corning 95.32 316 P 13 05 02.1
baz=132
P52A S 13 16 19.0
baz=132
P52A Corning 95.32 316 IAMs_20 IAMs_20 13 45 15.5
comp=Z,18µm,22.0s
F58A St-Lin Laurent 95.33 324 P 13 05 01.3
baz=137
F58A S 13 16 17.3
baz=137
G57A Newington 95.34 323 P 13 05 01.4
baz=136
KLNR Kaliningrad 95.40 21 *i*P **P** **13 04 56.9 -0.1**
KLNR pmax pmax
comp=Z,246nm,1.4s
KLNR MLR MLR
comp=Z,67µm,21.0s
E58A La Victoria 95.45 325 P 13 05 01.8
baz=137
E58A S 13 16 22.1
baz=137
F57A Harrington 95.71 324 P 13 05 02.2
baz=136
F57A S 13 16 21.6
baz=136
NEY Neytrino 95.72 40 *i*P **P** **13 04 56.8 -2.2**
NEY pmax pmax
comp=Z,7.0nm,1.1s
M53A WI Miller and 95.72 318 P 13 05 01.4
baz=133
M53A S 13 16 22.5
baz=133
M53A WI Miller and 95.72 318 IAMs_20 IAMs_20 13 44 04.2
comp=Z,17µm,22.0s
VBMS Vicksburg 95.73 306 P 13 04 58.8
baz=128
VBMS Vicksburg 95.73 306 IAMs_20 IAMs_20 13 46 38.3
comp=Z,33µm,22.0s
ONAU Onsala 95.76 16 *e*P P 13 05 08.6 +10
D58A Chemin du LacG 95.80 326 P 13 05 05.1
baz=138
D58A S 13 16 22.9
baz=138
ERPA Erie 95.81 319 P 13 05 05.2
baz=133
ERPA S 13 16 22.1
baz=133
LATQ La Tuque 95.97 326 P 13 05 05.0
baz=138
ZEI Tsey 96.02 41 *e*P **P** **13 05 00.5 +0.1**
ZEI pmax pmax
comp=Z,211nm,1.8s
SHA1 Shidzhatmaz 96.03 39*d*i**P** **P** **13 04 57.7 -2.8**
KBZ Khabaz 96.15 39 P **P** **13 04 58.2 -2.5**
comp=Z,2.3nm,0.7s,baz=281,slow=7.5,SNR=4.8
KBZ LR LR 13 48 49.5
comp=Z,30µm,18.0s,baz=212,slow=36
KBZ Khabaz 96.15 39*ce*P **P** **13 04 58.8 -1.8**
KBZ pmax pmax
comp=Z,57nm,1.1s
KBZ MLR MLR
comp=Z,35µm,17.0s
KIV Kislovodsk 96.19 39 ⇑P P 13 05 14.2 +13
KIV Kislovodsk 96.19 39 *i*P P 13 05 14.3 +13
SNR=10
KIV Kislovodsk 96.19 39 *i*P P 13 05 08.4 +7.4
KIV Kislovodsk 96.19 39 *e*P **P** **13 05 00.1 -0.9**
KIV *e* 13 08 52.6
KIV *e* 13 15 36.0
KIV *e*SS SS 13 22 50.8 -0.9
KIV *e*SSS SSS 13 26 35.2
KIV pmax pmax
comp=Z,58nm,3.7s
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,83µm,20.0s
KIV Kislovodsk 96.19 39 IAMs_20 IAMs_20 13 50 08.2
comp=Z,27µm,18.0s
NCK Nalchik 96.35 40 *i*P **P** **13 05 00.8 -0.9**
NCK pmax pmax
comp=Z,9.0nm,0.7s
E56A St. Veronique 96.41 324 P 13 05 02.7
baz=136
E56A S 13 16 29.9
baz=136
OXF Oxford 96.43 308 P 13 05 05.4
baz=129
OXF S 13 16 27.4
baz=129
OXF Oxford 96.43 308 IAMs_20 IAMs_20 13 49 12.4
comp=Z,16µm,19.0s
WVT Waverly 96.44 310 P 13 05 06.3
baz=129
WVT S 13 16 29.2
baz=129
D56A ZEC Mazanza, M 96.64 325 P 13 05 08.0
baz=136
D56A S 13 16 27.5
baz=136
P49A Miami Univ. Ec 96.75 314 P 13 05 04.3
baz=131
P49A S 13 16 30.6
baz=131
P49A Miami Univ. Ec 96.75 314 IAMs_20 IAMs_20 13 42 25.6
comp=Z,20µm,22.0s
H53A Bobcaygeon 96.77 321 P 13 05 07.8
baz=134
H53A S 13 16 29.8
baz=134
E55A Montcerf-Lytto 96.83 324 P 13 05 08.1
baz=135
WCI Wyandotte Cave 96.84 312 P 13 05 07.2
baz=130
WCI S 13 16 26.7
baz=130
WCI Wyandotte Cave 96.84 312 IAMs_20 IAMs_20 13 42 50.4
comp=Z,21µm,21.0s
H01W2 Cape Leeuwin H 96.94 142 T T 14 52 59.3
baz=220,slow=76,SNR=433
H01W3 Cape Leeuwin H 96.95 142 T T 14 52 53.3
baz=220,slow=76,SNR=498
H01W1 Cape Leeuwin H 96.95 142 T T 14 52 56.2
baz=220,slow=76,SNR=416
D55A Sainte-Anne-du 96.96 324 P 13 05 10.3
baz=136
D55A S 13 16 30.6
baz=136
G54A Lake Saint Pet 97.09 322 P 13 05 13.5
baz=134
G54A S 13 16 35.5
baz=134
GOF Gofitskoye 97.15 39 ⇓*i*P Pdif 13 05 18.4 +13
GOF pmax pmax
comp=Z,195nm,0.9s
PABE Paberze 97.31 22 *e*P Pdif 13 05 19.4 +14
GROC Groznyy 97.32 41 *e*P Pdif 13 05 08.7 +2.6
GROC *e* 13 09 03.6
GROC pmax pmax
comp=Z,42nm,0.6s
GROC MLR MLR
comp=Z,2µm,13.0s
KONO Kongsberg 97.35 14 IAMs_20 IAMs_20 13 46 15.6
comp=Z,20µm,21.0s
ALGO Algonquin Park 97.46 322 P 13 05 20.3
baz=134
NACGM Naroch 97.72 24 *i*P Pdif 13 05 21.1 +14
MNK Minsk 97.77 25 *i*P **P** **13 05 05.6 -2.1**
MNK *i* 13 09 04.6
MNK *i* PPP PPP 13 11 07.7
MNK *i* S **SKSac** **13 15 43.3 +0.4**
MNK *i* PS **PS** **13 17 55.8 -2.5**
MNK *i* SS **SS** **13 23 12.6 -0.6**
MNK *i* SSS SSS 13 26 58.9
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=N,40nm,1.1s
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK MLR MLR
comp=Z,13µm,15.0s
MNK MLR MLR
comp=N,15µm,20.0s
MNK Minsk 97.77 25 *i*P **P** **13 05 05.6 -2.1**
comp=E,4.0nm,0.7s
MNK *i* P **P** **13 05 05.6 -2.1**
comp=N,40nm,1.1s
MNK *i* P **P** **13 05 05.6 -2.1**
comp=Z,16nm,0.9s,baz=216
MNK *i* PP **PP** **13 09 04.7 -1.9**
MNK *i* PPP PPP 13 11 07.8
MNK *i* S **SKSac** **13 15 43.3 +0.5**
MNK *i* PS PS 13 17 55.9 -2.4
MNK *i* SS **SS** **13 23 12.7 -0.6**
MNK *i* SSS SSS 13 26 58.9
MNK *i* LQ LQ 13 40 21.4
MNK *i* LR LR 13 46 26.9
MNK *i* LRM MLR 13 49 38.5
comp=Z,13µm,15.3s
MNK *i* LRM MLR 13 49 49.3
comp=E,1µm,17.9s
MNK *i* LRM MLR 13 49 49.3
comp=N,15µm,20.4s
Z41A Richland Creek 97.89 305 P 13 05 11.9
baz=127
IIGN Ignalina 97.90 24 *e*P Pdif 13 05 23.0 +15
AAM Ann Arbor 97.95 317 Pdiff 13 05 12.2
baz=131
ISAL Salakas 98.05 23 *e*P Pdif 13 05 22.6 +14
KVTX Kingsville 98.06 298 IAMs_20 IAMs_20 13 49 23.8
comp=Z,22µm,22.0s
MAK Makhachkala 98.09 42 *e*P P 13 05 03.7 -5.8
MAK *e* 13 05 07.1
MAK *e* 13 15 41.4
MAK pmax pmax
comp=Z,2µm,2.8s
MAK pmax pmax
comp=Z,221nm,1.4s
NATX Nacogdoches 98.25 303 Pdiff 13 05 16.9
baz=126
HFS Hagfors 98.64 15 PP **PP** **13 09 11.6 -1.6**
comp=Z,5.8nm,0.8s,baz=255,slow=2.8,SNR=5.5
HFS LR LR 13 47 58.1
comp=Z,17µm,20.5s,baz=212,slow=34
X40A Basin Creek Fa 98.65 306 Pdiff 13 05 15.3
baz=127
X40A S 13 16 45.0
baz=127
X40A Basin Creek Fa 98.65 306 IAMs_20 IAMs_20 13 50 22.5
comp=Z,29µm,21.0s
W41B Gary Mavity, V 98.68 307 Pdiff 13 05 17.1
baz=127
SFIN Lafayette 98.69 314 Pdiff 13 05 17.2
baz=129
PYZ Puysegur Point 98.74 183 IAMs_20 IAMs_20 13 47 50.9
comp=Z,23µm,20.0s
NRS Narsarsuaq 98.79 347 *e*P Pdif 13 05 25.8 +14
NRS Narsarsuaq 98.79 347 *e*P Pdif 13 05 25.7 +14
WHZ Wether Hill Ro 98.94 184 IAMs_20 IAMs_20 13 42 58.6
comp=Z,20µm,20.0s
NB2 NORSAR Subarra 98.95 14 P Pdif 13 05 28.7 +16
baz=201,slow=5.1
NOA NORSAR Array B 98.95 14 PP **PP** **13 09 21.8 +6.2**
comp=Z,5.5nm,1.1s,baz=204,slow=7.6,SNR=7.8
NOA LR LR 13 49 22.8
comp=Z,14µm,19.5s,baz=200,slow=35
LSQQ Lebel-sur-Quev 99.12 325 Pdiff 13 05 14.8
baz=134
MIAR Mount Ida 99.17 306 IAMs_20 IAMs_20 13 49 05.4
comp=Z,30µm,22.0s
MIAR Mount Ida 99.17 306 Pdiff 13 05 16.8
baz=126
SCHQ Schefferville 99.21 334 LR LR 13 44 02.6
comp=Z,14µm,19.9s,baz=146,slow=32
MLZ Mavora Lakes 99.46 184 IAMs_20 IAMs_20 13 43 43.2
comp=Z,23µm,22.0s
VORD Divnogorie 99.54 33 *e*P **Pdif** **13 05 28.8 +13**
VORD *e* 13 09 21.3
VORD *e*SS SS 13 23 41.4 +3.1
VORD pmax pmax
comp=Z,60nm,1.3s
833A Chaparral WMA, 99.59 298 Pdiff 13 05 18.5
baz=125
ODZ Otahua Downs 99.59 186 IAMs_20 IAMs_20 13 45 22.1
comp=Z,28µm,21.0s
VSR Storozhevoye 99.67 32 *e*P **Pdif** **13 05 29.1 +13**
VSR *e* 13 09 20.4
VSR *e*PS PS 13 18 16.0 -2.9
VSR pmax pmax
comp=Z,90nm,1.3s
W39A Magazine 99.70 306 Pdiff 13 05 23.4
baz=126
W39A Magazine 99.70 306 IAMs_20 IAMs_20 13 50 26.2
comp=Z,30µm,21.0s
435B Jarrell 99.71 301 Pdiff 13 05 23.4
baz=125
CCM Cathedral Cave 99.78 310 IAMs_20 IAMs_20 13 48 33.5
comp=Z,17µm,21.0s
U40A Yellville 99.78 308 Pdiff 13 05 22.0
baz=127
U40A Yellville 99.78 308 IAMs_20 IAMs_20 13 50 57.2
comp=Z,15µm,20.0s
MATQ Matagami 99.92 325 Pdiff 13 05 20.9
baz=134
HDIL Hopedale 100.11 313 Pdiff 13 05 20.9
baz=128
HDIL Hopedale 100.11 313 IAMs_20 IAMs_20 13 44 26.9
comp=Z,22µm,21.0s
GLMI Grayling 100.13 318 Pdiff 13 05 21.0
baz=130
L44A Lake County Fo 100.30 315 Pdiff 13 05 21.7
baz=128
WHTX Lake Whitney, 100.31 302 Pdiff 13 05 22.7
baz=125
X37A Clayton 100.39 305 IAMs_20 IAMs_20 13 50 28.9
comp=Z,25µm,22.0s
LPSR Galich'ya Gora 100.56 31 *e*P **Pdif** **13 05 34.2 +14**
LPSR *e* 13 09 30.8
LPSR *e*PS PS 13 18 24.5 -4.0
LPSR *e*SS SS 13 23 47.1 -5.3
LPSR pmax pmax
comp=Z,50nm,1.7s
MQZ McQueen's Vall 100.72 188 IAMs_20 IAMs_20 13 46 39.2
comp=Z,19µm,19.0s
VRH Novokhopyorsk 100.79 34 *e*P **Pdif** **13 05 35.0 +14**
VRH *e* 13 09 34.6
VRH *e*PS PS 13 18 23.6 -7.4
VRH *e*SS SS 13 23 54.7 -1.0
VRH pmax pmax
comp=Z,50nm,0.9s
RPZ Rata Peaks 100.88 187 IAMs_20 IAMs_20 13 43 43.1
comp=Z,19µm,22.0s
PALK Pallekele 101.10 89 IAMs_20 IAMs_20 13 47 41.2
comp=Z,28µm,19.0s
JCT Junction City 101.10 299 Pdiff 13 05 25.3
baz=124
OXZ Oxford 101.16 187 IAMs_20 IAMs_20 13 46 17.8
comp=Z,17µm,21.0s
FOZ Fox Glacier 101.16 186 IAMs_20 IAMs_20 13 49 48.5
comp=Z,22µm,20.0s
GEYT Allbeck 101.28 51 PP **PP** **13 09 34.0 +0.3**
comp=Z,11nm,0.8s,baz=326,slow=4.3,SNR=3.9
RAF Rauma 101.34 18 *e*P PKiKP 13 09 36.9 -11
OBN Obninsk 101.43 28 *i*P **Pdif** **13 05 23.7 -0.3**
OBN *i* 13 09 40.6
OBN pmax pmax
comp=Z,50nm,1.4s
OBN MLR MLR
comp=Z,12µm,17.0s
OBN Obninsk 101.43 28 IAMs_20 IAMs_20 13 52 44.5
comp=Z,14µm,19.0s
TUL1 Leonard 101.44 306 Pdiff 13 05 24.2
baz=125
LTZ Lake Taylor 101.68 188 IAMs_20 IAMs_20 13 45 02.4
comp=Z,18µm,22.0s

KHZ **Kahutara** **101.89 189** IAMs_20 IAMs_20 13 52 34.3
comp=Z,20µm,20.0s
ISOG **Isortoq, Green** **101.93 351** *e*P **Pdif** **13 05 39.4 +13**
JFWS **Jewell Farm** **102.11 314** Pdiff 13 05 34.9
baz=127
OK030 **Cody Creek RV** **102.11 305** IAMs_20 IAMs_20 13 50 36.2
comp=Z,26µm,22.0s
OK031 **S. Brethren Rd** **102.16 305** IAMs_20 IAMs_20 13 52 14.6
comp=Z,21µm,21.0s
ABTX **Abilene, Hawle** **102.19 301** Pdiff 13 05 26.7
baz=124
OK025 **Westminster Rd** **102.28 305** IAMs_20 IAMs_20 13 51 07.9
comp=Z,21µm,20.0s
MOS **Moscow** **102.30 28** *i* P **Pdif** **13 05 44.2 +16**
MOS *i* 13 09 49.5
MOS *e*SS SS 13 24 13.6 -2.8
MOS *e*SSS SSS 13 28 04.4
MOS pmax pmax
comp=Z,49nm,1.2s
MOS MLR MLR
comp=Z,23µm,21.0s
OK029 **Liberty Lake** **102.48 305** IAMs_20 IAMs_20 13 51 12.2
comp=Z,23µm,21.0s
THZ **Tophouse** **102.61 188** IAMs_20 IAMs_20 13 47 46.3
comp=Z,22µm,21.0s
NUUK **Nuuk** **102.77 345** IAMs_20 IAMs_20 13 52 26.5
comp=Z,11µm,19.4s
NUUK **Nuuk** **102.77 345** *e*P **Pdif** **13 05 43.5 +14**
WMOK **Wichita Mounta** **102.78 303** Pdiff 13 05 31.0
baz=124
WMOK **Wichita Mounta** **102.78 303** IAMs_20 IAMs_20 13 52 28.2
comp=Z,17µm,21.0s
SNZO **South Karori** **102.83 190** IAMs_20 IAMs_20 13 53 06.4
comp=Z,25µm,20.0s
FINES **FINESS Array B** **102.85 20** PP **PP** **13 09 52.6 +7.6**
comp=Z,26nm,1.0s,baz=207,slow=5.9,SNR=9.3
NNZ **Nelson** **103.09 189** IAMs_20 IAMs_20 13 52 19.1
comp=Z,16µm,20.0s
BFZ **Birch Farm** **103.22 191** IAMs_20 IAMs_20 13 43 51.0
comp=Z,25µm,22.0s
TXAR **Lajitas Array** **103.26 297** PP PP 13 10 03.6 +15
comp=Z,1.9nm,1.0s,baz=120,slow=7.4,SNR=5.9
TXAR PKKPbc **PKKPdf** **13 21 33.5 -2.7**
comp=Z,0.5nm,0.8s,baz=223,slow=3.1,SNR=3.4
SCIA **State Center** **103.28 312** IAMs_20 IAMs_20 13 46 48.1
comp=Z,26µm,22.0s
SCIA **State Center** **103.28 312** Pdiff 13 05 36.7
baz=126
KS20 **Mayfield South** **103.36 306** IAMs_20 IAMs_20 13 53 40.2
comp=Z,24µm,20.0s
COWI **Conover** **103.41 317** IAMs_20 IAMs_20 13 51 50.5
comp=Z,16µm,21.0s
KS21 **Milan North St** **103.46 306** IAMs_20 IAMs_20 13 53 43.9
comp=Z,24µm,20.0s
OK032 **Salt Plains WL** **103.56 306** IAMs_20 IAMs_20 13 53 18.5
comp=Z,22µm,22.0s
QRZ **Quartz Range** **103.58 188** IAMs_20 IAMs_20 13 46 48.9
comp=Z,18µm,21.0s
KSU1 **Kansas State U** **103.80 308** Pdiff 13 05 39.8
baz=124
DY2G **Dye2** **103.85 349** *e*P **Pdif** **13 05 49.4 +14**
DY2G IAMs_20 IAMs_20 13 43 15.7
comp=Z,13µm,21.7s
BELG **Belogornoye** **104.31 35** PP **PP** **13 09 55.4 -0.6**
comp=Z,27nm,1.0s,baz=58,slow=4.7,SNR=3.6
BKZ **Black Stump Fm** **104.66 191** IAMs_20 IAMs_20 13 52 06.2
comp=Z,18µm,22.0s
AMTX **Amarillo** **104.85 302** Pdiff 13 05 40.9
baz=123
SPMN **Marine on St.** **104.96 315** Pdiff 13 05 48.0
baz=125
SFJD **Kangerlussuaq** **105.07 347** IAMs_20 IAMs_20 13 42 11.8
comp=Z,17µm,24.4s
SFJD **Kangerlussuaq** **105.07 347** *e*P **Pdif** **13 05 54.3 +14**
SFJD MLR MLR
comp=Z,17µm,24.0s
SFJD **Kangerlussuaq** **105.07 347** IAMs_20 IAMs_20 13 44 00.3
comp=Z,18µm,21.0s
SFJD **Kangerlussuaq** **105.07 347** *e*P **Pdif** **13 05 54.3 +14**
MSTX **Muleshoe** **105.12 301** Pdiff 13 05 46.6
baz=122
URZ **Urewera** **105.44 192** IAMs_20 IAMs_20 13 48 46.0
comp=Z,16µm,20.0s
HIZ **Hauiti** **105.56 190** IAMs_20 IAMs_20 13 51 58.6
comp=Z,15µm,21.0s
SCO **Scoresbysund** **105.59 359** *e*P **Pdif** **13 05 56.1 +14**
SCO IAMs_20 IAMs_20 13 46 50.9
comp=Z,10µm,23.5s
SCO **Scoresbysund** **105.59 359** *e*P **Pdif** **13 05 56.1 +14**
SCO MLR MLR
comp=Z,10µm,24.0s
CBKS **Cedar Bluff** **105.67 307** Pdiff 13 05 48.4
baz=123
CBKS **Cedar Bluff** **105.67 307** IAMs_20 IAMs_20 13 54 51.3
comp=Z,20µm,20.0s
MNTX **Cornudas Mount** **105.77 298** Pdiff 13 05 49.5
baz=122
TBI **Tubuai** **105.79 226** *e*PP **PP** **13 10 09.0 +2.4**
comp=Z,2µm,30.5s
TBI *e*SKSac **SKSac** **13 16 26.0 +3.0**
comp=Z,3µm,29.8s
TBI **Tubuai** **105.79 226** *e*PS PS 13 19 29.8 +6.2
comp=Z,11µm,30.0s
TBI *e*SS SS 13 25 15.3 +12
comp=Z,20µm,31.2s
TBI **Tubuai** **105.79 226** *e*LQ LQ 13 36 17.0
comp=Z,17µm,41.0s
TBI *e*LR LR 13 40 40.6
comp=Z,34µm,32.0s,baz=150
EYMN **Ely** **105.80 318** Pdiff 13 05 47.8
baz=125
MXZ **Matakaoa Point** **105.91 193** IAMs_20 IAMs_20 13 50 31.4
comp=Z,15µm,22.0s
BGNE **Belgrade** **106.06 309** Pdiff 13 05 50.0
baz=123
ECSD **EROS Data Cent** **106.38 312** Pdiff 13 05 43.7
baz=123
ECSD **EROS Data Cent** **106.38 312** IAMs_20 IAMs_20 13 48 10.9
comp=Z,14µm,20.0s
KLMR **Klimovskoe** **106.65 25** *e*P **Pdif** **13 05 45.2 -1.9**
KLMR 13 10 08.3
KLMR SS SS 13 25 11.7 -4.2
KLMR SSS SSS 13 29 17.3
KLMR pmax pmax
comp=Z,13nm,1.7s
KLMR **Klimovskoe** **106.65 25** *e*Pdif **Pdif** **13 05 45.3 -1.9**
KLMR AMP 13 05 51.2
comp=Z,13nm,1.7s
KLMR PP **PP** **13 10 08.4 -4.8**
KLMR SKSac SKSac 13 16 36.0 +11
KLMR SKSac SKSac 13 16 36.0 +11
KLMR PS **PS** **13 19 42.2 +10**
KLMR PS **PS** **13 19 42.2 +10**
KLMR *e*PKKPab **PKKPdf** **13 21 35.9 +4.9**
KLMR SS **SS** **13 25 11.8 -4.1**
KLMR SS **SS** **13 25 11.8 -4.1**
KLMR SSS SSS 13 29 17.4
KLMR SSS SSS 13 29 17.4
KLMR LQ LQ 13 35 35.5
KLMR LQ LQ 13 35 35.5
KLMR LR LR 13 39 17.4
KLMR AMP 13 51 19.3
comp=Z,23µm,20.9s
ILULI **Ilulissat** **107.12 348** *e*P **Pdif** **13 06 03.9 +15**
ILULI IAMs_20 IAMs_20 13 53 18.9
comp=Z,14µm,19.2s
ILULI **Ilulissat** **107.12 348** *e*P **Pdif** **13 06 03.8 +15**
ILULI MLR MLR
comp=Z,14µm,19.0s
ILULI **Ilulissat** **107.12 348** IAMs_20 IAMs_20 13 53 25.5
comp=Z,14µm,19.0s
T25A **Trinidad** **107.92 303** Pdiff 13 06 02.1
baz=121
T25A **Trinidad** **107.92 303** IAMs_20 IAMs_20 13 54 01.3
comp=Z,16µm,22.0s
121A **Cookes Peak, D** **107.95 297** Pdiff 13 06 02.1
baz=121
Y22D **IRIS PASSCAL I** **108.11 299** Pdiff 13 05 57.3
baz=121
SUSD **Miller** **108.18 312** Pdiff 13 06 00.8
baz=122
ANMO **Albuquerque** **108.22 300** Pdiff 13 06 02.6
baz=121
ANMO **Albuquerque** **108.23 300** PKKPbc PKKPbc 13 21 18.8 +6.3
comp=Z,2.6nm,0.9s,baz=282,slow=4.6,SNR=4.2
ANMO **Albuquerque** **108.23 300** IAMs_20 IAMs_20 13 54 12.8
comp=Z,15µm,22.0s

OGNE **Ogallala** **108.29 307** Pdiff 13 06 05.3
baz=121
OGNE **Ogallala** **108.30 307** IAMs_20 IAMs_20 13 55 20.6
comp=Z,13µm,20.0s
AKTO **Aktyubinsk** **108.36 41** PP **PP** **13 10 20.7 -5.3**
comp=Z,6.1nm,1.0s,baz=178,slow=5.2,SNR=5.7
AGMN **Agassiz Nation** **108.42 316** Pdiff 13 06 03.8
baz=122
AGMN **Agassiz Nation** **108.42 316** IAMs_20 IAMs_20 13 53 42.1
comp=Z,19µm,22.0s
SUMG **Summit** **108.61 354** *e*P **Pdif** **13 06 09.3 +13**
SUMG IAMs_20 IAMs_20 13 56 09.1
comp=Z,10µm,19.0s
SUMG **Summit** **108.61 354** *e*P **Pdif** **13 06 09.3 +13**
SUMG MLR MLR
comp=Z,10µm,19.0s
OUZ **Omahuta** **108.97 190** IAMs_20 IAMs_20 13 51 55.9
comp=Z,22µm,21.0s
KIRV **Kirov** **108.98 31** PP **PP** **13 10 25.9 -4.4**
comp=Z,9.7nm,0.5s,baz=28,slow=18,SNR=1.6
SDCO **Great Sand Dun** **108.98 303** Pdiff 13 06 05.8
baz=120
SDCO **Great Sand Dun** **108.98 303** IAMs_20 IAMs_20 13 54 34.3
comp=Z,20µm,22.0s
ARCES **ARCESS Array B** **109.29 15** PP **PP** **13 10 38.6 +6.2**
comp=Z,9.6nm,0.9s,baz=200,slow=4.6,SNR=6.0
Q24A **Divide** **109.35 304** Pdiff 13 06 07.3
baz=120
PRGR **Permogore** **109.38 27** *e*P **Pdif** **13 06 02.8 +3.6**
PRGR *e* 13 10 32.6
PRGR pmax pmax
comp=Z,18nm,0.4s
DBG **Daneborg** **109.41 359** *e*P **Pdif** **13 06 12.9 +14**
DBG IAMs_20 IAMs_20 13 50 32.1
comp=Z,9µm,19.8s
ULM **Lac du Bonnet** **109.47 318** PP **PP** **13 10 31.8 -2.3**
comp=Z,4.2nm,0.7s,baz=281,slow=3.7,SNR=3.5
ULM PKKPbc **PKKPab** **13 21 20.3 +2.8**
comp=Z,1.6nm,0.4s,baz=349,slow=4.7,SNR=1.7
KEV **Kevo** **109.78 15** IAMs_20 IAMs_20 13 53 19.8
comp=Z,28µm,22.0s
S22A **4UR Ranch, Cre** **109.89 303** Pdiff 13 06 09.2
baz=120
TUC **Tucson** **110.03 296** IAMs_20 IAMs_20 13 57 26.1
comp=Z,14µm,21.0s
ISCO **Idaho Springs** **110.08 305** Pdiff 13 06 10.4
baz=120
ISCO **Idaho Springs** **110.08 305** IAMs_20 IAMs_20 13 57 38.2
comp=Z,21µm,20.0s
TAOE **Nuku Hiva Isla** **110.11 243** *e*PP **PP** **13 10 41.0 +2.1**
comp=Z,1µm,32.0s
TAOE **Nuku Hiva Isla** **110.11 243** *e*PS PS 13 20 14.0 +5.5
comp=Z,7µm,28.6s
TAOE *e*SS SS 13 26 14.5 +11
comp=Z,21µm,29.3s
TAOE **Nuku Hiva Isla** **110.11 243** *e*LQ LQ 13 38 05.2
comp=Z,32µm,35.7s
TAOE *e*LR LR 13 42 51.0
comp=Z,25µm,34.6s,baz=153
PPT2 **Papeete2** **110.25 229** *e*PP **PP** **13 10 42.0 +2.6**
comp=Z,3µm,30.5s
PPT2 *e*SKSac **SKSac** **13 16 45.2 +2.6**
comp=Z,4µm,27.5s
PPT2 **Papeete2** **110.25 229** *e*PS PS 13 20 14.5 +5.1
comp=Z,9µm,25.8s
PPT2 *e*SS SS 13 26 12.0 +7.6
comp=Z,29µm,27.2s
PPT2 **Papeete2** **110.25 229** *e*LR LR 13 42 51.2
comp=Z,83µm,31.5s,baz=145
MDND **Maddock** **110.33 315** Pdiff 13 06 14.3
baz=120
STKA **Stephens Creek** **110.36 161** PKKPbc PKKPbc 13 21 18.6 +13
comp=Z,1.0nm,0.4s,baz=322,slow=21,SNR=1.8
W18A **Petrified Fore** **110.64 299** Pdiff 13 06 10.6
baz=119
SMCO **Snowmass** **110.69 304** IAMs_20 IAMs_20 13 55 34.5
comp=Z,14µm,21.0s
PHWY **Pilot Hill** **110.71 306** IAMs_20 IAMs_20 13 57 32.7
comp=Z,14µm,20.0s
MVCO **Mesa Verde** **110.78 301** IAMs_20 IAMs_20 13 56 32.4
comp=Z,14µm,21.0s
MVCO **Mesa Verde** **110.78 301** Pdiff 13 06 15.2
baz=119
N23A **Red Feather La** **110.83 306** Pdiff 13 06 12.7
baz=119
DHRM **DHARAMSHALA** **110.83 65** *e*P PP 13 10 56.9 +12
DHRM IAmb IAmb 13 11 20.2
comp=Z,74nm,1.2s
SMLA **Simla** **110.93 66** *e*P PP 13 10 58.5 +13
SMLA IAmb IAmb 13 11 12.2
comp=Z,116nm,1.4s
RSSD **Black Hills** **111.17 310** Pdiff 13 06 18.5
baz=119
RSSD **Black Hills** **111.17 310** IAMs_20 IAMs_20 13 51 19.1
comp=Z,23µm,21.0s
DDI **Dehra Dun** **111.20 67** *e*P PP 13 11 01.9 +15
ARU **Arti** **111.85 36** PP **PP** **13 10 47.6 -3.5**
comp=Z,3.4nm,0.9s,baz=241,slow=5.0,SNR=6.5
DAG **Danmarks Havn** **111.88 360** *e*P **Pdif** **13 06 21.1 +11**
DAG IAMs_20 IAMs_20 13 57 13.8
comp=Z,12µm,19.7s
DAG **Danmarks Havn** **111.88 360** *e*P **Pdif** **13 06 21.0 +11**
DAG MLR MLR
comp=Z,12µm,20.0s
WRKA **Warakurna** **111.89 147** ⇑P **Pdif** **13 06 21.1 +10**
DZA **Taraz** **112.44 53** *e*PP **PP** **13 10 51.0 -4.8**
baz=52
KULLO **Kullorsuaq** **112.73 349** *e*P **Pdif** **13 06 28.8 +15**
KULLO IAMs_20 IAMs_20 13 48 22.7
comp=Z,25µm,21.7s
KULLO **Kullorsuaq** **112.73 349** *e*P **Pdif** **13 06 28.7 +15**
KULLO MLR MLR
comp=Z,25µm,22.0s
DGMT **Dagmar** **113.32 314** IAMs_20 IAMs_20 13 49 42.3
comp=Z,12µm,20.0s
CISI **Cisompet, Garu** **113.37 119** IAMs_20 IAMs_20 13 45 46.5
comp=Z,18µm,21.0s
LHI **Lord Howe Isla** **113.40 177** IAMs_20 IAMs_20 13 53 16.0
comp=Z,21µm,20.0s
LEM **Lembang** **113.73 118** PP **PP** **13 11 01.6 -3.2**
comp=Z,8.7nm,0.4s,baz=108,slow=24,SNR=1.2
LAO **LASA Array** **113.73 311** IAMs_20 IAMs_20 14 01 21.6
comp=Z,13µm,21.0s
KSH **Kashi** **114.01 58** PKP **PKiKP** **13 10 13.9 +1.7**
KSH PP **PP** **13 11 08.4 +1.3**
KSH SKKS 13 18 02.1
KSH SS SS 13 26 49.3 -6.5
KSH PPMZ
comp=Z,2µm,4.8s
KSH L L
comp=Z,23µm,23.2s
KSH L L
comp=Z,42µm,23.2s
KSH L L
comp=Z,58µm,19.4s
BW06 **Boulder Array** **114.09 306** IAMs_20 IAMs_20 13 58 53.3
comp=Z,14µm,22.0s
PDAR **Pinedale Array** **114.09 306** PKP PKPdf 13 10 10.5 -1.9
comp=Z,0.2nm,0.3s,baz=308,slow=4.4,SNR=1.5
PDAR PKKPbc **PKKPab** **13 21 02.8 +4.7**
comp=Z,0.8nm,0.8s,baz=288,slow=0.9,SNR=3.8
BOK **Bokaro** **114.11 77** *e*P **PP** **13 11 07.0 -0.8**
BOK IAmb IAmb 13 11 29.3
comp=Z,104nm,1.8s
DGPR **DIGLIPUR** **114.36 91** *e*P **PP** **13 11 07.7 -1.9**
DGPR IAmb IAmb 13 11 44.2
comp=Z,746nm,2.4s
AAK **Ala-Archa** **114.40 54** *i* PKIKP PKPdf 13 10 09.0 -3.9
PFO **Pinyon Flats O** **114.84 295** PKKPbc PKKPbc 13 21 00.8 +10
comp=Z,3.3nm,1.0s,baz=281,slow=3.0,SNR=3.7
SGDS **Sogindy** **114.85 53** *e*PP PP 13 11 04.7 -8.2
baz=53
SGDS *e*LR LR 13 57 45.1
comp=Z,8µm,17.0s,baz=53
HWUT **Hardware Ranch** **114.92 304** IAMs_20 IAMs_20 14 01 16.5
comp=Z,12µm,19.0s
RLMT **Red Lodge** **114.94 309** IAMs_20 IAMs_20 13 58 57.3
comp=Z,15µm,21.0s
UGM **Wanagama** **115.04 121** IAMs_20 IAMs_20 13 50 55.9
comp=Z,22µm,19.0s
AHID **Auburn Hatcher** **115.11 306** IAMs_20 IAMs_20 14 00 29.4
comp=Z,18µm,20.0s
LOHW **Long Hollow** **115.15 307** IAMs_20 IAMs_20 13 54 26.2
comp=Z,15µm,22.0s
DUG **Dugway, Tooele** **115.16 303** IAMs_20 IAMs_20 14 01 06.9
comp=Z,17µm,20.0s
BTLS **Baital** **115.16 52** *e*PP **PP** **13 11 07.8 -7.1**
baz=51
BTLS *e*PS **PKKPbc** **13 20 50.6 +1.0**
baz=51
BTLS *e*LR LR 13 57 01.5
comp=Z,8µm,18.3s,baz=51
REDW **Red Top Meadow** **115.21 306** IAMs_20 IAMs_20 14 01 18.7
comp=Z,13µm,21.0s
TPAW **Teton Pass** **115.33 306** IAMs_20 IAMs_20 13 54 54.9
comp=Z,14µm,22.0s
FLWY **Flagg Ranch** **115.42 307** IAMs_20 IAMs_20 13 54 08.1
comp=Z,24µm,22.0s
ASAR **Alice Springs** **115.46 151** PKKPbc PKKPbc 13 20 59.4 +11
comp=Z,1.8nm,0.8s,baz=33,slow=3.7,SNR=7.9
MTBS **Maitube** **115.90 54** *e*PP PP 13 11 17.6 -2.7
baz=54
MTBS *e*PS PS 13 21 05.8 +4.5
baz=54
TULEG **Thule** **116.09 348** IAMs_20 IAMs_20 13 49 47.4
comp=Z,14µm,22.0s
KUU **Kurty** **116.16 53** *e*PP PP 13 11 10.0 -12
baz=53
KUU *e*PS PKKPab 13 20 58.2 +9.4
baz=53
KUU *e*LR LR 13 59 08.7
comp=Z,18µm,16.8s,baz=53
TPNV **Topopah Spring** **116.17 298** IAMs_20 IAMs_20 14 01 09.4
comp=Z,13µm,20.0s
BRVK **Borovoye** **116.30 42** *i* PKIKP **PKPdf** **13 10 15.6 -0.4**
BRVK **Borovoye** **116.30 42** IAMs_20 IAMs_20 14 05 43.3
comp=Z,19µm,19.0s
MDOK **Medeo** **116.32 54** *e*PP PP 13 11 18.1 -5.2
baz=54
MDOK *e*PS PS 13 21 03.3 -2.1
baz=54
MDOK *e*LR LR 13 55 55.4
comp=Z,16µm,20.1s,baz=54
BRZS **Berezniki** **116.40 46** *e*PP PP 13 11 18.9 -4.6
baz=46
BRZS *e*PS PS 13 21 07.1 +1.6
baz=46
ELK **Elko** **117.06 302** PKKPbc PKKPbc 13 20 53.8 +11
comp=Z,1.9nm,0.8s,baz=25,slow=3.6,SNR=5.8
ELK **Elko** **117.06 302** IAMs_20 IAMs_20 14 02 31.4
comp=Z,14µm,20.0s
DLMT **Dillon** **117.18 308** IAMs_20 IAMs_20 14 03 07.6
comp=Z,12µm,21.0s
SATY **Saty** **117.19 55** *i* PP PP 13 11 24.9 -4.4
baz=55
SATY *e*PS PS 13 21 15.0 +1.8
baz=55
SATY *e*LR LR 13 59 06.6
comp=Z,9µm,18.7s,baz=55
ARXS **Arharly** **117.27 54** *e*PKIKP **PKiKP** **13 10 21.6 +3.3**
KPKS **Kokpek** **117.54 55** *e*PP PP 13 11 28.5 -3.2
baz=55
KPKS *e*PS PS 13 21 14.5 -1.8
baz=55
KPKS *e*LR LR 14 00 45.2
comp=Z,17µm,17.3s,baz=55
UZB **Uzynbulak** **117.64 55** *e*PP PP 13 11 28.9 -3.6
baz=55
UZB *e*PS PS 13 21 17.4 +0.1
baz=55
UZB *e*LR LR 14 00 54.6
comp=Z,7µm,17.8s,baz=55
HLID **Hailey** **117.65 305** IAMs_20 IAMs_20 13 59 43.5
comp=Z,17µm,21.0s
SHLS **Shalkode** **117.93 55** *e*PP PP 13 11 34.1 -0.4
baz=55
SHLS *e*PS PS 13 21 22.8 +2.8
baz=55
SHLS *e*LR LR 14 00 08.7
comp=Z,6µm,17.8s,baz=55
TDK **Taldyqorghan** **117.96 53** *e*PP PP 13 11 29.7 -4.9
baz=53
TDK *e*PS PS 13 21 18.0 -1.9
baz=53
TDK *e*LR LR 14 01 40.8
comp=Z,25µm,15.9s,baz=53
NVAR **Mina Array Bea** **118.27 299** PKP **PKPdf** **13 10 18.8 -1.7**
comp=Z,0.1nm,0.4s,baz=111,slow=2.3,SNR=1.8
NVAR PKKPbc **PKKPab** **13 20 46.7 +6.5**
comp=Z,6.0nm,1.0s,baz=265,slow=4.5,SNR=11
AGT **Agartala** **118.44 80** *e*P PP 13 11 14.7 -23
AGT IAmb IAmb 13 11 23.5
comp=Z,45nm,0.6s
MFID **Camas Ranch** **118.54 305** IAMs_20 IAMs_20 14 02 32.1
comp=Z,16µm,21.0s
TWSI **Taliwang, Sumb** **118.76 127** PKP PKiKP 13 10 36.0 +14
WRA **Warramunga Arr** **118.97 150** PKKPbc PKKPbc 13 20 50.4 +15
comp=Z,2.5nm,0.8s,baz=31,slow=3.9,SNR=18
WRAB **Tennant Creek** **118.98 150** *i* PKIKP **PKPdf** **13 10 20.6 -1.7**
SHL **Shillong** **119.74 78** IAmb IAmb 13 11 03.9
comp=Z,25nm,0.9s
SHL ⇑*e*P PP 13 11 16.3 -31
SHL **Shillong** **119.74 78** *e*S **Sdif** **13 19 36.0 -0.6**
SHL **Shillong** **119.74 78** *e*P PP 13 10 36.0 -71
BMO **Blue Mountains** **120.06 306** IAMs_20 IAMs_20 13 58 24.4
comp=Z,21µm,22.0s
WVOR **Wild Horse Val** **120.07 303** IAMs_20 IAMs_20 14 01 41.9
comp=Z,17µm,21.0s
KURBB **Kurchatov Arra** **120.11 47** PKP **PKPdf** **13 10 20.0 -3.4**
comp=Z,0.6nm,0.8s,baz=318,slow=54,SNR=4.2
KURBB PKKPbc **PKKPab** **13 20 31.7 +0.6**
comp=Z,1.6nm,1.2s,baz=61,slow=4.7,SNR=3.0
KURBB PKKP PKKPdf 13 20 49.7 -15
comp=Z,4.6nm,1.0s,baz=74,slow=3.1,SNR=5.7
KURK **Kurchatov** **120.20 47** PKIKP **PKPdf** **13 10 20.0 -3.5**
ORV **Oroville** **121.00 299** IAMs_20 IAMs_20 14 02 47.2
comp=Z,13µm,21.0s
LSA **Lhasa** **121.00 74** P PP 13 10 40.3 -76
MOD **Modoc Plateau** **121.03 302** IAMs_20 IAMs_20 14 04 57.4
comp=Z,11µm,21.0s
SEM **Semipalatinsk** **121.08 48** *e*PS PS 13 21 44.0 -4.2
baz=48
SEM *e*LR LR 14 05 39.1
comp=Z,10µm,17.0s,baz=48
NEW **Newport** **121.14 310** IAMs_20 IAMs_20 14 01 00.0
comp=Z,14µm,22.0s
MK31 **Makanchi Array** **121.14 52** *i* PKIKP **PKPdf** **13 10 23.7 -1.8**
MKAR **Makanchi Array** **121.14 52** PKP **PKPdf** **13 10 22.7 -2.8**
comp=Z,0.3nm,0.6s,baz=247,slow=3.0,SNR=2.5
MKAR PKKPbc PKKPbc 13 20 37.1 +9.1
comp=Z,1.1nm,0.8s,baz=114,slow=2.1,SNR=4.0
KOHI **KOHIMA** **121.59 79** IAmb IAmb 13 11 08.2
comp=Z,61nm,1.3s
KOHI *e*P PP 13 11 20.5 -40
EDFI **Ende, Flores** **121.82 131** PKP PKiKP 13 10 41.4 +13
ITAN **ITANAGAR** **121.92 78** *e*P PP 13 11 21.0 -41
CMAR **Chiang Mai Arr** **122.04 89** PKP **PKPdf** **13 10 25.3 -2.8**
comp=Z,0.6nm,0.3s,baz=314,slow=48,SNR=1.9
CMAR PKKP **PKKPdf** **13 20 54.3 -5.8**
comp=Z,4.7nm,1.1s,baz=43,slow=2.0,SNR=11
CMAR **Chiang Mai Arr** **PKPdf** **13 10 25.3 -2.8**
HAWA **Hanford** **122.06 307** IAMs_20 IAMs_20 14 03 07.1
comp=Z,14µm,21.0s
CHTO **Chiang Mai** **122.22 89** IAMs_20 IAMs_20 13 56 44.1
comp=Z,18µm,22.0s
B08A **Colville Reser** **122.57 309** **PKPdf** **13 10 28.7 +0.4**
YBH **Yreka Blue Hor** **122.65 301** PKKPbc PKKPbc 13 20 31.3 +9.1
comp=Z,4.2nm,0.9s,baz=183,slow=3.3,SNR=4.6
YBH **Yreka Blue Hor** **122.65 301** IAMs_20 IAMs_20 14 05 44.5
comp=Z,12µm,22.0s
DZM **Mont Dzumac** **122.73 185** *e*PP PP 13 12 11.0 +5.2
comp=Z,1µm,28.0s
DZM **Mont Dzumac** **122.73 185** *e*PS PS 13 22 05.3 +3.7
comp=Z,4µm,26.9s
DZM *e*SS SS 13 28 53.0 +7.3
comp=Z,26µm,28.4s
DZM **Mont Dzumac** **122.73 185** *e*LR LR 13 48 30.5
comp=Z,65µm,22.4s
MTKI **Muara Teweh, K** **123.01 119** PKP PKPdf 13 10 20.2 -10
ZSN **Zaisan** **123.02 52** *e*PP PP 13 12 06.2 -3.0
baz=52
HUMO **Hull Mountain** **123.12 302** IAMs_20 IAMs_20 14 04 30.8
comp=Z,13µm,22.0s
KAPI **Kappang** **123.42 126** PKP **PKPdf** **13 10 28.3 -2.6**
comp=Z,2.8nm,0.3s,baz=57,slow=18,SNR=2.2
KAPI **Kappang** **123.42 126** PKIKP **PKPdf** **13 10 27.6 -3.3**
KAPI **Kappang** **123.42 126** **PKPdf** **13 10 27.6 -3.3**
KAPI **Kappang** **123.42 126** PKP PKiKP 13 10 41.7 +11
KAPI PKP sPKPdf 13 10 46.7 +5.1
K02D **Willamette Mer** **123.64 302** PKiKP 13 10 28.2
baz=109
YKA **Yellowknife Ar** **123.73 326** PKP **PKPdf** **13 10 28.9 -1.0**
comp=Z,1.2nm,0.8s,baz=166,slow=22,SNR=2.9
YKA **Yellowknife Ar** **123.73 326** **PKPdf** **13 10 28.9 -1.0**

I03D	Drain, OR	123.75	303	PKiKP		13 10 29.3	
	baz=109						
WMQ	Urumqi	123.76	57	eP	PP	13 12 24.1	+10
WMQ	Urumqi	123.76	57	PKP	PKiKP	13 10 37.8	+6.8
WMQ				SKS	SKSdf	13 17 46.8	+6.1
WMQ				PPMZ			
	comp=Z,2µm,5.5s						
WMQ				L	L		
	comp=Z,22µm,20.5s						
WMQ				L	L		
	comp=Z,27µm,18.9s						
WMQ				L	L		
	comp=Z,41µm,21.1s						
COR	Corvallis	124.00	304	IAMs_20	IAMs_20	14 00 59.7	
	comp=Z,17µm,22.0s						
BNSI	Bone	124.11	126	PKP	PKiKP	13 10 47.0	+14
ZALV	Zalesovo Beam	124.78	45	PKP	PKPdf	13 10 28.8	-3.4
	comp=Z,0.5nm,0.4s,baz=134,slow=41,SNR=1.8						
ZALV				PKKPbc	PKKPbc	13 20 21.2	+7.3
	comp=Z,0.7nm,0.4s,baz=48,slow=4.3,SNR=2.0						
NLWA	Neilton Lookou	125.20	307	IAMs_20	IAMs_20	14 10 01.0	
	comp=Z,11µm,19.0s						
DGZ	Jazzator, Alta	125.29	50	*i* PKIKP	PKPdf	13 10 32.5	-1.1
MPSI	Mapaga	127.44	122	PKP	PKiKP	13 10 51.8	+13
SLVN	Son La	127.51	89	IAMs_20	IAMs_20	14 02 57.2	
	comp=Z,16µm,20.0s						
NRIK	Noril'sk	128.00	26	PKP	PKPdf	13 10 34.5	-3.5
	comp=Z,1.4nm,0.5s,baz=333,slow=3.6,SNR=1.5						
NRIK				PP	PP	13 12 42.5	+1.0
	comp=Z,4.1nm,0.6s,baz=270,slow=3.7,SNR=3.8						
NRIK	Noril'sk	128.00	26*c*	*i* PKIKP	PKPdf	13 10 34.7	-3.2
NRIK				MLR	MLR		
	comp=Z,28µm,21.0s						
KMI	Kunming	128.31	84	⇑PKP	PKPdf	13 10 36.9	-3.3
KMI				sPKP		13 10 44.3	
KMI				PP	PP	13 12 50.0	+5.0
KMI				SS	SS	13 30 03.4	+4.0
KMI				PPMZ			
	comp=Z,790nm,10.0s						
KMI				L	L		
	comp=Z,13µm,25.8s						
KMI				L	L		
	comp=Z,12µm,27.0s						
KMI				L	L		
	comp=Z,32µm,30.5s						
C36M	Paulatuk	128.31	334	IAMs_20	IAMs_20	14 00 37.3	
	comp=Z,18µm,20.0s						
SANVU	Saraoutou	129.24	186	IAMs_20	IAMs_20	14 17 55.1	
	comp=Z,10µm,20.0s						
DLBC	Dease Lake	130.74	320	PKPdf	PKPdf	13 10 44.9	+1.3
GTA	Gaotai	131.14	66	⇑PKP	PKiKP	13 10 47.4	+1.4
GTA				PKS		13 14 23.4	
GTA				SS	SS	13 30 38.1	+4.3
GTA				PPMZ			
	comp=Z,480nm,5.3s						
GTA				L	L		
	comp=Z,15µm,20.0s						
GTA				L	L		
	comp=Z,29µm,21.4s						
GTA				L	L		
	comp=Z,32µm,22.5s						
QIZ	Qiongzhong	131.23	95	PKP	PKPdf	13 10 44.5	-1.1
QIZ				SS	SS	13 30 34.8	0.0
QIZ				PPMZ			
	comp=Z,1µm,12.4s						
QIZ				L	L		
	comp=Z,13µm,18.2s						
QIZ				L	L		
	comp=Z,12µm,22.6s						
QIZ				L	L		
	comp=Z,17µm,28.9s						
QIZ	Qiongzhong	131.23	95	IAMs_20	IAMs_20	13 59 01.7	
	comp=Z,20µm,22.0s						
CD2	Chengdu	131.47	78	PKP	PKiKP	13 10 46.6	-0.2
CD2				sPKP		13 10 56.8	
CD2				PP	PP	13 13 08.8	+3.4
CD2				SKKS		13 19 59.9	
CD2				PPMZ			
	comp=Z,590nm,8.8s						
CD2				L	L		
	comp=Z,34µm,22.1s						
CD2				L	L		
	comp=Z,12µm,23.0s						
CD2				L	L		
	comp=Z,22µm,24.5s						
INK	Inuvik	131.82	333	PKP	PKPdf	13 10 41.8	-3.4
	comp=Z,2.3nm,1.0s,baz=280,slow=4.6,SNR=2.9						
INK	Inuvik	131.82	333	PKPdf	PKPdf	13 10 44.5	-0.7
WRAK	Wrangell Islan	131.89	317	IAMs_20	IAMs_20	14 06 35.0	
	comp=Z,16µm,21.0s						
GYA	Guiyang	132.07	85	Pdif	Pdif	13 07 48.4	+7.2
GYA				PKP	PKPdf	13 10 45.8	-1.4
GYA				sPKP		13 10 54.4	
GYA				PP	PP	13 13 11.0	+1.6
GYA				PKS		13 14 26.8	
GYA	Guiyang	132.07	85	SS	SS	13 30 46.9	+1.5
GYA				PPMZ			
	comp=Z,210nm,13.9s						
GYA				L	L		
	comp=Z,3µm,21.6s						
GYA				L	L		
	comp=Z,2µm,21.1s						
GYA				L	L		
	comp=Z,4µm,21.7s						
FAKI	Fak Fak	132.70	137	IAMs_20	IAMs_20	14 04 51.2	
	comp=Z,12µm,21.0s						
JIS	Juneau Island	133.03	320	IAMs_20	IAMs_20	14 03 33.6	
	comp=Z,18µm,22.0s						
PMG	Port Moresby	133.25	159	*i* PKIKP	PKPdf	13 10 48.5	-1.1
LZH	Lanzhou	133.26	71	PKS		13 14 39.3	
LZH	Lanzhou	133.26	71	SS	SS	13 31 03.4	+3.6
LZH				PPMZ			
	comp=Z,2µm,8.1s						
LZH				L	L		
	comp=Z,25µm,18.4s						
LZH				L	L		
	comp=Z,18µm,18.1s						
LZH				L	L		
	comp=Z,17µm,20.1s						
LZH	Lanzhou	133.26	71	⇓PKP	PKiKP	13 11 04.0	+14
LZH	Lanzhou	133.26	71	sPKP		13 11 09.3	
LZH	Lanzhou	133.26	71	PP	PP	13 13 32.8	+16
SIT	Sitka	133.55	318	PKiKP		13 10 45.1	
	baz=90						
SIJI	Sorong	133.81	135	PKP	PKPdf	13 10 48.3	-2.5
	comp=Z,3.2nm,0.4s,baz=297,slow=23,SNR=1.1						
SIJI				PP	PP	13 13 23.9	+4.4
	comp=Z,20nm,0.8s,baz=278,slow=3.6,SNR=7.2						
MOY	Mondy	134.11	49	*e*PKIKP	PKPdf	13 10 48.3	-1.9
MOY				pmax	pmax		
	comp=Z,164nm,2.9s						
DAWY	Dawson	134.89	328	PKPdf	PKPdf	13 10 51.1	-0.1
ZAK	Zakamensk	135.47	51	*e*PKIKP	PKPdf	13 10 51.4	-1.4
ZAK				*e*		13 13 28.9	
ZAK				*e*		13 16 29.3	
ZAK				pmax	pmax		
	comp=Z,65nm,2.1s						
ZAK				pmax	pmax		
	comp=Z,37nm,2.0s						
EGAK	Eagle	135.50	329		PKPdf	13 10 52.4	+0.2
EGAK	Eagle	135.50	329	PKiKP		13 10 50.5	
	baz=76						
BCPM	Bancas Point	135.63	322	IAMs_20	IAMs_20	14 06 31.6	
	comp=Z,17µm,21.0s						
TLY	Talaya	135.76	50	PKP	PKPdf	13 10 49.1	-4.1
	comp=Z,1.1nm,0.2s,baz=136,slow=18,SNR=1.5						
TLY	Talaya	135.76	50	*e*PKIKP	PKiKP	13 11 06.5	+12
TLY				*i*		13 13 38.9	
TLY				*i* SS	SS	13 31 30.7	+2.0
TLY				*i* SSS	SSS	13 36 25.4	
TLY				MLR	MLR		
	comp=Z,57µm,19.0s						
ENH	Enshi	135.84	81	IAMs_20	IAMs_20	14 02 40.3	
	comp=Z,20µm,22.0s						
GZH	Guangzhou	136.05	93	PKP	PKPdf	13 10 55.1	+0.6
GZH				PP	PP	13 13 42.3	+7.8
GZH				SS	SS	13 31 42.8	+10
GZH				L	L		
	comp=Z,4µm,19.2s						
GZH				L	L		
	comp=Z,10µm,19.4s						
K27K	Chicken	136.06	328		PKPdf	13 10 53.0	-0.3
K27K				IAMs_20	IAMs_20	14 09 59.5	
	comp=Z,18µm,20.0s						
BMAR	Burnt Mountain	136.09	334	PKPdf	PKPdf	13 10 53.9	+0.5
BCAR	Beaver Creek A	136.14	327	PKPdf	PKPdf	13 10 53.9	+0.3
L27K	Beaver Creek,	136.16	327	PKPdf	PKPdf	13 10 53.7	+0.1
L27K	Beaver Creek,	136.16	327	PKiKP		13 10 53.1	
	baz=78						
IRK	Irkutsk	136.17	49	*e*PKIKP	PKiKP	13 10 59.0	+3.4
IRK				pmax	pmax		
	comp=Z,249nm,2.8s						
DAV	Davao City (W)	136.18	121	IAMs_20	IAMs_20	14 06 51.2	
	comp=Z,12µm,19.0s						
TABL	Table Mountain	136.31	323	IAMs_20	IAMs_20	14 08 54.4	
	comp=Z,18µm,20.0s						
CTGM	Chitina Glacie	136.32	324	IAMs_20	IAMs_20	14 09 53.5	
	comp=Z,18µm,21.0s						
CTG	Chitna Glacier	136.33	324	PKiKP		13 10 54.0	
	baz=80						
GRNC	Granite Creek	136.56	324	IAMs_20	IAMs_20	14 08 32.9	
	comp=Z,17µm,21.0s						
FYU	Fort Yukon	136.62	332	PKPdf	PKPdf	13 10 54.5	+0.2
FYU				IAMs_20	IAMs_20	14 08 00.2	
	comp=Z,18µm,20.0s						
XAN	Xi'an	136.63	76	SKKS		13 20 26.9	
XAN	Xi'an	136.63	76	PKP	PKiKP	13 11 11.4	+14
XAN	Xi'an	136.63	76	PP	PP	13 14 11.3	+33
XAN	Xi'an	136.63	76	PKS		13 14 46.0	
XAN	Xi'an	136.63	76	SKS	SKSdf	13 18 22.3	+18
SCRK	Sand Creek	136.88	329	PKiKP		13 10 55.3	
	baz=74						
DOT	Dot Lake	137.00	328		PKPdf	13 10 56.0	+0.9
MENT	Mentasta	137.00	327		PKPdf	13 10 54.7	-0.5
MCARA	McCarthy VSAT	137.05	325	PKiKP		13 10 54.8	
	baz=78						
MCARA	McCarthy VSAT	137.05	325	IAMs_20	IAMs_20	14 11 10.9	
	comp=Z,13µm,22.0s						
PRP	Porcupine Dome	137.07	331	PKiKP		13 10 55.6	
	baz=71						
TGL	Tana Glacier	137.08	324	IAMs_20	IAMs_20	14 10 27.4	
	comp=Z,18µm,20.0s						
CRQE	Cirque	137.21	324	PKiKP		13 10 56.7	
	baz=79						
CRQM	Cirque	137.23	324	IAMs_20	IAMs_20	14 10 30.8	
	comp=Z,18µm,20.0s						
VRDI	Verde Repeater	137.29	325	IAMs_20	IAMs_20	14 07 25.1	
	comp=Z,13µm,22.0s						
SONM	Songino Array	137.34	55	PKP	PKPdf	13 10 51.7	-4.6
	comp=Z,3.3nm,1.1s,baz=250,slow=3.0,SNR=8.5						
SONM				PP	PP	13 13 52.2	+10
	comp=Z,13nm,1.0s,baz=250,slow=4.2,SNR=7.3						
SONM	Songino Array	137.34	55	PKPdf	PKPdf	13 10 55.2	-1.1
TOLK	Toolik Lake Re	137.36	336	PKiKP		13 10 55.5	
	baz=64						
TOLK	Toolik Lake Re	137.36	336	PKPdf	PKPdf	13 10 55.3	-0.3
TOLK				IAMs_20	IAMs_20	14 06 42.8	
	comp=Z,15µm,22.0s						
GLB	Gilahina Butte	137.41	325	PKPdf	PKPdf	13 10 55.7	-0.3
GLB				IAMs_20	IAMs_20	14 11 14.3	
	comp=Z,12µm,21.0s						
N25K	Chitina, Valde	137.74	325	PKiKP		13 10 56.8	
	baz=76						
N25K	Chitina, Valde	137.74	325	PKPdf	PKPdf	13 10 56.7	+0.1
N25K				IAMs_20	IAMs_20	14 10 21.9	
	comp=Z,12µm,21.0s						
ULN	Ulaanbaatar	137.78	55	*i* PKIKP	PKPdf	13 10 54.4	-2.8
ULN	Ulaanbaatar	137.78	55		PKPdf	13 10 54.8	-2.4
PAX	Paxson	137.79	327	PKiKP		13 10 56.1	
	baz=74						
HARP	HAARP	137.81	327	PKiKP		13 10 56.1	
	baz=75						
IL31		137.86	330		PKPdf	13 10 56.5	-0.1
ILAR	Eielson Array	137.86	330	PKP	PKPdf	13 10 51.2	-5.4
	comp=Z,1.4nm,0.9s,baz=40,slow=3.5,SNR=5.0						
ILAR	Eielson Array	137.86	330	PKPdf	PKPdf	13 10 56.8	+0.1
H24K	Noodor Dome	137.88	332	PKiKP		13 10 57.0	
	baz=68						
BMRM	Bremner River	137.89	324	IAMs_20	IAMs_20	14 11 51.1	
	comp=Z,13µm,20.0s						
BMRM	Bremner River	137.89	324	PKiKP		13 10 57.9	
	baz=77						
POKR	Poker Plat Res	137.96	331	PKiKP		13 10 57.2	
	baz=70						
HDA	Harding Lake	138.00	330	PKPdf	PKPdf	13 10 57.2	+0.3
HDA	Harding Lake	138.00	330	PKiKP		13 10 57.0	
	baz=71						
HDA				PKiKP		13 10 57.0	
	baz=71						
A21K	Barrow	138.05	341	PKiKP		13 10 56.7	
	baz=53						
A21K	Barrow	138.05	341	IAMs_20	IAMs_20	14 07 18.9	
	comp=Z,15µm,22.0s						
COLD	Coldfoot	138.19	334	PKPdf	PKPdf	13 10 57.0	-0.2
COLD	Coldfoot	138.19	334	PKiKP		13 10 56.5	
	baz=64						
COLA	College	138.21	331	PKiKP		13 10 58.7	
	baz=69						
COLA	College	138.21	331	*i* PKIKP	PKPdf	13 10 55.5	-1.7
COLA	College	138.21	331	IAMs_20	IAMs_20	14 06 35.9	
	comp=Z,14µm,22.0s						
TCOL	CIGO, UAF Yank	138.22	331		PKPdf	13 10 57.8	+0.6
TCOL				IAMs_20	IAMs_20	14 06 35.9	
	comp=Z,15µm,22.0s						
TCOL	CIGO, UAF Yank	138.22	331	PKiKP		13 10 58.7	
	baz=69						
MDM	Murphy Dome	138.33	331		PKPdf	13 10 57.9	+0.4
MDM				IAMs_20	IAMs_20	14 06 50.0	
	comp=Z,13µm,20.0s						
M24K	Tolsona, Glenn	138.34	326	IAMs_20	IAMs_20	14 05 45.5	
	comp=Z,17µm,22.0s						
M24K	Tolsona, Glenn	138.34	326	PKiKP		13 10 57.9	
	baz=74						
KLU	Klutina	138.38	325	PKiKP		13 10 58.8	
	baz=75						
KLU	Klutina	138.39	325	IAMs_20	IAMs_20	14 04 47.9	
	comp=Z,15µm,22.0s						
WRH	Wood River Hil	138.45	330	IAMs_20	IAMs_20	14 06 34.2	
	comp=Z,17µm,21.0s						
H23K	Yukon River	138.52	332	PKiKP		13 10 58.7	
	baz=66						
EYAK	Cordova Ski Ar	138.53	324	PKiKP		13 10 59.9	
	baz=76						
I23K	Minto, Yukon-K	138.71	331	PKiKP		13 10 59.6	
	baz=68						
I23K	Minto, Yukon-K	138.71	331		PKPdf	13 10 56.5	-1.7
NEA2	Nenana	138.80	331	PKiKP		13 10 59.5	
	baz=68						
FID	Port Fidalgo	138.83	324	IAMs_20	IAMs_20	14 18 04.7	
	comp=Z,13µm,20.0s						
WAT6	Susitna Watana	138.91	327	PKiKP		13 10 59.2	
	baz=72						
HIN	Hinchinbrook I	138.93	324	IAMs_20	IAMs_20	14 12 36.3	
	comp=Z,16µm,20.0s						
SCM	Sheep Creek Mo	138.94	326	PKiKP	PKPdf	13 10 59.9	+1.1
SCM	Sheep Creek Mo	138.94	326		PKPdf	13 10 59.9	+1.1
SCM				IAMs_20	IAMs_20	14 06 06.4	
	comp=Z,17µm,21.0s						
SZP	Santa	138.99	105	IAMs_20	IAMs_20	14 09 59.2	
	comp=Z,16µm,21.0s						
BTO	Baotou	139.05	67	*e*PKP	PKPdf	13 10 57.9	-1.8
BTO				SS	SS	13 32 06.3	-2.3
MCK	McKinley	139.05	329	PKiKP		13 10 58.9	
	baz=69						
GLI	Glacier Island	139.09	325	PKiKP		13 11 00.6	
	baz=74						
BWN	Browne	139.11	330	IAMs_20	IAMs_20	14 09 55.0	
	comp=Z,19µm,22.0s						
RND	Reindeer	139.12	329	PKiKP	PKPdf	13 10 59.4	+0.3
RND	Reindeer	139.12	329		PKPdf	13 10 59.4	+0.3
RND				IAMs_20	IAMs_20	14 06 46.6	
	comp=Z,18µm,21.0s						
MLY	Manley	139.29	332	PKiKP		13 11 03.4	
	baz=66						
MLY	Manley	139.29	332	PKPdf	PKPdf	13 10 58.8	-0.5
SML	Sawmill	139.41	326	PKPdf	PKPdf	13 10 59.1	-0.6
SML	Sawmill	139.41	326	PKiKP		13 11 01.7	
	baz=72						
KNK	Knik Glacier	139.58	326	PKiKP		13 11 02.6	
	baz=72						
PWL	Port Wells	139.68	325	IAMs_20	IAMs_20	14 06 45.3	
	comp=Z,10µm,20.0s						
GHO	Glory Hole Cre	139.68	326	IAMs_20	IAMs_20	14 06 38.0	
	comp=Z,17µm,20.0s						
I21K	Tanana	139.71	332	PKiKP		13 11 03.3	
	baz=64						
TRF	Thorofare Moun	139.72	329	PKPdf	PKPdf	13 11 00.3	0.0
TRF	Thorofare Moun	139.72	329	PKiKP		13 11 02.0	
	baz=68						
TIXI	Tiksi	139.72	16	PKP	PKPdf	13 10 55.2	-4.7
	comp=Z,0.5nm,0.3s,baz=350,slow=6.5,SNR=2.0						
TIXI	Tiksi	139.72	16	*i* PKIKP	PKPdf	13 10 57.3	-2.5
TIXI	Tiksi	139.72	16	PKPdf	PKPdf	13 10 57.9	-2.0
POHA	Pohakuloa	139.75	259	IAMs_20	IAMs_20	14 07 44.7	
	comp=Z,10µm,22.0s						
BPAW	Bear Paw Mtn.	139.76	330	PKiKP		13 11 01.8	
	baz=67						
BPAW	Bear Paw Mtn.	139.76	330	PKPdf	PKPdf	13 11 01.5	+1.3
BPAW				IAMs_20	IAMs_20	14 07 22.8	
	comp=Z,14µm,21.0s						
H21K	Melozitna Rive	139.81	333	PKiKP		13 11 02.4	
	baz=63						
PMR	Palmer	139.83	326	PKiKP	PKPdf	13 11 01.0	+0.7
PMR	Palmer	139.83	326		PKPdf	13 11 01.0	+0.7
PMR	Palmer	139.83	326	PKiKP		13 11 02.5	
	baz=72						
WHN	Wuhan	139.88	83	⇓PKP	PKPdf	13 10 56.6	-4.8
WHN				SS	SS	13 32 15.6	-2.8
KTH	Kantishna Hill	139.94	329	PKPdf	PKPdf	13 10 59.3	-1.3
CUT	Chulitna	140.08	328	IAMs_20	IAMs_20	14 14 01.9	
	comp=Z,16µm,21.0s						
HHC	Hu-ho-hao-te	140.24	66	*e*PKP	PKPdf	13 10 58.8	-3.1
HHC				PPMZ			
	comp=Z,2µm,7.8s						
HHC				L	L		
	comp=Z,36µm,16.2s						
RC01	Rabbit Creek A	140.27	326	IAMs_20	IAMs_20	14 06 59.6	
	comp=Z,18µm,22.0s						
TIY	Taiyuan	140.33	71	*e*PKP	PKiKP	13 11 04.5	-0.1
TIY				PP	PP	13 14 09.0	+7.9
TIY				SS	SS	13 32 27.5	+3.7
TIY				PPMZ			
	comp=Z,1µm,9.4s						
TIY				L	L		
	comp=Z,18µm,18.6s						
TIY				L	L		
	comp=Z,11µm,22.0s						
TIY				L	L		
	comp=Z,15µm,20.1s						
CHUM	Lake Minchumin	140.38	330	PKiKP		13 11 05.9	
	baz=66						
SEW	Seward	140.43	324		PKPdf	13 11 01.2	-0.2
SEW	Seward	140.43	324	PKiKP		13 11 06.0	
	baz=73						
O22K	Cooper Landing	140.44	325	IAMs_20	IAMs_20	14 06 26.6	
	comp=Z,18µm,22.0s						
FIS	Fire Island	140.47	326	IAMs_20	IAMs_20	14 07 15.9	
	comp=Z,14µm,21.0s						
SUA	Susitna One	140.61	326	PKiKP		13 11 05.8	
	baz=70						
PPLA	Purkeypile	140.72	329		PKPdf	13 11 01.6	-0.6
PPLA	Purkeypile	140.72	329	PKiKP		13 11 06.5	
	baz=67						
SKT	Skwentna	140.78	327	IAMs_20	IAMs_20	14 13 06.7	
	comp=Z,16µm,20.0s						
SKT	Skwentna	140.78	327	PKiKP		13 11 06.9	
	baz=69						
KNMB	Chin-men Tao	140.79	94	IAMs_20	IAMs_20	14 15 04.0	
	comp=Z,16µm,19.0s						
CAPN	Captain Cook N	141.03	325	PKiKP		13 11 08.2	
	baz=70						
BOD	Bodaibo	141.12	39	*e*PKIKP	PKPdf	13 11 01.1	-1.6
BOD				pmax	pmax		
	comp=Z,117nm,1.7s						
BRSE	Bradley Lake S	141.15	324	PKiKP		13 11 08.1	
	baz=72						
QZH	Quanzhou	141.17	93	⇓*i*PKP	PKiKP	13 11 05.4	-1.2
QZH				PP	PP	13 14 08.9	+2.7
QZH				PPMZ			
	comp=Z,2µm,11.0s						
QZH				L	L		
	comp=Z,12µm,19.0s						
QZH				L	L		
	comp=Z,8µm,18.0s						
QZH				L	L		
	comp=Z,16µm,22.3s						
BRLK	Bradley Lake	141.22	324	IAMs_20	IAMs_20	14 10 13.1	
	comp=Z,15µm,21.0s						
SPCR	Spurr Chakacha	141.36	326	PKiKP		13 11 06.9	
	baz=69						
CNPM	China Poot	141.46	324	IAMs_20	IAMs_20	14 10 09.2	
	comp=Z,17µm,21.0s						
HOM	Homer	141.61	324	PKiKP		13 11 07.6	
	baz=71						
HOM	Homer	141.61	324	IAMs_20	IAMs_20	14 10 25.4	
	comp=Z,15µm,22.0s						
RDOG	Red Dog Mine	141.81	340	PKiKP		13 11 09.1	
	baz=49						
CIT	Chita	141.89	49	*e*PKIKP	PKiKP	13 11 20.2	+13
CIT				pmax	pmax		
	comp=Z,300nm,2.7s						
TWG	Pinlang	142.21	98	IAMs_20	IAMs_20	14 09 50.8	
	comp=Z,17µm,20.0s						
TTA	Tatalina	142.29	330	PKiKP		13 11 10.1	
	baz=62						
KIP	Kipapa	142.59	259	IAMs_20	IAMs_20	14 08 11.0	
	comp=Z,11µm,20.0s						
KDAK	Kodiak Island	142.65	321	PKiKP		13 11 11.3	
	baz=72						
YULB	Yu-li	142.66	97	IAMs_20	IAMs_20	14 06 56.7	
	comp=Z,19µm,22.0s						
O19K	Port Alsworth	142.69	325	PKiKP		13 11 10.3	
	baz=68						
OHAK	Old Harbor	143.18	320	PKiKP		13 11 12.0	
	baz=72						
N18K	Kilae Creek	143.22	327	PKiKP		13 11 11.2	
	baz=65						
YHNB	Yeheng	143.31	96	IAMs_20	IAMs_20	14 12 40.9	
	comp=Z,14µm,19.0s						
TATO	Taipei	143.54	95	IAMs_20	IAMs_20	14 15 02.1	
	comp=Z,14µm,19.0s						
BJI	Beijing	143.61	69	PKP	PKPbc	13 11 04.9	-0.3
BJI				SS	SS	13 32 56.9	-4.6
BJI				PPMZ			
	comp=Z,2µm,7.0s						
BJI				L	L		
	comp=Z,19µm,24.1s						
BJI				L	L		
	comp=Z,13µm,24.7s						
BJI				L	L		
	comp=Z,26µm,25.3s						
TIA	Tai'an	143.68	75	PKP	PKiKP	13 11 15.3	+3.8
TIA				PP	PP	13 14 22.3	+0.9
TIA	Tai'an	143.68	75	SS	SS	13 32 46.8	-16
TIA	Tai'an	143.68	75	L	L		
	comp=Z,14µm,24.7s						
TIA	Tai'an	143.68	75	L	L		
	comp=Z,18µm,24.3s						
TIA	Tai'an	143.68	75	L	L		
	comp=Z,9µm,23.5s						
TIA	Tai'an	143.68	75	PPMZ			
	comp=Z,1µm,5.9s						
SII	Sitkinak Islan	143.84	320	PKiKP		13 11 12.6	
	baz=72						
NJ2	Nanjing	144.01	83	*e*PKP	PKPdf	13 11 08.1	-0.6
NJ2				sPKP		13 11 16.5	
NJ2				PP	PP	13 14 20.8	-2.6
NJ2				SS	SS	13 33 05.8	-0.6
NJ2				PPMZ			
	comp=Z,1µm,7.1s						
NJ2				L	L		
	comp=Z,18µm,20.6s						
NJ2				L	L		
	comp=Z,11µm,20.6s						
NJ2				L	L		
	comp=Z,19µm,20.6s						
TARA	Tarawa	144.71	199	IAMs_20	IAMs_20	14 14 27.4	
	comp=Z,11µm,20.0s						
CHIR	Chirikof Islan	144.83	319	PKiKP		13 11 16.0	
	baz=72						
CHIR	Chirikof Islan	144.83	319	IAMs_20	IAMs_20	14 11 52.8	
	comp=Z,16µm,21.0s						
ANM	Nome	144.85	336	PKiKP		13 11 14.4	
	baz=49						
ANM	Nome	144.85	336	IAMs_20	IAMs_20	14 13 16.7	
	comp=Z,13µm,21.0s						
TNA	Tin City	144.97	339		PKPbc	13 11 07.8	-0.8
TNA	Tin City	144.97	339	PKiKP		13 11 15.5	
	baz=45						
SSE	Sheshan	145.61	85	PKPbc	PKPbc	13 11 08.8	-3.0
SSE				pPKP	sPKPdf	13 11 21.0	-1.2
SSE				L	L		
	comp=Z,10µm,18.6s						
SSE				L	L		
	comp=Z,6µm,20.0s						
HIA	Hailar	146.15	53	PKIKP	PKPdf	13 11 09.4	-2.5
HIA				MLR	MLR		
	comp=Z,33µm,20.0s						
HIA	Hailar	146.15	53		PKPdf	13 11 09.4	-2.5

YAK	**Yakutsk**	**146.42**	**27**	PKPbc	**PKPdf**	**13 11 08.6**	**-3.3**
	comp=Z,4.6nm,0.3s,baz=285,slow=1.1,SNR=1.7						
YAK	**Yakutsk**	**146.42**	**27**	*e*PKP2	**PKPdf**	**13 11 10.6**	**-1.3**
YAK				*e*		13 14 38.8	
YAK				pmax	pmax		
	comp=Z,260nm,1.0s						
YAK				pmax	pmax		
	comp=N,57nm,0.9s						
YAK				pmax	pmax		
	comp=E,156nm,1.8s						
YAK				pmax	pmax		
	comp=Z,3μm,5.4s						
YAK				pmax	pmax		
	comp=N,326nm,3.0s						
YAK				pmax	pmax		
	comp=E,339nm,2.3s						
YAK				MLR	MLR		
	comp=Z,22μm,25.0s						
YAK				MLR	MLR		
	comp=N,11μm,27.0s						
YAK				MLR	MLR		
	comp=E,24μm,27.0s						
YAK	**Yakutsk**	**146.42**	**27**	PKPdf	**PKPdf**	**13 11 10.5**	**-1.3**
BILL	**Bilibino**	**147.20**	**357**	*i* PKIKP	**PKPdf**	**13 11 09.5**	**-3.6**
BILL				*i* SS	SS	13 33 48.1	+8.2
BILL				pmax	pmax		
	comp=E,78nm,1.1s						
BILL	**Bilibino**	**147.20**	**357**	PKPdf	**PKPdf**	**13 11 11.1**	**-2.0**
BILL				IAMs_20	IAMs_20	14 31 01.0	
	comp=Z,10μm,21.0s						
GAMB	**Gambell**	**147.39**	**339**	IAMs_20	IAMs_20	14 17 18.4	
	comp=Z,9μm,20.0s						
GAMB	**Gambell**	**147.39**	**339**	PKiKP		13 11 21.9	
	baz=41						
SDPT	**Sand Point**	**147.58**	**320**	PKiKP		13 11 21.6	
	baz=67						
DL2	**Dalian**	**147.66**	**72**	PKPbc	**PKPdf**	**13 11 14.5**	**-0.2**
DL2				PKPab	**pPKPab**	**13 11 26.3**	**-1.4**
DL2				SS	SS	13 33 44.1	-3.6
DL2				PPMZ			
	comp=Z,1μm,6.1s						
DL2				L	L		
	comp=Z,11μm,20.1s						
DL2				L	L		
	comp=Z,12μm,22.2s						
DL2				L	L		
	comp=Z,24μm,22.8s						
JOHN	**Johnston Islan**	**148.71**	**241**	IAMs_20	IAMs_20	14 33 23.4	
	comp=Z,9μm,22.0s						
FALS	**False Pass**	**149.33**	**320**	PKiKP		13 11 26.0	
	baz=64						
SNY	**Shenyang**	**149.33**	**66**	PP	PP	13 15 04.6	+10
SNY	**Shenyang**	**149.33**	**66**	⇓PKPbc	**PKPab**	**13 11 32.3**	**+5.8**
ZEA	**Zeya**	**149.49**	**42**	*i* PKP2	**PKPbc**	**13 11 20.9**	**-0.8**
ZEA				pmax	pmax		
	comp=N,60nm,1.7s						
ZEA				pmax	pmax		
	comp=E,40nm,1.7s						
ZEA				pmax	pmax		
	comp=Z,140nm,2.1s						
ZEA				pmax	pmax		
	comp=E,500nm,12.3s						
ZEA				pmax	pmax		
	comp=N,700nm,14.5s						
ZEA				pmax	pmax		
	comp=Z,2μm,12.8s						
ZEA				MLR	MLR		
	comp=E,11μm,22.0s						
ZEA				MLR	MLR		
	comp=Z,21μm,23.0s						
CN2	**Changchun**	**150.65**	**62**	*e*PKPbc	**PKPdf**	**13 11 20.1**	**+0.7**
CN2				PP	**PP**	**13 15 06.1**	**+4.0**
CN2				SS	SS	13 34 21.9	+1.0
CN2				PPMZ			
	comp=Z,3μm,7.0s						
CN2				L	L		
	comp=Z,20μm,22.0s						
CN2				L	L		
	comp=Z,16μm,22.0s						
CN2				L	L		
	comp=Z,13μm,24.0s						
SEY	**Seymchan**	**151.74**	**9**	PKPbc	**PKPdf**	**13 11 22.4**	**+1.9**
	comp=Z,11nm,0.8s,baz=299,slow=3.0,SNR=12						
SEY	**Seymchan**	**151.74**	**9**		**PKPdf**	**13 11 22.4**	**+1.9**
KSRS	**Korea Array**	**152.43**	**76**	PKPbc	**PKPdf**	**13 11 24.7**	**+2.4**
	comp=Z,3.1nm,1.0s,baz=277,slow=1.6,SNR=12						
NIKH	**Nikolski High**	**153.05**	**320**	PKPdf	**PKPdf**	**13 11 21.4**	**-1.3**
NIKH	**Nikolski High**	**153.05**	**320**	PKiKP		13 11 33.3	
	baz=60						
KWAJ	**Kwajalein Atol**	**153.09**	**192**	IAMs_20	IAMs_20	14 19 26.2	
	comp=Z,9μm,20.0s						
GUMO	**Guam**	**153.27**	**140**	IAMs_20	IAMs_20	14 21 00.4	
	comp=Z,8μm,21.0s						
MDJ	**Mudanjiang**	**153.52**	**60**	PKPbc	**PKPdf**	**13 11 22.0**	**-1.6**
MDJ				SS	SS	13 34 55.3	+2.9
MDJ				PPMZ			
	comp=Z,2μm,6.5s						
MDJ				L	L		
	comp=Z,15μm,20.3s						
MDJ				L	L		
	comp=Z,16μm,21.7s						
MDJ				L	L		
	comp=Z,34μm,24.5s						
KLR	**Kul'dur**	**153.78**	**49**	PKPbc	**PKPdf**	**13 11 28.0**	**+4.1**
	comp=Z,5.8nm,0.8s,baz=302,slow=2.8,SNR=2.3						
USRK	**Ussuriysk Ar.**	**155.28**	**60**	PKPbc	**PKPdf**	**13 11 31.5**	**+5.4**
	comp=Z,0.6nm,0.6s,baz=151,slow=36,SNR=2.8						
USRK	**Ussuriysk Ar.**	**155.28**	**60**	PKIKP	**PKPdf**	**13 11 23.5**	**-2.6**
USRK	**Ussuriysk Ar.**	**155.28**	**60**		**PKPdf**	**13 11 23.5**	**-2.6**
GRNR	**Gornyy**	**155.86**	**42**	*e*PKP2	**PKPab**	**13 11 46.8**	**-6.8**
NKL	**Nikolayevsk**	**156.63**	**34**	*i* PKIKP	**PKPdf**	**13 11 35.2**	**+7.6**
NKL				*e*SSS	SSS	13 41 25.0	
MAT	**Matsushiro**	**160.56**	**80**	PKP	**PKPdf**	**13 11 38.9**	**+6.0**
MJAR	**Matsushiro Arr**	**160.56**	**80**	PKP	**PKPdf**	**13 11 29.8**	**-3.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=18,SNR=1.3						
YSS	**Yuzh-Sakhalins**	**161.40**	**46**	*i* PKIKP	**PKPdf**	**13 11 40.2**	**+6.8**
YSS				*e*		13 16 04.8	
YSS				pmax	pmax		
	comp=Z,50nm,1.6s						
PETK	**Petropavlovsk-**	**161.98**	**9**	PKP	**PKPdf**	**13 11 30.0**	**-3.8**
	comp=Z,6.1nm,1.2s,baz=61,slow=4.1,SNR=1.5						
PETK	**Petropavlovsk-**	**161.98**	**9**	PKIKP	**PKPdf**	**13 11 30.0**	**-3.8**
PET	**Petropavlovsk**	**162.17**	**7**	*i* PKIKP	PKPdf	13 11 49.2	+15
PET				*e*		13 16 10.3	
PET				*e*PPP	PPP	13 19 48.0	
PET				*e*PS		13 29 41.1	
PET				*e*SS	SS	13 36 23.8	+1.5
ASAJ	**Asahikawa**	**162.61**	**54**	PKP	**PKPdf**	**13 11 32.5**	**-2.3**
	comp=Z,1.3nm,0.7s,baz=79,slow=17,SNR=1.2						
ASAJ	**Asahikawa**	**162.61**	**54**	PKIKP	**PKPdf**	**13 11 31.5**	**-3.2**
JKA	**Kamikawa-asahi**	**162.62**	**54**		**PKPdf**	**13 11 31.5**	**-3.2**
YUK	**Yuzh-Kuril'sk**	**164.76**	**50**	*i* PKIKP	PKPdf	13 11 50.6	+14
YUK				*e*		13 16 19.1	
YUK				SS	SS	13 36 53.0	+2.1
YUK				pmax	pmax		
	comp=Z,327nm,1.3s						
YUK				pmax	pmax		
	comp=N,214nm,2.0s						
YUK				pmax	pmax		
	comp=E,193nm,1.0s						
YUK				pmax	pmax		
	comp=Z,785nm,2.4s						

IDC ***17*** *12:56:59.5±1.5,38.44N×21.75E, h0km, mb3.8/9, mb1 3.8/12, mb1mx3.6/75, mbtmp3.7/12, ML3.7/3, Error ellipse: s-maj=28.0km s-min=19.7km az=40.0*
ATH ***17*** *12:57:01.1,38.39N×21.77E, h13km±1km, ML3.4/9, Error ellipse: s-maj=1.9km s-min=0.8km az=78.0*
THE ***17*** *12:57:01.2,38.40N×21.77E, h7km, ML3.4/19, Error ellipse: s-maj=0.9km s-min=0.4km az=201.0*

ISC 17 12:57:00.9±0.8, 38.40N±0.02×21.76E±0.02, h12km±4km, n81, σ1§19/114, mb3.8/9, 8C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.12**	**169**	P	**Pg**	**12 57 03.5**	**-0.5**
UPR				S	**Sg**	**12 57 05.9**	**-0.3**
EFP	**Efpalio**	**0.12**	**76**	P	**Pg**	**12 57 03.7**	**-0.3**
EFP				S	**Sg**	**12 57 06.4**	**+0.1**
	19μm,0.2s						
EFP	**Efpalio**	**0.12**	**76**	P	**Pg**	**12 57 03.7**	**-0.3**
EFP				S	**Sg**	**12 57 06.2**	**0.0**
EFP				AML	AML	12 57 06.4	
	comp=E,45325μm,0.2s						
EFP				AML	AML	12 57 07.5	
	comp=N,33194μm,0.2s						
ANX	**Ano Chora**	**0.23**	**33**	P	**Pg**	**12 57 06.0**	**+0.1**
ANX				S	**Sg**	**12 57 09.7**	**+0.4**
	comp=N,15μm,0.5s						
ANX	**Ano Chora**	**0.23**	**33**	P	**Pg**	**12 57 06.0**	**+0.1**
ANX				S	**Sg**	**12 57 09.9**	**+0.6**
ANX				AML	AML	12 57 14.7	
	comp=N,27248μm,0.4s						
ANX				AML	AML	12 57 15.2	
	comp=E,29536μm,0.4s						
LAKA	**Lakka**	**0.23**	**132**	P	**Pg**	**12 57 05.8**	**-0.1**
LAKA				S	**Sg**	**12 57 09.2**	**-0.1**
	comp=E,21μm,0.3s						
LAKA	**Lakka**	**0.23**	**132**	P	**Pg**	**12 57 05.9**	**0.0**
LAKA				S	**Sg**	**12 57 09.2**	**-0.1**
SERG	**Sergoula**	**0.23**	**86**	P	**Pg**	**12 57 05.6**	**-0.3**
SERG				S	**Sg**	**12 57 09.6**	**+0.3**
	comp=E,23μm,0.1s						
SERG	**Sergoula**	**0.23**	**86**	P	**Pg**	**12 57 05.7**	**-0.3**
SERG				S	**Sg**	**12 57 09.6**	**+0.3**
SERG				AML	AML	12 57 11.5	
	comp=E,43244μm,0.2s						
SERG				AML	AML	12 57 11.6	
	comp=N,48755μm,0.1s						
TRIZ	**Trizonia**	**0.25**	**97**	P	**Pg**	**12 57 05.8**	**-0.3**
TRIZ				S	**Sg**	**12 57 09.8**	**+0.2**
	comp=N,21μm,0.3s						
PVO	**Paravola**	**0.28**	**320**	P	**Pg**	**12 57 07.1**	**+0.3**
PVO	**Paravola**	**0.28**	**320**	P	**Pb**	**12 57 07.3**	**-0.7**
PVO				S	**Sb**	**12 57 12.1**	**-0.7**
PVO				AML	AML	12 57 15.0	
	comp=N,13247μm,0.3s						
PVO				AML	AML	12 57 16.5	
	comp=E,11608μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.31**	**116**	P	**Pg**	**12 57 07.0**	**-0.2**
ALIK				S	**Sg**	**12 57 11.8**	**+0.4**
RLS	**Riolos of Patr**	**0.41**	**214**	P	**Pg**	**12 57 08.9**	**-0.2**
RLS				S	**Sb**	**12 57 15.8**	**-0.5**
	comp=E,9μm,0.4s						
RLS	**Riolos of Patr**	**0.41**	**214**	P	**Pg**	**12 57 09.1**	**0.0**
RLS				S	**Sb**	**12 57 15.4**	**-0.9**
RLS				AML	AML	12 57 15.9	
	comp=N,21011μm,0.5s						
RLS				AML	AML	12 57 17.4	
	comp=E,14223μm,0.2s						
DRO	**Drossia**	**0.45**	**185**	P	**Pg**	**12 57 09.4**	**-0.3**
DRO				S	**Sg**	**12 57 16.0**	**+0.3**
	comp=E,12μm,0.3s						
DRO	**Drossia**	**0.45**	**185**	P	**Pg**	**12 57 09.5**	**-0.3**
DRO				S	**Sg**	**12 57 16.4**	**+0.7**
DRO				AML	AML	12 57 17.1	
	comp=N,20883μm,0.3s						
DRO				AML	AML	12 57 17.5	
	comp=E,26438μm,0.3s						
KLV	**Kalavryta, Ach**	**0.47**	**139**	P	**Pg**	**12 57 09.5**	**-0.7**
KLV	**Kalavryta, Ach**	**0.47**	**139**	P	**Pg**	**12 57 09.6**	**-0.7**
KLV				S	**Sg**	**12 57 16.8**	**+0.3**
KLV				AML	AML	12 57 20.0	
	comp=N,3578μm,0.4s						
KLV				AML	AML	12 57 20.1	
	comp=E,2223μm,0.1s						
PDO	**Prodromos**	**0.49**	**294**	P	**Pg**	**12 57 10.7**	**0.0**
PDO				S	**Sb**	**12 57 18.7**	**-0.1**
PDO				AML	AML	12 57 22.4	
	comp=E,9000μm,0.2s						
PDO				AML	AML	12 57 25.9	
	comp=N,10171μm,0.4s						
EVR	**Evrytania**	**0.52**	**4**	P	**Pg**	**12 57 10.9**	**-0.3**
EVR	**Evrytania**	**0.52**	**4**	P	**Pg**	**12 57 11.2**	**0.0**
EVR				S	**Sb**	**12 57 19.3**	**-0.3**
EVR				AML	AML	12 57 23.3	
	comp=E,5691μm,0.4s						
EVR				AML	AML	12 57 24.8	
	comp=N,8557μm,0.6s						
MAKR	**Makrakomi, Fth**	**0.68**	**25**	P	**Pg**	**12 57 14.1**	**-0.1**
MAKR				S	**Sb**	**12 57 23.8**	**-0.4**
	comp=N,7μm,0.6s						
AGG	**Agios Georgios**	**0.77**	**35**	P	**Pg**	**12 57 14.8**	**-1.0**
AGG				S	**Sb**	**12 57 27.2**	**+0.5**
	comp=N,2μm,0.4s						
AGG	**Agios Georgios**	**0.77**	**35**	P	**Pg**	**12 57 15.3**	**-0.5**
THAL	**Thalero**	**0.80**	**117**	P	**Pg**	**12 57 16.0**	**-0.4**
AMT	**Artemida-Makis**	**0.86**	**183**	P	**Pg**	**12 57 17.3**	**-0.4**
AMT				S	**Sn**	**12 57 30.9**	**-0.6**
	comp=N,5μm,0.5s						
AMT	**Artemida-Makis**	**0.86**	**183**	P	**Pg**	**12 57 17.6**	**0.0**
FSK	**Fiskardo**	**0.94**	**274**	P	**Pg**	**12 57 18.3**	**-0.8**
FSK				S	**Sn**	**12 57 33.6**	**+0.2**
	comp=N,1μm,0.5s						
FSK	**Fiskardo**	**0.94**	**274**	P	**Pg**	**12 57 18.6**	**-0.5**
VLS	**Valsamata**	**0.95**	**257**	P	**Pg**	**12 57 18.3**	**-0.9**
VLS				S	**Sn**	**12 57 33.9**	**+0.4**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**0.95**	**257**	P	**Pg**	**12 57 18.4**	**-0.8**
LKD2	**Lefkada island**	**0.95**	**295**	P	**Pg**	**12 57 19.1**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.97**	**253**	P	**Pg**	**12 57 18.5**	**-1.1**
PSDA				S	**Sn**	**12 57 34.1**	**+0.1**
	comp=N,345nm,0.3s						
DRAG	**Dragano-Lefkad**	**0.97**	**287**	P	**Pg**	**12 57 18.8**	**-0.9**
LTHK	**Lithakia**	**1.00**	**227**	P	**Pg**	**12 57 19.4**	**-0.8**
LTHK				S	**Sn**	**12 57 35.3**	**+0.5**
	comp=N,4μm,0.5s						
LTHK	**Lithakia**	**1.00**	**227**	P	**Pg**	**12 57 19.6**	**-0.7**
VLMS	**Volimes, Zakyn**	**1.01**	**239**	P	**Pg**	**12 57 19.4**	**-1.0**
VLMS	**Volimes, Zakyn**	**1.01**	**239**	P	**Pg**	**12 57 19.6**	**-0.7**
KEF5	**Kardakata, Kep**	**1.02**	**264**	P	**Pg**	**12 57 19.5**	**-1.1**
LTK	**Loutraki**	**1.02**	**111**	P	**Pg**	**12 57 20.1**	**-0.5**
LTK	**Loutraki**	**1.02**	**111**	P	**Pg**	**12 57 20.2**	**-0.4**
ATAL	**Atalanti**	**1.03**	**73**	P	**Pg**	**12 57 19.6**	**-1.2**
ATAL				S	**Sb**	**12 57 34.5**	**+0.2**
	comp=N,980nm,0.6s						
VLX	**Vlachokerasia**	**1.14**	**154**	P	**Pb**	**12 57 21.7**	**-0.9**
THL	**Klokotos Trika**	**1.18**	**10**	P	**Pb**	**12 57 23.2**	**-0.1**
THL	**Klokotos Trika**	**1.18**	**10**	P	**Pg**	**12 57 23.5**	**-0.1**
ITM	**Ithomi**	**1.22**	**174**	P	**Pn**	**12 57 23.6**	**-0.3**
ITM				S	**Sn**	**12 57 41.9**	**+1.5**
SMIA	**Simia**	**1.23**	**67**	P	**Pn**	**12 57 23.8**	**-0.2**
SMIA				S	**Sn**	**12 57 41.7**	**+1.1**
	comp=N,2μm,0.6s						
VILL	**Villia**	**1.24**	**100**	P	**Pn**	**12 57 23.8**	**-0.4**
VILL				S	**Sn**	**12 57 41.4**	**+0.5**
	comp=N,2μm,0.9s						
NEO	**Neokhori**	**1.46**	**51**	P	**Pn**	**12 57 27.4**	**+0.3**
XOR	**Xorichti**	**1.48**	**49**	P	**Pn**	**12 57 27.6**	**+0.2**
XOR				S	**Sg**	**12 57 48.0**	**-0.5**
	comp=N,532nm,0.7s						
PYL	**PYLOS**	**1.50**	**181**	P	**Pb**	**12 57 28.3**	**-0.4**
DION	**Dionisos Attik**	**1.74**	**100**	P	**Pn**	**12 57 32.0**	**+1.0**
DION				S	**Sb**	**12 57 54.4**	**-0.3**
	comp=N,1μm,0.6s						
LIT	**Litokhoron**	**1.79**	**18**	P	**Pn**	**12 57 32.7**	**+1.0**
KYMI	**Kymi, Euboea I**	**1.85**	**82**	P	**Pn**	**12 57 32.7**	**+0.2**
OHR	**Ohrid**	**2.81**	**345**	*e*Pn	**Pg**	**12 57 53.8**	**-1.0**
OHR	**Ohrid**	**2.81**	**345**	*e*Pn	**Pg**	**12 57 53.8**	**-1.0**
APE	**Apeiranthos**	**3.27**	**113**	⇑P	**Pn**	**12 57 53.0**	**+1.0**
APE				⇑S	**Sn**	**12 58 31.0**	**+0.1**
TIR	**Tirane**	**3.29**	**334**	⇑P	**Pb**	**12 57 56.1**	**-3.1**
STIP	**Stip**	**3.31**	**6**	*e*Pn	**Pn**	**12 57 48.1**	**-4.4**
IDI	**Anoyia**	**3.99**	**140**	Pn	**Pn**	**12 58 03.9**	**+1.9**
	comp=N,0.6nm,0.3s,baz=308,slow=13,SNR=2.9						
IDI				Sn	**Sn**	**12 58 50.4**	**+1.6**
	comp=N,1.9nm,0.3s,baz=79,slow=21,SNR=2.3						
IDI	**Anoyia**	**3.99**	**140**	⇑P	**Pn**	**12 58 04.6**	**+2.5**
IDI				⇓S	**Sn**	**12 58 51.1**	**+2.4**
VTS	**Vitosha**	**4.36**	**14**	⇓P	**Pn**	**12 58 09.2**	**+2.1**
PDG	**Podgorica**	**4.46**	**335**	⇑P	Pn	12 58 13.2	+4.9
MATE	**Matera**	**4.51**	**301**	⇑P	**Pn**	**12 58 13.7**	**+4.7**
BOVS	**Bovan**	**5.23**	**360**	⇓P	**Pn**	**12 58 22.7**	**+3.7**
GZR	**Gura Zlata**	**7.03**	**6**	⇓P	**Pn**	**12 58 47.3**	**+3.6**
VOIR		**7.45**	**18**	⇑P	**Pn**	**12 58 52.0**	**+2.6**
MLR	**Muntele Rosu**	**7.74**	**22**	Pn	**Pn**	**12 58 55.8**	**+2.3**
	comp=N,0.5nm,0.3s,baz=252,slow=3.8,SNR=4.8						
MLR	**Muntele Rosu**	**7.74**	**22**	⇑P	**Pn**	**12 58 55.8**	**+2.3**
VRI	**Vrincioaia**	**8.32**	**25**	⇓P	**Pn**	**12 59 03.9**	**+2.5**
ESDC	**Sonseca Array**	**20.00**	**282**	P	Pn	13 01 34.9	-0.3
	comp=N,0.1nm,0.3s,baz=75,slow=11,SNR=5.3						
HFS	**Hagfors**	**22.35**	**349**	P	**P**	**13 01 58.4**	**-0.1**
	comp=N,1.2nm,0.5s,baz=127,slow=9.3,SNR=7.1						
FINES	**FINESS Array B**	**23.23**	**5**	P	**P**	**13 02 07.1**	**-0.6**
	comp=N,0.7nm,0.5s,baz=161,slow=10.0,SNR=3.6						
NOA	**NORSAR Array B**	**23.61**	**347**	P	**P**	**13 02 10.8**	**-0.7**
	comp=N,0.6nm,0.7s,baz=144,slow=9.6,SNR=4.3						
EKA	**Eskdalemuir Ar**	**23.82**	**323**	P	**P**	**13 02 13.4**	**-0.1**
	comp=N,1.6nm,0.6s,baz=122,slow=10,SNR=5.3						
ARCES	**ARCESS Array B**	**31.26**	**3**	P	**P**	**13 03 19.5**	**-0.7**
	comp=N,1.5nm,0.8s,baz=192,slow=8.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**41.31**	**54**	P	**P**	**13 04 46.5**	**+0.3**
	comp=N,0.7nm,0.6s,baz=281,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**44.35**	**59**	P	**P**	**13 05 11.6**	**+0.6**
	comp=N,3.2nm,0.5s,baz=274,slow=7.2,SNR=20						
ZALV	**Zalesovo Beam**	**44.82**	**48**	P	**P**	**13 05 14.2**	**-0.3**
	comp=N,1.9nm,0.5s,baz=293,slow=7.9,SNR=5.1						
KSRS	**Korea Array**	**78.43**	**51**	P	**P**	**13 09 00.9**	**-0.7**
	comp=N,0.6nm,0.7s,baz=300,slow=3.4,SNR=2.9						

DJA ***17*** *13:02:08.9±0.3, 6.5°S±2.3°×13.0°E±0.8°, h162km±7km, M4.5/10, mB5.1/6, mb4.5/7, MLv4.5/10, Mw(mB)4.4/6*
NEIC ***17*** *13:02:09.7±1.3, 6.1°S±0.1°×130.3°E±0.3°, h129km±23km, mb4.0/4, Error ellipse: s-maj=48.8km s-min=9.6km az=111.0*

ISC 17 13:02:08.9±0.9, 6.14S±0.06×130.32E±0.08, h150km, n28, σ1§96/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.65**	**346**	P	**Pn**	**13 02 41.1**	**+1.0**
SAUI	**Saumlaki**	**2.08**	**152**	Pn	**Pn**	**13 02 44.9**	**-0.1**
SAUI	**Saumlaki**	**2.08**	**152**	P	**Pn**	**13 02 45.5**	**+0.6**
SAUI				S	**Sn**	**13 03 13.1**	**+0.4**
MSAI	**Masohi**	**3.10**	**333**	P	**Pn**	**13 03 00.0**	**+2.5**
KRAI	**Karang Ratu**	**3.39**	**326**	P	**Pn**	**13 03 03.9**	**+2.6**
FAKI	**Fak Fak**	**3.73**	**31**	Pn	**Pn**	**13 03 05.6**	**0.0**
FAKI	**Fak Fak**	**3.73**	**31**	P	**Pn**	**13 03 05.8**	**+0.2**
FAKI				S	**Sn**	**13 03 48.3**	**-1.4**
NLAI	**Namlea**	**4.31**	**312**	P	Pn	13 03 21.1	+7.9
SIJI	**Sorong**	**5.32**	**10**	P	**Pn**	**13 03 26.9**	**+0.4**
SWI	**Sorong**	**5.32**	**10**	P	**Pn**	**13 03 27.1**	**+0.5**
	0.5nm4μm48nm,0.7s						
MTN	**Manton Dam**	**6.71**	**173**	Pn	**Pn**	**13 03 43.4**	**-1.7**
SOEI	**Soe**	**6.99**	**239**	Pn	**Pn**	**13 03 49.4**	**+0.5**
SOEI	**Soe**	**6.99**	**239**	P	**Pn**	**13 03 50.5**	**+1.6**
	0.2nm59nm,0.9s						
BAKI	**Biak**	**7.58**	**50**	P	**Pn**	**13 04 00.1**	**+3.4**
	0.5nm2μm119nm,0.7s						
BATI	**Baumata**	**7.73**	**238**	P	**Pn**	**13 03 59.2**	**+0.5**
	0.1nm38nm,0.8s						
KNRA	**Kununurra**	**9.61**	**189**	Pn	**Pn**	**13 04 21.2**	**-2.4**
FITZ	**Fitzroy Crossi**	**12.74**	**201**	Pn	**Pn**	**13 05 00.9**	**-3.8**
WB0	**Warramunga Arr**	**14.12**	**164**	Pn	**Pn**	**13 05 19.7**	**-2.6**
WRAB	**Tennant Creek**	**14.27**	**164**	Pn	**Pn**	**13 05 22.6**	**-1.6**
WRA	**Warramunga Arr**	**14.27**	**164**		**Pn**	**13 05 20.9**	**-3.3**
WB2	**Warramunga Arr**	**14.27**	**164**	Pn	**Pn**	**13 05 21.8**	**-2.5**
WR0	**Warramunga Arr**	**14.34**	**164**		**Pn**	**13 05 22.7**	**-2.4**
AS31	**Alice Springs**	**17.77**	**169**		**Pn**	**13 06 08.9**	**+1.9**
ASAR	**Alice Springs**	**17.77**	**169**	P	**Pn**	**13 06 08.9**	**+1.9**
PSA00	**Pilbara Seismi**	**18.39**	**212**		**Pn**	**13 06 14.2**	**-0.2**
PSA00	**Pilbara Seismi**	**18.39**	**212**	P	**Pn**	**13 06 13.6**	**-0.8**
PSA00				IAmb	IAmb	13 06 22.1	
	comp=Z,9.2nm,1.4s						
CTAO	**Charters Tower**	**20.78**	**133**	P	**P**	**13 06 40.2**	**+1.8**
CTAO				IAmb	IAmb	13 06 43.9	
	comp=Z,8.5nm,1.1s						
DBJI	**Dramaga**	**23.43**	**268**	P	**P**	**13 07 03.5**	**-1.3**

KRNET ***17*** *13:04:53.0±0.1, 41.17N×69.62E, mb2.7*
SOME ***17*** *13:04:52.2, 40.92N×69.60E, h0km*
NNC ***17*** *13:05:04.9±4.5, 41.40N×69.87E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=37.8km s-min=22.1km az=19.0*

ISC 17 13:04:57.7±1.7, 41.08N±0.03×69.96E±0.09, h10km, n17, σ1§97/27, 15C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**1.00**	**63**	⇑*i*P	**Pb**	**13 05 16.2**	**-1.0**
	baz=75						
TRKS				⇑*i*S	**Sn**	**13 05 33.0**	**+0.8**
	baz=75						
BTK	**Batken**	**1.21**	**147**	⇑*i*P	**Pg**	**13 05 20.0**	**-0.9**
	baz=40						
BTK				⇑*i*S	**Sn**	**13 05 40.0**	**+2.8**
	baz=40						
KK31	**Karatay Array**	**2.07**	**11**	⇓Pn	**Pg**	**13 05 35.5**	**-1.9**
	1.8nm,0.3s,baz=198,slow=15,SNR=19						
KK31				⇑Lg	Lg	13 06 03.2	
	8.7nm,0.3s,baz=194,slow=28,SNR=17						
DRK	**Karamyk**	**2.13**	**138**	⇑*i*P	**Pb**	**13 05 35.6**	**-0.9**
	baz=34						
DRK				⇑*i*S	**Sg**	**13 06 06.5**	**+0.4**
	baz=34						
ARSB	**Arslanbob**	**2.30**	**83**	⇓*i*P	**Pb**	**13 05 37.8**	**-1.5**
	baz=85						
ARSB				⇓*i*S	**Sb**	**13 06 10.2**	**+2.4**
	baz=85						
MNAS	**Manas**	**2.37**	**53**	⇑*i*P	**Pn**	**13 05 37.3**	**+0.5**
	baz=58						
MNAS				⇑*i*S	**Sb**	**13 06 10.2**	**+0.3**
	baz=58						
SFK	**Sufi-Kurgan**	**2.90**	**110**	⇑*i*P	**Pb**	**13 05 46.4**	**-3.3**
	baz=10.0						
SFK				⇑*i*S	**Sb**	**13 06 25.6**	**+0.3**
	baz=10.0						
MRKS	**Merke**	**2.96**	**

NTC	baz=261			eS	Sn	13 07 49.4	+1.0
TIPB	Shuangxi baz=274	0.35	279	P	Pn	13 07 36.2	+0.5
TIPB	baz=274			S	Sn	13 07 48.6	+0.2
NWF	Wu-fen Shan baz=278	0.42	291	P	Pn	13 07 36.7	+0.7
NWF	baz=278			S	Sn	13 07 49.3	+0.2
ILA	Ilan baz=255	0.45	250	eP	Pn	13 07 36.6	+0.5
ILA	baz=255			eS	Sn	13 07 50.0	+0.8
TWC	Suao baz=231	0.45	227	P	Pn	13 07 36.7	+0.6
TWC	baz=231			S	Sn	13 07 49.0	-0.2
TNOU	National Taiwa baz=287	0.46	300	P	Pn	13 07 36.7	+0.6
TNOU	baz=287			S	Sn	13 07 49.6	+0.3
NDS	Dongshan baz=236	0.53	238	P	Pn	13 07 37.4	+0.8
NDS	baz=236			S	Sn	13 07 51.1	+0.9
TWE	Neicheng baz=252	0.53	248	P	Pn	13 07 37.3	+0.8
TWE	baz=252			eS	Sn	13 07 50.6	+0.5
TWA	Mucha baz=267	0.57	276	P	Pn	13 07 37.4	+0.5
TWA	baz=267			S	Sn	13 07 50.8	+0.2
NHDH	Xindian Distri baz=267	0.62	274	P	Pn	13 07 37.8	+0.6
NHDH	baz=267			S	Sn	13 07 50.9	-0.3
YM01	YM01 baz=284	0.62	291	P	Pn	13 07 37.9	+0.6
YM01	baz=284			S	Sn	13 07 51.3	0.0
YM08	YM08 baz=288	0.62	296	P	Pn	13 07 37.7	+0.4
YM08	baz=288			eS	Sn	13 07 51.0	-0.3
ENTT	Nioudou baz=243	0.65	245	P	Pn	13 07 38.9	+1.4
ENTT	baz=243			eS	Sn	13 07 53.2	+1.6
TAP	Taipei baz=273	0.65	281	eS	Sn	13 07 52.0	+0.4
TWY	Chenhua baz=293	0.66	303	P	Pn	13 07 38.1	+0.7
TWY	baz=293			S	Sn	13 07 52.1	+0.5
NWLT	Wulai baz=259	0.66	258	P	Pn	13 07 38.0	+0.4
TATO	Taipei baz=268	0.66	275	P	Pn	13 07 37.9	+0.5
TATO	baz=268			S	Sn	13 07 51.0	-0.7
TATO	Taipei	0.66	275		Pn	13 07 37.5	0.0
BACT	New Taipei Cit baz=271	0.70	276	eS	Sn	13 07 52.9	+0.7
NDT	Datong Townshi baz=251	0.71	244	P	Pn	13 07 39.4	+1.5
NDT	baz=251			S	Sn	13 07 53.7	+1.3
PCYT	Pengchaiyu baz=343	0.72	350	P	Pn	13 07 38.8	+0.8
PCYT	baz=343			S	Sn	13 07 53.8	+1.3
NTST	Danshui baz=286	0.73	290	eP	Pn	13 07 38.8	+0.7
NTST	baz=286			eS	Sn	13 07 54.0	+1.3
TWS1	Kuangyinshan baz=285	0.74	284	eP	Pn	13 07 39.0	+0.8
TWS1	baz=285			eS	Sn	13 07 53.4	+0.6
EHP	Heping Village baz=208	0.74	215	P	Pn	13 07 39.1	+0.9
EHP	baz=208			S	Sn	13 07 54.0	+1.1
YHNB	Yeheng baz=251	0.80	252	P	Pn	13 07 39.5	+0.8
YHNB	baz=251			S	Sn	13 07 54.0	+0.2
YHNB	Yeheng	0.80	252		Pn	13 07 39.4	+0.7
JYNG	Yonagunijimaku	0.82	125	P	Pn	13 07 39.5	+0.7
JYNG				S	Sn	13 07 54.9	+0.9
NTY	Taoyuan baz=272	0.83	276	eP	Pn	13 07 40.1	+1.2
NTY	baz=272			eS	Sn	13 07 55.0	+0.8
YOJ	Yonaguni jima	0.86	122	P	Pn	13 07 39.9	+0.7
YOJ				S	Sn	13 07 55.4	+0.7
YOJ	Yonaguni jima baz=133	0.86	122	P	Pn	13 07 39.9	+0.7
YOJ	baz=133			S	Sn	13 07 54.4	-0.2
YOJ	Yonaguni jima	0.86	122		Pn	13 07 39.6	+0.4
YOJ				Sn	Sn	13 07 52.9	-1.8
NNSB	Datong baz=243	0.90	237	P	Pn	13 07 40.7	+1.0
NNSB	baz=243			S	Sn	13 07 56.4	+0.8
NNSH	Datong baz=243	0.90	237	P	Pn	13 07 40.7	+1.1
NNSH	baz=243			S	Sn	13 07 56.3	+0.7
NNS	Nan Shan baz=244	0.90	238	P	Pn	13 07 40.8	+1.1
NNS	baz=244			S	Sn	13 07 56.3	+0.8
ETL	Fush Village baz=210	0.93	215	P	Pn	13 07 40.5	+0.6
ETL	baz=210			S	Sn	13 07 55.9	0.0
NCU	National Centr baz=275	0.93	273	P	Pn	13 07 40.5	+0.7
NCU	baz=275			S	Sn	13 07 56.8	+1.0
NACB	Ninganchiao baz=211	0.93	217	P	Pn	13 07 40.3	+0.4
NACB	baz=211			S	Sn	13 07 55.8	0.0
NACB	Ninganchiao	0.93	217		Pn	13 07 39.7	-0.2
NCUH	Zhongli baz=276	0.93	273	eP	Pn	13 07 40.6	+0.8
NCUH	baz=276			S	Sn	13 07 56.7	+0.8
ETLH	Xiulin Townshi baz=231	0.97	223	eP	Pn	13 07 40.9	+0.5
ETLH	baz=231			eS	Sn	13 07 56.2	-0.5
TWD	Chiawan baz=211	1.01	214	P	Pn	13 07 41.1	+0.5
TWD	baz=211			S	Sn	13 07 57.2	+0.1
NJD	Zhudong baz=251	1.03	260	S	Sn	13 07 58.6	+0.9
HWA	Hwalien baz=201	1.09	211	P	Pn	13 07 42.6	+1.2
HWA	baz=201			S	Sn	13 07 59.9	+1.3
FUSS	Fushou baz=226	1.10	233	P	Pn	13 07 43.1	+1.2
FUSS	baz=226			S	Sn	13 08 00.0	+0.6
LIOB	Emei baz=247	1.12	256	P	Pn	13 07 42.7	+1.0
LIOB	baz=247			S	Sn	13 07 59.8	+0.6
SBCB	Hsinchu baz=262	1.12	264	P	Pn	13 07 42.8	+1.1
SBCB	baz=262			S	Sn	13 07 60.0	+0.8
HSN	Hsinchu baz=264	1.13	264	P	Pn	13 07 42.4	+0.5
HSN	baz=264			S	Sn	13 07 59.5	0.0
NSTT	Nanjuang baz=247	1.14	256	P	Pn	13 07 42.7	+0.8
NSTT	baz=247			eS	Sn	13 07 59.6	0.0
TWT	Tachien baz=235	1.15	235	P	Pn	13 07 44.1	+1.8
TWT	baz=235			S	Sn	13 08 01.2	+1.1
ETM	Tongmen baz=222	1.15	215	P	Pn	13 07 42.3	+0.2
ETM	baz=222			S	Sn	13 07 59.2	-0.7
WHF	Hehuan Shan baz=227	1.16	228	P	Pn	13 07 43.4	+0.8
WHF	baz=227			S	Sn	13 08 01.3	+0.7
TDCB	Techi baz=235	1.16	235	P	Pn	13 07 43.8	+1.4
TDCB	baz=235			S	Sn	13 08 00.9	+0.5
TEYL	Yanliau Villag baz=201	1.19	208	P	Pn	13 07 43.2	+0.8
TEYL	baz=201			S	Sn	13 08 01.0	+0.5
NJN	Zhunan baz=254	1.24	259	eS	Sn	13 08 02.1	+0.7
CHGB	Renai baz=227	1.27	228	P	Pn	13 07 44.8	+1.2
CHGB	baz=227			S	Sn	13 08 03.4	+0.9
ESL	Shilin baz=218	1.31	213	P	Pn	13 07 43.6	-0.2
ESL	baz=218			eS	Sn	13 08 02.2	-0.7
WHP	Taichung City baz=248	1.32	241	P	Pn	13 07 45.2	+1.2
WHP	baz=248			S	Sn	13 08 03.5	+0.4
NMLH	Miaoli baz=253	1.34	254	eP	Pn	13 07 45.1	+0.9
NMLH	baz=253			S	Sn	13 08 03.8	+0.2
OWD	Renai baz=220	1.34	225	P	Pn	13 07 45.4	+1.0
OWD	baz=220			S	Sn	13 08 05.0	+1.2
TEGC	Jichi Village baz=198	1.35	207	P	Pn	13 07 45.0	+0.8
NSY	Sanyi baz=249	1.41	249	eP	Pn	13 07 46.2	+1.3
NSY	baz=249			eS	Sn	13 08 05.7	+0.7
TWQ1	Liyutan baz=246	1.43	247	eP	Pn	13 07 46.1	+1.0
TWQ1	baz=246			eS	Sn	13 08 05.3	+0.1
EGFH	Guangfu baz=209	1.44	210	eP	Pn	13 07 45.6	+0.3
EGFH	baz=209			eS	Sn	13 08 04.5	-0.9
WPL	Puli Township baz=239	1.46	232	P	Pn	13 07 47.0	+1.5
WPL	baz=239			eS	Sn	13 08 08.1	+2.3
WCS	Beigang Elemen baz=240	1.46	234	P	Pn	13 07 47.0	+1.4
WCS	baz=240			eS	Sn	13 08 07.3	+1.4
DPDB	Guoxing baz=240	1.46	233	eP	Pn	13 07 46.9	+1.3
DPDB	baz=240			eS	Sn	13 08 08.1	+1.9
IRIF	Iriomote-Funau	1.50	113	P	Pn	13 07 46.3	+0.3
IRIF				S	Sn	13 08 07.2	+0.5
WDJ	Dajia District baz=242	1.54	249	eP	Pn	13 07 47.4	+1.0
WDJ	baz=242			eS	Sn	13 08 07.7	+0.2
SMLT	Sun Moon Lake baz=235	1.58	229	P	Pn	13 07 48.3	+1.3
SMLT	baz=235			S	Sn	13 08 09.6	+1.0
HGSD	Ruisui baz=214	1.59	207	P	Pn	13 07 47.7	+0.7
HGSD	baz=214			S	Sn	13 08 09.8	+1.1
TCU	Taichung baz=248	1.59	241	eP	Pn	13 07 48.6	+1.5
TCU	baz=248			eS	Sn	13 08 10.0	+1.3
TYC	Yuchr baz=237	1.59	231	P	Pn	13 07 48.4	+1.3
TYC	baz=237			S	Sn	13 08 09.8	+1.1
SSLB	Suanglung baz=227	1.61	226	P	Pn	13 07 48.8	+1.5
SSLB	baz=227			S	Sn	13 08 10.7	+1.6
SSLB	Suanglung	1.61	226	Pn	Pn	13 07 48.5	+1.2
EHY	Hungye baz=209	1.62	210	eP	Pn	13 07 47.4	-0.1
EHY	baz=209			eS	Sn	13 08 08.4	-1.0
WWF	Wufeng baz=244	1.63	238	eP	Pn	13 07 49.0	+1.5
WWF	baz=244			eS	Sn	13 08 10.9	+1.4
HATJ	Hateruma jima	1.69	120	P	Pn	13 07 49.2	+1.0
HATJ				S	Sn	13 08 11.3	+0.6
WCHH	Zhanghua baz=249	1.72	241	eP	Pn	13 07 49.3	+0.7
WCHH	baz=249			eS	Sn	13 08 11.9	+0.5
WNT1	Nantou City baz=242	1.72	234	P	Pn	13 07 50.1	+1.5
WNT1	baz=242			eS	Sn	13 08 12.6	+1.2
YULB	Yu-li baz=208	1.73	209	eP	Pn	13 07 48.6	-0.2
YULB	baz=208			eS	Sn	13 08 09.8	-1.9
YULB	Yu-li	1.73	209	Pn	Pn	13 07 48.0	-0.8
WNT	Mingjian baz=242	1.73	234	P	Pn	13 07 50.1	+1.4
WNT	baz=242			S	Sn	13 08 13.0	+1.3
WHYT	Xinyi Township baz=232	1.74	226	P	Pn	13 07 50.6	+1.8
WHYT	baz=232			S	Sn	13 08 13.7	+1.9
WJS	Zhushan baz=241	1.74	231	P	Pn	13 07 50.3	+1.5
WJS	baz=241			S	Sn	13 08 13.0	+1.2
EYUL	Yuli baz=212	1.76	208	eP	Pn	13 07 49.1	-0.1
EYUL	baz=212			eS	Sn	13 08 11.4	-1.0
TWF1	Yuli baz=212	1.77	208	eP	Pn	13 07 49.3	+0.1
TWF1	baz=212			eS	Sn	13 08 12.2	-0.3
JKRS	Kuro-shima	1.77	112	P	Pn	13 07 50.3	+1.1
JKRS				eS	Sn	13 08 13.9	+1.4
YUS	Yu-Shan baz=210	1.83	219	P	Pn	13 07 52.0	+1.6
YUS	baz=210			S	Sn	13 08 16.2	+1.6
JIJ	Ishigaki jima	1.84	107	P	Pn	13 07 50.5	+0.4
JIJ				S	Sn	13 08 14.1	0.0
ALS	Alishan baz=231	1.90	223	P	Pn	13 07 52.6	+1.5
ALS	baz=231			eS	Sn	13 08 17.3	+1.5
FULB	Fuli baz=214	1.91	206	eP	Pn	13 07 51.7	+0.8
FULB	baz=214			S	Sn	13 08 16.7	+1.2
CHN5	Tsauling baz=226	1.92	227	P	Pn	13 07 52.5	+1.4
CHN5	baz=226			S	Sn	13 08 17.1	+1.2
JISG	Ishigakijimahi	1.94	99	P	Pn	13 07 52.0	+0.8
JISG				S	Sn	13 08 16.1	-0.1
WGK	Gukeng baz=230	1.94	231	P	Pn	13 07 52.8	+1.5
WGK	baz=230			eS	Sn	13 08 17.6	+1.4
WRL	Guolierlin Hig baz=245	1.95	239	eP	Pn	13 07 52.5	+1.0
WRL	baz=245			eS	Sn	13 08 16.8	+0.3
WDLH	Douliu baz=240	1.96	232	eP	Pn	13 07 52.6	+1.1
WDLH	baz=240			eS	Sn	13 08 17.4	+0.9
CHKT	Chengkung baz=197	1.97	203	eP	Pn	13 07 51.8	+0.1
CHKT	baz=197			eS	Sn	13 08 16.2	-0.7
ECS	Chishang baz=205	2.03	207	eP	Pn	13 07 53.9	+1.4
ECS	baz=205			eS	Sn	13 08 19.1	+0.9
ELDTW	Lidau baz=205	2.04	213	eP	Pn	13 07 53.2	+0.6
ELDTW	baz=205			eS	Sn	13 08 19.4	+0.8
WTCT	Ta-ch'eng baz=245	2.05	240	eP	Pn	13 07 53.3	+0.6
WTCT	baz=245			eS	Sn	13 08 19.0	+0.4
WTK	Tuku baz=241	2.06	234	eP	Pn	13 07 53.5	+0.7
WTK	baz=241			eS	Sn	13 08 19.3	+0.3
EDH	Donghe baz=208	2.11	203	eP	Pn	13 07 53.7	+0.3
EDH	baz=208			S	Sn	13 08 19.3	-0.6
CHN4	Tsaushan baz=222	2.15	224	eP	Pn	13 07 55.4	+1.5
CHN4	baz=222			eS	Sn	13 08 22.8	+1.9
CHY	Chiayi baz=228	2.16	229	eP	Pn	13 07 55.0	+1.0
CHY	baz=228			eS	Sn	13 08 21.6	+0.5
TPUB	Ta-pu baz=229	2.16	222	P	Pn	13 07 55.0	+0.9
TPUB	baz=229			eS	Sn	13 08 22.6	+1.3
TPUB	Ta-pu	2.16	222	Pn	Pn	13 07 54.8	+0.7
STYH	Taoyuan baz=209	2.18	217	P	Pn	13 07 56.0	+1.7
STYH	baz=209			eS	Sn	13 08 23.3	+1.8
STYT	Tauyuan baz=209	2.20	217	P	Pn	13 07 56.0	+1.4
STYT	baz=209			eS	Sn	13 08 24.1	+2.0
WTP	Ta-pu baz=230	2.21	222	P	Pn	13 07 55.8	+1.0
WTP	baz=230			eS	Sn	13 08 23.5	+1.1
WSF	Szhu baz=234	2.22	235	eS	Sn	13 08 23.3	+0.9
LONT	Longtian baz=198	2.23	206	eP	Pn	13 07 54.6	-0.4
LONT	baz=198			eS	Sn	13 08 22.1	-0.8
TWK	Hsinying baz=222	2.28	224	P	Pn	13 07 56.5	+0.9
TWK	baz=222			S	Sn	13 08 25.0	+1.1
JTJ	Tarama	2.28	96	P	Pn	13 07 57.1	+1.5
JTJ				eS	Sn	13 08 25.0	+1.1
SNST	Tainan City baz=221	2.31	223	eP	Pn	13 07 58.2	+2.3
SNST	baz=221			eS	Sn	13 08 25.4	+1.0
CHN1	Nanshi baz=220	2.31	222	eP	Pn	13 07 56.9	+0.9
CHN1	baz=220			eS	Sn	13 08 25.7	+1.1
TWGBT	Beinan baz=199	2.33	207	eP	Pn	13 07 56.1	-0.2
TWGBT	baz=199			eS	Sn	13 08 24.6	-0.5
TWG	Pinlang baz=199	2.33	207	P	Pn	13 07 56.3	0.0
TWG	baz=199			eS	Sn	13 08 24.0	-1.2
TWG	Pinlang	2.33	207	Pn	Pn	13 07 54.4	-1.9
LDUT	Ludao baz=197	2.34	197	P	Pn	13 07 56.1	-0.2
LDUT	baz=197			S	Sn	13 08 24.5	-0.7
ICHU	Yijhu baz=228	2.35	229	eP	Pn	13 07 56.7	+0.2
ICHU	baz=228			S	Sn	13 08 25.6	+0.2
SGST	Jiashian baz=227	2.36	219	P	Pn	13 07 56.9	+0.3
SGST	baz=227			eS	Sn	13 08 26.6	+1.0
TTN	Taitung baz=202	2.37	204	eP	Pn	13 07 57.6	+0.9
TTN	baz=202			eS	Sn	13 08 25.6	-0.2
MATB	Ma-tsu baz=297	2.38	301	eP	Pn	13 07 58.3	+1.4
MATB	baz=297			eS	Sn	13 08 26.9	+0.7
SLGT	Liugui baz=214	2.39	217	P	Pn	13 07 58.7	+1.7
SLGT	baz=214			eS	Sn	13 08 28.2	+1.7
CHN8	Yiju baz=228	2.41	230	eP	Pn	13 07 58.5	+1.4
CHN8	baz=228			eS	Sn	13 08 27.7	+1.0
MSUT	Lienchiang baz=299	2.41	302	eP	Pn	13 07 58.3	+1.1
CHN3	Shinhua baz=221	2.49	223	eS	Sn	13 08 31.7	+3.0
VWUC	VWUC baz=271	2.51	272	eP	Pn	13 07 59.5	+1.0
VWUC	baz=271			eS	Sn	13 08 29.9	+0.9
SCLT	Jiali baz=225	2.53	227	eP	Pn	13 07 60.0	+1.2
SCLT	baz=225			eS	Sn	13 08 30.2	+0.5
SCST	Cishan baz=225	2.56	218	eP	Pn	13 08 00.9	+1.7
ECL	Taimali baz=200	2.58	207	eP	Pn	13 07 59.4	-0.1
ECL	baz=200			eS	Sn	13 08 29.1	-1.7
SSD	Sandimen baz=211	2.60	214	eP	Pn	13 08 01.7	+2.0
SSD	baz=211			eS	Sn	13 08 32.9	+1.6
TSMG	Majia baz=221	2.63	213	P	Pn	13 08 01.7	+1.6
TSMG	baz=221			eS	Sn	13 08 32.8	+0.9
TWM1	Shoushan baz=225	2.65	218	eP	Pn	13 08 02.5	+2.1
JIRB	Irabujima	2.69	91	P	Pn	13 08 01.3	+0.4
JIRB				S	Sn	13 08 34.7	+1.4
XPSS	Dashiqiu baz=315	2.70	318	eP	Pn	13 08 01.2	+0.2
XPSS	baz=315			eS	Sn	13 08 33.2	-0.4
MASBT	Mashibuluo baz=221	2.71	212	eP	Pn	13 08 02.2	+1.0
MASBT	baz=221			eS	Sn	13 08 34.6	+0.8
LYJJ	Jianjiangzhen baz=303	2.74	307	eP	Pn	13 08 02.1	+0.6
LYJJ	baz=303			eS	Sn	13 08 34.6	+0.2
JIKM	Ikemajima	2.76	89	P	Pn	13 08 03.6	+1.9
JIKM				eS	Sn	13 08 36.8	+1.9
PNG	Penghu baz=242	2.77	241	eP	Pn	13 08 01.9	0.0
PNG	baz=242			eS	Sn	13 08 35.3	+0.2
PHUB	P'eng-hu baz=241	2.79	240	eP	Pn	13 08 01.5	-0.6
PHUB	baz=241			eS	Sn	13 08 33.5	-2.0
JMJ	Miyako jima 2 baz=94	2.80	91	eP	Pn	13 08 03.7	+1.4
JMJ	baz=94			eS	Sn	13 08 36.5	+0.5
PTMZ	Houxiangcun baz=271	2.81	273	eP	Pn	13 08 02.8	+0.4
PTMZ				eS	Sn	13 08 35.8	-0.2

	baz=271								
EAST	**Anshuo**	**2.82**	**207**	*e*P		**Pn**	**13 08 04.5**	**+1.9**
	baz=197								
EAST				*e*S		**Sn**	**13 08 37.0**	**+0.7**
	baz=197								
TAW	**Tawu**	**2.82**	**206**	*e*P		**Pn**	**13 08 03.2**	**+0.6**
	baz=198								
JMJ2	**Miyako jima3**	**2.84**	**93**	P		**Pn**	**13 08 04.3**	**+1.5**
JMJ2				S		**Sn**	**13 08 38.5**	**+1.7**
SSPT	**Xinbi**	**2.85**	**212**	*e*P		**Pn**	**13 08 04.0**	**+1.0**
	baz=208								
SSPT				*e*S		**Sn**	**13 08 37.6**	**+0.5**
	baz=208								
WDGT	**Dungji**	**2.86**	**235**	*e*P		**Pn**	**13 08 04.7**	**+1.7**
	baz=235								
WDGT				*e*S		**Sn**	**13 08 37.5**	**+0.3**
	baz=235								
JOGS	**Gusukube**	**2.91**	**92**	P		**Pn**	**13 08 05.8**	**+2.1**
JOGS				S		**Sn**	**13 08 40.2**	**+1.8**
SCZT	**Fangliau**	**2.92**	**210**	*e*P		**Pn**	**13 08 05.5**	**+1.6**
	baz=216								
SCZT				*e*S		**Sn**	**13 08 39.5**	**+0.7**
	baz=216								
SLIU	**Shizi**	**2.99**	**206**	*e*P		**Pn**	**13 08 06.1**	**+1.4**
	baz=202								
SLIU				*e*S		**Sn**	**13 08 42.0**	**+1.8**
	baz=202								
VCHM	**Qimei**	**3.06**	**237**	*e*P		**Pn**	**13 08 06.8**	**+1.1**
	baz=237								
VCHM				*e*S		**Sn**	**13 08 41.9**	**0.0**
	baz=237								
WLCH	**Liuqiu**	**3.06**	**214**	*e*P		**Pn**	**13 08 06.1**	**+0.4**
	baz=209								
WLCH				*e*S		**Sn**	**13 08 44.6**	**+2.6**
	baz=209								
MHZQ	**Yeshan**	**3.10**	**293**	*e*P		**Pn**	**13 08 07.5**	**+1.3**
	baz=290								
HEN	**Hengchun**	**3.20**	**205**	*e*P		**Pn**	**13 08 08.6**	**+1.1**
	baz=210								
HEN				*e*S		**Sn**	**13 08 45.0**	**-0.3**
	baz=210								
TWK1	**Hengchun**	**3.23**	**204**	*e*P		**Pn**	**13 08 09.8**	**+1.8**
	baz=208								
TWK1				*e*S		**Sn**	**13 08 45.7**	**-0.4**
	baz=208								
TWKBT	**Hengchun**	**3.23**	**204**	*e*P		**Pn**	**13 08 09.2**	**+1.2**
	baz=208								
TWKBT				*e*S		**Sn**	**13 08 45.4**	**-0.6**
	baz=208								
TSEB	**Hengchuen, Pin**	**3.24**	**202**	*e*P		**Pn**	**13 08 09.3**	**+1.3**
	baz=205								
TSEB				*e*S		**Sn**	**13 08 46.1**	**-0.1**
	baz=205								
KNM	**Kinmen**	**3.47**	**262**	*e*P		**Pn**	**13 08 13.8**	**+2.7**
	baz=262								
KNM				*e*S		**Sn**	**13 08 54.1**	**+2.4**
	baz=262								
KNMB	**Chin-men Tao**	**3.50**	**263**	*e*P		**Pn**	**13 08 12.3**	**+0.7**
	baz=262								
KNMB				*e*S		**Sn**	**13 08 53.4**	**+0.9**
	baz=262								
KNMB	**Chin-men Tao**	**3.50**	**263**	Pn		**Pn**	**13 08 11.2**	**-0.3**
AXDP	**Jialang**	**3.85**	**271**	*e*P		**Pn**	**13 08 16.3**	**+0.2**
	baz=269								
AXDP				*e*S		**Sn**	**13 08 59.2**	**-1.4**
	baz=269								
ZPLA	**Ao Xicun**	**4.18**	**257**	*e*P		**Pn**	**13 08 21.6**	**+1.0**
	baz=258								
JOW	**Kunigami**	**5.79**	**69**	Pn		**Pn**	**13 08 41.2**	**-0.9**
MDJ	**Mudanjiang**	**20.55**	**15**	P		**P**	**13 11 46.2**	**-1.5**
USRK	**Ussuriysk Ar.**	**20.82**	**20**	P		**P**	**13 11 49.6**	**-1.1**
JEM	**Erimo**	**24.31**	**40**	P		P	13 12 33.3	+8.2
JEM				IAmb		IAmb	13 12 46.7	
	comp=Z,67nm,1.3s								
JKA	**Kamikawa-asahi**	**25.35**	**36**	P		**P**	**13 12 33.2**	**-1.4**
MKAR	**Makanchi Array**	**38.47**	**315**	P		**P**	**13 14 28.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=92,slow=10,SNR=1.3								
MTN	**Manton Dam**	**38.53**	**166**	P		**P**	**13 14 28.9**	**-0.9**
MTN				IAmb		IAmb	13 14 55.3	
	comp=Z,15nm,1.2s								
KNRA	**Kununurra**	**40.85**	**170**	P		**P**	**13 14 48.3**	**-0.7**
KNRA				IAmb		IAmb	13 15 12.7	
	comp=Z,17nm,1.3s								
WB0	**Warramunga Arr**	**45.97**	**164**	P		**P**	**13 15 29.3**	**-0.8**
WB0				IAmb		IAmb	13 15 39.7	
	comp=Z,15nm,1.4s								
WRA	**Warramunga Arr**	**46.13**	**164**	P		**P**	**13 15 31.2**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=346,slow=8.5,SNR=5.5								
WRA	**Warramunga Arr**	**46.13**	**164**	P		**P**	**13 15 30.1**	**-1.2**
WR0	**Warramunga Arr**	**46.20**	**164**	P		**P**	**13 15 30.9**	**-0.9**
WR0				IAmb		IAmb	13 15 32.8	
	comp=Z,5.6nm,1.1s								
ASAR	**Alice Springs**	**49.61**	**166**	P		**P**	**13 15 58.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=336,slow=6.9,SNR=2.4								
KDAK	**Kodiak Island**	**66.77**	**36**	P		**P**	**13 17 58.0**	**+0.8**

MAN 17 13:08:58.3, 9.91N × 124.24E, h11 km, MS2.7, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.48**	**327**	↓*e*P	Pg	13 09 07.7	-0.1
LLP				*e*S	Sg	13 09 15.0	+0.8
MSLP	**Maasin**	**0.65**	**70**	↑*i*P	Pg	13 09 11.2	+0.2
MSLP				*i* S	Sb	13 09 21.5	+0.7
SNPH	**Sibulan**	**1.14**	**240**	↓*i*P	Pb	13 09 19.5	-0.5
SNPH				*i* S	Sn	13 09 36.0	+0.1
OCLP	**Ormoc**	**1.19**	**18**	*e*P	Pb	13 09 20.5	-0.4
OCLP				*e*S	Sg	13 09 36.9	+0.2
CGP	**Cagayan de Oro**	**1.52**	**163**	↓*e*P	Pn	13 09 24.1	-1.3
CGP				*e*S	Sn	13 09 44.8	-0.4
CNOP	**Candoni, Negro**	**1.58**	**267**	↑*e*P	Pn	13 09 26.3	+0.1
CNOP				*i* S	Sg	13 09 49.5	+0.4
GLSP	**General Luna,**	**1.87**	**94**	*e*P	Pn	13 09 29.9	-0.4
GLSP				*e*S	Sn	13 09 50.0	-3.8
BUKP	**Musuan**	**2.18**	**158**	*e*P	Pn	13 09 34.4	-0.2
PAGZ	**Pagadian**	**2.22**	**202**	*e*P	Pn	13 09 35.3	+0.3
PAGZ				*e*S	Sn	13 10 03.1	+0.6

*IDC **17** 13:29:01.1±1.0, 29.45N × 115.36E, h0 km, mb3.7/7, mb1 3.8/9, mb1mx3.6/56, mbtmp3.8/9, ML3.6/2, Error ellipse: s-maj=33.6km s-min=19.7km az=67.0*
*BJI **17** 13:29:02.3±0.0, 29.69N × 115.73E, h8 km, mb4.1/6, ML4.4/19*
*NEIC **17** 13:29:02.7±2.0, 29.44N±0.10 × 115.5E±0.1, h8 km±5 km, mb4.1/10, Error ellipse: s-maj=15.9km s-min=10.8km az=217.0*

ISC 17 13:29:03.0±0.6, 29.45N±0.06 × 115.46E±0.06, h10 km, n37, σ1s39/38, mb3.9/10, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.45**	**319**	Pg	**Pn**	**13 29 28.4**	**-0.9**
WHN				Sg	**Sn**	**13 29 48.5**	**+0.1**
WHN				SMN			
	8μm,1.1s						
WHN				SME			
	6μm,0.5s						
NJ2	**Nanjing**	**3.91**	**48**	*e*Pn	Pn	13 29 57.9	-5.1
NJ2				Pg	Pb	13 30 05.3	-6.6
NJ2				Sg	**Sn**	**13 30 52.1**	**+3.2**
NJ2				SMN			
	840nm,0.8s						
NJ2				SME			
	410nm,0.6s						
ENH	**Enshi**	**5.25**	**280**		**Pn**	**13 30 22.3**	**+0.7**
QZH	**Quanzhou**	**5.29**	**147**	↓*i*Pn	**Pn**	**13 30 21.0**	**-1.0**
QZH				Sn	**Sn**	**13 31 24.9**	**+1.9**
QZH				SMN			
	310nm,0.6s						
QZH				SME			
	370nm,0.7s						
KNMB	**Chin-men Tao**	**5.61**	**152**	Pn	**Pn**	**13 30 25.2**	**-1.3**
TATO	**Taipei**	**6.98**	**128**	Pn	**Pn**	**13 30 42.3**	**-2.9**
YHNB	**Yeheng**	**7.11**	**131**	Pn	**Pn**	**13 30 43.8**	**-3.3**
XAN	**Xi'an**	**7.20**	**311**	Pg	Pb	13 31 13.0	+4.8
XAN				Sn	**Sn**	**13 32 09.8**	**-0.6**
XAN				SMN			
	200nm,0.7s						
XAN				SME			
	130nm,0.7s						
SSLB	**Suanglung**	**7.48**	**138**	Pn	**Pn**	**13 30 50.2**	**-2.0**
NACB	**Ninganchiao**	**7.59**	**132**	Pn	**Pn**	**13 30 53.0**	**-0.8**
YULB	**Yu-li**	**7.99**	**138**	Pn	**Pn**	**13 30 58.6**	**-0.6**
TWG	**Pinlang**	**8.31**	**141**	Pn	**Pn**	**13 31 03.5**	**-0.1**
YOJ	**Yonaguni jima**	**8.37**	**125**	Pn	**Pn**	**13 31 02.1**	**-2.3**
CD2	**Chengdu**	**10.23**	**281**	*e*P	**Pn**	**13 31 32.3**	**+2.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
KSRS	**Korea Array**	**13.10**	**49**	Pn	**Pn**	**13 32 08.9**	**-0.3**
	0.1nm,0.3s,baz=232,slow=12,SNR=14						
JMN	**Monobe**	**16.26**	**70**	P	**P**	**13 32 54.2**	**-0.4**
JMN				IAmb	IAmb	13 33 22.2	
	comp=Z,21nm,1.2s						
GTA	**Gaotai**	**16.27**	**312**	*e*P	**Pn**	**13 32 52.6**	**+0.9**
GTA				pP	sP	13 32 58.5	-0.4
GTA				sP	pP	13 33 02.0	+4.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.7s						
JWT	**Wachi**	**17.81**	**66**	P	**Pn**	**13 33 10.6**	**-0.3**
JWT				IAmb	IAmb	13 33 15.7	
	comp=Z,15nm,1.4s						
ULN	**Ulaanbaatar**	**19.50**	**343**	P	**P**	**13 33 30.1**	**-0.3**
ULN				IAmb	IAmb	13 33 30.9	
	comp=Z,3.2nm,0.5s						
SONM	**Songino Array**	**19.65**	**342**	P	**P**	**13 33 31.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=161,slow=12,SNR=13						
SONM	**Songino Array**	**19.65**	**342**	IAmb	IAmb	13 33 35.5	
	comp=Z,1.6nm,0.7s						
KLR	**Kul'dur**	**23.33**	**28**	P	**P**	**13 34 11.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=194,slow=6.1,SNR=4.3						
WMQ	**Urumqi**	**26.34**	**311**	*e*P	**P**	**13 34 38.9**	**-0.3**
MKAR	**Makanchi Array**	**31.01**	**313**	P	**P**	**13 35 20.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=96,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**33.05**	**326**	P	**P**	**13 35 37.0**	**-1.5**
	comp=Z,2.5nm,0.6s,baz=117,slow=9.3,SNR=5.7						
KURK	**Kurchatov**	**34.78**	**318**	P	**P**	**13 35 52.8**	**-0.7**
KURBB	**Kurchatov Arra**	**34.79**	**318**	P	**P**	**13 35 52.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=112,slow=9.5,SNR=4.6						
ABKAR	**Akbulak array**	**46.12**	**311**	P	**P**	**13 37 27.3**	**-0.1**
BILL	**Bilibino**	**48.66**	**23**	P	**P**	**13 37 49.1**	**+2.3**
BILL				IAmb	IAmb	13 38 05.3	
	comp=Z,2.4nm,1.1s						
WRAB	**Tennant Creek**	**52.37**	**157**	P	**P**	**13 38 15.1**	**-0.3**
WRAB				IAmb	IAmb	13 38 32.6	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**52.37**	**157**	P	**P**	**13 38 14.0**	**-1.4**
	comp=Z,0.5nm,1.0s,baz=348,slow=8.5,SNR=2.3						
WR0	**Warramunga Arr**	**52.46**	**157**	P	**P**	**13 38 16.1**	**0.0**
WR0				IAmb	IAmb	13 38 43.1	
	comp=Z,2.5nm,1.0s						
ASAR	**Alice Springs**	**55.71**	**159**	P	**P**	**13 38 40.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=348,slow=7.0,SNR=7.3						
BMAR	**Burnt Mountain**	**66.86**	**24**	P	**P**	**13 39 54.7**	**-0.1**
RC01	**Rabbit Creek A**	**66.92**	**32**	P	**P**	**13 39 54.2**	**-1.0**
INK	**Inuvik**	**70.25**	**22**	P	**P**	**13 40 15.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=324,slow=8.1,SNR=3.8						
INK	**Inuvik**	**70.25**	**22**	P	**P**	**13 40 15.4**	**-0.5**

IDC 17 13:41:11.5±8.7, 11.30S × 162.21E, h0 km, mb3.6/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=264.7km s-min=52.2km az=123.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.15**	**249**	P	P	13 47 06.4	+0.7
	0.2nm,0.4s,baz=78,slow=9.0,SNR=1.4						
ASAR	**Alice Springs**	**29.60**	**242**	P	P	13 47 18.1	-0.6
	0.4nm,0.8s,baz=65,slow=10,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**29.93**	**9**	T	T	14 18 55.5	
	baz=188,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.93**	**9**	T	T	14 18 53.7	
	baz=188,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.95**	**9**	T	T	14 18 57.4	
	baz=188,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**31.16**	**9**	T	T	14 20 25.7	
	baz=188,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**31.17**	**9**	T	T	14 20 26.8	
	baz=188,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**31.18**	**9**	T	T	14 20 36.3	
	baz=188,slow=76,SNR=21						
MKAR	**Makanchi Array**	**91.34**	**317**	P	P	13 54 19.4	0.0
	0.5nm,0.6s,baz=95,slow=6.5,SNR=5.3						

*IDC **17** 13:58:52.2±3.2, 51.51N × 175.66W, h20 km±19 km, mb3.8/18, mb1 4.0/19, mb1mx3.8/50, mbtmp3.9/19, ML4.0/1, Error ellipse: s-maj=25.4km s-min=12.1km az=173.0*
*AEIC **17** 13:58:53±1.9, 51.50N±0.05 × 175.57W±0.06, h28 km±3 km, Error ellipse: s-maj=7.6km s-min=5.0km az=159.0*
*ANF **17** 13:58:55.8±1.0, 51.64N × 175.43W, h30 km, ML4.8/1, Error ellipse: s-maj=16.9km s-min=9.2km az=91.0, Hypocentre not reviewed by the ISC*
*NEIC **17** 13:58:55.3±1.9, 51.54N±0.06 × 175.61W±0.05, h42 km±6 km, mb4.3/84, ML4.3(AEIC), Error ellipse: s-maj=8.9km s-min=4.5km az=175.0*

ISC 17 13:58:55.5±0.5, 51.53N±0.07 × 175.66W±0.04, h47 km, n170, σ1s30/171, mb4.3/37, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.48**	**340**		**Pn**	**13 59 05.7**	**-0.8**
GSIG					**Sn**	**13 59 14.2**	**0.0**
GSMY	**Great Sitkin M**	**0.57**	**335**		**Pn**	**13 59 06.9**	**-0.5**
GSTD	**Great Sitkin T**	**0.60**	**330**		**Pn**	**13 59 07.5**	**-0.5**
GSTR	**Great Sitkin T**	**0.61**	**336**		**Pn**	**13 59 07.6**	**-0.4**
GSSP	**Great Sitkin S**	**0.65**	**331**		**Pn**	**13 59 08.2**	**-0.3**
ADK	**Adak**	**0.73**	**299**		**Pn**	**13 59 08.3**	**-1.2**
ADK					**Sn**	**13 59 19.2**	**-0.4**
KIWB	**Kanaga Island**	**0.98**	**290**		**Pn**	**13 59 11.9**	**-1.0**
KIKV	**Kanaga Island**	**1.00**	**291**		**Pn**	**13 59 12.4**	**-0.8**
KIMD	**Kanaga Island**	**1.01**	**284**		**Pn**	**13 59 12.1**	**-1.2**
KICM	**Kanaga Island**	**1.03**	**293**		**Pn**	**13 59 13.0**	**-0.6**
ATKA	**Atka Island**	**1.13**	**53**		**Pn**	**13 59 12.8**	**-2.1**
ATKA					**Sn**	**13 59 27.1**	**-2.2**
KOKL	**Mount Kliuchef**	**1.20**	**48**		**Pn**	**13 59 14.7**	**-1.3**
KOFP	**Korovin Flat P**	**1.22**	**52**		**Pn**	**13 59 14.7**	**-1.5**
TAPA	**Tanaga Point A**	**1.37**	**283**		**Pn**	**13 59 17.7**	**-0.5**
TASE	**Tanaga Southea**	**1.51**	**283**		**Pn**	**13 59 19.9**	**-0.3**
GAEA	**Gareloi East**	**1.94**	**279**		**Pn**	**13 59 26.4**	**+0.5**
GALAA	**Gareloi Lava P**	**1.95**	**278**		**Pn**	**13 59 26.6**	**+0.4**
CERAA	**Semis' Rag'd T**	**2.92**	**279**		**Pn**	**13 59 40.8**	**+1.4**
CESW	**Semis' Southwe**	**2.99**	**279**		**Pn**	**13 59 41.3**	**+0.9**
CEAP	**Semis' Anvil P**	**3.00**	**281**		**Pn**	**13 59 41.2**	**+0.7**
AMKA	**Amchitka**	**3.15**	**269**		**Pn**	**13 59 42.7**	**+0.1**
AMKA					**Sn**	**14 00 20.5**	**+1.5**
LSPA	**Little Sitkin**	**3.61**	**279**		**Pn**	**13 59 49.9**	**+1.0**
LSNW	**Little Sitkin**	**3.65**	**279**		**Pn**	**13 59 50.6**	**+1.2**
NIKH	**Nikolski High**	**4.42**	**68**		**Pn**	**13 59 59.7**	**-0.4**
NIKH	**Nikolski High**	**4.42**	**68**	P		13 59 55.6	
	baz=253						
NIKH				S		14 00 48.6	
	baz=253						
MAPS	**Pakushin South**	**5.78**	**63**		**Pn**	**14 00 17.8**	**-0.8**
MNAT	**Makushin Natee**	**5.94**	**63**		**Pn**	**14 00 20.4**	**-0.5**
MNAT					**Sn**	**14 01 29.2**	**+1.7**
SMY	**Shemya**	**6.42**	**285**		**Pn**	**14 00 27.9**	**+0.5**
SPIA	**Saint Paul Isl**	**6.48**	**27**		**Pn**	**14 00 28.8**	**+0.6**
SPIA					**Sn**	**14 01 41.1**	**+0.5**
SPIA	**Saint Paul Isl**	**6.48**	**27**	P		14 00 25.6	
	baz=211						
SPIA				S		14 01 40.0	
	baz=211						
SDPT	**Sand Point**	**9.83**	**61**		**Pn**	**14 01 14.4**	**+0.4**
SDPT	**Sand Point**	**9.83**	**61**	P		14 01 12.4	
	baz=253						
CHIR	**Chirikof Islan**	**12.62**	**62**	Pn	**Pn**	**14 01 50.7**	**-1.4**
OHAK	**Old Harbor**	**14.19**	**58**	Pn	**Pn**	**14 02 10.5**	**-3.0**
OHAK	**Old Harbor**	**14.19**	**58**	P		14 02 11.6	
	baz=256						
N18K	**Kilae Creek**	**14.28**	**42**	P		14 02 14.5	
	baz=239						
SVW2	**Sparrevohn**	**14.63**	**41**	Pn	**Pn**	**14 02 18.6**	**-0.8**
KDAK	**Kodiak Island**	**14.70**	**56**	Pn	**Pn**	**14 02 17.2**	**-3.1**
	0.4nm,0.3s,baz=200,slow=2.8,SNR=28						
KDAK				Sn	**Sn**	**14 05 06.9**	**+5.2**
	0.2nm,0.3s,baz=52,slow=23,SNR=1.3						
KDAK	**Kodiak Island**	**14.70**	**56**		**Pn**	**14 02 19.3**	**-1.0**
KDAK	**Kodiak Island**	**14.70**	**56**	P		14 02 16.4	
	baz=254						
TTA	**Tatalina**	**15.52**	**35**	P	**P**	**14 02 34.0**	**-0.6**
TTA	**Tatalina**	**15.52**	**35**	P		14 02 28.5	
	baz=231						
RSO	**Redoubt South**	**15.55**	**46**	P	**P**	**14 02 34.8**	**-0.3**
HOM	**Homer**	**15.75**	**50**	P	**P**	**14 02 35.9**	**-1.2**
HOM				IAmb	IAmb	14 02 53.9	
	comp=Z,24nm,1.0s						
CNPM	**China Poot**	**15.90**	**50**	Pn	**Pn**	**14 02 34.5**	**-1.3**
CNPM				IAmb	IAmb	14 02 56.4	
	comp=Z,27nm,1.4s						
SPU	**Mount Spurr**	**16.17**	**44**	P	**P**	**14 02 41.5**	**-0.3**
BRSE	**Bradley Lake S**	**16.21**	**50**	P		14 02 37.9	
	baz=250						
PEA0B	**Petropavlovsk-**	**16.33**	**286**	P	**P**	**14 02 45.0**	**+1.4**
PEA0B				IAmb	IAmb	14 03 00.0	
	comp=Z,25nm,1.3s						
PETK	**Petropavlovsk-**	**16.33**	**286**	Pn	**P**	**14 02 44.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=85,slow=15,SNR=8.7						
SKT	**Skwentna**	**16.75**	**42**	Pn	**Pn**	**14 02 40.3**	**-6.2**
SKT				IAmb	IAmb	14 02 55.4	
	comp=Z,14nm,1.0s						
SKT	**Skwentna**	**16.75**	**42**	P		14 02 42.5	
	baz=242						
SUA	**Susitna One**	**16.86**	**44**	P	**P**	**14 02 49.7**	**+0.2**
SUA	**Susitna One**	**16.86**	**44**	P		14 02 47.0	
	baz=245						
PPLA	**Purkeypile**	**16.94**	**39**	Pn	**Pn**	**14 02 48.4**	**-0.7**
PPLA				IAmb	IAmb	14 03 02.7	
	comp=Z,18nm,1.1s						
PPLA	**Purkeypile**	**16.94**	**39**	P		14 02 48.6	
	baz=238						
O22K	**Cooper Landing**	**16.94**	**48**		**Pn**	**14 02 49.2**	**+0.3**
O22K				IAmb	IAmb	14 03 08.5	
	comp=Z,22nm,0.7s						
SEW	**Seward**	**16.94**	**49**	Pn	**Pn**	**14 02 46.9**	**-2.0**
SEW				IAmb	IAmb	14 03 08.3	
	comp=Z,5.7nm,0.6s						
SEW	**Seward**	**16.94**	**49**	P		14 02 47.4	
	baz=251						
RC01	**Rabbit Creek A**	**17.16**	**46**	Pn	**Pn**	**14 02 50.1**	**-1.4**
CHUM	**Lake Minchumin**	**17.43**	**36**	P		14 02 53.6	
	baz=236						
PWL	**Port Wells**	**17.71**	**48**	P	**P**	**14 02 58.8**	**-0.1**
KTH	**Kantishna Hill**	**17.77**	**38**	P	**P**	**14 02 59.6**	**+0.1**
KTH				IAmb	IAmb	14 03 07.3	
	comp=Z,34nm,1.0s						
GHO	**Glory Hole Cre**	**17.78**	**44**	P	**Pn**	**14 02 59.2**	**-0.1**
KNK	**Knik Glacier**	**17.85**	**46**		**Pn**	**14 02 59.4**	**-0.7**
KNK	**Knik Glacier**	**17.85**	**46**	P		14 02 59.0	
	baz=248						
TRF	**Thorofare Moun**	**17.96**	**39**	P	**P**	**14 03 02.0**	**+0.2**
TRF				IAmb	IAmb	14 03 24.6	
	comp=Z,17nm,1.0s						
TRF	**Thorofare Moun**	**17.96**	**39**	P		14 03 00.7	
	baz=240,SNR=18						
BPAW	**Bear Paw Mtn.**	**18.04**	**36**		**Pn**	**14 03 03.1**	**+0.7**
BPAW	**Bear Paw Mtn.**	**18.04**	**36**	P		14 03 02.8	
	baz=237,SNR=14						
SML	**Sawmill**	**18.05**	**45**	P	**P**	**14 03 02.6**	**0.0**
SML	**Sawmill**	**18.05**	**45**	P		14 03 01.9	
	baz=248						
MID	**Middleton Isla**	**18.27**	**53**	P	**P**	**14 03 04.5**	**-0.5**
GLI	**Glacier Island**	**18.29**	**48**	P	**P**	**14 03 04.1**	**-1.1**
GLI	**Glacier Island**	**18.29**	**48**	P		14 03 04.6	
	baz=252						
I21K	**Tanana**	**18.30**	**33**	P		14 03 05.6	
	baz=233,SNR=24						
H21K	**Melozitna Rive**	**18.33**	**31**	P		14 03 06.8	
	baz=230						
HIN	**Hinchinbrook I**	**18.43**	**50**	P	**P**	**14 03 05.6**	**-1.1**
HIN				IAmb	IAmb	14 03 31.4	
	comp=Z,31nm,1.2s						
SCM	**Sheep Creek Mo**	**18.51**	**45**	P	**P**	**14 03 06.6**	**-1.0**
RND	**Reindeer**	**18.51**	**40**	P	**Pn**	**14 03 08.4**	**+0.2**
RND				IAmb	IAmb	14 03 15.3	
	comp=Z,12nm,1.0s						
FID	**Port Fidalgo**	**18.54**	**49**	P	**P**	**14 03 05.8**	**-2.1**
FID				IAmb	IAmb	14 03 25.9	
	comp=Z,16nm,1.3s						
WAT6	**Susitna Watana**	**18.61**	**43**	P		14 03 08.0	
	baz=246						
MCK	**McKinley**	**18.63**	**39**	P	**P**	**14 03 06.4**	**-2.6**
MCK				IAmb	IAmb	14 03 15.2	
	comp=Z,13nm,1.1s						
MCK	**McKinley**	**18.63**	**39**	P		14 03 07.7	
	baz=241						
BWN	**Browne**	**18.64**	**37**	P	**Pn**	**14 03 10.2**	**+0.4**
MLY	**Manley**	**18.64**	**34**	P	**Pn**	**14 03 10.4**	**+0.7**
MLY				IAmb	IAmb	14 03 22.5	
	comp=Z,7.8nm,0.7s						
MLY	**Manley**	**18.64**	**34**	P		14 03 09.7	
	baz=235,SNR=12						
BILL	**Bilibino**	**18.75**	**339**		**Pn**	**14 03 11.8**	**+0.8**
BILL				IAmb	IAmb	14 03 17.0	
	comp=Z,16nm,0.8s						
NEA2	**Nenana**	**19.01**	**36**	P	**P**	**14 03 13.2**	**+0.2**
NEA2	**Nenana**	**19.01**	**36**	P		14 03 13.3	
	baz=239,SNR=5.1						
M24K	**Tolsona, Glenn**	**19.11**	**45**	P		14 03 13.7	
	baz=250						
I23K	**Minto, Yukon-K**	**19.20**	**35**	P	**Pn**	**14 03 15.9**	**-0.4**
I23K				IAmb	IAmb	14 03 38.9	
	comp=Z,10.0nm,0.8s						
I23K	**Minto, Yukon-K**	**19.20**	**35**	P		14 03 15.7	
	baz=237						
WRH	**Wood River Hil**	**19.31**	**37**	P	**P**	**14 03 15.4**	**-0.9**
BMRM	**Bremner River**	**19.48**	**49**	P	**P**	**14 03 18.5**	**+0.2**
BMRM				IAmb	IAmb	14 03 26.2	
	comp=Z,7.6n

FYU				IAmb	IAmb	14 03 53.1	
	comp=Z,17nm,1.2s						
K27K	**Chicken**	**21.52**	**42**	P	**P**	**14 03 40.0**	**-0.2**
K27K				IAmb	IAmb	14 03 48.7	
	comp=Z,24nm,1.2s						
K27K	**Chicken**	**21.52**	**42**	P		14 03 39.8	
	baz=250						
A21K	**Barrow**	**21.64**	**17**	P		14 03 40.5	
	baz=213						
BCPM	**Bancas Point**	**21.71**	**53**	P	**P**	**14 03 42.8**	**+0.5**
BMAR	**Burnt Mountain**	**22.04**	**32**	P	**P**	**14 03 46.2**	**+0.4**
EGAK	**Eagle**	**22.16**	**40**		**P**	**14 03 46.6**	**-0.4**
EGAK				IAmb	IAmb	14 04 10.8	
	comp=Z,11nm,0.8s						
EGAK	**Eagle**	**22.16**	**40**	P		14 03 46.3	
	baz=250,SNR=14						
DAWY	**Dawson**	**22.66**	**42**	P	**P**	**14 03 52.2**	**-0.3**
DAWY				IAmb	IAmb	14 03 58.6	
	comp=Z,10nm,1.1s						
CRAG	**Craig**	**25.31**	**64**	P		14 04 15.3	
	baz=279						
WRAK	**Wrangell Islan**	**25.61**	**62**	P	**P**	**14 04 21.7**	**+1.7**
WRAK				IAmb	IAmb	14 04 38.8	
	comp=Z,9.9nm,1.0s						
WRAK	**Wrangell Islan**	**25.61**	**62**	P		14 04 16.5	
	baz=277						
INK	**Inuvik**	**26.21**	**34**	P	**P**	**14 04 25.3**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=291,slow=3.5,SNR=3.2						
INK	**Inuvik**	**26.21**	**34**	P	**P**	**14 04 25.3**	**-0.1**
INK				IAmb	IAmb	14 04 30.4	
	comp=Z,6.0nm,1.2s						
INK	**Inuvik**	**26.21**	**34**	P		14 04 23.5	
	baz=251						
ASAJ	**Asahikawa**	**28.67**	**272**	P	**P**	**14 04 49.4**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=61,slow=12,SNR=5.5						
ERM	**Erimo**	**29.42**	**267**	P	**P**	**14 04 55.3**	**+1.0**
ERM				IAmb	IAmb	14 05 23.2	
	comp=Z,11nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**34.57**	**210**	T	T	14 42 15.0	
	baz=18,slow=76,SNR=543						
H11N3	**WAKE ISLAND Hy**	**34.58**	**210**	T	T	14 42 15.7	
	baz=18,slow=76,SNR=519						
H11N1	**WAKE ISLAND Hy**	**34.59**	**210**	T	T	14 42 20.8	
	baz=18,slow=76,SNR=290						
USA0B	**Ussuriysk Arra**	**35.22**	**279**	P	**P**	**14 05 43.6**	**-1.4**
USA0B				IAmb	IAmb	14 05 45.9	
	comp=Z,5.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**35.22**	**279**	P	**P**	**14 05 45.0**	**0.0**
	comp=Z,4.1nm,0.6s,baz=63,slow=11,SNR=10						
USRK	**Ussuriysk Ar.**	**35.22**	**279**	P	**P**	**14 05 43.9**	**-1.1**
MAJO	**Matsushiro**	**35.75**	**264**	P	**P**	**14 05 47.2**	**-2.5**
MAJO				IAmb	IAmb	14 05 53.3	
	comp=Z,4.5nm,0.8s						
MJAR	**Matsushiro Arr**	**35.75**	**264**	P	**P**	**14 05 49.2**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=71,slow=9.4,SNR=4.4						
MJAR	**Matsushiro Arr**	**35.75**	**264**	P	**P**	**14 05 48.1**	**-1.6**
MJAR				IAmb	IAmb	14 05 50.9	
	comp=Z,3.3nm,1.2s						
MJB9	**Matsu-Tunnel**	**35.75**	**264**	P	**P**	**14 05 47.7**	**-2.0**
H11S1	**WAKE ISLAND Hy**	**35.78**	**209**	T	T	14 43 53.1	
	baz=18,slow=76,SNR=255						
H11S2	**WAKE ISLAND Hy**	**35.80**	**209**	T	T	14 43 54.2	
	baz=18,slow=76,SNR=128						
H11S3	**WAKE ISLAND Hy**	**35.80**	**209**	T	T	14 43 52.1	
	baz=18,slow=76,SNR=100						
YBH	**Yreka Blue Hor**	**36.91**	**84**	P	**P**	**14 05 59.0**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=183,slow=17,SNR=1.8						
NEW	**Newport**	**36.98**	**71**	P	**P**	**14 06 00.7**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=303,slow=4.9,SNR=4.2						
NEW	**Newport**	**36.98**	**71**	P		14 06 00.3	
	baz=298						
MSO	**Missoula**	**39.56**	**72**	P	**P**	**14 06 21.3**	**-0.6**
MSO				IAmb	IAmb	14 06 38.7	
	comp=Z,6.6nm,0.9s						
MSO	**Missoula**	**39.56**	**72**	P		14 06 21.7	
	baz=300						
HLID	**Hailey**	**41.00**	**76**	P		14 06 33.7	
	baz=304						
BCYI	**Bear Canyon**	**41.20**	**75**	P	**P**	**14 06 35.5**	**-0.1**
MCMT	**McKenzie Canyo**	**41.26**	**74**	P	**P**	**14 06 36.2**	**+0.1**
EGMT	**Eagleton**	**41.41**	**68**	P		14 06 37.4	
	baz=300						
NVAR	**Mina Array Bea**	**41.58**	**85**	P	**P**	**14 06 38.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=284,slow=7.3,SNR=1.4						
NVAR	**Mina Array Bea**	**41.58**	**85**	P	**P**	**14 06 38.3**	**-0.5**
KSRS	**Korea Array**	**41.59**	**273**	P	**P**	**14 06 39.4**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=57,slow=7.8,SNR=15						
KSAR	**Wonju Array Be**	**41.63**	**273**	P	**P**	**14 06 39.6**	**+0.7**
YHH	**Holmes Hill**	**42.47**	**73**	P	**P**	**14 06 47.2**	**+1.1**
YHH				IAmb	IAmb	14 07 03.0	
	comp=Z,9.3nm,1.0s						
RLMT	**Red Lodge**	**43.23**	**71**	P		14 06 52.8	
	baz=303						
TPNV	**Topopah Spring**	**43.78**	**85**	P		14 06 55.4	
	baz=309						
BW06	**Boulder Array**	**44.38**	**74**	P	**P**	**14 07 01.8**	**+0.4**
BW06				IAmb	IAmb	14 07 17.8	
	comp=Z,6.4nm,0.9s						
PDAR	**Pinedale Array**	**44.38**	**74**	P	**P**	**14 07 02.0**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=296,slow=4.9,SNR=11						
PDAR	**Pinedale Array**	**44.38**	**74**	P	**P**	**14 07 01.5**	**+0.1**
BW06	**Boulder Array**	**44.38**	**74**	P		14 07 01.6	
	baz=305						
O20A	**White River Ci**	**46.74**	**76**	P		14 07 21.1	
	baz=308						
PV17	**East Wray Mesa**	**47.45**	**79**	P	**P**	**14 07 25.6**	**0.0**
PV05	**Paradox Valley**	**47.49**	**79**	P	**P**	**14 07 25.6**	**-0.4**
PV05				IAmb	IAmb	14 07 45.9	
	comp=Z,4.9nm,0.9s						
PV03	**Paradox Valley**	**47.54**	**79**	P	**P**	**14 07 26.3**	**0.0**
PV03				IAmb	IAmb	14 07 42.7	
	comp=Z,6.8nm,1.1s						
SONM	**Songino Array**	**48.32**	**298**	P	**P**	**14 07 32.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=48,slow=7.5,SNR=3.7						
SONM				PcP	**PcP**	**14 08 57.8**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=64,slow=2.1,SNR=7.1						
SONM				ScP	**ScP**	**14 12 50.5**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=58,slow=3.7,SNR=4.8						
SONM	**Songino Array**	**48.32**	**298**		**PcP**	**14 08 57.6**	**-0.6**
AGMN	**Agassiz Nation**	**49.07**	**60**	P	**P**	**14 07 37.5**	**-0.1**
AGMN	**Agassiz Nation**	**49.07**	**60**	P		14 07 37.5	
	baz=306						
T25A	**Trinidad**	**50.96**	**77**	P	**P**	**14 07 53.0**	**+0.6**
EYMN	**Ely**	**51.63**	**59**	P	**P**	**14 07 56.3**	**-0.7**
EYMN				IAmb	IAmb	14 08 13.4	
	comp=Z,6.3nm,0.9s						
EYMN	**Ely**	**51.63**	**59**	P		14 07 56.0	
	baz=308						
E38A	**The Farm, Brul**	**52.42**	**60**	P	**P**	**14 08 01.9**	**-1.0**
E43A	**Lone Tree Farm**	**55.00**	**58**	P	**P**	**14 08 21.1**	**-0.7**
ZALV	**Zalesovo Beam**	**55.33**	**315**	PcP	**PcP**	**14 09 24.7**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=80,slow=3.3,SNR=4.8						
H43A	**Windswept, Lux**	**55.83**	**60**	P	**P**	**14 08 27.9**	**+0.1**
WMOK	**Wichita Mounta**	**55.96**	**75**	P		14 08 29.5	
	baz=313						
TXAR	**Lajitas Array**	**56.69**	**84**	P	**P**	**14 08 34.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=290,slow=4.3,SNR=8.9						
P40A	**Paris**	**56.72**	**67**	P	**P**	**14 08 34.6**	**+0.5**
ENH	**Enshi**	**57.80**	**279**	P	**P**	**14 08 41.3**	**-0.7**
MGMO	**Mountain Grove**	**58.19**	**69**	P	**P**	**14 08 45.3**	**+0.7**
ARCES	**ARCESS Array B**	**58.25**	**351**	P	**P**	**14 08 44.0**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=24,slow=8.9,SNR=1.6						
U40A	**Yellville**	**58.40**	**70**	P		14 08 45.3	
	baz=313						
FCAR	**Ozark Folk Cen**	**59.15**	**70**	P	**P**	**14 08 52.1**	**+0.9**
MKAR	**Makanchi Array**	**61.46**	**310**	P	**P**	**14 09 05.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=50,slow=7.5,SNR=5.2						
M53A	**WI Miller and**	**61.70**	**58**	P	**P**	**14 09 09.1**	**+0.5**
M53A	**WI Miller and**	**61.70**	**58**	P		14 09 08.8	
	baz=315						
M54A	**Oil Creek Stat**	**62.19**	**58**	P		14 09 11.0	
	baz=315						
K56A	**Middlesex**	**62.56**	**55**	P		14 09 14.5	
	baz=316						
M55A	**Ridgway**	**62.69**	**57**	P	**P**	**14 09 15.9**	**+0.7**
O54A	**Avella**	**62.75**	**59**	P	**P**	**14 09 15.3**	**-0.4**
L56A	**Greenwood**	**62.84**	**56**	P	**P**	**14 09 16.1**	**-0.1**
SSPA	**Standing Stone**	**63.75**	**57**	P		14 09 21.2	
	baz=316						
L58A	**Harry Jones Me**	**63.78**	**55**	P		14 09 20.3	
	baz=317						
TRNY	**Table Rock, Ra**	**65.27**	**55**	P	**P**	**14 09 33.2**	**+1.1**
PAL	**Palisades**	**65.54**	**54**	P	**P**	**14 09 34.3**	**+0.5**
KDJ	**Kajisay**	**67.37**	**310**	P	**P**	**14 09 46.2**	**+0.4**
KDJ				IAmb	IAmb	14 09 47.5	
	comp=Z,6.3nm,1.2s						

ABKAR	**Akbulak array**	**68.98**	**325**	P	**P**	**14 09 55.4**	**-0.1**
KKAR	**Karatay Array**	**69.70**	**314**	P	**P**	**14 10 00.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.94**	**278**	P	**P**	**14 10 20.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=26,slow=7.4,SNR=8.9						
GUN	**Gumba**	**73.60**	**294**	*eP*	**P**	**14 10 21.7**	**-2.5**
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**74.13**	**294**	*eP*	**P**	**14 10 23.0**	**-4.3**
	comp=Z,12nm,0.4s						
PKIN	**Phulchoki**	**74.13**	**294**	*eP*	**P**	**14 10 22.7**	**-4.5**
	comp=Z,8.0nm,0.3s						
DANN	**Dangsing**	**74.47**	**296**	*eP*	**P**	**14 10 29.6**	**+0.4**
KOLN	**Koldanda**	**75.00**	**296**	*eP*	**P**	**14 10 30.7**	**-1.5**
PYUN	**Piuthan**	**75.09**	**296**	*eP*	**P**	**14 10 33.0**	**+0.3**
	comp=Z,46nm,1.0s						
AKASG	**Malin Array Be**	**75.97**	**344**	P	**P**	**14 10 36.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=21,slow=6.1,SNR=1.4						
WRA	**Warramunga Arr**	**83.51**	**226**	P	**P**	**14 11 17.4**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=33,slow=5.4,SNR=2.7						
ASAR	**Alice Springs**	**86.96**	**225**	P	**P**	**14 11 35.2**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=31,slow=4.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**115.55**	**3**	PKP	**PKPdf**	**14 17 32.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=326,slow=0.8,SNR=1.7						
H03N2	**Juan Fernandez**	**119.31**	**108**	T	T	16 28 58.8	
	baz=317,slow=77,SNR=40						
H03N1	**Juan Fernandez**	**119.32**	**108**	T	T	16 29 02.8	
	baz=317,slow=77,SNR=38						
H03N3	**Juan Fernandez**	**119.33**	**108**	T	T	16 29 02.1	
	baz=317,slow=77,SNR=51						
MATP	**Matopo**	**143.65**	**320**	PKP	**PKPdf**	**14 18 24.4**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=74,slow=13,SNR=2.6						
TSUM	**Tsumeb**	**146.09**	**337**	PKPbc	**PKPab**	**14 18 31.2**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=349,slow=12,SNR=2.3						
MAW	**Mawson**	**147.81**	**218**	PKPbc	**PKPbc**	**14 18 32.4**	**-1.2**
	comp=Z,2.8nm,1.0s,baz=356,slow=13,SNR=3.7						
BOSA	**Boshof**	**152.26**	**318**	PKPbc	**PKiKP**	**14 18 46.5**	**+0.4**
	comp=Z,2.1nm,0.4s,baz=23,slow=3.3,SNR=8.2						

WEL 17 14:06:23.8±0.9, 36°S±8°×17°9E±°, h192km±8km, M3.8/38, mB4.4/1, ML4.2/31, MLv3.8/38, Mw(mB)3.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=78.3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.67**	**189**	P	Pn	14 06 58.3	0.0
MXZ				S	Sn	14 07 24.4	-1.0
WMGZ	**Waiomatatini S**	**1.92**	**185**	P	Pn	14 07 01.3	+0.5
WMGZ				S	Sn	14 07 31.6	+1.9
HAZ	**Te Kaha**	**1.96**	**200**	P	Pn	14 07 01.3	0.0
HAZ				S	Sn	14 07 30.8	+0.2
PKGZ	**Pakihiroa**	**2.02**	**192**	P	Pn	14 07 02.6	+0.6
PKGZ				S	Sn	14 07 32.5	+0.6
PUZ	**Puketiti**	**2.18**	**188**	P	Pn	14 07 03.8	+0.2
PUZ				S	Sn	14 07 33.3	-1.5
RUGZ	**Raukumara Rang**	**2.19**	**200**	P	Pn	14 07 03.7	-0.1
RUGZ				S	Sn	14 07 33.2	-1.9
TWGZ	**Tauwhareparae**	**2.32**	**193**	P	Pn	14 07 06.2	+1.0
TWGZ				S	Sn	14 07 40.4	+2.8
KUZ	**Kuaotunu**	**2.49**	**249**	P	Pn	14 07 04.3	-2.7
GRZ	**Great Barrier**	**2.58**	**261**	P	Pn	14 07 04.6	-3.5
CNGZ	**Carnagh Statio**	**2.59**	**187**	P	Pn	14 07 09.0	+0.8
TKGZ	**Te Karaka**	**2.60**	**193**	P	Pn	14 07 08.5	+0.3
TKGZ				S	Sn	14 07 42.7	-0.4
URZ	**Urewera**	**2.64**	**207**	P	Pn	14 07 08.6	-0.1
URZ				S	Sn	14 07 44.1	+0.2
RIGZ	**Rimuhau**	**2.88**	**193**	P	Pn	14 07 11.8	+0.3
RIGZ				S	Sn	14 07 49.4	+0.4
MUGZ	**Murupara**	**2.96**	**209**	P	Pn	14 07 13.1	+0.6
MUGZ				S	Sn	14 07 52.4	+1.7
RTZ	**Ruatahuna**	**3.00**	**205**	P	Pn	14 07 12.8	-0.3
SNGZ	**Shannon Statio**	**3.05**	**199**	P	Pn	14 07 14.0	+0.5
PRGZ	**Paritu Road**	**3.07**	**191**	P	Pn	14 07 14.1	+0.3
PRGZ				S	Sn	14 07 52.5	-0.5
TOZ	**Tahuroa Road**	**3.09**	**233**	P	Pn	14 07 15.3	+1.2
KNZ	**Kokohu**	**3.20**	**193**	P	Pn	14 07 15.1	-0.2
KNZ				S	Sn	14 07 52.3	-3.5
RAHZ	**Arahi**	**3.24**	**202**	P	Pn	14 07 16.1	+0.2
RAHZ				S	Sn	14 07 58.8	+2.0
MTHZ	**Maungataniwha**	**3.26**	**205**	P	Pn	14 07 16.1	0.0
MHGZ	**Mahia Peninsul**	**3.29**	**190**	P	Pn	14 07 16.7	+0.3
WHHZ	**Waihua**	**3.35**	**199**	P	Pn	14 07 17.4	+0.3
MRHZ	**Matea Rd**	**3.41**	**210**	P	Pn	14 07 17.8	-0.1
NMHZ	**Naumai**	**3.50**	**204**	P	Pn	14 07 19.7	+0.6
ARHZ	**Aropaoanui**	**3.59**	**201**	P	Pn	14 07 20.3	+0.2
HATZ	**Hinemaiaia**	**3.59**	**213**	P	Pn	14 07 20.2	0.0
BKZ	**Black Stump Fm**	**3.67**	**207**	P	Pn	14 07 21.1	0.0
MCHZ	**McNeill Hill**	**3.85**	**203**	P	Pn	14 07 23.7	+0.4
KWHZ	**Kaweka Forest**	**3.92**	**206**	P	Pn	14 07 25.0	+0.7
NTVZ	**North Tongarir**	**3.95**	**215**	P	Pn	14 07 25.3	+0.5
TMVZ	**Te Maari**	**3.95**	**215**	P	Pn	14 07 25.1	+0.3
HIZ	**Hauiti**	**3.97**	**228**	P	Pn	14 07 27.2	+2.3
WTVZ	**West Tongariro**	**4.01**	**216**	P	Pn	14 07 27.0	+1.6
NNVZ	**North Ngauruho**	**4.01**	**216**	P	Pn	14 07 28.2	+2.7
OTVZ	**Oturere**	**4.01**	**215**	P	Pn	14 07 25.7	+0.2
TWVZ	**Taurewa**	**4.05**	**218**	P	Pn	14 07 27.8	+1.9
BHHZ	**Black Hill Sta**	**4.11**	**209**	P	Pn	14 07 26.0	-0.7
KAHZ	**Kahuranaki**	**4.12**	**199**	P	Pn	14 07 26.2	-0.5
KRHZ	**Kereru**	**4.13**	**205**	P	Pn	14 07 25.9	-1.0
MOVZ	**Moawhango**	**4.17**	**212**	P	Pn	14 07 26.8	-0.6
PXZ	**Pawanui**	**4.34**	**198**	P	Pn	14 07 28.4	-1.1
PNHZ	**Pukenui**	**4.43**	**205**	P	Pn	14 07 29.8	-0.9
WPHZ	**Waipukurau**	**4.49**	**202**	P	Pn	14 07 30.9	-0.5
PRHZ	**Porangahau**	**4.63**	**199**	P	Pn	14 07 27.8	-5.3
TSZ	**Takapari Road**	**4.65**	**206**	P	Pn	14 07 31.9	-1.5
PKE	**Pukeiti**	**4.93**	**227**	P	Pn	14 07 40.5	+3.5
MRZ	**Mangatainoka R**	**5.32**	**206**	P	Pn	14 07 40.6	-1.4
OGWZ	**Otaki Gorge**	**5.60**	**208**	P	Pn	14 07 43.7	-2.0
KIW	**Kapiti Island**	**5.74**	**209**	P	Pn	14 07 45.4	-2.1
CAW	**Cannon Point**	**5.89**	**207**	P	Pn	14 07 47.1	-2.3

*IDC **17** 14:09:26.6±0.9, 52°.34N×170°.27W, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/57, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=33.0km s-min=16.8km az=177.0*
*AEIC **17** 14:09:30±2.6, 52°.16N±0°.09×170°.05W±0°.10, h31km±5km, Error ellipse: s-maj=13.9km s-min=7.0km az=156.0*
*NEIC **17** 14:09:33.4±1.7, 52°.4N±0°.1×170°.21W±0°.05, h45km±9km, mb3.7/34, ML3.5(AEIC), Error ellipse: s-maj=15.3km s-min=1.1km az=162.0*

ISC 17 14:09:32.9±0.6, 52°.41N±0°.10×170°.16W±0°.05, h44km, n96, σ1s30/88, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.97**	**54**		**Pn**	**14 09 49.5**	**-0.7**
OKSO	**Okmok South**	**1.54**	**51**		**Pn**	**14 09 59.0**	**+1.1**
OKFG	**Magazine Ridge**	**1.69**	**53**		**Pn**	**14 10 00.5**	**+0.6**
MAPS	**Pakushin South**	**2.39**	**53**		**Pn**	**14 10 10.9**	**+1.3**
KOFP	**Korovin Flat P**	**2.42**	**268**		**Pn**	**14 10 10.9**	**+0.9**
MGOD	**Makushin Gods**	**2.42**	**54**		**Pn**	**14 10 11.2**	**+1.2**
KOKL	**Mount Kliuchef**	**2.48**	**270**		**Pn**	**14 10 11.5**	**+0.6**
ATKA	**Atka Island**	**2.49**	**267**		**Pn**	**14 10 09.6**	**-1.3**
MSW	**Makushin Switc**	**2.53**	**52**		**Pn**	**14 10 12.2**	**+0.7**
MNAT	**Makushin Natee**	**2.56**	**53**		**Pn**	**14 10 12.6**	**+0.7**
MTBL	**Makushin Table**	**2.61**	**52**		**Pn**	**14 10 13.0**	**+0.4**
AKBBA	**Akutan Broad B**	**3.05**	**55**		**Pn**	**14 10 19.7**	**+1.1**
AKGG	**Akutan Green G**	**3.08**	**53**		**Pn**	**14 10 20.2**	**+1.2**
AKUT	**Akutan**	**3.15**	**55**	Pn	**Pn**	**14 10 21.3**	**+1.4**
GSTR	**Great Sitkin T**	**3.64**	**267**	Pn	**Pn**	**14 10 27.6**	**+0.8**
GSMY	**Great Sitkin M**	**3.65**	**267**		**Pn**	**14 10 26.8**	**0.0**
GSTD	**Great Sitkin T**	**3.70**	**267**		**Pn**	**14 10 27.2**	**-0.4**
WESP	**Westdahl Peak**	**3.85**	**55**		**Pn**	**14 10 30.6**	**+0.8**
ADK	**Adak**	**4.05**	**265**	Pn	**Pn**	**14 10 32.1**	**-0.2**
KIWB	**Kanaga Island**	**4.34**	**265**		**Pn**	**14 10 36.8**	**+0.4**
FALS	**False Pass**	**4.70**	**56**	Pn	**Pn**	**14 10 41.1**	**-0.1**
SPIA	**Saint Paul Isl**	**4.78**	**359**		**Pn**	**14 10 44.1**	**+1.8**
TAFP	**Tanaga Falls P**	**4.85**	**267**		**Pn**	**14 10 43.3**	**+0.1**
SDPT	**Sand Point**	**6.44**	**59**	Pn	**Pn**	**14 11 05.8**	**+0.7**
AMKA	**Amchitka**	**6.61**	**265**	Pn	**Pn**	**14 11 08.1**	**+0.7**
CHIR	**Chirikof Islan**	**9.19**	**62**	Pn	**Pn**	**14 11 42.7**	**-0.1**
SII	**Sitkinak Islan**	**10.18**	**60**	Pn	**Pn**	**14 11 54.9**	**-1.4**
OHAK	**Old Harbor**	**10.85**	**57**	Pn	**Pn**	**14 12 03.5**	**-1.9**
KDAK	**Kodiak Island**	**11.40**	**55**	Pn	**Pn**	**14 12 11.3**	**-1.6**
	0.4nm,0.3s,baz=256,slow=10,SNR=16						
KDAK				Sn	**Sn**	**14 14 13.5**	**-5.3**
	0.1nm,0.3s,baz=336,slow=20,SNR=1.7						
KDAK	**Kodiak Island**	**11.40**	**55**	Pn	**Pn**	**14 12 11.2**	**-1.8**
CNPM	**China Poot**	**12.74**	**49**	Pn	**Pn**	**14 12 30.6**	**-0.7**
SEW	**Seward**	**13.80**	**48**	Pn	**Pn**	**14 12 44.6**	**-1.1**
RC01	**Rabbit Creek A**	**14.12**	**44**	Pn	**Pn**	**14 12 50.2**	**+0.2**

PMR	**Palmer**	**14.62**	**43**	Pn	**Pn**	**14 12 57.2**	**+0.5**
PWL	**Port Wells**	**14.63**	**46**	Pn	**Pn**	**14 12 55.9**	**-0.9**
KTH	**Kantishna Hill**	**15.05**	**35**	Pn	**Pn**	**14 13 02.3**	**0.0**
KTH				IAmb	IAmb	14 13 26.1	
	comp=Z,18nm,2.0s						
SML	**Sawmill**	**15.06**	**43**	Pn	**Pn**	**14 13 03.4**	**+0.8**
SML				IAmb	IAmb	14 13 17.4	
	comp=Z,4.1nm,1.0s						
GLI	**Glacier Island**	**15.19**	**47**	Pn	**Pn**	**14 13 02.8**	**-1.3**
GLI				IAmb	IAmb	14 13 43.9	
	comp=Z,15nm,1.6s						
TRF	**Thorofare Moun**	**15.21**	**36**	Pn	**Pn**	**14 13 05.2**	**+0.7**
HIN	**Hinchinbrook I**	**15.27**	**49**	Pn	**Pn**	**14 13 03.9**	**-1.4**
BPAW	**Bear Paw Mtn.**	**15.38**	**33**	Pn	**Pn**	**14 13 04.7**	**-1.9**
BPAW				IAmb	IAmb	14 13 16.2	
	comp=Z,6.0nm,0.7s						
FID	**Port Fidalgo**	**15.41**	**48**	Pn	**Pn**	**14 13 04.6**	**-2.5**
SCM	**Sheep Creek Mo**	**15.49**	**44**	Pn	**Pn**	**14 13 06.6**	**-1.6**
SCM				IAmb	IAmb	14 13 23.5	
	comp=Z,7.6nm,1.2s						
MLY	**Manley**	**16.08**	**31**	P	**P**	**14 13 20.0**	**+1.6**
M24K	**Tolsona, Glenn**	**16.11**	**44**	Pn	**Pn**	**14 13 15.7**	**-0.3**
M24K				IAmb	IAmb	14 13 20.1	
	comp=Z,12nm,1.2s						
N25K	**Chitina, Valde**	**16.58**	**46**	Pn	**Pn**	**14 13 20.5**	**-1.6**
N25K				IAmb	IAmb	14 14 10.5	
	comp=Z,10.0nm,1.6s						
I23K	**Minto, Yukon-K**	**16.59**	**32**	P	**Pn**	**14 13 24.8**	**+2.8**
I23K				IAmb	IAmb	14 14 01.1	
	comp=Z,9.5nm,1.8s						
WRH	**Wood River Hil**	**16.60**	**35**	P	**P**	**14 13 25.9**	**+1.9**
WRH				IAmb	IAmb	14 13 43.5	
	comp=Z,9.6nm,1.7s						
PAX	**Paxson**	**16.79**	**41**	P	**Pn**	**14 13 26.9**	**+2.3**
CCB	**Clear Creek Bu**	**16.80**	**35**	Pn	**Pn**	**14 13 24.5**	**-0.2**
MDM	**Murphy Dome**	**16.84**	**33**	Pn	**Pn**	**14 13 25.4**	**+0.2**
MDM				IAmb	IAmb	14 13 51.5	
	comp=Z,7.6nm,1.6s						
GLB	**Gilahina Butte**	**16.87**	**47**	Pn	**Pn**	**14 13 23.9**	**-1.8**
GLB				IAmb	IAmb	14 13 40.0	
	comp=Z,8.1nm,1.6s						
VRDI	**Verde Repeater**	**16.96**	**48**	Pn	**Pn**	**14 13 25.7**	**-1.2**
VRDI				IAmb	IAmb	14 14 08.9	
	comp=Z,5.7nm,1.2s						
IL31		**17.20**	**35**	P	**Pn**	**14 13 31.8**	**+2.3**
ILAR	**Eielson Array**	**17.20**	**35**	P	**Pn**	**14 13 28.5**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=231,slow=12,SNR=2.7						
MESA	**MESA**	**17.37**	**52**	Pn	**Pn**	**14 13 31.6**	**-0.3**
MENT	**Mentasta**	**17.49**	**43**	P	**Pn**	**14 13 35.1**	**+1.8**
YAH	**Yahtse**	**17.51**	**52**	P	**P**	**14 13 35.9**	**+1.4**
GRNC	**Granite Creek**	**17.60**	**51**	P	**Pn**	**14 13 36.2**	**+1.3**
GRNC				IAmb	IAmb	14 14 30.5	
	comp=Z,16nm,1.7s						
DOT	**Dot Lake**	**17.67**	**40**	P	**Pn**	**14 13 36.4**	**+1.0**
DOT				IAmb	IAmb	14 13 45.1	
	comp=Z,13nm,1.9s						
TABL	**Table Mountain**	**17.82**	**52**	P

MNAT	Makushin Natee	2.58	53			Pn		14 56 29.3	+1.2
MTBL	Makushin Table	2.63	52			Pn		14 56 30.0	+1.2
AKRB	Akutan Reef Bi	3.02	53			Pn		14 56 35.5	+1.4
AKMO	Akutan Morgan	3.03	54			Pn		14 56 35.7	+1.5
AKBBA	Akutan Broad B	3.07	55			Pn		14 56 36.8	+2.0
AKGG	Akutan Green G	3.10	53			Pn		14 56 36.8	+1.7
GSTR	Great Sitkin T	3.62	268		Pn	Pn		14 56 42.9	+0.6
GSMY	Great Sitkin M	3.63	267			Pn		14 56 43.7	+1.3
GSTD	Great Sitkin T	3.68	267			Pn		14 56 43.8	+0.6
GSTD						Sn		14 57 25.9	+0.6
WESP	Westdahl Peak	3.88	55			Pn		14 56 47.0	+1.0
WESE	West Dahl East	3.94	56			Pn		14 56 47.9	+1.1
ADK	Adak	4.04	265			Pn		14 56 48.6	+0.6
KIWB	Kanaga Island	4.33	266			Pn		14 56 48.2	-3.8
CHIR	Chirikof Islan	9.22	62		Pn	Pn		14 57 58.7	-0.2
SII	Sitkinak Islan	10.20	60		Pn	Pn		14 58 12.1	-0.3
OHAK	Old Harbor	10.87	57		Pn	Pn		14 58 20.1	-1.5
KDAK	Kodiak Island	11.42	55		Pn	Pn		14 58 28.0	-1.1
	0.5nm,0.3s,baz=233,slow=9.7,SNR=12								
KDAK					Sn	Sn		15 00 31.0	-4.1
	0.1nm,0.3s,baz=150,slow=20,SNR=1.2								
CNPM	China Poot	12.76	49		Pn	Pn		14 58 47.2	-0.2
SEW	Seward	13.82	48		Pn	Pn		14 59 00.6	-1.3
RC01	Rabbit Creek A	14.14	44		Pn	Pn		14 59 06.0	-0.2
PWL	Port Wells	14.65	46		Pn	Pn		14 59 11.2	-1.7
GHO	Glory Hole Cre	14.82	42		Pn	Pn		14 59 15.2	0.0
KTH	Kantishna Hill	15.07	35		Pn	Pn		14 59 17.7	-0.8
KTH					IAmb	IAmb		14 59 41.8	
	comp=Z,3.5nm,0.8s								
GLI	Glacier Island	15.21	47		Pn	Pn		14 59 18.7	-1.5
GLI					IAmb	IAmb		14 59 42.0	
	comp=Z,3.9nm,0.9s								
HIN	Hinchinbrook I	15.29	49		Pn	Pn		14 59 20.2	-1.2
FID	Port Fidalgo	15.44	48		Pn	Pn		14 59 21.3	-1.9
FID					IAmb	IAmb		14 59 22.1	
	comp=Z,12nm,1.0s								
SCM	Sheep Creek Mo	15.52	44		Pn	Pn		14 59 23.0	-1.3
SCM					IAmb	IAmb		14 59 32.9	
	comp=Z,6.7nm,0.6s								
HMT	Hamilton	16.32	51		Pn	Pn		14 59 32.9	-1.7
HMT					IAmb	IAmb		14 59 38.7	
	comp=Z,8.0nm,0.9s								
N25K	Chitina, Valde	16.60	46		Pn	Pn		14 59 35.9	-2.2
WRH	Wood River Hil	16.62	35		Pn	Pn		14 59 37.8	-0.4
WRH					IAmb	IAmb		14 59 57.5	
	comp=Z,5.8nm,1.3s								
CCB	Clear Creek Bu	16.82	35		P	P		14 59 41.6	-0.8
MDM	Murphy Dome	16.86	33		P	P		14 59 41.8	-1.2
MDM					IAmb	IAmb		14 59 55.4	
	comp=Z,4.4nm,1.3s								
GLB	Gilahina Butte	16.89	47		Pn	Pn		14 59 41.0	-0.8
GLB					IAmb	IAmb		15 00 06.0	
	comp=Z,4.6nm,1.0s								
TCOL	CIGO, UAF Yank	16.94	34		P	P		14 59 42.7	-1.0
COLA	College	16.94	34		P	P		14 59 42.6	-1.1
VRDI	Verde Repeater	16.98	48		Pn	Pn		14 59 41.8	-1.3
IL31		17.21	35		Pn	Pn		14 59 45.4	-0.2
ILAR	Eielson Array	17.21	35		P	Pn		14 59 44.9	-0.8
	comp=Z,0.0nm,0.3s,baz=229,slow=11,SNR=3.3								
ILAR	Eielson Array	17.21	35		P	P		14 59 45.8	-0.9
SCRK	Sand Creek	17.87	39		P	Pn		14 59 52.2	-1.7
L27K	Beaver Creek,	18.36	43		P	P		14 59 57.9	-1.5
L27K					IAmb	IAmb		15 00 24.0	
	comp=Z,3.6nm,1.4s								
BCAR	Beaver Creek A	18.37	43		P	P		14 59 58.7	-0.9
EGAK	Eagle	19.33	39			Pn		15 00 10.8	-0.5
EGAK					IAmb	IAmb		15 00 18.1	
	comp=Z,2.2nm,0.6s								
PEA0B	Petropavlovsk-	19.37	285		Pn	Pn		15 00 11.4	-0.5
PETK	Petropavlovsk-	19.37	285		P	Pn		15 00 11.6	-0.4
	comp=Z,1.0nm,0.3s,baz=84,slow=14,SNR=29								
PETK	Petropavlovsk-	19.37	285		P	P		15 00 09.5	-1.1
INK	Inuvik	23.60	34		P	P		15 00 56.0	+0.8
	comp=Z,1.2nm,0.4s,baz=234,slow=6.9,SNR=4.1								
INK	Inuvik	23.60	34		IAmb	IAmb		15 01 11.6	
	comp=Z,3.7nm,1.2s								
H11N2	WAKE ISLAND Hy	37.16	217		T	T		15 42 36.3	
	baz=23,slow=76								
H11N3	WAKE ISLAND Hy	37.17	217		T	T		15 42 36.6	
	baz=23								
H11N1	WAKE ISLAND Hy	37.18	217		T	T		15 42 48.0	
	baz=23,slow=76								
BCYI	Bear Canyon	37.71	79		P	P		15 02 59.8	-0.3
MCMT	McKenzie Canyo	37.76	78		P	P		15 03 01.2	+0.7
NVAR	Mina Array Bea	38.16	90		P	P		15 03 05.6	+1.7
	comp=Z,0.4nm,0.6s,baz=296,slow=8.2,SNR=4.3								
NVAR	Mina Array Bea	38.16	90		P	P		15 03 01.6	-2.4
H11S1	WAKE ISLAND Hy	38.36	217		T	T		15 44 16.4	
	baz=23								
H11S2	WAKE ISLAND Hy	38.37	217		T	T		15 44 19.9	
	baz=23								
H11S3	WAKE ISLAND Hy	38.37	217		T	T		15 44 15.8	
	baz=23								
PDAR	Pinedale Array	40.89	79		P	P		15 03 27.7	+1.1
	comp=Z,1.1nm,0.6s,baz=304,slow=4.0,SNR=9.6								
PDAR	Pinedale Array	40.89	79		P	P		15 03 26.6	0.0
KSRS	Korea Array	44.90	276		P	P		15 03 59.4	+0.6
	comp=Z,0.2nm,0.3s,baz=54,slow=8.5,SNR=3.8								
TX31	Lajitas Ar. Si	53.25	88		P	P		15 05 03.2	+0.3
TX32	Lajitas Array	53.25	88		P	P		15 05 03.2	+0.3
TX32					IAmb	IAmb		15 05 04.2	
	comp=Z,2.1nm,0.9s								
TXAR	Lajitas Array	53.25	88		P	P		15 05 03.6	+0.7
	comp=Z,0.8nm,0.7s,baz=293,slow=5.2,SNR=13								
TXAR	Lajitas Array	53.25	88		P	P		15 05 02.9	0.0
MKAR	Makanchi Array	53.42	313		P	P		15 06 13.3	-0.2
	comp=Z,0.2nm,0.4s,baz=45,slow=8.4,SNR=2.1								
ABKAR	Akbulak array	70.15	328		P	P		15 06 56.9	+0.7
ABKAR					IAmb	IAmb		15 06 57.7	
	comp=Z,2.1nm,1.4s								
CMAR	Chiang Mai Arr	76.12	282		P	P		15 07 32.7	+0.7
	comp=Z,1.2nm,0.7s,baz=28,slow=6.8,SNR=7.5								
ESDC	Sonseca Array	87.53	11		P	P		15 08 32.6	+0.9
	comp=Z,0.4nm,0.6s,baz=343,slow=4.0,SNR=3.2								
ASAR	Alice Springs	90.03	229		P	P		15 08 43.0	-0.5
	comp=Z,0.4nm,0.7s,baz=28,slow=5.1,SNR=6.3								

*TEH **17** 15:06:34.8,33.23N×45.80E,h12km,ML3.3*
*ISN **17** 15:06:35.8±1.3,33.31N×45.84E,h2km±5km,ML3.1*
ISC 17 15:06:36.3±1.4,33.32N±0.03×45.90E±0.04,h2km±12km,
n28,σ0.85/33,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.21	173	*e*Pg	Pg	15 06 41.0	+0.7
IBDR				*e*Sg	Sg	15 06 43.0	-0.1
IBDR				AML	AML	15 06 48.6	
	comp=E,5μm,0.6s						
IBDR				AML	AML	15 06 56.9	
	comp=N,2μm,0.5s						
IGHG	Ghaleghazi	1.15	29	*e*Pg	Pg	15 06 58.9	+0.6
IGHG				*e*Sg	Sn	15 07 17.3	+1.1
BHD	Baghdad	1.27	268	*e*Pg	Pg	15 07 01.0	+0.3
BHD				*e*Sg	Sn	15 07 19.0	+0.2
KCHF	Cheshme Sefid,	1.34	45	*e*Pg	Pb	15 07 02.2	-0.2
KCHF				*e*		15 07 25.0	
	comp=Z,5μm,0.3s						
IDHR	Dehrash	1.43	16	*e*Pg	Pg	15 07 04.1	+0.3
KER	Kermanshah	1.48	44	*e*Pg	Pg	15 07 05.2	+0.6
IKFM	Kafar-mosalman	1.64	82	*e*Pg	Pg	15 07 07.6	-0.2
ILIN	Lien	1.82	29	*e*		15 07 12.1	
	comp=Z,2μm,0.2s						
ILIN				*e*Pg	Pb	15 07 09.9	-0.6
IDOB	Doab	1.96	76	*e*Pn	Pb	15 07 11.8	-1.1
IDOB				*e*		15 07 44.7	
	comp=Z,2μm,0.3s						
IBZA	Bozab	1.99	54	*e*Pn	Pb	15 07 12.0	-1.5
IBZA				*e*		15 07 43.2	
	comp=Z,1μm,0.4s						
NSR	Nassriya	2.31	175	*e*Pn	Pn	15 07 16.0	+0.6
NSR				*e*Sn	Sb	15 07 47.0	-0.8
NSR				AML	AML	15 07 51.0	
	comp=E,253nm,0.4s						
HSAM	Samen	2.42	68	*e*Pn	Pn	15 07 18.0	+0.8
HSAM				*e*		15 07 55.7	
	comp=Z,758nm,0.7s						
IKRK	Kirkuk	2.44	329	*e*Pn	Pn	15 07 18.0	+0.8
IKRK				*e*Sn	Sb	15 07 50.0	-1.5
IKRK				AML	AML	15 07 57.1	
	comp=N,139nm,0.2s						
IKRK				AML	AML	15 07 57.9	
	comp=E,112nm,0.3s						
BMDN	Meydan	2.47	81	*e*Pn	Pn	15 07 18.7	+0.9
BMDN				*e*		15 07 58.6	
	comp=Z,1μm,0.8s						
HAGD	Aghdareh	3.08	60	*e*Pn	Pn	15 07 27.2	+1.0
HAGD				*e*		15 08 06.0	
	comp=Z,657nm,0.4s						
MIB	Mutribah	3.72	160	*e*P	Pn	15 07 35.5	+0.7
QABG	Abgarm-Qazvin	3.86	51	*e*Pn	Pn	15 07 36.1	-0.9
RST	Umm Al-Ruwaisa	3.92	166	*e*P	Pn	15 07 38.1	+0.5
IRAZ	Razeghan	3.93	57	*e*Pn	Pn	15 07 39.2	+1.3
UMR	Umm Al-Rimmam	4.07	157	*e*P	Pn	15 07 39.9	+0.3
IQOM	Qom	4.55	69	*e*Pn	Pn	15 07 46.7	+0.2
QAMS	Qamsar	4.61	83	*e*Pn	Pn	15 07 47.9	+0.6
QAMS				*e*		15 08 48.1	
	comp=Z,468nm,0.4s						
IKLH	Kolahrood	4.76	88	*e*Pn	Pn	15 07 50.7	+1.4
IKLH				*e*		15 07 52.1	
	comp=Z,227nm,0.2s						
KRSH	Karshahi	5.24	81	*e*Pn	Pn	15 07 56.3	+0.4
IGAR	Gharneh	5.25	98	*e*Pn	Pn	15 07 56.2	+0.1
KLNJ	Kolanjah	5.35	114	*e*Pn	Pn	15 07 57.6	+0.1
KLNJ				*e*		15 09 06.2	
	comp=Z,127nm,0.3s						
IZEF	Zefreh	5.41	93	*e*Pn	Pn	15 07 59.8	+1.5
IRAM	Ramesheh	5.68	104	*e*Pn	Pn	15 08 02.3	+0.4

IDC 17 15:09:31.0±2.1,11.40S×162.34E,h0km,mb3.7/5,
mb1 3.9/5,mb1mx3.6/26,mbtmp3.7/5,Error ellipse:
s-maj=83.5km s-min=31.2km az=131.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.23	249	P	P	15 15 26.2	+0.2
	0.2nm,0.5s,baz=80,slow=9.1,SNR=1.6						
WRA				PcP	PcP	15 18 39.6	-0.2
	0.4nm,0.8s,baz=76,slow=2.7,SNR=1.4						
ASAR	Alice Springs	29.66	242	P	P	15 15 38.5	-0.2
	0.7nm,0.7s,baz=63,slow=10.0,SNR=13						
ASAR				PcP	PcP	15 18 42.4	-1.0
	0.1nm,0.6s,baz=76,slow=2.7,SNR=1.3						
H11S2	WAKE ISLAND Hy	30.01	8	T	T	15 47 18.8	
	baz=188,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy	30.02	8	T	T	15 47 15.3	
	baz=188,slow=76,SNR=18						
H11S1	WAKE ISLAND Hy	30.03	8	T	T	15 47 16.7	
	baz=188,slow=76,SNR=5.2						
SONM	Songino Array	77.01	325	P	P	15 21 26.7	+0.8
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.6						
ILAR	Eielson Array	84.94	19	P	P	15 22 07.5	-0.2
	0.2nm,0.7s,baz=230,slow=4.2,SNR=4.4						
MKAR	Makanchi Array	91.51	317	P	P	15 22 39.4	-0.2
	0.8nm,0.5s,baz=96,slow=6.1,SNR=7.1						

*NIC **17** 15:12:20.9±0.0,34.64N×26.49E,h14km±3km,Ml4.0/4*
*IDC **17** 15:12:21.8±1.1,35.16N×26.76E,h0km,mb3.6/7,*
mb1 3.7/10,mb1mx3.5/40,mbtmp3.6/10,ML3.4/3,Error
ellipse: s-maj=25.9km s-min=16.2km az=177.0
*ATH **17** 15:12:25.0,35.09N×26.68E,h15km±2km,ML3.5/11,Error*
ellipse: s-maj=3.7km s-min=1.2km az=158.0
*THE **17** 15:12:25.2,35.03N×26.60E,h0km±1km,ML3.4/6,Error*
ellipse: s-maj=3.4km s-min=0.8km az=162.0
*ISK **17** 15:12:26.4,35.20N×26.61E,h8km,ML3.4/13*
*DDA **17** 15:12:27.0,35.14N×26.70E,h30km±25km,ML3.3*
ISC 17 15:12:23.5±1.1,35.07N±0.04×26.71E±0.02,h13km±7km,
n108,σ1.39/139,mb3.5/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.41	277	P	Pb	15 12 32.4	-0.2
ZKR				S	Sb	15 12 38.5	-0.3
	14μm,0.4s						
ZKR	Zakros	0.41	277	P	Pb	15 12 32.3	-0.2
ZKR				S	Sb	15 12 38.7	0.0
ZKR				AML	AML	15 12 39.1	
	comp=N,18596μm,0.2s						
ZKR				AML	AML	15 12 39.5	
	comp=E,39537μm,0.3s						
ZKR	Zakros	0.41	277	PG	Pb	15 12 32.5	-0.2
ZKR				SG	Sb	15 12 38.8	0.0
ZKR	Zakros	0.41	277	P	Pg	15 12 31.5	-0.1
ZKR				AML	AML	15 12 38.2	
	comp=E,16nm,0.5s						
ZKR				AML	AML	15 12 38.2	
	comp=E,16nm,0.5s						
ZKR				AML	AML	15 12 38.4	
	comp=E,37nm,0.3s						
ZKR				AML	AML	15 12 38.4	
	comp=E,37nm,0.3s						
ZKR				S	Sb	15 12 39.1	+0.3
STIA	Sitia Lasithi	0.53	285	P	Pg	15 12 33.5	-0.4
STIA				S	Sg	15 12 41.5	+0.6
FRMA	Ierapetra Chan	0.81	267	P	Pg	15 12 37.0	-2.1
FRMA				S	Sg	15 12 47.7	-2.0
	comp=E,2μm,0.5s						
NPS	Neapolis	0.92	283	P	Pb	15 12 41.6	+0.2
NPS				S	Sn	15 12 55.7	+0.4
	comp=E,9μm,0.5s						
NPS	Neapolis	0.92	283	P	Pb	15 12 41.9	+0.5
NPS				S	Sb	15 12 54.4	+0.8
NPS				AML	AML	15 12 57.4	
	comp=N,14969μm,0.4s						
NPS				AML	AML	15 12 57.6	
	comp=E,20018μm,0.5s						
LAST	Lasithi	1.02	276	P	Pg	15 12 42.6	-0.5
LAST				S	Sb	15 12 57.6	+1.3
	comp=E,2μm,0.7s						
LAST	Lasithi	1.02	276	P	Pg	15 12 42.7	-0.4
LAST				S	Sb	15 12 57.1	+0.8
LAST				AML	AML	15 13 04.9	
	comp=E,4545μm,0.7s						
LAST				AML	AML	15 13 06.6	
	comp=N,5258μm,0.6s						
HRKL	Herakleio	1.34	281	PN	Pg	15 12 50.9	+1.6
HRKL				SN	Sn	15 13 08.0	+2.4
IACM	Heraklion	1.37	281	P	Pn	15 12 48.9	+0.6
IACM				S	Sg	15 13 07.0	-0.5
KSTL	Kastelli Herak	1.37	281	P	Pn	15 12 45.6	-2.6
IDI	Anoyia	1.51	279	Pn	Pg	15 12 52.1	-0.4
	comp=N,23nm,0.3s,baz=88,slow=14,SNR=114						
IDI				Sn	Sg	15 13 13.6	+1.5
	comp=N,28nm,0.3s,baz=284,slow=23,SNR=7.7						
IDI	Anoyia	1.51	279	P	Pg	15 12 52.2	-0.3
IDI				S	Sn	15 13 10.0	+0.1
IDI				AML	AML	15 13 20.2	
	comp=E,1657μm,0.6s						
IDI				AML	AML	15 13 23.9	
	comp=N,1415μm,0.6s						
IDI	Anoyia	1.51	279	PN	Pg	15 12 53.2	+0.7
IDI				SN	Sg	15 13 12.3	+0.1
SIVA	Sivas	1.56	269	P	Pb	15 12 52.3	0.0
SIVA				AML	AML	15 13 23.3	
	comp=E,4403μm,0.7s						
SIVA				AML	AML	15 13 30.3	
	comp=N,3383μm,0.8s						
NIS1	Nisyros Isl.	1.58	14	P	Pg	15 12 52.7	-1.1
NIS1				AML	AML	15 13 31.6	
	comp=E,3000μm,0.5s						
NIS1				AML	AML	15 13 35.2	
	comp=N,3400μm,0.5s						
NIS1	Nisyros Isl.	1.58	14	PN	Pg	15 12 53.9	+0.1
NISR	Nisiros	1.58	12	P	Pn	15 12 51.8	+0.7
ARG	Arkhangelos	1.62	45	P	Pg	15 12 56.1	+1.4
ARG				S	Sg	15 13 18.9	+3.1
	comp=N,1μm,0.6s						
ARG	Arkhangelos	1.62	45	P	Pg	15 12 55.1	+0.4
ARG				S	Sg	15 13 15.5	-0.3
ARG				AML	AML	15 13 24.2	
	comp=E,2364μm,0.3s						
ARG				AML	AML	15 13 25.8	
	comp=N,2745μm,0.7s						
ARG	Arkhangelos	1.62	45	PN	Pg	15 12 56.4	+1.7
ARG	Arkhangelos	1.62	45	P	Pg	15 12 55.8	+1.1
ARG				S	Sg	15 13 21.6	+5.8
SANT	Santorini	1.66	322	P	Pb	15 12 54.0	+0.1
SANT	Santorini	1.66	322	P	Pb	15 12 54.1	+0.1
SANT				S	Sg	15 13 15.6	-1.2
SANT				AML	AML	15 13 21.9	
	comp=E,2672μm,0.4s						
SANT				AML	AML	15 13 25.2	
	comp=N,576μm,0.4s						
SANT	Santorini	1.66	322	*i* P	Pb	15 12 53.7	-0.2
SANT				*i* S	Sb	15 13 14.9	+0.2
SANT	Santorini	1.66	322	P	Pb	15 12 54.0	+0.1
THR8	Santorini-Mono	1.67	323	P	Pb	15 12 54.1	-0.1
THR6	Thira Island,	1.68	321	P	Pb	15 12 54.4	+0.2
THR6	Thira Island,	1.68	321	P	Pg	15 12 54.7	-1.0
KOSK	Kos Island	1.70	7	PN	Pg	15 12 54.7	-1.4
SNT1	Gialos, Santor	1.71	323	P	Pb	15 12 54.8	+0.1
SNT1	Gialos, Santor	1.71	323	P	Pb	15 12 54.6	-0.1
SNT5	Nea Kammeni, S	1.71	322	P	Pb	15 12 54.7	-0.1
SNT5	Nea Kammeni, S	1.71	322	P	Pb	15 12 55.0	+0.1
THR3	Thira Island,	1.71	322	P	Pb	15 12 54.6	-0.2
THR3	Thira Island,	1.71	322	P	Pb	15 12 54.9	+0.1
THR5	Thira Island,	1.75	321	P	Pb	15 12 55.2	-0.2
CMBO	Columbo, Santo	1.76	323	P	Pb	15 12 55.6	0.0
DAT	Datca	1.80	23	P	Pg	15 12 57.2	-0.9
DAT				S	Sg	15 13 21.3	-0.2
DAT	Datca	1.80	23	PN	Pg	15 12 57.5	-0.6
BODT	Bodrum	2.05	13	P	Pb	15 12 59.4	-1.2
BODT	Bodrum	2.05	13	PN	Pb	15 13 00.6	0.0
BDRM	Kayabasi	2.08	16	*i* P	Pb	15 13 00.6	-0.5
BDRM				*i* S	Sn	15 13 24.0	+0.1
VAM	Vamos	2.09	280	P	Pb	15 13 01.1	-0.1
VAM				AML	AML	15 13 36.8	
	comp=N,1235μm,0.5s						
VAM				AML	AML	15 13 39.3	
	comp=E,1397μm,0.5s						
TURN	Turunc	2.11	36	*i* P	Pg	15 13 03.3	-0.6
TURN				*i* S	Sg	15 13 32.5	+1.1
TURN	Turunc	2.11	36	PN	Pg	15 13 03.2	-1.5
GVDS	Gavdos	2.17	265	PN	Pb	15 13 03.1	+0.6
GVD	Gavdhos	2.17	265	P	Pb	15 13 02.6	+0.1
GVD				AML	AML	15 13 47.4	
	comp=E,795μm,0.6s						
GVD				AML	AML	15 13 54.0	
	comp=N,866μm,0.8s						
GVD	Gavdhos	2.17	265	PN	Pb	15 13 02.7	+0.1
APE	Apeiranthos	2.22	335	P	Pn	15 13 01.9	+1.8
APE				S	Sb	15 13 29.9	-0.9
	comp=N,260nm,0.4s						
APE	Apeiranthos	2.22	335	P	Pb	15 13 02.0	-1.4
APE	Apeiranthos	2.22	335	*i* P	Pn	15 13 01.4	+1.3
APE				*i* S	Sb	15 13 30.0	-0.9
APE	Apeiranthos	2.22	335	PN	Pb	15 13 02.1	-1.4
APE	Apeiranthos	2.22	335	P	Pn	15 13 01.8	+1.8
IMMV	Iera Moni Meta	2.27	281	P	Pb	15 13 03.7	-0.6
IMMV				AML	AML	15 13 46.6	
	comp=N,1099μm,0.6s						
IMMV				AML	AML	15 13 51.0	
	comp=E,1758μm,0.6s						
IMMV	Iera Moni Meta	2.27	281	PN	Pb	15 13 03.9	-0.4
DALY	Dalyan (Mula)	2.35	41	PN	Pb	15 13 05.8	+0.1
MLSB	Milas	2.39	21	PN	Pb	15 13 05.8	-0.5
DDIM	Aydin, Didim	2.42	10	*i* P	Pb	15 13 06.9	0.0
YER	Yerkesik	2.42	31	P	Pb	15 13 06.0	-1.0
YER	Yerkesik	2.42	31	PN	Pb	15 13 06.2	-0.8
MULA	Mugla, Merkez-	2.54	30	*i* P	Pb	15 13 08.6	-0.5
KSL	Kastellorizon	2.58	64	P	Pn	15 13 07.0	+2.1
AKAS	Kas	2.63	63	*i* P	Pn	15 13 04.9	-0.8
AKAS				*i* S	Sn	15 13 39.2	+1.7
SMG	Samos	2.64	2	P	Pn	15 13 07.4	+1.6
AYDN	Tasoluk	2.76	20	*i* P	Pn	15 13 10.0	+2.6
ANKY	Antikythira Is	2.90	287	P	Pn	15 13 11.2	+1.9
TAVA	DENİZLİ_Tavas	2.98	36	*i* P	Pb	15 13 14.2	-2.4
TAVA				*i* S	Sb	15 13 53.6	+0.7
TAVA				IAML		15 14 10.0	
	comp=E,82nm,0.5s						
DGB	zmir	2.98	3	*i* P	Pn	15 13 11.4	+0.9
AYDB	Zeytinkoy-Aydi	3.03	18	PN	Pb	15 13 14.9	-2.4
ELL	Elmali	3.09	56	P	Pb	15 13 15.6	-2.8
GOLH	Golhisar	3.16	46	*i* P	Pb	15 13 16.5	-3.1
GOLH				*i* S	Sb	15 13 56.5	-1.6
GOLH				IAML		15 14 11.0	
	comp=N,112nm,0.6s						
ZEYE	Izmir, Urla-Ze	3.17	357	*i* P	Pn	15 13 13.4	+0.3
KTHA	Kythira Island	3.20	293	PN	Pn	15 13 15.9	+2.4
AKUM	Antalya-Kumluc	3.21	66	*i* P	Pn	15 13 15.4	+1.8
AKUM				*i* S	Sn	15 13 54.2	+2.5
KTHR	Kythira	3.25	293	P	Pn	15 13 16.2	+2.1
URLA	Izmir	3.29	358	*i* P	Pn	15 13 15.7	+0.9
CHOS	Chios island	3.36	351	P	Pn	15 13 17.9	+2.2
VLI	Veliai	3.48	299	P	Pn	15 13 19.4	+2.0
KORT	Korkueli	3.52	56	*i* P	Pn	15 13 21.2	+3.1
MANT	Manisa	3.73	23	*i* P	Pn	15 13 18.7	-2.2
MANT				*i* S	Sn	15 14 04.8	0.0
USAK	Uak-Merkez	4.08	26	*i* P	Pn	15 13 27.9	+2.3
BUHA	Balikesir, Bur	4.44	4	*i* P	Pn	15 13 32.9	+2.4
KOCA	Canakkale, Ayv	4.45	354	*i* P	Pn	15 13 31.5	+0.8
AKMS	Akamas	4.61	89	P	Pn	15 13 33.5	+0.6
AKMS				AML	AML	15 14 26.0	
	comp=N,0.5nm,0.8s						
AKMS				AML	AML	15 14 26.9	
	comp=N,0.3nm,0.4s						
BAYC	CANAKKALE_Bayr	4.67	358	*i* P	Pn	15 13 33.0	-0.6
DURS	Dursunbey	4.74	17	*i* P	Pn	15 13 35.6	+0.9
BOZC	Bozcaada	4.80	354	*i* P	Pn	15 13 33.0	-2.4
ALFC	Alefka	4.83

s-min=6.4km az=160.0

ISC 17 15:34:44.9±0.9, 52°4'N±0.1×170°07'W±0.06, h44km, n42, σ1s49/43, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.97**	**49**		**Pn**	**15 35 01.5**	**-0.5**
NIKH				Sn	**Sn**	**15 35 15.3**	**+0.6**
OKSO	**Okmok South**	**1.54**	**48**		**Pn**	**15 35 10.2**	**+0.4**
OKSO					**Sn**	**15 35 29.7**	**+1.1**
OKFG	**Magazine Ridge**	**1.69**	**50**		**Pn**	**15 35 12.6**	**+0.8**
OKFG					**Sn**	**15 35 34.5**	**+2.3**
MAPS	**Pakushin South**	**2.39**	**51**		**Pn**	**15 35 22.1**	**+0.6**
MGOD	**Makushin Gods**	**2.41**	**52**		**Pn**	**15 35 22.6**	**+0.8**
KOFP	**Korovin Flat P**	**2.47**	**270**		**Pn**	**15 35 23.0**	**+0.4**
MSW	**Makushin Switc**	**2.53**	**50**		**Pn**	**15 35 24.3**	**+0.9**
ATKA	**Atka Island**	**2.54**	**268**	Pn	**Pn**	**15 35 22.8**	**-0.7**
MNAT	**Makushin Natee**	**2.56**	**52**		**Pn**	**15 35 24.7**	**+0.9**
MTBL	**Makushin Table**	**2.61**	**50**		**Pn**	**15 35 24.7**	**+0.2**
AKUT	**Akutan**	**3.14**	**54**	Pn	**Pn**	**15 35 34.8**	**+3.1**
GSTR	**Great Sitkin T**	**3.69**	**269**	Pn	**Pn**	**15 35 42.1**	**+2.7**
GSTD	**Great Sitkin T**	**3.75**	**268**		**Pn**	**15 35 40.2**	**0.0**
ADK	**Adak**	**4.10**	**266**	Pn	**Pn**	**15 35 43.9**	**-1.0**
KIWB	**Kanaga Island**	**4.39**	**266**	Pn	**Pn**	**15 35 49.6**	**+0.6**
SPIA	**Saint Paul Isl**	**4.84**	**359**	Pn	**Pn**	**15 35 58.2**	**+3.2**
KDAK	**Kodiak Island** 0.2nm,0.3s,baz=215,slow=3.0,SNR=10.0	**11.39**	**55**	Pn	**Pn**	**15 37 23.3**	**-1.4**
KDAK				Sn	**Sn**	**15 39 25.5**	**-5.0**
KDAK	**Kodiak Island** 0.1nm,0.3s,baz=154,slow=22,SNR=1.6	**11.39**	**55**	Pn	**Pn**	**15 37 23.6**	**-1.1**
ANM	**Nome**	**12.49**	**9**	Pn	**Pn**	**15 37 37.9**	**-1.8**
CNPM	**China Poot**	**12.74**	**48**	Pn	**Pn**	**15 37 43.0**	**-0.2**
O22K	**Cooper Landing**	**13.85**	**46**	P	**P**	**15 38 04.4**	**-1.1**
SUA	**Susitna One**	**13.90**	**41**	P	**P**	**15 38 05.9**	**-0.4**
HIN	**Hinchinbrook I**	**15.27**	**49**		**Pn**	**15 38 16.2**	**-1.0**
BPAW	**Bear Paw Mtn.**	**15.40**	**33**	P	**P**	**15 38 23.1**	**+0.3**
BPAW	comp=Z,2.9nm,0.7s			IAmb	IAmb	15 38 28.6	
FID	**Port Fidalgo** comp=Z,5.8nm,0.8s	**15.41**	**48**		**Pn**	**15 38 17.2**	**-1.8**
FID				IAmb	IAmb	15 38 33.0	
SCM	**Sheep Creek Mo** comp=Z,6.9nm,1.2s	**15.50**	**43**	Pn	**Pn**	**15 38 19.7**	**-0.6**
SCM				IAmb	IAmb	15 38 47.8	
EGAK	**Eagle** comp=Z,1.7nm,0.9s	**19.32**	**39**		**Pn**	**15 39 07.2**	**-0.2**
EGAK				IAmb	IAmb	15 39 12.8	
PETK	**Petropavlovsk-** comp=Z,0.7nm,0.3s,baz=83,slow=14,SNR=2.8	**19.45**	**285**	P	**P**	**15 39 07.1**	**-0.3**
PETK	**Petropavlovsk-**	**19.45**	**285**	Pn	**P**	**15 39 08.8**	**+1.3**
BMAR	**Burnt Mountain**	**19.56**	**30**		**Pn**	**15 39 11.7**	**+1.5**
INK	**Inuvik** comp=Z,0.6nm,0.4s,baz=225,slow=5.7,SNR=1.7	**23.60**	**34**	P	**P**	**15 39 51.8**	**+0.6**
INK	**Inuvik** comp=Z,5.7nm,1.3s	**23.60**	**34**	P	**P**	**15 39 51.7**	**+0.5**
INK				IAmb	IAmb	15 39 53.5	
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.4s,baz=276,slow=9.9,SNR=2.1	**38.09**	**90**	P	**P**	**15 42 00.3**	**+0.8**
H11S1	**WAKE ISLAND Hy** baz=20	**38.36**	**217**	T	T	16 23 05.4	
H11S2	**WAKE ISLAND Hy** baz=20	**38.38**	**217**	T	T	16 23 05.5	
H11S3	**WAKE ISLAND Hy** baz=20	**38.38**	**217**	T	T	16 23 03.6	
PDAR	**Pinedale Array** comp=Z,0.4nm,0.4s,baz=316,slow=3.8,SNR=3.8	**40.83**	**79**	P	**P**	**15 42 23.2**	**+1.0**
PDAR	**Pinedale Array**	**40.83**	**79**	P	**P**	**15 42 23.7**	**+1.5**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=302,slow=5.2,SNR=5.3	**53.18**	**88**	P	**P**	**15 43 59.0**	**+0.5**
TXAR	**Lajitas Array**	**53.18**	**88**	P	**P**	**15 43 59.8**	**+1.3**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.4s,baz=35,slow=5.3,SNR=2.4	**63.50**	**313**	P	**P**	**15 45 09.4**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.8s,baz=24,slow=6.6,SNR=3.2	**76.20**	**282**	P	**P**	**15 46 27.8**	**-0.7**

IDC 17 15:37:22.4±1.3, 31°.49S×178°.02W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/35, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=33.3km s-min=24.2km az=95.0
NEIC 17 15:37:24.5±2.0, 31°.68S±0°.08×177°.9W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=28.0km s-min=11.8km az=100.0

ISC 17 15:37:25.0±1.0, 31°.75S±0°.07×177°.7W±0°.2, h26km, n26, σ2s07/29, mb4.4/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 73nm,0.3s,baz=70,slow=23,SNR=1.8	**2.49**	**356**	Pn	**Pn**	**15 38 01.9**	**-2.0**
RAO				Sn	**Sn**	**15 38 29.6**	**-3.8**
RAO	**Raoul Island** 98nm,0.3s,baz=39,slow=23,SNR=2.3	**2.49**	**356**	Pn	**Pn**	**15 38 02.5**	**-1.4**
URZ	**Urewera** 0.5nm,0.3s,baz=119,slow=22,SNR=1.7	**7.76**	**212**	Pn	**Pn**	**15 39 13.4**	**-2.8**
URZ				Sn	**Sn**	**15 40 39.0**	**-4.1**
URZ	**Urewera** 1.6nm,0.3s,baz=126,slow=23,SNR=6.6	**7.76**	**212**		**Pn**	**15 39 13.2**	**-3.0**
OUZ	**Omahuta**	**8.04**	**242**	Pn	**Pn**	**15 39 23.7**	**+3.6**
BKZ	**Black Stump Fm**	**8.78**	**211**	Pn	**Pn**	**15 39 29.2**	**-1.1**
MSVF	**Nonsavu**	**14.47**	**344**	P	**P**	**15 40 56.0**	**+1.3**
CTA	**Charters Tower** 3.3nm,0.7s,baz=109,slow=12,SNR=6.8	**34.27**	**281**	P	**P**	**15 44 09.0**	**-0.1**
CTAO	**Charters Tower**	**34.27**	**281**	P	**P**	**15 44 10.1**	**+0.9**
STKA	**Stephens Creek** comp=Z,2.5nm,1.4s	**34.43**	**259**	P	**P**	**15 44 10.5**	**0.0**
STKA				IAmb	IAmb	15 44 23.9	
AS31	**Alice Springs**	**43.29**	**268**	P	**P**	**15 45 24.5**	**-0.3**
ASAR	**Alice Springs** comp=Z,1.3nm,0.7s,baz=102,slow=7.3,SNR=16	**43.29**	**268**	P	**P**	**15 45 23.4**	**-1.5**
ASAR	**Alice Springs**	**43.29**	**268**	P	**P**	**15 45 24.1**	**-0.7**
WR0	**Warramunga Arr**	**44.22**	**273**	P	**P**	**15 45 31.4**	**-0.8**
WR0				IAmb	IAmb	15 45 48.0	
WB2	**Warramunga Arr** comp=Z,7.3nm,1.1s	**44.39**	**273**	P	**P**	**15 45 32.6**	**-1.0**
WB2				IAmb	IAmb	15 45 47.9	
WRA	**Warramunga Arr** comp=Z,1.4nm,1.4s	**44.40**	**273**	P	**P**	**15 45 32.5**	**-1.2**
WRA	**Warramunga Arr** comp=Z,1.2nm,0.4s,baz=111,slow=8.0,SNR=21	**44.40**	**273**	P	**P**	**15 45 32.5**	**-1.2**
WB0	**Warramunga Arr**	**44.43**	**274**	P	**P**	**15 45 33.1**	**-0.9**
WB0				IAmb	IAmb	15 46 02.0	
KNRA	**Kununurra** comp=Z,5.2nm,0.9s	**51.06**	**275**	P	**P**	**15 46 26.8**	**+1.5**
KNRA				IAmb	IAmb	15 46 39.9	
FITZ	**Fitzroy Crossi** comp=Z,8.9nm,1.1s	**52.61**	**271**	P	**P**	**15 46 37.9**	**+1.0**
FITZ				IAmb	IAmb	15 47 00.3	
QSPA	**South Pole Qui** comp=Z,9.2nm,1.4s	**58.37**	**180**	P	**P**	**15 47 20.4**	**+2.5**
QSPA	**South Pole Qui** comp=Z,0.9nm,0.7s,baz=22,slow=0.7,SNR=1.3	**58.37**	**180**	P	**P**	**15 47 20.5**	**+2.7**
FINES	**FINESS Array B** comp=Z,2.4nm,0.7s,baz=52,slow=3.1,SNR=7.0	**146.49**	**339**	PKPbc	**PKPdf**	**15 57 02.4**	**+0.8**
FINES	**FINESS Array B**	**146.49**	**339**		**PKPbc**	**15 57 03.0**	**-0.1**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=40,slow=3.1,SNR=2.1	**152.51**	**321**	PKPbc	**PKPbc**	**15 57 17.9**	**-0.6**
AKASG				PKPab	**PKPab**	**15 57 29.8**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,1.1s,baz=191,slow=3.8,SNR=1.5	**161.48**	**178**	PKPab	**PKPab**	**15 58 11.9**	**+3.6**

IDC 17 15:49:22.1±3.8, 2°.35S×140°.74E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/24, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=101.2km s-min=27.2km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=24,slow=12,SNR=12	**18.57**	**199**	P	P	15 53 40.5	-0.2
FITZ	**Fitzroy Crossi** 1.5nm,0.9s,baz=52,slow=12,SNR=3.1	**21.54**	**222**	P	P	15 54 11.9	-1.2
ASAR	**Alice Springs** 0.9nm,0.6s,baz=28,slow=11,SNR=20	**22.20**	**197**	P	P	15 54 21.1	+0.9
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=119,slow=7.3,SNR=1.8	**46.03**	**298**	P	P	15 57 47.6	-0.3
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=118,slow=6.6,SNR=2.9	**70.75**	**322**	P	P	16 00 40.4	+0.1

MEX 17 15:55:37.2±1.9, 30°.22N×114°.44W, h10km±211km, MD3.6
ECX 17 15:55:40.2±0.8, 30°.71N×114°.47W, h0km±12km, MD2.8, ML3.1, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.47**	**315**	*eP*	Pg	15 55 48.5	-0.7
SFX				*eS*	Sg	15 55 55.9	+0.6
SFX	comp=N,2μm,0.2s			IAML		15 55 57.4	
ECBX	**El Chinero**	**0.92**	**327**	*eP*	Pg	15 55 55.0	-2.7
ECBX				*eS*	Sg	15 56 08.4	-1.3
SPX	**San Pedro Mart**	**0.92**	**291**	*eP*	Pg	15 55 57.0	-0.9
SPX				*eS*	Sg	15 56 10.8	+1.0
SPX	**San Pedro Mart**	**0.92**	**291**	*eP*	Pg	15 55 57.0	-0.9
SPX				*eS*	Sg	15 56 10.1	+0.3
SPX	comp=N,486nm,0.2s			IAML		15 56 12.0	
SPX				⇓*e*		15 56 12.0	
SPIG	**San Pedro Mart**	**0.93**	**292**	*eP*	Pg	15 55 57.0	-1.0
SPIG				*eS*	Sg	15 56 10.8	+0.8
SPIG	**San Pedro Mart**	**0.93**	**292**	*eP*	Pg	15 55 57.0	-1.0
SPIG				*eS*	Sg	15 56 10.5	+0.6
CBX	**Cerro Bola**	**2.47**	**311**	*eP*	Pb	15 56 24.1	-1.5
CBX				*eS*	Sg	15 56 58.1	-1.4
TJIG	**Tijuana**	**2.56**	**313**	*eP*	Pn	15 56 22.3	-0.6
TJIG				*eS*	Sb	15 57 00.0	+1.1

IDC 17 16:37:33.8±7.4, 4°.96S×151°.68E, h109km±51km, mb3.2/4, mb1 3.4/5, mb1mx3.1/48, mbtmp3.6/5, MS3.7/1, Ms1 3.7/1, ms1mx3.0/18, Error ellipse: s-maj=87.8km s-min=34.2km az=108.0

ISC 17 16:37:35.9±2.8, 5°.0S±0°.3×151°.6E±0°.5, h129km, n7, σ0s47/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.0nm,0.3s,baz=330,slow=18,SNR=1.5	**6.22**	**225**	P	**Pn**	**16 39 05.1**	**-0.4**
PMG				S	**Sn**	**16 40 15.6**	**+0.2**
WRA	**Warramunga Arr** 5.9nm,0.3s,baz=186,slow=15,SNR=9.7	**22.44**	**227**	P	**P**	**16 42 24.9**	**+0.5**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=52,slow=9.9,SNR=16	**25.22**	**221**	P	**P**	**16 42 50.3**	**+0.3**
FITZ	**Fitzroy Crossi** 0.3nm,0.5s,baz=53,slow=8.8,SNR=13	**28.53**	**241**	P	**P**	**16 43 19.4**	**-0.3**
JOW	**Kunigami** 1.1nm,0.6s,baz=52,slow=8.6,SNR=6.4	**38.89**	**326**	LR	LR	17 00 31.9	
SONM	**Songino Array** comp=Z,91nm,18.5s,baz=239,slow=35	**65.88**	**328**	P	**P**	**16 48 08.3**	**+0.3**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=137,slow=7.4,SNR=1.7	**149.25**	**287**	PKPbc	**PKPbc**	**16 57 10.1**	**-0.5**
	0.8nm,0.7s,baz=129,slow=4.3,SNR=3.2						

BJI 17 16:39:13.2±0.0, 23°.79N×142°.66E, h42km, mB4.8/23, mb4.5/41, Ms3.8/5, Ms7 3.9/6
NEIC 17 16:39:20.4±2.4, 24°.06N±0°.08×142°.1E±0°.1, h46km±5km, mb4.7/68, Error ellipse: s-maj=16.4km s-min=11.7km az=86.0
IDC 17 16:39:21.7±1.6, 24°.05N×142°.05E, h68km±14km, mb3.9/31, mb1 4.1/34, mb1mx4.0/54, mbtmp4.2/34, MS3.4/2, Ms1 3.4/2, ms1mx3.0/55, Error ellipse: s-maj=15.4km s-min=8.6km az=89.0
JMA 17 16:39:22.6±0.1, 24°.56N×142°.28E, h0km, M4.7

ISC 17 16:39:18.2±0.4, 24°.04N±0°.05×142°.20E±0°.08, h35km, n156, σ1s47/154, mb4.6/68, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.58**	**359**	P	**Pn**	**16 39 59.1**	**+1.6**
CBIJ	**Chichi jima**	**3.04**	**360**	P	**Pn**	**16 40 06.3**	**+2.4**
JCJ	**Chichijima** 112nm,0.3s,baz=273,slow=23,SNR=30	**3.04**	**360**	P	**Pn**	**16 40 07.3**	**+3.4**
JCJ				S	**Sn**	**16 40 44.0**	**+4.9**
JCJ	**Chichijima** 114nm,0.3s,baz=113,slow=22,SNR=6.8	**3.04**	**360**	Pn	**Pn**	**16 40 06.7**	**+2.9**
JHU	**Hanno**	**12.04**	**349**	*eS*	**Sn**	**16 44 13.9**	**-6.4**
JMN	**Monobe**	**12.09**	**325**	Pn	**Pn**	**16 42 08.7**	**+0.6**
INU	**Inuyama**	**12.14**	**339**	Pn	**Pn**	**16 42 09.4**	**+0.9**
JGF	**Kuroka**	**12.26**	**341**	Pn	**Pn**	**16 42 12.3**	**+1.9**
JYT	**Yasato**	**12.27**	**352**	Pn	**Pn**	**16 42 10.1**	**-0.3**
JOW	**Kunigami** comp=Z,143nm,18.8s,baz=348,slow=36	**12.89**	**285**	LR	LR	16 47 04.0	
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=156,slow=11,SNR=7.2	**12.93**	**345**	P	**Pn**	**16 42 20.0**	**+0.6**
MJAR				S	**Sn**	**16 44 40.2**	**-1.9**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=154,slow=15,SNR=3.0	**12.93**	**345**	Pn	**Pn**	**16 42 19.8**	**+0.4**
MAJO	**Matsushiro**	**12.93**	**345**	Pn	**Pn**	**16 42 20.3**	**+0.8**
JMM	**Marumori**	**13.84**	**355**	Pn	**Pn**	**16 42 29.7**	**-2.1**
JSD	**Sado**	**14.36**	**347**	Pn	**Pn**	**16 42 36.3**	**-2.6**
JTM	**Tenmabayashi** comp=Z,55nm,1.2s	**16.73**	**357**	Pn	**Pn**	**16 43 09.2**	**-0.6**
JTM				IAmb	IAmb	16 43 25.9	
ERM	**Erimo**	**17.95**	**2**	P	**P**	**16 43 26.7**	**+1.5**
KSRS	**Korea Array** comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=8.3	**18.12**	**321**	P	**P**	**16 43 28.5**	**+1.4**
KSRS				LR	LR	16 49 58.1	
NACB	**Ninganchiao** comp=Z,37nm,1.1s	**18.81**	**275**	P	**Pn**	**16 43 38.5**	**+2.9**
YULB	**Yu-li**	**19.15**	**272**	P	**Pn**	**16 43 43.3**	**+3.6**
YULB				IAmb	IAmb	16 43 59.8	
SSLB	**Suanglung** comp=Z,22nm,0.8s	**19.43**	**274**	P	**Pn**	**16 43 45.9**	**+2.9**
SSLB				IAmb	IAmb	16 43 52.5	
ASAJ	**Asahikawa** comp=Z,4.0nm,0.6s,baz=222,slow=14,SNR=10	**20.03**	**1**	P	Pn	16 43 50.4	+0.4
JKA	**Kamikawa-asahi**	**20.03**	**1**	P	Pn	16 43 49.8	-0.1
USA0B	**Ussuriysk Arra**	**21.78**	**340**	P	**P**	**16 44 08.0**	**+1.1**
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.7s,baz=170,slow=9.6,SNR=7.8	**21.78**	**340**	P	**P**	**16 44 05.9**	**-1.0**
USRK	**Ussuriysk Ar.**	**21.78**	**340**	P	**P**	**16 44 07.3**	**+0.4**
NJ2	**Nanjing** comp=Z,7.0nm,0.5s	**22.07**	**296**	*eP*	**P**	**16 44 09.3**	**-0.8**
NJ2				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**22.87**	**1**	P	**P**	**16 44 19.6**	**+1.1**
H11N1	**WAKE ISLAND Hy** baz=282,SNR=28	**23.30**	**96**	T	T	17 08 50.2	
H11N2	**WAKE ISLAND Hy** baz=282,slow=74,SNR=44	**23.30**	**96**	T	T	17 09 07.4	
H11N3	**WAKE ISLAND Hy** baz=282,slow=74,SNR=41	**23.32**	**96**	T	T	17 09 28.3	
H11S3	**WAKE ISLAND Hy** baz=288,slow=75,SNR=18	**23.46**	**99**	T	T	17 09 53.7	
H11S1	**WAKE ISLAND Hy** baz=288,slow=75,SNR=20	**23.47**	**99**	T	T	17 09 55.1	
H11S2	**WAKE ISLAND Hy** baz=288,slow=75,SNR=21	**23.48**	**99**	T	T	17 09 59.2	
KLR	**Kul'dur** comp=Z,1.0nm,0.5s,baz=158,slow=6.7,SNR=5.7	**26.45**	**345**	P	**P**	**16 44 50.8**	**-0.9**
HHC	**Hu-ho-hao-te** comp=Z,23nm,0.7s	**30.61**	**311**	*eP*	**P**	**16 45 31.4**	**+2.4**
HHC				pmax	pmax		
XAN	**Xi'an** comp=Z,110nm,4.9s	**30.64**	**297**	P	**P**	**16 45 29.5**	**+0.2**
XAN				pmax	pmax		
PMG	**Port Moresby** comp=Z,9.0nm,0.7s	**33.59**	**171**	P	**P**	**16 45 55.8**	**+0.6**
PMG	**Port Moresby** comp=Z,18nm,0.8s,baz=333,slow=4.5,SNR=2.5	**33.59**	**171**	P	**P**	**16 45 55.8**	**+0.6**
KMI	**Kunming** comp=Z,11nm,1.5s	**35.82**	**280**	⇓P	**P**	**16 46 15.4**	**+0.6**
KMI				pmax	pmax		
NONG	**Nongkai** comp=Z,33nm,0.8s	**36.85**	**268**	P	**P**	**16 46 25.5**	**+2.2**
SONM	**Songino Array** comp=Z,0.6nm,0.6s,baz=119,slow=12,SNR=2.6	**36.98**	**319**	P	**P**	**16 46 22.2**	**-2.1**
SONM				PcP	**PcP**	**16 48 44.4**	**-0.5**
SONM	**Songino Array** comp=Z,0.7nm,0.7s,baz=145,slow=3.6,SNR=4.0	**36.98**	**319**	P	**P**	**16 46 25.2**	**+0.9**
MTN	**Manton Dam** comp=Z,4.9nm,0.8s	**38.22**	**198**	P	**P**	**16 46 34.3**	**-0.6**
MTN				IAmb	IAmb	16 47 00.2	
CHAI	**Chaiyaphum** comp=Z,29nm,0.9s	**38.55**	**266**	P	**P**	**16 46 39.4**	**+1.6**
GTA	**Gaotai**	**38.80**	**304**	*eP*	**P**	**16 46 39.6**	**-0.2**
GTA				pP	sP	16 46 53.9	+0.8
GTA				sP	pwP	16 46 59.0	+6.3
GTA				pmax	pmax		
UTTA	**Uttaradit** comp=Z,17nm,0.9s	**39.30**	**269**	P	**P**	**16 46 46.4**	**+2.3**
SEY	**Seymchan**	**39.48**	**7**	P	**P**	**16 46 46.8**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=215,slow=13,SNR=4.9						
PHIT	**Phitsanulok** comp=Z,88nm,0.8s	**39.59**	**268**	P	**P**	**16 46 48.6**	**+2.2**
CMMT	**Chiang Mai** comp=Z,346nmcomp=Z,9.0nm,0.9s	**40.48**	**271**	P	**P**	**16 46 54.5**	**+0.6**
CHTO	**Chiang Mai** comp=Z,9.1nm,0.9s	**40.49**	**271**	P	**P**	**16 46 55.5**	**+1.6**
CHTO	**Chiang Mai**	**40.49**	**271**	P	**P**	**16 46 54.6**	**+0.7**
CM31	**Chiang Mai Arr**	**40.58**	**271**	P	**P**	**16 46 56.3**	**+1.6**
CMAR	**Chiang Mai Arr** comp=Z,2.7nm,0.6s,baz=59,slow=7.5,SNR=33	**40.58**	**271**	P	**P**	**16 46 55.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**40.58**	**271**	P	**P**	**16 46 56.2**	**+1.5**
KNRA	**Kununurra**	**41.60**	**200**	P	**P**	**16 47 02.9**	**0.0**
CTA	**Charters Tower** comp=Z,3.1nm,0.5s,baz=354,slow=9.6,SNR=13	**44.04**	**175**	P	**P**	**16 47 22.5**	**-0.2**
CTAO	**Charters Tower**	**44.04**	**175**	P	**P**	**16 47 22.1**	**-0.5**
CTAO				IAmb	IAmb	16 47 46.1	
WB0	**Warramunga Arr** comp=Z,13nm,1.4s	**44.20**	**191**	P	**P**	**16 47 23.8**	**-0.2**
WB0				IAmb	IAmb	16 47 25.2	
WR0	**Warramunga Arr** comp=Z,12nm,0.8s	**44.37**	**190**	P	**P**	**16 47 25.3**	**0.0**
WR0				IAmb	IAmb	16 47 26.6	
WRAB	**Tennant Creek** comp=Z,15nm,1.0s	**44.37**	**191**	P	**P**	**16 47 25.3**	**0.0**
WB2	**Warramunga Arr**	**44.38**	**191**	P	**P**	**16 47 25.4**	**0.0**
WRA	**Warramunga Arr** comp=Z,26nm,0.8s,baz=9.4,slow=8.4,SNR=130	**44.38**	**191**	P	**P**	**16 47 25.3**	**-0.1**
WRA				PcP	**PcP**	**16 49 09.1**	**+0.1**
WRA	**Warramunga Arr** comp=Z,3.8nm,0.7s,baz=2.0,slow=3.5,SNR=11	**44.38**	**191**	P	**P**	**16 47 24.6**	**-0.9**
FITZ	**Fitzroy Crossi** comp=Z,7.3nm,0.7s,baz=36,slow=7.2,SNR=18	**44.89**	**203**	P	**P**	**16 47 29.6**	**+0.1**
FITZ	**Fitzroy Crossi** comp=Z,9.9nm,0.9s	**44.89**	**203**	P	**P**	**16 47 30.0**	**+0.5**
FITZ				IAmb	IAmb	16 47 31.1	
SANVU	**Saraoutou**	**46.22**	**146**	P	**P**	**16 47 40.4**	**+0.3**
PSI	**Prapat** comp=Z,4.9nm,0.5s,baz=360,slow=6.8,SNR=9.3	**46.80**	**250**	P	**P**	**16 47 45.8**	**+0.8**
RPSI	**Rantau Prapat** comp=Z,6.6nm,0.6s	**46.86**	**250**	P	**P**	**16 47 46.4**	**+1.2**
RPSI				IAmb	IAmb	16 47 47.3	
AS31	**Alice Springs**	**48.10**	**190**	P	**P**	**16 47 54.6**	**0.0**
ASAR	**Alice Springs** comp=Z,4.8nm,0.6s,baz=16,slow=10,SNR=73	**48.10**	**190**	P	**P**	**16 47 54.3**	**-0.4**
ASAR	**Alice Springs**	**48.10**	**190**	P	**P**	**16 47 54.5**	**-0.1**
TIXI	**Tiksi** comp=Z,2.1nm,0.7s,baz=139,slow=4.5,SNR=8.4	**48.24**	**354**	P	**P**	**16 47 54.2**	**-0.9**
TIXI	**Tiksi**	**48.24**	**354**	P	**P**	**16 47 54.3**	**-0.9**
WMQ	**Urumqi**	**48.41**	**308**	*eP*	**P**	**16 47 56.3**	**-0.7**
WMQ				sP	sP	16 48 11.3	+0.8
WMQ	comp=Z,180nm,5.1s			pmax	pmax		
GSI	**Gunungsitoli**	**48.72**	**249**	P	**P**	**16 48 00.2**	**+0.5**
EIDS	**Eidsvold** comp=Z,14nm,1.3s	**49.86**	**169**	P	**P**	**16 48 07.8**	**-0.3**
EIDS				IAmb	IAmb	16 48 27.1	
PSA00	**Pilbara Seismi** comp=Z,4.8nm,0.9s	**50.28**	**207**	P	**P**	**16 48 11.3**	**-0.1**
PSA00				IAmb	IAmb	16 48 12.1	
DZM	**Mont Dzumac** comp=Z,19nm,0.8s,baz=337,slow=11,SNR=5.1	**51.54**	**151**	P	**P**	**16 48 20.5**	**-0.4**
DZM	**Mont Dzumac**	**51.54**	**151**	P	**P**	**16 48 21.0**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.6s,baz=99,slow=9.2,SNR=7.4	**51.83**	**321**	P	**P**	**16 48 20.4**	**-2.2**
ZALV				PcP	**PcP**	**16 49 34.2**	**-1.0**
MK31	**Makanchi Array** comp=Z,3.0nm,0.7s,baz=98,slow=4.3,SNR=7.4	**52.47**	**311**	P	**P**	**16 48 26.7**	**-0.8**
MK31				IAmb	IAmb	16 48 45.0	
MKAR	**Makanchi Array** comp=Z,7.3nm,1.4s	**52.47**	**311**	P	**P**	**16 48 26.4**	**-1.1**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.5s,baz=89,slow=8.9,SNR=23	**52.47**	**311**	P	**P**	**16 49 37.1**	**-0.7**
MKAR				PcP	**PcP**	**16 49 37.1**	**-0.7**
MKAR	**Makanchi Array** comp=Z,1.7nm,0.7s,baz=85,slow=6.5,SNR=5.4	**52.47**	**311**	P	**P**	**16 48 26.3**	**-1.2**
MAKZ	**Makanchi** comp=Z,0.4nm,0.7s,baz=75,slow=5.0,SNR=3.9	**52.68**	**311**	P	**P**	**16 48 28.2**	**-0.9**
ARMA	**Armidale**	**54.90**	**170**	P	**P**	**16 48 45.9**	**+0.4**
ARMA				IAmb	IAmb	16 48 46.5	
NRIK	**Noril'sk** comp=Z,5.4nm,0.8s,baz=119,slow=8.4,SNR=6.9	**55.50**	**339**	P	**P**	**16 48 48.0**	**-1.3**
NRIK				IAmb	IAmb	16 49 08.7	
STKA	**Stephens Creek** comp=Z,3.7nm,0.7s,baz=7.7,slow=9.7,SNR=9.9	**55.60**	**181**	P	**P**	**16 48 49.7**	**-0.7**
STKA	**Stephens Creek**	**55.60**	**181**	P	**P**	**16 48 49.8**	**-0.7**
SII	**Sitkinak Islan**	**55.79**	**37**	P	**P**	**16 48 53.0**	**+1.4**
SVW2	**Sparrevohn** comp=Z,8.2nm,0.9s	**55.87**	**31**	P	**P**	**16 48 54.8**	**+2.7**
SVW2				IAmb	IAmb	16 49 10.8	
KDJ	**Kajisay** comp=Z,5.0nm,0.9s	**56.09**	**306**	P	**P**	**16 48 53.2**	**-1.0**
KDJ				IAmb	IAmb	16 49 12.5	
FORT	**Forrest**	**56.17**	**195**	P	**P**	**16 48 54.6**	**+0.1**
CNPM	**China Poot**	**57.73**	**34**	P	**P**	**16 49 06.9**	**+1.6**
AAK	**Ala-Archa** comp=Z,1.4nm,0.3s,baz=244,slow=15,SNR=1.9	**58.04**	**306**	P	**P**	**16 49 07.8**	**-0.1**
AAK				PcP	**PcP**	**16 49 59.3**	**-0.3**
AAK	**Ala-Archa** comp=Z,2.3nm,0.4s,baz=138,slow=3.3,SNR=3.7	**58.04**	**306**	P	**P**	**16 49 08.5**	**+0.5**
AAK				IAmb	IAmb	16 49 25.1	
MLY	**Manley** comp=Z,4.1nm,0.7s	**58.80**	**27**	P	**P**	**16 49 14.5**	**+1.7**
MLY				IAmb	IAmb	16 49 31.9	
GHO	**Glory Hole Cre** comp=Z,4.2nm,1.0s	**59.13**	**31**	P	**P**	**16 49 15.6**	**+0.5**
GHO				IAmb	IAmb	16

comp=Z,7.5nm,0.8s
KBZ Khabaz 80.10 313 P P 16 51 23.8 -0.8
comp=Z,4.4nm,0.8s,baz=112,slow=3.3,SNR=9.9
BEKR Beckworth 80.36 51 P P 16 51 27.5 +1.2
FINES FINESS Array B 80.69 334 P P 16 51 25.6 -1.8
comp=Z,1.7nm,0.6s,baz=60,slow=6.4,SNR=11
FINES FINESS Array B 80.69 334 P P 16 51 26.2 -1.1
CMB Columbia Colle 81.06 52 P P 16 51 30.6 +0.7
NVAR Mina Array Bea 82.40 51 P P 16 51 38.7 +1.5
comp=Z,1.9nm,0.9s,baz=266,slow=5.6,SNR=9.9
NVAR Mina Array Bea 82.40 51 P P 16 51 38.5 +1.3
TPNV Topopah Spring 84.50 52 P P 16 51 47.9 -0.1
TPNV IAmb IAmb 16 52 06.7
comp=Z,3.9nm,0.7s
AKASG Malin Array Be 85.09 324 P P 16 51 48.7 -1.7
comp=Z,0.2nm,0.3s,baz=49,slow=5.0,SNR=5.7
AKASG Malin Array Be 85.09 324 P P 16 51 49.9 -0.5
RLMT Red Lodge 85.39 42 P P 16 51 54.0 +1.7
PDAR Pinedale Array 86.37 44 P P 16 51 57.4 +0.1
comp=Z,0.6nm,0.8s,baz=316,slow=4.1,SNR=4.1
PDAR Pinedale Array 86.37 44 P P 16 51 58.4 +1.1
RAYN Ar Rayn 86.40 294 P P 16 51 57.4 -0.1
RAYN IAmb IAmb 16 51 58.9
comp=Z,3.5nm,0.6s
NOA NORSAR Array B 86.44 338 P P 16 51 55.0 -2.0
comp=Z,1.6nm,0.8s,baz=47,slow=4.7,SNR=5.5
KNB Kanab 86.92 51 P P 16 52 01.0 +1.0
KNB IAmb IAmb 16 52 19.8
comp=Z,7.6nm,0.9s
BRTR Keskin Array B 88.09 313 P P 16 52 04.2 -1.3
comp=Z,1.9nm,0.7s,baz=74,slow=4.4,SNR=4.6
BRTR Keskin Array B 88.09 313 P P 16 52 03.9 -1.6
TXAR Lajitas Array 97.41 53 P Pdif 16 52 50.2 +1.4
comp=Z,0.2nm,0.6s,baz=280,slow=3.0,SNR=3.6
BOSA Boshof 123.87 251 PKP PKPdf 16 58 12.9 -0.2
comp=Z,1.7nm,0.5s,baz=312,slow=12,SNR=4.0
TORD Torodi Ar. Bea 126.57 310 PKP PKPdf 16 58 18.0 -0.6
comp=Z,0.8nm,0.8s,baz=358,slow=1.0,SNR=4.7
TORD Torodi Ar. Bea 126.57 310 PKPdf 16 58 17.8 -0.8
EFI East Falkland 148.32 156 PKPbc PKPbc 16 59 00.6 +0.1
MT01 Popeta 149.25 116 PKPbc PKPbc 16 59 01.7 -1.8
MT02 Curacav 149.44 115 PKPdf PKPdf 16 58 59.6 +0.1
BO02 Sierra Bellavi 149.46 118 PKPbc PKPbc 16 59 04.3 +0.2
HOPE Hope Point 149.78 182 PKPbc PKPbc 16 59 04.5 +0.4
PB11 IPOC Station P 150.17 88 PKPbc PKiKP 16 59 07.3 +0.1
LPAZ La Paz 150.55 81 PKPbc PKPbc 16 59 07.9 0.0
comp=Z,2.3nm,0.6s,baz=350,slow=6.1,SNR=7.5
LPAZ La Paz 150.55 81 PKPbc PKPbc 16 59 08.0 +0.2
PB08 IPOC Station P 150.72 89 PKPbc PKiKP 16 59 08.9 +0.3

KRNET ***17*** *17:25:12.7±0.1, 41.73N×77.52E, h18km, mb3.4*
SOME ***17*** *17:25:12.3, 41.78N×77.50E, h5km*
KNET ***17*** *17:25:14.7±0.2, 41.92N×77.44E, h0km, ml2.9, Error ellipse: s-maj=3.2km s-min=1.2km az=25.0*
NNC ***17*** *17:25:14.4±0.7, 41.80N×77.52E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=4.5km s-min=2.9km az=179.0*
ISC 17 17:25:14.2±1.4, **41.79N**±0.04×**77.48E**±0.02, **h3**km±10km, **n72**, σ=**1**.**14**/120, **33C-26D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KDJ	**Kajisay**	**0.41**	**326**	⇑*i*P		**Pg**	**17 25 21.7**	**-0.4**
	baz=28							
KDJ				⇑*i*S		**Sg**	**17 25 28.5**	**+1.1**
	baz=28							
PRZ	**Przheval'sk**	**0.97**	**44**	⇑*i*P		**Pg**	**17 25 31.5**	**-1.4**
	baz=40							
PRZ				⇑*i*S		**Sg**	**17 25 45.3**	**-0.2**
	baz=40							
ANVS	**Anan'yevo**	**1.00**	**8**	⇑*i*P		**Pg**	**17 25 32.3**	**-1.1**
	baz=6.0							
ANVS				⇑*e*S		**Sg**	**17 25 46.6**	**+0.2**
	baz=6.0							
ULHL	**Ulahol**	**1.03**	**297**	⇑*i*P		**Pg**	**17 25 32.7**	**-1.3**
	baz=99							
ULHL				⇑*i*S		**Sg**	**17 25 47.7**	**+0.3**
	baz=99							
ULHL	**Ulahol**	**1.03**	**297**	⇑P		**Pg**	**17 25 32.6**	**-1.3**
	24nm,0.1s							
ULHL				⇑S		**Sg**	**17 25 47.2**	**-0.2**
	173nm,0.2s							
BOOM	**Boomskoye usch**	**1.34**	**302**	⇑*i*P		**Pn**	**17 25 38.3**	**-1.8**
	baz=3.0							
BOOM				⇑*i*S		**Sg**	**17 25 57.3**	**-0.1**
	baz=3.0							
IZV	**Izvestkoviy**	**1.40**	**333**	*e*P		**Pn**	**17 25 39.8**	**-1.1**
	3.7nm,0.1s							
IZV				*e*S		**Sn**	**17 25 59.7**	**-0.3**
	82nm,0.2s							
IZV	**Izvestkoviy**	**1.40**	**333**	P		**Pn**	**17 25 39.8**	**-1.1**
	3.7nm,0.1s							
IZV				S		**Sn**	**17 25 59.7**	**-0.3**
	82nm,0.2s							
MDOK	**Medeo**	**1.41**	**347**	*e*P		**Pn**	**17 25 39.8**	**-1.2**
	14nm,0.3s							
MDOK				*e*S		**Sn**	**17 25 59.7**	**-0.5**
	86nm,0.7s							
MDOK	**Medeo**	**1.41**	**347**	P		**Pn**	**17 25 39.9**	**-1.2**
	10nm,0.4s							
MDOK				S		**Sb**	**17 25 59.5**	**-0.3**
	68nm,0.6s							
MDOK	**Medeo**	**1.41**	**347**	Pg		**Pn**	**17 25 39.8**	**-1.2**
	14nm,0.3s							
MDOK				Lg		Lg	17 25 59.7	
	86nm,0.7s							
SATY	**Saty**	**1.44**	**28**	*e*P		**Pn**	**17 25 40.0**	**-1.4**
	7.9nm,0.2s							
SATY				*e*S		**Sn**	**17 26 00.2**	**-0.8**
	94nm,0.2s							
SATY	**Saty**	**1.44**	**28**	P		**Pn**	**17 25 40.0**	**-1.4**
	7.9nm,0.2s							
SATY				S		**Sn**	**17 26 00.2**	**-0.8**
	94nm,0.2s							
KOTS	**Kotyrbulak**	**1.47**	**349**	*e*P		**Pn**	**17 25 41.3**	**-0.6**
	55nm,0.4s							
KOTS				*e*S		**Sg**	**17 26 02.1**	**+0.7**
	68nm,0.5s							
KOTS	**Kotyrbulak**	**1.47**	**349**	P		**Pn**	**17 25 41.3**	**-0.6**
	55nm,0.4s							
KOTS				S		**Sg**	**17 26 02.1**	**+0.7**
	68nm,0.5s							
KNDC	**Almaty**	**1.48**	**345**	⇓P		**Pn**	**17 25 41.8**	**-0.1**
	20nm,0.3s							
KNDC				⇑S		**Sg**	**17 26 02.5**	**+0.8**
	61nm,0.3s							
MTBS	**Maitube**	**1.55**	**330**	*e*P		**Pn**	**17 25 42.4**	**-0.4**
	7.3nm,0.4s							
MTBS				*e*S		**Sg**	**17 26 04.0**	**0.0**
	114nm,0.3s							
MTBS	**Maitube**	**1.55**	**330**	P		**Pn**	**17 25 42.4**	**-0.4**
	7.3nm,0.4s							
MTBS				S		**Sg**	**17 26 04.0**	**0.0**
	114nm,0.3s							
KST	**Kastek**	**1.68**	**319**	*e*P		**Pn**	**17 25 44.9**	**+0.1**
	19nm,0.2s							
KST				*e*S		**Sg**	**17 26 08.3**	**0.0**
	60nm,0.2s							
KST	**Kastek**	**1.68**	**319**	P		**Pn**	**17 25 44.9**	**+0.1**
	19nm,0.2s							
KST				S		**Sg**	**17 26 08.3**	**0.0**
	60nm,0.2s							
UZB	**Uzynbulak**	**1.77**	**40**	*e*P		**Pn**	**17 25 45.5**	**-0.4**
	1.3nm,0.3s							
UZB				*e*S		**Sb**	**17 26 09.2**	**-1.0**
	96nm,0.2s							
KURS	**Kuram**	**1.77**	**16**	*e*P		**Pn**	**17 25 46.0**	**+0.2**
	9.4nm,0.3s							
KURS				*e*S		**Sb**	**17 26 09.9**	**-0.1**
	21nm,0.5s							
KURS	**Kuram**	**1.77**	**16**	P		**Pn**	**17 25 46.0**	**+0.2**
	9.4nm,0.3s							
KURS				S		**Sb**	**17 26 09.9**	**-0.1**
	21nm,0.5s							
TKM2	**Tokmak 2**	**1.80**	**310**	⇑*i*P		**Pn**	**17 25 46.6**	**+0.2**
	baz=10.0							
TKM2				⇑*i*S		**Sb**	**17 26 11.2**	**+0.2**
	baz=10.0							
TKM2	**Tokmak 2**	**1.80**	**310**	⇑P		**Pn**	**17 25 46.8**	**+0.5**
	33nm,0.3s,SNR=24							
TKM2				⇓S		**Sg**	**17 26 11.9**	**-0.1**
	71nm,0.1s							
TKM2	**Tokmak 2**	**1.80**	**310**	⇑Pn		**Pn**	**17 25 46.9**	**+0.5**
	7.3nm,0.2s							
TKM2				⇓Sn		**Sg**	**17 26 12.4**	**+0.5**
	48nm,0.3s							
KPKS	**Kokpek**	**1.89**	**27**	*e*P		**Pn**	**17 25 47.8**	**+0.2**
	29nm,0.3s							
KPKS				*e*S		**Sb**	**17 26 13.4**	**-0.3**
	160nm,0.4s							
DGS	**Degeres**	**1.92**	**319**	*e*P		**Pb**	**17 25 49.8**	**-0.3**
	5.1nm,0.2s							
DGS				*e*S		**Sg**	**17 26 16.6**	**+0.5**
	75nm,0.3s							
DGS	**Degeres**	**1.92**	**319**	Pg		**Pb**	**17 25 49.8**	**-0.3**
	5.1nm,0.2s							
DGS				Lg		Lg	17 26 16.6	
	75nm,0.3s							
SHLS	**Shalkode**	**2.00**	**46**	*e*P		**Pg**	**17 25 54.2**	**+1.6**
	158nm,0.2s							
SHLS				*e*S		**Sg**	**17 26 24.4**	**+5.9**
	329nm,0.6s							
SHLS	**Shalkode**	**2.00**	**46**	Pg		**Pg**	**17 25 54.2**	**+1.6**
	158nm,0.2s							
SHLS				Lg		Lg	17 26 24.4	
	329nm,0.6s							
KTBS	**Karatobe**	**2.01**	**343**	*e*P		**Pb**	**17 25 50.8**	**-0.6**
	9.4nm,0.3s							
KTBS				*e*S		**Sg**	**17 26 18.5**	**-0.3**
	141nm,0.5s							
KTBS	**Karatobe**	**2.01**	**343**	Pg		**Pb**	**17 25 50.8**	**-0.6**
	9.4nm,0.3s							
KTBS				Lg		Lg	17 26 18.5	
	141nm,0.5s							
KBK	**Karagaybulak**	**2.07**	**295**	⇓*i*P		**Pn**	**17 25 50.2**	**+0.1**
	baz=97							
KBK				⇓*i*S		**Sn**	**17 26 17.6**	**+1.0**
	baz=97							
KBK	**Karagaybulak**	**2.07**	**295**	⇑P		**Pb**	**17 25 51.7**	**-1.0**
	27nm,0.2s,SNR=54							
KBK				⇓S		**Sg**	**17 26 20.8**	**0.0**
	37nm,0.2s							
CHKK	**Chushkaly**	**2.09**	**350**	*e*P		**Pb**	**17 25 52.2**	**-0.6**
	65nm,0.4s							
CHKK				*e*S		**Sg**	**17 26 21.1**	**-0.4**
	196nm,0.2s							
CHKK	**Chushkaly**	**2.09**	**350**	Pg		**Pb**	**17 25 52.3**	**-0.6**
	65nm,0.4s							
CHKK				Lg		Lg	17 26 21.0	
	196nm,0.2s							
PDGK	**Podgornoye**	**2.13**	**43**	Pg		**Pb**	**17 25 51.9**	**-1.8**
	16nm,0.2s							
PDGK				Lg		Lg	17 26 20.5	
	142nm,0.4s							
PDGK	**Podgornoye**	**2.13**	**43**	⇑Pn		**Pn**	**17 25 51.7**	**+0.7**
	18nm,0.5s							
PDGK				⇓Sn		**Sb**	**17 26 20.5**	**-0.1**
	162nm,0.5s							
KUU	**Kurty**	**2.26**	**339**	*e*P		**Pb**	**17 25 55.2**	**-0.6**
	14nm,0.4s							
KUU				*e*S		**Sg**	**17 26 25.8**	**-1.1**
	80nm,0.4s							
KUU	**Kurty**	**2.26**	**339**	Pg		**Pb**	**17 25 55.2**	**-0.6**
	14nm,0.4s							
KUU				Lg		Lg	17 26 25.8	
	80nm,0.4s							
FRU1	**Bishkek**	**2.35**	**297**	⇑*i*P		**Pn**	**17 25 54.2**	**+0.4**
	baz=98							
FRU1				⇑*i*S		**Sn**	**17 26 24.4**	**+1.1**
	baz=98							
CHMS	**Chumysh**	**2.36**	**302**	⇑*i*P		**Pn**	**17 25 54.0**	**+0.1**
	baz=3.0							
CHMS				⇑*i*S		**Sn**	**17 26 24.0**	**+0.6**
	baz=3.0							
CHMS	**Chumysh**	**2.36**	**302**	⇑P		**Pb**	**17 25 56.2**	**-1.2**
	21nm,0.4s,SNR=12							
AAK	**Ala-Archa**	**2.38**	**292**	⇓*i*P		**Pn**	**17 25 54.4**	**+0.1**
	baz=93							
AAK				⇓*i*S		**Sn**	**17 26 24.7**	**+0.6**
	baz=93							
AAK	**Ala-Archa**	**2.38**	**292**	⇓P		**Pb**	**17 25 56.9**	**-0.9**
	21nm,0.2s,SNR=23							
AAK				⇓S		**Sb**	**17 26 29.6**	**+2.0**
	52nm,0.4s							
AAK	**Ala-Archa**	**2.38**	**292**	⇓Pn		**Pb**	**17 25 56.3**	**-1.5**
	30nm,0.7s							
AAK				⇓Lg		Lg	17 26 29.3	
	28nm,0.4s							
ARXS	**Arharly**	**2.43**	**6**	*e*P		**Pb**	**17 25 57.5**	**-1.2**
	22nm,0.2s							
ARXS				*e*S		**Sb**	**17 26 30.1**	**+0.9**
	123nm,0.3s							
ARXS	**Arharly**	**2.43**	**6**	Pg		**Pb**	**17 25 57.5**	**-1.2**
	22nm,0.2s							
ARXS				Lg		Lg	17 26 30.1	
	123nm,0.3s							
USP	**Ospenovka**	**2.65**	**305**	⇓*i*P		**Pn**	**17 25 58.2**	**+0.2**
	baz=5.0							
USP				⇓*i*S		**Sn**	**17 26 31.3**	**+0.6**
	baz=5.0							
SGDS	**Sogindy**	**2.68**	**309**	Pg		**Pb**	**17 26 02.2**	**-0.8**
	9.3nm,0.4s							
SGDS				Lg		Lg	17 26 38.0	
	47nm,0.2s							
KTMS	**Ketmen**	**2.69**	**51**	*e*P		**Pb**	**17 26 01.5**	**-1.6**
	16nm,0.2s							
KTMS				*e*S		**Sb**	**17 26 36.6**	**+0.1**
	148nm,0.5s							
KTMS	**Ketmen**	**2.69**	**51**	Pg		**Pb**	**17 26 01.5**	**-1.6**
	16nm,0.2s							
KTMS				Lg		Lg	17 26 36.6	
	148nm,0.5s							
AML	**Almayashu**	**2.85**	**278**	⇑*i*P		**Pn**	**17 26 01.0**	**0.0**
	baz=79							
AML				⇑*i*S		**Sn**	**17 26 36.1**	**+0.1**
	baz=79							
EKS2	**Erkin-Say**	**2.89**	**289**	⇑*e*P		**Pn**	**17 26 01.4**	**+0.1**
	baz=90							
EKS2				⇑*i*S		**Sn**	**17 26 36.7**	**+0.1**
	baz=90							
DJR	**Jarkent**	**3.05**	**33**	Pg		**Pb**	**17 26 07.9**	**-1.4**
	0.5nm,0.2s							
DJR				Lg		Lg	17 26 47.6	
	12nm,0.3s							
TDK	**Taldyqorghan**	**3.28**	**12**	*e*P		**Pb**	**17 26 12.3**	**-0.8**
	8.1nm,0.2s							
TDK				*e*S		**Sb**	**17 26 55.1**	**+1.7**
	132nm,0.6s							
TDK	**Taldyqorghan**	**3.28**	**12**	Pg		**Pb**	**17 26 12.3**	**-0.8**
	8.1nm,0.2s							
TDK				Lg		Lg	17 26 55.1	
	132nm,0.6s							
MRKS	**Merke**	**3.30**	**288**	*e*P		**Pb**	**17 26 14.6**	**+1.0**
	12nm,0.4s							
MRKS				*e*S		**Sg**	**17 26 59.2**	**-1.1**
	18nm,0.2s							
MRKS	**Merke**	**3.30**	**288**	Pg		**Pb**	**17 26 14.6**	**+1.0**
	12nm,0.4s							
MRKS				Lg		Lg	17 26 59.2	
	18nm,0.2s							
ARSB	**Arslanbob**	**3.41**	**264**	⇓*i*P		**Pn**	**17 26 08.3**	**-0.2**
	baz=65							
ARSB				⇓*i*S		**Sn**	**17 26 48.9**	**-0.6**
	baz=65							
SFK	**Sufi-Kurgan**	**3.50**	**241**	⇑*i*P		**Pn**	**17 26 09.2**	**-0.6**
	baz=42							
SFK				⇑*i*S		**Sn**	**17 26 50.1**	**-1.8**
	baz=42							
KAPS	**Kapalarasan**	**3.75**	**21**	*e*P		**Pb**	**17 26 20.4**	**-0.7**
	1.4nm,0.3s							
KAPS				*e*S		**Sb**	**17 27 08.9**	**+1.9**
	18nm,0.3s							
KAPS	**Kapalarasan**	**3.75**	**21**	Pg		**Pb**	**17 26 20.4**	**-0.7**
	0.1nm,0.2s							
KAPS				Lg		Lg	17 27 09.4	
	2.3nm,0.5s							
MNAS	**Manas**	**3.77**	**282**	⇓*e*P		**Pn**	**17 26 13.5**	**+0.1**
	baz=83							
MNAS				⇓*i*S		**Sn**	**17 26 57.7**	**-0.7**
	baz=83							
BTLS	**Baital**	**4.10**	**324**	*e*P		**Pb**	**17 26 27.1**	**0.0**
	1.0nm,0.4s							
BTLS				*e*S		**Sb**	**17 27 20.4**	**+3.3**
	12nm,0.9s							
TRKS	**Terek-Say**	**4.76**	**269**	⇓*e*P		**Pn**	**17 26 26.7**	**-0.4**
	baz=69							
TRKS				⇓*i*S		**Sn**	**17 27 20.9**	**-1.9**
	baz=69							
KK31	**Karatay Array**	**5.32**	**287**	⇓Pg		**Pb**	**17 26 51.2**	**+3.2**
	0.9nm,0.2s,baz=115,slow=15,SNR=17							
KK31				⇑Lg		Lg	17 28 01.7	
	1.7nm,0.3s,baz=105,slow=28,SNR=8.2							
MAKZ	**Makanchi**	**5.96**	**31**	⇓Pn		Pn	17 26 47.8	+4.4
	0.6nm,0.7s							
MAKZ				⇑Lg		Lg	17 28 22.4	
	3.2nm,0.9s							
MK31	**Makanchi Array**	**6.07**	**33**	⇓Pn		**Pn**	**17 26 47.6**	**+2.6**
	0.3nm,0.3s,baz=206,slow=14,SNR=10							
MK31				⇑Lg		Lg	17 28 25.7	
	3.6nm,0.7s,baz=209,slow=22,SNR=5.4							
OTUK	**Ortayu**	**7.41**	**332**	⇓Lg		Lg	17 29 05.6	
	6.7nm,0.7s							
KURBB	**Kurchatov Arra**	**8.86**	**4**	⇓Lg		Lg	17 29 57.4	
	9.3nm,0.7s							

IDC 17 17:43:50.5±2.4, 2.72N×128.78E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.3/3, Error ellipse: s-maj=159.9km s-min=26.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**23.18**	**167**	P		P	17 48 59.3	+0.3
	0.2nm,0.3s,baz=346,slow=10.0,SNR=10							
ASAR	**Alice Springs**	**26.70**	**170**	P		P	17 49 30.9	-0.9
	0.2nm,0.6s,baz=355,slow=7.7,SNR=5.7							
MKAR	**Makanchi Array**	**59.55**	**325**	P		P	17 53 56.4	+0.4
	0.2nm,0.4s,baz=113,slow=8.6,SNR=4.8							

TAP 17 17:47:14.7, 23.15N×120.80E, h8km, ML1.5, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
STYH	**Taoyuan**	**0.03**	**323**	*i*P		Pg	17 47 16.7	+0.5
	baz=323							
STYH				S		Sg	17 47 17.3	+0.1
	baz=323							
STYT	**Tauyuan**	**0.04**	**294**	*i*P		Pg	17 47 17.0	+0.6
	baz=297							
STYT				*i*S		Sg	17 47 17.9	+0.4
	baz=297							
WTP	**Ta-pu**	**0.19**	**301**	*i*P		Pg	17 47 19.6	+0.9
	baz=301							
WTP				S		Sg	17 47 22.9	+1.6
	baz=301							
SLGT	**Liugui**	**0.20**	**222**	*e*P		Pg	17 47 20.2	+1.3
	baz=221							
SLGT				S		Sg	17 47 23.2	+1.5
	baz=221							
ELDTW	**Lidau**	**0.21**	**78**	*e*P		Pg	17 47 20.7	+1.8
	baz=79							
ELDTW				*i*S		Sg	17 47 23.8	+1.9
	baz=79							
TPUB	**Ta-pu**	**0.22**	**315**	P		Pg	17 47 19.9	+0.9
	baz=315							
CHN4	**Tsaushan**	**0.28**	**318**	*i*P		Pb	17 47 21.3	-0.6
	baz=317							
SNST	**Tainan City**	**0.28**	**285**	*e*S		Sb	17 47 26.1	-0.9
	baz=284							
TWK	**Hsinying**	**0.31**	**293**	*i*P		Pb	17 47 22.3	-0.1
	baz=293							
TWK				*i*S		Sb	17 47 26.5	-1.2
	baz=293							
ALS	**Alishan**	**0.36**	**1**	*i*P		Pg	17 47 22.5	+0.6
	baz=2.0							
ALS				S		Sb	17 47 28.3	-1.2
	baz=2.0							
SCST	**Cishan**	**0.38**	**227**	*e*S		Sb	17 47 29.8	+0.1
	baz=226							
LONT	**Longtian**	**0.39**	**128**	*e*P		Pb	17 47 23.3	-0.6
	baz=127							
LONT				*e*S		Sb	17 47 29.8	-0.2
	baz=127							
CHN3	**Shinhua**	**0.40**	**260**	*e*S		Sb	17 47 30.0	-0.3
	baz=259							
SSD	**Sandimen**	**0.43**	**201**	*e*P		Pb	17 47 24.2	-0.2
	baz=199							
SSD				*e*S		Sb	17 47 30.9	-0.2
	baz=199							
CHN5	**Tsauling**	**0.46**	**347**	*e*P		Pb	17 47 24.5	-0.6
	baz=346							
CHN5				S		Sb	17 47 32.5	+0.3
	baz=346							
TWM1	**Shoushan**	**0.47**	**227**	*e*S		Sb	17 47 32.0	-0.3
	baz=226							
CHN2	**Minshiung**	**0.48**	**323**	*e*P		Pg	17 47 24.7	+0.7
	baz=322							

TAP 17 17:47:16.6, 23.15N×120.56E, h16km, ML1.3, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SGST	**Jiashian**	**0.07**	**160**	*i*P		Pg	17 47 20.0	+0.1
	baz=250							
SGST				*i*S		Sg	17 47 23.0	+1.0
	baz=250							
SGST	**Jiashian**	**0.07**	**160**	⇑*i*P		Pg	17 47 20.0	+0.2
	baz=155							
SGST				*i*S		Sg	17 47 23.0	+1.1
	baz=155							
SNST	**Tainan City**	**0.09**	**321**	*i*P		Pg	17 47 20.4	+0.4
	baz=321							
SNST				*i*S		Sg	17 47 23.1	+1.0
	baz=321							
WTP	**Ta-pu**	**0.11**	**30**	*i*P		Pb	17 47 20.7	+0.4
	baz=34							
WTP				*i*S		Sb	17 47 23.5	+0.7
	baz=34							
TWK	**Hsinying**	**0.13**	**331**	*i*P		Pb	17 47 21.0	+0.3
	baz=335							
TWK				*i*S		Sb	17 47 23.8	+0.3
	baz=335							
TPUB	**Ta-pu**	**0.16**	**25**	P		Pb	17 47 21.2	-0.1
	baz=25							
TPUB				S		Sb	17 47 24.4	0.0
	baz=25							
TPUB	**Ta-pu**	**0.16**	**25**	S		Sb	17 47 24.3	-0.1
	baz=315							
SLGT	**Liugui**	**0.18**	**152**	*e*P		Pg	17 47 21.1	0.0
	baz=151							
SLGT				*e*S		Sb	17 47 25.1	+0.3
	baz=151							
STYT	**Tauyuan**	**0.19**	**87**	P		Pb	17 47 22.2	+0.5
	baz=87							
STYT				S		Sb	17 47 26.0	+0.9
	baz=87							
CHN3	**Shinhua**	**0.19**	**246**	*e*S		Sb	17 47 25.5	+0.3
	baz=246							
CHN4	**Tsaushan**	**0.20**	**10**	*i*P		Pb	17 47 21.9	0.0
	baz=10.0							
CHN4				*i*S		Sb	17 47 25.7	+0.2
	baz=10.0							
CHN4	**Tsaushan**	**0.20**	**10**	*i*S		Sb	17 47 25.7	+0.2
	baz=317							
STYH	**Taoyuan**	**0.20**	**85**	*e*P		Pb	17 47 22.4	+0.4
	baz=85							
SCST	**Cishan**	**0.27**	**192**	*e*P		Pg	17 47 22.8	+0.3
	baz=191							
SCST				*e*S		Sb	17 47 27.6	+0.2
	baz=191							
SCST	**Cishan**	**0.27**	**192**	*e*P		Pb	17 47 22.9	-0.2
	baz=226							
TAI1	**Yung-k'ang**	**0.32**	**250**	*e*P		Pb	17 47 24.3	+0.4
	baz=248							
ICHU	**Yijhu**	**0.33**	**309**	*e*P		Pb	17 47 24.1	+0.1
	baz=309							
ICHU				*e*S		Sb	17 47 30.2	+1.1
	baz=309							
TWM1	**Shoushan**	**0.35**	**200**	*e*S		Sb	17 47 30.4	+0.6
	baz=199							

IDC 17 17:52:53.4±26.0, 22.91S×177.32W, h213km±171km, mb3.2/3, mb1 3.5/4, mb1mx3.1/34, mbtmp3.9/4, Error ellipse: s-maj=304.5km s-min=44.8km az=135.0, South of Fiji Islands

| Code | Station Name | Δ° | AZ

INET ***17*** *17:55:54.5, 12°.83N×88°.53W, h15km, MW4.2*
SNET ***17*** *17:56:00.9±0.7, 12°.86N×88°.60W, h49km±11km, ML4.5*
IDC ***17*** *17:56:01.0±1.6, 12°.99N×88°.39W, h70km±21km, mb3.5/5, mb1 3.9/8, mb1mx3.6/36, mbtmp3.8/8, MS2.7/1, Ms1 2.7/1, ms1mx2.5/27, Error ellipse: s-maj=50.8km s-min=12.3km az=38.0*
NEIC ***17*** *17:56:01.9±1.6, 12°.90N±0°.07×88°.54W±0°.06, h71km±11km, Error ellipse: s-maj=12.0km s-min=6.4km az=219.0*
UCR ***17*** *17:56:01.0±1.0, 12°.87N×88°.60W, h52km±13km, ML4.4, mb4.2(NEIC)*

ISC 17 17:56:00.9±0.9, 12°.92N±0°.06×88°.56W±0°.04, h63km±7km, n145, σ0°86/164, mb4.1/15, 4C-40D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.45**	**42**	⇓*i* P	**Pn**	**17 56 12.5**	**-0.2**
JUCU				*e*S	**Sn**	**17 56 21.9**	**+0.6**
JUCU				IAML		17 56 28.0	
	comp=Z,26µm,0.4s						
JUCU	**Jucuarįn**	**0.45**	**42**	⇓*i* P	**Pn**	**17 56 12.5**	**-0.2**
JUCU				*e*S	**Sn**	**17 56 21.9**	**+0.6**
JUCU				IAML		17 56 28.0	
	comp=Z,26µm,0.4s						
LCY	**Lacayo**	**0.56**	**27**	⇓*i* P	**Pn**	**17 56 14.2**	**+0.2**
LCY	**Lacayo**	**0.56**	**27**	⇓*i* P	**Pn**	**17 56 14.2**	**+0.2**
TECA	**Tecapa**	**0.57**	**5**	⇓*i* P	**Pn**	**17 56 14.3**	**+0.1**
TECA	**Tecapa**	**0.57**	**5**	⇓*i* P	**Pn**	**17 56 14.3**	**+0.1**
COEB	**Comit de Eme**	**0.58**	**2**	⇓*i* P	**Pn**	**17 56 14.2**	**+0.1**
COEB				*e*S	**Sn**	**17 56 24.4**	**+0.7**
COEB				IAML		17 56 27.1	
	comp=Z,17µm,0.3s						
COEB	**Comit de Eme**	**0.58**	**2**	⇓*i* P	**Pn**	**17 56 14.2**	**+0.1**
COEB				*e*S	**Sn**	**17 56 24.4**	**+0.7**
COEB				IAML		17 56 27.1	
	comp=Z,17µm,0.3s						
PACA	**Pacayal**	**0.59**	**22**	*i* P	**Pn**	**17 56 14.9**	**+0.6**
PACA				*e*S	**Sn**	**17 56 25.3**	**+1.2**
PACA	**Pacayal**	**0.59**	**22**	*i* P	**Pn**	**17 56 14.9**	**+0.6**
PACA				*e*S	**Sn**	**17 56 25.3**	**+1.2**
TECO	**Alcaldia de Te**	**0.65**	**340**	⇓*i* P	**Pn**	**17 56 14.7**	**-0.1**
PQSS	**Presa 15 de Se**	**0.70**	**360**	⇑*i* P	**Pn**	**17 56 15.8**	**+0.4**
UESV	**Universidad de**	**0.75**	**342**	*i* P	**Pn**	**17 56 16.3**	**+0.3**
UESV	**Universidad de**	**0.75**	**342**	*i* P	**Pn**	**17 56 16.3**	**+0.3**
LCND	**La Caada**	**0.76**	**59**	*i* P	**Pn**	**17 56 16.1**	**+0.1**
LCND				*e*S	**Sn**	**17 56 28.1**	**+1.0**
LCND				IAML		17 56 29.8	
	comp=Z,21µm,0.2s						
LCND	**La Caada**	**0.76**	**59**	*i* P	**Pn**	**17 56 16.1**	**+0.1**
LCND				*e*S	**Sn**	**17 56 28.1**	**+1.0**
LCND				IAML		17 56 29.8	
	comp=Z,21µm,0.2s						
CNCH	**Conchagua**	**0.79**	**63**	*i* P	**Pn**	**17 56 16.4**	**-0.2**
CNCH	**Conchagua**	**0.79**	**63**	*i* P	**Pn**	**17 56 16.4**	**-0.2**
SJTE	**Alcalda de S**	**0.82**	**328**	⇓*i* P	**Pn**	**17 56 16.8**	**-0.1**
SJTE				*e*S	**Sn**	**17 56 29.1**	**+0.4**
SJTE	**Alcalda de S**	**0.82**	**328**	⇓*i* P	**Pn**	**17 56 16.8**	**-0.1**
SJTE				*e*S	**Sn**	**17 56 29.1**	**+0.4**
LFRS	**El Faro**	**0.86**	**325**	⇓*i* P	**Pn**	**17 56 17.3**	**-0.1**
LFRS	**El Faro**	**0.86**	**325**	⇓*i* P	**Pn**	**17 56 17.3**	**-0.1**
PAVA	**Las Pavas**	**0.87**	**335**	⇓*i* P	**Pn**	**17 56 17.9**	**+0.3**
PAVA	**Las Pavas**	**0.87**	**335**	⇓*i* P	**Pn**	**17 56 17.9**	**+0.3**
LBRS	**Las Brisas**	**0.94**	**330**	⇓*i* P	**Pn**	**17 56 18.8**	**+0.3**
LBRS	**Las Brisas**	**0.94**	**330**	⇓*i* P	**Pn**	**17 56 18.8**	**+0.3**
UDBS	**Universidad Do**	**0.98**	**324**	⇓*i* P	**Pn**	**17 56 19.1**	**+0.1**
UDBS				IAML		17 56 35.6	
	comp=Z,10µm,0.3s						
UDBS	**Universidad Do**	**0.98**	**324**	⇓*i* P	**Pn**	**17 56 19.1**	**+0.1**
UDBS				IAML		17 56 35.6	
	comp=Z,10µm,0.3s						
LFU	**La Fuente**	**0.99**	**327**	*i* P	**Pn**	**17 56 19.3**	**+0.3**
LFU	**La Fuente**	**0.99**	**327**	*i* P	**Pn**	**17 56 19.3**	**+0.3**
IGN	**Direccin Gen**	**0.99**	**323**	⇓*i* P	**Pn**	**17 56 19.1**	**+0.1**
IGN	**Direccin Gen**	**0.99**	**323**	⇓*i* P	**Pn**	**17 56 19.1**	**+0.1**
OPAM	**Oficina de Pla**	**1.01**	**322**	⇓*i* P	**Pn**	**17 56 19.4**	**+0.1**
OPAM	**Oficina de Pla**	**1.01**	**322**	⇓*i* P	**Pn**	**17 56 19.4**	**+0.1**
SNET	**Serv Nac Est T**	**1.01**	**319**	⇓*i* P	**Pn**	**17 56 19.1**	**-0.1**
SNET				*e*S	**Sn**	**17 56 33.1**	**+0.2**
SNET				IAML		17 56 35.0	
	comp=Z,9µm,0.2s						
SNET	**Serv Nac Est T**	**1.01**	**319**	⇓*i* P	**Pn**	**17 56 19.1**	**-0.1**
SNET				*e*S	**Sn**	**17 56 33.1**	**+0.2**
SNET				IAML		17 56 35.0	
	comp=Z,9µm,0.2s						
SNET	**Serv Nac Est T**	**1.01**	**319**	Pn	**Pn**	**17 56 19.1**	**-0.1**
ITCA	**Escuela Especi**	**1.03**	**317**	*i* P	**Pn**	**17 56 19.4**	**-0.1**
ITCA	**Escuela Especi**	**1.03**	**317**	*i* P	**Pn**	**17 56 19.4**	**-0.1**
UEES	**Universidad Ev**	**1.04**	**320**	⇓*i* P	**Pn**	**17 56 19.6**	**0.0**
UEES	**Universidad Ev**	**1.04**	**320**	⇓*i* P	**Pn**	**17 56 19.6**	**0.0**
BOQS	**Boqueron**	**1.08**	**319**	⇓*i* P	**Pn**	**17 56 20.5**	**+0.2**
BOQS				*e*S	**Sn**	**17 56 35.4**	**+0.8**
BOQS	**Boqueron**	**1.08**	**319**	⇓*i* P	**Pn**	**17 56 20.5**	**+0.2**
BOQS				*e*S	**Sn**	**17 56 35.4**	**+0.8**
PMON	**Piamonte**	**1.08**	**317**	⇑*i* P	**Pn**	**17 56 20.3**	**0.0**
PMON				*e*S	**Sn**	**17 56 35.5**	**+0.9**
PMON	**Piamonte**	**1.08**	**317**	⇑*i* P	**Pn**	**17 56 20.3**	**0.0**
PMON				*e*S	**Sn**	**17 56 35.5**	**+0.9**
JAYA	**Jayaque - finc**	**1.14**	**310**	⇓*i* P	**Pn**	**17 56 20.5**	**-0.5**
JAYA				IAML		17 56 38.6	
	comp=Z,11µm,0.2s						
JAYA	**Jayaque - finc**	**1.14**	**310**	⇓*i* P	**Pn**	**17 56 20.5**	**-0.5**
JAYA				IAML		17 56 38.6	
	comp=Z,11µm,0.2s						
CEDA	**San Andres**	**1.20**	**317**	⇓*i* P	**Pn**	**17 56 21.9**	**+0.1**
CEDA				IAML		17 56 50.9	
	comp=Z,4µm,0.3s						
CEDA	**San Andres**	**1.20**	**317**	⇓*i* P	**Pn**	**17 56 21.9**	**+0.1**
CEDA				IAML		17 56 50.9	
	comp=Z,4µm,0.3s						
TACO	**Tacachico**	**1.30**	**323**	⇓*i* P	**Pn**	**17 56 23.2**	**+0.1**
TACO				*e*S	**Sn**	**17 56 40.5**	**+0.8**
TACO	**Tacachico**	**1.30**	**323**	⇓*i* P	**Pn**	**17 56 23.2**	**+0.1**
TACO				*e*S	**Sn**	**17 56 40.5**	**+0.8**
CEVE	**Cerro Verde**	**1.38**	**311**	*i* P	**Pn**	**17 56 24.4**	**+0.1**
CEVE	**Cerro Verde**	**1.38**	**311**	*i* P	**Pn**	**17 56 24.4**	**+0.1**
SBLS	**San Blas**	**1.39**	**312**	*i* P	**Pn**	**17 56 24.6**	**+0.2**
SBLS	**San Blas**	**1.39**	**312**	*i* P	**Pn**	**17 56 24.6**	**+0.2**
SNJE	**San Jose**	**1.39**	**313**	*i* P	**Pn**	**17 56 24.7**	**+0.3**
SNJE	**San Jose**	**1.39**	**313**	*i* P	**Pn**	**17 56 24.7**	**+0.3**
RTR	**El Retiro**	**1.44**	**313**	⇓*i* P	**Pn**	**17 56 25.6**	**+0.5**
RTR	**El Retiro**	**1.44**	**313**	⇓*i* P	**Pn**	**17 56 25.6**	**+0.5**
CRIN	**San Cristobal**	**1.48**	**98**	*e*P	**Pn**	**17 56 25.9**	**+0.4**
CRIN				*e*S	**Sn**	**17 56 46.2**	**+2.1**
CRIN	**San Cristobal**	**1.48**	**98**	Pn	**Pn**	**17 56 25.9**	**+0.4**
MTO3	**Montecristo**	**1.67**	**332**	⇓*i* P	**Pn**	**17 56 28.6**	**+0.5**
MTO3	**Montecristo**	**1.67**	**332**	⇓*i* P	**Pn**	**17 56 28.6**	**+0.5**
MTO3	**Montecristo**	**1.67**	**332**	Pn	**Pn**	**17 56 28.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.68**	**48**		**Pn**	**17 56 28.9**	**+0.6**
ESQI	**Esquipulas**	**1.80**	**335**	⇓*i* P	**Pn**	**17 56 30.8**	**+1.0**
ESQI	**Esquipulas**	**1.80**	**335**	Pn	**Pn**	**17 56 30.8**	**+1.0**
CNGN	**Cerro Negro**	**1.86**	**103**	*e*P	**Pn**	**17 56 30.4**	**-0.2**
CNGN				*e*S	**Sn**	**17 56 54.3**	**+1.2**
CNGN	**Cerro Negro**	**1.86**	**103**	Pn	**Pn**	**17 56 30.2**	**-0.4**
MASN	**Masaya**	**2.52**	**111**	*e*P	**Pn**	**17 56 41.8**	**+2.2**
MATN	**Matagalpa**	**2.56**	**89**	Pn	**Pn**	**17 56 41.0**	**+0.8**
APG	**El Apazote**	**2.78**	**318**	P	**Pn**	**17 56 44.3**	**+1.0**
	comp=Z,7.1nm,0.3s,baz=138,slow=9.2,SNR=19						
APG				S	**Sn**	**17 57 21.1**	**+5.2**
	comp=Z,10nm,0.3s,baz=25,slow=23,SNR=3.8						
BOAB	**BOACO BROADBAN**	**2.86**	**99**	Pn	**Pn**	**17 56 43.5**	**-0.6**
ACON	**Acoyapa**	**3.44**	**106**	*e*P	**Pn**	**17 56 51.9**	**-0.1**
ACON	**Acoyapa**	**3.44**	**106**		**Pn**	**17 56 51.4**	**-0.6**
RTAL	**Retalhuleu**	**3.44**	**298**	Pn	**Pn**	**17 56 52.5**	**+0.3**
HZTE	**Horizontes, Gu**	**3.63**	**127**	*e*P	**Pn**	**17 56 55.6**	**+0.9**
HZTE	**Horizontes, Gu**	**3.63**	**127**	Pn	**Pn**	**17 56 55.2**	**+0.5**
GBS3	**Finca Las Img**	**3.70**	**125**	*e*P	**Pn**	**17 56 56.3**	**+0.6**
GB1A	**Boringuen Arri**	**3.73**	**124**	*e*P	**Pn**	**17 56 56.6**	**+0.4**
LAPC	**Finca la Perla**	**3.73**	**125**	*e*P	**Pn**	**17 56 55.4**	**-0.7**
BUEV	**Buena Vista**	**3.73**	**124**	*e*P	**Pn**	**17 56 56.7**	**+0.6**
ORTG	**Ortega, Santa**	**3.96**	**130**	*e*P	**Pn**	**17 57 00.1**	**+0.8**
ORTG	**Ortega, Santa**	**3.96**	**130**		**Pn**	**17 56 59.8**	**+0.6**
HORNC	**Hornillas**	**3.97**	**123**	*e*P	**Pn**	**17 56 59.3**	**-0.1**
COLC	**Colonia**	**3.97**	**124**	*e*P	**Pn**	**17 57 00.2**	**+0.8**
SAJU	**San Juanillo,**	**3.98**	**135**	*e*P	**Pn**	**17 56 59.3**	**-0.1**
GUAI	**GUAI**	**3.98**	**131**	*e*P	**Pn**	**17 56 59.9**	**+0.5**
PLVR	**Palo Verde**	**4.05**	**129**	*e*P	**Pn**	**17 57 00.3**	**-0.2**
DUNO	**Dulce Nombre,**	**4.12**	**133**	Pn	**Pn**	**17 57 01.8**	**+0.4**
ACAL	**Aguas Claras**	**4.13**	**123**	*e*P	**Pn**	**17 57 01.4**	**-0.2**
GRZA	**Playa Garza**	**4.13**	**136**	*e*P	**Pn**	**17 57 01.9**	**+0.3**
PETF	**Flores**	**4.17**	**342**	Pn	**Pn**	**17 57 02.5**	**+0.4**
ESPN	**Las Esperanzas**	**4.22**	**99**	Pn	**Pn**	**17 57 01.7**	**-0.9**
JTS	**Las Juntas de**	**4.39**	**126**	P	**Pn**	**17 57 05.8**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=177,slow=23,SNR=28						
JTS				S	**Sn**	**17 57 52.5**	**-2.5**
	comp=Z,8.7nm,0.3s,baz=336,slow=22,SNR=1.8						
JTS				LR	LR	17 59 10.5	
	comp=Z,98nm,19.1s,baz=123,slow=44						
JTS	**Las Juntas de**	**4.39**	**126**	*e*P	**Pn**	**17 57 05.6**	**+0.5**
JTS	**Las Juntas de**	**4.39**	**126**		**Pn**	**17 57 05.6**	**+0.5**
CAO2	**Cobano, Puntar**	**4.66**	**133**	Pn	**Pn**	**17 57 09.3**	**+0.4**
LAFE	**Finca La Fe, P**	**4.72**	**130**	⇑*i* P	**Pn**	**17 57 10.1**	**+0.4**
CCIG	**Comitan**	**4.82**	**314**	Pn	**Pn**	**17 57 12.7**	**+1.6**
JACO	**JACO, Garabito**	**5.01**	**130**	*e*P	**Pn**	**17 57 14.8**	**+1.3**
JACO	**JACO, Garabito**	**5.01**	**130**		**Pn**	**17 57 14.1**	**+0.6**
LCR2	**La Lucha 2**	**5.47**	**125**	*e*P	**Pn**	**17 57 21.9**	**+1.9**
RIMA	**Rio Macho**	**5.56**	**124**	*e*P	**Pn**	**17 57 22.3**	**+0.9**
RIMA	**Rio Macho**	**5.56**	**124**		**Pn**	**17 57 21.8**	**+0.4**
PEZE	**Perez Zeledon,**	**5.94**	**126**	*e*P	**Pn**	**17 57 28.1**	**+1.7**
PEZE	**Perez Zeledon,**	**5.94**	**126**		**Pn**	**17 57 27.2**	**+0.9**
SRBA	**San Rafael, Bu**	**6.28**	**125**	*e*P	**Pn**	**17 57 32.3**	**+1.2**
SRBA	**San Rafael, Bu**	**6.28**	**125**		**Pn**	**17 57 31.9**	**+0.9**
RIOS	**Rincon, Osa**	**6.49**	**130**	*e*P	**Pn**	**17 57 35.4**	**+1.6**
RIOS	**Rincon, Osa**	**6.49**	**130**	Pn	**Pn**	**17 57 34.6**	**+0.8**
LPLA	**Las Palmas La**	**6.68**	**125**	*e*P	**Pn**	**17 57 37.7**	**+1.1**
PIRO	**Carate, Puerto**	**6.81**	**131**	*e*P	**Pn**	**17 57 40.4**	**+2.1**
CMIG	**Matias Romero**	**7.39**	**305**	P	**Pn**	**17 57 48.3**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=138,slow=12,SNR=15						
CMIG				S	**Sn**	**17 59 09.3**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=115,slow=16,SNR=1.6						
Y49A	**Blount Mountai**	**20.94**	**5**	P	**P**	**18 00 38.8**	**+0.2**
TX31	**Lajitas Ar. Si**	**21.54**	**322**	P	**P**	**18 00 45.7**	**+0.6**
TX31				IAmb	IAmb	18 00 48.2	
	comp=Z,8.7nm,0.7s						
TX32	**Lajitas Array**	**21.54**	**322**	P	**P**	**18 00 45.7**	**+0.6**
TXAR	**Lajitas Array**	**21.54**	**322**	P	**P**	**18 00 45.9**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=146,slow=12,SNR=27						
TKL	**Tuxtlaechee C**	**23.05**	**10**	P	**P**	**18 01 00.2**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=182,slow=9.7,SNR=4.8						
TKL	**Tuckaleechee C**	**23.05**	**10**	IAmb	IAmb	18 01 14.5	
	comp=Z,9.7nm,1.4s						
FCAR	**Ozark Folk Cen**	**23.10**	**353**	P	**P**	**18 01 00.6**	**-0.8**
FCAR				IAmb	IAmb	18 01 03.2	
	comp=Z,5.2nm,0.6s						
U40A	**Yellville**	**23.66**	**351**	P	**P**	**18 01 06.7**	**0.0**
U40A				IAmb	IAmb	18 01 09.4	
	comp=Z,4.9nm,0.8s						
MNTX	**Cornudas Mount**	**24.26**	**323**	P	**P**	**18 01 11.1**	**-1.1**
MSTX	**Muleshoe**	**24.63**	**331**	P	**P**	**18 01 14.8**	**-0.8**
MSTX				IAmb	IAmb	18 01 16.7	
	comp=Z,6.9nm,0.7s						
AMTX	**Amarillo**	**24.89**	**334**	P	**P**	**18 01 17.9**	**-0.1**
S39A	**Bolivar**	**25.04**	**351**	P	**P**	**18 01 18.7**	**-0.5**
S39A				IAmb	IAmb	18 01 22.4	
	comp=Z,8.5nm,0.7s						
LENM	**Lemitar**	**26.98**	**325**	P	**P**	**18 01 37.3**	**+0.3**
PV03	**Paradox Valley**	**31.03**	**328**	P	**P**	**18 02 13.0**	**+0.1**
PV03				IAmb	IAmb	18 02 14.2	
	comp=Z,5.2nm,1.3s						
SRU	**San Rafael Swe**	**32.54**	**327**	P	**P**	**18 02 27.2**	**+1.0**
PDAR	**Pinedale Array**	**34.86**	**332**	P	**P**	**18 02 45.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=129,slow=13,SNR=5.8						
REDW	**Red Top Meadow**	**35.91**	**332**	P	**P**	**18 02 55.4**	**0.0**
LOHW	**Long Hollow**	**35.99**	**332**	P	**P**	**18 02 56.4**	**+0.4**
LOHW				IAmb	IAmb	18 02 57.5	
	comp=Z,2.4nm,0.6s						
TPAW	**Teton Pass**	**36.06**	**332**	P	**P**	**18 02 57.2**	**+0.5**
FLWY	**Flagg Ranch**	**36.41**	**333**	P	**P**	**18 02 59.8**	**+0.3**
FLWY				IAmb	IAmb	18 03 05.0	
	comp=Z,2.8nm,0.6s						
NVAR	**Mina Array Bea**	**36.65**	**319**	P	**P**	**18 03 02.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=144,slow=6.1,SNR=4.0						
MCMT	**McKenzie Canyo**	**37.96**	**332**	P	**P**	**18 03 13.5**	**+0.8**
H03N2	**Juan Fernandez**	**47.00**	**169**	T	T	18 54 47.3	
	baz=348,slow=74,SNR=4.9						
H03N1	**Juan Fernandez**	**47.01**	**169**	T	T	18 54 48.5	
	baz=348,slow=74,SNR=4.3						
H03N3	**Juan Fernandez**	**47.02**	**169**	T	T	18 54 47.4	
	baz=348						
DLBC	**Dease Lake**	**55.03**	**335**	P	**P**	**18 05 25.9**	**0.0**
DLBC				IAmb	IAmb	18 05 26.5	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**65.16**	**336**	P	**P**	**18 06 33.1**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=105,slow=5.0,SNR=6.9						
ILAR	**Eielson Array**	**65.16**	**336**	P	**P**	**18 06 34.3**	**-0.8**
MLY	**Manley**	**66.78**	**336**	P	**P**	**18 06 44.0**	**-1.6**
MLY				IAmb	IAmb	18 06 46.0	
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**138.36**	**255**	PKP	**PKiKP**	**18 15 20.7**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=87,slow=2.7,SNR=2.7						
ASAR	**Alice Springs**	**138.44**	**249**	PKP	**PKPdf**	**18 15 20.2**	**0.0**
	comp=Z,0.3nm,0.8s,baz=107,slow=2.4,SNR=1.8						

IDC 17 18:07:18.7±13.0, 7°.25S×129°.42E, h229km±149km, mb2.7/1, mb1 2.6/4, mb1mx2.5/34, mbtmp3.1/4, Error ellipse: s-maj=102.9km s-min=56.4km az=30.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.40**	**199**	P	Pn	18 09 55.8	+0.5
	0.0nm,0.3s,baz=29,slow=12,SNR=6.5						
FITZ				S	S	18 11 53.6	-7.9
	0.1nm,0.3s,baz=78,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**13.49**	**160**	P	Pn	18 10 20.1	-1.4
	0.1nm,0.3s,baz=337,slow=13,SNR=1.4						
WRA				S	S	18 12 42.5	-8.3
	0.1nm,0.3s,baz=340,slow=21,SNR=5.7						
ASAR	**Alice Springs**	**16.89**	**166**	P	P	18 11 01.2	+0.6
	0.0nm,0.3s,baz=348,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**68.12**	**327**	P	P	18 17 54.0	0.0
	0.1nm,0.5s,baz=111,slow=7.9,SNR=2.1						

IDC ***17*** *18:08:56.2±1.4, 7°.65N×92°.26E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/40, mbtmp3.6/5, ML4.2/1, Error ellipse: s-maj=44.4km s-min=24.9km az=54.0*

ISC 17 18:08:59.6±1.2, 7.6N±0°.2×92.2E±0°.1, h24km, n9, σ0°26/5, mb3.4/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.41**	**269**	Pn	**Pn**	**18 11 41.3**	**0.0**
	1.7nm,0.3s,baz=195,slow=15,SNR=18						
PALK				Sn	Sn	18 13 33.0	-15
	2.0nm,0.3s,baz=289,slow=21,SNR=7.4						
CMAR	**Chiang Mai Arr**	**12.61**	**31**	Pn	Pn	18 12 00.8	+3.2
	0.3nm,0.3s,baz=233,slow=14,SNR=25						
H08S3	**Diego Garcia H**	**24.82**	**233**	T	T	18 40 10.7	
	baz=52,slow=75,SNR=99						
H08S2	**Diego Garcia H**	**24.83**	**233**	T	T	18 40 21.2	
	baz=52,slow=75,SNR=66						
H08S1	**Diego Carcia H**	**24.84**	**233**	T	T	18 40 26.2	
	baz=52,slow=75,SNR=65						
MKAR	**Makanchi Array**	**39.94**	**349**	P	**P**	**18 16 31.9**	**-0.2**
	0.3nm,0.4s,baz=172,slow=8.7,SNR=8.6						
SONM	**Songino Array**	**41.85**	**14**	P	**P**	**18 16 48.0**	**+0.2**
	0.4nm,0.6s,baz=188,slow=8.7,SNR=3.0						
WRA	**Warramunga Arr**	**49.69**	**124**	P	**P**	**18 17 49.9**	**-0.2**
	0.2nm,0.4s,baz=306,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**51.24**	**129**	P	**P**	**18 18 01.9**	**+0.2**
	0.5nm,1.0s,baz=304,slow=7.8,SNR=4.7						

IDC ***17*** *18:11:34.8±2.8, 23°.53S×179°.95E, h530km±36km, mb3.2/5, mb1 3.4/6, mb1mx3.0/25, mbtmp4.0/6, Error ellipse: s-maj=37.7km s-min=22.1km az=174.0*

ISC 17 18:11:35.1±1.2, 23°.55±0°.2×179°.9E±0°.2, h535km, n6, σ0°79/6, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.99**	**343**	P	**P**	**18 13 12.7**	**-0.5**
	1.3nm,0.3s,baz=273,slow=23,SNR=5.3						
CTA	**Charters Tower**	**31.41**	**270**	P	**P**	**18 17 13.6**	**+0.8**
	5.4nm,0.4s,baz=95,slow=10,SNR=29						
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**18 18 40.0**	**-0.1**
	0.7nm,0.5s,baz=94,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**18 18 42.2**	**-0.5**
	1.7nm,0.4s,baz=91,slow=8.4,SNR=61						
QSPA	**South Pole Qui**	**66.59**	**180**	P	**P**	**18 21 31.6**	**-0.5**
	0.8nm,0.8s,baz=150,slow=3.2,SNR=7.5						
TXAR	**Lajitas Array**	**90.27**	**58**	P	**P**	**18 23 39.9**	**+0.6**
	0.4nm,0.7s,baz=215,slow=7.6,SNR=6.1						

IDC 17 18:32:15.1±8.1, 5°.47N×95°.56E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/35, mbtmp3.3/3, Error ellipse: s-maj=424.0km s-min=29.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.44**	**241**	T	T	19 03 28.6	
	baz=56						
H08S3	**Diego Garcia H**	**26.44**	**241**	T	T	19 03 32.3	
	baz=56,SNR=3.3						
H08S1	**Diego Carcia H**	**26.46**	**241**	T	T	19 03 19.1	
	baz=56						
MKAR	**Makanchi Array**	**42.74**	**347**	P	P	18 40 14.0	-0.1
	0.5nm,0.6s,baz=161,slow=7.7,SNR=7.7						
WRA	**Warramunga Arr**	**45.73**	**125**	P	P	18 40 38.5	0.0
	0.5nm,0.9s,baz=303,slow=9.2,SNR=1.8						
ASAR	**Alice Springs**	**47.30**	**129**	P	P	18 40 50.6	-0.2
	0.2nm,0.8s,baz=306,slow=6.8,SNR=1.3						

NEIC ***17*** *19:04:03.5±2.2, 4°.0S±0°.1×137°.95E±0°.03, h105km±10km, mb4.2/13, Error ellipse: s-maj=15.4km s-min=3.2km az=172.0*
DJA ***17*** *19:04:04.3±0.3, 4°.S±4°.×13°.8E±°., h84km±16km, M4.3/7, mb4.2/6, mB4.9/3, MLv4.4/7, Mw(mB)4.2/3*
IDC ***17*** *19:04:06.7±3.1, 4°.01S×137°.75E, h144km±30km, mb3.4/4, mb1 3.8/9, mb1mx3.4/34, mbtmp4.1/9, Error ellipse: s-maj=29.6km s-min=14.0km az=87.0*

ISC 17 19:04:03.2±0.6, 4°.12S±0°.06×137°.86E±0°.06, h100km, n34, σ2°16/39, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.75**	**324**	P	**Pn**	**19 04 46.9**	**+1.1**
GENI	**Genyem**	**2.76**	**57**	P	**Pn**	**19 04 46.5**	**+0.7**
GENI				S	**Sn**	**19 05 18.8**	**+0.3**
BAKI	**Biak**	**3.39**	**329**	P	**Pn**	**19 04 54.6**	**+0.3**
MMPI	**Merauke**	**5.00**	**150**	P	**Pn**	**19 05 18.8**	**+2.8**
	2.0nm7µm257nm,0.5s						
MMPI				S	**Sn**	**19 06 14.7**	**+2.2**
	2.0nm7µm257nm,0.5s						
FAKI	**Fak Fak**	**5.72**	**282**	Pn	**Pn**	**19 05 27.1**	**+1.3**
FAKI	**Fak Fak**	**5.72**	**282**	P	**Pn**	**19 05 26.9**	**+1.1**
	0.2nm30nm,1.2s						
FAKI				S	**Sn**	**19 06 31.9**	**+1.6**
	0.2nm30nm,1.2s						
SIJI	**Sorong**	**7.33**	**296**	P	**Pn**	**19 05 48.5**	**+0.8**
	6.8nm,0.3s,baz=212,slow=23,SNR=32						
SIJI				S	**Sn**	**19 07 10.0**	**+0.5**
	0.7nm,0.3s,baz=302,slow=23,SNR=1.7						
SIJI	**Sorong**	**7.33**	**296**	P	**Pn**	**19 05 48.8**	**+1.1**
	0.1nm477nm7.2nm,0.5s						
SWI	**Sorong**	**7.34**	**296**	P	**Pn**	**19 05 48.7**	**+0.9**
	0.1

baz=356,SNR=131
OKCFA S 19 17 37.3
baz=356
KAN05 Bluff City Nor 0.87 341 Pg 19 17 25.2 +0.7
OKCSW OKLAHOMA CITY 0.88 176 Pg 19 17 25.4 +0.9
KS20 Mayfield South 0.95 358 Pg 19 17 26.5 +0.7
KAN10 Anthony SW Sta 0.96 331 Pg 19 17 26.7 +0.6
KS21 Milan North St 1.01 353 Pg 19 17 27.6 +0.6
KAN08 Anthony NE Sta 1.01 339 Pg 19 17 27.6 +0.6
T35A Sooner Cattle 1.02 52 Pg 19 17 28.0 +0.7
T35B Sooner Cattle 1.02 52 P **Pg 19 17 28.0 +0.7**
baz=232,SNR=902
T35B S **Sg 19 17 41.6 +1.0**
baz=232
T35B Sooner Cattle 1.02 52 P 19 17 28.0
baz=232,SNR=902
T35B S 19 17 41.6
baz=232
FNO Franklin 1.03 175 Pg 19 17 27.9 +0.6
KAN16 Harper SW Stat 1.04 335 Pg **Pg 19 17 28.2 +0.6**
OK011 Prague 1.04 140 Pg 19 17 28.2 +0.6
U32A Winter Ranch, 1.21 275 Pg 19 17 30.9 +0.1
U32A Winter Ranch, 1.21 275 P **Pg 19 17 30.9 +0.1**
baz=94,SNR=782
U32A S **Sb 19 17 47.7 +0.5**
baz=94
U32A Winter Ranch, 1.21 275 P 19 17 30.9
baz=94,SNR=782
U32A S 19 17 47.7
baz=94
TUL1 Leonard 1.44 104 P **Pn 19 17 34.8 +0.1**
baz=286,SNR=782
TUL1 S **Sg 19 17 54.7 +0.7**
baz=286
TUL1 Leonard 1.44 104 P 19 17 34.9
baz=286,SNR=783
TUL1 S 19 17 54.4
baz=286
TUL1 Leonard 1.44 104 P 19 17 34.8
baz=286,SNR=782
TUL1 S 19 17 54.7
baz=286
X34A Smith Ranch, M 1.70 189 Pb 19 17 40.0 +0.4
X34A IAmb_Lg 19 18 01.2
comp=Z,2μm,1.3s
WMOK Wichita Mounta 1.85 214 Pn 19 17 41.3 +0.9
WMOK Wichita Mounta 1.85 214 P **Pn 19 17 41.4 +1.0**
baz=33,SNR=1000
WMOK S **Sb 19 18 05.9 0.0**
baz=33
WMOK Wichita Mounta 1.85 214 P 19 17 41.3
baz=33,SNR=1000
WMOK S 19 18 06.3
baz=33
WMOK Wichita Mounta 1.85 214 P 19 17 41.4
baz=33,SNR=1000
WMOK S 19 18 05.9
baz=33
LOOK Love County 2.30 173 Pn 19 17 47.8 +1.3
LOOK IAmb_Lg 19 18 21.6
comp=Z,2μm,1.1s
R32A Long Quarter, 2.34 336 Pn **Pn 19 17 48.0 +0.9**
R32A IAmb_Lg 19 18 29.1
comp=Z,2μm,0.8s
R32A Long Quarter, 2.34 336 P **Pn 19 17 48.0 +0.9**
baz=156,SNR=130
R32A S **Sn 19 18 17.4 +0.9**
baz=156
R32A Long Quarter, 2.34 336 P 19 17 48.0
baz=156,SNR=130
R32A S 19 18 17.4
baz=156
X37A Clayton 2.43 133 Pn 19 17 49.8 +1.5
X37A Clayton 2.43 133 P **Pn 19 17 49.9 +1.5**
baz=315,SNR=249
X37A Sb **Sg 19 18 25.5 -0.3**
baz=315
X37A Clayton 2.43 133 P 19 17 49.9
baz=315,SNR=249
X37A Sb 19 18 25.5
baz=315
U38A Gravette 2.53 86 Pn 19 17 50.8 +1.1
HHAR Hobbs 2.89 89 Pn 19 17 55.5 +0.9
HHAR Hobbs 2.89 89 P **Pn 19 17 56.0 +1.4**
baz=271
HHAR Hobbs 2.89 89 P 19 17 56.0
baz=271
KSU1 Kansas State U 2.90 14 Pn 19 17 55.6 +0.8
KSU1 IAmb_Lg 19 18 43.7
comp=Z,1μm,0.8s
KSU1 Kansas State U 2.90 14 P **Pn 19 17 55.8 +1.0**
baz=195,SNR=52
KSU1 Kansas State U 2.90 14 P 19 17 54.8
baz=195,SNR=24
KSU1 Kansas State U 2.90 14 P 19 17 55.8
baz=195,SNR=52
Z35A Perchaven, San 2.95 176 Pn **Pn 19 17 56.4 +0.9**
Z35A Perchaven, San 2.95 176 P **Pn 19 17 57.1 +1.6**
baz=356,SNR=26
Z35A Perchaven, San 2.95 176 P 19 17 57.1
baz=356,SNR=26
CBKS Cedar Bluff 3.08 326 Pn **Pn 19 17 58.0 +0.7**
CBKS IAmb_Lg 19 18 50.8
comp=Z,1μm,0.9s
CBKS Cedar Bluff 3.08 326 P 19 17 58.0
baz=144,SNR=33
W39A Magazine 3.22 109 Pn 19 17 60.0 +0.8
W39A IAmb_Lg 19 18 55.8
comp=Z,2μm,0.9s
W39A Magazine 3.22 109 P **Pn 19 18 00.2 +1.1**
baz=291,SNR=68
W39A Magazine 3.22 109 P 19 17 59.9
baz=291,SNR=131
W39A S 19 18 38.7
baz=291
W39A Magazine 3.22 109 P 19 18 00.2
baz=291,SNR=68
S39A Bolivar 3.64 66 Pn **Pn 19 18 05.8 +0.9**
S39A IAmb_Lg 19 19 04.6
comp=Z,1μm,0.9s
S39A Bolivar 3.64 66 P **Pn 19 18 05.9 +0.9**
baz=249,SNR=240
S39A Bolivar 3.64 66 P 19 18 05.9
baz=249,SNR=240
MIAR Mount Ida 3.65 117 Pn **Pn 19 18 06.3 +1.2**
MIAR IAmb_Lg 19 19 14.3
comp=Z,1μm,0.9s
MIAR Mount Ida 3.65 117 P **Pn 19 18 06.7 +1.5**
baz=300,SNR=347
MIAR Mount Ida 3.65 117 P 19 18 06.3
baz=300,SNR=276
MIAR S 19 18 49.5
baz=300
MIAR Mount Ida 3.65 117 P 19 18 06.7
baz=300,SNR=347
Z38A Mt. Pleasant 3.66 145 Pn **Pn 19 18 06.2 +1.0**
Z38A Mt. Pleasant 3.66 145 P **Pn 19 18 06.1 +0.8**
baz=326,SNR=15
Z38A Mt. Pleasant 3.66 145 P 19 18 06.1
baz=326,SNR=15
AMTX Amarillo 3.67 249 Pn **Pn 19 18 06.2 +0.7**
AMTX IAmb_Lg 19 19 09.8
comp=Z,2μm,0.8s
AMTX Amarillo 3.67 249 P **Pn 19 18 06.7 +1.2**
baz=66,SNR=33
AMTX Amarillo 3.67 249 P 19 18 06.4
baz=66
AMTX Sb 19 19 02.4
baz=66
AMTX Amarillo 3.67 249 P 19 18 06.7
baz=66,SNR=33
U40A Yellville 3.76 87 Pn 19 18 07.3 +0.6
U40A IAmb_Lg 19 19 07.2
comp=Z,1μm,0.8s
U40A Yellville 3.76 87 P **Pn 19 18 07.1 +0.4**
baz=270,SNR=93
U40A Yellville 3.76 87 P 19 18 07.1
baz=270,SNR=101
U40A Yellville 3.76 87 P 19 18 07.1
baz=270,SNR=93
U40A P 19 18 07.1
baz=270,SNR=93
ABTX Abilene, Hawle 4.05 206 Pn 19 18 11.2 +0.6
ABTX IAmb_Lg 19 19 18.4
comp=Z,919nm,0.7s
ABTX Abilene, Hawle 4.05 206 P **Pn 19 18 11.4 +0.8**
baz=25
ABTX Abilene, Hawle 4.05 206 P 19 18 11.4
baz=25
X40A Basin Creek Fa 4.22 114 Pn 19 18 13.7 +0.8
X40A IAmb_Lg 19 19 24.5
comp=Z,1μm,0.9s
X40A Basin Creek Fa 4.22 114 P **Pn 19 18 14.5 +1.6**
baz=297,SNR=70
X40A Basin Creek Fa 4.22 114 P 19 18 14.2
baz=297,SNR=57
X40A S 19 19 04.4
baz=297
X40A Basin Creek Fa 4.22 114 P 19 18 14.5
baz=297,SNR=70
X40A P 19 18 14.5
baz=297,SNR=70
WHTX Lake Whitney, 4.28 179 Pn 19 18 14.3 +0.6
WHTX Lake Whitney, 4.28 179 P **Pn 19 18 14.6 +0.9**
baz=359,SNR=64
WHTX Lake Whitney, 4.28 179 P 19 18 14.7
baz=359,SNR=8.4
WHTX Lake Whitney, 4.28 179 P 19 18 14.6
baz=359,SNR=64
MGMO Mountain Grove 4.30 77 Pn 19 18 14.7 +0.6
MGMO IAmb_Lg 19 19 27.3
comp=Z,1μm,0.8s
WHAR Wooly Hollow 4.36 102 Pn **Pn 19 18 15.5 +0.6**
WHAR IAmb_Lg 19 19 29.3
comp=Z,923nm,0.7s
FCAR Ozark Folk Cen 4.38 94 Pn **Pn 19 18 15.5 +0.4**
W41B Gary Mavity, V 4.42 103 P **Pn 19 18 15.8 +0.1**
baz=286,SNR=101
W41B Gary Mavity, V 4.42 103 P 19 18 16.0
baz=286,SNR=45
W41B S 19 19 07.8
baz=286
W41B Gary Mavity, V 4.42 103 P 19 18 15.8
baz=286,SNR=101
WLAR White Oak Lake 4.45 124 Pn **Pn 19 18 16.6 +0.6**
WLAR IAmb_Lg 19 19 27.5
comp=Z,802nm,0.7s
N33B J Bar K, Exete 4.45 1 P **Pn 19 18 16.2 +0.1**
baz=181,SNR=19
N33B J Bar K, Exete 4.45 1 P 19 18 16.2
baz=181,SNR=19
N33A J Bar K, Exete 4.45 1 Pn 19 18 16.1 -0.1
N33A IAmb_Lg 19 19 35.8
comp=Z,878nm,0.8s
237A Washetta, Mont 4.50 161 Pn 19 18 16.8 +0.1
237A IAmb_Lg 19 19 42.6
comp=Z,533nm,1.0s
237A Washetta, Mont 4.50 161 P **Pn 19 18 17.3 +0.5**
baz=342,SNR=26
237A Washetta, Mont 4.50 161 P 19 18 17.3
baz=342,SNR=26
P38A Dawn 4.59 42 Pn 19 18 18.3 +0.4
P38A IAmb_Lg 19 19 37.9
comp=Z,1μm,0.7s
P38A Dawn 4.59 42 P **Pn 19 18 18.3 +0.4**
baz=225,SNR=30
P38A Dawn 4.59 42 P 19 18 18.3
baz=225,SNR=30
R40A Maddies Statio 4.64 63 Pn 19 18 19.1 +0.4
R40A Maddies Statio 4.64 63 P **Pn 19 18 19.5 +0.9**
baz=246,SNR=133
R40A Maddies Statio 4.64 63 P 19 18 19.5
baz=246,SNR=133
N35A Tabor 4.80 17 Pn 19 18 21.3 +0.4
N35A Tabor 4.80 17 P **Pn 19 18 21.4 +0.5**
baz=198,SNR=18
N35A Tabor 4.80 17 P 19 18 21.4
baz=198,SNR=18
KSCO Kaye Shedlock' 4.89 305 Pn 19 18 22.6 +0.4
KSCO IAmb_Lg 19 19 57.1
comp=Z,1μm,0.8s
KSCO Kaye Shedlock' 4.89 305 P **Pn 19 18 22.5 +0.3**
baz=122,SNR=60
KSCO Kaye Shedlock' 4.89 305 P 19 18 22.4
baz=122,SNR=13
KSCO Kaye Shedlock' 4.89 305 P 19 18 22.5
baz=122,SNR=60
MSTX Muleshoe 4.89 243 Pn 19 18 22.5 +0.3
MSTX IAmb_Lg 19 19 48.1
comp=Z,953nm,1.1s
MSTX Muleshoe 4.89 243 P **Pn 19 18 22.7 +0.4**
baz=60,SNR=22
MSTX Muleshoe 4.89 243 P 19 18 22.4
baz=60,SNR=16
MSTX Muleshoe 4.89 243 P 19 18 22.7
baz=60,SNR=22
Z41A Richland Creek 4.91 127 P **Pn 19 18 23.3 +0.9**
baz=309,SNR=21
Z41A Richland Creek 4.91 127 P 19 18 22.8
baz=309,SNR=14
Z41A S 19 19 19.6
baz=309
Z41A Richland Creek 4.91 127 P 19 18 23.3
baz=309,SNR=21
Z41A P 19 18 23.3
baz=309,SNR=21
NATX Nacogdoches 5.09 151 Pn 19 18 25.3 +0.4
NATX IAmb_Lg 19 20 03.1
comp=Z,563nm,0.8s
NATX Nacogdoches 5.09 151 P **Pn 19 18 25.9 +1.0**
baz=333
NATX Nacogdoches 5.09 151 P 19 18 25.3
baz=333
NATX Nacogdoches 5.09 151 P 19 18 25.9
baz=333
BGNE Belgrade 5.14 355 Pn 19 18 25.9 +0.2
BGNE IAmb_Lg 19 19 55.6
comp=Z,1μm,0.8s
BGNE Belgrade 5.14 355 P **Pn 19 18 25.8 +0.2**
baz=174,SNR=52
BGNE Belgrade 5.14 355 P 19 18 25.6
baz=174,SNR=27
BGNE Belgrade 5.14 355 P 19 18 25.8
baz=174,SNR=52
LCAR Lake Charles 5.15 90 Pn **Pn 19 18 26.3 +0.7**
T42A Van Buren 5.22 80 IAmb_Lg 19 19 59.5
comp=Z,1μm,1.1s
CCAR Cane Creek 5.26 115 Pn 19 18 28.0 +0.7
CCAR IAmb_Lg 19 20 10.4
comp=Z,823nm,0.8s
CCAR Cane Creek 5.26 115 P **Pn 19 18 28.0 +0.7**
baz=298,SNR=18
CCAR Cane Creek 5.26 115 P 19 18 28.0
baz=298,SNR=18
CCM Cathedral Cave 5.31 69 IAmb_Lg 19 20 05.8
comp=Z,902nm,0.8s
P40A Paris 5.40 51 Pn 19 18 29.2 +0.1
P40A IAmb_Lg 19 20 04.8
comp=Z,1μm,0.7s
P40A Paris 5.40 51 P **Pn 19 18 29.7 +0.5**
baz=235,SNR=10
P40A Paris 5.40 51 P 19 18 29.7
baz=235,SNR=10
435B Jarrell 5.49 181 Pn 19 18 30.4 +0.1
435B IAmb_Lg 19 20 14.1
comp=Z,661nm,0.9s
435B Jarrell 5.49 181 P **Pn 19 18 30.8 +0.5**
baz=0.5,SNR=38
435B Jarrell 5.49 181 P 19 18 31.2
baz=0.5,SNR=18
435B Jarrell 5.49 181 P 19 18 30.8
baz=0.5,SNR=38
T25A Trinidad 5.61 281 Pn 19 18 32.0 -0.2
T25A IAmb_Lg 19 20 19.0
comp=Z,1μm,0.8s
T25A Trinidad 5.61 281 P 19 18 32.5
baz=97,SNR=41
HBAR Harrisburg 5.61 95 Pn 19 18 32.5 +0.5
N38A Joes South For 5.62 35 Pn 19 18 31.9 -0.2
N38A Joes South For 5.62 35 P **Pn 19 18 32.1 +0.1**
baz=218,SNR=8.5
N38A Joes South For 5.62 35 P 19 18 32.1
baz=218,SNR=8.5
PBMO Poplar Bluff 5.73 83 Pn 19 18 34.1 +0.5
PBMO IAmb_Lg 19 20 11.7
comp=Z,1μm,0.8s
L34A Svendsen Farm, 5.75 9 Pn **Pn 19 18 34.1 +0.3**
OGNE Ogallala 5.85 324 Pn **Pn 19 18 35.6 +0.2**
OGNE IAmb_Lg 19 20 18.6
comp=Z,1μm,0.7s
OGNE Ogallala 5.85 324 P **Pn 19 18 36.2 +0.9**
baz=141,SNR=34
OGNE Ogallala 5.85 324 P 19 18 36.0
baz=141,SNR=7.6
OGNE S 19 19 40.7
baz=141
OGNE Ogallala 5.85 324 P 19 18 36.2
baz=141,SNR=34
LPAR Lepanto 5.89 94 Pn 19 18 35.4 -0.5
LPAR IAmb_Lg 19 20 28.9
comp=Z,703nm,0.7s
GNAR Gosnell 6.08 91 Pn **Pn 19 18 35.9 -2.5**
JCT Junction City 6.09 199 Pn **Pn 19 18 38.8 +0.1**
JCT Junction City 6.09 199 P 19 18 39.6
baz=18
143A Socs Landing, 6.18 124 Pn 19 18 40.4 +0.6
143A IAmb_Lg 19 20 41.0
comp=Z,540nm,0.7s
143A Socs Landing, 6.18 124 P **Pn 19 18 40.6 +0.7**
baz=307,SNR=9.6
143A Socs Landing, 6.18 124 P 19 18 40.6
baz=307,SNR=9.6
SLM Saint Louis 6.25 66 Pn **Pn 19 18 41.1 +0.4**
MET Memphis--Engin 6.28 98 IAmb_Lg 19 20 33.2
comp=Z,736nm,0.9s
PENMO Penman 6.37 86 IAmb_Lg 19 20 34.9
comp=Z,758nm,0.7s
K31A O'Neill 6.41 352 Pn 19 18 43.2 +0.2
LNXT Lenox 6.49 89 Pn **Pn 19 18 44.4 +0.3**
LNXT IAmb_Lg 19 20 35.9
comp=Z,1μm,0.7s
SCIA State Center 6.54 29 Pn 19 18 45.1 +0.4
SCIA State Center 6.54 29 P **Pn 19 18 45.2 +0.4**
baz=212,SNR=16
SCIA State Center 6.54 29 P 19 18 43.5
baz=212,SNR=12
SCIA State Center 6.54 29 P 19 18 45.2
baz=212,SNR=16
SDCO Great Sand Dun 6.56 285 Pn 19 18 45.6 +0.3
SDCO IAmb_Lg 19 20 40.3
comp=Z,403nm,0.8s
SDCO Great Sand Dun 6.56 285 P **Pn 19 18 46.4 +1.1**
baz=100,SNR=19
SDCO Great Sand Dun 6.56 285 P 19 18 45.8
baz=100,SNR=156
SDCO Great Sand Dun 6.56 285 P 19 18 46.4
baz=100,SNR=19
441A DeRidder 6.59 146 Pn 19 18 43.4 -2.2
Q24A Divide 6.62 296 P 19 18 46.0
baz=112,SNR=8.7
HALT Halls 6.63 91 IAmb_Lg 19 20 41.7
comp=Z,1μm,1.2s
HICK Hickman 6.69 85 Pn **Pn 19 18 47.5 +0.7**
S44A Carbondale 6.76 76 Pn 19 18 48.2 +0.4
S44A IAmb_Lg 19 20 50.2
comp=Z,824nm,0.8s
S44A Carbondale 6.76 76 P **Pn 19 18 48.5 +0.7**
baz=260,SNR=45
S44A Carbondale 6.76 76 P 19 18 48.5
baz=260,SNR=45
SIUC Southern Illin 6.79 75 Pn 19 18 48.0 -0.2
SIUC IAmb_Lg 19 20 43.7
comp=Z,814nm,0.8s
N41A Harden Midland 6.84 48 Pn 19 18 48.6 -0.3
N41A Harden Midland 6.84 48 P **Pn 19 18 49.1 +0.2**
baz=232,SNR=15
N41A Harden Midland 6.84 48 P 19 18 49.1
baz=232,SNR=15
OXF Oxford 6.85 103 Pn 19 18 48.7 -0.4
OXF IAmb_Lg 19 20 53.4
comp=Z,397nm,0.8s
OXF Oxford 6.85 103 P **Pn 19 18 49.1 0.0**
baz=287,SNR=14
OXF Oxford 6.85 103 P 19 18 49.4
baz=287,SNR=16
OXF S 19 20 07.0
baz=287
OXF Oxford 6.85 103 P 19 18 49.1
baz=287,SNR=14
W45A Hickory Valley 6.87 97 Pn Pn 19 18 49.6 +0.4
W45A IAmb_Lg 19 20 50.3
comp=Z,656nm,0.9s
Y45A Yeager Farm, C 6.96 108 Pn Pn 19 18 49.9 -0.8
Y45A Yeager Farm, C 6.96 108 P **Pn 19 18 50.7 +0.1**
baz=293,SNR=6.1
Y45A Yeager Farm, C 6.97 108 P 19 18 50.7
baz=293,SNR=6.1
VBMS Vicksburg 7.07 123 S 19 20 12.9
baz=307
P43A Skaggs, Pawnee 7.15 60 Pn 19 18 53.3 +0.2
P43A Skaggs, Pawnee 7.15 60 P **Pn 19 18 53.5 +0.4**
baz=244,SNR=16
P43A Skaggs, Pawnee 7.15 60 P 19 18 53.5
baz=244,SNR=16
T45A Paducah 7.17 81 Pn **Pn 19 18 54.1 +0.7**
Q44A Meyer Farm, Va 7.24 66 Pn 19 18 55.0 +0.6
Q44A Meyer Farm, Va 7.24 66 P **Pn 19 18 55.2 +0.9**
baz=251,SNR=9.4
Q44A Meyer Farm, Va 7.24 66 P 19 18 55.2
baz=251,SNR=9.4
ISCO Idaho Springs 7.29 301 Pn 19 18 55.6 +0.2
ISCO IAmb_Lg 19 21 05.4
comp=Z,530nm,0.8s
ISCO Idaho Springs 7.29 301 P **Pn 19 18 55.6 +0.2**
baz=116,SNR=14
ISCO Idaho Springs 7.29 301 P 19 18 54.9
baz=116,SNR=23
ISCO Idaho Springs 7.29 301 P 19 18 55.6
baz=116,SNR=14
K38A Parkersburg 7.34 29 Pn 19 18 56.2 +0.4
ANMO Albuquerque 7.41 262 Pn **Pn 19 18 58.2 +1.3**
comp=Z,0.4nm,0.3s,baz=84,slow=14,SNR=10
ANMO Pg Pb 19 19 23.6 +6.7
comp=Z,8.6nm,0.3s,baz=85,slow=16,SNR=34
ANMO Lg Lg 19 20 56.8
comp=Z,18nm,0.3s,baz=10.0,slow=9.8,SNR=4.1
ANMO LR LR 19 22 09.5
comp=Z,709nm,20.8s,baz=77,slow=41
ANMO Albuquerque 7.41 262 Pn 19 18 57.0 +0.1
ANMO Albuquerque 7.41 262 P 19 18 57.3
baz=27
735A Kenedy 7.41 182 Pn 19 18 55.8 -0.9
ECSD EROS Data Cent 7.47 5 Pn 19 18 56.6 -1.0
ECSD EROS Data Cent 7.47 5 P **Pn 19 18 56.6 -1.0**
baz=186,SNR=81
ECSD EROS Data Cent 7.47 5 P 19 18 56.8
baz=186,SNR=71
ECSD S 19 20 19.5
baz=186
ECSD EROS Data Cent 7.47 5 P 19 18 56.6
baz=186,SNR=81
L40A Anamosa 7.56 38 Pn 19 18 57.8 -1.0
L40A IAmb_Lg 19 21 14.2
comp=Z,682nm,0.8s
L40A Anamosa 7.56 38 P **Pn 19 18 58.6 -0.2**
baz=222,SNR=12
L40A Anamosa 7.56 38 P 19 18 58.6
baz=222,SNR=12
S22A 4UR Ranch, Cre 7.59 284 P 19 19 00.0
baz=98,SNR=11
HDIL Hopedale 7.74 54 Pn 19 19 00.8 -0.3
HDIL Hopedale 7.74 54 P **Pn 19 19 00.9 -0.3**
baz=239,SNR=9.7
HDIL Hopedale 7.74 54 P 19 19 01.0
baz=239,SNR=20
HDIL S 19 20 26.5
baz=239
HDIL Hopedale 7.74 54 P 19 19 00.9
baz=239,SNR=9.7
BNM Barren Site 7.76 257 Pn 19 19 01.7 0.0
PLAL Pickwick Lake 7.79 97 Pn 19 19 02.1 +0.1
PLAL IAmb_Lg 19 21 16.8
comp=Z,384nm,1.3s
WVT Waverly 7.83 88 Pn 19 19 01.6 -1.0
WVT IAmb_Lg 19 21 33.6
comp=Z,295nm,1.2s
WVT Waverly 7.83 88 P 19 19 02.5
baz=274
146A Union 7.87 115 Pn 19 19 02.9 -0.2
OLIL Olney 7.87 69 Pn 19 19 02.7 -0.3
MNTX Cornudas Mount 7.97 237 Pn **Pn 19 19 04.1 -0.4**
MNTX IAmb_Lg 19 21 24.4
comp=Z,308nm,0.7s
MNTX Cornudas Mount 7.97 237 P **Pn 19 19 04.5 0.0**
baz=53,SNR=24
MNTX Cornudas Mount 7.97 237 P 19 19 04.4
baz=53,SNR=61

MNTX Cornudas Mount 7.97 237 P 19 19 04.5
baz=53,SNR=24
PHWY Pilot Hill 7.97 311 Pn **19 19 04.9 +0.1**
Y22D IRIS PASSCAL I 8.01 257 Pb **19 19 26.6 -0.7**
LENM Lemitar 8.02 258 Pn **19 19 05.6 +0.2**
SMCO Snowmass 8.03 294 IAmb_Lg 19 21 30.9
comp=Z,273nm,0.8s
USIN University of 8.04 75 Pn **19 19 05.9 +0.5**
N23A Red Feather La 8.05 307 P 19 19 06.3
baz=122,SNR=48
833A Chaparral WMA, 8.09 192 P 19 19 08.1
baz=11
O44A Mansfield 8.10 59 Pn **19 19 06.0 -0.2**
O44A IAmb_Lg 19 21 33.6
comp=Z,806nm,0.9s
SUSD Miller 8.23 353 Pn Pn **19 19 08.0 +0.1**
SUSD IAmb_Lg 19 21 32.0
comp=Z,654nm,0.8s
I37A Lemond, Waseca 8.34 21 IAmb_Lg 19 21 40.2
comp=Z,634nm,0.7s
L42A Oliver, Polo 8.35 44 Pn **19 19 09.2 -0.5**
Z47A Carrollton 8.36 109 Pn **19 19 09.3 -0.5**
T47A Sharon Grove 8.40 82 Pn **19 19 10.1 -0.2**
T47A Sharon Grove 8.40 82 P Pn **19 19 11.7 +1.4**
baz=268,SNR=14
T47A Sharon Grove 8.40 82 P 19 19 11.7
baz=268,SNR=14
TX31 Lajitas Ar. Si 8.65 219 Pn **19 19 13.4 -0.4**
TX31 Lajitas Ar. Si 8.65 219 P Pn **19 19 12.9 -0.9**
baz=35,SNR=33
TX31 Lajitas Ar. Si 8.65 219 P 19 19 12.9
baz=35,SNR=33
TX32 Lajitas Array 8.65 219 Pn **19 19 13.3 -0.6**
TXAR Lajitas Array 8.65 218 Pn Pn **19 19 13.3 -0.5**
comp=Z,2.8nm,0.3s,baz=43,slow=12,SNR=75
TXAR Pg Pg 19 19 42.8 -10
comp=Z,4.7nm,0.3s,baz=72,slow=14,SNR=7.1
TXAR Lg Lg 19 21 37.7
comp=Z,10nm,0.3s,baz=42,slow=20,SNR=3.0
TXAR LR LR 19 22 47.3
comp=Z,436nm,19.3s,baz=0,slow=39
JFWS Jewell Farm 8.68 38 Pn **19 19 13.4 -0.7**
JFWS Jewell Farm 8.68 38 P Pn **19 19 12.8 -1.3**
baz=223
JFWS Jewell Farm 8.68 38 P 19 19 12.8
baz=223,SNR=21
JFWS Jewell Farm 8.68 38 P 19 19 12.8
baz=223
X48A Hartselle 8.74 99 Pn **19 19 15.2 +0.1**
P46A Rosedale 8.80 65 Pn **19 19 16.5 +0.8**
M44A Midewin, Midew 8.98 53 Pn **19 19 17.7 -0.5**
PV01 Paradox Valley 9.01 285 Pn **19 19 19.0 +0.1**
PV01 IAmb_Lg 19 22 08.6
comp=Z,235nm,1.0s
CLTN Cedars of Leba 9.04 88 Pn Pn **19 19 19.2 +0.1**
CLTN IAmb_Lg 19 21 53.4
comp=Z,230nm,1.1s
SFIN Lafayette 9.15 60 Pn **19 19 20.4 -0.2**
SFIN IAmb_Lg 19 22 05.6
comp=Z,579nm,0.8s
SFIN Lafayette 9.15 60 P 19 19 20.0
baz=247,SNR=15
PV02 Paradox Valley 9.15 285 IAmb_Lg 19 22 24.5
comp=Z,238nm,1.0s
WCI Wyandotte Cave 9.15 74 Pn Pn **19 19 21.9 +1.3**
WCI IAmb_Lg 19 21 59.8
comp=Z,364nm,0.8s
WCI Wyandotte Cave 9.15 74 P 19 19 20.7
baz=261
BLO Bloomington 9.17 68 Pn **19 19 21.7 +0.8**
PV13 Radium Mtn., P 9.21 285 Pn **19 19 24.1 +2.4**
PV13 IAmb_Lg 19 22 12.0
comp=Z,352nm,0.9s
PV12 Saucer Basin, 9.22 286 IAmb_Lg 19 22 20.6
comp=Z,457nm,1.3s
PV03 Paradox Valley 9.25 286 IAmb_Lg 19 22 25.3
comp=Z,341nm,1.3s
PV22 Blue Mesa, Par 9.25 287 Pn Pn **19 19 23.8 +1.6**
I40A Norwalk 9.25 33 Pn Pn **19 19 20.5 -1.5**
I40A IAmb_Lg 19 22 07.7
comp=Z,396nm,0.8s
I40A Norwalk 9.25 33 P Pn **19 19 20.9 -1.1**
baz=217,SNR=12
I40A Norwalk 9.25 33 P 19 19 20.9
baz=217,SNR=12
121A Cookes Peak, D 9.27 249 Pn Pn **19 19 22.8 +0.3**
121A IAmb_Lg 19 22 13.2
comp=Z,564nm,1.1s
121A Cookes Peak, D 9.27 249 P 19 19 23.0
baz=63
PV11 David Mesa, Pa 9.27 286 Pn **19 19 20.8 -1.7**
PV11 IAmb_Lg 19 22 19.2
comp=Z,581nm,1.1s
O20A White River Ci 9.28 298 Pn **19 19 24.2 +1.6**
O20A IAmb_Lg 19 22 17.5
comp=Z,365nm,1.1s
RWWY Rawlins 9.28 309 Pn **19 19 22.1 -0.5**
RWWY IAmb_Lg 19 22 09.5
comp=Z,671nm,0.9s
RSSD Black Hills 9.28 330 Pn Pn **19 19 22.7 +0.1**
RSSD IAmb_Lg 19 22 15.0
comp=Z,370nm,0.8s
RSSD Black Hills 9.28 330 P 19 19 22.6
baz=145
PV18 Skein Mesa, Pa 9.29 286 Pn Pn **19 19 21.4 -1.4**
PV18 IAmb_Lg 19 22 29.2
comp=Z,276nm,1.2s
PV16 Nyswonger Mesa 9.31 286 Pn **19 19 23.5 +0.5**
PV16 IAmb_Lg 19 22 15.7
comp=Z,311nm,1.1s
PV04 Paradox Valley 9.31 286 IAmb_Lg 19 22 18.1
comp=Z,449nm,1.0s
PV20 West Nyswonger 9.35 286 Pn **19 19 24.1 +0.5**
PV20 IAmb_Lg 19 22 26.5
comp=Z,364nm,1.2s
PV14 Lion Creek, Pa 9.40 286 IAmb_Lg 19 22 13.0
comp=Z,231nm,1.1s
PV10 Paradox Valley 9.41 286 IAmb_Lg 19 22 30.6
comp=Z,298nm,1.1s
Y49A Blount Mountai 9.42 102 Pn **19 19 24.5 +0.2**
PV05 Paradox Valley 9.42 284 IAmb_Lg 19 22 21.6
comp=Z,256nm,1.1s
K22A Casper 9.43 315 Pn Pn **19 19 24.1 -0.5**
K22A Casper 9.43 315 P 19 19 23.7
baz=130,SNR=9.3
U49A Red Boiling Sp 9.46 85 Pn **19 19 25.0 +0.1**
SWET Sewanee 9.47 93 Pn **19 19 25.7 +0.6**
L44A Lake County Fo 9.49 49 Pn **19 19 23.6 -1.7**
K43A Burlington 9.56 45 Pn **19 19 24.2 -2.0**
F33A 5 Mile Ranch, 9.59 5 Pn Pn **19 19 26.0 -0.7**
F33A IAmb_Lg 19 22 22.4
comp=Z,589nm,1.2s
SPMN Marine on St. 9.62 20 Pn Pn **19 19 24.3 -2.7**
SPMN IAmb_Lg 19 22 39.3
comp=Z,379nm,1.0s
SPMN Marine on St. 9.62 20 P 19 19 25.4
baz=203,SNR=13
FPAL Fort Paine 9.87 97 Pn **19 19 29.6 -0.9**
W50A Signal Mountai 9.98 93 Pn **19 19 33.2 +1.1**
W50A IAmb_Lg 19 22 33.2
comp=Z,209nm,0.7s
F36A Milaca 10.03 16 Pn Pn **19 19 29.9 -2.7**
R49A Shelbyville 10.04 75 Pn **19 19 33.0 +0.2**
R49A Shelbyville 10.04 75 P Pn **19 19 32.9 +0.2**
baz=262,SNR=10.0
R49A Shelbyville 10.04 75 P 19 19 32.9
baz=262,SNR=10.0
R49A P 19 19 32.9
baz=262,SNR=10.0
I42A Draeger Farm, 10.05 38 Pn Pn **19 19 31.5 -1.5**
P48A Milroy 10.07 68 Pn **19 19 32.6 -0.6**
P48A Milroy 10.07 68 P Pn **19 19 32.9 -0.3**
baz=255,SNR=8.7
P48A Milroy 10.07 68 P 19 19 32.9
baz=255,SNR=8.7
P48A P 19 19 32.9
baz=255,SNR=8.7
BRAL Brewton 10.09 117 P 19 19 34.2
baz=303
T50A Nancy 10.21 82 Pn Pn **19 19 34.2 -1.0**
250A Grady 10.26 111 Pn **19 19 34.4 -1.4**
N47A Urbana 10.33 60 Pn Pn **19 19 35.0 -1.7**
L46A Eue Claire 10.42 53 Pn **19 19 36.7 -1.3**
X51A Calhoun 10.47 96 Pn **19 19 38.9 +0.2**
G40A Rib Lake 10.55 29 Pn Pn **19 19 37.5 -2.2**

G40A Rib Lake 10.55 29 P Pn **19 19 38.3 -1.4**
baz=214,SNR=5.8
G40A Rib Lake 10.55 29 P 19 19 38.3
baz=214,SNR=5.8
E28A Huff 10.56 348 Pn Pn **19 19 38.0 -1.8**
Z51A Franklin 10.57 103 Pn **19 19 38.2 -1.8**
CPCT Cooper Cave 10.58 91 Pn **19 19 40.7 +0.5**
P49A Miami Univ. Ec 10.62 68 Pn **19 19 39.6 -1.2**
P49A Miami Univ. Ec 10.62 68 P Pn **19 19 40.1 -0.6**
baz=256,SNR=9.6
P49A Miami Univ. Ec 10.62 68 P 19 19 40.0
baz=256,SNR=8.3
P49A Miami Univ. Ec 10.62 68 P 19 19 40.1
baz=256,SNR=9.6
V51A Loudon 10.67 89 Pn **19 19 40.6 -0.9**
V51A Loudon 10.67 89 P Pn **19 19 42.4 +1.0**
baz=276,SNR=5.5
V51A Loudon 10.67 89 P 19 19 42.4
baz=276,SNR=5.5
SRU San Rafael Swe 10.69 289 Pn **19 19 40.9 -1.0**
R50A Paris 10.70 75 Pn **19 19 41.3 -0.5**
R50A Paris 10.70 75 P Pn **19 19 42.4 +0.6**
baz=263,SNR=8.0
R50A Paris 10.70 75 P 19 19 42.4
baz=263,SNR=8.0
R50A P 19 19 42.4
baz=263,SNR=8.0
H43A Windswept, Lux 11.04 39 Pn Pn **19 19 44.5 -2.0**
O49A Covington 11.07 65 Pn Pn **19 19 45.6 -1.3**
W52A Murphy 11.11 92 Pn **19 19 47.8 +0.2**
TKL Tuckaleechee C 11.15 89 Pn Pn **19 19 49.2 +1.1**
comp=Z,1.2nm,0.3s,baz=256,slow=6.9,SNR=5.8
TKL Lg Lg 19 22 55.5
comp=Z,10nm,0.3s,baz=167,slow=20,SNR=7.5
TKL Tuckaleechee C 11.15 89 Pn **19 19 49.9 +1.9**
152A Waverly Hall 11.16 105 Pn **19 19 47.0 -1.1**
S51A Beattyville 11.22 79 Pn **19 19 48.7 -0.3**
S51A Beattyville 11.22 79 P Pn **19 19 49.3 +0.3**
baz=267,SNR=13
S51A Beattyville 11.22 79 P 19 19 49.3
baz=267,SNR=13
S51A P 19 19 49.3
baz=267,SNR=13
E38A The Farm, Brul 11.24 22 Pn **19 19 46.7 -2.4**
TMUT Trail Mountain 11.25 290 Pn **19 19 48.1 -1.5**
TZTN Tazewell 11.26 85 Pn **19 19 50.5 +1.0**
TZTN Tazewell 11.26 85 P 19 19 49.5
baz=273
WUAZ Wupatki 11.27 270 Pn Pn **19 19 49.0 -0.8**
V52A Sevierville 11.28 88 Pn **19 19 49.0 -0.7**
PD31 Pinedale Array 11.33 309 Pn **19 19 49.2 -1.4**
PDAR Pinedale Array 11.33 309 Pn Pn **19 19 49.8 -0.9**
comp=Z,1.0nm,0.3s,baz=124,slow=14,SNR=9.9
PDAR Pg 19 20 35.5
comp=Z,2.7nm,0.3s,baz=119,slow=14,SNR=9.9
PDAR Lg Lg 19 23 02.8
comp=Z,6.6nm,0.3s,baz=106,slow=31,SNR=5.6
PDAR Pinedale Array 11.33 309 Pn Pn **19 19 49.9 -0.7**
BW06 Boulder Array 11.33 309 Pn **19 19 49.4 -1.3**
BW06 Boulder Array 11.33 309 P 19 19 49.7
baz=121
N49A Columbus Grove 11.41 62 Pn **19 19 49.7 -1.8**
X16A Lo Mia Camp, P 11.53 265 Pn **19 19 53.6 +0.3**
Q51A Peebles 11.56 72 Pn **19 19 53.0 -0.6**
L48A N Adams 11.62 57 Pn **19 19 52.3 -2.1**
COWI Conover 11.65 30 Pn **19 19 52.2 -2.7**
F42A Maple Grove Fa 11.81 34 Pn Pn **19 19 53.4 -3.7**
MTPU Mount Pierson 11.84 283 Pn **19 20 00.2 +2.4**
P51A Williamsport 11.86 70 Pn **19 19 56.1 -1.6**
GOGA Godfrey 11.89 100 Pn **19 19 58.0 -0.2**
GOGA Godfrey 11.89 100 P 19 19 57.7
baz=288
U15A North Rim 11.92 275 Pn **19 20 00.2 +1.4**
V53A Saluda 11.93 89 Pn **19 19 57.5 -1.2**
J47A Sunmer 11.98 51 Pn **19 19 57.2 -2.1**
AGMN Agassiz Nation 12.07 5 Pn Pn **19 19 57.8 -2.7**
AGMN Agassiz Nation 12.07 5 P 19 19 57.8
baz=186,SNR=6.3
HWUT Hardware Ranch 12.16 300 Pn Pn **19 20 00.1 -1.9**
LAO LASA Array 12.27 331 Pn **19 20 01.6 -1.8**
LAO LASA Array 12.27 331 P 19 20 01.9
baz=145
AAM Ann Arbor 12.30 57 Pn **19 20 01.3 -2.4**
KNB Kanab 12.32 278 Pn Pn **19 20 04.6 +0.4**
Q52A Bidwell 12.38 73 Pn **19 20 04.1 -0.7**
Q52A Bidwell 12.38 73 P Pn **19 20 04.5 -0.4**
baz=262,SNR=12
Q52A Bidwell 12.38 73 P 19 20 04.5
baz=262,SNR=12
Q52A P 19 20 04.5
baz=262,SNR=12
M50A Fremont 12.38 61 Pn Pn **19 20 03.1 -1.7**
B35A Bob, Littlefor 12.39 12 Pn **19 20 01.9 -3.0**
LOHW Long Hollow 12.42 310 Pn **19 20 04.6 -1.0**
EYMN Ely 12.48 19 Pn Pn **19 20 02.0 -4.1**
EYMN Ely 12.48 19 P 19 20 02.9
baz=203,SNR=13
RLMT Red Lodge 12.54 318 Pn Pn **19 20 05.7 -1.5**
RLMT Red Lodge 12.54 318 P 19 20 06.2
baz=131
G45A Suttons Bay 12.54 42 Pn Pn **19 20 04.7 -2.3**
R53A Hurricane 12.56 76 Pn **19 20 07.0 -0.3**
TPAW Teton Pass 12.57 309 Pn Pn **19 20 05.6 -2.1**
P52A Corning 12.59 70 Pn **19 20 07.7 0.0**
P52A Corning 12.59 70 P 19 20 07.2
baz=259,SNR=15
U54A Nelsons Funny 12.65 84 Pn **19 20 09.2 +0.6**
LCMT Little Creek M 12.66 278 Pn **19 20 08.4 -0.4**
D41A Chassel 12.67 29 Pn **19 20 05.2 -3.5**
N51A Ashland 12.71 64 Pn Pn **19 20 07.5 -1.9**
O52A Adamsville 12.91 68 Pn **19 20 11.0 -1.1**
GLMI Grayling 12.99 45 P 19 20 10.6
baz=233
S54A Dingess, Beckl 13.04 78 Pn **19 20 13.8 0.0**
P53A Whipple 13.13 71 Pn Pn **19 20 13.6 -1.6**
P53A Whipple 13.13 71 P Pn **19 20 14.2 -0.9**
baz=261,SNR=9.9
P53A Whipple 13.13 71 P 19 20 14.2
baz=261,SNR=9.9
P53A P 19 20 14.2
baz=261,SNR=9.9
DGMT Dagmar 13.14 340 Pn **19 20 12.3 -2.8**
DGMT Dagmar 13.14 340 P 19 20 12.1
baz=156,SNR=13
PSUT Pine Spring 13.19 285 Pn Pn **19 20 16.0 0.0**
K50A Casco 13.19 56 Pn **19 20 12.9 -2.9**
GCMT Greycliff 13.19 320 Pn **19 20 15.1 -0.9**
V55A Taylorsville 13.20 87 Pn **19 20 16.1 +0.1**
O53A New Philadelph 13.41 68 Pn Pn **19 20 16.6 -2.2**
O53A New Philadelph 13.41 68 P 19 20 17.2
baz=258,SNR=9.0
Q54A Coxs Mills 13.49 73 Pn **19 20 18.5 -1.5**
I49A Point Hope 13.59 51 Pn Pn **19 20 18.0 -3.2**
BLA Blacksburg 13.74 81 Pn Pn **19 20 23.3 -0.1**
BLA Blacksburg 13.74 81 P 19 20 22.1
baz=271
N53A Lisbon 13.81 66 Pn **19 20 22.5 -1.8**
R55A Marlinton 14.00 77 Pn Pn **19 20 25.3 -1.6**
R55A Marlinton 14.00 77 P Pn **19 20 26.1 -0.9**
baz=267,SNR=17
R55A Marlinton 14.00 77 P 19 20 26.1
baz=267,SNR=17
R55A P 19 20 26.1
baz=267,SNR=17
ULM Lac du Bonnet 14.01 4 Pn Pn **19 20 23.9 -3.2**
comp=Z,1.9nm,0.3s,baz=186,slow=11,SNR=7.6
ULM Sn Sn 19 22 51.8 -11
comp=Z,2.9nm,0.3s,baz=89,slow=20,SNR=4.3
ULM Lg Lg 19 24 20.0
comp=Z,2.1nm,0.3s,baz=288,slow=14,SNR=4.2
ULM LR LR 19 26 03.1
comp=Z,476nm,18.6s,baz=208,slow=38
ULM Lac du Bonnet 14.01 4 Pn Pn **19 20 24.1 -3.0**
O54A Avella 14.02 69 Pn **19 20 26.4 -0.9**
M53A WI Miller and 14.09 63 Pn **19 20 25.2 -3.0**
M53A WI Miller and 14.09 63 P 19 20 26.0
baz=254
PRN Pahroc Range 14.09 280 Pn Pn **19 20 30.9 +2.6**
E46A Sault Ste Mari 14.12 40 Pn Pn 19 20 24.1 -4.5
SHPR Sheep Range 14.22 276 P **19 20 37.4 -0.4**
MCMT McKenzie Canyo 14.43 311 P P **19 20 40.5 +0.4**
N54A Moraine State 14.47 66 Pn **19 20 31.1 -2.3**
N54A Moraine State 14.47 66 P 19 20 31.1
baz=257,SNR=5.8

R11A Troy Canyon, C 14.53 284 P P **19 20 41.5 +0.3**
DLMT Dillon 14.56 313 P Pn **19 20 32.3 -2.4**
ELK Elko 14.57 293 Pn Pn **19 20 37.9 +2.9**
comp=Z,0.1nm,0.3s,baz=84,slow=11,SNR=5.6
ELK Lg Lg 19 24 48.5
comp=Z,0.1nm,0.3s,baz=215,slow=8.3,SNR=2.2
ELK LR LR 19 26 45.3
comp=Z,158nm,21.6s,baz=100,slow=40
ELK Elko 14.57 293 Pn Pn **19 20 33.2 -1.7**
GLA Glamis 14.61 262 Pn **19 20 34.6 -0.7**
T57A Hurt 14.68 82 Pn **19 20 34.4 -1.9**
Q56A Snyder Ridge, 14.78 74 Pn Pn **19 20 35.1 -2.4**
EGMT Eagleton 14.81 326 Pn **19 20 36.4 -1.7**
EGMT Eagleton 14.81 326 P 19 20 36.0
baz=138
M54A Oil Creek Stat 14.84 64 Pn Pn **19 20 36.2 -2.2**
M54A Oil Creek Stat 14.84 64 P 19 20 36.6
baz=255,SNR=6.4
HLID Hailey 14.85 304 Pn **19 20 39.5 +0.8**
GMRC Granite Mounta 14.85 270 P 19 20 38.8
baz=79,SNR=8.2
S57A Dark Hollow, R 14.90 79 Pn **19 20 37.4 -1.9**
TPNV Topopah Spring 15.06 278 Pn Pn **19 20 41.1 -0.6**
TPNV IAmb IAmb 19 20 51.6
comp=Z,6.9nm,0.9s
TPNV Topopah Spring 15.06 278 P 19 20 41.1
baz=87
O56A Blue Knob Stat 15.40 69 Pn **19 20 44.3 -1.7**
O56A Blue Knob Stat 15.40 69 P 19 20 43.6
baz=261
GSC Goldstone, Bar 15.69 272 Pn Pn **19 20 51.0 +1.2**
MFID Camas Ranch 15.75 302 Pn Pn **19 20 50.7 +0.2**
R58B Mineral 15.76 78 P Pn **19 20 50.9 +0.4**
R58B IAmb IAmb 19 20 59.3
comp=Z,10nm,0.9s
PFO Pinyon Flats O 15.76 266 Pn P **19 20 53.5 -1.4**
comp=Z,0.1nm,0.3s,baz=68,slow=14,SNR=4.1
PFO Lg Lg 19 25 25.6
comp=Z,0.1nm,0.3s,baz=353,slow=19,SNR=1.5
PFO LR LR 19 27 09.1
comp=Z,238nm,19.9s,baz=24,slow=38
PFO Pinyon Flats O 15.76 266 Pn **19 20 49.5 -1.3**
TPH Tonopah 15.81 282 Pn **19 20 51.8 +0.3**
SSPA Standing Stone 15.97 68 Pn Pn **19 20 51.0 -2.3**
SSPA IAmb IAmb 19 20 52.2
comp=Z,13nm,0.8s
SSPA Standing Stone 15.97 68 P 19 20 50.8
baz=260
SADO Sadowa 16.32 53 Pn P **19 21 00.7 -0.1**
comp=Z,0.5nm,0.3s,baz=262,slow=12,SNR=4.2
SADO Lg Lg 19 25 34.2
comp=Z,2.0nm,0.3s,baz=321,slow=19,SNR=12
LPIG La Paz 16.40 226 LR LR 19 26 56.3
comp=Z,131nm,18.1s,baz=53,slow=36
KVN Kaiserville 16.53 286 Pn **19 21 00.8 +0.1**
KVN IAmb IAmb 19 21 07.7
comp=Z,18nm,1.0s
H53A Bobcaygeon 16.60 54 P 19 20 58.1
baz=247
J55A Hilton 16.65 59 Pn **19 21 00.1 -2.0**
M57A Sunshine Farm, 16.66 66 P Pn **19 20 59.6 -2.6**
M57A IAmb IAmb 19 21 07.7
comp=Z,14nm,0.9s
NVAR Mina Array Bea 16.67 284 Pn P **19 21 04.2 -0.7**
comp=Z,0.5nm,0.3s,baz=106,slow=9.7,SNR=22
NVAR LR LR 19 28 00.4
comp=Z,278nm,20.1s,baz=90,slow=39
NVAR Mina Array Bea 16.67 284 P Pn **19 21 03.8 +1.3**
LHV Little Huntoon 16.82 283 P Pn **19 21 03.3 -0.9**
LHV IAmb IAmb 19 21 09.2
comp=Z,11nm,0.7s
K56A Middlesex 16.83 61 P 19 21 02.1
baz=254
RYN Ryan 16.84 284 P P **19 21 07.0 +0.1**
RYN IAmb IAmb 19 21 10.2
comp=Z,25nm,1.4s
MVL Millersville 17.05 71 Pn **19 21 04.9 -2.2**
MVL IAmb IAmb 19 21 11.1
comp=Z,25nm,1.3s
G54A Lake Saint Pet 17.26 52 P 19 21 05.5
baz=245
BMO Blue Mountains 17.27 306 P P **19 21 11.5 0.0**
MDPB Devils Postpil 17.29 281 Pn **19 21 09.7 -0.7**
YERR Yerington 17.42 285 P P **19 21 13.1 -0.2**
YERR IAmb IAmb 19 21 15.0
comp=Z,14nm,1.0s
WVOR Wild Horse Val 17.43 297 Pn **19 21 12.0 0.0**
WVOR IAmb IAmb 19 21 17.1
comp=Z,22nm,1.3s
VES Vestal, Richgr 17.45 275 P 19 21 10.5
baz=82
ALGO Algonquin Park 17.52 51 P 19 21 10.2
baz=243,SNR=8.2
WAKR Walker 17.56 284 P P **19 21 15.3 +0.5**
PAHR Pah Rah Range 17.57 288 P Pn **19 21 14.4 +0.7**
N59A State Game Lan 17.60 68 P Pn **19 21 13.5 -0.5**
N59A IAmb IAmb 19 21 17.3
comp=Z,14nm,0.9s
N59A State Game Lan 17.60 68 P 19 21 11.9
baz=262
BINY Binghamton 17.67 64 Pn **19 21 11.9 -3.0**
BINY Binghamton 17.67 64 P 19 21 12.6
baz=258
F10A Beach Ranch, E 17.69 309 P Pn **19 21 15.2 +0.1**
F10A IAmb IAmb 19 21 21.3
comp=Z,10nm,1.0s
PNTR Pine Nut 17.70 286 P Pn **19 21 15.3 -0.1**
PNTR IAmb IAmb 19 21 19.9
comp=Z,22nm,1.2s
KSPA Keystone Colle 17.71 66 P Pn **19 21 12.9 -2.4**
KSPA IAmb IAmb 19 21 15.5
comp=Z,13nm,0.8s
L58A Harry Jones Me 17.74 64 P 19 21 13.4
baz=258
VCNR Virginia City 17.75 286 P P **19 21 17.8 +0.9**
LUPA Lehigh Univers 17.86 69 Pn **19 21 15.9 -1.3**
J57A Williamstown 17.96 60 Pn **19 21 16.3 -2.1**
J57A Williamstown 17.96 60 P 19 21 16.8
baz=254
CMB Columbia Colle 18.31 282 P P **19 21 24.8 +1.9**
CMB IAmb IAmb 19 21 26.4
comp=Z,18nm,1.4s
BEKR Beckworth 18.33 288 P P **19 21 24.8 +1.5**
I57A Carthage 18.35 59 P 19 21 20.8
baz=253
J58A Remsen 18.45 61 P P **19 21 24.2 -0.2**
J58A Remsen 18.45 61 P 19 21 22.2
baz=255
I07A Izee 18.48 302 Pn **19 21 26.2 +1.3**
ODNJ Ogdensburg 18.50 68 P P **19 21 22.9 -2.0**
ODNJ IAmb IAmb 19 21 25.0
comp=Z,16nm,1.0s
G08A Pilot Rock 18.52 306 P **19 21 22.6 -2.7**
MOD Modoc Plateau 18.54 295 P **19 21 23.6 -1.9**
H57A Richville 18.69 57 P 19 21 25.5
baz=252
NEW Newport 18.75 316 P Pn **19 21 30.3 +2.2**
comp=Z,0.3nm,0.3s,baz=122,slow=4.8,SNR=3.7
NEW Lg Lg 19 26 49.1
comp=Z,0.2nm,0.3s,baz=238,slow=12,SNR=3.9
NEW LR LR 19 28 21.5
comp=Z,170nm,18.2s,baz=121,slow=36
I58A Old Forge 18.76 60 P 19 21 25.6
baz=254
AFDM Forest Hills D 18.77 285 P **19 21 28.4 +0.5**
E08A Dider Farm, El 19.06 309 P **19 21 31.1 +0.1**
E08A IAmb IAmb 19 21 34.8
comp=Z,8.1nm,0.5s
K05A Summer Lake 19.12 297 P P **19 21 31.2 -0.9**
K05A IAmb IAmb 19 21 45.6
comp=Z,10nm,0.9s
G57A Newington 19.17 56 P 19 21 30.4
baz=250
C09A Chrisman Ranch 19.18 313 P P **19 21 32.0 -0.3**
C09A IAmb IAmb 19 21 39.6
comp=Z,7.2nm,0.9s
ORV Oroville 19.19 287 P **19 21 33.1 +0.6**
CMIG Matias Romero 19.26 172 P Pn **19 21 35.4 +1.1**
comp=Z,0.7nm,0.3s,baz=358,slow=9.9,SNR=7.3
CMIG LR LR 19 30 50.1
comp=Z,46nm,20.2s,baz=360,slow=43
LONY Lake Ozonia 19.29 57 P P **19 21 32.9 -0.8**
LONY IAmb IAmb 19 21 36.4
comp=Z,7.1nm,0.9s
LONY Lake Ozonia 19.29 57 P 19 21 33.1

baz=252
HAWA **Hanford** 19.32 308 P **P** 19 21 31.8 -2.1
NCB **Newcomb** 19.35 59 P **P** 19 21 32.3 -2.0
NCB IAmb IAmb 19 21 37.6
comp=Z,9.8nm,0.9s
PINE **Pine Mountain** 19.40 300 **Pn** 19 21 36.7 +0.5
PINE IAmb IAmb 19 21 41.0
comp=Z,10nm,0.8s
KSCT **Kent School, K** 19.42 66 P **P** 19 21 35.1 +0.1
TRY **Troy** 19.46 63 P **P** 19 21 35.7 +0.2
O03E **Paynes Creek** 19.46 289 P 19 21 34.1
baz=94,SNR=7.8
H58A **Gabriels** 19.51 58 P 19 21 35.0
baz=253,SNR=6.2
I59A **Olmsteadville** 19.55 60 P 19 21 35.9
baz=256
D55A **Sainte-Anne-du** 19.59 50 P 19 21 35.6
baz=245
ACCN **Adirondack Com** 19.60 61 P **P** 19 21 36.1 -0.9
ACCN IAmb IAmb 19 21 39.8
comp=Z,12nm,0.9s
M04C **Macdoel** 19.65 294 P 19 21 37.8
baz=98,SNR=7.0
E56A **St. Veronique** 19.67 52 P 19 21 36.5
baz=247
MATQ **Matagami** 19.73 41 P 19 21 35.8
baz=234
K61A **Williamstown** 19.74 64 P 19 21 37.2
baz=259
J60A **Lant Hill Farm** 19.75 62 P 19 21 37.8
baz=258
G58A **Ormstown** 19.81 56 P 19 21 39.7
baz=252
TRQ **Mont Tremblant** 19.85 53 **P** 19 21 39.4 -0.4
H59A **Cadyville** 19.91 58 P 19 21 38.7
baz=253
I60A **Shoreham** 19.97 60 P 19 21 39.7
baz=256
FRNY **Flat Rock** 20.03 57 Pn 19 21 42.9 -0.5
FRNY IAmb IAmb 19 21 50.3
comp=Z,11nm,1.0s
WDC **Whiskeytown Da** 20.05 290 P **P** 19 21 41.1 -0.8
WDC IAmb IAmb 19 21 46.4
comp=Z,7.0nm,0.8s
D56A **ZEC Mazanza, M** 20.05 51 P 19 21 41.0
baz=246
L04D **Klamath Falls** 20.06 295 P 19 21 41.4
baz=99
L61B **Northampton** 20.13 65 P 19 21 42.4
baz=260,SNR=5.3
N02D **Trinity Center** 20.20 291 P 19 21 43.4
baz=95
YBH **Yreka Blue Hor** 20.29 293 P Pn 19 21 46.6 0.0
comp=Z,17nm,1.0s,baz=85,slow=3.9,SNR=17
YBH LR LR 19 30 54.8
comp=Z,62nm,18.0s,baz=100,slow=41
YBH **Yreka Blue Hor** 20.29 293 **P** 19 21 44.3 -0.3
M02C **Callahan** 20.36 292 P 19 21 44.8
baz=96,SNR=5.3
LTY **Liberty** 20.38 310 P **P** 19 21 45.5 0.0
I04A **Tendick Farm,** 20.44 299 P 19 21 46.4
baz=103
CCIG **Comitan** 20.49 165 P Pn 19 21 50.7 +1.6
K62A **Royalston** 20.49 64 P 19 21 46.1
baz=260
H60A **Morristown** 20.57 59 P 19 21 47.2
baz=255
E58A **La Victoria** 20.73 53 P 19 21 48.4
baz=250
LON **Longmire** 20.91 308 P **P** 19 21 51.5 +0.3
LON IAmb IAmb 19 22 00.4
comp=Z,4.8nm,0.8s
G60A **Masonville** 20.96 57 P 19 21 51.8
baz=254
D58A **Chemin du LacG** 21.25 52 P 19 21 53.4
baz=248
CHGQ **Chibougamau** 21.59 44 P 19 21 58.1
baz=240
MTO3 **Montecristo** 22.98 159 P **P** 19 22 11.3 -2.5
BBB **Bella Bella** 26.82 316 LR LR 19 34 16.5
comp=Z,121nm,19.5s,baz=118,slow=38
JTS **Las Juntas de** 28.27 153 LR LR 19 36 43.3
comp=Z,41nm,19.4s,baz=40,slow=42
YKA **Yellowknife Ar** 28.31 343 P **P** 19 23 03.3 +1.1
comp=Z,1.5nm,0.9s,baz=143,slow=9.0,SNR=4.8
YKA LR LR 19 33 55.2
comp=Z,124nm,21.0s,baz=0.0,slow=36
DLBC **Dease Lake** 30.74 326 P **P** 19 23 26.2 +2.2
comp=Z,2.1nm,0.5s,baz=109,slow=4.8,SNR=5.3
DLBC **Dease Lake** 30.74 326 P **P** 19 23 24.4 +0.4
SJG **San Juan** 33.05 115 LR LR 19 38 33.0
comp=Z,41nm,18.0s,baz=330,slow=39
WHY **Whitehorse** 34.00 328 P **P** 19 23 52.0 -0.6
EGAK **Eagle** 38.48 332 P 19 24 27.3
baz=116,SNR=6.4
IL31 40.73 330 P **P** 19 24 50.0 +0.7
ILAR **Eielson Array** 40.73 330 P **P** 19 24 51.1 +1.7
comp=Z,5.5nm,0.8s,baz=109,slow=7.3,SNR=42
ILAR LR LR 19 42 31.5
comp=Z,75nm,19.0s,baz=130,slow=37
ILAR **Eielson Array** 40.73 330 P **P** 19 24 50.1 +0.7
BMAR **Burnt Mountain** 40.89 334 P **P** 19 24 52.1 +1.4
CCB **Clear Creek Bu** 41.06 330 P **P** 19 24 53.4 +1.3
CCB IAmb IAmb 19 24 55.7
comp=Z,4.1nm,1.0s
WRH **Wood River Hil** 41.12 329 P **P** 19 24 52.5 -0.1
WRH IAmb IAmb 19 24 58.8
comp=Z,3.6nm,1.0s
MDM **Murphy Dome** 41.33 330 P **P** 19 24 54.8 +0.4
MDM IAmb IAmb 19 24 58.0
comp=Z,3.8nm,1.0s
BPAW **Bear Paw Mtn.** 42.22 328 P **P** 19 25 03.0 +1.2
BPAW IAmb IAmb 19 25 08.0
comp=Z,5.4nm,1.3s
BPAW **Bear Paw Mtn.** 42.22 328 P 19 25 00.3
baz=105
MLY **Manley** 42.37 330 P **P** 19 25 03.9 +1.0
MLY IAmb IAmb 19 25 06.8
comp=Z,3.4nm,1.1s
MLY **Manley** 42.37 330 P 19 25 01.7
baz=105
PPLA **Purkeypile** 42.46 326 P 19 25 03.3
baz=102
TOLK **Toolik Lake Re** 43.10 335 P **P** 19 25 10.2 +1.4
TOLK IAmb IAmb 19 25 14.7
comp=Z,3.9nm,0.9s
ARCES **ARCESS Array B** 66.63 19 P **P** 19 27 59.8 +0.7
comp=Z,0.7nm,0.4s,baz=317,slow=5.1,SNR=6.9
ARCES LR LR 19 56 41.0
comp=Z,92nm,20.4s,baz=290,slow=36
ARCES **ARCESS Array B** 66.63 19 P **P** 19 27 59.3 +0.2
NOA **NORSAR Array B** 67.14 30 LR LR 19 57 10.0
comp=Z,44nm,18.4s,baz=295,slow=36
ESDC **Sonseca Array** 70.37 55 P **P** 19 28 24.1 +1.1
comp=Z,2.0nm,1.1s,baz=305,slow=7.7,SNR=6.3
ESDC LR LR 19 55 18.9
comp=Z,43nm,21.3s,baz=220,slow=32
ESDC **Sonseca Array** 70.37 55 P **P** 19 28 23.9 +0.9
ESDC IAmb IAmb 19 28 26.0
comp=Z,1.8nm,1.1s
FINES **FINESS Array B** 72.43 25 P **P** 19 28 35.7 +0.8
comp=Z,2.6nm,0.7s,baz=324,slow=9.4,SNR=6.9
FINES LR LR 19 59 31.2
comp=Z,78nm,19.1s,baz=311,slow=35
CPUP **Villa Florida** 72.90 143 LR LR 20 05 08.2
comp=Z,23nm,19.0s,baz=67,slow=40
NRIK **Noril'sk** 74.62 358 LR LR 20 03 24.5
comp=Z,36nm,18.2s,baz=39,slow=37
AKASG **Malin Array Be** 81.53 31 P **P** 19 29 27.9 +1.5
comp=Z,0.3nm,0.4s,baz=310,slow=4.0,SNR=2.1
AKASG LR LR 20 05 42.0
comp=Z,34nm,18.5s,baz=340,slow=36
DBIC **Dimbokro** 88.24 83 LR LR 20 05 08.3
comp=Z,49nm,19.2s,baz=288,slow=33
TORD **Torodi Ar. Bea** 89.59 74 P **P** 19 30 08.4 +1.2
comp=Z,1.0nm,1.0s,baz=311,slow=6.6,SNR=4.3
ZALV **Zalesovo Beam** 90.11 359 P **P** 19 30 10.9 +1.9
comp=Z,0.7nm,0.6s,baz=16,slow=6.5,SNR=3.6
ZALV **Zalesovo Beam** 90.11 359 P **P** 19 30 09.2 +0.2
BRTR **Keskin Array B** 92.01 36 LR LR 20 12 09.0
comp=Z,23nm,18.2s,baz=324,slow=36
KBZ **Khabaz** 92.61 28 LR LR 20 12 37.5
comp=Z,46nm,19.1s,baz=337,slow=36
HHC **Hu-ho-hao-te** 98.73 338 *eP* **P** 19 30 45.6 -3.2
HHC **Hu-ho-hao-te** 98.73 338 *eP* **P** 19 30 47.3 -1.5
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,51nm,4.6s
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,50nm,5.0s

IDC 17 19:59:11.8±2.4,5.70S×152.11E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/37,mbtmp3.5/4,Error ellipse: s-maj=129.7km s-min=31.9km az=130.0,New Britain region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 22.34 229 P P 20 04 10.1 -1.4
0.8nm,1.1s,baz=53,slow=10.0,SNR=1.7
ASAR Alice Springs 25.02 223 P P 20 04 37.4 -0.4
0.6nm,0.8s,baz=57,slow=8.8,SNR=6.0
FITZ Fitzroy Crossi 28.63 242 P P 20 05 11.9 +1.6
0.8nm,0.8s,baz=65,slow=14,SNR=1.3
ILAR Eielson Array 83.25 22 P P 20 11 39.9 0.0
0.3nm,0.7s,baz=243,slow=6.0,SNR=2.8

*DJA **17** 20:01:43.8±0.4,6°S±4°×14°E±°,h10km,M4.8/10,mB4.6/2, mb4.4/10,MLv5.1/1,Mw(mB)3.8/2*
*IDC **17** 20:01:52.3±2.9,6.34S×147.87E,h56km±26km,mb3.8/14, mb1 4.0/18,mb1mx3.9/40,mbtmp4.1/18,ML4.2/3,MS3.4/14, Ms1 3.4/14,ms1mx3.3/25,Error ellipse: s-maj=26.0km s-min=14.5km az=89.0*
*NEIC **17** 20:01:54.2±1.3,6.41S±0.06×147.9E±0.1,h72km±7km, mb4.2/17,Error ellipse: s-maj=20.1km s-min=8.7km az=84.0*

ISC 17 20:01:51.6±0.6,6.37S±0.05×147.98E±0.10,h51km,n59, σ1§46/56,mb4.1/16,MS3.5/12,Eastern New Guinea region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 3.12 195 P **Pn** 20 02 39.1 +0.8
30nm,0.3s,baz=12,slow=5.2,SNR=55
PMG S **Sn** 20 03 15.7 +1.4
36nm,0.3s,baz=253,slow=22,SNR=3.4
PMG Port Moresby 3.12 195 Pn **Pn** 20 02 38.8 +0.5
PMG Port Moresby 3.12 195 P **Pn** 20 02 39.9 +1.6
PMG Port Moresby 3.12 195 P **Pn** 20 02 39.2 +0.9
PMG Port Moresby 3.12 195 P **Pn** 20 02 39.1 +0.8
MANU Manus Island 4.34 352 Pn **Pn** 20 02 58.0 +2.8
GENI Genyem 8.64 295 P **Pn** 20 03 57.5 +3.4
37nm,0.9s
CTA Charters Tower 13.73 187 P **Pn** 20 05 05.7 +1.9
0.3nm,0.3s,baz=4.4,slow=14,SNR=2.3
CTA LR LR 20 10 24.7
comp=Z,266nm,21.6s,baz=11,slow=37
FAKI Fak Fak 16.04 282 P **P** 20 05 36.8 +0.2
19nm,1.0s
SIJI Sorong 17.54 287 P **Pn** 20 05 52.6 -0.1
0.4nm,0.3s,baz=78,slow=12,SNR=3.7
SIJI LR LR 20 14 20.1
comp=Z,136nm,19.1s,baz=38,slow=43
SIJI Sorong 17.54 287 P **P** 20 05 57.1 +3.9
574nm10nm,0.9s
SWI Sorong 17.55 288 P **P** 20 05 55.3 +2.0
24nm,1.0s
WB0 Warramunga Arr 18.75 223 P **P** 20 06 05.8 -0.6
WB0 IAmb IAmb 20 06 23.5
comp=Z,10nm,1.1s
WR0 Warramunga Arr 18.78 223 P **P** 20 06 05.8 -1.0
WRAB Tennant Creek 18.89 223 P **P** 20 06 06.8 -1.2
WB2 Warramunga Arr 18.90 223 **P** 20 06 07.2 -0.9
WB2 IAmb IAmb 20 06 35.0
comp=Z,16nm,1.4s
WRA Warramunga Arr 18.90 223 P **P** 20 06 07.0 -1.2
comp=Z,1.7nm,0.3s,baz=52,slow=11,SNR=47
WRA Warramunga Arr 18.90 223 P **P** 20 06 07.2 -1.0
EIDS Eidsvold 19.12 171 Pn **Pn** 20 06 12.5 +0.8
EIDS IAmb IAmb 20 06 14.3
comp=Z,30nm,1.4s
MSAI Masohi 19.21 278 P Pn 20 06 23.7 +11
KRAI Karang Ratu 19.74 278 P **P** 20 06 17.7 +0.3
comp=Z,50nm,1.4s
KNRA Kununurra 20.98 242 P **P** 20 06 27.8 -3.0
KNRA IAmb IAmb 20 06 46.3
comp=Z,23nm,1.2s
AS31 Alice Springs 21.88 217 **P** 20 06 39.7 -0.7
AS31 IAmb IAmb 20 06 41.0
comp=Z,5.4nm,0.4s
ASAR Alice Springs 21.88 217 P **P** 20 06 39.9 -0.5
comp=Z,8.4nm,0.4s,baz=52,slow=8.7,SNR=238
ASAR S **S** 20 10 35.5 -4.0
comp=Z,1.0nm,1.0s,baz=32,slow=21,SNR=4.1
ASAR Alice Springs 21.88 217 P **P** 20 06 39.5 -0.9
SOEI Soe 23.71 260 **S** 20 11 10.0 -1.0
SOEI Soe 23.71 260 P P 20 07 09.4 +10
BATI Baumata 24.35 259 P **P** 20 07 05.4 +0.4
comp=Z,13nm,0.6s,baz=304,slow=22,SNR=3.7
FITZ Fitzroy Crossi 24.71 240 P **P** 20 07 07.5 -0.7
comp=Z,3.6nm,0.3s,baz=60,slow=8.0,SNR=56
FITZ LR LR 20 18 34.7
comp=Z,60nm,20.5s,baz=62,slow=41
FITZ Fitzroy Crossi 24.71 240 P **P** 20 07 07.1 -1.1
FITZ IAmb IAmb 20 07 13.8
comp=Z,8.3nm,0.9s
MMRI Maumere 25.61 263 P **P** 20 07 15.7 -0.8
STKA Stephens Creek 26.07 192 P **P** 20 07 20.6 +0.2
comp=Z,3.2nm,0.4s,baz=27,slow=13,SNR=16
STKA LR LR 20 18 05.3
comp=Z,115nm,18.8s,baz=19,slow=37
STKA Stephens Creek 26.07 192 P **P** 20 07 20.3 -0.1
PCI Palu 28.59 280 P P 20 07 58.5 +15
MJAR Matsushiro Arr 43.66 349 P **P** 20 09 50.4 -1.0
comp=Z,4.0nm,1.0s,baz=176,slow=8.4,SNR=6.9
MJAR LR LR 20 26 31.3
comp=Z,15nm,18.9s,baz=155,slow=34
MJAR Matsushiro Arr 43.66 349 P **P** 20 09 51.5 +0.1
MJAR IAmb IAmb 20 09 52.0
comp=Z,4.5nm,1.2s
MAJO Matsushiro 43.66 349 P **P** 20 09 50.7 -0.7
KSRS Korea Array 47.45 338 P **P** 20 10 21.1 -0.1
comp=Z,0.7nm,0.4s,baz=156,slow=8.1,SNR=7.1
KSRS LR LR 20 27 11.0
comp=Z,50nm,20.9s,baz=152,slow=32
RPSI Rantau Prapat 49.80 279 P **P** 20 10 38.5 -1.3
GSI Gunungsitoli 50.88 277 P **P** 20 10 46.5 -1.5
USRK Ussuriysk Ar. 52.37 346 P **P** 20 10 58.9 +0.4
comp=Z,1.6nm,0.8s,baz=155,slow=7.2,SNR=3.5
USRK LR LR 20 32 39.2
comp=Z,41nm,18.1s,baz=127,slow=35
USRK Ussuriysk Ar. 52.37 346 P **P** 20 10 56.8 -1.7
CMAR Chiang Mai Arr 54.28 298 P **P** 20 11 13.6 +0.5
comp=Z,2.0nm,1.0s,baz=131,slow=5.1,SNR=5.0
CMAR LR LR 20 35 10.5
comp=Z,63nm,19.6s,baz=205,slow=37
PETK Petropavlovsk- 59.83 7 P **P** 20 11 53.0 +1.4
comp=Z,1.6nm,0.4s,baz=160,slow=5.8,SNR=5.7
PETK LR LR 20 33 11.6
comp=Z,32nm,21.2s,baz=175,slow=31
SONM Songino Array 65.20 330 P **P** 20 12 27.8 0.0
comp=Z,1.9nm,1.0s,baz=31,slow=21,SNR=9.0
SONM LR LR 20 40 21.7
comp=Z,44nm,21.6s,baz=130,slow=36
SONM Songino Array 65.20 330 P **P** 20 12 26.9 -0.9
SONM IAmb IAmb 20 12 28.5
comp=Z,2.6nm,1.1s
VNDA Vanda 71.49 177 P **P** 20 13 07.7 +1.3
comp=Z,0.2nm,0.5s,baz=337,slow=5.7,SNR=5.7
VNDA LR LR 20 44 01.2
comp=Z,40nm,18.0s,baz=302,slow=35
MKAR Makanchi Array 78.40 320 P **P** 20 13 45.7 -1.2
comp=Z,0.3nm,0.3s,baz=97,slow=8.5,SNR=14
MKAR Makanchi Array 78.40 320 P **P** 20 13 45.8 -1.1
MAKZ Makanchi 78.61 320 P **P** 20 13 46.1 -1.9
MAKZ IAmb IAmb 20 13 47.4
comp=Z,2.3nm,1.1s
ZALV Zalesovo Beam 79.84 328 P **P** 20 13 52.7 -1.8
comp=Z,0.8nm,0.3s,baz=122,slow=6.3,SNR=6.4
ZALV LR LR 20 47 01.4
comp=Z,21nm,21.7s,baz=122,slow=34
MAW Mawson 82.28 203 LR LR 20 51 04.3
comp=Z,24nm,18.0s,baz=72,slow=36
ILAR Eielson Array 85.44 23 P **P** 20 14 22.5 -0.9
comp=Z,0.5nm,0.8s,baz=257,slow=4.6,SNR=6.7
ILAR Eielson Array 85.44 23 P **P** 20 14 22.4 -1.1
YKA Yellowknife Ar 99.05 28 LR LR 20 54 47.5
comp=Z,11nm,21.1s,baz=0.0,slow=32
GERES GERESS Array B 122.76 326 PKP **PKPdf** 20 20 41.0 -1.1
comp=Z,0.4nm,0.7s,baz=23,slow=3.3,SNR=4.3
TORD Torodi Ar. Bea 146.12 284 PKPbc **PKPbc** 20 21 27.1 -0.1
comp=Z,2.9nm,0.4s,baz=78,slow=3.9,SNR=38
TORD Torodi Ar. Bea 146.12 284 **PKPdf** 20 21 25.9 -0.3
BDFB Brasilia 153.00 144 PKPbc **PKiKP** 20 21 45.4 +0.6
comp=Z,2.2nm,0.4s,baz=160,slow=5.5,SNR=3.3

*IDC **17** 20:12:18.9±1.1,42.98N×70.16E,h0km,mb3.9/2, mb1 4.0/10,mb1mx3.6/44,mbtmp3.9/10,ML3.5/8,MS3.4/1, Ms1 3.4/1,ms1mx2.2/48,Error ellipse: s-maj=13.8km s-min=8.1km az=18.0*
*NNC **17** 20:12:19.6±0.4,43.03N×70.18E,h11km±2km,mb4.4, mpv4.1,Error ellipse: s-maj=5.6km s-min=3.5km az=171.0*
*SOME **17** 20:12:20.9,42.97N×70.23E,h10km*
*KRNET **17** 20:12:21.1±0.1,42.91N×70.43E,mb3.8*

ISC 17 20:12:17.5±1.3,42.81N±0.02×70.28E±0.03,h12km±9km, n90,σ2§01/139,52C-29D,Central Kazakhstan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KK07 Karatay Array 0.32 30 ⇑P **Pb** 20 12 25.8 +0.6
KK07 ⇑S **Sb** 20 12 30.4 +0.1
KK08 Karatay Array 0.33 27 ⇑P **Pb** 20 12 25.7 +0.4
KK08 ⇑S **Sb** 20 12 30.3 -0.2
KK03 Karatay Array 0.33 29 ⇑P **Pb** 20 12 25.9 +0.6
KK03 ⇓S **Sb** 20 12 30.6 0.0
KK06 Karatay Array 0.33 32 ⇑P **Pb** 20 12 26.1 +0.7
KK06 ⇓S **Sb** 20 12 31.0 +0.3
KK01 Karatay Array 0.33 29 ⇑P **Pb** 20 12 25.9 +0.5
KK01 ⇓S **Sb** 20 12 30.8 0.0
KK02 Karatay Array 0.33 30 ⇑P **Pb** 20 12 26.0 +0.5
KK02 ⇑S **Sb** 20 12 30.8 0.0
KK31 Karatay Array 0.33 30 ⇑P **Pb** 20 12 26.0 +0.5
50nm,0.3s,baz=200,slow=18
KK31 ⇓S **Sb** 20 12 30.6 -0.2
660nm,0.4s,baz=232,slow=32,SNR=4.6
KK04 Karatay Array 0.34 29 ⇑P **Pb** 20 12 26.0 +0.5
KK04 ⇑S **Sb** 20 12 30.8 -0.1
KK09 Karatay Array 0.35 27 ⇑P **Pb** 20 12 26.0 +0.4
KK09 ⇑S **Sb** 20 12 30.8 -0.3
KK05 Karatay Array 0.35 30 ⇑P **Pb** 20 12 26.1 +0.5
KK05 ⇑S **Sb** 20 12 31.3 0.0
DZA Taraz 0.77 84 *eP* **Pn** 20 12 36.3 +2.0
166nm,0.2s
DZA *eS* **Sn** 20 12 47.4 +1.5
2μm,0.2s
TRKS Terek-Say 1.43 153 ⇓*iP* Pg 20 12 49.6 +4.6
baz=59
TRKS ⇓*iS* Sg 20 13 11.1 +7.5
baz=59
MNAS Manas 1.67 101 ⇑*iP* **Pg** 20 12 50.8 +1.3
baz=5.0
MNAS ⇑*iS* **Sg** 20 13 11.8 +0.6
baz=5.0
MRKS Merke 2.17 91 *eP* **Pg** 20 13 01.9 +2.9
27nm,0.3s
MRKS *eS* **Sg** 20 13 31.4 +4.3
398nm,0.3s
MRKS Merke 2.17 91 Pg **Pg** 20 12 60.0 +1.0
33nm,0.3s
MRKS Lg Lg 20 13 31.4
375nm,0.5s
ARSB Arslanbob 2.50 126 ⇓*iP* **Pg** 20 13 04.5 -0.9
baz=29
ARSB ⇓*iS* **Sg** 20 13 36.0 -1.8
baz=29
EKS2 Erkin-Say 2.58 92 ⇓*iP* **Pb** 20 13 04.3 +0.6
baz=95
EKS2 ⇓*iS* **Sb** 20 13 35.5 +0.1
baz=95
EKS2 Erkin-Say 2.58 92 P **Pg** 20 13 05.6 -1.3
SNR=13
AML Almayashu 2.61 104 ⇑*iP* **Pg** 20 13 05.4 -2.2
baz=7.0
AML ⇑*iS* **Sb** 20 13 37.4 +0.7
baz=7.0
AML Almayashu 2.61 104 P **Pg** 20 13 07.3 -0.2
SNR=15
BTK Batken 2.78 172 ⇑*iP* **Pg** 20 13 09.4 -1.4
baz=74
BTK ⇑*iS* **Sg** 20 13 44.9 -1.9
baz=74
AAK Ala-Archa 3.11 92 Pn **Pb** 20 13 13.1 +0.4
7.3nm,0.3s,baz=50,slow=2.2,SNR=18
AAK Lg Lg 20 13 59.8
28nm,0.3s,baz=19,slow=21,SNR=16
AAK Ala-Archa 3.11 92 ⇑*iP* **Pb** 20 13 11.7 -1.1
baz=94
AAK ⇑*iS* **Sb** 20 13 48.4 -2.3
baz=94
AAK Ala-Archa 3.11 92 P **Pb** 20 13 13.5 +0.8
SNR=15
AAK Ala-Archa 3.11 92 ⇓Pg **Pg** 20 13 17.3 +0.3
22nm,0.4s
AAK ⇓Lg Lg 20 13 59.3
54nm,0.5s
USP Ospenovka 3.12 80 ⇓*iP* **Pb** 20 13 11.4 -1.6
baz=82
USP ⇓*iS* **Sb** 20 13 47.9 -3.1
baz=82
USP Ospenovka 3.12 80 P **Pb** 20 13 11.4 -1.6
SNR=8.9
ARLS Aral 3.14 106 ⇑*iP* **Pb** 20 13 12.6 -0.8
baz=9.0
ARLS ⇑*iS* **Sb** 20 13 50.5 -1.2
baz=9.0
FRU1 Bishkek 3.20 89 ⇑*eP* **Pb** 20 13 12.6 -1.6
baz=90
FRU1 ⇑*iS* **Sb** 20 13 50.0 -3.2
baz=90
SGDS Sogindy 3.24 77 Pg **Pg** 20 13 18.8 -0.8
27nm,0.4s
SGDS Lg Lg 20 14 02.2
110nm,0.4s
CHMS Chumysh 3.29 85 ⇑*eP* **Pb** 20 13 13.8 -2.0
baz=87
CHMS ⇑*iS* **Sb** 20 13 52.5 -3.2
baz=87
CHMS Chumysh 3.29 85 P **Pb** 20 13 14.2 -1.6
SNR=5.9
KBK Karagaybulak 3.44 91 ⇓*iP* **Pb** 20 13 16.4 -2.0
baz=93
KBK ⇓*iS* **Sb** 20 13 56.3 -4.0
baz=93
KBK Karagaybulak 3.44 91 P **Pb** 20 13 17.6 -0.8
SNR=9.2
BTLS Baital 3.51 49 *eP* **Pg** 20 13 24.2 -0.6
13nm,0.2s
BTLS *eS* **Sg** 20 14 09.4 -0.9
41nm,0.5s
DRK Karamyk 3.52 161 ⇓*iP* **Pb** 20 13 19.9 0.0
baz=63
DRK ⇓*iS* **Sb** 20 14 02.4 -0.4
baz=63
SFK Sufi-Kurgan 3.70 138 ⇑*iP* **Pb** 20 13 21.5 -1.4
baz=40
SFK ⇑*iS* **Sb** 20 14 05.3 -2.5
baz=40
GAR Garm 3.81 180 ⇑*iP* **Pb** 20 13 24.2 -0.5
baz=81
GAR ⇑*iS* **Sb** 20 14 10.3 -0.6
baz=81
TKM2 Tokmak 2 3.91 87 ⇑*iP* **Pb** 20 13 22.5 -3.9
baz=88
TKM2 ⇑*iS* **Sn** 20 14 07.5 +4.1
baz=88
TKM2 Tokmak 2 3.91 87 P **Pb** 20 13 22.7 -3.7
SNR=10.0
TKM2 Tokmak 2 3.91 87 ⇓Pn **Pb** 20 13 22.5 -3.9
2.0nm,0.4s
TKM2 ⇑Pg **Pg** 20 13 32.7 +0.5
23nm,0.6s
TKM2 ⇓Lg Lg 20 14 23.3
43nm,0.5s
DGS Degeres 4.05 82 *eP* **Pg** 20 13 34.6 -0.3
96nm,0.5s
DGS *eS* **Sg** 20 14 27.5 +0.1
101nm,0.5s
DGS Degeres 4.05 82 Pg **Pg** 20 13 34.6 -0.3
96nm,0.5s
DGS Lg Lg 20 14 27.5
101nm,0.5s
KST Kastek 4.18 85 *eP* **Pg** 20 13 37.2 -0.2

	81nm,0.6s								
KST					*e*S		**Sg**	20 14 32.5	**+1.0**
	102nm,0.9s								
KST	**Kastek**	**4.18**	**85**		Pg		**Pg**	20 13 37.2	**-0.2**
	81nm,0.6s								
KST					Lg		Lg	20 14 32.5	
	102nm,0.9s								
ULHL	**Ulahol**	**4.44**	**95**	⇓	*i*P		Pb	20 13 30.5	-5.0
	baz=97								
ULHL				⇓	*i*S		**Sn**	20 14 20.7	**+4.1**
	baz=97								
KUU	**Kurty**	**4.54**	**74**		*e*P		**Pg**	20 13 43.5	**-1.0**
	16nm,0.3s								
KUU					*e*S		**Sg**	20 14 43.6	**+0.3**
	96nm,0.5s								
KUU	**Kurty**	**4.54**	**74**		Pg		**Pg**	20 13 43.5	**-1.0**
	16nm,0.3s								
KUU					Lg		Lg	20 14 43.6	
	96nm,0.5s								
IZV	**Izvestkoviy**	**4.65**	**85**		*e*P		**Pg**	20 13 47.1	**+0.6**
	29nm,0.7s								
IZV					*e*S		**Sg**	20 14 49.0	**+2.2**
	114nm,0.5s								
IZV	**Izvestkoviy**	**4.65**	**85**		Pg		**Pg**	20 13 47.2	**+0.6**
	29nm,0.7s								
IZV					Lg		Lg	20 14 49.0	
	114nm,0.5s								
KTBS	**Karatobe**	**4.76**	**77**		*e*P		**Pg**	20 13 47.0	**-1.6**
	16nm,0.3s								
KTBS					*e*S		**Sg**	20 14 48.7	**-1.5**
	106nm,0.4s								
KTBS	**Karatobe**	**4.76**	**77**		Pg		**Pg**	20 13 47.0	**-1.6**
	16nm,0.3s								
KTBS					Lg		Lg	20 14 48.7	
	106nm,0.4s								
KNDC	**Almaty**	**4.92**	**83**	⇓	Pg		**Pg**	20 13 52.9	**+1.3**
	40nm,0.5s								
KNDC				⇑	Lg		Lg	20 14 53.4	
	95nm,0.5s								
MDOK	**Medeo**	**4.97**	**84**		*e*P		**Pg**	20 13 52.0	**-0.7**
	17nm,0.6s								
MDOK					*e*S		**Sg**	20 14 58.3	**+1.2**
	33nm,0.8s								
MDOK	**Medeo**	**4.97**	**84**	⇑	Pg		**Pg**	20 13 50.8	**-1.9**
	17nm,0.7s								
MDOK				⇓	Lg		Lg	20 14 55.8	
	85nm,0.9s								
MDOK	**Medeo**	**4.97**	**84**		Pg		**Pg**	20 13 52.0	**-0.7**
	17nm,0.6s								
MDOK					Lg		Lg	20 14 58.3	
	33nm,0.8s								
CHKK	**Chushkaly**	**5.00**	**76**		*e*P		**Pg**	20 13 52.0	**-1.2**
	8.2nm,0.5s								
CHKK					*e*S		**Sg**	20 14 57.4	**-0.6**
	79nm,0.4s								
CHKK	**Chushkaly**	**5.00**	**76**		Pg		**Pg**	20 13 52.0	**-1.2**
	8.2nm,0.5s								
CHKK					Lg		Lg	20 14 57.3	
	79nm,0.4s								
KOTS	**Kotyrbulak**	**5.02**	**83**		*e*P		**Pg**	20 13 53.8	**+0.1**
	36nm,0.4s								
KOTS					*e*S		**Sg**	20 15 00.4	**+1.7**
	50nm,0.5s								
KOTS	**Kotyrbulak**	**5.02**	**83**		Pg		**Pg**	20 13 53.8	**+0.1**
	36nm,0.4s								
KOTS					Lg		Lg	20 15 00.4	
	50nm,0.5s								
OTUK	**Ortayu**	**5.62**	**14**	⇑	Pn		**Pn**	20 13 42.8	**+1.9**
	13nm,0.7s								
OTUK				⇑	Sn		**Sn**	20 14 44.8	**-0.5**
	25nm,0.3s								
OTUK				⇑	Lg		Lg	20 15 10.5	
	24nm,0.7s								
ARXS	**Arharly**	**5.66**	**73**		*e*P		**Pg**	20 14 04.1	**-1.7**
	29nm,0.7s								
ARXS					*e*S		**Sg**	20 15 18.2	**-0.9**
	50nm,0.4s								
ARXS	**Arharly**	**5.66**	**73**		Pg		**Pg**	20 14 04.1	**-1.7**
	29nm,0.7s								
ARXS					Lg		Lg	20 15 18.2	
	50nm,0.4s								
KURS	**Kuram**	**5.81**	**81**		*e*P		**Pg**	20 14 07.1	**-1.5**
	10nm,0.7s								
KURS					*e*S		**Sg**	20 15 23.5	**-0.3**
	27nm,0.8s								
KURS	**Kuram**	**5.81**	**81**		Pg		**Pg**	20 14 07.1	**-1.5**
	10nm,0.7s								
KURS					Lg		Lg	20 15 23.5	
	27nm,0.8s								
SATY	**Saty**	**5.97**	**85**		*e*P		**Pg**	20 14 12.0	**+0.3**
	7.4nm,0.5s								
SATY					*e*S		**Sg**	20 15 32.6	**+3.7**
	32nm,0.5s								
SATY	**Saty**	**5.97**	**85**		Pg		**Pg**	20 14 12.0	**+0.3**
	7.4nm,0.5s								
SATY					Lg		Lg	20 15 32.6	
	32nm,0.5s								
KPKS	**Kokpek**	**6.18**	**81**		*e*P		**Pg**	20 14 13.2	**-2.5**
	26nm,0.5s								
KPKS					*e*S		**Sg**	20 15 32.9	**-2.9**
	73nm,0.6s								
SHLS	**Shalkode**	**6.74**	**84**		*e*P		Pg	20 14 33.6	+7.1
	8.3nm,0.8s								
SHLS					*e*S		Sg	20 16 09.0	+15
	52nm,1.0s								
SHLS	**Shalkode**	**6.74**	**84**		Pg		Pg	20 14 33.6	+7.1
	8.3nm,0.8s								
SHLS					Lg		Lg	20 16 09.0	
	52nm,1.0s								
PDGK	**Podgornoye**	**6.76**	**83**		Pg		**Pg**	20 14 24.5	**-2.3**
	2.5nm,0.4s								
PDGK					Lg		Lg	20 15 54.0	
	14nm,0.9s								
PDGK	**Podgornoye**	**6.76**	**83**	⇓	Pg		**Pg**	20 14 24.6	**-2.3**
	6.4nm,0.7s								
PDGK				⇓	Lg		Lg	20 15 53.0	
	24nm,0.7s								
DJR	**Jarkent**	**7.07**	**74**		*e*P		**Pg**	20 14 29.1	**-3.7**
	2.4nm,0.5s								
DJR					*e*S		**Sg**	20 16 00.7	**-3.6**
	17nm,0.8s								
DJR	**Jarkent**	**7.07**	**74**		Pg		**Pg**	20 14 29.4	**-3.4**
	0.9nm,0.7s								
DJR					Lg		Lg	20 16 01.5	
	2.1nm,0.8s								
MAKZ	**Makanchi**	**9.22**	**60**	⇑	Pn		**Pn**	20 14 32.6	**+2.3**
	1.7nm,0.3s								
MAKZ				⇑	Sn		**Sn**	20 16 16.4	**+2.5**
	1.4nm,0.6s								
MAKZ				⇑	Lg		Lg	20 17 09.7	
	7.5nm,1.1s								
MK31	**Makanchi Array**	**9.41**	**61**	⇑	Pn		**Pn**	20 14 35.4	**+2.5**
	4.3nm,0.6s,baz=243,slow=15,SNR=80								
MK31				⇓	Sn		**Sn**	20 16 20.3	**+1.5**
	0.6nm,0.3s,baz=120,slow=38,SNR=4.3								
MK31				⇑	Lg		Lg	20 17 20.5	
	19nm,1.3s,baz=246,slow=28,SNR=4.3								
MKAR	**Makanchi Array**	**9.41**	**61**		Pn		**Pn**	20 14 35.5	**+2.5**
	2.2nm,0.3s,baz=244,slow=14,SNR=96								
MKAR					Sn		**Sn**	20 16 19.7	**+1.0**
	0.6nm,0.3s,baz=257,slow=22,SNR=5.8								
MKAR					Lg		Lg	20 17 18.8	
	0.7nm,0.3s,baz=256,slow=23,SNR=4.1								
KURBB	**Kurchatov Arra**	**9.64**	**33**		Pn		**Pn**	20 14 37.3	**+1.4**
	0.2nm,0.3s,baz=223,slow=13,SNR=8.5								
KURBB					Sn		**Sn**	20 16 21.7	**-2.5**
	0.1nm,0.3s,baz=241,slow=13,SNR=2.2								
KURBB					Lg		Lg	20 17 22.1	
	0.4nm,0.3s,baz=202,slow=25,SNR=11								
KURBB	**Kurchatov Arra**	**9.64**	**33**	⇑	Pn		**Pn**	20 14 36.4	**+0.4**
	3.4nm,0.9s								
KURBB				⇑	Lg		Lg	20 17 16.8	
	52nm,0.7s								
AB31	**Akbulak array**	**9.65**	**315**		Pn		**Pn**	20 14 34.7	**-1.4**
	1.6nm,0.5s,baz=123,slow=14,SNR=58								
AB31				⇑	Sn		**Sn**	20 16 20.9	**-3.5**
	3.0nm,0.6s,baz=118,slow=24,SNR=6.5								
BVAR	**Borovoye Array**	**10.22**	**0**		Pn		**Pn**	20 14 43.1	**-0.8**
	0.9nm,0.3s,baz=187,slow=18,SNR=16								
BVAR					Sn		**Sn**	20 16 33.3	**-5.0**
	1.3nm,0.3s,baz=148,slow=17,SNR=5.8								
BVAR					Lg		Lg	20 17 38.5	
	baz=200,slow=38,SNR=3.0								
BRVK	**Borovoye**	**10.25**	**360**	⇑	Pn		**Pn**	20 14 43.7	**-0.6**
	3.7nm,0.5s								
BRVK				⇑	Sn		**Sn**	20 16 34.6	**-4.5**
	2.9nm,0.5s								
GEYT	**Alibeck**	**10.48**	**246**		Pn		**Pn**	20 14 50.0	**+2.3**
	0.4nm,0.3s,baz=32,slow=14,SNR=2.8								
AKTO	**Aktyubinsk**	**11.36**	**316**		Pn		**Pn**	20 14 59.0	**-0.4**
	0.8nm,0.3s,baz=128,slow=12,SNR=15								
AKTO					Sn		**Sn**	20 16 59.8	**-6.5**
	0.5nm,0.3s,baz=360,slow=20,SNR=5.7								
AKTO					Lg		Lg	20 18 13.0	
	0.1nm,0.3s,baz=72,slow=20,SNR=0.9								
AKTO	**Aktyubinsk**	**11.36**	**316**	⇓	Pn		**Pn**	20 15 01.2	**+1.7**
	3.5nm,0.7s								
AKTO				⇓	Sn		**Sn**	20 17 00.7	**-5.5**
	6.8nm,1.1s								
ZALV	**Zalesovo Beam**	**14.71**	**36**		Pn		**Pn**	20 15 46.6	**+1.4**
	0.8nm,0.3s,baz=229,slow=14,SNR=10								
ZALV					Sn		**Sn**	20 18 25.7	**-2.3**
	0.2nm,0.3s,baz=222,slow=21,SNR=2.2								
ZALV					Lg		Lg	20 20 08.8	
	0.1nm,0.3s,baz=233,slow=23,SNR=2.2								
ARU	**Arti**	**15.57**	**335**		Pn		**Pn**	20 15 53.5	**-3.1**
	0.0nm,0.3s,baz=140,slow=8.4,SNR=8.5								
ARU					Sn		Sn	20 18 35.9	-13
	0.0nm,0.3s,baz=83,slow=21,SNR=1.7								
ARU					Lg		Lg	20 20 27.3	
	0.0nm,0.3s,baz=300,slow=21,SNR=1.0								
WSAR	**Wadi Sarin**	**21.79**	**210**		LR		LR	20 27 13.9	
	comp=Z,84nm,18.1s,baz=219,slow=41								
ARCES	**ARCESS Array B**	**35.16**	**335**		P		**P**	**20 19 12.4**	**+1.7**
	3.9nm,0.9s,baz=109,slow=9.1,SNR=5.1								
GERES	**GERESS Array B**	**39.10**	**299**		P		**P**	**20 19 46.8**	**+2.2**
	0.5nm,0.6s,baz=90,slow=8.0,SNR=4.1								

TEH ***17*** *20:32:20.9,31.62N×50.01E,h9km,ML3.3*
KISR ***17*** *20:32:20.9±0.6,31.48N×49.90E,h162km±55km,ML3.6*
THR ***17*** *20:32:23.2±0.4,31.64N×50.04E,h18km±5km,ML3.3*

ISC 17 20:32:21.5±0.9, 31.62N±0.03×50.00E±0.03, h10km, n42, σ1s54/47, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHK1	**Shahrekord**	**1.03**	**47**		*e*Pg	**Pg**		**20 32 40.0**	**-1.4**
SHK1					*e*			20 32 58.5	
	comp=Z,6μm,0.6s								
ABEH	**Behbahan**	**1.04**	**168**		*e*Pg	**Pn**		**20 32 41.8**	**-0.3**
ABEH					*e*Sg	**Sn**		**20 32 58.2**	**+1.5**
SHGR	**Shooshtar-Gavs**	**1.13**	**296**		*e*Pg	**Pn**		**20 32 44.7**	**+1.3**
SHGR					*e*Sg	**Sn**		**20 33 00.4**	**+1.5**
SHGR					IAML			20 33 02.6	
	comp=N,669nm,0.6s								
SHGR					IAML			20 33 08.2	
	comp=E,496nm,0.4s								
SHGR	**Shooshtar-Gavs**	**1.13**	**296**		*e*Pg	**Pn**		**20 32 44.7**	**+1.3**
AHWZ	**Ahwaz**	**1.19**	**256**		*e*Pg	**Pg**		**20 32 44.5**	**+0.1**
AHWZ					*e*Sg	**Sn**		**20 33 03.1**	**+2.6**
KLNJ	**Kolanjah**	**1.49**	**114**		*e*Pn	**Pb**		**20 32 48.7**	**-0.8**
IGAR	**Gharneh**	**1.90**	**65**		*e*Pn	**Pb**		**20 32 55.9**	**-0.5**
IGAR					*e*			20 33 28.8	
	comp=Z,2μm,0.5s								
IRAM	**Ramesheh**	**2.04**	**84**		*e*Pn	**Pb**		**20 32 57.9**	**-0.8**
IRAM					*e*			20 33 35.8	
	comp=Z,1μm,0.8s								
KHMZ	**Khomeyn**	**2.12**	**359**		*e*Pn	**Pb**		**20 32 59.6**	**-0.5**
KHMZ	**Khomeyn**	**2.12**	**359**		*e*Pn	**Pb**		**20 32 59.6**	**-0.5**
IKLH	**Kolahrood**	**2.16**	**38**		*e*Pn	**Pb**		**20 33 00.8**	**0.0**
IKLH					*e*			20 33 51.3	
	comp=Z,2μm,0.7s								
BMDN	**Meydan**	**2.27**	**334**		*e*Pn	**Pb**		**20 33 01.2**	**-1.6**
BMDN					*e*			20 33 50.9	
	comp=Z,2μm,0.4s								
IZEF	**Zefreh**	**2.35**	**57**		*e*Pn	**Pb**		**20 33 02.3**	**-1.8**
IZEF					*e*			20 33 46.8	
	comp=Z,660nm,0.5s								
KAZ1	**Kazerun**	**2.44**	**144**		*e*Pn	**Pb**		**20 33 03.8**	**-1.7**
KAZ1					*e*			20 33 38.3	
	comp=Z,5μm,0.1s								
IKFM	**Kafar-mosalman**	**2.63**	**317**		*e*Pn	**Pn**		**20 33 05.4**	**+1.4**
IDOB	**Doab**	**2.65**	**325**		*e*Pn	**Pn**		**20 33 05.3**	**+0.8**
NASN	**Na'in**	**2.66**	**63**		*e*Pn	**Pb**		**20 33 07.1**	**-2.2**
NASN	**Na'in**	**2.66**	**63**		*e*Pn	**Pb**		**20 33 07.1**	**-2.2**
HSAM	**Samen**	**2.84**	**336**		*e*			20 33 16.6	
	comp=Z,897nm,0.3s								
HSAM					*e*Pn	**Pn**		**20 33 08.7**	**+1.5**
UMR	**Umm Al-Rimmam**	**2.85**	**224**		*e*P	**Pn**		**20 33 07.8**	**+0.8**
MIB	**Mutribah**	**2.92**	**232**		*e*P	**Pn**		**20 33 08.9**	**+0.9**
MIB					*e*S	**Sn**		**20 33 44.3**	**+1.2**
MIB					IAML			20 33 48.5	
	comp=Z,166nm,0.4s								
ASAO	**Ashtian**	**2.92**	**0**		*e*Pn	**Pb**		**20 33 10.7**	**-3.1**
ASAO					*e*Sg	**Sg**		**20 33 54.1**	**-1.3**
ASAO	**Ashtian**	**2.92**	**0**		*e*Pn	**Pb**		**20 33 10.7**	**-3.1**
GHVR	**GHOM**	**3.05**	**21**		*e*Pn	**Pn**		**20 33 12.1**	**+2.2**
GHVR	**GHOM**	**3.05**	**21**		*e*Pn	**Pn**		**20 33 12.1**	**+2.2**
ISAD	**Sadrabad**	**3.15**	**84**		*e*Pn	**Pn**		**20 33 13.0**	**+1.5**
HAGD	**Aghdareh**	**3.27**	**348**		*e*Pn	**Pn**		**20 33 14.2**	**+1.1**
HAGD					*e*			20 34 13.8	
	comp=Z,853nm,0.9s								
ISFB	**Sefidab**	**3.31**	**34**		*e*Pn	**Pn**		**20 33 14.5**	**+1.0**
RST	**Umm Al-Ruwaisa**	**3.34**	**232**		*e*P	**Pn**		**20 33 14.0**	**+0.2**
IBZA	**Bozab**	**3.36**	**328**		*e*Pn	**Pn**		**20 33 15.1**	**+0.8**
IBZA					*e*			20 33 36.4	
	comp=Z,582nm,0.6s								
QRN	**Al-Qurain**	**3.38**	**213**		*e*P	**Pn**		**20 33 14.4**	**+0.1**
ANAR	**Anarak**	**3.52**	**63**		*e*Pn	**Pn**		**20 33 18.5**	**+2.1**
IALM	**Almabolaq**	**3.58**	**335**		*e*Pn	**Pn**		**20 33 18.2**	**+0.9**
KCHF	**Cheshme Sefid,**	**3.63**	**318**		*e*Pn	**Pn**		**20 33 18.8**	**+0.8**
IVRN	**Varamin**	**3.67**	**23**		*e*Pn	**Pn**		**20 33 19.6**	**+1.3**
IRAZ	**Razeghan**	**3.78**	**359**		*e*Pn	**Pn**		**20 33 21.4**	**+1.4**
ICHK	**Chekchek**	**3.80**	**79**		*e*Pn	**Pn**		**20 33 22.2**	**+1.9**
IGHG	**Ghaleghazi**	**3.95**	**314**		*e*Pn	**Pn**		**20 33 22.4**	**0.0**
IGHG					*e*			20 34 41.5	
	comp=Z,761nm,0.7s								
IDHR	**Dehrash**	**4.32**	**316**		*e*Pn	**Pn**		**20 33 27.4**	**0.0**
QSDN	**Sirdan**	**4.92**	**352**		*e*Pn	**Pn**		**20 33 37.3**	**+1.6**
ISHM	**Shahmirzad**	**5.00**	**32**		*e*Pn	**Pn**		**20 33 38.5**	**+1.7**
IGLO	**Ghaloghah**	**5.82**	**32**		*e*Pn	**Pn**		**20 33 50.3**	**+2.3**

IDC ***17*** *20:40:21.6±1.1,4.18N×121.31E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.7/35,mbtmp3.9/5,MS3.0/1,Ms1 3.0/1, ms1mx2.4/34,Error ellipse: s-maj=163.2km s-min=19.3km az=65.0*

ISC 17 20:40:23.2±1.2, 4.0N±0.1×121.0E±0.2, h10km, n8, σ0s71/7, mb3.9/5, 1C, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**4.50**	**32**		*e*P		**Pn**	**20 41 31.4**	**-0.1**
CGP	**Cagayan de Oro**	**5.76**	**40**	⇑	*e*P		**Pn**	**20 41 49.0**	**+0.2**
WRA	**Warramunga Arr**	**27.21**	**152**		P		**P**	**20 46 06.8**	**-0.6**
	2.4nm,0.7s,baz=333,slow=9.5,SNR=14								
ASAR	**Alice Springs**	**30.28**	**156**		P		**P**	**20 46 35.0**	**+0.3**
	0.9nm,0.7s,baz=334,slow=7.6,SNR=9.6								
JCJ	**Chichijima**	**30.62**	**39**		LR		LR	20 58 07.3	
	comp=Z,27nm,19.5s,baz=56,slow=35								
SONM	**Songino Array**	**45.41**	**346**		P		**P**	**20 48 42.6**	**+0.4**
	0.9nm,0.8s,baz=157,slow=7.8,SNR=5.5								
MKAR	**Makanchi Array**	**54.14**	**328**		P		**P**	**20 49 49.0**	**+0.4**
	0.7nm,0.6s,baz=129,slow=8.9,SNR=11								
ZALV	**Zalesovo Beam**	**57.83**	**336**		P		**P**	**20 50 13.7**	**-1.1**
	0.7nm,0.5s,baz=125,slow=5.9,SNR=3.7								

MAN 17 20:50:31.6, 16.20N×120.21E, h1km, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.34**	**302**		*e*P		Pg	20 50 38.0	-0.2
BOLP					*e*S		Sb	20 50 46.6	+0.1
SMPP	**San Manuel, Pa**	**0.45**	**96**		*e*P		Pg	20 50 40.0	-0.3
SMPP					*e*S		Sb	20 50 49.6	0.0
SAMP	**Sagada Mountai**	**1.10**	**37**		*e*P		Pg	20 50 52.1	-0.5
SAMP					*e*S		Sn	20 51 13.4	+3.4
ABRA	**Dolores**	**1.52**	**18**		*e*P		Pn	20 51 00.0	+0.1
ABRA					*e*S		Sg	20 51 21.9	+1.4
CAUP	**Cauayan**	**1.71**	**64**		*e*P		Pn	20 51 03.2	+0.6
CAUP					*e*S		Sg	20 51 29.4	+2.7
APYP	**Conner**	**1.93**	**31**		*e*P		Pb	20 51 07.9	+0.4
APYP					*i* S		Sg	20 51 35.0	+1.5
LQP	**Lukban**	**2.44**	**148**	⇑	*e*P		Pn	20 51 13.6	+0.8

JMA 17 20:53:54.8, 35.14N×135.46E, h13km, M2.6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.15**	**341**		P		Pg	20 53 58.5	0.0
JWT					S		Sg	20 54 00.9	-0.2
JHE	**Heguri**	**0.52**	**159**		P		Pg	20 54 04.7	-0.3
JHE					S		Sg	20 54 11.9	0.0
JKS	**Kasai**	**0.53**	**253**		P		Pg	20 54 04.9	-0.3
JKS					S		Sg	20 54 11.9	-0.3
JKY	**Yasaka**	**0.57**	**329**		P		Pg	20 54 05.8	-0.1
JKY					S		Sg	20 54 13.6	+0.1
JKSM	**Kasumi**	**0.79**	**305**		P		Pg	20 54 09.7	-0.4
JKSM					S		Sg	20 54 20.1	-0.4
JAWN	**Awajishima-nag**	**0.80**	**215**		P		Pg	20 54 10.0	-0.3
JAWN					S		Sg	20 54 20.5	-0.2
TSUJ	**Tsu 2**	**0.90**	**118**		P		Pg	20 54 11.6	-0.5
TSUJ					S		Sg	20 54 22.8	-1.1
JWY	**Kouya**	**0.93**	**173**		P		Pg	20 54 11.9	-0.8
JWY					S		Sg	20 54 23.8	-1.0
MAT	**Matsushiro**	**2.63**	**57**		P		Pb	20 54 43.5	+1.6
MAT					*e*S		Sg	20 55 18.2	-1.3

NNC 17 21:04:29.5±9.2, 37.00N×71.20E, h6km±283km, mb3.8, mpv3.4, 4C-2D, Error ellipse: s-maj=316.9km s-min=39.8km az=6.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**355**	⇑	P		Pn	21 06 00.5	+0.1
	2.5nm,0.3s,baz=180,slow=13,SNR=28								
KK31				⇑	S		Sn	21 07 12.2	+1.4
	2.0nm,0.6s,baz=174,slow=22,SNR=5.2								
AAK	**Ala-Archa**	**6.17**	**23**	⇓	P		Pn	21 06 00.4	-0.9
	2.0nm,0.7s								
AAK				⇓	S		Sn	21 07 12.3	0.0
	1.2nm,0.5s								
TKM2	**Tokmak 2**	**6.81**	**28**	⇑	P		Pn	21 06 10.9	+0.8
	2.1nm,1.1s								
TKM2				⇑	S		Sn	21 07 29.9	+1.9
	0.8nm,0.6s								

NNC 17 21:09:57.5±2.2, 37.06N×71.08E, h0km, mb3.8, mpv3.4, 1C-5D, Error ellipse: s-maj=17.3km s-min=16.2km az=136.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.05**	**356**	⇓	P		Pn	21 11 27.8	-0.5
	0.6nm,0.3s,baz=183,slow=13,SNR=15								
KK31				⇓	S		Sn	21 12 39.8	+1.5
	1.9nm,0.7s,baz=185,slow=25,SNR=5.7								
AAK	**Ala-Archa**	**6.16**	**24**	⇓	P		Pn	21 11 30.2	+0.3
	2.7nm,0.6s								
AAK				⇑	S		Sn	21 12 42.0	+0.9
	1.7nm,0.6s								
TKM2	**Tokmak 2**	**6.81**	**29**	⇓	P		Pn	21 11 39.0	+0.2
	2.9nm,0.6s								
TKM2				⇓	S		Sn	21 12 58.3	+1.2
	1.0nm,0.6s								

NNC ***17*** *21:32:40.1±0.4,42.87N×70.31E,h8km±40km,mb2.9, mpv2.1,Error ellipse: s-maj=43.4km s-min=6.1km az=4.0*
KRNET ***17*** *21:32:41.4±0.1,42.96N×70.18E,mb2.4*

ISC 17 21:32:42.1±2.9, 43.0N±0.2×70.2E±0.2, h1km±21km, n18, σ0s67/34, 29C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**0.25**	**59**	⇑	P		**Pg**	**21 32 46.4**	**-0.5**
KK08				⇑	S		**Sg**	**21 32 51.0**	**+0.8**
KK07	**Karatay Array**	**0.25**	**63**	⇑	P		**Pg**	**21 32 46.5**	**-0.5**
KK07				⇑	S		**Sg**	**21 32 51.0**	**+0.8**
KK03	**Karatay Array**	**0.26**	**60**	⇑	P		**Pg**	**21 32 46.5**	**-0.6**
KK03				⇓	S		**Sg**	**21 32 51.2**	**+0.8**
KK01	**Karatay Array**	**0.26**	**60**	⇑	P		**Pg**	**21 32 46.6**	**-0.6**
KK01				⇑	S		**Sg**	**21 32 51.5**	**+0.8**
KK04	**Karatay Array**	**0.27**	**59**	⇑	P		**Pg**	**21 32 46.7**	**-0.5**
KK04				⇓	S		**Sg**	**21 32 51.5**	**+0.8**
KK02	**Karatay Array**	**0.27**	**61**	⇑	P		**Pg**	**21 32 46.7**	**-0.6**
KK02				⇑	S		**Sg**	**21 32 51.5**	**+0.8**
KK31	**Karatay Array**	**0.27**	**61**	⇓	P		**Pg**	**21 32 46.7**	**-0.5**
	0.4nm,0.2s,baz=207,slow=3.3,SNR=651								
KK31				⇑	S		**Sg**	**21 32 51.3**	**+0.6**
	5.8nm,0.2s,baz=234,slow=41,SNR=5.3								
KK09	**Karatay Array**	**0.27**	**57**	⇑	P		**Pg**	**21 32 46.7**	**-0.5**
KK09				⇑	S		**Sg**	**21 32 51.5**	**+0.7**
KK06	**Karatay Array**	**0.27**	**64**	⇑	P		**P

43nm,0.3s,baz=16,slow=18,SNR=5.4
JTS Las Juntas de 1.26 99 *e*P **Pb 21 41 38.7 -1.9**
JTS Las Juntas de 1.26 99 Pb 21 41 38.6 -2.0
CAO2 Cobano, Puntar 1.36 126 Pn **Pb 21 41 42.5 +0.3**
LAFE Finca La Fe, P 1.46 118 *e*P **Pn 21 41 40.0 -1.3**
ARE1 Arenal 1 1.48 91 *e*P **Pb 21 41 43.0 -1.2**
MASN Masaya 1.48 3 Pn **Pb 21 41 43.6 -0.7**
FORC Fortuna 1.52 91 *i* P **Pb 21 41 43.1 -1.9**
JACO JACO, Garabito 1.75 118 *e*P **Pb 21 41 46.6 -2.1**
JACO JACO, Garabito 1.75 118 Pb 21 41 46.2 -2.5
ACON Acoyapa 1.79 35 Pb 21 41 46.6 -2.8
COVE Coope Vega, Sa 1.80 85 Pn **Pb 21 41 47.7 -1.9**
BOAB BOACO BROADBAN 2.02 16 Pn **Pb 21 41 49.4 -3.9**
CNGN Cerro Negro 2.05 347 Pn **Pb 21 41 50.1 -3.8**
HDC Heredia 2.13 103 Pn **Pb 21 41 51.8 -3.5**
CRIN San Cristobal 2.34 340 Pn **Pn 21 41 53.3 -0.1**
RIMA Rio Macho 2.43 107 Pb 21 41 56.7 -3.8
MATN Matagalpa 2.44 7 Pn **Pb 21 41 57.4 -3.2**
CVTR Volcan Turrial 2.47 101 *e*P **Pb 21 41 58.8 -2.4**
CVTR Volcan Turrial 2.47 101 Pn **Pb 21 41 58.1 -3.1**
ESPN Las Esperanzas 2.53 48 Pn **Pb 21 41 57.4 -4.6**
CDM Cerro de Muert 2.59 111 *e*P **Pn 21 41 58.0 +0.6**
PEZE Perez Zeledon, 2.74 114 Pb 21 42 01.1 -4.5
DRK0 Durika 3.18 112 Pn 21 42 06.3 +1.1
RIOS Rincon, Osa 3.21 124 Pn **Pn 21 42 07.2 +1.8**
TGUH Tegucigalpa,Un 3.69 344 Pn 21 42 13.2 +1.1
MTO3 Montecristo 4.95 322 Pn 21 42 29.7 +0.2
APG El Apazote 6.10 318 Pn **Pn 21 42 44.8 -0.6**
1.2nm,0.3s,baz=123,slow=18,SNR=1.4
CMIG Matias Romero 10.66 309 Pn **Pn 21 43 48.6 +0.8**
0.4nm,0.3s,baz=85,slow=4.9,SNR=5.1
152A Waverly Hall 22.11 3 P **P 21 46 10.6 +0.7**
152A IAmb IAmb 21 46 13.0
comp=E,24nm,1.1s
143A Socs Landing, 22.61 349 P **P 21 46 15.3 0.0**
143A IAmb IAmb 21 46 16.3
comp=Z,12nm,0.8s
Z51A Franklin 22.73 2 P **P 21 46 17.0 +0.5**
435B Jarrell 22.78 334 P **P 21 46 17.0 -0.1**
435B IAmb IAmb 21 46 19.1
comp=Z,11nm,0.5s
GOGA Godfrey 22.95 6 P **P 21 46 19.0 +0.2**
Y49A Blount Mountai 23.25 360 P **P 21 46 22.4 +0.5**
Y52A Lilburn 23.34 5 P **P 21 46 22.6 -0.2**
Y52A IAmb IAmb 21 46 24.2
comp=Z,11nm,0.8s
HODGE Hodges 23.90 8 P **P 21 46 28.3 +0.2**
HODGE IAmb IAmb 21 46 29.3
comp=Z,10nm,0.8s
PLAL Pickwick Lake 24.43 356 P **P 21 46 33.0 0.0**
BG3 Lake Jocassee 24.57 7 P **P 21 46 34.4 +0.1**
BG3 IAmb IAmb 21 46 36.0
comp=Z,13nm,0.8s
W52A Murphy 24.57 5 P **P 21 46 34.4 +0.1**
W52A IAmb IAmb 21 46 35.9
comp=Z,16nm,0.9s
W50A Signal Mountai 24.61 2 P **P 21 46 33.7 -0.9**
BIRD Birdtown, Kers 24.61 11 P **P 21 46 34.4 -0.2**
BIRD IAmb IAmb 21 46 36.0
comp=Z,11nm,0.9s
SWET Sewanee 24.61 1 P **P 21 46 33.9 -0.8**
TXAR Lajitas Array 24.84 321 P **P 21 46 37.9 +1.0**
comp=Z,2.9nm,0.7s,baz=137,slow=10,SNR=25
TXAR PcP **PcP 21 50 16.2 +3.5**
comp=Z,0.7nm,0.8s,baz=137,slow=4.5,SNR=6.5
TXAR Lajitas Array 24.84 321 P **P 21 46 37.8 +0.9**
TX31 Lajitas Ar. Si 24.84 321 P **P 21 46 37.5 +0.6**
MIAR Mount Ida 24.86 345 P **P 21 46 36.4 -0.5**
CPCT Cooper Cave 24.89 3 P **P 21 46 36.9 -0.2**
CPCT IAmb IAmb 21 46 39.8
comp=Z,10nm,1.1s
KMSC Kings Mountain 24.93 10 P **P 21 46 37.8 +0.3**
KMSC IAmb IAmb 21 46 39.3
comp=Z,14nm,0.8s
TKL Tuckaleechee C 25.15 5 P **P 21 46 39.4 -0.1**
comp=Z,5.0nm,0.8s,baz=176,slow=11,SNR=7.0
TKL Tuckaleechee C 25.15 5 P **P 21 46 39.7 +0.2**
V53A Saluda 25.25 7 P **P 21 46 40.8 +0.3**
V53A IAmb IAmb 21 46 42.6
comp=Z,6.2nm,0.7s
ABTX Abilene, Hawle 25.26 333 P **P 21 46 41.3 +0.7**
V58A Windy Hill, Pi 26.00 13 P **P 21 46 47.5 +0.3**
V58A IAmb IAmb 21 46 48.1
comp=Z,10nm,0.8s
WMOK Wichita Mounta 26.72 337 P **P 21 46 56.0 +2.3**
S51A Beattyville 27.13 5 P **P 21 46 57.1 -0.2**
S51A IAmb IAmb 21 46 58.6
comp=Z,9.2nm,0.8s
R55A Marlinton 28.20 10 P **P 21 47 07.4 +0.3**
R55A IAmb IAmb 21 47 08.3
comp=Z,5.8nm,0.8s
Q51A Peebles 28.53 5 P **P 21 47 09.3 -0.5**
Q52A Bidwell 28.57 6 P **P 21 47 10.2 0.0**
Q54A Coxs Mills 28.77 9 P **P 21 47 12.3 +0.3**
Q54A IAmb IAmb 21 47 13.2
comp=Z,9.1nm,0.8s
P52A Corning 29.24 6 P **P 21 47 16.0 -0.2**
Q52A Adamsville 29.75 7 P **P 21 47 20.5 -0.2**
N49A Columbus Grove 30.36 3 P **P 21 47 25.4 -0.7**
N53A Lisbon 30.56 8 P **P 21 47 27.4 -0.5**
N53A IAmb IAmb 21 47 28.1
comp=Z,7.6nm,0.7s
SSPA Standing Stone 30.91 12 P **P 21 47 30.7 -0.2**
SSPA IAmb IAmb 21 47 32.1
comp=Z,6.2nm,0.7s
M53A WI Miller and 31.20 8 P **P 21 47 33.0 -0.5**
M57A Sunshine Farm, 31.75 13 P **P 21 47 38.3 0.0**
M57A IAmb IAmb 21 47 39.3
comp=Z,6.1nm,0.7s
LONY Lake Ozonia 35.45 14 P **P 21 48 09.4 -1.1**
LONY IAmb IAmb 21 48 10.5
comp=Z,6.5nm,0.8s
G62A West of Eustis 37.13 18 P **P 21 48 25.2 +0.4**
PDAR Pinedale Array 38.05 332 P **P 21 48 32.3 -0.7**
comp=Z,0.2nm,0.5s,baz=133,slow=10.0,SNR=2.3
LMN Caledonia Moun 39.70 24 P **P 21 48 46.3 -0.2**
NVAR Mina Array Bea 39.96 319 P **P 21 48 51.3 +2.3**
comp=Z,2.1nm,0.7s,baz=145,slow=6.9,SNR=5.8
NVAR Mina Array Bea 39.96 319 P **P 21 48 50.7 +1.7**
KBO Bosley Butte 45.83 320 P **P 21 49 37.8 +1.5**
SCHQ Schefferville 46.81 15 P **P 21 49 41.5 -2.2**
comp=Z,4.4nm,0.7s,baz=95,slow=18,SNR=4.1
PLCA Paso Flores 52.99 165 LR LR 22 09 48.1
comp=Z,47nm,18.6s,baz=172,slow=32
ILAR Eielson Array 68.28 336 P **P 21 52 14.1 -0.6**
comp=Z,0.5nm,0.9s,baz=127,slow=4.1,SNR=4.4
ESDC Sonseca Array 77.45 52 P **P 21 53 08.0 -1.6**
comp=Z,0.5nm,0.9s,baz=274,slow=6.0,SNR=2.8
MKAR Makanchi Array 122.05 9 PKP **PKiKP 22 00 08.5 -0.4**
comp=Z,0.1nm,0.7s,baz=34,slow=5.9,SNR=2.2
KSRS Korea Array 122.56 328 PKP **PKiKP 22 00 11.8 +1.7**
comp=Z,1.5nm,0.8s,baz=18,slow=1.1,SNR=6.1
ASAR Alice Springs 139.62 246 PKP **PKiKP 22 00 47.1 +2.3**
comp=Z,0.2nm,0.5s,baz=54,slow=4.7,SNR=4.2
WRA Warramunga Arr 139.84 252 PKP **PKiKP 22 00 46.5 +1.1**
comp=Z,0.4nm,0.7s,baz=90,slow=0.8,SNR=4.7
CMAR Chiang Mai Arr 150.78 350 PKPbc **PKiKP 22 01 08.9 +1.0**
comp=Z,0.6nm,0.3s,baz=321,slow=2.8,SNR=7.4

ROM ***17*** *22:04:48.9±0.1, 44°.628N±0°.009×7°.23E±0°.01, h15km±2km, ML2.8/16, Error ellipse: s-maj=1.0km s-min=0.8km az=59.0*
STR ***17*** *22:04:49.2±0.3, 45°.N±1°×±°, h3km, MLv2.8/15, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
GEN ***17*** *22:04:49.4, 44°.64N×7°.26E, h9km±2km, Ml2.6*
LDG ***17*** *22:04:49.5±0.1, 44°.63N×7°.26E, h8km, Md3.1/1, Ml3.1/41, Error ellipse: s-maj=1.1km s-min=0.8km az=56.0*
PRU ***17*** *22:04:54.2±0.0, 45°.27N×7°.21E, h0km*
ISC 17 22:04:49.1±0.9, 44°.64N±0°.01×7°.24E±0°.02, h18km±3km, n116, σ1s94/188, 7C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZZ	**Stroppo**	**0.16**	**215**	P	**Pg**	**22 04 53.4**	**-0.2**
PZZ				S	**Sg**	**22 04 55.4**	**-1.3**
PZZ	**Stroppo**	**0.16**	**215**	⇑P	**Pg**	**22 04 53.4**	**-0.2**
PZZ				S	**Sg**	**22 04 55.5**	**-1.1**
PZZ				AML	AML		
	comp=N,15850μm,0.3s						
PZZ				AML	AML		
	comp=N,15850μm,0.3s						
PZZ				AML	AML		
	comp=E,16100μm,1.3s						
SURF	**Saint Ours**	**0.34**	**243**	Pg	**Pg**	**22 04 56.5**	**0.0**
MBDF	**Montbardon**	**0.35**	**285**	*e*Pg	**Pg**	**22 04 56.4**	**-0.1**
MBDF				*e*Sg	**Sg**	**22 05 01.4**	**-0.2**
	comp=E,3μm,0.2s						
STV	**Sant Anna di V**	**0.40**	**171**	P	**Pg**	**22 04 57.1**	**-0.2**
STV				S	**Sg**	**22 05 02.2**	**-0.7**
ENR	**Entracque**	**0.43**	**163**	P	**Pg**	**22 04 57.6**	**-0.3**
ENR				S	**Sg**	**22 05 03.2**	**-0.7**
ENR	**Entracque**	**0.43**	**163**	⇑P	**Pg**	**22 04 57.6**	**-0.3**
ENR				S	**Sg**	**22 05 03.4**	**-0.4**
ENR				AML	AML		
	comp=E,1880μm,0.8s						
ENR				AML	AML		
	comp=N,2125μm,1.4s						
ISO	**Isola**	**0.47**	**197**	Pg	**Pg**	**22 04 58.7**	**0.0**
ISO				Sg	**Sg**	**22 05 04.6**	**-0.6**
RSP	**Reno Superiore**	**0.51**	**2**	P	**Pg**	**22 04 59.1**	**-0.3**
RSP				S	**Sg**	**22 05 05.6**	**-0.8**
RSP	**Reno Superiore**	**0.51**	**2**	⇓P	**Pg**	**22 04 59.1**	**-0.3**
RSP				S	**Sg**	**22 05 05.9**	**-0.5**
RSP				AML	AML		
	comp=E,1965μm,1.5s						
RSP				AML	AML		
	comp=N,2370μm,0.1s						
RSP				AML	AML		
	comp=E,2110μm,1.5s						
RSP				AML	AML		
	comp=N,2585μm,0.1s						
RSP				AML	AML		
	comp=N,2365μm,0.1s						
RSP				AML	AML		
	comp=E,1970μm,1.5s						
RSP				AML	AML		
	comp=E,2115μm,1.5s						
OGAG	**Argentiere**	**0.54**	**250**	Pg	**Pg**	**22 04 59.8**	**0.0**
OGAG				Sg	**Sg**	**22 05 06.7**	**-0.4**
BNI	**Bardonecchia**	**0.58**	**316**	⇑P	**Pg**	**22 05 00.9**	**+0.2**
BNI				S	**Sg**	**22 05 08.3**	**-0.2**
BNI				AML	AML		
	comp=E,860μm,0.2s						
BNI				AML	AML		
	comp=N,327μm,1.3s						
BNI				AML	AML		
	comp=E,1085μm,0.2s						
BNI				AML	AML		
	comp=N,394μm,1.4s						
BNI				AML	AML		
	comp=E,860μm,0.2s						
BNI				AML	AML		
	comp=E,1086μm,0.2s						
GBOS	**Grotte di Boss**	**0.58**	**133**	P	**Pg**	**22 05 00.6**	**-0.1**
GBOS				S	**Sg**	**22 05 08.1**	**-0.4**
GBOS	**Grotte di Boss**	**0.58**	**133**	⇑P	**Pg**	**22 05 00.6**	**-0.1**
GBOS				S	**Sg**	**22 05 08.1**	**-0.4**
GBOS				AML	AML		
	comp=N,999μm,0.7s						
GBOS				AML	AML		
	comp=E,724μm,0.1s						
MONC	**Moncucco Torin**	**0.65**	**48**	P	**Pb**	**22 05 02.9**	**+1.0**
MONC				AML	AML		
	comp=N,2195μm,0.3s						
MONC				AML	AML		
	comp=E,1995μm,0.3s						
MONC				AML	AML		
	comp=E,2000μm,0.3s						
TURF	**col de Turini**	**0.67**	**171**	Pg	**Pg**	**22 05 01.7**	**-0.7**
TURF				Sg	**Sg**	**22 05 10.2**	**-1.1**
SAOF	**Saorge**	**0.69**	**161**	P	**Pg**	**22 05 01.9**	**-0.8**
SAOF				S	**Sg**	**22 05 10.5**	**-1.3**
SAOF	**Saorge**	**0.69**	**161**	AML	AML		
	comp=E,372μm,1.4s						
SAOF				AML	AML		
	comp=N,364μm,0.2s						
OGMO	**Fort Saint-Gob**	**0.69**	**325**	Pg	**Pg**	**22 05 02.9**	**+0.1**
OGMO				Sg	**Sg**	**22 05 11.3**	**-0.8**
MGRO	**Montegrosso**	**0.72**	**146**	P	**Pg**	**22 05 02.5**	**-0.7**
MGRO				S	**Sg**	**22 05 11.5**	**-1.4**
MGRO	**Montegrosso**	**0.72**	**146**	P	**Pg**	**22 05 02.5**	**-0.7**
MGRO				AML	AML		
	comp=E,467μm,0.8s						
MGRO				AML	AML		
	comp=N,477μm,0.5s						
SBF	**Sospel**	**0.79**	**170**	*e*Pg	**Pg**	**22 05 03.6**	**-0.9**
SBF				*e*Sg	**Sg**	**22 05 13.8**	**-1.1**
	comp=N,159nm,0.2s						
RORO	**Rocca Rossa**	**0.79**	**131**	P	**Pg**	**22 05 04.0**	**-0.5**
RORO				S	**Sg**	**22 05 14.0**	**-1.0**
RORO	**Rocca Rossa**	**0.79**	**131**	P	**Pg**	**22 05 04.0**	**-0.5**
RORO				AML	AML		
	comp=N,612μm,0.3s						
RORO				AML	AML		
	comp=E,730μm,0.2s						
ESCA	**l'Escarene**	**0.81**	**173**	Pg	**Pg**	**22 05 04.1**	**-0.8**
ESCA				Sg	**Sg**	**22 05 15.1**	**-0.6**
LSD	**Lago del Serru**	**0.83**	**355**	P	**Pg**	**22 05 04.6**	**-0.7**
LSD				S	**Sg**	**22 05 15.5**	**-0.8**
LSD	**Lago del Serru**	**0.83**	**355**	P	**Pg**	**22 05 04.7**	**-0.6**
LSD				AML	AML		
	comp=N,1610μm,0.4s						
LSD				AML	AML		
	comp=E,1845μm,0.2s						
CANO	**Canova, Maglio**	**0.83**	**121**	P	**Pg**	**22 05 04.9**	**-0.4**
CANO				S	**Sg**	**22 05 15.7**	**-0.6**
QLNO	**Quiliano**	**0.85**	**111**	⇓P	**Pg**	**22 05 05.4**	**-0.2**
QLNO				S	**Sg**	**22 05 16.3**	**-0.6**
QLNO				AML	AML		
	comp=E,943μm,0.5s						
QLNO				AML	AML		
	comp=N,1250μm,0.4s						
OGDI	**Digne**	**0.86**	**232**	Pg	**Pn**	**22 05 07.6**	**+1.3**
OGDI				Sg	**Sn**	**22 05 19.8**	**+1.4**
IMI	**Imperia**	**0.86**	**147**	P	**Pg**	**22 05 05.1**	**-0.8**
IMI				S	**Sg**	**22 05 16.2**	**-1.2**
BURY	**Giardini Botan**	**0.88**	**165**	P	**Pb**	**22 05 05.3**	**-0.5**
BURY				AML	AML		
	comp=E,276μm,0.8s						
BURY				AML	AML		
	comp=N,308μm,1.3s						
MON	**Monaco**	**0.92**	**172**	Pg	**Pb**	**22 05 06.0**	**-0.4**
MON				Sg	**Sg**	**22 05 18.9**	**0.0**
LPG	**La Plagne**	**0.93**	**338**	*e*Pg	**Pb**	**22 05 07.1**	**+0.3**
LPG				*e*Sg	**Sb**	**22 05 19.4**	**+0.5**
	comp=N,285nm,0.3s						
PCP	**Piancastagn**	**0.94**	**95**	⇑P	**Pb**	**22 05 07.0**	**+0.2**
PCP				S	**Sb**	**22 05 18.9**	**0.0**
PCP				AML	AML		
	comp=E,1034μm,0.4s						
PCP				AML	AML		
	comp=N,955μm,0.3s						
TRAV	**Traversella**	**0.94**	**22**	AML	AML		
	comp=N,278μm,0.8s						
TRAV				AML	AML		
	comp=E,400μm,0.2s						
TRAV				AML	AML		
	comp=E,400μm,0.2s						
LPL	**La Plagne**	**0.95**	**338**	*e*Pg	**Pb**	**22 05 07.5**	**+0.3**
LPL				*e*Sg	**Sb**	**22 05 20.0**	**+0.5**
	comp=E,208nm,0.3s						
GDM	**Grand'Maison**	**0.98**	**306**	Pg	**Pb**	**22 05 08.2**	**+0.6**
GDM				Sg	**Sb**	**22 05 20.7**	**+0.4**
CIRO	**Champorcher**	**0.99**	**13**	P	**Pb**	**22 05 06.4**	**-1.5**
CIRO				AML	AML		
	comp=N,202μm,0.4s						
CIRO				AML	AML		
	comp=E,256μm,0.4s						
ORIF	**Oris-en-Rattie**	**1.01**	**287**	*e*Pg	**Pb**	**22 05 08.5**	**+0.4**
ORIF				*e*Sg	**Sb**	**22 05 21.1**	**0.0**
	comp=E,236nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.01**	**287**	Pg	**Pb**	**22 05 08.6**	**+0.4**
ORIF				Sg	**Sb**	**22 05 20.6**	**-0.5**
EILF	**Villa Eilenroc**	**1.09**	**184**	Pg	**Pb**	**22 05 09.8**	**+0.4**
BLAF	**les Blancs**	**1.10**	**232**	Pg	**Pb**	**22 05 10.9**	**+1.3**
RSL	**Roselend**	**1.14**	**338**	Pg	**Pb**	**22 05 11.0**	**+0.7**
RSL				Sg	**Sg**	**22 05 27.2**	**+1.1**
MRGE	**Morge**	**1.14**	**354**	⇑P	**Pb**	**22 05 10.5**	**+0.1**
MRGE				AML	AML		
	comp=E,246μm,0.5s						
MRGE				AML	AML		
	comp=N,300μm,0.7s						
FRF	**La Foret Royal**	**1.16**	**202**	*e*Pg	**Pn**	**22 05 10.7**	**+0.3**
FRF				*e*Sg	**Sb**	**22 05 26.0**	**+0.8**
	comp=N,373nm,0.3s						
GRN	**Grenoble 1.22 300**			Pg	**Pn**	**22 05 13.0**	**+1.6**
MLYF	**Mely 1.24 239**			Pg	**Pb**	**22 05 13.8**	**+1.7**
SATI	**Passo dei Sala 1.31 19**			AML	AML		
	comp=E,108μm,0.3s						
SATI				AML	AML		
	comp=N,90μm,0.9s						
SATI				AML	AML		
	comp=E,108μm,0.3s						
SATI				AML	AML		
	comp=N,90μm,0.9s						
SMRF	**Simiane la Rot 1.37 242**			*e*Pg	**Pn**	**22 05 14.9**	**+1.6**
SMRF				*e*Sg	**Sn**	**22 05 32.8**	**+1.8**
	comp=N,192nm,0.4s						
LMR	**La Mourre 1.41 202**			*e*Pg	**Pn**	**22 05 15.3**	**+1.5**
LMR				*e*Sg	**Sb**	**22 05 33.5**	**+1.1**
	comp=N,435nm,0.4s						
RUSF	**Rustrel 1.44 242**			Pn	**Pb**	**22 05 16.3**	**+0.9**
OGSM	**Saint Maurice 1.46 312**			Pn	**Pb**	**22 05 17.7**	**+1.9**
ARTF	**Artigues 1.48 225**			Pn	**Pn**	**22 05 16.6**	**+1.9**
MMK	**Mattmark 1.50 20**			AML	AML		
	comp=E,63μm,1.4s						
MMK				AML	AML		
	comp=N,91μm,0.3s						
VARE	**Varese 1.64 41**			P	**Pn**	**22 05 17.4**	**+0.3**
VARE				AML	AML		
	comp=E,92μm,0.2s						
VARE				AML	AML		
	comp=N,100μm,0.6s						
VARE				AML	AML		
	comp=N,100μm,0.6s						
OG35	**Corcelles 1.84 321**			Pn	**Pb**	**22 05 22.7**	**+0.5**
VIVF	**Saint-Julien-l 1.84 278**			*e*Pn	**Pn**	**22 05 20.2**	**+0.3**
VIVF	**Saint-Julien-l 1.84 278**			*e*P	**Pn**	**22 05 22.4**	**+2.5**
VIVF				*e*Sg	**Sb**	**22 05 47.7**	**+2.7**
	comp=N,123nm,0.5s						
CABF	**La Chapelle 2.13 338**			*e*P	**Pn**	**22 05 26.6**	**+2.7**
CABF	**La Chapelle 2.13 338**			*e*Pg	**Pb**	**22 05 28.8**	**+1.5**
CABF				*e*Sn	**Sn**	**22 05 49.7**	**-0.3**
	comp=N,24nm,0.3s						
TORNY	**Torny/Romont 2.15 355**			Pn	**Pb**	**22 05 27.1**	**-0.3**
TUE	**Stuetta 2.36 38**			P	**Pn**	**22 05 27.5**	**+0.4**
TUE				AML	AML		
	comp=E,60μm,0.2s						
TUE				AML	AML		
	comp=N,84μm,0.4s						
BRANT	**Les Verrieres 2.36 347**			Pn	**Pn**	**22 05 30.0**	**+2.9**
CARD	**Cardoso 2.40 104**			⇑P	**Pg**	**22 05 37.2**	**+2.0**
MAIM	**Mastiano 2.44 106**			P	**Pn**	**22 05 28.0**	**-0.1**
MAIM				AML	AML		
	comp=E,64μm,0.6s						
MAIM				AML	AML		
	comp=N,32μm,1.4s						
LASF	**Ste Croix 2.49 258**			*e*Pn	**Pn**	**22 05 29.0**	**+0.2**
LASF				*e*Sn	**Sn**	**22 05 58.6**	**-0.1**
	comp=N,11nm,0.3s						
PII	**Pisa 2.53 110**			P	**Pn**	**22 05 29.4**	**+0.2**
POPM	**Popiglio 2.59 102**			P	**Pn**	**22 05 30.3**	**+0.2**
POPM				AML	AML		
	comp=E,50μm,0.8s						
POPM				AML	AML		
	comp=N,41μm,1.1s						
BALST	**Balsthal 2.72 6**			Pn	**Pn**	**22 05 34.1**	**+2.2**
BOURR	**Bourrignon 2.76 360**			Pn	**Pn**	**22 05 34.3**	**+1.9**
LBL	**Lubilhac 2.90 283**			Pn	**Pn**	**22 05 34.7**	**+0.3**
SULZ	**Cheisacher 2.95 11**			Pn	**Pn**	**22 05 36.8**	**+1.7**
SMF	**Signal de Mont 3.12 311**			*e*P	**Pn**	**22 05 40.2**	**+2.9**
SMF				*e*Sn	**Sn**	**22 06 13.3**	**-0.8**
	comp=N,17nm,0.3s						
HINF	**Hinteralfeld 3.19 355**			*e*Pn	**Pn**	**22 05 38.5**	**+0.1**
HINF	**Hinteralfeld 3.19 355**			*e*Pg	**Pg**	**22 05 51.6**	**+1.4**
HINF				*e*Sn	**Sn**	**22 06 15.0**	**-1.0**
	comp=N,6.0nm,0.3s						
DAVA	**Damuels 3.23 34**			*e*Pn	**Pn**	**22 05 40.8**	**+1.9**
	comp=N,1.0nm,0.1s						
DAVA				*e*Sn	**Sn**	**22 06 17.3**	**+0.3**
	comp=N,12nm,0.2s						
SLE	**Schleitheim 3.25 15**			Pn	**Pn**	**22 05 39.7**	**+0.6**
FETA	**Feichten 3.41 44**			*i* Pn	**Pn**	**22 05 45.0**	**+3.5**
	comp=N,0.9nm,0.3s						
FETA				*e*Sn	**Sn**	**22 06 20.7**	**-0.8**
	comp=N,0.9nm,0.3s						
HAU	**Haudompre 3.43 350**			*e*P	**Pn**	**22 05 44.6**	**+3.0**
HAU				*e*Sn	**Sn**	**22 06 20.7**	**-1.0**
	comp=N,15nm,0.3s						
AVF	**Avril sur Loir 3.47 310**			*e*P	**Pn**	**22 05 45.5**	**+3.3**
AVF				*e*Sn	**Sn**	**22 06 21.8**	**-1.0**
	comp=N,3.9nm,0.3s						
AVF				*e*Sg	**Sg**	**22 06 39.1**	**-1.5**
	comp=N,19nm,0.6s						
LOR	**Lormes 3.54 319**			*e*P	**Pn**	**22 05 46.3**	**+3.2**
	baz=139						
LOR				*e*Sn	**Sn**	**22 06 23.2**	**-1.2**
	comp=N,13nm,0.4s						
SSF	**Saint Saulge 3.56 314**			*e*P	**Pn**	**22 05 46.7**	**+3.3**
SSF	**Saint Saulge 3.56 314**			*e*Pg	**Pg**	**22 05 57.3**	**0.0**
SSF				*e*Sn	**Sn**	**22 06 24.0**	**-1.1**
	comp=N,11nm,0.5s						
SSF				*e*Sg	**Sg**	**22 06 41.2**	**-2.3**
	comp=N,12nm,0.5s						
BGF	**Bois d'Agland 3.63 303**			*e*P	**Pn**	**22 05 47.9**	**+3.5**
BGF				*e*Sn	**Sn**	**22 06 25.8**	**-1.1**
BGF				*e*S	**Sb**	**22 06 32.3**	**-4.2**
BGF				*e*Sg	Sg	22 06 43.6	-2.2
	comp=N,35nm,0.4s						
CAF	**Calviac 3.70 276**			*e*P	**Pn**	**22 05 48.1**	**+2.8**
CAF				*e*Sn	**Sn**	**22 06 27.5**	**-1.0**
CAF				*e*Sg	**Sg**	**22 06 45.7**	**-2.1**
	comp=N,5.2nm,0.3s						
CDF	**Champ du Feu 3.78 0**			*e*Pn	**Pn**	**22 05 46.5**	**+0.1**
CDF	**Champ du Feu 3.78 0**			*e*P	**Pn**	**22 05 49.7**	**+3.2**
CDF				*e*Sn	**Sn**	**22 06 28.8**	**-1.6**
	comp=N,4.8nm,0.3s						
MOTA	**Moosalm 3.82 43**			*e*Pn	**Pn**	**22 05 48.4**	**+1.3**
	comp=N,0.8nm,0.2s						
MOTA				*e*Sn	**Sn**	**22 06 32.2**	**+0.7**
	comp=N,4.1nm,0.3s						
MTLF	**Montolieu 3.85 252**			*e*Pn	**Pn**	**22 05 47.6**	**+0.2**
MTLF	**Montolieu 3.85 252**			*e*P	**Pn**	**22 05 50.1**	**+2.7**
MTLF				*e*Sn	**Sn**	**22 06 30.7**	**-1.5**
	comp=N,6.3nm,0.3s						
SFTF	**Sexfontaines 3.88 338**			*e*P	**Pn**	**22 05 51.1**	**+3.3**
	baz=157						
SFTF				*e*Sn	**Sn**	**22 06 31.4**	**-1.5**
	comp=N,7.5nm,0.2s						
TCF	**Toulx Ste Croi 3.91 297**			*e*P	**Pn**	**22 05 51.8**	**+3.6**
TCF				*e*Sn	**Sn**	**22 06 32.3**	**-1.3**
	comp=N,0.7nm,0.2s						
WTTA	**Wattenberg 4.04 48**			*e*Pn	**Pn**	**22 05 52.5**	**+2.4**
	comp=N,1.1nm,0.2s						
WTTA				*e*Sn	**Sn**	**22 06 38.5**	**+1.5**
	comp=N,2.1nm,0.3s						
WATA	**Walderalm 4.05 47**			*e*Pn	**Pn**	**22 05 54.5**	**+4.2**
	comp=N,1.6nm,0.4s						
PAGF	**Fort de Pagny 4.06 346**			*e*P	**Pn**	**22 05 53.7**	**+3.5**
	baz=165						
PAGF				*e*Sn	**Sn**	**22 06 35.6**	**-1.6**
	comp=N,4.5nm,0.3s						
RJF	**Les Rejaudoux 4.12 281**			*e*P	**Pn**	**22 05 53.9**	**+2.8**
RJF				*e*Sn	**Sn**	**22 06 37.3**	**-1.5**
RJF				*e*Sg	**Sg**	**22 06 58.5**	**-2.8**
	comp=N,7.7nm,0.5s						
HYF	**Humbligny 4.15 311**			*e*Sn	**Sn**	**22 06 38.1**	**-1.5**
HYF				*e*Sg	**Sg**	**22 06 59.7**	**-2.6**
MEZF	**Maizieres J'vi 4.15 339**			*e*P	**Pn**	**22 05 55.0**	**+3.5**
MEZF				*e*Sn	**Sn**	**22 06 38.1**	**-1.4**
	comp=N,6.8nm,0.3s						
MEZF				*e*Sg	**Sg**	**22 06 59.5**	**-2.8**
	comp=N,9.0nm,0.3s						
SAVF	**Savonnieres en 4.24 341**			*e*P	**Pn**

BAIF				*e*Sn		**Sn**	**22 07 17.4**	**-2.8**
	comp=N,3.0nm,0.4s								
MOA	**Molln**	**5.83**	**54**	*e*Pn		**Pn**	**22 06 16.7**	**+2.0**
	comp=N,0.8nm,0.4s								
MOA				*e*Sn		**Sn**	**22 07 18.6**	**-2.4**
	comp=N,0.9nm,0.3s								
ETSF	**Etsaut**	**5.91**	**256**	*e*P		**Pn**	**22 06 20.4**	**+4.6**
ETSF				*e*Sn		**Sn**	**22 07 20.1**	**-3.0**
	comp=N,0.8nm,0.2s								
KHC	**Kasperske Hory**	**6.25**	**42**	*e*PN		**Pn**	**22 06 20.6**	**+0.3**
KHC				*e*SN		**Sn**	**22 07 26.5**	**-4.8**
SJPF	**Ste Jean**	**6.31**	**259**	*e*Pn		**Pn**	**22 06 20.6**	**-0.6**
SJPF				*e*Sn		**Sn**	**22 07 29.3**	**-3.4**
	comp=N,0.7nm,0.4s								
CKRC	**Cesky Krumlov**	**6.41**	**47**	*e*SN		**Sn**	**22 07 30.8**	**-4.4**
LDF	**La Druitiere**	**6.43**	**311**	*e*P		**Pn**	**22 06 26.8**	**+4.0**
LDF				*e*Sn		**Sn**	**22 07 32.4**	**-3.3**
	comp=N,2.5nm,0.4s								
FLN	**La Foliniere**	**6.72**	**311**	*e*P		Pn	22 06 31.8	+5.0
	baz=131								
FLN				*e*Sn		**Sn**	**22 07 39.6**	**-3.3**
	comp=N,3.0nm,0.4s								
GRR	**Gorron**	**6.73**	**307**	*e*P		**Pn**	**22 06 30.7**	**+3.8**
GRR				*e*Sn		**Sn**	**22 07 39.7**	**-3.4**
	comp=N,1.3nm,0.2s								
SGMF	**Saint Gilles**	**7.67**	**302**	*e*P		**Pn**	**22 06 44.5**	**+4.6**
QUIF	**Quistinic**	**7.92**	**298**	*e*P		Pn	22 06 48.1	+4.9
ROSF	**Rostrenen**	**8.14**	**301**	*e*P		**Pn**	**22 06 50.0**	**+3.7**

IDC 17 22:05:11.5±4.0, 5°34S×152°12E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/46, mbtmp3.5/3, Error ellipse: s-maj=143.7km s-min=54.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.58**	**228**	P		P	22 10 12.2	-1.5
	0.6nm,0.7s,baz=52,slow=9.9,SNR=2.6							
ASAR	**Alice Springs**	**25.30**	**222**	P		P	22 10 40.4	+0.4
	0.6nm,0.8s,baz=59,slow=8.6,SNR=5.5							
FITZ	**Fitzroy Crossi**	**28.80**	**242**	P		P	22 11 12.5	+0.9
	2.6nm,1.2s,baz=60,slow=9.0,SNR=1.1							
TORD	**Torodi Ar. Bea**	**149.82**	**287**	PKPbc		PKPbc	22 25 04.0	-0.7
	0.4nm,0.5s,baz=63,slow=3.1,SNR=2.9							

IDC 17 22:05:52.4±0.7, 5°26S×151°79E, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.3/48, mbtmp4.4/17, ML3.7/1, MS3.6/5, Ms1 3.5/5, ms1mx3.1/34, Error ellipse: s-maj=23.1km s-min=15.7km az=114.0
DJA 17 22:05:59.9±0.7, 6°S×15°2E±1°.0, h54km±12km, M5.0/8, mB4.8/1, mb4.5/8, MLv5.3/2, Mw(mB)4.0/1
NEIC 17 22:06:01.1±1.9, 5°45S±0°.07×151°.83E±0°.10, h57km±6km, mb4.3/27, Error ellipse: s-maj=15.1km s-min=8.9km az=114.0

ISC 17 22:05:59.7±0.5, 5°47S±0°.06×151°79E±0°.09, h50km, n70, σ1s25/70, mb4.3/27, MS3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.33**	**16**	Pn		**Pn**	**22 06 22.4**	**+0.5**
RABL				Sn		**Sn**	**22 06 42.1**	**+3.6**
MANU	**Manus Island**	**5.58**	**307**	Pn		**Pn**	**22 07 23.9**	**+3.7**
PMG	**Port Moresby**	**6.03**	**229**	Pn		**Pn**	**22 07 27.8**	**+1.4**
	4.3nm,0.3s,baz=36,slow=13,SNR=12							
PMG				Sn		**Sn**	**22 08 32.9**	**-1.2**
	11nm,0.3s,baz=311,slow=21,SNR=7.3							
PMG				LR		LR	22 09 56.5	
	comp=Z,296nm,21.5s,baz=28,slow=40							
PMG	**Port Moresby**	**6.03**	**229**	Pn		**Pn**	**22 07 28.2**	**+1.8**
PMG	**Port Moresby**	**6.03**	**229**	P		**Pn**	**22 07 29.3**	**+2.9**
CTA	**Charters Tower**	**15.49**	**200**	Pn		**Pn**	**22 09 35.3**	**+0.2**
	0.2nm,0.3s,baz=25,slow=10,SNR=5.6							
EIDS	**Eidsvold**	**19.80**	**182**	P		**P**	**22 10 26.6**	**+0.5**
EIDS				IAmb		IAmb	22 10 32.9	
	comp=Z,27nm,1.4s							
SIJI	**Sorong**	**20.99**	**282**	P		**P**	**22 10 38.5**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=198,slow=20,SNR=1.7							
MTN	**Manton Dam**	**21.66**	**249**	P		**P**	**22 10 47.0**	**+0.7**
MTN				IAmb		IAmb	22 11 14.8	
	comp=Z,16nm,1.1s							
DZM	**Mont Dzumac**	**21.75**	**141**	LR		LR	22 18 13.0	
	comp=Z,192nm,20.4s,baz=228,slow=34							
WB0	**Warramunga Arr**	**22.10**	**228**	P		**P**	**22 10 50.9**	**-0.1**
WB0				IAmb		IAmb	22 11 02.7	
	comp=Z,14nm,1.0s							
WRA	**Warramunga Arr**	**22.25**	**228**	P		**P**	**22 10 52.5**	**-0.1**
	comp=Z,5.4nm,0.6s,baz=52,slow=9.9,SNR=39							
WRA	**Warramunga Arr**	**22.25**	**228**			**P**	**22 10 53.0**	**+0.4**
KNRA	**Kununurra**	**24.77**	**244**	P		**P**	**22 11 16.6**	**-0.4**
ARMA	**Armidale**	**24.82**	**180**	P		**P**	**22 11 18.3**	**+0.8**
ARMA				IAmb		IAmb	22 11 36.5	
	comp=Z,23nm,1.4s							
AS31	**Alice Springs**	**24.98**	**222**	P		**P**	**22 11 19.1**	**+0.1**
ASAR	**Alice Springs**	**24.98**	**222**	P		**P**	**22 11 18.8**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=58,slow=8.7,SNR=35							
ASAR	**Alice Springs**	**24.98**	**222**	P		**P**	**22 11 20.2**	**+1.2**
STKA	**Stephens Creek**	**27.95**	**199**	P		**P**	**22 11 45.7**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=356,slow=13,SNR=2.8							
STKA				LR		LR	22 22 55.2	
	comp=Z,106nm,19.3s,baz=26,slow=36							
STKA	**Stephens Creek**	**27.95**	**199**	P		**P**	**22 11 46.9**	**+1.4**
BATI	**Baumata**	**28.25**	**259**	P		**P**	**22 11 49.4**	**+0.9**
	comp=Z,16nm,0.6s,baz=63,slow=6.8,SNR=1.9							
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P		**P**	**22 11 49.5**	**-0.7**
	comp=Z,14nm,0.9s,baz=58,slow=6.6,SNR=25							
FITZ	**Fitzroy Crossi**	**28.45**	**242**	P		**P**	**22 11 49.3**	**-0.9**
MJAR	**Matsushiro Arr**	**43.69**	**344**	P		**P**	**22 13 57.3**	**-2.5**
	comp=Z,3.4nm,0.6s,baz=152,slow=10.0,SNR=4.7							
MJAR				LR		LR	22 30 57.7	
	comp=Z,54nm,20.5s,baz=200,slow=35							
KSRS	**Korea Array**	**48.16**	**334**	P		**P**	**22 14 31.2**	**-3.7**
	comp=Z,12nm,0.9s,baz=142,slow=9.9,SNR=14							
CMAR	**Chiang Mai Arr**	**57.26**	**296**	P		**P**	**22 15 43.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=129,slow=5.6,SNR=5.1							
CMAR	**Chiang Mai Arr**	**57.26**	**296**	P		**P**	**22 15 42.7**	**+0.1**
SHL	**Shillong**	**65.78**	**301**	P		**P**	**22 16 39.6**	**-0.7**
SHL				IAmb		IAmb	22 16 40.6	
	comp=Z,4.9nm,1.0s							
VNDA	**Vanda**	**72.20**	**178**	P		**P**	**22 17 20.7**	**+1.7**
	comp=Z,1.1nm,1.2s,baz=321,slow=8.9,SNR=2.2							
VNDA	**Vanda**	**72.20**	**178**	P		**P**	**22 17 19.6**	**+0.6**
VNDA				IAmb		IAmb	22 17 36.4	
	comp=Z,3.5nm,1.2s							
SVW2	**Sparrevohn**	**77.83**	**23**	P		**P**	**22 17 52.3**	**+0.6**
SVW2				IAmb		IAmb	22 17 53.8	
	comp=Z,2.8nm,1.0s							
CNPM	**China Poot**	**78.75**	**26**	P		**P**	**22 17 56.9**	**+0.1**
TTA	**Tatalina**	**78.76**	**22**	P		**P**	**22 17 57.9**	**+1.1**
SUA	**Susitna One**	**79.98**	**24**	P		**P**	**22 18 02.8**	**-0.8**
SUA				IAmb		IAmb	22 18 17.5	
	comp=Z,2.2nm,0.8s							
MK31	**Makanchi Array**	**80.17**	**319**	P		**P**	**22 18 03.5**	**-1.3**
MKAR	**Makanchi Array**	**80.17**	**319**	P		**P**	**22 18 04.6**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=101,slow=6.6,SNR=12							
MKAR	**Makanchi Array**	**80.17**	**319**	P		**P**	**22 18 03.8**	**-1.0**
MAKZ	**Makanchi**	**80.38**	**319**	P		**P**	**22 18 05.2**	**-0.8**
MAKZ				IAmb		IAmb	22 18 06.3	
	comp=Z,3.1nm,0.9s							
SML	**Sawmill**	**81.15**	**25**	P		**P**	**22 18 10.0**	**+0.2**
SML				IAmb		IAmb	22 18 12.3	
	comp=Z,4.0nm,0.8s							
ZAA0	**Zalesovo Array**	**81.15**	**327**	P		**P**	**22 18 08.7**	**-1.1**
ZALV	**Zalesovo Beam**	**81.15**	**327**	P		**P**	**22 18 08.0**	**-1.8**
	comp=Z,1.0nm,0.4s,baz=118,slow=5.4,SNR=6.3							
ZALV	**Zalesovo Beam**	**81.15**	**327**	P		**P**	**22 18 08.2**	**-1.7**
MLY	**Manley**	**81.87**	**21**	P		**P**	**22 18 13.5**	**0.0**
MLY				IAmb		IAmb	22 18 14.4	
	comp=Z,2.4nm,0.4s							
KDJ	**Kajisay**	**82.34**	**314**	P		**P**	**22 18 17.4**	**+0.7**
I23K	**Minto, Yukon-K**	**82.43**	**21**	P		**P**	**22 18 16.9**	**+0.6**
I23K				IAmb		IAmb	22 18 29.1	
	comp=Z,3.8nm,1.3s							
ILAR	**Eielson Array**	**83.16**	**22**	P		**P**	**22 18 18.2**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=250,slow=5.4,SNR=14							
ILAR	**Eielson Array**	**83.16**	**22**	P		**P**	**22 18 20.0**	**-0.2**
NIL	**Nilore**	**83.53**	**305**	P		**P**	**22 18 22.1**	**-0.7**
AAK	**Ala-Archa**	**84.40**	**314**	P		**P**	**22 18 27.2**	**0.0**
AAK				IAmb		IAmb	22 18 28.1	
	comp=Z,2.5nm,0.7s							
K27K	**Chicken**	**84.70**	**24**	P		**P**	**22 18 29.2**	**+1.2**
K27K				IAmb		IAmb	22 18 30.9	
	comp=Z,1.6nm,0.8s							

BMAR	**Burnt Mountain**	**85.22**	**20**	P		**P**	**22 18 32.2**	**+1.6**
HYT	**Haines Junctio**	**85.49**	**28**	P		**P**	**22 18 33.1**	**+0.9**
KKAR	**Karatay Array**	**87.36**	**314**	P		**P**	**22 18 41.3**	**-0.4**
KKAR	**Karatay Array**	**87.36**	**314**	P		**P**	**22 18 41.5**	**-0.1**
KKAR				IAmb		IAmb	22 18 42.1	
	comp=Z,2.4nm,1.0s							
DLBC	**Dease Lake**	**88.47**	**31**	LR		LR	22 51 54.6	
	comp=Z,52nm,20.3s,baz=280,slow=31							
BVAR	**Borovoye Array**	**89.17**	**323**	P		**P**	**22 18 48.4**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=217,slow=14,SNR=6.6							
NVAR	**Mina Array Bea**	**93.29**	**52**	P		**P**	**22 19 10.9**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=250,slow=6.6,SNR=16							
NVAR	**Mina Array Bea**	**93.29**	**52**	P		**P**	**22 19 10.1**	**+0.3**
PDAR	**Pinedale Array**	**100.04**	**48**	P		**Pdif**	**22 19 40.1**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=266,slow=4.0,SNR=8.0							
AKASG	**Malin Array Be**	**114.45**	**324**	PKP		PKPdf	22 24 33.1	-1.0
	comp=Z,0.4nm,0.4s,baz=60,slow=2.3,SNR=4.2							
PRU	**Pruhonice**	**122.97**	**329**	*e*PKPDF		**PKPdf**	**22 24 50.5**	**-0.1**
CKRC	**Cesky Krumlov**	**123.78**	**327**	*e*PKPDF		**PKPdf**	**22 24 52.2**	**0.0**
KHC	**Kasperske Hory**	**123.98**	**328**	*e*PKPDF		**PKPdf**	**22 24 52.1**	**-0.6**
GERES	**GERESS Array B**	**124.09**	**328**	PKP		**PKPdf**	**22 24 52.9**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=60,slow=2.3,SNR=16							
GERES	**GERESS Array B**	**124.09**	**328**			**PKPdf**	**22 24 52.2**	**-0.8**
EKA	**Eskdalemuir Ar**	**126.37**	**343**	PKP		**PKPdf**	**22 24 56.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=7.8,slow=2.7,SNR=5.4							
LPAZ	**La Paz**	**134.98**	**119**	PKP		**PKPdf**	**22 25 16.1**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=215,slow=6.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPbc		**PKPbc**	**22 25 44.2**	**-0.5**
	comp=Z,9.1nm,0.7s,baz=69,slow=3.2,SNR=41							
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPdf		**PKPdf**	**22 25 39.5**	**-0.6**
TORD						**PKPbc**	**22 25 44.0**	**-0.7**
BDFB	**Brasilia**	**151.28**	**137**	PKPbc		**PKPbc**	**22 25 48.8**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=177,slow=3.9,SNR=6.9							

IDC 17 22:06:02.7±1.1, 39°65N×33°23E, h0km, mb3.5/5, mb1 3.5/10, mb1mx3.3/53, mbtmp3.4/10, ML3.2/4, MS2.7/4, Ms1 2.8/4, ms1mx2.4/36, Error ellipse: s-maj=16.8km s-min=6.3km az=2.0
ISK 17 22:06:02.5, 39°.60N×33°.27E, h4km, ML3.9/28
DDA 17 22:06:02.4, 39°.59N×33°.30E, h5km±2km, MW3.9
CFUSG 17 22:06:03.2, 39°.63N×33°.09E, h16km, mb2.7/3, MD3.2/3, Central Turkey Magtype MSH 2.9 from 5 stations

ISC 17 22:06:03.1±1.0, 39°.61N±0°.02×33°.27E±0°.02, h5km±7km, n95, σ0s84/125, mb3.5/4, 7C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBAL	**Bala**	**0.13**	**241**	*i* P		**Pg**	**22 06 05.6**	**-0.2**
BBAL				*i* S		**Sg**	**22 06 08.0**	**+0.3**
BBAL				IAML			22 06 08.0	
	comp=N,22μm,0.8s							
BBAL				IAML			22 06 08.0	
	comp=E,20μm,0.6s							
AFSR	**Afar-Bala (An**	**0.22**	**224**	PG		**Pg**	**22 06 06.9**	**-0.6**
AFSR				SG		**Sg**	**22 06 10.6**	**+0.1**
BRTR	**Keskin Array B**	**0.31**	**67**	Pg		**Pg**	**22 06 09.3**	**+0.3**
	comp=E,755nm,0.3s,baz=238,slow=18							
BRTR				Lg		Lg	22 06 13.8	
	comp=E,967nm,0.3s,baz=310,slow=1.4,SNR=12							
BRTR	**Keskin Array B**	**0.31**	**67**	PG		**Pg**	**22 06 09.1**	**0.0**
BRTR				SG		**Sg**	**22 06 13.9**	**+0.7**
ANTO	**Ankara**	**0.45**	**305**	PG		**Pg**	**22 06 12.2**	**+0.4**
ANTO				SG		**Sb**	**22 06 18.9**	**-1.8**
LOD	**Lodumlu**	**0.48**	**306**	PG		**Pg**	**22 06 11.6**	**-0.8**
KKUL	**Konya-Kulu**	**0.52**	**212**	*i* P		**Pg**	**22 06 13.2**	**+0.2**
KKUL				*i* S		**Sg**	**22 06 20.7**	**+1.0**
KKUL				IAML			22 06 22.0	
	comp=N,8μm,0.9s							
KKUL				IAML			22 06 26.0	
	comp=E,4μm,0.4s							
KULU	**Kulu**	**0.60**	**201**	PG		**Pg**	**22 06 15.1**	**+0.4**
KULU				SG		**Sb**	**22 06 24.1**	**-0.8**
DELI	**KIRIKKALE**	**0.63**	**52**	*i* P		**Pg**	**22 06 15.1**	**-0.2**
DELI				*i* S		**Sg**	**22 06 23.0**	**-0.6**
DELI				IAML			22 06 24.0	
	comp=N,5μm,0.3s							
DELI				IAML			22 06 24.0	
	comp=E,2μm,0.7s							
KIRS	**Kırehir-Merke**	**0.69**	**133**	*i* P		**Pg**	**22 06 15.6**	**-0.7**
KIRS				*i* S		**Sg**	**22 06 24.3**	**-0.9**
KIRS				IAML			22 06 25.0	
	comp=N,4μm,0.4s							
KIRS				IAML			22 06 25.0	
	comp=E,3μm,0.3s							
SERE	**Serefiikochisa**	**0.70**	**161**	PG		**Pg**	**22 06 16.6**	**+0.1**
YAYX	**Yaylak**	**0.79**	**148**	PG		**Pg**	**22 06 17.6**	**-0.6**
CDAG	**Cicekdag**	**0.85**	**89**	*i* P		**Pg**	**22 06 18.8**	**-0.6**
CDAG				*i* S		**Sg**	**22 06 30.1**	**-0.3**
CDAG				IAML			22 06 31.0	
	comp=N,5μm,0.4s							
CDAG				IAML			22 06 31.0	
	comp=E,2μm,0.3s							
AKSY	**AKSARAY - Alti**	**1.03**	**158**	*i* P		**Pg**	**22 06 21.8**	**-1.0**
AKSY				*i* S		**Sg**	**22 06 34.8**	**-1.3**
AKSY				IAML			22 06 38.0	
	comp=N,1μm,0.3s							
AKSY				IAML			22 06 41.0	
	comp=E,1μm,0.6s							
CANT	**Cankiri**	**1.03**	**15**	PG		**Pb**	**22 06 23.1**	**-0.4**
CHBY	**Cihanbeyli**	**1.07**	**196**	PG		**Pg**	**22 06 23.7**	**+0.2**
CHBY				SG		**Sb**	**22 06 39.1**	**+0.8**
CMDR	**Camlidere-ANKA**	**1.08**	**326**	*i* P		**Pg**	**22 06 23.4**	**-0.4**
CORM	**Corum**	**1.19**	**61**	PN		**Pg**	**22 06 24.6**	**-1.3**
KOZK	**Kozakli-Nevseh**	**1.30**	**107**	PN		**Pn**	**22 06 27.9**	**0.0**
KIZT	**Kizilcal**	**1.30**	**237**	PN		**Pn**	**22 06 27.8**	**-0.2**
ALIN	**Konya, Altinte**	**1.34**	**193**	*i* P		**Pn**	**22 06 25.7**	**-2.9**
ALIN				*i* S		**Sg**	**22 06 44.8**	**-1.4**
AUSIV	**SIVRIHISAR**	**1.35**	**263**	*i* P		**Pn**	**22 06 28.2**	**-0.4**
AUSIV	**SIVRIHISAR**	**1.35**	**263**	PN		**Pb**	**22 06 28.7**	**-0.2**
KIBS	**BOLU**	**1.36**	**307**	*i* P		**Pb**	**22 06 28.8**	**-0.3**
KIBS				*i* S		**Sn**	**22 06 47.6**	**+0.3**
KIBS				IAML			22 06 51.0	
	comp=N,1μm,1.0s							
KIBS				IAML			22 06 54.0	
	comp=E,2μm,0.7s							
SVRH	**Sivrihisar-ESK**	**1.36**	**264**	PN		**Pb**	**22 06 28.9**	**-0.2**
KDHN	**Kadinhani**	**1.41**	**220**	*i* P		**Pb**	**22 06 29.6**	**-0.3**
KDHN				*i* S		**Sb**	**22 06 47.1**	**-1.1**
KDHN				IAML			22 06 50.0	
	comp=E,872nm,0.4s							
SULT	**Sultanhani-AKS**	**1.42**	**172**	PN		**Pn**	**22 06 29.8**	**+0.2**
GRDE	**Gerede-Bolu**	**1.44**	**326**	PN		**Pg**	**22 06 30.8**	**+0.1**
YUVA	**Yuva-Kibriscik**	**1.45**	**303**	PN		**Pg**	**22 06 30.9**	**+0.1**
AVNS	**Nevsehir-Avano**	**1.46**	**123**	*i* P		**Pg**	**22 06 31.7**	**+0.6**
AVNS				*i* S		**Sg**	**22 06 50.6**	**+0.6**
GULA	**Gulagac**	**1.47**	**149**	PN		**Pn**	**22 06 30.7**	**+0.3**
SIRC	**Yozgat**	**1.48**	**100**	*i* P		**Pn**	**22 06 29.7**	**-0.7**
SIRC				*i* S		**Sb**	**22 06 50.3**	**+0.2**
SIRC				IAML			22 06 52.0	
	comp=E,1μm,0.8s							
SIRC				IAML			22 06 53.0	
	comp=N,1μm,0.4s							
ILGA	**Ilgaz**	**1.48**	**13**	*i* P		**Pg**	**22 06 31.5**	**0.0**
ILGA				*i* S		**Sg**	**22 06 51.3**	**+0.6**
ILGA				IAML			22 06 53.0	
	comp=E,3μm,0.7s							
BCAM	**Yenicaga**	**1.52**	**323**	*i* P		**Pg**	**22 06 31.9**	**-0.3**
BCAM				*i* S		**Sn**	**22 06 50.0**	**-1.2**
BCAM				IAML			22 06 57.0	
	comp=N,405nm,0.4s							
BCAM				IAML			22 06 57.0	
	comp=E,427nm,0.4s							
TOS	**Tosya**	**1.54**	**22**	PN		**Pb**	**22 06 31.5**	**-0.6**
LADK	**Ladik-KONYA**	**1.57**	**207**	PN		**Pn**	**22 06 32.1**	**+0.4**
YOZ	**Yozgat**	**1.58**	**88**	PN		**Pb**	**22 06 32.5**	**-0.4**
SAFT	**Safranbolu**	**1.69**	**345**	PN		**Pb**	**22 06 33.9**	**-0.8**
KBUK	**KARABUK-Merkez**	**1.70**	**343**	*i* P		**Pg**	**22 06 34.9**	**-0.8**
KBUK				*i* S		**Sg**	**22 06 58.2**	**+0.4**
KBUK				IAML			22 07 00.0	
	comp=E,435nm,0.3s							
KBUK				IAML			22 07 00.0	
	comp=N,412nm,0.3s							
CIFT	**Cifteler, Eski**	**1.73**	**263**	PN		**Pb**	**22 06 34.4**	**-0.9**
CKRK	**Yozgat, Cekere**	**1.78**	**74**	*i* P		**Pn**	**22 06 35.0**	**+0.5**
CKRK				*i* S		**Sg**	**22 06 59.8**	**-0.4**
CKRK				IAML			22 07 04.0	
	comp=E,658nm,0.8s							
KAGI	**orum-Kargı**	**1.79**	**31**	*i* P		**Pb**	**22 06 35.5**	**-0.8**
KAGI				*i* S		**Sb**	**22 06 59.0**	**+0.1**
KAGI				IAML			22 07 01.0	
	comp=N,755nm,0.6s							
KAGI				IAML			22 07 04.0	
	comp=E,777nm,0.5s							
KONT	**Konya--Tatoy**	**1.81**	**204**	*i* P		**Pb**	**22 06 36.7**	**0.0**
KONT				*i* S		**Sg**	**22 07 00.6**	**-0.5**
KONT				IAML			22 07 06.0	
	comp=E,510nm,0.8s							
KONT	**Konya--Tatoy**	**1.81**	**204**	PN		**Pn**	**22 06 35.4**	**+0.5**
KMON	**Kastamonu**	**1.81**	**12**	PN		**Pb**	**22 06 35.7**	**-1.0**
MDUB	**Mudurnu**	**1.81**	**299**	PN		**Pb**	**22 06 35.8**	**-1.0**
NIG	**Nigde**	**1.82**	**145**	PN		**Pn**	**22 06 35.7**	**+0.4**
YEYN	**Yesilyurt**	**1.86**	**168**	PN		**Pn**	**22 06 36.0**	**+0.3**
SGAZ	**Eskisehir, Sey**	**1.88**	**268**	*i* P		**Pb**	**22 06 37.6**	**-0.4**
HACI	**Hacifakili, Ak**	**1.90**	**86**	*i* P		**Pn**	**22 06 36.5**	**+0.3**
HACI				*i* S		**Sb**	**22 07 02.1**	**-0.2**
HACI				IAML			22 07 06.0	
	comp=N,790nm,0.4s							
HACI				IAML			22 07 06.0	
	comp=E,670nm,0.5s							
YIGI	**Dzce**	**1.94**	**315**	*i* P		**Pb**	**22 06 39.2**	**+0.3**
DOGA	**KONYA_Doganhis**	**1.95**	**220**	*i* P		**Pn**	**22 06 37.3**	**+0.3**
GUNE	**Kayseri**	**1.96**	**110**	*i* P		**Pb**	**22 06 38.6**	**-0.6**
GUNE				*i* S		**Sb**	**22 07 04.3**	**+0.3**
GUNE				IAML			22 07 10.0	
	comp=N,4μm,0.4s							
GUNE				IAML			22 07 12.0	
	comp=E,5μm,0.6s							
NIDE	**Nigde/Merkez-G**	**1.99**	**143**	*i* P		**Pb**	**22 06 39.6**	**-0.3**
NIDE				*i* S		**Sb**	**22 07 06.1**	**+1.2**
NIDE				IAML			22 07 10.0	
	comp=N,581nm,0.3s							
NIDE				IAML			22 07 11.0	
	comp=E,796nm,0.3s							
SRCK	**Saricakaya, Es**	**2.08**	**283**	PN		**Pn**	**22 06 39.6**	**+0.9**
BNN	**Bunyan**	**2.14**	**110**	PN		**Pn**	**22 06 39.9**	**+0.4**
BORA	**Eskisehir**	**2.19**	**278**	PN		**Pn**	**22 06 41.0**	**+0.8**
BOYA	**Sinop/Boyabat-**	**2.20**	**29**	*i* P		**Pb**	**22 06 42.0**	**-0.8**
BOYA				*i* S		**Sb**	**22 12 02.0**	**+1.0**
BOYA				IAML			22 07 17.0	
	comp=E,330nm,0.8s							
AMSY	**Amasya-Merkez**	**2.22**	**62**	*i* P		**Pb**	**22 06 42.1**	**-1.6**
GULT	**Gulveren**	**2.27**	**292**	PN		**Pn**	**22 06 42.2**	**+0.9**
CIDE	**Kastamonu/Cide**	**2.29**	**354**	*i* P		**Pb**	**22 06 45.4**	**+0.6**
CIDE				*i* S		**Sg**	**22 07 16.8**	**+0.3**
SHUT	**Suhut-Afyon**	**2.37**	**244**	PN		**Pn**	**22 06 43.3**	**+0.7**
BZK	**Bozkurt**	**2.42**	**13**	⇑P		**Pb**	**22 06 46.5**	**-0.5**
BZK				⇓S		**Sn**	**22 07 14.4**	**+1.3**
AFYO	**Afyonkarahisar**	**2.45**	**251**	*i* P		**Pg**	**22 06 48.9**	**-1.2**
SEDI	**Konya, Seydise**	**2.46**	**209**	*i* P		**Pn**	**22 06 43.7**	**-0.2**
DIKM	**Dikmen**	**2.54**	**36**	⇑P		**Pb**	**22 06 48.8**	**-0.3**
DIKM				⇑S		**Sb**	**22 07 20.7**	**+0.1**
TOKA	**Tokat**	**2.56**	**73**	*i* P		**Pn**	**22 06 45.7**	**+0.4**
KAYN	**Sakarya, Kayna**	**2.62**	**302**	*i* P		**Pb**	**22 06 51.5**	**+1.0**
CUAYA	**Sivas-Altinyay**	**2.71**	**96**	*i* P		**Pn**	**22 06 48.3**	**+0.9**
KAND	**Kocaeli-Kandir**	**2.78**	**303**	*i* P		**Pb**	**22 06 53.3**	**+0.1**
SAMS	**Samsun-Alacam**	**2.83**	**51**	*i* P		**Pb**	**22 06 54.1**	**+0.1**
YAL	**Yalta**	**4.92**	**7**	*e*S		**Sn**	**22 08 14.9**	**0.0**
YAL				Sm			22 08 15.5	
	comp=E,19nm,0.5s		

mb4.2/36,mb1 4.2/37,mb1mx4.1/56,mbtmp4.6/37,
MS3.5/14,Ms1 3.5/14,ms1mx3.3/39 Error ellipse:
s-maj=12.3km s-min=6.2km az=91.0

ISC 17 22:08:49.9±0.3,**17°49N**±0.04′,**145°86E**±0.06′,**h150**km,
n346,σt§15/347,**mb4.7**/152,**7C-1D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**0.79**	**185**	P		Pn 22 09 09.1	-4.0
ANA2	**Anatahan**	**1.15**	**187**			Pn 22 09 12.5	-3.6
ANA2	**Anatahan**	**1.15**	**187**	P		Pn 22 09 12.7	-3.4
JCJ	**Chichijima**	**10.14**	**341**	LR	LR	22 14 01.8	
	comp=Z,92nm,20.7s,baz=164,slow=31						
PATS	**Pohnpei**	**16.12**	**130**	P	**Pn**	**22 12 26.6**	**-1.7**
JHJ	**Hachijo jima 2**	**16.49**	**342**	P	**P**	**22 12 32.7**	**+0.1**
	7.9nm,0.3s,baz=69,slow=16,SNR=1.4						
JHJ				S	**S**	**22 15 33.6**	**-2.2**
	12nm,0.3s,baz=238,slow=17,SNR=1.4						
JHJ				LR	LR	22 18 09.9	
	comp=Z,101nm,20.0s,baz=52,slow=34						
JOW	**Kunigami**	**18.73**	**303**	LR	LR	22 18 46.9	
	comp=Z,333nm,21.2s,baz=290,slow=32						
JOW	**Kunigami**	**18.73**	**303**	P	**P**	**22 12 59.5**	**+2.4**
MANU	**Manus Island**	**19.47**	**175**	P	**P**	**22 13 04.8**	**-0.4**
MANU				IAmb	IAmb	22 13 09.3	
	comp=Z,30nm,0.5s						
JGF	**Kuroka**	**19.56**	**339**	P	**P**	**22 13 05.2**	**-0.9**
WAKE	**Wake Island**	**19.82**	**82**	P	**P**	**22 13 10.9**	**+1.9**
H11S3	**WAKE ISLAND Hy**	**19.84**	**84**	T	T	22 33 58.3	
	baz=267,slow=76,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**19.85**	**84**	T	T	22 33 54.3	
	baz=267,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**19.86**	**84**	T	T	22 33 59.1	
	baz=267,slow=76,SNR=11						
JWT	**Wachi**	**20.02**	**334**	P	**P**	**22 13 12.4**	**+1.5**
H11N1	**WAKE ISLAND Hy**	**20.06**	**80**	T	T	22 34 15.5	
	baz=265,slow=74,SNR=36						
H11N2	**WAKE ISLAND Hy**	**20.07**	**80**	T	T	22 34 14.1	
	baz=265,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hy**	**20.08**	**80**	T	T	22 34 17.4	
	baz=265,slow=74,SNR=32						
MJAR	**Matsushiro Arr**	**20.15**	**342**	P	**P**	**22 13 12.4**	**+0.1**
	comp=Z,5.6nm,0.4s,baz=166,slow=9.8,SNR=17						
MJAR	**Matsushiro Arr**	**20.15**	**342**	P	**P**	**22 13 11.9**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MJAR	**Matsushiro Arr**	**20.15**	**342**	P	**P**	**22 13 11.9**	**-0.5**
MAJO	**Matsushiro**	**20.15**	**342**	*i* P	**P**	**22 13 12.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAJO	**Matsushiro**	**20.15**	**342**	P	**P**	**22 13 12.9**	**+0.5**
MAT	**Matsushiro**	**20.15**	**342**	P	**P**	**22 13 13.7**	**+1.3**
MAT				*e*S	**S**	**22 16 50.8**	**+0.4**
GENI	**Genyem**	**20.73**	**196**	P	**P**	**22 13 22.0**	**+3.3**
	comp=Z,2μmcomp=Z,130nm,0.9s						
JMM	**Marumori**	**20.78**	**349**	P	**P**	**22 13 18.8**	**-0.3**
JMM				IAmb	IAmb	22 13 33.1	
	comp=Z,28nm,1.0s						
JSD	**Sado**	**21.53**	**343**	P	**P**	**22 13 26.6**	**-0.5**
JSD				IAmb	IAmb	22 13 55.3	
	comp=Z,25nm,1.0s						
YOJ	**Yonaguni jima**	**22.41**	**292**	P	**P**	**22 13 38.3**	**+2.1**
YOJ				pmax	pmax		
	comp=Z,201nm,1.3s						
YOJ	**Yonaguni jima**	**22.41**	**292**	P	**P**	**22 13 38.3**	**+2.1**
SWI	**Sorong**	**23.23**	**220**	P	**P**	**22 13 44.4**	**+0.6**
	comp=Z,1μmcomp=Z,135nm,0.9s						
SIJI	**Sorong**	**23.23**	**220**	P	**P**	**22 13 44.2**	**+0.3**
	comp=Z,87nm,0.6s,baz=17,slow=12,SNR=53						
SIJI				LR	LR	22 21 39.5	
	comp=Z,68nm,18.2s,baz=185,slow=33						
SIJI	**Sorong**	**23.23**	**220**	P	**P**	**22 13 44.5**	**+0.6**
	comp=Z,513nmcomp=Z,70nm,0.9s						
GAMI	**Galela, Maluku**	**23.60**	**231**	P	**P**	**22 13 49.6**	**+2.3**
	comp=Z,46nm,0.8s						
YULB	**Yu-li**	**23.73**	**288**	P	**P**	**22 13 46.8**	**-1.6**
YHNB	**Yeheng**	**23.91**	**292**	P	**P**	**22 13 50.0**	**-0.1**
SSLB	**Suanglung**	**24.11**	**289**	P	**P**	**22 13 52.6**	**+0.7**
SSLB				IAmb	IAmb	22 13 56.0	
	comp=Z,23nm,0.8s						
FAKI	**Fak Fak**	**24.32**	**215**	P	**P**	**22 13 53.4**	**-0.4**
FAKI				IAmb	IAmb	22 13 55.0	
	comp=Z,43nm,0.9s						
ERM	**Erimo**	**24.55**	**355**	*i* P	**P**	**22 13 56.1**	**+0.5**
ERM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ERM	**Erimo**	**24.55**	**355**	P	**P**	**22 13 56.0**	**+0.5**
ERM				IAmb	IAmb	22 14 12.1	
	comp=Z,31nm,1.4s						
KSRS	**Korea Array**	**25.38**	**325**	P	**P**	**22 14 01.3**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=148,slow=9.4,SNR=5.4						
KSRS				LR	LR	22 23 21.4	
	comp=Z,41nm,19.6s,baz=125,slow=34						
JKA	**Kamikawa-asahi**	**26.68**	**355**	P	**P**	**22 14 14.9**	**+0.1**
JKA				IAmb	IAmb	22 14 16.8	
	comp=Z,13nm,0.8s						
ASAJ	**Asahikawa**	**26.68**	**355**	P	**P**	**22 14 15.1**	**+0.3**
	comp=Z,7.0nm,0.3s,baz=225,slow=10,SNR=13						
ASAJ				LR	LR	22 24 27.3	
	comp=Z,84nm,19.7s,baz=168,slow=35						
ASAJ	**Asahikawa**	**26.68**	**355**	P	**P**	**22 14 14.9**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**26.76**	**177**	P	**P**	**22 14 14.9**	**-0.8**
	comp=Z,16nm,0.4s,baz=13,slow=6.8,SNR=3.0						
PMG	**Port Moresby**	**26.76**	**177**	*i* P	**P**	**22 14 14.9**	**-0.8**
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
PMG	**Port Moresby**	**26.76**	**177**	P	**P**	**22 14 14.8**	**-1.0**
PMG				IAmb	IAmb	22 14 32.3	
	comp=Z,36nm,0.9s						
KRAI	**Karang Ratu**	**26.91**	**221**	P	**P**	**22 14 19.0**	**+1.8**
	comp=Z,24nm,1.3s						
NJ2	**Nanjing**	**28.38**	**306**	*e*P	**P**	**22 14 31.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**29.08**	**339**	P	**P**	**22 14 35.2**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=136,slow=9.2,SNR=2.9						
LUWI	**Luwuk**	**29.26**	**233**	P	**P**	**22 14 37.5**	**-0.6**
TOLI2	**Tolitoli**	**29.54**	**239**	P	**P**	**22 14 40.3**	**-0.3**
TOLI2				IAmb	IAmb	22 14 42.2	
	comp=Z,15nm,0.8s						
TTSI	**Tana Toraja**	**32.80**	**234**	P	**P**	**22 15 11.6**	**+2.4**
	comp=Z,939nmcomp=Z,25nm,0.7s						
BNSI	**Bone**	**33.46**	**232**	P	**P**	**22 15 16.9**	**+2.0**
	comp=Z,24nm,1.5s						
MTN	**Manton Dam**	**33.47**	**207**	P	**P**	**22 15 13.7**	**-1.2**
KLR	**Kul'dur**	**33.66**	**343**	P	**P**	**22 15 13.9**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=162,slow=8.6,SNR=11						
KLR	**Kul'dur**	**33.66**	**343**	*i* P	**P**	**22 15 13.7**	**-2.5**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BJT	**Baijiatuau**	**34.10**	**317**	P	**P**	**22 15 20.6**	**+0.4**
BJT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BJT	**Baijiatuau**	**34.10**	**317**		**P**	**22 15 20.6**	**+0.4**
SOEI	**Soe**	**34.47**	**220**	P	**P**	**22 15 22.6**	**-1.1**
SOEI	**Soe**	**34.47**	**220**	P	**P**	**22 15 24.6**	**+0.9**
	comp=Z,29nm,0.8s						
BATI	**Baumata**	**35.19**	**220**	P	**P**	**22 15 28.2**	**-1.6**
	comp=Z,24nm,0.5s,baz=80,slow=2.2,SNR=5.6						
BATI	**Baumata**	**35.19**	**220**	P	**P**	**22 15 30.1**	**+0.3**
	comp=Z,20nm,0.6s						
ENH	**Enshi**	**35.45**	**298**	P	**P**	**22 15 32.3**	**+0.4**
PEA0B	**Petropavlovsk-**	**36.73**	**12**	*ce*P	**P**	**22 15 43.1**	**+0.6**
PEA0B	**Petropavlovsk-**	**36.73**	**12**	P	**P**	**22 15 43.0**	**+0.5**
PEA0B				IAmb	IAmb	22 15 45.7	
	comp=Z,12nm,0.8s						
PETK	**Petropavlovsk-**	**36.73**	**12**	P	**P**	**22 15 43.1**	**+0.7**
	comp=Z,8.5nm,0.6s,baz=190,slow=8.5,SNR=20						
PETK	**Petropavlovsk-**	**36.73**	**12**	P	**P**	**22 15 43.0**	**+0.6**
PETK	**Petropavlovsk-**	**36.73**	**12**	P	**P**	**22 15 43.0**	**+0.6**
XAN	**Xi'an**	**36.88**	**304**	P	**P**	**22 15 46.6**	**+2.5**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KNRA	**Kununurra**	**37.02**	**208**	P	**P**	**22 15 44.6**	**-0.6**
PKKI	**Palangkaraya**	**37.05**	**241**	P	**P**	**22 15 47.5**	**+1.9**
GYA	**Guiyang**	**37.30**	**291**	P	**P**	**22 15 48.3**	**+0.5**
CTA	**Charters Tower**	**37.35**	**179**	P	**P**	**22 15 47.8**	**-0.3**
	comp=Z,5.3nm,0.4s,baz=0.6,slow=8.9,SNR=14						
CTAO	**Charters Tower**	**37.35**	**179**	P	**P**	**22 15 48.1**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CTAO	**Charters Tower**	**37.35**	**179**	P	**P**	**22 15 48.0**	**+0.1**
CTAO				IAmb	IAmb	22 15 50.5	
	comp=Z,6.7nm,0.5s						
HHC	**Hu-ho-hao-te**	**37.56**	**315**	*e*P	**P**	**22 15 51.6**	**+1.9**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,70nm,4.9s						
TWSI	**Taliwang, Sumb**	**38.72**	**230**	P	**P**	**22 16 00.1**	**+0.5**
	comp=Z,21nm,0.9s						
WR0	**Warramunga Arr**	**38.84**	**197**	P	**P**	**22 15 59.1**	**-1.4**
WR0				IAmb	IAmb	22 16 00.7	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**38.87**	**197**	*i* P	**P**	**22 15 59.3**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,23nm,0.7s						
WRA	**Warramunga Arr**	**38.88**	**197**	P	**P**	**22 15 59.6**	**-1.2**
	comp=Z,18nm,0.7s,baz=30,slow=8.9,SNR=72						
WRA				S	**S**	**22 21 47.4**	**-0.6**
	comp=Z,1.6nm,1.1s,baz=27,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**38.88**	**197**	*i* P	**P**	**22 15 59.7**	**-1.2**
WRA				pmax	pmax		
	comp=Z,13nm,0.4s						
WRA	**Warramunga Arr**	**38.88**	**197**	P	**P**	**22 15 58.8**	**-2.1**
SANVU	**Saraoutou**	**38.91**	**146**	P	**P**	**22 16 00.5**	**-0.7**
SLVN	**Son La**	**39.67**	**282**	P	**P**	**22 16 08.4**	**+0.9**
ABJI	**Asem Bagus**	**40.09**	**234**	P	**P**	**22 16 11.4**	**+0.4**
	comp=Z,60nm,1.1s						
CD2	**Chengdu**	**40.42**	**297**	*e*P	**P**	**22 16 13.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.58**	**210**	P	**P**	**22 16 14.7**	**-0.1**
	comp=Z,6.0nm,0.3s,baz=29,slow=7.5,SNR=81						
FITZ	**Fitzroy Crossi**	**40.58**	**210**	P	**P**	**22 16 14.6**	**-0.3**
FITZ				IAmb	IAmb	22 16 15.7	
	comp=Z,12nm,0.8s						
JAGI	**Jajag, Banyuwa**	**40.58**	**233**	P	**P**	**22 16 14.8**	**-0.2**
JAGI				IAmb	IAmb	22 16 25.7	
	comp=Z,30nm,1.1s						
LZH	**Lanzhou**	**41.45**	**305**	*e*P	**P**	**22 16 23.4**	**+1.3**
LZH				pP	pP	22 16 51.4	-2.7
LZH				sP	sP	22 17 08.8	-1.8
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
LZH				pmax	pmax		
	comp=Z,73nm,5.7s						
LZH				L	L		
	comp=Z,180nm,16.3s						
LZH				L	L		
	comp=Z,160nm,16.3s						
LZH				L	L		
	comp=Z,100nm,18.4s						
CHAI	**Chaiyaphum**	**41.98**	**275**	P	**P**	**22 16 28.4**	**+1.9**
	comp=Z,36nm,0.5s						
SJI	**Sawahan**	**41.98**	**236**	P	**P**	**22 16 29.3**	**+2.7**
PWJI	**Pagerwojo**	**42.13**	**236**	P	**P**	**22 16 28.0**	**+0.4**
	comp=Z,34nm,1.2s						
AS31	**Alice Springs**	**42.54**	**196**	P	**P**	**22 16 30.1**	**-0.7**
ASAR	**Alice Springs**	**42.54**	**196**	P	**P**	**22 16 29.6**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=20,slow=7.1,SNR=29						
ASAR				PcP	**PcP**	**22 18 20.1**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=23,slow=3.2,SNR=4.4						
ASAR				ScP	**ScP**	**22 21 56.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=21,slow=3.7,SNR=4.7						
ASAR				S	**S**	**22 22 40.3**	**-1.9**
	comp=Z,1.3nm,0.9s,baz=22,slow=21,SNR=5.1						
ASAR	**Alice Springs**	**42.54**	**196**	P	**P**	**22 16 30.1**	**-0.7**
ASAR	**Alice Springs**	**42.54**	**196**	P	**P**	**22 16 30.1**	**-0.7**
EIDS	**Eidsvold**	**42.91**	**173**	P	**P**	**22 16 32.9**	**-0.8**
UTTA	**Uttaradit**	**43.10**	**277**	P	**P**	**22 16 37.5**	**+2.0**
	comp=Z,204nmcomp=Z,18nm,0.6s						
PHIT	**Phitsanulok**	**43.30**	**277**	P	**P**	**22 16 39.9**	**+2.8**
	comp=Z,48nm,0.7s						
ULN	**Ulaanbaatar**	**43.81**	**322**	*ce*P	**P**	**22 16 41.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	**Ulaanbaatar**	**43.81**	**322**	P	**P**	**22 16 41.6**	**+0.6**
ULN	**Ulaanbaatar**	**43.81**	**322**	P	**P**	**22 16 42.9**	**+1.9**
	comp=Z,19nm,0.6s						
KPJI	**Karang Pucung**	**44.04**	**239**	P	**P**	**22 16 43.2**	**+0.2**
	comp=Z,23nm,1.6s						
SONM	**Songino Array**	**44.18**	**322**	P	**P**	**22 16 43.4**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=144,slow=5.5,SNR=13						
SONM				ScP	**ScP**	**22 22 01.1**	**-2.9**
	comp=Z,0.4nm,0.5s,baz=137,slow=2.4,SNR=2.4						
SONM	**Songino Array**	**44.18**	**322**	P	**P**	**22 16 43.4**	**-0.5**
DZM	**Mont Dzumac**	**44.19**	**152**	P	**P**	**22 16 44.8**	**+0.6**
	comp=Z,12nm,0.6s,baz=338,slow=7.8,SNR=15						
DZM				LR	LR	22 35 04.4	
	comp=Z,389nm,18.4s,baz=227,slow=36						
DZM	**Mont Dzumac**	**44.19**	**152**	P	**P**	**22 16 44.0**	**-0.2**
CHTO	**Chiang Mai**	**44.50**	**279**	P	**P**	**22 16 47.1**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CHTO	**Chiang Mai**	**44.50**	**279**	P	**P**	**22 16 47.1**	**+0.4**
CM31	**Chiang Mai Arr**	**44.54**	**279**	P	**P**	**22 16 48.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**44.54**	**279**	P	**P**	**22 16 48.6**	**+1.7**
	comp=Z,5.6nm,0.5s,baz=71,slow=6.8,SNR=20						
CMAR				LR	LR	22 37 13.5	
	comp=Z,34nm,18.1s,baz=194,slow=38						
CMAR	**Chiang Mai Arr**	**44.54**	**279**	*i* P	**P**	**22 16 49.0**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.54**	**279**	P	**P**	**22 16 47.4**	**+0.4**
CISI	**Cisompet, Garu**	**45.08**	**240**	P	**P**	**22 16 50.5**	**-0.9**
CISI				IAmb	IAmb	22 17 11.9	
	comp=Z,17nm,1.0s						
ADK	**Adak**	**45.25**	**32**	P	**P**	**22 16 52.7**	**+0.6**
ADK				pmax	pmax		
	comp=Z,25nm,1.1s						
ADK	**Adak**	**45.25**	**32**	P	**P**	**22 16 52.7**	**+0.6**
ADK				IAmb	IAmb	22 17 00.0	
	comp=Z,25nm,1.1s						
SEY	**Seymchan**	**45.62**	**4**	P	**P**	**22 16 54.4**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=182,slow=23,SNR=2.4						
YAK	**Yakutsk**	**45.93**	**349**	P	**P**	**22 16 55.4**	**-1.8**
	comp=Z,7.6nm,0.4s,baz=85,slow=1.5,SNR=5.1						
YAK	**Yakutsk**	**45.93**	**349**	*e*P	P	22 16 53.8	-3.4
YAK				*e*		22 18 46.9	
YAK				*e*S	**S**	**22 29 29.1**	**-1.1**
YAK				*e*		22 26 46.7	
YAK				*e*SSS	SSS	22 28 00.3	
YAK				pmax	pmax		
	comp=Z,14nm,1.1s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,91nm,3.7s						
YAK				pmax	pmax		
	comp=N,94nm,4.0s						
YAK				pmax	pmax		
	comp=E,42nm,3.4s						
YAK				smax	smax		
	comp=N,67nm,3.9s						
YAK				smax	smax		
	comp=E,30nm,3.2s						
PSA00	**Pilbara Seismi**	**46.44**	**214**	P	**P**	**22 17 01.6**	**-0.2**
PSA00	**Pilbara Seismi**	**46.44**	**214**	P	**P**	**22 17 01.4**	**-0.4**
PSA00				IAmb	IAmb	22 17 02.7	
	comp=Z,14nm,0.7s						
ATKA	**Atka Island**	**46.71**	**33**	P	**P**	**22 17 04.0**	**+0.5**
ATKA				IAmb	IAmb	22 17 04.7	
	comp=Z,21nm,0.7s						
ZAK	**Zakamensk**	**47.20**	**324**	*e*P	P	22 17 02.5	-5.0
ZAK				*e*		22 17 34.0	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MSVF	**Nonsavu**	**47.21**	**136**	P	**P**	**22 17 08.9**	**+1.0**
	comp=Z,8.4nm,0.6s,baz=269,slow=9.6,SNR=5.8						
MSVF	**Nonsavu**	**47.21**	**136**	P	**P**	**22 17 08.8**	**+0.8**
MSVF				pmax	pmax		
	comp=Z,47nm,1.3s						
MSVF	**Nonsavu**	**47.21**	**136**	P	**P**	**22 17 08.8**	**+0.8**
ARMA	**Armidale**	**47.96**	**173**	P	**P**	**22 17 13.2**	**-0.3**
ARMA				IAmb	IAmb	22 17 15.7	
	comp=Z,13nm,0.9s						
STKA	**Stephens Creek**	**49.26**	**185**	P	**P**	**22 17 22.2**	**-1.1**
	comp=Z,9.7nm,0.3s,baz=358,slow=7.9,SNR=43						
STKA	**Stephens Creek**	**49.26**	**185**	P	**P**	**22 17 22.2**	**-1.1**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
STKA	**Stephens Creek**	**49.26**	**185**	P	**P**	**22 17 22.2**	**-1.1**
GSI	**Gununguitoli**	**50.08**	**257**	P	**P**	**22 17 30.8**	**+0.8**
GSI	**Gununguitoli**	**50.08**	**257**	P	**P**	**22 17 31.3**	**+1.4**
SHL	**Shillong**	**50.56**	**289**	P	**P**	**22 17 33.1**	**-0.6**
SHL				pmax	pmax		
	comp=Z,13nm,0.4s						
SHL	**Shillong**	**50.56**	**289**	P	**P**	**22 17 33.1**	**-0.6**
BBOO	**Buckleboo**	**50.89**	**191**	P	**P**	**22 17 34.7**	**-0.9**
FORT	**Forrest**	**50.95**	**200**	P	**P**	**22 17 35.7**	**-0.4**
LSA	**Lhasa**	**51.17**	**294**	P	**P**	**22 17 39.9**	**+1.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LSA	**Lhasa**	**51.17**	**294**	P	**P**	**22 17 39.9**	**+1.4**
LSA				IAmb	IAmb	22 17 41.9	
	comp=Z,5.5nm,0.5s						
BILL	**Bilibino**	**52.18**	**10**	*d* P	**P**	**22 17 44.2**	**-0.5**
BILL				*i*		22 18 19.8	
BILL				*i*		22 19 43.5	
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BILL	**Bilibino**	**52.18**	**10**	P	**P**	**22 17 44.5**	**-0.3**
BILL				IAmb	IAmb	22 17 45.8	
	comp=Z,8.9nm,0.9s						
CAN	**Canberra**	**52.61**	**177**	P	**P**	**22 17 48.2**	**-0.1**
CAN				pmax	pmax		
	comp=Z,71nm,1.5s						
CAN	**Canberra**	**52.61**	**177**	P	**P**	**22 17 48.2**	**-0.1**
GAMB	**Gambell**	**54.51**	**22**	P		22 18 02.4	
	baz=232						
MORW	**Morawa**	**54.52**	**212**	P	**P**	**22 18 01.7**	**-0.6**
TOO	**Toolangi**	**54.77**	**180**	P	**P**	**22 18 04.8**	**+0.8**
TOO				pmax	pmax		
	comp=Z,29nm,1.5s						
TOO	**Toolangi**	**54.77**	**180**	P	**P**	**22 18 04.8**	**+0.8**
HPAH	**Hawaii Prepara**	**55.16**	**77**	P	**P**	**22 18 08.2**	**+0.9**
WMQ	**Urumqi**	**55.21**	**312**	*e*P	**P**	**22 18 11.0**	**+3.7**
WMQ				pmax	pmax		
	comp=Z,40nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,3.9s						
RAMN	**Ramite**	**55.24**	**291**	*e*P	**P**	**22 18 07.9**	**-0.1**
	comp=Z,6.1nm,0.5s						
POHA	**Pohakuloa**	**55.35**	**78**	P	**P**	**22 18 09.9**	**+1.0**
SDPT	**Sand Point**	**55.38**	**34**	P		22 18 08.2	
	baz=249						
AIN	**Ainahou**	**55.48**	**78**	P	**P**	**22 18 11.6**	**+1.9**
GUN	**Gumba**	**55.83**	**292**	*e*P	**P**	**22 18 12.7**	**+0.4**
	comp=Z,13nm,0.4s						
PKI	**Pulchoki**	**56.26**	**292**	*e*P	**P**	**22 18 14.9**	**-0.5**
	comp=Z,9.0nm,0.4s						
PKIN	**Phulchoki**	**56.27**	**292**	*e*P	**P**	**22 18 15.1**	**-0.3**
	comp=Z,11nm,0.4s						
DGZ	**Jazzator, Alta**	**56.52**	**318**	*i* P	**P**	**22 18 16.2**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DMN	**Daman**	**56.53**	**292**	*e*P	**P**	**22 18 17.1**	**-0.1**
	comp=Z,7.7nm,0.4s						
GKN	**Gorkha**	**56.92**	**292**	*e*P	**P**	**22 18 20.2**	**+0.4**
	comp=Z,13nm,0.4s						
NWAO	**Narrogin (SRO)**	**57.12**	**209**	P	**P**	**22 18 20.1**	**-0.6**
	comp=Z,24nm,0.6s,baz=50,slow=5.8,SNR=22						
NWAO	**Narrogin (SRO)**	**57.12**	**209**	P	**P**	**22 18 20.2**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,19nm,0.7s						
NWAO	**Narrogin (SRO)**	**57.12**	**209**	P	**P**	**22 18 20.2**	**-0.6**
DANN	**Dangsing**	**57.67**	**293**	*e*P	**P**	**22 18 25.6**	**+0.3**
CHIR	**Chirikof Islan**	**58.14**	**35**	P	**P**	**22 18 28.9**	**+1.2**
PYUN	**Piuthan**	**58.37**	**293**	*e*P	**P**	**22 18 30.9**	**+0.9**
	comp=Z,6.2nm,0.3s						
OUZ	**Omahuta**	**58.66**	**154**	P	**P**	**22 18 32.7**	**+1.2**
ZALV	**Zelesovo Beam**	**59.06**	**323**	P	**P**	**22 18 34.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=123,slow=7.9,SNR=2.9						
MK31	**Makanchi Array**	**59.41**	**314**	*i* P	**P**	**22 18 35.8**	**-0.8**
MK31	**Makanchi Array**	**59.41**	**314**	P	**P**	**22 18 37.6**	**+1.0**
MKAR	**Makanchi Array**	**59.41**	**314**	P	**P**	**22 18 35.7**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=81,slow=11,SNR=7.3						
MKAR				ScP	**ScP**	**22 23 07.3**	**-2.3**
	comp=Z,0.9nm,0.9s,baz=98,slow=5.3,SNR=3.7						
MKAR	**Makanchi Array**	**59.41**	**314**	*ce*P	**P**	**22 18 40.9**	**+4.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**59.41**	**314**	P	**P**	**22 18 36.1**	**-0.5**
N18K	**Kilae Creek**	**59.52**	**29**	P		22 18 37.9	
	baz=250						
MAKZ	**Makanchi**	**59.62**	**314**	P	**P**	**22 18 38.1**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**59.62**	**314**	P	**P**	**22 18 38.1**	**0.0**
OHAK	**Old Harbor**	**59.77**	**33**	P		22 18 39.8	
	baz=255						
SVW2	**Sparrevohn**	**59.81**	**29**	P	**P**	**22 18 40.0**	**+0.9**
SVW2				IAmb	IAmb	22 18 45.8	
	comp=Z,7.8nm,0.7s						
TTA	**Tatalina**	**60.26**	**27**	P	**P**	**22 18 42.9**	**+0.7**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TTA	**Tatalina**	**60.26**	**27**	P	**P**	**22 18 42.9**	**+0.7**
TTA				IAmb	IAmb	22 18 43

baz=254
GHO **Glory Hole Cre** 63.06 29 P P 22 19 01.5 +0.5
GHO IAmb IAmb 22 19 23.7
comp=Z,11nm,0.8s
QRZ **Quartz Range** 63.09 158 P P 22 19 01.6 +0.4
PUZ **Puketiti** 63.10 152 P P 22 19 02.2 +0.7
MOVZ **Moawhango** 63.12 154 P P 22 19 01.3 -0.4
MLY **Manley** 63.14 25 P 22 19 01.4
baz=253,SNR=14
KNK **Knik Glacier** 63.20 29 P 22 19 01.5
baz=257
BKZ **Black Stump Fm** 63.23 154 P P 22 19 01.4 -0.9
BKZ IAmb IAmb 22 19 01.8
comp=Z,18nm,1.0s
SML **Sawmill** 63.35 29 P 22 19 02.8
baz=257,SNR=12
A21K **Barrow** 63.39 18 P P 22 19 03.2 +0.4
A21K **Barrow** 63.39 18 P 22 19 02.8
baz=244
MCK **McKinley** 63.54 27 P 22 19 03.4
baz=255
KRHZ **Kereru** 63.58 154 P P 22 19 03.7 -0.8
NEA2 **Nenana** 63.70 26 P P 22 19 05.4 +0.3
NEA2 IAmb IAmb 22 19 06.8
comp=Z,10nm,1.2s
NEA2 **Nenana** 63.70 26 P 22 19 05.2
baz=255,SNR=6.2
I23K **Minto, Yukon-K** 63.73 25 P 22 19 05.2
baz=254,SNR=19
PNHZ **Pukenui** 63.73 154 P P 22 19 05.1 -0.5
TSZ **Takapari Road** 63.76 155 P P 22 19 05.0 -0.7
WAT6 **Susitna Watana** 63.79 28 P 22 19 05.5
baz=257,SNR=11
SCM **Sheep Creek Mo** 63.82 29 P P 22 19 06.5 +0.5
SCM pmax pmax
comp=Z,25nm,0.9s
SCM **Sheep Creek Mo** 63.82 29 P P 22 19 06.5 +0.5
H23K **Yukon River** 63.85 24 P 22 19 06.4
baz=254,SNR=9.3
KAHZ **Kahuranaki** 63.92 154 P P 22 19 06.6 -0.2
COLD **Coldfoot** 64.00 23 P P 22 19 07.9 +0.9
COLD IAmb IAmb 22 19 09.1
comp=Z,5.7nm,0.6s
COLD **Coldfoot** 64.00 23 P 22 19 07.4
baz=252,SNR=9.2
WRH **Wood River Hil** 64.08 26 P P 22 19 07.2 -0.4
WRH IAmb IAmb 22 19 08.4
comp=Z,10nm,1.2s
MDM **Murphy Dome** 64.15 26 P P 22 19 08.2 +0.2
MDM IAmb IAmb 22 19 10.3
comp=Z,7.5nm,0.6s
CCB **Clear Creek Bu** 64.25 26 P P 22 19 07.8 -0.8
EYAK **Cordova Ski Ar** 64.32 31 P 22 19 09.5
baz=260
BFZ **Birch Farm** 64.40 155 P P 22 19 09.6 -0.2
KLU **Klutina** 64.41 30 P P 22 19 10.5 +0.7
KLU IAmb IAmb 22 19 11.3
comp=Z,10.0nm,1.0s
KLU **Klutina** 64.41 30 P 22 19 10.1
baz=259,SNR=6.2
M24K **Tolsona, Glenn** 64.41 29 P 22 19 10.2
baz=259
H24K **Nodor Dome** 64.51 25 P 22 19 10.5
baz=255,SNR=9.6
POKR **Poker Plat Res** 64.51 26 P 22 19 09.8
baz=256
HDA **Harding Lake** 64.55 26 P 22 19 09.9
baz=257
HDA P 22 19 09.9
baz=257
TOLK **Toolik Lake Re** 64.65 21 P 22 19 11.6
baz=252,SNR=13
IL31 **64.66 26** P P **22 19 10.2 -1.0**
IL31 IAmb IAmb 22 19 11.5
comp=Z,8.0nm,1.0s
ILAR **Eielson Array** 64.66 26 P P 22 19 09.9 -1.3
comp=Z,4.2nm,0.7s,baz=250,slow=6.0,SNR=23
ILAR **Eielson Array** 64.66 26 P 22 19 10.0 -1.3
ILAR **Eielson Array** 64.66 26 P P 22 19 10.0 -1.2
PAX **Paxson** 64.89 28 P 22 19 12.8
baz=259
HARP **HAARP** 64.93 29 P 22 19 13.2
baz=260,SNR=5.4
BMRM **Bremner River** 64.94 30 P 22 19 13.5
baz=261,SNR=5.4
N25K **Chitina, Valde** 65.05 30 P P 22 19 14.8 +0.8
N25K IAmb IAmb 22 19 35.5
comp=Z,5.5nm,0.8s
N25K **Chitina, Valde** 65.05 30 P 22 19 14.6
baz=260,SNR=6.9
GLB **Gilahina Butte** 65.40 30 P P 22 19 16.9 +0.7
GLB IAmb IAmb 22 19 18.2
comp=Z,16nm,1.0s
CRQE **Cirque** 65.64 31 P 22 19 17.8
baz=262
SCRK **Sand Creek** 65.73 27 P P 22 19 18.5 +0.1
SCRK IAmb IAmb 22 19 19.1
comp=Z,15nm,1.3s
SCRK **Sand Creek** 65.73 27 P 22 19 18.0
baz=260,SNR=11
MCARA **McCarthy VSAT** 65.76 30 P P 22 19 18.6 +0.1
MCARA IAmb IAmb 22 19 33.0
comp=Z,12nm,0.7s
MCARA **McCarthy VSAT** 65.76 30 P 22 19 18.5
baz=262
MESA **MESA** 66.13 31 P 22 19 21.6
baz=264
BMAR **Burnt Mountain** 66.16 23 P P 22 19 21.5 +0.5
NIL **Nilore** 66.25 300 P P 22 19 22.7 +0.5
NIL pmax pmax
comp=Z,8.0nm,0.8s
NIL **Nilore** 66.25 300 P P 22 19 22.7 +0.5
NIL IAmb IAmb 22 19 25.6
comp=Z,7.9nm,0.8s
YAH **Yahtse** 66.26 31 P P 22 19 22.1 +0.1
YAH IAmb IAmb 22 19 28.9
comp=Z,9.7nm,0.6s
GRNC **Granite Creek** 66.29 31 P P 22 19 22.6 +0.4
GRNC IAmb IAmb 22 19 24.0
comp=Z,11nm,0.7s
CTG **Chitna Glacier** 66.52 31 P 22 19 24.0
baz=264,SNR=6.7
L27K **Beaver Creek,** 66.55 28 P P 22 19 24.1 +0.6
L27K IAmb IAmb 22 19 25.4
comp=Z,5.2nm,0.7s
L27K **Beaver Creek,** 66.55 28 P 22 19 23.7
baz=262,SNR=9.9
BCAR **Beaver Creek A** 66.57 28 P P 22 19 24.2 +0.5
K27K **Chicken** 66.57 27 P P 22 19 24.4 +0.9
K27K **Chicken** 66.57 27 P 22 19 24.1
baz=262
PINM **Pinnacle** 66.97 32 P 22 19 26.8
baz=265
EGAK **Eagle** 67.07 26 P P 22 19 27.9 +1.1
EGAK IAmb IAmb 22 19 28.5
comp=Z,13nm,1.4s
EGAK **Eagle** 67.07 26 P 22 19 26.8
baz=262
BVAR **Borovoye Array** 67.50 321 P P 22 19 28.5 -1.1
comp=Z,2.3nm,0.6s,baz=157,slow=8.0,SNR=10
BRVK **Borovoye** 67.56 321 *ce*P P 22 19 29.5 -0.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK **Borovoye** 67.56 321 P P 22 19 29.1 -0.9
KK31 **Karatay Array** 67.65 310 P P 22 19 30.3 -0.5
KK31 pmax pmax
comp=Z,3.0nm,1.2s
KK31 **Karatay Array** 67.65 310 P P 22 19 30.3 -0.5
KKAR **Karatay Array** 67.65 310 P P 22 19 30.5 -0.3
KKAR **Karatay Array** 67.65 310 P P 22 19 30.5 -0.3
DAWY **Dawson** 67.75 27 P P 22 19 31.7 +0.6
HYT **Haines Junctio** 68.38 31 P P 22 19 36.5 +1.3
HYT IAmb IAmb 22 19 37.3
comp=Z,18nm,0.9s
SIT **Sitka** 69.43 35 P 22 19 42.0
baz=270
WHY **Whitehorse** 69.66 31 P 22 19 43.8
baz=270
INK **Inuvik** 70.42 23 P P 22 19 46.9 -0.5
comp=Z,8.7nm,0.9s,baz=273,slow=7.0,SNR=8.3
INK **Inuvik** 70.42 23 P P 22 19 47.0 -0.3
INK pmax pmax
comp=Z,16nm,1.3s
INK **Inuvik** 70.42 23 P P 22 19 47.0 -0.3
INK IAmb IAmb 22 19 48.5
comp=Z,16nm,1.2s
INK **Inuvik** 70.42 23 P 22 19 47.1
baz=268
CRAG **Craig** 70.71 37 P 22 19 49.9
baz=273
C36M **Paulatuk** 73.81 22 P P 22 20 07.3 -0.1
C36M IAmb IAmb 22 20 07.8
comp=Z,14nm,0.7s
C36M **Paulatuk** 73.81 22 P 22 20 06.9
baz=276
ARU **Arti** 74.13 325 P P 22 20 07.8 -1.8
comp=Z,1.1nm,0.5s,baz=121,slow=12,SNR=4.7
ARU **Arti** 74.13 325 *i* P P 22 20 07.0 -2.6
ARU pmax pmax
comp=Z,13nm,2.6s
ARU **Arti** 74.13 325 P P 22 20 08.0 -1.7
ABKAR **Akbulak array** 74.32 317 P P 22 20 09.2 -1.7
ABKAR **Akbulak array** 74.32 317 P P 22 20 09.3 -1.6
ABKAR IAmb IAmb 22 20 11.7
comp=Z,1.5nm,0.7s
AKTO **Aktyubinsk** 75.36 319 P P 22 20 14.5 -2.4
comp=Z,0.6nm,0.4s,baz=101,slow=5.2,SNR=2.9
E03A **Lebam** 77.91 45 P P 22 20 32.0 +0.8
E03A IAmb IAmb 22 20 33.5
comp=Z,19nm,0.8s
D03D **Eldon** 78.01 44 P 22 20 33.2
baz=283
B05A **Bryant** 78.50 43 P 22 20 34.8
baz=283
E04D **Cinebar** 78.58 45 P 22 20 35.7
baz=283
I03D **Drain, OR** 78.69 48 P 22 20 35.7
baz=283
K02D **Willamette Mer** 78.70 49 P 22 20 36.0
baz=283
EUNU **Eureka** 78.89 8 P P 22 20 35.5 -0.6
H04D **Lebanon** 78.93 47 P 22 20 36.9
baz=284
YKA **Yellowknife Ar** 78.98 28 P P 22 20 36.6 -0.1
comp=Z,8.4nm,0.7s,baz=288,slow=5.2,SNR=27
YKA LR LR 22 56 54.3
comp=Z,17nm,18.8s,baz=0.0,slow=36
YKA **Yellowknife Ar** 78.98 28 *ce*P P 22 20 36.7 -0.1
YKA pmax pmax
comp=Z,9.0nm,0.7s
LON **Longmire** 79.04 44 P P 22 20 37.9 +0.4
LON pmax pmax
comp=Z,4.0nm,0.7s
LON **Longmire** 79.04 44 P P 22 20 37.9 +0.4
I04A **Tendick Farm,** 79.33 47 P 22 20 39.9
baz=284
M02C **Callahan** 79.60 50 P 22 20 41.3
baz=284
YBH **Yreka Blue Hor** 79.62 50 P P 22 20 42.2 +1.4
YBH pmax pmax
comp=Z,10.0nm,1.2s
YBH **Yreka Blue Hor** 79.62 50 P P 22 20 42.2 +1.4
J04D **Umpqua Nationa** 79.68 48 P 22 20 41.6
baz=284
L04D **Klamath Falls** 79.79 49 P 22 20 41.8
baz=284
N02D **Trinity Center** 79.81 50 P 22 20 42.7
baz=284
O02D **Mt. Diablo Mer** 79.94 51 P 22 20 42.5
baz=284
I05D **Terrebonne, OR** 79.95 47 P 22 20 43.1
baz=285
M04C **Macdoel** 80.24 49 P 22 20 45.1
baz=285
PINE **Pine Mountain** 80.36 47 P P 22 20 46.1 +1.3
RES **Resolute Bay** 80.56 14 P P 22 20 45.0 0.0
RES pmax pmax
comp=Z,4.0nm,0.8s
RES **Resolute Bay** 80.56 14 P P 22 20 45.0 0.0
O03E **Paynes Creek** 80.64 51 P 22 20 45.8
baz=285
HAWA **Hanford** 80.65 44 P P 22 20 46.3 +0.2
BELG **Belogornoye** 81.24 322 P P 22 20 49.1 +0.1
baz=282,slow=5.8
AFDM **Forest Hills D** 81.61 52 P P 22 20 52.2 +0.8
NEW **Newport** 81.70 42 LR LR 22 49 16.0
comp=Z,31nm,20.3s,baz=321,slow=30
NEW **Newport** 81.70 42 P P 22 20 52.1 +0.4
NEW pmax pmax
comp=Z,14nm,1.2s
NEW **Newport** 81.70 42 P P 22 20 52.1 +0.4
NEW IAmb IAmb 22 20 53.1
comp=Z,14nm,1.1s
NEW **Newport** 81.70 42 P 22 20 51.9
baz=287
BEKR **Beckworth** 81.82 51 P P 22 20 52.9 +0.2
BEKR IAmb IAmb 22 20 54.2
comp=Z,16nm,1.0s
WVOR **Wild Horse Val** 82.36 48 P P 22 20 55.9 +0.6
WVOR pmax pmax
comp=Z,8.0nm,0.9s
WVOR **Wild Horse Val** 82.36 48 P P 22 20 55.9 +0.6
BMO **Blue Mountains** 82.58 45 P P 22 20 57.0 +0.6
BMO pmax pmax
comp=Z,15nm,1.2s
BMO **Blue Mountains** 82.58 45 P P 22 20 57.0 +0.6
BMO IAmb IAmb 22 20 58.0
comp=Z,15nm,1.1s
WAKR **Walker** 82.89 52 P P 22 20 59.2 +0.9
RYN **Ryan** 83.54 52 P P 22 21 02.5 +0.9
RYN IAmb IAmb 22 21 03.5
comp=Z,9.9nm,0.9s
PKM **Mcpherson Peak** 83.64 56 P 22 21 02.6
baz=287
ARCES **ARCESS Array B** 83.68 342 P P 22 21 00.4 -1.1
comp=Z,2.6nm,0.8s,baz=55,slow=7.8,SNR=6.4
ARCES **ARCESS Array B** 83.68 342 P P 22 21 01.2 -0.2
ARCES pmax pmax
comp=Z,16nm,1.4s
ARCES **ARCESS Array B** 83.68 342 P P 22 21 01.2 -0.2
ARCES IAmb IAmb 22 21 27.8
comp=Z,16nm,1.4s
NVAR **Mina Array Bea** 83.76 52 P P 22 21 03.7 +0.9
comp=Z,3.3nm,0.4s,baz=267,slow=5.8,SNR=22
NVAR **Mina Array Bea** 83.76 52 P P 22 21 03.0 +0.2
NV11 **Mina Array Sit** 83.87 52 P P 22 21 03.8 +0.5
NV11 IAmb IAmb 22 21 05.1
comp=Z,10nm,1.0s
TULEG **Thule** 83.88 8 P P 22 21 02.0 -0.3
VES **Vestal, Richgr** 83.93 54 P 22 21 03.6
baz=287
MFID **Camas Ranch** 84.03 46 P P 22 21 04.1 +0.2
MFID IAmb IAmb 22 21 05.6
comp=Z,17nm,1.0s
MSO **Missoula** 84.20 43 P 22 21 04.4
baz=289
CWC **Cottonwood Cre** 84.53 54 P 22 21 07.1
baz=288
TPH **Tonopah** 84.68 52 P P 22 21 07.6 +0.2
TPH pmax pmax
comp=Z,35nm,0.8s
TPH **Tonopah** 84.68 52 P P 22 21 07.5 +0.2
HLID **Hailey** 84.96 46 P P 22 21 08.9 +0.3
HLID IAmb IAmb 22 21 10.4
comp=Z,10nm,1.1s
HLID **Hailey** 84.96 46 P 22 21 09.3
baz=289
EDW2 **Edwards Air Fo** 85.07 55 P 22 21 09.7
baz=288
MPMC **Manual Prospec** 85.10 54 P 22 21 10.1
baz=288
LRMC **Laurel Mtn Rad** 85.13 54 P 22 21 10.4
baz=288
CIS **Catalina Islan** 85.18 57 P 22 21 09.9
baz=288
MWC **Mount Wilson** 85.22 56 P P 22 21 10.2 +0.1
MWC pmax pmax
comp=Z,11nm,1.0s
MWC **Mount Wilson** 85.22 56 P P 22 21 10.2 +0.1
MWC IAmb IAmb 22 21 11.5
comp=Z,11nm,1.0s
ELK **Elko** 85.30 49 P P 22 21 10.9 +0.4
ELK pmax pmax
comp=Z,10.0nm,0.8s
ELK **Elko** 85.30 49 P P 22 21 10.9 +0.4
ELK IAmb IAmb 22 21 13.2
comp=Z,10nm,0.8s
FURC **Furnace Creek,** 85.45 53 P 22 21 11.1
baz=288
BFSC **Mount Baldy Ra** 85.53 56 P 22 21 11.9
baz=288
DLMT **Dillon** 85.57 44 P P 22 21 11.7 +0.1
MCMT **McKenzie Canyo** 85.59 44 P P 22 21 12.1 +0.3
TPNV **Topopah Spring** 85.77 53 P P 22 21 13.3 +0.5
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV **Topopah Spring** 85.77 53 P P 22 21 13.3 +0.5
TPNV IAmb IAmb 22 21 14.4
comp=Z,7.8nm,0.9s
TPNV **Topopah Spring** 85.77 53 P 22 21 13.0
baz=289
R11A **Troy Canyon, C** 85.82 51 P 22 21 13.5
baz=289
GSC **Goldstone, Bar** 85.86 54 P 22 21 13.4
baz=288
OBN **Obninsk** 86.36 327 *i* P P 22 21 21.2 +6.2
OBN pmax pmax
comp=Z,2.0nm,0.7s
HEC **Hector,Ludlow** 86.38 55 P 22 21 15.9
baz=289
109C **Camp Elliot, M** 86.39 57 P 22 21 16.0
baz=288
TUQ **Turquoise Moun** 86.50 54 P 22 21 16.6
baz=289
PFO **Pinyon Flats O** 86.67 56 P P 22 21 17.4 +0.2
PFO pmax pmax
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 86.67 56 P P 22 21 17.4 +0.2
PFO IAmb IAmb 22 21 18.6
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 86.67 56 P 22 21 17.7
baz=289
TPFO **Pinon Flats** 86.68 56 P 22 21 17.4
baz=289
BELC **Belle Mtn. Jos** 86.91 55 P 22 21 18.5
baz=289
GMRC **Granite Mounta** 86.92 55 P 22 21 18.1
baz=289
MONP2 **Monument Peak** 86.93 57 P 22 21 18.7
baz=289
KBZ **Khabaz** 87.10 315 P P 22 21 18.1 -0.7
comp=Z,1.9nm,0.8s,baz=146,slow=3.6,SNR=2.0
KIV **Kislovodsk** 87.16 315 *e*P P 22 21 17.9 -1.4
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,49nm,20.0s
DUG **Dugway, Tooele** 87.22 49 P P 22 21 20.3 +0.5
DUG pmax pmax
comp=Z,17nm,0.8s
DUG **Dugway, Tooele** 87.22 49 P P 22 21 20.2 +0.5
DUG **Dugway, Tooele** 87.22 49 P 22 21 19.9
baz=290
IKP **In-Ko-Pah, Jac** 87.26 57 P 22 21 20.5
baz=289
FLWY **Flagg Ranch** 87.30 45 P P 22 21 21.0 +0.9
FLWY IAmb IAmb 22 21 22.4
comp=Z,13nm,0.8s
BC3 **Big Chuckawall** 87.45 56 P 22 21 21.4
baz=289
AHID **Auburn Hatcher** 87.51 46 P P 22 21 21.6 +0.4
AHID IAmb IAmb 22 21 22.7
comp=Z,11nm,0.9s
IRM **Iron Mountain** 87.53 55 P 22 21 21.6
baz=289
LOHW **Long Hollow** 87.53 45 P P 22 21 21.3 0.0
HWUT **Hardware Ranch** 87.61 47 P P 22 21 21.9 +0.2
FFC **Flin Flon** 88.03 33 P P 22 21 22.6 -0.4
FFC pmax pmax
comp=Z,16nm,0.7s
FFC **Flin Flon** 88.03 33 P P 22 21 22.6 -0.4
FIA1 **FINESS Array S** 88.04 335 P P 22 21 21.1 -1.8
FIA1 IAmb IAmb 22 21 27.6
comp=Z,9.2nm,1.1s
FINES **FINESS Array B** 88.04 335 P P 22 21 20.4 -2.5
comp=Z,0.6nm,0.3s,baz=64,slow=4.4,SNR=12
FINES **FINESS Array B** 88.04 335 *ce*P P 22 21 20.2 -2.7
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES **FINESS Array B** 88.04 335 P P 22 21 20.7 -2.2
MPU **Maple Canyon** 88.13 49 P P 22 21 24.1 0.0
MPU IAmb IAmb 22 21 25.7
comp=Z,12nm,1.0s
GLA **Glamis** 88.14 56 P 22 21 24.3
baz=290
W13A **Hualapai Mount** 88.19 54 P P 22 21 24.9 +0.3
W13A IAmb IAmb 22 21 26.2
comp=Z,4.6nm,0.7s
PDMCI **Parker Dam,Lak** 88.26 55 P 22 21 24.8
baz=290
MTPU **Mount Pierson** 88.44 51 P P 22 21 26.7 +0.8
MTPU IAmb IAmb 22 21 28.1
comp=Z,6.5nm,0.8s
PDAR **Pinedale Array** 88.56 45 LR LR 22 56 47.9
comp=Z,23nm,20.2s,baz=280,slow=32
U15A **North Rim** 88.94 52 P P 22 21 28.7 +0.6
U15A IAmb IAmb 22 21 30.2
comp=Z,9.7nm,0.8s
LAO **LASA Array** 89.17 41 P 22 21 29.1
baz=295
WUAZ **Wupatki** 89.96 53 P P 22 21 33.3 +0.5
WUAZ IAmb IAmb 22 21 34.9
comp=Z,11nm,0.9s
WUAZ **Wupatki** 89.96 53 P 22 21 33.9
baz=292
214A **Organ Pipe Nat** 90.12 56 P 22 21 34.3
baz=291
O20A **White River Ci** 90.50 48 P P 22 21 35.3 +0.1
O20A **White River Ci** 90.50 48 P 22 21 35.1
baz=293
PV19 **Morning Glory** 90.68 49 P P 22 21 36.4 +0.3
MNK **Minsk** 91.06 329 *i* P P 22 21 35.0 -2.2
MNK *i* 22 25 12.8
MNK *i* PPP PPP 22 27 12.1
MNK *i* S S 22 31 54.3 -28
MNK *i* 22 32 24.4
MNK *i* SS SS 22 38 30.3 +2.1
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=Z,4.0nm,1.3s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=E,4.0nm,20.0s
MNK MLR MLR
comp=N,56nm,24.0s
MNK MLR MLR
comp=Z,68nm,23.0s
MNK **Minsk** 91.06 329 *i* P P 22 21 35.1 -2.1
comp=E,1.0nm,0.8s
MNK *i* P P 22 21 35.1 -2.1
comp=N,7.0nm,1.0s
MNK *i* P P 22 21 35.1 -2.1
comp=Z,4.0nm,1.3s,baz=57
MNK *i* pP pP 22 22 08.4 -5.8
MNK *i* PP PP 22 25 12.9 -2.3
MNK *i* PPP PPP 22 27 12.1
MNK *i* S SKSac 22 31 54.3 -0.8
MNK *i* ScS S 22 32 24.4 +2.4
MNK *i* sS pS 22 32 55.1 -14
MNK *i* SS SS 22 38 30.4 +2.1
MNK *i* SSS SSS 22 42 17.6
MNK *i* LRM MLR 23 03 31.5
comp=E,4.0nm,20.4s
MNK *i* LRM MLR 23 03 43.9
comp=N,56nm,24.3s
MNK *i* LRM MLR 23 03 43.9
comp=Z,68nm,23.0s
W18A **Petrified Fore** 91.35 53 P P 22 21 39.5 +0.2
W18A IAmb IAmb 22 21 41.9
comp=Z,9.7nm,1.1s
W18A **Petrified Fore** 91.35 53 P 22 21 40.1
baz=292
MVCO **Mesa Verde** 91.47 50 P 22 21 40.5
baz=293
TUC **Tucson** 91.59 56 P P 22 21 41.2 +0.9
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC **Tucson** 91.59 56 P P 22 21 41.2 +0.9
TUC IAmb IAmb 22 21 42.5
comp=Z,4.1nm,1.0s
TUC **Tucson** 91.59 56 P 22 21 41.0
baz=292
N23A **Red Feather La** 91.79 46 P 22 21 42.0
baz=295
S22A **4UR Ranch, Cre** 92.47 49 P 22 21 44.9
baz=294

ISCO	**Idaho Springs**	**92.48**	**47**	P	**P**	**22 21 45.0**	**+0.5**
ISCO				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ISCO	**Idaho Springs**	**92.48**	**47**	P	**P**	**22 21 45.0**	**+0.5**
ISCO				IAmb	IAmb	22 21 46.2		
	comp=Z,6.5nm,0.8s							
ISCO	**Idaho Springs**	**92.48**	**47**	P		22 21 45.2		
	baz=295							
SDCO	**Great Sand Dun**	**93.42**	**49**	P		22 21 49.2		
	baz=295							
NOA	**NORSAR Array B**	**93.75**	**340**	LR	LR	23 06 25.2		
	comp=Z,13nm,18.7s,baz=60,slow=37							
LENM	**Lemitar**	**93.82**	**53**	P	**P**	**22 21 51.7**	**+1.1**
121A	**Cookes Peak, D**	**93.85**	**54**	P		22 21 51.2		
	baz=294							
ANMO	**Albuquerque**	**93.89**	**52**	LR	LR	22 55 54.7		
	comp=Z,31nm,20.5s,baz=279,slow=30							
ANMO	**Albuquerque**	**93.89**	**52**	*ce*P	**P**	**22 21 49.6**	**-1.4**
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ANMO	**Albuquerque**	**93.89**	**52**	P	**P**	**22 21 51.2**	**+0.2**
ANMO				IAmb	IAmb	22 21 52.7		
	comp=Z,5.9nm,1.2s							
ANMO	**Albuquerque**	**93.89**	**52**	P		22 21 51.3		
	baz=294							
T25A	**Trinidad**	**94.47**	**49**	P		22 21 53.2		
	baz=296							
MNTX	**Cornudas Mount**	**96.05**	**54**	P	**P**	**22 22 01.2**	**+0.5**
MNTX				IAmb	IAmb	22 22 02.2		
	comp=Z,2.5nm,0.8s							
MNTX	**Cornudas Mount**	**96.05**	**54**	P		22 22 01.0		
	baz=295							
ECSD	**EROS Data Cent**	**96.54**	**40**	P		22 22 03.1		
	baz=302							
TXAR	**Lajitas Array**	**98.39**	**56**	P	**P**	**22 22 12.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=268,slow=3.3,SNR=5.0							
TXAR				PP	**PP**	**22 26 13.5**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=302,slow=4.1,SNR=2.0							
TXAR				LR	LR	23 00 22.7		
	comp=Z,43nm,21.3s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**98.39**	**56**	P	**P**	**22 22 11.9**	**+0.5**
TXAR	**Lajitas Array**	**98.39**	**56**	P	**P**	**22 22 11.8**	**+0.5**
KSU1	**Kansas State U**	**98.95**	**44**	P		22 22 13.9		
	baz=301							
WMOK	**Wichita Mounta**	**99.63**	**49**	P		22 22 16.5		
	baz=299							
CLL	**Collm**	**100.07**	**332**	*e*P	**Pdif**	**22 22 17.0**	**-1.2**
MATQ	**Matagami**	**102.80**	**27**	P		22 22 31.3		
	baz=318							
G61A	**St-Isidore-de-**	**108.89**	**27**	P		22 27 01.5		
	baz=322							
MCWV	**Mont Chateau**	**108.94**	**36**	P		22 27 01.8		
	baz=314							
TORD	**Torodi Ar. Bea**	**133.32**	**308**	PKP	**PKPdf**	**22 27 47.9**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=8.7,slow=1.9,SNR=2.3							
TORD				SKPbc	**SKPbc**	**22 31 00.6**	**-2.9**
	comp=Z,2.1nm,0.6s,baz=39,slow=2.6,SNR=11							
LPAZ	**La Paz**	**147.48**	**93**	PKPbc	**PKPbc**	**22 28 18.6**	**+0.8**
	comp=Z,12nm,0.5s,baz=308,slow=1.9,SNR=62							
LPAZ	**La Paz**	**147.48**	**93**	PKP2	**PKPbc**	**22 28 18.9**	**+1.0**
LPAZ	**La Paz**	**147.48**	**93**		**PKPdf**	**22 28 15.6**	**+0.4**
LPAZ				PKPab	**PKPbc**	**22 28 18.9**	**+1.0**
CPUP	**Villa Florida**	**156.79**	**116**	PKPab	**PKPab**	**22 28 59.3**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=293,slow=5.0,SNR=9.0							
CPUP	**Villa Florida**	**156.79**	**116**		**PKPab**	**22 28 59.1**	**+0.9**
BDFB	**Brasilia**	**166.57**	**84**	PKPab	**PKPab**	**22 29 42.3**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=274,slow=8.9,SNR=6.5							

IPEC ***17*** *22:09:29.1±0.2, 49.83N×18.50E, h1km, ML1.1/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*

PRU 17 22:09:30.0±0.0, 49.88N×18.41E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.17**	**256**	*e*PG	Pg	22 09 33.8	+0.5
OKC				*e*SG	Sg	22 09 36.7	+1.1
	comp=Z,36nm,0.5s						
MORC	**Moravsky Berou**	**0.57**	**260**	*e*SG	Sg	22 09 48.8	+0.5
MORC	**Moravsky Berou**	**0.57**	**260**	*e*Pg	Pg	22 09 41.3	+0.4
	baz=85						
MORC				*e*Sg	Sg	22 09 48.8	+0.5
	5.2nm,0.3s,baz=85						
MORC	**Moravsky Berou**	**0.57**	**260**	*e*PG	Pg	22 09 41.4	+0.5
OJC	**Ojcow**	**0.96**	**69**	*e*Pg	Pg	22 09 47.0	-1.4
OJC				*e*Sg	Sg	22 10 00.0	-0.7
LANS	**Liptovska Anna**	**1.00**	**136**	*e*PG	Pg	22 09 47.7	-1.5
LANS				*e*SG	Sb	22 10 04.3	+0.2
LANS				*e*LG	Lg	22 10 05.0	
KRLC	**Kraliky**	**1.07**	**281**	*e*PG	Pg	22 09 49.3	-1.2
KRLC				*e*SG	Sg	22 10 04.5	+0.2
JAVC	**Velka Javorina**	**1.13**	**206**	*e*PG	Pg	22 09 50.9	-0.7
JAVC	**Velka Javorina**	**1.13**	**206**	*e*Pg	Pg	22 09 50.9	-0.7
	baz=29						
NIE	**Niedzica**	**1.31**	**110**	*e*Pg	Pg	22 09 53.4	-1.7
NIE				*e*Sg	Sb	22 10 12.8	-0.2
VRAC	**Vranov**	**1.31**	**245**	*e*PG	Pg	22 09 54.3	-0.8
VRAC				*e*SG	Sg	22 10 11.1	-1.1
VRAC	**Vranov**	**1.31**	**245**	*e*Pg	Pg	22 09 54.2	-0.9
	baz=67						
VRAC				*e*Sg	Sg	22 10 11.0	-1.2
	3.3nm,0.4s,baz=67						
VYHS	**Vyhne**	**1.42**	**168**	*e*PG	Pn	22 09 55.1	-1.9
DPC	**Dobruska-Polom**	**1.42**	**290**	*e*PG	Pn	22 09 56.3	-0.9
DPC				*e*SG	Sb	22 10 16.3	+0.1
	comp=Z,1.8nm,0.3s						
KRUC	**Moravsky**	**1.55**	**239**	*e*PG	Pn	22 09 57.6	-1.2
KRUC				*e*SG	Sn	22 10 18.4	-1.2
KRUC	**Moravsky**	**1.55**	**239**	*e*Pg	Pn	22 09 57.5	-1.3
	baz=60						
KRUC				*e*Sg	Sn	22 10 18.4	-1.2
	1.1nm,0.2s,baz=60						
OSTC	**Ostas**	**1.56**	**297**	*e*PG	Pn	22 09 58.8	-0.3
OSTC				*e*SG	Sg	22 10 20.4	+0.2
CHVC	**Chvalec**	**1.67**	**296**	*e*SG	Sg	22 10 23.7	+0.1
KHC	**Kasperske Hory**	**3.24**	**258**	*e*SG	Sb	22 11 10.6	+2.3

IDC ***17*** *22:35:53.1±6.4, 6.39S×154.55E, h78km±52km, mb3.4/5, mb1 3.8/6, mb1mx3.4/31, mbtmp3.8/6, ML2.6/1, Error ellipse: s-maj=66.2km s-min=31.8km az=131.0*

ISC 17 22:35:49.9±1.1, 6.3S±0.2×154.7E±0.2, h48km, n8, σ1§25/9, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.07**	**247**	P	**Pn**	**22 37 46.2**	**+1.6**
	4.4nm,0.3s,baz=286,slow=23,SNR=5.6						
PMG				S	**Sn**	**22 39 13.7**	**-0.9**
	3.5nm,0.3s,baz=288,slow=16,SNR=2.2						
CTA	**Charters Tower**	**15.98**	**210**	P	**P**	**22 39 34.9**	**+0.4**
	0.2nm,0.3s,baz=24,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**23.98**	**234**	P	**P**	**22 40 59.1**	**-1.0**
	1.5nm,0.4s,baz=64,slow=11,SNR=37						
ASAR	**Alice Springs**	**26.42**	**227**	P	**P**	**22 41 20.7**	**-1.7**
	0.5nm,0.5s,baz=57,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**82.66**	**319**	P	**P**	**22 48 08.5**	**+0.1**
	0.4nm,0.7s,baz=90,slow=4.9,SNR=3.9						
ILAR	**Eielson Array**	**82.82**	**22**	P	**P**	**22 48 08.0**	**-0.8**
	0.3nm,0.8s,baz=239,slow=6.2,SNR=2.1						
NVAR	**Mina Array Bea**	**91.53**	**52**	P	**P**	**22 48 53.0**	**+1.0**
	0.3nm,0.6s,baz=254,slow=8.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.52**	**286**	PKPbc	**PKPbc**	**22 55 41.5**	**-0.6**
	1.0nm,0.7s,baz=92,slow=2.5,SNR=7.1						

IDC 17 22:59:54.1±1.5, 15.52S×70.52W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, ML1.7/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/16, Error ellipse: s-maj=47.9km s-min=26.4km az=56.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.42**	**109**	Pn	Pn	23 00 34.9	-0.7
	0.2nm,0.3s,baz=258,slow=7.9,SNR=3.8						
LPAZ				Sn	Sn	23 00 59.6	-6.5
	0.7nm,0.3s,baz=295,slow=13,SNR=9.0						
NNA	**Nana**	**7.08**	**299**	LR	LR	23 03 58.5	
	comp=Z,97nm,19.5s,baz=132,slow=34						
LVC	**Limon Verde**	**7.21**	**168**	Pn	Pn	23 01 41.2	-0.1
	0.9nm,0.3s,baz=322,slow=9.7,SNR=7.7						
LVC				Sn	Sn	23 03 06.2	+2.0
	0.2nm,0.3s,baz=292,slow=22,SNR=1.1						
LVC				LR	LR	23 04 26.0	
	comp=Z,100nm,20.6s,baz=318,slow=38						
PTGA	**Pitinga**	**18.01**	**36**	LR	LR	23 12 12.3	
	comp=Z,41nm,19.2s,baz=235,slow=41						
TXAR	**Lajitas Array**	**54.89**	**324**	P	P	23 09 27.0	+0.2
	0.2nm,0.6s,baz=138,slow=7.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**76.89**	**72**	P	P	23 11 49.8	+0.9
	0.4nm,0.7s,baz=259,slow=5.4,SNR=1.9						
SONM	**Songino Array**	**147.68**	**4**	PKPbc	PKPdf	23 19 39.4	+1.2
	0.8nm,0.7s,baz=348,slow=1.2,SNR=6.6						

TEH ***17*** *23:05:42.7, 32.36N×55.45E, h8km, ML4.1*
THR ***17*** *23:05:43.2±0.4, 32.43N×55.43E, h14km±4km, ML4.1*
IDC ***17*** *23:05:45.7±2.5, 32.64N×54.96E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/33, mbtmp3.6/3, ML4.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/20, Error ellipse: s-maj=73.0km s-min=24.8km az=134.0*

ISC 17 23:05:44.5±0.8, 32.39N±0.04×55.43E±0.03, h10km, n68, σ1§33/72, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YZKH	**Yazd**	**0.71**	**270**	*e*Pg	**Pg**	**23 05 57.1**	**-1.1**
YZKH	**Yazd**	**0.71**	**270**	*e*Pg	**Pg**	**23 05 57.1**	**-1.1**
IBAF	**Bafgh**	**0.81**	**172**	*e*Pg	**Pg**	**23 05 58.3**	**-1.8**
IBAF				*e*Sg	**Sg**	**23 06 09.3**	**-1.4**
IBAF				*e*		23 06 13.1	
	comp=Z,40μm,0.2s						
ICHK	**Chekchek**	**0.88**	**260**	*e*Pg	**Pg**	**23 05 59.8**	**-1.6**
ICHK				*e*		23 06 13.9	
	comp=Z,80μm,0.1s						
IMEH	**Mehriz**	**1.22**	**215**	*e*Sg	**Sb**	**23 06 21.9**	**-1.7**
IMEH				*e*Pg	**Pb**	**23 06 06.3**	**-1.5**
IMEH				*e*		23 06 25.1	
	comp=Z,45μm,0.3s						
TPRV	**Parvadeh(Tabas**	**1.23**	**59**	*e*		23 06 28.2	
	comp=Z,44μm,0.6s						
TPRV				*e*Pg	**Pn**	**23 06 07.1**	**-0.8**
ISAD	**Sadrabad**	**1.55**	**253**	*e*Pn	**Pn**	**23 06 12.3**	**-0.2**
ANAR	**Anarak**	**1.64**	**299**	*e*Pn	**Pn**	**23 06 13.2**	**-0.3**
TNSJ	**Nastanj**	**1.85**	**32**	*e*Pn	**Pn**	**23 06 16.1**	**-0.3**
TNSJ				*e*		23 06 50.7	
	comp=Z,24μm,0.4s						
TKDS	**Koohdasht(Taba**	**1.87**	**49**	*e*Pn	**Pn**	**23 06 16.5**	**-0.2**
TKDS				*e*		23 06 44.7	
	comp=Z,33μm,0.3s						
TABS	**Tabas**	**1.89**	**48**	*e*Pn	**Pn**	**23 06 16.7**	**-0.3**
TABS	**Tabas**	**1.89**	**48**	*e*Pn	**Pn**	**23 06 16.7**	**-0.3**
KHGB	**Koh Gabri**	**2.20**	**156**	*e*Pn	**Pn**	**23 06 22.1**	**+0.8**
KHGB				*e*		23 06 59.2	
	comp=Z,13μm,0.4s						
NASN	**Na'in**	**2.25**	**281**	*e*Pn	**Pn**	**23 06 22.2**	**+0.2**
NASN				*e*Sg	**Sb**	**23 06 53.8**	**+0.4**
NASN				IAML		23 06 55.0	
	comp=N,878nm,0.3s						
NASN	**Na'in**	**2.25**	**281**	*e*Pn	**Pn**	**23 06 22.3**	**+0.2**
IRAM	**Ramesheh**	**2.65**	**258**	*e*Pn	**Pn**	**23 06 28.1**	**+0.6**
TVBK	**TV Kerman**	**2.66**	**154**	*e*Pn	**Pn**	**23 06 28.9**	**+1.2**
KRBR	**Kerman**	**2.66**	**154**	*e*Pn	**Pn**	**23 06 28.4**	**+0.7**
KRBR				*e*Sg	**Sb**	**23 07 07.5**	**+2.3**
KRBR				IAML		23 07 18.1	
	comp=E,582nm,0.6s						
KRBR	**Kerman**	**2.66**	**154**	*e*Pn	**Pn**	**23 06 28.4**	**+0.7**
IZEF	**Zefreh**	**2.66**	**282**	*e*Pn	**Pn**	**23 06 28.7**	**+1.0**
IZEF				*e*		23 07 07.6	
	comp=Z,6μm,0.3s						
ITEG	**Tejag**	**2.84**	**79**	*e*Pn	**Pn**	**23 06 30.1**	**0.0**
ITEG				*e*		23 06 38.5	
	comp=Z,11μm,0.4s						
IGAR	**Gharneh**	**2.87**	**271**	*e*Pn	**Pn**	**23 06 32.1**	**+1.6**
IGAR				*e*		23 07 14.0	
	comp=Z,3μm,0.3s						
NGRK	**Negar Kerman**	**2.96**	**157**	*e*Pn	**Pn**	**23 06 32.7**	**+0.8**
NGRK				*e*		23 07 23.8	
	comp=Z,6μm,0.2s						
IKOO	**Kooshah**	**3.02**	**88**	*e*Pn	**Pn**	**23 06 32.7**	**0.0**
IKOO				*e*		23 06 42.6	
	comp=Z,10μm,0.2s						
CHMN	**Cheshme madani**	**3.11**	**144**	*e*Pn	**Pn**	**23 06 34.8**	**+0.9**
CHMN				*e*		23 07 26.6	
	comp=Z,4μm,0.4s						
AFRZ	**Afriz**	**3.19**	**70**	*e*Pn	**Pn**	**23 06 34.5**	**-0.3**
ISFB	**Sefidab**	**3.31**	**307**	*e*Pn	**Pn**	**23 06 36.8**	**+0.4**
IANJ	**Anjilo**	**3.31**	**338**	*e*Pn	**Pn**	**23 06 37.8**	**+1.2**
IANJ				*e*		23 07 40.0	
	comp=Z,2μm,0.4s						
IKLH	**Kolahrood**	**3.37**	**287**	*e*Pn	**Pn**	**23 06 38.6**	**+1.2**
IKLH				*e*		23 07 37.4	
	comp=Z,3μm,0.4s						
KLNJ	**Kolanjah**	**3.55**	**248**	*e*Pn	**Pn**	**23 06 41.8**	**+1.8**
ILAS	**Lasjerd**	**3.62**	**326**	*e*Pn	**Pn**	**23 06 42.3**	**+1.4**
IMON	**Monand**	**3.66**	**76**	*e*Pn	**Pn**	**23 06 41.9**	**+0.5**
IMON				*e*		23 06 42.5	
	comp=Z,6μm,0.2s						
IDAH	**Dahanechah**	**3.76**	**84**	*e*Pn	**Pn**	**23 06 43.3**	**+0.5**
IDAH				*e*		23 06 56.2	
	comp=Z,2μm,0.2s						
ISHM	**Shahmirzad**	**3.84**	**333**	*e*Pn	**Pn**	**23 06 45.0**	**+1.1**
ISHM				*e*		23 08 00.9	
	comp=Z,3μm,0.3s						
IPIR	**Pirpir**	**3.84**	**276**	*e*Pn	**Pn**	**23 06 46.6**	**+2.6**
IPIR				*e*		23 07 50.1	
	comp=Z,2μm,0.4s						
SHK1	**Shahrekord**	**3.85**	**270**	*e*Pn	**Pn**	**23 06 44.5**	**+0.5**
SHK1				*e*		23 07 47.7	
	comp=Z,1μm,0.4s						
IVRN	**Varamin**	**4.03**	**311**	*e*Pn	**Pn**	**23 06 47.0**	**+0.7**
GHVR	**GHOM**	**4.03**	**302**	*e*Pn	**Pn**	**23 06 47.0**	**+0.7**
GHVR	**GHOM**	**4.03**	**302**	*e*Pn	**Pn**	**23 06 47.1**	**+0.7**
NHDN	**Nehbandan**	**4.05**	**103**	*e*Pn	**Pn**	**23 06 46.7**	**0.0**
NHDN				*e*		23 08 11.2	
	comp=Z,5μm,0.5s						
IGLO	**Ghaloghah**	**4.31**	**343**	*e*Pn	**Pn**	**23 06 51.3**	**+1.0**
SBZV	**Sabzevar**	**4.37**	**24**	*e*Pn	**Pn**	**23 06 51.5**	**+0.3**
IQOM	**Qom**	**4.38**	**305**	*e*Pn	**Pn**	**23 06 52.0**	**+0.7**
QIR1	**Qir**	**4.41**	**208**	*e*Pn	**Pn**	**23 06 54.2**	**+2.6**
IHSB	**Hasanabad**	**4.60**	**312**	*e*Pn	**Pn**	**23 06 55.5**	**+1.3**
IPRN	**Peran**	**4.61**	**327**	*e*Pn	**Pn**	**23 06 55.3**	**+0.9**
IMND	**Minoodasht**	**4.85**	**360**	*e*Pn	**Pn**	**23 06 58.5**	**+1.0**
IPAY	**Payeh**	**5.01**	**35**	*e*Pn	**Pn**	**23 07 00.4**	**+0.5**
IAKL	**Akhelmad**	**5.02**	**32**	*e*Pn	**Pn**	**23 07 00.8**	**+0.7**
GENO	**Geno**	**5.02**	**172**	*e*Pn	**Pn**	**23 07 01.4**	**+1.4**
ISFR	**Sfrayin**	**5.11**	**24**	*e*Pn	**Pn**	**23 07 02.3**	**+1.0**
JRKH	**Jarkhoshk**	**5.38**	**48**	*e*Pn	**Pn**	**23 07 05.7**	**+0.8**
IRAZ	**Razeghan**	**5.47**	**305**	*e*Pn	**Pn**	**23 07 07.0**	**+0.7**
IMYA	**Miami**	**5.52**	**43**	*e*Pn	**Pn**	**23 07 07.5**	**+0.6**
IKRD	**Kardeh**	**5.52**	**37**	*e*Pn	**Pn**	**23 07 08.3**	**+1.3**
QALM	**Alamut, Qazvin**	**5.64**	**317**	*e*Pn	**Pn**	**23 07 09.5**	**+0.8**
BMDN	**Meydan**	**5.69**	**285**	*e*Pn	**Pn**	**23 07 11.1**	**+1.8**
HAGD	**Aghdareh**	**5.78**	**296**	*e*Pn	**Pn**	**23 07 12.9**	**+2.4**
IGZV	**Ghazvin**	**5.87**	**314**	*e*Pn	**Pn**	**23 07 12.9**	**+1.2**
QABG	**Abgarm-Qazvin**	**5.87**	**306**	*e*Pn	**Pn**	**23 07 11.0**	**-0.8**
GEYT	**Alibeck**	**5.95**	**21**	Pn	**Pn**	**23 07 13.8**	**+1.1**
	comp=Z,6.6nm,0.3s,baz=201,slow=14,SNR=63						
GEYT				Sn	**Sn**	**23 08 19.1**	**-1.7**
	baz=168,slow=12,SNR=0.9						
GEYT				Lg	Lg	23 08 51.1	
	baz=190,slow=40,SNR=1.9						
IDOB	**Doab**	**6.24**	**285**	*e*Pn	**Pn**	**23 07 19.5**	**+2.6**
SRVN	**Saravan**	**7.83**	**128**	*e*Pn	**Pn**	**23 07 40.2**	**+1.6**
IHSH	**Hashtrud**	**8.31**	**308**	*e*Pn	**Pn**	**23 07 46.0**	**+0.7**
ISRB	**Sarab**	**8.35**	**313**	*e*Pn	**Pn**	**23 07 48.3**	**+2.5**
MKAR	**Makanchi Array**	**25.05**	**47**	P	**P**	**23 11 13.5**	**+4.7**
	comp=Z,0.3nm,0.7s,baz=236,slow=10,SNR=2.6						
SONM	**Songino Array**	**41.15**	**53**	LR	LR	23 33 59.3	
	comp=Z,37nm,19.7s,baz=236,slow=41						
TORD	**Torodi Ar. Bea**	**52.55**	**262**	P	**P**	**23 14 58.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=41,slow=7.0,SNR=2.4						

IDC 17 23:21:11.6±1.6, 3.06S×130.26E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=55.2km s-min=23.4km az=91.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.40**	**25**	Pn	Pn	23 21 51.2	-0.9
	3.1nm,0.3s,baz=222,slow=22,SNR=12						
SIJI				Sn	Sn	23 22 15.7	-6.6
	2.7nm,0.3s,baz=261,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.61**	**197**	Pn	Pn	23 24 54.6	+1.5
	0.1nm,0.3s,baz=34,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**17.24**	**167**	P	Pn	23 25 14.0	0.0
	0.2nm,0.3s,baz=344,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**20.78**	**171**	P	P	23 25 53.9	-0.6
	1.5nm,0.4s,baz=351,slow=10,SNR=15						
MKAR	**Makanchi Array**	**65.11**	**326**	P	P	23 31 54.9	+0.6
	0.3nm,0.7s,baz=132,slow=6.2,SNR=2.4						

SKHL ***17*** *23:22:51.8±0.5, 44.40N×148.10E, h27km±2km, mb4.2/2*
JMA ***17*** *23:22:51.7±0.3, 44.18N×147.95E, h20km, M3.5*

ISC 17 23:22:50.9±3.0, 44.4N±0.1×148.2E±0.2, h35km, n12, σ1§01/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.89**	**347**	*e*P	**Pn**	**23 23 06.8**	**-0.1**
KUR				AMB	AMB	23 23 07.2	
	270nm,0.5s						
KUR				*e*S	**Sn**	**23 23 18.4**	**-0.2**
KUR				A	A	23 23 18.9	
	490nm,0.4s						
KUR				A	A	23 23 18.9	
	1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.69**	**260**	*e*P	**Pn**	**23 23 18.2**	**+0.4**
YUK				AMB	AMB	23 23 18.3	
	90nm,0.4s						
YUK				*e*S	**Sn**	**23 23 37.2**	**-1.0**
YUK				A	A	23 23 38.9	
	470nm,0.5s						
YUK				A	A	23 23 38.9	
	230nm,0.5s						
GRPR	**Tuman**	**1.76**	**259**	*e*S	**Sn**	**23 23 38.6**	**-1.4**
GLVR	**Golovnino**	**2.00**	**253**	*e*S	**Sn**	**23 23 45.2**	**-0.8**
NEM2	**Nemuro 2**	**2.02**	**241**	P	**Pn**	**23 23 22.6**	**+0.3**
NEM2				*e*S	**Sn**	**23 23 45.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.02**	**241**	*e*P	**Pn**	**23 23 22.6**	**+0.2**
NMR				*e*S	**Sn**	**23 23 45.3**	**-1.1**
JRA	**Rausu**	**2.23**	**260**	P	**Pn**	**23 23 26.2**	**+1.0**
JKHN	**Kushirohamanak**	**2.52**	**241**	P	**Pn**	**23 23 29.6**	**+0.3**
JKHN				*e*S	**Sn**	**23 23 57.4**	**-1.4**
JNK	**Nakash**	**2.60**	**254**	P	**Pn**	**23 23 31.3**	**+0.9**
JNK				*e*S	**Sn**	**23 24 00.3**	**-0.5**
JAK	**Akkeshi**	**2.86**	**243**	*e*S	**Sn**	**23 24 06.1**	**-1.0**
JAR	**Ashorobuto**	**3.35**	**253**	P	**Pn**	**23 23 42.1**	**+1.4**
JAR				*e*S	**Sn**	**23 24 20.2**	**+0.9**
JCH	**Churui**	**3.91**	**245**	P	**Pn**	**23 23 49.7**	**+1.4**

IDC ***17*** *23:24:42.9±1.4, 10.90S×163.45E, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.7/29, mbtmp3.8/6, ML4.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=38.8km s-min=28.4km az=149.0*

ISC 17 23:24:47.3±1.1, 11.1S±0.1×163.3E±0.1, h31km, n7, σ3§07/8, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.71**	**297**	Pn	**Pn**	**23 25 43.6**	**+1.0**
	27nm,0.3s,baz=162,slow=23,SNR=1.5						
HNR				Sn	**Sb**	**23 26 33.8**	**-3.1**
	18nm,0.3s,baz=179,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**11.28**	**165**	Pn	**Pn**	**23 27 28.7**	**+2.1**
	1.4nm,0.3s,baz=310,slow=16,SNR=2.2						
DZM				Sn	**Sn**	**23 29 27.2**	**-4.6**
	0.1nm,0.3s,baz=99,slow=12,SNR=1.3						
AFI	**Afiamalu**	**24.47**	**99**	LR	LR	23 37 32.5	
	comp=Z,73nm,21.4s,baz=167,slow=32						
WRA	**Warramunga Arr**	**29.21**	**249**	P	**P**	**23 30 48.9**	**+2.4**
	0.7nm,0.5s,baz=79,slow=8.9,SNR=6.7						
ASAR	**Alice Springs**	**30.63**	**242**	P	**P**	**23 31 00.2**	**+1.2**
	0.4nm,0.5s,baz=61,slow=10,SNR=5.0						
ILAR	**Eielson Array**	**84.37**	**19**	P	**P**	**23 37 14.1**	**-2.0**
	0.2nm,0.6s,baz=234,slow=5.5,SNR=2.2						
NVAR	**Mina Array Bea**	**87.91**	**50**	P	**P**	**23 37 35.1**	**+0.6**
	0.2nm,0.5s,baz=241,slow=8.0,SNR=2.0						

UPA ***17*** *23:32:10.3±1.9, 8.33N×82.93W, h10km±5km, MW4.4*
UCR ***17*** *23:32:10.1±1.4, 8.32N×83.00W, h10km, MW4.0*

ISC 17 23:32:07.0±1.4, 8.21N±0.06×83.00W±0.02, h14km±8km, n43, σ0§87/71, 1C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.29**

δ82.00000°,λ142.00000°. Principal axes: T Plg32.0000°, Azm329.0000°; N Plg52.0000°, Azm187.0000°; P Plg19.0000°, Azm71.0000°;
JMA Felt I J1.
*NEIC **17** 23:39:48.0±0.7, 35°.52N±0°.04×139°.98E±0°.07, h59km±8km, mb4.1/15 Error ellipse: s-maj=8.5km s-min=4.8km az=120.0*
*NIED **17** 23:39:47.6, 35°.54N×139°.89E, h69km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.40; Mθθ2.12; Mφφ-2.52; Mrθ1.75; Mθφ2.72; Mφr2.41; Fault plane solution: Mo4.64000×10¹⁴ NP1:φs19.00000°, δ83.00000°,λ142.00000°. NP2:φs114.00000°,δ52.00000°, λ8.00000°.*

ISC 17 23:39:48.4±0.7, 35°.51N±0°.03×139°.91E±0°.04, h68km±6km, n64, σ0s85/75, mb4.0/15, 5C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.22**	**326**	P	**Pn**	**23 39 58.5**	**-0.2**
TOK				S	**Sn**	**23 40 06.7**	**+0.4**
JCN	**Nagara**	**0.26**	**110**	⇑P	**Pn**	**23 39 59.1**	**+0.1**
JCN				S	**Sn**	**23 40 07.6**	**+0.9**
JSMT	**Sammumatsuo**	**0.46**	**73**	P	**Pn**	**23 40 00.5**	**-0.1**
JSMT				S	**Sn**	**23 40 10.5**	**+1.0**
JOD2	**Odawara 2**	**0.71**	**250**	⇓P	**Pn**	**23 40 02.5**	**-0.8**
JOD2				S	**Sn**	**23 40 12.8**	**-1.4**
JYT	**Yasato**	**0.76**	**18**		**Sn**	**23 40 02.3**	**-1.4**
JYT				Sn	**Sn**	**23 40 13.1**	**-2.1**
BSO3	**Boso 3**	**0.86**	**145**	⇑P	**Pn**	**23 40 04.2**	**-0.5**
JIM2	**Oshima 3**	**0.88**	**206**	P	**Pn**	**23 40 04.1**	**-1.2**
JIM2				S	**Sn**	**23 40 16.0**	**-1.7**
JRY	**Ryogami san**	**0.96**	**302**	⇓P	**Pn**	**23 40 05.8**	**-0.5**
JRY				S	**Sn**	**23 40 19.2**	**-0.4**
JAG	**Ashikaga**	**0.99**	**338**	⇑P	**Pn**	**23 40 05.7**	**-0.9**
JAG				S	**Sn**	**23 40 18.5**	**-1.6**
JFNN	**Fujinakano**	**1.04**	**253**	P	**Pn**	**23 40 06.9**	**-0.4**
JFNN				S	**Sn**	**23 40 20.7**	**-0.7**
JYN	**Shimob**	**1.11**	**270**	⇓P	**Pn**	**23 40 07.6**	**-0.6**
JYN				S	**Sn**	**23 40 22.3**	**-0.7**
JIZS	**Izushimoda**	**1.15**	**227**	⇓P	**Pn**	**23 40 08.2**	**-0.5**
JIZS				S	**Sn**	**23 40 23.0**	**-0.9**
BSO1	**Boso 1**	**1.22**	**134**	⇑P	**Pn**	**23 40 08.2**	**-0.9**
JKT	**Katashina**	**1.37**	**337**	⇑P	**Pn**	**23 40 10.5**	**-1.1**
JKT				S	**Sn**	**23 40 28.0**	**-1.0**
MJAR	**Matsushiro Arr**	**1.72**	**307**	P	**Pn**	**23 40 15.7**	**-0.5**
	4.2nm,0.3s,baz=155,slow=13,SNR=46						
MJAR				S	**Sn**	**23 40 37.4**	**0.0**
	9.9nm,0.3s,baz=221,slow=41,SNR=8.2						
MJAR	**Matsushiro Arr**	**1.72**	**307**		**Pn**	**23 40 16.1**	**-0.2**
MAJO	**Matsushiro**	**1.72**	**307**		**Pn**	**23 40 16.2**	**-0.1**
MAJO				Sn	**Sn**	**23 40 37.3**	**0.0**
MAT	**Matsushiro**	**1.72**	**307**	P	**Pn**	**23 40 15.8**	**-0.5**
MAT				S	**Sn**	**23 40 37.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.73**	**307**		**Pn**	**23 40 16.2**	**-0.1**
MJB9				Sn	**Sn**	**23 40 38.0**	**+0.5**
JGF	**Kuroka**	**2.08**	**273**		**Pn**	**23 40 21.8**	**+0.7**
INU	**Inuyama**	**2.36**	**267**		**Pn**	**23 40 24.8**	**-0.1**
JHJ	**Hachijo jima 2**	**2.38**	**189**	P	**Pn**	**23 40 24.4**	**-0.7**
	122nm,0.3s,baz=107,slow=23,SNR=2.2						
JHJ				S	**Sn**	**23 40 52.6**	**-0.7**
	170nm,0.3s,baz=98,slow=23,SNR=5.6						
JHJ				LR	LR	23 41 21.6	
	comp=Z,39nm,18.6s,baz=292,slow=39						
JHJ2	**Mitsune**	**2.39**	**182**	Pn	**Pn**	**23 40 24.7**	**-0.6**
JMM	**Marumori**	**2.46**	**17**		**Pn**	**23 40 25.9**	**-0.3**
JSD	**Sado**	**2.85**	**333**		**Pn**	**23 40 30.7**	**-0.8**
JWT	**Wachi**	**3.69**	**268**		**Pn**	**23 40 43.3**	**+0.3**
JMN	**Monobe**	**5.28**	**252**	Pn	**Pn**	**23 41 05.1**	**+0.4**
JTM	**Tenmabayashi**	**5.35**	**10**	Pn	**Pn**	**23 41 06.1**	**+0.5**
JHS	**Saijyo**	**5.58**	**267**	Pn	**Pn**	**23 41 09.5**	**+0.7**
ERM	**Erimo**	**6.98**	**20**	Pn	**Pn**	**23 41 26.8**	**-1.0**
KSRS	**Korea Array**	**9.84**	**285**	P	**Pn**	**23 42 10.7**	**+3.7**
	0.2nm,0.3s,baz=89,slow=15,SNR=2.4						
SONM	**Songino Array**	**27.67**	**307**	P	**P**	**23 45 29.2**	**-0.8**
	0.3nm,0.4s,baz=116,slow=9.9,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**28.49**	**116**	T	T	00 15 27.9	
	baz=308,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**28.50**	**116**	T	T	00 15 33.4	
	baz=308,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**28.51**	**116**	T	T	00 15 55.9	
	baz=308,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy**	**29.13**	**119**	T	T	00 16 08.8	
	baz=310,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.13**	**119**	T	T	00 16 08.9	
	baz=310,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.14**	**119**	T	T	00 16 07.6	
	baz=310,slow=76,SNR=14						
ZAA0	**Zalesovo Array**	**42.06**	**314**	P	**P**	**23 47 32.8**	**-0.5**
ZAA0				IAmb	IAmb	23 47 34.2	
	comp=Z,3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**42.06**	**314**	P	**P**	**23 47 33.1**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=94,slow=8.9,SNR=9.7						
ZALV	**Zalesovo Beam**	**42.06**	**314**	P	**P**	**23 47 32.8**	**-0.4**
MK31	**Makanchi Array**	**43.92**	**303**	P	**P**	**23 47 48.9**	**+0.5**
MKAR	**Makanchi Array**	**43.92**	**303**	P	**P**	**23 47 48.7**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=84,slow=9.4,SNR=15						
MKAR	**Makanchi Array**	**43.92**	**303**	P	**P**	**23 47 48.6**	**+0.2**
MAKZ	**Makanchi**	**44.13**	**303**	P	**P**	**23 47 50.1**	**+0.1**
KDJ	**Kajisay**	**48.35**	**298**	P	**P**	**23 48 24.0**	**+0.5**
KDJ				IAmb	IAmb	23 48 25.0	
	comp=Z,1.8nm,0.8s						
BRVK	**Borovoye**	**50.77**	**313**	P	**P**	**23 48 42.3**	**+0.9**
BRVK				IAmb	IAmb	23 49 05.1	
	comp=Z,2.0nm,1.2s						
KKAR	**Karatay Array**	**52.84**	**301**	P	**P**	**23 48 57.5**	**+0.4**
KKAR	**Karatay Array**	**52.84**	**301**	P	**P**	**23 48 57.5**	**+0.4**
KKAR				IAmb	IAmb	23 48 58.2	
	comp=Z,3.7nm,1.3s						
FITZ	**Fitzroy Crossi**	**55.00**	**197**	P	**P**	**23 49 13.9**	**+1.0**
WB0	**Warramunga Arr**	**55.22**	**186**	P	**P**	**23 49 14.9**	**+0.5**
WRA	**Warramunga Arr**	**55.40**	**186**	P	**P**	**23 49 15.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=2.1,slow=7.1,SNR=1.4						
WRA	**Warramunga Arr**	**55.40**	**186**	P	**P**	**23 49 15.7**	**0.0**
ARU	**Arti**	**56.70**	**319**	P	**P**	**23 49 25.0**	**+0.3**
ARU				IAmb	IAmb	23 49 26.5	
	comp=Z,3.2nm,0.9s						
ABKAR	**Akbulak array**	**58.00**	**310**	P	**P**	**23 49 33.8**	**-0.1**
ABKAR	**Akbulak array**	**58.00**	**310**	P	**P**	**23 49 33.9**	**-0.1**
ABKAR				IAmb	IAmb	23 49 36.1	
	comp=Z,5.3nm,1.4s						
PSA00	**Pilbara Seismi**	**59.87**	**202**	P	**P**	**23 49 47.4**	**+0.3**
RES	**Resolute Bay**	**64.38**	**14**	P	**P**	**23 50 17.2**	**+0.6**
RES				IAmb	IAmb	23 50 20.0	
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**69.59**	**332**	P	**P**	**23 50 49.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=73,slow=6.3,SNR=5.8						
FINES	**FINESS Array B**	**69.59**	**332**	P	**P**	**23 50 49.6**	**-0.3**
AKASG	**Malin Array Be**	**74.75**	**322**	P	**P**	**23 51 20.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=47,slow=4.7,SNR=1.4						
AKASG	**Malin Array Be**	**74.75**	**322**	P	**P**	**23 51 21.0**	**+0.1**
AKASG				IAmb	IAmb	23 51 21.6	
	comp=Z,2.1nm,1.2s						
NOA	**NORSAR Array B**	**75.12**	**337**	P	**P**	**23 51 21.3**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=38,slow=4.2,SNR=1.6						
RAYN	**Ar Rayn**	**80.10**	**292**	P	**P**	**23 51 51.3**	**0.0**
RAYN				IAmb	IAmb	23 52 00.0	
	comp=Z,3.2nm,1.4s						

*IDC **17** 23:47:07.2±1.0, 42°.45N×137°.99E, h243km±8km, mb3.3/9, mb1 3.5/14, mb1mx3.3/38, mbtmp3.9/14, Error ellipse: s-maj=18.8km s-min=9.5km az=175.0*
*JMA **17** 23:47:07.0±0.2, 42°.32N×138°.15E, h259km±2km, M3.3*

ISC 17 23:47:07.2±0.7, 42°.37N±0°.06×138°.06E±0°.05, h250km, n38, σ1s17/48, mb3.5/9, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.09**	**105**	P	**Pn**	**23 47 42.9**	**+0.2**
JOSM				eS	S	**23 48 10.8**	**+0.2**
JHST	**Hiyamasetana**	**1.35**	**87**	P	**Pn**	**23 47 45.0**	**+0.7**
JSH	**Shimam**	**1.50**	**79**	P	**Pn**	**23 47 46.0**	**+0.6**
JOMM	**Oshimamatsumae**	**1.68**	**119**	P	**Pn**	**23 47 47.0**	**+0.1**
JYM2	**Yakumo 2**	**1.73**	**97**	P	**Pn**	**23 47 47.9**	**+0.6**
JYM2				eS	S	**23 48 20.1**	**+1.2**
JSK	**Shakotan**	**2.03**	**60**	P	**Pn**	**23 47 50.5**	**+0.6**
JKB	**Kayabe**	**2.26**	**101**	P	**Pn**	**23 47 52.1**	**0.0**
JKB				eS	S	**23 48 27.4**	**-0.1**
JOT	**Ohata**	**2.44**	**113**	P	**Pn**	**23 47 53.5**	**-0.3**
JOT				eS	S	**23 48 29.7**	**-0.9**
JEW	**Eniwo**	**2.55**	**78**	eS	S	**23 48 33.6**	**+1.0**
JHR	**Hokuryu**	**3.02**	**62**	P	**Pn**	**23 48 00.5**	**+0.7**
JYG	**Yagishiri**	**3.21**	**49**	P	**Pn**	**23 48 02.1**	**+0.3**
JANG	**Nango**	**3.28**	**126**	P	**Pn**	**23 48 01.4**	**-1.3**
JFR	**Furan**	**3.43**	**75**	P	**Pn**	**23 48 04.3**	**-0.1**
JNBK	**Urakawa-nobuka**	**3.48**	**90**	P	**Pn**	**23 48 04.9**	**-0.1**
JNBK				eS	S	**23 48 49.4**	**-1.3**
ASAJ	**Asahikawa**	**3.75**	**61**	P	**Pn**	**23 48 08.4**	**+0.4**
	9.3nm,0.3s,baz=253,slow=11,SNR=18						
ASAJ				S	**S**	**23 48 55.2**	**-1.0**
	3.1nm,0.3s,baz=62,slow=27,SNR=9.3						
JKK2	**Kamakawa 2**	**3.75**	**65**	P	**Pn**	**23 48 08.3**	**+0.3**
JKK2				eS	S	**23 48 55.2**	**-1.1**
JRBN	**Rebuntou**	**3.75**	**34**	P	**Pn**	**23 48 08.3**	**+0.4**
JYK	**Kaneyama**	**3.86**	**152**	P	**Pn**	**23 48 09.4**	**0.0**
JCH	**Churui**	**3.93**	**85**	P	**Pn**	**23 48 09.1**	**-1.0**
JCH				eS	S	**23 48 56.1**	**-4.0**
JWK2	**Keihoku**	**4.05**	**42**	P	**Pn**	**23 48 12.9**	**+1.4**
JMK	**Ichinoseki**	**4.17**	**144**	P	**Pn**	**23 48 11.5**	**-1.5**
JSE	**Soyaes**	**4.18**	**50**	P	**Pn**	**23 48 13.4**	**+0.4**
JAR	**Ashorobuto**	**4.30**	**76**	P	**Pn**	**23 48 13.4**	**-1.1**
JAR				eS	S	**23 49 04.5**	**-3.5**
JSD	**Sado**	**4.33**	**178**	P	**Pn**	**23 48 15.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**4.79**	**295**	P	**Pn**	**23 48 21.0**	**+0.6**
	baz=99,slow=12,SNR=23						
USRK				S	**S**	**23 49 15.7**	**-3.0**
	baz=62,slow=44,SNR=1.9						
MJAR	**Matsushiro Arr**	**5.82**	**179**	P	**Pn**	**23 48 33.8**	**+0.7**
	0.4nm,0.3s,baz=1.5,slow=11,SNR=12						
KLR	**Kul'dur**	**8.15**	**329**	P	**Pn**	**23 49 01.9**	**-0.3**
	0.7nm,0.3s,baz=137,slow=14,SNR=12						
KSRS	**Korea Array**	**9.20**	**241**	P	**Pn**	**23 49 16.8**	**+1.1**
	0.2nm,0.3s,baz=58,slow=12,SNR=14						
SONM	**Songino Array**	**22.91**	**295**	P	**P**	**23 51 49.0**	**-0.4**
	1.0nm,0.6s,baz=83,slow=8.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**36.51**	**307**	P	**P**	**23 53 47.4**	**-1.2**
	1.8nm,0.5s,baz=87,slow=9.0,SNR=7.6						
NRIK	**Noril'sk**	**37.35**	**333**	P	**P**	**23 53 55.7**	**+0.3**
	1.9nm,0.3s,baz=151,slow=1.8,SNR=4.5						
MKAR	**Makanchi Array**	**39.26**	**296**	P	**P**	**23 54 11.3**	**-0.4**
	0.8nm,0.6s,baz=84,slow=8.9,SNR=12						
ILAR	**Eielson Array**	**46.49**	**35**	P	**P**	**23 55 09.7**	**+0.6**
	1.5nm,0.7s,baz=283,slow=8.6,SNR=20						
FINES	**FINESS Array B**	**62.90**	**330**	P	**P**	**23 57 06.5**	**0.0**
	1.3nm,0.6s,baz=44,slow=11,SNR=6.4						
NVAR	**Mina Array Bea**	**73.84**	**53**	P	**P**	**23 58 15.6**	**+0.8**
	0.3nm,0.6s,baz=282,slow=6.3,SNR=1.7						
PDAR	**Pinedale Array**	**75.74**	**45**	P	**P**	**23 58 26.2**	**+0.7**
	0.6nm,0.7s,baz=225,slow=1.3,SNR=5.1						
TXAR	**Lajitas Array**	**88.81**	**50**	P	**P**	**23 59 33.3**	**+0.2**
	0.2nm,0.6s,baz=266,slow=3.8,SNR=4.0						
LPAZ	**La Paz**	**145.67**	**49**	PKPbc	**PKPbc**	**00 06 17.7**	**+0.1**
	0.4nm,0.5s,baz=279,slow=2.0,SNR=1.8						

IDC 17 23:48:54.8±2.5, 6°.74S×129°.36E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=204.5km s-min=31.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.99**	**160**	Pn	Pn	23 52 12.9	-1.6
	0.2nm,0.3s,baz=334,slow=15,SNR=5.9						
WRA				Sn	Sn	23 54 36.3	-14
	0.5nm,0.3s,baz=338,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**17.39**	**166**	P	P	23 53 00.2	-0.2
	0.1nm,0.3s,baz=344,slow=9.0,SNR=5.9						
ASAR				S	Sn	23 55 58.1	-15
	0.1nm,0.3s,baz=356,slow=28,SNR=2.0						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	23 59 53.8	0.0
	0.4nm,0.5s,baz=115,slow=7.8,SNR=7.5						

*IDC **18** 00:35:42.9±1.0, 29°.42N×129°.40E, h115km±11km, mb3.3/7, mb1 3.5/11, mb1mx3.3/42, mbtmp3.9/11, MS3.2/1, Ms1 3.2/1, ms1mx2.2/33, Error ellipse: s-maj=25.9km s-min=8.7km az=105.0*
*JMA **18** 00:35:42.1±0.2, 29°.51N×129°.56E, h99km±2km, M3.5*
*NIED **18** 00:35:42.1, 29°.51N×129°.56E, h99km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.93; Mθθ3.93; Mφφ-3.00; Mrθ3.40; Mθφ-2.01; Mφr2.02; Fault plane solution: Mo5.69000×10¹⁴ NP1: φs244.00000°, δ84.00000°, λ-135.00000°. NP2: φs147.00000°, δ45.00000°, λ-9.00000°.*
*NEIC **18** 00:35:43.2±2.1, 29°.46N±0°.07×129°.6E±0°.1, h111km±9km, mb4.0/8 Error ellipse: s-maj=18.0km s-min=8.5km az=110.0*

ISC 18 00:35:41.8±0.7, 29°.42N±0°.04×129°.64E±0°.06, h102km±6km, n48, σ1s18/63, mb3.8/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.47**	**26**	P	**Pn**	**00 35 57.4**	**-0.3**
JNN				S	**Sn**	**00 36 09.2**	**-0.3**
JTAJ	**Takarajima**	**0.47**	**235**	P	**Pn**	**00 35 57.7**	**+0.1**
JTAJ				S	**Sn**	**00 36 10.0**	**+0.6**
JAM	**Amami Oshima**	**1.01**	**182**	P	**Pn**	**00 36 03.2**	**+0.7**
JAM				S	**Sn**	**00 36 19.2**	**+1.1**
JYAK	**Yakushimahirau**	**1.11**	**43**	P	**Pn**	**00 36 03.4**	**-0.2**
JYAK				S	**Sn**	**00 36 19.8**	**-0.3**
JZK	**Kikaishima**	**1.14**	**165**	P	**Pn**	**00 36 06.7**	**+2.7**
JKC	**Kuchinoerabu**	**1.14**	**25**	P	**Pn**	**00 36 03.9**	**-0.1**
JAMN	**Amaminishikomi**	**1.24**	**199**	P	**Pn**	**00 36 05.9**	**+0.8**
JAMN				eS	**Sn**	**00 36 24.2**	**+1.4**
JMTN	**Minamitane**	**1.47**	**48**	P	**Pn**	**00 36 08.1**	**+0.3**
JMTN				S	**Sn**	**00 36 28.3**	**+0.8**
JTN	**Tanegashima 3**	**1.69**	**43**	P	**Pn**	**00 36 10.8**	**+0.2**
JTN				S	**Sn**	**00 36 32.1**	**-0.4**
JTK	**Tokunoshima**	**1.74**	**200**	P	**Pn**	**00 36 12.1**	**+0.9**
JTK				S	**Sn**	**00 36 34.8**	**+1.3**
JSU	**Suzuyama**	**2.19**	**19**	Pn	**Pn**	**00 36 17.2**	**+0.2**
JSU				Sn	**Sn**	**00 36 44.5**	**+0.6**
JOKE	**Okinoerabujima**	**2.26**	**205**	P	**Pn**	**00 36 19.2**	**+1.3**
JOKE				S	**Sn**	**00 36 46.6**	**+1.2**
JYRO	**Yoronjima**	**2.61**	**204**	P	**Pn**	**00 36 23.1**	**+0.7**
JYRO				S	**Sn**	**00 36 54.8**	**+1.2**
JIH	**Iheya**	**2.80**	**212**	P	**Pn**	**00 36 26.6**	**+1.7**
JOW	**Kunigami**	**2.85**	**205**	P	**Pn**	**00 36 26.7**	**+1.0**
	22nm,0.3s,baz=77,slow=17,SNR=26						
JOW				S	**Sn**	**00 36 59.4**	**0.0**
	40nm,0.3s,baz=93,slow=27,SNR=11						
JOW	**Kunigami**	**2.85**	**205**	P	**Pn**	**00 36 26.6**	**+1.0**
JOW				S	**Sn**	**00 37 01.1**	**+1.8**
JOW	**Kunigami**	**2.85**	**205**		**Pn**	**00 36 26.4**	**+0.8**
JOW				Sn	**Sn**	**00 37 00.7**	**+1.4**
JNTH	**Nagotoyohara**	**3.23**	**207**	P	**Pn**	**00 36 31.5**	**+0.8**
JAGN	**Aguni-jima**	**3.53**	**217**	P	**Pn**	**00 36 35.3**	**+0.6**
JKDJ	**Kitadaitoujima**	**3.76**	**157**	P	**Pn**	**00 36 38.7**	**+0.9**
JKDJ				S	**Sn**	**00 37 20.0**	**-1.1**
JNU	**Nakatsue**	**3.84**	**16**	P	**Pn**	**00 36 41.2**	**+2.3**
	4.8nm,0.3s,baz=297,slow=1.5,SNR=24						
JNU				S	**Sn**	**00 37 26.1**	**+3.1**
	2.5nm,0.3s,baz=122,slow=14,SNR=2.2						
JNU	**Nakatsue**	**3.84**	**16**	Pn	**Pn**	**00 36 40.6**	**+1.7**
JKE	**Kume jima 2**	**3.99**	**220**	P	**Pn**	**00 36 40.9**	**0.0**
JTU	**Tsushima**	**5.09**	**358**	Pn	**Pn**	**00 36 57.9**	**+2.1**
JMN	**Monobe**	**5.61**	**39**	Pn	**Pn**	**00 37 03.1**	**+0.2**
JHS	**Saijyo**	**6.29**	**27**	Pn	**Pn**	**00 37 12.3**	**+0.2**
JWT	**Wachi**	**7.61**	**38**		**Pn**	**00 37 29.9**	**0.0**
KSRS	**Korea Array**	**8.14**	**350**	P	**Pn**	**00 37 38.3**	**+1.2**
	0.3nm,0.3s,baz=169,slow=14,SNR=7.3						
INU	**Inuyama**	**8.59**	**45**	Pn	**Pn**	**00 37 45.9**	**+2.6**
ASAJ	**Asahikawa**	**17.93**	**32**	P	**Pn**	**00 39 45.0**	**+0.6**
	2.1nm,0.3s,baz=44,slow=31,SNR=3.0						
JKA	**Kamikawa-asahi**	**17.93**	**32**	P	**Pn**	**00 39 44.9**	**+0.4**
JKA				IAmb	IAmb	00 40 04.0	
	comp=Z,13nm,1.2s						
ULN	**Ulaanbaatar**	**25.35**	**323**	P	**P**	**00 40 58.5**	**-0.8**
ULN				IAmb	IAmb	00 41 01.0	
	comp=Z,3.8nm,0.6s						
SONM	**Songino Array**	**25.68**	**322**	P	**P**	**00 41 01.4**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=137,slow=10.0,SNR=13						
SONM	**Songino Array**	**25.68**	**322**	P	**P**	**00 41 02.1**	**-0.2**
MKAR	**Makanchi Array**	**40.42**	**309**	P	**P**	**00 43 08.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=97,slow=7.4,SNR=1.7						
ZALV	**Zalesovo Beam**	**40.53**	**320**	P	**P**	**00 43 09.4**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=119,slow=8.4,SNR=1.5						
KURBB	**Kurchatov Arra**	**43.48**	**314**	P	**P**	**00 43 32.9**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=88,slow=5.7,SNR=1.7						
AAK	**Ala-Archa**	**45.75**	**302**	LR	LR	01 05 26.5	
	comp=Z,24nm,18.2s,baz=98,slow=39						
BRVK	**Borovoye**	**48.85**	**316**	P	**P**	**00 44 15.8**	**-1.0**
BRVK				IAmb	IAmb	00 44 17.1	
	comp=Z,1.8nm,0.5s						
WB0	**Warramunga Arr**	**49.12**	**174**	P	**P**	**00 44 19.4**	**+0.3**
WRA	**Warramunga Arr**	**49.29**	**174**	P	**P**	**00 44 20.5**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=355,slow=8.4,SNR=8.6						
WRA	**Warramunga Arr**	**49.29**	**174**	P	**P**	**00 44 20.7**	**+0.3**
ABKAR	**Akbulak array**	**55.42**	**312**	P	**P**	**00 45 04.8**	**-0.6**
ABKAR				IAmb	IAmb	00 45 13.3	
	comp=Z,0.7nm,0.7s						
KDAK	**Kodiak Island**	**59.23**	**38**	P	**P**	**00 45 32.6**	**+0.5**
ILAR	**Eielson Array**	**61.05**	**29**	P	**P**	**00 45 45.4**	**+1.0**
BMAR	**Burnt Mountain**	**61.60**	**26**	P	**P**	**00 45 49.1**	**+1.0**
FINES	**FINESS Array B**	**70.71**	**330**	P	**P**	**00 46 44.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=6.0,SNR=1.6						
YKA	**Yellowknife Ar**	**75.12**	**26**	P	**P**	**00 47 12.5**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=296,slow=7.4,SNR=1.5						

*TEH **18** 00:53:22.5, 34°.01N×59°.79E, h14km, ML3.8*
*THR **18** 00:53:22.2±0.5, 33°.98N×59°.71E, h14km±4km, ML3.7*

ISC 18 00:53:23.3±1.0, 34°.03N±0°.04×59°.80E±0°.04, h10km, n45, σ0s87/48, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.56**	**133**	*e*Pg	**Pg**	**00 53 33.6**	**-0.6**
SHRT				*e*Sg	**Sg**	**00 53 42.1**	**+0.6**
SHRT				IAML		00 53 42.8	
	comp=N,4μm,0.2s						
SHRT				IAML		00 53 44.4	
	comp=E,5μm,0.1s						
SHRT	**Shahrakht**	**0.56**	**133**	*e*Pg	**Pg**	**00 53 33.6**	**-0.6**
IMON	**Monand**	**0.84**	**188**	*e*Pg	**Pg**	**00 53 39.3**	**-0.3**
IMON				*e*		00 53 53.4	
	comp=Z,79μm,0.3s						
AFRZ	**Afriz**	**0.89**	**228**	*e*Pg	**Pg**	**00 53 39.6**	**-0.8**
IDAH	**Dahanechah**	**1.29**	**177**	*e*Pg	**Pn**	**00 53 46.5**	**-1.1**
IDAH				*e*		00 54 07.9	
	comp=Z,25μm,0.2s						
ITEG	**Tejag**	**1.43**	**218**	*e*Pg	**Pb**	**00 53 50.0**	**-0.2**
ITEG				*e*		00 53 50.9	
	comp=Z,25μm,0.4s						
ITEG				*e*Sg	**Sg**	**00 54 11.4**	**+2.0**
IKOO	**Kooshah**	**1.73**	**203**	*e*Pn	**Pn**	**00 53 53.8**	**+0.1**
IKOO				*e*		00 53 56.4	
	comp=Z,9μm,0.2s						
JRKH	**Jarkhoshk**	**1.93**	**13**	*e*Pn	**Pn**	**00 53 56.4**	**+0.1**
IMOG	**Moghan**	**2.11**	**350**	*e*Pn	**Pn**	**00 53 58.9**	**-0.1**
IMOG				*e*		00 54 34.3	
	comp=Z,7μm,0.7s						
TABS	**Tabas**	**2.26**	**261**	*e*Pn	**Pn**	**00 54 00.4**	**-0.5**
TABS				*e*Sg	**Sb**	**00 54 30.6**	**-1.8**
TABS	**Tabas**	**2.26**	**261**	*e*Pn	**Pn**	**00 54 00.4**	**-0.5**
TKDS	**Koohdasht(Taba**	**2.27**	**260**	*e*Pn	**Pn**	**00 54 01.1**	**+0.1**
TKDS				*e*		00 54 39.9	
	comp=Z,7μm,0.4s						
IMYA	**Miami**	**2.32**	**6**	*e*Pn	**Pn**	**00 54 02.7**	**+0.9**
IMYA				*e*		00 54 38.7	
	comp=Z,8μm,0.7s						
IPAY	**Payeh**	**2.50**	**345**	*e*Pn	**Pn**	**00 54 04.8**	**+0.5**
IPAY				*e*		00 54 46.9	
	comp=Z,3μm,0.5s						
NHDN	**Nehbandan**	**2.64**	**175**	*e*		00 54 52.4	
	comp=Z,3μm,0.5s						
NHDN				*e*Pn	**Pn**	**00 54 07.0**	**+0.9**
TNSJ	**Nastanj**	**2.65**	**269**	*e*		00 54 53.0	
	comp=Z,6μm,0.7s						
TNSJ				*e*Pn	**Pn**	**00 54 06.

DZA	**Taraz**	**6.33**	**360**	*e*P		**Pn**	**01 33 32.0**	**+0.4**
	baz=360								
DZA				*e*S		**Sn**	**01 34 40.3**	**-2.2**
	baz=360								
DZA	**Taraz**	**6.33**	**360**	*e*PN		**Pn**	**01 33 32.0**	**+0.4**
EKS2	**Erkin-Say**	**6.37**	**16**	P		**Pn**	**01 33 32.7**	**+0.4**
	SNR=78								
AAK	**Ala-Archa**	**6.53**	**21**	P		**Pn**	**01 33 34.4**	**-0.1**
	comp=E,56nm,0.3s,baz=206,slow=13,SNR=142								
AAK				S		**Sn**	**01 34 46.4**	**-1.1**
	comp=E,8.0nm,0.3s,baz=344,slow=21,SNR=8.1								
AAK	**Ala-Archa**	**6.53**	**21**	P		**Pn**	**01 33 35.1**	**+0.6**
	SNR=78								
AAK	**Ala-Archa**	**6.53**	**21**	⇓P		**Pn**	**01 33 34.8**	**+0.3**
	comp=E,63nm,0.4s								
AAK				⇓S		**Sn**	**01 34 45.7**	**-1.9**
	comp=E,63nm,0.8s								
AAK	**Ala-Archa**	**6.53**	**21**	*de*PN		**Pn**	**01 33 34.9**	**+0.4**
AAK				pmax	pmax				
	comp=Z,283nm,0.8s								
AAK	**Ala-Archa**	**6.53**	**21**	Pn		**Pn**	**01 33 34.3**	**-0.2**
AAK				Sn		**Sn**	**01 34 45.6**	**-1.9**
KK31	**Karatay Array**	**6.58**	**354**	⇓P		**Pn**	**01 33 33.0**	**-2.0**
	comp=Z,62nm,0.5s,baz=184,slow=14,SNR=637								
KK31				⇑S		**Sn**	**01 34 46.3**	**-2.1**
	comp=Z,25nm,0.5s,baz=191,slow=26,SNR=5.4								
KK31	**Karatay Array**	**6.58**	**354**	Pn		**Pn**	**01 33 34.8**	**-0.2**
KK31				Sn		**Sn**	**01 34 46.5**	**-1.9**
KKAR	**Karatay Array**	**6.58**	**354**	PN		**Pn**	**01 33 34.8**	**-0.2**
KKAR	**Karatay Array**	**6.58**	**354**	Pn		**Pn**	**01 33 34.8**	**-0.2**
KBK	**Karagaybulak**	**6.68**	**23**	P		**Pn**	**01 33 37.5**	**+0.9**
	SNR=14								
FRU1	**Bishkek**	**6.73**	**21**	PN		**Pn**	**01 33 37.3**	**+0.2**
FRU1	**Bishkek**	**6.73**	**21**			**Pn**	**01 33 37.3**	**+0.2**
ULHL	**Ulahol**	**6.81**	**32**	P		**Pn**	**01 33 39.7**	**+1.4**
	SNR=16								
BOOM	**Boomskoye usch**	**6.89**	**29**	PN		**Pn**	**01 33 39.3**	**-0.1**
BOOM	**Boomskoye usch**	**6.89**	**29**	Pn		**Pn**	**01 33 39.3**	**-0.1**
CHMS	**Chumysh**	**6.93**	**21**	P		**Pn**	**01 33 40.2**	**+0.3**
	SNR=58								
USP	**Ospenovka**	**7.12**	**19**	P		**Pn**	**01 33 41.9**	**-0.4**
	SNR=25								
TKM2	**Tokmak 2**	**7.13**	**26**	P		**Pn**	**01 33 43.2**	**+0.5**
	SNR=88								
TKM2	**Tokmak 2**	**7.13**	**26**	⇑P		**Pn**	**01 33 43.0**	**+0.3**
	comp=Z,36nm,0.5s								
TKM2				⇓S		**Sn**	**01 35 01.2**	**-1.1**
	comp=Z,27nm,0.9s								
KDJ	**Kajisay**	**7.15**	**37**	PN		**Pn**	**01 33 43.0**	**+0.1**
KDJ	**Kajisay**	**7.15**	**37**	Pn		**Pn**	**01 33 43.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**7.17**	**42**			**Pn**	**01 33 43.3**	**-0.2**
SMLA	**Simla**	**7.23**	**137**	*e*P		**Pn**	**01 33 42.6**	**-1.4**
SMLA				IAmb	IAmb		01 33 47.5		
	comp=Z,92nm,0.6s								
SMLA				*e*S		**Sn**	**01 34 59.9**	**-4.6**
SMLA				IAML			01 35 01.9		
	comp=N,172nm,0.4s								
SGDS	**Sogindy**	**7.32**	**19**	⇓*e*P		**Pn**	**01 33 44.6**	**-0.6**
	baz=19								
SGDS	**Sogindy**	**7.32**	**19**	*de*PN		**Pn**	**01 33 44.6**	**-0.6**
MTBS	**Maitube**	**7.62**	**29**	⇓*e*P		**Pn**	**01 33 49.9**	**+0.6**
	baz=30								
MTBS	**Maitube**	**7.62**	**29**	*de*PN		**Pn**	**01 33 49.8**	**+0.6**
HRA	**Herat**	**7.77**	**257**	Pn		**Pn**	**01 33 51.9**	**+0.4**
MDOK	**Medeo**	**7.90**	**32**	*e*P		**Pn**	**01 33 52.9**	**-0.2**
	baz=32								
MDOK	**Medeo**	**7.90**	**32**	⇓P		**Pn**	**01 33 53.6**	**+0.5**
	comp=N,13nm,0.9s								
MDOK				⇑S		**Sn**	**01 35 26.5**	**+5.6**
	comp=N,18nm,0.8s								
MDOK	**Medeo**	**7.90**	**32**	*e*PN		**Pn**	**01 33 52.9**	**-0.2**
PRZ	**Przheval'sk**	**8.02**	**40**	PN		**Pn**	**01 33 55.0**	**+0.2**
PRZ	**Przheval'sk**	**8.02**	**40**			**Pn**	**01 33 55.0**	**+0.2**
KUU	**Kurty**	**8.24**	**26**	*e*P		**Pn**	**01 33 56.6**	**-1.1**
	baz=26								
KUU	**Kurty**	**8.24**	**26**	*e*PN		**Pn**	**01 33 56.6**	**-1.1**
DDI	**Dehra Dun**	**8.34**	**136**	*e*P		**Pn**	**01 33 58.7**	**-0.4**
DDI				IAmb	IAmb		01 33 59.4		
	comp=Z,397nm,0.3s								
SATY	**Saty**	**8.44**	**38**	*e*P		**Pn**	**01 33 59.6**	**-0.9**
	baz=38								
SATY	**Saty**	**8.44**	**38**	*e*PN		**Pn**	**01 33 59.5**	**-0.9**
CHKK	**Chushkaly**	**8.45**	**29**	*e*P		**Pn**	**01 33 59.1**	**-1.4**
	baz=29								
CHKK	**Chushkaly**	**8.45**	**29**	*e*PN		**Pn**	**01 33 59.0**	**-1.4**
BTLS	**Baital**	**8.71**	**12**	⇓*i*P		**Pn**	**01 34 02.9**	**-1.2**
	comp=Z,6.1nm,0.5s,baz=13								
BTLS				*e*S		**Sn**	**01 35 37.9**	**-2.5**
	baz=13								
BTLS	**Baital**	**8.71**	**12**	*d i*PN		**Pn**	**01 34 02.8**	**-1.2**
BTLS				pmax	pmax				
	comp=Z,6.0nm,0.5s								
UZB	**Uzynbulak**	**8.81**	**39**	*e*P		**Pn**	**01 34 04.5**	**-1.0**
	baz=40								
UZB	**Uzynbulak**	**8.81**	**39**	*e*PN		**Pn**	**01 34 04.5**	**-1.0**
KPKS	**Kokpek**	**8.88**	**37**	*e*P		**Pn**	**01 34 06.1**	**-0.3**
	baz=38								
KPKS	**Kokpek**	**8.88**	**37**	*e*PN		**Pn**	**01 34 06.0**	**-0.3**
SHLS	**Shalkode**	**9.05**	**41**	*e*P		**Pn**	**01 34 10.8**	**+2.1**
	comp=Z,6.2nm,0.5s,baz=43								
SHLS	**Shalkode**	**9.05**	**41**	*e*P		**Pn**	**01 34 10.8**	**+2.1**
SHLS				pmax	pmax				
	comp=Z,6.0nm,0.5s								
PDGK	**Podgornoye**	**9.18**	**40**	⇓P		**Pn**	**01 34 09.4**	**-1.2**
	comp=Z,26nm,0.9s								
PDGK				⇓S		**Sn**	**01 35 56.4**	**+4.3**
	comp=Z,24nm,0.8s								
NDI	**New Delhi**	**9.25**	**146**	*e*P		**Pn**	**01 34 08.0**	**-3.5**
GEYT	**Alibeck**	**10.68**	**281**	P		**Pn**	**01 34 27.5**	**-3.3**
	comp=Z,6.3nm,0.3s,baz=109,slow=10,SNR=36								
GEYT				S		Sn	01 36 20.5	-7.9	
	comp=Z,8.7nm,0.3s,baz=110,slow=38,SNR=4.8								
GEYT				LR		LR	01 40 20.0		
	comp=Z,38nm,18.5s,baz=35,slow=47								
GYA0B	**ALIBECK ARRAY**	**10.68**	**281**	⇑P		Pn	01 34 26.4	-4.4	
GYA0B				⇑S		**Sn**	**01 36 22.2**	**-6.2**	
GYA0B	**ALIBECK ARRAY**	**10.68**	**281**	Pn		**Pn**	**01 34 27.1**	**-3.7**	
OTUK	**Ortayu**	**11.70**	**3**	⇑P		**Pn**	**01 34 42.1**	**-2.5**	
	comp=Z,25nm,0.7s								
OTUK				⇓S		**Sn**	**01 36 52.6**	**-0.5**	
	comp=Z,9.0nm,0.7s								
MAKZ	**Makanchi**	**12.93**	**34**	P		**Pn**	**01 34 59.2**	**-1.5**	
MAKZ	**Makanchi**	**12.93**	**34**	Pn		**Pn**	**01 34 59.2**	**-1.5**	
MK31	**Makanchi Array**	**13.06**	**35**	P		**Pn**	**01 35 02.2**	**-0.3**	
MK31	**Makanchi Array**	**13.06**	**35**	Pn		**Pn**	**01 35 02.2**	**-0.3**	
MKAR	**Makanchi Array**	**13.06**	**35**	P		**Pn**	**01 35 01.2**	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=12								
MKAR	**Makanchi Array**	**13.06**	**35**	Pn		**Pn**	**01 35 01.4**	**-1.1**	
BRZS	**Berezniki**	**13.45**	**4**	*e*P		**Pn**	**01 35 05.0**	**-2.7**	
	comp=Z,2.6nm,0.4s,baz=3.6								
BRZS	**Berezniki**	**13.45**	**4**	*e*P		**Pn**	**01 35 04.9**	**-2.7**	
BRZS				pmax	pmax				
	comp=Z,3.0nm,0.4s								
BHPL	**Bhopal**	**14.26**	**157**	*e*P		Pn	01 35 13.8	-4.4	
KURBB	**Kurchatov Arra**	**14.97**	**18**	P		Pn	01 35 23.2	-3.8	
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=21								
AB31	**Akbulak array**	**15.19**	**330**	⇑P		**Pn**	**01 35 26.8**	**-3.1**	
	comp=Z,5.5nm,0.5s,baz=137,slow=13,SNR=220								
AB31				⇑S		**Sn**	**01 38 12.9**	**-4.6**	
	comp=Z,8.1nm,0.6s,baz=153,slow=23,SNR=6.2								
ABKAR	**Akbulak array**	**15.19**	**330**	Pn		**Pn**	**01 35 27.1**	**-2.7**	
ABKAR	**Akbulak array**	**15.19**	**330**	Pn		**Pn**	**01 35 27.2**	**-2.7**	
ABKAR				IAmb	IAmb		01 35 30.0		
	comp=Z,9.7nm,0.5s								
BVAR	**Borovoye Array**	**16.48**	**358**	P		**Pn**	**01 35 44.7**	**-1.3**	
	comp=Z,1.4nm,0.3s,baz=173,slow=16,SNR=19								
BRVK	**Borovoye**	**16.52**	**358**	*i* P		**Pn**	**01 35 44.5**	**-1.9**	
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.1s								
BRVK	**Borovoye**	**16.52**	**358**			**Pn**	**01 35 43.8**	**-2.6**	
AKTO	**Aktyubinsk**	**16.89**	**329**	P		**Pn**	**01 35 50.4**	**-0.6**	
	comp=Z,3.3nm,0.3s,baz=129,slow=8.6,SNR=43								
AKTO				S		Sn	01 38 47.6	-11	
	comp=Z,0.4nm,0.3s,baz=224,slow=23,SNR=4.1								
AKTO	**Aktyubinsk**	**16.89**	**329**	⇓P		**Pn**	**01 35 50.1**	**-0.9**	
	comp=Z,17nm,0.8s								
AKTO				⇑S		**Sn**	**01 38 54.3**	**-4.2**	
	comp=Z,14nm,1.1s								
WSAR	**Wadi Sarin**	**17.26**	**223**	P		**P**	**01 35 52.4**	**-3.3**	
	comp=Z,0.1nm,0.3s,baz=143,slow=5.1,SNR=1.5								
DGZ	**Jazzator, Alta**	**17.55**	**37**	*i* P		**P**	**01 35 55.7**	**-3.1**	
DGZ				pmax	pmax				
	comp=Z,3.0nm,0.8s								
LSA	**Lhasa**	**17.89**	**107**	P		**P**	**01 36 01.8**	**-1.2**	
LSA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
LSA	**Lhasa**	**17.89**	**107**	P		**P**	**01 36 01.8**	**-1.2**	
LSA				IAmb	IAmb		01 36 06.7		
	comp=Z,10nm,0.7s								
ZAA0	**Zalesovo Array**	**19.73**	**24**	P		**P**	**01 36 21.9**	**-0.5**	
ZAA0				IAmb	IAmb		01 36 35.1		
	comp=Z,9.8nm,0.6s								
ZALV	**Zalesovo Beam**	**19.73**	**24**	P		**P**	**01 36 22.4**	**0.0**	
	comp=Z,1.6nm,0.3s,baz=228,slow=9.8,SNR=32								
ZALV				S		**S**	**01 39 55.2**	**-4.1**	
	comp=Z,0.1nm,0.3s,baz=209,slow=18,SNR=2.1								
ZALV				LR		LR	01 44 47.8		
	comp=Z,27nm,18.5s,baz=26,slow=39								
SHL	**Shillong**	**20.64**	**116**	P		**P**	**01 36 32.7**	**0.0**	
SHL				pmax	pmax				
	comp=Z,25nm,1.0s								
SHL	**Shillong**	**20.64**	**116**	P		**P**	**01 36 32.7**	**0.0**	
GROC	**Groznyy**	**20.69**	**297**	*e*P		**P**	**01 36 31.1**	**-1.8**	
GROC				*e**SP		**sP**	**01 37 04.4**	**-0.9**	
GROC				*e*S		**S**	**01 40 16.8**	**-1.6**	
GROC				pmax	pmax				
	comp=Z,31nm,0.8s								
UMR	**Umm Al-Rimmam**	**21.01**	**257**	*e*P		**P**	**01 36 37.9**	**+1.5**	
GNI	**Garni**	**21.18**	**288**	P		**P**	**01 36 41.0**	**+2.7**	
	comp=Z,19nm,0.7s,baz=62,slow=1.4,SNR=18								
GNI	**Garni**	**21.18**	**288**	*ce*P		**P**	**01 36 42.1**	**+3.7**	
GNI				pmax	pmax				
	comp=Z,32nm,1.1s								
GNI	**Garni**	**21.18**	**288**	P		**P**	**01 36 37.4**	**-1.0**	
MIB	**Mutribah**	**21.20**	**258**	*e*P		**P**	**01 36 39.9**	**+1.4**	
SVE	**Sverdlovsk**	**21.53**	**344**	*e*P		**P**	**01 36 42.5**	**+0.8**	
SVE				*e*S		**S**	**01 40 34.1**	**-0.4**	
RST	**Umm Al-Ruwaisa**	**21.60**	**258**	*e*P		**P**	**01 36 43.5**	**+0.8**	
ARU	**Arti**	**21.69**	**340**	P		**P**	**01 36 44.0**	**+0.6**	
	comp=Z,1.5nm,0.4s,baz=161,slow=8.4,SNR=6.5								
ARU				LR		LR	01 46 42.9		
	comp=Z,28nm,18.5s,baz=119,slow=40								
ARU	**Arti**	**21.69**	**340**	*c i*P		**P**	**01 36 42.1**	**-1.3**	
ARU							01 37 08.8		
ARU				S		**S**	**01 40 37.2**	**-0.2**	
ARU				SS		**SnSn**	**01 41 13.9**	**+2.9**	
ARU				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ARU	**Arti**	**21.69**	**340**	P		**P**	**01 36 41.9**	**-1.4**	
ARU				IAmb	IAmb		01 36 52.6		
	comp=Z,6.9nm,0.8s								
ZEI	**Tsey**	**22.00**	**295**	*e*P		**P**	**01 36 50.1**	**+3.0**	
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.7s								
NCK	**Nalchik**	**22.32**	**297**	*i* P		**P**	**01 36 53.5**	**+3.2**	
NCK				pmax	pmax				
	comp=Z,12nm,0.8s								
GTA	**Gaotai**	**22.54**	**74**	⇓P		**P**	**01 36 55.3**	**+2.6**	
GTA				pP	pP		01 37 00.1	-14	
GTA				sP	sP		01 37 02.6	-24	
GTA				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KBZ	**Khabaz**	**22.86**	**297**	P		**P**	**01 36 57.8**	**+2.1**	
	comp=Z,2.9nm,0.7s,baz=111,slow=9.6,SNR=7.2								
GOF	**Gofitskoye**	**22.99**	**300**	⇑*e*P		**P**	**01 37 00.3**	**+3.3**	
SHA1	**Shidzhatmaz**	**23.03**	**297**	*i* P		**P**	**01 36 59.4**	**+1.7**	
KVAR	**Kislovodsk Arr**	**23.04**	**298**	P		**P**	**01 36 59.8**	**+2.3**	
	comp=Z,2.0nm,0.5s,baz=66,slow=20,SNR=2.3								
KIV	**Kislovodsk**	**23.05**	**298**	*e*P		**P**	**01 37 00.2**	**+2.6**	
KIV				*e*S		**S**	**01 41 06.3**	**+5.7**	
KIV				pmax	pmax				
	comp=Z,20nm,1.1s								
KIV				MLR	MLR				
	comp=Z,40nm,14.0s								
KIV	**Kislovodsk**	**23.05**	**298**	P		**P**	**01 36 56.0**	**-1.6**	
BELG	**Belogornoye**	**23.05**	**321**	P		**P**	**01 36 58.0**	**+0.7**	
	comp=Z,16nm,0.9s,baz=14,slow=5.0,SNR=5.9								
SOC	**Sochi**	**25.13**	**296**	*e*P		**P**	**01 37 20.2**	**+3.7**	
SOC				*e*			01 38 07.1		
SOC				*e*S		**S**	**01 41 43.0**	**+9.1**	
SOC				*e*SS		**SnSn**	**01 42 38.8**	**+3.9**	
SOC				pmax	pmax				
	comp=Z,19nm,0.7s								
SOC				MLR	MLR				
	comp=Z,32nm,17.0s								
RAYN	**Ar Rayn**	**25.81**	**247**	P		**P**	**01 37 23.0**	**+0.1**	
RAYN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
RAYN	**Ar Rayn**	**25.81**	**247**	P		**P**	**01 37 22.9**	**+0.1**	
RAYN				IAmb	IAmb		01 37 25.1		
	comp=Z,5.2nm,0.9s								
KIRV	**Kirov**	**26.33**	**334**	P		**P**	**01 37 28.1**	**+1.0**	
	comp=Z,3.7nm,0.4s,baz=54,slow=6.8,SNR=3.5								
KIRV	**Kirov**	**26.33**	**334**	*ce*P		**P**	**01 37 30.0**	**+2.9**	
SONM	**Songino Array**	**28.04**	**55**	P		**P**	**01 37 44.0**	**+1.3**	
	comp=Z,0.8nm,0.6s,baz=261,slow=8.4,SNR=4.3								
SONM	**Songino Array**	**28.04**	**55**	P		**P**	**01 37 44.0**	**+1.3**	
OBN	**Obninsk**	**30.11**	**319**	*i* P		**P**	**01 38 03.2**	**+2.5**	
OBN				*i*			01 39 06.0		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.8s								
KLMR	**Klimovskoe**	**31.59**	**330**	*e*P		**P**	**01 38 13.5**	**-0.2**	
KLMR				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KLMR	**Klimovskoe**	**31.59**	**330**	*e*P		**P**	**01 38 13.5**	**-0.2**	
KLMR				AMP			01 38 16.3		
	comp=Z,6.0nm,1.0s								
ELL	**Elmali**	**33.10**	**283**	P		**P**	**01 38 27.9**	**+0.5**	
ELL				pmax	pmax				
	comp=Z,12nm,0.9s								
ELL	**Elmali**	**33.10**	**283**	P		**P**	**01 38 27.9**	**+0.5**	
AKASG	**Malin Array Be**	**33.16**	**309**	P		**P**	**01 38 29.5**	**+1.9**	
	comp=Z,5.3nm,0.6s,baz=81,slow=6.8,SNR=24								
AKASG	**Malin Array Be**	**33.16**	**309**	*ce*P		**P**	**01 38 30.3**	**+2.7**	
AKASG				pmax	pmax				
	comp=Z,5.0nm,0.6s								
AKASG	**Malin Array Be**	**33.16**	**309**	P		**P**	**01 38 28.7**	**+1.1**	
AKBB	**Malin Array Si**	**33.16**	**309**	*ce*P		**P**	**01 38 30.6**	**+3.0**	
AKBB	**Malin Array Si**	**33.16**	**309**	P		**P**	**01 38 27.2**	**-0.4**	
NRIK	**Noril'sk**	**34.02**	**10**	P		**P**	**01 38 36.2**	**+1.4**	
	comp=Z,2.0nm,0.6s,baz=162,slow=8.2,SNR=3.6								
BURAR	**Bucovina Array**	**35.52**	**303**	P		**P**	**01 38 48.6**	**+0.4**	
DRGR		**37.24**	**301**	P		**P**	**01 39 05.2**	**+2.5**	
DRGR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KOLS	**Kolonicke sedl**	**37.51**	**305**	*e*P		**P**	**01 39 08.6**	**+3.7**	
KOLS	**Kolonicke sedl**	**37.51**	**305**	*e*P		**P**	**01 39 08.6**	**+3.7**	
FINES	**FINESS Array B**	**37.62**	**326**	P		**P**	**01 39 07.2**	**+1.6**	
	comp=Z,1.6nm,0.4s,baz=122,slow=9.8,SNR=22								
FINES				LR		LR	01 56 12.6		
	comp=Z,16nm,21.1s,baz=136,slow=38								
FINES	**FINESS Array B**	**37.62**	**326**	*ce*P		**P**	**01 39 07.1**	**+1.5**	
FINES				pmax	pmax				
	comp=Z,2.0nm,0.4s								
ARCES	**ARCESS Array B**	**41.22**	**337**	P		**P**	**01 39 36.3**	**+0.9**	
	comp=Z,2.2nm,0.6s,baz=111,slow=6.7,SNR=12								
ARCES				LR		LR	01 56 32.2		
	comp=Z,22nm,20.1s,baz=255,slow=36								
BRG	**Berggiesshubel**	**42.84**	**308**	*e*P		**P**	**01 39 50.9**	**+2.1**	
BRG				Amp			01 39 53.2		
	comp=Z,3.2nm,0.8s								
GERES	**GERESS Array B**	**43.16**	**305**	P		**P**	**01 39 53.3**	**+1.7**	
	comp=Z,0.2nm,0.4s,baz=96,slow=8.2,SNR=1.9								
NC303	**NORSAR Array S**	**44.47**	**323**	P		**P**	**01 40 02.5**	**+0.7**	
NOA	**NORSAR Array B**	**44.53**	**323**	P		**P**	**01 40 03.4**	**+1.1**	
	comp=Z,3.3nm,0.6s,baz=96,slow=7.7,SNR=20								
NOA				LR		LR	01 58 47.9		
	comp=Z,11nm,20.7s,baz=105,slow=36								
NC204	**NORSAR Array S**	**44.77**	**323**	P		**P**	**01 40 04.6**	**+0.4**	
NC204				IAmb	IAmb		01 40 23.6		
	comp=Z,3.8nm,1.1s								
KLR	**Kul'dur**	**44.85**	**54**	*i* P		P	01 39 54.0	-11	
KLR				pmax	pmax				
	comp=Z,1.0nm,1.2s								
DAVA	**Damuels**	**45.91**	**304**	*e*P		**P**	**01 40 15.0**	**+1.4**	
	comp=Z,4.9nm,0.5s								
SENIN	**Lac Senin/Sane**	**47.83**	**303**	P		**P**	**01 40 28.8**	**+0.3**	
SENIN				IAmb	IAmb		01 40 32.8		
	comp=Z,5.0nm,0.8s								
EKA	**Eskdalemuir Ar**	**52.47**	**316**	P		**P**	**01 41 05.5**	**+2.3**	
MBAR	**Mbarara**	**52.80**	**235**	P		**P**	**01 41 07.9**	**+1.6**	
MBAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ESDC	**Sonseca Array**	**57.71**	**298**	P		**P**	**01 41 42.6**	**+1.4**	
	comp=Z,1.4nm,0.8s,baz=57,slow=7.6,SNR=21								
ESDC	**Sonseca Array**	**57.71**	**298**	P		**P**	**01 41 41.3**	**+0.1**	
PEA0B	**Petropavlovsk-**	**59.71**	**44**	*ce*P		**P**	01 41 48.1	-6.7	
TORD	**Torodi Ar. Bea**	**66.04**	**269**	P		**P**	**01 42 36.3**	**-1.0**	
	comp=Z,3.4nm,0.6s,baz=50,slow=5.9,SNR=42								
TORD	**Torodi Ar. Bea**	**66.04**	**269**	P		**P**	**01 42 36.6**	**-0.7**	
TORD				IAmb	IAmb		01 42 37.3		
	comp=Z,2.9nm,0.6s								
ILAR	**Eielson Array**	**74.64**	**16**	P		**P**	**01 43 28.7**	**-0.2**	
	comp=Z,0.2nm,0.5s,baz=292,slow=3.2,SNR=4.3								
ILAR	**Eielson Array**	**74.64**	**16**	P		**P**	**01 43 28.4**	**-0.4**	
DBIC	**Dimbokro**	**75.02**	**267**	P		**P**	**01 43 31.2**	**-0.6**	
	comp=Z,2.7nm,0.6s,baz=32,slow=3.0,SNR=5.1								
BOSA	**Boshof**	**78.00**	**220**	P		**P**	**01 43 48.6**	**+0.2**	
	comp=Z,2.5nm,0.9s,baz=9.7,slow=5.4,SNR=5.9								
BOSA	**Boshof**	**78.00**	**220**	P		**P**	**01 43 48.0**	**-0.4**	
BOSA				IAmb	IAmb		01 44 05.7		
	comp=Z,3.8nm,0.9s								
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**01 44 05.7**	**+0.7**	
	comp=Z,0.5nm,0.5s,baz=342,slow=8.3,SNR=7.2								
WRA	**Warramunga Arr**	**81.75**	**122**	P		**P**	**01 44 08.0**	**-0.7**	
	comp=Z,0.6nm,0.8s,baz=323,slow=4.9,SNR=6.2								
WRA	**Warramunga Arr**	**81.75**	**122**	P		**P**	**01 44 08.0**	**-0.7**	
WRA	**Warramunga Arr**	**81.75**	**122**	P		**P**	**01 44 07.0**	**-1.7**	
ASAR	**Alice Springs**	**84.02**	**125**	P		**P**	**01 44 20.4**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=313,slow=4.7,SNR=5.3								

IDC ***18*** *01:43:51.5±1.7, 11°.03S×163°.45E, h0km, mb4.3/4, mb1 4.5/7, mb1mx4.1/45, mbtmp4.4/7, ML4.4/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/27, Error ellipse: s-maj=35.7km s-min=29.2km az=122.0*

NEIC ***18*** *01:43:54.5±1.5, 10°.95S±0°.09×163°.84E±0°.09, h40km±9km, mb4.3/9, Error ellipse: s-maj=16.2km s-min=9.9km az=223.0*

ISC 18 01:43:53.6±0.9, 11°.03S±0°.09×163°.76E±0°.09, h29km, n32, σ1°.60/27, mb4.4/8, MS3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**4.08**	**293**	Pn		**Pn**	**01 44 51.6**	**-2.4**
	84nm,0.3s,baz=202,slow=7.1,SNR=9.8							
HNR				Sn		**Sn**	**01 45 43.0**	**+2.1**
	58nm,0.3s,baz=225,slow=10,SNR=4.8							
HNR				LR		LR	01 46 38.6	
	comp=Z,1μm,18.7s,baz=140,slow=44							
HNR	**Honiara**	**4.08**	**293**			**Pn**	**01 44 54.2**	**+0.1**
HNR						**Sn**	**01 45 39.3**	**-1.6**
SANVU	**Saraoutou**	**5.52**	**143**			**Pn**	**01 45 14.8**	**+0.8**
SANVU				Sn		**Sn**	**01 46 13.7**	**-2.8**
DZM	**Mont Dzumac**	**11.27**	**167**	Pn		**Pn**	**01 46 34.7**	**+1.8**
	1.3nm,0.3s,baz=27,slow=16,SNR=8.6							
DZM				Sn		**Sn**	**01 48 36.1**	**-2.0**
	0.7nm,0.3s,baz=352,slow=17,SNR=1.2							
DZM	**Mont Dzumac**	**11.27**	**167**			**Pn**	**01 46 33.8**	**+0.9**
DZM				Sn		**Sn**	**01 48 39.0**	**+0.9**
EIDS	**Eidsvold**	**18.64**	**218**	Pn		**Pn**	**01 48 12.5**	**+2.9**
EIDS				IAmb	IAmb		01 48 13.4	
	comp=Z,6.6nm,0.8s							
CTA	**Charters Tower**	**19.10**	**240**	P		**Pn**	**01 48 14.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=83,

SKMP Bagumbayan, Su 5.42 314 eP Pn 01 47 07.8 +0.3
GTOI Gorontalo 5.86 249 P Pn 01 47 15.0 +1.9
2.8nm8µm722nm,0.6s
KRAI Karang Ratu 6.03 181 P Pn 01 47 17.7 +2.3
1.3nm5µm422nm,0.9s
MSAI Masohi 6.08 176 P Pn 01 47 19.1 +3.1
0.8nm3µm276nm,1.0s
NLAI Namlea 6.11 193 P Pn 01 47 17.8 +1.4
4.3nm10µm672nm,0.5s
BUKP Musuan 6.12 326 eP Pn 01 47 16.1 -0.4
FAKI Fak Fak 6.78 146 Pn 01 47 24.8 -0.1
FAKI Sn S 01 48 42.2 -0.5
FAKI Fak Fak 6.78 146 P Pn 01 47 26.5 +1.5
2.7nm8µm874nm,1.0s
CGP Cagayan de Oro 6.80 327|| eP Pn 01 47 25.8 +0.6
LUWI Luwuk 6.84 237 Pn Pn 01 47 25.1 -0.6
LUWI Luwuk 6.84 237 P Pn 01 47 25.7 0.0
18nm39µm4µm,0.6s
MRSI Marisa 6.91 251 P Pn 01 47 27.5 +0.8
6.0nm15µm1µm,0.7s
PAGZ Pagadian 7.16 315 eP Pn 01 47 29.9 0.0
BNDI Bandanaira 7.37 169 P Pn 01 47 33.1 +0.6
3.8nm12µm1µm,1.2s
DCPH Dipolog City 7.71 319|| eP Pn 01 47 39.9 +2.9
APSI Ampana 7.74 242 P Pn 01 47 37.3 0.0
7.2nm22µm3µm,1.0s
KMPI Kaimana, Papua 8.24 141 P Pn 01 47 45.4 +1.6
9µm1µm,1.2s
BAKI Biak 8.58 117 P Pn 01 47 50.6 +2.5
6µm703nm,0.9s
LLP Lapu-Lapu 8.75 329|| eP Pn 01 47 50.4 +0.1
LLP eS S 01 49 21.8 -7.1
MPSI Mapaga 8.90 254 P Pn 01 47 53.1 +0.8
5µm420nm,1.3s
CNOP Candoni, Negro 9.11 321 ⇑ iP Pn 01 47 54.8 -0.2
KKSI Kolaka, Sulawe 9.69 225 P Pn 01 48 02.6 +0.2
3µm212nm,0.6s
TTSI Tana Toraja 10.40 236 P Pn 01 48 12.4 +0.9
10µm1µm,1.1s
RCP Roxas 10.43 327⇑ eP Pn 01 48 13.3 +1.4
BNSI Bone 10.98 230 P Pn 01 48 19.7 +0.8
5µm362nm,0.8s
PMSI Majene 11.40 237 P Pn 01 48 26.0 +1.7
4µm354nm,1.2s
KAPI Kappang 11.64 228 P Pn 01 48 28.7 +1.4
9.6nm,0.3s,baz=47,slow=8.1,SNR=37
KAPI S S 01 50 35.8 -0.3
10nm,0.3s,baz=36,slow=23,SNR=8.0
KAPI Kappang 11.64 228 Pn Pn 01 48 27.8 +0.5
KAPI Sn S 01 50 36.0 0.0
KAPI Kappang 11.64 228 P Pn 01 48 28.5 +1.2
2µm251nm,0.7s
MKS Makassar 11.99 229 P Pn 01 48 33.6 +1.9
6µm694nm,0.9s
BKB Balikpapan 12.24 251 Pn Pn 01 48 35.0 +0.1
BKB Balikpapan 12.24 251 P Pn 01 48 36.0 +1.1
4µm381nm,1.4s
BOAC Boac 12.49 329 eP P 01 48 40.0 -1.3
GENI Genyem 12.84 114 P P 01 48 44.4 -0.8
23µm3µm,1.1s
MMRI Maumere 12.91 209 Pn Pn 01 48 43.2 -0.1
MMRI Maumere 12.91 209 P Pn 01 48 44.5 +1.2
2µm182nm,1.1s
SOEI Soe 13.12 199 Pn Pn 01 48 46.5 +0.6
SOEI Soe 13.12 199 P P 01 48 48.0 -0.4
3µm350nm,1.1s
LQP Lukban 13.20 329|| eP P 01 48 48.5 -0.9
EDFI Ende, Flores 13.28 211 P P 01 48 49.3 -0.9
750nm43nm,0.7s
TGY Tagaytay City 13.51 327 P P 01 48 52.2 -0.6
24nm,0.3s,baz=144,slow=2.1,SNR=11
BATI Baumata 13.74 200 P P 01 48 54.7 -0.6
25nm,0.3s,baz=293,slow=2.1,SNR=16
BATI Baumata 13.74 200 P Pn 01 48 54.4 +0.9
1µm113nm,1.2s
MTKI Muara Teweh, K 14.06 255 P P 01 48 59.1 +0.2
412nm,1.0s
BBKI Banjar Baru 14.96 246 P P 01 49 10.3 +1.5
6µm440nm,1.4s
BASI Baing, Sumba 15.10 211 P P 01 49 12.2 +1.9
2µm151nm,1.5s
WBSI Waikabubak, Su 15.28 216 P P 01 49 11.9 -0.5
2µm233nm,0.8s
PKKI Palangkaraya 15.32 251 P P 01 49 12.0 -0.8
6µm651nm,0.8s
SMPP San Manuel, Pa 15.36 331 eP P 01 49 12.3 -0.9
PLAI Plampang 15.69 223 P Pn 01 49 19.2 +1.9
5µm406nm,0.8s
MTN Manton Dam 15.72 170 P P 01 49 16.0 -1.1
baz=16,SNR=32
MTN Manton Dam 15.72 170 P 01 49 16.0 -1.1
KDU Kakadu 15.85 166 P P 01 49 17.9 -0.6
baz=16,SNR=29
BOLP Bolinao 15.95 329 eP Pn 01 49 20.9 +0.6
SAMP Sagada Mountai 16.06 333 eP Pn 01 49 22.7 +1.0
CVP Callao Caves 16.23 337|| eP Pn 01 49 24.0 +0.3
TWSI Taliwang, Sumb 16.25 225 P Pn 01 49 25.6 +1.7
2µm230nm,0.9s
APYP Conner 16.61 335 eP Pn 01 49 29.3 +1.1
SZP Santa 16.68 332 Pn Pn 01 49 29.5 +0.5
KHKI Kahang-Kahang 16.93 229 P Pn 01 49 32.9 +0.9
4µm578nm,0.7s
SRBI Singaraja 17.06 231 P Pn 01 49 35.3 +1.8
5µm498nm,1.2s
STKI Sintang 17.20 261 P Pn 01 49 35.4 +0.2
21µm281nm,1.3s
DNP Denpasar 17.43 229 P Pn 01 49 38.0 +0.1
1µm,1.4s
KMMI Kalianget 17.45 236 P Pn 01 49 39.7 +1.6
6µm666nm,1.1s
PBKI Pangkalan Bun 17.65 252 P Pn 01 49 40.6 +0.1
8µm897nm,1.0s
ABJI Asem Bagus 17.66 233 P Pn 01 49 41.2 +0.7
5µm402nm,1.2s
BYJI Banyuwangi 17.81 232 P P 01 49 36.2 -3.8
JAGI Jajag, Banyuwa 18.12 232 P P 01 49 43.9 +0.4
JAGI Jajag, Banyuwa 18.12 232 P P 01 49 44.5 +1.1
3µm264nm,0.7s
KNRA Kununurra 18.32 179 P P 01 49 45.8 +0.3
baz=18,SNR=130
KNRA Kununurra 18.32 179 P P 01 49 45.8 +0.3
TBJI Tambak Boyo 19.13 240 P Pn 01 49 56.6 -1.3
12µm1µm,1.1s
MANU Manus Island 19.48 104 P P 01 49 58.4 +0.3
MANU IAmb IAmb 01 50 05.0
comp=Z,64nm,1.1s
SJI Sawahan 19.66 238 P P 01 50 00.6 +0.5
comp=Z,9µmcomp=Z,967nm,0.9s
PWJI Pagerwojo 19.78 237 P P 01 50 02.6 +1.3
comp=Z,6µmcomp=Z,636nm,0.8s
PCJI Pacitan 20.40 238 P P 01 50 10.0 +2.1
comp=Z,5µmcomp=Z,380nm,1.4s
SMRI Semarang 20.47 242 P P 01 50 08.6 -0.1
SMRI Semarang 20.47 242 P P 01 50 09.7 +1.0
comp=Z,238nm,1.0s
UGM Wanagama 20.81 239 P P 01 50 14.0 +1.7
comp=Z,300nm,1.2s
FITZ Fitzroy Crossi 20.91 188 P P 01 50 12.2 -1.1
comp=Z,40nm,0.6s,baz=20,slow=8.3,SNR=103
FITZ S S 01 53 48.5 -4.7
comp=Z,9.3nm,0.8s,baz=140,slow=22,SNR=3.1
FITZ Fitzroy Crossi 20.91 188 P P 01 50 12.2 -1.1
baz=21,SNR=53
FITZ Fitzroy Crossi 20.91 188 P P 01 50 12.3 -0.9
FITZ IAmb IAmb 01 50 14.8
comp=Z,39nm,0.7s
FITZ S S 01 53 51.3 -1.9
TWG Pinlang 21.20 341 P P 01 50 14.5 -1.8
BJII Banjamegara 21.24 242 P P 01 50 29.8 +13
TPI Tanjungpandan 21.52 255 P P 01 50 20.5 +0.9
comp=Z,2µmcomp=Z,186nm,1.0s
CTJI Waduk Cacaban 21.56 243 P P 01 50 21.8 +1.8
comp=Z,3µmcomp=Z,306nm,1.1s
YULB Yu-li 21.66 342 P P 01 50 19.3 -1.5
YULB IAmb IAmb 01 50 24.8
comp=Z,24nm,0.6s
KPJI Karang Pucung 21.93 243 P P 01 50 24.9 +1.4
comp=Z,4µmcomp=Z,364nm,0.8s
SSLB Suanglung 22.14 341 P P 01 50 24.8 -0.6
JCJI Jatiwangi 22.17 245 P P 01 50 29.0 +3.3
comp=Z,16µmcomp=Z,782nm,1.0s
PMG Port Moresby 22.19 123 P P 01 50 24.6 -1.4
comp=Z,21nm,0.5s,baz=317,slow=12,SNR=7.4
PMG Port Moresby 22.19 123 P P 01 50 24.6 -1.4
PMG IAmb IAmb 01 50 26.2
comp=Z,70nm,1.1s
PMG Port Moresby 22.19 123 P P 01 50 26.0 0.0
comp=Z,59nm,0.9s
YHNB Yeheng 22.84 343 P P 01 50 32.1 +0.3
YHNB IAmb IAmb 01 50 34.2
comp=Z,57nm,0.7s
PPBI Pangkal Pinang 22.86 258 P P 01 50 33.8 +1.7
comp=Z,17µmcomp=Z,272nm,1.0s
LEM Lembang 22.89 245 P P 01 50 34.6 +2.0
comp=Z,872nm,0.8s,baz=30,slow=9.4,SNR=94
CISI Cisompet, Garu 23.02 243 P P 01 50 33.5 -0.1
CISI Cisompet, Garu 23.02 243 P P 01 50 33.8 +0.2
comp=Z,225nm,0.8s
WB0 Warramunga Arr 23.12 166 P P 01 50 33.5 -0.8
WRAB Tennant Creek 23.27 166 P P 01 50 34.9 -0.8
WRA Warramunga Arr 23.28 166 P P 01 50 34.9 -0.9
comp=Z,268nm,1.1s,baz=343,slow=10,SNR=168
WRA S S 01 54 27.9 -3.9
comp=Z,4.6nm,0.7s,baz=338,slow=16,SNR=2.7
WRA ScP ScP 01 57 32.5 -1.5
comp=Z,6.6nm,0.7s,baz=337,slow=2.7,SNR=6.7
WRA Warramunga Arr 23.28 166 P P 01 50 34.6 -1.1
WRA IAmb IAmb 01 50 37.7
comp=Z,34nm,1.1s
WB2 Warramunga Arr 23.28 166 P P 01 50 35.3 -0.5
baz=23
WB2 Warramunga Arr 23.28 166 P P 01 50 35.0 -0.8
WR0 Warramunga Arr 23.35 165 P P 01 50 35.5 -0.8
CBJI Citeko 23.44 247 P P 01 50 39.5 +2.2
comp=Z,535nm,0.8s
CNJI Cibinong 23.53 245 P P 01 50 38.8 +0.7
comp=Z,7µmcomp=Z,815nm,0.9s
DBJI Dramaga 23.58 247 P P 01 50 40.6 +2.0
comp=Z,246nm,1.3s
KNMB Chin-men Tao 23.68 337 P P 01 50 39.4 +0.1
QZH Quanzhou 24.03 338 eP P 01 50 43.6 +1.1
QZH S S 01 54 46.4 +2.9
PMBI Palembang 24.36 257 P P 01 50 48.3 +2.6
QIZ Qiongzhong 24.37 313 P P 01 50 46.8 +1.1
QIZ pP pP 01 51 28.8 +2.0
QIZ S S 01 54 52.8 +3.7
QIZ pmax pmax
comp=Z,160nm,3.5s
QIZ Qiongzhong 24.37 313 P P 01 50 45.9 +0.2
QIZ IAmb IAmb 01 51 02.7
comp=Z,42nm,1.0s
BLSI Bandar Lampung 24.57 251 P P 01 50 49.7 +2.1
comp=Z,4µmcomp=Z,389nm,0.9s
CGJI Cibinong 24.58 248 P P 01 50 47.7 +0.1
comp=Z,5µmcomp=Z,499nm,1.0s
BTDF Bukit Timah Da 24.73 267 P P 01 50 51.1 +2.1
comp=Z,999nmcomp=Z,91nm,0.9s
JMBI JAMBI 25.20 260 P P 01 50 55.3 +1.9
comp=Z,5µmcomp=Z,579nm,1.1s
MDSI Maura Dua 25.32 254 P P 01 50 56.0 +1.6
comp=Z,1µmcomp=Z,69nm,0.8s
KASI Kota Agung 25.32 251 P P 01 50 56.3 +1.9
comp=Z,206nm,0.9s
LWLI Liwa 25.59 252 P P 01 50 59.0 +2.1
comp=Z,284nm,0.8s
PSA00 Pilbara Seismi 25.61 199 P P 01 50 56.6 -0.2
PSA00 IAmb IAmb 01 50 57.4
comp=Z,39nm,0.7s
PSA00 Pilbara Seismi 25.61 199 P P 01 50 56.4 -0.5
PSA00 IAmb IAmb 01 50 57.5
comp=Z,17nm,0.8s
QIS Mount Isa 25.61 155 P P 01 50 56.4 -0.5
baz=26,SNR=78
LHSI Lahat 25.78 255 P P 01 51 01.3 +2.8
comp=Z,161nm,0.8s
MTSU Mount Surprise 25.97 144 P P 01 50 59.6 -0.6
baz=26,SNR=26
XMIS Chinas Isla 26.25 240 P P 01 51 02.5 -0.2
KSI Kapahiang 26.64 256 P P 01 51 06.1 -0.2
comp=Z,146nm,0.8s
ASAR Alice Springs 26.79 169 P P 01 51 07.0 -0.4
comp=Z,101nm,0.7s,baz=354,slow=8.1,SNR=452
ASAR PcP PcP 01 54 24.6 0.0
comp=Z,13nm,0.6s,baz=348,slow=2.1,SNR=11
ASAR S S 01 55 25.1 -2.2
comp=Z,6.0nm,0.7s,baz=342,slow=19,SNR=4.8
ASAR ScP ScP 01 57 42.8 -1.2
comp=Z,11nm,0.8s,baz=355,slow=2.9,SNR=12
ASAR Alice Springs 26.79 169 P P 01 51 07.1 -0.3
UBSI University, Be 26.98 256 P P 01 51 10.8 +1.6
comp=Z,18µmcomp=Z,675nm,0.7s
EGSI Enggano, Bengk 27.38 253 P P 01 51 11.4 -1.4
comp=Z,3µmcomp=Z,75nm,0.9s
BKNI Bangkinang 27.53 265 P P 01 51 14.6 +0.4
BKNI Bangkinang 27.53 265 P P 01 51 16.4 +2.3
comp=Z,549nm,1.0s
WRKA Warakurna 27.63 180 P P 01 51 14.9 0.0
baz=28
PDSI Padang 28.24 263 P P 01 51 21.2 +0.7
comp=Z,29nm,0.7s
SRAK Srakaew 28.40 295 P P 01 51 18.8 -3.0
comp=Z,3µmcomp=Z,235nm,0.9s
CTA Charters Tower 28.63 143 P P 01 51 23.5 -0.3
comp=Z,11nm,0.8s,baz=311,slow=11,SNR=7.2
CTA PcP PcP 01 54 29.4 +0.2
comp=Z,2.6nm,0.5s,baz=342,slow=3.7,SNR=1.8
CTAO Charters Tower 28.63 143 P P 01 51 23.5 -0.3
CTAO IAmb IAmb 01 51 29.1
comp=Z,26nm,0.8s
GIRL Giralia 28.82 208 P P 01 51 26.8 +1.4
baz=29,SNR=9.0
MNSI Mandailing Nat 28.95 267 P P 01 51 27.4 +0.7
comp=Z,8µmcomp=Z,74nm,0.6s
TRTT Trang 29.09 281 P P 01 51 28.7 +0.8
comp=Z,69nm,1.0s
TRTT Trang 29.09 281 P P 01 51 28.8 +0.8
comp=Z,69nm,1.0s
NONG Nongkai 29.12 303 P P 01 51 29.3 +1.1
comp=Z,108nm,1.0s
CHAI Chaiyaphum 29.17 298 P P 01 51 29.6 +1.1
comp=Z,1µmcomp=Z,142nm,0.9s
CHAI Chaiyaphum 29.17 298 P P 01 51 29.7 +1.1
comp=Z,294nmcomp=Z,35nm,0.9s
PSI Prapat 29.52 271 P P 01 51 32.5 +0.6
comp=Z,104nm,0.9s,baz=0.7,slow=3.2,SNR=84
PSI ScP ScP 01 57 51.0 -1.9
comp=Z,11nm,0.8s,baz=5.4,slow=1.5,SNR=12
PSI Prapat 29.52 271 P P 01 51 32.7 +0.8
comp=Z,724nmcomp=Z,85nm,1.1s,comp=Z,2µm,1.1s,
comp=Z,219nm,1.1s
PSI P P 01 51 32.9 +1.0
comp=Z,219nm,1.1s,comp=Z,2µm,1.1s,comp=Z,85nm,1.1s,
comp=Z,724nm
RPSI Ranu Prapat 29.52 271 P P 01 51 32.1 +0.4
KRAB Krabi 29.64 282 P P 01 51 37.0 +4.3
comp=Z,99µmcomp=Z,987nm,1.0s
KRAB Krabi 29.64 282 P P 01 51 37.1 +4.3
comp=Z,25µmcomp=Z,246nm,1.0s
SURT Suratani 30.15 283 P P 01 51 40.4 +3.1
comp=Z,26nmcomp=Z,3,1nm,1.1s
SURT Suratani 30.15 283 P P 01 51 40.0 +2.7
comp=Z,26nmcomp=Z,3,1nm,1.1s
SLVN Son La 30.21 310 P P 01 51 38.2 +0.4
SLVN IAmb IAmb 01 51 40.9
comp=Z,22nm,0.9s
PHET Kaeng Krachan 30.27 291 P P 01 51 40.7 +2.4
comp=Z,85nm,0.9s
PHET Kaeng Krachan 30.27 291 P P 01 51 40.7 +2.4
comp=Z,22nm,0.9s
PKDT Phuket 30.43 281 P P 01 51 40.3 +0.5
comp=Z,198nm,0.8s
PKDT Phuket 30.43 281 P P 01 51 40.0 +0.2
comp=Z,198nm,0.8s
NJ2 Nanjing 30.52 344 eP P 01 51 42.8 +2.6
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 30.70 336 ⇑ P P 01 51 44.3 +2.4
WHN pmax pmax
comp=Z,50nm,0.8s
MEEK Meekatharra 30.74 197 P P 01 51 41.7 -0.6
baz=31,SNR=36
GSI Gunungsitoli 30.91 268 P P 01 51 44.0 0.0
GSI Gunungsitoli 30.91 268 P P 01 51 43.1 -0.9
comp=Z,317nm,0.9s
PHIT Phitsanulok 31.06 299 P P 01 51 47.4 +2.2
comp=Z,4µmcomp=Z,502nm,0.9s
PHIT Phitsanulok 31.06 299 P P 01 51 47.5 +2.2
comp=Z,898nmcomp=Z,125nm,0.9s
UTTA Uttaradit 31.18 300 P P 01 51 48.0 +1.8
comp=Z,1µmcomp=Z,76nm,1.0s
UTTA Uttaradit 31.18 300 P P 01 51 48.1 +1.8
comp=Z,264nmcomp=Z,19nm,1.0s
SRDT SRDT 31.18 293 P P 01 51 47.6 +1.3
comp=Z,78nm,1.1s
UTHA Uthaitani 31.30 296 P P 01 51 48.9 +1.6
comp=Z,916nmcomp=Z,129nm,0.8s
UTHA Uthaitani 31.30 296 P P 01 51 49.0 +1.6
comp=Z,228nmcomp=Z,32nm,0.8s
GYA Guiyang 31.52 320 ⇓ P P 01 51 50.9 +1.6
GYA S S 01 56 42.3 +0.8
GYA ScP ScP 01 57 58.9 -0.3
GYA ScS ScS 02 01 56.6 -1.1
LHMI Lhok Sumawe 31.55 275 P P 01 51 50.0 +0.4
LHMI Lhok Sumawe 31.55 275 P P 01 51 51.5 +2.0
comp=Z,237nm,0.8s
UMPA Umpang Tak 32.05 297 P P 01 51 55.8 +1.8
comp=Z,5µmcomp=Z,74nm,0.8s
UMPA Umpang Tak 32.05 297 P P 01 51 55.0 +1.0
comp=Z,1µmcomp=Z,18nm,0.8s
PAYA Payao 32.47 303 P P 01 52 08.6 +11
PAYA Payao 32.47 303 P P 01 51 55.0 -2.6
comp=Z,91µmcomp=Z,7µm,0.8s
ENH Enshi 32.75 329 P P 01 52 00.4 +0.6
ENH IAmb IAmb 01 52 02.0
comp=Z,50nm,0.8s
CM31 Chiang Mai Arr 32.87 300 P P 01 52 01.4 +0.5
CM31 IAmb IAmb 01 52 04.1
comp=Z,58nm,0.8s
CMAR Chiang Mai Arr 32.87 300 P P 01 52 03.0 +2.0
comp=Z,36nm,0.8s,baz=118,slow=7.2,SNR=122
CMAR ScP ScP 01 58 04.9 +1.1
comp=Z,7.3nm,0.9s,baz=136,slow=2.1,SNR=17
CMAR Chiang Mai Arr 32.87 300 P P 01 52 01.5 +0.5
CMAR ScP ScP 01 58 04.3 +0.5
QLP Quilpie 32.90 153 P P 01 52 00.1 -1.0
baz=33,SNR=5.6
JWT Wachi 33.00 10 P P 01 52 02.3 +0.5
JWT IAmb IAmb 01 52 04.5
comp=Z,14nm,0.6s
CMMT Chiang Mai 33.01 301 P P 01 52 02.9 +0.6
comp=Z,880nmcomp=Z,108nm,1.0s
CMMT Chiang Mai 33.01 301 P P 01 52 02.9 +0.6
comp=Z,880nmcomp=Z,108nm,1.0s
CHTO Chiang Mai 33.02 301 P P 01 52 03.8 +1.5
comp=Z,865nmcomp=Z,108nm,1.1s
CHTO Chiang Mai 33.02 301 P P 01 52 02.6 +0.3
CHTO Chiang Mai 33.02 301 P P 01 52 04.2 +1.9
comp=Z,486nmcomp=Z,61nm,1.1s
KMI Kunming 33.30 314 ⇑ P P 01 52 06.8 +1.9
KMI ScP ScP 01 58 05.9 +0.4
KMI pmax pmax
comp=Z,43nm,0.7s
KMI pmax pmax
comp=Z,100nm,4.3s
FORT Forrest 33.35 181 P P 01 52 04.6 -0.3
baz=33,SNR=69
FORT Forrest 33.35 181 P P 01 52 04.6 -0.3
INU Inuyama 33.39 13 P P 01 52 05.3 +0.1
INU IAmb IAmb 01 52 06.0
comp=Z,13nm,0.7s
MORW Morawa 33.82 200 P P 01 52 08.6 -0.4
baz=34,SNR=11
MORW Morawa 33.82 200 P P 01 52 08.6 -0.4
MORW IAmb IAmb 01 52 09.5
comp=Z,45nm,0.9s
KSRS Korea Array 34.53 359 P P 01 52 15.9 +0.8
comp=Z,9.9nm,0.6s,baz=175,slow=9.6,SNR=33
KSRS ScP ScP 01 58 09.2 0.0
comp=Z,2.8nm,0.6s,baz=182,slow=3.7,SNR=6.5
MAJO Matsushiro 34.80 14 P P 01 52 16.5 -0.9
MAJO IAmb IAmb 01 52 18.6
comp=Z,14nm,0.7s
MAT Matsushiro 34.80 14 P P 01 52 16.3 -1.1
MJAR Matsushiro Arr 34.80 14 P P 01 52 16.4 -1.0
comp=Z,4.7nm,0.4s,baz=187,slow=9.1,SNR=15
MJAR ScP ScP 01 58 09.6 -0.7
comp=Z,3.4nm,0.8s,baz=199,slow=3.8,SNR=4.8
MJAR Matsushiro Arr 34.80 14 P P 01 52 16.7 -0.7
MJB9 Matsu-Tunnel 34.80 14 P P 01 52 17.7 +0.2
MJB9 IAmb IAmb 01 52 18.5
comp=Z,16nm,0.7s
BLDU Ballidu 35.03 198 P P 01 52 19.0 -0.4
baz=35,SNR=52
RMQ Roma 35.06 147 P P 01 52 19.1 -0.7
baz=35,SNR=5.9
EIDS Eidsvold 35.52 143 P P 01 52 22.7 -1.0
baz=36,SNR=11
EIDS Eidsvold 35.52 143 P P 01 52 22.8 -1.0
EIDS IAmb IAmb 01 52 23.2
comp=Z,26nm,0.7s
KLBR Kellerberrin 35.65 196 P P 01 52 24.4 -0.2
baz=36,SNR=42
XAN Xi'an 36.08 332 P P 01 52 28.9 +0.5
BBOO Buckleboo 36.09 169 P P 01 52 28.2 -0.2
baz=36,SNR=367
BBOO Buckleboo 36.09 169 P P 01 52 28.4 -0.1
JSD Sado 36.24 13 P P 01 52 28.7 -0.9
JSD IAmb IAmb 01 52 31.0
comp=Z,11nm,0.6s
MUN Mundaring 36.45 198 P P 01 52 31.4 -0.1
baz=37,SNR=16
CD2 Chengdu 36.46 323 ⇓ iP P 01 52 32.5 +0.8
CD2 S S 01 57 59.5 +2.3
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 pmax pmax
comp=Z,170nm,4.3s
CD2 L L
comp=Z,260nm,7.1s
CD2 L L
comp=Z,290nm,7.9s
CD2 L L
comp=Z,270nm,11.2s
STKA Stephens Creek 36.63 161 P P 01 52 32.5 -0.4
comp=Z,56nm,0.4s,baz=353,slow=7.3,SNR=137
STKA PcP PcP 01 54 51.2 +0.1
comp=Z,13nm,0.6s,baz=2.8,slow=8.5,SNR=3.5
STKA Stephens Creek 36.63 161 P P 01 52 32.6 -0.4
baz=37,SNR=113
STKA Stephens Creek 36.63 161 P P 01 52 32.7 -0.2
STKA PcP PcP 01 54 51.2 +0.1
JMM Marumori 36.72 16 P P 01 52 34.3 +0.6
JMM IAmb IAmb 01 52 36.0
comp=Z,21nm,0.7s
NWAO Narrogin (SRO) 37.05 196 P P 01 52 36.6 +0.1
baz=37,SNR=26
HTT Hallett 37.32 166 P P 01 52 38.8 0.0
baz=37,SNR=26
CMSA Cobar Meteorol 37.83 156 P P 01 52 42.6 -0.5
baz=38,SNR=15
BJT Baijiatuau 38.74 345 P P 01 52 50.9 +0.5
BJT IAmb IAmb 01 52 51.8
comp=Z,30nm,0.7s
BJT pP pP 01 53 35.7 +0.4
BJI Beijing 38.76 345 P P 01 52 51.0 +0.4
BJI pP pP 01 53 35.1 -0.3
BJI sP sP 01 53 59.8 -0.7
BJI pmax pmax
comp=Z,42nm,0.8s
ARMA Armidale 39.71 148 P P 01 52 58.8 0.0
baz=40,SNR=30
ARMA Armidale 39.71 148 P P 01 52 58.9 0.0
ARMA IAmb IAmb 01 52 59.4
comp=Z,31nm,0.7s
KOHI KOHIMA 40.15 308 eP P 01 53 02.9 +0.3
KOHI IAmb IAmb 01 53 04.4
comp=Z,90nm,0.8s
LZH Lanzhou 40.23 328 ⇓ P P 01 53 04.6 +1.5
LZH pP pP 01 53 50.1 +1.3
LZH sP sP 01 54 09.4 -4.2
LZH S S 01 58 54.8 +1.0
LZH sS sS 02 00 12.0 -2.5
LZH SS SS 02 01 59.5 -2.1
LZH pmax pmax
comp=Z,75nm,1.2s
LZH pmax pmax
comp=Z,220nm,5.4s
H11S3 WAKE ISLAND Hy 40.55 65 T T 02 37 11.7
baz=254,slow=75
H11S2 WAKE ISLAND Hy 40.56 65 T T 02 37 12.9
baz=254,slow=75
H11S1 WAKE ISLAND Hy 40.56 65 T T 02 37 10.7
baz=254,slow=75
HHC Hu-ho-hao-te 40.88 340 eP P 01 53 09.4 +1.1
HHC PcP PcP 01 55 10.8 +6.3
HHC S S 01 59 01.3 -1.8
HHC ScS ScS 02 02 47.4 -1.8
HHC pmax pmax
comp=Z,36nm,0.8s

HHC pmax pmax
comp=Z,97nm,5.5s
H11N1 WAKE ISLAND Hy 41.12 63 T T 02 37 59.8
baz=249,slow=75
H11N2 WAKE ISLAND Hy 41.13 63 T T 02 38 01.8
baz=249,slow=75
H11N3 WAKE ISLAND Hy 41.14 63 T T 02 38 15.4
baz=249,slow=75,SNR=21
ARPS Mount Arapiles 41.25 164 P **P** **01 53 11.6 +0.5**
baz=41,SNR=62
USA0B Ussuriysk Arra 41.39 4 P **P** **01 53 12.8 +0.6**
USRK Ussuriysk Ar. 41.39 4 P **P** **01 53 13.1 +0.9**
comp=Z,9.2nm,0.7s,baz=178,slow=5.1,SNR=14
USRK Ussuriysk Ar. 41.39 4 P **P** **01 53 12.8 +0.7**
MDJ Mudanjiang 41.70 1 P **P** **01 53 16.3 +1.6**
MDJ pmax pmax
comp=Z,18nm,0.9s
MDJ pmax pmax
comp=Z,170nm,4.0s
SHL Shillong 41.85 306 *e*P **P** **01 53 17.1 +0.6**
SHL IAmb IAmb 01 53 18.5
comp=Z,131nm,0.6s
SHL Shillong 41.85 306 P **P** **01 53 17.0 +0.5**
TOO Toolangi 43.12 160 P **P** **01 53 27.2 +0.9**
baz=43,SNR=9.0
TOO Toolangi 43.12 160 P **P** **01 53 27.0 +0.7**
TOO IAmb IAmb 01 53 30.4
comp=Z,24nm,0.9s
LSA Lhasa 44.39 311 P **P** **01 53 38.9 +1.8**
LSA pmax pmax
comp=Z,200nm,1.0s
LSA Lhasa 44.39 311 P **P** **01 53 36.7 -0.4**
LSA IAmb IAmb 01 53 40.2
comp=Z,44nm,0.9s
DZM Mont Dzumac 44.55 126 P **P** **01 53 39.0 +1.0**
comp=Z,18nm,0.5s,baz=250,slow=10,SNR=32
DZM Mont Dzumac 44.55 126 P **P** **01 53 37.8 -0.2**
DZM IAmb IAmb 01 53 38.6
comp=Z,27nm,0.9s
GTA Gaotai 44.83 328 ⇓P **P** **01 53 41.1 +1.1**
GTA pP pP 01 54 26.8 +0.2
GTA ScP **ScP** **01 58 49.5 0.0**
GTA pmax pmax
comp=Z,36nm,0.9s
GTA pmax pmax
comp=Z,61nm,5.1s
BOK Bokaro 46.15 301 *e*P **P** **01 53 51.8 +1.4**
BOK IAmb IAmb 01 53 53.4
comp=Z,31nm,0.8s
KLR Kul'dur 46.39 3 ScP **ScP** **01 58 55.1 -0.4**
baz=249,slow=4.4
RAMN Ramite 46.73 305 *e*P **P** **01 53 56.6 +1.4**
comp=Z,250nm,0.7s
GUN Gumba 47.70 306 *e*P **P** **01 54 03.9 +1.1**
comp=Z,239nm,0.7s
PALK Pallekele 47.78 277 P **P** **01 54 04.5 +1.3**
comp=Z,7.2nm,0.6s,baz=349,slow=12,SNR=3.6
PALK Pallekele 47.78 277 P **P** **01 54 03.2 -0.1**
PKI Pulchoki 47.95 305 *e*P **P** **01 54 05.2 +0.5**
PKIN Phulchoki 47.96 305 *e*P **P** **01 54 05.2 +0.5**
KKN Kakani 48.14 305 *e*P **P** **01 54 06.8 +0.8**
DMN Daman 48.21 305 *e*P **P** **01 54 07.5 +0.9**
ULN Ulaanbaatar 48.59 341 P **P** **01 54 09.2 +0.2**
GKN Gorkha 48.75 305 *e*P **P** **01 54 11.2 +0.6**
SONM Songino Array 48.78 340 P **P** **01 54 11.3 +0.9**
comp=Z,9.1nm,0.8s,baz=154,slow=8.5,SNR=36
SONM ScP **ScP** **01 59 04.7 -1.2**
comp=Z,2.2nm,0.8s,baz=146,slow=4.2,SNR=5.6
SONM Songino Array 48.78 340 P **P** **01 54 10.9 +0.5**
SONM pP **pP** **01 54 53.8 -3.8**
KOLN Koldanda 49.51 305 *e*P **P** **01 54 17.6 +1.2**
comp=Z,190nm,0.5s
DANN Dangsing 49.60 305 *e*P **P** **01 54 18.0 +0.9**
comp=Z,330nm,0.7s
PYUN Piuthan 50.13 305 *e*P **P** **01 54 22.3 +1.2**
comp=Z,192nm,0.6s
HYB Hyderabad 51.09 290 *i* P **P** **01 54 27.0 -1.1**
comp=Z,38nm,0.8s
HYB Hyderabad 51.09 290 *e*P **P** **01 54 27.3 -0.8**
HYB IAmb IAmb 01 54 28.7
comp=Z,66nm,0.6s
FUNA Funafuti 51.80 103 P **P** **01 54 32.9 -0.5**
MSVF Nonsavu 52.92 115 P **P** **01 54 43.2 +1.5**
comp=Z,27nm,0.4s,baz=287,slow=12,SNR=22
MSVF Nonsavu 52.92 115 P **P** **01 54 41.4 -0.3**
BHPL Bhopal 53.40 297 *e*P **P** **01 54 44.2 -0.8**
BHPL IAmb IAmb 01 54 45.6
comp=Z,71nm,1.1s
WMQ Urumqi 54.52 325 *e*P **P** **01 54 54.3 +1.4**
WMQ pmax pmax
comp=Z,61nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.9s
DDI Dehra Dun 54.95 306 *e*P **P** **01 54 56.8 +0.6**
DDI IAmb IAmb 01 54 57.9
comp=Z,111nm,0.8s
PETK Petropavlovsk- 55.69 21 P **P** **01 55 01.2 +0.3**
comp=Z,2.5nm,0.5s,baz=199,slow=3.1,SNR=5.6
PETK Petropavlovsk- 55.69 21 P **P** **01 55 01.7 +0.7**
SMLA Simla 55.94 306 *e*P **P** **01 55 03.3 +0.2**
SMLA IAmb IAmb 01 55 05.0
comp=Z,69nm,1.0s
OUZ Omahuta 56.66 136 P **P** **01 55 08.3 +0.3**
OUZ IAmb IAmb 01 55 11.2
comp=Z,38nm,1.0s
DHRM DHARAMSHALA 57.02 307 *e*P **P** **01 55 10.1 -0.8**
ZSN Zaisan 58.27 327 *e*P **P** **01 55 18.1 -1.0**
baz=327
DCZ Deep Cove 59.01 149 P **P** **01 55 24.5 +0.3**
MK31 Makanchi Array 59.35 325 P **P** **01 55 27.2 +0.6**
MK31 IAmb IAmb 01 55 28.0
comp=Z,13nm,0.9s
MKAR Makanchi Array 59.35 325 P **P** **01 55 27.0 +0.4**
comp=Z,13nm,0.5s,baz=119,slow=8.3,SNR=156
MKAR ScP **ScP** **01 59 51.1 -0.8**
comp=Z,4.0nm,0.7s,baz=117,slow=4.6,SNR=8.8
UZB Uzynbulak 59.48 320 ⇓*i*P **P** **01 55 28.0 +0.2**
comp=Z,9.8nm,0.7s,baz=320
MAKZ Makanchi 59.54 325 P **P** **01 55 28.5 +0.6**
MAKZ IAmb IAmb 01 55 29.2
comp=Z,30nm,1.1s
PRZ Przheval'sk 59.58 319 P **P** **01 55 28.6 +0.1**
PRZ IAmb IAmb 01 55 30.6
comp=Z,22nm,0.7s
TARG Taragay, Kyrgy 59.63 318 P **P** **01 55 29.3 +0.2**
SATY Saty 59.84 319 ⇓*i*P **P** **01 55 30.7 +0.5**
comp=Z,14nm,0.6s,baz=320
KPKS Kokpek 59.85 320 ⇓*i*P **P** **01 55 30.3 +0.1**
comp=Z,19nm,0.7s,baz=320
THZ Tophouse 59.87 143 P **P** **01 55 29.6 -0.6**
NIL Nilore 59.90 308 P **P** **01 55 30.8 +0.2**
NIL IAmb IAmb 01 55 31.4
comp=Z,21nm,1.1s
LBZ Lake Benmore 59.91 147 P **P** **01 55 29.9 -0.5**
KSH Kashi 59.96 315 P **P** **01 55 32.5 +1.5**
KSH pmax pmax
comp=Z,17nm,0.7s
KSH pmax pmax
comp=Z,90nm,4.1s
KDJ Kajisay 60.23 318 P **P** **01 55 33.3 +0.4**
KDJ IAmb IAmb 01 55 34.7
comp=Z,20nm,0.8s
TUWZ Tuamarina 60.31 142 P **P** **01 55 32.2 -1.0**
URZ Urewera 60.65 137 P **P** **01 55 34.8 -0.7**
comp=Z,53nm,0.8s,baz=121,slow=24,SNR=24
URZ Urewera 60.65 137 P **P** **01 55 34.7 -0.7**
BKZ Black Stump Fm 60.70 138 P **P** **01 55 35.7 -0.2**
MDOK Medeo 60.77 319 *e*P **P** **01 55 37.0 +0.5**
baz=319
ULHL Ulahol 60.91 318 P **P** **01 55 38.2 +0.7**
SNR=9.8
MXZ Matakaoa Point 61.12 136 P **P** **01 55 38.3 -0.4**
CHKK Chushkaly 61.12 320 ⇓*e*P **P** **01 55 38.6 0.0**
baz=320
MTBS Maitube 61.17 319 ⇓*e*P **P** **01 55 39.3 +0.3**
baz=319
AFI Afiamalu 61.49 107 P **P** **01 55 42.5 +0.8**
comp=Z,59nm,0.7s,baz=250,slow=2.5,SNR=8.7
AFI Afiamalu 61.49 107 P **P** **01 55 41.4 -0.2**
KUU Kurty 61.56 320 ⇓*i*P **P** **01 55 41.7 +0.1**
comp=Z,20nm,0.7s,baz=320
TKM2 Tokmak 2 61.63 318 P **P** **01 55 42.6 +0.3**
SNR=15
KBK Karagaybulak 61.95 318 P **P** **01 55 45.2 +0.8**
SNR=5.7
ZAA0 Zalesovo Array 62.25 333 P **P** **01 55 45.4 -0.5**
ZAA0 IAmb IAmb 01 55 46.2
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 62.25 333 P **P** **01 55 45.5 -0.4**
comp=Z,6.0nm,0.6s,baz=112,slow=5.9,SNR=30
ZALV S **S** **02 03 51.1 -2.9**
comp=Z,1.0nm,0.6s,baz=148,slow=12,SNR=3.7
ZALV PKP2bc 02 24 55.1
comp=Z,0.8nm,0.6s,baz=329,slow=1.7,SNR=4.9
ZALV Zalesovo Beam 62.25 333 P **P** **01 55 45.1 -0.8**
AAK Ala-Archa 62.25 318 P **P** **01 55 46.6 +0.3**
comp=Z,1.8nm,0.4s,baz=98,slow=6.3,SNR=8.3
AAK Ala-Archa 62.25 318 P **P** **01 55 46.9 +0.5**
SEM Semipalatinsk 62.45 327 *e*P **P** **01 55 45.0 -2.6**
baz=328
SGDS Sogindy 62.49 318 *e*P **P** **01 55 46.7 -1.2**
baz=318
USP Ospenovka 62.50 318 P **P** **01 55 48.4 +0.5**
SNR=7.8
AML Almayashu 62.59 317 P **P** **01 55 49.8 +0.9**
SNR=24
EKS2 Erkin-Say 62.74 317 P **P** **01 55 50.4 +0.8**
SNR=18
DRK Karamyk 62.94 313 IAmb IAmb 01 55 52.9
comp=Z,28nm,0.8s
KBL Kabul 63.49 307 P **P** **01 55 54.7 -0.1**
KBL IAmb IAmb 01 55 55.8
comp=Z,22nm,1.1s
KURBB Kurchatov Arra 63.50 327 P **P** **01 55 54.4 +0.2**
comp=Z,28nm,0.7s,baz=126,slow=5.9,SNR=300
KURBB S **S** **02 04 07.8 -1.8**
comp=Z,0.5nm,1.0s,baz=111,slow=4.2,SNR=4.4
BTLS Baital 63.54 320 ⇓*e*P **P** **01 55 54.4 -0.2**
baz=320
BTK Batken 63.85 314 IAmb IAmb 01 55 59.1
comp=Z,22nm,1.1s
GAR Garm 63.86 312 P **P** **01 55 57.2 +0.2**
KK31 Karatay Array 65.13 317 IAmb IAmb 01 56 06.1
comp=Z,25nm,1.1s
KKAR Karatay Array 65.13 317 P **P** **01 56 05.0 0.0**
KKAR Karatay Array 65.13 317 IAmb IAmb 01 56 06.1
comp=Z,25nm,1.1s
BRZS Berezniki 66.49 324 ⇓*e*P **P** **01 56 13.4 -0.1**
baz=324
TIXI Tiksi 68.80 0 P **P** **01 56 27.7 +0.2**
HRA Herat 68.91 306 P **P** **01 56 29.0 -0.2**
HRA IAmb IAmb 01 56 30.0
comp=Z,12nm,0.9s
BVAR Borovoye Array 69.08 327 P **P** **01 56 29.0 -0.6**
comp=Z,14nm,0.8s,baz=222,slow=20,SNR=56
BVAR S **S** **02 05 15.2 -1.7**
comp=Z,1.0nm,0.7s,baz=135,slow=25,SNR=5.8
BRVK Borovoye 69.16 327 P **P** **01 56 29.7 -0.3**
BRVK IAmb IAmb 01 56 31.0
comp=Z,24nm,0.8s
CASY Casey 70.08 188 P **P** **01 56 36.1 +0.7**
CASY IAmb IAmb 01 56 36.4
comp=Z,29nm,0.8s
WSAR Wadi Sarin 70.41 294 P **P** **01 56 37.8 -0.5**
comp=Z,5.6nm,0.7s,baz=151,slow=2.6,SNR=4.3
NRIK Noril'sk 71.79 346 P **P** **01 56 45.9 +0.3**
comp=Z,7.2nm,0.7s,baz=127,slow=6.3,SNR=13
GEYT Alibeck 72.86 309 P **P** **01 56 53.3 +0.6**
comp=Z,11nm,0.8s,baz=145,slow=5.4,SNR=18
GEYT Alibeck 72.86 309 IAmb IAmb 01 56 54.3
comp=Z,14nm,0.8s
GYA0B ALIBECK ARRAY 72.86 309 IAmb IAmb 01 56 54.3
comp=Z,12nm,0.8s
ABKAR Akulak array 74.00 321 IAmb IAmb 01 56 59.7
comp=Z,12nm,0.8s
AKTO Aktyubinsk 75.50 322 P **P** **01 57 07.7 +0.1**
comp=Z,7.1nm,0.7s,baz=94,slow=7.1,SNR=15
ARU Arti 76.69 328 P **P** **01 57 13.6 -0.5**
comp=Z,3.1nm,0.6s,baz=122,slow=2.9,SNR=18
ARU Arti 76.69 328 P **P** **01 57 13.4 -0.8**
SDPT Sand Point 77.03 34 P 01 57 16.4
baz=256
RDOG Red Dog Mine 79.56 21 P 01 57 30.5
baz=251
CHIR Chirikof Islan 79.82 34 P 01 57 32.2
baz=260
SII Sitkinak Islan 80.74 33 P 01 57 36.9
baz=261
TTA Tatalina 80.98 27 P **P** **01 57 38.3 +0.9**
TTA Tatalina 80.98 27 P 01 57 38.4
baz=258
N19K Bonanza Creek 81.29 29 P 01 57 40.2
baz=260
OHAK Old Harbor 81.32 33 IAmb IAmb 01 57 41.0
comp=Z,26nm,0.8s
OHAK Old Harbor 81.32 33 P 01 57 40.1
baz=262,SNR=5.8
KDAK Kodiak Island 81.78 32 P **P** **01 57 42.4 +0.8**
comp=Z,24nm,0.6s,baz=285,slow=4.1,SNR=31
KDAK Kodiak Island 81.78 32 P **P** **01 57 42.5 +0.8**
KDAK IAmb IAmb 01 57 43.3
comp=Z,21nm,0.7s
KDAK Kodiak Island 81.78 32 P 01 57 42.4
baz=262
KIRV Kirov 81.95 329 P **P** **01 57 42.6 +0.1**
comp=Z,20nm,0.8s,baz=306,slow=0.4,SNR=7.7
BELG Belogornoye 82.24 322 P **P** **01 57 44.0 -0.2**
comp=Z,48nm,1.0s,baz=95,slow=2.0,SNR=13
VNDA Vanda 82.25 173 P **P** **01 57 43.8 +0.1**
comp=Z,17nm,0.9s,baz=313,slow=6.2,SNR=70
VNDA Vanda 82.25 173 IAmb IAmb 01 57 44.8
comp=Z,27nm,1.1s
SPCR Spurr Chakacha 82.45 29 P 01 57 46.4
baz=262
RAYN Ar Rayn 82.47 293 P **P** **01 57 45.6 -0.4**
HOM Homer 82.52 30 P 01 57 46.2
baz=263
A21K Barrow 82.59 18 IAmb IAmb 01 57 48.0
comp=Z,21nm,1.1s
A21K Barrow 82.59 18 P 01 57 46.8
baz=256,SNR=8.5
PPLA Purkeypile 82.70 27 P 01 57 47.2
baz=262
CNPM China Poot 82.71 30 IAmb IAmb 01 57 47.5
comp=Z,13nm,0.8s
CHUM Lake Minchumin 82.78 26 P 01 57 48.0
baz=262,SNR=8.7
H21K Melozitna Rive 82.85 24 P 01 57 48.3
baz=261
SKT Skwentna 82.87 28 IAmb IAmb 01 57 48.0
comp=Z,19nm,1.0s
SKT Skwentna 82.87 28 P 01 57 47.0
baz=262,SNR=14
BRSE Bradley Lake S 82.98 30 P 01 57 48.1
baz=263
I21K Tanana 83.12 25 P 01 57 49.6
baz=262
SBA Scott Base 83.14 172 P **P** **01 57 49.3 +1.0**
SBA IAmb IAmb 01 57 49.9
comp=Z,18nm,1.1s
SUA Susitna One 83.18 29 IAmb IAmb 01 57 49.8
comp=Z,23nm,0.8s
SUA Susitna One 83.18 29 P 01 57 48.8
baz=263,SNR=14
VOI Vohitsoka 83.31 248 P **P** **01 57 50.5 0.0**
VOI IAmb IAmb 01 57 51.1
comp=Z,17nm,0.8s
KTH Kantishna Hill 83.35 26 IAmb IAmb 01 57 51.9
comp=Z,17nm,0.8s
BPAW Bear Paw Mtn. 83.39 26 P **P** **01 57 50.4 +0.5**
BPAW Bear Paw Mtn. 83.39 26 P 01 57 50.4
baz=263,SNR=7.6
MAW Mawson 83.45 201 P **P** **01 57 50.6 +0.6**
comp=Z,12nm,0.9s,baz=62,slow=5.3,SNR=14
MAW Mawson 83.45 201 P **P** **01 57 50.5 +0.6**
baz=84,SNR=14
MAW Mawson 83.45 201 P **P** **01 57 50.5 +0.5**
CUT Chulitna 83.51 28 P 01 57 50.6
baz=264
MLY Manley 83.62 25 P 01 57 51.7
baz=263,SNR=9.4
RC01 Rabbit Creek A 83.62 29 IAmb IAmb 01 57 52.1
comp=Z,20nm,0.9s
RC01 Rabbit Creek A 83.62 29 P 01 57 51.1
baz=264,SNR=9.6
TRF Thorofare Moun 83.62 27 IAmb IAmb 01 57 52.3
comp=Z,15nm,1.1s
TRF Thorofare Moun 83.62 27 P 01 57 51.2
baz=263
SEW Seward 83.67 30 P 01 57 51.6
baz=264
PMR Palmer 83.96 28 IAmb IAmb 01 57 53.8
comp=Z,23nm,0.9s
PMR Palmer 83.96 28 P 01 57 52.9
baz=265,SNR=7.9
GHO Glory Hole Cre 84.08 28 IAmb IAmb 01 57 54.7
comp=Z,18nm,1.2s
COLD Coldfoot 84.11 23 P 01 57 54.8
baz=263,SNR=9.4
H23K Yukon River 84.21 24 P 01 57 54.7
baz=264,SNR=7.6
I23K Minto, Yukon-K 84.21 25 P 01 57 54.7
baz=264,SNR=9.7
MCK McKinley 84.26 26 IAmb IAmb 01 57 55.3
comp=Z,12nm,0.9s
MCK McKinley 84.26 26 P 01 57 53.9
baz=264
KNK Knik Glacier 84.27 29 IAmb IAmb 01 57 56.0
comp=Z,35nm,0.9s
KNK Knik Glacier 84.27 29 P 01 57 54.8
baz=265,SNR=8.4
NEA2 Nenana 84.28 25 P 01 57 55.0
baz=264
SML Sawmill 84.36 28 IAmb IAmb 01 57 56.3
comp=Z,43nm,1.0s
SML Sawmill 84.36 28 P 01 57 55.1
baz=265,SNR=14
TOLK Toolik Lake Re 84.51 21 P 01 57 55.7
baz=264,SNR=8.8
WAT6 Susitna Watana 84.70 28 P 01 57 56.9
baz=266,SNR=18
H24K Noodor Dome 84.89 24 P 01 57 58.1
baz=265
KBZ Khabaz 84.91 313 P **P** **01 57 57.5 -0.4**
comp=Z,2.7nm,0.8s,baz=102,slow=8.6,SNR=4.0
ILAR Eielson Array 85.23 25 P **P** **01 57 58.0 -1.1**
comp=Z,0.6nm,0.6s,baz=241,slow=3.9,SNR=7.8
M24K Tolsona, Glenn 85.40 28 IAmb IAmb 01 58 02.3
comp=Z,23nm,0.9s
M24K Tolsona, Glenn 85.40 28 P 01 58 00.8
baz=267
KLU Klutina 85.49 29 IAmb IAmb 01 58 02.4
comp=Z,13nm,0.9s
KLU Klutina 85.49 29 P 01 58 01.1
baz=267
GURO Guroymak-BITLI 85.51 308 IAmb IAmb 01 58 03.4
comp=Z,25nm,0.9s
HARP HAARP 85.89 28 P 01 58 03.3
baz=268
BMRM Bremner River 86.11 29 IAmb IAmb 01 58 05.4
comp=Z,11nm,0.8s
BMRM Bremner River 86.11 29 P 01 58 03.8
baz=269
N25K Chitina, Valde 86.13 29 P 01 58 04.6
baz=269,SNR=5.5
BMAR Burnt Mountain 86.30 23 P **P** **01 58 05.0 +0.7**
KLMR Klimovskoe 87.10 331 *e*P **P** **01 58 05.5 -2.7**
KLMR AMP 01 58 07.4
comp=Z,8.0nm,0.7s
KLMR *e*pP **pP** **01 58 56.0 -4.6**
K27K Chicken 87.30 26 P 01 58 10.1
baz=271
L27K Beaver Creek, 87.42 27 P 01 58 10.1
baz=271
BCAR Beaver Creek A 87.44 27 P **P** **01 58 10.6 +0.7**
WHY Whitehorse 90.88 29 P 01 58 26.3
baz=277
MMAI Mount Meron Ar 91.09 303 P **P** **01 58 27.9 +0.2**
comp=Z,1.2nm,0.4s,baz=133,slow=4.7,SNR=3.9
SPITS Spitsbergen Ar 91.76 349 P **P** **01 58 29.7 -0.1**
comp=Z,5.9nm,1.0s,baz=100,slow=8.5,SNR=5.2
ARCES ARCESS Array B 91.96 340 P **P** **01 58 29.8 -0.9**
comp=Z,2.3nm,0.5s,baz=81,slow=6.0,SNR=18
ARCES ARCESS Array B 91.96 340 P **P** **01 58 30.2 -0.6**
ARCES IAmb IAmb 01 58 31.2
comp=Z,8.9nm,1.0s
BRTR Keskin Array B 91.98 310 P **P** **01 58 30.7 -1.0**
SYO Syowa Base 92.15 201 ⇓*e*P **P** **01 58 31.6 0.0**
QSPA South Pole Qui 92.67 180 P **P** **01 58 34.1 -0.1**
QSPA IAmb IAmb 01 58 35.1
comp=Z,16nm,0.7s
WRAK Wrangell Islan 92.80 33 IAmb IAmb 01 58 36.8
comp=Z,8.6nm,0.9s
WRAK Wrangell Islan 92.80 33 P 01 58 34.9
baz=279
FINES FINESS Array B 93.51 332 P **P** **01 58 36.2 -1.8**
comp=Z,1.5nm,0.6s,baz=86,slow=2.0,SNR=5.5
FINES FINESS Array B 93.51 332 P **P** **01 58 35.8 -2.2**
AKASG Malin Array Be 93.74 321 P **P** **01 58 37.6 -1.7**
comp=Z,0.3nm,0.3s,baz=64,slow=4.4,SNR=6.1
MLR Muntele Rosu 96.81 316 P **P** **01 58 52.8 -0.8**
comp=Z,1.8nm,0.7s,baz=27,slow=6.8,SNR=3.6
BURAR Bucovina Array 96.88 318 P **P** **01 58 53.5 -0.4**
BURAR IAmb IAmb 01 58 54.4
comp=Z,2.3nm,0.7s
HFS Hagfors 99.68 333 P **Pdif** **01 59 04.7 -1.2**
comp=Z,1.1nm,0.5s,baz=98,slow=6.1,SNR=7.9
NOA ORSAR Array B 100.43 334 P **Pdif** **01 59 07.6 -1.7**
comp=Z,0.8nm,0.9s,baz=147,slow=7.9,SNR=2.9
SNAA Sanae 104.71 194 PKiKP **PKiKP** **02 03 42.2 -0.2**
SNAA Sanae 104.71 194 Pdiff **Pdif** **01 59 30.6 +2.4**
NVAR Mina Array Bea 106.25 49 PP **PP** **02 04 01.4 -1.1**
comp=Z,0.6nm,0.7s,baz=273,slow=5.8,SNR=4.2
VNA2 Neumayer--Watz 106.31 194 PKiKP **PKiKP** **02 03 47.1 +1.7**
VNA3 Neumayer Olymp 106.61 193 PKiKP **PKiKP** **02 03 48.4 +2.5**
WUAZ Wupatki 112.44 50 P 02 03 57.8
baz=291
O20A White River Ci 112.93 44 P 02 03 59.0
baz=295
S22A 4UR Ranch, Cre 114.94 46 P 02 04 03.5
baz=295
T25A Trinidad 116.93 46 P 02 04 07.0
baz=297
MNTX Cornudas Mount 118.50 52 P 02 04 10.1
baz=294
ECSD EROS Data Cent 118.57 36 P 02 04 09.2
baz=306
ESDC Sonseca Array 119.33 319 PKKPbc PKKPbc 02 14 24.6 -0.8
comp=Z,0.5nm,0.8s,baz=270,slow=3.2,SNR=3.4
MSTX Muleshoe 119.54 48 P 02 04 11.5
baz=296
TXAR Lajitas Array 120.80 53 PKP **PKiKP** **02 04 14.7 +0.3**
comp=Z,1.0nm,0.7s,baz=187,slow=0.7,SNR=14
TXAR Lajitas Array 120.80 53 PKPdf **PKPdf** **02 04 13.9 -0.4**
WMOK Wichita Mounta 122.09 46 P 02 04 16.0
baz=300
ABTX Abilene, Hawle 122.49 48 P 02 04 16.8
baz=298
JFWS Jewell Farm 122.69 33 P 02 04 16.7
baz=312
MATQ Matagami 123.05 20 P 02 04 18.3
baz=328
JCT Junction City 123.35 50 P 02 04 19.0
baz=297
TUL1 Leonard 123.56 43 P 02 04 19.0
baz=303
CHGQ Chibougamau 123.96 18 P 02 04 19.3
baz=332
HDIL Hopedale 124.80 35 P 02 04 21.1
baz=312
TORD Torodi Ar. Bea 124.88 288 PKP **PKPdf** **02 04 22.2 -0.1**
comp=Z,1.5nm,0.6s,baz=80,slow=1.5,SNR=7.7
TORD SKPbc SKPbc 02 07 13.9
comp=Z,1.0nm,0.7s,baz=80,slow=3.8,SNR=3.1
TORD SKP 02 07 36.4
comp=Z,1.6nm,0.6s,baz=48,slow=2.1,SNR=5.0
TORD Torodi Ar. Bea 124.88 288 PKPdf **PKPdf** **02 04 21.4 -0.9**
U40A Yellville 125.26 41 P 02 04 21.7
baz=306
W39A Magazine 125.31 42 P 02 04 22.3
baz=305
MIAR Mount Ida 125.82 43 P 02 04 23.8
baz=304
ALGO Algonquin Park 126.11 23 P 02 04 23.7
baz=326
D55A Sainte-Anne-du 126.14 20 P 02 04 23.9
baz=330
W41B Gary Mavity, V 126.35 42 P 02 04 24.5
baz=306
D56A ZEC Mazanza, M 126.36 20 P 02 04 24.3
baz=331
G54A Lake Saint Pet 126.55 23 P 02 04 24.8
baz=326
LATQ La Tuque 126.70 18 P 02 04 25.4
baz=333
D58A Chemin du LacG 126.92 18 P 02 04 25.3
baz=333
H53A Bobcaygeon 127.04 24 P 02 04 25.8
baz=325
E58A La Victoria 127.44 19 P 02 04 26.6
baz=332

D61A	**St Aubert, Com**	**127.62**	**16**	P			02 04 26.7
	baz=336						
D60A	**Saint Jean D'O**	**127.67**	**17**	P			02 04 27.2
	baz=335						
G57A	**Newington**	**127.97**	**21**	P			02 04 27.7
	baz=330						
P49A	**Miami Univ. Ec**	**128.04**	**33**	P			02 04 27.8
	baz=316						
WCI	**Wyandotte Cave**	**128.08**	**35**	P			02 04 28.1
	baz=314						
F60A	**Warwick**	**128.22**	**18**	P			02 04 27.9
	baz=334						
E61A	**Lac Etchemin**	**128.24**	**17**	P			02 04 28.2
	baz=336						
ERPA	**Erie**	**128.42**	**27**	P			02 04 28.3
	baz=323						
WVT	**Waverly**	**128.58**	**38**	P			02 04 28.6
	baz=311						
I57A	**Carthage**	**128.72**	**22**	P			02 04 29.0
	baz=328						
H59A	**Cadyville**	**128.82**	**20**	P			02 04 28.5
	baz=331						
H58A	**Gabriels**	**128.85**	**21**	P			02 04 29.5
	baz=330						
G60A	**Masonville**	**128.88**	**19**	P			02 04 28.3
	baz=333						
J57A	**Williamstown**	**129.04**	**23**	P			02 04 29.6
	baz=328						
M54A	**Oil Creek Stat**	**129.05**	**27**	P			02 04 29.3
	baz=323						
H60A	**Morristown**	**129.23**	**19**	P			02 04 30.3
	baz=332						
J58A	**Remsen**	**129.35**	**22**	P			02 04 30.6
	baz=329						
I59A	**Olmsteadville**	**129.50**	**21**	P			02 04 31.0
	baz=331						
H61A	**Lyndonville**	**129.51**	**19**	P			02 04 31.3
	baz=333						
DBIC	**Dimbokro**	**132.48**	**282**	SKPbc	**SKPbc**		**02 07 42.1 -1.2**
	comp=Z,12nm,0.8s,baz=66,slow=3.8,SNR=8.1						
GOGA	**Godfrey**	**133.06**	**37**	P			02 04 38.4
	baz=314						
PLCA	**Paso Flores**	**138.47**	**158**	PKP	**PKPdf**		**02 04 48.2 +0.8**
	comp=Z,6.2nm,0.8s,baz=225,slow=5.7,SNR=7.8						
PLCA	**Paso Flores**	**138.47**	**158**		**PKPdf**		**02 04 47.6 +0.2**
CPUP	**Villa Florida**	**155.91**	**167**	PKPbc	PKPdf		02 05 26.1 +10
	comp=Z,3.0nm,0.6s,baz=142,slow=1.5,SNR=6.9						
CPUP				PKPab	**PKPab**		**02 05 43.3 -0.6**
	comp=Z,16nm,1.0s,baz=200,slow=4.7,SNR=15						
ROSC	**El Rosal**	**156.01**	**72**	PKPab	**PKPab**		**02 05 46.7 +1.2**
	comp=Z,17nm,0.7s,baz=312,slow=6.2,SNR=7.2						
LPAZ	**La Paz**	**158.84**	**131**	PKP	**PKPdf**		**02 05 21.2 +0.4**
	comp=Z,3.6nm,1.0s,baz=10,slow=3.1,SNR=7.8						
LPAZ				PKPab	**PKPab**		**02 05 58.4 +0.6**
	comp=Z,3.9nm,0.6s,baz=224,slow=3.5,SNR=10						
LPAZ	**La Paz**	**158.84**	**131**	PKPdf	**PKPdf**		**02 05 19.8 -1.0**
BDFB	**Brasilia**	**166.74**	**195**	PKP	**PKPdf**		**02 05 27.5 -0.4**
	comp=Z,2.9nm,0.8s,baz=328,slow=1.1,SNR=3.7						
BDFB				PKPab	**PKPab**		**02 06 31.9 +0.3**
	comp=Z,2.9nm,0.7s,baz=153,slow=5.3,SNR=4.1						

*NEIC **18** 01:50:50.1±1.1, 18°24S±0°09×178°3W±0°1, h585km±10km, mb4.1/13 Error ellipse: s-maj=20.6km s-min=8.7km az=59.0*
*IDC **18** 01:50:51.8±2.8, 18°16S×178°51W, h597km±24km, mb3.2/7, mb1 3.5/8, mb1mx3.1/36, mbtmp4.1/8, Error ellipse: s-maj=120.7km s-min=18.0km az=154.0*

ISC 18 01:50:49.8±0.8, 18°3S±0°2×178°3W±0°1, h579km, n28, σ1§09/28, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.48**	**278**	P	**P**	**01 52 12.6**	**+2.3**
	3.5nm,0.3s,baz=115,slow=3.7,SNR=10						
MSVF	**Nonsavu**	**3.48**	**278**	P	**P**	**01 52 12.3**	**+2.0**
ARMA	**Armidale**	**29.84**	**240**	P	**P**	**01 56 12.2**	**+0.7**
ARMA				IAmb	IAmb	01 56 21.7	
	comp=Z,9.6nm,1.1s						
CTA	**Charters Tower**	**33.46**	**261**	P	**P**	**01 56 42.1**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=90,slow=9.1,SNR=1.9						
STKA	**Stephens Creek**	**38.53**	**242**	P	**P**	**01 57 22.9**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=58,slow=13,SNR=1.9						
STKA	**Stephens Creek**	**38.53**	**242**	P	**P**	**01 57 23.2**	**-0.6**
WR0	**Warramunga Arr**	**44.45**	**260**	P	**P**	**01 58 10.4**	**-0.3**
WR0				IAmb	IAmb	01 58 13.5	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**01 58 10.6**	**-1.3**
WB0				IAmb	IAmb	01 58 13.8	
	comp=Z,5.2nm,0.8s						
WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**01 58 11.4**	**-0.6**
WB2				IAmb	IAmb	01 58 22.6	
	comp=Z,6.5nm,0.9s						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**01 58 11.4**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=89,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**01 58 11.0**	**-1.2**
AS31	**Alice Springs**	**44.77**	**255**	P	**P**	**01 58 13.1**	**0.0**
AS31				IAmb	IAmb	01 58 14.2	
	comp=Z,2.9nm,0.5s						
ASAR	**Alice Springs**	**44.77**	**255**	P	**P**	**01 58 13.3**	**+0.2**
	comp=Z,10nm,0.6s,baz=88,slow=8.4,SNR=26						
ASAR	**Alice Springs**	**44.77**	**255**	P	**P**	**01 58 11.3**	**-1.8**
MTN	**Manton Dam**	**48.86**	**269**	P	**P**	**01 58 43.4**	**-0.5**
KNRA	**Kununurra**	**50.53**	**264**	P	**P**	**01 58 56.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.05**	**261**	P	**P**	**01 59 14.0**	**-0.1**
FITZ				IAmb	IAmb	01 59 19.0	
	comp=Z,6.6nm,1.1s						
PSA00	**Pilbara Seismi**	**57.90**	**256**	P	**P**	**01 59 47.2**	**-0.6**
PSA00				IAmb	IAmb	01 59 52.4	
	comp=Z,7.1nm,1.1s						
SBA	**Scott Base**	**60.09**	**184**	P	**P**	**02 00 02.9**	**+1.5**
UGM	**Wanagama**	**69.71**	**268**	P	**P**	**02 01 02.2**	**-0.8**
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**02 01 13.3**	**-1.1**
NVAR	**Mina Array Bea**	**79.62**	**44**	P	**P**	**02 01 58.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=211,slow=6.3,SNR=3.7						
NVAR	**Mina Array Bea**	**79.62**	**44**	P	**P**	**02 01 56.8**	**-1.4**
MDM	**Murphy Dome**	**86.08**	**12**	P	**P**	**02 02 29.6**	**0.0**
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**02 02 32.3**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=216,slow=5.8,SNR=7.8						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**02 02 29.7**	**-0.9**
PDAR	**Pinedale Array**	**87.55**	**43**	P	**P**	**02 02 37.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=223,slow=6.0,SNR=2.5						
PDAR	**Pinedale Array**	**87.55**	**43**	P	**P**	**02 02 36.3**	**-0.9**

*HLW **18** 01:52:53.9, 35°26N×26°79E, h11km±24km, Ml4.3*
*NIC **18** 01:52:54.3±0.0, 34°61N×26°53E, h14km±2km, Ml4.5/4*
*IDC **18** 01:52:56.1±1.0, 35°09N×26°78E, h0km, mb4.0/12, mb1 3.9/19, mb1mx3.8/58, mbtmp3.9/19, ML3.5/7, MS2.9/4, Ms1 3.0/4, ms1mx2.6/35, Error ellipse: s-maj=21.3km s-min=10.2km az=177.0*
*THE **18** 01:52:58.3, 34°97N×26°64E, h0km±1km, ML3.7/8, Error ellipse: s-maj=3.1km s-min=0.9km az=164.0*
*DDA **18** 01:52:58.1, 35°06N×26°61E, h21km±4km, MW4.1*
*ATH **18** 01:52:58.9, 35°08N×26°70E, h10km±1km, ML3.9/14, Error ellipse: s-maj=2.9km s-min=1.0km az=163.0*
*NEIC **18** 01:53:01.6±1.3, 34°91N±0°07×26°77E±0°05, h39km±10km, Error ellipse: s-maj=10.8km s-min=6.1km az=190.0*

ISC 18 01:52:57.6±1.1, 34°92N±0°03×26°71E±0°02, h15km±7km, n174, σ1§54/213, mb3.9/14, 10C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.45**	**295**	P	**Pg**	**01 53 06.2**	**-0.3**
ZKR				S	**Sg**	**01 53 12.9**	**+0.3**
	28µm,0.7s						
ZKR	**Zakros**	**0.45**	**295**	P	**Pg**	**01 53 06.2**	**-0.3**
ZKR				S	**Sg**	**01 53 12.7**	**+0.1**
ZKR				AML	AML	01 53 14.6	
	comp=E,75866µm,0.7s						
ZKR				AML	AML	01 53 15.0	
	comp=N,27197µm,0.6s						
ZKR	**Zakros**	**0.45**	**295**	P	**Pg**	**01 53 05.6**	**-0.9**
ZKR				AML	AML	01 53 13.1	
	comp=N,72nm,0.7s						
ZKR				AML	AML	01 53 13.1	
	comp=N,72nm,0.7s						
ZKR				AML	AML	01 53 13.5	
	comp=N,31nm,0.7s						
ZKR				AML	AML	01 53 13.5	
	comp=N,31nm,0.7s						
ZKR				S	**Sb**	**01 53 13.9**	**+0.2**
STIA	**Sitia Lasithi**	**0.58**	**299**	P	**Pg**	**01 53 07.5**	**-1.5**
STIA				S	**Sg**	**01 53 16.4**	**-0.3**
FRMA	**Ierapetra Chan**	**0.81**	**277**	P	**Pg**	**01 53 10.9**	**-2.4**
FRMA				S	**Sg**	**01 53 22.5**	**-1.4**
	comp=N,4µm,0.5s						
NPS	**Neapolis**	**0.96**	**291**	P	**Pb**	**01 53 15.6**	**-0.4**
NPS				S	**Sn**	**01 53 29.6**	**-0.5**
	comp=N,11µm,0.5s						
NPS	**Neapolis**	**0.96**	**291**	P	**Pb**	**01 53 15.8**	**-0.2**
NPS				S	**Sb**	**01 53 28.4**	**-0.2**
NPS				AML	AML	01 53 32.6	
	comp=N,21301µm,0.5s						
NPS				AML	AML	01 53 34.5	
	comp=E,21340µm,0.5s						
LAST	**Lasithi**	**1.04**	**284**	P	**Pb**	**01 53 16.6**	**-0.8**
LAST				S	**Sn**	**01 53 32.6**	**+0.5**
	comp=E,6µm,0.8s						
LAST	**Lasithi**	**1.04**	**284**	P	**Pb**	**01 53 17.1**	**-0.3**
LAST				S	**Sg**	**01 53 31.5**	**+0.2**
LAST				AML	AML	01 53 38.2	
	comp=E,11240µm,0.6s						
LAST				AML	AML	01 53 41.1	
	comp=N,11646µm,1.0s						
HRKL	**Herakleio**	**1.37**	**287**	P	**Pb**	**01 53 23.2**	**+0.2**
IACM	**Heraklion**	**1.40**	**286**	P	**Pg**	**01 53 24.4**	**0.0**
IACM				S	**Sb**	**01 53 41.7**	**+0.7**
KSTL	**Kastelli Herak**	**1.40**	**286**	P	**Pn**	**01 53 19.6**	**-3.0**
KSTL				S	**Sn**	**01 53 35.8**	**-5.0**
IDI	**Anoyia**	**1.54**	**284**	Pg	**Pb**	**01 53 26.4**	**+0.6**
	comp=N,36nm,0.3s,baz=93,slow=17,SNR=183						
IDI				Lg	Lg	01 53 46.7	
	comp=N,99nm,0.3s,baz=332,slow=16,SNR=12						
IDI	**Anoyia**	**1.54**	**284**	P	**Pb**	**01 53 25.4**	**-0.4**
IDI				S	**Sb**	**01 53 46.0**	**+0.8**
	comp=N,2µm,0.5s						
IDI	**Anoyia**	**1.54**	**284**	⇓P	**Pg**	**01 53 26.6**	**-0.5**
IDI				⇓S	**Sg**	**01 53 46.7**	**-0.4**
IDI	**Anoyia**	**1.54**	**284**	P	**Pb**	**01 53 26.4**	**+0.6**
IDI				S	**Sb**	**01 53 45.6**	**+0.4**
IDI				AML	AML	01 53 55.1	
	comp=N,3460µm,0.7s						
IDI				AML	AML	01 54 02.3	
	comp=E,2320µm,0.5s						
IDI	**Anoyia**	**1.54**	**284**	Pn	**Pb**	**01 53 25.9**	**0.0**
IDI				Sn	**Sg**	**01 53 46.5**	**-0.7**
SIVA	**Sivas**	**1.56**	**274**	P	**Pb**	**01 53 26.1**	**-0.2**
SIVA	**Sivas**	**1.56**	**274**	P	**Pb**	**01 53 26.6**	**+0.3**
SIVA				S	**Sg**	**01 53 47.7**	**-0.3**
SIVA				AML	AML	01 54 02.0	
	comp=E,9264µm,0.6s						
SIVA				AML	AML	01 54 04.9	
	comp=N,8392µm,0.7s						
NIS1	**Nisyros Isl.**	**1.72**	**13**	P	**Pb**	**01 53 28.0**	**-0.9**
NIS1	**Nisyros Isl.**	**1.72**	**13**	P	**Pb**	**01 53 28.1**	**-0.9**
NIS1				AML	AML	01 54 00.7	
	comp=E,8511µm,0.7s						
NIS1				AML	AML	01 54 02.7	
	comp=N,5844µm,0.5s						
NISR	**Nisiros**	**1.72**	**11**	P	**Pn**	**01 53 27.2**	**+0.2**
NISR	**Nisiros**	**1.72**	**11**	P	**Pn**	**01 53 27.7**	**+0.6**
NISR				AML	AML	01 53 58.6	
	comp=E,6161µm,0.5s						
NISR				AML	AML	01 54 03.3	
	comp=N,3875µm,0.8s						
ARG	**Arkhangelos**	**1.73**	**41**	P	**Pb**	**01 53 28.8**	**-0.3**
ARG				S	**Sb**	**01 53 51.8**	**+1.1**
	comp=N,2µm,0.7s						
ARG	**Arkhangelos**	**1.73**	**41**	P	**Pb**	**01 53 28.7**	**-0.3**
ARG				S	**Sn**	**01 53 48.8**	**-0.2**
ARG				AML	AML	01 53 57.9	
	comp=N,4461µm,0.6s						
ARG				AML	AML	01 53 58.0	
	comp=E,4643µm,0.5s						
ARG	**Arkhangelos**	**1.73**	**41**	⇑P	**Pb**	**01 53 28.9**	**-0.3**
ARG				S	**Sg**	**01 53 55.3**	**+1.9**
SANT	**Santorini**	**1.77**	**325**	P	**Pn**	**01 53 28.2**	**+0.4**
SANT				S	**Sn**	**01 53 50.4**	**+0.4**
	comp=E,1µm,0.6s						
SANT	**Santorini**	**1.77**	**325**	⇑P	**Pn**	**01 53 28.2**	**+0.4**
SANT	**Santorini**	**1.77**	**325**	P	**Pn**	**01 53 28.1**	**+0.4**
SANT				S	**Sn**	**01 53 50.0**	**0.0**
SANT				AML	AML	01 53 56.0	
	comp=E,3077µm,0.4s						
SANT				AML	AML	01 53 59.9	
	comp=N,1441µm,0.4s						
SANT	**Santorini**	**1.77**	**325**	*i* P	**Pn**	**01 53 28.7**	**+0.9**
SANT				*i* S	**Sn**	**01 53 50.0**	**0.0**
SANT	**Santorini**	**1.77**	**325**	Pn	**Pn**	**01 53 28.6**	**+0.9**
SANT				Sn	**Sb**	**01 53 51.6**	**-0.2**
THR6	**Thira Island,**	**1.79**	**324**	P	**Pn**	**01 53 28.9**	**+1.0**
THR6	**Thira Island,**	**1.79**	**324**	P	**Pb**	**01 53 29.0**	**-1.0**
THR8	**Santorini-Mono**	**1.79**	**326**	P	**Pn**	**01 53 28.7**	**+0.7**
THR8	**Santorini-Mono**	**1.79**	**326**	P	**Pn**	**01 53 28.9**	**+0.9**
THR9	**Santorini-Faro**	**1.81**	**323**	P	**Pn**	**01 53 29.2**	**+0.9**
SNT1	**Gialos, Santor**	**1.82**	**325**	P	**Pn**	**01 53 29.3**	**+0.9**
SNT1	**Gialos, Santor**	**1.82**	**325**	P	**Pn**	**01 53 29.2**	**+0.8**
SNT5	**Nea Kammeni, S**	**1.82**	**324**	P	**Pn**	**01 53 29.2**	**+0.7**
SNT5	**Nea Kammeni, S**	**1.82**	**324**	P	**Pb**	**01 53 29.6**	**-1.1**
THR7	**Fira-Santorini**	**1.82**	**325**	P	**Pn**	**01 53 29.6**	**+1.1**
THR3	**Thira Island,**	**1.83**	**325**	P	**Pn**	**01 53 29.4**	**+0.9**
THR3	**Thira Island,**	**1.83**	**325**	P	**Pn**	**01 53 29.5**	**+1.1**
KOSK	**Kos Island**	**1.84**	**7**	P	**Pb**	**01 53 29.9**	**-1.0**
THT2	**Imerovigli**	**1.84**	**326**	P	**Pn**	**01 53 29.6**	**+0.9**
THT2	**Imerovigli**	**1.84**	**326**	P	**Pn**	**01 53 29.8**	**+1.1**
THR5	**Thira Island,**	**1.86**	**324**	P	**Pn**	**01 53 29.8**	**+0.9**
THR5	**Thira Island,**	**1.86**	**324**	P	**Pn**	**01 53 29.9**	**+0.9**
CMBO	**Columbo, Santo**	**1.87**	**326**	P	**Pn**	**01 53 30.1**	**+0.9**
CMBO	**Columbo, Santo**	**1.87**	**326**	P	**Pn**	**01 53 30.3**	**+1.1**
CMBO				AML	AML	01 53 55.5	
	comp=E,7396µm,0.5s						
CMBO				AML	AML	01 54 06.3	
	comp=N,6583µm,0.6s						
VAM	**Vamos**	**2.11**	**284**	P	**Pb**	**01 53 36.1**	**+0.4**
VAM				S	**Sb**	**01 54 03.0**	**+1.3**
VAM				AML	AML	01 54 19.0	
	comp=E,2558µm,0.8s						
VAM				AML	AML	01 54 20.2	
	comp=N,3146µm,0.5s						
GVD	**Gavdhos**	**2.16**	**269**	P	**Pb**	**01 53 37.1**	**+0.7**
GVD				AML	AML	01 54 26.5	
	comp=E,2543µm,0.8s						
GVD				AML	AML	01 54 26.9	
	comp=N,1640µm,0.8s						
BODT	**Bodrum**	**2.19**	**13**	P	**Pn**	**01 53 33.2**	**-0.3**
BDRM	**Kayabasi**	**2.22**	**15**	*i* P	**Pb**	**01 53 37.3**	**-0.2**
BDRM				*i* S	**Sn**	**01 53 59.6**	**-1.6**
TURN	**Turunc**	**2.23**	**34**	*i* P	**Pb**	**01 53 36.8**	**-0.8**
TURN				*i* S	**Sb**	**01 54 04.0**	**-1.0**
TURN				IAML		01 54 10.0	
	comp=E,250nm,0.6s						
TURN				IAML		01 54 12.0	
	comp=N,349nm,0.9s						
IMMV	**Iera Moni Meta**	**2.30**	**284**	P	**Pb**	**01 53 38.4**	**-0.4**
APE	**Apeiranthos**	**2.34**	**336**	P	**Pn**	**01 53 36.0**	**+0.3**
APE				S	**Sn**	**01 54 05.5**	**+1.2**
	comp=N,832nm,0.6s						
APE	**Apeiranthos**	**2.34**	**336**	⇓P	**Pn**	**01 53 36.2**	**+0.5**
APE				⇓S	**Sn**	**01 54 04.5**	**+0.2**
APE	**Apeiranthos**	**2.34**	**336**	P	**Pn**	**01 53 36.3**	**+0.6**
APE				AML	AML	01 54 08.8	
	comp=E,2040µm,0.7s						
APE				AML	AML	01 54 10.2	
	comp=N,1284µm,0.6s						
APE	**Apeiranthos**	**2.34**	**336**	*i* P	**Pn**	**01 53 36.2**	**+0.5**
APE				*i* S	**Sn**	**01 54 04.3**	**0.0**
APE	**Apeiranthos**	**2.34**	**336**	⇑P	**Pn**	**01 53 35.9**	**+0.2**
DALY	**Dalyan (Mula)**	**2.46**	**39**	*i* P	**Pn**	**01 53 39.4**	**+2.1**
DALY				*i* S	**Sb**	**01 54 13.1**	**+1.4**
YER	**Yerkesik**	**2.55**	**30**	P	**Pn**	**01 53 40.1**	**+1.6**
DDIM	**Aydin, Didim**	**2.56**	**9**	*i* P	**Pb**	**01 53 41.7**	**-1.6**
MHLO	**Agia Marina, M**	**2.57**	**314**	P	**Pb**	**01 53 41.6**	**-1.9**
MHLO				AML	AML	01 54 19.4	
	comp=N,3628µm,0.6s						
MHLO				AML	AML	01 54 21.0	
	comp=E,3821µm,0.6s						
FETY	**Fethiye**	**2.58**	**48**	P	**Pn**	**01 53 38.7**	**-0.2**
FETY	**Fethiye**	**2.58**	**48**	*i* P	**Pn**	**01 53 38.9**	**0.0**
KSL	**Kastellorizon**	**2.64**	**62**	P	**Pn**	**01 53 40.8**	**+1.1**
KSL	**Kastellorizon**	**2.64**	**62**	⇑P	**Pn**	**01 53 40.4**	**+0.6**
MULA	**Mugla, Merkez-**	**2.67**	**29**	*i* P	**Pn**	**01 53 43.5**	**-1.7**
AKAS	**Kas**	**2.70**	**60**	*i* P	**Pn**	**01 53 41.7**	**+1.1**
AKAS	**Kas**	**2.70**	**60**		**Pn**	**01 53 40.8**	**+0.1**
AYDN	**Tasoluk**	**2.89**	**19**	*i* P	**Pn**	**01 53 44.2**	**+1.0**
CAEL	**Denizli, Camel**	**3.05**	**43**	*i* P	**Pn**	**01 53 46.9**	**+1.5**
TAVA	**DENIZLI_Tavas**	**3.10**	**34**	*i* P	**Pn**	**01 53 48.9**	**+2.8**
TAVA				*i* S	**Sn**	**01 54 26.1**	**+3.1**
TAVA				IAML		01 54 49.0	
	comp=E,187nm,1.1s						
ELL	**Elmali**	**3.17**	**54**	Pn	**Pn**	**01 53 48.9**	**+1.8**
ELL				Sn	**Sn**	**01 54 24.4**	**-0.5**
ELL	**Elmali**	**3.17**	**54**	P	**Pn**	**01 53 49.1**	**+1.9**
KTHA	**Kythira Island**	**3.26**	**295**	P	**Pn**	**01 53 49.6**	**+1.4**
GOLH	**Golhisar**	**3.27**	**44**	*i* P	**Pn**	**01 53 50.0**	**+1.6**
KTHR	**Kythira**	**3.30**	**295**	P	**Pn**	**01 53 50.6**	**+1.8**
ZEYE	**Izmir, Urla-Ze**	**3.31**	**357**	*i* P	**Pb**	**01 53 54.0**	**-2.1**
URLA	**Izmir**	**3.43**	**358**	*i* P	**Pn**	**01 53 50.7**	**+0.1**
CHOS	**Chios island**	**3.50**	**352**	P	**Pn**	**01 53 52.0**	**+0.4**
VLI	**Veliai**	**3.55**	**301**	P	**Pn**	**01 53 53.9**	**+1.7**
KORT	**Korkueli**	**3.61**	**54**	*i* P	**Pn**	**01 53 54.8**	**+1.6**
SLUM	**Salum**	**3.65**	**201**	P	**Pn**	**01 53 55.3**	**+1.8**
	baz=200						
SLUM				S	**Sn**	**01 54 38.8**	**+2.5**
	baz=200						
KRND	**KRANIDI**	**3.78**	**311**	P	**Pn**	**01 53 57.7**	**+2.3**
MANT	**Manisa**	**3.86**	**22**	*i* P	**Pn**	**01 53 57.2**	**+0.6**
BRDR	**BURDUR-Merkez**	**3.87**	**43**	*i* P	**Pb**	**01 54 01.3**	**-4.3**
BUCA	**Burdur, Bucak-**	**3.93**	**51**	*i* P	**Pn**	**01 54 00.5**	**+3.0**
ZEDA	**zmir-Bergama**	**4.05**	**4**	*i* P	**Pn**	**01 53 58.0**	**-1.0**
USAK	**Uak-Merkez**	**4.21**	**25**	*i* P	**Pn**	**01 54 04.6**	**+3.2**
DEMI	**Demirci**	**4.41**	**21**	*i* P	**Pn**	**01 54 02.9**	**-1.2**
KEPZ	**Antalya-Kepez**	**4.43**	**62**	*i* P	**Pn**	**01 54 05.0**	**+0.6**
KEPZ				*i* S	**Sn**	**01 54 54.6**	**-1.2**
KEPZ				IAML		01 55 00.0	
	comp=E,68nm,0.5s						
KEPZ				IAML		01 55 03.0	
	comp=N,56nm,0.5s						
ITM	**Ithomi**	**4.48**	**302**		**Pn**	**01 54 07.6**	**+2.5**
BAGO	**Egridir - ISPA**	**4.49**	**46**	*i* P	**Pb**	**01 54 14.3**	**-1.9**
BUHA	**Balikesir, Bur**	**4.58**	**4**	*i* P	**Pn**	**01 54 07.8**	**+1.5**
AKMS	**Akamas**	**4.62**	**87**	P	**Pn**	**01 54 07.3**	**+0.4**
AKMS				AML	AML	01 55 00.1	
	comp=N,1.4nm,0.7s						
AKMS				AML	AML	01 55 01.6	
	comp=N,1.1nm,0.4s						
GDZ	**Gediz**	**4.71**	**27**	*i* P	**Pn**	**01 54 05.4**	**-2.9**
GAZI	**Gazipasa**	**4.75**	**72**	*i* P	**Pn**	**01 54 10.4**	**+1.7**
GAZI				*i* S	**Sn**	**01 55 01.4**	**-2.2**
GAZI				IAML		01 55 12.0	
	comp=N,132nm,0.6s						
GAZI				IAML		01 55 15.0	
	comp=E,95nm,0.6s						
SEDI	**Konya, Seydise**	**4.80**	**57**	*i* P	**Pn**	**01 54 11.9**	**+2.4**
SEDI				*i* S	**Sn**	**01 55 05.3**	**+0.4**
SEDI				IAML		01 55 12.0	
	comp=N,81nm,1.1s						
BALB	**Balikesir**	**4.80**	**11**	Pn	**Pn**	**01 54 11.7**	**+2.3**
BAYC	**CANAKKALE_Bayr**	**4.81**	**358**	*i* P	**Pn**	**01 54 07.8**	**-1.7**
KLV	**Kalavryta, Ach**	**4.82**	**312**	P	**Pn**	**01 54 11.4**	**+1.7**
ALFC	**Alefka**	**4.84**	**86**	⇑P	**Pn**	**01 54 09.8**	**-0.2**
ALFC				AML	AML	01 55 04.5	
	comp=N,1.3nm,1.0s						
ALFC				AML	AML	01 55 05.2	
	comp=N,1.7nm,0.7s						
LEF	**Lefka**	**5.08**	**86**	⇑P	**Pn**	**01 54 13.8**	**+0.6**
SZAC	**Souni**	**5.08**	**90**	⇑P	**Pn**	**01 54 12.8**	**-0.5**
SZAC				AML	AML	01 55 11.9	
	comp=N,0.8nm,1.2s						
SZAC				AML	AML	01 55 14.1	
	comp=N,0.6nm,0.4s						
DOGA	**KONYA_Doganhis**	**5.10**	**50**	*i* P	**Pn**	**01 54 18.4**	**+4.7**
ASGA	**Asgata**	**5.38**	**90**	P	**Pn**	**01 54 17.2**	**-0.2**
AGG	**Agios Georgios**	**5.39**	**321**	Pn	**Pn**	**01 54 19.9**	**+2.4**
CSS	**Mathiatis**	**5.44**	**88**	Pn	**Pn**	**01 54 17.2**	**-1.0**
CSS	**Mathiatis**	**5.44**	**88**	⇑P	**Pn**	**01 54 18.3**	**+0.2**
SGAZ	**Eskisehir, Sey**	**5.66**	**34**	*i* P	**Pn**	**01 54 22.8**	**+1.6**
MVOU	**Mavrovouni**	**5.68**	**87**	⇑P	**Pn**	**01 54 22.0**	**+0.5**
SWA2		**5.76**	**191**	P	**Pn**	**01 54 24.4**	**+1.7**
	baz=192						
SWA2				AMP		01 55 00.0	
	baz=192						
SWA2				S	**Sn**	**01 55 28.4**	**-0.1**
	baz=192						
ALN	**Alexandroupoli**	**5.99**	**355**	Pn	**Pn**	**01 54 26.7**	**+1.0**
LIT	**Litokhoron**	**6.16**	**328**		**Pn**	**01 54 30.6**	**+2.5**
RYAN	**Fayoum**	**6.56**	**152**	P	**Pn**	**01 54 34.3**	**+0.7**
	baz=153						
RYAN				S	**Sn**	**01 55 48.2**	**-0.1**
	baz=153						
MDUB	**Mudurnu**	**6.58**	**31**	Pn	**Pn**	**01 54 35.9**	**+2.0**
HSAF	**As Saff**	**6.69**	**141**	AMP		01 56 00.0	
	baz=143						
GLL	**Jalalah**	**6.81**	**140**	P	**Pn**	**01 54 36.9**	**-0.1**
	baz=142						
ANTO	**Ankara**	**6.91**	**43**	Pn	**Pn**	**01 54 41.2**	**+2.7**
**F

TORD	**Torodi Ar. Bea**	**31.33**	**232**	P	**P**	**01 59 17.9**	**+0.3**
TORD				IAmb	IAmb	01 59 23.1	
	comp=Z,3.5nm,1.4s						
ARCES	**ARCESS Array B**	**34.67**	**359**	P	**P**	**01 59 44.3**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=181,slow=9.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**40.28**	**51**	P	**P**	**02 00 34.4**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=277,slow=8.9,SNR=8.5						
MK31	**Makanchi Array**	**42.84**	**56**	P	**P**	**02 00 55.5**	**+0.4**
MK31				IAmb	IAmb	02 01 05.7	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**42.84**	**56**	P	**P**	**02 00 55.8**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=273,slow=7.5,SNR=12						
MKAR	**Makanchi Array**	**42.84**	**56**	P	**P**	**02 00 55.3**	**+0.2**
ZALV	**Zalesovo Beam**	**44.25**	**46**	P	**P**	**02 01 07.0**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=269,slow=8.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**44.25**	**46**	P	**P**	**02 01 07.4**	**+1.1**
TLY	**Talaya**	**55.83**	**47**	P	**P**	**02 02 34.6**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=280,slow=8.9,SNR=4.2						
TLY	**Talaya**	**55.83**	**47**	P	**P**	**02 02 33.5**	**-0.7**
SONM	**Songino Array**	**58.65**	**51**	P	**P**	**02 02 53.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=299,slow=6.5,SNR=2.0						
SCHQ	**Schefferville**	**64.19**	**320**	P	**P**	**02 03 30.7**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=34,slow=9.8,SNR=2.9						
SCHQ	**Schefferville**	**64.19**	**320**	P	**P**	**02 03 31.3**	**-0.2**

IDC 18 02:37:11.0±5.4, 34°25S×179°85E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/21, mbtmp3.7/2, Error ellipse: s-maj=232.2km s-min=60.8km az=164.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.57**	**208**	Sn	Sn	02 39 01.3	-14
	2.9nm,0.3s,baz=128,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**41.26**	**272**	P	P	02 44 57.6	-0.5
	0.7nm,0.8s,baz=115,slow=7.4,SNR=4.6						
WRA	**Warramunga Arr**	**42.60**	**278**	P	P	02 45 09.2	+0.1
	1.0nm,0.5s,baz=118,slow=7.6,SNR=22						
FINES	**FINESS Array B**	**148.03**	**336**	PKPbc	PKPbc	02 56 57.0	-0.6
	1.8nm,1.0s,baz=20,slow=4.4,SNR=4.4						

*IDC **18** 02:38:54.9±0.7, 15°80S×173°08W, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.3/29, mbtmp4.2/13, ML4.6/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/27, Error ellipse: s-maj=34.0km s-min=15.0km az=142.0*

*NEIC **18** 02:38:55.5±2.6, 15°96S±0°07×172°66W±0°10, h10km±1km, mb4.6/33, Error ellipse: s-maj=16.4km s-min=11.9km az=108.0*

ISC 18 02:38:54.7±0.5, 16°02S±0°05×172°68W±0°08, h10km, n89, σ1°74/83, mb4.5/25, MS3.4/7, 2C-4D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**23**	Pn	**Pn**	**02 39 31.6**	**-0.8**
	84nm,0.3s,baz=174,slow=1.4,SNR=52						
AFI				Sn	**Sn**	**02 39 55.2**	**-5.3**
	313nm,0.3s,baz=196,slow=23,SNR=6.4						
AFI				LR	LR	02 39 56.9	
	comp=Z,196nm,21.7s,baz=258,slow=27						
AFI	**Afiamalu**	**2.27**	**23**	Pn	**Pn**	**02 39 31.0**	**-1.4**
AFI				Sn	**Sn**	**02 39 56.2**	**-4.3**
NIUE	**Niue**	**4.01**	**140**	Pn	**Pn**	**02 39 55.8**	**-0.5**
NIUE				Sn	**Sn**	**02 40 36.2**	**-7.2**
MSVF	**Nonsavu**	**9.04**	**258**	Pn	**Pn**	**02 41 02.3**	**-3.1**
	0.4nm,0.3s,baz=300,slow=20,SNR=1.8						
MSVF				LR	LR	02 44 01.1	
	comp=Z,410nm,19.0s,baz=43,slow=35						
RAR	**Rarotonga**	**13.28**	**115**	LR	LR	02 45 19.9	
	comp=Z,66nm,21.1s,baz=308,slow=28						
DZM	**Mont Dzumac**	**20.62**	**250**	P	**P**	**02 43 34.9**	**+0.3**
	14nm,0.8s,baz=79,slow=17,SNR=7.8						
DZM				LR	LR	02 49 47.4	
	comp=Z,77nm,21.0s,baz=69,slow=32						
DZM	**Mont Dzumac**	**20.62**	**250**	*e*P	Pn	02 43 38.0	+1.2
	26nm,0.8s						
DZM				*e*LR	LR	02 48 35.6	
	comp=Z,373nm,24.1s						
DZM	**Mont Dzumac**	**20.62**	**250**	Pn	Pn	02 43 37.7	+0.9
DZM				IAmb	IAmb	02 43 39.1	
	comp=Z,27nm,1.0s						
PPT	**Papeete**	**22.17**	**97**	LR	LR	02 51 10.4	
	comp=Z,59nm,18.4s,baz=325,slow=33						
PPT2	**Papeete2**	**22.17**	**97**	*e*LQ	LQ	02 48 12.7	
	comp=Z,399nm,26.8s						
PPT2				*e*LR	LR	02 48 57.9	
	comp=Z,136nm,24.8s						
OUZ	**Omahuta**	**22.73**	**210**	P	**P**	**02 43 59.5**	**+2.6**
OUZ				IAmb	IAmb	02 44 00.1	
	comp=Z,22nm,1.0s						
TBI	**Tubuai**	**23.02**	**112**	*e*LQ	LQ	02 48 36.8	
	comp=Z,292nm,41.8s						
TBI				*e*LR	LR	02 49 27.0	
	comp=Z,116nm,24.8s						
URZ	**Urewera**	**23.91**	**200**	P	**P**	**02 44 08.3**	**-0.5**
URZ				IAmb	IAmb	02 44 19.9	
	comp=Z,39nm,1.4s						
HIZ	**Hauiti**	**24.95**	**204**	P	**P**	**02 44 19.7**	**+1.5**
HNR	**Honiara**	**27.48**	**280**	LR	LR	02 53 58.0	
	comp=Z,190nm,21.0s,baz=120,slow=33						
QRZ	**Quartz Range**	**27.85**	**205**	P	**P**	**02 44 46.8**	**+2.4**
TAOE	**Nuku Hiva Isla**	**32.52**	**81**	*e*LR	LR	02 53 54.6	
	comp=Z,86nm,22.5s						
STKA	**Stephens Creek**	**44.34**	**241**	P	**P**	**02 47 03.9**	**-1.4**
	comp=Z,5.0nm,0.8s,baz=356,slow=6.9,SNR=7.1						
STKA				LR	LR	03 02 49.9	
	comp=Z,70nm,19.2s,baz=33,slow=32						
STKA	**Stephens Creek**	**44.34**	**241**	P	**P**	**02 47 03.5**	**-1.8**
BBOO	**Buckleboo**	**49.11**	**240**	P	**P**	**02 47 41.7**	**-0.9**
WR0	**Warramunga Arr**	**50.19**	**257**	P	**P**	**02 47 49.2**	**-1.9**
WR0				IAmb	IAmb	02 48 06.1	
	comp=Z,18nm,1.5s						
WB0	**Warramunga Arr**	**50.35**	**257**	P	**P**	**02 47 50.2**	**-2.1**
WB0				IAmb	IAmb	02 47 58.6	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**50.37**	**257**	P	**P**	**02 47 50.6**	**-1.8**
WB2				IAmb	IAmb	02 48 16.4	
	comp=Z,9.6nm,1.4s						
WRAB	**Tennant Creek**	**50.37**	**257**	P	**P**	**02 47 51.2**	**-1.3**
WRAB				IAmb	IAmb	02 48 20.6	
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**50.38**	**257**	P	**P**	**02 47 50.6**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=97,slow=6.8,SNR=7.7						
WRA	**Warramunga Arr**	**50.38**	**257**	P	**P**	**02 47 50.7**	**-1.9**
AS31	**Alice Springs**	**50.58**	**252**	P	**P**	**02 47 52.6**	**-1.5**
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**02 47 52.4**	**-1.7**
	comp=Z,5.0nm,0.6s,baz=88,slow=8.2,SNR=55						
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**02 47 52.1**	**-2.0**
MTN	**Manton Dam**	**54.38**	**266**	P	**P**	**02 48 21.8**	**-0.5**
FORT	**Forrest**	**55.76**	**243**	P	**P**	**02 48 30.2**	**-1.9**
KNRA	**Kununurra**	**56.16**	**262**	P	**P**	**02 48 32.6**	**-2.5**
VNDA	**Vanda**	**62.84**	**186**	P	**P**	**02 49 24.1**	**+3.9**
	comp=Z,1.3nm,1.0s,baz=61,slow=5.7,SNR=4.5						
PETK	**Petropavlovsk-**	**73.43**	**342**	P	**P**	**02 50 27.6**	**+0.7**
	comp=Z,4.6nm,0.9s,baz=98,slow=11,SNR=5.0						
NVAR	**Mina Array Bea**	**74.32**	**42**	P	**P**	**02 50 35.6**	**+2.8**
	comp=Z,1.6nm,0.7s,baz=228,slow=9.6,SNR=20						
NVAR	**Mina Array Bea**	**74.32**	**42**	P	**P**	**02 50 32.8**	**-0.1**
F10A	**Beach Ranch, E**	**79.41**	**36**		**P**	**02 51 02.4**	**+1.2**
F10A				IAmb	IAmb	02 51 04.2	
	comp=Z,4.3nm,0.9s						
B08A	**Colville Reser**	**79.71**	**33**	P	**P**	**02 51 03.9**	**+1.2**
B08A				IAmb	IAmb	02 51 05.6	
	comp=Z,6.1nm,1.1s						
TX31	**Lajitas Ar. Si**	**80.38**	**56**	P	**P**	**02 51 07.2**	**+0.4**
TXAR	**Lajitas Array**	**80.38**	**56**	P	**P**	**02 51 08.9**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=224,slow=7.0,SNR=8.4						
ANMO	**Albuquerque**	**80.67**	**50**	P	**P**	**02 51 08.6**	**+0.3**
SMCO	**Snowmass**	**82.24**	**46**	P	**P**	**02 51 16.7**	**-0.2**
SMCO				IAmb	IAmb	02 51 20.6	
	comp=Z,8.7nm,1.4s						
BW06	**Boulder Array**	**82.26**	**42**	P	**P**	**02 51 17.9**	**+1.2**
BW06				IAmb	IAmb	02 51 19.7	
	comp=Z,3.6nm,1.1s						
PD31	**Pinedale Array**	**82.26**	**42**	P	**P**	**02 51 17.0**	**+0.3**
PDAR	**Pinedale Array**	**82.26**	**42**	P	**P**	**02 51 19.0**	**+2.3**
	comp=Z,1.9nm,0.8s,baz=225,slow=3.1,SNR=13						
PDAR	**Pinedale Array**	**82.26**	**42**		**P**	**02 51 17.2**	**+0.5**
WRH	**Wood River Hil**	**82.43**	**10**	P	**P**	**02 51 18.1**	**+1.3**
MLY	**Manley**	**82.51**	**9**	P	**P**	**02 51 18.1**	**+0.9**
HDA	**Harding Lake**	**82.58**	**11**	P	**P**	**02 51 19.0**	**+1.4**
HDA				IAmb	IAmb	02 51 20.1	
	comp=Z,5.7nm,1.2s						
CCB	**Clear Creek Bu**	**82.64**	**11**		**P**	**02 51 17.2**	**-0.6**
CCB				IAmb	IAmb	02 51 19.8	
	comp=Z,4.6nm,0.9s						
SCRK	**Sand Creek**	**82.76**	**12**	P	**P**	**02 51 19.4**	**+0.8**
MDM	**Murphy Dome**	**82.85**	**10**	P	**P**	**02 51 20.1**	**+1.1**
MDM				IAmb	IAmb	02 51 21.5	
	comp=Z,6.1nm,1.2s						
ILAR	**Eielson Array**	**82.92**	**11**	P	**P**	**02 51 20.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=232,slow=6.2,SNR=9.5						
ILAR	**Eielson Array**	**82.92**	**11**		**P**	**02 51 19.6**	**+0.3**
YNE	**Yellowstone No**	**83.11**	**39**	P	**P**	**02 51 22.0**	**+0.9**
YNE				IAmb	IAmb	02 51 38.3	
	comp=Z,6.4nm,1.2s						
DAWY	**Dawson**	**83.85**	**14**	P	**P**	**02 51 25.5**	**+1.3**
DAWY				IAmb	IAmb	02 51 32.4	
	comp=Z,3.5nm,1.0s						
AMTX	**Amarillo**	**84.19**	**51**	P	**P**	**02 51 26.7**	**0.0**
AMTX				IAmb	IAmb	02 51 29.3	
	comp=Z,5.8nm,0.8s						
BMAR	**Burnt Mountain**	**85.73**	**11**	P	**P**	**02 51 33.4**	**-0.1**
LPAZ	**La Paz**	**98.95**	**110**	P	Pdif	02 52 40.2	+3.2
	comp=Z,0.7nm,0.6s,baz=278,slow=7.1,SNR=4.2						
DPC	**Dobruska-Polom**	**144.99**	**350**	*e*PKP	**PKPdf**	**02 58 33.1**	**+0.8**
KRLC	**Kraliky**	**145.18**	**349**	*e*PKP	**PKPdf**	**02 58 33.6**	**+1.0**
MORC	**Moravsky Berou**	**145.32**	**348**	*e*PKP	**PKPdf**	**02 58 34.2**	**+1.3**
BIZ	**Bicaz**	**145.45**	**337**	⇓P	**PKPab**	**02 58 35.2**	**+1.9**
PRU	**Pruhonice**	**145.62**	**352**	*e*PKP	**PKPab**	**02 58 34.5**	**+0.7**
VRAC	**Vranov**	**145.95**	**349**	*e*PKP	**PKPab**	**02 58 36.3**	**+1.2**
VRI	**Vrincioaia**	**146.10**	**335**	⇓P	**PKPab**	**02 58 37.0**	**+1.2**
JAVC	**Velka Javorina**	**146.17**	**348**	*e*PKP	**PKiKP**	**02 58 38.1**	**-0.5**
KRUC	**Moravsky**	**146.22**	**349**	*e*PKP	**PKPab**	**02 58 36.9**	**+0.8**
DOPR	**Dopca**	**146.53**	**337**	⇓P	**PKPab**	**02 58 38.4**	**+1.0**
KHC	**Kasperske Hory**	**146.58**	**353**	*e*PKP	**PKPbc**	**02 58 36.8**	**+0.3**
DRGR		**146.75**	**341**	⇑P	**PKPbc**	**02 58 38.4**	**+1.2**
CKRC	**Cesky Krumlov**	**146.79**	**352**	*e*PKP	**PKPdf**	**02 58 36.6**	**+1.2**
GERES	**GERESS Array B**	**146.85**	**352**	PKPbc	**PKPab**	**02 58 38.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=46,slow=3.9,SNR=13						
GERES	**GERESS Array B**	**146.85**	**352**	PKPdf	**PKPdf**	**02 58 36.2**	**+0.6**
BRTR	**Keskin Array B**	**147.07**	**321**	PKPbc	**PKPab**	**02 58 40.2**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=113,slow=2.8,SNR=11						
BRTR	**Keskin Array B**	**147.07**	**321**	PKPab	**PKPbc**	**02 58 38.9**	**+0.5**
CONA	**Conrad Observa**	**147.41**	**349**	*e*P	**PKPab**	**02 58 41.2**	**+0.4**
	comp=Z,5.0nm,0.9s						
MOA	**Molln**	**147.75**	**351**	*e*P	**PKPbc**	**02 58 40.5**	**+0.6**
	comp=Z,1.2nm,0.5s						
ARSA	**Arzberg**	**148.12**	**349**	*e*P	**PKiKP**	**02 58 42.8**	**+0.1**
	comp=Z,2.2nm,0.7s						
BZS	**Buzias**	**148.15**	**341**	⇓P	**PKPbc**	**02 58 42.4**	**+1.5**
MORH	**Mrgy, Hungar**	**148.44**	**345**	⇑P	**PKPbc**	**02 58 42.7**	**+1.0**
RETA	**Reutte**	**148.49**	**356**	*e*P	**PKiKP**	**02 58 44.0**	**+0.6**
	comp=Z,1.1nm,0.5s						
MOTA	**Moosalm**	**148.61**	**355**	*e*P	**PKiKP**	**02 58 44.1**	**+0.3**
	comp=Z,2.5nm,0.7s						
WTTA	**Wattenberg**	**148.64**	**354**	*e*P	**PKiKP**	**02 58 44.1**	**+0.2**
	comp=Z,1.7nm,0.4s						
DAVA	**Damuels**	**148.75**	**357**	*e*P	**PKiKP**	**02 58 44.8**	**+0.7**
	comp=Z,1.8nm,0.6s						
SOKA	**Soboth**	**148.76**	**350**	*e*P	**PKiKP**	**02 58 44.1**	**0.0**
	comp=Z,0.8nm,0.4s						
OBKA	**Obir**	**149.01**	**350**	*e*P	**PKPbc**	**02 58 43.3**	**0.0**
	comp=Z,0.7nm,0.4s						
ABTA	**Abfaltersbach**	**149.06**	**353**	*e*P	**PKPbc**	**02 58 44.5**	**+1.1**
	comp=Z,2.9nm,0.7s						
MMAI	**Mount Meron Ar**	**149.50**	**309**	PKPbc	**PKPbc**	**02 58 45.5**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=252,slow=1.4,SNR=2.2						

RSNC 18 02:47:37.2±1.0, 7°43N×73°25W, h139km±4km, ML3.4, Mw3.7, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.55**	**99**	⇓*e*P	Pn	02 47 58.0	-0.2
PAMC				*e*S	Sn	02 48 13.2	-0.8
PAMC				*i*		02 48 15.9	
	comp=Z,756nm,0.3s						
BRRC	**Barranca, Sant**	**0.56**	**236**	⇑*i*P	Pn	02 47 57.7	+0.1
BRRC				*e*S	Sn	02 48 12.9	-0.2
BRRC				*i*		02 48 13.8	
	comp=Z,875nm,0.1s						
OCAC	**Ocana**	**0.81**	**355**	⇑*e*P	Pn	02 47 59.1	-0.4
OCAC				*e*S	Sn	02 48 15.7	-0.8
OCAC				*i*		02 48 18.0	
	comp=Z,1μm,0.5s						
BARC	**Barichara**	**0.83**	**176**	*e*P	Pn	02 47 59.6	-0.2
BARC				*e*S	Sn	02 48 16.3	-0.6
BARC				*i*		02 48 17.2	
	comp=Z,1μm,0.2s						
RUSC	**La Rusia**	**1.53**	**174**	*e*P	Pn	02 48 06.8	0.0
RUSC				*e*S	Sn	02 48 28.9	-0.5
RUSC				*i*		02 48 36.2	
	comp=Z,96nm,0.4s						
SMLC	**San Martn de**	**1.59**	**329**	*e*P	Pn	02 48 06.3	-0.7
SMLC				*e*S	Sn	02 48 29.3	-0.4
SMLC				*i*		02 48 31.8	
	comp=Z,580nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.60**	**272**	*e*P	Pn	02 48 06.1	-0.9
ZARC				*e*S	Sn	02 48 29.9	+0.1
ZARC				*i*		02 48 34.4	
	comp=Z,468nm,0.3s						
LL2C	**La Loma 2 Cana**	**2.12**	**355**	*e*P	Pn	02 48 12.7	-0.5
LL2C				*e*S	Sn	02 48 40.6	-0.3
LL2C				*i*		02 48 46.3	
	comp=Z,256nm,0.2s						
UREC	**San Jos de Ur**	**2.29**	**278**	*e*P	Pn	02 48 14.5	-0.7
UREC				*e*S	Sn	02 48 43.5	-0.9
UREC				*i*		02 48 56.4	
	comp=Z,240nm,0.2s						
NORC	**Norcasia**	**2.45**	**221**	*e*P	Pn	02 48 18.1	+0.8
NORC				*e*S	Sn	02 48 47.8	-0.3
NORC				*i*		02 48 55.7	
	comp=Z,163nm,0.5s						
HELC	**Santa Helena**	**2.58**	**242**	*e*P	Pn	02 48 20.1	+1.0
HELC				*e*S	Sn	02 48 49.7	-1.6
HELC				*i*		02 49 02.1	
	comp=Z,141nm,0.2s						
ARGC	**Ariguani, Magd**	**2.61**	**338**	*e*P	Pn	02 48 19.3	0.0
ARGC				*e*S	Sn	02 48 51.8	+0.1
ARGC				*i*		02 48 59.2	
	comp=Z,75nm,0.3s						
MOTC	**Monteria, Cord**	**2.75**	**299**	*e*P	Pn	02 48 19.9	-1.0
MOTC				*e*S	Sn	02 48 52.3	-2.3
MOTC				*i*		02 48 58.2	
	comp=Z,39nm,0.5s						
ROSC	**El Rosal**	**2.78**	**203**	*e*P	Pn	02 48 21.5	-0.3
ROSC				*e*S	Sn	02 48 55.8	-0.3
ROSC				*i*		02 49 07.0	
	comp=Z,121nm,0.3s						
CHIC	**Chingaza**	**2.82**	**190**	*e*P	Pn	02 48 22.1	-0.2
CHIC				*e*S	Sn	02 48 56.8	-0.2
CHIC				*i*		02 49 10.7	
	comp=Z,52nm,0.5s						
SDV	**Santo Domingo**	**2.97**	**61**	*e*P	Pn	02 48 23.4	-0.5
SDV				*e*S	Sn	02 48 56.7	-3.3
SDV				*i*		02 49 00.5	
	comp=Z,83nm,0.6s						
GUY2C	**Guyana, Caldas**	**3.04**	**224**	*e*P	Pn	02 48 26.1	+1.0
GUY2C				*e*S	Sn	02 49 02.5	+0.5
GUY2C				*i*		02 49 12.2	
	comp=Z,176nm,0.4s						
SJCC	**San Jacinto, C**	**3.11**	**322**	*e*P	Pn	02 48 25.2	-0.4
SJCC				*e*S	Sn	02 49 00.7	-2.5
SJCC				*i*		02 49 05.0	
	comp=Z,53nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.15**	**241**	*e*P	Pn	02 48 27.7	+1.4
CBOC				*e*S	Sn	02 49 04.4	+0.1
CBOC				*i*		02 49 09.3	
	comp=Z,54nm,0.5s						
RREF	**El Recreo**	**3.26**	**220**	*e*P	Pn	02 48 30.9	+2.7
RREF				*e*S	Sn	02 49 07.7	+0.2
RREF				*i*		02 49 16.4	
	comp=Z,51nm,0.7s						
VILC	**Villavicencio,**	**3.32**	**188**	*e*P	Pn	02 48 28.0	-0.4
VILC				*e*S	Sn	02 49 07.8	-0.3
VILC				*i*		02 49 16.0	
	comp=Z,85nm,0.5s						
PTGC	**Puerto Gaitan,**	**3.39**	**161**	*e*P	Pn	02 48 27.3	-1.9
PTGC				*e*S	Sn	02 49 06.8	-2.8
PTGC				*i*		02 49 29.8	
	comp=Z,29nm,0.3s						
LCBC	**Los crdobas,**	**3.40**	**295**	*e*P	Pn	02 48 28.7	-0.7
LCBC				*e*S	Sn	02 49 10.2	+0.5
LCBC				*i*		02 49 14.5	
	comp=Z,55nm,0.4s						
TOLC	**Tolima**	**3.50**	**216**	*e*P	Pn	02 48 31.9	+1.0
TOLC				*e*S	Sn	02 49 11.1	-1.3
TOLC				*i*		02 49 22.3	
	comp=Z,86nm,0.3s						
ANIL	**Santa Ana**	**3.62**	**216**	*e*P	Pn	02 48 33.9	+1.4
ANIL				*e*S	Sn	02 49 14.6	-0.7
SMRC	**Santa Marta, M**	**3.84**	**346**	*e*P	Pn	02 48 34.4	-0.7
SMRC				*e*S	Sn	02 49 16.7	-3.2
SMRC				*i*		02 49 19.3	
	comp=Z,27nm,0.2s						
ORTC	**Ortega, Tolima**	**4.02**	**210**	*e*P	Pn	02 48 36.4	-1.1
ORTC				*e*S	Sn	02 49 23.0	-1.3
ORTC				*i*		02 49 36.5	
	comp=Z,48nm,0.4s						
PRAC	**Prado**	**4.03**	**204**	*e*P	Pn	02 48 36.5	-1.2
PRAC				*e*S	Sn	02 49 23.1	-1.5
PRAC				*i*		02 49 34.9	
	comp=Z,67nm,0.3s						
PTAC	**Punta Ardita,**	**4.53**	**267**	*e*P	Pn	02 48 44.3	0.0
PTAC				*e*S	Sn	02 49 34.7	-1.7
YOTC	**Yotoco, Valle**	**4.60**	**222**	*e*P	Pn	02 48 44.8	-0.5
YOTC				*e*S	Sn	02 49 37.2	-1.1
MACC	**Macarena, Meta**	**5.28**	**187**	*e*P	Pn	02 48 53.0	-1.2
MACC				*e*S	Sn	02 49 52.4	-1.9
MACC				*i*		02 50 14.6	
	comp=Z,16nm,0.7s						

*IDC **18** 02:54:02.8±5.2, 27°69N×61°35E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.3/48, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=133.3km s-min=28.8km az=105.0*

*TEH **18** 02:54:08.0, 27°74N×61°73E, h14km, ML3.4*

ISC 18 02:54:02.8±0.8, 27°39N±0°07×61°41E±0°06, h10km, n17, σ2°72/17, mb3.8/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**0.88**	**89**	*e*Pg	**Pn**	**02 54 22.1**	**+0.7**
SRVN				*e*Sg	**Sg**	**02 54 30.9**	**-0.4**
ZHDN	**Zahedan**	**2.07**	**345**	*e*Pg	**Pg**	**02 54 42.0**	**-0.6**
NHDN	**Nehbandan**	**4.16**	**344**	*e*		02 55 12.2	
	comp=Z,800nm,0.2s						
NHDN				*e*Pn	**Pn**	**02 55 09.1**	**+2.5**
NGRK	**Negar Kerman**	**4.69**	**300**	*e*Pn	**Pb**	**02 55 22.2**	**-3.2**
NGRK				*e*		02 55 44.1	
	comp=Z,158nm,0.3s						
WSAR	**Wadi Sarin**	**4.83**	**212**	Pn	**Pn**	**02 55 20.0**	**+4.3**
	comp=Z,1.7nm,0.3s,baz=3.1,slow=15,SNR=18						
WSAR				Sn	**Sn**	**02 56 11.6**	**-0.2**
	comp=Z,4.0nm,0.3s,baz=226,slow=18,SNR=16						
IKOO	**Kooshah**	**5.44**	**338**	*e*Pn	**Pn**	**02 55 27.9**	**+3.7**
IKOO				*e*		02 55 29.0	
	comp=Z,242nm,0.1s						
IDAH	**Dahanechah**	**5.50**	**346**	*e*Pn	**Pn**	**02 55 28.9**	**+3.8**
ITEG	**Tejag**	**5.95**	**338**	*e*Pn	**Pn**	**02 55 34.9**	**+3.6**
IMON	**Monand**	**5.98**	**346**	*e*Pn	**Pn**	**02 55 34.8**	**+3.2**
IMON				*e*		02 55 35.9	
	comp=Z,263nm,0.1s						
AFRZ	**Afriz**	**6.36**	**342**	*e*Pn	**Pn**	**02 55 40.0**	**+3.2**
TPRV	**Parvadeh(Tabas**	**6.95**	**325**	*e*Pn	Pn	02 55 50.8	+6.0
KLNJ	**Kolanjah**	**9.31**	**295**	*e*Pn	Pn	02 56 24.7	+7.3
AKASG	**Malin Array Be**	**33.73**	**322**	P	**P**	**03 00 43.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=124,slow=8.1,SNR=1.8						
FINES	**FINESS Array B**	**41.42**	**335**	P	**P**	**03 01 48.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=142,slow=8.1,SNR=14						
ARCES	**ARCESS Array B**	**47.03**	**344**	P	**P**	**03 02 32.8**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=141,slow=8.8,SNR=7.1						
NOA	**NORSAR Array B**	**47.41**	**329**	P	**P**	**03 02 36.0**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=118,slow=7.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**57.30**	**268**	P	**P**	**03 03 52.5**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=57,slow=6.7,SNR=6.0						

KMA 18 03:02:32.1±0.1, 37°53N×128°88E, h10km, Error ellipse: s-maj=2.8km s-min=0.8km az=255.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDGY	**Daegwallycong**	**0.23**	**313**	P	Pg	03 02 31.5	-5.4
KSGWL	**Sabuk**	**0.33**	**188**	P	Pg	03 02 38.6	0.0
	SNR=8.9						
KSGWL	**Sabuk**	**0.33**	**188**	P	Pg	03 02 38.6	0.0
	SNR=8.9						
KSJMJ	**Jumunjin**	**0.36**	**344**	P	Pg	03 02 38.7	-0.5

UNIC					IAML			03 27 06.7	
	comp=Z,522nm,0.2s								
UNIC					eS		Sn	**03 27 18.4**	**-0.4**
CEDA	**San Andres**	**0.87**	**69**	*eP*			**Pn**	**03 27 07.0**	**-0.2**
CEDA					eS		Sn	**03 27 20.5**	**+0.6**
CEDA					IAML			03 27 23.9	
	comp=Z,2µm,0.5s								
PMON	**Piamonte**	**0.92**	**76**	*eP*			**Pn**	**03 27 07.7**	**-0.3**
PMON				eS			Sn	**03 27 21.4**	**+0.2**
BQOS	**Boqueron**	**0.96**	**75**	*eP*			**Pn**	**03 27 08.5**	**-0.1**
BQOS				eS			Sn	**03 27 22.5**	**+0.4**
PCG	**Pacaya**	**0.97**	**338**	*eP*			**Pb**	**03 27 08.2**	**+0.2**
PCG				eS			**Sb**	**03 27 21.5**	**+0.7**
TACO	**Tacachico**	**0.98**	**61**	*eP*			**Pn**	**03 27 08.3**	**-0.4**
UEES	**Universidad Ev**	**0.99**	**77**	*eP*			**Pn**	**03 27 08.7**	**-0.3**
UEES					IAML			03 27 26.0	
	comp=Z,1µm,0.2s								
SNET	**Serv Nac Est T**	**0.99**	**78**	*eP*			**Pg**	**03 27 08.6**	**+0.3**
SNET				eS			**Sn**	**03 27 23.2**	**+0.2**
SNET					IAML			03 27 25.6	
	comp=Z,770nm,0.2s								
SEMO	**Seminario San**	**1.00**	**78**	*eP*			**Pn**	**03 27 08.8**	**-0.3**
OPAM	**Oficina de Pla**	**1.03**	**77**	*eP*			**Pn**	**03 27 09.4**	**0.0**
OPAM				eS			**Sn**	**03 27 24.4**	**+0.5**
OPAM					IAML			03 27 26.3	
	comp=Z,2µm,0.2s								
IGN	**Direccin Gen**	**1.06**	**78**	*eP*			**Pn**	**03 27 09.9**	**0.0**
UDBS	**Universidad Do**	**1.07**	**78**	*eP*			**Pn**	**03 27 10.2**	**+0.2**
NBG	**Las Nubes**	**1.10**	**354**	*eP*			**Pn**	**03 27 11.2**	**+0.6**
NBG				eS			**Sn**	**03 27 27.9**	**+2.1**
LFU	**La Fuente**	**1.12**	**77**	*eP*			**Pg**	**03 27 10.8**	**+0.1**
FUG	**Fuego 3**	**1.12**	**328**	*eP*			**Pb**	**03 27 09.7**	**-0.8**
FUG				eS			**Sb**	**03 27 23.8**	**-1.4**
LFRS	**El Faro**	**1.15**	**83**	*eP*			**Pb**	**03 27 10.7**	**-0.2**
LFRS				eS			**Sn**	**03 27 27.2**	**+0.4**
LBRS	**Las Brisas**	**1.18**	**78**	*eP*			**Pg**	**03 27 11.8**	**-0.1**
LBRS				eS			**Sn**	**03 27 28.1**	**+0.4**
SJTE	**Alcalda de S**	**1.20**	**84**	*eP*			**Pn**	**03 27 11.2**	**-0.5**
SJTE				eS			**Sn**	**03 27 28.9**	**+0.9**
MTO3	**Montecristo**	**1.24**	**43**	*eP*			**Pn**	**03 27 11.7**	**-0.7**
PAVA	**Las Pavas**	**1.28**	**80**	*eP*			**Pb**	**03 27 13.2**	**0.0**
PAVA				eS			**Sg**	**03 27 31.9**	**+1.5**
PAVA					IAML			03 27 34.5	
	comp=Z,350nm,0.3s								
COEG	**Centro de Oper**	**1.32**	**84**	*eP*			**Pn**	**03 27 13.2**	**-0.3**
ESQI	**Esquipulas**	**1.37**	**39**	*eP*			**Pn**	**03 27 12.9**	**-1.3**
ESQI				eS			**Sg**	**03 27 32.5**	**-0.9**
TECO	**Alcaldia de Te**	**1.42**	**88**	*eP*			**Pn**	**03 27 14.1**	**-0.6**
COEB	**Comit de Eme**	**1.66**	**89**	*eP*			**Pn**	**03 27 17.6**	**-0.5**
COEB					IAML			03 27 42.0	
	comp=Z,256nm,0.4s								
LCND	**La Caada**	**2.29**	**94**	*eP*			**Pn**	**03 27 26.6**	**0.0**
LCND					IAML			03 27 60.0	
	comp=Z,175nm,0.3s								

BJI ***18*** *03:28:03.4±0.0,51°.34N×178°.76E,h25km,mB5.0/41, mb5.1/67,Ms4.6/42,Ms7 4.3/42*

AEIC ***18*** *03:28:04±2.3,51°.13N±0°.05×178°.84E±0°.06,h13km±2km, Error ellipse: s-maj=7.8km s-min=4.2km az=153.0*

MOS ***18*** *03:28:05.4±0.9,51°.34N×178°.92E,h38km,mb5.2/92, MS4.4/14,Error ellipse: s-maj=6.8km s-min=4.5km az=108.3*

IDC ***18*** *03:28:06.5±1.3,51°.35N×178°.93E,h37km±8km,mb4.5/37, mb1 4.6/41,mb1mx4.5/59,mbtmp4.7/41,ML5.1/3,MS4.2/46, Ms1 4.2/46,ms1mx4.0/66,Error ellipse: s-maj=13.8km s-min=8.5km az=164.0*

NEIC ***18*** *03:28:08±1.7,51°.31N±0°.07×178°.83E±0°.07,h46km±5km, mb5.0/406,ML5.0/47(AEIC),Error ellipse: s-maj=9.9km s-min=6.4km az=180.0*

GCMT ***18*** *03:28:08.0±0.2,51°.24N±0°.03×178°.98E±0°.03,h26km±1km, MW5.0/99,Moment Tensor Solution. s40,c54; s99,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.15; $M_{\theta\theta}$-2.40±.10; $M_{\phi\phi}$0.14±.09; $M_{r\theta}$3.41±.28; $M_{r\phi}$-0.57±.07; $M_{\theta\phi}$1.76±.23; Best double couple: $M_0$4.52500×10^{16} NP1:ϕ_{st}273.00000°,δ17.00000°,λ117.00000°. NP2: ϕ_{st}65.00000°,δ74.00000°,λ82.00000°. Principal axes: T 4.4650, Plg60.0000°, Azm324.0000°; N 0.1210, Plg8.0000°, Azm67.0000°; P -4.5860, Plg29.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***18*** *03:28:11.1±0.0,52°.05N×179°.63W,h33km,mb4.6*

ISC 18 03:28:06.0±0.6,51°.26N±0°.05×178°.90E±0°.03,h31km±3km, n755,σ1§28/677,mb5.0/317,MS4.4/77,138C-55D,Fault plane solution: NP1:ϕ_{st}34.94925°,δ78.52220°, λ57.23007°. NP2:ϕ_{st}287.77155°,δ34.50919°,λ159.43712°. Principal axes: T Plg46.3348°, Azm271.2846°; N Plg32.0354°, Azm42.2486°; P Plg26.2300°, Azm150.2056°; **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.28**	**65**		**Pb**	**03 28 13.6**	**+0.3**
AMKA				Sn	**Sb**	**03 28 19.0**	**+0.8**
LSPA	**Little Sitkin**	**0.73**	**344**		**Pb**	**03 28 20.9**	**+0.6**
LSSA	**Little Sitkin**	**0.73**	**341**		**Pb**	**03 28 20.8**	**+0.5**
LSNW	**Little Sitkin**	**0.75**	**341**		**Pb**	**03 28 20.7**	**+0.1**
CESW	**Semis' Southwe**	**0.76**	**32**		**Pb**	**03 28 21.7**	**+0.9**
CERAA	**Semis' Rag'd T**	**0.81**	**37**		**Pb**	**03 28 22.3**	**+0.7**
CERB	**Semis' Cerberu**	**0.81**	**34**		**Pb**	**03 28 22.7**	**+1.1**
CEAP	**Semis' Anvil P**	**0.85**	**29**		**Pb**	**03 28 23.2**	**+0.9**
GALAA	**Gareloi Lava P**	**1.54**	**70**		**Pn**	**03 28 32.7**	**+1.4**
GAEA	**Gareloi East**	**1.56**	**69**		**Pn**	**03 28 32.8**	**+1.3**
TASE	**Tanaga Southea**	**2.00**	**72**		**Pn**	**03 28 38.8**	**+1.3**
TAFP	**Tanaga Falls P**	**2.05**	**71**		**Pn**	**03 28 39.5**	**+1.3**
TAFP					**Sb**	**03 29 07.5**	**0.0**
KIMD	**Kanaga Island**	**2.46**	**77**		**Pn**	**03 28 45.1**	**+1.1**
KICM	**Kanaga Island**	**2.52**	**73**		**Pn**	**03 28 47.2**	**+2.5**
KIKV	**Kanaga Island**	**2.53**	**74**		**Pn**	**03 28 46.3**	**+1.5**
KIWB	**Kanaga Island**	**2.53**	**75**		**Pn**	**03 28 46.7**	**+1.8**
KIRH	**Kanaga Island**	**2.58**	**74**		**Pn**	**03 28 47.1**	**+1.6**
ADK	**Adak**	**2.82**	**76**	Pn	**Pn**	**03 28 50.4**	**+1.5**
ADK				Sn	**Sn**	**03 29 25.2**	**+3.4**
GSTD	**Great Sitkin T**	**3.19**	**74**		**Pn**	**03 28 55.2**	**+1.3**
GSTD					**Sb**	**03 29 37.9**	**-2.4**
GSMY	**Great Sitkin M**	**3.24**	**74**		**Pn**	**03 28 56.1**	**+1.6**
GSTR	**Great Sitkin T**	**3.25**	**73**		**Pn**	**03 28 56.7**	**+2.0**
SMY	**Shemya**	**3.31**	**298**	P	**Pn**	**03 28 56.6**	**+1.0**
SMY						03 29 35.8	
SMY	**Shemya**	**3.31**	**298**	Pn	**Pn**	**03 28 56.5**	**+1.0**
SMY				Sn	**Sn**	**03 29 35.8**	**+1.9**
ATKA	**Atka Island**	**4.39**	**75**		**Pn**	**03 29 12.5**	**+2.1**
ATKA					**Sn**	**03 30 03.7**	**+3.3**
KOKL	**Mount Kliuchef**	**4.41**	**73**		**Pn**	**03 29 12.5**	**+1.8**
KOFP	**Korovin Flat P**	**4.46**	**74**		**Pn**	**03 29 14.0**	**+2.5**
KOSE	**Korovin Southe**	**4.51**	**73**		**Pn**	**03 29 14.6**	**+2.6**
NIKH	**Nikolski High**	**7.73**	**72**		**Pn**	**03 29 59.1**	**+2.8**
NIKH	**Nikolski High**	**7.73**	**72**	P		03 29 58.2	
	baz=261,SNR=11						
OKSP	**Okmok Steeple**	**8.11**	**71**		**Pn**	**03 30 05.2**	**+3.7**
OKSO	**Okmok South**	**8.20**	**70**		**Pn**	**03 30 06.0**	**+3.2**
OKTU	**Okmok Mt. Tuli**	**8.28**	**70**		**Pn**	**03 30 07.0**	**+3.2**
OKFG	**Magazine Ridge**	**8.36**	**70**		**Pn**	**03 30 08.1**	**+3.2**
SPIA	**Saint Paul Isl**	**8.69**	**43**		**Pn**	**03 30 13.2**	**+3.9**
SPIA	**Saint Paul Isl**	**8.69**	**43**	P		03 30 10.9	
	baz=231,SNR=12						
MAPS	**Pakushin South**	**9.00**	**68**		**Pn**	**03 30 16.4**	**+2.8**
MGOD	**Makushin Gods**	**9.04**	**68**		**Pn**	**03 30 17.0**	**+2.8**
MSW	**Makushin Switc**	**9.11**	**67**		**Pn**	**03 30 18.5**	**+3.3**
MREP	**Makushin Rep't**	**9.11**	**68**		**Pn**	**03 30 18.0**	**+2.8**
MNAT	**Makushin Natee**	**9.16**	**68**		**Pn**	**03 30 18.9**	**+3.0**
MTBL	**Makushin Table**	**9.18**	**67**		**Pn**	**03 30 20.1**	**+3.9**
AKRB	**Akutan Reef Bi**	**9.57**	**67**		**Pn**	**03 30 24.9**	**+3.5**
AKGG	**Akutan Green G**	**9.62**	**66**		**Pn**	**03 30 25.7**	**+3.5**
AKBBA	**Akutan Broad B**	**9.64**	**67**		**Pn**	**03 30 25.0**	**+2.6**
AKUT	**Akutan**	**9.74**	**67**		**Pn**	**03 30 26.3**	**+2.6**
WESP	**Westdahl Peak**	**10.41**	**66**		**Pn**	**03 30 36.2**	**+3.2**
FALS	**False Pass**	**11.23**	**64**	P		03 30 42.7	
	baz=258						
PET	**Petropavlovsk**	**12.56**	**286**	*eP*	**Pn**	**03 31 02.9**	**+0.6**
PET				eS	**Sn**	**03 33 22.8**	**+1.8**
PET				pmax	pmax		
	comp=Z,200nm,7.6s						
PET				pmax	pmax		
	comp=Z,76nm,0.7s						
PET				pmax	pmax		
	comp=Z,100nm,10.6s						
PET					MLR	MLR	
	comp=Z,800nm,18.0s						
SDPT	**Sand Point**	**12.98**	**64**	Pn	**Pn**	**03 31 08.4**	**+0.4**
SDPT	**Sand Point**	**12.98**	**64**	P		03 31 08.2	
	baz=260						
PEA0B	**Petropavlovsk-**	**13.14**	**286**	*ceP*	**Pn**	**03 31 11.8**	**+1.6**
PEA0B	**Petropavlovsk-**	**13.14**	**286**	Pn	**Pn**	**03 31 08.3**	**-1.9**
PETK	**Petropavlovsk-**	**13.14**	**286**	Pn	**Pn**	**03 31 10.9**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=90,slow=16,SNR=16						
PETK				Sn	**Sn**	**03 33 33.1**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=266,slow=22,SNR=5.9						
PETK				LR	LR	03 37 31.7	
	comp=Z,552nm,18.1s,baz=89,slow=43						
PETK	**Petropavlovsk-**	**13.14**	**286**	Pn	**Pn**	**03 31 10.7**	**+0.5**
GAMB	**Gambell**	**13.50**	**18**	Pn	**Pn**	**03 31 16.7**	**+1.6**
GAMB	**Gambell**	**13.50**	**18**	P		03 31 17.7	
	baz=206,SNR=8.9						
SKR	**Severo-Kuril's**	**14.36**	**277**	*ceP*	**Pn**	**03 31 29.3**	**+2.4**
TNA	**Tin City**	**15.86**	**20**	P		03 31 49.5	
	baz=212,SNR=22						
SII	**Sitkinak Islan**	**16.66**	**61**	Pn	**Pn**	**03 31 54.9**	**-2.0**
SII				IAmb	IAmb	03 32 02.7	
	comp=Z,155nm,1.3s						
SII	**Sitkinak Islan**	**16.66**	**61**	P		03 31 55.1	
	baz=262						
N18K	**Kilae Creek**	**16.86**	**46**	P		03 31 59.6	
	baz=247,SNR=14						
SVW2	**Sparrevohn**	**17.17**	**45**	P	**P**	**03 32 05.5**	**+1.0**
OHAK	**Old Harbor**	**17.24**	**59**	Pn	**Pn**	**03 32 01.3**	**-2.7**
OHAK				IAmb	IAmb	03 32 06.0	
	comp=Z,79nm,0.4s						
OHAK					**Sn**	**03 35 16.6**	**+2.1**
OHAK	**Old Harbor**	**17.24**	**59**	P		03 32 01.7	
	baz=261,SNR=30						
N19K	**Bonanza Creek**	**17.55**	**47**	P		03 32 10.7	
	baz=249,SNR=27						
KDAK	**Kodiak Island**	**17.70**	**57**	P	**Pn**	**03 32 07.7**	**-2.1**
	comp=Z,11nm,0.3s,baz=280,slow=6.9,SNR=175						
KDAK				S	**Sn**	**03 35 19.8**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=314,slow=15,SNR=1.5						
KDAK	**Kodiak Island**	**17.70**	**57**	P	**Pn**	**03 32 08.0**	**-1.8**
KDAK				pmax	pmax		
	comp=Z,30nm,0.8s						
KDAK	**Kodiak Island**	**17.70**	**57**	Pn	**Pn**	**03 32 08.0**	**-1.8**
KDAK	**Kodiak Island**	**17.70**	**57**	P		03 32 08.4	
	baz=260						
TTA	**Tatalina**	**17.80**	**39**	P	**P**	**03 32 12.9**	**+1.2**
TTA				pmax	pmax		
	comp=Z,55nm,1.1s						
TTA	**Tatalina**	**17.80**	**39**	P	**P**	**03 32 12.9**	**+1.2**
TTA	**Tatalina**	**17.80**	**39**	P		03 32 13.2	
	baz=240,SNR=71						
MA2	**Magadan**	**17.89**	**309**	P	**Pn**	**03 32 11.2**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=90,slow=14,SNR=2.7						
MA2				LR	LR	03 38 52.0	
	comp=Z,1µm,18.8s,baz=110,slow=36						
MA2	**Magadan**	**17.89**	**309**	*i* P	**P**	**03 32 13.1**	**+0.6**
MA2				pmax	pmax		
	comp=Z,30nm,1.0s						
BILL	**Bilibino**	**17.93**	**345**	*c i* P	**P**	**03 32 14.1**	**+1.2**
BILL				*i* S	**S**	**03 35 34.9**	**-2.0**
BILL				pmax	pmax		
	comp=Z,121nm,1.0s						
BILL				MLR	MLR		
	comp=Z,713nm,15.0s						
BILL	**Bilibino**	**17.93**	**345**		**P**	**03 32 13.8**	**+0.9**
BILL				IAmb	IAmb	03 32 19.9	
	comp=Z,103nm,0.9s						
RSO	**Redoubt South**	**18.24**	**49**	P	**Pn**	**03 32 17.8**	**+1.1**
SEY	**Seymchan**	**18.39**	**320**	P	**P**	**03 32 17.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=128,slow=9.7,SNR=14						
SEY				LR	LR	03 38 41.5	
	comp=Z,1µm,21.6s,baz=132,slow=35						
HOM	**Homer**	**18.56**	**52**	P	**Pn**	**03 32 21.2**	**+0.9**
HOM				IAmb	IAmb	03 32 26.3	
	comp=Z,64nm,0.6s						
HOM	**Homer**	**18.56**	**52**	P		03 32 21.9	
	baz=256,SNR=6.3						
SPCR	**Spurr Chakacha**	**18.73**	**47**	P		03 32 23.3	
	baz=251,SNR=12						
CNPM	**China Poot**	**18.73**	**52**	P	**P**	**03 32 21.6**	**-0.2**
SPU	**Mount Spurr**	**18.79**	**47**	P	**Pn**	**03 32 24.2**	**+1.1**
BRLK	**Bradley Lake**	**18.96**	**52**	P	**P**	**03 32 24.1**	**-0.2**
BRSE	**Bradley Lake S**	**19.02**	**52**	P		03 32 24.1	
	baz=257,SNR=5.8						
RDOG	**Red Dog Mine**	**19.04**	**21**	Pn	**Pn**	**03 32 27.3**	**+1.2**
RDOG				IAmb	IAmb	03 32 34.2	
	comp=Z,80nm,0.7s						
RDOG	**Red Dog Mine**	**19.04**	**21**	P		03 32 28.0	
	baz=217,SNR=75						
SKT	**Skwentna**	**19.30**	**45**	P	**Pn**	**03 32 29.9**	**+0.7**
SKT				IAmb	IAmb	03 32 40.6	
	comp=Z,188nm,1.3s						
SKT	**Skwentna**	**19.30**	**45**	P		03 32 29.9	
	baz=250,SNR=98						
PPLA	**Purkeypile**	**19.36**	**42**	P		03 32 30.9	
	baz=246,SNR=39						
SUA	**Susitna One**	**19.48**	**47**	P	**P**	**03 32 30.9**	**+0.8**
SUA	**Susitna One**	**19.48**	**47**	P		03 32 30.5	
	baz=252,SNR=12						
O22K	**Cooper Landing**	**19.69**	**50**	P		03 32 33.3	
	baz=256						
CHUM	**Lake Minchumin**	**19.72**	**39**	P		03 32 34.7	
	baz=244,SNR=39						
SEW	**Seward**	**19.74**	**51**	P		03 32 33.3	
	baz=257,SNR=9.2						
RC01	**Rabbit Creek A**	**19.84**	**48**	P	**P**	**03 32 34.5**	**+0.6**
RC01	**Rabbit Creek A**	**19.84**	**48**	P		03 32 34.5	
	baz=254,SNR=5.8						
CUT	**Chulitna**	**20.00**	**44**	P	**P**	**03 32 36.2**	**+0.6**
CUT				IAmb	IAmb	03 32 43.1	
	comp=Z,51nm,0.6s						
CUT	**Chulitna**	**20.00**	**44**	P		03 32 35.8	
	baz=250,SNR=8.9						
KTH	**Kantishna Hill**	**20.15**	**41**	P	Pn	03 32 39.0	-0.3
PMR	**Palmer**	**20.26**	**47**	P	**P**	**03 32 38.2**	**-0.2**
PMR				pmax	pmax		
	comp=Z,21nm,1.0s						
PMR	**Palmer**	**20.26**	**47**	P	**P**	**03 32 38.1**	**-0.2**
PMR	**Palmer**	**20.26**	**47**	P		03 32 37.6	
	baz=254,SNR=7.6						
BPAW	**Bear Paw Mtn.**	**20.34**	**39**	P	Pn	03 32 40.9	-0.7
BPAW				IAmb	IAmb	03 32 45.3	
	comp=Z,41nm,0.7s						
BPAW	**Bear Paw Mtn.**	**20.34**	**39**	P		03 32 41.0	
	baz=245,SNR=76						
TRF	**Thorofare Moun**	**20.37**	**41**	P	**P**	**03 32 41.0**	**+1.2**
TRF				IAmb	IAmb	03 32 50.0	
	comp=Z,80nm,1.0s						
TRF	**Thorofare Moun**	**20.37**	**41**	P		03 32 40.8	
	baz=247,SNR=27						
H21K	**Melozitna Rive**	**20.40**	**34**	P		03 32 41.7	
	baz=239,SNR=156						
GHO	**Glory Hole Cre**	**20.40**	**47**	P	**P**	**03 32 40.0**	**-0.2**
GHO				IAmb	IAmb	03 32 45.6	
	comp=Z,53nm,0.6s						
PWL	**Port Wells**	**20.45**	**49**	P	**P**	**03 32 40.4**	**-0.1**
PWL				IAmb	IAmb	03 32 54.8	
	comp=Z,60nm,0.9s						
I21K	**Tanana**	**20.45**	**36**	P		03 32 42.4	
	baz=241,SNR=83						
KNK	**Knik Glacier**	**20.52**	**48**	P	**P**	**03 32 40.8**	**-0.6**
KNK				IAmb	IAmb	03 32 45.4	
	comp=Z,56nm,1.0s						
KNK	**Knik Glacier**	**20.52**	**48**	P		03 32 40.2	
	baz=255,SNR=16						
SML	**Sawmill**	**20.68**	**47**	P		03 32 42.6	
	baz=254,SNR=25						
MLY	**Manley**	**20.85**	**37**	P	**P**	**03 32 46.0**	**+1.1**
MLY				IAmb	IAmb	03 32 56.4	
	comp=Z,54nm,0.8s						
MLY	**Manley**	**20.85**	**37**	P		03 32 46.4	
	baz=243,SNR=94						
RND	**Reindeer**	**20.95**	**42**	P	**P**	**03 32 46.4**	**+0.3**
RND				pmax	pmax		
	comp=Z,73nm,1.1s						
RND	**Reindeer**	**20.95**	**42**	P	**P**	**03 32 46.4**	**+0.3**
RND				IAmb	IAmb	03 32 53.5	
	comp=Z,73nm,1.1s						
BWN	**Browne**	**20.98**	**40**	P	**P**	**03 32 47.7**	**+1.4**
MCK	**McKinley**	**21.03**	**41**	P	**P**	**03 32 47.6**	**+0.7**
MCK				pmax	pmax		
	comp=Z,58nm,0.8s						
MCK	**McKinley**	**21.03**	**41**	P	**P**	**03 32 47.6**	**+0.7**
MCK				IAmb	IAmb	03 32 53.9	
	comp=Z,58nm,0.8s						
MCK	**McKinley**	**21.04**	**41**	P		03 32 46.7	
	baz=249,SNR=20						
GLI	**Glacier Island**	**21.04**	**50**	P	**P**	**03 32 47.8**	**+0.9**
GLI				IAmb	IAmb	03 32 52.2	
	comp=Z,47nm,0.7s						
GLI	**Glacier Island**	**21.04**	**50**	P		03 32 47.7	
	baz=258						
SCM	**Sheep Creek Mo**	**21.15**	**47**	P	**P**	**03 32 47.5**	**-0.7**
SCM				pmax	pmax		
	comp=Z,58nm,0.7s						
SCM	**Sheep Creek Mo**	**21.15**	**47**	P	**P**	**03 32 47.5**	**-0.7**
SCM				IAmb	IAmb	03 33 07.6	
	comp=Z,58nm,0.7s						
WAT6	**Susitna Watana**	**21.17**	**45**	P		03 32 47.8	
	baz=253,SNR=68						
HIN	**Hinchinbrook I**	**21.24**	**51**	P	**P**	**03 32 49.7**	**+0.7**
NEA2	**Nenana**	**21.31**	**39**	P	**P**	**03 32 50.6**	**+0.8**
NEA2				IAmb	IAmb	03 32 53.1	
	comp=Z,138nm,1.2s						
NEA2	**Nenana**	**21.31**	**39**	P		03 32 50.6	
	baz=246,SNR=81						
FID	**Port Fidalgo**	**21.31**	**50**	P	**P**	**03 32 49.9**	**0.0**
FID				IAmb	IAmb	03 32 57.9	
	comp=Z,121nm,1.4s						
KUR	**Kuril'sk**	**21.42**	**266**	P	**P**	**03 32 48.9**	**-2.2**
KUR				*e*		03 33 09.9	
KUR				S	**S**	**03 36 40.5**	**-6.5**
KUR				*e*SS	Sn	03 37 01.1	+5.4
KUR				MLR	MLR		
	comp=Z,200nm,12.0s						
I23K	**Minto, Yukon-K**	**21.43**	**37**	P	**P**	**03 32 51.8**	**+0.9**
I23K				IAmb	IAmb	03 33 01.1	
	comp=Z,83nm,1.4s						
I23K	**Minto, Yukon-K**	**21.43**	**37**	P		03 32 52.0	
	baz=245,SNR=46						
EYAK	**Cordova Ski Ar**	**21.63**	**51**	P		03 32 52.8	
	baz=260						
WRH	**Wood River Hil**	**21.65**	**40**	P	**P**	**03 32 52.6**	**-0.8**
H23K	**Yukon River**	**21.66**	**36**	P		03 32 54.7	
	baz=243,SNR=115						
KLU	**Klutina**	**21.73**	**48**	P	**P**	**03 32 53.9**	**-0.5**
KLU				IAmb	IAmb	03 33 08.2	
	comp=Z,27nm,0.6s						
KLU	**Klutina**	**21.73**	**48**	P		03 32 55.1	
	baz=258,SNR=15						
M24K	**Tolsona, Glenn**	**21.75**	**47**	P	**P**	**03 32 54.1**	**-0.5**
M24K	**Tolsona, Glenn**	**21.75**	**47**	P		03 32 54.5	
	baz=256,SNR=21						
MDM	**Murphy Dome**	**21.79**	**38**	P	**P**	**03 32 55.2**	**+0.3**
MDM				IAmb	IAmb	03 33 01.2	
	comp=Z,101nm,1.0s						
CCB	**Clear Creek Bu**	**21.83**	**39**	P	**P**	**03 32 54.0**	**-1.3**
TCOL	**CIGO, UAF Yank**	**21.90**	**39**	P	**P**	**03 32 57.0**	**+1.0**
TCOL				IAmb	IAmb	03 33 02.5	
	comp=Z,48nm,0.8s						
TCOL	**CIGO, UAF Yank**	**21.90**	**39**	P		03 32 56.4	
	baz=247						
COLA	**College**	**21.90**	**39**	P	**P**	**03 32 57.2**	**+1.1**
COLA				pmax	pmax		
	comp=Z,51nm,0.9s						
COLA	**College**	**21.90**	**39**	P	**P**	**03 32 57.2**	**+1.1**
COLA				IAmb	IAmb	03 33 02.1	
	comp=Z,51nm,0.9s						
COLA	**College**	**21.90**	**39**	P		03 32 56.3	
	baz=247						
HDA	**Harding Lake**	**22.09**	**40**	P	**P**	**03 32 58.2**	**0.0**
HDA				IAmb	IAmb	03 33 02.8	
	comp=Z,23nm,0.5s						
HDA	**Harding Lake**	**22.09**	**40**	P		03 32 58.2	
	baz=250,SNR=27						
HDA				P		03 32 58.2	
	baz=250,SNR=27						
COLD	**Coldfoot**	**22.11**	**32**	P		03 32 59.2	
	baz=239,SNR=29						
POKR	**Poker Plat Res**	**22.16**	**38**	P	**P**	**03 32 58.9**	**0.0**
POKR				IAmb	IAmb	03 33 00.9	
	comp=Z,32nm,0.8s						
POKR	**Poker Plat Res**	**22.16**	**38**	P		03 32 58.6	
	baz=247,SNR=10						
ILAR	**Eielson Array**	**22.25**	**40**	P	**P**	**03 32 57.9**	**-1.9**
	comp=Z,12nm,0.8s,baz=241,slow=8.8,SNR=45						
ILAR				PcP	**PcP**	**03 36 54.3**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=266,slow=3.2,SNR=5.0						
ILAR				ScP	**ScP**	**03 40 27.7**	**-1.9**
	comp=Z,1.5nm,0.8s,baz=279,slow=3.4,SNR=7.9						
ILAR				LR	LR	03 41 20.9	
	comp=Z,308nm,21.2s,baz=238,slow=36						
ILAR	**Eielson Array**	**22.25**	**40**	P	**P**	**03 32 58.4**	**-1.4**
ILAR						03 36 54.8	
ILAR	**Eielson Array**	**22.25**	**40**	P	**P**	**03 32 58.4**	**-1.4**
ILAR					**PcP**	**03 36 54.8**	**0.0**
BMRM	**Bremner River**	**22.25**	**50**	P	**P**	**03 33 00.6**	**+0.6**
BMRM				IAmb	IAmb	03 33 12.1	
	comp=Z,117nm,1.4s						
BMRM	**Bremner River**	**22.25**	**50**	P		03 33 00.1	
	baz=260,SNR=14						
H24K	**Noodor Dome**	**22.28**	**36**	P		03 33 00.8	
	baz=245,SNR=167						
HARP	**HAARP**	**22.28**	**46**	P		03 32 59.7	
	baz=256,SNR=11						
HMT	**Hamilton**	**22.33**	**52**	P

YSS *e**SP **pP** **03 33 27.2 +2.0**
YSS *eS* **S** **03 37 30.2 -0.4**
YSS pmax pmax
comp=Z,70nm,1.2s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS Yuzh-Sakhalins 23.89 274 P **P** **03 33 16.6 0.0**
YSS IAmb IAmb 03 33 19.8
comp=Z,90nm,1.1s
L27K Beaver Creek, 23.92 45 IAmb IAmb 03 33 28.6
comp=Z,32nm,0.9s
L27K Beaver Creek, 23.92 45 P 03 33 16.3
baz=259,SNR=57
BCAR Beaver Creek A 23.94 45 P **P** **03 33 17.0 0.0**
K27K Chicken 24.02 43 IAmb IAmb 03 33 21.6
comp=Z,45nm,1.0s
K27K Chicken 24.02 43 P 03 33 17.6
baz=256
BMAR Burnt Mountain 24.14 34 P **P** **03 33 19.4 +0.6**
PINM Pinnacle 24.30 53 P 03 33 19.7
baz=267,SNR=7.3
EGAK Eagle 24.59 41 P 03 33 22.5
baz=256,SNR=111
ASAJ Asahikawa 25.26 268 P **P** **03 33 29.7 +0.6**
comp=Z,96nm,0.9s,baz=70,slow=5.4,SNR=47
ERM Erimo 26.00 263*ce*P **P** **03 33 37.6 +1.8**
ERM pmax pmax
comp=Z,53nm,1.3s
ERM Erimo 26.00 263 P **P** **03 33 35.7 -0.1**
ERM IAmb IAmb 03 33 39.1
comp=Z,49nm,1.1s
GRNR Gornyy 26.46 286⇑*i*P **P** **03 33 40.5 +0.5**
GRNR *eS* **S** **03 38 12.6 +1.0**
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR smax smax
comp=N,4.0nm,0.6s
GRNR MLR MLR
comp=E,170nm,17.0s
GRNR MLR MLR
comp=N,210nm,20.0s
GRNR MLR MLR
comp=Z,170nm,16.0s
WHY Whitehorse 26.98 52 P 03 33 44.4
baz=270
INK Inuvik 28.38 35 P **P** **03 33 57.0 +0.1**
comp=Z,26nm,0.8s,baz=240,slow=11,SNR=15
INK PcP **PcP** **03 37 07.9 -0.6**
comp=Z,5.1nm,0.8s,baz=201,slow=2.1,SNR=4.3
INK ScP **ScP** **03 40 44.7 -2.3**
comp=Z,5.0nm,1.1s,baz=273,slow=2.8,SNR=3.7
INK Inuvik 28.38 35 P **P** **03 33 56.2 -0.7**
INK IAmb IAmb 03 34 03.2
comp=Z,28nm,0.8s
INK **PcP** **03 37 08.9 +0.4**
INK Inuvik 28.38 35 P 03 33 57.2
baz=257,SNR=24
YAK Yakutsk 28.41 311 P **P** **03 33 56.6 -0.6**
comp=Z,14nm,0.3s,baz=150,slow=1.8,SNR=2.0
YAK Yakutsk 28.41 311 *eP* **P** **03 33 56.1 -1.2**
YAK *e**PP **pP** **03 34 03.8 -2.3**
YAK *e* 03 34 46.3
YAK *e* 03 37 09.9
YAK *eS* **S** **03 38 41.3 -0.7**
YAK *e**SS **sS** **03 38 56.7 0.0**
YAK *e*SS **SnSn** **03 40 06.5 +5.3**
YAK *e* 03 44 45.2
YAK pmax pmax
comp=Z,91nm,1.1s
YAK pmax pmax
comp=E,43nm,1.3s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,129nm,2.8s
YAK pmax pmax
comp=N,68nm,3.0s
YAK pmax pmax
comp=E,73nm,3.3s
YAK smax smax
comp=N,58nm,1.7s
YAK smax smax
comp=E,22nm,1.9s
YAK MLR MLR
comp=Z,532nm,15.0s
YAK MLR MLR
comp=E,303nm,15.0s
YAK MLR MLR
comp=N,293nm,20.0s
DLBC Dease Lake 29.62 56 P **P** **03 34 07.4 -0.8**
comp=N,1.1nm,0.5s,baz=252,slow=8.0,SNR=2.4
KLR Kul'dur 29.82 285 P **P** **03 34 10.2 +0.3**
comp=N,34nm,0.5s,baz=66,slow=7.9,SNR=130
KLR LR LR 03 46 57.1
comp=N,96nm,18.8s,baz=74,slow=38
KLR Kul'dur 29.82 285*ce*P **P** **03 34 10.1 +0.2**
KLR pmax pmax
comp=Z,80nm,1.3s
JMM Marumori 29.91 258 IAmb IAmb 03 34 13.5
comp=Z,49nm,1.3s
TIXI Tiksi 30.04 331 P **P** **03 34 11.1 -0.4**
comp=Z,9.0nm,0.9s,baz=121,slow=11,SNR=7.3
TIXI PcP **PcP** **03 37 11.9 -0.8**
comp=Z,2.1nm,0.3s,baz=76,slow=3.7,SNR=4.0
TIXI ScP **ScP** **03 40 50.3 -1.9**
comp=Z,5.0nm,0.8s,baz=161,slow=4.1,SNR=5.9
TIXI LR LR 03 46 50.3
comp=Z,656nm,18.8s,baz=162,slow=38
TIXI Tiksi 30.04 331 P **P** **03 34 11.2 -0.4**
TIXI **PcP** **03 37 12.7 +0.1**
ZEA Zeya 30.98 295 *eP* **P** **03 34 19.5 -0.6**
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA MLR MLR
comp=E,200nm,18.0s
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
JSD Sado 31.37 261 IAmb IAmb 03 34 25.4
comp=Z,25nm,0.8s
USRK Ussuriysk Ar. 31.88 276 P **P** **03 34 27.7 -0.4**
comp=Z,4.7nm,0.7s,baz=60,slow=8.4,SNR=12
USRK PcP **PcP** **03 37 17.2 -0.8**
comp=Z,3.9nm,0.8s,baz=70,slow=1.7,SNR=5.4
USRK LR LR 03 49 53.3
comp=Z,191nm,18.0s,baz=70,slow=41
USRK Ussuriysk Ar. 31.88 276 P **P** **03 34 27.9 -0.2**
USRK 03 37 17.8
USRK Ussuriysk Ar. 31.88 276 P **P** **03 34 27.9 -0.2**
USRK **PcP** **03 37 17.8 -0.2**
C36M Paulatuk 31.93 34 IAmb IAmb 03 34 34.7
comp=Z,23nm,0.9s
C36M Paulatuk 31.93 34 P 03 34 28.2
baz=265
MJAR Matsushiro Arr 32.34 259 P **P** **03 34 31.6 -0.6**
comp=Z,9.0nm,0.9s,baz=50,slow=7.9,SNR=19
MJAR PcP **PcP** **03 37 18.5 -1.0**
comp=Z,3.1nm,0.9s,baz=11,slow=1.3,SNR=5.5
MJAR ScP **ScP** **03 41 00.2 -0.4**
comp=Z,1.9nm,0.8s,baz=354,slow=1.7,SNR=5.2
MJAR LR LR 03 45 40.9
comp=Z,147nm,21.8s,baz=70,slow=33
MJAR Matsushiro Arr 32.34 259 P **P** **03 34 33.0 +0.7**
MJAR 03 37 18.2
MJAR pmax pmax
comp=Z,14nm,1.4s
MJAR Matsushiro Arr 32.34 259 P **P** **03 34 33.0 +0.7**
MJAR **PcP** **03 37 18.2 -1.3**
MAJO Matsushiro 32.34 259*c i*P **P** **03 34 33.2 +0.9**
MAJO pmax pmax
comp=Z,36nm,1.1s
MAJO Matsushiro 32.34 259 P **P** **03 34 32.5 +0.2**
MAJO IAmb IAmb 03 34 34.9
comp=Z,42nm,1.1s
MAT Matsushiro 32.34 259 P **P** **03 34 33.0 +0.7**
MAT *eS* **S** **03 39 44.0 -0.1**
H11N2 WAKE ISLAND Hy 32.86 201 T T 04 09 38.5
baz=20,slow=76,SNR=171
H11N3 WAKE ISLAND Hy 32.87 201 T T 04 09 44.9
baz=20,slow=76,SNR=122
H11N1 WAKE ISLAND Hy 32.88 201 T T 04 09 49.4
baz=20,slow=76,SNR=113
MDJ Mudanjiang 33.17 278 P **P** **03 34 39.9 +0.5**
MDJ PP **PnPn** **03 35 45.9 -3.7**
MDJ S **S** **03 40 01.4 +4.7**
MDJ SS **SnSn** **03 41 56.1 -1.0**
MDJ pmax pmax
comp=Z,20nm,0.7s
MDJ pmax pmax
comp=Z,59nm,6.7s
MDJ L L
comp=Z,240nm,13.9s
MDJ L L
comp=Z,350nm,18.8s
MDJ L L
comp=Z,440nm,24.9s
MSHR Mys Shultsa 33.23 274*ce*P **P** **03 34 41.4 +1.5**
MSHR pmax pmax
comp=Z,34nm,1.3s
JGF Kuroka 33.48 258 IAmb IAmb 03 34 45.6
comp=Z,32nm,1.0s
INU Inuyama 33.85 258 IAmb IAmb 03 34 47.9
comp=Z,29nm,1.2s
H11S1 WAKE ISLAND Hy 34.08 201 T T 04 11 08.0
baz=19,slow=76,SNR=207
H11S2 WAKE ISLAND Hy 34.10 201 T T 04 11 11.0
baz=19,slow=76,SNR=125
H11S3 WAKE ISLAND Hy 34.10 201 T T 04 11 09.7
baz=19,slow=76,SNR=81
CN2 Changchun 36.15 280 *eP* **P** **03 35 04.9 -0.2**
CN2 *eS* **S** **03 40 42.0 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,300nm,19.0s
CN2 L L
comp=Z,400nm,19.0s
CN2 L L
comp=Z,400nm,19.0s
YKA Yellowknife Ar 36.35 46 P **P** **03 35 06.5 -0.1**
comp=Z,13nm,0.9s,baz=282,slow=8.1,SNR=35
YKA PcP **PcP** **03 37 29.6 -0.9**
comp=Z,3.6nm,0.8s,baz=298,slow=2.6,SNR=6.9
YKA ScP **ScP** **03 41 13.2 -1.2**
comp=Z,4.0nm,0.9s,baz=286,slow=3.0,SNR=11
YKA LR LR 03 51 19.0
comp=Z,487nm,20.8s,baz=0.0,slow=38
JCJ Chichijima 36.73 243 LR LR 03 47 39.1
comp=Z,92nm,21.3s,baz=16,slow=32
HIA Hailar 36.98 291 P **P** **03 35 12.1 -0.1**
HIA pmax pmax
comp=Z,59nm,1.4s
HIA Hailar 36.98 291 P **P** **03 35 12.1 -0.1**
D03D Eldon 37.09 72 P 03 35 13.8
baz=298,SNR=6.5
E03A Lebam 37.28 74 IAmb IAmb 03 35 17.9
comp=Z,21nm,0.9s
B05A Bryant 37.34 71 P 03 35 16.2
baz=297
F04D Rainier, OR 37.84 74 P 03 35 20.5
baz=300
E04D Cinebar 37.87 73 P 03 35 21.2
baz=299,SNR=8.7
D05A Enumclaw 37.91 72 IAmb IAmb 03 35 41.5
comp=Z,17nm,0.8s
G03D McMinnville, O 38.12 76 P 03 35 23.7
baz=300
KSRS Korea Array 38.20 269 P **P** **03 35 23.1 +0.6**
comp=Z,10.0nm,0.9s,baz=59,slow=8.1,SNR=9.1
KSRS PcP **PcP** **03 37 37.1 +0.6**
comp=Z,3.1nm,0.9s,baz=76,slow=2.9,SNR=5.7
KSRS LR LR 03 51 54.9
comp=Z,98nm,18.8s,baz=58,slow=37
I02D Swisshome 38.33 78 P 03 35 25.5
baz=302
H04D Lebanon 38.79 76 P 03 35 29.2
baz=301,SNR=6.2
I03D Drain, OR 38.85 78 P 03 35 29.9
baz=302
INCN Inchon 38.99 270 P **P** **03 35 28.9 -0.3**
INCN pmax pmax
comp=Z,50nm,1.1s
INCN Inchon 38.99 270 P **P** **03 35 28.9 -0.3**
H04A Detroit Lake 39.05 76 IAmb IAmb 03 35 35.8
comp=Z,31nm,1.1s
K02D Willamette Mer 39.20 79 P 03 35 33.1
baz=303
TJN Taejon 39.22 268*ce*P **P** **03 35 32.5 +1.4**
G05D Wamic, OR 39.29 75 P 03 35 32.9
baz=301,SNR=7.7
CIT Chita 39.33 298 *eP* **P** **03 35 32.3 +0.4**
CIT *e* 03 37 42.6
CIT pmax pmax
comp=Z,125nm,1.1s
I04A Tendick Farm, 39.38 77 P 03 35 33.9
baz=302,SNR=7.4
L02E Cave Junction 39.53 80 P 03 35 36.1
baz=304
I05D Terrebonne, OR 39.74 76 P 03 35 36.5
baz=302
J04D Umpqua Nationa 39.86 78 P 03 35 38.1
baz=303
NEW Newport 40.27 68 P **P** **03 35 40.2 +0.3**
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 40.27 68 P **P** **03 35 40.1 +0.3**
NEW Newport 40.27 68 P 03 35 39.7
baz=299,SNR=15
L04D Klamath Falls 40.30 79 P 03 35 40.4
baz=304
YBH Yreka Blue Hor 40.32 80 P **P** **03 35 41.3 +0.9**
YBH pmax pmax
comp=Z,23nm,1.3s
YBH Yreka Blue Hor 40.32 80 P **P** **03 35 41.3 +0.9**
YBH IAmb IAmb 03 35 47.9
comp=Z,23nm,1.2s
M02C Callahan 40.43 81 P 03 35 43.0
baz=304
RES Resolute Bay 40.44 24 IAmb IAmb 03 35 42.5
comp=Z,21nm,1.1s
E09A Wood Farm, Sta 40.54 71 P **P** **03 35 42.3 +0.3**
N02D Trinity Center 40.76 81 P 03 35 45.9
baz=305
EUNU Eureka 40.78 15 P **P** **03 35 43.6 -0.1**
M04C Macdoel 40.83 79 P 03 35 46.4
baz=304,SNR=7.0
K05A Summer Lake 40.89 78 P **P** **03 35 44.3 -0.9**
K05A IAmb IAmb 03 35 52.2
comp=Z,29nm,1.2s
WDC Whiskeytown Da 41.08 81 P **P** **03 35 45.9 -0.7**
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 41.08 81 P **P** **03 35 45.9 -0.7**
O02D Mt. Diablo Mer 41.16 82 P 03 35 49.5
baz=306
O03E Paynes Creek 41.71 81 P 03 35 52.9
baz=306,SNR=13
MOD Modoc Plateau 41.71 78 IAmb IAmb 03 35 58.5
comp=Z,31nm,1.4s
MSO Missoula 42.86 68 P 03 36 00.9
baz=302
PAHR Pah Rah Range 43.55 80 IAmb IAmb 03 36 14.2
comp=Z,21nm,1.0s
VCNR Virginia City 43.63 81 IAmb IAmb 03 36 15.2
comp=Z,19nm,0.8s
NRIK Noril'sk 43.78 329 P **P** **03 36 07.2 -0.9**
comp=Z,42nm,1.2s,baz=77,slow=6.4,SNR=18
NRIK PcP **PcP** **03 37 53.6 -0.5**
comp=Z,6.8nm,0.8s,baz=232,slow=2.8,SNR=4.0
NRIK LR LR 03 55 39.1
comp=Z,365nm,18.5s,baz=68,slow=38
NRIK Noril'sk 43.78 329*ce*P **P** **03 36 08.9 +0.8**
NRIK pmax pmax
comp=Z,42nm,1.1s
NRIK Noril'sk 43.78 329 P **P** **03 36 07.9 -0.1**
NRIK IAmb IAmb 03 36 11.1
comp=Z,56nm,1.3s
NRIK PcP **PcP** **03 37 52.5 -1.7**
PNTR Pine Nut 43.79 81 IAmb IAmb 03 36 21.1
comp=Z,28nm,0.8s
BJI Beijing 43.98 281 P **P** **03 36 10.9 +0.8**
BJI S **S** **03 42 42.8 +3.1**
BJI pmax pmax
comp=Z,14nm,0.9s
BJI L L
comp=Z,280nm,18.0s
BJI L L
comp=Z,120nm,18.9s
BJI L L
comp=Z,220nm,20.6s
HLID Hailey 44.36 73 P 03 36 14.1
baz=304,SNR=29
RYN Ryan 44.74 81 IAmb IAmb 03 36 23.7
comp=Z,15nm,0.8s
KVN Kaiserville 44.74 80 IAmb IAmb 03 36 23.7
comp=Z,39nm,1.5s
TLY Talaya 44.90 301 LR LR 03 56 36.0
comp=Z,705nm,18.4s,baz=50,slow=38
TLY Talaya 44.90 301 *eP* **P** **03 36 18.0 +0.6**
TLY *eS* **S** **03 42 54.0 +1.1**
TLY *i* SS **SS** **03 46 14.2 -0.2**
TLY pmax pmax
comp=Z,47nm,1.0s
TLY MLR MLR
comp=Z,2µm,24.0s
TLY Talaya 44.90 301 P **P** **03 36 17.3 0.0**
TLY IAmb IAmb 03 36 19.1
comp=Z,23nm,1.0s
LHV Little Huntoon 44.98 81 IAmb IAmb 03 36 26.2
comp=Z,20nm,1.0s
NVAR Mina Array Bea 44.99 81 P **P** **03 36 19.2 +0.7**
comp=Z,11nm,0.8s,baz=293,slow=7.0,SNR=66
NVAR ScP **ScP** **03 41 47.4 -1.6**
comp=Z,0.5nm,0.8s,baz=320,slow=2.7,SNR=2.7
NVAR Mina Array Bea 44.99 81 P **P** **03 36 19.8 +1.3**
NVAR **ScP** **03 41 47.7 -1.4**
ULN Ulaanbaatar 45.01 295*ce*P **P** **03 36 19.1 +0.7**
ULN pmax pmax
comp=Z,37nm,1.0s
ULN Ulaanbaatar 45.01 295 P **P** **03 36 18.4 0.0**
ULN IAmb IAmb 03 36 20.2
comp=Z,30nm,0.9s
FFC Flin Flon 45.37 53 P **P** **03 36 21.8 +0.7**
FFC **PcP** **03 37 59.3 -0.6**
SONM Songino Array 45.40 296 P **P** **03 36 22.2 +0.7**
comp=Z,15nm,0.7s,baz=58,slow=9.5,SNR=83
SONM PcP **PcP** **03 38 00.4 +0.1**
comp=Z,3.0nm,0.8s,baz=50,slow=4.5,SNR=2.6
SONM ScP **ScP** **03 41 49.1 -1.4**
comp=Z,0.6nm,0.6s,baz=47,slow=3.5,SNR=2.4
SONM LR LR 03 56 54.3
comp=Z,485nm,18.2s,baz=72,slow=38
SONM Songino Array 45.40 296 P **P** **03 36 22.4 +0.9**
SONM **PcP** **03 37 59.8 -0.5**
ELK Elko 45.49 76 IAmb IAmb 03 36 26.1
comp=Z,10.0nm,0.7s
TULEG Thule 45.53 18 *i* P **P** **03 36 19.8 -2.2**
TULEG IAmb IAmb 03 36 21.4
comp=Z,21nm,1.0s
YHB Horse Butte 45.60 69 IAmb IAmb 03 36 27.5
comp=Z,13nm,0.8s
ZAK Zakamensk 45.77 300 *eP* **P** **03 36 24.8 +0.4**
ZAK pmax pmax
comp=Z,30nm,1.4s
YHH Holmes Hill 45.78 69 IAmb IAmb 03 36 30.8
comp=Z,24nm,1.3s
TIN Tinemaha, Big 45.89 83 P 03 36 27.5
baz=309
VES Vestal, Richgr 46.13 84 P 03 36 28.2
baz=310
H17A Grant Village 46.16 70 IAmb IAmb 03 36 34.2
comp=Z,22nm,1.2s
H17A Grant Village 46.17 70 P 03 36 28.4
baz=305,SNR=13
PKM Mcpherson Peak 46.28 86 P 03 36 30.7
baz=310
MOY Mondy 46.32 303 *eP* **P** **03 36 29.2 +0.5**
MOY pmax pmax
comp=Z,34nm,1.4s
HHC Hu-ho-hao-te 46.33 285 *eP* **P** **03 36 30.3 +1.4**
HHC PP **PP** **03 38 22.0 +4.3**
HHC S **S** **03 43 16.0 +2.1**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,170nm,5.1s
HHC L L
comp=Z,210nm,16.6s
HHC L L
comp=Z,270nm,16.6s
HHC L L
comp=Z,250nm,17.0s
HVU Hansel Valley 46.37 74 IAmb IAmb 03 36 32.7
comp=Z,15nm,0.7s
CWC Cottonwood Cre 46.37 83 P 03 36 30.4
baz=309
GRAC Grapevine Rang 46.47 82 P 03 36 30.9
baz=309
RLMT Red Lodge 46.52 68 IAmb IAmb 03 36 33.3
comp=Z,20nm,0.7s
RLMT Red Lodge 46.52 68 P 03 36 30.3
baz=305,SNR=12
ISA Isabella, Lake 46.62 84 P 03 36 32.1
baz=310
BGU Big Grassy Mou 46.73 75 IAmb IAmb 03 36 42.0
comp=Z,13nm,1.0s
R11A Troy Canyon, C 46.73 79 IAmb IAmb 03 36 38.9
comp=Z,12nm,0.8s
R11A Troy Canyon, C 46.73 79 P 03 36 32.8
baz=308,SNR=17
AHID Auburn Hatcher 46.80 72 IAmb IAmb 03 36 46.5
comp=Z,12nm,0.9s
SPUT South Promonto 46.85 74 IAmb IAmb 03 36 38.6
comp=Z,11nm,0.9s
MPMC Manual Prospec 46.98 83 P 03 36 35.3
baz=310,SNR=5.7
SPR3 Spring Creek 3 47.10 78 IAmb IAmb 03 36 41.9
comp=Z,11nm,0.7s
FURC Furnace Creek, 47.11 82 P 03 36 36.3
baz=309
NOR Nord 47.12 3 *i* P **P** **03 36 34.4 0.0**
NOR IAmb IAmb 03 36 34.8
comp=Z,7.9nm,0.9s
NOR Nord 47.12 3 *i* P **P** **03 36 34.4 0.0**
NOR pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 47.19 81 P 03 36 36.3
baz=309,SNR=39
DUG Duguay, Tooele 47.30 76 P 03 36 36.9
baz=307,SNR=20
NJ2 Nanjing 47.37 270‖P **P** **03 36 37.8 +0.8**
NJ2 pmax pmax
comp=Z,26nm,0.7s
LAO LASA Array 47.38 65 P 03 36 37.4
baz=304
BTO Baotou 47.41 285 *eP* **P** **03 36 38.5 +1.2**
BTO pmax pmax
comp=Z,160nm,1.2s
EDW2 Edwards Air Fo 47.42 85 P 03 36 38.0
baz=310
DGMT Dagmar 47.51 62 P **P** **03 36 37.8 -0.1**
DGMT **PcP** **03 38 07.8 +0.2**
CTU Camp Tracy 47.64 74 IAmb IAmb 03 36 46.0
comp=Z,10.0nm,0.7s
PSUT Pine Spring 47.68 78 IAmb IAmb 03 36 50.3
comp=Z,16nm,0.6s
BW06 Boulder Array 47.71 71 IAmb IAmb 03 36 53.8
comp=Z,20nm,1.2s
BW06 Boulder Array 47.71 71 P 03 36 39.7
baz=306,SNR=22
PD31 Pinedale Array 47.71 71 IAmb IAmb 03 36 53.8
comp=Z,17nm,1.2s
PDAR Pinedale Array 47.71 71 P **P** **03 36 39.4 -0.4**
comp=Z,3.0nm,0.4s,baz=296,slow=4.4,SNR=41
PDAR ScP **ScP** **03 41 57.9 -2.4**
comp=Z,0.2nm,0.4s,baz=289,slow=2.8,SNR=2.0
PDAR LR LR 03 54 30.2
comp=Z,94nm,21.8s,baz=316,slow=33
PDAR Pinedale Array 47.71 71 P **P** **03 36 39.8 -0.1**
SHOC Shoshone, Teco 47.84 82 P 03 36 42.0
baz=310
NEEM North Greenlan 47.88 13⇑*i*P **P** **03 36 41.0 +0.3**
NEEM IAmb IAmb 03 36 41.7
comp=Z,99nm,0.8s
NLU North Lily Min 47.89 75 IAmb IAmb 03 36 46.8
comp=Z,10nm,0.9s
GSC Goldstone, Bar 47.90 83 P 03 36 41.7
baz=310
BFSC Mount Baldy Ra 48.05 85 P 03 36 43.2
baz=311
MPU Maple Canyon 48.12 75 IAmb IAmb 03 36 45.9
comp=Z,8.7nm,0.7s
CIS Catalina Islan 48.13 86 P 03 36 43.6
baz=311
TUQ Turquoise Moun 48.36 83 P 03 36 46.5
baz=310
MURC Murrieta 48.76 85 P 03 36 48.8

baz=311
GMRC Granite Mounta 48.95 83 P 03 36 49.6
baz=311,SNR=7.6
P17A Butcher Ranch, 49.00 75 lAmb lAmb 03 36 51.6
comp=Z,14nm,1.0s
LCMT Little Creek M 49.01 79 lAmb lAmb 03 36 57.0
comp=Z,16nm,0.9s
MTPU Mount Pierson 49.01 77 lAmb lAmb 03 37 04.9
comp=Z,8.7nm,0.9s
KULLO Kullorsuaq 49.01 17 *i* P **P 03 36 49.1 0.0**
KULLO lAmb lAmb 03 36 50.0
comp=Z,31nm,0.8s
KULLO Kullorsuaq 49.01 17 *i* P **P 03 36 49.0 0.0**
KULLO pmax pmax
comp=Z,31nm,0.8s
PFO Pinyon Flats O 49.21 85 P **P 03 36 49.7 -1.7**
comp=Z,1.5nm,0.5s,baz=294,slow=7.7,SNR=5.4
PFO Pinyon Flats O 49.21 85 P **P 03 36 51.7 +0.4**
PFO pmax pmax
comp=Z,11nm,1.4s
PFO Pinyon Flats O 49.21 85 P **P 03 36 51.7 +0.4**
PFO Pinyon Flats O 49.21 85 P 03 36 51.8
baz=311
TPFO Pinon Flats 49.22 85 P 03 36 52.1
baz=311
BELC Belle Mtn. Jos 49.25 84 P 03 36 52.5
baz=311
KNB Kanab 49.27 79 lAmb lAmb 03 37 01.2
comp=Z,14nm,0.8s
109C Camp Elliot, M 49.29 86 P 03 36 52.4
baz=312
PKCU Pink Cliffs 49.31 78 lAmb lAmb 03 36 59.4
comp=Z,16nm,1.0s
SRU San Rafael Swe 49.36 75 lAmb lAmb 03 37 03.9
comp=Z,17nm,0.7s
K22A Casper 49.57 69 P 03 36 53.3
baz=307
IRM Iron Mountain 49.68 83 P 03 36 55.3
baz=311
MONP2 Monument Peak 49.72 86 P 03 36 56.0
baz=312
BC3 Big Chuckawall 49.81 84 P 03 36 55.8
baz=311
KBS Kingsbay 49.84 357⇑ *i* P **P 03 36 55.8 +0.4**
KBS Kingsbay 49.84 357 *ce* P **P 03 36 55.9 +0.6**
KBS pmax pmax
comp=Z,14nm,1.0s
KBS Kingsbay 49.84 357 *e* P **P 03 36 56.1 +0.8**
KBS Kingsbay 49.84 357 P **P 03 36 55.5 +0.1**
KBS lAmb lAmb 03 36 59.7
comp=Z,10nm,0.7s
U15A North Rim 49.97 79 lAmb lAmb 03 37 04.4
comp=Z,21nm,0.9s
SWSC Sam W. Stewart 50.07 85 P 03 36 59.0
baz=312
IKP In-Ko-Pah, Jac 50.07 86 P 03 36 58.5
baz=312
O20A White River Ci 50.10 73 lAmb lAmb 03 36 59.2
comp=Z,24nm,1.1s
O20A White River Ci 50.10 73 P 03 36 57.1
baz=308,SNR=18
RSSD Black Hills 50.13 66 P **P 03 36 59.2 +0.9**
RSSD pmax pmax
comp=Z,11nm,1.5s
RSSD Black Hills 50.13 66 P **P 03 36 59.2 +0.9**
RSSD Black Hills 50.13 66 P 03 36 59.4
baz=307
PDMCI Parker Dam,Lak 50.21 82 P 03 36 59.4
baz=311
SPA0 Spitsbergen Ar 50.38 355⇑ *i* P **P 03 36 59.0 -0.6**
MDND Maddock 50.39 60 P 03 36 59.0
baz=306
UPNV Upernavik 50.55 18 *i* P **P 03 37 00.8 0.0**
UPNV lAmb lAmb 03 37 01.5
comp=Z,28nm,0.8s
GLA Glamis 50.61 84 P 03 37 01.8
baz=312
ULM Lac du Bonnet 50.95 55 P **P 03 37 02.3 -1.8**
comp=Z,5.6nm,0.8s,baz=320,slow=11,SNR=3.5
ULM PcP **PcP 03 38 19.6 -0.4**
comp=Z,3.3nm,0.5s,baz=262,slow=3.6,SNR=2.1
ULM LR LR 03 58 38.4
comp=Z,333nm,21.6s,baz=303,slow=36
ULM Lac du Bonnet 50.95 55 P **P 03 37 03.5 -0.6**
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 50.95 55 P **P 03 37 03.5 -0.6**
N23A Red Feather La 50.99 71 P 03 37 04.3
baz=309
WUAZ Wupatki 51.13 79 lAmb lAmb 03 37 18.1
comp=Z,18nm,0.9s
WUAZ Wupatki 51.13 79 P 03 37 06.5
baz=311,SNR=12
WHN Wuhan 51.22 272⇑ P **P 03 37 06.6 +0.2**
WHN pmax pmax
comp=Z,44nm,0.8s
HOPEN Hopen 51.41 352 *e* P **P 03 37 07.3 +0.1**
HSPB Hornsund (broa 51.58 355 *e* P **P 03 37 08.2 -0.2**
DAG Danmarks Havn 51.75 5⇑ *i* P **P 03 37 09.2 -0.5**
DAG lAmb lAmb 03 37 10.0
comp=Z,14nm,0.7s
DAG Danmarks Havn 51.75 5⇑ *i* P **P 03 37 09.2 -0.5**
DAG pmax pmax
comp=Z,14nm,0.7s
MVCO Mesa Verde 51.80 76 lAmb lAmb 03 37 28.0
comp=Z,11nm,0.8s
MVCO Mesa Verde 51.80 76 P 03 37 11.2
baz=310,SNR=8.3
SSLB Suanglung 51.87 261 P **P 03 37 10.2 -1.1**
ISCO Idaho Springs 51.88 71 P 03 37 11.7
baz=309,SNR=5.7
AGMN Agassiz Nation 52.12 57 lAmb lAmb 03 37 17.3
comp=Z,12nm,1.1s
AGMN Agassiz Nation 52.13 57 P 03 37 12.3
baz=308
XAN Xi'an 52.26 279 P **P 03 37 14.0 -0.2**
XAN pP pP 03 37 20.4 -2.9
XAN sP sP 03 37 25.3 -1.7
XAN pmax pmax
comp=Z,37nm,1.0s
W18A Petrified Fore 52.40 79 lAmb lAmb 03 37 35.5
comp=Z,18nm,1.0s
W18A Petrified Fore 52.40 79 P 03 37 16.1
baz=311
TPUB Ta-pu 52.43 261 P **P 03 37 14.4 -1.1**
S22A 4UR Ranch, Cre 52.46 74 P 03 37 16.6
baz=310,SNR=14
214A Organ Pipe Nat 52.60 84 P 03 37 17.6
baz=313
SUSD Miller 52.82 63 lAmb lAmb 03 37 37.2
comp=Z,17nm,0.7s
ZAA0 Zalesovo Array 53.06 312 lAmb lAmb 03 37 20.2
comp=Z,23nm,1.4s
ZALV Zalesovo Beam 53.06 312 P **P 03 37 19.3 -0.4**
comp=Z,5.6nm,0.4s,baz=51,slow=6.9,SNR=14
ZALV PcP **PcP 03 38 28.3 +0.5**
comp=Z,5.2nm,0.6s,baz=46,slow=6.4,SNR=5.1
ZALV ScP **ScP 03 42 22.9 +0.1**
comp=Z,0.5nm,0.3s,baz=48,slow=2.1,SNR=1.9
ZALV LR LR 04 01 29.5
comp=Z,370nm,18.7s,baz=52,slow=38
SDCO Great Sand Dun 53.27 73 P 03 37 22.5
baz=311,SNR=9.6
TUC Tucson 53.62 82 P **P 03 37 24.7 +0.4**
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 53.62 82 P **P 03 37 24.7 +0.4**
TUC Tucson 53.63 82 P 03 37 24.4
baz=313
SUMG Summit 53.75 13⇑ *i* P **P 03 37 25.2 +0.1**
SUMG lAmb lAmb 03 37 26.1
comp=Z,30nm,0.9s
SUMG Summit 53.75 13 *i* P **P 03 37 25.1 +0.1**
SUMG pmax pmax
comp=Z,30nm,0.9s
SUMG Summit 53.75 13 P **P 03 37 25.0 0.0**
BJO1 Bjornoya 53.80 353 *e* P **P 03 37 23.1 -1.8**
LZH Lanzhou 54.03 285⇑ P **P 03 37 28.5 +1.2**
LZH pP pP 03 37 37.3 +0.9
LZH sP sP 03 37 39.8 -0.3
LZH pmax pmax
comp=Z,48nm,1.3s
LZH pmax pmax
comp=Z,140nm,6.2s
LZH L L
comp=Z,240nm,16.8s
LZH L L
comp=Z,250nm,17.9s
LZH L L
comp=Z,220nm,19.5s
DBG Daneborg 54.06 6⇑ *i* P **P 03 37 26.0 -0.8**
DBG lAmb lAmb 03 37 26.8
comp=Z,30nm,0.8s
GTA Gaotai 54.26 290⇑ P **P 03 37 29.6 +0.7**
GTA pP pP 03 37 35.9 -2.1
GTA sP pwP 03 37 39.5 +1.5
GTA pmax pmax
comp=Z,35nm,1.2s
GTA pmax pmax
comp=Z,89nm,5.5s
GTA L L
comp=Z,230nm,16.4s
GTA L L
comp=Z,270nm,16.7s
GTA L L
comp=Z,470nm,16.4s
T25A Trinidad 54.32 73 P 03 37 30.0
baz=311,SNR=22
ILULI Ilulissat 54.37 20 *e* P **P 03 37 28.1 -1.0**
ILULI lAmb lAmb 03 37 29.9
comp=Z,11nm,0.7s
ILULI Ilulissat 54.37 20 *e* P **P 03 37 28.1 -1.0**
ILULI pmax pmax
comp=Z,11nm,0.7s
ENH Enshi 54.46 276 P **P 03 37 30.0 -0.3**
DGZ Jazzator, Alta 54.47 307 *c i* P **P 03 37 30.9 +0.6**
DGZ pmax pmax
comp=Z,38nm,1.1s
ANMO Albuquerque 54.53 77 P **P 03 37 31.1 +0.1**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 54.53 77 P **P 03 37 31.1 +0.1**
ANMO Albuquerque 54.53 77 P 03 37 30.4
baz=312
ECSD EROS Data Cent 54.57 62 P 03 37 29.4
baz=310
EYMN Ely 54.63 56 P 03 37 30.5
baz=310,SNR=16
121A Cookes Peak, D 55.34 80 P 03 37 38.1
baz=313
SPMN Marine on St. 55.69 59 P 03 37 38.5
baz=310
CBKS Cedar Bluff 55.99 69 lAmb lAmb 03 37 54.4
comp=Z,16nm,0.8s
CBKS Cedar Bluff 55.99 69 P 03 37 41.9
baz=311
I37A Lemond, Waseca 56.16 60 lAmb lAmb 03 37 47.5
comp=Z,12nm,0.9s
SFJD Kangerlussuaq 56.29 21 *i* P **P 03 37 41.7 -1.3**
SFJD lAmb lAmb 03 37 42.6
comp=Z,8.3nm,0.9s
SFJD Kangerlussuaq 56.29 21 *i* P **P 03 37 41.6 -1.3**
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 56.29 21 P **P 03 37 42.5 -0.4**
SFJD lAmb lAmb 03 37 43.4
comp=Z,17nm,1.1s
ICESG Greenland Ices 56.66 16⇑ *i* P **P 03 37 45.3 -0.7**
ICESG lAmb lAmb 03 37 46.1
comp=Z,30nm,0.8s
R32A Long Quarter, 56.85 68 lAmb lAmb 03 37 51.5
comp=Z,13nm,0.9s
G40A Rib Lake 57.05 57 lAmb lAmb 03 37 53.1
comp=Z,15nm,1.2s
COWI Conover 57.06 56 lAmb lAmb 03 37 52.6
comp=Z,18nm,1.2s
HAMF Hamerfest 57.10 350 *e* P **P 03 37 48.6 0.0**
ZSN Zaisan 57.23 306 *e* P **P 03 37 50.0 +0.1**
comp=Z,11nm,1.0s,baz=306
ZSN Zaisan 57.23 306 *e* P **P 03 37 50.0 +0.1**
ZSN pmax pmax
comp=Z,11nm,1.0s
MNTX Cornudas Mount 57.39 79 lAmb lAmb 03 38 00.2
comp=Z,13nm,0.9s
MNTX Cornudas Mount 57.39 79 P 03 37 51.5
baz=314,SNR=18
MSTX Muleshoe 57.43 75 lAmb lAmb 03 37 55.3
comp=Z,13nm,0.8s
MSTX Muleshoe 57.43 75 P 03 37 51.7
baz=313,SNR=10
AMTX Amarillo 57.47 73 lAmb lAmb 03 37 53.4
comp=Z,18nm,1.0s
AMTX Amarillo 57.47 73 P 03 37 52.6
baz=313
SEM Semipalatinsk 57.50 311 *e* P **P 03 37 50.2 -1.9**
baz=311
SEM Semipalatinsk 57.50 311 *e* P **P 03 37 50.1 -1.9**
CD2 Chengdu 57.58 280⇑ *i* P **P 03 37 52.9 +0.2**
CD2 S **S 03 45 49.0 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,90nm,4.0s
CD2 L L
comp=Z,190nm,12.0s
CD2 L L
comp=Z,260nm,13.4s
CD2 L L
comp=Z,280nm,18.0s
SCO Scoresbysund 57.63 8⇑ *i* P **P 03 37 52.3 -0.1**
SCO lAmb lAmb 03 37 53.5
comp=Z,24nm,1.1s
SCO Scoresbysund 57.63 8⇑ *i* P **P 03 37 52.3 -0.1**
SCO pmax pmax
comp=Z,24nm,1.1s
SCO Scoresbysund 57.63 8 P **P 03 37 52.9 +0.5**
SCO lAmb lAmb 03 37 53.7
comp=Z,25nm,1.1s
SCIA State Center 57.66 62 P 03 37 53.4
baz=312
DY2G Dye2 57.68 20 *i* P **P 03 37 52.9 -0.2**
DY2G lAmb lAmb 03 37 53.6
comp=Z,15nm,0.7s
JMIC Jan Mayen 57.94 3 LR LR 04 04 42.0
comp=Z,80nm,18.9s,baz=300,slow=38
ARA0 ARCESS Array S 57.95 349 *e* P **P 03 37 53.3 -1.4**
ARCES ARCESS Array B 57.95 349 P **P 03 37 53.4 -1.3**
comp=Z,1.1nm,0.3s,baz=26,slow=8.0,SNR=19
ARCES PcP **PcP 03 38 46.0 -0.6**
comp=Z,7.2nm,0.8s,baz=9.5,slow=2.7,SNR=5.2
ARCES LR LR 04 02 57.5
comp=Z,202nm,21.8s,baz=5.0,slow=36
ARCES ARCESS Array B 57.95 349 P **P 03 37 54.9 +0.2**
ARCES 03 38 46.4
ARCES pmax pmax
comp=Z,14nm,1.1s
ARCES ARCESS Array B 57.95 349 P **P 03 37 54.9 +0.2**
ARCES lAmb lAmb 03 38 03.1
comp=Z,14nm,1.1s
ARCES PcP **PcP 03 38 46.4 -0.1**
KURBB Kurchatov Arra 58.15 312 P **P 03 37 56.1 -0.2**
KURBB pmax pmax
comp=Z,32nm,0.7s
WMQ Urumqi 58.19 302 *e* P P 03 38 02.6 +5.8
WMQ pmax pmax
comp=Z,56nm,1.1s
WMQ pmax pmax
comp=Z,330nm,4.1s
KAN17 Caldwell West 58.33 69 lAmb lAmb 03 38 02.2
comp=Z,13nm,0.6s
KAN09 Caldwell North 58.35 69 lAmb lAmb 03 38 02.5
comp=Z,15nm,0.8s
JETT Jettan, Norway 58.47 351 *e* P **P 03 37 58.0 -0.4**
TRO Tromso 58.53 352 *e* P **P 03 37 57.4 -1.3**
JFWS Jewell Farm 58.60 59 P 03 37 58.7
baz=313
L40A Anamosa 58.65 61 lAmb lAmb 03 38 03.8
comp=Z,11nm,0.6s
KTK1 Kaukeino 58.71 350 *e* P **P 03 37 59.1 -0.8**
GYA Guiyang 58.90 274 ⇓ P **P 03 38 02.1 +0.1**
MK31 Makanchi Array 58.97 307 *i* P **P 03 38 01.5 -0.6**
MK31 pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 58.97 307 lAmb lAmb 03 38 02.7
comp=Z,11nm,0.9s
MKAR Makanchi Array 58.97 307 P **P 03 38 01.4 -0.8**
comp=Z,14nm,0.8s,baz=52,slow=7.0,SNR=108
MKAR LR LR 04 04 14.6
comp=Z,345nm,20.9s,baz=36,slow=37
MKAR Makanchi Array 58.97 307 *ce* P **P 03 38 01.7 -0.4**
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 58.97 307 P **P 03 38 01.7 -0.4**
MAKZ Makanchi 59.11 307 P **P 03 38 02.7 -0.4**
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 59.11 307 P **P 03 38 02.7 -0.4**
TGY Tagaytay City 59.22 253 P **P 03 38 04.1 -0.2**
comp=Z,182nm,0.4s,baz=271,slow=2.2,SNR=5.2
WMOK Wichita Mounta 59.30 72 lAmb lAmb 03 38 06.1
comp=Z,12nm,1.1s
WMOK Wichita Mounta 59.31 72 P 03 38 04.8
baz=314,SNR=9.2
MANU Manus Island 59.49 217 P **P 03 38 06.3 +0.3**
OK031 S. Brethren Rd 59.62 69 lAmb lAmb 03 38 12.5
comp=Z,14nm,0.9s
ISOG Isortoq, Green 59.94 17 *i* P **P 03 38 07.0 -1.4**
ISOG lAmb lAmb 03 38 08.0
comp=Z,30nm,0.8s
BRVK Borovoye 60.06 319 P **P 03 38 09.8 +0.3**
BRVK pmax pmax
comp=Z,36nm,0.8s
BRVK Borovoye 60.06 319 P **P 03 38 09.4 -0.1**
TX32 Lajitas Array 60.09 79 lAmb lAmb 03 38 21.4
comp=Z,12nm,1.1s
TXAR Lajitas Array 60.09 79 P **P 03 38 09.8 -0.5**
comp=Z,3.5nm,0.6s,baz=303,slow=6.0,SNR=43
TXAR LR LR 04 02 21.6
comp=Z,104nm,19.8s,baz=0.0,slow=34
TXAR Lajitas Array 60.09 79 P **P 03 38 10.7 +0.5**
TXAR Lajitas Array 60.09 79 P **P 03 38 10.7 +0.5**
ANGG Ammassalik, Gr 60.12 17 P **P 03 38 08.3 -1.4**
ABTX Abilene, Hawle 60.25 74 P **P 03 38 11.7 +0.5**
ABTX lAmb lAmb 03 38 12.8
comp=Z,14nm,0.7s
ABTX Abilene, Hawle 60.25 74 P 03 38 11.4
baz=314,SNR=13
GLMI Grayling 60.26 55 P 03 38 11.5
baz=314
TUL1 Leonard 60.26 69 P 03 38 12.2
baz=314
L44A Lake County Fo 60.37 59 P 03 38 11.8
baz=314
LOF Lofoten 60.43 354 *e* P **P 03 38 12.1 +0.3**
STEI Steigen 60.50 353 *e* P **P 03 38 11.6 -0.7**
R40A Maddies Statio 60.65 65 lAmb lAmb 03 38 17.1
comp=Z,11nm,0.6s
HDIL Hopedale 60.74 61 P 03 38 14.4
baz=314,SNR=6.4
SVE Sverdlovsk 60.91 326⇓ *e* P **P 03 38 16.6 +1.4**
SVE pmax pmax
comp=Z,74nm,1.2s
SVE MLR MLR
comp=Z,434nm,21.0s
SCHQ Schefferville 60.98 37 P **P 03 38 14.8 -1.0**
comp=Z,7.8nm,0.8s,baz=306,slow=6.4,SNR=21
SCHQ Schefferville 60.98 37 P **P 03 38 15.0 -0.8**
SCHQ lAmb lAmb 03 38 16.6
comp=Z,16nm,1.1s
LSQQ Lebel-sur-Quev 60.98 47 P 03 38 13.9
baz=316
FAUS Fauske 61.04 353 *e* P **P 03 38 15.5 -0.4**
HHAR Hobbs 61.08 67 lAmb lAmb 03 38 19.0
comp=Z,5.3nm,0.5s
BRZS Berezniki 61.26 315⇑ *i* P **P 03 38 17.8 0.0**
comp=Z,16nm,0.9s,baz=315
BRZS Berezniki 61.26 315 *c i* P **P 03 38 17.8 0.0**
BRZS pmax pmax
comp=Z,16nm,0.9s
X37A Clayton 61.43 70 lAmb lAmb 03 38 37.1
comp=Z,6.4nm,0.7s
MGMO Mountain Grove 61.44 65 lAmb lAmb 03 38 22.6
comp=Z,20nm,1.2s
VLDQ Val d'Or 61.44 48 lAmb lAmb 03 38 20.8
comp=Z,15nm,0.9s
PRGR Permogore 61.46 337 *e* P **P 03 38 18.5 -0.3**
PRGR pmax pmax
comp=Z,66nm,1.3s
O44A Mansfield 61.47 61 lAmb lAmb 03 38 22.9
comp=Z,11nm,0.9s
CHGQ Chibougamau 61.54 45 P 03 38 17.7
baz=317
JCT Junction City 61.66 76 lAmb lAmb 03 38 31.6
comp=Z,6.9nm,0.8s
JCT Junction City 61.66 76 P 03 38 20.6
baz=315
U40A Yellville 61.66 66 lAmb lAmb 03 38 24.0
comp=Z,9.6nm,0.8s
U40A Yellville 61.66 66 P 03 38 19.4
baz=314,SNR=13
ARU Arti 61.93 327 LR LR 04 08 01.8
comp=Z,418nm,20.5s,baz=52,slow=39
ARU Arti 61.93 327 *c i* P **P 03 38 23.0 +0.8**
ARU 03 39 02.3
ARU 03 40 36.3
ARU S **S 03 46 47.7 +4.0**
ARU SS **SS 03 50 47.4 +2.2**
ARU pmax pmax
comp=Z,71nm,0.8s
ARU MLR MLR
comp=Z,387nm,19.0s
ARU Arti 61.93 327 P **P 03 38 22.2 0.0**
W39A Magazine 61.93 68 lAmb lAmb 03 38 27.6
comp=Z,15nm,1.1s
W39A Magazine 61.93 68 P 03 38 22.6
baz=315
WHTX Lake Whitney, 62.01 73 P 03 38 23.8
baz=315
SFIN Lafayette 62.06 60 P 03 38 22.7
baz=315,SNR=11
T42A Van Buren 62.20 65 lAmb lAmb 03 38 27.4
comp=Z,6.6nm,0.5s
MOR8 Moi Rana 62.30 353 *e* P **P 03 38 24.3 -0.2**
KMI Kunming 62.31 276 ⇓ P **P 03 38 25.9 +0.5**
KMI sP pP 03 38 34.9 +0.2
KMI pmax pmax
comp=Z,12nm,1.0s
N47A Urbana 62.46 58 lAmb lAmb 03 38 29.7
comp=Z,28nm,1.4s
MIAR Mount Ida 62.51 68 lAmb lAmb 03 38 41.7
comp=Z,16nm,0.9s
MIAR Mount Ida 62.51 68 P 03 38 26.3
baz=315,SNR=16
HNR Honiara 62.63 201 LR LR 04 00 14.2
comp=Z,194nm,21.2s,baz=346,slow=31
OLIL Olney 62.67 62 lAmb lAmb 03 38 32.5
comp=Z,14nm,0.8s
OTUK Ortayu 62.69 314 P **P 03 38 27.5 +0.1**
OTUK pmax pmax
comp=Z,20nm,0.7s
ALGO Algonquin Park 62.72 50 P 03 38 27.0
baz=316
WHAR Wooly Hollow 62.73 67 lAmb lAmb 03 38 32.3
comp=Z,20nm,1.1s
S44A Carbondale 62.77 63 lAmb lAmb 03 38 33.6
comp=Z,11nm,0.7s
SIUC Southern Illin 62.77 63 lAmb lAmb 03 38 33.2
comp=Z,9.6nm,0.7s
435B Jarrell 62.79 74 P 03 38 29.4
baz=315
PDGK Podgornoye 62.81 306 P **P 03 38 27.6 -0.8**
PDGK pmax pmax
comp=Z,27nm,1.1s
LCAR Lake Charles 62.84 66 lAmb lAmb 03 38 30.0
comp=Z,10nm,1.0s
W41B Gary Mavity, V 62.84 67 P 03 38 27.3
baz=315,SNR=12
SHLS Shalkode 62.95 306 *e* P **P 03 38 28.3 -1.0**
comp=Z,19nm,0.8s,baz=306
SHLS Shalkode 62.95 306 *e* P **P 03 38 28.3 -1.0**
SHLS pmax pmax
comp=Z,19nm,0.8s
X40A Basin Creek Fa 62.99 68 lAmb lAmb 03 38 34.5
comp=Z,8.0nm,0.8s
X40A Basin Creek Fa 62.99 68 P 03 38 28.5
baz=315
ARXS Arharly 63.01 308 *e* P **P 03 38 29.8 +0.1**
KIRV Kirov 63.04 333 LR LR 04 10 12.0
comp=Z,332nm,18.0s,baz=23,slow=40
KIRV Kirov 63.04 333 *ce* P **P 03 38 30.4 +0.9**
SADO Sadowa 63.05 51 lAmb lAmb 03 38 33.2
comp=Z,9.8nm,0.9s
G54A Lake Saint Pet 63.10 50 P 03 38 28.8
baz=317
KPKS Kokpek 63.12 307⇑ *i* P **P 03 38 30.7 +0.2**
comp=Z,21nm,0.9s,baz=306
KPKS Kokpek 63.12 307 *c i* P **P 03 38 30.6 +0.2**
KPKS pmax pmax
comp=Z,21nm,0.9s
D55A Sainte-Anne-du 63.16 48 P 03 38 29.7

baz=317,SNR=6.5
UZB Uzyndulak 63.18 306⇑ *i*P **P 03 38 31.0 0.0**
comp=Z,7.2nm,0.9s,baz=306
UZB Uzyndulak 63.18 306 *c i*P **P 03 38 30.9 0.0**
UZB pmax pmax
comp=Z,7.0nm,0.9s
BORG Borgarnes 63.27 10 LR LR 04 05 05.4
comp=Z,140nm,20.9s,baz=344,slow=35
E55A Montcerf-Lytto 63.30 48 P 03 38 30.1
baz=317
H53A Bobcaygeon 63.46 51 P 03 38 31.3
baz=317
D56A ZEC Mazanza, M 63.47 47 P 03 38 31.0
baz=318
SATY Saty 63.56 306 *i*P **P 03 38 33.6 +0.2**
comp=Z,12nm,1.2s,baz=306
SATY Saty 63.56 306 *c i*P **P 03 38 33.5 +0.2**
SATY pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 63.59 339 *e*P **P 03 38 30.5 -2.5**
KLMR *e* 03 39 05.8
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR MLR MLR
comp=Z,325nm,17.0s
KLMR Klimovskoe 63.59 339 *e*P **P 03 38 30.6 -2.5**
KLMR AMP 03 38 35.4
comp=Z,20nm,1.1s
KLMR *e*PcP **PcP 03 39 05.8 -3.5**
KLMR *e*PP **PP 03 40 48.1 -4.4**
KLMR LQ LQ 04 01 38.3
KLMR LQ LQ 04 01 38.3
KLMR LR LR 04 02 21.2
KLMR AMP 04 10 38.7
comp=Z,325nm,17.1s
CHKK Chushkaly 63.69 308 *e*P **P 03 38 33.4 -0.7**
baz=308
CHKK Chushkaly 63.69 308 *e*P **P 03 38 33.4 -0.7**
E56A St. Veronique 63.71 48 P 03 38 31.9
baz=318
P49A Miami Univ. Ec 63.95 59 IAmb IAmb 03 38 39.8
comp=Z,21nm,1.1s
P49A Miami Univ. Ec 63.95 59 P 03 38 34.9
baz=316
DELO Deloro Mine 63.97 51 IAmb IAmb 03 38 40.1
comp=Z,19nm,1.2s
WCI Wyandotte Cave 64.03 61 P 03 38 34.7
baz=316
X43A Marvell 64.10 67 P 03 38 35.6
baz=316
NSS Namsos 64.10 354 *e*P **P 03 38 35.6 -0.8**
LATQ La Tuque 64.12 46 P 03 38 34.9
baz=318
MDOK Medeo 64.16 307 *i*P **P 03 38 37.7 +0.3**
baz=307
MDOK Medeo 64.16 307 *i*P **P 03 38 37.7 +0.3**
TRQ Mont Tremblant 64.17 48 P **P 03 38 37.5 +0.2**
AAA Alma-Ata 64.20 307 *e*P **P 03 38 37.9 +0.3**
baz=307
AAA Alma-Ata 64.20 307 *e*P **P 03 38 37.8 +0.3**
BTLS Baital 64.25 310⇑ *i*P **P 03 38 37.8 +0.1**
comp=Z,11nm,1.0s,baz=310
BTLS Baital 64.25 310 *c i*P **P 03 38 37.8 +0.1**
BTLS pmax pmax
comp=Z,11nm,1.0s
D58A Chemin du LacG 64.29 46 P 03 38 36.0
baz=318
SLVN Son La 64.34 273 P **P 03 38 38.3 -0.4**
SLVN IAmb IAmb 03 38 41.0
comp=Z,20nm,1.1s
MTBS Maitube 64.50 308⇑ *i*P **P 03 38 39.9 +0.4**
baz=308
MTBS Maitube 64.50 308 *c i*P **P 03 38 39.9 +0.4**
ERPA Erie 64.55 54 P 03 38 38.8
baz=317
E58A La Victoria 64.65 47 P 03 38 38.6
baz=319
WVT Waverly 64.68 63 P **P 03 38 40.7 0.0**
WVT pmax pmax
comp=Z,14nm,1.2s
WVT Waverly 64.68 63 P **P 03 38 40.7 0.0**
WVT IAmb IAmb 03 38 45.4
comp=Z,14nm,1.1s
WVT Waverly 64.68 63 P 03 38 39.9
baz=316
M53A WI Miller and 64.69 55 IAmb IAmb 03 38 45.2
comp=Z,20nm,0.8s
M53A WI Miller and 64.69 55 P 03 38 40.1
baz=317
PECO Prince Edward 64.71 51 IAmb IAmb 03 38 45.4
comp=Z,18nm,1.0s
J55A Hilton 64.80 52 IAmb IAmb 03 38 45.6
comp=Z,15nm,0.8s
KDJ Kajisay 64.85 306 IAmb IAmb 03 38 43.6
comp=Z,21nm,0.9s
OXF Oxford 64.95 66 P 03 38 42.0
baz=316
R50A Paris 65.06 60 IAmb IAmb 03 38 48.0
comp=Z,13nm,1.1s
TKM2 Tokmak 2 65.06 308 P **P 03 38 44.0 +0.6**
SNR=20
TKM2 Tokmak 2 65.06 308 *i*P **P 03 38 43.5 +0.2**
TKM2 pmax pmax
comp=Z,17nm,0.8s
H57A Richville 65.09 49 P 03 38 40.5
baz=318
SGDS Sogindy 65.15 309⇑ *e*P **P 03 38 43.7 -0.1**
baz=309
SGDS Sogindy 65.15 309 *ce*P **P 03 38 43.6 -0.1**
M54A Oil Creek Stat 65.16 54 P 03 38 42.2
baz=317
BOOM Boomskoye usch 65.21 307 IAmb IAmb 03 38 46.2
comp=Z,17nm,0.8s
ULHL Ulahol 65.24 307 P **P 03 38 45.3 +0.8**
SNR=24
P52A Corning 65.25 57 IAmb IAmb 03 38 48.2
comp=Z,10.0nm,0.8s
P52A Corning 65.25 57 P 03 38 42.9
baz=317
J56A Wolcott 65.26 51 IAmb IAmb 03 38 48.4
comp=Z,14nm,0.8s
J56A Wolcott 65.26 51 P 03 38 43.1
baz=318
F59A Saint Guilaume 65.27 47 P 03 38 42.9
baz=319
O53A New Philadelph 65.28 56 P 03 38 44.2
baz=317
D60A Saint Jean D'O 65.30 45 P 03 38 43.4
baz=320
Y45A Yeager Farm, C 65.33 66 IAmb IAmb 03 38 47.3
comp=Z,19nm,0.8s
USP Ospenovka 65.35 309 P **P 03 38 46.1 +1.1**
SNR=7.6
I57A Carthage 65.35 50 P 03 38 44.3
baz=318
LONY Lake Ozonia 65.36 49 P 03 38 43.0
baz=318
PLAL Pickwick Lake 65.37 64 IAmb IAmb 03 38 47.7
comp=Z,8.4nm,0.6s
N54A Moraine State 65.40 55 P 03 38 44.2
baz=317
AFI Afiamalu 65.40 170 LR LR 04 00 31.1
comp=Z,147nm,21.6s,baz=9.5,slow=30
K56A Middlesex 65.46 52 P 03 38 45.1
baz=318,SNR=18
E60A Ste Agathe de 65.48 46 P 03 38 43.9
baz=319
V48A Smith Brothers 65.53 63 IAmb IAmb 03 38 50.8
comp=Z,23nm,1.4s
CLTN Cedars of Leba 65.55 62 IAmb IAmb 03 38 51.3
comp=Z,21nm,0.9s
U49A Red Boiling Sp 65.55 62 P **P 03 38 45.5 -0.8**
U49A IAmb IAmb 03 38 51.5
comp=Z,15nm,1.2s
F60A Warwick 65.56 46 P 03 38 44.7
baz=319
FINES FINESS Array B 65.57 346 P **P 03 38 44.3 -1.7**
comp=Z,2.2nm,0.5s,baz=19,slow=6.5,SNR=20
FINES LR LR 04 12 00.7
comp=Z,138nm,18.5s,baz=27,slow=40
FINES FINESS Array B 65.57 346 *i*P **P 03 38 44.9 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 65.57 346 P **P 03 38 44.9 -1.1**
J57A Williamstown 65.58 51 P **P 03 38 45.1 -1.2**
J57A IAmb IAmb 03 38 50.5
comp=Z,17nm,1.2s

KBK Karagaybulak 65.58 308 P **P 03 38 47.6 +1.0**
SNR=10
J57A Williamstown 65.58 51 P 03 38 43.6
baz=318
M55A Ridgway 65.65 54 P **P 03 38 45.9 -1.0**
M55A IAmb IAmb 03 38 51.5
comp=Z,11nm,0.8s
H58A Gabriels 65.70 49 P 03 38 45.6
baz=319
T50A Nancy 65.70 61 P **P 03 38 46.8 -0.4**
T50A IAmb IAmb 03 38 51.6
comp=Z,19nm,1.3s
H59A Cadyville 65.76 48 P 03 38 45.9
baz=319
AAK Ala-Archa 65.82 308 LR LR 04 08 57.8
comp=Z,282nm,19.8s,baz=42,slow=37
AAK Ala-Archa 65.82 308 P **P 03 38 49.1 +0.9**
SNR=9.8
AAK Ala-Archa 65.82 308 *ce*P **P 03 38 48.9 +0.7**
AAK pmax pmax
comp=Z,42nm,0.9s
AAK Ala-Archa 65.82 308 P **P 03 38 47.2 -1.0**
AAK IAmb IAmb 03 38 50.0
comp=Z,16nm,0.8s
I58A Old Forge 65.87 50 P 03 38 47.3
baz=319
MOQ Mont Orford 65.92 47 P **P 03 38 47.4 -1.2**
J58A Remsen 65.96 50 P **P 03 38 47.8 -1.1**
J58A IAmb IAmb 03 38 52.8
comp=Z,15nm,1.2s
J58A Remsen 65.96 50 P 03 38 47.7
baz=319
F61A St Evariste 65.99 46 P 03 38 48.0
baz=320
LSA Lhasa 66.11 288 P **P 03 38 49.9 -0.7**
LSA pmax pmax
comp=Z,22nm,0.9s
LSA Lhasa 66.11 288 P **P 03 38 49.9 -0.7**
LSA IAmb IAmb 03 38 53.1
comp=Z,22nm,0.9s
E62A Clayton Lake 66.15 44 P 03 38 48.2
baz=320
EKS2 Erkin-Say 66.15 309 P **P 03 38 51.4 +1.1**
SNR=19
G61A St-Isidore-de- 66.28 47 P 03 38 49.5
baz=320
H60A Morristown 66.28 48 P 03 38 49.2
baz=319
R53A Hurricane 66.30 58 P **P 03 38 50.9 -0.2**
I59A Olmsteadville 66.31 49 P 03 38 49.5
baz=319
SWET Sewanee 66.40 63 P **P 03 38 50.6 -1.3**
SWET IAmb IAmb 03 38 56.0
comp=Z,18nm,1.4s
D63A Stockholm 66.44 43 P 03 38 50.9
baz=321
BINY Binghamton 66.49 51 P **P 03 38 51.9 -0.4**
BINY IAmb IAmb 03 38 56.2
comp=Z,24nm,1.1s
BINY Binghamton 66.49 51 P 03 38 51.3
baz=319
146A Union 66.50 67 P **P 03 38 52.4 -0.1**
F62A Pittston Farm, 66.51 45 P 03 38 51.3
baz=320
I60A Shoreham 66.55 49 P 03 38 51.5
baz=319
M57A Sunshine Farm, 66.57 53 P **P 03 38 52.2 -0.6**
M57A IAmb IAmb 03 38 56.9
comp=Z,15nm,0.8s
AML Almayashu 66.59 309 P **P 03 38 54.6 +1.2**
SNR=15
O56A Blue Knob Stat 66.64 54 P 03 38 53.0
baz=318
Z47A Carrollton 66.66 66 P **P 03 38 53.0 -0.5**
L58A Harry Jones Me 66.67 52 P 03 38 52.5
baz=319
SSPA Standing Stone 66.71 54 P **P 03 38 53.1 -0.6**
SSPA IAmb IAmb 03 38 58.1
comp=Z,14nm,0.8s
SSPA Standing Stone 66.71 54 P 03 38 52.3
baz=318
ACCN Adirondack Com 66.72 49 P **P 03 38 52.5 -1.2**
ACCN IAmb IAmb 03 38 57.4
comp=Z,10nm,0.8s
AKN Aaknes 66.73 356 *e*P **P 03 38 53.6 +0.2**
TZTN Tazewell 66.75 60 P 03 38 53.8
baz=317
DOMB Dombas 66.76 355 *e*P **P 03 38 53.1 -0.6**
W50A Signal Mountai 66.76 62 P **P 03 38 54.0 -0.2**
W50A IAmb IAmb 03 38 58.8
comp=Z,17nm,1.2s
G62A West of Eustis 66.78 46 P **P 03 38 52.6 -1.5**
G62A IAmb IAmb 03 38 57.4
comp=Z,14nm,1.0s
G62A West of Eustis 66.78 46 P 03 38 52.7
baz=320
E63A Oxbow 66.78 44 P 03 38 52.1
baz=321
LBNH Lisbon 66.89 48 P **P 03 38 54.5 -0.3**
LBNH pmax pmax
comp=Z,13nm,1.1s
LBNH Lisbon 66.89 48 P **P 03 38 54.5 -0.3**
LBNH IAmb IAmb 03 38 59.0
comp=Z,13nm,1.1s
LBNH Lisbon 66.89 48 P 03 38 53.9
baz=320
AKTO Aktyubinsk 66.93 323 LR LR 04 10 51.1
comp=Z,567nm,19.3s,baz=32,slow=38
J60A Lant Hill Farm 66.94 49 P 03 38 54.0
baz=319
H62A Milan 66.99 47 P **P 03 38 54.7 -0.7**
H62A IAmb IAmb 03 38 59.2
comp=Z,18nm,0.7s
H62A Milan 66.99 47 P 03 38 54.6
baz=320
I61A Oroboro, Fairl 66.99 48 P 03 38 54.1
baz=320
CPCT Cooper Cave 67.02 62 P **P 03 38 55.0 -0.7**
CPCT IAmb IAmb 03 39 01.0
comp=Z,13nm,1.2s
F63A Nahmakanta, Br 67.04 45 P 03 38 53.9
baz=321
E64A Bridgewater 67.05 44 P 03 38 54.0
baz=321
FPAL Fort Paine 67.08 63 P **P 03 38 55.7 -0.5**
FPAL IAmb IAmb 03 39 00.2
comp=Z,12nm,0.9s
Y49A Blount Mountai 67.13 64 P **P 03 38 55.8 -0.6**
N58A Sunbury 67.15 53 P **P 03 38 56.0 -0.4**
N58A IAmb IAmb 03 39 00.9
comp=Z,12nm,0.8s
AB31 Akbulak array 67.15 322 *i*P **P 03 38 56.8 +0.5**
AB31 pmax pmax
comp=Z,16nm,0.6s
ABKAR Akbulak array 67.15 322 P **P 03 38 57.1 +0.9**
ABKAR Akbulak array 67.15 322 P **P 03 38 57.2 +0.9**
ABKAR IAmb IAmb 03 38 59.0
comp=Z,78nm,1.2s
DZA Taraz 67.16 311 *e*P **P 03 38 57.1 +0.5**
baz=310
DZA Taraz 67.16 311 *e*P **P 03 38 57.0 +0.5**
NONG Nongkai 67.24 271 P **P 03 38 58.5 +1.1**
comp=Z,4µmcomp=Z,26nm,1.1s
J61A Chester 67.28 49 P 03 38 55.6
baz=320
TKL Tuckaleechee C 67.28 61 P **P 03 38 57.2 -0.2**
TKL pmax pmax
comp=Z,13nm,1.1s
TKL Tuckaleechee C 67.28 61 P **P 03 38 57.2 -0.2**
TKL IAmb IAmb 03 39 02.0
comp=Z,13nm,1.1s
PKME Peaks-Kenny Pk 67.30 45 P **P 03 38 59.1 +1.8**
PKME IAmb IAmb 03 39 00.8
comp=Z,8.2nm,0.8s
PKME Peaks-Kenny Pk 67.30 45 P 03 38 56.1
baz=321
KK31 Karatay Array 67.39 311 *i*P **P 03 38 58.3 +0.3**
KK31 pmax pmax
comp=Z,25nm,0.9s
KK31 Karatay Array 67.39 311 P **P 03 38 58.1 +0.1**
KKAR Karatay Array 67.39 311 P **P 03 38 58.1 +0.1**
KKAR Karatay Array 67.39 311 P **P 03 38 58.1 +0.1**
KKAR Karatay Array 67.39 311 P **P 03 38 58.0 +0.1**
KKAR IAmb IAmb 03 38 59.5
comp=Z,25nm,0.8s
KSH Kashi 67.40 305 P **P 03 39 00.9 +2.6**

KSH S **S 03 47 58.4 +6.5**
KSH pmax pmax
comp=Z,22nm,1.4s
KSH pmax pmax
comp=Z,67nm,3.3s
KSH L L
comp=Z,210nm,16.6s
KSH L L
comp=Z,230nm,15.6s
KSH L L
comp=Z,340nm,16.8s
NC204 NORSAR Array S 67.41 354 P **P 03 38 57.2 -0.7**
NC303 NORSAR Array S 67.42 354 P **P 03 38 57.8 -0.1**
NC303 IAmb IAmb 03 38 58.4
comp=Z,18nm,1.0s
I62A Tamworth 67.44 47 P 03 38 57.8
baz=320
NC405 NORSAR Array S 67.51 353 P **P 03 38 57.0 -1.5**
G64A Maxfield 67.55 45 P 03 38 58.0
baz=321
N59A State Game Lan 67.56 52 P **P 03 38 59.0 -0.1**
N59A IAmb IAmb 03 39 03.2
comp=Z,18nm,0.8s
N59A State Game Lan 67.56 52 P 03 38 58.1
baz=319
NB2 NORSAR Subarra 67.62 354 P **P 03 38 58.3 -0.9**
baz=8.0,slow=6.5
NOA NORSAR Array B 67.62 354 P **P 03 38 58.5 -0.7**
comp=Z,5.7nm,0.7s,baz=8.5,slow=6.3,SNR=29
NOA LR LR 04 08 27.9
comp=Z,94nm,20.2s,baz=335,slow=36
I63A Otisfield 67.65 47 P **P 03 38 59.6 0.0**
I63A IAmb IAmb 03 39 08.1
comp=Z,10nm,0.8s
I63A Otisfield 67.65 47 P 03 38 58.3
baz=320
J62A Henniker 67.72 48 P 03 38 58.9
baz=320
HYA Hoyanger 67.77 356 *e*P **P 03 39 00.2 +0.2**
NC602 NORSAR Array S 67.89 353 *e*P **P 03 39 01.9 +1.1**
L61B Northampton 67.90 49 P 03 38 59.9
baz=320
K62A Royalston 67.95 49 P 03 39 00.5
baz=320
LUPA Lehigh Univers 68.00 52 P **P 03 39 01.8 -0.1**
LUPA IAmb IAmb 03 39 05.9
comp=Z,17nm,0.8s
G65A Princeton 68.11 44 P 03 39 01.0
baz=322
SKAR Skarslia 68.16 355 *e*P **P 03 39 02.7 +0.2**
H65A Eastbrook 68.21 45 P 03 39 01.3
baz=321
K63A Dunstable 68.26 48 P 03 39 01.7
baz=320
Y52A Lilburn 68.44 63 P **P 03 39 04.4 -0.3**
GGN Saint George 68.49 44 P **P 03 39 03.7 -1.1**
GGN IAmb IAmb 03 39 08.7
comp=Z,18nm,0.9s
ASK Askoy 68.50 357 *e*P **P 03 39 05.4 +0.8**
EMMW East Machias 68.55 45 P **P 03 39 03.8 -1.4**
H66A Whiting 68.55 44 P 03 39 04.0
baz=322
250A Grady 68.59 65 P **P 03 39 04.6 -1.1**
250A IAmb IAmb 03 39 19.7
comp=Z,13nm,0.8s
MOS Moscow 68.63 338 *e*P **P 03 39 04.3 -1.2**
MOS pmax pmax
comp=Z,37nm,0.9s
SHL Shillong 68.69 284 P **P 03 39 06.3 -0.3**
SHL pmax pmax
comp=Z,55nm,1.0s
SHL Shillong 68.69 284 P **P 03 39 06.3 -0.3**
OSL Oslo 68.75 354 *e*P **P 03 39 06.5 +0.3**
BELG Belogornoye 68.86 330 LR LR 04 12 10.2
comp=Z,145nm,19.9s,baz=352,slow=38
KMSC Kings Mountain 69.00 60 P **P 03 39 07.8 -0.4**
KMSC IAmb IAmb 03 39 13.0
comp=Z,25nm,1.1s
KMSC Kings Mountain 69.00 60 P 03 39 07.3
baz=318
KONQ Kongsberg 69.11 354 *e*P **P 03 39 08.4 -0.1**
GOGA Godfrey 69.11 63 P **P 03 39 09.4 +0.5**
GOGA pmax pmax
comp=Z,10.0nm,1.1s
GOGA Godfrey 69.11 63 P **P 03 39 09.4 +0.5**
UTTA Uttaradit 69.11 272 P **P 03 39 10.1 +1.1**
comp=Z,20nm,0.9s
GOGA Godfrey 69.11 63 P 03 39 06.7
baz=318
HODGE Hodges 69.17 61 P **P 03 39 09.9 +0.6**
HODGE IAmb IAmb 03 39 13.5
comp=Z,11nm,0.8s
CMMT Chiang Mai 69.32 274 P **P 03 39 09.9 -0.5**
comp=Z,12nm,0.9s
CHTO Chiang Mai 69.32 274 P **P 03 39 10.2 -0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 69.32 274 P **P 03 39 11.0 +0.6**
comp=Z,12nm,0.9s
CHTO Chiang Mai 69.32 274 P **P 03 39 10.2 -0.2**
CHTO IAmb IAmb 03 39 11.3
comp=Z,8.1nm,0.6s
OBN Obninsk 69.45 338 *c i*P **P 03 39 09.8 -0.8**
OBN *i* 03 39 32.8
OBN *i* 03 41 41.9
OBN *i* SS SS 03 52 37.8 -4.0
OBN pmax pmax
comp=Z,45nm,1.2s
OBN MLR MLR
comp=Z,479nm,22.0s
BLS5 Blasjo 69.50 356 *e*P **P 03 39 11.9 +0.9**
TAOE Nuku Hiva Isla 69.51 136 *e*LR LR 04 00 19.7
comp=Z,624nm,23.9s
TAOE Nuku Hiva Isla 69.51 136 *e*T T 04 55 01.1
comp=Z,106nm,0.3s
DRK Karamyk 69.54 308 P **P 03 39 11.8 0.0**
DRK IAmb IAmb 03 39 18.1
comp=Z,19nm,0.7s
BTK Batken 69.58 309 P **P 03 39 11.9 +0.1**
BTK pmax pmax
comp=Z,36nm,0.9s
BTK Batken 69.58 309 P **P 03 39 11.9 +0.1**
CMAR Chiang Mai Arr 69.59 274 P **P 03 39 11.3 -0.7**
comp=Z,6.8nm,0.6s,baz=30,slow=7.1,SNR=17
CMAR LR LR 04 13 18.9
comp=Z,82nm,18.7s,baz=140,slow=39
CMAR Chiang Mai Arr 69.59 274 *ce*P **P 03 39 12.3 +0.3**
CMAR pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 69.59 274 P **P 03 39 12.1 0.0**
JSC Jenkinsville 69.68 60 P **P 03 39 12.0 -0.4**
JSC pmax pmax
comp=Z,11nm,1.3s
JSC Jenkinsville 69.68 60 P **P 03 39 12.0 -0.4**
TOLI2 Tolitoli 69.71 245 P **P 03 39 12.3 -0.5**
TOLI2 IAmb IAmb 03 39 13.0
comp=Z,14nm,1.1s
TAPN Taplejung 69.89 289 *e*P **P 03 39 15.0 +0.8**
ODAN Odare 70.44 289 *e*P **P 03 39 18.2 +0.7**
GUN Gumba 70.56 290 *e*P **P 03 39 19.3 +1.0**
GAR Garm 70.64 308 P **P 03 39 18.4 0.0**
RAMN Ramite 70.84 289 *e*P **P 03 39 20.7 +0.8**
BRDH Bariadhala 70.98 283 P **P 03 39 20.5 +0.1**
comp=Z,90nm,0.3s,baz=234,slow=23,SNR=4.2
BRDH LR LR 04 15 10.4
comp=Z,129nm,18.4s,baz=350,slow=40
SRAK Srakaew 70.98 269 P **P 03 39 20.9 +0.3**
comp=Z,3µmcomp=Z,177nm,1.1s
KKN Kakani 71.00 291 *e*P **P 03 39 21.8 +1.0**
comp=Z,62nm,0.6s
PKI Pulchoki 71.00 291 *e*P **P 03 39 22.1 +0.6**
comp=Z,152nm,1.1s
PKIN Phulchoki 71.09 291 *e*P **P 03 39 22.0 +0.6**
LPSR Galich'ya Gora 71.16 336 *e*P **P 03 39 19.8 -1.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
GKN Gorkha 71.22 291 *e*P **P 03 39 22.7 +0.6**
DMN Daman 71.23 291 *e*P **P 03 39 23.3 +1.0**
DANN Dangsing 71.47 292 *e*P **P 03 39 24.6 +0.8**
comp=Z,152nm,0.9s
CHGR Chuyangaron 71.47 309 P **P 03 39 23.5 +0.1**
VRH Novokhopyorsk 71.66 333 *e*P **P 03 39 22.1 -2.0**
VRH pmax pmax
comp=Z,20nm,1.0s
MNK Minsk 71.86 343 *i*P **P 03 39 24.3 -1.0**

MNK				*i* PPP	PPP	03 43 47.4		
MNK				*i* S	**S**	**03 48 43.1**	**-0.4**	
MNK				*i* SSS	SSS	03 56 24.2		
MNK				pmax	pmax			
	comp=N,4.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,11nm,0.9s							
MNK				pmax	pmax			
	comp=E,1.0nm,0.9s							
MNK				MLR	MLR			
	comp=N,186nm,19.0s							
MNK				MLR	MLR			
	comp=E,13nm,19.0s							
MNK				MLR	MLR			
	comp=Z,185nm,19.0s							
MNK	**Minsk**	**71.86**	**343**	*i* P	**P**	**03 39 24.4**	**-0.9**	
	comp=E,1.0nm,0.8s							
MNK				*i* P	**P**	**03 39 24.4**	**-0.9**	
	comp=N,4.0nm,0.8s							
MNK				*i* P	**P**	**03 39 24.4**	**-0.9**	
	comp=Z,11nm,0.8s,baz=199							
MNK				*i* S	**S**	**03 48 43.1**	**-0.4**	
MNK				*i* LQ	LQ	04 04 13.8		
MNK				*i* LR	LR	04 06 17.5		
MNK				*i* LRM	MLR	04 15 08.6		
	comp=N,186nm,18.7s							
MNK				*i* LRM	MLR	04 15 13.1		
	comp=E,13nm,18.7s							
MNK				*i* LRM	MLR	04 15 13.8		
	comp=Z,185nm,18.7s							
KOLN	**Koldanda**	**72.00**	**292**	*e*P	**P**	**03 39 27.4**	**+0.6**	
	comp=Z,103nm,1.1s							
PMOR	**Pomariorio Ree**	**72.06**	**146**	*e*T	T	04 58 10.9		
	comp=Z,53nm,0.3s							
PYUN	**Piuthan**	**72.10**	**293**	*e*P	**P**	**03 39 28.2**	**+0.7**	
	comp=Z,201nm,1.1s							
VSR	**Storozhevoye**	**72.35**	**335**	*e*P	**P**	**03 39 27.2**	**-1.1**	
VSR				pmax	pmax			
	comp=Z,20nm,1.1s							
NIL	**Nilore**	**73.28**	**303**	P	**P**	**03 39 34.4**	**+0.2**	
NIL				pmax	pmax			
	comp=Z,38nm,1.0s							
NIL	**Nilore**	**73.28**	**303**	P	**P**	**03 39 34.4**	**+0.2**	
DZM	**Mont Dzumac**	**73.83**	**192**	LR	LR	04 04 27.4		
	comp=Z,303nm,21.6s,baz=52,slow=30							
DZM	**Mont Dzumac**	**73.83**	**192**	*e*LR	LR	04 02 19.5		
	comp=Z,576nm,24.9s							
PPT	**Papeete**	**73.89**	**149**	LR	LR	04 05 23.2		
	comp=Z,325nm,19.3s,baz=324,slow=30							
PPT2	**Papeete2**	**73.90**	**149**	*e*S	**S**	**03 49 12.4**	**+4.9**	
	comp=Z,87nm,31.8s							
PPT2	**Papeete2**	**73.90**	**149**	*e*LR	LR	04 02 22.8		
	comp=Z,537nm,24.2s,baz=339							
PPT2	**Papeete2**	**73.90**	**149**	*e*T	T	05 00 28.6		
	comp=Z,26nm,0.4s							
TIAR	**Tiarei**	**73.95**	**149**	*e*T	T	05 00 31.9		
	comp=Z,4.1nm,0.3s							
PAE	**Paea**	**73.97**	**149**	*e*T	T	05 00 33.4		
	comp=Z,7.8nm,0.3s							
RAR	**Rarotonga**	**74.56**	**159**	LR	LR	04 06 44.3		
	comp=Z,397nm,19.3s,baz=346,slow=31							
MEH	**Mehetia**	**74.67**	**147**	*e*T	T	05 01 26.4		
	comp=Z,34nm,0.3s							
KBL	**Kabul**	**74.76**	**306**	P	**P**	**03 39 42.6**	**-0.4**	
KBL				pmax	pmax			
	comp=Z,31nm,0.9s							
KBL	**Kabul**	**74.76**	**306**	P	**P**	**03 39 42.6**	**-0.4**	
AKASG	**Malin Array Be**	**75.20**	**341**	P	**P**	**03 39 44.3**	**-0.7**	
	comp=Z,5.3nm,0.4s,baz=24,slow=6.0,SNR=24							
AKASG				LR	LR	04 16 40.4		
	comp=Z,310nm,19.7s,baz=30,slow=39							
AKASG	**Malin Array Be**	**75.20**	**341**	P	**P**	**03 39 44.0**	**-1.0**	
AKBB	**Malin Array Si**	**75.20**	**341**	*ce*P	**P**	**03 39 44.5**	**-0.5**	
AKBB	**Malin Array Si**	**75.20**	**341**	P	**P**	**03 39 43.7**	**-1.3**	
AKBB				IAmb	IAmb	03 39 45.2		
	comp=Z,25nm,1.4s							
GOF	**Gofitskoye**	**76.75**	**330**	⇑*e*P	**P**	**03 39 55.5**	**+1.5**	
GOF				pmax	pmax			
	comp=Z,73nm,1.0s							
LVV	**L'vov**	**77.04**	**344**	*e*P	**P**	**03 39 56.3**	**+0.8**	
CLL	**Collm**	**77.11**	**351**	*e*P	**P**	**03 39 56.0**	**+0.1**	
CLL				*e*PS	**PnS**	**03 50 24.0**	**+0.7**	
CLL				*e*SS	SS	03 55 00.0	+22	
CLL				LmV		04 15 00.0		
	comp=Z,200nm,19.9s							
CLL	**Collm**	**77.11**	**351**	*e*P	**P**	**03 39 56.0**	**+0.1**	
CLL				*e*		03 40 04.0		
GEYT	**Alibeck**	**77.18**	**316**	P	**P**	**03 39 55.9**	**-0.7**	
	comp=Z,9.0nm,0.9s,baz=260,slow=0.9,SNR=9.3							
GEYT				PP	**PP**	**03 42 48.3**	**-1.6**	
	comp=Z,2.8nm,0.5s,baz=17,slow=11,SNR=5.3							
GEYT				LR	LR	04 16 42.9		
	comp=Z,376nm,19.6s,baz=195,slow=38							
GYA0B	**ALIBECK ARRAY**	**77.18**	**316**	P	**P**	**03 39 57.3**	**+0.7**	
GYA0B				IAmb	IAmb	03 40 02.4		
	comp=Z,12nm,0.7s							
OJC	**Ojcow**	**77.34**	**346**	P	**P**	**03 39 57.3**	**+0.1**	
OJC				pmax	pmax			
	comp=Z,8.0nm,1.0s							
OJC	**Ojcow**	**77.34**	**346**	P	**P**	**03 39 57.3**	**+0.1**	
CHVC	**Chvalec**	**77.48**	**349**	AMS	AMS	04 19 50.0		
	comp=Z,200nm,15.1s							
OSTC	**Ostas**	**77.50**	**349**	AMS	AMS	04 20 00.0		
	comp=Z,200nm,20.3s							
UPC	**Upice**	**77.57**	**349**	AMS	AMS	04 20 00.0		
	comp=Z,200nm,18.6s							
DPC	**Dobruska-Polom**	**77.69**	**349**	*e*P	**P**	**03 39 58.5**	**-0.7**	
DPC				MLR	MLR			
	comp=Z,200nm,14.5s							
DPC	**Dobruska-Polom**	**77.69**	**349**	*e*P	**P**	**03 39 58.5**	**-0.7**	
DPC				AMS	AMS	04 22 00.0		
	comp=Z,200nm,14.5s							
PVCC	**Panska Ves**	**77.72**	**350**	AMS	AMS	04 18 00.0		
	comp=Z,200nm,19.4s							
SORM	**Soroca**	**77.81**	**340**	⇑P	**P**	**03 39 58.7**	**-1.1**	
SORM	**Soroca**	**77.81**	**340**	⇑P	**P**	**03 39 58.7**	**-1.1**	
KIV	**Kislovodsk**	**77.85**	**329**	⇑P	**P**	**03 40 01.6**	**+1.3**	
KIV	**Kislovodsk**	**77.85**	**329**	*e*P	**P**	**03 40 01.5**	**+1.3**	
KIV				pmax	pmax			
	comp=Z,35nm,1.0s							
KIV				MLR	MLR			
	comp=Z,385nm,19.0s							
KIV	**Kislovodsk**	**77.85**	**329**	P	**P**	**03 40 00.2**	**0.0**	
KIV				IAmb	IAmb	03 40 03.6		
	comp=Z,10nm,0.9s							
KRLC	**Kraliky**	**77.90**	**348**	*e*P	**P**	**03 40 00.0**	**-0.4**	
KRLC				MLR	MLR			
	comp=Z,200nm,17.5s							
KRLC	**Kraliky**	**77.90**	**348**	*e*P	**P**	**03 40 00.0**	**-0.4**	
KRLC				AMS	AMS	04 20 40.0		
	comp=Z,200nm,17.5s							
STHS	**Stebnicka Huta**	**77.90**	**345**	*e*P	**P**	**03 40 03.1**	**+2.7**	
STHS	**Stebnicka Huta**	**77.90**	**345**	*e*P	**P**	**03 40 03.1**	**+2.7**	
OKC	**Ostrava-Krasne**	**77.95**	**347**	AMS	AMS	04 13 40.0		
	comp=Z,200nm,20.7s							
NCK	**Nalchik**	**77.97**	**328**	*i* P	**P**	**03 40 01.4**	**+0.6**	
NCK				pmax	pmax			
	comp=Z,34nm,1.2s							
KBZ	**Khabaz**	**77.99**	**329**	P	**P**	**03 39 59.7**	**-1.1**	
	comp=Z,8.1nm,0.8s,baz=68,slow=4.6,SNR=17							
KBZ				LR	LR	04 18 33.1		
	comp=Z,276nm,21.3s,baz=20,slow=39							
KBZ	**Khabaz**	**77.99**	**329**	*ce*P	**P**	**03 40 01.6**	**+0.8**	
KBZ				pmax	pmax			
	comp=Z,12nm,0.9s							
SHA1	**Shidzhatmaz**	**78.06**	**329**	*i* P	**P**	**03 40 01.9**	**+0.3**	
MORC	**Moravsky Berou**	**78.09**	**348**	*e*P	**P**	**03 40 01.1**	**-0.3**	
PRA	**Prague**	**78.18**	**350**	AMS	AMS	04 18 20.0		
	comp=Z,200nm,21.8s							
KOLS	**Kolonicke sedl**	**78.20**	**345**	*e*P	**P**	**03 40 02.6**	**+0.6**	
KOLS	**Kolonicke sedl**	**78.20**	**345**	*e*P	**P**	**03 40 02.6**	**+0.6**	
HRA	**Herat**	**78.22**	**311**	P	**P**	**03 40 02.1**	**-0.5**	
HRA				IAmb	IAmb	03 40 04.7		
	comp=Z,15nm,0.8s							
NKC	**Novy Kostel**	**78.23**	**351**	*e*P	**P**	**03 40 01.4**	**-0.8**	
NKC	**Novy Kostel**	**78.23**	**351**	*e*P	**P**	**03 40 01.4**	**-0.8**	
PRU	**Pruhonice**	**78.25**	**350**	AMS	AMS	04 15 50.0		
	comp=Z,200nm,17.4s							
CRVS	**Cervenica-Dubn**	**78.37**	**345**	*e*P	**P**	**03 40 02.7**	**-0.2**	
CRVS	**Cervenica-Dubn**	**78.37**	**345**	*e*P	**P**	**03 40 02.7**	**-0.2**	
LANS	**Liptovska Anna**	**78.43**	**346**	*e*P	**P**	**03 40 04.1**	**+0.8**	
LANS	**Liptovska Anna**	**78.43**	**346**	*e*P	**P**	**03 40 04.1**	**+0.8**	
UZH	**Uzhgorod**	**78.49**	**344**	*e*P	**P**	**03 40 03.6**	**0.0**	
UZH				*e*		03 40 13.2		
UZH				*e*		03 40 19.1		

ZEI	**Tsey**	**78.50**	**328**	*e*P	**P**	**03 40 03.2**	**-0.8**	
ZEI				pmax	pmax			
	comp=Z,21nm,0.8s							
VRAC	**Vranov**	**78.68**	**348**	*e*P	**P**	**03 40 04.6**	**0.0**	
TREC	**Trest**	**78.83**	**349**	AMS	AMS	04 15 30.0		
	comp=Z,200nm,19.0s							
GRF	**Grafenberg Arr**	**78.88**	**352**	*e*P	**P**	**03 40 05.8**	**0.0**	
	comp=Z,5.4nm,1.0s,baz=9.6,slow=4.9							
KECS	**Kecovo**	**78.93**	**346**	*e*P	**P**	**03 40 06.2**	**+0.2**	
KECS	**Kecovo**	**78.93**	**346**	*e*P	**P**	**03 40 06.1**	**+0.1**	
BURAR	**Bucovina Array**	**78.94**	**342**	P	**P**	**03 40 06.4**	**+0.1**	
BURAR				IAmb	IAmb	03 40 09.1		
	comp=Z,16nm,0.7s							
KRUC	**Moravsky**	**78.94**	**348**	*e*P	**P**	**03 40 05.4**	**-0.7**	
JAVC	**Velka Javorina**	**78.97**	**347**	*e*P	**P**	**03 40 07.3**	**+1.0**	
SOC	**Sochi**	**79.11**	**331**	*e*P	**P**	**03 40 05.1**	**-2.0**	
SOC				*e*		03 43 05.5		
SOC				*e*PPP	PPP	03 44 57.0		
SOC				*e*S	**S**	**03 50 02.5**	**-1.6**	
SOC				*e*SS	**SS**	**03 55 10.0**	**+1.0**	
SOC				*e*SSS	SSS	03 58 34.7		
SOC				MLR	MLR			
	comp=Z,191nm,16.0s							
VYHS	**Vyhne**	**79.17**	**347**	*e*P	**P**	**03 40 07.1**	**-0.2**	
VYHS	**Vyhne**	**79.17**	**347**	*e*P	**P**	**03 40 07.1**	**-0.2**	
KHC	**Kasperske Hory**	**79.20**	**350**	*e*P	**P**	**03 40 07.2**	**-0.4**	
KHC				MLR	MLR			
	comp=Z,200nm,18.4s							
KHC	**Kasperske Hory**	**79.20**	**350**	*e*P	**P**	**03 40 07.2**	**-0.4**	
KHC				AMS	AMS	04 18 10.0		
	comp=Z,200nm,18.4s							
TBI	**Tubuai**	**79.33**	**151**	*e*S	**S**	**03 50 11.1**	**+4.6**	
	comp=Z,46nm,35.5s							
TBI	**Tubuai**	**79.33**	**151**	*e*LR	LR	04 04 52.7		
	comp=Z,531nm,23.0s,baz=340							
SMOL	**Smolenice**	**79.34**	**348**	*e*P	**P**	**03 40 09.5**	**+1.2**	
SMOL	**Smolenice**	**79.34**	**348**	*e*P	**P**	**03 40 09.5**	**+1.2**	
BIZ	**Bicaz**	**79.42**	**341**	⇓P	**P**	**03 40 09.3**	**+0.6**	
CKRC	**Cesky Krumlov**	**79.43**	**350**	*e*P	**P**	**03 40 08.2**	**-0.6**	
GEC2	**GERESS Array S**	**79.47**	**350**	P	**P**	**03 40 08.0**	**-1.2**	
GERES	**GERESS Array B**	**79.47**	**350**	P	**P**	**03 40 07.2**	**-1.9**	
	comp=Z,1.3nm,0.7s,baz=28,slow=6.0,SNR=11							
GERES	**GERESS Array B**	**79.47**	**350**	P	**P**	**03 40 08.7**	**-0.4**	
GERES	**GERESS Array B**	**79.47**	**350**	P	**P**	**03 40 08.7**	**-0.4**	
MODS	**Modra-Piesok**	**79.50**	**348**	*e*P	**P**	**03 40 09.6**	**+0.4**	
MODS	**Modra-Piesok**	**79.50**	**348**	*e*P	**P**	**03 40 09.6**	**+0.4**	
PSZ	**Piszkesteto**	**79.57**	**346**	P	**P**	**03 40 10.2**	**+0.6**	
PSZ				pmax	pmax			
	comp=Z,11nm,1.1s							
PSZ	**Piszkesteto**	**79.57**	**346**	P	**P**	**03 40 10.2**	**+0.6**	
ARCR	**ARCALIA**	**79.62**	**343**	⇓P	**P**	**03 40 10.9**	**+1.1**	
ZST	**Bratislava**	**79.70**	**348**	*e*P	**P**	**03 40 11.2**	**+1.0**	
ZST	**Bratislava**	**79.70**	**348**	*e*P	**P**	**03 40 11.2**	**+1.0**	
AKH	**Akhalkalaki**	**79.86**	**328**	⇓P	**P**	**03 40 13.0**	**+1.6**	
CJR	**Cluj-Napoca**	**80.11**	**343**	⇓P	**P**	**03 40 13.6**	**+1.0**	
CJR	**Cluj-Napoca**	**80.11**	**343**	⇓P	**P**	**03 40 13.6**	**+1.0**	
CONA	**Conrad Observa**	**80.12**	**349**	*e*P	**P**	**03 40 13.2**	**+0.5**	
	comp=Z,8.4nm,1.1s							
DRGR		**80.20**	**344**	⇑P	**P**	**03 40 13.2**	**+0.2**	
DRGR		**80.20**	**344**	⇑P	**P**	**03 40 13.2**	**+0.2**	
OZUR		**80.29**	**341**	⇑P	**P**	**03 40 14.2**	**+0.7**	
VRI	**Vrincioaia**	**80.31**	**341**	⇓P	**P**	**03 40 14.2**	**+0.6**	
VRI	**Vrincioaia**	**80.31**	**341**	⇓P	**P**	**03 40 14.2**	**+0.6**	
MOA	**Molln**	**80.39**	**350**	*e*P	**P**	**03 40 15.0**	**+1.0**	
	comp=Z,3.9nm,1.2s							
BFO	**Black Forest**	**80.46**	**354**	P	**P**	**03 40 14.2**	**-0.2**	
BFO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BFO	**Black Forest**	**80.46**	**354**	P	**P**	**03 40 14.2**	**-0.2**	
DOPR	**Dopca**	**80.49**	**342**	⇑P	**P**	**03 40 16.1**	**+1.6**	
GNI	**Garni**	**80.56**	**326**	*ce*P	**P**	**03 40 16.7**	**+1.5**	
GNI				pmax	pmax			
	comp=Z,43nm,1.7s							
GNI	**Garni**	**80.56**	**326**	P	**P**	**03 40 15.3**	**+0.1**	
GNI				IAmb	IAmb	03 40 33.2		
	comp=Z,18nm,0.8s							
CFR	**Carcaliu**	**80.67**	**340**	⇓P	**P**	**03 40 17.2**	**+1.7**	
CFR	**Carcaliu**	**80.67**	**340**	⇓P	**P**	**03 40 17.2**	**+1.7**	
SIRR	**Siria**	**80.89**	**344**	⇓P	**P**	**03 40 17.3**	**+0.7**	
WRAB	**Tennant Creek**	**80.93**	**222**	*ce*P	**P**	**03 40 19.1**	**+2.0**	
WRAB				pmax	pmax			
	comp=Z,10.0nm,1.3s							
WRA	**Warramunga Arr**	**80.94**	**222**	P	**P**	**03 40 16.2**	**-0.9**	
	comp=Z,2.0nm,0.6s,baz=30,slow=5.7,SNR=38							
WRA				LR	LR	04 14 25.2		
	comp=Z,49nm,20.0s,baz=55,slow=34							
WRA	**Warramunga Arr**	**80.94**	**222**	P	**P**	**03 40 14.9**	**-2.2**	
CLF	**Chambon-Foret**	**81.05**	**358**	P	**P**	**03 40 18.0**	**+0.5**	
CLF				IAmb	IAmb	03 40 19.3		
	comp=Z,17nm,0.9s							
VOIR		**81.07**	**342**	⇑P	**P**	**03 40 18.3**	**+0.6**	
VOIR		**81.07**	**342**	⇑P	**P**	**03 40 18.3**	**+0.6**	
WATA	**Walderalm**	**81.18**	**351**	*e*P	**P**	**03 40 18.5**	**+0.1**	
	comp=Z,8.3nm,0.7s							
MOTA	**Moosalm**	**81.22**	**352**	*e*P	**P**	**03 40 18.6**	**0.0**	
	comp=Z,11nm,1.1s							
WTTA	**Wattenberg**	**81.25**	**351**	*e*P	**P**	**03 40 19.1**	**+0.3**	
	comp=Z,12nm,1.0s							
KBA	**Koelnbreinsper**	**81.26**	**350**	*e*P	**P**	**03 40 19.6**	**+0.8**	
	comp=Z,22nm,0.8s							
SOKA	**Soboth**	**81.46**	**349**	*e*P	**P**	**03 40 20.2**	**+0.5**	
	comp=Z,22nm,1.1s							
PERS	**Pernice**	**81.49**	**349**	*i* P	**P**	**03 40 19.9**	**-0.1**	
GZR	**Gura Zlata**	**81.54**	**343**	⇑P	**P**	**03 40 20.3**	**+0.1**	
GZR	**Gura Zlata**	**81.54**	**343**	⇑P	**P**	**03 40 20.3**	**+0.1**	
PSI	**Prapat**	**81.55**	**264**	P	**P**	**03 40 19.9**	**-0.8**	
	comp=Z,4.3nm,0.3s,baz=360,slow=6.4,SNR=8.5							
PSI	**Prapat**	**81.55**	**264**	P	**P**	**03 40 20.7**	**0.0**	
PSI				pmax	pmax			
	comp=Z,19nm,1.0s							
FETA	**Feichten**	**81.57**	**352**	*e*P	**P**	**03 40 20.7**	**+0.2**	
	comp=Z,6.5nm,0.9s							
GROS	**Grobnik**	**81.61**	**348**	*e*P	**P**	**03 40 20.3**	**-0.3**	
RPSI	**Rantau Prapat**	**81.63**	**264**	P	**P**	**03 40 20.6**	**-0.4**	
RPSI				IAmb	IAmb	03 40 21.7		
	comp=Z,19nm,1.0s							
MYKA	**Terra Mystica**	**81.67**	**350**	*e*P	**P**	**03 40 22.1**	**+1.3**	
	comp=Z,13nm,1.6s							
ABTA	**Abtaltersbach**	**81.67**	**351**	*e*P	**P**	**03 40 21.0**	**+0.1**	
	comp=Z,11nm,1.1s							
OBKA	**Obir**	**81.68**	**349**	*e*P	**P**	**03 40 21.4**	**+0.5**	
	comp=Z,13nm,0.9s							
HERR	**Herculane**	**82.10**	**343**	⇓P	**P**	**03 40 22.4**	**-0.6**	
MDVR	**Moldovita**	**82.32**	**344**	⇓P	**P**	**03 40 23.6**	**-0.7**	
CTI	**Castel Tesino**	**82.45**	**351**	P	**P**	**03 40 24.6**	**-0.4**	
CTI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CTI	**Castel Tesino**	**82.45**	**351**	P	**P**	**03 40 24.6**	**-0.4**	
HYB	**Hyderabad**	**82.90**	**289**	*i* P	**P**	**03 40 27.0**	**-0.7**	
GURO	**Guroymak-BITLI**	**82.92**	**327**	P	**P**	**03 40 27.6**	**-0.1**	
FITZ	**Fitzroy Crossi**	**83.27**	**230**	P	**P**	**03 40 28.9**	**-0.4**	
	comp=Z,3.2nm,0.8s,baz=30,slow=6.3,SNR=10							
FITZ	**Fitzroy Crossi**	**83.27**	**230**	P	**P**	**03 40 29.0**	**-0.4**	
DIVS	**Divibare**	**83.28**	**345**	P	**P**	**03 40 27.4**	**-1.9**	
BOVS	**Bovan**	**83.43**	**344**	⇓P	**P**	**03 40 28.6**	**-1.4**	
BNI	**Bardonecchia**	**83.83**	**354**	P	**P**	**03 40 31.8**	**-0.4**	
BNI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BNI	**Bardonecchia**	**83.83**	**354**	P	**P**	**03 40 31.8**	**-0.4**	
VTS	**Vitosha**	**84.13**	**342**	⇑P	**P**	**03 40 33.6**	**-0.2**	
VTS	**Vitosha**	**84.13**	**342**	⇑P	**P**	**03 40 33.6**	**-0.2**	
VTS	**Vitosha**	**84.13**	**342**	P	**P**	**03 40 33.9**	**0.0**	
BR131	**Keskin Array S**	**84.44**	**334**	P	**P**	**03 40 35.3**	**-0.1**	
BR131				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BR131	**Keskin Array S**	**84.44**	**334**	P	**P**	**03 40 35.2**	**-0.1**	
BR131				IAmb	IAmb	03 40 37.3		
	comp=Z,9.8nm,0.8s							
BRTR	**Keskin Array B**	**84.44**	**334**	P	**P**	**03 40 34.5**	**-0.9**	
	comp=Z,5.4nm,0.7s,baz=64,slow=2.5,SNR=15							
BRTR				LR	LR	04 21 36.9		
	comp=Z,127nm,20.4s,baz=16,slow=38							
BRTR	**Keskin Array B**	**84.44**	**334**	*ce*P	**P**	**03 40 35.7**	**+0.3**	
BRTR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BRTR	**Keskin Array B**	**84.44**	**334**	P	**P**	**03 40 35.6**	**+0.3**	
ASAR	**Alice Springs**	**84.44**	**221**	P	**P**	**03 40 35.5**	**+0.2**	
	comp=Z,1.9nm,0.8s,baz=26,slow=5.4,SNR=13							
ASAR				LR	LR	04 13 04.7		
	comp=Z,116nm,20.2s,baz=32,slow=32							
ASAR	**Alice Springs**	**84.44**	**221**	P	**P**	**03 40 35.3**	**0.0**	
BNN	**Bunyan**	**84.61**	**332**	P	**P**	**03 40 35.4**	**-0.9**	
OSSC	**Osservatorio P**	**84.99**	**351**	P	**P**	**03 40 37.0**	**-1.0**	
MURB	**Monte Urbino**	**85.11**	**350**	P	**P**	**03 40 38.0**	**-0.7**	

NRCA	**Norcia**	**85.47**	**350**	P	**P**	**03 40 39.2**	**-1.2**	
GAZ	**Gaziantep**	**85.75**	**330**	P	**P**	**03 40 42.0**	**+0.1**	
STKA	**Stephens Creek**	**89.06**	**211**	P	**P**	**03 40 57.5**	**0.0**	
	comp=Z,1.8nm,0.7s,baz=326,slow=7.7,SNR=2.8							
STKA				LR	LR	04 20 10.3		
	comp=Z,161nm,18.0s,baz=26,slow=35							
WSAR	**Wadi Sarin**	**89.21**	**307**	P	**P**	**03 40 58.4**	**-0.3**	
	comp=Z,4.0nm,0.7s,baz=224,slow=19,SNR=2.4							
ESDC	**Sonseca Array**	**89.41**	**2**	P	**P**	**03 40 58.0**	**-1.5**	
	comp=Z,1.1nm,0.8s,baz=355,slow=4.4,SNR=7.1							
ESDC				LR	LR	04 22 28.2		
	comp=Z,71nm,19.7s,baz=20,slow=36							
KEST	**Kesra**	**92.89**	**352**	LR	LR	04 27 13.9		
	comp=Z,37nm,18.1s,baz=284,slow=38							
RAYN	**Ar Rayn**	**95.02**	**318**	P	**P**	**03 41 25.8**	**+0.1**	
RAYN				pmax	pmax			
	comp=Z,8.0nm,1.1s							
RAYN	**Ar Rayn**	**95.02**	**318**	P	**P**	**03 41 25.8**	**+0.1**	
RAYN				IAmb	IAmb	03 41 26.6		
	comp=Z,8.3nm,1.1s							
MDT	**Midelt**	**96.23**	**3**	LR	LR	04 23 52.8		
	comp=Z,53nm,21.8s,baz=13,slow=35							
TORD	**Torodi Ar. Bea**	**115.82**	**357**	PKP	**PKiKP**	**03 46 43.9**	**-1.5**	
	comp=Z,0.6nm,0.4s,baz=355,slow=2.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**115.82**	**357**	PKPdf	**PKiKP**	**03 46 44.5**	**-1.0**	
CLDB	**Colider**	**120.16**	**68**	*e*P	**PKiKP**	**03 46 56.1**	**+2.3**	
KMBO	**Kilima Mbogo**	**120.52**	**314**	PKP	**PKPdf**	**03 46 55.0**	**+0.1**	
	comp=Z,2.8nm,0.9s,baz=51,slow=5.5,SNR=5.2							
KMBO	**Kilima Mbogo**	**120.52**	**314**	PKIKP	**PKPdf**	**03 46 55.0**	**+0.1**	
LVC	**Limon Verde**	**121.11**	**88**	*e*P	**PKiKP**	**03 46 57.9**	**+2.0**	
NBMO	**Morrinhos-CE**	**122.18**	**48**	*e*P	**PKiKP**	**03 47 00.2**	**+2.3**	
DBIC	**Dimbokro**	**122.21**	**4**	PKP	**PKPdf**	**03 46 57.2**	**-0.5**	
	comp=Z,1.9nm,0.6s,baz=113,slow=2.2,SNR=4.6							
DBIC	**Dimbokro**	**122.21**	**4**		**PKPdf**	**03 46 57.1**	**-0.7**	
H03N2	**Juan Fernandez**	**122.51**	**104**	T	T	06 01 19.0		
	baz=316,slow=77,SNR=52							
H03N1	**Juan Fernandez**	**122.52**	**104**	T	T	06 01 30.7		
	baz=316,slow=77,SNR=36							
H03N3	**Juan Fernandez**	**122.52**	**104**	T	T	06 01 21.0		
	baz=316,slow=77,SNR=51							
SALV	**Santo Antonio**	**124.20**	**71**	*e*P	**PKiKP**	**03 47 03.5**	**+1.7**	
VNDA	**Vanda**	**128.95**	**185**	PKP	**PKPdf**	**03 47 08.9**	**+0.2**	
	comp=Z,0.7nm,1.1s,baz=322,slow=12,SNR=2.0							
VNDA				SKP		03 50 39.5		
	comp=Z,0.5nm,0.8s,baz=45,slow=4.3,SNR=1.9							
VNDA	**Vanda**	**128.95**	**185**	PKIKP	**PKPdf**	**03 47 09.1**	**+0.4**	
VNDA	**Vanda**	**128.95**	**185**		**PKPdf**	**03 47 09.1**	**+0.4**	
CPUP	**Villa Florida**	**131.04**	**82**	SKPbc	**SKPbc**	**03 50 34.4**	**-1.8**	
	comp=Z,1.5nm,0.7s,baz=281,slow=5.2,SNR=2.7							
CPUP				SKP		03 50 44.1		
	comp=Z,2.2nm,0.7s,baz=324,slow=2.3,SNR=4.7							
PLCA	**Paso Flores**	**132.32**	**106**	PKP	**PKPdf**	**03 47 16.7**	**+0.4**	
	comp=Z,1.2nm,0.5s,baz=172,slow=23,SNR=3.4							
PLCA				SKPbc	**SKPbc**	**03 50 38.0**	**-2.4**	
	comp=Z,2.3nm,0.9s,baz=231,slow=6.5,SNR=2.4							
PLCA				SKP		03 50 47.6		
	comp=Z,2.2nm,0.7s,baz=279,slow=3.9,SNR=4.2							
PLCA	**Paso Flores**	**132.32**	**106**		**PKPdf**	**03 47 16.8**	**+0.5**	
QSPA	**South Pole Qui**	**141.01**	**180**		PKPpre	03 47 26.3		
**TSUM

comp=E,111µm,0.7s
MGRO AML AML
comp=N,96µm,0.5s
RORO Rocca Rossa 0.78 132 P **Pg** **03 53 18.5 -0.3**
RORO S **Sg** **03 53 28.6 -0.6**
RORO Rocca Rossa 0.78 132 ⇓P **Pg** **03 53 18.5 -0.3**
RORO S **Sg** **03 53 28.5 -0.6**
RORO AML AML
comp=E,233µm,0.5s
RORO AML AML
comp=N,212µm,0.1s
SBF Sospel 0.78 171 *e*Pg **Pg** **03 53 18.3 -0.6**
SBF Sospel 0.78 171 *e*Pn **Pb** **03 53 19.2 +0.3**
SBF *e*Sg **Sb** **03 53 29.6 +0.3**
comp=N,45nm,0.2s
ESCA l'Escarene 0.81 174 Pg **Pg** **03 53 18.6 -0.8**
ESCA Sg **Sg** **03 53 29.6 -0.5**
CANO Canova, Maglio 0.82 121 P **Pb** **03 53 19.4 -0.1**
CANO S **Sb** **03 53 30.4 0.0**
LSD Lago del Serru 0.83 354 P **Pb** **03 53 20.1 +0.3**
LSD S **Sg** **03 53 30.4 -0.3**
LSD Lago del Serru 0.83 354 P **Pb** **03 53 20.1 +0.3**
LSD S **Sg** **03 53 30.3 -0.4**
LSD AML AML
comp=E,256µm,0.2s
LSD AML AML
comp=N,211µm,0.4s
QLNO Quiliano 0.84 111 ⇑P **Pb** **03 53 20.1 +0.2**
QLNO S **Sb** **03 53 30.8 -0.1**
QLNO AML AML
comp=N,156µm,0.3s
QLNO AML AML
comp=E,162µm,0.5s
IMI Imperia 0.86 148 P **Pg** **03 53 19.6 -0.7**
IMI S **Sg** **03 53 30.8 -0.8**
IMI Imperia 0.86 148 ⇑P **Pg** **03 53 19.6 -0.7**
IMI S **Sg** **03 53 30.7 -0.8**
IMI AML AML
comp=E,102µm,1.6s
IMI AML AML
comp=N,153µm,0.9s
OGDI Digne 0.87 233 Pg **Pn** **03 53 22.0 +0.8**
OGDI Sg **Sn** **03 53 34.2 +0.6**
BURY Giardini Botan 0.88 166 P **Pg** **03 53 19.6 -1.1**
BURY AML AML
comp=E,83µm,0.5s
BURY AML AML
comp=N,91µm,1.6s
BURY AML AML
comp=E,83µm,0.5s
BURY AML AML
comp=N,91µm,1.6s
PCP Piancastagn 0.92 95 ⇑P **Pb** **03 53 21.5 +0.2**
PCP AML AML
comp=N,126µm,0.3s
PCP AML AML
comp=E,135µm,0.4s
LPG La Plagne 0.93 338 *e*Pg **Pb** **03 53 21.7 +0.1**
LPG *e*Sg **Sg** **03 53 33.3 -0.8**
comp=E,53nm,0.3s
TRAV Traversella 0.94 21 P **Pg** **03 53 21.2 -0.7**
LPL La Plagne 0.96 337 *e*Pg **Pb** **03 53 22.2 +0.2**
LPL *e*Sg **Sg** **03 53 34.2 -0.6**
comp=E,35nm,0.3s
CIRO Champorcher 0.99 13 AML AML
comp=N,29µm,0.4s
CIRO AML AML
comp=E,38µm,0.2s
ORIF Oris-en-Rattie 1.02 286 *e*Pg **Pg** **03 53 23.0 -0.4**
ORIF *e*Sg **Sg** **03 53 35.3 -1.5**
comp=E,63nm,0.4s
RSL Roselend 1.14 337 Pg **Pn** **03 53 26.2 +1.0**
FRF La Foret Royal 1.16 202 *e*Pg **Pb** **03 53 25.7 +0.4**
FRF *e*Sg **Sb** **03 53 40.5 +0.4**
comp=E,85nm,0.3s
GRN Grenoble 1.23 300 Pg **Pg** **03 53 27.6 +0.1**
MLYF Mely 1.25 239 Pg **Pn** **03 53 27.3 +0.8**
SATI Passo dei Sala 1.31 19 AML AML
comp=N,16µm,0.9s
SATI AML AML
comp=E,20µm,1.5s
SMRF Simiane la Rot 1.38 242 *e*Pg **Pg** **03 53 30.3 +0.2**
SMRF *e*Sg **Sg** **03 53 48.4 +0.3**
comp=E,30nm,0.3s
LMR La Mourre 1.41 203 *e*Pg **Pb** **03 53 29.8 +0.3**
LMR *e*Sg **Sn** **03 53 47.5 +0.6**
comp=E,97nm,0.4s
RUSF Rustrel 1.45 242 Pn **Pb** **03 53 31.1 +0.8**
OGSM Saint Maurice 1.47 312 Pn **Pg** **03 53 32.2 +0.3**
ARTF Artigues 1.48 225 Pn **Pn** **03 53 30.4 +0.8**
OG35 Corcelles 1.84 320 Pn **Pb** **03 53 37.1 +0.1**
VIVF Saint-Julien-l 1.86 278 *e*Pn **Pn** **03 53 35.1 +0.3**
VIVF Saint-Julien-l 1.86 278 *e*Pg **Pg** **03 53 39.1 -0.1**
VIVF *e*Sn **Sn** **03 53 57.3 -0.6**
VIVF *e*Sg **Sg** **03 54 03.4 +0.1**
comp=E,19nm,0.6s
CABF La Chapelle 2.14 338 *e*Pn **Pb** **03 53 41.1 -0.9**
CABF *e*Sn **Sn** **03 54 06.8 +1.8**
CABF *e*Sg **Sg** **03 54 13.3 +0.9**
comp=E,6.7nm,0.5s
LASF Ste Croix 2.50 258 *e*Pn **Pn** **03 53 44.2 +0.5**
LASF *e*Sn **Sn** **03 54 12.7 -1.2**
comp=E,1.7nm,0.2s
SMF Signal de Mont 3.13 311 *e*Pn **Pn** **03 53 54.9 +2.6**
SMF *e*Sn **Sn** **03 54 30.4 +1.1**
SMF *e*Sg **Sg** **03 54 42.7 -1.3**
comp=E,4.5nm,0.3s
HINF Hinteralfeld 3.19 355 *e*Pn **Pn** **03 53 54.7 +1.5**
HINF *e*Sn **Sn** **03 54 31.1 +0.1**
comp=E,1.3nm,0.2s
HAU Haudompre 3.43 350 *e*Pn **Pn** **03 53 57.0 +0.6**
HAU *e*Sn **Sn** **03 54 36.6 -0.1**
comp=E,4.0nm,0.3s
AVF Avril sur Loir 3.48 310 *e*Pn **Pn** **03 53 59.5 +2.4**
AVF *e*Sn **Sn** **03 54 38.6 +0.6**
AVF *e*Sg **Sg** **03 54 54.9 -0.5**
comp=E,1.8nm,0.4s
LOR Lormes 3.54 319 *e*Pn **Pn** **03 53 59.7 +1.7**
baz=137
LOR *e*Sn **Sn** **03 54 39.8 +0.3**
comp=E,1.7nm,0.3s
SSF Saint Saulge 3.57 314 *e*Pn **Pn** **03 54 00.7 +2.4**
SSF *e*Sn **Sn** **03 54 39.6 -0.6**
SSF *e*Sg **Sg** **03 54 55.9 -2.4**
comp=E,2.1nm,0.4s
BGF Bois d'Agland 3.65 303 *e*Pn **Pn** **03 54 01.7 +2.3**
BGF *e*Sn **Sn** **03 54 42.3 +0.3**
BGF *e*Sg **Sg** **03 54 58.4 -2.2**
comp=E,5.9nm,0.4s
CAF Calviac 3.71 276 *e*Pn **Pn** **03 54 02.0 +1.7**
CAF *e*Sn **Sn** **03 54 43.2 -0.5**
comp=E,1.2nm,0.3s
CDF Champ du Feu 3.78 0 *e*Pn **Pn** **03 54 02.5 +1.2**
CDF *e*Sn **Sn** **03 54 45.2 -0.2**
MTLF Montolieu 3.86 252 *e*Pn **Pn** **03 54 02.6 +0.3**
MTLF *e*Sn **Sn** **03 54 46.2 -1.2**
comp=E,3.1nm,0.4s
SFTF Sexfontaines 3.89 338 *e*Pn **Pn** **03 54 04.4 +1.7**
baz=152
SFTF *e*Sn **Sn** **03 54 48.5 +0.5**
comp=E,2.8nm,0.2s
SFTF *e*Sg **Sg** **03 55 06.1 -2.2**
TCF Toulx Ste Croi 3.92 297 *e*Pn **Pn** **03 54 04.4 +1.3**
PAGF Fort de Pagny 4.06 345 *e*Pn **Pn** **03 54 05.4 +0.3**
RJF Les Rejaudoux 4.13 281 *e*Pn **Pn** **03 54 07.4 +1.4**
RJF *e*Sn **Sn** **03 54 53.1 -0.9**
RJF *e*Sg **Sg** **03 55 11.7 -4.4**
comp=E,0.9nm,0.3s
MEZF Maizieres J'vi 4.16 339 *e*Pn **Pn** **03 54 06.4 +0.1**
MEZF Maizieres J'vi 4.16 339 *e*Pg **Pg** **03 54 21.4 -1.8**

*IDC **18** 03:53:11.3±1.0, 14°21'N×146°23'E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/61, mbtmp3.8/8, Error ellipse: s-maj=39.6km s-min=22.4km az=95.0*
ISC 18 03:53:16.5±1.0, 14°2'N±0°2×146°2'E±0°3, h35km, n8, σ0s80/8, mb3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.87**	**199**	P	**P**	**04 00 12.8**	**-0.5**
	0.8nm,0.7s,baz=18,slow=9.5,SNR=6.5						
ASAR	**Alice Springs**	**39.50**	**198**	P	**P**	**04 00 44.6**	**+0.6**
	0.3nm,0.6s,baz=16,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**61.97**	**316**	P	**P**	**04 03 33.7**	**+0.6**
	0.6nm,0.6s,baz=89,slow=7.6,SNR=5.5						
KURBB	**Kurchatov Arra**	**65.01**	**319**	P	**P**	**04 03 53.8**	**+0.8**
	0.9nm,0.7s,baz=100,slow=6.6,SNR=10						
ILAR	**Eielson Array**	**67.48**	**25**	P	**P**	**04 04 09.1**	**+0.4**
	0.3nm,0.5s,baz=252,slow=6.3,SNR=6.6						
BVAR	**Borovoye Array**	**70.27**	**322**	P	**P**	**04 04 25.8**	**-0.4**
	1.0nm,0.5s,baz=167,slow=9.1,SNR=8.5						
NVAR	**Mina Array Bea**	**85.54**	**52**	P	**P**	**04 05 51.6**	**0.0**
	0.2nm,0.5s,baz=302,slow=5.2,SNR=2.5						
FINES	**FINESS Array B**	**91.17**	**335**	P	**P**	**04 06 16.6**	**-1.1**
	0.7nm,0.5s,baz=46,slow=5.5,SNR=4.9						

*IDC **18** 03:54:58.1±1.9, 17°54S×178°74W, h616km±20km, mb3.2/8, mb1 3.5/9, mb1mx3.2/40, mbtmp4.2/9, Error ellipse: s-maj=76.9km s-min=15.9km az=151.0*
ISC 18 03:54:56.7±1.5, 17°6S±0°5×178°6W±0°3, h600km, n10, σ0s98/10, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.18**	**267**	P	**P**	**03 56 19.2**	**+2.1**
	8.7nm,0.3s,baz=123,slow=2.9,SNR=34						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**04 01 29.6**	**-0.5**
	1.2nm,0.5s,baz=99,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**04 02 15.7**	**-0.8**
	1.5nm,0.3s,baz=96,slow=7.5,SNR=63						
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**04 02 17.6**	**-0.3**
	7.4nm,0.5s,baz=86,slow=8.9,SNR=88						
FITZ	**Fitzroy Crossi**	**52.88**	**260**	P	**P**	**04 03 18.0**	**-0.4**
	12nm,1.4s,baz=90,slow=5.1,SNR=2.0						
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**04 06 01.6**	**-0.2**
	0.7nm,0.7s,baz=221,slow=9.8,SNR=6.3						
ILAR	**Eielson Array**	**85.65**	**13**	P	**P**	**04 06 32.0**	**-0.5**
	0.3nm,0.4s,baz=221,slow=4.8,SNR=9.2						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**04 06 35.8**	**+0.6**
	1.2nm,0.7s,baz=221,slow=6.3,SNR=16						
PDAR	**Pinedale Array**	**87.28**	**44**	P	**P**	**04 06 40.7**	**-0.3**
	0.5nm,0.5s,baz=216,slow=4.6,SNR=4.7						
GERES	**GERESS Array B**	**147.28**	**345**	PKPbc	**PKPbc**	**04 13 33.5**	**-0.4**
	0.2nm,0.5s,baz=359,slow=3.9,SNR=4.3						

*ATH **18** 04:16:12.0, 36°20N×24°43E, h71km±7km, ML3.5/13, Error ellipse: s-maj=7.8km s-min=1.7km az=208.0*
*HLW **18** 04:16:12.4, 35°94N×24°83E, h11km±37km, Ml3.7*
*ISK **18** 04:16:13.8, 36°20N×24°46E, h24km, ML3.1/4*
*THE **18** 04:16:14.4, 36°19N×24°46E, h74km±1km, ML3.3/29, Error ellipse: s-maj=1.7km s-min=0.4km az=137.0*
*IDC **18** 04:16:15.3±4.0, 36°32N×24°37E, h116km±39km, mb3.3/7, mb1 3.4/9, mb1mx3.2/34, mbtmp3.6/9, Error ellipse: s-maj=33.3km s-min=21.0km az=146.0*
*DDA **18** 04:16:15.0, 36°29N×24°56E, h68km±13km, MW3.5*
ISC 18 04:16:12.4±0.7, 36°12N±0°03×24°52E±0°03, h97km±6km, n118, σ1s54/174, mb3.5/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.57**	**350**	P	**Pn**	**04 16 27.7**	**-0.8**
MHLO				S	**Sn**	**04 16 37.7**	**-2.8**
	8µm,0.4s						
THR9	**Santorini-Faro**	**0.71**	**71**	P	**Pn**	**04 16 30.1**	**+0.4**
THR5	**Thira Island,**	**0.73**	**66**	P	**Pn**	**04 16 30.0**	**+0.2**
THR6	**Thira Island,**	**0.74**	**72**	P	**Pn**	**04 16 30.1**	**+0.1**
PRNS	**Prines Rethymn**	**0.76**	**181**	P	**Pn**	**04 16 30.9**	**+0.8**
PRNS				S	**Sn**	**04 16 43.6**	**+0.3**
SNT5	**Nea Kammeni, S**	**0.76**	**68**	P	**Pn**	**04 16 30.6**	**+0.5**
SNT5				S	**Sn**	**04 16 41.9**	**-1.5**
	4µm,0.3s						
VAM	**Vamos**	**0.76**	**200**	P	**Pn**	**04 16 30.7**	**+0.5**
VAM				S	**Sn**	**04 16 42.8**	**-0.6**
VAM	**Vamos**	**0.76**	**200**	P	**Pn**	**04 16 30.7**	**+0.5**
VAM				S	**Sn**	**04 16 42.9**	**-0.6**
VAM				AML	AML	04 16 44.5	
	comp=E,9824µm,0.2s						
VAM				AML	AML	04 16 44.8	
	comp=N,9267µm,0.2s						
THR3	**Thira Island,**	**0.77**	**68**	P	**Pn**	**04 16 30.6**	**+0.4**
SAP4	**Santorini-Oia**	**0.77**	**63**	P	**Pn**	**04 16 30.4**	**+0.2**
SNT1	**Gialos, Santor**	**0.79**	**68**	P	**Pn**	**04 16 30.9**	**+0.5**
SNT1				S	**Sn**	**04 16 43.6**	**-0.3**
	comp=N,1µm,0.6s						
CMBO	**Columbo, Santo**	**0.79**	**64**	P	**Pn**	**04 16 30.8**	**+0.3**
CMBO				S	**Sn**	**04 16 43.7**	**-0.3**
	comp=N,3µm,0.3s						
CMBO	**Columbo, Santo**	**0.79**	**64**	P	**Pn**	**04 16 30.8**	**+0.3**
CMBO				AML	AML	04 16 44.0	
	comp=N,6192µm,0.3s						
CMBO				AML	AML	04 16 44.9	
	comp=E,7748µm,0.2s						
IMMV	**Iera Moni Meta**	**0.79**	**214**	P	**Pn**	**04 16 30.8**	**+0.3**
IMMV				S	**Sn**	**04 16 43.2**	**-0.8**
	comp=E,3µm,0.3s						
IMMV	**Iera Moni Meta**	**0.79**	**214**	P	**Pn**	**04 16 30.7**	**+0.2**
IMMV				S	**Sn**	**04 16 43.0**	**-1.1**
IMMV				AML	AML	04 16 46.4	
	comp=N,5802µm,0.3s						
IMMV				AML	AML	04 16 46.6	
	comp=E,4672µm,0.3s						
IMMV	**Iera Moni Meta**	**0.79**	**214**	PG	**Pn**	**04 16 30.9**	**+0.4**
IMMV				SG	**Sn**	**04 16 42.9**	**-1.1**
SANT	**Santorini**	**0.80**	**72**	P	**Pn**	**04 16 31.0**	**+0.4**
SANT				S	**Sn**	**04 16 43.0**	**-1.1**
	comp=E,2µm,0.2s						
SANT	**Santorini**	**0.80**	**72**	P	**Pn**	**04 16 30.9**	**+0.4**
SANT				AML	AML	04 16 44.5	
	comp=E,5184µm,0.2s						
SANT				AML	AML	04 16 45.3	
	comp=N,1680µm,0.3s						
SANT	**Santorini**	**0.80**	**72**	*i* P	**Pn**	**04 16 30.6**	**0.0**
SANT				*i* S	**Sn**	**04 16 41.3**	**-2.9**
SANT	**Santorini**	**0.80**	**72**	PG	**Pn**	**04 16 30.9**	**+0.4**
SANT				SG	**Sn**	**04 16 42.7**	**-1.4**
THR2	**Thira island,**	**0.81**	**66**	P	**Pn**	**04 16 30.1**	**-0.5**
THR8	**Santorini-Mono**	**0.82**	**70**	P	**Pn**	**04 16 31.1**	**+0.4**
IDI	**Anoyia**	**0.89**	**160**	P	**Pn**	**04 16 32.2**	**+0.7**
IDI				S	**Sn**	**04 16 45.6**	**-0.2**
	comp=N,3µm,0.3s						
IDI	**Anoyia**	**0.89**	**160**	P	**Pn**	**04 16 32.3**	**+0.7**
IDI				AML	AML	04 16 46.1	
	comp=E,5732µm,0.4s						
IDI				AML	AML	04 16 48.1	
	comp=N,4113µm,0.2s						
IDI	**Anoyia**	**0.89**	**160**	PG	**Pn**	**04 16 32.5**	**+1.0**
IDI				SG	**Sn**	**04 16 45.8**	**0.0**
IACM	**Heraklion**	**0.93**	**151**	P	**Pn**	**04 16 33.0**	**+1.1**
IACM				S	**Sn**	**04 16 47.1**	**+0.6**
KSTL	**Kastelli Herak**	**0.93**	**151**	P	**Pn**	**04 16 35.6**	**+3.7**
KSTL				S	**Sn**	**04 16 51.4**	**+4.9**
HRKL	**Herakleio**	**0.94**	**150**	P	**Pn**	**04 16 33.2**	**+1.3**
HRKL				S	**Sn**	**04 16 47.2**	**+0.7**
	comp=N,4µm,0.5s						
HRKL	**Herakleio**	**0.94**	**150**	PG	**Pn**	**04 16 33.3**	**+1.3**
HRKL				SG	**Sn**	**04 16 47.3**	**+0.7**
ANKY	**Antikythira Is**	**1.02**	**256**	P	**Pn**	**04 16 32.9**	**0.0**
ANKY				S	**Sn**	**04 16 46.0**	**-2.3**
	comp=N,938nm,0.3s						
ANKY	**Antikythira Is**	**1.02**	**256**	P	**Pn**	**04 16 32.8**	**0.0**
ANKY				S	**Sn**	**04 16 46.2**	**-2.1**
ANKY				AML	AML	04 16 47.0	
	comp=N,1666µm,0.3s						
ANKY				AML	AML	04 16 47.9	
	comp=E,2019µm,0.3s						
TMBK	**Timbaki Herakl**	**1.07**	**169**	P	**Pn**	**04 16 35.2**	**+1.8**
KNDR	**Palaiochora Ch**	**1.12**	**218**	P	**Pn**	**04 16 35.1**	**+1.1**
KNDR				S	**Sn**	**04 16 50.5**	**+0.3**
	comp=E,325nm,0.7s						
KNDR	**Palaiochora Ch**	**1.12**	**218**	PN	**Pn**	**04 16 35.2**	**+1.2**
KNDR				SN	**Sn**	**04 16 51.2**	**+1.0**
SIVA	**Sivas**	**1.13**	**168**	P	**Pn**	**04 16 35.5**	**+1.4**
SIVA				S	**Sn**	**04 16 51.6**	**+1.2**
	comp=E,2µm,0.5s						
SIVA	**Sivas**	**1.13**	**168**	P	**Pn**	**04 16 35.9**	**+1.8**
SIVA				AML	AML	04 16 54.5	
	comp=N,2272µm,0.4s						
SIVA				AML	AML	04 16 57.4	
	comp=E,4189µm,0.5s						
KTHA	**Kythira Island**	**1.19**	**277**	P	**Pn**	**04 16 34.6**	**-0.2**
KTHA				S	**Sn**	**04 16 49.9**	**-1.8**
	comp=E,2µm,0.5s						
KTHA	**Kythira Island**	**1.19**	**277**	P	**Pn**	**04 16 34.6**	**-0.2**
KTHA				AML	AML	04 16 51.5	
	comp=N,2083µm,0.2s						
KTHA				AML	AML	04 16 51.7	
	comp=E,4622µm,0.2s						
KTHA	**Kythira Island**	**1.19**	**277**	PN	**Pn**	**04 16 34.9**	**+0.1**
KTHA				SN	**Sn**	**04 16 49.8**	**-1.9**
NPS	**Neapolis**	**1.23**	**134**	P	**Pn**	**04 16 36.4**	**+1.0**
NPS				S	**Sn**	**04 16 53.5**	**+0.9**
	comp=E,3µm,0.1s						
NPS	**Neapolis**	**1.23**	**134**	P	**Pn**	**04 16 36.8**	**+1.5**
NPS				AML	AML	04 16 54.8	
	comp=E,6189µm,0.1s						
NPS				AML	AML	04 16 55.8	
	comp=N,4088µm,0.2s						
KTHR	**Kythira**	**1.24**	**277**	P	**Pn**	**04 16 35.4**	**+0.1**
KTHR				S	**Sn**	**04 16 50.6**	**-2.1**
	comp=N,1µm,0.3s						
LAST	**Lasithi**	**1.24**	**141**	P	**Pn**	**04 16 36.7**	**+1.3**
LAST				S	**Sn**	**04 16 53.6**	**+0.8**
	comp=N,1µm,0.4s						
LAST	**Lasithi**	**1.24**	**141**	P	**Pn**	**04 16 37.0**	**+1.5**
LAST				AML	AML	04 16 54.2	
	comp=E,2685µm,0.5s						
LAST				AML	AML	04 16 55.2	
	comp=N,2306µm,0.3s						
APE	**Apeiranthos**	**1.25**	**40**	P	**Pn**	**04 16 35.4**	**0.0**
APE				S	**Sn**	**04 16 51.7**	**-1.2**
	comp=N,760nm,0.5s						
APE	**Apeiranthos**	**1.25**	**40**	P	**Pn**	**04 16 35.4**	**0.0**
APE				AML	AML	04 16 51.7	
	comp=N,1209µm,0.4s						
APE				AML	AML	04 16 52.3	
	comp=E,1837µm,0.6s						
APE	**Apeiranthos**	**1.25**	**40**	*i* P	**Pn**	**04 16 35.9**	**+0.4**
APE				*i* S	**Sn**	**04 16 50.4**	**-2.5**
APE	**Apeiranthos**	**1.25**	**40**	PN	**Pn**	**04 16 35.5**	**0.0**
GVDS	**Gavdos**	**1.32**	**196**	P	**Pn**	**04 16 38.2**	**+1.8**
GVDS				S	**Sn**	**04 16 56.6**	**+2.1**
	comp=E,630nm,0.3s						
GVD	**Gavdhos**	**1.33**	**196**	P	**Pn**	**04 16 37.7**	**+1.2**
GVD				S	**Sn**	**04 16 56.3**	**+1.7**
	comp=E,1µm,0.4s						
VLI	**Veliai**	**1.41**	**295**	P	**Pn**	**04 16 37.0**	**-0.4**
VLI				S	**Sn**	**04 16 53.6**	**-2.8**
	comp=E,1µm,0.4s						
VLI	**Veliai**	**1.41**	**295**	P	**Pn**	**04 16 37.0**	**-0.4**
VLI				AML	AML	04 16 54.1	
	comp=N,2241µm,0.4s						
VLI				AML	AML	04 16 54.8	
	comp=E,2056µm,0.5s						
FRMA	**Ierapetra Chan**	**1.48**	**138**	P	**Pn**	**04 16 41.3**	**+3.0**
FRMA				S	**Sn**	**04 17 01.1**	**+3.2**
	comp=E,412nm,0.2s						
STIA	**Sitia Lasithi**	**1.57**	**125**	P	**Pn**	**04 16 40.1**	**+0.7**
STIA				S	**Sn**	**04 17 00.0**	**+0.1**
KRND	**KRANIDI**	**1.67**	**319**	P	**Pn**	**04 16 40.6**	**-0.1**
KRND				S	**Sn**	**04 17 00.8**	**-1.4**
	comp=E,628nm,0.5s						
KRND	**KRANIDI**	**1.67**	**319**	P	**Pn**	**04 16 40.7**	**0.0**
KRND				AML	AML	04 17 02.4	
	comp=N,1283µm,0.5s						
KRND				AML	AML	04 17 03.8	
	comp=E,1166µm,0.4s						
ZKR	**Zakros**	**1.71**	**126**	PN	**Pn**	**04 16 43.4**	**+2.2**
VLY	**Voula,Athens**	**1.82**	**342**	P	**Pn**	**04 16 42.6**	**0.0**
KARY	**Karystos**	**1.91**	**358**	P	**Pn**	**04 16 44.0**	**+0.3**
ATHU	**Athens Univers**	**1.93**	**342**	P	**Pn**	**04 16 44.2**	**+0.2**
ATHU				S	**Sn**	**04 17 06.2**	**-1.9**
ATH	**Athens Observa**	**1.96**	**341**	P	**Pn**	**04 16 44.5**	**+0.2**
ATH				S	**Sn**	**04 17 06.7**	**-1.9**
	comp=E,228nm,0.5s						
PTL	**Penteli**	**1.99**	**345**	P	**Pn**	**04 16 44.8**	**0.0**
PTL				S	**Sn**	**04 17 07.8**	**-1.7**
	comp=E,218nm,0.7s						
DION	**Dionisos Attik**	**2.01**	**347**	P	**Pn**	**04 16 45.4**	**+0.4**
DION				S	**Sn**	**04 17 08.2**	**-1.7**
	comp=E,488nm,0.6s						
VLX	**Vlachokerasia**	**2.12**	**307**	P	**Pn**	**04 16 46.7**	**+0.1**
VLX				S	**Sn**	**04 17 11.2**	**-1.5**
	comp=E,435nm,0.7s						
LOUT	**Loutraki**	**2.24**	**327**	P	**Pn**	**04 16 48.1**	**+0.1**
VILL	**Villia**	**2.26**	**335**	P	**Pn**	**04 16 48.6**	**+0.3**
LTK	**Loutraki**	**2.27**	**327**	P	**Pn**	**04 16 48.6**	**+0.2**
LTK				S	**Sn**	**04 17 13.9**	**-2.0**
	comp=E,200nm,0.5s						
ITM	**Ithomi**	**2.34**	**298**	P	**Pn**	**04 16 50.0**	**+0.7**
ITM				S	**Sn**	**04 17 17.3**	**-0.3**
	comp=E,180nm,0.3s						
ITM	**Ithomi**	**2.34**	**298**	PN	**Pn**	**04 16 50.2**	**+0.9**
ITM				SN	**Sn**	**04 17 17.6**	**0.0**
EREA	**Eretria**	**2.34**	**349**	P	**Pn**	**04 16 50.0**	**+0.6**
PYL	**PYLOS**	**2.37**	**290**	P	**Pn**	**04 16 49.3**	**-0.4**
KYMI	**Kymi, Euboea I**	**2.53**	**352**	P	**Pn**	**04 16 52.2**	**+0.4**
BDRM	**Kayabasi**	**2.53**	**67**	*i* P	**Pn**	**04 16 53.1**	**+1.3**
DDIM	**Aydin, Didim**	**2.56**	**58**	*i* P	**Pn**	**04 16 55.6**	**+3.4**
AMT	**Artemida-Makis**	**2.66**	**303**	P	**Pn**	**04 16 54.8**	**+1.2**
AMT				S	**Sn**	**04 17 24.6**	**-0.6**
GCAM	**G?zelcaml?**	**2.68**	**53**	*i* P	**Pn**	**04 16 55.4**	**+1.6**
KLV	**Kalavryta, Ach**	**2.70**	**316**	P	**Pn**	**04 16 54.1**	**0.0**
KLV				S	**Sn**	**04 17 24.4**	**-1.8**
URLA	**Izmir**	**2.78**	**36**	*i* P	**Pn**	**04 16 52.8**	**-2.4**
URLA				*i* S	**Sn**	**04 17 26.0**	**-2.1**
LKR	**Lokris**	**2.80**	**335**	P	**Pn**	**04 16 55.9**	**+0.5**
ATAL	**Atalanti**	**2.83**	**335**	P	**Pn**	**04 16 55.8**	**0.0**
DRO	**Drossia**	**2.90**	**310**	P	**Pn**	**04 16 57.4**	**+0.6**
LAKA	**Lakka**	**2.93**	**317**	P	**Pn**	**04 16 57.6**	**+0.4**
LAKA				S	**Sn**	**04 17 30.2**	**-1.5**
TRIZ	**Trizonia**	**2.97**	**320**	P	**Pn**	**04 16 57.7**	**0.0**
SERG	**Sergoula**	**3.02**	**320**	P	**Pn**	**04 16 58.0**	**-0.3**
SERG				S	**Sn**	**04 17 32.6**	**-1.1**
	comp=E,110nm,0.4s						
AYDN	**Tasoluk**	**3.10**	**59**	*i* P	**Pn**	**04 16 59.9**	**+0.5**
ANX	**Ano Chora**	**3.22**	**321**	P	**Pn**	**04 17 01.1**	**-0.1**
ANX				S	**Sn**	**04 17 38.5**	**-0.2**
	comp=E,98nm,0.6s						
AGG	**Agios Georgios**	**3.38**	**330**	P	**Pn**	**04 17 03.7**	**+0.5**
AGG	**Agios Georgios**	**3.38**	**330**	*i* P	**Pn**	**04 17 04.1**	**+0.9**
AGG				*i* S	**Sn**	**04 17 41.6**	**-0.8**
AGG				IAML		04 17 46.0	
	comp=N,17nm,0.6s						
AGG				IAML		04 17 48.0	
	comp=E,13nm,0.8s						
PDO	**Prodromos**	**3.63**	**314**	P	**Pn**	**04 17 08.3**	**+1.7**
PDO				S	**Sn**	**04 17 48.3**	**-0.1**
PSDA	**Pessada-Kefalo**	**3.72**	**303**	P	**Pn**	**04 17 07.0**	**-0.8**
KEF5	**Kardakata, Kep**	**3.89**	**305**	P	**Pn**	**04 17 09.3**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**3.95**	**23**	*i* P	**Pn**	**04 17 11.1**	**+0.2**
EVGI	**Lefkada island**	**3.96**	**310**	P	**Pn**	**04 17 11.4**	**+0.4**
NYDR	**Nydri-Lefkada**	**3.99**	**311**	P	**Pn**	**04 17 11.5**	**+0.1**
DRAG	**Dragano-Lefkad**	**4.05**	**310**	P	**Pn**	**04 17 12.4**	**+0.1**
LKD2	**Lefkada island**	**4.07**	**312**	P	**Pn**	**04 17 12.7**	**+0.2**
TSLK	**Tsoukalades, L**	**4.09**	**312**	P	**Pn**	**04 17 13.1**	**+0.3**
AKAS	**Kas**	**4.11**	**87**	*i* P	**Pn**	**04 17 11.8**	**-1.5**
SLUM	**Salum**	**4.66**	**173**	P	**Pn**	**04 17 20.6**	**+0.1**
	baz=175						
SLUM				AMP		04 18 00.0	
	baz=175						
SLUM				S	**Sn**	**04 18 07.8**	**-5.5**
	baz=175						
AKUM	**Antalya-Kumluc**	**4.71**	**86**	*i* P	**Pn**	**04 17 22.3**	**+1.1**
IGT

ESDC Sonseca Array 22.71 288 P P 04 21 05.2 -0.9
comp=E,0.3nm,0.5s,baz=86,slow=9.6,SNR=2.5
FINES FINESS Array B 25.36 2 P P 04 21 29.3 -0.8
comp=E,0.6nm,0.3s,baz=167,slow=11,SNR=7.9
TORD Torodi Ar. Bea 30.73 228 P P 04 22 20.0 +1.6
comp=E,0.6nm,0.7s,baz=35,slow=8.5,SNR=2.5
ARCES ARCESS Array B 33.47 1 P P 04 22 41.2 -0.7
comp=E,2.8nm,0.9s,baz=182,slow=8.5,SNR=7.8
MKAR Makanchi Array 43.68 57 P P 04 24 08.1 +0.5
comp=E,0.6nm,0.3s,baz=272,slow=7.7,SNR=4.2
ZALV Zalesovo Beam 44.72 47 P P 04 24 16.2 +0.6
comp=E,0.8nm,0.3s,baz=269,slow=7.4,SNR=4.1
YKA Yellowknife Ar 76.37 342 P P 04 27 50.8 +0.2
comp=E,0.1nm,0.4s,baz=35,slow=5.3,SNR=1.2

NNC 18 04:24:55.2±3.6, 37.90N×71.78E, h0km, mb3.8, mpv3.5, 3C-4D, Error ellipse: s-maj=27.7km s-min=20.4km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.17**	**23**	⇓P	Pn	04 26 14.4	+0.4
	4.2nm,0.3s						
AAK				⇑S	Sn	04 27 15.0	+0.7
	11nm,0.8s						
KK31	**Karatay Array**	**5.28**	**350**	⇓P	Pn	04 26 17.0	+1.6
	1.8nm,0.3s,baz=178,slow=14,SNR=36						
KK31				⇑S	Sn	04 27 18.7	+1.6
	19nm,0.6s,baz=174,slow=21,SNR=20						
TKM2	**Tokmak 2**	**5.80**	**29**	⇓P	Pn	04 26 21.9	-0.7
	2.2nm,0.7s						
TKM2				⇑S	Sn	04 27 31.1	+1.1
	1.8nm,0.6s						
AB31	**Akbulak array**	**14.20**	**327**	P	Pn	04 28 14.5	-3.0
	0.2nm,0.3s,baz=168,slow=9.7,SNR=8.8						
AB31				⇓S	Sn	04 30 54.4	-1.3
	0.3nm,0.5s,baz=161,slow=20,SNR=5.7						

INET ***18*** *04:45:28.9, 12.59N×88.27W, h15km, MW4.2*
IDC ***18*** *04:45:35.4±1.1, 12.77N×88.17W, h51km±7km, mb3.5/8, mb1 3.9/12, mb1mx3.6/37, mbtmp3.8/12, MS3.1/11, Ms1 3.1/11, ms1mx3.0/25, Error ellipse: s-maj=35.4km s-min=15.4km az=43.0*
NEIC ***18*** *04:45:35.9±1.3, 12.63N±0.07×88.25W±0.05, h57km±8km, Error ellipse: s-maj=10.5km s-min=4.8km az=208.0*
UCR ***18*** *04:45:35.5±1.4, 12.62N×88.31W, h39km±147km, ML4.1, MW4.3, mb4.3(NEIC)*
SNET ***18*** *04:45:35.5±0.8, 12.66N×88.35W, h28km±4km, ML4.2*
ISC 18 04:45:35.0±0.7, 12.64N±0.05×88.30W±0.04, h53km±6km, n164, σ1°02/185, mb4.2/21, MS3.1/10, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.77**	**31**	*e*P	**Pn**	**04 45 50.0**	**+0.1**
LCND				*e*S	**Sn**	**04 46 01.2**	**+0.5**
LCND				IAML		04 46 05.3	
	comp=Z,26μm,0.4s						
LCND	**La Caada**	**0.77**	**31**	*e*P	**Pn**	**04 45 50.0**	**+0.1**
LCND				*e*P	**Pn**	**04 45 50.0**	**+0.1**
LCND				*e*S	**Sn**	**04 46 01.2**	**+0.5**
LCND				*e*S	**Sn**	**04 46 01.3**	**+0.5**
LCND				IAML		04 46 05.3	
	comp=Z,26μm,0.4s						
CNCH	**Conchagua**	**0.78**	**35**	*e*P	**Pn**	**04 45 50.1**	**+0.1**
CNCH				*e*S	**Sn**	**04 46 02.4**	**+1.4**
CNCH	**Conchagua**	**0.78**	**35**	*e*P	**Pn**	**04 45 50.1**	**+0.1**
CNCH				*e*S	**Sn**	**04 46 02.4**	**+1.4**
LCY	**Lacayo**	**0.78**	**0**	*e*P	**Pn**	**04 45 50.4**	**+0.3**
LCY	**Lacayo**	**0.78**	**0**	*e*P	**Pn**	**04 45 50.4**	**+0.3**
VSM	**San Miguel**	**0.78**	**2**	*e*P	**Pn**	**04 45 50.8**	**+0.5**
VSM	**San Miguel**	**0.78**	**2**	*e*P	**Pn**	**04 45 50.8**	**+0.5**
PACA	**Pacayal**	**0.82**	**358**	*e*P	**Pn**	**04 45 51.4**	**+0.7**
PACA	**Pacayal**	**0.82**	**358**	*e*P	**Pn**	**04 45 51.4**	**+0.7**
TECA	**Tecapa**	**0.87**	**347**	⇓*e*P	**Pn**	**04 45 51.6**	**+0.2**
TECA	**Tecapa**	**0.87**	**347**	⇓*e*P	**Pn**	**04 45 51.6**	**+0.2**
COEB	**Comit de Eme**	**0.88**	**345**	*e*P	**Pn**	**04 45 51.5**	**+0.1**
COEB				IAML		04 46 09.9	
	comp=Z,9μm,0.4s						
COEB	**Comit de Eme**	**0.88**	**345**	*e*P	**Pn**	**04 45 51.5**	**+0.1**
COEB				IAML		04 46 09.9	
	comp=Z,9μm,0.4s						
TECO	**Alcaldia de Te**	**1.01**	**332**	*e*P	**Pn**	**04 45 52.8**	**-0.2**
PQSS	**Presa 15 de Se**	**1.01**	**345**	*e*P	**Pn**	**04 45 53.6**	**+0.6**
PQSS				*e*S	**Sn**	**04 46 08.0**	**+1.7**
PQSS				IAML		04 46 09.4	
	comp=Z,3μm,0.2s						
UESV	**Universidad de**	**1.10**	**334**	*e*P	**Pn**	**04 45 54.5**	**+0.2**
UESV	**Universidad de**	**1.10**	**334**	*e*P	**Pn**	**04 45 54.5**	**+0.2**
COEG	**Centro de Oper**	**1.13**	**330**	*e*P	**Pn**	**04 45 54.8**	**+0.1**
COEG	**Centro de Oper**	**1.13**	**330**	*e*P	**Pn**	**04 45 54.8**	**+0.1**
SJTE	**Alcalda de S**	**1.19**	**325**	*e*P	**Pn**	**04 45 55.8**	**+0.3**
SJTE				*e*S	**Sn**	**04 46 11.5**	**+0.8**
SJTE				IAML		04 46 13.4	
	comp=Z,4μm,0.2s						
SJTE	**Alcalda de S**	**1.19**	**325**	*e*P	**Pn**	**04 45 55.8**	**+0.3**
SJTE				*e*S	**Sn**	**04 46 11.5**	**+0.8**
SJTE				IAML		04 46 13.4	
	comp=Z,4μm,0.2s						
CRIN	**San Cristobal**	**1.22**	**87**		**Pn**	**04 45 55.6**	**-0.2**
CRIN				Sn	**Sn**	**04 46 13.1**	**+1.8**
LFRS	**El Faro**	**1.23**	**323**	*e*P	**Pn**	**04 45 56.1**	**+0.1**
LFRS	**El Faro**	**1.23**	**323**	*e*P	**Pn**	**04 45 56.1**	**+0.1**
PAVA	**Las Pavas**	**1.23**	**330**	*e*P	**Pn**	**04 45 56.6**	**+0.5**
PAVA				*e*S	**Sn**	**04 46 13.4**	**+1.6**
PAVA	**Las Pavas**	**1.23**	**330**	*e*P	**Pn**	**04 45 56.6**	**+0.5**
PAVA				*e*S	**Sn**	**04 46 13.4**	**+1.6**
LBRS	**Las Brisas**	**1.31**	**326**	*e*P	**Pn**	**04 45 57.8**	**+0.6**
LBRS	**Las Brisas**	**1.31**	**326**	*e*P	**Pn**	**04 45 57.8**	**+0.6**
UDBS	**Universidad Do**	**1.36**	**322**	*e*P	**Pn**	**04 45 58.1**	**+0.3**
UDBS				IAML		04 46 19.1	
	comp=Z,5μm,0.4s						
UDBS	**Universidad Do**	**1.36**	**322**	*e*P	**Pn**	**04 45 58.1**	**+0.3**
UDBS				IAML		04 46 19.1	
	comp=Z,5μm,0.4s						
LFU	**La Fuente**	**1.36**	**324**	*e*P	**Pn**	**04 45 58.7**	**+0.9**
LFU				*e*S	**Sn**	**04 46 15.6**	**+0.9**
LFU	**La Fuente**	**1.36**	**324**	*e*P	**Pn**	**04 45 58.7**	**+0.9**
LFU				*e*S	**Sn**	**04 46 15.6**	**+0.9**
IGN	**Direccin Gen**	**1.36**	**322**	*e*P	**Pn**	**04 45 58.1**	**+0.3**
IGN	**Direccin Gen**	**1.36**	**322**	*e*P	**Pn**	**04 45 58.1**	**+0.3**
UTEC	**Universidad Te**	**1.37**	**320**	*e*P	**Pn**	**04 45 58.4**	**+0.4**
UTEC	**Universidad Te**	**1.37**	**320**	*e*P	**Pn**	**04 45 58.4**	**+0.4**
OPAM	**Oficina de Pla**	**1.38**	**321**	*e*P	**Pn**	**04 45 58.4**	**+0.4**
OPAM				*e*S	**Sn**	**04 46 16.2**	**+0.9**
OPAM	**Oficina de Pla**	**1.38**	**321**	*e*P	**Pn**	**04 45 58.4**	**+0.4**
OPAM				*e*S	**Sn**	**04 46 16.2**	**+0.9**
SNET	**Serv Nac Est T**	**1.38**	**319**	*e*P	**Pn**	**04 45 58.6**	**+0.5**
SNET				IAML		04 46 18.6	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	**1.38**	**319**	*e*P	**Pn**	**04 45 58.6**	**+0.5**
SNET				IAML		04 46 18.6	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	**1.38**	**319**	Pn	**Pn**	**04 45 59.0**	**+0.9**
SNET				Sn	**Sn**	**04 46 16.7**	**+1.4**
UESS	**Universidad de**	**1.39**	**321**	*e*P	**Pn**	**04 45 58.7**	**+0.5**
UESS	**Universidad de**	**1.39**	**321**	*e*P	**Pn**	**04 45 58.7**	**+0.5**
SEMO	**Seminario San**	**1.39**	**320**	*e*P	**Pn**	**04 45 59.0**	**+0.8**
UEES	**Universidad Ev**	**1.41**	**319**	*e*P	**Pn**	**04 45 59.0**	**+0.5**
UEES	**Universidad Ev**	**1.41**	**319**	*e*P	**Pn**	**04 45 59.0**	**+0.5**
MAGS	**Ministerio de**	**1.42**	**317**	*e*P	**Pn**	**04 45 59.1**	**+0.5**
BOQS	**Boqueron**	**1.45**	**319**	*e*P	**Pn**	**04 45 59.6**	**+0.5**
BOQS				*e*S	**Sn**	**04 46 18.4**	**+1.2**
BOQS	**Boqueron**	**1.45**	**319**	*e*P	**Pn**	**04 45 59.6**	**+0.5**
BOQS				*e*S	**Sn**	**04 46 18.4**	**+1.2**
PMON	**Piamonte**	**1.46**	**317**	*e*P	**Pn**	**04 45 59.7**	**+0.6**
PMON	**Piamonte**	**1.46**	**317**	*e*P	**Pn**	**04 45 59.7**	**+0.6**
JAYA	**Jayaque - finc**	**1.51**	**312**	*e*P	**Pn**	**04 45 59.5**	**-0.3**
JAYA				*e*S	**Sn**	**04 46 18.5**	**0.0**
JAYA				IAML		04 46 23.8	
	comp=Z,4μm,0.2s						
JAYA	**Jayaque - finc**	**1.51**	**312**	*e*P	**Pn**	**04 45 59.5**	**-0.3**
JAYA				*e*S	**Sn**	**04 46 18.5**	**0.0**
JAYA				IAML		04 46 23.8	
	comp=Z,4μm,0.2s						
CNGN	**Cerro Negro**	**1.57**	**95**	Pn	**Pn**	**04 46 00.3**	**-0.2**
CNGN				Sn	**Sn**	**04 46 19.5**	**-0.3**
CEDA	**San Andres**	**1.57**	**317**	*e*P	**Pn**	**04 46 01.2**	**+0.5**
CEDA				IAML		04 46 38.8	
	comp=Z,3μm,0.3s						
CEDA	**San Andres**	**1.57**	**317**	*e*P	**Pn**	**04 46 01.2**	**+0.5**
CEDA				IAML		04 46 38.8	
	comp=Z,3μm,0.3s						
TACO	**Tacachico**	**1.68**	**322**	*e*P	**Pn**	**04 46 02.4**	**+0.3**
TACO				IAML		04 46 27.8	
	comp=Z,663nm,0.4s						
TACO	**Tacachico**	**1.68**	**322**	*e*P	**Pn**	**04 46 02.4**	**+0.3**
TACO				IAML		04 46 27.8	
	comp=Z,663nm,0.4s						
TGUH	**Tegucigalpa,Un**	**1.73**	**35**		**Pn**	**04 46 03.6**	**+0.8**
TGUH				Sn	**Sn**	**04 46 26.1**	**+2.3**
CEVE	**Cerro Verde**	**1.75**	**313**	*e*P	**Pn**	**04 46 04.5**	**+1.3**
CEVE				IAML		04 46 35.7	
	comp=Z,3μm,0.3s						
CEVE	**Cerro Verde**	**1.75**	**313**	*e*P	**Pn**	**04 46 04.5**	**+1.3**
CEVE				IAML		04 46 35.7	
	comp=Z,3μm,0.3s						
SBLS	**San Blas**	**1.76**	**313**	*e*P	**Pn**	**04 46 04.2**	**+0.8**
SBLS	**San Blas**	**1.76**	**313**	*e*P	**Pn**	**04 46 04.2**	**+0.8**
SNJE	**San Jose**	**1.77**	**314**	*e*P	**Pn**	**04 46 04.4**	**+1.0**
SNJE	**San Jose**	**1.77**	**314**	*e*P	**Pn**	**04 46 04.4**	**+1.0**
UNIC	**Universidad Ca**	**1.81**	**318**	*e*P	**Pn**	**04 46 04.6**	**+0.8**
UNIC	**Universidad Ca**	**1.81**	**318**	*e*P	**Pn**	**04 46 04.6**	**+0.8**
RTR	**El Retiro**	**1.81**	**314**	*e*P	**Pn**	**04 46 05.2**	**+1.2**
RTR	**El Retiro**	**1.81**	**314**	*e*P	**Pn**	**04 46 05.2**	**+1.2**
MTO3	**Montecristo**	**2.03**	**329**	*e*P	**Pn**	**04 46 07.6**	**+0.5**
MTO3	**Montecristo**	**2.03**	**329**	*e*P	**Pn**	**04 46 07.6**	**+0.5**
MTO3	**Montecristo**	**2.03**	**329**		**Pn**	**04 46 07.8**	**+0.8**
ESQI	**Esquipulas**	**2.16**	**332**	*e*P	**Pn**	**04 46 09.9**	**+1.2**
ESQI	**Esquipulas**	**2.16**	**332**		**Pn**	**04 46 09.9**	**+1.2**
ACON	**Acoyapa**	**3.12**	**102**		**Pn**	**04 46 21.1**	**-0.7**
APG	**El Apazote**	**3.15**	**318**	P	**Pn**	**04 46 24.1**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=124,slow=12,SNR=16						
APG				S	Sn	04 47 08.6	+10
	comp=Z,4.4nm,0.3s,baz=207,slow=22,SNR=4.2						
BUEV	**Buena Vista**	**3.37**	**123**	*e*P	**Pn**	**04 46 25.7**	**+0.4**
BUAI	**Buenos Aires**	**3.39**	**121**	*i* S	**Sn**	**04 47 03.6**	**-1.0**
ORTG	**Ortega, Santa**	**3.59**	**129**		**Pn**	**04 46 28.4**	**+0.1**
SAJU	**San Juanillo,**	**3.60**	**135**	*e*P	**Pn**	**04 46 28.2**	**-0.2**
GUAI	**GUAI**	**3.61**	**130**	*i* P	**Pn**	**04 46 28.7**	**+0.3**
DUNO	**Dulce Nombre,**	**3.75**	**133**	Pn	**Pn**	**04 46 30.2**	**-0.2**
DUNO				Sn	**Sn**	**04 47 12.2**	**-1.1**
GRZA	**Playa Garza**	**3.76**	**136**	*e*P	**Pn**	**04 46 30.4**	**-0.1**
ACAL	**Aguas Claras**	**3.77**	**122**	*i* P	**Pn**	**04 46 30.5**	**-0.2**
RTAL	**Retalhuleu**	**3.80**	**300**		**Pn**	**04 46 32.8**	**+1.7**
JTS	**Las Juntas de**	**4.03**	**125**	P	**Pn**	**04 46 34.7**	**+0.5**
	comp=Z,4.8nm,0.3s,baz=348,slow=14,SNR=16						
JTS				S	**Sn**	**04 47 16.0**	**-4.2**
	comp=Z,33nm,0.3s,baz=353,slow=22,SNR=7.4						
JTS				LR	LR	04 47 46.6	
	comp=Z,63nm,18.6s,baz=340,slow=33						
JTS	**Las Juntas de**	**4.03**	**125**	*e*P	**Pn**	**04 46 35.7**	**+1.5**
JTS	**Las Juntas de**	**4.03**	**125**		**Pn**	**04 46 34.6**	**+0.3**
ARE1	**Arenal 1**	**4.12**	**121**	*e*P	**Pn**	**04 46 37.4**	**+1.9**
LAFE	**Finca La Fe, P**	**4.36**	**130**	*e*P	**Pn**	**04 46 38.9**	**+0.2**
SRA1	**San Ramn**	**4.52**	**124**	*e*P	**Pn**	**04 46 43.0**	**+1.8**
JACO	**JACO, Garabito**	**4.64**	**129**	*e*P	**Pn**	**04 46 44.0**	**+1.4**
OCM	**Ochomogo**	**5.05**	**122**	*e*P	**Pn**	**04 46 51.7**	**+3.2**
LCR2	**La Lucha 2**	**5.10**	**124**	*e*P	**Pn**	**04 46 51.0**	**+1.8**
RIMA	**Rio Macho**	**5.20**	**123**	*e*P	**Pn**	**04 46 52.6**	**+2.0**
RIMA	**Rio Macho**	**5.20**	**123**		**Pn**	**04 46 51.2**	**+0.6**
CDM	**Cerro de Muert**	**5.40**	**124**	*e*P	**Pn**	**04 46 55.6**	**+2.0**
EDDO	**Dominical**	**5.50**	**127**	*e*P	**Pn**	**04 46 55.7**	**+1.2**
MRVA	**Moravia de Chi**	**5.52**	**120**	*e*P	**Pn**	**04 46 57.2**	**+2.3**
PEZE	**Perez Zeledon,**	**5.57**	**125**	*e*P	**Pn**	**04 46 57.2**	**+1.7**
PEZE	**Perez Zeledon,**	**5.57**	**125**		**Pn**	**04 46 56.8**	**+1.3**
EDLM	**Las Mercedes**	**5.70**	**125**	*e*P	**Pn**	**04 46 59.2**	**+1.9**
SRBA	**San Rafael, Bu**	**5.91**	**124**		**Pn**	**04 47 01.1**	**+0.8**
DRK0	**Durika**	**5.99**	**124**	*e*P	**Pn**	**04 47 02.8**	**+1.4**
EDPN	**Palmar Norte**	**6.00**	**127**	*e*P	**Pn**	**04 47 02.8**	**+1.5**
EDBA	**Buenos Aires**	**6.02**	**125**	*e*P	**Pn**	**04 47 03.2**	**+1.5**
RIOS	**Rincon, Osa**	**6.12**	**129**	*e*P	**Pn**	**04 47 04.8**	**+1.9**
LPLA	**Las Palmas La**	**6.31**	**124**	*e*P	**Pn**	**04 47 07.1**	**+1.3**
PIRO	**Carate, Puerto**	**6.44**	**130**	*e*P	**Pn**	**04 47 09.4**	**+2.0**
BRU2	**Volcan**	**6.71**	**124**	*e*P	**Pn**	**04 47 12.6**	**+1.4**
CMIG	**Matias Romero**	**7.75**	**306**	P	**Pn**	**04 47 26.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=152,slow=11,SNR=14						
CMIG				S	**Sn**	**04 48 48.8**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=52,slow=21,SNR=1.1						
ROSC	**El Rosal**	**15.83**	**118**	P	**Pn**	**04 49 16.4**	**+1.3**
	comp=Z,5.5nm,0.3s,baz=242,slow=23,SNR=1.5						
FLOC	**Florencia**	**16.66**	**130**	Pn	**Pn**	**04 49 25.4**	**+0.2**
352A	**Blakely**	**19.00**	**9**	P	**P**	**04 49 53.0**	**+0.5**
352A				IAmb	IAmb	04 50 11.9	
	comp=Z,19nm,0.9s						
Z47A	**Carrollton**	**20.46**	**1**	P	**P**	**04 50 09.5**	**+1.2**
GOGA	**Godfrey**	**21.14**	**11**	P	**P**	**04 50 15.4**	**-0.2**
GOGA				IAmb	IAmb	04 50 35.0	
	comp=Z,8.6nm,0.8s						
Y52A	**Lilburn**	**21.48**	**10**	P	**P**	**04 50 20.2**	**+0.9**
Y52A				IAmb	IAmb	04 50 38.0	
	comp=Z,13nm,1.1s						
TXAR	**Lajitas Array**	**21.91**	**322**	P	**P**	**04 50 24.8**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=139,slow=10,SNR=50						
TXAR				ScP	**ScP**	**04 57 55.8**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=132,slow=5.0,SNR=5.1						
TXAR	**Lajitas Array**	**21.91**	**322**	P	**P**	**04 50 23.8**	**-0.2**
TX31	**Lajitas Ar. Si**	**21.91**	**322**	P	**P**	**04 50 23.8**	**-0.2**
TX31				IAmb	IAmb	04 50 25.8	
	comp=Z,16nm,0.9s						
TX32	**Lajitas Array**	**21.91**	**322**	P	**P**	**04 50 24.6**	**+0.6**
ATAH	**Atahualpa**	**21.97**	**153**	LR	LR	04 58 49.2	
	comp=Z,66nm,18.6s,baz=319,slow=36						
SJG	**San Juan**	**22.03**	**73**	P	**P**	**04 50 24.3**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=312,slow=16,SNR=1.8						
SJG				LR	LR	04 59 34.6	
	comp=Z,28nm,20.6s,baz=254,slow=38						
SJG	**San Juan**	**22.03**	**73**	P	**P**	**04 50 24.9**	**-0.3**
SJG				IAmb	IAmb	04 50 25.3	
	comp=Z,7.5nm,0.8s						
Z35A	**Perchaven, San**	**22.16**	**340**	P	**P**	**04 50 25.0**	**-1.6**
HODGE	**Hodges**	**22.18**	**13**	P	**P**	**04 50 26.2**	**-0.6**
HODGE				IAmb	IAmb	04 50 45.2	
	comp=Z,7.1nm,0.8s						
BIRD	**Birdtown, Kers**	**23.03**	**17**	P	**P**	**04 50 35.8**	**+0.1**
BIRD				IAmb	IAmb	04 50 53.0	
	comp=Z,7.9nm,0.6s						
KMSC	**Kings Mountain**	**23.27**	**15**	P	**P**	**04 50 36.9**	**-1.2**
KMSC				IAmb	IAmb	04 50 40.9	
	comp=Z,7.6nm,1.0s						
TKL	**Tuckaleechee C**	**23.28**	**9**	P	**P**	**04 50 37.7**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=181,slow=11,SNR=8.0						
TKL				LR	LR	04 58 42.9	
	comp=Z,49nm,22.0s,baz=191,slow=34						
TKL	**Tuckaleechee C**	**23.28**	**9**	P	**P**	**04 50 38.2**	**+0.1**
U40A	**Yellville**	**23.97**	**351**	P	**P**	**04 50 44.7**	**+0.2**
HHAR	**Hobbs**	**24.08**	**349**	P	**P**	**04 50 46.2**	**+0.6**
V58A	**Windy Hill, Pi**	**24.50**	**18**	P	**P**	**04 50 49.4**	**0.0**
MNTX	**Cornudas Mount**	**24.64**	**323**	P	**P**	**04 50 50.7**	**0.0**
MSTX	**Muleshoe**	**24.99**	**331**	P	**P**	**04 50 54.0**	**0.0**
MSTX				IAmb	IAmb	04 50 55.5	
	comp=Z,12nm,1.1s						
AMTX	**Amarillo**	**25.25**	**334**	P	**P**	**04 50 57.1**	**+0.7**
AMTX				IAmb	IAmb	04 50 58.8	
	comp=Z,11nm,1.1s						
S39A	**Bolivar**	**25.35**	**351**	P	**P**	**04 50 56.9**	**-0.2**
S39A				IAmb	IAmb	04 50 58.5	
	comp=Z,6.1nm,0.6s						
CCM	**Cathedral Cave**	**25.45**	**355**	P	**P**	**04 50 58.2**	**+0.3**
CCM				IAmb	IAmb	04 50 59.4	
	comp=Z,3.3nm,0.7s						
NNA	**Nana**	**26.98**	**155**	LR	LR	05 01 28.2	
	comp=Z,31nm,19.1s,baz=213,slow=35						
ANMO	**Albuquerque**	**27.64**	**326**	LR	LR	05 04 31.8	
	comp=Z,49nm,18.3s,baz=130,slow=41						
O20A	**White River Ci**	**32.54**	**331**	P	**P**	**04 52 00.4**	**-0.9**
O20A				IAmb	IAmb	04 52 18.5	
	comp=Z,4.6nm,1.0s						
F33A	**5 Mile Ranch,**	**33.78**	**350**	P	**P**	**04 52 10.4**	**-1.4**
LPAZ	**La Paz**	**34.98**	**145**	P	**P**	**04 52 23.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=306,slow=7.5,SNR=1.7						
LPAZ				LR	LR	05 06 37.5	
	comp=Z,24nm,18.5s,baz=326,slow=36						
PDAR	**Pinedale Array**	**35.22**	**332**	P	**P**	**04 52 23.7**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=124,slow=11,SNR=8.5						
PDAR				pP	**pP**	**04 52 38.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=126,slow=9.2,SNR=6.9						
REDW	**Red Top Meadow**	**36.27**	**332**	P	**P**	**04 52 34.4**	**+0.8**
SNOW	**Snow King Moun**	**36.31**	**332**	P	**P**	**04 52 34.7**	**+0.8**
LOHW	**Long Hollow**	**36.36**	**332**	P	**P**	**04 52 34.6**	**+0.3**
LOHW				IAmb	IAmb	04 52 37.9	
	comp=Z,2.8nm,0.7s						
TPAW	**Teton Pass**	**36.42**	**332**	P	**P**	**04 52 35.5**	**+0.6**
TPAW				IAmb	IAmb	04 52 38.0	
	comp=Z,4.1nm,0.7s						
NVAR	**Mina Array Bea**	**37.02**	**319**	P	**P**	**04 52 40.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=120,slow=10.0,SNR=4.1						
NVAR				PcP	**PcP**	**04 55 00.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=103,slow=2.9,SNR=4.0						
NVAR				pPcP		04 55 16.8	
	comp=Z,1.1nm,0.7s,baz=152,slow=4.1,SNR=8.0						
NVAR	**Mina Array Bea**	**37.02**	**319**	P	**P**	**04 52 38.6**	**-1.4**
ULM	**Lac du Bonnet**	**38.01**	**352**	LR	LR	05 10 43.8	
	comp=Z,30nm,18.5s,baz=277,slow=40						
MCMT	**McKenzie Canyo**	**38.32**	**332**	P	**P**	**04 52 51.8**	**+0.8**
H03N2	**Juan Fernandez**	**46.69**	**169**	T	T	05 44 08.3	
	baz=347,slow=76,SNR=3.1						
H03N1	**Juan Fernandez**	**46.69**	**169**	T	T	05 44 07.9	
	baz=347,slow=76,SNR=8.9						
H03N3	**Juan Fernandez**	**46.70**	**169**	T	T	05 44 07.3	
	baz=347,slow=76,SNR=45						
YKA	**Yellowknife Ar**	**53.21**	**345**	P	**P**	**04 54 47.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=164,slow=7.5,SNR=4.1						
YKA				pP	**pP**	**04 55 01.1**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=140,slow=7.9,SNR=9.6						
ILAR	**Eielson Array**	**65.51**	**336**	P	**P**	**04 56 11.4**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=99,slow=5.6,SNR=3.3						
ILAR				pP	**pP**	**04 56 26.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=108,slow=4.8,SNR=7.1						
ESDC	**Sonseca Array**	**77.72**	**52**	LR	LR	05 30 23.0	
	comp=Z,14nm,18.0s,baz=330,slow=35						
NOA	**NORSAR Array B**	**83.60**	**29**	LR	LR	05 31 24.5	
	comp=Z,7.9nm,21.8s,baz=300,slow=33						
ARCES	**ARCESS Array B**	**86.27**	**19**	LR	LR	05 36 05.2	
	comp=Z,14nm,18.2s,baz=95,slow=35						
WRA	**Warramunga Arr**	**138.53**	**254**	PKP	**PKPdf**	**05 04 55.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=90,slow=2.6,SNR=9.6						
WRA	**Warramunga Arr**	**138.53**	**254**		**PKPdf**	**05 04 54.4**	**-1.3**
ASAR	**Alice Springs**	**138.57**	**249**	PKP	**PKPdf**	**05 04 55.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=96,slow=1.9,SNR=2.0						

DJA ***18*** *04:52:23.7±1.3, 3.N±5.×12.7E±., h23km±13km, M4.3/9, mB4.8/4, mb4.7/6, MLv4.3/9, Mw(mB)4.0/4*
NEIC ***18*** *04:52:24.2±1.0, 2.68N±0.03×127.1E±0.1, h89km±11km, mb4.1/11, Error ellipse: s-maj=17.0km s-min=4.2km az=83.0*
IDC ***18*** *04:52:25.7±3.2, 2.49N×127.13E, h97km±27km, mb3.5/6, mb1 3.8/8, mb1mx3.5/39, mbtmp3.9/8, Error ellipse: s-maj=34.0km s-min=21.7km az=42.0*
MAN ***18*** *04:53:12.1, 6.17N×125.62E, h34km, MS3.6*
ISC 18 04:52:24.5±0.8, 2.69N±0.06×127.16E±0.07, h100km, n39, σ1°18/44, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMI	**Galela, Maluku**	**1.05**	**143**	P	**Pn**	**04 52 43.4**	**-2.1**
GAMI				S	**Sn**	**04 52 58.3**	**-3.0**
SGSI	**Sangihe**	**1.91**	**301**	P	**Pn**	**04 52 54.6**	**-1.3**
SGSI				S	**Sn**	**04 53 18.0**	**-1.8**
TNTI	**Ternate**	**1.91**	**174**		**Pn**	**04 52 55.4**	**-0.6**
TNTI

IDC 18 05:22:48.4±3.1, 54°46N×87°04E, h0km, mb1 3.0/2, mb1mx2.9/42, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=27.5km s-min=20.1km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**249**	*i*		05 30 50.0	
	baz=70,slow=319,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.40**	**249**	Pg	Pn	05 23 12.7	-2.5
	1.3nm,0.3s,baz=64,slow=16,SNR=12						
ZALV				Lg	Lg	05 23 33.6	
	1.2nm,0.3s,baz=67,slow=28,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.46**	**237**	Pn	Pn	05 24 25.5	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=10						
KURBB				Lg	Lg	05 26 13.7	
	0.0nm,0.3s,baz=46,slow=32,SNR=2.6						
MKAR	**Makanchi Array**	**8.25**	**203**	Pn	Pn	05 24 50.5	+1.3
	0.1nm,0.3s,baz=25,slow=13,SNR=3.4						
MKAR				Lg	Lg	05 27 09.5	
	0.3nm,0.3s,baz=14,slow=26,SNR=2.3						

MEX 18 06:10:27.0±0.9, 16°75N×93°96W, h138km±7km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.80**	**88**	*eP*	Pn	06 10 47.8	-1.3
TGIG				*eS*	Sn	06 11 03.9	-1.9
CMIG	**Matias Romero**	**0.95**	**291**	*eP*	Pn	06 10 48.9	-1.3
CMIG				*eS*	Sn	06 11 05.9	-2.0
PCIG		**1.26**	**146**	*eP*	Pn	06 10 51.8	-1.4
PCIG				*eS*	Sn	06 11 11.0	-2.1
CCIG	**Comitan**	**1.81**	**105**	*eP*	Pn	06 10 58.1	-1.3
CCIG				*eS*	Sn	06 11 22.1	-2.0
HUIG	**Huatulco**	**2.29**	**245**	*eP*	Pn	06 11 00.7	-4.2
HUIG				*eS*	Sn	06 11 30.1	-3.9
TOIG	**Toxpalan**	**3.25**	**295**	*eP*	Pn	06 11 16.0	-1.2
TOIG				*eS*	Sn	06 11 51.8	-4.4
YOIG	**Yosondua**	**3.44**	**272**	*eP*	Pn	06 11 18.4	-1.5
YOIG				*eS*	Sn	06 11 58.2	-2.5
TPIG	**Tehuac#an**	**3.65**	**298**	*eP*	Pn	06 11 20.5	-1.9
TPIG				*eS*	Sn	06 11 58.0	-7.4
HLIG	**Huajuapan de L**	**3.83**	**287**	*eP*	Pn	06 11 24.4	-0.5
HLIG				*eS*	Sn	06 12 05.5	-4.2
FTIG	**Fresnillo de T**	**4.15**	**287**	*eP*	Pn	06 11 28.9	-0.2
FTIG				*eS*	Sn	06 12 09.6	-7.6
PPM	**Popocatepetl**	**5.01**	**298**	*eP*	Pn	06 11 40.7	-0.1
PPM				*eS*	Sn	06 12 27.1	-11
MAVM	**Malinalco, Edo**	**5.71**	**293**	*eP*	Pn	06 11 50.6	+0.7
MAVM				*eS*	Sn	06 12 46.0	-8.6

*SOME **18** 06:35:11.2, 44°70N×82°23E, h15km*
*NNC **18** 06:35:12.1±2.0, 44°66N×82°37E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=26.1km s-min=4.6km az=116.0*

ISC 18 06:35:09.2±2.3, 44°5N±0°1×82°5E±0°1, h2km±16km, n9, σ0°89/18, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.87**	**238**	*eP*	**Pg**	**06 35 45.1**	**0.0**
	4.0nm,0.2s						
KTMS				*eS*	**Sg**	**06 36 09.0**	**-0.3**
	14nm,0.3s						
DJR	**Jarkent**	**1.97**	**267**	*eP*	**Pn**	**06 35 44.4**	**+0.7**
	0.7nm,0.1s						
DJR				*eS*	**Sn**	**06 36 08.4**	**-0.5**
	0.4nm,0.3s						
MK31	**Makanchi Array**	**2.33**	**356**	⇑Pn	**Pn**	**06 35 49.6**	**+1.0**
	1.1nm,0.2s,baz=180,slow=12,SNR=103						
MK31				⇓Sn	**Sn**	**06 36 17.6**	**-0.3**
	2.0nm,0.3s,baz=181,slow=26,SNR=21						
MAKZ	**Makanchi**	**2.38**	**351**	⇑Pn	**Pn**	**06 35 49.6**	**+0.4**
	1.3nm,0.3s						
MAKZ				⇑Sn	**Sn**	**06 36 17.8**	**-1.1**
	1.8nm,0.3s						
KAPS	**Kapalarasan**	**2.40**	**291**	*eP*	**Pn**	**06 35 50.5**	**+1.0**
	0.5nm,0.3s						
KAPS				*eS*	**Sn**	**06 36 18.8**	**-0.7**
	0.7nm,0.2s						
PDGK	**Podgornoye**	**2.47**	**244**	⇑Pn	**Pb**	**06 35 52.7**	**-1.7**
	1.5nm,0.5s						
PDGK				⇑Sn	**Sb**	**06 36 26.0**	**+0.7**
	7.2nm,0.7s						
SHLS	**Shalkode**	**2.58**	**241**	*eP*	**Pn**	**06 35 53.1**	**+1.1**
	6.7nm,0.1s						
SHLS				*eS*	**Sn**	**06 36 23.0**	**-0.9**
	10nm,0.0s						
UZB	**Uzynbulak**	**2.86**	**244**	*eP*	**Pb**	**06 36 00.7**	**-0.3**
	2.4nm,0.2s						
UZB				*eS*	**Sb**	**06 36 36.4**	**-0.1**
	3.2nm,0.2s						
KPKS	**Kokpek**	**2.95**	**252**	*eP*	**Pb**	**06 36 02.9**	**+0.3**
	5.4nm,0.1s						
KPKS				*eS*	**Sb**	**06 36 39.8**	**+0.8**
	7.5nm,0.3s						

MEX 18 06:42:29.1±1.4, 17°64N×94°22W, h190km±9km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.83**	**230**	*i* P	Pn	06 42 55.0	-1.7
CMIG				*eS*	Sn	06 43 15.4	-2.7
TGIG		**1.35**	**129**	*i* P	Pn	06 42 59.2	-1.4
TGIG				*eS*	Sn	06 43 22.4	-2.6
PCIG		**2.15**	**153**	*eP*	Pn	06 43 06.8	-1.6
PCIG				*eS*	Sn	06 43 35.7	-3.3
CCIG	**Comitan**	**2.40**	**124**	*i* P	Pn	06 43 10.5	-0.9
CCIG				*eS*	Sn	06 43 47.4	+3.0
VHO	**Vista Hermosa**	**2.47**	**257**	*eS*	Sn	06 43 44.5	-1.2
HUIG	**Huatulco**	**2.59**	**225**	*eP*	Pn	06 43 09.2	-4.2
HUIG				*eS*	Sn	06 43 44.2	-3.8
TOIG	**Toxpalan**	**2.75**	**280**	*eP*	Pn	06 43 14.0	-1.4
TOIG				*eP*	Pn	06 43 14.2	-1.2
TOIG				*eS*	Sn	06 43 48.2	-3.2
TOIG				*eS*	Sn	06 43 48.3	-3.1
TPIG	**Tehuac#an**	**3.09**	**285**	*eP*	Pn	06 43 18.2	-1.3
TPIG				*eS*	Sn	06 43 55.6	-3.2
TPIG				*eS*	Sn	06 43 55.9	-2.9
PEIG	**Puerto Escondi**	**3.24**	**240**	*eP*	Pn	06 43 16.8	-4.4
PEIG				*eS*	Sn	06 43 58.5	-3.4
YOIG	**Yosondua**	**3.27**	**257**	*eP*	Pn	06 43 19.4	-2.4
YOIG				*eS*	Sn	06 44 01.6	-1.3
HLIG	**Huajuapan de L**	**3.42**	**274**	*eP*	Pn	06 43 21.8	-1.8
HLIG				*eS*	Sn	06 44 03.7	-2.4
FTIG	**Fresnillo de T**	**3.74**	**275**	*eP*	Pn	06 43 25.9	-1.5
FTIG				*i* S	Sn	06 44 11.2	-1.8
TLIG	**Tlapa**	**4.15**	**270**	*i* S	Sn	06 44 20.5	-1.7
PPM	**Popocatepetl**	**4.42**	**289**	*eP*	Pn	06 43 36.8	+0.4
PPM				*eS*	Sn	06 44 22.7	-6.4
YAIG	**Yautepec**	**4.77**	**286**	*eP*	Pn	06 43 40.1	-0.4
YAIG				*eS*	Sn	06 44 30.7	-5.8
CRIG	**Cruz Grande**	**4.78**	**260**	*eP*	Pn	06 43 36.7	-3.8
CRIG				*eS*	Sn	06 44 33.7	-2.8
MEIG	**Mezcala**	**5.16**	**274**	*eP*	Pn	06 43 44.5	-0.9
MEIG				*i* S	Sn	06 44 44.3	-1.1
DAIG	**Los Arroyos**	**5.22**	**264**	*eP*	Pn	06 43 35.0	-11
CAIG	**El Cayaco**	**5.81**	**265**	*eP*	Pn	06 43 51.2	-2.5
CAIG				*eS*	Sn	06 44 50.6	-10

*NEIC **18** 06:45:51.9±1.9, 29°97S±0°07×177°5W±0°1, h35km±1km, mb4.8/40, Error ellipse: s-maj=21.0km s-min=9.7km az=70.0*
*IDC **18** 06:45:52.3±1.5, 29°94S×177°66W, h42km±12km, mb4.1/15, mb1 4.3/17, mb1mx4.3/22, mbtmp4.4/17, ML4.0/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/24, Error ellipse: s-maj=19.7km s-min=14.3km az=99.0*
*NOU **18** 06:46:00.8, 30°75S×177°24W, h134km, mb4.6, Kermadec Islands, New Zealand*

ISC 18 06:45:51.0±0.4, 29°95S±0°06×177°37W±0°07, h35km, n114, σ1°63/98, mb4.8/38, MS3.7/10, 1C-2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**326**	P	**Pn**	**06 46 06.0**	**-0.4**
	2μm,0.3s,baz=91,slow=9.3,SNR=131						
RAO				S	**Sn**	**06 46 17.2**	**-0.4**
	7μm,0.3s,baz=102,slow=21,SNR=14						
RAO	**Raoul Island**	**0.84**	**326**	Pn	**Pn**	**06 46 06.0**	**-0.4**
RAO				Sn	**Sn**	**06 46 17.8**	**+0.2**
OUZ	**Omahuta**	**9.25**	**233**		**Pn**	**06 48 05.3**	**+3.3**
URZ	**Urewera**	**9.46**	**207**	P	Pn	06 47 58.7	-6.1
	0.5nm,0.3s,baz=298,slow=23,SNR=1.4						
URZ				S	Sn	06 49 39.2	-11
	2.6nm,0.3s,baz=299,slow=23,SNR=2.3						
MSVF	**Nonsavu**	**12.86**	**340**	LR	LR	06 53 09.0	
	comp=Z,306nm,19.6s,baz=156,slow=34						
DZM	**Mont Dzumac**	**16.52**	**295**	P	**Pn**	**06 49 37.5**	**-2.7**
	0.2nm,0.3s,baz=133,slow=19,SNR=2.1						
DZM				LR	LR	06 54 57.7	
	comp=Z,284nm,18.6s,baz=86,slow=34						
DZM	**Mont Dzumac**	**16.52**	**295**	*e*Pn	**P**	**06 49 47.6**	**+5.1**
	94nm,1.2s						
DZM				*e*LR	LR	06 53 43.8	
	comp=Z,507nm,24.1s						
DZM	**Mont Dzumac**	**16.52**	**295**	P	**P**	**06 49 48.9**	**+6.4**
	38nm,1.4s						
NOUC	**Port Laguerre**	**16.61**	**294**	P	P	06 49 53.3	+10
AFI	**Afiamalu**	**16.78**	**19**	P	**P**	**06 49 45.2**	**-0.2**
	2.1nm,0.3s,baz=221,slow=21,SNR=2.1						
ODZ	**Otahua Downs**	**17.78**	**209**	Pn	**Pn**	**06 49 53.1**	**-2.5**
LHI	**Lord Howe Isla**	**20.31**	**260**	P	**P**	**06 50 23.6**	**-0.4**
TBI	**Tubuai**	**25.76**	**82**	*e*S	**S**	**06 55 42.2**	**-3.2**
	84nm,28.8s						
TBI				*e*LR	LR	06 57 48.5	
	comp=Z,240nm,26.2s						
TBI	**Tubuai**	**25.76**	**82**	*e*T	T	07 17 49.8	
	21nm,0.3s						
ARMA	**Armidale**	**26.76**	**261**	P	**P**	**06 51 28.0**	**+0.3**
PPT2	**Papeete2**	**28.18**	**70**	*e*LQ	LQ	06 57 40.2	
	201nm,21.2s						
PPT2				*e*LR	LR	06 58 56.3	
	comp=Z,225nm,25.2s						
PPT	**Papeete**	**28.19**	**70**	LR	LR	06 59 49.6	
	comp=Z,80nm,21.5s,baz=232,slow=30						
EIDS	**Eidsvold**	**28.26**	**272**	P	**P**	**06 51 40.8**	**-0.3**
CAN	**Canberra**	**28.73**	**250**	P	**P**	**06 51 44.9**	**-0.4**
TOO	**Toolangi**	**31.64**	**246**	P	**P**	**06 52 10.4**	**-0.5**
TOO				IAmb	IAmb	06 52 12.3	
	comp=Z,25nm,1.2s						
CTAO	**Charters Tower**	**34.27**	**278**	P	**P**	**06 52 34.2**	**+0.2**
STKA	**Stephens Creek**	**35.11**	**256**	P	**P**	**06 52 40.7**	**-0.4**
	comp=Z,5.6nm,0.4s,baz=97,slow=12,SNR=13						
STKA				LR	LR	07 05 53.0	
	comp=Z,130nm,18.3s,baz=41,slow=34						
STKA	**Stephens Creek**	**35.11**	**256**	P	**P**	**06 52 41.0**	**-0.2**
BBOO	**Buckleboo**	**39.61**	**254**	P	**P**	**06 53 18.2**	**-1.2**
BBOO				IAmb	IAmb	06 53 43.5	
	comp=Z,13nm,1.1s						
TAOE	**Nuku Hiva Isla**	**40.63**	**67**	*e*LR	LR	07 04 38.0	
	comp=Z,141nm,26.7s						
AS31	**Alice Springs**	**43.68**	**266**	P	**P**	**06 53 51.6**	**-1.1**
ASAR	**Alice Springs**	**43.68**	**266**	P	**P**	**06 53 50.5**	**-2.2**
	comp=Z,4.0nm,0.5s,baz=103,slow=6.9,SNR=28						
ASAR				PcP	**PcP**	**06 55 40.1**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=126,slow=3.5,SNR=4.1						
ASAR				LR	LR	07 11 35.2	
	comp=Z,171nm,18.7s,baz=108,slow=36						
ASAR	**Alice Springs**	**43.68**	**266**	P	**P**	**06 53 51.9**	**-0.8**
WR0	**Warramunga Arr**	**44.45**	**271**	P	**P**	**06 53 57.1**	**-1.8**
WR0				IAmb	IAmb	06 53 59.5	
	comp=Z,8.3nm,0.8s						
WB2	**Warramunga Arr**	**44.62**	**271**	P	**P**	**06 53 58.5**	**-1.8**
WRA	**Warramunga Arr**	**44.63**	**271**	P	**P**	**06 53 58.3**	**-2.1**
	comp=Z,14nm,0.6s,baz=110,slow=8.1,SNR=264						
WRA	**Warramunga Arr**	**44.63**	**271**	P	**P**		
WB0	**Warramunga Arr**	**44.65**	**272**	P	**P**	**06 53 58.6**	**-1.8**
WB0				IAmb	IAmb	**06 53 58.6**	**-1.9**
	comp=Z,18nm,0.8s					06 54 01.6	
SBA	**Scott Base**	**48.52**	**184**	P	**P**	**06 54 33.1**	**+3.0**
VNDA	**Vanda**	**48.59**	**186**	P	**P**	**06 54 31.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=7.7,slow=7.2,SNR=13						
VNDA				LR	LR	07 12 50.1	
	comp=Z,32nm,19.6s,baz=324,slow=33						
VNDA	**Vanda**	**48.59**	**186**	P	**P**	**06 54 32.2**	**+1.6**
KNRA	**Kununurra**	**51.22**	**274**	P	**P**	**06 54 50.9**	**-0.5**
KNRA				IAmb	IAmb	06 55 15.7	
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.91**	**269**	P	**P**	**06 55 02.8**	**-1.2**
CASY	**Casey**	**55.79**	**208**	P	**P**	**06 55 22.5**	**-1.7**
MORW	**Morawa**	**57.18**	**253**	P	**P**	**06 55 32.3**	**-2.4**
QSPA	**South Pole Qui**	**60.16**	**180**	P	**P**	**06 55 56.0**	**+1.0**
	comp=Z,7.5nm,0.9s,baz=55,slow=1.9,SNR=16						
QSPA	**South Pole Qui**	**60.16**	**180**		**P**	**06 55 56.1**	**+1.2**
MAW	**Mawson**	**72.92**	**200**	P	**P**	**06 57 15.1**	**-1.1**
	comp=Z,6.2nm,0.8s,baz=141,slow=5.6,SNR=13						
MAW	**Mawson**	**72.92**	**200**		**P**	**06 57 16.7**	**+0.5**
SYO	**Syowa Base**	**77.67**	**193**	⇑*e*P	**P**	**06 57 43.6**	**+0.1**
SYO	**Syowa Base**	**77.67**	**193**	⇓*e*PcP	**PcP**	**06 57 52.7**	**-0.9**
MJAR	**Matsushiro Arr**	**78.19**	**325**	P	**P**	**06 57 47.3**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=142,slow=4.9,SNR=4.1						
SNAA	**Sanae**	**78.58**	**178**	P	**P**	**06 57 46.8**	**-1.8**
SNAA	**Sanae**	**78.58**	**178**	P	**P**	**06 57 46.9**	**-1.8**
JWT	**Wachi**	**78.67**	**322**	P	**P**	**06 57 48.8**	**-0.6**
VNA3	**Neumayer Olymp**	**78.71**	**176**	P	**P**	**06 57 48.8**	**-0.5**
VNA2	**Neumayer--Watz**	**79.15**	**177**	P	**P**	**06 57 51.4**	**-0.4**
	baz=184,slow=3.9						
VNA1	**Neumayer--Stat**	**79.38**	**176**	P	**P**	**06 57 53.6**	**+0.7**
H03S2	**Juan Fernandez**	**80.26**	**123**	T	T	08 27 34.0	
	baz=238,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**80.27**	**123**	T	T	08 27 31.5	
	baz=238,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**80.27**	**123**	T	T	08 27 35.0	
	baz=238,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**80.44**	**123**	T	T	08 27 41.9	
	baz=244,slow=73,SNR=5.7						
H02N2	**Juan Fernandez**	**80.45**	**123**	T	T	08 27 43.4	
	baz=244,slow=73,SNR=7.4						
H03N1	**Juan Fernandez**	**80.46**	**123**	T	T	08 27 44.4	
	baz=244,slow=73,SNR=7.5						
KIWB	**Kanaga Island**	**81.45**	**0**	P	**P**	**06 58 04.4**	**+0.4**
ADK	**Adak**	**81.48**	**0**	P	**P**	**06 58 05.2**	**+0.9**
ADK				IAmb	IAmb	06 58 05.2	
	comp=Z,11nm,0.8s						
PLCA	**Paso Flores**	**82.41**	**133**	P	**P**	**06 58 11.4**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=254,slow=7.4,SNR=3.2						
PLCA				LR	LR	07 26 08.0	
	comp=Z,49nm,19.5s,baz=174,slow=29						
KSRS	**Korea Array**	**84.36**	**319**	P	**P**	**06 58 19.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=134,slow=5.3,SNR=2.2						
KSAR	**Wonju Array Be**	**84.38**	**319**	P	**P**	**06 58 19.3**	**-0.3**
PETK	**Petropavlovsk-**	**85.52**	**345**	P	**P**	**06 58 25.1**	**+0.2**
	comp=Z,6.1nm,0.8s,baz=139,slow=7.0,SNR=11						
PETK	**Petropavlovsk-**	**85.52**	**345**	P	**P**	**06 58 25.5**	**+0.6**
ISA	**Isabella, Lake**	**85.60**	**44**	P	**P**	**06 58 26.8**	**+0.9**
ISA				IAmb	IAmb	06 58 29.4	
	comp=Z,5.8nm,1.0s						
CMB	**Columbia Colle**	**86.07**	**42**	P	**P**	**06 58 30.1**	**+2.0**
CMB				IAmb	IAmb	06 58 30.9	
	comp=Z,5.0nm,1.0s						
NJ2	**Nanjing**	**86.37**	**310**	*e*P	**P**	**06 58 31.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
GSC	**Goldstone, Bar**	**86.39**	**46**	P	**P**	**06 58 30.6**	**+0.8**
GSC				IAmb	IAmb	06 58 33.2	
	comp=Z,11nm,1.3s						
WAKR	**Walker**	**86.93**	**42**	P	**P**	**06 58 34.5**	**+2.0**
WAKR				IAmb	IAmb	06 58 35.8	
	comp=Z,5.3nm,1.1s						
USRK	**Ussuriysk Ar.**	**87.09**	**326**	P	**P**	**06 58 34.3**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=97,slow=6.3,SNR=4.1						
PNTR	**Pine Nut**	**87.23**	**41**	P	**P**	**06 58 36.4**	**+2.4**
PNTR				IAmb	IAmb	06 58 36.9	
	comp=Z,5.0nm,0.8s						
NVAR	**Mina Array Bea**	**87.54**	**42**	P	**P**	**06 58 37.6**	**+2.1**
	comp=Z,2.2nm,0.8s,baz=222,slow=8.6,SNR=18						
NVAR	**Mina Array Bea**	**87.54**	**42**	P	**P**	**06 58 37.9**	**+2.4**
K05A	**Summer Lake**	**89.01**	**38**	P	**P**	**06 58 44.3**	**+2.0**
X16A	**Lo Mia Camp, P**	**89.25**	**49**	P	**P**	**06 58 45.6**	**+1.9**
X16A				IAmb	IAmb	06 58 47.5	
	comp=Z,3.9nm,0.9s						
LCMT	**Little Creek M**	**89.69**	**46**	P	**P**	**06 58 47.7**	**+2.1**
LCMT				IAmb	IAmb	06 58 49.1	
	comp=Z,2.9nm,0.9s						
H04A	**Detroit Lake**	**89.69**	**36**	P	**P**	**06 58 47.1**	**+1.8**
H04A				IAmb	IAmb	06 58 47.7	
	comp=Z,8.5nm,1.1s						
PINE	**Pine Mountain**	**89.72**	**37**	P	**P**	**06 58 47.6**	**+2.0**
PINE				IAmb	IAmb	06 58 49.5	
	comp=Z,9.4nm,1.2s						
KDAK	**Kodiak Island**	**89.85**	**13**	LR	LR	07 36 09.0	
	comp=Z,58nm,18.4s,baz=85,slow=34						
I07A	**Izee**	**90.67**	**38**	P	**P**	**06 58 49.6**	**-0.4**
I07A				IAmb	IAmb	06 58 52.9	
	comp=Z,6.3nm,1.2s						
TXAR	**Lajitas Array**	**91.69**	**57**	P	**P**	**06 58 56.5**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=220,slow=5.5,SNR=3.9						
G08A	**Pilot Rock**	**91.78**	**37**	P	**P**	**06 58 55.1**	**+0.1**
G08A				IAmb	IAmb	06 58 58.3	
	comp=Z,4.9nm,1.0s						
MFID	**Camas Ranch**	**92.23**	**40**	P	**P**	**06 58 57.5**	**+0.3**
MFID				IAmb	IAmb	06 58 59.9	
	comp=Z,3.4nm,0.9s						
SPUT	**South Promonto**	**92.84**	**43**	P	**P**	**06 59 01.8**	**+1.6**
SPUT				IAmb	IAmb	06 59 03.0	
	comp=Z,4.3nm,1.2s						
HLID	**Hailey**	**93.11**	**40**	P	**P**	**06 59 02.0**	**+0.6**
F10A	**Beach Ranch, E**	**93.14**	**37**	P	**P**	**06 59 02.4**	**+1.1**
F10A				IAmb	IAmb	06 59 03.2	
	comp=Z,2.5nm,0.8s						
PDAR	**Pinedale Array**	**95.44**	**43**	P	**P**	**06 59 12.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=188,slow=3.4,SNR=3.8						
HHC	**Hu-ho-hao-te**	**96.32**	**314**	*e*P	**P**	**06 59 17.3**	**+1.3**
HHC				pmax	pmax		
	comp=Z,26nm,1.3s						
HHC				pmax	pmax		
	comp=Z,89nm,7.2s						
HHC				L	L		
	comp=Z,210nm,18.9s						
HHC				L	L		
	comp=Z,220nm,17.7s						
HHC				L	L		
	comp=Z,170nm,17.8s						
ILAR	**Eielson Array**	**97.37**	**13**	P	**P**	**06 59 18.6**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=213,slow=6.0,SNR=3.3						
LZH	**Lanzhou**	**98.89**	**306**	*e*P	**P**	**06 59 25.1**	**-2.7**
LZH				pP	pP	06 59 38.0	+0.3
LZH				sP	pwP	06 59 42.8	0.0
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
MKAR	**Makanchi Array**	**117.90**	**310**	PKP	**PKPdf**	**07 04 31.9**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=3.8						
GEYT	**Ailbeck**	**133.86**	**295**	PKP	**PKPdf**	**07 05 04.1**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=130,slow=53,SNR=2.2						
H10S3	**ASCENSION HYDR**	**137.89**	**154**	T	T	09 40 23.0	
	baz=205,slow=74,SNR=8.1						
H10S2	**ASCENSION HYDR**	**137.89**	**154**	T	T	09 40 38.1	
	baz=15,slow=74,SNR=4.6						
ARCES	**ARCESS Array B**	**138.27**	**348**	PKhKP	PKPpre	07 05 02.8	
	comp=Z,1.0nm,0.5s,baz=38,slow=1.6,SNR=5.8						
H10N3	**ASCENSION HYDR**	**138.97**	**154**	T	T	09 41 58.5	
	baz=203,slow=74,SNR=32						
H10N1	**ASCENSION HYDR**	**138.98**	**154**	T	T	09 42 02.9	
	baz=203,slow=74,SNR=50						
H10N2	**ASCENSION HYDR**	**138.99**	**154**	T	T	09 42 02.3	
	baz=203,slow=74,SNR=10						
FINES	**FINESS Array B**	**144.91**	**341**	PKP	**PKPab**	**07 05 22.4**	**-0.5**
	comp=Z,22nm,0.6s,baz=54,slow=3.5,SNR=61						
FINES	**FINESS Array B**	**144.91**	**341**	PKPdf	**PKPab**	**07 05 22.5**	**-0.4**
KBZ	**Khabaz**	**145.31**	**305**	PKPbc	**PKPbc**	**07 05 22.9**	**-1.9**
	comp=Z,3.1nm,0.7s,baz=126,slow=3.2,SNR=5.7						
NOA	**NORSAR Array B**	**148.39**	**352**	PKPbc	**PKPbc**	**07 05 33.0**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=16,slow=4.5,SNR=17						
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKPbc**	**07 05 39.7**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=47,slow=2.6,SNR=16						
AKASG	**Malin Array Be**	**151.27**	**324**		**PKPbc**	**07 05 40.1**	**-0.3**
AKASG				PKPab	**sPKPdf**	**07 05 46.2**	**-1.7**
BRTR	**Keskin Array B**	**152.86**	**299**	PKPbc	**PKPbc**	**07 05 43.1**	**-1.5**
	comp=Z,3.2nm,1.0s,baz=130,slow=5.0,SNR=6.1						
BRTR	**Keskin Array B**	**152.86**	**299**		**PKPbc**	**07 05 44.0**	**-0.6**
DPC	**Dobruska-Polom**	**157.17**	**337**	*e*PKPab	**PKPab**	**07 06 14.0**	**+0.4**
KRLC	**Kraliky**	**157.24**	**336**	*e*PKPab	**PKPab**	**07 06 13.9**	**0.0**
CLL	**Collm**	**157.31**	**343**	⇓*i*PKPab	**PKPab**	**07 06 13.8**	**-0.3**
	comp=Z,7.0nm,0.7s						
KHC	**Kasperske Hory**	**159.11**	**340**	*e*PKPab	**PKPab**	**07 06 22.7**	**+0.7**
GERES	**GERESS Array B**	**159.32**	**339**	PKPab	**PKPab**	**07 06 23.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=46,slow=5.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**163.25**	**177**	PKPab	**PKPab**	**07 06 41.1**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=176,slow=3.5,SNR=2.4						

NNC 18 06:46:43.9±3.4, 53°71N×88°02E, h0km, mb3.6, mpv3.2, 6C-2D, Error ellipse: s-maj=27.6km s-min=15.4km az=54.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.91**	**278**	⇑Pg	Pn	06 47 18.3	+0.6
	4.5nm,0.7s						
ZAA0				⇑Lg	Lg	06 47 46.3	
	8.8nm,0.8s						
KURBB	**Kurchatov Arra**	**6.61**	**246**	⇑Pn	Pn

MW5.4/150,Moment Tensor Solution. s114,c181; s150,c271; Duration: 1ŝ2 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.32±.01; $M_{\theta\theta}$0.83±.01; $M_{\phi\phi}$0.48±.01; $M_{r\theta}$0.13±.04; $M_{\theta\phi}$-0.71±.01; $M_{\phi r}$0.12±.04; Best double couple: $M_0$1.37000×10^{17} NP1:ϕ_s136.00000°,δ45.00000°, λ-79.00000°. NP2:ϕ_s30.00000°,δ46.00000°, λ-101.00000°. Principal axes: T 1.3960, Plg1.0000°, Azm38.0000°; N -0.0500, Plg8.0000°, Azm308.0000°; P -1.3450, Plg82.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC ***18*** *07:28:56, 19.03S×169.73E, h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.35; $M_{\theta\theta}$0.85; $M_{\phi\phi}$0.50; $M_{r\theta}$0.33; $M_{\theta\phi}$-0.75; $M_{\phi r}$-0.13; Fault plane solution: $M_0$1.45000×10^{17} NP1:ϕ_s133.00000°, δ38.00000°,λ-83.00000°. NP2:ϕ_s304.00000°,δ52.00000°, λ-96.00000°. Principal axes: T 1.4878, Plg7.0000°, Azm38.0000°; N -0.0879, Plg5.0000°, Azm308.0000°; P -1.3999, Plg82.0000°, Azm184.0000°;*

ISC 18 07:28:55.5±0.3,**19.19S**±0.04×**169.75E**±0.05,**h35**km,**n483, s1ŝ45**/377,**mb5.1**/95,**MS4.9**/150,**14C-15D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.84**	**236**	Pn	**Pn**	**07 29 36.4**	**-2.0**
LIFNC	**LIFOU**	**2.84**	**236**	P	**Pn**	**07 29 35.8**	**-2.5**
YATNC	**Mamie plateau,**	**3.91**	**223**	P	**Pn**	**07 29 54.3**	**+1.2**
PINNC	**Pines Island,**	**4.03**	**212**		**Pn**	**07 29 54.5**	**-0.2**
PINNC	**Pines Island,**	**4.03**	**212**	P	**Pn**	**07 29 54.8**	**+0.1**
OUENC	**Ouen Island, N**	**4.21**	**220**	Pn	**Pn**	**07 29 57.3**	**+0.1**
OUENC	**Ouen Island, N**	**4.21**	**220**	P	**Pn**	**07 29 57.1**	**-0.1**
DZM	**Mont Dzumac**	**4.22**	**227**	Pn	**Pn**	**07 29 56.2**	**-1.2**
	14nm,0.3s,baz=107,slow=9.9,SNR=166						
DZM				Sn	**Sn**	**07 30 45.1**	**-0.4**
	70nm,0.3s,baz=169,slow=21,SNR=6.7						
DZM				LR	LR	07 31 25.3	
	comp=Z,27μm,18.2s,baz=138,slow=36						
DZM	**Mont Dzumac**	**4.22**	**227**	*e*Pn	**Pn**	**07 29 56.5**	**-0.9**
	128nm,0.3s						
DZM				*e*Sn	**Sn**	**07 30 46.3**	**+0.8**
	170nm,0.3s						
DZM				*e*LR	LR	07 30 56.2	
	comp=Z,42μm,25.6s						
DZM	**Mont Dzumac**	**4.22**	**227**	Pn	**Pn**	**07 29 56.8**	**-0.6**
DZM	**Mont Dzumac**	**4.22**	**227**	P	**Pn**	**07 29 58.7**	**+1.3**
NOUC	**Port Laguerre**	**4.34**	**228**	P	**Pn**	**07 29 59.1**	**+0.2**
ONTNC	**Ouen Toro**	**4.38**	**224**	Pn	**Pn**	**07 29 58.9**	**-0.6**
ONTNC	**Ouen Toro**	**4.38**	**224**	P	**Pn**	**07 30 00.9**	**+1.5**
SANVU	**Saraoutou**	**4.45**	**326**	Pn	**Pn**	**07 29 59.0**	**-1.4**
SANVU	**Saraoutou**	**4.45**	**326**	P	**Pn**	**07 30 02.4**	**+2.0**
KOUNC	**Koumac, New Ca**	**5.32**	**254**	P	**Pn**	**07 30 12.8**	**+0.4**
MSVF	**Nonsavu**	**8.01**	**81**	Pn	**Pn**	**07 30 51.4**	**+2.0**
	3.0nm,0.3s,baz=252,slow=11,SNR=24						
MSVF				LR	LR	07 33 25.0	
	comp=Z,12μm,20.8s,baz=268,slow=34						
MSVF	**Nonsavu**	**8.01**	**81**	P	**Pn**	**07 30 52.1**	**+2.6**
MSVF	**Nonsavu**	**8.01**	**81**	Pn	**Pn**	**07 30 52.1**	**+2.6**
MSVF	**Nonsavu**	**8.01**	**81**	P	**Pn**	**07 30 52.7**	**+3.3**
NFK	**Norfolk Island**	**9.95**	**189**	P	**Pn**	**07 31 17.7**	**+1.7**
	baz=10.0,SNR=6.5						
HNR	**Honiara**	**13.57**	**314**	LR	LR	07 36 35.0	
	comp=Z,2μm,18.6s,baz=137,slow=34						
RAO	**Raoul Island**	**15.05**	**134**	LR	LR	07 37 06.3	
	comp=Z,1μm,21.1s,baz=305,slow=33						
OUZ	**Omahuta**	**16.33**	**169**		**P**	**07 32 45.0**	**+0.4**
EIDS	**Eidsvold**	**18.33**	**247**	P	**Pn**	**07 33 08.9**	**+1.9**
	baz=18,SNR=5.1						
AFI	**Afiamalu**	**18.46**	**76**	P	**P**	**07 33 08.1**	**-0.4**
	0.9nm,0.3s,baz=318,slow=22,SNR=2.6						
AFI				LR	LR	07 39 45.9	
	comp=Z,577nm,18.1s,baz=254,slow=36						
ARMA	**Armidale**	**19.86**	**232**	P	**Pn**	**07 33 26.5**	**+1.0**
	baz=20,SNR=14						
ARMA	**Armidale**	**19.86**	**232**	P	**P**	**07 33 23.1**	**-0.6**
ARMA				IAmb	IAmb	07 33 41.3	
	comp=Z,188nm,1.4s						
URZ	**Urewera**	**20.05**	**163**	P	**P**	**07 33 25.7**	**+0.2**
	comp=Z,7.2nm,1.0s,baz=120,slow=23,SNR=1.5						
URZ				LR	LR	07 39 36.4	
	comp=Z,2μm,21.4s,baz=31,slow=32						
URZ	**Urewera**	**20.05**	**163**	P	**P**	**07 33 24.9**	**-0.7**
URZ				IAmb	IAmb	07 33 46.2	
	comp=Z,182nm,1.5s						
RMQ	**Roma**	**20.65**	**246**	P	Pn	07 33 35.3	+0.6
	baz=21,SNR=21						
TARA	**Tarawa**	**20.65**	**9**	P	**P**	**07 33 31.4**	**-0.9**
TARA	**Tarawa**	**20.65**	**9**	P	Pn	07 33 34.3	-0.4
	comp=Z,253nm,1.2s						
BKZ	**Black Stump Fm**	**20.74**	**165**	P	**P**	**07 33 34.6**	**+1.4**
CTA	**Charters Tower**	**22.15**	**264**	P	**P**	**07 33 50.2**	**+1.8**
	comp=Z,21nm,0.8s,baz=92,slow=15,SNR=9.7						
CTA				LR	LR	07 42 19.3	
	comp=Z,2μm,18.4s,baz=81,slow=36						
CTAO	**Charters Tower**	**22.15**	**264**	P	**P**	**07 33 49.6**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,87nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,1μm,21.0s						
CTAO	**Charters Tower**	**22.15**	**264**	P	**P**	**07 33 49.6**	**+1.2**
CTAO				IAmb	IAmb	07 34 11.3	
	comp=Z,87nm,1.4s						
MSWZ	**Moikau Station**	**22.64**	**169**	P	**P**	**07 33 55.2**	**+1.7**
THZ	**Tophouse**	**22.66**	**174**	P	**P**	**07 33 56.3**	**+2.6**
THZ				IAmb	IAmb	07 34 04.7	
	comp=Z,141nm,1.5s						
PMG	**Port Moresby**	**23.93**	**291**	P	**P**	**07 34 07.1**	**+0.7**
	comp=Z,40nm,1.0s,baz=118,slow=11,SNR=6.1						
PMG				LR	LR	07 42 24.9	
	comp=Z,1μm,18.5s,baz=82,slow=34						
PMG	**Port Moresby**	**23.93**	**291**	*d* iP	**P**	**07 34 06.6**	**+0.2**
PMG				pmax	pmax		
	comp=Z,304nm,1.7s						
PMG	**Port Moresby**	**23.93**	**291**	P	**P**	**07 34 05.4**	**-1.0**
PMG	**Port Moresby**	**23.93**	**291**	P	**P**	**07 34 05.6**	**-0.8**
	comp=Z,2μmcomp=Z,153nm,1.5s						
PMG	**Port Moresby**	**23.93**	**291**	P	**P**	**07 34 08.5**	**+2.1**
PMG	**Port Moresby**	**23.93**	**291**	P	**P**	**07 34 08.6**	**+2.1**
MTSU	**Mount Surprise**	**24.12**	**268**	P	**P**	**07 34 09.2**	**+1.0**
	baz=24,SNR=15						
CAN	**Canberra**	**24.39**	**225**	P	**P**	**07 34 09.3**	**-1.3**
CAN				pmax	pmax		
	comp=Z,61nm,0.9s						
CAN	**Canberra**	**24.39**	**225**	P	**P**	**07 34 09.3**	**-1.3**
CAN				IAmb	IAmb	07 34 21.0	
	comp=Z,61nm,0.9s						
QLP	**Quilpie**	**24.60**	**248**	P	**P**	**07 34 13.2**	**+0.6**
	baz=24,SNR=7.1						
CMSA	**Cobar Meteorol**	**24.91**	**236**	P	**P**	**07 34 16.6**	**+1.3**
	baz=25,SNR=12						
MILA	**Mila**	**25.34**	**221**	P	**P**	**07 34 21.0**	**+1.8**
	baz=25,SNR=6.6						
STKA	**Stephens Creek**	**28.28**	**238**	P	**P**	**07 34 46.7**	**+1.0**
	comp=Z,6.6nm,0.8s,baz=47,slow=9.6,SNR=7.2						
STKA				LR	LR	07 45 43.0	
	comp=Z,3μm,18.8s,baz=67,slow=36						
STKA	**Stephens Creek**	**28.28**	**238**	P	**P**	**07 34 47.0**	**+1.4**
	baz=28,SNR=7.4						
STKA	**Stephens Creek**	**28.28**	**238**	P	**P**	**07 34 46.3**	**+0.6**
STKA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
STKA	**Stephens Creek**	**28.28**	**238**	P	**P**	**07 34 46.3**	**+0.6**
QIS	**Mount Isa**	**28.37**	**262**	P	**P**	**07 34 46.5**	**-0.1**
	baz=28,SNR=3.9						
RAR	**Rarotonga**	**28.65**	**99**	LR	LR	07 43 55.9	
	comp=Z,262nm,19.7s,baz=274,slow=32						
BBOO	**Buckleboo**	**33.03**	**239**	P	**P**	**07 35 28.4**	**+0.9**
	baz=33,SNR=4.5						
BBOO	**Buckleboo**	**33.03**	**239**	P	**P**	**07 35 28.6**	**+1.1**
BBOO				IAmb	IAmb	07 35 51.1	
	comp=Z,31nm,1.2s						
WR0	**Warramunga Arr**	**33.15**	**263**	P	**P**	**07 35 28.6**	**-0.1**
WR0				IAmb	IAmb	07 35 35.2	
	comp=Z,21nm,1.1s						
WB0	**Warramunga Arr**	**33.30**	**263**	P	**P**	**07 35 29.2**	**-1.0**
WB0				IAmb	IAmb	07 35 39.7	
	comp=Z,18nm,0.8s						
GENI	**Genyem**	**33.31**	**296**	P	**P**	**07 35 29.1**	**-1.0**
	comp=Z,4μmcomp=Z,280nm,1.3s						
WB2	**Warramunga Arr**	**33.33**	**263**	P	**P**	**07 35 29.5**	**-0.8**
WB2				IAmb	IAmb	07 35 35.7	
	comp=Z,26nm,1.2s						
WRAB	**Tennant Creek**	**33.33**	**263**	⇑*e*P	**P**	**07 35 33.0**	**+2.6**
WRAB				pmax	pmax		
	comp=Z,19nm,1.3s						
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**07 35 29.2**	**-1.2**
	comp=Z,4.9nm,0.9s,baz=93,slow=8.9,SNR=15						
WRA				PcP	**PcP**	**07 38 12.1**	**+0.1**
	comp=Z,3.3nm,1.2s,baz=79,slow=4.3,SNR=4.7						
WRA				LR	LR	07 49 09.5	
	comp=Z,1μm,18.7s,baz=90,slow=36						
AS31	**Alice Springs**	**33.61**	**256**	P	**P**	**07 35 32.5**	**-0.3**
AS31				IAmb	IAmb	07 35 40.6	
	comp=Z,24nm,0.7s						
ASAR	**Alice Springs**	**33.61**	**256**	P	**P**	**07 35 32.3**	**-0.5**
	comp=Z,28nm,0.6s,baz=85,slow=8.9,SNR=135						
ASAR				PcP	**PcP**	**07 38 12.7**	**0.0**
	comp=Z,2.9nm,1.0s,baz=86,slow=1.5,SNR=4.4						
ASAR				LR	LR	07 48 46.4	
	comp=Z,2μm,20.0s,baz=94,slow=36						
ASAR	**Alice Springs**	**33.61**	**256**	P	**P**	**07 35 32.6**	**-0.2**
ASAR	**Alice Springs**	**33.61**	**256**	P	**P**	**07 35 32.6**	**-0.2**
KDU	**Kakadu**	**36.37**	**275**	P	**P**	**07 35 56.0**	**-0.6**
	baz=36,SNR=7.4						
MTN	**Manton Dam**	**37.59**	**274**	P	**P**	**07 36 06.9**	**-0.1**
	baz=38,SNR=31						
MTN	**Manton Dam**	**37.59**	**274**	P	**P**	**07 36 07.5**	**+0.5**
TBI	**Tubuai**	**38.15**	**104**	*e*S	**S**	**07 42 01.0**	**-1.7**
	comp=Z,247nm,28.0s						
TBI				*e*LQ	LQ	07 44 54.6	
	comp=Z,3μm,29.5s						
TBI				*e*LR	LR	07 46 28.7	
	comp=Z,1μm,30.5s						
PPT2	**Papeete2**	**38.57**	**94**	*e*S	**S**	**07 42 07.2**	**-2.1**
	comp=Z,381nm,25.2s						
PPT2				*e*LQ	LQ	07 45 03.8	
	comp=Z,4μm,31.0s						
PPT2				*e*LR	LR	07 46 39.2	
	comp=Z,2μm,29.0s						
PPT	**Papeete**	**38.57**	**94**	LR	LR	07 50 28.6	
	comp=Z,372nm,19.9s,baz=260,slow=34						
WRKA	**Warakurna**	**38.73**	**254**	P	**P**	**07 36 16.5**	**-0.1**
	baz=39,SNR=51						
KNRA	**Kununurra**	**39.20**	**269**	P	**P**	**07 36 20.6**	**+0.1**
	baz=39,SNR=8.0						
KNRA	**Kununurra**	**39.20**	**269**	P	**P**	**07 36 19.9**	**-0.6**
KNRA				IAmb	IAmb	07 36 28.0	
	comp=Z,64nm,0.8s						
FORT	**Forrest**	**39.31**	**245**	P	**P**	**07 36 21.6**	**+0.4**
FORT				IAmb	IAmb	07 36 31.6	
	comp=Z,60nm,0.8s						
FAKI	**Fak Fak**	**40.06**	**289**	P	**P**	**07 36 27.1**	**-0.7**
FAKI				IAmb	IAmb	07 36 35.0	
	comp=Z,55nm,0.7s						
FAKI	**Fak Fak**	**40.06**	**289**	P	**P**	**07 36 27.5**	**-0.2**
	comp=Z,82nm,1.3s						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P	**P**	**07 36 41.6**	**+0.2**
	comp=Z,21nm,0.8s,baz=104,slow=6.5,SNR=34						
FITZ				LR	LR	07 53 03.8	
	comp=Z,892nm,21.1s,baz=98,slow=35						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P	**P**	**07 36 41.8**	**+0.4**
	baz=42,SNR=20						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P	**P**	**07 36 41.9**	**+0.5**
SIJI	**Sorong**	**41.87**	**291**	P	**P**	**07 36 42.2**	**-0.5**
	comp=Z,10.0nm,0.7s,baz=82,slow=2.2,SNR=5.1						
SIJI	**Sorong**	**41.87**	**291**	P	**P**	**07 36 41.3**	**-1.4**
	comp=Z,562nmcomp=Z,36nm,1.4s						
SWI	**Sorong**	**41.88**	**291**	P	**P**	**07 36 40.0**	**-2.7**
	comp=Z,1μmcomp=Z,84nm,1.4s						
KRAI	**Karang Ratu**	**43.36**	**286**	P	**P**	**07 36 54.6**	**-0.2**
	comp=Z,4μmcomp=Z,35nm,1.0s						
SOEI	**Soe**	**44.91**	**275**	P	**P**	**07 37 06.9**	**-0.4**
	comp=Z,1μmcomp=Z,63nm,1.1s						
SANI	**Sanana**	**46.07**	**286**	P	**P**	**07 37 15.3**	**-1.1**
	comp=Z,1μmcomp=Z,41nm,0.9s						
PSA00	**Pilbara Seismi**	**46.69**	**258**	P	**P**	**07 37 21.9**	**+0.8**
MEEK	**Meekatharra**	**47.43**	**251**	P	**P**	**07 37 27.1**	**+0.2**
	baz=47,SNR=55						
EDFI	**Ende, Flores**	**47.64**	**276**	P	**P**	**07 37 28.8**	**0.0**
	comp=Z,342nmcomp=Z,16nm,1.1s						
KLBR	**Kellerberrin**	**48.17**	**244**	P	**P**	**07 37 33.0**	**+0.5**
	baz=48,SNR=13						
NWAO	**Narrogin (SRO)**	**48.66**	**243**	LR	LR	07 57 22.5	
	comp=Z,3μm,21.2s,baz=96,slow=35						
MIDW	**Midway**	**48.75**	**15**	IAMs_20	IAMs_20	07 53 45.4	
	comp=Z,1μm,20.0s						
WBSI	**Waikabubak, Su**	**49.54**	**274**	P	**P**	**07 37 42.2**	**-1.1**
	comp=Z,1μmcomp=Z,101nm,1.0s						
MORW	**Morawa**	**49.64**	**248**	P	**P**	**07 37 45.4**	**+1.5**
	baz=50,SNR=4.7						
BKSI	**Bulukumba**	**50.23**	**279**	P	**P**	**07 37 48.1**	**-0.4**
	comp=Z,479nmcomp=Z,28nm,1.0s						
BNSI	**Bone**	**50.57**	**280**	P	**P**	**07 37 50.4**	**-0.7**
	comp=Z,34nm,1.1s						
KAPI	**Kappang**	**50.69**	**279**	P	**P**	**07 37 51.2**	**-0.7**
	comp=Z,9.5nm,0.7s,baz=127,slow=5.5,SNR=8.4						
KAPI	**Kappang**	**50.69**	**279**	P	**P**	**07 37 52.0**	**+0.1**
	comp=Z,617nmcomp=Z,48nm,0.9s						
PLAI	**Plampang**	**51.30**	**274**	P	**P**	**07 37 55.9**	**-0.7**
	comp=Z,64nm,1.8s						
TTSI	**Tana Toraja**	**51.34**	**282**	P	**P**	**07 37 57.3**	**+0.5**
TOLI2	**Tolitoli**	**52.12**	**287**	P	**P**	**07 38 03.4**	**+0.8**
TOLI2				IAmb	IAmb	07 38 10.1	
	comp=Z,31nm,1.0s						
TWSI	**Taliwang, Sumb**	**52.17**	**274**	P	**P**	**07 38 02.7**	**-0.4**
	comp=Z,33nm,1.5s						
MPSI	**Mapaga**	**52.60**	**286**	P	**P**	**07 38 06.5**	**+0.3**
	comp=Z,22nm,1.1s						
JCJ	**Chichijima**	**53.21**	**329**	LR	LR	07 57 22.7	
	comp=Z,297nm,21.2s,baz=156,slow=32						
BBKI	**Banjar Baru**	**55.81**	**279**	P	**P**	**07 38 29.6**	**-0.1**
	comp=Z,14nm,0.6s						
VNDA	**Vanda**	**58.49**	**182**	P	**P**	**07 38 48.9**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=2.5,slow=6.8,SNR=17						
VNDA				LR	LR	08 01 02.1	
	comp=Z,549nm,19.1s,baz=20,slow=33						
VNDA	**Vanda**	**58.49**	**182**	P	**P**	**07 38 49.3**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,28nm,1.4s						
VNDA	**Vanda**	**58.49**	**182**	P	**P**	**07 38 49.3**	**+1.6**
VNDA				IAmb	IAmb	07 38 55.6	
	comp=Z,28nm,1.4s						
SBA	**Scott Base**	**58.72**	**181**	P	**P**	**07 38 51.0**	**+1.8**
SBA				pmax	pmax		
	comp=Z,62nm,1.2s						
SBA	**Scott Base**	**58.72**	**181**	P	**P**	**07 38 51.0**	**+1.8**
CTJI	**Waduk Cacaban**	**59.96**	**273**	P	**P**	**07 38 58.7**	**-0.1**
	comp=Z,23nm,1.1s						
CASY	**Casey**	**60.36**	**204**	P	**P**	**07 39 01.1**	**+0.4**
CASY				IAmb	IAmb	07 39 08.7	
	comp=Z,23nm,1.1s						
MJAR	**Matsushiro Arr**	**62.94**	**332**	P	**P**	**07 39 18.2**	**-0.2**
	comp=Z,24nm,1.0s,baz=165,slow=6.7,SNR=8.1						
MJAR				LR	LR	08 09 15.1	
	comp=Z,119nm,18.0s,baz=165,slow=39						
MJAR	**Matsushiro Arr**	**62.94**	**332**	P	**P**	**07 39 18.5**	**0.0**
MJAR				pmax	pmax		
	comp=Z,18nm,1.0s						
MJAR	**Matsushiro Arr**	**62.94**	**332**	P	**P**	**07 39 18.4**	**0.0**
MJAR				IAmb	IAmb	07 39 27.0	
	comp=Z,18nm,1.0s						
MAJO	**Matsushiro**	**62.94**	**332**	P	**P**	**07 39 18.0**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,44nm,1.0s						
MAJO	**Matsushiro**	**62.94**	**332**	P	**P**	**07 39 18.0**	**-0.4**
MAT	**Matsushiro**	**62.94**	**332**	P	**P**	**07 39 17.6**	**-0.8**
MAT				*e*S	**S**	**07 47 49.2**	**+3.1**
MJB9	**Matsu-Tunnel**	**62.94**	**332**	P	**P**	**07 39 17.8**	**-0.7**
CGJI	**Cibinong**	**63.38**	**272**	P	**P**	**07 39 22.3**	**+0.5**
	comp=Z,54nm,1.0s						
SSLB	**Suanglung**	**63.95**	**310**	P	**P**	**07 39 24.7**	**-0.7**
JSD	**Sado**	**64.16**	**333**	P	**P**	**07 39 26.6**	**+0.1**
YHNB	**Yeheng**	**64.18**	**311**	P	**P**	**07 39 26.2**	**-0.7**
MDSI	**Maura Dua**	**65.48**	**274**	P	**P**	**07 39 32.0**	**-3.6**
	comp=Z,9.2nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**66.61**	**341**	*d* iP	**P**	**07 39 40.4**	**-1.8**
YUK				*e*		07 40 10.9	
YUK				*e*		07 42 08.2	
YUK				*e*PPP	PPP	07 43 44.3	
YUK				*i* S	**S**	**07 48 30.8**	**-0.2**
YUK				pmax	pmax		
	comp=Z,294nm,1.3s						
YUK				pmax	pmax		
	comp=N,149nm,1.2s						
YUK				pmax	pmax		
	comp=E,163nm,0.9s						
KUR	**Kuril'sk**	**67.14**	**343**	*e*P	**P**	**07 39 45.8**	**+0.3**
KUR				S	**S**	**07 48 40.2**	**+2.9**
KUR				MLR	MLR		
	comp=Z,300nm,16.0s						
JKA	**Kamikawa-asahi**	**67.72**	**339**	P	**P**	**07 39 50.1**	**+0.8**
ASAJ	**Asahikawa**	**67.73**	**339**	P	**P**	**07 39 50.5**	**+1.3**
	comp=Z,58nm,0.9s,baz=244,slow=16,SNR=4.6						
ASAJ	**Asahikawa**	**67.73**	**339**	P	**P**	**07 39 50.1**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,63nm,0.9s						
KSRS	**Korea Array**	**68.74**	**325**	P	**P**	**07 39 56.2**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=138,slow=6.9,SNR=5.7						
KSRS				LR	LR	08 09 21.9	
	comp=Z,103nm,18.6s,baz=125,slow=35						
QIZ	**Qiongzhong**	**69.98**	**299**	P	**P**	**07 40 03.5**	**-0.3**
QIZ				S	**S**	**07 49 13.4**	**+1.3**
QIZ				sS	**sS**	**07 49 30.6**	**+1.3**
QIZ				SS	**SS**	**07 53 43.0**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,190nm,5.3s						
QIZ				L	L		
	comp=Z,120nm,15.1s						
YSS	**Yuzh-Sakhalins**	**70.19**	**341**	*d* iP	**P**	**07 40 05.8**	**+1.3**
YSS				*e**SP	**pP**	**07 40 14.3**	**-0.2**
YSS				*e*S	**S**	**07 49 10.1**	**-3.4**
YSS				*e*PPS	PPS	07 50 08.0	
YSS				*e*SS	**SS**	**07 53 50.0**	**+5.5**
YSS				*e*SSS	SSS	07 56 53.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				pmax	pmax		
	comp=Z,400nm,5.6s						
YSS	**Yuzh-Sakhalins**	**70.19**	**341**	P	**P**	**07 40 05.3**	**+0.8**
NJ2	**Nanjing**	**70.51**	**316**	*e*P	**P**	**07 40 08.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SKR	**Severo-Kuril's**	**70.60**	**351**	*e*P	**P**	**07 40 05.2**	**-1.7**
SKR				*e*		07 40 30.0	
SKR				*e*S	**S**	**07 49 16.8**	**-1.2**
SKR				*e*SS	**SS**	**07 53 52.8**	**+2.2**
SKR				pmax	pmax		
	comp=Z,200nm,3.8s						
SKR				pmax	pmax		
	comp=Z,100nm,4.3s						
SKR				pmax	pmax		
	comp=Z,23nm,1.3s						
SKR				MLR	MLR		
	comp=Z,300nm,16.0s						
SKR				MLR	MLR		
	comp=Z,200nm,16.0s						
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**07 40 09.2**	**+0.5**
QSPA				IAmb	IAmb	07 40 17.2	
	comp=Z,32nm,1.1s						
MNSI	**Mandailing Nat**	**71.58**	**278**	P	**P**	**07 40 12.8**	**-0.9**
ADK	**Adak**	**71.76**	**9**	IAMs_20	IAMs_20	08 05 15.0	
	comp=Z,799nm,20.0s						
USRK	**Ussuriysk Ar.**	**71.92**	**332**	P	**P**	**07 40 16.0**	**+1.0**
	comp=Z,6.8nm,0.9s,baz=131,slow=7.8,SNR=10.0						
USRK	**Ussuriysk Ar.**	**71.92**	**332**	P	**P**	**07 40 15.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**71.92**	**332**	P	**P**	**07 40 15.1**	**+0.1**
PET	**Petropavlovsk**	**72.55**	**353**	*c* iP	**P**	**07 40 20.8**	**+2.2**
PET				*e*S	**S**	**07 49 43.3**	**+2.8**
PET				*e*SS	**SS**	**07 54 27.6**	**+7.1**
PET				pmax	pmax		
	comp=Z,100nm,13.8s						
PET				pmax	pmax		
	comp=Z,46nm,1.2s						
PET	**Petropavlovsk**	**72.55**	**353**	IAMs_20	IAMs_20	08 04 35.1	
	comp=Z,774nm,22.0s						
WHN	**Wuhan**	**72.68**	**312**	⇑P	P	07 40 27.8	+7.9
PEA0B	**Petropavlovsk-**	**72.75**	**352**	*d* iP	**P**	**07 40 20.1**	**+0.3**
PEA0B	**Petropavlovsk-**	**72.75**	**352**	P	**P**	**07 40 20.3**	**+0.5**
PEA0B				IAmb	IAmb	07 40 27.7	
	comp=Z,59nm,1.4s						
PETK	**Petropavlovsk-**	**72.75**	**352**	P	**P**	**07 40 20.4**	**+0.5**
	comp=Z,8.5nm,1.0s,baz=137,slow=7.1,SNR=8.6						
PETK				LR	LR	08 06 24.6	
	comp=Z,707nm,21.7s,baz=154,slow=31						
PETK	**Petropavlovsk-**	**72.75**	**352**	P	**P**	**07 40 19.7**	**-0.2**
PETK	**Petropavlovsk-**	**72.75**	**352**	P	**P**	**07 40 19.6**	**-0.2**
PSI	**Prapat**	**72.89**	**279**	P	**P**	**07 40 21.6**	**-0.1**
	comp=Z,18nm,1.1s,comp=Z,6.4nm,1.1s						
PSI				P	**P**	**07 40 21.0**	**-0.7**
	comp=Z,18nm,1.1s,comp=Z,6.4nm,1.1s						
MDJ	**Mudanjiang**	**73.31**	**331**	P	**P**	**07 40 24.5**	**+1.2**
MDJ				sP	sP	07 40 37.6	-0.1
MDJ				pmax	pmax		
	comp=Z,22nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,430nm,4.2s						
MDJ				L	L		
	comp=Z,280nm,14.2s						
MDJ				L	L		
	comp=Z,380nm,15.7s						
MDJ				L	L		
	comp=Z,390nm,20.2s						
GSI	**Gunungsitoli**	**73.63**	**277**	P	**P**	**07 40 24.9**	**-1.0**
	comp=Z,26nm,1.1s						
TYV	**Tymovskoe**	**73.71**	**342**	*e*P	**P**	**07 40 27.1**	**+1.6**
TYV				*e*		07 49 58.1	
TYV				pmax	pmax		
	comp=Z,28nm,1.2s						

CHTO Chiang Mai 79.07 294 P P 07 40 57.2 +0.5
CHTO Chiang Mai 79.07 294 P P 07 40 55.8 -0.9
comp=Z,12nm,1.6s
MA2 Magadan 80.00 350 P P 07 41 00.5 -0.3
comp=Z,12nm,1.0s,baz=181,slow=5.1,SNR=4.1
MA2 Magadan 80.00 350 *c i* P P 07 41 00.7 -0.1
MA2 pmax pmax
comp=Z,89nm,2.5s
MA2 Magadan 80.00 350 IAmb IAmb 07 41 02.6
comp=Z,71nm,1.3s
MA2 IAMs_20 IAMs_20 08 09 14.1
comp=Z,590nm,21.0s
HHC Hu-ho-hao-te 80.50 319 *e* P P 07 41 05.0 +0.9
HHC S S 07 51 04.4 -3.9
HHC pmax pmax
comp=Z,18nm,1.3s
HHC pmax pmax
comp=Z,270nm,7.2s
HHC L L
comp=Z,230nm,17.2s
HHC L L
comp=Z,230nm,18.5s
HHC L L
comp=Z,260nm,20.8s
CD2 Chengdu 80.59 307 P P 07 41 05.5 +0.8
CD2 S S 07 51 10.8 +1.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,230nm,4.3s
CD2 L L
comp=Z,330nm,18.5s
CD2 L L
comp=Z,240nm,20.8s
CD2 L L
comp=Z,290nm,20.9s
ZEA Zeya 81.31 336 *e* P P 07 41 09.2 +1.3
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.1s
SII Sitkinak Islan 81.32 19 IAMs_20 IAMs_20 08 09 50.8
comp=Z,776nm,21.0s
OHAK Old Harbor 82.15 19 P 07 41 12.5
baz=215
KDAK Kodiak Island 82.83 19 P P 07 41 15.3 -0.5
comp=Z,7.6nm,1.1s,baz=347,slow=11,SNR=4.2
KDAK Kodiak Island 82.83 19 P P 07 41 16.1 +0.3
KDAK pmax pmax
comp=Z,16nm,1.3s
KDAK Kodiak Island 82.83 19 P P 07 41 16.1 +0.3
KDAK IAmb IAmb 07 41 27.5
comp=Z,16nm,1.2s
KDAK Kodiak Island 82.83 19 IAMs_20 IAMs_20 08 12 00.6
comp=Z,707nm,20.0s
SEY Seymchan 82.99 352 P P 07 41 15.6 -0.9
comp=Z,15nm,1.0s,baz=153,slow=5.3,SNR=13
LZH Lanzhou 83.06 312 ⇑P P 07 41 19.4 +1.7
LZH pP pP 07 41 26.8 -1.4
LZH *e*S S 07 51 36.1 +1.0
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,200nm,6.8s
LZH L L
comp=Z,210nm,16.5s
LZH L L
comp=Z,190nm,17.0s
LZH L L
comp=Z,190nm,18.3s
O18K Koktuh Hills 83.77 17 P 07 41 20.5
baz=213
N18K Kilae Creek 84.28 16 P 07 41 23.8
baz=212
HOM Homer 84.64 19 IAMs_20 IAMs_20 08 12 55.3
comp=Z,771nm,20.0s
CNPM China Poot 84.65 19 IAMs_20 IAMs_20 08 13 23.8
comp=Z,632nm,20.0s
SVW2 Sparrevohn 84.72 16 P P 07 41 25.6 +0.1
SVW2 IAmb IAmb 07 41 45.1
comp=Z,16nm,1.2s
BRSE Bradley Lake S 84.98 19 P 07 41 27.3
baz=217
SYO Syowa Base 85.11 196 ‖ *e* P P 07 41 26.7 -0.8
SYO Syowa Base 85.11 196 ‖ *e* PcP PcP 07 41 32.0 +1.4
SYO Syowa Base 85.11 196 ‖ *e* pP pP 07 41 35.0 -3.1
HOPS Hopland Field 85.36 46 IAMs_20 IAMs_20 08 07 54.1
comp=Z,478nm,20.0s
JCC Jacoby Creek, 85.61 44 IAMs_20 IAMs_20 08 12 45.6
comp=Z,731nm,20.0s
ANM Nome 85.67 10 IAMs_20 IAMs_20 08 13 20.9
comp=Z,629nm,21.0s
O22K Cooper Landing 85.88 19 IAMs_20 IAMs_20 08 13 12.2
comp=Z,471nm,21.0s
O02D Mt. Diablo Mer 86.12 45 P 07 41 35.0
baz=241
TNA Tin City 86.18 9 P 07 41 34.5
baz=201
RC01 Rabbit Creek A 86.35 18 IAMs_20 IAMs_20 08 12 12.7
comp=Z,703nm,22.0s
SUA Susitna One 86.35 18 P 07 41 35.7
baz=217
SUA Susitna One 86.36 18 IAMs_20 IAMs_20 08 15 01.7
comp=Z,625nm,20.0s
WDC Whiskeytown Da 86.48 45 IAMs_20 IAMs_20 08 11 05.7
comp=Z,835nm,22.0s
N02D Trinity Center 86.56 45 P 07 41 37.0
baz=241
ARVC Arvin 86.58 51 P 07 41 37.2
baz=244
PASC Pasadena Art C 86.64 52 IAMs_20 IAMs_20 08 11 05.5
comp=Z,638nm,19.0s
M02C Callahan 86.67 44 P 07 41 37.7
baz=241
VES Vestal, Richgr 86.71 50 P 07 41 37.7
baz=244
CMB Columbia Colle 86.76 48 IAMs_20 IAMs_20 08 12 45.4
comp=Z,762nm,20.0s
AFDM Forest Hills D 86.78 47 P P 07 41 37.4 +1.2
AFDM IAmb IAmb 07 41 47.0
comp=Z,21nm,1.5s
K02D Willamette Mer 86.78 43 P 07 41 38.5
baz=240
HIN Hinchinbrook I 86.83 20 IAMs_20 IAMs_20 08 15 38.4
comp=Z,499nm,20.0s
J01E Myrtle Point 86.84 42 P 07 41 40.3
baz=240
O03E Paynes Creek 86.84 45 P 07 41 38.5
baz=242
YBH Yreka Blue Hor 86.93 44 IAMs_20 IAMs_20 08 11 18.4
comp=Z,834nm,22.0s
YAK Yakutsk 86.97 342 P P 07 41 36.3 -0.2
comp=Z,16nm,0.4s,baz=96,slow=1.4,SNR=6.7
YAK Yakutsk 86.97 342 *e* P P 07 41 36.7 +0.2
YAK *e* PP pwP 07 41 49.2 +1.9
YAK *e*S SKSac 07 52 00.6 0.0
YAK *e*SS SS 07 57 54.2 -1.9
YAK pmax pmax
comp=Z,77nm,1.0s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=N,15nm,1.2s
YAK smax smax
comp=E,63nm,3.8s
YAK smax smax
comp=N,56nm,3.1s
YAK Yakutsk 86.97 342 P P 07 41 36.5 0.0
GLI Glacier Island 87.00 20 IAMs_20 IAMs_20 08 14 14.0
comp=Z,442nm,20.0s
BILL Bilibino 87.01 359 *c i* P P 07 41 36.0 -0.6
BILL *e* 07 41 42.1
BILL pmax pmax
comp=Z,36nm,1.3s
BILL MLR MLR
comp=Z,102nm,18.0s
BILL Bilibino 87.01 359 P P 07 41 36.6 -0.1
BILL IAmb IAmb 07 41 45.9
comp=Z,30nm,1.1s
BFSC Mount Baldy Ra 87.06 52 P 07 41 38.7
baz=245
ISA Isabella, Lake 87.07 51 P 07 41 38.8
baz=244
EDW2 Edwards Air Fo 87.09 52 P 07 41 39.5
baz=244
ULN Ulaanbaatar 87.12 323 *d i* P P 07 41 37.7 -0.1
ULN pmax pmax
comp=Z,39nm,1.3s
ULN Ulaanbaatar 87.12 323 P P 07 41 38.3 +0.4
ULN Ulaanbaatar 87.12 323 P P 07 41 37.5 -0.3
comp=Z,2μmcomp=Z,135nm,1.2s
GHO Glory Hole Cre 87.13 18 IAMs_20 IAMs_20 08 15 15.3
comp=Z,696nm,20.0s
MURC Murrieta 87.14 53 P 07 41 39.6
baz=245
CUT Chulina 87.24 17 IAMs_20 IAMs_20 08 13 53.2
comp=Z,477nm,21.0s
SML Sawmill 87.34 19 IAMs_20 IAMs_20 08 15 00.8
comp=Z,456nm,20.0s
MONP2 Monument Peak 87.43 54 P 07 41 41.1
baz=245
L04D Klamath Falls 87.43 44 P 07 41 40.7
baz=241
GTA Gaotai 87.45 313 ⇑P P 07 41 40.3 +0.7
GTA pP pP 07 41 47.8 -2.3
GTA sP sP 07 41 51.3 -2.6
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA L L
comp=Z,170nm,18.5s
GTA L L
comp=Z,430nm,21.1s
GTA L L
comp=Z,100nm,20.7s
SONM Songino Array 87.47 323 P P 07 41 39.9 +0.4
comp=Z,14nm,1.0s,baz=139,slow=5.0,SNR=50
SONM LR LR 08 18 57.0
comp=Z,100nm,20.7s,baz=112,slow=34
SONM Songino Array 87.47 323 P P 07 41 39.1 -0.4
SONM pmax pmax
comp=Z,27nm,1.2s
SONM Songino Array 87.47 323 P P 07 41 39.1 -0.4
SONM IAmb IAmb 07 41 48.5
comp=Z,27nm,1.2s
SUCK Suckling Hills 87.50 21 IAMs_20 IAMs_20 08 21 09.2
comp=Z,507nm,19.0s
M04C Macdoel 87.52 44 P 07 41 41.3
baz=242
HMT Hamilton 87.53 21 IAMs_20 IAMs_20 08 17 04.9
comp=Z,589nm,19.0s
IKP In-Ko-Pah, Jac 87.56 54 P 07 41 41.5
baz=246
PFO Pinyon Flats O 87.70 53 IAMs_20 IAMs_20 08 10 50.7
comp=Z,682nm,22.0s
PFO Pinyon Flats O 87.70 53 P 07 41 42.4
baz=245
CWC Cottonwood Cre 87.70 50 P 07 41 42.3
baz=244
BMRM Bremner River 87.88 20 IAMs_20 IAMs_20 08 12 03.1
comp=Z,447nm,21.0s
SWSC Sam W. Stewart 87.92 54 P 07 41 43.6
baz=246
COR Corvallis 87.94 41 IAMs_20 IAMs_20 08 12 06.0
comp=Z,803nm,22.0s
MPMC Manual Prospec 87.97 51 P 07 41 43.5
baz=245
KTH Kantishna Hill 87.98 16 IAMs_20 IAMs_20 08 17 47.6
comp=Z,511nm,20.0s
WAT6 Susitna Watana 88.11 18 P 07 41 42.0
baz=220
I04A Tendick Farm, 88.12 42 P 07 41 43.0
baz=241
MESA MESA 88.21 22 P 07 41 45.8
baz=225
BELC Belle Mtn. Jos 88.21 53 P 07 41 44.7
baz=246
MESA MESA 88.21 22 IAMs_20 IAMs_20 08 19 25.1
comp=Z,436nm,20.0s
CRQM Cirque 88.21 21 IAMs_20 IAMs_20 08 19 17.4
comp=Z,464nm,19.0s
TGL Tana Glacier 88.32 21 IAMs_20 IAMs_20 08 19 26.9
comp=Z,436nm,20.0s
N25K Chitina, Valde 88.35 20 P 07 41 43.8
baz=223
BPAW Bear Paw Mtn. 88.41 16 IAMs_20 IAMs_20 08 16 41.8
comp=Z,469nm,20.0s
NVAR Mina Array Bea 88.41 48 P P 07 41 45.4 +1.1
comp=Z,2.9nm,0.9s,baz=228,slow=6.2,SNR=18
YAH Yahtse 88.41 22 IAMs_20 IAMs_20 08 18 30.3
comp=Z,480nm,20.0s
RND Reindeer 88.44 17 IAMs_20 IAMs_20 08 17 44.6
comp=Z,602nm,20.0s
BC3 Big Chuckawall 88.48 54 P 07 41 46.1
baz=246
MOD Modoc Plateau 88.59 45 IAMs_20 IAMs_20 08 14 37.6
comp=Z,577nm,20.0s
FURC Furnace Creek, 88.60 51 P 07 41 46.3
baz=245
MCK McKinley 88.67 17 IAMs_20 IAMs_20 08 13 54.8
comp=Z,658nm,22.0s
TABL Table Mountain 88.68 22 IAMs_20 IAMs_20 08 18 39.5
comp=Z,469nm,20.0s
GMRC Granite Mounta 88.79 53 P 07 41 47.4
baz=246
KVN Kaiserville 88.82 48 P P 07 41 47.2 +1.0
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 88.82 48 P P 07 41 47.2 +1.0
BCPM Bancas Point 88.89 23 IAMs_20 IAMs_20 08 11 48.1
comp=Z,531nm,21.0s
IRM Iron Mountain 88.92 53 P 07 41 47.7
baz=246
NLWA Neilton Lookou 88.99 39 IAMs_20 IAMs_20 08 13 17.5
comp=Z,529nm,21.0s
I21K Tanana 89.03 15 P 07 41 46.3
baz=216
H21K Melozitna Rive 89.22 15 P 07 41 47.3
baz=215
MLY Manley 89.22 16 P 07 41 47.0
baz=217
SNAA Sanae 89.23 182 P P 07 41 47.6 +0.2
SNAA Sanae 89.23 182 *c i* P P 07 41 47.3 -0.2
SNAA pmax pmax
comp=Z,19nm,2.0s
TPNV Topopah Spring 89.25 50 IAMs_20 IAMs_20 08 12 09.4
comp=Z,659nm,21.0s
RDOG Red Dog Mine 89.27 10 IAMs_20 IAMs_20 08 14 06.0
comp=Z,509nm,22.0s
E04D Cinebar 89.36 40 P 07 41 49.8
baz=241
WRH Wood River Hil 89.48 17 IAMs_20 IAMs_20 08 15 44.2
comp=Z,593nm,20.0s
D03D Eldon 89.52 39 P 07 41 50.9
baz=241
WRAK Wrangell Islan 89.58 28 IAMs_20 IAMs_20 08 13 41.8
comp=Z,638nm,20.0s
I23K Minto, Yukon-K 89.67 16 IAMs_20 IAMs_20 08 18 43.1
comp=Z,449nm,20.0s
CCB Clear Creek Bu 89.69 17 IAMs_20 IAMs_20 08 14 46.8
comp=Z,613nm,22.0s
HDA Harding Lake 89.75 17 P 07 41 49.3
baz=220
HDA P 07 41 49.3
baz=220
HDA Harding Lake 89.75 17 IAMs_20 IAMs_20 08 18 45.4
comp=Z,623nm,20.0s
VNA3 Neumayer Olymp 89.80 180 P P 07 41 50.2 +0.1
MDM Murphy Dome 89.82 17 IAMs_20 IAMs_20 08 20 06.2
comp=Z,417nm,19.0s
TCOL CIGO, UAF Yank 89.85 17 IAMs_20 IAMs_20 08 15 25.1
comp=Z,474nm,21.0s
COLA College 89.86 17 ⇑ *i* P P 07 41 49.3 -0.8
COLA pmax pmax
comp=Z,5.0nm,1.0s
COLA College 89.86 17 IAMs_20 IAMs_20 08 15 25.1
comp=Z,454nm,21.0s
SHPR Sheep Range 89.86 51 P P 07 41 52.1 +1.0
WVOR Wild Horse Val 89.94 45 IAMs_20 IAMs_20 08 15 22.2
comp=Z,646nm,19.0s
ILAR Eielson Array 90.04 17 P P 07 41 49.6 -1.4
comp=Z,1.2nm,0.7s,baz=231,slow=4.8,SNR=10.0
ILAR LR LR 08 20 38.4
comp=Z,488nm,18.0s,baz=230,slow=34
POKR Poker Plat Res 90.16 17 IAMs_20 IAMs_20 08 15 24.1
comp=Z,503nm,21.0s
W13A Hualapai Mount 90.25 53 P P 07 41 53.9 +0.9
SCRK Sand Creek 90.29 19 P 07 41 52.0
baz=223
A04D Lummi Island 90.33 38 P 07 41 54.4
baz=241
VNA1 Neumayer--Stat 90.39 181 P P 07 41 52.4 -0.3
B05A Bryant 90.46 38 P 07 41 54.9
baz=241
ZAK Zakamensk 90.54 324 *e* P P 07 41 53.6 -0.3
ZAK pmax pmax
comp=Z,13nm,1.5s
H24K Noodor Dome 90.59 16 P 07 41 55.1
baz=220
K27K Chicken 90.91 19 P 07 41 55.8
baz=225
K27K Chicken 90.91 19 IAMs_20 IAMs_20 08 19 02.2
comp=Z,392nm,19.0s
PRP Porcupine Dome 90.98 17 IAMs_20 IAMs_20 08 17 01.0
comp=Z,664nm,20.0s
TLY Talaya 91.00 325 P P 07 41 55.6 -0.2
comp=Z,4.5nm,0.7s,baz=137,slow=3.1,SNR=21
TLY Talaya 91.00 325 *e* P P 07 41 55.8 0.0
TLY pmax pmax
comp=Z,65nm,5.5s
COLD Coldfoot 91.11 15 P 07 41 56.4
baz=218
HAWA Hanford 91.13 41 IAMs_20 IAMs_20 08 15 37.4
comp=Z,559nm,20.0s
WHY Whitehorse 91.14 24 P 07 41 56.6
baz=231
LCMT Little Creek M 91.47 51 P P 07 41 59.6 +1.0
LCMT IAmb IAmb 07 42 01.5
comp=Z,10nm,1.2s
TUC Tucson 91.57 56 IAMs_20 IAMs_20 08 21 40.6
comp=Z,382nm,18.0s
EGAK Eagle 91.72 19 IAMs_20 IAMs_20 08 17 31.7
comp=Z,415nm,20.0s
DLBC Dease Lake 91.78 27 P P 07 41 58.7 -0.7
comp=Z,3.3nm,1.0s,baz=262,slow=6.8,SNR=4.2
FYU Fort Yukon 91.85 16 IAMs_20 IAMs_20 08 16 48.8
comp=Z,429nm,20.0s
U15A North Rim 91.96 52 P P 07 42 02.0 +1.0
U15A IAmb IAmb 07 42 03.7
comp=Z,12nm,1.2s
WUAZ Wupatki 92.30 53 P P 07 42 03.4 +0.9
WUAZ IAmb IAmb 07 42 05.6
comp=Z,8.5nm,1.0s
WUAZ IAMs_20 IAMs_20 08 14 01.6
comp=Z,437nm,22.0s
TOLK Toolik Lake Re 92.38 14 IAMs_20 IAMs_20 08 20 47.5
comp=Z,549nm,19.0s
F10A Beach Ranch, E 92.39 42 P P 07 42 02.7 +0.2
MTPU Mount Pierson 92.65 51 P P 07 42 04.5 +0.2
BMAR Burnt Mountain 92.66 16 P P 07 42 04.3 +1.1
X18A Snowflake 93.03 55 P P 07 42 06.4 +0.5
A21K Barrow 93.20 10 P 07 42 08.2
baz=212
A21K Barrow 93.20 10 IAMs_20 IAMs_20 08 19 43.0
comp=Z,451nm,20.0s
HLID Hailey 93.22 45 IAMs_20 IAMs_20 08 16 47.1
comp=Z,673nm,20.0s
W18A Petrified Fore 93.41 54 P 07 42 09.5
baz=249
W18A Petrified Fore 93.41 54 P P 07 42 08.5 +0.9
W18A IAmb IAmb 07 42 10.5
comp=Z,7.2nm,1.1s
NEW Newport 93.43 40 IAMs_20 IAMs_20 08 19 06.0
comp=Z,397nm,20.0s
121A Cookes Peak, D 94.02 57 P 07 42 12.2
baz=250
EPT El Paso 94.79 58 IAMs_20 IAMs_20 08 16 47.8
comp=Z,472nm,20.0s
TIXI Tiksi 94.80 348 P P 07 42 12.7 -0.2
comp=Z,2.1nm,0.3s,baz=143,slow=0.7,SNR=2.1
TIXI Tiksi 94.80 348 *e* P P 07 42 13.0 +0.1
MSO Missoula 94.81 42 IAMs_20 IAMs_20 08 15 32.9
comp=Z,515nm,21.0s
MVCO Mesa Verde 95.08 52 IAMs_20 IAMs_20 08 16 23.9
comp=Z,438nm,20.0s
Y22D IRIS PASSCAL I 95.22 56 IAMs_20 IAMs_20 08 15 49.2
comp=Z,366nm,20.0s
SNOW Snow King Moun 95.65 46 IAMs_20 IAMs_20 08 15 45.5
comp=Z,439nm,22.0s
MNTX Cornudas Mount 95.67 59 P P 07 42 18.2 +0.4
MNTX IAMs_20 IAMs_20 08 17 26.2
comp=Z,405nm,20.0s
LOHW Long Hollow 95.81 46 IAMs_20 IAMs_20 08 15 50.6
comp=Z,438nm,22.0s
ANMO Albuquerque 95.87 55 ⇑ *e* P P 07 42 19.5 +0.6
ANMO pmax pmax
comp=Z,13nm,3.4s
FLWY Flagg Ranch 95.91 45 IAMs_20 IAMs_20 08 16 29.3
comp=Z,490nm,22.0s
BW06 Boulder Array 96.23 47 IAMs_20 IAMs_20 08 22 33.8
comp=Z,344nm,19.0s
PDAR Pinedale Array 96.23 47 P P 07 42 20.5 +0.1
comp=Z,0.5nm,1.0s,baz=197,slow=2.8,SNR=2.4
PDAR PP PP 07 46 14.3 +0.1
comp=Z,0.2nm,0.6s,baz=211,slow=5.1,SNR=2.7
PDAR LR LR 08 21 40.5
comp=Z,254nm,19.0s,baz=264,slow=33
O20A White River Ci 96.26 50 P 07 42 22.2
baz=250
TX31 Lajitas Ar. Si 96.32 61 P P 07 42 20.9 0.0
TX31 IAmb IAmb 07 42 23.4
comp=Z,22nm,1.4s
TX32 Lajitas Array 96.32 61 P P 07 42 21.7 +0.7
TXAR Lajitas Array 96.32 61 P P 07 42 21.6 +0.7
comp=Z,1.1nm,0.9s,baz=216,slow=5.5,SNR=12
TXAR PKKPbc PKKPdf 07 59 08.3 -0.3
comp=Z,0.1nm,0.5s,baz=114,slow=3.1,SNR=3.5
TXAR LR LR 08 17 19.9
comp=Z,481nm,20.6s,baz=0.0,slow=30
TXAR Lajitas Array 96.32 61 P P 07 42 21.4 +0.4
TXAR Lajitas Array 96.32 61 P P 07 42 21.4 +0.4
INK Inuvik 96.35 18 P P 07 42 20.4 +0.4
comp=Z,0.9nm,0.6s,baz=164,slow=15,SNR=3.3
S22A 4UR Ranch, Cre 96.51 52 P 07 42 24.9
baz=251
SMCO Snowmass 96.87 51 IAMs_20 IAMs_20 08 18 00.2
comp=Z,442nm,21.0s
SDCO Great Sand Dun 97.50 53 IAMs_20 IAMs_20 08 18 15.2
comp=Z,406nm,21.0s
WMQ Urumqi 97.52 314 *e* P Pdif 07 42 27.8 +1.7
WMQ L L
WMQ comp=Z,340nm,17.3s
WMQ L L
comp=Z,360nm,22.9s
EGMT Eagleton 97.90 42 IAMs_20 IAMs_20 08 24 26.4
comp=Z,370nm,19.0s
ISCO Idaho Springs 98.06 51 IAMs_20 IAMs_20 08 24 55.8
comp=Z,330nm,18.0s
PLCA Paso Flores 98.25 138 P Pdif 07 42 31.0 +1.4
comp=Z,2.7nm,0.9s,baz=15,slow=4.4,SNR=3.8
PLCA LR LR 08 21 00.5
comp=Z,55nm,18.2s,baz=195,slow=32
JCT Junction City 99.86 61 IAMs_20 IAMs_20 08 18 31.5
comp=Z,615nm,22.0s
YKA Yellowknife Ar 100.40 27 P Pdif 07 42 39.0 +0.7
comp=Z,1.2nm,0.9s,baz=248,slow=4.7,SNR=7.2
OGNE Ogallala 101.01 50 IAMs_20 IAMs_20 08 20 18.8
comp=Z,466nm,20.0s
435B Jarrell 101.78 61 IAMs_20 IAMs_20 08 19 50.3
comp=Z,466nm,21.0s
WMOK Wichita Mounta 101.85 57 IAMs_20 IAMs_20 08 22 58.6
comp=Z,412nm,20.0s
MKAR Makanchi Array 102.04 315 P Pdif 07 42 46.0 -0.1
comp=Z,1.1nm,0.8s,baz=91,slow=5.6,SNR=8.0
MKAR PKKPbc PKKPbc 07 58 48.9 -2.5
comp=Z,0.3nm,0.6s,baz=281,slow=3.4,SNR=3.5
MKAR Makanchi Array 102.04 315 *i* P Pdif 07 42 49.0 +2.9
MKAR pmax pmax
comp=Z,1.0nm,0.8s
OK032 Salt Plains WL 102.82 55 IAMs_20 IAMs_20 08 26 57.2
comp=Z,483nm,22.0s
OK029 Liberty Lake 103.16 57 IAMs_20 IAMs_20 08 29 07.4
comp=Z,404nm,18.0s
OK031 S. Brethren Rd 103.69 56 IAMs_20 IAMs_20 08 28 27.3
comp=Z,446nm,20.0s
OK030 Cody Creek RV 103.72 57 IAMs_20 IAMs_20 08 24 57.3
comp=Z,436nm,20.0s
NATX Nacogdoches 104.45 61 IAMs_20 IAMs_20 08 21 23.0
comp=Z,562nm,22.0s
KSU1 Kansas State U 104.59 53 IAMs_20 IAMs_20 08 22 57.9
comp=Z,369nm,21.0s
ECSD EROS Data Cent 105.58 49 IAMs_20 IAMs_20 08 22 50.4
comp=Z,578nm,22.0s
MIAR Mount Ida 105.97 59 IAMs_20 IAMs_20 08 24 02.9
comp=Z,518nm,22.0s
U40A Yellville 106.92 57 IAMs_20 IAMs_20 08 25 50.9
comp=Z,345nm,20.0s
SCIA State Center 107.69 51 IAMs_20 IAMs_20 08 31 10.5
comp=Z,448nm,20.0s
CCM Cathedral Cave 108.50 55 IAMs_20 IAMs_20 08 27 22.6
comp=Z,386nm,19.0s

OXF	Oxford	109.33	59	IAMs_20	IAMs_20	08 26 30.1		
	comp=Z,471nm,19.0s							
HDIL	Hopedale	110.39	53	IAMs_20	IAMs_20	08 29 16.4		
	comp=Z,453nm,20.0s							
WCI	Wyandotte Cave	112.39	56	IAMs_20	IAMs_20	08 33 14.5		
	comp=Z,456nm,19.0s							
P49A	Miami Univ. Ec	113.76	54	IAMs_20	IAMs_20	08 33 19.6		
	comp=Z,434nm,18.0s							
GLMI	Grayling	114.25	49	IAMs_20	IAMs_20	08 31 43.0		
	comp=Z,466nm,20.0s							
TULEG	Thule	115.67	13	IAMs_20	IAMs_20	08 32 26.8		
	comp=Z,319nm,20.0s							
O53A	New Philadelph	116.50	54	IAMs_20	IAMs_20	08 33 33.2		
	comp=Z,434nm,19.0s							
NHSC	New Hope	116.73	62	IAMs_20	IAMs_20	08 29 40.3		
	comp=Z,448nm,22.0s							
BLA	Blacksburg	116.92	57	IAMs_20	IAMs_20	08 30 16.6		
	comp=Z,388nm,21.0s							
ERPA	Erie	117.50	52	IAMs_20	IAMs_20	08 30 37.5		
	comp=Z,437nm,19.0s							
MCWV	Mont Chateau	117.52	55	IAMs_20	IAMs_20	08 37 22.2		
	comp=Z,354nm,20.0s							
GEYT	Alibeck	118.39	303	PKP	PKPdf	07 47 38.5	-1.1	
	comp=Z,1.3nm,0.4s,baz=92,slow=5.5,SNR=1.5							
O56A	Blue Knob Stat	118.53	54	IAMs_20	IAMs_20	08 29 22.8		
	comp=Z,439nm,22.0s							
SSPA	Standing Stone	119.05	54	IAMs_20	IAMs_20	08 36 02.7		
	comp=Z,377nm,19.0s							
CBN	Corbin Frederi	119.39	56	IAMs_20	IAMs_20	08 33 27.9		
	comp=Z,357nm,20.0s							
SPITS	Spitsbergen Ar	119.60	354	PKP	PKPdf	07 47 40.0	-0.8	
	comp=Z,2.7nm,0.8s,baz=38,slow=7.3,SNR=2.0							
YLE	Yale	122.79	53	IAMs_20	IAMs_20	08 33 50.5		
	comp=Z,463nm,21.0s							
SCHQ	Schefferville	124.58	36	PKP	PKPdf	07 47 50.2	-0.7	
	comp=Z,5.6nm,1.1s,baz=225,slow=1.4,SNR=3.1							
ARCES	ARCESS Array B	125.14	345	PKP	PKPdf	07 47 50.9	-0.7	
	comp=Z,1.3nm,0.6s,baz=46,slow=2.6,SNR=6.4							
KLMR	Klimovskoe	125.72	333	*e*PKIKP	PKPdf	07 47 45.2	-7.6	
KLMR				pmax	pmax			
	comp=Z,18nm,1.7s							
KLMR	Klimovskoe	125.72	333	*e*PKPdf	PKPdf	07 47 45.3	-7.6	
KLMR				AMP		07 48 00.8		
	comp=Z,18nm,1.7s							
KIBK	Kibwezi	127.95	251	IAMs_20	IAMs_20	08 36 07.3		
	comp=Z,362nm,22.0s							
KMBO	Kilima Mbogo	129.20	252	PKP	PKiKP	07 48 02.4	+0.4	
	comp=Z,1.0nm,0.3s,baz=264,slow=6.0,SNR=3.3							
BDFB	Brasilia	129.22	130	PKP	PKPdf	07 48 01.4	+0.3	
	comp=Z,4.6nm,0.8s,baz=212,slow=4.0,SNR=5.9							
KIV	Kislovodsk	129.60	312	*i* PKIKP	PKiKP	07 48 01.7	0.0	
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
OBN	Obninsk	129.72	327	*i* PKIKP	PKiKP	07 48 01.0	-0.4	
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,147nm,22.0s							
MNK	Minsk	134.35	330	*i* PKIKP	PKPdf	07 48 07.3	-2.1	
MNK				*i*		07 50 39.4		
MNK				*i* PPP	PPP	07 53 33.9		
MNK				*i* SS	SS	08 08 26.9	-1.8	
MNK				pmax	pmax			
	comp=N,38nm,0.9s							
MNK				pmax	pmax			
	comp=E,3.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,12nm,0.9s							
MNK				MLR	MLR			
	comp=Z,182nm,20.0s							
MNK				MLR	MLR			
	comp=N,389nm,20.0s							
MNK				MLR	MLR			
	comp=E,5.0nm,20.0s							
MNK	Minsk	134.35	330	*i* PKP	PKPdf	07 48 07.3	-2.1	
	comp=E,3.0nm,0.9s							
MNK				*i* PKP	PKPdf	07 48 07.3	-2.1	
	comp=N,38nm,0.9s							
MNK				*i* PKP	PKPdf	07 48 07.3	-2.1	
	comp=Z,12nm,0.9s,baz=235							
MNK				*i* PP	PP	07 50 39.4	-1.9	
MNK				*i* PKS	PKSdf	07 51 43.7	-1.9	
MNK				*i* PPP	PPP	07 53 34.0		
MNK				*i* SKS		07 56 33.4		
MNK				*i* SKKS		07 59 34.7		
MNK				*i* SS	SS	08 08 26.9	-1.8	
MNK				*i* SSS	SSS	08 14 14.7		
MNK				*i* LQ	LQ	08 31 36.8		
MNK				*i* LR	LR	08 38 16.2		
MNK				*i* LRM	MLR	08 46 34.0		
	comp=E,5.0nm,19.6s							
MNK				*i* LRM	MLR	08 46 34.0		
	comp=N,389nm,19.6s							
MNK				*i* LRM	MLR	08 46 34.0		
	comp=Z,182nm,19.6s							
MMAI	Mount Meron Ar	137.08	298	PKP	PKiKP	07 48 16.1	-1.1	
	comp=Z,0.5nm,0.3s,baz=52,slow=5.7,SNR=3.9							
EIL	Elat	137.78	293	PKP	PKPdf	07 48 15.8	-0.8	
	comp=Z,1.3nm,0.4s,baz=101,slow=16,SNR=2.7							
MLR	Muntele Rosu	140.24	319	PKP	PKiKP	07 48 21.8	-1.5	
	comp=Z,1.0nm,0.4s,baz=319,slow=20,SNR=1.4							
UZH	Uzhgorod	140.63	326	*e*PKIKP	PKiKP	07 48 23.3	-0.5	
UZH				*e*		07 48 34.4		
PSZ	Piszkesteto	142.33	326	IAMs_20	IAMs_20	08 51 50.9		
	comp=Z,294nm,22.0s							
DPC	Dobruska-Polom	142.41	332	*e*PKIKP	PKPdf	07 48 21.4	-3.0	
DPC	Dobruska-Polom	142.41	332	*e*PKP	PKPdf	07 48 21.4	-3.0	
VYHS	Vyhne	142.50	328	*e*PKIKP	PKiKP	07 48 28.1	+0.4	
VYHS	Vyhne	142.50	328	*e*PKP	PKiKP	07 48 28.1	+0.4	
VRAC	Vranov	143.03	331	PKhKP	PKPpre	07 48 20.5		
	comp=Z,2.1nm,0.5s,baz=336,slow=20,SNR=1.6							
BRG	Berggiesshubel	143.04	334	*e*PKP	PKiKP	07 48 27.8	-0.9	
BRG				Amp		07 48 30.9		
	comp=Z,10.0nm,1.5s							
CLL	Collm	143.07	336	*e*PKPdf	PKiKP	07 48 27.0	-1.7	
CLL	Collm	143.07	336	*e*PKIKP	PKiKP	07 48 27.0	-1.7	
MODS	Modra-Piesok	143.35	329	*e*PKIKP	PKiKP	07 48 29.5	0.0	
MODS	Modra-Piesok	143.35	329	*e*PKP	PKiKP	07 48 29.5	0.0	
OUR	Ouranopolis	143.90	313	P	PKPbc	07 48 24.6	-0.5	
NKC	Novy Kostel	144.14	335	*e*PKIKP	PKPbc	07 48 25.9	+0.3	
NKC	Novy Kostel	144.14	335	*e*PKP	PKPbc	07 48 25.9	+0.3	
KNT	Kendrikon	144.26	315	P	PKPab	07 48 24.9	-1.0	
CONA	Conrad Observa	144.35	329	*e*P	PKPdf	07 48 27.6	-0.3	
	comp=Z,14nm,1.1s,SNR=6.7							
HORT	Hortiatis	144.39	314	P	PKPab	07 48 25.1	-1.3	
CKRC	Cesky Krumlov	144.43	332	*e*PKP	PKPdf	07 48 27.0	-1.0	
STIP	Stip	144.48	316	⇑*i*PKP	PKPab	07 48 26.1	-0.6	
KHC	Kasperske Hory	144.51	333	*e*PKIKP	PKPbc	07 48 26.9	+0.1	
KHC	Kasperske Hory	144.51	333	*e*PKP	PKPbc	07 48 26.9	+0.1	
NPS	Neapolis	144.55	304	P	PKPdf	07 48 27.7	-0.9	
GERES	GERESS Array B	144.68	332	PKP	PKPdf	07 48 27.4	-1.1	
	comp=Z,4.8nm,0.8s,baz=44,slow=4.1,SNR=30							
GERES	GERESS Array B	144.68	332	PKIKP	PKPbc	07 48 27.3	-0.1	
GERES	GERESS Array B	144.68	332	PKPdf	PKPbc	07 48 27.3	-0.1	
LAST	Lasithi	144.68	304	P	PKPbc	07 48 27.5	-0.4	
GRG	Griva	144.69	315	P	PKPab	07 48 25.6	-1.9	
SKO	Skopje	144.83	317	⇓*i*PKP	PKPdf	07 48 28.1	-0.8	
PTL	Penteli	144.92	310	P	PKPab	07 48 27.6	-0.8	
ARSA	Arzberg	144.99	329	*i* P	PKPdf	07 48 28.8	-0.2	
	comp=Z,18nm,1.1s,SNR=7.6							
LIT	Litokhoron	145.03	314	P	PKPab	07 48 27.2	-1.5	
LIT	Litokhoron	145.03	314	PKIKP	PKPdf	07 48 28.5	-0.8	
LIT	Litokhoron	145.03	314		PKPdf	07 48 28.5	-0.8	
VLY	Voula,Athens	145.04	309	P	PKPab	07 48 27.9	-0.9	
GRF	Grafenberg Arr	145.05	335	*e*PKP	PKPdf	07 48 28.5	-0.6	
	baz=37,slow=3.1							
GRF				*e*L	L	09 05 11.1		
	comp=Z,263nm,19.7s							
IDI	Anoyia	145.10	305	PKPbc	PKPdf	07 48 30.0	+0.3	
	comp=Z,28nm,0.9s,baz=102,slow=4.3,SNR=7.3							
IDI	Anoyia	145.10	305	P	PKPab	07 48 28.3	-0.9	
IDI	Anoyia	145.10	305		PKPdf	07 48 29.2	-0.5	
IDI				IAMs_20	IAMs_20	08 57 55.2		
	comp=Z,201nm,21.0s							
MOA	Molln	145.16	331	*i* P	PKPdf	07 48 29.7	+0.3	
	comp=Z,43nm,1.2s,SNR=17							
KOGS	Kog	145.17	327	*e*PKPbc	PKPdf	07 48 28.6	-0.7	
KOGS				*e*		07 48 36.5		
SIVA	Sivas	145.25	304	P	PKPdf	07 48 29.4	-0.4	
ATAL	Atalanti	145.27	311	P	PKPbc	07 48 27.1	-2.4	
VILL	Villia	145.27	310	P	PKPbc	07 48 27.7	-1.9	
LKR	Lokris	145.30	311	P	PKPbc	07 48 27.7	-1.9	
KZN	Kozani	145.42	314	P	PKPbc	07 48 28.2	-1.8	
FNA	Florina	145.46	315	P	PKPbc	07 48 28.5	-1.6	
LTK	Loutraki	145.58	310	P	PKPdf	07 48 28.2	-2.1	
LOUT	Loutraki	145.59	310	P	PKPdf	07 48 28.2	-2.1	
THL	Klokotos Trika	145.60	313	P	PKPdf	07 48 28.2	-2.1	
VAM	Vamos	145.60	305	P	PKPab	07 48 30.7	-0.3	
PHP	Peshkopia	145.61	317	P	PKPbc	07 48 29.9	-0.7	
AGG	Agios Georgios	145.62	312	P	PKPdf	07 48 28.6	-1.8	
SOKA	Soboth	145.63	329	*i* P	PKPab	07 48 30.7	-0.2	
	comp=Z,20nm,1.1s,SNR=7.3							
OHR	Ohrid	145.68	316	*i* PKP	PKPab	07 48 30.6	-0.6	
KRND	KRANIDI	145.70	309	P	PKPdf	07 48 29.6	-0.9	
IMMV	Iera Moni Meta	145.75	305	P	PKPbc	07 48 30.4	-0.7	
KPRO	Kipourio	145.86	314	P	PKPdf	07 48 30.3	-0.5	
GVDS	Gavdos	145.87	304	P	PKPbc	07 48 30.9	-0.6	
KBN	Korca	145.93	316	P	PKPbc	07 48 30.8	-0.8	
PDG	Podgorica	145.96	319	IAMs_20	IAMs_20	09 01 55.3		
	comp=Z,198nm,20.0s							
OBKA	Obir	145.98	329	*e*P	PKPbc	07 48 30.9	-0.7	
	comp=Z,18nm,1.4s							
LEGS	Legarje	145.99	327	*e*PKPbc	PKPab	07 48 31.2	-0.9	
EVR	Evrytania	146.03	312	P	PKPbc	07 48 31.4	-0.6	
SERG	Sergoula	146.07	311	P	PKPdf	07 48 30.8	-0.4	
TRIZ	Trizonia	146.08	311	P	PKPdf	07 48 30.2	-0.9	
ANX	Ano Chora	146.09	312	P	PKPab	07 48 31.9	-0.9	
MEM	Membach	146.09	341	*d*PKPbc	PKPab	07 48 31.9	-0.4	
VLI	Veliai	146.10	308	P	PKPdf	07 48 28.2	-3.0	
ANKY	Antikythira Is	146.14	306	P	PKPab	07 48 32.6	-0.4	
KBA	Koelnbriesper	146.15	331	*e*P	PKPab	07 48 32.0	-0.9	
	comp=Z,8.9nm,1.1s							
KLV	Kalavryta, Ach	146.16	311	P	PKPbc	07 48 31.4	-1.0	
EFP	Efpalio	146.17	311	P	PKPab	07 48 32.6	-0.4	
KTHA	Kythira Island	146.18	307	P	PKPab	07 48 32.1	-1.1	
LAKA	Lakka	146.20	311	P	PKPab	07 48 32.3	-0.9	
VLX	Vlachokerasia	146.27	309	P	PKPab	07 48 33.0	-0.6	
LSK	Leskovik	146.28	315	P	PKPab	07 48 32.6	-0.9	
LJU	Ljubljana	146.32	328	*e*PKPbc	PKPbc	07 48 31.9	-0.6	
LJU				*e*		07 48 39.8		
VISS	Visnje	146.33	328	*i* PKPbc	PKPab	07 48 32.4	-1.0	
JAN	Janina	146.35	314	P	PKPab	07 48 32.9	-0.8	
PVO	Paravola	146.36	312	P	PKPab	07 48 32.6	-1.1	
DRO	Drossia	146.51	311	P	PKiKP	07 48 35.0	-1.3	
PDO	Prodromos	146.61	312	P	PKPab	07 48 33.6	-1.1	
RLS	Riolos of Patr	146.64	311	P	PKPab	07 48 33.6	-1.2	
ITM	Ithomi	146.67	309	P	PKPbc	07 48 32.8	-1.1	
ITM	Ithomi	146.67	309	PKPdf	PKPbc	07 48 33.5	-0.4	
BMRD	Maredsous	146.73	342	*d*PKPdf	PKPbc	07 48 32.8	-0.8	
WATA	Walderalm	146.75	333	*e*P	PKPab	07 48 34.0	-1.1	
	comp=Z,16nm,0.8s							
ABTA	Abfaltersbach	146.78	331	*e*P	PKPbc	07 48 33.4	-0.6	
	comp=Z,22nm,1.1s							
WTTA	Wattenberg	146.78	332	*e*P	PKPab	07 48 34.3	-1.0	
	comp=Z,17nm,1.1s							
WLF	Walferdange	146.88	340	*d*PKPbc	PKPab	07 48 34.6	-0.7	
WLF				*dp*PKP	pPKPdf	07 48 42.5	-0.7	
LKD2	Lefkada island	146.89	313	P	PKPbc	07 48 34.2	-0.2	
MOTA	Mosalm	146.95	333	*i* P	PKPab	07 48 34.7	-1.3	
	comp=Z,23nm,1.1s,SNR=7.6							
DOU	Dourbes	146.97	342	*d*PKPbc	PKPab	07 48 34.6	-1.1	
RETA	Reutte	146.98	333	*e*P	PKPab	07 48 34.8	-1.2	
	comp=Z,11nm,1.2s							
FETA	Feichten	147.36	333	*i* P	PKPbc	07 48 36.0	+0.3	
	comp=Z,18nm,1.0s,SNR=6.7							
DAVA	Damuels	147.51	334	*e*P	PKPab	07 48 36.6	-1.5	
	comp=Z,20nm,0.8s							
CTI	Castel Tesino	147.69	331	PKIKP	PKPbc	07 48 34.8	-1.8	
CTI	Castel Tesino	147.69	331		PKPbc	07 48 34.8	-1.8	
DAVOX	Davos/Dischmat	147.91	334	PKPbc	PKPbc	07 48 37.4	+0.2	
	comp=Z,13nm,0.7s,baz=218,slow=0.4,SNR=16							
TIP	Timpagrande	149.32	316	IAMs_20	IAMs_20	08 57 08.8		
	comp=Z,284nm,22.0s							
VLC	Villacollemand	149.71	330	IAMs_20	IAMs_20	08 59 28.8		
	comp=Z,288nm,21.0s							
PGAV	Gavieira, Arco	157.24	356	*e*PKPab	PKPab	07 49 23.4	+4.6	
PGAV	Gavieira, Arco	157.24	356	A	A	09 00 56.1		
	comp=Z,189nm,20.0s							
POLO	Lamas de Olo	157.79	355	*e*PKPab	PKPab	07 49 28.0	+6.8	
MVO	Moncorvo	157.93	354	*e*PKPab	PKPab	07 49 21.8	+0.1	
MVO	Moncorvo	157.93	354	*e*LR	LR	08 48 05.1		
	comp=Z,247nm,20.0s							
PVIS	Viseu	158.45	355	*e*PKPab	PKPab	07 49 31.4	+7.4	
MTE	Manteigas	158.73	354	*e*PKPab	PKPab	07 49 26.1	+0.8	
MTE	Manteigas	158.73	354	*e*LR	LR	08 46 55.7		
	comp=Z,170nm,22.0s							
ESDC	Sonseca Array	158.88	346	PKPab	PKPab	07 49 26.0	+0.1	
	comp=Z,3.4nm,1.0s,baz=5.1,slow=3.5,SNR=9.7							
PMRV	Marv??o	159.68	354	*e*LR	LR	08 44 56.3		
	comp=Z,202nm,20.0s							
PMTG	Montargil	160.11	355	*e*PKPab	PKPab	07 49 31.3	+0.1	
PBAR	Barrancos	160.88	352	*e*PKPab	PKPab	07 49 35.7	+1.2	
PNCL	Nicolau / Gran	161.09	356	*e*PKPab	PKPab	07 49 45.2	+10	
PCVE	Castro Verde	161.52	354	*e*PKPab	PKPab	07 49 38.7	+1.3	
PVAQ	Vaqueiros	161.72	354	*e*PKPab	PKPab	07 49 39.6	+1.4	
PVAQ	Vaqueiros	161.72	354	*e*LR	LR	08 45 28.4		
PMOZ	Porto Moniz, M	165.06	23	*e*LR	LR	08 49 42.5		
	comp=Z,364nm,22.0s							
TORD	Torodi Ar. Bea	167.05	244	PKP	PKPdf	07 48 57.6	-0.9	
	comp=Z,4.8nm,1.1s,baz=350,slow=0.8,SNR=10							
TORD				PKPab	PKPab	07 50 02.7	+0.2	
	comp=Z,0.6nm,0.6s,baz=103,slow=4.4,SNR=1.8							

JMA ***18*** *07:36:33.0,39.˚76N×141.˚84E,h59km±1km,M4.0*
Broadband fault plane solution: P waves. NP1: ϕs201.00000°,δ25.00000°,λ88.00000°. NP2:ϕs24.00000°, δ65.00000°,λ91.00000°. Principal axes: T Plg70.0000°, Azm296.0000°; N Plg1.0000°, Azm203.0000°; P Plg20.0000°, Azm113.0000°;

JMA Felt II J1.

NIED ***18*** *07:36:33.1,39.˚76N×141.˚84E,h59km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.98; Mθθ-0.21; Mϕϕ-0.76; Mrθ0.42; Mθϕ-0.19; Mϕr1.02; Fault plane solution: M₀1.42000×10¹⁵ NP1:ϕs21.00000°, δ70.00000°,λ92.00000°. NP2:ϕs195.00000°,δ20.00000°, λ84.00000°.*

MOS ***18*** *07:36:34.4±1.0,39.˚82N×141.˚85E,h91km,mb4.4/8 Error ellipse: s-maj=10.4km s-min=7.4km az=98.5*

IDC ***18*** *07:36:35.2±2.0,39.˚76N×141.˚82E,h80km±16km,mb3.7/14, mb1 3.8/19,mb1mx3.6/67,mbtmp4.0/19,MS2.9/3, Ms1 2.9/3,ms1mx2.6/38,Error ellipse: s-maj=19.6km s-min=12.8km az=114.0*

NEIC ***18*** *07:36:36.0±2.2,39.˚79N±0.˚06×141.˚8E±0.˚1,h86km±4km, mb4.4/10,Error ellipse: s-maj=11.7km s-min=8.5km az=105.0*

ISC 18 07:36:33.5±0.7,39.˚75N±0.˚03×141.˚85E±0.˚05,h62km±5km, n94,σ1.˚51/102,mb4.2/24,10C-7D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MIYJ	Miyakonagasawa	0.17	187	⇑P		Pn	07 36 42.4	-0.6
MIYJ				S		Sn	07 36 48.9	-0.9
JTH	Tanohata	0.19	4	⇑P		Pn	07 36 42.4	-0.7
JTH				S		Sn	07 36 49.1	-0.9
JKZ	Kuzumaki	0.46	301	⇓P		Pn	07 36 44.6	-0.7
JKZ				S		Sn	07 36 52.7	-1.1
JKEN	Kujiedanarisaw	0.47	347	P		Pn	07 36 44.6	-0.7
JKEN				S		Sn	07 36 52.9	-0.9
JOM	Ohasama	0.51	238	⇓P		Pn	07 36 45.0	-0.7
JOM				S		Sn	07 36 53.5	-1.0
JANG	Nango	0.68	338	⇓P		Pn	07 36 46.6	-0.9
JANG				S		Sn	07 36 56.3	-1.5
JMK	Ichinoseki	0.93	212	P		Pn	07 36 50.2	-0.5
JMK				*e*S		Sn	07 37 02.7	-0.7
JRG	Rokugo	1.00	250	⇓P		Pn	07 36 50.9	-0.7
JRG				S		Sn	07 37 04.8	-0.2
JAH	Hinai	1.03	296	⇓P		Pn	07 36 51.3	-0.7
JAH				S		Sn	07 37 05.5	-0.2
JTM	Tenmabayashi	1.20	330	⇓P		Pn	07 36 53.5	-0.7
JTM				S		Sn	07 37 08.7	-0.9
JIO	Ouri	1.35	197	⇑P		Pn	07 36 55.6	-0.6
JIO				S		Sn	07 37 12.5	-0.7
JYK	Kaneyama	1.42	235	⇓P		Pn	07 36 56.6	-0.6
JYK				*e*S		Sn	07 37 14.7	-0.2
JMM	Marumori	2.05	204	Pn		Pn	07 37 05.7	0.0
ERM	Erimo	2.47	23	*ce*P		Pn	07 37 11.6	+0.2
ERM				*e*S		Sn	07 37 39.7	-0.7
ERM				pmax	pmax			
	comp=Z,36nm,1.0s							
ERM	Erimo	2.47	23	Pn		Pn	07 37 13.3	+1.9
JEW	Eniwo	3.10	355			Pn	07 37 20.8	+0.8
JSD	Sado	3.28	240	Pn		Pn	07 37 22.4	0.0
JYT	Yasato	3.75	201	Pn		Pn	07 37 29.1	+0.3
MJA0	Matsu Arr-Jizo	4.28	223	*e*P		Pn	07 37 38.9	+2.8
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAJO	Matsushiro	4.30	223	P		Pn	07 37 39.1	+2.7
MAJO	Matsushiro	4.30	223	Pn		Pn	07 37 39.1	+2.7
MAT	Matsushiro	4.30	223	P		Pn	07 37 38.0	+1.6
MAT				*e*S		Sn	07 38 26.0	+0.8
MJAR	Matsushiro Arr	4.30	223	P		Pn	07 37 38.3	+1.9
	comp=Z,0.5nm,0.3s,baz=30,slow=14,SNR=16							
MJAR	Matsushiro Arr	4.30	223	P		Pn	07 37 40.0	+3.6
MJAR	Matsushiro Arr	4.30	223			Pn	07 37 40.0	+3.6
ASAJ	Asahikawa	4.40	7	P		Pn	07 37 39.4	+1.6
	comp=Z,2.7nm,0.3s,baz=177,slow=12,SNR=6.5							
ASAJ				S		Sn	07 38 28.9	+1.2
	comp=Z,2.8nm,0.3s,baz=39,slow=31,SNR=1.9							
JGF	Kuroka	5.46	222	Pn		Pn	07 37 55.5	+3.2
JWT	Wachi	6.79	231	Pn		Pn	07 38 11.2	+0.7
YSS	Yuzh-Sakhalins	7.23	5	*ce*P		Pn	07 38 17.8	+1.3
YSS				pmax	pmax			
	comp=Z,27nm,2.5s							
USA0B	Ussuriysk Arra	8.58	304	P		Pn	07 38 37.8	+2.8
USA0B	Ussuriysk Arra	8.58	304	Pn		Pn	07 38 37.8	+2.8
USRK	Ussuriysk Ar.	8.58	304	P		Pn	07 38 36.0	+1.0
	baz=112,slow=13,SNR=11							
USRK				LR		LR	07 41 50.4	
	comp=Z,89nm,18.5s,baz=97,slow=37							
USRK	Ussuriysk Ar.	8.58	304	P		Pn	07 38 36.0	+1.0
USRK	Ussuriysk Ar.	8.58	304	Pn		Pn	07 38 35.7	+0.7
MDJ	Mudanjiang	10.31	302	Pn		Pn	07 39 01.1	+2.5
JNU	Nakatsue	11.03	237	Pn		Pn	07 39 12.1	+3.6
KSRS	Korea Array	11.14	263	P		Pn	07 39 12.7	+2.9
	comp=Z,0.7nm,0.3s,baz=71,slow=13,SNR=6.7							
KSRS				LR		LR	07 42 27.9	
	comp=Z,53nm,19.1s,baz=46,slow=32							
KSRS	Korea Array	11.14	263	*e*P		Pn	07 39 14.1	+4.3
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSAR	Wonju Array Be	11.17	263	P		Pn	07 39 13.7	+3.4
KSAR	Wonju Array Be	11.17	263	Pn		Pn	07 39 13.7	+3.4
KLR	Kul'dur	11.90	326	P		Pn	07 39 23.4	+3.1
	comp=Z,0.1nm,0.3s,baz=131,slow=14,SNR=4.7							
KLR				LR		LR	07 44 36.5	
	comp=Z,53nm,18.5s,baz=189,slow=40							
KLR	Kul'dur	11.90	326	⇓*e*P		Pn	07 39 22.3	+2.1
KLR				pmax	pmax			
	comp=Z,3.0nm,1.5s							
H11N2	WAKE ISLAND Hy	29.34	126	T		T	08 13 12.2	
	baz=318,slow=75,SNR=280							
H11N1	WAKE ISLAND Hy	29.35	126	T		T	08 13 02.8	
	baz=318,slow=75,SNR=239							
H11N3	WAKE ISLAND Hy	29.36	126	T		T	08 13 13.8	
	baz=318,slow=75,SNR=254							
H11S1	WAKE ISLAND Hy	30.14	127	T		T	08 14 09.4	
	baz=322,slow=74							
H11S3	WAKE ISLAND Hy	30.14	127	T		T	08 14 11.5	
	baz=322,slow=74							
H11S2	WAKE ISLAND Hy	30.16	127	T		T	08 14 17.7	
	baz=322							
ZAA0	Zalesovo Array	40.38	310	P		P	07 44 05.0	-0.1
ZAA0				IAmb		IAmb	07 44 05.2	
	comp=Z,7.0nm,0.6s							
ZALV	Zalesovo Beam	40.38	310	P		P	07 44 04.7	-0.4
	comp=Z,7.2nm,0.5s,baz=94,slow=7.9,SNR=21							
MK31	Makanchi Array	43.02	300	*c i*P		P	07 44 25.9	-0.9
MK31	Makanchi Array	43.02	300	P		P	07 44 25.9	-0.9
MK31				IAmb		IAmb	07 44 26.9	
	comp=Z,3.0nm,0.7s							
MKAR	Makanchi Array	43.02	300	P

s-maj=30.2km s-min=19.3km az=107.0
ISC 18 07:44:51.1±1.0,**6°32S**±0.08×**130°3E**±0.1,**h100**km,**n7,**
σ1**83**/9,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.49**	**10**	P	**Pn**	**07 46 12.9**	**+2.3**
	13nm,0.3s,baz=211,slow=22,SNR=37						
SIJI				S	**Sn**	**07 47 09.6**	**-2.9**
	11nm,0.3s,baz=227,slow=23,SNR=18						
BATI	**Baumata**	**7.64**	**239**	P	**Pn**	**07 46 40.3**	**+0.5**
	5.7nm,0.3s,baz=240,slow=19,SNR=1.5						
BATI				S	**Sn**	**07 48 04.1**	**-0.7**
	0.8nm,0.3s,baz=96,slow=9.2,SNR=1.5						
FITZ	**Fitzroy Crossi**	**12.57**	**201**	P	**Pn**	**07 47 45.2**	**-1.2**
	1.2nm,0.3s,baz=38,slow=12,SNR=30						
FITZ				S	Sn	07 49 54.5	-10
	1.6nm,0.3s,baz=46,slow=17,SNR=4.2						
WRA	**Warramunga Arr**	**14.10**	**164**	P	**Pn**	**07 48 05.3**	**-1.0**
	0.5nm,0.3s,baz=348,slow=12,SNR=18						
WRA				S	Sn	07 50 31.0	-11
	1.8nm,0.3s,baz=340,slow=21,SNR=10						
ASAR	**Alice Springs**	**17.59**	**169**	P	**Pn**	**07 48 51.5**	**+1.5**
	0.3nm,0.3s,baz=345,slow=10.0,SNR=16						
ASAR				S	Sn	07 51 55.4	-11
	0.5nm,0.3s,baz=349,slow=23,SNR=9.5						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**07 55 38.7**	**+0.1**
	2.8nm,0.4s,baz=119,slow=7.1,SNR=61						
ZALV	**Zalesovo Beam**	**71.12**	**334**	P	**P**	**07 55 57.8**	**-0.8**
	0.9nm,0.5s,baz=142,slow=7.3,SNR=3.6						

IDC 18 08:08:45.0±5.8,**4°95S**×**133°23E**,**h0**km,**mb3.6**/1,
mb1 4.0/3,**mb1mx3.7**/19,**mbtmp3.8**/3,**ML3.9**/2,**MS4.1**/2,
Ms1 4.1/2,**ms1mx3.2**/34,**Error ellipse: s-maj=348.2km**
s-min=31.2km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.95**	**176**	Pn	Pn	08 12 15.8	-1.9
	0.5nm,0.3s,baz=355,slow=13,SNR=30						
WRA				Sn	Sn	08 14 55.7	-8.5
	0.5nm,0.3s,baz=356,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**18.62**	**178**	P	Pn	08 13 05.0	+0.4
	0.5nm,0.3s,baz=356,slow=10,SNR=27						
ASAR				S	Sn	08 16 21.7	-12
	0.1nm,0.3s,baz=359,slow=28,SNR=4.1						
RAO	**Raoul Island**	**52.08**	**123**	LR	LR	08 38 02.0	
	comp=Z,238nm,20.2s,baz=130,slow=34						
MKAR	**Makanchi Array**	**68.34**	**325**	P	P	08 19 48.3	0.0
	0.4nm,0.5s,baz=116,slow=8.5,SNR=6.1						
SEY	**Seymchan**	**69.24**	**9**	LR	LR	08 52 01.6	
	comp=Z,78nm,18.4s,baz=132,slow=38						

*IDC **18** 08:24:53.6±3.7, 18°62S×178°12W, h559km±28km, mb2.9/5,*
mb1 3.2/6, mb1mx2.9/49, mbtmp3.8/6, Error ellipse:
s-maj=119.9km s-min=23.7km az=152.0
ISC 18 08:24:53.4±2.0,**18°6S**±0.6×**178.1W**±0.3,**h557**km,**n6,**
σ0**28**/6,**mb3.7**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.76**	**283**	P	**P**	**08 26 14.4**	**+0.3**
	1.0nm,0.3s,baz=86,slow=23,SNR=4.2						
CTA	**Charters Tower**	**33.61**	**262**	P	**P**	**08 30 48.1**	**-0.3**
	2.9nm,0.6s,baz=91,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**08 32 18.2**	**0.0**
	0.8nm,0.3s,baz=97,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**44.87**	**255**	P	**P**	**08 32 19.1**	**+0.2**
	1.8nm,0.6s,baz=89,slow=8.5,SNR=28						
TXAR	**Lajitas Array**	**86.15**	**57**	P	**P**	**08 36 36.4**	**+0.1**
	0.2nm,0.6s,baz=213,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**86.53**	**13**	P	**P**	**08 36 37.0**	**-0.2**
	0.2nm,0.6s,baz=216,slow=4.5,SNR=2.4						

*MOS **18** 08:28:55.0±0.9, 21°.70N×142°.99E, h289km, mb5.2/69,*
Error ellipse: s-maj=7.5km s-min=4.0km az=117.2
*IDC **18** 08:28:56.0±0.6, 21°.70N×143°.08E, h288km±5km, mb4.6/47,*
mb1 4.7/52, mb1mx4.6/64, mbtmp5.3/52, Error ellipse:
s-maj=7.6km s-min=5.4km az=96.0
*GCMT **18** 08:28:57.1±0.2, 21°.73N±0°.02×143°.02E±0°.02,*
h286km±1km, MW5.1/94, Moment Tensor Solution.
s71,c92; s94,c131; Duration: 0 Moment tensor: Scale
10^16 Nm; Mrr5.00±.16; Mθθ-6.01±.15; Mφφ 1.01±.17;
Mrθ-0.31±.17; Mrφ 1.25±.16; Mθφ2.80±.18; Best double
couple: M0 6.36800×10^16 NP1:φs75.00000°, δ47.00000°,
λ51.00000°. NP2:φs305.00000°, δ55.00000°, λ124.00000°.
Principal axes: T 6.4500, Plg62.0000°, Azm273.0000°;
N -0.1650, Plg27.0000°, Azm104.0000°; P -6.2860,
Plg4.0000°, Azm11.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*NEIC **18** 08:28:57.1±1.7, 21°.75N±0°.07×143°.1E±0°.1, h291km±5km,*
mb5.1/119 Error ellipse: s-maj=13.9km s-min=10.6km
az=80.0
*BJI **18** 08:28:59.2±0.0, 22°.06N×142°.71E, h300km, mB4.8/41,*
mb5.1/80
*JMA **18** 08:29:02.3±0.2, 22°.27N×143°.08E, h299km±1km, M5.3*
ISC 18 08:28:56.6±0.3,**21°.79N**±0°.03×**143°.08E**±0°.04,**h297**km±2km,
h296km:**pP-P,n800,σ1935/903,mb5.1**/247,**265C-47D,**
Fault plane solution: NP1:φs93.46114°,δ65.98383°,
λ53.03849°. **NP2:**φs335.05417°,δ43.12473°,λ143.46036°.
Principal axes: T Plg53.5025°, Azm317.8325°; N
Plg33.3139°, Azm110.4891°; P Plg13.1973°,
Azm209.3548°; **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.90**	**351**	P	**Pn**	**08 30 13.7**	**+0.9**
JHH2				*e*S	**S**	**08 31 09.1**	**-4.8**
CBIJ	**Chichi jima**	**5.35**	**351**	P	**Pn**	**08 30 18.8**	**+0.7**
CBIJ				*e*S	**S**	**08 31 18.5**	**-5.0**
JCJ	**Chichijima**	**5.35**	**351**	P	**Pn**	**08 30 18.9**	**+0.8**
	454nm,0.3s,baz=208,slow=4.5,SNR=165						
JCJ				S	**S**	**08 31 21.9**	**-1.7**
	279nm,0.3s,baz=244,slow=23,SNR=10						
JCJ	**Chichijima**	**5.35**	**351**	Pn	**Pn**	**08 30 18.5**	**+0.5**
SARN	**Sarigan**	**5.67**	**153**	P	**Pn**	**08 30 21.3**	**-0.7**
ANA2	**Anatahan**	**5.96**	**155**	Pn	**Pn**	**08 30 25.3**	**-0.1**
ANA2	**Anatahan**	**5.96**	**155**	P	**Pn**	**08 30 25.4**	**-0.1**
JHJ2	**Mitsune**	**11.65**	**346**	P	**Pn**	**08 31 35.3**	**+0.5**
JHJ2	**Mitsune**	**11.65**	**346**	Pn	**Pn**	**08 31 35.5**	**+0.6**
JHJ	**Hachijo jima 2**	**11.66**	**346**	P	**Pn**	**08 31 34.5**	**-0.6**
	90nm,0.3s,baz=94,slow=16,SNR=12						
JHJ				S	**S**	**08 33 42.9**	**-2.1**
	18nm,0.3s,baz=96,slow=18,SNR=1.7						
JMKN	**Mikurajimanish**	**12.45**	**346**	P	**Pn**	**08 31 44.7**	**+0.1**
BSO1	**Boso 1**	**12.95**	**352**	P	**P**	**08 31 51.4**	**+0.8**
TTO1	**TONANKAI O.B.S**	**13.04**	**336**	P	**P**	**08 31 54.1**	**+2.3**
BSO3	**Boso 3**	**13.16**	**351**	P	**P**	**08 31 53.8**	**+0.6**
JIM2	**Oshima 3**	**13.28**	**347**	P	**P**	**08 31 54.9**	**+0.1**
BSO4	**Boso 4**	**13.37**	**350**	P	**P**	**08 31 56.8**	**+1.1**
JSG	**Sagara**	**13.54**	**343**	P	**Pn**	**08 31 58.0**	**+0.3**
JHTM	**Izuhatsuma**	**13.60**	**346**	P	**Pn**	**08 31 59.5**	**+1.0**
JTNC	**Tanabenakahech**	**13.68**	**333**	P	**Pn**	**08 32 02.3**	**+2.9**
JIE	**Ise**	**13.75**	**337**	P	**Pn**	**08 32 02.2**	**+1.9**
JKN2	**Miekihoku**	**13.78**	**336**	P	**Pn**	**08 32 02.4**	**+1.8**
HMMJ	**Hamamatsu 2**	**13.85**	**341**	P	**Pn**	**08 32 02.0**	**+0.6**
JID2	**Odawara 2**	**13.88**	**346**	P	**Pn**	**08 32 02.2**	**+0.4**
JOD2				*e*S	S	08 34 25.0	-10
SHZ3	**Shizuoka 3**	**13.90**	**343**	P	**Pn**	**08 32 04.0**	**+1.9**
JNY	**Yasuok**	**14.27**	**342**	P	**Pn**	**08 32 07.5**	**+0.9**
JTO	**Tosashimizu**	**14.31**	**323**	P	**Pn**	**08 32 10.1**	**+3.2**
JAO	**Obara**	**14.37**	**340**	P	**Pn**	**08 32 08.1**	**+0.4**
JOW	**Kunigami**	**14.40**	**293**	P	**P**	**08 32 07.2**	**-0.1**
	4.7nm,0.3s,baz=68,slow=15,SNR=4.2						
JHU	**Hanno**	**14.40**	**348**	P	**Pn**	**08 32 08.2**	**+0.2**
JMN	**Monobe**	**14.41**	**328**		**Pn**	**08 32 10.9**	**+2.8**
INU	**Inuyama**	**14.52**	**340**		**Pn**	**08 32 10.2**	**+0.8**
JEG	**Eigenji**	**14.54**	**338**	P	**Pn**	**08 32 12.2**	**+2.6**
JYT	**Yasato**	**14.61**	**351**	P	**Pn**	**08 32 11.8**	**+1.4**
JYT				*e*S	**S**	**08 34 41.6**	**-8.0**
JYT	**Yasato**	**14.61**	**351**		**Pn**	**08 32 12.3**	**+1.8**
JRY	**Ryogami san**	**14.64**	**346**	P	**Pn**	**08 32 11.6**	**+0.7**
JRY				*e*S	**S**	**08 34 41.7**	**-8.7**
JGF	**Kuroka**	**14.65**	**341**	P	**Pn**	**08 32 11.4**	**+0.5**
JSU	**Suzuyama**	**14.86**	**313**	P	**Pn**	**08 32 13.7**	**+0.2**
JAG	**Ashikaga**	**14.93**	**349**	P	**Pn**	**08 32 13.7**	**-0.5**
JAG				*e*S	**S**	**08 34 47.8**	**-8.2**
JHO	**Hitachi**	**14.93**	**352**	P	**Pn**	**08 32 14.8**	**+0.5**
JHO				*e*S	**S**	**08 34 48.4**	**-7.8**
JWT	**Wachi**	**15.04**	**335**	P	**Pn**	**08 32 16.1**	**+0.6**
JWT				IAmb	IAmb	08 32 22.8	
	comp=Z,55nm,0.7s						
JKT	**Katashina**	**15.29**	**348**	P	**Pn**	**08 32 18.3**	**-0.3**
MJAR	**Matsushiro Arr**	**15.30**	**345**	P	**P**	**08 32 17.6**	**+0.4**
	comp=Z,3.0nm,0.3s,baz=171,slow=9.7,SNR=62						
MJAR				S	**S**	**08 34 58.1**	**-5.5**
	comp=Z,0.4nm,0.3s,baz=141,slow=16,SNR=4.8						
MJAR				ScP	**ScP**	**08 40 07.2**	**-0.7**
	baz=170,slow=3.0,SNR=5.6						
MJAR	**Matsushiro Arr**	**15.30**	**345**	P	**Pn**	**08 32 18.6**	**-0.1**
MJAR				IAmb	IAmb	08 32 23.5	
	comp=Z,162nm,1.4s						
MAJO	**Matsushiro**	**15.30**	**345**	*c i*P	**Pn**	**08 32 18.7**	**0.0**
MAJO	**Matsushiro**	**15.30**	**345**		**Pn**	**08 32 18.4**	**-0.3**
MAT	**Matsushiro**	**15.30**	**345**	P	**P**	**08 32 17.0**	**-0.1**
MAT				S	**S**	**08 34 59.6**	**-4.0**
MJB9	**Matsu-Tunnel**	**15.31**	**345**	P	**Pn**	**08 32 18.9**	**+0.2**
MJB9				IAmb	IAmb	08 32 37.4	
	comp=Z,106nm,0.7s						
JSJ	**Shimokoshiki**	**15.46**	**312**	P	**Pn**	**08 32 21.4**	**+0.8**
JNU	**Nakatsue**	**15.63**	**319**	P	**Pn**	**08 32 23.2**	**+0.7**
	comp=Z,5.3nm,0.3s,baz=89,slow=0.5,SNR=33						
JNU				S	**S**	**08 35 05.4**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=254,slow=13,SNR=1.1						
JNU	**Nakatsue**	**15.63**	**319**		**Pn**	**08 32 23.8**	**+1.3**
JFK	**Kawauchi**	**15.64**	**353**	P	**Pn**	**08 32 23.9**	**+1.2**
JHS	**Saijyo**	**15.80**	**329**	P	**Pn**	**08 32 25.8**	**+1.3**
JHS	**Saijyo**	**15.80**	**329**		**Pn**	**08 32 25.3**	**+0.8**
JMM	**Marumori**	**16.15**	**353**	P	**Pn**	**08 32 28.9**	**+0.4**
JIO	**Ouri**	**16.68**	**355**	P	**Pn**	**08 32 34.7**	**0.0**
JSD	**Sado**	**16.72**	**347**	P	**P**	**08 32 33.7**	**+1.1**
JMK	**Ichinoseki**	**17.18**	**355**	P	**Pn**	**08 32 40.2**	**-0.4**
OFUJ	**Ofunato**	**17.28**	**356**	P	**Pn**	**08 32 41.2**	**-0.5**
JRG	**Rokugo**	**17.68**	**354**	P	**Pn**	**08 32 45.7**	**-0.7**
JOM	**Ohasama**	**17.70**	**355**	P	**Pn**	**08 32 45.6**	**-1.0**
JSZI	**Iwateshizukuis**	**17.99**	**355**	P	**Pn**	**08 32 49.1**	**-0.9**
JTH	**Tanohata**	**18.13**	**357**	P	**Pn**	**08 32 49.9**	**-1.4**
JKEN	**Kujiedanarisaw**	**18.40**	**357**	P	**Pn**	**08 32 52.7**	**-1.8**
KSJJU	**Jeju**	**18.66**	**312**	P	**Pn**	**08 32 56.8**	**-0.9**
	SNR=9.5						
KOHB	**KOHEUNG**	**18.87**	**316**	P	**P**	**08 32 57.8**	**+2.1**
	SNR=7.0						
HAMB	**Hamyang**	**19.15**	**319**	P	**P**	**08 32 59.0**	**+0.3**
	SNR=8.9						
NAWB	**Namwon**	**19.31**	**318**	P	**P**	**08 33 01.0**	**+0.6**
	SNR=9.8						
SUCA	**Sunchang**	**19.44**	**318**	P	**Pn**	**08 33 05.0**	**-1.7**
	SNR=5.7						
JOT	**Ohata**	**19.61**	**355**	P	**P**	**08 33 05.2**	**+1.7**
OKCB	**Cheongsan-myeo**	**19.68**	**321**	P	**Pn**	**08 33 07.0**	**-2.5**
	SNR=7.7						
KSMGY	**Mungyeong**	**19.74**	**322**	P	**P**	**08 33 06.0**	**+1.0**
	SNR=17						
GOCB	**Gochang-gun**	**19.76**	**317**	P	**Pn**	**08 33 08.0**	**-2.4**
	SNR=5.2						
KSBON	**Boeun**	**19.79**	**321**	P	**Pn**	**08 33 08.4**	**-2.2**
	SNR=28						
KSYOW	**Yeongwol**	**19.89**	**324**	P	**P**	**08 33 08.6**	**+2.1**
	SNR=6.8						
KSCHJ	**Chungju**	**19.94**	**322**	P	**Pn**	**08 33 09.9**	**-2.5**
	SNR=13						
KSCHJ	**Chungju**	**19.94**	**322**	P	**Pn**	**08 33 10.0**	**-2.5**
	SNR=13						
TJN	**Taejon**	**19.96**	**320**	*d i*P	**P**	**08 33 08.9**	**+1.7**
TATO	**Taipei**	**20.07**	**283**	P	**P**	**08 33 09.2**	**+0.7**
YHNB	**Yeheng**	**20.15**	**282**	P	**P**	**08 33 09.8**	**+0.4**
KSDGY	**Daegwallycong**	**20.15**	**325**	P	Pn	08 33 12.2	-2.6
	SNR=14						
ERM	**Erimo**	**20.17**	**0**	*d i*P	**P**	**08 33 11.9**	**+2.6**
ERM				pmax	pmax		
	comp=Z,212nm,0.8s						
ERM	**Erimo**	**20.17**	**0**	P	**P**	**08 33 11.7**	**+2.3**
YULB	**Yu-li**	**20.17**	**279**	P	**P**	**08 33 09.6**	**-0.1**
GLSP	**General Luna,**	**20.18**	**236**	*e*P	**P**	**08 33 08.7**	**-1.2**
KSJMJ	**Jumunjin**	**20.25**	**326**	P	**P**	**08 33 12.5**	**+2.3**
	SNR=13						
KSWJU	**Wonju**	**20.28**	**323**	P	**P**	**08 33 13.0**	**+2.5**
	SNR=20						
KSRS	**Korea Array**	**20.39**	**323**	P	**P**	**08 33 10.8**	**-0.7**
	comp=Z,98nm,0.7s,baz=143,slow=8.0,SNR=131						
KSRS				PcP	**PcP**	**08 37 12.1**	**+1.4**
	comp=Z,4.6nm,0.9s,baz=179,slow=1.2,SNR=4.9						
KSRS				ScP	**ScP**	**08 40 19.8**	**+1.1**
	comp=Z,11nm,1.0s,baz=140,slow=2.4,SNR=23						
KSRS				PKiKP	**PKiKP**	**08 44 58.2**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=211,slow=1.9,SNR=6.2						
TWG	**Pinlang**	**20.39**	**277**	P	**P**	**08 33 12.3**	**+0.5**
KSAR	**Wonju Array Be**	**20.40**	**323**	P	**P**	**08 33 13.6**	**+1.8**
KSAR	**Wonju Array Be**	**20.40**	**323**	P	**P**	**08 33 13.6**	**+1.8**
CVP	**Callao Caves**	**20.41**	**262**	*e*P	**P**	**08 33 12.1**	**0.0**
KS19	**Wonju Array Si**	**20.45**	**323**	P	**P**	**08 33 13.6**	**+1.3**
SSLB	**Suanglung**	**20.49**	**280**	P	**P**	**08 33 13.7**	**+0.8**
SSLB				IAmb	IAmb	08 33 15.0	
	comp=Z,135nm,0.9s						
CAUP	**Cauayan**	**20.62**	**260**	*e*P	**P**	**08 33 15.0**	**+0.9**
TPUB	**Ta-pu**	**20.79**	**278**	P	**P**	**08 33 15.4**	**-0.4**
TPUB				IAmb	IAmb	08 33 40.0	
	comp=Z,59nm,0.9s						
APYP	**Conner**	**20.90**	**263**	*e*P	**P**	**08 33 16.4**	**-0.5**
JEW	**Eniwo**	**21.04**	**357**	P	**P**	**08 33 19.3**	**+1.4**
INCN	**Inchon**	**21.14**	**321**	P	**P**	**08 33 19.3**	**+0.3**
INCN				pmax	pmax		
	comp=Z,57nm,1.0s						
INCN	**Inchon**	**21.14**	**321**	P	**P**	**08 33 19.3**	**+0.3**
INCN				IAmb	IAmb	08 33 20.2	
	comp=Z,57nm,0.9s						
INCN	**Inchon**	**21.14**	**321**	P	**P**	**08 33 19.9**	**+0.9**
SAMP	**Sagada Mountai**	**21.42**	**261**	*e*P	**P**	**08 33 21.2**	**-0.6**
LLP	**Lapu-Lapu**	**21.59**	**241**	‖*e*P	**P**	**08 33 23.2**	**-0.2**
LLP				*e*S	**S**	**08 37 03.9**	**+2.4**
SSE	**Sheshan**	**21.65**	**300**	P	**P**	**08 33 24.4**	**+0.7**
SZP	**Santa**	**21.71**	**263**	P	**P**	**08 33 24.1**	**-0.3**
BOAC	**Boac**	**21.84**	**251**	*e*P	**P**	**08 33 25.4**	**-0.3**
LQP	**Lukban**	**21.85**	**253**	‖*e*P	**P**	**08 33 25.6**	**-0.3**
SMPP	**San Manuel, Pa**	**21.90**	**259**	*e*P	**P**	**08 33 25.1**	**-1.1**
CGP	**Cagayan de Oro**	**22.11**	**236**	‖*e*P	**P**	**08 33 27.4**	**-0.7**
JKA	**Kamikawa-asahi**	**22.27**	**359**	P	**P**	**08 33 31.2**	**+2.0**
ASAJ	**Asahikawa**	**22.27**	**359**	P	**P**	**08 33 31.0**	**+1.8**
	comp=Z,20nm,0.7s,baz=216,slow=9.9,SNR=18						
YUK	**Yuzh-Kuril'sk**	**22.31**	**5**	*i*P	**P**	**08 33 30.7**	**+1.2**
DAV	**Davao City (W)**	**22.35**	**232**	P	**P**	**08 33 30.3**	**0.0**
TGY	**Tagaytay City**	**22.39**	**254**	P	**P**	**08 33 30.7**	**0.0**
	comp=Z,914nm,0.8s,baz=135,slow=4.4,SNR=16						
MACP	**Maragondon, Ca**	**22.52**	**254**	*e*P	**P**	**08 33 30.9**	**-0.9**
BOLP	**Bolinao**	**22.53**	**260**	*e*P	**P**	**08 33 30.3**	**-1.6**
DDMP	**Don Marcelino,**	**22.91**	**230**	*e*P	**P**	**08 33 33.8**	**-1.6**
SJMP	**San Jose**	**22.92**	**250**	*e*P	**P**	**08 33 36.3**	**+0.9**
MSHR	**Mys Shultsa**	**23.01**	**337**	⇑*i*P	**P**	**08 33 37.6**	**+1.6**
MSHR				pmax	pmax		
	comp=Z,70nm,0.9s						
NJ2	**Nanjing**	**23.85**	**300**	⇑P	**P**	**08 33 43.4**	**-0.3**
NJ2				S	**S**	**08 37 41.3**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,54nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,200nm,9.5s						
USA0B	**Ussuriysk Arra**	**24.16**	**340**	P	**P**	**08 33 47.6**	**+1.2**
USA0B				pmax	pmax		
	comp=Z,17nm,0.7s						
USA0B	**Ussuriysk Arra**	**24.16**	**340**	P	**P**	**08 33 47.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**24.16**	**340**	P	**P**	**08 33 48.0**	**+1.7**
	comp=Z,11nm,0.6s,baz=161,slow=8.4,SNR=29						
USRK				PcP	**PcP**	**08 37 19.3**	**+1.0**
	comp=Z,5.2nm,0.6s,baz=56,slow=3.3,SNR=4.1						
USRK	**Ussuriysk Ar.**	**24.16**	**340**	P	**P**	**08 33 47.6**	**+1.2**
ENPP	**El Nido**	**24.96**	**249**	*e*P	**P**	**08 33 54.4**	**+0.4**
DL2	**Dalian**	**25.08**	**318**	P	**P**	**08 33 55.1**	**+0.4**
DL2				S	**S**	**08 37 53.3**	**-3.3**
DL2				pmax	pmax		
	comp=Z,48nm,0.7s						
DL2				pmax	pmax		
	comp=Z,140nm,3.7s						
YSS	**Yuzh-Sakhalins**	**25.11**	**359**	*e*P	**P**	**08 33 57.3**	**+2.5**
YSS				*e**SP	**sP**	**08 35 23.0**	**-1.0**
YSS				*e*		08 37 20.3	
YSS				*e*S	**S**	**08 37 56.4**	**-0.5**
YSS				*e*SS	SS	08 39 28.5	-28
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=N,100nm,4.3s						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s						
MDJ	**Mudanjiang**	**25.34**	**337**	P	**P**	**08 33 59.3**	**+2.3**
MDJ				PP	**PP**	**08 35 03.1**	**+1.9**
MDJ				S	**S**	**08 38 05.9**	**+5.2**
MDJ				pmax	pmax		
	comp=Z,59nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,240nm,3.9s						
MDJ	**Mudanjiang**	**25.34**	**337**	P	**P**	**08 33 57.7**	**+0.7**
MDJ				IAmb	IAmb	08 33 59.8	
	comp=Z,51nm,1.0s						
CN2	**Changchun**	**26.38**	**330**	*e*P	**P**	**08 34 06.8**	**+0.6**
CN2				S	**S**	**08 38 14.8**	**-2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,9.0s						
CN2				L	L		
	comp=Z,200nm,15.0s						
CN2				L	L		
	comp=Z,300nm,15.0s						
CN2				L	L		
	comp=Z,200nm,15.0s						
TIA	**Tai'an**	**26.76**	**308**	P	**P**	**08 34 10.3**	**+0.5**
TIA				pmax	pmax		
	comp=Z,46nm,0.9s						
WHN	**Wuhan**	**27.16**	**295**	⇑P	**P**	**08 34 13.8**	**+0.5**
WHN				sP	**sP**	**08 35 42.1**	**-0.6**
WHN				pmax	pmax		
	comp=Z,110nm,0.7s						
GTOI	**Gorontalo**	**28.71**	**226**	P	**P**	**08 34 26.9**	**-0.3**
	comp=Z,467nmcomp=Z,49nm,1.0s						
KLR	**Kul'dur**	**28.83**	**345**	P	**P**	**08 34 29.2**	**+1.4**
	comp=Z,40nm,0.5s,baz=160,slow=7.2,SNR=154						
KLR				PcP	**PcP**	**08 37 30.3**	**+1.1**
	comp=Z,28nm,0.7s,baz=194,slow=2.2,SNR=9.1						
KLR				S	**S**	**08 38 56.6**	**+1.2**
	comp=Z,4.2nm,0.8s,baz=146,slow=21,SNR=7.7						
KLR				ScP	**ScP**	**08 40 41.5**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=156,slow=4.4,SNR=6.8						
TYV	**Tymovskoe**	**29.02**	**359**	*e*P	**P**	**08 34 31.3**	**+1.8**
TYV				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	**Baijiatuan**	**29.21**	**315**	P	**P**	**08 34 31.3**	**0.0**
BJT				pmax	pmax		
	comp=Z,16nm,0.7s						
BJT	**Baijiatuan**	**29.21**	**315**	P	**P**	**08 34 31.3**	**0.0**
BJI	**Beijing**	**29.22**	**315**	P	**P**	**08 34 31.5**	**+0.1**
BJI				PcP	**PcP**	**08 37 31.4**	**+1.0**
BJI				S	**S**	**08 38 59.5**	**-2.2**
BJI				pmax	pmax		
	comp=Z,21nm,0.6s						
MRSI	**Marisa**	**29.55**	**227**	P	**P**	**08 34 34.5**	**-0.1**
	comp=Z,2μmcomp=Z,194nm,1.0s						
TOLI2	**Tolitoli**	**29.90**	**230**	P	**P**	**08 34 37.5**	**-0.2**
TOLI2				IAmb	IAmb	08 34 40.0	
	comp=Z,61nm,0.7s						
LUWI	**Luwuk**	**30.13**	**224**	P	**P**	**08 34 38.1**	**-1.6**
	comp=Z,3μmcomp=Z,132nm,0.9s						
SKR	**Severo-Kuril's**	**30.60**	**16**	*e*P	P	08 34 58.6	+15
SKR				*e**PP	**PP**	**08 35 56.2**	**-3.2**
SKR				*e*		08 36 31.6	
SKR				pmax	pmax		
	comp=Z,18nm,0.7s						
SKR				pmax	pmax		
	comp=Z,200nm,3.5s						
SKR				MLR	MLR		
	comp=Z,100nm,15.0s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
APSI	**Ampana**	**30.77**	**226**	P	**P**	**08 34 43.3**	**-2.0**
	comp=Z,66nm,1.2s						
MPSI	**Mapaga**	**31.07**	**230**	P	**P**	**08 34 47.5**	**-0.4**
	comp=Z,34nm,0.9s						
QIZ	**Qiongzhong**	**31.23**	**271**	P	P	08 34 39.4	-10
QIZ				pP	pP	08 34 46.8	-59
QIZ				S	**S**	**08 39 35.5**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,78nm,8.4s						
ENH	**Enshi**	**31.25**	**293**	P	**P**	**08 34 49.2**	**-0.3**
ENH				IAmb	IAmb	08 34 50.4	
	comp=Z,66nm,0.8s						
XAN	**Xi'an**	**32.41**	**300**	P	**P**	**08 34 59.3**	**-0.1**
XAN				pmax	pmax		
	comp=Z,61nm,0.8s						
XAN	**Xi'an**	**32.41**	**300**	P	**P**	**08 34 59.6**	**+0.1**
XAN	**Xi'an**	**32

LZH PcP **PcP** **08 37 53.8 +1.3**
LZH S **S** **08 41 02.0 +1.5**
LZH pmax pmax
comp=Z,200nm,1.3s
LZH pmax pmax
comp=Z,570nm,5.4s
LZH L L
comp=Z,230nm,13.1s
LZH L L
comp=Z,270nm,13.5s
LZH L L
comp=Z,270nm,15.2s
KMI **Kunming** **37.06 283** ⇑P **P** **08 35 40.3 +0.9**
KMI PcP **PcP** **08 37 54.3 +1.1**
KMI pmax pmax
comp=Z,43nm,1.0s
KMI pmax pmax
comp=Z,210nm,3.8s
KMI **Kunming** **37.06 283** P **P** **08 35 41.1 +1.7**
KMI **Kunming** **37.06 283** P **P** **08 35 41.1 +1.7**
PKKI **Palangkaraya** **37.14 234** P **P** **08 35 39.5 -0.4**
comp=Z,3µmcomp=Z,134nm,0.8s
BBKI **Banjar Baru** **37.32 231** P **P** **08 35 41.1 -0.3**
comp=Z,4µmcomp=Z,65nm,0.7s
STKI **Sintang** **37.62 239** P **P** **08 35 44.2 +0.3**
comp=Z,174nm,0.8s
NONG **Nongkai** **37.65 272** P **P** **08 35 45.3 +1.2**
comp=Z,173nm,1.0s
NONG **Nongkai** **37.65 272** P **P** **08 35 45.3 +1.2**
comp=Z,171nm,1.0s
CIT **Chita** **37.83 330** *e*P **P** **08 35 46.1 +0.9**
CIT *e* 08 37 55.7
CIT pmax pmax
comp=Z,60nm,1.7s
MA2 **Magadan** **38.15 6** P **P** **08 35 49.2 +1.6**
comp=Z,15nm,0.8s,baz=172,slow=8.1,SNR=4.2
ULN **Ulaanbaatar** **38.84 321***c i*P **P** **08 35 54.8 +1.1**
ULN pmax pmax
comp=Z,49nm,1.2s
ULN **Ulaanbaatar** **38.84 321** P **P** **08 35 54.5 +0.8**
ULN **Ulaanbaatar** **38.84 321** P **P** **08 35 54.8 +1.1**
ULN **Ulaanbaatar** **38.84 321** P **P** **08 35 54.9 +1.2**
comp=Z,2µmcomp=Z,173nm,1.1s
PBKI **Pangkalan Bun** **39.19 235** P **P** **08 35 56.8 0.0**
comp=Z,10µmcomp=Z,441nm,0.9s
SONM **Songino Array** **39.21 320** P **P** **08 35 57.8 +1.1**
comp=Z,21nm,0.8s,baz=131,slow=9.2,SNR=84
SONM PcP **PcP** **08 37 59.1 -0.3**
comp=Z,6.6nm,0.6s,baz=131,slow=3.9,SNR=5.0
SONM ScP **ScP** **08 41 19.9 +0.8**
comp=Z,1.7nm,0.7s,baz=148,slow=4.0,SNR=3.9
SONM S **S** **08 41 33.8 -0.7**
comp=Z,0.5nm,0.5s,baz=7.4,slow=37,SNR=1.4
SONM PKiKP **PKiKP** **08 45 10.3 -0.8**
comp=Z,1.1nm,0.7s,baz=231,slow=0.9,SNR=4.0
SONM **Songino Array** **39.21 320** P **P** **08 35 57.1 +0.4**
CHAI **Chaiyaphum** **39.24 269** P **P** **08 35 57.8 +0.5**
comp=Z,875nmcomp=Z,91nm,1.2s
CHAI **Chaiyaphum** **39.24 269** P **P** **08 35 57.8 +0.5**
comp=Z,218nmcomp=Z,23nm,1.2s
PLAI **Plampang** **39.27 222** P **P** **08 35 55.9 -1.6**
comp=Z,2µmcomp=Z,225nm,0.9s
SRAK **Srakaew** **39.71 266** P **P** **08 35 58.1 -3.0**
comp=Z,8µmcomp=Z,918nm,1.0s
TWSI **Taliwang, Sumb** **39.76 223** P **P** **08 36 00.6 -0.9**
comp=Z,48nm,0.8s
UTTA **Uttaradit** **40.13 272** P **P** **08 36 05.5 +1.0**
comp=Z,977nmcomp=Z,127nm,0.9s
UTTA **Uttaradit** **40.13 272** P **P** **08 36 05.5 +1.0**
comp=Z,244nmcomp=Z,32nm,0.9s
KHKI **Kahang-Kahang** **40.30 225** P **P** **08 36 05.5 -0.4**
comp=Z,2µmcomp=Z,275nm,0.9s
PHIT **Phitsanulok** **40.38 271** P **P** **08 36 07.7 +1.1**
comp=Z,4µmcomp=Z,250nm,0.9s
PHIT **Phitsanulok** **40.38 271** P **P** **08 36 07.8 +1.1**
comp=Z,944nmcomp=Z,62nm,0.9s
KMMI **Kalianget** **40.45 228** P **P** **08 36 08.8 +1.7**
comp=Z,5µmcomp=Z,604nm,0.8s
GTA **Gaotai** **40.74 306** ⇑P **P** **08 36 10.1 +0.7**
GTA pP pP 08 37 09.8 +1.5
GTA sP sP 08 37 43.0 +1.0
GTA PcP **PcP** **08 38 04.9 +0.4**
GTA ScP **ScP** **08 41 27.3 +1.9**
GTA PcS **PcS** **08 41 57.0 +1.1**
GTA pmax pmax
comp=Z,46nm,1.0s
GTA pmax pmax
comp=Z,150nm,4.5s
GTA L L
comp=Z,270nm,18.9s
GTA L L
comp=Z,230nm,17.4s
GTA L L
comp=Z,180nm,18.9s
ABJI **Asem Bagus** **40.80 227** P **P** **08 36 10.6 +0.6**
comp=Z,202nm,1.1s
BYJI **Banyuwangi** **41.02 226** P **P** **08 36 13.1 +1.3**
comp=Z,306nm,1.1s
PATY **Pattaya** **41.13 265** P **P** **08 36 14.7 +2.0**
comp=Z,117nm,0.9s
PATY **Pattaya** **41.13 265** P **P** **08 36 14.8 +2.0**
comp=Z,30nm,0.9s
YAK **Yakutsk** **41.27 350** P **P** **08 36 13.7 +0.6**
comp=Z,33nm,0.6s,baz=167,slow=1.8,SNR=14
YAK PcP **PcP** **08 38 04.2 -1.4**
comp=Z,18nm,0.4s,baz=193,slow=1.3,SNR=4.8
YAK S **S** **08 42 02.3 -1.7**
comp=Z,14nm,0.6s,baz=217,slow=23,SNR=15
YAK **Yakutsk** **41.27 350** *e*P **P** **08 36 13.2 +0.1**
YAK *e**PP **pP** **08 37 14.1 +2.3**
YAK *e* 08 38 04.9
YAK *e*S **S** **08 42 01.7 -2.3**
YAK *e**SS **sS** **08 43 49.7 -0.1**
YAK *e* 08 45 40.3
YAK pmax pmax
comp=Z,74nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=N,173nm,1.5s
YAK smax smax
comp=E,133nm,1.5s
JAGI **Jajag, Banyuwa** **41.34 226** P **P** **08 36 13.3 -1.1**
JAGI IAmb IAmb 08 36 14.4
comp=Z,115nm,0.8s
JAGI **Jajag, Banyuwa** **41.34 226** P **P** **08 36 13.7 -0.7**
comp=Z,174nm,0.9s
CMMT **Chiang Mai** **41.39 274** P **P** **08 36 14.4 -0.4**
comp=Z,624nmcomp=Z,52nm,1.0s
CMMT **Chiang Mai** **41.39 274** P **P** **08 36 14.4 -0.4**
comp=Z,624nmcomp=Z,52nm,1.0s
CHTO **Chiang Mai** **41.40 274** P **P** **08 36 15.0 +0.1**
CHTO pmax pmax
comp=Z,46nm,1.0s
CHTO **Chiang Mai** **41.40 274** P **P** **08 36 15.4 +0.5**
comp=Z,596nmcomp=Z,52nm,1.0s
CHTO **Chiang Mai** **41.40 274** P **P** **08 36 15.0 +0.1**
CHTO **Chiang Mai** **41.40 274** P **P** **08 36 15.5 +0.7**
CHTO **Chiang Mai** **41.40 274** P **P** **08 36 15.4 +0.5**
comp=Z,335nmcomp=Z,29nm,1.0s
CM31 **Chiang Mai Arr** **41.47 274** P **P** **08 36 16.3 +0.8**
CMAR **Chiang Mai Arr** **41.47 274** P **P** **08 36 16.2 +0.8**
comp=Z,20nm,0.8s,baz=59,slow=7.6,SNR=68
CMAR PcP **PcP** **08 38 07.8 +0.8**
comp=Z,4.8nm,0.8s,baz=127,slow=1.4,SNR=7.7
SEY **Seymchan** **41.61 6** P **P** **08 36 17.7 +1.8**
comp=Z,7.4nm,0.7s,baz=174,slow=7.0,SNR=15
SEY PcP **PcP** **08 38 06.7 +0.1**
comp=Z,13nm,1.0s,baz=199,slow=3.5,SNR=4.5
UTHA **Uthaitani** **41.69 269** P **P** **08 36 18.7 +1.4**
comp=Z,268nmcomp=Z,25nm,1.1s
CTA **Charters Tower** **41.73 176** P **P** **08 36 17.4 -0.1**
comp=Z,11nm,0.8s,baz=357,slow=8.4,SNR=12
UMPA **Umpang Tak** **42.07 270** P **P** **08 36 22.3 +2.0**
comp=Z,7µmcomp=Z,110nm,0.8s
UMPA **Umpang Tak** **42.07 270** P **P** **08 36 22.0 +1.7**
comp=Z,2µmcomp=Z,27nm,0.8s
ZAK **Zakamensk** **42.22 322** *e*P **P** **08 36 21.7 +0.6**
ZAK *e* 08 38 09.3
ZAK pmax pmax
comp=Z,60nm,1.3s
ZAK pmax pmax
comp=Z,14nm,1.4s
PHET **Kaeng Krachan** **42.28 265** P **P** **08 36 23.5 +1.6**
comp=Z,1µmcomp=Z,161nm,0.9s
PHET **Kaeng Krachan** **42.28 265** P **P** **08 36 23.6 +1.6**
comp=Z,382nmcomp=Z,41nm,0.9s
SRDT **SRDT** **42.32 268** P **P** **08 36 22.4 +0.1**
comp=Z,3µmcomp=Z,152nm,0.9s
SRDT **SRDT** **42.32 268** P **P** **08 36 22.5 +0.1**
comp=Z,3µmcomp=Z,152nm,0.9s
WRAB **Tennant Creek** **42.33 192***c i*P **P** **08 36 21.3 -0.9**
WRAB pmax pmax
comp=Z,22nm,0.6s
WRAB **Tennant Creek** **42.33 192** P **P** **08 36 21.1 -1.1**
WB2 **Warramunga Arr** **42.34 192** P **P** **08 36 21.0 -1.3**
WRA **Warramunga Arr** **42.34 192** P **P** **08 36 21.4 -1.0**
comp=Z,20nm,0.5s,baz=11,slow=8.0,SNR=167
WRA ScP **ScP** **08 41 33.1 +1.3**
comp=Z,6.0nm,1.1s,baz=14,slow=4.1,SNR=7.2
WRA S **S** **08 42 17.2 -3.6**
comp=Z,15nm,1.2s,baz=14,slow=14,SNR=13
WRA PKiKP **PKiKP** **08 45 13.8 -0.6**
comp=Z,1.7nm,0.8s,baz=326,slow=1.6,SNR=6.3
WRA **Warramunga Arr** **42.34 192** P **P** **08 36 20.8 -1.6**
TPI **Tanjungpandan** **42.36 239** P **P** **08 36 22.3 -0.3**
comp=Z,846nmcomp=Z,118nm,0.9s
MHMT **Maesarieng** **42.47 273** P **P** **08 36 24.0 +0.5**
comp=Z,1µmcomp=Z,67nm,0.8s
MHMT **Maesarieng** **42.47 273** P **P** **08 36 24.0 +0.5**
comp=Z,1µmcomp=Z,67nm,0.8s
SJI **Sawahan** **42.47 230** P **P** **08 36 24.0 +0.4**
comp=Z,5µmcomp=Z,158nm,1.0s
TLY **Talaya** **42.63 324***c i*P **P** **08 36 25.9 +1.6**
TLY pmax pmax
comp=Z,60nm,1.1s
TLY **Talaya** **42.63 324** P **P** **08 36 25.4 +1.0**
TLY **Talaya** **42.63 324** P **P** **08 36 25.9 +1.6**
PWJI **Pagerwojo** **42.65 229** P **P** **08 36 25.3 +0.5**
comp=Z,3µmcomp=Z,390nm,0.8s
KIWB **Kanaga Island** **42.90 36** P **P** **08 36 27.6 +1.2**
SMRI **Semarang** **42.96 232** P **P** **08 36 27.4 0.0**
comp=Z,102nm,0.8s
FITZ **Fitzroy Crossi** **43.16 205** P **P** **08 36 28.1 -0.8**
comp=Z,15nm,0.7s,baz=19,slow=8.8,SNR=18
FITZ PcP **PcP** **08 38 13.0 +0.5**
comp=Z,10.0nm,0.8s,baz=104,slow=3.8,SNR=2.7
FITZ **Fitzroy Crossi** **43.16 205** P **P** **08 36 27.8 -1.0**
PCJI **Pacitan** **43.21 230** P **P** **08 36 28.2 -1.1**
comp=Z,244nm,1.0s
PPBI **Pangkal Pinang** **43.24 241** P **P** **08 36 29.4 -0.2**
comp=Z,13µmcomp=Z,116nm,0.8s
SKLT **Songkhla** **43.43 257** P **P** **08 36 32.6 +1.4**
SKLT **Songkhla** **43.43 257** P **P** **08 36 32.6 +1.4**
comp=Z,2µmcomp=Z,195nm,0.9s
UGM **Wanagama** **43.48 231** P **P** **08 36 31.0 -0.6**
comp=Z,168nm,0.7s
DSRI **Dabo** **43.59 245** P **P** **08 36 33.6 +1.2**
comp=Z,1µmcomp=Z,66nm,1.1s
CTJI **Waduk Cacaban** **43.85 233** P **P** **08 36 34.4 -0.1**
comp=Z,65nm,0.8s
MOY **Mondy** **44.09 323** *e*P **P** **08 36 37.1 +1.1**
MOY pmax pmax
comp=Z,58nm,1.6s
KPJI **Karang Pucung** **44.26 233** P **P** **08 36 37.4 -0.2**
comp=Z,249nm,0.7s
KRAB **Krabi** **44.31 259** P **P** **08 36 39.8 +1.7**
KRAB **Krabi** **44.31 259** P **P** **08 36 39.9 +1.7**
comp=Z,6µmcomp=Z,704nm,0.8s
SURT **Suratani** **44.40 260** P **P** **08 36 41.3 +2.5**
SURT **Suratani** **44.40 260** P **P** **08 36 41.4 +2.5**
comp=Z,53nmcomp=Z,5.9nm,1.1s
LEM **Lembang** **44.91 235** P **P** **08 36 42.4 -0.6**
comp=Z,127nm,0.7s,baz=48,slow=6.4,SNR=26
JMBI **JAMBI** **45.00 244** P **P** **08 36 45.9 +2.4**
comp=Z,293nm,1.0s
PKDT **Phuket** **45.23 259** P **P** **08 36 46.2 +0.9**
PKDT **Phuket** **45.23 259** P **P** **08 36 46.2 +0.9**
CISI **Cisompet, Garu** **45.23 234** P **P** **08 36 43.1 -2.3**
comp=Z,85nm,0.6s
CBJI **Citeko** **45.24 236** P **P** **08 36 46.3 +0.9**
comp=Z,141nm,0.6s
TNG **Tangerang** **45.24 236** P **P** **08 36 45.9 +0.5**
comp=Z,676nm,0.9s
TNG P **P** **08 36 45.8 +0.4**
comp=Z,992nm,0.9s
DBJI **Dramaga** **45.40 236** P **P** **08 36 46.5 -0.2**
comp=Z,176nm,1.1s
RGRI **Rengat** **45.42 246** P **P** **08 36 49.1 +2.3**
comp=Z,45µmcomp=Z,305nm,0.8s
BLSI **Bandar Lampung** **45.84 238** P **P** **08 36 49.5 -0.6**
comp=Z,230nm,1.0s
AS31 **Alice Springs** **46.05 192** P **P** **08 36 50.5 -1.1**
ASAR **Alice Springs** **46.05 192** P **P** **08 36 50.2 -1.3**
comp=Z,7.3nm,0.6s,baz=16,slow=11,SNR=92
ASAR PcP **PcP** **08 38 22.6 0.0**
comp=Z,3.7nm,0.7s,baz=13,slow=4.6,SNR=5.9
ASAR ScP **ScP** **08 41 47.9 +0.9**
comp=Z,1.8nm,1.0s,baz=3.6,slow=4.0,SNR=4.2
ASAR S **S** **08 43 10.5 -3.5**
comp=Z,6.4nm,0.7s,baz=20,slow=20,SNR=20
MDSI **Maura Dua** **46.17 240** P **P** **08 36 51.4 -1.2**
comp=Z,918nmcomp=Z,40nm,1.1s
BKNI **Bangkinang** **46.18 248** P **P** **08 36 53.3 +0.6**
BKNI **Bangkinang** **46.18 248** P **P** **08 36 53.6 +0.9**
comp=Z,2µmcomp=Z,279nm,0.9s
CGJI **Cibinong** **46.26 237** P **P** **08 36 51.3 -2.0**
comp=Z,4µmcomp=Z,379nm,0.9s
LHSI **Lahat** **46.32 241** P **P** **08 36 53.9 +0.1**
comp=Z,319nm,1.0s
LWLI **Liwa** **46.58 240** P **P** **08 36 54.3 -1.6**
comp=Z,132nm,0.8s
SHL **Shillong** **46.81 285** P **P** **08 36 57.5 -0.2**
SHL pmax pmax
comp=Z,104nm,1.1s
SHL **Shillong** **46.81 285** P **P** **08 36 57.5 -0.2**
SHL IAmb IAmb 08 36 58.7
comp=Z,104nm,1.1s
SHL **Shillong** **46.81 285** P **P** **08 36 57.9 +0.2**
SNR=14
PSI **Prapat** **46.84 253** P **P** **08 36 58.8 +0.7**
comp=Z,57nm,0.8s,baz=0.5,slow=5.4,SNR=26
PSI PcP **PcP** **08 38 25.2 -0.6**
comp=Z,18nm,0.9s,baz=359,slow=2.1,SNR=3.9
PSI **Prapat** **46.84 253** P **P** **08 36 58.6 +0.6**
comp=Z,449nmcomp=Z,50nm,1.0s
RPSI **Rantau Prapat** **46.89 252** P **P** **08 36 58.9 +0.6**
RPSI IAmb IAmb 08 36 59.8
comp=Z,108nm,1.0s
RPSI **Rantau Prapat** **46.89 252** P **P** **08 36 58.8 +0.6**
LSA **Lhasa** **47.11 291** P **P** **08 37 02.0 +1.7**
LSA pmax pmax
comp=Z,250nm,0.9s
LSA **Lhasa** **47.11 291** P **P** **08 37 02.1 +1.7**
LSA pmax pmax
comp=Z,250nm,0.8s
LSA **Lhasa** **47.11 291** P **P** **08 37 01.2 +0.9**
LSA pmax pmax
comp=Z,59nm,0.8s
LSA **Lhasa** **47.11 291** P **P** **08 37 01.2 +0.9**
LSA IAmb IAmb 08 37 03.2
comp=Z,59nm,0.8s
TRSI **Tarutung** **47.17 252** P P 08 37 10.7 +10
MNSI **Mandailing Nat** **47.22 250** P **P** **08 37 00.8 +0.1**
comp=Z,4µmcomp=Z,156nm,1.0s
PDSI **Padang** **47.31 247** P **P** **08 37 00.9 -0.5**
comp=Z,87nm,0.8s
BRDH **Bariadhala** **47.42 281** P **P** **08 37 03.2 +1.0**
comp=Z,64nm,0.3s,baz=69,slow=14,SNR=7.7
NIKH **Nikolski High** **47.97 37** P 08 37 07.0
baz=248
TPTI **48.19 254** P **P** **08 37 07.3 -0.8**
BILL **Bilibino** **48.45 11***d i*P **P** **08 37 11.0 +1.7**
BILL *i* *PP **pwP** **08 38 14.4 -2.0**
BILL pmax pmax
comp=Z,52nm,1.3s
BILL **Bilibino** **48.45 11** P **P** **08 37 10.3 +1.0**
PSA00 **Pilbara Seismi** **48.69 209** P **P** **08 37 10.9 -0.8**
XMI **Christmas Isla** **48.71 233** P **P** **08 37 11.3 -0.7**
comp=Z,252nm,1.1s
GSI **Gunungsitoli** **48.73 252** P **P** **08 37 11.7 -0.6**
XMIS **Christmas Isla** **48.76 233** P **P** **08 37 11.4 -1.0**
comp=Z,239nm,1.1s
DZM **Mont Dzumac** **49.19 151** P **P** **08 37 14.3 -1.3**
comp=Z,12nm,0.8s,baz=187,slow=2.8,SNR=6.1
DZM **Mont Dzumac** **49.19 151** IAmb IAmb 08 37 17.0
comp=Z,41nm,1.3s
WMQ **Urumqi** **50.45 309** P **P** **08 37 26.5 +1.7**
WMQ PcP **PcP** **08 38 39.8 +1.4**
WMQ pmax pmax
comp=Z,85nm,1.1s
WMQ pmax pmax
comp=Z,330nm,4.7s
TIXI **Tiksi** **50.55 354** P **P** **08 37 25.5 +0.5**
comp=Z,17nm,0.7s,baz=135,slow=4.6,SNR=23
TIXI PcP **PcP** **08 38 36.8 -1.2**
comp=Z,7.0nm,0.7s,baz=144,slow=3.3,SNR=4.1
TIXI S **S** **08 44 15.2 -0.3**
comp=Z,1.8nm,0.6s,baz=148,slow=19,SNR=7.7
GAMB **Gambell** **51.58 24** P 08 37 34.9
baz=237
GAMB S 08 44 31.8
baz=237
DGZ **Jazzator, Alta** **51.60 317***c i*P **P** **08 37 34.7 +1.4**
DGZ pmax pmax
comp=Z,80nm,1.2s
FALS **False Pass** **51.63 36** P 08 37 34.6
baz=252
ZSN **Zaisan** **52.89 314**⇑*e*P **P** **08 37 43.9 +1.2**
baz=314
ZSN **Zaisan** **52.89 314***ce*P **P** **08 37 43.8 +1.2**
STKA **Stephens Creek** **53.38 182** P **P** **08 37 45.2 -1.0**
comp=Z,8.6nm,0.7s,baz=356,slow=7.3,SNR=32
STKA S **S** **08 44 49.3 -5.4**
comp=Z,2.1nm,0.8s,baz=258,slow=21,SNR=4.0
SDPT **Sand Point** **53.40 36** P 08 37 47.0
baz=255
SDPT S 08 44 55.7
baz=255
TNA **Tin City** **53.90 23** P 08 37 50.8
baz=240
TNA S 08 45 03.0
baz=240
ZAA0 **Zalesovo Array** **54.08 322** P **P** **08 37 51.2 +0.2**
ZAA0 IAmb IAmb 08 37 52.6
comp=Z,74nm,0.8s
ZALV **Zalesovo Beam** **54.08 322** P **P** **08 37 51.5 +0.4**
comp=Z,94nm,0.9s,baz=99,slow=6.6,SNR=142
ZALV PcP **PcP** **08 38 51.3 -0.4**
comp=Z,37nm,0.5s,baz=122,slow=4.4,SNR=19
ZALV ScP **ScP** **08 42 20.4 -0.6**
comp=Z,1.9nm,0.8s,baz=123,slow=5.3,SNR=1.7
ZALV S **S** **08 45 02.8 -1.0**
comp=Z,0.4nm,0.4s,baz=202,slow=43,SNR=1.3
ZALV **Zalesovo Beam** **54.08 322** P **P** **08 37 51.2 +0.2**
FORT **Forrest** **54.22 196** P **P** **08 37 51.4 -0.9**
FORT IAmb IAmb 08 37 52.3
comp=Z,48nm,0.8s
ANM **Nome** **54.38 25** P 08 37 55.0
baz=244
MK31 **Makanchi Array** **54.56 313***c i*P **P** **08 37 55.4 +0.7**
MK31 **Makanchi Array** **54.56 313** P **P** **08 37 55.5 +0.8**
MKAR **Makanchi Array** **54.56 313** P **P** **08 37 55.6 +0.9**
comp=Z,33nm,0.6s,baz=91,slow=9.2,SNR=290
MKAR PcP **PcP** **08 38 54.4 +0.5**
comp=Z,24nm,0.7s,baz=86,slow=5.5,SNR=14
MKAR ScP **ScP** **08 42 23.3 -0.1**
comp=Z,1.6nm,0.8s,baz=82,slow=5.6,SNR=2.4
MKAR S **S** **08 45 09.9 -0.7**
comp=Z,0.6nm,0.8s,baz=89,slow=15,SNR=4.1
MKAR PKP2bc 09 08 18.4
comp=Z,0.7nm,0.9s,baz=289,slow=4.4,SNR=4.8
MAKZ **Makanchi** **54.78 313** P **P** **08 37 57.1 +0.8**
MAKZ pmax pmax
comp=Z,51nm,0.8s
MAKZ **Makanchi** **54.78 313** P **P** **08 37 57.1 +0.8**
MAKZ IAmb IAmb 08 37 58.3
comp=Z,51nm,0.8s
CHIR **Chirikof Islan** **56.19 37** P 08 38 07.7
baz=259
SEM **Semipalatinsk** **56.28 317**⇑*i*P **P** **08 38 06.7 -0.3**
comp=Z,39nm,0.8s,baz=317
SEM *e*S **S** **08 45 30.1 -3.4**
baz=317
SEM **Semipalatinsk** **56.28 317***c i*P **P** **08 38 06.7 -0.3**
SEM *e*S **S** **08 45 30.0 -3.4**
SEM pmax pmax
comp=Z,39nm,0.8s
PDGK **Podgornoye** **56.36 308** P **P** **08 38 07.7 +0.1**
PDGK pmax pmax
comp=Z,49nm,0.8s
SHLS **Shalkode** **56.38 308** *e*P **P** **08 38 06.1 -1.7**
comp=Z,14nm,0.5s,baz=308
SHLS **Shalkode** **56.38 308** *e*P **P** **08 38 06.0 -1.7**
SHLS pmax pmax
comp=Z,14nm,0.5s
UZB **Uzynbulak** **56.70 308**⇑*i*P **P** **08 38 10.8 +0.7**
comp=Z,20nm,0.9s,baz=308
UZB *e*S **S** **08 45 39.5 +0.4**
baz=308
UZB **Uzynbulak** **56.70 308***c i*P **P** **08 38 10.7 +0.7**
UZB *e*S **S** **08 45 39.4 +0.4**
UZB pmax pmax
comp=Z,20nm,0.9s
RDOG **Red Dog Mine** **56.83 21** P 08 38 13.0
baz=244
KPKS **Kokpek** **56.95 308**⇑*i*P **P** **08 38 12.5 +0.8**
comp=Z,14nm,0.5s,baz=308
KPKS **Kokpek** **56.95 308***c i*P **P** **08 38 12.5 +0.8**
KPKS pmax pmax
comp=Z,14nm,0.5s
SII **Sitkinak Islan** **57.11 36** P 08 38 14.3
baz=260
N18K **Kilae Creek** **57.13 31** P 08 38 14.8
baz=255,SNR=19
SATY **Saty** **57.15 308**⇑*i*P **P** **08 38 14.1 +0.9**
comp=Z,38nm,1.4s,baz=308
SATY **Saty** **57.15 308***c i*P **P** **08 38 14.0 +0.9**
SATY pmax pmax
comp=Z,38nm,1.4s
PRZ **Przheval'sk** **57.16 307** P **P** **08 38 14.7 +1.4**
PRZ pmax pmax
comp=Z,76nm,0.8s
PRZ **Przheval'sk** **57.16 307** P **P** **08 38 14.7 +1.4**
PRZ IAmb IAmb 08 38 16.5
comp=Z,76nm,0.8s
TDK **Taldyqorghan** **57.17 310** *e*P **P** **08 38 13.7 +0.5**
baz=310
TDK **Taldyqorghan** **57.17 310** *e*P **P** **08 38 13.6 +0.5**
O18K **Koktuh Hills** **57.26 32** S 08 45 48.8
baz=257
SVW2 **Sparrevohn** **57.38 30** P **P** **08 38 15.7 +1.4**
KURBB **Kurchatov Arra** **57.39 317** PKP2bc 09 08 09.6
comp=Z,1.8nm,0.7s,baz=282,slow=2.6,SNR=5.4
KURBB **Kurchatov Arra** **57.39 317** P **P** **08 38 14.4 -0.1**
KURBB pmax pmax
comp=Z,90nm,0.7s
ARXS **Arharly** **57.57 309** *e*P **P** **08 38 16.9 +0.9**
TARG **Taragay, Kyrgy** **57.61 306** P **P** **08 38 17.4 +0.6**
TARG IAmb IAmb 08 38 19.6
comp=Z,37nm,1.0s
TTA **Tatalina** **57.67 28** P **P** **08 38 17.8 +1.5**
TTA pmax pmax
comp=Z,15nm,1.1s
TTA **Tatalina** **57.67 28** P **P** **08 38 17.8 +1.5**
TTA **Tatalina** **57.67 28** P 08 38 18.0
baz=254,SNR=7.2
OHAK **Old Harbor** **57.72 35** P 08 38 17.9
baz=260
OHAK S 08 45 53.9
baz=260
O19K **Port Alsworth** **57.77 32** P 08 38 18.7
baz=257
N19K **Bonanza Creek** **57.83 31** P 08 38 19.7
baz=257,SNR=14
NRIK **Noril'sk** **57.88 340** P **P** **08 38 18.2 +0.7**
comp=Z,37nm,0.7s,baz=112,slow=8.2,SNR=50
NRIK PcP **PcP** **08 39 05.8 -0.5**
comp=Z,23nm,0.7s,baz=147,slow=3.8,SNR=6.1
NRIK **Noril'sk** **57.88 340***c i*P **P** **08 38 18.2 +0.7**
NRIK pmax pmax
comp=Z,47nm,0.8s
KDJ **Kajisay** **58.07 307** P **P** **08 38 20.7 +1.1**
KDJ pmax pmax
comp=Z,61nm,1.3s
KDJ **Kajisay** **58.07 307** P **P** **08 38 20.7 +1.1**
KDJ IAmb IAmb 08 38 22.2
comp=Z,61nm,1.2s
MDOK **Medeo** **58.14 308** *i* P **P** **08 38 21.4 +1.3**
baz=308
MDOK *e*S **S** **08 45 56.7 -1.1**
baz=308
MDOK **Medeo** **58.14 308** *i* P **P** **08 38 21.3 +1.2**
MDOK *e*S **S** **08 45 56.6 -1.1**
CHKK **Chushkaly** **58.18 309** *e*P **P** **08 38 20.3 +0.2**
baz=309
CHKK **Chushkaly** **58.18 309** *e*P **P** **08 38 20.3 +0.2**
KDAK **Kodiak Island** **58.19 35** P **P** **08 38 21.1 +1.3**

comp=Z,16nm,0.5s,baz=271,slow=3.8,SNR=56
KDAK S **S** **08 45 58.9 +1.5**
comp=Z,6.7nm,0.7s,baz=14,slow=22,SNR=3.6
KDAK Kodiak Island 58.19 35 P 08 38 21.1
baz=260
KDAK S 08 45 59.4
baz=260
MTBS Maitube 58.60 308⇑*i* P **P** **08 38 24.4 +1.3**
baz=308
MTBS Maitube 58.60 308*c i* P **P** **08 38 24.4 +1.3**
ULHL Ulahol 58.76 307 P **P** **08 38 25.8 +1.4**
SNR=14
HOM Homer 58.99 33 P 08 38 26.9
baz=260
KSH Kashi 59.10 304 P **P** **08 38 29.4 +2.7**
KSH S **S** **08 46 06.6 -3.5**
KSH pmax pmax
comp=Z,35nm,0.6s
KSH pmax pmax
comp=Z,150nm,4.9s
KSH L L
comp=Z,1μm,16.8s
KSH L L
comp=Z,730nm,19.2s
KSH L L
comp=Z,89nm,8.3s
TKM2 Tokmak 2 59.21 308 P **P** **08 38 28.9 +1.4**
SNR=52
TKM2 Tokmak 2 59.21 308 P **P** **08 38 27.9 +0.4**
TKM2 pmax pmax
comp=Z,37nm,0.8s
PPLA Purkeypile 59.36 29 P 08 38 29.7
baz=258,SNR=8.6
PPLA S 08 46 14.2
baz=258
BRSE Bradley Lake S 59.45 33 P 08 38 29.1
baz=261
SKT Skwentna 59.47 30 P 08 38 29.4
baz=259,SNR=14
CHUM Lake Minchumin 59.52 28 P 08 38 31.0
baz=257,SNR=12
KBK Karagaybulak 59.70 308 P **P** **08 38 32.2 +1.5**
SNR=12
H21K Melozitna Rive 59.74 26 P 08 38 32.7
baz=255,SNR=65
SUA Susitna One 59.74 31 P 08 38 31.4
baz=260,SNR=7.3
CHMS Chumysh 59.83 308 P **P** **08 38 32.6 +1.2**
SNR=16
SGDS Sogindy 59.90 308 *e*P **P** **08 38 31.5 -0.4**
baz=308
SGDS Sogindy 59.90 308 *e*P **P** **08 38 31.5 -0.4**
I21K Tanana 59.96 26 P 08 38 34.1
baz=256,SNR=68
USP Ospenovka 60.00 308 P **P** **08 38 33.8 +1.2**
SNR=9.8
AAK Ala-Archa 60.03 308 P **P** **08 38 34.1 +1.1**
SNR=13
AAK Ala-Archa 60.03 308 *i* P **P** **08 38 34.1 +1.1**
SNR=6.1
AAK Ala-Archa 60.03 308*c i* P **P** **08 38 34.0 +1.0**
AAK pmax pmax
comp=Z,127nm,1.7s
AAK Ala-Archa 60.03 308 P **P** **08 38 34.1 +1.1**
O22K Cooper Landing 60.07 32 P 08 38 33.7
baz=261,SNR=8.3
CUT Chulitna 60.13 30 P 08 38 33.6
baz=260
CUT S 08 46 23.0
baz=260
BPAW Bear Paw Mtn. 60.14 28 P 08 38 34.9
baz=258,SNR=61
BPAW S 08 46 23.8
baz=258
SEW Seward 60.15 32 P 08 38 34.2
baz=262,SNR=10
SEW S 08 46 22.5
baz=262
A21K Barrow 60.16 19 P 08 38 34.9
baz=248
A21K S 08 46 24.6
baz=248
RC01 Rabbit Creek A 60.16 31 P 08 38 33.9
baz=261,SNR=13
BTLS Baital 60.26 310⇑*i* P **P** **08 38 35.2 +0.9**
comp=Z,25nm,0.6s,baz=310
BTLS Baital 60.26 310*c i* P **P** **08 38 35.1 +0.9**
BTLS pmax pmax
comp=Z,25nm,0.6s
TRF Thorofare Moun 60.31 28 P 08 38 35.4
baz=259,SNR=15
TRF S 08 46 25.9
baz=259
MLY Manley 60.44 27 P 08 38 36.9
baz=258,SNR=52
MLY S 08 46 28.8
baz=258
PMR Palmer 60.52 31 P 08 38 36.3
baz=261,SNR=18
PMR S 08 46 28.4
baz=261
EKS2 Erkin-Say 60.56 308 P **P** **08 38 37.9 +1.4**
SNR=17
HYB Hyderabad 60.56 278 *i* P **P** **08 38 37.0 +0.2**
AML Almayashu 60.66 307 P **P** **08 38 38.9 +1.5**
SNR=54
AML Almayashu 60.66 307 *i* P **P** **08 38 39.2 +1.8**
SNR=55
PWL Port Wells 60.80 31 P **P** **08 38 38.4 +0.8**
PWL IAmb IAmb 08 38 39.5
comp=Z,76nm,1.0s
KNK Knik Glacier 60.82 31 P 08 38 38.9
baz=262,SNR=16
KNK S 08 46 32.7
baz=262
SML Sawmill 60.93 30 P 08 38 39.5
baz=262,SNR=26
SML S 08 46 34.6
baz=262
MCK McKinley 60.96 28 P 08 38 39.2
baz=260,SNR=20
I23K Minto, Yukon-K 61.03 27 P 08 38 40.8
baz=259
I23K S 08 46 36.4
baz=259
NEA2 Nenana 61.05 27 P 08 38 40.1
baz=260,SNR=34
NEA2 S 08 46 36.2
baz=260
H23K Yukon River 61.09 26 P 08 38 41.5
baz=258,SNR=37
H23K S 08 46 38.5
baz=258
BRZS Berezniki 61.11 316⇑*i* P **P** **08 38 40.3 +0.4**
comp=Z,11nm,0.5s,baz=316
BRZS Berezniki 61.11 316*c i* P **P** **08 38 40.3 +0.4**
BRZS pmax pmax
comp=Z,11nm,0.5s
COLD Coldfoot 61.13 24 P 08 38 41.7
baz=257,SNR=31
WAT6 Susitna Watana 61.32 30 P 08 38 42.1
baz=262,SNR=28
WAT6 S 08 46 37.8
baz=262
GLI Glacier Island 61.41 32 P 08 38 42.6
baz=263,SNR=5.9
GLI S 08 46 40.9
baz=263
MDM Murphy Dome 61.47 27 P **P** **08 38 43.3 +1.3**
TCOL CIGO, UAF Yank 61.61 27 P 08 38 44.0
baz=261,SNR=5.4
COLA College 61.61 27*c i* P **P** **08 38 43.8 +0.9**
COLA pmax pmax
comp=Z,10.0nm,0.9s
TOLK Toolik Lake Re 61.68 23 P 08 38 45.5
baz=257,SNR=58
TOLK S 08 46 44.7
baz=257
PALK Pallekele 61.71 267 P **P** **08 38 44.1 -0.4**
comp=Z,28nm,0.8s,baz=166,slow=7.2,SNR=8.6
PALK Pallekele 61.71 267 P **P** **08 38 44.6 +0.1**
H24K Noodor Dome 61.77 26 P 08 38 45.8
baz=260,SNR=45
H24K S 08 46 45.8
baz=260
POKR Poker Plat Res 61.83 27 P 08 38 45.1
baz=261
POKR S 08 46 46.1
baz=261
NIL Nilore 61.91 297 P **P** **08 38 46.6 +1.1**
HDA Harding Lake 61.93 28 P **P** **08 38 45.0 0.0**
HDA Harding Lake 61.93 28 P 08 38 45.3
baz=262,SNR=30
HDA P 08 38 45.3
baz=262,SNR=30
M24K Tolsona, Glenn 61.98 30 P 08 38 46.8
baz=264,SNR=5.6
M24K S 08 46 49.1
baz=264
ILAR Eielson Array 62.01 27 P **P** **08 38 45.5 -0.1**
comp=Z,19nm,0.7s,baz=258,slow=5.3,SNR=230
ILAR S **S** **08 46 44.7 -1.0**
comp=Z,1.1nm,0.8s,baz=262,slow=11,SNR=7.9
ILAR PKP2bc 09 07 56.9
comp=Z,0.3nm,0.8s,baz=88,slow=1.0,SNR=4.2
ILAR Eielson Array 62.01 27 P **P** **08 38 45.8 +0.3**
ILAR Eielson Array 62.01 27 P **P** **08 38 45.8 +0.3**
EYAK Cordova Ski Ar 62.03 32 P 08 38 47.3
baz=265,SNR=8.4
KLU Klutina 62.04 31 P 08 38 47.3
baz=264,SNR=25
KLU S 08 46 48.8
baz=264
DZA Taraz 62.34 308 *e*P **P** **08 38 48.3 +0.1**
baz=308
DZA Taraz 62.34 308 *e*P **P** **08 38 48.3 +0.1**
PAX Paxson 62.40 29 P 08 38 49.4
baz=264,SNR=15
HARP HAARP 62.49 30 P 08 38 50.4
baz=264,SNR=18
BRVK Borovoye 62.60 320 P **P** **08 38 50.2 +0.5**
BRVK pmax pmax
comp=Z,109nm,0.8s
BRVK Borovoye 62.60 320 P **P** **08 38 50.2 +0.5**
BMRM Bremner River 62.62 32 P **P** **08 38 51.0 +1.2**
BMRM IAmb IAmb 08 38 52.2
comp=Z,98nm,1.3s
BMRM Bremner River 62.63 32 P 08 38 51.2
baz=266,SNR=30
BMRM S 08 46 55.9
baz=266
N25K Chitina, Valde 62.68 31 P **P** **08 38 50.9 +0.7**
N25K Chitina, Valde 62.68 31 P 08 38 51.6
baz=265,SNR=16
N25K S 08 46 57.0
baz=265
KK31 Karatay Array 62.92 308 *i* P **P** **08 38 52.8 +0.8**
KK31 pmax pmax
comp=Z,61nm,0.8s
KK31 Karatay Array 62.92 308 P **P** **08 38 53.1 +1.1**
KKAR Karatay Array 62.92 308 P **P** **08 38 52.9 +0.9**
KKAR Karatay Array 62.92 308 P **P** **08 38 52.9 +0.9**
FYU Fort Yukon 62.94 25 P **P** **08 38 53.9 +2.3**
FYU IAmb IAmb 08 38 54.8
comp=Z,40nm,0.9s
BTK Batken 63.01 305 P **P** **08 38 53.3 +0.6**
BTK pmax pmax
comp=Z,43nm,1.3s
BTK Batken 63.01 305 P **P** **08 38 53.3 +0.6**
BTK IAmb IAmb 08 38 54.4
comp=Z,43nm,1.3s
SCRK Sand Creek 63.16 28 P 08 38 54.3
baz=265,SNR=67
SCRK S 08 47 01.4
baz=265
CRQE Cirque 63.35 32 P 08 38 55.9
baz=267,SNR=16
MCARA McCarthy VSAT 63.42 31 P 08 38 56.4
baz=267,SNR=8.8
MESA MESA 63.89 33 P 08 38 59.9
baz=268,SNR=6.8
MESA S 08 47 10.4
baz=268
K27K Chicken 64.01 28 P **P** **08 39 00.5 +1.9**
K27K Chicken 64.01 28 P 08 39 00.4
baz=266
L27K Beaver Creek, 64.06 29 P 08 39 00.6
baz=267,SNR=28
BCAR Beaver Creek A 64.08 29 P **P** **08 39 00.5 +1.2**
CTG Chitna Glacier 64.22 32 P 08 39 01.7
baz=268,SNR=7.8
EGAK Eagle 64.45 27 P 08 39 02.3
baz=267,SNR=23
EGAK S 08 47 17.3
baz=267
CHGR Chuyangaron 64.46 304 P **P** **08 39 03.0 +0.9**
PINM Pinnacle 64.74 33 P 08 39 05.1
baz=270,SNR=7.0
KBL Kabul 65.21 299 P **P** **08 39 07.7 +0.5**
KBL pmax pmax
comp=Z,78nm,0.9s
KBL Kabul 65.21 299 P **P** **08 39 07.7 +0.5**
KBL Kabul 65.21 299 P **P** **08 39 07.9 +0.7**
SNR=17
WHY Whitehorse 67.39 32 P 08 39 22.2
baz=274,SNR=15
WHY S 08 47 54.6
baz=274
SIT Sitka 67.47 36 P 08 39 22.4
baz=275
INK Inuvik 67.53 24 P **P** **08 39 21.9 +1.0**
comp=Z,16nm,0.6s,baz=292,slow=5.7,SNR=63
INK pP **pP** **08 40 24.8 -1.2**
comp=Z,10nm,1.1s,baz=266,slow=6.5,SNR=2.4
INK S **S** **08 47 52.8 +0.2**
comp=Z,2.4nm,1.0s,baz=89,slow=26,SNR=9.2
INK Inuvik 67.53 24 P 08 39 21.8
baz=272
INK S 08 47 54.3
baz=272
URZ Urewera 67.74 152 P **P** **08 39 21.6 -0.9**
comp=Z,8.0nm,0.4s,baz=300,slow=23,SNR=18
SVE Sverdlovsk 67.95 324*de*P **P** **08 39 24.7 +1.0**
SVE pmax pmax
comp=Z,132nm,0.9s
CRAG Craig 68.87 37 P 08 39 31.2
baz=278
ARU Arti 69.14 324*c i* P **P** **08 39 31.3 +0.3**
ARU 08 39 51.4
ARU *PP **pwP** **08 40 40.3 -0.6**
ARU 08 42 05.2
ARU S **S** **08 48 11.9 0.0**
ARU pmax pmax
comp=Z,133nm,1.1s
ARU Arti 69.14 324 P **P** **08 39 31.0 0.0**
WRAK Wrangell Islan 69.17 36 P **P** **08 39 33.2 +2.0**
WRAK Wrangell Islan 69.17 36 P 08 39 33.1
baz=278,SNR=8.7
AB31 Akbulak array 69.42 316 *i* P **P** **08 39 33.3 +0.4**
AB31 pmax pmax
comp=Z,91nm,0.6s
ABKAR Akbulak array 69.42 316 P **P** **08 39 33.1 +0.3**
DIB Dawson Inlet, 69.58 40 P **P** **08 39 35.1 +1.4**
DIB IAmb IAmb 08 39 35.6
comp=Z,23nm,0.7s
DLBC Dease Lake 70.11 34 P **P** **08 39 38.2 +1.2**
DLBC IAmb IAmb 08 39 40.2
comp=Z,29nm,1.1s
AKTO Aktyubinsk 70.44 317 P **P** **08 39 38.9 -0.2**
AKTO pmax pmax
comp=Z,28nm,0.7s
HRA Herat 70.74 300 P **P** **08 39 42.1 +0.7**
HRA IAmb IAmb 08 39 43.3
comp=Z,28nm,0.8s
C36M Paulatuk 70.82 22 P 08 39 41.7
baz=281
GEYT Alibeck 73.12 305 P **P** **08 39 56.2 +1.0**
comp=Z,30nm,0.9s,baz=173,slow=2.5,SNR=30
GEYT Alibeck 73.12 305 P **P** **08 39 56.0 +0.7**
GEYT IAmb IAmb 08 39 57.5
comp=Z,41nm,0.9s
GYA0B ALIBECK ARRAY 73.12 305 P **P** **08 39 55.5 +0.3**
GYA0B IAmb IAmb 08 39 57.4
comp=Z,40nm,0.9s
KIRV Kirov 73.55 327*c i* P **P** **08 39 57.9 +0.7**
PRGR Permogore 74.53 331 *e*P **P** **08 40 01.2 -1.6**
PRGR pmax pmax
comp=Z,163nm,0.9s
HOPEN Hopen 75.17 348 *e*P **P** **08 40 07.5 +1.3**
SPA0 Spitsbergen Ar 75.73 350 *e*P **P** **08 40 10.6 +1.1**
KBS Kingsbay 75.89 351⇑*i* P **P** **08 40 11.3 +1.0**
KBS Kingsbay 75.89 351*c i* P **P** **08 40 11.3 +1.0**
KBS pmax pmax
comp=Z,30nm,0.8s
KBS Kingsbay 75.89 351⇑*i* P **P** **08 40 11.5 +1.2**
NLWA Neilton Lookou 76.28 44 P **P** **08 40 14.5 +1.4**
NLWA IAmb IAmb 08 40 16.3
comp=Z,26nm,0.7s
NOR Nord 76.31 357 *i* P **P** **08 40 13.2 +0.6**
NOR IAmb IAmb 08 40 14.3
comp=Z,12nm,1.0s
NOR Nord 76.31 357 *i* P **P** **08 40 13.1 +0.6**
NOR pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 76.42 28 P **P** **08 40 14.2 +0.7**
comp=Z,30nm,0.6s,baz=292,slow=5.3,SNR=173
JLN Jalan Bani Buh 76.50 289 P **P** **08 40 14.8 0.0**
HSPB Hornsund (broa 76.63 349 *e*P **P** **08 40 15.6 +1.1**
HSPB Hornsund (broa 76.63 349⇑*i* P **P** **08 40 15.5 +1.1**
LVZ Lovozero 76.68 338*c i* P **P** **08 40 15.3 +0.4**
LVZ pmax pmax
comp=Z,58nm,0.9s
D03D Eldon 76.75 44 P 08 40 17.9
baz=288,SNR=19
WBK Wadi Bani Khal 76.75 289 P **P** **08 40 16.7 +0.5**
WSAR Wadi Sarin 76.85 290 P **P** **08 40 17.1 +0.5**
comp=Z,9.9nm,0.6s,baz=134,slow=7.2,SNR=12
RES Resolute Bay 77.01 13 P **P** **08 40 17.6 +1.0**
comp=Z,28nm,0.7s,baz=360,slow=6.7,SNR=68
D04E Lakebay 77.06 44 P 08 40 19.7
baz=288
B05A Bryant 77.16 43 P 08 40 19.7
baz=288,SNR=11
BIDO Bidbid 77.20 290 P **P** **08 40 19.0 +0.4**
SNR=5.4
APA Apatity 77.25 338⇑*i* P **P** **08 40 16.6 -1.4**
APA *eS **S** **08 49 37.0 -5.3**
APA pmax pmax
comp=Z,108nm,0.8s
APA MLR MLR
comp=Z,200nm,10.0s
I02D Swisshome 77.29 48 P 08 40 20.8
baz=288
G03D McMinnville, O 77.35 46 P 08 40 20.9
baz=288,SNR=5.3
E04D Cinebar 77.39 45 P 08 40 21.2
baz=288,SNR=10
SMDO Samad 77.41 290 P **P** **08 40 20.1 +0.1**
J01E Myrtle Point 77.53 48 P 08 40 21.9
baz=288,SNR=5.3
BJO1 Bjornoya 77.56 347 *e*P **P** **08 40 18.3 -1.3**
KLMR Klimovskoe 77.58 331 *e*P **P** **08 40 18.3 -1.6**
KLMR *e* 08 43 19.5
KLMR pmax pmax
comp=Z,59nm,1.2s
KLMR Klimovskoe 77.58 331 *e*P **P** **08 40 18.4 -1.5**
KLMR AMP 08 40 21.3
comp=Z,59nm,1.2s
KLMR *ePP **PP** **08 43 19.5 +0.5**
JMDO Jabal Madar 77.58 289 P **P** **08 40 20.8 +0.1**
I03D Drain, OR 77.76 48 P 08 40 23.2
baz=288,SNR=10
K02D Willamette Mer 77.86 49 P 08 40 23.6
baz=288,SNR=9.2
HOQ Hoqain 77.89 291 P **P** **08 40 22.8 +0.4**
H04D Lebanon 77.92 47 P 08 40 24.0
baz=289,SNR=6.7
C06D Leavenworth 78.03 43 P 08 40 24.2
baz=289
L02E Cave Junction 78.07 49 P 08 40 24.8
baz=288,SNR=7.2
SHME Shamm 78.12 293 *i* P **P** **08 40 24.9 +1.3**
SNR=8.3
SHME Shamm 78.12 293 P **P** **08 40 24.3 +0.7**
SNR=8.3
MHTO MHTO 78.14 288 P **P** **08 40 24.0 +0.1**
MDH Madha 78.22 293 P **P** **08 40 24.1 -0.1**
BSY Bisya 78.26 290 P **P** **08 40 24.9 +0.4**
MASF Masafi 78.32 293 P **P** **08 40 25.0 +0.2**
MSFE Esma-Masafi 78.32 293 P **P** **08 40 25.9 +1.1**
F05D White Salmon 78.33 45 P 08 40 26.0
baz=289,SNR=5.6
I04A Tendick Farm, 78.38 47 P 08 40 26.1
baz=289,SNR=14
SOHO SOHO 78.39 291 *i* P **P** **08 40 25.6 +0.5**
SNR=11
SOHO SOHO 78.39 291 P **P** **08 40 25.6 +0.5**
UOSS Minazif 78.42 292 P **P** **08 40 25.7 +0.4**
UOSS Minazif 78.42 292 P **P** **08 40 25.7 +0.4**
HATD Hatta, Dubai 78.52 292 *i* P **P** **08 40 26.4 +0.6**
SNR=6.2
HATD Hatta, Dubai 78.52 292 P **P** **08 40 26.4 +0.6**
ASHO Ashiyiah 78.63 292 P **P** **08 40 27.0 +0.6**
ASHO Ashiyiah 78.63 292 P **P** **08 40 26.9 +0.4**
SNR=5.4
G05D Wamic, OR 78.64 46 P 08 40 27.7
baz=289,SNR=5.8
ARQ Araqi 78.66 291 P **P** **08 40 27.4 +0.8**
HAMF Hammerfest 78.71 343⇑*i* P **P** **08 40 26.5 +0.5**
J04D Umpqua Nationa 78.76 48 P 08 40 28.6
baz=289,SNR=26
ARA0 ARCESS Array S 78.81 341⇑*i* P **P** **08 40 27.6 +1.0**
ARCES ARCESS Array B 78.81 341 P **P** **08 40 27.3 +0.8**
comp=Z,106nm,0.6s,baz=72,slow=8.4,SNR=550
ARCES PKiKP **PKiKP** **08 45 58.3 -0.1**
comp=Z,0.9nm,0.5s,baz=81,slow=1.6,SNR=5.8
YBH Yreka Blue Hor 78.84 50 P **P** **08 40 28.5 +1.2**
comp=Z,15nm,0.7s,baz=342,slow=5.1,SNR=53
YBH Yreka Blue Hor 78.84 50 P **P** **08 40 29.1 +1.8**
YBH IAmb IAmb 08 40 30.1
comp=Z,22nm,0.9s
M02C Callahan 78.85 50 P 08 40 29.3
baz=289,SNR=15
DQM DQM 78.87 287 P **P** **08 40 28.2 +0.4**
NAZ Nazwa, Dubai 78.87 292 P **P** **08 40 28.1 +0.4**
NAZ Nazwa, Dubai 78.87 292 P **P** **08 40 28.2 +0.4**
I05D Terrebonne, OR 78.92 47 P 08 40 29.2
baz=290,SNR=9.8
L04D Klamath Falls 78.96 49 P 08 40 29.4
baz=289,SNR=16
FAQ Al Faqa, Dubai 79.01 292 *i* P **P** **08 40 28.7 +0.3**
SNR=9.8
N02D Trinity Center 79.09 50 P 08 40 30.5
baz=289,SNR=13
ALNE Al Ain 79.09 292 P **P** **08 40 29.5 +0.6**
ALNE Al Ain 79.09 292 P **P** **08 40 29.4 +0.4**
SNR=5.6
E07A Sunnyside 79.16 44 P **P** **08 40 30.9 +2.0**
E07A IAmb IAmb 08 40 31.4
comp=Z,26nm,0.9s
K04D Chiloquin, OR 79.21 48 P 08 40 30.9
baz=290
ASUD Al Ashush, Dub 79.27 292 P **P** **08 40 30.4 +0.5**
O02D Mt. Diablo Mer 79.30 51 P 08 40 31.8
baz=289,SNR=15
WDC Whiskeytown Da 79.34 51 P **P** **08 40 31.5 +1.6**
WDC pmax pmax
comp=Z,24nm,1.2s
WDC Whiskeytown Da 79.34 51 P **P** **08 40 31.5 +1.6**
WDC IAmb IAmb 08 40 32.5
comp=Z,24nm,1.1s
M04C Macdoel 79.44 49 P 08 40 32.1
baz=290,SNR=19
D08A Wollman Farm, 79.58 44 P **P** **08 40 32.5 +1.3**
D08A IAmb IAmb 08 40 33.5
comp=Z,41nm,1.0s
C09A Chrisman Ranch 79.73 43 P **P** **08 40 33.2 +1.3**
C09A IAmb IAmb 08 40 34.1
comp=Z,29nm,0.8s
KTK1 Kautokeino 79.77 341⇑*i* P **P** **08 40 32.2 +0.5**
K05A Summer Lake 79.78 48 P **P** **08 40 34.2 +1.7**
K05A IAmb IAmb 08 40 35.2
comp=Z,38nm,1.0s
O03E Paynes Creek 79.97 51 P 08 40 34.3
baz=290,SNR=15
TULEG Thule 79.99 7 *i* P **P** **08 40 33.5 +0.8**
TULEG IAmb IAmb 08 40 34.3
comp=Z,49nm,0.7s
UMZA Um Al Zommool 80.05 290 P **P** **08 40 34.0 0.0**
VRH Novokhopyorsk 80.11 321 *e*P **P** **08 40 33.9 +0.1**
VRH pmax pmax
comp=Z,70nm,0.7s
JETT Jettan, Norway 80.26 343⇑*i* P **P** **08 40 35.1 +0.7**
NEW Newport 80.28 42 P **P** **08 40 36.1 +1.2**
comp=Z,26nm,0.7s,baz=288,slow=4.2,SNR=94
NEW Newport 80.28 42 P 08 40 36.1
baz=292,SNR=55
MOS Moscow 80.55 326 *e*P **P** **08 40 34.8 -1.2**
MOS *e*PP **pP** **08 41 44.5 +0.4**

MOS e 08 43 43.1
MOS eS **S** **08 50 12.6 -4.7**
MOS e 08 50 18.9
MOS pmax pmax
comp=Z,67nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.0s
TRO Tromso 80.62 343⇑ *i*P **P** **08 40 36.6 +0.4**
NEEM North Greenlan 80.63 3⇑ *i*P **P** **08 40 37.4 +0.9**
DAG Danmarks Havn 81.04 356⇑ *i*P **P** **08 40 38.4 +0.1**
DAG IAmb IAmb 08 40 39.5
comp=Z,22nm,0.9s
DAG Danmarks Havn 81.04 356⇑ *i*P **P** **08 40 38.3 +0.1**
DAG pmax pmax
comp=Z,22nm,0.9s
LPSR Galich'ya Gora 81.15 323 *e*P **P** **08 40 39.9 +0.6**
LPSR pmax pmax
comp=Z,160nm,0.8s
BEKR Beckworth 81.15 51 P **P** **08 40 40.4 +0.5**
BEKR IAmb IAmb 08 40 41.7
comp=Z,30nm,0.9s
OBN Obninsk 81.36 326*c* *i*P **P** **08 40 40.6 +0.3**
OBN pmax pmax
comp=Z,81nm,1.0s
BMO Blue Mountains 81.44 45 P **P** **08 40 42.3 +1.2**
BMO pmax pmax
comp=Z,29nm,0.9s
BMO Blue Mountains 81.44 45 P **P** **08 40 42.2 +1.2**
BMO IAmb IAmb 08 40 43.3
comp=Z,29nm,0.8s
VSR Storozhevoye 81.58 322 *e*P **P** **08 40 41.1 -0.5**
VSR pmax pmax
comp=Z,190nm,0.6s
GHWR Ruwais 81.60 292 P **P** **08 40 42.3 +0.1**
VORD Divnogorie 81.61 322 *e*P **P** **08 40 42.0 +0.3**
VORD pmax pmax
comp=Z,100nm,0.6s
GOF Gofitskoye 81.63 315⇑ *i*P **P** **08 40 42.6 +0.6**
GOF pmax pmax
comp=Z,97nm,0.8s
CMB Columbia Colle 81.79 52 P **P** **08 40 43.9 +0.9**
CMB pmax pmax
comp=Z,36nm,0.8s
CMB Columbia Colle 81.79 52 P **P** **08 40 43.9 +0.9**
CMB IAmb IAmb 08 40 45.1
comp=Z,36nm,0.8s
PAHR Pah Rah Range 81.91 51 P **P** **08 40 44.5 +0.8**
PAHR IAmb IAmb 08 40 45.8
comp=Z,20nm,1.0s
ZEI Tsey 81.92 313 *e*P **P** **08 40 41.7 -2.1**
ZEI pmax pmax
comp=Z,83nm,1.0s
WALA Waterton Lakes 81.94 40 P **P** **08 40 44.9 +1.3**
WALA IAmb IAmb 08 40 46.4
comp=Z,32nm,0.8s
PNTR Pine Nut 81.98 51 P **P** **08 40 44.7 +0.5**
PNTR IAmb IAmb 08 40 46.6
comp=Z,30nm,0.8s
KBZ Khabaz 82.24 314 P **P** **08 40 46.1 +1.0**
comp=Z,133nm,0.9s,baz=88,slow=3.9,SNR=219
KBZ Khabaz 82.24 314*c* *i*P **P** **08 40 46.0 +0.9**
KBZ pmax pmax
comp=Z,176nm,0.9s
KIV Kislovodsk 82.29 314⇑ P **P** **08 40 46.5 +0.9**
KIV Kislovodsk 82.29 314 *i*P **P** **08 40 46.5 +0.9**
SNR=19
KIV Kislovodsk 82.29 314⇑ P **P** **08 40 46.5 +0.9**
KIV Kislovodsk 82.29 314 P **P** **08 40 46.0 +0.4**
KIV Kislovodsk 82.29 314 P **P** **08 40 46.5 +0.9**
ONI Oni 82.30 313 P **P** **08 40 47.8 +2.2**
ONI pmax pmax
comp=Z,156nm,1.0s
ONI Oni 82.30 313 P **P** **08 40 47.8 +2.2**
WAKR Walker 82.31 52 P **P** **08 40 47.5 +1.5**
WAKR IAmb IAmb 08 40 48.3
comp=Z,20nm,0.8s
GNI Garni 82.32 310 P **P** **08 40 47.4 +1.5**
comp=Z,22nm,0.7s,baz=169,slow=2.7,SNR=25
GNI Garni 82.32 310*c* *i*P **P** **08 40 47.2 +1.4**
GNI pmax pmax
comp=Z,88nm,1.2s
GNI Garni 82.32 310 P **P** **08 40 46.5 +0.7**
GNI Garni 82.32 310 P **P** **08 40 47.2 +1.4**
DOK Doka 82.34 287 P **P** **08 40 46.4 +0.3**
SNR=9.2
NEY Neytrino 82.54 314*c* *i*P **P** **08 40 47.9 +0.9**
NEY pmax pmax
comp=Z,18nm,0.8s
SHMA Al-Shehemyia 82.58 295 P **P** **08 40 47.6 +0.4**
RBK Rabkut 82.66 286 P **P** **08 40 48.1 +0.2**
SNR=5.6
AKH Akhalkalaki 82.72 312⇑ P **P** **08 40 49.6 +1.7**
STEI Steigen 82.75 342⇑ *i*P **P** **08 40 47.6 +0.4**
N2VI Vinje 82.77 343⇑ *i*P **P** **08 40 47.2 -0.2**
MSO Missoula 82.83 42 P 08 40 48.6
baz=294
WHFO Wadi Hawf 82.90 286 P **P** **08 40 48.6 -0.5**
SNR=5.4
RYN Ryan 82.93 51 P **P** **08 40 50.3 +1.2**
RYN IAmb IAmb 08 40 51.2
comp=Z,24nm,0.9s
N2TV TVrnvik 83.03 342⇑ *i*P **P** **08 40 48.9 +0.2**
FINES FINESS Array B 83.06 334 P **P** **08 40 48.7 -0.3**
comp=Z,50nm,0.5s,baz=68,slow=4.8,SNR=456
SMMC Simmler 83.07 55 P 08 40 50.9
baz=292
KVN Kaiserville 83.08 51 P **P** **08 40 50.9 +1.1**
KVN pmax pmax
comp=Z,59nm,1.4s
KVN Kaiserville 83.08 51 P **P** **08 40 50.9 +1.1**
KVN IAmb IAmb 08 40 51.9
comp=Z,59nm,1.4s
MLAC Mammoth, Mammo 83.08 52 P 08 40 51.1
baz=292
LOF Lofoten 83.08 343 *e*P **P** **08 40 49.5 +0.5**
FAUS Fauske 83.11 342⇑ *i*P **P** **08 40 49.2 +0.1**
VOG Valley Oaks Go 83.16 54 P 08 40 50.6
baz=292
NVAR Mina Array Bea 83.17 51 P **P** **08 40 51.5 +1.2**
comp=Z,25nm,0.7s,baz=276,slow=5.5,SNR=186
NVAR pP **pP** **08 41 57.4 -1.4**
comp=Z,5.3nm,0.8s,baz=264,slow=5.7,SNR=3.5
NVAR Mina Array Bea 83.17 51 P **P** **08 40 51.4 +1.1**
PKM Mcpherson Peak 83.37 55 P 08 40 52.7
baz=292,SNR=11
N2SV S rvΨgen 83.39 343⇑ *i*P **P** **08 40 50.3 -0.3**
ABTO Aybut 83.52 286 P **P** **08 40 52.3 0.0**
SNR=7.1
DBG Daneborg 83.53 355 *i*P **P** **08 40 51.4 +0.3**
DBG IAmb IAmb 08 40 52.4
comp=Z,19nm,0.7s
VES Vestal, Richgr 83.56 54 P 08 40 52.4
baz=292,SNR=16
N2VA Vr,y 83.64 343⇑ *i*P **P** **08 40 51.8 0.0**
TIN Tinemaha, Big 83.74 53 P 08 40 54.4
baz=292,SNR=17
NBB30 Finnes 83.83 342⇑ *i*P **P** **08 40 52.7 0.0**
HLID Hailey 83.86 46 P 08 40 54.8
baz=294,SNR=44
UMR Umm Al-Rimmam 83.95 299 *e*P **P** **08 40 53.7 -0.5**
ARVC Arvin 84.03 55 P 08 40 55.1
baz=292
QRN Al-Qurain 84.08 298 *e*P **P** **08 40 54.4 -0.5**
CWC Cottonwood Cre 84.09 53 P 08 40 55.6
baz=293
ISA Isabella, Lake 84.09 54 P 08 40 55.2
baz=292,SNR=11
MIB Mutribah 84.16 300 *e*P **P** **08 40 54.6 -0.6**
MOR8 Moi Rana 84.18 341⇑ *i*P **P** **08 40 53.5 -1.1**
NBB13 Alf Garage 84.19 342⇑ *i*P **P** **08 40 54.5 -0.1**
RDF Al-Radifah 84.31 299 *e*P **P** **08 40 55.7 -0.3**
KONS Konsvik 84.34 342 *e*P **P** **08 40 56.3 +1.0**
GRAC Grapevine Rang 84.40 52 P 08 40 57.6
baz=293,SNR=5.4
VSU Vasula 84.43 332 *e*P **P** **08 40 56.0 +0.1**
MEF Metsahovi 84.43 334 *e*P **P** **08 40 55.8 -0.1**
STOK Stokkvaagen 84.48 342 *e*P **P** **08 40 56.6 +0.5**
RST Umm Al-Ruwaisa 84.55 299 *e*P **P** **08 40 56.6 -0.6**
MPMC Manual Prospec 84.68 53 P 08 40 59.0
baz=293
DECC Green Verdugo 84.74 55 P 08 40 58.5
baz=293
EDW2 Edwards Air Fo 84.75 55 P 08 40 59.2
baz=293,SNR=9.3
LRMC Laurel Mtn Rad 84.76 54 P 08 40 59.2
baz=293,SNR=16
UPNV Upernavik 84.79 6 *i*P **P** **08 40 58.1 +0.6**
UPNV IAmb IAmb 08 40 58.9
comp=Z,22nm,0.5s
EGMT Eagleton 84.88 40 P 08 40 59.4
baz=297,SNR=16
MWC Mount Wilson 84.96 55 P **P** **08 41 00.3 +0.9**
MWC pmax pmax
comp=Z,34nm,1.3s
MWC Mount Wilson 84.96 55 P **P** **08 41 00.3 +0.9**
MWC IAmb IAmb 08 41 01.0
comp=Z,34nm,1.3s
FURC Furnace Creek, 84.98 53 P 08 41 00.3
baz=293,SNR=22
CIS Catalina Islan 85.00 56 P 08 40 59.8
baz=293
RAF Rauma 85.00 335 *e*P **P** **08 40 57.4 -1.3**
SCI2 San Clemente I 85.06 57 P 08 41 00.2
baz=293
R11A Troy Canyon, C 85.16 51 P 08 41 01.2
baz=294,SNR=55
TPNV Topopah Spring 85.24 52 P 08 41 01.6
baz=294,SNR=70
BFSC Mount Baldy Ra 85.26 55 P 08 41 01.1
baz=293
GSC Goldstone, Bar 85.48 54 P 08 41 02.6
baz=293,SNR=28
SHOC Shoshone, Teco 85.64 53 P 08 41 03.6
baz=294
BBRC Big Bear Solar 85.81 55 P 08 41 04.1
baz=293
MURC Murrieta 85.86 56 P 08 41 04.0
baz=293,SNR=9.6
SUMG Summit 85.88 0⇑ *i*P **P** **08 41 04.5 +1.2**
SUMG IAmb IAmb 08 41 05.7
comp=Z,34nm,0.7s
SUMG Summit 85.88 0⇑ *i*P **P** **08 41 04.5 +1.2**
SUMG pmax pmax
comp=Z,34nm,0.7s
SUMG Summit 85.88 0 P **P** **08 41 04.0 +0.6**
SUMG IAmb IAmb 08 41 05.8
comp=Z,35nm,0.8s
H17A Grant Village 86.00 44 P 08 41 07.2
baz=297,SNR=27
HEC Hector,Ludlow 86.03 54 P 08 41 05.4
baz=294,SNR=8.2
MNK Minsk 86.05 328 *i*P **P** **08 41 03.4 -0.6**
MNK *i* 08 44 28.1
MNK *i* PPP PPP 08 46 24.0
MNK *i* S S 08 50 58.9 -13
MNK *i* SSS SSS 09 00 33.8
MNK pmax pmax
comp=N,28nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,71nm,0.9s
MNK MLR MLR
comp=N,255nm,18.0s
MNK MLR MLR
comp=E,13nm,18.0s
MNK MLR MLR
comp=Z,93nm,18.0s
MNK Minsk 86.05 328 *i*P **P** **08 41 03.4 -0.6**
comp=E,4.0nm,0.9s
MNK *i*P **P** **08 41 03.4 -0.6**
comp=N,28nm,0.9s
MNK *i*P **P** **08 41 03.4 -0.6**
comp=Z,71nm,0.9s,baz=58
MNK *i* sP **pwP** **08 42 20.7 +3.9**
MNK *i* PP **PP** **08 44 28.2 0.0**
MNK *i* PPP PPP 08 46 24.1
MNK *i* S **SKSac** **08 50 59.0 -2.0**
MNK *i* sS **sS** **08 53 11.5 -3.7**
MNK *i* SSS SSS 09 00 33.8
MNK *i* LRM MLR 09 20 55.0
comp=N,255nm,18.1s
MNK *i* LRM MLR 09 21 23.5
comp=E,13nm,17.7s
MNK *i* LRM MLR 09 22 22.3
comp=Z,93nm,18.1s
NSS Namsos 86.07 341⇑ *i*P **P** **08 41 03.9 0.0**
TUQ Turquoise Moun 86.09 53 P 08 41 05.7
baz=294
IDID Didziasalis 86.16 329 *e*P **P** **08 41 04.9 +0.4**
109C Camp Elliot, M 86.21 56 P 08 41 06.0
baz=293,SNR=5.1
AAL Aland 86.22 335 *e*P **P** **08 41 03.1 -1.5**
ISAL Salakas 86.31 330 *e*P **P** **08 41 06.0 +0.8**
DUG Dugway, Tooele 86.35 48 P 08 41 07.0
baz=295,SNR=46
IIGN Ignalina 86.38 329 *e*P **P** **08 41 06.2 +0.5**
PFO Pinyon Flats O 86.42 55 P 08 41 07.1
baz=294,SNR=31
TPFO Pinon Flats 86.43 55 P 08 41 07.2
baz=294,SNR=31
RLMT Red Lodge 86.50 43 P 08 41 08.3
baz=298,SNR=34
GMRC Granite Mounta 86.55 54 P 08 41 08.0
baz=294
BELC Belle Mtn. Jos 86.62 55 P 08 41 08.0
baz=294,SNR=30
MONP2 Monument Peak 86.74 56 P 08 41 08.8
baz=294,SNR=34
IKP In-Ko-Pah, Jac 87.08 56 P 08 41 10.3
baz=294,SNR=13
BC3 Big Chuckawall 87.17 55 P 08 41 11.0
baz=294,SNR=30
SWSC Sam W. Stewart 87.19 56 P 08 41 10.7
baz=294,SNR=9.0
IRM Iron Mountain 87.20 54 P 08 41 11.1
baz=294,SNR=26
NEE2 Needles Airpor 87.34 54 P 08 41 11.7
baz=295
PABE Paberze 87.35 330 *e*P **P** **08 41 10.5 +0.3**
PABE Paberze 87.35 330 P **P** **08 41 09.6 -0.6**
AKASG Malin Array Be 87.38 324 P **P** **08 41 09.6 -0.8**
comp=Z,23nm,0.6s,baz=52,slow=4.9,SNR=105
AKASG pP **pP** **08 44 39.4 +0.4**
comp=Z,0.7nm,0.3s,baz=49,slow=8.6,SNR=4.4
AKASG Malin Array Be 87.38 324 P **P** **08 41 09.3 -1.2**
AKASG IAmb IAmb 08 41 10.6
comp=Z,27nm,0.8s
AKBB Malin Array Si 87.38 324*c* *i*P **P** **08 41 09.5 -0.9**
AKBB pmax pmax
comp=Z,39nm,0.8s
AKBB Malin Array Si 87.38 324 P **P** **08 41 09.5 -0.9**
SCO Scoresbysund 87.38 355⇑ *i*P **P** **08 41 10.8 +0.8**
SCO IAmb IAmb 08 41 11.7
comp=Z,25nm,1.0s
SCO Scoresbysund 87.38 355⇑ *i*P **P** **08 41 10.8 +0.8**
SCO pmax pmax
comp=Z,25nm,1.0s
PDAR Pinedale Array 87.40 45 P **P** **08 41 11.0 -0.1**
comp=Z,2.2nm,0.5s,baz=193,slow=2.0,SNR=26
PDAR pP **pP** **08 42 18.4 -1.8**
comp=Z,1.1nm,0.8s,baz=252,slow=0.5,SNR=2.2
PDAR Pinedale Array 87.40 45 P **P** **08 41 10.7 -0.4**
BW06 Boulder Array 87.40 45 P 08 41 11.2
baz=297,SNR=6.9
TBLU Trondheim 87.52 341 *e*P **P** **08 41 08.9 -2.0**
LAO LASA Array 87.62 40 P **P** **08 41 12.4 +0.6**
LAO IAmb IAmb 08 41 14.6
comp=Z,34nm,1.0s
LAO LASA Array 87.62 40 P 08 41 12.8
baz=300,SNR=14
KNB Kanab 87.71 51 P **P** **08 41 13.5 +0.9**
KNB pmax pmax
comp=Z,49nm,1.0s
KNB Kanab 87.71 51 P **P** **08 41 13.5 +0.9**
W13A Hualapai Mount 87.75 53 P **P** **08 41 13.7 +0.8**
PDMCI Parker Dam,Lak 87.89 54 P 08 41 14.5
baz=295,SNR=10
GLA Glamis 87.90 55 P 08 41 14.5
baz=295,SNR=7.5
DGMT Dagmar 87.91 38 P 08 41 13.6
baz=301
RAYN Ar Rayn 88.05 294 *i*P **P** **08 41 14.1 -0.1**
SNR=26
RAYN Ar Rayn 88.05 294 P **P** **08 41 14.0 -0.3**
RAYN pmax pmax
comp=Z,26nm,0.9s
RAYN Ar Rayn 88.05 294 P **P** **08 41 14.0 -0.3**
RAYN IAmb IAmb 08 41 15.1
comp=Z,26nm,0.8s
P17A Butcher Ranch, 88.10 48 P **P** **08 41 15.1 +0.7**
P17A IAmb IAmb 08 41 16.4
comp=Z,18nm,0.8s
SUW Suwalki 88.60 329 *e*P **P** **08 41 15.7 -0.4**
SUW Suwalki 88.60 329 *e*P **P** **08 41 16.1 0.0**
SUW Suwalki 88.60 329 P **P** **08 41 15.3 -0.8**
SUW pmax pmax
comp=Z,272nm,0.7s
SUW Suwalki 88.60 329 P **P** **08 41 15.3 -0.8**
DOMB Dombas 88.79 340 *e*P **P** **08 41 17.6 +0.7**
NC204 NORSAR Array S 88.81 339 P **P** **08 41 16.2 -0.8**
NB2 NORSAR Subarra 88.83 339 P **P** **08 41 15.8 -1.3**
baz=44,slow=5.1
NOA NORSAR Array B 88.83 339 P **P** **08 41 16.2 -0.9**
comp=Z,14nm,0.9s,baz=48,slow=4.8,SNR=29
NOA PP **PP** **08 44 51.7 +1.5**
comp=Z,1.3nm,0.8s,baz=47,slow=8.5,SNR=4.3
MOL Molde 88.86 341 *e*P **P** **08 41 15.8 -1.3**
BZK Bozkurt 88.90 315⇑ P **P** **08 41 17.9 +0.1**
GAZ Gaziantep 88.91 310 P **P** **08 41 16.9 -1.2**
GAZ IAmb IAmb 08 41 18.3
comp=Z,32nm,1.1s
NC602 NORSAR Array S 88.94 338 *e*P **P** **08 41 17.2 -0.4**
SORM Soroca 89.22 323⇑ P **P** **08 41 18.0 -1.2**
SORM Soroca 89.22 323⇑ P **P** **08 41 18.0 -1.2**
AKN Aaknes 89.33 341 *e*P **P** **08 41 20.2 +0.8**
ICESG Greenland Ices 89.36 1 *i*P **P** **08 41 20.2 +0.3**
ICESG IAmb IAmb 08 41 21.3
comp=Z,33nm,0.9s
WUAZ Wupatki 89.42 52 P 08 41 21.8
baz=296,SNR=6.2
K22A Casper 89.42 44 P 08 41 21.0
baz=299,SNR=9.4
O20A White River Ci 89.50 47 P 08 41 21.6
baz=298,SNR=22
OSL Oslo 89.80 338 *e*P **P** **08 41 21.8 +0.2**
214A Organ Pipe Nat 89.90 56 P **P** **08 41 23.2 +0.5**
214A IAmb IAmb 08 41 25.2
comp=Z,23nm,1.1s
214A Organ Pipe Nat 89.90 56 P 08 41 24.0
baz=296,SNR=15
SKAR Skarslia 90.06 340 *e*P **P** **08 41 23.4 +0.5**
BR131 Keskin Array S 90.21 313 P **P** **08 41 23.0 -1.2**
BR131 pmax pmax
comp=Z,24nm,0.8s
BR131 Keskin Array S 90.21 313 P **P** **08 41 23.0 -1.2**
BR131 IAmb IAmb 08 41 24.5
comp=Z,24nm,0.8s
BR131 Keskin Array S 90.21 313 P **P** **08 41 23.8 -0.3**
SNR=5.5
BRTR Keskin Array B 90.21 313 P **P** **08 41 23.4 -0.8**
comp=Z,12nm,0.7s,baz=92,slow=2.9,SNR=27
BRTR Keskin Array B 90.21 313 P **P** **08 41 22.7 -1.4**
RSSD Black Hills 90.25 42 P 08 41 24.8
baz=301
STRU Stroemstad 90.29 337 *i*P **P** **08 41 23.4 -0.5**
KONO Kongsberg 90.40 338 *e*P **P** **08 41 24.8 +0.5**
BLEU Blekinge 90.42 334 *i*P **P** **08 41 24.9 +0.4**
TLCR 90.53 320⇑ P **P** **08 41 25.2 -0.1**
TLCR 90.53 320⇑ P **P** **08 41 25.2 -0.1**
N23A Red Feather La 90.67 45 P 08 41 27.9
baz=300,SNR=28
BORU Boraas 90.71 336 *i*P **P** **08 41 25.3 -0.6**
MVCO Mesa Verde 90.71 49 P 08 41 27.3
baz=298,SNR=9.1
W18A Petrified Fore 90.79 52 P 08 41 28.2
baz=297,SNR=5.7
MDND Maddock 90.84 37 P 08 41 27.5
baz=304
E28A Huff 90.93 38 P **P** **08 41 27.9 +0.7**
CFR Carcaliu 90.94 320⇑ P **P** **08 41 22.6 -4.5**
CFR Carcaliu 90.94 320⇑ P **P** **08 41 22.6 -4.5**
TPGR Topolog 90.94 320⇑ P **P** **08 41 26.7 -0.5**
BEL Belsk 91.07 328 *e*P **P** **08 41 28.1 +0.5**
TESR Tescani 91.08 322⇑ P **P** **08 41 27.1 -0.8**
DEL Delary 91.09 335 *i*P **P** **08 41 27.2 -0.5**
FABU Falkenberg 91.17 335 *i*P **P** **08 41 27.3 -0.7**
ONAU Onsala 91.20 336 *i*P **P** **08 41 27.1 -1.0**
BURAR Bucovina Array 91.27 323 P **P** **08 41 28.6 -0.3**
BURAR IAmb IAmb 08 41 29.9
comp=Z,21nm,0.8s
TUC Tucson 91.29 54 P 08 41 30.5
baz=297
HARR Harsova 91.32 320⇓ P **P** **08 41 27.1 -1.9**
HARR Harsova 91.32 320⇓ P **P** **08 41 27.1 -1.9**
TLBR Topalu 91.33 320⇓ P **P** **08 41 29.2 +0.2**
VRI Vrincioaia 91.39 321⇑ P **P** **08 41 29.8 +0.5**
VRI Vrincioaia 91.39 321⇑ P **P** **08 41 29.8 +0.5**
ULM Lac du Bonnet 91.42 33 P **P** **08 41 29.7 +0.4**
comp=Z,6.3nm,0.7s,baz=313,slow=3.5,SNR=7.4
ISCO Idaho Springs 91.43 46 P **P** **08 41 30.8 +0.8**
ISCO pmax pmax
comp=Z,15nm,0.9s
ISCO Idaho Springs 91.43 46 P **P** **08 41 30.8 +0.8**
ISCO IAmb IAmb 08 41 32.3
comp=Z,14nm,0.8s
ISCO Idaho Springs 91.43 46 P 08 41 31.2
baz=300,SNR=19
PLOR Plostina 91.44 321⇑ P **P** **08 41 29.9 +0.3**
PLOR Plostina 91.44 321⇑ P **P** **08 41 29.9 +0.3**
MDUB Mudurnu 91.47 315 P **P** **08 41 27.9 -2.0**
BSD Bornholm Skovb 91.60 333 *i*P **P** **08 41 29.9 -0.1**
BSD Bornholm Skovb 91.60 333 *i*P **P** **08 41 29.9 -0.1**
S22A 4UR Ranch, Cre 91.62 48 P 08 41 31.9
baz=299,SNR=14
BJUU Bjuv 91.71 335 *i*P **P** **08 41 29.9 -0.6**
DY2G Dye2 91.73 4 *i*P **P** **08 41 31.6 +0.8**
DY2G IAmb IAmb 08 41 32.7
comp=Z,11nm,0.8s
HOMB Homborsund 91.80 338 *i*P **P** **08 41 30.6 -0.3**
LUNU Lund 91.85 334 *i*P **P** **08 41 30.9 -0.3**
KOLS Kolonicke sedl 92.09 325 *e*P **P** **08 41 32.6 +0.1**
KOLS Kolonicke sedl 92.09 325 *e*P **P** **08 41 32.6 +0.1**
DOPR Dopca 92.11 322⇑ P **P** **08 41 28.9 -3.7**
MMAI Mount Meron Ar 92.12 307 P **P** **08 41 32.9 -0.2**
comp=Z,16nm,0.9s,baz=46,slow=7.1,SNR=12
Q24A Divide 92.16 46 P 08 41 34.4
baz=300
SNART Snartemo 92.20 338 *i*P **P** **08 41 32.8 0.0**
UZH Uzhgorod 92.26 325 *e*P **P** **08 41 32.8 -0.4**
SDCO Great Sand Dun 92.53 48 P 08 41 35.8
baz=300,SNR=15
CRVS Cervenica-Dubn 92.54 326 *e*P **P** **08 41 34.3 -0.2**
CRVS pmax pmax
comp=Z,32nm,1.2s
CRVS Cervenica-Dubn 92.54 326 *e*P **P** **08 41 34.3 -0.2**
OJC Ojcow 92.57 327 *e*P **P** **08 41 34.7 +0.1**
VOIR 92.61 322⇑ P **P** **08 41 34.9 -0.1**
VOIR 92.61 322⇑ P **P** **08 41 34.9 -0.1**
AGMN Agassiz Nation 92.61 35 P 08 41 35.1
baz=307
NIE Niedzica 92.82 327 *e*P **P** **08 41 36.3 +0.5**
DRGR 93.14 324⇑ P **P** **08 41 36.4 -1.0**
DRGR 93.14 324⇑ P **P** **08 41 36.4 -1.0**
SUSD Miller 93.14 39 P **P** **08 41 37.4 -0.1**
SUSD Miller 93.14 39 P 08 41 37.3
baz=305
ANMO Albuquerque 93.24 50*c* *i*P **P** **08 41 39.3 +1.0**
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 93.24 50 P **P** **08 41 38.5 +0.2**
ANMO Albuquerque 93.24 50 P 08 41 39.1
baz=299
121A Cookes Peak, D 93.44 53 P **P** **08 41 39.4 +0.1**
121A IAmb IAmb 08 41 41.9
comp=Z,19nm,1.2s
121A Cookes Peak, D 93.44 53 P 08 41 40.7
baz=298,SNR=5.9
T25A Trinidad 93.59 48 P 08 41 40.6
baz=301
KSCO Kaye Shedlock' 93.82 45 P 08 41 41.2
baz=302
KSP Ksiaz 93.87 329 *e*P **P** **08 41 40.4 -0.2**
MORC Moravsky Berou 93.97 328 P **P** **08 41 40.8 -0.3**
MORC Moravsky Berou 93.97 328 *e*P **P** **08 41 41.9 +0.8**
MORC *e*PP **PP** **08 45 32.1 +1.3**
MORC Moravsky Berou 93.97 328 P **P** **08 41 40.8 -0.3**
EIL Elat 94.01 304 P **P** **08 41 40.1 -1.6**
comp=Z,12nm,1.1s,baz=118,slow=4.1,SNR=6.1
SIRR Siria 94.03 324⇑ P **P** **08 41 41.0 -0.5**
KRLC Kraliky 94.15 329 *e*P **P** **08 41 41.5 -0.4**
KRLC Kraliky 94.15 329 *e*P **P** **08 41 41.5 -0.4**
VYHS Vyhne 94.15 327 *e*P **P** **08 41 42.1 +0.1**
VYHS pmax pmax
comp=Z,7.0nm,0.8s

VYHS	Vyhne	94.15	327	*e*P		P	08 41 42.0	+0.1
CHVC	Chvalec	94.15	329	*e*P		P	08 41 41.8	-0.1
DPC	Dobruska-Polom	94.19	329	*e*P		P	08 41 41.9	-0.2
DPC	Dobruska-Polom	94.19	329	*e*P		P	08 41 41.9	-0.2
K31A	O'Neill	94.30	41	P		P	08 41 42.6	-0.1
K31A	comp=Z,25nm,1.1s			IAmb		IAmb	08 41 43.9	
HERR	Herculane	94.44	322	⇑P		P	08 41 42.4	-0.9
JAVC	Velka Javorina	94.51	327	*e*P		P	08 41 44.2	+0.6
JAVC				*e*PP		PP	08 45 37.3	+2.3
VRAC	Vranov	94.75	328	*e*P		P	08 41 44.5	-0.2
VRAC				*e*PP		PP	08 45 38.6	+1.9
SMOL	Smolenice	94.85	327	*e*P		P	08 41 45.3	+0.2
SMOL	Smolenice	94.85	327	*e*P		P	08 41 45.3	+0.2
MDVR	Moldovita	94.90	322	⇑P		P	08 41 40.7	-4.8
ECSD	EROS Data Cent baz=306	94.92	39	P			08 41 45.4	
BRG	Berggiesshubel	94.94	330	*e*P		P	08 41 44.8	-0.7
BRG	comp=Z,10.0nm,0.9s			Amp			08 41 46.1	
BRG				SKP			08 45 39.5	
BRG	comp=Z,20nm,1.5s			Amp			08 45 41.7	
BRG				Amp			08 47 42.0	
KRUC	Moravsky	95.01	328	*e*P		P	08 41 45.4	-0.4
KRUC				*e*PP		PP	08 45 40.4	+1.7
CLL	Collm	95.07	331	*i* P		P	08 41 45.4	-0.6
CLL	comp=Z,24nm,1.4s			*e*PP		PP	08 45 40.0	+0.9
CLL	Collm	95.07	331	*i* P		P	08 41 45.4	-0.6
CLL	comp=Z,24nm,1.4s			pmax		pmax		
EYMN	Ely baz=310	95.11	33	P			08 41 45.8	
VTS	Vitosha	95.31	320	⇑P		P	08 41 47.1	-0.4
VTS	Vitosha	95.31	320	⇑P		P	08 41 47.1	-0.4
MNTX	Cornudas Mount baz=300	95.62	53	P			08 41 49.8	
NKC	Novy Kostel	96.08	331	*e*P		P	08 41 50.2	-0.5
NKC	Novy Kostel	96.08	331	*e*P		P	08 41 50.2	-0.5
SPMN	Marine on St. baz=309	96.17	36	P			08 41 51.1	
CKRC	Cesky Krumlov	96.19	329	*e*P		P	08 41 50.7	-0.5
KHC	Kasperske Hory	96.32	329	*e*P		P	08 41 51.1	-0.7
KHC	Kasperske Hory	96.32	329	*e*P		P	08 41 51.1	-0.7
GERES	GERESS Array B comp=Z,4.0nm,0.6s,baz=46,slow=5.8,SNR=26	96.46	329	P		P	08 41 51.8	-0.8
GERES				PP		PP	08 45 51.1	+1.2
GERES	comp=Z,0.6nm,0.6s,baz=28,slow=6.0,SNR=4.7			PKiKP		PKiKP	08 46 29.3	+1.0
GERES	comp=Z,0.8nm,0.6s,baz=46,slow=2.8,SNR=2.8 GERESS Array B	96.46	329	P		P	08 41 51.2	-1.3
AMTX	Amarillo baz=302	96.65	48	P			08 41 54.2	
GRF	Grafenberg Arr	97.02	331	*e*PP		PP	08 45 54.3	+0.2
TX31	Lajitas Ar. Si	98.08	54	P		P	08 42 00.2	-0.1
TX31	comp=Z,9.0nm,1.0s			IAmb		IAmb	08 42 02.8	
TX32	Lajitas Array	98.08	54	P		Pdif	08 42 00.4	+0.2
TXAR	Lajitas Array	98.08	54	P		Pdif	08 42 01.2	+0.9
TXAR	comp=Z,1.8nm,0.9s,baz=298,slow=2.5,SNR=19			pP		pP	08 43 09.1	-1.1
TXAR	comp=Z,0.6nm,0.9s,baz=322,slow=3.5,SNR=1.8			PKiKP		PKiKP	08 46 32.8	+1.0
TXAR	comp=Z,0.3nm,0.6s,baz=0.0,slow=0.2,SNR=2.6			PKKPbc		PKKPbc	08 58 32.4	+0.6
TXAR	comp=Z,0.7nm,0.6s,baz=129,slow=5.9,SNR=9.7 Lajitas Array	98.08	54	P		P	08 42 00.2	-0.1
WMOK	Wichita Mounta baz=304	98.73	47	P			08 42 02.6	
ABTX	Abilene, Hawle baz=303	99.30	49	P			08 42 06.0	
VNDA	Vanda comp=Z,0.6nm,0.9s,baz=223,slow=4.7,SNR=5.4	99.71	176	PKKPbc		PKKPbc	08 58 27.3	-2.3
TUL1	Leonard baz=306	100.06	45	P			08 42 09.1	
MVO	Moncorvo	111.50	336	*e*PKPdf		PKiKP	08 46 56.7	+0.6
ESDC	Sonseca Array comp=Z,0.7nm,0.6s,baz=18,slow=3.5,SNR=4.0	111.55	333	PKiKP		PKiKP	08 46 56.4	+0.2
ESDC				PP		PP	08 47 41.9	+0.6
ESDC	comp=Z,0.6nm,0.4s,baz=27,slow=7.7,SNR=5.4			PKKPbc		PKKPbc	08 57 51.3	-0.8
ESDC	comp=Z,0.6nm,0.6s,baz=185,slow=4.6,SNR=2.9			PKKPab		PKKPab	08 58 02.0	-2.4
QSPA	comp=Z,0.6nm,0.6s,baz=222,slow=4.0,SNR=4.5 South Pole Qui	111.58	180	PKiKP		PKiKP	08 46 55.0	-0.3
POLO	comp=Z,4.6nm,0.6s,baz=264,slow=1.0,SNR=43 Lamas de Olo	111.60	337	*e*PKPdf		PKiKP	08 46 56.6	+0.3
MTE	Manteigas	112.35	336	*e*PKPdf		PKiKP	08 46 56.3	-1.4
PCBR	Castelo Branco	112.81	336	*e*PKPdf		PKiKP	08 46 59.5	+1.0
PMRV	Marv??o	113.14	335	*e*PKPdf		PKiKP	08 46 59.9	+0.7
PSBE	So Bento	113.59	337	*e*LR		LR	08 47 04.9	
PMTG	Montargil	113.77	336	*e*PKPdf		PKiKP	08 46 59.9	-0.4
PBAR	Barrancos	114.08	335	*e*PKPdf		PKPdf	08 47 01.5	+0.5
PNCL	Nicolau / Gran	114.72	336	*e*PKPdf		PKPdf	08 47 02.9	+0.7
PCVE	Castro Verde	114.95	335	*e*PKPdf		PKPdf	08 47 03.9	+1.2
SYO	Syowa Base	114.98	203	⇑*e*Pdiff		Pdif	08 43 14.2	0.0
SYO	Syowa Base	114.98	203	⇓*e*Pdiff		pPdif	08 44 25.7	+1.5
PVAQ	Vaqueiros	115.02	335	*e*PKPdf		PKPdf	08 47 03.5	+0.7
PTEO	Sao Teotonio	115.29	335	*e*LR		LR	08 47 04.9	
BOSA	Boshof comp=Z,5.1nm,0.9s,baz=299,slow=2.0,SNR=5.2	123.86	249	PKP		PKPdf	08 47 19.9	-0.2
SNAA	Sanae	126.41	193	PKiKP		PKPdf	08 47 23.4	-0.3
SNAA				S		SKiKP	08 50 14.1	-17
SNAA	Sanae comp=Z,11nm,0.8s,baz=178,slow=2.7,SNR=39	126.41	193	PKP		PKPdf	08 47 23.4	-0.3
VNA3	Neumayer Olymp	128.06	191	PKiKP		PKiKP	08 47 27.3	-0.1
VNA3				S		SKiKP	08 50 19.0	-16
VNA1	Neumayer--Stat	128.30	192	PKiKP		PKiKP	08 47 27.5	-0.3
VNA1				S		SKiKP	08 50 21.6	-13
TOA0	Torodi Ar. Sit SNR=5.8	128.61	309	P		PKPdf	08 47 29.2	-0.2
TORD	Torodi Ar. Bea comp=Z,4.7nm,0.6s,baz=21,slow=1.5,SNR=34	128.61	309	PKP		PKPdf	08 47 29.5	+0.1
TORD				PP		PP	08 49 34.4	-4.1
ROSC	comp=Z,1.9nm,0.8s,baz=34,slow=6.0,SNR=4.3 El Rosal	134.82	59	PKP		PKPdf	08 47 42.0	+0.4
SDV	comp=Z,5.8nm,0.5s,baz=90,slow=17,SNR=4.7 Santo Domingo	135.02	51	*e*P		PKPdf	08 47 42.6	+0.8
DBIC	Dimbokro comp=Z,3.7nm,0.7s,baz=349,slow=3.5,SNR=4.4	137.71	308	PKhKP		PKPpre	08 47 33.4	
DBIC				SKPbc		SKPbc	08 50 51.8	-0.1
KIC	comp=Z,13nm,0.8s,baz=22,slow=1.5,SNR=8.7 Kosan Boka	137.84	308	*e*PKIKP		PKiKP	08 47 48.0	-0.9
TIC	comp=Z,15nm,0.6s Toumodi	137.85	309	*e*PKIKP		PKPdf	08 47 47.6	+0.8
LIC	Lamto comp=Z,37nm,0.9s	138.14	308	*e*PKIKP		PKPdf	08 47 48.3	+1.0
CZSB	Cruzeiro do Su	142.80	73	*e*P		PKPdf	08 47 51.9	-3.9
LL01	San Ignacio de	143.95	133	PKPdf		PKPbc	08 47 55.7	+0.1
LL02	Futaleuf	144.00	135			PKPbc	08 47 55.6	-0.1
PLCA	Paso Flores comp=Z,99nm,0.7s,baz=238,slow=3.6,SNR=280	145.89	131	PKPbc		PKPab	08 48 02.2	-0.4
PLCA	Paso Flores	145.89	131	PKPdf		PKPbc	08 48 01.6	-0.1
PLCA	Paso Flores	145.89	131	*e*P		PKPdf	08 48 00.0	-0.4
BOAV	Boa Vista	146.68	47	*e*P		PKPbc	08 48 03.7	-0.8
ETMB	Extrema	149.47	72	*e*P		PKPdf	08 48 06.7	-0.3
LPAZ	La Paz comp=Z,18nm,0.8s,baz=337,slow=2.0,SNR=44	150.03	85	PKP		PKPdf	08 48 09.7	+1.2
LPAZ				PKPbc		PKiKP	08 48 14.9	+0.4
LPAZ	comp=Z,64nm,0.6s,baz=292,slow=2.4,SNR=91 La Paz	150.03	85	*e*P		PKPdf	08 48 08.9	+0.4
LVC	Limon Verde	150.40	98	*e*P		PKPdf	08 48 09.5	+0.8
TRQA	Tornquist	153.02	133	*e*P		PKPdf	08 48 14.1	+2.4
MCPB	Macapa, AP	154.09	37	*e*P		PKPdf	08 48 14.7	+0.8
ITTB	Itaituba	154.85	49	*e*P		PKPdf	08 48 15.5	+0.5
VILB	Vilhena	156.14	72	*e*P		PKPdf	08 48 17.4	+0.8
NPGB	Novo Progresso	156.94	53	*e*P		PKPdf	08 48 18.2	+0.5
TMAB	Tom-Au,PA,Br	157.85	31	*e*P		PKPdf	08 48 20.1	+1.3
PTLB	Pontes e Lacer	158.04	77	*e*P		PKPdf	08 48 19.6	+0.7
CLDB	Colider	158.91	62	*e*P		PKPdf	08 48 21.1	+1.1
ROSB	Rosrio	159.96	21	*e*P		PKPdf	08 48 21.6	+0.3
PRPB	Parauapebas	160.09	41	*e*P		PKPdf	08 48 22.3	+0.9
ITQB	Itaqui	160.61	118	*e*P		PKPdf	08 48 22.0	+0.5
CPUP	Villa Florida comp=Z,4.8nm,1.0s,baz=177,slow=2.4,SNR=4.4	160.83	108	PKP		PKPdf	08 48 22.6	+0.8
CPUP				PKPab		PKPab	08 49 05.2	-0.8
CPUP	comp=Z,6.0nm,1.0s,baz=317,slow=6.4,SNR=4.9 Villa Florida	160.83	108	*e*P		PKPdf	08 48 22.6	+0.8
SALV	Santo Antonio	161.30	75	*e*P		PKPdf	08 48 23.5	+0.9
NBMO	Morrinhos-CE	161.39	10	*e*P		PKPdf	08 48 23.7	+0.9
PLTB	Pedras Altas	162.12	127	*e*P		PKPdf	08 48 23.4	+0.4
NBPS	Pedro II - PI	162.16	15	*e*P		PKPdf	08 48 25.3	+1.6
AQDB	Aquidauana	162.43	89	*e*P		PKPdf	08 48 24.5	+0.8
NBCL	Cascavel-CE	162.49	5	*e*P		PKPdf	08 48 24.7	+0.7
PP1B	Ponte de Pedra	162.59	79	*e*P		PKPdf	08 48 25.0	+1.1
CPSB	Cacapava Do Su	162.88	123	*e*P		PKPdf	08 48 24.8	+1.0
SNDB	Serra Nova Dou	163.15	57	*e*P		PKPdf	08 48 25.4	+0.9
SMTB	Santa Maria do	163.56	40	*e*P		PKPdf	08 48 26.2	+1.3
NBPB	Pedra_Branca-C	163.65	9	*e*P		PKPdf	08 48 25.9	+0.8
NBPA	Parau_RN	164.06	1	*e*P		PKPdf	08 48 26.0	+0.6
RCBR	Riachuelo	164.10	356	*e*P		PKPdf	08 48 27.7	+2.2
NBPV	Pedro Velho	164.64	354	*e*P		PKPdf	08 48 26.2	+0.3
ARAG	Araguaiana, MT	164.66	69	*e*P		PKPdf	08 48 27.1	+1.2
ITAB	Concordia	165.14	114	*e*P		PKPdf	08 48 27.2	+1.2
TRCB	Terra Rica	165.42	97	*e*P		PKPdf	08 48 26.9	+0.5
PEXB	Peixe	165.48	50	*e*P		PKPdf	08 48 27.9	+1.3
NBMA	Muriti-CE	165.55	7	*e*P		PKPdf	08 48 27.3	+0.5
PCMB	Pacaembu	166.67	92	*e*P		PKPdf	08 48 28.6	+1.3
NBRF	Rio Formoso -	166.85	352	*e*P		PKPdf	08 48 29.3	+1.7
TER01	Tubaro-SC	167.07	124	*e*P		PKPdf	08 48 26.0	-1.5
ITRB	Iturama	167.26	83	*e*P		PKPdf	08 48 28.9	+1.1
BDFB	Brasilia comp=Z,14nm,0.9s,baz=202,slow=2.1,SNR=13	167.85	62	PKP		PKPdf	08 48 29.0	+0.6
NBAN	Anadia - AL	167.94	357	*e*P		PKPdf	08 48 28.5	0.0
SDBA	SAO DESIDERIO	167.96	41	*e*P		PKPdf	08 48 29.2	+0.7
FRTB	Fartura	168.22	100	*e*P		PKPdf	08 48 29.8	+1.4
TIJ01	Guaruva-PR	168.37	110	*e*P		PKPdf	08 48 30.2	+1.6
NBPN	Ponto Novo - B	168.68	17	*e*P		PKPdf	08 48 29.4	+0.4
IPMB	Ipameri, GO	168.73	72	*e*P		PKPdf	08 48 29.5	+0.6
BB19B	Bebedouro	169.17	88	*e*P		PKPdf	08 48 30.1	+1.0
SPB	Sao Paulo	170.13	102	*e*P		PKPdf	08 48 29.7	+0.2
RCLB	Rio Claro- Sao	170.14	96	*e*P		PKPdf	08 48 30.5	+0.8
PET01	Itanhaem-SP	170.15	107	*e*P		PKPdf	08 48 30.7	+1.2
JANB	Januaria	170.31	48	*e*P		PKPdf	08 48 30.1	+0.2
VAO	Valinhos	170.63	99	*e*P		PKPdf	08 48 30.8	+0.9
GDU01	Guandu, BA	171.59	18	*e*P		PKPdf	08 48 30.8	+0.3
MC01	Montes Claros	171.67	54	*e*P		PKPdf	08 48 31.1	+0.4
PARB	Paraibuna	171.81	103	*e*P		PKPdf	08 48 31.4	+0.9
BSCB	Bom Sucesso	172.64	85	*e*P		PKPdf	08 48 31.5	+0.5
DIAM	Diamantina, MG	172.77	63	*e*P		PKPdf	08 48 31.5	+0.4
NBIT	Itapeh - BA	172.78	20	*e*P		PKPdf	08 48 33.3	+2.3
ESAR	Angra dos Reis	172.94	101	*e*P		PKPdf	08 48 32.1	+1.2
CMC01	Camacan, BA	173.15	21	*e*P		PKPdf	08 48 31.8	+0.6
VAS01	Vassouras-RJ	173.93	96	*e*P		PKPdf	08 48 31.7	+0.3
GUA01	Guaratinga, BA	174.15	28	*e*P		PKPdf	08 48 32.1	+0.5
DUB01	Friburgo-RJ	174.93	94	*e*P		PKPdf	08 48 32.3	+0.6
SJMB	Sao Joao De Ma	174.96	53	*e*P		PKPdf	08 48 31.9	+0.1
NAN01	Guarapari, ES	175.06	38	*e*P		PKPdf	08 48 32.6	+0.8
BSFB	Barra de Sao F	175.29	52	*e*P		PKPdf	08 48 31.9	+0.1
CAM01	Campos-RJ	175.60	91	*e*P		PKPdf	08 48 32.1	+0.3
RIB01	Linhares ES	175.92	54	*e*P		PKPdf	08 48 32.1	+0.1
ALF01	Guarapari-ES	176.27	73	*e*P		PKPdf	08 48 33.9	+2.0

LJU 18 08:39:27.7, 45.97N×15.45E, h0km, ML0.5, 1C,
Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CESS	Cesta pri Krsk	0.01	70	⇑*i* Pg	Pg	08 39 27.6	-0.3
CESS				*i* Sg	Sg	08 39 27.9	-0.1
CESS				IAML		08 39 28.9	
	comp=Z,971nm,0.1s						
LEGS	Legarje	0.10	257	*i* Pg	Pg	08 39 29.8	+0.3
GOLS	Golise	0.13	71	*i* Pg	Pg	08 39 30.0	-0.2
GOLS				*i* Sg	Sg	08 39 32.5	+0.7
GOLS				IAML		08 39 33.6	
	comp=Z,6.4nm,0.1s						

*IDC **18** 08:48:02.3±1.0, 30.94N×143.11E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.8/48, mbtmp3.9/12, ML3.6/4, Error ellipse: s-maj=35.4km s-min=17.4km az=74.0*
*JMA **18** 08:48:05.5±0.2, 31.06N×142.88E, h57km, M4.0*
*NEIC **18** 08:48:08.5±2.1, 30.84N±0.06×142.8E±0.1, h34km±3km, mb4.3/11, Error ellipse: s-maj=16.6km s-min=8.4km az=78.0*

ISC 18 08:48:06.8±0.7, 30.92N±0.06×142.8E±0.1, h30km, n42, σ1§71/46, mb4.2/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	3.35	312	P	Pn	08 48 56.4	-0.7
JHJ2	Mitsune	3.35	312	Pn	Pn	08 48 57.9	+0.8
JHJ	Hachijo jima 2 14nm,0.3s,baz=341,slow=18,SNR=7.3	3.37	311	Pn	Pn	08 48 56.8	-0.7
JHJ				Sn	Sn	08 49 33.9	-2.6
	35nm,0.3s,baz=254,slow=22,SNR=5.1						
CBIJ	Chichi jima	3.85	188	P	Pn	08 49 05.6	+1.6
JCJ	Hachijima 6.9nm,0.3s,baz=5.3,slow=21,SNR=6.1	3.85	188	Pn	Pn	08 49 03.6	-0.4
JCJ				Sn	Sn	08 49 43.7	-4.5
	6.8nm,0.3s,baz=289,slow=22,SNR=1.8						
BSO1	Boso 1	4.03	338	P	Pn	08 49 05.1	-0.8
BSO3	Boso 3	4.33	334	P	Pn	08 49 09.4	-0.9
BSO4	Boso 4	4.56	334	P	Pn	08 49 12.6	-1.0
JOD2	Odawara 2	5.34	325	P	Pn	08 49 23.5	-0.9
JHU	Hanno	5.73	330	P	Pn	08 49 28.9	-1.0
JHU				*e*S	Sn	08 50 31.7	-2.9
JHO	Hitachi	5.97	342	P	Pn	08 49 32.1	-1.1
JRY	Ryogami san	6.04	328	P	Pn	08 49 33.4	-0.7
JRY				*e*S	Sn	08 50 39.4	-2.8
JAG	Ashikaga	6.16	334	P	Pn	08 49 34.9	-0.8
JGF	Kuroka	6.53	317	Pn	Pn	08 49 43.6	+2.8
MJAR	Matsushiro Arr 0.4nm,0.3s,baz=274,slow=17,SNR=15	6.79	327	Pn	Pn	08 49 43.8	-0.6
MJAR				Sn	Sn	08 51 00.4	-0.3
	0.2nm,0.3s,baz=168,slow=10,SNR=1.6						
MJAR	Matsushiro Arr	6.79	327		Pn	08 49 44.6	+0.2
MAJO	Matsushiro	6.79	327		Pn	08 49 44.6	+0.2
MAT	Matsushiro	6.79	327	P	Pn	08 49 44.4	0.0
MAT				S	Sn	08 50 57.8	-2.9
JWT	Wachi	7.58	307	Pn	Pn	08 49 58.1	+2.8
KSRS	Korea Array 0.3nm,0.3s,baz=117,slow=13,SNR=7.3	13.93	302	Pn	P	08 51 26.1	-3.8
KLR	Kul'dur 0.8nm,0.4s,baz=149,slow=8.8,SNR=3.9	20.11	339	P	Pn	08 52 42.6	+2.6
SSLB	Suanglung	20.65	255	P	P	08 52 44.7	+0.6
SSLB				IAmb	IAmb	08 52 52.9	
	comp=Z,12nm,1.0s						
ULN	Ulaanbaatar	32.04	312	P	P	08 54 31.8	+1.0
ULN				IAmb	IAmb	08 54 37.2	
	comp=Z,3.4nm,0.9s						
SONM	Songino Array comp=Z,1.3nm,0.5s,baz=118,slow=8.9,SNR=5.3	32.45	312	P	P	08 54 37.4	+2.9
SONM	Songino Array	32.45	312	P	P	08 54 35.2	+0.8
MK31	Makanchi Array	48.53	307	P	P	08 56 48.8	+1.7
MK31				IAmb	IAmb	08 56 53.4	
	comp=Z,1.9nm,0.8s						
MKAR	Makanchi Array	48.53	307	P	P	08 56 49.2	+2.1
	comp=Z,1.4nm,0.6s,baz=89,slow=9.7,SNR=16						
MKAR	Makanchi Array	48.53	307	P	P	08 56 49.0	+1.9
WR0	Warramunga Arr	51.21	190	P	P	08 57 07.4	-0.1
WR0				IAmb	IAmb	08 57 10.2	
	comp=Z,5.3nm,1.3s						
WB2	Warramunga Ar	51.22	190	P	P	08 57 07.7	+0.1
WB2				IAmb	IAmb	08 57 14.7	
	comp=Z,9.2nm,1.5s						
WRA	Warramunga Arr comp=Z,1.5nm,0.4s,baz=7.3,slow=7.7,SNR=35	51.22	190	P	P	08 57 08.0	+0.3
WRA	Warramunga Arr	51.22	190	P	P	08 57 06.4	-1.3
SUA	Susitna One	52.17	34	P	P	08 57 15.7	+1.3
ASAR	Alice Springs comp=Z,0.4nm,0.5s,baz=9.8,slow=7.4,SNR=7.8	54.94	190	P	P	08 57 35.5	+0.4
YAH	Yahtse	56.57	35	P	P	08 57 48.2	+1.6
YAH				IAmb	IAmb	08 58 05.4	
	comp=Z,12nm,1.4s						
ABKAR	Akbulak array	62.85	313	P	P	08 58 31.2	+1.4
ABKAR	Akbulak array	62.85	313	P	P	08 58 30.9	+1.2
ABKAR				IAmb	IAmb	08 58 31.4	
	comp=Z,1.1nm,0.8s						
ARCES	ARCESS Array B comp=Z,2.6nm,0.9s,baz=19,slow=5.7,SNR=3.9	70.12	341	P	P	08 59 16.8	+0.9
ARCES	ARCESS Array B comp=Z,21nm,1.4s	70.12	341	IAmb	IAmb	08 59 19.9	
NVAR	Mina Array Bea comp=Z,0.2nm,0.5s,baz=298,slow=7.8,SNR=3.0	77.75	53	P	P	09 00 01.0	-0.4
AKASG	Malin Array Be comp=Z,0.6nm,0.4s,baz=56,slow=3.4,SNR=1.5	79.86	324	P	P	09 00 11.7	-0.7
NOA	NORSAR Array B comp=Z,0.5nm,0.7s,baz=49,slow=1.9,SNR=2.0	80.27	338	P	P	09 00 15.0	+0.5

*SOME **18** 09:09:08.9, 41.92N×81.77E, h5km*

NNC 18 09:09:09.0±2.5, 41.79N×81.65E, h0km, mb3.7, mpv3.4, 2C, Error ellipse: s-maj=20.7km s-min=16.3km az=46.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	Ketmen 7.2nm,0.2s	1.91	330	*e*P	Pb	09 09 44.5	-0.3
KTMS				*e*S	Sg	09 10 10.2	-0.2
KTMS	18nm,0.4s Ketmen 7.2nm,0.2s	1.91	330	Pg	Pb	09 09 44.5	-0.3
KTMS				Lg	Lg	09 10 10.2	
SHLS	18nm,0.4s Shalkode 14nm,0.2s	2.12	311	*e*P	Pn	09 09 45.0	-0.8
SHLS				*e*S	Sn	09 10 11.0	-1.9
SHLS	44nm,0.3s Shalkode 14nm,0.2s	2.12	311	Pg	Pn	09 09 45.0	-0.8
SHLS				Lg	Lg	09 10 11.2	
PDGK	44nm,0.3s Podgornoye 13nm,0.4s	2.21	315	Pg	Pb	09 09 49.9	-0.1
PDGK				Lg	Lg	09 10 19.6	
PDGK	15nm,0.3s Podgornoye 11nm,0.3s	2.21	315	⇑Pg	Pb	09 09 49.4	-0.7
PDGK				⇑Lg	Lg	09 10 19.7	
UZB	13nm,0.4s Uzynbulak 7.1nm,0.2s	2.37	306	*e*P	Pb	09 09 53.0	+0.4
UZB				*e*S	Sg	09 10 25.1	-0.1
SATY	14nm,0.3s Saty 2.7nm,0.1s	2.71	299	*e*P	Pg	09 09 60.0	-1.1
SATY				*e*S	Sg	09 10 37.0	+0.7
KPKS	10.0nm,0.2s Kokpek 8.4nm,0.1s	2.75	308	*e*P	Pb	09 09 59.2	0.0
KPKS				*e*S	Sb	09 10 35.5	+2.0
DJR	29nm,0.4s Jarkent 0.4nm,0.1s	2.88	332	*e*P	Pb	09 10 02.0	+0.7
DJR				*e*S	Sg	09 10 40.1	-1.5
DJR	12nm,0.8s Jarkent 0.4nm,0.1s	2.88	332	Pg	Pb	09 10 02.0	+0.7
DJR				Lg	Lg	09 10 40.1	
KURS	12nm,0.8s Kuram 3.3nm,0.5s	3.08	305	*e*P	Pb	09 10 05.3	+0.7
KURS				*e*S	Sg	09 10 45.9	-2.0
KURS	5.2nm,0.5s Kuram 3.3nm,0.5s	3.08	305	Pg	Pb	09 10 05.4	+0.7
KURS				Lg	Lg	09 10 45.9	
MDOK	5.2nm,0.5s Medeo 1.4nm,0.4s	3.67	293	Pg	Pb	09 10 12.2	-2.6
MDOK				Lg	Lg	09 11 04.0	
KAPS	3.3nm,0.5s Kapalarasan 1.1nm,0.1s	3.87	335	*e*P	Pb	09 10 18.3	+0.2
KAPS				*e*S	Sb	09 11 08.1	+2.6
KAPS	5.2nm,0.1s Kapalarasan 1.1nm,0.1s	3.87	335	Pg	Pb	09 10 18.3	+0.2
KAPS				Lg	Lg	09 11 08.1	

*IDC **18** 09:10:45.8±0.8, 42.75N×100.54W, h0km, mb2.8/1, mb1 3.7/7, mb1mx3.5/71, mbtmp3.5/7, ML3.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/18, Error ellipse: s-maj=11.7km s-min=9.2km az=147.0*
*ANF **18** 09:10:47.5±1.6, 42.72N×100.46W, h2km±5km, ML4.3/14, Error ellipse: s-maj=3.6km s-min=2.9km az=144.0*
*NEIC **18** 09:10:47.5±1.6, 42.75N±0.02×100.47W±0.06, h5km±2km, mb_Lg3.3/127, Error ellipse: s-maj=7.7km s-min=3.2km az=255.0*

ISC 18 09:10:47.9±3.0, 42.74N±0.04×100.47W±0.04, h17km±22km, n137, σ1§61/117, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
K31A	O'Neill	1.27	95		Pb	09 11 11.8	+0.4
K31A				Sn	Sb	09 11 28.5	+1.1
K31A	O'Neill baz=278,SNR=450	1.27	95	P	Pb	09 11 11.7	+0.4
K31A				S	Sb	09 11 28.5	+1.1
K31A	baz=278 O'Neill baz=278,S

CBKS				S		Sn	09 12 36.3	+2.5
	baz=352							
CBKS	**Cedar Bluff**	**3.96**	**172**	P			09 11 50.0	
	baz=352,SNR=11							
CBKS				S			09 12 36.3	
	baz=352							
PHWY	**Pilot Hill**	**3.98**	**251**			**Pn**	**09 11 48.9**	**+0.5**
KSCO	**Kaye Shedlock'**	**4.07**	**204**			**Pn**	**09 11 50.4**	**+1.0**
KSCO				IAmb_Lg			09 12 57.2	
	comp=Z,85nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.07**	**204**	P		**Pn**	**09 11 50.9**	**+1.5**
	baz=23,SNR=19							
KSCO	**Kaye Shedlock'**	**4.07**	**204**	P			09 11 50.9	
	baz=23,SNR=19							
N35A	**Tabor**	**4.07**	**116**			**Pn**	**09 11 52.0**	**+2.8**
N35A	**Tabor**	**4.07**	**116**	P		**Pn**	**09 11 51.0**	**+1.7**
	baz=300							
N35A	**Tabor**	**4.07**	**116**	P			09 11 51.0	
	baz=300							
F33A	**5 Mile Ranch,**	**4.31**	**43**			**Pn**	**09 11 53.3**	**+0.6**
F33A	**5 Mile Ranch,**	**4.31**	**43**	P		**Pn**	**09 11 53.3**	**+0.6**
	baz=226,SNR=17							
F33A	**5 Mile Ranch,**	**4.31**	**43**	P			09 11 53.3	
	baz=226,SNR=17							
K22A	**Casper**	**4.46**	**271**			**Pn**	**09 11 55.0**	**+0.1**
K22A				IAmb_Lg			09 13 18.9	
	comp=Z,54nm,1.0s							
K22A	**Casper**	**4.46**	**271**	P		**Pn**	**09 11 55.4**	**+0.5**
	baz=86,SNR=7.7							
K22A	**Casper**	**4.46**	**271**	P			09 11 55.4	
	baz=86,SNR=7.7							
R32A	**Long Quarter,**	**4.51**	**162**			**Pn**	**09 11 57.1**	**+1.7**
KSU1	**Kansas State U**	**4.66**	**140**	Pn		**Pn**	**09 11 59.5**	**+2.0**
KSU1				IAmb_Lg			09 13 20.4	
	comp=Z,56nm,0.9s							
ISCO	**Idaho Springs**	**4.86**	**235**	Pn		**Pn**	**09 12 02.2**	**+1.7**
RWWY	**Rawlins**	**5.12**	**260**			**Pn**	**09 12 04.1**	**+0.2**
RWWY				IAmb_Lg			09 13 36.6	
	comp=Z,34nm,0.7s							
MDND	**Maddock**	**5.15**	**7**	Pn		**Pn**	**09 12 03.6**	**-0.5**
I37A	**Lemond, Waseca**	**5.31**	**74**			**Pn**	**09 12 06.9**	**+0.5**
SCIA	**State Center**	**5.44**	**96**	IAmb_Lg			09 13 41.6	
	comp=Z,46nm,0.7s							
SCIA	**State Center**	**5.44**	**96**	S		**Sn**	**09 13 13.9**	**+3.5**
	baz=282							
SCIA	**State Center**	**5.44**	**96**	S			09 13 13.9	
	baz=282							
K38A	**Parkersburg**	**5.67**	**88**			**Pn**	**09 12 12.2**	**+0.8**
K38A				IAmb_Lg			09 13 57.8	
	comp=Z,45nm,0.7s							
K38A	**Parkersburg**	**5.67**	**88**	P		**Pn**	**09 12 12.8**	**+1.5**
	baz=274,SNR=7.5							
K38A	**Parkersburg**	**5.67**	**88**	P			09 12 12.8	
	baz=274,SNR=7.5							
LAO	**LASA Array**	**5.69**	**316**	Pn		**Pn**	**09 12 12.2**	**+0.5**
LAO				IAmb_Lg			09 13 54.5	
	comp=Z,50nm,0.9s							
N38A	**Joes South For**	**5.75**	**107**			**Pn**	**09 12 12.8**	**+0.5**
N38A				IAmb_Lg			09 13 48.0	
	comp=Z,55nm,0.7s							
N38A	**Joes South For**	**5.75**	**107**	S		**Sn**	**09 13 18.5**	**+0.6**
	baz=293							
N38A	**Joes South For**	**5.75**	**107**	S			09 13 18.5	
	baz=293							
KAN08	**Anthony NE Sta**	**5.83**	**160**	IAmb_Lg			09 13 54.8	
	comp=Z,54nm,0.9s							
F36A	**Milaca**	**5.88**	**56**			**Pn**	**09 12 15.6**	**+1.4**
KAN10	**Anthony SW Sta**	**5.89**	**161**	Pn		**Pn**	**09 12 16.1**	**+1.6**
KS20	**Mayfield South**	**5.94**	**157**	IAmb_Lg			09 14 00.5	
	comp=Z,42nm,0.8s							
KAN05	**Bluff City Nor**	**5.96**	**160**	IAmb_Lg			09 13 58.2	
	comp=Z,53nm,0.8s							
KAN09	**Caldwell North**	**6.01**	**158**			**Pn**	**09 12 17.2**	**+1.2**
KAN09				IAmb_Lg			09 13 58.1	
	comp=Z,45nm,0.7s							
KAN17	**Caldwell West**	**6.05**	**159**	Pn		**Pn**	**09 12 17.7**	**+1.1**
KAN17				IAmb_Lg			09 13 59.6	
	comp=Z,48nm,0.8s							
SPMN	**Marine on St.**	**6.06**	**63**	Pn		**Pn**	**09 12 18.5**	**+1.8**
SPMN				IAmb_Lg			09 14 02.1	
	comp=Z,51nm,0.7s							
SMCO	**Snowmass**	**6.07**	**236**	IAmb_Lg			09 14 12.2	
	comp=Z,53nm,1.1s							
KAN14	**Manchester OK**	**6.09**	**161**	Pn		**Pn**	**09 12 19.1**	**+2.1**
KAN14				IAmb_Lg			09 14 10.6	
	comp=Z,44nm,0.7s							
P38A	**Dawn**	**6.09**	**118**	Pn		**Pn**	**09 12 18.7**	**+1.7**
P38A				IAmb_Lg			09 14 06.8	
	comp=Z,36nm,0.7s							
P38A	**Dawn**	**6.09**	**118**	P		**Pn**	**09 12 18.6**	**+1.5**
	baz=303,SNR=20							
P38A	**Dawn**	**6.09**	**118**	P			09 12 18.6	
	baz=303,SNR=20							
KAN13	**South Haven SW**	**6.16**	**157**			**Pn**	**09 12 19.4**	**+1.3**
OK032	**Salt Plains WL**	**6.17**	**163**			**Pn**	**09 12 19.0**	**+0.8**
OK032				IAmb_Lg			09 14 16.2	
	comp=Z,32nm,0.7s							
GC02	**Grant County #**	**6.21**	**160**	Pn		**Pn**	**09 12 19.7**	**+0.9**
SDCO	**Great Sand Dun**	**6.30**	**219**			**Pn**	**09 12 21.3**	**+1.1**
DGMT	**Dagmar**	**6.30**	**337**			**Pn**	**09 12 20.5**	**+0.5**
T25A	**Trinidad**	**6.36**	**210**			**Pn**	**09 12 21.9**	**+0.9**
O20A	**White River Ci**	**6.39**	**249**			**Pn**	**09 12 23.9**	**+2.4**
O20A				IAmb_Lg			09 14 16.1	
	comp=Z,32nm,0.9s							
AGMN	**Agassiz Nation**	**6.43**	**29**			**Pn**	**09 12 20.8**	**-1.0**
AGMN				IAmb_Lg			09 14 22.0	
	comp=Z,36nm,0.8s							
T35A	**Sooner Cattle**	**6.56**	**151**			**Pn**	**09 12 24.0**	**+0.4**
T35B	**Sooner Cattle**	**6.56**	**151**	P		**Pn**	**09 12 24.5**	**+0.9**
	baz=334,SNR=7.7							
T35B	**Sooner Cattle**	**6.56**	**151**	P			09 12 24.5	
	baz=334,SNR=7.7							
PD31	**Pinedale Array**	**6.69**	**273**			**Pn**	**09 12 25.9**	**+0.3**
PDAR	**Pinedale Array**	**6.69**	**273**	Pn		**Pn**	**09 12 26.0**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=96,slow=14,SNR=24							
PDAR				Lg		Lg	09 14 11.5	
	comp=Z,1.9nm,0.3s,baz=91,slow=33,SNR=4.7							
PDAR	**Pinedale Array**	**6.69**	**273**	Pn		**Pn**	**09 12 25.7**	**+0.1**
BW06	**Boulder Array**	**6.69**	**273**			**Pn**	**09 12 25.9**	**+0.3**
RLMT	**Red Lodge**	**6.79**	**294**	IAmb_Lg			09 14 31.3	
	comp=Z,26nm,1.1s							
L40A	**Anamosa**	**6.88**	**92**	Pn		**Pn**	**09 12 29.3**	**+1.4**
L40A				IAmb_Lg			09 14 34.0	
	comp=Z,27nm,0.9s							
P40A	**Paris**	**7.12**	**114**			**Pn**	**09 12 32.6**	**+1.5**
P40A				IAmb_Lg			09 14 44.4	
	comp=Z,30nm,0.7s							
RDMU	**Red Mountain**	**7.15**	**255**			**Pn**	**09 12 33.2**	**+1.4**
RDMU				IAmb_Lg			09 14 43.8	
	comp=Z,28nm,1.1s							
QUOK	**Quay**	**7.17**	**155**	Pn		**Pn**	**09 12 33.6**	**+1.6**
QUOK				IAmb_Lg			09 14 53.6	
	comp=Z,32nm,1.0s							
YNE	**Yellowstone No**	**7.26**	**291**			**Pn**	**09 12 34.9**	**+1.5**
GCMT	**Greycliff**	**7.27**	**298**	Pn		**Pn**	**09 12 35.1**	**+1.6**
I40A	**Norwalk**	**7.28**	**78**	Pn		**Pn**	**09 12 35.1**	**+1.8**
YMP	**Mirror Lake Pl**	**7.30**	**289**	Pn		**Pn**	**09 12 35.4**	**+1.4**
YMP				IAmb_Lg			09 14 53.0	
	comp=Z,29nm,1.0s							
OK031	**S. Brethren Rd**	**7.33**	**156**	IAmb_Lg			09 14 58.6	
	comp=Z,29nm,1.0s							
B35A	**Bob, Littlefor**	**7.35**	**38**			**Pn**	**09 12 34.3**	**0.0**
B35A				IAmb_Lg			09 14 35.4	
	comp=Z,28nm,0.7s							
S39A	**Bolivar**	**7.43**	**130**			**Pn**	**09 12 36.2**	**+0.7**
S39A	**Bolivar**	**7.43**	**130**	P		**Pn**	**09 12 36.4**	**+0.9**
	baz=315,SNR=15							
S39A	**Bolivar**	**7.43**	**130**	P			09 12 36.4	
	baz=315,SNR=15							
JFWS	**Jewell Farm**	**7.52**	**85**	Pn		**Pn**	**09 12 37.1**	**+0.4**
JFWS				IAmb_Lg			09 14 51.7	
	comp=Z,31nm,0.8s							
JFWS	**Jewell Farm**	**7.52**	**85**	P		**Pn**	**09 12 37.1**	**+0.4**
	baz=272,SNR=5.5							
JFWS	**Jewell Farm**	**7.52**	**85**	P			09 12 37.1	
	baz=272,SNR=5.5							
OK025	**Westminster Rd**	**7.55**	**160**	IAmb_Lg			09 14 51.7	
	comp=Z,21nm,0.7s							
SNOW	**Snow King Moun**	**7.56**	**279**			**Pn**	**09 12 38.6**	**+1.0**
REDW	**Red Top Meadow**	**7.63**	**278**	Pn		**Pn**	**09 12 39.1**	**+0.6**
R40A	**Maddies Statio**	**7.66**	**123**			**Pn**	**09 12 39.0**	**+0.4**
R40A				IAmb_Lg			09 15 00.6	
	comp=Z,30nm,0.8s							
OKCFA	**Oklahoma City**	**7.68**	**161**	IAmb_Lg			09 14 54.6	
	comp=Z,26nm,0.9s							
TUL1	**Leonard**	**7.72**	**150**	P		**Pn**	**09 12 39.9**	**+0.4**
	baz=334,SNR=15							
TUL1	**Leonard**	**7.72**	**150**	P			09 12 39.9	
	baz=334,SNR=15							
G40A	**Rib Lake**	**7.82**	**68**			**Pn**	**09 12 43.1**	**+2.2**
U38A	**Gravette**	**7.85**	**141**	IAmb_Lg			09 14 59.7	
	comp=Z,26nm,0.7s							
AMTX	**Amarillo**	**7.90**	**187**			**Pn**	**09 12 43.3**	**+1.3**
L42A	**Oliver, Polo**	**8.03**	**92**	Pn		**Pn**	**09 12 44.5**	**+0.7**
L42A				IAmb_Lg			09 15 08.5	
	comp=Z,25nm,0.8s							
WMOK	**Wichita Mounta**	**8.10**	**170**			**Pn**	**09 12 46.3**	**+1.6**
WMOK				IAmb_Lg			09 15 12.1	
	comp=Z,20nm,0.8s							
ULM	**Lac du Bonnet**	**8.15**	**21**	Pn		**Pn**	**09 12 43.3**	**-2.0**
	comp=Z,1.7nm,0.3s,baz=199,slow=11,SNR=14							
ULM				Sn		Sn	09 14 10.8	-6.2
	comp=Z,3.5nm,0.3s,baz=110,slow=22,SNR=3.9							
ULM				Lg		Lg	09 14 54.9	
	comp=Z,3.3nm,0.3s,baz=139,slow=19,SNR=2.3							
ULM	**Lac du Bonnet**	**8.15**	**21**	Pn		**Pn**	**09 12 45.1**	**-0.2**
HHAR	**Hobbs**	**8.18**	**140**	Pn		**Pn**	**09 12 46.8**	**+1.0**
HHAR				IAmb_Lg			09 15 12.4	
	comp=Z,24nm,0.8s							
EYMN	**Ely**	**8.19**	**47**	IAmb_Lg			09 15 02.3	
	comp=Z,28nm,0.9s							
HWUT	**Hardware Ranch**	**8.32**	**266**	Pn		**Pn**	**09 12 48.4**	**+0.5**
EGMT	**Eagleton**	**8.40**	**312**	IAmb_Lg			09 15 28.9	
	comp=Z,30nm,0.8s							
MGMO	**Mountain Grove**	**8.41**	**129**	IAmb_Lg			09 15 17.9	
	comp=Z,25nm,0.8s							
P17A	**Butcher Ranch,**	**8.41**	**251**	IAmb_Lg			09 15 24.4	
	comp=Z,21nm,0.9s							
SRU	**San Rafael Swe**	**8.43**	**248**	IAmb_Lg			09 15 31.9	
	comp=Z,18nm,0.7s							
CCM	**Cathedral Cave**	**8.45**	**121**	Pn		**Pn**	**09 12 50.2**	**+0.8**
CCM				IAmb_Lg			09 15 18.9	
	comp=Z,24nm,0.9s							
I42A	**Draeger Farm,**	**8.51**	**78**	IAmb_Lg			09 15 19.5	
	comp=Z,17nm,0.8s							
I42A	**Draeger Farm,**	**8.51**	**78**	P		**Pn**	**09 12 51.2**	**+1.0**
	baz=266,SNR=15							
I42A	**Draeger Farm,**	**8.51**	**78**	P			09 12 51.2	
	baz=266,SNR=15							
HDIL	**Hopedale**	**8.65**	**101**	Pn		**Pn**	**09 12 52.6**	**+0.4**
HDIL				IAmb_Lg			09 15 40.1	
	comp=Z,27nm,0.8s							
U40A	**Yellville**	**8.67**	**135**	Pn		**Pn**	**09 12 53.2**	**+0.7**
U40A				IAmb_Lg			09 15 22.9	
	comp=Z,32nm,0.9s							
U40A	**Yellville**	**8.67**	**135**	P		**Pn**	**09 12 53.2**	**+0.7**
	baz=320,SNR=8.9							
U40A	**Yellville**	**8.67**	**135**	P			09 12 53.2	
	baz=320,SNR=8.9							
U40A				P			09 12 53.2	
	baz=320,SNR=8.9							
COWI	**Conover**	**8.78**	**64**	Pn		**Pn**	**09 12 54.5**	**+0.5**
COWI				IAmb_Lg			09 15 26.1	
	comp=Z,28nm,0.9s							
SLM	**Saint Louis**	**8.79**	**114**	IAmb_Lg			09 15 41.2	
	comp=Z,23nm,0.7s							
P43A	**Skaggs, Pawnee**	**8.81**	**107**	IAmb_Lg			09 15 36.2	
	comp=Z,25nm,0.9s							
TMUT	**Trail Mountain**	**8.81**	**251**	IAmb_Lg			09 15 40.5	
	comp=Z,20nm,1.0s							
MSTX	**Muleshoe**	**8.94**	**192**	Pn		**Pn**	**09 12 57.2**	**+1.0**
HRY	**Holter Researc**	**9.01**	**300**	Pn		**Pn**	**09 12 58.9**	**+1.7**
X37A	**Clayton**	**9.06**	**152**	Pn		**Pn**	**09 12 58.0**	**+0.2**
ANMO	**Albuquerque**	**9.07**	**213**	Pn		**Pn**	**09 12 56.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=53,slow=16,SNR=1.4							
ANMO				Pg			09 13 33.2	
	comp=Z,0.6nm,0.3s,baz=37,slow=16,SNR=18							
ANMO				Lg		Lg	09 15 28.7	
	comp=Z,0.4nm,0.3s,baz=116,slow=18,SNR=3.2							
W39A	**Magazine**	**9.15**	**143**	IAmb_Lg			09 15 48.6	
	comp=Z,32nm,0.7s							
L44A	**Lake County Fo**	**9.30**	**89**	IAmb_Lg			09 15 40.7	
	comp=Z,26nm,1.0s							
M44A	**Midewin, Midew**	**9.34**	**94**	IAmb_Lg			09 15 43.5	
	comp=Z,26nm,1.8s							
F42A	**Maple Grove Fa**	**9.35**	**67**	IAmb_Lg			09 15 48.4	
	comp=Z,25nm,0.9s							
H43A	**Windswept, Lux**	**9.38**	**75**	IAmb_Lg			09 15 54.7	
	comp=Z,25nm,0.9s							
O44A	**Mansfield**	**9.38**	**102**	IAmb_Lg			09 15 42.1	
	comp=Z,18nm,0.8s							
FCAR	**Ozark Folk Cen**	**9.41**	**134**	IAmb_Lg			09 15 45.1	
	comp=Z,24nm,0.7s							
D41A	**Chassel**	**9.49**	**59**	Pn		**Pn**	**09 13 04.9**	**+1.3**
Q44A	**Meyer Farm, Va**	**9.49**	**110**	IAmb_Lg			09 16 01.5	
	comp=Z,17nm,0.9s							
PBMO	**Poplar Bluff**	**9.75**	**124**	IAmb_Lg			09 16 01.2	
	comp=Z,20nm,0.7s							
WHAR	**Wooly Hollow**	**9.78**	**137**	Pn		**Pn**	**09 13 08.1**	**+0.3**
WHAR				IAmb_Lg			09 16 09.1	
	comp=Z,26nm,0.8s							
MIAR	**Mount Ida**	**9.79**	**144**	Pn		**Pn**	**09 13 08.0**	**+0.1**
MIAR				IAmb_Lg			09 16 08.5	
	comp=Z,24nm,1.0s							
MIAR	**Mount Ida**	**9.79**	**144**	P		**Pn**	**09 13 08.2**	**+0.4**
	baz=329,SNR=8.9							
MIAR	**Mount Ida**	**9.79**	**144**	P			09 13 08.2	
	baz=329,SNR=8.9							
W41B	**Gary Mavity, V**	**9.89**	**137**	P		**Pn**	**09 13 08.6**	**-0.6**
	baz=322,SNR=17							
W41B	**Gary Mavity, V**	**9.89**	**137**	P			09 13 08.6	
	baz=322,SNR=17							
S44A	**Carbondale**	**9.94**	**117**	Pn		**Pn**	**09 13 10.3**	**+0.4**
SIUC	**Southern Illin**	**9.96**	**116**	IAmb_Lg			09 16 01.6	
	comp=Z,24nm,0.9s							
TXAR	**Lajitas Array**	**13.62**	**192**	Pn		**Pn**	**09 13 58.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=12,slow=11,SNR=8.0							
TXAR				Pg		P	09 14 54.3	+45
	comp=Z,0.1nm,0.3s,baz=12,slow=13,SNR=4.7							
TXAR				Lg		Lg	09 17 49.9	
	comp=Z,0.1nm,0.3s,baz=350,slow=15,SNR=2.1							
TKL	**Tuckaleechee C**	**14.74**	**113**	Pn		**Pn**	**09 14 13.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=347,slow=3.6,SNR=1.7							
TKL				Sn		**Sn**	**09 16 53.2**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=23,SNR=1.8							
TKL				Lg		Lg	09 18 21.4	
	comp=Z,0.1nm,0.3s,baz=32,slow=19,SNR=2.3							
SADO	**Sadowa**	**15.54**	**75**	Pn		**Pn**	**09 14 21.2**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=252,slow=3.6,SNR=1.5							
SADO				Sn		Sn	09 17 05.4	-12
	comp=Z,0.2nm,0.3s,baz=169,slow=15,SNR=1.4							
SADO				Lg		Lg	09 18 47.3	
	comp=Z,0.2nm,0.3s,baz=38,slow=15,SNR=3.0							
YKA	**Yellowknife Ar**	**21.48**	**342**	P		**P**	**09 15 35.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=148,slow=11,SNR=2.7							
INK	**Inuvik**	**30.99**	**337**	LR		LR	09 30 44.1	
	comp=Z,35nm,18.6s,baz=350,slow=39							

*IDC **18** 09:13:36.9±1.2, 4.°34S×141.°04E, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.8/43, mbtmp3.9/9, ML3.7/3, Error ellipse: s-maj=30.2km s-min=22.9km az=69.0*
*NEIC **18** 09:13:43.0±2.5, 4.°4S±0.°1×141.°03E±0.°10, h41km±10km, mb4.1/12, Error ellipse: s-maj=18.4km s-min=12.2km az=210.0*

ISC 18 09:13:42.7±0.9, 4.°59S±0.°08×140.°82E±0.°08, h35km, n24, σ2s60/21, mb3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.90**	**128**	Pn		**Pn**	**09 15 34.4**	**-0.8**
	1.0nm,0.3s,baz=301,slow=15,SNR=2.4							
PMG				Sn		**Sn**	**09 17 03.5**	**0.0**
	0.5nm,0.3s,baz=246,slow=18,SNR=1.8							
SIJI	**Sorong**	**10.23**	**291**	Pn		**Pn**	**09 16 07.2**	**0.0**
	0.9nm,0.3s,baz=66,slow=20,SNR=1.3							
MTN	**Manton Dam**	**12.60**	**229**	Pn		**Pn**	**09 16 43.3**	**+3.7**
KNRA	**Kununurra**	**16.18**	**226**	Pn		**Pn**	**09 17 29.2**	**+1.7**
KNRA				IAmb		IAmb	09 17 47.9	
	comp=Z,19nm,1.1s							
CTA	**Charters Tower**	**16.28**	**161**	Pn		**Pn**	**09 17 29.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=3.3,slow=10,SNR=2.7							
WB0	**Warramunga Arr**	**16.33**	**202**	Pn		**P**	**09 17 32.3**	**+0.2**
WB0				IAmb		IAmb	09 17 52.0	
	comp=Z,8.4nm,0.8s							
WR0	**Warramunga Arr**	**16.45**	**201**	Pn		**Pn**	**09 17 33.2**	**+2.2**
WRAB	**Tennant Creek**	**16.50**	**202**			**P**	**09 17 35.4**	**+1.4**
WRAB				IAmb		IAmb	09 17 53.6	
	comp=Z,9.3nm,0.8s							
WB2	**Warramunga Arr**	**16.51**	**202**	Pn		**Pn**	**09 17 33.7**	**+2.0**
WB2				IAmb		IAmb	09 17 49.9	
	comp=Z,9.3nm,0.7s							
WRA	**Warramunga Arr**	**16.51**	**202**	Pn		**Pn**	**09 17 33.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=19,slow=11,SNR=41							
WRA				Sn		**Sn**	**09 20 31.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=19,slow=21,SNR=3.3							
WRA	**Warramunga Ar**	**16.51**	**202**	IAmb		IAmb	09 17 39.4	
	comp=Z,0.3nm,1.0s							
SOEI	**Soe**	**17.20**	**252**	P		**P**	**09 17 43.9**	**+2.1**
FITZ	**Fitzroy Crossi**	**20.01**	**227**	P		Pn	09 18 15.0	+0.4
	comp=Z,1.5nm,0.6s,baz=57,slow=17,SNR=1.9							
FITZ				S		**S**	**09 21 47.7**	**-8.2**
	comp=Z,1.9nm,0.7s,baz=153,slow=11,SNR=2.2							
FITZ	**Fitzroy Crossi**	**20.01**	**227**	P		Pn	09 18 15.6	+1.1
AS31	**Alice Springs**	**20.10**	**199**	P		Pn	09 18 17.1	+1.6
ASAR	**Alice Springs**	**20.10**	**199**	P		Pn	09 18 15.8	+0.2
	comp=Z,5.2nm,0.5s,baz=29,slow=10,SNR=70							
ASAR				S		**S**	**09 21 56.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=23,slow=26,SNR=3.8							
ASAR	**Alice Springs**	**20.10**	**199**	P		Pn	09 18 16.6	+1.0
TOLI2	**Tolitoli**	**20.81**	**285**	P		Pn	09 18 23.7	-0.1
EIDS	**Eidsvold**	**22.89**	**156**	P		**P**	**09 18 45.4**	**+2.0**
EIDS				IAmb		IAmb	09 18 47.8	
	comp=Z,5.0nm,0.6s							
MKAR	**Makanchi Array**	**72.56**	**322**	P		**P**	**09 25 05.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=105,slow=6.9,SNR=2.7							
VNDA	**Vanda**	**73.74**	**175**	P		**P**	**09 25 13.7**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=322,slow=5.3,SNR=1.6							
VNDA	**Vanda**	**73.74**	**175**	P		**P**	**09 25 13.8**	**+1.0**
VNDA				IAmb		IAmb	09 25 19.6	
	comp=Z,2.7nm,1.4s							
ILAR	**Eielson Array**	**86.67**	**24**	P		**P**	**09 26 19.8**	**-2.8**
	comp=Z,0.5nm,1.0s,baz=264,slow=4.6,SNR=4.0							
LPAZ	**La Paz**	**144.64**	**127**	PKP		**PKPdf**	**09 33 17.8**	**+0.2**
	comp=Z,3.2nm,1.0s,baz=247,slow=1.0,SNR=8.0							

HEL 18 09:16:52.1±0.4, 60.°71N×28.°04E, h0km, ML1.4, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki**	**0.29**	**234**	PG		Pg	09 16 57.0	-0.7
VJF				SG		Sg	09 17 00.8	-0.7
PVF	**Pernaja**	**1.08**	**262**	PG		Pg	09 17 11.2	-1.6
PVF				MSG			09 17 25.3	
	comp=Z,3.8nm,0.2s							
PVF				SB		Sg	09 17 25.5	-1.4
FIA0	**FINESS Array S**	**1.20**	**309**	PG		Pg	09 17 13.4	-1.7
FIA0				SN		Sn	09 17 36.3	+3.1
MEF	**Metsahovi**	**1.87**	**256**	MSG			09 17 47.8	
	comp=Z,4.2nm,0.2s							
MEF				SG		Sb	09 17 50.4	-0.6
KEF	**Keuruu**	**2.11**	**315**	PG		Pn	09 17 29.3	+0.7
KEF				MSG			09 17 54.8	
	comp=Z,1.1nm,0.2s							
KEF				SG		Sb	09 17 57.9	0.0
SUF	**Sumiainen**	**2.21**	**337**	MSG			09 17 57.4	
	comp=Z,1.1nm,0.2s							
SUF				SG		Sb	09 18 00.8	+0.1
JOF	**Joensuu**	**2.71**	**34**	SG		Sb	09 18 14.4	-0.6
MTSE	**Matsula**	**2.93**	**229**	PB		Pb	09 17 42.7	-2.4
	baz=46							

*NAO **18** 09:18:01.4±0.8, 68.°33N×20.°97E, h7km±6km, ML3.8*
*IDC **18** 09:18:01.5±0.7, 68.°30N×21.°24E, h0km, mb1 3.4/4, mb1mx3.1/58, mbtmp3.5/4, ML2.8/3, Error ellipse: s-maj=12.3km s-min=5.4km az=123.0*
*KOLA **18** 09:18:02.7, 69.°56N×22.°00E, h0km, ML3.5, Norway, Troms*
*IEPN **18** 09:18:03.0, 68.°32N×20.°84E, h10km*
*DNK **18** 09:18:03.9±0.7, 68.°40N×20.°95E, h25km, ML3.6(UPP), Probable volcanic*
*BER **18** 09:18:04.4±3.2, 68.°41N×20.°92E, h13km±6km, ML3.2, ML3.6(UPP), Confirmed Earthquake*
*HEL **18** 09:18:04.1±0.0, 68.°38N×20.°95E, h29km, ML3.5, ML3.6(UPP), Confirmed Earthquake*
*UPP **18** 09:18:04.4±0.1, 68.°33N×20.°94E, h25km, ML3.6, Confirmed Earthquake*
*HEL **18** 09:18:04.1, 68.°38N×20.°96E, h31km, ML3.5, Confirmed Earthquake*

ISC 18 09:18:00.4±0.6, 68.°38N±0.°02×21.°00E±0.°02, h10km, n132, σ1s89/215, 25C-18D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

comp=Z,3μm,0.5s
DUNU Dundret 1.27 188 ⇓P Pg 09 18 26.2 +1.5
DUNU S Sn 09 18 43.2 +2.0
DUNU Dundret 1.27 188 ⇓P Pg 09 18 26.2 +1.5
DUNU S Sn 09 18 43.2 +2.0
DUNU Dundret 1.27 188 ⇓P Pg 09 18 26.2 +1.5
DUNU S Sn 09 18 43.2 +2.0
DUNU Dundret 1.27 188 ⇓*e*P Pg 09 18 26.2 +1.5
DUNU *e*S Sn 09 18 43.2 +2.0
SALU Saltoluokta 1.38 225 ⇑P Pg 09 18 27.9 +1.2
SALU S Sg 09 18 46.1 +1.6
SALU Saltoluokta 1.38 225 ⇑P Pg 09 18 27.9 +1.2
SALU S Sg 09 18 46.1 +1.6
SALU Saltoluokta 1.38 225 ⇑P Pg 09 18 27.9 +1.2
SALU S Sg 09 18 46.1 +1.6
SALU Saltoluokta 1.38 225 ⇑*e*P Pg 09 18 27.9 +1.2
SALU *e*S Sg 09 18 46.1 +1.6
TRO Tromso 1.47 330 Pn Pg 09 18 29.3 +0.8
TRO Sn Sn 09 18 47.2 +1.2
TRO Tromso 1.47 330 ⇓*i*P Pb 09 18 28.7 +1.1
TRO *e*S Sn 09 18 46.8 +0.8
TRO IAML 09 18 49.2
comp=Z,1μm,0.3s
TRO Tromso 1.47 330 *e*P Pb 09 18 28.8 +1.1
TRO *e*S Sb 09 18 47.3 +1.0
PAJU Pajala 1.58 148 P Pg 09 18 31.1 +0.5
PAJU S Sg 09 18 51.8 +0.7
PAJU Pajala 1.58 148 P Pg 09 18 31.1 +0.5
PAJU S Sg 09 18 51.8 +0.7
PAJU Pajala 1.58 148 P Pg 09 18 31.1 +0.5
PAJU S Sg 09 18 51.8 +0.7
PAJU Pajala 1.58 148 *e*P Pg 09 18 31.1 +0.5
KLF Kolari 1.61 134 *e*P Pb 09 18 31.5 +1.5
KLF *e*S Sn 09 18 50.7 +1.2
N2LO L˛dingen 1.87 273 *e*P Pn 09 18 33.8 +1.5
N2LO *e*S Sn 09 18 56.8 +0.8
N2LO IAML 09 19 01.5
comp=Z,263nm,0.4s
N2IH Innhavet 1.94 260 *e*P Pn 09 18 35.0 +1.7
N2IH *e*S Sn 09 18 58.6 +1.0
N2IH IAML 09 19 04.4
comp=Z,514nm,0.3s
ARA0 ARCESS Array S 2.00 52 Pn Pn 09 18 36.0 +1.8
baz=232,slow=14
ARA0 Pg Pb 09 18 38.0 +1.2
baz=228,slow=16
ARA0 Sn Sb 09 19 02.3 +0.6
baz=241,slow=37
ARA0 ARCESS Array S 2.00 52 Pn Pn 09 18 36.0 +1.8
baz=232,slow=14
ARA0 Pg Pb 09 18 38.0 +1.2
baz=228,slow=16
ARA0 Sn Sb 09 19 02.3 +0.6
baz=241,slow=37
ARA0 *e*Sg Sn 09 19 03.3 +4.1
ARA0 IAML 09 19 06.0
comp=Z,443nm,0.2s
ARA0 ARCESS Array S 2.00 52 *e*P Pn 09 18 36.5 +2.4
ARA0 *e*SB Sb 09 19 03.0 +1.3
ARCES ARCESS Array B 2.00 52 Pg Pb 09 18 37.9 +1.1
baz=232,slow=14,SNR=747
ARCES Lg Lg 09 19 03.2
baz=232,slow=28,SNR=52
STEI Steigen 2.20 261 Pn Pn 09 18 38.3 +1.5
STEI Sn Sn 09 19 04.5 +0.4
STEI Lg 09 19 09.4
STEI Steigen 2.20 261 *e*P Pn 09 18 38.4 +1.5
STEI *e*S Sn 09 19 04.8 +0.7
STEI IAML 09 19 19.9
comp=Z,241nm,0.6s
STEI Steigen 2.20 261 *e*P Pn 09 18 38.6 +1.7
STEI *e*S Sn 09 19 04.8 +0.7
N2NF Nordfold 2.25 257 *e*P Pn 09 18 39.4 +1.8
N2NF *e*S Sn 09 19 05.9 +0.5
N2NF IAML 09 19 19.4
comp=Z,421nm,0.5s
SGF Sodankyl 2.29 112 MSN 09 19 10.1
comp=Z,67nm,0.1s
N2ST Straumen 2.29 246 IAML 09 19 22.6
comp=Z,466nm,0.3s
N2TV TVrnvik 2.36 253 *e*P Pn 09 18 41.2 +2.1
N2TV IAML 09 19 23.1
comp=Z,234nm,0.3s
FAUS Fauske 2.38 248 *e*P Pn 09 18 41.0 +1.6
FAUS *e*Sg Sb 09 19 14.2 +1.6
FAUS IAML 09 19 22.6
comp=Z,328nm,0.9s
HAMF Hammerfest 2.47 21 Pn Pn 09 18 42.6 +2.1
HAMF Sn Sn 09 19 12.4 +1.8
HAMF Hammerfest 2.47 21 ⇓*e*P Pn 09 18 42.6 +2.1
HAMF *e*Sg Sb 09 19 16.9 +1.9
HAMF IAML 09 19 24.7
comp=Z,547nm,0.4s
HAMF Hammerfest 2.47 21 *e*P Pn 09 18 42.6 +2.1
N2VI Vinje 2.52 272 *e*P Pn 09 18 42.0 +0.7
N2VI *e*S Sn 09 19 11.7 -0.3
N2VI IAML 09 19 25.7
comp=Z,284nm,0.5s
KEV Kevo 2.56 55 Pn Pn 09 18 43.6 +1.7
KEV Sn Sn 09 19 14.2 +1.1
KEV Kevo 2.56 55 ⇑*e*P Pn 09 18 43.5 +1.7
KEV *e*S Sn 09 19 14.1 +1.1
KEV Kevo 2.56 55 *e*P Pn 09 18 43.6 +1.7
KEV *e*S Sn 09 19 14.1 +1.1
LOF Lofoten 2.79 268 Pn Pn 09 18 45.8 +0.8
LOF Lg Lg 09 19 28.7
LOF Lofoten 2.79 268 ⇓*e*P Pn 09 18 45.6 +0.7
LOF IAML 09 19 38.1
comp=Z,282nm,0.4s
NBB05 Inndyr 2.98 246 *e*P Pn 09 18 49.3 +1.8
NBB05 IAML 09 19 40.0
comp=Z,299nm,0.3s
N2SV S¸rvågen 3.03 264 *e*P Pn 09 18 48.4 +0.1
N2SV *e*Sg Sb 09 19 33.2 +1.9
N2SV IAML 09 19 42.7
comp=Z,140nm,0.8s
NBB30 Finnes 3.11 246 ⇑*e*P Pn 09 18 51.1 +1.7
NBB30 IAML 09 19 42.9
comp=Z,231nm,0.7s
NBB17 Glomfjord BVr 3.12 243 *e*S Sn 09 19 26.6 -0.2
NBB17 Glomfjord BVr 3.12 243 IAML 09 19 44.5
comp=Z,696nm,0.4s
N2VA Vr¸y 3.21 261 *e*P Pn 09 18 50.8 +0.2
N2VA IAML 09 19 50.8
comp=Z,80nm,0.3s
VRF Varrio 3.29 97 *e*P Pn 09 18 54.1 +2.2
VRF *e*S Sn 09 19 30.9 -0.2
VRF MSN 09 19 35.3
comp=Z,86nm,0.2s
MOR8 Moi Rana 3.37 232 Pn Pn 09 18 52.5 -0.5
MOR8 Pg Pb 09 19 01.2 +1.0
MOR8 Lg Lg 09 19 42.9
MOR8 Moi Rana 3.37 232 *e*P Pn 09 18 52.7 -0.3
MOR8 IAML 09 19 46.8
comp=Z,206nm,0.4s
NBB13 Alf Garage 3.43 243 *e*P Pn 09 18 55.6 +1.8
NBB13 Alf Garage 3.43 243 *e*S Sn 09 19 34.3 -0.2
NBB13 Alf Garage 3.43 243 IAML 09 19 54.6
comp=Z,234nm,0.5s
N2RO R¸st 3.46 260 *e*P Pn 09 18 54.2 0.0
N2RO IAML 09 20 02.3
comp=Z,62nm,0.3s
KONS Konsvik 3.58 242 *e*P Pn 09 18 57.3 +1.6
KONS IAML 09 20 05.6
comp=Z,168nm,0.3s
NBB40 Tonnes 3.60 242 *e*P Pn 09 18 58.0 +1.9
NBB40 IAML 09 20 02.1
comp=Z,179nm,0.3s
STOK Stokkvaagen 3.71 240 *e*P Pn 09 18 59.9 +2.3
OUL Oulu 3.83 147 ⇓*i*P Pn 09 19 01.1 +1.9
OUL *e*S Sn 09 19 45.1 +0.8
OUL Oulu 3.83 147 SB Pn 09 19 01.5 +2.2
OUL Oulu 3.83 147 *e*P Pn 09 19 01.5 +2.2
OUL *e*S Sn 09 19 44.0 -0.4
MSF Maaselka 3.99 125 ⇑*i*P Pn 09 19 03.1 +1.6
MSF *i*S Sn 09 19 47.1 -1.2
MSF Maaselka 3.99 125 *e*P Pn 09 19 03.2 +1.7
MSF *e*S Sn 09 19 47.3 -1.0
MSF MSN 09 19 49.6
comp=Z,30nm,0.2s
KU6 Riekki 4.19 120 MSN 09 19 55.1
comp=Z,31nm,0.2s
UMAU Umeaa 4.51 182 SB Pn 09 19 10.8 +2.2

APA0 Apatity Array 4.58 94 Pn Pn 09 19 10.9 +1.4
baz=301,slow=12
APA0 Sn Sn 09 20 01.4 -1.3
baz=302,slow=28
APA0 Lg Lg 09 20 20.8
baz=287,slow=28
APA0 Apatity Array 4.58 94 Pn Pn 09 19 10.9 +1.4
baz=301,slow=12
APA0 Sn Sn 09 20 01.4 -1.3
baz=302,slow=28
APA0 Sg Sb 09 20 20.8 +5.0
baz=287,slow=28
APA0 Apatity Array 4.58 94 P Pn 09 19 10.8 +1.3
APA0 S Sn 09 20 01.8 -0.9
APA Apatity 4.74 94 P Pn 09 19 12.8 +1.1
APA S Sn 09 20 05.5 -1.1
NSS Namsos 5.29 227 ⇓*e*P Pn 09 19 21.3 +2.0
NSS IAML 09 20 54.5
comp=Z,55nm,0.5s
VAF Ylistaro 5.40 172 MSN 09 20 28.1
comp=Z,19nm,0.2s
NOD Norderasen 5.55 210 ⇓*e*P Pn 09 19 23.8 +0.8
HEMU Hemsoen 5.86 194 *e*P Pn 09 19 28.4 +1.4
HEMU *e*S Sn 09 20 31.4 -2.7
SUF Sumiainen 6.07 157 MSN 09 20 39.4
comp=Z,20nm,0.2s
BJO1 Bjornoya 6.19 355 *e*P Pn 09 19 31.1 -0.5
BJO1 *e*S Sn 09 20 36.2 -6.1
BJO1 IAML 09 20 50.7
comp=Z,7.6nm,0.7s
KAF Kangasniemi 6.67 158 MSN 09 20 52.5
comp=Z,15nm,0.2s
SLVR Solovky 6.72 113 P Pn 09 19 39.3 +0.4
SLVR S Sn 09 20 53.9 -1.5
comp=Z,472nm,0.4s
FIA0 FINESS Array S 7.29 160 Pn Pn 09 19 48.4 +1.7
baz=351,slow=12
FIA0 Sn Sn 09 21 05.7 -3.6
baz=344,slow=28
FIA0 Lg Lg 09 21 45.8
baz=348,slow=28
FIA0 FINESS Array S 7.29 160 Pn Pn 09 19 48.4 +1.7
baz=351,slow=12
FIA0 Sn Sn 09 21 05.7 -3.6
baz=344,slow=28
FIA0 Sg Sg 09 21 45.8 -8.0
baz=348,slow=28
FINES FINESS Array B 7.29 160 Pn Pn 09 19 48.4 +1.7
comp=Z,0.3nm,0.3s,baz=347,slow=12,SNR=12
FINES Sn Sn 09 21 05.4 -3.9
comp=Z,2.1nm,0.3s,baz=349,slow=21,SNR=5.7
FINES Lg Lg 09 21 45.2
comp=Z,7.3nm,0.3s,baz=357,slow=27,SNR=10.0
HOPEN Hopen 8.26 7 *e*P Pn 09 20 00.3 +0.3
HOPEN IAML 09 21 31.7
comp=Z,7.2nm,0.3s
HOPEN Hopen 8.26 7 *e*P Pn 09 19 60.0 -0.1
NB2 NORSAR Subarra 8.46 214 Pn Pn 09 20 03.4 +0.6
baz=25,slow=14
NB2 NORSAR Subarra 8.46 214 Pn Pn 09 20 03.4 +0.6
baz=25,slow=14
NOA NORSAR Array B 8.46 214 Pn Pn 09 20 02.6 -0.2
comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=12
NOA Sn Sn 09 21 37.7 -0.5
comp=Z,0.1nm,0.3s,baz=205,slow=21,SNR=3.6
NOA Lg Lg 09 22 24.3
comp=Z,0.3nm,0.3s,baz=221,slow=21,SNR=5.0
AKN Aaknes 8.53 230 *e*P Pn 09 20 03.8 0.0
NRA0 NORESS Array S 8.67 212 Pn Pn 09 20 06.2 +0.5
baz=25,slow=14
NRA0 NORESS Array S 8.67 212 Pn Pn 09 20 06.2 +0.5
baz=25,slow=14
HSPB Hornsund (broa 8.82 352 *e*P Pn 09 20 06.4 -1.2
HSPB Hornsund (broa 8.82 352 *e*P Pn 09 20 08.3 +0.7
HSPB *e*S Sn 09 21 41.5 -5.3
HFS Hagfors 8.86 204 Pn Pn 09 20 08.2 0.0
comp=Z,0.4nm,0.3s,baz=13,slow=12,SNR=12
HFS Sn Sn 09 21 40.9 -7.0
comp=Z,1.0nm,0.3s,baz=25,slow=21,SNR=3.8
HFS Lg Lg 09 22 36.0
comp=Z,2.5nm,0.3s,baz=26,slow=21,SNR=3.7
HFS Hagfors 8.86 204 Pn Pn 09 20 08.0 -0.2
baz=6.9,slow=14
HFS Hagfors 8.86 204 Pn Pn 09 20 08.0 -0.2
baz=6.9,slow=14
SPA0 Spitsbergen Ar 9.94 354 Pn Pn 09 20 23.2 +0.2
baz=163,slow=14
SPA0 Spitsbergen Ar 9.94 354 Pn Pn 09 20 23.2 +0.2
baz=163,slow=14
SPA0 Spitsbergen Ar 9.94 354 *e*P Pn 09 20 23.1 +0.2
SPA0 S Sn 09 22 08.5 -5.9
SPITS Spitsbergen Ar 9.94 354 Pn Pn 09 20 23.2 +0.2
baz=160,slow=9.0,SNR=52
SPITS Sn Sn 09 22 08.1 -6.3
baz=161,slow=40,SNR=1.3
VSU Vasula 10.27 163 P Pn 09 20 28.4 +0.9
VSU S Sn 09 22 16.3 -6.3
LSH Leshukonskoye 10.39 98 P Pn 09 20 28.1 -1.0
comp=Z,27nm,1.6s
LSH *e*S Sn 09 22 15.8 -10
KLMR Klimovskoe 10.91 125 *e*P Pn 09 20 35.4 -0.8
comp=Z,13nm,2.1s
KLMR *e*S Sn 09 22 27.2 -11
ZFI2 Zemlya Franca- 14.08 17 P Pn 09 21 16.7 -2.8
comp=Z,11nm,0.9s
ZFI2 S Sn 09 23 46.2 -9.3

*SOF **18** 09:20:43.0,39.94N×21.42E,h2km,MD3.9*
*ATH **18** 09:20:48.6,40.16N×21.64E,h11km±2km,ML3.5/15,Error ellipse: s-maj=2.4km s-min=0.8km az=299.0*
*PDG **18** 09:20:48.5±0.5,40.15N×21.67E,h6km±1km,ML3.6/13, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*THE **18** 09:20:48.4,40.14N×21.66E,h0km±1km,ML3.4/17,Error ellipse: s-maj=1.4km s-min=0.5km az=237.0*
*BEO **18** 09:20:48.0±1.1,40.13N×21.66E,h0km,ML3.2/7*
ISC 18 09:20:48.4±1.1,40.15N±0.02×21.67E±0.02,h2km±9km, n91,σ1≥29/135,20C-10D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.18**	**27**	P	Op	**Pg**	**09 20 52.3**	**+0.5**
KZN				S		**Sg**	**09 20 55.4**	**+1.2**
45μm,0.5s								
KZN	**Kozani**	**0.18**	**27**	P		**Pg**	**09 20 52.4**	**+0.5**
KZN				S		**Sg**	**09 20 55.4**	**+1.2**
KZN				AML		AML	09 20 56.2	
KZN				AML		AML	09 20 58.4	
comp=N,65607μm,0.4s								
KPRO	**Kipourio**	**0.30**	**230**	P		**Pg**	**09 20 54.0**	**-0.2**
KPRO				S		**Sg**	**09 20 58.9**	**+0.8**
comp=N,13μm,0.4s								
KPRO	**Kipourio**	**0.30**	**230**	P		**Pg**	**09 20 54.1**	**0.0**
KPRO				S		**Sg**	**09 20 59.2**	**+1.1**
KPRO				AML		AML	09 21 03.9	
comp=N,25534μm,0.6s								
KPRO				AML		AML	09 21 04.1	
comp=E,26883μm,0.4s								
PENT	**Pentalofos**	**0.41**	**277**	P		**Pg**	**09 20 55.9**	**-0.3**
PENT				S		**Sg**	**09 21 01.6**	**+0.1**
comp=E,15μm,0.6s								
PENT	**Pentalofos**	**0.41**	**277**	P		**Pg**	**09 20 56.0**	**-0.2**
PENT				S		**Sg**	**09 21 01.9**	**+0.4**
PENT				AML		AML	09 21 05.3	
comp=N,39180μm,0.5s								
PENT				AML		AML	09 21 06.2	
comp=E,20732μm,0.7s								
KTI	**Kastanea**	**0.42**	**54**	P		**Pg**	**09 20 57.1**	**+0.6**
NEST	**Nestorio**	**0.54**	**300**	P		**Pg**	**09 20 58.4**	**-0.4**
NEST				S		**Sg**	**09 21 07.0**	**+1.2**
comp=E,7μm,0.4s								
NEST	**Nestorio**	**0.54**	**300**	P		**Pg**	**09 20 58.4**	**-0.4**
NEST				S		**Sg**	**09 21 06.1**	**+0.3**
NEST				AML		AML	09 21 11.8	
comp=E,16313μm,0.5s								
NEST				AML		AML	09 21 14.7	
comp=N,16928μm,0.4s								
LIT	**Litokhoron**	**0.63**	**94**	P		**Pg**	**09 21 00.3**	**-0.2**
LIT				S		**Sb**	**09 21 10.4**	**-1.2**
comp=N,12μm,0.3s								
LIT	**Litokhoron**	**0.63**	**94**	P		**Pg**	**09 21 00.4**	**-0.1**
LIT				S		**Sb**	**09 21 10.4**	**-1.2**
LIT				AML		AML	09 21 13.4	
comp=E,25711μm,0.3s								
LIT				AML		AML	09 21 14.0	

comp=N,21220μm,0.4s
THL Klokotos Trika 0.64 155 P Pg 09 21 00.5 -0.2
THL S Sg 09 21 09.6 +0.6
comp=N,4μm,0.6s
THL Klokotos Trika 0.64 155 P Pg 09 21 00.5 -0.2
THL S Sb 09 21 10.4 -1.3
THL AML AML 09 21 13.6
comp=N,8872μm,0.7s
THL AML AML 09 21 16.5
comp=E,5760μm,0.6s
FNA Florina 0.67 341 P Pg 09 21 00.8 -0.5
FNA S Sg 09 21 10.6 +0.6
comp=E,8μm,0.3s
FNA Florina 0.67 341 P Pg 09 21 00.9 -0.5
FNA S Sg 09 21 09.6 -0.5
FNA AML AML 09 21 13.5
comp=E,19067μm,0.4s
FNA AML AML 09 21 14.7
comp=N,14890μm,0.3s
LRSO Larissa Observ 0.73 130 P Pg 09 21 03.2 +0.7
LRSO AML AML 09 21 21.3
comp=N,24452μm,0.6s
LRSO AML AML 09 21 22.4
comp=E,17598μm,0.6s
JAN Janina 0.80 232 P Pg 09 21 03.8 +0.1
JAN AML AML 09 21 25.2
comp=E,2368μm,0.4s
JAN AML AML 09 21 29.4
comp=N,2721μm,1.2s
LSK Leskovik 0.82 271 P Pg 09 21 02.8 -1.2
KBN Korca 0.82 306 P Pg 09 21 03.1 -1.1
KBN S Sb 09 21 16.7 -0.4
comp=N,3μm,0.6s
GRG Griva 0.98 35 P Pg 09 21 06.8 -0.5
GRG S Sb 09 21 21.4 -0.3
comp=N,3μm,0.9s
THE Thessaloniki 1.10 64 P Pg 09 21 09.8 +0.2
THE S Sb 09 21 26.0 +0.9
comp=N,828nm,0.8s
OHR Ohrid 1.17 326 *i* Pn Pg 09 21 09.9 -0.9
OHR *i* Sn Sn 09 21 28.3 -0.1
HORT Hortiatis 1.18 67 P Pg 09 21 10.9 -0.2
HORT S Sb 09 21 28.4 +0.9
comp=N,842nm,0.5s
HORT Hortiatis 1.18 67 P Pg 09 21 11.1 0.0
HORT AML AML 09 21 30.3
comp=N,1495μm,0.4s
HORT AML AML 09 21 32.9
comp=E,1754μm,0.6s
EVR Evrytania 1.23 175 P Pg 09 21 11.1 -0.9
EVR S Sn 09 21 29.7 -0.4
comp=E,2μm,0.5s
EVR Evrytania 1.23 175 P Pg 09 21 11.4 -0.6
EVR AML AML 09 21 32.1
comp=N,3236μm,0.5s
EVR AML AML 09 21 34.3
comp=E,3038μm,0.5s
AGG Agios Georgios 1.24 155 P Pg 09 21 11.9 -0.2
AGG S Sn 09 21 29.5 -0.5
comp=E,1μm,0.6s
AGG Agios Georgios 1.24 155 P Pg 09 21 11.6 -0.5
AGG AML AML 09 21 34.1
comp=E,3342μm,0.6s
AGG AML AML 09 21 38.7
comp=N,2716μm,1.0s
KNT Kendrikon 1.38 42 P Pn 09 21 13.8 -0.9
KNT S Sn 09 21 34.9 +1.3
comp=N,542nm,0.5s
KNT Kendrikon 1.38 42 P Pn 09 21 14.0 -0.8
KNT AML AML 09 21 38.1
comp=E,934μm,0.5s
KNT AML AML 09 21 38.5
comp=N,1243μm,0.6s
PLG Polygyros 1.38 80 P Pn 09 21 14.1 -0.7
PLG S Sn 09 21 34.6 +1.0
comp=N,648nm,0.6s
PLG Polygyros 1.38 80 P Pn 09 21 13.6 -1.1
PLG AML AML 09 21 38.4
comp=N,1408μm,0.7s
PLG AML AML 09 21 40.7
comp=E,1148μm,0.5s
SOH Sokhos 1.45 62 P Pn 09 21 15.7 -0.1
SOH Sokhos 1.45 62 P Pn 09 21 15.7 -0.1
SOH AML AML 09 21 41.6
comp=E,3211μm,0.5s
SOH AML AML 09 21 42.3
comp=N,3491μm,0.5s
KEK Kerkira 1.50 254 P Pb 09 21 16.5 -0.5
KEK S Sg 09 21 38.0 +1.4
comp=N,548nm,0.5s
PVO Paravola 1.53 184 P Pn 09 21 17.0 +0.2
STIP Stip 1.59 14 *i* Pn Pg 09 21 19.0 0.0
EFP Efpalio 1.73 174 P Pn 09 21 19.5 0.0
EFP S Sb 09 21 42.7 -0.3
comp=N,1μm,0.8s
OUR Ouranopolis 1.78 83 P Pn 09 21 20.0 -0.2
PHP Peshkopia 1.79 329 P Pn 09 21 20.4 -0.1
PHP S Sb 09 21 44.7 -0.3
TIR Tirane 1.82 312 ⇑P Pb 09 21 22.0 -0.5
TIR ⇑S Sg 09 21 48.8 +2.0
SKO Skopje 1.83 355 *i* Pn Pn 09 21 21.4 +0.5
KKB Krupnik 2.02 32 *i* P Pn 09 21 23.5 -0.1
NVR Nevrokopi 2.06 54 P Pn 09 21 23.7 -0.4
MMB Musomiste 2.13 47 *i* P Pn 09 21 25.0 0.0
BOSS Bosilegrad 2.42 14 *e*Pn Pn 09 21 29.6 +0.5
ULC Ulcinj 2.58 316 ⇑*i*Pn Pn 09 21 32.1 +0.9
ULC *i* Sn Sb 09 22 06.2 -1.3
BARS Barje 2.67 2 *e*Pn Pn 09 21 29.6 -2.9
BARS Barje 2.67 2 *e*Pn Pg 09 21 49.6 +10
VTS Vitosha 2.74 25 *e*Pn Pn 09 21 33.2 -0.3
VTS *e*Sn Sn 09 22 07.1 -0.2
VTS Vitosha 2.74 25 ⇑P Pn 09 21 33.8 +0.3
VTS Vitosha 2.74 25 *i* P Pn 09 21 33.8 +0.3
PVY Plav 2.76 333 ⇑*i*Pn Pn 09 21 34.5 +0.7
PVY *i* Sn Sn 09 22 10.2 +2.3
DRME Dracevica, Mon 2.77 318 ⇓*i*Pn Pn 09 21 34.6 +0.8
DRME *i* Sn Sn 09 22 10.0 +2.2
RZN Rozhen 2.78 55 *i* P Pn 09 21 34.5 +0.4
PDG Podgorica 2.92 322 ⇓P Pb 09 21 38.5 -2.6
TTG Podgorica 2.92 322 ⇑*i*Pn Pn 09 21 36.9 +1.1
TTG *i* Sn Sn 09 22 14.1 +2.7
BUM Brajici-Budva 3.00 317 ⇑*i*Pn Pn 09 21 38.0 +0.9
BUM *i* Sn Sn 09 22 16.2 +2.6
IVA Berane 3.03 335 ⇑*i*Pn Pn 09 21 38.2 +0.7
IVA *i* Sn Sn 09 22 16.3 +1.9
SELS Selova 3.10 353 *e*Pn Pn 09 21 37.9 -0.5
KOME Kolasin 3.15 330 ⇓*i*Pn Pn 09 21 40.2 +1.1
KOME *i* Sn Sn 09 22 19.9 +2.6
CEME Cevo 3.17 320 ⇓*i*Pn Pn 09 21 39.9 +0.6
CEME *i* Sn Sn 09 22 20.0 +2.3
ZAPS Zavoj 3.21 13 *e*Pn Pn 09 21 40.2 +0.3
HCY Herceg Novi 3.31 315 ⇑*i*Pn Pn 09 21 42.0 +0.7
HCY *i* Sn Sn 09 22 23.1 +1.8
NKME Niksic 3.32 323 ⇓*i*Pn Pn 09 21 42.1 +0.7
NKME *i* Sn Sn 09 22 23.6 +2.2
SJES Sjenica 3.36 338 *e*Pn Pn 09 21 42.6 +0.6
BOVS Bovan 3.48 0 *e*Pn Pn 09 21 42.8 -0.9
BOVS Bovan 3.48 0 ⇓P Pn 09 21 43.0 -0.6
BOVS ⇑S Sn 09 22 22.9 -2.6
MPEP Malo Peshtene 3.56 25 *i* P Pn 09 21 45.7 +1.0
TREB Trebinje 3.58 317 *e*Pn Pn 09 21 44.1 -0.8
TREB *e*Sn Sn 09 22 27.9 +0.1
PLE Pljevlja 3.61 333 ⇓*i*Pn Pn 09 21 45.9 +0.4
PLE *i* Sn Sn 09 22 30.2 +1.5
BRY Bratogost 3.62 321 ⇑*i*Pn Pn 09 21 46.7 +1.1
BRY *i* Sn Sn 09 22 30.9 +1.9
UPM Unac-Piva 3.69 327 ⇓*i*Pn Pn 09 21 47.1 +0.5
UPM *i* Sn Sn 09 22 32.5 +1.7
ZAGS Zajecar 3.69 6 *e*Pn Pn 09 21 46.1 -0.3
GRUS Gruza 3.81 350 *e*Pn Pn 09 21 48.4 +0.4
BBLS Lazići 4.08 336 *e*Pn Pn 09 21 51.2 -0.7
DIVS Divibare 4.14 343 *e*Pn Pn 09 21 52.2 -0.5
DIVS *e*Sn Sn 09 22 39.5 -2.3
TRUS Trudelj 4.18 347 *e*Pn Pn 09 21 53.3 +0.1
MDVR Moldovita 4.63 0 ⇑P Pn 09 22 03.8 +4.4
HERR Herculane 4.76 6 ⇑P Pn 09 22 05.0 +3.8
FRGS Fruska Gora 5.19 345 *e*Pn Pn 09 22 07.2 +0.1
FRGS Fruska Gora 5.19 345 ⇓P Pn 09 22 07.8 +0.7
GZR Gura Zlata 5.31 8 ⇑P Pn 09 22 08.6 -0.2
BZS Buzias 5.47 360 ⇑P Pb 09 22 22.6 -1.9
VOIR 5.84 24 ⇑P Pn 09 22 17.0 +0.9
NEHR Nehoiu 6.28 31 ⇑P Pn 09 22 24.5 +2.5
MORH Mrgy, Hungar 6.45 341 ⇓P Pn 09 22 24.3 -0.1

PLOR	**Plostina**	**6.77**	**31**	⇑P	**Pn**	**09 22 31.3**	**+2.5**
VRI	**Vrincioaia**	**6.81**	**31**	⇑P	**Pn**	**09 22 30.9**	**+1.5**
PSZ	**Piszkesteto**	**7.87**	**351**	⇑P	**Pn**	**09 22 45.3**	**+1.4**
VYHS	**Vyhne**	**8.59**	**347**	*e*PN	**Pn**	**09 22 56.2**	**+2.5**
VYHS				*e*SN	**Sn**	**09 24 26.3**	**-4.8**

IDC 18 09:23:39.9±3.1, 53°52N×87°98E, h0km, mb1 2.8/2, mb1mx2.7/51, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.2km s-min=16.6km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.93**	**284**	*i*		09 35 18.3	
	baz=98,slow=301,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.93**	**284**	Pn	Pn	09 24 13.9	0.0
	0.9nm,0.3s,baz=98,slow=11,SNR=7.5						
ZALV				Lg	Lg	09 24 39.9	
	2.8nm,0.3s,baz=103,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	09 25 18.5	+1.6
	0.1nm,0.3s,baz=62,slow=14,SNR=5.8						
KURBB				Lg	Lg	09 27 06.8	
	0.0nm,0.3s,baz=62,slow=32,SNR=6.0						
MKAR	**Makanchi Array**	**7.66**	**211**	Pn	Pn	09 25 32.7	0.0
	0.1nm,0.3s,baz=17,slow=10,SNR=2.4						
MKAR				Sn	Sn	09 26 60.0	-0.2
	0.0nm,0.3s,baz=37,slow=22,SNR=1.8						
MKAR				Lg	Lg	09 27 42.2	
	0.0nm,0.3s,baz=29,slow=34,SNR=5.1						

*IDC **18** 09:55:46.4±0.8, 29°.73S×68°.42W, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.8/24, mbtmp3.7/7, ML3.6/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/22, Error ellipse: s-maj=34.1km s-min=23.2km az=73.0*

*NEIC **18** 09:55:53.1±2.3, 29°.62S±0°.06×68°.18W±0°.09, h37km±9km, Error ellipse: s-maj=10.9km s-min=8.9km az=87.0*

ISC 18 09:55:50.1±1.2, 29°.62S±0°.04×68°.21W±0°.05, h10km±8km, n51, σ1°68/58, mb3.8/4, 2C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.88**	**0**	⇓*i*P	**Pg**	**09 56 05.5**	**-1.6**
VCA				*i* S	**Sg**	**09 56 16.8**	**-1.8**
VCA				IAML		09 56 21.2	
	comp=E,5μm,0.4s						
RTLL	**Cerro Villicun**	**1.72**	**188**	⇑*e*P	**Pn**	**09 56 19.5**	**-0.7**
RTLL				*i* S	**Sn**	**09 56 42.7**	**+0.4**
RTLL				IAML		09 56 43.7	
	comp=N,4μm,0.5s						
ZON	**Zonda**	**1.96**	**192**		**Pn**	**09 56 24.3**	**+0.7**
LCO	**Las Campanas**	**2.26**	**285**		**Pn**	**09 56 28.0**	**+0.2**
GO04	**Tololo Observa**	**2.32**	**256**	⇓*i*P	**Pn**	**09 56 28.6**	**-0.1**
GO04				*i* S	**Sn**	**09 56 58.8**	**+1.5**
GO04	**Tololo Observa**	**2.32**	**256**		**Pn**	**09 56 28.7**	**+0.1**
CYA	**Choya**	**2.41**	**61**	*e*P	**Pn**	**09 56 31.9**	**+2.2**
CYA				*i* S	**Sn**	**09 57 03.3**	**+3.9**
CO03	**El Pedregal**	**2.47**	**240**	⇓*i*P	**Pn**	**09 56 31.3**	**+0.7**
CO03				*e*S	**Sn**	**09 57 03.0**	**+2.2**
CO03				IAML		09 57 07.0	
	comp=N,837nm,0.4s						
CO03	**El Pedregal**	**2.47**	**240**	Pn	**Pn**	**09 56 31.2**	**+0.7**
CO05	**La Serena**	**2.65**	**263**	*e*P	**Pn**	**09 56 33.5**	**+0.5**
CO05				*i* S	**Sn**	**09 57 07.0**	**+1.8**
CO05				IAML		09 57 09.8	
	comp=N,1μm,0.8s						
GO03	**Copiap**	**2.69**	**318**	*e*P	**Pn**	**09 56 34.2**	**+0.6**
GO03				*i* S	**Sn**	**09 57 08.5**	**+2.2**
GO03				IAML		09 57 12.8	
	comp=N,246nm,0.7s						
GO03	**Copiap**	**2.69**	**318**		**Pn**	**09 56 34.4**	**+0.8**
AC04	**Llanos de Chal**	**2.88**	**299**	*e*P	**Pn**	**09 56 36.6**	**+0.4**
AC04				*i* S	**Sn**	**09 57 12.4**	**+1.5**
AC04				IAML		09 57 17.4	
	comp=N,302nm,0.8s						
AC04	**Llanos de Chal**	**2.88**	**299**		**Pn**	**09 56 36.5**	**+0.4**
CO02	**Combarbal**	**2.88**	**236**	⇓*e*P	**Pn**	**09 56 37.5**	**+1.2**
CO02				*i* S	**Sn**	**09 57 13.9**	**+2.8**
CO02				IAML		09 57 19.0	
	comp=N,2μm,0.4s						
CO02	**Combarbal**	**2.88**	**236**		**Pn**	**09 56 38.0**	**+1.7**
AC02	**Maricunga**	**2.89**	**343**	⇑*i*P	**Pn**	**09 56 39.3**	**+2.6**
AC02	**Maricunga**	**2.89**	**343**	Pn	**Pn**	**09 56 39.1**	**+2.4**
VA03	**San Esteban**	**3.72**	**212**	*e*P	**Pn**	**09 56 49.9**	**+2.1**
VA03				*e*S	**Sn**	**09 57 35.3**	**+3.5**
VA03	**San Esteban**	**3.72**	**212**		**Pn**	**09 56 49.7**	**+1.9**
AC01	**Pan de Azucar**	**4.05**	**328**	Pn	**Pn**	**09 56 52.2**	**-0.1**
MT03	**Universidad Ad**	**4.33**	**206**		**Pn**	**09 56 55.8**	**-0.4**
MT05	**Renca**	**4.34**	**209**		**Pn**	**09 56 55.9**	**-0.3**
MT02	**Curacav**	**4.41**	**214**		**Pn**	**09 56 58.0**	**+0.9**
GO02	**Mina Guanaco**	**4.61**	**344**	Pn	**Pn**	**09 57 00.8**	**+0.7**
MT09	**Talagante**	**4.77**	**209**		**Pn**	**09 57 02.8**	**+0.5**
MT01	**Popeta**	**4.96**	**211**		**Pn**	**09 57 04.8**	**+0.1**
VA05	**Santo Domingo**	**4.96**	**215**	Pn	**Pn**	**09 57 04.3**	**-0.4**
BO01	**Tunca**	**5.35**	**206**	Pn	**Pn**	**09 57 10.3**	**+0.2**
BO02	**Sierra Bellavi**	**5.60**	**202**		**Pn**	**09 57 14.7**	**+1.2**
PB15	**IPOC Station P**	**6.49**	**350**		**Pn**	**09 57 25.1**	**-0.8**
PB06	**IPOC Station P**	**6.99**	**350**	Pn	**Pn**	**09 57 32.7**	**-0.2**
LVC	**Limon Verde**	**7.01**	**355**	Pn	**Pn**	**09 57 33.0**	**-0.2**
	comp=N,1.2nm,0.3s,baz=162,slow=7.5,SNR=17						
LVC				Sn	**Sn**	**09 58 53.3**	**0.0**
	comp=N,0.6nm,0.3s,baz=346,slow=19,SNR=1.3						
LVC				Lg	Lg	09 59 23.0	
	comp=N,1.1nm,0.3s,baz=122,slow=23,SNR=2.5						
LVC				LR	LR	10 00 32.9	
	comp=N,140nm,19.0s,baz=172,slow=40						
LVC	**Limon Verde**	**7.01**	**355**		**Pn**	**09 57 32.3**	**-1.0**
PB09	**IPOC Station P**	**7.85**	**353**	Pn	**Pn**	**09 57 44.1**	**-0.4**
ITQB	**Itaqui**	**10.08**	**93**	Pn	Pn	09 58 13.2	-1.7
CPUP	**Villa Florida**	**10.16**	**74**	Pn	**Pn**	**09 58 15.9**	**-0.2**
	comp=N,0.2nm,0.3s,baz=241,slow=13,SNR=6.1						
CPUP				Sn	**Sn**	**10 00 09.8**	**-0.3**
	comp=N,1.2nm,0.3s,baz=226,slow=3.5,SNR=4.3						
CPUP				Lg	Lg	10 01 14.1	
	comp=N,0.7nm,0.3s,baz=176,slow=19,SNR=3.0						
PLCA	**Paso Flores**	**11.25**	**189**	LR	LR	10 03 10.3	
	comp=N,89nm,18.6s,baz=18,slow=40						
LPAZ	**La Paz**	**13.27**	**0**	Pn	**Pn**	**09 58 59.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=153,slow=6.8,SNR=2.4						
LPAZ				LR	LR	10 04 59.1	
	comp=N,58nm,20.4s,baz=111,slow=41						
SNAA	**Sanae**	**54.46**	**159**	P	**P**	**10 05 16.1**	**-1.4**
	comp=N,0.5nm,1.0s,baz=315,slow=8.6,SNR=1.2						
TXAR	**Lajitas Array**	**67.69**	**327**	P	P	10 06 45.8	-2.0
	comp=N,0.4nm,0.7s,baz=157,slow=7.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**79.61**	**68**	P	**P**	**10 07 56.7**	**-1.3**
	comp=N,1.7nm,0.7s,baz=264,slow=4.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**79.61**	**68**	IAmb	IAmb	10 07 57.4	
	comp=Z,1.7nm,0.7s						
RAR	**Rarotonga**	**81.10**	**251**	LR	LR	10 33 35.6	
	comp=Z,70nm,21.4s,baz=316,slow=28						
PDAR	**Pinedale Array**	**81.45**	**331**	P	P	10 08 05.3	-2.3
	comp=Z,0.6nm,0.7s,baz=132,slow=7.3,SNR=6.1						
ASAR	**Alice Springs**	**122.91**	**204**	PKP	**PKPdf**	**10 14 44.1**	**-3.2**
	comp=Z,0.6nm,0.8s,baz=151,slow=2.1,SNR=4.3						
WRA	**Warramunga Arr**	**126.14**	**207**	PKP	**PKPdf**	**10 14 50.5**	**-3.1**
	comp=Z,0.7nm,0.7s,baz=158,slow=1.8,SNR=8.0						
KURBB	**Kurchatov Arra**	**147.44**	**40**	PKPbc	**PKPdf**	**10 15 31.9**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=302,slow=2.8,SNR=6.5						
KURK	**Kurchatov**	**147.45**	**40**		**PKPdf**	**10 15 31.9**	**+0.5**
ZALV	**Zalesovo Beam**	**148.80**	**31**	PKPbc	**PKPdf**	**10 15 35.6**	**+2.0**
	comp=Z,1.8nm,0.4s,baz=309,slow=1.4,SNR=4.4						
MKAR	**Makanchi Array**	**151.40**	**45**	PKPbc	**PKPdf**	**10 15 41.9**	**+3.9**
	comp=Z,1.2nm,0.7s,baz=296,slow=1.8,SNR=8.9						
MKAR				PKPab	**pPKPbc**	**10 15 51.1**	**+3.3**
	comp=Z,0.7nm,0.6s,baz=291,slow=3.8,SNR=5.6						

NNC 18 10:00:36.0±2.9, 54°31N×86°39E, h0km, mb3.8, mpv2.8, 4C-2D, Error ellipse: s-maj=58.5km s-min=14.5km az=164.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.99**	**249**	⇓P	Pg	10 00 55.0	-0.1
	0.4nm,0.3s						
ZAA0				⇓S	Sb	10 01 08.9	-0.8
	6.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.06**	**236**	⇑Pn	Pn	10 02 07.7	+0.9
	1.5nm,0.3s						
KURBB				⇑Lg	Lg	10 03 47.5	
	4.6nm,0.7s						
MK31	**Makanchi Array**	**7.96**	**201**	⇑Pn	Pn	10 02 34.1	+1.1
	1.0nm,0.7s,baz=28,slow=13,SNR=53						
MK31				⇑Lg	Lg	10 04 52.0	
	1.6nm,0.8s,baz=21,slow=29						

IDC 18 10:14:10.1±1.6, 1°03N×124°74E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/50, mbtmp3.3/4, Error ellipse: s-maj=189.4km s-min=22.1km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.86**	**156**	P	P	10 19 14.8	-0.5
	0.3nm,0.4s,baz=333,slow=11,SNR=10						
ASAR	**Alice Springs**	**26.11**	**161**	P	P	10 19 46.5	+0.6
	0.2nm,0.6s,baz=356,slow=7.7,SNR=5.1						
MKAR	**Makanchi Array**	**58.68**	**327**	P	P	10 24 10.3	+0.8
	0.2nm,0.4s,baz=120,slow=8.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**62.97**	**329**	P	P	10 24 37.7	-0.9
	0.5nm,0.5s,baz=126,slow=5.9,SNR=5.5						

*IDC **18** 10:14:32.6±5.5, 36°.04N×140°.27E, h73km±36km, mb3.1/3, mb1 3.3/4, mb1mx3.0/62, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=75.1km s-min=20.0km az=52.0*

*JMA **18** 10:14:36.4±0.1, 35°.91N×139°.81E, h77km±1km, M2.8*

ISC 18 10:14:35.0±1.2, 35°.87N±0°.05×139°.9E±0°.1, h83km±9km, n17, σ0°75/22, mb3.5/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.64**	**329**	P	**Pn**	**10 14 50.8**	**+0.4**
JAG				S	**Sn**	**10 15 01.1**	**-0.7**
JRY	**Ryogami san**	**0.79**	**281**	P	**Pn**	**10 14 52.6**	**+0.6**
JRY				S	**Sn**	**10 15 04.8**	**+0.2**
JOD2	**Odawara 2**	**0.88**	**226**	P	**Pn**	**10 14 53.1**	**+0.2**
JOD2				S	**Sn**	**10 15 05.4**	**-0.8**
JKT	**Katashina**	**1.02**	**331**	P	**Pn**	**10 14 55.0**	**+0.4**
JKT				S	**Sn**	**10 15 08.7**	**-0.6**
JYN	**Shimob**	**1.14**	**251**	P	**Pn**	**10 14 56.3**	**+0.3**
JYN				S	**Sn**	**10 15 11.3**	**-0.4**
JFNN	**Fujinakano**	**1.18**	**235**	S	**Sn**	**10 15 12.0**	**-0.4**
JIM2	**Oshima 3**	**1.21**	**197**	P	**Pn**	**10 14 57.3**	**+0.5**
JIM2				S	**Sn**	**10 15 12.8**	**-0.3**
MJAR	**Matsushiro Arr**	**1.49**	**297**	P	**Pn**	**10 14 59.3**	**-1.2**
	1.8nm,0.3s,baz=308,slow=15,SNR=74						
MJAR				S	**Sn**	**10 15 21.9**	**+2.2**
	1.0nm,0.3s,baz=238,slow=46,SNR=5.3						
MAT	**Matsushiro**	**1.50**	**297**	P	**Pn**	**10 15 00.5**	**+0.1**
MAT				*e*S	**Sn**	**10 15 19.2**	**-0.4**
MAT	**Matsushiro**	**1.50**	**297**	P	**Pn**	**10 15 00.8**	**+0.4**
JHJ	**Hachijo jima 2**	**2.75**	**181**	P	**Pn**	**10 15 17.6**	**+0.6**
	18nm,0.3s,baz=297,slow=4.5,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**28.69**	**117**	T	T	10 50 16.1	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.69**	**117**	T	T	10 50 19.3	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.70**	**117**	T	T	10 50 19.8	
	baz=312						
KURBB	**Kurchatov Arra**	**45.74**	**309**	P	**P**	**10 22 47.7**	**0.0**
	0.2nm,0.3s,baz=76,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**55.76**	**186**	P	**P**	**10 24 03.2**	**-0.1**
	0.6nm,0.9s,baz=0.1,slow=7.3,SNR=5.4						
ASAR	**Alice Springs**	**59.48**	**186**	P	**P**	**10 24 29.2**	**-0.2**
	0.4nm,1.0s,baz=8.0,slow=8.7,SNR=1.8						

*IDC **18** 10:48:54.2±0.8, 11°.37S×163°.08E, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.3/27, mbtmp4.2/13, ML3.7/2, MS3.6/19, Ms1 3.6/19, ms1mx3.5/26, Error ellipse: s-maj=26.6km s-min=18.0km az=103.0*

*BJI **18** 10:48:56.0±0.0, 11°.40S×163°.30E, h30km, mB4.9/13, mb4.8/19, Ms4.6/3, Ms7 4.3/1*

*NEIC **18** 10:48:57.6±1.9, 11°.37S±0°.09×163°.3E±0°.1, h22km±5km, mb4.7/42, Error ellipse: s-maj=17.1km s-min=9.3km az=48.0*

*GCMT **18** 10:48:57.6±0.3, 11°.47S±0°.04×163°.13E±0°.05, h21km±1km, MW4.8/73, Moment Tensor Solution. s22,c23; s73,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.20±.17; $M_{\theta\theta}$1.29±.12; $M_{\phi\phi}$0.91±.10; $M_{r\theta}$-0.28±.23; $M_{r\phi}$0.59±.06; $M_{\theta\phi}$0.16±.21; Best double couple: $M_0$1.98000×10^{16} NP1:ϕs228.00000°, δ43.00000°, λ-99.00000°. NP2: ϕs60.00000°, δ47.00000°, λ-82.00000°. Principal axes: T 1.7240, Plg2.0000°, Azm144.0000°; N 0.5140, Plg6.0000°, Azm235.0000°; P -2.2360, Plg84.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **18** 10:49:08.8, 11°.46S×163°.19E, h119km, mb4.7, Solomon Islands*

ISC 18 10:48:59.1±0.5, 11°.47S±0°.06×163°.24E±0°.08, h35km, n99, σ1°48/76, mb4.6/36, MS3.6/20, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.82**	**302**	Pn	**Pn**	**10 49 54.9**	**-0.5**
	25nm,0.3s,baz=168,slow=10.0,SNR=5.4						
HNR				Sn	**Sn**	**10 50 34.7**	**-4.4**
	15nm,0.3s,baz=79,slow=10,SNR=1.8						
HNR				LR	LR	10 51 25.7	
	comp=Z,2μm,19.6s,baz=118,slow=42						
SANVU	**Saraoutou**	**5.52**	**136**	Pn	**Pn**	**10 50 18.5**	**-0.4**
DZM	**Mont Dzumac**	**10.98**	**164**	Pn	**Pn**	**10 51 34.5**	**+0.7**
	0.8nm,0.3s,baz=25,slow=8.2,SNR=24						
DZM				Sn	**Sn**	**10 53 31.9**	**-3.6**
	0.3nm,0.3s,baz=288,slow=20,SNR=2.0						
DZM				LR	LR	10 55 02.0	
	comp=Z,840nm,21.4s,baz=353,slow=33						
DZM	**Mont Dzumac**	**10.98**	**164**	*e*Pn	**Pn**	**10 51 34.6**	**+0.8**
	3.5nm,0.2s						
DZM				*e*Sn	**Sn**	**10 53 27.8**	**-7.7**
	1.2nm,0.3s						
DZM				*e*LR	LR	10 54 05.9	
	comp=Z,1μm,25.0s						
DZM	**Mont Dzumac**	**10.98**	**164**	Pn	**Pn**	**10 51 35.0**	**+1.2**
MSVF	**Nonsavu**	**15.62**	**115**	LR	LR	10 57 02.6	
	comp=Z,347nm,20.3s,baz=267,slow=31						
PMG	**Port Moresby**	**15.95**	**276**	LR	LR	10 58 04.2	
	comp=Z,339nm,21.4s,baz=122,slow=35						
EIDS	**Eidsvold**	**17.98**	**218**	P	**P**	**10 53 08.7**	**+2.0**
	baz=18						
CTA	**Charters Tower**	**18.44**	**240**	P	**P**	**10 53 11.1**	**-0.7**
	0.1nm,0.3s,baz=64,slow=14,SNR=5.8						
CTAO	**Charters Tower**	**18.44**	**240**		**Pn**	**10 53 12.4**	**+0.3**
MTSU	**Mount Surprise**	**19.45**	**248**	P	**Pn**	**10 53 25.3**	**+1.1**
	baz=20,SNR=8.6						
RMQ	**Roma**	**20.23**	**220**	P	Pn	10 53 34.1	+0.7
	baz=21,SNR=9.2						
QLP	**Quilpie**	**23.38**	**227**	P	**P**	**10 54 05.5**	**+0.7**
	baz=24						
QIS	**Mount Isa**	**24.42**	**245**	P	**P**	**10 54 14.9**	**+0.3**
	baz=25						
RAO	**Raoul Island**	**24.93**	**138**	LR	LR	11 02 15.8	
	comp=Z,391nm,20.3s,baz=112,slow=32						
STKA	**Stephens Creek**	**28.48**	**221**	P	**P**	**10 54 50.6**	**-0.4**
	4.2nm,1.0s,baz=51,slow=16,SNR=3.3						
STKA				LR	LR	11 06 25.2	
	comp=Z,84nm,19.7s,baz=28,slow=37						
WR0	**Warramunga Arr**	**28.85**	**249**	P	**P**	**10 54 54.1**	**-0.4**
WR0				IAmb	IAmb	10 54 55.5	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**28.94**	**250**	P	**P**	**10 54 54.7**	**-0.7**
WB0				IAmb	IAmb	10 54 56.9	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**29.02**	**250**	P	**P**	**10 54 55.9**	**-0.1**
WB2				IAmb	IAmb	10 54 57.5	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**29.03**	**250**	P	**P**	**10 54 54.7**	**-1.5**
	comp=Z,3.9nm,0.9s,baz=79,slow=9.1,SNR=18						
WRA				PcP	**PcP**	**10 58 04.6**	**+0.4**
	comp=Z,2.1nm,1.3s,baz=77,slow=3.5,SNR=2.9						
WRA	**Warramunga Arr**	**29.03**	**250**	P	**P**	**10 54 55.6**	**-0.5**
URZ	**Urewera**	**29.42**	**157**	LR	LR	11 06 00.2	
	comp=Z,220nm,18.7s,baz=31,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.97**	**7**	T	T	11 26 40.5	
	baz=188,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.97**	**7**	T	T	11 26 37.6	
	baz=188,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.98**	**7**	T	T	11 26 44.9	
	baz=188,slow=76						
AS31	**Alice Springs**	**30.41**	**243**	P	**P**	**10 55 07.7**	**-0.7**
ASAR	**Alice Springs**	**30.41**	**243**	P	**P**	**10 55 07.1**	**-1.3**
	comp=Z,7.1nm,0.8s,baz=75,slow=9.7,SNR=54						
ASAR				PcP	**PcP**	**10 58 07.5**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=75,slow=3.9,SNR=3.5						
ASAR	**Alice Springs**	**30.41**	**243**	P	**P**	**10 55 07.2**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**31.20**	**7**	T	T	11 28 14.9	
	baz=188,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.20**	**7**	T	T	11 28 15.8	
	baz=188,slow=76						
H11N2	**WAKE ISLAND Hy**	**31.21**	**7**	T	T	11 28 14.2	
	baz=188,slow=76						
BBOO	**Buckleboo**	**32.76**	**225**	P	**P**	**10 55 30.1**	**+1.2**
	baz=33,SNR=6.5						
BBOO	**Buckleboo**	**32.76**	**225**	P	**P**	**10 55 30.0**	**+1.1**
KNRA	**Kununurra**	**33.75**	**259**	P	**P**	**10 55 39.4**	**+1.7**
	baz=34,SNR=3.3						
KNRA	**Kununurra**	**33.75**	**259**	P	**P**	**10 55 36.7**	**-1.0**
WRKA	**Warakurna**	**35.70**	**243**	P	**P**	**10 55 54.1**	**-0.4**
	baz=36,SNR=12						
FITZ	**Fitzroy Crossi**	**36.90**	**255**	P	**P**	**10 56 04.2**	**-0.5**
	baz=37,SNR=3.9						
FITZ	**Fitzroy Crossi**	**36.90**	**255**	P	**P**	**10 56 04.7**	**0.0**
PSA00	**Pilbara Seismi**	**42.67**	**251**	P	**P**	**10 56 52.7**	**-0.1**
PSA00				IAmb	IAmb	10 56 53.9	
	comp=Z,25nm,1.1s						
PSA00	**Pilbara Seismi**	**42.67**	**251**	P	**P**	**10 56 53.0**	**+0.3**
PSA00				IAmb	IAmb	10 56 53.9	
	comp=Z,12nm,1.1s						
MEEK	**Meekatharra**	**44.56**	**244**	P	**P**	**10 57 08.6**	**+0.7**
	baz=45,SNR=9.8						
PPT	**Papeete**	**45.99**	**103**	LR	LR	11 13 32.4	
	comp=Z,47nm,20.6s,baz=194,slow=32						
PPT2	**Papeete2**	**45.99**	**103**	*e*LR	LR	11 10 21.4	
	comp=Z,159nm,26.2s						
TBI	**Tubuai**	**46.46**	**111**	*e*LR	LR	11 10 36.2	
	comp=Z,238nm,35.0s						
MORW	**Morawa**	**47.27**	**241**	P	**P**	**10 57 29.2**	**-0.1**
SJI	**Sawahan**	**50.84**	**269**	P	**P**	**10 57 58.0**	**+1.1**
MJAR	**Matsushiro Arr**	**53.26**	**335**	LR	LR	11 19 11.5	
	comp=Z,49nm,21.8s,baz=185,slow=34						
MAT	**Matsushiro**	**53.26**	**335**	P	**P**	**10 58 11.8**	**-2.6**
MAT				*e*S	**S**	**11 05 43.2**	**-0.3**
DBJI	**Dramaga**	**55.94**	**270**	P	P	10 58 29.3	-5.0
KSRS	**Korea Array**	**58.88**	**327**	P	**P**	**10 58 53.0**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=133,slow=6.9,SNR=6.3						
KSRS				LR	LR	11 21 27.2	
	comp=Z,43nm,20.2s,baz=141,slow=33						
NJ2	**Nanjing**	**60.62**	**317**	*e*P	**P**	**10 59 07.1**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**62.26**	**335**	P	**P**	**10 59 17.5**	**+0.1**
	comp=Z,7.3nm,1.0s,baz=142,slow=7.2,SNR=11						
USRK				LR	LR	11 23 41.3	
	comp=Z,28nm,21.6s,baz=128,slow=34						
USRK	**Ussuriysk Ar.**	**62.26**	**335**	P	**P**	**10 59 18.1**	**+0.6**
PETK	**Petropavlovsk-**	**64.49**	**356**	LR	LR	11 21 30.3	
	comp=Z,33nm,21.3s,baz=147,slow=30						
VNDA	**Vanda**	**66.04**	**180**	P	**P**	**10 59 43.4**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=346,slow=7.5,SNR=9.9						
VNDA				LR	LR	11 24 59.8	
	comp=Z,31nm,19.8s,baz=337,slow=33						
VNDA	**Vanda**	**66.04**	**180**	P	**P**	**10 59 44.6**	**+2.8**
CMAR	**Chiang Mai Arr**	**70.04**	**295**	P	**P**	**11 00 07.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=118,slow=5.0,SNR=6.5						
CMAR				LR	LR	11 30 33.8	
	comp=Z,12nm,19.6s,baz=110,slow=36						
HHC	**Hu-ho-hao-te**	**70.58**	**321**	*e*P	**P**	**11 00 11.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,72nm,6.1s						
HHC				L	L		
	comp=Z,130nm,18.2s						
HHC				L	L		
	comp=Z,120nm,16.6s						
LZH	**Lanzhou**	**73.24**	**313**	*e*P	**P**	**11 00 27.8**	**+0.7**
LZH				pP	pP	11 00 37.0	+1.1
LZH				sP	sP	11 00 39.8	+0.6
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,7.5s						
LZH				L	L		
	comp=Z,160nm,15.8s						
LZH				L	L		
	comp=Z,180nm,16.0s						
LZH				L	L		
	comp=Z,150nm,17.5s						
ULN	**Ulaanbaatar**	**77.22**	**325**	P	**P**	**11 00 51.3**	**+1.6**
SONM	**Songino Array**	**77.57**	**325**	P	**P**	**11 00 51.5**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=146,slow=5.0,SNR=12						
SONM				LR	LR	11 33 05.4	
	comp=Z,34nm,21.2s,baz=141,slow=34						
SONM	**Songino Array**	**77.57

comp=Z,1.7nm,0.8s,baz=104,slow=5.1,SNR=13
MKAR Makanchi Array 92.16 317 P P 11 02 04.0 -1.1
ZALV Zalesovo Beam 92.47 325 LR LR 11 46 20.3
comp=Z,21nm,18.1s,baz=118,slow=37
YKA Yellowknife Ar 96.48 28 LR LR 11 41 29.7
comp=Z,25nm,19.1s,baz=0.0,slow=33
SNAA Sanae 96.52 184 P P 11 02 25.2 +0.4
VNA3 Neumayer Olymp 97.34 182 P Pdif 11 02 29.0 +0.5
VNA1 Neumayer--Stat 97.87 183 P P 11 02 30.3 -0.4
VYHS Vyhne 132.67 328 ePDIFF **Pdif 11 05 06.0 0.0**
TORD Torodi Ar. Bea 161.89 277 PKPab **PKPab 11 09 44.6 +1.0**
comp=Z,1.4nm,1.1s,baz=88,slow=4.5,SNR=5.0

*IDC **18** 10:55:22.9±1.9, 11°.60S×163°.29E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/25, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=43.3km s-min=29.1km az=131.0*
ISC 18 10:55:28.3±1.4, 11°.6S±0°.2×163°.3E±0°.1, h35km, n13, σ0s44/8, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.92**	**304**	**Pn**	**Pn**	**10 56 25.9**	**-0.1**
	9.0nm,0.3s,baz=184,slow=14,SNR=1.6						
HNR				Sn	**Sn**	**10 57 10.8**	**-0.1**
	18nm,0.3s,baz=319,slow=20,SNR=2.1						
CTA	**Charters Tower**	**18.38**	**241**	P	**Pn**	**10 59 40.8**	**+0.3**
	0.1nm,0.3s,baz=54,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**28.99**	**250**	P	**P**	**11 01 24.8**	**-0.2**
	0.4nm,0.5s,baz=79,slow=9.2,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**30.13**	**7**	T	T	11 33 10.7	
	baz=188						
H11S3	**WAKE ISLAND Hy**	**30.13**	**6**	T	T	11 33 10.5	
	baz=188,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.14**	**7**	T	T	11 33 08.8	
	baz=188,slow=74						
ASAR	**Alice Springs**	**30.35**	**243**	P	**P**	**11 01 36.7**	**-0.3**
	1.0nm,0.8s,baz=69,slow=9.7,SNR=11						
H11N1	**WAKE ISLAND Hy**	**31.36**	**7**	T	T	11 34 39.6	
	baz=189						
H11N3	**WAKE ISLAND Hy**	**31.36**	**7**	T	T	11 34 39.9	
	baz=189						
H11N2	**WAKE ISLAND Hy**	**31.37**	**7**	T	T	11 34 41.4	
	baz=189						
SONM	**Songino Array**	**77.72**	**325**	P	**P**	**11 07 22.4**	**+0.7**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=2.0						
ILAR	**Eielson Array**	**84.86**	**19**	P	**P**	**11 07 58.7**	**-0.3**
	0.2nm,0.6s,baz=228,slow=1.1,SNR=2.2						
MKAR	**Makanchi Array**	**92.29**	**317**	P	**P**	**11 08 34.8**	**-0.1**
	0.3nm,0.6s,baz=110,slow=5.7,SNR=3.6						

*INET **18** 10:56:37.2, 9°.47N×84°.61W, h35km, MW3.4*
UCR 18 10:56:39.7±1.5, 9°.38N×84°.68W, h17km±4km, MW4.1, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.28**	**4**	*e*P	Pg	10 56 45.6	-0.3
JACO				*e*S	Sg	10 56 50.0	-0.2
LAFE	**Finca La Fe, P**	**0.48**	**332**	*e*P	Pb	10 56 49.6	-0.1
LAFE				*e*S	Sb	10 56 57.1	+0.5
SRA1	**San Ramn**	**0.73**	**16**	*e*P	Pb	10 56 52.8	-1.3
LCR2	**La Lucha 2**	**0.76**	**62**	*e*P	Pb	10 56 53.5	-1.1
EDDO	**Dominical**	**0.81**	**99**	*e*P	Pb	10 56 55.1	-0.3
HDC	**Heredia**	**0.83**	**42**	*e*P	Pb	10 56 54.9	-0.9
OCM	**Ochomogo**	**0.88**	**54**	*e*P	Pb	10 56 55.2	-1.3
RIMA	**Rio Macho**	**0.89**	**64**	*e*P	Pb	10 56 55.8	-1.1
CDM	**Cerro de Muert**	**0.92**	**79**	*e*P	Pb	10 56 56.7	-0.8
JTS	**Las Juntas de**	**0.94**	**344**	*e*P	Pb	10 56 56.4	-1.3
PEZE	**Perez Zeledon,**	**0.99**	**90**	*e*P	Pb	10 56 57.8	-0.7
ARE1	**Arenal 1**	**1.08**	**358**	*e*P	Pb	10 56 59.2	-0.7
EDLM	**Las Mercedes**	**1.08**	**95**	*e*P	Pb	10 56 59.8	-0.2
FORC	**Fortuna**	**1.08**	**1**	*i* P	Pb	10 56 59.1	-0.8
GRZA	**Playa Garza**	**1.08**	**300**	*e*P	Pg	10 57 00.8	+0.1
CEDE	**Laguna Cedeo**	**1.10**	**359**	⇓*i*P	Pb	10 56 58.7	-1.7
CEDE				*i* S	Sb	10 57 14.4	0.0
CVTR	**Volcan Turrial**	**1.11**	**55**	*e*P	Pb	10 56 59.8	-0.8
RIFO	**Rio Frio, Sara**	**1.19**	**39**	*e*P	Pn	10 57 00.9	-0.7
GUAI	**GUAI**	**1.21**	**317**	*i* P	Pn	10 57 00.8	-1.0
SAJU	**San Juanillo,**	**1.23**	**304**	*e*P	Pn	10 57 02.0	0.0
EDPN	**Palmar Norte**	**1.28**	**109**	⇑*e*P	Pn	10 57 02.2	-0.6
ACAL	**Aguas Claras**	**1.29**	**344**	⇓*i*P	Pn	10 57 02.7	-0.4
ACAL				*i* S	Sb	10 57 19.8	-0.2
MRVA	**Moravia de Chi**	**1.30**	**70**	*e*P	Pn	10 57 02.8	-0.4
RIOS	**Rincon, Osa**	**1.33**	**120**	*e*P	Pn	10 57 02.5	-1.0
CUI	**Cuipilapa**	**1.36**	**339**	*e*P	Pn	10 57 02.5	-1.4
COVE	**Coope Vega, Sa**	**1.36**	**12**	*e*P	Pn	10 57 03.3	-0.6
PTEN	**Parque Tenorio**	**1.36**	**347**	⇓*i*P	Pn	10 57 03.9	-0.2
COLC	**Colonia**	**1.38**	**338**	*i* P	Pn	10 57 04.0	-0.2
COLC				*i* S	Sb	10 57 23.4	+1.0
EDBA	**Buenos Aires**	**1.40**	**99**	*e*P	Pn	10 57 03.9	-0.6
HORNC	**Hornillas**	**1.41**	**340**	*i* P	Pn	10 57 04.4	-0.4
DRKO	**Durika**	**1.42**	**95**	*e*P	Pn	10 57 04.7	-0.2
GUAB	**Guayabo de Bag**	**1.43**	**338**	*i* P	Pn	10 57 04.8	-0.1
LIM1	**Limonal**	**1.43**	**337**	*i* P	Pn	10 57 05.0	+0.1
GPS2	**Hotel Rincn d**	**1.52**	**334**	*i* P	Pn	10 57 06.3	+0.2
LAPC	**Finca la Perla**	**1.57**	**332**	⇑*i*P	Pn	10 57 05.5	-1.3
BUEV	**Buena Vista**	**1.58**	**333**	*i* P	Pn	10 57 07.0	-0.1
GBS3	**Finca Las Img**	**1.59**	**331**	⇓*i*P	Pn	10 57 07.0	-0.1
BUAI	**Buenos Aires**	**1.62**	**337**	*i* P	Pn	10 57 06.9	-0.6

*JMA **18** 11:23:21.0±0.2, 34°.36N×140°.44E, h56km±3km, M3.4*
*IDC **18** 11:23:22.9±1.5, 34°.29N×140°.13E, h75km±15km, mb3.1/4, mb1 3.5/5, mb1mx3.1/47, mbtmp3.4/5, Error ellipse: s-maj=37.1km s-min=7.3km az=77.0*
ISC 18 11:23:21.3±0.9, 34°.36N±0°.04×140°.42E±0°.06, h60km±10km, n26, σ1s18/31, mb3.4/4, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.45**	**9**	P	**Pn**	**11 23 32.4**	**0.0**
BSO3				X		11 23 40.6	
BSO1	**Boso 1**	**0.54**	**57**	⇑P	**Pn**	**11 23 32.7**	**-0.4**
BSO4	**Boso 4**	**0.63**	**354**	⇓P	**Pn**	**11 23 34.8**	**+0.1**
BSO4				X		11 23 45.5	
KTR	**Katsuura**	**0.79**	**354**	*e*S	**Sn**	**11 23 47.9**	**0.0**
TATJ	**Tateyama 2**	**0.80**	**327**	⇓P	**Pn**	**11 23 37.2**	**+0.4**
TATJ				*e*S	**Sn**	**11 23 48.9**	**+0.7**
JMKN	**Mikurajimanish**	**0.83**	**236**	⇓P	**Pn**	**11 23 37.2**	**0.0**
JMKN				*e*S	**Sn**	**11 23 48.8**	**-0.1**
JIM2	**Oshima 3**	**0.89**	**294**	P	**Pn**	**11 23 37.6**	**-0.4**
JIM2				*e*S	**Sn**	**11 23 49.2**	**-1.1**
JTHY	**Toshimahigashi**	**0.95**	**280**	P	**Pn**	**11 23 38.9**	**+0.2**
JKO	**Kozu shima**	**1.08**	**261**	P	**Pn**	**11 23 40.5**	**+0.1**
JKO				*e*S	**Sn**	**11 23 54.7**	**+0.2**
KTJ3	**Kamata3**	**1.25**	**298**	⇓P	**Pn**	**11 23 42.3**	**-0.4**
KTJ3				*e*S	**Sn**	**11 23 57.5**	**-1.2**
JIZS	**Izushimoda**	**1.32**	**286**	⇓P	**Pn**	**11 23 43.7**	**+0.1**
JIZS				*e*S	**Sn**	**11 24 00.2**	**-0.1**
JHJ2	**Mitsune**	**1.34**	**202**	P	**Pn**	**11 23 43.9**	**0.0**
JHJ2				*e*S	**Sn**	**11 24 00.9**	**+0.1**
JHJ	**Hachijo jima 2**	**1.35**	**204**	P	**Pn**	**11 23 43.9**	**-0.1**
	64nm,0.3s,baz=331,slow=17,SNR=16						
JHJ				S	**Sn**	**11 24 00.1**	**-0.8**
	257nm,0.3s,baz=64,slow=23,SNR=27						
MJAR	**Matsushiro Arr**	**2.83**	**321**	P	**Pn**	**11 24 05.2**	**+1.0**
	1.5nm,0.3s,baz=138,slow=13,SNR=32						
MJAR				S	**Sn**	**11 24 36.6**	**-0.5**
	1.5nm,0.3s,baz=159,slow=15,SNR=7.0						
MAT	**Matsushiro**	**2.83**	**321**	P	**Pn**	**11 24 05.6**	**+1.5**
MAT				S	**Sn**	**11 24 39.1**	**+2.0**
ASAJ	**Asahikawa**	**9.89**	**9**	P	**Pn**	**11 25 39.4**	**-1.3**
	0.3nm,0.3s,baz=168,slow=24,SNR=1.5						
ASAJ				S	**Sn**	**11 27 25.6**	**-4.5**
	0.2nm,0.3s,baz=121,slow=30,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**27.61**	**115**	T	T	11 58 20.4	
	baz=306,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.62**	**115**	T	T	11 58 10.1	
	baz=306,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.63**	**115**	T	T	11 58 13.7	
	baz=306,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.22**	**117**	T	T	11 58 56.8	
	baz=310,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.22**	**117**	T	T	11 58 58.1	
	baz=310,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.23**	**117**	T	T	11 58 55.6	
	baz=310,slow=76						
ILAR	**Eielson Array**	**52.19**	**31**	P	**P**	**11 32 26.2**	**+0.5**
	0.2nm,0.6s,baz=251,slow=5.6,SNR=2.6						
WRA	**Warramunga Arr**	**54.31**	**187**	P	**P**	**11 32 40.8**	**-0.8**
	0.7nm,0.4s,baz=1.5,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**58.04**	**187**	P	**P**	**11 33 07.2**	**-1.0**
	0.2nm,0.6s,baz=3.9,slow=6.9,SNR=5.7						
NVAR	**Mina Array Bea**	**77.25**	**52**	P	**P**	**11 35 11.0**	**+1.5**
	0.3nm,0.7s,baz=291,slow=4.6,SNR=3.8						

*IDC **18** 11:28:07.7±0.8, 28°.37N×69°.46E, h0km, mb3.9/22, mb1 4.1/24, mb1mx4.0/54, mbtmp3.9/24, ML3.7/2, MS3.3/10, Ms1 3.4/10, ms1mx3.1/39, Error ellipse: s-maj=19.7km s-min=14.6km az=25.0*
*NEIC **18** 11:28:10.9±2.1, 28°.37N±0°.09×69°.47E±0°.09, h17km±5km, mb4.1/10, Error ellipse: s-maj=12.9km s-min=11.4km az=155.0*
*NDI **18** 11:28:20.3±4.1, 28°.37N×70°.50E, h10km±98km, ML4.0, mb4.1(NEIC)*
ISC 18 11:28:12.6±0.6, 28°.39N±0°.06×69°.52E±0°.06, h35km, n58, σ1s75/53, mb4.0/24, MS3.4/9, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AJM	**Ajmer**	**4.94**	**112**	⇑*i*P	**Pn**	**11 29 26.0**	**+1.7**
KBL	**Kabul**	**6.14**	**356**	Pn	**Pn**	**11 29 42.7**	**+1.6**
NIL	**Nilore**	**6.14**	**31**		**Pn**	**11 29 43.5**	**+2.6**
THN	**Thein Dam**	**6.70**	**52**	*e*P	**Pn**	**11 29 52.5**	**+4.0**
DHRM	**DHARAMSHALA**	**7.01**	**55**	*e*P	**Pn**	**11 29 53.8**	**+0.8**
DHRM				IAML		11 31 37.5	
	comp=N,203nm,0.9s						
SMLA	**Simla**	**7.19**	**66**	*e*P	**Pn**	**11 29 56.4**	**+1.3**
SMLA				IAML		11 32 08.6	
	comp=E,139nm,0.8s						
HRA	**Herat**	**8.62**	**316**		**Pn**	**11 30 15.2**	**+0.2**
BHPL	**Bhopal**	**8.78**	**124**	*e*P	**Pn**	**11 30 16.9**	**-0.2**
BHPL				*e*S	Sn	11 31 45.6	-9.2
CHGR	**Chuyangaron**	**10.24**	**358**		**Pn**	**11 30 37.1**	**-0.1**
GAR	**Garm**	**10.60**	**3**	Pn	**Pn**	**11 30 41.6**	**-0.5**
WSAR	**Wadi Sarin**	**11.07**	**245**	Pn	**Pn**	**11 30 47.1**	**-1.3**
	comp=E,0.3nm,0.3s,baz=317,slow=20,SNR=1.1						
WSAR				Sn	Sn	11 32 39.5	-11
	comp=E,0.2nm,0.3s,baz=58,slow=9.5,SNR=1.6						
BTK	**Batken**	**11.69**	**5**		**Pn**	**11 30 57.0**	**+0.1**
BTK					**Sn**	**11 33 06.2**	**0.0**
GEYT	**Alibeck**	**13.47**	**318**	LR	LR	11 37 26.4	
	comp=E,93nm,20.1s,baz=165,slow=42						
GEYT	**Alibeck**	**13.47**	**318**		**Pn**	**11 31 17.7**	**-3.5**
KK31	**Karatay Array**	**14.70**	**3**		**Pn**	**11 31 36.4**	**-1.5**
KK31					**Sn**	**11 34 19.5**	**-0.1**
KKAR	**Karatay Array**	**14.70**	**3**	Pn	**Pn**	**11 31 36.0**	**-1.9**
KKAR	**Karatay Array**	**14.70**	**3**		**Pn**	**11 31 36.0**	**-1.9**
AAK	**Ala-Archa**	**14.78**	**15**	Pn	**Pn**	**11 31 37.9**	**-1.2**
	comp=E,0.6nm,0.3s,baz=182,slow=7.8,SNR=3.8						
AAK				Sn	**Sn**	**11 34 16.7**	**-5.0**
	comp=E,1.6nm,0.3s,baz=206,slow=14,SNR=5.0						
AAK	**Ala-Archa**	**14.78**	**15**		**Pn**	**11 31 38.9**	**-0.2**
TARG	**Taragay, Kyrgy**	**14.93**	**25**		**Pn**	**11 31 40.7**	**-0.6**
BOOM	**Boomskoye usch**	**15.00**	**19**	Pn	**Pn**	**11 31 42.1**	**0.0**
BOOM				IAmb	IAmb	11 31 51.9	
	comp=Z,19nm,1.2s						
BOK	**Bokaro**	**15.40**	**104**	*e*P	**Pn**	**11 31 45.9**	**-1.4**
BOK				*e*S	**Sn**	**11 34 30.1**	**-6.6**
SHL	**Shillong**	**20.13**	**93**	P	Pn	11 32 45.0	-0.8
MK31	**Makanchi Array**	**20.92**	**25**	P	**P**	**11 32 52.5**	**+0.4**
MKAR	**Makanchi Array**	**20.92**	**25**	P	**P**	**11 32 51.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=208,slow=12,SNR=6.8						
ABKAR	**Akbulak array**	**22.09**	**343**	P	**P**	**11 33 05.5**	**+0.9**
ABKAR	**Akbulak array**	**22.09**	**343**	P	**P**	**11 33 04.5**	**-0.1**
ABKAR				IAmb	IAmb	11 33 11.2	
	comp=Z,5.0nm,0.8s						
RAYN	**Ar Rayn**	**22.12**	**263**	P	**P**	**11 33 05.0**	**-0.1**
RAYN				IAmb	IAmb	11 33 10.7	
	comp=Z,4.9nm,1.0s						
KURBB	**Kurchatov Arra**	**23.23**	**15**	P	**P**	**11 33 15.6**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=208,slow=9.3,SNR=14						
KURK	**Kurchatov**	**23.34**	**15**	P	**P**	**11 33 15.6**	**-2.0**
AKTO	**Aktyubinsk**	**23.68**	**341**	P	**P**	**11 33 22.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=166,slow=11,SNR=1.8						
BRVK	**Borovoye**	**24.65**	**1**	P	**P**	**11 33 31.9**	**+2.1**
BRVK				IAmb	IAmb	11 33 36.7	
	comp=Z,6.4nm,1.0s						
KBZ	**Khabaz**	**26.25**	**313**	P	**P**	**11 33 45.3**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=130,slow=13,SNR=3.7						
CMAR	**Chiang Mai Arr**	**28.69**	**104**	P	**P**	**11 34 06.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=301,slow=7.3,SNR=1.8						
CMAR				LR	LR	11 46 35.8	
	comp=Z,63nm,18.3s,baz=258,slow=39						
KIRV	**Kirov**	**33.25**	**341**	LR	LR	11 50 43.0	
	comp=Z,73nm,19.2s,baz=122,slow=41						
SONM	**Songino Array**	**34.47**	**46**	P	**P**	**11 34 58.7**	**+1.5**
	comp=Z,2.5nm,0.9s,baz=251,slow=8.5,SNR=7.1						
SONM	**Songino Array**	**34.47**	**46**	IAmb	IAmb	11 35 04.7	
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**35.71**	**328**	LR	LR	11 53 39.4	
	comp=Z,10nm,22.0s,baz=168,slow=43						
AKASG	**Malin Array Be**	**37.59**	**318**	P	**P**	**11 35 24.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=103,slow=6.9,SNR=2.2						
NRIK	**Noril'sk**	**42.31**	**9**	P	**P**	**11 36 02.7**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=230,slow=9.2,SNR=1.4						
FINES	**FINESS Array B**	**43.76**	**331**	P	**P**	**11 36 13.9**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=139,slow=13,SNR=4.4						
FINES				LR	LR	11 58 55.2	
	comp=Z,75nm,18.2s,baz=44,slow=42						
GERES	**GERESS Array B**	**46.99**	**312**	P	**P**	**11 36 39.0**	**-1.3**
	comp=Z,0.4nm,0.2s,baz=116,slow=6.7,SNR=1.4						
ARCES	**ARCESS Array B**	**48.27**	**341**	P	**P**	**11 36 50.2**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=102,slow=8.4,SNR=4.5						
ARCES				LR	LR	11 58 25.6	
	comp=Z,51nm,20.4s,baz=125,slow=38						
ARCES	**ARCESS Array B**	**48.27**	**341**	IAmb	IAmb	11 36 52.0	
	comp=Z,19nm,1.4s						
HFS	**Hagfors**	**48.91**	**327**	P	**P**	**11 36 54.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=131,slow=7.9,SNR=1.8						
KSRS	**Korea Array**	**49.17**	**64**	P	**P**	**11 36 58.6**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=274,slow=8.4,SNR=1.9						
KSRS				LR	LR	11 59 42.3	
	comp=Z,28nm,18.7s,baz=140,slow=38						
NOA	**NORSAR Array B**	**50.32**	**327**	P	**P**	**11 37 05.4**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=107,slow=7.4,SNR=4.7						
NOA				LR	LR	12 03 02.4	
	comp=Z,35nm,18.1s,baz=100,slow=42						
KLR	**Kul'dur**	**51.22**	**48**	P	**P**	**11 37 12.8**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=292,slow=9.0,SNR=6.2						
EKA	**Eskdalemuir Ar**	**57.45**	**320**	P	**P**	**11 37 58.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=94,slow=9.3,SNR=3.4						
ESDC	**Sonseca Array**	**60.39**	**302**	P	**P**	**11 38 18.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=67,slow=6.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**64.48**	**272**	P	**P**	**11 38 46.0**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=50,slow=5.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**64.48**	**272**	IAmb	IAmb	11 38 47.6	
	comp=Z,2.0nm,0.9s						
BOSA	**Boshof**	**70.77**	**221**	LR	LR	12 10 13.2	
	comp=Z,18nm,18.2s,baz=104,slow=36						
WRA	**Warramunga Arr**	**78.92**	**120**	P	**P**	**11 40 13.1**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=318,slow=5.2,SNR=13						
WRA	**Warramunga Arr**	**78.92**	**120**	IAmb	IAmb	11 40 20.4	
	comp=Z,0.5nm,1.4s						
ASAR	**Alice Springs**	**80.77**	**123**	P	**P**	**11 40 24.1**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=307,slow=5.4,SNR=27						
ILAR	**Eielson Array**	**82.91**	**15**	P	**P**	**11 40 34.0**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=309,slow=5.1,SNR=6.3						
YKA	**Yellowknife Ar**	**89.37**	**2**	P	**P**	**11 41 07.0**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=355,slow=4.6,SNR=6.4						
YKA				LR	LR	12 25 59.7	
	comp=Z,31nm,18.6s,baz=0.0,slow=39						

*GCG **18** 11:58:55.3±1.0, 13°.94N×92°.27W, h34km±999km, MD3.5*
*SNET **18** 11:59:12.8±0.9, 14°.00N×91°.26W, h14km±5km, ML3.7*
*UCR **18** 11:59:12.7±1.1, 14°.01N×91°.25W, h11km±9km, ML3.5*
ISC 18 11:59:06.2±3.2, 13°.71N±0°.10×91°.54W±0°.09, h4km±17km, n26, σ0s80/43, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.82**	**350**	*e*P	**Pn**	**11 59 24.9**	**+0.1**
RTAL				*e*S	**Sb**	**11 59 35.5**	**+0.8**
FUG	**Fuego 3**	**1.00**	**43**	*e*P	Pg	11 59 19.8	-5.7
FUG				*e*S	**Sg**	**11 59 38.5**	**0.0**
PCG	**Pacaya**	**1.13**	**53**	*e*P	Pg	11 59 22.8	-5.2
PCG				*e*S	**Sb**	**11 59 44.7**	**+0.9**
NBG	**Las Nubes**	**1.45**	**53**	*e*P	Pn	11 59 27.7	-5.9
NBG				*e*S	**Sb**	**11 59 52.9**	**-0.1**
RTR	**El Retiro**	**1.85**	**84**	*e*P	**Pb**	**11 59 40.7**	**-0.1**
RTR				*e*S	**Sn**	**12 00 02.0**	**-1.1**
RTR	**El Retiro**	**1.85**	**84**	*e*P	**Pb**	**11 59 40.7**	**-0.1**
RTR				*e*S	**Sn**	**12 00 02.0**	**-1.1**
CEVE	**Cerro Verde**	**1.87**	**86**	*e*P	**Pb**	**11 59 41.2**	**+0.1**
CEVE				*e*S	**Sn**	**12 00 02.8**	**-0.7**
CEVE				IAML		12 00 04.8	
	comp=Z,1μm,0.2s						
CEVE	**Cerro Verde**	**1.87**	**86**	*e*P	**Pb**	**11 59 41.2**	**+0.1**
CEVE				*e*S	**Sn**	**12 00 02.8**	**-0.7**
CEVE				IAML		12 00 04.8	
	comp=Z,1μm,0.2s						
SBLS	**San Blas**	**1.87**	**86**	*e*P	**Pb**	**11 59 40.8**	**-0.4**
SBLS				*e*S	**Sn**	**12 00 03.3**	**-0.2**
SBLS	**San Blas**	**1.87**	**86**	*e*P	**Pb**	**11 59 40.8**	**-0.4**
SBLS				*e*S	**Sn**	**12 00 03.3**	**-0.2**
SNJE	**San Jose**	**1.89**	**85**	*e*P	**Pb**	**11 59 41.1**	**-0.4**
SNJE				*e*S	**Sn**	**12 00 03.2**	**-0.8**
SNJE	**San Jose**	**1.89**	**85**	*e*P	**Pb**	**11 59 41.1**	**-0.4**
SNJE				*e*S	**Sn**	**12 00 03.2**	**-0.8**
JAYA	**Jayaque - finc**	**2.04**	**91**	*e*P	**Pb**	**11 59 42.9**	**-1.0**
JAYA				*e*S	**Sn**	**12 00 06.5**	**-1.1**
JAYA				IAML		12 00 10.4	
	comp=Z,880nm,0.2s						
JAYA	**Jayaque - finc**	**2.04**	**91**	*e*P	**Pb**	**11 59 42.9**	**-1.0**
JAYA				*e*S	**Sn**	**12 00 06.5**	**-1.1**
JAYA				IAML		12 00 10.4	
	comp=Z,880nm,0.2s						
TACO	**Tacachico**	**2.14**	**83**	*e*P	**Pn**	**11 59 44.2**	**+1.3**
TACO	**Tacachico**	**2.14**	**83**	*e*P	**Pn**	**11 59 44.2**	**+1.3**
PMON	**Piamonte**	**2.17**	**90**	*e*P	**Pb**	**11 59 45.1**	**-1.0**
PMON				*e*S	**Sn**	**12 00 10.6**	**-0.1**
PMON	**Piamonte**	**2.17**	**90**	*e*P	**Pb**	**11 59 45.1**	**-1.0**
PMON				*e*S	**Sn**	**12 00 10.6**	**-0.1**
MTO3	**Montecristo**	**2.23**	**72**	*e*P	**Pn**	**11 59 44.6**	**+0.4**
MTO3	**Montecristo**	**2.23**	**72**	*e*P	**Pn**	**11 59 44.6**	**+0.4**
LFRS	**El Faro**	**2.41**	**92**	*e*P	**Pb**	**11 59 49.2**	**-1.2**
LFRS				*e*S	**Sn**	**12 00 17.3**	**+0.5**
LFRS	**El Faro**	**2.41**	**92**	*e*P	**Pb**	**11 59 49.2**	**-1.2**
LFRS				*e*S	**Sn**	**12 00 17.3**	**+0.5**
SJTE	**Alcalda de S**	**2.47**	**92**	*e*S	**Sn**	**12 00 17.9**	**-0.2**
SJTE	**Alcalda de S**	**2.47**	**92**	*e*S	**Sn**	**12 00 17.9**	**-0.2**
COEG	**Centro de Oper**	**2.59**	**92**	*e*P	**Pn**	**11 59 50.3**	**+1.2**
COEG				*e*S	**Sn**	**12 00 20.2**	**-0.9**
COEG				IAML		12 00 27.6	
	comp=Z,203nm,0.4s						
COEG	**Centro de Oper**	**2.59**	**92**	*e*P	**Pn**	**11 59 50.3**	**+1.2**
COEG				*e*S	**Sn**	**12 00 20.2**	**-0.9**
COEG				IAML		12 00 27.6	
	comp=Z,203nm,0.4s						

HEL 18 12:02:04.0±0.4, 68°.20N×33°.21E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.43**	**253**	PG	Pn	12 02 29.4	-1.8
	baz=66						
VRF				MSG		12 02 47.0	
	comp=Z,6.8nm,0.2s						
VRF				SG	Sg	12 02 48.4	-1.5
OLKF	**Oulanka, Finla**	**2.40**	**220**	PN	Pn	12 02 43.4	-1.1
OLKF				SN	Sn	12 03 14.4	-0.1
KU6	**Riekki**	**2.54**	**212**	PN	Pn	12 02 46.2	-0.2
KU6				MSG		12 03 18.9	
	comp=Z,3.9nm,0.2s						
SGF	**Sodankyl**	**2.65**	**256**

MSAI	**Masohi**	**4.80 172**	P		**Pn**	**13 30 10.5**	**+3.0**
DDMP	**Don Marcelino,**	**5.28 332**	*e*P		**Pn**	**13 30 15.2**	**+1.1**
FAKI	**Fak Fak**	**5.90 137**	Pn		**Pn**	**13 30 22.3**	**-0.2**
LUWI	**Luwuk**	**5.99 246**	Pn		**Pn**	**13 30 24.2**	**+0.5**
SKMP	**Bagumbayan, Su**	**6.25 324**	*e*P		**Pn**	**13 30 26.7**	**-0.5**
KCP	**Kidapawan**	**6.36 331**⇑	*e*P		**Pn**	**13 30 30.5**	**+1.7**
BUKP	**Musuan**	**7.14 334**	*e*P		**Pn**	**13 30 38.2**	**-1.2**
TOLI2	**Tolitoli**	**7.45 268**	Pn		**Pn**	**13 30 44.7**	**+1.1**
BAKI	**Biak**	**8.29 108**	P		**Pn**	**13 30 57.4**	**+2.3**
	65nm,0.8s						
GLSP	**General Luna,**	**8.56 346**	*e*P		**Pn**	**13 30 58.3**	**-0.4**
TTSI	**Tana Toraja**	**9.51 242**	P		**Pn**	**13 31 11.8**	**+0.2**
	672nm37nm,0.5s						
BNSI	**Bone**	**9.97 234**	P		**Pn**	**13 31 18.0**	**+0.1**
	16nm,1.1s						
KAPI	**Kappang**	**10.62 233**	P		**Pn**	**13 31 27.6**	**+0.9**
	1.4nm,0.3s,baz=237,slow=7.8,SNR=3.9						
KAPI			S		**Sn**	**13 33 23.2**	**-0.5**
	1.7nm,0.3s,baz=137,slow=15,SNR=2.7						
KAPI	**Kappang**	**10.62 233**			**Pn**	**13 31 28.4**	**+1.7**
MTN	**Manton Dam**	**14.47 169**	Pn		**Pn**	**13 32 17.0**	**-0.6**
KNRA	**Kununurra**	**17.01 178**	Pn		**Pn**	**13 32 48.0**	**-1.3**
KNRA			IAmb		IAmb	13 32 51.7	
	comp=Z,21nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.57 187**	P		**P**	**13 33 17.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=21,slow=10,SNR=8.3						
FITZ	**Fitzroy Crossi**	**19.57 187**	P		**P**	**13 33 15.9**	**-1.7**
KPJI	**Karang Pucung**	**21.13 245**	P		**P**	**13 33 36.3**	**+1.8**
	comp=Z,49nm,0.8s						
WB0	**Warramunga Arr**	**21.92 164**	P		**P**	**13 33 43.0**	**+0.2**
WB0			IAmb		IAmb	13 33 44.5	
	comp=Z,5.3nm,0.5s						
WRAB	**Tennant Creek**	**22.07 165**	P		**P**	**13 33 44.0**	**-0.4**
WRAB			IAmb		IAmb	13 33 46.4	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**22.07 165**	P		**P**	**13 33 44.5**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=343,slow=10.0,SNR=30						
WRA			PcP		**PcP**	**13 37 39.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=323,slow=1.8,SNR=2.4						
WRA	**Warramunga Arr**	**22.07 165**	P		**P**	**13 33 44.0**	**-0.5**
WB2	**Warramunga Arr**	**22.07 165**	P		**P**	**13 33 44.6**	**+0.1**
WB2			IAmb		IAmb	13 33 46.4	
	comp=Z,6.5nm,0.7s						
WR0	**Warramunga Arr**	**22.14 164**	P		**P**	**13 33 45.3**	**+0.1**
WR0			IAmb		IAmb	13 33 46.0	
	comp=Z,10nm,1.2s						
YULB	**Yu-li**	**22.84 343**	P		**P**	**13 33 49.2**	**-3.2**
YULB			IAmb		IAmb	13 33 59.1	
	comp=Z,28nm,1.5s						
TPUB	**Ta-pu**	**22.96 342**	P		**P**	**13 33 52.3**	**-1.2**
TPUB			IAmb		IAmb	13 33 59.2	
	comp=Z,27nm,1.2s						
MDSI	**Maura Dua**	**24.74 256**	P		**P**	**13 34 10.9**	**+1.0**
	comp=Z,8.1nm,0.8s						
AS31	**Alice Springs**	**25.55 168**	P		**P**	**13 34 18.0**	**+0.8**
ASAR	**Alice Springs**	**25.55 168**	P		**P**	**13 34 17.0**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=348,slow=7.5,SNR=22						
ASAR			PcP		**PcP**	**13 37 46.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=0.1,slow=2.2,SNR=5.5						
ASAR	**Alice Springs**	**25.55 168**	P		**P**	**13 34 17.7**	**+0.6**
ASAR					**PcP**	**13 37 46.1**	**-0.1**
RPSI	**Rantau Prapat**	**29.31 273**	P		**P**	**13 34 50.2**	**-0.8**
RPSI			IAmb		IAmb	13 34 52.8	
	comp=Z,7.5nm,0.6s						
PSI	**Prapat**	**29.32 273**	P		**P**	**13 34 49.6**	**-1.5**
	comp=Z,4.2nm,0.4s,baz=358,slow=6.0,SNR=5.1						
GSI	**Gunungsitoli**	**30.65 270**	P		**P**	**13 35 01.9**	**-0.8**
FORT	**Forrest**	**32.03 180**	P		**P**	**13 35 14.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**33.34 302**	LR		LR	13 49 17.1	
	comp=Z,23nm,18.8s,baz=240,slow=37						
BBOO	**Buckleboo**	**34.85 168**	P		**P**	**13 35 39.3**	**+0.2**
STKA	**Stephens Creek**	**35.47 160**	P		**P**	**13 35 44.5**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=344,slow=7.5,SNR=12						
STKA	**Stephens Creek**	**35.47 160**	P		**P**	**13 35 44.7**	**+0.2**
KSRS	**Korea Array**	**35.85 360**	P		**P**	**13 35 48.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=174,slow=8.9,SNR=2.4						
KSRS			LR		LR	13 51 04.5	
	comp=Z,7.4nm,18.8s,baz=210,slow=37						
ARMA	**Armidale**	**38.73 147**	P		**P**	**13 36 12.4**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**41.35 63**	T		T	14 20 29.6	
	baz=249,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**41.36 63**	T		T	14 20 34.9	
	baz=249,slow=74,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**41.36 63**	T		T	14 20 46.0	
	baz=249,slow=74,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**41.95 62**	T		T	14 21 12.9	
	baz=247,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**41.96 62**	T		T	14 21 20.5	
	baz=247,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**41.97 62**	T		T	14 21 21.0	
	baz=247,slow=75,SNR=9.6						
SONM	**Songino Array**	**49.94 341**	P		**P**	**13 37 42.3**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=161,slow=9.2,SNR=1.7						
PETK	**Petropavlovsk-**	**57.01 21**	P		**P**	**13 38 33.8**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=183,slow=5.9,SNR=4.3						
MK31	**Makanchi Array**	**60.29 325**	P		**P**	**13 38 54.9**	**-0.7**
MK31			IAmb		IAmb	13 38 56.9	
	comp=Z,2.6nm,0.6s						
MKAR	**Makanchi Array**	**60.29 325**	P		**P**	**13 38 56.3**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=119,slow=8.5,SNR=39						
MKAR	**Makanchi Array**	**60.29 325**	P		**P**	**13 38 54.6**	**-1.0**
MAKZ	**Makanchi**	**60.47 325**	P		**P**	**13 38 57.3**	**+0.5**
MAKZ			IAmb		IAmb	13 38 58.1	
	comp=Z,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**63.30 333**	P		**P**	**13 39 15.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=133,slow=8.6,SNR=2.9						
KKAR	**Karatay Array**	**65.92 317**	P		**P**	**13 39 33.2**	**+0.2**
VNDA	**Vanda**	**80.97 173**	P		**P**	**13 41 00.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=314,slow=6.6,SNR=12						
ILAR	**Eielson Array**	**86.52 25**	P		**P**	**13 41 28.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=246,slow=5.2,SNR=5.7						
ARCES	**ARCESS Array B**	**93.11 340**	P		**P**	**13 41 59.1**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=55,slow=7.8,SNR=1.7						
TORD	**Torodi Ar. Bea**	**125.04 287**	PKP		**PKiKP**	**13 47 47.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=107,slow=1.6,SNR=3.1						

*IDC **18** 13:39:17.1±1.8,8˚.50S×124˚.24E,h0km,mb3.5/1,*
mb1 3.7/5,mb1mx3.5/30,mbtmp3.6/5,ML3.6/4,MS2.6/1,
Ms1 2.6/1,ms1mx2.3/26,Error ellipse: s-maj=43.1km
s-min=20.2km az=77.0
*DJA **18** 13:39:26.6±0.4,9˚.5±.5˚×12˚.4E±.˚,h73km±10km,M4.0/8,*
mb4.3/7,mB5.0/1,MLv3.9/8,Mw(mB)4.4/1
ISC 18 13:39:24.8±1.0,**8˚.87S**±0˚.07×**123˚.82E**±0˚.09,**h74km,n16,**
σ3$45/21,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.99**	**153**	P	**Pn**	**13 39 44.2**	**+0.7**
SOEI				S	**Sn**	**13 40 01.9**	**+4.5**
BATI	**Baumata**	**1.34**	**187**	Pg	**Pn**	**13 39 50.1**	**+2.3**
	44nm,0.3s,baz=26,slow=4.9,SNR=24						
BATI				Lg	Lg	13 40 09.7	
	58nm,0.3s,baz=24,slow=11,SNR=3.9						
BATI	**Baumata**	**1.34**	**187**	P	**Pn**	**13 39 50.7**	**+2.8**
BATI				S	**Sn**	**13 40 12.6**	**+7.4**
MMRI	**Maumere**	**1.58**	**278**	P	**Pn**	**13 39 50.1**	**-0.8**
MMRI				S	**Sn**	**13 40 09.5**	**-1.2**
EDFI	**Ende, Flores**	**2.11**	**273**	P	**Pn**	**13 39 57.6**	**-0.5**
BASI	**Baing, Sumba**	**3.47**	**247**	P	**Pn**	**13 40 18.2**	**+1.8**
WBSI	**Waikabubak, Su**	**4.44**	**260**	P	**Pn**	**13 40 31.1**	**+1.4**
KAPI	**Kappang**	**5.56**	**313**	Pn	**Pn**	**13 40 41.9**	**-3.1**
	0.9nm,0.3s,baz=135,slow=13,SNR=1.5						
KAPI				LR	LR	13 42 56.2	
	comp=Z,64nm,21.1s,baz=302,slow=39						
BNSI	**Bone**	**5.77**	**320**	P	**Pn**	**13 40 50.7**	**+2.8**
	0.1nm17nm,0.7s						
PLAI	**Plampang**	**5.97**	**270**	P	**Pn**	**13 40 54.3**	**+3.7**
	0.2nm25nm,0.9s						
TWSI	**Taliwang, Sumb**	**6.86**	**271**	P	**Pn**	**13 41 05.3**	**+2.5**
	0.1nm16nm,1.2s						
LUWI	**Luwuk**	**7.84**	**352**	P	**Pn**	**13 41 18.7**	**+2.5**
	0.2nm1μm52nm,0.8s						
FITZ	**Fitzroy Crossi**	**9.35**	**169**	Pn	**Pn**	**13 41 35.8**	**-1.0**
	0.5nm,0.3s,baz=353,slow=9.0,SNR=22						
FITZ				Sn	**Sn**	**13 43 15.8**	**-4.5**
	2.2nm,0.3s,baz=246,slow=20,SNR=14						
WRA	**Warramunga Arr**	**14.99**	**138**	Pn	**Pn**	**13 42 51.1**	**-1.6**
	0.3nm,0.3s,baz=317,slow=14,SNR=22						
WRA				Sn	Sn	13 45 28.5	-9.4
	0.4nm,0.3s,baz=319,slow=26,SNR=5.2						
ASAR	**Alice Springs**	**17.60**	**148**	P	**P**	**13 43 25.9**	**+0.6**
	0.2nm,0.3s,baz=320,slow=12,SNR=16						
ASAR				S	**Sn**	**13 46 34.0**	**-7.0**
	0.2nm,0.3s,baz=312,slow=21,SNR=4.8						
MKAR	**Makanchi Array**	**66.61**	**330**	P	**P**	**13 50 08.8**	**+1.5**
	0.2nm,0.4s,baz=150,slow=8.1,SNR=4.1						

*IDC **18** 13:50:05.0±1.5,4˚.78S×145˚.26E,h186km±15km,mb3.5/10,*
mb1 3.6/13,mb1mx3.4/32,mbtmp4.0/13,MS3.3/1,
Ms1 3.3/1,ms1mx2.4/27,Error ellipse: s-maj=20.0km
s-min=9.9km az=102.0
ISC 18 13:50:06.0±0.7,**4˚.80S**±0˚.08×**145˚.3E**±0˚.1,**h200km,n17,**
σ1$19/20,mb3.7/10,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.94**	**158**	P	**Pn**	**13 51 18.1**	**-1.6**
	2.4nm,0.3s,baz=306,slow=13,SNR=7.9						
PMG				S	**Sn**	**13 52 16.8**	**-1.0**
	9.8nm,0.3s,baz=306,slow=21,SNR=15						
PMG	**Port Moresby**	**4.94**	**158**	P	**Pn**	**13 51 19.1**	**-0.6**
PMG	**Port Moresby**	**4.94**	**158**	P	**Pn**	**13 51 19.4**	**-0.3**
SIJI	**Sorong**	**14.53**	**285**	P	**P**	**13 53 22.2**	**-1.6**
	0.9nm,0.3s,baz=161,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**18.44**	**214**	P	**P**	**13 54 07.0**	**+0.2**
	0.6nm,0.3s,baz=31,slow=11,SNR=46						
WRA				S	**S**	**13 57 26.9**	**+0.1**
	0.1nm,0.3s,baz=33,slow=17,SNR=2.0						
WRA				ScP	**ScP**	**14 01 44.6**	**-0.4**
	0.0nm,0.3s,baz=67,slow=2.3,SNR=4.9						
ASAR	**Alice Springs**	**21.73**	**209**	P	**P**	**13 54 42.2**	**+0.5**
	1.0nm,0.7s,baz=41,slow=7.4,SNR=12						
ASAR				S	**S**	**13 58 31.4**	**+3.0**
	1.5nm,0.9s,baz=30,slow=18,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.31**	**234**	P	**P**	**13 54 56.4**	**+0.1**
	5.6nm,0.8s,baz=42,slow=11,SNR=30						
KAPI	**Kappang**	**25.43**	**268**	LR	LR	14 07 21.5	
	comp=Z,63nm,18.4s,baz=297,slow=41						
CMAR	**Chiang Mai Arr**	**51.18**	**298**	P	**P**	**13 58 49.6**	**+0.3**
	2.3nm,1.1s,baz=127,slow=5.3,SNR=4.7						
PETK	**Petropavlovsk-**	**58.64**	**9**	P	**P**	**13 59 43.0**	**+0.8**
	0.5nm,0.4s,baz=155,slow=4.5,SNR=4.5						
SONM	**Songino Array**	**62.54**	**332**	P	**P**	**14 00 07.7**	**-1.0**
	1.1nm,0.5s,baz=168,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	**75.49**	**321**	P	**P**	**14 01 29.0**	**+0.7**
	0.5nm,0.3s,baz=95,slow=8.9,SNR=14						
ZALV	**Zalesovo Beam**	**77.09**	**328**	P	**P**	**14 01 36.7**	**-0.4**
	1.1nm,0.6s,baz=94,slow=5.8,SNR=1.2						
NRIK	**Noril'sk**	**83.62**	**342**	P	**P**	**14 02 12.4**	**+0.9**
	2.6nm,0.5s,baz=97,slow=3.5,SNR=4.2						
ILAR	**Eielson Array**	**85.07**	**23**	P	**P**	**14 02 19.1**	**+0.1**
	1.3nm,0.7s,baz=256,slow=5.1,SNR=16						
QSPA	**South Pole Qui**	**85.16**	**180**	P	**P**	**14 02 21.2**	**+1.6**
	1.2nm,0.9s,baz=65,slow=2.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**143.13**	**285**	PKP	**PKPdf**	**14 09 15.8**	**-1.5**
	0.2nm,0.3s,baz=53,slow=3.2,SNR=1.7						

*JMA **18** 13:50:20.1±0.2,23˚.92N×122˚.34E,h20km,M2.1*
*TAP **18** 13:50:21.4,24˚.02N×122˚.34E,h37km±2km,ML2.6,D*
ISC 18 13:50:20.2±1.2,**23˚.91N**±0˚.04×**122˚.35E**±0˚.02,**h23km**±14km,
n44,σ0$61/70,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEYL	**Yanliau Villag**	**0.69**	**266**	*e*P	**Pb**	**13 50 32.5**	**-1.1**
	baz=253						
TEYL				S	**Sb**	**13 50 43.7**	**+1.0**
	baz=253						
ETL	**Fush Village**	**0.71**	**290**	*e*P	**Pb**	**13 50 33.9**	**0.0**
	baz=271						
ETL				*e*S	**Sn**	**13 50 44.7**	**-0.3**
	baz=271						
TWD	**Chiawan**	**0.71**	**284**	*e*P	**Pb**	**13 50 33.9**	**0.0**
	baz=275						
TWD				*e*S	**Sb**	**13 50 43.4**	**+0.1**
	baz=275						
NACB	**Ninganchiao**	**0.74**	**291**	P	**Pb**	**13 50 34.2**	**-0.2**
	baz=272						
EWUT	**Wuta**	**0.74**	**315**	P	**Pn**	**13 50 34.7**	**-0.5**
	baz=317						
EWUT				S	**Sb**	**13 50 44.0**	**-0.2**
	baz=317						
JYNG	**Yonaguni jima**	**0.76**	**45**	P	**Pb**	**13 50 34.5**	**-0.3**
JYNG				S	**Sb**	**13 50 44.0**	**-0.8**
TEGC	**Jichi Village**	**0.77**	**255**	*e*P	**Pb**	**13 50 33.3**	**-1.6**
	baz=247						
TEGC				*e*S	**Sb**	**13 50 45.6**	**+0.7**
	baz=247						
ETM	**Tongmen**	**0.79**	**274**	*e*P	**Pb**	**13 50 34.9**	**-0.3**
	baz=261						
YOJ	**Yonaguni jima**	**0.81**	**48**	P	**Pb**	**13 50 35.7**	**0.0**
YOJ				*e*S	**Sb**	**13 50 45.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.81**	**48**	*e*P	**Pb**	**13 50 35.7**	**0.0**
	baz=62						
YOJ				*e*S	**Sn**	**13 50 47.0**	**-0.6**
	baz=62						
ESL	**Shilin**	**0.84**	**263**	*e*P	**Pn**	**13 50 35.6**	**-1.1**
	baz=250						
ESL				*e*S	**Sb**	**13 50 46.7**	**-0.5**
	baz=250						
ETLH	**Xiulin Townshi**	**0.84**	**290**	*e*P	**Pn**	**13 50 35.9**	**-0.8**
	baz=275						
ETLH				*e*S	**Sn**	**13 50 47.9**	**-0.6**
	baz=275						
EGFH	**Guangfu**	**0.88**	**254**	*e*S	**Sb**	**13 50 49.0**	**+0.9**
	baz=248						
NDS	**Dongshan**	**0.92**	**321**	*e*P	**Pb**	**13 50 37.7**	**+0.2**
	baz=323						
HGSD	**Ruisui**	**0.95**	**244**	*e*P	**Pn**	**13 50 38.5**	**+0.4**
	baz=239						
ENTT	**Nioudou**	**1.02**	**315**	*e*P	**Pb**	**13 50 39.4**	**+0.2**
	baz=300						
TWE	**Neicheng**	**1.02**	**322**	*e*P	**Pb**	**13 50 39.0**	**-0.2**
	baz=319						
WHF	**Hehuan Shan**	**1.02**	**283**	P	**Pn**	**13 50 38.8**	**-0.6**
	baz=268						
WHF				*e*S	**Sb**	**13 50 53.1**	**+0.6**
	baz=268						
NNSH	**Datong**	**1.02**	**300**	*e*P	**Pb**	**13 50 39.1**	**-0.2**
	baz=287						
NNSH				*e*S	**Sb**	**13 50 52.2**	**-0.2**
	baz=287						
NNSB	**Datong**	**1.02**	**300**	P	**Pb**	**13 50 39.1**	**-0.1**
	baz=286						
NNSB				*e*S	**Sb**	**13 50 52.3**	**0.0**
	baz=286						
NDT	**Datong Townshi**	**1.03**	**312**	*e*P	**Pb**	**13 50 39.4**	**+0.1**
	baz=307						
NDT				*e*S	**Sb**	**13 50 53.3**	**+0.9**
	baz=307						
NNS	**Nan Shan**	**1.03**	**301**	*e*P	**Pb**	**13 50 39.5**	**0.0**
	baz=287						
NNS				*e*S	**Sb**	**13 50 53.0**	**+0.3**
	baz=287						
FUSS	**Fushou**	**1.06**	**288**	*i* P	**Pn**	**13 50 39.7**	**-0.2**
	baz=283						
FUSS				*e*S	**Sb**	**13 50 54.3**	**+0.7**
	baz=283						
CHGB	**Renai**	**1.08**	**278**	*i* P	**Pn**	**13 50 40.0**	**-0.2**
	baz=272						
CHGB				*e*S	**Sb**	**13 50 55.6**	**+1.3**
	baz=272						
YULB	**Yu-li**	**1.10**	**242**	P	**Pn**	**13 50 39.9**	**-0.2**
	baz=229						
YULB				*e*S	**Sn**	**13 50 54.0**	**-0.6**
	baz=229						
EYUL	**Yuli**	**1.10**	**239**	*e*P	**Pn**	**13 50 40.1**	**-0.1**
	baz=235						
TWF1	**Yuli**	**1.12**	**240**	*e*P	**Pn**	**13 50 40.3**	**-0.1**
	baz=236						
TIPB	**Shuangxi**	**1.16**	**336**	*e*P	**Pb**	**13 50 41.7**	**+0.2**
	baz=332						
TIPB				*e*S	**Sb**	**13 50 56.5**	**+0.4**
	baz=332						
YHNB	**Yeheng**	**1.16**	**310**	*e*P	**Pb**	**13 50 41.4**	**-0.3**
	baz=307						
FULB	**Fuli**	**1.20**	**234**	*e*P	**Pn**	**13 50 41.0**	**-0.6**
	baz=220						
SSLB	**Suanglung**	**1.28**	**265**	*e*P	**Pb**	**13 50 43.8**	**+0.1**
	baz=261						
WCS	**Beigang Elemen**	**1.32**	**276**	*e*P	**Pb**	**13 50 44.0**	**-0.3**
	baz=272						
IRIF	**Iriomote-Funau**	**1.33**	**71**	P	**Pb**	**13 50 44.6**	**+0.2**
IRIF				*e*S	**Sb**	**13 51 02.4**	**+1.4**
WHP	**Taichung City**	**1.33**	**286**	*e*P	**Pb**	**13 50 44.9**	**+0.3**
	baz=274						
EDH	**Donghe**	**1.34**	**226**	*e*P	**Pn**	**13 50 43.0**	**-0.5**
	baz=223						
LIOB	**Emei**	**1.42**	**301**	*e*P	**Pb**	**13 50 46.4**	**+0.4**
	baz=298						
ELDTW	**Lidau**	**1.42**	**240**	*e*P	**Pn**	**13 50 44.4**	**-0.3**
	baz=237						
NSTT	**Nanjuang**	**1.42**	**300**	*e*P	**Pb**	**13 50 46.3**	**+0.2**
	baz=296						
NSTT				*e*S	**Sb**	**13 51 04.1**	**+0.3**
	baz=296						
ALS	**Alishan**	**1.47**	**254**	*e*P	**Pn**	**13 50 46.5**	**+0.9**
	baz=251						
ALS				*e*S	**Sn**	**13 51 05.0**	**+0.8**
	baz=251						
JKRS	**Kuro-shima**	**1.55**	**78**	P	**Pb**	**13 50 48.9**	**+0.7**
JKRS				*e*S	**Sb**	**13 51 07.6**	**+0.2**
CHN5	**Tsauling**	**1.56**	**259**	*e*P	**Pb**	**13 50 48.6**	**0.0**
	baz=256						
TPUB	**Ta-pu**	**1.69**	**249**	*e*P	**Pn**	**13 50 49.9**	**+1.6**
	baz=246						
TPUB				*e*S	**Sb**	**13 51 11.3**	**-0.2**
	baz=246						
JIJ	**Ishigaki jima**	**1.70**	**74**	P	**Pb**	**13 50 50.6**	**-0.1**
JIJ				S	**Sb**	**13 51 11.2**	**-0.5**
JISG	**Ishigakijimahi**	**1.91**	**69**	P	**Pn**	**13 50 51.0**	**-0.3**
JISG				S	**Sn**	**13 51 15.6**	**+0.9**

IDC 18 13:52:47.4±7.2,**6˚.83S**×**155˚.09E,h0km,mb3.5/3,**
mb1 3.8/3,mb1mx3.4/32,mbtmp3.5/3,MS2.8/1,Ms1 2.8/1,
ms1mx2.4/26,Error ellipse: s-maj=159.4km
s-min=47.6km az=99.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.46**	**119**	LR	LR	13 56 31.9	
	comp=Z,90nm,21.2s,baz=265,slow=41						
WRA	**Warramunga Arr**	**23.99**	**235**	P	P	13 58 04.9	+1.0
	0.6nm,0.6s,baz=58,slow=9.6,SNR=2.2						
ASAR	**Alice Springs**	**26.35**	**228**	P	P	13 58 24.4	-1.0
	0.4nm,0.7s,baz=70,slow=8.3,SNR=1.8						
CMAR	**Chiang Mai Arr**	**60.80**	**295**	P	P	14 03 01.8	0.0
	1.2nm,0.7s,baz=125,slow=4.8,SNR=7.6						

*IDC **18** 14:02:02.8±1.8,13˚.20N×91˚.17W,h0km,mb3.8/1,*
mb1 4.0/4,mb1mx3.6/50,mbtmp3.7/4,ML3.8/3,MS2.7/1,
Ms1 2.7/1,ms1mx2.2/27,Error ellipse: s-maj=46.7km
s-min=21.0km az=34.0
*GCG **18** 14:02:14.5±0.4,13˚.87N×91˚.31W,h32km,MD3.9*
*SNET **18** 14:02:15.7±1.1,14˚.13N×91˚.12W,h15km±5km,ML3.5*
*MEX **18** 14:02:15.2±0.5,14˚.12N×91˚.11W,h68km±34km,MD4.2*
ISC 18 14:02:15.2±1.3,**13˚.96N**±0˚.09×**91˚.31W**±0˚.05,**h60km**±12km,
n24,σ1$23/33,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.67**	**43**	*e*P	**Pn**	**14 02 29.0**	**-0.2**
RTAL	**Retalhuleu**	**0.68**	**327**	*e*P	**Pn**	**14 02 28.6**	**-0.5**
RTAL				*e*S	**Sn**	**14 02 38.0**	**-1.4**
RTAL				IAML		14 02 45.8	
	comp=Z,902nm,0.3s						
PCG	**Pacaya**	**0.81**	**58**	*e*P	**Pn**	**14 02 30.9**	**-0.1**
NBG	**Las Nubes**	**1.13**	**56**	*e*P	**Pn**	**14 02 35.8**	**+0.6**
NBG				*e*S	**Sn**	**14 02 52.1**	**+2.1**
THIG		**1.32**	**316**	*e*P	**Pn**	**14 02 37.6**	**+0.2**
THIG				*e*S	**Sn**	**14 02 54.6**	**+0.5**
APG	**El Apazote**	**1.33**	**38**	Pn	**Pn**	**14 02 36.8**	**-1.0**
	comp=Z,8.5nm,0.3s,baz=220,slow=15,SNR=81						
APG				Sn	**Sn**	**14 02 54.5**	**-0.2**
	comp=Z,22nm,0.3s,baz=206,slow=14,SNR=9.2						
HUEH	**Huehuetenango**	**1.37**	**352**	*e*P	**Pn**	**14 02 38.0**	**-0.3**
HUEH				*e*S	**Sn**	**14 02 56.3**	**+0.7**
RTR	**El Retiro**	**1.62**	**92**	*e*P	**Pn**	**14 02 41.6**	**-0.1**
RTR				*e*S	**Sn**	**14 03 02.2**	**+0.4**
CEVE	**Cerro Verde**	**1.65**	**94**	*e*P	**Pn**	**14 02 42.0**	**0.0**
CEVE				*e*S	**Sn**	**14 03 02.7**	**+0.4**
CEVE				IAML		14 03 10.0	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**1.65**	**94**	*e*P	**Pn**	**14 02 42.0**	**0.0**
SBLS				*e*S	**Sn**	**14 03 02.5**	**+0.2**
SNJE	**San Jose**	**1.66**	**93**	*e*P	**Pn**	**14 02 42.1**	**-0.1**
LFRS	**El Faro**	**2.21**	**98**	*e*P	**Pn**	**14 02 50.4**	**+0.8**
LFRS				*e*S	**Sn**	**14 03 16.4**	**+0.5**
COEG	**Centro de Oper**	**2.39**	**98**	*e*P	**Pn**	**14 02 53.1**	**+1.2**
COEG				IAML		14 03 31.2	
	comp=Z,345nm,0.3s						
CCIG	**Comitan**	**2.45**	**341**	*e*P	Pn	14 02 54.2	+1.3
CCIG				*e*S	Sn	14 03 14.3	-7.5
**PCI

T35A				IAmb	IAmb	14 10 56.4	
	comp=Z,8.4nm,0.9s						
GERES	**GERESS Array B**	**45.80**	**50**	P	**P**	**14 10 56.6**	**+0.9**
	comp=Z,0.4nm,0.2s,baz=262,slow=6.5,SNR=5.6						
GERES	**GERESS Array B**	**45.80**	**50**	P	**P**	**14 10 52.2**	**-3.4**
H10N2	**ASCENSION HYDR**	**45.97**	**141**	T	T	15 00 03.6	
	baz=326,slow=75,SNR=748						
H10N3	**ASCENSION HYDR**	**45.97**	**141**	T	T	15 00 03.8	
	baz=326,slow=75,SNR=472						
H10N1	**ASCENSION HYDR**	**45.99**	**141**	T	T	15 00 05.0	
	baz=326,slow=75,SNR=652						
NOA	**NORSAR Array B**	**46.52**	**32**	LR	LR	14 26 27.2	
	comp=Z,16nm,20.4s,baz=85,slow=31						
ABTX	**Abilene, Hawle**	**48.84**	**289**	P	**P**	**14 11 19.4**	**-0.1**
JCT	**Junction City**	**49.49**	**286**	P	**P**	**14 11 24.5**	**-0.1**
JCT				IAmb	IAmb	14 11 26.6	
	comp=Z,9.1nm,1.0s						
MSTX	**Muleshoe**	**51.08**	**291**	P	**P**	**14 11 37.1**	**+0.5**
MSTX				IAmb	IAmb	14 11 40.0	
	comp=Z,9.8nm,1.1s						
LPAZ	**La Paz**	**52.52**	**212**	LR	LR	14 32 29.8	
	comp=Z,33nm,19.6s,baz=298,slow=34						
TXAR	**Lajitas Array**	**53.03**	**286**	P	**P**	**14 11 51.7**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=101,slow=6.5,SNR=12						
TXAR	**Lajitas Array**	**53.03**	**286**	P	**P**	**14 11 51.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**53.03**	**286**	P	**P**	**14 11 50.5**	**-0.7**
TX32	**Lajitas Array**	**53.03**	**286**	P	**P**	**14 11 50.6**	**-0.6**
FINES	**FINESS Array B**	**53.65**	**34**	P	**P**	**14 11 56.3**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=277,slow=11,SNR=1.6						
BNM	**Barren Site**	**54.14**	**292**	P	**P**	**14 11 59.5**	**0.0**
ARCES	**ARCESS Array B**	**54.32**	**24**	P	**P**	**14 12 01.1**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=269,slow=7.2,SNR=2.5						
PD31	**Pinedale Array**	**54.54**	**303**	P	**P**	**14 12 02.5**	**+0.3**
PD31				IAmb	IAmb	14 12 05.1	
	comp=Z,7.2nm,0.9s						
PDAR	**Pinedale Array**	**54.54**	**303**	P	**P**	**14 12 02.6**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=79,slow=8.0,SNR=27						
PDAR				LR	LR	14 33 21.6	
	comp=Z,42nm,20.9s,baz=92,slow=34						
PDAR	**Pinedale Array**	**54.54**	**303**	P	**P**	**14 12 01.4**	**-0.8**
AKASG	**Malin Array Be**	**55.78**	**47**	P	**P**	**14 12 12.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=270,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**55.87**	**328**	LR	LR	14 34 47.5	
	comp=Z,28nm,18.1s,baz=0.0,slow=35						
SRU	**San Rafael Swe**	**56.00**	**299**	P	**P**	**14 12 13.1**	**+0.3**
SRU				IAmb	IAmb	14 12 14.9	
	comp=Z,8.6nm,1.5s						
NEW	**Newport**	**58.76**	**311**	P	**P**	**14 12 31.7**	**-0.2**
MFID	**Camas Ranch**	**58.91**	**305**	P	**P**	**14 12 33.1**	**-0.1**
MFID				IAmb	IAmb	14 12 36.5	
	comp=Z,5.6nm,0.9s						
D08A	**Wollman Farm,**	**60.20**	**310**	P	**P**	**14 12 41.8**	**0.0**
BRTR	**Keskin Array B**	**61.08**	**59**	P	**P**	**14 12 49.9**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=262,slow=8.9,SNR=4.5						
BRTR	**Keskin Array B**	**61.08**	**59**	P	**P**	**14 12 48.6**	**+0.5**
KVN	**Kaiserville**	**61.71**	**301**	P	**P**	**14 12 52.4**	**0.0**
KVN				IAmb	IAmb	14 12 54.9	
	comp=Z,6.1nm,1.2s						
NVAR	**Mina Array Bea**	**62.04**	**300**	P	**P**	**14 12 55.2**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=76,slow=5.8,SNR=9.0						
INK	**Inuvik**	**63.04**	**335**	P	**P**	**14 13 00.9**	**+0.3**
INK				IAmb	IAmb	14 13 03.3	
	comp=Z,4.4nm,0.8s						
NLWA	**Neilton Lookou**	**63.38**	**311**	P	**P**	**14 13 04.5**	**+1.2**
IL31		**69.26**	**334**	P	**P**	**14 13 40.7**	**+0.1**
IL31				IAmb	IAmb	14 13 43.9	
	comp=Z,3.5nm,1.1s						
ILAR	**Eielson Array**	**69.26**	**334**	P	**P**	**14 13 42.0**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=59,slow=5.0,SNR=15						
CCB	**Clear Creek Bu**	**69.67**	**334**	P	**P**	**14 13 43.7**	**+0.6**
CCB				IAmb	IAmb	14 13 46.4	
	comp=Z,5.9nm,1.0s						
WRH	**Wood River Hil**	**69.86**	**334**	P	**P**	**14 13 45.4**	**+1.1**
WRH				IAmb	IAmb	14 13 47.6	
	comp=Z,5.3nm,1.1s						

*IDC **18** 14:11:25.7±2.2,36°.24N×141°.17E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/34, mbtmp3.4/5, ML2.2/1, Error ellipse: s-maj=56.0km s-min=25.7km az=49.0*
*JMA **18** 14:11:26.4±0.1,36°.59N×141°.15E, h32km±1km, M3.3*
ISC 18 14:11:26.2±2.2,36°.62N±0°.05×141°.2E±0°.1, h24km±14km, n23, σ0°.92/23, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.48**	**269**	P	**Pb**	**14 11 36.0**	**-0.2**
JHO				S	**Sb**	**14 11 43.0**	**+0.1**
JHYU	**Hitachinakayam**	**0.55**	**240**	P	**Pb**	**14 11 36.9**	**-0.3**
JHYU				S	**Sb**	**14 11 44.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.57**	**328**	P	**Pb**	**14 11 37.7**	**+0.1**
ONAJ				S	**Sb**	**14 11 46.3**	**+1.0**
JFFD	**Fukushimafurud**	**0.68**	**314**	P	**Pn**	**14 11 39.4**	**-1.0**
JFFD				S	**Sb**	**14 11 49.0**	**+0.5**
JFK	**Kawauchi**	**0.78**	**342**	P	**Pn**	**14 11 40.9**	**-0.9**
JFK				*e*S	**Sn**	**14 11 51.7**	**-1.1**
JYT	**Yasato**	**0.88**	**244**	P	**Pn**	**14 11 42.1**	**-1.0**
JYT				S	**Sb**	**14 11 53.9**	**-0.3**
JSB	**Shiboa**	**1.06**	**289**	P	**Pb**	**14 11 46.2**	**+0.2**
JFT	**Otama**	**1.12**	**324**	P	**Pb**	**14 11 46.9**	**0.0**
JMM	**Marumori**	**1.28**	**346**	P	**Pn**	**14 11 48.6**	**0.0**
JAG	**Ashikaga**	**1.40**	**262**	P	**Pn**	**14 11 49.9**	**-0.3**
JFY	**Yanaizu**	**1.41**	**304**	P	**Pb**	**14 11 51.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.39**	**269**	Pn	**Pn**	**14 12 05.3**	**+1.5**
	0.5nm,0.3s,baz=84,slow=9.3,SNR=30						
MJAR				Sn	**Sb**	**14 12 38.5**	**+0.9**
	1.0nm,0.3s,baz=86,slow=30,SNR=2.4						
MAT	**Matsushiro**	**2.39**	**269**	P	**Pn**	**14 12 05.5**	**+1.6**
MAT				S	**Sb**	**14 12 35.6**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	14 46 40.0	
	baz=313,slow=75,SNR=232						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	14 46 41.5	
	baz=313,slow=75,SNR=241						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	14 46 42.4	
	baz=313,slow=75,SNR=222						
H11S1	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	14 47 29.9	
	baz=314,slow=76,SNR=261						
H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	14 47 30.0	
	baz=314,slow=76,SNR=355						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	14 47 34.1	
	baz=314,slow=76,SNR=282						
ZALV	**Zalesovo Beam**	**42.05**	**313**	P	P	14 19 20.9	+5.2
	0.5nm,0.3s,baz=72,slow=9.3,SNR=1.8						
MKAR	**Makanchi Array**	**44.17**	**302**	P	P	14 19 37.8	+4.7
	0.1nm,0.5s,baz=81,slow=9.5,SNR=3.8						
WRA	**Warramunga Arr**	**56.62**	**188**	P	**P**	**14 21 07.6**	**+0.3**
	0.4nm,0.6s,baz=2.0,slow=7.6,SNR=1.7						
ASAR	**Alice Springs**	**60.35**	**188**	P	**P**	**14 21 34.1**	**+0.9**
	0.4nm,0.9s,baz=0.0,slow=6.6,SNR=1.6						

*IDC **18** 14:22:24.0±0.7,24°.37N×127°.31E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.9/41, mbtmp3.9/18, ML4.3/2, MS3.3/11, Ms1 3.3/11, ms1mx3.1/36, Error ellipse: s-maj=27.0km s-min=13.4km az=84.0*
*JMA **18** 14:22:26.5±0.2,24°.47N×127°.32E, h79km, M3.8*
*NEIC **18** 14:22:28.8±2.8,24°.43N±0°.10×127°.3E±0°.1, h35km±2km, mb4.2/6, Error ellipse: s-maj=19.8km s-min=12.4km az=135.0*
ISC 18 14:22:24.7±4.3,24°.40N±0°.06×127°.38E±0°.05, h10km±27km, n70, σ1s94/84, mb4.0/19, MS3.4/10, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.78**	**12**	P	**Pn**	**14 22 55.0**	**-0.6**
JJT3				*e*S	**Sn**	**14 23 16.1**	**-2.2**
JOGS	**Gusukube**	**1.84**	**282**	P	**Pn**	**14 22 56.1**	**-0.2**
JOGS				*e*S	**Sn**	**14 23 17.5**	**-2.2**
JMJ2	**Miyako jima3**	**1.90**	**281**	P	**Pn**	**14 22 56.9**	**-0.4**
JMJ2				*e*S	**Sn**	**14 23 19.5**	**-1.8**
JKE	**Kume jima 2**	**2.00**	**344**	P	**Pn**	**14 22 58.1**	**-0.5**
JIKM	**Ikemajima**	**2.01**	**286**	P	**Pn**	**14 22 58.3**	**-0.5**
JIKM				S	**Sn**	**14 23 21.8**	**-2.2**
JIRB	**Irabujima**	**2.06**	**283**	P	**Pn**	**14 22 58.7**	**-0.7**
JIRB				S	**Sn**	**14 23 22.4**	**-2.7**
JAGN	**Aguni-jima**	**2.19**	**357**	P	**Pn**	**14 23 00.9**	**-0.3**
JAGN				*e*S	**Sn**	**14 23 26.1**	**-2.2**
JNTH	**Nagotoyohara**	**2.19**	**15**	P	**Pn**	**14 23 00.2**	**-1.0**
JNTH				S	**Sn**	**14 23 25.5**	**-2.9**
JTJ	**Tarama**	**2.46**	**276**	P	**Pn**	**14 23 04.0**	**-0.8**
JTJ				S	**Sn**	**14 23 31.9**	**-3.0**

JOW	**Kunigami**	**2.56**	**18**	Pn	**Pn**	**14 23 06.4**	**+0.1**
	60nm,0.3s,baz=140,slow=19,SNR=94						
JOW				Sn	**Sn**	**14 23 34.5**	**-3.0**
	93nm,0.3s,baz=132,slow=28,SNR=8.7						
JOW	**Kunigami**	**2.56**	**18**	P	**Pn**	**14 23 06.0**	**-0.3**
JOW	**Kunigami**	**2.56**	**18**		**Pn**	**14 23 05.8**	**-0.5**
JIH	**Iheya**	**2.68**	**11**	P	**Pn**	**14 23 07.8**	**-0.2**
JIH				S	**Sn**	**14 23 36.9**	**-3.6**
JYRO	**Yoronjima**	**2.79**	**20**	P	**Pn**	**14 23 09.2**	**-0.3**
JISG	**Ishigakijimahi**	**2.81**	**275**	P	**Pn**	**14 23 08.8**	**-0.9**
JISG				*e*S	**Sn**	**14 23 39.9**	**-3.7**
JIJ	**Ishigaki jima**	**2.96**	**270**	P	**Pn**	**14 23 10.7**	**-1.0**
JIJ				S	**Sn**	**14 23 42.4**	**-4.9**
JKRS	**Kuro-shima**	**3.08**	**268**	P	**Pn**	**14 23 13.1**	**-0.4**
JKRS				S	**Sn**	**14 23 46.6**	**-3.8**
JOKE	**Okinoerabujima**	**3.14**	**20**	P	**Pn**	**14 23 14.5**	**+0.2**
HATJ	**Hateruma jima**	**3.28**	**265**	P	**Pn**	**14 23 15.3**	**-1.0**
IRIF	**Iriomote-Funau**	**3.33**	**270**	P	**Pn**	**14 23 16.1**	**-0.8**
JTK	**Tokunoshima**	**3.66**	**22**	P	**Pn**	**14 23 21.5**	**+0.1**
JTK				S	**Sn**	**14 24 00.6**	**-4.1**
JKDJ	**Kitadaitoujima**	**3.87**	**66**	P	**Pn**	**14 23 22.2**	**-2.1**
JKDJ				S	**Sn**	**14 24 04.4**	**-5.4**
YOJ	**Yonaguni jima**	**3.99**	**272**	Pn	**Pn**	**14 23 24.8**	**-1.2**
JAMN	**Amaminishikomi**	**4.16**	**22**	P	**Pn**	**14 23 28.3**	**+0.1**
JAM	**Amami Oshima**	**4.47**	**26**	P	**Pn**	**14 23 32.2**	**-0.3**
JAM				S	**Sn**	**14 24 21.2**	**-3.4**
JZK	**Kikaishima**	**4.54**	**30**	P	**Pn**	**14 23 34.0**	**+0.4**
JZK				*e*S	**Sn**	**14 24 24.9**	**-1.5**
JTAJ	**Takarajima**	**5.01**	**19**	P	**Pn**	**14 23 40.0**	**0.0**
JTAJ				*e*S	**Sn**	**14 24 33.3**	**-4.7**
NACB	**Ninganchiao**	**5.29**	**269**	Pn	**Pn**	**14 23 42.0**	**-1.9**
YHNB	**Yeheng**	**5.48**	**274**	Pn	**Pn**	**14 23 46.9**	**+0.4**
YULB	**Yu-li**	**5.66**	**261**	Pn	**Pn**	**14 23 46.5**	**-2.4**
SSLB	**Suanglung**	**5.91**	**265**	Pn	**Pn**	**14 23 50.3**	**-2.0**
TPUB	**Ta-pu**	**6.28**	**261**	Pn	**Pn**	**14 23 57.0**	**-0.5**
JSU	**Suzuyama**	**7.59**	**20**	Pn	**Pn**	**14 24 15.8**	**+0.4**
CVP	**Callao Caves**	**8.44**	**219**	*e*P	**Pn**	**14 24 24.9**	**-2.3**
APYP	**Conner**	**8.66**	**223**	*e*P	**Pn**	**14 24 25.8**	**-4.4**
CAUP	**Cauayan**	**9.06**	**216**	*e*P	**Pn**	**14 24 35.7**	**+0.1**
JNU	**Nakatsue**	**9.22**	**19**	Pn	**Pn**	**14 24 38.4**	**+0.5**
	3.9nm,0.3s,baz=223,slow=13,SNR=26						
JNU				Sn	**Sn**	**14 26 17.8**	**-3.9**
	0.7nm,0.3s,baz=67,slow=14,SNR=1.0						
JMN	**Monobe**	**10.89**	**30**	Pn	**Pn**	**14 25 00.3**	**-0.5**
JWT	**Wachi**	**12.88**	**31**	Pn	**Pn**	**14 25 28.1**	**+0.2**
KSRS	**Korea Array**	**13.03**	**2**	Pn	**Pn**	**14 25 28.8**	**-1.0**
	0.1nm,0.3s,baz=185,slow=12,SNR=2.0						
KSRS				LR	LR	14 30 55.8	
	comp=Z,68nm,18.4s,baz=187,slow=39						
USRK	**Ussuriysk Ar.**	**20.11**	**10**	P	Pn	14 27 00.8	+0.4
	1.9nm,0.8s,baz=184,slow=5.8,SNR=1.5						
ASAJ	**Asahikawa**	**23.28**	**29**	P	**P**	**14 27 33.8**	**+1.3**
	1.7nm,0.7s,baz=235,slow=12,SNR=1.5						
KLR	**Kul'dur**	**25.02**	**7**	P	**P**	**14 27 49.4**	**+0.5**
	2.9nm,1.0s,baz=189,slow=8.3,SNR=4.7						
SONM	**Songino Array**	**28.71**	**330**	P	**P**	**14 28 21.1**	**-1.1**
	0.8nm,0.6s,baz=155,slow=11,SNR=2.4						
SONM				LR	LR	14 40 50.2	
	comp=Z,70nm,19.0s,baz=108,slow=38						
MKAR	**Makanchi Array**	**42.21**	**314**	P	**P**	**14 30 18.0**	**+0.1**
	1.5nm,0.5s,baz=99,slow=10,SNR=38						
MKAR				LR	LR	14 49 42.3	
	comp=Z,39nm,18.2s,baz=101,slow=39						
FITZ	**Fitzroy Crossi**	**42.27**	**182**	P	**P**	**14 30 18.1**	**-0.4**
	4.2nm,1.0s,baz=0.2,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.26**	**324**	P	**P**	**14 30 27.9**	**+1.6**
	1.3nm,0.4s,baz=124,slow=7.9,SNR=4.2						
WB0	**Warramunga Arr**	**44.42**	**171**	P	**P**	**14 30 36.3**	**+0.4**
WB0				IAmb	IAmb	14 30 37.1	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**44.59**	**171**	P	**P**	**14 30 37.5**	**+0.3**
	comp=Z,11nm,0.8s,baz=352,slow=8.6,SNR=41						
WRA				PcP	**PcP**	**14 32 20.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=355,slow=3.1,SNR=1.6						
WRA	**Warramunga Arr**	**44.59**	**171**	P	**P**	**14 30 36.5**	**-0.7**
WB2	**Warramunga Arr**	**44.59**	**171**	P	**P**	**14 30 37.4**	**+0.2**
KURK	**Kurchatov**	**45.64**	**318**	P	**P**	**14 30 45.8**	**+0.4**
KURBB	**Kurchatov Arra**	**45.67**	**318**	P	**P**	**14 30 45.8**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=106,slow=8.2,SNR=13						
AAK	**Ala-Archa**	**46.91**	**306**	LR	LR	14 51 40.5	
	comp=Z,52nm,20.4s,baz=78,slow=38						
PALK	**Pallekele**	**47.76**	**257**	LR	LR	14 54 15.8	
	comp=Z,30nm,18.3s,baz=55,slow=40						
AS31	**Alice Springs**	**48.19**	**172**	P	**P**	**14 31 06.2**	**+0.7**
AS31				IAmb	IAmb	14 31 12.1	
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**48.19**	**172**	P	**P**	**14 31 06.7**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=358,slow=7.7,SNR=27						
ABKAR	**Akbulak array**	**57.35**	**314**	P	**P**	**14 32 12.7**	**-0.4**
ABKAR	**Akbulak array**	**57.35**	**314**	P	**P**	**14 32 13.4**	**+0.3**
ABKAR				IAmb	IAmb	14 32 14.8	
	comp=Z,3.5nm,0.8s						
STKA	**Stephens Creek**	**57.58**	**166**	P	**P**	**14 32 14.9**	**+0.1**
STKA				IAmb	IAmb	14 32 16.3	
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**66.41**	**28**	P	**P**	**14 33 16.2**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=262,slow=5.5,SNR=2.1						
ARCES	**ARCESS Array B**	**71.43**	**339**	P	**P**	**14 33 46.4**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=58,slow=7.5,SNR=2.3						
ARCES				LR	LR	15 09 04.4	
	comp=Z,13nm,19.8s,baz=215,slow=39						
FINES	**FINESS Array B**	**74.08**	**331**	P	**P**	**14 34 02.0**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=74,slow=5.7,SNR=10						
FINES	**FINESS Array B**	**74.08**	**331**	P	**P**	**14 34 01.6**	**+0.8**
AKASG	**Malin Array Be**	**76.43**	**320**	P	**P**	**14 34 14.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=56,slow=5.7,SNR=2.0						
AKASG				LR	LR	15 10 15.4	
	comp=Z,31nm,19.2s,baz=280,slow=38						
BRTR	**Keskin Array B**	**77.55**	**308**	P	**P**	**14 34 24.0**	**+2.7**
	comp=Z,0.4nm,0.4s,baz=76,slow=6.1,SNR=2.1						
YKA	**Yellowknife Ar**	**80.50**	**25**	LR	LR	15 13 14.2	
	comp=Z,16nm,18.7s,baz=0.0,slow=38						
NOA	**NORSAR Array B**	**80.61**	**334**	P	**P**	**14 34 38.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=53,slow=5.8,SNR=2.0						
NOA				LR	LR	15 13 19.8	
	comp=Z,14nm,18.7s,baz=95,slow=38						
GERES	**GERESS Array B**	**86.19**	**323**	LR	LR	15 14 30.6	
	comp=Z,24nm,19.8s,baz=318,slow=36						
KMBO	**Kilima Mbogo**	**90.58**	**269**	LR	LR	15 17 27.7	
	comp=Z,22nm,18.9s,baz=96,slow=36						

IDC 18 14:24:21.1±1.2,2°.10N×127°.16E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/37, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=79.4km s-min=20.0km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.06**	**126**	Pn	Pn	14 25 38.6	+0.3
	0.5nm,0.3s,baz=262,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**23.02**	**162**	P	P	14 29 27.6	-0.3
	0.2nm,0.3s,baz=341,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**26.44**	**166**	P	P	14 29 59.9	-0.1
	0.3nm,0.7s,baz=346,slow=7.8,SNR=9.0						
MKAR	**Makanchi Array**	**59.13**	**326**	P	P	14 34 23.7	0.0
	0.2nm,0.4s,baz=114,slow=7.6,SNR=3.2						
KURBB	**Kurchatov Arra**	**63.33**	**328**	P	P	14 34 52.1	+0.1
	0.8nm,0.6s,baz=129,slow=6.3,SNR=11						

*NDI **18** 14:36:03.3±2.8,22°.80N×92°.17E, h10km±89km, ML3.6*
*IDC **18** 14:36:04.2±1.0,22°.70N×92°.35E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/33, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=24.2km s-min=8.9km az=5.0*
ISC 18 14:36:04.3±0.9,22°.74N±0°.08×92°.13E±0°.07, h10km, n11, σ1s75/14, mb3.6/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**0.45**	**262**	Pg	**Pn**	**14 36 17.5**	**+0.7**
	183nm,0.3s,baz=69,slow=16,SNR=45						
BRDH				Lg	Lg	14 36 24.9	
	559nm,0.3s,baz=239,slow=20,SNR=13						
SHL	**Shillong**	**2.82**	**356**	*e*P	**Pn**	**14 36 50.0**	**+0.4**
SHL				*e*S	**Sn**	**14 37 23.1**	**-0.7**
SHL				IAML		14 37 24.0	
	comp=E,314nm,0.5s						
SHL	**Shillong**	**2.82**	**356**	*e*PN	**Pn**	**14 36 50.0**	**+0.4**
SHL				*e*SN	**Sn**	**14 37 24.0**	**+0.1**
BOK	**Bokaro**	**5.83**	**282**	*e*P	**Pn**	**14 37 32.6**	**+1.7**
BOK				*e*S	**Sn**	**14 38 36.1**	**-1.8**
BOK				IAML		14 38 40.5	
	comp=N,112nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.67**	**122**	Pn	**Pn**	**14 37 56.2**	**0.0**
	comp=N,0.8nm,0.3s,baz=301,slow=13,SNR=50						
BHPL	**Bhopal**	**13.55**	**275**	*e*P	**Pn**	**14 39 15.2**	**-1.6**
SMLA	**Simla**	**15.73**	**305**	*e*P	**Pn**	**14 39 42.8**	**-3.2**
SMLA				*e*S	Sn	14 42 26.8	-14
SMLA				IAML		14 42 39.5	
	comp=E,17nm,0.5s						
MKAR	**Makanchi Array**	**25.28**	**344**	P	**P**	**14 41 32.3**	**+1.5**
	comp=E,0.6nm,0.6s,baz=158,slow=8.9,SNR=9.0						
KURBB	**Kurchatov Arra**	**29.79**	**342**	P	**P**	**14 42 14.5**	**+3.3**
	comp=E,0.1nm,0.3s,baz=165,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**59.14**	**133**	P	**P**	**14 46 05.2**	**-0.3**
	comp=E,0.4nm,0.5s,baz=321,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**61.46**	**136**	P	**P**	**14 46 21.4**	**+0.1**
	comp=E,0.7nm,0.6s,baz=313,slow=6.6,SNR=15						

IDC 18 14:51:20.4±3.0,10°.15S×113°.47E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=152.3km s-min=27.4km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.20**	**125**	Pn	Pn	14 54 41.9	-1.0
	0.1nm,0.3s,baz=284,slow=8.3,SNR=2.1						
FITZ				Sn	Sn	14 57 04.4	-17
	0.0nm,0.3s,baz=77,slow=15,SNR=1.6						
WRA	**Warramunga Arr**	**22.36**	**118**	P	P	14 56 20.6	+0.3
	0.5nm,0.8s,baz=293,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**23.68**	**127**	P	P	14 56 34.0	0.0
	0.4nm,0.6s,baz=299,slow=9.3,SNR=9.0						
H08S2	**Diego Garcia H**	**40.54**	**270**	T	T	15 42 05.0	
	baz=96,slow=75,SNR=4.7						
H08S3	**Diego Garcia H**	**40.55**	**270**	T	T	15 42 04.8	
	baz=96,slow=75,SNR=4.2						
H08S1	**Diego Carcia H**	**40.56**	**270**	T	T	15 42 03.3	
	baz=96,slow=75,SNR=4.7						
MKAR	**Makanchi Array**	**63.16**	**337**	P	P	15 01 50.1	0.0
	0.2nm,0.5s,baz=148,slow=8.5,SNR=2.1						

SOME 18 15:16:58.3, 40°.50N×80°.70E, h5km, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**3.08**	**327**	*e*P	Pb	15 17 55.3	+1.7
	0.9nm,0.1s						
SATY				*e*S	Sg	15 18 36.2	-1.0
	6.0nm,0.1s						
KPKS	**Kokpek**	**3.32**	**334**	*e*P	Pb	15 17 59.7	+1.9
	1.8nm,0.1s						
KPKS				*e*S	Sg	15 18 43.9	-1.1
	5.7nm,0.3s						
MDOK	**Medeo**	**3.81**	**315**	*e*P	Pb	15 18 08.4	+2.3
	0.9nm,0.2s						
MDOK				*e*S	Sg	15 18 59.0	-1.7
	9.9nm,0.4s						
KOTS	**Kotyrbulak**	**3.83**	**317**	*e*P	Pg	15 18 09.4	-2.2
	2.3nm,0.2s						
KOTS				*e*S	Sg	15 19 00.6	-0.6
	5.5nm,0.4s						
KST	**Kastek**	**4.36**	**307**	*e*P	Pg	15 18 19.4	-2.4
	1.3nm,0.1s						
KST				*e*S	Sg	15 19 17.5	-0.8
	2.8nm,0.5s						
KTBS	**Karatobe**	**4.39**	**318**	*e*P	Pb	15 18 18.2	+2.4
	0.4nm,0.2s						
KTBS				*e*S	Sg	15 19 15.8	-3.3
	5.8nm,0.4s						
KRBS	**Karabastau**	**4.92**	**312**	*e*P	Pb	15 18 28.2	+3.3
	0.7nm,0.3s						
KRBS				*e*S	Sg	15 19 33.0	-3.1
	1.0nm,0.4s						

KRNET 18 15:17:57.2±0.1, 41°.95N×79°.15E, h18km, mb2.0, 10C, Kyrgyzstan-Xinjiang border region

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

ALIB				S		**Sb**	**15 19 39.0**	**+1.3**
SBZ	**Shahbuz**	**2.07**	**307**	P		**Pb**	**15 19 11.9**	**-0.1**
	SNR=89							
SBZ				S		**Sg**	**15 19 41.4**	**+0.8**
MAHB	**Mahabad**	**2.10**	**229**	*e*Pn		**Pb**	**15 19 10.8**	**-1.8**
MAHB				*e*			15 19 44.4	
	comp=Z,3μm,0.3s							
BRDA	**Brd**	**2.13**	**350**	S		**Sg**	**15 19 44.6**	**+2.1**
KDMR	**Kurdemir**	**2.24**	**10**	S		**Sg**	**15 19 45.6**	**-0.5**
GBS	**Qobustan**	**2.56**	**22**	S		**Sb**	**15 19 52.1**	**0.0**
MAKU	**Maku**	**2.63**	**298**	*e*Pn		**Pb**	**15 19 20.2**	**-1.4**
MAKU	**Maku**	**2.63**	**298**	*e*Pn		**Pb**	**15 19 20.2**	**-1.4**
MNGR	**Mingechevir, A**	**2.65**	**350**	P		**Pb**	**15 19 20.2**	**-1.5**
MNGR				S		**Sb**	**15 19 54.8**	**+0.4**
IML	**Ismayilli**	**2.65**	**8**	P		**Pb**	**15 19 19.9**	**-2.0**
IML				S		**Sb**	**15 19 53.5**	**-1.1**
IGZV	**Ghazvin**	**2.69**	**131**	*e*Pn		**Pb**	**15 19 20.0**	**-2.7**
IGZV				*e*			15 20 02.7	
	comp=Z,1μm,0.7s							
GANJ	**Ganja**	**2.69**	**337**	P		**Pb**	**15 19 21.0**	**-1.6**
	SNR=11							
GANJ				S		**Sb**	**15 19 57.1**	**+1.3**
HYR	**Heyderabad**	**2.70**	**306**	P		**Pb**	**15 19 21.9**	**-0.8**
	SNR=27							
HYR				S		**Sg**	**15 19 59.8**	**-1.0**
PQL	**Pirkuli**	**2.71**	**15**	P		**Pb**	**15 19 21.1**	**-1.9**
	SNR=4.0							
PQL				S		**Sb**	**15 19 57.7**	**+1.2**
QBL	**Gabala**	**2.78**	**2**	P		**Pn**	**15 19 20.4**	**+1.4**
QBL				S		**Sb**	**15 19 57.5**	**-0.8**
ATGJ	**Altiaghaj**	**2.86**	**19**	S		**Sb**	**15 19 58.7**	**-2.1**
QABG	**Abgarm-Qazvin**	**2.88**	**148**	*e*Pn		**Pn**	**15 19 20.8**	**+0.2**
QALM	**Alamut, Qazvin**	**2.93**	**125**	*e*Pn		**Pn**	**15 19 22.6**	**+1.4**
GDB	**GEDABAY**	**2.96**	**330**	P		**Pb**	**15 19 24.6**	**-2.6**
	SNR=27							
GDB				S		**Sb**	**15 20 03.8**	**+0.2**
NRKZ	**NAREK**	**2.98**	**309**	*i* P		**Sg**	**15 19 28.9**	**+1.4**
NRKZ				*i* S		**Sg**	**15 20 10.9**	**+1.1**
XNQ	**Khinaliq**	**3.02**	**7**	P		**Pn**	**15 19 24.6**	**+2.1**
	SNR=7.4							
XNQ				S		**Sb**	**15 20 04.0**	**-1.5**
GNI	**Garni**	**3.03**	**312**	*i* P		Sg	15 20 29.8	+19
GNI				*i* S		**Sg**	**15 20 12.9**	**+1.6**
SIZA	**Siyzn**	**3.06**	**18**	P		**Pb**	**15 19 26.3**	**-2.4**
	SNR=5.0							
SIZA				S		**Sb**	**15 20 06.0**	**-0.3**
SEKA	**Sheki**	**3.06**	**353**	P		**Pn**	**15 19 25.7**	**+2.8**
	SNR=8.9							
SEKA				S		**Sb**	**15 20 04.3**	**-2.2**
KAPZ	**Kaputan**	**3.16**	**314**	*i* P		**Pg**	**15 19 33.4**	**-1.2**
KAPZ				*i* S		**Sg**	**15 20 19.9**	**+4.2**
QUBA	**Quba, Azerbaij**	**3.25**	**11**	P		**Pn**	**15 19 28.7**	**+3.2**
	SNR=3.2							
QUBA				S		**Sb**	**15 20 09.8**	**-2.0**
IRAZ	**Razeghan**	**3.29**	**146**	*e*Pn		**Pn**	**15 19 28.6**	**+2.4**
QSAR	**Qusar**	**3.38**	**7**	P		**Pn**	**15 19 29.6**	**+2.4**
	SNR=3.9							
QSAR				S		**Sb**	**15 20 12.7**	**-2.8**
QZX	**Qazax, Azerbai**	**3.40**	**329**	P		**Pn**	**15 19 30.6**	**+3.1**
	SNR=7.3							
QZX				S		**Sb**	**15 20 18.0**	**+2.0**
THKV	**Tehran--Karaj**	**3.40**	**130**	IAML			15 20 21.8	
	comp=N,42nm,0.5s							
CHTH	**Charan**	**3.56**	**128**	*e*Pn		**Pn**	**15 19 31.8**	**+1.9**
CHTH	**Charan**	**3.56**	**128**	*e*Pn		**Pn**	**15 19 31.8**	**+1.9**
ZKTA	**Zakatala**	**3.56**	**347**	P		**Pn**	**15 19 32.9**	**+3.1**
	SNR=4.1							
ZKTA				S		**Sb**	**15 20 17.7**	**-3.2**
VNNZ	**Vanand**	**3.57**	**304**	*i* P		**Pg**	**15 19 40.5**	**-2.0**
VNNZ				*i* S		**Sg**	**15 20 32.5**	**+3.8**
ASAO	**Ashtian**	**4.07**	**152**	*e*Pn		**Pn**	**15 19 37.9**	**+0.9**
ASAO	**Ashtian**	**4.07**	**152**	*e*Pn		**Pn**	**15 19 37.9**	**+0.9**
IPRN	**Peran**	**4.18**	**116**	*e*Pn		**Pn**	**15 19 40.0**	**+1.6**
ISHM	**Shahmirzad**	**5.07**	**116**	*e*Pn		**Pn**	**15 19 54.6**	**+3.9**
ISFB	**Sefidab**	**5.29**	**135**	*e*Pn		**Pn**	**15 19 57.0**	**+3.4**
ANAR	**Anarak**	**6.99**	**133**	*e*Pn		**Pn**	**15 20 20.0**	**+3.1**
AB31	**Akbulak array**	**14.17**	**35**	⇓P		**Pn**	**15 21 53.4**	**-1.6**
	comp=N,0.4nm,0.7s,baz=219,slow=13,SNR=6.5							
AB31				⇑S		Sn	15 24 18.9	-14
	comp=N,0.8nm,0.6s,baz=221,slow=24							
AKTO	**Aktyubinsk**	**14.31**	**28**	⇑P		**Pn**	**15 21 54.1**	**-2.8**
	comp=N,1.4nm,0.7s							
AKTO				⇑S		Sn	15 24 26.1	-10
	comp=N,1.3nm,0.7s							

IDC 18 15:38:11.4±5.6, 6°.50N×126°.87E, h201^{km}±74^{km}, mb2.9/3, mb1 3.1/4, mb1mx2.9/31, mbtmp3.5/4, Error ellipse: s-maj=200.6km s-min=23.7km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**8.54**	**149**	P		Pn	15 40 11.7	0.0
	0.5nm,0.3s,baz=188,slow=22,SNR=8.6							
SIJI				S		S	15 41 42.2	-5.6
	0.2nm,0.3s,baz=38,slow=18,SNR=1.9							
WRA	**Warramunga Arr**	**27.29**	**165**	P		P	15 43 38.1	+0.7
	0.4nm,1.0s,baz=346,slow=10,SNR=1.5							
ASAR	**Alice Springs**	**30.76**	**167**	P		P	15 44 07.7	-0.4
	0.2nm,0.4s,baz=338,slow=7.3,SNR=13							
MKAR	**Makanchi Array**	**55.39**	**324**	P		P	15 47 24.6	-0.1
	0.3nm,0.3s,baz=127,slow=8.5,SNR=4.5							

*SOME **18** 15:51:05.0, 41°.13N×83°.57E, h0^{km}*
*NNC **18** 15:51:08.2±1.6, 41°.45N×83°.64E, h0^{km}, mb3.7, mpv3.5, Error ellipse: s-maj=11.3km s-min=7.4km az=145.0*
ISC 18 15:51:11.0±2.2, 41°.46N±0°.09×83°.48E±0°.07, h10^{km}, n40, σ2^{s}58/63, 8C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTMS	**Ketmen**	**3.04**	**312**	*e*P		**Pb**	**15 52 05.4**	**0.0**
	4.6nm,0.2s							
KTMS				*e*S		**Sg**	**15 52 49.1**	**+0.3**
	18nm,0.3s							
SHLS	**Shalkode**	**3.42**	**301**	*e*P		**Pn**	**15 52 07.0**	**+2.4**
	11nm,0.2s							
SHLS				*e*S		**Sb**	**15 52 51.6**	**-1.9**
	104nm,0.5s							
SHLS	**Shalkode**	**3.42**	**301**	Pg		**Pn**	**15 52 07.0**	**+2.4**
	11nm,0.2s							
SHLS				Lg		Lg	15 52 51.6	
	104nm,0.5s							
PDGK	**Podgornoye**	**3.49**	**304**	Pg		**Pg**	**15 52 16.5**	**-1.4**
	2.1nm,0.3s							
PDGK				Lg		Lg	15 53 07.7	
	18nm,0.5s							
PDGK	**Podgornoye**	**3.49**	**304**	⇓Pn		**Pn**	**15 52 06.1**	**+0.7**
	2.3nm,0.8s							
PDGK				⇑Pg		**Pg**	**15 52 16.3**	**-1.5**
	4.9nm,0.5s							
PDGK				⇑Sn		**Sn**	**15 52 50.5**	**+3.6**
	16nm,0.3s							
PDGK				⇓Lg		Lg	15 53 01.7	
	33nm,0.7s							
UZB	**Uzynbulak**	**3.71**	**298**	*e*P		**Pb**	**15 52 16.6**	**0.0**
	1.1nm,0.1s							
UZB				*e*S		**Sg**	**15 53 08.3**	**-1.7**
	38nm,0.6s							
UZB	**Uzynbulak**	**3.71**	**298**	Pg		**Pb**	**15 52 16.6**	**0.0**
	1.1nm,0.1s							
UZB				Lg		Lg	15 53 08.3	
	38nm,0.6s							
DJR	**Jarkent**	**3.94**	**318**	*e*P		**Pg**	**15 52 24.4**	**-2.1**
	0.4nm,0.2s							
DJR				*e*S		**Sg**	**15 53 21.7**	**+4.2**
	1.7nm,0.3s							
DJR	**Jarkent**	**3.94**	**318**	Pg		**Pg**	**15 52 24.4**	**-2.1**
	0.4nm,0.2s							
DJR				Lg		Lg	15 53 21.7	
	1.7nm,0.3s							
KPKS	**Kokpek**	**4.07**	**301**	*e*P		**Pb**	**15 52 24.4**	**+1.6**
	6.9nm,0.1s							
KPKS				*e*S		**Sg**	**15 53 21.3**	**-0.3**
	44nm,0.5s							
SATY	**Saty**	**4.09**	**295**	*e*P		**Pg**	**15 52 27.1**	**-2.2**
	2.6nm,0.2s							
SATY				*e*S		**Sg**	**15 53 26.0**	**+3.9**
	44nm,0.4s							
KURS	**Kuram**	**4.42**	**299**	*e*P		**Pb**	**15 52 30.3**	**+1.6**
	3.8nm,0.5s							
KURS				*e*S		**Sg**	**15 53 31.3**	**-1.4**
	11nm,0.5s							
KURS	**Kuram**	**4.42**	**299**	Pg		**Pb**	**15 52 30.3**	**+1.6**
	3.8nm,0.5s							
KURS				Lg		Lg	15 53 31.3	
	11nm,0.5s							
KAPS	**Kapalarasan**	**4.86**	**323**	*e*P		**Pg**	**15 52 40.0**	**-4.0**
	0.3nm,0.3s							
KAPS				*e*S		**Sg**	**15 53 48.2**	**+1.4**
	1.5nm,0.5s							
ARXS	**Arharly**	**4.98**	**305**	*e*P		**Pg**	**15 52 42.8**	**-3.6**
	3.9nm,0.3s							
ARXS				*e*S		**Sg**	**15 53 53.1**	**+2.3**
	12nm,0.3s							
ARXS	**Arharly**	**4.98**	**305**	Pg		**Pg**	**15 52 42.8**	**-3.6**
	3.9nm,0.3s							
ARXS				Lg		Lg	15 53 53.1	
	12nm,0.3s							
KOTS	**Kotyrbulak**	**5.04**	**293**	*e*P		**Pg**	**15 52 43.0**	**-4.4**
	5.0nm,0.3s							
KOTS				*e*S		**Sg**	**15 53 53.7**	**+1.0**
	16nm,0.5s							
MDOK	**Medeo**	**5.06**	**292**	*e*P		**Pb**	**15 52 41.9**	**+2.2**
	1.7nm,0.2s							
MDOK				*e*S		**Sg**	**15 53 51.6**	**-1.8**
	12nm,0.5s							
MDOK	**Medeo**	**5.06**	**292**	Pg		**Pg**	**15 52 43.6**	**-4.2**
	2.0nm,0.5s							
MDOK				Lg		Lg	15 53 50.7	
	11nm,0.6s							
MDOK	**Medeo**	**5.06**	**292**	Pg		**Pb**	**15 52 41.9**	**+2.2**
	1.7nm,0.2s							
MDOK				Lg		Lg	15 53 51.6	
	12nm,0.5s							
CHKK	**Chushkaly**	**5.35**	**299**	*e*P		**Pb**	**15 52 47.0**	**+2.5**
	0.8nm,0.1s							
CHKK				*e*S		**Sg**	**15 54 00.3**	**-2.3**
	7.8nm,0.3s							
CHKK	**Chushkaly**	**5.35**	**299**	Pg		**Pb**	**15 52 47.0**	**+2.5**
	0.8nm,0.1s							
CHKK				Lg		Lg	15 54 00.3	
	7.8nm,0.3s							
MK31	**Makanchi Array**	**5.40**	**351**	⇑Pg		**Pb**	**15 52 44.6**	**-0.7**
	1.1nm,0.4s,baz=173,slow=16,SNR=6.2							
MK31				⇑Sn		**Sn**	**15 53 34.6**	**+0.9**
	2.7nm,0.6s							
MK31				⇑Lg		Lg	15 54 01.8	
	22nm,1.0s,baz=164,slow=30,SNR=3.9							
MAKZ	**Makanchi**	**5.45**	**349**	⇓Pg		**Pb**	**15 52 47.0**	**+0.8**
	2.3nm,1.2s							
MAKZ				⇑Sn		**Sn**	**15 53 35.5**	**+0.5**
	3.2nm,0.6s							
MAKZ				⇓Lg		Lg	15 54 02.0	
	5.3nm,0.7s							
MTBS	**Maitube**	**5.49**	**290**	*e*P		**Pb**	**15 52 50.0**	**+3.1**
	1.2nm,0.2s							
MTBS				*e*S		**Sg**	**15 54 05.4**	**-1.6**
	12nm,0.4s							
MTBS	**Maitube**	**5.49**	**290**	Pg		**Pb**	**15 52 50.0**	**+3.1**
	1.2nm,0.2s							
MTBS				Lg		Lg	15 54 05.4	
	12nm,0.4s							
KTBS	**Karatobe**	**5.50**	**296**	*e*P		**Pb**	**15 52 49.4**	**+2.3**
	0.6nm,0.2s							
KTBS				*e*S		**Sg**	**15 54 04.6**	**-2.7**
	23nm,0.3s							
KTBS	**Karatobe**	**5.50**	**296**	Pg		**Pb**	**15 52 49.4**	**+2.3**
	0.6nm,0.2s							
KTBS				Lg		Lg	15 54 04.6	
	23nm,0.3s							
KUU	**Kurty**	**5.79**	**297**	*e*P		**Pb**	**15 52 55.5**	**+3.4**
	0.8nm,0.1s							
KUU				*e*S		**Sg**	**15 54 14.7**	**-2.2**
	6.3nm,0.5s							
KUU	**Kurty**	**5.79**	**297**	Pg		**Pb**	**15 52 55.5**	**+3.4**
	0.8nm,0.1s							
KUU				Lg		Lg	15 54 14.7	
	6.3nm,0.5s							
KST	**Kastek**	**5.79**	**288**	*e*P		**Pb**	**15 52 54.8**	**+2.7**
	2.9nm,0.6s							
KST				*e*S		**Sg**	**15 54 14.2**	**-2.8**
	11nm,0.6s							
KST	**Kastek**	**5.79**	**288**	Pg		**Pb**	**15 52 54.8**	**+2.7**
	2.9nm,0.6s							
KST				Lg		Lg	15 54 14.1	
	11nm,0.6s							
DGS	**Degeres**	**5.98**	**290**	*e*P		**Pb**	**15 52 58.4**	**+3.1**
	1.9nm,0.3s							
DGS				*e*S		**Sg**	**15 54 19.7**	**-3.1**
	8.8nm,0.5s							
DGS	**Degeres**	**5.98**	**290**	Pg		**Pb**	**15 52 58.3**	**+3.1**
	1.9nm,0.3s							
DGS				Lg		Lg	15 54 19.7	
	8.8nm,0.5s							
TKM2	**Tokmak 2**	**6.03**	**287**	⇑Pn		**Pn**	**15 52 41.0**	**+0.6**
	1.0nm,0.3s							
TKM2				⇑Sn		**Sn**	**15 53 51.4**	**+1.8**
	2.5nm,0.5s							
TKM2				⇓Lg		Lg	15 54 23.9	
	7.4nm,0.5s							
ZSN	**Zaisan**	**6.07**	**9**	*e*P		**Pg**	**15 53 03.3**	**-3.8**
	2.1nm,0.4s							
ZSN				*e*S		**Sg**	**15 54 28.6**	**+2.9**
	13nm,0.8s							
ZSN	**Zaisan**	**6.07**	**9**	Pg		**Pg**	**15 53 03.3**	**-3.8**
	2.1nm,0.4s							
ZSN				Lg		Lg	15 54 28.6	
	13nm,0.8s							
KRBS	**Karabastau**	**6.17**	**294**	*e*P		**Pb**	**15 53 01.4**	**+2.8**
	1.2nm,0.3s							
KRBS				*e*S		**Sg**	**15 54 25.6**	**-3.5**
	3.5nm,0.5s							
KRBS	**Karabastau**	**6.17**	**294**	Pg		**Pb**	**15 53 01.4**	**+2.8**
	1.2nm,0.3s							
KRBS				Lg		Lg	15 54 25.6	
	3.5nm,0.5s							
AAK	**Ala-Archa**	**6.79**	**283**	⇓Lg		Lg	15 54 49.5	
	12nm,1.2s							

*IDC **18** 15:56:21.6±0.8, 21°.46S×68°.13W, h114^{km}±10^{km}, mb3.9/8, mb1 3.9/12, mb1mx3.8/30, mbtmp4.2/12, Error ellipse: s-maj=21.7km s-min=13.7km az=124.0*
*SJA **18** 15:56:21.2±0.5, 21°.46S×68°.50W, h142^{km}±3^{km}, ML4.2, MW3.9*
*VAO **18** 15:56:22.7±0.3, 21°.54S×67°.99W, h111^{km}±5^{km}, mb4.2*
*NEIC **18** 15:56:22.5±1.5, 21°.49S±0°.04×68°.48W±0°.09, h131^{km}±5^{km}, mb4.5/11, ML4.3(GUC), Error ellipse: s-maj=12.4km s-min=5.8km az=85.0*
*GUC **18** 15:56:22.0±0.8, 21°.45S×68°.61W, h142^{km}±4^{km}, ML4.3*
ISC 18 15:56:21.6±0.6, 21°.54S±0°.04×68°.46W±0°.04, h131^{km}±6^{km}, n118, σ1^{s}59/160, mb4.3/11, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.78**	**251**	*e*P		**Pn**	**15 56 44.4**	**+1.5**
PB09				*i* S		**Sn**	**15 57 01.0**	**+2.1**
PB09	**IPOC Station P**	**0.78**	**251**			**Pn**	**15 56 43.9**	**+1.1**
PB09				Sn		**Sn**	**15 56 59.9**	**+0.9**
PB09	**IPOC Station P**	**0.78**	**251**	*e*P		**Pn**	**15 56 44.3**	**+1.5**
PB09				*e*S		**Sn**	**15 57 01.0**	**+2.1**
PB09				IAML			15 57 03.3	
	comp=Z,2μm,0.4s							
PB01	**IPOC Station P**	**1.08**	**297**	*e*P		**Pn**	**15 56 46.0**	**+0.5**
PB01				*i* S		**Sn**	**15 57 03.9**	**+0.4**
PB01				IAML			15 57 05.4	
	comp=E,7μm,0.2s							
PB01	**IPOC Station P**	**1.08**	**297**			**Pn**	**15 56 45.4**	**-0.1**
PB01				Sn		**Sn**	**15 57 03.2**	**-0.3**
PB01	**IPOC Station P**	**1.08**	**297**	*e*P		**Pn**	**15 56 46.0**	**+0.5**
PB01				*e*S		**Pn**	**15 56 46.0**	**+0.5**
PB01				*e*S		**Sn**	**15 57 04.0**	**+0.4**
PB01				IAML			15 57 05.5	
	comp=Z,3μm,0.2s							
LVC	**Limon Verde**	**1.15**	**202**	P		**Pn**	**15 56 48.1**	**+1.7**
	baz=20,slow=10							
LVC				S		**Sn**	**15 57 06.5**	**+1.3**
	comp=Z,261nm,0.3s,baz=92,slow=23,SNR=18							
LVC				LR		LR	15 57 14.1	
	comp=Z,135nm,18.6s,baz=102,slow=39							
LVC	**Limon Verde**	**1.15**	**202**			**Pn**	**15 56 47.8**	**+1.4**
LVC				Sn		**Sn**	**15 57 05.8**	**+0.6**
LVC	**Limon Verde**	**1.15**	**202**	*e*P		**Pn**	**15 56 48.2**	**+1.7**
LVC				*e*S		**Sn**	**15 57 07.4**	**+2.1**
LVC	**Limon Verde**	**1.15**	**202**	*e*P		**Pn**	**15 56 48.0**	**+1.6**
LVC				*e*S		**Sn**	**15 57 07.2**	**+1.9**
PB07	**IPOC Station P**	**1.34**	**262**	*e*P		**Pn**	**15 56 49.3**	**+1.1**
PB07				*i* S		**Sn**	**15 57 09.6**	**+1.1**
PB07				IAML			15 57 10.4	
	comp=E,6μm,0.2s							
PB07	**IPOC Station P**	**1.34**	**262**			**Pn**	**15 56 48.3**	**+0.1**
PB07				Sn		**Sn**	**15 57 09.1**	**+0.6**
PB07	**IPOC Station P**	**1.34**	**262**	*e*P		**Pn**	**15 56 49.2**	**+1.0**
PB07				*e*S		**Sn**	**15 57 09.8**	**+1.3**
PB07				IAML			15 57 11.4	
	comp=Z,3μm,0.2s							
PB08	**IPOC Station P**	**1.54**	**335**	*e*P		**Pn**	**15 56 51.5**	**+0.9**
PB08				*i* S		**Sn**	**15 57 13.2**	**+0.5**
PB08				IAML			15 57 16.2	
	comp=E,2μm,0.3s							
PB08	**IPOC Station P**	**1.54**	**335**			**Pn**	**15 56 51.2**	**+0.6**
PB08				Sn		**Sn**	**15 57 12.4**	**-0.2**
PB08	**IPOC Station P**	**1.54**	**335**	*e*P		**Pn**	**15 56 51.5**	**+0.9**
PB08				*e*S		**Sn**	**15 57 13.0**	**+0.4**
PB08				IAML			15 57 15.7	
	comp=Z,1μm,0.4s							
PB06	**IPOC Station P**	**1.56**	**222**	*e*P		**Pn**	**15 56 52.1**	**+1.6**
PB06				*i* S		**Sn**	**15 57 15.0**	**+2.3**
PB06				IAML			15 57 15.7	
	comp=E,4μm,0.3s							
PB06	**IPOC Station P**	**1.56**	**222**			**Pn**	**15 56 51.9**	**+1.3**
PB06				Sn		**Sn**	**15 57 14.0**	**+1.4**
PB06	**IPOC Station P**	**1.56**	**222**	*e*P		**Pn**	**15 56 52.1**	**+1.6**
PB06				*e*S		**Sn**	**15 57 14.9**	**+2.3**
PB06				IAML			15 57 15.3	
	comp=Z,2μm,0.4s							
PB04	**IPOC Station P**	**1.76**	**243**	*e*P		**Pn**	**15 56 54.1**	**+1.1**
PB04				*i* S		**Sn**	**15 57 18.3**	**+1.4**
PB04	**IPOC Station P**	**1.76**	**243**			**Pn**	**15 56 53.9**	**+1.1**
PB04				Sn		**Sn**	**15 57 16.7**	**-0.2**
PB04	**IPOC Station P**	**1.76**	**243**	*e*P		**Pn**	**15 56 54.0**	**+1.1**
PB04				*e*S		**Sn**	**15 57 18.2**	**+1.4**
PB04				IAML			15 57 19.9	
	comp=Z,1μm,0.1s							
HMBC	**Humberstone**	**1.83**	**313**	*e*P		**Pn**	**15 56 53.9**	**+0.2**
HMBC				*i* S		**Sn**	**15 57 17.6**	**-0.7**
HMBC				IAML			15 57 19.6	
	comp=N,5μm,0.4s							
TA01	**Diego Aracena**	**1.88**	**301**	*e*P		**Pn**	**15 56 54.3**	**+0.2**
TA01				*i* S		**Sn**	**15 57 18.4**	**-0.6**
TA01				IAML			15 57 19.7	
	comp=E,3μm,0.2s							
TA01	**Diego Aracena**	**1.88**	**301**			**Pn**	**15 56 54.4**	**+0.3**
TA01				Sn		**Sn**	**15 57 18.2**	**-0.9**
PB15	**IPOC Station P**	**1.91**	**209**			**Pn**	**15 56 56.5**	**+1.8**
PB15				Sn		**Sn**	**15 57 22.0**	**+1.9**
PB15	**IPOC Station P**	**1.91**	**209**	*e*P		**Pn**	**15 56 56.6**	**+1.8**
PB15				*e*S		**Sn**	**15 57 23.1**	**+3.0**
PB15				IAML			15 57 25.7	
	comp=Z,5μm,0.2s							
TA02	**Huaiquique**	**2.01**	**309**	*i* S		**Sn**	**15 57 20.9**	**-1.0**
TA02	**Huaiquique**	**2.01**	**309**			**Pn**	**15 56 54.1**	**-1.6**
PB05	**IPOC Station P**	**2.08**	**231**	*e*P		**Pn**	**15 56 57.8**	**+1.1**
PB05				*i* S		**Sn**	**15 57 25.1**	**+1.4**
PB05	**IPOC Station P**	**2.08**	**231**	*e*P		**Pn**	**15 56 58.0**	**+1.3**
PB05				*e*S		**Sn**	**15 57 24.6**	**+0.9**
PB05				IAML			15 57 26.9	
	comp=Z,452nm,0.3s							
PB11	**IPOC Station P**	**2.10**	**327**	*e*P		**Pn**	**15 56 57.0**	**0.0**
PB11				*i* S		**Sn**	**15 57 23.6**	**-0.4**
PB11				IAML			15 57 26.0	
	comp=N,2μm,0.2s							
PB11	**IPOC Station P**	**2.10**	**327**			**Pn**	**15 56 56.9**	**0.0**
PB11	**IPOC Station P**	**2.10**	**327**	*e*P		Pn	15 56 46.0	-11
PB11				*e*P		**Pn**	**15 56 57.0**	**0.0**
PB11				*e*S		**Sn**	**15 57 23.6**	**-0.4**
PB11				IAML			15 57 24.8	
	comp=Z,1μm,0.2s							
PSGC	**Pisagua**	**2.48**	**321**	*e*P		**Pn**	**15 57 01.1**	**-0.6**
PSGC				*i* S		**Sn**	**15 57 31.6**	**-1.0**
PSGCX	**Pisagua**	**2.48**	**321**			**Pn**	**15 57 00.9**	**-0.8**
PSGCX	**Pisagua**	**2.48**	**321**	*e*P		**Pn**	**15 57 01.1**	**-0.6**
PSGCX				*e*S		**Sn**	**15 57 31.4**	**-1.2**
PSGCX				IAML			15 57 32.7	
	comp=Z,675nm,0.3s							
MNMC	**Minye Minye**	**2.62**	**336**			**Pn**	**15 57 03.8**	**+0.1**
MNMCX	**Minye Minye**	**2.62**	**336**	*e*P		**Pn**	**15 57 03.6**	**-0.1**
MNMCX				IAML			15 57 38.0	
	comp=Z,1μm,0.4s							
PB10	**IPOC Station P**	**2.76**	**224**	Pn		**Pn**	**15 57 06.3**	**+1.2**
PB10	**IPOC Station P**	**2.76**	**224**	*e*P		**Pn**	**15 57 06.8**	**+1.6**
PB10				*e*S		**Sn**	**15 57 38.2**	**-0.6**
YJA	**Yavi**	**2.81**	**104**	*e*P		**Pn**	**15 57 08.6**	**+2.5**
YJA				*e*S		**Sn**	**15 57 42.9**	**+2.5**
HJA	**Humahuaca**	**3.27**	**121**	*e*P		**Pn**	**15 57 14.9**	**+2.8**
PB14	**IPOC Station P**	**3.56**	**210**	Pn		**Pn**	**15 57 15.2**	**-0.6**
PB14	**IPOC Station P**	**3.56**	**210**	*e*P		**Pn**	**15 57 17.3**	**+1.5**
PB14				*e*S		**Sn**	**15 57 57.8**	**0.0**
PB14				IAML			15 58 21.2	
	comp=Z,173nm,0.6s							
AP01	**Chacalluta**	**3.62**	**330**	Pn		**Pn**	**15 57 16.8**	**+0.4**
GO02	**Mina Guanaco**	**3.75**	**196**	Pn		**Pn**	**15 57 19.3**	**+0.9**
AZAP	**Zapla**	**4.11**	**131**	*e*P		**Pn**	**15 57 25.1**	**+2.0**
AC01	**Pan de Azucar**	**4.99**	**203**	Pn		**Pn**	**

comp=Z,1.7nm,0.3s,baz=188,slow=5.8,SNR=9.3
DIAM Diamantina, MG 23.52 87 *e*P **P 16 01 19.6 -0.5**
SMTB Santa Maria do 23.71 61 *e*P **P 16 01 21.3 -0.5**
JANB Januaria 23.80 78 *e*P **P 16 01 22.1 -0.5**
SDBA SAO DESIDERIO 24.26 72 *e*P **P 16 01 25.8 -0.9**
CAM01 Campos-RJ 24.89 96 *e*P **P 16 01 31.8 -0.6**
BOAV Boa Vista 25.02 19 *e*P **P 16 01 34.5 +0.9**
RIB01 Linhares ES 26.38 90 *e*P **P 16 01 45.4 -0.4**
MCPB Macapa, AP 26.44 39 *e*P **P 16 01 47.1 +0.7**
NAN01 Guarapari, ES 26.91 87 *e*P **P 16 01 49.6 -1.0**
GUA01 Guaratinga, BA 27.50 85 *e*P **P 16 01 55.6 -0.3**
RCBR Riachuelo 35.16 58 P **P 16 03 02.2 -0.9**
comp=Z,9.0nm,0.8s,baz=233,slow=5.1,SNR=4.9
RCBR Riachuelo 35.16 68 IAmb IAmb 16 03 04.3
comp=Z,15nm,1.0s
PDPR Patillas Dam, 39.38 4 P **P 16 03 37.0 -1.5**
CPCT Cooper Cave 58.69 345 P **P 16 06 05.7 +0.4**
CPCT IAmb IAmb 16 06 07.1
comp=Z,3.7nm,1.0s
SWET Sewanee 58.83 343 P **P 16 06 06.4 0.0**
WVT Waverly 60.21 342 P **P 16 06 15.9 +0.1**
WVT IAmb IAmb 16 06 16.8
comp=Z,4.4nm,0.7s
T47A Sharon Grove 60.81 343 P **P 16 06 19.9 +0.1**
T47A IAmb IAmb 16 06 21.3
comp=Z,6.9nm,0.7s
TXAR Lajitas Array 60.90 325 P **P 16 06 22.3 +1.6**
comp=Z,0.3nm,0.6s,baz=144,slow=7.8,SNR=3.1
DBIC Dimbokro 68.34 73 P **P 16 07 09.5 +0.3**
comp=Z,7.2nm,0.8s,baz=200,slow=8.2,SNR=5.9
NVAR Mina Array Bea 75.78 322 P P **16 07 56.2 +2.8**
comp=Z,0.1nm,0.4s,baz=128,slow=7.0,SNR=2.8
TORD Torodi Ar. Bea 76.97 70 P **P 16 08 00.6 +0.4**
comp=Z,6.6nm,0.6s,baz=255,slow=5.3,SNR=37
TORD Torodi Ar. Bea 76.97 70 P **P 16 08 00.5 +0.2**
TORD IAmb IAmb 16 08 01.3
comp=Z,5.9nm,0.7s
ESDC Sonseca Array 85.56 44 P **P 16 08 46.2 +1.0**
comp=Z,1.3nm,1.0s,baz=241,slow=3.6,SNR=4.0
YKA Yellowknife Ar 91.36 340 PKP P **16 09 14.0 +2.0**
comp=Z,1.0nm,0.5s,baz=94,slow=1.2,SNR=7.5
ASAR Alice Springs 130.07 207 PKP **PKiKP 16 15 18.7 +1.2**
comp=Z,0.3nm,0.8s,baz=126,slow=1.7,SNR=4.0
WRA Warramunga Arr 133.13 210 PKP **PKiKP 16 15 25.0 +1.2**
comp=Z,0.3nm,0.6s,baz=158,slow=1.6,SNR=1.6
MKAR Makanchi Array 145.41 36 PKPbc **PKPab 16 15 46.0 +1.4**
comp=Z,2.9nm,0.7s,baz=324,slow=3.8,SNR=33
MKAR Makanchi Array 145.41 36 **PKPab 16 15 45.9 +1.3**

KRSC 18 15:58:00.0±2.3, 48°.99N×156°.45E, h40km±26km, ML4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.71**	**353**	*e*P	Pn	15 58 28.0	+0.8
SKR				*e*S	Sn	15 58 49.5	+1.7
ALID	**Alaid**	**1.97**	**343**	*e*P	Pn	15 58 30.9	-0.1
ALID				*e*S	Sn	15 58 55.1	+0.6
PAU	**Pauzhetka**	**2.49**	**5**	*e*P	Pn	15 58 40.9	+2.9
PAU				*e*S	Sn	15 59 11.6	+4.5
KDTR	**Khodutka, Kamc**	**3.01**	**20**	*e*P	Pn	15 58 48.8	+3.7
KDTR				*e*S	Sn	15 59 25.5	+5.7
MIPR	**Malaya Ipel'ka**	**3.29**	**3**	*e*P	Pn	15 59 51.9	+2.8
MTVR	**Mutnovka**	**3.66**	**17**	*e*P	Pn	15 58 58.6	+4.3
MTVR				*e*S	Sn	15 59 42.9	+6.6
RUS	**Russkaya**	**3.69**	**20**	*e*P	Pn	15 58 57.8	+3.4
RUS				*e*S	Sn	15 59 41.9	+5.4
GRL	**Gorelyy**	**3.71**	**15**	*e*P	Pn	15 58 59.2	+4.3
APC	**Apacha**	**3.96**	**6**	P	Pn	15 59 02.8	+4.6
KRMR	**Karymshinskiy**	**3.99**	**15**	*e*S	Sn	15 59 48.8	+4.8
PET	**Petropavlovsk**	**4.27**	**18**	*e*S	Sn	15 59 57.8	+6.9
DALK	**Dalny**	**4.30**	**19**	*e*P	Pn	15 59 07.0	+4.2
DALK				*e*S	Sn	15 59 58.1	+6.5
UGLR	**Uglovaya**	**4.48**	**19**	*e*P	Pn	15 59 10.0	+4.6
AVH	**Avacha**	**4.51**	**18**	*e*P	Pn	15 59 10.8	+4.9
KOK	**Koryaka**	**4.52**	**17**	*e*P	Pn	15 59 11.6	+5.6
SMAR	**Somma**	**4.53**	**18**	*e*P	Pn	15 59 11.0	+4.9
KRER	**Koryakskii**	**4.55**	**18**	*e*P	Pn	15 59 11.2	+4.7
NLC	**Nalytchevo**	**4.56**	**22**	*e*S	Sn	16 00 02.2	+4.0
KRX	**Arik**	**4.59**	**17**	*e*P	Pn	15 59 12.3	+5.4
SPK	**Mys Shipunski**	**4.69**	**27**	*e*P	Pn	15 59 12.6	+4.1
SPN				*e*S	Sn	16 00 07.5	+6.3
GNL	**Ganaly**	**4.80**	**11**	*e*P	Pn	15 59 13.8	+4.0
KZV	**Kizimen**	**6.57**	**20**	*e*P	Pn	15 59 40.1	+5.9
TUMR	**Tumrok**	**6.70**	**18**	*e*P	Pn	15 59 41.7	+5.9
KMNR	**Kamenistaya**	**7.16**	**17**	*e*P	Pn	15 59 45.5	+3.3
BKI	**Bering**	**8.54**	**40**	*e*S	Sn	16 01 36.7	+0.8

*UPA **18** 16:21:11.9±1.2, 7°.92N×77°.82W, h5km±8km, MW3.5*
*RSNC **18** 16:21:13.4±1.2, 7°.91N×77°.88W, h4km±5km, ML2.9*
ISC 18 16:21:12.5±1.2, 7°.94N±0°.03×77°.86W±0°.03, h7km±10km, n30, σ1°.14/53, 2C-3D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.63**	**346**	⇓*i*P	**Pg**	**16 21 25.2**	**+0.7**
UPD2				*e*S	**Sb**	**16 21 35.1**	**+0.3**
UPD2	**Meteti**	**0.63**	**346**	⇓*i*P	**Pg**	**16 21 25.2**	**+0.7**
UPD2				*e*S	**Sg**	**16 21 33.9**	**+1.1**
UPD2				*i*		16 21 42.4	
comp=Z,974nm,0.3s							
PTAC	**Punta Ardita,**	**0.79**	**176**	⇑*i*P	**Pg**	**16 21 26.3**	**-1.3**
PTAC				*e*S	**Sg**	**16 21 37.0**	**-0.8**
CNTA3	**Canitas, Panam**	**1.63**	**321**	*e*P	**Pn**	**16 21 41.0**	**-0.7**
CNTA3				*e*S	**Sn**	**16 22 03.6**	**+0.7**
LCBC	**Los crdobas,**	**1.74**	**58**	*e*P	**Pb**	**16 21 44.3**	**-0.4**
LCBC				*e*S	**Sb**	**16 22 06.6**	**-0.1**
LCBC				*i*		16 22 12.1	
comp=Z,91nm,0.3s							
SOLC	**Bahia Solano**	**1.76**	**165**	*e*P	**Pn**	**16 21 43.3**	**-0.1**
SOLC				*i*		16 21 46.5	
comp=Z,110nm,0.5s							
SOLC				*e*S	**Sn**	**16 22 06.0**	**0.0**
UPA	**Univ. de Panam**	**1.95**	**302**	*e*P	**Pn**	**16 21 45.1**	**-1.0**
UPA				*e*S	**Sn**	**16 22 11.4**	**+0.6**
UPA	**Univ. de Panam**	**1.95**	**302**	*e*P	**Pn**	**16 21 45.1**	**-1.0**
UPA				*e*S	**Sn**	**16 22 11.1**	**+0.2**
ZANG	**Zanguenga, Cho**	**2.23**	**297**	*e*P	**Pn**	**16 21 51.1**	**+1.2**
ZANG				*e*S	**Sn**	**16 22 19.3**	**+1.6**
BCIP	**Isla Barro Col**	**2.31**	**302**	*e*P	**Pn**	**16 21 50.4**	**-0.6**
BCIP				*e*S	**Sn**	**16 22 21.6**	**+2.0**
BCIP	**Isla Barro Col**	**2.31**	**302**	*e*P	**Pn**	**16 21 50.5**	**-0.5**
BCIP				*i*		16 22 00.4	
comp=Z,62nm,0.4s							
BCIP				*e*S	**Sn**	**16 22 20.1**	**+0.5**
UREC	**San Jos de Ur**	**2.31**	**94**	*e*P	**Pn**	**16 21 50.3**	**-0.7**
UREC				*e*S	**Sn**	**16 22 20.4**	**+0.6**
MOTC	**Monteria, Cord**	**2.33**	**69**	⇓*i*P	**Pn**	**16 21 51.2**	**0.0**
MOTC				*e*S	**Sn**	**16 22 20.1**	**0.0**
MOTC				*i*		16 22 22.6	
comp=Z,30nm,0.5s							
MONA	**Monteria**	**2.33**	**69**	*e*P	**Pn**	**16 21 51.1**	**-0.1**
MONA				*e*S	**Sn**	**16 22 17.5**	**-2.7**
VTON	**El Valle, Cocl**	**2.33**	**287**	*e*P	**Pn**	**16 21 51.4**	**+0.1**
VTON				*e*S	**Sb**	**16 22 22.5**	**-1.4**
MLIR	**Monte Lirio**	**2.36**	**303**	*e*P	**Pn**	**16 21 51.1**	**-0.6**
MLIR				*e*S	**Sb**	**16 22 24.2**	**-0.4**
AZU	**Azuero**	**2.40**	**267**	*e*P	**Pn**	**16 21 52.0**	**-0.2**
AZU				*e*S	**Sn**	**16 22 21.2**	**-0.6**
AZU	**Azuero**	**2.40**	**267**	*e*P	**Pn**	**16 21 52.0**	**-0.2**
AZU				*e*S	**Sn**	**16 22 21.0**	**-0.8**
AZU				*i*		16 22 31.0	
comp=Z,105nm,0.3s							
CBOC	**Ciudad Bolivar**	**2.76**	**138**	*e*P	**Pn**	**16 21 57.1**	**-0.1**
CBOC				*i*		16 22 01.0	
comp=Z,31nm,0.5s							
CBOC				*e*S	**Sn**	**16 22 32.0**	**+1.0**
HELC	**Santa Helena**	**2.89**	**127**	*e*P	**Pn**	**16 22 00.6**	**+1.3**
HELC				*e*S	**Sb**	**16 22 40.1**	**-0.2**
HELC	**Santa Helena**	**2.89**	**127**	⇑*e*P	**Pn**	**16 22 00.4**	**+1.1**
HELC				*i*		16 22 02.8	
comp=Z,28nm,0.3s							
HELC				*e*S	**Sn**	**16 22 35.8**	**+1.3**
ZARC	**Zaragoza, Cauc**	**3.01**	**98**	*e*P	**Pn**	**16 22 00.6**	**0.0**
ZARC				*i*		16 22 04.8	
comp=Z,60nm,0.5s							
ZARC				*e*S	**Sn**	**16 22 36.4**	**-0.5**
SJCC	**San Jacinto, C**	**3.29**	**53**	*e*S	**Sn**	**16 22 41.5**	**-2.4**
GUY2C	**Guyana, Caldas**	**3.66**	**137**	*e*P	**Pn**	**16 22 10.9**	**+0.9**
GUY2C				*i*		16 22 16.2	
comp=Z,30nm,0.6s							
GUY2C				*e*S	**Sn**	**16 22 54.1**	**+0.4**
SMLC	**San Martn de**	**3.85**	**77**	*e*P	**Pn**	**16 22 12.3**	**+0.2**
SMLC				*i*		16 23 07.0	
comp=Z,14nm,0.2s							
RREF	**El Recreo**	**3.92**	**140**	*e*P	**Pn**	**16 22 15.1**	**+1.4**
TOLC	**Tolima**	**4.18**	**143**	*e*P	**Pn**	**16 22 19.8**	**+2.8**
YOTC	**Yotoco, Valle**	**4.21**	**159**	*e*P	**Pn**	**16 22 17.4**	**+0.2**
YOTC				*i*		16 22 26.5	
comp=Z,5.1nm,0.4s							
ORTC	**Ortega, Tolima**	**4.77**	**147**	*e*P	**Pn**	**16 22 28.4**	**+3.5**
ORTC				*i*		16 22 45.3	
comp=Z,8.7nm,0.6s							
BARC	**Barichara**	**4.83**	**106**	*e*P	**Pn**	**16 22 26.8**	**+0.9**
BARC				*i*		16 23 31.6	
comp=Z,15nm,0.5s							

*ISN **18** 16:58:14.3±1.2, 30°.76N×48°.33E, h20km±10km, ML3.5*
*KISR **18** 16:58:14.2±0.8, 30°.73N×48°.39E, h10km±3km, ML3.6*
*TEH **18** 16:58:14.3, 30°.74N×48°.23E, h9km, ML3.6*
ISC 18 16:58:15.3±1.4, 30°.79N±0°.04×48°.23E±0°.04, h3km±13km, n30, σ1°.20/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.65**	**33**	*e*Pg	**Pg**	**16 58 27.3**	**-0.4**
AHWZ				*e*Sg	**Sb**	**16 58 38.2**	**-0.5**
MIB	**Mutribah**	**1.25**	**218**	*e*P	**Pg**	**16 58 40.1**	**+0.9**
MIB				*e*S	**Sn**	**16 58 59.7**	**+2.7**
MIB				IAML		16 59 07.3	
comp=Z,2µm,0.6s							
UMR	**Umm Al-Rimmam**	**1.31**	**200**	*e*P	**Pg**	**16 58 40.6**	**+0.2**
UMR				*e*S	**Sg**	**16 58 59.9**	**+2.5**
UMR				IAML		16 59 03.5	
comp=Z,1µm,0.6s							
RST	**Umm Al-Ruwaisa**	**1.67**	**220**	*e*P	**Pg**	**16 58 46.5**	**-0.8**
RST				*e*S	**Sg**	**16 59 11.6**	**+2.7**
RST				IAML		16 59 20.2	
comp=Z,973nm,0.8s							
ABEH	**Behbahan**	**1.75**	**96**	*e*Pn	**Pb**	**16 58 47.1**	**-1.0**
NSR	**Nassriya** baz=98	**1.81**	**278**	*e*Pg	**Pn**	**16 58 46.0**	**-1.4**
NSR				*e*Sg	**Sb**	**16 59 11.0**	**-1.2**
NSR				AML	AML	16 59 15.2	
comp=E,698nm,0.3s							
RDF	**Al-Radifah**	**1.95**	**198**	*e*P	**Pb**	**16 58 50.5**	**-0.9**
RDF				*e*S	**Sg**	**16 59 16.8**	**-1.1**
RDF				IAML		16 59 26.8	
comp=Z,358nm,0.7s							
QRN	**Al-Qurain**	**2.06**	**188**	*e*P	**Pb**	**16 58 50.8**	**-2.5**
QRN				*e*S	**Sb**	**16 59 18.7**	**-0.6**
QRN				IAML		16 59 24.9	
comp=Z,253nm,0.3s							
SHK1	**Shahrekord**	**2.74**	**55**	*e*Pn	**Pn**	**16 59 00.6**	**+0.2**
IKFM	**Kafar-mosalman**	**2.75**	**353**	*e*Pn	**Pn**	**16 59 01.4**	**+1.1**
KLNJ	**Kolanjah**	**2.90**	**85**	*e*Pn	**Pn**	**16 59 02.2**	**-0.5**
BMDN	**Meydan**	**2.92**	**10**	*e*Pn	**Pn**	**16 59 04.0**	**+1.2**
BMDN				*e*		17 00 01.1	
comp=Z,2µm,0.7s							
IPIR	**Pirpir**	**2.95**	**50**	*e*Pn	**Pn**	**16 59 04.3**	**+0.9**
IPIR				*e*		16 59 56.0	
comp=Z,1µm,0.9s							
IDOB	**Doab**	**2.99**	**359**	*e*Pn	**Pn**	**16 59 04.2**	**+0.4**
IBDR	**Badra**	**3.03**	**320**	*e*Pn	**Pn**	**16 59 04.0**	**-0.2**
IBDR				*e*Sn	**Sn**	**16 59 41.0**	**0.0**
IBDR				AML	AML	17 00 05.3	
comp=E,196nm,0.5s							
IBDR				AML	AML	17 00 11.9	
comp=N,194nm,0.7s							
HSAM	**Samen**	**3.43**	**5**	*e*Pn	**Pn**	**16 59 10.8**	**+0.9**
HSAM				*e*		17 00 24.2	
comp=Z,642nm,1.0s							
IBZA	**Bozab**	**3.68**	**355**	*e*Pn	**Pn**	**16 59 14.7**	**+1.3**
IBZA				*e*		17 00 22.2	
comp=Z,729nm,0.6s							
IRAM	**Ramesheh**	**3.70**	**73**	*e*Pn	**Pn**	**16 59 14.3**	**+0.7**
IGHG	**Ghaleghazi**	**3.80**	**339**	*e*Pn	**Pn**	**16 59 16.0**	**+1.0**
IGHG				*e*		17 00 58.6	
comp=Z,1µm,0.7s							
IKLH	**Kolahrood**	**3.80**	**48**	*e*Pn	**Pn**	**16 59 16.1**	**+1.1**
IKLH				*e*		17 00 34.2	
comp=Z,708nm,0.8s							
IZEF	**Zefreh**	**4.07**	**58**	*e*Pn	**Pn**	**16 59 19.2**	**+0.4**
HAGD	**Aghdareh**	**4.09**	**11**	*e*Pn	**Pn**	**16 59 19.0**	**0.0**
HAGD				*e*		16 59 22.1	
comp=Z,941nm,0.3s							
IDHR	**Dehrash**	**4.20**	**339**	*e*Pn	**Pn**	**16 59 20.5**	**+0.1**
IDHR				*e*		17 00 48.7	
comp=Z,796nm,0.5s							
ILIN	**Lien**	**4.25**	**346**	*e*Pn	**Pn**	**16 59 22.4**	**+1.1**
ILIN				*e*		17 00 20.1	
comp=Z,435nm,0.4s							
IQOM	**Qom**	**4.70**	**30**	*e*Pn	**Pn**	**16 59 27.8**	**+0.5**
IRAZ	**Razeghan**	**4.82**	**17**	*e*Pn	**Pn**	**16 59 30.3**	**+1.3**
ISFB	**Sefidab**	**4.91**	**43**	*e*Pn	**Pn**	**16 59 30.3**	**+0.2**
QABG	**Abgarm-Qazvin**	**5.04**	**13**	*e*Pn	**Pn**	**16 59 31.0**	**-1.0**
IVRN	**Varamin**	**5.12**	**34**	*e*Pn	**Pn**	**16 59 33.2**	**+0.2**
ANAR	**Anarak**	**5.25**	**61**	*e*Pn	**Pn**	**16 59 34.6**	**-0.2**

*INET **18** 16:58:33.2, 12°.36N×88°.16W, h15km, MW4.8*
*UCR **18** 16:58:39.0±1.9, 12°.54N×88°.18W, h5km, ML4.8, mb4.7(NEIC)*
*IDC **18** 16:58:42.0±1.3, 12°.84N×87°.74W, h71km±11km, mb4.2/16, mb1 4.4/19, mb1mx4.1/41, mbtmp4.5/19, MS3.5/15, Ms1 3.5/15, ms1mx3.3/31, Error ellipse: s-maj=21.3km s-min=9.0km az=52.0*
*SNET **18** 16:58:41.5±1.2, 12°.61N×88°.19W, h18km±4km, ML4.9*
*NEIC **18** 16:58:42.6±2.1, 12°.68N±0°.06×87°.94W±0°.06, h69km±5km, mb4.7/302, Md4.9(SNET), Error ellipse: s-maj=9.7km s-min=5.9km az=221.0*
*GCG **18** 16:58:58.0±0.3, 16°.10N×89°.43W, h97km±91km, MD4.4*
ISC 18 16:58:41.8±0.7, 12°.71N±0°.04×87°.97W±0°.03, h71km±5km, n416, σ1°.11/394, mb4.7/147, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.57**	**13**	*e*P	**Pn**	**16 58 55.0**	**-0.6**
CNCH				⇓*i*P	**Pn**	**16 58 55.0**	**-0.6**
CNCH	**Conchagua**	**0.57**	**13**	*e*P	**Pn**	**16 58 55.0**	**-0.6**
CNCH				⇓*i*P	**Pn**	**16 58 55.0**	**-0.6**
LCND	**La Caada**	**0.60**	**7**	*i* P	**Pn**	**16 58 55.1**	**-0.6**
LCND				*e*S	**Sn**	**16 59 06.0**	**+0.1**
LCND				IAML		16 59 10.2	
comp=Z,65µm,0.3s							
LCND	**La Caada**	**0.60**	**7**	*i* P	**Pn**	**16 58 55.1**	**-0.6**
LCND				*e*P	**Pn**	**16 58 55.2**	**-0.5**
LCND				*e*S	**Sn**	**16 59 06.0**	**+0.1**
LCND				*e*S	**Sn**	**16 59 06.2**	**+0.3**
LCND				IAML		16 59 10.2	
comp=Z,65µm,0.3s							
JUCU	**Jucuarn**	**0.60**	**333**	*i* P	**Pn**	**16 58 54.2**	**-1.6**
JUCU				*e*S	**Sn**	**16 59 04.1**	**-2.0**
JUCU				IAML		16 59 09.2	
comp=Z,59µm,0.4s							
JUCU	**Jucuarn**	**0.60**	**333**	*i* P	**Pn**	**16 58 54.2**	**-1.6**
JUCU				*e*S	**Sn**	**16 59 04.1**	**-2.0**
JUCU				IAML		16 59 09.2	
comp=Z,59µm,0.4s							
LCY	**Lacayo**	**0.77**	**336**	*e*P	**Pn**	**16 58 56.9**	**-0.9**
LCY	**Lacayo**	**0.77**	**336**	*e*P	**Pn**	**16 58 56.9**	**-0.9**
CNRM	**Centro Naciona**	**0.78**	**346**	*e*P	**Pn**	**16 58 57.2**	**-0.5**
CNRM				*e*S	**Sn**	**16 59 10.0**	**+0.6**
CNRM	**Centro Naciona**	**0.78**	**346**	*e*P	**Pn**	**16 58 57.2**	**-0.5**
CNRM				*e*S	**Sn**	**16 59 10.0**	**+0.6**
PACA	**Pacayal**	**0.83**	**335**	*e*P	**Pn**	**16 58 57.9**	**-0.5**
PACA				*e*S	**Sn**	**16 59 10.5**	**-0.1**
PACA	**Pacayal**	**0.83**	**335**	*e*P	**Pn**	**16 58 57.9**	**-0.5**
PACA				*e*S	**Sn**	**16 59 10.5**	**-0.1**
CRIN	**San Cristobal**	**0.90**	**91**		**Pn**	**16 58 58.8**	**-0.4**
CRIN					**Sn**	**16 59 11.7**	**-0.4**
COEB	**Comit de Eme**	**0.95**	**325**	*e*P	**Pn**	**16 58 59.0**	**-0.9**
COEB				*e*S	**Sn**	**16 59 12.7**	**-0.6**
COEB				IAML		16 59 18.0	
comp=Z,22µm,0.3s							
COEB	**Comit de Eme**	**0.95**	**325**	*e*P	**Pn**	**16 58 59.0**	**-0.9**
COEB				*e*S	**Sn**	**16 59 12.7**	**-0.6**
COEB				IAML		16 59 18.0	
comp=Z,22µm,0.3s							
PQSS	**Presa 15 de Se**	**1.07**	**328**	*e*P	**Pn**	**16 59 00.9**	**-0.3**
PQSS				*e*S	**Sn**	**16 59 15.6**	**-0.1**

TECO	**Alcaldia de Te**	**1.14**	**316**	*e*P	**Pn**	**16 59 01.0**	**-1.2**
TECO				*e*S	**Sn**	**16 59 16.0**	**-1.3**
UESV	**Universidad de**	**1.21**	**319**	*e*P	**Pn**	**16 59 02.5**	**-0.6**
UESV				*e*S	**Sn**	**16 59 18.5**	**-0.6**
UESV	**Universidad de**	**1.21**	**319**	*e*P	**Pn**	**16 59 02.5**	**-0.6**
UESV				*e*S	**Sn**	**16 59 18.5**	**-0.6**
CNGN	**Cerro Negro**	**1.26**	**100**		**Pn**	**16 59 02.5**	**-1.2**
COEG	**Centro de Oper**	**1.26**	**316**	*e*P	**Pn**	**16 59 03.2**	**-0.6**
COEG				*e*S	**Sn**	**16 59 19.3**	**-1.0**
COEG				IAML		16 59 24.9	
comp=Z,29µm,0.3s							
COEG	**Centro de Oper**	**1.26**	**316**	*e*P	**Pn**	**16 59 03.2**	**-0.6**
COEG				*e*S	**Sn**	**16 59 19.3**	**-1.0**
COEG				IAML		16 59 24.9	
comp=Z,29µm,0.3s							
SJTE	**Alcalda de S**	**1.35**	**312**	*e*P	**Pn**	**16 59 04.0**	**-0.9**
SJTE				*e*S	**Sn**	**16 59 21.2**	**-1.1**
SJTE				IAML		16 59 24.5	
comp=Z,12µm,0.4s							
SJTE	**Alcalda de S**	**1.35**	**312**	*e*P	**Pn**	**16 59 04.0**	**-0.9**
SJTE				*e*S	**Sn**	**16 59 21.2**	**-1.1**
SJTE				IAML		16 59 24.5	
comp=Z,12µm,0.4s							
PAVA	**Las Pavas**	**1.37**	**317**	*e*P	**Pn**	**16 59 04.8**	**-0.4**
PAVA				*e*S	**Sn**	**16 59 23.3**	**+0.5**
PAVA	**Las Pavas**	**1.37**	**317**	*e*P	**Pn**	**16 59 04.8**	**-0.4**
PAVA				*e*S	**Sn**	**16 59 23.3**	**+0.5**
LFRS	**El Faro**	**1.40**	**310**	⇑*i*P	**Pn**	**16 59 04.8**	**-0.7**
LFRS	**El Faro**	**1.40**	**310**	⇑*i*P	**Pn**	**16 59 04.8**	**-0.7**
LBRS	**Las Brisas**	**1.46**	**314**	*e*P	**Pn**	**16 59 06.3**	**-0.1**
LBRS	**Las Brisas**	**1.46**	**314**	*e*P	**Pn**	**16 59 06.3**	**-0.1**
AEIL	**Aeropuerto Ilo**	**1.48**	**311**	*e*P	**Pn**	**16 59 06.4**	**-0.2**
AEIL				*e*S	**Sn**	**16 59 26.2**	**+0.8**
AEIL				IAML		16 59 31.1	
comp=Z,26µm,0.3s							
AEIL	**Aeropuerto Ilo**	**1.48**	**311**	*e*P	**Pn**	**16 59 06.4**	**-0.2**
AEIL				*e*S	**Sn**	**16 59 26.2**	**+0.8**
AEIL				IAML		16 59 31.1	
comp=Z,26µm,0.3s							
TGUH	**Tegucigalpa,Un**	**1.50**	**27**		**Pn**	**16 59 07.6**	**+0.7**
TGUH					Sn	**16 59 27.2**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.50**	**27**	*e*P	**Pn**	**16 59 06.5**	**-0.5**
LFU	**La Fuente**	**1.52**	**313**	*e*P	**Pn**	**16 59 07.2**	**0.0**
LFU	**La Fuente**	**1.52**	**313**	*e*P	**Pn**	**16 59 07.2**	**0.0**
IGN	**Direccin Gen**	**1.53**	**311**	*e*P	**Pn**	**16 59 07.1**	**-0.2**
IGN				*e*S	**Sn**	**16 59 25.8**	**-0.8**
IGN	**Direccin Gen**	**1.53**	**311**	*e*P	**Pn**	**16 59 07.1**	**-0.2**
IGN				*e*S	**Sn**	**16 59 25.8**	**-0.8**
OPAM	**Oficina de Pla**	**1.55**	**310**	*e*P	**Pn**	**16 59 07.6**	**0.0**
OPAM				*e*S	**Sn**	**16 59 26.7**	**-0.3**
OPAM				IAML		16 59 35.0	
comp=Z,16µm,0.2s							
OPAM	**Oficina de Pla**	**1.55**	**310**	*e*P	**Pn**	**16 59 07.6**	**0.0**
OPAM				*e*S	**Sn**	**16 59 26.7**	**-0.3**
OPAM				IAML		16 59 35.0	
comp=Z,16µm,0.2s							
SNET	**Serv Nac Est T**	**1.56**	**308**	*e*P	**Pn**	**16 59 07.3**	**-0.5**
SNET				*e*S	**Sn**	**16 59 27.1**	**-0.2**
SNET				IAML		16 59 29.3	
comp=Z,20µm,0.3s							
SNET	**Serv Nac Est T**	**1.56**	**308**	*e*P	**Pn**	**16 59 07.3**	**-0.5**
SNET				*e*S	**Sn**	**16 59 27.1**	**-0.2**
SNET				IAML		16 59 29.3	
comp=Z,20µm,0.3s							
SNET	**Serv Nac Est T**	**1.56**	**308**		**Pn**	**16 59 06.9**	**-0.8**
BOQS	**Boqueron**	**1.63**	**309**	*e*P	**Pn**	**16 59 08.4**	**-0.3**
BOQS	**Boqueron**	**1.63**	**309**	*e*P	**Pn**	**16 59 08.4**	**-0.3**
MASN	**Masaya**	**1.92**	**112**		**Pn**	**16 59 11.5**	**-0.9**
CEVE	**Cerro Verde**	**1.95**	**305**	*e*P	**Pn**	**16 59 12.8**	**-0.3**
CEVE				*e*S	**Sn**	**16 59 37.5**	**+0.6**
CEVE				IAML		16 59 41.1	
comp=Z,17µm,0.3s							
CEVE	**Cerro Verde**	**1.95**	**305**	*e*P	**Pn**	**16 59 12.8**	**-0.3**
CEVE				*e*S	**Sn**	**16 59 37.5**	**+0.6**
CEVE				IAML		16 59 41.1	
comp=Z,17µm,0.3s							
SBLS	**San Blas**	**1.96**	**305**	*e*P	**Pn**	**16 59 13.0**	**-0.2**
SBLS	**San Blas**	**1.96**	**305**	*e*P	**Pn**	**16 59 13.0**	**-0.2**
SNJE	**San Jose**	**1.96**	**306**	*e*P	**Pn**	**16 59 13.3**	**+0.2**
SNJE	**San Jose**	**1.96**	**306**	*e*P	**Pn**	**16 59 13.3**	**+0.2**
MATN	**Matagalpa**	**2.01**	**84**	Pn	**Pn**	**16 59 13.2**	**-0.5**
RTR	**El Retiro**	**2.01**	**306**	*e*P	**Pn**	**16 59 13.9**	**+0.1**
RTR	**El Retiro**	**2.01**	**306**	*e*P	**Pn**	**16 59 13.9**	**+0.1**
MTO3	**Montecristo**	**2.15**	**321**		**

ORTC Ortega, Tolima 15.32 124 eP P 17 02 15.9 -1.5
SOTA Rioblanco 15.40 132 eP P 17 02 22.3 +3.6
MARP Paez Belalcaza 15.41 129 eP P 17 02 20.7 +2.0
CRUC La Cruz 15.55 135 eP P 17 02 19.1 -1.2
ROSC El Rosal 15.59 119 Pn Pn 17 02 15.8 -2.0
PRAC Prado 15.73 124 eP P 17 02 20.7 -1.2
060A Indiantown 15.94 25 P Pn 17 02 20.6 -1.2
FLOC Florencia 16.47 131 P P 17 02 29.4 -0.8
FLOC Florencia 16.47 131 eP P 17 02 29.3 -0.8
DWPF Disney Wildern 16.49 21 P P 17 02 30.9 +0.7
ZAIG Zacatecas 17.11 308 P P 17 02 40.5 +3.1
656A Willston 17.33 16 P P 17 02 42.4 +3.0
SDV Santo Domingo 17.45 101 P Pn 17 02 40.7 -0.1
SDV IAmb IAmb 17 03 00.1
comp=Z,63nm,1.6s
553A Crawfordville 17.70 10 P Pn 17 02 45.4 +1.8
553A IAmb IAmb 17 02 50.1
comp=Z,27nm,0.7s
451A Vernon 17.93 6 P Pn 17 02 50.3 +3.9
344A Westbrook Farm 18.82 353 P Pn 17 02 57.9 +0.8
344A IAmb IAmb 17 03 01.6
comp=Z,48nm,0.8s
833A Chaparral WMA, 18.84 327 P 17 02 56.6
baz=143,SNR=16
DR12 Loma Pena Alta 18.88 69 P Pn 17 02 57.5 -0.4
342A Flagon Creek P 19.00 348 Pn 17 03 00.8 +1.6
342A IAmb IAmb 17 03 03.0
comp=Z,42nm,0.6s
TIGA Tifton 19.07 12 P 17 02 58.9
baz=193,SNR=7.6
TIGA Tifton 19.07 12 P Pn 17 03 01.4 +1.4
250A Grady 19.24 4 P Pn 17 03 02.3 +0.3
250A IAmb IAmb 17 03 31.4
comp=Z,22nm,0.8s
VBMS Vicksburg 19.55 354 P Pn 17 03 06.7 +0.9
VBMS Vicksburg 19.55 354 P 17 03 04.4
baz=172
255A Hazlehurst 19.78 14 Pn 17 03 09.5 +1.1
146A Union 19.86 357 P Pn 17 03 09.8 +0.5
146A IAmb IAmb 17 03 11.1
comp=Z,20nm,0.7s
NATX Nacogdoches 19.93 343 P 17 03 08.4
baz=160
NATX Nacogdoches 19.93 343 P P 17 03 09.0 +1.1
NATX IAmb IAmb 17 03 11.2
comp=Z,26nm,0.7s
435B Jarrell 20.06 335 P 17 03 09.7
baz=152
435B Jarrell 20.06 335 P Pn 17 03 10.6 -1.1
435B IAmb IAmb 17 03 30.1
comp=Z,24nm,0.8s
152A Waverly Hall 20.09 8 P Pn 17 03 11.4 -0.6
152A IAmb IAmb 17 03 13.9
comp=Z,36nm,0.7s
143A Socs Landing, 20.14 352 P Pn 17 03 12.9 +0.3
143A IAmb IAmb 17 03 14.4
comp=Z,28nm,0.8s
154A Montrose 20.30 12 P Pn 17 03 14.9 +0.4
Z47A Carrollton 20.39 360 P Pn 17 03 14.8 -0.8
Z47A IAmb IAmb 17 03 17.3
comp=Z,26nm,0.6s
237A Washetta, Mont 20.50 341 P Pn 17 03 17.4 +0.5
237A IAmb IAmb 17 03 31.8
comp=Z,44nm,0.8s
Z51A Franklin 20.67 7 P Pn 17 03 18.2 -0.6
Z51A IAmb IAmb 17 03 22.2
comp=Z,26nm,0.6s
JCT Junction City 20.79 330 P P 17 03 17.2 -0.2
JCT IAmb IAmb 17 03 22.5
comp=Z,23nm,0.8s
JCT Junction City 20.79 330 P 17 03 17.9
baz=146,SNR=5.9
Z41A Richland Creek 20.92 349 P 17 03 20.1
baz=167
GOGA Godfrey 21.01 11 P 17 03 20.6
baz=192,SNR=28
GOGA Godfrey 21.01 11 P P 17 03 21.6 +2.0
GOGA IAmb IAmb 17 03 23.8
comp=Z,41nm,0.7s
WHTX Lake Whitney, 21.07 337 P 17 03 21.1
baz=154
WHTX Lake Whitney, 21.07 337 P P 17 03 20.4 +0.1
WHTX IAmb IAmb 17 03 40.1
comp=Z,26nm,0.8s
Y49A Blount Mountai 21.10 4 P P 17 03 22.1 +1.5
Y49A IAmb IAmb 17 03 24.4
comp=Z,23nm,0.6s
Y45A Yeager Farm, C 21.11 356 P P 17 03 23.1 +2.5
Y45A IAmb IAmb 17 03 41.1
comp=Z,26nm,0.7s
Y52A Lilburn 21.35 9 P P 17 03 24.8 +1.5
Y52A IAmb IAmb 17 03 27.6
comp=Z,28nm,0.7s
WLAR White Oak Lake 21.40 348 P P 17 03 26.9 +3.1
X48A Hartselle 21.66 2 P P 17 03 27.1 +0.6
X48A IAmb IAmb 17 03 35.5
comp=Z,14nm,0.7s
OXF Oxford 21.74 357 P P 17 03 28.7 +1.4
OXF Oxford 21.74 357 P 17 03 27.8
baz=176
PDPR Patillas Dam, 21.80 73 P P 17 03 29.4 +1.2
PDPR IAmb IAmb 17 03 47.3
comp=Z,46nm,1.4s
HPIG 21.81 313 P P 17 03 28.8 +0.4
FPAL Fort Paine 21.84 5 P P 17 03 29.2 +0.8
X51A Calhoun 21.94 7 P P 17 03 31.0 +1.5
X51A IAmb IAmb 17 03 50.6
comp=Z,21nm,0.8s
HUMP Col San Antoni 21.99 73 P P 17 03 29.9 -0.3
HUMP IAmb IAmb 17 03 52.5
comp=Z,63nm,1.6s
HODGE Hodges 22.04 13 P P 17 03 32.4 +1.7
TXAR Lajitas Array 22.05 321 P P 17 03 31.9 +1.1
comp=Z,36nm,0.8s,baz=140,slow=9.2,SNR=144
TXAR PcP PcP 17 07 27.6 +1.0
comp=Z,0.5nm,0.6s,baz=123,slow=4.4,SNR=4.2
TXAR ScP ScP 17 10 59.0 +1.1
comp=Z,1.0nm,0.7s,baz=153,slow=6.1,SNR=12
TXAR Lajitas Array 22.05 321 P P 17 03 31.7 +0.8
TX31 Lajitas Ar. Si 22.05 321 P P 17 03 32.0 +1.1
TX32 Lajitas Array 22.05 321 P P 17 03 31.7 +0.8
X40A Basin Creek Fa 22.12 349 P P 17 03 32.4 +0.9
X40A Basin Creek Fa 22.12 349 P 17 03 31.6
baz=167
PLAL Pickwick Lake 22.17 360 P P 17 03 33.1 +1.1
Z35A Perchaven, San 22.21 339 P P 17 03 34.1 +1.7
Z35A IAmb IAmb 17 03 36.8
comp=Z,31nm,0.8s
MTP Monte Pirata 22.26 73 P P 17 03 33.5 +0.4
MTP IAmb IAmb 17 03 57.3
comp=Z,20nm,0.8s
Y57A Sumter 22.30 17 P P 17 03 34.1 +0.7
Y57A IAmb IAmb 17 03 38.1
comp=Z,28nm,0.6s
JSC Jenkinsville 22.32 15 P P 17 03 34.9 +1.2
MIAR Mount Ida 22.32 348 P P 17 03 35.1 +1.4
MIAR Mount Ida 22.32 348 P 17 03 34.2
baz=166,SNR=32
SWET Sewanee 22.48 4 P P 17 03 36.4 +1.0
W50A Signal Mountai 22.52 6 P P 17 03 36.5 +0.7
ABTX Abilene, Hawle 22.52 334 P P 17 03 37.5 +1.6
ABTX IAmb IAmb 17 03 39.4
comp=Z,26nm,0.9s
ABTX Abilene, Hawle 22.52 334 P 17 03 36.7
baz=149,SNR=8.7
W52A Murphy 22.58 9 P P 17 03 39.2 +2.7
BG3 Lake Jocassee 22.65 11 P P 17 03 38.8 +1.6
BG3 IAmb IAmb 17 03 40.4
comp=Z,35nm,1.3s
W41B Gary Mavity, V 22.69 351 P 17 03 38.1
baz=169,SNR=12
PAULI Pauline 22.71 13 P P 17 03 39.4 +1.6
PAULI IAmb IAmb 17 03 41.7
comp=Z,29nm,1.0s
LOOK Love County 22.78 340 P P 17 03 40.0 +1.4
X37A Clayton 22.79 344 P P 17 03 39.8 +1.1
X37A IAmb IAmb 17 03 43.4
comp=Z,14nm,0.7s
WHAR Wooly Hollow 22.82 351 P P 17 03 39.7 +0.8
WHAR IAmb IAmb 17 03 40.9
comp=Z,18nm,0.9s
CPCT Cooper Cave 22.85 7 P P 17 03 40.5 +1.3
CPCT IAmb IAmb 17 03 43.0
comp=Z,18nm,0.7s
STVI Saint Thomas 22.86 73 P P 17 03 38.9 -0.6

BIRD Birdtown, Kers 22.87 16 P P 17 03 41.0 +1.5
BIRD IAmb IAmb 17 03 42.1
comp=Z,19nm,0.7s
LPAR Lepanto 22.89 355 P P 17 03 40.5 +1.0
V48A Smith Brothers 22.95 2 P P 17 03 40.5 +0.3
W39A Magazine 22.99 348 P P 17 03 41.6 +0.9
W39A IAmb IAmb 17 03 44.3
comp=Z,16nm,0.6s
W39A Magazine 22.99 348 P 17 03 40.9
baz=165,SNR=12
PCRV Puerto La Cruz 23.01 94 P P 17 03 41.2 +0.1
comp=Z,10nm,0.6s,baz=292,slow=5.4,SNR=3.6
PLCV Puerto La Cruz 23.05 94 P P 17 03 41.2 -0.3
KMSC Kings Mountain 23.12 14 P P 17 03 43.0 +1.0
KMSC IAmb IAmb 17 03 45.3
comp=Z,24nm,0.6s
KMSC Kings Mountain 23.12 14 P 17 03 42.4
baz=196,SNR=15
TKL Tuckaleechee C 23.16 9 P P 17 03 42.3 0.0
comp=Z,28nm,0.8s,baz=187,slow=11,SNR=28
TKL Tuckaleechee C 23.16 9 P P 17 03 43.3 +1.0
TKL IAmb IAmb 17 03 45.6
comp=Z,28nm,0.8s
V51A Loudon 23.22 7 P P 17 03 43.8 +0.9
WVT Waverly 23.32 0 P 17 03 43.8
baz=180
WVT Waverly 23.32 0 P P 17 03 44.2 +0.5
CLTN Cedars of Leba 23.32 3 P P 17 03 44.0 +0.2
CLTN IAmb IAmb 17 03 46.0
comp=Z,18nm,0.7s
V53A Saluda 23.33 11 P P 17 03 44.3 +0.4
V53A IAmb IAmb 17 03 50.8
comp=Z,15nm,0.7s
V52A Sevierville 23.36 9 P P 17 03 44.9 +0.7
FCAR Ozark Folk Cen 23.38 351 P P 17 03 44.2 -0.1
LCAR Lake Charles 23.43 354 P P 17 03 44.1 -0.7
LCAR IAmb IAmb 17 03 46.1
comp=Z,11nm,0.5s
W57A Gilead 23.48 17 P P 17 03 44.8 -0.4
W57A IAmb IAmb 17 03 47.0
comp=Z,14nm,0.7s
SLBS Sierra La Lago 23.52 301 P P 17 03 48.9 +3.1
SLBS IAmb IAmb 17 03 50.9
comp=Z,22nm,0.9s
X34A Smith Ranch, M 23.56 339 P P 17 03 46.8 +0.8
HICK Hickman 23.75 357 P P 17 03 47.4 -0.3
U49A Red Boiling Sp 23.78 4 P P 17 03 48.2 +0.2
U49A IAmb IAmb 17 03 50.6
comp=Z,43nm,1.5s
V55A Taylorsville 23.83 14 P P 17 03 49.4 +1.0
V55A IAmb IAmb 17 03 52.8
comp=Z,14nm,0.7s
U40A Yellville 23.95 350 P P 17 03 49.9 +0.4
U40A IAmb IAmb 17 03 53.0
comp=Z,22nm,0.8s
U40A Yellville 23.95 350 P 17 03 49.2
baz=168,SNR=24
LPIG La Paz 23.99 301 P P 17 03 51.7 +1.7
comp=Z,25nm,0.3s,baz=90,slow=5.1,SNR=3.9
FNO Franklin 24.01 341 P P 17 03 50.1 +0.1
WMOK Wichita Mounta 24.02 338 P P 17 03 50.0 -0.2
WMOK Wichita Mounta 24.02 338 P 17 03 50.3
baz=153,SNR=12
TZTN Tazewell 24.06 9 P P 17 03 51.0 +0.5
TZTN Tazewell 24.06 9 P 17 03 50.2
baz=190,SNR=9.2
PBMO Poplar Bluff 24.06 355 P P 17 03 50.6 +0.1
PBMO IAmb IAmb 17 03 52.1
comp=Z,28nm,0.6s
HHAR Hobbs 24.07 348 P P 17 03 51.2 +0.6
HHAR IAmb IAmb 17 03 53.8
comp=Z,22nm,0.6s
TUL1 Leonard 24.15 344 P 17 03 51.2
baz=161,SNR=9.9
OKCFA Oklahoma City 24.17 341 P P 17 03 52.0 +0.5
T47A Sharon Grove 24.18 2 P P 17 03 51.4 -0.2
T47A IAmb IAmb 17 03 53.3
comp=Z,33nm,0.9s
T45A Paducah 24.21 359 P P 17 03 52.1 +0.3
OK025 Westminster Rd 24.29 341 P P 17 03 52.0 -0.6
OK025 IAmb IAmb 17 03 55.8
comp=Z,16nm,0.7s
U38A Gravette 24.32 347 P P 17 03 52.8 -0.1
U38A IAmb IAmb 17 03 56.1
comp=Z,20nm,0.8s
V58A Windy Hill, Pi 24.33 18 P P 17 03 53.7 +0.8
U54A Nelsons Funny 24.34 12 P P 17 03 54.1 +1.0
T50A Nancy 24.37 6 P P 17 03 53.3 0.0
BCOK Bluff Creek, N 24.45 341 P P 17 03 53.3 -0.7
OK031 S. Brethren Rd 24.48 342 P P 17 03 54.1 -0.2
OK031 IAmb IAmb 17 03 55.5
comp=Z,32nm,0.8s
U56A King 24.50 15 P P 17 03 55.8 +1.3
U56A IAmb IAmb 17 03 59.3
comp=Z,18nm,0.9s
OK029 Liberty Lake 24.52 341 P P 17 03 55.0 +0.2
MGMO Mountain Grove 24.64 352 P P 17 03 55.7 -0.1
QUOK Quay 24.65 343 P P 17 03 55.6 -0.2
QUOK IAmb IAmb 17 03 57.1
comp=Z,26nm,0.8s
MNTX Cornudas Mount 24.77 322 P P 17 03 57.1 0.0
MNTX Cornudas Mount 24.77 322 P 17 03 57.0
baz=136,SNR=21
S44A Carbondale 24.90 358 P P 17 03 58.2 +0.1
S44A IAmb IAmb 17 03 59.9
comp=Z,19nm,0.7s
SIUC Southern Illin 24.92 358 P P 17 03 58.6 +0.3
SIUC IAmb IAmb 17 04 00.1
comp=Z,19nm,0.7s
MSTX Muleshoe 25.09 330 P P 17 03 60.0 -0.1
MSTX Muleshoe 25.09 330 P 17 03 59.8
baz=144
S51A Beattyville 25.13 8 P P 17 04 00.2 0.0
U59A Littleton 25.26 20 P P 17 04 02.1 +0.7
U59A IAmb IAmb 17 04 06.6
comp=Z,16nm,0.9s
T35A Sooner Cattle 25.29 344 P P 17 04 02.6 +0.9
BLA Blacksburg 25.32 14 P P 17 04 01.8 -0.1
BLA Blacksburg 25.32 14 P 17 04 01.6
baz=197
S39A Bolivar 25.33 350 P P 17 04 02.1 +0.1
AMTX Amarillo 25.33 333 P 17 04 02.1
baz=147
AMTX Amarillo 25.33 333 P P 17 04 03.0 +0.8
CROK Carrier 25.34 341 P P 17 04 01.1 -1.0
CROK PcP 17 07 32.0 -1.3
BLOK Blackwell 25.34 342 P P 17 04 02.5 +0.4
BLOK IAmb IAmb 17 04 05.0
comp=Z,62nm,1.5s
T57A Hurt 25.41 16 P P 17 04 02.7 -0.1
T57A IAmb IAmb 17 04 05.4
comp=Z,23nm,1.4s
WCI Wyandotte Cave 25.45 3 P 17 04 03.3
baz=184
WCI Wyandotte Cave 25.45 3 P P 17 04 03.2 0.0
U32A Winter Ranch, 25.57 339 P P 17 04 03.9 -0.4
U32A IAmb IAmb 17 04 09.6
comp=Z,10nm,0.5s
R49A Shelbyville 25.59 5 P P 17 04 04.7 +0.3
R49A IAmb IAmb 17 04 06.0
comp=Z,10.0nm,0.6s
GC02 Grant County # 25.62 341 P P 17 04 03.7 -1.0
R50A Paris 25.67 7 P P 17 04 05.9 +0.8
S54A Dingess, Beckl 25.68 12 P P 17 04 05.3 0.0
OK032 Salt Plains WL 25.69 341 P P 17 04 05.4 +0.1
OK032 IAmb IAmb 17 04 07.6
comp=Z,25nm,0.8s
R40A Maddies Statio 25.76 352 P P 17 04 05.4 -0.5
R40A IAmb IAmb 17 04 08.2
comp=Z,11nm,0.7s
KAN17 Caldwell West 25.77 342 P P 17 04 05.8 -0.2
KAN17 IAmb IAmb 17 04 08.8
comp=Z,25nm,0.8s
T59A Double "B" Far 25.90 19 P P 17 04 07.8 +0.6
OLIL Olney 25.91 360 P P 17 04 06.9 -0.4
OLIL IAmb IAmb 17 04 09.0
comp=Z,18nm,0.8s
Q44A Meyer Farm, Va 26.10 358 P P 17 04 09.0 +0.1
R55A Marlinton 26.41 14 P P 17 04 12.8 +0.9
R55A IAmb IAmb 17 04 15.3
comp=Z,11nm,0.7s
Q51A Peebles 26.53 8 P P 17 04 13.1 +0.2
Q51A IAmb IAmb 17 04 15.2
comp=Z,24nm,0.7s

Q52A Bidwell 26.63 10 P P 17 04 14.5 +0.8
Q52A IAmb IAmb 17 04 16.2
comp=Z,18nm,0.6s
P48A Milroy 26.73 4 IAmb IAmb 17 04 15.3
comp=Z,16nm,1.1s
121A Cookes Peak, D 26.81 321 P 17 04 16.3
baz=133,SNR=8.9
121A Cookes Peak, D 26.81 321 P P 17 04 16.9 +1.2
P49A Miami Univ. Ec 26.87 6 P 17 04 15.1
baz=187
Q54A Coxs Mills 26.92 12 IAmb IAmb 17 04 36.4
comp=Z,15nm,0.7s
P51A Williamsport 27.01 8 P P 17 04 17.2 0.0
P51A IAmb IAmb 17 04 19.2
comp=Z,12nm,0.6s
319A Douglas 27.02 317 P P 17 04 17.4 -0.1
P38A Dawn 27.25 351 IAmb IAmb 17 04 20.7
comp=Z,21nm,0.7s
P53A Whipple 27.30 11 P P 17 04 20.5 +0.8
P53A IAmb IAmb 17 04 22.0
comp=Z,28nm,1.2s
P52A Corning 27.30 10 P 17 04 19.6
baz=192
P52A Corning 27.31 10 IAmb IAmb 17 04 21.9
comp=Z,11nm,0.8s
LENM Lemitar 27.47 324 P P 17 04 23.5 +1.9
O49A Covington 27.55 6 IAmb IAmb 17 04 23.1
comp=Z,13nm,0.9s
SFIN Lafayette 27.57 1 P 17 04 21.4
baz=182
SFIN Lafayette 27.57 1 P P 17 04 21.5 -0.6
SFIN IAmb IAmb 17 04 23.0
comp=Z,8.5nm,0.6s
ANMO Albuquerque 27.76 326 P P 17 04 24.6 +0.5
comp=Z,3.4nm,0.7s,baz=144,slow=8.1,SNR=7.5
ANMO Albuquerque 27.76 326 P P 17 04 26.0 +1.9
ANMO Albuquerque 27.76 326 P 17 04 25.2
baz=138
MCWV Mont Chateau 27.78 14 P 17 04 24.8
baz=197
O52A Adamsville 27.82 10 IAmb IAmb 17 04 26.6
comp=Z,14nm,0.6s
N41A Harden Midland 28.00 355 IAmb IAmb 17 04 26.8
comp=Z,16nm,0.7s
CBKS Cedar Bluff 28.02 340 P 17 04 26.4
baz=155
O53A New Philadelph 28.07 11 P 17 04 26.5
baz=194
P57A Homestead Farm 28.08 17 P P 17 04 28.0 +1.3
P57A IAmb IAmb 17 04 30.2
comp=Z,12nm,0.6s
N47A Urbana 28.13 4 IAmb IAmb 17 04 27.3
comp=Z,9.1nm,0.6s
O54A Avella 28.17 12 IAmb IAmb 17 04 46.2
comp=Z,8.8nm,0.7s
N49A Columbus Grove 28.30 6 P P 17 04 28.4 -0.3
N49A IAmb IAmb 17 04 30.6
comp=Z,14nm,0.6s
T25A Trinidad 28.43 332 P 17 04 29.7
baz=145,SNR=6.7
T25A Trinidad 28.43 332 P P 17 04 31.8 +1.6
TUC Tucson 28.60 317 P P 17 04 31.8 +0.2
TUC Tucson 28.60 317 P 17 04 32.6
baz=128
N53A Lisbon 28.68 11 IAmb IAmb 17 04 34.2
comp=Z,9.1nm,0.6s
N54A Moraine State 29.00 13 P 17 04 35.0
baz=196
N54A Moraine State 29.00 13 IAmb IAmb 17 04 37.5
comp=Z,12nm,0.6s
SSPA Standing Stone 29.19 16 P P 17 04 36.5 -0.1
SSPA Standing Stone 29.19 16 P 17 04 37.0
baz=200
L42A Oliver, Polo 29.22 357 P P 17 04 35.8 -1.0
L42A IAmb IAmb 17 04 37.6
comp=Z,13nm,0.5s
M53A WI Miller and 29.32 11 P 17 04 37.5
baz=194
L40A Anamosa 29.38 355 IAmb IAmb 17 04 39.2
comp=Z,16nm,0.7s
SDCO Great Sand Dun 29.43 331 P 17 04 39.1
baz=143,SNR=18
M54A Oil Creek Stat 29.59 13 P P 17 04 39.8 -0.4
M54A IAmb IAmb 17 04 41.6
comp=Z,12nm,0.6s
M54A Oil Creek Stat 29.59 13 P 17 04 40.0
baz=196,SNR=8.5
M57A Sunshine Farm, 30.05 16 IAmb IAmb 17 05 02.2
comp=Z,8.0nm,0.8s
N59A State Game Lan 30.06 19 IAmb IAmb 17 04 46.0
comp=Z,8.7nm,0.5s
N59A State Game Lan 30.06 19 P 17 04 45.0
baz=204
S22A 4UR Ranch, Cre 30.08 329 P 17 04 46.8
baz=141
K38A Parkersburg 30.11 353 P P 17 04 43.8 -0.9
K38A IAmb IAmb 17 04 45.8
comp=Z,13nm,0.6s
JFWS Jewell Farm 30.16 357 P 17 04 45.1
baz=176
JFWS Jewell Farm 30.16 357 IAmb IAmb 17 04 47.8
comp=Z,8.6nm,0.6s
X16A Lo Mia Camp, P 30.35 319 IAmb IAmb 17 04 49.8
comp=Z,6.5nm,0.7s
MVCO Mesa Verde 30.54 327 P P 17 04 50.0 +1.1
MVCO IAmb IAmb 17 04 51.8
comp=Z,7.2nm,0.6s
MVCO Mesa Verde 30.54 327 P 17 04 49.3
baz=138,SNR=5.7
WUAZ Wupatki 31.02 321 P 17 04 53.3
baz=131
Y14A Wickenburg 31.07 317 P P 17 04 53.3 -0.1
L58A Harry Jones Me 31.07 18 P 17 04 54.2
baz=203
I42A Draeger Farm, 31.08 359 IAmb IAmb 17 04 53.9
comp=Z,11nm,0.5s
ISCO Idaho Springs 31.15 333 P 17 04 54.0
baz=145
K56A Middlesex 31.27 15 P 17 04 54.8
baz=200
SMCO Snowmass 31.27 331 P P 17 04 56.6 +1.1
SMCO IAmb IAmb 17 04 58.2
comp=Z,10nm,0.8s
I37A Lemond, Waseca 31.54 352 P P 17 04 56.8 -0.5
I37A IAmb IAmb 17 04 59.3
comp=Z,18nm,1.1s
ECSD EROS Data Cent 31.79 348 P 17 04 58.6
baz=164,SNR=10.0
ECSD EROS Data Cent 31.80 348 P P 17 04 58.9 -0.6
ECSD IAmb IAmb 17 05 00.7
comp=Z,11nm,1.0s
PDMCI Parker Dam,Lak 32.04 317 P 17 05 03.0
baz=126
N23A Red Feather La 32.19 334 P 17 05 04.6
baz=146
M64A Tiverton 32.24 24 P 17 05 03.5
baz=212
J57A Williamstown 32.29 16 P 17 05 03.2
baz=202
L63A North Scituate 32.35 23 P 17 05 05.3
baz=211
SWSC Sam W. Stewart 32.44 313 P 17 05 06.8
baz=122
J58A Remsen 32.44 17 P 17 05 05.5
baz=203
L61B Northampton 32.47 21 P 17 05 05.4
baz=208
G40A Rib Lake 32.50 357 P P 17 05 04.5 -1.2
G40A IAmb IAmb 17 05 06.2
comp=Z,7.5nm,0.6s
IKP In-Ko-Pah, Jac 32.51 312 P 17 05 07.3
baz=121
BC3 Big Chuckawall 32.58 314 P 17 05 07.6
baz=123,SNR=6.5
O20A White River Ci 32.63 330 P 17 05 07.0
baz=141,SNR=11
NEE2 Needles Airpor 32.63 317 P 17 05 08.1
baz=126
SPMN Marine on St. 32.66 354 P P 17 05 06.4 -0.7
SPMN Marine on St. 32.66 354 P 17 05 06.7
baz=171,SNR=7.6
H53A Bobcaygeon 32.75 12 P 17 05 07.9
baz=197,SNR=5.1
SADO Sadowa 32.83 12 IAmb IAmb 17 05 09.8
comp=Z,8.4nm,0.6s
I58A Old Forge 32.84 18 P 17 05 08.6
baz=204,SNR=5.1

MONP2 **Monument Peak** 32.86 312 P 17 05 09.9
baz=121
PKCU Pink Cliffs 32.86 323 P **P** **17 05 09.8 +0.5**
PKCU IAmb IAmb 17 05 12.3
comp=Z,11nm,0.9s
SUSD Miller 32.99 345 P 17 05 10.3
baz=160
SRU San Rafael Swe 33.02 327 P **P** **17 05 11.2 +0.6**
SRU IAmb IAmb 17 05 12.6
comp=Z,12nm,0.7s
BELC Belle Mtn. Jos 33.14 314 P 17 05 12.5
baz=123
MTPU Mount Pierson 33.19 324 P **P** **17 05 12.1 -0.1**
COWI Conover 33.29 359 IAmb IAmb 17 05 13.2
comp=Z,10.0nm,0.6s
J61A Chester 33.30 21 P 17 05 12.9
baz=208
GMRC Granite Mounta 33.34 316 P 17 05 13.9
baz=124
F36A Milaca 33.37 353 IAmb IAmb 17 05 14.0
comp=Z,6.6nm,0.7s
RWWY Rawlins 33.39 333 P **P** **17 05 14.2 +0.3**
RWWY IAmb IAmb 17 05 15.7
comp=Z,17nm,1.2s
SZCU Shurtz Canyon 33.42 322 P **P** **17 05 15.4 +1.3**
SZCU IAmb IAmb 17 05 16.5
comp=Z,4.9nm,0.7s
H57A Richville 33.42 16 P 17 05 13.2
baz=202
J62A Henniker 33.45 22 P 17 05 15.2
baz=209
TMUT Trail Mountain 33.52 326 IAmb IAmb 17 05 18.5
comp=Z,5.8nm,0.7s
G54A Lake Saint Pet 33.64 13 P 17 05 16.0
baz=198
H58A Gabriels 33.73 18 P 17 05 16.0
baz=205
F33A 5 Mile Ranch, 33.76 350 P **P** **17 05 15.9 -0.8**
LONY Lake Ozonia 33.80 17 IAmb IAmb 17 05 18.7
comp=Z,5.0nm,0.6s
LONY Lake Ozonia 33.80 17 P 17 05 16.8
baz=204
HEC Hector,Ludlow 33.83 315 P 17 05 18.8
baz=124
K22A Casper 33.89 335 IAmb IAmb 17 05 21.7
comp=Z,5.2nm,0.6s
K22A Casper 33.89 335 P 17 05 18.7
baz=146
E38A The Farm, Brul 33.92 356 IAmb IAmb 17 05 19.4
comp=Z,10nm,0.8s
SHPR Sheep Range 34.02 319 P **P** **17 05 19.9 +0.6**
H59A Cadyville 34.09 18 P 17 05 19.2
baz=205
ALGO Algonquin Park 34.18 12 P 17 05 19.9
baz=197
I62A Tamworth 34.19 22 P **P** **17 05 21.0 +0.6**
I62A IAmb IAmb 17 05 38.8
comp=Z,12nm,0.9s
I62A Tamworth 34.19 22 P 17 05 21.2
baz=210
RSSD Black Hills 34.20 339 P 17 05 22.0
baz=151
RSSD Black Hills 34.20 339 P **P** **17 05 22.0 +1.2**
MPU Maple Canyon 34.26 327 IAmb IAmb 17 05 23.4
comp=Z,11nm,0.9s
PSUT Pine Spring 34.49 323 P **P** **17 05 24.3 +0.9**
PSUT IAmb IAmb 17 05 27.0
comp=Z,5.2nm,0.7s
H61A Lyndonville 34.56 20 P 17 05 24.3
baz=208
JLU Jordanelle 34.59 328 IAmb IAmb 17 05 26.2
comp=Z,8.5nm,0.8s
CTU Camp Tracy 34.81 328 P **P** **17 05 27.0 +1.0**
CTU IAmb IAmb 17 05 28.1
comp=Z,10.0nm,0.7s
LPAZ La Paz 34.86 145 P **P** **17 05 28.7 +1.5**
comp=Z,0.7nm,0.4s,baz=334,slow=10,SNR=2.6
LPAZ LR LR 17 19 30.1
comp=Z,59nm,22.0s,baz=308,slow=36
TPNV Topopah Spring 34.98 319 P **P** **17 05 29.5 +1.9**
TPNV Topopah Spring 34.98 319 P 17 05 29.3
baz=126,SNR=5.6
EDW2 Edwards Air Fo 35.01 314 P 17 05 29.0
baz=122
DUG Dugway, Tooele 35.03 326 IAmb IAmb 17 05 32.9
comp=Z,6.4nm,0.7s
DUG Dugway, Tooele 35.03 326 P 17 05 29.3
baz=134
SPR3 Spring Creek 3 35.08 323 IAmb IAmb 17 05 31.8
comp=Z,4.8nm,0.8s
LRMC Laurel Mtn Rad 35.11 315 P 17 05 29.1
baz=123
D32A Dogwood Acres, 35.15 349 P **P** **17 05 27.9 -0.7**
EYMN Ely 35.25 356 P 17 05 27.8
baz=174
EYMN Ely 35.25 356 IAmb IAmb 17 05 30.0
comp=Z,5.0nm,0.6s
MPMC Manual Prospec 35.29 316 P 17 05 31.5
baz=124,SNR=5.5
BW06 Boulder Array 35.30 332 P 17 05 30.8
baz=142,SNR=12
PD31 Pinedale Array 35.30 332 IAmb IAmb 17 05 33.6
comp=Z,5.9nm,0.8s
PDAR Pinedale Array 35.30 332 P **P** **17 05 31.0 +0.7**
comp=Z,5.5nm,0.7s,baz=128,slow=9.8,SNR=48
PDAR PcP **PcP** **17 07 58.4 -1.1**
comp=Z,0.7nm,0.6s,baz=176,slow=3.6,SNR=3.2
PDAR ScP **ScP** **17 11 39.1 -0.1**
comp=Z,0.2nm,0.3s,baz=153,slow=4.6,SNR=2.2
PDAR LR LR 17 21 54.5
comp=Z,43nm,20.8s,baz=130,slow=39
BW06 Boulder Array 35.30 332 P **P** **17 05 31.0 +0.6**
BW06 IAmb IAmb 17 05 33.7
comp=Z,6.7nm,0.8s
HWUT Hardware Ranch 35.39 329 P **P** **17 05 32.0 +0.9**
R11A Troy Canyon, C 35.42 321 P 17 05 32.7
baz=129,SNR=7.2
E56A St. Veronique 35.45 15 P 17 05 31.5
baz=202
SPUT South Promonto 35.62 328 P **P** **17 05 34.3 +1.2**
H64A Troy 35.63 23 P 17 05 32.9
baz=212
G62A West of Eustis 35.64 21 IAmb IAmb 17 05 52.9
comp=Z,10nm,1.1s
G62A West of Eustis 35.64 21 P 17 05 33.2
baz=210
BGU Big Grassy Mou 35.66 327 IAmb IAmb 17 05 36.6
comp=Z,6.9nm,0.6s
D55A Sainte-Anne-du 35.78 15 P 17 05 34.0
baz=201
B35A Bob, Littlefor 35.86 353 IAmb IAmb 17 05 34.4
comp=Z,9.8nm,1.3s
G63A Kingsbury 35.88 22 P 17 05 35.2
baz=211
AHID Auburn Hatcher 36.02 331 P **P** **17 05 37.1 +0.7**
AGMN Agassiz Nation 36.08 351 P 17 05 36.5
baz=167,SNR=12
HVU Hansel Valley 36.13 328 P **P** **17 05 38.3 +1.0**
PKM Mcpherson Peak 36.30 313 P 17 05 40.3
baz=120
MDND Maddock 36.35 347 P 17 05 39.1
baz=161,SNR=7.6
SNOW Snow King Moun 36.39 332 P **P** **17 05 40.8 +1.2**
MNMC Minye Minye 36.46 150 P **P** **17 05 40.8 +0.4**
TPAW Teton Pass 36.51 331 P **P** **17 05 41.8 +1.1**
H66A Whiting 36.51 25 P 17 05 40.7
baz=215
F63A Nahmakanta, Br 36.58 22 P 17 05 40.8
baz=212
G65A Princeton 36.75 24 P 17 05 43.5
baz=214
H17A Grant Village 37.04 333 P **P** **17 05 46.0 +0.9**
H17A IAmb IAmb 17 05 59.8
comp=Z,9.2nm,0.8s
H17A Grant Village 37.04 333 P 17 05 45.9
baz=142
RLMT Red Lodge 37.05 335 IAmb IAmb 17 05 47.2
comp=Z,9.8nm,0.8s
RLMT Red Lodge 37.05 335 P 17 05 46.2
baz=144,SNR=8.7
NVAR Mina Array Bea 37.17 319 P **P** **17 05 48.2 +1.9**
comp=Z,4.1nm,0.7s,baz=133,slow=7.3,SNR=29
NVAR PcP **PcP** **17 08 05.7 +0.6**
comp=Z,2.2nm,0.7s,baz=139,slow=3.9,SNR=6.5
NVAR ScP **ScP** **17 11 47.0 +0.9**
comp=Z,1.0nm,0.7s,baz=131,slow=4.4,SNR=5.4
NVAR Mina Array Bea 37.17 319 P **P** **17 05 47.4 +1.1**

LHV Little Huntoon 37.20 319 IAmb IAmb 17 05 49.7
comp=Z,8.0nm,0.8s
YNE Yellowstone No 37.27 334 IAmb IAmb 17 05 49.0
comp=Z,11nm,0.7s
LSQQ Lebel-sur-Quev 37.36 12 P 17 05 47.4
baz=198
KVN Kaiserville 37.41 320 P **P** **17 05 49.5 +1.3**
YHH Holmes Hill 37.47 333 IAmb IAmb 17 05 52.1
comp=Z,10nm,0.9s
D62A Allapoint, All 37.77 21 P **P** **17 05 51.2 +0.2**
D62A IAmb IAmb 17 05 53.1
comp=Z,14nm,1.2s
D62A Allapoint, All 37.77 21 P 17 05 50.9
baz=211
MATQ Matagami 37.91 11 P 17 05 52.1
baz=196
ULM Lac du Bonnet 37.99 352 P **P** **17 05 51.7 -1.0**
comp=Z,8.6nm,0.5s,baz=158,slow=10,SNR=13
ULM LR LR 17 23 18.4
comp=Z,66nm,21.7s,baz=189,slow=39
ULM Lac du Bonnet 37.99 352 P **P** **17 05 50.9 -1.9**
D63A Stockholm 38.07 22 P 17 05 53.9
baz=212
DGMT Dagmar 38.12 342 P 17 05 53.4
baz=154
HLID Hailey 38.25 328 P 17 05 55.8
baz=136,SNR=22
HLID Hailey 38.25 328 P **P** **17 05 56.0 +0.7**
HLID IAmb IAmb 17 05 58.3
comp=Z,6.8nm,0.8s
PNTR Pine Nut 38.38 319 P **P** **17 05 57.4 +0.8**
PNTR IAmb IAmb 17 06 00.6
comp=Z,8.5nm,0.7s
LMN Caledonia Moun 38.42 26 IAmb IAmb 17 05 58.2
comp=Z,10nm,0.8s
DLMT Dillon 38.70 332 P **P** **17 06 00.4 +1.4**
EGMT Eagleton 39.61 337 P **P** **17 06 07.1 +0.6**
EGMT Eagleton 39.61 337 P 17 06 06.6
baz=145
WVOR Wild Horse Val 39.79 324 IAmb IAmb 17 06 11.3
comp=Z,6.3nm,0.7s
ORV Oroville 39.86 318 P **P** **17 06 10.0 +1.4**
J08A Circle Bar Ran 40.29 325 IAmb IAmb 17 06 15.1
comp=Z,9.0nm,1.0s
MSO Missoula 40.42 332 IAmb IAmb 17 06 15.2
comp=Z,13nm,0.9s
MSO Missoula 40.42 332 P 17 06 13.6
baz=139,SNR=8.7
BMO Blue Mountains 40.64 328 P **P** **17 06 14.7 -0.4**
M04C Macdoel 41.31 321 P 17 06 21.2
baz=125
F10A Beach Ranch, E 41.37 329 P **P** **17 06 21.1 0.0**
F10A IAmb IAmb 17 06 22.8
comp=Z,14nm,0.7s
L04D Klamath Falls 41.84 321 P 17 06 25.0
baz=124
PINE Pine Mountain 41.96 324 IAmb IAmb 17 06 27.3
comp=Z,7.4nm,0.8s
WALA Waterton Lakes 42.11 335 P **P** **17 06 27.9 +0.8**
WALA IAmb IAmb 17 06 29.1
comp=Z,9.0nm,0.8s
E09A Wood Farm, Sta 42.21 329 IAmb IAmb 17 06 31.0
comp=Z,7.7nm,0.8s
J04D Umpqua Nationa 42.31 322 P 17 06 29.5
baz=126
L02E Cave Junction 42.61 320 P 17 06 31.3
baz=123
I04A Tendick Farm, 42.81 323 P 17 06 32.2
baz=126
HAWA Hanford 42.84 328 P **P** **17 06 32.3 -0.6**
NEW Newport 42.94 331 IAmb IAmb 17 06 36.1
comp=Z,7.5nm,0.7s
NEW Newport 42.94 331 P 17 06 33.4
baz=136,SNR=8.1
G05D Wamic, OR 43.06 325 P 17 06 35.5
baz=128
E07A Sunnyside 43.11 328 P **P** **17 06 35.7 +0.6**
H04A Detroit Lake 43.21 324 P **P** **17 06 35.7 -0.2**
H04A IAmb IAmb 17 06 37.2
comp=Z,11nm,0.8s
I03D Drain, OR 43.31 322 P 17 06 37.1
baz=125
FFC Flin Flon 43.34 348 P **P** **17 06 36.4 -0.3**
FFC IAmb IAmb 17 06 38.0
comp=Z,9.0nm,0.9s
J01E Myrtle Point 43.37 321 P 17 06 37.9
baz=124
H04D Lebanon 43.43 324 P 17 06 36.9
baz=126
I02D Swisshome 43.84 322 P 17 06 41.2
baz=124
LTY Liberty 43.99 328 IAmb IAmb 17 06 43.3
comp=Z,9.6nm,0.7s
B08A Colville Reser 44.06 330 P **P** **17 06 42.8 +0.1**
B08A IAmb IAmb 17 06 43.9
comp=Z,11nm,1.0s
G03D McMinnville, O 44.14 324 P 17 06 44.1
baz=126
LON Longmire 44.27 327 IAmb IAmb 17 06 45.9
comp=Z,7.5nm,0.8s
F04D Rainier, OR 44.51 325 P 17 06 46.3
baz=127
D05A Enumclaw 44.64 327 P **P** **17 06 47.4 +0.1**
D04E Lakebay 45.05 327 P 17 06 49.7
baz=128
SCHQ Schefferville 45.17 17 P **P** **17 06 50.4 -1.0**
comp=Z,8.6nm,0.6s,baz=221,slow=6.5,SNR=18
SCHQ Schefferville 45.17 17 P **P** **17 06 50.4 -1.0**
SCHQ IAmb IAmb 17 07 10.1
comp=Z,15nm,1.1s
B05A Bryant 45.38 328 P 17 06 52.8
baz=130
D03D Eldon 45.44 327 P 17 06 53.0
baz=128,SNR=11
NLWA Neilton Lookou 45.77 326 IAmb IAmb 17 06 57.7
comp=Z,11nm,0.8s
A04D Lummi Island 45.98 328 P 17 06 58.1
baz=129
CPUP Villa Florida 48.93 143 P **P** **17 07 19.7 -1.3**
comp=Z,2.6nm,0.6s,baz=339,slow=8.9,SNR=4.9
CPUP LR LR 17 28 28.5
comp=Z,51nm,21.3s,baz=337,slow=36
CPUP Villa Florida 48.93 143 IAmb IAmb 17 07 39.2
comp=Z,6.7nm,1.1s
FRB Frobisher Bay 52.76 11 LR LR 17 30 40.7
comp=Z,76nm,20.3s,baz=190,slow=36
YKA Yellowknife Ar 53.23 345 P **P** **17 07 51.4 -1.3**
comp=Z,3.6nm,0.7s,baz=147,slow=6.6,SNR=17
YKA LR LR 17 32 54.5
comp=Z,48nm,18.3s,baz=0.0,slow=39
CRAG Craig 55.14 331 P 17 08 07.0
baz=123
PLCA Paso Flores 55.57 164 P **P** **17 08 10.6 +0.4**
comp=Z,6.1nm,0.8s,baz=335,slow=8.5,SNR=13
PLCA Paso Flores 55.57 164 P **P** **17 08 10.5 +0.4**
PLCA IAmb IAmb 17 08 11.5
comp=Z,6.6nm,0.8s
WHY Whitehorse 58.76 335 P 17 08 31.8
baz=124
PINM Pinnacle 60.77 333 P 17 08 45.6
baz=118
CTG Chitna Glacier 61.65 334 P 17 08 51.8
baz=117
GRNC Granite Creek 61.72 333 IAmb IAmb 17 08 54.2
comp=Z,4.2nm,0.9s
RES Resolute Bay 62.08 358 IAmb IAmb 17 09 11.5
comp=Z,5.0nm,0.9s
BCAR Beaver Creek A 62.80 336 P **P** **17 08 58.9 -0.9**
INK Inuvik 62.80 343 P 17 08 59.2
baz=128
L27K Beaver Creek, 62.82 336 IAmb IAmb 17 09 01.3
comp=Z,4.2nm,0.9s
L27K Beaver Creek, 62.82 336 P 17 08 59.0
baz=118,SNR=12
GLB Gilahina Butte 62.93 333 P **P** **17 09 00.3 -0.4**
BMRM Bremner River 63.08 333 P 17 09 00.6
baz=114
N25K Chitina, Valde 63.34 333 P 17 09 02.9
baz=114
K27K Chicken 63.37 336 P **P** **17 09 03.1 -0.4**
K27K Chicken 63.37 336 P 17 09 03.2
baz=118
EGAK Eagle 63.38 337 P 17 09 02.5
baz=119
KLU Klutina 63.88 333 P **P** **17 09 06.8 -0.1**
KLU Klutina 63.88 333 P 17 09 06.8
baz=113

SCRK Sand Creek 64.10 336 P 17 09 07.8
baz=116
KNK Knik Glacier 64.98 332 P 17 09 13.4
baz=110
WAT6 Susitna Watana 65.08 334 P 17 09 13.8
baz=112
RC01 Rabbit Creek A 65.45 332 P 17 09 17.0
baz=109
HDA Harding Lake 65.46 336 P **P** **17 09 16.1 -0.9**
HDA Harding Lake 65.46 336 P 17 09 16.4
baz=113
HDA P 17 09 16.4
baz=113
BRSE Bradley Lake S 65.50 330 P 17 09 17.5
baz=108
ILAR Eielson Array 65.58 336 P **P** **17 09 16.9 -1.0**
comp=Z,3.0nm,1.0s,baz=115,slow=5.2,SNR=18
ILAR LR LR 17 44 16.4
comp=Z,35nm,18.4s,baz=120,slow=42
BMAR Burnt Mountain 65.86 339 P **P** **17 09 19.6 0.0**
MCK McKinley 66.01 335 P 17 09 19.9
baz=111
SUA Susitna One 66.04 332 P 17 09 20.3
baz=108
NEA2 Nenana 66.38 336 P 17 09 22.1
baz=111
H24K Noodor Dome 66.38 337 P 17 09 22.1
baz=113
SKT Skwentna 66.55 333 P 17 09 23.2
baz=108
I23K Minto, Yukon-K 66.69 336 P **P** **17 09 23.8 -1.2**
I23K Minto, Yukon-K 66.69 336 P 17 09 24.1
baz=111
BPAW Bear Paw Mtn. 66.99 335 P **P** **17 09 25.7 -1.3**
BPAW IAmb IAmb 17 09 29.6
comp=Z,14nm,1.6s
BPAW Bear Paw Mtn. 66.99 335 P 17 09 25.9
baz=109
H23K Yukon River 67.01 337 P 17 09 25.8
baz=111
MLY Manley 67.20 336 P 17 09 27.1
baz=110,SNR=6.4
N19K Bonanza Creek 67.59 331 P 17 09 29.5
baz=104
I21K Tanana 67.75 336 P 17 09 30.7
baz=109
COLD Coldfoot 67.77 338 P 17 09 31.2
baz=111,SNR=5.9
TOLK Toolik Lake Re 68.07 340 P 17 09 32.4
baz=112
H21K Melozitna Rive 68.22 336 P 17 09 33.1
baz=108
BORG Borgarnes 68.69 25 LR LR 17 39 15.9
comp=Z,23nm,19.9s,baz=285,slow=36
TTA Tatalina 68.81 333 P 17 09 36.2
baz=104
SDPT Sand Point 69.69 324 P 17 09 43.0
baz=97
JMIC Jan Mayen 74.63 20 LR LR 17 42 02.2
comp=Z,30nm,21.6s,baz=248,slow=35
ESDC Sonseca Array 77.43 52 P **P** **17 10 27.0 -2.7**
comp=Z,0.3nm,0.5s,baz=290,slow=4.7,SNR=2.5
ESDC LR LR 17 37 54.8
comp=Z,45nm,22.0s,baz=255,slow=30
DBIC Dmbokro 81.87 85 LR LR 17 43 16.5
comp=Z,39nm,20.9s,baz=291,slow=33
NOA NORSAR Array B 83.38 29 LR LR 17 43 04.8
comp=Z,15nm,21.6s,baz=280,slow=32
BILL Bilibino 84.09 339 P **P** **17 11 03.2 -1.4**
ARCES ARCESS Array B 86.10 19 P **P** **17 11 12.2 -2.4**
comp=Z,1.6nm,0.8s,baz=299,slow=5.6,SNR=2.6
TORD Torodi Ar. Bea 86.85 77 LR LR 17 45 24.9
comp=Z,44nm,21.9s,baz=320,slow=32
FINES FINESS Array B 89.96 26 LR LR 17 53 31.8
comp=Z,15nm,18.1s,baz=214,slow=37
AKASG Malin Array Be 96.59 35 LR LR 17 53 28.0
comp=Z,15nm,20.6s,baz=255,slow=34
BOSA Boshof 116.27 116 PKP **PKPdf** **17 17 17.1 -0.9**
comp=Z,1.6nm,0.7s,baz=232,slow=3.3,SNR=3.7
KSRS Korea Array 119.78 327 PKP **PKPdf** **17 17 23.6 -0.8**
comp=Z,0.9nm,0.7s,baz=19,slow=1.8,SNR=3.3
MKAR Makanchi Array 120.12 8 PKP **PKiKP** **17 17 25.7 +0.8**
comp=Z,0.1nm,0.4s,baz=346,slow=2.5,SNR=2.4
STKA Stephens Creek 130.79 239 PKP **PKiKP** **17 17 46.0 -0.4**
comp=Z,1.6nm,0.6s,baz=90,slow=4.0,SNR=4.5
WRA Warramunga Arr 138.85 254 PKhKP PKPpre 17 17 52.2
comp=Z,0.8nm,1.0s,baz=90,slow=3.3,SNR=2.5
WRA PKP **PKPdf** **17 18 01.7 +0.8**
comp=Z,2.5nm,1.0s,baz=91,slow=3.1,SNR=6.6
ASAR Alice Springs 138.89 249 PKhKP PKPpre 17 17 51.6
comp=Z,1.0nm,0.8s,baz=107,slow=2.5,SNR=12
ASAR PKP **PKPdf** **17 18 01.6 +0.6**
comp=Z,1.3nm,0.7s,baz=104,slow=2,SNR=12
FITZ Fitzroy Crossi 147.19 256 PKPbc **PKPbc** **17 18 17.3 -0.6**
comp=Z,3.1nm,0.8s,baz=333,slow=2.3,SNR=6.4
CMAR Chiang Mai Arr 148.28 347 PKPbc **PKPdf** **17 18 17.6 +0.2**
comp=Z,1.4nm,0.7s,baz=343,slow=4.0,SNR=8.6

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*IDC **18** 17:01:17.8±1.3, 67.08N±20.63E, h0km, mb1 2.8/2, mb1mx2.7/41, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=13.2km s-min=7.5km az=148.0*
*UPP **18** 17:01:18.6±0.1, 67.07N±20.90E, h0km, ML2.0, Explosion*
*NAO **18** 17:01:19.1±1.2, 67.06N±21.14E, ML2.6*
*HEL **18** 17:01:19.4, 67.11N±21.01E, h0km, ML2.0, Explosion*
*HEL **18** 17:01:19.5±0.1, 67.08N±20.93E, h0km, ML2.0, ML2.0(UPP), Explosion*
*BER **18** 17:01:20.8±2.7, 67.03N±20.79E, h0km, ML1.5, Suspected explosion*

ISC 18 17:01:18.4±0.7, 67.07N±0.02×20.92E±0.02, h0km, n54, σ1s11/78, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.57**	**47**	P	**Pg**	**17 01 29.6**	**+0.3**
MASU				S	**Sg**	**17 01 36.9**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**47**	*i* P	**Pg**	**17 01 29.6**	**+0.3**
MASU				*i* S	**Sg**	**17 01 36.9**	**+0.2**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**17 01 34.7**	**-0.2**
PAJU	**Pajala**	**0.86**	**92**	*e*P	**Pg**	**17 01 34.6**	**-0.3**
	baz=280						
PAJU				*e*S	**Sg**	**17 01 46.4**	**+0.4**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**17 01 35.7**	**-0.1**
HARU	**Harads**	**0.91**	**179**	*e*P	**Pg**	**17 01 35.7**	**-0.1**
RATU	**Laukkuluspa**	**0.91**	**326**	P	**Pg**	**17 01 35.6**	**-0.3**
RATU				S	**Sg**	**17 01 47.9**	**+0.2**
RATU	**Laukkuluspa**	**0.91**	**326**	*e*P	**Pg**	**17 01 35.6**	**-0.3**
RATU				*e*S	**Sg**	**17 01 47.9**	**+0.2**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 01 35.7**	**-0.3**
KUA	**Kurravaara**	**0.92**	**346**	*e*P	**Pg**	**17 01 35.7**	**-0.3**
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	**17 01 37.9**	**-0.9**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 01 38.7**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**17 01 38.7**	**-0.4**
KOVU	**Salmi**	**1.19**	**346**	P	**Pg**	**17 01 40.9**	**-0.3**
KOVU				S	**Sb**	**17 01 57.4**	**-0.5**
KOVU	**Salmi**	**1.19**	**346**	*e*P	**Pg**	**17 01 40.9**	**-0.3**
KOVU				*e*S	**Sb**	**17 01 57.4**	**-0.5**
KLF	**Kolari**	**1.20**	**81**	*e*P	**Pg**	**17 01 40.7**	**-0.7**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pb**	**17 01 48.0**	**-0.7**
SJUU				S	**Sg**	**17 02 09.1**	**-0.4**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pb**	**17 01 48.0**	**-0.7**
SJUU				*e*S	**Sg**	**17 02 09.1**	**-0.4**
TOF	**Tornio**	**1.69**	**125**	*e*P	**Pn**	**17 01 49.4**	**+0.4**
TOF				MSG		17 02 09.7	
	comp=Z,24nm,0.2s						
HEF	**Hetta**	**1.70**	**37**	Pn	**Pn**	**17 01 49.4**	**+0.1**
HEF				Sn	**Sn**	**17 02 11.9**	**+0.2**
HEF	**Hetta**	**1.70**	**37**	*e*P	**Pn**	**17 01 49.0**	**-0.3**
HEF				*e*S	**Sg**	**17 02 13.6**	**+0.6**
HEF	**Hetta**	**1.70**	**37**	*e*P	**Pn**	**17 01 49.1**	**-0.2**
	baz=218						
HEF				MSG		17 02 08.7	
	comp=Z,9.5nm,0.2s						
KIF	**Kilpisjarvi**	**1.94**	**359**	Pn	**Pb**	**17 01 54.2**	**-0.4**
KIF				Sn	**Sg**	**17 02 20.9**	**+0.2**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pb**	**17 01 54.3**	**-0.3**
KIF				*e*S	**Sg**	**17 02 20.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*PB	**Pb**	**17 01 54.2**	**-0.4**
	baz=180						
KIF				MSG		17 02 17.2	
	comp=Z,13nm,0.2s						
KIF				*e*SG	**Sg**	**17 02 21.9**	**+1.2**
RNF	**Rovaniemi**	**2.07**	**101**	*e*P	**Pn**	**17 01 55.4**	**+1.1**
RNF				*e*SG	**Sb**	**17 02 23.4**	**+0.5**

KTK1	**Kautokeino**	**2.13**	**23**	*e*P		**Pn**	**17 01 56.4**	**+1.1**
KTK1				IAML			17 02 33.7	
	comp=Z,6.0nm,0.1s							
I37NO	**I37NO**	**2.19**	**338**	*i*			17 14 40.0	
	baz=158,slow=327,SNR=2.4							
SGF	**Sodankyl**	**2.21**	**78**	*e*PB		**Pn**	**17 01 57.7**	**+1.4**
SGF				*e*SG		**Sb**	**17 02 27.8**	**+0.7**
FAUS	**Fauske**	**2.21**	**281**	*e*Pg		**Pb**	**17 01 58.4**	**-0.9**
FAUS				*e*Sg		**Sg**	**17 02 28.7**	**-0.7**
FAUS				IAML			17 02 37.9	
	comp=Z,13nm,0.1s							
STEI	**Steigen**	**2.35**	**294**	*e*Pg		**Pb**	**17 02 01.0**	**-0.5**
STEI				*e*Sg		**Sg**	**17 02 34.6**	**+0.8**
STEI				IAML			17 02 43.9	
	comp=Z,4.7nm,0.5s							
JETT	**Jettan, Norway**	**2.50**	**356**	*e*P		**Pn**	**17 02 01.1**	**+0.8**
BURU	**Burvik**	**2.51**	**175**	*e*P		**Pn**	**17 02 01.8**	**+1.4**
	baz=353							
TRO	**Tromso**	**2.68**	**345**	*e*P		**Pn**	**17 02 03.5**	**+0.8**
TRO				IAML			17 02 53.6	
	comp=Z,3.9nm,0.2s							
OUL	**Oulu**	**2.84**	**132**	*e*PB		**Pb**	**17 02 08.4**	**-1.6**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		**Pn**	**17 02 07.1**	**-0.1**
	baz=209,slow=14							
ARA0				Sn		**Sn**	**17 02 45.1**	**+1.3**
	baz=223,slow=22							
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		**Pn**	**17 02 07.1**	**-0.1**
	baz=209,slow=14							
ARA0				Sn		**Sn**	**17 02 45.1**	**+1.3**
	baz=223,slow=22							
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P		**Pn**	**17 02 07.7**	**+0.5**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn		**Pn**	**17 02 07.6**	**+0.4**
	baz=214,slow=14,SNR=39							
ARCES				Sn		**Sn**	**17 02 44.5**	**+0.6**
	baz=223,slow=22,SNR=5.8							
LOF	**Lofoten**	**3.02**	**294**	*e*P		**Pn**	**17 02 06.8**	**-0.5**
LOF				IAML			17 03 07.7	
	comp=Z,3.9nm,0.5s							
OUF	**Merijarvi**	**3.14**	**148**	*e*P		**Pn**	**17 02 11.2**	**+2.2**
OUF				MSG			17 02 51.9	
	comp=Z,2.1nm,0.2s							
UMAU	**Umea**	**3.20**	**182**	*e*P		**Pn**	**17 02 11.0**	**+1.1**
UMAU				*e*S		**Sn**	**17 02 50.7**	**+2.0**
VRF	**Varrio**	**3.42**	**75**	*e*P		**Pn**	**17 02 14.9**	**+2.0**
OLKF	**Oulanka, Finla**	**3.45**	**99**	*e*P		**Pn**	**17 02 15.6**	**+2.3**
MSF	**Maaselka**	**3.46**	**106**	*e*PB		**Pb**	**17 02 16.9**	**-3.5**
KEV	**Kevo**	**3.51**	**37**	*e*P		**Pn**	**17 02 15.1**	**+0.9**
KU6	**Riekki**	**3.74**	**102**	*e*P		**Pn**	**17 02 20.5**	**+3.3**
	baz=291							
HUSU	**Husum**	**3.81**	**192**	*e*S		**Sn**	**17 03 05.8**	**+2.1**
VAF	**Ylistaro**	**4.11**	**169**	*e*P		**Pn**	**17 02 24.1**	**+1.7**
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**17 02 30.8**	**+0.4**
	baz=262,slow=12							
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**17 02 30.8**	**+0.4**
	baz=262,slow=12							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 02 50.6**	**+1.3**
	baz=347,slow=14							
FIA0				Sn		**Sn**	**17 03 57.1**	**-2.4**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 02 50.6**	**+1.3**
	baz=347,slow=14							
FIA0				Sn		**Sn**	**17 03 57.1**	**-2.4**
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**17 02 50.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=1.5							
FINES				Sn		**Sn**	**17 03 58.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=336,slow=23,SNR=2.1							

*ISK **18** 17:01:48.5,38.06N×35.63E,h5km,ML1.5/4*
DDA 18 17:01:49.2,37.98N×35.62E,h7km±4km,ML3.1,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.23**	**299**	*i* P	Pg	17 01 54.7	+0.9
YAHY				*i* S	Sg	17 01 57.6	+0.7
SAIM	**ADANA**	**0.37**	**91**	*i* P	Pg	17 01 57.1	+0.7
SAIM				*i* S	Sg	17 02 01.4	+0.2
KOZT	**Kozan**	**0.53**	**162**	PG	Pb	17 02 00.6	-0.2
KOZT				SG	Sb	17 02 09.5	+0.9
AKO	**Adana**	**0.54**	**195**	*i* P	Pb	17 02 00.7	-0.3
AKO				*i* S	Sb	17 02 07.9	-1.0
CMRD	**Camardi-Nigde**	**0.59**	**237**	PG	Pb	17 02 01.5	-0.5
CMRD				SG	Sb	17 02 11.2	+0.6
SARI	**SarD1z-Kayseri**	**0.76**	**56**	PG	Pg	17 02 03.1	-0.7
BNN	**Bunyan**	**0.89**	**12**	PG	Pg	17 02 04.4	-1.8

ISK 18 17:04:07.2,36.89N×27.61E,h5km,ML2.0/10,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.16**	**188**	PG	Pg	17 04 11.3	+0.8
DAT				SG	Sg	17 04 14.3	+1.6
BDRM	**Kayabasi**	**0.22**	**323**	IAML		17 08 15.0	
	comp=E,16nm,2.1s						
BDRM	**Kayabasi**	**0.22**	**323**	*i* P	Pg	17 04 12.4	+1.0
BDRM	**Kayabasi**	**0.22**	**323**	*i* S	Sg	17 04 15.1	+0.7
BDRM	**Kayabasi**	**0.22**	**323**	IAML		17 06 35.0	
	comp=N,14nm,0.9s						
BODT	**Bodrum**	**0.29**	**306**	PG	Pg	17 04 12.9	0.0
BODT				SG	Sg	17 04 17.9	+1.2
MLSB	**Milas**	**0.43**	**19**	PG	Pg	17 04 16.3	+0.9
MLSB				SG	Sg	17 04 22.5	+1.5
NIS1	**Nisyros Isl.**	**0.45**	**230**	PG	Pg	17 04 16.5	+0.7
NIS1				SG	Sb	17 04 23.3	-1.3
TURN	**Turunc**	**0.53**	**103**	IAML		17 06 22.0	
	comp=E,14nm,1.4s						
TURN	**Turunc**	**0.53**	**103**	PG	Pg	17 04 17.1	-0.2
TURN				SG	Sb	17 04 25.6	-1.2
TURN	**Turunc**	**0.53**	**103**	*i* P	Pg	17 04 17.0	-0.3
TURN	**Turunc**	**0.53**	**103**	*i* S	Sg	17 04 23.4	-0.8
TURN	**Turunc**	**0.53**	**103**	IAML		17 06 13.0	
	comp=N,6.5nm,0.0s						
YER	**Yerkesik**	**0.59**	**66**	PG	Pb	17 04 19.4	-0.7
YER				SG	Sb	17 04 28.3	-0.6
MULA	**Mugla, Merkez-**	**0.68**	**57**	IAML		17 08 12.0	
	comp=E,14nm,0.7s						
MULA	**Mugla, Merkez-**	**0.68**	**57**	*i* P	Pb	17 04 21.4	-0.2
MULA	**Mugla, Merkez-**	**0.68**	**57**	*i* S	Sg	17 04 27.1	-2.0
MULA	**Mugla, Merkez-**	**0.68**	**57**	IAML		17 06 47.0	
	comp=N,6.1nm,0.8s						
ARG	**Arkhangelos**	**0.79**	**148**	PG	Pg	17 04 22.8	+0.4
AYDN	**Tasoluk**	**0.80**	**16**	IAML		17 08 29.0	
	comp=E,5.2nm,1.9s						
AYDN	**Tasoluk**	**0.80**	**16**	*i* P	Pg	17 04 22.4	-0.1
AYDN	**Tasoluk**	**0.80**	**16**	*i* S	Sg	17 04 32.6	-0.3
AYDN	**Tasoluk**	**0.80**	**16**	IAML		17 07 46.0	
	comp=N,6.0nm,2.0s						
DALY	**Dalyan (Mula)**	**0.84**	**95**	PG	Pb	17 04 24.1	-0.2
GCAM	**G?zelcaml?**	**0.86**	**340**	IAML		17 08 25.0	
	comp=N,51nm,1.8s						
GCAM	**G?zelcaml?**	**0.86**	**340**	PG	Pb	17 04 24.9	+0.3
GCAM	**G?zelcaml?**	**0.86**	**340**	*i* P	Pg	17 04 24.2	+0.5
GCAM	**G?zelcaml?**	**0.86**	**340**	*i* S	Sg	17 04 33.9	-1.0
GCAM	**G?zelcaml?**	**0.86**	**340**	IAML		17 06 24.0	
	comp=E,35nm,1.6s						
AYDB	**Zeytinkoy-Aydi**	**1.08**	**12**	PG	Pb	17 04 28.3	-0.1
FETY	**Fethiye**	**1.21**	**102**	*i* S	Sg	17 04 42.5	-3.8
FETY	**Fethiye**	**1.21**	**102**	PN	Pg	17 04 30.4	-0.1
FETY	**Fethiye**	**1.21**	**102**	*i* P	Pn	17 04 31.4	+0.5
CAME	**Cameli-Denizli**	**1.36**	**87**	PN	Pg	17 04 33.9	+0.6

*NEIC **18** 17:15:11.4±1.7,47.55N±0.03×92.61W±0.02,h0km±2km,*
mb_Lg2.8/24,Error ellipse: s-maj=4.7km s-min=3.0km
az=348.0
*IDC **18** 17:15:12.8±4.0,47.34N×93.24W,h0km,mb1 2.4/1,*
mb1mx2.4/39,mbtmp2.4/1,ML0.9/1,Error ellipse:
s-maj=72.7km s-min=27.1km az=60.0
ISC 18 17:15:09.3±1.1,47.62N±0.05×92.51W±0.05,h0km,n23,
σ0.997/15,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.76**	**64**		**Pn**	**17 15 27.8**	**+0.5**
B35A	**Bob, Littlefor**	**1.11**	**313**		**Pn**	**17 15 32.5**	**+0.5**
E38A	**The Farm, Brul**	**1.20**	**147**		**Pn**	**17 15 34.0**	**+0.6**
F36A	**Milaca**	**1.89**	**202**		**Pn**	**17 15 43.6**	**+0.8**
AGMN	**Agassiz Nation**	**2.36**	**288**		**Pn**	**17 15 48.8**	**-0.4**
AGMN				IAmb_Lg		17 16 23.7	
	comp=Z,36nm,0.9s						
SPMN	**Marine on St.**	**2.40**	**185**	Pn	**Pn**	**17 15 49.5**	**-0.3**
SPMN				IAmb_Lg		17 16 23.9	
	comp=Z,22nm,0.7s						
D41A	**Chassel**	**2.74**	**100**	IAmb_Lg		17 16 44.4	
	comp=Z,36nm,1.2s						
COWI	**Conover**	**2.77**	**122**	Pn	**Pb**	**17 15 59.5**	**-0.1**
COWI				IAmb_Lg		17 16 38.6	
	comp=Z,20nm,1.0s						
G40A	**Rib Lake**	**2.84**	**145**		**Pb**	**17 15 59.7**	**-1.2**
G40A					**Sb**	**17 16 35.9**	**-0.2**
F33A	**5 Mile Ranch,**	**3.15**	**237**		**Pn**	**17 16 00.1**	**0.0**
ULM	**Lac du Bonnet**	**3.45**	**321**	Pn	**Pn**	**17 16 05.8**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=172,slow=7.1,SNR=2.0						
ULM				Sn	**Sn**	**17 16 44.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=130,slow=17,SNR=1.3						
ULM				Lg	Lg	17 16 58.2	
	comp=Z,1.1nm,0.3s,baz=32,slow=16,SNR=26						
ULM	**Lac du Bonnet**	**3.45**	**321**	IAmb_Lg		17 17 01.6	
	comp=Z,23nm,0.8s						
I10CA	**LAC DU BONNET**	**3.48**	**319**	*i*		17 33 00.0	
	baz=146,slow=329,SNR=2.6						
I37A	**Lemond, Waseca**	**3.66**	**190**		**Pn**	**17 16 07.6**	**+0.5**
I40A	**Norwalk**	**3.95**	**160**	IAmb_Lg		17 17 15.7	
	comp=Z,16nm,0.9s						
H43A	**Windswept, Lux**	**4.56**	**132**	IAmb_Lg		17 17 33.0	
	comp=Z,20nm,0.8s						
MDND	**Maddock**	**4.79**	**275**	IAmb_Lg		17 17 50.3	
	comp=Z,15nm,0.8s						
ECSD	**EROS Data Cent**	**4.83**	**218**		**Pb**	**17 16 35.3**	**+0.5**
ECSD				IAmb_Lg		17 17 39.5	
	comp=Z,9.4nm,0.7s						
K38A	**Parkersburg**	**4.97**	**182**	Pn	**Pn**	**17 16 27.0**	**+1.8**
K31A	**O'Neill**	**6.67**	**224**	IAmb_Lg		17 18 53.1	
	comp=Z,20nm,0.7s						
J47A	**Sunmer**	**6.96**	**126**	IAmb_Lg		17 18 54.2	
	comp=Z,18nm,1.0s						
N47A	**Urbana**	**8.32**	**142**	IAmb_Lg		17 19 37.4	
	comp=Z,15nm,1.2s						
I56US	**NEWPORT INFRAST**	**16.50**	**281**	*i*		18 56 30.0	
	baz=83,slow=314,SNR=3.1						

*IDC **18** 17:27:08.9±1.2,12.90N×146.37E,h0km,mb3.9/12,*
mb1 4.0/12,mb1mx3.8/56,mbtmp3.9/12,MS3.0/1,
Ms1 3.2/1,ms1mx2.5/37,Error ellipse: s-maj=39.2km
s-min=18.4km az=98.0
*NEIC **18** 17:27:13.8±0.9,12.9N±0.1×146.6E±0.2,h35km±6km,*
mb4.5/15,Error ellipse: s-maj=22.6km s-min=13.5km
az=70.0
ISC 18 17:27:12.7±0.7,12.8N±0.1×146.6E±0.1,h31km,n32,
σ0.960/32,mb4.4/20,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**13.03**	**116**	Pn	**Pn**	**17 30 15.2**	**-0.7**
SIJI	**Sorong**	**20.38**	**229**	P	**P**	**17 31 46.6**	**-0.5**
	3.7nm,0.9s,baz=52,slow=17,SNR=2.7						
KSRS	**Korea Array**	**29.64**	**329**	P	**P**	**17 33 14.5**	**-0.9**
	0.5nm,0.6s,baz=152,slow=11,SNR=1.7						
WRA	**Warramunga Ar**	**34.72**	**200**	P	**P**	**17 34 00.2**	**+0.1**
	1.0nm,1.0s,baz=17,slow=9.2,SNR=6.3						
FITZ	**Fitzroy Crossi**	**37.02**	**214**	P	**P**	**17 34 20.4**	**+0.5**
	2.5nm,1.0s,baz=45,slow=10.0,SNR=2.6						
ASAR	**Alice Springs**	**38.33**	**199**	P	**P**	**17 34 31.8**	**+0.9**
	0.3nm,0.7s,baz=14,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**46.08**	**283**	P	**P**	**17 35 33.3**	**-1.0**
	1.4nm,0.8s,baz=80,slow=6.4,SNR=6.4						
CMAR				LR	LR	17 54 52.5	
	comp=Z,17nm,19.4s,baz=190,slow=36						
SONM	**Songino Array**	**48.29**	**324**	P	**P**	**17 35 50.7**	**-0.6**
	0.4nm,0.4s,baz=122,slow=6.2,SNR=2.8						
LSA	**Lhasa**	**53.80**	**297**	P	**P**	**17 36 33.5**	**+0.2**
LSA				IAmb	IAmb	17 36 34.2	
	comp=Z,3.8nm,0.7s						
MK31	**Makanchi Array**	**63.17**	**316**	P	**P**	**17 37 37.5**	**-0.3**
MK31				IAmb	IAmb	17 37 38.6	
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**63.17**	**316**	P	**P**	**17 37 37.9**	**0.0**
	comp=Z,2.8nm,0.6s,baz=93,slow=8.7,SNR=37						
MKAR	**Makanchi Array**	**63.17**	**316**	P	**P**	**17 37 37.6**	**-0.2**
ZALV	**Zalesovo Beam**	**63.19**	**324**	P	**P**	**17 37 38.2**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=96,slow=4.9,SNR=5.0						
MAKZ	**Makanchi**	**63.38**	**316**	P	**P**	**17 37 39.3**	**0.0**
KDJ	**Kajisay**	**66.23**	**310**	P	**P**	**17 37 58.0**	**-0.1**
KDJ				IAmb	IAmb	17 37 58.8	
	comp=Z,3.3nm,0.5s						
BOOM	**Boomskoye usch**	**67.17**	**311**	P	**P**	**17 38 04.2**	**+0.1**
SCM	**Sheep Creek Mo**	**67.56**	**28**	P	**P**	**17 38 05.4**	**-0.7**
SCM				IAmb	IAmb	17 38 06.5	
	comp=Z,4.2nm,0.6s						
IL31		**68.55**	**25**	P	**P**	**17 38 13.0**	**+0.9**
ILAR	**Eielson Array**	**68.55**	**25**	P	**P**	**17 38 13.4**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=248,slow=6.0,SNR=5.4						
NIL	**Nilore**	**69.17**	**301**	P	**P**	**17 38 17.3**	**+0.7**
KK31	**Karatay Array**	**71.18**	**311**	P	**P**	**17 38 28.8**	**0.0**
KK31				IAmb	IAmb	17 38 29.0	
	comp=Z,4.6nm,1.3s						
KKAR	**Karatay Array**	**71.18**	**311**	P	**P**	**17 38 28.6**	**-0.1**
KKAR	**Karatay Array**	**71.18**	**311**	P	**P**	**17 38 28.8**	**+0.1**
KKAR				IAmb	IAmb	17 38 29.0	
	comp=Z,4.6nm,1.3s						
BRVK	**Borovoye**	**71.59**	**322**	P	**P**	**17 38 31.5**	**+0.5**
BRVK				IAmb	IAmb	17 38 46.4	
	comp=Z,3.9nm,0.6s						
ABKAR	**Akbulak array**	**78.20**	**318**	P	**P**	**17 39 09.0**	**-0.2**
ABKAR	**Akbulak array**	**78.20**	**318**	P	**P**	**17 39 09.0**	**-0.2**
HRA	**Herat**	**78.22**	**303**	P	**P**	**17 39 10.2**	**+0.2**
HRA				IAmb	IAmb	17 39 11.3	
	comp=Z,6.2nm,0.8s						
ARU	**Arti**	**78.31**	**325**	P	**P**	**17 39 09.9**	**+0.1**
ARU				IAmb	IAmb	17 39 25.3	
	comp=Z,3.6nm,1.0s						
ARCES	**ARCESS Array B**	**88.30**	**342**	P	**P**	**17 40 02.1**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=59,slow=7.7,SNR=3.6						
FINES	**FINESS Array B**	**92.53**	**336**	P	**P**	**17 40 19.9**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=92,slow=4.5,SNR=12						
FINES	**FINESS Array B**	**92.53**	**336**	P	**P**	**17 40 21.2**	**+0.5**
DBIC	**Dimbokro**	**145.61**	**303**	PKPbc	**PKPab**	**17 46 50.1**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=45,slow=1.4,SNR=4.7						

*IDC **18** 17:27:42.8±10.0,12.80N×146.38E,h170km±98km,*
mb3.5/9,mb1 3.6/9,mb1mx3.3/56,mbtmp4.0/9,Error
ellipse: s-maj=38.6km s-min=20.4km az=81.0
ISC 18 17:27:27.9±1.3,12.8N±0.2×146.4E±0.3,h31km,n9,
σ0.991/8,mb3.8/8,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**20.29**	**229**	P	Pn	17 32 06.5	+3.1
	8.5nm,0.8s,baz=55,slow=10,SNR=6.7						
KSRS	**Korea Array**	**29.56**	**329**	P	**P**	**17 33 31.3**	**+1.4**
	1.0nm,0.7s,baz=145,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**34.68**	**200**	P	**P**	**17 34 15.5**	**+0.5**
	0.9nm,0.7s,baz=17,slow=9.2,SNR=6.1						
ASAR	**Alice Springs**	**38.29**	**199**	P	**P**	**17 34 46.1**	**+0.3**
	0.4nm,0.8s,baz=14,slow=13,SNR=6.1						
CMAR	**Chiang Mai Arr**	**45.95**	**283**	P	**P**	**17 35 47.5**	**-1.0**
	1.0nm,0.7s,baz=84,slow=5.5,SNR=4.4						
MKAR	**Makanchi Array**	**63.07**	**316**	P	**P**	**17 37 52.6**	**+0.2**
	2.1nm,0.5s,baz=98,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**63.10**	**324**	P	**P**	**17 37 52.4**	**0.0**
	1.1nm,0.5s,baz=83,slow=6.4,SNR=4.3						
ILAR	**Eielson Array**	**68.60**	**25**	P	**P**	**17 38 27.4**	**-0.2**
	0.4nm,0.4s,baz=252,slow=5.5,SNR=5.9						
FINES	**FINESS Array B**	**92.47**	**335**	P	**P**	**17 40 34.8**	**-0.9**
	1.3nm,0.6s,baz=57,slow=7.0,SNR=6.2						

*DNK **18** 17:27:43.5±3.0,69.27N×68.77W,h0km±67km,ML3.2*
*IDC **18** 17:27:44.2±0.7,69.25N×69.21W,h0km,mb3.6/10,*
mb1 3.9/14,mb1mx3.7/47,mbtmp3.7/14,ML3.6/4,MS3.1/6,
Ms1 3.1/6,ms1mx2.8/41,Error ellipse: s-maj=21.4km
s-min=14.3km az=133.0
ISC 18 17:27:44.6±0.5,69.29N±0.05×68.78W±0.05,h10km,n34,
σ2.993/42,mb3.8/13,MS3.0/6,Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPNV	**Upernavik**	**5.41**	**44**	*i* P	**Pn**	**17 29 05.8**	**+0.7**
UPNV				*e*S	**Sn**	**17 30 04.4**	**-2.8**
UPNV				IAML		17 30 09.9	
	comp=Z,21nm,0.3s						
FRB	**Frobisher Bay**	**5.57**	**179**	Pn	**Pn**	**17 29 05.3**	**-1.9**
	comp=Z,4.0nm,0.3s,baz=2.1,slow=14,SNR=36						
FRB				Sn	Sn	17 30 02.8	-8.4
	comp=Z,23nm,0.3s,baz=58,slow=15,SNR=7.1						
FRB				Lg	Lg	17 30 29.1	
	comp=Z,85nm,0.3s,baz=273,slow=20,SNR=9.5						
NUUG	**Nuugaatsiaq**	**5.70**	**59**	*i* P	**Pn**	**17 29 09.5**	**+0.4**
NUUG				*e*S	**Sn**	**17 30 11.3**	**-3.2**
ILULI	**Ilulissat**	**6.28**	**82**	*i* P	**Pn**	**17 29 16.7**	**-0.4**
ILULI				*e*S	**Sn**	**17 30 25.8**	**-2.9**
KULLO	**Kullorsuaq**	**6.41**	**29**	*i* P	**Pn**	**17 29 19.6**	**+0.8**
KULLO				*i* S	**Sn**	**17 30 29.1**	**-2.7**
KULLO				IAML		17 30 39.8	
	comp=Z,16nm,0.4s						
SFJD	**Kangerlussuaq**	**7.15**	**100**	Pn	**Pn**	**17 29 27.3**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=296,slow=13,SNR=20						
SFJD				Sn	**Sn**	**17 30 45.1**	**-5.1**
	comp=Z,14nm,0.3s,baz=23,slow=22,SNR=15						
SFJD	**Kangerlussuaq**	**7.15**	**100**	*i* P	**Pn**	**17 29 27.0**	**-2.0**
SFJD				*i* S	**Sn**	**17 30 45.0**	**-5.1**
DY2G	**Dye2**	**8.92**	**98**	*e*P	**Pn**	**17 29 53.0**	**-0.5**
DY2G				*i* S	**Sn**	**17 31 28.9**	**-5.2**
NEEM	**North Greenlan**	**9.57**	**24**	*i* P	**Pn**	**17 30 02.1**	**-0.3**
NEEM				*e*S	**Sn**	**17 31 45.7**	**-4.3**
NEEM				IAML		17 31 49.9	
	comp=Z,4.5nm,0.3s						
RES	**Resolute Bay**	**9.65**	**316**	Pn	**Pn**	**17 30 02.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=113,slow=9.9,SNR=44						
RES				Sn	**Sn**	**17 31 45.6**	**-5.8**
	comp=Z,2.4nm,0.3s,baz=3.8,slow=7.8,SNR=8.5						
RES				Lg	Lg	17 32 45.5	
	comp=Z,6.0nm,0.3s,baz=29,slow=23,SNR=8.4						
ICESG	**Greenland Ices**	**10.31**	**77**	*i* P	**Pn**	**17 30 14.1**	**+1.4**
SCHQ	**Schefferville**	**14.54**	**176**	Pn	Pn	17 31 05.9	-4.2
	comp=Z,0.7nm,0.3s,baz=360,slow=14,SNR=2.4						
SCHQ				Sn	Sn	17 33 35.3	-16
	comp=Z,1.4nm,0.3s,baz=38,slow=14,SNR=2.1						
SCHQ				Lg	Lg	17 35 01.1	
	comp=Z,1.5nm,0.3s,baz=71,slow=16,SNR=1.7						
DAG	**Danmarks Havn**	**15.85**	**40**	*i* P	**Pn**	**17 31 24.6**	**-2.8**
NOR	**Nord**	**16.95**	**23**	*i* P	**Pn**	**17 31 38.4**	**-2.9**
YKA	**Yellowknife Ar**	**19.46**	**272**	P	**P**	**17 32 09.4**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=47,slow=14,SNR=14						
YKA				S	Sn	17 35 35.2	-15
	comp=Z,0.5nm,0.3s,baz=293,slow=28,SNR=4.9						
YKA				Lg	Lg	17 37 37.4	
	comp=Z,0.9nm,0.3s,baz=51,slow=29,SNR=6.6						
INK	**Inuvik**	**22.48**	**298**	P	**P**	**17 32 46.0**	**+2.5**
	comp=Z,1.5nm,0.5s,baz=66,slow=7.0,SNR=3.6						
INK				S	**S**	**17 36 44.1**	**-5.6**
	comp=Z,1.8nm,0.7s,baz=296,slow=30,SNR=2.3						
INK				Lg	Lg	17 39 17.9	
	comp=Z,7.5nm,0.9s,baz=0.2,slow=30,SNR=3.3						
SPITS	**Spitsbergen Ar**	**22.97**	**32**	P	**P**	**17 32 50.9**	**+2.2**
	comp=Z,1.6nm,0.6s,baz=284,slow=5.8,SNR=4.9						
ULM	**Lac du Bonnet**	**23.09**	**228**	P	**P**	**17 32 48.9**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=36,slow=14,SNR=1.9						
ULM				S	**S**	**17 36 58.0**	**-2.8**
	comp=Z,2.0nm,0.4s,baz=169,slow=16,SNR=1.8						
ULM				Lg	Lg	17 39 27.2	
	comp=Z,7.0nm,0.6s,baz=305,slow=21,SNR=1.5						
ULM				LR	LR	17 42 04.6	
	comp=Z,35nm,21.9s,baz=102,slow=38						
SADO	**Sadowa**	**25.14**	**198**	S	**S**	**17 37 39.0**	**+5.0**
	comp=Z,2.0nm,0.4s,baz=302,slow=19,SNR=1.4						
SADO				Lg	Lg	17 40 30.8	
	comp=Z,24nm,1.0s,baz=108,slow=21,SNR=6.8						
SADO				LR	LR	17 43 15.6	
	comp=Z,35nm,19.0s,baz=318,slow=37						
DLBC	**Dease Lake**	**27.77**	**278**	Lg	Lg	17 41 55.5	
	comp=Z,0.9nm,0.4s,baz=176,slow=7.1,SNR=3.5						
DLBC				LR	LR	17 44 01.6	
	comp=Z,44nm,21.1s,baz=88,slow=35						
ILAR	**Eielson Array**	**28.86**	**300**	PcP	**PcP**	**17 36 54.0**	**+2.4**
	comp=Z,0.4nm,0.9s,baz=67,slow=5.0,SNR=1.6						
ARCES	**ARCESS Array B**	**30.06**	**44**	P	**P**	**17 33 56.6**	**+3.4**
	comp=Z,1.0nm,0.8s,baz=328,slow=9.6,SNR=1.4						
PDAR	**Pinedale Array**	**33.83**	**240**	P	**P**	**17 34 26.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=41,slow=6.7,SNR=6.0						
PDAR				LR	LR	17 47 31.6	
	comp=Z,26nm,20.4s,baz=40,slow=35						
NVAR	**Mina Array Bea**	**40.55**	**247**	P	**P**	**17

AS31	**Alice Springs**	**26.16**	**164**	P	**P**	**17 39 50.6**	**+1.0**
ASAR	**Alice Springs**	**26.16**	**164**	P	**P**	**17 39 50.1**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=344,slow=7.3,SNR=31						
ASAR				PcP	**PcP**	**17 43 16.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=357,slow=2.4,SNR=4.2						
FORT	**Forrest**	**32.26**	**177**	P	**P**	**17 40 43.9**	**+0.2**
KSAR	**Wonju Array Be**	**35.66**	**2**	P	**P**	**17 41 08.6**	**-4.5**
KSRS	**Korea Array**	**35.68**	**2**	P	**P**	**17 41 11.5**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=180,slow=15,SNR=1.5						
STKA	**Stephens Creek**	**36.28**	**158**	P	**P**	**17 41 20.8**	**+2.3**
	comp=Z,1.5nm,0.7s,baz=355,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**36.28**	**158**	IAmb	IAmb	17 41 41.3	
	comp=Z,1.6nm,1.3s						
SONM	**Songino Array**	**49.20**	**342**	P	**P**	**17 43 01.1**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=150,slow=9.8,SNR=2.3						
SONM	**Songino Array**	**49.20**	**342**	IAmb	IAmb	17 43 04.5	
	comp=Z,1.5nm,1.2s						
PETK	**Petropavlovsk-**	**57.46**	**22**	P	**P**	**17 44 04.6**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=221,slow=20,SNR=2.6						
PET	**Petropavlovsk**	**57.75**	**22**	P	**P**	**17 44 03.2**	**-2.3**
MK31	**Makanchi Array**	**59.14**	**326**	P	**P**	**17 44 14.0**	**-1.4**
MK31				IAmb	IAmb	17 44 19.7	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**59.14**	**326**	P	**P**	**17 44 14.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=118,slow=8.3,SNR=14						
RAO	**Raoul Island**	**61.33**	**125**	LR	LR	18 11 11.7	
	comp=Z,42nm,19.6s,baz=94,slow=36						
ZALV	**Zalesovo Beam**	**62.34**	**334**	P	**P**	**17 44 35.4**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=119,slow=8.4,SNR=1.9						
KURBB	**Kurchatov Arra**	**63.37**	**328**	P	**P**	**17 44 43.4**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=125,slow=6.2,SNR=10						
KURK	**Kurchatov**	**63.38**	**328**	P	**P**	**17 44 43.4**	**-0.6**

UPA ***18*** *17:34:44.6±0.3,8.˚91N×77.˚87W, h69km±6km, MW3.0*
RSNC ***18*** *17:34:46.2±0.8, 9.˚03N×77.˚82W, h38km±12km, ML2.2*
ISC 18 17:34:45.3±1.3,**9.˚00N**±0.˚10×**77.˚84W**±0.˚03,**h52**km±21km,
n13,σ0**967/20,Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.48**	**201**	*eP*	**Pn**	**17 34 56.2**	**-0.3**
UPD2				*eS*	**Sn**	**17 35 04.9**	**+0.4**
UPD2	**Meteti**	**0.48**	**201**	*eP*	**Pn**	**17 34 56.3**	**-0.2**
UPD2				*i*		17 34 56.5	
	comp=Z,182nm,0.2s						
UPD2				*eS*	**Sn**	**17 35 04.6**	**+0.1**
CNTA3	**Canitas, Panam**	**1.06**	**282**	*eS*	**Sn**	**17 35 17.9**	**+0.3**
LCBC	**Los crdobas,**	**1.46**	**95**	*eP*	**Pn**	**17 35 09.9**	**+0.5**
LCBC				*eS*	**Sn**	**17 35 27.2**	**-0.2**
LCBC				*i*		17 35 40.1	
	comp=Z,20nm,0.6s						
BCIP	**Isla Barro Col**	**1.98**	**275**	*eP*	**Pn**	**17 35 15.3**	**-1.1**
BCIP				*eS*	**Sn**	**17 35 39.0**	**-1.0**
BCIP	**Isla Barro Col**	**1.98**	**275**	*eP*	**Sn**	**17 35 16.9**	**+0.5**
BCIP				*eS*	**Sn**	**17 35 40.8**	**+0.8**
BCIP				*i*		17 35 46.2	
	comp=Z,12nm,0.5s						
ZANG	**Zanguenga, Cho**	**2.00**	**269**	*eS*	**Sn**	**17 35 41.3**	**+0.7**
MOTC	**Monteria, Cord**	**2.16**	**96**	*eP*	**Pn**	**17 35 18.7**	**-0.2**
MOTC				*i*		17 35 19.8	
	comp=Z,3.7nm,0.4s						
MOTC				*eS*	**Sn**	**17 35 44.0**	**-0.5**
MONA	**Monteria**	**2.17**	**96**	*eS*	**Sn**	**17 35 44.5**	**-0.3**
DBBC	**Dabeiba**	**2.55**	**141**	*eS*	**Sn**	**17 35 55.1**	**+1.0**
DBBC				*i*		17 36 05.6	
	comp=Z,26nm,0.6s						
SJCC	**San Jacinto, C**	**2.77**	**71**	*eS*	**Sn**	**17 35 59.8**	**+0.1**
SJCC	**San Jacinto, C**	**2.77**	**71**	*eP*	**Pn**	**17 35 28.1**	**+0.8**
SJCC				*eS*	**Sn**	**17 35 58.9**	**-0.8**
SJCC				*i*		17 36 03.5	
	comp=Z,7.5nm,0.4s						
ZARC	**Zaragoza, Cauc**	**3.31**	**117**	*eP*	**Pn**	**17 35 34.1**	**-0.5**
ZARC				*i*		17 36 14.6	
	comp=Z,6.6nm,0.3s						

ANF ***18*** *17:47:29.9±0.5, 46.˚20N×120.˚64W, h1km±2km, ML3.1/15, Error ellipse: s-maj=2.9km s-min=1.7km az=82.0, Hypocentre not reviewed by the ISC*
SEA ***18*** *17:47:31.5±2.0, 46.˚15N±0.˚02×120.˚70W±0.˚02, h13km±2km, ML3.1/64, ML2.9/58(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=153.0*
PNSN ***18*** *17:47:31.5, 46.˚15N×120.˚70W, h12km, MD2.9, Fault plane solution: NP1:*φ*=285.00000°,* δ*=90.00000°,* λ*=90.00000°.*
NEIC 18 17:47:31.4±1.8,**46.˚15N**±0.˚02×**120.˚70W**±0.˚01,**h13**km±5km,
Error ellipse: s-maj=2.4km s-min=1.3km az=160.0,
Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRW	**Toppenish Ridg**	**0.18**	**38**		Pg	17 47 35.7	+0.1
YA2	**Yakima**	**0.39**	**17**		Pg	17 47 39.6	+0.4
BLTW	**Bickleton**	**0.43**	**123**		Pg	17 47 40.3	+0.3
MXC	**Moxie City**	**0.51**	**33**		Pg	17 47 41.7	+0.3
NAC	**Naches**	**0.59**	**352**		Pg	17 47 43.1	+0.2
BRVW	**Black Rock Val**	**0.59**	**56**		Pb	17 47 43.6	-0.1
F05D	**White Salmon**	**0.59**	**244**		Pg	17 47 43.1	+0.1
F05D					Sb	17 47 52.2	+0.4
F05D	**White Salmon**	**0.59**	**244**	P		17 47 43.0	
	baz=63,SNR=60						
F05D				S		17 47 51.8	
	baz=63						
F07A	**Phinny Hill Vi**	**0.60**	**115**		Pg	17 47 43.2	+0.2
F07A					Sg	17 47 51.2	+0.3
ASR	**Mount Adams--S**	**0.62**	**270**		Pg	17 47 43.7	+0.2
VGB	**Gordon Butte**	**0.64**	**185**		Pg	17 47 43.8	0.0
GULW	**Guler Mountain**	**0.67**	**250**		Pg	17 47 44.4	0.0
PAT2	**Paterson 2**	**0.71**	**112**		Pb	17 47 45.4	-0.2
E07A	**Sunnyside**	**0.71**	**55**		Pg	17 47 45.2	0.0
E07A					Sb	17 47 55.5	+0.2
E07A	**Sunnyside**	**0.71**	**55**	IAML		17 47 55.7	
	comp=N,603nm,0.4s						
E07A				IAML		17 48 03.7	
	comp=E,635nm,0.4s						
GLK	**Glacier Lake**	**0.75**	**304**		Pg	17 47 45.9	-0.1
EBG	**Ellensburg**	**0.76**	**7**		Pg	17 47 46.0	-0.2
MDW	**Midway**	**0.80**	**54**		Pg	17 47 46.6	-0.2
WPW	**White Pass**	**0.80**	**313**		Pg	17 47 46.7	-0.2
RSW	**Rattlesnake Hi**	**0.81**	**72**		Pb	17 47 47.1	-0.1
HAWA	**Hanford**	**0.84**	**73**		Pg	17 47 47.5	-0.2
HAWA					Sb	17 47 59.3	+0.2
BVW	**Beverly**	**0.87**	**40**		Pg	17 47 47.7	-0.5
GBB	**Gable Butte**	**0.87**	**58**		Pg	17 47 48.0	-0.2
GBB					Sb	17 48 00.5	+0.6
REDWA	**Red Mountain**	**0.89**	**80**		Pg	17 47 48.4	-0.1
JBO	**Jordan Butte**	**0.92**	**139**		Pg	17 47 48.4	-0.7
H2OWA	**Water**	**0.92**	**74**		Pb	17 47 49.0	-0.1
CDFW	**Cedar Flats**	**0.94**	**268**		Pb	17 47 49.0	-0.5
CDFW					Sb	17 48 02.2	+0.4
VT2	**Vantage 2**	**0.95**	**30**		Pg	17 47 49.2	-0.4
PANH	**Panhandle Gap,**	**0.96**	**318**		Pg	17 47 49.4	-0.5
GBL	**Gable Mountain**	**0.97**	**62**		Pb	17 47 49.7	-0.2
GBL	**Gable Mountain**	**0.97**	**62**		Pb	17 47 49.8	-0.2
VLL	**Laurance Lake**	**0.97**	**225**		Pb	17 47 49.7	-0.4
LON	**Longmire**	**0.97**	**308**		Pb	17 47 49.6	-0.5
LON	**Longmire**	**0.97**	**308**		Pb	17 47 49.7	-0.4
RCM	**Mount Rainier-**	**0.99**	**314**		Pg	17 47 50.2	-0.3
WAH2	**Wahluke Slope**	**0.99**	**52**		Pb	17 47 50.1	-0.2
VFP	**Flag Point**	**0.99**	**213**		Pb	17 47 50.1	-0.4
TWW	**Teanaway**	**0.99**	**353**		Pb	17 47 50.1	-0.3
B202	**Windy Ridge, M**	**1.00**	**276**		Pb	17 47 49.7	-0.9
G05D	**Wamic, OR**	**1.01**	**206**		Pb	17 47 50.3	-0.4
G05D	**Wamic, OR**	**1.01**	**206**	P		17 47 50.2	
	baz=25,SNR=15						
G05D				S		17 48 04.3	
	baz=25						
ESD	**East Dome**	**1.01**	**273**		Pb	17 47 50.4	-0.3
JLK	**June Lake**	**1.01**	**270**		Pb	17 47 50.3	-0.4
RCS	**Mount Rainier-**	**1.01**	**316**		Pb	17 47 50.8	-0.1
MJ2	**May Junction 2**	**1.01**	**66**		Pb	17 47 50.7	0.0
WIW	**Wooded Island**	**1.02**	**74**		Pg	17 47 51.0	0.0
WIW	**Wooded Island**	**1.02**	**74**		Pb	17 47 50.6	-0.2
TBM	**Table Mountain**	**1.02**	**4**		Pb	17 47 50.4	-0.6
FMW	**Mount Fremont**	**1.03**	**320**		Pb	17 47 50.8	-0.3
HSR	**South Ridge**	**1.03**	**272**		Pb	17 47 50.6	-0.5
REMR	**Mount Rainier-**	**1.03**	**311**		Pb	17 47 50.8	-0.4
SEPW	**September Lobe**	**1.04**	**273**		Pb	17 47 51.1	-0.1
VALT	**Mount Saint He**	**1.04**	**274**		Pb	17 47 50.9	-0.3
LOCW	**Locke Island**	**1.04**	**57**		Pb	17 47 50.5	-0.8
HIYU	**Hiyu Mountain**	**1.06**	**228**		Pb	17 47 51.0	-0.6
MTMW	**Mount Mitchell**	**1.06**	**264**		Pb	17 47 50.8	-0.8
JRO	**Jston Ridge Ob**	**1.06**	**277**		Pb	17 47 51.1	-0.5
STD	**Studebaker Rid**	**1.06**	**275**		Pb	17 47 51.0	-0.7
HOOD	**Mount Hood Mea**	**1.06**	**219**		Pb	17 47 51.4	-0.3
SHW	**Mount Saint He**	**1.07**	**273**		Pb	17 47 51.3	-0.5
TDL	**Tradedollar La**	**1.07**	**281**		Pb	17 47 51.2	-0.6
OBSR	**Observation Ro**	**1.07**	**315**		Pb	17 47 51.7	-0.2
B201	**Coldwater, Mou**	**1.10**	**278**		Pb	17 47 51.5	-0.7
LTY	**Liberty**	**1.11**	**1**		Pb	17 47 51.0	-1.4
LTY				IAML		17 48 12.1	
	comp=N,170nm,0.3s						
LTY				IAML		17 48 13.7	
	comp=E,160nm,0.3s						
CRF	**Corfu**	**1.13**	**53**		Pn	17 47 52.8	0.0
B203	**Quarry, Mount**	**1.14**	**271**		Pb	17 47 52.1	-0.7
OT3	**Othello 3**	**1.14**	**62**		Pb	17 47 52.6	-0.3
FL2	**Flat Top 2**	**1.15**	**273**		Pb	17 47 52.4	-0.7
ERK	**Elk Rock**	**1.15**	**278**		Pb	17 47 52.5	-0.6
TDH	**Tom, Dick, Har**	**1.15**	**222**		Pb	17 47 52.5	-0.7
FHE	**Frenchman Hill**	**1.15**	**46**		Pb	17 47 52.8	-0.3
E08A	**Dider Farm, El**	**1.19**	**73**		Pn	17 47 52.9	-0.7
E08A				IAML		17 48 13.9	
	comp=E,240nm,0.2s						
CROR	**Criterion Ridg**	**1.19**	**190**		Pn	17 47 53.1	-0.5
LVP	**Lakeview Peak**	**1.19**	**267**		Pn	17 47 53.0	-0.8
YPT	**Yellepit**	**1.21**	**94**		Pn	17 47 53.7	-0.3
GSM	**Grass Mountain**	**1.29**	**325**		Pb	17 47 55.5	-0.1
B941	**Kapowsin**	**1.34**	**309**		Pb	17 47 56.0	-0.3
E04D	**Cinebar**	**1.35**	**288**		Pb	17 47 56.9	+0.4
E04D	**Cinebar**	**1.35**	**288**	P		17 47 56.4	
	baz=107,SNR=28						
E04D				S		17 48 15.1	
	baz=107						
D05A	**Enumclaw**	**1.36**	**320**		Pn	17 47 56.1	+0.1
EPH	**Ephrata**	**1.42**	**32**		Pn	17 47 57.0	+0.1
RVW	**Rose Valley**	**1.42**	**271**		Pn	17 47 56.9	0.0
ETW	**Entiat**	**1.48**	**10**		Pn	17 47 57.5	-0.2
LCW	**Lucas Creek**	**1.48**	**291**		Pb	17 47 58.6	0.0
RATT	**Rattlesnake La**	**1.48**	**330**		Pb	17 47 58.5	-0.2
G08A	**Pilot Rock**	**1.49**	**125**	Pn	Pn	17 47 57.1	-0.8
G08A				IAML		17 48 19.2	
	comp=E,204nm,0.2s						
D08A	**Wollman Farm,**	**1.52**	**53**		Pn	17 47 58.0	-0.3
D08A				IAML		17 48 20.2	
	comp=N,136nm,0.1s						
D08A				IAML		17 48 20.4	
	comp=E,169nm,0.1s						
G04A	**Mulino**	**1.56**	**233**		Pb	17 47 59.5	-0.6
WPO	**West Portland**	**1.57**	**249**		Pb	17 47 59.7	-0.5
F04D	**Rainier, OR**	**1.61**	**268**		Pb	17 48 01.3	+0.4
F04D	**Rainier, OR**	**1.61**	**268**	P		17 48 00.3	
	baz=87						
F04D				S		17 48 22.4	
	baz=87						
WTV	**Waterville**	**1.63**	**18**		Pn	17 47 59.9	+0.2
VIPM	**Ingram Point**	**1.65**	**178**		Pn	17 48 00.2	+0.2
B023	**Clatskanie**	**1.66**	**269**		Pb	17 48 01.0	-0.6
WRW	**Wenatchee Ridg**	**1.71**	**356**		Pb	17 48 01.9	-0.8
CBSW	**Chelan Butte S**	**1.71**	**15**		Pn	17 48 01.2	+0.2
GMO	**Grizzlie Mount**	**1.72**	**186**		Pn	17 48 01.9	+0.7
D04E	**Lakebay**	**1.76**	**306**	Pb		17 48 03.5	
	baz=125						
D04E				S		17 48 25.3	
	baz=125						
C06D	**Leavenworth**	**1.78**	**356**		Pb	17 48 03.4	-0.4
C06D	**Leavenworth**	**1.78**	**356**	Pb		17 48 02.9	
	baz=176,SNR=7.7						
C06D				Sg		17 48 26.8	
	baz=176						
SAW	**Saint Andrews**	**1.79**	**29**		Pn	17 48 01.9	0.0
H04A	**Detroit Lake**	**1.80**	**216**		Pn	17 48 02.8	+0.7
E09A	**Wood Farm, Sta**	**1.81**	**78**		Pn	17 48 01.9	-0.2
OD2	**Odessa Site #2**	**1.84**	**47**		Pn	17 48 02.6	-0.1
I05D	**Terrebonne, OR**	**1.87**	**194**		Pb	17 48 04.2	-1.1
I05D	**Terrebonne, OR**	**1.87**	**194**	P		17 48 03.9	
	baz=14,SNR=82						
I05D				S		17 48 29.4	
	baz=14						
NLO	**Nicolai Mounta**	**1.91**	**269**		Pb	17 48 06.5	+0.3
NLW	**Nelson Butte**	**1.94**	**7**		Pn	17 48 04.7	+0.5
GPW	**Glacier Peak**	**1.99**	**352**		Pb	17 48 06.7	-0.8
KMOR	**Kings Mountain**	**2.02**	**256**		Pn	17 48 05.7	+0.6
E03A	**Lebam**	**2.02**	**282**		Pn	17 48 04.9	-0.2
E03A				IAML		17 48 37.9	
	comp=N,51nm,0.6s						
E03A				IAML		17 48 40.2	
	comp=E,79nm,0.6s						
G03D	**McMinnville, O**	**2.03**	**243**		Pn	17 48 06.2	+1.0
G03D	**McMinnville, O**	**2.03**	**243**	P		17 48 06.0	
	baz=62,SNR=6.6						
G03D				S		17 48 33.6	
	baz=62						
GNW	**Green Mountain**	**2.03**	**315**		Pg	17 48 09.2	-1.1
PRLK	**Prince Lake**	**2.14**	**205**		Pn	17 48 08.2	+1.4
D03D	**Eldon**	**2.15**	**311**		Pb	17 48 09.2	-0.8
D03D	**Eldon**	**2.15**	**311**	Pb		17 48 09.1	
	baz=129						
D03D				Sb		17 48 38.5	
	baz=129						
H04D	**Lebanon**	**2.17**	**222**		Pn	17 48 08.6	+1.4
H04D	**Lebanon**	**2.17**	**222**	P		17 48 08.2	
	baz=41,SNR=18						
H04D				S		17 48 36.1	
	baz=41						
HDW	**Hoodsport**	**2.20**	**314**		Pb	17 48 10.2	-0.8
JCW	**Jim Creek**	**2.21**	**338**		Pn	17 48 09.4	+1.7
MOON	**Moon Mountain**	**2.21**	**198**		Pb	17 48 10.6	-0.5
I07A	**Izee**	**2.24**	**157**	Pn	Pn	17 48 08.3	+0.1
I07A				IAML		17 48 43.5	
	comp=N,63nm,0.3s						
I07A				IAML		17 48 45.5	
	comp=E,52nm,0.3s						
B05A	**Bryant**	**2.32**	**336**		Pb	17 48 11.6	-1.3
B05A	**Bryant**	**2.32**	**336**	Pb		17 48 11.5	
	baz=155						
B05A				Sb		17 48 42.9	
	baz=155						
C09A	**Chrisman Ranch**	**2.34**	**44**	Pn	Pn	17 48 09.3	-0.2
PINE	**Pine Mountain**	**2.37**	**184**		Pn	17 48 09.3	-0.7
ASBU	**Astronaut Butt**	**2.38**	**192**		Pb	17 48 12.3	-1.8
B08A	**Colville Reser**	**2.40**	**22**	Pn	Pn	17 48 09.7	-0.6
B08A				IAML		17 48 51.0	
	comp=N,56nm,0.6s						
B08A				IAML		17 48 55.5	
	comp=E,55nm,0.6s						
COR	**Corvallis**	**2.41**	**230**	Pn	Pn	17 48 11.8	+1.3
COR				IAML		17 48 46.3	
	comp=E,70nm,1.0s						
COR				IAML		17 48 50.2	
	comp=E,66nm,0.7s						
F10A	**Beach Ranch, E**	**2.42**	**93**		Pn	17 48 10.6	-0.1
F10A				IAML		17 49 03.8	
	comp=N,53nm,0.3s						
F10A				IAML		17 49 06.3	
	comp=E,63nm,0.5s						
B06A	**Marblemount**	**2.43**	**348**		Pn	17 48 10.7	+0.1
B06A				IAML		17 48 48.6	
	comp=N,65nm,0.4s						
B06A				IAML		17 48 49.5	
	comp=E,71nm,0.3s						
NLWA	**Neilton Lookou**	**2.51**	**301**		Pb	17 48 15.3	-0.9
TMBU	**Tom Butte, New**	**2.57**	**187**		Pb	17 48 16.8	-0.5
I04A	**Tendick Farm,**	**2.65**	**208**	P		17 48 14.8	
	baz=27						
BMO	**Blue Mountains**	**2.72**	**117**		Pn	17 48 14.6	-0.2
BMO				IAML		17 49 02.2	
	comp=E,40nm,0.4s						
BMO				IAML		17 49 03.5	
	comp=E,31nm,0.5s						
MBW	**Mount Baker**	**2.76**	**343**		Pb	17 48 20.1	-0.4
A05A	**Maple Falls**	**3.00**	**342**		Pn	17 48 18.7	+0.2
A05A				IAML		17 49 05.8	
	comp=N,39nm,0.7s						
A05A				IAML		17 49 06.2	
	comp=E,42nm,0.7s						
I02D	**Swisshome**	**3.02**	**229**	P		17 48 20.6	
	baz=46						
I02D				S		17 48 58.1	
	baz=46						
I03D	**Drain, OR**	**3.09**	**218**	P		17 48 21.6	
	baz=36						
I03D				S		17 49 01.2	
	baz=36						
NEW	**Newport**	**3.23**	**48**	Pn	Pn	17 48 21.8	+0.1
NEW				IAML		17 49 17.8	
	comp=E,30nm,0.5s						
NEW				IAML		17 49 27.5	
	comp=E,28nm,0.6s						
NEW	**Newport**	**3.23**	**48**	S		17 48 59.9	
	baz=230						
K05A	**Summer Lake**	**3.43**	**182**	Pg	Pb	17 48 31.5	-0.5
HUMO	**Hull Mountain**	**3.90**	**205**	Pn	Pn	17 48 30.0	-0.8
MFID	**Camas Ranch**	**4.42**	**127**		Pn	17 48 35.1	-3.0
MFID				IAML		17 49 58.0	
	comp=E,12nm,1.1s						
YBH	**Yreka Blue Hor**	**4.65**	**199**	Pn	Pn	17 48 43.6	+2.3
MSO	**Missoula**	**4.72**	**79**	Pn	Pn	17 48 38.9	-3.4
MSO				IAML		17 50 08.4	
	comp=E,11nm,0.8s						
MSO				IAML		17 50 19.6	
	comp=E,10nm,1.2s						
HLID	**Hailey**	**5.16**	**118**	Pn	Pn	17 48 46.4	-2.1
HLID				IAML		17 52 07.8	
	comp=E,7.0nm,0.2s						
BCYI	**Bear Canyon**	**5.47**	**107**	Pn	Pn	17 48 51.0	-1.7
MCMT	**McKenzie Canyo**	**5.68**	**101**	Pn	Pn	17 48 56.0	+0.5

IDC ***18*** *17:53:44.4±1.7, 11.˚30S×163.˚30E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/28, mbtmp3.8/6, ML3.9/2, MS3.4/5, Ms1 3.3/5, ms1mx2.9/35, Error ellipse: s-maj=40.9km s-min=30.1km az=156.0*
ISC 18 17:53:47.1±1.2,**11.˚1S**±0.˚1×**163.˚3E**±0.˚1,**h10**km,**n16,**
σ2**502/8,mb3.8/4,MS3.5/3,Bougainville-Solomon**
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.67**	**296**	Pn	**Pn**	**17 54 45.2**	**+1.2**
	23nm,0.3s,baz=109,slow=3.6,SNR=10.0						
HNR				Sn	**Sn**	**17 55 29.2**	**+1.8**
	56nm,0.3s,baz=136,slow=11,SNR=6.3						
HNR				LR	LR	17 56 20.3	
	comp=Z,377nm,18.3s,baz=32,slow=41						
DZM	**Mont Dzumac**	**11.32**	**165**	Pn	**Pn**	**17 56 31.3**	**+2.2**
	0.5nm,0.3s,baz=300,slow=19,SNR=1.1						
PMG	**Port Moresby**	**15.95**	**275**	LR	LR	18 03 24.3	
	comp=Z,125nm,20.3s,baz=114,slow=36						
CTA	**Charters Tower**	**18.66**	**239**	P	**P**	**17 58 04.8**	**-0.6**
	0.2nm,0.3s,baz=49,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**28.78**	**221**	LR	LR	18 10 22.7	
	comp=Z,44nm,20.0s,baz=41,slow=35						
WRA	**Warramunga Arr**	**29.20**	**249**	P	**P**	**17 59 46.9**	**-2.3**
	0.5nm,0.4s,baz=80,slow=8.9,SNR=8.6						
WRA				LR	LR	18 11 26.0	
	comp=Z,128nm,19.8s,baz=5.0,slow=36						
H11S2	**WAKE ISLAND Hy**	**29.59**	**7**	T	T	18 30 47.2	
	baz=188,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.60**	**7**	T	T	18 30 51.0	
	baz=188,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**29.61**	**7**	T	T	18 30 54.0	
	baz=188,slow=76,SNR=7.3						
ASAR	**Alice Springs**	**30.62**	**242**	P	**P**	**17 59 59.5**	**-2.3**
	0.7nm,0.6s,baz=64,slow=10.0,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**30.82**	**7**	T	T	18 32 22.0	
	baz=188,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**30.83**	**7**	T	T	18 32 20.8	
	baz=188,slow=76,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**30.84**	**7**	T	T	18 32 26.4	
	baz=188,slow=76,SNR=4.5						
NVAR	**Mina Array Bea**	**87.91**	**50**	P	**P**	**18 06 37.3**	**-0.4**
	0.2nm,0.3s,baz=255,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**91.91**	**317**	P	**P**	**18 06 55.4**	**-0.5**
	0.4nm,0.8s,baz=96,slow=5.2,SNR=3.8						
AAK	**Ala-Archa**	**96.53**	**312**	LR	LR	18 48 43.1	
	comp=Z,14nm,19.8s,baz=190,slow=34						

NEIC ***18*** *18:56:39.6±1.9, 6.˚07S±0.˚07×149.˚08E±0.˚08, h42km±5km, mb4.7/60, Error ellipse: s-maj=12.0km s-min=9.6km az=109.0*
BJI ***18*** *18:56:40.1±0.0, 6.˚21S×149.˚28E, h65km, mB5.0/25, mb4.9/42, Ms4.5/7, Ms7 4.2/4*
IDC ***18*** *18:56:40.6±1.5, 6.˚12S×149.˚14E, h52km±12km, mb4.4/17, mb1 4.6/20, mb1mx4.4/35, mbtmp4.7/20, ML4.3/3, MS3.7/21, Ms1 3.7/21, ms1mx3.7/31, Error ellipse: s-maj=14.9km s-min=8.4km az=115.0*
DJA ***18*** *18:56:42.4±0.4, 6.˚5S±3.˚1×149.˚9E±.˚, h63km±4km, M5.2/18, mB5.0/3, mb4.8/18, MLv5.5/3, Mw(mB)4.3/3*
ISC 18 18:56:41.4±0.3,**6.˚15S**±0.˚05×**149.˚09E**±0.˚06,**h60**km,**n139,**
σ1**939/146,mb4.7/50,MS3.9/21,1D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.62**	**58**		**Pn**	**18 57 34.8**	**-0.3**
RABL	**Rabaul**	**3.62**	**58**	P	**Pn**	**18 57 35.7**	**+0.6**
PMG	**Port Moresby**	**3.76**	**211**	P	**Pn**	**18 57 37.3**	**+0.4**
	206nm,0.3s,baz=46,slow=5.9,SNR=248						
PMG				S	**Sn**	**18 58 21.7**	**+1.8**
	277nm,0.3s,baz=313,slow=21,SNR=10.0						
PMG				LR	LR	18 59 00.7	
	comp=Z,887nm,20.0s,baz=58,slow=37						
PMG	**Port Moresby**	**3.76**	**211

comp=Z,950nm,23.1s
DZM Mont Dzumac 23.06 135 P P 19 01 41.2 -0.8
DZM IAmb IAmb 19 01 59.3
comp=Z,30nm,0.9s
ONTNC Ouen Toro 23.22 135 P P 19 01 41.9 -1.5
ONTNC IAmb IAmb 19 01 56.3
comp=Z,53nm,1.1s
ARMA Armidale 24.26 175 P P 19 01 52.5 -0.5
ARMA IAmb IAmb 19 01 58.5
comp=Z,24nm,1.1s
SOEI Soe 24.84 260 P P 19 01 59.2 +0.6
SOEI Soe 24.84 260 P P 19 01 59.2 +0.6
comp=Z,44nm,1.1s
BATI Baumata 25.49 259 P P 19 02 05.6 +1.3
comp=Z,59nm,0.7s,baz=135,slow=3.1,SNR=15
BATI LR LR 19 14 56.4
comp=Z,358nm,18.1s,baz=86,slow=43
BATI Baumata 25.49 259 P P 19 02 04.8 +0.5
comp=Z,48nm,0.8s
FITZ Fitzroy Crossi 25.78 241 P P 19 02 07.5 +0.5
comp=Z,26nm,0.5s,baz=55,slow=11,SNR=66
FITZ S S 19 06 35.2 +3.1
comp=Z,5.0nm,0.9s,baz=79,slow=19,SNR=4.3
FITZ Fitzroy Crossi 25.78 241 P P 19 02 06.9 0.0
STKA Stephens Creek 26.54 194 P P 19 02 14.0 +0.4
comp=Z,7.2nm,0.8s,baz=348,slow=7.2,SNR=11
STKA LR LR 19 13 05.3
comp=Z,372nm,19.9s,baz=16,slow=37
STKA Stephens Creek 26.54 194 P P 19 02 13.6 0.0
MMRI Maumere 26.74 263 P P 19 02 13.7 -2.0
MMRI Maumere 26.74 263 P P 19 02 13.0 -2.7
comp=Z,1µmcomp=Z,74nm,0.7s
EDFI Ende, Flores 27.29 263 P P 19 02 18.4 -2.3
comp=Z,27nm,0.8s
MSVF Nonsavu 30.52 115 P P 19 02 49.6 +0.3
comp=Z,13nm,0.8s,baz=292,slow=6.8,SNR=2.8
MSVF Nonsavu 30.52 115 IAmb IAmb 19 02 57.7
comp=Z,44nm,1.1s
PSA00 Pilbara Seismi 32.17 239 P P 19 03 02.7 -1.1
PSA00 Pilbara Seismi 32.17 239 P P 19 03 02.6 -1.2
PSA00 IAmb IAmb 19 03 15.9
comp=Z,12nm,0.8s
TGY Tagaytay City 34.43 306 LR LR 19 18 07.0
comp=Z,28nm,18.4s,baz=174,slow=37
BYJI Banyuwangi 34.52 264 P P 19 03 32.2 +7.9
SZP Santa 36.81 310 P P 19 03 42.8 -1.0
MORW Morawa 38.65 230 P P 19 03 59.0 -0.2
MORW IAmb IAmb 19 04 11.8
comp=Z,13nm,1.1s
NWAO Narrogin (SRO) 39.84 224 P P 19 04 08.2 -1.0
comp=Z,8.1nm,0.9s,baz=67,slow=12,SNR=1.9
NWAO LR LR 19 20 15.4
comp=Z,146nm,20.3s,baz=68,slow=36
CISI Cisompet, Garu 41.00 266 P P 19 04 18.2 -0.8
CISI IAmb IAmb 19 04 27.6
comp=Z,20nm,0.8s
LEM Lembang 41.21 267 P P 19 04 18.3 -2.6
comp=Z,7.4nm,0.4s,baz=162,slow=19,SNR=2.2
LEM LR LR 19 26 04.8
comp=Z,119nm,18.1s,baz=119,slow=43
JNU Nakatsue 42.72 337 P P 19 04 33.6 +0.9
comp=Z,14nm,0.7s,baz=178,slow=4.7,SNR=4.8
MJAR Matsushiro Arr 43.68 347 P P 19 04 38.4 -2.0
comp=Z,3.2nm,0.7s,baz=163,slow=8.5,SNR=6.5
MJAR LR LR 19 22 28.7
comp=Z,80nm,18.1s,baz=175,slow=36
MAT Matsushiro 43.68 347 P P 19 04 40.3 -0.1
MAT *e*S **S 19 11 03.4 -2.7**
KSRS Korea Array 47.67 337 P P 19 05 12.2 +0.3
comp=Z,5.0nm,0.8s,baz=155,slow=7.9,SNR=16
NJ2 Nanjing 47.68 325 *e*P **P 19 05 13.3 +1.2**
NJ2 pmax pmax
comp=Z,24nm,0.8s
USA0B Ussuriysk Arra 52.44 345 P P 19 05 45.7 -2.2
USA0B IAmb IAmb 19 05 53.3
comp=Z,6.5nm,0.8s
USRK Ussuriysk Ar. 52.44 345 P P 19 05 52.1 +4.2
comp=Z,5.7nm,0.7s,baz=175,slow=6.5,SNR=11
USRK LR LR 19 25 45.6
comp=Z,83nm,21.0s,baz=141,slow=33
CMAR Chiang Mai Arr 55.16 297 LR LR 19 32 23.4
comp=Z,20nm,18.8s,baz=125,slow=39
HHC Hu-ho-hao-te 58.07 327 *e*P **P 19 06 31.8 +3.1**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,68nm,5.2s
HHC L L
comp=Z,130nm,15.7s
HHC L L
comp=Z,170nm,16.0s
HHC L L
comp=Z,200nm,15.5s
PETK Petropavlovsk- 59.48 6 P P 19 06 38.9 +0.8
comp=Z,7.7nm,0.6s,baz=166,slow=6.6,SNR=15
PETK LR LR 19 28 17.1
comp=Z,96nm,21.6s,baz=195,slow=32
PETK Petropavlovsk- 59.48 6 P P 19 06 38.6 +0.5
LZH Lanzhou 59.70 318 *e*P **P 19 06 41.3 +1.2**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH L L
comp=Z,170nm,16.8s
LZH L L
comp=Z,180nm,17.0s
LZH L L
comp=Z,150nm,18.6s
HIA Hailar 60.84 338 P P 19 06 47.3 -0.1
GTA Gaotai 64.20 319 ⇓P **P 19 07 13.6 +3.3**
GTA pP sP 19 07 31.9 -1.4
GTA sP PcP 19 07 38.0 -6.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,58nm,4.0s
GTA L L
comp=Z,67nm,16.4s
GTA L L
comp=Z,49nm,17.1s
KIWB Kanaga Island 64.58 22 P P 19 07 11.8 -0.5
ULN Ulaanbaatar 65.26 330 P P 19 07 15.5 -1.5
ULN IAmb IAmb 19 07 21.7
comp=Z,3.3nm,0.6s
ULN Ulaanbaatar 65.26 330 P P 19 07 17.7 +0.7
comp=Z,19nm,0.9s
SONM Songino Array 65.56 330 P P 19 07 19.0 +0.1
comp=Z,1.6nm,0.4s,baz=149,slow=6.4,SNR=10
SONM LR LR 19 35 12.2
comp=Z,84nm,21.3s,baz=90,slow=35
SONM Songino Array 65.56 330 P P 19 07 18.1 -0.8
CASY Casey 65.68 196 P P 19 07 18.8 -0.4
CASY IAmb IAmb 19 07 20.2
comp=Z,11nm,0.9s
VNDA Vanda 71.65 177 P P 19 07 56.5 +0.3
comp=Z,3.2nm,0.8s,baz=330,slow=6.5,SNR=20
VNDA Vanda 71.65 177 P P 19 07 56.9 +0.7
VNDA IAmb IAmb 19 07 58.1
comp=Z,6.0nm,1.0s
WMQ Urumqi 74.27 319 *e*P **P 19 08 13.3 +0.9**
BILL Bilibino 75.01 7 P P 19 08 16.5 +0.5
BILL IAmb IAmb 19 08 21.6
comp=Z,7.4nm,0.9s
CHIR Chirikof Islan 76.60 28 P P 19 08 25.7 +0.4
ZSN Zaisan 77.57 321 *e*P **P 19 08 31.7 +0.6**
baz=321
MK31 Makanchi Array 78.94 320 P P 19 08 36.6 -2.1
MKAR Makanchi Array 78.94 320 P P 19 08 38.9 +0.2
comp=Z,1.1nm,0.4s,baz=94,slow=8.9,SNR=20
MKAR LR LR 19 41 54.6
comp=Z,31nm,21.8s,baz=98,slow=34
MKAR Makanchi Array 78.94 320 P P 19 08 37.6 -1.0
MAKZ Makanchi 79.15 320 P P 19 08 39.6 -0.2
SHLS Shalkode 79.59 316 *e*P **P 19 08 40.9 -1.5**
baz=316
KPKS Kokpek 80.23 316 *e*P **P 19 08 46.2 +0.4**
baz=316
ZAA0 Zalesovo Array 80.26 327 P P 19 08 46.3 +0.8
ZAA0 IAmb IAmb 19 08 47.5
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 80.26 327 P P 19 08 45.0 -0.6
comp=Z,4.3nm,0.6s,baz=112,slow=5.0,SNR=19
ZALV LR LR 19 43 00.0
comp=Z,85nm,21.8s,baz=131,slow=35
ZALV Zalesovo Beam 80.26 327 P P 19 08 45.0 -0.6
SATY Saty 80.29 315 *e*P **P 19 08 47.1 +0.9**
baz=315

KDJ Kajisay 80.88 314 P P 19 08 49.2 -0.2
MDOK Medeo 81.27 315 *e*P **P 19 08 50.9 -0.6**
baz=315
BOOM Boomskoye usch 81.86 314 P P 19 08 54.6 0.0
BOOM IAmb IAmb 19 08 57.9
comp=Z,4.6nm,0.6s
KUU Kurty 81.98 316 *e*P **P 19 08 54.2 -0.8**
baz=316
PWL Port Wells 82.45 26 P P 19 08 56.7 -0.3
PWL IAmb IAmb 19 08 59.8
comp=Z,9.8nm,0.7s
KTH Kantishna Hill 82.67 23 P P 19 08 57.2 -1.1
KTH IAmb IAmb 19 09 00.2
comp=Z,6.3nm,0.9s
MAW Mawson 82.91 203 LR LR 19 43 09.6
comp=Z,53nm,21.2s,baz=57,slow=34
MAW Mawson 82.91 203 P P 19 08 58.1 -1.2
BPAW Bear Paw Mtn. 82.92 23 P P 19 08 58.7 -0.7
SGDS Sogindy 83.05 315 *e*P **P 19 08 58.7 -2.0**
baz=315
RND Reindeer 83.42 24 P P 19 09 01.4 -0.7
MLY Manley 83.48 22 P P 19 09 02.0 -0.3
MLY IAmb IAmb 19 09 05.2
comp=Z,4.4nm,0.7s
MCK McKinley 83.54 23 P P 19 09 02.0 -0.6
KLU Klutina 83.78 26 P P 19 09 04.3 +0.3
KLU IAmb IAmb 19 09 07.3
comp=Z,5.1nm,0.8s
BTLS Baital 83.87 316 *e*P **P 19 09 02.6 -2.1**
baz=316
NEA2 Nenana 83.89 22 P P 19 09 03.7 -0.7
NEA2 IAmb IAmb 19 09 06.4
comp=Z,4.9nm,0.8s
WRH Wood River Hil 84.21 23 P P 19 09 04.9 -1.1
WRH IAmb IAmb 19 09 08.0
comp=Z,5.3nm,0.9s
CCB Clear Creek Bu 84.40 23 P P 19 09 05.8 -1.2
CCB IAmb IAmb 19 09 08.7
comp=Z,4.7nm,0.8s
IL31 84.81 23 P P 19 09 07.3 -1.7
IL31 IAmb IAmb 19 09 10.9
comp=Z,5.8nm,0.8s
ILAR Eielson Array 84.81 23 P P 19 09 07.8 -1.2
comp=Z,5.4nm,0.7s,baz=253,slow=5.1,SNR=31
ILAR LR LR 19 44 11.2
comp=Z,31nm,19.2s,baz=246,slow=34
ILAR Eielson Array 84.81 23 P P 19 09 07.6 -1.5
DOT Dot Lake 85.46 24 P P 19 09 12.5 +0.1
DOT IAmb IAmb 19 09 15.2
comp=Z,5.2nm,0.8s
SCRK Sand Creek 85.62 24 P P 19 09 13.5 +0.3
TOLK Toolik Lake Re 85.66 19 P P 19 09 13.7 +0.4
TOLK IAmb IAmb 19 09 16.3
comp=Z,2.7nm,0.8s
KK31 Karatay Array 85.89 314 P P 19 09 13.1 -1.8
KKAR Karatay Array 85.89 314 P P 19 09 13.1 -1.8
L27K Beaver Creek, 86.16 25 P P 19 09 16.2 +0.4
BCAR Beaver Creek A 86.18 25 P P 19 09 15.2 -0.8
EGAK Eagle 87.06 24 P P 19 09 19.4 -0.8
EGAK IAmb IAmb 19 09 26.1
comp=Z,4.8nm,0.8s
HYT Haines Junctio 87.34 28 P P 19 09 21.7 0.0
HYT IAmb IAmb 19 09 25.2
comp=Z,6.5nm,0.7s
DAWY Dawson 87.53 25 P P 19 09 22.8 +0.2
DAWY IAmb IAmb 19 09 26.2
comp=Z,3.8nm,0.8s
GEYT Alibeck 94.51 308 LR LR 19 54 18.6
comp=Z,45nm,21.7s,baz=40,slow=37
NVAR Mina Array Bea 95.82 52 P P 19 10 03.0 +1.2
comp=Z,0.3nm,0.6s,baz=246,slow=7.8,SNR=2.2
NVAR LR LR 19 46 05.7
comp=Z,56nm,21.0s,baz=270,slow=31
VNA3 Neumayer Olymp 101.48 187 P Pdif 19 10 25.8 -0.5
PLCA Paso Flores 120.84 146 PKP PKiKP 19 15 27.9 +0.4
comp=Z,2.0nm,1.0s,baz=226,slow=3.0,SNR=6.4
MODS Modra-Piesok 121.42 324 *e*PKP **PKiKP 19 15 28.8 +0.5**
CLL Collm 122.17 329 *i* PKPdf **PKiKP 19 15 31.6 +2.0**
comp=Z,4.0nm,0.9s
CLL LmV 20 09 00.0
comp=Z,100nm,18.0s
GERES GERESS Array B 123.20 326 PKP PKPdf 19 15 29.9 -1.8
comp=Z,0.5nm,0.7s,baz=35,slow=4.9,SNR=4.6
LPAZ La Paz 136.94 122 PKhKP PKPpre 19 15 48.4
comp=Z,1.0nm,0.6s,baz=302,slow=5.2,SNR=3.8
LPAZ PKP **PKPdf 19 16 00.1 +0.8**
comp=Z,5.4nm,1.0s,baz=18,slow=3.3,SNR=9.9
LPAZ La Paz 136.94 122 PKPdf PKPdf 19 15 59.3 +0.1
CPUP Villa Florida 138.78 143 PKP PKPdf 19 16 02.2 +0.6
comp=Z,4.3nm,0.9s,baz=228,slow=10,SNR=5.1
AQDB Aquidauana 144.03 138 PKPdf PKPab 19 16 08.6 0.0
TORD Torodi Ar. Bea 147.14 285 PKPbc PKPbc 19 16 19.6 +0.8
comp=Z,1.9nm,0.3s,baz=66,slow=3.7,SNR=22
TORD Torodi Ar. Bea 147.14 285 PKPbc 19 16 19.3 +0.4
BDFB Brasilia 152.50 142 PKP PKPdf 19 16 25.5 +0.3
comp=Z,1.7nm,0.3s,baz=143,slow=6.5,SNR=4.6
BDFB PKPbc **PKiKP 19 16 32.4 0.0**
comp=Z,20nm,0.8s,baz=217,slow=1.5,SNR=18
BDFB Brasilia 152.50 142 PKPbc 19 16 31.9 -0.3
DBIC Dimbokro 154.11 273 PKPbc **PKPbc 19 16 35.5 -0.1**
comp=Z,2.0nm,0.6s,baz=45,slow=1.4,SNR=1.2
DBIC PKPab **PKPab 19 16 49.1 -0.3**
comp=Z,7.3nm,1.1s,baz=116,slow=6.7,SNR=4.3

*SOME **18** 19:03:18.4, 40˚.35N×77˚.68E, h0km*
*KRNET **18** 19:03:20.2±0.1, 40˚.44N×78˚.04E, mb3.2*
*NNC **18** 19:03:21.4±1.2, 40˚.42N×77˚.73E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=8.3km s-min=6.3km az=165.0
ISC 18 19:03:21.7±1.7, 40˚.41N±0˚.08×77˚.66E±0˚.03, h10km, n63,
σ1§56/100, 25C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.76**	**348**	⇑*i*P	**Pb**	**19 03 53.8**	**-0.3**
KDJ	baz=40			⇑*i*S	**Sg**	**19 04 18.7**	**+0.5**
ULHL	**Ulahol**	**2.12**	**330**	⇑*i*P	**Pb**	**19 04 00.8**	**+0.4**
ULHL	baz=24			⇑*i*S	**Sg**	**19 04 31.0**	**+1.1**
PRZ	**Przheval'sk**	**2.15**	**15**	⇑*i*P	**Pn**	**19 03 58.7**	**+1.0**
PRZ	baz=7.0			⇑*i*S	**Sb**	**19 04 26.8**	**-0.7**
ANVS	**Anan'yevo**	**2.37**	**0**	⇑*e*P	**Pn**	**19 04 02.6**	**+1.8**
ANVS	baz=53			⇑*i*S	**Sb**	**19 04 33.5**	**-0.5**
BOOM	**Boomskoye usch**	**2.45**	**329**	⇑*i*P	**Pb**	**19 04 05.5**	**-0.4**
BOOM	baz=23			⇑*i*S	**Sg**	**19 04 39.0**	**-1.3**
SATY	**Saty**	**2.71**	**12**	*e*P	**Pb**	**19 04 10.8**	**+0.6**
SATY	14nm,0.7s			*e*S	**Sg**	**19 04 48.8**	**+0.2**
SATY	**Saty**	**2.71**	**12**	Pg	**Pb**	**19 04 10.8**	**+0.6**
SATY	14nm,0.7s			Lg	Lg	19 04 48.8	
IZV	**Izvestkoviy**	**2.74**	**344**	*e*P	**Pb**	**19 04 11.7**	**+0.8**
IZV	13nm,0.5s			*e*S	**Sg**	**19 04 50.1**	**+0.4**
IZV	**Izvestkoviy**	**2.74**	**344**	Pg	**Pb**	**19 04 11.7**	**+0.8**
IZV	13nm,0.5s			Lg	Lg	19 04 50.1	
MDOK	**Medeo**	**2.79**	**351**	*e*P	**Pb**	**19 04 12.2**	**+0.5**
MDOK	17nm,0.5s			*e*S	**Sg**	**19 04 51.0**	**-0.2**
MDOK	**Medeo**	**2.79**	**351**	Pg	**Pb**	**19 04 11.9**	**+0.2**
MDOK	15nm,0.6s			Lg	Lg	19 04 51.8	
MDOK	**Medeo**	**2.79**	**351**	Pg	**Pb**	**19 04 12.4**	**+0.7**
MDOK	17nm,0.5s			Lg	Lg	19 04 51.2	
AAA	**Alma-Ata**	**2.85**	**349**	*e*P	**Pb**	**19 04 14.5**	**+1.8**
AAA	27nm,0.2s			*e*S	**Sg**	**19 04 55.1**	**+1.8**
	104nm,0.4s						

AAA Alma-Ata 2.85 349 Pg Pb 19 04 14.5 +1.8
27nm,0.2s
AAA Lg Lg 19 04 55.1
104nm,0.4s
KOTS Kotyrbulak 2.85 352 *e*P **Pb 19 04 13.4 +0.6**
8.8nm,0.3s
KOTS *e*S **Sg 19 04 53.2 -0.1**
60nm,0.5s
KOTS Kotyrbulak 2.85 352 Pg Pb 19 04 11.0 -1.7
9.1nm,0.4s
KOTS Lg Lg 19 04 49.6
60nm,0.5s
KNDC Almaty 2.85 350 ⇑Pg **Pb 19 04 13.9 +1.1**
15nm,0.5s
KNDC ⇓Lg Lg 19 04 54.0
193nm,0.7s
MTBS Maitube 2.87 342 *e*P **Pb 19 04 13.9 +0.9**
6.6nm,0.4s
MTBS *e*S **Sg 19 04 54.1 +0.3**
29nm,0.6s
MTBS Maitube 2.87 342 Pg Pb 19 04 13.9 +0.9
6.6nm,0.4s
MTBS Lg Lg 19 04 54.2
29nm,0.6s
ARLS Aral 2.91 301 ⇓*i*P **Pb 19 04 13.1 -0.6**
baz=98
ARLS ⇓*i*S **Sb 19 04 51.9 +2.6**
baz=98
KST Kastek 2.92 335 *e*P **Pb 19 04 14.5 +0.5**
5.7nm,0.4s
KST *e*S **Sg 19 04 54.9 -0.6**
29nm,0.7s
KST Kastek 2.92 335 Pg Pb 19 04 14.5 +0.5
5.7nm,0.4s
KST Lg Lg 19 04 54.9
29nm,0.7s
UZB Uzynbulak 2.92 20 *e*P **Pb 19 04 14.3 +0.3**
6.4nm,0.5s
UZB *e*S **Sg 19 04 54.7 -0.8**
22nm,0.4s
UZB Uzynbulak 2.92 20 Pg Pb 19 04 14.3 +0.3
6.4nm,0.5s
UZB Lg Lg 19 04 54.7
22nm,0.4s
TKM2 Tokmak 2 2.95 329⇑*e*P **Pb 19 04 12.4 -2.0**
baz=24
TKM2 ⇑*i*S **Sb 19 04 50.7 +0.2**
baz=24
TKM2 Tokmak 2 2.95 329 ⇑Pn **Pn 19 04 11.7 +2.9**
1.9nm,0.4s
TKM2 ⇑Pg **Pb 19 04 15.2 +0.8**
3.3nm,0.3s
TKM2 ⇑Lg Lg 19 04 56.3
23nm,0.7s
KBK Karagaybulak 3.03 319⇓*e*P **Pb 19 04 14.3 -1.5**
baz=15
KBK ⇓*i*S **Sb 19 04 54.3 +1.4**
baz=15
SHLS Shalkode 3.06 26 *e*P **Pg 19 04 19.0 -1.3**
6.8nm,0.3s
SHLS *e*S **Sg 19 05 02.5 +2.5**
40nm,0.4s
SHLS Shalkode 3.06 26 Pg Pb 19 04 16.5 +0.2
5.0nm,0.4s
SHLS Lg Lg 19 04 58.4
40nm,0.4s
KURS Kuram 3.10 7 *e*P **Pb 19 04 17.9 +0.9**
10nm,0.7s
KURS *e*S **Sg 19 05 00.8 -0.5**
18nm,0.9s
KURS Kuram 3.10 7 Pg Pb 19 04 17.8 +0.9
10nm,0.7s
KURS Lg Lg 19 05 00.8
18nm,0.9s
KPKS Kokpek 3.15 14 *e*P **Pb 19 04 18.9 +1.1**
6.7nm,0.3s
KPKS *e*S **Sg 19 05 02.0 -0.9**
54nm,0.5s
DGS Degeres 3.16 334 *e*P **Pb 19 04 19.0 +1.0**
5.6nm,0.6s
DGS *e*S **Sg 19 05 02.5 -0.7**
21nm,0.5s
DGS Degeres 3.16 334 Pg Pb 19 04 19.0 +1.0
5.6nm,0.6s
DGS Lg Lg 19 05 02.5
21nm,0.5s
PDGK Podgornoye 3.22 25 Pg Pb 19 04 19.3 +0.3
6.3nm,0.5s
PDGK Lg Lg 19 05 03.1
16nm,0.5s
PDGK Podgornoye 3.22 25 ⇓Pn **Pn 19 04 14.6 +2.1**
1.3nm,0.4s
PDGK ⇑Pg **Pb 19 04 19.0 0.0**
9.1nm,0.6s
PDGK ⇑Lg Lg 19 05 03.7
33nm,0.7s
AAK Ala-Archa 3.25 314⇑*e*P **Pb 19 04 17.5 -2.1**
baz=11
AAK ⇑*i*S **Sb 19 04 59.6 +0.2**
baz=11
AAK Ala-Archa 3.25 314 ⇑Pg **Pb 19 04 19.8 +0.2**
3.4nm,0.5s
AAK ⇓Lg Lg 19 05 04.2
19nm,0.7s
CHMS Chumysh 3.38 321⇑*e*P **Pb 19 04 19.2 -2.5**
baz=17
CHMS ⇑*i*S **Sb 19 05 02.3 -0.5**
baz=17
KTBS Karatobe 3.38 348 *e*P **Pb 19 04 22.9 +1.2**
5.1nm,0.7s
KTBS *e*S **Sg 19 05 09.3 -0.9**
27nm,0.6s
KTBS Karatobe 3.38 348 Pg Pb 19 04 22.9 +1.2
5.1nm,0.7s
KTBS Lg Lg 19 05 09.3
27nm,0.6s
AML Almayashu 3.44 301⇑*e*P **Pb 19 04 20.7 -2.3**
baz=99
AML ⇑*i*S **Sb 19 05 05.8 +0.7**
baz=99
CHKK Chushkaly 3.48 352 *e*P **Pb 19 04 24.4 +1.0**
5.5nm,0.4s
CHKK *e*S **Sg 19 05 12.1 -1.3**
26nm,0.5s
CHKK Chushkaly 3.48 352 Pg Pb 19 04 24.4 +1.0
5.5nm,0.4s
CHKK Lg Lg 19 05 12.1
26nm,0.5s
KRBS Karabastau 3.60 336 *e*P **Pb 19 04 26.4 +0.9**
3.3nm,0.5s
KRBS *e*S **Sg 19 05 15.1 -2.2**
22nm,0.8s
KRBS Karabastau 3.60 336 Pg Pb 19 04 26.3 +0.9
3.3nm,0.5s
KRBS Lg Lg 19 05 15.1
22nm,0.8s
KUU Kurty 3.62 345 *e*P **Pb 19 04 26.7 +1.0**
1.9nm,0.5s
KUU *e*S **Sg 19 05 15.5 -2.3**
34nm,0.6s
KUU Kurty 3.62 345 Pg Pb 19 04 26.7 +1.0
1.9nm,0.5s
KUU Lg Lg 19 05 15.5
34nm,0.6s
KTMS Ketmen 3.64 33 *e*P **Pb 19 04 27.3 +1.1**
1.9nm,0.3s
KTMS *e*S **Sg 19 05 17.1 -1.5**
15nm,0.5s
KTMS Ketmen 3.64 33 Pg Pb 19 04 26.1 -0.1
3.4nm,0.4s
KTMS Lg Lg 19 05 15.0
11nm,0.6s
ARXS Arharly 3.80 2 *e*P **Pb 19 04 30.0 +1.0**
9.3nm,0.6s
ARXS *e*S **Sg 19 05 21.8 -2.0**
48nm,0.7s
ARXS Arharly 3.80 2 Pg Pb 19 04 30.0 +1.0
9.3nm,0.6s
ARXS Lg Lg 19 05 21.8
48nm,0.7s
MRKS Merke 4.06 307 *e*P **Pb 19 04 34.5 +1.2**
1.6nm,0.2s
MRKS *e*S **Sg 19 05 29.4 -2.7**
9.7nm,0.5s
MRKS Merke 4.06 307 Pg Pb 19 04 34.9 +1.6
1.6nm,0.2s
MRKS Lg Lg 19 05 29.7
9.7nm,0.5s

DJR	**Jarkent**	**4.23**	**21**	*e*P		**Pb**	**19 04 37.5**	**+1.3**
	0.3nm,0.4s								
DJR				*e*S		**Sg**	**19 05 34.4**	**-3.0**
	1.4nm,0.4s								
DJR	**Jarkent**	**4.23**	**21**	Pg		**Pb**	**19 04 37.5**	**+1.3**
	0.3nm,0.4s								
DJR				Lg		Lg	19 05 34.4		
	1.4nm,0.4s								
TDK	**Taldyqorghan**	**4.62**	**7**	*e*P		**Pb**	**19 04 45.0**	**+2.1**
	18nm,0.3s								
TDK				*e*S		**Sg**	**19 05 47.0**	**-3.1**
	33nm,0.4s								
TDK	**Taldyqorghan**	**4.62**	**7**	Pg		**Pb**	**19 04 45.0**	**+2.1**
	18nm,0.3s								
TDK				Lg		Lg	19 05 47.0		
	33nm,0.4s								
KAPS	**Kapalarasan**	**5.03**	**14**	*e*P		**Pg**	**19 04 54.3**	**-3.7**
	0.3nm,0.6s								
KAPS				*e*S		**Sg**	**19 06 03.5**	**+0.3**
	0.8nm,0.7s								
KAPS	**Kapalarasan**	**5.03**	**14**	Pg		**Pg**	**19 04 54.3**	**-3.7**
	0.3nm,0.6s								
KAPS				Lg		Lg	19 06 03.5		
	0.8nm,0.7s								
BTLS	**Baital**	**5.34**	**331**	*e*P		**Pb**	**19 04 59.6**	**+4.6**
	2.2nm,0.4s								
BTLS				*e*S		**Sg**	**19 06 12.2**	**-0.7**
	3.9nm,0.6s								
BTLS	**Baital**	**5.34**	**331**	Pg		**Pb**	**19 04 58.5**	**+3.4**
	2.2nm,0.4s								
BTLS				Lg		Lg	19 06 10.6		
	3.9nm,0.6s								
KK31	**Karatay Array**	**5.98**	**299**	⇓Pn		**Pn**	**19 04 53.2**	**+3.0**
	0.1nm,0.3s								
KK31				⇓Pg		**Pg**	**19 05 13.7**	**-2.5**
	0.9nm,0.7s,baz=106,slow=14								
KK31				⇓Lg		Lg	19 06 30.0		
	1.4nm,0.6s,baz=107,slow=28,SNR=7.8								

*DJA **18** 19:15:30.3±0.3,7°S±3°×13°0E±°, h153km±10km, M4.5/10, mB5.0/6, mb4.5/10, MLv4.6/9, Mw(mB)4.3/6*
*IDC **18** 19:15:30.8±2.4, 6°89S×129°96E, h120km±24km, mb3.7/4, mb1 3.9/7, mb1mx3.5/33, mbtmp4.3/7, Error ellipse: s-maj=33.1km s-min=18.6km az=76.0*
*NEIC **18** 19:15:31.2±0.7, 6°88S±0°06×130°0E±0°.1, h124km±5km, mb4.0/10, Error ellipse: s-maj=18.1km s-min=9.2km az=90.0*

ISC 18 19:15:29.4±0.6, 6°99S±0°05×129°88E±0°06, h104km, n50, σ2s61/54, mb4.1/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.72**	**125**	Pn	**Pn**	**19 16 02.9**	**+4.4**
SAUI					**Sn**	**19 16 22.1**	**+1.4**
SAUI	**Saumlaki**	**1.72**	**125**	P	**Pn**	**19 16 01.4**	**+2.9**
MSAI	**Masohi**	**3.75**	**345**	P	**Pn**	**19 16 29.2**	**+4.0**
KRAI	**Karang Ratu**	**3.94**	**338**	P	Pn	19 16 32.7	+4.9
FAKI	**Fak Fak**	**4.69**	**30**	Pn	**Pn**	**19 16 37.8**	**-0.2**
FAKI	**Fak Fak**	**4.69**	**30**	P	**Pn**	**19 16 37.7**	**-0.2**
FAKI				S	**Sn**	**19 17 28.7**	**-2.5**
KMPI	**Kaimana, Papua**	**5.05**	**49**	P	**Pn**	**19 16 43.9**	**+1.1**
MTN	**Manton Dam**	**5.94**	**168**	Pn	**Pn**	**19 16 57.1**	**+2.1**
MTN				Sn	**Sn**	**19 17 59.3**	**-2.4**
SOEI	**Soe**	**6.19**	**243**	Pn	**Pn**	**19 17 02.0**	**+3.5**
SOEI	**Soe**	**6.19**	**243**	P	**Pn**	**19 17 02.1**	**+3.6**
	0.5nm1μm132nm,0.9s						
SIJI	**Sorong**	**6.24**	**13**	P	**Pn**	**19 16 59.1**	**+0.1**
	10.0nm,0.3s,baz=58,slow=11,SNR=51						
SIJI				S	**Sn**	**19 18 04.5**	**-4.5**
	6.6nm,0.3s,baz=195,slow=22,SNR=8.2						
SIJI	**Sorong**	**6.24**	**13**	P	**Pn**	**19 16 58.8**	**-0.2**
SWI	**Sorong**	**6.24**	**13**	P	**Pn**	**19 16 58.9**	**-0.1**
	0.3nm1μm30nm,0.6s						
BATI	**Baumata**	**6.92**	**242**	P	**Pn**	**19 17 11.3**	**+3.0**
	16nm,0.3s,baz=114,slow=3.9,SNR=28						
BATI				S	**Sn**	**19 18 24.7**	**-1.0**
	11nm,0.3s,baz=356,slow=24,SNR=7.1						
BATI	**Baumata**	**6.92**	**242**	P	**Pn**	**19 17 11.0**	**+2.7**
	0.2nm976nm52nm,0.6s						
EDFI	**Ende, Flores**	**8.30**	**257**	P	**Pn**	**19 17 30.9**	**+3.8**
	5.6nm,1.1s						
BAKI	**Biak**	**8.47**	**47**	P	**Pn**	**19 17 30.9**	**+1.6**
	2μm203nm,0.7s						
KNRA	**Kununurra**	**8.70**	**187**	Pn	**Pn**	**19 17 32.5**	**+0.1**
KNRA				Sn	**Sn**	**19 19 02.7**	**-6.0**
WBSI	**Waikabubak, Su**	**10.71**	**255**	P	**Pn**	**19 18 01.8**	**+2.1**
	32nm,0.8s						
MRSI	**Marisa**	**10.85**	**313**	P	**Pn**	**19 18 05.9**	**+4.2**
	22nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.79**	**200**	P	**Pn**	**19 18 12.4**	**-1.7**
	1.8nm,0.3s,baz=27,slow=10,SNR=74						
FITZ				S	**Sn**	**19 20 14.9**	**-8.9**
	1.1nm,0.3s,baz=70,slow=19,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.79**	**200**	Pn	**Pn**	**19 18 12.7**	**-1.5**
WB0	**Warramunga Arr**	**13.43**	**161**	Pn	**Pn**	**19 18 33.4**	**-2.5**
WRAB	**Tennant Creek**	**13.57**	**162**		**Pn**	**19 18 35.8**	**-1.9**
WRA	**Warramunga Arr**	**13.58**	**162**	P	**Pn**	**19 18 35.6**	**-2.2**
	1.7nm,0.3s,baz=342,slow=12,SNR=18						
WRA				S	Sn	19 20 53.8	-14
	0.9nm,0.3s,baz=336,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**13.58**	**162**	Pn	**Pn**	**19 18 36.1**	**-1.7**
WB2	**Warramunga Arr**	**13.58**	**162**	Pn	**Pn**	**19 18 35.3**	**-2.5**
WR0	**Warramunga Arr**	**13.66**	**161**		**Pn**	**19 18 36.7**	**-2.1**
AS31	**Alice Springs**	**17.02**	**167**	P	**P**	**19 19 22.2**	**+0.9**
ASAR	**Alice Springs**	**17.02**	**167**	P	**P**	**19 19 21.7**	**+0.4**
	1.0nm,0.3s,baz=338,slow=8.7,SNR=68						
ASAR				S	Sn	19 22 11.2	-19
	0.2nm,0.3s,baz=353,slow=15,SNR=4.1						
PSA00	**Pilbara Seismi**	**17.44**	**213**	P	**Pn**	**19 19 27.3**	**+1.2**
PSA00				IAmb	IAmb	19 19 32.4	
	comp=Z,8.8nm,0.7s						
PSA00	**Pilbara Seismi**	**17.44**	**213**	P	**Pn**	**19 19 27.3**	**+1.2**
TNG	**Tangerang**	**23.09**	**271**	P	P	19 20 36.2	+10
STKA	**Stephens Creek**	**27.06**	**158**	P	**P**	**19 21 03.1**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=335,slow=8.2,SNR=5.9						
CMAR	**Chiang Mai Arr**	**39.64**	**310**	P	**P**	**19 22 51.4**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=140,slow=6.8,SNR=5.2						
HHC	**Hu-ho-hao-te**	**50.50**	**342**	*e*P	**P**	**19 24 20.6**	**+3.6**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,54nm,5.0s						
GTA	**Gaotai**	**53.91**	**331**	*e*P	P	19 24 36.8	-5.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**58.22**	**342**	P	**P**	**19 25 12.6**	**-0.3**
ULN				IAmb	IAmb	19 25 14.3	
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**58.40**	**342**	P	**P**	**19 25 12.6**	**-1.5**
SONM				IAmb	IAmb	19 26 34.9	
	comp=Z,1.3nm,0.8s						
WMQ	**Urumqi**	**63.32**	**327**	*e*P	**P**	**19 25 48.8**	**+1.3**
MK31	**Makanchi Array**	**68.16**	**327**	P	**P**	**19 26 17.9**	**-0.5**
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**19 26 18.3**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=127,slow=7.4,SNR=40						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**19 26 17.9**	**-0.5**
MAKZ	**Makanchi**	**68.33**	**327**	P	**P**	**19 26 18.6**	**-0.9**
MAKZ				IAmb	IAmb	19 26 20.4	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**19 26 37.3**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=126,slow=7.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	**P**	**19 26 37.0**	**-1.8**
KK31	**Karatay Array**	**73.26**	**319**	P	**P**	**19 26 48.4**	**-1.1**
KK31				IAmb	IAmb	19 27 47.6	
	comp=Z,3.5nm,1.4s						
KKAR	**Karatay Array**	**73.26**	**319**	P	**P**	**19 26 48.4**	**-1.1**
KKAR	**Karatay Array**	**73.26**	**319**	P	**P**	**19 26 48.2**	**-1.2**
KKAR				IAmb	IAmb	19 27 47.6	
	comp=Z,3.5nm,1.4s						
BRVK	**Borovoye**	**78.07**	**328**	P	**P**	**19 27 15.3**	**-1.3**

IDC 18 19:41:53.4±6.4, 17°79S×176°05W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/22, mbtmp3.7/2, Error ellipse: s-maj=327.7km s-min=53.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.87**	**259**	P	P	19 50 25.1	-0.5
	0.3nm,0.6s,baz=97,slow=7.8,SNR=6.9						
ASAR	**Alice Springs**	**46.99**	**254**	P	P	19 50 26.9	+0.3
	1.0nm,0.5s,baz=86,slow=8.6,SNR=23						
GERES	**GERESS Array B**	**148.03**	**348**	PKPbc	PKPbc	20 01 40.2	-0.8
	0.3nm,0.4s,baz=54,slow=5.1,SNR=4.0						

*ROM **18** 19:50:57.9±0.1, 44°571N±0°005×7°240E±0°008, h13km±1km, ML1.9/15, Error ellipse: s-maj=0.6km s-min=0.3km az=111.0*
*LDG **18** 19:50:57.4±0.0, 44°63N×7°27E, h8km, Md2.4/1, Ml2.5/15, Error ellipse: s-maj=1.0km s-min=0.7km az=62.0*
*STR **18** 19:50:57.5±0.3, 45°N±1°×±°, h5km, MLv2.0/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*GEN **18** 19:50:57.5, 44°64N×7°26E, h8km±1km, Ml2.0*

ISC 18 19:50:57.2±0.8, 44°63N±0°01×7°25E±0°01, h15km±5km, n89, σ0s91/153, 5C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.15**	**217**	P	**Pg**	**19 51 01.4**	**0.0**
PZZ				S	**Sg**	**19 51 03.6**	**-0.4**
PZZ	**Stroppo**	**0.15**	**217**	P	**Pg**	**19 51 01.4**	**0.0**
PZZ				S	**Sg**	**19 51 03.5**	**-0.6**
PZZ	**Stroppo**	**0.15**	**217**	⇑P	**Pg**	**19 51 01.4**	**0.0**
PZZ				S	**Sg**	**19 51 03.9**	**-0.1**
PZZ				AML	AML		
	comp=N,2365μm,1.0s						
PZZ				AML	AML		
	comp=E,2245μm,0.2s						
SURF	**Saint Ours**	**0.34**	**244**	Pg	**Pg**	**19 51 04.6**	**+0.2**
SURF				Sg	**Sg**	**19 51 08.0**	**-1.3**
MBDF	**Montbardon**	**0.35**	**286**	*e*Pg	**Pg**	**19 51 04.8**	**+0.3**
MBDF				*e*Sg	**Sg**	**19 51 09.6**	**+0.1**
	comp=E,105nm,0.2s						
STV	**Sant Anna di V**	**0.39**	**171**	P	**Pg**	**19 51 05.1**	**0.0**
STV				S	**Sg**	**19 51 10.1**	**-0.4**
STV	**Sant Anna di V**	**0.39**	**171**	P	**Pg**	**19 51 05.1**	**0.0**
STV				S	**Sg**	**19 51 10.1**	**-0.4**
ENR	**Entracque**	**0.42**	**163**	P	**Pg**	**19 51 05.6**	**-0.2**
ENR				S	**Sg**	**19 51 11.5**	**-0.1**
ENR	**Entracque**	**0.42**	**163**	P	**Pg**	**19 51 05.6**	**-0.2**
ENR				S	**Sg**	**19 51 11.5**	**-0.1**
ENR	**Entracque**	**0.42**	**163**	⇑P	**Pg**	**19 51 05.6**	**-0.2**
ENR				S	**Sg**	**19 51 11.4**	**-0.1**
ENR				AML	AML		
	comp=E,781μm,0.1s						
ENR				AML	AML		
	comp=N,536μm,0.1s						
ENR				AML	AML		
	comp=E,782μm,0.1s						
ISO	**Isola**	**0.47**	**197**	Pg	**Pg**	**19 51 06.8**	**+0.2**
ISO				Sg	**Sg**	**19 51 12.8**	**-0.1**
RSP	**Reno Superiore**	**0.52**	**2**	P	**Pg**	**19 51 07.2**	**-0.3**
RSP				S	**Sg**	**19 51 13.7**	**-0.8**
RSP	**Reno Superiore**	**0.52**	**2**	P	**Pg**	**19 51 07.3**	**-0.3**
RSP				S	**Sg**	**19 51 13.7**	**-0.8**
RSP	**Reno Superiore**	**0.52**	**2**	AML	AML		
	comp=N,234μm,0.2s						
RSP				AML	AML		
	comp=E,218μm,1.5s						
OGAG	**Argentiere**	**0.53**	**251**	Pg	**Pg**	**19 51 08.0**	**+0.2**
OGAG				Sg	**Sg**	**19 51 14.7**	**-0.3**
GBOS	**Grotte di Boss**	**0.58**	**132**	P	**Pg**	**19 51 08.5**	**0.0**
GBOS				S	**Sg**	**19 51 16.2**	**-0.1**
GBOS	**Grotte di Boss**	**0.58**	**132**	P	**Pg**	**19 51 08.6**	**0.0**
GBOS				S	**Sg**	**19 51 16.2**	**-0.1**
GBOS	**Grotte di Boss**	**0.58**	**132**	⇑P	**Pg**	**19 51 08.6**	**0.0**
GBOS				S	**Sg**	**19 51 16.2**	**-0.1**
GBOS				AML	AML		
	comp=N,106μm,0.1s						
GBOS				AML	AML		
	comp=E,145μm,0.1s						
BNI	**Bardonecchia**	**0.58**	**317**	P	**Pg**	**19 51 09.0**	**+0.2**
BNI				AML	AML		
	comp=E,106μm,0.2s						
BNI				AML	AML		
	comp=N,42μm,1.4s						
MONC	**Moncucco Torin**	**0.66**	**47**	P	**Pb**	**19 51 11.4**	**+0.9**
MONC				S	**Sn**	**19 51 21.1**	**-1.1**
MONC				AML	AML		
	comp=E,182μm,1.5s						
MONC				AML	AML		
	comp=N,234μm,0.5s						
TURF	**col de Turini**	**0.66**	**171**	Pg	**Pg**	**19 51 09.7**	**-0.6**
TURF				Sg	**Sg**	**19 51 19.4**	**+0.3**
SAOF	**Saorge**	**0.68**	**161**	Pg	**Pg**	**19 51 09.9**	**-0.6**
SAOF				Sg	**Sg**	**19 51 19.5**	**-0.1**
SAOF	**Saorge**	**0.68**	**161**	P	**Pg**	**19 51 09.9**	**-0.6**
SAOF				S	**Sg**	**19 51 18.3**	**-1.2**
SAOF	**Saorge**	**0.68**	**161**	AML	AML		
	comp=E,64μm,1.1s						
SAOF				AML	AML		
	comp=N,67μm,1.2s						
OGMO	**Fort Saint-Gob**	**0.70**	**326**	Pg	**Pg**	**19 51 11.1**	**+0.1**
OGMO				Sg	**Sg**	**19 51 20.3**	**0.0**
MGRO	**Montegrosso**	**0.71**	**145**	P	**Pg**	**19 51 10.7**	**-0.5**
MGRO				S	**Sg**	**19 51 19.8**	**-0.8**
MGRO	**Montegrosso**	**0.71**	**145**	P	**Pg**	**19 51 10.7**	**-0.5**
MGRO				S	**Sg**	**19 51 19.9**	**-0.7**
MGRO	**Montegrosso**	**0.71**	**145**	P	**Pg**	**19 51 10.7**	**-0.5**
MGRO				S	**Sg**	**19 51 20.1**	**-0.6**
SBF	**Sospel**	**0.78**	**170**	*e*Pg	**Pg**	**19 51 11.8**	**-0.6**
SBF	**Sospel**	**0.78**	**170**	*e*P	**Pn**	**19 51 13.6**	**-0.1**
SBF				*e*Sg	**Sg**	**19 51 22.1**	**-0.6**
	comp=N,26nm,0.2s						
RORO	**Rocca Rossa**	**0.78**	**131**	P	**Pg**	**19 51 12.1**	**-0.4**
RORO				S	**Sg**	**19 51 21.7**	**-1.0**
RORO	**Rocca Rossa**	**0.78**	**131**	P	**Pg**	**19 51 12.1**	**-0.4**
RORO				S	**Sg**	**19 51 22.1**	**-0.7**
RORO	**Rocca Rossa**	**0.78**	**131**	P	**Pg**	**19 51 12.1**	**-0.4**
RORO				S	**Sg**	**19 51 22.7**	**-0.1**
RORO				AML	AML		
	comp=E,106μm,0.5s						
RORO				AML	AML		
	comp=N,146μm,0.1s						
ESCA	**l'Escarene**	**0.80**	**173**	Pg	**Pg**	**19 51 12.2**	**-0.7**
ESCA				Sg	**Sg**	**19 51 23.4**	**-0.1**
ROTM	**Rocchetta Tana**	**0.82**	**74**	P	**Pb**	**19 51 13.9**	**+0.7**
ROTM				S	**Sn**	**19 51 25.5**	**-0.5**
ROTM	**Rocchetta Tana**	**0.82**	**74**	P	**Pb**	**19 51 13.9**	**+0.7**
ROTM				S	**Sb**	**19 51 25.1**	**+1.1**
ROTM	**Rocchetta Tana**	**0.82**	**74**	P	**Pn**	**19 51 14.0**	**-0.2**
ROTM				AML	AML		
	comp=E,532μm,1.6s						
ROTM				AML	AML		
	comp=N,464μm,0.4s						
CANO	**Canova, Maglio**	**0.83**	**120**	P	**Pg**	**19 51 13.0**	**-0.2**
CANO				S	**Sg**	**19 51 23.9**	**-0.3**
CANO	**Canova, Maglio**	**0.83**	**120**	P	**Pg**	**19 51 13.1**	**-0.2**
CANO				S	**Sg**	**19 51 23.9**	**-0.3**
LSD	**Lago del Serru**	**0.83**	**355**	P	**Pb**	**19 51 13.7**	**+0.1**
LSD				S	**Sg**	**19 51 23.7**	**-0.8**
LSD	**Lago del Serru**	**0.83**	**355**	P	**Pb**	**19 51 13.9**	**+0.3**
LSD				S	**Sg**	**19 51 24.0**	**-0.5**
LSD	**Lago del Serru**	**0.83**	**355**	P	**Pb**	**19 51 13.9**	**+0.3**
LSD				AML	AML		
	comp=E,222μm,0.1s						
LSD				AML	AML		
	comp=N,178μm,0.7s						
QLNO	**Quiliano**	**0.84**	**111**	P	**Pg**	**19 51 13.4**	**-0.2**
QLNO				S	**Sg**	**19 51 24.6**	**-0.2**
QLNO				AML	AML		
	comp=N,90μm,0.2s						
QLNO				AML	AML		
	comp=E,101μm,0.5s						
QLNO				AML	AML		
	comp=N,90μm,0.2s						
IMI	**Imperia**	**0.86**	**147**	P	**Pg**	**19 51 13.1**	**-0.7**
IMI				S	**Sg**	**19 51 24.4**	**-0.8**
IMI	**Imperia**	**0.86**	**147**	P	**Pg**	**19 51 13.2**	**-0.7**
BURY	**Giardini Botan**	**0.88**	**165**	P	**Pg**	**19 51 13.3**	**-0.9**
BURY				AML	AML		
	comp=N,60μm,0.9s						
BURY				AML	AML		
	comp=E,48μm,1.2s						
CALF	**Calern**	**0.91**	**195**	Pg	**Pg**	**19 51 14.9**	**0.0**
CALF				Sg	**Sg**	**19 51 26.6**	**-0.1**
MON	**Monaco**	**0.91**	**172**	Pg	**Pb**	**19 51 14.5**	**-0.2**
MON				Sg	**Sb**	**19 51 26.9**	**+0.4**
PCP	**Piancastagn**	**0.93**	**95**	⇑P	**Pb**	**19 51 15.1**	**-0.1**
PCP				S	**Sb**	**19 51 27.4**	**0.0**
PCP				AML	AML		
	comp=N,82μm,0.8s						
PCP				AML	AML		
	comp=E,85μm,0.4s						
LPG	**La Plagne**	**0.94**	**338**	*e*Pg	**Pg**	**19 51 15.3**	**-0.1**
LPG				*e*Sg	**Sb**	**19 51 27.9**	**+0.2**
	comp=E,30nm,0.2s						
TRAV	**Traversella**	**0.95**	**22**	P	**Pn**	**19 51 16.3**	**+0.1**
LPL	**La Plagne**	**0.96**	**338**	*e*Pg	**Pb**	**19 51 15.7**	**0.0**
LPL				*e*Sg	**Sb**	**19 51 28.7**	**+0.4**
LPL				*e*Sn	**Sn**	**19 51 29.6**	**-0.3**
	comp=E,25nm,0.2s						
GDM	**Grand'Maison**	**0.99**	**306**	Pg	**Pb**	**19 51 16.1**	**0.0**
GDM				Sg	**Sb**	**19 51 29.3**	**+0.3**
CIRO	**Champorcher**	**1.00**	**13**	P	**Pn**	**19 51 18.1**	**+1.2**
CIRO				AML	AML		
	comp=E,26μm,1.2s						
CIRO				AML	AML		
	comp=N,22μm,1.2s						
ORIF	**Oris-en-Rattie**	**1.01**	**287**	*e*Pg	**Pb**	**19 51 16.6**	**+0.1**
ORIF				*e*Sg	**Sg**	**19 51 30.4**	**+0.3**
	comp=N,19nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.01**	**287**	Pg	**Pb**	**19 51 16.6**	**+0.1**
ORIF				Sg	**Sb**	**19 51 29.5**	**-0.2**
BLAF	**les Blancs**	**1.10**	**232**	Pg	**Pb**	**19 51 17.7**	**-0.2**
BLAF				Sg	**Sg**	**19 51 33.0**	**+0.2**
MRGE	**Morge**	**1.15**	**354**	P	**Pg**	**19 51 19.6**	**+0.2**
MRGE				AML	AML		
	comp=E,32μm,0.4s						
MRGE				AML	AML		
	comp=N,31μm,0.6s						
FRF	**La Foret Royal**	**1.15**	**202**	*e*Pg	**Pb**	**19 51 19.0**	**+0.2**
FRF	**La Foret Royal**	**1.15**	**202**	*e*P	**Pg**	**19 51 19.8**	**+0.3**
FRF				*e*Sg	**Sb**	**19 51 34.2**	**+0.6**
	comp=N,30nm,0.2s						
GRN	**Grenoble**	**1.23**	**300**	Pn	**Pg**	**19 51 21.3**	**+0.4**
MLYF	**Mely**	**1.24**	**239**	Pg	**Pb**	**19 51 20.9**	**+0.5**
MLYF				Sg	**Sg**	**19 51 37.9**	**+0.6**
SATI	**Passo dei Sala**	**1.32**	**19**	P	**Pg**	**19 51 23.5**	**+0.7**
SATI				AML	AML		
	comp=N,11μm,0.2s						
SATI				AML	AML		
	comp=E,15μm,1.5s						
SMRF	**Simiane la Rot**	**1.37**	**242**	*e*Pg	**Pg**	**19 51 23.3**	**-0.2**
SMRF				*e*Sn	**Sn**	**19 51 38.9**	**-0.7**
	comp=E,19nm,0.3s						
SMRF				*e*Sg	**Sg**	**19 51 42.1**	**+0.8**
LMR	**La Mourre**	**1.40**	**203**	*e*Pn	**Pn**	**19 51 21.8**	**-0.4**
LMR	**La Mourre**	**1.40**	**203**	*e*Pg	**Pb**	**19 51 23.5**	**+0.4**
LMR				*e*Sg	**Sb**	**19 51 41.6**	**+0.9**
	comp=E,27nm,0.4s						
RUSF	**Rustrel**	**1.44**	**242**	Pn	**Pb**	**19 51 24.5**	**+0.7**
RUSF				Sn	**Sg**	**19 51 43.8**	**+0.2**
OGSM	**Saint Maurice**	**1.47**	**312**	Pn	**Pb**	**19 51 24.8**	**+0.5**
OGSM				Sn	**Sg**	**19 51 44.7**	**+0.1**
ARTF	**Artigues**	**1.47**	**225**	Pn	**Pb**	**19 51 24.7**	**+0.5**
ARTF				Sn	**Sg**	**19 51 44.5**	**-0.2**
OG35	**Corcelles**	**1.84**	**321**	Pn	**Pb**	**19 51 30.9**	**+0.2**
OG35				Sn	**Sb**	**19 51 53.4**	**-0.1**
VIVF	**Saint-Julien-l**	**1.85**	**278**	*e*Pn	**Pn**	**19 51 29.6**	**+1.2**
VIVF	**Saint-Julien-l**	**1.85**	**278**	*e*Pg	**Pg**	**19 51 32.3**	**-0.4**
VIVF				*e*Sn	**Sn**	**19 51 49.9**	**-1.6**
VIVF				*e*Sg	**Sg**	**19 51 56.3**	**-0.4**
	comp=E,4.1nm,0.3s						
CABF	**La Chapelle**	**2.14**	**338**	*e*Pn	**Pn**	**19 51 31.8**	**-0.7**
CABF	**La Chapelle**	**2.14**	**338**	*e*Pg	**Pg**	**19 51 38.0**	**-0.3**
CABF				*e*Sn	**Sn**	**19 51 57.7**	**-1.2**
LEOD	**Capriano del C**	**2.20**	**67**	S	**Sb**	**19 52 05.0**	**+1.2**
BDI	**Bagni Di Lucca**	**2.47**	**102**	P	**Pg**	**19 51 47.4**	**+2.8**
LASF	**Ste Croix**	**2.49**	**258**	*e*P	**Pn**	**19 51 39.0**	**+1.7**
LASF				*e*Sn	**Sn**	**19 52 06.1**	**-1.3**
	comp=E,0.7nm,0.2s						
NDIM	**Novi di Modena**	**2.62**	**83**	S	**Sn**	**19 52 13.0**	**+2.6**
TRIF	**Trifonti**	**3.05**	**119**	S	**Sb**	**19 52 27.0**	**-1.2**
OSSC	**Osservatorio P**	**3.09**	**110**	⇑P	**Pb**	**19 51 52.3**	**+0.4**
SMF	**Signal de Mont**	**3.12**	**311**	*e*P	**Pn**	**19 51 48.3**	**+2.4**
HINF	**Hinteralfeld**	**3.20**	**355**	*e*Pn	**Pn**	**19 51 45.6**	**-1.4**
HINF				*e*Sn	**Sn**	**19 52 22.0**	**-2.9**
	comp=E,0.7nm,0.2s						
HAU	**Haudompre**	**3.43**	**350**	*e*Pn	**Pn**	**19 51 49.3**	**-0.9**
HAU				*e*Sn	**Sn**	**19 52 28.2**	**-2.4**
	comp=E,1.9nm,0.3s						
AVF	**Avril sur Loir**	**3.48**	**310**	*e*P	**Pn**	**19 51 52.8**	**+2.0**
AVF				*e*Sn	**Sn**	**19 52 28.7**	**-3.0**
	comp=E,1.2nm,0.3s						
LOR	**Lormes**	**3.54**	**319**	*e*Pn	**Pn**	**19 51 51.9**	**+0.2**
	baz=128						
LOR				*e*Sn	**Sn**	**19 52 30.5**	**-2.8**
	comp=E,1.0nm,0.2s						
SSF	**Saint Saulge**	**3.57**	**314**	*e*P	**Pn**	**19 51 54.7**	**+2.7**
BGF	**Bois d'Agland**	**3.64**	**304**	*e*P	**Pn**	**19 51 55.9**	**+2.9**
CAF	**Calviac**	**3.70**	**276**	*e*Pn	**Pn**	**19 51 53.9**	**0.0**
CAF				*e*Sn	**Sn**	**19 52 35.4**	**-1.8**
	comp=E,0.8nm,0.3s						
MTLF	**Montolieu**	**3.85**	**252**	*e*P	**Pn**	**19 51 57.9**	**+2.0**

*IDC **18** 20:16:19.9±1.1, 55°47S×123°71W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/22, mbtmp3.9/5, MS4.0/14, Ms1 4.0/14, ms1mx3.9/17, Error ellipse: s-maj=48.0km s-min=27.2km az=172.0*
*GCMT **18** 20:16:29.0±0.2, 55°74S±0°01×124°67W±0°02, h32km±1km, MW5.1/110, Moment Tensor Solution. s43,c55; s110,c150; Duration: 0 Moment tensor: Scale 10^16Nm;

LPAZ	**La Paz**	**57.46**	**70**	P		**P**	**20 26 11.5**	**+0.6**
	0.5nm,0.5s,baz=180,slow=1.0,SNR=1.6							
DZM	**Mont Dzumac**	**60.81**	**273**	eLR		LR	20 44 28.2	
	comp=Z,149nm,25.4s							
STKA	**Stephens Creek**	**66.86**	**247**	LR		LR	20 51 48.8	
	comp=Z,88nm,19.2s,baz=204,slow=32							
BDFB	**Brasilia**	**69.10**	**87**	LR		LR	20 55 27.0	
	comp=Z,202nm,19.9s,baz=347,slow=34							
ROSC	**El Rosal**	**72.62**	**52**	LR		LR	20 53 25.0	
	comp=Z,100nm,19.2s,baz=226,slow=31							
H01W1	**Cape Leeuwin H**	**77.20**	**225**	T		T	21 53 39.1	
	baz=150,slow=76,SNR=1316							
H01W2	**Cape Leeuwin H**	**77.20**	**225**	T		T	21 53 39.8	
	baz=150,slow=76,SNR=909							
H01W3	**Cape Leeuwin H**	**77.22**	**225**	T		T	21 53 40.3	
	baz=150,slow=76,SNR=1071							
ASAR	**Alice Springs**	**77.48**	**246**	P		**P**	**20 28 17.2**	**+0.4**
	0.7nm,0.8s,baz=162,slow=4.8,SNR=5.2							
ASAR				LR		LR	20 56 43.2	
	comp=Z,129nm,20.6s,baz=189,slow=31							
WRA	**Warramunga Arr**	**80.31**	**249**	P		**P**	**20 28 33.1**	**+0.7**
	1.0nm,0.8s,baz=141,slow=4.9,SNR=4.1							
TXAR	**Lajitas Array**	**86.43**	**17**	LR		LR	20 59 36.0	
	comp=Z,40nm,20.1s,baz=0.0,slow=30							
BOSA	**Boshof**	**91.86**	**153**	LR		LR	21 06 06.1	
	comp=Z,67nm,18.9s,baz=188,slow=32							
NVAR	**Mina Array Bea**	**93.92**	**4**	LR		LR	21 02 25.7	
	comp=Z,62nm,20.4s,baz=127,slow=30							
H11S2	**WAKE ISLAND Hy**	**94.24**	**297**	T		T	22 13 31.9	
	baz=148,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**94.25**	**297**	T		T	22 13 34.0	
	baz=148,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**94.26**	**297**	T		T	22 13 38.5	
	baz=148,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**95.17**	**298**	T		T	22 14 47.5	
	baz=149,slow=76,SNR=15							
H11N1	**WAKE ISLAND Hy**	**95.18**	**298**	T		T	22 14 46.8	
	baz=149,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**95.19**	**298**	T		T	22 14 43.9	
	baz=149,slow=76,SNR=12							
PDAR	**Pinedale Array**	**98.86**	**10**	LR		LR	21 06 05.6	
	comp=Z,58nm,20.5s,baz=205,slow=30							
H02S1	**DAWSON INLET T**	**108.83**	**354**	T		T	22 32 24.5	
SONM	**Songino Array**	**148.70**	**277**	PKPbc		**PKiKP**	**20 36 08.2**	**-1.1**
	0.1nm,0.3s,baz=172,slow=2.9,SNR=1.8							
MKAR	**Makanchi Array**	**161.60**	**252**	PKPab		**PKPab**	**20 37 05.6**	**-0.8**
	0.3nm,0.7s,baz=145,slow=5.3,SNR=2.6							

*NOU **18** 20:31:57.4,39°.23S×175°.44E, h0km, MLv3.5, North Island, New Zealand*

WEL 18 20:31:57.2±0.3, 39°.5S±2°.1, 175°.5E±°, h7km±2km, M2.9/42, ML3.2/42, MLv2.9/42, Error ellipse: s-maj=0.0km s-min=0.0km az=68.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.04**	**282**	P	Pg	20 32 00.1	+1.3
PKVZ				S	Sg	20 32 02.5	+2.6
MTVZ	**Mangateitei**	**0.10**	**149**	P	Pg	20 32 00.0	+0.5
MTVZ				S	Sg	20 32 02.6	+1.4
TRVZ	**Turoa**	**0.11**	**90**	P	Pg	20 32 00.7	+0.9
TRVZ				S	Sg	20 32 03.2	+1.5
FWVZ	**Far West T-bar**	**0.12**	**70**	P	Pg	20 32 00.9	+0.9
FWVZ				S	Sg	20 32 03.7	+1.7
DRZ	**Dome Shelter**	**0.13**	**80**	P	Pg	20 32 01.0	+0.9
DRZ				S	Sg	20 32 04.6	+2.5
WHVZ	**Whangaehu Hut**	**0.14**	**84**	P	Pg	20 32 01.0	+0.6
WHVZ				S	Sg	20 32 03.9	+1.4
WNVZ	**Wahianoa**	**0.15**	**101**	P	Pg	20 32 01.0	+0.6
WNVZ				S	Sg	20 32 03.9	+1.2
NGZ	**Ngauruhoe**	**0.20**	**51**	P	Pg	20 32 02.0	+0.8
NGZ				S	Sg	20 32 05.7	+1.8
TUVZ	**Tukino**	**0.20**	**81**	P	Pg	20 32 01.9	+0.7
SNVZ	**South Ngauruho**	**0.21**	**59**	P	Pg	20 32 02.3	+0.7
TWVZ	**Taurewa**	**0.23**	**7**	P	Pg	20 32 02.4	+0.6
TWVZ				S	Sg	20 32 06.5	+1.7
WTVZ	**West Tongariro**	**0.23**	**38**	P	Pg	20 32 02.6	+0.7
NNVZ	**North Ngauruho**	**0.23**	**45**	P	Pg	20 32 02.6	+0.7
OTVZ	**Oturere**	**0.24**	**56**	P	Pg	20 32 02.7	+0.7
KRVZ	**Karewarewa**	**0.28**	**42**	P	Pg	20 32 03.1	+0.4
ETVZ	**East Tongariro**	**0.29**	**56**	P	Pg	20 32 03.5	+0.5
NTVZ	**North Tongarir**	**0.29**	**47**	P	Pg	20 32 03.4	+0.5
MOVZ	**Moawhango**	**0.29**	**112**	P	Pg	20 32 02.8	-0.2
TMVZ	**Te Maari**	**0.30**	**52**	P	Pg	20 32 03.5	+0.5
KATZ	**Kakaramea**	**0.40**	**35**	P	Pg	20 32 05.2	+0.3
RITZ	**Rihia Road**	**0.48**	**48**	P	Pg	20 32 06.8	+0.4
RATZ	**Rangitukua**	**0.52**	**34**	P	Pg	20 32 07.5	+0.3
VRZ	**Vera Road**	**0.53**	**289**	P	Pg	20 32 07.5	+0.1
BHHZ	**Black Hill Sta**	**0.55**	**111**	P	Pg	20 32 07.2	-0.6
WATZ	**Wairara**	**0.64**	**24**	P	Pg	20 32 09.5	-0.1
LREZ	**Lake Rotokare**	**0.78**	**258**	P	Pg	20 32 12.9	-0.3
KWHZ	**Kaweka Forest**	**0.80**	**99**	P	Pg	20 32 12.5	-0.1
KRHZ	**Kereru**	**0.82**	**115**	P	Pg	20 32 12.5	-0.6
BKZ	**Black Stump Fm**	**0.86**	**81**	P	Pg	20 32 13.3	-0.3
PNHZ	**Pukenui**	**0.87**	**135**	P	Pg	20 32 13.1	-0.8
KUTZ	**Kaahu Road**	**0.87**	**22**	P	Pg	20 32 13.5	-0.4
TSZ	**Takapari Road**	**0.87**	**151**	P	Pg	20 32 13.1	-0.9
HIZ	**Hauiti**	**0.89**	**331**	P	Pg	20 32 14.0	-0.3
OHWZ	**Ohakea**	**0.91**	**184**	P	Pg	20 32 13.4	-1.2
TLZ	**Tolley Road**	**0.97**	**6**	P	Pg	20 32 14.5	-1.4
MCHZ	**McNeill Hill**	**1.01**	**99**	P	Pb	20 32 17.4	+0.3
NEZ	**North Egmont**	**1.01**	**271**	P	Pn	20 32 17.9	0.0
GRRZ	**Galatos Road**	**1.10**	**30**	P	Pg	20 32 18.3	+0.1
PKE	**Pukeiti**	**1.10**	**275**	P	Pg	20 32 18.2	-0.2
POWZ	**Post Office Ro**	**1.13**	**166**	P	Pg	20 32 17.6	-1.2
DVHZ	**Dannevirke**	**1.16**	**150**	P	Pg	20 32 18.8	-0.7
NBEZ	**Newall Road No**	**1.19**	**271**	P	Pg	20 32 19.7	-0.3
KAHZ	**Kahuranaki**	**1.20**	**114**	P	Pg	20 32 22.1	+1.1
PRWZ	**Pori Road**	**1.33**	**161**	P	Pn	20 32 21.6	-0.5
NGRZ	**Ngongotaha**	**1.34**	**27**	P	Pb	20 32 22.7	0.0
PXZ	**Pawanui**	**1.34**	**123**	P	Pg	20 32 23.3	+0.3
MUGZ	**Murupara**	**1.35**	**53**	P	Pb	20 32 22.6	-0.1
PRHZ	**Porangahau**	**1.35**	**136**	P	Pb	20 32 22.8	-0.1
MRZ	**Mangatainoka R**	**1.37**	**174**	P	Pn	20 32 21.7	-1.0
ANWZ	**Angora Road**	**1.42**	**145**	P	Pb	20 32 23.9	-0.1
TIWZ	**Tintock**	**1.52**	**166**	P	Pn	20 32 25.0	+0.2
BFZ	**Birch Farm**	**1.53**	**155**	P	Pn	20 32 24.7	-0.1
OGWZ	**Otaki Gorge**	**1.53**	**187**	P	Pn	20 32 23.8	-1.1
TOZ	**Tahuroa Road**	**1.57**	**3**	P	Pn	20 32 23.8	-1.6
HOWZ	**Holdsworth Sta**	**1.60**	**177**	P	Pn	20 32 25.8	-0.1
KIW	**Kapiti Island**	**1.61**	**193**	P	Pn	20 32 24.8	-1.2
URZ	**Urewera**	**1.69**	**53**	P	Pb	20 32 28.5	0.0
TGRZ	**Tauranga**	**1.71**	**23**	P	Pb	20 32 29.3	+0.5
CAW	**Cannon Point**	**1.82**	**188**	P	Pn	20 32 29.0	0.0
TMWZ	**Te Maipa**	**1.84**	**168**	P	Pb	20 32 30.5	-0.7
MTW	**Mount Morrison**	**1.86**	**178**	P	Pn	20 32 29.7	+0.2
DUWZ	**D'Urville Isla**	**1.88**	**217**	P	Pn	20 32 29.4	-0.4
WEL	**Wellington**	**2.04**	**194**	P	Pn	20 32 32.0	0.0
PAWZ	**Paruwai Farm**	**2.08**	**180**	P	Pb	20 32 34.5	-0.7
TKGZ	**Te Karaka**	**2.09**	**67**	P	Pg	20 32 36.8	-0.5
TCW	**Tory Channel**	**2.10**	**204**	P	Pn	20 32 31.7	-1.0
TRWZ	**Traveller**	**2.11**	**174**	P	Pb	20 32 35.9	+0.2
MSWZ	**Moikau Station**	**2.12**	**183**	P	Pn	20 32 34.5	+1.4
BHW	**Baring Head**	**2.15**	**191**	P	Pn	20 32 34.5	+1.1
AWAZ	**Awhitu Peninsu**	**2.31**	**345**	P	Pn	20 32 35.4	-0.2
CNGZ	**Carnagh Statio**	**2.33**	**70**	P	Pb	20 32 38.0	-1.6
TUWZ	**Tuamarina**	**2.40**	**207**	P	Pn	20 32 36.9	0.0
WTAZ	**Waiatarua**	**2.45**	**344**	P	Pn	20 32 39.4	+1.9
NNZ	**Nelson**	**2.46**	**218**	P	Pn	20 32 38.7	+0.9
KUZ	**Kuaotunu**	**2.56**	**6**	P	Pb	20 32 43.1	-0.3
BSWZ	**Blackbirch Sta**	**2.68**	**205**	P	Pb	20 32 43.1	-2.3
THZ	**Tophouse**	**3.11**	**217**	P	Pb	20 32 51.7	-1.2
KHZ	**Kahutara**	**3.42**	**204**	P	Pb	20 32 57.3	-0.8
WVZ	**Waitaha Valley**	**5.16**	**222**	P	Pn	20 33 16.1	+1.3

IDC 18 20:53:15.8±7.6, 30°.32S×178°.21W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/18, mbtmp3.4/2, Error ellipse: s-maj=320.0km s-min=56.8km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.93**	**267**	P	P	21 01 16.1	-0.4
	0.3nm,0.8s,baz=106,slow=7.7,SNR=2.2						
WRA	**Warramunga Arr**	**43.91**	**272**	P	P	21 01 24.5	0.0
	0.3nm,0.3s,baz=110,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**145.01**	**340**	PKPbc	PKPbc	21 12 52.8	-0.8
	2.5nm,0.9s,baz=46,slow=4.0,SNR=9.6						

*ATH **18** 21:11:01.7, 35°.44N×27°.66E, h40km±15km, ML2.6/1, Error ellipse: s-maj=15.3km s-min=1.5km az=350.0*
*ISK **18** 21:11:02.4, 35°.46N×27°.63E, h22km, ML2.4/10*
*DDA **18** 21:11:05.1, 35°.70N×27°.84E, h43km±2km, ML2.1*

ISC 18 21:11:01.0±1.6, 35°.48N±0°.06×27°.70E±0°.04, h15km±12km, n26, σ1°78/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.81**	**25**	P	**Pn**	**21 11 18.3**	**+0.4**
ARG				S	**Sn**	**21 11 29.8**	**+0.2**
ARG				AML	AML	21 11 34.5	
	comp=N,628μm,0.4s						
ARG				AML	AML	21 11 34.8	
	comp=E,845μm,0.4s						
ARG	**Arkhangelos**	**0.81**	**25**	PG	**Pn**	**21 11 19.9**	**+2.0**
ARG				SG	**Sn**	**21 11 32.0**	**+2.4**
NIS1	**Nisyros Isl.**	**1.19**	**340**	P	**Pn**	**21 11 24.0**	**+0.8**
NIS1	**Nisyros Isl.**	**1.19**	**340**	PN	**Pn**	**21 11 24.2**	**+1.1**
NIS1				SN	**Sn**	**21 11 40.3**	**+1.2**
DAT	**Datca**	**1.25**	**356**	PN	**Pn**	**21 11 25.1**	**+1.1**
DAT				SN	**Sn**	**21 11 42.1**	**+1.5**
ZKR	**Zakros**	**1.26**	**254**	P	**Pn**	**21 11 24.1**	**+0.1**
ZKR	**Zakros**	**1.26**	**254**	PN	**Pn**	**21 11 24.7**	**+0.6**
ZKR				SN	**Sb**	**21 11 40.9**	**+0.3**
TURN	**Turunc**	**1.36**	**19**	*i* P	**Pg**	**21 11 28.6**	**+1.4**
TURN				*i* S	**Sb**	**21 11 42.2**	**-1.2**
TURN	**Turunc**	**1.36**	**19**	PN	**Pg**	**21 11 27.5**	**+0.2**
TURN				SN	**Sn**	**21 11 45.9**	**+2.6**
DALY	**Dalyan (Mula)**	**1.54**	**30**	*i* P	**Pg**	**21 11 30.0**	**-0.7**
DALY				*i* S	**Sn**	**21 11 46.3**	**-1.3**
DALY				IAML		21 11 56.0	
	comp=N,33nm,0.7s						
DALY				IAML		21 11 57.0	
	comp=E,29nm,1.2s						
DALY	**Dalyan (Mula)**	**1.54**	**30**	PN	**Pg**	**21 11 30.2**	**-0.4**
BDRM	**Kayabasi**	**1.59**	**353**	*i* P	**Pn**	**21 11 29.1**	**+0.5**
BDRM				*i* S	**Sn**	**21 11 46.4**	**-3.5**
BDRM				IAML		21 11 50.0	
	comp=N,27nm,0.8s						
BODT	**Bodrum**	**1.61**	**349**	PN	**Pg**	**21 11 30.4**	**-1.5**
FETY	**Fethiye**	**1.61**	**44**	*i* P	**Pn**	**21 11 30.2**	**+1.4**
FETY				*i* S	**Sn**	**21 11 48.5**	**-0.9**
FETY	**Fethiye**	**1.61**	**44**	PN	**Pn**	**21 11 30.3**	**+1.4**
KSL	**Kastellorizon**	**1.67**	**66**	P	**Pb**	**21 11 32.1**	**+0.7**
YER	**Yerkesik**	**1.72**	**16**	PN	**Pb**	**21 11 32.4**	**+0.2**
AKAS	**Kas**	**1.72**	**64**	*i* P	**Pn**	**21 11 32.0**	**+1.5**
AKAS				*i* S	**Sn**	**21 11 46.0**	**-6.3**
AKAS	**Kas**	**1.72**	**64**	PN	**Pn**	**21 11 32.1**	**+1.5**
LAST	**Lasithi**	**1.84**	**261**	P	**Pn**	**21 11 33.8**	**+1.7**
CAME	**Cameli-Denizli**	**1.95**	**41**	PN	**Pb**	**21 11 36.3**	**0.0**
CAME				SN	**Sb**	**21 12 00.5**	**0.0**
CAEL	**Denizli, Camel**	**2.10**	**38**	*i* P	**Pn**	**21 11 35.4**	**-0.3**
CAEL				*i* S	**Sn**	**21 12 03.3**	**+1.7**
CAEL				IAML		21 12 25.0	
	comp=E,26nm,0.8s						
CAEL				IAML		21 12 41.0	
	comp=N,38nm,1.4s						
AYDN	**Tasoluk**	**2.18**	**4**	*i* P	**Pb**	**21 11 38.7**	**-1.4**
AYDN				*i* S	**Sn**	**21 12 03.0**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.21**	**26**	*i* P	**Pn**	**21 11 38.8**	**+1.6**
TAVA				*i* S	**Sn**	**21 12 01.3**	**-3.0**
TAVA				IAML		21 12 19.0	
	comp=E,17nm,0.5s						
APE	**Apeiranthos**	**2.36**	**313**	PN	**Pn**	**21 11 39.9**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.46**	**4**	PN	**Pn**	**21 11 42.1**	**+1.4**

*NAO **18** 21:21:09.0±1.0, 71°.51N×10°.80E, ML4.3*
*MOS **18** 21:21:10.7±1.4, 71°.57N×10°.87E, h10km, mb4.5/13, Error ellipse: s-maj=19.8km s-min=5.8km az=95.4*
*IDC **18** 21:21:10.8±0.6, 71°.50N×11°.13E, h0km, mb3.9/18, mb1 4.1/23, mb1mx3.9/52, mbtmp4.0/23, ML4.1/6, MS3.1/17, Ms1 3.1/17, ms1mx2.9/42, Error ellipse: s-maj=13.6km s-min=9.0km az=77.0*
*NEIC **18** 21:21:12.0±2.2, 71°.52N±0°.07×11°.0E±0°.2, h10km±1km, mb4.3/45, Error ellipse: s-maj=13.4km s-min=11.1km az=239.0*
*IEPN **18** 21:21:12.0, 71°.82N×11°.67E, h10km*
*BER **18** 21:21:13.8±3.0, 71°.55N×10°.97E, h24km±23km, ML3.1, ML4.3(NAO), Confirmed Earthquake*
*DNK **18** 21:21:13.8±0.5, 71°.36N×11°.58E, h0km, ML3.1(UPP), Suspected explosion*
*UPP **18** 21:21:16.7±2.5, 71°.17N×11°.59E, h0km, ML3.1, Suspected explosion*

ISC 18 21:21:10.3±0.4, 71°.44N±0°.04×11°.04E±0°.04, h0km, n301, σ2°64/339, mb4.2/54, MS3.2/16, 27C-3D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**3.20**	**121**	Pn	**Pn**	**21 22 02.0**	**+0.2**
TRO				Sn	**Sn**	**21 22 36.5**	**-4.0**
TRO	**Tromso**	**3.20**	**121**	⇓*i* P	**Pn**	**21 22 01.9**	**+0.2**
TRO				*e*S	**Sn**	**21 22 37.2**	**-3.3**
TRO				IAML		21 22 38.4	
	comp=Z,190nm,0.2s						
N2VI	**Vinje**	**3.31**	**159**	*e*P	**Pn**	**21 22 03.6**	**+0.3**
N2VI				*e*S	**Sn**	**21 22 40.9**	**-2.3**
N2VI				IAML		21 22 46.6	
	comp=Z,142nm,0.5s						
LOF	**Lofoten**	**3.43**	**164**	Pn	**Pn**	**21 22 04.8**	**-0.1**
LOF				Sn	**Sn**	**21 22 43.7**	**-2.5**
LOF	**Lofoten**	**3.43**	**164**	⇓*i* P	**Pn**	**21 22 04.8**	**-0.1**
LOF				*e*S	**Sn**	**21 22 43.6**	**-2.5**
LOF				IAML		21 22 45.2	
	comp=Z,169nm,0.6s						
N2SV	**S,rvŸgen**	**3.63**	**168**	*e*P	**Pn**	**21 22 07.8**	**+0.3**
N2SV				*e*S	**Sn**	**21 22 48.7**	**-2.3**
N2SV				IAML		21 22 50.6	
	comp=Z,66nm,0.4s						
JETT	**Jettan, Norway**	**3.66**	**117**	*e*P	**Pn**	**21 22 09.2**	**+1.0**
JETT				*e*S	**Sn**	**21 22 50.1**	**-1.9**
STEI	**Steigen**	**3.81**	**155**	Pn	**Pn**	**21 22 11.1**	**+0.9**
STEI				Sn	**Sn**	**21 22 54.7**	**-0.9**
STEI	**Steigen**	**3.81**	**155**	*e*P	**Pn**	**21 22 11.3**	**+1.2**
STEI				*e*S	**Sn**	**21 22 53.9**	**-1.7**
STEI				IAML		21 22 59.2	
	comp=Z,68nm,0.5s						
N2VA	**Vr,y**	**3.83**	**171**	*e*P	**Pn**	**21 22 10.4**	**0.0**
N2VA				*e*S	**Sn**	**21 22 54.0**	**-2.1**
N2VA				IAML		21 22 55.8	
	comp=Z,63nm,0.6s						
BJO1	**Bjornoya**	**3.87**	**33**	Pn	**Pn**	**21 22 06.9**	**-4.0**
BJO1				Sn	Sn	21 22 47.0	-10
BJO1	**Bjornoya**	**3.87**	**33**	*e*P	**Pn**	**21 22 06.9**	**-4.0**
BJO1				*e*S	Sn	21 22 47.6	-9.3
BJO1				IAML		21 22 51.4	
	comp=Z,78nm,0.3s						
BJO1	**Bjornoya**	**3.87**	**33**	⇓*i* P	**Pn**	**21 22 07.0**	**-3.9**
BJO1				*e*S	Sn	21 22 46.0	-11
N2IH	**Innhavet**	**3.88**	**152**	*e*P	**Pn**	**21 22 12.1**	**+1.1**
N2IH				*e*S	**Sn**	**21 22 54.5**	**-2.8**
N2IH				IAML		21 23 04.6	
	comp=Z,90nm,0.6s						
N2RO	**R,st**	**3.96**	**174**	*e*P	**Pn**	**21 22 12.2**	**+0.1**
N2RO				*e*S	**Sn**	**21 22 55.3**	**-3.8**
N2RO				IAML		21 23 06.3	
	comp=Z,35nm,0.4s						
N2NF	**Nordfold**	**3.97**	**156**	*e*P	**Pn**	**21 22 13.5**	**+1.2**
N2NF				*e*S	**Sn**	**21 22 57.1**	**-2.4**
N2NF				IAML		21 23 02.0	
	comp=Z,132nm,0.5s						
KIF	**Kilpisjarvi**	**4.12**	**122**	Pn	**Pn**	**21 22 15.3**	**+1.1**
KIF				Sn	**Sn**	**21 23 00.6**	**-2.5**
KIF	**Kilpisjarvi**	**4.12**	**122**	*e*P	**Pn**	**21 22 15.3**	**+1.1**
KIF				*e*S	**Sn**	**21 23 00.1**	**-2.9**
N2TV	**TŸrnvik**	**4.14**	**158**	*e*P	**Pn**	**21 22 16.0**	**+1.3**
N2TV				*e*S	**Sn**	**21 23 00.4**	**-3.3**
N2TV				IAML		21 23 04.7	
	comp=Z,78nm,0.5s						
HAMF	**Hammerfest**	**4.20**	**95**	Pn	**Pn**	**21 22 14.2**	**-1.2**
HAMF				Sn	**Sn**	**21 22 59.2**	**-5.9**
HAMF	**Hammerfest**	**4.20**	**95**	*e*P	**Pn**	**21 22 14.4**	**-1.0**
HAMF				*e*S	**Sn**	**21 22 59.5**	**-5.6**
HAMF				*e*S	**Sn**	**21 22 59.5**	**-5.6**
HAMF				IAML		21 23 03.5	
	comp=Z,123nm,0.6s						
NBB08	**Skaug oppvekst**	**4.26**	**161**	*e*P	**Pn**	**21 22 17.4**	**+1.1**
NBB08	**Skaug oppvekst**	**4.26**	**161**	*e*S	**Sn**	**21 23 03.3**	**-3.3**
NBB08				IAML		21 23 09.3	
	comp=Z,188nm,0.2s						
FAUS	**Fauske**	**4.34**	**158**	*e*P	**Pn**	**21 22 18.7**	**+1.4**
FAUS				*e*S	**Sn**	**21 23 06.0**	**-2.6**
FAUS				IAML		21 23 17.8	
	comp=Z,82nm,0.4s						
N2ST	**Straumen**	**4.41**	**156**	*e*P	**Pn**	**21 22 20.2**	**+1.9**
N2ST				IAML		21 23 13.7	
	comp=Z,167nm,0.5s						
KOVU	**Salmi**	**4.51**	**131**	P	**Pn**	**21 22 21.2**	**+1.5**
KOVU				S	**Sn**	**21 23 10.2**	**-2.7**
KOVU	**Salmi**	**4.51**	**131**	P	**Pn**	**21 22 21.2**	**+1.5**
KOVU				S	**Sn**	**21 23 10.2**	**-2.7**
NIKU	**Nikkaluokta**	**4.54**	**138**	P	**Pn**	**21 22 21.5**	**+1.4**
NIKU				S	**Sn**	**21 23 11.6**	**-1.9**
NIKU	**Nikkaluokta**	**4.54**	**138**	P	**Pn**	**21 22 21.5**	**+1.4**
NIKU				S	**Sn**	**21 23 11.6**	**-1.9**
NBB05	**Inndyr**	**4.55**	**165**	*e*P	**Pn**	**21 22 21.4**	**+1.2**
NBB05	**Inndyr**	**4.55**	**165**	*e*S	**Sn**	**21 23 09.8**	**-3.8**
NBB05				IAML		21 23 17.9	
	comp=Z,118nm,0.3s						
NBB30	**Finnes**	**4.59**	**167**	*e*P	**Pn**	**21 22 21.0**	**+0.3**
NBB30				*e*S	**Sn**	**21 23 10.6**	**-4.0**
NBB30				IAML		21 23 15.1	
	comp=Z,65nm,0.5s						
RATU	**Laukkuluspa**	**4.70**	**136**	P	**Pn**	**21 22 23.9**	**+1.6**
RATU				S	**Sn**	**21 23 14.6**	**-2.8**
RATU	**Laukkuluspa**	**4.70**	**136**	P	**Pn**	**21 22 23.9**	**+1.6**
RATU				S	**Sn**	**21 23 14.6**	**-2.8**
NBB17	**Glomfjord BŸr**	**4.76**	**166**	*e*P	**Pn**	**21 22 23.8**	**+0.7**
NBB17	**Glomfjord BŸr**	**4.76**	**166**	IAML		21 23 20.0	
	comp=Z,141nm,0.5s						
KUA	**Kurravaara**	**4.76**	**133**	P	**Pn**	**21 22 24.5**	**+1.4**
KUA				S	**Sn**	**21 23 16.2**	**-2.7**
KTK1	**Kautokeino**	**4.80**	**115**	Pn	**Pn**	**21 22 25.4**	**+1.7**
KTK1				Sn	**Sn**	**21 23 17.6**	**-2.4**
KTK1	**Kautokeino**	**4.80**	**115**	*e*P	**Pn**	**21 22 25.2**	**+1.5**
KTK1				*e*S	**Sn**	**21 23 17.0**	**-3.0**
KTK1				IAML		21 23 21.9	
	comp=Z,55nm,0.3s						
NBB13	**Alf Garage**	**4.90**	**169**	*e*P	**Pn**	**21 22 26.1**	**+1.1**
NBB13				*e*S	**Sn**	**21 23 19.0**	**-3.3**
NBB13	**Alf Garage**	**4.90**	**169**	IAML		21 23 29.7	
	comp=Z,53nm,0.7s						
NBB40	**Tonnes**	**5.00**	**171**	*e*P	**Pn**	**21 22 27.1**	**+0.8**
NBB40				*e*S	**Sn**	**21 23 21.3**	**-3.4**
NBB40				IAML		21 23 24.3	
	comp=Z,32nm,0.2s						
KONS	**Konsvik**	**5.02**	**170**	Pn	**Pn**	**21 22 27.8**	**+1.2**
KONS				Sn	**Sn**	**21 23 22.7**	**-2.5**
KONS	**Konsvik**	**5.02**	**170**	*e*P	**Pn**	**21 22 27.6**	**+1.0**
KONS				*e*S	**Sn**	**21 23 22.4**	**-2.8**
KONS				IAML		21 23 26.8	
	comp=Z,83nm,0.4s						
LANU	**Lannavaara**	**5.10**	**127**	P	**Pn**	**21 22 29.5**	**+1.7**
LANU				S	**Sn**	**21 23 24.2**	**-3.0**
LANU	**Lannavaara**	**5.10**	**127**	P	**Pn**	**21 22 29.5**	**+1.7**
LANU				S	**Sn**	**21 23 24.2**	**-3.0**
STOK	**Stokkvaagen**	**5.18**	**171**	Pn	**Pn**	**21 22 29.6**	**+0.8**
STOK				Sn	**Sn**	**21 23 26.0**	**-3.1**
STOK	**Stokkvaagen**	**5.18**	**171**	*e*P	**Pn**	**21 22 29.7**	**+0.8**
STOK				*e*S	**Sn**	**21 23 25.6**	**-3.6**
ARA0	**ARCESS Array S**	**5.21**	**105**	Pn	**Pn**	**21 22 29.8**	**+0.5**
	baz=296,slow=11						
ARA0				Sn	**Sn**	**21 23 26.4**	**-3.5**
	baz=288,slow=18						
ARA0	**ARCESS Array S**	**5.21**	**105**	*e*P	**Pn**	**21 22 29.7**	**+0.5**
ARA0				Pn	**Pn**	**21 22 29.8**	**+0.5**
	baz=296,slow=11						
ARA0				Sn	**Sn**	**21 23 26.4**	**-3.5**
	baz=288,slow=18						
ARA0				IAML		21 23 32.2	
	comp=Z,46nm,0.5s						
ARCES	**ARCESS Array B**	**5.21**	**105**	Pn	**Pn**	**21 22 29.4**	**+0.1**
	baz=298,slow=11,SNR=371						
ARCES				Sn	**Sn**	**21 23 26.3**	**-3.6**
	ba

MOL	**Molde**	**9.01 190**	*e*P		**Pn**	**21 23 20.6**	**-0.8**
AKN	**Aaknes**	**9.43 192**	Pn		**Pn**	**21 23 26.6**	**-0.6**
AKN			Sn		**Sn**	**21 25 05.7**	**-8.1**
AKN	**Aaknes**	**9.43 192**	Pn		**Pn**	**21 23 26.6**	**-0.6**
AKN			Sn		**Sn**	**21 25 05.7**	**-8.1**
DOMB	**Dombas**	**9.47 186**	*e*P		**Pn**	**21 23 27.6**	**-0.1**
DBG	**Daneborg**	**9.57 302**	Pn		Pn	21 23 23.6	-5.4
DBG	**Daneborg**	**9.57 302**	*e*P		Pn	21 23 23.3	-5.7
DAG	**Danmarks Havn**	**9.62 317**	*e*P		Pn	21 23 18.1	-12
FOO	**Floro**	**10.16 196**	*e*P		**Pn**	**21 23 36.5**	**-0.6**
NC204	**NORSAR Array S**	**10.21 181**	*e*P		**Pn**	**21 23 36.9**	**-0.9**
NC204	**NORSAR Array S**	**10.21 181**	Pn		**Pn**	**21 23 38.2**	**+0.4**
NC303	**NORSAR Array S**	**10.26 179**			**Pn**	**21 23 39.2**	**+0.7**
NC405	**NORSAR Array S**	**10.37 178**			**Pn**	**21 23 41.1**	**+1.0**
NB201	**NORSAR Array S**	**10.43 179**			**Pn**	**21 23 41.5**	**+0.6**
NB2	**NORSAR Subarra** baz=356,slow=14	**10.44 180**	Pn		**Pn**	**21 23 41.7**	**+0.6**
NB2			Sn		**Sn**	**21 25 34.7**	**-3.9**
NB2	**NORSAR Subarra** baz=1.3,slow=37	**10.44 180**	Pn		**Pn**	**21 23 41.7**	**+0.6**
NB2			Sn		**Sn**	**21 25 34.7**	**-3.9**
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=41	**10.44 180**	Pn		**Pn**	**21 23 41.3**	**+0.3**
NOA			Sn		**Sn**	**21 25 31.7**	**-6.9**
NOA	comp=Z,0.1nm,0.3s,baz=359,slow=19,SNR=5.8		LR		LR	21 28 15.5	
NBO00	comp=Z,17nm,19.7s,baz=355,slow=40 **NORSAR Array S**	**10.45 181**	*e*P		**Pn**	**21 23 39.5**	**-1.6**
NBO00	**NORSAR Array S**	**10.45 181**			**Pn**	**21 23 42.5**	**+1.4**
HYA	**Hoyanger**	**10.49 193**	*e*P		**Pn**	**21 23 41.6**	**0.0**
NAO01	**NORSAR Array S**	**10.64 180**			**Pn**	**21 23 44.1**	**+0.4**
SCO	**Scoresbysund**	**10.73 281**	*i* P		**Pn**	**21 23 45.4**	**+0.5**
SCO	**Scoresbysund**	**10.73 281**	*i* P		**Pn**	**21 23 45.4**	**+0.5**
NC602	**NORSAR Array S**	**10.75 179**			**Pn**	**21 23 45.9**	**+0.6**
NRA0	**NORESS Array S** baz=351,slow=16	**10.75 179**	Pn		**Pn**	**21 23 45.7**	**+0.5**
NRA0	**NORESS Array S** baz=351,slow=16	**10.75 179**	Pn		**Pn**	**21 23 45.7**	**+0.5**
SKAR	**Skarslia**	**10.86 187**	*e*P		**Pn**	**21 23 44.4**	**-2.3**
SLVR	**Solovky** comp=Z,25nm,0.6s	**11.10 113**	P		Pn	21 23 44.8	-5.1
SLVR			S		Sn	21 25 40.8	-14
RAF	**Rauma**	**11.29 152**	*e*P		**Pn**	**21 23 50.8**	**-1.7**
HFS	**Hagfors** comp=Z,3.5nm,0.3s,baz=359,slow=12,SNR=96	**11.40 173**	Pn		**Pn**	**21 23 54.9**	**+0.8**
HFS			Sn		**Sn**	**21 25 57.7**	**-4.3**
HFS	comp=Z,1.1nm,0.3s,baz=8.5,slow=23,SNR=3.7		LR		LR	21 27 36.1	
HFS	comp=Z,61nm,19.3s,baz=336,slow=34 **Hagfors** baz=1.7,slow=14	**11.40 173**	Pn		**Pn**	**21 23 54.7**	**+0.6**
HFS			Sn		**Sn**	**21 25 57.0**	**-5.0**
HFS	baz=353,slow=28 **Hagfors** baz=1.7,slow=14	**11.40 173**	Pn		**Pn**	**21 23 54.7**	**+0.6**
HFS			Sn		**Sn**	**21 25 57.0**	**-5.0**
FIA1	baz=353,slow=28 **FINESS Array S**	**11.64 142**			**Pn**	**21 23 58.0**	**+0.7**
FIA0	**FINESS Array S** baz=341,slow=12	**11.64 142**	Pn		**Pn**	**21 23 57.6**	**+0.2**
FIA0			Sn		**Sn**	**21 26 01.1**	**-6.8**
FIA0	baz=338,slow=28 **FINESS Array S** baz=341,slow=12	**11.64 142**	Pn		**Pn**	**21 23 57.6**	**+0.2**
FIA0			Sn		**Sn**	**21 26 01.1**	**-6.8**
FINES	baz=338,slow=28 **FINESS Array B** comp=Z,7.6nm,0.3s,baz=342,slow=12,SNR=257	**11.64 142**	Pn		**Pn**	**21 23 57.4**	**0.0**
FINES			Sn		**Sn**	**21 26 01.1**	**-6.8**
FINES	comp=Z,2.0nm,0.3s,baz=343,slow=23,SNR=6.4		LR		LR	21 28 39.4	
KONO	comp=Z,71nm,18.1s,baz=308,slow=38 **Kongsberg**	**11.85 184**	*c i* P		**Pn**	**21 24 00.2**	**-0.1**
KONO	**Kongsberg**	**11.85 184**	*e*P		**Pn**	**21 23 57.7**	**-2.6**
KONO	**Kongsberg**	**11.85 184**	Pn		**Pn**	**21 23 59.9**	**-0.3**
AAL	**Aland**	**11.86 158**	*e*P		**Pn**	**21 24 00.5**	**+0.1**
UPP	**Uppsala**	**11.93 164**	*e*P		**Pn**	**21 24 00.5**	**-0.8**
MEF	**Metsahovi**	**12.47 148**	*e*P		**Pn**	**21 24 07.7**	**-1.0**
ZFI2	**Zemlya Franca-** comp=Z,7.2nm,0.6s	**12.49 26**	*e*P		**Pn**	**21 24 06.6**	**-2.3**
ZFI2			*e*S		Sn	21 26 14.6	-14
SNART	**Snartemo**	**13.25 189**	*e*P		**Pn**	**21 24 15.9**	**-3.4**
BORG	**Borgarnes** comp=Z,0.3nm,0.3s,baz=65,slow=9.7,SNR=1.4	**13.64 257**	Pn		**Pn**	**21 24 28.5**	**+3.8**
BORG			LR		LR	21 28 42.6	
PUL	comp=Z,32nm,20.7s,baz=355,slow=33 **Pulkovo**	**14.05 137**	*i* P		**Pn**	**21 24 31.6**	**+1.4**
LSH	**Leshukonskoye** comp=Z,30nm,0.7s	**14.28 100**	*e*P		Pn	21 24 28.1	-5.3
LSH			*e*S		Sn	21 26 56.9	-15
VSU	**Vasula**	**14.54 146**	*e*P		**Pn**	**21 24 33.2**	**-3.7**
SLIT	**Slitere, Latvi**	**14.63 155**	*e*P		**Pn**	**21 24 35.8**	**-2.5**
SUMG	**Summit**	**14.99 298**	*i*		**P**	**21 24 47.3**	**-1.8**
SUMG	**Summit**	**14.99 298**	P		**Pn**	**21 24 43.0**	**-0.3**
SUMG	**Summit**	**14.99 298**			**Pn**	**21 24 43.0**	**-0.3**
KLMR	**Klimovskoe**	**15.45 119**	*e*P		**Pn**	**21 24 45.1**	**-4.0**
KLMR	comp=Z,3.0nm,0.5s		pmax		pmax		
KLMR	**Klimovskoe** comp=Z,20nm,1.2s	**15.45 119**	*e*P		**Pn**	**21 24 45.5**	**-3.6**
KLMR			*e*S		Sn	21 27 26.2	-14
KLMR	**Klimovskoe**	**15.45 119**	*e*Pn		**Pn**	**21 24 45.2**	**-3.9**
KLMR			*e*Pn		**Pn**	**21 24 45.2**	**-3.9**
KLMR			*e*Pn		**Pn**	**21 24 45.2**	**-3.9**
KLMR	comp=Z,3.0nm,0.5s		AMP			21 24 51.2	
KLMR			*e*Sn		Sn	21 27 27.7	-13
KLMR			*e*Sn		Sn	21 27 27.7	-13
AMDE	**Amderma** comp=Z,5.6nm,0.6s	**16.50 71**	*e*P		**Pn**	**21 24 58.1**	**-4.6**
AMDE			*e*S		Sn	21 27 45.8	-20
PRGR	**Permogore**	**16.61 109**	*e*P		**Pn**	**21 24 58.9**	**-5.2**
PRGR	comp=Z,135nm,1.5s		pmax		pmax		
PRGR	**Permogore** comp=Z,135nm,1.6s	**16.61 109**	*e*P		**Pn**	**21 25 00.1**	**-4.0**
PRGR			*e*S		Sn	21 27 53.8	-15
PABE	**Paberze**	**16.93 154**	*e*P		**Pn**	**21 25 04.7**	**-3.5**
PABE	comp=Z,30nm,0.7s		IAmb		IAmb	21 25 18.1	
PABE	**Paberze**	**16.93 154**	Pn		**Pn**	**21 25 06.5**	**-1.6**
PABE	comp=Z,32nm,0.7s		IAmb		IAmb	21 25 18.0	
ISAL	**Salakas**	**17.19 150**	*e*P		**Pn**	**21 25 05.6**	**-5.8**
ISAL	comp=Z,4.7nm,0.6s		IAmb		IAmb	21 25 11.9	
EKA	**Eskdalemuir Ar** baz=14,slow=13,SNR=2.2	**17.28 208**	P		**P**	**21 25 15.5**	**+1.3**
IIGN	**Ignalina**	**17.42 150**	*e*P		**Pn**	**21 25 09.3**	**-4.9**
SUW	**Suwalki** comp=Z,16nm,0.7s	**18.28 157**	IAmb		IAmb	21 25 33.9	
MOS	**Moscow**	**19.39 130**	*e*P		**Pn**	**21 25 42.2**	**+3.8**
OBN	**Obninsk** comp=Z,0.7nm,0.3s,baz=98,slow=18,SNR=4.1	**19.71 133**	P		**P**	**21 25 40.9**	**+0.1**
OBN	**Obninsk**	**19.71 133**	*i* P		**P**	**21 25 40.4**	**-0.4**
OBN	comp=Z,9.0nm,0.8s		pmax		pmax		
OBN	comp=Z,52nm,15.0s		MLR		MLR		
OBN	**Obninsk**	**19.71 133**	P		**Pn**	**21 25 41.5**	**-0.7**
OBN	comp=Z,19nm,0.6s		IAmb		IAmb	21 25 53.0	
KIRV	**Kirov** comp=Z,12nm,0.5s,baz=325,slow=8.1,SNR=6.0	**20.20 110**	P		Pn	21 25 47.7	-0.2
KIRV	comp=Z,45nm,21.6s,baz=320,slow=37		LR		LR	21 33 41.3	
KIRV	**Kirov**	**20.20 110**	*ce*P		Pn	21 25 47.5	-0.4
CLL	**Collm**	**20.22 176**	*e*P		**P**	**21 25 47.0**	**+0.6**
CLL			*i*			21 25 53.1	
CLL	**Collm**	**20.22 176**	*e*P		**P**	**21 25 47.0**	**+0.6**
CLL			*i*			21 25 53.1	
CLL	**Collm**	**20.22 176**	P		Pn	21 25 47.7	-0.5
UCC	**Uccle**	**20.93 192**	P		**P**	**21 25 54.6**	**+0.5**
UCC	comp=Z,8.0nm,0.6s		pmax		pmax		
UCC	**Uccle**	**20.93 192**	P		**P**	**21 25 54.6**	**+0.5**
UCC	comp=Z,7.7nm,0.6s		IAmb		IAmb	21 26 08.9	
CHVC	**Chvalec**	**21.05 171**	*e*P		**P**	**21 25 58.3**	**+2.9**
OSTC	**Ostas**	**21.09 171**	*e*P		**P**	**21 26 00.0**	**+4.2**
DPC	**Dobruska-Polom**	**21.30 171**	*e*P		**P**	**21 26 01.0**	**+2.9**
DPC	**Dobruska-Polom**	**21.30 171**	*e*P		**P**	**21 26 01.0**	**+2.9**
SFJD	**Kangerlussuaq** comp=Z,67nm,19.8s,baz=30,slow=33	**21.43 289**	LR		LR	21 33 00.8	
PRU	**Pruhonice**	**21.58 174**	*e*P		P	21 26 15.1	+14
PRU	**Pruhonice**	**21.58 174**	*e*P		P	21 26 15.1	+14
KRLC	**Kraliky**	**21.59 170**	*e*P		**P**	**21 26 03.4**	**+2.1**
KRLC	**Kraliky**	**21.59 170**	*e*P		**P**	**21 26 03.4**	**+2.1**
OJC	**Ojcow**	**21.66 165**	P		**P**	**21 26 02.9**	**+0.9**
OJC	comp=Z,18nm,1.1s		pmax		pmax		
OJC	**Ojcow**	**21.66 165**	P		**P**	**21 26 02.9**	**+0.9**
OJC	comp=Z,18nm,1.1s		IAmb		IAmb	21 26 14.0	
OKC	**Ostrava-Krasne**	**21.92 168**	*e*P		**P**	**21 26 09.8**	**+5.1**
OKC	**Ostrava-Krasne**	**21.92 168**	*e*P		**P**	**21 26 09.8**	**+5.1**
MORC	**Moravsky Berou**	**21.94 169**	⇑P		**P**	**21 26 07.6**	**+2.6**
MORC	**Moravsky Berou**	**21.94 169**	*e*PG		**P**	**21 26 06.2**	**+1.2**
MORC	**Moravsky Berou**	**21.94 169**	*e*P		**P**	**21 26 06.7**	**+1.7**
MORC	**Moravsky Berou**	**21.94 169**	⇑P		**P**	**21 26 07.6**	**+2.6**
MORC	**Moravsky Berou**	**21.94 169**	P		**P**	**21 26 06.3**	**+1.4**
EUNU	**Eureka**	**22.23 333**	P		**P**	**21 26 06.2**	**-1.8**
EUNU	comp=Z,11nm,1.0s		IAmb		IAmb	21 26 12.1	
VRAC	**Vranov** comp=Z,4.1nm,0.7s,baz=3.0,slow=11,SNR=2.8	**22.35 170**	P		**P**	**21 26 11.8**	**+2.4**
VRAC	**Vranov**	**22.35 170**	⇑P		**P**	**21 26 12.9**	**+3.5**
VRAC	**Vranov**	**22.35 170**	*e*P		**P**	**21 26 13.3**	**+3.9**
VRAC	**Vranov**	**22.35 170**	⇑P		**P**	**21 26 12.9**	**+3.5**
AKASG	**Malin Array Be** comp=Z,4.8nm,0.6s,baz=345,slow=12,SNR=5.0	**22.39 149**	P		**P**	**21 26 11.3**	**+1.6**
AKASG	comp=Z,54nm,20.0s,baz=310,slow=34		LR		LR	21 33 58.2	
AKASG	**Malin Array Be**	**22.39 149**	P		**P**	**21 26 09.8**	**+0.1**
AKBB	**Malin Array Si**	**22.39 149**	*ce*P		**P**	**21 26 11.3**	**+1.5**
AKBB	comp=Z,7.0nm,0.6s		pmax		pmax		
AKBB	**Malin Array Si**	**22.39 149**	P		**P**	**21 26 10.7**	**+0.9**
AKBB	comp=Z,25nm,1.4s		IAmb		IAmb	21 26 20.5	
KHC	**Kasperske Hory**	**22.41 176**	*e*P		**P**	**21 26 16.9**	**+6.8**
KHC	**Kasperske Hory**	**22.41 176**	*e*P		**P**	**21 26 16.9**	**+6.8**
LVV	**L'vov**	**22.50 158**	*e*P		**P**	**21 26 09.9**	**-1.0**
LVV			*e*S		**S**	**21 30 11.7**	**-6.7**
LVV	comp=Z,100nm,10.0s		MLR		MLR		
LPSR	**Galich'ya Gora**	**22.57 132**	*e*P		**P**	**21 26 12.7**	**+1.0**
LPSR	comp=Z,30nm,1.0s		pmax		pmax		
KRUC	**Moravsky**	**22.59 171**	*e*P		**P**	**21 26 14.7**	**+2.8**
GEC2	**GERESS Array S**	**22.70 175**	P		**P**	**21 26 14.2**	**+1.0**
GERES	**GERESS Array B** comp=Z,0.6nm,0.5s,baz=357,slow=10,SNR=8.8	**22.70 175**	P		**P**	**21 26 16.2**	**+3.0**
GERES	**GERESS Array B**	**22.70 175**	P		**P**	**21 26 14.4**	**+1.2**
GERES	**GERESS Array B**	**22.70 175**	P		**P**	**21 26 14.4**	**+1.2**
LANS	**Liptovska Anna**	**22.70 166**	*e*P		**P**	**21 26 20.3**	**+7.2**
LANS	**Liptovska Anna**	**22.70 166**	*e*P		**P**	**21 26 20.3**	**+7.2**
CKRC	**Cesky Krumlov**	**22.74 174**	*e*P		**P**	**21 26 16.7**	**+3.1**
CRVS	**Cervenica-Dubn**	**23.12 162**	*e*P		P	21 26 26.0	+8.5
CRVS	**Cervenica-Dubn**	**23.12 162**	*e*P		P	21 26 26.0	+8.5
KOLS	**Kolonicke sedl**	**23.17 161**	*e*P		**P**	**21 26 21.7**	**+3.7**
KOLS			*e*			21 26 26.6	
KOLS	**Kolonicke sedl**	**23.17 161**	*e*		**P**	**21 26 21.7**	**+3.7**
KOLS	**Kolonicke sedl**	**23.17 161**	*e*P		P	21 26 26.6	+8.6
CONA	**Conrad Observa** comp=Z,1.0nm,0.4s	**23.69 172**	*e*P		**P**	**21 26 26.3**	**+3.0**
VSR	**Storozhevoye** comp=Z,10.0nm,0.7s	**23.91 133**	*e*P		**P**	**21 26 30.7**	**+5.4**
VSR			pmax		pmax		
VORD	**Divnogorie**	**24.18 133**	*e*P		**P**	**21 26 30.9**	**+3.1**
VORD	comp=Z,10.0nm,0.7s		pmax		pmax		
NRIK	**Noril'sk**	**24.19 57**	*ce*P		**P**	**21 26 29.6**	**+1.8**
NRIK	comp=Z,3.0nm,1.3s		pmax		pmax		
NRIK	**Noril'sk**	**24.19 57**	P		**P**	**21 26 28.6**	**+0.7**
KBA	**Koelnbreinsper** comp=Z,0.5nm,0.3s	**24.46 176**	*e*P		**P**	**21 26 33.9**	**+3.3**
VRH	**Novokhopyorsk**	**24.54 129**	*e*P		**P**	**21 26 34.2**	**+3.1**
VRH	comp=Z,20nm,0.7s		pmax		pmax		
SORM	**Soroca**	**24.74 152**	⇑P		**P**	**21 26 35.7**	**+2.8**
SORM	**Soroca**	**24.74 152**	⇑P		**P**	**21 26 35.7**	**+2.8**
ARU	**Arti** comp=Z,2.9nm,0.6s,baz=318,slow=8.8,SNR=17	**24.79 102**	P		**P**	**21 26 35.1**	**+1.8**
ARU	comp=Z,79nm,19.2s,baz=309,slow=37		LR		LR	21 36 24.2	
ARU	**Arti**	**24.79 102**	*c i* P		**P**	**21 26 34.5**	**+1.2**
ARU			S		**S**	**21 30 59.4**	**+3.1**
ARU	comp=Z,7.0nm,0.6s		pmax		pmax		
ARU	**Arti**	**24.79 102**	P		**P**	**21 26 34.0**	**+0.7**
BURAR	**Bucovina Array**	**24.81 157**	P		**P**	**21 26 35.9**	**+2.1**
BURAR	comp=Z,4.7nm,0.8s		IAmb		IAmb	21 26 49.7	
BELG	**Belogornoye** comp=Z,11nm,0.7s,baz=290,slow=5.2,SNR=2.5	**25.01 120**	P		**P**	**21 26 38.9**	**+3.5**
BELG	comp=Z,57nm,19.6s,baz=309,slow=36		LR		LR	21 36 01.6	
BELG	**Belogornoye** comp=Z,3.0nm,1.1s	**25.01 120**	*e*P		**P**	**21 26 37.9**	**+2.6**
BELG			pmax		pmax		
SVE	**Sverdlovsk** comp=Z,8.0nm,0.7s	**25.11 99**	*e*P		P	21 26 44.8	+8.5
SVE			pmax		pmax		
DRGR		**25.34 161**	⇑P		P	21 26 50.0	+12
DRGR		**25.34 161**	⇑P		P	21 26 50.0	+12
BIZ	**Bicaz**	**25.59 156**	⇑P		**P**	**21 26 45.5**	**+4.9**
SIRR	**Siria**	**25.75 163**	⇑P		**P**	**21 26 45.7**	**+3.6**
TESR	**Tescani**	**26.08 155**	⇑P		P	21 26 56.3	+11
VRI	**Vrincioaia**	**26.73 155**	⇑P		P	21 27 08.5	+18
CFR	**Carcaliu**	**27.60 153**	⇑P		**P**	**21 27 04.7**	**+5.9**
CFR	**Carcaliu**	**27.60 153**	⇑P		**P**	**21 27 04.7**	**+5.9**
ANN	**Anapa**	**29.60 140**	*e*P		**P**	**21 27 14.5**	**-2.0**
ANN	comp=Z,41nm,1.2s		pmax		pmax		
AKTO	**Aktyubinsk** comp=Z,0.6nm,0.4s,baz=321,slow=8.3,SNR=2.1	**29.77 110**	P		**P**	**21 27 19.4**	**+1.3**
AKTO	comp=Z,58nm,20.5s,baz=296,slow=35		LR		LR	21 38 43.4	
BRVK	**Borovoye**	**31.33 94**	*e*P		**P**	**21 27 33.0**	**+1.2**
BRVK	comp=Z,3.0nm,1.5s		pmax		pmax		
ABKAR	**Akbulak array**	**31.39 109**	P		**P**	**21 27 33.3**	**+1.0**
ABKAR	**Akbulak array**	**31.39 109**	P		**P**	**21 27 33.1**	**+0.7**
ABKAR	comp=Z,2.8nm,0.8s		IAmb		IAmb	21 27 42.6	
KIV	**Kislovodsk**	**31.55 134**	*e*P		**P**	**21 27 36.4**	**+2.5**
KIV	comp=Z,6.0nm,1.0s		pmax		pmax		
KIV	comp=Z,80nm,15.0s		MLR		MLR		
TIXI	**Tiksi**	**31.66 32**	⇑*e*P		**P**	**21 27 35.3**	**+0.8**
KBZ	**Khabaz** comp=Z,42nm,18.2s,baz=45,slow=38	**31.82 133**	LR		LR	21 41 09.5	
ESDC	**Sonseca Array** comp=Z,0.7nm,0.8s,baz=354,slow=7.7,SNR=5.4	**32.74 202**	P		**P**	**21 27 45.9**	**+1.6**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.5s,baz=342,slow=9.1,SNR=2.5	**35.21 80**	P		**P**	**21 28 06.3**	**+0.7**
ZALV	comp=Z,34nm,19.1s,baz=2.0,slow=45		LR		LR	21 47 38.2	
GNI	**Garni**	**35.64 133**	*i* P		**P**	**21 28 12.6**	**+2.9**
GNI	comp=Z,16nm,1.6s		pmax		pmax		
BILL	**Bilibino**	**39.79 14**	*i* P		**P**	**21 28 42.9**	**-1.3**
BILL			*i*			21 30 12.9	
BILL			*i*			21 30 47.1	
BILL	comp=Z,2.0nm,0.9s		pmax		pmax		
KK31	**Karatay Array** comp=Z,3.0nm,0.6s	**40.17 102**	P		**P**	**21 28 49.1**	**+1.4**
KK31			pmax		pmax		
KK31	**Karatay Array**	**40.17 102**	P		**P**	**21 28 49.1**	**+1.4**
KK31	comp=Z,2.6nm,0.6s		IAmb		IAmb	21 28 53.6	
KKAR	**Karatay Array** comp=Z,3.0nm,0.6s	**40.17 102**	P		**P**	**21 28 48.4**	**+0.8**
KKAR			pmax		pmax		
KKAR	**Karatay Array**	**40.17 102**	P		**P**	**21 28 48.4**	**+0.8**
KKAR	**Karatay Array**	**40.17 102**	P		**P**	**21 28 49.5**	**+1.9**
KKAR	comp=Z,2.6nm,0.6s		IAmb		IAmb	21 28 53.6	
MK31	**Makanchi Array**	**40.62 88**	P		**P**	**21 28 52.6**	**+1.2**
MK31	comp=Z,1.0nm,1.0s		pmax		pmax		
MK31	**Makanchi Array**	**40.62 88**	P		**P**	**21 28 52.6**	**+1.2**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=317,slow=7.7,SNR=5.3	**40.62 88**	P		**P**	**21 28 52.3**	**+0.9**
MKAR	comp=Z,1.1nm,1.0s,baz=328,slow=7.3,SNR=5.4		PP		**PnPn**	**21 30 29.2**	**+0.8**
MKAR	**Makanchi Array**	**40.62 88**	*ce*P		**P**	**21 28 52.5**	**+1.1**
RDOG	**Red Dog Mine**	**40.70 357**	P		**P**	**21 28 52.5**	**+0.8**
RDOG	comp=Z,14nm,1.3s		IAmb		IAmb	21 28 54.6	
COLD	**Coldfoot**	**41.02 349**	P		**P**	**21 28 53.8**	**-0.6**
COLD	comp=Z,3.0nm,0.7s		IAmb		IAmb	21 28 55.7	
YKA	**Yellowknife Ar** comp=Z,31nm,18.8s,baz=0.0,slow=36	**41.20 325**	LR		LR	21 45 31.0	
MOY	**Mondy**	**42.15 68**	*e*P		**P**	**21 29 06.3**	**+2.3**
MOY	comp=Z,16nm,2.4s		pmax		pmax		
I23K	**Minto, Yukon-K**	**43.02 348**	P		**P**	**21 29 11.0**	**+0.2**
I23K	comp=Z,7.2nm,1.4s		IAmb		IAmb	21 29 13.5	
MDM	**Murphy Dome**	**43.13 347**	P		**P**	**21 29 12.1**	**+0.3**
MDM	comp=Z,5.3nm,1.1s		IAmb		IAmb	21 29 13.7	
KDJ	**Kajisay**	**43.15 96**	P		**P**	**21 29 13.6**	**+1.3**
KDJ	comp=Z,2.0nm,1.0s		pmax		pmax		
KDJ	**Kajisay**	**43.15 96**	P		**P**	**21 29 13.6**	**+1.3**
IL31		**43.22 346**	IAmb		IAmb	21 29 14.1	
ILAR	comp=Z,3.7nm,0.9s **Eielson Array** comp=Z,3.2nm,0.9s,baz=2.0,slow=6.8,SNR=28	**43.22 346**	P		**P**	**21 29 13.1**	**+0.7**
MLY	**Manley**	**43.23 349**	P		**P**	**21 29 13.3**	**+0.8**
SEY	**Seymchan** comp=Z,2.9nm,0.8s,baz=345,slow=10,SNR=4.5	**43.28 25**	P		**P**	**21 29 12.8**	**-0.1**
CCB	**Clear Creek Bu**	**43.41 347**	P		**P**	**21 29 13.8**	**-0.1**
HDA	**Harding Lake**	**43.59 346**	P		**P**	**21 29 14.9**	**-0.4**
HDA	comp=Z,2.9nm,0.8s		IAmb		IAmb	21 29 16.7	
WRH	**Wood River Hil**	**43.61 347**	P		**P**	**21 29 14.1**	**-1.3**
DOT	**Dot Lake**	**44.10 344**	P		**P**	**21 29 20.7**	**+1.2**
DOT	comp=Z,4.3nm,1.0s		IAmb		IAmb	21 29 21.4	
BCAR	**Beaver Creek A**	**44.47 343**	P		**P**	**21 29 23.2**	**+0.8**
L27K	**Beaver Creek,**	**44.48 343**	P		**P**	**21 29 22.2**	**-0.3**
L27K	comp=Z,2.9nm,1.0s		IAmb		IAmb	21 29 24.6	
WMQ	**Urumqi**	**45.00 85**	*e*P		**P**	**21 29 29.4**	**+2.5**
I62A	**Tamworth**	**46.77 280**	P		**P**	**21 29 40.9**	**+0.1**
I62A	comp=Z,7.1nm,1.1s		IAmb		IAmb	21 29 41.8	
TGL	**Tana Glacier**	**46.84 343**	P		**P**	**21 29 40.2**	**-1.1**
CRQM	**Cirque**	**46.87 343**	P		**P**	**21 29 39.9**	**-1.7**
YAH	**Yahtse**	**47.12 342**	P		**P**	**21 29 42.8**	**-0.9**
SONM	**Songino Array** comp=Z,1.4nm,0.7s,baz=321,slow=8.9,SNR=9.2	**47.16 66**	P		**P**	**21 29 45.5**	**+1.4**
SONM	comp=Z,1.0nm,0.8s		pmax		pmax		
SONM	**Songino Array**	**47.16 66**	P		**P**	**21 29 44.4**	**+0.4**
ULN	**Ulaanbaatar**	**47.33 66**	*ce*P		**P**	**21 29 46.9**	**+1.5**
ULN	comp=Z,7.0nm,1.0s		pmax		pmax		
ULN	**Ulaanbaatar**	**47.33 66**	P		**P**	**21 29 47.2**	**+1.9**
ULN	comp=Z,6.3nm,1.0s		IAmb		IAmb	21 29 48.0	
SVW2	**Sparrevohn**	**47.42 351**	P		**P**	**21 29 45.9**	**+0.1**
HIN	**Hinchinbrook I**	**47.52 345**	P		**P**	**21 29 46.4**	**-0.1**
ULM	**Lac du Bonnet** comp=Z,39nm,19.7s,baz=355,slow=35	**48.20 305**	LR		LR	21 49 24.8	
SADO	**Sadowa** comp=Z,44nm,18.1s,baz=336,slow=34	**48.38 288**	LR		LR	21 48 25.6	
KDAK	**Kodiak Island** comp=Z,2.6nm,0.7s,baz=18,slow=3.2,SNR=1.8	**50.56 349**	P		**P**	**21 30 09.6**	**-0.2**
GTA	**Gaotai**	**52.82 76**	*e*P		**P**	**21 30 29.4**	**+2.3**
GTA			pP		PcP	21 30 36.8	-60
GTA	comp=Z,4.0nm,1.2s		pmax		pmax		
GTA	comp=Z,89nm,5.5s		pmax		pmax		
GTA	comp=Z,69nm,15.3s		L		L		
GTA	comp=Z,80nm,16.0s		L		L		
GTA	comp=Z,72nm,15.3s		L		L		
HHC	**Hu-ho-hao-te**	**55.05 66**	*e*P		**P**	**21 30 42.5**	**-0.8**
HHC	comp=Z,15nm,1.1s		pmax		pmax		
HHC	comp=Z,75nm,6.2s		pmax		pmax		
U54A	**Nelsons Funny**	**56.74 286**	P		**P**	**21 30 54.5**	**-1.0**
LZH	**Lanzhou**	**57.12 74**	*e*P		**P**	**21 30 58.0**	**-0.3**
LZH	comp=Z,22nm,1.1s		pmax		pmax		
TOA0	**Torodi Ar. Sit**	**58.54 191**	P		**P**	**21 31 09.2**	**+1.1**
TOA0	comp=Z,5.8nm,0.9s		IAmb		IAmb	21 31 10.9	
TORD	**Torodi Ar. Bea** comp=Z,4.9nm,0.8s,baz=356,slow=7.3,SNR=16	**58.54 191**	P		**P**	**21 31 09.7**	**+1.6**
TORD	**Torodi Ar. Bea**	**58.54 191**	P		**P**	**21 31 09.1**	**+0.9**
TORD	comp=Z,4.2nm,0.8s		IAmb		IAmb	21 31 10.9	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.3s,baz=67,slow=5.1,SNR=2.6	**58.61 312**	P		**P**	**21 31 08.2**	**-0.6**
KSRS	**Korea Array** comp=Z,12nm,18.5s,baz=250,slow=40	**62.72 53**	LR		LR	22 02 57.5	
ANMO	**Albuquerque**	**65.25 307**	⇑*i*P		**P**	**21 31 53.5**	**+0.1**
ANMO	comp=Z,2.0nm,1.2s		pmax		pmax		
MJAR	**Matsushiro Ar** comp=Z,0.6nm,0.4s,baz=350,slow=6.2,SNR=4.3	**66.06 45**	P		**P**	**21 31 58.7**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.

IDC ***18*** *22:35:10.3±1.1,11°.33S×163°.26E,h0km,mb3.9/8, mb1 4.1/11,mb1mx3.9/35,mbtmp3.9/11,ML3.9/3,MS3.3/6, Ms1 3.2/6,ms1mx2.9/29,Error ellipse: s-maj=25.2km s-min=22.6km az=112.0*

ISC 18 22:35:15.3±0.8,11°.49S±0°.09×163°.3E±0°.1,h35km,n20, σ1§59/13,mb3.8/8,MS3.2/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.88**	**301**	Pn	**Pn**	**22 36 11.8**	**-0.7**
	22nm,0.3s,baz=173,slow=1.7,SNR=4.6						
HNR				Sn	**Sn**	**22 36 56.3**	**-0.6**
	32nm,0.3s,baz=233,slow=7.2,SNR=4.3						
HNR				LR	LR	22 37 42.3	
	comp=Z,421nm,18.4s,baz=118,slow=40						
DZM	**Mont Dzumac**	**10.95**	**164**	Pn	**Pn**	**22 37 49.8**	**+0.2**
	0.8nm,0.3s,baz=26,slow=10.0,SNR=15						
DZM				Sn	**Sn**	**22 39 47.7**	**-3.3**
	0.4nm,0.3s,baz=47,slow=16,SNR=1.4						
DZM				LR	LR	22 41 27.4	
	comp=Z,133nm,20.3s,baz=346,slow=34						
PMG	**Port Moresby**	**16.01**	**276**	LR	LR	22 45 00.5	
	comp=Z,92nm,20.3s,baz=64,slow=37						
CTA	**Charters Tower**	**18.49**	**240**	P	**Pn**	**22 39 29.4**	**+0.5**
	0.1nm,0.3s,baz=52,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**28.50**	**221**	P	**P**	**22 41 09.9**	**+2.4**
	1.8nm,0.7s,baz=39,slow=14,SNR=2.0						
STKA				LR	LR	22 50 57.2	
	comp=Z,49nm,21.2s,baz=201,slow=33						
WRA	**Warramunga Arr**	**29.09**	**250**	P	**P**	**22 41 12.1**	**-0.8**
	1.1nm,0.5s,baz=78,slow=9.0,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**29.97**	**6**	T	T	23 13 01.2	
	baz=188,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**29.98**	**6**	T	T	23 12 43.8	
	baz=188,slow=76,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.99**	**6**	T	T	23 12 51.9	
	baz=188,slow=76,SNR=30						
ASAR	**Alice Springs**	**30.46**	**243**	P	**P**	**22 41 23.9**	**-1.1**
	2.7nm,0.8s,baz=72,slow=9.8,SNR=19						
H11N1	**WAKE ISLAND Hy**	**31.20**	**7**	T	T	23 14 23.3	
	baz=188,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**31.21**	**7**	T	T	23 14 33.5	
	baz=188,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**31.22**	**7**	T	T	23 14 25.3	
	baz=188,slow=76,SNR=14						
KSRS	**Korea Array**	**58.92**	**327**	LR	LR	23 09 25.7	
	comp=Z,16nm,18.7s,baz=156,slow=35						
VNDA	**Vanda**	**66.03**	**180**	P	**P**	**22 45 59.9**	**+1.9**
	0.5nm,0.7s,baz=329,slow=6.5,SNR=3.9						
SONM	**Songino Array**	**77.62**	**325**	P	**P**	**22 47 08.1**	**-0.1**
	0.3nm,0.5s,baz=131,slow=6.1,SNR=2.2						
ILAR	**Eielson Array**	**84.70**	**19**	P	**P**	**22 47 44.4**	**-0.8**
	0.5nm,0.6s,baz=224,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**88.14**	**50**	P	**P**	**22 48 03.8**	**+0.8**
	0.3nm,0.5s,baz=246,slow=5.5,SNR=2.6						
PFO	**Pinyon Flats O**	**88.30**	**55**	LR	LR	23 21 23.3	
	comp=Z,19nm,19.5s,baz=209,slow=3.1						
MKAR	**Makanchi Array**	**92.21**	**317**	P	**P**	**22 48 20.9**	**-0.7**
	0.3nm,0.7s,baz=91,slow=6.2,SNR=2.8						

IDC 18 22:49:40.0±14.0,11°.59S×163°.99E,h0km,mb4.0/3, mb1 4.0/3,mb1mx3.7/24,mbtmp3.9/3,MS3.2/1,Ms1 3.2/1, ms1mx2.6/26,Error ellipse: s-maj=448.3km s-min=46.5km az=120.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**30.01**	**5**	T	T	23 27 30.6	
	baz=188,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**30.01**	**5**	T	T	23 27 27.1	
	baz=188,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**30.03**	**5**	T	T	23 27 21.6	
	baz=188,slow=76,SNR=10						
ASAR	**Alice Springs**	**31.01**	**243**	P	P	22 55 59.5	-0.1
	2.0nm,0.8s,baz=71,slow=9.8,SNR=13						
H11N1	**WAKE ISLAND Hy**	**31.24**	**5**	T	T	23 29 01.2	
	baz=188,slow=76,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**31.25**	**5**	T	T	23 28 57.4	
	baz=188,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**31.26**	**5**	T	T	23 28 53.3	
	baz=188,slow=76,SNR=5.5						
KSRS	**Korea Array**	**59.37**	**327**	LR	LR	23 23 06.2	
	comp=Z,18nm,19.3s,baz=206,slow=34						
SONM	**Songino Array**	**78.10**	**324**	P	P	23 01 39.9	-1.0
	0.6nm,0.6s,baz=123,slow=5.3,SNR=3.1						
MKAR	**Makanchi Array**	**92.74**	**317**	P	P	23 02 55.5	+1.2
	0.5nm,0.7s,baz=103,slow=6.0,SNR=5.1						

ANF ***18*** *23:02:57.9±0.6,35°.80N×97°.48W,h8km±4km,ML3.5/8, Error ellipse: s-maj=3.7km s-min=2.3km az=14.0*

IASPEI ***18*** *23:02:58.1±0.9,35°.79N±0°.02×97°.50W±0°.03,h9km±6km, Error ellipse: s-maj=4.3km s-min=3.3km az=98.4,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

TUL ***18*** *23:02:58±1.2,35°.77N±0°.02×97°.48W±0°.02,h7km±7km, ML3.0,mb_Lg2.9/79(NEIC),Error ellipse: s-maj=2.9km s-min=1.8km az=124.0*

NEIC ***18*** *23:02:58.1±0.8,35°.79N±0°.01×97°.50W±0°.02,h7km±7km, Error ellipse: s-maj=2.8km s-min=1.9km az=122.0*

ISC 18 23:02:58.1±0.9,35°.80N±0°.02×97°.51W±0°.02,h9km±6km, n83,σ0§40/76,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**94**		**Pg**	**23 02 59.8**	**0.0**
OK029				Sg	**Sg**	**23 03 01.0**	**0.0**
BCOK	**Bluff Creek, N**	**0.17**	**211**		**Pg**	**23 03 01.7**	**+0.1**
BCOK				Sg	**Sg**	**23 03 04.3**	**+0.3**
OK009	**Oakdale Elemen**	**0.23**	**163**		**Pg**	**23 03 02.5**	**-0.2**
OK009				Sg	**Sg**	**23 03 05.8**	**0.0**
OK025	**Westminster Rd**	**0.26**	**148**		**Pg**	**23 03 03.0**	**-0.2**
OK025				Sg	**Sg**	**23 03 06.6**	**-0.1**
OK005	**Luther M Schoo**	**0.29**	**119**	Pg	**Pg**	**23 03 03.8**	**-0.1**
OK005				Sg	**Sg**	**23 03 07.9**	**+0.1**
OK001	**Jones High Sch**	**0.29**	**143**	Pg	**Pg**	**23 03 03.7**	**-0.2**
OK001				Sg	**Sg**	**23 03 07.8**	**-0.1**
OKCFA	**Oklahoma City**	**0.39**	**173**		**Pg**	**23 03 05.3**	**-0.3**
OKCFA				Sg	**Sg**	**23 03 10.7**	**0.0**
OKCFA	**Oklahoma City**	**0.39**	**173**	P	**Pg**	**23 03 05.3**	**-0.3**
	baz=354						
OKCFA				S	**Sg**	**23 03 10.7**	**0.0**
	baz=354						
OKCFA	**Oklahoma City**	**0.39**	**173**	P		23 03 05.3	
	baz=354						
OKCFA				S		23 03 10.7	
	baz=354						
OKCSW	**OKLAHOMA CITY**	**0.40**	**172**		**Pg**	**23 03 05.6**	**-0.3**
OKCSW				Sg	**Sg**	**23 03 11.1**	**0.0**
FNO	**Franklin**	**0.55**	**171**		**Pg**	**23 03 08.3**	**-0.4**
FNO				Sg	**Sg**	**23 03 15.9**	**0.0**
OK031	**S. Brethren Rd**	**0.56**	**74**	Pg	**Pg**	**23 03 08.9**	**0.0**
OK031				Sg	**Sg**	**23 03 16.7**	**+0.3**
OK030	**Cody Creek RV**	**0.60**	**77**	Pg	**Pg**	**23 03 09.5**	**-0.2**
OK030				Sg	**Sg**	**23 03 17.9**	**+0.4**
QUOK	**Quay**	**0.74**	**60**		**Pg**	**23 03 12.3**	**-0.1**
QUOK				Sg	**Sg**	**23 03 22.6**	**+0.5**
CROK	**Carrier**	**0.80**	**331**	Pg	**Pb**	**23 03 14.1**	**-0.2**
BLOK	**Blackwell**	**0.99**	**14**	Pg	**Pb**	**23 03 17.4**	**-0.1**
GC02	**Grant County #**	**1.09**	**345**		**Pb**	**23 03 18.9**	**-0.2**
OK032	**Salt Plains WL**	**1.15**	**331**		**Pg**	**23 03 20.0**	**-0.3**
KAN13	**South Haven SW**	**1.21**	**1**		**Pg**	**23 03 21.4**	**0.0**
X34A	**Smith Ranch, M**	**1.23**	**193**		**Pn**	**23 03 21.0**	**-0.4**
KAN17	**Caldwell West**	**1.26**	**351**		**Pg**	**23 03 22.0**	**-0.2**
KAN09	**Caldwell North**	**1.34**	**356**		**Pg**	**23 03 23.4**	**-0.3**
KAN05	**Bluff City Nor**	**1.34**	**347**		**Pg**	**23 03 23.5**	**-0.3**
U32A	**Winter Ranch,**	**1.34**	**296**		**Pb**	**23 03 23.2**	**-0.3**
U32A	**Winter Ranch,**	**1.34**	**296**	P	**Pb**	**23 03 23.3**	**-0.2**
	baz=116						
U32A				S	**Sg**	**23 03 42.1**	**+0.8**
	baz=116						
U32A	**Winter Ranch,**	**1.34**	**296**	P		23 03 23.3	
	baz=116						
U32A				S		23 03 42.1	
	baz=116						
T35A	**Sooner Cattle**	**1.37**	**35**		**Pn**	**23 03 23.4**	**-0.1**
	baz=216						
T35B				S	**Sg**	**23 03 42.0**	**-0.2**
	baz=216						
T35B	**Sooner Cattle**	**1.37**	**35**	P		23 03 23.4	
	baz=216						
T35B				S		23 03 42.0	
	baz=216						
TUL1	**Leonard**	**1.40**	**85**	P	**Pn**	**23 03 22.8**	**-1.0**
	baz=266						
TUL1				S	**Sb**	**23 03 41.7**	**-0.6**
	baz=266						
TUL1	**Leonard**	**1.40**	**85**	P		23 03 22.8	
	baz=266						
TUL1				S		23 03 41.7	
	baz=266						
KAN10	**Anthony SW Sta**	**1.41**	**340**		**Pb**	**23 03 24.2**	**-0.3**
KS20	**Mayfield South**	**1.43**	**358**		**Pb**	**23 03 24.8**	**-0.1**
KS20				lAmb_Lg		23 03 46.3	
	comp=Z,78nm,0.7s						
WMOK	**Wichita Mounta**	**1.49**	**225**		**Pn**	**23 03 25.0**	**-0.1**
WMOK	**Wichita Mounta**	**1.49**	**225**	P	**Pn**	**23 03 25.0**	**-0.1**
	baz=44						
WMOK	**Wichita Mounta**	**1.49**	**225**	P		23 03 25.0	
	baz=44						
KAN16	**Harper SW Stat**	**1.49**	**343**		**Pb**	**23 03 25.9**	**-0.1**
LOOK	**Love County**	**1.82**	**171**		**Pn**	**23 03 30.3**	**+0.7**
LOOK				lAmb_Lg		23 03 55.7	
	comp=Z,36nm,0.9s						
X37A	**Clayton**	**2.12**	**124**		**Pn**	**23 03 34.2**	**+0.4**
X37A				lAmb_Lg		23 04 04.2	
	comp=Z,38nm,0.9s						
X37A	**Clayton**	**2.12**	**124**	P	**Pn**	**23 03 34.0**	**+0.2**
	baz=305						
X37A	**Clayton**	**2.12**	**124**	P		23 03 34.0	
	baz=305						
Z35A	**Perchaven, San**	**2.47**	**175**	Pn	**Pn**	**23 03 39.0**	**+0.4**
U38A	**Gravette**	**2.60**	**75**		**Pn**	**23 03 40.8**	**+0.4**
R32A	**Long Quarter,**	**2.79**	**340**		**Pn**	**23 03 44.1**	**+1.1**
HHAR	**Hobbs**	**2.93**	**79**		**Pn**	**23 03 45.8**	**+0.9**
W39A	**Magazine**	**3.10**	**100**		**Pn**	**23 03 46.9**	**-0.3**
W39A				lAmb_Lg		23 04 40.5	
	comp=Z,34nm,0.8s						
W39A	**Magazine**	**3.10**	**100**	P	**Pn**	**23 03 47.4**	**+0.2**
	baz=282						
W39A	**Magazine**	**3.10**	**100**	P		23 03 47.4	
	baz=282						
Z38A	**Mt. Pleasant**	**3.28**	**140**		**Pn**	**23 03 50.2**	**+0.5**
Z38A				lAmb_Lg		23 04 47.2	
	comp=Z,30nm,0.8s						
MIAR	**Mount Ida**	**3.45**	**110**		**Pn**	**23 03 52.9**	**+0.9**
MIAR				lAmb_Lg		23 04 49.8	
	comp=Z,29nm,0.7s						
MIAR	**Mount Ida**	**3.45**	**110**	S	**Sn**	**23 04 33.9**	**+0.7**
	baz=292						
MIAR	**Mount Ida**	**3.45**	**110**	S		23 04 33.9	
	baz=292						
CBKS	**Cedar Bluff**	**3.50**	**330**		**Pn**	**23 03 52.0**	**-0.8**
CBKS				lAmb_Lg		23 04 53.5	
	comp=Z,24nm,0.8s						
AMTX	**Amarillo**	**3.53**	**256**	Pn	**Pn**	**23 03 53.5**	**+0.2**
ABTX	**Abilene, Hawle**	**3.63**	**210**	Pn	**Pn**	**23 03 54.7**	**+0.2**
ABTX				lAmb_Lg		23 04 55.7	
	comp=Z,25nm,0.7s						
WHTX	**Lake Whitney,**	**3.80**	**179**		**Pn**	**23 03 57.3**	**+0.4**
U40A	**Yellville**	**3.81**	**80**		**Pn**	**23 03 56.8**	**-0.2**
U40A				lAmb_Lg		23 04 58.8	
	comp=Z,34nm,0.7s						
S39A	**Bolivar**	**3.85**	**59**		**Pn**	**23 03 57.6**	**0.0**
S39A				lAmb_Lg		23 05 01.4	
	comp=Z,23nm,0.8s						
S39A	**Bolivar**	**3.85**	**59**	P	**Pn**	**23 03 58.1**	**+0.5**
	baz=242						
S39A	**Bolivar**	**3.85**	**59**	P		23 03 58.1	
	baz=242						
X40A	**Basin Creek Fa**	**4.04**	**108**		**Pn**	**23 04 00.8**	**+0.6**
WLAR	**White Oak Lake**	**4.19**	**119**	lAmb_Lg		23 05 18.3	
	comp=Z,19nm,0.8s						
WHAR	**Wooly Hollow**	**4.28**	**95**	Pn	**Pn**	**23 04 03.6**	**+0.2**
WHAR				lAmb_Lg		23 05 16.6	
	comp=Z,23nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.37**	**87**		**Pn**	**23 04 03.9**	**-0.8**
FCAR				lAmb_Lg		23 05 19.7	
	comp=Z,26nm,0.9s						
MGMO	**Mountain Grove**	**4.43**	**71**	lAmb_Lg		23 05 16.3	
	comp=Z,22nm,0.8s						
MSTX	**Muleshoe**	**4.70**	**249**		**Pn**	**23 04 09.9**	**+0.6**
R40A	**Maddies Statio**	**4.87**	**58**		**Pn**	**23 04 11.9**	**+0.3**
R40A				lAmb_Lg		23 05 33.5	
	comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.95**	**38**		**Pn**	**23 04 12.7**	**+0.1**
P38A				lAmb_Lg		23 05 35.1	
	comp=Z,13nm,0.8s						
435B	**Jarrell**	**5.00**	**181**	lAmb_Lg		23 05 35.8	
	comp=Z,23nm,0.7s						
CCAR	**Cane Creek**	**5.07**	**110**	lAmb_Lg		23 05 51.3	
	comp=Z,34nm,0.9s						
LCAR	**Lake Charles**	**5.16**	**85**	lAmb_Lg		23 05 54.4	
	comp=Z,12nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.19**	**310**		**Pn**	**23 04 15.9**	**-0.2**
KSCO				lAmb_Lg		23 05 48.2	
	comp=Z,15nm,0.9s						
T42A	**Van Buren**	**5.32**	**75**	Pn	**Pn**	**23 04 17.5**	**-0.2**
T42A				lAmb_Lg		23 05 48.8	
	comp=Z,13nm,0.7s						
CCM	**Cathedral Cave**	**5.50**	**64**	lAmb_Lg		23 05 54.9	
	comp=Z,12nm,0.9s						
BGNE	**Belgrade**	**5.62**	**355**	lAmb_Lg		23 06 01.3	
	comp=Z,32nm,0.8s						
P40A	**Paris**	**5.71**	**48**	Pn	**Pn**	**23 04 23.4**	**+0.3**
P40A				lAmb_Lg		23 06 00.0	
	comp=Z,21nm,0.7s						
T25A	**Trinidad**	**5.72**	**286**	lAmb_Lg		23 06 11.6	
	comp=Z,28nm,1.0s						
W45A	**Hickory Valley**	**6.82**	**93**	lAmb_Lg		23 06 47.4	
	comp=Z,20nm,0.8s						
S44A	**Carbondale**	**6.89**	**72**	lAmb_Lg		23 06 37.8	
	comp=Z,20nm,0.8s						
N41A	**Harden Midland**	**7.17**	**45**	lAmb_Lg		23 06 58.0	
	comp=Z,16nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.44**	**63**	lAmb_Lg		23 07 04.3	
	comp=Z,13nm,1.0s						
L40A	**Anonosa**	**7.94**	**36**	lAmb_Lg		23 07 23.9	
	comp=Z,11nm,0.7s						
PHWY	**Pilot Hill**	**8.30**	**314**	lAmb_Lg		23 07 46.1	
	comp=Z,7.2nm,1.0s						
O44A	**Mansfield**	**8.35**	**56**	lAmb_Lg		23 07 23.3	
	comp=Z,16nm,0.8s						
T47A	**Sharon Grove**	**8.47**	**79**	lAmb_Lg		23 07 42.0	
	comp=Z,19nm,1.2s						
L42A	**Oliver, Polo**	**8.70**	**42**	lAmb_Lg		23 07 35.2	
	comp=Z,15nm,0.8s						
JFWS	**Jewell Farm**	**9.06**	**36**	lAmb_Lg		23 07 44.0	
	comp=Z,13nm,0.7s						
WCI	**Wyandotte Cave**	**9.29**	**72**	lAmb_Lg		23 07 56.8	
	comp=Z,7.1nm,0.8s						
BLO	**Bloomington**	**9.36**	**66**	lAmb_Lg		23 08 07.4	
	comp=Z,10nm,0.8s						
SFIN	**Lafayette**	**9.39**	**58**	lAmb_Lg		23 08 04.5	
	comp=Z,9.0nm,0.7s						
K22A	**Casper**	**9.78**	**317**	lAmb_Lg		23 08 26.4	
	comp=Z,15nm,1.1s						
W50A	**Signal Mountai**	**9.96**	**90**	lAmb_Lg		23 08 13.5	
	comp=Z,8.3nm,0.9s						

ANF ***18*** *23:10:16.8±1.3,35°.76N×97°.50W,h8km±8km,ML4.0/12, Error ellipse: s-maj=7.0km s-min=5.7km az=168.0*

TUL ***18*** *23:10:17±0.9,35°.77N±0°.02×97°.48W±0°.05,h7km±7km, ML3.5,mb_Lg3.3/123(NEIC),Error ellipse: s-maj=5.6km s-min=2.7km az=63.0*

NEIC ***18*** *23:10:17.1±1.0,35°.81N±0°.02×97°.47W±0°.05,h8km±7km, Error ellipse: s-maj=6.2km s-min=1.6km az=65.0*

ISC 18 23:10:17.0±0.9,35°.79N±0°.02×97°.49W±0°.02,h9km±5km, n100,σ0§51/63,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.03**	**77**		**Pg**	**23 10 18.6**	**-0.1**
OK029				Sg	**Sg**	**23 10 19.9**	**0.0**
BCOK	**Bluff Creek, N**	**0.17**	**216**		**Pg**	**23 10 20.5**	**0.0**
BCOK				Sg	**Sg**	**23 10 23.1**	**+0.2**
OK009	**Oakdale Elemen**	**0.21**	**165**		**Pg**	**23 10 21.4**	**0.0**
OK025	**Westminster Rd**	**0.24**	**149**		**Pg**	**23 10 21.9**	**0.0**
OK025				Sg	**Sg**	**23 10 25.5**	**+0.3**
OK005	**Luther M Schoo**	**0.28**	**119**		**Sg**	**23 10 27.1**	**+0.8**
OK001	**Jones High Sch**	**0.28**	**144**	Pg	**Pg**	**23 10 22.6**	**0.0**
OK001				Sg	**Sg**	**23 10 26.7**	**+0.3**
OKCFA	**Oklahoma City**	**0.38**	**175**		**Pg**	**23 10 24.1**	**-0.2**
OKCFA				Sg	**Sg**	**23 10 29.5**	**+0.2**
OKCFA	**Oklahoma City**	**0.38**	**175**	P	**Pg**	**23 10 24.2**	**-0.2**
	baz=356,SNR=35						
OKCFA				S	**Sg**	**23 10 29.6**	**+0.2**
	baz=356						
OKCFA	**Oklahoma City**	**0.38**	**175**	P		23 10 24.2	
	baz=356,SNR=35						
OKCFA				S		23 10 29.6	
	baz=356						
OKCSW	**OKLAHOMA CITY**	**0.39**	**174**		**Pg**	**23 10 24.4**	**-0.2**
FNO	**Franklin**	**0.54**	**172**	Pg	**Pg**	**23 10 27.2**	**-0.3**
OK031	**S. Brethren Rd**	**0.55**	**73**		**Pg**	**23 10 27.8**	**+0.1**
OK030	**Cody Creek RV**	**0.59**	**76**		**Pg**	**23 10 28.4**	**0.0**
QUOK	**Quay**	**0.74**	**59**		**Pg**	**23 10 31.0**	**-0.3**
CROK	**Carrier**	**0.82**	**331**	Pg	**Pg**	**23 10 32.9**	**+0.1**
BLOK	**Blackwell**	**0.99**	**13**		**Pg**	**23 10 35.9**	**-0.2**
GC02	**Grant County #**	**1.10**	**344**		**Pg**	**23 10 37.8**	**-0.4**
OK032	**Salt Plains WL**	**1.17**	**330**		**Pg**	**23 10 38.9**	**-0.6**
KAN13	**South Haven SW**	**1.22**	**0**		**Pb**	**23 10 40.1**	**-0.2**
U32A	**Winter Ranch,**	**1.36**	**296**		**Pn**	**23 10 42.2**	**0.0**
U32A	**Winter Ranch,**	**1.36**	**296**	P	**Pn**	**23 10 42.0**	**-0.2**
	baz=116						
U32A				S	**Sn**	**23 11 00.9**	**+0.5**
	baz=116						
U32A	**Winter Ranch,**	**1.36**	**296**	P		23 10 42.0	
	baz=116						
U32A				S		23 11 00.9	
	baz=116						
T35A	**Sooner Cattle**	**1.37**	**35**		**Pn**	**23 10 42.2**	**-0.2**
T35B	**Sooner Cattle**	**1.37**	**35**	P	**Pn**	**23 10 42.2**	**-0.2**
	baz=215,SNR=95						
T35B				S	**Sb**	**23 11 00.7**	**0.0**
	baz=215						
T35B	**Sooner Cattle**	**1.37**	**35**	P		23 10 42.2	
	baz=215,SNR=95						
T35B				S		23 11 00.7	
	baz=215						
TUL1	**Leonard**	**1.38**	**85**	P	**Pn**	**23 10 41.7**	**-0.8**
	baz=265						
TUL1				S	**Sb**	**23 11 00.2**	**-0.7**
	baz=265						
TUL1	**Leonard**	**1.38**	**85**	P		23 10 41.7	
	baz=265						
TUL1				S		23 11 00.2	
	baz=265						
KS20	**Mayfield South**	**1.44**	**358**	lAmb_Lg		23 11 05.1	
	comp=Z,302nm,0.7s						
WMOK	**Wichita Mounta**	**1.49**	**226**		**Pn**	**23 10 43.8**	**-0.2**
WMOK	**Wichita Mounta**	**1.49**	**226**	P	**Pn**	**23 10 43.8**	**-0.2**
	baz=45,SNR=443						
WMOK				S	**Sn**	**23 11 03.5**	**-0.1**
	baz=45						
WMOK	**Wichita Mounta**	**1.49**	**226**	P		23 10 43.8	
	baz=45,SNR=443						
WMOK				S		23 11 03.5	
	baz=45						
KAN16	**Harper SW Stat**	**1.51**	**342**		**Pn**	**23 10 44.6**	**+0.3**
LOOK	**Love County**	**1.81**	**172**		**Pn**	**23 10 49.1**	**+0.6**
LOOK				lAmb_Lg		23 11 14.5	
	comp=Z,122nm,0.9s						
X37A	**Clayton**	**2.11**	**124**		**Pn**	**23 10 52.4**	**-0.1**
X37A				lAmb_Lg		23 11 25.4	
	comp=Z,139nm,0.7s						
X37A	**Clayton**	**2.11**	**124**	P	**Pn**	**23 10 52.9**	**+0.3**
	baz=305,SNR=57						
X37A				S	**Sb**	**23 11 20.2**	**-1.5**
	baz=305						
X37A	**Clayton**	**2.11**	**124**	P		23 10 52.9	
	baz=305,SNR=57						
X37A				S		23 11 20.2	
	baz=305						
Z35A	**Perchaven, San**	**2.46**	**175**		**Pn**	**23 10 58.1**	**+0.8**
Z35A	**Perchaven, San**	**2.46**	**175**	P	**Pn**	**23 10 58.1**	**+0.8**
	baz=356,SNR=17						
Z35A				Sg	**Sb**	**23 11 30.9**	**-0.9**
	baz=356						
Z35A	**Perchaven, San**	**2.46**	**175**	P		23 10 58.1	
	baz=356,SNR=17						
Z35A				Sg		23 11 30.9	
	baz=356						
U38A	**Gravette**	**2.59**	**75**		**Pn**	**23 10 59.7**	**+0.4**
U38A	**Gravette**	**2.59**	**75**	P	**Pn**	**23 11 00.1**	**+0.9**
	baz=256,SNR=49						
U38A	**Gravette**	**2.59**	**75**	P		23 11 00.1	
	baz=256,SNR=49						
R32A	**Long Quarter,**	**2.80**	**340**	Pn	**Pn**	**23 11 03.5**	**+1.4**
HHAR	**Hobbs**	**2.92**	**79**		**Pn**	**23 11 04.0**	**+0.3**
W39A	**Magazine**	**3.08**	**100**		**Pn**	**23 11 06.7**	**+0.8**
W39A				lAmb_Lg		23 12 00.0	
	comp=Z,147nm,0.9s						
W39A	**Magazine**	**3.08**	**100**	P	**Pn**	**23 11 06.4**	**+0.5**
	baz=282,SNR=18						
W39A	**Magazine**	**3.08**	**100**	P		23 11 06.4	
	baz=282,SNR=18						
Z38A	**Mt. Pleasant**	**3.26**	**140**	Pn	**Pn**	**23 11 08.3**	**0.0**
Z38A				lAmb_Lg		23 12 08.5	
	comp=Z,84nm,0.7s						
MIAR	**Mount Ida**	**3.44**	**110**	Pn	**Pn**	**23 11 11.4**	**+0.6**
MIAR				lAmb_Lg		23 12 10.8	
	comp=Z,80nm,0.7s						
MIAR	**Mount Ida**	**3.44**	**110**	P	**Pn**	**23 11 11.6**	**+0.8**
	baz=292,SNR=12						
MIAR				S	**Sn**	**23 11 52.3**	**+0.7**
	baz=292						
MIAR	**Mount Ida**	**3.44**	**110**	P		23 11 11.6	
	baz=292,SNR=12						
MIAR				S		23 11 52.3	
	baz=292						
CBKS	**Cedar Bluff**	**3.51**	**330**		**Pn**	**23 11 12.1**	**+0.3**
CBKS				lAmb_Lg		23 12 11.2	
	comp=Z,65nm,0.8s						
AMTX	**Amarillo**	**3.54**	**256**	Pn	**Pn**	**23 11 13.2**	**+0.8**
AMTX				lAmb_Lg		23 12 18.7	
	comp=Z,64nm,0.7s						
ABTX	**Abilene, Hawle**	**3.63**	**210**	Pn	**Pn**	**23 11 13.7**	**+0.3**
ABTX				lAmb

	comp=Z,40nm,0.8s						
CCM	**Cathedral Cave**	**5.49**	**64**	lAmb_Lg		23 13 19.2	
	comp=Z,65nm,1.1s						
T25A	**Trinidad**	**5.74**	**286**	lAmb_Lg		23 13 27.2	
	comp=Z,79nm,0.8s						
LPAR	**Lepanto**	**5.85**	**90**	lAmb_Lg		23 13 30.7	
	comp=Z,77nm,0.7s						
143A	**Socs Landing,**	**5.91**	**120**	lAmb_Lg		23 13 31.3	
	comp=Z,60nm,0.9s						
OGNE	**Ogallala**	**6.26**	**327**	lAmb_Lg		23 13 38.8	
	comp=Z,40nm,0.8s						
SLM	**Saint Louis**	**6.45**	**62**	lAmb_Lg		23 13 53.1	
	comp=Z,31nm,0.7s						
OXF	**Oxford**	**6.74**	**99**	lAmb_Lg		23 13 54.5	
	comp=Z,30nm,0.7s						
W45A	**Hickory Valley**	**6.80**	**93**	lAmb_Lg		23 14 06.4	
	comp=Z,50nm,0.8s						
Y45A	**Yeager Farm, C**	**6.81**	**104**	lAmb_Lg		23 14 04.5	
	comp=Z,48nm,0.9s						
735A	**Kenedy**	**6.92**	**182**	lAmb_Lg		23 14 15.5	
	comp=Z,44nm,0.9s						
344A	**Westbrook Farm**	**7.10**	**126**	lAmb_Lg		23 14 18.2	
	comp=Z,23nm,0.7s						
N41A	**Harden Midland**	**7.17**	**45**	lAmb_Lg		23 14 16.5	
	comp=Z,55nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.43**	**63**	lAmb_Lg		23 14 15.7	
	comp=Z,54nm,1.1s						
MNTX	**Cornudas Mount**	**7.74**	**240**	lAmb_Lg		23 14 29.3	
	comp=Z,28nm,1.1s						
WVT	**Waverly**	**7.84**	**85**	lAmb_Lg		23 14 38.7	
	comp=Z,21nm,0.9s						
L40A	**Anamosa**	**7.94**	**36**	lAmb_Lg		23 14 39.5	
	comp=Z,36nm,0.8s						
ECSD	**EROS Data Cent**	**7.96**	**5**	lAmb_Lg		23 14 35.1	
	comp=Z,26nm,0.9s						
OLIL	**Olney**	**8.04**	**66**	lAmb_Lg		23 14 52.8	
	comp=Z,26nm,0.8s						
USIN	**University of**	**8.17**	**72**	lAmb_Lg		23 14 44.2	
	comp=Z,35nm,0.8s						
Z47A	**Carrollton**	**8.19**	**106**	lAmb_Lg		23 14 49.5	
	comp=Z,22nm,0.9s						
O44A	**Mansfield**	**8.35**	**56**	lAmb_Lg		23 14 42.2	
	comp=Z,48nm,0.8s						
CLTN	**Cedars of Leba**	**9.05**	**85**	lAmb_Lg		23 15 05.8	
	comp=Z,18nm,1.1s						
JFWS	**Jewell Farm**	**9.06**	**36**	lAmb_Lg		23 15 08.3	
	comp=Z,42nm,0.7s						
WCI	**Wyandotte Cave**	**9.28**	**71**	lAmb_Lg		23 15 17.6	
	comp=Z,34nm,1.0s						
Y49A	**Blount Mountai**	**9.31**	**99**	lAmb_Lg		23 15 15.4	
	comp=Z,17nm,1.0s						
BLO	**Bloomington**	**9.35**	**66**	lAmb_Lg		23 15 17.2	
	comp=Z,41nm,0.9s						
PV13	**Radium Mtn., P**	**9.37**	**288**	lAmb_Lg		23 15 31.7	
	comp=Z,16nm,1.1s						
SFIN	**Lafayette**	**9.38**	**58**	lAmb_Lg		23 15 13.4	
	comp=Z,26nm,0.7s						
PV12	**Saucer Basin,**	**9.39**	**289**	lAmb_Lg		23 15 36.0	
	comp=Z,16nm,1.0s						
PV18	**Skein Mesa, Pa**	**9.46**	**288**	lAmb_Lg		23 15 43.3	
	comp=Z,20nm,1.3s						
PV20	**West Nyswonger**	**9.52**	**289**	lAmb_Lg		23 15 35.9	
	comp=Z,18nm,1.2s						
HQIL	**Hanson Quary C**	**9.62**	**49**	lAmb_Lg		23 15 24.6	
	comp=Z,38nm,0.9s						
I40A	**Norwalk**	**9.66**	**31**	lAmb_Lg		23 15 32.0	
	comp=Z,24nm,0.8s						
RSSD	**Black Hills**	**9.72**	**331**	lAmb_Lg		23 15 45.1	
	comp=Z,15nm,1.0s						
K22A	**Casper**	**9.80**	**317**	lAmb_Lg		23 15 41.1	
	comp=Z,21nm,1.1s						
FPAL	**Fort Paine**	**9.80**	**94**	lAmb_Lg		23 15 36.6	
	comp=Z,17nm,0.8s						
W50A	**Signal Mountai**	**9.95**	**90**	lAmb_Lg		23 15 32.4	
	comp=Z,27nm,0.9s						

IDC 18 23:19:00.1±2.7, 6°56'S×129°77'E, h152km±39km, mb2.9/1, mb1 3.0/5, mb1mx2.9/30, mbtmp3.4/5, Error ellipse: s-maj=66.3km s-min=21.3km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.85**	**15**	P	Pn	23 20 24.9	0.0
	0.7nm,0.3s,baz=241,slow=23,SNR=7.3						
SIJI				S	Sn	23 21 26.4	-5.0
	0.7nm,0.3s,baz=259,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**12.15**	**199**	P	Pn	23 21 49.3	+1.0
	0.1nm,0.3s,baz=25,slow=10,SNR=6.1						
FITZ				S	Sn	23 23 55.1	-7.7
	0.2nm,0.3s,baz=154,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**14.02**	**162**	P	Pn	23 22 10.4	-1.8
	0.1nm,0.3s,baz=339,slow=12,SNR=1.9						
WRA				S	Sn	23 24 33.9	-14
	0.1nm,0.3s,baz=336,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**17.46**	**167**	P	P	23 22 53.8	+0.3
	0.1nm,0.3s,baz=351,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	23 29 41.3	+0.1
	0.2nm,0.4s,baz=114,slow=5.7,SNR=2.3						

*NOU **18** 23:29:38.2, 40°.50S×174°.45E, h45km, MLv3.6, Cook Strait, New Zealand*

WEL 18 23:29:38.4, 41°.3S×17°5E±°, h42km±10km, M3.5/51, ML3.8/51, MLv3.5/51, Error ellipse: s-maj=0.6km s-min=0.0km az=59.7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.45**	**139**	P	Pn	23 29 49.3	+0.7
DUWZ	**D'Urville Isla**	**0.54**	**238**	P	Pn	23 29 49.9	+0.2
OGWZ	**Otaki Gorge**	**0.57**	**121**	P	Pn	23 29 50.7	+0.5
OHWZ	**Ohakea**	**0.68**	**63**	P	Pn	23 29 52.3	+0.7
TCW	**Tory Channel**	**0.71**	**195**	P	Pn	23 29 52.5	+0.4
CAW	**Cannon Point**	**0.72**	**145**	P	Pn	23 29 52.4	+0.3
WEL	**Wellington**	**0.79**	**166**	P	Pn	23 29 53.7	+0.7
MRZ	**Mangatainoka R**	**0.81**	**100**	P	Pn	23 29 53.4	-0.1
HOWZ	**Holdsworth Sta**	**0.84**	**117**	P	Pn	23 29 55.0	+1.1
WAZ	**Wanganui**	**0.84**	**25**	P	Pn	23 29 54.1	+0.3
BHW	**Baring Head**	**0.93**	**164**	P	Pn	23 29 55.8	+0.8
BHW				S	Sn	23 30 09.0	+2.0
POWZ	**Post Office Ro**	**0.96**	**83**	P	Pn	23 29 55.3	-0.1
POWZ				S	Sn	23 30 10.0	+2.1
MTW	**Mount Morrison**	**0.98**	**131**	P	Pn	23 29 55.1	-0.5
TUWZ	**Tuamarina**	**1.01**	**206**	P	Pn	23 29 56.0	-0.1
MSWZ	**Moikau Station**	**1.05**	**149**	P	Pn	23 29 57.2	+0.5
MSWZ				S	Sn	23 30 10.1	0.0
LREZ	**Lake Rotokare**	**1.06**	**355**	P	Pn	23 29 57.0	+0.2
LREZ				S	Sn	23 30 11.7	+1.3
TIWZ	**Tintock**	**1.07**	**104**	P	Pn	23 29 58.1	+1.2
PRWZ	**Pori Road**	**1.10**	**92**	P	Pn	23 29 57.8	+0.5
NNZ	**Nelson**	**1.11**	**231**	P	Pn	23 29 57.6	+0.2
NNZ				S	Sn	23 30 13.5	+1.9
PLWZ	**Palliser**	**1.18**	**152**	P	Pn	23 29 58.8	+0.2
TMWZ	**Te Maipa**	**1.19**	**120**	P	Pn	23 29 58.9	+0.3
TSZ	**Takapari Road**	**1.19**	**68**	P	Pn	23 29 58.2	-0.4
PREZ	**Palmer Road**	**1.21**	**346**	P	Pn	23 29 59.6	+0.7
NMEZ	**Namu Road**	**1.21**	**336**	P	Pn	23 29 59.0	+0.2
TRWZ	**Traveller**	**1.24**	**135**	P	Pn	23 29 59.8	+0.5
CMWZ	**Cape Campbell**	**1.25**	**191**	P	Pn	23 30 01.8	+2.5
CMWZ				S	Sn	23 30 16.5	+1.5
DVHZ	**Dannevirke**	**1.27**	**81**	P	Pn	23 29 59.1	-0.6
BSWZ	**Blackbirch Sta**	**1.29**	**202**	P	Pn	23 30 00.4	+0.5
BSWZ				S	Sn	23 30 16.5	+0.5
NEZ	**North Egmont**	**1.29**	**345**	P	Pn	23 29 59.8	-0.3
BFZ	**Birch Farm**	**1.32**	**98**	P	Pn	23 30 01.7	+1.3
CPWZ	**Castlepoint**	**1.33**	**107**	P	Pn	23 30 00.5	0.0
NBEZ	**Newall Road No**	**1.35**	**338**	P	Pn	23 30 00.9	+0.2
PKE	**Pukeiti**	**1.39**	**343**	P	Pn	23 30 01.3	0.0
VRZ	**Vera Road**	**1.41**	**7**	P	Pn	23 30 01.6	+0.1
PNHZ	**Pukenui**	**1.42**	**65**	P	Pn	23 30 01.1	-0.7
MHEZ	**Mangahewa**	**1.45**	**354**	P	Pn	23 30 02.8	+0.6
WNVZ	**Wahianoa**	**1.45**	**35**	P	Pn	23 30 02.8	+0.5
TRVZ	**Turoa**	**1.45**	**33**	P	Pn	23 30 02.8	+0.4
MOVZ	**Moawhango**	**1.46**	**41**	P	Pn	23 30 02.1	-0.2
WHVZ	**Whangaehu Hut**	**1.48**	**34**	P	Pn	23 30 03.3	+0.5
ANWZ	**Angora Road**	**1.49**	**88**	P	Pn	23 30 02.2	-0.4
FWVZ	**Far West T-bar**	**1.49**	**32**	P	Pn	23 30 03.3	+0.4
WPHZ	**Waipukurau**	**1.54**	**73**	P	Pn	23 30 03.2	-0.1
QRZ	**Quartz Range**	**1.55**	**258**	P	Pn	23 30 03.0	-0.5
BHHZ	**Black Hill Sta**	**1.57**	**49**	P	Pn	23 30 04.0	+0.2
NGZ	**Ngauruhoe**	**1.58**	**32**	P	Pn	23 30 05.8	+1.7
TWVZ	**Taurewa**	**1.61**	**26**	P	Pn	23 30 04.8	+0.4
OTVZ	**Oturere**	**1.62**	**33**	P	Pn	23 30 05.4	+0.8
NNVZ	**North Ngauruho**	**1.62**	**32**	P	Pn	23 30 05.4	+0.7
WTVZ	**West Tongariro**	**1.63**	**31**	P	Pn	23 30 04.8	+0.2
PRHZ	**Porangahau**	**1.63**	**82**	P	Pn	23 30 07.6	+3.0
ETVZ	**East Tongariro**	**1.66**	**34**	P	Pn	23 30 06.1	+0.9
KRVZ	**Karewarewa**	**1.67**	**31**	P	Pn	23 30 05.5	+0.3
KRHZ	**Kereru**	**1.67**	**59**	P	Pn	23 30 04.4	-0.7
TMVZ	**Te Maari**	**1.67**	**33**	P	Pn	23 30 06.1	+0.8
NTVZ	**North Tongarir**	**1.68**	**32**	P	Pn	23 30 06.7	+1.3
THZ	**Tophouse**	**1.74**	**224**	P	Pn	23 30 06.6	+0.5
KATZ	**Kakaramea**	**1.79**	**31**	P	Pn	23 30 08.4	+1.5
KWHZ	**Kaweka Forest**	**1.82**	**54**	P	Pn	23 30 09.6	+2.3
RITZ	**Rihia Road**	**1.85**	**34**	P	Pn	23 30 10.4	+2.7
RATZ	**Rangitukua**	**1.91**	**31**	P	Pn	23 30 11.5	+3.0
KAHZ	**Kahuranaki**	**1.94**	**69**	P	Pn	23 30 08.8	-0.1
HIZ	**Hauiti**	**2.02**	**7**	P	Pn	23 30 09.8	-0.1
BKZ	**Black Stump Fm**	**2.03**	**49**	P	Pn	23 30 11.2	+1.0
KHZ	**Kahutara**	**2.03**	**201**	P	Pn	23 30 09.8	-0.3
WATZ	**Wairara**	**2.04**	**28**	P	Pn	23 30 11.9	+1.6
MRHZ	**Matea Rd**	**2.23**	**42**	P	Pn	23 30 14.1	+1.2
NMHZ	**Naumai**	**2.26**	**52**	P	Pn	23 30 12.1	-1.3
TLZ	**Tolley Road**	**2.33**	**20**	P	Pn	23 30 14.7	+0.5
MTHZ	**Maungataniwha**	**2.44**	**48**	P	Pn	23 30 17.9	+2.0
GVZ	**Greta Valley S**	**2.69**	**204**	P	Pn	23 30 18.0	-1.1
LTZ	**Lake Taylor**	**2.82**	**216**	P	Pn	23 30 20.1	-0.9
TOZ	**Tahuroa Road**	**2.89**	**16**	P	Pn	23 30 21.8	-0.1
PRGZ	**Paritu Road**	**3.04**	**59**	P	Pn	23 30 24.7	+0.6
OXZ	**Oxford**	**3.36**	**213**	P	Pn	23 30 26.3	-2.1
OKCZ	**Okains Bay**	**3.38**	**198**	P	Pn	23 30 26.5	-2.1
AWAZ	**Awhitu Peninsu**	**3.45**	**2**	P	Pn	23 30 29.1	-0.5
MHCZ	**Mount Hutt**	**3.73**	**215**	P	Pn	23 30 31.5	-2.0
RPZ	**Rata Peaks**	**4.10**	**218**	P	Pn	23 30 37.8	-0.8
ARCZ	**Arundel**	**4.23**	**215**	P	Pn	23 30 38.7	-1.6
TMZ	**Timaru**	**4.66**	**213**	P	Pn	23 30 44.0	-2.1
ODZ	**Otahua Downs**	**5.35**	**211**	P	Pn	23 30 53.1	-2.5

*KRSC **18** 23:56:29.4±0.9, 53°.49N×160°.75E, h52km±14km, ML5.0*
*MOS **18** 23:56:31.1±0.9, 53°.52N×160°.59E, h58km, mb4.7/38, MS3.3/7, Error ellipse: s-maj=6.5km s-min=3.5km az=72.6*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*NEIC **18** 23:56:32.9±1.2, 53°.67N±0°.09×160°.4E±0°.1, h58km±7km, mb4.6/212, Error ellipse: s-maj=14.2km s-min=8.9km az=157.0*
*IDC **18** 23:56:35.5±1.1, 53°.75N×160°.21E, h83km±11km, mb3.9/29, mb1 4.1/32, mb1mx4.0/43, mbtmp4.3/32, MS3.4/21, Ms1 3.4/21, ms1mx3.3/43, Error ellipse: s-maj=15.2km s-min=8.8km az=153.0*

ISC 18 23:56:31.7±0.7, 53°.53N±0°.03×160°.61E±0°.03, h53km±6km, n422, σ1§27/444, mb4.5/150, MS3.4/23, 10C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.55**	**219**	PN	Pn	23 56 43.6	-0.2
SPN				S	Sn	23 56 52.2	-0.3
SPN	**Mys Shipunski**	**0.55**	**219**	*e*P	Pn	23 56 43.6	-0.2
SPN				*e*S	Sn	23 56 52.2	-0.3
NLC	**Nalytchevo**	**0.83**	**245**	PN	Pn	23 56 47.2	-0.1
NLC				S	Sn	23 56 59.0	+0.3
NLC	**Nalytchevo**	**0.83**	**245**	*e*P	Pn	23 56 47.2	-0.1
NLC				*e*S	Sn	23 56 59.0	+0.3
KII	**Karymskiy**	**0.85**	**307**	PN	Pn	23 56 47.4	-0.3
KII	**Karymskiy**	**0.85**	**307**	*e*P	Pn	23 56 47.4	-0.3
SDLR	**Sedlovina**	**1.06**	**257**	PN	Pn	23 56 50.7	+0.3
SDLR	**Sedlovina**	**1.06**	**257**	*e*P	Pn	23 56 50.7	+0.3
SMAR	**Somma**	**1.11**	**257**	PN	Pn	23 56 51.4	+0.2
SMAR	**Somma**	**1.11**	**257**	*e*P	Pn	23 56 51.4	+0.2
UGLR	**Uglovaya**	**1.11**	**254**	PN	Pn	23 56 51.7	+0.6
UGLR	**Uglovaya**	**1.11**	**254**	*e*P	Pn	23 56 51.7	+0.6
KRER	**Koryakskii**	**1.13**	**259**	PN	Pn	23 56 52.1	+0.6
KRER	**Koryakskii**	**1.13**	**259**	*e*P	Pn	23 56 52.1	+0.6
AVH	**Avacha**	**1.15**	**258**	PN	Pn	23 56 52.2	+0.6
AVH	**Avacha**	**1.15**	**258**	*e*P	Pn	23 56 52.2	+0.6
KRX	**Arik**	**1.18**	**263**	PN	Pn	23 56 52.3	+0.2
KRX	**Arik**	**1.18**	**263**	*e*P	Pn	23 56 52.3	+0.2
KOK	**Koryaka**	**1.20**	**259**	PN	Pn	23 56 52.8	+0.5
KOK	**Koryaka**	**1.20**	**259**	*e*P	Pn	23 56 52.8	+0.5
DALK	**Dalny**	**1.22**	**247**	PN	Pn	23 56 52.6	+0.2
DALK				S	Sn	23 57 07.9	+0.1
DALK	**Dalny**	**1.22**	**247**	*e*P	Pn	23 56 52.6	+0.2
DALK				*e*S	Sn	23 57 07.9	+0.1
MKZ	**Mys Kozlova**	**1.23**	**32**	PN	Pn	23 56 51.7	-0.8
MKZ				S	Sn	23 57 08.2	+0.2
MKZ	**Mys Kozlova**	**1.23**	**32**	*e*P	Pn	23 56 51.7	-0.8
MKZ				*e*S	Sn	23 57 08.2	+0.2
PET	**Petropavlovsk**	**1.28**	**248**	*d*PN	Pn	23 56 53.3	+0.1
PET				pmax	pmax		
	comp=Z,2μm,1.0s						
PET	**Petropavlovsk**	**1.28**	**248**	*e*P	Pn	23 56 53.4	+0.2
PET				*e*S	Sn	23 57 09.4	+0.2
PET	**Petropavlovsk**	**1.28**	**248**	Pn	Pn	23 56 53.4	+0.2
GNL	**Ganaly**	**1.60**	**277**	PN	Pn	23 56 58.4	+0.8
GNL	**Ganaly**	**1.60**	**277**	*e*P	Pn	23 56 58.4	+0.8
KZV	**Kizimen**	**1.60**	**354**	PN	Pn	23 56 58.0	+0.3
KZV				S	Sn	23 57 17.1	-0.2
KZV	**Kizimen**	**1.60**	**354**	*e*P	Pn	23 56 58.0	+0.3
KZV				*e*S	Sn	23 57 17.1	-0.2
KRMR	**Karymshinskiy**	**1.65**	**246**	PN	Pn	23 56 59.8	+1.6
KRMR				S	Sn	23 57 20.2	+2.0
KRMR	**Karymshinskiy**	**1.65**	**246**	*e*P	Pn	23 56 59.8	+1.6
KRMR				*e*S	Sn	23 57 20.2	+2.0
RUS	**Russkaya**	**1.67**	**230**	PN	Pn	23 56 58.7	+0.1
RUS				S	Sn	23 57 19.2	+0.3
RUS	**Russkaya**	**1.67**	**230**	*e*P	Pn	23 56 58.7	+0.1
RUS				*e*S	Sn	23 57 19.2	+0.3
TUMD	**Tumrok D**	**1.68**	**356**	*e*P	Pn	23 56 58.7	-0.1
TUMD				*e*S	Sn	23 57 18.5	-0.7
TUMR	**Tumrok**	**1.78**	**352**	PN	Pn	23 57 00.9	+0.7
TUMR				S	Sn	23 57 22.4	+0.7
TUMR	**Tumrok**	**1.78**	**352**	*e*P	Pn	23 57 00.9	+0.7
TUMR				*e*S	Sn	23 57 22.4	+0.7
PEA0B	**Petropavlovsk-**	**1.79**	**258**	*d*PN	Pn	23 57 01.1	+0.9
PEA0B	**Petropavlovsk-**	**1.79**	**258**	Pn	Pn	23 57 01.1	+0.9
PETK	**Petropavlovsk-**	**1.79**	**258**	P	Pn	23 57 01.0	+0.8
	comp=Z,215nm,0.3s,baz=92,slow=20,SNR=12.5						
PETK				S	Sn	23 57 23.8	+1.9
	comp=Z,139nm,0.3s,baz=92,slow=19,SNR=9.0						
MTVR	**Mutnovka**	**1.80**	**235**	PN	Pn	23 57 01.1	+0.7
MTVR				S	Sn	23 57 23.8	+1.6
MTVR	**Mutnovka**	**1.80**	**235**	*e*P	Pn	23 57 01.1	+0.7
MTVR				*e*S	Sn	23 57 23.8	+1.6
GRL	**Gorelyy**	**1.81**	**238**	PN	Pn	23 57 01.7	+1.1
GRL	**Gorelyy**	**1.81**	**238**	*e*P	Pn	23 57 01.7	+1.1
APC	**Apacha**	**2.16**	**255**	PN	Pn	23 57 06.6	+1.4
APC				S	Sn	23 57 34.1	+3.4
APC	**Apacha**	**2.16**	**255**	*e*P	Pn	23 57 06.6	+1.4
APC				*e*S	Sn	23 57 34.1	+3.4
KMNR	**Kamenistaya**	**2.24**	**355**	PN	Pn	23 57 07.7	+1.2
KMNR	**Kamenistaya**	**2.24**	**355**	*e*P	Pn	23 57 07.7	+1.2
KDTR	**Khodutka, Kamc**	**2.31**	**223**	PN	Pn	23 57 07.9	+0.7
KDTR				S	Sn	23 57 37.6	+3.2
KDTR	**Khodutka, Kamc**	**2.31**	**223**	*e*P	Pn	23 57 07.9	+0.7
KDTR				*e*S	Sn	23 57 37.6	+3.2
BZMR	**Bezymyannaya**	**2.41**	**358**	PN	Pn	23 57 10.5	+1.7
BZMR	**Bezymyannaya**	**2.41**	**358**	*e*P	Pn	23 57 10.5	+1.7
BZGR	**Bezymyannyi-Gr**	**2.42**	**1**	PN	Pn	23 57 10.2	+1.3
BZGR				S	Sn	23 57 40.0	+2.7
BZGR	**Bezymyannyi-Gr**	**2.42**	**1**	*e*P	Pn	23 57 10.2	+1.3
BZGR				*e*S	Sn	23 57 40.0	+2.7
KIRR	**Kirishev**	**2.44**	**357**	PN	Pn	23 57 10.6	+1.5
KIRR	**Kirishev**	**2.44**	**357**	*e*P	Pn	23 57 10.6	+1.5
BZWR	**Bezymyannyi-We**	**2.44**	**359**	PN	Pn	23 57 10.8	+1.5
BZWR	**Bezymyannyi-We**	**2.44**	**359**	*e*P	Pn	23 57 10.8	+1.5
KPT	**Kopyto**	**2.46**	**355**	PN	Pn	23 57 11.8	+2.5
KPT	**Kopyto**	**2.46**	**355**	P	Pn	23 57 11.8	+2.5
ZLN	**Zelenaya**	**2.50**	**3**	PN	Pn	23 57 11.7	+1.7
ZLN	**Zelenaya**	**2.50**	**3**	*e*P	Pn	23 57 11.7	+1.7
LGNR	**Loginova**	**2.56**	**1**	PN	Pn	23 57 13.2	+2.2
LGNR				S	Sn	23 57 44.2	+3.1
LGNR	**Loginova**	**2.56**	**1**	*e*P	Pn	23 57 13.2	+2.2
LGNR				*e*S	Sn	23 57 44.2	+3.1
KOZ	**Kozyrevsk**	**2.57**	**351**	PN	Pn	23 57 11.9	+1.0
KOZ	**Kozyrevsk**	**2.57**	**351**	*e*P	Pn	23 57 11.9	+1.0
CIRR	**Tsirk**	**2.59**	**2**	PN	Pn	23 57 13.3	+2.0
CIRR	**Tsirk**	**2.59**	**2**	*e*P	Pn	23 57 13.3	+2.0
ESO	**Esso**	**2.65**	**336**	PN	Pn	23 57 13.4	+1.5
ESO	**Esso**	**2.65**	**336**	*e*P	Pn	23 57 13.4	+1.5
MIPR	**Malaya Ipel'ka**	**2.65**	**243**	PN	Pn	23 57 13.6	+1.7
MIPR	**Malaya Ipel'ka**	**2.65**	**243**	*e*P	Pn	23 57 13.6	+1.7
KLY	**Klyuchi**	**2.79**	**1**	PN	Pn	23 57 15.5	+1.6
KLY				S	Sn	23 57 48.0	+1.7
KLY	**Klyuchi**	**2.79**	**1**	*e*P	Pn	23 57 15.5	+1.6
KLY				*e*S	Sn	23 57 48.0	+1.7
SRDR	**Sredinnyy**	**2.84**	**350**	PN	Pn	23 57 15.2	+0.6
SRDR	**Sredinnyy**	**2.84**	**350**	*e*P	Pn	23 57 15.2	+0.6
KBTR	**Krutoberegovo**	**2.98**	**25**	PN	Pn	23 57 16.9	+0.5
KBTR				S	Sn	23 57 52.2	+1.4
KBTR	**Krutoberegovo**	**2.98**	**25**	*e*P	Pn	23 57 16.9	+0.5
KBTR				*e*S	Sn	23 57 52.2	+1.4
KBG	**Krutoberegovo**	**2.99**	**23**	PN	Pn	23 57 17.5	+0.9
KBG				S	Sn	23 57 53.6	+2.5
KBG	**Krutoberegovo**	**2.99**	**23**	*e*P	Pn	23 57 17.5	+0.9
KBG				*e*S	Sn	23 57 53.6	+2.5
BDR	**Baidarnaya**	**3.07**	**6**	PN	Pn	23 57 19.3	+1.6
BDR	**Baidarnaya**	**3.07**	**6**	*e*P	Pn	23 57 19.3	+1.6
SMKR	**Semkarok**	**3.10**	**9**	PN	Pn	23 57 19.9	+1.7
SMKR	**Semkarok**	**3.10**	**9**	*e*P	Pn	23 57 19.9	+1.7
PAU	**Pauzhetka**	**3.10**	**230**	PN	Pn	23 57 20.3	+2.2
PAU	**Pauzhetka**	**3.10**	**230**	*e*P	Pn	23 57 20.3	+2.2
SRKR	**Sorokina**	**3.15**	**6**	PN	Pn	23 57 20.3	+1.5
SRKR				S	Sn	23 57 58.7	+3.5
SRKR	**Sorokina**	**3.15**	**6**	*e*P	Pn	23 57 20.3	+1.5
SRKR				S	Sn	23 57 58.7	+3.5
BKI	**Bering**	**3.56**	**60**	PN	Pn	23 57 24.4	0.0
BKI				S	Sn	23 58 01.9	-3.2
BKI	**Bering**	**3.56**	**60**	*e*P	Pn	23 57 24.4	0.0
BKI				*e*S	Sn	23 58 01.9	-3.2
SKR	**Severo-Kuril's**	**3.97**	**226**	*e*PN	Pn	23 57 31.7	+1.7
SKR				*e*S	Sn	23 58 17.5	+2.3
SKR				pmax	pmax		
	comp=Z,120nm,0.5s						
SKR				smax	smax		
	comp=E,588nm,0.5s						
SKR				smax	smax		
	comp=N,862nm,0.6s						
SKR				MLR	MLR		
	comp=Z,200nm,14.0s						
SKR	**Severo-Kuril's**	**3.97**	**226**	S	Sn	23 58 15.7	+0.5
ALID	**Alaid**	**4.09**	**231**	PN	Pn	23 57 33.6	+1.8
ALID	**Alaid**	**4.09**	**231**	*e*P	Pn	23 57 33.6	+1.8
OSSR	**Ossora**	**5.90**	**12**	PN	Pn	23 57 58.4	+2.1
OSSR	**Ossora**	**5.90**	**12**	P	Pn	23 57 58.4	+2.1
MA2	**Magadan**	**8.13**	**322**	LR	LR	00 02 03.0	
	comp=Z,92nm,19.1s,baz=128,slow=42						
MA2	**Magadan**	**8.13**	**322**	PN	Pn	23 58 25.6	-1.4
MA2	**Magadan**	**8.13**	**322**	Pn	Pn	23 58 25.6	-1.4
SMY	**Shemya**	**8.16**	**90**	PN	Pn	23 58 29.2	+1.9
SMY	**Shemya**	**8.16**	**90**	Pn	Pn	23 58 29.2	+1.9
AMKA	**Amchitka**	**11.61**	**93**	Pn	Pn	23 59 16.8	+2.3
YSS	**Yuzh-Sakhalins**	**13.16**	**247**	*e*PN	Pn	23 59 38.1	+2.4
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
BILL	**Bilibino**	**14.81**	**8**	*i* P	Pn	23 59 58.6	+1.0
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,140nm,16.0s						
**B

HIA pmax pmax
comp=Z,14nm,1.2s
HIA Hailar 25.59 277 P **P** **00 01 53.9 -1.8**
SII Sitkinak Islan 25.72 65 P **P** **00 01 57.9 +1.2**
SII IAmb IAmb 00 01 59.9
comp=Z,23nm,1.0s
SII Sitkinak Islan 25.72 65 P 00 01 57.7
baz=283
A21K Barrow 25.76 30 P **P** **00 01 57.4 +0.5**
A21K Barrow 25.76 30 P 00 01 57.6
baz=249
H21K Melozitna Rive 25.83 44 P 00 01 58.2
baz=265
RSO Redoubt South 25.85 56 P **P** **00 02 00.2 +2.1**
CHUM Lake Minchumin 25.93 48 P 00 01 59.3
baz=269
PPLA Purkeypile 25.99 50 P **P** **00 02 00.1 +0.8**
PPLA Purkeypile 25.99 50 P 00 02 00.4
baz=271
OHAK Old Harbor 26.06 63 P **P** **00 01 59.5 -0.2**
OHAK IAmb IAmb 00 02 00.8
comp=Z,22nm,1.0s
OHAK Old Harbor 26.06 63 P 00 01 59.3
baz=282
I21K Tanana 26.13 45 P 00 02 01.0
baz=267,SNR=7.3
KDAK Kodiak Island 26.32 62 P **P** **00 02 03.7 +1.5**
comp=Z,3.7nm,0.5s,baz=272,slow=4.7,SNR=9.4
KDAK LR LR 00 12 20.4
comp=Z,66nm,19.3s,baz=268,slow=36
SKT Skwentna 26.33 52 P **P** **00 02 03.1 +0.9**
SKT Skwentna 26.33 52 P 00 02 03.1
baz=274
BPAW Bear Paw Mtn. 26.52 47 P **P** **00 02 04.6 +0.7**
BPAW Bear Paw Mtn. 26.52 47 P 00 02 04.5
baz=270,SNR=8.0
KTH Kantishna Hill 26.55 49 P **P** **00 02 04.4 +0.1**
KTH IAmb IAmb 00 02 06.2
comp=Z,11nm,1.0s
MLY Manley 26.65 45 P **P** **00 02 05.5 +0.4**
MLY Manley 26.65 45 P 00 02 05.7
baz=269,SNR=7.0
SUA Susitna One 26.74 53 P **P** **00 02 06.0 +0.1**
SUA Susitna One 26.74 53 P 00 02 05.9
baz=275
TRF Thorofare Moun 26.84 49 P **P** **00 02 07.3 +0.4**
TRF IAmb IAmb 00 02 08.5
comp=Z,13nm,1.0s
TRF Thorofare Moun 26.84 49 P 00 02 06.8
baz=272
CUT Chulitna 26.89 51 P **P** **00 02 08.0 +0.8**
CUT IAmb IAmb 00 02 08.2
comp=Z,14nm,0.8s
CUT Chulitna 26.89 51 P 00 02 07.2
baz=274
BRSE Bradley Lake S 26.94 57 P 00 02 08.1
baz=279
COLD Coldfoot 27.02 40 P **P** **00 02 08.7 +0.3**
COLD Coldfoot 27.02 40 P 00 02 08.7
baz=264,SNR=9.3
H23K Yukon River 27.18 44 P 00 02 10.6
baz=268,SNR=13
I23K Minto, Yukon-K 27.24 45 P **P** **00 02 10.4 +0.1**
I23K Minto, Yukon-K 27.24 45 P 00 02 10.8
baz=269,SNR=8.8
NEA2 Nenana 27.36 46 P **P** **00 02 11.2 -0.1**
NEA2 Nenana 27.36 46 P 00 02 11.5
baz=271
TOLK Toolik Lake Re 27.43 37 P **P** **00 02 12.1 0.0**
MCK McKinley 27.43 48 P **P** **00 02 12.5 +0.4**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 27.43 48 P **P** **00 02 12.5 +0.4**
MCK IAmb IAmb 00 02 13.5
comp=Z,9.9nm,0.8s
TOLK Toolik Lake Re 27.43 37 P 00 02 12.1
baz=262
MCK McKinley 27.43 48 P 00 02 12.4
baz=272
RND Reindeer 27.48 49 P **P** **00 02 12.4 -0.2**
RND pmax pmax
comp=Z,12nm,0.8s
RND Reindeer 27.48 49 P **P** **00 02 12.4 -0.2**
RND IAmb IAmb 00 02 13.5
comp=Z,12nm,0.8s
SEW Seward 27.53 56 P **P** **00 02 15.9 +3.0**
SEW IAmb IAmb 00 02 20.1
comp=Z,16nm,1.0s
KSRS Korea Array 27.66 248 P **P** **00 02 13.9 -0.4**
comp=Z,2.1nm,0.7s,baz=42,slow=9.3,SNR=9.2
KSRS LR LR 00 12 57.2
comp=Z,117nm,19.5s,baz=54,slow=36
MDM Murphy Dome 27.71 45 P **P** **00 02 15.7 +1.1**
WRH Wood River Hil 27.78 47 P **P** **00 02 16.0 +0.8**
WRH IAmb IAmb 00 02 16.8
comp=Z,13nm,0.8s
KNK Knik Glacier 27.84 53 P **P** **00 02 15.8 +0.1**
KNK Knik Glacier 27.84 53 P 00 02 15.6
baz=277,SNR=5.4
SML Sawmill 27.85 52 P 00 02 15.9
baz=277,SNR=10.0
H24K Noodor Dome 27.87 44 P 00 02 16.7
baz=269,SNR=5.5
TCOL CIGO, UAF Yank 27.87 46 P **P** **00 02 16.4 +0.5**
TCOL IAmb IAmb 00 02 17.5
comp=Z,11nm,0.7s
TCOL CIGO, UAF Yank 27.87 46 P 00 02 16.6
baz=271
COLA College 27.88 46*c i* P **P** **00 02 15.9 -0.1**
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 27.88 46 P **P** **00 02 15.9 -0.1**
COLA IAmb IAmb 00 02 17.5
comp=Z,10nm,0.8s
COLA College 27.88 46 P 00 02 16.7
baz=271
CCB Clear Creek Bu 27.90 46 IAmb IAmb 00 02 17.7
comp=Z,12nm,1.2s
PWL Port Wells 27.97 54 P **P** **00 02 15.2 -1.6**
PWL IAmb IAmb 00 02 17.6
comp=Z,12nm,1.0s
POKR Poker Plat Res 28.05 45 P **P** **00 02 17.9 +0.3**
POKR IAmb IAmb 00 02 20.3
comp=Z,11nm,1.2s
POKR Poker Plat Res 28.05 45 P 00 02 18.1
baz=271
HDA Harding Lake 28.28 47 IAmb IAmb 00 02 20.8
comp=Z,5.6nm,0.5s
HDA Harding Lake 28.28 47 P 00 02 19.9
baz=273,SNR=6.6
HDA P 00 02 19.9
baz=273,SNR=6.6
ILAR Eielson Array 28.29 46 P **P** **00 02 19.8 0.0**
comp=Z,5.4nm,0.8s,baz=264,slow=8.3,SNR=54
ILAR LR LR 00 14 03.5
comp=Z,44nm,18.0s,baz=269,slow=37
SCM Sheep Creek Mo 28.32 52 P **P** **00 02 20.5 +0.4**
SCM pmax pmax
comp=Z,18nm,0.9s
SCM Sheep Creek Mo 28.32 52 P **P** **00 02 20.5 +0.4**
SCM IAmb IAmb 00 02 21.9
comp=Z,18nm,0.9s
GLI Glacier Island 28.56 54 P **P** **00 02 22.3 +0.2**
M24K Tolsona, Glenn 28.83 51 P **P** **00 02 25.7 +1.2**
M24K IAmb IAmb 00 02 26.2
comp=Z,11nm,0.9s
M24K Tolsona, Glenn 28.83 51 P 00 02 25.6
baz=278,SNR=5.1
PRP Porcupine Dome 28.84 44 P **P** **00 02 25.0 +0.2**
PRP IAmb IAmb 00 02 26.5
comp=Z,13nm,0.8s
PRP Porcupine Dome 28.84 44 P 00 02 25.4
baz=272,SNR=5.1
FID Port Fidalgo 28.88 54 P **P** **00 02 24.4 -0.6**
HIN Hinchinbrook I 28.93 55 P **P** **00 02 24.9 -0.6**
HIN IAmb IAmb 00 02 26.5
comp=Z,10.0nm,0.8s
FYU Fort Yukon 28.95 42 P **P** **00 02 26.2 +0.7**
FYU IAmb IAmb 00 02 27.6
comp=Z,12nm,0.8s
KLU Klutina 29.03 53 P **P** **00 02 26.1 -0.3**
KLU Klutina 29.03 53 P 00 02 26.4
baz=279
BMAR Burnt Mountain 29.21 40 P **P** **00 02 28.8 +0.9**
HARP HAARP 29.26 51 P 00 02 29.2
baz=278

SCRK Sand Creek 29.60 47 P 00 02 31.1
baz=276,SNR=14
N25K Chitina, Valde 29.64 52 P **P** **00 02 31.8 0.0**
N25K Chitina, Valde 29.64 52 P 00 02 32.6
baz=280
BMRM Bremner River 29.75 53 P **P** **00 02 33.0 +0.3**
BMRM IAmb IAmb 00 02 34.4
comp=Z,8.8nm,0.9s
BMRM Bremner River 29.75 53 P 00 02 33.2
baz=281
HMT Hamilton 30.04 55 P **P** **00 02 34.8 -0.4**
HMT IAmb IAmb 00 02 37.0
comp=Z,9.9nm,0.8s
GLB Gilahina Butte 30.04 52 P **P** **00 02 36.0 +0.7**
MCARA McCarthy VSAT 30.42 52 P 00 02 39.3
baz=281
K27K Chicken 30.43 47 IAmb IAmb 00 02 40.2
comp=Z,9.4nm,0.8s
K27K Chicken 30.43 47 P 00 02 39.2
baz=278
CRQM Cirque 30.49 54 P **P** **00 02 40.3 +0.9**
CRQM IAmb IAmb 00 02 41.5
comp=Z,11nm,0.8s
CRQE Cirque 30.52 54 P 00 02 40.4
baz=282
L27K Beaver Creek, 30.68 49 P 00 02 42.0
baz=279,SNR=28
EGAK Eagle 30.74 45 IAmb IAmb 00 02 42.0
comp=Z,8.5nm,0.8s
EGAK Eagle 30.74 45 P 00 02 40.9
baz=277,SNR=12
JSU Suzuyama 30.89 237 P **P** **00 02 42.8 -0.2**
BARN Barnard Glacie 31.14 53 P **P** **00 02 45.8 +0.7**
BARN IAmb IAmb 00 02 47.4
comp=Z,6.0nm,0.7s
GRNC Granite Creek 31.16 53 P **P** **00 02 46.3 +0.9**
GRNC IAmb IAmb 00 02 47.5
comp=Z,6.7nm,0.9s
MESA MESA 31.20 54 P **P** **00 02 46.8 +1.2**
MESA MESA 31.20 54 P 00 02 46.7
baz=284
YAH Yahtse 31.25 54 P **P** **00 02 47.2 +1.0**
YAH IAmb IAmb 00 02 48.9
comp=Z,10nm,0.7s
CTG Chitna Glacier 31.31 53 P 00 02 47.5
baz=283
CTGM Chitina Glacie 31.31 53 P **P** **00 02 47.6 +1.0**
CTGM IAmb IAmb 00 02 49.2
comp=Z,9.4nm,1.2s
TABL Table Mountain 31.52 54 P **P** **00 02 49.4 +0.8**
TABL IAmb IAmb 00 02 50.9
comp=Z,6.9nm,0.8s
PCA Pinnacle 32.04 54 P **P** **00 02 53.8 +0.9**
PINM Pinnacle 32.04 54 P 00 02 53.5
baz=285
HYT Haines Junctio 33.16 52 P **P** **00 03 03.7 +0.9**
HYT IAmb IAmb 00 03 05.3
comp=Z,5.9nm,1.0s
INK Inuvik 33.34 38 P **P** **00 03 04.2 +0.1**
comp=Z,3.3nm,0.6s,baz=259,slow=5.8,SNR=5.6
INK Inuvik 33.34 38 P **P** **00 03 04.3 +0.3**
INK Inuvik 33.34 38 P 00 03 04.6
baz=278
ULN Ulaanbaatar 33.70 283*c i* P **P** **00 03 06.7 -1.0**
ULN pmax pmax
comp=Z,1.0nm,0.6s
H11N2 WAKE ISLAND Hy 34.08 169 T T 00 39 35.2
baz=354,slow=76,SNR=561
H11N3 WAKE ISLAND Hy 34.10 169 T T 00 39 36.6
baz=354,slow=76,SNR=502
H11N1 WAKE ISLAND Hy 34.10 169 T T 00 40 05.9
baz=354,slow=76,SNR=606
SONM Songino Array 34.10 283 P **P** **00 03 09.7 -1.4**
comp=Z,2.0nm,0.7s,baz=61,slow=7.7,SNR=9.1
SONM PcP **PcP** **00 05 47.4 +0.1**
comp=Z,1.0nm,0.6s,baz=97,slow=1.0,SNR=5.1
SONM LR LR 00 18 25.8
comp=Z,112nm,18.9s,baz=86,slow=39
SONM Songino Array 34.10 283 P **P** **00 03 10.4 -0.7**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 34.10 283 P **P** **00 03 10.4 -0.7**
WHY Whitehorse 34.44 52 IAmb IAmb 00 03 16.9
comp=Z,6.1nm,0.9s
WHY Whitehorse 34.44 52 P 00 03 15.5
baz=288,SNR=5.2
HHC Hu-ho-hao-te 34.96 269*e* P **P** **00 03 20.3 +1.8**
HHC PP **PnPn** **00 04 32.8 -3.8**
HHC S S 00 08 36.3 -10
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,82nm,4.1s
HHC L L
comp=Z,200nm,13.9s
HHC L L
comp=Z,120nm,12.2s
HHC L L
comp=Z,140nm,13.2s
BESE Bessie Mountai 35.14 55 P **P** **00 03 21.8 +2.0**
BESE IAmb IAmb 00 03 22.7
comp=Z,3.8nm,0.8s
H11S1 WAKE ISLAND Hy 35.27 170 T T 00 41 02.8
baz=352,slow=76,SNR=57
H11S3 WAKE ISLAND Hy 35.28 170 T T 00 41 06.6
baz=352,slow=76,SNR=88
H11S2 WAKE ISLAND Hy 35.29 170 T T 00 41 01.0
baz=352,slow=76,SNR=33
JIS Juneau Island 35.48 56 P **P** **00 03 24.3 +1.7**
JIS IAmb IAmb 00 03 26.5
comp=Z,7.0nm,0.8s
NRIK Noril'sk 35.73 324*e* P **P** **00 03 23.5 -1.2**
NRIK pmax pmax
comp=Z,3.0nm,1.1s
NRIK MLR MLR
comp=Z,59nm,17.0s
JOW Kunigami 35.81 235 P **P** **00 03 26.6 +0.7**
C36M Paulatuk 36.52 35 P **P** **00 03 31.4 0.0**
C36M Paulatuk 36.52 35 P 00 03 31.7
baz=284
WRAK Wrangell Islan 37.22 58 P 00 03 39.4
baz=295
CRAG Craig 37.23 60 P 00 03 39.3
baz=296
DLBC Dease Lake 37.54 54 P **P** **00 03 41.6 +1.3**
comp=Z,2.8nm,0.7s,baz=290,slow=11,SNR=7.2
DLBC Dease Lake 37.54 54 P **P** **00 03 41.8 +1.5**
DLBC IAmb IAmb 00 03 44.8
comp=Z,7.0nm,1.3s
EUNU Eureka 41.45 14 P **P** **00 04 12.7 0.0**
YKA Yellowknife Ar 42.63 43 P **P** **00 04 23.1 +0.8**
comp=Z,3.3nm,0.7s,baz=299,slow=7.6,SNR=10
YKA LR LR 00 23 07.1
comp=Z,56nm,18.5s,baz=0.0,slow=37
ZALV Zalesovo Beam 42.80 303 P **P** **00 04 21.2 -2.6**
comp=Z,0.8nm,0.6s,baz=72,slow=9.3,SNR=3.8
ZALV LR LR 00 22 54.5
comp=Z,53nm,20.5s,baz=62,slow=37
RES Resolute Bay 42.81 22 P **P** **00 04 24.2 +0.6**
comp=Z,3.7nm,0.7s,baz=307,slow=6.9,SNR=7.7
RES Resolute Bay 42.81 22 P **P** **00 04 23.8 +0.2**
RES pmax pmax
comp=Z,14nm,1.4s
RES Resolute Bay 42.81 22 P **P** **00 04 23.8 +0.2**
RES IAmb IAmb 00 04 37.8
comp=Z,14nm,1.4s
GTA Gaotai 42.86 276*e* P **P** **00 04 23.4 -1.3**
GTA pP pP 00 04 33.3 -5.2
GTA sP sP 00 04 36.9 -7.8
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,54nm,4.7s
GTA L L
comp=Z,98nm,19.3s
GTA L L
comp=Z,80nm,18.5s
GTA L L
comp=Z,53nm,18.5s
DGZ Jazzator, Alta 43.75 296*ij i* P **P** **00 04 30.4 -1.3**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
DGZ MLR MLR
comp=Z,40nm,16.0s
CD2 Chengdu 46.32 264 P **P** **00 04 51.1 -1.1**
CD2 S **S** **00 11 34.3 -1.1**

CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,180nm,4.4s
CD2 L L
comp=Z,130nm,13.9s
CD2 L L
comp=Z,150nm,16.1s
CD2 L L
comp=Z,260nm,17.5s
NLWA Neilton Lookou 46.37 65 P **P** **00 04 53.2 +0.8**
NLWA IAmb IAmb 00 04 54.8
comp=Z,5.4nm,0.8s
B05A Bryant 46.80 63 P 00 04 56.7
baz=307
E03A Lebam 47.05 66 P **P** **00 04 59.4 +1.8**
E03A IAmb IAmb 00 05 00.8
comp=Z,7.9nm,0.9s
WMQ Urumqi 47.12 289*e* P **P** **00 05 00.3 +2.0**
E04D Cinebar 47.59 66 P 00 05 03.5
baz=308
GYA Guiyang 47.89 258*e* P **P** **00 05 06.8 +2.2**
GYA pmax pmax
comp=Z,1.0nm,0.8s
B08A Colville Reser 48.21 62 P **P** **00 05 07.6 +0.9**
B08A IAmb IAmb 00 05 08.7
comp=Z,6.6nm,0.9s
MK31 Makanchi Array 48.24 296⇑*i* P **P** **00 05 04.4 -2.5**
MK31 Makanchi Array 48.24 296 P **P** **00 05 04.7 -2.3**
MKAR Makanchi Array 48.24 296 P **P** **00 05 03.9 -3.0**
comp=Z,0.8nm,0.5s,baz=59,slow=6.7,SNR=19
MKAR Makanchi Array 48.24 296*i* P **P** **00 05 04.5 -2.4**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
H04D Lebanon 48.77 68 P 00 05 12.5
baz=310
I03D Drain, OR 48.95 69 P 00 05 14.1
baz=310
H04A Detroit Lake 48.97 67 P **P** **00 05 12.3 -0.2**
H04A IAmb IAmb 00 05 14.2
comp=Z,3.2nm,0.8s
C09A Chrisman Ranch 49.11 62 P **P** **00 05 13.8 +0.3**
C09A IAmb IAmb 00 05 14.8
comp=Z,4.1nm,0.9s
D08A Wollman Farm, 49.23 63 P **P** **00 05 14.5 0.0**
D08A IAmb IAmb 00 05 16.2
comp=Z,8.2nm,1.4s
I04A Tendick Farm, 49.41 68 P 00 05 17.4
baz=310
NEW Newport 49.42 61 P **P** **00 05 16.9 +0.9**
comp=Z,2.0nm,0.6s,baz=331,slow=8.3,SNR=4.0
NEW Newport 49.42 61 P **P** **00 05 16.2 +0.2**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 49.42 61 P **P** **00 05 16.2 +0.2**
NEW IAmb IAmb 00 05 17.7
comp=Z,4.1nm,1.0s
NEW Newport 49.42 61 P 00 05 17.1
baz=309
F07A Phinny Hill Vi 49.43 65 P **P** **00 05 16.2 +0.3**
E08A Dider Farm, El 49.52 64 P **P** **00 05 16.1 -0.6**
E08A IAmb IAmb 00 05 18.1
comp=Z,4.3nm,0.8s
E09A Wood Farm, Sta 49.99 63 P **P** **00 05 20.9 +0.7**
PINE Pine Mountain 50.23 67 P **P** **00 05 23.2 +0.9**
PINE IAmb IAmb 00 05 25.2
comp=Z,4.2nm,0.9s
G08A Pilot Rock 50.34 65 P **P** **00 05 23.1 +0.1**
BRVK Borovoye 50.39 308*c i* P **P** **00 05 21.6 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,1.5s
L04D Klamath Falls 50.49 70 P 00 05 25.9
baz=311,SNR=5.3
YBH Yreka Blue Hor 50.59 71 P **P** **00 05 26.8 +1.9**
comp=Z,2.3nm,0.7s,baz=359,slow=2.6,SNR=7.7
YBH Yreka Blue Hor 50.59 71 P **P** **00 05 26.2 +1.3**
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH Yreka Blue Hor 50.59 71 P **P** **00 05 26.2 +1.3**
M02C Callahan 50.73 71 P 00 05 28.0
baz=312
F10A Beach Ranch, E 50.83 63 P **P** **00 05 27.2 +0.5**
K05A Summer Lake 50.95 68 P **P** **00 05 29.2 +1.4**
K05A IAmb IAmb 00 05 30.8
comp=Z,8.2nm,1.2s
M04C Macdoel 51.04 70 P 00 05 30.2
baz=312
N02D Trinity Center 51.09 71 P 00 05 30.9
baz=312
JTMT Jette 51.22 60 P **P** **00 05 30.6 +1.0**
MOD Modoc Plateau 51.82 69 P **P** **00 05 35.4 +1.2**
MOD IAmb IAmb 00 05 37.1
comp=Z,4.6nm,0.8s
MSO Missoula 52.00 60 P **P** **00 05 34.8 -0.7**
MSO Missoula 52.00 60 P 00 05 36.2
baz=311
O03E Paynes Creek 52.06 71 P 00 05 36.9
baz=313
ARCES ARCESS Array B 52.97 342 P **P** **00 05 40.2 -2.0**
comp=Z,2.4nm,1.0s,baz=37,slow=8.2,SNR=5.0
ARCES LR LR 00 30 23.4
comp=Z,14nm,20.4s,baz=340,slow=38
BEKR Beckworth 53.16 71 P **P** **00 05 45.3 +1.1**
BEKR IAmb IAmb 00 05 46.9
comp=Z,4.1nm,0.9s
MFID Camas Ranch 53.26 65 P **P** **00 05 45.2 +0.3**
ARU Arti 53.28 317*d i* P P 00 05 56.8 +12
ARU *PP sP 00 06 12.7 +7.7
ARU S S 00 13 36.6 +25
ARU pmax pmax
comp=Z,3.0nm,1.0s
SLVN Son La 53.44 256 P **P** **00 05 46.8 +0.5**
SLVN IAmb IAmb 00 05 50.9
comp=Z,2.9nm,0.7s
SUMG Summit 53.49 7 P **P** **00 05 46.7 +0.3**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 53.49 7 P **P** **00 05 46.7 +0.3**
DLMT Dillon 53.67 61 P **P** **00 05 48.5 +0.6**
PAHR Pah Rah Range 53.82 70 P **P** **00 05 49.4 +0.4**
PAHR IAmb IAmb 00 05 51.8
comp=Z,5.4nm,0.9s
HLID Hailey 53.92 64 P **P** **00 05 50.6 +0.8**
HLID Hailey 53.92 64 P 00 05 51.1
baz=313,SNR=5.3
KDJ Kajisay 54.05 294 P **P** **00 05 49.5 -1.3**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 54.05 294 P **P** **00 05 49.5 -1.3**
PNTR Pine Nut 54.12 71 P **P** **00 05 52.9 +1.6**
CMB Columbia Colle 54.40 72 P **P** **00 05 53.7 +0.6**
CMB pmax pmax
comp=Z,2.0nm,0.9s
CMB Columbia Colle 54.40 72 P **P** **00 05 53.7 +0.6**
WAKR Walker 54.62 71 P **P** **00 05 56.5 +1.6**
WAKR IAmb IAmb 00 05 57.7
comp=Z,4.3nm,0.7s
GCMT Greycliff 54.89 59 P **P** **00 05 58.1 +1.4**
YHH Holmes Hill 54.97 60 P **P** **00 05 57.6 +0.2**
YHH IAmb IAmb 00 05 59.9
comp=Z,4.2nm,0.8s
KVN Kaiserville 54.99 70 P **P** **00 05 58.0 +0.4**
KVN pmax pmax
comp=Z,5.0nm,0.8s
KVN Kaiserville 54.99 70 P **P** **00 05 58.0 +0.4**
KVN IAmb IAmb 00 06 00.6
comp=Z,5.3nm,0.8s
RYN Ryan 55.05 71 P **P** **00 05 58.9 +1.0**
RYN IAmb IAmb 00 06 00.9
comp=Z,5.0nm,0.8s
NVAR Mina Array Bea 55.31 71 P **P** **00 06 02.0 +2.1**
comp=Z,3.9nm,0.7s,baz=300,slow=7.2,SNR=26
NVAR LR LR 00 27 28.6
comp=Z,17nm,19.4s,baz=268,slow=33
NVAR Mina Array Bea 55.31 71 P **P** **00 06 01.5 +1.6**
LHV Little Huntoon 55.32 71 P **P** **00 06 01.2 +1.5**
LHV IAmb IAmb 00 06 03.5
comp=Z,8.8nm,1.2s
H17A Grant Village 55.38 61 P **P** **00 06 01.9 +1.5**
H17A Grant Village 55.38 61 P 00 06 02.6
baz=314
NV11 Mina Array Sit 55.39 71 IAmb IAmb 00 06 03.5
comp=Z,5.1nm,1.0s
ELK Elko 55.41 67 P **P** **00 06 02.2 +1.6**
ELK pmax pmax

comp=Z,4.0nm,0.8s
ELK Elko 55.41 67 P **P** **00 06 02.2 +1.6**
ELK IAmb IAmb 00 06 03.6
comp=Z,4.4nm,0.8s
FLWY Flagg Ranch 55.53 61 P **P** **00 06 02.5 +1.1**
RLMT Red Lodge 55.55 59 P **P** **00 06 02.4 +0.8**
RLMT Red Lodge 55.56 59 P 00 06 03.4
baz=314,SNR=7.4
TPAW Teton Pass 55.81 62 P **P** **00 06 04.6 +1.1**
LOHW Long Hollow 55.91 61 P **P** **00 06 05.3 +1.2**
REDW Red Top Meadow 55.95 62 P **P** **00 06 06.5 +2.1**
LAO LASA Array 56.01 56 P 00 06 06.4
baz=314
HVU Hansel Valley 56.02 64 P **P** **00 06 06.5 +1.6**
HVU pmax pmax
comp=Z,5.0nm,0.9s
HVU Hansel Valley 56.02 64 P **P** **00 06 06.5 +1.6**
HVU IAmb IAmb 00 06 08.0
comp=Z,5.1nm,0.9s
TPH Tonopah 56.16 70 P **P** **00 06 06.7 +0.7**
TPH pmax pmax
comp=Z,22nm,0.8s
TPH Tonopah 56.16 70 P **P** **00 06 06.7 +0.7**
AHID Auburn Hatcher 56.23 62 P **P** **00 06 07.5 +1.1**
AHID IAmb IAmb 00 06 10.6
comp=Z,4.7nm,0.8s
BGU Big Grassy Mou 56.48 65 P **P** **00 06 09.6 +1.4**
SPUT South Promonto 56.53 64 IAmb IAmb 00 06 11.5
comp=Z,6.0nm,1.0s
HWUT Hardware Ranch 56.80 64 P **P** **00 06 11.7 +1.2**
CWC Cottonwood Cre 56.83 72 P 00 06 12.5
baz=316
R11A Troy Canyon, C 56.89 69 P **P** **00 06 11.5 +0.4**
R11A Troy Canyon, C 56.89 69 P 00 06 12.7
baz=315
PKM Mcpherson Peak 56.94 75 P 00 06 13.3
baz=316
KKAR Karatay Array 56.94 299 P **P** **00 06 10.1 -1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.8s
KKAR Karatay Array 56.94 299 P **P** **00 06 10.1 -1.2**
KKAR Karatay Array 56.94 299 P **P** **00 06 10.1 -1.2**
BW06 Boulder Array 57.04 61 P **P** **00 06 13.3 +1.1**
PD31 Pinedale Array 57.04 61 IAmb IAmb 00 06 14.8
comp=Z,6.1nm,0.9s
PDAR Pinedale Array 57.04 61 P **P** **00 06 13.8 +1.6**
comp=Z,4.8nm,0.8s,baz=317,slow=3.4,SNR=31
PDAR LR LR 00 31 59.4
comp=Z,30nm,18.2s,baz=327,slow=37
BW06 Boulder Array 57.05 61 P 00 06 13.8
baz=315,SNR=8.9
DUG Dugway, Tooele 57.11 66 P **P** **00 06 14.1 +1.4**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 57.11 66 P **P** **00 06 14.1 +1.4**
DUG IAmb IAmb 00 06 15.8
comp=Z,5.9nm,0.9s
DUG Dugway, Tooele 57.11 66 P 00 06 14.7
baz=315,SNR=8.3
SPR3 Spring Creek 3 57.12 68 P **P** **00 06 14.4 +1.4**
SPR3 IAmb IAmb 00 06 16.6
comp=Z,4.5nm,0.8s
ISA Isabella, Lake 57.16 73 P **P** **00 06 14.0 +1.1**
ISA pmax pmax
comp=Z,5.0nm,1.2s
ISA Isabella, Lake 57.16 73 P **P** **00 06 14.0 +1.1**
ISA IAmb IAmb 00 06 14.7
comp=Z,5.0nm,1.1s
ISA Isabella, Lake 57.16 73 P 00 06 14.1
baz=316
CTU Camp Tracy 57.34 64 P **P** **00 06 15.6 +1.3**
CTU IAmb IAmb 00 06 17.0
comp=Z,4.9nm,0.8s
MPMC Manual Prospec 57.44 72 P 00 06 16.9
baz=316
FURC Furnace Creek, 57.50 71 P 00 06 17.5
baz=316
TPNV Topopah Spring 57.51 71 P **P** **00 06 16.0 +0.5**
TPNV pmax pmax
comp=Z,6.0nm,1.1s
TPNV Topopah Spring 57.51 71 P **P** **00 06 16.0 +0.5**
TPNV IAmb IAmb 00 06 18.4
comp=Z,5.9nm,1.1s
TPNV Topopah Spring 57.51 71 P 00 06 17.5
baz=316
JLU Jordanelle 57.56 64 P **P** **00 06 16.4 +0.5**
NLU North Lily Min 57.68 65 P **P** **00 06 17.5 +0.8**
NLU IAmb IAmb 00 06 19.7
comp=Z,4.5nm,0.9s
PSUT Pine Spring 57.72 68 P **P** **00 06 17.5 +0.5**
PRN Pahroc Range 57.85 69 P **P** **00 06 18.9 +1.0**
PRN IAmb IAmb 00 06 20.8
comp=Z,5.8nm,0.9s
EDW2 Edwards Air Fo 57.99 73 P 00 06 20.2
baz=316
CHTO Chiang Mai 58.29 259 P **P** **00 06 21.4 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,1.4s
CHTO Chiang Mai 58.29 259 P **P** **00 06 21.4 +0.4**
ULM Lac du Bonnet 58.30 47 LR LR 00 32 25.3
comp=Z,66nm,20.2s,baz=357,slow=37
MDND Maddock 58.36 51 P **P** **00 06 21.8 +0.7**
MDND Maddock 58.36 51 P 00 06 22.6
baz=317
GSC Goldstone, Bar 58.37 72 P **P** **00 06 22.5 +1.1**
GSC pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone, Bar 58.37 72 P **P** **00 06 22.5 +1.1**
GSC IAmb IAmb 00 06 24.1
comp=Z,4.8nm,1.1s
GSC Goldstone, Bar 58.37 72 P 00 06 23.0
baz=316
MWC Mount Wilson 58.42 74 P **P** **00 06 23.8 +1.8**
MWC pmax pmax
comp=Z,11nm,1.2s
MWC Mount Wilson 58.42 74 P **P** **00 06 23.8 +1.8**
SHPR Sheep Range 58.43 70 P **P** **00 06 22.8 +0.9**
SHPR IAmb IAmb 00 06 25.0
comp=Z,5.2nm,1.4s
CMAR Chiang Mai Arr 58.57 258 P **P** **00 06 23.4 +0.4**
comp=Z,1.7nm,0.3s,baz=25,slow=7.3,SNR=5.8
CMAR LR LR 00 35 55.1
comp=Z,74nm,18.5s,baz=91,slow=40
CMAR Chiang Mai Arr 58.57 258 *ce* P **P** **00 06 24.0 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
RDMU Red Mountain 58.59 63 P **P** **00 06 24.3 +1.2**
TMUT Trail Mountain 58.62 65 P **P** **00 06 24.0 +0.6**
TMUT IAmb IAmb 00 06 26.2
comp=Z,4.2nm,0.8s
CCUT Cedar City 58.69 68 P **P** **00 06 25.1 +1.3**
CCUT IAmb IAmb 00 06 26.8
comp=Z,3.0nm,0.8s
K22A Casper 58.70 60 P **P** **00 06 25.3 +1.5**
P17A Butcher Ranch, 58.75 65 P **P** **00 06 24.9 +0.8**
P17A IAmb IAmb 00 06 40.1
comp=Z,4.9nm,1.3s
SZCU Shurtz Canyon 58.81 68 P **P** **00 06 25.7 +1.0**
RSSD Black Hills 58.91 57 P **P** **00 06 26.4 +1.1**
RSSD pmax pmax
comp=Z,16nm,0.8s
RSSD Black Hills 58.91 57 P **P** **00 06 26.4 +1.1**
RSSD Black Hills 58.91 57 P 00 06 26.5
baz=316
MTPU Mount Pierson 58.99 67 P **P** **00 06 27.7 +1.6**
RWWY Rawlins 59.04 61 P **P** **00 06 26.3 +0.1**
RWWY IAmb IAmb 00 06 27.4
comp=Z,5.6nm,0.9s
SRU San Rafael Swe 59.12 65 P **P** **00 06 28.2 +1.4**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 59.12 65 P **P** **00 06 28.2 +1.4**
KNB Kanab 59.37 68 P **P** **00 06 29.8 +1.3**
KNB pmax pmax
comp=Z,8.0nm,1.3s
KNB Kanab 59.37 68 P **P** **00 06 29.8 +1.3**
KNB IAmb IAmb 00 06 31.8
comp=Z,7.9nm,1.3s
GMRC Granite Mounta 59.39 72 P 00 06 30.1
baz=317
O20A White River Ci 59.61 63 P **P** **00 06 31.2 +1.1**
O20A White River Ci 59.61 63 P 00 06 31.7
baz=316
FINES FINESS Array B 59.84 337 P **P** **00 06 29.8 -1.3**
comp=Z,1.1nm,0.5s,baz=33,slow=8.0,SNR=13
FINES LR LR 00 38 59.7
comp=Z,22nm,18.9s,baz=51,slow=43
FINES FINESS Array B 59.84 337 *i* P **P** **00 06 30.1 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
IRM Iron Mountain 60.14 72 P 00 06 35.1
baz=317
N23A Red Feather La 60.27 61 P 00 06 36.4
baz=317,SNR=6.5
MONP2 Monument Peak 60.33 74 P 00 06 36.3
baz=317
PV22 Blue Mesa, Par 60.48 64 P **P** **00 06 37.6 +1.5**
PV22 IAmb IAmb 00 06 38.6
comp=Z,4.0nm,0.7s
PV04 Paradox Valley 60.52 65 P **P** **00 06 38.0 +1.7**
PV20 West Nyswonger 60.52 65 P **P** **00 06 36.4 0.0**
PV20 IAmb IAmb 00 06 39.0
comp=Z,5.3nm,1.0s
PV19 Morning Glory 60.54 65 P **P** **00 06 37.2 +0.7**
PV16 Nyswonger Mesa 60.57 65 P **P** **00 06 37.7 +1.0**
PV16 IAmb IAmb 00 06 39.3
comp=Z,5.2nm,0.8s
PV17 East Wray Mesa 60.57 65 P **P** **00 06 36.9 +0.1**
PDMCI Parker Dam,Lak 60.60 71 P 00 06 38.0
baz=317
PV11 David Mesa, Pa 60.60 65 P **P** **00 06 36.5 -0.4**
CBX Cerro Bola 60.61 75 P **P** **00 06 38.2 +1.2**
PV18 Skein Mesa, Pa 60.62 65 P **P** **00 06 38.0 +0.9**
PV07 Paradox Valley 60.62 64 P **P** **00 06 38.4 +1.3**
PV07 IAmb IAmb 00 06 39.5
comp=Z,4.3nm,0.9s
PV12 Saucer Basin, 60.63 65 P **P** **00 06 38.0 +0.9**
PV12 IAmb IAmb 00 06 42.0
comp=Z,4.2nm,0.8s
PV05 Paradox Valley 60.64 65 P **P** **00 06 38.7 +1.5**
B35A Bob, Littlefor 60.65 47 P **P** **00 06 36.6 -0.3**
PV03 Paradox Valley 60.65 65 P **P** **00 06 38.8 +1.5**
PV03 IAmb IAmb 00 06 39.8
comp=Z,5.3nm,0.9s
PV13 Radium Mtn., P 60.73 65 P **P** **00 06 39.0 +1.2**
PV15 Paradox Valley 60.78 64 P **P** **00 06 39.5 +1.3**
PV15 IAmb IAmb 00 06 40.7
comp=Z,5.2nm,0.9s
SMCO Snowmass 60.98 63 P **P** **00 06 40.8 +1.1**
SMCO IAmb IAmb 00 06 42.3
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 61.24 61 P **P** **00 06 43.2 +1.8**
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 61.24 61 P **P** **00 06 43.2 +1.8**
ISCO IAmb IAmb 00 06 44.5
comp=Z,4.9nm,0.9s
ISCO Idaho Springs 61.24 61 P 00 06 43.4
baz=318,SNR=5.2
F33A 5 Mile Ranch, 61.38 51 P **P** **00 06 42.8 +0.9**
Y14A Wickenburg 61.51 71 P **P** **00 06 44.0 +1.1**
Y14A IAmb IAmb 00 06 45.7
comp=Z,2.9nm,0.7s
MVCO Mesa Verde 61.60 65 P **P** **00 06 43.7 -0.1**
MVCO Mesa Verde 61.60 65 P 00 06 45.2
baz=318
TOLI2 Tolitoli 61.71 227 P **P** **00 06 44.1 -0.3**
EYMN Ely 61.93 46 IAmb IAmb 00 06 46.8
comp=Z,4.4nm,0.8s
EYMN Ely 61.94 46 P 00 06 45.8
baz=320
X16A Lo Mia Camp, P 62.03 69 P **P** **00 06 48.7 +2.1**
S22A 4UR Ranch, Cre 62.11 64 P 00 06 48.9
baz=318
OBN Obninsk 62.31 327 ⇑ *e* P **P** **00 06 47.6 -0.3**
OBN *e* 00 07 07.5
OBN 00 07 24.0
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,33nm,16.0s
PHET Kaeng Krachan 62.58 254 P **P** **00 06 51.9 +1.7**
comp=Z,45nm,0.8s
ECSD EROS Data Cent 62.81 53 P **P** **00 06 52.4 +0.9**
ECSD IAmb IAmb 00 06 52.9
comp=Z,4.1nm,0.9s
ECSD EROS Data Cent 62.81 53 P 00 06 52.1
baz=319
NOA NORSAR Array B 63.21 344 P **P** **00 06 53.3 -0.6**
comp=Z,0.6nm,0.6s,baz=23,slow=6.0,SNR=4.0
NOA LR LR 00 36 13.5
comp=Z,5.3nm,18.6s,baz=110,slow=38
T25A Trinidad 63.84 62 P **P** **00 06 59.4 +0.7**
T25A Trinidad 63.84 62 P 00 06 59.9
baz=319
I37A Lemond, Waseca 64.10 50 P **P** **00 07 00.7 +0.7**
L34A Svendsen Farm, 64.27 54 P **P** **00 07 01.5 +0.4**
ANMO Albuquerque 64.39 65 *ce* P **P** **00 07 04.1 +1.9**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 64.39 65 P **P** **00 07 03.6 +1.3**
ANMO Albuquerque 64.39 65 P 00 07 03.9
baz=319
N33A J Bar K, Exete 64.68 55 P **P** **00 07 04.2 +0.3**
LENM Lemitar 64.69 66 P **P** **00 07 06.4 +2.2**
BNM Barren Site 64.89 66 P **P** **00 07 06.9 +1.3**
SCHQ Schefferville 65.12 28 P **P** **00 07 06.1 -0.3**
comp=Z,1.1nm,0.5s,baz=360,slow=4.5,SNR=3.9
121A Cookes Peak, D 65.47 68 P 00 07 11.4
baz=319
GEYT Alibeck 67.11 303 LR LR 00 38 57.3
comp=Z,62nm,20.8s,baz=225,slow=38
MSTX Muleshoe 67.11 64 P **P** **00 07 20.5 +0.8**
MSTX IAmb IAmb 00 07 22.1
comp=Z,8.5nm,1.1s
MSTX Muleshoe 67.11 64 P 00 07 21.0
baz=320
KAN09 Caldwell North 67.36 58 P **P** **00 07 22.2 +1.1**
MNTX Cornudas Mount 67.43 67 P **P** **00 07 22.7 +1.1**
MNTX IAmb IAmb 00 07 24.2
comp=Z,3.8nm,0.8s
MNTX Cornudas Mount 67.43 67 P 00 07 23.2
baz=320,SNR=6.4
P40A Paris 68.23 53 P **P** **00 07 26.7 +0.2**
P40A IAmb IAmb 00 07 27.8
comp=Z,6.7nm,0.9s
AKASG Malin Array Be 68.40 329 P **P** **00 07 25.3 -2.0**
comp=Z,0.9nm,0.4s,baz=31,slow=6.7,SNR=2.4
AKASG LR LR 00 39 35.3
comp=Z,20nm,18.7s,baz=85,slow=38
WMOK Wichita Mounta 68.62 60 IAmb IAmb 00 07 30.8
comp=Z,6.0nm,0.8s
WMOK Wichita Mounta 68.62 60 P 00 07 29.7
baz=321,SNR=13
KBZ Khabaz 69.43 317 P **P** **00 07 31.3 -2.6**
comp=Z,0.7nm,0.5s,baz=116,slow=2.6,SNR=2.0
CCM Cathedral Cave 69.78 53 P **P** **00 07 36.3 +0.2**
CCM pmax pmax
comp=Z,3.0nm,0.8s
CCM Cathedral Cave 69.78 53 P **P** **00 07 36.3 +0.2**
ABTX Abilene, Hawle 69.81 62 P **P** **00 07 37.1 +0.7**
ABTX IAmb IAmb 00 07 38.3
comp=Z,4.8nm,0.8s
ABTX Abilene, Hawle 69.81 62 P 00 07 37.5
baz=322
HHAR Hobbs 69.87 56 P **P** **00 07 36.7 -0.1**
HHAR IAmb IAmb 00 07 37.5
comp=Z,10nm,1.1s
D58A Chemin du LacG 69.94 36 P 00 07 38.2
baz=330
TX31 Lajitas Ar. Si 70.19 67 P **P** **00 07 40.0 +1.1**
TX32 Lajitas Array 70.19 67 P **P** **00 07 40.4 +1.5**
TX32 IAmb IAmb 00 07 41.2
comp=Z,5.8nm,0.7s
TXAR Lajitas Array 70.19 67 P **P** **00 07 40.3 +1.5**
comp=Z,4.9nm,0.6s,baz=300,slow=4.5,SNR=47
TXAR pP **PcP** **00 08 02.8 +2.3**
comp=Z,2.0nm,0.8s,baz=296,slow=4.0,SNR=4.0
U40A Yellville 70.35 55 IAmb IAmb 00 07 40.5
comp=Z,7.1nm,1.0s
U40A Yellville 70.35 55 P 00 07 39.5
baz=323,SNR=5.2
D62A Allapoint, All 71.25 33 P 00 07 45.0
baz=332
JCT Junction City 71.40 64 P 00 07 47.0
baz=322
MIAR Mount Ida 71.43 57 P 00 07 47.1
baz=323
E62A Clayton Lake 71.50 34 P 00 07 46.1
baz=331
F61A St Evariste 71.56 35 P 00 07 47.3
baz=331
W41B Gary Mavity, V 71.59 56 P 00 07 47.3
baz=323
M53A WI Miller and 71.75 44 P 00 07 48.5
baz=327
KOLS Kolonicke sedl 72.00 333 *e* P **P** **00 07 48.9 -0.5**
E64A Bridgewater 72.23 33 P 00 07 50.7
baz=332
H61A Lyndonville 72.49 37 P 00 07 52.7
baz=330
F64A Sherman 72.55 34 P 00 07 52.6
baz=332
H62A Milan 72.72 36 P 00 07 53.7
baz=331
I61A Oroboro, Fairl 72.91 37 P 00 07 53.7
baz=330
WVT Waverly 72.95 52 P **P** **00 07 55.4 +0.2**
WVT pmax pmax
comp=Z,15nm,1.4s
WVT Waverly 72.95 52 P **P** **00 07 55.4 +0.2**
G64A Maxfield 72.95 34 P 00 07 54.9
baz=332
K61A Williamstown 73.61 38 P 00 07 58.5
baz=330
KHC Kasperske Hory 73.98 338 *e* P **P** **00 08 01.6 +0.4**
KHC Kasperske Hory 73.98 338 *e* P **P** **00 08 01.6 +0.4**
N59A State Game Lan 74.17 41 P 00 08 01.9
baz=329
GERES GERESS Array B 74.23 338 P **P** **00 08 01.7 -1.0**
comp=Z,0.4nm,0.5s,baz=22,slow=4.3,SNR=4.6
P60A Greenville 75.17 41 P 00 08 07.4
baz=329
BLA Blacksburg 75.39 46 P 00 08 09.2
baz=328
WATA Walderalm 76.12 339 *e* P P 00 08 24.2 +11
comp=Z,5.0nm,1.1s
MOTA Moosalm 76.21 339 P **P** **00 08 14.7 +0.5**
comp=Z,3.4nm,0.9s
ABTA Abfaltersbach 76.47 338 *e* P **P** **00 08 15.8 +0.2**
comp=Z,4.3nm,1.0s
FETA Feichten 76.60 339 *e* P **P** **00 08 17.0 +0.6**
comp=Z,4.3nm,1.0s
WRA Warramunga Arr 76.61 205 P **P** **00 08 16.9 +0.5**
comp=Z,2.6nm,0.7s,baz=20,slow=6.3,SNR=12
TUE Stuetta 77.41 340 P **P** **00 08 21.0 0.0**
TUE IAmb IAmb 00 08 22.1
comp=Z,4.3nm,0.6s
ASAR Alice Springs 80.28 205 P **P** **00 08 37.8 +1.1**
comp=Z,3.1nm,0.8s,baz=18,slow=5.3,SNR=20
RAYN Ar Rayn 85.07 303 P **P** **00 09 00.0 -1.8**
RAYN pmax pmax
comp=Z,3.0nm,0.6s
RAYN Ar Rayn 85.07 303 P **P** **00 08 60.0 -1.8**
RAYN IAmb IAmb 00 09 00.9
comp=Z,2.5nm,0.6s
ESDC Sonseca Array 86.22 348 P **P** **00 09 07.8 +0.5**
comp=Z,0.4nm,0.6s,baz=0.1,slow=6.2,SNR=4.4
STKA Stephens Creek 86.64 196 P **P** **00 09 10.1 +1.1**
comp=Z,2.6nm,0.8s,baz=42,slow=6.0,SNR=5.1

NEIC ***19*** *00:09:16.1±2.0,24.°30S±0.°06×67.°2W±0.°1,h190km±12km, mb4.3/5, Error ellipse: s-maj=18.8km s-min=8.4km az=91.0*

IDC ***19*** *00:09:17.8±2.6,24.°09S×67.°09W,h177km±36km, mb3.3/1, mb1 3.4/5, mb1mx3.1/26, mbtmp3.8/5, Error ellipse: s-maj=43.4km s-min=34.4km az=127.0*

ISC 19 00:09:16.2±0.7**, 24.°27S**±0.°05×**67.°33W**±0.°08**, h200**km**, n35,** σ1§**42**/43**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.20**	**318**	P	**Pn**	**00 09 58.1**	**+0.8**
	11nm,0.3s,baz=130,slow=7.2,SNR=234						
LVC				S	**Sn**	**00 10 28.2**	**-1.0**
	17nm,0.3s,baz=125,slow=4.6,SNR=7.7						
LVC	**Limon Verde**	**2.20**	**318**		**Pn**	**00 09 58.0**	**+0.7**
PB15	**IPOC Station P**	**2.23**	**298**		**Pn**	**00 09 58.5**	**+1.0**
GO02	**Mina Guanaco**	**2.24**	**246**		**Pn**	**00 09 58.7**	**+1.0**
PB06	**IPOC Station P**	**2.58**	**307**		**Pn**	**00 10 02.0**	**+0.7**
PB06				Sn	**Sn**	**00 10 35.5**	**-0.9**
PB14	**IPOC Station P**	**2.83**	**262**		**Pn**	**00 10 04.9**	**+0.7**
AC02	**Maricunga**	**3.03**	**212**		**Pn**	**00 10 07.9**	**+1.2**
PB09	**IPOC Station P**	**3.03**	**324**		**Pn**	**00 10 07.8**	**+1.3**
PB10	**IPOC Station P**	**3.05**	**284**		**Pn**	**00 10 07.8**	**+1.3**
PB10					**Sn**	**00 10 45.1**	**-0.6**
PB04	**IPOC Station P**	**3.23**	**306**		**Pn**	**00 10 09.0**	**+0.1**
PB07	**IPOC Station P**	**3.46**	**317**		**Pn**	**00 10 12.1**	**+0.5**
PB07				Sn	**Sn**	**00 10 53.4**	**-1.6**
AC01	**Pan de Azucar**	**3.50**	**237**		**Pn**	**00 10 12.3**	**+0.4**
AC01					**Sn**	**00 10 54.5**	**-1.1**
PB01	**IPOC Station P**	**3.78**	**328**		**Pn**	**00 10 15.4**	**-0.1**
GO03	**Copiap**	**4.22**	**218**		**Pn**	**00 10 20.9**	**+0.1**
TA01	**Diego Aracena**	**4.54**	**324**	Pn	**Pn**	**00 10 25.1**	**+0.3**
TA02	**Huaiquique**	**4.75**	**326**	Pn	**Pn**	**00 10 28.8**	**+1.2**
PB11	**IPOC Station P**	**4.98**	**334**		**Sn**	**00 11 25.2**	**-4.0**
AC04	**Llanos de Chal**	**5.16**	**220**		**Pn**	**00 10 31.8**	**-0.9**
PSGCX	**Pisagua**	**5.33**	**330**	Pn	**Pn**	**00 10 34.2**	**-0.8**
MNMC	**Minye Minye**	**5.53**	**337**		**Pn**	**00 10 38.5**	**+0.7**
PB16	**IPOC Station P**	**6.25**	**341**	Pn	**Pn**	**00 10 48.0**	**+0.7**
GO04	**Tololo Observa**	**6.64**	**207**	Pn	**Pn**	**00 10 52.2**	**+0.2**
GO04					**Sn**	**00 12 05.0**	**-3.0**
CO03	**El Pedregal**	**7.19**	**204**	Pn	**Pn**	**00 10 59.3**	**+0.3**
CO03					**Sn**	**00 12 19.3**	**-1.4**
CO02	**Combarbal**	**7.63**	**204**	Pn	**Pn**	**00 11 04.7**	**-0.1**
LPAZ	**La Paz**	**7.98**	**354**	P	**Pn**	**00 11 10.2**	**+0.3**
	0.7nm,0.3s,baz=164,slow=7.3,SNR=22						
LPAZ				S	**Sn**	**00 12 38.3**	**-2.0**
	0.1nm,0.3s,baz=324,slow=18,SNR=2.3						
SIV	**San Ignacio**	**10.12**	**37**	P	**Pn**	**00 11 34.8**	**-2.3**
	0.2nm,0.3s,baz=235,slow=14,SNR=4.5						
TRCB	**Terra Rica**	**13.56**	**87**	P		**00 12 23.7**	**+0.4**
TRQA	**Tornquist**	**14.48**	**163**			**00 12 32.5**	**-0.8**
LL01	**San Ignacio de**	**18.55**	**192**	P	**Pn**	**00 13 24.4**	**+3.9**
LL01				IAmb	IAmb	00 13 26.0	
	comp=Z,3.7nm,0.6s						
LL02	**Futaleuf**	**19.24**	**190**	P	**Pn**	**00 13 29.4**	**+0.7**
GO07	**Milladeo Hill,**	**19.51**	**194**	P	**Pn**	**00 13 32.0**	**0.0**
BDFB	**Brasilia**	**20.06**	**68**	P	**P**	**00 13 34.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=243,slow=8.4,SNR=9.3						
BDFB	**Brasilia**	**20.06**	**68**		**P**	**00 13 34.9**	**+0.3**
BDFB				IAmb	IAmb	00 13 35.9	
	comp=Z,6.5nm,0.8s						
CBYP	**Canovanas**	**42.31**	**2**	P	**P**	**00 16 52.1**	**+1.6**
CBYP				IAmb	IAmb	00 16 56.5	
	comp=Z,21nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.94**	**69**	P	**P**	**00 20 49.4**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=240,slow=5.3,SNR=2.2						

NNC 19 00:18:08.8±3.6**, 36.°79N**×**70.°38E, h178**km±57km**, mb3.0, mpv3.8, 4C-2D, Error ellipse: s-maj=36.2km s-min=21.1km az=30.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.30**	**1**	⇓P	Pn	00 19 40.0	+0.3
	0.8nm,0.3s,baz=158,slow=41,SNR=39						
KK31				S	Sn	00 20 51.5	+0.2
	2.0nm,0.4s,baz=190,slow=19,SNR=7.9						
AAK	**Ala-Archa**	**6.64**	**27**	⇓P	Pn	00 19 44.2	-0.1
	5.5nm,0.6s						
AAK				⇑S	Sn	00 21 00.4	+0.8
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**7.32**	**32**	⇑P	Pn	00 19 52.8	-0.5
	9.3nm,0.5s						
AB31	**Akbulak array**	**14.59**	**332**	⇑P	P	00 21 27.9	-0.4
	0.8nm,0.5s,baz=141,slow=12,SNR=20						
AKTO	**Aktyubinsk**	**16.28**	**331**	⇑P	P	00 21 46.0	-1.0
	2.8nm,0.7s						

KRSC ***19*** *00:27:36.4±0.7,54.°06N×160.°49E, h94km±9km, ML4.0*

MOS ***19*** *00:27:37.0±0.7,54.°13N×160.°23E, h111km, mb3.6/1, Error ellipse: s-maj=11.8km s-min=4.3km az=76.8*

IDC ***19*** *00:27:40.0±1.3,54.°25N×159.°77E, h122km±14km, mb3.3/10, mb1 3.7/11, mb1mx3.3/58, mbtmp3.7/11, Error ellipse: s-maj=21.5km s-min=15.0km az=159.0*

ISC 19 00:27:37.2±0.6**, 54.°08N**±0.°03×**160.°38E**±0.°04**, h96**km±6km**, n99,** σ1§**43**/141**, mb3.7**/10**, 2C-2D, Near east coast of Kamchatka Peninsula**

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

KII	**Karymskiy**	**0.55**	**266**	PN		**Pn**	**00 27 52.9**	**-0.1**
KII	**Karymskiy**	**0.55**	**266**	*e*P		**Pn**	**00 27 52.9**	**-0.1**
MKZ	**Mys Kozlova**	**0.92**	**58**	PN		**Pn**	**00 27 57.0**	**+0.6**
MKZ				S		**Sn**	**00 28 11.5**	**+0.7**
MKZ	**Mys Kozlova**	**0.92**	**58**	*e*P		**Pn**	**00 27 57.0**	**+0.6**
MKZ				*e*S		**Sn**	**00 28 11.5**	**+0.7**
SPN	**Mys Shipunski**	**1.01**	**192**	PN		**Pn**	**00 27 57.9**	**+0.6**
SPN				S		**Sn**	**00 28 13.0**	**+0.5**
SPN	**Mys Shipunski**	**1.01**	**192**	*e*P		**Pn**	**00 27 57.9**	**+0.6**
SPN				*e*S		**Sn**	**00 28 13.0**	**+0.5**
KZV	**Kizimen**	**1.03**	**357**	PN		**Pn**	**00 27 58.2**	**+0.4**
KZV				S		**Sn**	**00 28 13.7**	**+0.3**
KZV	**Kizimen**	**1.03**	**357**	*e*P		**Pn**	**00 27 58.2**	**+0.4**
KZV				*e*S		**Sn**	**00 28 13.7**	**+0.3**
NLC	**Nalytchevo**	**1.10**	**215**	PN		**Pn**	**00 27 59.1**	**+0.7**
NLC				S		**Sn**	**00 28 15.1**	**+0.8**
NLC	**Nalytchevo**	**1.10**	**215**	*e*P		**Pn**	**00 27 59.1**	**+0.7**
NLC				*e*S		**Sn**	**00 28 15.1**	**+0.8**
TUMD	**Tumrok D**	**1.12**	**1**	*e*P		**Pn**	**00 27 58.7**	**0.0**
TUMD				*e*S		**Sn**	**00 28 14.6**	**-0.3**
SDLR	**Sedlovina**	**1.20**	**229**	PN		**Pn**	**00 28 00.6**	**+0.9**
SDLR				S		**Sn**	**00 28 18.0**	**+1.4**
SDLR	**Sedlovina**	**1.20**	**229**	*e*P		**Pn**	**00 28 00.6**	**+0.9**
SDLR				*e*S		**Sn**	**00 28 18.0**	**+1.4**
TUMR	**Tumrok**	**1.21**	**354**	PN		**Pn**	**00 28 00.4**	**+0.6**
TUMR				S		**Sn**	**00 28 17.5**	**+0.6**
TUMR	**Tumrok**	**1.21**	**354**	*e*P		**Pn**	**00 28 00.4**	**+0.6**
TUMR				*e*S		**Sn**	**00 28 17.5**	**+0.6**
KRER	**Koryakskii**	**1.24**	**232**	PN		**Pn**	**00 28 01.3**	**+1.0**
KRER				S		**Sn**	**00 28 19.5**	**+1.8**
KRER	**Koryakskii**	**1.24**	**232**	*e*P		**Pn**	**00 28 01.3**	**+1.0**
KRER				*e*S		**Sn**	**00 28 19.5**	**+1.8**
SMAR	**Somma**	**1.25**	**230**	PN		**Pn**	**00 28 01.2**	**+0.9**
SMAR				S		**Sn**	**00 28 19.1**	**+1.3**
SMAR	**Somma**	**1.25**	**230**	*e*P		**Pn**	**00 28 01.2**	**+0.9**
SMAR				*e*S		**Sn**	**00 28 19.1**	**+1.3**
KRX	**Arik**	**1.26**	**236**	PN		**Pn**	**00 28 01.3**	**+0.9**
KRX				S		**Sn**	**00 28 18.8**	**+0.9**
KRX	**Arik**	**1.26**	**236**	*e*P		**Pn**	**00 28 01.3**	**+0.9**
KRX				*e*S		**Sn**	**00 28 18.8**	**+0.9**
AVH	**Avacha**	**1.27**	**231**	PN		**Pn**	**00 28 01.7**	**+1.2**
AVH				S		**Sn**	**00 28 20.0**	**+1.9**
AVH	**Avacha**	**1.27**	**231**	*e*P		**Pn**	**00 28 01.7**	**+1.2**
AVH				*e*S		**Sn**	**00 28 20.0**	**+1.9**
UGLR	**Uglovaya**	**1.27**	**227**	PN		**Pn**	**00 28 01.6**	**+1.1**
UGLR				S		**Sn**	**00 28 19.5**	**+1.3**
UGLR	**Uglovaya**	**1.27**	**227**	*e*P		**Pn**	**00 28 01.6**	**+1.1**
UGLR				*e*S		**Sn**	**00 28 19.5**	**+1.3**
KOK	**Koryaka**	**1.30**	**233**	PN		**Pn**	**00 28 01.9**	**+1.0**
KOK	**Koryaka**	**1.30**	**233**	*e*P		**Pn**	**00 28 01.9**	**+1.0**
DALK	**Dalny**	**1.43**	**223**	PN		**Pn**	**00 28 03.2**	**+0.9**
DALK				S		**Sn**	**00 28 22.5**	**+1.2**
DALK	**Dalny**	**1.43**	**223**	*e*P		**Pn**	**00 28 03.2**	**+0.9**
DALK				*e*S		**Sn**	**00 28 22.5**	**+1.2**
PET	**Petropavlovsk**	**1.48**	**225**	PN		**Pn**	**00 28 04.0**	**+1.1**
PET				S		**Sn**	**00 28 23.6**	**+1.2**
PET	**Petropavlovsk**	**1.48**	**225**	*e*P		**Pn**	**00 28 04.0**	**+1.1**
PET				*e*S		**Sn**	**00 28 23.6**	**+1.2**
GNL	**Ganaly**	**1.50**	**256**	PN		**Pn**	**00 28 04.0**	**+0.8**
GNL	**Ganaly**	**1.50**	**256**	*e*P		**Pn**	**00 28 04.0**	**+0.8**
KMNR	**Kamenistaya**	**1.68**	**357**	PN		**Pn**	**00 28 06.6**	**+1.1**
KMNR				S		**Sn**	**00 28 28.4**	**+1.3**
KMNR	**Kamenistaya**	**1.68**	**357**	*e*P		**Pn**	**00 28 06.6**	**+1.1**
KMNR				*e*S		**Sn**	**00 28 28.4**	**+1.3**
KRMR	**Karymshinskiy**	**1.84**	**228**	PN		**Pn**	**00 28 09.1**	**+1.6**
KRMR				S		**Sn**	**00 28 34.2**	**+3.7**
KRMR	**Karymshinskiy**	**1.84**	**228**	*e*P		**Pn**	**00 28 09.1**	**+1.6**
KRMR				*e*S		**Sn**	**00 28 34.2**	**+3.7**
BZMR	**Bezymyannaya**	**1.86**	**2**	*e*S		**Sn**	**00 28 33.5**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**1.87**	**5**	PN		**Pn**	**00 28 08.9**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.87**	**5**	*e*P		**Pn**	**00 28 08.9**	**+0.9**
PEA0B	**Petropavlovsk-**	**1.87**	**240**	*c i*PN		**Pn**	**00 28 08.6**	**+0.7**
PETK	**Petropavlovsk-**	**1.87**	**240**	P		**Pn**	**00 28 08.8**	**+0.9**
	13nm,0.3s,baz=68,slow=14,SNR=201							
PETK				S		**Sn**	**00 28 32.4**	**+1.1**
	8.4nm,0.3s,baz=79,slow=20,SNR=3.0							
KIRR	**Kirishev**	**1.88**	**359**	PN		**Pn**	**00 28 09.0**	**+0.9**
KIRR	**Kirishev**	**1.88**	**359**	*e*P		**Pn**	**00 28 09.0**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.89**	**2**	PN		**Pn**	**00 28 09.6**	**+1.3**
BZWR				S		**Sn**	**00 28 34.4**	**+2.5**
BZWR	**Bezymyannyi-We**	**1.89**	**2**	*e*P		**Pn**	**00 28 09.6**	**+1.3**
BZWR				*e*S		**Sn**	**00 28 34.4**	**+2.5**
KPT	**Kopyto**	**1.89**	**357**	PN		**Pn**	**00 28 09.3**	**+1.1**
KPT	**Kopyto**	**1.89**	**357**	*e*P		**Pn**	**00 28 09.3**	**+1.1**
ZLN	**Zelenaya**	**1.96**	**7**	S		**Sn**	**00 28 36.1**	**+2.7**
RUS	**Russkaya**	**2.00**	**215**	PN		**Pn**	**00 28 10.2**	**+0.7**
RUS				S		**Sn**	**00 28 34.7**	**+0.6**
RUS	**Russkaya**	**2.00**	**215**	*e*P		**Pn**	**00 28 10.2**	**+0.7**
RUS				*e*S		**Sn**	**00 28 34.7**	**+0.6**
LGNR	**Loginova**	**2.01**	**5**	PN		**Pn**	**00 28 11.5**	**+1.5**
LGNR	**Loginova**	**2.01**	**5**	*e*P		**Pn**	**00 28 11.5**	**+1.5**
CIRR	**Tsirk**	**2.05**	**6**	PN		**Pn**	**00 28 12.4**	**+2.1**
CIRR	**Tsirk**	**2.05**	**6**	*e*P		**Pn**	**00 28 12.4**	**+2.1**
GRL	**Gorelyy**	**2.06**	**223**	PN		**Pn**	**00 28 12.1**	**+1.6**
GRL				S		**Sn**	**00 28 37.2**	**+1.2**
GRL	**Gorelyy**	**2.06**	**223**	*e*P		**Pn**	**00 28 12.1**	**+1.6**
GRL				*e*S		**Sn**	**00 28 37.2**	**+1.2**
MTVR	**Mutnovka**	**2.08**	**220**	PN		**Pn**	**00 28 12.2**	**+1.5**
MTVR	**Mutnovka**	**2.08**	**220**	*e*P		**Pn**	**00 28 12.2**	**+1.5**
ESO	**Esso**	**2.09**	**333**	PN		**Pn**	**00 28 11.7**	**+1.0**
ESO	**Esso**	**2.09**	**333**	*e*P		**Pn**	**00 28 11.7**	**+1.0**
APC	**Apacha**	**2.25**	**240**	PN		**Pn**	**00 28 14.1**	**+1.4**
APC	**Apacha**	**2.25**	**240**	*e*P		**Pn**	**00 28 14.1**	**+1.4**
SRDR	**Sredinnyy**	**2.27**	**351**	PN		**Pn**	**00 28 13.2**	**0.0**
SRDR	**Sredinnyy**	**2.27**	**351**	*e*P		**Pn**	**00 28 13.2**	**0.0**
BDR	**Baidarnaya**	**2.54**	**10**	PN		**Pn**	**00 28 18.5**	**+1.8**
BDR	**Baidarnaya**	**2.54**	**10**	*e*P		**Pn**	**00 28 18.5**	**+1.8**
KBTR	**Krutoberegovo**	**2.55**	**32**	PN		**Pn**	**00 28 17.6**	**+0.9**
KBTR	**Krutoberegovo**	**2.55**	**32**	*e*P		**Pn**	**00 28 17.6**	**+0.9**
KBG	**Krutoberegovo**	**2.55**	**31**	S		**Sn**	**00 28 50.7**	**+3.5**
SMKR	**Semkarok**	**2.58**	**13**	PN		**Pn**	**00 28 18.4**	**+1.1**
SMKR	**Semkarok**	**2.58**	**13**	*e*P		**Pn**	**00 28 18.4**	**+1.1**
SRKR	**Sorokina**	**2.62**	**10**	PN		**Pn**	**00 28 19.3**	**+1.6**
SRKR	**Sorokina**	**2.62**	**10**	*e*P		**Pn**	**00 28 19.3**	**+1.6**
KDTR	**Khodutka, Kamc**	**2.67**	**212**	PN		**Pn**	**00 28 19.0**	**+0.7**
KDTR				S		**Sn**	**00 28 49.3**	**-0.7**
KDTR	**Khodutka, Kamc**	**2.67**	**212**	*e*P		**Pn**	**00 28 19.0**	**+0.7**
KDTR				S		**Sn**	**00 28 49.3**	**-0.7**
BKI	**Bering**	**3.44**	**69**	PN		**Pn**	**00 28 29.2**	**+0.6**
BKI				S		**Sn**	**00 29 06.4**	**-1.9**
BKI	**Bering**	**3.44**	**69**	*e*P		**Pn**	**00 28 29.2**	**+0.6**
BKI				*e*S		**Sn**	**00 29 06.4**	**-1.9**
SKR	**Severo-Kuril's**	**4.29**	**219**	*e*PN		Pn	00 28 55.9	+16
SKR				MLR	MLR			
	comp=Z,200nm,11.0s							
MA2	**Magadan**	**7.62**	**320**	P		**Pn**	**00 29 24.9**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=138,slow=12,SNR=11							
SEY	**Seymchan**	**9.80**	**338**	⇓*i*PN		**Pn**	**00 29 54.0**	**-1.0**
KUR	**Kuril'sk**	**11.99**	**227**	⇑*i*PN		**Pn**	**00 30 24.6**	**0.0**
BILL	**Bilibino**	**14.28**	**9**	⇓*e*P		**Pn**	**00 30 53.6**	**-0.9**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,152nm,24.0s							
YAK	**Yakutsk**	**17.94**	**309**	*i* P		**Pn**	**00 31 37.3**	**-2.6**
YAK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KLR	**Kul'dur**	**18.34**	**266**	*e*P		**Pn**	**00 31 44.1**	**-0.9**
KLR				pmax	pmax			
	comp=Z,7.0nm,3.4s							
TIXI	**Tiksi**	**22.26**	**334**	*e*P		**P**	**00 32 23.8**	**-1.9**
MJAR	**Matsushiro Arr**	**23.30**	**230**	P		**P**	**00 32 35.5**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=7.2,slow=12,SNR=4.1							
ILAR	**Eielson Array**	**28.00**	**47**	P		**P**	**00 33 19.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=268,slow=8.7,SNR=9.0							
ILAR	**Eielson Array**	**28.00**	**47**	*e*P		**P**	**00 33 19.2**	**+0.7**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**42.32**	**43**	P		**P**	**00 35 22.0**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=299,slow=8.0,SNR=4.4							
KURK	**Kurchatov**	**47.36**	**301**	P		**P**	**00 35 58.7**	**-2.3**
KURBB	**Kurchatov Arra**	**47.46**	**301**	P		**P**	**00 35 58.6**	**-3.2**
	comp=Z,0.7nm,0.5s,baz=57,slow=7.7,SNR=8.3							
KURBB				pP		**pP**	**00 36 24.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=55,slow=8.3,SNR=5.6							
MKAR	**Makanchi Array**	**47.89**	**295**	P		**P**	**00 36 02.0**	**-3.2**
	comp=Z,0.6nm,0.6s,baz=58,slow=7.8,SNR=7.7							
MKAR	**Makanchi Array**	**47.89**	**295**	P		**P**	**00 36 02.0**	**-3.2**
BVAR	**Borovoye Array**	**49.91**	**308**	P		**P**	**00 36 17.9**	**-2.7**
	comp=Z,0.4nm,0.4s,baz=144,slow=5.4,SNR=4.3							
NVAR	**Mina Array Bea**	**55.25**	**71**	P		**P**	**00 37 03.1**	**+2.7**
	comp=Z,0.6nm,0.6s,baz=295,slow=6.3,SNR=4.7							
PDAR	**Pinedale Array**	**56.90**	**62**	P		**P**	**00 37 14.1**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=345,slow=1.7,SNR=4.0							
TXAR	**Lajitas Array**	**70.10**	**67**	P		**P**	**00 38 40.8**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=298,slow=5.2,SNR=9.8							
WRA	**Warramunga Arr**	**77.05**	**205**	P		**P**	**00 39 19.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=27,slow=6.3,SNR=1.7							

IDC ***19*** *00:33:55.3±2.0, 36°.09N×75°.54E, h0km, mb3.8/5, mb1 3.7/10, mb1mx3.5/52, mbtmp3.7/10, ML3.1/5, MS2.2/1, Ms1 2.2/1, ms1mx2.0/39, Error ellipse: s-maj=34.9km s-min=25.7km az=145.0*

NNC ***19*** *00:34:01.1±3.4, 36°.16N×75°.50E, h4km±11km, mb3.9, mpv3.7, Error ellipse: s-maj=25.4km s-min=23.5km az=14.0*

ISC 19 00:33:55.4±1.4, 35°.8N±0°.1×75°.6E±0°.1, h10km, n20, σ1§85/21, mb3.8/5, 7C-2D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.86**	**353**	Pn		**Pn**		**00 35 37.9**	**+1.7**
	0.5nm,0.3s,baz=200,slow=12,SNR=2.0								
AAK				Sn		**Sn**		**00 36 55.5**	**+1.1**
	0.3nm,0.3s,baz=32,slow=18,SNR=1.2								
AAK				LR		LR		00 37 45.9	
	comp=Z,21nm,21.1s,baz=222,slow=35								
AAK	**Ala-Archa**	**6.86**	**353**	⇓Pn		**Pn**		**00 35 38.4**	**+2.1**
	3.1nm,0.7s								
AAK				⇑Pg		Pg		00 36 00.2	-6.6
	6.0nm,0.9s								
AAK				⇑Sn		**Sn**		**00 36 54.9**	**+0.5**
	9.7nm,1.1s								
AAK				⇑Lg		Lg		00 37 26.5	
	10nm,1.2s								
TKM2	**Tokmak 2**	**7.09**	**0**	⇑Pn		**Pn**		**00 35 41.2**	**+1.7**
	6.9nm,1.4s								
TKM2				⇑Lg		Lg		00 37 32.7	
	5.4nm,0.8s								
MRKS	**Merke**	**7.15**	**346**	Pg		Pb		00 35 52.6	-7.1
	4.1nm,0.4s								
MRKS				Lg		Lg		00 36 59.6	
	6.1nm,0.6s								
KST	**Kastek**	**7.22**	**2**	Pg		**Pg**		**00 36 10.5**	**-3.2**
	2.8nm,0.2s								
KST				Lg		Lg		00 37 31.6	
	5.7nm,1.0s								
MDOK	**Medeo**	**7.43**	**8**	Pg		**Pb**		**00 36 08.6**	**+4.2**
	3.7nm,1.0s								
MDOK				Lg		Lg		00 37 42.6	
	14nm,1.0s								
KRBS	**Karabastau**	**7.87**	**1**	Pg		Pb		00 36 16.8	+4.9
	1.6nm,0.3s								
KRBS				Lg		Lg		00 37 42.9	
	1.8nm,0.3s								
KTBS	**Karatobe**	**7.93**	**6**	Pg		Pg		00 36 21.7	-5.6
	1.7nm,0.5s								
KTBS				Lg		Lg		00 37 51.2	
	11nm,0.3s								
PDGK	**Podgornoye**	**8.09**	**21**	⇑Pn		**Pn**		**00 35 53.7**	**+0.7**
	3.5nm,0.8s								
PDGK				⇑Sn		**Sn**		**00 37 25.4**	**+0.7**
	9.4nm,1.4s								
KK31	**Karatay Array**	**8.26**	**333**	Pn		**Pn**		**00 35 56.2**	**+1.0**
	1.1nm,0.9s,baz=143,slow=12,SNR=7.9								
KK31				⇓Sn		**Sn**		**00 37 27.7**	**-0.9**
	1.1nm,0.6s,baz=143,slow=22,SNR=4.1								
MKAR	**Makanchi Array**	**12.07**	**23**	Pn		**Pn**		**00 36 46.7**	**-0.8**
	0.2nm,0.3s,baz=200,slow=12,SNR=9.2								
KURBB	**Kurchatov Arra**	**14.95**	**7**	Pn		**Pn**		**00 37 24.0**	**-2.7**
	0.0nm,0.3s,baz=193,slow=12,SNR=5.0								
BVAR	**Borovoye Array**	**17.59**	**350**	Pn		**Pn**		**00 37 59.1**	**-1.4**
	0.1nm,0.3s,baz=180,slow=13,SNR=4.3								
ZALV	**Zalesovo Beam**	**19.25**	**17**	P		**P**		**00 38 18.3**	**-1.4**
	0.2nm,0.3s,baz=219,slow=10,SNR=2.8								
AKTO	**Aktyubinsk**	**19.36**	**324**	P		**P**		**00 38 18.5**	**-2.5**
	0.2nm,0.3s,baz=132,slow=12,SNR=3.6								
SONM	**Songino Array**	**25.75**	**53**	P		**P**		**00 39 26.2**	**0.0**
	1.6nm,0.8s,baz=249,slow=10,SNR=7.6								
FINES	**FINESS Array B**	**40.12**	**325**	P		**P**		**00 41 30.9**	**-0.1**
	1.3nm,0.6s,baz=111,slow=9.7,SNR=11								
ARCES	**ARCESS Array B**	**43.20**	**337**	P		**P**		**00 41 56.0**	**-0.2**
	1.8nm,1.0s,baz=115,slow=8.1,SNR=4.0								
NOA	**NORSAR Array B**	**47.14**	**323**	P		**P**		**00 42 27.3**	**-0.3**
	0.9nm,0.8s,baz=92,slow=7.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**69.41**	**272**	P		**P**		**00 45 05.1**	**+1.1**
	0.6nm,0.7s,baz=52,slow=5.1,SNR=2.6								

BJI ***19*** *00:35:09.6±0.0, 37°.41N×141°.69E, h38km, mB4.9/41, mb4.9/67, Ms4.2/48, Ms7 4.0/49*

MOS ***19*** *00:35:12.5±0.9, 37°.63N×141°.47E, h44km, mb5.2/74, MS4.1/8, Error ellipse: s-maj=5.4km s-min=3.6km az=108.1*

NEIC ***19*** *00:35:13.8±1.7, 37°.52N±0°.02×141°.57E±0°.06, h37km±5km, mb4.8/230, Mwr4.4/24, Error ellipse: s-maj=7.8km s-min=0.9km az=106.0*

JMA ***19*** *00:35:13.6±0.1, 37°.51N×141°.54E, h46km±1km, M4.7*

JMA Felt III J1.

NIED ***19*** *00:35:13.7, 37°.51N×141°.54E, h46km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr 0.88; Mθθ -0.13; Mφφ -0.75; Mrθ 0.44; Mrφ -0.22; Mθφ 0.93; Fault plane solution: M0 1.33000×10^16 NP1:φs 23.00000°, δ70.00000°, λ94.00000°. NP2:φs 193.00000°, δ20.00000°, λ80.00000°.*

IDC ***19*** *00:35:14.7±0.4, 37°.51N×141°.46E, h52km±3km, mb4.5/40, mb1 4.5/47, mb1mx4.5/55, mbtmp4.7/47, MS3.8/24, Ms1 3.8/24, ms1mx3.7/35 Error ellipse: s-maj=9.1km s-min=6.5km az=121.0*

NEIC ***19*** *00:35:14.3, 37°.54N×141°.59E, h35km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr 5.22; Mθθ 0.11; Mφφ 5.11; Mrθ -1.10; Mφθ 1.54; Mφr -1.50; Fault plane solution: M0 5.70000×10^15 NP1:φs 188.76000°, δ36.45000°, λ-101.31000°. NP2:φs 22.72000°, δ54.37000°, λ-81.76000°. Principal axes: T 5.8211, Plg9.0000°, Azm107.0000°; N -0.2508, Plg7.0000°, Azm198.0000°; P -5.5703, Plg79.0000°, Azm324.0000°;*

GCMT ***19*** *00:35:16.8±0.6, 37°.58N±0°.03×141°.74E±0°.05, h61km±2km, MW4.8/75, Moment Tensor Solution. s20, c20; s75, c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.29±.12; Mθθ 0.24±.10; Mφφ -1.53±.08; Mrθ 0.38±.06; Mrφ -0.33±.07; Mθφ 0.73±.05; Best double couple: M0 1.66400×10^16 NP1:φs 178.00000°, δ32.00000°, λ70.00000°. NP2: φs 21.00000°, δ60.00000°, λ102.00000°. Principal axes: T 1.5360, Plg72.0000°, Azm319.0000°; N 0.2560, Plg10.0000°, Azm195.0000°; P -1.7910, Plg14.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***19*** *00:35:25.6±0.0, 38°.81N×141°.18E, h74km, mb5.0*

ISC 19 00:35:14.3±0.3, 37°.54N±0°.03×141°.54E±0°.03, h51km±2km, h51km:pP-P, n702, σ1§48/746, mb4.8/243, MS4.0/38, 160C-34D, Fault plane solution: NP1:φs 160.74228°, δ23.89671°, λ18.17686°. NP2:φs 54.03305°, δ82.74023°, λ112.82916°. Principal axes: T Plg47.3789°, Azm347.9336°; N Plg22.6359°, Azm230.9880°; P Plg33.8580°, Azm124.7418°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.55**	**290**	P		**Pn**		**00 35 25.3**	**-0.9**
JMST				S		**Sn**		**00 35 33.3**	**-1.5**
JFK	**Kawauchi**	**0.56**	**252**	P		**Pn**		**00 35 25.2**	**-1.1**
JFK				S		**Sn**		**00 35 33.1**	**-1.9**
JMM	**Marumori**	**0.67**	**299**	P		**Pn**		**00 35 27.2**	**-0.5**
JMM				S		**Sn**		**00 35 36.7**	**-0.8**
JMM	**Marumori**	**0.67**	**299**			**Pn**		**00 35 27.3**	**-0.5**
JMM				Sn		**Sn**		**00 35 36.5**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.73**	**234**	P		**Pn**		**00 35 27.3**	**-1.3**
ONAJ				S		**Sn**		**00 35 36.7**	**-2.3**
JIKH	**Ishinomakikobu**	**0.77**	**356**	P		**Pn**		**00 35 28.5**	**-0.5**
JIKH				S		**Sn**		**00 35 38.5**	**-1.3**
JIO	**Ouri**	**0.93**	**351**	P		**Pn**		**00 35 30.7**	**-0.4**
JIO				S		**Sn**		**00 35 42.4**	**-1.0**
JFT	**Otama**	**0.95**	**269**	P		**Pn**		**00 35 31.4**	**-0.1**
JFT				S		**Sn**		**00 35 44.0**	**-0.1**
JOU	**Okura**	**1.07**	**320**	P		**Pn**		**00 35 32.8**	**-0.3**
JOU				S		**Sn**		**00 35 47.4**	**+0.4**
JYS	**Shirataka**	**1.35**	**301**	P		**Pn**		**00 35 37.0**	**+0.2**
JYS				S		**Sn**		**00 35 54.7**	**+1.1**
JMK	**Ichinoseki**	**1.43**	**350**	P		**Pn**		**00 35 37.9**	**0.0**
JMK				S		**Sn**		**00 35 55.9**	**+0.3**
JFY	**Yanaizu**	**1.46**	**265**	P		**Pn**		**00 35 38.2**	**-0.2**
JFY				*e*S		**Sn**		**00 35 56.3**	**-0.1**
JYK	**Kaneyama**	**1.66**	**326**	P		**Pn**		**00 35 41.3**	**+0.3**
JYK				*e*S		**Sn**		**00 36 02.0**	**+0.8**
JYT	**Yasato**	**1.69**	**220**	Pn		**Pn**		**00 35 39.9**	**-1.6**
JSD	**Sado**	**2.64**	**282**	Pn		**Pn**		**00 35 54.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.84**	**250**	P		**Pn**		**00 35 57.7**	**+0.5**
	5.0nm,0.3s,baz=73,slow=14,SNR=176								
MJAR				S		**Sn**		**00 36 29.7**	**-0.6**
	5.4nm,0.3s,baz=340,slow=29,SNR=6.0								
MJAR				LR		LR		00 37 19.8	
	comp=Z,3μm,19.4s,baz=70,slow=46								
MAJO	**Matsushiro**	**2.84**	**251**	*d* P		**Pn**		**00 35 58.0**	**+0.8**
MAJO	**Matsushiro**	**2.84**	**251**	Pn		**Pn**		**00 35 58.0**	**+0.8**
MAT	**Matsushiro**	**2.84**	**251**	P		**Pn**		**00 35 58.0**	**+0.8**
MAT				*e*S		**Sn**		**00 36 30.1**	**-0.2**
JTM	**Tenmabayashi**	**3.26**	**354**	Pn		**Pn**		**00 36 04.0**	**+1.1**
JGF	**Kuroka**	**3.88**	**241**	Pn		**Pn**		**00 36 11.8**	**+0.3**
JSG	**Sagara**	**3.94**	**224**	Pn		**Pn**		**00 36 12.3**	**0.0**
INU	**Inuyama**	**4.25**	**240**	Pn		**Pn**		**00 36 17.4**	**+0.9**
JHJ2	**Mitsune**	**4.64**	**198**	Pn		**Pn**		**00 36 19.9**	**-1.9**
JHJ	**Hachijo jima 2**	**4.64**	**199**	P		**Pn**		**00 36 21.4**	**-0.5**
	102nm,0.3s,baz=77,slow=23,SNR=7.3								
JHJ				S		**Sn**		**00 37 13.8**	**-0.5**
	105nm,0.3s,baz=62,slow=22,SNR=8.0								
JHJ				LR		LR		00 38 32.9	
	comp=Z,569nm,19.8s,baz=74,slow=43								
ERM	**Erimo**	**4.64**	**15**	*d* P		**Pn**		**00 36 22.2**	**+0.4**
ERM				pmax	pmax				
	comp=Z,53nm,0.8s								
ERM	**Erimo**	**4.64**	**15**	Pn		**Pn**		**00 36 21.4**	**-0.4**
JEW	**Eniwo**	**5.29**	**359**	Pn		**Pn**		**00 36 31.4**	**+0.6**
JWT	**Wachi**	**5.44**	**247**	Pn		**Pn**		**00 36 33.4**	**+0.7**
ASAJ	**Asahikawa**	**6.62**	**7**	P		**Pn**		**00 36 48.5**	**-0.4**
	comp=Z,6.9nm,0.3s,baz=178,slow=8.5,SNR=11								
ASAJ				S		**Sn**		**00 38 04.9**	**+1.9**
	comp=Z,7.9nm,0.3s,baz=273,slow=19,SNR=2.1								
JKA	**Kamikawa-asahi**	**6.62**	**7**	Pn		**Pn**		**00 36 48.5**	**-0.4**
JKA	**Kamikawa-asahi**	**6.62**	**7**			**Sn**		**00 38 04.9**	**+1.9**
NMR	**Nemuro--Hokkai**	**6.64**	**27**	⇑*i*P		**Pn**		**00 36 46.9**	**-2.3**
NMR				*e*S		**Sn**		**00 37 57.8**	**-5.7**
GLVR	**Golovnino**	**6.89**	**25**	P		**Pn**		**00 36 51.1**	**-1.6**
GLVR				*e*S		**Sn**		**00 38 03.2**	**-6.5**
GLVR				pmax	pmax				
	comp=Z,205nm,0.8s								
GLVR				pmax	pmax				
	comp=Z,2μm,1.3s								
GLVR				smax	smax				
	comp=E,2μm,0.9s								
GLVR				smax	smax				
	comp=N,2μm,1.2s								

SNY pmax pmax
comp=Z,12nm,0.8s
SNY L L
comp=Z,360nm,12.1s
SNY L L
comp=Z,770nm,19.2s
SNY L L
comp=Z,820nm,16.3s
DL2 Dalian 15.71 281 P **Pn** **00 38 52.8 +0.7**
DL2 S **Sn** **00 41 42.4 -2.7**
DL2 pmax pmax
comp=Z,60nm,0.6s
DL2 pmax pmax
comp=Z,130nm,10.3s
DL2 L L
comp=Z,230nm,15.4s
DL2 L L
comp=Z,360nm,17.9s
DL2 L L
comp=Z,480nm,22.0s
ZEA Zeya 18.97 333 *e*P **P** **00 39 31.1 -0.1**
ZEA pmax pmax
comp=E,30nm,0.7s
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
PEA0B Petropavlovsk- 19.20 31⇑*i*P **P** **00 39 33.9 +0.2**
PEA0B Petropavlovsk- 19.20 31 P **P** **00 39 34.1 +0.4**
PETK Petropavlovsk- 19.20 31 P **Pn** **00 39 35.0 -0.1**
comp=Z,0.1nm,0.3s,baz=248,slow=7.8,SNR=5.6
PETK LR LR 00 46 41.5
comp=Z,92nm,21.7s,baz=221,slow=36
PETK Petropavlovsk- 19.20 31 P **P** **00 39 33.0 -0.7**
NJ2 Nanjing 19.40 260 *e*P **P** **00 39 35.3 -0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
TIA Tai'an 19.57 274 P **P** **00 39 36.3 -1.6**
TIA pP **pP** **00 39 50.3 +0.7**
TIA pmax pmax
comp=Z,59nm,1.1s
TIA L L
comp=Z,170nm,15.2s
TIA L L
comp=Z,200nm,15.2s
TIA L L
comp=Z,310nm,15.7s
HIA Hailar 19.62 314 P **Pn** **00 39 40.3 +0.1**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 19.62 314 P **Pn** **00 39 40.2 +0.1**
BJI Beijing 19.91 285 P **P** **00 39 40.3 -1.2**
BJI sP **pP** **00 39 52.1 -1.1**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI L L
comp=Z,180nm,12.5s
BJI L L
comp=Z,100nm,11.9s
BJT Baijiatuau 19.91 285 P **P** **00 39 40.9 -0.7**
BJT pmax pmax
comp=Z,21nm,0.8s
BJT Baijiatuau 19.91 285 P **P** **00 39 40.9 -0.7**
YHNB Yeheng 21.45 239 IAmb IAmb 00 39 59.6
comp=Z,27nm,0.8s
NACB Ninganchiao 21.64 238 P **P** **00 39 58.1 -2.2**
SSLB Suanglung 22.33 238 P **P** **00 40 04.5 -3.2**
SSLB IAmb IAmb 00 40 09.1
comp=Z,32nm,1.0s
YULB Yu-li 22.37 237 P **P** **00 40 05.9 -2.3**
YULB IAmb IAmb 00 40 11.0
comp=Z,46nm,1.5s
MA2 Magadan 22.84 12 P **P** **00 40 13.6 +0.8**
comp=Z,12nm,0.6s,baz=199,slow=9.9,SNR=7.7
MA2 Magadan 22.84 12*c i*P **P** **00 40 12.4 -0.4**
MA2 pmax pmax
comp=Z,13nm,0.7s
MA2 Magadan 22.84 12 P **P** **00 40 11.9 -0.9**
MA2 IAmb IAmb 00 40 20.6
comp=Z,16nm,0.6s
TPUB Ta-pu 22.88 238 P **P** **00 40 09.6 -4.0**
TPUB IAmb IAmb 00 40 10.7
comp=Z,36nm,0.7s
TWG Pinlang 22.91 236 P **P** **00 40 12.3 -1.5**
TWG IAmb IAmb 00 40 21.1
comp=Z,86nm,1.4s
HHC Hu-ho-hao-te 23.41 287 *e*P **P** **00 40 18.4 -0.4**
HHC S **S** **00 44 33.6 +5.4**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.9s
HHC L L
comp=Z,120nm,11.9s
HHC L L
comp=Z,200nm,12.3s
HHC L L
comp=Z,230nm,12.3s
WHN Wuhan 23.53 261⇑P **P** **00 40 19.8 -0.1**
WHN S **S** **00 44 25.6 -4.5**
WHN pmax pmax
comp=Z,68nm,0.6s
WHN L L
comp=Z,720nm,17.8s
KNMB Chin-men Tao 23.66 243 P **P** **00 40 18.6 -2.5**
KNMB IAmb IAmb 00 40 23.0
comp=Z,40nm,0.8s
YAK Yakutsk 25.60 347 P **P** **00 40 38.3 -0.1**
comp=Z,48nm,0.7s,baz=350,slow=2.5,SNR=22
YAK Yakutsk 25.60 347 *e*P **P** **00 40 37.4 -1.0**
YAK *e**PP **pP** **00 40 49.0 -2.4**
YAK *e*S **S** **00 45 00.7 -1.8**
YAK *e*SS **SnSn** **00 45 59.0 -1.3**
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,148nm,0.9s
YAK pmax pmax
comp=N,19nm,0.9s
YAK pmax pmax
comp=Z,22nm,0.9s
YAK smax smax
comp=E,45nm,1.7s
YAK smax smax
comp=N,38nm,1.5s
YAK Yakutsk 25.60 347 P **P** **00 40 37.5 -0.8**
SEY Seymchan 26.28 11 P **P** **00 40 45.3 +0.8**
comp=N,12nm,0.8s,baz=199,slow=8.7,SNR=14
ULN Ulaanbaatar 27.16 303*c i*P **P** **00 40 52.5 -0.3**
ULN pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 27.16 303 P **P** **00 40 52.7 -0.1**
ULN IAmb IAmb 00 40 55.2
comp=Z,15nm,0.7s
ULN Ulaanbaatar 27.16 303 P **P** **00 40 52.1 -0.7**
comp=Z,854nmcomp=Z,86nm,0.7s
BOD Bodaibo 27.16 327 *e*P **P** **00 40 52.1 -0.4**
BOD pmax pmax
comp=Z,33nm,0.8s
ENH Enshi 27.48 264 P **P** **00 40 55.0 -0.8**
SONM Songino Array 27.59 303 P **P** **00 40 56.6 -0.1**
comp=Z,17nm,0.7s,baz=104,slow=8.9,SNR=48
SONM PcP **PcP** **00 44 13.5 +0.4**
comp=Z,1.7nm,0.6s,baz=143,slow=2.5,SNR=3.3
SONM LR LR 00 52 10.3
comp=Z,126nm,19.8s,baz=88,slow=37
SONM Songino Array 27.59 303 P **P** **00 40 56.8 +0.1**
SONM IAmb IAmb 00 40 58.6
comp=Z,17nm,0.7s
H11N2 WAKE ISLAND Hy 28.33 122 T T 01 11 28.6
baz=315,slow=75,SNR=145
H11N1 WAKE ISLAND Hy 28.33 122 T T 01 11 17.0
baz=315,slow=75,SNR=246
H11N3 WAKE ISLAND Hy 28.34 122 T T 01 11 18.0
baz=315,slow=75,SNR=231
H11S1 WAKE ISLAND Hy 29.05 124 T T 01 12 11.2
baz=317,slow=76,SNR=1056
H11S3 WAKE ISLAND Hy 29.06 124 T T 01 12 19.5
baz=317,slow=76,SNR=1149
H11S2 WAKE ISLAND Hy 29.07 124 T T 01 12 20.7
baz=317,slow=76,SNR=759
AMKA Amchitka 29.93 50 P **P** **00 41 16.5 -0.7**

ZAK Zakamensk 30.04 308 *e*P **P** **00 41 18.1 -0.2**
ZAK pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 30.08 310 P **P** **00 41 18.9 +0.3**
comp=Z,6.9nm,0.7s,baz=126,slow=5.2,SNR=18
TLY LR LR 00 53 51.6
comp=Z,275nm,18.9s,baz=144,slow=37
TLY Talaya 30.08 310 *e*P **P** **00 41 19.2 +0.6**
TLY *e*S **S** **00 46 05.4 -7.9**
TLY pmax pmax
comp=Z,19nm,0.9s
TLY MLR MLR
comp=Z,753nm,20.0s
TLY Talaya 30.08 310 P **P** **00 41 18.0 -0.6**
TLY IAmb IAmb 00 41 19.9
comp=Z,9.4nm,0.8s
LZH Lanzhou 30.08 279⇑P **P** **00 41 19.4 +0.4**
LZH pP pP 00 41 31.5 -0.6
LZH sP sP 00 41 39.8 +1.6
LZH pmax pmax
comp=Z,38nm,1.3s
LZH pmax pmax
comp=Z,130nm,5.2s
LZH L L
comp=Z,220nm,13.2s
LZH L L
comp=Z,320nm,13.4s
LZH L L
comp=Z,210nm,16.3s
GYA Guiyang 31.41 260⇑P **P** **00 41 29.8 -0.9**
GYA pP pP 00 41 43.1 -0.8
GYA pmax pmax
comp=Z,10.0nm,0.9s
CD2 Chengdu 31.77 269 P **P** **00 41 32.5 -1.3**
CD2 pP pP 00 41 46.6 -0.4
CD2 S **S** **00 46 41.8 +1.5**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,140nm,4.7s
CD2 L L
comp=Z,260nm,15.9s
CD2 L L
comp=Z,280nm,22.6s
CD2 L L
comp=Z,360nm,21.5s
GTA Gaotai 32.51 286⇓P **P** **00 41 39.5 -0.8**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,66nm,5.3s
GTA L L
comp=Z,120nm,19.6s
GTA L L
comp=Z,180nm,21.4s
GTA L L
comp=Z,220nm,21.5s
QIZ Qiongzhong 33.23 245 P **P** **00 41 48.0 +1.5**
QIZ S **S** **00 47 07.8 +4.8**
QIZ L L
comp=Z,150nm,16.1s
QIZ L L
comp=Z,120nm,15.9s
QIZ L L
comp=Z,180nm,15.7s
QIZ Qiongzhong 33.23 245 P **P** **00 41 46.2 -0.4**
QIZ IAmb IAmb 00 41 50.4
comp=Z,24nm,1.2s
BILL Bilibino 33.51 17⇓*i*P **P** **00 41 48.1 -0.4**
BILL *e**PP **sP** **00 42 05.0 -2.8**
BILL *e* 00 42 59.1
BILL *i* 00 44 30.1
BILL SS SS 00 49 11.0 -21
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL MLR MLR
comp=Z,243nm,20.0s
BILL Bilibino 33.51 17 P **P** **00 41 48.1 -0.4**
ATKA Atka Island 34.05 50 P **P** **00 41 52.7 -0.6**
ATKA IAmb IAmb 00 42 08.3
comp=Z,12nm,1.0s
TIXI Tiksi 34.80 353 P **P** **00 41 59.4 -0.2**
comp=Z,3.3nm,0.5s,baz=137,slow=9.5,SNR=6.9
TIXI Tiksi 34.80 353⇑*i*P **P** **00 41 59.1 -0.5**
TIXI Tiksi 34.80 353 P **P** **00 41 58.8 -0.7**
TIXI IAmb IAmb 00 42 01.6
comp=Z,7.6nm,0.9s
KMI Kunming 35.14 261⇑P **P** **00 42 02.6 -0.7**
KMI pP pP 00 42 16.1 -0.5
KMI pmax pmax
comp=Z,54nm,1.0s
KMI pmax pmax
comp=Z,100nm,4.6s
KMI L L
comp=Z,160nm,16.4s
KMI L L
comp=Z,240nm,17.2s
KMI L L
comp=Z,320nm,23.2s
SLVN Son La 36.26 254 P **P** **00 42 12.2 -0.5**
SLVN IAmb IAmb 00 42 13.7
comp=Z,9.3nm,0.8s
GAMB Gambell 38.23 32 P 00 42 30.5
baz=249
NONG Nongkai 38.77 251 P **P** **00 42 34.4 +0.5**
comp=Z,5μmcomp=Z,41nm,0.9s
NONG Nongkai 38.77 251 P **P** **00 42 34.4 +0.5**
comp=Z,5μmcomp=Z,40nm,0.9s
DGZ Jazzator, Alta 40.18 305*c i*P **P** **00 42 46.8 +1.3**
DGZ pmax pmax
comp=Z,96nm,0.9s
TNA Tin City 40.37 30 P **P** **00 42 47.4 +0.8**
TNA IAmb IAmb 00 42 50.2
comp=Z,14nm,1.0s
TNA Tin City 40.37 30 P 00 42 48.8
baz=251
GTOI Gorontalo 40.51 209 P **P** **00 42 44.5 -3.8**
comp=Z,9.9nm,0.8s
WMQ Urumqi 40.70 296 *e*P **P** **00 42 51.1 +1.3**
WMQ pP pP 00 42 59.1 -4.2
WMQ sP sP 00 43 08.3 -1.1
WMQ pmax pmax
comp=Z,34nm,0.9s
WMQ pmax pmax
comp=Z,130nm,3.8s
WMQ L L
comp=Z,310nm,3.9s
WMQ L L
comp=Z,46nm,6.3s
WMQ L L
comp=Z,390nm,26.3s
UTTA Uttaradit 40.91 253 P **P** **00 42 52.1 +0.4**
comp=Z,16nm,0.9s
UTTA Uttaradit 40.91 253 P **P** **00 42 52.2 +0.5**
comp=Z,3.9nm,0.9s
CHAI Chaiyaphum 40.98 249 P **P** **00 42 52.5 +0.2**
comp=Z,22nm,1.1s
CHAI Chaiyaphum 40.98 249 P **P** **00 42 52.0 -0.3**
comp=Z,5.4nm,1.1s
TOLI2 Tolitoli 40.99 213 P **P** **00 42 53.2 +0.9**
PHIT Phitsanulok 41.35 252 P **P** **00 42 57.7 +2.3**
comp=Z,4μmcomp=Z,29nm,0.9s
PHIT Phitsanulok 41.35 252 P **P** **00 42 57.7 +2.3**
comp=Z,1μmcomp=Z,7.2nm,0.9s
CM33 Chiang Mai Arr 41.51 255 P **P** **00 42 57.0 +0.3**
CMMT Chiang Mai 41.51 255 P **P** **00 42 56.9 +0.3**
comp=Z,11nm,0.8s
CMMT Chiang Mai 41.51 255 P **P** **00 42 57.0 +0.3**
comp=Z,11nm,0.8s
CHTO Chiang Mai 41.51 255 P **P** **00 42 56.2 -0.5**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 41.51 255 P **P** **00 42 57.9 +1.2**
comp=Z,11nm,1.5s
CHTO Chiang Mai 41.51 255 P **P** **00 42 56.2 -0.5**
CHTO Chiang Mai 41.51 255 P **P** **00 42 56.1 -0.6**
comp=Z,6.4nm,1.5s
ZAA0 Zalesovo Array 41.65 312 P **P** **00 42 57.7 +0.3**
ZALV Zalesovo Beam 41.65 312 P **P** **00 42 57.5 +0.1**
comp=Z,32nm,0.9s,baz=87,slow=7.6,SNR=87
ZALV PcP **PcP** **00 44 52.9 -0.4**
comp=Z,5.1nm,0.5s,baz=94,slow=3.3,SNR=6.1
ZALV LR LR 01 00 57.5
comp=Z,195nm,18.4s,baz=82,slow=37
ZALV Zalesovo Beam 41.65 312 P **P** **00 42 57.2 -0.2**
CMAR Chiang Mai Arr 41.72 255 P **P** **00 42 59.0 +0.6**
comp=Z,2.3nm,0.7s,baz=46,slow=7.2,SNR=12
CMAR LR LR 01 00 57.8
comp=Z,158nm,18.7s,baz=80,slow=37
CMAR Chiang Mai Arr 41.72 255 P **P** **00 42 58.2 -0.2**
CM13 Chiang Mai Arr 41.77 255 P **P** **00 43 03.5 +4.7**
comp=Z,4.8nm,1.1s
CM13 Chiang Mai Arr 41.77 255 P **P** **00 43 03.5 +4.7**
comp=Z,4.8nm,1.1s
ZSN Zaisan 42.09 302⇑*i*P **P** **00 43 01.6 +0.5**
comp=Z,22nm,0.8s,baz=302
ZSN Zaisan 42.09 302*c i*P **P** **00 43 01.6 +0.5**
ZSN pmax pmax
comp=Z,22nm,0.8s
SRAK Srakaew 42.15 247 P **P** **00 42 59.9 -2.0**
comp=Z,248nm,0.7s
LSA Lhasa 42.26 275 P **P** **00 43 03.8 +0.6**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 42.26 275 P **P** **00 43 03.8 +0.6**
NRIK Noril'sk 42.85 335 P **P** **00 43 06.8 -0.1**
comp=Z,4.2nm,0.5s,baz=101,slow=11,SNR=11
NRIK LR LR 01 01 58.0
comp=Z,149nm,18.3s,baz=108,slow=37
NRIK Noril'sk 42.85 335*ce*P **P** **00 43 06.5 -0.4**
NRIK pmax pmax
comp=Z,12nm,1.4s
NRIK Noril'sk 42.85 335 P **P** **00 43 06.6 -0.4**
RDOG Red Dog Mine 43.01 27 P **P** **00 43 09.6 +1.4**
RDOG IAmb IAmb 00 43 11.7
comp=Z,15nm,1.1s
RDOG Red Dog Mine 43.01 27 P 00 43 10.4
baz=254
SHL Shillong 43.51 269 P **P** **00 43 12.6 -0.5**
SHL pmax pmax
comp=Z,20nm,0.9s
SHL Shillong 43.51 269 P **P** **00 43 12.6 -0.5**
SHL IAmb IAmb 00 43 19.0
comp=Z,20nm,0.9s
MK31 Makanchi Array 43.94 302*c i*P **P** **00 43 16.1 +0.1**
MK31 Makanchi Array 43.94 302 P **P** **00 43 16.1 +0.1**
MK31 IAmb IAmb 00 43 17.2
comp=Z,33nm,1.4s
MKAR Makanchi Array 43.94 302 P **P** **00 43 16.1 +0.1**
comp=Z,9.5nm,0.6s,baz=85,slow=9.4,SNR=76
MKAR PcP **PcP** **00 45 01.2 0.0**
comp=Z,2.5nm,0.7s,baz=58,slow=3.6,SNR=3.4
MKAR LR LR 01 01 59.6
comp=Z,97nm,20.4s,baz=76,slow=37
MKAR Makanchi Array 43.94 302 P **P** **00 43 15.9 -0.1**
MAKZ Makanchi 44.14 302 P **P** **00 43 17.8 +0.1**
MAKZ pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 44.14 302 P **P** **00 43 17.8 +0.1**
MAKZ IAmb IAmb 00 43 19.6
comp=Z,12nm,0.8s
PHET Kaeng Krachan 44.64 248 P **P** **00 43 23.6 +1.7**
comp=Z,51nm,0.7s
PHET Kaeng Krachan 44.64 248 P **P** **00 43 23.6 +1.7**
SEM Semipalatinsk 44.71 307 *e*P **P** **00 43 20.3 -2.1**
baz=307
SEM Semipalatinsk 44.71 307 *e*P **P** **00 43 20.3 -2.1**
N18K Kilae Creek 44.90 38 P 00 43 25.4
baz=268
TTA Tatalina 44.95 35 P **P** **00 43 25.1 +1.1**
TTA pmax pmax
comp=Z,3.0nm,1.1s
TTA Tatalina 44.95 35 P **P** **00 43 25.1 +1.1**
TTA Tatalina 44.95 35 P 00 43 25.4
baz=266
SVW2 Sparrevohn 45.06 38 P **P** **00 43 26.2 +1.5**
KURK Kurchatov 45.70 308 P **P** **00 43 30.4 +0.5**
KURBB Kurchatov Arra 45.77 308 P **P** **00 43 30.4 -0.1**
comp=Z,34nm,0.7s,baz=83,slow=8.2,SNR=173
KURBB Kurchatov Arra 45.77 308 P **P** **00 43 29.7 -0.8**
KURBB pmax pmax
comp=Z,46nm,0.8s
A21K Barrow 45.95 23 P **P** **00 43 32.4 +0.7**
A21K Barrow 45.95 23 P 00 43 32.9
baz=257
TAPN Taplejung 46.01 274 *e*P **P** **00 43 33.2 +0.1**
SAUI Saumlaki 46.29 194 P **P** **00 43 35.2 +0.3**
ODAN Odare 46.48 273 *e*P **P** **00 43 36.3 -0.4**
H21K Melozitna Rive 46.53 31 P 00 43 38.1
baz=266
PDGK Podgornoye 46.63 298 P **P** **00 43 36.8 -0.7**
PDGK pmax pmax
comp=Z,18nm,0.6s
CHUM Lake Minchumin 46.66 34 P 00 43 39.5
baz=268
SHLS Shalkode 46.69 297 *e*P **P** **00 43 34.9 -3.1**
baz=297
SHLS Shalkode 46.69 297 *e*P **P** **00 43 34.9 -3.1**
PPLA Purkeypile 46.70 35 P **P** **00 43 38.6 +0.8**
PPLA IAmb IAmb 00 43 55.5
comp=Z,18nm,1.5s
PPLA Purkeypile 46.70 35 P 00 43 40.1
baz=269
I21K Tanana 46.85 32 P 00 43 40.8
baz=268
KAPI Kappang 46.95 210 P **P** **00 43 40.5 +0.4**
KAPI pmax pmax
comp=Z,26nm,1.3s
KAPI Kappang 46.95 210 P **P** **00 43 40.5 +0.4**
KAPI IAmb IAmb 00 43 55.9
comp=Z,26nm,1.3s
KAPI Kappang 46.95 210 P **P** **00 43 39.3 -0.8**
comp=Z,13nm,1.1s
TDK Taldyqorghan 46.96 300 *e*P **P** **00 43 39.8 -0.3**
baz=300
TDK Taldyqorghan 46.96 300 *e*P **P** **00 43 39.7 -0.3**
PMG Port Moresby 46.99 172 P **P** **00 43 41.2 +0.8**
PMG pmax pmax
comp=Z,27nm,1.0s
PMG Port Moresby 46.99 172 P **P** **00 43 41.2 +0.8**
PMG Port Moresby 46.99 172 P **P** **00 43 40.6 +0.2**
comp=Z,29nm,1.1s
UZB Uzynbulak 47.00 297 *e*P **P** **00 43 39.7 -0.8**
baz=297
UZB Uzynbulak 47.00 297 *e*P **P** **00 43 39.7 -0.8**
SKT Skwentna 47.01 36 P **P** **00 43 41.8 +1.7**
SKT Skwentna 47.01 36 P 00 43 41.6
baz=271
HOM Homer 47.03 40 P **P** **00 43 41.8 +1.5**
RAMN Ramite 47.07 274 *e*P **P** **00 43 41.3 0.0**
comp=Z,61nm,0.7s
KPKS Kokpek 47.16 298⇑*e*P **P** **00 43 41.5 -0.2**
comp=Z,6.1nm,0.5s,baz=298
KPKS Kokpek 47.16 298*ce*P **P** **00 43 41.4 -0.2**
KPKS pmax pmax
comp=Z,6.0nm,0.5s
CNPM China Poot 47.25 40 P **P** **00 43 43.9 +1.9**
CNPM IAmb IAmb 00 43 55.0
comp=Z,18nm,1.2s
BPAW Bear Paw Mtn. 47.25 34 P **P** **00 43 43.1 +1.2**
BPAW Bear Paw Mtn. 47.25 34 P 00 43 44.0
baz=269
KTH Kantishna Hill 47.27 34 P **P** **00 43 43.1 +0.9**
KTH IAmb IAmb 00 43 58.2
comp=Z,12nm,1.2s
MLY Manley 47.37 32 P **P** **00 43 44.4 +1.5**
MLY IAmb IAmb 00 43 45.9
comp=Z,12nm,1.4s
MLY Manley 47.37 32 P 00 43 44.5
baz=269,SNR=7.5
SUA Susitna One 47.39 37 P **P** **00 43 44.5 +1.3**
SUA IAmb IAmb 00 43 59.6
comp=Z,7.8nm,1.0s
SUA Susitna One 47.40 37 P 00 43 44.8
baz=272
BRLK Bradley Lake 47.41 39 P **P** **00 43 43.4 +0.2**
BRLK IAmb IAmb 00 43 45.1
comp=Z,18nm,1.1s
SATY Saty 47.46 297 *e*P **P** **00 43 41.9 -2.2**
baz=297
SATY Saty 47.46 297 *e*P **P** **00 43 41.8 -2.2**
TRF Thorofare Moun 47.56 34 P **P** **00 43 45.8 +1.2**
ARXS Arharly 47.56 299 *e*P **P** **00 43 44.8 +0.1**
PRZ Przheval'sk 47.62 297 P **P** **00 43 46.2 +0.8**
PRZ pmax pmax
comp=Z,31nm,1.1s
PRZ Przheval'sk 47.62 297 P **P** **00 43 46.2 +0.8**
PKI Pulchoki 47.73 275 *e*P **P** **00 43 46.4 -0.2**
comp=Z,38nm,0.9s
KKN Kakani 47.73 275 *e*P **P** **00 43 46.9 +0.5**
PKIN Phulchoki 47.74 275 *e*P **P** **00 43 46.2 -0.3**
comp=Z,25nm,0.7s

H23K Yukon River 47.88 31 P 00 43 48.8
baz=269,SNR=14
RC01 Rabbit Creek A 47.90 38 P 00 43 48.5
baz=273
BWN Browne 47.92 33 P **P** **00 43 49.3 +2.2**
I23K Minto, Yukon-K 47.95 32 P **P** **00 43 49.0 +1.6**
I23K Minto, Yukon-K 47.95 32 P 00 43 49.2
baz=270
TOLK Toolik Lake Re 47.98 27 P **P** **00 43 49.0 +1.4**
TOLK IAmb IAmb 00 43 50.4
comp=Z,7.8nm,0.8s
TOLK Toolik Lake Re 47.98 27 P 00 43 49.2
baz=266,SNR=5.5
NEA2 Nenana 48.08 33 P **P** **00 43 49.7 +1.4**
NEA2 IAmb IAmb 00 43 51.2
comp=Z,14nm,1.4s
NEA2 Nenana 48.08 33 P 00 43 49.6
baz=271,SNR=5.8
GKN Gorkha 48.15 276 *e*P **P** **00 43 49.7 +0.1**
comp=Z,160nm,0.9s
MCK McKinley 48.16 34 P **P** **00 43 49.3 +0.3**
MCK pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 48.16 34 P **P** **00 43 49.3 +0.3**
MCK McKinley 48.16 34 P 00 43 49.8
baz=272
PMR Palmer 48.16 37 P **P** **00 43 50.2 +1.2**
PMR pmax pmax
comp=Z,14nm,1.2s
PMR Palmer 48.16 37 P **P** **00 43 50.2 +1.2**
PMR IAmb IAmb 00 44 04.3
comp=Z,14nm,1.2s
RND Reindeer 48.21 34 P **P** **00 43 49.4 0.0**
RND pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 48.21 34 P **P** **00 43 49.4 0.0**
RND IAmb IAmb 00 44 06.1
comp=Z,7.9nm,1.0s
CHKK Chushkaly 48.24 299⇑ *e*P **P** **00 43 49.4 -0.6**
baz=299
CHKK Chushkaly 48.24 299⇑ *e*P **P** **00 43 49.3 -0.6**
GHO Glory Hole Cre 48.25 37 P **P** **00 43 50.7 +0.9**
GHO IAmb IAmb 00 44 05.5
comp=Z,10nm,0.8s
TARG Taragay, Kyrgy 48.27 296 P **P** **00 43 51.2 +0.5**
MDOK Medeo 48.39 298 *e*P **P** **00 43 51.2 0.0**
baz=298
MDOK Medeo 48.39 298 *e*P **P** **00 43 51.2 0.0**
MDM Murphy Dome 48.44 32 P **P** **00 43 52.6 +1.5**
MDM IAmb IAmb 00 43 53.9
comp=Z,15nm,1.2s
KNK Knik Glacier 48.49 37 P **P** **00 43 51.9 +0.3**
KNK IAmb IAmb 00 43 53.6
comp=Z,5.5nm,0.8s
KNK Knik Glacier 48.50 37 P 00 43 52.5
baz=274
WRH Wood River Hil 48.51 33 P **P** **00 43 52.4 +0.8**
SML Sawmill 48.53 37 P **P** **00 43 52.6 +0.7**
SML IAmb IAmb 00 43 54.0
comp=Z,7.0nm,0.8s
SML Sawmill 48.53 37 P 00 43 52.7
baz=274
H24K Noodor Dome 48.57 31 P 00 43 54.2
baz=271,SNR=9.3
KUU Kurty 48.68 299⇑ *i*P **P** **00 43 52.8 -0.5**
comp=Z,11nm,0.4s,baz=299
KUU Kurty 48.68 299*c i*P **P** **00 43 52.8 -0.5**
KUU pmax pmax
comp=Z,11nm,0.4s
DANN Dangsing 48.69 277 *e*P **P** **00 43 54.4 +0.5**
comp=Z,272nm,0.8s
WAT6 Susitna Watana 48.76 36 P 00 43 54.9
baz=274
POKR Poker Plat Res 48.77 32 IAmb IAmb 00 43 56.6
comp=Z,16nm,0.9s
POKR Poker Plat Res 48.77 32 P 00 43 54.0
baz=272
MTBS Maitube 48.83 298⇑ *e*P **P** **00 43 54.2 -0.4**
baz=298
MTBS Maitube 48.83 298*c e*P **P** **00 43 54.1 -0.4**
SCM Sheep Creek Mo 49.00 37 P **P** **00 43 56.3 +0.7**
SCM pmax pmax
comp=Z,11nm,1.0s
SCM Sheep Creek Mo 49.00 37 P **P** **00 43 56.3 +0.7**
SCM IAmb IAmb 00 43 57.8
comp=Z,11nm,1.0s
HDA Harding Lake 49.01 33 IAmb IAmb 00 43 57.1
comp=Z,6.9nm,1.0s
HDA Harding Lake 49.01 33 P 00 43 56.3
baz=273
HDA P 00 43 56.3
baz=273
IL31 49.02 33 P **P** **00 43 55.8 +0.3**
IL31 IAmb IAmb 00 43 57.3
comp=Z,6.2nm,0.9s
ILAR Eielson Array 49.02 33 P **P** **00 43 56.2 +0.7**
comp=Z,4.2nm,0.8s,baz=270,slow=6.1,SNR=40
ILAR pP **pP** **00 44 10.3 +1.0**
comp=Z,3.2nm,0.6s,baz=268,slow=6.4,SNR=7.8
ILAR LR LR 01 05 30.7
comp=Z,22nm,22.0s,baz=266,slow=37
ILAR Eielson Array 49.02 33 P **P** **00 43 55.8 +0.3**
KOLN Koldanda 49.07 276 *e*P **P** **00 43 56.9 +0.2**
comp=Z,90nm,1.0s
GLI Glacier Island 49.20 38 P 00 43 57.8
baz=276
ULHL Ulahol 49.22 297 P **P** **00 43 58.0 +0.3**
SNR=10
PYUN Piuthan 49.40 277 *e*P **P** **00 43 59.6 +0.3**
comp=Z,148nm,0.7s
TKM2 Tokmak 2 49.48 298 P **P** **00 44 00.6 +0.9**
SNR=78
TKM2 Tokmak 2 49.48 298 P **P** **00 44 00.4 +0.7**
TKM2 pmax pmax
comp=Z,35nm,0.7s
PRP Porcupine Dome 49.55 32 P **P** **00 44 01.0 +1.2**
PRP Porcupine Dome 49.55 32 P 00 44 01.0
baz=273
BRZS Berezniki 49.58 308⇑ *i*P **P** **00 43 59.7 -0.4**
comp=Z,11nm,0.9s,baz=308
BRZS Berezniki 49.58 308*c i*P **P** **00 43 59.6 -0.4**
BRZS pmax pmax
comp=Z,11nm,0.9s
FYU Fort Yukon 49.62 30 P **P** **00 44 01.4 +1.2**
FYU IAmb IAmb 00 44 03.6
comp=Z,12nm,1.1s
KLU Klutina 49.70 37 P **P** **00 44 01.5 +0.6**
KLU IAmb IAmb 00 44 16.5
comp=Z,6.3nm,0.9s
KLU Klutina 49.70 37 P 00 44 01.9
baz=276
PAX Paxson 49.77 35 P 00 44 02.7
baz=275
BMAR Burnt Mountain 49.84 29 P **P** **00 44 04.1 +2.3**
BTLS Baital 49.94 301⇑ *i*P **P** **00 44 02.6 -0.3**
comp=Z,8.6nm,0.5s,baz=301
BTLS Baital 49.94 301*c i*P **P** **00 44 02.5 -0.3**
BTLS pmax pmax
comp=Z,9.0nm,0.5s
SGDS Sogindy 49.99 299 *e*P **P** **00 44 02.6 -0.9**
baz=299
SGDS Sogindy 49.99 299 *e*P **P** **00 44 02.5 -0.9**
KBK Karagaybulak 50.01 298 P **P** **00 44 04.3 +0.7**
SNR=37
CHMS Chumysh 50.05 298 P **P** **00 44 04.1 +0.3**
SNR=7.9
FRU1 Bishkek 50.19 298 P **P** **00 44 05.2 +0.3**
FRU1 pmax pmax
comp=Z,19nm,0.8s
FRU1 Bishkek 50.19 298 P **P** **00 44 05.2 +0.3**
OTUK Ortayu 50.21 306 P **P** **00 44 04.9 0.0**
OTUK pmax pmax
comp=Z,37nm,1.1s
BVAR Borovoye Array 50.31 312 P **P** **00 44 04.7 -0.9**
comp=Z,9.0nm,0.9s,baz=220,slow=11,SNR=38
BVAR PcP **PcP** **00 45 23.3 -0.4**
comp=Z,5.6nm,0.7s,baz=213,slow=10,SNR=6.2
N25K Chitina, Valde 50.32 37 P **P** **00 44 07.0 +1.5**
SCRK Sand Creek 50.33 34 IAmb IAmb 00 44 07.6
comp=Z,6.7nm,1.0s
SCRK Sand Creek 50.33 34 P 00 44 06.4
baz=276,SNR=10
AAK Ala-Archa 50.34 298 P **P** **00 44 06.5 +0.4**
SNR=8.2
AAK Ala-Archa 50.34 298 *i* P **P** **00 44 06.5 +0.4**
SNR=8.2
AAK Ala-Archa 50.34 298*c i*P **P** **00 44 06.3 +0.1**
AAK pmax pmax
comp=Z,32nm,0.7s
AAK Ala-Archa 50.34 298 P **P** **00 44 06.2 +0.1**
BRVK Borovoye 50.36 312*c i*P **P** **00 44 05.9 0.0**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 50.36 312 P **P** **00 44 05.8 -0.1**
BMRM Bremner River 50.40 37 P 00 44 07.4
baz=278
MENT Mentasta 50.56 35 P **P** **00 44 09.0 +1.7**
MENT IAmb IAmb 00 44 13.4
comp=Z,5.6nm,0.8s
EKS2 Erkin-Say 50.83 298 P **P** **00 44 09.8 0.0**
SNR=13
AML Almayashu 51.06 298 P **P** **00 44 12.7 +0.9**
SNR=21
AML Almayashu 51.06 298 *i* P **P** **00 44 12.7 +0.9**
SNR=20
MCARA McCarthy VSAT 51.10 37 P 00 44 12.4
baz=279
K27K Chicken 51.16 33 P **P** **00 44 13.1 +1.3**
K27K Chicken 51.16 33 P 00 44 13.4
baz=277,SNR=13
L27K Beaver Creek, 51.40 35 P **P** **00 44 15.1 +1.4**
L27K IAmb IAmb 00 44 16.8
comp=Z,8.1nm,1.1s
L27K Beaver Creek, 51.40 35 P 00 44 15.7
baz=278,SNR=10.0
EGAK Eagle 51.46 32 P 00 44 15.0
baz=278
GRNC Granite Creek 51.81 37 P **P** **00 44 17.9 +0.9**
GRNC IAmb IAmb 00 44 33.1
comp=Z,8.1nm,1.0s
ARSB Arslanbob 51.83 297 P **P** **00 44 18.1 +0.8**
ARSB Arslanbob 51.83 297 P **P** **00 44 18.1 +0.8**
CTGM Chitina Glacie 51.97 37 P **P** **00 44 18.8 +0.7**
PSI Prapat 52.14 239 P **P** **00 44 19.2 -0.6**
comp=Z,5.7nm,0.5s,baz=356,slow=3.6,SNR=5.1
PSI Prapat 52.14 239 P **P** **00 44 20.0 +0.1**
PSI pmax pmax
comp=Z,25nm,1.4s
PSI Prapat 52.14 239 P **P** **00 44 19.9 +0.1**
RPSI Rantau Prapat 52.22 239 P **P** **00 44 20.0 -0.3**
RPSI IAmb IAmb 00 44 25.4
comp=Z,25nm,1.4s
DAWY Dawson 52.32 33 P **P** **00 44 21.9 +1.4**
BKNI Bangkinang 52.56 235 P **P** **00 44 23.2 +0.4**
KK31 Karatay Array 52.96 300 P **P** **00 44 24.9 -0.6**
KK31 pmax pmax
comp=Z,20nm,1.1s
KK31 Karatay Array 52.96 300 IAmb IAmb 00 44 28.0
comp=Z,18nm,1.1s
KKAR Karatay Array 52.96 300 IAmb IAmb 00 44 28.0
comp=Z,18nm,1.1s
PWJI Pagerwojo 53.17 218 P **P** **00 44 25.4 -1.8**
comp=Z,36nm,0.8s
MNSI Mandailing Nat 53.17 237 P **P** **00 44 26.8 -0.5**
comp=Z,2µmcomp=Z,18nm,0.6s
BTK Batken 53.81 296 P **P** **00 44 32.2 +0.3**
BTK pmax pmax
comp=Z,9.0nm,0.8s
BTK Batken 53.81 296 P **P** **00 44 32.1 +0.3**
BTK IAmb IAmb 00 44 36.5
comp=Z,9.3nm,0.8s
HYT Haines Junctio 53.84 37 P **P** **00 44 33.5 +1.7**
HYT IAmb IAmb 00 44 49.4
comp=Z,14nm,1.0s
INK Inuvik 53.89 27 P **P** **00 44 32.9 +1.0**
comp=Z,7.6nm,0.8s,baz=284,slow=6.6,SNR=11
INK pP **pP** **00 44 47.8 +2.0**
comp=Z,5.0nm,0.8s,baz=265,slow=3.3,SNR=4.1
INK Inuvik 53.89 27 P **P** **00 44 32.2 +0.4**
INK IAmb IAmb 00 44 34.3
comp=Z,11nm,1.0s
INK Inuvik 53.89 27 P 00 44 33.1
baz=281,SNR=6.3
GSI Gunungsitoli 54.14 239 P **P** **00 44 34.1 -0.3**
GSI Gunungsitoli 54.14 239 P **P** **00 44 34.1 -0.3**
comp=Z,4µmcomp=Z,44nm,0.7s
MDSI Maura Dua 54.35 228 P **P** **00 44 35.4 -0.5**
comp=Z,10.0nm,1.3s
MDSI pP **pP** **00 44 46.3 -3.6**
comp=Z,10.0nm,1.3s
WMR Waimanalo Ridg 54.47 89 P **P** **00 44 34.6 -2.2**
NIL Nilore 54.55 288 P **P** **00 44 37.7 +0.4**
NIL pmax pmax
comp=Z,23nm,0.8s
NIL Nilore 54.55 288 P **P** **00 44 37.7 +0.4**
GAR Garm 54.57 295 P **P** **00 44 37.0 -0.5**
SVE Sverdlovsk 54.83 318*d i*P **P** **00 44 39.7 +0.8**
SVE pmax pmax
comp=Z,64nm,0.9s
WHY Whitehorse 55.12 37 P **P** **00 44 42.4 +1.3**
WHY Whitehorse 55.12 37 P 00 44 43.0
baz=286
BESE Bessie Mountai 55.72 39 P **P** **00 44 47.1 +1.7**
ARU Arti 56.05 318 P **P** **00 44 47.8 +0.2**
comp=Z,19nm,0.8s,baz=74,slow=4.9,SNR=79
ARU Arti 56.05 318*c i*P **P** **00 44 47.7 +0.1**
ARU *PP **pP** **00 45 02.7 +1.0**
ARU 00 45 44.8
ARU PPP PPP 00 48 06.1
ARU S **S** **00 52 33.1 +0.9**
ARU SS **SS** **00 56 15.1 -3.2**
ARU pmax pmax
comp=Z,72nm,1.1s
ARU MLR MLR
comp=Z,193nm,18.0s
ARU Arti 56.05 318 P **P** **00 44 47.4 -0.3**
JIS Juneau Island 56.05 39 P **P** **00 44 48.8 +1.2**
JIS IAmb IAmb 00 44 57.0
comp=Z,5.4nm,0.8s
C36M Paulatuk 56.93 25 P 00 44 54.8
baz=289
KBL Kabul 57.33 291 P **P** **00 44 56.8 -0.5**
KBL pmax pmax
comp=Z,25nm,1.0s
KBL Kabul 57.33 291 P **P** **00 44 56.8 -0.5**
WR0 Warramunga Arr 57.57 188 P **P** **00 44 58.6 -0.2**
WR0 IAmb IAmb 00 45 12.8
comp=Z,14nm,0.9s
WB2 Warramunga Arr 57.57 188 P **P** **00 44 58.5 -0.3**
WRA Warramunga Arr 57.58 188 P **P** **00 44 58.2 -0.6**
comp=Z,5.3nm,0.7s,baz=5.9,slow=7.3,SNR=32
WRA pP **pP** **00 45 12.1 -0.8**
comp=Z,14nm,0.8s,baz=3.7,slow=7.5,SNR=17
WRA Warramunga Arr 57.58 188*c e*P **P** **00 45 03.2 +4.4**
WRA pmax pmax
comp=Z,3.0nm,0.6s
AB31 Akbulak array 57.69 310 P **P** **00 44 58.8 -0.6**
AB31 pmax pmax
comp=Z,15nm,0.7s
DLBC Dease Lake 58.17 38 P **P** **00 45 05.0 +2.3**
DLBC IAmb IAmb 00 45 19.7
comp=Z,6.2nm,0.9s
HYB Hyderabad 58.32 268 *i* P **P** **00 45 04.0 -0.3**
AKTO Aktyubinsk 58.41 312 P **P** **00 45 04.0 -0.4**
comp=Z,17nm,0.9s,baz=66,slow=6.2,SNR=31
AKTO PcP **PcP** **00 45 54.4 -0.3**
comp=Z,6.3nm,0.7s,baz=59,slow=4.3,SNR=4.6
KIRV Kirov 59.90 323 P **P** **00 45 15.0 +0.4**
comp=Z,85nm,0.7s,baz=67,slow=2.7,SNR=37
KIRV Kirov 59.90 323*c i*P **P** **00 45 14.9 +0.4**
KBS Kingsbay 60.17 350⇑ *i*P **P** **00 45 17.2 +1.0**
KBS IAmb IAmb 00 45 18.0
comp=Z,43nm,0.9s
KBS Kingsbay 60.17 350*c i*P **P** **00 45 17.1 +1.0**
KBS pmax pmax
comp=Z,21nm,0.9s
KBS Kingsbay 60.17 350 P **P** **00 45 17.4 +1.2**
PRGR Permogore 60.40 327 *e*P **P** **00 45 15.9 -2.0**
PRGR pmax pmax
comp=Z,57nm,1.0s
NOR Nord 60.55 356 *i* P **P** **00 45 19.0 +0.3**
NOR IAmb IAmb 00 45 19.4
comp=Z,8.7nm,0.9s
NOR Nord 60.55 356 *i* P **P** **00 45 19.0 +0.3**
NOR pmax pmax
comp=Z,9.0nm,0.9s
AS31 Alice Springs 61.30 188 P **P** **00 45 24.1 -0.4**
ASAR Alice Springs 61.30 188 P **P** **00 45 24.6 +0.2**
comp=Z,3.6nm,0.8s,baz=11,slow=6.7,SNR=29
ASAR pP **pP** **00 45 38.6 -0.1**
comp=Z,7.1nm,0.8s,baz=11,slow=6.8,SNR=16
ASAR Alice Springs 61.30 188 P **P** **00 45 24.2 -0.2**
LVZ Lovozero 61.69 336⇑ *i*P **P** **00 45 27.2 +0.6**
LVZ pmax pmax
comp=Z,49nm,1.4s
RES Resolute Bay 62.09 15 P **P** **00 45 29.6 +0.5**
RES pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 62.09 15 P **P** **00 45 29.6 +0.5**
RES IAmb IAmb 00 45 30.4
comp=Z,12nm,0.8s
PSA00 Pilbara Seismi 62.24 203 P **P** **00 45 30.9 +0.1**
PSA00 IAmb IAmb 00 45 31.1
comp=Z,4.9nm,0.9s
HRA Herat 62.40 294 P **P** **00 45 32.7 +0.5**
HRA IAmb IAmb 00 45 33.6
comp=Z,9.5nm,0.8s
YKA Yellowknife Ar 63.32 30 P **P** **00 45 38.4 +0.8**
comp=Z,2.7nm,0.7s,baz=302,slow=6.7,SNR=10.0
YKA pP **pP** **00 45 52.3 +0.5**
comp=Z,1.6nm,0.8s,baz=294,slow=6.5,SNR=4.3
YKA Yellowknife Ar 63.32 30*c e*P **P** **00 45 38.5 +1.0**
YKA pmax pmax
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 63.38 328*c i*P **P** **00 45 37.9 -0.1**
KLMR *e* 00 47 56.7
KLMR pmax pmax
comp=Z,27nm,0.7s
KLMR Klimovskoe 63.38 328⇑ *i*P **P** **00 45 37.9 -0.1**
KLMR ⇓ *i*P **P** **00 45 37.9 -0.1**
KLMR ⇓ *i*P **P** **00 45 37.9 -0.1**
KLMR AMP 00 45 38.9
comp=Z,27nm,0.7s
KLMR *e*PP **PP** **00 47 56.8 -0.5**
BELG Belogornoye 63.50 317 P **P** **00 45 38.8 0.0**
comp=Z,39nm,0.8s,baz=68,slow=3.2,SNR=5.9
BELG Belogornoye 63.50 317⇑ *i*P **P** **00 45 37.9 -0.9**
BELG pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 63.56 339 P **P** **00 45 39.4 +0.3**
comp=Z,9.7nm,0.8s,baz=52,slow=7.9,SNR=21
ARCES LR LR 01 16 01.0
comp=Z,66nm,22.0s,baz=35,slow=38
ARCES ARCESS Array B 63.56 339 P **P** **00 45 39.4 +0.3**
ARCES IAmb IAmb 00 45 41.1
comp=Z,14nm,1.0s
GEYT Alibeck 63.68 299 P **P** **00 45 40.3 0.0**
comp=Z,11nm,0.7s,baz=50,slow=2.3,SNR=8.6
GEYT LR LR 01 14 45.4
comp=Z,52nm,19.5s,baz=110,slow=37
GEYT Alibeck 63.68 299 P **P** **00 45 40.4 0.0**
GYA0B ALIBECK ARRAY 63.68 299 IAmb IAmb 00 45 41.6
comp=Z,11nm,0.8s
DZM Mont Dzumac 63.76 154 *e*LR LR 01 04 46.0
comp=Z,128nm,21.6s
NEEM North Greenlan 65.02 3 *i* P **P** **00 45 49.2 +0.4**
NEEM IAmb IAmb 00 45 50.1
comp=Z,14nm,0.8s
DAG Danmarks Havn 65.28 355⇑ *i*P **P** **00 45 50.3 +0.1**
DAG IAmb IAmb 00 45 51.0
comp=Z,16nm,0.8s
DAG Danmarks Havn 65.28 355⇑ *i*P **P** **00 45 50.2 +0.1**
DAG pmax pmax
comp=Z,16nm,0.8s
MOS Moscow 66.90 323 *e*P **P** **00 46 00.3 -0.6**
MOS pmax pmax
comp=Z,42nm,1.1s
VRH Novokhopyorsk 67.27 318 *e*P **P** **00 46 02.5 -0.8**
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 67.75 323 P **P** **00 46 06.3 0.0**
comp=Z,3.6nm,0.5s,baz=45,slow=20,SNR=7.1
OBN Obninsk 67.75 323*c i*P **P** **00 46 06.2 0.0**
OBN *PP **pP** **00 46 23.0 +2.4**
OBN 00 46 35.0
OBN pmax pmax
comp=Z,31nm,1.1s
OBN MLR MLR
comp=Z,76nm,18.0s
DBG Daneborg 67.77 355 *i* P **P** **00 46 05.7 -0.4**
DBG IAmb IAmb 00 46 06.3
comp=Z,3.3nm,0.8s
LPSR Galich'ya Gora 67.98 320 *e*P **P** **00 46 07.6 -0.1**
LPSR pmax pmax
comp=Z,30nm,0.9s
I02D Swisshome 67.99 51 P 00 46 09.9
baz=301
FIA1 FINESS Array S 68.41 332 P **P** **00 46 10.4 +0.2**
FINES FINESS Array B 68.41 332 P **P** **00 46 10.5 +0.2**
comp=Z,25nm,0.8s,baz=60,slow=7.5,SNR=80
FINES LR LR 01 18 17.6
comp=Z,67nm,19.8s,baz=52,slow=38
FINES FINESS Array B 68.41 332*c e*P **P** **00 46 10.3 0.0**
FINES pmax pmax
comp=Z,25nm,0.8s
FINES FINESS Array B 68.41 332 P **P** **00 46 10.3 0.0**
I03D Drain, OR 68.51 51 P 00 46 12.7
baz=302
VSR Storozhevoye 68.62 319 *e*P **P** **00 46 10.8 -0.9**
VSR pmax pmax
comp=Z,40nm,1.1s
AKT Akhty 68.86 307*c i*P **P** **00 46 13.4 -0.2**
AKT pmax pmax
comp=Z,14nm,0.7s
I04A Tendick Farm, 69.04 50 P 00 46 16.0
baz=302
STKA Stephens Creek 69.06 180 P **P** **00 46 15.0 +0.4**
comp=Z,3.6nm,0.7s,baz=333,slow=7.8,SNR=9.4
STKA pP **pP** **00 46 29.1 +0.1**
comp=Z,12nm,0.9s,baz=332,slow=9.7,SNR=11
STKA Stephens Creek 69.06 180 P **P** **00 46 14.6 +0.1**
FORT Forrest 69.12 192 P **P** **00 46 15.6 +0.6**
NEW Newport 69.70 44 P **P** **00 46 19.5 +0.9**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 69.70 44 P **P** **00 46 19.5 +0.9**
NEW Newport 69.70 44 P 00 46 19.7
baz=304
GOF Gofitskoye 69.83 312⇑ *e*P **P** **00 46 19.8 +0.4**
GOF pmax pmax
comp=Z,47nm,0.9s
MEF Metsahovi 69.84 332 *e*P **P** **00 46 19.4 +0.3**
PINE Pine Mountain 69.94 50 P **P** **00 46 21.4 +1.0**
PINE IAmb IAmb 00 46 37.9
comp=Z,13nm,0.9s
L04D Klamath Falls 69.95 52 P 00 46 21.7
baz=303
M02C Callahan 70.05 53 P 00 46 22.2
baz=303
VSU Vasula 70.07 330 *e*P **P** **00 46 21.3 +0.8**
SUMG Summit 70.18 360 *i* P **P** **00 46 22.1 +0.6**
SUMG IAmb IAmb 00 46 23.5
comp=Z,9.7nm,0.8s
SUMG Summit 70.18 360 P **P** **00 46 22.3 +0.8**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 70.18 360 P **P** **00 46 22.3 +0.8**
SUMG IAmb IAmb 00 46 23.6
comp=Z,11nm,0.9s
RAF Rauma 70.26 333 *e*P **P** **00 46 20.9 -0.8**
K05A Summer Lake 70.55 51 P **P** **00 46 25.6 +1.6**
K05A IAmb IAmb 00 46 41.1
comp=Z,14nm,0.9s
ZEI Tsey 70.55 309 *e*P **P** **00 46 22.2 -1.9**
ZEI pmax pmax
comp=Z,13nm,1.5s
KVAR Kislovodsk Arr 70.64 311 P **P** **00 46 25.7 +1.2**
comp=Z,13nm,1.0s,baz=194,slow=4.2,SNR=9.5
KBZ Khabaz 70.65 311 P **P** **00 46 24.9 +0.6**
comp=Z,11nm,0.8s,baz=56,slow=3.3,SNR=25
KBZ LR LR 01 22 06.2
comp=Z,74nm,20.1s,baz=40,slow=40
KBZ Khabaz 70.65 311*c i*P **P** **00 46 24.6 +0.2**
KBZ pmax pmax
comp=Z,18nm,0.9s
KIV Kislovodsk 70.65 311 ⇑P **P** **00 46 25.0 +0.5**
KIV Kislovodsk 70.65 311 *i* P **P** **00 46 25.2 +0.6**
SNR=15
KIV Kislovodsk 70.65 311 *e*P **P** **00 46 25.0 +0.5**
KIV pmax pmax
comp=Z,103nm,1.1s
KIV MLR MLR
comp=Z,152nm,17.0s
KIV Kislovodsk 70.65 311 P **P** **00 46 25.0 +0.5**
SHA1 Shidzhatmaz 70.79 311*c i*P **P** **00 46 25.9 +0.4**
JLN Jalan Bani Buh 70.83 284 P **P** **00 46 26.3 +0.5**

WSAR Wadi Sarin 70.83 285 P **P** **00 46 25.9 0.0**
comp=Z,8.9nm,0.9s,baz=58,slow=9.1,SNR=4.7
WSAR Wadi Sarin 70.83 285 P **P** **00 46 25.9 0.0**
WBK Wadi Bani Khal 70.92 284 P **P** **00 46 27.6 +1.2**
ONI Oni 70.94 309 P **P** **00 46 27.9 +1.6**
ONI pmax pmax
comp=Z,13nm,1.2s
ONI Oni 70.94 309 P **P** **00 46 27.9 +1.6**
ONI IAmb IAmb 00 46 29.2
comp=Z,13nm,1.2s
WALA Waterton Lakes 71.00 42 P **P** **00 46 27.7 +1.1**
WALA IAmb IAmb 00 46 42.7
comp=Z,7.9nm,0.9s
BIDO Bidbid 71.06 285 P **P** **00 46 28.9 +1.7**
BANOM Banah 71.14 288 P **P** **00 46 28.1 +0.4**
SHME Shamm 71.19 289 *i* P **P** **00 46 28.2 +0.2**
SNR=7.9
SHME Shamm 71.19 289 P **P** **00 46 28.2 +0.2**
O03E Paynes Creek 71.32 53 P 00 46 29.6
baz=304
SMDO Samad 71.38 285 P **P** **00 46 30.1 +0.8**
AAL Aland 71.48 333 *eP* **P** **00 46 27.8 -1.2**
GNI Garni 71.48 307 P **P** **00 46 29.9 +0.1**
comp=Z,12nm,1.1s,baz=182,slow=7.5,SNR=6.1
GNI Garni 71.48 307 *c i* P **P** **00 46 30.4 +0.6**
GNI Garni 71.48 307 *c i* P **P** **00 46 30.5 +0.8**
GNI pmax pmax
comp=Z,24nm,1.6s
GNI Garni 71.48 307 P **P** **00 46 30.5 +0.8**
GNI IAmb IAmb 00 46 31.8
comp=Z,28nm,1.4s
MDH Madha 71.48 288 P **P** **00 46 29.6 -0.2**
MDH Madha 71.48 288 P **P** **00 46 29.3 -0.5**
BMO Blue Mountains 71.51 47 P **P** **00 46 31.1 +1.3**
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO Blue Mountains 71.51 47 P **P** **00 46 31.1 +1.3**
MASF Masafi 71.55 288 P **P** **00 46 30.6 +0.4**
MSFE Esma-Masafi 71.55 288 P **P** **00 46 30.6 +0.4**
JTMT Jette 71.56 44 P **P** **00 46 30.7 +0.6**
AKH Akhalkalaki 71.57 308 ⇑P **P** **00 46 31.3 +1.1**
HOQ Hoqain 71.66 286 P **P** **00 46 31.3 +0.4**
J08A Circle Bar Ran 71.67 49 P **P** **00 46 31.9 +1.2**
JMDO Jabal Madar 71.72 284 P **P** **00 46 31.3 0.0**
UOSS Minazif 71.75 288 P **P** **00 46 31.2 -0.2**
UOSS Minazif 71.75 288 P **P** **00 46 31.6 +0.2**
UOSS Minazif 71.75 288 P **P** **00 46 31.0 -0.4**
HATD Hatta, Dubai 71.87 288 *i* P **P** **00 46 32.6 +0.5**
SNR=7.9
SOHO SOHO 71.94 287 *i* P **P** **00 46 32.4 -0.2**
SNR=6.6
SOHO SOHO 71.94 287 P **P** **00 46 32.3 -0.2**
ASHO Ashiyiah 72.00 288 P **P** **00 46 33.2 +0.2**
ASHO Ashiyiah 72.00 288 P **P** **00 46 33.1 +0.2**
IDID Didziasalis 72.11 327 *eP* **P** **00 46 33.9 +1.0**
MNK Minsk 72.13 326 *i* P **P** **00 46 34.1 +1.0**
MNK *i* *PP **PcP** **00 46 50.2 -1.0**
MNK *i* 00 46 52.5
MNK *i* 00 49 15.5
MNK *i* PPP PPP 00 50 59.0
MNK *i* S **S** **00 55 49.7 -1.5**
MNK *i* *SS **sS** **00 56 21.0 +5.4**
MNK *i* SS **SS** **01 00 30.1 +1.8**
MNK pmax pmax
comp=Z,23nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=N,16nm,1.0s
MNK MLR MLR
comp=N,137nm,21.0s
MNK MLR MLR
comp=Z,131nm,25.0s
MNK MLR MLR
comp=E,6.0nm,16.0s
MNK Minsk 72.13 326 *i* P **P** **00 46 34.1 +1.0**
comp=E,3.0nm,1.1s
MNK *i* P **P** **00 46 34.1 +1.0**
comp=N,16nm,1.0s
MNK *i* P **P** **00 46 34.1 +1.0**
comp=Z,23nm,0.9s,baz=50
MNK *i* pP **PcP** **00 46 50.3 -1.0**
MNK *i* PcP **sP** **00 46 52.6 -0.8**
MNK *i* sP pP 00 46 58.5 +11
MNK *i* PP **PP** **00 49 15.6 +2.3**
MNK *i* PPP PPP 00 50 59.0
MNK *i* S **S** **00 55 49.8 -1.4**
MNK *i* sS **sS** **00 56 21.1 +5.5**
MNK *i* SS **SS** **01 00 30.2 +1.9**
MNK *i* SSS SSS 01 03 49.5
MNK *i* LQ LQ 01 12 44.0
MNK *i* LR LR 01 17 03.0
MNK *i* LRM MLR 01 21 01.8
comp=N,137nm,20.5s
MNK *i* LRM MLR 01 21 22.1
comp=Z,131nm,24.6s
MNK *i* LRM MLR 01 21 52.5
comp=E,6.0nm,16.4s
NAZ Nazwa, Dubai 72.13 288 P **P** **00 46 33.6 -0.1**
BSY Bisya 72.20 285 P **P** **00 46 34.7 +0.5**
ISAL Salakas 72.20 327 *eP* **P** **00 46 34.6 +1.1**
MSO Missoula 72.29 44 P 00 46 35.2
baz=306
IIGN Ignalina 72.31 327 *eP* **P** **00 46 35.2 +1.1**
FAQ Al Faqa, Dubai 72.32 288 P **P** **00 46 34.5 -0.3**
FAQ Al Faqa, Dubai 72.32 288 P **P** **00 46 34.5 -0.3**
NACGM Naroch 72.36 327 *i* P **P** **00 46 32.2 -2.2**
ARQ Araqi 72.39 286 P **P** **00 46 35.7 +0.5**
ALNE Al Ain 72.58 287 P **P** **00 46 36.7 +0.4**
ASUD Al Ashush, Dub 72.59 288 P **P** **00 46 36.5 +0.1**
ASUD Al Ashush, Dub 72.59 288 P **P** **00 46 36.7 +0.4**
MHTO MHTO 72.59 283 P **P** **00 46 36.2 -0.2**
SOC Sochi 72.63 312 *eP* **P** **00 46 34.3 -2.0**
SOC *e*PPP PPP 00 50 59.6
SOC *eS* **S** **00 55 53.6 -3.7**
SOC *e*SS **SS** **01 00 34.0 -2.6**
SOC pmax pmax
comp=Z,11nm,0.8s
SOC MLR MLR
comp=Z,63nm,16.0s
PABE Paberze 73.16 328 *eP* **P** **00 46 39.8 +0.6**
MFID Camas Ranch 73.21 48 P **P** **00 46 40.8 +0.9**
FFC Flin Flon 73.23 33 P **P** **00 46 40.8 +1.1**
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 73.23 33 P **P** **00 46 40.8 +1.1**
FFC IAmb IAmb 00 46 41.4
comp=Z,8.6nm,0.8s
ANN Anapa 73.25 314 *eP* P 00 46 34.5 -5.4
ANN *e**PP pP 00 46 50.3 -4.2
ANN *e* 00 49 19.4
ANN *eS* S 00 55 54.1 -10
ANN pmax pmax
comp=Z,18nm,0.9s
HRY Holter Researc 73.52 43 P **P** **00 46 42.9 +1.2**
NWAO Narrogin (SRO) 73.68 201 P **P** **00 46 42.7 +0.3**
comp=Z,3.1nm,0.5s,baz=110,slow=12,SNR=1.3
ICESG Greenland Ices 73.68 0 *i* P **P** **00 46 43.4 +0.9**
ICESG IAmb IAmb 00 46 44.2
comp=Z,8.9nm,0.7s
NC204 NORSAR Array S 73.71 338 P **P** **00 46 42.4 0.0**
NB2 NORSAR Subarra 73.76 337 P **P** **00 46 42.7 0.0**
baz=39,slow=6.2
NOA NORSAR Array B 73.76 337 P **P** **00 46 42.9 +0.2**
comp=Z,12nm,0.8s,baz=38,slow=5.8,SNR=53
NOA pP **PcP** **00 46 57.7 -0.4**
comp=Z,4.1nm,0.8s,baz=38,slow=5.9,SNR=5.4
NOA LR LR 01 22 40.7
comp=Z,103nm,19.5s,baz=35,slow=39
EGMT Eagleton 73.83 41 IAmb IAmb 00 47 00.4
comp=Z,8.8nm,0.8s
EGMT Eagleton 73.83 41 P 00 46 44.6
baz=308
DLMT Dillon 73.91 45 P **P** **00 46 45.1 +1.0**
DLMT IAmb IAmb 00 47 00.4
comp=Z,6.6nm,0.9s
HLID Hailey 73.96 47 P **P** **00 46 45.7 +1.3**
AKASG Malin Array Be 73.96 322 P **P** **00 46 43.9 0.0**
comp=Z,13nm,0.5s,baz=46,slow=6.0,SNR=68
AKASG pP **pP** **00 46 58.0 -0.5**
comp=Z,3.1nm,0.5s,baz=48,slow=6.8,SNR=3.8
AKASG LR LR 01 22 09.8
comp=Z,82nm,18.1s,baz=100,slow=38
AKASG Malin Array Be 73.96 322 P **P** **00 46 43.7 -0.2**

AKBB Malin Array Si 73.96 322 *c i* P **P** **00 46 43.8 -0.2**
AKBB pmax pmax
comp=Z,14nm,0.6s
GURO Guroymak-BITLI 74.12 306 P **P** **00 46 45.7 +0.3**
GURO IAmb IAmb 00 46 46.7
comp=Z,5.7nm,0.8s
KVN Kaiserville 74.37 53 P **P** **00 46 48.2 +1.3**
KVN pmax pmax
comp=Z,8.0nm,1.0s
KVN Kaiserville 74.37 53 P **P** **00 46 48.2 +1.3**
KVN IAmb IAmb 00 47 04.0
comp=Z,7.9nm,1.0s
SUW Suwalki 74.52 327 *eP* **P** **00 46 48.3 +1.1**
LHV Little Huntoon 74.58 54 P **P** **00 46 48.8 +1.0**
LHV IAmb IAmb 00 47 05.0
comp=Z,10nm,1.0s
NVAR Mina Array Bea 74.61 53 P **P** **00 46 49.8 +1.5**
comp=Z,1.9nm,0.8s,baz=285,slow=6.5,SNR=12
NVAR pP **pP** **00 47 04.3 +1.5**
comp=Z,4.3nm,0.9s,baz=278,slow=7.2,SNR=10
NVAR Mina Array Bea 74.61 53 P **P** **00 46 49.2 +0.9**
GCMT Greycliff 75.27 43 P **P** **00 46 53.5 +1.6**
UMR Umm Al-Rimmam 75.43 296 *eP* **P** **00 46 51.8 -1.1**
TPH Tonopah 75.50 53 P **P** **00 46 55.2 +1.8**
TPH pmax pmax
comp=Z,35nm,1.0s
TPH Tonopah 75.50 53 P **P** **00 46 55.2 +1.8**
MIB Mutribah 75.55 296 *eP* **P** **00 46 52.3 -1.3**
VES Vestal, Richgr 75.61 56 P 00 46 54.5
baz=306
QRN Al-Qurain 75.75 295 *eP* **P** **00 46 53.2 -1.5**
FLWY Flagg Ranch 75.77 45 P **P** **00 46 56.3 +1.5**
FLWY IAmb IAmb 00 47 12.4
comp=Z,14nm,1.4s
RST Umm Al-Ruwaisa 75.97 296 *eP* **P** **00 46 54.3 -1.7**
TPAW Teton Pass 76.00 46 P **P** **00 46 57.8 +1.6**
SBC Santa Barbara 76.02 57 P 00 46 57.3
baz=306
SORM Soroca 76.06 321 ⇑P **P** **00 46 55.9 -0.2**
ISA Isabella, Lake 76.12 56 P 00 46 57.4
baz=306
R11A Troy Canyon, C 76.37 52 P 00 46 59.7
baz=307
LAO LASA Array 76.53 41 P 00 47 00.8
baz=311
MPMC Manual Prospec 76.53 55 P 00 47 01.0
baz=307
MILM Milestii Mici 76.63 319 ⇑P **P** **00 46 59.1 -0.3**
FURC Furnace Creek, 76.69 54 P 00 47 01.9
baz=307
TPNV Topopah Spring 76.80 54 IAmb IAmb 00 47 17.2
comp=Z,7.7nm,0.9s
TPNV Topopah Spring 76.80 54 P 00 47 02.1
baz=307
HWUT Hardware Ranch 76.81 47 IAmb IAmb 00 47 17.6
comp=Z,12nm,1.2s
DUG Dugway, Tooele 76.95 49 P 00 47 03.2
baz=308
PDAR Pinedale Array 77.24 46 P **P** **00 47 04.1 +0.8**
comp=Z,1.9nm,0.8s,baz=276,slow=2.8,SNR=13
PDAR pP **pP** **00 47 18.8 +1.0**
comp=Z,2.4nm,0.7s,baz=252,slow=2.7,SNR=7.3
BW06 Boulder Array 77.24 46 P 00 47 04.1
baz=310
PRN Pahroc Range 77.28 53 P **P** **00 47 03.9 +0.5**
VASR Vaslui 77.34 320 ⇑P **P** **00 47 04.0 +0.6**
PSUT Pine Spring 77.34 51 P **P** **00 47 04.5 +0.7**
NLU North Lily Min 77.54 49 P **P** **00 47 05.0 0.0**
SHPR Sheep Range 77.76 53 P **P** **00 47 06.3 +0.2**
VARL Varlezi 77.80 319 ⇑P **P** **00 47 06.7 +0.7**
BNN Bunyan 77.81 310 P **P** **00 47 05.9 -0.5**
GHRR 77.92 319 ⇑P **P** **00 47 07.4 +0.7**
BURAR Bucovina Array 77.97 322 IAmb IAmb 00 47 08.5
comp=Z,8.9nm,0.8s
BIZ Bicaz 78.00 321 ⇑P **P** **00 47 07.9 +0.8**
TESR Tescani 78.01 320 ⇑P **P** **00 47 07.7 +0.6**
CFR Carcaliu 78.13 318 ⇑P **P** **00 47 07.7 -0.2**
TPGR Topolog 78.20 318 ⇑P **P** **00 47 08.8 +0.6**
PETR Petresti 78.24 319 ⇑P **P** **00 47 09.7 +1.3**
CCUT Cedar City 78.25 52 P **P** **00 47 09.9 +0.9**
ODBI Odobesti 78.31 319 ⇑P **P** **00 47 10.1 +1.3**
VRI Vrincioaia 78.41 320 ⇑P **P** **00 47 10.8 +1.4**
PLOR Plostina 78.45 320 ⇑P **P** **00 47 10.1 +0.4**
KOLS Kolonicke sedl 78.47 324 *eP* **P** **00 47 10.0 +0.3**
KOLS Kolonicke sedl 78.47 324 *eP* **P** **00 47 10.0 +0.3**
HARR Harsova 78.57 318 ⇑P **P** **00 47 10.3 +0.1**
BRTR Keskin Array B 78.59 312 P **P** **00 47 10.8 +0.1**
comp=Z,4.7nm,1.0s,baz=111,slow=2.8,SNR=8.7
BRTR LR LR 01 27 37.7
comp=Z,48nm,18.3s,baz=76,slow=40
TLBR Topalu 78.60 318 ⇑P **P** **00 47 10.4 -0.1**
RDMU Red Mountain 78.64 47 P **P** **00 47 12.3 +1.3**
RDMU IAmb IAmb 00 47 28.2
comp=Z,17nm,1.2s
P17A Butcher Ranch, 78.65 49 P **P** **00 47 11.4 +0.3**
P17A IAmb IAmb 00 47 27.7
comp=Z,8.4nm,1.0s
LCMT Little Creek M 78.66 52 P **P** **00 47 11.4 +0.3**
LCMT IAmb IAmb 00 47 27.9
comp=Z,7.4nm,1.1s
MTPU Mount Pierson 78.67 51 P **P** **00 47 12.2 +0.8**
OJC Ojcow 78.67 326 *eP* **P** **00 47 11.5 +0.8**
UZH Uzhgorod 78.67 324 ⇑*eP* **P** **00 47 11.6 +0.8**
UZH *e* 00 47 21.5
OZUR 78.73 320 ⇑P **P** **00 47 12.6 +1.4**
ARCR ARCALIA 78.77 322 ⇑P **P** **00 47 12.8 +1.5**
BMR Baia Mare 78.78 323 ⇑P **P** **00 47 12.5 +1.2**
KNB Kanab 78.92 52 P **P** **00 47 13.9 +1.3**
KNB pmax pmax
comp=Z,15nm,1.3s
KNB Kanab 78.92 52 P **P** **00 47 13.8 +1.3**
KNB IAmb IAmb 00 47 29.7
comp=Z,15nm,1.3s
PGOR Pogoanele 78.92 319 ⇑P **P** **00 47 13.6 +1.4**
SRU San Rafael Swe 79.01 49 P **P** **00 47 14.0 +1.0**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 79.01 49 P **P** **00 47 14.0 +1.0**
SRU IAmb IAmb 00 47 29.3
comp=Z,6.3nm,0.9s
ISR Istrita 79.01 319 ⇑P **P** **00 47 14.0 +1.2**
K22A Casper 79.02 44 P **P** **00 47 13.8 +0.8**
DOPR Dopca 79.02 320 ⇑P **P** **00 47 14.1 +1.4**
ICOR Ion Corvin 79.02 318 ⇑P **P** **00 47 13.7 +1.0**
K22A Casper 79.02 44 P 00 47 14.1
baz=311
ULM Lac du Bonnet 79.03 33 LR LR 01 25 31.6
comp=Z,21nm,18.6s,baz=300,slow=38
NIE Niedzica 79.03 325 *eP* **P** **00 47 14.1 +1.3**
MDND Maddock 79.05 37 P 00 47 14.1
baz=315
IRM Iron Mountain 79.21 55 P 00 47 15.2
baz=308
SECR 79.31 319 ⇑P **P** **00 47 15.3 +0.9**
CBBR Cluj-Babes-Bol 79.38 322 ⇑P **P** **00 47 16.3 +1.6**
CJR Cluj-Napoca 79.40 322 ⇑P **P** **00 47 15.9 +1.0**
MESR Meseseni 79.41 322 ⇓P **P** **00 47 16.0 +1.2**
IKP In-Ko-Pah, Jac 79.50 57 P 00 47 17.3
baz=308
VOIR 79.56 320 ⇑P **P** **00 47 17.1 +1.3**
LANS Liptovska Anna 79.60 326 *eP* **P** **00 47 17.3 +1.4**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 79.60 326 *eP* **P** **00 47 17.3 +1.4**
U15A North Rim 79.62 52 P **P** **00 47 17.1 +0.6**
U15A IAmb IAmb 00 47 33.5
comp=Z,10.0nm,1.3s
O20A White River Ci 79.69 47 P **P** **00 47 17.4 +0.6**
O20A White River Ci 79.69 47 P 00 47 17.6
baz=311
KSP Ksiaz 79.72 328 *eP* **P** **00 47 17.3 +0.8**
PDMCI Parker Dam,Lak 79.77 55 P 00 47 18.2
baz=309
DRGR 79.78 322 ⇓P **P** **00 47 17.4 +0.5**
OSTC Ostas 79.97 328 *eP* **P** **00 47 18.8 +0.9**
MORC Moravsky Berou 79.99 327 ⇑P **P** **00 47 18.9 +0.9**
MORC Moravsky Berou 79.99 327 *eP* **P** **00 47 18.5 +0.5**
MORC Moravsky Berou 79.99 327 IAmb IAmb 00 47 19.7
comp=Z,8.6nm,0.9s
CHVC Chvalec 80.02 328 *eP* **P** **00 47 18.6 +0.5**
DPC Dobruska-Polom 80.08 328 *eP* **P** **00 47 19.1 +0.6**
DPC Dobruska-Polom 80.08 328 *eP* **P** **00 47 19.1 +0.6**
KRLC Kraliky 80.09 327 *eP* **P** **00 47 18.7 +0.1**
KRLC Kraliky 80.09 327 *eP* **P** **00 47 18.7 +0.1**

UPC Upice 80.09 328 *eP* **P** **00 47 19.3 +0.8**
UPC Upice 80.09 328 *eP* **P** **00 47 19.3 +0.8**
LOT Lotru 80.20 321 ⇑P **P** **00 47 19.7 +0.5**
HUMR Humele 80.22 320 ⇑P **P** **00 47 19.3 0.0**
PSZ Piszkesteto 80.30 324 ⇑P **P** **00 47 20.6 +0.8**
PSZ Piszkesteto 80.30 324 P **P** **00 47 20.2 +0.4**
PSZ pmax pmax
comp=Z,15nm,1.0s
PSZ Piszkesteto 80.30 324 P **P** **00 47 20.2 +0.4**
PSZ IAmb IAmb 00 47 21.7
comp=Z,15nm,1.0s
VYHS Vyhne 80.36 325 *eP* **P** **00 47 20.9 +0.9**
VYHS Vyhne 80.36 325 *eP* **P** **00 47 20.9 +0.9**
PV10 Paradox Valley 80.37 49 P **P** **00 47 22.0 +1.5**
PV10 IAmb IAmb 00 47 23.3
comp=Z,16nm,0.9s
COPA Copaceanca 80.37 319 ⇑P **P** **00 47 19.2 -0.9**
PV14 Lion Creek, Pa 80.38 49 P **P** **00 47 21.8 +1.2**
PV14 IAmb IAmb 00 47 37.0
comp=Z,14nm,1.1s
PV22 Blue Mesa, Par 80.41 48 P **P** **00 47 21.8 +1.1**
PV04 Paradox Valley 80.44 49 P **P** **00 47 21.8 +1.0**
PV04 IAmb IAmb 00 47 37.4
comp=Z,8.7nm,1.0s
PV19 Morning Glory 80.44 49 P **P** **00 47 22.1 +1.2**
PV19 IAmb IAmb 00 47 23.4
comp=Z,9.5nm,1.0s
AGMN Agassiz Nation 80.47 35 P 00 47 20.3
baz=317
PV16 Nyswonger Mesa 80.48 49 P **P** **00 47 21.9 +0.8**
PV16 IAmb IAmb 00 47 37.7
comp=Z,8.7nm,1.1s
N23A Red Feather La 80.51 45 P 00 47 22.7
baz=312
PV05 Paradox Valley 80.52 49 P **P** **00 47 22.4 +1.1**
PV05 IAmb IAmb 00 47 38.0
comp=Z,14nm,1.0s
PV18 Skein Mesa, Pa 80.53 49 P **P** **00 47 22.0 +0.7**
PV18 IAmb IAmb 00 47 37.9
comp=Z,11nm,1.1s
RAYN Ar Rayn 80.56 292 *i* P **P** **00 47 21.4 -0.1**
SNR=9.5
RAYN Ar Rayn 80.56 292 P **P** **00 47 21.2 -0.3**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 80.56 292 P **P** **00 47 21.2 -0.3**
RAYN IAmb IAmb 00 47 22.4
comp=Z,7.9nm,0.8s
PV03 Paradox Valley 80.56 49 P **P** **00 47 22.3 +0.8**
PV03 IAmb IAmb 00 47 38.1
comp=Z,9.5nm,1.1s
JAVC Velka Javorina 80.61 326 *eP* **P** **00 47 23.0 +1.6**
PV13 Radium Mtn., P 80.64 49 P **P** **00 47 23.2 +1.2**
PV13 IAmb IAmb 00 47 38.6
comp=Z,13nm,1.0s
SIRR Siria 80.66 322 ⇑P **P** **00 47 22.3 +0.7**
BRG Berggiesshubel 80.67 329 *eP* **P** **00 47 22.0 +0.4**
BRG Amp 00 47 23.1
comp=Z,11nm,1.2s
BRG *ex* x 00 47 37.0
BRG Amp 00 47 38.9
comp=Z,2.6nm,0.8s
PVCC Panska Ves 80.68 329 *eP* **P** **00 47 22.6 +1.0**
PVCC Panska Ves 80.68 329 *eP* **P** **00 47 22.6 +1.0**
CLL Collm 80.71 330 *i* P **P** **00 47 21.8 +0.1**
comp=Z,16nm,0.9s
CLL *i* pP **pP** **00 47 36.7 +0.3**
CLL Lm MLR 01 26 00.0
comp=Z,100nm,18.0s
CLL Collm 80.71 330 ⇑*i* P **P** **00 47 21.8 +0.1**
CLL *i* *PP **pP** **00 47 36.7 +0.3**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 80.71 330 IAmb IAmb 00 47 22.9
comp=Z,14nm,0.9s
GZR Gura Zlata 80.73 321 ⇓P **P** **00 47 22.4 +0.3**
VRAC Vranov 80.75 327 ⇑P **P** **00 47 22.8 +0.7**
VRAC Vranov 80.75 327 *eP* **P** **00 47 22.8 +0.7**
WUAZ Wupatki 80.77 52 P 00 47 24.1
baz=310
VLAD Vladila 80.89 319 ⇑P **P** **00 47 23.3 +0.5**
SMOL Smolenice 80.98 326 *eP* **P** **00 47 24.4 +1.1**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 80.98 326 *eP* **P** **00 47 24.4 +1.1**
KRUC Moravsky 81.02 327 *eP* **P** **00 47 23.9 +0.4**
SMCO Snowmass 81.06 47 P **P** **00 47 25.3 +0.9**
PRU Pruhonice 81.10 329 *eP* **P** **00 47 24.5 +0.6**
PRU MLR MLR
comp=Z,100nm,17.6s
PRU Pruhonice 81.10 329 *eP* **P** **00 47 24.5 +0.6**
PRU *e*PCP **PcP** **00 47 29.7 -0.4**
PRU AMS AMS 01 26 00.0
comp=Z,100nm,17.6s
BZS Buzias 81.15 322 ⇑P **P** **00 47 24.5 +0.3**
MODS Modra-Piesok 81.15 326 *eP* **P** **00 47 24.4 +0.2**
MODS pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 81.15 326 *eP* **P** **00 47 24.4 +0.2**
BAIL Bailesti 81.42 320 ⇑P **P** **00 47 26.3 +0.7**
ISCO Idaho Springs 81.43 46 P 00 47 27.5
baz=312
X16A Lo Mia Camp, P 81.43 53 P **P** **00 47 27.0 +0.8**
MVCO Mesa Verde 81.45 49 P 00 47 27.3
baz=311
MDVR Moldovita 81.70 321 ⇑P **P** **00 47 26.9 -0.3**
NKC Novy Kostel 81.77 330 *eP* **P** **00 47 27.5 +0.1**
NKC Novy Kostel 81.77 330 *eP* **P** **00 47 27.5 +0.1**
S22A 4UR Ranch, Cre 82.09 48 P 00 47 30.3
baz=312
CKRC Cesky Krumlov 82.10 328 *eP* **P** **00 47 29.4 +0.2**
CONA Conrad Observa 82.11 327 *i* P **P** **00 47 29.6 +0.2**
comp=Z,7.8nm,0.9s
MORH Mrgy, Hungar 82.13 324 ⇑P **P** **00 47 29.1 -0.3**
KHC Kasperske Hory 82.16 328 *eP* **P** **00 47 30.0 +0.4**
KHC *e* 00 47 49.5
KHC MLR MLR
comp=Z,100nm,17.9s
KHC Kasperske Hory 82.16 328 *eP* **P** **00 47 30.0 +0.4**
KHC *es*P **sP** **00 47 49.5 -0.5**
KHC AMS AMS 01 27 20.0
comp=Z,100nm,17.9s
GEC2 GERESS Array S 82.33 328 IAmb IAmb 00 47 31.1
comp=Z,4.5nm,0.7s
GERES GERESS Array B 82.33 328 P **P** **00 47 30.7 +0.1**
comp=Z,3.3nm,0.7s,baz=34,slow=5.2,SNR=31
FRGS Fruska Gora 82.36 323 ⇑P **P** **00 47 30.8 +0.2**
VTS Vitosha 82.46 319 ⇑P **P** **00 47 32.4 +1.0**
VTS Vitosha 82.46 319 IAmb IAmb 00 47 33.2
comp=Z,8.4nm,0.7s
EYMN Ely 82.66 33 IAmb IAmb 00 47 33.4
comp=Z,6.9nm,0.8s
EYMN Ely 82.66 33 P 00 47 32.1
baz=320
GRA1 Grafenberg Arr 82.68 330 IAmb IAmb 00 47 34.1
comp=Z,12nm,0.9s
GRF Grafenberg Arr 82.68 330 *eP* **P** **00 47 33.0 +0.7**
comp=Z,13nm,0.9s,baz=41,slow=4.5
GRF *ep*P **sP** **00 47 52.8 +0.1**
GRFO Grafenberg 82.68 330 P **P** **00 47 33.5 +1.3**
GRFO pmax pmax
comp=Z,12nm,0.9s
GRFO Grafenberg 82.68 330 P **P** **00 47 33.5 +1.3**
GRFO IAmb IAmb 00 47 34.1
comp=Z,12nm,0.9s
ARSA Arzberg 82.78 326 *eP* **P** **00 47 33.3 +0.6**
comp=Z,4.0nm,0.9s
MOA Molln 82.86 327 *eP* **P** **00 47 33.7 +0.5**
comp=Z,6.6nm,1.1s
SDCO Great Sand Dun 82.88 47 P 00 47 34.2
baz=313
GROS Grobnik 83.39 326 *i* P **P** **00 47 35.9 -0.1**
PERS Pernice 83.42 326 *i* P **P** **00 47 36.4 +0.3**
SOKA Soboth 83.43 326 *i* P **P** **00 47 36.6 +0.3**
comp=Z,11nm,0.8s,SNR=5.9
ECSD EROS Data Cent 83.46 38 P 00 47 36.6
baz=317
E38A The Farm, Brul 83.66 34 P **P** **00 47 36.9 -0.4**
E38A IAmb IAmb 00 47 38.3
comp=Z,12nm,0.8s
GOLS Golise 83.67 325 *i* P **P** **00 47 37.5 0.0**
OBKA Obir 83.77 326 *eP* **P** **00 47 37.3 -0.7**
comp=Z,7.8nm,1.4s
KBA Koelnbreinsper 83.86 327 *eP* **P** **00 47 38.9 +0.4**
comp=Z,8.3nm,0.8s

BTNL	**Ternell**	**83.88**	**333**	*d*P		**P**		**00 47 38.1**	**-0.3**
MEM	**Membach**	**83.90**	**333**	*b*P		**P**		**00 47 38.2**	**-0.2**
	comp=Z,6.3nm,1.0s								
T25A	**Trinidad**	**83.92**	**47**	P		**P**		**00 47 39.9**	**+0.8**
T25A				IAmb		IAmb		00 47 41.4	
	comp=Z,7.7nm,0.9s								
T25A	**Trinidad**	**83.92**	**47**	P				00 47 40.1	
	baz=313								
MYKA	**Terra Mystica**	**84.08**	**327**	*e*P		**P**		**00 47 39.2**	**-0.3**
	comp=Z,3.8nm,0.5s								
ANMO	**Albuquerque**	**84.19**	**50**	⇑*i*P		**P**		**00 47 42.2**	**+1.7**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ANMO	**Albuquerque**	**84.19**	**50**	P		**P**		**00 47 41.5**	**+1.1**
ANMO				IAmb		IAmb		00 47 58.0	
	comp=Z,6.0nm,1.1s								
ANMO	**Albuquerque**	**84.19**	**50**	P				00 47 41.9	
	baz=312								
PMOR	**Pomariorio Ree**	**84.29**	**114**	*e*T		T		02 19 49.0	
	comp=Z,18nm,0.2s								
LENM	**Lemitar**	**84.39**	**51**	P		**P**		**00 47 42.9**	**+1.4**
WATA	**Walderalm**	**84.40**	**328**	*e*P		**P**		**00 47 41.4**	**+0.2**
	comp=Z,5.2nm,1.0s								
BGES	**Gesves**	**84.42**	**334**	*d*P		**P**		**00 47 40.8**	**-0.3**
WTTA	**Wattenberg**	**84.43**	**328**	*e*P		**P**		**00 47 41.6**	**+0.1**
	comp=Z,6.0nm,1.1s								
ABTA	**Abfaltersbach**	**84.47**	**328**	*e*P		**P**		**00 47 40.8**	**-0.7**
	comp=Z,7.1nm,1.2s								
MOTA	**Moosalm**	**84.59**	**329**	*e*P		**P**		**00 47 42.3**	**+0.1**
	comp=Z,5.5nm,1.2s								
BMRD	**Maredsous**	**84.60**	**334**	*d*P		**P**		**00 47 41.6**	**-0.3**
	comp=Z,10nm,1.1s								
BMRD				*d*pP		**pP**		**00 47 53.9**	**-2.9**
RETA	**Reutte**	**84.62**	**329**	*i* P		**P**		**00 47 42.8**	**+0.6**
	comp=Z,13nm,0.9s,SNR=5.8								
STAL	**STALIGIAL**	**84.77**	**327**	IAmb		IAmb		00 47 42.7	
	comp=Z,7.3nm,0.7s								
PPT	**Papeete**	**84.77**	**117**	LR		LR		01 20 07.5	
	comp=Z,71nm,20.2s,baz=223,slow=32								
319A	**Douglas**	**84.78**	**54**	P		**P**		**00 47 44.6**	**+1.1**
319A				IAmb		IAmb		00 48 00.7	
	comp=Z,7.0nm,0.9s								
PPT2	**Papeete2**	**84.79**	**117**	*e*LR		LR		01 14 10.0	
	comp=Z,251nm,31.8s								
I37A	**Lemond, Waseca**	**84.80**	**36**	P		**P**		**00 47 43.7**	**+0.6**
SCHQ	**Schefferville**	**84.82**	**16**	P		**P**		**00 47 43.2**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=296,slow=5.6,SNR=5.6								
BFO	**Black Forest**	**84.91**	**331**	P		**P**		**00 47 43.2**	**-0.4**
BFO				pmax		pmax			
	comp=Z,15nm,1.0s								
BFO	**Black Forest**	**84.91**	**331**	P		**P**		**00 47 43.2**	**-0.4**
121A	**Cookes Peak, D**	**84.97**	**52**	P				00 47 45.4	
	baz=312								
FETA	**Feichten**	**85.00**	**329**	*e*P		**P**		**00 47 44.4**	**0.0**
	comp=Z,6.8nm,0.9s								
DAVA	**Damuels**	**85.14**	**329**	*e*P		**P**		**00 47 45.3**	**+0.3**
	comp=Z,13nm,0.9s								
G40A	**Rib Lake**	**85.30**	**34**	IAmb		IAmb		00 47 47.0	
	comp=Z,7.5nm,0.8s								
ECH	**Echery**	**85.45**	**331**	IAmb		IAmb		00 47 47.3	
	comp=Z,9.4nm,0.9s								
MNTX	**Cornudas Mount**	**87.04**	**52**	P				00 47 55.2	
	baz=313								
MSTX	**Muleshoe**	**87.07**	**49**	P				00 47 55.2	
	baz=314								
AMTX	**Amarillo**	**87.08**	**47**	P		**P**		**00 47 55.1**	**+0.4**
AMTX				IAmb		IAmb		00 47 56.8	
	comp=Z,7.3nm,0.8s								
AMTX	**Amarillo**	**87.08**	**47**	P				00 47 55.4	
	baz=315								
JFWS	**Jewell Farm**	**87.11**	**35**	P				00 47 55.1	
	baz=321								
LSQQ	**Lebel-sur-Quev**	**87.26**	**24**	P				00 47 55.1	
	baz=330								
CHGQ	**Chibougamau**	**87.33**	**22**	P				00 47 55.7	
	baz=332								
VLDQ	**Val d'Or**	**87.92**	**25**	P		**P**		**00 47 58.1**	**-0.2**
VLDQ				IAmb		IAmb		00 47 58.8	
	comp=Z,8.9nm,0.8s								
P38A	**Dawn**	**88.06**	**39**	IAmb		IAmb		00 48 15.0	
	comp=Z,8.4nm,0.8s								
TBI	**Tubuai**	**88.70**	**121**	*e*T		T		02 25 19.2	
	comp=Z,65nm,0.4s								
WMOK	**Wichita Mounta**	**88.86**	**46**	P				00 48 03.7	
	baz=316								
HDIL	**Hopedale**	**89.40**	**36**	P				00 48 06.0	
	baz=322								
D55A	**Sainte-Anne-du**	**89.53**	**24**	P				00 48 06.4	
	baz=331								
ALGO	**Algonquin Park**	**89.58**	**26**	P				00 48 06.4	
	baz=330								
S39A	**Bolivar**	**89.63**	**40**	IAmb		IAmb		00 48 07.8	
	comp=Z,4.4nm,1.0s								
TX31	**Lajitas Ar. Si**	**89.73**	**52**	P		**P**		**00 48 08.1**	**+0.7**
TX31				IAmb		IAmb		00 48 09.3	
	comp=Z,7.9nm,0.8s								
TXAR	**Lajitas Array**	**89.73**	**52**	P		**P**		**00 48 08.1**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=298,slow=3.0,SNR=20								
TXAR				pP		**pP**		**00 48 23.0**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=312,slow=3.2,SNR=5.0								
D56A	**ZEC Mazanza, M**	**89.74**	**24**	P				00 48 07.3	
	baz=332								
ABTX	**Abilene, Hawle**	**89.88**	**48**	P				00 48 08.6	
	baz=316								
G54A	**Lake Saint Pet**	**90.05**	**27**	P				00 48 08.8	
	baz=330								
LATQ	**La Tuque**	**90.06**	**23**	P				00 48 09.0	
	baz=333								
E56A	**St. Veronique**	**90.09**	**24**	P				00 48 09.2	
	baz=332								
D58A	**Chemin du LacG**	**90.29**	**23**	P				00 48 10.0	
	baz=333								
CCM	**Cathedral Cave**	**90.41**	**39**	P		**P**		**00 48 11.7**	**+1.5**
CCM				pmax		pmax			
	comp=Z,8.0nm,1.1s								
CCM	**Cathedral Cave**	**90.41**	**39**	P		**P**		**00 48 11.7**	**+1.5**
CCM				IAmb		IAmb		00 48 26.1	
	comp=Z,8.1nm,1.1s								
H53A	**Bobcaygeon**	**90.58**	**27**	P				00 48 11.3	
	baz=329								
Z35A	**Perchaven, San**	**90.75**	**46**	P		**P**		**00 48 12.3**	**+0.4**
E58A	**La Victoria**	**90.81**	**23**	P				00 48 12.3	
	baz=333								
U40A	**Yellville**	**90.89**	**41**	P				00 48 12.8	
	baz=320								
D60A	**Saint Jean D'O**	**91.04**	**22**	P				00 48 13.2	
	baz=335								
E60A	**Ste Agathe de**	**91.37**	**22**	P				00 48 15.1	
	baz=334								
WHTX	**Lake Whitney,**	**91.61**	**47**	P				00 48 16.8	
	baz=317								
FCAR	**Ozark Folk Cen**	**91.62**	**41**	IAmb		IAmb		00 48 16.9	
	comp=Z,5.3nm,1.0s								
H57A	**Richville**	**91.81**	**25**	P				00 48 17.1	
	baz=332								
F61A	**St Evariste**	**91.87**	**22**	P				00 48 17.9	
	baz=335								
MIAR	**Mount Ida**	**91.88**	**43**	P		**P**		**00 48 17.5**	**+0.4**
MIAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MIAR	**Mount Ida**	**91.88**	**43**	P		**P**		**00 48 17.5**	**+0.4**
MIAR				IAmb		IAmb		00 48 18.8	
	comp=Z,5.6nm,0.8s								
MIAR	**Mount Ida**	**91.88**	**43**	P				00 48 17.8	
	baz=319								
W41B	**Gary Mavity, V**	**92.11**	**41**	P				00 48 18.7	
	baz=320								
F62A	**Pittston Farm,**	**92.24**	**21**	P				00 48 19.0	
	baz=336								
H58A	**Gabriels**	**92.25**	**25**	P				00 48 19.3	
	baz=332								
X40A	**Basin Creek Fa**	**92.32**	**42**	P				00 48 20.0	
	baz=320								
G61A	**St-Isidore-de-**	**92.33**	**23**	P				00 48 19.8	
	baz=334								
J57A	**Williamstown**	**92.52**	**26**	P				00 48 20.6	
	baz=331								
G62A	**West of Eustis**	**92.69**	**22**	P				00 48 21.3	
	baz=335								
F64A	**Sherman**	**92.73**	**20**	P				00 48 21.9	
	baz=337								
J58A	**Remsen**	**92.81**	**26**	P				00 48 22.2	
	baz=332								
PKME	**Peaks-Kenny Pk**	**93.01**	**21**	P				00 48 22.8	
	baz=336								
G63A	**Kingsbury**	**93.05**	**22**	P				00 48 23.4	
	baz=336								
H62A	**Milan**	**93.08**	**23**	P				00 48 23.7	
	baz=335								
G64A	**Maxfield**	**93.17**	**21**	P				00 48 23.7	
	baz=336								
O53A	**New Philadelph**	**93.23**	**31**	P				00 48 24.0	
	baz=327								
I61A	**Oroboro, Fairl**	**93.33**	**24**	P				00 48 24.4	
	baz=334								
Q51A	**Peebles**	**93.34**	**33**	P		**P**		**00 48 24.3**	**+0.5**
J60A	**Lant Hill Farm**	**93.55**	**25**	P				00 48 24.7	
	baz=333								
G65A	**Princeton**	**93.56**	**20**	P				00 48 25.2	
	baz=337								
J63A	**Strafford**	**94.28**	**23**	P				00 48 28.5	
	baz=335								
KEST	**Kesra**	**94.68**	**323**	LR		LR		01 36 11.2	
	comp=Z,71nm,19.1s,baz=334,slow=39								
ESDC	**Sonseca Array**	**96.88**	**334**	P		**P**		**00 48 39.6**	**-0.4**
	comp=Z,1.0nm,1.1s,baz=10,slow=4.9,SNR=6.4								
ESDC				LR		LR		01 37 09.8	
	comp=Z,94nm,19.7s,baz=150,slow=38								
VNDA	**Vanda**	**115.47**	**175**	PKP		**PKiKP**		**00 53 49.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=328,slow=3.6,SNR=4.1								
TORD	**Torodi Ar. Bea**	**117.04**	**315**	PKP		**PKPdf**		**00 53 53.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=185,slow=0.3,SNR=4.3								
TORD				PP		**PP**		**00 55 00.5**	**-2.7**
	comp=Z,2.8nm,1.0s,baz=14,slow=6.6,SNR=5.9								
SDV	**Santo Domingo**	**124.87**	**40**	*e*P		**PKiKP**		**00 54 14.6**	**+4.9**
QSPA	**South Pole Qui**	**127.28**	**180**	PKP		**PKPdf**		**00 54 12.1**	**0.0**
	comp=Z,3.3nm,0.8s,baz=289,slow=1.5,SNR=10								
QSPA	**South Pole Qui**	**127.28**	**180**			**PKiKP**		**00 54 12.3**	**-0.3**
SNAA	**Sanae**	**141.26**	**197**	PKPdf		**PKPdf**		**00 54 33.4**	**-4.7**
VNA3	**Neumayer Olymp**	**143.08**	**195**	PKiKP		**PKiKP**		**00 54 44.3**	**-0.2**
VNA1	**Neumayer--Stat**	**143.23**	**196**	PKiKP		**PKiKP**		**00 54 44.9**	**+0.2**
LPAZ	**La Paz**	**146.35**	**59**	PKPbc		**PKPab**		**00 54 51.0**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=323,slow=2.3,SNR=23								
LPAZ				pPKPbc		pPKPbc		00 55 06.0	+0.1
	comp=Z,8.1nm,0.6s,baz=3.2,slow=0.3,SNR=11								
NBCL	**Cascavel-CE**	**146.84**	**360**	*e*P		**PKiKP**		**00 54 54.9**	**+0.9**
H03N2	**Juan Fernandez**	**146.97**	**95**	T		T		03 39 37.0	
	baz=292,slow=76,SNR=22								
H03N3	**Juan Fernandez**	**146.99**	**95**	T		T		03 39 35.3	
	baz=292,slow=76,SNR=28								
H03N1	**Juan Fernandez**	**146.99**	**95**	T		T		03 39 36.8	
	baz=292,slow=76,SNR=26								
NBPB	**Pedra_Branca-C**	**148.14**	**2**	*e*P		**PKPbc**		**00 54 55.7**	**+0.8**
NBPA	**Parau_RN**	**148.33**	**357**	*e*P		**PKPbc**		**00 54 55.4**	**0.0**
RCBR	**Riachuelo**	**148.35**	**355**	*e*P		**PKiKP**		**00 54 57.8**	**+0.6**
VILB	**Vilhena**	**148.76**	**44**	*e*P		**PKPbc**		**00 54 57.0**	**+0.6**
NBPV	**Pedro Velho**	**148.89**	**354**	*e*P		**PKPbc**		**00 54 57.3**	**+0.5**
CLDB	**Colider**	**149.21**	**35**	*e*P		**PKPbc**		**00 54 58.1**	**+0.4**
LVC	**Limon Verde**	**149.90**	**69**	*e*P		**PKiKP**		**00 55 00.2**	**-0.3**
NBMA	**Muriti-CE**	**149.96**	**1**	*e*P		**PKPbc**		**00 54 59.9**	**+0.4**
SMTB	**Santa Maria do**	**150.28**	**18**	*e*P		**PKiKP**		**00 55 00.8**	**-0.3**
NBRF	**Rio Formoso -**	**151.11**	**353**	*e*P		**PKPbc**		**00 55 02.0**	**-0.2**
PTLB	**Pontes e Lacer**	**151.38**	**45**	*e*P		**PKiKP**		**00 55 03.1**	**-0.1**
SNDB	**Serra Nova Dou**	**152.06**	**28**	*e*P		**PKiKP**		**00 55 04.9**	**+0.2**
NBAN	**Anadia - AL**	**152.18**	**355**	*e*P		**PKPbc**		**00 55 03.7**	**-1.0**
SALV	**Santo Antonio**	**153.60**	**40**	*e*P		**PKPbc**		**00 55 06.1**	**-1.6**
SDBA	**SAO DESIDERIO**	**154.32**	**15**	*e*P		**PKPbc**		**00 55 06.8**	**-2.5**
PLCA	**Paso Flores**	**154.98**	**107**	*e*P		**PKPbc**		**00 55 07.8**	**-2.3**
ARAG	**Araguaiana, MT**	**155.25**	**32**	*e*P		**PKPdf**		**00 55 09.3**	**+7.0**
DIAM	**Diamantina, MG**	**160.29**	**15**	*e*P		**PKPdf**		**00 55 14.6**	**+5.9**
CAM01	**Campos-RJ**	**164.10**	**11**	*e*P		**PKPdf**		**00 55 18.0**	**+5.9**
DUB01	**Friburgo-RJ**	**164.23**	**13**	*e*P		**PKPdf**		**00 55 18.5**	**+6.1**
PET01	**Itanhaem-SP**	**164.79**	**32**	*e*P		**PKPdf**		**00 55 19.2**	**+6.5**
TIJ01	**Guaruva-PR**	**164.87**	**39**	*e*P		**PKPdf**		**00 55 19.1**	**+6.2**
PLTB	**Pedras Altas**	**166.27**	**70**	*e*P		**PKPdf**		**00 55 20.3**	**+6.5**

JMA 19 00:35:24.2,34.12N×135.38E,h6km±1km, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.27**	**184**	P	Pg	00 35 29.6	+0.1
JWM				S	Sg	00 35 33.2	+0.1

RSNC 19 00:45:42.3±0.9,4.24N×76.17W,h147km±3km, ML3.0, Mw3.6,1D,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.31**	**215**	*e*P	Pn	00 46 01.8	-0.9
YOTC				*e*S	Sn	00 46 17.2	-1.0
YOTC				*i*		00 46 20.6	
	comp=Z,205nm,0.2s						
ANIL	**Santa Ana**	**0.80**	**72**	⇓*e*P	Pn	00 46 05.1	-0.4
ANIL				*e*S	Sn	00 46 22.7	-0.5
ANIL				*i*		00 46 26.5	
	comp=E,2μm,0.3s						
TOLC	**Tolima**	**0.91**	**68**	*e*P	Pn	00 46 06.3	-0.2
TOLC				*e*S	Sn	00 46 24.9	+0.1
TOLC				*i*		00 46 27.4	
	comp=Z,196nm,0.7s						
ORTC	**Ortega, Tolima**	**0.98**	**109**	*e*P	Pn	00 46 06.0	-0.6
ORTC				*e*S	Sn	00 46 24.2	-0.9
ORTC				*i*		00 46 25.8	
	comp=Z,274nm,0.2s						
RREF	**El Recreo**	**1.05**	**51**	*e*P	Pn	00 46 08.3	+0.3
RREF				*e*S	Sn	00 46 26.9	-0.5
MALC	**Bahia Malaga**	**1.19**	**259**	*e*P	Pn	00 46 09.2	+0.8
MALC				*e*S	Sn	00 46 28.6	+0.2
MALC				*i*		00 46 34.6	
	comp=Z,102nm,0.3s						
GUY2C	**Guyana, Caldas**	**1.27**	**39**	*e*P	Pn	00 46 09.4	-0.4
GUY2C				*e*S	Sn	00 46 30.9	+0.2
GUY2C				*i*		00 46 33.3	
	comp=Z,88nm,0.7s						
PRAC	**Prado**	**1.38**	**112**	*e*P	Pn	00 46 09.9	-0.5
PRAC				*e*S	Sn	00 46 31.6	-0.3
PRAC				*i*		00 46 33.0	
	comp=Z,161nm,0.4s						
PIZC	**Pizarro, Choco**	**1.39**	**301**	*e*P	Pn	00 46 10.2	-0.3
PIZC				*e*S	Sn	00 46 32.0	-0.1
PIZC				*i*		00 46 35.1	
	comp=Z,190nm,0.2s						
MARP	**Paez Belalcaza**	**1.40**	**171**	*e*P	Pn	00 46 11.1	+0.2
MARP				*e*S	Sn	00 46 32.5	-0.4
CBOC	**Ciudad Bolivar**	**1.62**	**5**	*e*P	Pn	00 46 12.5	-0.7
CBOC				*e*S	Sn	00 46 36.8	0.0
CBOC				*i*		00 46 44.5	
	comp=Z,48nm,0.4s						
POPC	**Popayan, Colom**	**1.76**	**197**	*e*P	Pn	00 46 08.6	-6.1
POPC				*e*S	Sn	00 46 32.7	-7.0
POPC				*i*		00 46 33.1	
	comp=Z,66nm,0.2s						
NORC	**Norcasia**	**1.85**	**44**	*e*P	Pn	00 46 14.8	-0.7
NORC				*e*S	Sn	00 46 39.7	-1.4
NORC				*i*		00 46 41.4	
	comp=Z,29nm,0.4s						
PCON	**Cinco Dias**	**1.91**	**187**	*e*P	Pn	00 46 16.6	-0.2
PCON				*e*S	Sn	00 46 43.6	+0.4
PCON				*i*		00 46 50.9	
	comp=Z,99nm,0.8s						
ROSC	**El Rosal**	**1.94**	**72**	*e*P	Pn	00 46 16.6	-0.3
ROSC				*e*S	Sn	00 46 43.5	+0.1
ROSC				*i*		00 46 48.8	
	comp=Z,43nm,0.5s						
HELC	**Santa Helena**	**2.04**	**18**	*e*P	Pn	00 46 17.4	-0.7
HELC				*e*S	Sn	00 46 45.3	-0.4
HELC				*i*		00 46 48.4	
	comp=Z,30nm,0.4s						
GARC	**Garzon, Huila**	**2.15**	**162**	*e*P	Pn	00 46 19.6	+0.3
GARC				*i*		00 46 46.8	
	comp=Z,47nm,0.3s						
GARC				*e*S	Sn	00 46 47.1	-0.5
SOLC	**Bahia Solano**	**2.33**	**328**	*e*P	Pn	00 46 20.9	-0.4
SOLC				*e*S	Sn	00 46 50.5	-0.7
SOLC				*i*		00 46 53.3	
	comp=Z,45nm,0.5s						
GR1C	**Gorgona, Isla**	**2.34**	**238**	*e*P	Pn	00 46 19.8	-1.5
GR1C				*e*S	Sn	00 46 49.5	-1.8
BBAC	**Balboa, Cauca**	**2.45**	**206**	*e*P	Pn	00 46 22.3	-0.6
BBAC				*e*S	Sn	00 46 52.7	-1.5
BBAC				*i*		00 46 55.9	
	comp=Z,134nm,0.3s						
CHIC	**Chingaza**	**2.46**	**81**	*e*P	Pn	00 46 24.1	+0.9
CHIC				*e*S	Sn	00 46 56.3	+1.7
CHIC				*i*		00 47 02.5	
	comp=Z,20nm,0.5s						
VILC	**Villavicencio,**	**2.47**	**93**	*e*P	Pn	00 46 23.9	+0.8
VILC				*e*S	Sn	00 46 55.8	+1.3
VILC				*i*		00 46 57.2	
	comp=Z,88nm,0.4s						
FLOC	**Florencia**	**2.69**	**169**	*e*P	Pn	00 46 25.8	+0.1
FLOC				*e*S	Sn	00 46 58.8	-0.4
FLOC				*i*		00 46 59.4	
	comp=Z,16nm,0.8s						
DBBC	**Dabeiba**	**2.76**	**359**	*e*P	Pn	00 46 26.2	-0.5
DBBC				*e*S	Sn	00 46 59.2	-1.7
DBBC				*i*		00 47 09.4	
	comp=Z,95nm,0.6s						
CRUC	**La Cruz**	**2.76**	**196**	*e*P	Pn	00 46 25.9	-1.1
CRUC				*e*S	Sn	00 47 00.7	-0.7
CRUC				*i*		00 47 05.6	
	comp=Z,57nm,0.4s						
GCUF	**Volcan Galeras**	**3.21**	**201**	*e*P	Pn	00 46 32.5	-0.3
GCUF				*e*S	Sn	00 47 11.2	-0.6
GCUF				*i*		00 47 12.5	
	comp=Z,41nm,0.4s						
PTAC	**Punta Ardita,**	**3.32**	**331**	*e*P	Pn	00 46 33.0	-0.7
PTAC				*e*S	Sn	00 47 11.1	-2.4
RUSC	**La Rusia**	**3.48**	**62**	*e*P	Pn	00 46 36.3	+0.1
RUSC				*e*S	Sn	00 47 18.3	+0.3
RUSC				*i*		00 47 20.7	
	comp=Z,14nm,0.8s						
ZARC	**Zaragoza, Cauc**	**3.49**	**22**	*e*P	Pn	00 46 34.9	-0.9
ZARC				*e*S	Sn	00 47 15.4	-2.0
ZARC				*i*		00 47 16.2	
	comp=Z,68nm,0.4s						
UREC	**San Jos de Ur**	**3.55**	**10**	*e*P	Pn	00 46 35.8	-0.9
UREC				*e*S	Sn	00 47 17.0	-1.8
UREC				*i*		00 47 18.6	
	comp=Z,17nm,0.3s						
BARC	**Barichara**	**3.78**	**52**	*e*P	Pn	00 46 38.4	-1.5
BARC				*e*S	Sn	00 47 23.3	-1.3
BARC				*i*		00 47 26.6	
	comp=Z,20nm,0.2s						
MOTC	**Monteria, Cord**	**4.54**	**6**	*e*P	Pn	00 46 48.7	-1.0
MOTC				*e*S	Sn	00 47 39.3	-2.8
OCAC	**Ocana**	**4.88**	**35**	*e*P	Pn	00 46 53.4	-0.8
OCAC				*e*S	Sn	00 47 47.6	-2.8
SMLC	**San Martn de**	**4.99**	**25**	*e*P	Pn	00 46 54.0	-1.6
SMLC				*e*S	Sn	00 47 48.6	-4.1
SMLC				*i*		00 47 52.8	
	comp=Z,25nm,0.2s						
SJCC	**San Jacinto, C**	**5.71**	**10**	*e*P	Pn	00 47 04.8	-0.4
SJCC				*e*S	Sn	00 48 06.0	-3.9
SJCC				*i*		00 48 10.3	
	comp=Z,2.4nm,0.3s						

IDC ***19*** *00:54:38.8±0.8, 44.75N×78.76E, h0km, mb3.9/2, mb1 3.8/9, mb1mx3.5/43, mbtmp3.8/9, ML3.3/7, Error ellipse: s-maj=11.2km s-min=6.0km az=139.0*
NNC ***19*** *00:54:38.6±0.3, 44.79N×78.80E, h0km, mb4.6, mpv4.6, Error ellipse: s-maj=2.2km s-min=2.0km az=122.0*
MOS ***19*** *00:54:40.3±1.3, 44.93N×78.82E, h10km, mb4.2/2, Error ellipse: s-maj=7.9km s-min=4.3km az=74.8*
BJI ***19*** *00:54:40.7±0.0, 45.06N×79.02E, h5km, mb3.7/3, ML3.7/8, Ms3.5/3*
SOME ***19*** *00:54:41.1, 44.75N×78.78E, h10km, MS2.8*

ISC 19 00:54:39.9±1.0, 44.81N±0.02×78.78E±0.02, h6km±8km, n121,σ1°51/194, mb3.9/3, 31C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDK	**Taldyqorghan**	**0.33**	**306**	*e*P	**Pb**	**00 54 48.5**	**+0.2**
	1μm,0.1s						
TDK				*e*S	**Sb**	**00 54 53.4**	**-0.5**
	11μm,0.1s						
TDK	**Taldyqorghan**	**0.33**	**306**	P	**Pg**	**00 54 45.9**	**-0.5**
	134nm,0.1s						
TDK				S	**Sg**	**00 54 51.2**	**+0.4**
	15μm,0.3s						
TDK	**Taldyqorghan**	**0.33**	**306**	*e*PG	**Pb**	**00 54 48.5**	**+0.2**
TDK				*e*S	**Sb**	**00 54 53.4**	**-0.5**
KAPS	**Kapalarasan**	**0.63**	**40**	*e*P	**Pb**	**00 54 53.4**	**0.0**
	1μm,0.2s						
KAPS				*e*S	**Sg**	**00 55 01.8**	**+1.5**
	6μm,0.3s						
KAPS	**Kapalarasan**	**0.63**	**40**	P	**Pg**	**00 54 50.8**	**-1.2**
	176nm,0.1s						
KAPS				S	**Sg**	**00 54 60.0**	**-0.3**
	6μm,0.2s						
KAPS	**Kapalarasan**	**0.63**	**40**	*e*PG	**Pb**	**00 54 53.4**	**0.0**
KAPS				*e*S	**Sg**	**00 55 01.8**	**+1.5**
DJR	**Jarkent**	**0.86**	**123**	⇓*e*P	**Pg**	**00 54 56.9**	**+0.4**
	395nm,0.2s						
DJR				*e*S	**Sg**	**00 55 08.0**	**+0.3**
	3μm,0.2s						
DJR	**Jarkent**	**0.86**	**123**	P	**Pg**	**00 54 54.2**	**-2.3**
	38nm,0.2s						
DJR				S	**Sg**	**00 55 05.6**	**-2.1**
	3μm,0.2s						
DJR	**Jarkent**	**0.86**	**123**	*e*PG	**Pg**	**00 54 56.9**	**+0.4**
DJR				*e*S	**Sg**	**00 55 08.0**	**+0.3**
ARXS	**Arharly**	**0.91**	**229**	⇓*e*P	**Pb**	**00 54 58.2**	**+0.1**
	4μm,0.2s						
ARXS				*e*S	**Sb**	**00 55 10.1**	**-0.3**
	4μm,0.4s						
ARXS	**Arharly**	**0.91**	**229**	P	**Pg**	**

2µm,0.1s
SATY Saty 1.77 189 *e*PN **Pg 00 55 13.7 -0.1**
SATY *e*S **Sg 00 55 36.7 0.0**
KTMS Ketmen 1.77 140 *e*P **Pb 00 55 13.0 +0.1**
181nm,0.3s
KTMS *e*S **Sb 00 55 35.6 +0.2**
821nm,0.4s
KTMS Ketmen 1.77 140 P **Pn 00 55 10.0 -1.2**
260nm,0.3s
KTMS S **Sn 00 55 32.8 -1.4**
821nm,0.2s
KTMS Ketmen 1.77 140 *e*PN **Pb 00 55 13.0 +0.1**
KTMS *e*S **Sb 00 55 35.6 +0.2**
KTBS Karatobe 1.86 235 *e*P **Pb 00 55 15.1 +0.7**
218nm,0.2s
KTBS *e*S **Sg 00 55 39.3 -0.5**
3µm,0.5s
KTBS Karatobe 1.86 235 P **Pn 00 55 11.8 -0.7**
677nm,0.2s
KTBS S **Sn 00 55 35.8 -0.5**
3µm,0.3s
KTBS Karatobe 1.86 235 *e*PN **Pb 00 55 15.1 +0.7**
KTBS *e*S **Sg 00 55 39.3 -0.5**
KUU Kurty 1.98 243 *e*P **Pb 00 55 16.6 +0.3**
201nm,0.3s
KUU *e*S **Sb 00 55 42.0 +0.8**
2µm,0.2s
KUU Kurty 1.98 243 Pg **Pn 00 55 14.4 +0.4**
296nm,0.2s
KUU Lg Lg 00 55 40.1
2µm,0.3s
KUU Kurty 1.98 243 *e*PN **Pb 00 55 16.6 +0.3**
KUU *e*S **Sb 00 55 42.0 +0.8**
KOTS Kotyrbulak 1.98 218 *e*P **Pb 00 55 17.1 +0.6**
513nm,0.2s
KOTS *e*S **Sg 00 55 43.0 -0.6**
1µm,0.4s
KOTS Kotyrbulak 1.98 218 Pg **Pn 00 55 14.7 +0.5**
563nm,0.4s
KOTS Lg Lg 00 55 40.6
1µm,0.3s
KOTS Kotyrbulak 1.98 218 *e*PN **Pb 00 55 17.1 +0.6**
KOTS *e*S **Sg 00 55 43.0 -0.6**
KNDC Almaty 2.06 220 ⇑Pg **Pb 00 55 17.3 -0.4**
536nm,0.5s
KNDC ⇑Lg Lg 00 55 44.9
941nm,0.5s
KNDC Almaty 2.06 220 PN **Pb 00 55 17.2 -0.6**
KNDC S **Sg 00 55 45.5 -0.6**
MDOK Medeo 2.06 218 *e*P **Pb 00 55 18.7 +0.8**
219nm,0.3s
MDOK *e*S **Sg 00 55 45.5 -0.8**
695nm,0.3s
MDOK Medeo 2.06 218 ⇑Pn **Pn 00 55 14.9 -0.5**
199nm,0.4s
MDOK ⇓Sn **Sb 00 55 44.3 +0.4**
1µm,1.1s
MDOK Medeo 2.06 218 Pg **Pn 00 55 15.1 -0.2**
467nm,0.2s
MDOK Lg Lg 00 55 41.6
771nm,0.3s
MDOK Medeo 2.06 218 *e*PN **Pb 00 55 18.7 +0.8**
MDOK *e*S **Sg 00 55 45.5 -0.8**
IZV Izvestkoviy 2.36 222 *e*P **Pb 00 55 23.7 +0.7**
63nm,0.2s
IZV *e*S **Sb 00 55 54.0 +1.5**
570nm,0.2s
IZV Izvestkoviy 2.36 222 Pg **Pn 00 55 21.4 +1.9**
119nm,0.3s
IZV Lg Lg 00 55 52.3
802nm,0.3s
IZV Izvestkoviy 2.36 222 *e*PN **Pb 00 55 23.7 +0.7**
IZV *e*S **Sb 00 55 54.0 +1.5**
MTBS Maitube 2.39 226 *e*P **Pb 00 55 23.9 +0.5**
155nm,0.2s
MTBS *e*S **Sb 00 55 54.5 +1.4**
1µm,0.4s
MTBS Maitube 2.39 226 Pg **Pn 00 55 21.9 +2.2**
144nm,0.2s
MTBS Lg Lg 00 55 53.2
1µm,0.2s
MTBS Maitube 2.39 226 *e*PN **Pb 00 55 23.9 +0.5**
MTBS *e*S **Sb 00 55 54.5 +1.4**
KRBS Karabastau 2.49 245 *e*P **Pb 00 55 25.6 +0.4**
47nm,0.2s
KRBS *e*S **Sb 00 55 57.4 +1.2**
237nm,0.3s
KRBS Karabastau 2.49 245 Pg **Pn 00 55 23.6 +2.5**
148nm,0.2s
KRBS Lg Lg 00 55 56.0
371nm,0.1s
KRBS Karabastau 2.49 245 *e*PN **Pb 00 55 25.6 +0.4**
KRBS *e*S **Sb 00 55 57.4 +1.2**
DGS Degeres 2.68 235 *e*P **Pb 00 55 28.9 +0.7**
165nm,0.3s
DGS *e*S **Sb 00 56 03.1 +1.7**
544nm,0.4s
DGS Degeres 2.68 235 Pg **Pb 00 55 26.9 -1.4**
362nm,0.1s
DGS Lg Lg 00 56 01.9
719nm,0.2s
DGS Degeres 2.68 235 *e*PN **Pb 00 55 29.0 +0.7**
DGS *e*S **Sb 00 56 03.1 +1.7**
KST Kastek 2.69 230 *e*P **Pb 00 55 28.9 +0.3**
123nm,0.4s
KST *e*S **Sb 00 56 03.1 +1.1**
329nm,0.3s
KST Kastek 2.69 230 Pg **Pb 00 55 27.5 -1.1**
396nm,0.4s
KST Lg Lg 00 56 02.9
238nm,0.2s
KST Kastek 2.69 230 *e*PN **Pb 00 55 29.0 +0.3**
KST *e*S **Sb 00 56 03.1 +1.1**
TKM2 Tokmak 2 2.98 232 P **Pn 00 55 29.1 +1.2**
SNR=34
TKM2 Tokmak 2 2.98 232 ⇑Pn **Pn 00 55 28.8 +0.9**
11nm,0.7s
TKM2 ⇑Pg **Pg 00 55 36.3 -0.6**
204nm,0.5s
TKM2 ⇑Lg Lg 00 56 15.6
163nm,0.4s
TKM2 Tokmak 2 2.98 232 *e*PN **Pn 00 55 28.8 +0.9**
MAKZ Makanchi 3.00 47 ⇑Pn **Pn 00 55 27.5 -0.5**
3.1nm,0.3s
MAKZ ⇑Pg **Pb 00 55 34.9 +1.1**
32nm,0.3s
MAKZ ⇓Lg Lg 00 56 13.3
106nm,0.4s
MAKZ Makanchi 3.00 47 *e*PN **Pn 00 55 30.7 +2.6**
ULHL Ulahol 3.16 217 P **Pn 00 55 32.8 +2.4**
SNR=81
MK31 Makanchi Array 3.16 50 ⇑Pn **Pn 00 55 29.5 -0.7**
4.0nm,0.3s
MK31 ⇑Pg **Pb 00 55 36.3 -0.2**
15nm,0.3s,baz=224,slow=14,SNR=60
MK31 ⇑Sn **Sn 00 56 09.0 +0.8**
60nm,0.5s
MK31 ⇑Lg Lg 00 56 18.2
89nm,0.3s
MK31 Makanchi Array 3.16 50 *i*PN **Pn 00 55 29.7 -0.5**
MKAR Makanchi Array 3.16 50 Pn **Pn 00 55 31.9 +1.7**
6.3nm,0.3s,baz=230,slow=14,SNR=49
MKAR Pg **Pb 00 55 37.0 +0.5**
19nm,0.3s,baz=227,slow=15,SNR=38
MKAR Sn **Sn 00 56 09.5 +1.3**
31nm,0.3s,baz=229,slow=28,SNR=7.7
MKAR Lg Lg 00 56 19.6
59nm,0.3s,baz=231,slow=31,SNR=9.4
SGDS Sogindy 3.28 247 Pg **Pb 00 55 37.7 -0.9**
79nm,0.2s
SGDS Lg Lg 00 56 20.3
109nm,0.4s
BTLS Baital 3.37 276 *e*P **Pg 00 55 43.2 -1.3**
44nm,0.3s
BTLS *e*S **Sg 00 56 27.6 -0.6**
142nm,0.3s
BTLS Baital 3.37 276 Pg **Pb 00 55 39.3 -0.8**
86nm,0.3s
BTLS Lg Lg 00 56 23.2
216nm,0.3s
BTLS Baital 3.37 276 *e*PN **Pg 00 55 43.2 -1.3**
BTLS *e*S **Sg 00 56 27.6 -0.6**
CHMS Chumysh 3.43 240 P **Pn 00 55 35.1 +1.1**
SNR=20
USP Ospenovka 3.45 245 P **Pn 00 55 35.4 +1.1**
SNR=6.5
KBK Karagaybulak 3.51 234 P **Pn 00 55 37.1 +1.8**
SNR=31
AAK Ala-Archa 3.79 237 Pn **Pn 00 55 40.5 +1.5**
11nm,0.3s,baz=109,slow=5.1,SNR=28
AAK Pg **Pb 00 55 47.7 +0.3**
46nm,0.3s,baz=82,slow=10,SNR=41
AAK Sn **Sn 00 56 25.8 +1.8**
6.5nm,0.3s,baz=59,slow=22,SNR=3.6
AAK Lg Lg 00 56 36.2
11nm,0.3s,baz=245,slow=20,SNR=11
AAK Ala-Archa 3.79 237 P **Pn 00 55 40.6 +1.6**
SNR=15
AAK Ala-Archa 3.79 237 ⇑Pn **Pn 00 55 40.0 +1.0**
10nm,0.3s
AAK ⇓Pg **Pb 00 55 48.1 +0.8**
70nm,0.4s
AAK ⇑Lg Lg 00 56 40.3
244nm,0.8s
EKS2 Erkin-Say 4.21 241 P **Pn 00 55 46.3 +1.5**
SNR=15
MRKS Merke 4.52 245 *e*P **Pb 00 56 03.0 +3.2**
31nm,0.4s
MRKS *e*S **Sg 00 57 01.4 -3.6**
102nm,0.6s
MRKS Merke 4.52 245 Pg **Pb 00 56 00.5 +0.7**
31nm,0.3s
MRKS Lg Lg 00 56 59.4
160nm,0.4s
AML Almayashu 4.57 236 P **Pn 00 55 52.4 +2.5**
SNR=17
ZSN Zaisan 4.99 56 *e*P **Pb 00 56 10.0 +2.4**
20nm,0.5s
ZSN *e*S **Sg 00 57 14.5 -5.6**
63nm,0.5s
ZSN Zaisan 4.99 56 Pg **Pb 00 56 03.7 -4.0**
20nm,0.2s
ZSN Lg Lg 00 57 05.0
63nm,0.4s
OTUK Ortayu 5.62 310 ⇓Pn **Pn 00 56 04.1 +0.1**
1.8nm,0.5s
OTUK ⇑Lg Lg 00 57 36.9
116nm,0.8s
OTUK Ortayu 5.62 310 *e*PN **Pn 00 56 05.2 +1.1**
SEM Semipalatinsk 5.69 10 *e*P **Pg 00 56 29.1 +0.2**
9.3nm,0.2s
SEM *e*S **Sg 00 57 46.7 +4.1**
101nm,0.5s
SEM Semipalatinsk 5.69 10 Pg **Pb 00 56 23.9 +4.1**
11nm,0.3s
SEM Lg Lg 00 57 39.6
200nm,0.7s
SEM Semipalatinsk 5.69 10 *e*PG **Pg 00 56 29.1 +0.2**
SEM *e*S **Sg 00 57 46.7 +4.1**
DZA Taraz 5.72 253 Pg Pb 00 56 25.1 +5.0
40nm,0.2s
DZA Lg Lg 00 57 41.5
163nm,0.2s
KURBB Kurchatov Arra 5.82 358 Pn **Pn 00 56 07.4 +0.7**
0.6nm,0.3s,baz=185,slow=12,SNR=27
KURBB Pg Pb 00 56 17.3 -4.5
1.2nm,0.3s,baz=185,slow=13,SNR=21
KURBB Sn **Sn 00 57 13.7 -0.1**
1.1nm,0.3s,baz=166,slow=18,SNR=4.7
KURBB Lg Lg 00 57 42.0
2.6nm,0.3s,baz=184,slow=29,SNR=6.3
KURBB Kurchatov Arra 5.82 358 ⇑Pn **Pn 00 56 06.4 -0.4**
3.6nm,0.7s
KURBB ⇑Lg Lg 00 57 43.0
338nm,0.7s
KURBB Kurchatov Arra 5.82 358 PN **Pn 00 56 07.6 +0.8**
KURK Kurchatov 5.91 359 PN **Pn 00 56 07.4 -0.6**
KURK 00 57 13.7
KK31 Karatay Array 6.21 257 ⇑Pn **Pn 00 56 12.6 +0.5**
2.1nm,0.2s
KK31 ⇓Pg **Pb 00 56 33.0 +4.5**
5.6nm,0.4s
KK31 ⇑Lg Lg 00 57 55.9
32nm,0.6s
KK31 Karatay Array 6.21 257 PN **Pn 00 56 12.7 +0.5**
BRZS Berezniki 6.63 324 *e*P **Pg 00 56 44.8 -2.0**
5.7nm,0.2s
BRZS *e*S **Sg 00 58 12.8 +0.2**
82nm,0.5s
BRZS Berezniki 6.63 324 Pg Pb 00 56 41.7 +6.1
6.2nm,0.2s
BRZS Lg Lg 00 58 10.2
40nm,0.4s
BRZS Berezniki 6.63 324 *e*P* **Pg 00 56 44.8 -2.0**
DGZ Jazzator, Alta 7.65 47 ⇑*i*P **Pn 00 56 33.6 +1.5**
BVAR Borovoye Array 9.90 329 Pn **Pn 00 57 01.9 -0.8**
1.2nm,0.3s,baz=311,slow=27,SNR=22
BVAR Sn **Sn 00 58 50.5 -3.6**
1.1nm,0.3s,baz=140,slow=30,SNR=5.4
BVAR Lg Lg 00 59 53.0
1.6nm,0.3s,baz=182,slow=36,SNR=6.6
ZAA0 Zalesovo Array 9.96 21 ⇑Pn **Pn 00 57 03.5 +0.1**
0.9nm,0.5s
ZAA0 ⇑Sn **Sn 00 58 52.6 -2.8**
2.1nm,0.4s
ZAA0 ⇑Lg Lg 00 59 53.5
5.4nm,0.8s
ZALV Zalesovo Beam 9.96 21 Pn **Pn 00 57 03.7 +0.2**
2.7nm,0.3s,baz=210,slow=14,SNR=36
ZALV Sn **Sn 00 58 48.9 -6.5**
2.5nm,0.3s,baz=212,slow=27,SNR=7.1
ZALV Lg Lg 00 59 54.7
1.3nm,0.3s,baz=202,slow=27,SNR=5.9
ZALV Zalesovo Beam 9.96 21 *e*P **Pn 00 57 03.8 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
BRVK Borovoye 9.97 329 ⇑Pn **Pn 00 57 03.5 -0.1**
comp=Z,0.8nm,0.3s
BRVK ⇑Lg Lg 00 59 54.4
comp=Z,76nm,1.0s
BRVK Borovoye 9.97 329*c i*P **Pn 00 57 03.7 +0.1**
AB31 Akbulak array 13.59 296 ⇓Pn **Pn 00 57 51.0 -2.1**
comp=Z,0.5nm,0.3s,baz=148,slow=39,SNR=22
AB31 ⇑Lg Lg 01 01 50.3
comp=Z,9.9nm,0.8s
AKTO Aktyubinsk 15.07 299 Pn **Pn 00 58 10.2 -3.1**
comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=2.9
AKTO Sn Sn 01 00 49.9 -11
comp=Z,0.2nm,0.3s,baz=210,slow=16,SNR=2.2
AKTO Lg Lg 01 02 37.8
comp=Z,0.2nm,0.3s,baz=346,slow=20,SNR=4.7
AKTO Aktyubinsk 15.07 299 ⇓Pn **Pn 00 58 13.0 -0.3**
comp=Z,1.2nm,0.7s
AKTO ⇑Lg Lg 01 02 38.0
comp=Z,11nm,0.8s
ARU Arti 17.24 320 P **Pn 00 58 40.2 -1.0**
comp=Z,0.0nm,0.3s,baz=137,slow=8.9,SNR=3.1
ARU Lg Lg 01 03 48.3
comp=Z,0.0nm,0.3s,baz=0.0,slow=20,SNR=1.9
ARU Arti 17.24 320 P **P 00 58 43.0 +0.3**
ARU S **Sn 01 01 57.8 +4.8**
NRIK Noril'sk 25.00 7 ⇑*i*P **P 01 00 04.8 +0.7**
NRIK pmax pmax
comp=Z,4.0nm,1.5s
GNI Garni 25.42 271 P **P 01 00 07.9 -0.4**
comp=Z,2.3nm,0.4s,baz=262,slow=9.5,SNR=3.1
GNI Garni 25.42 271 ⇑*i*P **P 01 00 09.3 +0.9**
GNI pmax pmax
comp=Z,8.0nm,1.2s
FINES FINESS Array B 34.59 318 P **P 01 01 28.9 -0.4**
comp=Z,0.9nm,0.8s,baz=99,slow=9.1,SNR=5.5

IDC 19 01:12:29.9±3.6,5°83S×146°61E, h0km, mb3.0/1, mb1 3.6/3, mb1mx3.4/25, mbtmp3.5/3, ML2.6/2, Error ellipse: s-maj=65.0km s-min=41.2km az=78.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**171**	Pn	Pn	01 13 27.0	+0.1
	7.3nm,0.3s,baz=348,slow=9.3,SNR=13						
PMG				Sn	Sn	01 14 11.0	+0.9
	2.1nm,0.3s,baz=262,slow=17,SNR=1.4						
WRA	**Warramunga Arr**	**18.41**	**219**	P	Pn	01 16 46.3	-0.6
	0.1nm,0.3s,baz=43,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**21.54**	**213**	P	P	01 17 20.6	-0.4
	0.3nm,0.4s,baz=54,slow=7.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**144.67**	**284**	PKP	PKPdf	01 32 10.0	+0.2
	0.3nm,0.6s,baz=67,slow=3.6,SNR=1.4						

*IDC **19** 01:29:13.2±0.9, 7°38S×155°41E, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.2/36, mbtmp4.3/11, ML2.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=36.8km s-min=19.5km az=135.0*
*NEIC **19** 01:29:15.2±1.4, 7°.4S±0°.1×155°.28E±0°.09, h10km±1km, mb4.6/25, Error ellipse: s-maj=19.2km s-min=13.3km az=202.0*

ISC 19 01:29:17.6±0.6, 7°.4S±0°.1×155°.28E±0°.08, h29km, n39, σ0s72/34, mb4.5/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.48**	**316**	Pn	**Pn**	**01 30 22.8**	**-0.8**
HNR	**Honiara**	**5.02**	**114**	LR	LR	01 32 33.2	
	comp=Z,151nm,21.6s,baz=240,slow=41						
HNR	**Honiara**	**5.02**	**114**	Pn	**Pn**	**01 30 30.6**	**-0.3**
PMG	**Port Moresby**	**8.27**	**256**	Pn	**Pn**	**01 31 14.4**	**-1.3**
	3.4nm,0.3s,baz=10,slow=2.2,SNR=2.2						
PMG				Sn	**Sn**	**01 32 48.0**	**-0.2**
	4.9nm,0.3s,baz=265,slow=21,SNR=2.3						
PMG				LR	LR	01 34 13.2	
	comp=Z,130nm,20.1s,baz=3.0,slow=36						
WR0	**Warramunga Arr**	**23.65**	**236**	P	**P**	**01 34 27.1**	**+0.4**
WR0				IAmb	IAmb	01 34 31.0	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**23.68**	**237**	P	**P**	**01 34 27.9**	**+0.9**
WB2	**Warramunga Arr**	**23.79**	**236**	P	**P**	**01 34 28.4**	**+0.4**
WB2				IAmb	IAmb	01 34 32.4	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**23.80**	**236**	P	**P**	**01 34 29.3**	**+1.1**
	comp=Z,9.0nm,0.8s,baz=61,slow=9.7,SNR=18						
WRA				PcP	**PcP**	**01 38 12.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=54,slow=3.0,SNR=1.5						
WRA				LR	LR	01 43 34.9	
	comp=Z,66nm,18.0s,baz=315,slow=36						
AS31	**Alice Springs**	**26.09**	**229**	P	**P**	**01 34 48.7**	**-0.4**
ASAR	**Alice Springs**	**26.10**	**229**	P	**P**	**01 34 50.0**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=62,slow=8.5,SNR=20						
STKA	**Stephens Creek**	**27.46**	**206**	LR	LR	01 45 24.2	
	comp=Z,83nm,18.4s,baz=65,slow=35						
FITZ	**Fitzroy Crossi**	**30.74**	**247**	P	**P**	**01 35 30.6**	**+0.1**
FITZ				IAmb	IAmb	01 35 41.0	
	comp=Z,12nm,1.3s						
PETK	**Petropavlovsk-**	**60.35**	**2**	P	**P**	**01 39 23.5**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=156,slow=7.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**61.24**	**296**	P	**P**	**01 39 32.4**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=113,slow=7.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**61.24**	**296**	P	**P**	**01 39 30.8**	**+0.3**
ULN	**Ulaanbaatar**	**69.53**	**328**	P	**P**	**01 40 24.1**	**+0.3**
ULN				IAmb	IAmb	01 40 50.7	
	comp=Z,2.3nm,0.5s						
SONM	**Songino Array**	**69.87**	**327**	P	**P**	**01 40 25.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=106,slow=5.1,SNR=4.3						
SONM	**Songino Array**	**69.87**	**327**	IAmb	IAmb	01 40 26.5	
	comp=Z,2.0nm,1.2s						
SVW2	**Sparrevohn**	**78.30**	**22**	P	**P**	**01 41 14.8**	**+0.1**
SVW2				IAmb	IAmb	01 41 17.5	
	comp=Z,6.5nm,1.2s						
SML	**Sawmill**	**81.52**	**24**	P	**P**	**01 41 31.5**	**-0.7**
KLU	**Klutina**	**82.32**	**24**	P	**P**	**01 41 37.0**	**+0.6**
KLU				IAmb	IAmb	01 41 39.2	
	comp=Z,5.3nm,1.1s						
MCK	**McKinley**	**82.36**	**22**	P	**P**	**01 41 36.4**	**-0.1**
MLY	**Manley**	**82.47**	**20**	P	**P**	**01 41 37.0**	**0.0**
NEA2	**Nenana**	**82.80**	**21**	P	**P**	**01 41 37.7**	**-1.1**
NEA2				IAmb	IAmb	01 41 38.9	
	comp=Z,2.7nm,0.8s						
CCB	**Clear Creek Bu**	**83.28**	**21**	P	**P**	**01 41 40.4**	**-0.8**
CCB				IAmb	IAmb	01 41 42.0	
	comp=Z,6.7nm,1.4s						
IL31		**83.68**	**21**	P	**P**	**01 41 42.5**	**-0.7**
ILAR	**Eielson Array**	**83.68**	**21**	P	**P**	**01 41 42.5**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=246,slow=5.6,SNR=23						
MK31	**Makanchi Array**	**83.93**	**319**	P	**P**	**01 41 44.8**	**-0.2**
MKAR	**Makanchi Array**	**83.93**	**319**	P	**P**	**01 41 45.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=97,slow=6.5,SNR=7.4						
DOT	**Dot Lake**	**84.16**	**23**	IAmb	IAmb	01 41 47.0	
	comp=Z,3.1nm,0.8s						
L27K	**Beaver Creek,**	**84.76**	**24**	P	**P**	**01 41 49.6**	**+0.7**
L27K				IAmb	IAmb	01 41 50.9	
	comp=Z,6.5nm,1.5s						
HYT	**Haines Junctio**	**85.64**	**27**	IAmb	IAmb	01 41 55.6	
	comp=Z,3.5nm,0.9s						
EGAK	**Eagle**	**85.82**	**23**	IAmb	IAmb	01 41 55.3	
	comp=Z,3.1nm,0.9s						
INK	**Inuvik**	**90.03**	**21**	P	**P**	**01 42 14.2**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=270,slow=9.3,SNR=4.1						
INK	**Inuvik**	**90.03**	**21**	IAmb	IAmb	01 42 16.0	
	comp=Z,5.0nm,1.2s						
NVAR	**Mina Array Bea**	**91.77**	**52**	P	**P**	**01 42 22.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=250,slow=6.6,SNR=3.8						
YKA	**Yellowknife Ar**	**96.60**	**28**	P	**P**	**01 42 44.0**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=254,slow=4.2,SNR=4.0						
BDFB	**Brasilia**	**147.46**	**135**	PKPbc	**PKPbc**	**01 48 59.9**	**0.0**
	comp=Z,2.9nm,0.6s,baz=236,slow=3.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**153.42**	**284**	PKPbc	**PKiKP**	**01 49 15.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=55,slow=2.1,SNR=3.0						

*IDC **19** 01:30:09.2±2.0, 51°.58N×175°.37W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/52, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=69.0km s-min=37.4km az=160.0*
*AEIC **19** 01:30:14.9±1.6, 51°.60N±0°.04×175°.25W±0°.04, h27km±6km, ML3.6/32, Error ellipse: s-maj=6.0km s-min=2.2km az=144.0*
*NEIC **19** 01:30:15.9±1.5, 51°.66N±0°.09×175°.24W±0°.03, h35km±10km, Error ellipse: s-maj=13.6km s-min=2.5km az=175.0*

ISC 19 01:30:16.1±1.8, 51°.7N±0°.2×175°.26W±0°.05, h42km±19km, n37, σ0s77/36, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.51**	**306**		**Pn**	**01 30 26.9**	**-0.2**
GSIG					**Sn**	**01 30 35.6**	**+0.8**
GSMY	**Great Sitkin M**	**0.61**	**306**		**Pn**	**01 30 28.1**	**-0.3**
GSTD	**Great Sitkin T**	**0.66**	**304**		**Pn**	**01 30 29.1**	**0.0**
GSTD					**Sn**	**01 30 38.6**	**+0.1**
ETKA	**Kagalaska Isla**	**0.73**	**284**		**Pn**	**01 30 29.3**	**-0.7**
ATKA	**Atka Island**	**0.83**	**52**		**Pn**	**01 30 30.6**	**-0.8**
ATKA					**Sn**	**01 30 42.1**	**-0.3**
ADK	**Adak**	**0.91**	**283**		**Pn**	**01 30 31.2**	**-1.2**
ADK					**Sn**	**01 30 44.0**	**-0.3**
KOKL	**Mount Kliuchef**	**0.91**	**45**		**Pn**	**01 30 32.4**	**-0.1**
KOFP	**Korovin Flat P**	**0.93**	**50**		**Pn**	**01 30 32.5**	**-0.2**
KIRH	**Kanaga Island**	**1.16**	**281**		**Pn**	**01 30 35.5**	**-0.4**
KIWB	**Kanaga Island**	**1.19**	**279**		**Pn**	**01 30 35.7**	**-0.5**
KIKV	**Kanaga Island**	**1.21**	**280**		**Pn**	**01 30 36.0**	**-0.5**
KICM	**Kanaga Island**	**1.23**	**282**		**Pn**	**01 30 36.5**	**-0.3**
KIMD	**Kanaga Island**	**1.23**	**274**		**Pn**	**01 30 35.8**	**-1.0**
TAFP	**Tanaga Falls P**	**1.71**	**278**		**Pn**	**01 30 43.5**	**+0.1**
TAFP					**Sn**	**01 31 04.9**	**+0.9**
TASE	**Tanaga Southea**	**1.73**	**276**		**Pn**	**01 30 43.8**	**0.0**
GAEA	**Gareloi East**	**2.17**	**274**		**Pn**	**01 30 50.3**	**+0.6**
GALAA	**Gareloi Lava P**	**2.19**	**273**		**Pn**	**01 30 50.3**	**+0.3**
CERAA	**Semis' Rag'd T**	**3.15**	**276**		**Pn**	**01 31 03.5**	**+0.4**
CESW	**Semis' Southwe**	**3.22**	**276**		**Pn**	**01 31 04.8**	**+0.6**
AMKA	**Amchitka**	**3.41**	**267**		**Pn**	**01 31 07.0**	**+0.2**
LSNW	**Little Sitkin**	**3.87**	**277**		**Pn**	**01 31 13.9**	**+0.8**
NIKH	**Nikolski High**	**4.13**	**69**		**Pn**	**01 31 17.7**	**+1.1**
MAPS	**Pakushin South**	**5.48**	**64**		**Pn**	**01 31 36.7**	**+1.7**
MGOD	**Makushin Gods**	**5.51**	**64**		**Pn**	**01 31 36.7**	**+1.1**
MNAT	**Makushin Natee**	**5.65**	**64**		**Pn**	**01 31 38.9**	**+1.5**
SMY	**Shemya**	**6.63**	**283**	Pn	**Pn**	**01 31 51.9**	**+1.1**
KDAK	**Kodiak Island**	**14.40**	**56**	Pn	**Pn**	**01 33 35.9**	**-1.2**
	0.2nm,0.3s,baz=314,slow=4.4,SNR=9.4						
ILAR	**Eielson Array**	**19.63**	**37**	P	**P**	**01 34 41.4**	**+0.6**
	0.3nm,0.3s,baz=222,slow=9.2,SNR=15						
H11N2	**WAKE ISLAND Hy**	**34.83**	**210**	T	T	02 14 17.3	
	baz=20,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**34.84**	**210**	T	T	02 14 17.9	
	baz=20,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**34.85**	**210**	T	T	02 14 17.9	
	baz=20,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**36.04**	**210**	T	T	02 15 43.6	
	baz=19,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**36.06**	**210**	T	T	02 15 43.6	
	baz=19,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**36.06**	**210**	T	T	02 15 44.8	
	baz=19,slow=76,SNR=10						
PDAR	**Pinedale Array**	**44.10**	**75**	P	**P**	**01 38 20.4**	**+0.2**
	1.2nm,0.6s,baz=309,slow=3.3,SNR=12						
TXAR	**Lajitas Array**	**56.42**	**84**	P	**P**	**01 39 53.1**	**-0.3**
	0.1nm,0.4s,baz=302,slow=5.2,SNR=2.5						
BOSA	**Boshof**	**152.31**	**318**	PKPbc	**PKPbc**	**01 50 06.5**	**-0.7**

1.7nm,0.5s,baz=18,slow=4.0,SNR=6.8

IDC 19 01:38:56.7±3.1, 28°.82S×178°.35W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.6/2, Error ellipse: s-maj=104.7km s-min=15.5km az=35.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.57**	**139**	Pn	Pn	01 39 12.0	-0.2
	88nm,0.3s,baz=13,slow=17,SNR=13						
RAO				Sn	Sn	01 39 23.4	+1.1
	161nm,0.3s,baz=59,slow=18,SNR=9.6						
ASAR	**Alice Springs**	**42.91**	**265**	P	P	01 46 57.5	+0.1
	0.2nm,0.3s,baz=98,slow=6.8,SNR=2.1						
WRA	**Warramunga Arr**	**43.75**	**271**	P	P	01 47 03.8	-0.4
	0.9nm,0.7s,baz=110,slow=8.0,SNR=4.7						
FINES	**FINESS Array B**	**143.56**	**340**	PKP	PKPdf	01 58 33.3	+0.5
	0.8nm,0.5s,baz=29,slow=3.2,SNR=4.0						

*IDC **19** 01:52:48.6±0.6, 4°.33S×143°.40E, h107km±4km, mb4.1/16, mb1 4.2/20, mb1mx4.1/41, mbtmp4.5/20, MS3.3/5, Ms1 3.2/5, ms1mx2.8/35, Error ellipse: s-maj=16.8km s-min=10.2km az=85.0*

*DJA **19** 01:52:49.7±0.4, 4°.5±5°×14°.3E±°, h111km±7km, M4.8/17, mB5.4/3, mb4.8/17, MLv4.8/3, Mw(mB)4.8/3*

*NEIC **19** 01:52:50.0±1.7, 4°.36S±0°.08×143°.28E±0°.09, h113km±5km, mb4.5/29, Error ellipse: s-maj=14.3km s-min=10.9km az=121.0*

ISC 19 01:52:48.4±0.3, 4°.44S±0°.05×143°.32E±0°.05, h103km, n104, σ1§40/110, mb4.4/30, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**3.65**	**300**	P	**Pn**	**01 53 44.1**	**+1.2**
MANU	**Manus Island**	**4.69**	**60**	Pn	**Pn**	**01 53 58.6**	**+1.7**
PMG	**Port Moresby**	**6.23**	**143**	P	**Pn**	**01 54 18.1**	**+0.3**
	5.2nm,0.3s,baz=343,slow=11,SNR=3.5						
PMG				S	**Sn**	**01 55 25.9**	**-1.9**
	4.6nm,0.3s,baz=135,slow=20,SNR=1.5						
PMG				LR	LR	01 57 00.1	
	comp=Z,130nm,20.8s,baz=257,slow=40						
PMG	**Port Moresby**	**6.23**	**143**	Pn	**Pn**	**01 54 18.7**	**+0.8**
PMG	**Port Moresby**	**6.23**	**143**	P	**Pn**	**01 54 18.3**	**+0.4**
	0.2nm60nm,0.7s						
SIJI	**Sorong**	**12.55**	**286**	P	**Pn**	**01 55 44.6**	**+1.2**
	2.6nm,0.3s,baz=98,slow=15,SNR=2.9						
SIJI	**Sorong**	**12.55**	**286**	P	**Pn**	**01 55 45.3**	**+1.8**
	7.0nm,0.8s						
KDU	**Kakadu**	**13.49**	**232**	P	**Pn**	**01 55 56.9**	**+1.1**
	baz=14,SNR=8.9						
MTSU	**Mount Surprise**	**13.64**	**176**	P	**P**	**01 56 00.9**	**-2.1**
	baz=14,SNR=8.8						
MTN	**Manton Dam**	**14.65**	**234**	P	**Pn**	**01 56 11.6**	**+0.9**
	baz=15,SNR=10						
MTN	**Manton Dam**	**14.65**	**234**	Pn	**Pn**	**01 56 10.6**	**-0.1**
CTA	**Charters Tower**	**15.81**	**170**	P	**P**	**01 56 28.2**	**+1.2**
	0.3nm,0.3s,baz=335,slow=13,SNR=4.2						
QIS	**Mount Isa**	**16.43**	**192**	P	**P**	**01 56 34.6**	**+0.8**
	baz=17,SNR=4.7						
WB0	**Warramunga Arr**	**17.55**	**209**		**Pn**	**01 56 46.6**	**0.0**
WB0				IAmb	IAmb	01 56 49.3	
	comp=Z,45nm,0.7s						
WR0	**Warramunga Arr**	**17.64**	**208**	P	**Pn**	**01 56 47.8**	**0.0**
WR0				IAmb	IAmb	01 56 50.5	
	comp=Z,56nm,0.7s						
WB2	**Warramunga Arr**	**17.72**	**209**		**Pn**	**01 56 48.9**	**+0.3**
WRA	**Warramunga Arr**	**17.72**	**209**	P	**Pn**	**01 56 49.1**	**+0.4**
	comp=Z,7.3nm,0.3s,baz=30,slow=12,SNR=197						
WRA				S	**Sn**	**01 59 59.1**	**-7.3**
	comp=Z,0.5nm,0.3s,baz=24,slow=24,SNR=3.4						
WRA				LR	LR	02 04 12.5	
	comp=Z,160nm,19.7s,baz=185,slow=38						
KNRA	**Kununurra**	**18.15**	**231**	P	**Pn**	**01 56 53.9**	**0.0**
	baz=18,SNR=57						
KNRA	**Kununurra**	**18.15**	**231**		**P**	**01 56 53.4**	**+0.5**
PATS	**Pohnpei**	**18.69**	**53**	P	**P**	**01 56 58.9**	**+0.2**
SOEI	**Soe**	**19.63**	**253**	P	**Pn**	**01 57 10.7**	**-0.8**
	comp=Z,2µmcomp=Z,148nm,0.7s						
BATI	**Baumata**	**20.32**	**253**	P	Pn	01 57 18.1	-1.3
	comp=Z,101nm,0.5s,baz=240,slow=2.6,SNR=7.4						
BATI	**Baumata**	**20.32**	**253**	P	Pn	01 57 18.5	-0.9
	comp=Z,85nm,0.6s						
AS31	**Alice Springs**	**21.16**	**205**	P	**P**	**01 57 25.8**	**+0.2**
ASAR	**Alice Springs**	**21.17**	**205**	P	**P**	**01 57 26.3**	**+0.8**
	comp=Z,13nm,0.6s,baz=36,slow=6.1,SNR=87						
ASAR				S	**S**	**02 01 15.3**	**0.0**
	comp=Z,1.3nm,0.8s,baz=26,slow=22,SNR=4.1						
ASAR	**Alice Springs**	**21.17**	**205**	P	**P**	**01 57 25.9**	**+0.4**
EDFI	**Ende, Flores**	**21.91**	**258**	P	**P**	**01 57 32.8**	**-0.8**
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.99**	**230**	P	**P**	**01 57 34.0**	**-0.2**
	comp=Z,38nm,0.6s,baz=47,slow=9.8,SNR=46						
FITZ				LR	LR	02 07 21.0	
	comp=Z,50nm,18.0s,baz=26,slow=39						
FITZ	**Fitzroy Crossi**	**21.99**	**230**	P	**P**	**01 57 33.9**	**-0.4**
	baz=22,SNR=55						
FITZ	**Fitzroy Crossi**	**21.99**	**230**	P	**P**	**01 57 34.0**	**-0.2**
FITZ				IAmb	IAmb	01 57 38.3	
	comp=Z,76nm,1.2s						
EIDS	**Eidsvold**	**22.10**	**161**	P	**P**	**01 57 37.4**	**+1.9**
	baz=22,SNR=6.6						
EIDS	**Eidsvold**	**22.10**	**161**	P	**P**	**01 57 37.5**	**+2.1**
EIDS				IAmb	IAmb	01 57 39.6	
	comp=Z,20nm,0.8s						
RMQ	**Roma**	**22.53**	**167**	P	**P**	**01 57 42.1**	**+2.2**
	baz=23,SNR=21						
WRKA	**Warakurna**	**25.06**	**214**	P	**P**	**01 58 04.0**	**+0.7**
	baz=25,SNR=92						
ARMA	**Armidale**	**27.00**	**164**	P	**P**	**01 58 23.1**	**+2.2**
	baz=27,SNR=5.8						
ARMA	**Armidale**	**27.00**	**164**	P	**P**	**01 58 22.4**	**+1.5**
ARMA				IAmb	IAmb	01 58 24.5	
	comp=Z,20nm,1.1s						
CMSA	**Cobar Meteorol**	**27.05**	**176**	P	**P**	**01 58 23.3**	**+2.2**
	baz=27,SNR=12						
STKA	**Stephens Creek**	**27.34**	**183**	P	**P**	**01 58 24.5**	**+0.7**
	comp=Z,5.8nm,0.7s,baz=352,slow=9.8,SNR=11						
STKA				LR	LR	02 10 38.9	
	comp=Z,80nm,21.9s,baz=36,slow=39						
STKA	**Stephens Creek**	**27.34**	**183**	P	**P**	**01 58 25.1**	**+1.4**
	baz=28,SNR=6.7						
STKA	**Stephens Creek**	**27.34**	**183**	P	**P**	**01 58 24.0**	**+0.2**
PSA00	**Pilbara Seismi**	**28.44**	**231**	P	**P**	**01 58 34.3**	**+0.6**
PSA00				IAmb	IAmb	01 58 37.2	
	comp=Z,8.6nm,0.9s						
DZM	**Mont Dzumac**	**28.44**	**130**	P	**P**	**01 58 34.3**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=299,slow=19,SNR=1.4						
BBOO	**Buckleboo**	**29.03**	**193**	P	**P**	**01 58 40.1**	**+1.3**
	baz=29,SNR=29						
BBOO	**Buckleboo**	**29.03**	**193**	P	**P**	**01 58 39.4**	**+0.6**
HTT	**Hallett**	**29.13**	**188**	P	**P**	**01 58 41.3**	**+1.5**
	baz=29,SNR=24						
FORT	**Forrest**	**29.89**	**207**	P	**P**	**01 58 47.4**	**+1.0**
	baz=30,SNR=20						
FORT	**Forrest**	**29.89**	**207**	P	**P**	**01 58 46.2**	**-0.2**
LHI	**Lord Howe Isla**	**30.73**	**153**	P	**P**	**01 58 55.2**	**+1.4**
	baz=31,SNR=3.6						
CAN	**Canberra**	**31.18**	**171**	P	**P**	**01 58 59.0**	**+1.3**
MEEK	**Meekatharra**	**32.33**	**224**	P	**P**	**01 59 09.1**	**+1.1**
	baz=32,SNR=17						
MILA	**Mila**	**32.90**	**171**	P	**P**	**01 59 14.0**	**+1.1**
	baz=33,SNR=4.9						
TOO	**Toolangi**	**33.03**	**177**	P	**P**	**01 59 15.8**	**+1.8**
	baz=33,SNR=4.4						
GIRL	**Giralia**	**33.45**	**235**	P	**P**	**01 59 18.0**	**+0.2**
	baz=34,SNR=4.3						
MORW	**Morawa**	**35.62**	**224**	P	**P**	**01 59 37.8**	**+1.4**
	baz=36,SNR=5.7						
MORW	**Morawa**	**35.62**	**224**	P	**P**	**01 59 37.2**	**+0.8**
KLBR	**Kellerberrin**	**36.14**	**219**	P	**P**	**01 59 41.9**	**+1.1**
	baz=36,SNR=7.5						
BLDU	**Ballidu**	**36.15**	**221**	P	**P**	**01 59 42.3**	**+1.3**
	baz=36,SNR=9.4						
MSVF	**Nonsavu**	**36.46**	**114**	P	**P**	**01 59 43.9**	**+0.1**
	comp=Z,4.1nm,0.5s,baz=157,slow=8.9,SNR=3.5						
NWAO	**Narrogin (SRO)**	**37.37**	**218**	P	**P**	**01 59 52.8**	**+1.5**
	comp=Z,12nm,0.8s,baz=66,slow=9.2,SNR=3.4						
NWAO	**Narrogin (SRO)**	**37.37**	**218**	P	**P**	**01 59 52.2**	**+0.9**
NWAO				IAmb	IAmb	01 59 58.2	
	comp=Z,16nm,0.9s						
MJAR	**Matsushiro Arr**	**41.05**	**354**	P	**P**	**02 00 20.9**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=182,slow=8.4,SNR=4.2						
NJ2	**Nanjing**	**43.11**	**329**	*eP*	**P**	**02 00 39.4**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**44.08**	**342**	P	**P**	**02 00 45.9**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=159,slow=8.6,SNR=10						
USRK	**Ussuriysk Ar.**	**49.48**	**349**	P	**P**	**02 01 27.4**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=166,slow=6.7,SNR=4.8						
USRK				pP	**pP**	**02 01 53.3**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=159,slow=7.7,SNR=6.7						
USRK	**Ussuriysk Ar.**	**49.48**	**349**	P	**P**	**02 01 26.3**	**-1.9**
BJI	**Beijing**	**50.81**	**333**	P	**P**	**02 01 39.5**	**+1.1**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CD2	**Chengdu**	**51.59**	**316**	P	**P**	**02 01 44.5**	**+0.1**
CD2				pP	pP	02 02 11.5	+2.4
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC	**Hu-ho-hao-te**	**53.63**	**330**	*eP*	**P**	**02 02 02.8**	**+3.4**
HHC				S	**S**	**02 09 23.3**	**-2.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,4.3s						
HHC				L	L		
	comp=Z,220nm,15.3s						
HHC				L	L		
	comp=Z,110nm,16.4s						
HHC				L	L		
	comp=Z,84nm,16.9s						
PETK	**Petropavlovsk-**	**58.60**	**10**	pP	pP	02 03 00.2	+0.6
	comp=Z,5.8nm,0.6s,baz=178,slow=7.2,SNR=6.6						
PETK	**Petropavlovsk-**	**58.60**	**10**	P	**P**	**02 02 33.5**	**-0.9**
SONM	**Songino Array**	**61.30**	**333**	P	**P**	**02 02 53.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=157,slow=10.0,SNR=2.7						
SONM				pP	**pP**	**02 03 20.2**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=147,slow=7.7,SNR=2.4						
SONM	**Songino Array**	**61.30**	**333**	P	**P**	**02 02 51.7**	**-1.4**
WMQ	**Urumqi**	**69.25**	**320**	*eP*	**P**	**02 03 46.3**	**+1.8**
VNDA	**Vanda**	**73.70**	**176**	P	**P**	**02 04 11.5**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=324,slow=7.0,SNR=20						
VNDA	**Vanda**	**73.70**	**176**	IAmb	IAmb	02 04 13.3	
	comp=Z,5.1nm,1.4s						
MK31	**Makanchi Array**	**73.98**	**321**	P	**P**	**02 04 12.9**	**+0.1**
MKAR	**Makanchi Array**	**73.98**	**321**	P	**P**	**02 04 12.6**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=98,slow=7.4,SNR=22						
MKAR				pP	**pP**	**02 04 39.8**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=101,slow=8.4,SNR=7.0						
MKAR				LR	LR	02 36 35.6	
	comp=Z,18nm,21.1s,baz=122,slow=36						
MKAR	**Makanchi Array**	**73.98**	**321**	P	**P**	**02 04 12.0**	**-0.7**
MAKZ	**Makanchi**	**74.19**	**321**	P	**P**	**02 04 13.5**	**-0.5**
MAKZ				IAmb	IAmb	02 04 15.6	
	comp=Z,3.4nm,0.7s						
KDJ	**Kajisay**	**75.61**	**315**	P	**P**	**02 04 23.3**	**+0.8**
ZAA0	**Zalesovo Array**	**75.77**	**329**	P	**P**	**02 04 21.9**	**-1.0**
ZAA0				IAmb	IAmb	02 04 23.6	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**75.77**	**329**	P	**P**	**02 04 21.7**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=92,slow=4.3,SNR=10						
ZALV				pP	**pP**	**02 04 49.9**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=104,slow=4.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**75.77**	**329**	P	**P**	**02 04 21.5**	**-1.3**
NIL	**Nilore**	**76.05**	**306**	P	**P**	**02 04 25.4**	**+0.5**
NIL				IAmb	IAmb	02 04 26.9	
	comp=Z,4.5nm,0.7s						
BOOM	**Boomskoye usch**	**76.59**	**315**	P	**P**	**02 04 27.2**	**-0.8**
BOOM				IAmb	IAmb	02 04 30.5	
	comp=Z,3.1nm,0.6s						
KKAR	**Karatay Array**	**80.59**	**315**	P	**P**	**02 04 49.2**	**-0.6**
MAW	**Mawson**	**82.28**	**202**	P	**P**	**02 04 59.1**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=88,slow=6.4,SNR=9.0						
MAW				pP	**pP**	**02 05 25.0**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=92,slow=4.7,SNR=4.1						
MAW	**Mawson**	**82.28**	**202**	P	**P**	**02 04 58.4**	**+0.3**
	baz=82,SNR=4.8						
MAW	**Mawson**	**82.28**	**202**	P	**P**	**02 04 58.3**	**+0.2**
QSPA	**South Pole Qui**	**85.52**	**180**	P	**P**	**02 05 14.6**	**-0.2**
QSPA				IAmb	IAmb	02 05 15.9	
	comp=Z,7.0nm,0.7s						
IL31		**85.52**	**24**	P	**P**	**02 05 12.9**	**-1.7**
ILAR	**Eielson Array**	**85.52**	**24**	P	**P**	**02 05 11.9**	**-2.7**
	comp=Z,0.9nm,0.6s,baz=257,slow=4.6,SNR=13						
ILAR				pP	**pP**	**02 05 40.8**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=257,slow=4.9,SNR=8.6						
ILAR	**Eielson Array**	**85.52**	**24**	P	**P**	**02 05 12.3**	**-2.3**
DOT	**Dot Lake**	**86.32**	**25**	P	**P**	**02 05 16.8**	**-1.8**
DOT				IAmb	IAmb	02 05 18.3	
	comp=Z,2.3nm,1.0s						
EKA	**Eskdalemuir Ar**	**122.55**	**338**	PKP	**PKPdf**	**02 11 30.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=31,slow=2.2,SNR=4.7						
PLCA	**Paso Flores**	**125.39**	**149**	PKP	**PKiKP**	**02 11 38.3**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=207,slow=4.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**141.15**	**285**	PKP	**PKPdf**	**02 12 05.4**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=70,slow=2.1,SNR=2.2						
LPAZ	**La Paz**	**142.69**	**124**	PKP	**PKPdf**	**02 12 08.7**	**-2.7**
	comp=Z,3.4nm,0.7s,baz=273,slow=3.0,SNR=12						
RUSC	**La Rusia**	**143.72**	**86**	PKPdf	PKPab	02 12 09.6	-0.5
DBIC	**Dimbokro**	**148.26**	**275**	PKPbc	**PKPbc**	**02 12 23.7**	**0.0**
	comp=Z,3.5nm,0.8s,baz=81,slow=8.6,SNR=4.0						
DBIC				pPKPbc	**pPKPbc**	**02 12 51.5**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=93,slow=4.3,SNR=1.7						
DBIC	**Dimbokro**	**148.26**	**275**	PKPbc	**PKPdf**	**02 12 21.1**	**+0.9**
HUMP	**Col San Antoni**	**148.39**	**62**	PKPbc	**PKPbc**	**02 12 23.6**	**-0.3**
AQDB	**Aquidauana**	**148.98**	**144**	PKPbc	**PKPbc**	**02 12 26.0**	**+0.6**
CDVI	**St. Croix**	**149.49**	**62**	PKPbc	**PKPbc**	**02 12 25.2**	**-1.4**

*DJA **19** 01:59:29.0±0.4, 9°.5±7°×12°.4E±°, h99km±5km, M4.5/7, mb4.8/7, mB5.8/2, MLv4.3/7, Mw(mB)5.3/2*

*NEIC **19** 01:59:29.2±1.6, 9°.08S±0°.08×124°.13E±0°.04, h104km±8km, mb4.3/9, Error ellipse: s-maj=12.4km s-min=5.3km az=167.0*

*IDC **19** 01:59:29.7±1.9, 9°.10S×124°.22E, h111km±19km, mb3.8/7, mb1 4.1/11, mb1mx3.7/54, mbtmp4.3/11, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=35.8km s-min=19.5km az=61.0*

ISC 19 01:59:28.5±0.6, 9°.10S±0°.06×124°.11E±0°.07, h100km, n41, σ1§54/42, mb4.2/11, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.67**	**167**		**Pn**	**01 59 47.4**	**+1.5**
SOEI	**Soe**	**0.67**	**167**	P	**Pn**	**01 59 47.7**	**+1.8**
SOEI				S	**Sn**	**02 00 00.9**	**+2.1**
BATI	**Baumata**	**1.18**	**202**	P	**Pn**	**01 59 53.5**	**+2.4**
	131nm,0.3s,baz=83,slow=5.1,SNR=51						
BATI				S	**Sn**	**02 00 11.6**	**+3.5**
	638nm,0.3s,baz=73,slow=19,SNR=16						
BATI	**Baumata**	**1.18**	**202**	P	**Pn**	**01 59 53.3**	**+2.2**
MMRI	**Maumere**	**1.91**	**284**		**Pn**	**02 00 01.1**	**+1.2**
MMRI	**Maumere**	**1.91**	**284**	P	**Pn**	**02 00 01.2**	**+1.2**
MMRI				S	**Sn**	**02 00 22.6**	**-1.3**
EDFI	**Ende, Flores**	**2.42**	**278**	P	**Pn**	**02 00 08.1**	**+1.5**
BASI	**Baing, Sumba**	**3.66**	**252**	P	**Pn**	**02 00 24.2**	**+1.1**
WBSI	**Waikabubak, Su**	**4.69**	**263**	P	**Pn**	**02 00 37.3**	**+0.2**
BKSI	**Bulukumba**	**5.45**	**313**	P	**Pn**	**02 00 48.5**	**+1.1**
	0.1nm28nm,0.6s						
KAPI	**Kappang**	**5.93**	**313**	LR	LR	02 03 33.8	
	comp=Z,56nm,20.5s,baz=84,slow=41						
TWSI	**Taliwang, Sumb**	**7.15**	**272**	P	**Pn**	**02 01 11.3**	**+0.8**
	0.2nm27nm,0.6s						
MTN	**Manton Dam**	**7.83**	**119**		**Pn**	**02 01 20.2**	**+0.3**
MTNI	**Mataram**	**7.86**	**273**	P	**Pn**	**02 01 20.4**	**+0.2**
	1.9nm2µm70nm,0.4s						
KNRA	**Kununurra**	**7.96**	**146**	Pn	**Pn**	**02 01 21.5**	**0.0**
FITZ	**Fitzroy Crossi**	**9.07**	**171**	P	**Pn**	**02 01 35.7**	**-0.9**
	4.4nm,0.3s,baz=2.0,slow=9.1,SNR=38						
FITZ				S	**Sn**	**02 03 10.9**	**-6.0**
	20nm,0.3s,baz=193,slow=5.7,SNR=15						
FITZ	**Fitzroy Crossi**	**9.07**	**171**		**Pn**	**02 01 36.2**	**-0.4**
PSA00	**Pilbara Seismi**	**13.06**	**198**	Pn	**Pn**	**02 02 30.8**	**+0.5**
WRA	**Warramunga Arr**	**14.63**	**139**	P	**Pn**	**02 02 50.1**	**-0.6**
	1.1nm,0.3s,baz=318,slow=12,SNR=5.0						
WRA				S	Sn	02 05 20.2	-12
	2.9nm,0.3s,baz=306,slow=21,SNR=8.9						
CISI	**Cisompet, Garu**	**16.20**	**274**		**Pn**	**02 03 10.7**	**+0.3**
LEM	**Lembang**	**16.49**	**277**	P	**P**	**02 03 15.5**	**+0.4**
	3.6nm,0.3s,baz=58,slow=10.0,SNR=4.6						
AS31	**Alice Springs**	**17.25**	**148**	P	**P**	**02 03 23.5**	**+0.2**
ASAR	**Alice Springs**	**17.25**	**148**	P	**P**	**02 03 23.8**	**+0.4**
	1.5nm,0.3s,baz=321,slow=12,SNR=15						
ASAR				S	Sn	02 06 24.7	-11
	1.5nm,0.3s,baz=312,slow=21,SNR=13						
CBJI	**Citeko**	**17.31**	**278**	P	**P**	**02 03 23.0**	**-0.9**
	21µm79nm,0.6s						
FORT	**Forrest**	**21.88**	**171**	P	**P**	**02 04 13.9**	**+0.5**
FORT				IAmb	IAmb	02 04 31.4	
	comp=Z,36nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.55**	**194**	P	**P**	**02 04 40.3**	**+1.3**
	comp=Z,3.2nm,0.5s,baz=260,slow=7.9,SNR=1.2						
NWAO	**Narrogin (SRO)**	**24.55**	**194**	IAmb	IAmb	02 04 51.2	
	comp=Z,30nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.97**	**318**	P	**P**	**02 06 29.7**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=142,slow=7.4,SNR=6.0						
CHTO	**Chiang Mai**	**37.22**	**318**	P	**P**	**02 06 29.3**	**-1.2**
CHTO				IAmb	IAmb	02 06 40.3	
	comp=Z,3.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**53.53**	**7**	P	**P**	**02 08 39.7**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=198,slow=6.2,SNR=3.2						
SONM	**Songino Array**	**58.82**	**346**	P	**P**	**02 09 16.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=162,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**58.82**	**346**	IAmb	IAmb	02 09 17.9	
	comp=Z,0.6nm,0.7s						
NIL	**Nilore**	**64.32**	**314**	P	**P**	**02 09 53.0**	**-0.8**
MK31	**Makanchi Array**	**66.95**	**330**	P	**P**	**02 10 09.9**	**-0.5**
MK31				IAmb	IAmb	02 10 11.6	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**66.95**	**330**	P	**P**	**02 10 10.5**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=136,slow=7.8,SNR=22						
MKAR	**Makanchi Array**	**66.95**	**330**	P	**P**	**02 10 09.6**	**-0.8**
ZAA0	**Zalesovo Array**	**71.03**	**337**	P	**P**	**02 10 34.3**	**-1.1**
ZAA0				IAmb	IAmb	02 10 35.2	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**71.03**	**337**	P	**P**	**02 10 34.7**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=111,slow=3.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**71.03**	**337**	P	**P**	**02 10 34.4**	**-1.0**
AKTO	**Aktyubinsk**	**82.23**	**324**	P	**P**	**02 11 39.0**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=96,slow=10,SNR=9.2						
CPUP	**Villa Florida**	**144.75**	**178**	PKP	**PKPab**	**02 18 53.5**	**+0.1**
	comp=Z,4.5nm,1.1s,baz=157,slow=1.3,SNR=4.4						

*BGR **19** 02:03:33.7±0.0, 50°.63N×178°.00E, h33km, mb4.7*

*BJI **19** 02:03:44.4±0.0, 52°.08N×179°.90E, h102km, mB4.9/27, mb5.0/43*

*MOS **19** 02:03:46.0±1.0, 52°.01N×179°.98W, h113km, mb4.7/45, Error ellipse: s-maj=8.5km s-min=5.9km az=95.8*

*AEIC **19** 02:03:47.2±2.5, 51°.78N±0°.09×179°.94W±0°.06, h109km±4km, Error ellipse: s-maj=12.6km s-min=5.6km az=181.0*

*NEIC **19** 02:03:47.1±1.7, 51°.88N±0°.09×179°.91W±0°.06, h114km±5km, mb4.7/265, ML4.8/53(AEIC), Error ellipse: s-maj=13.3km s-min=5.7km az=182.0*

*IDC **19** 02:03:48.2±0.5, 51°.99N×179°.98W, h120km±4km, mb4.2/42, mb1 4.3/43, mb1mx4.2/72, mbtmp4.6/43, MS3.1/8, Ms1 3.1/8, ms1mx2.8/46, Error ellipse: s-maj=11.8km s-min=7.2km az=168.0*

ISC 19 02:03:47.4±0.4, 51°.85N±0°.06×179°.93W±0°.03, h120km±2km, h119km; pP-P, n500, σ1§17/456, mb4.7/224, 15C-48D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERAA	**Semis' Rag'd T**	**0.25**	**285**		**Pn**	**02 04 02.6**	**-1.5**
CESW	**Semis' Southwe**	**0.32**	**280**		**Pn**	**02 04 02.9**	**-1.4**
CEAP	**Semis' Anvil P**	**0.34**	**298**		**Pn**	**02 04 03.4**	**-1.0**
AMKA	**Amchitka**	**0.67**	**226**		**Pn**	**02 04 04.9**	**-1.5**
AMKA	**Amchitka**	**0.67**	**226**		**Sn**	**02 04 18.4**	**-2.4**
GALAA	**Gareloi Lava P**	**0.72**	**96**		**Pn**	**02 04 06.2**	**-0.7**
GAEA	**Gareloi East**	**0.74**	**94**		**Pn**	**02 04 06.3**	**-0.7**
LSPA	**Little Sitkin**	**0.93**	**277**		**Pn**	**02 04 07.9**	**-0.8**
LSPA					**Sn**	**02 04 24.5**	**-0.3**
LSSE	**Little Sitkin**	**0.94**	**276**		**Pn**	**02 04 08.1**	**-0.7**
LSNW	**Little Sitkin**	**0.97**	**278**		**Pn**	**02 04 08.2**	**-0.9**
LSSA	**Little Sitkin**	**0.97**	**277**		**Pn**	**02 04 08.4**	**-0.7**
TASE	**Tanaga Southea**	**1.17**	**90**		**Pn**	**02 04 10.4**	**-0.8**
KIMD	**Kanaga Island**	**1.68**	**92**		**Pn**	**02 04 15.9**	**-0.9**
KICM	**Kanaga Island**	**1.70**	**86

TTA IAmb IAmb 02 07 49.0
comp=Z,33nm,0.9s
TTA Tatalina 16.89 40 P 02 07 38.0
baz=240,SNR=33
BILL Bilibino 17.57 343*c* iP **Pn 02 07 45.9 +1.5**
BILL pmax pmax
comp=Z,104nm,1.2s
BILL Bilibino 17.57 343 P **Pn 02 07 45.0 +0.6**
BILL IAmb IAmb 02 07 49.5
comp=Z,82nm,1.1s
HOM Homer 17.62 53 P **Pn 02 07 44.5 -0.5**
HOM Homer 17.62 53 P 02 07 43.9
baz=256
CNPM China Poot 17.80 53 IAmb IAmb 02 07 51.4
comp=Z,26nm,0.7s
SPCR Spurr Chakacha 17.80 47 P 02 07 48.2
baz=251,SNR=19
BRLK Bradley Lake 18.02 53 IAmb IAmb 02 07 53.1
comp=Z,49nm,1.0s
BRSE Bradley Lake S 18.09 53 P 02 07 49.6
baz=257,SNR=11
RDOG Red Dog Mine 18.24 21 IAmb IAmb 02 08 00.3
comp=Z,40nm,0.6s
RDOG Red Dog Mine 18.24 21 P 02 07 52.8
baz=215,SNR=11
SKT Skwentna 18.37 45 P 02 07 54.4
baz=249,SNR=141
PPLA Purkeypile 18.43 42 IAmb IAmb 02 08 02.9
comp=Z,58nm,0.8s
PPLA Purkeypile 18.43 42 P 02 07 54.4
baz=246,SNR=42
SUA Susitna One 18.55 47 P **P 02 07 54.8 +0.2**
SUA IAmb IAmb 02 08 00.3
comp=Z,70nm,0.9s
SUA Susitna One 18.55 47 P 02 07 55.2
baz=252,SNR=48
O22K Cooper Landing 18.76 51 P 02 07 57.6
baz=256
SEW Seward 18.80 52 P 02 07 58.1
baz=257,SNR=11
CHUM Lake Minchumin 18.81 40 P 02 07 59.3
baz=243,SNR=21
RC01 Rabbit Creek A 18.91 49 IAmb IAmb 02 08 27.0
comp=Z,38nm,1.2s
RC01 Rabbit Creek A 18.91 49 P 02 07 58.1
baz=254,SNR=8.3
CUT Chulitna 19.07 45 P 02 08 00.7
baz=250,SNR=9.1
PMR Palmer 19.33 48 P 02 08 03.9
baz=254
BPAW Bear Paw Mtn. 19.43 40 P **P 02 08 03.9 -0.1**
BPAW IAmb IAmb 02 08 07.8
comp=Z,24nm,0.9s
BPAW Bear Paw Mtn. 19.43 40 P 02 08 05.5
baz=244,SNR=42
TRF Thorofare Moun 19.45 42 IAmb IAmb 02 08 10.7
comp=Z,65nm,1.0s
TRF Thorofare Moun 19.45 42 P 02 08 05.4
baz=247
GHO Glory Hole Cre 19.47 47 IAmb IAmb 02 08 07.5
comp=Z,26nm,0.8s
H21K Melozitna Rive 19.50 34 P 02 08 06.9
baz=238,SNR=35
PWL Port Wells 19.51 50 IAmb IAmb 02 08 32.6
comp=Z,60nm,1.0s
I21K Tanana 19.55 36 P 02 08 07.6
baz=240,SNR=28
KNK Knik Glacier 19.59 49 P 02 08 05.1
baz=255,SNR=11
SML Sawmill 19.75 47 IAmb IAmb 02 08 26.8
comp=Z,30nm,0.8s
SML Sawmill 19.75 47 P 02 08 07.0
baz=254,SNR=20
MLY Manley 19.94 37 P 02 08 10.9
baz=242,SNR=24
RND Reindeer 20.03 43 IAmb IAmb 02 08 41.0
comp=Z,31nm,1.0s
GLI Glacier Island 20.11 50 P 02 08 10.0
baz=258,SNR=26
MCK McKinley 20.11 42 P **P 02 08 11.3 -0.1**
MCK pmax pmax
comp=Z,28nm,1.1s
MCK McKinley 20.11 42 P **P 02 08 11.3 -0.1**
MCK McKinley 20.11 42 P 02 08 10.6
baz=248,SNR=11
WAT6 Susitna Watana 20.24 45 P 02 08 12.7
baz=253
HIN Hinchinbrook I 20.30 52 IAmb IAmb 02 08 34.4
comp=Z,69nm,1.4s
FID Port Fidalgo 20.38 51 IAmb IAmb 02 08 41.1
comp=Z,48nm,0.8s
NEA2 Nenana 20.39 39 IAmb IAmb 02 08 16.6
comp=Z,72nm,1.1s
NEA2 Nenana 20.39 39 P 02 08 14.8
baz=246,SNR=52
I23K Minto, Yukon-K 20.52 38 P 02 08 16.6
baz=244,SNR=21
EYAK Cordova Ski Ar 20.70 52 P **P 02 08 16.9 -0.7**
EYAK IAmb IAmb 02 08 46.0
comp=Z,29nm,1.0s
EYAK Cordova Ski Ar 20.70 52 P 02 08 17.3
baz=260
H23K Yukon River 20.75 36 P 02 08 19.7
baz=242,SNR=24
KLU Klutina 20.79 49 IAmb IAmb 02 08 48.8
comp=Z,23nm,0.8s
KLU Klutina 20.79 49 P 02 08 18.9
baz=258,SNR=22
M24K Tolsona, Glenn 20.81 47 P 02 08 19.4
baz=256,SNR=20
MDM Murphy Dome 20.87 39 P **P 02 08 19.2 -0.3**
MDM IAmb IAmb 02 08 23.4
comp=Z,22nm,0.6s
COLA College 20.99 39*d* iP Pn 02 08 22.3 -2.2
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 20.99 39 P **P 02 08 21.2 +0.5**
COLA IAmb IAmb 02 08 25.6
comp=Z,18nm,0.6s
COLD Coldfoot 21.23 32 P 02 08 24.5
baz=238,SNR=6.9
POKR Poker Plat Res 21.25 39 P 02 08 23.6
baz=247,SNR=7.0
BMRM Bremner River 21.32 51 P 02 08 24.4
baz=261
ILAR Eielson Array 21.33 40 P **P 02 08 23.1 -1.3**
comp=Z,2.6nm,0.6s,baz=243,slow=9.3,SNR=27
ILAR PcP **PcP 02 12 23.1 -0.3**
comp=Z,1.0nm,0.5s,baz=280,slow=3.1,SNR=6.1
ILAR ScP **ScP 02 15 47.5 -1.5**
comp=Z,0.6nm,0.5s,baz=262,slow=3.3,SNR=7.5
ILAR LR LR 02 17 47.9
comp=Z,74nm,18.3s,baz=236,slow=40
ILAR Eielson Array 21.33 40 P **P 02 08 24.1 -0.3**
ILAR 02 12 23.2
ILAR Eielson Array 21.33 40 P **P 02 08 24.1 -0.3**
HARP HAARP 21.35 47 P 02 08 24.4
baz=256
PAX Paxson 21.35 45 IAmb IAmb 02 08 27.3
comp=Z,40nm,1.1s
PAX Paxson 21.35 45 P 02 08 24.5
baz=255,SNR=38
H24K Noodor Dome 21.37 37 P 02 08 25.4
baz=245,SNR=88
HMT Hamilton 21.39 53 IAmb IAmb 02 08 53.9
comp=Z,49nm,1.0s
N25K Chitina, Valde 21.43 49 IAmb IAmb 02 08 28.2
comp=Z,20nm,0.7s
N25K Chitina, Valde 21.43 49 P 02 08 25.2
baz=259,SNR=28
SUCK Suckling Hills 21.60 53 IAmb IAmb 02 08 56.9
comp=Z,39nm,0.9s
GLB Gilahina Butte 21.78 50 IAmb IAmb 02 08 32.7
comp=Z,20nm,0.7s
CRQM Cirque 22.00 52 IAmb IAmb 02 08 34.0
comp=Z,29nm,0.8s
CRQE Cirque 22.02 52 P 02 08 31.9
baz=263,SNR=9.8
PRP Porcupine Dome 22.14 39 P 02 08 32.7
baz=248
MCARA McCarthy VSAT 22.14 50 IAmb IAmb 02 08 59.0
comp=Z,45nm,0.9s
MCARA McCarthy VSAT 22.14 50 P 02 08 32.4
baz=261
TGL Tana Glacier 22.15 52 IAmb IAmb 02 08 56.0
comp=Z,23nm,0.8s
A21K Barrow 22.17 20 P **P 02 08 32.7 -0.4**
A21K Barrow 22.17 20 P 02 08 33.4
baz=220,SNR=26
TOLK Toolik Lake Re 22.20 29 P **P 02 08 33.9 +0.4**
TOLK Toolik Lake Re 22.20 29 P 02 08 34.1
baz=236,SNR=30
SCRK Sand Creek 22.27 43 IAmb IAmb 02 09 01.0
comp=Z,24nm,0.9s
SCRK Sand Creek 22.27 43 P 02 08 33.2
baz=254,SNR=57
MESA MESA 22.52 53 IAmb IAmb 02 09 06.5
comp=Z,32nm,0.9s
MESA MESA 22.52 53 P 02 08 37.3
baz=265
YAH Yahtse 22.64 53 IAmb IAmb 02 08 40.1
comp=Z,21nm,0.8s
FYU Fort Yukon 22.65 36 IAmb IAmb 02 08 41.4
comp=Z,64nm,1.4s
GRNC Granite Creek 22.67 52 IAmb IAmb 02 09 05.4
comp=Z,38nm,1.0s
CTG Chitna Glacier 22.90 51 P 02 08 40.6
baz=264,SNR=6.6
CTGM Chitina Glacie 22.90 51 IAmb IAmb 02 09 03.8
comp=Z,26nm,0.9s
TABL Table Mountain 22.95 53 P **P 02 08 40.5 -0.7**
L27K Beaver Creek, 22.99 46 P 02 08 42.2
baz=258,SNR=24
K27K Chicken 23.09 44 P 02 08 42.5
baz=256
PINM Pinnacle 23.36 54 P 02 08 44.1
baz=267
EGAK Eagle 23.66 42 IAmb IAmb 02 08 50.1
comp=Z,33nm,0.8s
EGAK Eagle 23.66 42 P 02 08 48.1
baz=255,SNR=48
DAWY Dawson 24.25 44 IAmb IAmb 02 08 58.5
comp=Z,19nm,0.8s
YSS Yuzh-Sakhalins 24.58 273*e* P **P 02 08 59.1 +3.2**
YSS 02 13 05.0
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,16.0s
JKA Kamikawa-asahi 26.01 268 IAmb IAmb 02 09 36.8
comp=Z,24nm,0.9s
ASAJ Asahikawa 26.01 268 P **P 02 09 10.4 +1.4**
comp=Z,8.4nm,0.5s,baz=61,slow=7.2,SNR=6.1
ASAJ pP **pP 02 09 34.8 +0.3**
comp=Z,17nm,0.7s,baz=5.3,slow=32,SNR=4.0
WHY Whitehorse 26.04 53 P 02 09 09.1
baz=271
BESE Bessie Mountai 26.16 57 P **P 02 09 10.0 -0.2**
INK Inuvik 27.48 36 P **P 02 09 22.7 +0.9**
comp=Z,3.2nm,0.4s,baz=256,slow=6.7,SNR=15
INK Inuvik 27.48 36 P **P 02 09 22.1 +0.3**
INK Inuvik 27.48 36 P 02 09 22.6
baz=257
TIXI Tiksi 29.88 330 P **P 02 09 42.8 -0.3**
comp=Z,1.3nm,0.3s,baz=105,slow=5.9,SNR=1.5
TIXI PcP **PcP 02 12 42.6 -0.1**
comp=Z,1.1nm,0.3s,baz=338,slow=1.5,SNR=3.9
TIXI ScP **ScP 02 16 11.0 -2.5**
comp=Z,1.0nm,0.3s,baz=86,slow=3.9,SNR=3.6
KLR Kul'dur 30.38 284 P **P 02 09 48.2 +0.5**
comp=Z,10nm,0.6s,baz=67,slow=7.5,SNR=39
KLR Kul'dur 30.38 284*d* iP **P 02 09 47.8 +0.1**
KLR pmax pmax
comp=Z,8.0nm,0.6s
C36M Paulatuk 31.04 35 P 02 09 53.7
baz=265
USA0B Ussuriysk Arra 32.54 276 P **P 02 10 06.7 0.0**
USA0B pmax pmax
comp=Z,5.0nm,0.7s
USA0B Ussuriysk Arra 32.54 276 P **P 02 10 06.7 0.0**
USRK Ussuriysk Ar. 32.54 276 P **P 02 10 07.2 +0.5**
comp=Z,6.0nm,0.6s,baz=53,slow=9.6,SNR=13
USRK pP **pP 02 10 32.0 -0.8**
comp=Z,4.3nm,0.8s,baz=52,slow=9.0,SNR=3.7
USRK PcP **PcP 02 12 50.8 +0.4**
comp=Z,2.4nm,0.7s,baz=54,slow=2.7,SNR=4.3
USRK ScP **ScP 02 16 23.9 +1.0**
comp=Z,1.1nm,0.6s,baz=46,slow=4.2,SNR=4.6
USRK Ussuriysk Ar. 32.54 276 P **P 02 10 05.7 -1.1**
USRK PcP **PcP 02 12 51.1 +0.7**
MJAR Matsushiro Arr 33.17 259 P **P 02 10 13.7 +1.3**
comp=Z,1.5nm,0.6s,baz=38,slow=5.1,SNR=4.0
MJAR LR LR 02 23 21.3
comp=Z,14nm,21.8s,baz=60,slow=35
H11N2 WAKE ISLAND Hy 33.67 203 T T 02 47 08.0
baz=18,slow=74
H11N3 WAKE ISLAND Hy 33.68 203 T T 02 47 08.0
baz=18,slow=74
H11N1 WAKE ISLAND Hy 33.69 203 T T 02 47 10.8
baz=18
MDJ Mudanjiang 33.80 278 P **P 02 10 16.1 -1.6**
MDJ pP pP 02 10 38.4 -5.4
MDJ sP sP 02 10 52.8 -4.7
MDJ S **S 02 15 32.8 +0.3**
MDJ ScP **ScP 02 16 27.4 +0.1**
MDJ PcS **PcS 02 16 39.3 -0.6**
MDJ pmax pmax
comp=Z,130nm,4.0s
MDJ L L
comp=Z,83nm,5.1s
MDJ L L
comp=Z,140nm,4.3s
MDJ L L
comp=Z,94nm,7.4s
H11S1 WAKE ISLAND Hy 34.90 203 T T 02 48 36.1
baz=17,slow=76,SNR=226
H11S2 WAKE ISLAND Hy 34.91 203 T T 02 48 37.6
baz=17,slow=76,SNR=83
H11S3 WAKE ISLAND Hy 34.91 203 T T 02 48 41.3
baz=17,slow=76,SNR=80
YKA Yellowknife Ar 35.42 47 P **P 02 10 32.1 +0.7**
comp=Z,6.5nm,0.8s,baz=282,slow=7.4,SNR=21
YKA pP **pP 02 10 57.0 +0.2**
comp=Z,1.2nm,0.8s,baz=13,slow=2.1,SNR=2.5
YKA ScP **ScP 02 16 31.6 -1.2**
comp=Z,1.0nm,0.6s,baz=293,slow=3.1,SNR=4.9
D03D Eldon 36.22 74 P 02 10 39.6
baz=299
B05A Bryant 36.47 72 P 02 10 41.8
baz=298
E04D Cinebar 37.01 75 P 02 10 46.0
baz=300
BOD Bodaibo 37.13 306*e* P **P 02 10 45.2 -0.8**
BOD pmax pmax
comp=Z,16nm,1.2s
G03D McMinnville, O 37.27 77 P 02 10 49.2
baz=301
LON Longmire 37.37 74 IAmb IAmb 02 10 51.0
comp=Z,5.5nm,0.7s
HIA Hailar 37.46 291*e* P **P 02 10 47.7 -1.2**
HIA pmax pmax
comp=Z,6.0nm,0.5s
I02D Swisshome 37.50 79 P 02 10 51.2
baz=302,SNR=8.6
COR Corvallis 37.58 78 P **P 02 10 50.7 +0.8**
COR pmax pmax
comp=Z,32nm,0.8s
COR Corvallis 37.58 78 P **P 02 10 50.7 +0.8**
H04D Lebanon 37.95 78 P 02 10 54.8
baz=302,SNR=10
J01E Myrtle Point 37.96 80 P 02 10 55.0
baz=303
I03D Drain, OR 38.02 79 P 02 10 55.4
baz=303,SNR=10
K02D Willamette Mer 38.38 81 P 02 10 58.0
baz=304,SNR=9.1
G05D Wamic, OR 38.43 76 P 02 10 58.4
baz=302
I04A Tendick Farm, 38.54 79 P 02 10 59.6
baz=303,SNR=28
L02E Cave Junction 38.72 82 P 02 11 01.4
baz=304,SNR=12
HUMO Hull Mountain 38.86 81 P **P 02 11 01.8 +1.1**
HUMO IAmb IAmb 02 11 04.2
comp=Z,12nm,0.9s
I05D Terrebonne, OR 38.90 77 P 02 11 02.2
baz=303,SNR=5.7
HAWA Hanford 38.90 73 P **P 02 11 01.3 +0.3**
HAWA IAmb IAmb 02 11 11.2
comp=Z,9.0nm,0.7s
F07A Phinny Hill Vi 38.92 74 IAmb IAmb 02 11 03.1
comp=Z,10.0nm,0.7s
KSRS Korea Array 38.93 269 P **P 02 11 03.1 +1.9**
comp=Z,3.5nm,0.8s,baz=57,slow=8.0,SNR=12
KSRS PcP **PcP 02 13 11.0 +1.6**
comp=Z,1.7nm,0.7s,baz=60,slow=4.2,SNR=4.8
C09A Chrisman Ranch 38.94 71 P **P 02 11 01.5 +0.3**
C09A IAmb IAmb 02 11 04.5
comp=Z,7.1nm,0.6s
KSAR Wonju Array Be 38.96 269 P **P 02 11 01.7 +0.1**
KSAR Wonju Array Be 38.96 269 P **P 02 11 01.6 +0.1**
J04D Umpqua Nationa 39.03 79 P 02 11 02.8
baz=304,SNR=9.4
KHMM Horse Mountain 39.38 83 P **P 02 11 06.4 +1.2**
KHMM IAmb IAmb 02 11 09.7
comp=Z,16nm,0.8s
NEW Newport 39.38 70 P **P 02 11 05.6 +0.7**
comp=Z,5.3nm,0.5s,baz=307,slow=6.9,SNR=16
NEW ScP **ScP 02 16 47.5 -0.5**
comp=Z,1.3nm,0.6s,baz=190,slow=4.0,SNR=4.5
NEW Newport 39.38 70 P 02 11 04.8
baz=300,SNR=11
PINE Pine Mountain 39.44 78 IAmb IAmb 02 11 08.8
comp=Z,10nm,0.9s
L04D Klamath Falls 39.48 81 P 02 11 07.7
baz=305,SNR=24
YBH Yreka Blue Hor 39.51 82 P **P 02 11 08.6 +2.4**
comp=Z,16nm,0.9s,baz=282,slow=5.6,SNR=43
YBH pP **pwP 02 11 34.6 -0.4**
comp=Z,5.1nm,0.9s,baz=265,slow=3.3,SNR=2.9
YBH ScP **ScP 02 16 48.3 -0.3**
comp=Z,0.9nm,0.6s,baz=293,slow=5.3,SNR=4.8
YBH Yreka Blue Hor 39.51 82 P **P 02 11 08.0 +1.8**
YBH IAmb IAmb 02 11 09.9
comp=Z,20nm,0.9s
K04D Chiloquin, OR 39.59 80 P 02 11 08.7
baz=304,SNR=5.4
RES Resolute Bay 39.61 25 P **P 02 11 07.4 +1.0**
comp=Z,3.9nm,0.4s,baz=264,slow=5.4,SNR=16
RES Resolute Bay 39.61 25 IAmb IAmb 02 11 08.7
comp=Z,12nm,0.9s
M02C Callahan 39.62 82 P 02 11 09.4
baz=305,SNR=11
G08A Pilot Rock 39.82 75 P **P 02 11 08.9 +0.1**
N02D Trinity Center 39.95 83 P 02 11 11.5
baz=306,SNR=6.6
M04C Macdoel 40.02 81 P 02 11 12.0
baz=305,SNR=11
EUNU Eureka 40.02 16 P **P 02 11 10.3 +0.3**
EUNU IAmb IAmb 02 11 12.4
comp=Z,15nm,1.4s
I07A Izee 40.15 76 IAmb IAmb 02 11 21.9
comp=Z,7.4nm,0.7s
WDC Whiskeytown Da 40.28 83 P **P 02 11 13.6 +1.1**
WDC pmax pmax
comp=Z,18nm,1.3s
WDC Whiskeytown Da 40.28 83 P **P 02 11 13.6 +1.1**
WDC IAmb IAmb 02 11 15.9
comp=Z,18nm,1.3s
O02D Mt. Diablo Mer 40.37 84 P 02 11 15.5
baz=307
O03E Paynes Creek 40.91 83 P 02 11 18.7
baz=307,SNR=15
J08A Circle Bar Ran 41.17 77 IAmb IAmb 02 11 30.6
comp=Z,14nm,1.1s
ORV Oroville 41.53 83 P **P 02 11 22.5 -0.2**
ORV pmax pmax
comp=Z,8.0nm,1.0s
ORV Oroville 41.53 83 P **P 02 11 22.5 -0.2**
WVOR Wild Horse Val 41.59 78 IAmb IAmb 02 11 25.8
comp=Z,21nm,0.9s
MSO Missoula 41.97 70 P **P 02 11 25.9 -0.4**
MSO Missoula 41.97 70 P 02 11 26.0
baz=302,SNR=5.8
BEKR Beckworth 42.05 82 IAmb IAmb 02 11 29.8
comp=Z,20nm,1.3s
PAHR Pah Rah Range 42.74 82 IAmb IAmb 02 11 35.5
comp=Z,17nm,0.8s
PNTR Pine Nut 42.99 83 P **P 02 11 35.9 +1.1**
CMB Columbia Colle 43.15 84 IAmb IAmb 02 11 38.9
comp=Z,14nm,1.4s
WAKR Walker 43.45 83 IAmb IAmb 02 11 41.0
comp=Z,9.5nm,0.7s
HLID Hailey 43.49 74 P **P 02 11 38.8 +0.1**
HLID Hailey 43.49 74 P 02 11 39.4
baz=305,SNR=12
NRIK Noril'sk 43.65 329 P **P 02 11 39.1 -0.3**
comp=Z,2.2nm,0.4s,baz=52,slow=4.8,SNR=5.1
NRIK Noril'sk 43.65 329*f* iP **P 02 11 37.7 -1.7**
NRIK pmax pmax
comp=Z,10.0nm,1.4s
NRIK Noril'sk 43.65 329 P **P 02 11 38.3 -1.1**
KVN Kaiserville 43.93 82 IAmb IAmb 02 11 45.0
comp=Z,8.1nm,0.7s
RYN Ryan 43.93 82 IAmb IAmb 02 11 45.1
comp=Z,25nm,1.2s
NVAR Mina Array Bea 44.19 82 P **P 02 11 46.1 +1.7**
comp=Z,5.8nm,0.7s,baz=297,slow=8.0,SNR=27
NVAR pP **pP 02 12 12.5 +1.3**
comp=Z,2.7nm,0.8s,baz=290,slow=8.8,SNR=3.6
NVAR ScP **ScP 02 17 06.6 -1.0**
comp=Z,2.7nm,0.8s,baz=290,slow=4.3,SNR=12
NV11 Mina Array Sit 44.28 82 IAmb IAmb 02 11 47.9
comp=Z,14nm,1.2s
FFC Flin Flon 44.44 54 P **P 02 11 45.7 -0.2**
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 44.44 54 P **P 02 11 45.7 -0.2**
QLMT Earthquake Lak 44.53 71 P **P 02 11 47.1 0.0**
ELK Elko 44.65 78 IAmb IAmb 02 11 50.3
comp=Z,18nm,0.9s
YHH Holmes Hill 44.89 70 IAmb IAmb 02 11 51.5
comp=Z,14nm,1.0s
YMR Madison River 44.90 71 IAmb IAmb 02 11 51.1
comp=Z,12nm,0.9s
TIN Tinemaha, Big 45.10 84 P 02 11 53.0
baz=310,SNR=7.0
TLY Talaya 45.22 301*e* P **P 02 11 52.8 +0.6**
TLY pmax pmax
comp=Z,12nm,0.6s
TLY Talaya 45.22 301 P **P 02 11 51.9 -0.2**
TLY IAmb IAmb 02 11 53.8
comp=Z,7.0nm,0.6s
H17A Grant Village 45.28 71 IAmb IAmb 02 11 55.5
comp=Z,9.8nm,0.8s
H17A Grant Village 45.28 71 P 02 11 54.1
baz=305,SNR=6.4
VES Vestal, Richgr 45.35 86 P 02 11 54.2
baz=310,SNR=8.1
FLWY Flagg Ranch 45.39 71 IAmb IAmb 02 11 55.6
comp=Z,11nm,0.7s
ULN Ulaanbaatar 45.42 295*d* iP **P 02 11 54.7 +0.7**
ULN *i* *PP **pP 02 12 19.6 -1.8**
ULN *i* *SP **sP 02 12 34.3 -0.6**
ULN pmax pmax
comp=Z,18nm,0.7s
ULN Ulaanbaatar 45.42 295 P **P 02 11 54.4 +0.4**
HVU Hansel Valley 45.51 75 IAmb IAmb 02 11 56.6
comp=Z,22nm,1.4s
PKM Mcpherson Peak 45.52 87 P 02 11 56.7
baz=311
CWC Cottonwood Cre 45.59 84 P 02 11 56.3
baz=310
RLMT Red Lodge 45.63 69 P 02 11 55.9
baz=305,SNR=9.9
SONM Songino Array 45.81 296 P **P 02 11 58.1 +1.1**
comp=Z,15nm,0.7s,baz=56,slow=9.5,SNR=68
SONM PcP **PcP 02 13 32.8 +0.4**
comp=Z,4.2nm,0.7s,baz=57,slow=3.2,SNR=7.1
SONM ScP **ScP 02 17 13.6 -0.4**
comp=Z,2.1nm,1.0s,baz=48,slow=2.9,SNR=6.8
SONM Songino Array 45.81 296 P **P 02 11 56.9 -0.1**
SONM IAmb IAmb 02 11 59.0
comp=Z,16nm,0.6s
SONM PcP **PcP 02 13 32.7 +0.4**
ISA Isabella, Lake 45.84 86 IAmb IAmb 02 11 59.1
comp=Z,15nm,1.2s
ISA Isabella, Lake 45.84 86 P 02 11 57.9
baz=311,SNR=6.5
R11A Troy Canyon, C 45.91 81 IAmb IAmb 02 12 00.2
comp=Z,16nm,0.8s
R11A Troy Canyon, C 45.91 81 P 02 11 59.0
baz=309,SNR=41
ZAK Zakamensk 46.11 300*e* P **P 02 12 00.0 +0.7**
ZAK *e* 02 13 33.3
ZAK pmax pmax
comp=Z,9.0nm,1.3s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
MPMC Manual Prospec 46.20 84 P 02 12 01.3
baz=310
SPR3 Spring Creek 3 46.27 79 IAmb IAmb 02 12 03.7

comp=Z,14nm,0.6s
FURC Furnace Creek, 46.32 84 P 02 12 02.3
baz=310,SNR=18
TPNV Topopah Spring 46.39 83 P 02 12 02.7
baz=310,SNR=26
DUG Dugway, Tooele 46.45 77 P 02 12 03.0
baz=308,SNR=29
LRMC Laurel Mtn Rad 46.45 85 P 02 12 03.2
baz=311
LAO LASA Array 46.47 66 P 02 12 02.1
baz=305
EDW2 Edwards Air Fo 46.65 86 P 02 12 04.6
baz=311,SNR=5.0
BW06 Boulder Array 46.84 72 IAmb IAmb 02 12 06.3
comp=Z,9.6nm,0.7s
BW06 Boulder Array 46.84 72 P 02 12 05.1
baz=307,SNR=21
PD31 Pinedale Array 46.84 72 P **P** **02 12 04.5 -0.7**
PD31 IAmb IAmb 02 12 06.3
comp=Z,8.5nm,0.8s
PDAR Pinedale Array 46.84 72 P **P** **02 12 05.7 +0.5**
comp=Z,6.6nm,0.5s,baz=303,slow=3.8,SNR=89
PDAR pP **pP** **02 12 33.8 +1.6**
comp=Z,6.0nm,0.9s,baz=306,slow=3.5,SNR=4.2
PDAR ScP **ScP** **02 17 16.8 -1.7**
comp=Z,0.6nm,0.6s,baz=325,slow=2.3,SNR=4.9
PDAR LR LR 02 30 54.7
comp=Z,21nm,19.8s,baz=342,slow=35
DECC Green Verdugo 46.85 87 P 02 12 05.7
baz=312
HHC Hu-ho-hao-te 46.89 285 *e*P **P** **02 12 06.3 +0.8**
HHC S **S** **02 18 45.1 -2.0**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,130nm,4.6s
HHC L L
comp=Z,150nm,15.6s
HHC L L
comp=Z,150nm,15.2s
HHC L L
comp=Z,82nm,16.0s
JLU Jordanelle 47.02 76 IAmb IAmb 02 12 08.7
comp=Z,11nm,1.1s
NLU North Lily Min 47.04 77 IAmb IAmb 02 12 08.8
comp=Z,9.7nm,0.9s
SHOC Shoshone, Teco 47.05 84 P 02 12 07.0
baz=311,SNR=10
GSC Goldstone, Bar 47.11 85 P **P** **02 12 08.1 +0.9**
GSC pmax pmax
comp=Z,21nm,0.6s
GSC Goldstone, Bar 47.11 85 P **P** **02 12 08.1 +0.9**
GSC Goldstone, Bar 47.11 85 P 02 12 08.0
baz=311,SNR=23
NEEM North Greenlan 47.14 13⇓*i*P **P** **02 12 08.0 +0.8**
NEEM IAmb IAmb 02 12 09.1
comp=Z,55nm,0.7s
BFSC Mount Baldy Ra 47.28 86 P 02 12 09.4
baz=312,SNR=6.3
HEC Hector,Ludlow 47.71 85 P 02 12 13.3
baz=311
CCUT Cedar City 47.77 80 IAmb IAmb 02 12 15.0
comp=Z,6.8nm,0.7s
BTO Baotou 47.96 285 *e*P P 02 12 08.1 -5.7
MURC Murrieta 47.99 87 P 02 12 15.1
baz=312
NJ2 Nanjing 48.10 271 *e*P **P** **02 12 14.3 -0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
P17A Butcher Ranch, 48.15 76 IAmb IAmb 02 12 17.4
comp=Z,12nm,0.8s
GMRC Granite Mounta 48.16 84 P 02 12 16.3
baz=312,SNR=19
MTPU Mount Pierson 48.18 79 IAmb IAmb 02 12 18.5
comp=Z,13nm,0.9s
LCMT Little Creek M 48.19 80 IAmb IAmb 02 12 18.4
comp=Z,17nm,0.9s
PFO Pinyon Flats O 48.44 86 P **P** **02 12 18.6 +1.0**
PFO pmax pmax
comp=Z,10.0nm,1.3s
PFO Pinyon Flats O 48.44 86 P **P** **02 12 18.6 +1.0**
PFO Pinyon Flats O 48.44 86 P 02 12 18.1
baz=312
KNB Kanab 48.45 80 IAmb IAmb 02 12 19.9
comp=Z,11nm,0.8s
TPFO Pinon Flats 48.45 86 P 02 12 17.9
baz=312
BELC Belle Mtn. Jos 48.47 85 P 02 12 18.1
baz=312,SNR=10
PKCU Pink Cliffs 48.48 79 IAmb IAmb 02 12 20.9
comp=Z,15nm,0.8s
SRU San Rafael Swe 48.51 76 IAmb IAmb 02 12 20.8
comp=Z,18nm,1.0s
109C Camp Elliot, M 48.53 87 P 02 12 19.5
baz=313
K22A Casper 48.69 70 P 02 12 19.3
baz=308
IRM Iron Mountain 48.89 85 P 02 12 21.4
baz=312,SNR=10
BAR Barrett 48.94 87 IAmb IAmb 02 12 23.5
comp=Z,16nm,0.8s
MONP2 Monument Peak 48.95 87 P 02 12 22.7
baz=313,SNR=7.3
BC3 Big Chuckawall 49.03 85 P 02 12 22.6
baz=312
TKX Tecate 49.05 87 P **P** **02 12 23.1 +0.9**
TKX IAmb IAmb 02 12 28.1
comp=Z,15nm,0.8s
CBX Cerro Bola 49.19 88 P **P** **02 12 24.7 +1.4**
CBX IAmb IAmb 02 12 26.0
comp=Z,13nm,0.8s
O20A White River Ci 49.23 74 IAmb IAmb 02 12 24.7
comp=Z,9.8nm,0.5s
RSSD Black Hills 49.23 67 P 02 12 23.2
baz=308
O20A White River Ci 49.23 74 P 02 12 23.5
baz=309,SNR=12
KBS Kingsbay 49.30 357 P **P** **02 12 24.2 +0.8**
KBS pmax pmax
comp=Z,10.0nm,1.0s
KBS Kingsbay 49.30 357 P **P** **02 12 24.1 +0.8**
KBS IAmb IAmb 02 12 28.2
comp=Z,10nm,0.9s
SWSC Sam W. Stewart 49.30 86 P 02 12 24.8
baz=313
IKP In-Ko-Pah, Jac 49.31 87 P 02 12 24.8
baz=313,SNR=5.3
PDMCI Parker Dam,Lak 49.41 84 P 02 12 25.8
baz=312
MDND Maddock 49.47 61 P 02 12 24.8
baz=306
GLA Glamis 49.83 86 P 02 12 28.6
baz=313
ULM Lac du Bonnet 50.01 56 P **P** **02 12 28.7 -0.4**
comp=Z,2.8nm,0.3s,baz=308,slow=8.3,SNR=7.8
N23A Red Feather La 50.12 72 P 02 12 30.1
baz=309
PV01 Paradox Valley 50.31 76 P **P** **02 12 32.5 +0.7**
PV01 IAmb IAmb 02 12 33.5
comp=Z,14nm,0.8s
WUAZ Wupatki 50.31 81 P 02 12 32.3
baz=312,SNR=12
Y14A Wickenburg 50.36 83 IAmb IAmb 02 12 34.1
comp=Z,9.7nm,1.2s
SMCO Snowmass 50.59 74 IAmb IAmb 02 12 36.3
comp=Z,3.3nm,0.5s
SPX San Pedro Mart 50.81 88 IAmb IAmb 02 12 38.1
comp=Z,6.6nm,0.8s
HOPEN Hopen 50.92 353 *e*P **P** **02 12 35.2 -0.4**
MVCO Mesa Verde 50.95 77 IAmb IAmb 02 12 38.5
comp=Z,16nm,1.2s
MVCO Mesa Verde 50.95 77 P 02 12 36.7
baz=311,SNR=7.7
X16A Lo Mia Camp, P 51.00 82 IAmb IAmb 02 12 39.7
comp=Z,6.3nm,0.8s
ISCO Idaho Springs 51.01 73 P 02 12 37.5
baz=310
DAG Danmarks Havn 51.10 5 *i*P **P** **02 12 36.9 0.0**
DAG IAmb IAmb 02 12 37.7
comp=Z,3.6nm,0.7s
DAG Danmarks Havn 51.10 5 *i*P **P** **02 12 36.9 0.0**
DAG pmax pmax
comp=Z,4.0nm,0.7s
AGMN Agassiz Nation 51.20 58 IAmb IAmb 02 12 38.6
comp=Z,10nm,1.3s
AGMN Agassiz Nation 51.20 58 P 02 12 37.3
baz=308

S22A 4UR Ranch, Cre 51.61 75 P 02 12 42.2
baz=311,SNR=7.4
214A Organ Pipe Nat 51.82 85 IAmb IAmb 02 12 45.0
comp=Z,9.3nm,1.1s
214A Organ Pipe Nat 51.82 85 P 02 12 44.0
baz=314
X18A Snowflake 51.84 81 P **P** **02 12 44.0 +0.7**
X18A IAmb IAmb 02 12 45.8
comp=Z,9.9nm,0.7s
WHN Wuhan 51.93 273 ⇑P **P** **02 12 44.5 +0.8**
SDCO Great Sand Dun 52.40 75 P 02 12 47.9
baz=311,SNR=7.3
TUC Tucson 52.83 83 P **P** **02 12 50.8 +0.3**
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 52.83 83 P **P** **02 12 50.8 +0.3**
TUC IAmb IAmb 02 12 52.8
comp=Z,6.2nm,0.9s
TUC Tucson 52.83 83 P 02 12 51.2
baz=314
SUMG Summit 53.01 14⇓*i*P **P** **02 12 52.3 +0.7**
SUMG IAmb IAmb 02 12 53.6
comp=Z,12nm,0.5s
SUMG Summit 53.01 14⇓*i*P **P** **02 12 52.3 +0.7**
SUMG pmax pmax
comp=Z,12nm,0.5s
SUMG Summit 53.01 14 P **P** **02 12 52.0 +0.3**
BJO1 Bjornoya 53.30 354 *e*P **P** **02 12 52.3 -0.9**
DBG Daneborg 53.39 7 *i*P **P** **02 12 53.6 -0.3**
DBG IAmb IAmb 02 12 54.9
comp=Z,5.0nm,0.4s
T25A Trinidad 53.45 74 IAmb IAmb 02 12 57.4
comp=Z,15nm,1.2s
T25A Trinidad 53.45 74 P 02 12 55.7
baz=312,SNR=7.8
ECSD EROS Data Cent 53.66 63 P 02 12 54.8
baz=310,SNR=5.1
ANMO Albuquerque 53.69 78*c i*P **P** **02 12 57.9 +1.0**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 53.69 78 P **P** **02 12 57.2 +0.3**
ANMO Albuquerque 53.69 78 P 02 12 57.4
baz=313
EYMN Ely 53.70 56 IAmb IAmb 02 12 57.4
comp=Z,7.5nm,0.9s
EYMN Ely 53.70 56 P 02 12 56.0
baz=310,SNR=5.2
BGNE Belgrade 54.30 66 P 02 13 00.4
baz=311
121A Cookes Peak, D 54.52 81 P 02 13 04.1
baz=314
LZH Lanzhou 54.58 285 ⇓P **P** **02 13 03.8 +0.5**
LZH sP sP 02 13 39.0 -5.8
LZH pmax pmax
comp=Z,36nm,1.3s
GTA Gaotai 54.74 291 ⇓P **P** **02 13 05.3 +0.9**
GTA sP sP 02 13 40.8 -5.0
GTA PcP **PcP** **02 14 06.1 +0.7**
GTA pmax pmax
comp=Z,43nm,0.8s
GTA pmax pmax
comp=Z,89nm,5.5s
GTA L L
comp=Z,62nm,17.8s
GTA L L
comp=Z,89nm,17.8s
GTA L L
comp=Z,61nm,17.1s
SPMN Marine on St. 54.77 60 P 02 13 03.9
baz=311
HSIG 55.01 86 P **P** **02 13 05.1 -1.2**
HSIG IAmb IAmb 02 13 08.2
comp=Z,9.2nm,1.1s
CBKS Cedar Bluff 55.10 70 P 02 13 06.8
baz=312
I37A Lemond, Waseca 55.24 61 IAmb IAmb 02 13 08.4
comp=Z,14nm,1.0s
ICESG Greenland Ices 55.89 16 *i*P **P** **02 13 12.4 0.0**
ICESG IAmb IAmb 02 13 13.0
comp=Z,8.7nm,0.6s
MNTX Cornudas Mount 56.56 80 IAmb IAmb 02 13 19.6
comp=Z,10nm,0.8s
MNTX Cornudas Mount 56.56 80 P 02 13 18.3
baz=314,SNR=23
MSTX Muleshoe 56.58 76 IAmb IAmb 02 13 19.9
comp=Z,13nm,1.1s
MSTX Muleshoe 56.58 76 P 02 13 17.5
baz=314
AMTX Amarillo 56.61 75 P 02 13 18.7
baz=314
HAMF Hammerfest 56.64 351 *e*P **P** **02 13 16.9 -0.3**
KAN17 Caldwell West 57.44 70 IAmb IAmb 02 13 23.8
comp=Z,8.4nm,0.7s
ARA0 ARCESS Array S 57.51 350 *e*P **P** **02 13 23.3 -0.1**
ARCES ARCESS Array B 57.51 350 P **P** **02 13 23.3 -0.1**
comp=Z,2.8nm,0.4s,baz=25,slow=8.5,SNR=51
ARCES PcP **PcP** **02 14 15.4 -0.1**
comp=Z,2.9nm,0.6s,baz=15,slow=5.0,SNR=6.6
ARCES LR LR 02 43 41.9
comp=Z,16nm,18.2s,baz=70,slow=42
ARCES ARCESS Array B 57.51 350 P **P** **02 13 21.8 -1.6**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 57.51 350 P **P** **02 13 21.8 -1.6**
ARCES IAmb IAmb 02 13 23.6
comp=Z,6.6nm,0.8s
JFWS Jewell Farm 57.68 60 P 02 13 23.5
baz=313
LVZ Lovozero 57.81 345*d i*P **P** **02 13 24.9 -0.7**
LVZ pmax pmax
comp=Z,40nm,0.7s
LVZ Lovozero 57.81 345 P **P** **02 13 24.3 -1.2**
TRO Tromso 58.05 352 *e*P **P** **02 13 27.2 +0.1**
P38A Dawn 58.11 65 IAmb IAmb 02 13 28.5
comp=Z,13nm,0.9s
CD2 Chengdu 58.19 281⇓*i*P **P** **02 13 29.5 +0.7**
CD2 pmax pmax
comp=Z,20nm,1.1s
KTK1 Kautokeino 58.25 350 *e*P **P** **02 13 28.4 -0.2**
WMOK Wichita Mounta 58.43 73 P 02 13 30.6
baz=314,SNR=5.1
WMQ Urumqi 58.50 302 *e*P **P** **02 13 32.8 +2.0**
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ pmax pmax
comp=Z,54nm,3.6s
MK31 Makanchi Array 59.19 308⇑*i*P **P** **02 13 34.5 -1.0**
MK31 Makanchi Array 59.19 308 P **P** **02 13 34.6 -0.8**
MK31 IAmb IAmb 02 13 35.5
comp=Z,2.1nm,0.4s
MKAR Makanchi Array 59.19 308 P **P** **02 13 34.8 -0.7**
comp=Z,3.0nm,0.4s,baz=49,slow=6.4,SNR=65
MKAR Makanchi Array 59.19 308*c e*P **P** **02 13 34.5 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
TX31 Lajitas Ar. Si 59.27 81 P **P** **02 13 37.4 +1.0**
TX32 Lajitas Array 59.27 81 IAmb IAmb 02 13 38.2
comp=Z,7.3nm,0.7s
TXAR Lajitas Array 59.27 81 P **P** **02 13 37.4 +1.0**
comp=Z,6.3nm,0.7s,baz=298,slow=4.7,SNR=65
TXAR pP **pP** **02 14 04.3 -0.2**
comp=Z,2.6nm,0.8s,baz=298,slow=5.3,SNR=3.8
TXAR ScP **ScP** **02 18 12.2 -0.4**
comp=Z,0.8nm,0.7s,baz=315,slow=3.0,SNR=4.7
MAKZ Makanchi 59.33 308 P **P** **02 13 36.3 -0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.5s
MAKZ Makanchi 59.33 308 P **P** **02 13 36.3 -0.1**
MAKZ IAmb IAmb 02 13 36.8
comp=Z,3.5nm,0.5s
TUL1 Leonard 59.38 70 P 02 13 37.0
baz=314
ABTX Abilene, Hawle 59.39 75 IAmb IAmb 02 13 39.0
comp=Z,17nm,1.4s
ABTX Abilene, Hawle 59.39 75 P 02 13 37.5
baz=315
R40A Maddies Statio 59.74 66 IAmb IAmb 02 13 38.7
comp=Z,4.8nm,0.7s
HPIG 59.76 84 P **P** **02 13 40.0 +0.2**
HPIG IAmb IAmb 02 13 41.8
comp=Z,8.9nm,1.1s
HDIL Hopedale 59.82 62 P 02 13 39.1
baz=314
U38A Gravette 59.82 68 IAmb IAmb 02 13 40.3
comp=Z,4.3nm,0.8s
LOF Lofoten 59.92 354 *e*P **P** **02 13 39.0 -1.0**

STEI Steigen 60.01 353 *e*P **P** **02 13 40.6 -0.1**
LSQQ Lebel-sur-Quev 60.05 48 P 02 13 40.4
baz=316
SCHQ Schefferville 60.07 38 P **P** **02 13 41.6 +0.3**
comp=Z,2.0nm,0.5s,baz=307,slow=5.9,SNR=7.8
SCHQ Schefferville 60.07 38 IAmb IAmb 02 13 43.1
comp=Z,13nm,1.4s
BRVK Borovoye 60.09 319⇑*i*P **P** **02 13 40.0 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 60.09 319 P **P** **02 13 40.7 -0.8**
BRVK IAmb IAmb 02 13 41.5
comp=Z,3.6nm,0.6s
MGMO Mountain Grove 60.53 66 P **P** **02 13 43.9 -0.8**
FAUS Fauske 60.55 353 *e*P **P** **02 13 44.4 +0.1**
CHGQ Chibougamau 60.61 46 P 02 13 44.2
baz=317
U40A Yellville 60.76 68 P 02 13 45.6
baz=315
JCT Junction City 60.81 77 P **P** **02 13 45.4 -1.4**
JCT pmax pmax
comp=Z,8.0nm,0.6s
JCT Junction City 60.81 77 P **P** **02 13 45.4 -1.4**
W39A Magazine 61.04 69 P 02 13 47.9
baz=315
PRGR Permogore 61.20 337 *e*P **P** **02 13 47.8 -1.1**
PRGR pmax pmax
comp=Z,19nm,0.5s
FCAR Ozark Folk Cen 61.51 67 IAmb IAmb 02 13 51.6
comp=Z,12nm,0.8s
KONS Konsvik 61.57 354 *e*P **P** **02 13 50.9 -0.3**
MIAR Mount Ida 61.62 69 P **P** **02 13 52.6 +0.5**
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR Mount Ida 61.62 69 P **P** **02 13 52.6 +0.5**
MIAR IAmb IAmb 02 13 53.2
comp=Z,6.0nm,0.8s
MIAR Mount Ida 61.62 69 P 02 13 51.6
baz=315
MOR8 Moi Rana 61.80 353 *e*P **P** **02 13 51.7 -1.1**
ARU Arti 61.83 328 P **P** **02 13 53.0 -0.2**
comp=Z,2.2nm,0.5s,baz=29,slow=3.6,SNR=12
ARU Arti 61.83 328*c i*P **P** **02 13 52.6 -0.6**
ARU *PP **pP** **02 14 21.6 -0.5**
ARU 02 14 31.5
ARU 02 16 07.6
ARU S **S** **02 22 08.6 +1.8**
ARU SS **SS** **02 26 04.3 -5.4**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 61.83 328 P **P** **02 13 52.9 -0.3**
ARU IAmb IAmb 02 13 53.6
comp=Z,5.7nm,0.6s
W41B Gary Mavity, V 61.94 68 P 02 13 53.6
baz=316
X40A Basin Creek Fa 62.09 69 P 02 13 55.3
baz=316
G54A Lake Saint Pet 62.17 51 P 02 13 55.2
baz=317
D55A Sainte-Anne-du 62.22 48 P 02 13 55.2
baz=317,SNR=5.4
H53A Bobcaygeon 62.53 52 P 02 13 58.1
baz=317
D56A ZEC Mazanza, M 62.53 48 P 02 13 57.0
baz=318
E56A St. Veronique 62.78 49 P 02 13 58.2
baz=318
KMI Kunming 62.97 277 ⇓P **P** **02 14 02.9 +1.4**
KMI pP pP 02 14 30.8 +0.5
KMI sP sP 02 14 43.8 +0.6
KMI pmax pmax
comp=Z,10.0nm,0.5s
P49A Miami Univ. Ec 63.02 60 P 02 14 00.6
baz=316
KLMR Klimovskoe 63.29 340 *e*P **P** **02 14 01.1 -1.7**
KLMR pmax pmax
comp=Z,22nm,1.2s
KLMR Klimovskoe 63.29 340 *e*P **P** **02 14 01.2 -1.6**
KLMR AMP 02 14 03.4
comp=Z,22nm,1.2s
D58A Chemin du LacG 63.36 47 P 02 14 02.5
baz=318
T47A Sharon Grove 63.55 63 IAmb IAmb 02 14 07.5
comp=Z,5.2nm,0.7s
NSS Namsos 63.59 354 *e*P **P** **02 14 04.4 -0.3**
E58A La Victoria 63.72 48 P 02 14 04.3
baz=319
M53A WI Miller and 63.76 56 P 02 14 06.5
baz=317
WVT Waverly 63.77 64 P 02 14 05.5
baz=316
OXF Oxford 64.04 67 P 02 14 07.6
baz=316
H57A Richville 64.15 50 P 02 14 08.1
baz=318
M54A Oil Creek Stat 64.23 55 P 02 14 09.1
baz=317
D60A Saint Jean D'O 64.37 46 P 02 14 09.2
baz=320
PLAL Pickwick Lake 64.46 65 P **P** **02 14 10.8 -0.1**
N54A Moraine State 64.46 56 P 02 14 10.6
baz=318
K56A Middlesex 64.53 53 P 02 14 10.8
baz=318
E60A Ste Agathe de 64.55 47 P 02 14 10.5
baz=319
D62A Allapoint, All 65.07 45 P 02 14 14.2
baz=320
FIA1 FINESS Array S 65.17 347 IAmb IAmb 02 14 15.7
comp=Z,15nm,0.8s
FINES FINESS Array B 65.17 347 P **P** **02 14 14.6 -0.5**
comp=Z,11nm,0.7s,baz=24,slow=8.9,SNR=43
FINES LR LR 02 46 24.8
comp=Z,16nm,18.9s,baz=35,slow=39
FINES FINESS Array B 65.17 347*c e*P **P** **02 14 14.3 -0.7**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 65.17 347 P **P** **02 14 14.3 -0.7**
E62A Clayton Lake 65.22 45 P 02 14 15.1
baz=320
G61A St-Isidore-de- 65.34 47 P 02 14 15.5
baz=320
BOOM Boomskoye usch 65.43 308 P **P** **02 14 16.9 -0.4**
BOOM pmax pmax
comp=Z,4.0nm,0.8s
BOOM Boomskoye usch 65.43 308 P **P** **02 14 16.9 -0.4**
D63A Stockholm 65.52 44 P 02 14 17.4
baz=321
BINY Binghamton 65.56 52 P 02 14 16.4
baz=319
H61A Lyndonville 65.73 48 P 02 14 18.6
baz=320
L58A Harry Jones Me 65.74 52 P 02 14 18.8
baz=319
MOL Molde 65.78 356 *e*P **P** **02 14 18.4 -0.5**
SSPA Standing Stone 65.78 55 P 02 14 18.9
baz=318
G62A West of Eustis 65.84 47 P 02 14 18.8
baz=320
E63A Oxbow 65.86 45 P 02 14 18.4
baz=321
J60A Lant Hill Farm 66.01 50 P 02 14 20.3
baz=320
AAK Ala-Archa 66.02 309 P **P** **02 14 21.6 +0.5**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 66.02 309 P **P** **02 14 21.6 +0.5**
H62A Milan 66.05 48 P 02 14 20.4
baz=320
F63A Nahmakanta, Br 66.11 46 P 02 14 20.9
baz=321
E64A Bridgewater 66.12 45 P 02 14 20.3
baz=321
RAF Rauma 66.15 349 *e*P **P** **02 14 19.7 -1.6**
DOMB Dombas 66.23 355 *e*P **P** **02 14 22.0 +0.1**
F64A Sherman 66.32 45 P 02 14 21.9
baz=321
G63A Kingsbury 66.34 46 P 02 14 21.8
baz=321
PKME Peaks-Kenny Pk 66.37 46 P 02 14 23.3
baz=321
K61A Williamstown 66.52 50 P 02 14 23.6
baz=320
MEF Metsahovi 66.58 347 *e*P **P** **02 14 23.6 -0.4**
N59A State Game Lan 66.63 53 P 02 14 24.6
baz=319

SIJI	**Sorong**	**66.63**	**235**	P		**P**	**02 14 26.2**	**+1.2**
	comp=Z,8.0nm,0.5s,baz=44,slow=4.8,SNR=5.7							
AKTO	**Aktyubinsk**	**66.89**	**324**	P		**P**	**02 14 25.8**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=37,slow=7.8,SNR=12							
NB2	**NORSAR Subarra**	**67.11**	**354**	P		**P**	**02 14 27.7**	**+0.2**
	baz=6.5,slow=6.5							
NOA	**NORSAR Array B**	**67.11**	**354**	P		**P**	**02 14 27.8**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=2.0,slow=3.0,SNR=24							
ABKAR	**Akbulak array**	**67.14**	**322**	P		**P**	**02 14 27.3**	**-0.5**
AAL	**Aland**	**67.18**	**349**	*e*P		**P**	**02 14 27.4**	**-0.4**
NC602	**NORSAR Array S**	**67.39**	**354**	*e*P		**P**	**02 14 29.2**	**0.0**
KK31	**Karatay Array**	**67.55**	**312**	P		**P**	**02 14 30.4**	**-0.1**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KK31	**Karatay Array**	**67.55**	**312**	P		**P**	**02 14 30.4**	**-0.1**
KKAR	**Karatay Array**	**67.55**	**312**	P		**P**	**02 14 29.9**	**-0.6**
KKAR	**Karatay Array**	**67.55**	**312**	P		**P**	**02 14 29.9**	**-0.6**
SKAR	**Skarslia**	**67.63**	**356**	*e*P		**P**	**02 14 30.5**	**-0.3**
UPP	**Uppsala**	**67.75**	**351**	*e*P		**P**	**02 14 31.6**	**+0.2**
HFS	**Hagfors**	**67.83**	**353**	P		**P**	**02 14 31.8**	**-0.2**
	comp=Z,5.9nm,0.4s,baz=29,slow=3.4,SNR=61							
VSU	**Vasula**	**67.92**	**345**	*e*P		**P**	**02 14 32.3**	**-0.3**
OSL	**Oslo**	**68.24**	**354**	*e*P		**P**	**02 14 34.3**	**-0.2**
MOS	**Moscow**	**68.36**	**338**	*e*P		**P**	**02 14 34.2**	**-1.1**
MOS				pmax	pmax			
	comp=Z,32nm,0.9s							
KONO	**Kongsberg**	**68.59**	**355**	*e*P		**P**	**02 14 36.9**	**+0.2**
BELG	**Belogornoye**	**68.70**	**331**	P		**P**	**02 14 37.4**	**-0.1**
	comp=Z,14nm,0.7s,baz=355,slow=2.5,SNR=4.2							
OBN	**Obninsk**	**69.18**	**339**	*ce*P		**P**	**02 14 39.6**	**-0.8**
OBN							02 15 02.0	
OBN				*PP		**pP**	**02 15 08.0**	**-1.9**
OBN				*SP		**sP**	**02 15 24.0**	**+1.1**
OBN				*SS		**sS**	**02 24 25.0**	**-0.4**
OBN				pmax	pmax			
	comp=Z,13nm,0.8s							
OBN				MLR	MLR			
	comp=Z,42nm,15.0s							
OBN	**Obninsk**	**69.18**	**339**	P		**P**	**02 14 39.0**	**-1.3**
BTK	**Batken**	**69.77**	**309**	IAmb	IAmb		02 14 46.0	
	comp=Z,5.1nm,0.6s							
UTTA	**Uttaradit**	**69.81**	**273**	P		**P**	**02 14 46.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**70.27**	**275**	*ce*P		**P**	**02 14 47.2**	**-0.5**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TAPN	**Taplejung**	**70.39**	**289**	*e*P		**P**	**02 14 50.0**	**+1.4**
	comp=Z,108nm,0.7s							
GAR	**Garm**	**70.84**	**309**	IAmb	IAmb		02 14 54.6	
	comp=Z,12nm,0.6s							
ODAN	**Odare**	**70.94**	**289**	*e*P		**P**	**02 14 52.9**	**+1.0**
	comp=Z,34nm,0.6s							
IIGN	**Ignalina**	**70.99**	**345**	*e*P		**P**	**02 14 51.7**	**+0.2**
PABE	**Paberze**	**71.19**	**346**	*e*P		**P**	**02 14 52.5**	**-0.2**
PABE	**Paberze**	**71.19**	**346**	P		**P**	**02 14 52.0**	**-0.6**
RAMN	**Ramite**	**71.33**	**290**	*e*P		**P**	**02 14 55.5**	**+1.2**
	comp=Z,185nm,0.5s							
KKN	**Kakani**	**71.47**	**291**	*e*P		**P**	**02 14 56.3**	**+1.2**
	comp=Z,102nm,0.6s							
MNK	**Minsk**	**71.51**	**343**	*i* P		**P**	**02 14 55.0**	**+0.4**
MNK				*i*			02 15 11.9	
MNK				*i* *PP		**pP**	**02 15 24.0**	**-0.3**
MNK				*i* *SP		**sP**	**02 15 38.9**	**+1.6**
MNK				*i*			02 17 39.8	
MNK				*i* S		**S**	**02 24 06.9**	**+3.6**
MNK				*i* SS		**SS**	**02 28 41.7**	**+2.4**
MNK				pmax	pmax			
	comp=E,1.0nm,0.6s							
MNK				pmax	pmax			
	comp=N,13nm,1.1s							
MNK				pmax	pmax			
	comp=Z,14nm,0.6s							
MNK	**Minsk**	**71.51**	**343**	*i* P		**P**	**02 14 55.1**	**+0.5**
	comp=E,1.0nm,0.6s							
MNK				*i* P		**P**	**02 14 55.1**	**+0.5**
	comp=N,13nm,1.1s							
MNK				*i* P		**P**	**02 14 55.1**	**+0.5**
	comp=Z,14nm,0.6s,baz=198							
MNK				*i* PcP		**PcP**	**02 15 12.0**	**-1.4**
MNK				*i* pP		**pP**	**02 15 24.1**	**-0.2**
MNK				*i* sP		**sP**	**02 15 38.9**	**+1.7**
MNK				*i* PP		**PP**	**02 17 39.9**	**+5.8**
MNK				*i* PPP		PPP	02 19 05.3	
MNK				*i* S		**S**	**02 24 06.9**	**+3.6**
MNK				*i* pS		**SKSac**	**02 24 44.9**	**-1.5**
MNK				*i* sS		**sS**	**02 25 00.3**	**+7.3**
MNK				*i* SS		**SS**	**02 28 41.8**	**+2.5**
MNK				*i* SSS		SSS	02 32 07.3	
MNK				*i* LR		LR	02 50 05.5	
MNK				*i* LRM		MLR	02 57 28.4	
	comp=N,369nm,29.9s							
MNK				*i* LRM		MLR	02 57 40.0	
	comp=E,17nm,28.0s							
MNK				*i* LRM		MLR	02 58 34.2	
	comp=Z,72nm,16.9s							
PKI	**Pulchoki**	**71.56**	**291**	*e*P		**P**	**02 14 56.7**	**+0.9**
	comp=Z,98nm,0.6s							
PKIN	**Phulchoki**	**71.56**	**291**	*e*P		**P**	**02 14 56.4**	**+0.7**
	comp=Z,73nm,0.4s							
CHGR	**Chuyangaron**	**71.67**	**310**	IAmb	IAmb		02 14 57.7	
	comp=Z,17nm,0.9s							
GKN	**Gorkha**	**71.68**	**292**	*e*P		**P**	**02 14 57.2**	**+0.9**
	comp=Z,90nm,0.6s							
DMN	**Daman**	**71.70**	**291**	*e*P		**P**	**02 14 57.7**	**+1.1**
	comp=Z,74nm,0.8s							
DANN	**Dangsing**	**71.92**	**293**	*e*P		**P**	**02 14 59.0**	**+1.1**
	comp=Z,124nm,0.8s							
KOLN	**Koldanda**	**72.45**	**293**	*e*P		**P**	**02 15 01.8**	**+0.9**
	comp=Z,56nm,0.8s							
PYUN	**Piuthan**	**72.55**	**293**	*e*P		**P**	**02 15 02.4**	**+0.9**
	comp=Z,94nm,0.9s							
EKA	**Eskdalemuir Ar**	**73.16**	**2**	P		**P**	**02 15 05.0**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=358,slow=5.2,SNR=27							
EKA	**Eskdalemuir Ar**	**73.16**	**2**	P		**P**	**02 15 05.0**	**+0.6**
NIL	**Nilore**	**73.57**	**304**	P		**P**	**02 15 07.0**	**-0.2**
NIL				pmax	pmax			
	comp=Z,14nm,0.6s							
NIL	**Nilore**	**73.57**	**304**	P		**P**	**02 15 07.0**	**-0.2**
AKASG	**Malin Array Be**	**74.88**	**341**	P		**P**	**02 15 14.1**	**-0.4**
	comp=Z,13nm,0.6s,baz=23,slow=6.1,SNR=30							
AKASG	**Malin Array Be**	**74.88**	**341**	*ce*P		**P**	**02 15 14.0**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,16nm,0.6s							
AKBB	**Malin Array Si**	**74.88**	**341**	*d* P		**P**	**02 15 13.9**	**-0.6**
AKBB				pmax	pmax			
	comp=Z,18nm,1.0s							
AKBB	**Malin Array Si**	**74.88**	**341**	P		**P**	**02 15 13.8**	**-0.7**
AKBB				IAmb	IAmb		02 15 14.9	
	comp=Z,13nm,0.7s							
KBL	**Kabul**	**74.99**	**307**	P		**P**	**02 15 15.0**	**-0.7**
KBL				pmax	pmax			
	comp=Z,9.0nm,0.6s							
KBL	**Kabul**	**74.99**	**307**	P		**P**	**02 15 15.0**	**-0.7**
KBL				IAmb	IAmb		02 15 16.4	
	comp=Z,9.3nm,0.6s							
CLL	**Collm**	**76.64**	**352**	*i* P		**P**	**02 15 24.1**	**-0.4**
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	**76.64**	**352**	*i* P		**P**	**02 15 24.1**	**-0.4**
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
LVV	**L'vov**	**76.68**	**344**	*e*P		**P**	**02 15 24.2**	**-0.5**
DPC	**Dobruska-Polom**	**77.25**	**349**	*e*P		**P**	**02 15 28.4**	**+0.4**
DPC	**Dobruska-Polom**	**77.25**	**349**	*e*P		**P**	**02 15 28.4**	**+0.4**
KRLC	**Kraliky**	**77.47**	**349**	*e*P		**P**	**02 15 29.1**	**-0.1**
KRLC	**Kraliky**	**77.47**	**349**	*e*P		**P**	**02 15 29.1**	**-0.1**
SORM	**Soroca**	**77.50**	**341**	||P	**P**	**02 15 28.9**	**-0.4**
SORM	**Soroca**	**77.50**	**341**	||P	**P**	**02 15 28.9**	**-0.4**
MORC	**Moravsky Berou**	**77.67**	**349**	||P	**P**	**02 15 30.4**	**+0.1**
MORC	**Moravsky Berou**	**77.67**	**349**	*e*P		**P**	**02 15 30.5**	**+0.1**
MORC	**Moravsky Berou**	**77.67**	**349**	||P	**P**	**02 15 30.4**	**+0.1**
NKC	**Novy Kostel**	**77.76**	**352**	*e*P		**P**	**02 15 31.2**	**+0.4**
NKC	**Novy Kostel**	**77.76**	**352**	*e*P		**P**	**02 15 31.2**	**+0.4**
MEM	**Membach**	**77.80**	**356**	*d*P		**P**	**02 15 31.5**	**+0.6**
	comp=Z,8.7nm,0.9s							
PRU	**Pruhonice**	**77.80**	**351**	*e*P		**P**	**02 15 31.2**	**+0.2**
PRU	**Pruhonice**	**77.80**	**351**	*e*P		**P**	**02 15 31.2**	**+0.2**
BTNL	**Ternell**	**77.81**	**356**	*d*P		**P**	**02 15 31.6**	**+0.5**
KOLS	**Kolonicke sedl**	**77.83**	**345**	*e*P		**P**	**02 15 31.8**	**+0.6**
KOLS	**Kolonicke sedl**	**77.83**	**345**	*e*P		**P**	**02 15 31.8**	**+0.6**
BSTI	**Sart Tilman**	**77.84**	**356**	*d*P		**P**	**02 15 32.0**	**+0.9**
KBZ	**Khabaz**	**77.85**	**330**	P		**P**	**02 15 31.6**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=129,slow=6.2,SNR=4.5							
BCLA	**Clavier**	**78.02**	**357**	*d*P		**P**	**02 15 32.3**	**+0.2**
BCLA				*d*pP		**pP**	**02 15 59.7**	**-2.6**
LANS	**Liptovska Anna**	**78.03**	**347**	*e*P		**P**	**02 15 33.4**	**+1.1**
LANS				pmax	pmax			
	comp=Z,7.0nm,1.0s							
LANS	**Liptovska Anna**	**78.03**	**347**	*e*P		**P**	**02 15 33.4**	**+1.1**
BGES	**Gesves**	**78.06**	**357**	*d*P		**P**	**02 15 32.1**	**-0.3**
	comp=Z,6.4nm,1.1s							
BMRD	**Maredsous**	**78.15**	**357**	*d*P		**P**	**02 15 33.2**	**+0.3**
VRAC	**Vranov**	**78.24**	**349**	P		**P**	**02 15 33.7**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=354,slow=3.3,SNR=7.2							
VRAC	**Vranov**	**78.24**	**349**	||P	**P**	**02 15 33.1**	**-0.4**
VRAC	**Vranov**	**78.24**	**349**	*e*P		**P**	**02 15 34.0**	**+0.5**
VRAC	**Vranov**	**78.24**	**349**	||P	**P**	**02 15 33.1**	**-0.4**
DOU	**Dourbes**	**78.36**	**357**	*d*P		**P**	**02 15 34.0**	**0.0**
GRF	**Grafenberg Arr**	**78.39**	**353**	*e*P		**P**	**02 15 35.0**	**+0.7**
	comp=Z,6.5nm,0.9s,baz=13,slow=4.9							
GRFO	**Grafenberg**	**78.40**	**353**	P		**P**	**02 15 33.9**	**-0.4**
GRFO				pmax	pmax			
	comp=Z,9.0nm,0.8s							
GRFO	**Grafenberg**	**78.40**	**353**	P		**P**	**02 15 33.9**	**-0.4**
GRFO				IAmb	IAmb		02 15 35.4	
	comp=Z,9.2nm,0.8s							
KRUC	**Moravsky**	**78.51**	**349**	*e*P		**P**	**02 15 35.3**	**+0.4**
JAVC	**Velka Javorina**	**78.56**	**348**	*e*P		**P**	**02 15 36.7**	**+1.5**
KOLL	**Kolacno**	**78.73**	**348**	*e*P		**P**	**02 15 37.0**	**+0.8**
KHC	**Kasperske Hory**	**78.74**	**351**	*e*P		**P**	**02 15 36.7**	**+0.4**
KHC	**Kasperske Hory**	**78.74**	**351**	*e*P		**P**	**02 15 36.7**	**+0.4**
VYHS	**Vyhne**	**78.76**	**347**	*e*P		**P**	**02 15 36.9**	**+0.6**
VYHS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
VYHS	**Vyhne**	**78.76**	**347**	*e*P		**P**	**02 15 36.9**	**+0.6**
SMOL	**Smolenice**	**78.92**	**348**	*e*P		**P**	**02 15 38.4**	**+1.2**
SMOL	**Smolenice**	**78.92**	**348**	*e*P		**P**	**02 15 38.4**	**+1.2**
CKRC	**Cesky Krumlov**	**78.98**	**350**	*e*P		**P**	**02 15 37.6**	**+0.1**
GERES	**GERESS Array B**	**79.02**	**351**	P		**P**	**02 15 37.9**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=32,slow=5.2,SNR=12							
GERES	**GERESS Array B**	**79.02**	**351**	P		**P**	**02 15 37.7**	**-0.1**
MODS	**Modra-Piesok**	**79.08**	**348**	*e*P		**P**	**02 15 38.0**	**-0.1**
MODS				pmax	pmax			
	comp=Z,14nm,1.5s							
MODS	**Modra-Piesok**	**79.08**	**348**	*e*P		**P**	**02 15 38.0**	**-0.1**
BIZ	**Bicaz**	**79.09**	**342**	||P	**P**	**02 15 38.8**	**+0.6**
ARCR	**ARCALIA**	**79.27**	**343**	||P	**P**	**02 15 40.7**	**+1.6**
TESR	**Tescani**	**79.39**	**342**	||P	**P**	**02 15 39.8**	**0.0**
CONA	**Conrad Observa**	**79.69**	**349**	*i* P		**P**	**02 15 42.4**	**+0.9**
	comp=Z,5.8nm,0.8s,SNR=6.2							
DRGR		**79.84**	**344**	||P	**P**	**02 15 41.7**	**-0.6**
DRGR		**79.84**	**344**	||P	**P**	**02 15 41.7**	**-0.6**
OZUR		**79.96**	**342**	||P	**P**	**02 15 44.4**	**+1.5**
VRI	**Vrincioaia**	**80.00**	**341**	||P	**P**	**02 15 45.2**	**+2.1**
VRI	**Vrincioaia**	**80.00**	**341**	||P	**P**	**02 15 45.2**	**+2.1**
ARSA	**Arzberg**	**80.40**	**349**	*e*P		**P**	**02 15 45.9**	**+0.7**
	comp=Z,6.1nm,0.8s							
SIRR	**Siria**	**80.52**	**345**	||P	**P**	**02 15 45.8**	**0.0**
RETA	**Reutte**	**80.62**	**353**	*e*P		**P**	**02 15 46.9**	**+0.5**
	comp=Z,3.0nm,0.8s							
WATA	**Walderalm**	**80.71**	**352**	*i* P		**P**	**02 15 47.6**	**+0.6**
	comp=Z,9.7nm,0.7s							
VOIR		**80.73**	**342**	||P	**P**	**02 15 47.8**	**+0.7**
VOIR		**80.73**	**342**	||P	**P**	**02 15 47.8**	**+0.7**
MOTA	**Moosalm**	**80.74**	**352**	*i* P		**P**	**02 15 47.3**	**+0.1**
	comp=Z,10nm,1.2s,SNR=4.7							
WTTA	**Wattenberg**	**80.77**	**352**	*i* P		**P**	**02 15 48.2**	**+0.8**
	comp=Z,14nm,0.7s,SNR=11							
KBA	**Koelnbreinsper**	**80.80**	**351**	*i* P		**P**	**02 15 48.1**	**+0.6**
	comp=Z,20nm,0.6s,SNR=14							
DAVA	**Damuels**	**80.89**	**353**	*e*P		**P**	**02 15 48.2**	**+0.2**
	comp=Z,6.8nm,1.4s							
SOKA	**Soboth**	**81.02**	**350**	*i* P		**P**	**02 15 49.2**	**+0.6**
	comp=Z,25nm,1.7s,SNR=9.3							
PERS	**Pernice**	**81.05**	**350**	*i* P		**P**	**02 15 49.2**	**+0.5**
FETA	**Feichten**	**81.09**	**353**	*e*P		**P**	**02 15 49.2**	**+0.2**
	comp=Z,5.6nm,0.7s							
BZS	**Buzias**	**81.16**	**345**	||P	**P**	**02 15 49.4**	**+0.2**
BZS	**Buzias**	**81.16**	**345**	||P	**P**	**02 15 49.4**	**+0.2**
GROS	**Grobnik**	**81.18**	**349**	*i* P		**P**	**02 15 49.6**	**+0.1**
GZR	**Gura Zlata**	**81.18**	**344**	||P	**P**	**02 15 49.9**	**+0.4**
GZR	**Gura Zlata**	**81.18**	**344**	||P	**P**	**02 15 49.9**	**+0.4**
ABTA	**Abfaltersbach**	**81.21**	**351**	*e*P		**P**	**02 15 49.8**	**+0.2**
	comp=Z,11nm,1.0s,SNR=8.3							
MYKA	**Terra Mystica**	**81.21**	**351**	*e*P		**P**	**02 15 49.7**	**0.0**
	comp=Z,7.3nm,1.0s							
OBKA	**Obir**	**81.24**	**350**	*i* P		**P**	**02 15 50.7**	**+1.0**
	comp=Z,12nm,0.7s,SNR=14							
DAVOX	**Davos/Dischmat**	**81.39**	**353**	P		**P**	**02 15 51.7**	**+1.0**
	comp=Z,3.6nm,0.5s,baz=34,slow=3.4,SNR=9.2							
ROBS	**Robic**	**81.61**	**351**	*i* P		**P**	**02 15 51.0**	**-0.6**
TUE	**Stuetta**	**81.74**	**354**	P		**P**	**02 15 52.1**	**-0.4**
TUE				IAmb	IAmb		02 15 54.1	
	comp=Z,11nm,0.8s							
HERR	**Herculane**	**81.74**	**344**	||P	**P**	**02 15 52.4**	**+0.1**
WRA	**Warramunga Arr**	**81.87**	**223**	P		**P**	**02 15 53.7**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=32,slow=5.9,SNR=12							
FRGS	**Fruska Gora**	**81.89**	**346**	||P	**P**	**02 15 53.4**	**+0.3**
MDVR	**Moldovita**	**81.95**	**345**	||P	**P**	**02 15 53.8**	**+0.2**
SALO	**Salr**	**82.50**	**353**	P		**P**	**02 15 56.1**	**-0.2**
DIVS	**Divibare**	**82.89**	**346**	IAmb	IAmb		02 15 59.6	
	comp=Z,18nm,1.1s							
BOVS	**Bovan**	**83.07**	**344**	||P	**P**	**02 15 58.9**	**-0.4**
BNI	**Bardonecchia**	**83.31**	**355**	P		**P**	**02 16 01.4**	**+0.7**
BNI				pmax	pmax			
	comp=Z,11nm,0.7s							
BNI	**Bardonecchia**	**83.31**	**355**	P		**P**	**02 16 01.4**	**+0.7**
BNI				IAmb	IAmb		02 16 03.0	
	comp=Z,11nm,0.7s							
VTS	**Vitosha**	**83.79**	**343**	||P	**P**	**02 16 03.2**	**0.0**
VTS	**Vitosha**	**83.79**	**343**	||P	**P**	**02 16 03.2**	**0.0**
VTS	**Vitosha**	**83.79**	**343**	IAmb	IAmb		02 16 04.0	
	comp=Z,7.2nm,1.0s							
VLC	**Villacollemand**	**83.96**	**353**	IAmb	IAmb		02 16 05.7	
	comp=Z,11nm,0.6s							
ESPN	**Las Esperanzas**	**83.97**	**78**	P		**P**	**02 16 02.9**	**-1.3**
BRTR	**Keskin Array B**	**84.22**	**335**	P		**P**	**02 16 05.3**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=307,slow=4.3,SNR=8.3							
BRTR	**Keskin Array B**	**84.22**	**335**	*ce*P		**P**	**02 16 04.8**	**-0.6**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BNN	**Bunyan**	**84.43**	**333**	P		**P**	**02 16 05.2**	**-1.3**
PDG	**Podgorica**	**84.64**	**346**	||P	**P**	**02 16 07.1**	**-0.1**
LEM	**Lembang**	**84.66**	**252**	LR	LR		02 56 07.4	
	comp=Z,31nm,18.0s,baz=306,slow=37							
ASAR	**Alice Springs**	**85.36**	**222**	P		**P**	**02 16 12.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=25,slow=4.9,SNR=11							
ASAR				pP		**pP**	**02 16 42.9**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=23,slow=5.9,SNR=2.3							
ASAR	**Alice Springs**	**85.36**	**222**	P		**P**	**02 16 11.3**	**+0.4**
PBRG	**Braganca**	**86.54**	**5**	*e*P		**P**	**02 16 16.7**	**0.0**
	comp=Z,10nm,1.8s							
POLO	**Lamas de Olo**	**86.91**	**6**	*e*P		**P**	**02 16 18.6**	**0.0**
	comp=Z,8.3nm,1.3s							
PVRL	**Vila Real**	**87.01**	**6**	*e*P		**P**	**02 16 19.1**	**+0.1**
	comp=Z,14nm,1.3s							
MVO	**Moncorvo**	**87.16**	**5**	*e*P		**P**	**02 16 19.7**	**-0.1**
	comp=Z,15nm,1.6s							
PVIS	**Viseu**	**87.56**	**6**	*e*P		**P**	**02 16 21.5**	**-0.2**
	comp=Z,17nm,2.2s							
MTE	**Manteigas**	**87.89**	**6**	*e*P		**P**	**02 16 23.2**	**-0.1**
	comp=Z,20nm,1.8s							
COI	**Coimbra**	**88.03**	**6**	*e*P		**P**	**02 16 23.6**	**-0.2**
	comp=Z,24nm,1.4s							
PCAS	**Casmilo, Conde**	**88.17**	**7**	*e*P		**P**	**02 16 24.4**	**-0.1**
	comp=Z,25nm,1.8s							
PCBR	**Castelo Branco**	**88.45**	**6**	*e*P		**P**	**02 16 25.6**	**-0.2**
	comp=Z,14nm,1.4s							
PSBE	**So Bento**	**88.69**	**7**	*e*P		**P**	**02 16 26.6**	**-0.4**
	comp=Z,28nm,2.1s							
ESDC	**Sonseca Array**	**88.79**	**3**	P		**P**	**02 16 27.2**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=349,slow=4.1,SNR=33							
ESDC	**Sonseca Array**	**88.79**	**3**	P		**P**	**02 16 26.9**	**-0.6**
PMRV	**Marv??o**	**88.87**	**6**	*e*P		**P**	**02 16 27.2**	**-0.6**
	comp=Z,11nm,1.4s							
PMTG	**Montargil**	**89.17**	**6**	*e*P		**P**	**02 16 29.0**	**-0.2**
	comp=Z,18nm,2.5s							
PMAFR	**Mafra**	**89.21**	**7**	*e*P		**P**	**02 16 29.1**	**-0.3**
	comp=Z,65nm,2.5s							
PESTR	**Estroz**	**89.42**	**6**	*e*P		**P**	**02 16 30.2**	**-0.2**
	comp=Z,14nm,1.8s							
STKA	**Stephens Creek**	**89.94**	**212**	P		**P**	**02 16 34.2**	**+1.6**
	comp=Z,4.4nm,0.7s,baz=343,slow=8.4,SNR=8.2							
MMAI	**Mount Meron Ar**	**89.99**	**331**	P		**P**	**02 16 33.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=35,slow=5.3,SNR=2.5							
PBAR	**Barrancos**	**90.14**	**6**	*e*P		**P**	**02 16 33.4**	**-0.4**
	comp=Z,13nm,1.9s							
KEST	**Kesra**	**92.41**	**352**	P		**P**	**02 16 44.3**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=334,slow=4.1,SNR=11							
MDT	**Midelt**	**95.60**	**4**	P		**P**	**02 16 58.8**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=186,slow=2.1,SNR=12							
TORD	**Torodi Ar. Bea**	**115.26**	**358**	PKP		**PKiKP**	**02 22 14.2**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=354,slow=2.2,SNR=4.8							
DBIC	**Dimbokro**	**121.56**	**6**	PKP		**PKPdf**	**02 22 26.5**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=353,slow=2.0,SNR=14							
CPUP	**Villa Florida**	**130.24**	**82**	SKPbc		**SKPab**	**02 25 54.2**	**-0.7**
	comp=Z,6.2nm,0.8s,baz=347,slow=2.7,SNR=8.9							
PLCA	**Paso Flores**	**131.78**	**106**	SKPbc		**SKPbc**	**02 26 00.2**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=282,slow=3.6,SNR=8.4							
MAW	**Mawson**	**146.42**	**218**	PKPbc		**PKPbc**	**02 23 13.5**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=105,slow=7.8,SNR=9.0							
BOSA	**Boshof**	**150.14**	**311**	PKPbc		**PKPbc**	**02 23 24.4**	**+0.4**
	comp=Z,7.1nm,0.5s,baz=35,slow=2.6,SNR=30							
BOSA				pPKPbc		**pPKPbc**	**02 23 56.1**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=113,slow=1.0,SNR=3.6							

VIE ***19*** *02:10:06.0±0.4, 49°.97N×18°.57E, h0km, mb2.1/5, ml2.6/5, Error ellipse: s-maj=7.0km s-min=2.7km az=159.0 27 km ENE of Ostrava Suspected Mining induced.*
IPEC ***19*** *02:10:06.1±0.2, 49°.97N×18°.60E, h1km±2km, ML2.6/3, Error ellipse: s-maj=1.9km s-min=1.1km az=164.0*
PRU ***19*** *02:10:07.0±0.0, 49°.98N×18°.51E, h0km*
ISC 19 02:10:05.2±0.8**, 50°.03N**±0°.03×**18°.61E**±0°.02**, h0**km**, n46,** σ**0°93/76, 8C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.27**	**282**	*e*PG		**Pb**	**02 10 12.5**	**-0.4**
RAC				*e*SG		**Sb**	**02 10 17.2**	**-0.9**
OKC	**Ostrava-Krasne**	**0.35**	**237**	*e*PG		**Pg**	**02 10 12.7**	**+0.8**
OKC				*e*SG		**Sg**	**02 10 16.6**	**+0.1**
MORC	**Moravsky Berou**	**0.73**	**250**	||P	**Pg**	**02 10 19.7**	**+0.5**
MORC				||S	**Sg**	**02 10 28.7**	**+0.1**
MORC	**Moravsky Berou**	**0.73**	**250**	*e*PG		**Pg**	**02 10 19.5**	**+0.3**
MORC				*e*SG		**Sg**	**02 10 28.3**	**-0.4**
MORC	**Moravsky Berou**	**0.73**	**250**	*e*Pg		**Pg**	**02 10 19.4**	**+0.3**
	baz=74							
MORC				*e*Sg		**Sg**	**02 10 28.2**	**-0.4**
	114nm,0.3s,baz=74							
OJC	**Ojcow**	**0.79**	**76**	*e*Pg		**Pb**	**02 10 21.8**	**0.0**
OJC				*e*Sg		**Sb**	**02 10 33.6**	**+0.5**
LANS	**Liptovska Anna**	**1.04**	**147**	*e*PG		**Pb**	**02 10 26.2**	**+0.1**
LANS				*e*SG		**Sn**	**02 10 41.1**	**-1.3**
LANS				*e*LG		Lg	02 10 43.1	
KRLC	**Kraliky**	**1.18**	**273**	*e*PG		**Pg**	**02 10 27.7**	**0.0**
KRLC				*e*SG		**Sg**	**02 10 43.4**	**+0.4**
	comp=Z,70nm,0.6s							
NIE	**Niedzica**	**1.26**	**118**	*e*Pg		**Pn**	**02 10 30.4**	**+0.3**
NIE				*

CAEL	**Denizli, Camel**	**0.47**	**95**	*i* P	**Pg**	**02 11 54.4**	**-0.1**
CAEL				*i* S	**Sg**	**02 12 01.1**	**+0.5**
CAEL				IAML		02 12 13.0	
	comp=N,2μm,0.4s						
CAEL				IAML		02 12 14.0	
	comp=E,1μm,0.6s						
CAME	**Cameli-Denizli**	**0.50**	**116**	PG	**Pg**	**02 11 54.9**	**-0.2**
CAME				SG	**Sg**	**02 12 01.9**	**+0.1**
TURN	**Turunc**	**0.55**	**226**	*i* P	**Pg**	**02 11 55.7**	**-0.3**
TURN				*i* S	**Sg**	**02 12 03.3**	**0.0**
TURN	**Turunc**	**0.55**	**226**	PG	**Pg**	**02 11 55.9**	**-0.1**
TURN				SG	**Sb**	**02 12 04.9**	**-0.3**
FETY	**Fethiye**	**0.60**	**152**	*i* P	**Pg**	**02 11 55.4**	**-1.5**
FETY				*i* S	**Sg**	**02 12 02.4**	**-2.3**
FETY	**Fethiye**	**0.60**	**152**	PG	**Pg**	**02 11 55.4**	**-1.5**
FETY				SG	**Sg**	**02 12 04.9**	**+0.2**
MRSB	**Marmaris-Mugla**	**0.62**	**224**	PG	**Pb**	**02 11 57.9**	**-0.5**
MRSB				SG	**Sb**	**02 12 06.9**	**-0.4**
GOLH	**Golhisar**	**0.66**	**84**	*i* P	**Pg**	**02 11 58.1**	**0.0**
GOLH				*i* S	**Sg**	**02 12 05.9**	**-0.9**
MLSB	**Milas**	**0.78**	**280**	PG	**Pb**	**02 12 01.1**	**0.0**
AYDN	**Tasoluk**	**0.84**	**306**	*i* P	**Pn**	**02 12 03.0**	**-0.5**
AYDN				*i* S	**Sb**	**02 12 13.0**	**-0.7**
DAT	**Datca**	**1.03**	**245**	P	**Pn**	**02 12 06.0**	**0.0**
DAT				S	**Sn**	**02 12 22.1**	**+1.5**
DAT	**Datca**	**1.03**	**245**	PG	**Pn**	**02 12 05.8**	**-0.2**
ELL	**Elmali**	**1.03**	**114**	PG	**Pg**	**02 12 04.5**	**-0.6**
ELL	**Elmali**	**1.03**	**114**	P	**Pg**	**02 12 05.3**	**+0.2**
ELL				S	**Sn**	**02 12 23.2**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**319**	PG	**Pn**	**02 12 06.2**	**+0.1**
BDRM	**Kayabasi**	**1.04**	**265**	*i* P	**Pn**	**02 12 06.3**	**+0.2**
BDRM				*i* S	**Sb**	**02 12 19.8**	**+0.5**
ARG	**Arkhangelos**	**1.07**	**208**	P	**Pg**	**02 12 05.6**	**-0.2**
ARG				S	**Sn**	**02 12 22.1**	**+0.7**
	comp=E,498nm,0.3s						
ARG	**Arkhangelos**	**1.07**	**208**	P	**Pb**	**02 12 05.9**	**0.0**
ARG				AML	AML	02 12 29.6	
	comp=N,974μm,0.3s						
ARG				AML	AML	02 12 29.6	
	comp=E,1080μm,0.3s						
ARG	**Arkhangelos**	**1.07**	**208**	PG	**Pb**	**02 12 06.0**	**0.0**
ARG	**Arkhangelos**	**1.07**	**208**	⇑P	**Pg**	**02 12 05.3**	**-0.5**
ARG				S	**Sn**	**02 12 23.5**	**+2.0**
BODT	**Bodrum**	**1.15**	**265**	P	**Pb**	**02 12 07.3**	**0.0**
BODT				S	**Sn**	**02 12 25.2**	**+1.8**
BODT	**Bodrum**	**1.15**	**265**	PN	**Pn**	**02 12 08.1**	**+0.5**
AKAS	**Kas**	**1.16**	**143**	*i* P	**Pg**	**02 12 07.0**	**-0.6**
AKAS				*i* S	**Sg**	**02 12 22.8**	**0.0**
AKAS				IAML		02 12 30.0	
	comp=N,579nm,0.9s						
AKAS				IAML		02 12 30.0	
	comp=E,548nm,0.7s						
AKAS	**Kas**	**1.16**	**143**	PN	**Pg**	**02 12 07.2**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.18**	**63**	*i* P	**Pg**	**02 12 08.1**	**+0.2**
BRDR				*i* S	**Sn**	**02 12 24.4**	**0.0**
KSL	**Kastellorizon**	**1.22**	**146**	P	**Pn**	**02 12 08.6**	**0.0**
KSL				AML	AML	02 12 31.8	
	comp=N,3258μm,0.6s						
KSL				AML	AML	02 12 32.2	
	comp=E,2276μm,0.6s						
KSL	**Kastellorizon**	**1.22**	**146**	⇓P	**Pn**	**02 12 08.4**	**-0.2**
KSL				S	**Sn**	**02 12 30.0**	**+4.7**
DDIM	**Aydin, Didim**	**1.23**	**284**	*i* P	**Pg**	**02 12 11.5**	**+2.7**
DDIM				*i* S	**Sn**	**02 12 27.6**	**+2.2**
BASM	**Basmaki-Afyon**	**1.29**	**54**	PN	**Pb**	**02 12 10.0**	**+0.2**
KORT	**Korkueli**	**1.30**	**97**	*i* P	**Pg**	**02 12 11.1**	**+0.8**
KORT				*i* S	**Sb**	**02 12 24.9**	**-2.0**
KORT				IAML		02 12 35.0	
	comp=E,271nm,0.5s						
KORT	**Korkueli**	**1.30**	**97**	PN	**Pn**	**02 12 09.9**	**+0.1**
GCAM	**G?zelcaml?**	**1.31**	**294**	*i* P	**Pg**	**02 12 12.1**	**+1.6**
GCAM				*i* S	**Sb**	**02 12 26.9**	**-0.2**
GCAM	**G?zelcaml?**	**1.31**	**294**	PN	**Pg**	**02 12 11.1**	**+0.6**
DEMR	**Demre-Antalya**	**1.32**	**134**	PN	**Pn**	**02 12 09.9**	**-0.1**
MANT	**Manisa**	**1.33**	**354**	*i* P	**Pg**	**02 12 11.4**	**+0.5**
MANT				*i* S	**Sb**	**02 12 26.4**	**-1.5**
KULA	**Kula-Manisa**	**1.35**	**357**	P	**Pg**	**02 12 11.6**	**+0.3**
KULA				S	**Sg**	**02 12 31.8**	**+3.1**
KULA	**Kula-Manisa**	**1.35**	**357**	PN	**Pg**	**02 12 11.5**	**+0.3**
NIS1	**Nisyros Isl.**	**1.37**	**246**	P	**Pg**	**02 12 12.0**	**+0.4**
NIS1	**Nisyros Isl.**	**1.37**	**246**	P	**Pb**	**02 12 10.8**	**-0.4**
NIS1				S	**Sb**	**02 12 28.6**	**-0.2**
NIS1				AML	AML	02 12 43.1	
	comp=E,2540μm,0.7s						
NIS1				AML	AML	02 12 46.0	
	comp=N,2261μm,0.5s						
NIS1	**Nisyros Isl.**	**1.37**	**246**	PN	**Pg**	**02 12 11.5**	**-0.1**
BUCA	**Burdur, Bucak-**	**1.46**	**83**	*i* P	**Pg**	**02 12 14.1**	**+0.7**
BUCA				*i* S	**Sn**	**02 12 29.9**	**-1.4**
KOSK	**Kos Island**	**1.47**	**254**	PN	**Pb**	**02 12 12.9**	**+0.1**
AKUM	**Antalya-Kumluc**	**1.54**	**123**	*i* P	**Pg**	**02 12 15.8**	**+1.0**
AKUM				*i* S	**Sb**	**02 12 33.8**	**+0.1**
ANTB	**Antalya**	**1.56**	**99**	PN	**Pn**	**02 12 13.7**	**+0.5**
KZIL	**AFYON_Kizioren**	**1.56**	**45**	*i* P	**Pb**	**02 12 14.6**	**+0.2**
KZIL				*i* S	**Sn**	**02 12 33.6**	**-0.2**
USAK	**Uak-Merkez**	**1.56**	**8**	*i* P	**Pb**	**02 12 14.9**	**+0.5**
USAK				*i* S	**Sn**	**02 12 34.0**	**+0.2**
ISP	**Isparta**	**1.56**	**65**	P	**Pb**	**02 12 14.9**	**+0.4**
ISP				S	**Sg**	**02 12 35.5**	**-0.1**
ISP	**Isparta**	**1.56**	**65**	PN	**Pn**	**02 12 13.9**	**+0.5**
SMG	**Samos**	**1.61**	**290**	P	**Pb**	**02 12 15.2**	**0.0**
SMG				S	**Sg**	**02 12 36.2**	**-0.8**
	comp=N,280nm,0.3s						
SMG	**Samos**	**1.61**	**290**	P	**Pb**	**02 12 14.5**	**-0.7**
SMG				S	**Sb**	**02 12 35.5**	**-0.1**
DGB	**zmir**	**1.72**	**302**	*i* P	**Pb**	**02 12 16.9**	**-0.2**
DGB				*i* S	**Sn**	**02 12 36.5**	**-1.1**
BAGO	**Egridir - ISPA**	**1.83**	**63**	*i* P	**Pb**	**02 12 19.1**	**+0.1**
BAGO				*i* S	**Sn**	**02 12 37.1**	**-3.2**
AKHS	**Akhisar**	**1.86**	**337**	*i* P	**Pb**	**02 12 19.1**	**-0.5**
AKHS				*i* S	**Sb**	**02 12 43.0**	**+0.1**
DEMI	**Demirci**	**1.87**	**360**	*i* P	**Pb**	**02 12 19.2**	**-0.6**
DEMI				*i* S	**Sb**	**02 12 43.5**	**+0.1**
GDZ	**Gediz**	**2.01**	**17**	*i* P	**Pn**	**02 12 20.0**	**-0.4**
GDZ				*i* S	**Sb**	**02 12 47.0**	**-0.3**
AFYO	**Afyonkarahisar**	**2.04**	**37**	*i* P	**Pg**	**02 12 23.9**	**-0.5**
AFYO				*i* S	**Sg**	**02 12 52.9**	**+2.1**
AFYO				IAML		02 13 02.0	
	comp=N,142nm,1.4s						
AFYO				IAML		02 13 08.0	
	comp=E,132nm,0.9s						
ZEYE	**Izmir, Urla-Ze**	**2.07**	**302**	*i* P	**Pb**	**02 12 22.8**	**-0.3**
ZEYE				*i* S	**Sg**	**02 12 51.0**	**-0.8**
ZEYE				IAML		02 13 04.0	
	comp=N,105nm,0.7s						
URLA	**Izmir**	**2.07**	**306**	*i* P	**Pb**	**02 12 21.9**	**-1.3**
URLA				*i* S	**Sg**	**02 12 50.7**	**-1.3**
ZEDA	**zmir-Bergama**	**2.23**	**324**	*i* P	**Pb**	**02 12 24.2**	**-1.5**
ZEDA				*i* S	**Sb**	**02 12 51.7**	**-1.7**
KEPZ	**Antalya-Kepez**	**2.31**	**96**	*i* P	**Pb**	**02 12 27.5**	**+0.3**
KEPZ				*i* S	**Sb**	**02 12 56.1**	**+0.3**
STEP	**BALIKESIR_Sava**	**2.35**	**340**	*i* P	**Pn**	**02 12 25.6**	**+1.5**
STEP				*i* S	**Sn**	**02 12 50.8**	**-2.3**
STEP				IAML		02 13 15.0	
	comp=N,88nm,0.6s						
SEDI	**Konya, Seydise**	**2.42**	**82**	*i* P	**Pb**	**02 12 29.5**	**+0.3**
SEDI				*i* S	**Sn**	**02 12 53.1**	**-2.0**
DURS	**Dursunbey**	**2.44**	**355**	*i* P	**Pn**	**02 12 26.5**	**+1.0**
DURS				*i* S	**Sn**	**02 12 54.2**	**-1.3**
DOGA	**KONYA_Doganhis**	**2.51**	**67**	*i* P	**Pb**	**02 12 29.5**	**-1.1**
DOGA				*i* S	**Sn**	**02 12 59.6**	**+2.4**
BUHA	**Balikesir, Bur**	**2.67**	**331**	*i* P	**Pn**	**02 12 30.2**	**+1.6**
BUHA				*i* S	**Sn**	**02 12 53.8**	**-7.3**
AKMS	**Akamas**	**3.62**	**125**	P	**Pn**	**02 12 42.1**	**+0.5**
AKMS				S	**Sb**	**02 13 29.2**	**-4.3**
AKMS				AML	AML	02 13 31.1	
	comp=N,0.2nm,0.5s						
AKMS				AML	AML	02 13 31.1	
	comp=N,0.2nm,0.5s						
AKMS				AML	AML	02 13 51.0	
	comp=N,0.2nm,0.7s						
AKMS				AML	AML	02 13 51.0	
	comp=N,0.2nm,0.7s						
ALFC	**Alefka**	**3.71**	**122**	P	**Pn**	**02 12 44.1**	**+1.2**
NATA	**Nata**	**3.92**	**126**	P	**Pn**	**02 12 46.6**	**+0.9**
SZAC	**Souni**	**4.13**	**124**	⇑P	**Pn**	**02 12 49.8**	**+1.1**
SZAC				AML	AML	02 13 41.8	
	comp=N,0.1nm,0.5s						
SZAC				AML	AML	02 13 41.8	
	comp=N,0.1nm,0.5s						
SZAC				AML	AML	02 13 42.2	
	comp=N,0.1nm,0.5s						
SZAC				S	**Sn**	**02 13 42.5**	**+5.3**
CSS	**Mathiatis**	**4.32**	**119**	P	**Pn**	**02 12 52.7**	**+1.4**
ASGA	**Asgata**	**4.36**	**122**	P	**Pn**	**02 12 52.7**	**+0.9**
MVOU	**Mavrovouni**	**4.51**	**117**	P	**Pn**	**02 12 55.3**	**+1.5**
SLUM	**Salum**	**6.37**	**208**	P	**Pn**	**02 13 20.2**	**+0.8**
SLUM	baz=207			S	**Sn**	**02 14 28.3**	**-3.9**
	baz=207						
HNAT	**Natroun**	**7.67**	**168**	P	**Pn**	**02 13 37.4**	**0.0**
	baz=167						
HSAF	**As Saff**	**7.89**	**162**	P	**Pn**	**02 13 41.2**	**+0.9**
	baz=161						
GLL	**Jalalah**	**7.96**	**161**	P	**Pn**	**02 13 42.1**	**+0.8**
	baz=160						
SWA2		**8.36**	**200**	P	**Pn**	**02 13 46.2**	**-0.5**
	baz=199						
NBNS	**Bani Suef**	**8.79**	**165**	P	**Pn**	**02 13 53.0**	**+0.4**
	baz=164						

ROM 19 02:13:10.9±0.1, 43°.361N×0°.003×12°.750E±0°.004, h13km, ML1.2/12, 3C-6D, Error ellipse: s-maj=0.3km s-min=0.1km az=188.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	**Fossato di Vic**	**0.07**	**173**	P	Pg	02 13 13.7	+0.1
FOSV				S	Sg	02 13 15.7	+0.3
FOSV				AML	AML		
	comp=N,254μm,0.2s						
FOSV				AML	AML		
	comp=N,254μm,0.2s						
FOSV				AML	AML		
	comp=E,258μm,0.3s						
SSFR	**Montelago di S**	**0.08**	**17**	⇓P	Pg	02 13 13.9	+0.2
SSFR				S	Sg	02 13 16.0	+0.3
SSFR				AML	AML		
	comp=E,482μm,0.8s						
SSFR				AML	AML		
	comp=E,278μm,0.3s						
SSFR				AML	AML		
	comp=N,297μm,0.4s						
SSFR				AML	AML		
	comp=N,594μm,0.1s						
ATFO	**Monte Foce - G**	**0.13**	**272**	⇓P	Pg	02 13 14.6	+0.3
ATFO				S	Sg	02 13 17.4	+0.6
ATFO				AML	AML		
	comp=N,103μm,0.4s						
ATFO				AML	AML		
	comp=E,85μm,0.6s						
SNTG	**Esanatoglia**	**0.17**	**127**	⇓P	Pg	02 13 15.2	+0.2
SNTG				S	Sg	02 13 18.6	+0.8
SNTG				AML	AML		
	comp=E,24μm,1.2s						
SNTG				AML	AML		
	comp=N,37μm,0.1s						
MURB	**Monte Urbino**	**0.19**	**239**	⇑P	Pg	02 13 15.7	+0.5
MURB				S	Sb	02 13 19.4	-0.6
MURB				AML	AML		
	comp=E,168μm,0.2s						
MURB				AML	AML		
	comp=N,202μm,0.3s						
MURB				AML	AML		
	comp=N,202μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.19**	**205**	⇑P	Pg	02 13 15.7	+0.4
ATCC				S	Sb	02 13 19.3	-0.7
ATCC				AML	AML		
	comp=E,247μm,0.2s						
ATCC				AML	AML		
	comp=N,273μm,0.2s						
ARVD	**Arcevia**	**0.20**	**46**	P	Pg	02 13 15.6	+0.3
ARVD				S	Sg	02 13 19.1	+0.8
ARVD				AML	AML		
	comp=E,62μm,0.3s						
ARVD				AML	AML		
	comp=N,45μm,0.4s						
PIEI	**Pieia**	**0.23**	**318**	⇑P	Pg	02 13 16.1	+0.1
PIEI				S	Sg	02 13 20.1	+0.7
PIEI				AML	AML		
	comp=E,89μm,0.1s						
PIEI				AML	AML		
	comp=N,70μm,0.2s						
PIEI				AML	AML		
	comp=E,89μm,0.1s						
ATVO	**AVT- Monte Val**	**0.25**	**275**	⇓P	Pg	02 13 16.5	+0.3
ATVO				S	Sg	02 13 20.7	+0.9
ATVO				AML	AML		
	comp=E,84μm,0.2s						
ATVO				AML	AML		
	comp=N,70μm,0.4s						
EL6	**Elcito**	**0.26**	**97**	P	Pg	02 13 16.9	+0.5
EL6				S	Sb	02 13 21.1	-0.8
MPAG	**Monte Paganucc**	**0.27**	**2**	P	Pg	02 13 16.8	+0.2
ATPI	**Pietralunga -**	**0.27**	**290**	P	Pg	02 13 16.9	+0.3
ATPI				S	Sb	02 13 21.4	-0.8
ATPI				AML	AML		
	comp=E,46μm,0.3s						
ATPI				AML	AML		
	comp=N,67μm,0.3s						
NARO	**Abbazia di Nar**	**0.28**	**334**	P	Pg	02 13 16.8	0.0
NARO				AML	AML		
	comp=N,30μm,1.5s						
NARO				AML	AML		
	comp=E,28μm,0.1s						
NARO				AML	AML		
	comp=N,30μm,1.5s						
APEC	**Apecchio**	**0.31**	**309**	P	Pg	02 13 17.7	+0.4
APEC				S	Sb	02 13 23.2	-0.2
APEC				AML	AML		
	comp=N,48μm,0.8s						
APEC				AML	AML		
	comp=E,43μm,0.3s						
CING	**Cingoli**	**0.33**	**87**	P	Pb	02 13 18.2	-0.4
CING				S	Sb	02 13 23.3	-0.5
FSSB	**Fossombrone**	**0.33**	**3**	⇓P	Pg	02 13 17.9	+0.2
FSSB				S	Sb	02 13 23.5	-0.5
FSSB				AML	AML		
	comp=N,64μm,1.1s						
FSSB				AML	AML		
	comp=E,82μm,0.4s						
PE3	**Peglio**	**0.38**	**331**	⇓P	Pg	02 13 19.1	+0.5
FDMO	**Fiordimonte**	**0.41**	**143**	P	Pg	02 13 19.0	-0.1

LDG 19 02:13:18.5±0.1, 44°.66N×7°.31E, h5km, Md1.4/2, Ml1.4/6, Error ellipse: s-maj=2.5km s-min=1.1km az=74.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.39**	**280**	*e*Pg	Pg	02 13 26.6	+0.5
MBDF				*e*Sg	Sg	02 13 31.3	+0.1
	2.8nm,0.2s						
SBF	**Sospel**	**0.80**	**173**	*e*Pg	Pg	02 13 33.5	-0.3
SBF				*e*Sg	Sg	02 13 44.1	-0.1
	1.0nm,0.3s						
LPG	**La Plagne**	**0.93**	**335**	*e*Pg	Pg	02 13 36.2	-0.1
LPG				*e*Sg	Sg	02 13 48.6	+0.2
	1.5nm,0.3s						
LPL	**La Plagne**	**0.95**	**335**	*e*Pg	Pg	02 13 36.6	-0.1
LPL				*e*Sg	Sg	02 13 48.8	-0.3
	2.6nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.05**	**285**	*e*Pg	Pg	02 13 38.2	-0.4
ORIF				*e*Sg	Sg	02 13 51.9	-0.3
	0.7nm,0.3s						
FRF	**La Foret Royal**	**1.20**	**204**	*e*Pg	Pg	02 13 41.1	-0.3
FRF				*e*Sg	Sg	02 13 55.8	-1.1
	0.8nm,0.2s						
LMR	**La Mourre**	**1.44**	**204**	*e*Pg	Pn	02 13 45.4	+0.1
LMR				*e*Sg	Sb	02 14 04.1	-0.4
	1.8nm,0.4s						

*IDC **19** 02:24:35.3±1.6, 63°.29N×150°.98W, h117km±17km, mb3.3/6, mb1 3.4/8, mb1mx3.1/45, mbtmp3.6/8, Error ellipse: s-maj=32.7km s-min=10.8km az=112.0*

*ANF **19** 02:24:37.3±0.2, 63°.29N×150°.55W, h136km±4km, ML3.5/51, Error ellipse: s-maj=3.1km s-min=2.0km az=95.0, Hypocentre not reviewed by the ISC*

*NEIC **19** 02:24:37.3±1.2, 63°.30N±0°.04×150°.58W±0°.08, h137km±5km, Error ellipse: s-maj=5.5km s-min=5.2km az=101.0*

*AEIC **19** 02:24:38.0±1.0, 63°.27N±0°.04×150°.52W±0°.08, h134km±4km, ML3.3/127, ML3.6/121(NEIC), Error ellipse: s-maj=5.5km s-min=5.3km az=54.0*

ISC 19 02:24:37.5±0.8, 63°.27N±0°.03×150°.55W±0°.04, h137km±5km, n172, σ0°.66/155, mb3.6/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.21**	**34**		**Pn**	**02 24 56.6**	**+0.3**
TRF					**Sn**	**02 25 10.2**	**-0.5**
TRF	**Thorofare Moun**	**0.21**	**34**	IAML		02 25 12.7	
	comp=N,840nm,0.6s						
TRF	**Thorofare Moun**	**0.21**	**34**	P		02 24 56.6	
	baz=210,SNR=181						
TRF				S		02 25 10.0	
	baz=210						
KTH	**Kantishna Hill**	**0.33**	**330**		**Pn**	**02 24 56.8**	**+0.2**
KTH					**Sn**	**02 25 10.3**	**-0.8**
KTH	**Kantishna Hill**	**0.33**	**330**	IAML		02 25 10.9	
	comp=E,1μm,0.6s						
KTH				IAML		02 25 11.0	
	comp=N,1μm,0.8s						
HUR	**Hurricane**	**0.51**	**125**		**Pn**	**02 24 57.3**	**0.0**
HUR					**Sn**	**02 25 12.6**	**+0.2**
CAST	**Castle Rocks**	**0.71**	**283**		**Pn**	**02 24 58.6**	**0.0**
CAST					**Sn**	**02 25 13.6**	**-1.0**
CAST	**Castle Rocks**	**0.71**	**283**	P		02 24 58.6	
	baz=101,SNR=7.7						
CAST				S		02 25 13.4	
	baz=101						
RND	**Reindeer**	**0.78**	**79**		**Pn**	**02 24 59.3**	**+0.1**
RND					**Sn**	**02 25 15.5**	**-0.2**
RND	**Reindeer**	**0.78**	**79**	IAML		02 25 16.4	
	comp=N,790nm,1.0s						
RND				IAML		02 25 16.4	
	comp=E,697nm,0.3s						
PPLA	**Purkeypile**	**0.84**	**244**		**Pn**	**02 25 00.0**	**+0.3**
PPLA	**Purkeypile**	**0.84**	**244**	P		02 25 00.0	
	baz=63,SNR=241						
BPAW	**Bear Paw Mtn.**	**0.85**	**347**		**Pn**	**02 24 59.6**	**-0.1**
BPAW					**Sn**	**02 25 15.5**	**-1.1**
BPAW	**Bear Paw Mtn.**	**0.85**	**347**	IAML		02 25 15.9	
	comp=E,852nm,0.4s						
BPAW				IAML		02 25 16.0	
	comp=N,1μm,0.6s						
BPAW	**Bear Paw Mtn.**	**0.85**	**347**	P		02 24 59.7	
	baz=166,SNR=287						
BPAW				S		02 25 15.5	
	baz=166						
MCK	**McKinley**	**0.86**	**57**		**Pn**	**02 25 00.1**	**+0.3**
MCK					**Sn**	**02 25 16.1**	**-0.6**
MCK	**McKinley**	**0.86**	**57**	IAML		02 25 17.2	
	comp=E,436nm,0.5s						
MCK	**McKinley**	**0.86**	**57**	P		02 25 00.0	
	baz=238,SNR=52						
MCK				S		02 25 15.9	
	baz=238						
CUT	**Chulitna**	**0.88**	**171**		**Pn**	**02 25 00.1**	**+0.2**
CUT					**Sn**	**02 25 17.3**	**+0.4**
CUT	**Chulitna**	**0.88**	**171**	P		02 25 00.1	
	baz=352,SNR=52						
CUT				S		02 25 17.1	
	baz=352						
WAT7	**Susitna Watana**	**0.89**	**119**		**Pn**	**02 24 60.0**	**-0.2**
WAT7					**Sn**	**02 25 17.1**	**-0.2**
WAT1	**Susitna Watana**	**1.01**	**115**		**Pn**	**02 25 01.2**	**+0.1**
WAT1					**Sn**	**02 25 19.2**	**+0.1**
BWN	**Browne**	**1.02**	**28**		**Pn**	**02 25 01.9**	**+0.8**
BWN					**Sn**	**02 25 19.4**	**+0.2**
BWN	**Browne**	**1.02**	**28**	IAML		02 25 20.0	
	comp=N,385nm,0.7s						
SKT	**Skwentna**	**1.38**	**200**		**Pn**	**02 25 04.7**	**0.0**
SKT					**Sn**	**02 25 25.8**	**+0.4**
SKT	**Skwentna**	**1.38**	**200**	P		02 25 04.7	
	baz=19,SNR=171						
SKT				S		02 25 25.4	
	baz=19						
WAT6	**Susitna Watana**	**1.46**	**117**		**Pn**	**02 25 05.5**	**-0.2**
WAT6					**Sn**	**02 25 26.7**	**-0.6**
WAT6	**Susitna Watana**	**1.46**	**117**	P		02 25 05.5	
	baz=300						
WAT6				S		02 25 26.8	
	baz=300						
NEA2	**Nenana**	**1.48**	**26**		**Pn**	**02 25 05.5**	**-0.2**
NEA2	**Nenana**	**1.48**	**26**	P		02 25 05.5	
	baz=206,SNR=28						
NEA2				S		02 25 25.3	
	baz=206						
WRH	**Wood River Hil**	**1.62**	**41**		**Pn**	**02 25 07.3**	**0.0**
GHO	**Glory Hole Cre**	**1.69**	**153**		**Pn**	**02 25 08.5**	**+0.3**
GHO	**Glory Hole Cre**	**1.69**	**153**	IAML		02 25 37.9	
	comp=E,818nm,0.6s						
MLY	**Manley**	**1.77**	**357**		**Pn**	**02 25 09.1**	**0.0**
MLY	**Manley**	**1.77**	**357**	P		02 25 09.1	
	baz=177,SNR=90						
MLY				S		02 25 31.3	
	baz=177						
SML	**Sawmill**	**1.80**	**144**		**Pn**	**02 25 09.2**	**-0.2**
SML					**Sn**	**02 25 33.7**	**-0.1**
SML	**Sawmill**	**1.80**	**144**	IAML		02 25 40.3	
	comp=E,621nm,0.7s						
SML	**Sawmill**	**1.80**	**144**	P		02 25 09.2	
	baz=326,SNR=39						
SML				S		02 25 33.7	
	baz=326						
PMR	**Palmer**	**1.81**	**158**		**Pn**	**02 25 09.3**	**-0.2**
PMR	**Palmer**	**1.81**	**158**	IAML		02 25 41.5	
	comp=E,385nm,0.5s						
PMR				IAML		02 25 44.3	
	comp=N,275nm,0.6s						
PMR	**Palmer**	**1.81**	**158**	P		02 25 09.3	
	baz=340,SNR=26						
PMR				S		02 25 33.3	
	baz=340						
SUA	**Susitna One**	**1.82**	**183**		**Pn**	**02 25 10.4**	**+0.6**
SUA	**Susitna One**	**1.82**	**183**	IAML		02 25 38.8	
	comp=E,326nm,0.6s						
SUA				IAML		02 25 39.3	
	comp=N,358nm,0.7s						
SUA	**Susitna One**	**1.82**	**183**	P		02 25 10.2	
	baz=3.2,SNR=39						
SUA				S		02 25 34.4	
	baz=3.2						
CCB	**Clear Creek Bu**	**1.84**	**40**		**Pn**	**02 25 09.8**	**0.0**
STLK	**Strandline Lak**	**1.88**	**199**		**Pn**	**02 25 10.6**	**+0.2**
I23K	**Minto, Yukon-K**	**1.95**	**15**		**Pn**	**02 25 11.3**	**+0.2**
I23K	**Minto, Yukon-K**	**1.95**	**15**	P		02 25 11.3	
	baz=196,SNR=94						
I23K				S		02 25 35.7	
	baz=196						
HDA	**Harding Lake**	**1.96**	**53**		**Pn**	**02 25 11.5**	**+0.2**
HDA	**Harding Lake**	**1.96**	**53**	IAML		02 25 41.3	
	comp=E,182nm,0.4s						
HDA	**Harding Lake**	**1.96**	**53**	P		02 25 11.3	
	baz=236,SNR=41						
HDA				P		02 25 11.3	
	baz=236,SNR=41						
MDM	**Murphy Dome**	**1.98**	**30**		**Pn**	**02 25 11.5**	**+0.1**
TCOL	**CIGO, UAF Yank**	**1.99**	**35**		**Pn**	**02 25 12.4**	**+0.8**
TCOL				IAML		02 25 44.8	
	comp=N,211nm,0

KNK	**Knik Glacier**	2.11	151	P			02 25 13.1	
	baz=334,SNR=27							
KNK				S			02 25 40.5	
	baz=334							
FIS	**Fire Island**	2.14	176			Pn	02 25 14.0	+0.5
CRP	**Crater Peak**	2.15	201			Pn	02 25 13.4	-0.3
SPCP	**Crater Peak Br**	2.15	201			Pn	02 25 13.1	-0.6
SPBG	**Spurr Blockage**	2.19	204			Pn	02 25 15.3	+1.1
SPCN	**Chakachatna No**	2.19	201			Pn	02 25 14.6	+0.5
IL31		2.21	45			Pn	02 25 14.1	0.0
ILAR	**Eielson Array**	2.21	45	P		Pn	02 25 14.2	0.0
	comp=N,4.6nm,0.3s,baz=227,slow=13,SNR=198							
ILAR				S		Sn	02 25 41.5	-0.9
	comp=N,8.4nm,0.3s,baz=207,slow=27,SNR=6.5							
ILAR	**Eielson Array**	2.21	45	Pn		Pn	02 25 14.1	-0.1
SPU	**Mount Spurr**	2.21	199			Pn	02 25 14.7	+0.3
SPCR	**Spurr Chakacha**	2.22	201			Pn	02 25 14.4	-0.1
SPCR	**Spurr Chakacha**	2.22	201	P			02 25 15.2	
	baz=20,SNR=11							
RC01	**Rabbit Creek A**	2.23	170			Pn	02 25 14.5	0.0
RC01	**Rabbit Creek A**	2.23	170	IAML			02 25 44.5	
	comp=E,390nm,0.4s							
RC01				IAML			02 25 52.1	
	comp=N,340nm,0.3s							
RC01	**Rabbit Creek A**	2.23	170	P			02 25 14.7	
	baz=351,SNR=26							
RC01				S			02 25 42.1	
	baz=351							
POKR	**Poker Plat Res**	2.30	35			Pn	02 25 15.7	+0.4
POKR	**Poker Plat Res**	2.30	35	P			02 25 15.7	
	baz=218,SNR=7.8							
PAX	**Paxson**	2.33	95			Pn	02 25 16.2	+0.3
PAX	**Paxson**	2.33	95	P			02 25 16.2	
	baz=280,SNR=120							
M24K	**Tolsona, Glenn**	2.33	118			Pn	02 25 16.4	+0.5
M24K	**Tolsona, Glenn**	2.33	118	IAML			02 25 55.5	
	comp=N,490nm,0.8s							
M24K	**Tolsona, Glenn**	2.33	118	P			02 25 16.4	
	baz=302,SNR=69							
TTA	**Tatalina**	2.51	265			Pn	02 25 17.9	-0.1
TTA	**Tatalina**	2.51	265	P			02 25 17.9	
	baz=80,SNR=26							
CAPN	**Captain Cook N**	2.53	187			Pn	02 25 20.6	+2.3
CAPN	**Captain Cook N**	2.53	187	P			02 25 20.7	
	baz=6.5							
H21K	**Melozitna Rive**	2.58	339			Pn	02 25 18.9	0.0
H21K	**Melozitna Rive**	2.58	339	P			02 25 19.0	
	baz=156,SNR=199							
H23K	**Yukon River**	2.60	9			Pn	02 25 19.5	+0.4
H23K	**Yukon River**	2.60	9	P			02 25 19.5	
	baz=190,SNR=70							
PS06	**TAPS Pump Stn6**	2.62	7			Pn	02 25 19.7	+0.4
HARP	**HAARP**	2.63	107			Pn	02 25 20.1	+0.6
HARP	**HAARP**	2.63	107	P			02 25 19.9	
	baz=292,SNR=15							
PS11	**TAPS Pump St11**	2.63	115			Pn	02 25 19.6	0.0
PWL	**Port Wells**	2.64	156			Pn	02 25 19.6	-0.1
SLKM	**Skilak Lake**	2.78	177			Pn	02 25 21.7	+0.3
KLU	**Klutina**	2.80	128			Pn	02 25 21.2	-0.6
KLU	**Klutina**	2.80	128	IAML			02 26 07.3	
	comp=N,250nm,0.8s							
KLU				IAML			02 26 08.0	
	comp=E,186nm,0.9s							
KLU	**Klutina**	2.80	128	P			02 25 21.2	
	baz=312,SNR=25							
H24K	**Noodor Dome**	2.82	23			Pn	02 25 22.1	+0.1
H24K	**Noodor Dome**	2.82	23	P			02 25 22.1	
	baz=205,SNR=20							
O22K	**Cooper Landing**	2.83	172			Pn	02 25 21.8	-0.2
O22K	**Cooper Landing**	2.83	172	P			02 25 22.2	
	baz=353							
DFR	**Drift River**	2.87	201			Pn	02 25 23.5	+0.7
JPK	**Jack Peak**	2.90	138			Pn	02 25 22.5	-0.5
GLI	**Glacier Island**	2.90	144			Pn	02 25 22.4	-0.6
GLI	**Glacier Island**	2.90	144	P			02 25 22.4	
	baz=328,SNR=15							
DOT	**Dot Lake**	2.94	80			Pn	02 25 23.3	-0.2
NCT	**North Crescent**	2.94	204			Pn	02 25 23.9	+0.2
RSO	**Redoubt South**	3.01	201			Pn	02 25 25.3	+0.7
SCRK	**Sand Creek**	3.02	74			Pn	02 25 24.4	-0.2
SCRK	**Sand Creek**	3.02	74	IAML			02 26 04.5	
	comp=E,71nm,0.6s							
SCRK	**Sand Creek**	3.02	74	P			02 25 24.4	
	baz=259,SNR=64							
IM03		3.05	335			Pn	02 25 25.1	+0.3
RED	**Redoubt Volcan**	3.05	201			Pn	02 25 26.0	+1.0
N19K	**Bonanza Creek**	3.09	219			Pn	02 25 25.8	+0.3
N19K	**Bonanza Creek**	3.09	219	P			02 25 25.9	
	baz=35,SNR=30							
PS12	**TAPS Pump St12**	3.10	123			Pn	02 25 25.2	-0.4
DIV	**Divide**	3.11	132			Pn	02 25 24.6	-1.0
MENT	**Mentasta**	3.12	93			Pn	02 25 24.9	-1.0
MENT				IAML			02 26 13.1	
	comp=N,131nm,0.6s							
MENT				IAML			02 26 13.2	
	comp=E,178nm,0.7s							
PRP	**Porcupine Dome**	3.14	42			Pn	02 25 25.9	-0.2
PRP	**Porcupine Dome**	3.14	42	P			02 25 26.0	
	baz=226,SNR=6.6							
FID	**Port Fidalgo**	3.18	141			Pn	02 25 26.0	-0.5
FID	**Port Fidalgo**	3.18	141	IAML			02 26 05.8	
	comp=N,241nm,0.7s							
FID				IAML			02 26 06.6	
	comp=E,244nm,0.6s							
SVW2	**Sparrevohn**	3.21	229			Pn	02 25 27.2	+0.2
SEW	**Seward**	3.22	170			Pn	02 25 27.0	-0.1
SEW	**Seward**	3.22	170	P			02 25 26.8	
	baz=351							
N25K	**Chitina, Valde**	3.23	118			Pn	02 25 27.3	-0.1
N25K	**Chitina, Valde**	3.23	118	IAML			02 26 08.7	
	comp=N,101nm,0.6s							
N25K				IAML			02 26 19.5	
	comp=E,86nm,0.7s							
N25K	**Chitina, Valde**	3.23	118	P			02 25 27.3	
	baz=304,SNR=34							
HIN	**Hinchinbrook I**	3.47	145			Pn	02 25 30.0	-0.3
IVE	**Iliamna Volcan**	3.47	201			Pn	02 25 31.0	+0.6
BRLK	**Bradley Lake**	3.53	183			Pn	02 25 31.5	+0.4
BRLK	**Bradley Lake**	3.53	183	IAML			02 26 13.5	
	comp=E,165nm,0.7s							
BRLK				IAML			02 26 13.9	
	comp=N,159nm,0.1s							
BRSE	**Bradley Lake S**	3.55	182			Pn	02 25 31.5	+0.1
BRSE	**Bradley Lake S**	3.55	182	P			02 25 31.3	
	baz=1.6,SNR=6.0							
EYAK	**Cordova Ski Ar**	3.56	138			Pn	02 25 31.5	+0.1
EYAK	**Cordova Ski Ar**	3.56	138	P			02 25 31.2	
	baz=323,SNR=10							
N18K	**Kilae Creek**	3.62	226			Pn	02 25 32.4	+0.1
N18K	**Kilae Creek**	3.62	226	P			02 25 32.4	
	baz=42,SNR=11							
BMRM	**Bremner River**	3.63	127			Pn	02 25 31.6	-0.8
BMRM	**Bremner River**	3.63	127	IAML			02 26 32.1	
	comp=N,125nm,0.6s							
BMRM				IAML			02 26 41.2	
	comp=E,141nm,0.5s							
BMRM	**Bremner River**	3.63	127	P			02 25 31.5	
	baz=312							
GLB	**Gilahina Butte**	3.64	117			Pn	02 25 32.7	+0.1
GLB	**Gilahina Butte**	3.64	117	IAML			02 26 17.0	
	comp=E,96nm,0.6s							
GLB				IAML			02 26 32.4	
	comp=N,72nm,0.5s							
HOM	**Homer**	3.67	189			Pn	02 25 34.2	+1.3
HOM	**Homer**	3.67	189	P			02 25 33.5	
	baz=8.0							
CNPM	**China Poot**	3.78	185			Pn	02 25 34.5	+0.2
K27K	**Chicken**	3.85	75			Pn	02 25 35.6	+0.2
K27K	**Chicken**	3.85	75	IAML			02 26 19.1	
	comp=E,80nm,0.5s							
K27K				IAML			02 26 24.0	
	comp=N,74nm,0.7s							
K27K	**Chicken**	3.85	75	P			02 25 35.2	
	baz=262							
OPT	**Oil Point**	3.85	201			Pn	02 25 36.5	+1.1
VRDI	**Verde Repeater**	3.90	119			Pn	02 25 36.0	-0.2
VRDI	**Verde Repeater**	3.90	119	IAML			02 26 24.0	
	comp=E,46nm,0.8s							
L27K	**Beaver Creek,**	3.96	89			Pn	02 25 36.5	-0.3
L27K	**Beaver Creek,**	3.96	89	P			02 25 36.5	
	baz=277,SNR=54							
COLD	**Coldfoot**	3.97	2	Pn		Pn	02 25 36.7	-0.1
COLD	**Coldfoot**	3.97	2	P			02 25 36.8	
	baz=182							
BC03		3.98	89			Pn	02 25 36.8	-0.2
BCAR	**Beaver Creek A**	3.98	89	Pn		Pn	02 25 36.6	-0.4
MCARA	**McCarthy VSAT**	3.99	115			Pn	02 25 37.8	+0.6
MCARA				IAML			02 26 50.1	
	comp=N,93nm,0.8s							
MCARA				IAML			02 26 55.0	
	comp=E,98nm,0.7s							
MCARA	**McCarthy VSAT**	3.99	115	P			02 25 37.5	
	baz=302,SNR=5.6							
FYU	**Fort Yukon**	4.01	32	Pn		Pn	02 25 35.8	-1.5
HMT	**Hamilton**	4.19	132			Pn	02 25 39.5	-0.4
CRQM	**Cirque**	4.31	123			Pn	02 25 41.5	-0.1
PTPK	**Patty Peak**	4.32	115			Pn	02 25 42.0	+0.2
CRQE	**Cirque**	4.33	122	P			02 25 41.4	
	baz=309,SNR=15							
MID	**Middleton Isla**	4.36	150			Pn	02 25 42.7	+0.7
MID	**Middleton Isla**	4.36	150	IAML			02 27 06.6	
	comp=E,70nm,1.7s							
MID				IAML			02 27 14.6	
	comp=N,80nm,1.1s							
NICHA	**Nichawak Mount**	4.37	131			Pn	02 25 41.6	-0.6
EGAK	**Eagle**	4.40	66			Pn	02 25 42.8	+0.3
EGAK	**Eagle**	4.40	66	IAML			02 26 46.1	
	comp=N,40nm,0.8s							
EGAK				IAML			02 26 46.5	
	comp=N,48nm,1.1s							
EGAK	**Eagle**	4.40	66	P			02 25 42.3	
	baz=254,SNR=32							
TGL	**Tana Glacier**	4.43	121			Pn	02 25 42.1	-0.9
TGL				IAML			02 26 54.1	
	comp=E,90nm,0.8s							
TGL				IAML			02 26 59.2	
	comp=N,74nm,0.8s							
BALM	**Baldy**	4.46	117			Pn	02 25 43.1	-0.3
KHIT	**Khitrov Hills**	4.47	126			Pn	02 25 43.1	-0.5
KIAG	**Kiagna River**	4.51	118			Pn	02 25 43.6	-0.6
SUCK	**Suckling Hills**	4.55	132			Pn	02 25 44.6	0.0
SUCK	**Suckling Hills**	4.55	132	IAML			02 27 03.6	
	comp=E,87nm,0.6s							
GRIN	**Grindle Hills**	4.56	128			Pn	02 25 44.9	+0.2
BGLC	**Bering Glacier**	4.69	129	P			02 25 45.9	
	baz=316							
BARN	**Barnard Glacie**	4.72	114			Pn	02 25 47.5	+0.5
BARN	**Barnard Glacie**	4.72	114	IAML			02 26 44.2	
	comp=N,22nm,0.8s							
BARN				IAML			02 27 10.2	
	comp=E,35nm,0.6s							
YUK2	**White River**	4.74	104			Pn	02 25 48.0	+0.9
KULT	**Kultieth River**	4.80	126			Pn	02 25 48.1	+0.2
BMAR	**Burnt Mountain**	4.86	28	Pn		Pn	02 25 47.2	-1.5
GRNC	**Granite Creek**	4.87	118			Pn	02 25 48.5	-0.5
GRNC	**Granite Creek**	4.87	118	IAML			02 27 16.0	
	comp=N,33nm,0.6s							
CTG	**Chitna Glacier**	4.91	114	P			02 25 49.0	
	baz=302,SNR=11							
CTGM	**Chitina Glacie**	4.91	114			Pn	02 25 49.6	+0.1
CTGM	**Chitina Glacie**	4.91	114	IAML			02 27 11.3	
	comp=N,26nm,0.6s							
DAWY	**Dawson**	5.03	76			Pn	02 25 51.1	+0.1
DAWY	**Dawson**	5.03	76	IAML			02 27 03.8	
	comp=E,21nm,0.6s							
YAH	**Yahtse**	5.09	121			Pn	02 25 51.8	-0.2
YAH	**Yahtse**	5.09	121	IAML			02 27 19.9	
	comp=N,36nm,0.8s							
YAH				IAML			02 27 20.4	
	comp=E,21nm,0.7s							
MESA	**MESA**	5.13	123			Pn	02 25 52.0	-0.5
MESA				IAML			02 27 23.1	
	comp=E,50nm,0.7s							
TABL	**Table Mountain**	5.28	118			Pn	02 25 54.5	0.0
CHX	**Chaix Hills**	5.53	121			Pn	02 25 58.6	+1.0
KDAK	**Kodiak Island**	5.60	191	P		Pn	02 25 57.3	-1.2
	comp=E,1.7nm,0.3s,baz=32,slow=13,SNR=53							
KDAK				S		Sn	02 26 58.4	-3.4
	comp=E,1.8nm,0.3s,baz=169,slow=22,SNR=12							
KDAK	**Kodiak Island**	5.60	191	Pn		Pn	02 25 58.0	-0.6
KDAK	**Kodiak Island**	5.60	191	P			02 25 57.6	
	baz=9.6							
SAMH	**Samovar Hills**	5.62	120			Pn	02 25 60.0	+1.1
PCA	**Pinnacle**	5.84	118			Pn	02 26 02.5	+0.6
PINM	**Pinnacle**	5.85	118	P			02 26 01.5	
	baz=308,SNR=14							
YUK4	**Talbot Arm**	5.88	104			Pn	02 26 03.0	+0.5
BCPM	**Bancas Point**	6.18	118			Pn	02 26 06.3	0.0
YUK6	**Outpost Mounta**	6.18	107			Pn	02 26 06.6	+0.1
OHAK	**Old Harbor**	6.22	194			Pn	02 26 06.1	-0.8
OHAK	**Old Harbor**	6.22	194	P			02 26 06.2	
	baz=12							
PNL	**Peninsula**	6.45	119			Pn	02 26 10.1	+0.2
HYT	**Haines Junctio**	6.61	106			Pn	02 26 12.6	+0.5
RDOG	**Red Dog Mine**	7.00	319			Pn	02 26 18.2	+1.0
WHY	**Whitehorse**	7.83	102	Pn		Pn	02 26 28.3	-0.3
CHIR	**Chirikof Islan**	7.90	201			Pn	02 26 28.3	-1.1
CHIR	**Chirikof Islan**	7.90	201	P			02 26 28.1	
	baz=17							
A21K	**Barrow**	8.41	347			Pn	02 26 35.3	-0.8
A21K	**Barrow**	8.41	347	P			02 26 35.0	
	baz=161							
BESE	**Bessie Mountai**	8.96	115	Pn		Pn	02 26 42.7	-1.0
RES	**Resolute Bay**	21.93	36	P		P	02 29 21.6	+2.3
	comp=E,1.3nm,0.6s,baz=244,slow=14,SNR=1.8							
TXAR	**Lajitas Array**	45.21	116	P		P	02 32 41.7	+1.1
	comp=E,0.3nm,0.7s,baz=321,slow=7.0,SNR=2.9							
ARCES	**ARCESS Array B**	47.44	2	P		P	02 32 57.3	-0.2
	comp=E,1.9nm,1.0s,baz=355,slow=8.2,SNR=4.0							
FINES	**FINESS Array B**	55.57	2	P		P	02 33 57.2	-0.7
	comp=E,0.6nm,0.6s,baz=14,slow=8.5,SNR=6.1							
MKAR	**Makanchi Array**	62.58	322	P		P	02 34 45.5	-1.0
	comp=E,0.2nm,0.5s,baz=50,slow=7.3,SNR=2.7							
AKASG	**Malin Array Be**	66.37	0	P		P	02 35 10.6	-0.3
	comp=E,1.1nm,0.5s,baz=4.9,slow=6.8,SNR=6.9							

*AUST **19** 02:32:22.6±3.1,30°.31S×117°.68E,h11km±17km, Error ellipse: s-maj=17.7km s-min=11.2km az=80.0*
CUPWA 19 02:32:23.8±3.9,30°.29S×117°.68E,h1km±40km, Region: WESTERN AUSTRALIA,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BENC	**Bencubbin**	**0.54**	**163**	P		Pg	02 32 32.2	-2.0
BENC				S		Sg	02 32 40.2	-1.0
BLDU	**Ballidu**	**0.90**	**249**	P		Pg	02 32 39.9	-1.1
	baz=0.9							
BLDU				S		Sg	02 32 51.5	-1.1
	baz=0.9							
BLDU	**Ballidu**	**0.90**	**249**	P		Pg	02 32 38.2	-2.8
BLDU				S		Sg	02 32 50.2	-2.4
KLBR	**Kellerberrin**	**1.30**	**177**	P		Pg	02 32 47.2	-1.5
	baz=1.3							
KLBR				S		Sg	02 33 03.6	-2.0
	baz=1.3							
KLBR	**Kellerberrin**	**1.30**	**177**	P		Pg	02 32 46.2	-2.5
KLBR				S		Sg	02 33 02.2	-3.4
MORW	**Morawa**	**1.87**	**310**	P		Pn	02 32 55.5	-1.5
	baz=1.9							
MORW				S		Sn	02 33 19.6	-1.8
	baz=1.9							
MORW	**Morawa**	**1.87**	**310**	P		Pn	02 32 54.2	-2.8
MORW				S		Sn	02 33 18.2	-3.1
MUN	**Mundaring**	**2.10**	**216**	P		Pn	02 32 59.0	-1.2
	baz=2.1							
MUN				S		Sn	02 33 24.0	-3.1
	baz=2.1							
MUN	**Mundaring**	**2.10**	**216**	P		Pn	02 32 58.2	-2.0
MUN				S		Sn	02 33 22.2	-4.8
NWAO	**Narrogin (SRO)**	**2.66**	**188**	P		Pn	02 33 05.1	-2.8
	baz=2.6							
NWAO				S		Sn	02 33 36.1	-4.6
	baz=2.6							
MEEK	**Meekatharra**	**3.73**	**13**	P		Pn	02 33 19.4	-3.2
	baz=3.8							
MEEK				S		Sn	02 34 01.5	-5.8
	baz=3.8							

*IDC **19** 02:38:51.1±1.8,25°.86S×179°.38E,h558km±32km, mb3.3/5, mb1 3.5/5,mb1mx3.2/22,mbtmp4.3/5, Error ellipse: s-maj=61.7km s-min=18.2km az=157.0*
ISC 19 02:38:50.9±1.1,25°.8S±0°.2×179°.4E±0°.1,h550km,n9, σ0s78/10,mb3.7/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**4.22**	**145**	P		**P**	**02 40 14.0**	**-0.3**
	244nm,0.3s,baz=85,slow=7.7,SNR=33							
STKA	**Stephens Creek**	**33.50**	**251**	P		**P**	**02 44 46.0**	**+0.8**
	0.6nm,0.3s,baz=112,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**41.18**	**263**	P		**P**	**02 45 47.9**	**-0.1**
	2.5nm,0.4s,baz=92,slow=7.5,SNR=55							
ASAR				S		**S**	**02 51 22.1**	**-0.2**
	0.9nm,0.7s,baz=94,slow=16,SNR=5.4							
WRA	**Warramunga Arr**	**41.72**	**268**	P		**P**	**02 45 51.9**	**-0.5**
	4.0nm,0.4s,baz=103,slow=7.8,SNR=76							
WRA				S		**S**	**02 51 29.7**	**-0.5**
	1.9nm,0.9s,baz=98,slow=14,SNR=4.9							
MJAR	**Matsushiro Arr**	**73.12**	**326**	P		**P**	**02 49 25.3**	**-0.4**
	1.3nm,0.5s,baz=173,slow=3.6,SNR=3.2							
USRK	**Ussuriysk Ar.**	**82.03**	**328**	P		**P**	**02 50 14.2**	**+0.6**
	1.3nm,0.6s,baz=186,slow=4.3,SNR=4.3							
ARCES	**ARCESS Array B**	**133.60**	**348**	PKP		**PKPdf**	**02 57 03.2**	**-1.1**
	3.1nm,1.1s,baz=57,slow=3.3,SNR=3.7							
NOA	**NORSAR Array B**	**143.84**	**350**	PKP		PKPbc	02 57 21.7	-0.7
	1.6nm,0.7s,baz=22,slow=3.8,SNR=9.7							
AKASG	**Malin Array Be**	**146.21**	**325**	PKPbc		**PKPdf**	**02 57 28.6**	**+1.2**
	1.0nm,0.3s,baz=41,slow=4.6,SNR=8.1							

*IDC **19** 02:50:41.7±3.0,4°.41S×101°.18E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.6/40,mbtmp3.8/6, Error ellipse: s-maj=105.2km s-min=22.6km az=58.0*
*DJA **19** 02:50:44.0±2.0,4°.5S±4°×10°.1E±°,h11km±17km,M3.9/6, MLv3.9/6*
ISC 19 02:50:45.6±1.1,4°.46S±0°.08×101°.2E±0°.1,h29km,n18, σ0s33/14,mb3.8/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UBSI	**University, Be**	**1.32**	**58**	P		**Pn**	**02 51 07.7**	**-0.4**
UBSI				S		**Sb**	**02 51 26.0**	**-0.2**
EGSI	**Enggano, Bengk**	**1.44**	**128**	P		**Pn**	**02 51 09.3**	**-0.4**
EGSI				S		**Sn**	**02 51 27.6**	**0.0**
MNAI	**Manna**	**1.81**	**87**	P		**Pn**	**02 51 14.9**	**+0.1**
LHSI	**Lahat**	**2.45**	**75**	P		**Pn**	**02 51 24.0**	**+0.3**
KASI	**Kota Agung**	**3.50**	**108**	P		**Pn**	**02 51 38.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**22.87**	**355**	P		**P**	**02 55 47.1**	**+0.2**
	1.0nm,0.4s,baz=184,slow=9.5,SNR=5.1							
H08S2	**Diego Garcia H**	**28.66**	**262**	T		T	03 26 39.1	
	baz=85,slow=76,SNR=705							
H08S3	**Diego Garcia H**	**28.67**	**262**	T		T	03 26 38.8	
	baz=85,slow=76,SNR=555							
H08S1	**Diego Garcia H**	**28.68**	**262**	T		T	03 26 40.5	
	baz=85,slow=76,SNR=596							
H01W3	**Cape Leeuwin H**	**32.58**	**160**	T		T	03 31 33.2	
	baz=337,slow=76,SNR=69							
H01W2	**Cape Leeuwin H**	**32.59**	**160**	T		T	03 31 36.6	
	baz=337,slow=76,SNR=107							
H01W1	**Cape Leeuwin H**	**32.60**	**160**	T		T	03 31 33.4	
	baz=337,slow=76,SNR=111							
WRA	**Warramunga Arr**	**35.80**	**118**	P		**P**	**02 57 42.8**	**+0.1**
	0.3nm,0.4s,baz=304,slow=9.1,SNR=4.9							
ASAR	**Alice Springs**	**36.91**	**124**	P		**P**	**02 57 52.6**	**+0.4**
	0.2nm,0.3s,baz=302,slow=7.5,SNR=1.8							
SONM	**Songino Array**	**52.27**	**4**	P		**P**	**02 59 54.9**	**+0.4**
	1.3nm,0.7s,baz=182,slow=9.1,SNR=6.4							
MKAR	**Makanchi Array**	**53.69**	**344**	P		**P**	**03 00 04.5**	**-0.3**
	1.0nm,0.7s,baz=151,slow=8.7,SNR=8.4							
USRK	**Ussuriysk Ar.**	**55.80**	**26**	P		**P**	**03 00 19.6**	**-0.5**
	2.2nm,0.8s,baz=234,slow=6.3,SNR=5.1							
TXAR	**Lajitas Array**	**145.88**	**41**	PKPbc		**PKPbc**	**03 10 23.1**	**+0.1**
	0.7nm,0.5s,baz=264,slow=2.5,SNR=7.4							

*IDC **19** 02:54:42.0±1.5,7°.79S×118°.96E,h0km,mb4.0/3, mb1 4.1/6,mb1mx3.7/39,mbtmp4.0/6,ML3.4/3,MS3.2/1, Ms1 3.4/1,ms1mx2.5/35, Error ellipse: s-maj=61.6km s-min=19.5km az=63.0*
*DJA **19** 02:54:44.0±0.2,8°.3S±2°×11°.9E±°,h10km,M4.2/12,mb4.7/1, MLv4.0/12*
ISC 19 02:54:46.4±0.8,7°.81S±0°.04×119°.06E±0°.04,h34km,n23, σ1s75/27,mb4.2/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**	**1.63**	**231**	P		**Pn**	**02 55 12.8**	**+0.1**
PLAI				S		**Sn**	**02 55 32.0**	**-0.5**
WBSI	**Waikabubak, Su**	**1.85**	**170**	P		**Pn**	**02 55 16.7**	**+0.9**
WBSI				S		**Sn**	**02 55 39.6**	**+1.5**
TWSI	**Taliwang, Sumb**	**2.35**	**247**	P		**Pn**	**02 55 23.1**	**+0.5**
MKS	**Makassar**	**2.60**	**9**	P		**Pn**	**02 55 26.1**	**0.0**
BKSI	**Bulukumba**	**2.68**	**23**	P		**Pn**	**02 55 26.4**	**-0.8**
EDFI	**Ende, Flores**	**2.77**	**110**	P		**Pn**	**02 55 29.1**	**+0.7**
EDFI				S		**Sn**	**02 56 01.4**	**+0.7**
BASI	**Baing, Sumba**	**2.83**	**148**	P		**Pn**	**02 55 29.3**	**+0.1**
KAPI	**Kappang**	**2.86**	**14**	Pn		**Pn**	**02 55 29.4**	**-0.2**
	4.4nm,0.3s,baz=194,slow=5.3,SNR=22							
KAPI				Sn		**Sn**	**02 56 01.1**	**-1.7**
	22nm,0.3s,baz=13,slow=23,SNR=11							
KAPI				Lg		Lg	02 56 08.3	
	42nm,0.3s,baz=345,slow=21,SNR=8.0							
KAPI				LR		LR	02 56 27.2	
	comp=Z,72nm,19.3s,baz=98,slow=37							
KAPI	**Kappang**	**2.86**	**14**	P		**Pn**	**02 55 29.3**	**-0.2**
MMRI	**Maumere**	**3.

	baz=340							
ESL				*i* S		**Sb**	03 07 16.7	+1.0
	baz=340							
TEYL	**Yanliau Villag**	**0.44**	**360**	⇑*i* P		**Pb**	03 07 10.4	+0.7
	baz=19							
TEYL				S		**Sn**	03 07 18.6	+1.4
	baz=19							
ECS	**Chishang**	**0.48**	**226**	*e*P		**Pb**	03 07 10.4	-0.1
	baz=218							
EDH	**Donghe**	**0.53**	**211**	P		**Pb**	03 07 11.6	+0.4
	baz=214							
EDH				S		**Sn**	03 07 19.8	+0.4
	baz=214							
ETM	**Tongmen**	**0.54**	**350**	*e*P		**Pb**	03 07 10.7	-0.7
	baz=348							
ETM				*e*S		**Sb**	03 07 18.8	-0.3
	baz=348							
HWA	**Hwalien**	**0.54**	**1**	*e*P		**Pb**	03 07 11.8	+0.4
	baz=18							
HWA				*e*S		**Sn**	03 07 21.1	+1.3
	baz=18							
ELDTW	**Lidau**	**0.59**	**246**	P		**Pb**	03 07 11.2	-1.0
	baz=234							
ELDTW				*e*S		**Sb**	03 07 18.2	-2.2
	baz=234							
OWD	**Renai**	**0.65**	**323**	P		**Pb**	03 07 12.4	-0.9
	baz=332							
OWD				S		**Sb**	03 07 19.5	-2.7
	baz=332							
LONT	**Longtian**	**0.68**	**220**	*e*P		**Pb**	03 07 12.5	-1.1
	baz=214							
LONT				*e*S		**Sb**	03 07 21.1	-1.6
	baz=214							
SSLB	**Suanglung**	**0.69**	**301**	P		**Pn**	03 07 12.9	-0.9
	baz=297							
SSLB				S		**Sb**	03 07 21.4	-1.8
	baz=297							
ETL	**Fush Village**	**0.73**	**2**	*e*P		**Pn**	03 07 13.6	-0.7
	baz=356							
ALS	**Alishan**	**0.73**	**276**	⇓*i* P		**Pn**	03 07 14.5	-0.2
	baz=282							
ALS				S		**Sb**	03 07 23.7	-1.0
	baz=282							
WHYT	**Xinyi Township**	**0.73**	**291**	*e*P		**Pn**	03 07 14.2	-0.2
	baz=291							
CHGB	**Renai**	**0.74**	**328**	⇓*i* P		**Pn**	03 07 14.0	-0.7
	baz=340							
CHGB				*e*S		**Sb**	03 07 23.8	-1.0
	baz=340							
NACB	**Ninganchiao**	**0.74**	**360**	⇓*i* P		**Pn**	03 07 13.4	-1.1
	baz=354							
NACB				S		**Sb**	03 07 23.1	-1.4
	baz=354							
LDUT	**Ludao**	**0.76**	**189**	*e*P		**Pn**	03 07 13.7	-1.1
	baz=176							
WHF	**Hehuan Shan**	**0.77**	**337**	P		**Pn**	03 07 14.3	-1.1
	baz=341							
WHF				*e*S		**Sb**	03 07 23.7	-2.2
	baz=341							
TWGBT	**Beinan**	**0.78**	**218**	*e*P		**Pn**	03 07 13.5	-1.4
	baz=213							
TWGBT				*e*S		**Sb**	03 07 22.7	-2.8
	baz=213							
TWG	**Pinlang**	**0.78**	**219**	P		**Pn**	03 07 13.7	-1.3
	baz=213							
TWG				*e*S		**Sb**	03 07 23.1	-2.5
	baz=213							
ETLH	**Xiulin Townshi**	**0.78**	**352**	P		**Pn**	03 07 14.0	-1.1
	baz=357							
ETLH				S		**Sb**	03 07 23.6	-2.2
	baz=357							
SMLT	**Sun Moon Lake**	**0.78**	**305**	⇓*i* P		**Pn**	03 07 14.7	-0.5
	baz=309							
SMLT				S		**Sb**	03 07 24.9	-0.9
	baz=309							
STYH	**Taoyuan**	**0.80**	**251**	*e*P		**Pn**	03 07 15.3	+0.1
	baz=243							
STYH				*e*S		**Sn**	03 07 24.9	-1.2
	baz=243							
STYT	**Tauyuan**	**0.82**	**251**	*e*P		**Pn**	03 07 15.5	-0.1
	baz=243							
STYT				*e*S		**Sn**	03 07 25.8	-0.8
	baz=243							
WPL	**Puli Township**	**0.82**	**315**	*e*P		**Pn**	03 07 15.2	-0.5
	baz=321							
DPDB	**Guoxing**	**0.86**	**314**	P		**Pn**	03 07 16.0	-0.2
	baz=320							
DPDB				*e*S		**Sn**	03 07 28.2	+0.5
	baz=320							
CHN5	**Tsauling**	**0.86**	**281**	P		**Pn**	03 07 16.7	+0.5
	baz=280							
CHN5				S		**Sn**	03 07 28.2	+0.4
	baz=280							
FUSS	**Fushou**	**0.88**	**338**	P		**Pn**	03 07 16.1	-0.5
	baz=348							
FUSS				S		**Sn**	03 07 26.7	-1.7
	baz=348							
WCS	**Beigang Elemen**	**0.89**	**315**	P		**Pn**	03 07 16.3	-0.2
	baz=322							
WCS				*e*S		**Sn**	03 07 27.2	-1.1
	baz=322							
WJS	**Zhushan**	**0.89**	**296**	P		**Pn**	03 07 17.0	+0.5
	baz=296							
WJS				S		**Sn**	03 07 28.6	+0.2
	baz=296							
TPUB	**Ta-pu**	**0.90**	**262**	P		**Pn**	03 07 17.2	+0.5
	baz=259							
TPUB				S		**Sn**	03 07 29.2	+0.5
	baz=259							
TWT	**Tachien**	**0.91**	**335**	*e*P		**Pn**	03 07 17.0	0.0
	baz=342							
TWT				*e*S		**Sn**	03 07 27.7	-1.3
	baz=342							
TDCB	**Techi**	**0.91**	**334**	P		**Pn**	03 07 16.8	-0.2
	baz=342							
TDCB				S		**Sn**	03 07 27.4	-1.7
	baz=342							
WTP	**Ta-pu**	**0.92**	**259**	P		**Pn**	03 07 17.5	+0.5
	baz=256							
WTP				*e*S		**Sn**	03 07 29.7	+0.4
	baz=256							
CHN4	**Tsaushan**	**0.93**	**265**	⇑*i* P		**Pn**	03 07 17.9	+0.8
	baz=258							
CHN4				*i* S		**Sb**	03 07 30.2	+0.4
	baz=258							
WNT	**Mingjian**	**0.95**	**298**	P		**Pn**	03 07 18.1	+0.7
	baz=285							
WNT				S		**Sn**	03 07 30.6	+0.8
	baz=285							
WNT1	**Nantou City**	**0.97**	**300**	*e*P		**Pn**	03 07 18.4	+0.8
	baz=288							
WNT1				*e*S		**Sb**	03 07 31.5	+0.5
	baz=288							
SLGT	**Liugui**	**0.98**	**244**	*e*P		**Pn**	03 07 18.6	+0.9
	baz=235							
SLGT				*e*S		**Sn**	03 07 31.1	+0.5
	baz=235							
WGK	**Gukeng**	**0.98**	**285**	*e*P		**Pn**	03 07 18.2	+0.4
	baz=284							
WGK				S		**Sn**	03 07 31.6	+0.9
	baz=284							
SGST	**Jiashian**	**1.00**	**250**	*e*P		**Pn**	03 07 18.2	+0.2
	baz=246							
WDLH	**Douliu**	**1.01**	**285**	*e*P		**Pn**	03 07 18.8	+0.6
	baz=284							
WDLH				*e*S		**Sn**	03 07 32.1	+0.8
	baz=284							
NNSB	**Datong**	**1.01**	**349**	P		**Pn**	03 07 17.9	-0.5
	baz=1.0							
NNSB				S		**Sn**	03 07 30.0	-1.6
	baz=1.0							
NNSH	**Datong**	**1.01**	**349**	*e*P		**Pn**	03 07 18.0	-0.4
	baz=1.0							
CHN1	**Nanshi**	**1.01**	**256**	*e*P		**Pb**	03 07 19.9	+0.6
	baz=254							
CHN1				*e*S		**Sb**	03 07 33.1	+0.8
	baz=254							
NNS	**Nan Shan**	**1.03**	**348**	P		**Pn**	03 07 18.3	-0.2
	baz=1.0							
NNS				S		**Sn**	03 07 30.6	-1.3
	baz=1.0							
WWF	**Wufeng**	**1.03**	**307**	*e*P		**Pb**	03 07 19.6	+0.1
	baz=307							
WWF				*e*S		**Sb**	03 07 33.5	+0.9
	baz=307							
TWK	**Hsinying**	**1.03**	**261**	*e*P		**Pn**	03 07 19.7	+1.1
	baz=259							
TWK				*e*S		**Sn**	03 07 32.9	+0.9
	baz=259							
WHP	**Taichung City**	**1.03**	**325**	P		**Pn**	03 07 19.1	+0.5
	baz=330							
WHP				S		**Sb**	03 07 33.2	+0.2
	baz=330							
CHN2	**Minshiung**	**1.04**	**276**	*e*P		**Pn**	03 07 19.1	+0.6
	baz=274							
CHN2				*e*S		**Sb**	03 07 33.6	+0.7
	baz=274							
CHY	**Chiayi**	**1.08**	**274**	*e*P		**Pb**	03 07 20.4	0.0
	baz=272							
CHY				*e*S		**Sn**	03 07 34.1	+1.1
	baz=272							
TCU	**Taichung**	**1.11**	**310**	*e*P		**Pn**	03 07 20.4	+0.9
	baz=311							
TCU				*e*S		**Sb**	03 07 35.2	+0.3
	baz=311							
SSD	**Sandimen**	**1.12**	**233**	*e*P		**Pn**	03 07 19.9	+0.2
	baz=226							
TSMG	**Majia**	**1.14**	**231**	*e*P		**Pn**	03 07 21.2	+1.3
	baz=224							
WTK	**Tuku**	**1.14**	**283**	*e*P		**Pb**	03 07 21.5	+0.1
	baz=282							
SCST	**Cishan**	**1.15**	**242**	*e*P		**Pb**	03 07 22.0	+0.4
	baz=239							
SCST				*e*S		**Sb**	03 07 38.0	+1.7
	baz=239							
WCHH	**Zhanghua**	**1.15**	**304**	P		**Pn**	03 07 21.0	+0.9
	baz=304							
WCHH				*e*S		**Sn**	03 07 35.5	+0.7
	baz=304							
NDT	**Datong Townshi**	**1.17**	**356**	*e*P		**Pn**	03 07 20.4	0.0
	baz=9.0							
TWQ1	**Liyutan**	**1.19**	**321**	⇓*i* P		**Pb**	03 07 22.1	-0.1
	baz=322							
TWQ1				*i* S		**Sb**	03 07 37.4	+0.2
	baz=322							
NDS	**Dongshan**	**1.20**	**5**	*e*P		**Pn**	03 07 22.0	+1.1
	baz=358							
NDS				*e*S		**Sn**	03 07 36.2	+0.1
	baz=358							
ENTT	**Nioudou**	**1.21**	**359**	*e*P		**Pn**	03 07 20.8	-0.1
	baz=3.0							
MASBT	**Mashibuluo**	**1.21**	**228**	*e*P		**Pn**	03 07 20.9	0.0
	baz=219							
WRL	**Guolierlin Hig**	**1.21**	**293**	*e*P		**Pn**	03 07 21.5	+0.5
	baz=293							
WRL				*e*S		**Sn**	03 07 37.1	+0.7
	baz=293							
TWM1	**Shoushan**	**1.24**	**241**	*e*P		**Pb**	03 07 23.9	+0.8
	baz=238							
EAST	**Anshuo**	**1.25**	**214**	*e*P		**Pn**	03 07 20.7	-0.9
	baz=204							
YHNB	**Yeheng**	**1.25**	**351**	P		**Pn**	03 07 21.7	+0.1
	baz=353							
YHNB				*e*S		**Sn**	03 07 36.9	-0.6
	baz=353							
WDJ	**Dajia District**	**1.27**	**316**	*e*P		**Pn**	03 07 22.9	+1.2
	baz=317							
WDJ				*e*S		**Sb**	03 07 39.7	+0.2
	baz=317							
TWE	**Neicheng**	**1.29**	**3**	*e*P		**Pn**	03 07 22.0	0.0
	baz=7.0							
NSTT	**Nanjuang**	**1.31**	**336**	P		**Pn**	03 07 23.6	+1.2
	baz=337							
NSTT				S		**Sn**	03 07 39.0	+0.1
	baz=337							
LIOB	**Emei**	**1.32**	**336**	P		**Pn**	03 07 24.0	+1.5
	baz=338							
LIOB				S		**Sn**	03 07 40.1	+1.1
	baz=338							
NMLH	**Miaoli**	**1.33**	**326**	*e*P		**Pn**	03 07 23.8	+1.2
	baz=327							
NMLH				*e*S		**Sn**	03 07 40.7	+1.6
	baz=327							
NWLT	**Wulai**	**1.34**	**356**	*e*P		**Pn**	03 07 23.4	+0.5
	baz=359							
NWLT				*e*S		**Sn**	03 07 39.1	-0.5
	baz=359							
SCZT	**Fangliau**	**1.39**	**221**	*e*P		**Pn**	03 07 23.8	+0.4
	baz=209							
SLIU	**Shizi**	**1.42**	**212**	*e*P		**Pn**	03 07 25.3	+1.5
	baz=202							
JYNG	**Yonagunijimaku**	**1.60**	**50**	P		**Pn**	03 07 26.9	+0.6
JYNG				*e*S		**Sn**	03 07 46.4	+0.6
YOJ	**Yonaguni jima**	**1.65**	**51**	P		**Pn**	03 07 27.8	+0.8
YOJ				S		**Sn**	03 07 48.1	+1.0
YOJ	**Yonaguni jima**	**1.65**	**51**	*e*P		**Pn**	03 07 28.0	+1.0
	baz=53							
YOJ				*e*S		**Sn**	03 07 47.5	+0.4
	baz=53							
TWKBT	**Hengchun**	**1.65**	**206**	*e*P		**Pn**	03 07 27.3	+0.3
	baz=205							
TWKBT				*e*S		**Sn**	03 07 48.4	+1.3
	baz=205							
TSEB	**Hengchuen, Pin**	**1.65**	**203**	*e*S		**Sn**	03 07 48.0	+0.8
	baz=203							
WDGT	**Dungji**	**1.79**	**265**	P		**Pn**	03 07 29.0	+0.1
	baz=263							
WDGT				*e*S		**Sn**	03 07 49.5	-1.1
	baz=263							
PHUB	**P'eng-hu**	**1.86**	**273**	*e*P		**Pn**	03 07 30.0	+0.1
	baz=258							
PHUB				*e*S		**Sn**	03 07 50.9	-1.5
	baz=258							
PNG	**Penghu**	**1.88**	**275**	*e*P		**Pn**	03 07 30.3	+0.1
	baz=273							
PNG				*e*S		**Sn**	03 07 52.0	-0.9
	baz=273							
VCHM	**Qimei**	**2.01**	**264**	*e*P		**Pn**	03 07 31.8	-0.1
	baz=262							
VCHM				*e*S		**Sn**	03 07 54.0	-1.9
	baz=262							
HATJ	**Hateruma jima**	**2.12**	**72**	P		**Pn**	03 07 33.8	+0.4
HATJ				S		**Sn**	03 07 59.0	+0.4
IRIF	**Iriomote-Funau**	**2.15**	**65**	P		**Pn**	03 07 34.6	+0.7
IRIF				*e*S		**Sn**	03 08 00.4	+1.0
JKRS	**Kuro-shima**	**2.35**	**70**	S		**Sn**	03 08 05.4	+1.0
JIJ	**Ishigaki jima**	**2.51**	**68**	P		**Pn**	03 07 39.8	+1.0
JIJ				S		**Sn**	03 08 07.9	-0.4
JISG	**Ishigakijimahi**	**2.73**	**65**	P		**Pn**	03 07 42.6	+0.7
JISG				*e*S		**Sn**	03 08 12.8	-1.1
JTJ	**Tarama**	**3.08**	**66**	S		**Sn**	03 08 23.1	+0.6
JMJ2	**Miyako jima3**	**3.65**	**68**	S		**Sn**	03 08 36.3	-0.2

IDC 19 03:17:45.8±949.0, 48°.87N×42°.96E, h0km, Error ellipse: s-maj=416.7km s-min=64.1km az=156.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
I43RU	**DUBNA INFRASON**	**8.60**	**338**	*i*		04	12	10.0	
	baz=146,slow=321,SNR=6.3								
I26DE	**FREYUNG INFRAS**	**19.19**	**281**	*i*		05	18	30.0	
	baz=79,slow=315,SNR=2.8								
I37NO	**I37NO**	**23.51**	**338**	*i*		05	41	20.0	
	baz=137,slow=325,SNR=1.2								

*BGR **19** 03:18:51.6±0.0, 44°.55N×149°.64E, h33km, mb4.7*
*BJI **19** 03:18:53.7±0.0, 44°.38N×148°.50E, h65km, mB4.8/34, mb4.9/52, Ms4.0/19, Ms7 3.7/19*
*JMA **19** 03:18:54.5±0.3, 44°.11N×148°.14E, h0km, M4.5*
*NIED **19** 03:18:54.5, 44°.11N×148°.14E, h0km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.94; Mθθ-1.56; Mφφ-1.38; Mrθ2.70; Mθφ-1.72; Mφr3.82; Fault plane solution: M₀5.60000×10¹⁵ NP1:φs37.00000°, δ74.00000°, λ84.00000°. NP2:φs237.00000°, δ17.00000°, λ109.00000°.*
*MOS **19** 03:18:55.1±1.0, 44°.47N×148°.28E, h63km, mb4.8/31, MS3.2/7 Error ellipse: s-maj=6.0km s-min=5.1km az=96.8*
MOS Felt (III) at Goryachiye Klyuchi.
*SKHL **19** 03:18:55.3±0.6, 44°.40N×148°.40E, h65km±4km, mb5.1/22, mbv5.1/4*
*NEIC **19** 03:18:57.6±1.1, 44°.57N±0°.09×148°.2E±0°.1, h67km±5km, mb4.6/186, Error ellipse: s-maj=13.5km s-min=10.7km az=139.0*
*IDC **19** 03:18:59.1±2.1, 44°.58N×148°.24E, h80km±17km, mb4.2/38, mb1 4.3/43, mb1mx4.2/52, mbtmp4.5/43, MS3.6/18, Ms1 3.6/18, ms1mx3.4/32, Error ellipse: s-maj=12.2km s-min=10.7km az=153.0*
ISC 19 03:18:55.6±0.5, 44°.41N±0°.04×148°.36E±0°.04, h57km±4km, h57km:pP-P, n444, σ1s19/421, mb4.6/176, MS3.8/22,

30C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KUR	**Kuril'sk**	**0.89**	**337**	*d* iPN		**Pn**	**03**	**19 10.8**	**-1.3**
KUR				*i* S		**Sn**	**03**	**19 22.4**	**-1.9**
KUR				pmax	pmax				
	comp=Z,8μm,0.4s								
KUR				pmax	pmax				
	comp=E,3μm,0.3s								
KUR				pmax	pmax				
	comp=N,2μm,0.5s								
KUR				pmax	pmax				
	comp=Z,15μm,1.1s								
KUR				smax	smax				
	comp=E,50μm,2.1s								
KUR				smax	smax				
	comp=N,19μm,2.3s								
KUR				smax	smax				
	comp=N,24μm,0.5s								
KUR				smax	smax				
	comp=E,15μm,0.6s								
KUR	**Kuril'sk**	**0.89**	**337**	*e*P		**Pn**	**03**	**19 10.8**	**-1.3**
KUR				AMB	AMB	03	19	11.4	
	comp=E,8μm,0.4s								
KUR				AMB	AMB	03	19	12.1	
	comp=E,8μm,1.0s								
KUR				*e*S		**Sn**	**03**	**19 22.7**	**-1.6**
KUR				A	A	03	19	25.8	
	comp=E,24μm,0.6s								
KUR				A	A	03	19	25.8	
	comp=E,15μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**1.84**	**259**	*e*PN		**Pn**	**03**	**19 24.0**	**-0.7**
YUK				*e*S		**Sn**	**03**	**19 45.0**	**-1.9**
YUK				pmax	pmax				
	comp=Z,2μm,0.2s								
YUK				smax	smax				
	comp=E,1μm,0.1s								
YUK				smax	smax				
	comp=N,5μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.84**	**259**	*e*P		**Pn**	**03**	**19 24.0**	**-0.7**
YUK				AMB	AMB	03	19	27.0	
	comp=N,2μm,0.2s								
YUK				*e*S		**Sn**	**03**	**19 45.8**	**-1.1**
YUK				A	A	03	19	50.1	
	comp=N,5μm,0.2s								
YUK				A	A	03	19	50.1	
	comp=N,1μm,0.2s								
GRPR	**Tuman**	**1.91**	**258**	*e*PN		**Pn**	**03**	**19 25.3**	**-0.4**
GRPR				*e*S		**Sn**	**03**	**19 49.3**	**+0.7**
GRPR				pmax	pmax				
	comp=Z,2μm,0.3s								
GRPR				smax	smax				
	comp=N,4μm,0.3s								
GRPR				smax	smax				
	comp=E,3μm,0.4s								
GRPR	**Tuman**	**1.91**	**258**	*e*P		**Pn**	**03**	**19 25.3**	**-0.4**
GRPR				AMB	AMB	03	19	28.4	
	comp=E,2μm,0.3s								
GRPR				*e*S		**Sn**	**03**	**19 49.3**	**+0.7**
GRPR				A	A	03	19	53.2	
	comp=E,4μm,0.4s								
GRPR				A	A	03	19	53.2	
	comp=E,3μm,0.4s								
GLVR	**Golovnino**	**2.16**	**253**	*e*PN		**Pn**	**03**	**19 29.6**	**+0.5**
GLVR				S		**Sn**	**03**	**19 54.5**	**-0.2**
GLVR				pmax	pmax				
	comp=Z,587nm,0.3s								
GLVR	**Golovnino**	**2.16**	**253**	*e*P		**Pn**	**03**	**19 29.6**	**+0.5**
GLVR				AMB	AMB	03	19	31.4	
	comp=Z,590nm,0.3s								
GLVR				*e*S		**Sn**	**03**	**19 54.5**	**-0.2**
NEM2	**Nemuro 2**	**2.16**	**242**	P		**Pn**	**03**	**19 28.3**	**-0.9**
NEM2				*e*S		**Sn**	**03**	**19 52.9**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.17**	**242**	⇑*i* PN		**Pn**	**03**	**19 28.5**	**-0.9**
NMR				*i* S		**Sn**	**03**	**19 53.2**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.17**	**242**	*e*P		**Pn**	**03**	**19 28.4**	**-0.9**
NMR				*e*S		**Sn**	**03**	**19 53.4**	**-1.6**
RUSJ	**Misakicho**	**2.26**	**263**	PN		**Pn**	**03**	**19 31.1**	**+0.6**
RUSJ				*e*S		**Sn**	**03**	**19 58.9**	**+1.7**
JRA	**Rausu**	**2.38**	**260**	P		**Pn**	**03**	**19 33.0**	**+0.9**
JRA				*e*S		**Sn**	**03**	**20 00.9**	**+0.8**
JNSB	**Nemuroshibetsu**	**2.50**	**256**	P		**Pn**	**03**	**19 34.5**	**+0.7**
JNSB				*e*S		**Sn**	**03**	**20 03.7**	**+0.6**
JKHN	**Kushirohamanak**	**2.67**	**241**	P		**Pn**	**03**	**19 35.8**	**-0.4**
JKHN				*e*S		**Sn**	**03**	**20 06.0**	**-1.3**
JNK	**Nakash**	**2.75**	**254**	P		**Pn**	**03**	**19 37.7**	**+0.4**
JNK				*e*S		**Sn**	**03**	**20 09.4**	**0.0**
JAK	**Akkeshi**	**3.01**	**243**	P		**Pn**	**03**	**19 40.4**	**-0.4**
JAK				*e*S		**Sn**	**03**	**20 13.3**	**-2.3**
JTKR	**Abashiri--Toko**	**3.23**	**264**	P		**Pn**	**03**	**19 44.5**	**+0.7**
JAR	**Ashorobuto**	**3.50**	**253**	P		**Pn**	**03**	**19 48.8**	**+1.3**
JAR				*e*S		**Sn**	**03**	**20 29.6**	**+1.9**
JCH	**Churui**	**4.05**	**245**	P		**Pn**	**03**	**19 55.4**	**+0.3**
JCH				*e*S		**Sn**	**03**	**20 40.4**	**-0.9**
JKK2	**Kamakawa 2**	**4.08**	**264**	P		**Pn**	**03**	**19 57.4**	**+2.0**
JKA	**Kamikawa-asahi**	**4.15**	**268**			**Pn**	**03**	**19 58.4**	**+2.0**
JKA	**Kamikawa-asahi**	**4.15**	**268**	*e*P		**Pn**	**03**	**19 58.4**	**+2.0**
ASAJ	**Asahikawa**	**4.15**	**268**	P		**Pn**	**03**	**19 58.4**	**+1.9**
	comp=Z,20nm,0.3s,baz=90,slow=19,SNR=33								
ASAJ				LR	LR	03	21	40.3	
	comp=Z,905nm,21.2s,baz=141,slow=40								
JSE	**Soyaes**	**4.16**	**280**	P		**Pn**	**03**	**19 57.3**	**+0.8**
JFR	**Furan**	**4.36**	**255**	P		**Pn**	**03**	**20 01.6**	**+2.3**
ERM	**Erimo**	**4.50**	**240**	*d* iPN		**Pn**	**03**	**20 03.4**	**+2.3**
ERM				pmax	pmax				
	comp=Z,280nm,1.0s								
ERM	**Erimo**	**4.50**	**240**	Pn		**Pn**	**03**	**20 03.5**	**+2.3**
JNBK	**Urakawa-nobuka**	**4.61**	**244**	P		**Pn**	**03**	**20 03.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.68**	**305**	⇓*i* PN		**Pn**	**03**	**20 04.0**	**+0.4**
YSS				*e*S		**Sn**	**03**	**20 54.7**	**-1.8**
YSS				pmax	pmax				
	comp=Z,200nm,4.2s								
YSS				pmax	pmax				
	comp=Z,140nm,0.5s								
YSS				smax	smax				
	comp=E,110nm,0.6s								
YSS				MLR	MLR				
	comp=Z,700nm,20.0s								
YSS				MLR	MLR				
	comp=E,400nm,19.0s								
YSS	**Yuzh-Sakhalins**	**4.68**	**305**	Pn		**Pn**	**03**	**20 03.8**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.68**	**305**	*i* P		**Pn**	**03**	**20 04.0**	**+0.4**
YSS				AMB	AMB	03	20	06.8	
	comp=E,200nm,4.0s								
YSS				AMB	AMB	03	20	14.5	
	comp=E,140nm,0.5s								
YSS				*e*S		**Sn**	**03**	**20 55.5**	**-1.0**
YSS				A	A	03	20	58.2	
	comp=E,110nm,0.6s								
JWK2	**Keihoku**	**4.68**	**283**	P		**Pn**	**03**	**20 05.9**	**+2.2**
JHR	**Hokuryu**	**4.83**	**264**	P		**Pn**	**03**	**20 09.0**	**+3.3**
JYG	**Yagishiri**	**4.97**	**273**	P		**Pn**	**03**	**20 10.6**	**+3.0**
JEW	**Eniwo**	**5.26**	**255**	P		**Pn**	**03**	**20 14.9**	**+3.3**
JRBN	**Rebuntou**	**5.28**	**284**	P		**Pn**	**03**	**20 13.2**	**+1.4**
JSK	**Shakotan**	**5.80**	**262**	P		**Pn**	**03**	**20 21.2**	**+2.3**
JKB	**Kayabe**	**5.92**	**247**	P		**Pn**	**03**	**20 21.4**	**+0.7**
JKB				*e*S		**Sn**	**03**	**21 25.8**	**-1.4**
JOT	**Ohata**	**6.17**	**243**	P		**Pn**	**03**	**20 24.0**	**0.0**
JOT				*e*S		**Sn**	**03**	**21 30.2**	**-2.9**
UGL	**Uglegorsk**	**6.36**	**319**	*e*PN		**Pn**	**03**	**20 27.0**	**+0.4**
UGL				S		**Sn**	**03**	**21

TYV pmax pmax
comp=Z,33nm,1.1s
TYV Tymovskoe 7.51 331 *e*P **Pn 03 20 44.1 +1.7**
TYV AMB AMB 03 20 45.0
comp=Z,100nm,2.0s
TYV AMB AMB 03 20 45.8
comp=Z,30nm,1.0s
JMK Ichinoseki 7.63 227 P **Pn 03 20 42.9 -1.2**
JMK *e*S **Sn 03 22 02.1 -7.1**
SKR Severo-Kuril's 8.18 37 *e*PN **Pn 03 20 52.8 +1.4**
SKR *e*S **Sn 03 22 25.0 +2.7**
SKR pmax pmax
comp=Z,88nm,0.5s
SKR pmax pmax
comp=Z,200nm,3.2s
SKR MLR MLR
comp=Z,200nm,18.0s
SKR Severo-Kuril's 8.18 37 *e*P **Pn 03 20 52.1 +0.7**
SKR AMB AMB 03 20 55.0
comp=Z,90nm,0.5s
SKR AMB AMB 03 20 58.5
comp=Z,200nm,3.0s
SKR *e*S **Sn 03 22 19.0 -3.3**
SKR A A 03 22 28.8
comp=Z,40nm,0.4s
SKR A A 03 22 28.8
comp=Z,40nm,0.4s
TEY Ternei 8.40 278 *e*P **Pn 03 20 56.3 +1.8**
PAU Pauzhetka 9.05 36 *e*P **Pn 03 21 03.8 +0.4**
PAU AMB AMB 03 21 04.9
comp=Z,30nm,0.5s
PAU *e*S **Sn 03 22 41.3 -2.4**
PAU A A 03 22 49.6
comp=Z,100nm,0.4s
PAU A A 03 22 49.6
comp=Z,80nm,0.4s
OKH Okha 9.81 341 *e*P **Pn 03 21 14.4 +0.6**
OKH AMB AMB 03 21 15.9
comp=Z,220nm,0.7s
NKL Nikolayevsk 10.10 333 *e*P **Pn 03 21 18.5 +0.8**
NKL AMB AMB 03 21 21.5
comp=Z,130nm,0.8s
GRNR Gornyy 10.26 312⇑ *i*PN **Pn 03 21 23.1 +3.1**
GRNR *e*S **Sn 03 23 17.7 +4.2**
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR smax smax
comp=N,4.0nm,0.8s
GRNR MLR MLR
comp=E,200nm,20.0s
GRNR MLR MLR
comp=N,300nm,15.0s
GRNR MLR MLR
comp=Z,180nm,17.0s
GRNR Gornyy 10.26 312 *e*P **Pn 03 21 23.1 +3.1**
GRNR AMB AMB 03 21 24.0
comp=Z,20nm,0.8s
PEA0B Petropavlovsk- 10.65 32 PN **Pn 03 21 26.3 +0.9**
PEA0B Petropavlovsk- 10.65 32 Pn **Pn 03 21 26.3 +0.9**
PETK Petropavlovsk- 10.65 32 P **Pn 03 21 26.9 +1.5**
comp=Z,1.5nm,0.3s,baz=197,slow=11,SNR=16
PETK LR LR 03 26 03.3
comp=Z,116nm,18.8s,baz=228,slow=40
PETK Petropavlovsk- 10.65 32 Pn **Pn 03 21 25.5 +0.1**
PET Petropavlovsk 10.97 35 *e*P **Pn 03 21 29.4 -0.2**
MAJO Matsushiro 11.02 228 PN **Pn 03 21 30.0 -0.5**
MAJO Matsushiro 11.02 228 Pn **Pn 03 21 30.0 -0.5**
MAT Matsushiro 11.02 228 P **Pn 03 21 29.8 -0.7**
MAT *e*S **Sn 03 23 30.7 -1.4**
MJAR Matsushiro Arr 11.02 228 P **Pn 03 21 29.9 -0.6**
comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=19
MJAR LR LR 03 25 57.2
comp=Z,175nm,21.6s,baz=50,slow=38
MJAR Matsushiro Arr 11.02 228 PN **Pn 03 21 30.9 +0.4**
MJAR Matsushiro Arr 11.02 228 Pn **Pn 03 21 30.9 +0.4**
USA0B Ussuriysk Arra 11.74 275 PN **Pn 03 21 40.6 +0.4**
USA0B Ussuriysk Arra 11.74 275 Pn **Pn 03 21 40.6 +0.4**
USRK Ussuriysk Ar. 11.74 275 P **Pn 03 21 41.9 +1.7**
baz=90,slow=13,SNR=21
USRK LR LR 03 26 03.9
comp=Z,231nm,20.9s,baz=98,slow=36
USRK Ussuriysk Ar. 11.74 275 Pn **Pn 03 21 41.4 +1.3**
KLR Kul'dur 12.35 299 P **Pn 03 21 51.4 +2.8**
comp=Z,0.5nm,0.3s,baz=104,slow=14,SNR=32
KLR Kul'dur 12.35 299 *ce*PN **Pn 03 21 51.0 +2.5**
KLR MLR MLR
comp=Z,182nm,16.0s
KLR Kul'dur 12.35 299 *e*P **Pn 03 21 50.0 +1.5**
MSHR Mys Shultsa 12.63 268⇑ *e*PN **Pn 03 21 53.2 +0.9**
MSHR pmax pmax
comp=Z,32nm,0.9s
MSHR MLR MLR
comp=Z,101nm,16.0s
EKMR Ekimchan 13.34 316 *e*P **Pn 03 22 01.5 -0.4**
EKMR AMB AMB 03 22 05.9
comp=Z,30nm,0.9s
MDJ Mudanjiang 13.40 277 Pn 03 22 02.3 -0.5
MA2 Magadan 15.26 5 P **Pn 03 22 28.6 +1.4**
comp=Z,0.1nm,0.3s,baz=154,slow=18,SNR=2.2
BMKR Bomnak 16.27 316 *e*P **Pn 03 22 38.7 -1.4**
BMKR AMB AMB 03 22 46.0
comp=Z,3.0nm,0.8s
ZEA Zeya 16.63 312 *e*P **P 03 22 45.5 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,100nm,17.0s
ZEA MLR MLR
comp=Z,100nm,13.0s
ZEA Zeya 16.63 312 *e*P **Pn 03 22 43.2 -1.4**
ZEA AMB AMB 03 22 46.4
comp=Z,10.0nm,1.0s
KSRS Korea Array 16.91 253 P **Pn 03 22 46.1 -2.1**
comp=Z,0.4nm,0.3s,baz=58,slow=12,SNR=11
KSRS LR LR 03 28 46.9
comp=Z,92nm,19.6s,baz=62,slow=35
KS19 Wonju Array Si 16.93 253 Pn **Pn 03 22 48.5 0.0**
KSAR Wonju Array Be 16.95 253 P **Pn 03 22 48.1 -0.6**
KSAR Wonju Array Be 16.95 253 Pn **Pn 03 22 48.1 -0.6**
KSAR Wonju Array Be 16.95 253 *e*P **Pn 03 22 48.1 -0.6**
KROS Kirovskiy 17.08 314 *e*P **Pn 03 22 47.4 -2.9**
KROS AMB AMB 03 22 52.1
comp=Z,10.0nm,0.8s
INCN Inchon 17.79 255 P **P 03 22 59.6 +0.4**
INCN pmax pmax
comp=Z,48nm,1.3s
INCN Inchon 17.79 255 P **P 03 22 59.6 +0.4**
INCN IAmb IAmb 03 23 01.8
comp=Z,48nm,1.2s
TJN Taejon 17.86 251⇑ *i*P **P 03 23 01.1 +1.1**
YAK Yakutsk 20.75 335 P **P 03 23 30.1 -1.2**
comp=Z,17nm,0.5s,baz=206,slow=0.9,SNR=2.2
YAK Yakutsk 20.75 335 *e*P **P 03 23 30.2 -1.1**
YAK pmax pmax
comp=Z,23nm,0.8s
YAK Yakutsk 20.75 335 *e*P **P 03 23 30.2 -1.1**
BJI Beijing 24.14 271 P **P 03 24 06.3 +0.2**
BJI pP **pP 03 24 20.0 -0.1**
BJI sP **sP 03 24 29.3 +2.5**
BJI S **S 03 28 19.4 -0.5**
BJI sS **sS 03 28 46.5 +3.0**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,78nm,3.9s
BJI L L
comp=Z,93nm,9.6s
BJI L L
comp=Z,120nm,8.1s
BJT Baijiatuan 24.15 271 P **P 03 24 05.7 -0.5**
BJT pmax pmax
comp=Z,17nm,0.6s
BJT Baijiatuan 24.15 271 P **P 03 24 05.7 -0.5**
BJT IAmb IAmb 03 24 07.9
comp=Z,17nm,0.6s
TIA Tai'an 25.07 262 P **P 03 24 14.5 -0.1**
TIA pmax pmax
comp=Z,24nm,0.8s
BOD Bodaibo 25.07 315 *e*P **P 03 24 12.0 -2.4**
BOD pmax pmax
comp=Z,6.0nm,1.6s
BILL Bilibino 25.48 16⇑ *e*P **P 03 24 19.2 +1.2**
BILL *PP **pP 03 24 31.0 -1.1**
BILL 03 25 00.0
BILL pmax pmax
comp=Z,2.0nm,0.5s
BILL Bilibino 25.48 16 *e*P **P 03 24 18.6 +0.6**
NJ2 Nanjing 26.11 252 *e*P **P 03 24 24.6 +0.6**
NJ2 pmax pmax
comp=Z,24nm,0.6s
HHC Hu-ho-hao-te 27.16 275 *e*P **P 03 24 32.8 -0.8**
HHC S **S 03 29 11.8 +3.7**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,78nm,5.0s
HHC L L
comp=Z,160nm,13.3s
HHC L L
comp=Z,150nm,12.1s
HHC L L
comp=Z,140nm,11.8s
ULN Ulaanbaatar 28.59 292 *ce*P **P 03 24 47.3 +1.0**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 28.59 292 P **P 03 24 46.0 -0.4**
ULN Ulaanbaatar 28.59 292 *e*P **P 03 24 47.3 +1.0**
ULN Ulaanbaatar 28.59 292 P **P 03 24 45.9 -0.4**
comp=Z,25nm,0.8s
TIXI Tiksi 28.90 347⇑ *i*P **P 03 24 46.8 -1.8**
SONM Songino Array 29.03 292 P **P 03 24 50.5 +0.3**
comp=Z,2.3nm,0.5s,baz=82,slow=8.4,SNR=15
SONM PcP **PcP 03 27 57.3 +0.1**
comp=Z,1.3nm,0.8s,baz=119,slow=1.8,SNR=3.7
SONM LR LR 03 37 07.5
comp=Z,147nm,20.8s,baz=76,slow=38
SONM Songino Array 29.03 292 P **P 03 24 49.6 -0.6**
H11N2 WAKE ISLAND Hy 29.06 142 T T 03 55 36.8
baz=333,slow=76,SNR=2491
H11N1 WAKE ISLAND Hy 29.07 142 T T 03 55 39.2
baz=333,slow=76,SNR=2589
H11N3 WAKE ISLAND Hy 29.07 142 T T 03 55 42.1
baz=333,slow=76,SNR=2622
H11S1 WAKE ISLAND Hy 30.05 143 T T 03 56 54.3
baz=334,slow=76,SNR=5566
H11S3 WAKE ISLAND Hy 30.06 143 T T 03 56 47.8
baz=334,slow=76,SNR=1295
H11S2 WAKE ISLAND Hy 30.07 143 T T 03 56 55.4
baz=334,slow=76,SNR=3140
TLY Talaya 30.36 300 LR LR 03 38 00.2
comp=Z,132nm,20.2s,baz=90,slow=38
ANM Nome 32.54 35 P 03 25 20.5
baz=255
RDOG Red Dog Mine 34.52 30 P 03 25 37.5
baz=252
LZH Lanzhou 34.62 272⇓ P **P 03 25 40.5 +1.1**
LZH pP pP 03 25 53.8 +0.1
LZH sP sP 03 26 04.3 +4.0
LZH pmax pmax
comp=Z,54nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.2s
LZH L L
comp=Z,210nm,14.0s
LZH L L
comp=Z,190nm,13.7s
LZH L L
comp=Z,150nm,16.5s
GTA Gaotai 36.05 279⇓ P **P 03 25 52.1 +0.6**
GTA PcP **PcP 03 28 18.3 +1.6**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,29nm,4.5s
GTA L L
comp=Z,72nm,16.4s
GTA L L
comp=Z,81nm,15.6s
GTA L L
comp=Z,88nm,16.7s
N18K Kilae Creek 36.33 43 P 03 25 54.9
baz=270,SNR=9.1
TTA Tatalina 36.37 40 P **P 03 25 53.9 0.0**
TTA pmax pmax
comp=Z,5.0nm,0.7s
TTA Tatalina 36.37 40 P **P 03 25 53.9 0.0**
TTA IAmb IAmb 03 25 55.7
comp=Z,5.2nm,0.7s
TTA Tatalina 36.37 40 P 03 25 54.7
baz=266,SNR=9.1
SVW2 Sparrevohn 36.49 43 P **P 03 25 55.4 +0.5**
SVW2 IAmb IAmb 03 25 57.3
comp=Z,5.0nm,0.7s
N19K Bonanza Creek 37.02 43 P 03 26 00.7
baz=271,SNR=5.7
CD2 Chengdu 37.34 264⇑ *i*P **P 03 26 02.6 +0.1**
CD2 pP pP 03 26 19.8 +2.9
CD2 PP **PP 03 27 26.5 -2.0**
CD2 S **S 03 31 44.6 -1.7**
CD2 pmax pmax
comp=Z,100nm,4.7s
A21K Barrow 37.57 26 P **P 03 26 03.3 -0.6**
A21K Barrow 37.57 26 P 03 26 03.0
baz=255,SNR=17
GYA Guiyang 37.93 256⇓ P **P 03 26 07.8 +0.2**
GYA pmax pmax
comp=Z,2.0nm,0.7s
H21K Melozitna Rive 37.96 35 P 03 26 07.5
baz=266,SNR=9.4
CHUM Lake Minchumin 38.08 38 P 03 26 09.6
baz=268
PPLA Purkeypile 38.11 40 P **P 03 26 09.5 +0.7**
PPLA IAmb IAmb 03 26 11.6
comp=Z,12nm,1.2s
PPLA Purkeypile 38.11 40 P 03 26 09.5
baz=270
KDAK Kodiak Island 38.16 48 P 03 26 09.1
baz=276
I21K Tanana 38.27 36 P 03 26 10.8
baz=267,SNR=6.4
SKT Skwentna 38.43 41 P 03 26 12.4
baz=272
BPAW Bear Paw Mtn. 38.66 38 P **P 03 26 13.6 +0.3**
BPAW IAmb IAmb 03 26 15.3
comp=Z,9.9nm,1.3s
BPAW Bear Paw Mtn. 38.66 38 P 03 26 13.5
baz=269,SNR=7.5
KTH Kantishna Hill 38.69 39 P **P 03 26 13.8 +0.3**
MLY Manley 38.79 36 P **P 03 26 14.3 0.0**
MLY Manley 38.79 36 P 03 26 13.9
baz=268,SNR=5.8
SUA Susitna One 38.82 42 P 03 26 14.9
baz=273
BRSE Bradley Lake S 38.93 45 P 03 26 15.9
baz=275
CUT Chulitna 39.01 40 P 03 26 16.4
baz=272
NRIK Noril'sk 39.10 331 PcP **PcP 03 28 25.5 +0.1**
comp=Z,4.0nm,0.5s,baz=39,slow=3.8,SNR=4.3
NRIK Noril'sk 39.10 331 P **P 03 26 17.9 +1.1**
NRIK 03 28 25.5
NRIK pmax pmax
comp=Z,6.0nm,1.5s
NRIK Noril'sk 39.10 331 P **P 03 26 17.9 +1.1**
COLD Coldfoot 39.12 33 P **P 03 26 17.7 +0.6**
COLD Coldfoot 39.12 33 P 03 26 17.2
baz=266
H23K Yukon River 39.32 35 P 03 26 19.0
baz=269
RC01 Rabbit Creek A 39.33 43 P **P 03 26 19.2 +0.4**
RC01 IAmb IAmb 03 26 20.5
comp=Z,15nm,1.2s
RC01 Rabbit Creek A 39.33 43 P 03 26 18.8
baz=274
I23K Minto, Yukon-K 39.38 36 P 03 26 20.0
baz=270
TOLK Toolik Lake Re 39.47 31 IAmb IAmb 03 26 22.0
comp=Z,4.3nm,0.6s
TOLK Toolik Lake Re 39.47 31 P 03 26 20.4
baz=265
NEA2 Nenana 39.50 37 IAmb IAmb 03 26 21.9
comp=Z,6.7nm,0.7s
NEA2 Nenana 39.50 37 P 03 26 20.7
baz=270,SNR=11
SEW Seward 39.55 44 P 03 26 21.7
baz=276
MCK McKinley 39.57 38 IAmb IAmb 03 26 22.3
comp=Z,6.5nm,0.8s
MCK McKinley 39.57 38 P 03 26 21.8
baz=272
RND Reindeer 39.62 39 IAmb IAmb 03 26 22.4
comp=Z,7.0nm,0.9s
GHO Glory Hole Cre 39.67 41 IAmb IAmb 03 26 24.7
comp=Z,10nm,1.1s
MDM Murphy Dome 39.86 36 P **P 03 26 23.2 0.0**
MDM IAmb IAmb 03 26 26.7
comp=Z,5.7nm,0.8s
KNK Knik Glacier 39.92 42 P 03 26 24.4
baz=275
SML Sawmill 39.95 41 P **P 03 26 24.4 +0.3**
SML Sawmill 39.95 41 P 03 26 24.1
baz=275,SNR=11
H24K Noodor Dome 40.00 35 P 03 26 24.7
baz=270,SNR=6.4
TCOL CIGO, UAF Yank 40.02 37 P 03 26 25.0
baz=271
COLA College 40.02 37*c* *i*P **P 03 26 25.0 +0.5**
COLA pmax pmax
comp=Z,12nm,1.0s
COLA College 40.02 37 P **P 03 26 24.6 +0.1**
COLA IAmb IAmb 03 26 26.9
comp=Z,14nm,1.0s
COLA College 40.02 37 P 03 26 25.2
baz=271
WAT6 Susitna Watana 40.17 40 P 03 26 26.6
baz=274
POKR Poker Plat Res 40.20 36 P 03 26 27.2
baz=271
SCM Sheep Creek Mo 40.42 41 IAmb IAmb 03 26 46.9
comp=Z,5.8nm,1.0s
HDA Harding Lake 40.42 37 IAmb IAmb 03 26 29.4
comp=Z,7.3nm,0.9s
HDA Harding Lake 40.42 37 P 03 26 28.2
baz=273
HDA P 03 26 28.2
baz=273
ILAR Eielson Array 40.44 37 P **P 03 26 28.5 +0.6**
comp=Z,2.0nm,0.5s,baz=264,slow=8.3,SNR=34
ILAR Eielson Array 40.44 37 P **P 03 26 28.2 +0.2**
ILAR Eielson Array 40.44 37 P **P 03 26 28.2 +0.2**
DGZ Jazzator, Alta 40.84 300⇑ *i*P **P 03 26 32.2 +0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
DGZ MLR MLR
comp=Z,86nm,17.0s
M24K Tolsona, Glenn 40.94 41 P 03 26 32.7
baz=276,SNR=6.2
PRP Porcupine Dome 40.98 36 IAmb IAmb 03 26 35.0
comp=Z,7.8nm,0.9s
PRP Porcupine Dome 40.98 36 P 03 26 33.3
baz=273
FYU Fort Yukon 41.07 34 IAmb IAmb 03 26 36.2
comp=Z,9.2nm,0.7s
KLU Klutina 41.12 42 IAmb IAmb 03 26 36.0
comp=Z,12nm,1.2s
KLU Klutina 41.12 42 P 03 26 34.2
baz=277,SNR=5.7
PAX Paxson 41.18 39 P **P 03 26 34.5 +0.3**
PAX pmax pmax
comp=Z,4.0nm,1.1s
PAX Paxson 41.18 39 P **P 03 26 34.5 +0.3**
PAX Paxson 41.18 39 P 03 26 35.2
baz=276
ZAA0 Zalesovo Array 41.30 307 P **P 03 26 34.5 -0.7**
ZALV Zalesovo Beam 41.30 307 P **P 03 26 35.1 0.0**
comp=Z,177nm,0.5s,baz=77,slow=4.8,SNR=2.2
ZALV PcP **PcP 03 28 32.7 0.0**
comp=Z,5.7nm,0.4s,baz=77,slow=4.3,SNR=12
HARP HAARP 41.38 40 P 03 26 36.5
baz=276
KMI Kunming 41.51 258⇓ P **P 03 26 38.3 +0.8**
KMI pP sP 03 26 56.5 -2.2
KMI pmax pmax
comp=Z,20nm,1.0s
N25K Chitina, Valde 41.74 41 P 03 26 39.6
baz=278
DOT Dot Lake 41.75 38 P **P 03 26 38.9 +0.1**
SCRK Sand Creek 41.75 38 IAmb IAmb 03 26 39.9
comp=Z,6.6nm,0.9s
SCRK Sand Creek 41.75 38 P 03 26 38.8
baz=276,SNR=15
MCARA McCarthy VSAT 42.52 42 P 03 26 45.6
baz=279
K27K Chicken 42.58 38 IAmb IAmb 03 26 48.1
comp=Z,18nm,0.9s
K27K Chicken 42.58 38 P 03 26 46.8
baz=277
CRQE Cirque 42.59 42 P 03 26 46.6
baz=280,SNR=5.1
WMQ Urumqi 42.66 291 *e*P **P 03 26 48.3 +1.8**
WMQ pmax pmax
comp=Z,31nm,0.6s
WMQ pmax pmax
comp=Z,44nm,3.7s
L27K Beaver Creek, 42.82 39 P 03 26 48.5
baz=278,SNR=37
BCAR Beaver Creek A 42.84 39 P **P 03 26 49.0 +1.4**
EGAK Eagle 42.88 36 P **P 03 26 47.5 -0.4**
EGAK IAmb IAmb 03 26 49.1
comp=Z,7.8nm,0.8s
EGAK Eagle 42.88 36 P 03 26 48.1
baz=277,SNR=14
GRNC Granite Creek 43.24 42 IAmb IAmb 03 26 53.3
comp=Z,13nm,0.7s
MESA MESA 43.25 43 P 03 26 52.4
baz=282
YAH Yahtse 43.31 43 IAmb IAmb 03 26 54.2
comp=Z,7.9nm,0.8s
CTG Chitna Glacier 43.39 42 P 03 26 53.3
baz=281
CTGM Chitina Glacie 43.40 42 IAmb IAmb 03 26 54.6
comp=Z,15nm,1.2s
PINM Pinnacle 44.10 43 P 03 26 58.8
baz=283
MK31 Makanchi Array 45.05 297 P **P 03 27 05.3 -0.3**
MK31 03 28 45.5
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 45.05 297 P **P 03 27 05.3 -0.3**
MK31 PcP **PcP 03 28 45.5 0.0**
MKAR Makanchi Array 45.05 297 P **P 03 27 05.3 -0.3**
comp=Z,3.6nm,0.7s,baz=77,slow=8.8,SNR=29
MKAR PcP **PcP 03 28 45.8 +0.2**
comp=Z,4.4nm,0.6s,baz=69,slow=4.1,SNR=13
MKAR LR LR 03 47 13.4
comp=Z,165nm,18.6s,baz=67,slow=38
MAKZ Makanchi 45.25 298 P **P 03 27 07.1 0.0**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 45.25 298 P **P 03 27 07.1 0.0**
HYT Haines Junctio 45.26 42 P **P 03 27 08.5 +1.3**
INK Inuvik 45.39 31 P 03 27 09.0
baz=280
KURK Kurchatov 45.88 304 P **P 03 27 12.4 +0.4**
KURK 03 28 48.5
KURK Kurchatov 45.88 304 *e*P **P 03 27 12.4 +0.4**
NONG Nongkai 45.95 250 P **P 03 27 14.4 +1.5**
comp=Z,34nm,1.0s
NONG Nongkai 45.95 250 P **P 03 27 14.5 +1.5**
KURBB Kurchatov Arra 45.97 304 P **P 03 27 12.4 -0.4**
comp=Z,2.8nm,0.7s,baz=69,slow=8.5,SNR=20
KURBB PcP **PcP 03 28 48.5 -0.1**
comp=Z,5.5nm,0.8s,baz=74,slow=3.4,SNR=17
WHY Whitehorse 46.54 41 P 03 27 17.9
baz=286
SIT Sitka 47.41 46 P 03 27 25.1
baz=289
UTTA Uttaradit 47.93 252 P **P 03 27 29.8 +1.4**
comp=Z,21nm,0.8s
UTTA Uttaradit 47.93 252 P **P 03 27 29.9 +1.5**
comp=Z,5.3nm,0.8s
CM34 Chiang Mai Arr 48.14 254 P **P 03 27 31.0 +1.0**
CM35 Chiang Mai Arr 48.25 254 P **P 03 27 32.0 +1.1**
CHAI Chaiyaphum 48.27 249 P **P 03 27 32.1 +1.1**
comp=Z,2µmcomp=Z,24nm,0.7s
CHAI Chaiyaphum 48.27 249 P **P 03 27 32.0 +1.1**
comp=Z,614nmcomp=Z,6.0nm,0.7s
CM33 Chiang Mai Arr 48.30 254 P **P 03 27 32.0 +0.7**
CMMT Chiang Mai 48.30 254 P **P 03 27 31.4 +0.2**
comp=Z,21nm,0.9s
CMMT Chiang Mai 48.30 254 P **P 03 27 31.5 +0.2**
comp=Z,21nm,0.9s
CHTO Chiang Mai 48.30 254 P **P 03 27 31.7 +0.4**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 48.30 254 P **P 03 27 32.4 +1.1**
comp=Z,22nm,0.9s
CHTO Chiang Mai 48.30 254 P **P 03 27 31.7 +0.4**
CHTO Chiang Mai 48.30 254 P **P 03 27 31.7 +0.4**

comp=Z,12nm,0.9s
CM36 Chiang Mai Arr 48.40 254 P P 03 27 33.0 +1.0
C36M Paulatuk 48.48 28 P 03 27 33.3
baz=287
CMAR Chiang Mai Arr 48.55 254 P P 03 27 34.3 +1.1
comp=Z,3.7nm,0.6s,baz=37,slow=7.6,SNR=16
CMAR LR LR 03 47 26.0
comp=Z,38nm,21.9s,baz=172,slow=35
CMAR Chiang Mai Arr 48.55 254 *ce* **P P 03 27 34.2 +1.0**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 48.55 254 P P 03 27 33.3 +0.1
CM02 Chiang Mai Arr 48.56 254 P P 03 27 35.7 +2.5
comp=Z,9.0nm,0.9s
CM02 Chiang Mai Arr 48.56 254 P P 03 27 35.8 +2.5
comp=Z,9.0nm,0.9s
WRAK Wrangell Islan 49.17 46 P 03 27 39.1
baz=292
SRAK Srakaew 49.59 247 P P 03 27 40.0 -1.1
DLBC Dease Lake 49.60 43 P P 03 27 41.1 +0.3
DLBC IAmb IAmb 03 27 44.1
comp=Z,3.2nm,0.8s
MRSI Marisa 49.64 216 P P 03 27 39.8 -1.7
comp=Z,14nm,0.8s
MRSI pP **pP 03 27 51.8 -4.6**
comp=Z,14nm,0.8s
BVAR Borovoye Array 49.76 309 P P 03 27 41.7 -0.3
comp=Z,0.7nm,0.4s,baz=122,slow=19,SNR=4.4
BVAR PcP **PcP 03 29 01.6 -0.5**
comp=Z,2.5nm,0.8s,baz=162,slow=20,SNR=7.6
BRVK Borovoye 49.80 309 ⇑*i* P P **03 27 41.9 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.2s
BRVK Borovoye 49.80 309 P P 03 27 42.2 -0.2
BRVK Borovoye 49.80 309 *e* **P P 03 27 41.9 -0.4**
TARG Taragay, Kyrgy 50.13 293 P P 03 27 45.5 0.0
TARG IAmb IAmb 03 27 47.0
comp=Z,5.7nm,1.1s
TARG **PcP PcP 03 29 04.7 +0.4**
PMG Port Moresby 53.58 181 LR LR 03 48 19.8
comp=Z,25nm,21.6s,baz=260,slow=33
KKAR Karatay Array 54.17 298 P P 03 28 14.8 -0.2
KKAR Karatay Array 54.17 298 P P 03 28 14.8 -0.2
SPITS Spitsbergen Ar 54.30 349 P P 03 28 15.4 0.0
comp=Z,5.7nm,1.0s,baz=44,slow=8.6,SNR=5.3
SPITS PcP **PcP 03 29 18.9 +0.1**
comp=Z,1.1nm,0.5s,baz=73,slow=5.6,SNR=4.6
ARU Arti 54.46 317 P P 03 28 16.6 -0.2
comp=Z,1.2nm,0.3s,baz=32,slow=2.4,SNR=4.7
ARU Arti 54.46 317 *d* **P P 03 28 17.0 +0.2**
ARU *PP **pP 03 28 31.8 -0.1**
ARU 03 29 19.6
ARU S **S 03 35 52.2 +1.1**
ARU SS **SS 03 39 30.5 -2.9**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU MLR MLR
comp=Z,125nm,20.0s
ARU Arti 54.46 317 P P 03 28 15.7 -1.2
ARU IAmb IAmb 03 28 17.1
comp=Z,4.6nm,0.9s
ARU Arti 54.46 317 *eP* **P 03 28 17.0 +0.2**
HNR Honiara 54.61 166 LR LR 03 47 06.2
comp=Z,40nm,20.8s,baz=340,slow=31
YKA Yellowknife Ar 54.76 34 P P 03 28 19.7 +0.8
comp=Z,4.3nm,0.7s,baz=303,slow=7.8,SNR=14
ABKAR Akbulak array 57.33 309 P P 03 28 36.8 -0.7
NIL Nilore 57.43 287 P P 03 28 37.5 -1.0
NIL pmax pmax
comp=Z,23nm,0.8s
NIL Nilore 57.43 287 P P 03 28 37.5 -1.0
KIRV Kirov 57.61 322 PcP PcP 03 29 31.8 -0.1
comp=Z,6.7nm,0.5s,baz=63,slow=2.3,SNR=2.9
AKTO Aktyubinsk 57.76 311 P P 03 28 40.6 +0.1
comp=Z,1.4nm,0.7s,baz=29,slow=5.1,SNR=7.1
NEEM North Greenlan 57.81 5 *i* **P P 03 28 39.5 -1.3**
NEEM IAmb IAmb 03 28 40.2
comp=Z,2.5nm,0.7s
A04D Lummi Island 57.90 51 P 03 28 42.6
baz=302
D03D Eldon 58.32 53 P 03 28 45.9
baz=303
ARA0 ARCESS Array S 58.93 340 eP P 03 28 48.3 0.0
ARCES ARCESS Array B 58.93 340 P P 03 28 47.4 -0.9
comp=Z,1.3nm,0.8s,baz=44,slow=7.1,SNR=8.4
ARCES PcP **PcP 03 29 36.9 -0.1**
comp=Z,0.8nm,0.4s,baz=58,slow=4.6,SNR=7.4
ARCES ARCESS Array B 58.93 340 IAmb IAmb 03 28 49.7
comp=Z,10nm,1.4s
KBL Kabul 59.78 290 P P 03 28 54.1 -0.9
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 59.78 290 P P 03 28 54.1 -0.9
KTK1 Kautokeino 59.87 340 eP P 03 28 54.5 -0.3
B08A Colville Reser 59.97 50 P P 03 28 55.8 -0.1
B08A IAmb IAmb 03 28 57.8
comp=Z,4.3nm,0.8s
JETT Jettan, Norway 60.13 341 eP P 03 28 56.4 -0.2
J01E Myrtle Point 60.24 57 P 03 28 59.4
baz=305
I03D Drain, OR 60.29 57 P 03 28 59.8
baz=305
TRO Tromso 60.40 342 eP P 03 28 57.9 -0.5
G05D Wamic, OR 60.61 54 P 03 29 02.2
baz=305
K02D Willamette Mer 60.67 58 P 03 29 02.4
baz=305
I04A Tendick Farm, 60.79 56 P 03 29 02.8
baz=305
C09A Chrisman Ranch 60.88 50 IAmb IAmb 03 29 03.9
comp=Z,5.4nm,0.8s
I05D Terrebonne, OR 61.12 55 P 03 29 04.4
baz=305
NEW Newport 61.24 49 IAmb IAmb 03 29 07.0
comp=Z,5.9nm,0.9s
NEW Newport 61.24 49 P 03 29 05.2
baz=306,SNR=6.0
PINE Pine Mountain 61.66 55 IAmb IAmb 03 29 11.2
comp=Z,10nm,1.2s
E09A Wood Farm, Sta 61.69 52 P P 03 29 08.8 +1.3
E09A IAmb IAmb 03 29 09.8
comp=Z,5.5nm,0.8s
PWJI Pagerwojo 61.74 222 P P 03 29 08.4 +0.2
comp=Z,50nm,0.8s
L04D Klamath Falls 61.77 57 P 03 29 09.5
baz=306
BELG Belogornoye 62.01 317 P P 03 29 09.8 +0.3
comp=Z,11nm,0.7s,baz=317,slow=4.9,SNR=2.2
M04C Macdoel 62.30 58 P 03 29 13.4
baz=306
K05A Summer Lake 62.32 56 IAmb IAmb 03 29 19.4
comp=Z,7.9nm,1.1s
WALA Waterton Lakes 62.49 47 IAmb IAmb 03 29 15.0
comp=Z,6.9nm,0.8s
KPJI Karang Pucung 62.57 225 P P 03 29 13.8 +0.1
comp=Z,23nm,1.4s
STEI Steigen 62.58 342 eP P 03 29 12.1 -1.0
O02D Mt. Diablo Mer 62.67 60 P 03 29 16.2
baz=306
LOF Lofoten 62.78 343 eP P 03 29 13.1 -1.4
LEM Lembang 62.82 227 P P 03 29 15.5 -0.1
comp=Z,21nm,0.8s
FAUS Fauske 63.01 342 eP P 03 29 15.2 -0.8
JTMT Jette 63.08 49 IAmb IAmb 03 29 19.4
comp=Z,5.3nm,0.8s
O03E Paynes Creek 63.20 59 P 03 29 18.9
baz=307
SUMG Summit 63.22 2 *i* **P P 03 29 17.0 -0.8**
SUMG IAmb IAmb 03 29 18.1
comp=Z,4.1nm,0.6s
SUMG Summit 63.22 2 *i* **P P 03 29 17.0 -0.8**
SUMG pmax pmax
comp=Z,4.0nm,0.6s
MSO Missoula 63.83 49 IAmb IAmb 03 29 23.9
comp=Z,8.1nm,0.9s
MSO Missoula 63.83 49 P 03 29 22.7
baz=308
MOR8 Moi Rana 64.20 341 eP P 03 29 21.9 -2.0
HRA Herat 64.39 294 P P 03 29 25.5 -0.4
HRA IAmb IAmb 03 29 27.0
comp=Z,14nm,1.1s
FFC Flin Flon 64.65 37 P P 03 29 27.0 0.0
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 64.65 37 P P 03 29 27.0 0.0
FINES FINESS Array B 64.68 333 P P 03 29 24.6 -2.4
comp=Z,4.6nm,0.6s,baz=40,slow=6.5,SNR=32
FINES PcP **PcP 03 29 59.5 -0.8**
comp=Z,2.2nm,0.5s,baz=65,slow=4.1,SNR=5.6
FINES FINESS Array B 64.68 333 P P 03 29 26.3 -0.7
FINES FINESS Array B 64.68 333 P P 03 29 26.3 -0.7
GEYT Alibeck 64.88 299 P P 03 29 28.2 -0.6
comp=Z,3.3nm,0.5s,baz=24,slow=1.7,SNR=5.8
GEYT LR LR 03 59 03.1
comp=Z,48nm,18.2s,baz=180,slow=37
GYA0B ALIBECK ARRAY 64.88 299 P P 03 29 27.8 -1.0
GYA0B IAmb IAmb 03 29 29.5
comp=Z,11nm,1.1s
WB0 Warramunga Arr 65.13 195 P P 03 29 31.8 +1.4
WB0 IAmb IAmb 03 29 32.1
comp=Z,8.1nm,0.9s
EGMT Eagleton 65.30 46 P 03 29 32.2
baz=310,SNR=7.1
WB2 Warramunga Arr 65.31 195 P P 03 29 32.7 +1.1
WB2 IAmb IAmb 03 29 33.9
comp=Z,9.3nm,0.9s
WRA Warramunga Arr 65.31 195 P P 03 29 32.1 +0.5
comp=Z,5.5nm,0.8s,baz=7.6,slow=6.6,SNR=25
HLID Hailey 65.58 52 P 03 29 34.4
baz=309
NSS Namsos 66.14 341 *eP* **P 03 29 35.7 -0.7**
KVN Kaiserville 66.22 58 IAmb IAmb 03 29 54.1
comp=Z,4.8nm,0.9s
LHV Little Huntoon 66.48 59 IAmb IAmb 03 29 42.0
comp=Z,6.8nm,0.8s
NVAR Mina Array Bea 66.49 59 P P 03 29 40.9 +1.5
comp=Z,3.1nm,0.7s,baz=296,slow=7.0,SNR=19
ICESG Greenland Ices 66.66 3 ⇑*i* **P P 03 29 39.8 -0.4**
ICESG IAmb IAmb 03 29 40.3
comp=Z,8.4nm,0.6s
YHH Holmes Hill 66.79 50 IAmb IAmb 03 29 44.0
comp=Z,7.2nm,1.2s
H17A Grant Village 67.19 50 IAmb IAmb 03 29 47.8
comp=Z,5.4nm,0.8s
H17A Grant Village 67.19 50 P 03 29 46.5
baz=311
RLMT Red Lodge 67.43 48 P 03 29 46.5
baz=311
TPAW Teton Pass 67.57 51 IAmb IAmb 03 29 49.2
comp=Z,4.3nm,0.8s
REDW Red Top Meadow 67.71 51 P P 03 29 47.5 +0.4
DGMT Dagmar 67.82 43 P 03 29 48.0
baz=313
CWC Cottonwood Cre 67.88 60 P 03 29 49.2
baz=310
GRAC Grapevine Rang 67.97 59 P 03 29 49.1
baz=310,SNR=6.0
LAO LASA Array 67.99 46 IAmb IAmb 03 29 50.9
comp=Z,12nm,1.1s
LAO LASA Array 68.00 46 P 03 29 49.7
baz=312
R11A Troy Canyon, C 68.19 57 P 03 29 51.3
baz=310
MPMC Manual Prospec 68.49 60 P 03 29 52.9
baz=310
FURC Furnace Creek, 68.62 60 P 03 29 53.4
baz=310,SNR=6.1
DUG Dugway, Tooele 68.65 54 P 03 29 54.0
baz=311
TPNV Topopah Spring 68.69 59 P 03 29 54.1
baz=310,SNR=6.4
PD31 Pinedale Array 68.81 51 P P 03 29 53.8 -0.2
PDAR Pinedale Array 68.81 51 P P 03 29 54.9 +0.8
comp=Z,2.0nm,0.6s,baz=242,slow=1.5,SNR=19
BW06 Boulder Array 68.82 51 P 03 29 54.5
baz=312
EDW2 Edwards Air Fo 68.93 62 P 03 29 55.7
baz=310
DOMB Dombas 68.96 341 *eP* **P 03 29 53.7 -0.6**
AS31 Alice Springs 69.03 194 P P 03 29 57.0 +1.9
ASAR Alice Springs 69.03 194 P P 03 29 56.9 +1.8
comp=Z,4.7nm,0.8s,baz=12,slow=6.0,SNR=44
ASAR Alice Springs 69.03 194 P P 03 29 56.6 +1.5
ASAR Alice Springs 69.03 194 P P 03 29 56.6 +1.5
NB2 NORSAR Subarra 69.30 339 P P 03 29 55.4 -1.0
baz=31,slow=6.5
NOA NORSAR Array B 69.30 339 P P 03 29 55.9 -0.5
comp=Z,2.1nm,0.5s,baz=31,slow=6.6,SNR=29
NOA LR LR 04 03 11.2
comp=Z,40nm,21.8s,baz=30,slow=38
SHOC Shoshone, Teco 69.35 60 P 03 29 58.2
baz=311
GSC Goldstone, Bar 69.40 61 P 03 29 58.6
baz=311
HFS Hagfors 69.41 338 P P 03 29 56.3 -0.8
comp=Z,2.5nm,0.4s,baz=53,slow=5.7,SNR=26
NC602 NORSAR Array S 69.47 339 *eP* **P 03 29 56.6 -0.9**
KIV Kislovodsk 69.97 312 ⇑**P P 03 30 00.2 -0.7**
KIV Kislovodsk 69.97 312 *eP* **P 03 30 00.9 0.0**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,214nm,17.0s
KIV Kislovodsk 69.97 312 P P 03 30 01.3 +0.3
KIV IAmb IAmb 03 30 03.1
comp=Z,6.5nm,0.7s
KIV Kislovodsk 69.97 312 *eP* **P 03 30 00.9 0.0**
KBZ Khabaz 70.01 312 P P 03 30 01.7 +0.7
comp=Z,4.3nm,0.8s,baz=76,slow=4.9,SNR=12
KBZ LR LR 04 05 29.6
comp=Z,119nm,18.0s,baz=27,slow=40
ZEI Tsey 70.11 311 *eP* **P 03 30 01.8 -0.1**
ZEI pmax pmax
comp=Z,3.0nm,0.5s
SKAR Skarslia 70.33 340 eP P 03 30 02.6 -0.1
MTPU Mount Pierson 70.43 56 IAmb IAmb 03 30 21.6
comp=Z,8.3nm,1.5s
ULM Lac du Bonnet 70.44 38 P P 03 30 03.7 +0.1
comp=Z,2.8nm,0.4s,baz=312,slow=7.8,SNR=5.7
GMRC Granite Mounta 70.45 60 P 03 30 05.1
baz=311
MDND Maddock 70.47 41 P 03 30 04.9
baz=315
K22A Casper 70.56 49 P 03 30 05.4
baz=313
SRU San Rafael Swe 70.69 54 IAmb IAmb 03 30 07.4
comp=Z,7.0nm,0.9s
KNB Kanab 70.72 57 P P 03 30 07.0 +1.2
KNB pmax pmax
comp=Z,6.0nm,1.0s
KNB Kanab 70.72 57 P P 03 30 07.0 +1.2
KNB IAmb IAmb 03 30 29.1
comp=Z,5.9nm,1.0s
BELC Belle Mtn. Jos 70.75 61 P 03 30 06.7
baz=311
RSSD Black Hills 70.87 47 P P 03 30 07.1 +0.5
RSSD pmax pmax
comp=Z,11nm,1.4s
RSSD Black Hills 70.87 47 P P 03 30 07.1 +0.5
RSSD IAmb IAmb 03 30 08.0
comp=Z,11nm,1.4s
RSSD Black Hills 70.87 47 P 03 30 07.0
baz=314
KONO Kongsberg 70.91 339 eP P 03 30 05.7 -0.5
IRM Iron Mountain 71.18 61 P 03 30 09.0
baz=312
O20A White River Ci 71.31 52 P 03 30 10.1
baz=313
BC3 Big Chuckawall 71.32 61 P 03 30 10.0
baz=312
GNI Garni 71.42 308 ⇑*i* **P P 03 30 10.3 +0.4**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI MLR MLR
comp=Z,22nm,14.0s
AKASG Malin Array Be 71.56 324 P P 03 30 09.2 -1.1
comp=Z,1.3nm,0.4s,baz=38,slow=6.0,SNR=9.1
AKASG LR LR 04 05 13.3
comp=Z,29nm,19.2s,baz=35,slow=39
AKASG Malin Array Be 71.56 324 *ce* **P P 03 30 09.6 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 71.56 324 ⇑*i* **P P 03 30 09.9 -0.4**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB MLR MLR
comp=Z,66nm,17.0s
AKBB Malin Array Si 71.56 324 P P 03 30 09.2 -1.1
AKBB IAmb IAmb 03 30 10.9
comp=Z,3.8nm,0.7s
IKP In-Ko-Pah, Jac 71.57 62 P 03 30 11.7
baz=312
SWSC Sam W. Stewart 71.57 62 P 03 30 11.2
baz=312
PDMCI Parker Dam,Lak 71.71 60 P 03 30 12.8
baz=312
AGMN Agassiz Nation 71.88 39 P P 03 30 12.3 0.0
AGMN IAmb IAmb 03 30 13.1
comp=Z,13nm,1.1s
AGMN Agassiz Nation 71.88 39 P 03 30 12.7
baz=318
N23A Red Feather La 72.07 50 P 03 30 15.0
baz=314
GLA Glamis 72.11 61 P 03 30 15.9
baz=312
WUAZ Wupatki 72.59 57 P 03 30 18.1
baz=313
ISCO Idaho Springs 73.01 51 P P 03 30 21.4 +1.8
ISCO pmax pmax
comp=Z,2.0nm,0.9s
ISCO Idaho Springs 73.01 51 P P 03 30 21.4 +1.8
ISCO Idaho Springs 73.01 51 P 03 30 20.8
baz=314
MVCO Mesa Verde 73.15 54 IAmb IAmb 03 30 22.2
comp=Z,3.2nm,0.7s
MVCO Mesa Verde 73.15 54 P 03 30 21.5
baz=314
S22A 4UR Ranch, Cre 73.75 53 P 03 30 24.8
baz=314
SORM Soroca 73.88 323 ⇑**P P 03 30 23.0 -1.1**
WSAR Wadi Sarin 73.94 287 P P 03 30 26.6 +1.8
comp=Z,4.0nm,0.7s,baz=90,slow=5.2,SNR=2.5
EYMN Ely 74.08 37 IAmb IAmb 03 30 26.2
comp=Z,8.2nm,1.1s
EYMN Ely 74.08 37 P 03 30 25.4
baz=320
OGNE Ogallala 74.15 48 P 03 30 26.4
baz=316
UOSS Minazif 74.45 290 P P 03 30 27.4 -0.5
ECSD EROS Data Cent 74.89 43 IAmb IAmb 03 30 31.3
comp=Z,7.7nm,0.9s
ECSD EROS Data Cent 74.89 43 P 03 30 30.1
baz=318,SNR=9.4
TUC Tucson 75.13 59 P 03 30 32.7
baz=314
KSCO Kaye Shedlock' 75.21 50 P 03 30 32.8
baz=316
SPMN Marine on St. 75.57 40 IAmb IAmb 03 30 35.0
comp=Z,10.0nm,1.1s
SPMN Marine on St. 75.57 40 P 03 30 34.1
baz=320
MARD Mardin 75.62 308 P P 03 30 34.8 +0.2
KOLS Kolonicke sedl 75.76 327 *eP* **P 03 30 35.0 0.0**
KOLS Kolonicke sedl 75.76 327 *eP* **P 03 30 35.0 0.0**
BIZ Bicaz 75.77 323 ⇑**P P 03 30 34.7 -0.4**
TESR Tescani 75.86 323 ⇓**P P 03 30 35.3 -0.3**
ANMO Albuquerque 75.91 55 P P 03 30 37.4 +1.1
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 75.91 55 P P 03 30 37.4 +1.1
ANMO Albuquerque 75.91 55 P 03 30 37.4
baz=315
D41A Chassel 76.02 36 P P 03 30 36.2 -0.3
STKA Stephens Creek 76.17 186 P P 03 30 39.8 +2.5
comp=Z,3.8nm,0.7s,baz=3.2,slow=6.1,SNR=8.3
Y22D IRIS PASSCAL I 76.24 56 P 03 30 39.4
baz=315
TPGR Topolog 76.36 321 ⇑**P P 03 30 38.1 -0.4**
OZUR 76.56 323 ⇑**P P 03 30 39.7 +0.1**
LANS Liptovska Anna 76.67 328 *eP* **P 03 30 41.0 +0.7**
LANS pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 76.67 328 eP P 03 30 40.9 +0.7
SCHQ Schefferville 76.70 20 P P 03 30 40.2 -0.1
comp=Z,3.7nm,0.6s,baz=2.0,slow=6.2,SNR=6.7
G40A Rib Lake 76.71 38 IAmb IAmb 03 30 41.2
comp=Z,9.3nm,0.9s
121A Cookes Peak, D 76.80 57 P 03 30 42.7
baz=315
DPC Dobruska-Polom 76.82 331 *eP* **P 03 30 41.1 +0.1**
DPC Dobruska-Polom 76.82 331 *eP* **P 03 30 41.1 +0.1**
MORC Moravsky Berou 76.86 330 ⇑**P P 03 30 41.2 -0.1**
MORC Moravsky Berou 76.86 330 *eP* **P 03 30 40.7 -0.6**
KRLC Kraliky 76.89 330 *eP* **P 03 30 41.3 -0.1**
KRLC Kraliky 76.89 330 *eP* **P 03 30 41.3 -0.1**
MIB Mutriibah 76.95 299 *eP* **P 03 30 40.2 -1.9**
MLR Muntele Rosu 76.97 322 P P 03 30 42.0 0.0
comp=Z,2.4nm,0.5s,baz=131,slow=13,SNR=5.6
CLL Collm 77.12 333 *i* **P P 03 30 41.9 -0.7**
comp=Z,12nm,1.2s
CLL Collm 77.12 333 *eP* **P 03 30 41.0 -1.6**
CLL pmax pmax
comp=Z,12nm,1.2s
BRG Berggiesshubel 77.19 332 Amp 03 30 44.0
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 77.19 332 eP P 03 30 42.5 -0.5
DRGR 77.31 325 ⇓**P P 03 30 42.7 -1.2**
QRN Al-Qurain 77.31 298 eP P 03 30 41.9 -2.2
RST Umm Al-Ruwaisa 77.37 299 eP P 03 30 43.5 -1.0
VOIR 77.40 323 ⇑**P P 03 30 43.4 -1.0**
RDF Al-Radifah 77.42 298 eP P 03 30 44.1 -0.6
N35A Tabor 77.51 44 P P 03 30 45.1 0.0
JAVC Velka Javorina 77.58 329 eP P 03 30 46.2 +0.9
VRAC Vranov 77.59 330 P P 03 30 45.8 +0.4
comp=Z,2.8nm,0.7s,baz=8.0,slow=3.3,SNR=4.1
VRAC Vranov 77.59 330 eP P 03 30 45.5 +0.1
BRTR Keskin Array B 77.71 314 P P 03 30 46.3 0.0
comp=Z,1.5nm,0.6s,baz=67,slow=3.2,SNR=4.2
BRTR LR LR 04 10 59.5
comp=Z,40nm,18.8s,baz=76,slow=40
BRTR Keskin Array B 77.71 314 *ce* **P P 03 30 46.5 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 77.71 314 P P 03 30 46.5 +0.2
EKA Eskdalemuir Ar 77.74 344 P P 03 30 45.6 -0.3
comp=Z,4.0nm,0.5s,baz=18,slow=5.3,SNR=22
PRU Pruhonice 77.74 332 eP P 03 30 45.0 -1.1
PRU Pruhonice 77.74 332 eP P 03 30 45.0 -1.1
KRUC Moravsky 77.87 330 eP P 03 30 46.6 -0.3
SCIA State Center 77.91 42 P P 03 30 47.4 +0.2
SCIA State Center 77.91 42 P 03 30 48.0
baz=320
SMOL Smolenice 77.95 329 eP P 03 30 47.6 +0.2
SMOL Smolenice 77.95 329 eP P 03 30 47.6 +0.2
MATQ Matagami 78.00 28 P 03 30 47.7
baz=328
ANTO Ankara 78.04 315 P P 03 30 47.6 -0.5
ANTO pmax pmax
comp=Z,12nm,1.0s
ANTO Ankara 78.04 315 P P 03 30 47.5 -0.5
ANTO IAmb IAmb 03 30 49.8
comp=Z,12nm,0.9s
MODS Modra-Piesok 78.13 329 eP P 03 30 48.3 0.0
MODS Modra-Piesok 78.13 329 eP P 03 30 48.3 0.0
SIRR Siria 78.16 325 ⇓**P P 03 30 48.2 -0.4**
GZR Gura Zlata 78.40 324 ⇑**P P 03 30 49.4 -0.6**
JFWS Jewell Farm 78.53 40 P 03 30 50.3
baz=322
KHC Kasperske Hory 78.80 332 eP P 03 30 52.0 0.0
KHC Kasperske Hory 78.80 332 eP P 03 30 52.0 0.0
CKRC Cesky Krumlov 78.81 331 eP P 03 30 51.8 -0.3
LSQQ Lebel-sur-Quev 78.82 28 P 03 30 52.1
baz=329
MNTX Cornudas Mount 78.83 57 P 03 30 53.1
baz=316
CHGQ Chibougamau 78.95 27 P 03 30 52.4
baz=330,SNR=8.6
GERES GERESS Array B 79.00 331 P P 03 30 52.7 -0.5
comp=Z,1.6nm,0.4s,baz=38,slow=6.2,SNR=18
GERES GERESS Array B 79.00 331 P P 03 30 51.7 -1.5
CONA Conrad Observa 79.02 330 *i* **P P 03 30 52.5 -0.9**
comp=Z,2.0nm,0.5s,SNR=4.0
GRF Grafenberg Arr 79.09 333 *eP* **P 03 30 52.9 -0.8**
comp=Z,9.9nm,1.1s,baz=27,slow=4.7
GRFO Grafenberg 79.10 333 P P 03 30 53.1 -0.5
GRFO pmax pmax
comp=Z,9.0nm,0.9s
GRFO Grafenberg 79.10 333 P P 03 30 53.1 -0.5
GRFO IAmb IAmb 03 30 54.5
comp=Z,8.7nm,0.9s
MDVR Moldovita 79.34 324 ⇑**P P 03 30 53.8 -1.3**
VLDQ Val d'Or 79.46 29 IAmb IAmb 03 30 55.5
comp=Z,12nm,1.1s
GLMI Grayling 79.46 35 P 03 30 55.9
baz=325
P38A Dawn 79.50 44 IAmb IAmb 03 30 57.2
comp=Z,7.5nm,0.8s
MOA Molln 79.65 331 *eP* **P 03 30 56.6 -0.2**

comp=Z,2.1nm,0.7s
T35A **Sooner Cattle** 80.03 47 IAmb IAmb 03 31 00.3
comp=Z,13nm,1.1s
BOVS **Bovan** 80.28 324 ⇑P **P** **03 30 58.8 -1.3**
P40A **Paris** 80.30 43 IAmb IAmb 03 31 01.7
comp=Z,7.8nm,0.8s
BGES **Gesves** 80.33 337 *bP* **P** **03 30 58.9 -1.4**
SOKA **Soboth** 80.38 329 *i* P **P** **03 31 00.6 -0.1**
comp=Z,3.3nm,0.7s,SNR=5.3
WMOK **Wichita Mounta** 80.43 50 P 03 31 01.5
baz=318
VTS **Vitosha** 80.44 322 ⇓P **P** **03 31 01.0 -0.2**
BMRD **Maredsous** 80.49 337 *d*P **P** **03 31 00.5 -0.6**
OBKA **Obir** 80.69 330 *e*P **P** **03 31 02.3 -0.1**
comp=Z,2.9nm,0.7s
HDIL **Hopedale** 80.82 41 P 03 31 03.5
baz=322
WATA **Walderalm** 81.03 332 *e*P **P** **03 31 04.2 -0.1**
comp=Z,2.5nm,0.4s
WTTA **Wattenberg** 81.07 332 *i* P **P** **03 31 04.5 0.0**
comp=Z,3.5nm,0.3s,SNR=6.2
S39A **Bolivar** 81.09 45 IAmb IAmb 03 31 05.2
comp=Z,5.4nm,0.9s
D55A **Sainte-Anne-du** 81.09 29 P 03 31 03.9
baz=330
R40A **Maddies Statio** 81.15 44 IAmb IAmb 03 31 05.9
comp=Z,7.9nm,0.9s
RETA **Reutte** 81.17 332 *e*P **P** **03 31 05.0 +0.1**
comp=Z,2.6nm,0.7s
TUL1 **Leonard** 81.17 48 P 03 31 05.3
baz=320
MOTA **Moosalm** 81.18 332 *e*P **P** **03 31 04.9 -0.1**
comp=Z,7.9nm,0.8s
BFO **Black Forest** 81.21 334 P **P** **03 31 03.9 -1.2**
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO **Black Forest** 81.21 334 P **P** **03 31 03.9 -1.2**
BFO IAmb IAmb 03 31 05.8
comp=Z,7.1nm,1.0s
D56A **ZEC Mazanza, M** 81.31 28 P 03 31 05.2
baz=330
E55A **Montcerf-Lytto** 81.38 29 P 03 31 05.7
baz=330
G54A **Lake Saint Pet** 81.55 31 P 03 31 06.1
baz=329
TX32 **Lajitas Array** 81.56 57 IAmb IAmb 03 31 09.1
comp=Z,4.0nm,0.6s
TXAR **Lajitas Array** 81.56 57 P **P** **03 31 08.2 +0.9**
comp=Z,3.4nm,0.5s,baz=300,slow=4.2,SNR=65
FETA **Feichten** 81.58 332 *e*P **P** **03 31 07.4 +0.1**
comp=Z,2.8nm,0.9s
DAVA **Damuels** 81.63 333 *e*P **P** **03 31 07.3 -0.2**
comp=Z,5.1nm,0.6s
E56A **St. Veronique** 81.65 29 P 03 31 06.7
baz=330
MMAI **Mount Meron Ar** 81.76 309 P **P** **03 31 08.8 +0.5**
comp=Z,8.7nm,0.5s,baz=45,slow=7.2,SNR=19
CCM **Cathedral Cave** 81.84 43 P **P** **03 31 08.2 -0.4**
CCM pmax pmax
comp=Z,10.0nm,0.9s
CCM **Cathedral Cave** 81.84 43 P **P** **03 31 08.2 -0.4**
CCM IAmb IAmb 03 31 09.8
comp=Z,9.6nm,0.8s
SFIN **Lafayette** 81.97 39 P 03 31 09.2
baz=324
MGMO **Mountain Grove** 82.03 45 IAmb IAmb 03 31 11.0
comp=Z,7.0nm,1.2s
H53A **Bobcaygeon** 82.06 32 P 03 31 09.1
baz=328
DAVOX **Davos/Dischmat** 82.08 333 P **P** **03 31 09.8 -0.1**
comp=Z,3.5nm,0.7s,baz=357,slow=7.4,SNR=8.6
TRQ **Mont Tremblant** 82.09 29 P **P** **03 31 09.7 -0.1**
PLVO **Plevna** 82.22 31 IAmb IAmb 03 31 10.8
comp=Z,7.0nm,1.0s
PDG **Podgorica** 82.29 325 ⇑P **P** **03 31 09.9 -0.9**
U40A **Yellville** 82.35 46 IAmb IAmb 03 31 12.3
comp=Z,7.2nm,0.7s
U40A **Yellville** 82.36 46 P 03 31 11.1
baz=321,SNR=7.3
E58A **La Victoria** 82.40 28 P 03 31 10.9
baz=332
RAYN **Ar Rayn** 82.51 296 P **P** **03 31 11.8 -0.6**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
RAYN **Ar Rayn** 82.51 296 P **P** **03 31 11.8 -0.6**
RAYN IAmb IAmb 03 31 13.0
comp=Z,5.0nm,0.8s
D60A **Saint Jean D'O** 82.68 26 P 03 31 12.6
baz=333
PMOR **Pomariorio Ree** 82.71 119 *e*T T 05 02 09.2
comp=Z,29nm,0.2s
W39A **Magazine** 82.77 47 P 03 31 13.7
baz=321
G57A **Newington** 82.92 29 P 03 31 13.6
baz=330
E60A **Ste Agathe de** 83.00 27 P 03 31 13.7
baz=333
JCT **Junction City** 83.00 54 P 03 31 14.8
baz=318
F59A **Saint Guilaume** 83.02 28 P 03 31 13.9
baz=332
FCAR **Ozark Folk Cen** 83.09 45 IAmb IAmb 03 31 30.9
comp=Z,12nm,1.3s
D62A **Allapoint, All** 83.10 25 P 03 31 14.4
baz=334
F60A **Warwick** 83.19 27 P 03 31 14.8
baz=332
G58A **Ormstown** 83.20 29 P 03 31 15.3
baz=331
WHTX **Lake Whitney,** 83.21 51 P 03 31 16.9
baz=319
TAOE **Nuku Hiva Isla** 83.21 109 *e*LR LR 03 57 09.3
comp=Z,69nm,26.2s
E61A **Lac Etchemin** 83.24 26 P 03 31 15.5
baz=333
PBMO **Poplar Bluff** 83.25 44 P **P** **03 31 15.7 -0.1**
PBMO IAmb IAmb 03 31 16.8
comp=Z,6.3nm,0.9s
H57A **Richville** 83.33 30 P 03 31 16.2
baz=330
E62A **Clayton Lake** 83.37 25 P 03 31 15.7
baz=334
MIAR **Mount Ida** 83.38 47 IAmb IAmb 03 31 18.1
comp=Z,6.1nm,0.8s
MIAR **Mount Ida** 83.38 47 P 03 31 17.3
baz=321
D63A **Stockholm** 83.42 24 P 03 31 17.1
baz=335
WHAR **Wooly Hollow** 83.47 46 IAmb IAmb 03 31 18.2
comp=Z,7.4nm,0.8s
F61A **St Evariste** 83.49 26 P 03 31 16.4
baz=333
W41B **Gary Mavity, V** 83.58 46 P 03 31 17.9
baz=321
PPT2 **Papeete2** 83.64 122 *e*LR LR 03 57 36.8
comp=Z,125nm,28.2s
PPT2 **Papeete2** 83.64 122 *e*T T 05 03 20.4
comp=Z,5.1nm,0.3s
P49A **Miami Univ. Ec** 83.73 38 P 03 31 18.4
baz=325
TIAR **Tiarei** 83.76 122 *e*T T 05 03 28.0
comp=Z,1.7nm,0.3s
H58A **Gabriels** 83.80 29 P 03 31 18.0
baz=331
X40A **Basin Creek Fa** 83.81 47 P 03 31 19.3
baz=321
M53A **WI Miller and** 83.88 35 P 03 31 19.0
baz=327
E63A **Oxbow** 83.89 25 P 03 31 18.4
baz=335
G61A **St-Isidore-de-** 83.93 27 P 03 31 19.3
baz=333
E64A **Bridgewater** 84.06 24 P 03 31 19.6
baz=335
WCI **Wyandotte Cave** 84.08 40 P 03 31 20.3
baz=324
K56A **Middlesex** 84.14 32 P 03 31 19.9
baz=329
M54A **Oil Creek Stat** 84.24 34 P 03 31 20.5
baz=328
G62A **West of Eustis** 84.31 26 P 03 31 21.2
baz=333
F63A **Nahmakanta, Br** 84.33 25 P 03 31 21.2
baz=334
J58A **Remsen** 84.33 30 P 03 31 21.0
baz=330
F64A **Sherman** 84.41 25 P 03 31 21.5
baz=335
I59A **Olmsteadville** 84.45 29 P 03 31 21.6
baz=331
H61A **Lyndonville** 84.47 28 P 03 31 22.5
baz=332
EIL **Elat** 84.51 307 P **P** **03 31 22.9 +0.5**
comp=Z,13nm,0.8s,baz=74,slow=2.8,SNR=24
N54A **Moraine State** 84.56 35 IAmb IAmb 03 31 23.8
comp=Z,9.4nm,0.9s
N54A **Moraine State** 84.56 35 P 03 31 22.8
baz=328
I60A **Shoreham** 84.61 29 P 03 31 23.0
baz=332
M55A **Ridgway** 84.63 34 IAmb IAmb 03 31 24.2
comp=Z,11nm,1.1s
O53A **New Philadelph** 84.66 36 P 03 31 22.9
baz=327
PKME **Peaks-Kenny Pk** 84.66 26 P 03 31 23.6
baz=334
H62A **Milan** 84.68 27 P 03 31 23.4
baz=333,SNR=5.6
LBNH **Lisbon** 84.73 28 P 03 31 22.9
baz=332
MEH **Mehetia** 84.78 121 *e*T T 05 04 45.2
comp=Z,16nm,0.2s
P52A **Corning** 84.78 37 P 03 31 24.0
baz=326
G64A **Maxfield** 84.84 25 P 03 31 23.5
baz=334
I61A **Oroboro, Fairl** 84.90 28 P 03 31 24.2
baz=332
WVT **Waverly** 85.03 42 P **P** **03 31 24.8 -0.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT **Waverly** 85.03 42 P **P** **03 31 24.8 -0.2**
WVT IAmb IAmb 03 31 26.4
comp=Z,5.1nm,0.8s
WVT **Waverly** 85.03 42 P 03 31 25.4
baz=324
O54A **Avella** 85.06 35 IAmb IAmb 03 31 26.4
comp=Z,6.4nm,0.7s
J60A **Lant Hill Farm** 85.09 29 P 03 31 25.1
baz=332
H64A **Troy** 85.24 26 P 03 31 25.9
baz=334
L58A **Harry Jones Me** 85.26 31 P 03 31 26.1
baz=330
J61A **Chester** 85.30 29 P 03 31 26.4
baz=332
I63A **Otisfield** 85.34 27 P 03 31 26.8
baz=333
H65A **Eastbrook** 85.50 25 P 03 31 27.2
baz=335
IDI **Anoyia** 85.54 317 P **P** **03 31 26.1 -1.5**
comp=Z,7.4nm,0.4s,baz=56,slow=11,SNR=15
OXF **Oxford** 85.54 44 P 03 31 27.8
baz=323
K61A **Williamstown** 85.65 29 P 03 31 28.2
baz=332
J62A **Henniker** 85.66 28 P 03 31 28.1
baz=333
SSPA **Standing Stone** 85.69 33 P 03 31 28.2
baz=329
MCWV **Mont Chateau** 85.72 35 P 03 31 28.8
baz=328
O56A **Blue Knob Stat** 85.73 34 P 03 31 28.7
baz=329,SNR=5.7
I64A **Boothbay** 85.76 26 P 03 31 28.6
baz=334
CLTN **Cedars of Leba** 85.78 42 P **P** **03 31 28.5 -0.2**
CLTN IAmb IAmb 03 31 30.2
comp=Z,6.4nm,0.8s
S51A **Beattyville** 85.79 39 IAmb IAmb 03 31 30.2
comp=Z,4.6nm,0.8s
Q54A **Cox Mills** 85.87 36 IAmb IAmb 03 31 30.6
comp=Z,7.6nm,0.8s
N58A **Sunbury** 85.97 33 IAmb IAmb 03 31 30.7
comp=Z,7.5nm,0.8s
K62A **Royalston** 86.01 29 P 03 31 29.6
baz=332
L61B **Northampton** 86.05 29 P 03 31 30.1
baz=332
N59A **State Game Lan** 86.26 32 P 03 31 31.2
baz=330
TZTN **Tazewell** 86.71 39 P 03 31 33.7
baz=326
W50A **Signal Mountai** 86.99 41 IAmb IAmb 03 31 35.9
comp=Z,4.1nm,0.8s
ZAIG **Zacatecas** 87.01 61 P **P** **03 31 36.1 +0.9**
CPCT **Cooper Cave** 87.16 41 IAmb IAmb 03 31 36.8
comp=Z,8.0nm,1.0s
V52A **Sevierville** 87.26 40 IAmb IAmb 03 31 37.5
comp=Z,5.9nm,0.9s
P60A **Grenville** 87.27 32 P 03 31 36.0
baz=330
TKL **Tuckaleechee C** 87.33 40 IAmb IAmb 03 31 37.7
comp=Z,6.5nm,0.8s
BLA **Blacksburg** 87.54 37 P 03 31 37.9
baz=328
BG3 **Lake Jocassee** 88.27 40 P **P** **03 31 40.8 0.0**
KMSC **Kings Mountain** 88.87 39 P 03 31 43.8
baz=327
GOGA **Godfrey** 89.33 41 P 03 31 46.2
baz=326
KEST **Kesra** 91.99 328 P **P** **03 31 57.6 -0.6**
comp=Z,1.7nm,0.5s,baz=352,slow=7.1,SNR=2.5
KEST LR LR 04 17 12.5
comp=Z,56nm,20.6s,baz=297,slow=38
ESDC **Sonseca Array** 92.66 339 P **P** **03 31 59.9 -1.3**
comp=Z,0.9nm,0.6s,baz=15,slow=4.5,SNR=7.5
ESDC LR LR 04 17 57.3
comp=Z,29nm,21.6s,baz=20,slow=38
TORD **Torodi Ar. Bea** 115.19 324 PKP **PKiKP** **03 37 30.2 -0.6**
comp=Z,0.7nm,0.4s,baz=24,slow=1.7,SNR=9.2
VNDA **Vanda** 121.95 177 PKP **PKiKP** **03 37 42.9 +0.9**
comp=Z,0.9nm,0.8s,baz=345,slow=3.5,SNR=5.5
LPAZ **La Paz** 138.39 59 PKP **PKPdf** **03 38 15.7 +0.1**
comp=Z,1.0nm,0.7s,baz=45,slow=3.3,SNR=5.8
H03N2 **Juan Fernandez** 142.09 90 T T 06 16 51.3
baz=305,slow=77,SNR=88
H03N3 **Juan Fernandez** 142.10 90 T T 06 16 49.2
baz=305,slow=77,SNR=89
H03N1 **Juan Fernandez** 142.10 90 T T 06 16 56.7
baz=305,slow=77,SNR=78
BDFB **Brasilia** 148.14 31 PKPbc **PKPbc** **03 38 35.5 +0.2**
comp=Z,5.5nm,1.0s,baz=292,slow=5.5,SNR=4.9
SNAA **Sanae** 149.35 197 PKPbc **PKPbc** **03 38 37.2 +0.5**
VNA3 **Neumayer Olymp** 151.03 194 PKPbc **PKiKP** **03 38 41.5 +0.2**
VNA1 **Neumayer--Stat** 151.26 196 PKPbc **PKiKP** **03 38 42.3 +0.6**
PLCA **Paso Flores** 151.29 96 PKPbc **PKiKP** **03 38 43.0 +0.1**
comp=Z,4.1nm,0.7s,baz=298,slow=4.3,SNR=8.6
PLCA **Paso Flores** 151.29 96 PKiKP **PKiKP** **03 38 43.0 +0.1**
CPUP **Mila Florida** 152.53 57 PKPbc **PKPbc** **03 38 45.5 0.0**
comp=Z,3.1nm,1.0s,baz=246,slow=4.3,SNR=4.0

ROM 19 03:28:46.1±0.0, 42°.971N±0°.002×13°.016E±0°.005, h12km, ML1.1/4, 1C-2D, Error ellipse: s-maj=0.4km s-min=0.1km az=270.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.09**	**292**	P	Pg	03 28 49.2	+0.3
CESI				S	Sg	03 28 51.3	+0.4
CESI				AML	AML		
	comp=E,105μm,0.2s						
CESI				AML	AML		
	comp=N,184μm,0.2s						
CESI				AML	AML		
	comp=E,106μm,0.2s						
NRCA	**Norcia**	**0.15**	**152**	⇑P	Pg	03 28 50.3	+0.5
NRCA				S	Sg	03 28 53.2	+0.8
NRCA				AML	AML		
	comp=N,181μm,0.1s						
NRCA				AML	AML		
	comp=E,234μm,0.7s						
NRCA				AML	AML		
	comp=N,180μm,0.1s						
SNTG	**Esanatoglia**	**0.29**	**349**	P	Pg	03 28 52.5	+0.4
SNTG				AML	AML		
	comp=E,30μm,0.1s						
SNTG				AML	AML		
	comp=N,32μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.35**	**308**	⇓P	Pg	03 28 53.5	+0.3
ATCC				S	Sb	03 28 58.9	-1.0
EL6	**Elcito**	**0.36**	**10**	P	Pg	03 28 53.9	+0.4
MOMA	**Monte Martano**	**0.37**	**243**	⇓P	Pg	03 28 53.7	+0.2
MOMA				S	Sb	03 28 59.7	-0.8
MOMA				AML	AML		
	comp=N,42μm,0.2s						
MOMA				AML	AML		
	comp=E,52μm,0.2s						
MOMA				AML	AML		
	comp=E,52μm,0.2s						
LNSS	**Leonessa**	**0.37**	**177**	P	Pg	03 28 53.8	+0.2
ARVD	**Arcevia**	**0.53**	**354**	P	Pg	03 28 56.6	+0.1

IDC 19 03:34:56.0±3.6, 12°.76N×45°.92E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/55, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=102.3km s-min=28.7km az=160.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**15.95**	**47**	Pn	Pn	03 38 40.3	-1.5
	0.3nm,0.3s,baz=225,slow=14,SNR=1.3						
WSAR				Sn	Sn	03 41 40.9	+1.4
	0.1nm,0.3s,baz=19,slow=18,SNR=1.7						
TORD	**Torodi Ar. Bea**	**43.06**	**276**	P	P	03 42 57.5	-0.5
	0.4nm,0.8s,baz=87,slow=9.1,SNR=1.6						
GERES	**GERESS Array B**	**44.76**	**330**	P	P	03 43 11.5	+0.2
	0.3nm,0.5s,baz=146,slow=9.5,SNR=2.0						
MKAR	**Makanchi Array**	**45.63**	**35**	P	P	03 43 17.7	-0.6
	1.5nm,0.8s,baz=223,slow=7.7,SNR=11						
SONM	**Songino Array**	**60.91**	**42**	P	P	03 45 11.7	+0.9
	0.6nm,0.5s,baz=241,slow=8.1,SNR=2.4						

IDC 19 03:41:16.5±1.3, 26°.70N×141°.20E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/37, mbtmp3.8/4, ML2.7/1, Error ellipse: s-maj=27.2km s-min=20.2km az=146.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.97**	**66**	Pn	Pn	03 41 37.4	0.0
	17nm,0.3s,baz=204,slow=18,SNR=13						
JCJ				Sn	Sn	03 41 52.7	+0.9
	114nm,0.3s,baz=268,slow=23,SNR=9.1						
MJAR	**Matsushiro Arr**	**10.14**	**346**	Pn	Pn	03 43 44.2	+0.9
	0.1nm,0.3s,baz=159,slow=11,SNR=4.2						
KLR	**Kul'dur**	**23.66**	**344**	P	P	03 46 29.3	-0.1
	0.8nm,0.4s,baz=184,slow=5.8,SNR=2.4						
WRA	**Warramunga Arr**	**46.84**	**189**	P	P	03 49 48.3	0.0
	0.7nm,0.4s,baz=9.6,slow=8.3,SNR=10						
FINES	**FINESS Array B**	**77.91**	**334**	P	P	03 53 15.6	-0.3
	2.0nm,0.9s,baz=39,slow=9.1,SNR=1.6						

*IDC **19** 04:31:14.2±0.9, 4°.97S×102°.91E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.1/38, mbtmp4.2/15, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=39.1km s-min=14.1km az=52.0*
*DJA **19** 04:31:21.8±0.3, 5°.5S×10°.3E±°, h53km±4km, M4.4/12, mb4.7/4, MLv4.3/12*
*NEIC **19** 04:31:22.1±2.0, 4°.95S±0°.08×102°.82E±0°.07, h55km±5km, mb4.4/18, Error ellipse: s-maj=13.4km s-min=7.9km az=217.0*

ISC 19 04:31:21.8±0.5, 5°.00S±0°.05×102°.94E±0°.05, h59km, n62, σ1°12/59, mb4.3/23, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.64**	**1**		**Pn**	**04 31 35.5**	**+0.1**
MNAI	**Manna**	**0.64**	**1**	P	**Pn**	**04 31 35.4**	**+0.1**
MNAI				S	**Sn**	**04 31 46.2**	**+1.1**
EGSI	**Enggano, Bengk**	**0.75**	**242**	P	**Pn**	**04 31 36.2**	**-0.4**
EGSI				S	**Sn**	**04 31 48.9**	**+1.5**
LWLI	**Liwa**	**1.11**	**91**	P	**Pn**	**04 31 40.4**	**-1.0**
LHSI	**Lahat**	**1.30**	**26**	P	**Pn**	**04 31 44.9**	**+1.0**
MDSI	**Maura Dua**	**1.34**	**67**	P	**Pn**	**04 31 44.0**	**-0.3**
KSI	**Kapahiang**	**1.39**	**345**	P	**Pn**	**04 31 45.7**	**+0.7**
UBSI	**University, Be**	**1.40**	**332**	P	**Pn**	**04 31 46.2**	**+1.0**
KASI	**Kota Agung**	**1.63**	**109**	P	**Pn**	**04 31 47.9**	**-0.4**
BLSI	**Bandar Lampung**	**2.32**	**99**	P	Pn	04 32 08.8	+11
PMBI	**Palembang**	**2.75**	**42**	Pn	**Pn**	**04 32 03.9**	**+0.3**
CGJI	**Cibinong**	**3.17**	**120**	P	**Pn**	**04 32 08.2**	**-1.1**
KRJI	**Kerinci**	**3.25**	**333**	P	**Pn**	**04 32 13.6**	**+3.2**
PPBI	**Pangkal Pinang**	**4.26**	**49**	P	**Pn**	**04 32 23.0**	**-1.2**
PDSI	**Padang**	**4.76**	**329**	P	**Pn**	**04 32 32.4**	**+1.3**
DSRI	**Dabo**	**4.78**	**20**	P	**Pn**	**04 32 33.2**	**+1.8**
LEM	**Lembang**	**4.99**	**112**	Pn	**Pn**	**04 32 36.9**	**+2.5**
	baz=330,slow=20,SNR=1.6						
LEM				Sn	**Sn**	**04 33 33.5**	**+2.6**
	3.6nm,0.3s,baz=42,slow=18,SNR=1.2						
SISI	**Saibi**	**5.30**	**313**	P	**Pn**	**04 32 39.3**	**+0.8**
	0.3nm44nm,0.7s						
CISI	**Cisompet, Garu**	**5.47**	**118**	Pn	**Pn**	**04 32 42.4**	**+1.6**
BKNI	**Bangkinang**	**5.62**	**340**	Pn	**Pn**	**04 32 41.0**	**-1.9**
BJII	**Banjamegara**	**7.12**	**109**	P	Pn	04 33 18.7	+15
GSI	**Gunungsitoli**	**8.24**	**319**	Pn	**Pn**	**04 33 17.0**	**-1.8**
BKSI	**Bulukumba**	**17.11**	**92**	P	**Pn**	**04 35 15.9**	**-1.3**
	13nm,1.0s						
TOLI2	**Tolitoli**	**18.83**	**72**	P	**P**	**04 35 37.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**23.64**	**351**	P	**P**	**04 36 27.3**	**-0.6**
	2.6nm,0.4s,baz=180,slow=8.7,SNR=9.1						
CMAR				LR	LR	04 45 44.1	
	comp=Z,52nm,18.2s,baz=170,slow=37						
FITZ	**Fitzroy Crossi**	**25.72**	**122**	P	**P**	**04 36 46.7**	**-0.2**
	5.2nm,1.0s,baz=298,slow=8.9,SNR=3.1						
FITZ	**Fitzroy Crossi**	**25.72**	**122**	IAmb	IAmb	04 36 48.0	
	comp=Z,7.7nm,1.1s						
H08S2	**Diego Garcia H**	**30.37**	**263**	T	T	05 08 28.7	
	baz=87,slow=75,SNR=4.1						
H08S3	**Diego Garcia H**	**30.38**	**263**	T	T	05 08 41.6	
	baz=87,slow=75,SNR=5.5						
H08S1	**Diego Garcia H**	**30.39**	**263**	T	T	05 08 47.0	
	baz=87,slow=75,SNR=3.9						
WB0	**Warramunga Arr**	**33.95**	**118**	P	**P**	**04 37 59.6**	**-0.3**
WB0				IAmb	IAmb	04 38 00.3	
	comp=Z,3.7nm,0.7s						
WRA	**Warramunga Arr**	**33.97**	**119**	P	**P**	**04 37 59.6**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=304,slow=8.9,SNR=23						
WRA				PcP	**PcP**	**04 40 37.5**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=298,slow=2.0,SNR=2.3						
WB2	**Warramunga Arr**	**33.98**	**119**	P	**P**	**04 38 00.1**	**0.0**
WB2				IAmb	IAmb	04 38 00.9	
	comp=Z,4.8nm,0.8s						
WR0	**Warramunga Arr**	**34.15**	**119**	P	**P**	**04 38 01.6**	**0.0**
WR0				IAmb	IAmb	04 38 05.6	
	comp=Z,5.9nm,0.9s						
ASAR	**Alice Springs**	**35.13**	**125**	P	**P**	**04 38 10.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=305,slow=8.2,SNR=15						
ASAR				PcP	**PcP**	**04 40 41.5**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=262,slow=2.4,SNR=4.6						
AS31	**Alice Springs**	**35.13**	**125**	P	**P**	**04 38 08.9**	**-1.1**
STKA	**Stephens Creek**	**44.97**	**131**	P	**P**	**04 39 32.0**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=306,slow=9.4,SNR=9.0						
NIL	**Nilore**	**47.61**	**326**	P	**P**	**04 39 51.3**	**-0.8**
KSRS	**Korea Array**	**48.23**	**27**	P	**P**	**04 39 56.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=228,slow=7.9,SNR=2.5						
KDJ	**Kajisay**	**52.45**	**336**	P	**P**	**04 40 28.9**	**+0.1**
SONM	**Songino Array**	**52.70**	**3**	P	**P**	**04 40 30.9**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=184,slow=8.8,SNR=12						
SONM				PcP	**PcP**	**04 41 39.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=198,slow=4.2,SNR=2.2						
SONM	**Songino Array**	**52.70**	**3**	IAmb	IAmb	04 40 32.4	
	comp=Z,2.3nm,0.8s						
ULN	**Ulaanbaatar**	**52.77**	**3**	P	**P**	**04 40 31.5**	**+0.5**
ULN				IAmb	IAmb	04 40 33.2	
	comp=Z,3.1nm,1.0s						
MAJO	**Matsushiro**	**52.87**	**36**	P	**P**	**04 40 32.1**	**+0.3**
MAJO				IAmb	IAmb	04 40 48.7	
	comp=Z,10nm,1.2s						
CHGR	**Chuyangaron**	**53.53**	**327**	P	**P**	**04 40 34.1**	**-2.6**
ARSB	**Arslanbob**	**53.62**	**332**	P	**P**	**04 40 35.9**	**-1.5**
ARSB				IAmb	IAmb	04 40 38.7	
	comp=Z,5.2nm,0.8s						
MK31	**Makanchi Array**	**54.72**	**343**	P	**P**	**04 40 45.1**	**-0.1**
MK31				IAmb	IAmb	04 40 45.6	
	comp=Z,2.1nm,0.6s						
MKAR	**Makanchi Array**	**54.72**	**343**	P	**P**	**04 40 45.1**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=144,slow=8.2,SNR=36						
MKAR	**Makanchi Array**	**54.72**	**343**	P	**P**	**04 40 44.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**55.51**	**25**	P	**P**	**04 40 50.2**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=249,slow=5.3,SNR=5.5						
USRK	**Ussuriysk Ar.**	**55.51**	**25**	P	**P**	**04 40 49.1**	**-1.7**
ZALV	**Zalesovo Beam**	**60.67**	**348**	P	**P**	**04 41 26.5**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=160,slow=5.4,SNR=7.9						
ABKAR	**Akbulak array**	**65.67**	**331**	P	**P**	**04 41 59.6**	**-0.4**
KBZ	**Khabaz**	**72.48**	**319**	P	**P**	**04 42 43.2**	**+0.9**

comp=Z,1.2nm,0.6s,baz=151,slow=5.8,SNR=4.8
NRIK **Noril'sk** **74.94 354** P **P** **04 42 55.6 -0.5**
NRIK IAmb IAmb 04 42 56.0
comp=Z,4.4nm,1.1s
BOSA **Boshof** **76.81 242** LR LR 05 14 48.5
comp=Z,20nm,18.4s,baz=187,slow=34
BRTR **Keskin Array B** **77.50 312** P **P** **04 43 11.9 +0.3**
comp=Z,1.1nm,0.6s,baz=137,slow=9.1,SNR=3.8
AKASG **Malin Array Be** **83.64 322** P **P** **04 43 44.1 +0.1**
comp=Z,0.2nm,0.3s,baz=92,slow=4.1,SNR=2.1
FINES **FINESS Array B** **88.12 332** P **P** **04 44 06.0 +0.2**
comp=Z,1.7nm,0.8s,baz=146,slow=3.7,SNR=6.9
ARCES **ARCESS Array B** **90.28 340** P **P** **04 44 15.8 0.0**
comp=Z,0.4nm,0.4s,baz=93,slow=5.5,SNR=9.6
ARCES **ARCESS Array B** **90.28 340** IAmb IAmb 04 44 18.0
comp=Z,9.9nm,1.5s
TXAR **Lajitas Array** **145.08 43** PKPbc **PKPdf** **04 50 53.5 +0.1**
comp=Z,1.6nm,0.7s,baz=261,slow=1.5,SNR=26

*IDC **19** 05:08:26.6±0.7, 23°.10N×143°.48E, h54km±5km, mb3.6/10, mb1 3.9/11, mb1mx3.6/38, mbtmp3.9/11, MS3.0/9, Ms1 3.0/9, ms1mx2.8/35, Error ellipse: s-maj=23.7km s-min=12.1km az=79.0*
*NEIC **19** 05:08:27.4±1.6, 23°.07N±0°.09×143°.4E±0°.2, h52km±5km, mb4.2/8, Error ellipse: s-maj=22.5km s-min=13.3km az=95.0*
ISC 19 05:08:26.3±0.7, **23°.08N**±0°.09×**143°.5E**±0°.2, **h48**km, **n32**, σ1§**10**/30, **mb4.0**/14, **MS3.0**/7, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.17**	**344**	P		**Pn**	**05 09 27.0**	**-0.5**
	2.4nm,0.3s,baz=231,slow=14,SNR=1.6							
JCJ				S		**Sn**	**05 10 14.3**	**-0.6**
	11nm,0.3s,baz=286,slow=22,SNR=1.6							
JHJ	**Hachijo jima 2**	**10.52**	**343**	LR		LR	05 14 57.6	
	comp=Z,46nm,20.4s,baz=39,slow=37							
KSRS	**Korea Array**	**19.61**	**320**	LR		LR	05 19 06.5	
	comp=Z,40nm,19.1s,baz=157,slow=33							
USRK	**Ussuriysk Ar.**	**23.09**	**339**	P		**P**	**05 13 27.4**	**-0.5**
	5.6nm,0.9s,baz=166,slow=9.6,SNR=12							
USRK				LR		LR	05 21 21.0	
	comp=Z,50nm,19.3s,baz=162,slow=34							
USRK	**Ussuriysk Ar.**	**23.09**	**339**	P		**P**	**05 13 27.5**	**-0.3**
KLR	**Kul'dur**	**27.70**	**343**	P		**P**	**05 14 09.8**	**-0.1**
	0.6nm,0.4s,baz=157,slow=7.8,SNR=2.5							
KLR				LR		LR	05 24 08.3	
	comp=Z,49nm,19.3s,baz=118,slow=34							
PETK	**Petropavlovsk-**	**31.88**	**16**	LR		LR	05 26 11.7	
	comp=Z,32nm,20.8s,baz=165,slow=33							
MA2	**Magadan**	**36.83**	**6**	LR		LR	05 28 20.7	
	comp=Z,17nm,21.8s,baz=146,slow=32							
CMAR	**Chiang Mai Arr**	**41.78**	**272**	LR		LR	05 32 45.5	
	comp=Z,8.8nm,21.0s,baz=140,slow=35							
WR0	**Warramunga Arr**	**43.66**	**192**	P		**P**	**05 16 24.6**	**-1.8**
WR0				IAmb		IAmb	05 16 41.5	
	comp=Z,9.7nm,1.4s							
WRA	**Warramunga Arr**	**43.68**	**193**	P		**P**	**05 16 25.4**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=14,slow=8.5,SNR=8.9							
WRA				pP		**pP**	**05 16 40.1**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=17,slow=8.9,SNR=4.7							
WRA	**Warramunga Arr**	**43.68**	**193**	P		**P**	**05 16 25.6**	**-1.0**
AS31	**Alice Springs**	**47.38**	**192**	P		**P**	**05 16 54.9**	**-1.0**
ASAR	**Alice Springs**	**47.39**	**192**	P		**P**	**05 16 55.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=18,slow=9.7,SNR=2.0							
MK31	**Makanchi Array**	**53.98**	**312**	P		**P**	**05 17 45.2**	**-0.2**
MK31				IAmb		IAmb	05 17 47.1	
	comp=Z,2.7nm,1.2s							
MKAR	**Makanchi Array**	**53.98**	**312**	P		**P**	**05 17 46.0**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=89,slow=9.6,SNR=9.7							
MKAR				pP		**pP**	**05 17 59.6**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=92,slow=9.7,SNR=5.8							
MAKZ	**Makanchi**	**54.20**	**312**	P		**P**	**05 17 46.9**	**-0.1**
NRIK	**Noril'sk**	**56.81**	**339**	P		**P**	**05 18 05.7**	**+0.4**
NRIK				IAmb		IAmb	05 18 06.2	
	comp=Z,2.7nm,0.8s							
ILAR	**Eielson Array**	**60.69**	**27**	P		**P**	**05 18 31.2**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=259,slow=5.9,SNR=13							
ILAR				pP		**pP**	**05 18 46.6**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=257,slow=5.7,SNR=4.5							
SCRK	**Sand Creek**	**61.85**	**29**	P		**P**	**05 18 39.8**	**-0.6**
BMAR	**Burnt Mountain**	**61.98**	**25**	P		**P**	**05 18 42.9**	**+1.8**
KKAR	**Karatay Array**	**62.43**	**308**	P		**P**	**05 18 45.2**	**+0.7**
ABKAR	**Akbulak array**	**68.76**	**316**	P		**P**	**05 19 25.1**	**-0.1**
ABKAR				IAmb		IAmb	05 19 25.2	
	comp=Z,1.3nm,0.7s							
ABKAR	**Akbulak array**	**68.76**	**316**	P		**P**	**05 19 25.0**	**-0.2**
ARCES	**ARCESS Array B**	**77.71**	**341**	LR		LR	05 57 30.5	
	comp=Z,12nm,18.2s,baz=305,slow=38							
KBZ	**Khabaz**	**81.61**	**314**	P		**P**	**05 20 39.5**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=128,slow=2.2,SNR=9.9							
FINES	**FINESS Array B**	**82.06**	**334**	P		**P**	**05 20 39.8**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=64,slow=4.4,SNR=7.5							
NVAR	**Mina Array Bea**	**82.07**	**52**	P		**P**	**05 20 42.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=253,slow=5.6,SNR=6.2							
PDAR	**Pinedale Array**	**86.22**	**45**	P		**P**	**05 21 02.4**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=309,slow=5.7,SNR=3.7							
NOA	**NORSAR Array B**	**87.77**	**339**	LR		LR	06 03 55.2	
	comp=Z,7.1nm,19.0s,baz=325,slow=38							
PLCA	**Paso Flores**	**146.44**	**130**	PKPbc		**PKPbc**	**05 28 02.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=197,slow=6.1,SNR=5.0							
PLCA				pPKPbc		pPKPab	05 28 17.5	+1.4
	comp=Z,2.4nm,0.7s,baz=238,slow=4.5,SNR=3.5							
PTGA	**Pitinga**	**148.18**	**49**	PKPbc		**PKPbc**	**05 28 06.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=334,slow=5.5,SNR=5.6							
PTGA				pPKPbc		**sPKPdf**	**05 28 22.6**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=304,slow=11,SNR=4.2							

*INET **19** 05:35:44.6, 8°.80N×83°.40W, h20km, MW3.3*
*UPA **19** 05:35:47.4±1.9, 8°.78N×83°.29W, h0km±5km, MD3.0, MW4.1*
*UCR **19** 05:35:48.2±2.1, 8°.77N×83°.35W, h7km±6km, MW3.9*
ISC 19 05:35:48.4±0.8, **8°.78N**±0°.03×**83°.33W**±0°.02, **h17**km±6km, **n47**, σ1§**37**/70, **3C-7D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIOS	**Rincon, Osa**	**0.20**	**245**	⇑*i*	P	**Pg**	**05 35 52.4**	**-0.9**
RIOS					eS	**Sg**	**05 35 56.0**	**-0.6**
EDPN	**Palmar Norte**	**0.21**	**325**	*i*	P	**Pg**	**05 35 54.1**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.25**	**173**	*i*	P	**Pg**	**05 35 53.3**	**-0.8**
PTJ1					eS	**Sg**	**05 35 58.8**	**+0.9**
PTJ1	**Puerto Jimnez**	**0.25**	**173**	⇑*i*	P	**Pg**	**05 35 53.3**	**-0.8**
PTJ1					eS	**Sg**	**05 35 58.4**	**+0.5**
PIRO	**Carate, Puerto**	**0.38**	**181**	*i*	P	**Pg**	**05 35 55.1**	**-1.2**
PIRO					eS	**Sb**	**05 36 01.8**	**-0.5**
PIRO	**Carate, Puerto**	**0.38**	**181**	*e*	P	**Pg**	**05 35 55.2**	**-1.2**
EDBA	**Buenos Aires**	**0.38**	**9**	⇓*i*	P	**Pb**	**05 35 57.1**	**+0.3**
LPLA	**Las Palmas La**	**0.40**	**53**	⇓*e*	P	**Pb**	**05 35 57.2**	**0.0**
LPLA					eS	**Sb**	**05 36 05.1**	**+1.9**
DRK0	**Durika**	**0.48**	**10**	*i*	P	**Pb**	**05 35 58.6**	**0.0**
DRK0					eS	**Sb**	**05 36 07.0**	**+1.5**
DRK0	**Durika**	**0.48**	**10**	⇓*i*	P	**Pb**	**05 35 58.6**	**0.0**
DRK0					eS	**Sb**	**05 36 07.0**	**+1.5**
EDLM	**Las Mercedes**	**0.55**	**333**	*e*	P	**Pb**	**05 35 59.5**	**-0.2**
EDLM					eS	**Sb**	**05 36 08.8**	**+1.4**
BRU2	**Volcan**	**0.64**	**89**	*e*	P	**Pb**	**05 36 00.6**	**-0.6**
BRU2				⇑	eS	**Sb**	**05 36 11.2**	**+1.4**
BRU2	**Volcan**	**0.64**	**89**	*e*	P	**Pb**	**05 36 00.7**	**-0.5**
BRU2					eS	**Sb**	**05 36 11.3**	**+1.4**
PEZE	**Perez Zeledon,**	**0.69**	**330**	⇓*e*	P	**Pb**	**05 36 01.4**	**-0.6**
PEZE					eS	**Sb**	**05 36 11.8**	**+0.5**
EDDO	**Dominical**	**0.70**	**312**	*e*	P	**Pb**	**05 36 01.6**	**-0.6**
EDDO					eS	**Sb**	**05 36 12.6**	**+1.0**
BCO2	**Palmira**	**0.80**	**95**	*e*	P	**Pg**	**05 36 03.1**	**-1.0**
BCO2					eS	**Sb**	**05 36 15.9**	**+1.4**
PTAR3	**Potrerillos Ar**	**0.83**	**96**	*e*	P	**Pg**	**05 36 03.8**	**-0.9**
CDM	**Cerro de Muert**	**0.88**	**331**	⇓*i*	P	**Pg**	**05 36 04.5**	**-1.1**
LNBQ3	**Los Naranjos,**	**0.88**	**89**	*e*	P	**Pg**	**05 36 04.1**	**-1.5**
DVD	**David**	**0.94**	**112**	*e*	P	**Pg**	**05 36 05.2**	**-1.5**
DVD					eS	**Sb**	**05 36 19.1**	**+0.7**
PEDE3	**Pedregal, Chir**	**0.98**	**114**	*e*	P	**Pg**	**05 36 05.8**	**-1.8**
PEDE3					eS	**Sb**	**05 36 21.3**	**+1.5**
MRVA	**Moravia de Chi**	**1.04**	**354**	⇓*e*	P	**Pg**	**05 36 07.2**	**-1.4**
GUAL3	**Gualaca, Chiri**	**1.05**	**104**	*e*	P	**Pg**	**05 36 07.4**	**-1.5**
GUAL3					eS	**Sn**	**05 36 23.3**	**+0.6**
CNI2	**El Empalme, Bo**	**1.06**	**53**	*e*	P	**Pg**	**05 36 07.6**	**-1.4**
CNI2					eS	**Sb**	**05 36 22.5**	**+0.5**
RIMA	**Rio Macho**	**1.11**	**332**	⇓*i*	P	**Pg**	**05 36 07.8**	**-2.2**
LCR2	**La Lucha 2**	**1.16**	**325**	*e*	P	**Pg**	**05 36 08.7**	**-2.2**
LCR2					eS	**Sb**	**05 36 25.4**	**+0.4**
CHGR2	**Aguacate**	**1.19**	**82**	*e*	P	**Pg**	**05 36 06.9**	**-4.5**
CHGR2					eS	**Sg**	**05 36 25.4**	**-1.5**
OCM	**Ochomogo**	**1.27**	**331**	*e*	P	**Pg**	**05 36 10.4**	**-2.6**
CVTR	**Volcan Turrial**	**1.30**	**341**	*e*	P	**Pg**	**05 36 11.8**	**-1.8**
HDC	**Heredia**	**1.43**	**328**	*e*	P	**Pg**	**05 36 15.0**	**-1.1**
HDC					eS	**Sg**	**05 36 36.1**	**+1.2**
HDC	**Heredia**	**1.43**	**328**	*e*	P	**Pn**	**05 36 13.8**	**0.0**
RIFO	**Rio Frio, Sara**	**1.63**	**339**	*e*	P	**Pn**	**05 36 16.0**	**-0.4**
SRA1	**San Ramn**	**1.72**	**319**	*e*	P	**Pn**	**05 36 18.0**	**+0.3**
LAFE	**Finca La Fe, P**	**1.86**	**303**	*e*	P	**Pn**	**05 36 20.2**	**+0.7**
FORC	**Fortuna**	**2.13**	**322**	*e*	P	**Pb**	**05 36 25.1**	**-1.5**
JTS	**Las Juntas de**	**2.19**	**313**	*e*	P	**Pn**	**05 36 24.9**	**+0.9**
JTS					eS	**Sn**	**05 36 52.1**	**+1.3**
JTS	**Las Juntas de**	**2.19**	**313**	*e*	P	**Pn**	**05 36 25.0**	**+0.9**
COVE	**Coope Vega, Sa**	**2.19**	**331**	*e*	P	**Pn**	**05 36 24.8**	**+0.7**
GMAL	**Guarumal, Vera**	**2.31**	**116**	*e*	P	**Pn**	**05 36 26.0**	**+0.2**
GMAL					eS	**Sn**	**05 36 55.5**	**+1.7**
ACAL	**Aguas Claras**	**2.49**	**318**	*e*	P	**Pn**	**05 36 30.1**	**+1.8**
PTEN	**Parque Tenorio**	**2.52**	**320**	*e*	P	**Pb**	**05 36 30.9**	**-2.4**
CUI	**Cuipilapa**	**2.59**	**316**	*e*	P	**Pb**	**05 36 32.3**	**-2.2**
GUAI	**GUAI**	**2.61**	**305**	*e*	P	**Pn**	**05 36 31.2**	**+1.4**
SAJU	**San Juanillo,**	**2.67**	**299**	*e*	P	**Pn**	**05 36 30.2**	**-0.5**
CACAO	**El Cacao, Vera**	**2.83**	**120**	*e*	P	**Pn**	**05 36 33.9**	**+0.9**
CACAO					eS	**Sn**	**05 37 07.5**	**+0.8**
LAPC	**Finca la Perla**	**2.86**	**314**	*e*	P	**Pn**	**05 36 35.5**	**+2.2**
GB1A	**Borinquen Arri**	**2.87**	**315**	*e*	P	**Pn**	**05 36 34.9**	**+1.4**

*TAP **19** 05:42:21.4, 23°.88N×122°.88E, h97km±1km, ML3.4, D*
*JMA **19** 05:42:21.6±0.1, 23°.98N×122°.92E, h33km±3km, M2.7*
ISC 19 05:42:20.1±1.2, **23°.87N**±0°.03×**122°.96E**±0°.02, **h19**km±3km, **n81**, σ0§**95**/152, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.57**	**359**	P		**Pb**	**05 42 31.4**	**-0.1**
JYNG				S		**Sb**	**05 42 38.2**	**-1.0**
YOJ	**Yonaguni jima**	**0.59**	**5**	P		**Pb**	**05 42 31.7**	**0.0**
YOJ				S		**Sb**	**05 42 38.5**	**-1.1**
HATJ	**Hateruma jima**	**0.80**	**77**	P		**Pn**	**05 42 36.5**	**+0.2**
HATJ				eS		**Sn**	**05 42 47.4**	**-0.3**
IRIF	**Iriomote-Funau**	**0.84**	**57**	P		**Pg**	**05 42 36.6**	**0.0**
IRIF				eS		**Sg**	**05 42 47.5**	**-0.3**
JKRS	**Kuro-shima**	**1.03**	**69**	P		**Pn**	**05 42 40.0**	**+0.5**
JKRS				eS		**Sg**	**05 42 53.7**	**0.0**
JIJ	**Ishigaki jima**	**1.19**	**66**	P		**Pb**	**05 42 42.5**	**+0.5**
JIJ				eS		**Sn**	**05 42 57.5**	**+0.1**
EWUT	**Wuta**	**1.22**	**298**	*i*	P	**Pg**	**05 42 43.3**	**-0.3**
	baz=303							
EWUT				*i*	S	**Sg**	**05 42 59.2**	**-0.4**
	baz=303							
ENA	**Nanau**	**1.24**	**297**	*i*	P	**Pb**	**05 42 43.0**	**+0.1**
	baz=301							
ENA				*i*	S	**Sn**	**05 42 58.6**	**0.0**
	baz=301							
TEYL	**Yanliau Villag**	**1.24**	**270**	S		**Sg**	**05 42 59.8**	**-0.6**
	baz=268							
TWC	**Suao**	**1.25**	**306**	*i*	P	**Pb**	**05 42 43.7**	**+0.7**
	baz=308							
TWC				*i*	S	**Sn**	**05 42 59.0**	**+0.2**
	baz=308							
TWD	**Chiawan**	**1.26**	**280**	*i*	P	**Pb**	**05 42 43.5**	**+0.3**
	baz=280							
TWD				*i*	S	**Sn**	**05 42 59.7**	**+0.6**
	baz=280							
NACB	**Ninganchiao**	**1.28**	**284**	*i*	P	**Pn**	**05 42 42.9**	**-0.1**
	baz=279							
NACB				*i*	S	**Sn**	**05 42 59.0**	**-0.6**
	baz=279							
NDS	**Dongshan**	**1.36**	**304**	*i*	P	**Pb**	**05 42 45.5**	**+0.5**
	baz=303							
NDS				*i*	S	**Sg**	**05 43 03.6**	**-0.6**
	baz=303							
ETLH	**Xiulin Townshi**	**1.39**	**284**	P		**Pn**	**05 42 44.8**	**+0.3**
	baz=289							
ETLH				S		**Sb**	**05 43 03.1**	**+0.2**
	baz=289							
ESL	**Shilin**	**1.40**	**268**	P		**Pn**	**05 42 44.1**	**-0.5**
	baz=264							
ESL				S		**Sn**	**05 43 02.4**	**-0.1**
	baz=264							
EGFH	**Guangfu**	**1.42**	**262**	P		**Pn**	**05 42 44.9**	**+0.1**
	baz=258							
EGFH				S		**Sn**	**05 43 02.8**	**-0.2**
	baz=258							
NTC	**Toucheng**	**1.42**	**314**	P		**Pb**	**05 42 45.7**	**-0.2**
	baz=315							
NTC				S		**Sb**	**05 43 04.2**	**+0.6**
	baz=315							
JISG	**Ishigakijimahi**	**1.43**	**60**	P		**Pn**	**05 42 45.5**	**+0.5**
TWB1	**Santiao Chiao**	**1.43**	**322**	P		**Pn**	**05 42 45.2**	**+0.2**
	baz=324							
TWB1				S		**Sn**	**05 43 02.7**	**-0.7**
	baz=324							
TWE	**Neicheng**	**1.45**	**306**	P		**Pb**	**05 42 46.5**	**+0.1**
	baz=314							
TWE				S		**Sb**	**05 43 05.0**	**+0.6**
	baz=314							
HGSD	**Ruisui**	**1.46**	**255**	*e*	P	**Pn**	**05 42 45.2**	**-0.1**
	baz=257							
HGSD				*e*	S	**Sn**	**05 43 02.9**	**-1.1**
	baz=257							
ENTT	**Nioudou**	**1.48**	**301**	P		**Pb**	**05 42 47.0**	**0.0**
	baz=307							
ENTT				S		**Sg**	**05 43 06.9**	**-1.1**
	baz=307							
TIPB	**Shuangxi**	**1.50**	**317**	P		**Pn**	**05 42 46.6**	**+0.6**
	baz=318							
TIPB				S		**Sb**	**05 43 06.0**	**0.0**
	baz=318							
NDT	**Datong Townshi**	**1.50**	**299**	P		**Pb**	**05 42 47.4**	**0.0**
	baz=305							
NDT				*e*	S	**Sb**	**05 43 06.0**	**-0.2**
	baz=305							
NNSB	**Datong**	**1.54**	**291**	P		**Pn**	**05 42 47.4**	**+0.8**
	baz=285							
NNSB				S		**Sn**	**05 43 06.4**	**+0.2**
	baz=285							
NNSH	**Datong**	**1.54**	**291**	*e*	P	**Pn**	**05 42 46.9**	**+0.3**
	baz=284							
NNSH				*e*	S	**Sn**	**05 43 06.2**	**0.0**
	baz=284							
EHY	**Hungye**	**1.54**	**257**	*e*	P	**Pn**	**05 42 46.4**	**-0.2**
	baz=255							
EHY				*e*	S	**Sn**	**05 43 05.9**	**-0.2**
	baz=255							
NNS	**Nan Shan**	**1.55**	**292**	*e*	P	**Pb**	**05 42 47.9**	**-0.4**
	baz=285							
NNS				*e*	S	**Sn**	**05 43 06.8**	**+0.3**
	baz=285							
WHF	**Hehuan Shan**	**1.57**	**280**	*e*	P	**Pn**	**05 42 47.6**	**+0.3**
	baz=280							
WHF				*e*	S	**Sn**	**05 43 07.3**	**-0.1**
	baz=280							
EYUL	**Yuli**	**1.59**	**251**	*e*	P	**Pn**	**05 42 47.4**	**+0.1**
	baz=248							
EYUL				*e*	S	**Sn**	**05 43 07.3**	**+0.1**
	baz=248							
YULB	**Yu-li**	**1.59**	**253**	*e*	P	**Pn**	**05 42 47.7**	**+0.4**
	baz=249							
YULB				*e*	S	**Sn**	**05 43 07.4**	**0.0**
	baz=249							
NWF	**Wu-fen Shan**	**1.60**	**318**	P		**Pn**	**05 42 48.0**	**+0.5**
	baz=312							
NWF				S		**Sn**	**05 43 08.1**	**+0.4**
	baz=312							
NWLT	**Wulai**	**1.60**	**304**	*e*	P	**Pb**	**05 42 49.5**	**+0.5**
	baz=311							
NWLT				*e*	S	**Sb**	**05 43 09.0**	**+0.1**
	baz=311							
TWF1	**Yuli**	**1.61**	**251**	*e*	P	**Pn**	**05 42 47.5**	**0.0**
	baz=248							
TWF1				*e*	S	**Sn**	**05 43 08.2**	**+0.5**
	baz=248							
FUSS	**Fushou**	**1.61**	**284**	*e*	P	**Pn**	**05 42 48.5**	**+0.8**
	baz=284							
FUSS				*e*	S	**Sn**	**05 43 08.5**	**+0.4**
	baz=284							
OWD	**Renai**	**1.63**	**273**	*e*	P	**Pn**	**05 42 48.4**	**+0.5**
	baz=278							
OWD				*e*	S	**Sn**	**05 43 08.9**	**+0.4**
	baz=278							
CHGB	**Renai**	**1.64**	**277**	*e*	P	**Pn**	**05 42 48.8**	**+0.7**
	baz=282							
CHGB				*e*	S	**Sn**	**05 43 09.2**	**+0.4**
	baz=282							
YHNB	**Yeheng**	**1.65**	**299**	*e*	P	**Pn**	**05 42 49.0**	**+1.0**
	baz=300							
YHNB				*e*	S	**Sb**	**05 43 11.3**	**+1.1**
	baz=300							
CHKT	**Chengkung**	**1.65**	**242**	*e*	P	**Pn**	**05 42 47.8**	**-0.3**
	baz=238							
CHKT				*e*	S	**Sn**	**05 43 07.2**	**-1.6**
	baz=238							
NSK	**Sanguang**	**1.66**	**299**	*e*	P	**Pn**	**05 42 49.1**	**+0.8**
	baz=300							
NSK				*e*	S	**Sn**	**05 43 09.2**	**0.0**
	baz=300							
TWA	**Mucha**	**1.67**	**312**	*e*	P	**Pn**	**05 42 48.7**	**+0.4**
	baz=320							
TWA				*e*	S	**Sn**	**05 43 08.9**	**-0.2**
	baz=320							
FULB	**Fuli**	**1.67**	**247**	*e*	P	**Pn**	**05 42 48.3**	**-0.1**
	baz=240							
FULB				*e*	S	**Sn**	**05 43 09.1**	**-0.1**
	baz=240							
TDCB	**Techi**	**1.69**	**283**	*e*	P	**Pn**	**05 42 49.6**	**+1.0**
	baz=283							
TDCB				*e*	S	**Sn**	**05 43 10.6**	**+0.7**
	baz=283							
EDH	**Donghe**	**1.76**	**240**	*e*	P	**Pn**	**05 42 49.8**	**+0.2**
	baz=237							
EDH				*e*	S	**Sn**	**05 43 10.2**	**-1.3**
	baz=237							
JTJ	**Tarama**	**1.77**	**64**	P		**Pb**	**05 42 51.2**	**-0.7**
YM01	**YM01**	**1.79**	**315**	*e*	P	**Pn**	**05 42 50.2**	**+0.2**
	baz=316							
YM01				*e*	S	**Sn**	**05 43 11.9**	**-0.3**
	baz=316							
LDUT	**Ludao**	**1.82**	**229**	*e*	P	**Pn**	**05 42 50.0**	**-0.3**
	baz=228							
LDUT				*e*	S	**Sn**	**05 43 10.7**	**-2.2**
	baz=228							
WPL	**Puli Township**	**1.83**	**275**	*e*	P	**Pb**	**05 42 53.5**	**+0.4**
	baz=270							
WPL				*e*	S	**Sb**	**05 43 14.7**	**-1.0**
	baz=270							
SSLB	**Suanglung**	**1.83**	**268**	*e*	P	**Pb**	**05 42 53.7**	**+0.6**
	baz=270							
SSLB				*e*	S	**Sb**	**05 43 15.6**	**-0.1**
	baz=270							
WCS	**Beigang Elemen**	**1.88**	**276**	*e*	P	**Pb**	**05 42 54.1**	**+0.3**
	baz=273							
WCS				*e*	S	**Sb**	**05 43 15.8**	**-1.1**
	baz=273							
WHP	**Taichung City**	**1.88**	**283**	*e*	P	**Pb**	**05 42 54.1**	**+0.2**
	baz=283							
WHP				*e*	S	**Sb**	**05 43 16.1**	**-0.9**
	baz=283							
SMLT	**Sun Moon Lake**	**1.88**	**271**	*e*	P	**Pb**	**05 42 53.2**	**-0.7**
	baz=270							
SMLT				*e*	S	**Sb**	**05 43 16.6**	**-0.5**
	baz=270							
TYC	**Yuchr**	**1.92**	**271**	*e*	P	**Pb**	**05 42 54.3**	**-0.2**
	baz=271							
PCYT	**Pengchaiyu**	**1.92**	**335**	*e*	P	**Pn**	**05 42 52.5**	**+0.7**
	baz=331							
LIOB	**Emei**	**1.93**	**294**	*e*	P	**Pb**	**05 42 54.0**	**-0.7**
	baz=294							
LONT	**Longtian**	**1.93**	**240**	*e*	P	**Pn**	**05 42 52.8**	**+0.8**
	baz=239							
LONT				*e*	S	**Sn**	**05 43 15.5**	**-0.2**
	baz=239							
NSTT	**Nanjuang**	**1.94**	**293**	*e*	P	**Pb**	**05 42 54.6**	**-0.2**
	baz=293							
ALS	**Alishan**	**2.00**	**260**	*e*	P	**Pb**	**05 42 55.2**	**-0.9**
	baz=263							
ALS				*e*	S	**Sn**	**05 43 19.5**	**+1.6**
	baz=263							
TWGBT	**Beinan**	**2.02**	**239**	*e*	P	**Pn**	**05 42 53.5**	**+0.3**
	baz=236							
TWGBT				*e*	S	**Sn**	**05 43 17.3**	**-0.6**
	baz=236							
TWG	**Pinlang**	**2.02**	**239**	*e*	P	**Pn**	**05 42 53.5**	**+0.3**
	baz=236							
TWG				*e*	S	**Sn**	**05 43 18.3**	**+0.3**
	baz=236							
WJS	**Zhushan**	**2.04**	**269**	*e*	P	**Pb**	**05 42 56.6**	**+0.1**
	baz=275							
WJS				*e*	S	**Sb**	**05 43 22.0**	**+0.4**
	baz=275							
WNT	**Mingjian**	**2.08**	**271**	*e*	S	**Sb**	**05 43 23.3**	**+0.6**
	baz=270							
CHN5	**Tsauling**	**2.10**	**263**	*e*	P	**Pb**	**05 42 57.2**	**-0.6**
	baz=262							
CHN5				*e*	S	**Sb**	**05 43 22.5**	**-1.0**
	baz=262							
STYH	**Taoyuan**	**2.12**	**251**	*e*	P	**Pn**	**05 42 55.6**	**+1.1**
	baz=247							
STYH				*e*	S	**Sn**	**05 43 22.4**	**+2.0**
	baz=247							
STYT	**Tauyuan**	**2.14**	**251**	*e*	P	**Pn**	**05 42 56.4**	**+1.5**
	baz=247							
STYT				*e*

s-min=0.0km az=171.3
ISC 19 06:49:07.7±2.2,**37.58S**±0.07×**179.99E**±0.07,**h12**km±11km,
n80,σ**1922/84,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.27**	**259**	P		**Pg**		**06 49 32.3**	**+0.2**
WMGZ				S		**Sg**		**06 49 48.6**	**-0.1**
MXZ	**Matakaoa Point**	**1.34**	**270**	P		**Pn**		**06 49 32.1**	**-0.1**
PUZ	**Puketiti**	**1.46**	**250**	P		**Pb**		**06 49 34.8**	**0.0**
PKGZ	**Pakihiroa**	**1.55**	**258**	P		**Pn**		**06 49 35.6**	**+0.4**
PKGZ				S		**Sn**		**06 49 55.1**	**-0.2**
CNGZ	**Carnagh Statio**	**1.67**	**237**	P		**Pb**		**06 49 39.1**	**+0.6**
TWGZ	**Tauwhareparae**	**1.70**	**249**	P		**Pb**		**06 49 38.6**	**-0.3**
HAZ	**Te Kaha**	**1.76**	**264**	P		**Pn**		**06 49 38.8**	**+0.7**
HAZ				S		**Sn**		**06 49 59.3**	**-1.1**
RUGZ	**Raukumara Rang**	**1.88**	**258**	P		**Pn**		**06 49 40.4**	**+0.7**
TKGZ	**Te Karaka**	**1.90**	**243**	P		**Pb**		**06 49 41.5**	**-0.7**
TKGZ				S		**Sn**		**06 50 04.2**	**+0.4**
RIGZ	**Rimuhau**	**2.09**	**237**	P		**Pb**		**06 49 44.6**	**-0.9**
PRGZ	**Paritu Road**	**2.13**	**231**	P		**Pb**		**06 49 44.8**	**-1.4**
RAGZ	**Rawiri**	**2.23**	**245**	P		**Pb**		**06 49 46.3**	**-1.7**
KNZ	**Kokohu**	**2.32**	**231**	P		**Pn**		**06 49 47.2**	**+1.4**
URZ	**Urewera**	**2.38**	**253**	Pn		**Pn**		**06 49 47.8**	**+1.4**
	66nm,0.3s,baz=119,slow=23,SNR=301								
URZ				Sn		**Sn**		**06 50 14.9**	**-0.7**
	44nm,0.3s,baz=41,slow=19,SNR=20								
URZ	**Urewera**	**2.38**	**253**	P		**Pn**		**06 49 47.9**	**+1.4**
URZ				S		**Sn**		**06 50 14.7**	**-0.9**
SNGZ	**Shannon Statio**	**2.41**	**239**	P		**Pn**		**06 49 48.4**	**+1.5**
SNGZ				S		**Sn**		**06 50 16.2**	**-0.3**
EDRZ	**Edgecumbe**	**2.63**	**258**	P		**Pn**		**06 49 51.2**	**+1.2**
WHHZ	**Waihua**	**2.63**	**235**	P		**Pn**		**06 49 51.7**	**+1.7**
RAHZ	**Arahi**	**2.65**	**239**	P		**Pn**		**06 49 51.7**	**+1.5**
MUGZ	**Murupara**	**2.70**	**250**	P		**Pn**		**06 49 52.1**	**+1.2**
MUGZ				S		**Sn**		**06 50 21.5**	**-2.0**
OPRZ	**Ohinepanea**	**2.74**	**263**	P		**Pn**		**06 49 52.1**	**+0.6**
OPRZ				S		**Sn**		**06 50 20.9**	**-3.6**
MTHZ	**Maungataniwha**	**2.79**	**242**	P		**Pn**		**06 49 53.6**	**+1.4**
MTHZ				S		**Sn**		**06 50 25.6**	**-0.2**
TARZ	**Mount Tarawera**	**2.83**	**256**	P		**Pn**		**06 49 54.5**	**+1.6**
ARHZ	**Aropaoanui**	**2.89**	**234**	P		**Pn**		**06 49 55.2**	**+1.7**
NMHZ	**Naumai**	**2.93**	**238**	P		**Pn**		**06 49 56.0**	**+1.9**
TGRZ	**Tauranga**	**2.97**	**266**	P		**Pn**		**06 49 54.8**	**+0.2**
PRRZ	**Plateau Road**	**2.99**	**251**	P		**Pn**		**06 49 55.9**	**+1.0**
KARZ	**Kaharoa**	**3.00**	**260**	P		**Pn**		**06 49 55.7**	**+0.5**
HRRZ	**Handcock Road**	**3.04**	**253**	P		**Pn**		**06 49 57.5**	**+1.9**
ALRZ	**Allen Road**	**3.04**	**250**	P		**Pn**		**06 49 56.7**	**+1.0**
MRHZ	**Matea Rd**	**3.08**	**245**	P		**Pn**		**06 49 57.4**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.08**	**227**	P		**Pn**		**06 49 57.5**	**+1.3**
BKZ	**Black Stump Fm**	**3.17**	**239**	P		**Pn**		**06 49 58.9**	**+1.3**
MCHZ	**McNeill Hill**	**3.19**	**233**	P		**Pn**		**06 49 59.5**	**+1.9**
KMRZ	**Kaimai**	**3.22**	**264**	P		**Pn**		**06 49 59.2**	**+1.0**
KAHZ	**Kahuranaki**	**3.29**	**227**	P		**Pn**		**06 50 01.0**	**+1.8**
PXZ	**Pawanui**	**3.46**	**224**	P		**Pn**		**06 50 02.1**	**+0.8**
KRHZ	**Kereru**	**3.51**	**233**	P		**Pn**		**06 50 03.0**	**+0.9**
KUZ	**Kuaotunu**	**3.51**	**282**	P		**Pn**		**06 50 01.4**	**-0.7**
TOZ	**Tahuroa Road**	**3.57**	**266**	P		**Pn**		**06 50 02.9**	**+0.1**
BHHZ	**Black Hill Sta**	**3.62**	**237**	P		**Pn**		**06 50 04.8**	**+1.1**
TMVZ	**Te Maari**	**3.70**	**244**	P		**Pn**		**06 50 06.0**	**+1.1**
WPHZ	**Waipukurau**	**3.72**	**227**	P		**Pn**		**06 50 05.7**	**+0.7**
KRVZ	**Karewarewa**	**3.74**	**245**	P		**Pn**		**06 50 06.4**	**+1.1**
PRHZ	**Porangahau**	**3.75**	**223**	P		**Pn**		**06 50 05.8**	**+0.5**
MOVZ	**Moawhango**	**3.79**	**240**	P		**Pn**		**06 50 07.5**	**+1.5**
GRZ	**Great Barrier**	**3.87**	**289**	P		**Pn**		**06 50 06.9**	**-0.2**
MKAZ	**Moumakai**	**3.88**	**276**	P		**Pn**		**06 50 07.1**	**0.0**
TSZ	**Takapari Road**	**4.00**	**231**	P		**Pn**		**06 50 09.0**	**0.0**
ETAZ	**East Tamaki Re**	**4.09**	**277**	P		**Pn**		**06 50 11.2**	**+1.1**
MBAZ	**Motutapu North**	**4.15**	**280**	P		**Pn**		**06 50 11.7**	**+0.8**
HIZ	**Hauiti**	**4.16**	**256**	P		**Pn**		**06 50 12.6**	**+1.6**
BFZ	**Birch Farm**	**4.25**	**222**	P		**Pn**		**06 50 12.3**	**0.0**
HBAZ	**Herne Bay Bore**	**4.26**	**278**	P		**Pn**		**06 50 14.0**	**+1.6**
AWAZ	**Awhitu Peninsu**	**4.30**	**275**	P		**Pn**		**06 50 14.0**	**+1.1**
PRWZ	**Pori Road**	**4.31**	**225**	P		**Pn**		**06 50 14.2**	**+1.1**
POWZ	**Post Office Ro**	**4.33**	**228**	P		**Pn**		**06 50 14.2**	**+0.9**
VRZ	**Vera Road**	**4.39**	**248**	P		**Pn**		**06 50 16.3**	**+2.1**
RVAZ	**Riverhead Bore**	**4.40**	**279**	P		**Pn**		**06 50 14.9**	**+0.6**
WAZ	**Wanganui**	**4.48**	**240**	P		**Pn**		**06 50 16.9**	**+1.5**
MRZ	**Mangatainoka R**	**4.61**	**227**	P		**Pn**		**06 50 17.3**	**+0.1**
WCZ	**Waipu Caves**	**4.82**	**288**	P		**Pn**		**06 50 20.6**	**+0.4**
OGWZ	**Otaki Gorge**	**4.95**	**228**	P		**Pn**		**06 50 21.6**	**-0.2**
PKE	**Pukeiti**	**4.99**	**249**	P		**Pn**		**06 50 25.2**	**+2.8**
KIW	**Kapiti Island**	**5.13**	**229**	P		**Pn**		**06 50 24.2**	**-0.2**
CAW	**Cannon Point**	**5.19**	**226**	P		**Pn**		**06 50 24.4**	**-0.8**
OUZ	**Omahuta**	**5.67**	**293**	P		**Pn**		**06 50 32.7**	**+0.9**
CTZ	**Chatham Island**	**6.66**	**158**	P		Pn		06 50 51.3	+5.9
CTZ				S		**Sn**		**06 51 59.1**	**-2.2**
GVZ	**Greta Valley S**	**7.56**	**223**	P		**Pn**		**06 50 57.5**	**-0.2**
ARCZ	**Arundel**	**9.22**	**224**	P		**Pn**		**06 51 20.2**	**-0.3**
ASAR	**Alice Springs**	**41.62**	**276**	P		**P**		**06 56 55.8**	**-0.1**
	0.5nm,0.7s,baz=127,slow=7.7,SNR=4.7								
WRA	**Warramunga Arr**	**43.25**	**281**	P		**P**		**06 57 08.6**	**-0.6**
	0.3nm,0.5s,baz=121,slow=7.9,SNR=4.7								
H03S2	**Juan Fernandez**	**77.91**	**123**	T		T		08 27 32.2	
	baz=230,slow=75,SNR=12								
H03S1	**Juan Fernandez**	**77.91**	**123**	T		T		08 27 29.7	
	baz=230,slow=75,SNR=14								
H03S3	**Juan Fernandez**	**77.92**	**123**	T		T		08 27 28.2	
	baz=230,slow=75,SNR=12								
H03N3	**Juan Fernandez**	**78.14**	**123**	T		T		08 27 28.8	
	baz=235,slow=72,SNR=19								
H03N2	**Juan Fernandez**	**78.14**	**123**	T		T		08 27 22.9	
	baz=235,slow=72,SNR=18								
H03N1	**Juan Fernandez**	**78.15**	**123**	T		T		08 27 26.7	
	baz=235,slow=72,SNR=21								
ARCES	**ARCESS Array B**	**145.16**	**345**	PKP		**PKPdf**		**07 08 45.5**	**+1.4**
	1.9nm,1.1s,baz=46,slow=3.5,SNR=4.9								
FINES	**FINESS Array B**	**151.10**	**334**	PKPbc		**PKiKP**		**07 09 02.0**	**+1.7**
	1.8nm,0.9s,baz=98,slow=2.8,SNR=2.1								

*JMA **19** 07:07:27.7±0.2,23.95N×122.42E,h20km±4km,M3.3*
*TAP **19** 07:07:28.4,24.00N×122.43E,h27km,ML3.7,D*
ISC 19 07:07:27.6±1.2,**23.94N**±0.02×**122.44E**±0.02,**h19**km±3km,
n126,σ**0670/222,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.69**	**42**	P		**Pb**		**07 07 41.0**	**0.0**
JYNG				eS		**Sb**		**07 07 49.7**	**-0.4**
EHP	**Heping Village**	**0.73**	**300**	eS		**Sg**		**07 07 52.5**	**+0.6**
	baz=306								
YOJ	**Yonaguni jima**	**0.73**	**45**	P		**Pb**		**07 07 41.7**	**-0.1**
YOJ				S		**Sb**		**07 07 50.8**	**-0.7**
YOJ	**Yonaguni jima**	**0.73**	**45**	P		**Pg**		**07 07 42.0**	**0.0**
	baz=55								
YOJ				S		**Sb**		**07 07 50.4**	**-1.1**
	baz=55								
HWA	**Hwalien**	**0.76**	**273**	eS		**Sg**		**07 07 53.4**	**+0.6**
	baz=255								
TEYL	**Yanliau Villag**	**0.77**	**265**	eP		**Pb**		**07 07 42.3**	**-0.2**
	baz=252								
TEYL				eS		**Sg**		**07 07 53.5**	**+0.4**
	baz=252								
ETL	**Fush Village**	**0.78**	**286**	eP		**Pb**		**07 07 42.4**	**-0.2**
	baz=267								
ETL				eS		**Sg**		**07 07 53.7**	**+0.5**
	baz=267								
TWD	**Chiawan**	**0.78**	**280**	P		**Pb**		**07 07 42.4**	**-0.2**
	baz=276								
TWD				S		**Sg**		**07 07 53.0**	**-0.4**
	baz=276								
EWUT	**Wuta**	**0.78**	**310**	P		**Pb**		**07 07 42.4**	**-0.2**
	baz=307								
EWUT				S		**Sg**		**07 07 53.4**	**0.0**
	baz=307								
NACB	**Ninganchiao**	**0.81**	**287**	P		**Pb**		**07 07 42.8**	**-0.2**
	baz=269								
NACB				eS		**Sb**		**07 07 53.1**	**-0.5**
	baz=269								
TWC	**Suao**	**0.85**	**321**	eP		**Pb**		**07 07 43.1**	**-0.8**
	baz=319								
TWC				eS		**Sb**		**07 07 53.3**	**-1.7**
	baz=319								
TEGC	**Jichi Village**	**0.85**	**254**	eP		**Pb**		**07 07 43.8**	**-0.1**
	baz=250								
TEGC				S		**Sg**		**07 07 56.0**	**+0.3**
	baz=250								
ETM	**Tongmen**	**0.87**	**272**	P		**Pb**		**07 07 43.8**	**-0.3**
	baz=259								
ETM				S		**Sb**		**07 07 55.3**	**0.0**
	baz=259								
ETLH	**Xiulin Townshi**	**0.91**	**287**	P		**Pb**		**07 07 44.5**	**-0.5**
	baz=271								
ETLH				S		**Sb**		**07 07 56.2**	**-0.6**
	baz=271								
ESL	**Shilin**	**0.93**	**262**	eP		**Pb**		**07 07 45.0**	**-0.2**
	baz=248								
ESL				eS		**Sb**		**07 07 56.5**	**-0.6**
	baz=248								
NDS	**Dongshan**	**0.95**	**316**	P		**Pb**		**07 07 45.0**	**-0.5**
	baz=314								
NDS				eS		**Sb**		**07 07 55.8**	**-2.0**
	baz=314								
EGFH	**Guangfu**	**0.96**	**254**	eP		**Pb**		**07 07 45.8**	**0.0**
	baz=250								
EGFH				eS		**Sb**		**07 07 58.6**	**+0.4**
	baz=250								
HGSD	**Ruisui**	**1.03**	**244**	eP		**Pb**		**07 07 47.0**	**0.0**
	baz=241								
HGSD				eS		**Sb**		**07 08 00.3**	**+0.2**
	baz=241								
TWE	**Neicheng**	**1.05**	**318**	P		**Pb**		**07 07 47.1**	**-0.1**
	baz=316								
TWE				eS		**Sn**		**07 08 01.4**	**-0.1**
	baz=316								
ENTT	**Nioudou**	**1.06**	**311**	*i* P		**Pb**		**07 07 47.4**	**0.0**
	baz=294								
ENTT				eS		**Sb**		**07 08 01.0**	**+0.2**
	baz=294								
NTC	**Toucheng**	**1.06**	**329**	P		**Pn**		**07 07 47.5**	**0.0**
	baz=327								
NTC				eS		**Sg**		**07 08 02.2**	**0.0**
	baz=327								
NDT	**Datong Townshi**	**1.07**	**308**	P		**Pb**		**07 07 47.3**	**-0.3**
	baz=305								
NDT				eS		**Sn**		**07 08 02.0**	**-0.1**
	baz=305								
NNSB	**Datong**	**1.08**	**297**	P		**Pb**		**07 07 47.4**	**-0.4**
	baz=293								
NNSB				eS		**Sb**		**07 08 01.5**	**-0.1**
	baz=293								
NNSH	**Datong**	**1.08**	**297**	P		**Pb**		**07 07 47.3**	**-0.5**
	baz=293								
NNSH				eS		**Sg**		**07 08 02.8**	**0.0**
	baz=293								
NNS	**Nan Shan**	**1.09**	**297**	P		**Pb**		**07 07 47.7**	**-0.3**
	baz=294								
NNS				eS		**Sn**		**07 08 02.5**	**-0.2**
	baz=294								
WHF	**Hehuan Shan**	**1.09**	**281**	P		**Pb**		**07 07 47.7**	**-0.5**
	baz=264								
WHF				eS		**Sg**		**07 08 03.0**	**-0.3**
	baz=264								
EHY	**Hungye**	**1.11**	**247**	P		**Pb**		**07 07 47.9**	**-0.4**
	baz=259								
EHY				eS		**Sb**		**07 08 01.3**	**-1.1**
	baz=259								
FUSS	**Fushou**	**1.13**	**286**	P		**Pb**		**07 07 48.5**	**-0.3**
	baz=282								
FUSS				eS		**Sg**		**07 08 04.5**	**-0.1**
	baz=282								
TWB1	**Santiao Chiao**	**1.14**	**339**	eP		**Pn**		**07 07 48.0**	**-0.6**
	baz=355								
TWB1				eS		**Sb**		**07 08 03.1**	**-0.1**
	baz=355								
OWD	**Renai**	**1.16**	**271**	eP		**Pn**		**07 07 49.0**	**0.0**
	baz=268								
CHGB	**Renai**	**1.16**	**276**	P		**Pn**		**07 07 48.6**	**-0.5**
	baz=272								
CHGB				eS		**Sb**		**07 08 04.0**	**-0.1**
	baz=272								
TIPB	**Shuangxi**	**1.17**	**332**	P		**Pn**		**07 07 48.6**	**-0.4**
	baz=330								
TIPB				eS		**Sb**		**07 08 03.2**	**-0.8**
	baz=330								
YULB	**Yu-li**	**1.18**	**243**	eP		**Pb**		**07 07 49.4**	**0.0**
	baz=239								
YULB				eS		**Sb**		**07 08 03.2**	**-1.2**
	baz=239								
EYUL	**Yuli**	**1.19**	**240**	eP		**Pn**		**07 07 48.9**	**-0.4**
	baz=237								
EYUL				eS		**Sb**		**07 08 04.3**	**-0.2**
	baz=237								
NWLT	**Wulai**	**1.19**	**314**	P		**Pn**		**07 07 49.3**	**-0.1**
	baz=312								
NWLT				eS		**Sn**		**07 08 05.2**	**+0.1**
	baz=312								
TWF1	**Yuli**	**1.20**	**241**	eP		**Pn**		**07 07 49.1**	**-0.3**
	baz=237								
TWF1				eS		**Sb**		**07 08 04.6**	**-0.4**
	baz=237								
TDCB	**Techi**	**1.21**	**285**	*i* P		**Pb**		**07 07 50.1**	**0.0**
	baz=269								
TDCB				eS		**Sb**		**07 08 04.9**	**-0.5**
	baz=269								
YHNB	**Yeheng**	**1.21**	**307**	*i* P		**Pn**		**07 07 49.5**	**-0.2**
	baz=292								
YHNB				eS		**Sb**		**07 08 04.7**	**-0.6**
	baz=292								
IRIF	**Iriomote-Funau**	**1.24**	**71**	P		**Pb**		**07 07 50.5**	**0.0**
IRIF				S		**Sg**		**07 08 07.6**	**-0.4**
HATJ	**Hateruma jima**	**1.25**	**85**	P		**Pb**		**07 07 51.0**	**+0.3**
HATJ				eS		**Sn**		**07 08 07.1**	**+0.5**
NWF	**Wu-fen Shan**	**1.27**	**332**	eP		**Pn**		**07 07 50.4**	**-0.1**
	baz=331								
NWF				eS		**Sb**		**07 08 07.1**	**-0.1**
	baz=331								
FULB	**Fuli**	**1.28**	**235**	eP		**Pn**		**07 07 49.9**	**-0.8**
	baz=220								
FULB				eS		**Sb**		**07 08 05.9**	**-1.5**
	baz=220								
CHKT	**Chengkung**	**1.29**	**230**	eP		**Pn**		**07 07 49.8**	**-1.0**
	baz=227								
CHKT				eS		**Sn**		**07 08 05.6**	**-1.9**
	baz=227								
TWA	**Mucha**	**1.29**	**323**	eP		**Pn**		**07 07 50.8**	**+0.1**
	baz=322								
TWA				eS		**Sb**		**07 08 08.3**	**+0.6**
	baz=322								
NHDH	**Xindian Distri**	**1.31**	**321**	eP		**Pn**		**07 07 51.4**	**+0.4**
	baz=319								
NHDH				eS		**Sb**		**07 08 08.5**	**+0.3**
	baz=319								
TATO	**Taipei**	**1.34**	**320**	eP		**Pn**		**07 07 51.8**	**+0.4**
	baz=318								
TNOU	**National Taiwa**	**1.35**	**333**	P		**Pn**		**07 07 51.7**	**+0.3**
	baz=332								
TNOU				S		**Sb**		**07 08 09.5**	**+0.4**
	baz=332								
WPL	**Puli Township**	**1.36**	**273**	P		**Pn**		**07 07 52.0**	**+0.4**
	baz=261								
WPL				eS		**Sb**		**07 08 10.3**	**+0.8**
	baz=261								
SSLB	**Suanglung**	**1.37**	**264**	eP		**Pb**		**07 07 52.3**	**-0.4**
	baz=260								
SSLB				eS		**Sg**		**07 08 10.9**	**-1.0**
	baz=260								
TAP1	**Taipei**	**1.37**	**323**	eS		**Sg**		**07 08 11.3**	**-0.8**
	baz=321								
TAP	**Taipei**	**1.38**	**322**	eS		**Sb**		**07 08 11.1**	**+0.9**
	baz=321								
DPDB	**Guoxing**	**1.39**	**274**	eP		**Pn**		**07 07 52.3**	**+0.2**
	baz=262								
DPDB				eS		**Sg**		**07 08 11.5**	**-1.1**
	baz=262								
BACT	**New Taipei Cit**	**1.39**	**319**	eS		**Sb**		**07 08 11.3**	**+0.9**
	baz=318								
WCS	**Beigang Elemen**	**1.40**	**275**	eP		**Pn**		**07 07 52.5**	**+0.3**
	baz=264								
WCS				eS		**Sb**		**07 08 11.2**	**+0.5**
	baz=264								
ECS	**Chishang**	**1.40**	**233**	eP		**Pn**		**07 07 52.6**	**+0.4**
	baz=220								
ECS				eS		**Sb**		**07 08 11.1**	**+0.3**
	baz=220								
WHP	**Taichung City**	**1.40**	**284**	eP		**Pn**		**07 07 52.5**	**+0.2**
	baz=270								
WHP				eS		**Sg**		**07 08 12.2**	**-0.9**
	baz=270								
SMLT	**Sun Moon Lake**	**1.41**	**268**	eP		**Pn**		**07 07 52.5**	**+0.1**
	baz=264								
SMLT				eS		**Sn**		**07 08 10.0**	**-0.6**
	baz=264								
EDH	**Donghe**	**1.42**	**227**	eP		**Pn**		**07 07 51.8**	**-0.7**
	baz=216								
EDH				eS		**Sn**		**07 08 08.9**	**-1.8**
	baz=216								
YM01	**YM01**	**1.44**	**327**	*i* P		**Pb**		**07 07 53.4**	**-0.4**
	baz=341								
YM01				eS		**Sb**		**07 08 11.8**	**0.0**
	baz=341								
TYC	**Yuchr**	**1.45**	**269**	eP		**Pn**		**07 07 53.0**	**+0.2**
	baz=265								
TYC				eS		**Sb**		**07 08 12.1**	**+0.1**
	baz=265								
YM08	**YM08**	**1.46**	**328**	eP		**Pb**		**07 07 53.7**	**-0.5**
	baz=327								
YM08				eS		**Sn**		**07 08 12.0**	**+0.3**
	baz=327								
NJD	**Zhudong**	**1.46**	**303**	eP		**Pn**		**07 07 53.4**	**+0.3**
	baz=300								
NJD				eS		**Sb**		**07 08 12.7**	**+0.1**
	baz=300								
JKRS	**Kuro-shima**	**1.47**	**78**	P		**Pb**		**07 07 54.4**	**+0.1**
JKRS				eS		**Sg**		**07 08 14.0**	**-1.0**
LIOB	**Emei**	**1.48**	**299**	eP		**Pb**		**07 07 54.3**	**-0.2**
	baz=296								
LIOB				eS		**Sb**		**07 08 13.8**	**+0.9**
	baz=296								
NSTT	**Nanjuang**	**1.48**	**298**	eP		**Pb**		**07 07 54.1**	**-0.5**
	baz=295								
NSTT				eS		**Sb**		**07 08 12.9**	**-0.1**
	baz=295								
TWS1	**Kuangyinshan**	**1.48**	**321**	eP		**Pn**		**07 07 53.9**	**+0.6**
	baz=337								
TWS1				eS		**Sb**		**07 08 13.8**	**+0.8**
	baz=337								
ELDTW	**Lidau**	**1.50**	**240**	eS		**Sn**		**07 08 11.3**	**-1.6**
	baz=237								
TWY	**Chenhua**	**1.53**	**330**	eS		**Sb**		**07 08 14.2**	**-0.3**
	baz=329								
NCUH	**Zhongli**	**1.53**	**312**	eS		**Sb**		**07 08 15.3**	**+0.8**
	baz=310								
LDUT	**Ludao**	**1.55**	**215**	eP		**Pn**		**07 07 53.4**	**-0.8**
	baz=214								
ALS	**Alishan**	**1.56**	**254**	eP		**Pn**		**07 07 54.7**	**+0.1**
	baz=251								
ALS				eS		**Sn**		**07 08 15.0**	**+0.5**
	baz=251								
WJS	**Zhushan**	**1.57**	**266**	eP		**Pn**		**07 07 55.0**	**+0.4**
	baz=263								
WJS				eS		**Sb**		**07 08 15.5**	**-0.2**
	baz=263								
SBCB	**Hsinchu**	**1.57**	**303**	eS		**Sb**		**07 08 15.8**	**+0.2**
	baz=300								
TWQ1	**Liyutan**	**1.57**	**285**	eP		**Pn**		**07 07 55.0**	**+0.4**
	baz=282								
TWQ1				eS		**Sb**		**07 08 15.5**	**-0.3**
	baz=282								
LONT	**Longtian**	**1.58**	**230**	eP		**Pn**		**07 07 54.4**	**-0.4**
	baz=240								
LONT				eS		**Sn**		**07 08 14.0**	**-0.7**
	baz=240								
WWF	**Wufeng**	**1.59**	**274**	eP		**Pn**		**07 07 55.3**	**+0.4**
	baz=266								
WWF				eS		**Sb**		**07 08 16.0**	**-0.3**
	baz=266								
NSY	**Sanyi**	**1.60**	**287**	eP		**Pn**		**07 07 56.1**	**-0.6**
	baz=284								
NSY				eS		**Sb**		**07 08 16.8**	**+0.2**
	baz=284								
WNT	**Mingjian**	**1.61**	**268**	eP		**Pn**		**07 07 55.6**	**+0.5**
	baz=265								
WNT				eS		**Sb**		**07 08 16.6**	**-0.1**
	baz=265								
WNT1	**Nantou City**	**1.61**	**269**	eP		**Pn**		**07 07 55.5**	**+0.4**
	baz=266								
WNT1				eS		**Sb**		**07 08 16.4**	**-0.3**
	baz=266								
JIJ	**Ishigaki jima**	**1.61**	**75**	P		**Pn**		**07 07 55.2**	**+0.1**
JIJ				S		**Sb**		**07 08 17.2**	**+0.4**
NMLH	**Miaoli**	**1.62**	**292**	eS		**Sb**		**07 08 17.1**	**+0.2**
	baz=288								
TCU	**Taichung**	**1.62**	**278**	eS		**Sb**		**07 08 17.1**	**0.0**
	baz=274								
CHN5	**Tsauling**	**1.65**	**258**	eP		**Pn**		**07 07 56.1**	**+0.4**
	baz=245								
CHN5				S		**Sb**		**07 08 18.2**	**+0.2**
	baz=245								
TTN	**Taitung**	**1.68**	**225**	eS		**Sb**		**07 08 18.2**	**-0.4**
	baz=223								
TWGBT	**Beinan**	**1.68**	**228**	P		**Pn**		**07 07 55.7**	**-0.3**
	baz=239								
TWGBT				eS		**Sn**		**07 08 15.5**	**-1.5**
	baz=239								
TWG	**Pinlang**	**1.68**	**229**	eP		**Pn**		**07 07 55.7**	**-0.3**
	baz=239								
TWG				eS		**Sn**		**07 08 15.1**	**-2.0**
	baz=239								
WDJ	**Dajia District**	**1.69**	**284**	eP		**Pb**		**07 07 57.4**	**-0.8**
	baz=281								
WDJ				eS		**Sb**		**07 08 19.0**	**-0.1**
	baz=281								
STYH	**Taoyuan**	**1.71**	**244**	P		**Pn**		**07 07 57.4**	**+1.0**
	baz=232								
STYH				eS		**Sb**		**07 08 18.9**	**-0.6**
	baz=232								
PCYT	**Pengchaiyu**	**1.71**	**349**	eP		**Pn**		**07 07 56.7**	**+0.2**
	baz=348								
WCHH	**Zhanghua**	**1.73**	**275**	S		**Sb**		**07 08 20.2**	**+0.2**
	baz=271								
STYT	**Tauyuan**	**1.73**	**244**	P		**Pn**		**07 07 57.5**	**+0.8**
	baz=232								
STYT				eS		**Sn**		**07 08 19.3**	**+0.9**
	baz=232

SCST	**Cishan** baz=226	**2.07**	**240**	*eS*		**Sn**	**07 08 28.3**	**+1.5**
TAW	**Tawu** baz=230	**2.12**	**222**	*eP*		**Pn**	**07 08 03.1**	**+0.9**
TAW	baz=230			*eS*		**Sn**	**07 08 27.2**	**-0.8**
MASBT	**Mashibuluo** baz=224	**2.12**	**232**	P		**Pn**	**07 08 03.0**	**+0.8**
MASBT	baz=224			*eS*		**Sn**	**07 08 28.8**	**+0.8**
CHN8	**Yiju** baz=251	**2.13**	**254**	*eS*		**Sn**	**07 08 29.6**	**+1.4**
EAST	**Anshuo** baz=222	**2.13**	**224**	P		**Pn**	**07 08 02.6**	**+0.3**
JTJ	**Tarama**	**2.18**	**71**	P		**Pn**	**07 08 03.5**	**+0.6**
SLIU	**Shizi** baz=229	**2.29**	**222**	*eP*		**Pn**	**07 08 04.5**	**+0.1**
SLIU	baz=229			*eS*		**Sn**	**07 08 33.4**	**+1.3**
SCZT	**Fangliau** baz=219	**2.29**	**227**	*eP*		**Pn**	**07 08 05.3**	**+0.8**
SCZT	baz=219			*eS*		**Sn**	**07 08 33.3**	**+1.2**
TSEB	**Hengchuen, Pin** baz=223	**2.48**	**215**	*eS*		**Sn**	**07 08 38.5**	**+1.7**
HEN	**Hengchun** baz=218	**2.48**	**219**	*eS*		**Sn**	**07 08 38.2**	**+1.2**
TWKBT	**Hengchun** baz=216	**2.49**	**217**	*eP*		**Pn**	**07 08 07.8**	**+0.6**
TWKBT	baz=216			*eS*		**Sn**	**07 08 37.4**	**+0.2**
TWK1	**Hengchun** baz=216	**2.50**	**217**	*eP*		**Pn**	**07 08 07.8**	**+0.5**
TWK1	baz=216			*eS*		**Sn**	**07 08 37.8**	**+0.6**
WDGT	**Dungji** baz=253	**2.64**	**256**	*eP*		**Pn**	**07 08 10.0**	**+0.8**
WDGT	baz=253			*eS*		**Sn**	**07 08 42.0**	**+1.3**
PHUB	**P'eng-hu** baz=273	**2.66**	**261**	*eP*		**Pn**	**07 08 10.6**	**+1.0**
PHUB	baz=273			*eS*		**Sn**	**07 08 41.3**	**-0.1**
PNG	**Penghu** baz=259	**2.67**	**263**	*eS*		**Sn**	**07 08 41.8**	**+0.3**
PTMZ	**Houxiangcun** baz=289	**3.21**	**291**	*eP*		**Pn**	**07 08 16.6**	**-0.6**

IDC 19 07:12:02.6±4.0, 53.79N×88.21E, h0km, mb1 2.9/2, mb1mx2.8/55, mbtmp2.9/2, ML2.6/2, 3C, Error ellipse: s-maj=39.7km s-min=19.9km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=91,slow=304,SNR=0.8	**2.01**	**276**	*i*		07 24 12.4	
ZAA0	**Zalesovo Array** 0.7nm,0.7s,baz=95,slow=16	**2.01**	**276**	⇑P	Pn	07 12 38.4	+0.6
ZAA0	0.9nm,0.4s			⇑S	Sb	07 13 06.1	+0.5
ZALV	**Zalesovo Beam** 1.5nm,0.3s,baz=92,slow=13,SNR=16	**2.01**	**276**	Pg	Pn	07 12 38.7	+0.9
ZALV	2.4nm,0.3s,baz=95,slow=28,SNR=11			Lg	Lg	07 13 06.2	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=62,slow=14,SNR=8.0	**6.74**	**246**	Pn	Pn	07 13 43.8	+1.1
KURBB	**Kurchatov Arra** 1.0nm,0.3s,baz=62,slow=14	**6.74**	**246**	⇑Pn	Pn	07 13 43.5	+0.8
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=28,slow=12,SNR=4.1	**7.96**	**211**	Pn	Pn	07 14 00.0	+0.5

*IDC **19** 07:12:44.0±3.7, 36.29N×70.58E, h172km±33km, mb3.4/11, mb1 3.6/15, mb1mx3.3/61, mbtmp4.0/15, Error ellipse: s-maj=21.3km s-min=17.7km az=21.0*
*NEIC **19** 07:12:48.2±1.9, 36.56N±0.07×70.44E±0.05, h200km±7km, mb4.3/10, Error ellipse: s-maj=10.1km s-min=5.9km az=177.0*
*NNC **19** 07:12:49.0±3.9, 36.72N×70.35E, h141km±63km, mb4.2, mpv4.9, Error ellipse: s-maj=38.3km s-min=22.3km az=42.0*

ISC 19 07:12:47.4±0.5, 36.48N±0.06×70.51E±0.06, h204km, n73, σ1°61/77, mb3.8/13, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.28**	**212**		**Pn**	**07 13 29.8**	**+0.4**
CHGR	**Chuyangaron**	**2.42**	**334**		**Pn**	**07 13 30.4**	**-0.4**
GAR	**Garm**	**2.52**	**357**		**Pn**	**07 13 31.6**	**-0.2**
CEP	**Cherat**	**2.89**	**156**	P	**Pn**	**07 13 37.0**	**+0.8**
CEP				S	S	07 14 38.0	+24
DRK	**Karamyk**	**3.16**	**18**		**Pn**	**07 13 39.5**	**+0.1**
BTK	**Batken**	**3.58**	**4**	Pn	**Pn**	**07 13 44.8**	**+0.6**
CHCP	**Chirah Chowk**	**3.61**	**140**	P	**Pn**	**07 13 45.7**	**+1.1**
NIL	**Nilore**	**3.61**	**141**	Pn	**Pn**	**07 13 45.7**	**+1.1**
THW	**Thamme Wali**	**3.82**	**164**	P	**Pn**	**07 13 47.8**	**+0.6**
SARP	**Sargodha**	**4.89**	**158**	P	**Pn**	**07 14 00.6**	**+0.1**
ARSB	**Arslanbob**	**5.21**	**21**	Pn	**Pn**	**07 14 03.2**	**-1.4**
THN	**Thein Dam**	**5.90**	**132**	*eP*	**Pn**	**07 14 16.5**	**+3.1**
THN				*eS*	**S**	**07 15 19.0**	**-2.2**
AML	**Almayashu** SNR=73	**6.16**	**23**	P	**Pn**	**07 14 16.5**	**-0.5**
DHRM	**DHARAMSHALA**	**6.38**	**130**	*eP*	**Pn**	**07 14 18.8**	**-1.1**
DHRM				*eS*	**S**	**07 15 27.5**	**-5.5**
DHRM	comp=E,504nm,0.5s			IAML		07 15 30.2	
DHRM	comp=N,285nm,0.2s			IAML		07 15 32.1	
MRKS	**Merke** comp=N,48nm,0.2s	**6.60**	**18**	Lg	Lg	07 15 30.8	
KK31	**Karatay Array** comp=N,25nm,0.3s,baz=179,slow=10,SNR=273	**6.61**	**0**	⇓P	**Pn**	**07 14 21.9**	**-0.7**
KK31	comp=N,25nm,0.5s,baz=182,slow=15,SNR=13			S	**S**	**07 15 32.1**	**-5.9**
KK31	**Karatay Array**	**6.61**	**0**	Pn	**Pn**	**07 14 21.9**	**-0.7**
KKAR	**Karatay Array**	**6.61**	**0**		**Pn**	**07 14 22.2**	**-0.4**
KKAR	**Karatay Array**	**6.61**	**0**	Pn	**Pn**	**07 14 22.3**	**-0.3**
EKS2	**Erkin-Say** SNR=33	**6.67**	**21**	P	**Pn**	**07 14 22.8**	**-0.6**
AAK	**Ala-Archa** SNR=21	**6.88**	**25**	P	**Pn**	**07 14 25.8**	**-0.3**
AAK	**Ala-Archa** comp=N,30nm,0.4s	**6.88**	**25**	⇑P	**Pn**	**07 14 25.3**	**-0.8**
AAK	comp=N,19nm,0.6s			⇓S	**S**	**07 15 41.7**	**-2.6**
AAK	**Ala-Archa**	**6.88**	**25**	Pn	**Pn**	**07 14 26.1**	**-0.1**
KBK	**Karagaybulak** SNR=11	**7.05**	**28**	P	**Pn**	**07 14 28.6**	**+0.2**
FRU1	**Bishkek**	**7.07**	**25**		**Pn**	**07 14 28.9**	**+0.3**
CHMS	**Chumysh** SNR=22	**7.28**	**25**	P	**Pn**	**07 14 30.8**	**-0.5**
BOOM	**Boomskoye usch**	**7.32**	**33**	Pn	**Pn**	**07 14 31.6**	**-0.3**
USP	**Ospenovka** SNR=12	**7.44**	**23**	P	**Pn**	**07 14 32.3**	**-1.0**
TKM2	**Tokmak 2** SNR=10	**7.53**	**30**	P	**Pn**	**07 14 34.5**	**-0.1**
TKM2	**Tokmak 2** comp=N,86nm,0.5s	**7.53**	**30**	⇓P	**Pn**	**07 14 34.1**	**-0.6**
SGDS	**Sogindy** comp=N,29nm,0.2s	**7.65**	**23**	P	**Pn**	**07 14 34.7**	**-1.3**
SMLA	**Simla**	**7.69**	**132**	*eP*	**Pn**	**07 14 36.0**	**-0.7**
SMLA				*eS*	**S**	**07 15 58.2**	**-5.4**
SMLA	comp=E,129nm,0.6s			IAML		07 16 01.6	
SMLA	comp=N,235nm,0.5s			IAML		07 16 02.0	
KST	**Kastek** comp=N,54nm,0.8s	**7.78**	**31**	P	**Pn**	**07 14 37.6**	**-0.3**
MTBS	**Maitube** comp=N,31nm,0.3s	**8.05**	**33**	P	**Pn**	**07 14 41.1**	**-0.2**
PRZ	**Przheval'sk**	**8.55**	**43**		**Pn**	**07 14 47.0**	**-0.9**
BTLS	**Baital** comp=N,5.3nm,0.3s	**8.96**	**16**	P	**Pn**	**07 14 53.7**	**+0.7**
GEYT	**Alibeck** comp=N,0.5nm,0.3s,baz=90,slow=12,SNR=3.9	**9.99**	**282**	P	**Pn**	**07 15 04.2**	**-2.2**
GEYT	comp=N,0.5nm,0.3s,baz=33,slow=8.6,SNR=1.4			S	**S**	**07 16 53.5**	**-4.8**
GYA0B	**ALIBECK ARRAY**	**9.99**	**282**	Pn	**Pn**	**07 15 05.0**	**-1.5**
MAKZ	**Makanchi**	**13.40**	**36**	Pn	**Pn**	**07 15 49.0**	**-0.6**
MK31	**Makanchi Array**	**13.54**	**37**	Pn	**Pn**	**07 15 51.4**	**0.0**
MKAR	**Makanchi Array** comp=N,1.0nm,0.3s,baz=207,slow=10,SNR=29	**13.54**	**37**	P	**Pn**	**07 15 50.9**	**-0.4**
MKAR	**Makanchi Array**	**13.54**	**37**	Pn	**Pn**	**07 15 51.0**	**-0.4**

BRZS	**Berezniki** comp=N,14nm,0.2s	**13.59**	**6**	P		**Pn**	**07 15 56.5**	**+2.3**
AB31	**Akbulak array** comp=N,1.6nm,0.5s,baz=143,slow=11,SNR=40	**14.91**	**332**	⇑P		**Pn**	**07 16 07.4**	**-0.8**
ABKAR	**Akbulak array**	**14.91**	**332**			**Pn**	**07 16 07.5**	**-0.7**
ABKAR	**Akbulak array**	**14.91**	**332**			**Pn**	**07 16 07.4**	**-0.8**
SEM	**Semipalatinsk** comp=N,16nm,0.3s	**15.59**	**24**	P	P		07 16 06.0	-11
BVAR	**Borovoye Array** comp=N,0.8nm,0.3s,baz=153,slow=26,SNR=12	**16.54**	**360**	P		**P**	**07 16 27.3**	**+0.5**
BRVK	**Borovoye**	**16.58**	**360**			**Pn**	**07 16 28.0**	**-0.2**
BRVK	comp=Z,3.8nm,0.6s				IAmb	IAmb	07 16 29.4	
AKTO	**Aktyubinsk** comp=Z,0.6nm,0.3s,baz=142,slow=11,SNR=27	**16.60**	**331**	P		**Pn**	**07 16 28.4**	**-0.1**
AKTO	**Aktyubinsk** comp=Z,9.0nm,0.7s	**16.60**	**331**	⇑P		**Pn**	**07 16 28.9**	**+0.4**
LSA	**Lhasa**	**18.55**	**105**	P		**Pn**	**07 16 52.1**	**-0.1**
LSA	comp=Z,10nm,1.1s				IAmb	IAmb	07 16 57.3	
ZAA0	**Zalesovo Array**	**20.10**	**25**	P		**P**	**07 17 05.1**	**-0.2**
ZAA0	comp=Z,6.9nm,0.5s				IAmb	IAmb	07 17 12.5	
ZALV	**Zalesovo Beam** comp=Z,5.7nm,0.4s,baz=212,slow=10,SNR=16	**20.10**	**25**	P		**P**	**07 17 06.3**	**+1.1**
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**07 17 05.6**	**+0.3**
SHL	**Shillong**	**21.26**	**115**	P		**P**	**07 17 18.6**	**+0.5**
ARU	**Arti** comp=Z,2.0nm,0.2s,baz=175,slow=6.1,SNR=4.4	**21.52**	**342**	P		**P**	**07 17 20.9**	**+0.6**
KVAR	**Kislovodsk Arr** comp=Z,3.6nm,0.4s,baz=27,slow=6.8,SNR=2.4	**22.44**	**298**	P		**P**	**07 17 29.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.79**	**118**	P		**P**	**07 18 46.2**	**+2.1**
FINES	**FINESS Array B** comp=Z,0.7nm,0.7s,baz=111,slow=10,SNR=5.3	**37.28**	**326**	P		**P**	**07 19 40.7**	**+1.4**
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.9s,baz=101,slow=7.4,SNR=5.2	**41.01**	**338**	P		**P**	**07 20 12.1**	**+1.9**
GERES	**GERESS Array B**	**42.62**	**305**			**P**	**07 20 25.9**	**+2.4**
RPSI	**Rantau Prapat** comp=Z,11nm,1.2s	**42.63**	**135**	P		**P**	**07 20 25.1**	**+1.2**
RPSI					IAmb	IAmb	07 20 29.3	
NOA	**NORSAR Array B** comp=Z,0.2nm,0.5s,baz=100,slow=8.1,SNR=1.6	**44.16**	**323**	P		**P**	**07 20 36.5**	**+1.0**
TOA0	**Torodi Ar. Sit** comp=Z,6.0nm,1.3s	**65.32**	**268**	P		**P**	**07 23 08.6**	**+0.6**
TOA0					IAmb	IAmb	07 23 19.4	
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=46,slow=6.8,SNR=5.8	**65.32**	**268**	P		**P**	**07 23 08.6**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=301,slow=7.0,SNR=5.3	**74.90**	**16**	P		**P**	**07 24 06.0**	**+0.6**
YKA	**Yellowknife Ar** comp=Z,1.1nm,1.0s,baz=340,slow=8.4,SNR=9.3	**81.28**	**2**	P		**P**	**07 24 41.2**	**+0.8**
WRA	**Warramunga Arr** comp=Z,1.6nm,0.7s,baz=320,slow=5.0,SNR=19	**82.32**	**122**	P		**P**	**07 24 45.9**	**-0.6**
WB2	**Warramunga Arr** comp=Z,10nm,1.4s	**82.33**	**122**	P		**P**	**07 24 46.6**	**+0.1**
WB2					IAmb	IAmb	07 25 06.4	
WR0	**Warramunga Arr**	**82.47**	**121**	P		**P**	**07 24 46.9**	**-0.4**
AS31	**Alice Springs**	**84.57**	**125**	P		**P**	**07 24 58.2**	**+0.4**
ASAR	**Alice Springs** comp=Z,1.1nm,0.5s,baz=308,slow=4.8,SNR=19	**84.57**	**125**	P		**P**	**07 24 57.2**	**-0.6**

*SOME **19** 07:12:55.2, 40.53N×77.20E, h5km*
*NNC **19** 07:12:56.9±1.4, 40.61N×77.86E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=9.2km s-min=7.7km az=174.0*
*KRNET **19** 07:12:58.6±0.1, 40.61N×77.27E, h13km, mb3.1*

ISC 19 07:12:56.7±2.0, 40.53N±0.06×77.22E±0.04, h2km±15km, n35, σ1°20/57, 14C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=20	**1.28**	**20**	⇑*iP*	**Pn**	**07 13 20.7**	**-1.3**
TARG	baz=20			⇑*iS*	**Sb**	**07 13 38.1**	**-0.7**
KDJ	**Kajisay** baz=58	**1.60**	**359**	⇑*iP*	**Pb**	**07 13 27.2**	**+0.1**
KDJ	baz=58			⇑*iS*	**Sb**	**07 13 47.8**	**0.0**
ULHL	**Ulahol** baz=35	**1.86**	**337**	⇑*iP*	**Pb**	**07 13 32.0**	**+0.3**
ULHL	baz=35			⇑*iS*	**Sg**	**07 13 57.7**	**+1.0**
PRZ	**Przheval'sk** baz=24	**2.15**	**24**	⇑*iP*	**Pb**	**07 13 37.0**	**+0.6**
PRZ	baz=24			⇑*iS*	**Sb**	**07 14 04.5**	**+1.0**
BOOM	**Boomskoye usch** baz=33	**2.18**	**334**	⇓*iP*	**Pb**	**07 13 37.4**	**+0.4**
BOOM	baz=33			⇓*iS*	**Sg**	**07 14 05.9**	**-0.9**
ANVS	**Anan'yevo** baz=8.0	**2.28**	**8**	⇑*iP*	**Pb**	**07 13 39.0**	**+0.3**
ANVS	baz=8.0			⇑*iS*	**Sb**	**07 14 07.5**	**+0.2**
MDOK	**Medeo** 2.9nm,0.3s	**2.63**	**357**	*eP*	**Pb**	**07 13 45.6**	**+0.9**
MDOK	48nm,0.5s			*eS*	**Sg**	**07 14 21.8**	**+0.4**
MDOK	**Medeo** 9.8nm,0.4s	**2.63**	**357**	Pg	**Pb**	**07 13 45.9**	**+1.1**
MDOK	48nm,0.5s			Lg	Lg	07 14 22.2	
MTBS	**Maitube** 5.2nm,0.3s	**2.66**	**348**	*eP*	**Pb**	**07 13 46.0**	**+0.8**
MTBS	25nm,0.2s			*eS*	**Sg**	**07 14 22.8**	**+0.5**
MTBS	**Maitube** 5.7nm,0.3s	**2.66**	**348**	Pg	**Pb**	**07 13 46.0**	**+0.8**
MTBS	25nm,0.2s			Lg	Lg	07 14 22.3	
SATY	**Saty** 8.2nm,0.5s	**2.68**	**19**	*eP*	**Pb**	**07 13 46.0**	**+0.5**
SATY	29nm,0.3s			*eS*	**Sg**	**07 14 22.5**	**-0.3**
SATY	**Saty** 8.2nm,0.5s	**2.68**	**19**	Pg	**Pb**	**07 13 43.5**	**-2.0**
SATY	29nm,0.3s			Lg	Lg	07 14 18.2	
KST	**Kastek** 3.7nm,0.4s	**2.68**	**340**	*eP*	**Pb**	**07 13 46.3**	**+0.8**
KST	9.0nm,0.5s			*eS*	**Sg**	**07 14 23.4**	**+0.5**
KST	**Kastek** 6.2nm,0.2s	**2.68**	**340**	Pg	**Pg**	**07 13 48.9**	**+0.8**
KST	9.0nm,0.5s			Lg	Lg	07 14 27.5	
KOTS	**Kotyrbulak** 17nm,0.2s	**2.70**	**358**	*eP*	**Pb**	**07 13 47.0**	**+1.1**
KOTS	56nm,0.5s			*eS*	**Sg**	**07 14 24.3**	**+0.7**
KOTS	**Kotyrbulak** 17nm,0.2s	**2.70**	**358**	Pg	**Pb**	**07 13 45.9**	**0.0**
KOTS	56nm,0.5s			Lg	Lg	07 14 22.1	
SFK	**Sufi-Kurgan** baz=60	**2.89**	**261**	⇑*eP*	**Pb**	**07 13 49.0**	**-0.1**
SFK	baz=60			⇑*iS*	**Sb**	**07 14 25.5**	**+0.6**
DGS	**Degeres** 3.3nm,0.3s	**2.92**	**339**	*eP*	**Pb**	**07 13 50.8**	**+1.2**
DGS	22nm,0.3s			*eS*	**Sg**	**07 14 30.5**	**+0.1**
DGS	**Degeres** 3.3nm,0.3s	**2.92**	**339**	Pg	**Pg**	**07 13 52.0**	**-0.7**
DGS	22nm,0.3s			Lg	Lg	07 14 32.7	
UZB	**Uzynbulak** 3.7nm,0.4s	**2.94**	**27**	*eP*	**Pb**	**07 13 50.0**	**0.0**
UZB	16nm,0.5s			*eS*	**Sg**	**07 14 29.5**	**-1.8**
UZB	**Uzynbulak** 3.1nm,0.3s	**2.94**	**27**	Pg	**Pn**	**07 13 45.0**	**+0.3**
UZB	16nm,0.5s			Lg	Lg	07 14 20.7	
FRU1	**Bishkek** baz=19	**2.99**	**320**	⇑*iP*	**Pb**	**07 13 49.4**	**-1.4**
FRU1	baz=19			⇑*iS*	**Sb**	**07 14 25.9**	**-1.8**
KURS	**Kuram** 4.7nm,0.5s	**3.04**	**13**	*eP*	**Pb**	**07 13 52.6**	**+1.0**
KURS	18nm,0.4s			*eS*	**Sg**	**07 14 34.0**	**-0.4**
KURS	**Kuram** 4.7nm,0.5s	**3.04**	**13**	Pg	**Pb**	**07 13 49.1**	**-2.5**
KURS				Lg	Lg	07 14 28.0	

SHLS	**Shalkode** 6.5nm,0.4s	**3.12**	**32**	*eP*		**Pg**	**07 13 56.6**	**+0.1**
SHLS	24nm,0.6s			*eS*		**Sg**	**07 14 40.7**	**+3.8**
KPKS	**Kokpek** 3.7nm,0.2s	**3.13**	**20**	*eP*		**Pb**	**07 13 54.1**	**+0.9**
KPKS	31nm,0.3s			*eS*		**Sg**	**07 14 36.5**	**-0.8**
KTBS	**Karatobe** 9.3nm,0.2s	**3.21**	**353**	*eP*		**Pb**	**07 13 55.7**	**+1.3**
KTBS	31nm,0.2s			*eS*		**Sg**	**07 14 39.3**	**-0.4**
KTBS	**Karatobe** 9.3nm,0.2s	**3.21**	**353**	Pg		**Pb**	**07 13 55.1**	**+0.7**
KTBS	31nm,0.2s			Lg	Lg		07 14 38.0	
PDGK	**Podgornoye** 2.6nm,0.4s	**3.27**	**30**	Pg		**Pn**	**07 13 50.5**	**+1.4**
PDGK	9.1nm,0.5s			Lg	Lg		07 14 30.4	
CHKK	**Chushkaly** 5.5nm,0.3s	**3.33**	**357**	*eP*		**Pb**	**07 13 57.7**	**+1.2**
CHKK	17nm,0.4s			*eS*		**Sg**	**07 14 42.8**	**-0.8**
CHKK	**Chushkaly** 5.5nm,0.3s	**3.33**	**357**	Pg		**Pb**	**07 13 57.2**	**+0.8**
CHKK	47nm,0.2s			Lg	Lg		07 14 41.8	
KRBS	**Karabastau** 3.3nm,0.4s	**3.37**	**341**	*eP*		**Pb**	**07 13 58.3**	**+1.1**
KRBS	12nm,0.4s			*eS*		**Sg**	**07 14 43.6**	**-1.2**
DJR	**Jarkent** 1.4nm,0.8s	**4.25**	**26**	*eP*		**Pb**	**07 14 13.5**	**+1.3**
DJR	10nm,0.2s			*eS*		**Sg**	**07 15 10.1**	**-3.2**
DJR	**Jarkent** 1.7nm,0.3s	**4.25**	**26**	Pg		**Pb**	**07 14 10.5**	**-1.7**
DJR	10nm,0.2s			Lg	Lg		07 15 04.5	
KAPS	**Kapalarasan** 2.9nm,0.9s	**5.01**	**18**	Pg		**Pb**	**07 14 24.7**	**-0.3**
KAPS	6.0nm,0.6s			Lg	Lg		07 15 29.2	

*IDC **19** 07:19:01.4±1.4, 16.41S×67.16E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/51, mbtmp3.7/7, MS3.6/21, Ms1 3.6/21, ms1mx3.4/43, Error ellipse: s-maj=49.8km s-min=26.2km az=63.0*

ISC 19 07:19:03.6±1.2, 16.4S±0.2×67.2E±0.3, h13km, n29, σ0°21/7, mb3.9/7, MS3.7/21, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H** baz=211,slow=75,SNR=591	**10.14**	**31**	T	T	07 31 25.8	
H08S2	**Diego Garcia H** baz=211,slow=75,SNR=245	**10.15**	**31**	T	T	07 31 31.4	
H08S3	**Diego Garcia H** baz=211,slow=75,SNR=489	**10.16**	**31**	T	T	07 31 27.2	
PALK	**Pallekele** comp=Z,84nm,18.6s,baz=314,slow=31	**27.08**	**31**	LR	LR	07 33 06.8	
PSI	**Prapat** comp=Z,116nm,19.4s,baz=262,slow=31	**36.73**	**62**	LR	LR	07 37 46.6	
BOSA	**Boshof** comp=Z,69nm,19.9s,baz=109,slow=30	**40.38**	**245**	LR	LR	07 39 21.6	
CMAR	**Chiang Mai Arr** comp=Z,35nm,20.8s,baz=170,slow=32	**46.68**	**43**	LR	LR	07 43 38.7	
MAW	**Mawson** comp=Z,44nm,21.7s,baz=56,slow=30	**51.24**	**182**	LR	LR	07 44 30.0	
GEYT	**Alibeck** comp=Z,22nm,20.4s,baz=115,slow=34	**54.71**	**351**	LR	LR	07 49 41.4	
ASAR	**Alice Springs** 1.0nm,0.9s,baz=272,slow=6.0,SNR=9.4	**62.64**	**108**	P	**P**	**07 29 28.1**	**-0.2**
ASAR	comp=Z,196nm,21.6s,baz=253,slow=32			LR	LR	07 52 50.2	
WRA	**Warramunga Arr** 2.3nm,0.9s,baz=269,slow=5.8,SNR=9.4	**63.55**	**104**	P	**P**	**07 29 34.2**	**-0.1**
MKAR	**Makanchi Array** comp=Z,37nm,19.2s,baz=209,slow=33	**64.37**	**11**	LR	LR	07 54 32.2	
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=204,slow=7.0,SNR=4.2	**67.48**	**8**	P	**P**	**07 29 59.0**	**0.0**
STKA	**Stephens Creek** comp=Z,80nm,20.6s,baz=207,slow=32	**68.49**	**118**	LR	LR	07 55 43.3	
TORD	**Torodi Ar. Bea** comp=Z,37nm,18.5s,baz=155,slow=34	**71.05**	**290**	LR	LR	07 59 09.1	
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=202,slow=7.3,SNR=1.0	**71.69**	**11**	P	**P**	**07 30 24.9**	**0.0**
ZALV	comp=Z,24nm,19.6s,baz=158,slow=34			LR	LR	07 59 54.6	
SONM	**Songino Array** 0.4nm,0.4s,baz=205,slow=5.7,SNR=2.2	**72.94**	**26**	P	**P**	**07 30 33.0**	**+0.3**
VAE	**Valguera** comp=Z,43nm,21.0s,baz=336,slow=32	**73.02**	**319**	LR	LR	07 58 09.8	
QSPA	**South Pole Qui** 0.6nm,0.8s,baz=278,slow=7.1,SNR=1.6	**73.68**	**180**	P	**P**	**07 30 37.0**	**+0.1**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=141,slow=5.6,SNR=1.2	**74.65**	**336**	P	**P**	**07 30 42.3**	**-0.2**
DBIC	**Dimbokro** comp=Z,41nm,18.2s,baz=108,slow=35	**74.82**	**282**	LR	LR	08 02 43.7	
VNDA	**Vanda** comp=Z,36nm,19.4s,baz=328,slow=33	**75.11**	**167**	LR	LR	08 00 33.9	
KEST	**Kesra** comp=Z,41nm,18.4s,baz=262,slow=37	**75.36**	**315**	LR	LR	08 05 01.5	
GERES	**GERESS Array B** comp=Z,13nm,18.0s,baz=244,slow=37	**80.41**	**327**	LR	LR	08 08 21.5	
FINES	**FINESS Array B** comp=Z,28nm,20.4s,baz=153,slow=36	**84.18**	**341**	LR	LR	08 09 16.4	
MDT	**Midelt** comp=Z,43nm,18.5s,baz=126,slow=36	**84.18**	**306**	LR	LR	08 09 56.9	
ESDC	**Sonseca Array** comp=Z,20nm,18.4s,baz=165,slow=37	**86.50**	**313**	LR	LR	08 12 47.1	
HNR	**Honiara** comp=Z,27nm,18.8s,baz=226,slow=35	**90.01**	**100**	LR	LR	08 12 02.5	
DZM	**Mont Dzumac** comp=Z,55nm,18.1s,baz=233,slow=35	**92.22**	**114**	LR	LR	08 12 41.2	

*NNC **19** 07:48:41.8±2.6, 36.72N×70.92E, h133km±43km, mb3.1, mpv3.7, Error ellipse: s-maj=21.3km s-min=18.9km az=23.0*

ISC 19 07:48:41.7±3.6, 36.7N±0.2×71.0E±0.1, h150km, n10, σ0°58/13, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=20	**5.82**	**20**	P	**Pn**	**07 50 05.9**	**-0.4**
EKS2	**Erkin-Say** SNR=16	**6.33**	**19**	P	**Pn**	**07 50 12.9**	**0.0**
KK31	**Karatay Array** 2.5nm,0.3s,baz=180,slow=15,SNR=35	**6.41**	**357**	P	**Pn**	**07 50 13.8**	**-0.1**
KK31	5.4nm,0.5s,baz=186,slow=16,SNR=17			S	**Sn**	**07 51 25.3**	**-0.7**
AAK	**Ala-Archa** SNR=5.9	**6.52**	**23**	P	**Pn**	**07 50 15.4**	**-0.1**
AAK	**Ala-Archa** 3.2nm,0.3s	**6.52**	**23**	⇑P	**Pn**	**07 50 15.8**	**+0.3**
AAK	10nm,0.7s			⇑S	**Sn**	**07 51 30.0**	**+1.1**
CHMS	**Chumysh** SNR=6.1	**6.93**	**23**	P	**Pn**	**07 50 20.3**	**-0.4**
USP	**Ospenovka** SNR=8.8	**7.09**	**21**	P	**Pn**	**07 50 23.2**	**+0.2**
TKM2	**Tokmak 2** 2.3nm,0.8s	**7.16**	**28**	⇓P	**Pn**	**07 50 23.2**	**-0.8**
TKM2	2.0nm,0.5s			⇓S	**Sn**	**07 51 43.9**	**-0.2**
AB31	**Akbulak array** 0.6nm,0.4s,baz=153,slow=10,SNR=36	**14.91**	**331**	⇑P	**Pn**	**07 52 05.0**	**+0.1**
AKTO	**Aktyubinsk** 2.0nm,0.7s	**16.61**	**330**	⇓P	**Pn**	**07 52 26.2**	**+0.5**

*IDC **19** 08:05:47.9±1.5, 28.28N×84.53E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/57, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=56.8km s-min=22.5km az=60.0*

ISC 19 08:05:49.4±1.6, 28.3N±0.2×84.5E±0.4, h10km, n7, σ0°40/7, mb3.7/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=173,slow=11,SNR=15	**18.55**	**355**	P	**Pn**	**08 10 07.1**	**+0.6

0.6nm,0.4s,baz=173,slow=9.5,SNR=7.0
SONM Songino Array 25.86 35 P **P 08 11 21.0 -0.4**
0.7nm,0.5s,baz=223,slow=9.8,SNR=2.9
FINES FINESS Array B 50.56 328 P **P 08 14 47.7 -0.2**
0.7nm,0.4s,baz=108,slow=7.4,SNR=12
ARCES ARCESS Array B 53.06 338 P **P 08 15 06.2 -0.3**
0.8nm,0.6s,baz=127,slow=6.0,SNR=4.4
WRA Warramunga Arr 67.94 129 P **P 08 16 49.0 +0.2**
0.4nm,0.7s,baz=321,slow=6.7,SNR=1.9
ASAR Alice Springs 70.23 132 P **P 08 17 03.0 +0.1**
0.4nm,0.8s,baz=319,slow=6.6,SNR=2.3

BJI ***19*** *08:09:50.4±0.0,27.09N×143.75E,h6km,mB5.0/46, mb5.0/73,Ms4.5/65,Ms7 4.3/62*
IDC ***19*** *08:09:50.9±0.4,26.91N×143.83E,h0km,mb5.1/41, mb1 5.1/47,mb1mx5.1/52,mbtmp5.1/47,ML4.3/6,MS3.8/30, Ms1 3.8/30,ms1mx3.8/36,Error ellipse: s-maj=12.1km s-min=9.8km az=105.0*
MOS ***19*** *08:09:51.9±0.8,26.90N×143.79E,h18km,mb5.5/70, MS4.0/11,Error ellipse: s-maj=7.9km s-min=3.8km az=117.3*
NEIC ***19*** *08:09:53.4±1.6,26.95N±0.08×143.83E±0.09,h10km±1km, mb5.3/84,Error ellipse: s-maj=15.0km s-min=12.6km az=135.0*
JMA ***19*** *08:09:54.3,27.06N×143.78E,h78km,M5.2*
JMA Felt I J1.
GCMT ***19*** *08:09:55.4±0.2,26.95N±0.02×143.91E±0.02,h17km±1km, MW4.9/92,Moment Tensor Solution. s33,c44; s92,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.60±.15; Mθθ1.24±.09; Mφφ1.36±.09; Mrθ-1.38±.23; Mθφ-1.61±.05; Mφr0.40±.21; Best double couple: M0 3.11700×10^16 NP1:φ331.00000°,δ35.00000°,λ-66.00000°. NP2: φ122.00000°,δ59.00000°,λ-106.00000°. Principal axes: T 3.1860, Plg12.0000°, Azm223.0000°; N -0.1380, Plg13.0000°, Azm130.0000°; P -3.0480, Plg71.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***19*** *08:10:01.2±0.0,27.89N×142.67E,h33km,mb5.1*
ISC 19 08:09:54.4±0.4,27.03N±0.04×143.78E±0.04,h19km±1km, h20km;pP-P,n614,σ1§65/657,mb5.3/205,MS4.1/61, 77C-217D,Fault plane solution: NP1:φ±2.24350°, δ44.02067°,λ-44.54859°. **NP2:**φ±127.53614°,δ60.82396°, λ-124.55521°. **Principal axes:** T Plg9.4253°, Azm241.5250°; N Plg29.6854°, Azm146.0950°; P Plg58.5596°, Azm347.2802°; **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CBIJ	**Chichi jima**	**1.42**	**273**	P	**Pn**	**08 10 18.9**	**-0.3**
CBIJ				S	**Sn**	**08 10 37.6**	**+0.2**
JCJ	**Chichijima**	**1.42**	**273**	Pn	**Pn**	**08 10 19.1**	**0.0**
	300nm,0.3s,baz=89,slow=23,SNR=81						
JCJ				Sn	**Sn**	**08 10 36.5**	**-0.9**
	3μm,0.3s,baz=278,slow=22,SNR=16						
JHH2	**Haha-jima-NKT2**	**1.48**	**255**	P	**Pn**	**08 10 19.9**	**-0.1**
JHH2				*e*S	**Sn**	**08 10 39.0**	**+0.1**
JHCJ	**Hachijojimakas**	**6.94**	**331**	S	**Sn**	**08 12 52.0**	**-1.5**
JHJ2	**Mitsune**	**6.97**	**331**	P	**Pn**	**08 11 35.0**	**-0.4**
JHJ2	**Mitsune**	**6.97**	**331**	Pn	**Pn**	**08 11 35.7**	**+0.3**
JHJ	**Hachijo jima 2**	**6.99**	**331**	Pn	**Pn**	**08 11 35.0**	**-0.7**
	56nm,0.3s,baz=82,slow=22,SNR=9.0						
JHJ				Sn	**Sn**	**08 12 49.2**	**-5.4**
	42nm,0.3s,baz=104,slow=16,SNR=1.6						
JHJ				LR	LR	08 14 12.4	
	comp=Z,434nm,20.6s,baz=90,slow=37						
JMKN	**Mikurajimanish**	**7.74**	**333**	P	**Pn**	**08 11 46.5**	**+0.5**
BSO1	**Boso 1**	**7.97**	**343**	P	**Pn**	**08 11 47.3**	**-1.4**
BSO3	**Boso 3**	**8.24**	**341**	P	**Pn**	**08 11 52.3**	**-0.3**
BSO4	**Boso 4**	**8.47**	**340**	P	**Pn**	**08 11 56.1**	**+0.2**
JOD2	**Odawara 2**	**9.14**	**335**	P	**Pn**	**08 12 05.0**	**-0.2**
JOD2				*e*S	**Sn**	**08 13 44.3**	**-3.3**
JHU	**Hanno**	**9.60**	**338**	P	**Pn**	**08 12 10.9**	**-0.6**
JHU				*e*S	**Sn**	**08 13 52.2**	**-6.6**
JYT	**Yasato**	**9.67**	**342**	P	**Pn**	**08 12 11.9**	**-0.5**
JYT				*e*S	**Sn**	**08 13 56.0**	**-4.5**
JYT	**Yasato**	**9.67**	**342**	Pn	**Pn**	**08 12 12.4**	**0.0**
JNY	**Yasuok**	**9.73**	**330**	P	**Pn**	**08 12 14.4**	**+1.1**
JTNC	**Tanabenakahech**	**9.77**	**316**	P	**Pn**	**08 12 14.7**	**+0.8**
JRY	**Ryogami san**	**9.88**	**336**	P	**Pn**	**08 12 15.6**	**+0.2**
JHO	**Hitachi**	**9.94**	**345**	P	**Pn**	**08 12 14.0**	**-2.1**
JHO				S	**Sn**	**08 14 00.2**	**-6.9**
JAG	**Ashikaga**	**10.07**	**340**	P	**Pn**	**08 12 16.5**	**-1.4**
JAG				*e*S	**Sn**	**08 14 04.1**	**-6.2**
INU	**Inuyama**	**10.11**	**327**	Pn	**Pn**	**08 12 20.0**	**+1.4**
JGF	**Kuroka**	**10.16**	**329**		**Pn**	**08 12 20.5**	**+1.4**
JNG	**Nsakai**	**10.52**	**334**	P	**Pn**	**08 12 25.0**	**+0.7**
JFK	**Kawauchi**	**10.60**	**347**	P	**Pn**	**08 12 22.6**	**-2.6**
JFK				*e*S	**Sn**	**08 14 14.5**	**-8.9**
MJAR	**Matsushiro Arr**	**10.60**	**335**	Pn	**Pn**	**08 12 24.4**	**-0.9**
	4.5nm,0.3s,baz=164,slow=12,SNR=157						
MJAR				Sn	**Sn**	**08 14 21.2**	**-2.2**
	1.1nm,0.3s,baz=133,slow=11,SNR=5.4						
MJAR				LR	LR	08 17 53.7	
	comp=Z,310nm,18.1s,baz=135,slow=45						
MJAR	**Matsushiro Arr**	**10.60**	**335**	P	**Pn**	**08 12 25.9**	**+0.7**
MJAR	**Matsushiro Arr**	**10.60**	**335**	Pn	**Pn**	**08 12 25.9**	**+0.7**
MAJO	**Matsushiro**	**10.60**	**335**	*d* iP	**Pn**	**08 12 24.8**	**-0.5**
MAJO	**Matsushiro**	**10.60**	**335**	Pn	**Pn**	**08 12 25.8**	**+0.5**
MAT	**Matsushiro**	**10.60**	**335**	P	**Pn**	**08 12 25.1**	**-0.2**
MAT				*e*S	**Sn**	**08 14 18.1**	**-5.4**
MJB9	**Matsu-Tunnel**	**10.61**	**335**		**Pn**	**08 12 25.5**	**+0.2**
JMN	**Monobe**	**10.84**	**310**	Pn	**Pn**	**08 12 30.1**	**+1.5**
JWT	**Wachi**	**10.91**	**321**	Pn	**Pn**	**08 12 31.2**	**+1.7**
JSD	**Sado**	**11.92**	**338**	Pn	**Pn**	**08 12 42.3**	**-1.0**
JMK	**Ichinoseki**	**12.08**	**350**	P	**Pn**	**08 12 42.8**	**-2.7**
JMK				S	**Sn**	**08 14 51.0**	**-8.7**
JHS	**Saijyo**	**12.11**	**314**	Pn	**Pn**	**08 12 46.8**	**+0.9**
JOW	**Kunigami**	**13.83**	**273**	Pn	**Pn**	**08 13 10.0**	**+0.5**
	1.0nm,0.3s,baz=171,slow=22,SNR=2.0						
JOW				LR	LR	08 18 05.1	
	comp=Z,273nm,18.6s,baz=132,slow=36						
ERM	**Erimo**	**14.96**	**358**	*ce*P	**Pn**	**08 13 20.4**	**-4.3**
ERM				pmax	pmax		
	comp=Z,19nm,0.7s						
ERM	**Erimo**	**14.96**	**358**		**Pn**	**08 13 23.1**	**-1.6**
ERM				IAmb	IAmb	08 13 35.6	
	comp=Z,94nm,0.7s						
JEW	**Eniwo**	**15.89**	**354**	Pn	**Pn**	**08 13 36.1**	**-0.8**
JEW				IAmb	IAmb	08 13 44.2	
	comp=Z,232nm,0.9s						
KOHB	**KOHEUNG**	**16.06**	**302**	P	**P**	**08 13 44.9**	**+2.5**
	SNR=20						
KOHB	**KOHEUNG**	**16.06**	**302**	P	**P**	**08 13 44.9**	**+2.5**
	SNR=20						
BOSB	**Boseong-gun**	**16.16**	**303**	P	**P**	**08 13 45.0**	**+1.5**
	SNR=17						
BOSB	**Boseong-gun**	**16.16**	**303**	P	**P**	**08 13 45.0**	**+1.5**
	SNR=17						
KSCPR	**CHUPUNGNYEONG**	**16.27**	**308**	P	**P**	**08 13 44.8**	**0.0**
	SNR=11						
KSCPR	**CHUPUNGNYEONG**	**16.27**	**308**	P	**P**	**08 13 44.8**	**0.0**
	SNR=11						
KSMGY	**Mungyeong**	**16.43**	**310**	P	**P**	**08 13 47.9**	**+1.4**
	SNR=13						
KSMGY	**Mungyeong**	**16.43**	**310**	P	**P**	**08 13 47.9**	**+1.4**
	SNR=13						
KSYOW	**Yeongwol**	**16.44**	**312**	P	**P**	**08 13 47.3**	**+0.7**
	SNR=11						
KSYOW	**Yeongwol**	**16.44**	**312**	P	**P**	**08 13 47.3**	**+0.7**
	SNR=11						
KSBON	**Boeun**	**16.53**	**309**	P	**P**	**08 13 49.0**	**+1.4**
	SNR=7.3						
KSBON	**Boeun**	**16.53**	**309**	P	**P**	**08 13 49.0**	**+1.4**
	SNR=7.3						
KSDGY	**Daegwallycong**	**16.59**	**314**	P	**P**	**08 13 49.0**	**+0.6**
	SNR=10						
KSDGY	**Daegwallycong**	**16.59**	**314**	P	**P**	**08 13 49.0**	**+0.6**
	SNR=10						
KSJMJ	**Jumunjin**	**16.65**	**314**	P	**P**	**08 13 48.2**	**-0.7**
	SNR=17						
KSJMJ	**Jumunjin**	**16.65**	**314**	P	**P**	**08 13 48.2**	**-0.7**
	SNR=17						
KSJEU	**Jeongeup**	**16.68**	**305**	P	**P**	**08 13 50.7**	**+1.4**
	SNR=13						
KSJEU	**Jeongeup**	**16.68**	**305**	P	**P**	**08 13 50.7**	**+1.4**
	SNR=13						
TJN	**Taejon**	**16.77**	**308**	*ce*P	**P**	**08 13 50.2**	**-0.1**
KSWJU	**Wonju**	**16.83**	**312**	P	**P**	**08 13 53.0**	**+2.0**
	SNR=9.3						
KSWJU	**Wonju**	**16.83**	**312**	P	**P**	**08 13 53.0**	**+2.0**
	SNR=9.3						
GOCB	**Gochang-gun**	**16.86**	**304**	P	**P**	**08 13 54.0**	**+2.7**
	SNR=11						
GOCB	**Gochang-gun**	**16.86**	**304**	P	**P**	**08 13 54.0**	**+2.7**
	SNR=11						
KSRS	**Korea Array**	**16.95**	**312**	P	**Pn**	**08 13 51.2**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=120,slow=12,SNR=43						
KSRS				PcP	**PcP**	**08 18 37.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=171,slow=2.3,SNR=6.5						
KSRS				LR	LR	08 19 45.8	
	comp=Z,228nm,19.9s,baz=118,slow=35						
KSAR	**Wonju Array Be**	**16.97**	**312**	P	**P**	**08 13 52.3**	**-0.1**
KSAR	**Wonju Array Be**	**16.97**	**312**		**P**	**08 13 52.3**	**-0.1**
KS19	**Wonju Array Si**	**17.01**	**312**	P	**Pn**	**08 13 51.6**	**+0.4**
KSSKC	**Sokcho**	**17.04**	**315**	P	**P**	**08 13 54.3**	**+1.0**
	SNR=13						
KSSKC	**Sokcho**	**17.04**	**315**	P	**P**	**08 13 54.3**	**+1.0**
	SNR=13						
SMKB	**Mukjeong-gil**	**17.04**	**305**	P	**P**	**08 13 56.0**	**+2.7**
	SNR=6.3						
SMKB	**Mukjeong-gil**	**17.04**	**305**	P	**P**	**08 13 56.0**	**+2.7**
	SNR=6.3						
ASAJ	**Asahikawa**	**17.08**	**357**	P	**Pn**	**08 13 51.3**	**-0.7**
	comp=Z,3.7nm,0.3s,baz=200,slow=10.0,SNR=12						
ASAJ				S	**Sn**	**08 16 51.1**	**-10**
	comp=Z,1.2nm,0.3s,baz=160,slow=26,SNR=4.7						
ASAJ				LR	LR	08 19 39.6	
	comp=Z,470nm,21.6s,baz=172,slow=34						
JKA	**Kamikawa-asahi**	**17.08**	**357**		**Pn**	**08 13 52.0**	**0.0**
KSIJA	**INJE**	**17.12**	**314**	P	**P**	**08 13 55.1**	**+0.9**
	SNR=16						
KSIJA	**INJE**	**17.12**	**314**	P	**P**	**08 13 55.1**	**+0.9**
	SNR=16						
SEHB	**SEOHWA**	**17.20**	**315**	P	**P**	**08 13 56.4**	**+1.4**
	SNR=11						
SEHB	**SEOHWA**	**17.20**	**315**	P	**P**	**08 13 56.4**	**+1.4**
	SNR=11						
KSCHC	**Chuncheon**	**17.20**	**313**	P	**P**	**08 13 57.0**	**+2.0**
	SNR=18						
KSCHC	**Chuncheon**	**17.20**	**313**	P	**P**	**08 13 57.0**	**+2.0**
	SNR=18						
KSICN	**Icheon**	**17.20**	**311**	P	**P**	**08 13 55.7**	**+0.7**
	SNR=6.8						
HAWB	**Hwaseong-si**	**17.53**	**309**	P	**P**	**08 14 01.0**	**+2.3**
	SNR=7.3						
HAWB	**Hwaseong-si**	**17.53**	**309**	P	**P**	**08 14 01.0**	**+2.3**
	SNR=7.3						
KSSES	**Seosan**	**17.61**	**308**	P	**P**	**08 14 03.4**	**+3.8**
	SNR=6.3						
INCN	**Inchon**	**17.83**	**310**	P	**P**	**08 14 02.4**	**+0.3**
INCN				pmax	pmax		
	comp=Z,96nm,1.0s						
INCN	**Inchon**	**17.83**	**310**		**P**	**08 14 02.4**	**+0.3**
KUR	**Kuril'sk**	**18.46**	**9**	*e*P	**Pn**	**08 14 10.3**	**+1.3**
KUR				*e*S	**S**	**08 17 37.7**	**-1.1**
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				pmax	pmax		
	comp=Z,900nm,3.6s						
KUR				MLR	MLR		
	comp=E,300nm,10.0s						
KUR				MLR	MLR		
	comp=Z,400nm,10.0s						
MSHR	**Mys Shultsa**	**18.62**	**330**	*ce*P	**P**	**08 14 09.0**	**-1.7**
MSHR				pmax	pmax		
	comp=Z,63nm,1.7s						
VLA	**Vladivostok**	**18.74**	**332**	*c* iP	**P**	**08 14 12.0**	**0.0**
VLA				pmax	pmax		
	comp=Z,100nm,0.8s						
USA0B	**Ussuriysk Arra**	**19.60**	**334**	P	**P**	**08 14 21.6**	**+0.3**
USA0B				pmax	pmax		
	comp=Z,29nm,0.9s						
USA0B	**Ussuriysk Arra**	**19.60**	**334**		**P**	**08 14 21.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**19.60**	**334**	P	**P**	**08 14 21.9**	**+0.5**
	baz=139,slow=9.1,SNR=40						
USRK				LR	LR	08 22 22.0	
	comp=Z,120nm,20.4s,baz=134,slow=38						
USRK	**Ussuriysk Ar.**	**19.60**	**334**	P	**P**	**08 14 21.4**	**0.0**
USRK	**Ussuriysk Ar.**	**19.60**	**334**	P	**P**	**08 14 21.4**	**0.0**
YSS	**Yuzh-Sakhalins**	**19.91**	**358**	*k* iP	**Pn**	**08 14 27.2**	**+0.8**
YSS				*e*		08 14 58.0	
YSS				*e*S	**Sn**	**08 18 10.8**	**+1.2**
YSS				*e*		08 18 37.4	
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,700nm,6.2s						
YSS				pmax	pmax		
	comp=N,600nm,4.4s						
YSS				smax	smax		
	comp=N,300nm,6.0s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**19.91**	**358**		**P**	**08 14 24.1**	**-0.6**
SSE	**Sheshan**	**20.15**	**287**	P	Pn	08 14 28.5	-0.9
SSE				S	Sn	08 18 16.6	+0.8
SSE				pmax	pmax		
	comp=N,16nm,0.6s						
SSE				pmax	pmax		
	comp=N,130nm,3.5s						
SSE				L	L		
	comp=N,230nm,13.8s						
SSE				L	L		
	comp=N,230nm,13.6s						
YHNB	**Yeheng**	**20.30**	**268**		**P**	**08 14 29.4**	**+0.2**
YHNB				IAmb	IAmb	08 14 33.4	
	comp=Z,92nm,0.7s						
YULB	**Yu-li**	**20.65**	**265**	P	**P**	**08 14 32.5**	**-0.5**
YULB				IAmb	IAmb	08 14 47.1	
	comp=Z,199nm,1.5s						
SSLB	**Suanglung**	**20.86**	**266**		**P**	**08 14 36.2**	**+0.9**
SSLB				IAmb	IAmb	08 14 50.8	
	comp=Z,104nm,0.8s						
MDJ	**Mudanjiang**	**20.93**	**331**	P	Pn	08 14 37.4	-1.0
MDJ				S	Sn	08 18 32.8	-1.5
MDJ				pmax	pmax		
	comp=Z,62nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,520nm,6.0s						
MDJ				L	L		
	comp=Z,410nm,12.5s						
MDJ				L	L		
	comp=Z,450nm,13.7s						
MDJ				L	L		
	comp=Z,780nm,14.5s						
MDJ	**Mudanjiang**	**20.93**	**331**		**P**	**08 14 36.8**	**+0.9**
TWG	**Pinlang**	**21.00**	**263**	P	**P**	**08 14 36.5**	**-0.3**
TWG				IAmb	IAmb	08 14 43.6	
	comp=Z,66nm,0.6s						
DL2	**Dalian**	**21.98**	**308**	P	**P**	**08 14 45.6**	**-1.5**
DL2				S	**S**	**08 18 48.1**	**-0.8**
DL2				pmax	pmax		
	comp=Z,45nm,0.7s						
DL2				pmax	pmax		
	comp=Z,84nm,5.7s						
DL2				L	L		
	comp=Z,450nm,13.7s						
DL2				L	L		
	comp=Z,560nm,17.3s						
DL2				L	L		
	comp=Z,610nm,13.6s						
UGL	**Uglegorsk**	**22.06**	**357**	⇑*i*P	**P**	**08 14 50.7**	**+2.8**
UGL				*e*		08 15 11.3	
UGL				*e*S	**S**	**08 18 49.7**	**-0.5**
UGL				pmax	pmax		
	comp=Z,130nm,1.2s						
UGL				smax	smax		
	comp=N,1μm,6.6s						
UGL				MLR	MLR		
	comp=E,2μm,20.0s						
UGL				MLR	MLR		
	comp=N,700nm,14.0s						
UGL				MLR	MLR		
	comp=Z,1μm,18.0s						
SNY	**Shenyang**	**22.18**	**317**	⇑P	**P**	**08 14 49.3**	**0.0**
SNY				pmax	pmax		
	comp=Z,34nm,0.8s						
SNY				L	L		
	comp=Z,660nm,14.0s						
SNY				L	L		
	comp=Z,400nm,15.4s						
SNY				L	L		
	comp=Z,460nm,13.0s						
NJ2	**Nanjing**	**22.23**	**289**	*e*P	**P**	**08 14 51.8**	**+1.8**
NJ2				pP	**pP**	**08 14 53.8**	**+0.3**
NJ2				sP	**sP**	**08 14 57.1**	**+1.4**
NJ2				S	**S**	**08 18 52.1**	**-1.8**
NJ2				SS	**SnSn**	**08 19 31.1**	**+10**
NJ2				pmax	pmax		
	comp=Z,42nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,310nm,4.0s						
NJ2				L	L		
	comp=Z,310nm,11.8s						
NJ2				L	L		
	comp=Z,490nm,14.2s						
NJ2				L	L		
	comp=Z,450nm,12.8s						
CN2	**Changchun**	**22.35**	**323**	*e*P	**P**	**08 14 51.8**	**+0.7**
CN2				S	**S**	**08 18 59.4**	**+3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,7.3s						
CN2				L	L		
	comp=Z,400nm,13.0s						
CN2				L	L		
	comp=Z,600nm,13.0s						
CN2				L	L		
	comp=Z,500nm,13.0s						
H11N2	**WAKE ISLAND Hy**	**22.41**	**104**	T	T	08 36 49.5	
	baz=297,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**22.41**	**104**	T	T	08 36 48.7	
	baz=297,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**22.42**	**104**	T	T	08 36 49.8	
	baz=297,slow=75,SNR=12						
QZH	**Quanzhou**	**22.73**	**270**	P	**P**	**08 14 55.6**	**+0.3**
QZH				S	**S**	**08 18 58.8**	**-4.2**
QZH				L	L		
	comp=Z,330nm,15.2s						
H11S3	**WAKE ISLAND Hy**	**22.74**	**107**	T	T	08 38 13.5	
	baz=295,slow=74,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**22.75**	**107**	T	T	08 38 12.0	
	baz=295,slow=74,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**22.76**	**107**	T	T	08 38 09.9	
	baz=295,slow=74,SNR=5.6						
SZP	**Santa**	**23.52**	**251**	P	**P**	**08 15 02.9**	**-0.5**
SZP				IAmb	IAmb	08 15 10.2	
	comp=Z,118nm,0.8s						
TYV	**Tymovskoe**	**23.82**	**358**	*e*P	**P**	**08 15 06.8**	**+0.8**
TYV				pmax	pmax		
	comp=Z,200nm,3.8s						
TYV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KLR	**Kul'dur**	**24.04**	**340**	P	**P**	**08 15 09.2**	**+1.1**
	comp=Z,59nm,0.7s,baz=150,slow=7.5,SNR=199						
KLR				PcP	**PcP**	**08 18 49.5**	**0.0**
	comp=Z,4.5nm,0.7s,baz=139,slow=2.8,SNR=5.9						
KLR				LR	LR	08 24 50.6	
	comp=Z,120nm,21.6s,baz=140,slow=37						
KLR	**Kul'dur**	**24.04**	**340**	*ce*P	**P**	**08 15 08.9**	**+0.8**
KLR				pmax	pmax		
	comp=Z,50nm,0.8s						
GRNR	**Gornyy**	**24.36**	**349**	⇓*i*P	**P**	**08 15 12.9**	**+1.8**
GRNR				*e*S	**S**	**08 19 34.8**	**+5.3**
GRNR				pmax	pmax		
	comp=N,20nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR				smax	smax		
	comp=N,5.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,80nm,15.0s						
GRNR				MLR	MLR		
	comp=N,180nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,220nm,16.0s						
TIA	**Tai'an**	**24.41**	**299**	P	**P**	**08 15 10.1**	**-1.6**
TIA				S	**S**	**08 19 32.4**	**+1.8**
TIA				pmax	pmax		
	comp=Z,25nm,0.8s						
TIA				L	L		
	comp=Z,400nm,12.7s						
TIA				L	L		
	comp=Z,550nm,16.7s						
TIA				L	L		
	comp=Z,600nm,15.7s						
TGY	**Tagaytay City**	**24.90**	**243**	P	**P**	**08 15 15.9**	**-0.3**
	comp=Z,187nm,0.5s,baz=51,slow=8.4,SNR=4.4						
TGY				LR	LR	08 24 41.5	
	comp=Z,359nm,18.4s,baz=12,slow=36						
TGY	**Tagaytay City**	**24.90**	**243**	P	**P**	**08 15 16.0**	**-0.3**
WHN	**Wuhan**	**25.99**	**285**	⇑P	**P**	**08 15 27.3**	**+1.2**
WHN				S	**S**	**08 19 58.8**	**+2.9**
WHN				pmax	pmax		
	comp=Z,62nm,0.5s						
WHN				L	L		
	comp=Z,690nm,11.7s						
WHN				L	L		
	comp=Z,720nm,13.3s						
WHN				L	L		
	comp=Z,770nm,15.3s						
NKL	**Nikolayevsk**	**26.20**	**356**	*e*P	**P**	**08 15 21.0**	**-6.6**
NKL				*e*S	**S**	**08 19 55.9**	**-2.6**
NKL				pmax	pmax		
	comp=N,1.0nm,0.7s						
NKL				pmax	pmax		
	comp=E,84nm,0.7s						
NKL				pmax	pmax		
	comp=Z,47nm,1.1s						
NKL				smax	smax		
	comp=N,1.0nm,1.3s						
NKL				smax	smax		
	comp=E,284nm,2.8s						
NKL				MLR	MLR		
	comp=N,3.0nm,13.0s						
NKL				MLR	MLR		
	comp=E,2μm,13.0s						
NKL				MLR	MLR		
	comp=Z,161nm,12.0s						
BJT	**Baijiatuau**	**26.30**	**307**	P	**P**	**08 15 28.7**	**0.0**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	**Baijiatuau**	**26.30**	**307**	P	**P**	**08 15 28.7**	**0.0**
BJI	**Beijing**	**26.30**	**307**	P	**P**	**08 15 28.3**	**-0.4**
BJI				pP	**pP**	**08 15 31.0**	**-1.6**
BJI				sP	**sP**	**08 15 33.3**	**-1.3**
BJI				S	**S**	**08 20 01.0**	**+0.5**
BJI				sS	**sS**	**08 20 10.8**	**+2.6**
BJI				pmax	pmax		
	comp=Z,11nm,1.6s						
BJI				pmax	pmax		
	comp=Z,65nm,3.8s						
BJI				L	L		
	comp=Z,250nm,14.4s						
BJI				L	L		
	comp=Z,260nm,13.5s						
BJI				L	L		
	comp=Z,350nm,14.3s						
PETK	**Petropavlovsk-**	**28.04**	**18**	P	**P**	**08 15 43.7**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=194,slow=4.4,SNR=4.5						
PETK				LR	LR	08 25 46.7	
	comp=Z,242nm,21.3s,baz=192,slow=34						
PET	**Petropavlovsk**	**28.24**	**19**	*e*P	**P**	**08 15 46.0**	**0.0**
PET				*e*S	**S**	**08 20 28.8**	**-2.0**
PET				*e*SS	**SnSn**	**08 21 53.6**	**+5.8**
PET				pmax	pmax		
	comp=Z,100nm,12.6s						
PET				pmax	pmax		
	comp=Z,32nm,1.2s						
PET				MLR	MLR		
	comp=Z,500nm,20.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
HIA	**Hailar**	**28.93**	**327**	P	**P**	**08 15 52.7**	**+0.4**
HIA				pmax	pmax		
	comp=Z,18nm,0.7s						
HIA	**Hailar**	**28.93**	**327**	P	**P**	**08 15 52.7**	**+0.4**
ZEA	**Zeya**	**29.35**	**340**	*e*P	**P**	**08 15 57.5**	**+1.6**
ZEA				pmax	pmax		
	comp=N,40nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.6s						
ZEA				MLR	MLR		
	comp=E,200nm,13.0s						
ZEA				MLR	MLR		
	comp=N,200nm,15.0s						
ZEA				MLR	MLR		

GAMI	**Galela, Maluku**	**29.37**	**214**	P	**P**	**08**	**15**	**54.3 -2.1**
	comp=Z,134nm,0.9s							
HHC	**Hu-ho-hao-te**	**29.89**	**306**	*eP*	**P**	**08**	**16**	**03.4 +2.5**
HHC				pmax	pmax			
	comp=Z,22nm,0.9s							
HHC				pmax	pmax			
	comp=Z,130nm,4.2s							
HHC				L	L			
	comp=Z,340nm,13.5s							
HHC				L	L			
	comp=Z,310nm,15.5s							
HHC				L	L			
	comp=Z,540nm,14.0s							
ENH	**Enshi**	**30.20**	**284**	P	**P**	**08**	**16**	**02.9 -0.8**
ENH				IAmb	IAmb	08	16	08.6
	comp=Z,36nm,1.2s							
SWI	**Sorong**	**30.23**	**205**	P	**P**	**08**	**16**	**02.8 -1.2**
	comp=Z,2µmcomp=Z,54nm,0.8s							
SIJI	**Sorong**	**30.24**	**205**	P	**P**	**08**	**16**	**02.4 -1.7**
	comp=Z,20nm,0.7s							
XAN	**Xi'an**	**30.72**	**292**	P	**P**	**08**	**16**	**08.1 -0.2**
XAN	**Xi'an**	**30.72**	**292**	P	**P**	**08**	**16**	**08.1 -0.2**
BTO	**Baotou**	**30.94**	**305**	*eP*	P	08	16	21.5 +11
MNI	**Manado**	**31.26**	**219**	P	**P**	**08**	**16**	**12.4 -0.7**
FAKI	**Fak Fak**	**31.78**	**202**	P	**P**	**08**	**16**	**15.8 -1.9**
	comp=Z,46nm,0.9s							
QIZ	**Qiongzhong**	**32.15**	**263**	P	**P**	**08**	**16**	**21.0 0.0**
QIZ				S	**S**	**08**	**21**	**34.0 +1.1**
QIZ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
QIZ				pmax	pmax			
	comp=Z,72nm,2.7s							
QIZ				L	L			
	comp=Z,320nm,15.4s							
QIZ				L	L			
	comp=Z,190nm,14.1s							
QIZ				L	L			
	comp=Z,210nm,16.7s							
KMSI	**Cibinong**	**32.46**	**219**	P	**P**	**08**	**16**	**22.7 -0.9**
	comp=Z,256nm,0.7s							
MA2	**Magadan**	**32.89**	**7**	P	**P**	**08**	**16**	**27.8 +0.8**
	comp=Z,9.2nm,0.4s,baz=181,slow=7.9,SNR=10							
MA2	**Magadan**	**32.89**	**7**	*ceP*	**P**	**08**	**16**	**28.3 +1.3**
MA2				pmax	pmax			
	comp=Z,54nm,2.5s							
MA2	**Magadan**	**32.89**	**7**	P	**P**	**08**	**16**	**28.0 +1.0**
GTOI	**Gorontalo**	**32.97**	**221**	P	**P**	**08**	**16**	**27.6 -0.5**
	comp=Z,35nm,0.8s							
GYA	**Guiyang**	**33.07**	**278**	⇓P	**P**	**08**	**16**	**29.3 +0.2**
GYA				sP	pwP	08	16	38.8 -2.6
GYA				S	**S**	**08**	**21**	**42.3 -5.1**
GYA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GYA				L	L			
	comp=Z,55nm,11.5s							
GYA				L	L			
	comp=Z,37nm,13.9s							
SANI	**Sanana**	**33.61**	**213**	P	**P**	**08**	**16**	**31.5 -2.2**
	comp=Z,62nm,0.7s							
KRAI	**Karang Ratu**	**33.63**	**209**	P	**P**	**08**	**16**	**33.2 -0.6**
	comp=Z,145nm,0.9s							
KRAI				pP	**pwP**	**08**	**16**	**44.6 -1.5**
	comp=Z,145nm,0.9s							
MRSI	**Marisa**	**33.72**	**222**	P	**P**	**08**	**16**	**34.1 -0.6**
	comp=Z,2µmcomp=Z,216nm,1.0s							
TOLI2	**Tolitoli**	**33.93**	**224**	P	**P**	**08**	**16**	**35.5 -1.0**
TOLI2				IAmb	IAmb	08	16	38.4
	comp=Z,27nm,0.9s							
NLAI	**Namlea**	**34.13**	**211**	P	**P**	**08**	**16**	**37.2 -1.0**
	comp=Z,68nm,1.2s							
LUWI	**Luwuk**	**34.47**	**219**	P	**P**	**08**	**16**	**39.9 -1.2**
	comp=Z,117nm,0.9s							
LZH	**Lanzhou**	**35.01**	**295**	⇑P	**P**	**08**	**16**	**45.8 -0.1**
LZH				pP	pP	08	16	49.0 -0.9
LZH				sP	sP	08	16	51.8 0.0
LZH				S	**S**	**08**	**22**	**15.5 -1.7**
LZH				sS	sS	08	22	24.3 +0.1
LZH				SS	**SnSn**	**08**	**24**	**31.0 -2.0**
LZH				pmax	pmax			
	comp=Z,49nm,1.3s							
LZH				pmax	pmax			
	comp=Z,170nm,5.4s							
LZH				L	L			
	comp=Z,320nm,13.0s							
LZH				L	L			
	comp=Z,490nm,13.0s							
LZH				L	L			
	comp=Z,480nm,16.3s							
APSI	**Ampana**	**35.01**	**221**	P	**P**	**08**	**16**	**44.6 -1.2**
	comp=Z,715nmcomp=Z,84nm,1.1s							
MPSI	**Mapaga**	**35.09**	**225**	P	**P**	**08**	**16**	**44.4 -2.1**
	comp=Z,26nm,1.0s							
CD2	**Chengdu**	**35.10**	**286**	⇓*i*P	**P**	**08**	**16**	**45.1 -1.5**
CD2				pP	pP	08	16	49.5 -1.1
CD2				sP	sP	08	16	50.5 -2.1
CD2				S	**S**	**08**	**22**	**20.1 +1.7**
CD2				sS	sS	08	22	25.1 -0.5
CD2				pmax	pmax			
	comp=Z,80nm,0.5s							
CD2				pmax	pmax			
	comp=Z,130nm,5.9s							
CD2				L	L			
	comp=Z,730nm,14.3s							
CD2				L	L			
	comp=Z,640nm,13.3s							
CD2				L	L			
	comp=Z,800nm,14.5s							
ULN	**Ulaanbaatar**	**35.35**	**316**	*ceP*	**P**	**08**	**16**	**49.9 +1.2**
ULN				pmax	pmax			
	comp=Z,69nm,1.7s							
ULN	**Ulaanbaatar**	**35.35**	**316**	P	**P**	**08**	**16**	**50.0 +1.3**
ULN				IAmb	IAmb	08	16	51.7
	comp=Z,42nm,1.1s							
ULN	**Ulaanbaatar**	**35.35**	**316**	P	**P**	**08**	**16**	**50.4 +1.7**
	comp=Z,2µmcomp=Z,182nm,1.2s							
SONM	**Songino Array**	**35.75**	**316**	P	**P**	**08**	**16**	**53.5 +1.4**
	comp=Z,17nm,0.7s,baz=117,slow=8.4,SNR=62							
SONM				PcP	**PcP**	**08**	**19**	**19.9 +0.1**
	comp=Z,4.9nm,0.8s,baz=134,slow=4.0,SNR=4.4							
SONM				LR	LR	08	32	49.5
	comp=Z,180nm,19.4s,baz=100,slow=38							
SONM	**Songino Array**	**35.75**	**316**	P	**P**	**08**	**16**	**53.5 +1.4**
YAK	**Yakutsk**	**36.25**	**349**	P	**P**	**08**	**16**	**54.4 -1.5**
	comp=Z,16nm,0.5s,baz=148,slow=2.2,SNR=7.3							
YAK				LR	LR	08	33	41.9
	comp=Z,90nm,21.0s,baz=257,slow=39							
YAK	**Yakutsk**	**36.25**	**349**	*eP*	**P**	**08**	**16**	**56.1 +0.2**
YAK				pmax	pmax			
	comp=Z,37nm,0.9s							
YAK				pmax	pmax			
	comp=E,5.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,31nm,1.3s							
SEY	**Seymchan**	**36.35**	**7**	P	**P**	**08**	**16**	**57.6 +0.8**
	comp=N,26nm,0.8s,baz=184,slow=8.4,SNR=36							
SEY	**Seymchan**	**36.35**	**7**	*d*/P	**P**	**08**	**16**	**58.0 +1.2**
KMI	**Kunming**	**36.80**	**276**	⇑P	**P**	**08**	**17**	**02.8 +1.4**
KMI				pP	pP	08	17	05.1 -0.3
KMI				sP	sP	08	17	07.3 +0.1
KMI				S	**S**	**08**	**22**	**42.8 -2.1**
KMI				SS	**SnSn**	**08**	**25**	**13.4 -3.3**
KMI				pmax	pmax			
	comp=N,12nm,0.8s							
KMI				L	L			
	comp=N,190nm,15.0s							
KMI				L	L			
	comp=N,220nm,15.2s							
KMI				L	L			
	comp=N,260nm,18.9s							
KKSI	**Kolaka, Sulawe**	**37.67**	**218**	P	**P**	**08**	**17**	**05.0 -3.6**
	comp=N,187nm,0.8s							
TTSI	**Tana Toraja**	**37.80**	**221**	P	**P**	**08**	**17**	**08.5 -1.1**
	comp=N,27nm,0.7s							
BKB	**Balikpapan**	**38.23**	**227**	P	**P**	**08**	**17**	**12.4 -0.9**
BKB				IAmb	IAmb	08	17	14.3
	comp=Z,76nm,0.8s							
NONG	**Nongkai**	**38.44**	**265**	P	**P**	**08**	**17**	**19.0 +4.0**
	comp=Z,60nm,0.8s							
NONG	**Nongkai**	**38.44**	**265**	P	**P**	**08**	**17**	**19.1 +4.0**
	comp=Z,59nm,0.8s							
GTA	**Gaotai**	**38.45**	**300**	*eP*	**P**	**08**	**17**	**14.3 -0.8**
GTA				pP	sP	08	17	22.0 +0.9
GTA				sP	pwP	08	17	25.3 -2.1
GTA				S	**S**	**08**	**23**	**06.6 -2.9**
GTA				sS	ScP	08	23	15.4 +0.2
GTA				pmax	pmax			
	comp=Z,15nm,1.1s							
GTA				pmax	pmax			
	comp=Z,39nm,5.3s							
GTA				L	L			
	comp=Z,270nm,15.3s							
GTA				L	L			
	comp=Z,300nm,14.9s							
GTA				L	L			
	comp=Z,380nm,14.9s							
ZAK	**Zakamensk**	**38.60**	**318**	*eP*	**P**	**08**	**17**	**18.1 +1.9**
ZAK				pmax	pmax			
	comp=Z,52nm,1.2s							
BNSI	**Bone**	**38.73**	**220**	P	**P**	**08**	**17**	**17.3 -0.1**
	comp=Z,2µmcomp=Z,143nm,1.1s							
TLY	**Talaya**	**38.90**	**320**	P	**P**	**08**	**17**	**19.2 +0.7**
	comp=Z,25nm,0.6s,baz=158,slow=4.1,SNR=44							
TLY	**Talaya**	**38.90**	**320**	*eP*	**P**	**08**	**17**	**20.7 +2.1**
TLY				pmax	pmax			
	comp=Z,106nm,0.9s							
TLY				MLR	MLR			
	comp=Z,885nm,15.0s							
TLY	**Talaya**	**38.90**	**320**	P	**P**	**08**	**17**	**20.1 +1.6**
TLY				IAmb	IAmb	08	17	22.2
	comp=Z,32nm,0.7s							
MTKI	**Muara Teweh, K**	**39.32**	**230**	P	**P**	**08**	**17**	**22.0 -0.5**
KAPI	**Kappang**	**39.43**	**220**	P	**P**	**08**	**17**	**22.5 -0.8**
	comp=Z,37nm,0.7s,baz=46,slow=4.8,SNR=16							
KAPI	**Kappang**	**39.43**	**220**	P	**P**	**08**	**17**	**23.0 -0.4**
KAPI				IAmb	IAmb	08	17	27.3
	comp=Z,54nm,0.8s							
KAPI	**Kappang**	**39.43**	**220**	P	**P**	**08**	**17**	**22.8 -0.5**
	comp=Z,707nmcomp=Z,65nm,0.9s							
BKSI	**Bulukumba**	**39.47**	**219**	P	**P**	**08**	**17**	**23.2 -0.5**
	comp=Z,644nmcomp=Z,75nm,0.9s							
MKS	**Makassar**	**39.75**	**220**	P	**P**	**08**	**17**	**25.5 -0.6**
	comp=Z,91nm,1.1s							
BSSI	**Bau Bau, Buton**	**39.94**	**218**	P	**P**	**08**	**17**	**26.3 -1.3**
	comp=Z,520nmcomp=Z,45nm,0.9s							
CHAI	**Chaiyaphum**	**40.27**	**263**	P	**P**	**08**	**17**	**31.4 +1.1**
	comp=Z,387nmcomp=Z,33nm,0.7s							
CHAI	**Chaiyaphum**	**40.27**	**263**	P	**P**	**08**	**17**	**31.5 +1.1**
	comp=Z,96nmcomp=Z,8.3nm,0.7s							
UTTA	**Uttaradit**	**40.85**	**266**	P	**P**	**08**	**17**	**38.8 +3.6**
	comp=Z,24nm,0.8s							
UTTA	**Uttaradit**	**40.85**	**266**	P	**P**	**08**	**17**	**38.8 +3.6**
	comp=Z,6.0nm,0.8s							
SRAK	**Srakew**	**40.99**	**260**	P	**P**	**08**	**17**	**33.9 -2.4**
	comp=Z,4µmcomp=Z,350nm,0.8s							
STKI	**Sintang**	**41.02**	**235**	P	**P**	**08**	**17**	**36.2 -0.4**
MMRI	**Maumere**	**41.15**	**213**	P	**P**	**08**	**17**	**36.9 -0.7**
MMRI	**Maumere**	**41.15**	**213**	P	**P**	**08**	**17**	**35.6 -2.0**
	comp=Z,116nm,1.1s							
SOEI	**Soe**	**41.17**	**210**	P	**P**	**08**	**17**	**34.7 -3.2**
	comp=Z,97nm,0.9s							
PHIT	**Phitsanulok**	**41.18**	**265**	P	**P**	**08**	**17**	**42.1 +4.3**
	comp=Z,2µmcomp=Z,151nm,1.0s							
PHIT	**Phisanulok**	**41.18**	**265**	P	**P**	**08**	**17**	**42.2 +4.3**
	comp=Z,545nmcomp=Z,37nm,1.0s							
BBKI	**Banjar Baru**	**41.22**	**227**	P	**P**	**08**	**17**	**37.3 -0.9**
	comp=Z,3µmcomp=Z,19nm,0.6s							
MTN	**Manton Dam**	**41.49**	**199**	P	**P**	**08**	**17**	**38.7 -1.6**
MTN				IAmb	IAmb	08	17	40.2
	comp=Z,47nm,0.7s							
EDFI	**Ende, Flores**	**41.52**	**214**	P	**P**	**08**	**17**	**39.0 -1.7**
	comp=Z,654nmcomp=Z,50nm,0.8s							
BATI	**Baumata**	**41.84**	**210**	P	**P**	**08**	**17**	**42.4 -0.9**
	comp=Z,71nm,1.2s							
CMMT	**Chiang Mai**	**41.92**	**268**	P	**P**	**08**	**17**	**44.4 +0.5**
	comp=Z,537nmcomp=Z,13nm,1.5s							
CMMT	**Chiang Mai**	**41.92**	**268**	P	**P**	**08**	**17**	**44.4 +0.5**
	comp=Z,537nmcomp=Z,13nm,1.5s							
CHTO	**Chiang Mai**	**41.92**	**268**	P	**P**	**08**	**17**	**44.1 +0.1**
CHTO				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CHTO	**Chiang Mai**	**41.92**	**268**	P	**P**	**08**	**17**	**46.9 +2.9**
	comp=Z,13nm,1.5s							
CHTO	**Chiang Mai**	**41.92**	**268**	P	**P**	**08**	**17**	**44.1 +0.1**
CHTO	**Chiang Mai**	**41.92**	**268**	P	**P**	**08**	**17**	**44.4 +0.4**
	comp=Z,7.2nm,1.5s							
CMAR	**Chiang Mai Arr**	**42.04**	**268**	P	**P**	**08**	**17**	**42.9 -2.1**
	comp=Z,3.2nm,0.5s,baz=57,slow=8.5,SNR=13							
CMAR				PcP	**PcP**	**08**	**19**	**40.0 +0.2**
	comp=Z,1.7nm,0.4s,baz=73,slow=4.2,SNR=2.1							
CMAR				LR	LR	08	36	43.3
	comp=Z,75nm,18.3s,baz=112,slow=38							
CMAR	**Chiang Mai Arr**	**42.04**	**268**	P	**P**	**08**	**17**	**45.9 +0.9**
UTHA	**Uthaitani**	**42.65**	**264**	P	**P**	**08**	**17**	**54.0 +4.0**
	comp=Z,106nmcomp=Z,6.3nm,0.6s							
BILL	**Bilibino**	**43.22**	**12**	*c i*P	**P**	**08**	**17**	**54.5 +0.6**
BILL				*i* *SP	**pP**	**08**	**17**	**58.6 +0.7**
BILL						08	19	44.0
BILL				pmax	pmax			
	comp=Z,22nm,0.7s							
BILL				MLR	MLR			
	comp=Z,105nm,16.0s							
SRDT	**SRDT**	**43.42**	**262**	P	P	08	18	08.3 +12
NIKH	**Nikolski High**	**43.50**	**40**	P		08	17	55.8
	baz=252							
PLAI	**Plampang**	**43.66**	**219**	P	**P**	**08**	**17**	**56.3 -1.7**
	comp=Z,59nm,1.0s							
TWSI	**Taliwang, Sumb**	**44.09**	**220**	P	**P**	**08**	**17**	**59.9 -1.6**
	comp=Z,33nm,0.7s							
SPIA	**Saint Paul Isl**	**44.22**	**34**	P		08	18	02.8
	baz=247							
KMMI	**Kalianget**	**44.51**	**225**	P	**P**	**08**	**18**	**03.9 -1.0**
	comp=Z,67nm,0.8s							
ABJI	**Asem Bagus**	**44.92**	**224**	P	**P**	**08**	**18**	**06.7 -1.4**
	comp=Z,82nm,0.8s							
TIXI	**Tiksi**	**45.43**	**353**	P	**P**	**08**	**18**	**12.3 +0.8**
	comp=Z,28nm,0.6s,baz=138,slow=6.6,SNR=64							
TIXI	**Tiksi**	**45.43**	**353**	*ceP*	**P**	**08**	**18**	**12.1 +0.6**
TIXI	**Tiksi**	**45.43**	**353**	IAmb	IAmb	08	18	13.3
	comp=Z,33nm,0.6s							
SJI	**Sawahan**	**46.44**	**226**	P	**P**	**08**	**18**	**18.7 -1.5**
	comp=Z,28nm,1.2s							
PPBI	**Pangkal Pinang**	**46.45**	**237**	P	**P**	**08**	**18**	**19.6 -0.7**
GAMB	**Gambell**	**46.57**	**25**	P		08	18	21.8
	baz=239,SNR=5.2							
PWJI	**Pagerwojo**	**46.63**	**226**	P	**P**	**08**	**18**	**18.7 -2.9**
	comp=Z,47nm,0.8s							
CTAO	**Charters Tower**	**46.90**	**177**	P	**P**	**08**	**18**	**22.2 -1.4**
CTAO				pmax	pmax			
	comp=Z,52nm,1.3s							
CTAO	**Charters Tower**	**46.90**	**177**	P	**P**	**08**	**18**	**22.2 -1.4**
CTAO				IAmb	IAmb	08	18	26.4
	comp=Z,52nm,1.2s							
PCJI	**Pacitan**	**47.16**	**227**	P	**P**	**08**	**18**	**24.7 -1.1**
	comp=Z,62nm,1.0s							
WRAB	**Tennant Creek**	**47.57**	**192**	*ceP*	**P**	**08**	**18**	**27.2 -1.7**
WRAB				pmax	pmax			
	comp=Z,177nm,1.7s							
WRAB	**Tennant Creek**	**47.57**	**192**	P	**P**	**08**	**18**	**27.0 -1.8**
WB2	**Warramunga Arr**	**47.58**	**192**	P	**P**	**08**	**18**	**27.3 -1.6**
WRA	**Warramunga Arr**	**47.58**	**192**	P	**P**	**08**	**18**	**27.4 -1.5**
	comp=Z,48nm,0.7s,baz=13,slow=8.5,SNR=279							
WRA				LR	LR	08	38	16.7
	comp=Z,142nm,20.2s,baz=285,slow=36							
WMQ	**Urumqi**	**47.77**	**306**	*eP*	**P**	**08**	**18**	**32.5 +2.1**
WMQ				pmax	pmax			
	comp=Z,24nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,3.8s							
WMQ				L	L			
	comp=Z,330nm,12.5s							
WMQ				L	L			
	comp=Z,190nm,15.3s							
WMQ				L	L			
	comp=Z,260nm,15.3s							
JCJI	**Jatiwangi**	**47.87**	**231**	P	**P**	**08**	**18**	**32.6 +1.3**
	comp=Z,12µmcomp=Z,209nm,0.5s							
KPJI	**Karang Pucung**	**48.02**	**230**	P	**P**	**08**	**18**	**31.5 -1.0**
	comp=Z,174nm,0.9s							
FITZ	**Fitzroy Crossi**	**48.19**	**203**	P	**P**	**08**	**18**	**32.8 -0.8**
DGZ	**Jazzator, Alta**	**48.34**	**314**	*d*/P	**P**	**08**	**18**	**36.5 +1.7**
DGZ				pmax	pmax			
	comp=Z,88nm,1.1s							
LEM	**Lembang**	**48.56**	**231**	P	**P**	**08**	**18**	**36.1 -0.8**
	comp=Z,276nm,0.8s,baz=27,slow=6.2,SNR=27							
LEM	**Lembang**	**48.56**	**231**	P	**P**	**08**	**18**	**36.5 -0.4**
	comp=Z,2µmcomp=Z,204nm,0.9s							
CBJI	**Citeko**	**48.82**	**232**	P	**P**	**08**	**18**	**38.5 -0.1**
	comp=Z,152nm,0.7s							
TNA	**Tin City**	**48.86**	**24**	P	**P**	**08**	**18**	**39.3 +0.9**
TNA				IAmb	IAmb	08	18	40.6
	comp=Z,34nm,0.8s							
TNA	**Tin City**	**48.86**	**24**	P		08	18	39.5
	baz=242,SNR=16							
SDPT	**Sand Point**	**48.87**	**39**	P		08	18	37.8
	baz=258							
CISI	**Cisompet, Garu**	**48.95**	**231**	P	**P**	**08**	**18**	**37.2 -2.5**
	comp=Z,2µmcomp=Z,51nm,1.0s							
DBJI	**Dramaga**	**48.98**	**232**	P	**P**	**08**	**18**	**39.1 -0.8**
	comp=Z,19µmcomp=Z,53nm,1.1s							
PSI	**Prapat**	**49.19**	**249**	P	**P**	**08**	**18**	**41.6 -0.1**
	comp=Z,14nm,0.5s,baz=0.0,slow=6.9,SNR=9.8							
PSI	**Prapat**	**49.19**	**249**	P	**pP**	**08**	**18**	**41.7 -4.2**
	comp=Z,13nm,0.6s,comp=Z,33nm,0.7s							
PSI				P	**P**	**08**	**18**	**41.6 -0.1**
	comp=Z,13nm,0.6s,comp=Z,33nm,0.7s							
RPSI	**Rantau Prapat**	**49.25**	**248**	P	**P**	**08**	**18**	**41.6 -0.4**
ANM	**Nome**	**49.39**	**26**	P	**P**	**08**	**18**	**43.6 +1.1**
ANM				pmax	pmax			
	comp=Z,52nm,1.0s							
ANM	**Nome**	**49.39**	**26**	P	**P**	**08**	**18**	**43.6 +1.1**
ANM				IAmb	IAmb	08	18	44.9
	comp=Z,52nm,1.0s							
ANM	**Nome**	**49.39**	**26**	P		08	18	43.9
	baz=246,SNR=10.0							
MDSI	**Maura Dua**	**49.45**	**237**	P	**P**	**08**	**18**	**42.3 -1.2**
	comp=Z,46nm,1.1s							
TAPN	**Taplejung**	**49.50**	**284**	*eP*	**P**	**08**	**18**	**44.5 +0.3**
	comp=Z,7.0nm,0.4s							
LHSI	**Lahat**	**49.51**	**238**	P	**P**	**08**	**18**	**43.8 -0.2**
	comp=Z,170nm,0.9s							
CGJI	**Cibinong**	**49.77**	**233**	P	**P**	**08**	**18**	**44.8 -1.2**
	comp=Z,38nm,0.7s							
MNSI	**Mandailing Nat**	**49.78**	**246**	P	**P**	**08**	**18**	**44.4 -1.7**
	comp=Z,2µmcomp=Z,48nm,0.7s							
ZSN	**Zaisan**	**49.87**	**311**	*eP*	**P**	**08**	**18**	**47.6 +1.2**
	baz=311							
ZSN	**Zaisan**	**49.87**	**311**	*eP*	**P**	**08**	**18**	**47.6 +1.2**
CHGN	**Chignik**	**50.20**	**38**	P		08	18	47.9
	baz=259,SNR=5.3							
ZAA0	**Zalesovo Array**	**50.47**	**319**	P	**P**	**08**	**18**	**51.5 +0.7**
ZALV	**Zalesovo Beam**	**50.47**	**319**	P	**P**	**08**	**18**	**51.5 +0.7**
	comp=Z,6.3nm,0.6s,baz=101,slow=6.7,SNR=27							
ZALV				PcP	**PcP**	**08**	**20**	**08.7 0.0**
	comp=Z,12nm,0.6s,baz=113,slow=3.7,SNR=9.5							
ZALV				LR	LR	08	40	35.1
	comp=Z,106nm,18.2s,baz=106,slow=36							
ZALV	**Zalesovo Beam**	**50.47**	**319**	P	**P**	**08**	**18**	**51.6 +0.8**
RAMN	**Ramite**	**50.55**	**284**	*eP*	**P**	**08**	**18**	**52.4 +0.2**
	comp=Z,35nm,0.7s							
GUN	**Gumba**	**50.95**	**285**	*eP*	**P**	**08**	**18**	**56.1 +0.8**
	comp=Z,31nm,0.5s							
ASAR	**Alice Springs**	**51.29**	**192**	P	**P**	**08**	**18**	**55.1 -2.2**
	comp=Z,4.2nm,0.5s,baz=15,slow=6.4,SNR=108							
ASAR				PcP	**PcP**	**08**	**20**	**11.5 -0.7**
	comp=Z,4.8nm,0.8s,baz=13,slow=4.3,SNR=2.5							
ASAR				LR	LR	08	39	45.6
	comp=Z,176nm,21.4s,baz=356,slow=35							
ASAR	**Alice Springs**	**51.29**	**192**	P	**P**	**08**	**18**	**55.9 -1.4**
PKIN	**Phulchoki**	**51.45**	**285**	*eP*	**P**	**08**	**18**	**58.7 -0.2**
	comp=Z,8.4nm,0.4s							
KKN	**Kakani**	**51.50**	**285**	*eP*	**P**	**08**	**18**	**59.5 +0.3**
MK31	**Makanchi Array**	**51.61**	**310**	*i* P	**P**	**08**	**19**	**00.4 +0.9**
MK31				pmax	pmax			
	comp=Z,13nm,0.5s							
MK31	**Makanchi Array**	**51.61**	**310**	P	**P**	**08**	**19**	**00.5 +0.9**
MK31				IAmb	IAmb	08	19	01.7
	comp=Z,25nm,0.9s							
MKAR	**Makanchi Array**	**51.61**	**310**	P	**P**	**08**	**19**	**00.5 +1.0**
	comp=Z,23nm,0.5s,baz=88,slow=9.5,SNR=179							
MKAR				PcP	**PcP**	**08**	**20**	**13.3 +0.1**
	comp=Z,7.4nm,0.8s,baz=76,slow=6.4,SNR=4.1							
MKAR				LR	LR	08	41	05.3
	comp=Z,66nm,20.0s,baz=90,slow=36							
MKAR	**Makanchi Array**	**51.61**	**310**	P	**P**	**08**	**19**	**01.0 +1.4**
CHIR	**Chirikof Islan**	**51.67**	**39**	P		08	19	00.4
	baz=262							
RDOG	**Red Dog Mine**	**51.75**	**23**	P	**P**	**08**	**19**	**01.4 +1.2**
RDOG	**Red Dog Mine**	**51.75**	**23**	P		08	19	02.2
	baz=246,SNR=34							
MAKZ	**Makanchi**	**51.83**	**310**	P	**P**	**08**	**19**	**01.9 +0.7**
MAKZ				pmax	pmax			
	comp=Z,22nm,0.6s							
MAKZ	**Makanchi**	**51.83**	**310**	P	**P**	**08**	**19**	**02.3 +1.2**
MAKZ				IAmb	IAmb	08	19	03.4
	comp=Z,73nm,1.4s							
GKN	**Gorkha**	**52.00**	**286**	*eP*	**P**	**08**	**19**	**03.4 +0.5**
	comp=Z,16nm,0.5s							
N18K	**Kilae Creek**	**52.36**	**33**	P		08	19	06.0
	baz=258,SNR=17							
SII	**Sitkinak Islan**	**52.56**	**38**	P		08	19	06.7
	baz=263							
SVW2	**Sparrevohn**	**52.59**	**32**	P	**P**	**08**	**19**	**07.4 +0.9**
SVW2				IAmb	IAmb	08	19	08.7
	comp=Z,24nm,0.7s							
DANN	**Dangsing**	**52.67**	**286**	*eP*	**P**	**08**	**19**	**08.7 +0.7**
	comp=Z,50nm,0.6s							
TTA	**Tatalina**	**52.80**	**30**	P		08	19	08.9
	baz=256,SNR=7.1							
KOLN	**Koldanda**	**52.95**	**286**	*eP*	**P**	**08**	**19**	**10.3 +0.3**
	comp=Z,17nm,0.6s							
SEM	**Semipalatinsk**	**53.00**	**314**	*eP*	**P**	**08**	**19**	**08.5 -1.6**
	baz=314							
SEM	**Semipalatinsk**	**53.00**	**314**	*eP*	**P**	**08**	**19**	**08.4 -1.6**
O19K	**Port Alsworth**	**53.03**	**33**	P		08	19	10.5
	baz=260	

BRSE **Bradley Lake S** 54.75 34 P 08 19 21.9
baz=264
H21K **Melozitna Rive** 54.78 27 P 08 19 23.8
baz=258
ARXS **Arharly** 54.87 307 *e*P **P** **08 19 24.4 +0.8**
SUA **Susitna One** 54.95 32 P 08 19 23.5
baz=262,SNR=8.0
I21K **Tanana** 55.01 28 P 08 19 25.6
baz=259,SNR=42
A21K **Barrow** 55.02 20 P **P** **08 19 25.0 +0.8**
A21K **Barrow** 55.02 20 P 08 19 25.2
baz=250,SNR=62
TARG **Taragay, Kyrgy** 55.14 304 P **P** **08 19 26.8 +0.8**
BPAW **Bear Paw Mtn.** 55.24 29 P 08 19 26.5
baz=260,SNR=21
CUT **Chulitna** 55.30 31 P 08 19 26.0
baz=262
O22K **Cooper Landing** 55.33 34 P 08 19 26.5
baz=264
RC01 **Rabbit Creek A** 55.39 33 P 08 19 26.7
baz=264
SEW **Seward** 55.43 34 P 08 19 27.0
baz=264,SNR=9.5
TRF **Thorofare Moun** 55.44 30 P 08 19 28.0
baz=261
CHKK **Chushkaly** 55.50 306 *e*P **P** **08 19 28.8 +0.7**
baz=306
CHKK **Chushkaly** 55.50 306 *e*P **P** **08 19 28.8 +0.7**
MLY **Manley** 55.50 28 P **P** **08 19 28.1 +0.3**
MLY IAmb IAmb 08 19 29.9
comp=Z,24nm,0.9s
MLY **Manley** 55.50 28 P 08 19 28.8
baz=260,SNR=44
MDOK **Medeo** 55.53 305 *e*P **P** **08 19 28.9 +0.3**
baz=305
MDOK **Medeo** 55.53 305 *e*P **P** **08 19 28.8 +0.3**
AAA **Alma-Ata** 55.62 305 *e*P **P** **08 19 29.7 +0.6**
baz=306
AAA **Alma-Ata** 55.62 305 *e*P **P** **08 19 29.6 +0.6**
PMR **Palmer** 55.74 32 P 08 19 28.9
baz=264,SNR=28
MTBS **Maitube** 55.99 305 *e*P **P** **08 19 32.4 +0.7**
baz=305
MTBS **Maitube** 55.99 305 *e*P **P** **08 19 32.4 +0.7**
KNK **Knik Glacier** 56.04 32 P 08 19 31.7
baz=264,SNR=9.3
MCK **McKinley** 56.08 30 P 08 19 31.9
baz=262,SNR=15
I23K **Minto, Yukon-K** 56.10 28 P 08 19 33.0
baz=261,SNR=28
COLD **Coldfoot** 56.12 25 P 08 19 33.6
baz=259,SNR=48
H23K **Yukon River** 56.13 27 P 08 19 33.6
baz=260,SNR=33
SML **Sawmill** 56.14 32 P 08 19 32.6
baz=264,SNR=21
NEA2 **Nenana** 56.14 29 P 08 19 32.8
baz=262,SNR=44
ULHL **Ulahol** 56.23 304 P **P** **08 19 35.6 +2.0**
SNR=14
WAT6 **Susitna Watana** 56.49 31 P 08 19 35.2
baz=264
MDM **Murphy Dome** 56.55 28 P **P** **08 19 36.1 +0.8**
MDM IAmb IAmb 08 19 37.0
comp=Z,20nm,0.6s
TKM2 **Tokmak 2** 56.62 305 P **P** **08 19 37.9 +1.5**
SNR=25
TKM2 **Tokmak 2** 56.62 305 *i* P **P** **08 19 37.2 +0.8**
TKM2 pmax pmax
comp=Z,21nm,0.8s
TOLK **Toolik Lake Re** 56.63 24 P 08 19 37.1
baz=259,SNR=52
GLI **Glacier Island** 56.66 33 P 08 19 36.1
baz=266,SNR=13
TCOL **CIGO, UAF Yank** 56.69 28 P 08 19 37.0
baz=263,SNR=6.6
COLA **College** 56.70 28 *i* P **P** **08 19 36.2 0.0**
COLA pmax pmax
comp=Z,12nm,0.7s
COLA **College** 56.70 28 P 08 19 37.2
baz=263
H24K **Noodor Dome** 56.81 27 P 08 19 38.3
baz=262,SNR=36
POKR **Poker Plat Res** 56.90 28 P 08 19 37.7
baz=263,SNR=5.6
HDA **Harding Lake** 57.03 29 P 08 19 38.2
baz=264,SNR=15
HDA P 08 19 38.2
baz=264,SNR=15
IL31 57.09 29 P **P** **08 19 38.7 -0.4**
IL31 IAmb IAmb 08 19 39.6
comp=Z,28nm,0.9s
ILAR **Eielson Array** 57.09 29 P **P** **08 19 38.5 -0.6**
comp=Z,18nm,0.8s,baz=259,slow=5.9,SNR=182
ILAR PcP **PcP** **08 20 33.0 -0.8**
comp=Z,4.2nm,0.6s,baz=276,slow=4.0,SNR=7.2
ILAR LR LR 08 44 28.6
comp=Z,107nm,19.3s,baz=256,slow=36
KBK **Karagaybulak** 57.13 305 P **P** **08 19 41.8 +1.9**
SNR=11
M24K **Tolsona, Glenn** 57.18 32 P 08 19 40.8
baz=266,SNR=9.1
CHMS **Chumysh** 57.22 305 P **P** **08 19 41.8 +1.4**
SNR=7.0
SGDS **Sogindy** 57.25 306 *e*P **P** **08 19 40.5 -0.2**
comp=Z,14nm,1.5s,baz=306
SGDS **Sogindy** 57.25 306 *e*P **P** **08 19 40.5 -0.2**
SGDS pmax pmax
comp=Z,14nm,1.5s
KLU **Klutina** 57.26 32 P 08 19 41.1
baz=267,SNR=41
EYAK **Cordova Ski Ar** 57.30 34 P 08 19 41.3
baz=268,SNR=8.6
USP **Ospenovka** 57.37 306 P **P** **08 19 42.6 +1.2**
SNR=9.1
AAK **Ala-Archa** 57.46 305 P **P** **08 19 43.7 +1.4**
SNR=7.2
AAK **Ala-Archa** 57.46 305 P **P** **08 19 43.7 +1.4**
AAK **Ala-Archa** 57.46 305 P **P** **08 19 42.7 +0.4**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK **Ala-Archa** 57.46 305 P **P** **08 19 42.7 +0.4**
BTLS **Baital** 57.46 308 ⇓*i* P **P** **08 19 43.0 +1.0**
comp=Z,15nm,0.5s,baz=308
BTLS **Baital** 57.46 308 *d i* P **P** **08 19 43.0 +1.0**
BTLS pmax pmax
comp=Z,15nm,0.5s
PAX **Paxson** 57.56 31 P 08 19 42.9
baz=266,SNR=28
HARP **HAARP** 57.67 31 P 08 19 43.9
baz=267,SNR=9.9
PRP **Porcupine Dome** 57.74 28 P 08 19 43.4
baz=264
BMRM **Bremner River** 57.87 33 P **P** **08 19 45.3 +0.6**
BMRM **Bremner River** 57.88 33 P 08 19 45.5
baz=268,SNR=13
N25K **Chitina, Valde** 57.90 32 P 08 19 45.7
baz=268,SNR=16
FYU **Fort Yukon** 57.96 26 P **P** **08 19 46.2 +1.1**
FYU IAmb IAmb 08 19 47.8
comp=Z,50nm,1.0s
EKS2 **Erkin-Say** 57.98 305 P **P** **08 19 47.3 +1.4**
SNR=11
AML **Almayashu** 58.12 305 P **P** **08 19 49.2 +2.0**
SNR=15
AML **Almayashu** 58.12 305 *i* P **P** **08 19 49.2 +2.0**
SNR=15
SCRK **Sand Creek** 58.29 30 P 08 19 47.7
baz=267,SNR=90
BGLC **Bering Glacier** 58.52 34 P 08 19 50.1
baz=270
CRQM **Cirque** 58.59 33 P **P** **08 19 50.0 +0.1**
CRQE **Cirque** 58.61 33 P 08 19 50.7
baz=270,SNR=8.6
STKA **Stephens Creek** 58.61 182 P **P** **08 19 48.6 -1.4**
comp=Z,12nm,0.7s,baz=347,slow=7.4,SNR=16
STKA LR LR 08 43 38.0
comp=Z,132nm,21.8s,baz=208,slow=35
STKA **Stephens Creek** 58.61 182 P **P** **08 19 48.5 -1.6**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** 58.61 182 P **P** **08 19 48.5 -1.6**
MCARA **McCarthy VSAT** 58.65 33 P 08 19 50.7
baz=269,SNR=6.4
ARSB **Arslanbob** 58.78 304 P **P** **08 19 52.5 +0.9**
ARSB pmax pmax
comp=Z,59nm,1.3s
ARSB **Arslanbob** 58.78 304 P **P** **08 19 52.5 +0.9**
BVAR **Borovoye Array** 59.05 318 P **P** **08 19 52.7 -0.3**
comp=Z,13nm,0.5s,baz=123,slow=5.5,SNR=37
BRVK **Borovoye** 59.11 318 P **P** **08 19 53.7 +0.2**
BRVK pmax pmax
comp=Z,74nm,1.5s
BRVK **Borovoye** 59.11 318 P **P** **08 19 53.6 +0.2**
K27K **Chicken** 59.13 30 P 08 19 54.5
baz=269
MESA **MESA** 59.18 34 P 08 19 54.8
baz=271
L27K **Beaver Creek,** 59.23 31 P 08 19 54.8
baz=269,SNR=23
CTG **Chitna Glacier** 59.47 33 P 08 19 56.5
baz=271
EGAK **Eagle** 59.54 29 P 08 19 56.3
baz=269,SNR=25
DZA **Taraz** 59.72 306 *e*P **P** **08 19 58.3 +0.4**
baz=306
DZA **Taraz** 59.72 306 *e*P **P** **08 19 58.2 +0.4**
DRK **Karamyk** 60.01 302 P **P** **08 20 00.9 +0.7**
DRK IAmb IAmb 08 20 02.5
comp=Z,23nm,0.7s
PINM **Pinnacle** 60.03 34 P 08 20 00.5
baz=272,SNR=7.9
KK31 **Karatay Array** 60.27 306 *i* P **P** **08 20 02.7 +1.1**
KK31 pmax pmax
comp=Z,45nm,0.7s
BTK **Batken** 60.64 303 P **P** **08 20 04.5 +0.3**
BTK pmax pmax
comp=Z,30nm,1.3s
BTK **Batken** 60.64 303 P **P** **08 20 04.5 +0.3**
BTK IAmb IAmb 08 20 06.0
comp=Z,30nm,1.3s
CHGR **Chuyangaron** 62.20 301 P **P** **08 20 15.5 +0.7**
INK **Inuvik** 62.50 25 P **P** **08 20 16.6 +0.5**
comp=Z,14nm,0.5s,baz=286,slow=6.0,SNR=36
INK **Inuvik** 62.50 25 P 08 20 16.6
baz=274,SNR=20
WHY **Whitehorse** 62.65 33 P 08 20 18.5
baz=277,SNR=26
SIT **Sitka** 62.89 37 P 08 20 19.9
baz=278
KBL **Kabul** 63.32 297 P **P** **08 20 22.8 +0.2**
KBL pmax pmax
comp=Z,21nm,0.9s
KBL **Kabul** 63.32 297 P **P** **08 20 22.8 +0.2**
KBL IAmb IAmb 08 20 24.0
comp=Z,21nm,0.8s
SVE **Sverdlovsk** 64.14 323 *ce*P **P** **08 20 28.4 +1.1**
SVE pmax pmax
comp=Z,66nm,1.0s
CRAG **Craig** 64.37 39 P 08 20 30.0
baz=281,SNR=11
WRAK **Wrangell Islan** 64.62 38 P 08 20 31.5
baz=281,SNR=22
H02S1 **DAWSON INLET T** 65.20 41 T T 09 30 47.3
SNR=53
ARU **Arti** 65.35 322 P **P** **08 20 36.0 +0.8**
comp=Z,19nm,0.6s,baz=84,slow=5.3
ARU **Arti** 65.35 322 *d i* P **P** **08 20 35.8 +0.7**
ARU 08 21 06.5
ARU 08 22 56.5
ARU S **S** **08 29 20.8 +2.8**
ARU SS **SS** **08 33 28.3 -2.3**
ARU pmax pmax
comp=Z,72nm,0.8s
C36M **Paulatuk** 65.75 23 P 08 20 37.9
baz=282,SNR=7.8
AB31 **Akbulak array** 66.16 315 *i* P **P** **08 20 40.9 +0.4**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR **Akbulak array** 66.16 315 P **P** **08 20 41.1 +0.6**
ABKAR **Akbulak array** 66.16 315 P **P** **08 20 41.2 +0.7**
ABKAR IAmb IAmb 08 20 41.7
comp=Z,21nm,0.7s
AKTO **Aktyubinsk** 67.07 316 P **P** **08 20 46.6 +0.3**
comp=Z,13nm,0.6s,baz=87,slow=8.4,SNR=37
AKTO **Aktyubinsk** 67.07 316 P **P** **08 20 46.3 0.0**
AKTO pmax pmax
comp=Z,17nm,0.7s
KIRV **Kirov** 69.54 326 P **P** **08 21 01.8 +0.2**
comp=Z,60nm,0.8s,baz=83,slow=4.2,SNR=27
HOPEN **Hopen** 70.21 347 *e*P **P** **08 21 07.2 +1.8**
PRGR **Permogore** 70.32 330 *e*P **P** **08 21 05.4 -1.0**
PRGR pmax pmax
comp=Z,38nm,0.6s
SPA0 **Spitsbergen Ar** 70.70 350 *e*P **P** **08 21 09.2 +0.7**
GEYT **Alibeck** 70.73 303 P **P** **08 21 09.5 +0.1**
comp=Z,6.1nm,0.9s,baz=64,slow=3.4,SNR=7.7
GEYT LR LR 08 56 30.9
comp=Z,58nm,18.3s,baz=70,slow=40
GEYT **Alibeck** 70.73 303 P **P** **08 21 10.4 +1.0**
KBS **Kingsbay** 70.83 351 ⇓*i* P **P** **08 21 10.8 +1.6**
KBS IAmb IAmb 08 21 11.5
comp=Z,70nm,0.8s
KBS **Kingsbay** 70.83 351 *ce*P **P** **08 21 10.5 +1.3**
KBS pmax pmax
comp=Z,23nm,0.6s
KBS **Kingsbay** 70.83 351 *e*P **P** **08 21 10.8 +1.6**
NOR **Nord** 71.13 357 ⇓*i* P **P** **08 21 11.9 +0.8**
NOR IAmb IAmb 08 21 12.3
comp=Z,6.8nm,0.9s
NOR **Nord** 71.13 357 ⇓*i* P **P** **08 21 11.8 +0.8**
NOR pmax pmax
comp=Z,7.0nm,0.9s
YKA **Yellowknife Ar** 71.52 29 P **P** **08 21 13.7 0.0**
comp=Z,18nm,0.9s,baz=291,slow=5.5,SNR=93
YKA LR LR 08 52 26.4
comp=Z,56nm,20.6s,baz=0.0,slow=36
HSPB **Hornsund (broa** 71.62 349 *e*P **P** **08 21 15.6 +1.6**
NLWA **Neilton Lookou** 72.14 46 P **P** **08 21 18.5 +0.8**
NLWA IAmb IAmb 08 21 20.2
comp=Z,39nm,1.0s
A04D **Lummi Island** 72.40 44 P 08 21 20.3
baz=291
D03D **Eldon** 72.58 45 P 08 21 21.7
baz=291,SNR=34
BELG **Belogornoye** 72.63 320 P **P** **08 21 21.4 +0.9**
comp=Z,124nm,0.7s,baz=334,slow=0.8,SNR=48
BELG **Belogornoye** 72.63 320 *d i* P **P** **08 21 21.0 +0.6**
BELG pmax pmax
comp=Z,25nm,0.8s
APA **Apatity** 72.65 338 ⇓*i* P **P** **08 21 20.2 -0.1**
APA *i* 08 21 26.1
APA *i* S **S** **08 30 40.0 -4.1**
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,200nm,19.0s
D04E **Lakebay** 72.91 45 P 08 21 24.0
baz=291
B05A **Bryant** 72.94 44 P 08 21 23.4
baz=291,SNR=18
F04D **Rainier, OR** 73.16 47 P 08 21 24.8
baz=292
E04D **Cinebar** 73.27 46 P 08 21 25.6
baz=292,SNR=13
G03D **McMinnville, O** 73.31 47 P 08 21 25.8
baz=292,SNR=6.1
I02D **Swisshome** 73.33 49 P 08 21 26.0
baz=292,SNR=9.5
KLMR **Klimovskoe** 73.35 330 *e*P **P** **08 21 23.3 -1.3**
KLMR pmax pmax
comp=Z,42nm,1.4s
KLMR **Klimovskoe** 73.35 330 *e*P **P** **08 21 23.3 -1.3**
KLMR AMP 08 21 26.2
comp=Z,42nm,1.4s
KEBM **Edson Butte** 73.45 50 P **P** **08 21 26.3 +0.6**
J01E **Myrtle Point** 73.62 50 P 08 21 27.8
baz=292,SNR=25
I03D **Drain, OR** 73.82 49 P 08 21 29.1
baz=292,SNR=30
H04D **Lebanon** 73.92 48 P 08 21 29.5
baz=292,SNR=10
HAMF **Hammerfest** 73.92 343 *e*P **P** **08 21 28.9 +1.1**
K02D **Willamette Mer** 73.98 50 P 08 21 29.5
baz=292,SNR=18
ARA0 **ARCESS Array S** 74.07 341 *e*P **P** **08 21 29.8 +1.1**
ARCES **ARCESS Array B** 74.07 341 P **P** **08 21 29.5 +0.8**
comp=Z,7.9nm,0.7s,baz=58,slow=7.8,SNR=24
ARCES LR LR 09 03 05.6
comp=Z,54nm,18.1s,baz=30,slow=43
L02E **Cave Junction** 74.22 51 P 08 21 31.2
baz=292,SNR=14
F05D **White Salmon** 74.23 46 P 08 21 31.1
baz=292,SNR=6.9
I04A **Tendick Farm,** 74.41 49 P 08 21 31.9
baz=292,SNR=29
G05D **Wamic, OR** 74.58 47 P 08 21 33.0
baz=293,SNR=8.4
J04D **Umpqua Nationa** 74.83 49 P 08 21 34.7
baz=293,SNR=17
I05D **Terrebonne, OR** 74.91 48 P 08 21 34.8
baz=293,SNR=12
KTK1 **Kautokeino** 75.03 341 *e*P **P** **08 21 35.4 +1.1**
M02C **Callahan** 75.03 51 P 08 21 36.0
baz=293,SNR=17
L04D **Klamath Falls** 75.09 50 P 08 21 36.1
baz=293,SNR=20
HAWA **Hanford** 75.27 45 P **P** **08 21 36.8 +0.7**
HAWA IAmb IAmb 08 21 37.4
comp=Z,16nm,0.8s
N02D **Trinity Center** 75.30 51 P 08 21 37.6
baz=293,SNR=22
K04D **Chiloquin, OR** 75.31 50 P 08 21 37.3
baz=293
NEEM **North Greenlan** 75.38 3 ⇓*i* P **P** **08 21 37.3 +0.8**
NEEM IAmb IAmb 08 21 38.3
comp=Z,52nm,0.9s
JETT **Jettan, Norway** 75.48 342 *e*P **P** **08 21 37.7 +0.8**
O02D **Mt. Diablo Mer** 75.55 52 P 08 21 39.1
baz=293,SNR=14
M04C **Macdoel** 75.58 50 P 08 21 39.0
baz=293,SNR=34
WSAR **Wadi Sarin** 75.72 289 P **P** **08 21 39.7 +0.7**
comp=Z,7.4nm,0.8s,baz=123,slow=5.8,SNR=8.7
TRO **Tromso** 75.82 343 *e*P **P** **08 21 39.8 +1.1**
K05A **Summer Lake** 75.85 49 P **P** **08 21 40.7 +1.0**
DAG **Danmarks Havn** 75.88 356 ⇓*i* P **P** **08 21 39.7 +0.6**
DAG IAmb IAmb 08 21 40.4
comp=Z,18nm,0.7s
DAG **Danmarks Havn** 75.88 356 ⇓*i* P **P** **08 21 39.6 +0.6**
DAG pmax pmax
comp=Z,18nm,0.7s
NEW **Newport** 76.00 43 P 08 21 40.7
baz=295,SNR=49
G08A **Pilot Rock** 76.08 46 P **P** **08 21 41.6 +0.7**
O03E **Paynes Creek** 76.20 52 P 08 21 41.8
baz=294,SNR=19
VRH **Novokhopyorsk** 76.46 321 *e*P **P** **08 21 41.7 -1.0**
VRH pmax pmax
comp=Z,30nm,0.8s
MOS **Moscow** 76.56 326 *e*P **P** **08 21 43.1 -0.1**
MOS pmax pmax
comp=Z,71nm,1.2s
BANOM **Banah** 76.59 292 P **P** **08 21 45.3 +1.3**
SHME **Shamm** 76.67 293 *i* P **P** **08 21 45.6 +1.2**
SNR=12
ORV **Oroville** 76.71 52 P **P** **08 21 44.4 0.0**
ORV pmax pmax
comp=Z,34nm,1.0s
ORV **Oroville** 76.71 52 P **P** **08 21 44.4 0.0**
ORV IAmb IAmb 08 21 45.6
comp=Z,34nm,1.0s
MSFE **Esma-Masafi** 76.94 292 P **P** **08 21 47.3 +1.3**
UOSS **Minazif** 77.06 291 P **P** **08 21 46.3 -0.3**
SOHO **SOHO** 77.12 291 *i* P **P** **08 21 47.5 +0.6**
SNR=16
HATD **Hatta, Dubai** 77.17 291 *i* P **P** **08 21 48.3 +1.0**
SNR=7.1
ASHO **Ashiyiah** 77.29 291 *i* P **P** **08 21 48.7 +0.7**
SNR=7.4
LPSR **Galich'ya Gora** 77.36 323 *e*P **P** **08 21 47.4 -0.4**
LPSR pmax pmax
comp=Z,30nm,0.9s
OBN **Obninsk** 77.39 326 ⇓*i* P **P** **08 21 47.1 -0.8**
OBN *PP **pP** **08 21 52.0 -0.1**
OBN *SP **sP** **08 21 54.0 +0.1**
OBN 08 21 58.0
OBN S **S** **08 31 35.0 -2.2**
OBN pmax pmax
comp=Z,13nm,0.4s
OBN MLR MLR
comp=Z,137nm,17.0s
NAZ **Nazwa, Dubai** 77.50 292 P **P** **08 21 49.5 +0.4**
FAQ **Al Faqa, Dubai** 77.65 292 P **P** **08 21 50.2 +0.3**
KULLO **Kullorsuaq** 77.72 6 ⇓*i* P **P** **08 21 50.1 +0.7**
KULLO IAmb IAmb 08 21 50.9
comp=Z,41nm,1.0s
KULLO **Kullorsuaq** 77.72 6 ⇓*i* P **P** **08 21 50.1 +0.7**
KULLO pmax pmax
comp=Z,41nm,1.0s
ALNE **Al Ain** 77.80 291 *i* P **P** **08 21 51.8 +1.0**
SNR=7.1
ASUD **Al Ashush, Dub** 77.92 292 P **P** **08 21 52.3 +0.9**
STEI **Steigen** 77.97 342 *e*P **P** **08 21 51.4 +0.5**
FAUS **Fauske** 78.34 342 *e*P **P** **08 21 53.8 +0.8**
PMOR **Pomariorio Ree** 78.34 114 *e*T T 09 46 52.6
comp=Z,11nm,0.2s
DBG **Daneborg** 78.37 356 ⇓*i* P **P** **08 21 53.6 +0.6**
DBG IAmb IAmb 08 21 54.0
comp=Z,14nm,0.7s
PPT2 **Papeete2** 78.37 117 *e*LR LR 08 46 01.3
comp=Z,72nm,22.2s
MSO **Missoula** 78.56 43 P 08 21 54.7
baz=297,SNR=20
FINES **FINESS Array B** 78.63 334 P **P** **08 21 54.9 +0.2**
comp=Z,6.2nm,0.4s,baz=71,slow=4.8,SNR=79
FINES LR LR 08 59 14.8
comp=Z,71nm,21.2s,baz=47,slow=38
NCK **Nalchik** 78.74 313 *i* P **P** **08 21 56.6 +0.9**
NCK pmax pmax
comp=Z,22nm,0.9s
ZEI **Tsey** 78.86 312 *e*P **P** **08 21 55.5 -1.1**
ZEI pmax pmax
comp=Z,14nm,1.0s
KBZ **Khabaz** 79.09 314 P **P** **08 21 59.0 +1.5**
comp=Z,40nm,0.8s,baz=91,slow=3.4,SNR=81
KBZ **Khabaz** 79.09 314 *d i* P **P** **08 21 58.4 +0.9**
KBZ pmax pmax
comp=Z,47nm,0.9s
KIV **Kislovodsk** 79.12 314 ⇓P **P** **08 21 59.2 +1.4**
KIV **Kislovodsk** 79.12 314 *i* P **P** **08 21 59.6 +1.7**
SNR=9.7
KIV **Kislovodsk** 79.12 314 *e*P **P** **08 21 59.3 +1.4**
KIV pmax pmax
comp=Z,139nm,1.1s
SHA1 **Shidzhatmaz** 79.24 314 *e*P **P** **08 21 59.4 +0.7**
MLAC **Mammoth, Mammo** 79.41 53 P 08 22 00.5
baz=296
NEY **Neytrino** 79.42 313 *i* P **P** **08 21 59.6 0.0**
NEY pmax pmax
comp=Z,3.0nm,0.8s
MOR8 **Moi Rana** 79.44 341 *e*P **P** **08 21 58.4 -0.7**
NVAR **Mina Array Bea** 79.44 52 P **P** **08 22 00.4 +0.5**
comp=Z,19nm,0.8s,baz=279,slow=5.7,SNR=145
NVAR LR LR 08 50 17.8
comp=Z,118nm,21.8s,baz=290,slow=30
GNI **Garni** 79.46 310 *i* P **P** **08 22 00.6 +0.7**
GNI pmax pmax
comp=Z,25nm,1.6s
UPNV **Upernavik** 79.53 6 *e*P **P** **08 21 60.0 +0.6**
UPNV IAmb IAmb 08 22 01.4
comp=Z,19nm,0.8s
SMMC **Simmler** 79.57 56 P 08 22 01.1
baz=296
AKH **Akhalkalaki** 79.75 311 ⇓P **P** **08 22 03.1 +1.7**
HLID **Hailey** 79.77 46 P 08 22 02.1
baz=298,SNR=27
PKM **Mcpherson Peak** 79.89 56 P 08 22 03.0
baz=296,SNR=6.1
VES **Vestal, Richgr** 80.01 55 P 08 22 02.4
baz=296,SNR=21
MEF **Metsahovi** 80.03 334 *e*P **P** **08 22 03.1 +0.8**
TIN **Tinemaha, Big** 80.10 54 P 08 22 04.0
baz=296,SNR=6.1
VSU **Vasula** 80.14 332 *i* P **P** **08 22 03.5 +0.6**
VSU pmax pmax
comp=Z,54nm,0.9s
SCZ2 **Santa Cruz Isl** 80.42 57 P 08 22 05.1
baz=296
CWC **Cottonwood Cre** 80.48 54 P 08 22 05.4
baz=296
EGMT **Eagleton** 80.49 41 P 08 22 05.4
baz=300,SNR=14
ARVC **Arvin** 80.51 56 P 08 22 05.5
baz=296
RAF **Rauma** 80.53 335 *e*P **P** **08 22 04.5 -0.5**
ISA **Isabella, Lake** 80.54 55 P 08 22 05.2
baz=296,SNR=9.3
SUMG **Summit** 80.65 1 ⇓*i* P **P** **08 22 07.4 +1.4**

SUMG IAmb IAmb 08 22 08.3
comp=Z,36nm,0.7s
SUMG Summit 80.65 1⇓ *i*P P 08 22 07.3 +1.4
SUMG pmax pmax
comp=Z,36nm,0.7s
GRAC Grapevine Rang 80.74 53 P 08 22 06.9
baz=297,SNR=9.2
OSI Osito Audit: C 80.82 56 P 08 22 07.5
baz=296
MPMC Manual Prospec 81.08 54 P 08 22 08.9
baz=297,SNR=20
LRMC Laurel Mtn Rad 81.20 55 P 08 22 09.3
baz=297,SNR=14
SOC Sochi 81.20 314 *e*P **P 08 22 07.6 -1.3**
SOC *e* 08 25 17.1
SOC *e*PPP PPP 08 27 01.2
SOC *e*S **S 08 32 18.1 -0.1**
SOC *e*SSS SSS 08 40 59.9
SOC pmax pmax
comp=Z,11nm,0.5s
EDW2 Edwards Air Fo 81.24 55 P 08 22 09.7
baz=297,SNR=9.2
FURC Furnace Creek, 81.34 54 P 08 22 10.2
baz=297,SNR=15
NSS Namsos 81.35 341 *e*P **P 08 22 09.7 +0.4**
R11A Troy Canyon, C 81.39 51 P 08 22 10.5
baz=298,SNR=8.3
TPNV Topopah Spring 81.56 53 P 08 22 11.4
baz=297,SNR=27
CIS Catalina Islan 81.59 57 P 08 22 11.2
baz=297
BFSC Mount Baldy Ra 81.77 56 P 08 22 12.1
baz=297
H17A Grant Village 81.80 44 P 08 22 15.0
baz=300,SNR=27
GSC Goldstone, Bar 81.92 55 P 08 22 13.0
baz=297,SNR=9.2
UMR Umm Al-Rimmam 81.97 299 *e*P **P 08 22 12.6 -0.7**
RRX Edison Barstow 81.97 55 P 08 22 13.6
baz=297
IDID Didziasalis 82.01 329 *e*P **P 08 22 14.2 +1.2**
SHOC Shoshone, Teco 82.03 54 P 08 22 13.6
baz=298,SNR=6.7
ANN Anapa 82.03 316 *e*P **P 08 22 11.9 -1.4**
ANN *e**PP **pP 08 22 14.3 -3.2**
ANN *e*S **S 08 32 26.7 +0.1**
ANN pmax pmax
comp=Z,88nm,1.4s
GURO Guroymak-BITLI 82.06 309 P **P 08 22 14.5 +0.7**
GURO IAmb IAmb 08 22 16.3
comp=Z,34nm,1.4s
MIB Mutribah 82.15 299 *e*P **P 08 22 13.7 -0.5**
QRN Al-Qurain 82.17 298 *e*P **P 08 22 13.2 -1.1**
SCO Scoresbysund 82.23 355 *i*P **P 08 22 14.7 +0.9**
SCO IAmb IAmb 08 22 16.5
comp=Z,14nm,0.7s
SCO Scoresbysund 82.23 355 *i*P **P 08 22 14.7 +0.9**
SCO pmax pmax
comp=Z,14nm,0.7s
NACGM Naroch 82.23 329 *i*P **P 08 22 14.6 +0.5**
baz=340
RLMT Red Lodge 82.24 43 P 08 22 15.9
baz=301,SNR=47
BBRC Big Bear Solar 82.31 56 P 08 22 15.1
baz=297
MURC Murrieta 82.41 56 P 08 22 15.5
baz=297,SNR=6.6
DUG Dugway, Tooele 82.41 49 P 08 22 16.0
baz=299,SNR=48
HEC Hector,Ludlow 82.47 55 P 08 22 16.0
baz=298
TUQ Turquoise Moun 82.49 54 P 08 22 16.5
baz=298
RST Umm Al-Ruwaisa 82.55 299 *e*P **P 08 22 15.9 -0.4**
109C Camp Elliot, M 82.80 57 P 08 22 17.4
baz=297
PFO Pinyon Flats O 82.95 56 P 08 22 18.4
baz=298,SNR=7.3
TPFO Pinon Flats 82.95 56 P 08 22 18.5
baz=298,SNR=8.6
GMRC Granite Mounta 82.99 55 P 08 22 18.8
baz=298,SNR=14
BELC Belle Mtn. Jos 83.11 55 P 08 22 19.0
baz=298,SNR=13
PABE Paberze 83.14 330 *e*P **P 08 22 19.5 +0.7**
PABE Paberze 83.14 330 P **P 08 22 18.6 -0.3**
LAO LASA Array 83.23 41 P 08 22 20.3
baz=302,SNR=24
PD31 Pinedale Array 83.26 45 P **P 08 22 19.9 -0.2**
PDAR Pinedale Array 83.26 45 P **P 08 22 19.9 -0.2**
comp=Z,5.8nm,0.7s,baz=312,slow=1.1,SNR=66
PDAR LR LR 08 56 28.4
comp=Z,150nm,18.3s,baz=306,slow=34
BW06 Boulder Array 83.26 45 P 08 22 19.9
baz=301,SNR=17
MONP2 Monument Peak 83.31 57 P 08 22 20.4
baz=298,SNR=5.8
DGMT Dagmar 83.41 38 P 08 22 20.3
baz=304,SNR=5.8
AKASG Malin Array Be 83.51 324 P **P 08 22 20.3 -0.6**
comp=Z,11nm,0.5s,baz=50,slow=5.3,SNR=48
AKASG LR LR 09 02 22.8
comp=Z,86nm,19.0s,baz=95,slow=38
AKASG Malin Array Be 83.51 324 *i*P **P 08 22 20.6 -0.2**
AKASG pmax pmax
comp=Z,11nm,0.5s
AKASG Malin Array Be 83.51 324 P **P 08 22 20.2 -0.6**
IKP In-Ko-Pah, Jac 83.65 57 P 08 22 22.1
baz=298
IRM Iron Mountain 83.66 55 P 08 22 22.2
baz=298
BC3 Big Chuckawall 83.67 56 P 08 22 22.2
baz=298,SNR=10
SWSC Sam W. Stewart 83.75 56 P 08 22 22.2
baz=298
NEE2 Needles Airpor 83.75 54 P 08 22 22.4
baz=298
DOMB Dombas 84.10 340 *e*P **P 08 22 24.2 +0.5**
ICESG Greenland Ices 84.14 1⇓ *i*P **P 08 22 24.8 +0.7**
ICESG IAmb IAmb 08 22 25.9
comp=Z,38nm,0.8s
NB2 NORSAR Subarra 84.19 339 P **P 08 22 23.9 -0.3**
baz=40,slow=5.3
NOA NORSAR Array B 84.19 339 P **P 08 22 24.0 -0.3**
comp=Z,12nm,0.9s,baz=40,slow=5.0,SNR=17
PDMCI Parker Dam,Lak 84.32 54 P 08 22 25.5
baz=299,SNR=6.2
RDMU Red Mountain 84.37 47 P **P 08 22 25.8 0.0**
RDMU IAmb IAmb 08 22 27.2
comp=Z,27nm,1.0s
GLA Glamis 84.42 56 P 08 22 26.0
baz=299
SUW Suwalki 84.44 329 *e*P **P 08 22 25.3 -0.3**
SRU San Rafael Swe 84.48 49 P **P 08 22 26.1 -0.2**
SRU pmax pmax
comp=Z,20nm,0.8s
SRU San Rafael Swe 84.48 49 P **P 08 22 26.1 -0.2**
SRU IAmb IAmb 08 22 27.4
comp=Z,20nm,0.8s
AKN Aaknes 84.60 341 *e*P **P 08 22 27.1 +0.9**
U15A North Rim 84.61 52 P **P 08 22 27.0 -0.2**
U15A IAmb IAmb 08 22 29.4
comp=Z,9.3nm,0.8s
DIKM Dikmen 85.02 314 ⇓P **P 08 22 29.8 +1.0**
K22A Casper 85.22 44 P 08 22 30.1
baz=303,SNR=13
SKAR Skarslia 85.39 340 *e*P **P 08 22 31.1 +0.8**
O20A White River Ci 85.46 47 P **P 08 22 30.6 -0.7**
O20A IAmb IAmb 08 22 32.2
comp=Z,16nm,0.9s
O20A White River Ci 85.47 47 P 08 22 31.1
baz=302,SNR=13
SORM Soroca 85.47 323 ⇑P **P 08 22 30.6 -0.2**
SORM Soroca 85.47 323 ⇑P **P 08 22 30.6 -0.2**
HYA Hoyanger 85.64 341 *e*P **P 08 22 32.2 +0.8**
SFJD Kangerlussuaq 85.64 6⇓ *i*P **P 08 22 32.1 +0.8**
SFJD IAmb IAmb 08 22 32.8
comp=Z,56nm,0.9s
SFJD Kangerlussuaq 85.64 6⇓ *i*P **P 08 22 32.0 +0.8**
SFJD pmax pmax
comp=Z,56nm,0.9s
SFJD Kangerlussuaq 85.64 6 P **P 08 22 31.6 +0.3**
BZK Bozkurt 85.64 315 ⇓P **P 08 22 32.3 +0.5**
WUAZ Wupatki 85.70 52 P 08 22 32.8
baz=300,SNR=12
RSSD Black Hills 85.93 42 P 08 22 33.4
baz=304
X16A Lo Mia Camp, P 86.21 53 P **P 08 22 34.9 -0.1**
MDND Maddock 86.28 37 P 08 22 35.2
baz=307
214A Organ Pipe Nat 86.44 56 P 08 22 36.3
baz=300,SNR=12
RAYN Ar Rayn 86.47 294 *i*P **P 08 22 37.1 +0.8**
SNR=25
DY2G Dye2 86.48 4⇓ *i*P **P 08 22 36.4 +0.6**
DY2G IAmb IAmb 08 22 38.2
comp=Z,25nm,0.8s
BER Bergen 86.52 341 *e*P **P 08 22 36.7 +0.9**
N23A Red Feather La 86.54 45 P 08 22 37.2
baz=303,SNR=20
ULM Lac du Bonnet 86.72 34 P **P 08 22 36.5 -0.5**
comp=Z,8.7nm,0.9s,baz=298,slow=4.8,SNR=10
ULM LR LR 09 01 57.8
comp=Z,66nm,19.5s,baz=319,slow=36
MVCO Mesa Verde 86.83 50 P 08 22 37.7
baz=302,SNR=7.6
BLS5 Blasjo 86.95 340 *e*P **P 08 22 38.6 +0.7**
BR131 Keskin Array S 87.08 314 P **P 08 22 38.5 -0.7**
BR131 pmax pmax
comp=Z,18nm,0.8s
BR131 Keskin Array S 87.08 314 P **P 08 22 38.5 -0.7**
BR131 IAmb IAmb 08 22 39.9
comp=Z,18nm,0.8s
BRTR Keskin Array B 87.08 314 P **P 08 22 39.0 -0.2**
comp=Z,9.5nm,0.8s,baz=88,slow=3.7,SNR=23
BRTR LR LR 09 06 06.3
comp=Z,48nm,18.3s,baz=66,slow=39
ISCO Idaho Springs 87.35 46 P 08 22 40.8
baz=303
TPGR Topolog 87.36 320 ⇓P **P 08 22 40.3 0.0**
TESR Tescani 87.37 322 ⇑P **P 08 22 40.2 0.0**
BIZ Bicaz 87.40 323 ⇑P **P 08 22 40.8 +0.4**
BURAR Bucovina Array 87.46 324 P **P 08 22 40.4 -0.4**
SNART Snartemo 87.58 339 *e*P **P 08 22 41.4 +0.5**
S22A 4UR Ranch, Cre 87.67 48 P 08 22 42.3
baz=303
VRI Vrincioaia 87.71 321 ⇑P **P 08 22 42.2 +0.3**
VRI Vrincioaia 87.71 321 ⇑P **P 08 22 42.2 +0.3**
TUC Tucson 87.75 55 P 08 22 42.7
baz=301
PLOR Plostina 87.77 322 ⇑P **P 08 22 41.6 -0.6**
PLOR Plostina 87.77 322 ⇑P **P 08 22 41.6 -0.6**
AGMN Agassiz Nation 87.97 35 P 08 22 43.0
baz=310,SNR=22
OZUR 88.09 322 ⇑P **P 08 22 43.6 -0.1**
Q24A Divide 88.11 47 P 08 22 44.3
baz=304
KOLS Kolonicke sedl 88.14 326 *e*P **P 08 22 44.2 +0.3**
KOLS Kolonicke sedl 88.14 326 *e*P **P 08 22 44.2 +0.3**
DOPR Dopca 88.39 322 ⇑P **P 08 22 45.7 +0.5**
SDCO Great Sand Dun 88.55 48 P 08 22 46.2
baz=303,SNR=5.6
CRVS Cervenica-Dubn 88.57 326 *e*P **P 08 22 46.3 +0.3**
CRVS pmax pmax
comp=Z,34nm,1.4s
CRVS Cervenica-Dubn 88.57 326 *e*P **P 08 22 46.2 +0.3**
SUSD Miller 88.70 40 P 08 22 46.2
baz=308,SNR=6.4
DRGR 89.31 324 ⇑P **P 08 22 49.1 -0.4**
DRGR 89.31 324 ⇑P **P 08 22 49.1 -0.4**
KECS Kecovo 89.33 326 *e*P **P 08 22 49.5 0.0**
KECS Kecovo 89.33 326 *e*P **P 08 22 49.5 0.0**
LANS Liptovska Anna 89.38 327 *e*P **P 08 22 50.5 +0.7**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 89.38 327 *e*P **P 08 22 50.5 +0.7**
ANMO Albuquerque 89.43 51 *d i*P **P 08 22 50.1 -0.4**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 89.43 51 P 08 22 50.6
baz=303
T25A Trinidad 89.61 48 P 08 22 51.5
baz=304
KSCO Kaye Shedlock' 89.70 46 P 08 22 51.7
baz=305
121A Cookes Peak, D 89.80 53 P 08 22 52.7
baz=302
MORC Moravsky Berou 89.87 328 *e*P **P 08 22 51.8 -0.2**
CHVC Chvalec 89.98 330 AMS AMS 09 09 20.0
comp=Z,200nm,15.7s
PSZ Piszkesteto 90.00 326 ⇑P **P 08 22 52.6 -0.2**
PSZ Piszkesteto 90.00 326 ⇑P **P 08 22 52.6 -0.2**
KRLC Kraliky 90.01 329 AMS AMS 09 08 50.0
comp=Z,200nm,14.9s
DPC Dobruska-Polom 90.03 329 *e*P **P 08 22 53.0 +0.2**
DPC Dobruska-Polom 90.03 329 *e*P **P 08 22 53.0 +0.2**
UPC Upice 90.06 330 AMS AMS 09 09 30.0
comp=Z,200nm,15.4s
VYHS Vyhne 90.14 327 *e*P **P 08 22 53.7 +0.4**
VYHS pmax pmax
comp=Z,11nm,0.8s
VYHS Vyhne 90.14 327 *e*P **P 08 22 53.7 +0.4**
GZR Gura Zlata 90.17 323 ⇑P **P 08 22 53.4 -0.2**
GZR Gura Zlata 90.17 323 ⇑P **P 08 22 53.4 -0.2**
EYMN Ely 90.41 34 P 08 22 54.5
baz=313
JAVC Velka Javorina 90.44 328 *e*P **P 08 22 55.8 +1.0**
ECSD EROS Data Cent 90.47 39 P 08 22 54.6
baz=309,SNR=13
VRAC Vranov 90.64 329 ⇑P **P 08 22 55.2 -0.4**
VRAC Vranov 90.64 329 *e*P **P 08 22 55.7 +0.1**
VRAC Vranov 90.64 329 ⇑P **P 08 22 55.2 -0.4**
BZS Buzias 90.65 324 ⇑P **P 08 22 54.6 -1.1**
BZS Buzias 90.65 324 ⇑P **P 08 22 54.6 -1.1**
PVCC Panska Ves 90.69 330 AMS AMS 09 10 10.0
comp=Z,200nm,17.9s
BRG Berggiesshubel 90.71 331 *e*P **P 08 22 55.3 -0.6**
BRG Amp 08 22 56.5
comp=Z,6.5nm,0.8s
CLL Collm 90.79 332 *e*P **P 08 22 56.0 -0.2**
comp=Z,11nm,0.8s
CLL LmV 09 08 00.0
comp=Z,100nm,18.2s
CLL Collm 90.79 332 *e*P **P 08 22 56.0 -0.2**
CLL pmax pmax
comp=Z,11nm,0.8s
SMOL Smolenice 90.80 328 *e*P **P 08 22 57.1 +0.7**
SMOL pmax pmax
comp=Z,9.0nm,1.2s
SMOL Smolenice 90.80 328 *e*P **P 08 22 57.1 +0.7**
KRUC Moravsky 90.90 328 *e*P **P 08 22 56.9 +0.1**
MODS Modra-Piesok 90.97 328 *e*P **P 08 22 56.8 -0.4**
MODS pmax pmax
comp=Z,15nm,1.2s
MODS Modra-Piesok 90.97 328 *e*P **P 08 22 56.8 -0.4**
BGNE Belgrade 91.03 42 P 08 22 56.8
baz=308
PRA Prague 91.08 330 AMS AMS 09 10 10.0
comp=Z,200nm,15.0s
PRU Pruhonice 91.09 330 *e*P **P 08 22 57.5 -0.1**
PRU MLR MLR
comp=Z,200nm,18.9s
PRU Pruhonice 91.09 330 *e*P **P 08 22 57.5 -0.1**
PRU AMS AMS 09 10 10.0
comp=Z,200nm,18.9s
MDVR Moldovita 91.14 323 ⇑P **P 08 22 57.3 -0.8**
SPMN Marine on St. 91.57 36 P 08 23 00.2
baz=312
CBKS Cedar Bluff 91.64 44 P 08 22 59.8
baz=307
MORH Mrgy, Hungar 91.79 325 ⇑P **P 08 23 00.7 -0.2**
FRGS Fruska Gora 91.90 324 ⇑P **P 08 23 01.6 0.0**
MNTX Cornudas Mount 91.96 53 P 08 23 02.4
baz=304,SNR=27
CKRC Cesky Krumlov 92.04 329 *e*P **P 08 23 01.5 -0.6**
CKRC AMS AMS 09 10 00.0
comp=Z,200nm,18.3s
KHC Kasperske Hory 92.14 330 *e*P **P 08 23 02.3 -0.3**
KHC MLR MLR
comp=Z,200nm,16.4s
KHC Kasperske Hory 92.14 330 *e*P **P 08 23 02.3 -0.3**
KHC AMS AMS 09 10 50.0
comp=Z,200nm,16.4s
GERES GERESS Array B 92.30 330 P **P 08 23 02.6 -0.7**
comp=Z,2.7nm,0.8s,baz=57,slow=4.9,SNR=18
GERES LR LR 09 08 42.0
comp=Z,84nm,18.3s,baz=33,slow=38
GERES GERESS Array B 92.30 330 P **P 08 23 02.5 -0.9**
GERES GERESS Array B 92.30 330 P **P 08 23 02.5 -0.9**
AMTX Amarillo 92.71 48 P 08 23 05.7
baz=306
GRF Grafenberg Arr 92.76 331 *e*P **P 08 23 05.4 0.0**
comp=Z,8.4nm,0.8s,baz=50,slow=4.2
PERS Pernice 93.24 327 *i*P **P 08 23 07.1 -0.7**
SCIA State Center 93.55 39 P 08 23 09.4
baz=312
CRES Cresnjev 93.65 327 *i*P **P 08 23 08.7 -0.9**
PDKS Podkum 93.70 327 *i*P **P 08 23 09.0 -0.9**
OK032 Salt Plains WL 93.82 45 P **P 08 23 10.5 0.0**
OK032 IAmb IAmb 08 23 11.6
comp=Z,15nm,0.7s
PDG Podgorica 94.04 322 ⇑P **P 08 23 10.7 -0.7**
GBAS Gorenja Brezov 94.06 327 *i*P **P 08 23 10.3 -1.2**
SCHQ Schefferville 94.33 17 P **P 08 23 11.8 -0.7**
comp=Z,6.3nm,1.0s,baz=352,slow=3.0,SNR=4.5
BLOK Blackwell 94.48 45 P **P 08 23 13.1 -0.5**
BLOK IAmb IAmb 08 23 14.5
comp=Z,17nm,0.9s
JFWS Jewell Farm 94.49 37 P 08 23 13.0
baz=314
TXAR Lajitas Array 94.50 54 P **P 08 23 14.2 +0.3**
comp=Z,3.9nm,0.8s,baz=310,slow=2.5,SNR=47
TXAR LR LR 09 00 24.1
comp=Z,50nm,20.3s,baz=0.0,slow=32
I42A Draeger Farm, 94.51 35 P **P 08 23 13.0 -0.5**
WMOK Wichita Mounta 94.71 47 P 08 23 14.5
baz=307,SNR=9.8
BFO Black Forest 95.03 332 P **P 08 23 14.9 -1.0**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 95.03 332 P **P 08 23 14.9 -1.0**
BFO IAmb IAmb 08 23 16.2
comp=Z,10nm,1.0s
MATQ Matagami 95.15 26 P 08 23 15.8
baz=324
ABTX Abilene, Hawle 95.41 49 P 08 23 17.9
baz=307
LSQQ Lebel-sur-Quev 95.97 26 P 08 23 19.4
baz=324
L44A Lake County Fo 96.24 36 P 08 23 20.2
baz=315
CHGQ Chibougamau 96.24 24 P 08 23 20.9
baz=326
JCT Junction City 96.58 51 P 08 23 23.2
baz=306
HDIL Hopedale 96.64 38 P 08 23 23.4
baz=314
WVT Waverly 100.56 40 P 08 23 40.6
baz=315
M54A Oil Creek Stat 100.84 32 P 08 23 41.9
baz=321
I60A Shoreham 101.71 26 P 08 23 45.8
baz=327
I61A Oroboro, Fairl 102.06 26 P 08 23 46.7
baz=328
L58A Harry Jones Me 102.13 29 P 08 23 47.5
baz=324
ESDC Sonseca Array 107.14 334 PP **PP 08 28 32.6 -3.3**
comp=Z,1.3nm,0.9s,baz=12,slow=6.3,SNR=6.1
TORD Torodi Ar. Bea 125.69 313 PKP **PKPdf 08 28 54.9 -0.5**
comp=Z,3.5nm,0.9s,baz=17,slow=2.4,SNR=10
SNAA Sanae 131.64 193 PKPdf **PKPdf 08 29 04.2 -0.9**
VNA3 Neumayer Olymp 133.30 191 PKPdf **PKPdf 08 29 07.4 -0.8**
VNA1 Neumayer--Stat 133.53 192 PKPdf **PKPdf 08 29 07.8 -0.8**
PTGA Pitinga 145.30 45 **PKPbc 08 29 30.7 -0.8**
ETMB Extrema 146.93 65 *e*P **PKPdf 08 29 33.8 -0.6**
MNMC Minye Minye 148.38 83 **PKPbc 08 29 41.2 +0.7**
LPAZ La Paz 148.56 77 PKPbc **PKPbc 08 29 41.5 +0.1**
comp=Z,18nm,0.5s,baz=337,slow=3.7,SNR=20
LPAZ La Paz 148.56 77 *e*P **PKPdf 08 29 38.6 +0.8**
PLCA Paso Flores 148.60 125 PKPbc **PKPbc 08 29 40.0 -0.3**
comp=Z,6.3nm,0.7s,baz=231,slow=3.8,SNR=20
PLCA Paso Flores 148.60 125 PKP2 **PKPbc 08 29 40.0 -0.3**
PLCA Paso Flores 148.60 125 *e*P **PKPbc 08 29 38.6 -1.7**
GO04 Tololo Observa 149.55 104 **PKPbc 08 29 41.7 -1.4**
VA03 San Esteban 149.78 109 **PKPbc 08 29 42.1 -1.4**
LVC Limon Verde 150.06 89 *e*P **PKPdf 08 29 41.4 +1.7**
ITTB Itaituba 150.76 43 *e*P **PKPdf 08 29 41.2 +0.5**
TMAB Tom-Au,PA,Br 152.97 27 *e*P **PKPdf 08 29 45.1 +1.1**
NPGB Novo Progresso 153.07 46 *e*P **PKPdf 08 29 44.3 +0.2**
VILB Vilhena 153.54 63 *e*P **PKPdf 08 29 45.7 +0.9**
ROSB Rosrio 154.84 19 *e*P **PKPdf 08 29 46.5 -0.1**
CLDB Colider 155.55 53 *e*P **PKPdf 08 29 50.4 +2.8**
TRQA Tornquist 155.74 123 *e*P **PKPdf 08 29 49.6 +2.4**
NBPS Pedro II - PI 156.95 13 *e*P **PKPdf 08 29 51.8 +2.3**
NBCL Cascavel-CE 157.24 5 *e*P **PKPdf 08 29 52.0 +2.2**
NBPB Pedra_Branca-C 158.40 9 *e*P **PKPdf 08 29 53.0 +1.8**
SALV Santo Antonio 158.80 62 *e*P **PKPdf 08 29 51.6 0.0**
NBPA Parau_RN 158.82 2 *e*P **PKPdf 08 29 53.2 +1.8**
SMTB Santa Maria do 158.97 33 *e*P **PKPdf 08 29 52.7 +0.8**
SNDB Serra Nova Dou 159.39 46 *e*P **PKPdf 08 29 52.7 +0.3**
PP1B Ponte de Pedra 160.38 65 *e*P **PKPdf 08 29 54.3 +0.9**
AQDB Aquidauana 161.03 74 *e*P **PKPdf 08 29 54.3 +0.3**
CPUP Villa Florida 161.12 93 PKP **PKPdf 08 29 52.6 -1.3**
comp=Z,5.6nm,1.1s,baz=40,slow=5.3,SNR=3.7
PEXB Peixe 161.32 40 *e*P **PKPdf 08 29 54.1 -0.4**
ARAG Araguaiana, MT 161.65 55 *e*P **PKPdf 08 29 54.5 -0.2**
ITQB Itaqui 161.85 103 *e*P **PKPdf 08 29 57.3 +2.7**
NBAN Anadia - AL 162.73 0 *e*P **PKPdf 08 29 58.5 +2.5**
CPSB Cacapava Do Su 164.52 107 *e*P **PKPdf 08 29 59.1 +1.9**
TRCB Terra Rica 164.53 78 *e*P **PKPdf 08 29 58.9 +1.4**
PCMB Pacaembu 165.27 72 *e*P **PKPdf 08 30 01.2 +3.1**
IPMB Ipameri, GO 165.74 53 *e*P **PKPdf 08 30 00.6 +2.0**
ITAB Concordia 165.83 94 *e*P **PKPdf 08 30 00.5 +2.1**
JANB Januaria 165.91 34 *e*P **PKPdf 08 30 01.2 +2.4**
MC01 Montes Claros 167.48 36 *e*P **PKPdf 08 30 02.9 +3.0**
CMC01 Camacan, BA 167.99 15 *e*P **PKPdf 08 30 01.3 +1.0**
TER01 Tubaro-SC 168.47 100 *e*P **PKPdf 08 30 02.9 +2.6**
RCLB Rio Claro- Sao 168.75 68 *e*P **PKPdf 08 30 03.3 +2.6**
DIAM Diamantina, MG 168.92 40 *e*P **PKPdf 08 30 04.2 +3.2**
SPB Sao Paulo 169.30 74 *e*P **PKPdf 08 30 03.7 +2.8**
PET01 Itanhaem-SP 169.66 77 *e*P **PKPdf 08 30 02.9 +1.8**
NAN01 Guarapari, ES 170.18 22 *e*P **PKPdf 08 30 02.2 +0.6**
SJMB Sao Joao De Ma 170.54 30 *e*P **PKPdf 08 30 02.6 +0.9**
PARB Paraibuna 170.73 69 *e*P **PKPdf 08 30 04.8 +3.0**
DUB01 Friburgo-RJ 172.54 50 *e*P **PKPdf 08 30 05.4 +2.7**

*IDC **19** 08:12:55.1±2.8, 54°.21N×87°.20E, h0km, mb1 3.1/2, mb1mx3.0/51, mbtmp3.1/2, ML2.8/2 Error ellipse: s-maj=22.8km s-min=16.5km az=59.0*
*NNC **19** 08:12:55.5±2.4, 54°.14N×87°.20E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=22.7km s-min=12.4km az=16.0, Suspected Mining explosion.*

ISC 19 08:12:56.6±4.3, 54°.2N±0°.2×87°.0E±0°.2, h0km, n7, σ0s86/11, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**259**	*i*			08 21 46.3	
	baz=78,slow=307,SNR=2.6							
ZAA0	**Zalesovo Array**	**1.30**	**259**	⇓P		**Pn**	**08 13 21.4**	**-0.7**
ZAA0	0.7nm,0.3s			⇑S		**Sn**	**08 13 41.4**	**+1.3**
	2.3nm,0.5s							
ZALV	**Zalesovo Beam**	**1.30**	**259**	Pg		**Pg**	**08 13 20.9**	**-0.6**
	6.7nm,0.3s,baz=76,slow=16,SNR=48							
ZALV				Lg		Lg	08 13 41.5	
	3.9nm,0.3s,baz=80,slow=24,SNR=11							
ZALV				Rg		Rg	08 13 54.7	
	4.0nm,0.2s,baz=79,slow=25,SNR=4.3							
KURBB	**Kurchatov Arra**	**6.29**	**239**	Pn		**Pn**	**08 14 31.2**	**+0.6**
	0.2nm,0.3s,baz=55,slow=14,SNR=7.1							
KURBB				Sn		**Sn**	**08 15 43.1**	**-0.1**
	0.0nm,0.3s,baz=46,slow=21,SNR=1.5							
KURBB				Lg		Lg	08 16 17.9	
	0.0nm,0.3s,baz=53,slow=30,SNR=3.3							
KURBB	**Kurchatov Arra**	**6.29**	**239**	⇓Pn		**Pn**	**08 14 31.8**	**+1.2**
	1.3nm,0.3s							
KURBB				⇓Sn		**Sn**	**08 15 43.3**	**+0.1**
	0.4nm,0.3s							
KURBB				⇑Lg		Lg	08 16 18.6	
	6.0nm,0.8s							
MK31	**Makanchi Array**	**8.00**	**204**	⇓Pn		**Pn**	**08 14 54.5**	**+0.4**
	0.5nm,0.7s,baz=26,slow=14,SNR=8.8							
MK31				⇑Sn		**Sn**	**08 16 25.1**	**-0.1**
	0.3nm,0.5s							
MK31				⇓Lg		Lg	08 17 07.4	
	1.4nm,0.8s							
MKAR	**Makanchi Array**	**8.00**	**204**	Pn		**Pn**	**08 14 54.8**	**+0.7**
	0.1nm,0.3s,baz=26,slow=14,SNR=7.0							
MKAR				Sn		**Sn**	**08 16 24.2**	**-1.1**
	0.1nm,0.3s,baz=28,slow=28,SNR=3.3							
MKAR				Lg		Lg	08 17 11.9	
	0.0nm,0.3s,baz=22,slow=32,SNR=2.6							

*JMA **19** 08:27:55.7±0.2,24.89N×123.26E,h118km±2km,M3.2*
*IDC **19** 08:28:04.7±5.4,24.93N×124.29E,h191km±45km,mb2.9/3, mb1 3.2/5,mb1mx2.9/37,mbtmp3.6/5,Error ellipse: s-maj=70.9km s-min=21.3km az=93.0*
ISC 19 08:27:54.7±1.0,25.1N±0.1×123.22E±0.07,h116km±9km, n17,σ1§27/30,mb3.3/3,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.62**	**198**	P	**Pn**	**08 28 13.4**	**+0.3**
YOJ				*eS*	**Sn**	**08 28 26.7**	**-0.2**
JYNG	**Yonagunijimaku**	**0.65**	**202**	P	**Pn**	**08 28 13.6**	**+0.3**
JYNG				S	**Sn**	**08 28 27.2**	**-0.1**
IRIF	**Iriomote-Funau**	**0.85**	**147**	P	**Pn**	**08 28 14.8**	**-0.2**
IRIF				S	**Sn**	**08 28 29.9**	**-0.4**
JKRS	**Kuro-shima**	**1.09**	**138**	P	**Pn**	**08 28 17.5**	**+0.2**
JKRS				S	**Sn**	**08 28 33.3**	**-1.1**
JIJ	**Ishigaki jima**	**1.09**	**129**	P	**Pn**	**08 28 17.1**	**-0.2**
JIJ				S	**Sn**	**08 28 32.6**	**-1.8**
JISG	**Ishigakijimahi**	**1.10**	**115**	P	**Pn**	**08 28 17.6**	**+0.2**
JISG				S	**Sn**	**08 28 34.2**	**-0.4**
HATJ	**Hateruma jima**	**1.13**	**152**	P	**Pn**	**08 28 17.5**	**-0.3**
HATJ				*eS*	**Sn**	**08 28 34.0**	**-1.2**
JTJ	**Tarama**	**1.41**	**107**	P	**Pn**	**08 28 21.0**	**+0.1**
JTJ				*eS*	**Sn**	**08 28 40.4**	**-0.3**
JIRB	**Irabujima**	**1.79**	**97**	P	**Pn**	**08 28 26.4**	**+1.0**
JIRB				S	**Sn**	**08 28 49.2**	**+0.4**
JIKM	**Ikemajima**	**1.85**	**94**	P	**Pn**	**08 28 27.2**	**+1.1**
JIKM				S	**Sn**	**08 28 51.0**	**+1.0**
JMJ2	**Miyako jima3**	**1.94**	**99**	P	**Pn**	**08 28 28.2**	**+0.9**
JMJ2				*eS*	**Sn**	**08 28 52.9**	**+0.8**
JOGS	**Gusukube**	**2.01**	**98**	P	**Pn**	**08 28 29.5**	**+1.4**
JOGS				*eS*	**Sn**	**08 28 54.5**	**+0.9**
JOW	**Kunigami**	**4.89**	**68**	P	**Pn**	**08 29 06.0**	**-0.1**
	8.5nm,0.3s,baz=114,slow=29,SNR=56						
JOW				S	**Sn**	**08 29 56.4**	**-5.2**
	1.7nm,0.3s,baz=108,slow=29,SNR=1.2						
KSRS	**Korea Array**	**13.00**	**17**	P	**P**	**08 31 01.8**	**+0.9**
	0.2nm,0.3s,baz=198,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**46.02**	**165**	P	**P**	**08 36 06.3**	**-0.4**
	0.6nm,1.0s,baz=347,slow=8.6,SNR=8.1						
ASAR	**Alice Springs**	**49.53**	**167**	P	**P**	**08 36 34.0**	**+0.2**
	0.1nm,0.3s,baz=353,slow=7.6,SNR=1.5						
YKA	**Yellowknife Ar**	**81.45**	**23**	P	**P**	**08 39 58.4**	**-0.2**
	0.2nm,0.4s,baz=309,slow=4.8,SNR=8.4						

*ISU **19** 08:30:11,39.40N×73.60E,h5km*
*SOME **19** 08:30:11.0,39.47N×73.55E,h0km*
*KRNET **19** 08:30:13.3±0.1,39.46N×73.46E,h12km,mb3.1*
*NNC **19** 08:30:15.2±2.1,39.50N×73.60E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=15.2km s-min=8.8km az=172.0*
ISC 19 08:30:12.7±1.5,39.54N±0.05×73.56E±0.03,h6km±11km, n46,σ1§88/77,37C-5D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.48**	**355**	⇑*iP*	**Pb**	**08 30 23.9**	**+0.2**
	baz=3.0						
SFK				⇑*iS*	**Sb**	**08 30 32.1**	**+0.9**
	baz=3.0						
SFK	**Sufi-Kurgan**	**0.48**	**355**	*eP*	**Pb**	**08 30 24.0**	**+0.2**
SFK				*eS*	**Sb**	**08 30 32.0**	**+0.9**
OHH	**Osh**	**1.15**	**329**	⇑*iP*	**Pn**	**08 30 35.6**	**+0.1**
	baz=34						
OHH				⇑*iS*	**Sn**	**08 30 52.9**	**+1.3**
	baz=34						
OHH	**Osh**	**1.15**	**329**	*eP*	**Pn**	**08 30 35.0**	**-0.5**
OHH				*eS*	**Sn**	**08 30 53.0**	**+1.3**
DRK	**Karamyk**	**1.36**	**268**	⇑*iP*	**Pn**	**08 30 38.1**	**-0.5**
	baz=72						
DRK				⇑*iS*	**Sb**	**08 30 56.0**	**-0.7**
	baz=72						
ARSB	**Arslanbob**	**1.84**	**346**	⇑*eP*	**Pg**	**08 30 48.6**	**+0.6**
	baz=49						
ARSB				⇑*iS*	**Sg**	**08 31 14.6**	**+2.7**
	baz=49						
ARSB	**Arslanbob**	**1.84**	**346**	*eP*	**Pg**	**08 30 49.0**	**+1.0**
ARSB				*eS*	**Sg**	**08 31 14.0**	**+2.1**
BTK	**Batken**	**2.18**	**285**	⇑*iP*	**Pb**	**08 30 52.2**	**-0.4**
	baz=87						
BTK				⇑*iS*	**Sb**	**08 31 20.5**	**+0.6**
	baz=87						
BTK	**Batken**	**2.18**	**285**	*eP*	**Pg**	**08 30 55.0**	**+0.6**
BTK				*eS*	**Sg**	**08 31 24.0**	**+1.3**
ARLS	**Aral**	**2.39**	**14**	⇑*iP*	**Pg**	**08 30 57.3**	**-1.3**
	baz=15						
ARLS				⇑*iS*	**Sg**	**08 31 29.2**	**-0.4**
	baz=15						
GAR	**Garm**	**2.58**	**259**	⇑*eP*	**Pb**	**08 30 57.3**	**-2.1**
	baz=60						
GAR				⇑*iS*	**Sb**	**08 31 29.2**	**-2.2**
	baz=60						
AML	**Almayashu**	**2.59**	**2**	⇑*eP*	**Pb**	**08 31 00.2**	**+0.3**
	baz=4.0						
AML				⇑*iS*	**Sg**	**08 31 34.4**	**-1.7**
	baz=4.0						
TRKS	**Terek-Say**	**2.72**	**318**	⇑*iP*	**Pb**	**08 30 59.8**	**-2.0**
	baz=20						
TRKS				⇑*iS*	**Sb**	**08 31 33.4**	**-2.1**
	baz=20						
MNAS	**Manas**	**3.06**	**345**	⇑*eP*	**Pb**	**08 31 06.2**	**-1.4**
	baz=47						
MNAS				⇑*iS*	**Sb**	**08 31 44.8**	**-0.4**
	baz=47						
EKS2	**Erkin-Say**	**3.13**	**3**	⇑*eP*	**Pb**	**08 31 07.5**	**-1.3**
	baz=4.0						
EKS2				⇑*iS*	**Sb**	**08 31 46.9**	**-0.3**
	baz=4.0						
AAK	**Ala-Archa**	**3.18**	**12**	⇑*eP*	**Pb**	**08 31 08.3**	**-1.4**
	baz=13						
AAK				⇑*iS*	**Sb**	**08 31 48.2**	**-0.5**
	baz=13						
AAK	**Ala-Archa**	**3.18**	**12**	⇓*Pg*	**Pg**	**08 31 11.9**	**-1.8**
	1.8nm,0.3s						
AAK				⇑*Lg*	Lg	08 31 56.8	
	20nm,0.6s						
MRKS	**Merke**	**3.22**	**356**	*eP*	**Pb**	**08 31 11.2**	**+0.9**
	6.4nm,0.3s						
MRKS				*eS*	**Sg**	**08 31 55.6**	**-0.4**
	22nm,0.6s						
MRKS	**Merke**	**3.22**	**356**	*Pg*	**Pb**	**08 31 12.1**	**+1.8**
	6.4nm,0.3s						
MRKS				*Lg*	Lg	08 31 55.4	
	22nm,0.6s						
KBK	**Karagaybulak**	**3.29**	**18**	⇑*eP*	**Pb**	**08 31 09.9**	**-1.7**
	baz=19						
KBK				⇑*iS*	**Sb**	**08 31 51.1**	**-0.8**
	baz=19						
ULHL	**Ulahol**	**3.38**	**36**	⇑*eP*	**Pb**	**08 31 11.4**	**-1.8**
	baz=36						
ULHL				⇑*iS*	**Sb**	**08 31 53.5**	**-1.2**
	baz=36						
BOOM	**Boomskoye usch**	**3.46**	**31**	⇑*eP*	**Pb**	**08 31 12.4**	**-2.0**
	baz=31						
BOOM				⇑*iS*	**Sb**	**08 31 55.4**	**-1.4**
	baz=31						
CHGR	**Chuyangaron**	**3.54**	**257**	⇑*eP*	**Pn**	**08 31 10.8**	**+2.5**
	baz=58						
CHGR				⇑*iS*	**Sn**	**08 31 52.5**	**+2.0**
	baz=58						
TKM2	**Tokmak 2**	**3.71**	**24**	⇓*eP*	**Pb**	**08 31 15.8**	**-3.0**
	baz=24						
TKM2				⇓*iS*	**Sb**	**08 32 01.3**	**-2.9**
	baz=24						
TKM2	**Tokmak 2**	**3.71**	**24**	⇓*Pg*	**Pb**	**08 31 20.7**	**+1.8**
	1.7nm,0.6s						
TKM2				⇑*Lg*	Lg	08 32 13.4	
	6.5nm,0.6s						
KST	**Kastek**	**3.94**	**27**	*eP*	**Pg**	**08 31 27.5**	**-0.8**
	2.3nm,0.4s						
KST				*eS*	**Sg**	**08 32 23.5**	**+4.1**
	22nm,0.5s						
KST	**Kastek**	**3.94**	**27**	*Pg*	**Pg**	**08 31 28.3**	**0.0**
	4.7nm,0.3s						
KST				*Lg*	Lg	08 32 23.1	
	22nm,0.5s						
SGDS	**Sogindy**	**4.00**	**11**	*Pg*	**Pg**	**08 31 27.7**	**-1.5**
	1.3nm,0.1s						
SGDS				*Lg*	Lg	08 32 22.4	
	5.3nm,0.3s						
DGS	**Degeres**	**4.06**	**23**	*eP*	**Pg**	**08 31 29.6**	**-0.9**
	3.3nm,0.3s						
DGS				*eS*	**Sg**	**08 32 26.9**	**+3.8**
	13nm,0.4s						
DGS	**Degeres**	**4.06**	**23**	*Pg*	**Pg**	**08 31 30.3**	**-0.2**
	3.3nm,0.3s						
DGS				*Lg*	Lg	08 32 26.9	
	13nm,0.4s						
MTBS	**Maitube**	**4.19**	**30**	*eP*	**Pg**	**08 31 32.3**	**-0.7**
	2.7nm,0.2s						
MTBS				*eS*	**Sg**	**08 32 31.7**	**+4.5**
	12nm,0.3s						
MTBS	**Maitube**	**4.19**	**30**	*Pg*	**Pg**	**08 31 32.3**	**-0.7**
	4.3nm,0.3s						
MTBS				*Lg*	Lg	08 32 29.8	
	12nm,0.3s						
KK31	**Karatay Array**	**4.24**	**328**	⇓*Pn*	Pn	08 31 22.2	+4.3
	0.3nm,0.2s						
KK31				*Pg*	**Pg**	**08 31 32.0**	**-2.0**
	1.1nm,0.3s,baz=143,slow=13,SNR=3.6						
KK31				⇑*Sn*	**Sb**	**08 32 15.3**	**-3.9**
	1.7nm,0.4s						
KK31				⇑*Lg*	Lg	08 32 32.6	
	1.5nm,0.3s,baz=127,slow=26,SNR=4.1						
KRBS	**Karabastau**	**4.45**	**20**	*eP*	**Pg**	**08 31 36.8**	**-1.2**
	1.7nm,0.2s						
KRBS				*eS*	**Sg**	**08 32 39.3**	**+3.8**
	9.1nm,0.6s						
KRBS	**Karabastau**	**4.45**	**20**	*Pg*	**Pg**	**08 31 37.2**	**-0.8**
	1.7nm,0.2s						
KRBS				*Lg*	Lg	08 32 38.5	
	9.1nm,0.6s						
MDOK	**Medeo**	**4.47**	**35**	*eP*	**Pg**	**08 31 36.6**	**-1.8**
	4.2nm,0.2s						
MDOK				*eS*	**Sg**	**08 32 39.2**	**+2.8**
	9.5nm,0.7s						
MDOK	**Medeo**	**4.47**	**35**	*Pg*	**Pg**	**08 31 37.2**	**-1.2**
	3.0nm,0.6s						
MDOK				⇑*Lg*	Lg	08 32 37.3	
	16nm,0.8s						
MDOK	**Medeo**	**4.47**	**35**	*Pg*	**Pg**	**08 31 37.9**	**-0.5**
	4.2nm,0.2s						
MDOK				*Lg*	Lg	08 32 39.9	
	9.5nm,0.7s						
KOTS	**Kotyrbulak**	**4.56**	**35**	*eP*	**Pg**	**08 31 37.3**	**-2.8**
	8.4nm,0.4s						
KOTS				*eS*	**Sg**	**08 32 40.5**	**+1.4**
	12nm,0.4s						
KOTS	**Kotyrbulak**	**4.56**	**35**	*Pg*	**Pg**	**08 31 39.3**	**-0.7**
	11nm,0.3s						
KOTS				*Lg*	Lg	08 32 42.3	
	12nm,0.4s						
CHKK	**Chushkaly**	**5.02**	**30**	*Pg*	**Pg**	**08 31 47.1**	**-1.8**
	1.1nm,0.2s						
CHKK				*Lg*	Lg	08 32 55.6	
	7.4nm,0.5s						
BTLS	**Baital**	**5.51**	**4**	*eP*	**Pg**	**08 31 54.6**	**-3.7**
	1.4nm,0.6s						
BTLS				*eS*	**Sg**	**08 33 09.8**	**+0.1**
	3.4nm,0.6s						
BTLS	**Baital**	**5.51**	**4**	*Pg*	**Pg**	**08 31 55.4**	**-2.9**
	1.7nm,0.3s						
BTLS				*Lg*	Lg	08 33 09.9	
	3.4nm,0.6s						
ARXS	**Arharly**	**5.65**	**33**	*eP*	**Pg**	**08 31 58.8**	**-2.2**
	4.2nm,0.5s						
ARXS				*eS*	**Sg**	**08 33 17.1**	**+2.9**
	4.0nm,0.3s						
ARXS	**Arharly**	**5.65**	**33**	*Pg*	**Pg**	**08 32 00.8**	**-0.1**
	4.2nm,0.5s						
ARXS				*Lg*	Lg	08 33 19.4	
	4.0nm,0.3s						
KAPS	**Kapalarasan**	**7.17**	**35**	*Pg*	**Pg**	**08 32 28.7**	**-1.2**
	2.2nm,0.8s						
KAPS				*Lg*	Lg	08 34 06.4	
	1.7nm,0.6s						

*KRSC **19** 08:55:50.9±1.1,51.72N×157.61E,h131km±10km,ML3.7*
*IDC **19** 08:55:53.6±2.6,51.96N×157.23E,h138km±33km,mb2.9/5, mb1 3.4/6,mb1mx3.1/53,mbtmp3.5/6,Error ellipse: s-maj=130.8km s-min=20.4km az=133.0*
ISC 19 08:55:52.6±0.8,51.72N±0.07×157.60E±0.09,h125km±6km, n33,σ0§78/47,mb3.2/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.31**	**74**	*eP*	**Pn**	**08 56 10.3**	**+0.1**
PAU	**Pauzhetka**	**0.55**	**243**	*eP*	**Pn**	**08 56 11.4**	**0.0**
MIPR	**Malaya Ipel'ka**	**0.76**	**317**	*eP*	**Pn**	**08 56 11.9**	**-1.0**
MTVR	**Mutnovka**	**0.84**	**25**	*eP*	**Pn**	**08 56 13.8**	**0.0**
GRL	**Gorelyy**	**0.88**	**19**	*eP*	**Pn**	**08 56 14.2**	**+0.1**
RUS	**Russkaya**	**0.91**	**38**	*eP*	**Pn**	**08 56 14.0**	**-0.2**
RUS				*eS*	**Sn**	**08 56 30.5**	**0.0**
KRMR	**Karymshinskiy**	**1.16**	**16**	*eP*	**Pn**	**08 56 17.2**	**+0.6**
KRMR				*eS*	**Sn**	**08 56 35.8**	**+1.0**
PETK	**Petropavlovsk-**	**1.39**	**3**	P	**Pn**	**08 56 18.4**	**-0.7**
	6.8nm,0.3s,baz=172,slow=11,SNR=47						
PETK				S	**Sn**	**08 56 38.9**	**-0.4**
	2.1nm,0.3s,baz=146,slow=11,SNR=4.6						
SKR	**Severo-Kuril's**	**1.40**	**222**	*eP*	**Pn**	**08 56 19.3**	**+0.1**
SKR				*eS*	**Sn**	**08 56 40.3**	**+1.0**
PET	**Petropavlovsk**	**1.46**	**26**	*eP*	**Pn**	**08 56 19.5**	**-0.3**
PET				*eS*	**Sn**	**08 56 39.8**	**-0.7**
DALK	**Dalny**	**1.49**	**28**	*eP*	**Pn**	**08 56 20.0**	**-0.2**
DALK				*eS*	**Sn**	**08 56 41.1**	**-0.1**
ALID	**Alaid**	**1.54**	**237**	*eP*	**Pn**	**08 56 20.7**	**-0.3**
UGLR	**Uglovaya**	**1.67**	**26**	*eP*	**Pn**	**08 56 23.1**	**+0.7**
UGLR				*eS*	**Sn**	**08 56 46.1**	**+1.0**
AVH	**Avacha**	**1.69**	**24**	*eP*	**Pn**	**08 56 23.4**	**+0.7**
AVH				*eS*	**Sn**	**08 56 47.1**	**+1.5**
KOK	**Koryaka**	**1.69**	**22**	*eP*	**Pn**	**08 56 23.4**	**+0.7**
KOK				*eS*	**Sn**	**08 56 47.2**	**+1.5**
SMAR	**Somma**	**1.71**	**25**	*eP*	**Pn**	**08 56 23.4**	**+0.4**
SMAR				*eS*	**Sn**	**08 56 46.7**	**+0.5**
KRER	**Koryakskii**	**1.73**	**24**	*eP*	**Pn**	**08 56 23.8**	**+0.6**
KRER				*eS*	**Sn**	**08 56 48.4**	**+1.8**
SDLR	**Sedlovina**	**1.75**	**26**	*eP*	**Pn**	**08 56 23.3**	**0.0**
SDLR				*eS*	**Sn**	**08 56 46.5**	**-0.3**
KRX	**Arik**	**1.76**	**21**	*eP*	**Pn**	**08 56 23.8**	**+0.3**
NLC	**Nalytchevo**	**1.80**	**36**	*eP*	**Pn**	**08 56 23.1**	**-0.7**
NLC				*eS*	**Sn**	**08 56 46.1**	**-1.6**
GNL	**Ganaly**	**1.99**	**6**	*eP*	**Pn**	**08 56 25.6**	**-0.6**
SPN	**Mys Shipunski**	**2.03**	**46**	*eP*	**Pn**	**08 56 26.7**	**+0.1**
SPN				*eS*	**Sn**	**08 56 52.2**	**-0.4**
KZV	**Kizimen**	**3.76**	**24**	*eP*	**Pn**	**08 56 49.2**	**+0.1**
TUMD	**Tumrok D**	**3.87**	**25**	*eS*	**Sn**	**08 57 36.2**	**+1.0**
TUMR	**Tumrok**	**3.88**	**22**	*eP*	**Pn**	**08 56 52.0**	**+1.4**
KMNR	**Kamenistaya**	**4.33**	**20**	*eP*	**Pn**	**08 56 57.4**	**+0.7**
KBTR	**Krutoberegovo**	**5.45**	**32**	*eP*	**Pn**	**08 57 10.8**	**-0.7**
ASAJ	**Asahikawa**	**12.60**	**239**	P	**Pn**	**08 58 47.5**	**+0.2**
	0.5nm,0.3s,baz=62,slow=9.6,SNR=7.5						
ILAR	**Eielson Array**	**30.87**	**44**	P	**P**	**09 01 55.0**	**-1.5**
	0.2nm,0.6s,baz=276,slow=9.0,SNR=3.0						
YKA	**Yellowknife Ar**	**45.20**	**41**	P	**P**	**09 03 56.1**	**-0.4**
	0.3nm,0.7s,baz=302,slow=11,SNR=4.1						
PDAR	**Pinedale Array**	**59.54**	**59**	P	**P**	**09 05 43.3**	**+0.5**
	0.3nm,0.6s,baz=243,slow=1.3,SNR=4.2						
TXAR	**Lajitas Array**	**72.59**	**65**	P	**P**	**09 07 06.8**	**+0.5**
	0.4nm,0.5s,baz=299,slow=5.3,SNR=11						
ASAR	**Alice Springs**	**77.89**	**202**	P	**P**	**09 07 36.4**	**+0.1**
	0.4nm,0.9s,baz=8.2,slow=4.7,SNR=2.0						

*IDC **19** 08:57:01.8±1.4,5.99S×153.71E,h0km,mb4.0/11, mb1 4.1/12,mb1mx3.9/43,mbtmp4.0/12,ML2.1/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/35,Error ellipse: s-maj=49.8km s-min=18.8km az=114.0*
*NEIC **19** 08:57:05.7±0.7,5.84S±0.09×153.76E±0.2,h13km±6km, mb4.2/5,Error ellipse: s-maj=22.7km s-min=12.6km az=98.0*
ISC 19 08:57:07.4±0.9,5.88S±0.10×153.5E±0.1,h32km,n23, σ1§03/26,mb4.1/14,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.15**	**321**	Pn	**Pn**	**08 57 41.3**	**+0.3**
PMG	**Port Moresby**	**7.21**	**240**	Pn	**Pn**	**08 58 49.5**	**-1.1**
	1.7nm,0.3s,baz=348,slow=21,SNR=1.9						
PMG				Sn	**Sn**	**09 00 10.3**	**-1.0**
	1.3nm,0.3s,baz=61,slow=12,SNR=2.9						
PMG				LR	LR	09 01 33.0	
	comp=Z,193nm,21.8s,baz=234,slow=37						
PMG	**Port Moresby**	**7.21**	**240**	Pn	**Pn**	**08 58 51.6**	**+1.0**
PATS	**Pohnpei**	**13.51**	**21**	Pn	**Pn**	**09 00 15.4**	**-1.6**
WRA	**Warramunga Arr**	**23.30**	**231**	P	**P**	**09 02 11.0**	**-1.7**
	0.7nm,0.6s,baz=52,slow=10,SNR=3.1						
WRA				PcP	**PcP**	**09 06 00.2**	**+0.5**
	0.4nm,0.5s,baz=59,slow=2.4,SNR=7.3						
ASAR	**Alice Springs**	**25.86**	**225**	P	**P**	**09 02 35.8**	**-0.7**
	0.6nm,0.6s,baz=58,slow=9.1,SNR=9.4						
ASAR				PcP	**PcP**	**09 06 05.5**	**+0.3**
	0.3nm,0.5s,baz=62,slow=2.1,SNR=6.0						
FITZ	**Fitzroy Crossi**	**29.79**	**244**	P	**P**	**09 03 11.6**	**0.0**
	2.0nm,0.8s,baz=72,slow=9.9,SNR=2.2						
PSA00	**Pilbara Seismi**	**36.11**	**241**	P	**P**	**09 04 06.2**	**-0.6**
PSA00				IAmb	IAmb	09 04 23.3	
	comp=Z,3.9nm,1.4s						
KSRS	**Korea Array**	**49.27**	**333**	P	**P**	**09 05 54.0**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=151,slow=7.8,SNR=3.1						
ASAJ	**Asahikawa**	**50.73**	**350**	P	**P**	**09 06 04.1**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=149,slow=19,SNR=1.9						
USA0B	**Ussuriysk Arra**	**53.49**	**341**	P	**P**	**09 06 26.0**	**+1.3**
USA0B				IAmb	IAmb	09 06 38.4	
	comp=Z,4.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.49**	**341**	P	**P**	**09 06 25.3**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=125,slow=5.3,SNR=2.7						
KLR	**Kul'dur**	**58.07**	**343**	P	**P**	**09 06 58.0**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=128,slow=5.5,SNR=8.8						
SONM	**Songino Array**	**67.61**	**328**	P	**P**	**09 08 01.9**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=113,slow=3.7,SNR=2.1						
MK31	**Makanchi Array**	**81.60**	**319**	P	**P**	**09 09 23.0**	**+0.7**
MKAR	**Makanchi Array**	**81.60**	**319**	P	**P**	**09 09 23.7**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=95,slow=6.7,SNR=13						
MKAR	**Makanchi Array**	**81.60**	**319**	P	**P**	**09 09 22.8**	**+0.5**
MAKZ	**Makanchi**	**81.81**	**319**	P	**P**	**09 09 24.0**	**+0.6**
MAKZ				IAmb	IAmb	09 09 25.9	
	comp=Z,1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**82.44**	**326**	P	**P**	**09 09 26.4**	**0.0**
	comp=Z,2.5nm,0.4s,baz=111,slow=6.2,SNR=7.5						
ZALV	**Zalesovo Beam**	**82.44**	**326**	P	**P**	**09 09 27.4**	**+0.9**
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**09 09 26.6**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=238,slow=5.9,SNR=5.5						
QSPA	**South Pole Qui**	**84.09**	**180**	P	**P**	**09 09 36.7**	**+1.7**
TORD	**Torodi Ar. Bea**	**151.30**	**287**	PKPbc	**PKPbc**	**09 16 59.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=49,slow=2.8,SNR=5.5						

IDC 19 09:01:18.1±7.4,14.93S×176.48W,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.6/41,mbtmp3.8/3,Error ellipse: s-maj=330.0km s-min=34.6km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.05**	**257**	P	P	09 09 52.2	+0.3
	0.5nm,0.5s,baz=90,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**47.43**	**251**	P	P	09 09 54.4	-0.5
	1.2nm,0.3s,baz=90,slow=7.4,SNR=43						
ILAR	**Eielson Array**	**82.59**	**12**	P	P	09 13 42.7	0.0
	0.4nm,0.6s,baz=221,slow=5.4,SNR=7.0						

KMA 19 09:03:14.8±0.0,37.14N×127.89E,h16km,Error ellipse: s-maj=2.1km s-min=0.6km az=279.0,South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSCHJ	**Chungju**	**0.28**	**166**	P	Pg	09 03 20.7	-0.1
	SNR=12						
KSCHJ	**Chungju**	**0.28**	**166**	P	Pg	09 03 20.7	-0.1
	SNR=12						
KSCHJ	**Chungju**	**0.28**	**166**	P	Pg	09 03 20.8	0.0
KSWJU	**Wonju**	**0.29**	**26**	P	Pg	09 03 20.8	-0.2
	SNR=12						
KSWJU	**Wonju**	**0.29**	**26**	P	Pg	09 03 20.8	-0.2
	SNR=12						
KSWJU	**Wonju**	**0.29**	**26**	P	Pg	09 03 20.8	-0.2
	SNR=12						
KSMGY	**Mungyeong**	**0.51**	**164**	P	Pg	09 03 25.0	+0.1
	SNR=14						
KSMGY	**Mungyeong**	**0.51**	**164**	P	Pg	09 03 25.0	+0.1
	SNR=14						
KSMGY	**Mungyeong**	**0.51**	**164**	P	Pg	09 03 25.0	+0.1
	SNR=14						
KSCHC	**Chuncheon**	**0.64**	**355**	P	Pg	09 03 27.4	0.0
	SNR=5.9						
KSCHC	**Chuncheon**	**0.64**	**355**	P	Pg	09 03 27.4	0.0
	SNR=5.9						
KSCHC	**Chuncheon**	**0.64**	**355**	P	Pg	09 03 27.4	0.0
	SNR=5.9						
KSBON	**Boeun**	**0.65**	**186**	P	Pg	09 03 26.7	-0.8
	SNR=18						
KSBON	**Boeun**	**0.65**	**186**	P	Pg	09 03 26.7	-0.8
	SNR=18						
KSBON	**Boeun**	**0.65**	**186**	P	Pg	09 03 26.7	-0.8
	SNR=18						
OKCB	**Cheongsan-myeo**	**0.80**	**186**	P	Pb	09 03 30.3	0.0
	SNR=10						
OKCB	**Cheongsan-myeo**	**0.80**	**186**	P	Pb	09 03 30.3	0.0
	SNR=10						
KSDGY	**Daegwallycong**	**0.83**	**49**	P	Pb	09 03 31.0	0.0
	SNR=7.2						
KSDGY	**Daegwallycong**	**0.83**	**49**	P	Pb	09 03 31.0	0.0
	SNR=7.2						
KSDGY	**Daegwallycong**	**0.83**	**49**	P	Pb	09 03 31.0	0.0
	SNR=7.2						

*IDC **19** 09:05:16.6±2.4,6.21S×154.55E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.6/30,mbtmp3.6/6,MS4.2/1,Ms1 4.2/1, ms1mx2.8/24,Error ellipse: s-maj=88.5km s-min=28.9km az=118.0*
ISC 19 09:05:23.4±2.2,6.3S±0.3×154.5E±0.5,h48km,n8,σ0§64/7, mb3.5/6,Bougainville-Solomon Islands region

| Code | Station Name | Δ° |

ZARC				*e*S		**Sn**	09 08 22.9	-0.7
ZARC				*i*			09 08 27.8	
	comp=Z,694nm,0.3s							
NORC	**Norcasia**	**2.19 235**		*e*P		**Pn**	**09 08 00.3**	**-0.4**
NORC				*e*S		**Sn**	**09 08 28.2**	**-1.6**
NORC				*i*			09 08 30.7	
	comp=Z,687nm,0.5s							
SMLC	**San Martn de**	**2.19 333**		*e*P		**Pn**	**09 08 00.6**	**-0.2**
SMLC				*e*S		**Sn**	**09 08 29.4**	**-0.5**
SMLC				*i*			09 08 35.0	
	comp=Z,423nm,0.2s							
CHIC	**Chingaza**	**2.28 197**		*e*P		**Pn**	**09 08 02.4**	**+0.2**
CHIC				*e*S		**Sn**	**09 08 33.2**	**+0.8**
CHIC				*i*			09 08 37.8	
	comp=Z,341nm,0.2s							
ROSC	**El Rosal**	**2.34 212**	P			**Pn**	**09 08 03.9**	**+1.0**
	comp=Z,88nm,0.3s,baz=1.2,slow=1.0,SNR=102							
ROSC			S			**Sn**	**09 08 33.1**	**-0.5**
	comp=Z,134nm,0.3s,baz=238,slow=20,SNR=11							
ROSC	**El Rosal**	**2.34 212**		*e*P		**Pn**	**09 08 04.0**	**+1.0**
ROSC				*e*S		**Sn**	**09 08 33.0**	**-0.5**
ROSC				*i*			09 08 42.1	
	comp=Z,599nm,0.4s							
HELC	**Santa Helena**	**2.53 256**		*e*P		**Pn**	**09 08 05.0**	**-0.1**
HELC				*e*S		**Sn**	**09 08 36.3**	**-1.2**
HELC				*i*			09 08 43.1	
	comp=Z,364nm,0.3s							
UREC	**San Jos de Ur**	**2.61 291**		*e*P		**Pn**	**09 08 04.6**	**-1.2**
UREC				*e*S		**Sn**	**09 08 36.4**	**-2.4**
LL2C	**La Loma 2 Cana**	**2.73 352**		*e*P		**Pn**	**09 08 07.9**	**+0.6**
LL2C				*e*S		**Sn**	**09 08 42.2**	**+0.6**
LL2C				*i*			09 08 52.8	
	comp=Z,434nm,0.3s							
VILC	**Villavicencio,**	**2.77 193**		*e*P		**Pn**	**09 08 07.6**	**-0.3**
VILC				*e*S		**Sn**	**09 08 42.3**	**-0.4**
VILC				*i*			09 08 49.1	
	comp=Z,346nm,0.5s							
PTGC	**Puerto Gaitan,**	**2.77 160**⇑		*i*P		**Pn**	**09 08 07.3**	**-0.5**
PTGC				*e*S		**Sn**	**09 08 40.7**	**-1.9**
PTGC				*i*			09 08 45.5	
	comp=Z,208nm,0.5s							
GUY2C	**Guyana, Caldas**	**2.79 235**		*e*P		**Pn**	**09 08 08.8**	**+0.3**
GUY2C				*e*S		**Sn**	**09 08 42.6**	**-0.8**
GUY2C				*i*			09 08 51.9	
	comp=Z,380nm,0.3s							
RREF	**El Recreo**	**2.97 230**		*e*P		**Pn**	**09 08 10.9**	**0.0**
RREF				*e*S		**Sn**	**09 08 46.8**	**-1.0**
RREF				*i*			09 08 57.0	
	comp=Z,191nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.08 252**		*e*P		**Pn**	**09 08 12.3**	**+0.5**
CBOC				*e*S		**Sn**	**09 08 48.1**	**-1.4**
CBOC				*i*			09 08 51.6	
	comp=Z,129nm,0.5s							
DBBC	**Dabeiba**	**3.12 274**		*e*P		**Pn**	**09 08 12.2**	**-0.1**
DBBC				*e*S		**Sn**	**09 08 48.6**	**-1.7**
SDV	**Santo Domingo**	**3.16 50**	P			**Pn**	**09 08 13.0**	**+0.2**
	comp=Z,46nm,0.3s,baz=183,slow=3.4,SNR=2.8							
SDV	**Santo Domingo**	**3.16 50**	Pn			**Pn**	**09 08 14.2**	**+1.3**
TOLC	**Tolima**	**3.16 225**		*e*P		**Pn**	**09 08 13.8**	**+0.7**
TOLC				*e*S		**Sn**	**09 08 50.7**	**-1.0**
TOLC				*i*			09 08 57.8	
	comp=Z,377nm,0.3s							
MOTC	**Monteria, Cord**	**3.22 307**		*e*P		**Pn**	**09 08 11.7**	**-1.7**
MOTC				*e*S		**Sn**	**09 08 51.2**	**-1.3**
MOTC				*i*			09 09 05.7	
	comp=Z,266nm,0.5s							
ARGC	**Ariguani, Magd**	**3.23 339**		*e*P		**Pn**	**09 08 14.0**	**+0.5**
ARGC				*e*S		**Sn**	**09 08 52.4**	**-0.3**
ARGC				*i*			09 09 08.1	
	comp=Z,138nm,0.4s							
ANIL	**Santa Ana**	**3.29 225**		*e*P		**Pn**	**09 08 14.5**	**-0.1**
ANIL				*e*S		**Sn**	**09 08 53.2**	**-1.2**
ANIL				*i*			09 09 05.8	
	comp=Z,704nm,0.3s							
PRAC	**Prado**	**3.59 210**		*e*P		**Pn**	**09 08 17.7**	**-0.5**
PRAC				*e*S		**Sn**	**09 09 00.3**	**-0.7**
PRAC				*i*			09 09 06.9	
	comp=Z,384nm,0.3s							
ORTC	**Ortega, Tolima**	**3.62 217**		*e*P		**Pn**	**09 08 18.6**	**-0.1**
ORTC				*e*S		**Sn**	**09 09 01.7**	**-0.1**
ORTC				*i*			09 09 08.4	
	comp=Z,276nm,0.5s							
SJCC	**San Jacinto, C**	**3.69 326**				**Pn**	**09 08 18.6**	**-1.0**
SJCC	**San Jacinto, C**	**3.69 326**		*e*P		**Pn**	**09 08 18.5**	**-1.0**
SJCC				*e*S		**Sn**	**09 09 00.2**	**-3.2**
SJCC				*i*			09 09 04.4	
	comp=Z,289nm,0.5s							
LCBC	**Los crdobas,**	**3.84 302**		*e*P		**Pn**	**09 08 20.8**	**-0.6**
LCBC				*e*S		**Sn**	**09 09 07.8**	**+1.1**
LCBC				*i*			09 09 09.8	
	comp=Z,158nm,0.4s							
GUVC	**San Jose del G**	**4.28 174**		*e*P		**Pn**	**09 08 26.3**	**-0.8**
GUVC				*e*S		**Sn**	**09 09 15.5**	**-1.7**
GUVC				*i*			09 09 20.4	
	comp=Z,173nm,0.6s							
YOTC	**Yotoco, Valle**	**4.32 229**		*e*P		**Pn**	**09 08 27.3**	**-0.5**
YOTC				*e*S		**Sn**	**09 09 18.2**	**+0.1**
SMRC	**Santa Marta, M**	**4.46 345**		*e*P		**Pn**	**09 08 29.3**	**-0.1**
SMRC				*e*S		**Sn**	**09 09 18.1**	**-3.1**
SMRC				*i*			09 09 27.3	
	comp=Z,65nm,0.4s							
PIZC	**Pizarro, Choco**	**4.65 247**		*e*P		**Pn**	**09 08 32.9**	**+0.9**
PIZC				*e*S		**Sn**	**09 09 24.3**	**-1.5**
MACC	**Macarena, Meta**	**4.72 190**		*e*P		**Pn**	**09 08 31.1**	**-1.8**
MACC				*e*S		**Sn**	**09 09 23.6**	**-3.9**
MACC				*i*			09 09 29.2	
	comp=Z,88nm,0.8s							
MARP	**Paez Belalcaza**	**4.89 216**		*e*P		**Pn**	**09 08 35.6**	**+0.1**
MARP				*e*S		**Sn**	**09 09 28.1**	**-3.9**
URIC	**Uribia, Colomb**	**4.96 12**	Pn			**Pn**	**09 08 35.9**	**-0.2**
MALC	**Bahia Malaga**	**5.09 237**		*e*P		**Pn**	**09 08 38.9**	**+1.2**
MALC				*e*S		**Sn**	**09 09 31.9**	**-4.1**
MALC				*i*			09 09 51.9	
	comp=Z,34nm,0.5s							
FLOC	**Florencia**	**5.81 206**	Pn			**Pn**	**09 08 48.3**	**+0.9**
FLOC	**Florencia**	**5.81 206**		*e*P		**Pn**	**09 08 47.1**	**-0.4**
FLOC				*e*S		**Sn**	**09 09 51.0**	**-2.5**
FLOC				*i*			09 09 59.7	
	comp=Z,20nm,0.5s							
BBAC	**Balboa, Cauca**	**6.34 221**		*e*P		**Pn**	**09 08 55.3**	**+0.7**
BBAC				*e*S		**Sn**	**09 10 05.2**	**-1.1**
BBAC				*i*			09 10 10.2	
	comp=Z,30nm,0.4s							
CRUC	**La Cruz**	**6.50 217**		*e*P		**Pn**	**09 08 59.6**	**+2.7**
CRUC				*i*			09 10 15.6	
	comp=Z,30nm,0.5s							
BCIP	**Isla Barro Col**	**7.09 290**	Pn			**Pn**	**09 09 02.9**	**-1.6**
OTAV	**Otavalo**	**8.47 220**	Pn			**Pn**	**09 09 23.2**	**+0.1**
PCRV	**Puerto La Cruz**	**8.98 68**	P			**Pn**	**09 09 28.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=42,slow=15,SNR=1.5							
PCRV			S			**Sn**	**09 11 04.9**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=306,slow=9.2,SNR=1.9							
MTDJ	**Mount Denham**	**12.13 339**	Pn			**Pn**	**09 10 13.7**	**+2.6**
TXAR	**Lajitas Array**	**36.49 312**	P			**P**	**09 14 14.5**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=123,slow=9.1,SNR=13							
TXAR	**Lajitas Array**	**36.49 312**	P			**P**	**09 14 14.7**	**+1.0**
TX31	**Lajitas Ar. Si**	**36.49 312**	P			**P**	**09 14 14.6**	**+1.0**
TX31			IAmb			IAmb	09 14 15.0	
	comp=Z,2.7nm,0.7s							
TX32	**Lajitas Array**	**36.49 312**	P			**P**	**09 14 14.7**	**+1.0**
WMOK	**Wichita Mounta**	**36.50 323**	P			**P**	**09 14 13.9**	**+0.4**
WMOK			IAmb			IAmb	09 14 18.3	
	comp=Z,4.0nm,1.4s							
P40A	**Paris**	**36.76 335**	P			**P**	**09 14 16.4**	**+0.8**
P40A			IAmb			IAmb	09 14 16.8	
	comp=Z,3.6nm,0.7s							
OK032	**Salt Plains WL**	**37.63 326**	P			**P**	**09 14 23.6**	**+0.6**
ULM	**Lac du Bonnet**	**47.29 340**	P			**P**	**09 15 40.4**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=147,slow=7.1,SNR=4.7							
LCMT	**Little Creek M**	**47.30 315**	P			**P**	**09 15 43.2**	**+2.0**
PDAR	**Pinedale Array**	**48.10 324**	P			**P**	**09 15 48.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=132,slow=8.5,SNR=5.3							
PDAR	**Pinedale Array**	**48.10 324**	P			**P**	**09 15 47.7**	**+0.2**
DGMT	**Dagmar**	**49.16 333**	P			**P**	**09 15 55.7**	**+0.5**
BGU	**Big Grassy Mou**	**49.17 320**	P			**P**	**09 15 56.5**	**+1.0**
BGU			IAmb			IAmb	09 15 57.2	
	comp=Z,1.6nm,0.7s							
YKA	**Yellowknife Ar**	**63.27 340**	P			**P**	**09 17 35.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=130,slow=7.1,SNR=18							
ASAR	**Alice Springs**	**149.16 234**	PKPbc			**PKPbc**	**09 26 52.7**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=120,slow=3.4,SNR=2.7							
WRA	**Warramunga Arr**	**150.39 241**	PKPbc			**PKPbc**	**09 26 56.1**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=108,slow=2.7,SNR=2.1							

IDC ***19*** *09:13:54.1±0.7,8.80S×127.21E,h0km,mb4.2/10, mb1 4.2/12,mb1mx4.1/28,mbtmp4.2/12,ML4.1/2,MS3.9/17, Ms1 3.9/17,ms1mx3.8/34,Error ellipse: s-maj=28.1km s-min=16.1km az=76.0*

DJA ***19*** *09:13:58.8±0.5,9.3S×12.7E±°,h11km±4km,M4.9/14, mb4.7/14,mB5.4/6,MLv5.0/10,Mw(mB)4.8/6,MwMwp4.7/1, Mwp5.0/1*

NEIC ***19*** *09:14:00.5±2.3,8.97S±0.04×127.07E±0.06,h38km±7km, mb4.5/20,Error ellipse: s-maj=9.6km s-min=3.4km az=127.0*

GCMT ***19*** *09:14:00.5±0.3,9.17S±0.02×127.15E±0.04,h17km±1km, MW4.8/74,Moment Tensor Solution. s42,c49; s74,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.67±.11; Mθθ-1.42±.07; Mφφ-0.25±.08; Mrθ0.79±.17; Mrφ-0.61±.06; Mθφ0.20±.28; Best double couple: M0 1.86600×10^16 NP1:φs71.00000°,δ58.00000°,λ94.00000°. Principal axes: T 1.8630, Plg77.0000°, Azm354.0000°; N 0.0030, Plg4.0000°, Azm248.0000°; P -1.8690, Plg13.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 09:13:59.4±0.4,9.09S±0.05×127.18E±0.05,h35km,n84, σ2.30/81,mb4.4/19,MS3.9/11,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.94**	**257**	Pn	**Pn**	**09 14 45.2**	**+1.3**
SOEI	**Soe**	**2.94**	**257**	P	**Pn**	**09 14 44.8**	**+1.0**
BATI	**Baumata**	**3.64**	**252**	Pn	**Pn**	**09 14 54.9**	**+1.7**
	48nm,0.3s,baz=104,slow=3.4,SNR=16						
BATI				Sn	**Sn**	**09 15 37.3**	**+2.3**
	125nm,0.3s,baz=321,slow=23,SNR=15						
BATI	**Baumata**	**3.64**	**252**	P	**Pn**	**09 14 53.5**	**+0.3**
BATI				S	**Sn**	**09 15 40.0**	**+5.0**
SAUI	**Saumlaki**	**4.22**	**75**	Pn	**Pn**	**09 15 02.1**	**+0.8**
MMRI	**Maumere**	**4.90**	**275**	Pn	**Pn**	**09 15 07.2**	**-3.5**
MMRI	**Maumere**	**4.90**	**275**	P	**Pn**	**09 15 10.9**	**+0.3**
MTN	**Manton Dam**	**5.38**	**134**	Pn	**Pn**	**09 15 19.5**	**+2.3**
EDFI	**Ende, Flores**	**5.43**	**273**	P	**Pn**	**09 15 19.8**	**+1.8**
	0.3nm38nm,1.0s						
KRAI	**Karang Ratu**	**5.86**	**12**	P	**Pn**	**09 15 26.5**	**+2.6**
	0.3nm39nm,0.8s						
BASI	**Baing, Sumba**	**6.60**	**260**	P	**Pn**	**09 15 35.4**	**+1.4**
	1.5nm209nm,0.9s						
KNRA	**Kununurra**	**6.72**	**167**	Pn	**Pn**	**09 15 36.9**	**+1.2**
SANI	**Sanana**	**7.10**	**350**	P	**Pn**	**09 15 43.8**	**+3.0**
	0.2nm53nm,1.0s						
WBSI	**Waikabubak, Su**	**7.70**	**265**	P	**Pn**	**09 15 50.5**	**+1.3**
	1.2nm95nm,0.6s						
FAKI	**Fak Fak**	**7.94**	**40**	Pn	**Pn**	**09 15 51.7**	**-0.7**
KAPI	**Kappang**	**8.41**	**298**	Pn	**Pn**	**09 15 57.1**	**-1.7**
	0.7nm,0.3s,baz=92,slow=8.5,SNR=1.4						
KAPI				Sn	**Sn**	**09 17 35.6**	**+3.0**
	baz=268,slow=22,SNR=0.9						
KAPI				LR	LR	09 19 39.5	
	comp=Z,986nm,19.4s,baz=132,slow=42						
KAPI	**Kappang**	**8.41**	**298**		**Pn**	**09 15 56.2**	**-2.6**
BNSI	**Bone**	**8.43**	**303**	P	**Pn**	**09 15 59.6**	**+0.5**
	995nm81nm,1.2s						
KMPI	**Kaimana, Papua**	**8.44**	**51**	P	**Pn**	**09 16 02.6**	**+3.4**
	4μm165nm,0.6s						
FITZ	**Fitzroy Crossi**	**9.07**	**189**	Pn	**Pn**	**09 16 07.3**	**-0.7**
	6.7nm,0.3s,baz=26,slow=11,SNR=140						
FITZ				Sn	**Sn**	**09 17 42.3**	**-6.6**
	6.9nm,0.3s,baz=34,slow=8.9,SNR=1.9						
FITZ				LR	LR	09 20 26.5	
	comp=Z,1μm,19.3s,baz=12,slow=42						
FITZ	**Fitzroy Crossi**	**9.07**	**189**	Pn	**Pn**	**09 16 08.0**	**+0.1**
SIJI	**Sorong**	**9.13**	**27**	Pn	**Pn**	**09 16 08.9**	**+0.2**
	0.7nm,0.3s,baz=220,slow=17,SNR=1.4						
SIJI				Sn	**Sn**	**09 17 49.0**	**-1.3**
	0.6nm,0.3s,baz=228,slow=22,SNR=1.1						
SIJI	**Sorong**	**9.13**	**27**	P	**Pn**	**09 16 12.0**	**+3.3**
	451nm9.0nm,0.9s						
SWI	**Sorong**	**9.13**	**27**	P	**Pn**	**09 16 12.5**	**+3.8**
	23nm,0.8s						
PLAI	**Plampang**	**9.29**	**271**	P	**Pn**	**09 16 11.7**	**+0.8**
	128nm,0.8s						
TWSI	**Taliwang, Sumb**	**10.18**	**271**	P	**Pn**	**09 16 23.3**	**+0.2**
	16nm,1.4s						
WB0	**Warramunga Arr**	**12.70**	**147**	Pn	**Pn**	**09 16 55.9**	**-1.8**
WRAB	**Tennant Creek**	**12.82**	**148**		**Pn**	**09 16 57.4**	**-1.8**
WRA	**Warramunga Arr**	**12.82**	**148**	Pn	**Pn**	**09 16 56.6**	**-2.6**
	7.7nm,0.3s,baz=318,slow=14,SNR=168						
WRA				Sn	Sn	09 19 11.7	-9.1
	2.9nm,0.3s,baz=324,slow=24,SNR=4.2						
WRA				LR	LR	09 21 58.5	
	comp=Z,795nm,19.4s,baz=325,slow=37						
WRA	**Warramunga Arr**	**12.82**	**148**		**Pn**	**09 16 57.5**	**-1.7**
WB2	**Warramunga Arr**	**12.82**	**148**		**Pn**	**09 16 57.5**	**-1.9**
WR0	**Warramunga Arr**	**12.94**	**147**		**Pn**	**09 16 59.0**	**-1.8**
PSA00	**Pilbara Seismi**	**14.27**	**209**		**Pn**	**09 17 17.1**	**-2.0**
PSA00	**Pilbara Seismi**	**14.27**	**209**		**Pn**	**09 17 17.1**	**-2.0**
AS31	**Alice Springs**	**15.86**	**157**	Pn	**Pn**	**09 17 38.1**	**-2.0**
ASAR	**Alice Springs**	**15.86**	**157**	Pn	**Pn**	**09 17 38.4**	**-1.8**
	3.4nm,0.3s,baz=333,slow=9.4,SNR=188						
ASAR				Sn	**Sn**	**09 20 29.9**	**-4.9**
	3.0nm,0.3s,baz=318,slow=18,SNR=13						
ASAR				LR	LR	09 24 21.9	
	comp=Z,670nm,20.1s,baz=336,slow=39						
ASAR	**Alice Springs**	**15.86**	**157**	Pn	**Pn**	**09 17 37.1**	**-3.1**
GIRL	**Giralia**	**18.32**	**221**	P	**Pn**	**09 18 11.2**	**+0.4**
CISI	**Cisompet, Garu**	**19.22**	**273**	P	**P**	**09 18 17.9**	**-2.9**
CISI				IAmb	IAmb	09 18 37.5	
	comp=Z,27nm,0.5s						
LEM	**Lembang**	**19.50**	**275**	LR	LR	09 28 18.6	
	comp=Z,732nm,18.1s,baz=102,slow=44						
PMG	**Port Moresby**	**19.73**	**93**	LR	LR	09 27 32.3	
	comp=Z,491nm,19.2s,baz=245,slow=42						
XMIS	**Christmas Isla**	**21.25**	**264**	P	**P**	**09 18 42.2**	**-0.6**
MANU	**Manus Island**	**21.27**	**72**	P	**P**	**09 18 45.5**	**+2.6**
MANU				IAmb	IAmb	09 18 57.0	
	comp=Z,24nm,1.1s						
CTA	**Charters Tower**	**21.43**	**123**	P	**P**	**09 18 50.5**	**+5.8**
	comp=Z,4.0nm,0.7s,baz=289,slow=15,SNR=7.3						
CTA				LR	LR	09 27 23.9	
	comp=Z,587nm,20.8s,baz=297,slow=38						
CTAO	**Charters Tower**	**21.43**	**123**	P	**P**	**09 18 50.4**	**+5.8**
CTAO				IAmb	IAmb	09 19 08.6	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**21.59**	**178**	P	**P**	**09 18 48.9**	**+2.7**
MORW	**Morawa**	**22.45**	**206**	P	**P**	**09 18 56.7**	**+1.2**
MORW				IAmb	IAmb	09 19 17.6	
	comp=Z,33nm,1.4s						
BBOO	**Buckleboo**	**24.99**	**162**	P	**P**	**09 19 20.3**	**+0.4**
BBOO				IAmb	IAmb	09 19 43.8	
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	**25.44**	**200**	P	**P**	**09 19 25.2**	**+1.3**
	comp=Z,9.5nm,0.8s,baz=209,slow=5.9,SNR=2.6						
NWAO	**Narrogin (SRO)**	**25.44**	**200**	P	**P**	**09 19 25.4**	**+1.4**
NWAO	**Narrogin (SRO)**	**25.44**	**200**	P	**P**	**09 19 25.4**	**+1.4**
NWAO				IAmb	IAmb	09 19 52.0	
	comp=Z,35nm,1.3s						
STKA	**Stephens Creek**	**26.33**	**151**	P	**P**	**09 19 34.3**	**+2.2**
	comp=Z,1.8nm,0.4s,baz=335,slow=11,SNR=6.9						
STKA				LR	LR	09 30 24.9	
	comp=Z,358nm,20.6s,baz=321,slow=37						
STKA	**Stephens Creek**	**26.33**	**151**	P	**P**	**09 19 34.3**	**+2.2**
CMAR	**Chiang Mai Arr**	**39.06**	**315**	P	**P**	**09 21 21.2**	**-2.0**
	comp=Z,1.9nm,0.4s,baz=141,slow=5.9,SNR=6.0						
CHTO	**Chiang Mai**	**39.30**	**315**	P	**P**	**09 21 24.5**	**-0.8**
KSRS	**Korea Array**	**46.31**	**1**	P	**P**	**09 22 19.6**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=172,slow=10,SNR=1.7						
KSRS				LR	LR	09 41 59.6	
	comp=Z,55nm,21.0s,baz=154,slow=37						
BRDH	**Bariadhala**	**46.99**	**313**	LR	LR	09 44 12.4	
	comp=Z,124nm,18.2s,baz=134,slow=39						
SONM	**Songino Array**	**59.60**	**344**	P	**P**	**09 23 57.8**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=161,slow=9.2,SNR=2.9						
SONM				LR	LR	09 50 44.2	
	comp=Z,68nm,20.3s,baz=255,slow=37						
SONM	**Songino Array**	**59.60**	**344**	P	**P**	**09 23 58.5**	**-1.3**
NIL	**Nilore**	**66.52**	**313**	P	**P**	**09 24 43.2**	**-2.8**
NIL				IAmb	IAmb	09 24 47.1	
	comp=Z,7.8nm,1.1s						
PETK	**Petropavlovsk-**	**67.19**	**19**	P	**P**	**09 24 48.0**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=201,slow=6.2,SNR=3.0						
PETK	**Petropavlovsk-**	**67.19**	**19**	P	**P**	**09 24 49.8**	**0.0**
MK31	**Makanchi Array**	**68.49**	**329**	P	**P**	**09 24 57.2**	**-1.0**
MK31				IAmb	IAmb	09 25 07.1	
	comp=Z,3.4nm,0.8s						
MKAR	**Makanchi Array**	**68.49**	**329**	P	**P**	**09 24 57.1**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=128,slow=7.3,SNR=21						
MKAR	**Makanchi Array**	**68.49**	**329**	P	**P**	**09 24 57.2**	**-0.9**
MAKZ	**Makanchi**	**68.66**	**328**	P	**P**	**09 24 58.5**	**-0.6**
MAKZ				IAmb	IAmb	09 25 08.0	
	comp=Z,2.3nm,0.8s						
KBL	**Kabul**	**70.01**	**312**	P	**P**	**09 25 06.6**	**-1.5**
KBL				IAmb	IAmb	09 25 18.1	
	comp=Z,3.6nm,0.9s						
VNDA	**Vanda**	**70.74**	**172**	P	**P**	**09 25 13.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=329,slow=7.4,SNR=7.1						
VNDA				LR	LR	09 54 05.2	
	comp=Z,209nm,22.0s,baz=344,slow=34						
VNDA	**Vanda**	**70.74**	**172**	P	**P**	**09 25 13.8**	**+2.3**
VNDA				IAmb	IAmb	09 25 40.6	
	comp=Z,4.2nm,1.2s						
MAW	**Mawson**	**72.00**	**201**	P	**P**	**09 25 21.1**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=49,slow=11,SNR=3.6						
ZAA0	**Zalesovo Array**	**72.26**	**335**	P	**P**	**09 25 19.9**	**-1.0**
ZAA0				IAmb	IAmb	09 25 42.2	
	comp=Z,5.6nm,0.9s						
ZALV	**Zalesovo Beam**	**72.26**	**335**	P	**P**	**09 25 19.2**	**-1.8**
	comp=Z,3.2nm,0.4s,baz=140,slow=5.8,SNR=12						
PPT	**Papeete**	**80.92**	**106**	LR	LR	09 57 11.5	
	comp=Z,81nm,19.3s,baz=215,slow=32						
ABKAR	**Akbulak array**	**82.43**	**322**	P	**P**	**09 26 17.8**	**-0.3**
AKTO	**Aktyubinsk**	**84.03**	**323**	LR	LR	10 07 54.4	
	comp=Z,38nm,20.5s,baz=135,slow=39						
BOSA	**Boshof**	**96.00**	**240**	LR	LR	10 05 03.6	
	comp=Z,45nm,20.4s,baz=118,slow=32						
ILAR	**Eielson Array**	**96.42**	**25**	LR	LR	10 08 52.1	
	comp=Z,18nm,19.0s,baz=253,slow=34						
BRTR	**Keskin Array B**	**98.45**	**309**	LR	LR	10 22 31.5	
	comp=Z,32nm,18.1s,baz=126,slow=42						
PDAR	**Pinedale Array**	**120.34**	**46**	PKP	**PKPdf**	**09 32 47.5**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=298,slow=1.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**126.43**	**280**	PKP	**PKPdf**	**09 32 58.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=79,slow=2.3,SNR=2.4						
TXAR	**Lajitas Array**	**128.39**	**60**	PKP	**PKiKP**	**09 33 03.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=288,slow=0.3,SNR=2.4						
CPUP	**Villa Florida**	**144.52**	**173**	PKP	**PKPdf**	**09 33 32.9**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=203,slow=7.0,SNR=3.8						
CPUP	**Villa Florida**	**144.52**	**173**		PKPbc	09 33 31.5	0.0
LPAZ	**La Paz**	**150.58**	**149**	PKPbc	**PKiKP**	**09 33 51.4**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=331,slow=1.3,SNR=4.1						

ROM ***19*** *09:50:51.6±0.1,44.607N±0.007×7.23E±0.01,h15km±2km, ML1.7/10,Error ellipse: s-maj=1.0km s-min=0.7km az=65.0*

LDG ***19*** *09:50:51.9±0.1,44.63N×7.27E,h11km,Md2.3/2,Ml2.5/9, Error ellipse: s-maj=1.6km s-min=1.0km az=63.0*

STR ***19*** *09:50:51.7±0.5,45.2N±2.2×±°,h8km,MLv1.7/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

GEN ***19*** *09:50:52.1,44.63N×7.26E,h11km±1km,Ml1.6*

ISC 19 09:50:51.7±0.8,44.64N±0.02×7.26E±0.02,h16km±6km, n60,σ1.901/103,5C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PZZ	**Stroppo**	**0.17**	**218**	P	**Pg**	**09 50 55.9**	**-0.3**
PZZ				S	**Sg**	**09 50 58.1**	**-1.0**
PZZ	**Stroppo**	**0.17**	**218**	P	**Pg**	**09 50 55.9**	**-0.3**
PZZ				S	**Sg**	**09 50 58.1**	**-1.0**
PZZ				AML	AML		
	comp=E,1430μm,1.4s						
PZZ				AML	AML		
	comp=N,1270μm,0.2s						
SURF	**Saint Ours**	**0.36**	**244**	Pg	**Pg**	**09 50 59.1**	**-0.1**
SURF				Sg	**Sg**	**09 51 03.9**	**-0.4**
MBDF	**Montbardon**	**0.36**	**284**	*e*Pg	**Pg**	**09 50 59.4**	**+0.2**
MBDF				*e*Sg	**Sg**	**09

LPL					*e*Sg		**Sg**	**09 51 22.6**	**-0.2**
	comp=N,17nm,0.2s								
CIRO	**Champorcher**	**0.99**	**13**		P		**Pg**	**09 51 09.6**	**-1.3**
CIRO					AML		AML		
	comp=E,23μm,0.5s								
CIRO					AML		AML		
	comp=N,21μm,1.3s								
GDM	**Grand'Maison**	**0.99**	**305**		Pg		**Pg**	**09 51 11.0**	**0.0**
GDM					Sg		**Sg**	**09 51 23.2**	**-0.8**
ORIF	**Oris-en-Rattie**	**1.02**	**286**		*e*Pg		**Pg**	**09 51 11.0**	**-0.5**
ORIF					*e*Sg		**Sg**	**09 51 23.1**	**-1.8**
	comp=N,10nm,0.2s								
ORIF	**Oris-en-Rattie**	**1.02**	**286**		Pg		**Pg**	**09 51 11.1**	**-0.4**
MRGE	**Morge**	**1.14**	**353**		P		**Pb**	**09 51 13.6**	**+0.5**
MRGE					AML		AML		
	comp=E,32μm,1.1s								
MRGE					AML		AML		
	comp=N,32μm,0.9s								
FRF	**La Foret Royal**	**1.17**	**203**		*e*Pg		**Pb**	**09 51 13.9**	**+0.4**
FRF					*e*Sg		**Sb**	**09 51 28.2**	**-0.2**
	comp=N,17nm,0.3s								
SMRF	**Simiane la Rot**	**1.38**	**242**		*e*Pg		**Pg**	**09 51 18.6**	**+0.3**
SMRF					*e*Sg		**Sg**	**09 51 36.9**	**+0.6**
	comp=N,8.1nm,0.3s								
LMR	**La Mourre**	**1.41**	**203**		*e*Pg		**Pb**	**09 51 18.3**	**+0.6**
LMR					*e*Sg		**Sb**	**09 51 36.0**	**+0.5**
	comp=N,8.7nm,0.2s								
EUCT	**Pavia**	**1.45**	**66**		P		**Pg**	**09 51 21.8**	**+2.2**
EUCT					AML		AML		
	comp=N,2190μm,0.1s								
EUCT					AML		AML		
	comp=E,1435μm,0.3s								
RUSF	**Rustrel**	**1.46**	**242**		Pg		**Pg**	**09 51 19.6**	**-0.2**
VIVF	**Saint-Julien-l**	**1.86**	**278**		*e*Pg		**Pb**	**09 51 26.0**	**+0.7**
VIVF					*e*Sg		**Sg**	**09 51 51.4**	**-0.1**
	comp=E,4.0nm,0.4s								
CABF	**La Chapelle**	**2.14**	**338**		*e*Pg		**Pg**	**09 51 32.3**	**-0.4**
LASF	**Ste Croix**	**2.51**	**258**		*e*Pn		**Pn**	**09 51 32.1**	**+0.3**
LASF					*e*Sn		**Sn**	**09 52 01.8**	**-0.2**
NDIM	**Novi di Modena**	**2.60**	**83**		S		**Sg**	**09 52 15.0**	**-0.4**
SBPO	**S.Benedetto Po**	**2.63**	**80**		⇑P		**Pn**	**09 51 35.7**	**+2.2**
SMF	**Signal de Mont**	**3.13**	**311**		*e*Pn		**Pn**	**09 51 42.8**	**+2.5**
SMF					*e*Sg		**Sg**	**09 52 30.2**	**-1.9**
	comp=E,1.8nm,0.2s								
HAU	**Haudompre**	**3.42**	**350**		*e*Pn		**Pn**	**09 51 44.3**	**-0.1**
HAU	**Haudompre**	**3.42**	**350**		*e*Pg		**Pg**	**09 51 55.3**	**-2.0**
HAU					*e*Sn		**Sn**	**09 52 22.8**	**-1.9**
HAU					*e*Sg		**Sg**	**09 52 39.4**	**-2.3**
LOR	**Lormes**	**3.54**	**319**		*e*Pn		**Pn**	**09 51 46.4**	**+0.4**
	baz=136								
BGF	**Bois d'Agland**	**3.64**	**303**		*e*Pn		**Pn**	**09 51 49.8**	**+2.4**
BGF					*e*Sg		**Sg**	**09 52 46.9**	**-1.8**
SSP9	**Sansepolcro**	**3.67**	**105**		S		**Sg**	**09 52 47.0**	**-2.4**
MURB	**Monte Urbino**	**4.04**	**108**		P		**Pn**	**09 51 53.0**	**0.0**
MURB					AML		AML		
	comp=N,98μm,0.4s								
MURB					AML		AML		
	comp=E,94μm,0.1s								
RISI	**Rein**	**4.08**	**54**		⇓P		**Pb**	**09 52 04.1**	**+0.7**
TRI	**Trieste**	**4.72**	**75**		⇑P		**Pg**	**09 52 19.1**	**-3.0**
MA9	**Marino**	**4.88**	**124**		P		**Pg**	**09 52 23.0**	**-2.1**
MIDA	**Miranda**	**5.93**	**118**		P		**Pn**	**09 52 22.6**	**+3.7**

*IDC **19** 10:14:31.2±1.8, 19°.72S×178°.45W, h628km±21km, mb2.8/9, mb1 3.1/10, mb1mx3.0/21, mbtmp3.8/10, Error ellipse: s-maj=26.6km s-min=18.5km az=133.0*

ISC 19 10:14:32.8±0.9, 19°.7S±0°.2×178°.6W±0°.2, h650km, n12, σ1§36/12, mb3.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.69**	**301**	P	**P**	**10 15 57.8**	**-2.4**
	2.1nm,0.3s,baz=102,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**44.15**	**261**	P	**P**	**10 21 47.1**	**+0.3**
	0.7nm,0.8s,baz=97,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**44.15**	**256**	P	**P**	**10 21 47.8**	**+1.0**
	0.6nm,0.6s,baz=90,slow=7.9,SNR=8.2						
VNDA	**Vanda**	**58.69**	**185**	P	**P**	**10 23 29.8**	**0.0**
	0.2nm,0.5s,baz=351,slow=8.7,SNR=5.6						
PETK	**Petropavlovsk-**	**75.32**	**346**	P	**P**	**10 25 11.9**	**+0.6**
	1.8nm,0.7s,baz=151,slow=9.9,SNR=2.7						
USRK	**Ussuriysk Ar.**	**77.95**	**326**	P	**P**	**10 25 28.2**	**+2.5**
	1.5nm,0.8s,baz=127,slow=2.2,SNR=7.5						
NVAR	**Mina Array Bea**	**80.82**	**44**	P	**P**	**10 25 41.6**	**+0.4**
	0.6nm,0.7s,baz=223,slow=8.7,SNR=6.2						
TXAR	**Lajitas Array**	**87.10**	**58**	P	**P**	**10 26 12.5**	**+0.6**
	0.3nm,0.8s,baz=222,slow=4.7,SNR=3.4						
ILAR	**Eielson Array**	**87.63**	**13**	P	**P**	**10 26 12.4**	**-1.0**
	1.1nm,0.7s,baz=218,slow=5.8,SNR=9.6						
PDAR	**Pinedale Array**	**88.75**	**43**	P	**P**	**10 26 19.3**	**-0.3**
	0.3nm,0.6s,baz=252,slow=4.6,SNR=2.5						
ARCES	**ARCESS Array B**	**127.99**	**349**	PKP	**PKiKP**	**10 32 25.5**	**-1.1**
	0.7nm,0.6s,baz=19,slow=3.2,SNR=1.8						
GERES	**GERESS Array B**	**149.24**	**344**	PKPbc	**PKiKP**	**10 33 09.9**	**-0.8**
	0.6nm,0.7s,baz=2.9,slow=2.0,SNR=4.4						

*IDC **19** 10:27:20.5±3.1, 25°.71S×70°.53W, h0km, mb4.3/1, mb1 4.5/2, mb1mx3.7/20, mbtmp4.4/2, ML4.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/30, Error ellipse: s-maj=111.3km s-min=61.5km az=87.0*

*GUC **19** 10:27:27.1±0.8, 25°.31S×70°.79W, h58km±9km, ML3.7*

*NEIC **19** 10:27:27.4±1.9, 25°.32S±0°.03×70°.94W±0°.05, h38km±8km, mb4.4/2, ML3.7(GUC), Error ellipse: s-maj=8.0km s-min=3.3km az=116.0*

ISC 19 10:27:27.1±1.1, 25°.30S±0°.03×70°.95W±0°.09, h51km±11km, n56, σ0§87/60, 7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.84**	**37**	*e*P	**Pn**	**10 27 43.1**	**+0.1**
PB14				*i* S	**Sn**	**10 27 54.6**	**0.0**
PB14				IAML		10 27 55.7	
	comp=N,3μm,0.5s						
PB14	**IPOC Station P**	**0.84**	**37**		**Pn**	**10 27 43.1**	**+0.1**
PB14				Sn	**Sn**	**10 27 54.5**	**-0.1**
AC01	**Pan de Azucar**	**0.90**	**159**	*e*P	**Pn**	**10 27 43.8**	**+0.2**
AC01				*i* S	**Sn**	**10 27 55.8**	**0.0**
AC01				IAML		10 27 56.1	
	comp=E,6μm,0.3s						
AC01	**Pan de Azucar**	**0.90**	**159**		**Pn**	**10 27 44.0**	**+0.3**
AC01				Sn	**Sn**	**10 27 55.6**	**-0.1**
GO02	**Mina Guanaco**	**1.24**	**84**	⇓*i*P	**Pn**	**10 27 47.6**	**-0.8**
GO02				*i* S	**Sn**	**10 28 02.9**	**-1.4**
GO02				IAML		10 28 03.5	
	comp=E,3μm,0.3s						
GO02	**Mina Guanaco**	**1.24**	**84**	Pn	**Pn**	**10 27 47.7**	**-0.8**
GO02				Sn	**Sn**	**10 28 03.1**	**-1.2**
PB10	**IPOC Station P**	**1.82**	**12**	⇓*i*P	**Pn**	**10 27 56.6**	**+0.6**
PB10				*i* S	**Sn**	**10 28 17.6**	**-0.3**
PB10	**IPOC Station P**	**1.82**	**12**	Pn	**Pn**	**10 27 56.5**	**+0.6**
PB10				Sn	**Sn**	**10 28 18.2**	**+0.3**
AC02	**Maricunga**	**2.24**	**133**	*e*P	**Pn**	**10 28 02.5**	**+0.2**
AC02				*i* S	**Sn**	**10 28 28.4**	**-0.6**
AC02	**Maricunga**	**2.24**	**133**	Pn	**Pn**	**10 28 03.1**	**+0.9**
AC02				Sn	**Sn**	**10 28 28.2**	**-0.8**
GO03	**Copiap**	**2.37**	**164**	⇓*i*P	**Pn**	**10 28 04.1**	**+0.4**
GO03				*i* S	**Sn**	**10 28 30.6**	**-1.0**
GO03				IAML		10 28 33.1	
	comp=E,444nm,0.5s						
GO03	**Copiap**	**2.37**	**164**		**Pn**	**10 28 04.2**	**+0.6**
PB15	**IPOC Station P**	**2.48**	**33**		**Pn**	**10 28 05.7**	**+0.4**
PB05	**IPOC Station P**	**2.53**	**16**	⇓*i*P	**Pn**	**10 28 06.3**	**+0.4**
PB05				*i* S	**Sn**	**10 28 35.1**	**-0.5**
PB05				IAML		10 28 36.0	
	comp=E,411nm,0.2s						
PB06	**IPOC Station P**	**2.88**	**26**		**Pn**	**10 28 10.9**	**+0.2**
AC04	**Llanos de Chal**	**2.89**	**182**	⇓*i*P	**Pn**	**10 28 09.9**	**-0.9**
AC04				IAML		10 28 43.5	
	comp=E,132nm,0.2s						
AC04	**Llanos de Chal**	**2.89**	**182**	Pn	**Pn**	**10 28 10.0**	**-0.8**
PB04	**IPOC Station P**	**3.04**	**14**	*e*P	**Pn**	**10 28 13.0**	**0.0**
PB04				*i* S	**Sn**	**10 28 46.9**	**-1.4**
PB04				IAML		10 28 51.0	
	comp=E,298nm,0.6s						
PB04	**IPOC Station P**	**3.04**	**14**		**Pn**	**10 28 12.8**	**-0.2**
LVC	**Limon Verde**	**3.27**	**35**	*e*P	**Pn**	**10 28 17.4**	**+1.1**
LVC	**Limon Verde**	**3.27**	**35**	Pn	**Pn**	**10 28 17.3**	**+1.1**
PB07	**IPOC Station P**	**3.69**	**16**	⇓*i*P	**Pn**	**10 28 21.8**	**-0.1**
PB07				*i* S	**Sn**	**10 29 01.8**	**-2.5**
PB07	**IPOC Station P**	**3.69**	**16**		**Pn**	**10 28 21.8**	**-0.1**
LCO	**Las Campanas**	**3.70**	**177**	Pn	**Pn**	**10 28 24.1**	**+2.0**
PB09	**IPOC Station P**	**3.83**	**25**		**Pn**	**10 28 24.8**	**+1.1**
PB01	**IPOC Station P**	**4.45**	**18**	⇓*i*P	**Pn**	**10 28 32.2**	**+0.1**
PB01	**IPOC Station P**	**4.45**	**18**		**Pn**	**10 28 32.3**	**+0.1**
TA01	**Diego Aracena**	**4.77**	**9**	Pn	**Pn**	**10 28 35.3**	**-1.1**
GO04	**Tololo Observa**	**4.86**	**178**	Pn	**Pn**	**10 28 37.7**	**-0.2**
PB08	**IPOC Station P**	**5.40**	**18**		**Pn**	**10 28 45.3**	**-0.2**
CO03	**El Pedregal**	**5.52**	**178**	Pn	**Pn**	**10 28 46.8**	**-0.1**
PB11	**IPOC Station P**	**5.64**	**13**	Pn	**Pn**	**10 28 47.6**	**-1.1**
PSGCX	**Pisagua**	**5.73**	**8**		**Pn**	**10 28 48.8**	**-1.0**
CO02	**Combarbal**	**5.88**	**180**	Pn	**Pn**	**10 28 51.0**	**-0.8**
MNMC	**Minye Minye**	**6.27**	**12**		**Pn**	**10 28 56.9**	**-0.4**
PB16	**IPOC Station P**	**7.06**	**11**		**Pn**	**10 29 09.1**	**+0.6**
MT02	**Curacav**	**7.93**	**181**	Pn	**Pn**	**10 29 17.9**	**-1.9**
MT09	**Talagante**	**8.45**	**180**	Pn	**Pn**	**10 29 26.7**	**-0.3**
LPAZ	**La Paz**	**9.35**	**17**	Pn	**Pn**	**10 29 41.0**	**+1.2**
	comp=E,2.2nm,0.3s,baz=200,slow=7.6,SNR=53						
LPAZ	**La Paz**	**9.35**	**17**	Pn	**Pn**	**10 29 41.5**	**+1.6**
H03N1	**Juan Fernandez**	**10.67**	**219**	T	T	10 41 20.0	
	baz=49,slow=74						
H03N2	**Juan Fernandez**	**10.68**	**219**	T	T	10 41 20.1	
	baz=49,slow=74						
H03N3	**Juan Fernandez**	**10.69**	**219**	T	T	10 41 18.4	
	baz=49						
TRQA	**Tornquist**	**14.82**	**151**	Pn	**Pn**	**10 30 55.2**	**+1.6**
CMIG	**Matias Romero**	**48.15**	**329**	LR	LR	10 51 25.2	
	comp=E,100nm,20.5s,baz=138,slow=30						
SNAA	**Sanae**	**59.34**	**160**	P	**P**	**10 37 23.5**	**0.0**
SNAA				IAmb	IAmb	10 37 37.3	
	comp=Z,4.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**80.39**	**71**	P	**P**	**10 39 33.2**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=259,slow=5.1,SNR=9.3						
TORD	**Torodi Ar. Bea**	**80.39**	**71**	P	**P**	**10 39 33.5**	**-0.1**
TORD				IAmb	IAmb	10 39 33.7	
	comp=Z,5.5nm,1.4s						
H11S2	**WAKE ISLAND Hyd**	**26.41**	**275**	T	T	13 06 12.0	
	baz=108,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hyd**	**26.42**	**275**	T	T	13 06 13.7	
	baz=108,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hyd**	**26.43**	**275**	T	T	13 06 16.0	
	baz=108,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hyd**	**26.60**	**276**	T	T	13 06 24.7	
	baz=108						
H11N1	**WAKE ISLAND Hyd**	**26.61**	**276**	T	T	13 06 29.2	
	baz=108						
H11N2	**WAKE ISLAND Hyd**	**26.61**	**276**	T	T	13 06 25.6	
	baz=108						
ZALV	**Zalesovo Beam**	**146.18**	**26**	PKPbc	**PKPab**	**10 47 02.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=249,slow=2.2,SNR=4.4						
MKAR	**Makanchi Array**	**149.79**	**38**	PKPbc	**PKiKP**	**10 47 11.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=338,slow=3.3,SNR=2.9						

*SNET **19** 10:45:49.1±1.1, 12°.44N×89°.29W, h21km±4km, ML3.5*

*IDC **19** 10:45:53.9±3.7, 13°.05N×88°.74W, h35km±29km, mb3.4/4, mb1 3.7/7, mb1mx3.4/39, mbtmp3.6/7, ML3.1/3, Error ellipse: s-maj=65.7km s-min=21.6km az=42.0*

ISC 19 10:45:50.0±3.3, 12°.5N±0°.2×89°.18W±0°.09, h32km±20km, n23, σ1§30/31, mb3.4/4, 3C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TECO	**Alcaldia de Te**	**1.15**	**20**	*e*P	**Pb**	**10 46 10.4**	**-1.0**
TECO				*e*S	**Sb**	**10 46 27.2**	**+1.1**
SJTE	**Alcalda de S**	**1.17**	**8**	⇑*i*P	**Pb**	**10 46 10.8**	**-1.0**
SJTE				*e*S	**Sb**	**10 46 27.2**	**+0.5**
LFRS	**El Faro**	**1.17**	**6**	*e*P	**Pb**	**10 46 10.8**	**-1.1**
COEG	**Centro de Oper**	**1.20**	**14**	*e*P	**Pn**	**10 46 11.0**	**+0.4**
COEG				IAML		10 46 45.0	
	comp=Z,485nm,0.4s						
COEB	**Comit de Eme**	**1.22**	**31**	*e*P	**Pb**	**10 46 12.0**	**-0.7**
TECA	**Tecapa**	**1.23**	**33**	*e*P	**Pb**	**10 46 12.2**	**-0.8**
UEES	**Universidad Ev**	**1.26**	**358**	*e*P	**Pn**	**10 46 11.3**	**-0.2**
PAVA	**Las Pavas**	**1.28**	**11**	⇑*i*P	**Pb**	**10 46 12.7**	**-1.0**
PAVA				*e*S	**Sb**	**10 46 30.8**	**+1.0**
PAVA				IAML		10 46 36.5	
	comp=Z,1μm,0.4s						
LBRS	**Las Brisas**	**1.29**	**6**	*e*P	**Pb**	**10 46 13.0**	**-0.8**
PQSS	**Presa 15 de Se**	**1.31**	**27**	⇓*e*P	**Pb**	**10 46 13.4**	**-0.8**
PQSS				*e*S	**Sb**	**10 46 32.5**	**+1.7**
CEVE	**Cerro Verde**	**1.44**	**343**	*e*P	**Pn**	**10 46 14.8**	**+0.7**
CEVE				*e*S	**Sb**	**10 46 34.1**	**-0.3**
SBLS	**San Blas**	**1.45**	**343**	*e*P	**Pn**	**10 46 14.7**	**+0.5**
RTR	**El Retiro**	**1.51**	**343**	*e*P	**Pn**	**10 46 15.5**	**+0.5**
LCND	**La Caada**	**1.52**	**56**	*e*P	**Pb**	**10 46 16.2**	**-1.5**
LCND				*e*S	**Sb**	**10 46 36.9**	**+0.2**
LCND				IAML		10 46 44.6	
	comp=Z,586nm,0.3s						
MTO3	**Montecristo**	**1.94**	**355**	⇑*i*P	**Pn**	**10 46 22.4**	**+1.3**
APG	**El Apazote**	**2.83**	**334**	Pn	**Pn**	**10 46 34.0**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=164,slow=6.4,SNR=15						
APG				Lg	Lg	10 47 16.5	
	comp=Z,2.4nm,0.3s,baz=60,slow=21,SNR=2.2						
JTS	**Las Juntas de**	**4.67**	**117**	Pn	**Pn**	**10 47 01.6**	**+3.2**
	comp=Z,1.9nm,0.3s,baz=14,slow=17,SNR=9.4						
JTS				Sn	**Sn**	**10 47 51.0**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=211,slow=22,SNR=3.6						
CMIG	**Matias Romero**	**7.19**	**311**	Pn	**Pn**	**10 47 34.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=68,slow=10,SNR=1.7						
CMIG				Sn	**Sn**	**10 48 52.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=126,slow=16,SNR=1.3						
TXAR	**Lajitas Array**	**21.53**	**323**	P	**P**	**10 50 38.7**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=144,slow=11,SNR=24						
NVAR	**Mina Array Bea**	**36.60**	**320**	P	**P**	**10 52 55.4**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=134,slow=6.4,SNR=2.2						
SCHQ	**Schefferville**	**45.78**	**18**	P	**P**	**10 54 06.6**	**-1.9**
	comp=Z,1.3nm,0.4s,baz=219,slow=6.5,SNR=1.8						
YKA	**Yellowknife Ar**	**53.18**	**346**	P	**P**	**10 55 03.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=142,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**148.26**	**345**	PKPbc	**PKiKP**	**11 05 35.8**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=341,slow=1.9,SNR=5.5						

*IDC **19** 10:53:39.9±1.2, 30°.62N×141°.51E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/46, mbtmp3.6/10, ML3.2/2, MS2.4/1, Ms1 2.4/1, ms1mx2.0/39, Error ellipse: s-maj=51.5km s-min=16.5km az=74.0*

ISC 19 10:53:44.0±0.9, 30°.6N±0°.1×141°.5E±0°.3, h28km, n12, σ1§05/14, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.51**	**170**	Pn	**Pn**	**10 54 37.9**	**+1.2**
	4.4nm,0.3s,baz=267,slow=19,SNR=1.6						
JCJ				Sn	**Sn**	**10 55 15.0**	**-2.3**
	8.3nm,0.3s,baz=292,slow=18,SNR=1.5						
MJAR	**Matsushiro Arr**	**6.55**	**336**	Pn	**Pn**	**10 55 18.7**	**+0.2**
	0.3nm,0.3s,baz=160,slow=11,SNR=28						
MJAR				Sn	**Sn**	**10 56 31.9**	**-0.4**
	0.1nm,0.3s,baz=152,slow=22,SNR=1.6						
MAT	**Matsushiro**	**6.56**	**336**	P	**Pn**	**10 55 19.2**	**+0.7**
MAT				S	**Sn**	**10 56 31.3**	**-1.1**
ASAJ	**Asahikawa**	**13.56**	**3**	LR	LR	11 01 08.2	
	comp=Z,17nm,21.8s,baz=156,slow=33						
KLR	**Kul'dur**	**20.05**	**341**	P	**P**	**10 58 14.9**	**+0.2**
	0.7nm,0.4s,baz=168,slow=11,SNR=2.8						
SONM	**Songino Array**	**31.84**	**313**	P	**P**	**11 00 07.1**	**+0.6**
	0.3nm,0.4s,baz=123,slow=7.2,SNR=1.2						
MKAR	**Makanchi Array**	**47.34**	**307**	P	**P**	**11 02 19.7**	**+0.6**
	0.5nm,0.7s,baz=92,slow=7.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**50.21**	**312**	P	**P**	**11 02 36.0**	**-1.3**
	0.4nm,0.5s,baz=89,slow=8.8,SNR=7.0						
WRA	**Warramunga Arr**	**50.68**	**189**	P	**P**	**11 02 41.3**	**+0.2**
	0.5nm,0.3s,baz=6.3,slow=7.3,SNR=20						
ASAR	**Alice Springs**	**54.41**	**189**	P	**P**	**11 03 09.3**	**+0.7**
	0.3nm,0.5s,baz=359,slow=4.6,SNR=10						
FINES	**FINESS Array B**	**74.57**	**333**	P	**P**	**11 05 19.1**	**-0.9**
	1.3nm,0.8s,baz=69,slow=7.6,SNR=3.7						
TXAR	**Lajitas Array**	**94.02**	**53**	P	**P**	**11 07 00.1**	**+0.1**
	0.1nm,0.3s,baz=251,slow=2.8,SNR=2.3						

*SOME **19** 11:11:04.2, 40°.05N×75°.48E, h0km*

*KRNET **19** 11:11:07.5±0.1, 39°.88N×75°.51E, mb3.3*

*NNC **19** 11:11:09.6±1.0, 40°.11N×75°.53E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=8.2km s-min=6.1km az=157.0*

ISC 19 11:11:04.0±1.7, 40.00N±0°.06×75.54E±0°.03, h4km±14km, n55, σ1§59/83, 24C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.56**	**271**	⇓*i*P	**Pg**	**11 11 34.8**	**+0.8**
	baz=76						
SFK				⇓*i*S	**Sg**	**11 11 54.7**	**+0.4**
	baz=76						
ARLS	**Aral**	**2.08**	**334**	⇑*i*P	**Pg**	**11 11 44.5**	**+0.7**
	baz=36						
ARLS				⇑*i*S	**Sg**	**11 12 10.8**	**0.0**
	baz=36						
ULHL	**Ulahol**	**2.31**	**13**	⇓*i*P	**Pg**	**11 11 47.9**	**-0.3**
	baz=13						
ULHL				⇓*i*S	**Sg**	**11 12 16.6**	**-1.6**
	baz=13						
ULHL	**Ulahol**	**2.31**	**13**	P	**Pg**	**11 11 49.6**	**+1.4**
	SNR=12						
ARSB	**Arslanbob**	**2.36**	**305**	⇑*i*P	**Pg**	**11 11 47.2**	**-1.9**
	baz=8.0						
ARSB				⇑*i*S	**Sb**	**11 12 15.9**	**-0.6**
	baz=8.0						
KDJ	**Kajisay**	**2.47**	**30**	⇓*e*P	**Pb**	**11 11 49.5**	**+0.5**
	baz=29						
KDJ				⇓*i*S	**Sb**	**11 12 19.9**	**+0.1**
	baz=29						
BOOM	**Boomskoye usch**	**2.51**	**7**	⇑*e*P	**Pg**	**11 11 50.5**	**-1.6**
	baz=7.0						
BOOM				⇑*i*S	**Sg**	**11 12 21.5**	**-3.1**
	baz=7.0						
AML	**Almayashu**	**2.55**	**327**	⇑*i*P	**Pg**	**11 11 51.0**	**-1.8**
	baz=29						
AML				⇑*i*S	**Sg**	**11 12 22.2**	**-3.7**
	baz=29						
AML	**Almayashu**	**2.55**	**327**	P	**Pg**	**11 11 51.4**	**-1.5**
	SNR=5.7						
KBK	**Karagaybulak**	**2.69**	**351**	⇑*i*P	**Pb**	**11 11 53.0**	**+0.1**
	baz=52						
KBK				⇑*i*S	**Sb**	**11 12 25.9**	**-0.5**
	baz=52						
KBK	**Karagaybulak**	**2.69**	**351**	P	**Pg**	**11 11 57.4**	**+1.8**
	SNR=9.6						
AAK	**Ala-Archa**	**2.75**	**344**	⇓*i*P	**Pb**	**11 11 53.8**	**-0.1**
	baz=45						
AAK				⇓*i*S	**Sb**	**11 12 27.3**	**-0.7**
	baz=45						
AAK	**Ala-Archa**	**2.75**	**344**	P	**Pg**	**11 11 55.1**	**-1.6**
	SNR=11						
AAK	**Ala-Archa**	**2.75**	**344**	⇑Pn	**Pg**	**11 11 54.5**	**-2.3**
	13nm,0.6s						
AAK				⇑Lg	Lg	11 12 30.8	
	58nm,1.1s						
FRU1	**Bishkek**	**2.89**	**347**	⇑*i*P	**Pb**	**11 11 56.2**	**0.0**
	baz=48						
FRU1				⇑*e*S	**Sb**	**11 12 31.2**	**-0.8**
	baz=48						
TKM2	**Tokmak 2**	**2.92**	**1**	⇓*i*P	**Pb**	**11 11 56.4**	**-0.4**
	baz=1.0						
TKM2				⇓*i*S	**Sb**	**11 12 31.5**	**-1.4**
	baz=1.0						
TKM2	**Tokmak 2**	**2.92**	**1**	P	**Pb**	**11 11 57.0**	**+0.3**
	SNR=18						
TKM2	**Tokmak 2**	**2.92**	**1**	⇓Pn	**Pb**	**11 11 56.5**	**-0.2**
	3.0nm,0.2s						
TKM2				⇓Lg	Lg	11 12 39.8	
	22nm,0.5s						
EKS2	**Erkin-Say**	**2.98**	**334**	⇑*e*P	**Pb**	**11 11 57.0**	**-0.6**
	baz=35						
EKS2				⇑*e*S	**Sb**	**11 12 32.3**	**-2.1**
	baz=35						
EKS2	**Erkin-Say**	**2.98**	**334**	P	**Pg**	**11 12 02.4**	**+1.4**
	SNR=13						
CHMS	**Chumysh**	**3.06**	**349**	⇓*e*P	**Pb**	**11 11 58.0**	**-1.0**
	baz=50						
CHMS				⇓*i*S	**Sb**	**11 12 34.4**	**-2.3**
	baz=50						
CHMS	**Chumysh**	**3.06**	**349**	P	**Pb**	**11 11 59.0**	**0.0**
	SNR=5.6						
KST	**Kastek**	**3.06**	**6**	*e*P	**Pg**	**11 12 02.8**	**+0.2**
	8.1nm,0.4s						
KST				*e*S	**Sg**	**11 12 45.4**	**+3.1**
	47nm,0.7s						
KST	**Kastek**	**3.06**	**6**	Pg	**Pg**	**11 12 02.8**	**+0.2**
	8.1nm,0.4s						
KST				Lg	Lg	11 12 42.2	
	47nm,0.7s						
IZV

UZB	**Uzynbulak**	**4.09**	**39**	*eP*	**Pg**	**11 12 20.9**	**-1.4**
	4.4nm,0.5s								
UZB				*eS*	**Sg**	**11 13 15.9**	**+0.6**
	3.5nm,0.5s								
UZB	**Uzynbulak**	**4.09**	**39**	Pg	**Pg**	**11 12 22.0**	**-0.3**
	4.4nm,0.5s								
UZB				Lg	Lg	11 13 15.8			
	3.5nm,0.5s								
KPKS	**Kokpek**	**4.19**	**33**	*eP*	**Pg**	**11 12 21.7**	**-2.5**
	3.9nm,0.1s								
KPKS				*eS*	**Sg**	**11 13 17.1**	**-1.4**
	13nm,0.7s								
PDGK	**Podgornoye**	**4.45**	**40**	Pg	**Pg**	**11 12 27.1**	**-2.1**
	0.7nm,0.5s								
PDGK				Lg	Lg	11 13 24.4			
	2.7nm,0.8s								
PDGK	**Podgornoye**	**4.45**	**40**	⇑Pn	Pn	11 12 17.0	+4.6		
	3.1nm,0.8s								
PDGK				⇓Lg	Lg	11 13 27.2			
	6.1nm,0.7s								
ARXS	**Arharly**	**4.54**	**21**	*eP*	**Pg**	**11 12 29.8**	**-1.2**
	5.0nm,0.6s								
ARXS				*eS*	**Sg**	**11 13 31.2**	**+1.4**
	5.6nm,0.3s								
ARXS	**Arharly**	**4.54**	**21**	Pg	**Pg**	**11 12 31.0**	**0.0**
	5.0nm,0.6s								
ARXS				Lg	Lg	11 13 31.3			
	5.6nm,0.3s								
KK31	**Karatay Array**	**4.89**	**311**	⇑Pn	**Pn**	**11 12 21.3**	**+3.1**
	0.3nm,0.4s,baz=0.0,slow=0.1,SNR=6.4								
KK31				⇓Pg	**Pg**	**11 12 35.8**	**-1.8**
	2.3nm,0.8s,baz=127,slow=18,SNR=8.9								
KK31				⇑Lg	Lg	11 13 41.5			
	2.5nm,0.7s,baz=126,slow=28,SNR=3.6								

*DJA **19** 11:16:44.6±2.3,6˚N±21˚×12˚6E±1˚,1,h156km±17km, M4.0/5,mb3.8/3,MLv4.2/5*

ISC 19 11:16:42.7±1.6,6˚05N±0˚05×125˚97E±0˚09,h134km±12km, n10,σ1°78/15,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.26**	**282**	*eP*	**Pn**	**11 17 00.9**	**-0.3**
DDMP				*eS*	**Sn**	**11 17 16.0**	**+0.8**
MATI	**Mati**	**0.94**	**18**	*eP*	**Pn**	**11 17 05.0**	**-0.5**
MATI				*eS*	**Sn**	**11 17 24.2**	**+1.5**
SKMP	**Bagumbayan, Su**	**1.49**	**288**	*eP*	**Pn**	**11 17 09.0**	**-2.0**
SKMP				*eS*	**Sn**	**11 17 31.8**	**-0.8**
BUKP	**Musuan**	**2.03**	**334**	⇑*iP*	**Pn**	**11 17 17.2**	**-0.1**
BUKP				*eS*	**Sn**	**11 17 45.3**	**+1.5**
SGSI	**Sangihe**	**2.39**	**191**	P	**Pn**	**11 17 22.2**	**+0.5**
SGSI				S	**Sn**	**11 17 53.3**	**+1.6**
CGP	**Cagayan de Oro**	**2.70**	**332**	⇓*eP*	**Sn**	**11 17 59.2**	**+0.4**
BUTP	**Butuan**	**2.92**	**353**	*eP*	**Sn**	**11 18 05.0**	**+1.2**
GAMI	**Galela, Maluku**	**4.56**	**156**	P	**Pn**	**11 17 48.7**	**-1.4**
GTOI	**Gorontalo**	**6.13**	**209**	P	**Pn**	**11 18 13.1**	**+2.0**
	0.0nm5.4nm,0.8s								
SANI	**Sanana**	**8.05**	**180**	P	**Pn**	**11 18 33.0**	**-3.8**
SANI				S	Sn	11 19 55.5	-11

*NOU **19** 11:49:47.4,39˚.39S×177˚.64E,h18km,MLv4.2,Off E. Coast of N. Island, N.Z.*

*IDC **19** 11:49:50.0±3.4,37˚.45S×177˚.25E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/36,mbtmp3.4/2, Error ellipse: s-maj=74.2km s-min=19.8km az=76.0*

*WEL **19** 11:49:50.8,39˚S±2˚×17˚7E±˚,h26km±5km,M4.1/24, ML4.3/24,MLv4.1/24,Error ellipse: s-maj=0.0km s-min=0.0km az=103.8*

ISC 19 11:49:50.5±1.0,39˚27S±0˚03×177˚46E±0˚03,h34km±2km, n126,σ0°92/137,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHHZ	**Waihua**	**0.26**	**317**	P	**Pn**	**11 49 56.8**	**-0.7**
WHHZ				S	**Sn**	**11 50 01.9**	**+0.8**
KNZ	**Kokohu**	**0.29**	**35**	P	**Pn**	**11 49 57.9**	**-0.4**
KNZ				S	**Sb**	**11 50 03.7**	**+0.3**
ARHZ	**Aropaoanui**	**0.36**	**270**	P	**Pb**	**11 49 59.0**	**0.0**
ARHZ				S	**Sn**	**11 50 05.8**	**+0.9**
MHGZ	**Mahia Peninsul**	**0.37**	**72**	P	**Pn**	**11 49 59.8**	**+0.4**
RAHZ	**Arahi**	**0.45**	**320**	P	**Pb**	**11 49 59.8**	**-0.7**
PRGZ	**Paritu Road**	**0.48**	**44**	P	**Pn**	**11 50 01.1**	**+0.1**
CKHZ	**Cape Kidnapper**	**0.49**	**217**	P	**Pn**	**11 50 02.0**	**+0.9**
CKHZ				S	**Sn**	**11 50 11.5**	**+3.0**
SNGZ	**Shannon Statio**	**0.49**	**349**	P	**Pb**	**11 50 00.6**	**-0.4**
SNGZ				S	**Sb**	**11 50 08.6**	**+0.3**
NMHZ	**Naumai**	**0.53**	**288**	P	**Pn**	**11 50 01.5**	**-0.2**
RIGZ	**Rimuhau**	**0.61**	**23**	P	**Pb**	**11 50 02.8**	**0.0**
RIGZ				S	**Sn**	**11 50 13.3**	**+1.9**
MCHZ	**McNeill Hill**	**0.62**	**253**	P	**Pb**	**11 50 03.8**	**+0.8**
MTHZ	**Maungataniwha**	**0.63**	**310**	P	**Pn**	**11 50 02.4**	**-0.7**
MTHZ				S	**Sn**	**11 50 11.8**	**-0.2**
KAHZ	**Kahuranaki**	**0.69**	**220**	P	**Pb**	**11 50 04.9**	**+0.6**
RTZ	**Ruatahuna**	**0.75**	**330**	P	**Pn**	**11 50 04.3**	**-0.4**
BKZ	**Black Stump Fm**	**0.76**	**277**	P	**Pn**	**11 50 04.9**	**+0.1**
BKZ				S	**Sb**	**11 50 16.2**	**+0.7**
RAGZ	**Rawiri**	**0.77**	**357**	P	**Pn**	**11 50 04.9**	**-0.1**
RAGZ				S	**Sb**	**11 50 16.4**	**+0.6**
KWHZ	**Kaweka Forest**	**0.82**	**258**	P	**Pb**	**11 50 06.3**	**-0.1**
TKGZ	**Te Karaka**	**0.88**	**20**	P	**Pn**	**11 50 06.7**	**+0.3**
PXZ	**Pawanui**	**0.89**	**211**	P	**Pn**	**11 50 06.9**	**+0.2**
MRHZ	**Matea Rd**	**0.92**	**298**	P	**Pn**	**11 50 07.2**	**+0.2**
KRHZ	**Kereru**	**0.92**	**246**	P	**Pn**	**11 50 07.6**	**+0.5**
MUGZ	**Murupara**	**0.95**	**325**	P	**Pn**	**11 50 07.6**	**+0.1**
CNGZ	**Carnagh Statio**	**0.97**	**37**	P	**Pn**	**11 50 08.0**	**+0.2**
URZ	**Urewera**	**1.04**	**345**	Pn	**Pn**	**11 50 08.6**	**0.0**
	206nm,0.3s,baz=127,slow=20,SNR=1117								
URZ				Sn	**Sn**	**11 50 22.6**	**+0.6**
	316nm,0.3s,baz=32,slow=19,SNR=8.3								
URZ	**Urewera**	**1.04**	**345**	P	**Pn**	**11 50 08.6**	**0.0**
BHHZ	**Black Hill Sta**	**1.10**	**258**	P	**Pn**	**11 50 10.2**	**+0.5**
ALRZ	**Allen Road**	**1.12**	**309**	P	**Pn**	**11 50 10.0**	**+0.2**
WPHZ	**Waipukurau**	**1.12**	**224**	P	**Pn**	**11 50 10.2**	**+0.4**
HATZ	**Hinemaiaia**	**1.13**	**289**	P	**Pn**	**11 50 10.7**	**+0.8**
PRRZ	**Plateau Road**	**1.13**	**312**	P	**Pn**	**11 50 10.0**	**0.0**
PRRZ				P	**Pn**	**11 50 10.6**	**0.0**
TWGZ	**Tauwhareparae**	**1.16**	**21**	P	**Pn**	**11 50 10.6**	**+0.2**
PNHZ	**Pukenui**	**1.17**	**236**	P	**Pn**	**11 50 10.7**	**+0.2**
RRRZ	**Republican Roa**	**1.18**	**321**	P	**Pn**	**11 50 10.8**	**+0.1**
PRHZ	**Porangahau**	**1.18**	**212**	P	**Pn**	**11 50 10.6**	**-0.1**
WPRZ	**Whakapapatarin**	**1.26**	**306**	P	**Pn**	**11 50 12.1**	**+0.4**
HRRZ	**Handcock Road**	**1.27**	**313**	P	**Pn**	**11 50 11.9**	**+0.1**
TARZ	**Mount Tarawera**	**1.27**	**324**	P	**Pn**	**11 50 12.4**	**+0.4**
RITZ	**Rihia Road**	**1.28**	**283**	P	**Pb**	**11 50 13.4**	**-0.7**
EDRZ	**Edgecumbe**	**1.29**	**334**	P	**Pn**	**11 50 12.2**	**0.0**
RUGZ	**Raukumara Rang**	**1.31**	**8**	P	**Pn**	**11 50 12.3**	**-0.2**
WHTZ	**Whakaora**	**1.31**	**297**	P	**Pn**	**11 50 13.6**	**+1.0**
MOVZ	**Moawhango**	**1.33**	**263**	P	**Pn**	**11 50 13.7**	**+1.0**
HLRZ	**Highlands Stat**	**1.33**	**319**	P	**Pb**	**11 50 14.1**	**-0.8**
HSRZ	**Hossack Road**	**1.34**	**315**	P	**Pn**	**11 50 13.4**	**+0.5**
PUZ	**Puketiti**	**1.35**	**28**	P	**Pn**	**11 50 12.2**	**-0.7**
ETVZ	**East Tongariro**	**1.36**	**275**	P	**Pb**	**11 50 14.7**	**-0.8**
MKRZ	**Makatiti**	**1.37**	**325**	P	**Pn**	**11 50 14.6**	**+1.3**
TMVZ	**Te Maari**	**1.37**	**276**	P	**Pb**	**11 50 14.8**	**-0.9**
RATZ	**Rangitukua**	**1.37**	**286**	P	**Pn**	**11 50 13.9**	**+0.6**
GRRZ	**Galatos Road**	**1.40**	**311**	P	**Pn**	**11 50 14.0**	**+0.4**
NTVZ	**North Tongarir**	**1.40**	**276**	P	**Pn**	**11 50 14.7**	**+1.0**
OTVZ	**Oturere**	**1.40**	**274**	P	**Pb**	**11 50 15.4**	**-0.7**
TUVZ	**Tukino**	**1.40**	**269**	P	**Pb**	**11 50 16.4**	**+0.2**
TSZ	**Takapari Road**	**1.40**	**235**	P	**Pn**	**11 50 13.6**	**-0.1**
KATZ	**Kakaramea**	**1.40**	**281**	P	**Pn**	**11 50 14.6**	**+0.8**
ANWZ	**Angora Road**	**1.41**	**212**	P	**Pn**	**11 50 14.1**	**+0.3**
SNVZ	**South Ngauruho**	**1.41**	**273**	P	**Pb**	**11 50 15.5**	**-0.9**
MARZ	**Manawahe**	**1.42**	**334**	P	**Pn**	**11 50 14.3**	**+0.4**
KRVZ	**Karewarewa**	**1.42**	**276**	P	**Pn**	**11 50 14.9**	**+0.8**
DVHZ	**Dannevirke**	**1.43**	**224**	P	**Pn**	**11 50 14.0**	**-0.1**
OMRZ	**Omania**	**1.44**	**323**	P	**Pn**	**11 50 14.2**	**+0.1**
NNVZ	**North Ngauruho**	**1.44**	**275**	P	**Pb**	**11 50 15.9**	**-1.0**
NGZ	**Ngauruhoe**	**1.45**	**273**	P	**Pb**	**11 50 16.7**	**-0.2**
WNVZ	**Wahianoa**	**1.45**	**267**	P	**Pb**	**11 50 16.1**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.45**	**269**	P	**Pn**	**11 50 15.9**	**+1.3**
WATZ	**Wairara**	**1.46**	**292**	P	**Pn**	**11 50 14.7**	**+0.3**
WHRZ	**Whale Island**	**1.46**	**345**	P	**Pn**	**11 50 14.7**	**+0.2**
PKGZ	**Pakihiroa**	**1.46**	**20**	P	**Pn**	**11 50 14.5**	**0.0**
WTVZ	**West Tongariro**	**1.46**	**275**	P	**Pb**	**11 50 16.1**	**-1.0**
UTU	**Utuhina**	**1.47**	**317**	P	**Pn**	**11 50 15.4**	**+0.8**
DRZ	**Dome Shelter**	**1.47**	**269**	P	**Pb**	**11 50 18.1**	**+0.6**
FWVZ	**Far West T-bar**	**1.48**	**270**	P	**Pn**	**11 50 15.7**	**+0.7**
TRVZ	**Turoa**	**1.48**	**268**	P	**Pb**	**11 50 17.5**	**-0.1**
KUTZ	**Kaahu Road**	**1.49**	**301**	P	**Pn**	**11 50 15.3**	**+0.4**
LIRZ	**Lichensteins R**	**1.52**	**326**	P	**Pn**	**11 50 15.4**	**+0.1**
HAZ	**Te Kaha**	**1.53**	**10**	P	**Pn**	**11 50 15.2**	**-0.1**
NGRZ	**Ngongotaha**	**1.53**	**319**	P	**Pb**	**11 50 17.4**	**-0.9**
KARZ	**Kaharoa**	**1.56**	**322**	P	**Pn**	**11 50 15.7**	**-0.2**
TWVZ	**Taurewa**	**1.58**	**276**	P	**Pn**	**11 50 17.2**	**+1.0**
OPRZ	**Ohinepanea**	**1.58**	**333**	P	**Pn**	**11 50 15.6**	**-0.6**
WMGZ	**Waiomatatini S**	**1.63**	**28**	P	**Pn**	**11 50 16.7**	**-0.1**
PKVZ	**Pokaka**	**1.64**	**268**	P	**Pn**	**11 50 18.0**	**+1.0**
BFZ	**Birch Farm**	**1.69**	**213**	P	**Pn**	**11 50 16.9**	**-0.8**
POWZ	**Post Office Ro**	**1.72**	**229**	P	**Pn**	**11 50 18.5**	**+0.4**
PRWZ	**Pori Road**	**1.72**	**221**	P	**Pn**	**11 50 18.5**	**+0.5**
WIZ	**White Island**	**1.75**	**353**	P	**Pn**	**11 50 18.1**	**-0.3**
TGRZ	**Tauranga**	**1.80**	**328**	P	**Pn**	**11 50 18.7**	**-0.4**
MXZ	**Matakaoa Point**	**1.83**	**22**	P	**Pn**	**11 50 19.6**	**+0.1**
MRZ	**Mangatainoka R**	**2.01**	**225**	P	**Pn**	**11 50 21.7**	**-0.3**
VRZ	**Vera Road**	**2.10**	**273**	P	**Pn**	**11 50 25.2**	**+1.9**
HIZ	**Hauiti**	**2.17**	**289**	P	**Pn**	**11 50 24.7**	**+0.6**
TOZ	**Tahuroa Road**	**2.17**	**314**	P	**Pn**	**11 50 25.4**	**+1.2**
TMWZ	**Te Maipa**	**2.20**	**213**	P	**Pn**	**11 50 23.4**	**-1.3**
HOWZ	**Holdsworth Sta**	**2.21**	**222**	P	**Pn**	**11 50 24.9**	**+0.1**
OGWZ	**Otaki Gorge**	**2.34**	**228**	P	**Pn**	**11 50 25.9**	**-0.7**
MTW	**Mount Morrison**	**2.41**	**218**	P	**Pn**	**11 50 26.4**	**-1.2**
KIW	**Kapiti Island**	**2.52**	**230**	P	**Pn**	**11 50 28.7**	**-0.4**
CAW	**Cannon Point**	**2.60**	**224**	P	**Pn**	**11 50 29.1**	**-1.0**
PAWZ	**Paruwai Farm**	**2.62**	**216**	P	**Pn**	**11 50 29.0**	**-1.5**
PKE	**Pukeiti**	**2.70**	**270**	P	**Pb**	**11 50 35.1**	**-2.9**
MSWZ	**Moikau Station**	**2.73**	**217**	P	**Pn**	**11 50 30.4**	**-1.6**
PLWZ	**Palliser**	**2.85**	**215**	P	**Pn**	**11 50 31.5**	**-2.1**
KUZ	**Kuaotunu**	**2.87**	**331**	P	**Pn**	**11 50 33.8**	**0.0**
ETAZ	**East Tamaki Re**	**3.05**	**318**	P	**Pn**	**11 50 37.3**	**+0.9**
TCW	**Tory Channel**	**3.12**	**230**	P	**Pn**	**11 50 35.9**	**-1.3**
DUWZ	**D'Urville Isla**	**3.12**	**239**	P	**Pn**	**11 50 36.5**	**-0.8**
AWAZ	**Awhitu Peninsu**	**3.12**	**314**	P	**Pn**	**11 50 38.5**	**+1.2**
MBAZ	**Motutapu North**	**3.21**	**320**	P	**Pn**	**11 50 39.4**	**+0.9**
RVAZ	**Riverhead Bore**	**3.37**	**317**	P	**Pn**	**11 50 42.5**	**+1.8**
GRZ	**Great Barrier**	**3.40**	**332**	P	**Pn**	**11 50 41.1**	**0.0**
TUWZ	**Tuamarina**	**3.45**	**230**	P	**Pn**	**11 50 39.8**	**-2.0**
BSWZ	**Blackbirch Sta**	**3.67**	**227**	P	**Pn**	**11 50 43.0**	**-1.8**
NNZ	**Nelson**	**3.68**	**237**	P	**Pn**	**11 50 43.9**	**-1.0**
QRZ	**Quartz Range**	**4.09**	**246**	P	**Pn**	**11 50 49.0**	**-1.7**
WCZ	**Waipu Caves**	**4.14**	**322**	P	**Pn**	**11 50 52.1**	**+0.8**
THZ	**Tophouse**	**4.27**	**233**	P	**Pn**	**11 50 51.2**	**-2.0**
KHZ	**Kahutara**	**4.33**	**222**	P	**Pn**	**11 50 52.3**	**-1.5**
OUZ	**Omahuta**	**5.08**	**321**	P	**Pn**	**11 51 05.4**	**+1.2**
LTZ	**Lake Taylor**	**5.27**	**226**	P	**Pn**	**11 51 05.0**	**-1.8**
RACZ	**Rakaia**	**5.98**	**220**	P	**Pn**	**11 51 15.5**	**-1.1**
WACZ	**Wakanui South**	**6.29**	**220**	P	**Pn**	**11 51 19.2**	**-1.6**
CTZ	**Chatham Island**	**6.30**	**137**	P	**Pn**	**11 51 22.0**	**+1.0**
ARCZ	**Arundel**	**6.63**	**223**	P	**Pn**	**11 51 23.6**	**-2.0**
ASAR	**Alice Springs**	**39.87**	**280**	P	**P**	**11 57 21.6**	**+0.4**
	0.3nm,0.4s,baz=116,slow=6.3,SNR=6.1								
WRA	**Warramunga Arr**	**41.69**	**285**	P	**P**	**11 57 35.7**	**-0.4**
	0.2nm,0.5s,baz=127,slow=7.3,SNR=2.3								
ARCES	**ARCESS Array B**	**146.21**	**343**	PKP	**PKPab**	**12 09 26.9**	**0.0**
	0.9nm,0.8s,baz=53,slow=3.5,SNR=4.0								

IDC 19 11:52:20.1±2.4,8˚94S×127˚50E,h0km,mb3.7/1, mb1 3.9/5,mb1mx3.5/47,mbtmp3.7/5,ML3.4/4,Error ellipse: s-maj=53.1km s-min=27.4km az=61.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.98**	**251**	Pn	Pn	11 53 23.2	+0.6
	2.6nm,0.3s,baz=112,slow=5.4,SNR=1.9								
BATI				Sn	Sn	11 54 05.5	-4.6
	10nm,0.3s,baz=41,slow=17,SNR=4.8								
FITZ	**Fitzroy Crossi**	**9.28**	**191**	Pn	Pn	11 54 35.0	-0.3
	0.3nm,0.3s,baz=18,slow=10,SNR=10.0								
FITZ				Sn	Sn	11 56 12.5	-7.9
	1.2nm,0.3s,baz=327,slow=23,SNR=10								
WRA	**Warramunga Arr**	**12.78**	**150**	Pn	Pn	11 55 23.7	+0.4
	0.2nm,0.3s,baz=324,slow=13,SNR=10.0								
WRA				Sn	Sn	11 57 39.8	-6.7
	0.2nm,0.3s,baz=329,slow=23,SNR=4.7								
ASAR	**Alice Springs**	**15.87**	**158**	Pn	Pn	11 56 04.8	-0.4
	0.2nm,0.3s,baz=332,slow=11,SNR=16								
ASAR				Sn	Sn	11 58 51.0	-11
	baz=331,slow=23,SNR=1.5								
CMAR	**Chiang Mai Arr**	**39.18**	**314**	P	P	11 59 49.9	-0.2
	0.7nm,0.6s,baz=134,slow=6.4,SNR=4.7								

IDC 19 11:53:08.3±13.0,11˚45S×65˚71E,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.2/57,mbtmp3.5/2,Error ellipse: s-maj=955.2km s-min=63.9km az=37.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**7.67**	**61**	T	T	12 01 02.4	
	baz=245,slow=76,SNR=8.6								
H08S2	**Diego Garcia H**	**7.68**	**61**	T	T	12 01 05.7	
	baz=245,slow=76,SNR=8.1								
H08S3	**Diego Garcia H**	**7.68**	**61**	T	T	12 01 03.8	
	baz=245,slow=76,SNR=8.5								
H01W3	**Cape Leeuwin H**	**49.67**	**126**	T	T	12 55 18.5	
	baz=286								
H01W2	**Cape Leeuwin H**	**49.68**	**126**	T	T	12 55 16.6	
	baz=286								
H01W1	**Cape Leeuwin H**	**49.69**	**126**	T	T	12 55 19.2	
	baz=286								
ASAR	**Alice Springs**	**65.63**	**111**	P	P	12 03 55.0	+0.1
	0.4nm,0.8s,baz=270,slow=6.2,SNR=4.2								
WRA	**Warramunga Arr**	**66.24**	**107**	P	P	12 03 58.6	-0.1
	0.4nm,0.8s,baz=268,slow=6.0,SNR=2.0								
NVAR	**Mina Aray Bea**	**152.89**	**7**	PKPbc	PKPbc	12 13 08.1	-0.1
	0.2nm,0.6s,baz=336,slow=2.0,SNR=2.4								

*IDC **19** 12:30:11.0±0.6,29˚.32N×130˚.42E,h0km,mb4.3/32, mb1 4.3/37,mb1mx4.3/60,mbtmp4.3/37,ML3.7/4,MS3.9/25, Ms1 3.9/25,ms1mx3.7/50,Error ellipse: s-maj=15.4km s-min=14.1km az=92.0*

*BJI **19** 12:30:11.9±0.0,29˚.03N×130˚.74E,h30km,mB4.7/44, mb4.6/60,Ms4.4/59,Ms7 4.3/55*

*NIED **19** 12:30:16.0,29˚.22N×130˚.47E,h66km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr0.55; Mθθ-0.16; Mφφ-0.38; Mrθ0.61; Mθφ-0.45; Mφr1.19; Fault plane solution: M0 1.49000×10^16^ NP1:φs27.00000°, δ77.00000°,λ,83.00000°. NP2:φs236.00000°,δ14.00000°, λ118.00000°.*

*JMA **19** 12:30:16.0±0.1,29˚.22N×130˚.47E,h66km±4km,M4.4 JMA Felt II J1.*

*NEIC **19** 12:30:17.6±1.6,29˚.26N±0˚.05×130˚.43E±0˚.06,h39km±7km, mb4.7/70,Error ellipse: s-maj=10.9km s-min=2.6km az=134.0*

ISC 19 12:30:17.0±0.8,29˚19N±0˚03×130˚50E±0˚04,h43km±7km, n195,σ1°54/216,mb4.7/71,MS4.0/27,4C-2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.85**	**321**	P	**Pn**	**12 30 32.0**	**-0.5**
JNN				S	**Sn**	**12 30 44.5**	**+0.7**
JZK	**Kikaishima**	**0.98**	**208**	P	**Pn**	**12 30 34.5**	**+0.2**
JYAK	**Yakushimahirau**	**1.05**	**1**	P	**Pn**	**12 30 34.5**	**-0.7**
JYAK				*eS*	**Sn**	**12 30 49.6**	**+0.9**
JAM	**Amami Oshima**	**1.10**	**226**	P	**Pn**	**12 30 35.7**	**-0.2**
JAM				*eS*	**Sn**	**12 30 51.7**	**+1.8**
JTAJ	**Takarajima**	**1.13**	**269**	P	**Pn**	**12 30 36.3**	**0.0**
JTAJ				*eS*	**Sn**	**12 30 51.3**	**+0.6**
JMTN	**Minamitane**	**1.26**	**16**	P	**Pn**	**12 30 37.2**	**-0.9**
JMTN				S	**Sn**	**12 30 54.0**	**+0.2**
JKC	**Kuchinoerabu**	**1.30**	**348**	P	**Pn**	**12 30 38.1**	**-0.5**
JKC				S	**Sn**	**12 30 54.1**	**-0.7**
JAMN	**Amaminishikomi**	**1.49**	**231**	P	**Pn**	**12 30 41.4**	**+0.1**
JAMN				S	**Sn**	**12 31 00.6**	**+1.0**
JTN	**Tanegashima 3**	**1.52**	**16**	P	**Pn**	**12 30 41.0**	**-0.7**
JTK	**Tokunoshima**	**1.95**	**225**	P	**Pn**	**12 30 47.6**	**0.0**
JTSR	**Tashiro 2**	**2.01**	**10**	P	**Pn**	**12 30 47.9**	**-0.5**
JSU	**Suzuyama**	**2.31**	**359**	Pn	**Pn**	**12 30 52.0**	**-0.6**
JOKE	**Okinoerabujima**	**2.49**	**224**	P	**Pn**	**12 30 55.1**	**+0.1**
JYRO	**Yoronjima**	**2.81**	**220**	P	**Pn**	**12 30 59.1**	**-0.3**
JYRO				*eS*	**Sn**	**12 31 32.6**	**+0.6**
JOW	**Kunigami**	**3.06**	**220**	Pn	**Pn**	**12 31 02.5**	**-0.3**
	15nm,0.3s,baz=120,slow=23,SNR=94								
JOW				Sn	**Sn**	**12 31 36.6**	**-1.6**
	66nm,0.3s,baz=36,slow=27,SNR=7.2								
JOW				LR	LR	12 32 35.0	
	comp=Z,2μm,18.5s,baz=54,slow=46								
JOW	**Kunigami**	**3.06**	**220**	P	**Pn**	**12 31 02.3**	**-0.5**
JOW	**Kunigami**	**3.06**	**220**		**Pn**	**12 31 02.9**	**+0.1**
JIH	**Iheya**	**3.10**	**227**	P	**Pn**	**12 31 03.0**	**-0.3**
JKDJ	**Kitadaitoujima**	**3.30**	**167**	P	**Pn**	**12 31 04.0**	**-2.1**
JKDJ				S	**Sn**	**12 31 40.4**	**-3.7**
JNTH	**Nagotoyohara**	**3.44**	**220**	P	**Pn**	**12 31 07.8**	**-0.3**
JNTH				S	**Sn**	**12 31 46.8**	**-0.8**
JJT3	**Tamagusuku3**	**3.87**	**219**	P	**Pn**	**12 31 14.2**	**+0.2**
JAGN	**Aguni-jima**	**3.87**	**229**	P	**Pn**	**12 31 13.7**	**-0.3**
JAGN				S	**Sn**	**12 31 58.7**	**+0.5**
JNU	**Nakatsue**	**3.94**	**5**	Pn	**Pn**	**12 31 15.1**	**+0.2**
	11nm,0.3s,baz=207,slow=4.5,SNR=130								
JNU				Sn	**Sn**	**12 31 59.5**	**-0.3**
	11nm,0.3s,baz=63,slow=20,SNR=8.2								
JNU	**Nakatsue**	**3.94**	**5**	Pn	**Pn**	**12 31 15.2**	**+0.3**
JKE	**Kume jima 2**	**4.35**	**230**	P	**Pn**	**12 31 20.0**	**-0.5**
JKE				S	**Sn**	**12 32 09.1**	**-0.9**
JMN	**Monobe**	**5.37**	**32**	Pn	**Pn**	**12 31 33.6**	**-1.0**
JTU	**Tsushima**	**5.40**	**350**	Pn	**Pn**	**12 31 35.8**	**+0.8**
JHS	**Saijyo**	**6.21**	**20**		**Pn**	**12 31 46.4**	**+0.3**
JWT	**Wachi**	**7.36**	**33**	Pn	**Pn**	**12 32 01.5**	**-0.3**
INU	**Inuyama**	**8.26**	**40**	Pn	**Pn**	**12 32 14.5**	**+0.3**
SSE	**Sheshan**	**8.28**	**286**	P	**Pn**	**12 32 11.8**	**-2.7**
SSE				S	**Sn**	**12 33 46.1**	**-0.6**
SSE				pmax	pmax		
	comp=Z,15nm,0.8s								
SSE				pmax	pmax		
	comp=Z,120nm,4.1s								
SSE				L	L		
	comp=N,280nm,11.9s								
SSE				L	L		
	comp=E,740nm,11.4s								
KSAR	**Wonju Array Be**	**8.52**	**346**	Pn	**Pn**	**12 32 18.2**	**+0.5**
KSRS	**Korea Array**	**8.52**	**346**	Pn	**Pn**	**12 32 18.9**	**+1.1**
	0.5nm,0.3s,baz=162,slow=14,SNR=24								
KSRS				LR	LR	12 35 50.7	
	comp=Z,700nm,19.9s,baz=164,slow=41								
KS19	**Wonju Array Si**	**8.58**	**346**		**Pn**	**12 32 20.7**	**+2.1**
JGF	**Kuroka**	**8.63**	**40**	Pn	**Pn**	**12 32 19.3**	**-0.1**
JHJ	**Hachijo jima 2**	**8.87**	**61**	LR	LR	12 35 18.7	
	comp=Z,401nm,21.9s,baz=56,slow=35								
YHNB	**Yeheng**	**9.30**	**243**	Pn	**Pn**	**12 32 28.4**	**-0.2**
NACB	**Ninganchiao**	**9.39**	**240**	Pn	**Pn**	**12 32 29.0**	**-0.8**
MAJO	**Matsushiro**	**9.79**	**39**	Pn	**Pn**	**12 32 33.5**	**-1.6**
MJAR	**Matsushiro Arr**	**9.79**	**39**	Pn	**Pn**	**12 32 34.5**	**-0.6**
	0.2nm,0.3s,baz=254,slow=14,SNR=5.9								
MJB9	**Matsu-Tunnel**	**9.79**	**39**	Pn	**Pn**	**12 32 35.5**	**+0.3**
YULB	**Yu-li**	**10.07**	**237**	Pn

GYA L L
comp=Z,88nm,11.8s
GYA L L
comp=Z,120nm,14.5s
GYA L L
comp=Z,190nm,14.9s
QIZ Qiongzhong 21.36 246 P **P** **12 35 00.4 -0.3**
QIZ S **S** **12 38 57.5 +1.8**
QIZ L L
comp=Z,330nm,15.1s
QIZ L L
comp=Z,310nm,15.5s
QIZ L L
comp=Z,390nm,12.4s
CD2 Chengdu 23.19 281 ⇓*i*P **P** **12 35 20.4 +0.3**
CD2 pP pP 12 35 28.6 -1.9
CD2 sP sP 12 35 32.5 -3.2
CD2 S **S** **12 39 29.4 +0.6**
CD2 sS sS 12 39 43.5 -3.8
CD2 SS **SnSn** **12 40 11.5 +6.4**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,180nm,6.1s
CD2 L L
comp=Z,820nm,20.6s
CD2 L L
comp=Z,1µm,13.5s
CD2 L L
comp=Z,1µm,13.9s
LZH Lanzhou 23.43 294 *e*P **P** **12 35 23.3 +0.8**
LZH pP pP 12 35 32.8 -0.4
LZH sP sP 12 35 35.8 -2.6
LZH PP **PnPn** **12 35 55.3 +5.2**
LZH S **S** **12 39 33.0 +0.1**
LZH sS sS 12 39 43.9 -7.5
LZH SS **SnSn** **12 40 16.0 +5.0**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,180nm,4.6s
LZH L L
comp=Z,350nm,12.1s
LZH L L
comp=Z,890nm,12.6s
LZH L L
comp=Z,790nm,14.3s
KMI Kunming 25.00 267 ⇑P **P** **12 35 38.4 +1.3**
KMI pP pP 12 35 48.3 +0.1
KMI sP sP 12 35 51.1 -2.1
KMI S **S** **12 39 52.8 -5.6**
KMI sS sS 12 40 10.3 -6.6
KMI L L
comp=Z,400nm,16.4s
KMI L L
comp=Z,770nm,14.5s
KMI L L
comp=Z,820nm,13.3s
ULN Ulaanbaatar 25.99 322 P **P** **12 35 45.2 -0.6**
SONM Songino Array 26.32 322 P **P** **12 35 47.2 -1.5**
comp=Z,1.4nm,0.5s,baz=140,slow=9.2,SNR=7.9
SONM LR LR 12 47 34.9
comp=Z,741nm,18.2s,baz=108,slow=40
SONM Songino Array 26.32 322 P **P** **12 35 47.8 -1.0**
GTA Gaotai 27.21 300 ⇑P **P** **12 36 01.6 +4.8**
GTA S **S** **12 40 33.3 +0.4**
GTA sS sS 12 40 55.1 +3.6
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,36nm,4.9s
GTA L L
comp=Z,350nm,15.3s
GTA L L
comp=Z,640nm,16.0s
GTA L L
comp=Z,830nm,16.4s
CHAI Chaiyaphum 29.37 249 P **P** **12 36 17.3 +1.2**
comp=Z,23nm,0.8s
UTTA Uttaradit 29.65 254 P **P** **12 36 19.9 +1.3**
comp=Z,12nm,0.8s
SIJI Sorong 29.89 178 LR LR 12 46 30.8
comp=Z,180nm,21.4s,baz=45,slow=33
PHIT Phitsanulok 30.03 253 P **P** **12 36 23.6 +1.7**
comp=Z,1µmcomp=Z,41nm,0.8s
TLY Talaya 30.07 326 LR LR 12 50 10.8
comp=Z,284nm,18.6s,baz=119,slow=40
TLY Talaya 30.07 326 P **P** **12 36 22.8 +0.8**
SRAK Srakaew 30.35 246 P **P** **12 36 23.2 -1.6**
comp=Z,177nm,1.0s
CHTO Chiang Mai 30.53 257 P **P** **12 36 27.3 +0.9**
CMAR Chiang Mai Arr 30.69 257 P **P** **12 36 27.7 -0.1**
comp=Z,0.7nm,0.4s,baz=46,slow=7.8,SNR=2.0
CMAR PcP **PcP** **12 39 27.3 +2.2**
comp=Z,0.7nm,0.4s,baz=8.5,slow=1.8,SNR=2.4
CMAR LR LR 12 49 34.3
comp=Z,227nm,21.1s,baz=109,slow=38
PETK Petropavlovsk- 31.14 32 LR LR 12 49 27.5
comp=Z,111nm,19.7s,baz=215,slow=37
FAKI Fak Fak 31.97 177 P **P** **12 36 40.2 +1.2**
MA2 Magadan 33.38 19 LR LR 12 51 44.6
comp=Z,159nm,18.5s,baz=216,slow=39
SHL Shillong 34.38 273 P **P** **12 36 59.7 -0.5**
WMQ Urumqi 36.95 305 *e*P **P** **12 37 21.4 -0.6**
WMQ sP pP 12 37 35.5 +2.1
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,55nm,4.1s
WMQ L L
comp=Z,210nm,14.3s
WMQ L L
comp=Z,220nm,14.3s
WMQ L L
comp=Z,500nm,18.7s
SMRI Semarang 40.88 211 P **P** **12 37 55.8 +0.9**
MK31 Makanchi Array 41.16 309 P **P** **12 37 56.7 -0.4**
MKAR Makanchi Array 41.16 309 P **P** **12 37 56.4 -0.7**
comp=Z,3.8nm,0.6s,baz=93,slow=10,SNR=3.3
MKAR PcP **PcP** **12 39 55.5 -0.2**
comp=Z,0.8nm,0.6s,baz=101,slow=2.8,SNR=4.1
MKAR Makanchi Array 41.16 309 P **P** **12 37 56.2 -0.8**
ZAA0 Zalesovo Array 41.20 320 P **P** **12 37 56.4 -0.8**
ZALV Zalesovo Beam 41.20 320 P **P** **12 37 56.1 -1.1**
comp=Z,3.2nm,0.6s,baz=107,slow=8.8,SNR=13
ZALV PcP **PcP** **12 39 55.3 -0.3**
comp=Z,0.9nm,0.6s,baz=133,slow=3.9,SNR=2.4
ZALV LR LR 12 57 03.2
comp=Z,471nm,18.2s,baz=108,slow=39
ZALV Zalesovo Beam 41.20 320 P **P** **12 37 56.9 -0.3**
MAKZ Makanchi 41.37 309 P **P** **12 37 59.1 +0.3**
PMG Port Moresby 41.60 155 LR LR 12 56 17.5
comp=Z,40nm,18.2s,baz=240,slow=38
MTN Manton Dam 41.79 179 P **P** **12 38 03.6 +1.2**
TIXI Tiksi 42.52 359 P **P** **12 38 06.0 -1.7**
comp=Z,1.3nm,0.3s,baz=262,slow=2.0,SNR=4.9
TIXI Tiksi 42.52 359 P **P** **12 38 07.1 -0.7**
TARG Taragay, Kyrgy 44.08 301 P **P** **12 38 20.4 -0.8**
KURK Kurchatov 44.14 314 P **P** **12 38 21.1 0.0**
KURBB Kurchatov Arra 44.18 314 P **P** **12 38 21.1 -0.3**
comp=Z,17nm,0.6s,baz=99,slow=9.1,SNR=163
KURBB PcP **PcP** **12 40 05.8 +0.2**
comp=Z,0.6nm,0.6s,baz=100,slow=3.6,SNR=2.1
BILL Bilibino 44.24 18 P **P** **12 38 22.3 +0.6**
KDJ Kajisay 44.53 302 P **P** **12 38 24.9 +0.2**
KNRA Kununurra 44.63 182 P **P** **12 38 26.5 +1.2**
NRIK Noril'sk 47.10 341 P **P** **12 38 43.3 -0.9**
comp=Z,9.5nm,0.7s,baz=111,slow=9.8,SNR=8.1
NRIK Noril'sk 47.10 341 P **P** **12 38 43.3 -0.9**
FITZ Fitzroy Crossi 47.24 186 P **P** **12 38 46.5 +0.7**
FITZ IAmb IAmb 12 39 11.7
comp=Z,6.5nm,1.1s
NIL Nilore 48.53 291 P **P** **12 38 56.1 +0.2**
WB0 Warramunga Arr 48.81 175 P **P** **12 38 59.0 +1.0**
WB0 IAmb IAmb 12 39 13.7
comp=Z,5.9nm,0.8s
WRA Warramunga Arr 48.98 175 P **P** **12 38 59.8 +0.5**
comp=Z,1.7nm,0.7s,baz=354,slow=8.4,SNR=14
WB2 Warramunga Arr 48.98 175 P **P** **12 39 00.3 +1.0**
WB2 IAmb IAmb 12 39 17.3
comp=Z,7.4nm,0.8s
WR0 Warramunga Arr 49.01 175 P **P** **12 39 01.0 +1.4**
KK31 Karatay Array 49.41 303 P **P** **12 39 02.7 +0.2**
KK31 IAmb IAmb 12 39 04.1
comp=Z,5.7nm,0.8s
KKAR Karatay Array 49.41 303 P **P** **12 39 02.6 +0.1**
KKAR IAmb IAmb 12 39 04.1
comp=Z,5.7nm,0.8s
KKAR Karatay Array 49.41 303 P **P** **12 39 02.3 -0.2**
BVAR Borovoye Array 49.47 316 P **P** **12 39 01.2 -1.6**
comp=Z,6.1nm,0.4s,baz=156,slow=11,SNR=28
BRVK Borovoye 49.53 316 P **P** **12 39 02.9 -0.3**
KBL Kabul 51.77 293 P **P** **12 39 20.7 0.0**
KBL IAmb IAmb 12 39 22.5
comp=Z,8.6nm,0.9s
AS31 Alice Springs 52.65 176 P **P** **12 39 28.0 +1.1**
ASAR Alice Springs 52.65 176 P **P** **12 39 27.7 +0.7**
comp=Z,0.7nm,0.6s,baz=14,slow=12,SNR=14
ASAR Alice Springs 52.65 176 **P** **12 39 28.8 +1.9**
ABKAR Akbulak array 56.13 312 P **P** **12 39 52.1 +0.1**
ARU Arti 56.36 321 P **P** **12 39 52.7 -0.8**
comp=Z,1.4nm,0.3s,baz=96,slow=3.7,SNR=16
ARU LR LR 13 06 35.8
comp=Z,338nm,18.2s,baz=80,slow=39
ARU Arti 56.36 321 P **P** **12 39 53.1 -0.3**
A21K Barrow 57.17 21 P **P** **12 39 59.2 +0.3**
A21K IAmb IAmb 12 40 12.0
comp=Z,8.5nm,1.1s
AKTO Aktyubinsk 57.23 314 P **P** **12 39 59.1 -0.7**
comp=Z,7.0nm,0.8s,baz=73,slow=12,SNR=20
AKTO LR LR 13 06 38.5
comp=Z,454nm,18.3s,baz=85,slow=38
HRA Herat 57.27 294 P **P** **12 40 01.0 +0.4**
HRA IAmb IAmb 12 40 02.0
comp=Z,6.3nm,0.8s
KDAK Kodiak Island 58.96 38 P **P** **12 40 11.8 +0.1**
comp=Z,7.7nm,1.1s,baz=293,slow=6.1,SNR=1.0
MLY Manley 59.23 29 P **P** **12 40 14.4 +0.8**
MLY IAmb IAmb 12 40 26.3
comp=Z,5.9nm,1.1s
TOLK Toolik Lake Re 59.51 25 P **P** **12 40 16.1 +0.7**
TOLK IAmb IAmb 12 40 36.2
comp=Z,4.7nm,1.0s
GEYT Alibeck 59.58 299 P **P** **12 40 16.2 -0.3**
comp=Z,1.9nm,0.4s,baz=50,slow=6.2,SNR=2.5
GEYT LR LR 13 11 56.0
comp=Z,99nm,18.5s,baz=60,slow=42
NEA2 Nenana 59.98 29 P **P** **12 40 19.3 +0.7**
NEA2 IAmb IAmb 12 40 31.6
comp=Z,11nm,1.1s
RND Reindeer 60.19 31 P **P** **12 40 20.7 +0.5**
RND IAmb IAmb 12 40 31.8
comp=Z,9.2nm,1.0s
MDM Murphy Dome 60.30 29 P **P** **12 40 22.0 +1.1**
TCOL CIGO, UAF Yank 60.46 29 P **P** **12 40 23.3 +1.4**
TCOL IAmb IAmb 12 40 38.1
comp=Z,9.5nm,1.4s
ILAR Eielson Array 60.89 29 P **P** **12 40 23.9 -1.0**
comp=Z,0.5nm,0.7s,baz=291,slow=7.2,SNR=7.9
ILAR LR LR 13 07 13.9
comp=Z,47nm,21.1s,baz=288,slow=37
ILAR Eielson Array 60.89 29 P **P** **12 40 26.4 +1.5**
HDA Harding Lake 60.91 30 P **P** **12 40 24.5 -0.6**
HDA IAmb IAmb 12 40 36.7
comp=Z,6.1nm,1.0s
KIRV Kirov 61.03 324 P **P** **12 40 25.9 0.0**
comp=Z,10nm,0.5s,baz=86,slow=16,SNR=4.9
KIRV LR LR 13 10 24.8
comp=Z,95nm,18.0s,baz=81,slow=40
BMAR Burnt Mountain 61.48 26 P **P** **12 40 30.4 +1.4**
SCRK Sand Creek 62.26 30 P **P** **12 40 34.2 0.0**
SCRK IAmb IAmb 12 40 45.9
comp=Z,6.2nm,1.1s
DOT Dot Lake 62.28 30 P **P** **12 40 34.5 +0.2**
DOT IAmb IAmb 12 40 49.4
comp=Z,8.0nm,1.1s
MENT Mentasta 62.56 31 P **P** **12 40 37.4 +1.2**
MENT IAmb IAmb 12 40 54.5
comp=Z,8.8nm,1.2s
GLB Gilahina Butte 62.81 33 **P** **12 40 39.3 +1.4**
GLB IAmb IAmb 12 40 51.0
comp=Z,7.2nm,1.2s
K27K Chicken 63.07 30 P **P** **12 40 41.6 +2.1**
K27K IAmb IAmb 12 40 55.8
comp=Z,7.9nm,1.1s
BELG Belogornoye 63.26 317 LR LR 13 10 07.2
comp=Z,235nm,18.1s,baz=61,slow=38
EGAK Eagle 63.31 29 P **P** **12 40 41.8 +0.7**
L27K Beaver Creek, 63.38 31 P **P** **12 40 43.1 +1.4**
L27K IAmb IAmb 12 40 54.4
comp=Z,4.1nm,1.1s
BCAR Beaver Creek A 63.40 31 P **P** **12 40 43.4 +1.6**
INK Inuvik 65.39 24 P **P** **12 40 55.0 +0.4**
comp=Z,1.1nm,0.7s,baz=286,slow=7.4,SNR=1.9
SPITS Spitsbergen Ar 66.36 348 P **P** **12 40 59.9 -0.8**
comp=Z,0.4nm,0.4s,baz=58,slow=14,SNR=4.7
ARCES ARCESS Array B 68.00 339 P **P** **12 41 10.3 -1.0**
comp=Z,2.0nm,0.9s,baz=64,slow=8.2,SNR=5.2
ARCES ARCESS Array B 68.00 339 IAmb IAmb 12 41 26.2
comp=Z,1.1nm,1.4s
C36M Paulatuk 68.22 22 P **P** **12 41 13.9 +1.3**
OBN Obninsk 68.74 322 LR LR 13 14 11.4
comp=Z,71nm,19.7s,baz=7.5,slow=38
GNI Garni 68.83 305 P **P** **12 41 18.2 +1.1**
comp=Z,5.8nm,0.3s,baz=117,slow=6.8,SNR=2.1
GNI Garni 68.83 305 P **P** **12 41 18.4 +1.3**
GNI IAmb IAmb 12 41 28.2
comp=Z,8.9nm,0.8s
KBZ Khabaz 68.86 309 P **P** **12 41 16.9 -0.1**
comp=Z,11nm,0.9s,baz=79,slow=2.7,SNR=25
KBZ LR LR 13 15 01.4
comp=Z,60nm,20.8s,baz=83,slow=39
ONI Oni 68.87 308 P **P** **12 41 18.7 +1.4**
ONI IAmb IAmb 12 41 20.9
comp=Z,7.8nm,0.8s
KIV Kislovodsk 68.92 309 P **P** **12 41 18.1 +0.5**
FINES FINESS Array B 71.29 331 P **P** **12 41 30.6 -1.0**
comp=Z,2.3nm,0.5s,baz=72,slow=6.0,SNR=27
FINES LR LR 13 16 06.7
comp=Z,174nm,19.4s,baz=42,slow=39
FINES FINESS Array B 71.29 331 P **P** **12 41 30.3 -1.3**
GURO Guroymak-BITLI 71.37 304 P **P** **12 41 33.6 +0.9**
GURO IAmb IAmb 12 41 34.7
comp=Z,12nm,0.9s
RES Resolute Bay 72.27 11 P **P** **12 41 36.5 -0.8**
comp=Z,4.4nm,0.7s,baz=349,slow=5.2,SNR=4.7
RES Resolute Bay 72.27 11 IAmb IAmb 12 41 49.9
comp=Z,7.4nm,1.0s
AKASG Malin Array Be 74.59 320 P **P** **12 41 50.6 -0.8**
comp=Z,11nm,0.5s,baz=59,slow=6.5,SNR=12
AKASG LR LR 13 18 02.8
comp=Z,132nm,19.0s,baz=55,slow=39
AKASG Malin Array Be 74.59 320 P **P** **12 41 51.5 +0.1**
AKBB Malin Array Si 74.59 320 P **P** **12 41 51.0 -0.4**
RAYN Ar Rayn 74.78 289 P **P** **12 41 53.1 +0.1**
RAYN IAmb IAmb 12 41 54.3
comp=Z,10nm,1.1s
YKA Yellowknife Ar 75.00 26 P **P** **12 41 54.5 +0.9**
comp=Z,0.5nm,0.7s,baz=304,slow=5.1,SNR=6.7
YKA LR LR 13 17 22.2
comp=Z,22nm,20.5s,baz=0.0,slow=38
BR131 Keskin Array S 76.80 308 P **P** **12 42 05.1 +0.6**
BR131 IAmb IAmb 12 42 06.4
comp=Z,9.5nm,0.8s
BRTR Keskin Array B 76.80 308 P **P** **12 42 05.2 +0.8**
comp=Z,4.8nm,0.6s,baz=94,slow=4.4,SNR=15
BRTR LR LR 13 22 52.3
comp=Z,78nm,18.1s,baz=114,slow=41
BRTR Keskin Array B 76.80 308 P **P** **12 42 04.8 +0.4**
HFS Hagfors 77.13 333 P **P** **12 42 04.2 -1.5**
comp=Z,1.4nm,0.5s,baz=73,slow=5.0,SNR=13
NOA NORSAR Array B 77.55 334 P **P** **12 42 06.5 -1.5**
comp=Z,0.9nm,0.5s,baz=49,slow=5.6,SNR=10
BURAR Bucovina Array 78.39 318 P **P** **12 42 13.1 0.0**
BURAR IAmb IAmb 12 42 14.8
comp=Z,3.6nm,0.7s
KWP Kalwaria Pacla 78.76 321 P **P** **12 42 16.2 +1.2**
KOLS Kolonicke sedl 79.38 320 *e*P **P** **12 42 19.7 +1.3**
OJC Ojcow 80.02 322 P **P** **12 42 22.0 +0.2**
OJC IAmb IAmb 12 42 23.9
comp=Z,7.6nm,0.7s
LANS Liptovska Anna 80.80 322 *e*P **P** **12 42 28.7 +2.6**
VYHS Vyhne 81.52 321 *e*P P 12 42 35.9 +6.0
DPC Dobruska-Polom 81.77 324 *e*PCP **PcP** **12 42 35.2 -1.7**
CLL Collm 82.86 326 *e*PP PP 12 45 43.0 -3.9
CLL *e*PPS PPS 12 54 06.0
KHC Kasperske Hory 83.93 324 *e*PCP **P** **12 42 42.6 +0.2**
GERES GERESS Array B 84.04 324 P **P** **12 42 41.9 -1.2**
comp=Z,0.8nm,0.7s,baz=37,slow=5.2,SNR=6.8
FFC Flin Flon 85.06 28 P **P** **12 42 49.4 +1.5**
FFC IAmb IAmb 12 43 00.8
comp=Z,7.3nm,1.1s
PAHR Pah Rah Range 85.60 47 P **P** **12 42 52.3 +1.1**
PAHR IAmb IAmb 12 43 04.7
comp=Z,9.1nm,1.3s
ZOU Zoufplan 85.86 322 P **P** **12 42 52.1 -0.2**
ZOU IAmb IAmb 12 42 54.8
comp=Z,4.1nm,0.6s
DLMT Dillon 86.27 39 P **P** **12 42 55.0 +0.6**
DLMT IAmb IAmb 12 43 07.5
comp=Z,6.3nm,1.1s
KVN Kaiserville 86.79 47 P **P** **12 42 57.7 +0.5**
KVN IAmb IAmb 12 43 10.9
comp=Z,6.2nm,1.2s
EKA Eskdalemuir Ar 86.95 336 P **P** **12 42 56.1 -1.2**
comp=Z,0.5nm,0.4s,baz=51,slow=5.0,SNR=4.9
NVAR Mina Array Bea 87.02 47 P **P** **12 42 59.3 +1.0**
comp=Z,0.3nm,0.6s,baz=332,slow=5.6,SNR=4.1
PDAR Pinedale Array 89.61 40 P **P** **12 43 11.9 +1.4**
comp=Z,0.1nm,0.3s,baz=292,slow=1.9,SNR=2.4
ULM Lac du Bonnet 90.88 28 P **P** **12 43 16.1 +0.2**
PV14 Lion Creek, Pa 92.79 43 P **P** **12 43 25.1 -0.2**

*UCR **19** 12:33:07.8±1.4, 10°.28N×86°.32W, h16km±7km, MW4.3*
*IDC **19** 12:33:15.8±19.0, 11°.94N×85°.73W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.5/3, Error ellipse: s-maj=349.2km s-min=240.6km az=167.0*
ISC 19 12:33:09.9±2.1, 10°.24N±0°.06×86°.18W±0°.09, h26km±15km, n30, σ1ᵖ05/35, mb3.5/3, 5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SAJU	**San Juanillo,**	**0.50**	**110**	*e*P		**Pn**	**12 33 20.5**	**-0.9**
SAJU				*e*S		**Sn**	**12 33 29.1**	**0.0**
GRZA	**Playa Garza**	**0.63**	**121**	*e*P		**Pn**	**12 33 22.7**	**-0.5**
GRZA				*e*S		**Sn**	**12 33 32.4**	**0.0**
GUAI	**GUAI**	**0.66**	**87**	⇑*i*P		**Pb**	**12 33 22.8**	**-0.1**
GUAI				*i* S		**Sn**	**12 33 34.2**	**+0.9**
ORTG	**Ortega, Santa**	**0.72**	**80**	*e*P		**Pb**	**12 33 23.7**	**-0.3**
HZTE	**Horizontes, Gu**	**0.75**	**51**	*e*P		**Pn**	**12 33 24.0**	**-0.8**
PLVR	**Palo Verde**	**0.83**	**83**	*e*P		**Pn**	**12 33 24.3**	**-1.7**
GBS3	**Finca Las Img**	**0.90**	**53**	⇑*i*P		**Pn**	**12 33 25.7**	**-1.1**
GBS3				*i* S		**Sb**	**12 33 40.4**	**+1.9**
LAPC	**Finca la Perla**	**0.91**	**55**	⇑*i*P		**Pn**	**12 33 24.9**	**-2.1**
LAPC				*i* S		**Sn**	**12 33 39.6**	**+0.3**
BUEV	**Buena Vista**	**0.94**	**54**	*i* P		**Pn**	**12 33 26.6**	**-1.0**
GB1A	**Borinquen Arri**	**0.96**	**53**	*i* P		**Pn**	**12 33 26.8**	**-1.0**
GPS2	**Hotel Rincn d**	**0.96**	**58**	*i* P		**Pn**	**12 33 27.0**	**-0.9**
VRLE	**La Escondida,**	**0.97**	**56**	*e*P		**Pn**	**12 33 27.1**	**-0.9**
LIM1	**Limonal**	**1.02**	**64**	*i* P		**Pn**	**12 33 28.1**	**-0.6**
GUAB	**Guayabo de Bag**	**1.05**	**64**	*i* P		**Pb**	**12 33 28.2**	**-0.8**
COLC	**Colonia**	**1.05**	**66**	*i* P		**Pn**	**12 33 28.5**	**-0.5**
CUI	**Cuipilapa**	**1.09**	**67**	*e*P		**Pn**	**12 33 28.1**	**-1.4**
HORNC	**Hornillas**	**1.09**	**65**	⇑*i*P		**Pn**	**12 33 29.1**	**-0.6**
ACAL	**Aguas Claras**	**1.20**	**71**	⇑*i*P		**Pn**	**12 33 30.9**	**-0.1**
JTS	**Las Juntas de**	**1.21**	**88**	*e*P		**Pn**	**12 33 31.1**	**-0.1**
PTEN	**Parque Tenorio**	**1.27**	**68**	*i* P		**Pn**	**12 33 32.0**	**0.0**
LAFE	**Finca La Fe, P**	**1.33**	**109**	*e*P		**Pn**	**12 33 32.3**	**-0.4**
ARE1	**Arenal 1**	**1.46**	**81**	*e*P		**Pb**	**12 33 35.6**	**-0.8**
CEDE	**Laguna Cedeo**	**1.48**	**80**	*e*P		**Pn**	**12 33 35.2**	**+0.3**
FORC	**Fortuna**	**1.51**	**81**	*i* P		**Pn**	**12 33 35.5**	**+0.2**
JACO	**JACO, Garabito**	**1.61**	**111**	*e*P		**Pb**	**12 33 39.2**	**+0.2**
ACON	**Acoyapa**	**1.98**	**30**	*e*P		**Pn**	**12 33 41.0**	**-0.8**
RIMA	**Rio Macho**	**2.33**	**101**	*e*P		**Pb**	**12 33 49.1**	**-2.4**
TXAR	**Lajitas Array**	**25.06**	**322**	P		**P**	**12 38 32.8**	**+0.3**
	1.0nm,0.6s,baz=138,slow=11,SNR=14							
PDAR	**Pinedale Array**	**38.29**	**332**	P		**P**	**12 40 27.7**	**-0.9**
	0.1nm,0.4s,baz=125,slow=8.3,SNR=2.7							
NVAR	**Mina Array Bea**	**40.18**	**320**	P		**P**	**12 40 46.2**	**+1.8**
	0.7nm,0.7s,baz=138,slow=8.2,SNR=6.4							

*IDC **19** 12:36:32.5±3.1, 10°.98N×85°.49W, h0km, mb3.6/3, mb1 4.1/3, mb1mx3.6/34, mbtmp3.6/3, Error ellipse: s-maj=219.3km s-min=58.4km az=46.0*
*UCR **19** 12:36:32.0±1.2, 10°.31N×86°.28W, h6km±9km, MW4.3*
ISC 19 12:36:35.9±1.0, 10°.31N±0°.05×86°.13W±0°.07, h33km, n29, σ1ᵖ34/34, mb3.5/3, 9C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SAJU	**San Juanillo,**	**0.48**	**120**	*e*P		**Pb**	**12 36 44.6**	**-1.5**
GUAI	**GUAI**	**0.61**	**93**	⇑*i*P		**Pb**	**12 36 46.9**	**-1.3**
GUAI				*i* S		**Sn**	**12 36 58.2**	**+1.2**
GRZA	**Playa Garza**	**0.62**	**129**	*e*P		**Pn**	**12 36 46.8**	**-1.6**
GRZA				*e*S		**Sb**	**12 36 56.5**	**-0.6**
ORTG	**Ortega, Santa**	**0.66**	**85**	*e*P		**Pb**	**12 36 47.9**	**-1.3**
HZTE	**Horizontes, Gu**	**0.66**	**52**	*e*P		**Pn**	**12 36 48.2**	**-0.8**
HZTE				*e*S		**Sn**	**12 37 00.5**	**+2.2**
PLVR	**Palo Verde**	**0.77**	**87**	*e*P		**Pn**	**12 36 48.5**	**-2.0**
GBS3	**Finca Las Img**	**0.81**	**54**	⇑*i*P		**Pn**	**12 36 49.9**	**-1.1**
GBS3				*i* S		**Sb**	**12 37 03.9**	**+1.5**
LAPC	**Finca la Perla**	**0.82**	**56**	⇑*i*P		**Pn**	**12 36 49.0**	**-2.2**
BUEV	**Buena Vista**	**0.86**	**55**	⇑*i*P		**Pn**	**12 36 50.6**	**-1.1**
GB1A	**Borinquen Arri**	**0.88**	**55**	⇑*i*P		**Pn**	**12 36 51.0**	**-1.1**
GPS2	**Hotel Rincn d**	**0.88**	**60**	⇑*i*P		**Pn**	**12 36 51.2**	**-0.9**
VRLE	**La Escondida,**	**0.89**	**57**	*e*P		**Pn**	**12 36 51.2**	**-1.1**
LIM1	**Limonal**	**0.95**	**66**	⇑*i*P		**Pn**	**12 36 52.1**	**-0.8**
GUAB	**Guayabo de Bag**	**0.97**	**66**	*i* P		**Pn**	**12 36 52.3**	**-0.9**
CUI	**Cuipilapa**	**1.01**	**70**	*e*P		**Pn**	**12 36 52.3**	**-1.5**
HORNC	**Hornillas**	**1.02**	**67**	⇑*i*P		**Pn**	**12 36 53.1**	**-0.8**
ACAL	**Aguas Claras**	**1.12**	**73**	⇑*i*P		**Pn**	**12 36 55.1**	**-0.3**
JTS	**Las Juntas de**	**1.16**	**91**	*e*P		**Pn**	**12 36 55.2**	**-0.6**
PTEN	**Parque Tenorio**	**1.19**	**70**	*i* P		**Pb**	**12 36 56.2**	**-1.8**
LAFE	**Finca La Fe, P**	**1.30**	**112**	*e*P		**Pn**	**12 36 56.2**	**-1.5**
ARE1	**Arenal 1**	**1.40**	**84**	*e*P		**Pb**	**12 36 59.8**	**-1.7**
CEDE	**Laguna Cedeo**	**1.41**	**83**	*e*P		**Pn**	**12 36 59.4**	**0.0**
JACO	**JACO, Garabito**	**1.58**	**114**	*e*P		**Pb**	**12 37 05.6**	**+1.1**
ACON	**Acoyapa**	**1.90**	**29**	*e*P		**Pn**	**12 37 05.1**	**-0.9**
RIMA	**Rio Macho**	**2.29**	**103**	*e*P		**Pn**	**12 37 13.1**	**+1.4**
TXAR	**Lajitas Array**	**25.05**	**322**	P		**P**	**12 41 57.2**	**-0.2**
	1.2nm,0.7s,baz=137,slow=11,SNR=14							
PDAR	**Pinedale Array**	**38.26**	**332**	P		**P**	**12 43 52.6**	**-0.8**
	0.4nm,0.5s,baz=135,slow=12,SNR=2.5							
NVAR	**Mina Array Bea**	**40.16**	**320**	P		**P**	**12 44 10.3**	**+1.0**
	0.8nm,0.8s,baz=130,slow=9.5,SNR=4.5							
NVAR				PcP		**PcP**	**12 46 15.2**	**+2.0**
	0.5nm,0.7s,baz=134,slow=5.1,SNR=4.6							
CMAR	**Chiang Mai Arr**	**150.98**	**350**	PKPbc		**PKPbc**	**12 56 26.1**	**-0.2**
	0.5nm,0.4s,baz=354,slow=3.6,SNR=2.4							

*IDC **19** 12:39:23.8±1.9, 29°.38N×130°.21E, h0km, mb3.9/7, mb1 3.9/11, mb1mx3.7/54, mbtmp3.8/11, ML3.2/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/49, Error ellipse: s-maj=43.8km s-min=24.3km az=136.0*
*NIED **19** 12:39:26.8, 29°.23N×130°.48E, h57km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.31; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-0.77; $M_{r\theta}$1.67; $M_{r\phi}$-1.28; $M_{\theta\phi}$2.83; Fault plane solution: $M_0$3.67000×10¹⁵ NP1:ϕ≅31.00000°, δ77.00000°, λ≅82.00000°. NP2:ϕ≅243.00000°, δ15.00000°, λ121.00000°.*
*JMA **19** 12:39:26.7±0.1, 29°.23N×130°.48E, h57km±4km, M3.6*
*NEIC **19** 12:39:28.6±2.4, 29°.25N±0°.05×130°.3E±0°.1, h34km±4km, mb4.6/7, Error ellipse: s-maj=15.1km s-min=6.4km az=103.0*
ISC 19 12:39:28.4±0.7, 29°.20N±0°.05×130°.40E±0°.07, h40km, n48, σ1ᵖ25/52, mb4.2/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JNN	**Nakanoshima**	**0.78**	**324**	P		**Pn**	**12 39 42.4**	**-0.6**
JNN				S		**Sn**	**12 39 53.8**	**+0.2**
JZK	**Kikaishima**	**0.96**	**203**	P		**Pn**	**12 39 45.3**	**-0.2**
JYAK	**Yakushimahirau**	**1.03**	**5**	P		**Pn**	**12 39 44.9**	**-1.6**
JYAK				*e*S		**Sn**	**12 39 58.2**	**-1.6**
JTAJ	**Takarajima**	**1.05**	**268**	P		**Pn**	**12 39 46.7**	**+0.1**
JTAJ				S		**Sn**	**12 40 00.6**	**+0.6**
JAM	**Amami Oshima**	**1.05**	**222**	P		**Pn**	**12 39 46.1**	**-0.6**
JAM				*e*S		**Sn**	**12 40 00.3**	**+0.1**
JKC	**Kuchinoerabu**	**1.27**	**352**	P		**Pn**	**12 39 48.8**	**-0.9**
JMTN	**Minamitane**	**1.27**	**20**	P		**Pn**	**12 39 47.7**	**-2.0**
JAMN	**Amaminishikomi**	**1.44**	**229**	P		**Pn**	**12 39 51.7**	**-0.3**
JTN	**Tanegashima 3**	**1.53**	**19**	P		**Pn**	**12 39 51.3**	**-2.0**
JTK	**Tokunoshima**	**1.90**	**222**	P		**Pn**	**12 39 58.1**	**-0.3**
JSU	**Suzuyama**	**2.29**	**1**	P		**Pn**	**12 40 02.6**	**-1.2**
JOKE	**Okinoerabujima**	**2.44**	**222**	P		**Pn**	**12 40 05.5**	**-0.3**
JYRO	**Yoronjima**	**2.77**	**219**	P		**Pn**	**12 40 09.4**	**-0.9**
JOW	**Kunigami**	**3.02**	**219**	Pn		**Pn**	**12 40 13.0**	**-0.7**
	3.5nm,0.3s,baz=121,slow=26,SNR=23							

JOW				Sn		Sn	12 40 48.0	-0.7
	9.9nm,0.3s,baz=126,slow=27,SNR=2.2							
JOW				LR		LR	12 41 25.1	
	comp=Z,192nm,20.0s,baz=67,slow=40							
JOW	**Kunigami**	**3.02**	**219**	P		**Pn**	**12 40 13.1**	**-0.7**
JOW	**Kunigami**	**3.02**	**219**			**Pn**	**12 40 14.4**	**+0.7**
JNU	**Nakatsue**	**3.93**	**6**	Pn		**Pn**	**12 40 28.4**	**+2.1**
	1.2nm,0.3s,baz=102,slow=0.8,SNR=60							
JNU				Sn		**Sn**	**12 41 12.7**	**+1.6**
	4.8nm,0.3s,baz=68,slow=20,SNR=11							
JNU	**Nakatsue**	**3.93**	**6**			**Pn**	**12 40 27.8**	**+1.6**
JMN	**Monobe**	**5.40**	**33**	Pn		**Pn**	**12 40 46.6**	**+0.1**
JHS	**Saijyo**	**6.22**	**21**	Pn		**Pn**	**12 40 58.6**	**+0.9**
JWT	**Wachi**	**7.39**	**34**			**Pn**	**12 41 15.0**	**+1.2**
INU	**Inuyama**	**8.30**	**41**	Pn		**Pn**	**12 41 26.0**	**-0.2**
KSAR	**Wonju Array Be**	**8.48**	**346**	Pn		**Pn**	**12 41 26.2**	**-2.5**
KSRS	**Korea Array**	**8.48**	**347**	Pn		**Pn**	**12 41 31.3**	**+2.6**
	0.1nm,0.3s,baz=170,slow=12,SNR=4.2							
KSRS				LR		LR	12 45 03.6	
	comp=Z,183nm,19.3s,baz=180,slow=41							
JGF	**Kuroka**	**8.68**	**41**	Pn		**Pn**	**12 41 33.0**	**+1.6**
MAJO	**Matsushiro**	**9.83**	**40**	Pn		**Pn**	**12 41 49.0**	**+1.8**
MJAR	**Matsushiro Arr**	**9.83**	**40**	Pn		**Pn**	**12 41 45.2**	**-2.0**
	0.1nm,0.3s,baz=191,slow=12,SNR=1.1							
MJB9	**Matsu-Tunnel**	**9.83**	**40**	Pn		**Pn**	**12 41 48.2**	**+1.0**
JCJ	**Chichijima**	**10.61**	**99**	LR		LR	12 45 35.9	
	comp=Z,115nm,18.2s,baz=336,slow=34							
ASAJ	**Asahikawa**	**17.78**	**30**	P		**Pn**	**12 43 33.1**	**+0.3**
	0.2nm,0.3s,baz=270,slow=14,SNR=4.2							
ASAJ				LR		LR	12 50 35.8	
	comp=Z,74nm,21.0s,baz=233,slow=38							
JKA	**Kamikawa-asahi**	**17.78**	**30**	P		**Pn**	**12 43 33.1**	**+0.3**
JKA	**Kamikawa-asahi**	**17.78**	**30**	IAmb		IAmb	12 43 41.9	
	comp=Z,22nm,1.5s							
KLR	**Kul'dur**	**20.03**	**3**	P		**P**	**12 43 55.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=174,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**41.08**	**309**	P		**P**	**12 47 07.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=87,slow=10,SNR=8.4							
KURK	**Kurchatov**	**44.06**	**314**	P		**P**	**12 47 31.7**	**-0.6**
KURBB	**Kurchatov Arra**	**44.10**	**314**	P		**P**	**12 47 31.7**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=98,slow=8.9,SNR=16							
WB0	**Warramunga Arr**	**48.84**	**175**	P		**P**	**12 48 10.7**	**+0.7**
WB0				IAmb		IAmb	12 48 14.9	
	comp=Z,7.7nm,1.2s							
WB2	**Warramunga Arr**	**49.01**	**175**	P		**P**	**12 48 10.8**	**-0.5**
WB2				IAmb		IAmb	12 48 17.4	
	comp=Z,4.6nm,1.1s							
WR0	**Warramunga Arr**	**49.04**	**175**	P		**P**	**12 48 12.6**	**+1.1**
WR0				IAmb		IAmb	12 48 12.8	
	comp=Z,7.0nm,1.2s							
BVAR	**Borovoye Array**	**49.40**	**316**	P		**P**	**12 48 13.0**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=182,slow=4.5,SNR=5.9							
BRVK	**Borovoye**	**49.46**	**316**	P		**P**	**12 48 14.0**	**-0.5**
BRVK				IAmb		IAmb	12 48 17.1	
	comp=Z,4.9nm,0.5s							
ABKAR	**Akbulak array**	**56.06**	**312**	P		**P**	**12 49 03.1**	**-0.2**
ABKAR				IAmb		IAmb	12 49 06.0	
	comp=Z,3.7nm,0.6s							
ILAR	**Eielson Array**	**60.92**	**29**	P		**P**	**12 49 38.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=270,slow=6.0,SNR=2.3							
ILAR	**Eielson Array**	**60.92**	**29**	P		**P**	**12 49 37.6**	**+0.7**
KBZ	**Khabaz**	**68.78**	**309**	P		**P**	**12 50 30.1**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=49,slow=4.7,SNR=4.9							
FINES	**FINESS Array B**	**71.23**	**331**	P		**P**	**12 50 41.1**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=52,slow=5.4,SNR=5.9							
TULEG	**Thule**	**73.83**	**5**	P		**P**	**12 51 00.0**	**+1.7**
AKASG	**Malin Array Be**	**74.52**	**320**	P		**P**	**12 51 02.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=59,slow=6.0,SNR=3.7							

IDC 19 12:40:24.3±2.2, 1.57N×126.75E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/45, mbtmp3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=169.4km s-min=28.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**20.84**	**246**	LR	LR	12 54 37.3	
	comp=Z,126nm,19.4s,baz=44,slow=41						
WRA	**Warramunga Arr**	**22.64**	**161**	P	P	12 45 26.1	-1.1
	0.3nm,0.3s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.04**	**165**	P	P	12 46 00.8	+1.3
	0.4nm,0.8s,baz=344,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**59.34**	**326**	P	P	12 50 28.0	-0.2
	0.2nm,0.5s,baz=112,slow=6.4,SNR=1.7						

BEO 19 12:40:35.3±0.8, 44.42N×22.00E, h0km, ML1.7/5, 5C-5D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.23**	**269**	*e*Pg	Pg	12 40 38.7	-1.0
KUBS				*e*Sg	Sg	12 40 41.8	-0.9
MDVR	**Moldovita**	**0.42**	**331**	↑P	Pg	12 40 44.0	+0.7
MDVR				↓S	Sg	12 40 50.0	+1.3
HERR	**Herculane**	**0.55**	**33**	↑P	Pg	12 40 46.6	+0.7
HERR				↑S	Sb	12 40 55.8	-0.5
ZAGS	**Zajecar**	**0.63**	**164**	*e*Sg	Pg	12 40 46.3	-1.0
ZAGS	**Zajecar**	**0.63**	**164**	*e*Pg	Pn	12 40 54.5	+3.1
BOVS	**Bovan**	**0.81**	**195**	*e*Sg	Pg	12 40 50.6	-0.2
BOVS	**Bovan**	**0.81**	**195**	*e*Pg	Pn	12 41 02.0	+8.0
BOVS	**Bovan**	**0.81**	**195**	↓S	Sg	12 41 02.0	+0.7
GRUS	**Gruza**	**1.06**	**241**	*e*Pg	Pg	12 40 54.6	-1.1
GRUS				*e*Sg	Sg	12 41 08.9	-0.6
GZR	**Gura Zlata**	**1.12**	**29**	↓P	Pb	12 40 57.9	+0.3
GZR				↑S	Sb	12 41 13.5	+0.7
BZS	**Buzias**	**1.23**	**347**	↑P	Pg	12 40 59.1	+0.2
BZS				↓S	Sb	12 41 16.0	+0.2
ZAPS	**Zavoj**	**1.23**	**158**	*e*Pg	Pg	12 40 56.6	-2.3
ZAPS				*e*Sg	Sg	12 41 14.6	-0.2
DIVS	**Divibare**	**1.48**	**258**	*e*Pg	Pn	12 41 02.8	-0.4
DIVS				*e*Sg	Sg	12 41 22.3	-0.4
BARS	**Barje**	**1.61**	**185**	*e*Pg	Pn	12 41 04.6	-0.3
BARS				*e*Sg	Sn	12 41 25.1	-1.2
LOT	**Lotru**	**1.63**	**50**	↓S	Sg	12 41 28.8	+1.3

BUC 19 12:42:32.3±0.2, 46.29N×23.15E, h2km, ml1.5/7, 16C-16D, Error ellipse: s-maj=1.4km s-min=1.2km az=117.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJR	**Cluj-Napoca**	**0.52**	**36**	↓P	Pg	12 42 42.2	-0.1
CJR				↓S	Sg	12 42 49.8	+0.7
CJR	**Cluj-Napoca**	**0.52**	**36**	↓P	Pg	12 42 42.2	-0.1
CJR				↓S	Sg	12 42 49.8	+0.7
DRGR		**0.59**	**329**	↑P	Pg	12 42 43.6	+0.1
DRGR				↓S	Sg	12 42 51.0	-0.2
DRGR		**0.59**	**329**	↑P	Pg	12 42 43.6	+0.1
DRGR				↓S	Sg	12 42 51.0	-0.2
GZR	**Gura Zlata**	**0.93**	**196**	↓P	Pg	12 42 50.3	+0.1
GZR				↓S	Sb	12 43 03.3	-0.8
GZR	**Gura Zlata**	**0.93**	**196**	↓P	Pg	12 42 50.3	+0.1
GZR				↓S	Sb	12 43 03.3	-0.8
LOT	**Lotru**	**0.95**	**153**	↑P	Pg	12 42 50.4	0.0
LOT				↑S	Sg	12 43 03.2	+0.5
LOT	**Lotru**	**0.95**	**153**	↑P	Pg	12 42 50.4	0.0
LOT				↑S	Sg	12 43 03.2	+0.5
SIRR	**Siria**	**1.03**	**269**	↑P	Pb	12 42 52.7	-0.2
SIRR				↑S	Sb	12 43 06.6	-0.4
SIRR	**Siria**	**1.03**	**269**	↑P	Pb	12 42 52.7	-0.2
SIRR				↑S	Sb	12 43 06.6	-0.4
BZS	**Buzias**	**1.27**	**238**	↑P	Pg	12 42 56.5	0.0
BZS				↓S	Sb	12 43 13.5	0.0
BZS	**Buzias**	**1.27**	**238**	↑P	Pg	12 42 56.5	0.0
BZS				↓S	Sb	12 43 13.5	0.0
VOIR		**1.58**	**122**	↓P	Pn	12 43 01.5	+0.1
VOIR				↑S	Sg	12 43 23.6	+0.7
VOIR		**1.58**	**122**	↓P	Pn	12 43 01.5	+0.1
VOIR				↑S	Sg	12 43 23.6	+0.7
BURAR	**Bucovina Array**	**1.94**	**46**	↓P	Pn	12 43 06.8	+0.4
BURAR				↑S	Sb	12 43 32.5	-0.6
BURAR	**Bucovina Array**	**1.94**	**46**	↓P	Pn	12 43 06.8	+0.4
BURAR				↑S	Sb	12 43 32.5	-0.6

*IDC **19** 12:46:19.9±1.3, 29.33N×130.35E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/55, mbtmp3.7/9, ML3.0/2, Error ellipse: s-maj=41.4km s-min=19.1km az=87.0*
*JMA **19** 12:46:25.0±0.1, 29.24N×130.48E, h63km±4km, M3.4*
ISC 19 12:46:26.3±1.2, 29.22N±0.05×130.49E±0.08, h52km±12km, n27, σ1§01/38, mb3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.82**	**319**	P	**Pn**	**12 46 40.6**	**-1.0**
JNN				S	**Sn**	**12 46 53.2**	**+0.4**
JZK	**Kikaishima**	**1.01**	**207**	P	**Pn**	**12 46 43.9**	**-0.3**
JYAK	**Yakushimahirau**	**1.01**	**1**	P	**Pn**	**12 46 43.2**	**-1.0**
JYAK				*e*S	**Sn**	**12 46 57.8**	**+0.3**
JAM	**Amami Oshima**	**1.12**	**224**	P	**Pn**	**12 46 44.7**	**-0.9**
JAM				S	**Sn**	**12 47 00.8**	**+0.9**
JTAJ	**Takarajima**	**1.12**	**267**	P	**Pn**	**12 46 45.3**	**-0.4**
JTAJ				S	**Sn**	**12 47 00.9**	**+0.8**
JMTN	**Minamitane**	**1.23**	**17**	P	**Pn**	**12 46 46.1**	**-1.0**
JKC	**Kuchinoerabu**	**1.26**	**349**	P	**Pn**	**12 46 46.8**	**-0.8**
JKC				*e*S	**Sn**	**12 47 04.4**	**+0.9**
JTN	**Tanegashima 3**	**1.49**	**17**	P	**Pn**	**12 46 49.7**	**-1.0**
JAMN	**Amaminishikomi**	**1.51**	**230**	P	**Pn**	**12 46 50.3**	**-0.6**
JAMN				S	**Sn**	**12 47 11.1**	**+1.7**
JTK	**Tokunoshima**	**1.97**	**224**	P	**Pn**	**12 46 56.6**	**-0.6**
JTK				S	**Sn**	**12 47 21.0**	**+0.3**
JTSR	**Tashiro 2**	**1.98**	**11**	S	**Sn**	**12 47 20.8**	**-0.1**
JSU	**Suzuyama**	**2.28**	**359**	P	**Pn**	**12 47 00.7**	**-0.8**
JSU				*e*S	**Sn**	**12 47 28.2**	**-0.1**
JNAR	**Kushima--Naru**	**2.40**	**16**	P	**Pn**	**12 47 03.3**	**+0.3**
JOKE	**Okinoerabujima**	**2.51**	**223**	P	**Pn**	**12 47 04.0**	**-0.6**
JYRO	**Yoronjima**	**2.83**	**220**	P	**Pn**	**12 47 08.2**	**-0.8**
JOW	**Kunigami**	**3.08**	**220**	Pn	**Pn**	**12 47 11.2**	**-1.2**
	1.9nm,0.3s,baz=90,slow=11,SNR=17						
JOW				Sn	**Sn**	**12 47 47.0**	**-1.0**
	4.3nm,0.3s,baz=61,slow=19,SNR=3.8						
JOW	**Kunigami**	**3.08**	**220**	P	**Pn**	**12 47 11.5**	**-0.9**
JOW				S	**Sn**	**12 47 48.5**	**+0.5**
JNU	**Nakatsue**	**3.90**	**5**	Pn	**Pn**	**12 47 24.4**	**+0.6**
	2.7nm,0.3s,baz=138,slow=14,SNR=34						
JNU				Sn	**Sn**	**12 48 08.5**	**+0.2**
	2.0nm,0.3s,baz=71,slow=21,SNR=9.3						
KSRS	**Korea Array**	**8.49**	**346**	Pn	**Pn**	**12 48 29.4**	**+2.9**
	0.2nm,0.3s,baz=163,slow=14,SNR=7.8						
KLR	**Kul'dur**	**20.01**	**2**	P	**P**	**12 50 54.0**	**-0.5**
	0.2nm,0.3s,baz=179,slow=6.8,SNR=8.4						
MKAR	**Makanchi Array**	**41.13**	**309**	P	**P**	**12 54 03.4**	**-1.9**
	0.5nm,0.6s,baz=96,slow=11,SNR=5.8						
KURBB	**Kurchatov Arra**	**44.15**	**314**	P	**P**	**12 54 30.2**	**+0.6**
	2.1nm,0.5s,baz=97,slow=8.9,SNR=25						
WRA	**Warramunga Arr**	**49.02**	**175**	P	**P**	**12 55 09.0**	**+1.0**
	0.5nm,0.9s,baz=353,slow=7.8,SNR=2.0						
ASAR	**Alice Springs**	**52.69**	**176**	P	**P**	**12 55 37.4**	**+1.8**
	0.3nm,0.9s,baz=9,slow=12,SNR=2.4						
KBZ	**Khabaz**	**68.83**	**309**	P	**P**	**12 57 24.7**	**-0.5**
	1.4nm,0.7s,baz=86,slow=3.0,SNR=3.5						
FINES	**FINESS Array B**	**71.25**	**331**	P	**P**	**12 57 39.3**	**-0.4**
	2.1nm,1.1s,baz=46,slow=6.3,SNR=5.9						
NOA	**NORSAR Array B**	**77.51**	**334**	P	**P**	**12 58 16.1**	**-0.1**
	0.3nm,0.6s,baz=46,slow=5.7,SNR=1.9						

*IDC **19** 12:57:30.5±1.7, 34.72N×23.74E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/58, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=31.2km s-min=13.6km az=169.0*
*ATH **19** 12:57:32.1, 34.66N×23.81E, h15km±3km, ML3.4/5, Error ellipse: s-maj=4.3km s-min=2.2km az=28.0*
*THE **19** 12:57:32.0, 34.74N×23.77E, h1km±2km, ML3.0/10, Error ellipse: s-maj=3.5km s-min=1.0km az=214.0*
ISC 19 12:57:33.1±1.2, 34.80N±0.06×23.80E±0.04, h12km±6km, n35, σ0§94/49, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.24**	**82**	P	**Pg**	**12 57 37.9**	**-0.3**
GVD				S	**Sg**	**12 57 42.6**	**+1.0**
	19μm,0.3s						
GVD	**Gavdhos**	**0.24**	**82**	P	**Pg**	**12 57 37.9**	**-0.3**
GVD				S	**Sb**	**12 57 42.9**	**+1.3**
GVD				AML	AML	12 57 43.4	
	comp=E,39606μm,0.2s						
GVD				AML	AML	12 57 43.5	
	comp=N,37284μm,0.3s						
GVDS	**Gavdos**	**0.25**	**81**	P	**Pg**	**12 57 37.6**	**-0.6**
GVDS				S	**Sg**	**12 57 41.2**	**-0.5**
	comp=N,18μm,0.2s						
KNDR	**Palaiochora Ch**	**0.44**	**348**	P	**Pg**	**12 57 41.4**	**-0.4**
KNDR				S	**Sb**	**12 57 50.2**	**+0.9**
	comp=N,852nm,0.5s						
IMMV	**Iera Moni Meta**	**0.67**	**13**	P	**Pb**	**12 57 46.1**	**-0.7**
IMMV				S	**Sn**	**12 57 58.4**	**-0.6**
	comp=N,4μm,0.3s						
IMMV	**Iera Moni Meta**	**0.67**	**13**	P	**Pb**	**12 57 46.1**	**-0.7**
IMMV				S	**Sn**	**12 57 58.6**	**-0.4**
IMMV				AML	AML	12 57 58.9	
	comp=E,11303μm,0.3s						
IMMV				AML	AML	12 58 00.0	
	comp=N,5008μm,0.4s						
VAM	**Vamos**	**0.69**	**29**	P	**Pg**	**12 57 46.3**	**-0.1**
VAM				S	**Sb**	**12 57 57.9**	**+1.4**
	comp=N,4μm,0.3s						
VAM	**Vamos**	**0.69**	**29**	P	**Pb**	**12 57 46.5**	**-0.6**
VAM				S	**Sn**	**12 57 58.8**	**-0.5**
VAM				AML	AML	12 57 59.4	
	comp=E,9628μm,0.3s						
VAM				AML	AML	12 57 59.8	
	comp=N,8192μm,0.3s						
PRNS	**Prines Rethymn**	**0.81**	**46**	P	**Pg**	**12 57 47.3**	**-1.4**
PRNS				S	**Sg**	**12 57 59.9**	**+0.7**
TMBK	**Timbaki Herakl**	**0.84**	**71**	P	**Pg**	**12 57 48.7**	**-0.6**
TMBK				S	**Sb**	**12 58 02.4**	**+1.5**
	comp=N,578nm,0.4s						
SIVA	**Sivas**	**0.86**	**75**	P	**Pg**	**12 57 48.9**	**-0.8**
SIVA	**Sivas**	**0.86**	**75**	P	**Pg**	**12 57 48.9**	**-0.8**
SIVA				AML	AML	12 58 12.3	
	comp=E,5294μm,0.5s						
SIVA				AML	AML	12 58 14.7	
	comp=N,3880μm,0.5s						
IDI	**Anoyia**	**1.02**	**61**	Pg	**Pg**	**12 57 51.2**	**-1.6**
	comp=N,10.0nm,0.3s,baz=240,slow=17,SNR=47						
IDI				Lg	Lg	12 58 08.1	
	comp=N,45nm,0.3s,baz=322,slow=15,SNR=11						
IDI	**Anoyia**	**1.02**	**61**	P	**Pg**	**12 57 51.1**	**-1.6**
IDI				S	**Sb**	**12 58 07.1**	**+0.9**
	comp=N,400nm,0.7s						
IDI	**Anoyia**	**1.02**	**61**	P	**Pg**	**12 57 51.1**	**-1.6**
IDI				AML	AML	12 58 10.3	
	comp=E,811μm,0.7s						
IDI				AML	AML	12 58 13.7	
	comp=N,793μm,0.5s						
ANKY	**Antikythira Is**	**1.14**	**339**	P	**Pn**	**12 57 55.1**	**+0.3**
ANKY				S	**Sn**	**12 58 10.7**	**+0.3**
	comp=N,462nm,0.8s						
ANKY	**Antikythira Is**	**1.14**	**339**	P	**Pn**	**12 57 55.1**	**+0.3**
LAST	**Lasithi**	**1.43**	**75**	P	**Pn**	**12 57 58.5**	**-0.5**
LAST				S	**Sg**	**12 58 18.9**	**-0.2**
	comp=N,215nm,0.6s						
LAST	**Lasithi**	**1.43**	**75**	P	**Pn**	**12 57 58.5**	**-0.5**
NPS	**Neapolis**	**1.56**	**72**	P	**Pb**	**12 58 01.6**	**-0.3**
NPS				S	**Sn**	**12 58 21.6**	**+0.7**
	comp=N,232nm,0.9s						
NPS	**Neapolis**	**1.56**	**72**	P	**Pb**	**12 58 01.4**	**-0.6**
KTHA	**Kythira Island**	**1.57**	**338**	P	**Pg**	**12 58 02.9**	**-0.3**
MHLO	**Agia Marina, M**	**1.95**	**15**	P	**Pg**	**12 58 09.7**	**-0.7**
ZKR	**Zakros**	**2.01**	**80**	P	**Pn**	**12 58 07.7**	**+0.8**
VLI	**Veliai**	**2.03**	**340**	P	**Pg**	**12 58 10.9**	**-1.2**
MMAI	**Mount Meron Ar**	**9.81**	**97**	Pn	**Pn**	**12 59 54.5**	**+0.5**
	comp=N,2.0nm,0.3s,baz=282,slow=16,SNR=2.3						
EIL	**Elat**	**10.74**	**115**	Pn	**Pn**	**13 00 05.1**	**-1.7**
	comp=N,0.2nm,0.3s,baz=203,slow=7.7,SNR=1.9						
GERES	**GERESS Array B**	**15.90**	**335**	Pn	**P**	**13 01 21.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=146,slow=9.7,SNR=5.2						
KBZ	**Khabaz**	**17.24**	**53**	Pn	**P**	**13 01 37.0**	**+1.9**
	baz=238,slow=12,SNR=1.6						
ESDC	**Sonseca Array**	**22.58**	**291**	P	**P**	**13 02 34.2**	**+0.7**
	comp=N,0.8nm,0.7s,baz=79,slow=9.9,SNR=5.1						
HFS	**Hagfors**	**26.18**	**349**	P	**P**	**13 03 07.0**	**-0.3**
	comp=N,1.7nm,0.6s,baz=161,slow=14,SNR=7.4						
NOA	**NORSAR Array B**	**27.47**	**347**	P	**P**	**13 03 17.5**	**-1.4**
	comp=N,0.5nm,0.7s,baz=152,slow=11,SNR=3.3						
AKTO	**Aktyubinsk**	**29.31**	**47**	P	**P**	**13 03 35.9**	**+0.5**
	comp=N,0.8nm,0.5s,baz=231,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**44.90**	**56**	P	**P**	**13 05 46.9**	**-0.7**
	comp=N,0.6nm,0.3s,baz=274,slow=7.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**46.06**	**46**	P	**P**	**13 05 56.0**	**-0.6**
	comp=N,0.6nm,0.4s,baz=264,slow=7.7,SNR=2.6						

IDC 19 13:03:00.1±3.3, 5.73S×133.95E, h0km, mb3.3/1, mb1 3.9/5, mb1mx3.6/32, mbtmp3.7/5, ML3.7/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/15, Error ellipse: s-maj=117.7km s-min=26.3km az=80.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.52**	**331**	Pn	Pn	13 04 24.0	+0.3
	2.1nm,0.3s,baz=217,slow=20,SNR=16						
SIJI				Sn	Sn	13 05 22.9	-5.0
	1.3nm,0.3s,baz=236,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**14.13**	**178**	Pn	Pn	13 06 21.1	-0.7
	0.2nm,0.3s,baz=356,slow=13,SNR=16						
WRA				Sn	Sn	13 08 56.6	-2.9
	0.2nm,0.3s,baz=1.4,slow=23,SNR=4.9						
FITZ	**Fitzroy Crossi**	**14.73**	**213**	Pn	Pn	13 06 29.7	-0.2
	0.4nm,0.3s,baz=48,slow=12,SNR=13						
FITZ				Sn	Sn	13 09 07.0	-7.0
	0.2nm,0.3s,baz=226,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**17.83**	**180**	P	P	13 07 10.4	-0.3
	0.3nm,0.3s,baz=5.1,slow=11,SNR=20						
LEM	**Lembang**	**26.19**	**266**	LR	LR	13 20 54.1	
	comp=Z,107nm,20.5s,baz=32,slow=41						
MJAR	**Matsushiro Arr**	**42.24**	**5**	LR	LR	13 24 58.6	
	comp=Z,61nm,21.7s,baz=215,slow=31						
MKAR	**Makanchi Array**	**69.39**	**325**	P	P	13 14 09.9	-0.1
	0.1nm,0.4s,baz=126,slow=3.7,SNR=1.9						

*IDC **19** 13:06:27.2±0.5, 4.09N×126.74E, h0km, mb4.4/22, mb1 4.4/23, mb1mx4.3/35, mbtmp4.4/23, ML4.3/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/32, Error ellipse: s-maj=23.0km s-min=11.4km az=78.0*
*DJA **19** 13:06:31.3±0.8, 4.7N±3.3×12.7E±.°, h33km±7km, M4.6/20, mB5.1/7, mb4.7/20, MLv4.7/13, Mw(mB)4.5/7*
*NEIC **19** 13:06:32.8±1.1, 4.12N±0.09×126.78E±0.09, h35km±2km, mb4.7/30, Error ellipse: s-maj=17.5km s-min=12.9km az=49.0*
*BJI **19** 13:06:32.9±0.0, 4.07N×126.74E, h54km, mB4.9/29, mb4.7/49, Ms4.2/10, Ms7 3.9/10*
ISC 19 13:06:32.6±0.3, 4.00N±0.04×126.81E±0.06, h36km, n129, σ1§94/125, mb4.6/48, MS3.8/17, 1C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.32**	**256**	P	**Pn**	**13 06 55.3**	**+0.8**
SGSI				S	**Sn**	**13 07 12.9**	**+2.1**
DDMP	**Don Marcelino,**	**2.36**	**332**	*e*P	**Pn**	**13 07 08.3**	**-0.5**
DDMP				*e*S	**Sn**	**13 07 44.1**	**+7.6**
GAMI	**Galela, Maluku**	**2.36**	**156**	P	**Pn**	**13 07 08.8**	**0.0**
GAMI				S	**Sn**	**13 07 40.5**	**+4.0**
MATI	**Mati**	**2.98**	**349**	*e*P	Pn	13 07 22.8	+5.5
MNI	**Manado**	**3.22**	**218**	P	**Pn**	**13 07 22.7**	**+2.1**
TNTI	**Ternate**	**3.26**	**170**	Pn	**Pn**	**13 07 22.8**	**+1.7**
TNTI	**Ternate**	**3.26**	**170**	P	**Pn**	**13 07 23.4**	**+2.3**
TNTI				S	**Sn**	**13 08 02.8**	**+4.1**
DAV	**Davao City (W)**	**3.29**	**338**	Pn	**Pn**	**13 07 23.7**	**+2.2**
	55nm,0.3s,baz=212,slow=3.9,SNR=1.8						
DAV				Sn	**Sn**	**13 08 01.6**	**+2.2**
	66nm,0.3s,baz=312,slow=21,SNR=3.7						
SKMP	**Bagumbayan, Su**	**3.37**	**318**	*e*P	**Pn**	**13 07 25.0**	**+2.3**
KCP	**Kidapawan**	**3.44**	**330**	↓*i*P	**Pn**	**13 07 27.6**	**+3.8**
KCP				*i*S	Sn	13 08 17.1	+14
BUKP	**Musuan**	**4.23**	**336**	*e*P	**Pn**	**13 07 38.4**	**+3.9**
BUKP				*e*S	Sn	13 08 40.3	+18
KMSI	**Cibinong**	**4.43**	**220**	P	**Pn**	**13 07 40.3**	**+3.1**
CGP	**Cagayan de Oro**	**4.90**	**335**	*e*P	Pn	13 07 49.2	+5.5
GTOI	**Gorontalo**	**5.06**	**229**	P	**Pn**	**13 07 47.3**	**+1.4**
	0.1nm490nm37nm,0.6s						
BUTP	**Butuan**	**5.07**	**347**	*e*P	Pn	13 07 52.7	+6.6
PAGZ	**Pagadian**	**5.12**	**318**	*e*P	**Pn**	**13 07 49.0**	**+2.3**
GLSP	**General Luna,**	**5.78**	**353**	*e*P	**Pn**	**13 07 60.0**	**+4.1**
GLSP				*e*S	**Sn**	**13 09 05.6**	**+4.5**
MRSI	**Marisa**	**6.00**	**234**	P	**Pn**	**13 08 01.7**	**+2.9**
	0

SRAK	**Srakaew**	**26.38**	**294**	P		**P**	**13 12 10.0**	**+4.2**
	comp=Z,102nm,0.8s							
CHAI	**Chaiyaphum**	**27.12**	**298**	P		**P**	**13 12 13.1**	**+0.7**
	comp=Z,18nm,0.8s							
MNSI	**Mandailing Nat**	**27.39**	**264**	P		P	13 12 31.3	+16
AS31	**Alice Springs**	**28.36**	**166**	P		**P**	**13 12 24.2**	**+0.7**
ASAR	**Alice Springs**	**28.36**	**166**	P		**P**	**13 12 24.2**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=345,slow=6.9,SNR=13							
ASAR				S		**S**	**13 17 10.8**	**+2.8**
	comp=Z,0.7nm,1.0s,baz=359,slow=20,SNR=2.3							
NJ2	**Nanjing**	**28.89**	**346**	*e*P		**P**	**13 12 29.8**	**+1.8**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
PHIT	**Phitsanulok**	**29.01**	**299**	P		**P**	**13 12 29.6**	**+0.3**
	comp=Z,54nm,1.0s							
CM09	**Chiang Mai Arr**	**30.76**	**300**	P		**P**	**13 12 46.2**	**+1.4**
	comp=Z,7.1nm,0.7s							
CM02	**Chiang Mai Arr**	**30.79**	**300**	P		P	13 12 51.5	+6.4
	comp=Z,6.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P		**P**	**13 12 44.6**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=117,slow=7.0,SNR=7.7							
CMAR				LR		LR	13 25 02.8	
	comp=Z,61nm,21.6s,baz=187,slow=36							
CM15	**Chiang Mai Arr**	**30.82**	**300**	P		**P**	**13 12 46.9**	**+1.5**
	comp=Z,7.6nm,0.7s							
CMMT	**Chiang Mai**	**30.95**	**301**	P		**P**	**13 12 46.6**	**+0.1**
	comp=Z,11nm,0.8s							
CHTO	**Chiang Mai**	**30.95**	**301**	P		**P**	**13 12 47.6**	**+1.1**
	comp=Z,11nm,0.9s							
CHTO	**Chiang Mai**	**30.95**	**301**	P		**P**	**13 12 45.3**	**-1.3**
CHTO				IAmb		IAmb	13 12 47.9	
	comp=Z,7.6nm,0.8s							
CHTO	**Chiang Mai**	**30.95**	**301**	P		**P**	**13 12 45.6**	**-0.9**
	comp=Z,6.3nm,0.9s							
KSRS	**Korea Array**	**33.31**	**2**	P		**P**	**13 13 06.8**	**0.0**
	comp=Z,2.1nm,0.8s,baz=184,slow=8.7,SNR=8.4							
KSRS				PcP		**PcP**	**13 15 49.5**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=185,slow=2.5,SNR=7.9							
KSRS				LR		LR	13 26 35.4	
	comp=Z,42nm,21.8s,baz=187,slow=36							
CD2	**Chengdu**	**34.47**	**324**	P		**P**	**13 13 16.8**	**-0.4**
CD2				pP		sP	13 13 31.6	+1.2
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
CD2				L		L		
	comp=Z,230nm,17.2s							
CD2				L		L		
	comp=Z,200nm,15.2s							
CD2				L		L		
	comp=Z,220nm,18.1s							
BJI	**Beijing**	**37.14**	**346**	P		**P**	**13 13 39.9**	**0.0**
BJI				pP		**sP**	**13 13 52.9**	**-0.4**
BJI				pmax		pmax		
	comp=Z,13nm,0.9s							
BJI				pmax		pmax		
	comp=Z,83nm,4.2s							
EIDS	**Eidsvold**	**37.52**	**142**	P		**P**	**13 13 42.6**	**-0.7**
EIDS				IAmb		IAmb	13 13 47.6	
	comp=Z,8.3nm,1.0s							
LZH	**Lanzhou**	**38.31**	**329**	‖P		**P**	**13 13 49.8**	**-0.3**
LZH				pP		sP	13 14 04.3	+1.0
LZH				pmax		pmax		
	comp=Z,32nm,1.3s							
LZH				L		L		
	comp=Z,180nm,14.0s							
LZH				L		L		
	comp=Z,200nm,14.2s							
LZH				L		L		
	comp=Z,140nm,16.3s							
STKA	**Stephens Creek**	**38.35**	**160**	P		**P**	**13 13 51.0**	**+0.8**
	comp=Z,13nm,0.8s,baz=327,slow=8.2,SNR=20							
STKA	**Stephens Creek**	**38.35**	**160**	P		**P**	**13 13 50.4**	**+0.1**
HHC	**Hu-ho-hao-te**	**39.17**	**342**	*e*P		**P**	**13 13 57.9**	**+0.8**
HHC				S		**S**	**13 19 59.1**	**+4.2**
HHC				pmax		pmax		
	comp=Z,19nm,0.9s							
HHC				pmax		pmax		
	comp=Z,79nm,4.2s							
HHC				L		L		
	comp=Z,120nm,14.1s							
HHC				L		L		
	comp=Z,160nm,13.2s							
HHC				L		L		
	comp=Z,120nm,14.9s							
USRK	**Ussuriysk Ar.**	**40.29**	**6**	P		**P**	**13 14 05.2**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=177,slow=8.2,SNR=4.5							
MDJ	**Mudanjiang**	**40.52**	**3**	P		**P**	**13 14 10.0**	**+1.8**
MDJ				pP		sP	13 14 24.5	+2.1
MDJ				ScP		**ScP**	**13 19 53.8**	**-3.2**
MDJ				PcS		**PcS**	**13 20 02.3**	**+1.6**
MDJ				S		**S**	**13 20 16.3**	**+1.5**
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.6s							
MDJ				pmax		pmax		
	comp=Z,140nm,4.7s							
MDJ				L		L		
	comp=Z,170nm,4.4s							
MDJ				L		L		
	comp=Z,93nm,4.1s							
MDJ				L		L		
	comp=Z,83nm,8.3s							
H11S3	**WAKE ISLAND Hy**	**41.55**	**67**	T		T	13 58 42.8	
	baz=253,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**41.56**	**67**	T		T	13 58 43.8	
	baz=253,slow=75,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	**41.56**	**67**	T		T	13 58 39.5	
	baz=253,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**42.07**	**65**	T		T	13 59 36.1	
	baz=247,slow=75,SNR=5.1							
H11N2	**WAKE ISLAND Hy**	**42.08**	**65**	T		T	13 59 49.8	
	baz=247,slow=75,SNR=3.4							
H11N3	**WAKE ISLAND Hy**	**42.08**	**65**	T		T	13 59 37.4	
	baz=247,slow=75,SNR=6.5							
ASAJ	**Asahikawa**	**42.31**	**17**	P		**P**	**13 14 22.3**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=248,slow=23,SNR=2.8							
GTA	**Gaotai**	**42.91**	**329**	*e*P		**P**	**13 14 26.8**	**-1.1**
GTA				pP		pP	13 14 37.4	-1.0
GTA				PcP		**PcP**	**13 16 19.5**	**+1.1**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,40nm,6.4s							
GTA				L		L		
	comp=Z,96nm,17.8s							
GTA				L		L		
	comp=Z,130nm,19.3s							
GTA				L		L		
	comp=Z,180nm,19.6s							
ULN	**Ulaanbaatar**	**46.89**	**342**	P		**P**	**13 14 56.6**	**-2.9**
	comp=Z,17nm,0.7s							
SONM	**Songino Array**	**47.07**	**341**	P		**P**	**13 15 00.9**	**0.0**
	comp=Z,2.1nm,0.6s,baz=158,slow=9.1,SNR=11							
SONM				PcP		**PcP**	**13 16 32.8**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=150,slow=3.4,SNR=7.7							
SONM				LR		LR	13 35 32.7	
	comp=Z,70nm,20.1s,baz=202,slow=37							
SONM	**Songino Array**	**47.07**	**341**	P		**P**	**13 15 00.4**	**-0.5**
WMQ	**Urumqi**	**52.55**	**325**	*e*P		**P**	**13 15 44.1**	**+1.5**
PETK	**Petropavlovsk-**	**55.15**	**22**	P		**P**	**13 16 01.2**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=183,slow=5.8,SNR=4.3							
PETK				LR		LR	13 38 36.7	
	comp=Z,22nm,20.7s,baz=211,slow=35							
MK31	**Makanchi Array**	**57.38**	**325**	P		**P**	**13 16 16.5**	**-0.9**
MK31				IAmb		IAmb	13 16 18.1	
	comp=Z,6.4nm,1.2s							
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**	**13 16 16.4**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=121,slow=8.4,SNR=45							
MKAR				PcP		**PcP**	**13 17 11.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=118,slow=4.8,SNR=4.2							
MKAR				ScP		**ScP**	**13 21 12.0**	**+3.6**
	comp=Z,0.4nm,0.7s,baz=122,slow=5.2,SNR=3.1							
MKAR				LR		LR	13 41 51.8	
	comp=Z,100nm,19.7s,baz=94,slow=37							
KSH	**Kashi**	**57.91**	**315**	P		**P**	**13 16 22.6**	**+1.2**
KSH				pmax		pmax		
	comp=Z,160nm,6.9s							
KDJ	**Kajisay**	**58.20**	**318**	P		**P**	**13 16 21.5**	**-2.0**
KDJ				IAmb		IAmb	13 16 41.2	
	comp=Z,3.1nm,0.7s							
ZALV	**Zalesovo Beam**	**60.38**	**333**	P		**P**	**13 16 36.5**	**-1.6**
	comp=Z,2.7nm,0.6s,baz=122,slow=7.2,SNR=8.1							
ZALV				LR		LR	13 44 43.5	
	comp=Z,38nm,18.1s,baz=126,slow=38							
NRIK	**Noril'sk**	**70.19**	**346**	P		**P**	**13 17 41.0**	**-0.3**
	comp=Z,5.6nm,0.6s,baz=133,slow=6.8,SNR=6.1							
NRIK				LR		LR	13 51 24.9	
	comp=Z,57nm,18.8s,baz=120,slow=38							
GEYT	**Alibeck**	**70.79**	**309**	P		**P**	**13 17 44.6**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=75,slow=7.8,SNR=2.0							
ABKAR	**Akbulak array**	**71.99**	**321**	P		**P**	**13 17 50.0**	**-2.7**
TTA	**Tatalina**	**80.62**	**27**	P			13 18 41.6	
	baz=260							
N19K	**Bonanza Creek**	**81.01**	**29**	P			13 18 43.8	
	baz=262							
A21K	**Barrow**	**81.94**	**18**	P			13 18 48.7	
	baz=259,SNR=6.4							
VOI	**Vohitsoka**	**82.25**	**247**	P		**P**	**13 18 49.9**	**-1.0**
CHUM	**Lake Minchumin**	**82.40**	**26**	P			13 18 50.7	
	baz=264							
H21K	**Melozitna Rive**	**82.41**	**24**	P			13 18 51.3	
	baz=263,SNR=8.1							
SKT	**Skwentna**	**82.56**	**28**	P			13 18 50.9	
	baz=264							
I21K	**Tanana**	**82.69**	**25**	P			13 18 52.9	
	baz=264,SNR=10.0							
KBZ	**Khabaz**	**82.85**	**313**	LR		LR	14 01 14.1	
	comp=Z,16nm,18.4s,baz=88,slow=40							
BPAW	**Bear Paw Mtn.**	**83.01**	**26**	P		**P**	**13 18 54.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**83.01**	**26**	P			13 18 53.4	
	baz=265,SNR=9.5							
MLY	**Manley**	**83.20**	**25**	P		**P**	**13 18 54.5**	**-0.5**
MLY				IAmb		IAmb	13 18 56.5	
	comp=Z,10nm,1.0s							
MLY	**Manley**	**83.20**	**25**	P			13 18 55.3	
	baz=265,SNR=15							
TRF	**Thorofare Moun**	**83.26**	**27**	P			13 18 54.9	
	baz=266							
SEW	**Seward**	**83.42**	**30**	P			13 18 55.4	
	baz=267							
COLD	**Coldfoot**	**83.61**	**23**	P			13 18 57.6	
	baz=265,SNR=5.5							
PMR	**Palmer**	**83.67**	**29**	P			13 18 56.7	
	baz=267							
VNDA	**Vanda**	**83.68**	**173**	P		**P**	**13 18 57.1**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=316,slow=5.1,SNR=14							
VNDA	**Vanda**	**83.68**	**173**	P		**P**	**13 18 57.7**	**+0.6**
VNDA				IAmb		IAmb	13 18 59.2	
	comp=Z,3.8nm,1.0s							
H23K	**Yukon River**	**83.76**	**24**	P			13 18 58.5	
	baz=266,SNR=11							
I23K	**Minto, Yukon-K**	**83.79**	**25**	P		**P**	**13 18 57.4**	**-0.5**
I23K	**Minto, Yukon-K**	**83.79**	**25**	P			13 18 58.3	
	baz=266,SNR=15							
NEA2	**Nenana**	**83.88**	**26**	P			13 18 57.7	
	baz=266							
MCK	**McKinley**	**83.88**	**26**	P			13 18 57.8	
	baz=267,SNR=5.9							
TOLK	**Toolik Lake Re**	**83.96**	**21**	P			13 18 59.4	
	baz=266,SNR=10							
KNK	**Knik Glacier**	**83.98**	**29**	P			13 18 58.6	
	baz=267							
SML	**Sawmill**	**84.06**	**28**	P			13 18 59.2	
	baz=267,SNR=6.3							
WAT6	**Susitna Watana**	**84.37**	**28**	P			13 19 00.7	
	baz=268							
H24K	**Noodor Dome**	**84.45**	**24**	P			13 19 01.8	
	baz=267,SNR=7.9							
GLI	**Glacier Island**	**84.62**	**29**	P		**P**	**13 19 01.9**	**-0.3**
GLI	**Glacier Island**	**84.62**	**29**	P			13 19 02.1	
	baz=269							
HDA	**Harding Lake**	**84.79**	**26**	P			13 19 01.4	
	baz=268							
HDA				P			13 19 01.4	
	baz=268							
ILAR	**Eielson Array**	**84.82**	**25**	P		**P**	**13 19 01.9**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=249,slow=4.1,SNR=13							
FID	**Port Fidalgo**	**84.92**	**29**	P		**P**	**13 19 02.9**	**-0.8**
M24K	**Tolsona, Glenn**	**85.09**	**28**	P		**P**	**13 19 04.6**	**0.0**
M24K	**Tolsona, Glenn**	**85.09**	**28**	P			13 19 04.8	
	baz=269							
KLU	**Klutina**	**85.20**	**29**	P			13 19 05.5	
	baz=270							
KLMR	**Klimovskoe**	**85.21**	**331**	*e*P		**P**	**13 19 03.4**	**-1.7**
KLMR				AMP			13 19 05.5	
	comp=Z,30nm,0.9s							
EYAK	**Cordova Ski Ar**	**85.28**	**30**	P			13 19 04.5	
	baz=270							
PAX	**Paxson**	**85.42**	**27**	P			13 19 06.1	
	baz=270,SNR=5.2							
HARP	**HAARP**	**85.57**	**28**	P			13 19 06.8	
	baz=270							
N25K	**Chitina, Valde**	**85.83**	**29**	P			13 19 08.3	
	baz=271							
BMRM	**Bremner River**	**85.84**	**29**	P			13 19 08.4	
	baz=271							
L27K	**Beaver Creek,**	**87.08**	**27**	P			13 19 14.1	
	baz=273							
EGAK	**Eagle**	**87.28**	**25**	P			13 19 15.3	
	baz=274							
KMBO	**Kilima Mbogo**	**89.64**	**269**	P		**P**	**13 19 27.4**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=102,slow=4.2,SNR=5.1							
BRTR	**Keskin Array B**	**89.91**	**310**	P		**P**	**13 19 28.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=91,slow=8.6,SNR=1.7							
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**13 19 27.8**	**-1.3**
	comp=Z,5.3nm,1.1s,baz=76,slow=6.8,SNR=4.3							
ARCES				LR		LR	14 03 22.1	
	comp=Z,43nm,19.1s,baz=130,slow=38							
FINES	**FINESS Array B**	**91.63**	**332**	P		**P**	**13 19 35.5**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=111,slow=8.6,SNR=6.3							
FINES				LR		LR	14 04 38.4	
	comp=Z,33nm,18.4s,baz=34,slow=38							
AKASG	**Malin Array Be**	**91.73**	**321**	P		**P**	**13 19 34.5**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=66,slow=4.3,SNR=6.8							
SYO	**Syowa Base**	**92.71**	**201**	‖*e*pP		pP	13 19 52.2	+0.4
NOA	**NORSAR Array B**	**98.58**	**334**	LR		LR	14 09 41.0	
	comp=Z,33nm,19.1s,baz=70,slow=38							
YKA	**Yellowknife Ar**	**99.22**	**24**	LR		LR	14 09 23.4	
	comp=Z,8.8nm,19.5s,baz=0.0,slow=38							
GERES	**GERESS Array B**	**101.92**	**322**	P		**Pdif**	**13 20 22.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=54,slow=6.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP		**PKPdf**	**13 25 25.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=70,slow=1.9,SNR=3.9							

*MOS **19** 14:08:54.9±1.1, 44.36N×148.78E, h43km, mb4.2/2, Error ellipse: s-maj=20.0km s-min=16.4km az=152.6*
*JMA **19** 14:08:58.6±0.4, 44.04N×148.15E, h0km, M4.2*
*SKHL **19** 14:08:59.3±0.4, 44.50N×148.40E, h69km±9km, mb4.5/6*
ISC 19 14:08:57.8±1.5, 44.36N±0.06×148.5E±0.1, h55km, n31, σ1§77/45, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.99**	**332**	*d* iPN		**Pn**	**14 09 14.7**	**-0.8**
KUR				*i* S		**Sn**	**14 09 26.5**	**-2.0**
KUR				pmax	pmax			
	comp=N,48μm,0.1s							
KUR				pmax	pmax			
	comp=E,139μm,0.1s							
KUR				pmax	pmax			
	comp=Z,314μm,0.1s							
KUR				smax	smax			
	comp=N,1μm,0.2s							
KUR				smax	smax			
	comp=E,1μm,0.2s							
KUR	**Kuril'sk**	**0.99**	**332**	*i* P		**Pn**	**14 09 14.7**	**-0.8**
KUR				AMB	AMB		14 09 15.3	
	comp=E,380nm,0.3s							
KUR				*i* S		**Sn**	**14 09 26.6**	**-2.0**
KUR				A	A		14 09 27.4	
	comp=E,990nm,0.2s							
KUR				A	A		14 09 27.4	
	comp=E,1μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.94**	**261**	*d* iPN		**Pn**	**14 09 27.8**	**-0.6**
YUK				pmax	pmax			
	comp=N,95μm,0.1s							
YUK				pmax	pmax			
	comp=Z,334μm,0.1s							
YUK	**Yuzh-Kuril'sk**	**1.94**	**261**	*i* P		**Pn**	**14 09 27.8**	**-0.6**
YUK				AMB	AMB		14 09 31.3	
	comp=Z,180nm,0.2s							
YUK				*i* S		**Sn**	**14 09 49.0**	**-2.6**
YUK				A	A		14 09 55.3	
	comp=Z,570nm,0.3s							
YUK				A	A		14 09 55.3	
	comp=Z,470nm,0.3s							
GRPR	**Tuman**	**2.01**	**260**	*e*PN		**Pn**	**14 09 29.4**	**+0.1**
GRPR				pmax	pmax			
	comp=E,50nm,0.1s							
GRPR				pmax	pmax			
	comp=Z,135nm,0.1s							
GRPR	**Tuman**	**2.01**	**260**	*e*P		**Pn**	**14 09 29.4**	**+0.1**
GRPR				AMB	AMB		14 09 31.5	
	comp=Z,140nm,0.2s							
GRPR				*e*S		**Sn**	**14 09 50.8**	**-2.5**
GRPR				A	A		14 09 55.0	
	comp=Z,610nm,0.3s							
GRPR				A	A		14 09 55.0	
	comp=Z,220nm,0.3s							
NEM2	**Nemuro 2**	**2.24**	**245**	P		**Pn**	**14 09 32.1**	**-0.4**
NEM2				*e*S		**Sn**	**14 09 56.4**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.25**	**245**	*i* PN		**Pn**	**14 09 32.2**	**-0.4**
NMR				*i* S		**Sn**	**14 09 56.8**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.25**	**245**	*i* P		**Pn**	**14 09 32.2**	**-0.4**
NMR				*i* S		**Sn**	**14 09 56.8**	**-2.3**
GLVR	**Golovnino**	**2.25**	**255**	*i* S		**Sn**	**14 10 00.1**	**+0.9**
RUSJ	**Misakicho**	**2.37**	**265**	*e*PN		**Pn**	**14 09 35.8**	**+1.6**
RUSJ				*e*S		**Sn**	**14 10 03.8**	**+1.8**
JRA	**Rausu**	**2.48**	**261**	P		**Pn**	**14 09 36.9**	**+1.1**
JRA				*e*S		**Sn**	**14 10 05.3**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.60**	**258**	P		**Pn**	**14 09 38.4**	**+1.0**
JKHN	**Kushirohamanak**	**2.75**	**244**	P		**Pn**	**14 09 39.6**	**+0.2**
JKHN				*e*S		**Sn**	**14 10 09.7**	**-1.7**
JNK	**Nakash**	**2.85**	**256**	P		**Pn**	**14 09 41.6**	**+0.8**
JAK	**Akkeshi**	**3.09**	**245**	P		**Pn**	**14 09 44.1**	**0.0**
JTKR	**Abashiri--Toko**	**3.34**	**265**	P		**Pn**	**14 09 48.4**	**+0.9**
JAR	**Ashorobuto**	**3.60**	**254**	P		**Pn**	**14 09 52.6**	**+1.5**
JCH	**Churui**	**4.14**	**247**	P		**Pn**	**14 09 59.3**	**+0.8**
JFR	**Furan**	**4.46**	**256**	P		**Pn**	**14 10 05.7**	**+2.9**
ERM	**Erimo**	**4.57**	**241**	*i* PN		**Pn**	**14 10 06.6**	**+2.3**
JNBK	**Urakawa-nobuka**	**4.70**	**246**	P		**Pn**	**14 10 07.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.80**	**305**	*e*P		**Pn**	**14 10 07.2**	**-0.3**
YSS				AMB	AMB		14 10 09.3	
	comp=Z,10.0nm,0.9s							
YSS				*e*S		**Sn**	**14 11 00.2**	**-1.6**
YSS				A	A		14 11 01.9	
	comp=Z,10.0nm,0.8s							
JKB	**Kayabe**	**6.01**	**248**	P		**Pn**	**14 10 25.4**	**+1.3**
JKB				*e*S		**Sn**	**14 11 29.5**	**-2.0**
JOT	**Ohata**	**6.25**	**244**	P		**Pn**	**14 10 27.9**	**+0.6**
JOT				*e*S		**Sn**	**14 11 34.0**	**-3.3**
JANG	**Nango**	**6.54**	**235**	P		**Pn**	**14 10 31.3**	**-0.1**
JANG				*e*S		**Sn**	**14 11 38.9**	**-5.7**
TYV	**Tymovskoe**	**7.62**	**331**	*e*P		**Pn**	**14 10 46.2**	**+0.2**
TYV				AMB	AMB		14 10 48.9	
	comp=Z,10.0nm,0.6s							
SEY	**Seymchan**	**18.74**	**6**	*i* P		**P**	**14 13 11.2**	**-0.6**
SEY	**Seymchan**	**18.74**	**6**	*e*P		**P**	**14 13 11.2**	**-0.6**
ARU	**Arti**	**54.58**	**317**	*i* P		**P**	**14 18 20.7**	**+0.6**
ARU				pmax	pmax			
	comp=Z,2.0nm,1.1s							
FINES	**FINESS Array B**	**64.78**	**333**	*i* P		**P**	**14 19 32.4**	**+2.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.9s							

PRE 19 13:06:56.4±1.2, 24.84S×27.28E, h2km, ML2.2, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**1.07**	**199**	*e*P		Pg	13 07 17.1	+0.2
KSR				*e*S		Sb	13 07 32.6	+0.3
KSR				AML	AML		13 07 40.0	
	comp=Z,372nm,0.1s							
SLR	**Silverton**	**1.27**	**135**	*e*P		Pn	13 07 21.6	+0.2
SLR				*e*S		Sb	13 07 37.8	-0.2
SLR				AML	AML		13 07 46.0	
	comp=Z,30nm,0.4s							
LBTB	**Lobatse**	**1.54**	**263**	*e*P		Pg	13 07 26.1	+0.1
LBTB				*e*S		Sg	13 07 46.5	+0.5
LBTB				AML	AML		13 07 50.9	
	comp=Z,53nm,0.2s							
LBTB	**Lobatse**	**1.54**	**263**	*i* P		Pn	13 07 23.0	-2.0
LBTB				*i* S		Sg	13 07 46.9	+0.9
LBTB	**Lobatse**	**1.54**	**263**	*i* P		Pn	13 07 23.0	-2.0
LBTB				*i* S		Sg	13 07 46.9	+0.9
WDLM	**Western Deep L**	**1.58**	**175**	*e*P		Pb	13 07 26.6	0.0
WDLM				*e*S		Sg	13 07 47.4	0.0
WDLM				AML	AML		13 07 53.1	
	comp=Z,64nm,0.2s							
PRYS	**Parys**	**2.08**	**178**	*e*P		Pn	13 07 33.1	+0.6
PRYS				*e*S		Sb	13 08 00.6	-0.8
PRYS				AML	AML		13 08 05.5	
	comp=Z,27nm,0.5s							
SWZ	**Schweizer**	**2.92**	**217**	*e*P		Pn	13 07 44.8	+0.7
SWZ				*e*S		Sn	13 08 20.1	+0.2
SWZ				AML	AML		13 08 34.5	
	comp=Z,9.1nm,0.1s							
MOPA	**Mopani**	**3.98**	**72**	*e*P		Pn	13 07 58.5	0.0
MOPA				*e*S		Sn	13 08 45.6	-0.2
MOPA				AML	AML		13 09 03.9	
	comp=Z,4.1nm,0.2s							
BOSA	**Boshof**	**4.17**	**205**	*e*P		Pn	13 08 01.9	+0.6
BOSA				*e*S		Sn	13 08 49.5	-1.3
BOSA				AML	AML		13 09 12.5	
	comp=Z,3.4nm,0.7s							
BOSA	**Boshof**	**4.17**	**205**	*i* P		Pn	13 07 59.0	-2.3
BOSA				*i* S		Sn	13 08 50.6	-0.1
BOSA	**Boshof**	**4.17**	**205**	*i* P		Pn	13 07 59.0	-2.3
BOSA				*i* S		Sn	13 08 50.6	-0.1
BLWY	**Bulawayo**	**4.83**	**15**	*i* P		Pb	13 08 16.2	-5.8
BLWY	**Bulawayo**	**4.83**	**15**	*i* P		Pb	13 08 16.2	-5.8

*MOS **19** 14:18:25.3±0.0, 43.47N×44.03E, h11km, MPVA3.9*
*TIF **19** 14:18:26.6, 43.52N×44.16E, h26km±2km*
ISC 19 14:18:26.0±0.9, 43.48N±0.02×44.10E±0.02, h17km±6km, n31, σ1§01/62, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STDR	**Stavd-Durt**	**0.11**	**195**	*i* Pg		**Pg**	**14 18 29.3**	**-0.3**
STDR				*e*Sg		**Sg**	**14 18 32.3**	**+0.2**
LSNR	**Lesken**	**0.28**	**225**	*e*Pg		**Pb**	**14 18 32.5**	**-0.2**
LSNR				*e*Sg		**Sb**	**14 18 38.2**	**+1.0**
PRTR	**Priterechnaya**	**0.30**	**25**	*e*Pg		**Pb**	**14 18 33

GOF				*e*Sg	**Sg**	14 19 23.1	+0.5
DOMR	**Dombai**	**1.82**	265	*e*Pg	**Pb**	14 18 59.4	+0.5
DOMR				*e*Sg	**Sg**	14 19 23.6	-0.9
TRLG	**Trialeti**	**1.94**	180	P	**Pb**	14 19 00.9	0.0
TRLG				S	**Sg**	14 19 27.1	-1.3
LGD	**Lagodekhi**	**2.28**	135	P	**Pb**	14 19 05.1	-1.6
LGD				S	**Sg**	14 19 37.4	-1.9
GUZR	**Guzeripl'**	**2.93**	282	*e*Pn	**Pb**	14 19 16.5	-1.4
GUZR				*e*Sn	**Sb**	14 19 51.1	-2.3

JMA ***19*** *14:19:21.1±0.7, 45.39N×150.24E, h30km, M3.9*
SKHL 19 14:19:20.8±0.2, 45.10N×150.30E, h25km±5km, mb4.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.73**	275	*e*P	Pn	14 19 48.2	-1.0
KUR				AMB	AMB	14 19 49.7	
	40nm,0.4s						
KUR				*i* S	Sn	14 20 08.6	-1.8
KUR				A	A	14 20 09.2	
	100nm,0.2s						
KUR				A	A	14 20 09.2	
	140nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.35**	253	*e*P	Pn	14 20 12.2	+0.7
YUK				AMB	AMB	14 20 13.8	
	20nm,0.3s						
YUK				*i* S	Sn	14 20 50.8	+0.4
YUK				A	A	14 20 54.4	
	60nm,0.4s						
YUK				A	A	14 20 54.4	
	80nm,0.4s						
NEM2	**Nemuro 2**	**3.71**	244	P	Pn	14 20 16.4	0.0
NEM2				*e*S	Sn	14 20 58.2	-1.0
NMR	**Nemuro--Hokkai**	**3.71**	244	*i* P	Pn	14 20 16.8	+0.3
NMR				*i* S	Sn	14 20 58.9	-0.5
JRA	**Rausu**	**3.88**	254	P	Pn	14 20 21.4	+2.6
JNK	**Nakash**	**4.28**	251	P	Pn	14 20 25.9	+1.6
JNK				*e*S	Sn	14 21 14.2	+0.8
JAK	**Akkeshi**	**4.55**	244	P	Pn	14 20 27.9	-0.2
JAK				*e*S	Sn	14 21 18.8	-1.3
JTKR	**Abashiri--Toko**	**4.71**	258	P	Pn	14 20 32.5	+2.3
JAR	**Ashorobuto**	**5.03**	251	P	Pn	14 20 37.0	+2.4
JAR				*e*S	Sn	14 21 32.9	+1.0
JKK2	**Kamakawa 2**	**5.54**	260	P	Pn	14 20 44.2	+2.6
JCH	**Churui**	**5.60**	246	P	Pn	14 20 43.2	+0.8
JCH				*e*S	Sn	14 21 44.4	-1.5
JEM	**Erimo**	**6.04**	242	P	Pn	14 20 50.7	+2.3
JNBK	**Urakawa-nobuka**	**6.15**	245	P	Pn	14 20 50.2	+0.1
JNB	**Noboribetsu**	**7.20**	252	P	Pn	14 21 06.1	+1.7
JKB	**Kayabe**	**7.46**	248	P	Pn	14 21 08.6	+0.6
JANG	**Nango**	**8.01**	237	*e*S	Sn	14 22 38.6	-6.6
JTM	**Tenmabayashi**	**8.03**	241	*e*S	Sn	14 22 40.1	-5.6

NOU ***19*** *14:46:42.2, 17.94S×177.85W, h642km, mb4.3, Fiji Islands Region*
IDC ***19*** *14:46:43.9±0.8, 18.01S×178.18W, h617km±9km, mb3.9/23, mb1 4.0/26, mb1mx3.9/33, mbtmp4.8/26, Error ellipse: s-maj=13.7km s-min=10.3km az=153.0*
BGR ***19*** *14:47:05.3±0.0, 19.32S×176.53W, h575km*
ISC 19 14:46:42.2±0.4, 18.05S±0.1×178.10W±0.07, h600km, n166, σ1s 09/176, mb4.5/33, 42C-68D, Fault plane solution: NP1: ϕ_s24.00189°, δ67.65571°, λ-79.07718°. **NP2:** ϕ_s177.08861°, δ24.74774°, λ-114.74973°. **Principal axes:** T Plg21.9220°, Azm105.6976°; N Plg10.0937°, Azm199.8058°; P Plg65.6422°, Azm312.9596°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.68**	274	P	**P**	14 48 07.6	+2.0
	51nm,0.3s,baz=136,slow=3.4,SNR=267						
MSVF				S	**S**	14 49 17.7	+4.0
	baz=83,slow=18,SNR=7.1						
AFI	**Afiamalu**	**7.33**	57	P	**P**	14 48 35.4	-0.1
	6.8nm,0.3s,baz=354,slow=3.2,SNR=5.7						
AFI	**Afiamalu**	**7.33**	57	P	**P**	14 48 34.5	-1.0
SANVU	**Saraoutou**	**14.31**	278	P	**P**	14 49 44.4	+0.2
DZM	**Mont Dzumac**	**15.07**	252	P	**P**	14 49 50.7	-0.5
	0.8nm,0.3s,baz=105,slow=20,SNR=10						
DZM	**Mont Dzumac**	**15.07**	252	P	**P**	14 49 52.6	+1.4
NOUC	**Port Laguerre**	**15.20**	252	P	**P**	14 49 54.8	+2.5
KOUNC	**Koumac, New Ca**	**16.82**	259	P	**P**	14 50 08.8	+1.7
RAR	**Rarotonga**	**17.55**	103	P	**P**	14 50 15.2	+1.4
	1.8nm,0.3s,baz=262,slow=19,SNR=3.5						
PPT	**Papeete**	**27.15**	93	P	**P**	14 51 40.2	+0.7
	33nm,0.6s,baz=243,slow=7.7,SNR=4.7						
CTA	**Charters Tower**	**33.72**	261	P	**P**	14 52 35.4	-0.3
	7.3nm,0.6s,baz=91,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**38.83**	241	P	**P**	14 53 17.9	+0.5
	17nm,0.8s,baz=95,slow=11,SNR=29						
WRA	**Warramunga Arr**	**44.90**	260	P	**P**	14 54 04.1	-1.1
	12nm,0.7s,baz=95,slow=7.1,SNR=214						
WRA				PcP	**PcP**	14 55 33.3	-0.2
	4.4nm,0.8s,baz=90,slow=3.7,SNR=7.8						
WRA				S	**S**	14 59 57.3	-3.5
	1.3nm,0.8s,baz=91,slow=14,SNR=4.7						
ASAR	**Alice Springs**	**45.04**	254	P	**P**	14 54 05.8	-0.4
	46nm,0.8s,baz=87,slow=8.6,SNR=539						
ASAR				PcP	**PcP**	14 55 33.5	-0.5
	5.8nm,0.6s,baz=101,slow=4.1,SNR=15						
ASAR				S	**S**	15 00 00.1	-2.7
	4.3nm,0.9s,baz=90,slow=14,SNR=22						
VNDA	**Vanda**	**60.35**	185	P	**P**	14 55 54.9	+1.0
	0.4nm,0.6s,baz=358,slow=5.9,SNR=6.8						
MJAR	**Matsushiro Arr**	**68.18**	323	P	**P**	14 56 43.3	-0.6
	9.5nm,0.5s,baz=164,slow=5.7,SNR=35						
MAT	**Matsushiro**	**68.18**	323	P	**P**	14 56 43.5	-0.5
ASAJ	**Asahikawa**	**71.52**	331	P	**P**	14 57 04.7	+1.1
	7.6nm,0.6s,baz=212,slow=4.8,SNR=16						
PETK	**Petropavlovsk-**	**73.87**	345	P	**P**	14 57 16.5	-0.3
	13nm,0.7s,baz=127,slow=8.2,SNR=27						
KSRS	**Korea Array**	**74.98**	318	P	**P**	14 57 23.8	+0.4
	2.1nm,0.7s,baz=132,slow=6.4,SNR=13						
USRK	**Ussuriysk Ar.**	**76.88**	326	P	**P**	14 57 34.8	+1.1
	2.2nm,0.6s,baz=117,slow=4.3,SNR=8.4						
NVAR	**Mina Array Bea**	**79.31**	44	P	**P**	14 57 48.0	+0.9
	4.6nm,0.7s,baz=224,slow=8.9,SNR=41						
CN2	**Changchun**	**80.30**	322	*e*P	**P**	14 57 52.4	+0.6
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MA2	**Magadan**	**81.39**	345	P	**P**	14 57 56.1	-1.0
	8.1nm,0.7s,baz=188,slow=18,SNR=4.3						
BBB	**Bella Bella**	**82.28**	28	P	**P**	14 58 01.8	+0.1
	3.3nm,0.6s,baz=235,slow=6.5,SNR=4.6						
MAW	**Mawson**	**83.85**	200	P	**P**	14 58 09.7	+0.3
	0.8nm,0.4s,baz=140,slow=4.4,SNR=5.8						
SEY	**Seymchan**	**83.96**	347	P	**P**	14 58 09.5	-0.3
	17nm,0.7s,baz=152,slow=5.8,SNR=26						
TXAR	**Lajitas Array**	**85.81**	58	P	**P**	14 58 21.6	+1.8
	5.7nm,0.8s,baz=220,slow=5.9,SNR=62						
ILAR	**Eielson Array**	**85.94**	13	P	**P**	14 58 18.4	-1.0
	4.6nm,0.4s,baz=219,slow=4.8,SNR=76						
ANMO	**Albuquerque**	**85.94**	51	P	**P**	14 58 21.3	+0.9
	3.5nm,0.9s,baz=214,slow=5.3,SNR=7.2						
PDAR	**Pinedale Array**	**87.23**	43	P	**P**	14 58 26.9	+0.6
	3.8nm,0.7s,baz=214,slow=3.1,SNR=22						
CM35	**Chiang Mai Arr**	**89.08**	290	P	**P**	14 58 36.0	+0.8
CM36	**Chiang Mai Arr**	**89.08**	290	P	**P**	14 58 36.0	+0.8
CM34	**Chiang Mai Arr**	**89.15**	290	P	**P**	14 58 36.0	+0.5
CM04	**Chiang Mai Arr**	**89.15**	290	P	**P**	14 58 37.5	+2.0
	11nm,1.0s						
CM04	**Chiang Mai Arr**	**89.15**	290	P	**P**	14 58 37.0	+1.5
	0.0nm11nm,1.0s						
CM09	**Chiang Mai Arr**	**89.16**	290	P	**P**	14 58 38.1	+2.6
	7.9nm,1.0s						
CM09	**Chiang Mai Arr**	**89.16**	290	P	**P**	14 58 38.1	+2.6
	0.0nm7.9nm,1.0s						
CM05	**Chiang Mai Arr**	**89.18**	290	P	**P**	14 58 37.7	+2.1
	6.6nm,1.1s						
CM05	**Chiang Mai Arr**	**89.18**	290	P	**P**	14 58 37.0	+1.4
	0.0nm6.6nm,1.1s						
CM02	**Chiang Mai Arr**	**89.19**	290	P	**P**	14 58 38.3	+2.6
	7.2nm,1.0s						
CM02	**Chiang Mai Arr**	**89.19**	290	P	**P**	14 58 38.0	+2.3
	0.0nm7.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.20**	290	P	**P**	14 58 36.5	+0.8
	5.1nm,0.9s,baz=106,slow=2.9,SNR=26						
CM15	**Chiang Mai Arr**	**89.22**	290	P	**P**	14 58 37.4	+1.6
CM15	**Chiang Mai Arr**	**89.22**	290	P	**P**	14 58 37.4	+1.6
	8.1nm,0.9s						
CM15	**Chiang Mai Arr**	**89.22**	290	P	**P**	14 58 37.0	+1.2
	0.0nm8.1nm,0.9s						
CM13	**Chiang Mai Arr**	**89.22**	290	P	**P**	14 58 37.6	+1.8
	8.6nm,1.0s						
CM13	**Chiang Mai Arr**	**89.22**	290	P	**P**	14 58 37.7	+1.9
	0.0nm8.6nm,1.0s						
CMMT	**Chiang Mai**	**89.31**	290	P	**P**	14 58 36.1	-0.2
	0.0nm9.5nm,0.9s						
CMMT	**Chiang Mai**	**89.31**	290	P	**P**	14 58 36.0	-0.2
	0.0nm9.5nm,0.9s						
CM33	**Chiang Mai Arr**	**89.32**	290	P	**P**	14 58 37.0	+0.7
CHTO	**Chiang Mai**	**89.32**	290	P	**P**	14 58 37.1	+0.8
	0.0nm9.6nm,0.9s						
SNAA	**Sanae**	**90.47**	179	P	**P**	14 58 40.1	-0.6
INK	**Inuvik**	**91.92**	15	P	**P**	14 58 46.4	-0.7
	7.5nm,0.9s,baz=202,slow=5.9,SNR=9.9						
SONM	**Songino Array**	**93.83**	319	P	**P**	14 58 55.2	-1.3
	0.8nm,0.6s,baz=105,slow=3.9,SNR=5.5						
YKA	**Yellowknife Ar**	**94.31**	25	P	**P**	14 58 57.5	-0.6
	1.6nm,0.7s,baz=233,slow=4.2,SNR=9.7						
ZALV	**Zalesovo Beam**	**108.51**	322	PKiKP	**PKiKP**	15 04 01.7	-1.7
	1.0nm,0.4s,baz=172,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**109.43**	314	PKiKP	**PKiKP**	15 04 03.9	-1.5
	1.3nm,0.5s,baz=141,slow=0.5,SNR=23						
ARCES	**ARCESS Array B**	**126.48**	350	PKP	**PKPdf**	15 04 37.0	-0.3
	3.7nm,0.7s,baz=6.8,slow=1.5,SNR=17						
GEYT	**Alibeck**	**127.35**	304	PKP	**PKPdf**	15 04 39.3	-0.7
	2.3nm,0.6s,baz=214,slow=10,SNR=3.7						
KLMR	**Klimovskoe**	**129.58**	337	*e*PKPdf	**PKPdf**	15 04 41.0	-2.5
KLMR				AMP		15 04 44.2	
	comp=Z,14nm,1.3s						
KLMR				*e*PP	**PP**	15 07 09.1	+5.9
FINES	**FINESS Array B**	**133.38**	344	PKhKP	PKPpre	15 04 43.5	
	comp=Z,1.1nm,0.7s,baz=90,slow=1.9,SNR=4.9						
FINES				PKP	**PKPdf**	15 04 50.1	-0.5
	comp=Z,1.8nm,0.7s,baz=337,slow=2.5,SNR=7.6						
NOA	**NORSAR Array B**	**136.53**	353	PKhKP	PKPpre	15 04 47.9	
	comp=Z,1.5nm,0.8s,baz=21,slow=3.8,SNR=7.5						
NOA				PKP	**PKPdf**	15 04 56.7	+0.1
	comp=Z,0.7nm,0.6s,baz=20,slow=3.8,SNR=5.2						
AKASG	**Malin Array Be**	**140.80**	332	PKhKP	PKPpre	15 04 57.8	
	comp=Z,1.1nm,0.5s,baz=42,slow=4.7,SNR=8.2						
AKASG				PKP	**PKPdf**	15 05 02.9	-1.8
	comp=Z,1.7nm,0.4s,baz=36,slow=3.1,SNR=5.2						
SORM	**Soroca**	**143.04**	330	⇑P	PKPab	15 05 05.9	-0.6
BSEG	**Bad Segeberg**	**143.57**	352	*e*PKPbc	PKPab	15 05 08.1	-0.3
	baz=14,slow=2.7						
OJC	**Ojcow**	**144.82**	340	*e*PKP	PKPbc	15 05 12.3	-0.1
TLCR		**144.83**	326	⇑P	PKPbc	15 05 12.6	0.0
BURAR	**Bucovina Array**	**144.85**	332	⇓P	**PKPab**	**15 05 13.8**	**+0.1**
BIZ	**Bicaz**	**144.96**	331	⇓P	**PKPab**	**15 05 13.5**	**-0.5**
FLTG	**Flechtingen**	**144.99**	350	*e*pPKPbc	PKPbc	15 05 12.3	-0.5
NRDL	**Niedersach Rie**	**145.01**	351	*e*PKPbc	PKPbc	15 05 12.6	-0.2
	baz=14,slow=2.7						
TESR	**Tescani**	**145.01**	330	⇑P	**PKPbc**	**15 05 12.7**	**-0.4**
STHS	**Stebnicka Huta**	**145.01**	338	*e*PKP	**PKPdf**	**15 05 11.7**	**-0.4**
KOLS	**Kolonicke sedl**	**145.03**	336	*e*PKP	**PKPbc**	**15 05 13.4**	**+0.3**
BRTR	**Keskin Array B**	**145.07**	315	PKPbc	**PKPbc**	**15 05 13.4**	**-0.2**
	comp=Z,9.8nm,0.7s,baz=139,slow=4.7,SNR=26						
CFR	**Carcaliu**	**145.20**	327	⇑P	**PKPdf**	**15 05 12.6**	**+0.1**
TPGR	**Topolog**	**145.26**	326	⇓P	**PKPbc**	**15 05 13.9**	**0.0**
KSP	**Ksiaz**	**145.31**	344	*e*PKP	**PKPbc**	**15 05 14.2**	**+0.4**
NIE	**Niedzica**	**145.34**	339	*e*PKP	**PKPbc**	**15 05 14.6**	**+0.6**
CRVS	**Cervenica-Dubn**	**145.36**	337	*e*PKP	**PKPbc**	**15 05 14.3**	**+0.3**
VRI	**Vrincioaia**	**145.43**	329	⇑P	**PKPbc**	**15 05 14.0**	**-0.4**
IBBN	**Ibbenburen**	**145.48**	354	*e*pPKPbc	**PKPbc**	**15 05 14.4**	**+0.2**
OSTC	**Ostas**	**145.59**	344⇑	*e*PKP	**PKPdf**	**15 05 13.7**	**+0.7**
CHVC	**Chvalec**	**145.60**	344⇑	*e*PKP	**PKPbc**	**15 05 14.8**	**+0.1**
CLZ	**Clausthal**	**145.60**	351	*e*PKPbc	**PKPbc**	**15 05 14.7**	**+0.1**
	baz=14,slow=2.7						
HARR	**Harsova**	**145.63**	326	⇓P	**PKPbc**	**15 05 15.1**	**+0.3**
CLL	**Collm**	**145.64**	348	⇓*i*PKPbc	**PKPbc**	**15 05 14.5**	**-0.2**
	comp=Z,44nm,0.8s						
CLL	**Collm**	**145.64**	348	*e*PKPbc	**PKPbc**	**15 05 14.5**	**-0.2**
	baz=14,slow=2.7						
OKC	**Ostrava-Krasne**	**145.68**	341⇑	*e*PKP	**PKPbc**	**15 05 14.7**	**-0.2**
UPC	**Upice**	**145.69**	344⇑	*e*PKP	**PKPbc**	**15 05 15.0**	**+0.1**
OZUR		**145.72**	330	⇓P	**PKPbc**	**15 05 15.7**	**+0.5**
DPC	**Dobruska-Polom**	**145.75**	344⇑	*e*PKP	**PKPbc**	**15 05 15.3**	**+0.2**
BRG	**Berggiesshubel**	**145.85**	346	*i* PKP	**PKPbc**	**15 05 15.4**	**+0.1**
BRG				Amp		15 05 16.3	
	comp=Z,16nm,0.8s						
BRG	**Berggiesshubel**	**145.85**	346	*e*PKPbc	**PKPbc**	**15 05 15.3**	**0.0**
	baz=14,slow=2.7						
LANS	**Liptovska Anna**	**145.85**	339	*e*PKP	**PKPbc**	**15 05 16.1**	**+0.6**
MORC	**Moravsky Berou**	**145.91**	342	⇓P	**PKPbc**	**15 05 15.5**	**-0.2**
MORC	**Moravsky Berou**	**145.91**	342	*e*PKP	**PKPbc**	**15 05 15.4**	**-0.2**
FBE	**Freiberg**	**145.93**	347	*e*PKPbc	**PKPbc**	**15 05 15.7**	**+0.1**
	baz=14,slow=2.7						
GTTG	**Gottingen**	**145.95**	351	*e*PKPbc	**PKPbc**	**15 05 15.5**	**0.0**
	baz=14,slow=2.7						
NEUB	**Neuenburg**	**145.97**	349	*e*PKPbc	**PKPbc**	**15 05 15.6**	**0.0**
	baz=14,slow=2.7						
DOPR	**Dopca**	**146.01**	330	⇑P	**PKPbc**	**15 05 16.3**	**+0.4**
PVCC	**Panska Ves**	**146.03**	345⇑	*e*PKP	**PKPbc**	**15 05 16.0**	**+0.2**
ISR	**Istrita**	**146.05**	328	⇓P	**PKPbc**	**15 05 16.3**	**+0.2**
KASTN	**Kahler Asten**	**146.50**	353	*e*PKPbc	**PKPbc**	**15 05 16.9**	**-0.2**
	baz=14,slow=2.7						
PRU	**Pruhonice**	**146.53**	345⇑	*e*PKP	**PKPbc**	**15 05 17.0**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**15 05 20.2**	**+0.1**
MOX	**Moxa**	**146.54**	349	*e*PKPbc	**PKPbc**	**15 05 17.1**	**-0.2**
	baz=14,slow=2.7						
VOIR		**146.56**	330	⇑P	**PKPbc**	**15 05 16.9**	**-0.7**
DRGR		**146.58**	334	⇓P	**PKPbc**	**15 05 17.4**	**-0.1**
PLN	**Plauen**	**146.59**	348	*e*PKPbc	**PKPbc**	**15 05 17.3**	**-0.1**
	baz=14,slow=2.7						
PLN				*e*PKPab	**PKiKP**	**15 05 19.2**	**-0.2**
TANN	**Tannenbergstha**	**146.60**	348	*e*PKPbc	**PKPbc**	**15 05 17.5**	**0.0**
	baz=14,slow=2.7						
TANN				*e*PKPab	**PKPab**	**15 05 19.9**	**-0.5**
WERD	**Werda**	**146.60**	348	*e*PKPbc	**PKPbc**	**15 05 17.7**	**+0.2**
	baz=14,slow=2.7						
VRAC	**Vranov**	**146.61**	342	*e*PKP	**PKPbc**	**15 05 17.5**	**0.0**
VYHS	**Vyhne**	**146.63**	339	*e*PKP	**PKPbc**	**15 05 18.0**	**+0.4**
GUNZ	**Gunzen**	**146.67**	348	*e*PKPbc	**PKPbc**	**15 05 17.7**	**+0.1**
	baz=14,slow=2.7						
JAVC	**Velka Javorina**	**146.69**	341	*e*PKP	**PKiKP**	**15 05 18.9**	**-0.8**
WERN	**Wernitzgruen**	**146.74**	348	*e*PKPbc	**PKPbc**	**15 05 18.1**	**+0.2**
	baz=14,slow=2.7						
WERN				*e*PKPab	**PKPab**	**15 05 20.6**	**-0.3**
PSZ	**Piszkesteto**	**146.76**	338	⇓P	**PKPbc**	**15 05 17.9**	**-0.2**
NKC	**Novy Kostel**	**146.77**	348⇑	*e*PKP	**PKPbc**	**15 05 18.1**	**+0.2**
KRUC	**Moravsky**	**146.89**	342	*e*PKP	**PKPbc**	**15 05 18.2**	**0.0**
SMOL	**Smolenice**	**147.07**	341	*e*PKP	**PKPbc**	**15 05 19.4**	**+0.7**
MANZ	**Manzenberg**	**147.08**	348	*e*PKPbc	**PKPbc**	**15 05 18.8**	**+0.1**
	baz=14,slow=2.7						
MODS	**Modra-Piesok**	**147.24**	341	*e*PKP	**PKPbc**	**15 05 18.9**	**-0.3**
ROTZ	**Rotzenmuhle**	**147.27**	348	*e*PKPbc	**PKPbc**	**15 05 19.3**	**+0.1**
	baz=14,slow=2.7						
SIRR	**Siria**	**147.43**	334	⇓P	**PKPbc**	**15 05 19.6**	**-0.2**
TNS	**Taunus Mts**	**147.45**	352	*e*PKPbc	**PKPbc**	**15 05 19.7**	**-0.1**
	baz=14,slow=2.7						
TNS				*e*PKPab	**PKPab**	**15 05 23.2**	**-0.6**
GRF	**Grafenberg Arr**	**147.53**	349	*e*PKPbc	**PKPbc**	**15 05 20.0**	**+0.1**
	baz=14,slow=2.7						
GRF				*e*PKPab	**PKPab**	**15 05 23.6**	**-0.5**
GRF				*ep*PKPbc	**pPKPdf**	**15 07 31.9**	**-2.7**
KHC	**Kasperske Hory**	**147.56**	346	*e*PKPDF	**PKPdf**	**15 05 16.0**	**-0.4**
KHC				⇑*e*PKP	**PKPbc**	**15 05 20.2**	**+0.2**
KHC				*e*PKPAB	**PKPab**	**15 05 24.7**	**+0.4**
GZR	**Gura Zlata**	**147.64**	332	⇓P	**PKPbc**	**15 05 19.9**	**-0.4**
LEF	**Lefka**	**147.66**	308	⇑P	**PKPbc**	**15 05 19.6**	**-1.0**
CKRC	**Cesky Krumlov**	**147.67**	345⇑	*e*PKP	**PKPbc**	**15 05 20.1**	**-0.2**
WET	**Wettzell**	**147.71**	346	*e*PKPab	**PKPab**	**15 05 24.8**	**-0.1**
GEC2	**GERESS Array S**	**147.80**	345	*ep*PKPbc	**PKPbc**	**15 05 20.5**	**-0.2**
GERES	**GERESS Array B**	**147.80**	345	PKPbc	**PKPbc**	**15 05 20.6**	**-0.2**
	comp=Z,11nm,0.7s,baz=29,slow=3.0,SNR=66						
BZS	**Buzias**	**147.97**	333	⇓P	**PKPbc**	**15 05 20.9**	**-0.2**
CONA	**Conrad Observa**	**148.07**	342	*i* P	**PKPbc**	**15 05 21.6**	**+0.2**
	comp=Z,13nm,0.8s,SNR=13						
HERR	**Herculane**	**148.20**	332	⇓P	**PKPbc**	**15 05 21.3**	**-0.4**
WLF	**Walferdange**	**148.25**	355	*e*PKPbc	**PKiKP**	**15 05 22.3**	**-0.6**
	baz=14,slow=2.7						
MOA	**Molln**	**148.58**	344	*i* P	**PKPbc**	**15 05 22.3**	**-0.3**
	comp=Z,9.0nm,1.1s						
MDVR	**Moldovita**	**148.59**	332	⇑P	**PKPbc**	**15 05 22.0**	**-0.7**
MORH	**Mrgy, Hungar**	**148.65**	337	⇑P	**PKPbc**	**15 05 22.5**	**-0.2**
ARSA	**Arzberg**	**148.78**	342	*i* P	**PKPbc**	**15 05 22.7**	**-0.4**
	comp=Z,4.1nm,0.7s						
FUR	**Furstenfeldbru**	**148.98**	348	*e*PKPbc	**PKPbc**	**15 05 23.5**	**0.0**
	baz=14,slow=2.7						
RJOB	**Jochberg**	**149.05**	346	*e*PKPbc	**PKPbc**	**15 05 23.9**	**+0.1**
	baz=14,slow=2.7						
FRGS	**Fruska Gora**	**149.09**	335	⇓P	**PKPbc**	**15 05 23.7**	**-0.2**
BFO	**Black Forest**	**149.32**	352	*e*PKPbc	**PKPbc**	**15 05 24.2**	**-0.2**
	baz=14,slow=2.7						
BFO				*e*PKPab	**PKPab**	**15 05 30.8**	**-0.8**
SOKA	**Soboth**	**149.44**	342	*i* P	**PKPbc**	**15 05 24.0**	**-0.7**
	comp=Z,14nm,1.1s,SNR=8.6						
PERS	**Pernice**	**149.45**	342	*i* PKPbc	**PKPbc**	**15 05 24.0**	**-0.8**
BOVS	**Bovan**	**149.49**	331	⇑P	**PKPbc**	**15 05 23.7**	**-1.1**
GROS	**Grobnik**	**149.49**	341	*i* PKPbc	**PKPbc**	**15 05 23.9**	**-1.0**
VTS	**Vitosha**	**149.51**	328	⇑P	**PKPbc**	**15 05 24.9**	**-0.3**
KBA	**Koelnbreinsper**	**149.53**	344	*i* P	**PKPbc**	**15 05 24.1**	**-1.0**
	comp=Z,10nm,0.6s,SNR=6.0						
UBR	**Ueberruh**	**149.67**	349	*e*PKPbc	**PKPbc**	**15 05 25.2**	**0.0**
	baz=14,slow=2.7						
WATA	**Walderalm**	**149.71**	347	*i* P	**PKPbc**	**15 05 24.9**	**-0.6**
	comp=Z,12nm,0.6s,SNR=5.6						
OBKA	**Obir**	**149.73**	343	*i* P	**PKPbc**	**15 05 24.4**	**-1.1**
	comp=Z,5.5nm,0.9s						
RETA	**Reutte**	**149.73**	348	*i* P	**PKPbc**	**15 05 25.2**	**-0.3**
	comp=Z,6.6nm,0.7s						
WTTA	**Wattenberg**	**149.76**	347	*i* P	**PKPbc**	**15 05 25.3**	**-0.3**
	comp=Z,24nm,0.6s,SNR=11						
MOTA	**Moosalm**	**149.80**	348	*i* P	**PKPbc**	**15 05 25.1**	**-0.6**
	comp=Z,15nm,0.8s,SNR=6.1						
MYKA	**Terra Mystica**	**149.87**	344	*i* P	**PKPbc**	**15 05 24.7**	**-1.1**
	comp=Z,11nm,0.6s,SNR=8.9						
ABTA	**Abfaltersbach**	**150.05**	345	*i* P	**PKPbc**	**15 05 25.3**	**-0.9**
	comp=Z,23nm,0.7s,SNR=11						
VNDS	**Vrh nad Dolski**	**150.06**	342	*i* PKPbc	**PKPbc**	**15 05 25.6**	**-0.6**
DAVA	**Damuels**	**150.09**	349	*i* P	**PKPbc**	**15 05 25.8**	**-0.6**
	comp=Z,22nm,1.1s,SNR=5.7						
LJU	**Ljubljana**	**150.16**	342	*i* PKPbc	**PKPbc**	**15 05 26.0**	**-0.4**
FETA	**Feichten**	**150.18**	348	*i* P	**PKPbc**	**15 05 26.3**	**-0.3**
	comp=Z,14nm,0.8s,SNR=6.4						
ESDC	**Sonseca Array**	**157.84**	12	PKPab	**PKPab**	**15 06 07.4**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=338,slow=4.7,SNR=9.8						
TORD	**Torodi Ar. Bea**	**175.15**	178	PKP

LIOB				*e*S	**Sn**	**14 56 16.1**	**+0.1**
	baz=260						
JYNG	**Yonagunijimaku**	**0.94**	**115**	P	**Pb**	**14 56 02.6**	**+0.4**
JYNG				*e*S	**Sb**	**14 56 15.1**	**+0.5**
NSTT	**Nanjuang**	**0.94**	**257**	*e*P	**Pn**	**14 56 04.1**	**+1.1**
	baz=259						
NSTT				*e*S	**Sn**	**14 56 15.7**	**-0.6**
	baz=259						
TWT	**Tachien**	**0.96**	**232**	*e*P	**Pn**	**14 56 03.5**	**0.0**
	baz=230						
TWT				*e*S	**Sn**	**14 56 16.3**	**-0.9**
	baz=230						
TDCB	**Techi**	**0.98**	**233**	*e*P	**Pb**	**14 56 02.7**	**-0.2**
	baz=230						
TDCB				*e*S	**Sb**	**14 56 15.5**	**-0.3**
	baz=230						
WHF	**Hehuan Shan**	**0.98**	**224**	*e*P	**Pg**	**14 56 03.2**	**+0.3**
	baz=227						
WHF				*e*S	**Sb**	**14 56 15.8**	**-0.2**
	baz=227						
YOJ	**Yonaguni jima**	**0.99**	**113**	P	**Pb**	**14 56 03.5**	**+0.4**
YOJ				S	**Sb**	**14 56 16.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.99**	**113**	*e*P	**Pb**	**14 56 03.0**	**0.0**
	baz=112						
YOJ				*e*S	**Sb**	**14 56 16.4**	**+0.4**
	baz=112						
ETM	**Tongmen**	**1.00**	**208**	*e*P	**Pb**	**14 56 03.0**	**-0.2**
	baz=211						
ETM				*e*S	**Sb**	**14 56 16.4**	**+0.1**
	baz=211						
TEYL	**Yanliau Villag**	**1.05**	**201**	*e*P	**Pb**	**14 56 03.6**	**-0.5**
	baz=213						
TEYL				*e*S	**Sb**	**14 56 17.6**	**-0.1**
	baz=213						
CHGB	**Renai**	**1.09**	**224**	*e*P	**Pg**	**14 56 05.4**	**+0.2**
	baz=227						
CHGB				*e*S	**Sg**	**14 56 19.7**	**+0.2**
	baz=227						
WHP	**Taichung City**	**1.12**	**240**	*e*P	**Pg**	**14 56 07.0**	**+1.3**
	baz=242						
WHP				*e*S	**Sn**	**14 56 20.8**	**-0.1**
	baz=242						
NMLH	**Miaoli**	**1.15**	**255**	*e*P	**Pg**	**14 56 07.2**	**+1.0**
	baz=257						
NMLH				*e*S	**Sg**	**14 56 22.9**	**+1.7**
	baz=257						
ESL	**Shilin**	**1.16**	**207**	*e*P	**Pn**	**14 56 05.9**	**-0.1**
	baz=209						
ESL				*e*S	**Sb**	**14 56 20.5**	**-0.4**
	baz=209						
OWD	**Renai**	**1.17**	**221**	P	**Pb**	**14 56 06.4**	**+0.1**
	baz=228						
OWD				*e*S	**Sn**	**14 56 21.9**	**-0.3**
	baz=228						
TWQ1	**Liyutan**	**1.23**	**246**	*e*P	**Pg**	**14 56 09.1**	**+1.3**
	baz=249						
TWQ1				*e*S	**Sg**	**14 56 25.4**	**+1.6**
	baz=249						
WCS	**Beigang Elemen**	**1.27**	**232**	*e*P	**Pg**	**14 56 08.5**	**-0.1**
	baz=243						
WCS				*e*S	**Sn**	**14 56 24.6**	**+0.1**
	baz=243						
DPDB	**Guoxing**	**1.28**	**231**	*e*P	**Pb**	**14 56 08.3**	**+0.3**
	baz=242						
DPDB				*e*S	**Sg**	**14 56 25.1**	**-0.2**
	baz=242						
EGFH	**Guangfu**	**1.29**	**204**	*e*P	**Pb**	**14 56 08.3**	**+0.1**
	baz=214						
EGFH				*e*S	**Sn**	**14 56 24.9**	**-0.1**
	baz=214						
SMLT	**Sun Moon Lake**	**1.40**	**227**	*e*P	**Pg**	**14 56 11.1**	**+0.2**
	baz=219						
SMLT				*e*S	**Sg**	**14 56 29.3**	**+0.2**
	baz=219						
TYC	**Yuchr**	**1.41**	**228**	*e*P	**Pg**	**14 56 11.0**	**-0.2**
	baz=231						
TYC				*e*S	**Sg**	**14 56 29.1**	**-0.5**
	baz=231						
SSLB	**Suanglung**	**1.43**	**222**	P	**Pb**	**14 56 11.1**	**+0.5**
	baz=226						
SSLB				*e*S	**Sb**	**14 56 29.0**	**+0.2**
	baz=226						
HGSD	**Ruisui**	**1.45**	**202**	*e*P	**Pb**	**14 56 10.9**	**-0.1**
	baz=220						
HGSD				*e*S	**Sg**	**14 56 31.1**	**+0.2**
	baz=220						
WJS	**Zhushan**	**1.55**	**229**	*e*S	**Sg**	**14 56 35.8**	**+1.7**
	baz=222						
YULB	**Yu-li**	**1.59**	**204**	P	**Pb**	**14 56 12.8**	**-0.5**
	baz=218						
YULB				*e*S	**Sb**	**14 56 33.4**	**+0.1**
	baz=218						
EYUL	**Yuli**	**1.62**	**203**	*e*P	**Pn**	**14 56 13.1**	**+0.7**
	baz=217						
EYUL				*e*S	**Sb**	**14 56 34.5**	**+0.2**
	baz=217						
TWF1	**Yuli**	**1.63**	**204**	*e*P	**Pb**	**14 56 13.4**	**-0.6**
	baz=217						
TWF1				*e*S	**Sb**	**14 56 34.6**	**+0.2**
	baz=217						
IRIF	**Iriomote-Funau**	**1.65**	**108**	*e*S	**Sn**	**14 56 33.2**	**-0.6**
ALS	**Alishan**	**1.73**	**220**	*e*P	**Pg**	**14 56 16.8**	**-0.5**
	baz=210						
ALS				*e*S	**Sg**	**14 56 40.3**	**+0.5**
	baz=210						
CHN5	**Tsauling**	**1.74**	**224**	*e*P	**Pg**	**14 56 17.3**	**-0.2**
	baz=229						
CHN5				*e*S	**Sg**	**14 56 41.2**	**+1.1**
	baz=229						
FULB	**Fuli**	**1.77**	**202**	*e*P	**Pn**	**14 56 15.4**	**+1.0**
	baz=222						
FULB				*e*S	**Sb**	**14 56 38.9**	**+0.3**
	baz=222						
ELDTW	**Lidau**	**1.89**	**209**	*e*P	**Pb**	**14 56 17.7**	**-0.7**
	baz=214						
ELDTW				*e*S	**Sb**	**14 56 41.3**	**-0.6**
	baz=214						
JKRS	**Kuro-shima**	**1.92**	**108**	P	**Pn**	**14 56 16.8**	**+0.3**
JKRS				*e*S	**Sn**	**14 56 39.9**	**-0.6**
CHN4	**Tsaushan**	**1.98**	**221**	*e*P	**Pb**	**14 56 20.7**	**+0.8**
	baz=226						
CHN4				*e*S	**Sg**	**14 56 47.7**	**+0.1**
	baz=226						
TPUB	**Ta-pu**	**1.99**	**220**	*e*P	**Pb**	**14 56 20.6**	**+0.4**
	baz=209						
TPUB				*e*S	**Sg**	**14 56 47.0**	**-1.1**
	baz=209						
JIJ	**Ishigaki jima**	**2.00**	**104**	P	**Pn**	**14 56 17.1**	**-0.5**
STYH	**Taoyuan**	**2.02**	**214**	*e*P	**Pb**	**14 56 20.7**	**+0.2**
	baz=209						
STYH				*e*S	**Sb**	**14 56 47.0**	**+1.4**
	baz=209						
STYT	**Tauyuan**	**2.03**	**215**	*e*P	**Pb**	**14 56 21.1**	**+0.2**
	baz=208						
STYT				*e*S	**Sb**	**14 56 47.7**	**+1.6**
	baz=208						
WTP	**Ta-pu**	**2.04**	**219**	*e*P	**Pb**	**14 56 22.0**	**+0.9**
	baz=211						
WTP				*e*S	**Sg**	**14 56 49.0**	**-0.8**
	baz=211						
TWK	**Hsinying**	**2.10**	**222**	*e*P	**Pb**	**14 56 22.2**	**+0.1**
	baz=227						
TWK				*e*S	**Sg**	**14 56 50.2**	**-1.5**
	baz=227						
CHN1	**Nanshi**	**2.14**	**220**	*e*S	**Sg**	**14 56 52.2**	**-0.7**
	baz=212						
SLGT	**Liugui**	**2.23**	**214**	*e*P	**Pb**	**14 56 24.0**	**-0.2**
	baz=220						
SLGT				*e*S	**Sb**	**14 56 53.4**	**+1.7**
	baz=220						
MATB	**Ma-tsu**	**2.27**	**305**	*e*S	**Sb**	**14 56 51.4**	**-1.5**
	baz=301						
SSD	**Sandimen**	**2.44**	**211**	*e*P	**Pb**	**14 56 26.9**	**-1.0**
	baz=217						
SSD				*e*S	**Sb**	**14 56 58.1**	**+0.1**
	baz=217						
MASBT	**Mashibuluo**	**2.56**	**210**	*e*P	**Pb**	**14 56 29.1**	**-0.8**
	baz=218						
MASBT				*e*S	**Sb**	**14 57 02.5**	**+1.2**
	baz=218						

IDC 19 15:02:15.7±1.9,1°03N×124°63E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/33,mbtmp3.4/3,Error ellipse: s-maj=196.6km s-min=26.0km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.92**	**156**	P	P	15 07 21.0	-0.5
	0.7nm,0.5s,baz=334,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.16**	**160**	P	P	15 07 52.2	+0.3
	0.2nm,0.4s,baz=344,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**58.61**	**327**	P	P	15 12 14.6	0.0
	0.4nm,0.6s,baz=115,slow=8.7,SNR=4.2						

NEIC ***19*** *15:26:26.9±2.5, 19°.6S±0°.1×174°.16W±0°.08, h35km±1km, mb4.8/50, Error ellipse: s-maj=17.1km s-min=12.2km az=171.0*

NOU ***19*** *15:26:30.6, 19°.31S×173°.72W, h116km, mb4.8, Tonga Islands*

IDC ***19*** *15:26:30.2±0.6, 19°.53S×174°.43W, h56km±4km, mb4.2/15, mb1 4.4/15, mb1mx4.2/29, mbtmp4.5/15, MS3.5/19, Ms1 3.5/19, ms1mx3.4/28, Error ellipse: s-maj=22.7km s-min=14.4km az=129.0*

ISC 19 15:26:29.9±0.6, 19°.52S±0°.08×174°.40W±0°.08, h58km±4km, h58km:pP-P,n164,σ1$57/137, mb4.7/38, MS3.7/19, 3C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.25**	**85**	Pn	Pn	15 27 22.9	-9.2
NIUE	**Niue**	**4.25**	**85**	P	Pn	15 27 23.2	-8.9
AFI	**Afiamalu**	**6.12**	**25**	P	Pn	15 27 52.0	-5.8
	52nm,0.3s,baz=182,slow=2.1,SNR=35						
AFI				S	Sn	15 28 53.3	-13
	58nm,0.3s,baz=122,slow=21,SNR=6.1						
AFI				LR	LR	15 30 24.4	
	comp=Z,178nm,19.4s,baz=134,slow=38						
AFI	**Afiamalu**	**6.12**	**25**	Pn	Pn	15 27 51.9	-6.0
AFI	**Afiamalu**	**6.12**	**25**	P	Pn	15 27 52.0	-5.8
MSVF	**Nonsavu**	**7.38**	**283**	P	Pn	15 28 24.7	+10
	4.1nm,0.3s,baz=123,slow=12,SNR=32						
MSVF	**Nonsavu**	**7.38**	**283**	Pn	**Pn**	**15 28 13.5**	**-1.6**
MSVF	**Nonsavu**	**7.38**	**283**	P	Pn	15 28 24.2	+9.1
RAO	**Raoul Island**	**10.20**	**198**	LR	LR	15 31 40.7	
	comp=Z,70nm,20.4s,baz=4.5,slow=30						
RAR	**Rarotonga**	**13.82**	**99**	P	Pn	15 29 33.8	-9.2
	16nm,0.3s,baz=274,slow=8.9,SNR=33						
RAR				LR	LR	15 33 32.2	
	comp=Z,225nm,20.7s,baz=271,slow=30						
RAR				T	T	15 43 57.8	
	23nm,0.3s,baz=184,slow=11,SNR=5.4						
RAR	**Rarotonga**	**13.82**	**99**	Pn	Pn	15 29 33.3	-10
RAR	**Rarotonga**	**13.82**	**99**	P	Pn	15 29 35.4	-7.6
PINNC	**Pines Island,**	**17.22**	**257**	P	**P**	**15 30 27.6**	**+0.3**
PINNC				IAmb	IAmb	15 30 32.4	
	comp=Z,62nm,0.8s						
PINNC	**Pines Island,**	**17.22**	**257**	P	**P**	**15 30 32.3**	**+4.9**
LIFNC	**LIFOU**	**17.29**	**263**		**Pn**	**15 30 25.5**	**-1.9**
LIFNC				IAmb	IAmb	15 30 33.3	
	comp=Z,71nm,0.9s						
YATNC	**Mamie plateau,**	**17.68**	**259**	P	**P**	**15 30 37.2**	**+4.8**
OUENC	**Ouen Island, N**	**17.76**	**257**	P	**P**	**15 30 34.9**	**+1.6**
OUENC	**Ouen Island, N**	**17.76**	**257**	P	**P**	**15 30 36.9**	**+3.6**
DZM	**Mont Dzumac**	**18.09**	**259**	P	**Pn**	**15 30 40.8**	**+3.4**
	comp=Z,2.3nm,0.3s,baz=92,slow=14,SNR=29						
DZM				LR	LR	15 35 29.3	
	comp=Z,92nm,19.1s,baz=101,slow=30						
DZM	**Mont Dzumac**	**18.09**	**259**	*e*P	**Pn**	**15 30 40.5**	**+3.2**
	comp=Z,126nm,0.9s						
DZM				*e*LR	LR	15 35 08.0	
	comp=Z,633nm,25.4s						
DZM	**Mont Dzumac**	**18.09**	**259**	P	**Pn**	**15 30 40.7**	**+3.4**
DZM				IAmb	IAmb	15 30 42.8	
	comp=Z,52nm,0.8s						
DZM	**Mont Dzumac**	**18.09**	**259**	P	**Pn**	**15 30 41.1**	**+3.8**
ONTNC	**Ouen Toro**	**18.10**	**258**	P	**Pn**	**15 30 38.0**	**+0.6**
ONTNC				IAmb	IAmb	15 30 51.2	
	comp=Z,41nm,0.8s						
NOUC	**Port Laguerre**	**18.22**	**259**	P	**Pn**	**15 30 41.8**	**+3.0**
KUZ	**Kuaotunu**	**19.22**	**205**	P	**Pn**	**15 30 51.0**	**+0.3**
HAZ	**Te Kaha**	**19.41**	**199**	P	**P**	**15 30 52.0**	**+0.8**
PKGZ	**Pakihiroa**	**19.44**	**198**	P	**Pn**	**15 30 53.5**	**+0.2**
PUZ	**Puketiti**	**19.56**	**198**	P	**P**	**15 30 49.3**	**-3.7**
MBAZ	**Motutapu North**	**19.58**	**206**	P	**Pn**	**15 30 56.2**	**+1.3**
RVAZ	**Riverhead Bore**	**19.72**	**207**	P	**Pn**	**15 30 57.3**	**+0.7**
HBAZ	**Herne Bay Bore**	**19.72**	**207**	P	**Pn**	**15 30 57.1**	**+0.6**
ETAZ	**East Tamaki Re**	**19.73**	**206**	P	**Pn**	**15 30 57.1**	**+0.5**
EPAZ	**Eden Park BICE**	**19.73**	**207**	P	**Pn**	**15 30 56.7**	**0.0**
TWGZ	**Tauwhareparae**	**19.74**	**198**	P	**Pn**	**15 30 56.7**	**-0.2**
WTAZ	**Waiatarua**	**19.86**	**207**	P	**Pn**	**15 30 59.3**	**+1.1**
AWAZ	**Awhitu Peninsu**	**19.94**	**206**	P	**Pn**	**15 30 59.6**	**+0.4**
TKGZ	**Te Karaka**	**20.02**	**198**	P	Pn	15 30 59.7	-0.4
KOUNC	**Koumac, New Ca**	**20.05**	**263**	P	Pn	15 31 00.9	+0.2
URZ	**Urewera**	**20.08**	**200**	P	**P**	**15 30 57.4**	**-1.2**
	comp=Z,53nm,0.5s,baz=338,slow=1.9,SNR=37						
URZ	**Urewera**	**20.08**	**200**	P	**P**	**15 30 56.7**	**-1.8**
URZ	**Urewera**	**20.08**	**200**	P	**P**	**15 30 58.5**	**-0.1**
MCHZ	**McNeill Hill**	**21.29**	**199**	P	**P**	**15 31 09.8**	**-1.8**
TBI	**Tubuai**	**23.51**	**104**	*e*LQ	LQ	15 36 05.0	
	comp=Z,275nm,30.0s						
TBI				*e*LR	LR	15 36 58.0	
	comp=Z,264nm,26.5s						
TBI	**Tubuai**	**23.51**	**104**	*e*T	T	15 55 07.3	
	comp=Z,30nm,0.3s						
PAE	**Paea**	**23.59**	**90**	*e*T	T	15 55 12.2	
	comp=Z,11nm,0.3s						
PPT2	**Papeete2**	**23.61**	**89**	*e*LR	LR	15 37 09.9	
	comp=Z,588nm,26.0s						
PPT2	**Papeete2**	**23.61**	**89**	*e*T	T	15 55 13.8	
	comp=Z,13nm,0.3s						
PPT	**Papeete**	**23.61**	**89**	LR	LR	15 38 03.0	
	comp=Z,150nm,21.4s,baz=199,slow=29						
PPT				T	T	15 56 01.1	
	comp=Z,20nm,0.4s,baz=236,slow=19,SNR=5.1						
MEH	**Mehetia**	**24.99**	**91**	*e*T	T	15 56 56.8	
	comp=Z,44nm,0.2s						
PMOR	**Pomariorio Ree**	**25.69**	**84**	*e*T	T	15 57 49.3	
	comp=Z,3.9nm,0.3s						
HNR	**Honiara**	**26.75**	**288**	LR	LR	15 41 03.7	
	comp=Z,81nm,21.6s,baz=149,slow=33						
EIDS	**Eidsvold**	**32.37**	**253**	P	**P**	**15 32 54.1**	**0.0**
ARMA	**Armidale**	**32.54**	**244**	P	**P**	**15 32 55.6**	**0.0**
ARMA				IAmb	IAmb	15 32 58.3	
	comp=Z,11nm,1.1s						
TAOE	**Nuku Hiva Isla**	**34.79**	**77**	*e*LR	LR	15 42 15.8	
	comp=Z,316nm,26.0s						
TAOE	**Nuku Hiva Isla**	**34.79**	**77**	*e*T	T	16 09 12.3	
	comp=Z,60nm,0.3s						
CAN	**Canberra**	**35.87**	**236**	P	**P**	**15 33 23.5**	**-0.9**
CAN				IAmb	IAmb	15 33 30.1	
	comp=Z,12nm,1.0s						
CTAO	**Charters Tower**	**36.97**	**262**	P	**P**	**15 33 34.0**	**+0.1**
TOO	**Toolangi**	**39.21**	**234**	P	**P**	**15 33 52.0**	**-0.6**
STKA	**Stephens Creek**	**41.26**	**244**	P	**P**	**15 34 08.9**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=92,slow=11,SNR=8.6						
STKA				LR	LR	15 48 14.8	
	comp=Z,205nm,20.9s,baz=171,slow=32						
STKA	**Stephens Creek**	**41.26**	**244**	P	**P**	**15 34 08.8**	**-0.8**
BBOO	**Buckleboo**	**46.01**	**243**	P	**P**	**15 34 45.5**	**-2.3**
BBOO				IAmb	IAmb	15 35 03.8	
	comp=Z,9.6nm,1.0s						
WR0	**Warramunga Arr**	**47.91**	**260**	P	**P**	**15 35 01.4**	**-1.3**
WR0				IAmb	IAmb	15 35 05.0	
	comp=Z,6.1nm,0.7s						
AS31	**Alice Springs**	**48.04**	**255**	P	**P**	**15 35 03.5**	**-0.2**
ASAR	**Alice Springs**	**48.04**	**255**	P	**P**	**15 35 03.0**	**-0.8**
	comp=Z,13nm,0.6s,baz=100,slow=8.5,SNR=413						
ASAR	**Alice Springs**	**48.04**	**255**	P	**P**	**15 35 03.3**	**-0.5**
WB0	**Warramunga Arr**	**48.07**	**261**	P	**P**	**15 35 02.6**	**-1.5**
WB2	**Warramunga Arr**	**48.09**	**260**	P	**P**	**15 35 03.0**	**-1.1**
WRA	**Warramunga Arr**	**48.10**	**260**	P	**P**	**15 35 03.0**	**-1.2**
	comp=Z,7.9nm,0.6s,baz=97,slow=8.7,SNR=100						
WRA				LR	LR	15 54 18.5	
	comp=Z,217nm,21.9s,baz=185,slow=35						
WRA	**Warramunga Arr**	**48.10**	**260**	P	**P**	**15 35 02.8**	**-1.4**
MTN	**Manton Dam**	**52.56**	**269**	P	**P**	**15 35 37.0**	**-1.0**
FORT	**Forrest**	**52.79**	**246**	P	**P**	**15 35 37.9**	**-1.5**
KNRA	**Kununurra**	**54.11**	**264**	P	**P**	**15 35 48.1**	**-1.2**
VNDA	**Vanda**	**59.20**	**186**	P	**P**	**15 36 26.8**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=12,slow=6.8,SNR=9.6						
VNDA	**Vanda**	**59.20**	**186**	P	**P**	**15 36 25.6**	**+1.1**
PSA00	**Pilbara Seismi**	**61.19**	**256**		**P**	**15 36 37.8**	**-1.3**
PSA00				IAmb	IAmb	15 36 39.3	
	comp=Z,8.6nm,0.9s						
PSA00	**Pilbara Seismi**	**61.19**	**256**	P	**P**	**15 36 37.8**	**-1.3**
PSA00				IAmb	IAmb	15 36 39.3	
	comp=Z,19nm,0.8s						
CASY	**Casey**	**66.29**	**205**	P	**P**	**15 37 10.7**	**-1.1**
CASY				IAmb	IAmb	15 37 17.5	
	comp=Z,5.5nm,0.8s						
QSPA	**South Pole Qui**	**70.55**	**180**	P	**P**	**15 37 39.7**	**+1.1**
QSPA				IAmb	IAmb	15 37 56.3	
	comp=Z,14nm,1.1s						
NIKH	**Nikolski High**	**72.35**	**4**	pP		15 37 52.5	
	baz=185						
H06S1	**SOCORRO T**	**72.92**	**62**	T	T	16 56 26.9	
	SNR=7.5						
H06E1	**SOCORRO T-PHAS**	**72.97**	**62**	T	T	16 57 18.5	
	SNR=4.8						
ASAJ	**Asahikawa**	**74.55**	**329**	P	**P**	**15 38 03.2**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=198,slow=5.4,SNR=7.4						
MONP2	**Monument Peak**	**76.04**	**47**	pP		15 38 11.2	
	baz=235						
EDW2	**Edwards Air Fo**	**76.11**	**45**	pP		15 38 11.6	
	baz=234						
ISA	**Isabella, Lake**	**76.26**	**44**	pP		15 38 12.6	
	baz=233						
PETK	**Petropavlovsk-**	**76.26**	**343**	P	**P**	**15 38 12.5**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=134,slow=8.5,SNR=8.7						
PETK				LR	LR	16 06 36.5	
	comp=Z,23nm,20.8s,baz=151,slow=32						
PETK	**Petropavlovsk-**	**76.26**	**343**	P	**P**	**15 38 11.3**	**-0.8**
O02D	**Mt. Diablo Mer**	**76.39**	**38**	pP		15 38 13.4	
	baz=229						
TPFO	**Pinon Flats**	**76.42**	**47**	pP		15 38 13.1	
	baz=235						
SWSC	**Sam W. Stewart**	**76.50**	**48**	pP		15 38 13.8	
	baz=236						
LRMC	**Laurel Mtn Rad**	**76.67**	**45**	pP		15 38 14.9	
	baz=234						
N02D	**Trinity Center**	**76.95**	**38**	pP		15 38 16.5	
	baz=229						
BELC	**Belle Mtn. Jos**	**76.95**	**47**	pP		15 38 16.6	
	baz=235						
CWC	**Cottonwood Cre**	**76.97**	**44**	pP		15 38 16.9	
	baz=233						
O03E	**Paynes Creek**	**77.04**	**39**	pP		15 38 16.8	
	baz=230						
BC3	**Big Chuckawall**	**77.14**	**47**	pP		15 38 17.9	
	baz=236						
MPMC	**Manual Prospec**	**77.14**	**44**	pP		15 38 17.7	
	baz=234						
M02C	**Callahan**	**77.14**	**37**	pP		15 38 17.7	
	baz=229						
L02E	**Cave Junction**	**77.22**	**36**	pP		15 38 18.2	
	baz=228						
GLA	**Glamis**	**77.24**	**48**	pP		15 38 18.2	
	baz=236						
YBH	**Yreka Blue Hor**	**77.44**	**37**	P	**P**	**15 38 17.9**	**-1.2**
GMRC	**Granite Mounta**	**77.63**	**46**	pP		15 38 20.1	
	baz=235						
IRM	**Iron Mountain**	**77.63**	**47**	pP		15 38 19.7	
	baz=236						
J01E	**Myrtle Point**	**77.71**	**35**	pP		15 38 20.3	
	baz=228						
GRAC	**Grapevine Rang**	**77.76**	**43**	pP		15 38 21.1	
	baz=234						
M04C	**Macdoel**	**77.97**	**37**	pP		15 38 22.1	
	baz=230						
L04D	**Klamath Falls**	**77.99**	**37**	pP		15 38 22.0	
	baz=229						
NVAR	**Mina Array Bea**	**78.02**	**42**	P	**P**	**15 38 22.7**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=225,slow=8.6,SNR=24						
NVAR				LR	LR	16 05 51.9	
	comp=Z,46nm,20.9s,baz=271,slow=30						
NVAR	**Mina Array Bea**	**78.02**	**42**	P	**P**	**15 38 22.5**	**-0.1**
214A	**Organ Pipe Nat**	**78.08**	**50**	pP		15 38 22.4	
	baz=238						
I03D	**Drain, OR**	**78.38**	**35**	pP		15 38 24.8	
	baz=228						
PDMCI	**Parker Dam,Lak**	**78.40**	**47**	pP		15 38 24.6	
	baz=236						
KSRS	**Korea Array**	**78.45**	**317**	P	**P**	**15 38 26.6**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=144,slow=7.3,SNR=4.6						
KSRS				LR	LR	16 09 43.1	
	comp=Z,16nm,19.3s,baz=235,slow=33						
TPNV	**Topopah Spring**	**78.47**	**44**	P	**P**	**15 38 23.3**	**-1.7**
TPNV	**Topopah Spring**	**78.47**	**44**	pP		15 38 25.2	
	baz=234						
I04A	**Tendick Farm,**	**78.95**	**36**	pP		15 38 27.6	
	baz=229						
K05A	**Summer Lake**	**79.11**	**37**	P	**P**	**15 38 27.4**	**-1.0**
K05A				IAmb	IAmb	15 38 30.0	
	comp=Z,7.9nm,1.0s						
R11A	**Troy Canyon, C**	**79.70**	**43**	pP		15 38 31.9	
	baz=235						
TUC	**Tucson**	**79.73**	**50**	pP		15 38 32.3	
	baz=239						
PINE	**Pine Mountain**	**79.77**	**36**	P	**P**	**15 38 30.1**	**-1.8**
PINE				IAmb	IAmb	15 38 33.6	
	comp=Z,11nm,1.1s						
E04D	**Cinebar**	**80.69**	**33**	pP		15 38 37.2	
	baz=228						
CCUT	**Cedar City**	**80.71**	**45**	P	**P**	**15 38 36.9**	**-0.3**
KNB	**Kanab**	**80.78**	**45**	P	**P**	**15 38 37.6**	**0.0**
WUAZ	**Wupatki**	**80.97**	**47**	pP		15 38 39.5	
	baz=238						
D03D	**Eldon**	**81.07**	**32**	pP		15 38 38.9	
	baz=228						
BRSE	**Bradley Lake S**	**81.31**	**12**	pP		15 38 40.3	
	baz=202						
N18K	**Kilae Creek**	**81.31**	**9**	pP		15 38 39.4	
	baz=197						
N19K	**Bonanza Creek**	**81.65**	**10**	pP		15 38 42.3	
	baz=199						
NJ2	**Nanjing**	**81.91**	**308**	*e*P	**P**	**15 38 41.1**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
W18A	**Petrified Fore**	**81.91**	**48**	pP		15 38 43.1	
	baz=239						
121A	**Cookes Peak, D**	**82.04**	**52**	pP		15 38 44.7	
	baz=241						
A04D	**Lummi Island**	**82.05**	**32**	pP		15 38 44.0	
	baz=228						
B05A	**Bryant**	**82.05**	**32**	pP		15 38 43.9	
	baz=229						
CRAG	**Craig**	**82.49**	**22**	pP		15 38 46.5	
	baz=219						
TMUT	**Trail Mountain**	**83.07**	**44**	P	**P**	**15 38 48.2**	**-1.5**
TMUT				IAmb	IAmb	15 38 52.6	
	comp=Z,8.7nm,0.8s						
GLI	**Glacier Island**	**83.09**	**13**	pP		15 38 48.7	
	baz=206						
SKT	**Skwentna**	**83.24**	**11**	pP		15 38 49.2	
	baz=201						
KNK	**Knik Glacier**	**83.29**	**12**	pP		15 38 49.0	
	baz=204						

KLU	**Klutina**	**83.89**	**13**	pP		15 38 53.1	
	baz=207						
SCM	**Sheep Creek Mo**	**83.91**	**13**	P	**P**	**15 38 52.5**	**-0.7**
SCM				IAmb	IAmb	15 38 53.8	
	comp=Z,7.0nm,0.7s						
HWUT	**Hardware Ranch**	**84.07**	**42**	P	**P**	**15 38 53.9**	**-0.8**
HWUT				IAmb	IAmb	15 38 55.3	
	comp=Z,5.3nm,0.7s						
PV04	**Paradox Valley**	**84.14**	**46**	P	**P**	**15 38 54.8**	**-0.3**
PV04				IAmb	IAmb	15 38 56.5	
	comp=Z,7.9nm,0.8s						
PV02	**Paradox Valley**	**84.17**	**46**	P	**P**	**15 38 54.3**	**-1.0**
PV02				IAmb	IAmb	15 38 56.6	
	comp=Z,7.8nm,0.9s						
ANMO	**Albuquerque**	**84.17**	**50**	pP		15 38 55.4	
	baz=241						
N25K	**Chitina, Valde**	**84.29**	**14**	pP		15 38 55.3	
	baz=208						
WAT6	**Susitna Watana**	**84.50**	**12**	pP		15 38 56.3	
	baz=205						
CTG	**Chitna Glacier**	**84.51**	**16**	pP		15 38 56.3	
	baz=211						
NEW	**Newport**	**84.63**	**34**	pP		15 38 56.5	
	baz=232						
TRF	**Thorofare Moun**	**84.83**	**11**	pP		15 38 57.6	
	baz=202						
CHUM	**Lake Minchumin**	**84.89**	**10**	pP		15 38 58.0	
	baz=201						
TNA	**Tin City**	**84.96**	**3**	pP		15 38 58.9	
	baz=186						
S22A	**4UR Ranch, Cre**	**85.25**	**47**	pP		15 39 01.2	
	baz=241						
BPAW	**Bear Paw Mtn.**	**85.31**	**10**	pP		15 38 59.3	
	baz=202						
MCK	**McKinley**	**85.33**	**11**	pP		15 38 59.9	
	baz=204						
O20A	**White River Ci**	**85.47**	**45**	pP		15 39 01.5	
	baz=240						
BW06	**Boulder Array**	**85.95**	**42**	pP		15 39 03.9	
	baz=238						
PDAR	**Pinedale Array**	**85.95**	**42**	P	**P**	**15 39 03.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=204,slow=3.3,SNR=9.8						
PDAR				LR	LR	16 09 18.3	
	comp=Z,21nm,20.9s,baz=262,slow=30						
PDAR	**Pinedale Array**	**85.95**	**42**	P	**P**	**15 39 03.1**	**-1.0**
WHY	**Whitehorse**	**86.03**	**18**	pP		15 39 04.4	
	baz=217						
NEA2	**Nenana**	**86.09**	**11**	pP		15 39 04.2	
	baz=204						
WRH	**Wood River Hil**	**86.16**	**11**	P	**P**	**15 39 03.7**	**-0.6**
I21K	**Tanana**	**86.16**	**9**	P		15 39 04.4	
	baz=201,SNR=8.6						
SDCO	**Great Sand Dun**	**86.17**	**48**	pP		15 39 05.3	
	baz=242						
L27K	**Beaver Creek,**	**86.20**	**14**	pP		15 39 04.7	
	baz=210						
BCAR	**Beaver Creek A**	**86.21**	**14**	P	**P**	**15 39 04.6**	**0.0**
MLY	**Manley**	**86.22**	**10**	pP		15 39 04.0	
	baz=202						
MLY	**Manley**	**86.22**	**10**	P	**P**	**15 39 04.3**	**-0.3**
HDA	**Harding Lake**	**86.31**	**12**	pP		15 39 04.7	
	baz=206						
HDA				pP		15 39 04.7	
	baz=206						
CCB	**Clear Creek Bu**	**86.37**	**11**	P	**P**	**15 39 05.2**	**-0.1**
MSTX	**Muleshoe**	**86.42**	**52**	pP		15 39 06.7	
	baz=243						
H21K	**Melozitna Rive**	**86.49**	**9**	pP		15 39 06.3	
	baz=200						
SCRK	**Sand Creek**	**86.52**	**13**	pP		15 39 05.9	
	baz=208						
SCRK	**Sand Creek**	**86.52**	**13**	P	**P**	**15 39 06.5**	**+0.3**
SCRK				IAmb	IAmb	15 39 07.1	
	comp=Z,3.4nm,0.8s						
I23K	**Minto, Yukon-K**	**86.55**	**10**	P		15 39 05.8	
	baz=203,SNR=6.2						
TCOL	**CIGO, UAF Yank**	**86.56**	**11**	pP		15 39 06.3	
	baz=205						
COLA	**College**	**86.56**	**11**	pP		15 39 06.4	
	baz=205						
MDM	**Murphy Dome**	**86.58**	**11**	P	**P**	**15 39 06.0**	**-0.3**
IL31		**86.65**	**11**	P	**P**	**15 39 05.8**	**-0.9**
IL31				IAmb	IAmb	15 39 07.1	
	comp=Z,3.8nm,0.7s						
ILAR	**Eielson Array**	**86.65**	**11**	P	**P**	**15 39 06.5**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=229,slow=6.2,SNR=41						
ILAR				pP	**pP**	**15 39 23.0**	**0.0**
	comp=Z,1.0nm,0.5s,baz=229,slow=6.0,SNR=3.4						
ILAR				LR	LR	16 09 03.5	
	comp=Z,16nm,21.4s,baz=193,slow=30						
833A	**Chaparral WMA,**	**86.65**	**59**	pP		15 39 04.8	
	baz=246						
POKR	**Poker Plat Res**	**86.86**	**11**	P		15 39 07.6	
	baz=205,SNR=5.6						
ISCO	**Idaho Springs**	**87.06**	**46**	pP		15 39 07.8	
	baz=241						
H23K	**Yukon River**	**87.15**	**10**	pP		15 39 09.1	
	baz=203						
JCT	**Junction City**	**87.21**	**56**	pP		15 39 07.2	
	baz=245						
N23A	**Red Feather La**	**87.36**	**45**	pP		15 39 11.0	
	baz=241						
H24K	**Noodor Dome**	**87.44**	**11**	pP		15 39 10.4	
	baz=205						
PLCA	**Paso Flores**	**87.46**	**132**	LR	LR	16 10 34.9	
	comp=Z,29nm,20.8s,baz=170,slow=30						
PRP	**Porcupine Dome**	**87.58**	**12**	P		15 39 11.4	
	baz=207,SNR=6.4						
DAWY	**Dawson**	**87.63**	**15**	P	**P**	**15 39 11.3**	**-0.2**
DAWY				IAmb	IAmb	15 39 13.3	
	comp=Z,5.5nm,0.9s						
EGAK	**Eagle**	**87.83**	**14**	pP		15 39 12.6	
	baz=211						
EGAK	**Eagle**	**87.83**	**14**	P	**P**	**15 39 13.1**	**+0.8**
EGAK				IAmb	IAmb	15 39 13.5	
	comp=Z,4.6nm,0.8s						
ABTX	**Abilene, Hawle**	**88.22**	**55**	pP		15 39 13.3	
	baz=245						
COLD	**Coldfoot**	**88.34**	**9**	pP		15 39 15.3	
	baz=202						
SYO	**Syowa Base**	**88.39**	**192**⇑	*eP*	**P**	**15 39 12.6**	**-2.6**
VNA3	**Neumayer Olymp**	**88.86**	**175**	P	**P**	**15 39 17.4**	**0.0**
SNAA	**Sanae**	**88.86**	**177**	P	**P**	**15 39 17.2**	**-0.3**
TOLK	**Toolik Lake Re**	**89.74**	**9**	pP		15 39 21.9	
	baz=203						
TOLK	**Toolik Lake Re**	**89.74**	**9**	P	**P**	**15 39 21.2**	**-0.2**
TOLK				IAmb	IAmb	15 39 22.9	
	comp=Z,3.0nm,0.8s						
LAO	**LASA Array**	**89.97**	**40**	pP		15 39 22.4	
	baz=241						
RSSD	**Black Hills**	**90.12**	**43**	pP		15 39 23.3	
	baz=242						
HHC	**Hu-ho-hao-te**	**91.13**	**313**	*eP*	**P**	**15 39 24.9**	**-3.7**
HHC	**Hu-ho-hao-te**	**91.13**	**313**	S	**S**	**15 50 19.1**	**-3.1**
HHC				pmax	pmax		
	comp=Z,15nm,1.3s						
HHC				pmax	pmax		
	comp=Z,72nm,7.5s						
HHC				L	L		
	comp=Z,130nm,18.4s						
HHC				L	L		
	comp=Z,110nm,17.8s						
HHC				L	L		
	comp=Z,78nm,17.5s						
DGMT	**Dagmar**	**92.02**	**39**	pP		15 39 32.2	
	baz=242						
TUL1	**Leonard**	**92.45**	**53**	pP		15 39 34.4	
	baz=247						
INK	**Inuvik**	**92.47**	**14**	pP		15 39 34.1	
	baz=218						
JTS	**Las Juntas de**	**92.86**	**80**	LR	LR	16 10 58.6	
	comp=Z,44nm,19.6s,baz=275,slow=29						
CMAR	**Chiang Mai Arr**	**93.00**	**288**	P	**P**	**15 39 39.6**	**+2.0**
	comp=Z,1.4nm,0.9s,baz=129,slow=3.3,SNR=6.7						
W39A	**Magazine**	**93.70**	**54**	pP		15 39 40.4	
	baz=249						
YKA	**Yellowknife Ar**	**94.23**	**24**	P	**P**	**15 39 42.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=236,slow=4.2,SNR=4.7						
YKA				LR	LR	16 15 43.9	
	comp=Z,21nm,20.6s,baz=0.0,slow=31						
ECSD	**EROS Data Cent**	**94.83**	**45**	pP		15 39 45.1	
	baz=247						
LZH	**Lanzhou**	**94.89**	**306**	⇓P	**P**	**15 39 42.9**	**-3.2**
LZH				pP	sP	15 40 10.5	+1.7
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
ULM	**Lac du Bonnet**	**97.71**	**39**	LR	LR	16 17 16.0	
	comp=Z,54nm,21.5s,baz=238,slow=31						
LPAZ	**La Paz**	**99.27**	**111**	LR	LR	16 14 19.0	
	comp=Z,24nm,21.1s,baz=296,slow=29						
MKAR	**Makanchi Array**	**112.99**	**313**	PKiKP	**PKiKP**	**15 45 01.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=162,slow=0.5,SNR=4.4						
I63A	**Otisfield**	**113.11**	**50**	pP		15 45 04.1	
	baz=265						
I64A	**Boothbay**	**113.78**	**50**	pP		15 45 04.7	
	baz=265						
D62A	**Allapoint, All**	**114.40**	**46**	pP		15 45 03.4	
	baz=267						
E64A	**Bridgewater**	**115.21**	**47**	pP		15 45 05.4	
	baz=268						
G65A	**Princeton**	**115.34**	**48**	pP		15 45 05.5	
	baz=267						
ARCES	**ARCESS Array B**	**128.53**	**351**	PKP	**PKPdf**	**15 45 29.7**	**0.0**
	comp=Z,1.5nm,0.6s,baz=38,slow=2.0,SNR=15						
FINES	**FINESS Array B**	**135.72**	**346**	PKP	**PKiKP**	**15 45 45.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=38,slow=3.4,SNR=5.9						
AKASG	**Malin Array Be**	**143.70**	**335**	PKhKP	PKPpre	15 45 55.4	
	comp=Z,0.5nm,0.4s,baz=40,slow=4.2,SNR=4.4						
CLL	**Collm**	**147.75**	**351**	*i* PKPbc	**PKPbc**	**15 46 08.3**	**+0.3**
	comp=Z,11nm,0.9s						
CLL				*i* sPKPbc	**pPKPbc**	**15 46 24.8**	**-0.1**
BRG	**Berggiesshubel**	**148.02**	**350**	*e*PKP	**PKPbc**	**15 46 09.5**	**+0.8**
BRG				Amp		15 46 10.4	
	comp=Z,4.8nm,0.6s						
BRG				*ex*	x	15 46 25.8	
BRG				Amp		15 46 27.0	
	comp=Z,8.5nm,1.0s						
DPC	**Dobruska-Polom**	**148.08**	**347**⇑	*e*PKP	**PKPbc**	**15 46 10.3**	**+1.3**
BRTR	**Keskin Array B**	**148.59**	**316**	PKPbc	**PKPbc**	**15 46 11.4**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=98,slow=4.2,SNR=5.8						
BRTR				pPKPbc	**pPKPbc**	**15 46 27.2**	**-0.5**
	comp=Z,4.3nm,0.8s,baz=145,slow=3.6,SNR=7.6						
MEM	**Membach**	**148.98**	**360**	*dx*	x	15 46 11.8	
MEM				*dp*PKP	pPKPdf	15 46 28.1	+4.0
BTNL	**Ternell**	**149.00**	**359**	*dx*	x	15 46 11.6	
ASF	**Jabal al Asfar**	**149.26**	**300**	PKPbc	**PKPbc**	**15 46 12.9**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=4.0,slow=10,SNR=3.5						
KHC	**Kasperske Hory**	**149.77**	**350**⇑	*e*PKP	**PKPbc**	**15 46 14.0**	**+0.7**
KHC				*ex*	x	15 46 30.5	
GERES	**GERESS Array B**	**150.03**	**349**	PKPbc	**PKPbc**	**15 46 14.9**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=56,slow=3.4,SNR=14						
GERES				pPKPbc	**pPKPbc**	**15 46 30.7**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=45,slow=2.1,SNR=10.0						
MMAI	**Mount Meron Ar**	**150.21**	**303**	PKPbc	**PKiKP**	**15 46 16.1**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=51,slow=6.6,SNR=5.0						
MMAI				pPKPbc	**pPKPbc**	**15 46 32.0**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=72,slow=5.5,SNR=8.2						
CONA	**Conrad Observa**	**150.46**	**346**	*i* P	**PKPbc**	**15 46 15.8**	**+0.7**
	comp=Z,3.0nm,0.7s						
CONA				*i* P	**pPKPbc**	**15 46 32.4**	**+0.3**
	comp=Z,8.0nm,1.0s						
MOA	**Molln**	**150.88**	**348**	*e*P	**PKPbc**	**15 46 15.7**	**-0.3**
	comp=Z,1.3nm,0.6s						
ARSA	**Arzberg**	**151.18**	**346**	*i* P	PKPab	15 46 34.2	+10
	comp=Z,3.5nm,1.0s						
KBA	**Koelnbreinsper**	**151.79**	**349**	*i* P	**PKPab**	**15 46 34.8**	**+7.5**
	comp=Z,6.4nm,1.1s						
SOKA	**Soboth**	**151.83**	**346**	*e*P	**PKPbc**	**15 46 18.2**	**-0.1**
	comp=Z,2.9nm,1.0s						
SOKA				*i* P	**sPKPdf**	**15 46 34.6**	**-0.5**
	comp=Z,5.9nm,0.9s						
WATA	**Walderalm**	**151.83**	**351**	*i* P	**PKiKP**	**15 46 19.4**	**+0.7**
	comp=Z,2.6nm,0.6s						
WATA				*e*P	**sPKPdf**	**15 46 34.7**	**-0.4**
	comp=Z,4.9nm,1.0s						
MOTA	**Moosalm**	**151.88**	**352**	*i* P	**PKiKP**	**15 46 19.4**	**+0.6**
	comp=Z,4.2nm,0.9s						
MOTA				*i* P	**sPKPdf**	**15 46 35.0**	**-0.2**
	comp=Z,8.3nm,1.1s						
WTTA	**Wattenberg**	**151.89**	**351**	*i* P	**PKPbc**	**15 46 19.1**	**+0.6**
	comp=Z,4.6nm,0.5s						
WTTA				*i* P	**sPKPdf**	**15 46 35.1**	**-0.1**
	comp=Z,4.0nm,0.5s						
DAVA	**Damuels**	**152.09**	**354**	*i* P	**PKiKP**	**15 46 20.2**	**+1.0**
	comp=Z,5.9nm,1.1s						
DAVA				*e*P	**sPKPdf**	**15 46 34.7**	**-0.8**
	comp=Z,8.4nm,0.9s						
FETA	**Feichten**	**152.25**	**352**	*i* P	**PKPbc**	**15 46 19.6**	**+0.3**
	comp=Z,5.8nm,1.4s						
FETA				*i* P	**pPKPbc**	**15 46 36.3**	**0.0**
	comp=Z,4.9nm,0.9s						
ABTA	**Abfaltersbach**	**152.26**	**350**	*i* P	**PKPbc**	**15 46 19.2**	**-0.1**
	comp=Z,2.7nm,0.5s						
ABTA				*i* P	**sPKPdf**	**15 46 35.5**	**-0.2**
	comp=Z,7.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**152.59**	**354**	PKPbc	**PKPbc**	**15 46 19.9**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=205,slow=15,SNR=3.8						
ESDC	**Sonseca Array**	**158.29**	**20**	PKPab	**PKPab**	**15 46 56.3**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=330,slow=4.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**172.64**	**149**	PKPab	**PKPab**	**15 47 57.6**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=254,slow=2.7,SNR=2.3						

IDC 19 15:30:33.9±485.0, 59.08N×54.19E, h0km, Error ellipse: s-maj=167.5km s-min=45.9km az=138.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.97**	**164**	*i*			16 25 50.0	
	baz=345,slow=316,SNR=1.7							
I43RU	**DUBNA INFRASON**	**9.34**	**263**	*i*			16 31 10.0	
	baz=69,slow=320,SNR=0.8							
I37NO	**I37NO**	**18.19**	**318**	*i*			17 23 10.0	
	baz=106,slow=327,SNR=1.3							

IDC 19 15:33:15.7±7.8, 30.04S×177.35W, h39km±55km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.7/3, Error ellipse: s-maj=70.1km s-min=47.7km az=124.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**328**	Pn	Pn		15 33 32.2	-0.1
	173nm,0.3s,baz=106,slow=6.6,SNR=21							
RAO				Sn	Sn		15 33 44.8	+0.4
	968nm,0.3s,baz=2.1,slow=23,SNR=30							
STKA	**Stephens Creek**	**35.11**	**256**	P	P		15 40 05.7	+0.2
	1.2nm,0.6s,baz=105,slow=16,SNR=1.6							
ASAR	**Alice Springs**	**43.70**	**266**	P	P		15 41 16.8	-0.4
	0.3nm,0.6s,baz=106,slow=7.3,SNR=6.4							
WRA	**Warramunga Arr**	**44.65**	**271**	P	P		15 41 24.6	-0.2
	1.2nm,0.7s,baz=110,slow=8.1,SNR=14							
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc		15 52 46.5	-0.8
	0.5nm,0.6s,baz=56,slow=2.5,SNR=1.1							

*TAP **19** 15:46:14.9, 23.37N×122.12E, h29km, ML2.7, D*
*JMA **19** 15:46:14.4±0.1, 23.37N×122.10E, h45km, M2.2*

ISC 19 15:46:14.0±1.1, 23.36N±0.02×122.13E±0.03, h25km±12km, n91, σ0.81/170, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.64**	**303**	P		**Pb**	**15 46 26.9**	**+0.3**
	baz=302							
TEGC				*e*S		**Sb**	**15 46 35.8**	**+0.6**
	baz=302							
HGSD	**Ruisui**	**0.66**	**282**	*i* P		**Pb**	**15 46 26.8**	**-0.1**
	baz=281							
HGSD				*e*S		**Sb**	**15 46 35.3**	**-0.4**
	baz=281							
TEYL	**Yanliau Villag**	**0.70**	**316**	*e*P		**Pb**	**15 46 28.1**	**+0.4**
	baz=318							
TEYL				*e*S		**Sb**	**15 46 37.7**	**+0.8**
	baz=318							
EGFH	**Guangfu**	**0.71**	**296**	*e*P		**Pb**	**15 46 27.8**	**-0.1**
	baz=305							
EGFH				*e*S		**Sb**	**15 46 37.5**	**+0.2**
	baz=305							
EYUL	**Yuli**	**0.74**	**269**	P		**Pb**	**15 46 28.4**	**+0.1**
	baz=257							
EYUL				*e*S		**Sb**	**15 46 38.8**	**+0.7**
	baz=257							
CHKT	**Chengkung**	**0.75**	**250**	P		**Pb**	**15 46 28.1**	**-0.3**
	baz=249							
CHKT				S		**Sb**	**15 46 37.5**	**-0.7**
	baz=249							
EHY	**Hungye**	**0.75**	**281**	*e*P		**Pb**	**15 46 28.6**	**+0.1**
	baz=281							
EHY				*e*S		**Sb**	**15 46 38.9**	**+0.5**
	baz=281							
TWF1	**Yuli**	**0.76**	**270**	*i* P		**Pb**	**15 46 28.7**	**0.0**
	baz=258							
TWF1				*e*S		**Sb**	**15 46 39.4**	**+0.7**
	baz=258							
YULB	**Yu-li**	**0.76**	**273**	P		**Pb**	**15 46 28.7**	**0.0**
	baz=272							
YULB				*e*S		**Sb**	**15 46 39.4**	**+0.7**
	baz=272							
HWA	**Hwalien**	**0.78**	**322**	*e*S		**Sb**	**15 46 39.4**	**+0.3**
	baz=322							
ESL	**Shilin**	**0.78**	**306**	*e*P		**Pb**	**15 46 28.5**	**-0.5**
	baz=305							
ESL				*e*S		**Sb**	**15 46 37.6**	**-1.6**
	baz=305							
FULB	**Fuli**	**0.78**	**258**	P		**Pb**	**15 46 28.6**	**-0.4**
	baz=257							
FULB				*e*S		**Sb**	**15 46 38.5**	**-0.7**
	baz=257							
ETM	**Tongmen**	**0.84**	**316**	*e*P		**Pn**	**15 46 29.9**	**-0.4**
	baz=316							
ETM				*e*S		**Sb**	**15 46 40.0**	**-0.8**
	baz=316							
EDH	**Donghe**	**0.85**	**243**	*e*P		**Pn**	**15 46 29.6**	**-0.8**
	baz=242							
EDH				*e*S		**Sb**	**15 46 40.0**	**-1.1**
	baz=242							
TWD	**Chiawan**	**0.87**	**326**	*e*P		**Pn**	**15 46 29.8**	**-0.9**
	baz=326							
TWD				*e*S		**Sb**	**15 46 40.8**	**-0.8**
	baz=326							
ECS	**Chishang**	**0.88**	**253**	*e*P		**Pn**	**15 46 30.9**	**+0.1**
	baz=252							
ECS				*e*S		**Sb**	**15 46 42.9**	**+1.0**
	baz=252							
LDUT	**Ludao**	**0.91**	**222**	*e*P		**Pn**	**15 46 30.6**	**-0.6**
	baz=221							
LDUT				*e*S		**Sb**	**15 46 41.4**	**-1.5**
	baz=221							
ETL	**Fush Village**	**0.92**	**330**	*e*P		**Pn**	**15 46 30.5**	**-1.0**
	baz=322							
ETL				*e*S		**Sb**	**15 46 42.3**	**-0.9**
	baz=322							
NACB	**Ninganchiao**	**0.95**	**329**	P		**Pn**	**15 46 31.1**	**-0.7**
	baz=322							
NACB				S		**Sn**	**15 46 42.7**	**-1.9**
	baz=322							
LONT	**Longtian**	**1.02**	**244**	*e*P		**Pn**	**15 46 32.5**	**-0.3**
	baz=244							
LONT				*e*S		**Sn**	**15 46 46.0**	**-0.4**
	baz=244							
ETLH	**Xiulin Townshi**	**1.03**	**325**	*e*P		**Pn**	**15 46 32.3**	**-0.7**
	baz=325							
ETLH				*e*S		**Sn**	**15 46 45.4**	**-1.3**
	baz=325							
ELDTW	**Lidau**	**1.03**	**261**	*e*P		**Pn**	**15 46 32.4**	**-0.6**
	baz=260							
ELDTW				*e*S		**Sn**	**15 46 44.9**	**-1.9**
	baz=260							
OWD	**Renai**	**1.05**	**304**	*e*P		**Pn**	**15 46 33.1**	**-0.3**
	baz=304							
OWD				*e*S		**Sn**	**15 46 46.0**	**-1.3**
	baz=304							
YUS	**Yu-Shan**	**1.09**	**277**	P		**Pn**	**15 46 34.2**	**+0.1**
	baz=277							
YUS				*e*S		**Sn**	**15 46 47.9**	**-0.7**
	baz=277							
TWGBT	**Beinan**	**1.10**	**241**	*e*P		**Pn**	**15 46 33.6**	**-0.3**
	baz=241							
TWGBT				*e*S		**Sn**	**15 46 47.4**	**-1.0**
	baz=241							
TWG	**Pinlang**	**1.11**	**241**	*e*P		**Pn**	**15 46 33.7**	**-0.3**
	baz=241							
TWG				*e*S		**Sn**	**15 46 47.5**	**-1.0**
	baz=241							
WHF	**Hehuan Shan**	**1.11**	**315**	*e*P		**Pn**	**15 46 34.1**	**-0.4**
	baz=315							
WHF				*e*S		**Sn**	**15 46 47.6**	**-1.5**
	baz=315							
CHGB	**Renai**	**1.12**	**309**	*e*P		**Pn**	**15 46 34.5**	**+0.2**
	baz=309							
CHGB				*e*S		**Sn**	**15 46 47.8**	**-1.2**
	baz=309							
EWUT	**Wuta**	**1.13**	**344**	*e*P		**Pn**	**15 46 34.2**	**-0.1**
	baz=331							
EWUT				*e*S		**Sn**	**15 46 48.5**	**-0.5**
	baz=331							
SSLB	**Suanglung**	**1.16**	**292**	*e*P		**Pn**	**15 46 34.6**	**-0.1**
	baz=304							
SSLB				*e*S		**Sn**	**15 46 49.1**	**-0.7**
	baz=304							
FUSS	**Fushou**	**1.20**	**318**	*e*P		**Pn**	**15 46 35.5**	**0.0**
	baz=317							
FUSS				*e*S		**Sn**	**15 46 50.1**	**-1.0**
	baz=317							
ALS	**Alishan**	**1.22**	**277**	*e*P		**Pn**	**15 46 36.4**	**+0.6**
	baz=277							
ALS				*e*S		**Sn**	**15 46 51.5**	**-0.2**
	baz=277							
SMLT	**Sun Moon Lake**	**1.24**	**295**	*e*P		**Pn**	**15 46 36.5**	**+0.5**
	baz=307							
SMLT				*e*S		**Sn**	**15 46 52.1**	**+0.2**
	baz=307							
TWT	**Tachien**	**1.25**	**316**	*e*S		**Sn**	**15 46 51.4**	**-0.7**
	baz=315							
STYH	**Taoyuan**	**1.26**	**262**	*e*P		**Pn**	**15 46 35.9**	**-0.1**
	baz=253							
STYH				*e*S		**Sn**	**15 46 52.0**	**-0.1**
	baz=253							
TDCB	**Techi**	**1.26**	**315**	*e*P		**Pn**	**15 46 36.6**	**+0.4**
	baz=315							
TDCB				*e*S		**Sn**	**15 46 51.4**	**-1.0**
	baz=315							
NNSB	**Datong**	**1.26**	**328**	P		**Pn**	**15 46 36.2**	**-0.1**
	baz=327							
NNSB				*e*S		**Sn**	**15 46 51.0**	**-1.5**
	baz=327							
NNSH	**Datong**	**1.26**	**328**	P		**Pn**	**15 46 36.4**	**+0.2**
	baz=327							
NNSH				*e*S		**Sn**	**15 46 51.3**	**-1.2**
	baz=327							
TWC	**Suao**	**1.27**	**349**	*e*P		**Pn**	**15 46 36.8**	**+0.6**
	baz=1.0							
TWC				*e*S		**Sn**	**15 46 52.6**	**+0.1**
	baz=1.0							
STYT	**Tauyuan**	**1.27**	**262**	*e*P		**Pn**	**15 46 36.2**	**-0.2**
	baz=252							
STYT				*e*S		**Sn**	**15 46 52.6**	**0.0**
	baz=252							
NNS	**Nan Shan**	**1.28**	**328**	*e*P		**Pn**	**15 46 36.7**	**+0.2**
	baz=327							
NNS				*e*S		**Sn**	**15 46 51.9**	**-1.0**
	baz=327							
TYC	**Yuchr**	**1.28**	**295**	*e*P		**Pn**	**15 46 37.3**	**+0.9**
	baz=307							
TYC				*e*S		**Sn**	**15 46 53.2**	**+0.4**
	baz=307							
WCS	**Beigang Elemen**	**1.31**	**302**	*e*P		**Pn**	**15 46 37.5**	**+0.7**
	baz=312							
WCS				*e*S		**Sn**	**15 46 52.5**	**-1.0**
	baz=312							

TPUB				*e*S	**Sb**	**15 46 56.5**	**+0.2**	
	baz=268							
WTP	**Ta-pu**	**1.40**	**266**	*e*P	**Pn**	**15 46 39.0**	**+1.0**	
	baz=266							
WTP				*e*S	**Sb**	**15 46 57.1**	**+0.3**	
	baz=266							
CHN4	**Tsaushan**	**1.41**	**270**	*e*P	**Pb**	**15 46 39.6**	**-0.1**	
	baz=270							
CHN4				*e*S	**Sb**	**15 46 57.9**	**+0.6**	
	baz=270							
SLGT	**Liugui**	**1.41**	**255**	*e*P	**Pn**	**15 46 38.7**	**+0.5**	
	baz=255							
SLGT				*e*S	**Sb**	**15 46 58.4**	**+1.1**	
	baz=255							
WHP	**Taichung City**	**1.42**	**310**	*e*P	**Pb**	**15 46 39.9**	**0.0**	
	baz=310							
WHP				*e*S	**Sn**	**15 46 56.6**	**+0.3**	
	baz=310							
TWE	**Neicheng**	**1.42**	**343**	*e*P	**Pn**	**15 46 38.9**	**+0.6**	
	baz=343							
SGST	**Jiashian**	**1.45**	**259**	*e*P	**Pn**	**15 46 39.7**	**+1.0**	
	baz=252							
SGST				*e*S	**Sb**	**15 46 59.0**	**+0.6**	
	baz=252							
WGK	**Gukeng**	**1.47**	**283**	*e*S	**Sb**	**15 46 59.3**	**+0.3**	
	baz=283							
YHNB	**Yeheng**	**1.48**	**332**	P	**Pn**	**15 46 39.5**	**+0.4**	
	baz=332							
YHNB				*e*S	**Sn**	**15 46 55.5**	**-2.2**	
	baz=332							
WWF	**Wufeng**	**1.48**	**298**	*e*P	**Pn**	**15 46 40.2**	**+1.1**	
	baz=298							
WWF				*e*S	**Sb**	**15 46 59.9**	**+0.8**	
	baz=298							
CHN1	**Nanshi**	**1.48**	**264**	*e*P	**Pn**	**15 46 40.4**	**+1.2**	
	baz=264							
CHN1				*e*S	**Sb**	**15 47 00.3**	**+1.1**	
	baz=264							
WDLH	**Douliu**	**1.50**	**283**	*e*S	**Sb**	**15 46 59.7**	**0.0**	
	baz=283							
SSD	**Sandimen**	**1.50**	**246**	*e*P	**Pn**	**15 46 39.8**	**+0.4**	
	baz=246							
TWK	**Hsinying**	**1.51**	**267**	*e*P	**Pn**	**15 46 40.7**	**+1.1**	
	baz=267							
TWK				*e*S	**Sb**	**15 47 00.5**	**+0.4**	
	baz=267							
TSMG	**Majia**	**1.51**	**245**	*e*P	**Pn**	**15 46 40.0**	**+0.4**	
	baz=237							
NWLT	**Wulai**	**1.52**	**338**	*e*P	**Pn**	**15 46 40.4**	**+0.6**	
	baz=338							
NWLT				*e*S	**Sn**	**15 46 58.4**	**-0.4**	
	baz=338							
EAST	**Anshuo**	**1.53**	**231**	*e*P	**Pn**	**15 46 39.5**	**-0.3**	
	baz=230							
EAST				*e*S	**Sn**	**15 46 58.0**	**-0.9**	
	baz=230							
MASBT	**Mashibuluo**	**1.56**	**242**	*e*P	**Pn**	**15 46 40.3**	**+0.1**	
	baz=235							
MASBT				*e*S	**Sn**	**15 46 59.6**	**-0.2**	
	baz=235							
CHY	**Chiayi**	**1.57**	**275**	*e*S	**Sb**	**15 47 01.7**	**-0.1**	
	baz=276							
TWQ1	**Liyutan**	**1.58**	**309**	*e*P	**Pb**	**15 46 42.5**	**-0.2**	
	baz=309							
TWQ1				*e*S	**Sn**	**15 47 01.4**	**+1.2**	
	baz=309							
WCHH	**Zhanghua**	**1.61**	**297**	*e*S	**Sb**	**15 47 03.8**	**+0.9**	
	baz=297							
TIPB	**Shuangxi**	**1.63**	**350**	*e*P	**Pn**	**15 46 42.4**	**+1.2**	
TIPB				*e*S	**Sn**	**15 47 01.7**	**+0.3**	
NSTT	**Nanjuang**	**1.63**	**321**	*e*P	**Pb**	**15 46 42.8**	**-0.6**	
	baz=321							
NSTT				*e*S	**Sn**	**15 47 02.1**	**+0.7**	
	baz=321							
LIOB	**Emei**	**1.64**	**322**	*e*P	**Pb**	**15 46 43.2**	**-0.3**	
	baz=322							
LIOB				*e*S	**Sb**	**15 47 03.0**	**-0.7**	
	baz=322							
TWB1	**Santiao Chiao**	**1.65**	**356**	*e*P	**Pn**	**15 46 42.0**	**+0.6**	
	baz=356							
TWB1				*e*S	**Sn**	**15 47 01.0**	**-0.8**	
	baz=356							
SLIU	**Shizi**	**1.67**	**227**	*e*P	**Pn**	**15 46 41.6**	**-0.2**	
	baz=235							
SLIU				*e*S	**Sn**	**15 47 00.9**	**-1.5**	
	baz=235							
HATJ	**Hateruma jima**	**1.69**	**65**	P	**Pn**	**15 46 42.5**	**+0.5**	
HATJ				S	**Sn**	**15 47 02.5**	**-0.3**	
WRL	**Guolierlin Hig**	**1.69**	**289**	*e*S	**Sb**	**15 47 04.6**	**-0.8**	
	baz=289							
SCZT	**Fangliau**	**1.70**	**235**	*e*P	**Pn**	**15 46 42.9**	**+0.7**	
	baz=228							
SCZT				*e*S	**Sn**	**15 47 04.6**	**+1.5**	
	baz=228							
CHN8	**Yiju**	**1.76**	**270**	*e*P	**Pn**	**15 46 44.8**	**+1.8**	
	baz=270							
CHN8				*e*S	**Sn**	**15 47 06.4**	**+1.8**	
	baz=270							
IRIF	**Iriomote-Funau**	**1.76**	**56**	P	**Pn**	**15 46 43.8**	**+0.8**	
YM01	**YM01**	**1.85**	**344**	*e*P	**Pn**	**15 46 45.9**	**+1.6**	
	baz=329							
YM01				*e*S	**Sn**	**15 47 07.5**	**+0.6**	
	baz=329							
TWKBT	**Hengchun**	**1.86**	**221**	*e*P	**Pn**	**15 46 44.9**	**+0.6**	
	baz=213							
TWKBT				*e*S	**Sn**	**15 47 07.2**	**+0.1**	
	baz=213							
TWK1	**Hengchun**	**1.86**	**221**	*e*S	**Sn**	**15 47 08.0**	**+0.9**	
	baz=213							
JKRS	**Kuro-shima**	**1.93**	**63**	P	**Pn**	**15 46 46.3**	**+1.0**	
JKRS				*e*S	**Sn**	**15 47 09.5**	**+0.6**	
JIJ	**Ishigaki jima**	**2.10**	**61**	P	**Pn**	**15 46 48.0**	**+0.4**	
JIJ				S	**Sn**	**15 47 12.1**	**-0.9**	
JISG	**Ishigakijimahi**	**2.34**	**58**	P	**Pn**	**15 46 51.0**	**0.0**	
JISG				S	**Sn**	**15 47 18.0**	**-1.0**	
PHUB	**P'eng-hu**	**2.35**	**274**	*e*P	**Pn**	**15 46 52.2**	**+1.1**	
	baz=275							
PHUB				*e*S	**Sn**	**15 47 19.1**	**-0.1**	
	baz=275							
VCHM	**Qimei**	**2.48**	**267**	*e*P	**Pn**	**15 46 53.9**	**+0.9**	
	baz=268							
VCHM				*e*S	**Sn**	**15 47 22.3**	**-0.1**	
	baz=268							
JTJ	**Tarama**	**2.68**	**61**	P	**Pn**	**15 46 56.1**	**+0.5**	
JTJ				*e*S	**Sn**	**15 47 27.4**	**+0.1**	

*PDG **19** 15:46:14.3±0.2, 42.95N±0.02×20.64E, h11km, ML2.6/13, Error ellipse: s-maj=0.5km s-min=0.4km az=90.0*
*BEO **19** 15:46:14.0±0.4, 42.91N±0.02×20.64E, h7km±3km, ML2.6/14*

ISC 19 15:46:14.1±1.1, 42.95N±0.02×20.66E±0.02, h7km±9km, n42, σ0.93/74, 17C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SELS	**Selova**	**0.43**	**51**	*e*Pg	**Pg**	**15 46 22.2**	**-0.3**
SELS				*e*Sg	**Sg**	**15 46 29.3**	**+1.1**
IVA	**Berane**	**0.57**	**263**	⇓*i*Pg	**Pg**	**15 46 24.8**	**-0.3**
IVA				*i* Sg	**Sg**	**15 46 33.1**	**+0.6**
SJES	**Sjenica**	**0.59**	**302**	*e*Pg	**Pg**	**15 46 25.0**	**-0.5**
SJES				*e*Sg	**Sg**	**15 46 33.4**	**+0.1**
PVY	**Plav**	**0.62**	**236**	⇑*i*Pg	**Pg**	**15 46 25.7**	**-0.4**
PVY				*i* Sg	**Sb**	**15 46 35.2**	**-1.3**
KOME	**Kolasin**	**0.85**	**264**	⇑*i*Pg	**Pg**	**15 46 29.6**	**-0.7**
KOME				*i* Sg	**Sb**	**15 46 41.9**	**-0.9**
BARS	**Barje**	**0.86**	**98**	*e*Pg	**Pg**	**15 46 28.1**	**-2.5**
BARS	**Barje**	**0.86**	**98**	*e*Pg	Pn	15 46 40.5	+7.8
BARS				*e*Sg	**Sg**	**15 46 41.5**	**-0.3**
BARS				*e*Sg	Sn	15 47 03.0	+17
GRUS	**Gruza**	**0.94**	**2**	*e*Pg	**Pg**	**15 46 32.2**	**0.0**
GRUS				*e*Sg	**Sb**	**15 46 46.1**	**+0.6**
PLE	**Pljevlja**	**1.00**	**293**	⇑*i*Pg	**Pg**	**15 46 32.6**	**-0.8**
PLE				*i* Sg	**Sn**	**15 46 48.3**	**-1.0**
BOVS	**Bovan**	**1.03**	**48**	*e*Pg	**Pg**	**15 46 33.3**	**-0.5**
BOVS				*e*Sg	**Sg**	**15 46 47.7**	**+0.5**
BOVS	**Bovan**	**1.03**	**48**	⇑P	**Pg**	**15 46 33.4**	**-0.4**
BOVS				⇑S	**Sn**	**15 46 49.2**	**-0.5**
PDG	**Podgorica**	**1.16**	**244**	⇑P	**Pb**	**15 46 35.7**	**-0.7**
PDG				⇑S	**Sn**	**15 46 51.9**	**-0.8**
TTG	**Podgorica**	**1.16**	**244**	⇑*i*Pg	**Pb**	**15 46 35.6**	**-0.8**
TTG				*i* Sg	**Sn**	**15 46 53.6**	**+0.8**
NKY	**Niksic**	**1.23**	**264**	⇓*i*Pg	**Pb**	**15 46 36.8**	**-1.0**
NKY				*i* Sg	**Sn**	**15 46 56.1**	**+1.3**
DIVS	**Divibare**	**1.25**	**337**	*e*Pg	**Pn**	**15 46 37.5**	**-0.6**
DIVS				*e*Sg	**Sb**	**15 46 54.1**	**-0.3**
NKME	**Niksic**	**1.27**	**262**	⇓*i*Pg	**Pn**	**15 46 37.5**	**-0.8**
NKME				*e*Sg	**Sn**	**15 46 57.2**	**+1.6**
TRUS	**Trudelj**	**1.29**	**352**	*e*Pg	**Pn**	**15 46 38.4**	**-0.2**
TRUS				*e*Sg	**Sn**	**15 46 56.2**	**+0.1**
BBLS	**Lazići**	**1.30**	**316**	*e*Pg	**Pn**	**15 46 37.4**	**-1.3**
BBLS				*e*Sg	**Sb**	**15 46 55.7**	**0.0**
UPM	**Unac-Piva**	**1.31**	**282**	⇑*i*Pg	**Pn**	**15 46 38.3**	**-0.7**
UPM				*i* Sg	**Sn**	**15 46 58.5**	**+1.6**
DRME	**Dracevica, Mon**	**1.33**	**236**	*e*Pg	**Pb**	**15 46 38.8**	**-0.6**
DRME				*e*Sg	**Sg**	**15 46 59.2**	**+2.4**
CEME	**Cevo**	**1.34**	**253**	*e*Pg	**Pn**	**15 46 38.6**	**-0.8**
CEME				*e*Sg	**Sg**	**15 46 59.5**	**+2.2**
SVIS	**Svilajnac**	**1.38**	**17**	*e*Pg	**Pn**	**15 46 39.9**	**+0.1**
SVIS				*e*Sg	**Sg**	**15 46 59.9**	**+1.5**
BOSS	**Bosilegrad**	**1.42**	**108**	*e*Pg	**Pn**	**15 46 40.5**	**+0.2**
BOSS				*e*Sg	**Sb**	**15 46 59.3**	**+0.2**
ULC	**Ulcinj**	**1.44**	**227**	*e*Pg	**Pg**	**15 46 41.2**	**-0.4**
ULC				*e*Sg	**Sg**	**15 47 02.8**	**+2.6**
ZAGS	**Zajecar**	**1.44**	**52**	*e*Pg	**Pn**	**15 46 40.5**	**-0.1**
ZAGS				*e*Sg	**Sb**	**15 47 00.1**	**+0.4**
BUM	**Brajici-Budva**	**1.45**	**244**	*e*Pg	**Pg**	**15 46 41.5**	**-0.5**
BUM				*e*Sg	**Sg**	**15 47 02.7**	**+1.9**
ZAPS	**Zavoj**	**1.48**	**77**	*e*Pg	**Pb**	**15 46 41.9**	**-0.1**
ZAPS				*e*Sg	**Sb**	**15 47 01.5**	**+0.4**
BRY	**Bratogost**	**1.56**	**269**	*e*Pg	**Pb**	**15 46 42.7**	**-0.7**
BRY				*e*Sg	**Sg**	**15 47 05.0**	**+0.8**
BLKB	**Belogradchik**	**1.62**	**65**	⇑S	**Sb**	**15 47 05.6**	**+0.6**
KUBS	**Kucevo**	**1.64**	**26**	*e*Pn	**Pn**	**15 46 42.4**	**-1.0**
KUBS				*e*Sg	**Sg**	**15 47 07.4**	**+0.6**
HCY	**Herceg Novi**	**1.67**	**253**	*e*Pn	**Pg**	**15 46 46.4**	**+0.3**
HCY				*e*Sn	**Sg**	**15 47 08.6**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.69**	**313**	*e*Pn	**Pn**	**15 46 43.6**	**-0.5**
VTS	**Vitosha**	**1.93**	**99**	*e*Pn	**Pn**	**15 46 47.5**	**+0.1**
VTS	**Vitosha**	**1.93**	**99**	⇓P	**Pn**	**15 46 48.1**	**+0.7**
VTS				⇓S	**Sn**	**15 47 12.2**	**+0.2**
MDVR	**Moldovita**	**1.99**	**22**	⇑P	**Pn**	**15 46 48.0**	**-0.2**
MDVR				⇑S	**Sb**	**15 47 15.4**	**-0.2**
FRGS	**Fruska Gora**	**2.29**	**345**	⇓P	**Pn**	**15 46 52.7**	**+0.3**
FRGS				⇑S	**Sb**	**15 47 23.4**	**-1.0**
HERR	**Herculane**	**2.31**	**33**	⇑P	**Pn**	**15 46 53.1**	**+0.4**
HERR				⇑S	**Sn**	**15 47 21.8**	**+0.4**
BZS	**Buzias**	**2.76**	**14**	⇓P	**Pn**	**15 46 58.6**	**-0.2**
GZR	**Gura Zlata**	**2.88**	**31**	⇑P	**Pn**	**15 47 01.2**	**+0.7**
SIRR	**Siria**	**3.40**	**12**	⇑P	**Pn**	**15 47 08.2**	**+0.6**
MORH	**Mrgy, Hungar**	**3.57**	**337**	⇓P	**Pn**	**15 47 10.0**	**+0.1**
VOIR		**4.02**	**50**	⇓P	**Pn**	**15 47 16.9**	**+0.7**

*NEIC **19** 15:58:20.4±1.9, 17.5N±0.1×61.41W±0.09, h23km±7km, mb4.3/4, Error ellipse: s-maj=21.3km s-min=6.2km az=212.0*
*TRN **19** 15:58:23.7, 17.56N×61.73W, h21km, MD4.3*
*IDC **19** 15:58:24.3±2.9, 17.77N×61.47W, h47km±30km, mb3.3/4, mb1 3.7/5, mb1mx3.3/30, mbtmp3.6/5, ML4.2/2, MS2.8/3, Ms1 2.9/3, ms1mx2.6/22, Error ellipse: s-maj=38.5km s-min=9.9km az=43.0*

ISC 19 15:58:20.3±1.5, 17.68N±0.05×61.38W±0.07, h26km±9km, n79, σ1.78/78, mb3.8/6, 4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.39**	**269**	⇓*i*P	**Pb**	**15 58 29.3**	**+0.5**
ANWB				*e*S	**Sb**	**15 58 33.6**	**-0.9**
ANWB	**Willy Bob**	**0.39**	**269**		**Pb**	**15 58 29.0**	**+0.2**
ANOC	**Antigua Open C**	**0.70**	**218**	*e*P	**Pn**	**15 58 35.2**	**+0.6**
ANOC				*e*S	**Sn**	**15 58 42.1**	**-2.5**
ANBD	**Bethesda, Anti**	**0.72**	**211**	⇓*i*P	**Pn**	**15 58 35.8**	**+0.9**
ANBD				*e*S	**Sn**	**15 58 44.5**	**-0.6**
BPA	**Boggy Peak**	**0.78**	**216**	⇓*i*P	**Pn**	**15 58 36.1**	**+0.5**
BPA				*e*S	**Sn**	**15 58 45.9**	**-0.5**
ABD	**La Joyeuse, An**	**1.20**	**185**	*e*P	Pb	15 58 44.7	+2.3
ABD				*e*S	Sn	15 59 02.6	+5.7
SKOC	**St. Kitts, UWI**	**1.35**	**254**	*e*P	**Pb**	**15 58 43.6**	**-1.3**
SKOC				*e*S	**Sn**	**15 58 58.6**	**-1.9**
H05N1	**Guadeloupe/Mar**	**1.39**	**167**	P	Pb	15 58 48.1	+2.5
H05N1				S	**Sb**	**15 59 07.6**	**+4.7**
SEUS	**St. Eustatius**	**1.54**	**263**	*e*P	**Pn**	**15 58 46.3**	**+0.2**
SEUS				*e*S	**Sn**	**15 59 04.0**	**-1.3**
SEUS	**St. Eustatius**	**1.54**	**263**	Pn	**Pn**	**15 58 46.5**	**+0.4**
CBE	**Ff, Capester**	**1.61**	**188**	*e*P	**Pb**	**15 58 51.1**	**+1.6**
MAGL	**Barre de l'ile**	**1.72**	**177**	*e*P	**Pb**	**15 58 53.1**	**+1.9**
MAGL				*e*S	**Sb**	**15 59 15.4**	**+3.0**
TBG	**Guadaloupe-3**	**1.83**	**188**	*e*P	**Pb**	**15 58 53.9**	**+0.7**
TBG				*e*S	**Sb**	**15 59 16.6**	**+0.9**
TDBA	**Terre de Bas,**	**1.83**	**188**	*e*P	**Pb**	**15 58 54.2**	**+1.0**
TDBA				*e*S	**Sb**	**15 59 16.3**	**+0.5**
MDPV	**Dominica, Penn**	**2.04**	**181**	*e*P	**Pb**	**15 58 58.1**	**+1.4**
MDCT	**Cottage Hill,**	**2.05**	**182**	*e*P	**Pb**	**15 58 57.3**	**+0.4**
MDVC	**Dominica, Viel**	**2.05**	**181**	*e*P	**Pb**	**15 58 57.7**	**+0.8**
DSLB	**Salisbury**	**2.23**	**181**	*e*P	**Pb**	**15 58 59.6**	**-0.3**
SVIL	**Savane Anatole**	**2.82**	**176**	*e*P	Pb	15 59 12.8	+2.6
PCM	**Pelee Case Pet**	**2.85**	**177**	*e*P	**Pb**	**15 59 10.2**	**-0.4**
CXM	**Morne La Croix**	**2.85**	**176**	*e*P	Pb	15 59 14.7	+4.0
GBMF	**Grand Be**	**2.87**	**176**	*e*P	Pb	15 59 14.4	+3.5
ILAM	**Ilet Lapin Mar**	**2.92**	**170**	*e*P	**Pb**	**15 59 10.4**	**-1.4**
FDF	**Fort de France**	**2.93**	**176**	*e*P	**Pb**	**15 59 10.8**	**-1.2**
ABVI	**Anegada Island**	**3.00**	**291**	Pn	**Pn**	**15 59 05.8**	**-0.4**
ZAM	**Aeronautique**	**3.10**	**174**	*e*P	Pb	15 59 09.8	-5.0
LPMF	**Morne Lapointe**	**3.11**	**173**	*e*P	**Pb**	**15 59 12.5**	**-2.5**
MVM	**Montagne Vaucl**	**3.14**	**171**	*e*P	**Pb**	**15 59 13.8**	**-1.7**
TRMF	**Trois Ilets**	**3.14**	**174**	*e*P	**Pb**	**15 59 11.8**	**-3.7**
BIM	**Bigot**	**3.15**	**175**	*e*P	**Pb**	**15 59 13.5**	**-2.3**
CDVI	**St. Croix**	**3.23**	**272**	*e*P	**Pn**	**15 59 11.7**	**+2.4**
MPOM	**Morne Pois Mar**	**3.25**	**171**	*e*P	**Pb**	**15 59 14.5**	**-2.9**
H05S1	**Guadeloupe/Mar**	**3.27**	**171**	P	Pb	15 59 15.8	-1.9
H05S1				S	**Sb**	**15 59 52.8**	**-4.4**
STVI	**Saint Thomas**	**3.47**	**282**		**Pn**	**15 59 11.7**	**-0.9**
SLBI	**Saint Lucia, B**	**3.65**	**174**	*e*P	**Pb**	**15 59 20.2**	**-4.0**
CUPR	**Culebra, Puert**	**3.77**	**280**	Pn	**Pn**	**15 59 16.2**	**-0.6**
MTP	**Monte Pirata**	**4.00**	**277**		**Pn**	**15 59 19.8**	**-0.2**
HUMP	**Col San Antoni**	**4.28**	**277**	Pn	**Pn**	**15 59 24.3**	**+0.4**
CBYP	**Canovanas**	**4.30**	**279**		**Pn**	**15 59 24.1**	**-0.1**
PDPR	**Patillas Dam,**	**4.44**	**275**		**Pn**	**15 59 26.1**	**+0.2**
GCPR	**Guaynabo City**	**4.52**	**279**	Pn	**Pn**	**15 59 28.2**	**+1.0**
SJG	**San Juan**	**4.56**	**276**	P	**Pn**	**15 59 28.3**	**+0.6**
	21nm,0.3s,baz=104,slow=13,SNR=23						
SJG				S	**Sn**	**16 00 20.9**	**+1.0**
	16nm,0.3s,baz=10,slow=20,SNR=8.9						
SJG	**San Juan**	**4.56**	**276**		**Pn**	**15 59 29.1**	**+1.4**
SJG	**San Juan**	**4.56**	**276**	⇓*e*P	**Pn**	**15 59 28.4**	**+0.6**
ICMP	**Isla Caja de M**	**4.91**	**273**	Pn	**Pn**	**15 59 33.8**	**+1.3**
OBIP	**Obispado Ponce**	**4.99**	**275**		**Pn**	**15 59 33.2**	**-0.4**
AOPR	**Arecibo Observ**	**5.16**	**278**	*e*P	**Pn**	**15 59 37.5**	**+1.6**
AOPR	**Arecibo Observ**	**5.16**	**278**	*e*S	**Sn**	**16 00 32.4**	**-2.3**
AOPR	**Arecibo Observ**	**5.16**	**278**	Pn	**Pn**	**15 59 36.6**	**+0.6**
MLPR	**Magueyes Islan**	**5.41**	**274**	Pn	**Pn**	**15 59 39.7**	**+0.4**
AGPR	**Aguadilla, PR**	**5.51**	**279**	Pn	**Pn**	**15 59 38.1**	**-2.7**
TOSP	**Speyside**	**6.39**	**173**	Pn	**Pn**	**15 59 48.2**	**-4.7**
SDDR	**Presa de Saban**	**9.50**	**279**	Pn	**Pn**	**16 00 35.7**	**+0.1**
SDDR	**Presa de Saban**	**9.50**	**279**	*e*P	**Pn**	**16 00 36.7**	**+1.1**
URIC	**Uribia, Colomb**	**11.86**	**241**	Pn	**Pn**	**16 01 04.7**	**-3.2**
MDP	**Montagnes des**	**15.14**	**145**	LR	LR	16 08 47.5	
	comp=Z,24nm,19.1s,baz=278,slow=41						
SMLC	**San Martn de**	**15.17**	**236**	*e*P	**P**	**16 01 55.3**	**-2.6**
SJCC	**San Jacinto, C**	**15.47**	**242**	*e*P	**P**	**16 02 00.7**	**-0.5**
UREC	**San Jos de Ur**	**16.95**	**236**	*e*P	**P**	**16 02 16.9**	**-0.7**
DBBC	**Dabeiba**	**17.93**	**236**	*e*P	**P**	**16 02 30.8**	**+2.3**
PTGA	**Pitinga**	**18.34**	**176**	P	**P**	**16 02 35.2**	**+2.2**
	0.4nm,0.3s,baz=11,slow=16,SNR=7.5						
PTGA				LR	LR	16 09 48.3	
	comp=Z,35nm,20.5s,baz=93,slow=37						
GUY2C	**Guyana, Caldas**	**18.45**	**230**	*e*P	**P**	**16 02 34.8**	**+0.1**
BBAC	**Balboa, Cauca**	**22.02**	**227**	*e*P	**P**	**16 03 13.3**	**+0.1**
FPAL	**Fort Paine**	**27.38**	**313**	P	**P**	**16 04 02.1**	**-1.6**
FPAL				IAmb	IAmb	16 04 05.0	
	comp=Z,9.0nm,1.3s						
I63A	**Otisfield**	**27.42**	**345**	P	**P**	**16 04 02.1**	**-1.7**
TXAR	**Lajitas Array**	**40.28**	**295**	P	**P**	**16 05 57.9**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=112,slow=12,SNR=4.2						
PDAR	**Pinedale Array**	**47.76**	**312**	P	**P**	**16 06 55.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=103,slow=6.5,SNR=4.1						
H10N3	**ASCENSION HYDR**	**52.79**	**115**	T	T	17 04 47.8	
	baz=299,slow=75,SNR=193						
H10N2	**ASCENSION HYDR**	**52.79**	**115**	T	T	17 04 46.4	
	baz=299,slow=75,SNR=177						
H10N1	**ASCENSION HYDR**	**52.81**	**115**	T	T	17 04 49.3	
	baz=299,slow=75,SNR=225						
H10S3	**ASCENSION HYDR**	**53.19**	**116**	T	T	17 05 13.0	
	baz=293,slow=74,SNR=178						
H10S2	**ASCENSION HYDR**	**53.21**	**116**	T	T	17 05 16.5	
	baz=287,slow=74,SNR=63						
YKA	**Yellowknife Ar**	**57.84**	**334**	P	**P**	**16 08 09.7**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=109,slow=8.1,SNR=5.2						
NOA	**NORSAR Array B**	**66.27**	**30**	LR	LR	16 32 34.1	
	comp=Z,12nm,21.5s,baz=15,slow=31						
EGAK	**Eagle**	**69.81**	**333**	P	**P**	**16 09 29.3**	**+1.0**
BCAR	**Beaver Creek A**	**70.06**	**331**	P	**P**	**16 09 31.1**	**+1.2**
L27K	**Beaver Creek,**	**70.08**	**331**	P	**P**	**16 09 31.6**	**+1.6**
L27K				IAmb	IAmb	16 09 32.4	
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**72.26**	**333**	P	**P**	**16 09 43.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=116,slow=4.9,SNR=6.1						
ASAR	**Alice Springs**	**164.51**	**245**	PKPab	**PKPab**	**16 19 18.1**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=101,slow=3.9,SNR=4.2						

*IDC **19** 16:39:17.4±11.0, 38.81N×142.65E, h51km±75km, mb3.3/3, mb1 3.5/6, mb1mx3.2/30, mbtmp3.5/6, ML2.6/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/22, Error ellipse: s-maj=130.8km s-min=29.9km az=74.0*
*JMA **19** 16:39:17.8±0.1, 38.72N×142.26E, h38km±2km, M3.8*
*NIED **19** 16:39:17.9, 38.72N×142.26E, h38km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr0.48; Mθθ0.33; Mφφ -0.81; Mrθ0.71; Mrφ-0.13; Mθφ2.87; Fault plane solution: M03.02000×10^{14} NP1:φs14.00000°, δ84.00000°, λ93.00000°. NP2:φs169.00000°, δ7.00000°, λ65.00000°.*

ISC 19 16:39:16.3±2.4, 38.72N±0.05×142.4E±0.1, h24km±14km, n23, σ1.86/26, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.66**	**303**	P	**Pb**	**16 39 29.7**	**+0.5**
OFUJ				S	**Sb**	**16 39 38.0**	**0.0**
JKMT	**Kesennumamotoy**	**0.72**	**277**	P	**Pb**	**16 39 30.2**	**+0.1**
JKMT				S	**Sb**	**16 39 38.6**	**-0.9**
JIKH	**Ishinomakikobu**	**0.83**	**241**	P	**Pb**	**16 39 31.8**	**-0.2**
JIKH				S	**Sb**	**16 39 41.5**	**-1.3**
JIO	**Ouri**	**0.85**	**252**	P	**Pn**	**16 39 32.0**	**-0.8**
JIO				S	**Sb**	**16 39 41.9**	**-1.6**
JMK	**Ichinoseki**	**0.94**	**284**	P	**Pn**	**16 39 33.5**	**-0.4**
JMK				S	**Sb**	**16 39 44.4**	**-1.4**
JOM	**Ohasama**	**1.13**	**312**	P	**Pn**	**16 39 36.8**	**+0.2**
JOM				S	**Sn**	**16 39 50.4**	**-1.0**
JTH	**Tanohata**	**1.28**	**342**	P	**Pn**	**16 39 39.0**	**+0.4**
JOU	**Okura**	**1.40**	**256**	P	**Pn**	**16 39 40.2**	**0.0**
JOU				S	**Sn**	**16 39 56.7**	**-1.2**
JMM	**Marumori**	**1.52**	**236**	P	**Pn**	**16 39 41.3**	**-0.6**
JMM				*e*S	**Sn**	**16 39 58.6**	**-2.2**
JRG	**Rokugo**	**1.52**	**297**	P	**Pn**	**16 39 42.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.96**	**238**	P	**Pn**	**16 40 17.9**	**+2.3**
	0.3nm,0.3s,baz=37,slow=12,SNR=14						
MAT	**Matsushiro**	**3.97**	**238**	P	**Pn**	**16 40 17.4**	**+1.8**
MAT				*e*S	**Sn**	**16 41 06.3**	**+5.0**
USRK	**Ussuriysk Ar.**	**9.53**	**308**	P	**Pn**	**16 41 33.4**	**+1.5**
	baz=134,slow=14,SNR=17						
KSRS	**Korea Array**	**11.47**	**268**	P	**Pn**	**16 42 03.0**	**+4.5**
	0.1nm,0.3s,baz=73,slow=14,SNR=1.6						
KSRS				LR	LR	16 46 01.4	
	comp=Z,16nm,18.8s,baz=125,slow=34

MTN	**Manton Dam**	**22.82**	**249**	P	**P**	**17 54 15.4**	**+1.0**
MTN				IAmb	IAmb	17 54 59.2	
	comp=Z,34nm,1.3s						
WB0	**Warramunga Arr**	**23.13**	**230**	P	**P**	**17 54 17.4**	**-0.3**
WB0				IAmb	IAmb	17 54 20.2	
	comp=Z,17nm,1.5s						
WR0	**Warramunga Arr**	**23.14**	**229**	P	**P**	**17 54 16.8**	**-0.9**
WR0				IAmb	IAmb	17 54 30.6	
	comp=Z,7.5nm,1.1s						
WRAB	**Tennant Creek**	**23.26**	**229**	P	**P**	**17 54 17.4**	**-1.5**
WRAB				IAmb	IAmb	17 55 02.6	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**23.27**	**229**	P	**P**	**17 54 17.6**	**-1.3**
WB2				IAmb	IAmb	17 54 20.2	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**23.28**	**229**	P	**P**	**17 54 17.6**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=55,slow=9.9,SNR=26						
WRA	**Warramunga Arr**	**23.28**	**229**	P	**P**	**17 54 16.8**	**-2.2**
KNRA	**Kununurra**	**25.92**	**245**	P	**P**	**17 54 42.0**	**-1.4**
AS31	**Alice Springs**	**25.93**	**223**	P	**P**	**17 54 42.0**	**-1.6**
ASAR	**Alice Springs**	**25.94**	**223**	P	**P**	**17 54 43.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=56,slow=9.4,SNR=32						
STKA	**Stephens Creek**	**28.56**	**201**	P	**P**	**17 55 08.6**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=13,slow=9.6,SNR=3.8						
STKA	**Stephens Creek**	**28.56**	**201**	P	**P**	**17 55 08.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**29.59**	**242**	P	**P**	**17 55 14.6**	**-1.7**
	comp=Z,2.7nm,0.9s,baz=80,slow=7.6,SNR=2.5						
FITZ	**Fitzroy Crossi**	**29.59**	**242**	IAmb	IAmb	17 55 38.2	
	comp=Z,9.4nm,1.2s						
MJAR	**Matsushiro Arr**	**43.79**	**343**	LR	LR	18 14 09.9	
	comp=Z,22nm,21.4s,baz=225,slow=34						
JTM	**Tennabayashi**	**47.08**	**348**	P	**P**	**17 57 41.5**	**-1.1**
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**18 00 36.7**	**+0.4**
VNDA				IAmb	IAmb	18 00 44.3	
	comp=Z,5.4nm,1.6s						
CNPM	**China Poot**	**78.04**	**26**	P	**P**	**18 01 08.7**	**-0.4**
PWL	**Port Wells**	**79.97**	**25**	P	**P**	**18 01 19.5**	**-0.1**
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**18 01 24.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=83,slow=5.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**81.60**	**326**	P	**P**	**18 01 26.9**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=123,slow=5.5,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.59**	**288**	PKPbc	**PKPbc**	**18 09 03.1**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=35,slow=2.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**150.59**	**288**		**PKPbc**	**18 09 02.6**	**-0.9**

*DJA **19** 18:01:38.3±1.0,9°S±4°×11°E±°, h20km±9km, M3.9/11, mb4.0/3, MLv3.8/11*
ISC 19 18:01:40.0±1.9, **8°8S**±0°1×**110°55E**±0°06, **h51**km, **n12**, σ0**855**/16, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.84**	**48**	P	**Pn**	**18 01 55.0**	**-0.6**
PCJI				S	**Sn**	**18 02 06.4**	**-0.6**
UGM	**Wanagama**	**0.84**	**358**	P	**Pn**	**18 01 55.0**	**-0.7**
UGM				S	**Sn**	**18 02 07.2**	**+0.1**
PWJI	**Pagerwojo**	**1.44**	**60**	P	**Pn**	**18 02 03.6**	**-0.2**
PWJI				S	**Sn**	**18 02 21.6**	**0.0**
SJI	**Sawahan**	**1.58**	**50**	P	**Pn**	**18 02 05.8**	**+0.1**
SJI				S	**Sn**	**18 02 26.5**	**+1.5**
SMRI	**Semarang**	**1.70**	**356**	P	**Pn**	**18 02 07.6**	**+0.3**
KPJI	**Karang Pucung**	**2.14**	**311**	P	**Pn**	**18 02 13.5**	**+0.3**
CTJI	**Waduk Cacaban**	**2.20**	**322**	P	**Pn**	**18 02 13.9**	**-0.2**
CISI	**Cisompet, Garu**	**2.96**	**294**	P	**Pn**	**18 02 24.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.58**	**86**	P	**Pn**	**18 02 32.8**	**-0.2**
CNJI	**Cibinong**	**3.68**	**293**	P	**Pn**	**18 02 34.1**	**-0.3**
KLNI	**Mataram**	**5.50**	**87**	P	**Pn**	**18 02 59.4**	**0.0**
	0.1nm13nm,1.7s						
TWSI	**Taliwang, Sumb**	**6.26**	**90**	P	**Pn**	**18 03 09.8**	**-0.1**

*IDC **19** 18:10:13.9±1.0,43°89N×87°51E, h0km, mb3.6/9, mb1 3.7/14, mb1mx3.6/47, mbtmp3.6/14, ML3.4/5, MS2.8/3, Ms1 2.8/3, ms1mx2.5/39, Error ellipse: s-maj=28.6km s-min=13.3km az=44.0*
*SOME **19** 18:10:16.0, 44°15N×86°07E, h10km*
*NNC **19** 18:10:18.5±1.6, 43°93N×87°11E, h10km±6km, mb4.1, mpv3.9, Error ellipse: s-maj=11.1km s-min=8.4km az=113.0*
ISC 19 18:10:15.1±1.1, **43°77N**±0°07×**87°32E**±0°07, **h10**km, **n34**, σ2**816**/42, **mb3.6/9**, **5C-15D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.06**	**336**	*eP*	**Pn**	**18 11 19.3**	**+2.0**
	50nm,0.3s						
ZSN				*eS*	**Sn**	**18 12 04.7**	**-0.2**
	25nm,0.5s						
ZSN	**Zaisan**	**4.06**	**336**	Pg	**Pg**	**18 11 30.8**	**-2.0**
	50nm,0.3s						
ZSN				Lg	Lg	18 12 28.2	
	125nm,0.8s						
MK31	**Makanchi Array**	**4.66**	**312**	Pn	**Pn**	**18 11 27.1**	**+1.6**
	1.3nm,0.1s,baz=87,slow=17,SNR=129						
MK31				⇓Sn	**Sn**	**18 12 18.2**	**-1.4**
	23nm,0.6s						
MK31				⇑Lg	Lg	18 12 42.0	
	18nm,0.5s,baz=130,slow=28,SNR=4.7						
MKAR	**Makanchi Array**	**4.66**	**312**	Pn	**Pn**	**18 11 26.9**	**+1.4**
	3.6nm,0.3s,baz=124,slow=14,SNR=180						
MKAR				Pg	**Pg**	**18 11 44.0**	**-0.3**
	4.3nm,0.3s,baz=132,slow=14,SNR=6.8						
MKAR				Sn	**Sn**	**18 12 19.6**	**-0.1**
	4.7nm,0.3s,baz=130,slow=16,SNR=6.6						
MKAR				Lg	Lg	18 12 38.6	
	10nm,0.3s,baz=122,slow=25,SNR=5.4						
MAKZ	**Makanchi**	**4.84**	**311**	⇓Pn	**Pn**	**18 11 29.4**	**+1.5**
	11nm,0.3s						
MAKZ				⇓Sn	**Sn**	**18 12 22.9**	**-1.2**
	20nm,0.8s						
MAKZ				⇓Lg	Lg	18 12 47.6	
	38nm,0.7s						
DJR	**Jarkent**	**5.45**	**278**	*eP*	**Pn**	**18 11 40.1**	**+3.6**
	0.2nm,0.2s						
DJR				*eS*	**Sn**	**18 12 40.7**	**+1.4**
	1.0nm,0.3s						
DJR	**Jarkent**	**5.45**	**278**	Pg	**Pb**	**18 11 51.9**	**+1.5**
DJR				Lg	Lg	18 13 03.2	
PDGK	**Podgornoye**	**5.71**	**268**	⇓Pn	**Pn**	**18 11 41.9**	**+2.0**
	3.2nm,0.5s						
PDGK				⇓Sn	**Sn**	**18 12 47.2**	**+1.6**
	26nm,0.8s						
PDGK				⇓Lg	Lg	18 13 17.4	
	40nm,0.6s						
SHLS	**Shalkode**	**5.75**	**267**	*eP*	**Pn**	**18 11 40.9**	**+0.3**
	7.5nm,0.2s						
SHLS				*eS*	**Sn**	**18 12 42.1**	**-4.5**
	20nm,0.6s						
SHLS	**Shalkode**	**5.75**	**267**	Pg	**Pb**	**18 11 54.1**	**-1.4**
	13nm,0.6s						
SHLS				Lg	Lg	18 13 07.8	
	68nm,0.8s						
KAPS	**Kapalarasan**	**5.89**	**288**	*eP*	**Pn**	**18 11 46.1**	**+3.7**
	0.6nm,0.5s						
KAPS				*eS*	**Sn**	**18 12 51.0**	**+1.0**
	3.5nm,0.6s						
KAPS	**Kapalarasan**	**5.89**	**288**	Pg	**Pb**	**18 12 02.2**	**+4.4**
	0.6nm,0.3s						
KAPS				Lg	Lg	18 13 21.0	
	3.1nm,0.5s						
TDK	**Taldyqorghan**	**6.50**	**284**	Pg	Pg	18 12 14.6	-5.0
	28nm,0.3s						
TDK				Lg	Lg	18 13 42.7	
	181nm,0.8s						
SATY	**Saty**	**6.53**	**267**	*eP*	Pn	18 12 00.5	+9.2
	4.7nm,0.2s						
SATY				*eS*	Sn	18 13 16.0	+10
	11nm,0.3s						
MDOK	**Medeo**	**7.50**	**269**	Pn	**Pn**	**18 12 06.1**	**+1.5**
	3.9nm,0.7s						
MDOK				⇑Lg	Lg	18 14 15.4	
	19nm,0.7s						
TKM2	**Tokmak 2**	**8.58**	**268**	⇑Pn	**Pn**	**18 12 21.9**	**+2.3**
	0.5nm,0.4s						
TKM2				⇓Pg	**Pg**	**18 12 55.7**	**-3.7**
	4.9nm,0.9s						
TKM2				⇓Lg	Lg	18 14 50.4	
	9.8nm,0.8s						
KURBB	**Kurchatov Arra**	**9.09**	**322**	Pn	**Pn**	**18 12 25.5**	**-0.7**
	1.2nm,0.3s,baz=134,slow=12,SNR=37						
KURBB				Sn	**Sn**	**18 14 04.8**	**-3.8**
	0.5nm,0.3s,baz=238,slow=14,SNR=5.2						
KURBB				Lg	Lg	18 14 58.9	
	baz=116,slow=31,SNR=1.2						
KURBB	**Kurchatov Arra**	**9.09**	**322**	⇓Pn	**Pn**	**18 12 26.3**	**0.0**
	4.6nm,0.6s						
KURBB				⇓Sn	**Sn**	**18 14 06.5**	**-2.0**
	13nm,0.7s						
KURBB				⇑Lg	Lg	18 15 02.3	
	66nm,0.8s						
ZAA0	**Zalesovo Array**	**10.31**	**352**	⇓Pn	**Pn**	**18 12 43.8**	**+0.7**
	0.5nm,0.7s						
ZAA0				⇓Lg	Lg	18 15 39.9	
	3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**10.31**	**352**	Pn	**Pn**	**18 12 41.8**	**-1.2**
	0.6nm,0.3s,baz=175,slow=12,SNR=11						
ZALV				Sn	**Sn**	**18 14 32.7**	**-5.9**
	0.9nm,0.3s,baz=173,slow=26,SNR=5.3						
ZALV				Lg	Lg	18 15 39.1	
	0.2nm,0.3s,baz=176,slow=26,SNR=1.7						
ZALV				LR	LR	18 17 04.9	
	comp=Z,58nm,18.1s,baz=124,slow=40						
OTUK	**Ortayu**	**11.33**	**298**	⇓Pn	**Pn**	**18 12 57.0**	**0.0**
	2.4nm,1.1s						
OTUK				⇓Lg	Lg	18 16 13.1	
	15nm,1.1s						
TLY	**Talaya**	**13.52**	**48**	LR	LR	18 17 54.3	
	comp=Z,12nm,19.7s,baz=238,slow=34						
SONM	**Songino Array**	**13.91**	**66**	Pn	Pn	18 13 30.1	-2.2
	0.0nm,0.3s,baz=258,slow=13,SNR=1.5						
SONM				Lg	Lg	18 17 29.6	
	0.1nm,0.3s,baz=71,slow=41,SNR=3.1						
BVAR	**Borovoye Array**	**14.53**	**315**	Pn	**Pn**	**18 13 39.6**	**-1.0**
	0.5nm,0.3s,baz=336,slow=41,SNR=4.7						
BRVK	**Borovoye**	**14.60**	**315**	⇑Pn	**Pn**	**18 13 41.7**	**0.0**
	2.0nm,0.7s						
ARU	**Arti**	**22.18**	**315**	P	**P**	**18 15 11.4**	**+0.3**
	0.9nm,0.3s,baz=186,slow=7.2,SNR=5.8						
NRIK	**Noril'sk**	**25.63**	**0**	P	**P**	**18 15 44.4**	**0.0**
	3.1nm,0.3s,baz=306,slow=7.3,SNR=3.1						
AKASG	**Malin Array Be**	**39.15**	**301**	P	**P**	**18 17 44.6**	**+2.0**
	0.1nm,0.3s,baz=75,slow=8.0,SNR=1.6						
FINES	**FINESS Array B**	**39.46**	**318**	P	**P**	**18 17 45.6**	**+0.5**
	1.2nm,0.9s,baz=183,slow=30,SNR=5.5						
ARCES	**ARCESS Array B**	**40.03**	**331**	P	**P**	**18 17 50.1**	**+0.3**
	1.2nm,0.7s,baz=70,slow=22,SNR=2.0						
ARCES				LR	LR	18 37 10.0	
	comp=Z,33nm,19.1s,baz=100,slow=40						
NOA	**NORSAR Array B**	**46.61**	**319**	P	**P**	**18 18 42.3**	**-0.8**
	0.2nm,0.5s,baz=81,slow=9.4,SNR=1.7						
YKA	**Yellowknife Ar**	**72.63**	**10**	P	**P**	**18 21 42.2**	**-0.1**
	0.3nm,0.6s,baz=355,slow=6.8,SNR=1.8						
WRA	**Warramunga Arr**	**76.65**	**135**	P	P	18 22 06.0	-0.2
	0.5nm,0.7s,baz=340,slow=6.0,SNR=6.3						
ASAR	**Alice Springs**	**79.56**	**137**	P	**P**	**18 22 22.7**	**+0.5**
	0.2nm,0.6s,baz=322,slow=5.1,SNR=8.0						

*IDC **19** 18:30:03.7±8.5, 18°86S×176°06W, h86km±65km, mb3.6/5, mb1 3.9/6, mb1mx3.6/26, mbtmp4.0/6, ML5.2/1, MS3.6/13, Ms1 3.7/13, ms1mx3.4/25, Error ellipse: s-maj=110.9km s-min=28.7km az=145.0*
ISC 19 18:30:05.3±1.4, **18°8S**±0°3×**176°2W**±0°2, **h100**km, **n24**, σ0**857**/7, **mb3.8**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.58**	**280**	P	**Pn**	**18 31 26.1**	**0.0**
	2.5nm,0.3s,baz=124,slow=15,SNR=8.8						
MSVF				LR	LR	18 33 29.1	
	comp=Z,2μm,19.8s,baz=141,slow=36						
MSVF	**Nonsavu**	**5.58**	**280**		**Pn**	**18 31 25.6**	**-0.5**
NIUE	**Niue**	**5.92**	**94**		Pn	18 31 40.4	+10
RAO	**Raoul Island**	**10.55**	**188**	LR	LR	18 35 49.9	
	comp=Z,766nm,20.7s,baz=56,slow=33						
RAR	**Rarotonga**	**15.61**	**102**	LR	LR	18 38 19.3	
	comp=Z,180nm,20.4s,baz=246,slow=32						
DZM	**Mont Dzumac**	**16.62**	**256**	*e*LR	LR	18 37 39.6	
	comp=Z,534nm,25.8s						
HNR	**Honiara**	**24.92**	**289**	LR	LR	18 44 06.0	
	comp=Z,110nm,18.2s,baz=143,slow=34						
PPT2	**Papeete2**	**25.29**	**92**	*e*LR	LR	18 41 22.5	
	comp=Z,691nm,27.5s						
PPT	**Papeete**	**25.30**	**92**	LR	LR	18 42 28.6	
	comp=Z,152nm,21.4s,baz=214,slow=30						
TBI	**Tubuai**	**25.32**	**105**	*e*LR	LR	18 41 24.6	
	comp=Z,348nm,27.2s						
CTA	**Charters Tower**	**35.41**	**262**	LR	LR	18 50 31.1	
	comp=Z,292nm,19.4s,baz=3.5,slow=35						
TAOE	**Nuku Hiva Isla**	**36.28**	**79**	*e*LR	LR	18 46 20.6	
	comp=Z,221nm,29.2s						
PMG	**Port Moresby**	**36.69**	**280**	LR	LR	18 49 32.4	
	comp=Z,161nm,20.2s,baz=112,slow=32						
STKA	**Stephens Creek**	**40.09**	**243**	P	**P**	**18 37 31.0**	**-0.3**
	3.9nm,0.9s,baz=84,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**46.57**	**260**	P	**P**	**18 38 23.6**	**+0.2**
	1.4nm,0.9s,baz=93,slow=7.4,SNR=5.0						
ASAR	**Alice Springs**	**46.61**	**255**	P	**P**	**18 38 24.4**	**+0.7**
	4.0nm,0.9s,baz=86,slow=8.4,SNR=16						
FITZ	**Fitzroy Crossi**	**54.98**	**261**	LR	LR	19 02 36.8	
	comp=Z,69nm,19.2s,baz=122,slow=36						
VNDA	**Vanda**	**59.78**	**185**	LR	LR	19 05 18.6	
	comp=Z,31nm,18.5s,baz=354,slow=35						
JOW	**Kunigami**	**70.41**	**309**	LR	LR	19 06 16.0	
	comp=Z,27nm,21.7s,baz=48,slow=31						
PETK	**Petropavlovsk-**	**75.07**	**344**	LR	LR	19 06 58.7	
	comp=Z,22nm,21.8s,baz=139,slow=30						
TXAR	**Lajitas Array**	**84.68**	**57**	P	**P**	**18 42 28.0**	**-0.5**
	0.2nm,0.7s,baz=202,slow=6.8,SNR=3.3						
ILAR	**Eielson Array**	**86.27**	**12**	P	**P**	**18 42 35.9**	**+0.5**
	0.4nm,0.7s,baz=212,slow=3.2,SNR=3.1						
PDAR	**Pinedale Array**	**86.53**	**43**	LR	LR	19 15 29.5	
	comp=Z,30nm,19.4s,baz=260,slow=32						
CMAR	**Chiang Mai Arr**	**91.17**	**289**	LR	LR	19 20 56.9	
	comp=Z,10nm,21.8s,baz=230,slow=33						

*IDC **19** 18:30:47.6±2.3, 20°88S×178°18W, h559km±26km, mb3.0/4, mb1 3.4/6, mb1mx3.0/25, mbtmp4.2/6, Error ellipse: s-maj=36.2km s-min=21.3km az=138.0*
*NEIC **19** 18:30:48.8±0.8, 20°9S±0°1×178°4W±0°2, h547km±19km, mb4.4/18, Error ellipse: s-maj=27.5km s-min=13.2km az=70.0*
ISC 19 18:30:48.4±0.7, **20°7S**±0°1×**178°4W**±0°1, **h550**km, **n33**, σ1**827**/35, **mb4.2**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.48**	**311**		**P**	**18 32 16.1**	**+1.9**
NIUE	**Niue**	**8.13**	**80**		**P**	**18 32 47.9**	**+0.4**
AFI	**Afiamalu**	**9.25**	**44**	P	**P**	**18 32 58.1**	**-0.8**
	2.4nm,0.3s,baz=276,slow=21,SNR=1.6						
LIFNC	**LIFOU**	**13.45**	**267**		P	18 33 33.2	-8.8
DZM	**Mont Dzumac**	**14.19**	**262**	P	**P**	**18 33 50.8**	**+1.1**
	0.2nm,0.3s,baz=131,slow=15,SNR=2.1						
OUZ	**Ouvahuta**	**16.08**	**204**	P	**P**	**18 34 09.8**	**+1.2**
URZ	**Urewera**	**17.31**	**192**	P	**P**	**18 34 23.0**	**-2.4**
	0.8nm,0.3s,baz=115,slow=23,SNR=1.3						
THZ	**Tophouse**	**22.24**	**197**	P	**P**	**18 35 02.9**	**-1.7**
KHZ	**Kahutara**	**22.68**	**196**	P	**P**	**18 35 06.7**	**-1.7**
WHZ	**Wether Hill Ro**	**27.51**	**201**	P	**P**	**18 35 51.3**	**+0.3**
WHZ				IAmb	IAmb	18 36 38.2	
	comp=Z,16nm,1.1s						
CTAO	**Charters Tower**	**33.11**	**265**	P	**P**	**18 36 38.4**	**-1.2**
CTAO				IAmb	IAmb	18 36 53.9	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**44.02**	**262**	P	**P**	**18 38 07.7**	**-0.2**
WR0				IAmb	IAmb	18 38 55.4	
	comp=Z,19nm,1.5s						
AS31	**Alice Springs**	**44.12**	**257**	P	**P**	**18 38 08.0**	**-0.6**
ASAR	**Alice Springs**	**44.12**	**257**	P	**P**	**18 38 08.3**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=93,slow=8.2,SNR=62						
ASAR				PcP	**PcP**	**18 39 40.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=100,slow=3.4,SNR=0.9						
ASAR				S	**S**	**18 43 58.5**	**-3.3**
	comp=Z,0.3nm,0.7s,baz=87,slow=18,SNR=2.7						
ASAR	**Alice Springs**	**44.12**	**257**	P	**P**	**18 38 08.0**	**-0.6**
ASAR					**PcP**	**18 39 40.5**	**-1.2**
WB0	**Warramunga Arr**	**44.19**	**263**	P	**P**	**18 38 08.6**	**-0.6**
WB0				IAmb	IAmb	18 38 27.8	
	comp=Z,12nm,1.4s						
WB0				PcP	**PcP**	**18 39 41.3**	**-0.6**
WB2	**Warramunga Arr**	**44.20**	**262**	P	**P**	**18 38 08.5**	**-0.8**
WB2				IAmb	IAmb	18 38 08.9	
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**44.20**	**262**	P	**P**	**18 38 08.7**	**-0.6**
WRAB				IAmb	IAmb	18 38 45.1	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**44.21**	**262**	P	**P**	**18 38 08.7**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=97,slow=7.6,SNR=38						
WRA	**Warramunga Arr**	**44.21**	**262**	P	**P**	**18 38 08.9**	**-0.4**
MTN	**Manton Dam**	**48.80**	**271**	P	**P**	**18 38 43.4**	**-0.7**
KNRA	**Kununurra**	**50.28**	**267**	P	**P**	**18 38 54.7**	**-0.3**
KNRA				IAmb	IAmb	18 39 40.6	
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.64**	**263**	P	**P**	**18 39 11.9**	**-0.1**
FITZ				IAmb	IAmb	18 39 50.6	
	comp=Z,15nm,1.5s						
SOEI	**Soe**	**56.14**	**272**	P	**P**	**18 39 37.9**	**+1.1**
VNDA	**Vanda**	**57.67**	**185**	P	**P**	**18 39 47.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**57.95**	**243**	P	**P**	**18 39 51.3**	**+2.6**
QSPA	**South Pole Qui**	**69.36**	**180**	P	**P**	**18 41 00.7**	**-0.3**
MJAR	**Matsushiro Arr**	**70.17**	**324**	P	**P**	**18 41 05.1**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=151,slow=5.3,SNR=2.2						
KSRS	**Korea Array**	**76.81**	**319**	P	**P**	**18 41 44.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=113,slow=5.8,SNR=2.2						
ARCES	**ARCESS Array B**	**129.06**	**349**	PKP	**PKPdf**	**18 48 51.8**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=51,slow=3.6,SNR=3.8						
AKASG	**Malin Array Be**	**143.02**	**331**	PKP	PKPab	18 49 16.0	-1.2
	comp=Z,1.7nm,0.4s,baz=39,slow=4.3,SNR=9.8						
BRTR	**Keskin Array B**	**146.71**	**312**	PKPbc	**PKPdf**	**18 49 27.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=119,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**150.30**	**344**	PKPbc	**PKPbc**	**18 49 37.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=26,slow=2.5,SNR=3.4						

*IDC **19** 18:43:48.7±4.5, 13°21N×88°08W, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.6/32, mbtmp3.5/6, ML3.4/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/20, Error ellipse: s-maj=108.2km s-min=50.5km az=18.0*
*INET **19** 18:43:57.6, 13°39N×88°86W, h66km, MW3.6*
*SNET **19** 18:43:59.4±0.7, 13°04N×89°05W, h41km±14km, ML4.2*
*UCR **19** 18:43:59.5±0.8, 13°05N×89°05W, h44km±12km, ML4.2*
ISC 19 18:43:59.8±1.4, **13°1N**±0°1×**89°00W**±0°05, **h59**km±9km, **n73**, σ0**875**/113, **mb3.4/4**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.46**	**28**	*eP*	**Pn**	**18 44 10.9**	**-0.4**
TECO				*eS*	**Sn**	**18 44 19.9**	**+0.2**
SJTE	**Alcalda de S**	**0.48**	**360**	*eP*	**Pn**	**18 44 11.4**	**-0.2**
SJTE				*eS*	**Sn**	**18 44 20.5**	**+0.3**
SJTE	**Alcalda de S**	**0.48**	**360**	*eP*	**Pn**	**18 44 11.4**	**-0.2**
SJTE				*eS*	**Sn**	**18 44 20.5**	**+0.3**
LFRS	**El Faro**	**0.50**	**353**	*eP*	**Pn**	**18 44 11.4**	**-0.4**
LFRS	**El Faro**	**0.50**	**353**	*eP*	**Pn**	**18 44 11.4**	**-0.4**
COEG	**Centro de Oper**	**0.50**	**14**	*eP*	**Pn**	**18 44 11.8**	**0.0**
COEG				*eS*	**Sn**	**18 44 21.0**	**+0.4**
COEG	**Centro de Oper**	**0.50**	**14**	*eP*	**Pn**	**18 44 11.8**	**0.0**
COEG				*eS*	**Sn**	**18 44 21.0**	**+0.4**
UESV	**Universidad de**	**0.55**	**23**	*eP*	**Pn**	**18 44 12.2**	**-0.1**
UESV				*eS*	**Sn**	**18 44 22.1**	**+0.8**
UESV	**Universidad de**	**0.55**	**23**	*eP*	**Pn**	**18 44 12.2**	**-0.1**
UESV				*eS*	**Sn**	**18 44 22.1**	**+0.8**
AEIL	**Aeropuerto Ilo**	**0.58**	**349**	*eP*	**Pn**	**18 44 12.5**	**-0.1**
AEIL				*eS*	**Sn**	**18 44 23.2**	**+1.2**
AEIL	**Aeropuerto Ilo**	**0.58**	**349**	*eP*	**Pn**	**18 44 12.5**	**-0.1**
AEIL				*eS*	**Sn**	**18 44 23.2**	**+1.2**
PAVA	**Las Pavas**	**0.58**	**6**	*eP*	**Pn**	**18 44 12.9**	**+0.2**
PAVA				*eS*	**Sn**	**18 44 23.1**	**+0.9**
PAVA	**Las Pavas**	**0.58**	**6**	*eP*	**Pn**	**18 44 12.9**	**+0.2**
PAVA				*eS*	**Sn**	**18 44 23.1**	**+0.9**
COEB	**Comit de Eme**	**0.59**	**51**	*eP*	**Pn**	**18 44 12.8**	**+0.1**
COEB				*eS*	**Sn**	**18 44 23.2**	**+0.9**
COEB				IAML		18 44 26.5	
	comp=Z,8μm,0.4s						
COEB	**Comit de Eme**	**0.59**	**51**	*eP*	**Pn**	**18 44 12.8**	**+0.1**
COEB				*eS*	**Sn**	**18 44 23.2**	**+0.9**
COEB				IAML		18 44 26.5	
	comp=Z,8μm,0.4s						
SNET	**Serv Nac Est T**	**0.60**	**338**	*eP*	**Pn**	**18 44 12.8**	**-0.1**
SNET				*eS*	**Sn**	**18 44 22.6**	**+0.1**
SNET				IAML		18 44 23.3	
	comp=Z,8μm,0.2s						
SNET	**Serv Nac Est T**	**0.60**	**338**	*eP*	**Pn**	**18 44 12.8**	**-0.1**
SNET				*eS*	**Sn**	**18 44 22.6**	**+0.1**
SNET				IAML		18 44 23.3	
	comp=Z,8μm,0.2s						
UTEC	**Universidad Te**	**0.60**	**341**	*eP*	**Pn**	**18 44 12.8**	**-0.2**
UTEC				*eS*	**Sn**	**18 44 23.3**	**+0.8**
UTEC	**Universidad Te**	**0.60**	**341**	*eP*	**Pn**	**18 44 12.8**	**-0.2**
UTEC				*eS*	**Sn**	**18 44 23.3**	**+0.8**
UDBS	**Universidad Do**	**0.60**	**346**	*eP*

APG				Lg	Lg	18 45 10.2		
	comp=Z,8.4nm,0.3s,baz=96,slow=17,SNR=2.1							
JTS	**Las Juntas de**	**4.87**	**125**	Pg	Pn	18 45 16.4	+5.9	
	comp=Z,3.9nm,0.3s,baz=319,slow=8.6,SNR=28							
JTS				Lg	Lg	18 46 16.9		
	comp=Z,3.3nm,0.3s,baz=154,slow=21,SNR=8.3							
CMIG	**Matias Romero**	**6.91**	**305**	Pn	**Pn**	**18 45 41.2**	**+2.7**	
	comp=Z,0.7nm,0.3s,baz=129,slow=6.5,SNR=2.5							
CMIG				Sn	**Sn**	**18 46 55.9**	**+0.2**	
	comp=Z,1.4nm,0.3s,baz=124,slow=13,SNR=1.9							
TXAR	**Lajitas Array**	**21.10**	**322**	P	**P**	**18 48 40.5**	**+0.9**	
	comp=Z,0.9nm,0.6s,baz=144,slow=11,SNR=16							
TKL	**Tuckaleechee C**	**22.92**	**11**	LR	LR	18 58 16.5		
	comp=Z,32nm,19.9s,baz=210,slow=38							
ANMO	**Albuquerque**	**26.86**	**327**	LR	LR	19 01 32.5		
	comp=Z,16nm,18.4s,baz=140,slow=39							
NVAR	**Mina Array Bea**	**36.20**	**319**	P	**P**	**18 50 57.9**	**+0.7**	
	comp=Z,0.3nm,0.6s,baz=125,slow=7.8,SNR=2.8							
YKA	**Yellowknife Ar**	**52.57**	**345**	P	**P**	**18 53 05.2**	**-1.9**	
	comp=Z,1.2nm,0.8s,baz=142,slow=7.8,SNR=7.4							
ILAR	**Eielson Array**	**64.79**	**336**	P	**P**	**18 54 30.5**	**-1.5**	
	comp=Z,0.3nm,0.6s,baz=148,slow=4.3,SNR=2.4							
WRA	**Warramunga Arr**	**137.99**	**255**	PKP	**PKPdf**	**19 03 17.8**	**-0.9**	
	comp=Z,0.7nm,0.8s,baz=89,slow=1.8,SNR=6.3							

*SOME **19** 19:12:25.9, 46˚.18N×86˚.83E, h0km*
NNC 19 19:12:31.0±5.8, 48˚.64N×87˚.00E, h0km, mb3.0, mpv2.6, 8C-1D, Error ellipse: s-maj=86.6km s-min=38.6km az=149.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.86**	**231**	*e*P	Pb	19 13 05.8	-0.1
	14nm,0.2s						
ZSN				*e*S	Sg	19 13 34.5	+3.6
	25nm,0.3s						
ZSN	**Zaisan**	**1.86**	**231**	Pg	Pb	19 13 05.8	-0.1
	14nm,0.2s						
ZSN				Lg	Lg	19 13 34.5	
	25nm,0.3s						
MK31	**Makanchi Array**	**3.68**	**242**	⇑Pn	Pn	19 13 29.3	+0.1
	0.1nm,0.2s,baz=72,slow=12,SNR=11						
MK31				⇑Pg	Pg	19 13 39.6	-1.9
	0.8nm,0.5s,baz=54,slow=16,SNR=8.6						
MK31				⇑Sn	Sn	19 14 15.7	+2.5
	1.0nm,0.5s,baz=149,slow=68,SNR=4.7						
MK31				⇑Lg	Lg	19 14 27.5	
	0.2nm,0.2s,baz=45,slow=31,SNR=2.5						
MAKZ	**Makanchi**	**3.86**	**243**	⇑Pn	Pn	19 13 31.8	+0.2
	1.2nm,0.9s						
MAKZ				⇑Pg	Pg	19 13 42.8	-2.1
	1.7nm,0.9s						
MAKZ				⇑Sn	Sn	19 14 19.9	+2.3
	0.8nm,0.4s						
MAKZ				⇑Lg	Lg	19 14 33.0	
	2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**5.85**	**293**	⇓Lg	Lg	19 15 29.6	
	6.7nm,0.6s						
KAPS	**Kapalarasan**	**6.22**	**240**	*e*P	Pn	19 14 05.3	+1.3
	0.1nm,0.3s						
KAPS				*e*S	Sn	19 15 16.3	+0.5
	0.1nm,0.3s						
KAPS	**Kapalarasan**	**6.22**	**240**	Pg	Pn	19 14 05.4	+1.3
	0.1nm,0.3s						
KAPS				Lg	Lg	19 15 16.3	
	0.1nm,0.3s						

*ISU **19** 19:25:48, 40˚.26N×73˚.53E, h20km*
*KRNET **19** 19:25:48.0±0.1, 40˚.26N×71˚.53E, h14km, mb2.7*
*SOME **19** 19:25:50.7, 40˚.47N×71˚.52E, h10km*
*NNC **19** 19:25:55.1±4.1, 40˚.29N×72˚.11E, h6km±11km, mb3.6, mpv3.4, Error ellipse: s-maj=33.1km s-min=13.3km az=7.0*
ISC 19 19:25:48.0±1.2, 40˚.34N±0˚.03×71˚.53E±0˚.02, h1km±10km, n34, σt55/59, 20C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINT	**Mingtut**	**0.44**	**287**	*e*P	**Pg**	**19 25 58.0**	**+1.6**
MINT				*e*S	**Sg**	**19 26 05.0**	**+2.9**
FRG	**Fergana**	**0.44**	**27**	*e*P	**Pg**	**19 25 54.0**	**-2.5**
FRG				*e*S	**Sg**	**19 25 58.0**	**-4.2**
BTK	**Batken**	**0.61**	**243**	⇑*i*P	**Pg**	**19 25 59.2**	**-0.5**
	baz=50						
BTK				⇑*i*S	**Sg**	**19 26 07.3**	**-0.3**
	baz=50						
BTK	**Batken**	**0.61**	**243**	*i* P	**Pg**	**19 25 59.0**	**-0.7**
BTK				*i* S	**Sg**	**19 26 07.0**	**-0.6**
ANR	**Andizhan**	**0.76**	**57**	*e*P	**Pn**	**19 26 08.0**	**+2.1**
ANR				*e*S	**Sn**	**19 26 18.0**	**0.0**
DRK	**Karamyk**	**0.88**	**166**	⇑*i*P	Pg	19 26 03.2	-1.7
	baz=65						
DRK				⇑*i*S	Sg	19 26 14.3	-2.1
	baz=65						
OHH	**Osh**	**0.98**	**79**	⇑*i*P	**Pg**	**19 26 06.8**	**0.0**
	baz=74						
OHH				⇑*i*S	**Sg**	**19 26 20.2**	**+0.7**
	baz=74						
OHH	**Osh**	**0.98**	**79**	*e*P	**Pg**	**19 26 09.0**	**+2.2**
OHH				*e*S	**Sg**	**19 26 20.0**	**+0.5**
TRKS	**Terek-Say**	**1.23**	**346**	⇑*i*P	**Pg**	**19 26 11.1**	**-0.4**
	baz=47						
TRKS				⇑*i*S	**Sn**	**19 26 28.2**	**-1.5**
	baz=47						
ARSB	**Arslanbob**	**1.48**	**48**	⇓*i*P	**Pn**	**19 26 16.4**	**+0.5**
	baz=45						
ARSB				⇓*i*S	**Sg**	**19 26 36.8**	**+1.2**
	baz=45						
ARSB	**Arslanbob**	**1.48**	**48**	*e*P	**Pb**	**19 26 17.0**	**+0.6**
ARSB				*e*S	**Sg**	**19 26 39.0**	**+3.4**
SFK	**Sufi-Kurgan**	**1.55**	**101**	⇑*i*P	**Pn**	**19 26 16.5**	**-0.5**
	baz=98						
SFK				⇑*i*S	**Sn**	**19 26 37.3**	**-0.5**
	baz=98						
SFK	**Sufi-Kurgan**	**1.55**	**101**	*e*P	**Pn**	**19 26 16.0**	**-0.9**
SFK				*e*S	**Sn**	**19 26 39.0**	**+1.2**
GAR	**Garm**	**1.63**	**215**	⇑*i*P	**Pn**	**19 26 17.1**	**-0.8**
	baz=17						
GAR				⇑*i*S	**Sn**	**19 26 38.1**	**-1.5**
	baz=17						
MNAS	**Manas**	**2.27**	**19**	⇑*i*P	**Pb**	**19 26 29.0**	**-0.8**
	baz=18						
MNAS				⇑*i*S	**Sg**	**19 26 58.6**	**-2.3**
	baz=18						
AML	**Almayashu**	**2.42**	**42**	⇓*i*P	**Pn**	**19 26 31.1**	**+2.0**
	baz=40						
AML				⇓*i*S	**Sb**	**19 27 02.4**	**-0.8**
	baz=40						
CHGR	**Chuyangaron**	**2.48**	**228**	⇓*e*P	**Pn**	**19 26 30.4**	**+0.7**
	baz=30						
CHGR				⇓*i*S	**Sn**	**19 27 01.0**	**+0.3**
	baz=30						
DZA	**Taraz**	**2.56**	**357**	Pg	Pg	19 26 43.1	+6.2
	51nm,0.1s						
DZA				Lg	Lg	19 27 12.7	
	88nm,0.3s						
ARLS	**Aral**	**2.60**	**53**	⇑*i*P	**Pn**	**19 26 33.0**	**+1.6**
	baz=52						
ARLS				⇑*i*S	**Sb**	**19 27 06.2**	**-1.9**
	baz=52						
MRKS	**Merke**	**2.72**	**27**	*e*P	**Pg**	**19 26 41.1**	**+0.9**
	6.3nm,0.3s						
MRKS				*e*S	**Sg**	**19 27 16.0**	**+0.6**
	23nm,0.2s						
MRKS	**Merke**	**2.72**	**27**	Pg	**Pg**	**19 26 40.7**	**+0.5**
	6.3nm,0.3s						
MRKS				Lg	Lg	19 27 08.8	
	23nm,0.2s						
KK31	**Karatay Array**	**2.86**	**345**	⇓Pn	**Pg**	**19 26 41.9**	**-1.0**
	2.0nm,0.3s,baz=172,slow=18,SNR=16						
KK31				⇓Sn	**Sg**	**19 27 21.7**	**+1.7**
	10nm,0.6s,baz=152,slow=26,SNR=3.9						
EKS2	**Erkin-Say**	**2.87**	**35**	⇑*e*P	**Pn**	**19 26 37.3**	**+2.3**
	baz=34						
EKS2				⇑*i*S	**Sb**	**19 27 12.9**	**-2.9**
	baz=34						
AAK	**Ala-Archa**	**3.20**	**43**	⇑Pg	**Pb**	**19 26 47.7**	**+2.0**
	5.1nm,0.8s						
AAK				⇓Lg	Lg	19 27 26.8	
	11nm,0.6s						
TKM2	**Tokmak 2**	**4.00**	**48**	⇑Pn	**Pn**	**19 26 53.2**	**+2.7**
	2.8nm,0.3s						
TKM2				⇓Sn	**Sn**	**19 27 39.4**	**+1.3**
	3.1nm,0.4s						
TKM2				⇓Lg	Lg	19 27 52.6	
	4.8nm,0.5s						

KST	**Kastek**	**4.28**	**49**	*e*P	**Pg**	**19 27 09.2**	**-0.8**	
	2.7nm,0.4s							
KST				*e*S	**Sg**	**19 28 03.6**	**-2.0**	
	8.0nm,0.7s							
KST	**Kastek**	**4.28**	**49**	Pg	**Pg**	**19 27 08.6**	**-1.5**	
	2.7nm,0.4s							
KST				Lg	Lg	19 27 57.3		
	8.0nm,0.7s							
DGS	**Degeres**	**4.30**	**46**	*e*P	**Pg**	**19 27 10.4**	**0.0**	
	1.2nm,0.4s							
DGS				*e*S	**Sg**	**19 28 05.8**	**-0.3**	
	5.9nm,0.3s							
DGS	**Degeres**	**4.30**	**46**	Pg	**Pg**	**19 27 08.8**	**-1.6**	
	1.2nm,0.3s							
DGS				Lg	Lg	19 27 57.2		
	5.9nm,0.3s							
KRBS	**Karabastau**	**4.56**	**41**	*e*P	**Pg**	**19 27 15.6**	**+0.2**	
	0.7nm,0.5s							
KRBS				*e*S	**Sg**	**19 28 14.4**	**-0.1**	
	3.6nm,0.5s							
MDOK	**Medeo**	**5.00**	**54**	*e*P	**Pg**	**19 27 23.8**	**0.0**	
	1.4nm,0.6s							
MDOK				*e*S	**Sg**	**19 28 28.6**	**0.0**	
	2.8nm,0.6s							
KOTS	**Kotyrbulak**	**5.08**	**53**	*e*P	**Pg**	**19 27 25.2**	**-0.2**	
	2.6nm,0.5s							
KOTS				*e*S	**Sg**	**19 28 31.0**	**-0.2**	
	4.6nm,0.5s							
KOTS	**Kotyrbulak**	**5.08**	**53**	Pg	**Pg**	**19 27 24.5**	**-0.8**	
	2.5nm,0.4s							
KOTS				Lg	Lg	19 28 25.0		
	4.6nm,0.5s							
KTBS	**Karatobe**	**5.11**	**47**	*e*P	**Pg**	**19 27 24.8**	**-1.1**	
	1.8nm,0.9s							
KTBS				*e*S	**Sg**	**19 28 30.4**	**-1.7**	
	9.1nm,0.5s							

*IDC **19** 20:01:42.8±0.9, 44˚.10N×105˚.84W, h0km, mb4.1/2, mb1 3.8/8, mb1mx3.6/45, mbtmp3.6/8, ML3.5/6, Error ellipse: s-maj=25.9km s-min=8.5km az=144.0*
*NEIC **19** 20:01:42.5±1.1, 43˚.79N±0˚.05×105˚.26W±0˚.08, h0km±2km, ML3.5/62, Error ellipse: s-maj=10.0km s-min=8.6km az=279.0*
ISC 19 20:01:41.6±0.8, 43˚.80N±0˚.05×105˚.22W±0˚.07, h0km, n74, σ0s99/73, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**69**	Pg	**Pn**	**20 02 00.8**	**-1.1**
K22A	**Casper**	**1.49**	**220**		**Pn**	**20 02 07.8**	**-2.1**
K22A				IAML		20 02 33.5	
	comp=N,501nm,0.5s						
K22A				IAML		20 02 34.0	
	comp=E,429nm,0.3s						
PHWY	**Pilot Hill**	**2.51**	**184**		**Pn**	**20 02 23.7**	**-0.2**
RWWY	**Rawlins**	**2.57**	**215**		**Pn**	**20 02 24.2**	**-0.6**
RWWY				IAML		20 03 00.1	
	comp=E,266nm,0.8s						
RWWY				IAML		20 03 02.1	
	comp=E,242nm,0.7s						
LAO	**LASA Array**	**2.97**	**347**		**Pn**	**20 02 30.6**	**+0.5**
LAO				IAML		20 03 15.4	
	comp=E,209nm,0.3s						
LAO				IAML		20 03 31.2	
	comp=E,250nm,0.7s						
RLMT	**Red Lodge**	**3.18**	**296**	Pn	**Pn**	**20 02 33.0**	**-0.2**
RLMT				IAML		20 03 32.4	
	comp=E,77nm,0.5s						
BW06	**Boulder Array**	**3.33**	**253**		**Pn**	**20 02 35.0**	**-0.2**
PD31	**Pinedale Array**	**3.33**	**253**		**Pn**	**20 02 34.9**	**-0.3**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**20 02 34.9**	**-0.3**
	comp=E,7.6nm,0.3s,baz=68,slow=16,SNR=62						
PDAR				Lg	Lg	20 03 16.6	
	comp=E,7.0nm,0.3s,baz=74,slow=12,SNR=1.5						
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**20 02 34.8**	**-0.4**
YNE	**Yellowstone No**	**3.63**	**291**	Pn	**Pn**	**20 02 39.5**	**+0.1**
YNE				IAML		20 03 52.1	
	comp=E,125nm,1.1s						
YNE				IAML		20 04 06.7	
	comp=N,101nm,1.8s						
YMP	**Mirror Lake PI**	**3.66**	**287**		**Pn**	**20 02 40.3**	**+0.4**
YMP				IAML		20 03 40.9	
	comp=E,138nm,0.4s						
YMP				IAML		20 03 43.5	
	comp=N,139nm,0.5s						
OGNE	**Ogallala**	**3.71**	**139**		**Pn**	**20 02 41.5**	**+1.3**
GCMT	**Greycliff**	**3.73**	**304**		**Pn**	**20 02 41.0**	**+0.3**
LKWY	**Lake**	**3.80**	**283**	Pn	**Pn**	**20 02 42.3**	**+0.6**
LKWY				IAML		20 03 09.1	
	comp=N,68nm,0.7s						
LKWY				IAML		20 04 45.2	
	comp=N,100nm,0.5s						
H17A	**Grant Village**	**3.90**	**281**		**Pn**	**20 02 43.5**	**+0.5**
H17A				IAML		20 03 45.8	
	comp=N,54nm,0.6s						
LOHW	**Long Hollow**	**3.91**	**269**		**Pn**	**20 02 43.5**	**+0.4**
FLWY	**Flagg Ranch**	**3.96**	**276**		**Pn**	**20 02 44.3**	**+0.4**
FLWY				IAML		20 03 53.3	
	comp=N,51nm,1.4s						
FLWY				IAML		20 03 59.3	
	comp=N,38nm,1.4s						
ISCO	**Idaho Springs**	**4.01**	**184**	Pn	**Pn**	**20 02 44.8**	**+0.1**
YNR	**Norris Junctio**	**4.02**	**285**	Pn	**Pn**	**20 02 45.4**	**+0.6**
SNOW	**Snow King Moun**	**4.03**	**267**		**Pn**	**20 02 44.4**	**-0.4**
SNOW				IAML		20 04 03.4	
	comp=N,54nm,0.7s						
SNOW				IAML		20 04 21.7	
	comp=N,48nm,1.2s						
REDW	**Red Top Meadow**	**4.11**	**266**		**Pn**	**20 02 46.0**	**+0.1**
REDW				IAML		20 03 53.4	
	comp=N,66nm,0.7s						
REDW				IAML		20 04 07.5	
	comp=N,49nm,1.3s						
YHH	**Holmes Hill**	**4.16**	**286**		**Pn**	**20 02 47.0**	**+0.3**
TPAW	**Teton Pass**	**4.17**	**268**		**Pn**	**20 02 47.1**	**+0.3**
TPAW				IAML		20 04 14.0	
	comp=N,59nm,1.0s						
YMR	**Madison River**	**4.22**	**284**	Pn	**Pn**	**20 02 47.3**	**0.0**
YMR				IAML		20 03 33.4	
	comp=N,80nm,0.3s						
E28A	**Huff**	**4.24**	**48**	Pn	**Pn**	**20 02 49.0**	**+1.6**
O20A	**White River Ci**	**4.30**	**213**	IAML		20 03 59.0	
	comp=E,59nm,0.6s						
O20A				IAML		20 04 05.9	
	comp=N,46nm,1.0s						
AHID	**Auburn Hatcher**	**4.41**	**258**		**Pn**	**20 02 49.5**	**-0.5**
AHID				IAML		20 04 29.3	
	comp=E,65nm,0.1s						
AHID				IAML		20 04 33.0	
	comp=N,64nm,0.1s						
ECR	**Eagle Creek**	**4.54**	**263**		**Pn**	**20 02 51.1**	**-0.7**
SUSD	**Miller**	**4.56**	**80**	Pn	**Pn**	**20 02 53.4**	**+1.5**
RDMU	**Red Mountain**	**4.57**	**226**		**Pn**	**20 02 53.0**	**+0.8**
RDMU				IAML		20 04 11.5	
	comp=E,28nm,1.0s						
RDMU				IAML		20 04 13.7	
	comp=N,40nm,0.9s						
QLMT	**Earthquake Lak**	**4.57**	**285**		**Pn**	**20 02 53.7**	**+1.5**
DGMT	**Dagmar**	**4.72**	**8**		**Pn**	**20 02 55.4**	**+1.2**
SMCO	**Snowmass**	**4.80**	**196**	Pn	**Pn**	**20 02 56.2**	**+0.6**
SMCO				IAML		20 04 21.7	
	comp=N,23nm,0.8s						
SMCO				IAML		20 04 27.6	
	comp=N,25nm,1.1s						
K31A	**O'Neill**	**4.87**	**102**	Pn	**Pn**	**20 02 57.4**	**+1.2**
HWUT	**Hardware Ranch**	**5.16**	**247**	Pn	**Pn**	**20 03 00.2**	**-0.1**
HWUT				IAML		20 04 35.2	
	comp=N,36nm,1.0s						
HWUT				IAML		20 04 40.7	
	comp=N,40nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.17**	**157**		**Pn**	**20 03 00.5**	**+0.2**
EGMT	**Eagleton**	**5.27**	**325**		**Pn**	**20 03 01.1**	**-0.6**
DLMT	**Dillon**	**5.49**	**289**		**Pn**	**20 03 06.5**	**+1.7**
HRY	**Holter Researc**	**5.50**	**304**		**Pn**	**20 03 05.2**	**+0.4**
LRM	**Limekiln Ridge**	**5.52**	**294**		**Pn**	**20 03 05.3**	**0.0**
MCMT	**McKenzie Canyo**	**5.57**	**283**		**Pn**	**20 03 07.1**	**+1.2**
JLU	**Jordanelle**	**5.62**	**237**		**Pn**	**20 03 07.6**	**+0.9**
SPUT	**South Promonto**	**5.89**	**247**		**Pn**	**20 03 13.1**	**+2.8**
PV22	**Blue Mesa, Par**	**5.91**	**208**		**Pn**	**20 03 10.2**	**-0.4**
HVU	**Hansel Valley**	**5.91**	**253**		**Pn**	**20 03 10.3**	**-0.3**
PV07	**Paradox Valley**	**5.95**	**207**		**Pn**	**20 03 11.2**	**0.0**
P17A	**Butcher Ranch,**	**5.98**	**226**		**Pn**	**20 03 12.4**	**+0.8**
PV15	**Paradox Valley**	**5.99**	**205**		**Pn**	**20 03 12.3**	**+0.6**
PV04	**Paradox Valley**	**6.08**	**208**		**Pn**	**20 03 12.8**	**-0.1**
PV14	**Lion Creek, Pa**	**6.14**	**209**		**Pn**	**20 03 14.2**	**+0.5**
PV20	**West Nyswonger**	**6.14**	**209**		**Pn**	**20 03 13.9**	**+0.1**
SRU	**San Rafael Swe**	**6.15**	**222**	Pn	**Pn**	**20 03 13.5**	**-0.4**
PV11	**David Mesa, Pa**	**6.15**	**208**		**Pn**	**20 03 14.3**	**+0.4**
PV16	**Nyswonger Mesa**	**6.16**	**208**		**Pn**	**20 03 14.3**	**+0.4**
PV02	**Paradox Valley**	**6.19**	**207**		**Pn**	**20 03 14.8**	**+0.3**
PV01	**Paradox Valley**	**6.20**	**205**		**Pn**	**20 03 15.0**	**+0.3**
PV18	**Skein Mesa, Pa**	**6.21**	**208**	Pn	**Pn**	**20 03 15.1**	**+0.4**
ECSD	**EROS Data Cent**	**6.24**	**88**	Pn	**Pn**	**20 03 16.0**	**+1.1**
PV13	**Radium Mtn., P**	**6.26**	**207**		**Pn**	**20 03 15.5**	**+0.1**
TMUT	**Trail Mountain**	**6.36**	**227**		**Pn**	**20 03 17.3**	**+0.4**
NLU	**North Lily Min**	**6.40**	**235**		**Pn**	**20 03 17.7**	**+0.4**
HLID	**Hailey**	**6.67**	**271**	Pn	**Pn**	**20 03 22.2**	**+1.2**
F33A	**5 Mile Ranch,**	**6.67**	**69**		**Pn**	**20 03 22.9**	**+2.1**
DUG	**Dugway, Tooele**	**6.70**	**240**		**Pn**	**20 03 21.4**	**-0.1**
ELK	**Elko**	**8.03**	**251**	Pn	**Pn**	**20 03 39.1**	**-0.7**
	comp=N,0.5nm,0.3s,baz=49,slow=11,SNR=4.1						
ELK				Lg	Lg	20 05 47.6	
	comp=N,0.1nm,0.3s,baz=173,slow=17,SNR=1.4						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**20 03 54.1**	**+0.4**
	comp=N,2.4nm,0.3s,baz=233,slow=11,SNR=12						
ULM				Pg		20 04 22.9	
	comp=N,0.7nm,0.3s,baz=228,slow=15,SNR=2.0						
ULM				Lg	Lg	20 06 20.6	
	comp=N,0.8nm,0.3s,baz=288,slow=20,SNR=2.0						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**20 03 53.0**	**-0.8**
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn	**Pn**	**20 04 24.8**	**+1.3**
	comp=N,0.2nm,0.3s,baz=50,slow=12,SNR=7.6						
YBH	**Yreka Blue Hor**	**13.02**	**267**	Pn	**Pn**	**20 04 51.8**	**+4.0**
	comp=N,0.1nm,0.3s,baz=57,slow=12,SNR=5.1						
TXAR	**Lajitas Array**	**14.49**	**175**	Pn	**P**	**20 05 15.2**	**+0.1**
	comp=N,0.1nm,0.3s,baz=355,slow=10.0,SNR=3.7						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**P**	**20 06 08.3**	**-1.8**
	comp=N,0.1nm,0.3s,baz=165,slow=12,SNR=2.1						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**20 11 57.5**	**-1.1**
	comp=N,2.1nm,0.9s,baz=343,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**20 14 40.2**	**-0.5**
	comp=N,0.7nm,0.8s,baz=7.8,slow=4.1,SNR=7.8						

IDC 19 20:05:45.8±2.1, 8˚.98S×127˚.38E, h0km, mb3.3/1, mb1 3.8/5, mb1mx3.5/32, mbtmp3.6/5, ML3.9/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=48.3km s-min=29.4km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.87**	**251**	Pn	Pn	20 06 47.1	+0.6
	5.5nm,0.3s,baz=170,slow=1.8,SNR=5.9						
BATI				Sn	Sn	20 07 30.5	-2.3
	16nm,0.3s,baz=190,slow=5.3,SNR=6.4						
FITZ	**Fitzroy Crossi**	**9.23**	**190**	Pn	Pn	20 08 00.3	+0.1
	0.7nm,0.3s,baz=14,slow=16,SNR=16						
FITZ				Sn	Sn	20 09 39.1	-5.7
	3.0nm,0.3s,baz=270,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**12.81**	**149**	Pn	Pn	20 08 49.2	-0.1
	0.8nm,0.3s,baz=320,slow=14,SNR=14						
WRA				Sn	Sn	20 11 07.0	-5.8
	0.8nm,0.3s,baz=318,slow=26,SNR=6.2						
ASAR	**Alice Springs**	**15.89**	**158**	Pn	Pn	20 09 30.8	-0.2
	0.5nm,0.3s,baz=332,slow=9.6,SNR=28						
ASAR				Sn	Sn	20 12 20.2	-7.6
	0.2nm,0.3s,baz=321,slow=22,SNR=2.6						
NWAO	**Narrogin (SRO)**	**25.62**	**200**	LR	LR	20 22 30.2	
	comp=Z,38nm,20.9s,baz=147,slow=39						
MKAR	**Makanchi Array**	**68.50**	**328**	P	P	20 16 49.9	-0.1
	0.1nm,0.4s,baz=131,slow=8.0,SNR=2.4						

IDC 19 20:22:19.9±5.5, 29˚.99S×178˚.34W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/26, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=337.9km s-min=73.8km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**28.99**	**71**	LR	LR	20 36 51.4	
	comp=Z,49nm,20.9s,baz=274,slow=30						
ASAR	**Alice Springs**	**42.84**	**267**	P	P	20 30 19.6	-0.3
	0.3nm,0.6s,baz=104,slow=7.4,SNR=6.3						
WRA	**Warramunga Arr**	**43.79**	**272**	P	P	20 30 27.6	0.0
	0.3nm,0.3s,baz=110,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**144.66**	**340**	PKP	PKPdf	20 41 57.2	-0.6
	0.7nm,0.7s,baz=67,slow=6.4,SNR=5.1						

MEX 19 20:50:19.6±0.3, 15˚.16N×92˚.00W, h15km±4km, MD3.5, Mexico-Guatemala border region

*NNC **19** 20:52:10.8±3.9, 36˚.50N×70˚.44E, h51km±92km, mb3.9, mpv3.8, Error ellipse: s-maj=31.6km s-min=26.8km az=67.0*
ISC 19 20:52:12.3±2.7, 36˚.6N±0˚.2×70˚.5E±0˚.1, h100km, n13, σ0s93/16, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.05**	**23**	P	**Pn**	**20 53 39.8**	**+0.3**
	SNR=36						
KK31	**Karatay Array**	**6.50**	**360**	P	**Pn**	**20 53 44.2**	**-1.2**
	0.6nm,0.2s,baz=191,slow=17,SNR=28						
KK31				S	**Sn**	**20 54 58.6**	**+0.5**
	6.6nm,0.4s,baz=178,slow=17,SNR=12						
EKS2	**Erkin-Say**	**6.55**	**21**	P	**Pn**	**20 53 46.6**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**6.76**	**26**	P	**Pn**	**20 53 49.5**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**6.76**	**26**	⇑P	**Pn**	**20 53 49.0**	**-0.1**
	8.8nm,0.5s

s-maj=47.4km s-min=17.8km az=133.0
*NEIC **19** 21:33:44.7±1.9, 18.0S±0.1×178.4W±0.1, h577km±9km, mb4.3/28, Error ellipse: s-maj=21.2km s-min=16.4km az=148.0*
ISC 19 21:33:44.3±0.6, **18.0S**±0.1×**178.40W**±0.10, **h579km, n48, σ0.89/50, mb4.2/22, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.39**	**274**	P			**P**	**21 35 02.4**	**-1.8**
	25nm,0.3s,baz=131,slow=3.9,SNR=70								
MSVF				S			**S**	**21 36 07.0**	**-2.3**
	baz=89,slow=23,SNR=0.5								
MSVF	**Nonsavu**	**3.39**	**274**	P			**P**	**21 35 02.7**	**-1.6**
AFI	**Afiamalu**	**7.56**	**58**	P			**P**	**21 35 38.1**	**-0.8**
OUENC	**Ouen Island, N**	**14.53**	**250**	P			**P**	**21 36 50.0**	**+1.4**
DZM	**Mont Dzumac**	**14.80**	**252**	P			**P**	**21 36 52.7**	**+1.2**
	0.5nm,0.3s,baz=163,slow=20,SNR=7.1								
DZM	**Mont Dzumac**	**14.80**	**252**	P			**P**	**21 36 52.9**	**+1.4**
TARA	**Tarawa**	**21.04**	**335**	P			**P**	**21 37 50.1**	**+1.6**
QRZ	**Quartz Range**	**24.05**	**197**	P			**P**	**21 38 16.1**	**+1.0**
LTZ	**Lake Taylor**	**25.95**	**196**	P			**P**	**21 38 32.5**	**+0.7**
FOZ	**Fox Glacier**	**27.34**	**199**	P			**P**	**21 38 43.4**	**-0.4**
FOZ					IAmb		IAmb	21 39 01.8	
	comp=Z,5.3nm,0.6s								
PPTF	**Pamatai, Papee**	**27.45**	**94**	P			**P**	**21 38 45.6**	**+0.2**
WKZ	**Wanaka**	**28.75**	**199**	P			**P**	**21 38 55.2**	**-1.0**
EIDS	**Eidsvold**	**29.24**	**250**	P			**P**	**21 39 00.8**	**0.0**
EIDS					IAmb		IAmb	21 39 01.2	
	comp=Z,5.3nm,0.9s								
MLZ	**Mavora Lakes**	**29.52**	**199**	P			**P**	**21 39 02.9**	**+0.1**
MLZ					IAmb		IAmb	21 39 19.4	
	comp=Z,18nm,1.2s								
ARMA	**Armidale**	**29.90**	**240**	P			**P**	**21 39 06.8**	**+0.3**
ARMA					IAmb		IAmb	21 39 20.3	
	comp=Z,9.3nm,1.1s								
WHZ	**Wether Hill Ro**	**30.04**	**199**	P			**P**	**21 39 06.8**	**-0.5**
WHZ					IAmb		IAmb	21 39 23.1	
	comp=Z,12nm,1.0s								
TOO	**Toolangi**	**37.12**	**231**	P			**P**	**21 40 07.8**	**+0.9**
TOO					IAmb		IAmb	21 40 25.1	
	comp=Z,7.5nm,1.0s								
STKA	**Stephens Creek**	**38.59**	**241**	P			**P**	**21 40 19.1**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=91,slow=11,SNR=10								
STKA	**Stephens Creek**	**38.59**	**241**	P			**P**	**21 40 19.5**	**+0.6**
BBOO	**Buckleboo**	**43.37**	**241**	P			**P**	**21 40 57.1**	**+0.4**
BBOO					IAmb		IAmb	21 40 58.5	
	comp=Z,9.8nm,1.0s								
WR0	**Warramunga Arr**	**44.43**	**260**	P			**P**	**21 41 04.9**	**-0.1**
WB0	**Warramunga Arr**	**44.59**	**260**	P			**P**	**21 41 06.0**	**-0.2**
WB0					IAmb		IAmb	21 41 09.2	
	comp=Z,6.6nm,1.1s								
WB2	**Warramunga Arr**	**44.61**	**260**	P			**P**	**21 41 05.8**	**-0.6**
WB2					IAmb		IAmb	21 41 06.4	
	comp=Z,5.1nm,0.6s								
WRA	**Warramunga Arr**	**44.62**	**260**	P			**P**	**21 41 05.6**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=96,slow=6.9,SNR=68								
WRA					PcP		**PcP**	**21 42 37.1**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=99,slow=3.5,SNR=1.9								
WRA	**Warramunga Arr**	**44.62**	**260**	P			**P**	**21 41 05.7**	**-0.8**
AS31	**Alice Springs**	**44.77**	**254**	P			**P**	**21 41 07.7**	**0.0**
AS31					IAmb		IAmb	21 41 08.2	
	comp=Z,8.9nm,0.7s								
ASAR	**Alice Springs**	**44.77**	**254**	P			**P**	**21 41 07.7**	**0.0**
	comp=Z,31nm,0.5s,baz=89,slow=8.3,SNR=519								
ASAR					PcP		**PcP**	**21 42 37.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=98,slow=4.6,SNR=2.8								
MTN	**Manton Dam**	**48.80**	**269**	P			**P**	**21 41 37.4**	**-0.6**
MTN					IAmb		IAmb	21 41 49.0	
	comp=Z,10nm,1.0s								
FORT	**Forrest**	**49.98**	**245**	P			**P**	**21 41 44.6**	**-1.8**
KNRA	**Kununurra**	**50.49**	**264**	P			**P**	**21 41 49.9**	**-0.4**
FAKI	**Fak Fak**	**50.60**	**281**	P			**P**	**21 41 50.9**	**-0.3**
FAKI					IAmb		IAmb	21 41 51.1	
	comp=Z,16nm,1.1s								
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P			**P**	**21 42 08.7**	**+0.2**
SOEI	**Soe**	**56.08**	**270**	P			**P**	**21 42 30.5**	**+0.5**
SOEI					IAmb		IAmb	21 42 33.4	
	comp=Z,21nm,1.0s								
PSA00	**Pilbara Seismi**	**57.89**	**255**	P			**P**	**21 42 41.5**	**-0.7**
PSA00	**Pilbara Seismi**	**57.89**	**255**	P			**P**	**21 42 41.9**	**-0.3**
PSA00					IAmb		IAmb	21 42 54.1	
	comp=Z,3.4nm,1.1s								
MORW	**Morawa**	**60.45**	**246**	P			**P**	**21 42 58.8**	**-0.4**
MORW					IAmb		IAmb	21 43 02.0	
	comp=Z,7.1nm,1.1s								
GIRL	**Giralia**	**62.88**	**253**	P			**P**	**21 43 15.3**	**+0.2**
MJAR	**Matsushiro Arr**	**67.98**	**323**	P			**P**	**21 43 45.8**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=259,slow=28,SNR=4.4								
MJAR	**Matsushiro Arr**	**67.98**	**323**		IAmb		IAmb	21 43 47.1	
	comp=Z,2.4nm,0.9s								
PETK	**Petropavlovsk-**	**73.76**	**345**	P			**P**	**21 44 20.4**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=144,slow=8.3,SNR=4.5								
KSRS	**Korea Array**	**74.77**	**318**	P			**P**	**21 44 27.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=140,slow=5.9,SNR=2.0								
ILAR	**Eielson Array**	**85.97**	**13**	P			**P**	**21 45 22.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=222,slow=5.2,SNR=8.6								
PDAR	**Pinedale Array**	**87.41**	**43**	P			**P**	**21 45 31.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=251,slow=2.8,SNR=2.6								
MKAR	**Makanchi Array**	**109.20**	**314**	PKiKP			**PKiKP**	**21 51 08.1**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=55,slow=3.2,SNR=4.3								
BRTR	**Keskin Array B**	**144.85**	**315**	PKP			**PKPdf**	**21 52 16.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=120,slow=5.5,SNR=8.6								
BRTR	**Keskin Array B**	**144.85**	**315**				**PKPdf**	**21 52 17.3**	**+0.8**
CLL	**Collm**	**145.55**	**347**	*i* PKPbc			**PKPbc**	**21 52 19.3**	**+0.7**
	comp=Z,5.0nm,1.1s								
GERES	**GERESS Array B**	**147.70**	**345**	PKPbc			**PKPbc**	**21 52 25.2**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=16,slow=3.1,SNR=11								

*IDC **19** 21:49:23.6±5.2, 25.01N×122.99E, h132km±53km, mb3.2/7, mb1 3.3/8, mb1mx3.1/40, mbtmp3.7/8, Error ellipse: s-maj=42.4km s-min=16.3km az=72.0*
*TAP **19** 21:49:24.6, 24.87N×122.91E, h133km, ML4.2, B*
*JMA **19** 21:49:24.6±0.2, 24.80N×122.88E, h135km±2km, M3.4*
ISC 19 21:49:24.2±0.7, **24.85N**±0.04×**122.91E**±0.02, **h140**km±5km, **n149, σ0.96/249, mb3.4/6, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.40**	**166**	P			**Pn**	**21 49 43.8**	**0.0**
YOJ					*e*S		**Sn**	**21 49 58.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.40**	**166**	*i* P			**Pn**	**21 49 43.9**	**0.0**
	baz=165								
YOJ					S		**Sn**	**21 49 58.2**	**-0.5**
	baz=165								
JYNG	**Yonagunijimaku**	**0.40**	**175**	P			**Pn**	**21 49 43.9**	**0.0**
JYNG					S		**Sn**	**21 49 58.1**	**-0.6**
TWB1	**Santiao Chiao**	**0.85**	**281**	*i* P			**Pn**	**21 49 47.1**	**+0.4**
	baz=280								
TWB1				*i* S			**Sn**	**21 50 03.2**	**-0.5**
	baz=280								
IRIF	**Iriomote-Funau**	**0.91**	**124**	P			**Pn**	**21 49 47.2**	**0.0**
IRIF					S		**Sn**	**21 50 03.8**	**-0.8**
NTC	**Toucheng**	**0.98**	**271**	*i* P			**Pn**	**21 49 47.9**	**+0.1**
	baz=267								
NTC					S		**Sn**	**21 50 05.5**	**-0.1**
	baz=267								
TIPB	**Shuangxi**	**0.99**	**277**	*i* P			**Pn**	**21 49 48.3**	**+0.4**
	baz=271								
TIPB				*i* S			**Sn**	**21 50 05.2**	**-0.7**
	baz=271								
TWC	**Suao**	**0.99**	**256**	*i* P			**Pn**	**21 49 47.7**	**-0.2**
	baz=249								
TWC					S		**Sn**	**21 50 04.1**	**-1.7**
	baz=249								
NWF	**Wu-fen Shan**	**1.04**	**282**	*i* P			**Pn**	**21 49 48.9**	**+0.4**
	baz=281								
NWF					S		**Sn**	**21 50 06.7**	**-0.2**
	baz=281								
ILA	**Ilan**	**1.05**	**266**	*i* P			**Pn**	**21 49 49.3**	**+0.9**
	baz=263								
ILA					S		**Sn**	**21 50 06.6**	**-0.3**
	baz=263								
TNOU	**National Taiwa**	**1.07**	**286**	P			**Pn**	**21 49 49.2**	**+0.6**
	baz=281								
TNOU					S		**Sn**	**21 50 05.3**	**-1.8**
	baz=281								
PCYT	**Pengchaiyu**	**1.08**	**316**	P			**Pn**	**21 49 49.5**	**+0.8**
	baz=314								
EWUT	**Wuta**	**1.10**	**249**	P			**Pn**	**21 49 49.0**	**+0.1**
	baz=248								
EWUT					S		**Sn**	**21 50 07.1**	**-0.5**
	baz=248								
NDS	**Dongshan**	**1.10**	**259**	*i* P			**Pn**	**21 49 49.1**	**+0.2**
	baz=253								
NDS					S		**Sn**	**21 50 06.7**	**-1.0**
	baz=253								
TWE	**Neicheng**	**1.13**	**264**	*i* P			**Pn**	**21 49 49.5**	**+0.3**
	baz=263								
TWE					*e*S		**Sn**	**21 50 07.7**	**-0.5**
	baz=263								
HATJ	**Hateruma jima**	**1.14**	**134**	P			**Pn**	**21 49 49.9**	**+0.7**
HATJ					S		**Sn**	**21 50 07.9**	**-0.4**
JKRS	**Kuro-shima**	**1.18**	**121**	P			**Pn**	**21 49 50.3**	**+0.7**
JKRS					S		**Sn**	**21 50 08.5**	**-0.4**
TWA	**Mucha**	**1.21**	**276**	P			**Pn**	**21 49 50.4**	**+0.5**
	baz=271								
TWA					S		**Sn**	**21 50 08.7**	**-0.8**
	baz=271								
JIJ	**Ishigaki jima**	**1.23**	**113**	P			**Pn**	**21 49 50.3**	**+0.2**
JIJ					S		**Sn**	**21 50 08.2**	**-1.6**
ENTT	**Nioudou**	**1.24**	**261**	*e*P			**Pn**	**21 49 50.8**	**+0.6**
	baz=255								
ENTT					*e*S		**Sn**	**21 50 09.6**	**-0.4**
	baz=255								
YM08	**YM08**	**1.24**	**286**	*e*P			**Pn**	**21 49 50.7**	**+0.4**
	baz=285								
YM08					*e*S		**Sn**	**21 50 08.8**	**-1.3**
	baz=285								
YM01	**YM01**	**1.25**	**284**	P			**Pn**	**21 49 50.9**	**+0.6**
	baz=283								
YM01					*e*S		**Sn**	**21 50 09.4**	**-0.9**
	baz=283								
TWY	**Chenhua**	**1.26**	**290**	P			**Pn**	**21 49 51.0**	**+0.6**
	baz=289								
TWY					*e*S		**Sn**	**21 50 09.6**	**-0.8**
	baz=289								
NHDH	**Xindian Distri**	**1.26**	**275**	P			**Pn**	**21 49 50.9**	**+0.5**
	baz=266								
NHDH					*e*S		**Sn**	**21 50 09.7**	**-0.7**
	baz=266								
TAP1	**Taipei**	**1.27**	**279**	*e*S			**Sn**	**21 50 10.0**	**-0.6**
	baz=269								
NWLT	**Wulai**	**1.28**	**267**	P			**Pn**	**21 49 50.8**	**+0.1**
	baz=261								
NWLT					S		**Sn**	**21 50 10.4**	**-0.4**
	baz=261								
TAP	**Taipei**	**1.28**	**279**	*e*S			**Sn**	**21 50 11.1**	**+0.2**
	baz=269								
NDT	**Datong Townshi**	**1.29**	**259**	P			**Pn**	**21 49 51.7**	**+1.0**
	baz=254								
NDT					*e*S		**Sn**	**21 50 11.1**	**+0.1**
	baz=254								
TATO	**Taipei**	**1.29**	**276**	P			**Pn**	**21 49 51.0**	**+0.3**
	baz=267								
TATO					S		**Sn**	**21 50 09.6**	**-1.4**
	baz=267								
JISG	**Ishigakijimahi**	**1.30**	**101**	P			**Pn**	**21 49 51.0**	**+0.1**
JISG					*e*S		**Sn**	**21 50 10.1**	**-1.1**
ETL	**Fush Village**	**1.35**	**240**	*e*P			**Pn**	**21 49 51.1**	**-0.4**
	baz=240								
ETL					*e*S		**Sn**	**21 50 11.0**	**-1.2**
	baz=240								
NTST	**Danshui**	**1.36**	**284**	P			**Pn**	**21 49 52.3**	**+0.9**
	baz=282								
NACB	**Ninganchiao**	**1.37**	**241**	P			**Pn**	**21 49 51.1**	**-0.5**
	baz=241								
NACB					*e*S		**Sn**	**21 50 11.1**	**-1.3**
	baz=241								
TWS1	**Kuangyinshan**	**1.37**	**281**	P			**Pn**	**21 49 52.3**	**+0.7**
	baz=280								
TWS1					*e*S		**Sn**	**21 50 12.4**	**-0.1**
	baz=280								
YHNB	**Yeheng**	**1.40**	**263**	P			**Pn**	**21 49 52.6**	**+0.6**
	baz=262								
YHNB					S		**Sn**	**21 50 12.8**	**-0.4**
	baz=262								
TWD	**Chiawan**	**1.42**	**238**	P			**Pn**	**21 49 51.7**	**-0.4**
	baz=233								
TWD					*e*S		**Sn**	**21 50 12.1**	**-1.2**
	baz=233								
ETLH	**Xiulin Townshi**	**1.45**	**244**	P			**Pn**	**21 49 52.4**	**-0.1**
	baz=240								
ETLH					*e*S		**Sn**	**21 50 12.8**	**-1.2**
	baz=240								
NNSB	**Datong**	**1.45**	**254**	P			**Pn**	**21 49 53.0**	**+0.4**
	baz=248								
NNSB					S		**Sn**	**21 50 13.2**	**-0.9**
	baz=248								
NNSH	**Datong**	**1.45**	**254**	P			**Pn**	**21 49 52.8**	**+0.3**
	baz=248								
NNSH					*e*S		**Sn**	**21 50 13.7**	**-0.5**
	baz=248								
NNS	**Nan Shan**	**1.45**	**254**	P			**Pn**	**21 49 53.0**	**+0.4**
	baz=248								
NNS					*e*S		**Sn**	**21 50 13.0**	**-1.2**
	baz=248								
NTY	**Taoyuan**	**1.47**	**276**	P			**Pn**	**21 49 53.2**	**+0.6**
	baz=271								
NTY					*e*S		**Sn**	**21 50 15.4**	**+1.1**
	baz=271								
HWA	**Hwalien**	**1.47**	**234**	P			**Pn**	**21 49 52.7**	**+0.1**
	baz=230								
HWA					S		**Sn**	**21 50 14.2**	**-0.1**
	baz=230								
TEYL	**Yanliau Villag**	**1.54**	**231**	P			**Pn**	**21 49 53.2**	**-0.2**
	baz=232								
TEYL					*e*S		**Sn**	**21 50 14.8**	**-0.9**
	baz=232								
ETM	**Tongmen**	**1.56**	**236**	P			**Pn**	**21 49 53.4**	**-0.2**
	baz=231								
ETM					*e*S		**Sn**	**21 50 14.4**	**-1.7**
	baz=231								
NCU	**National Centr**	**1.56**	**275**	P			**Pn**	**21 49 54.7**	**+1.0**
	baz=274								
NCU					S		**Sn**	**21 50 16.7**	**+0.6**
	baz=274								
NCUH	**Zhongli**	**1.57**	**275**	*e*P			**Pn**	**21 49 54.4**	**+0.8**
	baz=274								
NCUH					*e*S		**Sn**	**21 50 16.9**	**+0.7**
	baz=274								
FUSS	**Fushou**	**1.63**	**249**	P			**Pn**	**21 49 55.3**	**+0.6**
	baz=244								
FUSS					*e*S		**Sn**	**21 50 17.5**	**-0.4**
	baz=244								
JTJ	**Tarama**	**1.65**	**97**	P			**Pn**	**21 49 55.0**	**+0.4**
JTJ					S		**Sn**	**21 50 17.1**	**-0.7**
WHF	**Hehuan Shan**	**1.65**	**245**	P			**Pn**	**21 49 55.4**	**+0.3**
	baz=245								
WHF					*e*S		**Sn**	**21 50 17.7**	**-0.9**
	baz=245								
NJD	**Zhudong**	**1.66**	**266**	P			**Pn**	**21 49 55.5**	**+0.8**
	baz=266								
NJD					S		**Sn**	**21 50 18.0**	**+0.1**
	baz=266								
TEGC	**Jichi Village**	**1.69**	**228**	*e*P			**Pn**	**21 49 55.0**	**0.0**
	baz=234								
TEGC					*e*S		**Sn**	**21 50 18.3**	**-0.2**
	baz=234								
ESL	**Shilin**	**1.69**	**233**	P			**Pn**	**21 49 54.8**	**-0.4**
	baz=228								
ESL					*e*S		**Sn**	**21 50 17.0**	**-1.8**
	baz=228								
TDCB	**Techi**	**1.70**	**250**	P			**Pn**	**21 49 56.3**	**+0.9**
	baz=243								
TDCB					*e*S		**Sn**	**21 50 18.6**	**-0.5**
	baz=243								
HSN1	**Hsinchu**	**1.72**	**268**	P			**Pn**	**21 49 56.0**	**+0.7**
	baz=260								
HSN1					*e*S		**Sn**	**21 50 19.3**	**+0.1**
	baz=260								
LIOB	**Emei**	**1.73**	**264**	*e*P			**Pn**	**21 49 56.0**	**+0.5**
	baz=263								
LIOB					*e*S		**Sn**	**21 50 18.8**	**-0.8**
	baz=263								
NSTT	**Nanjuang**	**1.75**	**263**	*e*P			**Pn**	**21 49 56.1**	**+0.4**
	baz=263								
NSTT					*e*S		**Sn**	**21 50 18.9**	**-0.9**
	baz=263								
SBCB	**Hsinchu**	**1.75**	**269**	P			**Pn**	**21 49 56.5**	**+0.8**
	baz=260								
SBCB					*e*S		**Sn**	**21 50 19.7**	**-0.1**
	baz=260								
HSN	**Hsinchu**	**1.76**	**269**	P			**Pn**	**21 49 56.0**	**+0.1**
	baz=261								
HSN					*e*S		**Sn**	**21 50 19.3**	**-0.8**
	baz=261								
CHGB	**Renai**	**1.76**	**244**	P			**Pn**	**21 49 56.8**	**+0.6**
	baz=239								
CHGB					S		**Sn**	**21 50 20.0**	**-0.6**
	baz=239								
EGFH	**Guangfu**	**1.79**	**229**	P			**Pn**	**21 49 56.1**	**-0.1**
	baz=229								
EGFH					*e*S		**Sn**	**21 50 19.9**	**-0.8**
	baz=229								
OWD	**Renai**	**1.81**	**241**	P			**Pn**	**21 49 56.9**	**+0.3**
	baz=237								
OWD					*e*S		**Sn**	**21 50 20.3**	**-1.1**
	baz=237								
NJN	**Zhunan**	**1.86**	**265**	*e*P			**Pn**	**21 49 57.5**	**+0.6**
	baz=258								
NJN					*e*S		**Sn**	**21 50 21.8**	**-0.3**
	baz=258								
WHP	**Taichung City**	**1.87**	**253**	P			**Pn**	**21 49 58.5**	**+1.2**
	baz=253								
WHP					*e*S		**Sn**	**21 50 22.6**	**+0.1**
	baz=253								
HGSD	**Ruisui**	**1.91**	**225**	P			**Pn**	**21 49 57.6**	**0.0**
	baz=231								
HGSD					*e*S		**Sn**	**21 50 22.7**	**-0.6**
	baz=231								
NMLH	**Miaoli**	**1.95**	**261**	*e*P			**Pn**	**21 49 58.7**	**+0.6**
	baz=261								
NMLH					*e*S		**Sn**	**21 50 23.6**	**-0.5**
	baz=261								
WPL	**Puli Township**	**1.96**	**245**	P			**Pn**	**21 49 59.4**	**+1.1**
	baz=245								
WPL					*e*S		**Sn**	**21 50 25.4**	**+1.1**
	baz=245								
EHY	**Hungye**	**1.97**	**228**	*e*P			**Pn**	**21 49 57.9**	**-0.4**
	baz=236								
DPDB	**Guoxing**	**1.98**	**246**	*e*P			**Pn**	**21 49 59.9**	**+1.4**
	baz=246								
DPDB					*e*S		**Sn**	**21 50 25.7**	**+0.9**
	baz=246								
WCS	**Beigang Elemen**	**1.98**	**247**	P			**Pn**	**21 49 59.7**	**+1.3**
	baz=243								
WCS					*e*S		**Sn**	**21 50 25.4**	**+0.7**
	baz=243								
NSY	**Sanyi**	**2.00**	**258**	P			**Pn**	**21 49 59.6**	**+1.0**
	baz=258								
NSY					*e*S		**Sn**	**21 50 25.5**	**+0.4**
	baz=258								
TWQ1	**Liyutan**	**2.00**	**256**	P			**Pn**	**21 49 59.5**	**+0.8**
	baz=256								
TWQ1					*e*S		**Sn**	**21 50 25.1**	**-0.1**
	baz=256								
JIRB	**Irabujima**	**2.06**	**90**	P			**Pn**	**21 50 00.0**	**+0.6**
JIRB					S		**Sn**	**21 50 25.5**	**-0.9**
YULB	**Yu-li**	**2.06**	**226**	*e*P			**Pn**	**21 49 59.2**	**-0.3**
	baz=231								
YULB					*e*S		**Sn**	**21 50 26.0**	**-0.6**
	baz=231								
SMLT	**Sun Moon Lake**	**2.07**	**243**	*e*P			**Pn**	**21 50 00.8**	**+1.2**
	baz=238								
SMLT					*e*S		**Sn**	**21 50 28.6**	**+1.9**
	baz=238								
SSLB	**Suanglung**	**2.07**	**240**	*e*P			**Pn**	**21 50 00.2**	**+0.6**
	baz=238								
SSLB					*e*S		**Sn**	**21 50 26.8**	**+0.1**
	baz=238								
EYUL	**Yuli**	**2.08**	**224**	*e*P			**Pn**	**21 49 59.9**	**+0.1**
	baz=232								
TYC	**Yuchr**	**2.09**	**244**	P			**Pn**	**21 50 01.3**	**+1.5**
	baz=246								
TYC					*e*S		**Sn**	**21 50 27.6**	**+0.5**
	baz=246								
TWF1	**Yuli**	**2.09**	**225**	*e*P			**Pn**	**21 49 59.6**	**-0.2**
	baz=232								
WDJ	**Dajia District**	**2.12**	**257**	*e*P			**Pn**	**21 50 00.8**	**+0.7**
	baz=257								
WDJ					*e*S		**Sn**	**21 50 26.5**	**-1.2**
	baz=257								
JIKM	**Ikemajima**	**2.13**	**88**	P			**Pn**	**21 50 01.3**	**+1.1**
JIKM					S		**Sn**	**21 50 27.1**	**-0.7**
TCU	**Taichung**	**2.15**	**251**	*e*P			**Pn**	**21 50 00.9**	**+0.5**
	baz=251								
TCU					*e*S		**Sn**	**21 50 28.9**	**+0.6**
	baz=251								
WWF	**Wufeng**	**2.17**	**249**	P			**Pn**	**21 50 01.8**	**+1.1**
	baz=257								
WWF					*e*S		**Sn**	**21 50 28.8**	**+0.1**
	baz=257								
JMJ	**Miyako jima 2**	**2.17**	**90**	P			**Pn**	**21 50 02.3**	**+1.6**
	baz=93								
JMJ					S		**Sn**	**21 50 29.0**	**+0.3**
	baz=93								
WHYT	**Xinyi Township**	**2.20**	**239**	*e*P			**Pn**	**21 50 02.9**	**+1.8**
	baz=236								
WHYT					*e*S		**Sn**	**21 50 30.7**	**+1.3**
	baz=236								
JMJ2	**Miyako jima3**	**2.20**	**92**	P			**Pn**	**21 50 02.3**	**+1.2**
JMJ2					S		**Sn**	**21 50 29.2**	**-0.3**
FULB	**Fuli**	**2.21**	**222**	*e*P			**Pn**	**21 50 01.3**	**+0.1**
	baz=217								
FULB					*e*S		**Sn**	**21 50 29.4**	**-0.3**
	baz=217								
WJS	**Zhushan**	**2.23**	**243**	*e*P			**Pn**	**21 50 02.8**	**+1.3**
	baz=243								
WJS					*e*S		**Sn**	**21 50 31.9**	**+1.7**
	baz=243								
WNT1	**Nantou City**	**2.24**	**246**	*e*P			**Pn**	**21 50 03.0**	**+1.4**
	baz=246								
WNT1					*e*S		**Sn**	**21 50 31.1**	**+0.9**
	baz=246								
CHKT	**Chengkung**	**2.24**	**219**	*e*P			**Pn**	**21 50 01.3**	**-0.3**
	baz=214								
CHKT					*e*S		**Sn**	**21 50 28.8**	**-1.5**
	baz=214								
WNT	**Mingjian**	**2.25**	**245**	*e*P			**Pn**	**21 50 02.9**	**+1.3**
	baz=245								
WNT					*e*S		**Sn**	**21 50 31.4**	**+1.0**
	baz=245								
WCHH	**Zhanghua**	**2.27**	**251**	*e*P			**Pn**	**21 50 02.6**	**+0.6**
	baz=251								
WCHH					*e*S		**Sn**	**21 50 30.7**	**-0.3**
	baz=251								
JOGS	**Gusukube**	**2.27**	**92**	P			**Pn**	**21 50 02.8**	**+0.8**
JOGS					S		**Sn**	**21 50 30.8**	**-0.2

baz=245
WSF eS Sn 21 50 40.4 -0.8
baz=245
CHN1 Nanshi 2.73 233 eP Pn 21 50 09.1 +1.3
baz=242
SGST Jiashian 2.76 231 eP Pn 21 50 08.7 +0.6
baz=240
SLGT Liugui 2.77 229 eP Pn 21 50 09.9 +1.6
baz=237
ICHU Yijhu 2.82 239 eP Pn 21 50 09.4 +0.6
baz=247
ECL Taimali 2.87 219 eP Pn 21 50 08.7 -0.8
baz=219
SCST Cishan 2.95 229 eP Pn 21 50 12.1 +1.6
baz=236
SSD Sandimen 2.95 225 eP Pn 21 50 12.2 +1.6
baz=225
MATB Ma-tsu 2.97 296 eP Pn 21 50 10.8 0.0
baz=295
TSMG Majia 2.97 225 eP Pn 21 50 12.3 +1.5
baz=233
MASBT Mashibuluo 3.05 224 eP Pn 21 50 13.2 +1.4
baz=224
LAY Lan-yu 3.06 204 eP Pn 21 50 11.7 -0.3
baz=204
VWUC VWUC 3.14 273 eP Pn 21 50 12.7 -0.2
baz=273
VWUC eS Sn 21 50 48.3 -2.3
baz=273
XPSS Dashiqiu 3.21 311 eP Pn 21 50 13.6 -0.2
baz=308
LYJJ Jianjiangzhen 3.31 302 eP Pn 21 50 15.2 +0.2
baz=300
PNG Penghu 3.31 248 eP Pn 21 50 14.7 -0.5
baz=248
PNG eS Sn 21 50 52.3 -2.4
baz=248
PHUB P'eng-hu 3.32 247 eP Pn 21 50 14.8 -0.5
baz=248
PHUB eS Sn 21 50 52.7 -2.1
baz=248
WDGT Dungji 3.36 243 eP Pn 21 50 16.0 +0.1
baz=243
WDGT eS Sn 21 50 53.9 -1.8
baz=243
PTMZ Houxiangcun 3.44 274 eP Pn 21 50 16.8 0.0
baz=273
PTMZ eS Sn 21 50 55.2 -2.4
baz=273
TWKBT Hengchun 3.48 214 eP Pn 21 50 17.8 +0.5
baz=215
TWK1 Hengchun 3.48 214 eP Pn 21 50 18.0 +0.6
baz=215
VCHM Qimei 3.57 244 eP Pn 21 50 18.5 -0.1
baz=244
VCHM eS Sn 21 50 59.1 -1.6
baz=244
MHZQ Yeshan 3.72 290 eP Pn 21 50 20.8 +0.4
baz=290
KNM Kinmen 4.09 265 eP Pn 21 50 26.9 +1.5
baz=265
KNMB Chin-men Tao 4.13 266 eP Pn 21 50 25.7 -0.1
baz=266
AXDP Jialang 4.48 272 eP Pn 21 50 30.6 0.0
baz=271
AXDP eS Sn 21 51 19.4 -2.7
baz=271
ZPLA Ao Xicun 4.79 260 eP Pn 21 50 34.8 +0.1
baz=260
ZPLA eS Sn 21 51 27.2 -2.3
baz=260
JOW Kunigami 5.22 67 P Pn 21 50 38.7 -1.7
5.0nm,0.3s,baz=180,slow=5.7,SNR=23
JOW S Sn 21 51 35.7 -4.2
2.9nm,0.3s,baz=108,slow=26,SNR=1.8
JOW Kunigami 5.22 67 eP Pn 21 50 39.1 -1.3
baz=71
KSRS Korea Array 13.28 18 P Pn 21 52 29.1 +1.9
0.4nm,0.3s,baz=196,slow=11,SNR=18
USRK Ussuriysk Ar. 20.68 19 P P 21 53 51.8 -1.2
1.5nm,0.8s,baz=199,slow=12,SNR=4.8
KLR Kul'dur 25.30 14 P P 21 54 36.5 -1.1
0.5nm,0.3s,baz=180,slow=8.1,SNR=4.2
MKAR Makanchi Array 38.97 315 P P 21 56 36.5 -0.2
0.2nm,0.4s,baz=99,slow=10,SNR=2.7
KURBB Kurchatov Arra 42.63 319 P P 21 57 05.7 -0.9
0.1nm,0.3s,baz=101,slow=7.0,SNR=4.4
WRA Warramunga Arr 45.89 165 P P 21 57 33.8 +0.9
1.1nm,0.4s,baz=348,slow=8.9,SNR=18
ASAR Alice Springs 49.39 167 P P 21 58 01.4 +1.6
0.3nm,0.5s,baz=353,slow=7.7,SNR=4.2
FINES FINESS Array B 71.66 330 P P 22 00 29.8 -0.6
1.3nm,1.0s,baz=90,slow=1.9,SNR=3.9

*MOS **19** 21:51:46.8±0.7,47°.83N×155°.29E,h17km,mb3.9/1, Error ellipse: s-maj=24.5km s-min=4.6km az=75.1*
*KRSC **19** 21:51:49.6±1.6,48°.01N×156°.30E,h15km±32km,ML4.3*
*SKHL **19** 21:51:49.9±0.8,47°.90N×155°.30E,h58km±5km,mb4.1/5*
*IDC **19** 21:51:54.7±3.1,48°.19N×154°.66E,h70km±28km,mb3.4/8, mb1 3.6/10,mb1mx3.4/41,mbtmp3.8/10,MS2.8/2, Ms1 2.8/2,ms1mx2.5/25,Error ellipse: s-maj=25.7km s-min=20.1km az=113.0*

ISC 19 21:51:49.3±1.0,47°.93N±0°.10×155°.3E±0°.1,h27km,n76, σ1s86/78,mb3.8/8,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.81**	**11**	eP N	**Pn**	**21 52 33.6**	**+1.1**
SKR				pmax	pmax		
	comp=Z,24nm,0.4s						
SKR	**Severo-Kuril's**	**2.81**	**11**	eP	**Pn**	**21 52 33.4**	**+0.9**
SKR				eS	**Sn**	**21 53 06.3**	**+0.8**
SKR	**Severo-Kuril's**	**2.81**	**11**	eP	**Pn**	**21 52 33.5**	**+1.1**
SKR				AMB	AMB	21 52 34.0	
	comp=Z,30nm,0.3s						
SKR				eS	**Sn**	**21 53 05.5**	**0.0**
SKR				A	A	21 53 08.4	
	comp=Z,80nm,0.2s						
SKR				A	A	21 53 08.4	
	comp=Z,70nm,0.2s						
ALID	**Alaid**	**2.95**	**3**	PN	**Pn**	**21 52 35.8**	**+1.3**
ALID	**Alaid**	**2.95**	**3**	eP	**Pn**	**21 52 35.8**	**+1.3**
PAU	**Pauzhetka**	**3.68**	**15**	PN	**Pn**	**21 52 45.7**	**+1.3**
PAU	**Pauzhetka**	**3.68**	**15**	eP	**Pn**	**21 52 45.7**	**+1.3**
PAU				eS	**Sn**	**21 53 28.1**	**+1.2**
PAU	**Pauzhetka**	**3.68**	**15**	eP	**Pn**	**21 52 45.7**	**+1.3**
PAU				AMB	AMB	21 52 46.2	
	comp=Z,40nm,0.4s						
PAU				eS	**Sn**	**21 53 27.7**	**+0.8**
PAU				A	A	21 53 31.1	
	comp=Z,130nm,0.6s						
PAU				A	A	21 53 31.1	
	comp=Z,140nm,0.6s						
KDTR	**Khodutka, Kamc**	**4.29**	**24**	PN	**Pn**	**21 52 53.3**	**+0.6**
KDTR	**Khodutka, Kamc**	**4.29**	**24**	eP	**Pn**	**21 52 53.3**	**+0.6**
KDTR				eS	**Sn**	**21 53 40.9**	**-0.9**
MTVR	**Mutnovka**	**4.93**	**21**	PN	**Pn**	**21 53 03.4**	**+1.7**
MTVR	**Mutnovka**	**4.93**	**21**	eP	**Pn**	**21 53 03.4**	**+1.7**
MTVR				eS	**Sn**	**21 53 57.3**	**-0.5**
GRL	**Gorelyy**	**4.97**	**20**	PN	**Pn**	**21 53 04.1**	**+1.9**
GRL	**Gorelyy**	**4.97**	**20**	eP	**Pn**	**21 53 04.1**	**+1.9**
RUS	**Russkaya**	**4.97**	**24**	PN	**Pn**	**21 53 02.7**	**+0.6**
RUS	**Russkaya**	**4.97**	**24**	eP	**Pn**	**21 53 02.7**	**+0.6**
RUS				eS	**Sn**	**21 53 57.2**	**-1.4**
RUS	**Russkaya**	**4.97**	**24**	eP	**Pn**	**21 53 02.7**	**+0.6**
APC	**Apacha**	**5.15**	**13**	PN	**Pn**	**21 53 07.5**	**+3.0**
APC	**Apacha**	**5.15**	**13**	eP	**Pn**	**21 53 07.5**	**+3.0**
KRMR	**Karymshinskiy**	**5.24**	**19**	PN	**Pn**	**21 53 09.6**	**+3.8**
KRMR	**Karymshinskiy**	**5.24**	**19**	eP	**Pn**	**21 53 09.6**	**+3.8**
PETK	**Petropavlovsk-**	**5.41**	**16**	P	**Pn**	**21 53 10.6**	**+2.4**
	comp=Z,3.9nm,0.3s,baz=166,slow=14,SNR=92						
PETK				LR	LR	21 55 33.0	
	comp=Z,52nm,20.3s,baz=240,slow=41						
PET	**Petropavlovsk**	**5.54**	**22**	eP	**Pn**	**21 53 11.0**	**+1.1**
PET				AMB	AMB	21 53 11.8	
	comp=Z,20nm,0.7s						
DALK	**Dalny**	**5.57**	**22**	PN	**Pn**	**21 53 11.9**	**+1.5**
DALK	**Dalny**	**5.57**	**22**	eP	**Pn**	**21 53 11.9**	**+1.5**
DALK				eS	**Sn**	**21 54 14.2**	**+0.8**
UGLR	**Uglovaya**	**5.75**	**22**	PN	**Pn**	**21 53 14.9**	**+2.0**
UGLR	**Uglovaya**	**5.75**	**22**	eP	**Pn**	**21 53 14.9**	**+2.0**
KUR	**Kuril'sk**	**5.77**	**245**	eP N	**Pn**	**21 53 13.7**	**+0.6**
KUR				pmax	pmax		
	comp=Z,91nm,0.6s						
KUR				pmax	pmax		
	comp=E,38nm,0.7s						
KUR				pmax	pmax		
	comp=N,32nm,0.5s						
KUR	**Kuril'sk**	**5.77**	**245**	eP	**Pn**	**21 53 13.7**	**+0.6**
KUR				AMB	AMB	21 53 14.2	
	comp=N,10.0nm,0.6s						
KUR				eS	**Sn**	**21 54 17.0**	**-1.4**
KUR				A	A	21 54 20.4	
	comp=N,60nm,0.6s						
KUR				A	A	21 54 20.4	
	comp=N,40nm,0.6s						
AVH	**Avacha**	**5.78**	**21**	PN	**Pn**	**21 53 15.8**	**+2.5**
AVH	**Avacha**	**5.78**	**21**	eP	**Pn**	**21 53 15.8**	**+2.5**
KOK	**Koryaka**	**5.78**	**20**	PN	**Pn**	**21 53 16.0**	**+2.6**
KOK	**Koryaka**	**5.78**	**20**	eP	**Pn**	**21 53 16.0**	**+2.6**
KOK	**Koryaka**	**5.78**	**20**	eP	**Pn**	**21 53 16.0**	**+2.6**
SMAR	**Somma**	**5.79**	**21**	PN	**Pn**	**21 53 15.4**	**+1.8**
SMAR	**Somma**	**5.79**	**21**	eP	**Pn**	**21 53 15.4**	**+1.8**
KRER	**Koryakskii**	**5.82**	**21**	PN	**Pn**	**21 53 16.1**	**+2.1**
KRER	**Koryakskii**	**5.82**	**21**	eP	**Pn**	**21 53 16.1**	**+2.1**
SDLR	**Sedlovina**	**5.83**	**22**	PN	**Pn**	**21 53 15.4**	**+1.4**
SDLR	**Sedlovina**	**5.83**	**22**	eP	**Pn**	**21 53 15.4**	**+1.4**
KRX	**Arik**	**5.85**	**20**	PN	**Pn**	**21 53 16.6**	**+2.3**
KRX	**Arik**	**5.85**	**20**	eP	**Pn**	**21 53 16.6**	**+2.3**
KRX				eS	**Sn**	**21 54 21.0**	**+0.6**
NLC	**Nalytchevo**	**5.86**	**25**	eS	**Sn**	**21 54 18.0**	**-2.4**
SPN	**Mys Shipunski**	**6.00**	**29**	PN	**Pn**	**21 53 16.9**	**+0.7**
SPN	**Mys Shipunski**	**6.00**	**29**	eP	**Pn**	**21 53 16.9**	**+0.7**
SPN				eS	**Sn**	**21 54 22.6**	**-1.3**
GNL	**Ganaly**	**6.02**	**15**	PN	**Pn**	**21 53 18.9**	**+2.3**
GNL	**Ganaly**	**6.02**	**15**	eP	**Pn**	**21 53 18.9**	**+2.3**
MKZ	**Mys Kozlova**	**7.77**	**29**	PN	**Pn**	**21 53 40.3**	**-0.2**
MKZ	**Mys Kozlova**	**7.77**	**29**	eP	**Pn**	**21 53 40.3**	**-0.2**
KZV	**Kizimen**	**7.85**	**22**	PN	**Pn**	**21 53 43.0**	**+1.3**
KZV	**Kizimen**	**7.85**	**22**	eP	**Pn**	**21 53 43.0**	**+1.3**
TUMR	**Tumrok**	**7.96**	**21**	PN	**Pn**	**21 53 45.4**	**+2.1**
TUMR	**Tumrok**	**7.96**	**21**	eP	**Pn**	**21 53 45.4**	**+2.1**
YSS	**Yuzh-Sakhalins**	**8.54**	**268**	eP	**Pn**	**21 53 52.4**	**+1.3**
YSS				AMB	AMB	21 53 53.0	
	comp=N,6.0nm,0.6s						
JKA	**Kamikawa-asahi**	**9.60**	**251**	eP	**Pn**	**21 54 07.1**	**+1.4**
ASAJ	**Asahikawa**	**9.60**	**251**	P	**Pn**	**21 54 07.0**	**+1.4**
	comp=N,0.5nm,0.3s,baz=86,slow=17,SNR=5.2						
KSRS	**Korea Array**	**22.55**	**252**	P	**P**	**21 56 45.4**	**-1.7**
	comp=N,1.2nm,0.8s,baz=50,slow=10,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**29.67**	**157**	T	T	22 29 42.3	
	baz=345,slow=77,SNR=41						
H11N1	**WAKE ISLAND Hy**	**29.68**	**157**	T	T	22 29 36.8	
	baz=345,slow=77,SNR=74						
H11N3	**WAKE ISLAND Hy**	**29.68**	**157**	T	T	22 29 46.8	
	baz=345,slow=77,SNR=34						
H11S1	**WAKE ISLAND Hy**	**30.79**	**158**	T	T	22 31 03.4	
	baz=345,slow=76,SNR=613						
H11S3	**WAKE ISLAND Hy**	**30.80**	**158**	T	T	22 31 06.0	
	baz=345,slow=76,SNR=950						
H11S2	**WAKE ISLAND Hy**	**30.81**	**158**	T	T	22 31 02.8	
	baz=345,slow=76,SNR=397						
MKAR	**Makanchi Array**	**47.70**	**297**	P	**P**	**22 00 20.5**	**-2.9**
	comp=N,0.3nm,0.5s,baz=70,slow=8.6,SNR=4.6						
KURK	**Kurchatov**	**47.93**	**304**	P	**P**	**22 00 22.9**	**-2.2**
KURK	**Kurchatov**	**47.93**	**304**	eP	**P**	**22 00 22.9**	**-2.2**
KURBB	**Kurchatov Arra**	**48.03**	**303**	P	**P**	**22 00 22.9**	**-2.9**
	comp=N,1.5nm,0.6s,baz=68,slow=8.5,SNR=14						
BVAR	**Borovoye Array**	**51.24**	**310**	P	**P**	**22 00 46.3**	**-4.0**
	comp=N,0.8nm,0.5s,baz=176,slow=3.9,SNR=11						
FINES	**FINESS Array B**	**63.59**	**335**	P	**P**	**22 02 15.2**	**-1.9**
	comp=N,1.3nm,1.0s,baz=38,slow=9.6,SNR=5.2						
FINES				LR	LR	22 30 24.5	
	comp=N,14nm,20.9s,baz=108,slow=37						
WRA	**Warramunga Arr**	**70.12**	**201**	P	**P**	**22 02 59.4**	**+0.3**
	comp=N,0.6nm,0.6s,baz=15,slow=6.7,SNR=6.3						
ASAR	**Alice Springs**	**73.81**	**200**	P	**P**	**22 03 22.6**	**+1.4**
	comp=N,0.6nm,0.6s,baz=14,slow=5.1,SNR=6.2						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**22 03 34.0**	**+1.9**
	comp=N,0.4nm,0.6s,baz=317,slow=3.7,SNR=3.1						
TXAR	**Lajitas Array**	**75.64**	**62**	P	**P**	**22 03 34.0**	**+1.9**
H03N2	**Juan Fernandez**	**137.29**	**91**	T	T	00 44 30.9	
	baz=310,slow=77,SNR=74						
H03N1	**Juan Fernandez**	**137.31**	**91**	T	T	00 44 32.2	
	baz=310,slow=77,SNR=17						
H03N3	**Juan Fernandez**	**137.31**	**91**	T	T	00 44 24.3	
	baz=310,slow=77,SNR=16						

*TUL **19** 21:56:04.8±1.0,36°.85N±0°.04×98°.28W±0°.04,h6km±2km, ML3.2,mb_Lg2.9/81(NEIC),Error ellipse: s-maj=6.1km s-min=4.5km az=164.0*
*ANF **19** 21:56:05.5±0.4,36°.84N×98°.28W,h6km,ML3.8/12, Error ellipse: s-maj=5.1km s-min=3.8km az=54.0*
*NEIC **19** 21:56:06.0±1.2,36°.83N±0°.04×98°.18W±0°.04,h5km±2km, Error ellipse: s-maj=6.8km s-min=5.1km az=335.0*

ISC 19 21:56:05.4±0.9,36°.84N±0°.02×98°.26W±0°.03,h7km±6km, n88,σ0s56/80,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.05**	**133**		**Pg**	**21 56 06.9**	**0.0**
OK032				Sg	**Sg**	**21 56 08.2**	**+0.1**
KAN14	**Manchester OK**	**0.26**	**64**		**Pg**	**21 56 10.8**	**+0.2**
KAN14				Sg	**Sg**	**21 56 14.7**	**+0.6**
KAN10	**Anthony SW Sta**	**0.31**	**25**		**Pg**	**21 56 11.3**	**-0.2**
KAN10				Sg	**Sg**	**21 56 15.8**	**+0.1**
GC02	**Grant County #**	**0.32**	**88**		**Pg**	**21 56 11.5**	**-0.1**
GC02				Sg	**Sg**	**21 56 16.5**	**+0.6**
CROK	**Carrier**	**0.40**	**146**		**Pg**	**21 56 13.2**	**+0.1**
KAN05	**Bluff City Nor**	**0.41**	**49**		**Pg**	**21 56 13.2**	**-0.2**
KAN05				Sg	**Sg**	**21 56 18.6**	**-0.2**
KAN16	**Harper SW Stat**	**0.41**	**22**	Pg	**Pg**	**21 56 13.2**	**-0.3**
KAN16				Sg	**Sg**	**21 56 18.9**	**0.0**
KAN17	**Caldwell West**	**0.45**	**63**		**Pg**	**21 56 13.8**	**-0.2**
KAN17				Sg	**Sg**	**21 56 19.6**	**-0.2**
KAN08	**Anthony NE Sta**	**0.45**	**31**		**Pg**	**21 56 13.8**	**-0.3**
KAN08				Sg	**Sg**	**21 56 20.1**	**+0.2**
KAN09	**Caldwell North**	**0.59**	**60**		**Pg**	**21 56 16.6**	**-0.2**
KAN09				Sg	**Sg**	**21 56 24.9**	**+0.4**
KAN13	**South Haven SW**	**0.65**	**74**		**Pg**	**21 56 17.8**	**-0.1**
KS20	**Mayfield South**	**0.69**	**55**		**Pg**	**21 56 18.6**	**+0.1**
U32A	**Winter Ranch,**	**0.75**	**233**		**Pg**	**21 56 19.3**	**-0.5**
U32A	**Winter Ranch,**	**0.75**	**233**	P	**Pg**	**21 56 19.3**	**-0.5**
	baz=51,SNR=15						
U32A	**Winter Ranch,**	**0.75**	**233**	P		21 56 19.3	
	baz=51,SNR=15						
BLOK	**Blackwell**	**0.84**	**95**		**Pg**	**21 56 21.0**	**-0.5**
OK029	**Liberty Lake**	**1.23**	**148**		**Pb**	**21 56 27.9**	**-1.0**
BCOK	**Bluff Creek, N**	**1.29**	**156**		**Pn**	**21 56 28.9**	**-1.0**
T35A	**Sooner Cattle**	**1.40**	**86**		**Pn**	**21 56 31.1**	**-0.3**
T35B	**Sooner Cattle**	**1.40**	**86**	P	**Pn**	**21 56 31.0**	**-0.4**
	baz=268,SNR=61						
T35B				S	**Sn**	**21 56 50.2**	**0.0**
	baz=268						
T35B	**Sooner Cattle**	**1.40**	**86**	P		21 56 31.0	
	baz=268,SNR=61						
T35B				S		21 56 50.2	
	baz=268						
QUOK	**Quay**	**1.42**	**118**		**Pn**	**21 56 31.3**	**-0.3**
OK031	**S. Brethren Rd**	**1.45**	**127**		**Pn**	**21 56 31.5**	**-0.4**
OK025	**Westminster Rd**	**1.46**	**149**		**Pn**	**21 56 31.7**	**-0.4**
OK030	**Cody Creek RV**	**1.50**	**127**		**Pn**	**21 56 32.3**	**-0.4**
OKCFA	**Oklahoma City**	**1.56**	**155**		**Pn**	**21 56 33.4**	**-0.1**
OKCFA				lAmb_Lg		21 56 56.9	
	comp=Z,76nm,0.8s						
OKCFA	**Oklahoma City**	**1.56**	**155**	P	**Pn**	**21 56 33.5**	**-0.1**
	baz=335						
OKCFA				S	**Sb**	**21 56 55.2**	**+0.5**
	baz=335						
OKCFA	**Oklahoma City**	**1.56**	**155**	P		21 56 33.5	
	baz=335						
OKCFA				S		21 56 55.2	
	baz=335						
OKCSW	**OKLAHOMA CITY**	**1.58**	**155**		**Pn**	**21 56 33.7**	**-0.1**
R32A	**Long Quarter,**	**1.62**	**347**	Pn	**Pn**	**21 56 34.4**	**-0.1**
R32A	**Long Quarter,**	**1.62**	**347**	P	**Pn**	**21 56 34.6**	**+0.2**
	baz=168,SNR=17						
R32A				S	**Sn**	**21 56 55.8**	**+0.2**
	baz=168						
R32A	**Long Quarter,**	**1.62**	**347**	P		21 56 34.6	
	baz=168,SNR=17						
R32A				S		21 56 55.8	
	baz=168						
FNO	**Franklin**	**1.73**	**156**		**Pn**	**21 56 36.2**	**+0.3**
FNO				lAmb_Lg		21 56 58.9	
	comp=Z,57nm,0.9s						
WMOK	**Wichita Mounta**	**2.14**	**192**		**Pn**	**21 56 41.7**	**+0.2**
WMOK	**Wichita Mounta**	**2.14**	**192**	P	**Pn**	**21 56 41.9**	**+0.4**
	baz=11,SNR=41						
WMOK	**Wichita Mounta**	**2.14**	**192**	P		21 56 41.9	
	baz=11,SNR=41						
TUL1	**Leonard**	**2.20**	**114**	P	**Pn**	**21 56 43.8**	**+1.5**
	baz=296,SNR=21						
TUL1				S	**Sb**	**21 57 13.6**	**+0.8**
	baz=296						
TUL1	**Leonard**	**2.20**	**114**	P		21 56 43.8	
	baz=296,SNR=21						
TUL1				S		21 57 13.6	
	baz=296						
X34A	**Smith Ranch, M**	**2.26**	**171**	Pn	**Pn**	**21 56 44.9**	**+1.7**
CBKS	**Cedar Bluff**	**2.29**	**330**		**Pn**	**21 56 44.8**	**+1.2**
CBKS	**Cedar Bluff**	**2.29**	**330**	P	**Pn**	**21 56 43.8**	**+0.2**
	baz=149						
CBKS				S	**Sb**	**21 57 15.5**	**-0.2**
	baz=149						
CBKS	**Cedar Bluff**	**2.29**	**330**	P		21 56 43.8	
	baz=149						
CBKS				S		21 57 15.5	
	baz=149						
KSU1	**Kansas State U**	**2.61**	**29**	Pn	**Pn**	**21 56 48.0**	**+0.1**
LOOK	**Love County**	**2.97**	**162**		**Pn**	**21 56 53.4**	**+0.5**
LOOK				lAmb_Lg		21 57 44.3	
	comp=Z,38nm,0.8s						
U38A	**Gravette**	**3.14**	**96**		**Pn**	**21 56 55.5**	**+0.2**
U38A				lAmb_Lg		21 57 52.9	
	comp=Z,42nm,0.9s						
U38A	**Gravette**	**3.14**	**96**	P	**Pn**	**21 56 55.7**	**+0.4**
	baz=279						
U38A	**Gravette**	**3.14**	**96**	P		21 56 55.7	
	baz=279						
X37A	**Clayton**	**3.25**	**133**	Pn	**Pn**	**21 56 57.3**	**+0.5**
X37A				lAmb_Lg		21 57 51.7	
	comp=Z,37nm,0.9s						
X37A	**Clayton**	**3.25**	**133**	P	**Pn**	**21 56 57.3**	**+0.5**
	baz=315,SNR=14						
X37A	**Clayton**	**3.25**	**133**	P		21 56 57.3	
	baz=315,SNR=14						
AMTX	**Amarillo**	**3.40**	**236**	Pn	**Pn**	**21 57 00.3**	**+1.4**
AMTX				lAmb_Lg		21 57 52.5	
	comp=Z,33nm,0.7s						
HHAR	**Hobbs**	**3.52**	**98**	Pn	**Pn**	**21 57 01.1**	**+0.5**
HHAR				lAmb_Lg		21 58 04.9	
	comp=Z,37nm,0.9s						
Z35A	**Perchaven, San**	**3.60**	**166**		**Pn**	**21 57 01.8**	**+0.3**
Z35A				lAmb_Lg		21 58 03.1	
	comp=Z,31nm,1.1s						
N33A	**J Bar K, Exete**	**3.94**	**9**	Pn	**Pn**	**21 57 06.6**	**+0.3**
N33A				lAmb_Lg		21 58 20.5	
	comp=Z,23nm,0.7s						
W39A	**Magazine**	**3.98**	**113**		**Pn**	**21 57 07.0**	**+0.2**
W39A				lAmb_Lg		21 58 14.8	
	comp=Z,35nm,0.8s						
W39A	**Magazine**	**3.98**	**113**	P	**Pn**	**21 57 07.3**	**+0.5**
	baz=296,SNR=5.2						
W39A	**Magazine**	**3.98**	**113**	P		21 57 07.3	
	baz=296,SNR=5.2						
S39A	**Bolivar**	**4.03**	**76**	Pn	**Pn**	**21 57 07.5**	**0.0**
S39A	**Bolivar**	**4.03**	**76**	P	**Pn**	**21 57 07.3**	**-0.2**
	baz=260,SNR=12						
S39A	**Bolivar**	**4.03**	**76**	P		21 57 07.3	
	baz=260,SNR=12						
KSCO	**Kaye Shedlock'**	**4.08**	**303**		**Pn**	**21 57 08.1**	**-0.2**
KSCO				lAmb_Lg		21 58 20.4	
	comp=Z,32nm,1.0s						
ABTX	**Abilene, Hawle**	**4.36**	**196**		**Pn**	**21 57 12.2**	**+0.2**
U40A	**Yellville**	**4.38**	**95**	Pn	**Pn**	**21 57 13.0**	**+0.8**
U40A				lAmb_Lg		21 58 33.3	
	comp=Z,37nm,0.8s						
U40A	**Yellville**	**4.38**	**95**	P	**Pn**	**21 57 13.5**	**+1.3**
	baz=278,SNR=9.6						
U40A	**Yellville**	**4.38**	**95**	P		21 57 13.5	
	baz=278,SNR=9.6						
U40A				P		21 57 13.5	
	baz=278,SNR=9.6						
MIAR	**Mount Ida**	**4.45**	**120**		**Pn**	**21 57 12.8**	**-0.4**
MIAR				lAmb_Lg		21 58 34.3	
	comp=Z,28nm,0.7s						
Z38A	**Mt. Pleasant**	**4.47**	**142**	Pn	**Pn**	**21 57 13.0**	**-0.5**
BGNE	**Belgrade**	**4.56**	**1**	Pn	**Pn**	**21 57 14.1**	**-0.8**
P38A	**Dawn**	**4.64**	**52**		**Pn**	**21 57 16.1**	**+0.2**
P38A	**Dawn**	**4.64**	**52**	P	**Pn**	**21 57 16.0**	**+0.1**
	baz=235,SNR=8.5						
P38A	**Dawn**	**4.64**	**52**	P		21 57 16.0	
	baz=235,SNR=8.5						
MSTX	**Muleshoe**	**4.67**	**233**	lAmb_Lg		21 58 35.9	
	comp=Z,18nm,0.8s						
MGMO	**Mountain Grove**	**4.80**	**84**		**Pn**	**21 57 18.1**	**0.0**
MGMO				lAmb_Lg		21 58 46.1	
	comp=Z,20nm,0.9s						
WHTX	**Lake Whitney,**	**4.88**	**172**	Pn	**Pn**	**21 57 18.1**	**-1.1**
WHTX				lAmb_Lg		21 58 42.9	
	comp=Z,19nm,1.0s						
R40A	**Maddies Statio**	**4.97**	**71**	Pn	**Pn**	**21 57 20.6**	**+0.1**
X40A	**Basin Creek Fa**	**5.00**	**116**		**Pn**	**21 57 21.4**	**+0.5**
X40A				lAmb_Lg		21 58 55.1	
	comp=Z,20nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.04**	**99**	Pn	**Pn**	**21 57 21.7**	**+0.4**
FCAR				lAmb_Lg		21 58 44.6	
	comp=Z,17nm,0.8s						
OGNE	**Ogallala**	**5.05**	**325**	Pn	**Pn**	**21 57 22.8**	**+1.2**
OGNE				lAmb_Lg		21 58 44.9	
	comp=Z,31nm,0.8s						
WHAR	**Wooly Hollow**	**5.08**	**106**		**Pn**	**21 57 21.3**	**-0.6**
237A	**Washetta, Mont**	**5.23**	**157**	Pn	**Pn**	**21 57 23.7**	**-0.3**
WLAR	**White Oak Lake**	**5.25**	**125**	lAmb_Lg		21 58 55.0	
	comp=Z,16nm,0.7s						
P40A	**Paris**	**5.58**	**59**	lAmb_Lg		21 59 06.9	
	comp=Z,22nm,0.8s						
LCAR	**Lake Charles**	**5.78**	**96**	lAmb_Lg		21 59 11.8	
	comp=Z,15nm,0.8s						
SDCO	**Great Sand Dun**	**5.84**	**281**	lAmb_Lg		21 59 19.3	
	comp=Z,19nm,1.2s						
435B	**Jarrell**	**6.07**	**175**	lAmb_Lg		21 59 30.8	
	comp=Z,24nm,0.7s						
PBMO	**Poplar Bluff**	**6.28**	**88**	lAmb_Lg		21 59 26.1	
	comp=Z,22nm,0.8s						
S44A	**Carbondale**	**7.23**	**81**	lAmb_Lg		22 00 11.3	
	comp=Z,12nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.42**	**65**	lAmb_Lg		22 00 07.2	
	comp=Z,19nm,0.9s						
Q44A	**Meyer Farm, Va**	**7.59**	**71**	lAmb_Lg		22 00 15.5	
	comp=Z,14nm,0.9s						
HDIL	**Hopedale**	**7.93**	**59**	lAmb_Lg		22 00 21.4	
	comp=Z,14nm,0.8s						
MVCO	**Mesa Verde**	**8.20**	**276**	lAmb_Lg	

NOR				*i* S		Sn	22 01 10.8	-0.5
NOR				IAML			22 01 12.6	
	comp=Z,3.8nm,0.3s							
NOR	**Nord**	**1.60**	**248**	*i* P		Pn	22 00 51.6	-0.2
KBS	**Kingsbay**	**4.53**	**129**	*i* P		Pn	22 01 30.9	-1.1
DAG	**Danmarks Havn**	**5.98**	**208**	*i* P		Pn	22 01 52.7	+0.8
DAG				IAML			22 03 02.9	
	comp=Z,0.4nm,0.3s							

TEH ***19*** *22:09:17.9, 32˚.58N×48˚.73E, h7km, ML3.0*
THR ***19*** *22:09:17.0±0.3, 32˚.56N×48˚.49E, h14km±5km, ML3.0*
KISR ***19*** *22:09:19.2±0.6, 32˚.32N×48˚.82E, h147km±54km, ML3.9*

ISC 19 22:09:18.8±0.8, 32˚.56N±0˚.03×48˚.75E±0˚.04, h17km, n38, σ1s75/43, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.45**	**174**	*e*Pg		**Pg**	**22 09 27.3**	**-0.6**
SHGR				*e*Sg		**Sb**	**22 09 34.9**	**+0.2**
SHGR				IAML			22 09 36.5	
	comp=E,982nm,0.3s							
SHGR				IAML			22 09 37.4	
	comp=N,934nm,0.6s							
SHGR	**Shooshtar-Gavs**	**0.45**	**174**	*e*Pg		**Pg**	**22 09 27.3**	**-0.6**
BMDN	**Meydan**	**1.11**	**3**	*e*Pg		**Pb**	**22 09 38.9**	**-0.9**
BMDN				*e*			22 10 00.2	
	comp=Z,6μm,0.2s							
AHWZ	**Ahwaz**	**1.23**	**184**	*e*Pg		**Pg**	**22 09 42.2**	**-0.3**
AHWZ				*e*Sg		**Sg**	**22 10 00.0**	**+1.5**
IDOB	**Doab**	**1.32**	**339**	*e*Pg		**Pb**	**22 09 42.2**	**-1.1**
KHMZ	**Khomeyn**	**1.56**	**40**	*e*Pn		**Pg**	**22 09 48.3**	**-0.6**
KHMZ				*e*Sg		**Sg**	**22 10 11.3**	**+2.1**
KHMZ	**Khomeyn**	**1.56**	**40**	*e*Pn		**Pg**	**22 09 48.3**	**-0.6**
HSAM	**Samen**	**1.66**	**356**	*e*Pg		**Pb**	**22 09 49.1**	**0.0**
HSAM				*e*			22 09 50.6	
	comp=Z,1μm,0.2s							
IPIR	**Pirpir**	**1.81**	**85**	*e*Pg		**Pg**	**22 09 52.6**	**-1.2**
SHK1	**Shahrekord**	**1.82**	**97**	*e*Pn		**Pb**	**22 09 51.5**	**-0.4**
SHK1				*e*			22 10 21.8	
	comp=Z,921nm,0.4s							
IBZA	**Bozab**	**2.05**	**339**	*e*Pn		**Pb**	**22 09 55.2**	**-0.6**
IBZA				*e*			22 09 58.7	
	comp=Z,825nm,0.2s							
KCHF	**Cheshme Sefid,**	**2.23**	**321**	*e*Pn		**Pb**	**22 09 57.8**	**-1.0**
ASAO	**Ashtian**	**2.26**	**28**	*e*Pn		**Pb**	**22 09 57.6**	**-1.7**
ASAO	**Ashtian**	**2.26**	**28**	*e*Pn		**Pb**	**22 09 57.6**	**-1.7**
KER	**Kermanshah**	**2.27**	**324**	*e*Pn		**Pb**	**22 09 58.5**	**-1.0**
HAGD	**Aghdareh**	**2.28**	**8**	*e*Pn		**Pb**	**22 09 58.1**	**-1.7**
HAGD				*e*			22 10 34.8	
	comp=Z,863nm,0.3s							
IALM	**Almabolaq**	**2.35**	**348**	*e*Pn		**Pb**	**22 09 58.5**	**-2.4**
IGHG	**Ghaleghazi**	**2.54**	**315**	*e*Pn		**Pn**	**22 10 00.8**	**+1.3**
IGHG				*e*			22 10 59.1	
	comp=Z,656nm,0.7s							
ILIN	**Lien**	**2.79**	**328**	*e*			22 08 00.2	
	comp=Z,746nm,0.7s							
ILIN				*e*Pn		**Pn**	**22 10 03.9**	**+1.0**
IGAR	**Gharneh**	**2.79**	**92**	*e*Pn		**Pn**	**22 10 05.0**	**+2.1**
GHVR	**GHOM**	**2.87**	**47**	*e*Pn		**Pb**	**22 10 06.2**	**-3.4**
GHVR	**GHOM**	**2.87**	**47**	*e*Pn		**Pb**	**22 10 06.2**	**-3.4**
IDHR	**Dehrash**	**2.91**	**318**	*e*Pn		**Pn**	**22 10 05.7**	**+1.2**
IDHR				*e*			22 10 56.3	
	comp=Z,582nm,0.3s							
IQOM	**Qom**	**2.99**	**40**	*e*			22 10 15.8	
	comp=Z,492nm,0.4s							
IQOM				*e*Pn		**Pb**	**22 10 08.3**	**-3.6**
MIB	**Mutribah**	**3.00**	**204**	*e*P		**Pn**	**22 10 06.3**	**+0.8**
IRAZ	**Razeghan**	**3.01**	**19**	*e*Pn		**Pb**	**22 10 09.1**	**-3.0**
IZEF	**Zefreh**	**3.04**	**83**	*e*			22 10 10.7	
	comp=Z,208nm,0.2s							
IZEF				*e*Pn		**Pn**	**22 10 08.7**	**+2.3**
IRAM	**Ramesheh**	**3.17**	**103**	*e*Pn		**Pn**	**22 10 09.9**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.22**	**12**	*e*Pn		**Pn**	**22 10 08.8**	**-0.1**
RST	**Umm Al-Ruwaisa**	**3.40**	**207**	*e*P		**Pn**	**22 10 12.1**	**+1.0**
ISFB	**Sefidab**	**3.43**	**58**	*e*Pn		**Pn**	**22 10 13.8**	**+2.2**
IVRN	**Varamin**	**3.48**	**45**	*e*Pn		**Pn**	**22 10 15.0**	**+2.8**
IMHD	**Mahdasht**	**3.50**	**27**	*e*Pn		**Pn**	**22 10 14.6**	**+1.9**
RDF	**Al-Radifah**	**3.76**	**196**	*e*P		**Pn**	**22 10 16.8**	**+0.7**
RDF				*e*S		**Sn**	**22 11 00.1**	**+0.1**
QRN	**Al-Qurain**	**3.87**	**191**	*e*P		**Pn**	**22 10 18.1**	**+0.6**
QRN				*e*S		**Sn**	**22 11 01.7**	**-0.8**
QRN				IAML			22 11 05.0	
	comp=Z,166nm,0.3s							
QSDN	**Sirdan**	**3.95**	**5**	*e*Pn		**Pn**	**22 10 20.9**	**+1.9**
ANAR	**Anarak**	**4.24**	**80**	*e*Pn		**Pn**	**22 10 24.7**	**+1.9**
ISHM	**Shahmirzad**	**4.97**	**48**	*e*Pn		**Pn**	**22 10 35.5**	**+2.5**

AUST ***19*** *22:10:06.6±0.8, 33˚.46S×136˚.71E, h10km, Error ellipse: s-maj=9.5km s-min=6.8km az=13.0*
IDC ***19*** *22:10:12.3±6.7, 32˚.67S×136˚.98E, h0km, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=75.9km s-min=22.6km az=21.0*

ISC 19 22:10:04.7±1.0, 33˚.39S±0˚.05×136˚.69E±0˚.04, h10km, n11, σ3s04/20, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBOO	**Buckleboo**	**0.78**	**317**	P		**Pn**	**22 10 24.1**	**+2.3**
	baz=0.8,SNR=83							
BBOO				S		**Sn**	**22 10 35.6**	**+1.9**
	baz=0.8							
AUCAS	**Cummins Area S**	**1.19**	**223**	P		**Pn**	**22 10 29.0**	**+1.7**
	baz=1.1							
AUCAS				S		**Sn**	**22 10 44.1**	**+0.5**
	baz=1.1							
AUJCS	**Jamestown Cent**	**1.62**	**84**	P		**Pb**	**22 10 36.0**	**+1.2**
	baz=1.6							
AUJCS				S		**Sn**	**22 10 55.7**	**+1.3**
	baz=1.6							
HTT	**Hallett**	**1.87**	**92**	P		**Pn**	**22 10 38.9**	**+2.0**
	baz=1.8,SNR=26							
HTT				S		**Sn**	**22 11 02.2**	**+1.7**
	baz=1.8							
MULG	**Mulgathing**	**3.82**	**323**	P		**Pn**	**22 11 06.8**	**+3.2**
	baz=3.9,SNR=5.6							
MULG				S		**Sn**	**22 11 50.7**	**+2.1**
	baz=3.9							
STKA	**Stephens Creek**	**4.41**	**71**	Pn		**Pn**	**22 11 14.6**	**+2.9**
	0.2nm,0.3s,baz=250,slow=12,SNR=3.4							
STKA				Sn		**Sn**	**22 12 02.9**	**-0.2**
	1.4nm,0.3s,baz=338,slow=17,SNR=4.2							
STKA				Lg		Lg	22 12 19.1	
	1.0nm,0.3s,baz=233,slow=16,SNR=2.3							
STKA	**Stephens Creek**	**4.41**	**71**	P		**Pn**	**22 11 14.5**	**+2.9**
	baz=4.4							
ARPS	**Mount Arapiles**	**5.41**	**130**	P		**Pn**	**22 11 26.2**	**+0.8**
	baz=5.3,SNR=16							
ARPS				S		**Sn**	**22 12 23.0**	**-4.6**
	baz=5.3							
CMSA	**Cobar Meteorol**	**7.83**	**79**	P		**Pn**	**22 11 59.3**	**+0.6**
	baz=7.8							
ASAR	**Alice Springs**	**9.99**	**345**	Pn		**Pn**	**22 12 30.4**	**+1.9**
	0.2nm,0.3s,baz=168,slow=19,SNR=14							
ASAR				Sn		**Sn**	**22 14 14.9**	**-5.7**
	0.2nm,0.3s,baz=162,slow=23,SNR=5.5							
WRA	**Warramunga Arr**	**13.55**	**351**	Pn		**Pn**	**22 13 15.9**	**-1.2**
	0.2nm,0.3s,baz=169,slow=14,SNR=9.0							
WRA				Sn		**Sn**	**22 15 41.4**	**-6.6**
	0.1nm,0.3s,baz=173,slow=22,SNR=2.1							

ANF ***19*** *22:11:58.8±0.5, 37˚.31N×114˚.62W, h22km±3km, ML3.3/12, Error ellipse: s-maj=3.3km s-min=2.6km az=62.0, Hypocentre not reviewed by the ISC*
REN ***19*** *22:11:58.2±2.9, 37˚.26N±0˚.02×114˚.64W±0˚.02, h4km±6km, ML2.9/7, ML2.9/100(NEIC), Error ellipse: s-maj=3.2km s-min=2.1km az=159.0*

NEIC 19 22:11:58.1±1.6, 37˚.33N±0˚.03×114˚.66W±0˚.02, h4km±6km, Error ellipse: s-maj=3.7km s-min=2.3km az=181.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRN	**Pahroc Range**	**0.32**	**284**			Pg	22 12 05.1	+0.7
PRN				Sg		Sg	22 12 08.2	-0.4
PRN				IAML			22 12 10.6	
	comp=N,2μm,0.3s							
PRN				IAML			22 12 13.0	
	comp=E,2μm,0.3s							
ICU	**Indian Springs**	**0.62**	**107**			Pg	22 12 09.5	-0.5
ICU						Sg	22 12 17.4	-0.5
SHPR	**Sheep Range**	**0.92**	**206**			Pg	22 12 13.9	-1.8
SHPR						Sg	22 12 26.6	-0.9
SHPR						IAML	22 12 30.5	
	comp=E,703nm,0.4s							
CCUT	**Cedar City**	**1.06**	**78**	Pg		Pg	22 12 18.6	+0.2
CCUT				Sg		Sg	22 12 32.5	+0.4
CCUT				IAML			22 12 36.4	
	comp=E,180nm,0.4s							
CCUT				IAML			22 12 36.4	
	comp=N,263nm,0.4s							
LCMT	**Little Creek M**	**1.18**	**105**	Pg		Pg	22 12 20.0	-0.7
LCMT				Sg		Sg	22 12 34.5	-1.4
LCMT				IAML			22 12 37.8	
	comp=E,247nm,0.5s							
LCMT				IAML			22 12 38.9	
	comp=N,336nm,0.5s							
R11A	**Troy Canyon, C**	**1.25**	**325**			Pg	22 12 21.3	-0.8
R11A				Sg		Sg	22 12 38.3	-0.1
R11A				IAML			22 12 40.7	
	comp=N,125nm,0.5s							
R11A	**Troy Canyon, C**	**1.25**	**325**	P			22 12 21.5	
	baz=145,SNR=54							
R11A				S			22 12 38.4	
	baz=145							
SZCU	**Shurtz Canyon**	**1.28**	**78**			Pn	22 12 23.0	0.0
SZCU				Sg		Sg	22 12 39.2	-0.1
SZCU				IAML			22 12 43.5	
	comp=N,313nm,0.2s							
SZCU				IAML			22 12 47.2	
	comp=E,230nm,0.4s							
TPNV	**Topopah Spring**	**1.32**	**254**			Pg	22 12 22.4	-1.1
TPNV				Sg		Sb	22 12 41.2	+0.1
TPNV				IAML			22 12 42.7	
	comp=E,350nm,0.5s							
TPNV				IAML			22 12 43.4	
	comp=E,311nm,0.4s							
TPNV	**Topopah Spring**	**1.32**	**254**	P			22 12 22.2	
	baz=76,SNR=60							
TPNV				S			22 12 40.9	
	baz=76							
PSUT	**Pine Spring**	**1.36**	**28**			Pn	22 12 23.7	-0.4
PSUT				Sg		Sg	22 12 41.8	-0.1
PSUT				IAML			22 12 45.1	
	comp=E,186nm,0.3s							
PSUT				IAML			22 12 46.4	
	comp=N,194nm,0.7s							
KNB	**Kanab**	**1.50**	**101**			Pn	22 12 26.0	0.0
KNB				Sn		Sn	22 12 44.8	-1.3
KNB				IAML			22 12 47.7	
	comp=N,200nm,1.0s							
KNB				IAML			22 12 52.4	
	comp=E,122nm,0.8s							
SPR3	**Spring Creek 3**	**1.69**	**9**	Pn		Pn	22 12 26.9	-1.8
SPR3				Sn		Sn	22 12 48.9	-2.0
SPR3				IAML			22 12 50.6	
	comp=E,134nm,0.5s							
SPR3				IAML			22 12 51.6	
	comp=N,161nm,0.3s							
PKCU	**Pink Cliffs**	**1.88**	**86**			Pb	22 12 33.0	-0.1
PKCU				Sg		Sg	22 12 58.7	+0.3
SHOC	**Shoshone, Teco**	**1.93**	**223**	Pb			22 12 33.3	
	baz=43,SNR=14							
SHOC				Sb			22 12 58.7	
	baz=43							
FURC	**Furnace Creek,**	**1.96**	**245**	Pb			22 12 34.2	
	baz=65,SNR=42							
MTPU	**Mount Pierson**	**2.09**	**69**			Pn	22 12 34.7	+0.5
U15A	**North Rim**	**2.10**	**115**	Pn		Pn	22 12 34.8	+0.4
U15A				IAML			22 13 07.0	
	comp=E,130nm,0.8s							
TUQ	**Turquoise Moun**	**2.15**	**209**	Pb			22 12 37.1	
	baz=29							
TUQ				Sb			22 13 05.0	
	baz=29							
TPH	**Tonopah**	**2.16**	**291**			Pn	22 12 34.5	-0.6
TPH	**Tonopah**	**2.16**	**291**	IAML			22 13 08.9	
	comp=N,103nm,0.4s							
TPH				IAML			22 13 09.0	
	comp=E,133nm,0.4s							
TCRU	**Three Creeks R**	**2.17**	**53**			Pn	22 12 30.6	-4.6
TCRU				IAML			22 13 09.2	
	comp=E,62nm,0.5s							
TCRU				IAML			22 13 12.3	
	comp=N,57nm,0.5s							
GRAC	**Grapevine Rang**	**2.19**	**262**	P			22 12 34.4	
	baz=82,SNR=8.8							
MSU	**Marysvale**	**2.29**	**58**			Pn	22 12 37.0	+0.1
W13A	**Hualapai Mount**	**2.31**	**164**	Pn		Pn	22 12 35.8	-1.4
NEE2	**Needles Airpor**	**2.56**	**179**	P			22 12 38.7	
	baz=360							
NEE2				S			22 13 09.9	
	baz=360							
MPMC	**Manual Prospec**	**2.60**	**242**	P			22 12 39.8	
	baz=61							
GSC	**Goldstone, Bar**	**2.66**	**221**	Pg		Pb	22 12 47.3	+0.9
GSC				IAML			22 13 31.7	
	comp=E,42nm,0.9s							
GMRC	**Granite Mounta**	**2.67**	**198**	P			22 12 40.5	
	baz=18,SNR=7.7							
GMRC				S			22 13 11.5	
	baz=18							
NV11	**Mina Array Sit**	**2.98**	**293**			Pn	22 12 45.6	-0.7
NV11				IAML			22 13 36.6	
	comp=N,28nm,0.6s							
LHV	**Little Huntoon**	**3.18**	**288**			Pn	22 12 49.0	+0.2
LHV				IAML			22 13 46.5	
	comp=N,44nm,0.5s							
LHV				IAML			22 13 52.4	
	comp=E,40nm,0.7s							
IRM	**Iron Mountain**	**3.19**	**187**	P			22 12 48.1	
	baz=7.4							
DUG	**Dugway, Tooele**	**3.20**	**26**			Pb	22 12 57.1	+1.5
DUG				IAML			22 13 48.1	
	comp=E,28nm,0.9s							
DUG				IAML			22 13 52.2	
	comp=E,25nm,0.8s							
KVN	**Kaiserville**	**3.21**	**303**	Pn		Pn	22 12 49.3	-0.2
KVN				IAML			22 13 42.0	
	comp=E,28nm,0.6s							
KVN				IAML			22 13 46.3	
	comp=N,22nm,0.6s							
WUAZ	**Wupatki**	**3.21**	**123**			Pn	22 12 49.5	0.0
WUAZ	**Wupatki**	**3.21**	**123**	Sb			22 13 35.5	
	baz=305							
NLU	**North Lily Min**	**3.31**	**37**			Pn	22 12 50.8	-0.1
RYN	**Ryan**	**3.31**	**294**			Pn	22 12 50.4	-0.5
RYN				IAML			22 13 45.0	
	comp=N,48nm,0.5s							
TMUT	**Trail Mountain**	**3.35**	**53**	IAML			22 13 52.4	
	comp=E,18nm,0.7s							
ELK	**Elko**	**3.44**	**353**			Pn	22 12 52.5	-0.2
ISA	**Isabella, Lake**	**3.49**	**243**	Pn		Pn	22 12 53.5	+0.2
BELC	**Belle Mtn. Jos**	**3.50**	**199**	P			22 12 52.5	
	baz=18,SNR=6.3							
MDPB	**Devils Postpil**	**3.53**	**276**	Pn		Pn	22 12 53.3	-0.6
MPU	**Maple Canyon**	**3.58**	**41**	Pn		Pn	22 12 54.1	-0.5
Y14A	**Wickenburg**	**3.64**	**158**			Pn	22 12 54.7	-0.6
Y14A				IAML			22 13 53.6	
	comp=E,17nm,0.8s							
Y14A				IAML			22 14 00.1	
	comp=N,20nm,0.8s							
SRU	**San Rafael Swe**	**3.71**	**60**			Pn	22 12 56.5	+0.2
SRU				IAML			22 13 57.2	
	comp=E,13nm,0.3s							
SRU				IAML			22 13 57.4	
	comp=N,14nm,0.7s							
P17A	**Butcher Ranch,**	**3.75**	**54**			Pn	22 12 56.8	-0.1
BGU	**Big Grassy Mou**	**3.81**	**19**			Pn	22 12 57.3	-0.4
BGU				IAML			22 14 01.8	
	comp=E,16nm,0.8s							
X16A	**Lo Mia Camp, P**	**3.91**	**137**			Pb	22 13 08.9	+1.2
W18A	**Petrified Fore**	**4.55**	**118**			Pg	22 13 22.4	-3.0
PV19	**Morning Glory**	**4.60**	**76**	Pn		Pn	22 13 07.7	-1.0
PV19				IAML			22 14 30.4	
	comp=E,17nm,0.7s							
PV03	**Paradox Valley**	**4.70**	**77**	Pg		Pg	22 13 24.7	-3.4
PV03				IAML			22 14 30.9	
	comp=E,13nm,0.9s							
PV13	**Radium Mtn., P**	**4.70**	**78**	Pg		Pg	22 13 24.9	-3.4
X18A	**Snowflake**	**4.74**	**125**			Pb	22 13 24.4	+2.6
X18A				Pg		Pg	22 13 26.1	-2.8
PV12	**Saucer Basin,**	**4.74**	**76**	Pg		Pg	22 13 26.3	-2.7
PV02	**Paradox Valley**	**4.78**	**78**	Pg		Pg	22 13 26.6	-3.1
PV22	**Blue Mesa, Par**	**4.80**	**74**	Pg		Pg	22 13 27.1	-3.0
PV22				IAML			22 14 33.9	
	comp=N,11nm,1.0s							
PV22				IAML			22 14 38.0	
	comp=E,15nm,0.7s							
PV07	**Paradox Valley**	**4.88**	**75**	Pg		Pg	22 13 28.4	-3.3
PV07				IAML			22 14 35.8	
	comp=E,8.5nm,0.7s							
PV07				IAML			22 14 45.7	
	comp=N,10nm,1.0s							
PV01	**Paradox Valley**	**4.89**	**79**	Pg		Pg	22 13 29.0	-2.9
PV01				IAML			22 14 36.2	
	comp=N,14nm,0.8s							
HWUT	**Hardware Ranch**	**4.90**	**28**	Pn		Pn	22 13 12.0	-0.7
HWUT				IAML			22 14 37.5	
	comp=N,6.2nm,1.0s							
HWUT				IAML			22 14 40.4	
	comp=N,6.9nm,1.1s							

JMA ***19*** *22:33:58.8±0.1, 23˚.55N×121˚.60E, h44km±2km, M3.3*
TAP ***19*** *22:33:59.1, 23˚.57N×121˚.65E, h39km, ML3.6, B*

ISC 19 22:34:01.6±1.4, 23˚.55N±0˚.02×121˚.65E±0˚.02, h35km, n139, σ1s93/260, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEGC	**Jichi Village**	**0.19**	**327**	*i* P		**Pn**	**22 34 06.8**	**-2.6**
	baz=325							
TEGC				S		**Sn**	**22 34 12.9**	**-3.0**
	baz=325							
HGSD	**Ruisui**	**0.22**	**254**	*i* P		**Pn**	**22 34 07.1**	**-2.2**
	baz=249							
HGSD				S		**Sn**	**22 34 14.7**	**-0.8**
	baz=249							
EGFH	**Guangfu**	**0.24**	**299**	*i* P		**Pn**	**22 34 06.8**	**-2.5**
	baz=296							
EGFH				S		**Sn**	**22 34 12.4**	**-3.1**
	baz=296							
EHY	**Hungye**	**0.31**	**261**	P		**Pn**	**22 34 07.5**	**-2.2**
	baz=257							
EHY				S		**Sn**	**22 34 12.9**	**-2.8**
	baz=257							
TEYL	**Yanliau Villag**	**0.32**	**351**	P		**Pn**	**22 34 08.5**	**-1.3**
	baz=352							
TEYL				S		**Sn**	**22 34 15.4**	**-0.5**
	baz=352							
ESL	**Shilin**	**0.33**	**322**	*i* P		**Pn**	**22 34 07.4**	**-2.5**
	baz=321							
ESL				S		**Sn**	**22 34 13.0**	**-3.0**
	baz=321							
YULB	**Yu-li**	**0.36**	**244**	P		**Pn**	**22 34 08.1**	**-2.2**
	baz=241							
YULB				S		**Sn**	**22 34 13.9**	**-2.7**
	baz=241							
EYUL	**Yuli**	**0.37**	**236**	P		**Pn**	**22 34 08.5**	**-1.9**
	baz=234							
EYUL				S		**Sn**	**22 34 15.5**	**-1.1**
	baz=234							
TWF1	**Yuli**	**0.38**	**238**	P		**Pn**	**22 34 08.4**	**-2.1**
	baz=235							
TWF1				S		**Sn**	**22 34 14.8**	**-2.1**
	baz=235							
HWA	**Hwalien**	**0.42**	**354**	P		**Pn**	**22 34 09.4**	**-1.7**
	baz=355							
HWA				S		**Sn**	**22 34 17.8**	**0.0**
	baz=355							
ETM	**Tongmen**	**0.43**	**340**	P		**Pn**	**22 34 08.8**	**-2.5**
	baz=340							
ETM				*e*S		**Sn**	**22 34 16.5**	**-1.6**
	baz=340							
FULB	**Fuli**	**0.48**	**223**	*i* P		**Pn**	**22 34 10.3**	**-1.7**
	baz=221							
FULB				S		**Sn**	**22 34 20.0**	**+0.7**
	baz=221							
CHKT	**Chengkung**	**0.52**	**210**	P		**Pn**	**22 34 10.4**	**-2.2**
	baz=208							
CHKT				S		**Sn**	**22 34 19.9**	**-0.4**
	baz=208							
TWD	**Chiawan**	**0.53**	**354**	P		**Pn**	**22 34 10.3**	**-2.4**
	baz=355							
TWD				*e*S		**Sn**	**22 34 18.7**	**-1.7**
	baz=355							
OWD	**Renai**	**0.59**	**313**	P		**Pn**	**22 34 11.0**	**-2.7**
	baz=311							
OWD				S		**Sn**	**22 34 19.1**	**-3.1**
	baz=311							
ETL	**Fush Village**	**0.60**	**358**	*e*P		**Pn**	**22 34 11.6**	**-2.2**
	baz=357							
ETL				S		**Sn**	**22 34 20.0**	**-2.4**
	baz=357							
ECS	**Chishang**	**0.60**	**221**	P		**Pn**	**22 34 11.7**	**-2.1**
	baz=220							
ECS				*e*S		**Sn**	**22 34 21.2**	**-1.1**
	baz=220							
NACB	**Ninganchiao**	**0.62**	**355**	P		**Pn**	**22 34 11.2**	**-2.8**
	baz=355							
NACB				S		**Sn**	**22 34 20.1**	**-2.6**
	baz=355							
EDH	**Donghe**	**0.66**	**209**	*i* P		**Pn**	**22 34 12.3**	**-2.2**
	baz=208							
EDH				S		**Sn**	**22 34 21.9**	**-1.8**
	baz=208							
CHGB	**Renai**	**0.67**	**319**	*i* P		**Pn**	**22 34 12.4**	**-2.5**
	baz=318							
CHGB				S		**Sn**	**22 34 21.3**	**-2.9**
	baz=318							
ETLH	**Xiulin Townshi**	**0.67**	**347**	P		**Pn**	**22 34 11.8**	**-3.0**
	baz=346							
ETLH				S		**Sn**	**22 34 20.8**	**-3.2**
	baz=346							
SSLB	**Suanglung**	**0.68**	**290**	*i* P		**Pn**	**22 34 12.3**	**-2.5**
	baz=288							
SSLB				S		**Sn**	**22 34 21.6**	**-2.7**
	baz=288							
ELDTW	**Lidau**	**0.69**	**238**	*i* P		**Pn**	**22 34 12.1**	**-2.9**
	baz=236							
ELDTW				*e*S		**Sn**	**22 34 21.1**	**-3.4**
	baz=236							
WHF	**Hehuan Shan**	**0.69**	**329**	P		**Pn**	**22 34 12.5**	**-2.8**
	baz=328							
WHF				S		**Sn**	**22 34 21.6**	**-3.4**
	baz=328							
WHYT	**Xinyi Township**	**0.75**	**281**	P		**Pn**	**22 34 14.4**	**-1.3**
	baz=279							
WHYT				*e*S		**Sn**	**22 34 24.5**	**-1.3**
	baz=279							
SMLT	**Sun Moon Lake**	**0.76**	**296**	*i* P		**Pn**	**22 34 13.9**	**-2.0**
	baz=294							
SMLT				S		**Sn**	**22 34 24.6**	**-1.7**
	baz=294							
ALS	**Alishan**	**0.78**	**267**	P		**Pn**	**22 34 14.5**	**-1.8**
	baz=265							
ALS				S		**Sn**	**22 34 25.0**	**-2.0**
	baz=265							
WPL	**Puli Township**	**0.78**	**306**	P		**Pn**	**22 34 14.1**	**-2.1**
	baz=304							
WPL				S		**Sn**	**22 34 23.8**	**-2.9**
	baz=304							
FUSS	**Fushou**	**0.79**	**332**	P		**Pn**	**22 34 14.0**	**-2.4**
	baz=331

	baz=286							
STYH	**Taoyuan**	**0.89**	**245**	P	**Pn**	**22 34 15.8**	**-1.9**
	baz=243							
STYH				S	**Sn**	**22 34 27.0**	**-2.3**
	baz=243							
LDUT	**Ludao**	**0.89**	**191**	P	**Pn**	**22 34 14.9**	**-2.7**
	baz=190							
LDUT				*e*S	**Sn**	**22 34 26.4**	**-2.9**
	baz=190							
CHN5	**Tsauling**	**0.89**	**273**	P	**Pn**	**22 34 16.3**	**-1.4**
	baz=271							
CHN5				S	**Sn**	**22 34 28.7**	**-0.8**
	baz=271							
EWUT	**Wuta**	**0.90**	**7**	P	**Pn**	**22 34 15.9**	**-1.8**
	baz=7.0							
EWUT				S	**Sn**	**22 34 27.7**	**-1.8**
	baz=7.0							
TWGBT	**Beinan**	**0.90**	**216**	P	**Pn**	**22 34 14.6**	**-3.2**
	baz=215							
TWGBT				*e*S	**Sn**	**22 34 27.5**	**-2.2**
	baz=215							
TWG	**Pinlang**	**0.90**	**216**	P	**Pn**	**22 34 14.7**	**-3.1**
	baz=215							
TWG				*e*S	**Sn**	**22 34 27.7**	**-2.0**
	baz=215							
NNSB	**Datong**	**0.91**	**344**	P	**Pn**	**22 34 15.7**	**-2.3**
	baz=344							
NNSB				S	**Sn**	**22 34 27.3**	**-2.6**
	baz=344							
NNSH	**Datong**	**0.91**	**344**	P	**Pn**	**22 34 15.7**	**-2.3**
	baz=344							
NNSH				S	**Sn**	**22 34 27.0**	**-2.9**
	baz=344							
STYT	**Tauyuan**	**0.91**	**245**	P	**Pn**	**22 34 16.1**	**-1.8**
	baz=243							
STYT				*e*S	**Sn**	**22 34 28.6**	**-1.3**
	baz=243							
NNS	**Nan Shan**	**0.92**	**344**	*i* P	**Pn**	**22 34 16.0**	**-2.2**
	baz=344							
NNS				S	**Sn**	**22 34 27.8**	**-2.5**
	baz=344							
WNT	**Mingjian**	**0.94**	**290**	P	**Pn**	**22 34 17.1**	**-1.3**
	baz=289							
WNT				S	**Sn**	**22 34 29.8**	**-0.9**
	baz=289							
WNT1	**Nantou City**	**0.96**	**292**	P	**Pn**	**22 34 17.6**	**-1.0**
	baz=290							
WNT1				S	**Sn**	**22 34 30.6**	**-0.3**
	baz=290							
WHP	**Taichung City**	**0.97**	**318**	P	**Pn**	**22 34 17.4**	**-1.4**
	baz=317							
WHP				S	**Sn**	**22 34 29.6**	**-1.8**
	baz=317							
TPUB	**Ta-pu**	**0.97**	**255**	P	**Pn**	**22 34 17.6**	**-1.2**
	baz=254							
TPUB				S	**Sn**	**22 34 31.0**	**-0.3**
	baz=254							
CHN4	**Tsaushan**	**0.99**	**259**	P	**Pn**	**22 34 17.8**	**-1.2**
	baz=257							
CHN4				S	**Sn**	**22 34 31.8**	**-0.1**
	baz=257							
WWF	**Wufeng**	**1.00**	**299**	P	**Pn**	**22 34 18.4**	**-0.8**
	baz=298							
WWF				S	**Sn**	**22 34 32.0**	**0.0**
	baz=298							
WTP	**Ta-pu**	**1.00**	**252**	P	**Pn**	**22 34 18.1**	**-1.1**
	baz=251							
WTP				*e*S	**Sn**	**22 34 30.8**	**-1.3**
	baz=251							
WGK	**Gukeng**	**1.01**	**278**	S	**Sn**	**22 34 31.8**	**-0.4**
	baz=276							
WDLH	**Douliu**	**1.03**	**278**	P	**Pn**	**22 34 18.7**	**-0.9**
	baz=276							
WDLH				S	**Sn**	**22 34 32.1**	**-0.6**
	baz=276							
NDT	**Datong Townshi**	**1.05**	**353**	*e*P	**Pn**	**22 34 17.9**	**-1.9**
	baz=353							
NDT				*e*S	**Sn**	**22 34 31.8**	**-1.5**
	baz=353							
TWC	**Suao**	**1.07**	**10**	P	**Pn**	**22 34 18.9**	**-1.1**
	baz=10.0							
TWC				*e*S	**Sn**	**22 34 32.0**	**-1.6**
	baz=10.0							
TCU	**Taichung**	**1.07**	**304**	*e*P	**Pn**	**22 34 19.4**	**-0.7**
	baz=303							
TCU				S	**Sn**	**22 34 33.7**	**-0.1**
	baz=303							
NDS	**Dongshan**	**1.08**	**3**	*e*P	**Pn**	**22 34 18.9**	**-1.3**
	baz=3.0							
NDS				S	**Sn**	**22 34 32.9**	**-1.0**
	baz=3.0							
CHN2	**Minshiung**	**1.08**	**269**	*e*P	**Pn**	**22 34 19.6**	**-0.6**
	baz=268							
CHN2				*e*S	**Sn**	**22 34 34.2**	**+0.2**
	baz=268							
SLGT	**Liugui**	**1.08**	**239**	P	**Pn**	**22 34 19.1**	**-1.2**
	baz=238							
SLGT				*e*S	**Sn**	**22 34 33.9**	**-0.1**
	baz=238							
ENTT	**Nioudou**	**1.08**	**356**	P	**Pn**	**22 34 18.4**	**-1.9**
	baz=356							
ENTT				*e*S	**Sn**	**22 34 32.3**	**-1.9**
	baz=356							
SGST	**Jiashian**	**1.09**	**245**	P	**Pn**	**22 34 18.7**	**-1.6**
	baz=243							
SGST				*e*S	**Sn**	**22 34 33.9**	**-0.3**
	baz=243							
CHN1	**Nanshi**	**1.10**	**251**	*e*P	**Pn**	**22 34 19.6**	**-0.9**
	baz=249							
CHN1				*e*S	**Sn**	**22 34 34.8**	**+0.4**
	baz=249							
TWK	**Hsinying**	**1.11**	**255**	*e*P	**Pn**	**22 34 19.7**	**-1.0**
	baz=254							
TWK				*e*S	**Sn**	**22 34 34.6**	**-0.1**
	baz=254							
SNST	**Tainan City**	**1.11**	**253**	*e*P	**Pn**	**22 34 20.1**	**-0.5**
	baz=251							
SNST				*e*S	**Sn**	**22 34 35.4**	**+0.6**
	baz=251							
CHY	**Chiayi**	**1.13**	**267**	*e*P	**Pn**	**22 34 19.8**	**-1.1**
	baz=266							
CHY				*e*S	**Sn**	**22 34 35.9**	**+0.7**
	baz=266							
TWQ1	**Liyutan**	**1.13**	**315**	*e*P	**Pn**	**22 34 19.9**	**-1.0**
	baz=314							
TWQ1				*e*S	**Sn**	**22 34 34.9**	**-0.3**
	baz=314							
WCHH	**Zhanghua**	**1.13**	**298**	*e*P	**Pn**	**22 34 19.9**	**-1.0**
	baz=296							
WCHH				*e*S	**Sn**	**22 34 35.0**	**-0.2**
	baz=296							
YHNB	**Yeheng**	**1.14**	**347**	P	**Pn**	**22 34 19.5**	**-1.6**
	baz=347							
YHNB				S	**Sn**	**22 34 33.1**	**-2.5**
	baz=347							
ECL	**Taimali**	**1.15**	**214**	*e*P	**Pn**	**22 34 19.5**	**-1.7**
	baz=213							
ECL				*e*S	**Sn**	**22 34 33.6**	**-2.0**
	baz=213							
NSK	**Sanguang**	**1.15**	**347**	P	**Pn**	**22 34 19.4**	**-1.9**
	baz=346							
NSK				S	**Sn**	**22 34 33.6**	**-2.2**
	baz=346							
TWE	**Neicheng**	**1.16**	**1**	P	**Pn**	**22 34 19.6**	**-1.8**
	baz=1.0							
TWE				*e*S	**Sn**	**22 34 34.3**	**-1.7**
	baz=1.0							
WTK	**Tuku**	**1.17**	**277**	P	**Pn**	**22 34 20.0**	**-1.4**
	baz=275							
WTK				*e*S	**Sn**	**22 34 35.8**	**-0.3**
	baz=275							
NSY	**Sanyi**	**1.18**	**317**	*e*P	**Pn**	**22 34 20.8**	**-0.8**
	baz=316							
NSY				*e*S	**Sn**	**22 34 36.2**	**-0.4**
	baz=316							
WDJ	**Dajia District**	**1.22**	**311**	P	**Pn**	**22 34 20.7**	**-1.4**
	baz=310							
WDJ				*e*S	**Sn**	**22 34 37.4**	**0.0**
	baz=310							
WRL	**Guolierlin Hig**	**1.22**	**287**	P	**Pn**	**22 34 20.9**	**-1.3**
	baz=285							
WRL				*e*S	**Sn**	**22 34 36.2**	**-1.2**
	baz=285							
NWLT	**Wulai**	**1.23**	**354**	*e*P	**Pn**	**22 34 20.9**	**-1.4**
	baz=353							
NWLT				*e*S	**Sn**	**22 34 36.0**	**-1.6**
	baz=353							
NSTT	**Nanjuang**	**1.23**	**331**	*e*P	**Pn**	**22 34 21.7**	**-0.6**
	baz=330							
NSTT				*e*S	**Sn**	**22 34 36.4**	**-1.2**
	baz=330							
LIOB	**Emei**	**1.23**	**332**	*e*P	**Pn**	**22 34 21.9**	**-0.5**
	baz=331							
LIOB				*e*S	**Sn**	**22 34 36.9**	**-0.9**
	baz=331							
SSD	**Sandimen**	**1.24**	**230**	*e*P	**Pn**	**22 34 21.2**	**-1.1**
	baz=228							
SSD				*e*S	**Sn**	**22 34 37.9**	**+0.1**
	baz=228							
TSMG	**Majia**	**1.25**	**228**	*e*P	**Pn**	**22 34 21.9**	**-0.7**
	baz=227							
TSMG				*e*S	**Sn**	**22 34 38.1**	**-0.2**
	baz=227							
NMLH	**Miaoli**	**1.26**	**321**	*e*P	**Pn**	**22 34 21.4**	**-1.3**
	baz=320							
NMLH				*e*S	**Sn**	**22 34 37.5**	**-0.8**
	baz=320							
SCST	**Cishan**	**1.26**	**238**	*e*P	**Pn**	**22 34 22.6**	**-0.1**
	baz=237							
SCST				*e*S	**Sn**	**22 34 39.0**	**+0.7**
	baz=237							
ICHU	**Yijhu**	**1.27**	**262**	*e*P	**Pn**	**22 34 21.3**	**-1.6**
	baz=260							
ICHU				*e*S	**Sn**	**22 34 37.7**	**-1.1**
	baz=260							
NJD	**Zhudong**	**1.28**	**336**	*e*S	**Sn**	**22 34 37.5**	**-1.5**
	baz=336							
NTC	**Toucheng**	**1.30**	**7**	*e*P	**Pn**	**22 34 23.3**	**-0.1**
	baz=7.0							
NTC				*e*S	**Sn**	**22 34 40.3**	**+0.8**
	baz=7.0							
MASBT	**Mashibuluo**	**1.33**	**225**	P	**Pn**	**22 34 21.9**	**-1.7**
	baz=224							
MASBT				*e*S	**Sn**	**22 34 41.2**	**+1.2**
	baz=224							
NJN	**Zhunan**	**1.33**	**328**	*e*S	**Sn**	**22 34 39.5**	**-0.7**
	baz=327							
CHN8	**Yiju**	**1.34**	**261**	P	**Pn**	**22 34 22.5**	**-1.3**
	baz=260							
CHN8				*e*S	**Sn**	**22 34 39.3**	**-1.0**
	baz=260							
HSN1	**Hsinchu**	**1.35**	**335**	*e*S	**Sn**	**22 34 41.2**	**+0.6**
	baz=334							
SBCB	**Hsinchu**	**1.38**	**334**	*e*S	**Sn**	**22 34 40.0**	**-1.3**
	baz=333							
TAW	**Tawu**	**1.38**	**210**	*e*S	**Sn**	**22 34 38.3**	**-3.0**
	baz=209							
EAST	**Anshuo**	**1.38**	**213**	*e*P	**Pn**	**22 34 22.8**	**-1.6**
	baz=211							
EAST				*e*S	**Sn**	**22 34 41.1**	**-0.3**
	baz=211							
HSN	**Hsinchu**	**1.39**	**334**	*e*S	**Sn**	**22 34 42.2**	**+0.5**
	baz=335							
NHDH	**Xindian Distri**	**1.41**	**355**	*e*P	**Pn**	**22 34 24.0**	**-0.8**
	baz=355							
NHDH				*e*S	**Sn**	**22 34 41.7**	**-0.4**
	baz=355							
TIPB	**Shuangxi**	**1.42**	**6**	*e*P	**Pn**	**22 34 24.4**	**-0.6**
	baz=6.0							
TIPB				*e*S	**Sn**	**22 34 42.1**	**-0.3**
	baz=6.0							
TWA	**Mucha**	**1.42**	**358**	*e*P	**Pn**	**22 34 23.1**	**-1.9**
	baz=357							
TWA				*e*S	**Sn**	**22 34 40.8**	**-1.7**
	baz=357							
TATO	**Taipei**	**1.42**	**354**	*e*P	**Pn**	**22 34 24.0**	**-1.0**
	baz=354							
TATO				*e*S	**Sn**	**22 34 41.6**	**-0.9**
	baz=354							
SSPT	**Xinbi**	**1.46**	**223**	*e*P	**Pn**	**22 34 25.9**	**+0.4**
	baz=222							
NCUH	**Zhongli**	**1.47**	**343**	*e*S	**Sn**	**22 34 44.2**	**+0.5**
	baz=343							
NTY	**Taoyuan**	**1.48**	**347**	*e*S	**Sn**	**22 34 44.2**	**+0.5**
	baz=347							
TWB1	**Santiao Chiao**	**1.48**	**12**	*e*P	**Pn**	**22 34 24.9**	**-0.8**
	baz=12							
TWB1				*e*S	**Sn**	**22 34 44.4**	**+0.5**
	baz=12							
JYNG	**Yonagunijimaku**	**1.48**	**53**	P	**Pn**	**22 34 24.8**	**-1.0**
JYNG				S	**Sn**	**22 34 43.8**	**-0.1**
SCZT	**Fangliau**	**1.51**	**219**	P	**Pn**	**22 34 25.1**	**-1.1**
	baz=218							
SCZT				*e*S	**Sn**	**22 34 43.6**	**-1.0**
	baz=218							
NWF	**Wu-fen Shan**	**1.52**	**4**	*e*S	**Sn**	**22 34 45.4**	**+0.5**
	baz=4.0							
YOJ	**Yonaguni jima**	**1.54**	**54**	P	**Pn**	**22 34 25.5**	**-1.0**
YOJ				*e*S	**Sn**	**22 34 44.1**	**-1.2**
YOJ	**Yonaguni jima**	**1.54**	**54**	*e*P	**Pn**	**22 34 25.6**	**-1.0**
	baz=54							
YOJ				*e*S	**Sn**	**22 34 45.1**	**-0.1**
	baz=54							
SLIU	**Shizi**	**1.55**	**211**	*e*P	**Pn**	**22 34 25.2**	**-1.4**
	baz=210							
SLIU				*e*S	**Sn**	**22 34 44.5**	**-1.0**
	baz=210							
YM01	**YM01**	**1.59**	**357**	*e*P	**Pn**	**22 34 27.9**	**+0.6**
	baz=357							
YM01				*e*S	**Sn**	**22 34 45.3**	**-1.2**
	baz=357							
TNOU	**National Taiwa**	**1.59**	**4**	*e*S	**Sn**	**22 34 45.9**	**-0.7**
	baz=3.0							
WLCH	**Liuqiu**	**1.68**	**225**	*e*P	**Pn**	**22 34 29.8**	**+1.4**
	baz=224							
TWKBT	**Hengchun**	**1.78**	**206**	P	**Pn**	**22 34 28.6**	**-1.3**
	baz=205							
TWKBT				*e*S	**Sn**	**22 34 50.4**	**-0.9**
	baz=205							
TWK1	**Hengchun**	**1.78**	**206**	*e*P	**Pn**	**22 34 28.9**	**-1.0**
	baz=205							
TWK1				*e*S	**Sn**	**22 34 50.2**	**-1.1**
	baz=205							
TSEB	**Hengchuen, Pin**	**1.79**	**203**	*e*S	**Sn**	**22 34 52.2**	**+0.8**
	baz=203							
WDGT	**Dungji**	**1.85**	**261**	*e*P	**Pn**	**22 34 28.9**	**-1.9**
	baz=260							
PHUB	**P'eng-hu**	**1.91**	**269**	P	**Pn**	**22 34 29.6**	**-2.0**
	baz=268							
PHUB				*e*S	**Sn**	**22 34 51.3**	**-3.1**
	baz=268							
PNG	**Penghu**	**1.92**	**271**	*e*P	**Pn**	**22 34 29.9**	**-2.0**
	baz=269							
PNG				*e*S	**Sn**	**22 34 51.8**	**-3.0**
	baz=269							
HATJ	**Hateruma jima**	**2.04**	**75**	P	**Pn**	**22 34 32.2**	**-1.2**
HATJ				*e*S	**Sn**	**22 34 56.4**	**-1.1**
IRIF	**Iriomote-Funau**	**2.05**	**67**	P	**Pn**	**22 34 32.8**	**-0.8**
IRIF				*e*S	**Sn**	**22 34 56.4**	**-1.6**
VCHM	**Qimei**	**2.07**	**261**	*e*P	**Pn**	**22 34 31.7**	**-2.1**
	baz=260							
VCHM				*e*S	**Sn**	**22 34 56.5**	**-1.9**
	baz=260							
JKRS	**Kuro-shima**	**2.26**	**72**	P	**Pn**	**22 34 35.7**	**-0.8**
JKRS				S	**Sn**	**22 35 03.3**	**+0.1**
JIJ	**Ishigaki jima**	**2.42**	**70**	P	**Pn**	**22 34 37.2**	**-1.4**
JIJ				*e*S	**Sn**	**22 35 05.1**	**-1.9**
VWUC	**VWUC**	**2.47**	**306**	*e*P	**Pn**	**22 34 36.6**	**-2.8**
	baz=305							
VWUC				*e*S	**Sn**	**22 35 04.0**	**-4.3**
	baz=305							
JISG	**Ishigakijimahi**	**2.64**	**67**	P	**Pn**	**22 34 40.2**	**-1.5**
JISG				*e*S	**Sn**	**22 35 10.1**	**-2.4**
PTMZ	**Houxiangcun**	**2.74**	**303**	*e*P	**Pn**	**22 34 40.8**	**-2.3**
	baz=302							
PTMZ				*e*S	**Sn**	**22 35 10.8**	**-4.2**
	baz=302							
JTJ	**Tarama**	**2.99**	**68**	P	**Pn**	**22 34 45.1**	**-1.4**
JTJ				*e*S	**Sn**	**22 35 20.0**	**-1.1**
MATB	**Ma-tsu**	**3.02**	**329**	*e*P	**Pn**	**22 34 44.2**	**-2.7**
	baz=328							
MATB				*e*S	**Sn**	**22 35 17.0**	**-4.7**
	baz=328							
MSUT	**Lienchiang**	**3.04**	**329**	*e*S	**Sn**	**22 35 18.3**	**-4.1**
	baz=328							
KNM	**Kinmen**	**3.07**	**287**	*e*P	**Pn**	**22 34 46.4**	**-1.1**
	baz=285							
KNM				*e*S	**Sn**	**22 35 22.0**	**-1.0**
	baz=285							
KNMB	**Chin-men Tao**	**3.12**	**288**	*e*P	**Pn**	**22 34 45.6**	**-2.7**
	baz=286							
KNMB				*e*S	**Sn**	**22 35 19.4**	**-4.9**
	baz=286							
LYJJ	**Jianjiangzhen**	**3.44**	**330**	*e*S	**Sn**	**22 35 27.4**	**-4.9**
	baz=330							
JIRB	**Irabujima**	**3.46**	**68**	P	**Pn**	**22 34 51.6**	**-1.3**
JIRB				*e*S	**Sn**	**22 35 31.1**	**-1.5**
MHZQ	**Yeshan**	**3.48**	**317**	*e*P	**Pn**	**22 34 50.4**	**-2.8**
	baz=316							
MHZQ				*e*S	**Sn**	**22 35 28.3**	**-4.9**
	baz=316							
JMJ	**Miyako jima 2**	**3.56**	**69**	*e*P	**Pn**	**22 34 53.2**	**-1.1**
	baz=69							
JMJ				*e*S	**Sn**	**22 35 34.0**	**-1.0**
	baz=69							
JMJ2	**Miyako jima3**	**3.56**	**70**	P	**Pn**	**22 34 53.4**	**-0.9**
JMJ2				*e*S	**Sn**	**22 35 34.9**	**-0.3**
ZPLA	**Ao Xicun**	**3.59**	**277**	*e*P	**Pn**	**22 34 52.3**	**-2.5**
	baz=275							
ZPLA				*e*S	**Sn**	**22 35 30.9**	**-5.2**
	baz=275							
XPSS	**Dashiqiu**	**3.61**	**339**	*e*P	**Pn**	**22 34 52.3**	**-2.7**
	baz=338							
AXDP	**Jialang**	**3.62**	**292**	*e*P	**Pn**	**22 34 52.8**	**-2.3**
	baz=291							
AXDP				*e*S	**Sn**	**22 35 32.2**	**-4.4**
	baz=291							

*ISK **19** 22:36:06.4, 35˚.40N×26˚.12E, h6km, ML2.6/10*
*ATH **19** 22:36:07.7, 35˚.39N×26˚.13E, h9km±3km, ML2.3/4, Error ellipse: s-maj=4.2km s-min=1.2km az=177.0*
*THE **19** 22:36:08.4, 35˚.33N×26˚.09E, h2km±4km, ML2.2/6, Error ellipse: s-maj=4.2km s-min=1.0km az=71.0*

ISC 19 22:36:07.3±1.1, 35˚.40N±0˚.03×26˚.13E±0˚.02, h5km±12km, n43, σ0°58/59, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIA	**Sitia Lasithi**	**0.20**	**188**	P	**Pg**	**22 36 10.9**	**-0.3**
STIA				S	**Sg**	**22 36 13.6**	**-0.2**
ZKR	**Zakros**	**0.29**	**165**	P	**Pg**	**22 36 13.2**	**+0.2**
ZKR				S	**Sg**	**22 36 17.0**	**+0.1**
	3µm,0.1s						
ZKR	**Zakros**	**0.29**	**165**	P	**Pg**	**22 36 13.2**	**+0.2**
ZKR				S	**Sg**	**22 36 17.0**	**+0.1**
ZKR				AML	AML	22 36 17.3	
	comp=E,8656µm,0.2s						
ZKR				AML	AML	22 36 17.4	
	comp=N,2171µm,0.1s						
ZKR	**Zakros**	**0.29**	**165**	PG	**Pg**	**22 36 12.8**	**-0.2**
ZKR				SG	**Sg**	**22 36 17.0**	**+0.1**
NPS	**Neapolis**	**0.44**	**252**	P	**Pg**	**22 36 16.8**	**+1.0**
NPS				S	**Sg**	**22 36 22.2**	**+0.6**
	comp=N,815nm,0.2s						
NPS	**Neapolis**	**0.44**	**252**	P	**Pg**	**22 36 16.9**	**+1.0**
NPS				S	**Sg**	**22 36 22.6**	**+0.9**
NPS				AML	AML	22 36 23.2	
	comp=N,1381µm,0.3s						
NPS				AML	AML	22 36 23.8	
	comp=E,1880µm,0.2s						
FRMA	**Ierapetra Chan**	**0.50**	**220**	P	**Pg**	**22 36 15.9**	**-1.0**
FRMA				S	**Sg**	**22 36 21.2**	**-2.3**
	comp=E,332nm,0.3s						
LAST	**Lasithi**	**0.58**	**246**	P	**Pg**	**22 36 18.8**	**+0.3**
LAST				S	**Sg**	**22 36 26.5**	**+0.4**
	comp=E,255nm,0.2s						
LAST	**Lasithi**	**0.58**	**246**	P	**Pg**	**22 36 18.9**	**+0.3**
LAST				S	**Sg**	**22 36 26.3**	**+0.2**
LAST				AML	AML	22 36 27.2	
	comp=E,610µm,0.2s						
LAST				AML	AML	22 36 27.5	
	comp=N,453µm,0.1s						
HRKL	**Herakleio**	**0.84**	**264**	PG	**Pg**	**22 36 23.3**	**-0.2**
HRKL				SG	**Sg**	**22 36 35.1**	**+0.7**
IDI	**Anoyia**	**1.02**	**264**	P	**Pg**	**22 36 26.9**	**0.0**
IDI				S	**Sb**	**22 36 41.1**	**0.0**
	comp=N,132nm,0.2s						
IDI	**Anoyia**	**1.02**	**264**	P	**Pg**	**22 36 26.8**	**0.0**
IDI				S	**Sg**	**22 36 40.4**	**+0.3**
IDI				AML	AML	22 36 43.2	
	comp=N,250µm,0.2s						
IDI				AML	AML	22 36 43.4	
	comp=E,269µm,0.2s						
IDI	**Anoyia**	**1.02**	**264**	PG	**Pg**	**22 36 26.4**	**-0.4**
IDI				SG	**Sg**	**22 36 40.1**	**+0.1**
SANT	**Santorini**	**1.11**	**331**	P	**Pg**	**22 36 28.5**	**-0.2**
SANT	**Santorini**	**1.11**	**331**	P	**Pg**	**22 36 28.2**	**-0.4**
SANT	**Santorini**	**1.11**	**331**	PN	**Pg**	**22 36 28.1**	**-0.6**
SANT				SN	**Sg**	**22 36 43.0**	**-0.1**
THR6	**Thira Island,**	**1.12**	**328**	P	**Pg**	**22 36 28.9**	**0.0**
THR8	**Santorini-Mono**	**1.14**	**333**	P	**Pg**	**22 36 28.6**	**-0.5**
SIVA	**Sivas**	**1.14**	**251**	P	**Pg**	**22 36 29.4**	**+0.2**
SIVA				S	**Sb**	**22 36 44.6**	**0.0**
	comp=E,210nm,0.6s						
SIVA	**Sivas**	**1.14**	**251**	P	**Pg**	**22 36 29.5**	**+0.2**
SIVA				S	**Sg**	**22 36 43.7**	**-0.4**
TMBK	**Timbaki Herakl**	**1.16**	**254**	P	**Pb**	**22 36 30.0**	**+0.2**
SNT5	**Nea Kammeni, S**	**1.17**	**330**	P	**Pg**	**22 36 29.4**	**-0.3**
THR3	**Thira Island,**	**1.17**	**330**	P	**Pg**	**22 36 29.3**	**-0.4**
THT2	**Imerovigli**	**1.18**	**331**	PN	**Pg**	**22 36 29.5**	**-0.5**
THR5	**Thira Island,**	**1.20**	**328**	P	**Pg**	**22 36 29.8**	**-0.5**
SAP3	**Santorini-Thir**	**1.21**	**329**	P	**Pg**	**22 36 30.2**	**-0.4**
VAM	**Vamos**	**1.57**	**271**	P	**Pb**	**22 36 37.0**	**+0.1**
APE	**Apeiranthos**	**1.73**	**344**	P	**Pn**	**22 36 39.3**	**+1.1**
APE	**Apeiranthos**	**1.73**	**344**	PN	**Pn**	**22 36 37.4**	**-0.7**
IMMV	**Iera Moni Meta**	**1.75**	**273**	P	**Pn**	**22 36 37.9**	**-0.4**
IMMV	**Iera Moni Meta**	**1.75**	**273**	PN	**Pn**	**22 36 38.0**	**-0.4**
GVDS	**Gavdos**	**1.76**	**252**	P	**Pb**	**22 36 39.5**	**-0.5**
GVD	**Gavdhos**	**1.76**	**252**	P	**Pn**	**22 36 38.7**	**+0.3**
GVD	**Gavdhos**	**1.76**	**252**	P	**Pb**	**22 36 40.0**	**-0.1**
GVD	**Gavdhos**	**1.76**	**252**	PN	**Pn**	**22 36 38.5**	**+0.1**
ARG	**Arkhangelos**	**1.82**	**63**	P	**Pb**	**22 36 40.7**	**-0.4**
ARG	**Arkhangelos**	**1.82**	**63**	P	**Pn**	**22 36 40.5**	**+1.3**
ARG	**Arkhangelos**	**1.82**	**63**	PN	**Pn**	**22 36 39.6**	**+0.4**
TURN	**Turunc**	**2.20**	**51**	PN	**Pn**	**22 36 44.8**	**+0.4**
DALY	**Dalyan (Mula)**	**2.49**	**55**	PN	**Pn**	**22 36 48.9**	**+0.5**
KTHA	**Kythira Island**	**2.63**	**290**	PN	**Pn**	**22 36 50.1**	**-0.3**
FETY	**Fethiye**	**2.70**	**62**	PN	**Pn**	**22 36 51.9**	**+0.6**
CAME	**Cameli-Denizli**	**3.00**	**58**	PN	**Pn**	**22 36 56.0**	**+0.4**

*IDC **19** 22:38:47.7±0.5, 25˚.56N×142˚.79E, h0km, mb4.4/26, mb1 4.5/29, mb1mx4.5/41, mbtmp4.4/29, ML3.5/3, MS3.5/21, Ms1 3.5/21, ms1mx3.4/42, Error ellipse: s-maj=18.1km s-min=12.3km az=80.0*
*JMA **19** 22:38:47.9±0.3, 25˚.60N×143˚.27E, h9km, M4.8*
*BJI **19** 22:38:50.4±0.0, 25˚.47N×142˚.89E, h40km, mB4.8/38, mb4.6/55, Ms4.1/25, Ms7 3.8/23*
*MOS **19** 22:38:52.7±1.0, 25˚.72N×142˚.62E, h39km, mb5.1/37, MS4.2/4, Error ellipse: s-maj=8.2km s-min=4.2km az=115.7*
*NEIC **19** 22:38:55.9±1.5, 25˚.73N±0˚.07×142˚.6E±0˚.1, h43km±3km, mb4.8/161, Error ellipse: s-maj=15.1km s-min=10.3km az=96.0*

ISC 19 22:38:56.0±0.5, 25˚.68N±0˚.04×142˚.65E±0˚.06, h53km±4km, h54km:pP-P, n383, σ1°35/396, mb4.8/150, MS3.8/31, 32C-24D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.04**	**336**	P	**Pn**	**22 39 13.7**	**-0.7**
JHH2				*e*S	**Sn**	**22 39 32.7**	**+4.7**
CBIJ	**Chichi jima**	**1.47**	**343**	P	**Pn**	**22 39 19.7**	**-0.5**
CBIJ			

0.0nm,0.3s,baz=154,slow=31,SNR=1.8
MJAR LR LR 22 46 00.9
comp=Z,184nm,18.7s,baz=235,slow=37
MJAR Matsushiro Arr 11.47 342 Pn **Pn 22 41 36.7 -0.5**
MAJO Matsushiro 11.47 342 *i* P **Pn 22 41 35.6 -1.6**
MAJO Matsushiro 11.47 342 Pn **Pn 22 41 36.6 -0.5**
MJB9 Matsu-Tunnel 11.48 342 Pn **Pn 22 41 36.5 -0.7**
JSU Suzuyama 12.18 301 Pn **Pn 22 41 44.8 -2.1**
JMM Marumori 12.25 353 Pn 22 41 45.0 -2.7
JSD Sado 12.87 344 Pn **Pn 22 41 53.1 -3.1**
JOW Kunigami 12.96 278 LR LR 22 46 12.0
comp=Z,66nm,19.5s,baz=165,slow=34
JTM Tenmabayashi 15.12 355 Pn **Pn 22 42 22.8 -3.5**
JTM IAmb IAmb 22 42 32.0
comp=Z,42nm,1.0s
ERM Erimo 16.30 1*ce*P **Pn 22 42 41.0 -0.2**
ERM pmax pmax
comp=Z,46nm,1.3s
ERM Erimo 16.30 1 Pn 22 42 39.5 -1.8
TJN Taejon 16.87 313*ce*P **P 22 42 49.9 +0.1**
JEW Eniwo 17.14 357 Pn 22 42 50.2 -1.6
JEW IAmb IAmb 22 42 55.7
comp=Z,79nm,1.0s
KSRS Korea Array 17.16 317 P **Pn 22 42 52.4 +0.4**
comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=25
KSRS LR LR 22 49 10.1
comp=Z,261nm,18.3s,baz=132,slow=36
KSAR Wonju Array Be 17.18 317 P **Pn 22 42 51.5 -0.8**
KSAR Wonju Array Be 17.18 317 Pn 22 42 51.5 -0.8
KS19 Wonju Array Si 17.22 317 Pn 22 42 51.9 -1.0
YOJ Yonaguni jima 17.84 270 P **P 22 42 59.8 -0.8**
YOJ pmax pmax
comp=Z,180nm,1.3s
YOJ Yonaguni jima 17.84 270 P 22 42 59.8 -0.8
INCN Inchon 17.99 315 P **P 22 43 02.3 +0.1**
INCN pmax pmax
comp=Z,59nm,1.5s
INCN Inchon 17.99 315 P 22 43 02.3 +0.1
JKA Kamikawa-asahi 18.39 360 P **P 22 43 06.6 0.0**
ASAJ Asahikawa 18.39 360 P **P 22 43 06.5 -0.1**
comp=Z,0.4nm,0.3s,baz=227,slow=8.0,SNR=5.0
ASAJ LR LR 22 50 41.3
comp=Z,112nm,21.9s,baz=182,slow=38
NACB Ninganchiao 19.16 270 P **P 22 43 14.6 -0.6**
YHNB Yeheng 19.29 272 P **P 22 43 16.4 -0.2**
VLA Vladivostok 19.50 336 *i* P **P 22 43 18.5 -0.2**
YULB Yu-li 19.56 268 P **P 22 43 19.1 -0.5**
SSLB Suanglung 19.80 269 P **P 22 43 22.3 +0.1**
TWG Pinlang 19.88 266 P **P 22 43 23.4 +0.3**
KUR Kuril'sk 19.96 11 *e*P **P 22 43 24.4 +0.8**
KUR MLR MLR
comp=Z,100nm,10.0s
USA0B Ussuriysk Arra 20.41 338 P **P 22 43 27.8 -0.7**
USA0B pmax pmax
comp=Z,18nm,1.0s
USA0B Ussuriysk Arra 20.41 338 P **P 22 43 27.8 -0.7**
USRK Ussuriysk Ar. 20.41 338 P **P 22 43 28.3 -0.2**
comp=Z,5.9nm,0.7s,baz=159,slow=11,SNR=28
USRK LR LR 22 51 07.4
comp=Z,71nm,18.8s,baz=167,slow=36
USRK Ussuriysk Ar. 20.41 338 P **P 22 43 29.0 +0.4**
YSS Yuzh-Sakhalins 21.23 0 *e*P **P 22 43 40.6 +3.2**
YSS *e* 22 44 04.7
YSS *e*S **S 22 47 33.2 +2.9**
YSS smax smax
comp=E,200nm,9.5s
YSS MLR MLR
comp=Z,100nm,14.0s
YSS Yuzh-Sakhalins 21.23 0 P 22 43 38.1 +0.8
YSS IAmb IAmb 22 43 56.7
comp=Z,53nm,1.3s
MDJ Mudanjiang 21.65 334 P **P 22 43 43.0 +1.1**
MDJ pP pP 22 43 52.9 -0.4
MDJ sP sP 22 43 57.6 -2.1
MDJ S **S 22 47 43.3 +4.6**
MDJ sS sS 22 47 59.3 +2.1
MDJ ScP **ScP 22 51 15.3 +1.0**
MDJ PcS **PcS 22 51 20.9 +1.1**
MDJ pmax pmax
comp=Z,31nm,1.0s
MDJ pmax pmax
comp=Z,170nm,5.6s
MDJ L L
comp=Z,200nm,16.5s
MDJ L L
comp=Z,270nm,17.4s
MDJ L L
comp=Z,560nm,17.8s
MDJ Mudanjiang 21.65 334 P **P 22 43 41.5 -0.4**
MDJ IAmb IAmb 22 43 46.1
comp=Z,27nm,1.0s
NJ2 Nanjing 21.77 292 *e*P **P 22 43 43.1 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CN2 Changchun 22.87 327 *e*P **P 22 43 53.9 -1.0**
CN2 S **S 22 47 53.1 -7.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,8.3s
CN2 L L
comp=Z,200nm,14.0s
CN2 L L
comp=Z,300nm,14.0s
CN2 L L
comp=Z,200nm,15.0s
H11N2 WAKE ISLAND Hy 23.12 100 T T 23 07 25.7
baz=290,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 23.12 100 T T 23 07 27.7
baz=290,slow=75,SNR=17
H11N3 WAKE ISLAND Hy 23.13 100 T T 23 07 29.0
baz=290,slow=75,SNR=18
H11S3 WAKE ISLAND Hy 23.37 103 T T 23 07 44.6
baz=292,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 23.37 103 T T 23 07 45.0
baz=292,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 23.39 103 T T 23 07 45.8
baz=292,slow=75,SNR=16
TIA Tai'an 24.21 302 P **P 22 44 05.9 -1.9**
TIA pmax pmax
comp=Z,18nm,0.9s
TIA L L
comp=Z,150nm,11.3s
TIA L L
comp=Z,140nm,16.7s
KLR Kul'dur 25.00 343 P **P 22 44 15.3 +0.6**
comp=Z,20nm,0.9s,baz=145,slow=8.5,SNR=53
KLR Kul'dur 25.00 343*ce*P **P 22 44 14.5 -0.2**
KLR pmax pmax
comp=Z,33nm,1.0s
WHN Wuhan 25.40 287 ⇑P **P 22 44 20.5 +2.0**
SIJI Sorong 28.60 204 LR LR 22 54 06.2
comp=Z,117nm,19.2s,baz=73,slow=32
HIA Hailar 29.53 329 *i* P **P 22 44 55.0 -0.4**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 29.53 329 P **P 22 44 56.1 +0.8**
HIA IAmb IAmb 22 44 57.0
comp=Z,33nm,1.3s
ENH Enshi 29.58 287 P **P 22 44 55.4 -0.8**
ENH IAmb IAmb 22 44 58.9
comp=Z,12nm,1.0s
PETK Petropavlovsk- 29.63 18 P **P 22 44 57.9 +1.7**
PETK Petropavlovsk- 29.63 18 P **P 22 44 57.9 +1.7**
PET Petropavlovsk 29.84 20 *i* P **P 22 44 56.4 -1.6**
PET pmax pmax
comp=Z,25nm,1.5s
HHC Hu-ho-hao-te 29.89 308 *e*P **P 22 44 59.0 +0.3**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.9s
HHC L L
comp=Z,140nm,13.8s
HHC L L
comp=Z,150nm,14.5s
HHC L L
comp=Z,170nm,13.5s
ZEA Zeya 30.29 342 *e*P **P 22 45 02.4 +0.4**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA MLR MLR
comp=N,100nm,9.0s
ZEA MLR MLR
comp=Z,100nm,15.0s
XAN Xi'an 30.31 294 P **P 22 45 01.8 -0.7**
XAN pP pP 22 45 13.0 -2.3
XAN sP pwP 22 45 20.3 +1.7
XAN pmax pmax
comp=Z,18nm,1.1s
QIZ Qiongzhong 31.00 264 P **P 22 45 08.3 -0.4**
QIZ S **S 22 50 10.0 0.0**
QIZ L L
comp=Z,120nm,11.8s
QIZ L L
comp=Z,110nm,13.9s
TOLI2 Tolitoli 32.27 224 P **P 22 45 20.0 +0.1**
TOLI2 IAmb IAmb 22 45 22.8
comp=Z,15nm,1.0s
GYA Guiyang 32.27 279 *e*P **P 22 45 20.8 +0.8**
LUWI Luwuk 32.79 219 P **P 22 45 25.6 +1.2**
CIT Chita 34.30 328 *e*P **P 22 45 38.2 +1.0**
CIT *e* 22 45 51.0
CIT *e* 22 45 56.8
CIT pmax pmax
comp=Z,85nm,1.3s
CD2 Chengdu 34.52 288⇓*i*P **P 22 45 39.1 -0.3**
CD2 pP pP 22 45 48.1 -4.2
CD2 sP pwP 22 45 53.3 -2.2
CD2 S **S 22 51 03.8 -0.8**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,140nm,6.5s
CD2 L L
comp=Z,220nm,12.0s
CD2 L L
comp=Z,150nm,9.6s
CD2 L L
comp=Z,210nm,16.9s
LZH Lanzhou 34.68 297⇓P **P 22 45 40.6 -0.3**
LZH pP pP 22 45 48.9 -5.0
LZH sP pwP 22 45 56.1 -0.9
LZH PP **PP 22 47 01.3 +1.1**
LZH sS sS 22 51 24.9 -4.2
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,89nm,5.4s
LZH L L
comp=Z,140nm,12.5s
LZH L L
comp=Z,150nm,13.0s
LZH L L
comp=Z,120nm,14.6s
PMG Port Moresby 35.15 172 P **P 22 45 44.9 +0.1**
PMG pmax pmax
comp=Z,17nm,0.8s
PMG Port Moresby 35.15 172 P **P 22 45 44.9 +0.1**
ULN Ulaanbaatar 35.64 318*ce*P **P 22 45 47.4 -1.6**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 35.64 318 P **P 22 45 48.5 -0.5**
ULN IAmb IAmb 22 45 50.8
comp=Z,12nm,0.9s
SLVN Son La 35.71 271 P **P 22 45 49.8 0.0**
SONM Songino Array 36.03 317 P **P 22 45 50.5 -1.8**
comp=Z,4.0nm,0.5s,baz=130,slow=7.9,SNR=19
SONM PcP **PcP 22 48 16.6 -1.1**
comp=Z,0.5nm,0.3s,baz=126,slow=2.0,SNR=5.7
SONM LR LR 23 00 41.4
comp=Z,117nm,20.6s,baz=107,slow=36
SONM Songino Array 36.03 317 P **P 22 45 51.9 -0.3**
NONG Nongkai 37.33 266 P **P 22 46 06.0 +2.5**
comp=Z,25nm,0.9s
YAK Yakutsk 37.38 350 *i* P **P 22 46 02.2 -1.1**
YAK pmax pmax
comp=Z,16nm,0.9s
KAPI Kappang 37.75 219 LR LR 22 59 53.9
comp=Z,26nm,20.4s,baz=16,slow=34
KAPI Kappang 37.75 219 P **P 22 46 06.4 -0.6**
KAPI pmax pmax
comp=Z,22nm,1.1s
KAPI Kappang 37.75 219 P **P 22 46 06.4 -0.6**
KAPI IAmb IAmb 22 46 08.0
comp=Z,22nm,1.1s
SEY Seymchan 37.80 7 P **P 22 46 07.4 +0.5**
comp=Z,4.6nm,0.9s,baz=173,slow=11,SNR=5.6
SEY Seymchan 37.80 7 *i* P **P 22 46 04.4 -2.5**
GTA Gaotai 38.27 302 *e*P **P 22 46 12.5 +1.1**
GTA pP pP 22 46 25.3 +0.9
GTA sP pwP 22 46 29.6 +1.9
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,57nm,4.9s
GTA L L
comp=Z,69nm,16.7s
GTA L L
comp=Z,100nm,17.5s
GTA L L
comp=Z,110nm,16.4s
ZAK Zakamensk 38.95 320 *e*P **P 22 46 14.2 -2.7**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
CHAI Chaiyaphum 39.11 264 P **P 22 46 20.5 +2.0**
comp=Z,448nmcomp=Z,23nm,1.0s
TLY Talaya 39.30 322 *e*P **P 22 46 21.0 +1.3**
TLY pmax pmax
comp=Z,11nm,0.8s
TLY MLR MLR
comp=Z,467nm,15.0s
TLY Talaya 39.30 322 P **P 22 46 20.1 +0.4**
MMRI Maumere 39.48 213 P **P 22 46 21.9 +0.4**
SOEI Soe 39.51 209 P **P 22 46 23.3 +1.4**
PHIT Phitsanulok 40.08 266 P **P 22 46 28.8 +2.3**
comp=Z,78nm,0.9s
CMAR Chiang Mai Arr 41.00 269 P **P 22 46 34.9 +0.8**
comp=Z,1.1nm,0.4s,baz=71,slow=6.9,SNR=7.0
CMAR PcP **PcP 22 48 33.9 +0.4**
comp=Z,0.4nm,0.3s,baz=55,slow=0.8,SNR=4.2
CMAR LR LR 23 04 08.1
comp=Z,36nm,18.2s,baz=130,slow=37
BILL Bilibino 44.74 12*d* *i* P **P 22 47 04.0 +0.3**
BILL *e**PP **pP 22 47 15.4 -1.5**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 44.74 12 P **P 22 47 04.2 +0.4**
BILL IAmb IAmb 22 47 05.6
comp=Z,16nm,1.3s
NIKH Nikolski High 45.18 40 P **P 22 47 07.8 +0.4**
NIKH IAmb IAmb 22 47 10.6
comp=Z,12nm,0.8s
SHL Shillong 45.54 281 P **P 22 47 10.7 -0.2**
SHL pmax pmax
comp=Z,15nm,0.7s
SHL Shillong 45.54 281 P **P 22 47 10.7 -0.2**
SHL IAmb IAmb 22 47 12.0
comp=Z,16nm,0.7s
CTAO Charters Tower 45.63 175 P **P 22 47 12.8 +1.5**
CTAO pmax pmax
comp=Z,22nm,1.1s
CTAO Charters Tower 45.63 175 P **P 22 47 12.8 +1.5**
CTAO IAmb IAmb 22 47 22.5
comp=Z,22nm,1.1s
UGM Wanagama 45.73 227 P **P 22 47 13.3 +1.0**
WB0 Warramunga Arr 45.88 191 P **P 22 47 14.0 +0.6**
SPIA Saint Paul Isl 45.89 34 P **P 22 47 13.3 +0.3**
WR0 Warramunga Arr 46.05 191 P **P 22 47 15.1 +0.5**
WRAB Tennant Creek 46.05 191*ce*P **P 22 47 13.5 -1.2**
WRAB pmax pmax
comp=Z,32nm,1.3s
WRAB Tennant Creek 46.05 191 P **P 22 47 14.7 0.0**
WB2 Warramunga Arr 46.06 191 P **P 22 47 13.6 -1.2**
WRA Warramunga Arr 46.07 191 P **P 22 47 13.4 -1.4**
comp=Z,9.0nm,0.8s,baz=9.1,slow=8.6,SNR=36
WRA Warramunga Arr 46.07 191 *i* P **P 22 47 13.8 -1.0**
WRA pmax pmax
comp=Z,9.0nm,0.8s
FITZ Fitzroy Crossi 46.56 203 P **P 22 47 18.8 +0.1**
FITZ IAmb IAmb 22 47 29.9
comp=Z,15nm,1.1s
TIXI Tiksi 46.65 354 P **P 22 47 18.2 -0.6**
comp=Z,0.9nm,0.4s,baz=155,slow=7.3,SNR=5.4
TIXI Tiksi 46.65 354*ce*P **P 22 47 18.6 -0.2**
TIXI Tiksi 46.65 354 P **P 22 47 18.6 -0.2**
WMQ Urumqi 47.75 307 *e*P **P 22 47 29.8 +2.0**
PSI Prapat 47.76 249 P **P 22 47 27.8 -0.6**
PSI pmax pmax
comp=Z,15nm,0.9s
RPSI Rantau Prapat 47.82 249 P **P 22 47 27.8 -0.8**
RPSI IAmb IAmb 22 47 30.3
comp=Z,15nm,0.9s
DGZ Jazzator, Alta 48.55 315 *i* P **P 22 47 34.6 +0.6**
DGZ pmax pmax
comp=Z,16nm,1.3s
GSI Gunungsitoli 49.70 248 P **P 22 47 42.3 -0.8**
ASAR Alice Springs 49.78 191 P **P 22 47 41.3 -2.3**
comp=Z,2.2nm,0.9s,baz=13,slow=7.1,SNR=9.2
ASAR Alice Springs 49.78 191 P **P 22 47 41.9 -1.7**
ZSN Zaisan 49.98 311 *e*P **P 22 47 44.5 -0.4**
baz=311
ZSN Zaisan 49.98 311 *e*P **P 22 47 44.5 -0.4**
TNA Tin City 50.49 24 P **P 22 47 48.7 +0.3**
TNA IAmb IAmb 22 47 49.8
comp=Z,6.3nm,0.9s
SDPT Sand Point 50.55 38 P **P 22 47 49.5 +0.6**
ZAA0 Zalesovo Array 50.83 320 P **P 22 47 50.3 -0.8**
ZALV Zalesovo Beam 50.83 320 P **P 22 47 50.8 -0.3**
comp=Z,1.5nm,0.5s,baz=104,slow=6.7,SNR=11
ZALV PcP **PcP 22 49 06.8 -0.4**
comp=Z,4.4nm,0.8s,baz=104,slow=4.7,SNR=10
ZALV LR LR 23 09 42.7
comp=Z,97nm,19.3s,baz=96,slow=36
CNBA Chernabura Isl 50.94 39 P **P 22 47 53.1 +1.2**
CNBA IAmb IAmb 22 48 09.1
comp=Z,9.8nm,1.0s
ANM Nome 51.04 26 P **P 22 47 53.1 +0.6**
ANM pmax pmax
comp=Z,10.0nm,1.0s
ANM Nome 51.04 26 P **P 22 47 53.1 +0.6**
ANM IAmb IAmb 22 47 56.5
comp=Z,10nm,1.0s
MK31 Makanchi Array 51.70 310 *i* P **P 22 47 57.1 -0.7**
MK31 Makanchi Array 51.70 310 P **P 22 47 57.5 -0.3**
MK31 IAmb IAmb 22 47 59.2
comp=Z,6.8nm,0.9s
MKAR Makanchi Array 51.70 310 P **P 22 47 56.7 -1.1**
comp=Z,5.8nm,0.8s,baz=92,slow=9.6,SNR=44
MKAR PcP **PcP 22 49 10.7 +0.1**
comp=Z,4.0nm,1.0s,baz=74,slow=4.4,SNR=5.8
MKAR LR LR 23 09 58.6
comp=Z,45nm,20.0s,baz=88,slow=36
MAKZ Makanchi 51.92 310 P **P 22 47 59.7 +0.3**
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 51.92 310 P **P 22 47 59.7 +0.3**
MAKZ IAmb IAmb 22 48 01.0
comp=Z,14nm,1.2s
PSA00 Pilbara Seismi 51.93 207 P **P 22 47 59.5 -0.1**
DZM Mont Dzumac 52.78 152 LR LR 23 08 12.1
comp=Z,78nm,18.5s,baz=354,slow=34
SEM Semipalatinsk 53.22 315 *e*P **P 22 48 06.1 -3.1**
baz=315
SEM Semipalatinsk 53.22 315 *e*P **P 22 48 06.9 -2.3**
RDOG Red Dog Mine 53.37 22 P **P 22 48 11.2 +1.4**
RDOG IAmb IAmb 22 48 18.4
comp=Z,9.3nm,0.6s
UZB Uzynbulak 54.05 306 *e*P **P 22 48 14.4 -1.0**
baz=306
UZB Uzynbulak 54.05 306 *e*P **P 22 48 14.3 -1.0**
NRIK Noril'sk 54.11 339 P **P 22 48 15.5 +0.4**
comp=Z,13nm,0.9s,baz=99,slow=9.4,SNR=8.6
NRIK Noril'sk 54.11 339 P **P 22 48 15.8 +0.6**
SVW2 Sparrevohn 54.26 32 P **P 22 48 16.8 +0.5**
SVW2 IAmb IAmb 22 48 20.1
comp=Z,7.7nm,1.0s
TTA Tatalina 54.46 30 IAmb IAmb 22 48 22.6
comp=Z,7.3nm,1.2s
SATY Saty 54.51 306 *e*P **P 22 48 17.6 -1.0**
baz=306
SATY Saty 54.51 306 *e*P **P 22 48 17.6 -1.0**
PRZ Przheval'sk 54.55 305 P **P 22 48 19.3 +0.3**
PRZ pmax pmax
comp=Z,18nm,1.0s
PRZ Przheval'sk 54.55 305 P **P 22 48 19.3 +0.3**
TARG Taragay, Kyrgy 55.05 304 IAmb IAmb 22 48 25.4
comp=Z,8.9nm,1.0s
KDAK Kodiak Island 55.25 36 P **P 22 48 21.8 -1.7**
comp=Z,2.6nm,0.8s,baz=304,slow=15,SNR=1.5
KDAK LR LR 23 09 00.8
comp=Z,40nm,21.9s,baz=246,slow=33
CHKK Chushkaly 55.49 307 *e*P **P 22 48 24.7 -0.9**
baz=307
CHKK Chushkaly 55.49 307 *e*P **P 22 48 24.7 -0.9**
MDOK Medeo 55.49 306 *e*P **P 22 48 25.4 -0.5**
baz=306
MDOK Medeo 55.49 306 *e*P **P 22 48 25.3 -0.5**
MTBS Maitube 55.95 306 *e*P **P 22 48 28.4 -0.5**
baz=306
MTBS Maitube 55.95 306 *e*P **P 22 48 28.4 -0.5**
KUU Kurty 55.95 307 *e*P **P 22 48 28.2 -0.8**
comp=Z,18nm,1.0s,baz=307
KUU Kurty 55.95 307 *e*P **P 22 48 28.1 -0.8**
KUU pmax pmax
comp=Z,18nm,1.0s
PPLA Purkeypile 56.17 30 P **P 22 48 31.6 +1.4**
PPLA IAmb IAmb 22 48 33.9
comp=Z,15nm,1.3s
SKT Skwentna 56.32 31 P **P 22 48 30.9 -0.4**
SKT IAmb IAmb 22 48 33.8
comp=Z,9.2nm,1.0s
CAPN Captain Cook N 56.34 33 P **P 22 48 30.7 -0.6**
BRLK Bradley Lake 56.35 34 P **P 22 48 32.0 +0.5**
BRLK IAmb IAmb 22 48 35.3
comp=Z,18nm,1.1s
BOOM Boomskoye usch 56.36 305 P **P 22 48 31.8 -0.2**
BOOM pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 56.36 305 P **P 22 48 31.8 -0.2**
BOOM IAmb IAmb 22 48 33.6
comp=Z,5.4nm,0.8s
A21K Barrow 56.62 20 P **P 22 48 33.8 +0.7**
A21K IAmb IAmb 22 48 34.8
comp=Z,14nm,1.1s
RC01 Rabbit Creek A 57.06 32 P **P 22 48 36.4 0.0**
STKA Stephens Creek 57.25 181 P **P 22 48 35.9 -2.1**
comp=Z,6.8nm,1.0s,baz=346,slow=9.7,SNR=8.0
FRU1 Bishkek 57.29 306 P **P 22 48 38.6 +0.1**
FRU1 pmax pmax
comp=Z,11nm,1.1s
FRU1 Bishkek 57.29 306 P **P 22 48 38.6 +0.1**
FRU1 IAmb IAmb 22 48 40.0
comp=Z,11nm,1.1s
AAK Ala-Archa 57.41 306*ce*P **P 22 48 38.6 -0.8**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 57.41 306 P **P 22 48 39.2 -0.2**
BTLS Baital 57.50 308 *e*P **P 22 48 39.2 -0.6**
comp=Z,7.0nm,1.0s,baz=308
BTLS Baital 57.50 308 *e*P **P 22 48 39.2 -0.6**
BTLS pmax pmax
comp=Z,7.0nm,1.0s
GHO Glory Hole Cre 57.52 32 P **P 22 48 41.3 +1.5**
GHO IAmb IAmb 22 48 52.0
comp=Z,14nm,1.2s
BWN Browne 57.57 29 P **P 22 48 42.0 +2.0**
KNK Knik Glacier 57.71 32 P **P 22 48 42.3 +1.3**
PWL Port Wells 57.72 33 P **P 22 48 40.5 -0.6**
PWL IAmb IAmb 22 48 52.7
comp=Z,8.5nm,1.0s
RND Reindeer 57.74 30 P **P 22 48 40.9 -0.4**
RND pmax pmax
comp=Z,7.0nm,1.1s
RND Reindeer 57.74 30 P **P 22 48 40.9 -0.4**
RND IAmb IAmb 22 48 44.1
comp=Z,7.1nm,1.1s
MCK McKinley 57.74 29 IAmb IAmb 22 48 58.3
comp=Z,10.0nm,0.8s
COLD Coldfoot 57.76 25 P **P 22 48 41.4 +0.1**
COLD IAmb IAmb 22 48 45.5
comp=Z,4.7nm,0.9s
NEA2 Nenana 57.80 28 P **P 22 48 41.6 +0.1**
NEA2 IAmb IAmb 22 48 45.4
comp=Z,13nm,1.3s
FORT Forrest 57.85 195 P **P 22 48 43.0 +0.7**
BRZS Berezniki 58.09 314 *e*P **P 22 48 42.2 -1.7**
baz=314
BRZS Berezniki 58.09 314 *e*P **P 22 48 42.1 -1.7**
WRH Wood River Hil 58.20 28 P **P 22 48 45.2 +0.8**
TOLK Toolik Lake Re 58.26 24 P **P 22 48 44.8 0.0**
TOLK IAmb IAmb 22 48 49.8
comp=Z,11nm,1.4s

GLI	**Glacier Island**	**58.33**	**33**	P	**P**	**22 48 46.0**	**+0.6**
GLI				IAmb	IAmb	22 48 55.7	
	comp=Z,8.7nm,1.0s						
CCB	**Clear Creek Bu**	**58.34**	**28**	P	**P**	**22 48 46.7**	**+1.4**
FID	**Port Fidalgo**	**58.62**	**33**	P	**P**	**22 48 48.2**	**+0.8**
HDA	**Harding Lake**	**58.69**	**29**	IAmb	IAmb	22 48 57.8	
	comp=Z,7.1nm,1.2s						
ARSB	**Arslanbob**	**58.69**	**304**	P	**P**	**22 48 48.8**	**+0.4**
ARSB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARSB	**Arslanbob**	**58.69**	**304**	P	**P**	**22 48 48.8**	**+0.4**
ARSB				IAmb	IAmb	22 48 50.1	
	comp=Z,6.6nm,0.8s						
IL31		**58.75**	**28**	IAmb	IAmb	22 48 50.9	
	comp=Z,9.6nm,1.2s						
ILAR	**Eielson Array**	**58.75**	**28**	P	**P**	**22 48 47.0**	**-1.2**
	comp=Z,3.9nm,1.0s,baz=264,slow=5.4,SNR=17						
ILAR	**Eielson Array**	**58.75**	**28**	P	**P**	**22 48 47.0**	**-1.2**
M24K	**Tolsona, Glenn**	**58.85**	**31**	P	**P**	**22 48 49.7**	**+0.7**
M24K				IAmb	IAmb	22 49 03.2	
	comp=Z,13nm,1.1s						
KLU	**Klutina**	**58.93**	**32**	P	**P**	**22 48 50.6**	**+1.0**
KLU				IAmb	IAmb	22 48 53.4	
	comp=Z,10nm,1.2s						
PAX	**Paxson**	**59.23**	**30**	P	**P**	**22 48 50.2**	**-1.5**
PAX				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PAX	**Paxson**	**59.23**	**30**	P	**P**	**22 48 50.2**	**-1.5**
PAX				IAmb	IAmb	22 48 50.8	
	comp=Z,8.3nm,0.8s						
PRP	**Porcupine Dome**	**59.40**	**27**	P	**P**	**22 48 52.8**	**0.0**
PRP				IAmb	IAmb	22 49 02.8	
	comp=Z,2.7nm,0.5s						
BRVK	**Borovoye**	**59.43**	**318**	*ce*P	**P**	**22 48 52.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,26nm,1.0s						
BRVK	**Borovoye**	**59.43**	**318**	P	**P**	**22 48 52.9**	**-0.2**
BMRM	**Bremner River**	**59.55**	**33**	P	**P**	**22 48 54.0**	**+0.2**
BMRM				IAmb	IAmb	22 49 03.8	
	comp=Z,10nm,0.9s						
N25K	**Chitina, Valde**	**59.57**	**32**	P	**P**	**22 48 55.7**	**+1.7**
N25K				IAmb	IAmb	22 48 58.1	
	comp=Z,9.9nm,1.4s						
FYU	**Fort Yukon**	**59.61**	**26**	P	**P**	**22 48 55.1**	**+1.0**
NIL	**Nilore**	**59.83**	**295**	P	**P**	**22 48 56.3**	**0.0**
NIL				pmax	pmax		
	comp=Z,12nm,0.9s						
NIL	**Nilore**	**59.83**	**295**	P	**P**	**22 48 56.3**	**0.0**
NIL				IAmb	IAmb	22 48 57.9	
	comp=Z,12nm,0.9s						
DRK	**Karamyk**	**59.87**	**302**	P	**P**	**22 48 55.9**	**-0.8**
DOT	**Dot Lake**	**59.90**	**30**	IAmb	IAmb	22 48 59.6	
	comp=Z,12nm,1.3s						
GLB	**Gilahina Butte**	**59.94**	**32**	IAmb	IAmb	22 49 13.1	
	comp=Z,11nm,1.3s						
SCRK	**Sand Creek**	**59.95**	**29**	IAmb	IAmb	22 49 00.1	
	comp=Z,13nm,1.2s						
MENT	**Mentasta**	**60.02**	**30**	P	**P**	**22 48 58.7**	**+1.6**
MENT				IAmb	IAmb	22 49 16.8	
	comp=Z,3.9nm,0.7s						
VRDI	**Verde Repeater**	**60.11**	**32**	P	**P**	**22 48 57.9**	**+0.1**
KK31	**Karatay Array**	**60.26**	**307**	IAmb	IAmb	22 49 00.6	
	comp=Z,12nm,0.9s						
KKAR	**Karatay Array**	**60.26**	**307**	P	**P**	**22 48 58.5**	**-0.5**
KKAR	**Karatay Array**	**60.26**	**307**	P	**P**	**22 48 58.5**	**-0.5**
KKAR	**Karatay Array**	**60.26**	**307**	IAmb	IAmb	22 49 00.6	
	comp=Z,12nm,0.9s						
CRQM	**Cirque**	**60.26**	**33**	P	**P**	**22 49 00.6**	**+1.7**
CRQM				IAmb	IAmb	22 49 02.7	
	comp=Z,11nm,1.0s						
BTK	**Batken**	**60.51**	**303**	P	**P**	**22 49 00.9**	**0.0**
BTK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BTK	**Batken**	**60.51**	**303**	P	**P**	**22 49 00.9**	**0.0**
BTK				IAmb	IAmb	22 49 04.5	
	comp=Z,7.7nm,1.2s						
K27K	**Chicken**	**60.79**	**29**	P	**P**	**22 49 02.5**	**+0.3**
L27K	**Beaver Creek,**	**60.89**	**30**	P	**P**	**22 49 03.6**	**+0.6**
L27K				IAmb	IAmb	22 49 19.7	
	comp=Z,6.4nm,1.3s						
BCAR	**Beaver Creek A**	**60.91**	**30**	P	**P**	**22 49 03.0**	**-0.1**
GRNC	**Granite Creek**	**60.94**	**33**	P	**P**	**22 49 05.1**	**+1.5**
CAN	**Canberra**	**60.97**	**174**	P	**P**	**22 49 05.7**	**+1.9**
CAN				pmax	pmax		
	comp=Z,61nm,1.5s						
CAN	**Canberra**	**60.97**	**174**	P	**P**	**22 49 05.7**	**+1.9**
GAR	**Garm**	**61.09**	**302**	P	**P**	**22 49 04.4**	**-0.4**
DAWY	**Dawson**	**61.97**	**29**	P	**P**	**22 49 10.9**	**+0.6**
DAWY				IAmb	IAmb	22 49 14.5	
	comp=Z,6.9nm,1.2s						
BCPM	**Bancas Point**	**62.02**	**34**	P	**P**	**22 49 10.3**	**-0.3**
CHGR	**Chuyangaron**	**62.04**	**302**	P	**P**	**22 49 11.3**	**0.0**
HYT	**Haines Junctio**	**63.02**	**33**	P	**P**	**22 49 18.6**	**+1.2**
KBL	**Kabul**	**63.03**	**297**	P	**P**	**22 49 18.2**	**+0.1**
KBL				pmax	pmax		
	comp=Z,14nm,1.2s						
KBL	**Kabul**	**63.03**	**297**	P	**P**	**22 49 18.2**	**+0.1**
KBL				IAmb	IAmb	22 49 19.0	
	comp=Z,14nm,1.1s						
INK	**Inuvik**	**64.14**	**24**	P	**P**	**22 49 24.4**	**0.0**
INK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
INK	**Inuvik**	**64.14**	**24**	P	**P**	**22 49 24.4**	**0.0**
INK				IAmb	IAmb	22 49 42.7	
	comp=Z,9.5nm,1.1s						
WHY	**Whitehorse**	**64.32**	**33**	P	**P**	**22 49 26.1**	**+0.2**
SVE	**Sverdlovsk**	**64.60**	**323**	*eP*	**P**	**22 49 28.3**	**+0.6**
SVE				pmax	pmax		
	comp=Z,24nm,1.0s						
BESE	**Bessie Mountai**	**64.60**	**35**	P	**P**	**22 49 28.6**	**+0.8**
BESE				IAmb	IAmb	22 49 45.3	
	comp=Z,7.6nm,1.2s						
JIS	**Juneau Island**	**64.89**	**35**	P	**P**	**22 49 30.1**	**+0.6**
JIS				IAmb	IAmb	22 49 34.0	
	comp=Z,6.1nm,0.8s						
ARU	**Arti**	**65.80**	**323**	*c i*P	**P**	**22 49 35.0**	**-0.5**
ARU				*PP	**pP**	**22 49 48.0**	**-1.4**
ARU						22 50 05.2	
ARU				S	**S**	**22 58 16.8**	**-1.1**
ARU				pmax	pmax		
	comp=Z,34nm,1.0s						
ARU	**Arti**	**65.80**	**323**	P	**P**	**22 49 35.4**	**0.0**
ABKAR	**Akbulak array**	**66.38**	**315**	P	**P**	**22 49 38.7**	**-0.7**
ABKAR	**Akbulak array**	**66.38**	**315**	IAmb	IAmb	22 49 40.5	
	comp=Z,17nm,0.8s						
HRA	**Herat**	**68.49**	**299**	P	**P**	**22 49 53.4**	**+0.1**
HRA				IAmb	IAmb	22 49 56.8	
	comp=Z,6.7nm,0.9s						
KIRV	**Kirov**	**70.09**	**326**	*ce*P	**P**	**22 50 02.5**	**+0.1**
GEYT	**Alibeck**	**70.62**	**303**	P	**P**	**22 50 06.8**	**+0.7**
	comp=Z,4.6nm,0.9s,baz=169,slow=2.9,SNR=5.3						
PRGR	**Permogore**	**70.97**	**330**	*eP*	**P**	**22 50 04.4**	**-3.3**
PRGR				pmax	pmax		
	comp=Z,24nm,1.3s						
BELG	**Belogornoye**	**73.01**	**320**	*i* P	**P**	**22 50 19.3**	**-0.8**
BELG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YKA	**Yellowknife Ar**	**73.18**	**28**	P	**P**	**22 50 20.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=294,slow=4.6,SNR=3.3						
KLMR	**Klimovskoe**	**74.01**	**330**	*eP*	**P**	**22 50 24.0**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLMR	**Klimovskoe**	**74.01**	**330**	*eP*	**P**	**22 50 24.0**	**-1.8**
KLMR				AMP		22 50 27.3	
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**75.01**	**341**	P	**P**	**22 50 32.3**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=68,slow=6.7,SNR=9.0						
ARCES				LR	LR	23 28 22.8	
	comp=Z,52nm,18.5s,baz=80,slow=40						
YBH	**Yreka Blue Hor**	**76.63**	**50**	P	**P**	**22 50 41.5**	**+0.2**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YBH	**Yreka Blue Hor**	**76.63**	**50**	P	**P**	**22 50 41.5**	**+0.2**
VRH	**Novokhopyorsk**	**76.86**	**321**	*eP*	**P**	**22 50 42.5**	**+0.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PINE	**Pine Mountain**	**77.04**	**48**	P	**P**	**22 50 44.5**	**+0.8**
PINE				IAmb	IAmb	22 50 56.1	
	comp=Z,7.9nm,1.1s						
MOS	**Moscow**	**77.11**	**326**	*eP*	**P**	**22 50 42.1**	**-1.5**
K05A	**Summer Lake**	**77.49**	**49**	P	**P**	**22 50 47.5**	**+1.2**
K05A				IAmb	IAmb	22 50 49.9	
	comp=Z,10.0nm,1.1s						
LPSR	**Galich'ya Gora**	**77.82**	**323**	*eP*	**P**	**22 50 47.1**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
OBN	**Obninsk**	**77.93**	**326**	⇓ *e*P	**P**	**22 50 48.3**	**+0.1**
OBN				*i*		22 50 55.3	
OBN				*e**PP	**pP**	**22 51 01.5**	**-1.0**
OBN				*i* *SP	**pwP**	**22 51 07.0**	**+1.2**
OBN				pmax	pmax		
	comp=Z,14nm,1.2s						
OBN				MLR	MLR		
	comp=Z,195nm,17.0s						
VSR	**Storozhevoye**	**78.30**	**321**	*eP*	**P**	**22 50 49.5**	**-0.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD	**Divnogorie**	**78.34**	**321**	*eP*	**P**	**22 50 49.8**	**-0.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NCK	**Nalchik**	**78.92**	**313**	*i* P	**P**	**22 50 53.7**	**-0.2**
NCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BMO	**Blue Mountains**	**78.98**	**46**	P	**P**	**22 50 55.2**	**+0.8**
BMO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BMO	**Blue Mountains**	**78.98**	**46**	P	**P**	**22 50 55.2**	**+0.8**
ZEI	**Tsey**	**79.01**	**312**	*eP*	**P**	**22 50 54.0**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,17nm,1.4s						
KBZ	**Khabaz**	**79.28**	**313**	P	**P**	**22 50 56.1**	**+0.3**
	comp=Z,15nm,0.9s,baz=102,slow=2.2,SNR=30						
KBZ				LR	LR	23 28 23.9	
	comp=Z,65nm,20.9s,baz=91,slow=38						
KBZ	**Khabaz**	**79.28**	**313**	*ce*P	**P**	**22 50 56.2**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,18nm,0.9s						
KIV	**Kislovodsk**	**79.32**	**314**	*eP*	**P**	**22 50 56.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV				MLR	MLR		
	comp=Z,113nm,19.0s						
KIV	**Kislovodsk**	**79.32**	**314**	P	**P**	**22 50 56.9**	**+0.6**
KIV				IAmb	IAmb	22 50 59.6	
	comp=Z,12nm,1.0s						
ONI	**Oni**	**79.39**	**312**	P	**P**	**22 50 57.7**	**+1.1**
ONI				pmax	pmax		
	comp=Z,14nm,1.0s						
ONI	**Oni**	**79.39**	**312**	P	**P**	**22 50 57.7**	**+1.1**
ONI				IAmb	IAmb	22 51 00.5	
	comp=Z,14nm,1.0s						
FIA1	**FINESS Array S**	**79.39**	**334**	P	**P**	**22 50 56.2**	**0.0**
FIA1				IAmb	IAmb	22 50 57.1	
	comp=Z,11nm,0.7s						
FINES	**FINESS Array B**	**79.40**	**334**	P	**P**	**22 50 56.0**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=71,slow=4.9,SNR=120						
SHA1	**Shidzhatmaz**	**79.43**	**313**	*eP*	**P**	**22 50 56.9**	**-0.1**
GNI	**Garni**	**79.54**	**309**	*ce*P	**P**	**22 50 58.1**	**+0.5**
GNI				pmax	pmax		
	comp=Z,12nm,1.0s						
GNI	**Garni**	**79.54**	**309**	P	**P**	**22 50 57.5**	**0.0**
GNI				IAmb	IAmb	22 51 05.1	
	comp=Z,11nm,1.0s						
CMB	**Columbia Colle**	**79.74**	**53**	P	**P**	**22 50 59.2**	**+0.6**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMB	**Columbia Colle**	**79.74**	**53**	P	**P**	**22 50 59.2**	**+0.6**
PAHR	**Pah Rah Range**	**79.76**	**51**	P	**P**	**22 50 58.6**	**-0.2**
AKH	**Akhalkalaki**	**79.86**	**311**	⇑P	**P**	**22 51 00.4**	**+1.0**
VSU	**Vasula**	**80.83**	**331**	*eP*	**P**	**22 51 04.3**	**+0.4**
VSU	**Vasula**	**80.83**	**331**	*eP*	**P**	**22 51 03.7**	**-0.2**
VSU				pmax	pmax		
	comp=Z,21nm,1.0s						
KVN	**Kaiserville**	**80.94**	**51**	P	**P**	**22 51 04.9**	**-0.3**
KVN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KVN	**Kaiserville**	**80.94**	**51**	P	**P**	**22 51 04.9**	**-0.3**
NVAR	**Mina Array Bea**	**81.06**	**52**	P	**P**	**22 51 04.8**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=267,slow=7.4,SNR=6.2						
NVAR	**Mina Array Bea**	**81.06**	**52**	P	**P**	**22 51 05.2**	**-0.7**
RAF	**Rauma**	**81.32**	**335**	*eP*	**P**	**22 51 04.7**	**-1.8**
GEVA	**Gevas**	**81.50**	**308**	P	**P**	**22 51 07.0**	**-1.2**
GEVA				IAmb	IAmb	22 51 09.7	
	comp=Z,8.6nm,1.2s						
GURO	**Guroymak-BITLI**	**82.12**	**309**	P	**P**	**22 51 10.5**	**-0.8**
GURO				IAmb	IAmb	22 51 13.9	
	comp=Z,8.1nm,1.3s						
ELK	**Elko**	**82.16**	**49**	P	**P**	**22 51 11.9**	**+0.3**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
ELK	**Elko**	**82.16**	**49**	P	**P**	**22 51 11.9**	**+0.3**
ANN	**Anapa**	**82.30**	**316**	*eP*	**P**	**22 51 08.9**	**-3.0**
ANN				*e**PP	**pP**	**22 51 23.7**	**-2.7**
ANN				*eS*	**S**	**23 01 18.7**	**-4.8**
ANN				pmax	pmax		
	comp=Z,21nm,0.8s						
KOPT	**Kop Dagi**	**82.52**	**311**	P	**P**	**22 51 14.2**	**+0.5**
KOPT				IAmb	IAmb	22 51 16.6	
	comp=Z,12nm,1.0s						
MNK	**Minsk**	**82.55**	**328**	*i* P	**P**	**22 51 13.5**	**+0.4**
MNK				*i* *PP	**pP**	**22 51 28.0**	**+0.5**
MNK				*i*		22 54 23.8	
MNK				*i* PPP	PPP	22 56 15.2	
MNK				*i* S	**S**	**23 01 27.0**	**+1.2**
MNK				*i* sS	**sS**	**23 01 53.4**	**+3.2**
MNK				*i* SS	**SS**	**23 06 52.6**	**+5.4**
MNK				*i* SSS	SSS	23 10 21.4	
MNK				*i* LQ	LQ	23 22 45.4	
MNK				*i* LR	LR	23 26 12.6	
MNK				*i* LRM	MLR	23 29 49.8	
	comp=E,5.0nm,22.6s						
MNK				*i* LRM	MLR	23 29 49.8	
	comp=N,28nm,16.8s						
MNK				*i* LRM	MLR	23 29 49.8	
	comp=Z,79nm,23.2s						
FFC	**Flin Flon**	**82.71**	**32**	P	**P**	**22 51 13.8**	**-0.1**
FFC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FFC	**Flin Flon**	**82.71**	**32**	P	**P**	**22 51 13.8**	**-0.1**
FFC				IAmb	IAmb	22 51 17.2	
	comp=Z,6.9nm,1.0s						
AKASG	**Malin Array Be**	**84.00**	**324**	P	**P**	**22 51 19.9**	**-0.7**
	comp=Z,7.7nm,0.9s,baz=46,slow=5.5,SNR=24						
AKASG				LR	LR	23 31 47.2	
	comp=Z,82nm,18.3s,baz=60,slow=38						
AKASG	**Malin Array Be**	**84.00**	**324**	*ce*P	**P**	**22 51 20.3**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKBB	**Malin Array Si**	**84.00**	**324**	*ce*P	**P**	**22 51 19.2**	**-1.4**
AKBB	**Malin Array Si**	**84.00**	**324**	IAmb	IAmb	22 51 21.1	
	comp=Z,8.8nm,1.0s						
PDAR	**Pinedale Array**	**84.92**	**45**	P	**P**	**22 51 23.9**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=325,slow=1.8,SNR=4.0						
PDAR				LR	LR	23 22 46.6	
	comp=Z,26nm,20.6s,baz=299,slow=31						
SUW	**Suwalki**	**85.07**	**329**	*eP*	**P**	**22 51 25.2**	**-0.7**
NOA	**NORSAR Array B**	**85.07**	**339**	P	**P**	**22 51 25.2**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=46,slow=4.8,SNR=15						
NOA				LR	LR	23 33 43.4	
	comp=Z,22nm,18.7s,baz=25,slow=39						
DIKM	**Dikmen**	**85.23**	**314**	⇓P	P	22 51 41.8	+15
KNB	**Kanab**	**85.57**	**51**	P	**P**	**22 51 29.8**	**+0.7**
KNB				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KNB	**Kanab**	**85.57**	**51**	P	**P**	**22 51 29.8**	**+0.7**
KNB				IAmb	IAmb	22 51 47.8	
	comp=Z,6.7nm,1.2s						
SORM	**Soroca**	**85.91**	**322**	⇓P	**P**	**22 51 29.4**	**-0.8**
SORM	**Soroca**	**85.91**	**322**	⇓P	**P**	**22 51 29.4**	**-0.8**
RAYN	**Ar Rayn**	**86.10**	**294**	P	**P**	**22 51 32.3**	**+0.6**
RAYN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RAYN	**Ar Rayn**	**86.10**	**294**	P	**P**	**22 51 32.3**	**+0.6**
RAYN				IAmb	IAmb	22 51 34.0	
	comp=Z,8.3nm,0.8s						
SFJD	**Kangerlussuaq**	**87.07**	**5**	P	**P**	**22 51 37.3**	**+1.8**
SFJD				pmax	pmax		
	comp=Z,18nm,1.2s						
SFJD	**Kangerlussuaq**	**87.07**	**5**	P	**P**	**22 51 37.3**	**+1.8**
BRTR	**Keskin Array B**	**87.27**	**313**	P	**P**	**22 51 36.8**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=105,slow=5.5,SNR=5.1						
BRTR				LR	LR	23 34 34.3	
	comp=Z,43nm,18.7s,baz=70,slow=38						
TLCR		**87.31**	**320**	⇓P	**P**	**22 51 37.3**	**+0.1**
TLCR		**87.31**	**320**	⇓P	**P**	**22 51 37.3**	**+0.1**
CFR	**Carcaliu**	**87.72**	**320**	⇓P	**P**	**22 51 38.6**	**-0.5**
CFR	**Carcaliu**	**87.72**	**320**	⇓P	**P**	**22 51 38.6**	**-0.5**
TPGR	**Topolog**	**87.73**	**320**	⇓P	**P**	**22 51 39.1**	**-0.1**
TESR	**Tescani**	**87.79**	**322**	⇓P	**P**	**22 51 39.2**	**-0.3**
BIZ	**Bicaz**	**87.85**	**322**	⇑P	**P**	**22 51 39.5**	**-0.2**
BURAR	**Bucovina Array**	**87.93**	**323**	⇓P	**P**	**22 51 40.5**	**+0.2**
HARR	**Harsova**	**88.11**	**320**	⇓P	**P**	**22 51 40.4**	**-0.6**
HARR	**Harsova**	**88.11**	**320**	⇓P	**P**	**22 51 40.4**	**-0.6**
VRI	**Vrincioaia**	**88.13**	**321**	⇑P	**P**	**22 51 41.6**	**+0.5**
VRI	**Vrincioaia**	**88.13**	**321**	⇑P	**P**	**22 51 41.6**	**+0.5**
PLOR	**Plostina**	**88.18**	**321**	⇑P	**P**	**22 51 41.9**	**+0.5**
PLOR				⇑P	**P**	**22 51 41.9**	**+0.5**
PLOR	**Plostina**	**88.18**	**321**	⇑P	**P**	**22 51 41.9**	**+0.5**
OZUR		**88.52**	**322**	⇑P	**P**	**22 51 43.3**	**+0.3**
KOLS	**Kolonicke sedl**	**88.68**	**325**	*eP*	**P**	**22 51 44.4**	**+0.8**
KOLS	**Kolonicke sedl**	**88.68**	**325**	*eP*	**P**	**22 51 44.4**	**+0.8**
DOPR	**Dopca**	**88.82**	**322**	⇑P	**P**	**22 51 44.5**	**+0.1**
CRVS	**Cervenica-Dubn**	**89.11**	**326**	*eP*	**P**	**22 51 46.3**	**+0.6**
CRVS	**Cervenica-Dubn**	**89.11**	**326**	*eP*	**P**	**22 51 46.2**	**+0.6**
VOIR		**89.33**	**321**	⇓P	**P**	**22 51 46.7**	**-0.1**
VOIR		**89.33**	**321**	⇓P	**P**	**22 51 46.7**	**-0.1**
DRGR		**89.79**	**323**	⇓P	**P**	**22 51 47.7**	**-1.2**
DRGR		**89.79**	**323**	⇓P	**P**	**22 51 47.7**	**-1.2**
LOT	**Lotru**	**90.04**	**322**	⇓P	**P**	**22 51 52.4**	**+2.2**
MORC	**Moravsky Berou**	**90.47**	**328**	⇑P	**P**	**22 51 52.0**	**-0.1**
MORC	**Moravsky Berou**	**90.47**	**328**	*eP*	**P**	**22 51 51.7**	**-0.4**
MORC	**Moravsky Berou**	**90.47**	**328**	⇑P	**P**	**22 51 52.0**	**-0.1**
PSZ	**Piszkesteto**	**90.54**	**326**	⇑P	**P**	**22 51 52.0**	**-0.5**
PSZ	**Piszkesteto**	**90.54**	**326**	⇑P	**P**	**22 51 52.0**	**-0.5**
PSZ	**Piszkesteto**	**90.54**	**326**	IAmb	IAmb	22 51 53.9	
	comp=Z,6.2nm,1.0s						
VYHS	**Vyhne**	**90.70**	**326**	*eP*	**P**	**22 51 52.9**	**-0.2**
VYHS	**Vyhne**	**90.70**	**326**	*eP*	**P**	**22 51 52.9**	**-0.2**
JAVC	**Velka Javorina**	**91.03**	**327**	*eP*	**P**	**22 51 55.9**	**+1.2**
ANMO	**Albuquerque**	**91.06**	**50**	*ce*P	**P**	**22 51 53.2**	**-2.1**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ANMO	**Albuquerque**	**91.06**	**50**	P	**P**	**22 51 55.5**	**+0.2**
ANMO				IAmb	IAmb	22 51 59.4	
	comp=Z,3.9nm,1.2s						
VRAC	**Vranov**	**91.25**	**328**	⇓P	**P**	**22 51 55.6**	**0.0**
VRAC	**Vranov**	**91.25**	**328**	*eP*	**P**	**22 51 55.7**	**0.0**
VRAC	**Vranov**	**91.25**	**328**	⇓P	**P**	**22 51 55.6**	**0.0**
KRUC	**Moravsky**	**91.51**	**328**	*eP*	**P**	**22 51 56.6**	**-0.2**
MDVR	**Moldovita**	**91.59**	**322**	⇑P	**P**	**22 51 56.6**	**-0.8**
VTS	**Vitosha**	**92.08**	**320**	⇑P	**P**	**22 51 59.7**	**-0.1**
VTS	**Vitosha**	**92.08**	**320**	⇑P	**P**	**22 51 59.7**	**-0.1**
VTS	**Vitosha**	**92.08**	**320**	IAmb	IAmb	22 52 00.9	
	comp=Z,3.3nm,1.0s						
MORH	**Mrgy, Hungar**	**92.31**	**325**	⇓P	**P**	**22 51 59.5**	**-1.1**
CKRC	**Cesky Krumlov**	**92.67**	**329**	*eP*	**P**	**22 52 02.5**	**+0.3**
KHC	**Kasperske Hory**	**92.79**	**329**	*eP*	**P**	**22 52 03.4**	**+0.6**
KHC	**Kasperske Hory**	**92.79**	**329**	*eP*	**P**	**22 52 03.4**	**+0.6**
GERES	**GERESS Array B**	**92.93**	**329**	P	**P**	**22 52 03.0**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=23,slow=4.4,SNR=5.9						
MNTX	**Cornudas Mount**	**93.57**	**52**	P	**P**	**22 52 06.8**	**+0.1**
MNTX				IAmb	IAmb	22 52 10.6	
	comp=Z,2.5nm,1.1s						
TX31	**Lajitas Ar. Si**	**96.11**	**54**	P	**P**	**22 52 18.3**	**-0.2**
TX32	**Lajitas Array**	**96.11**	**54**	P	**P**	**22 52 18.1**	**-0.3**
TX32				IAmb	IAmb	22 52 21.3	
	comp=Z,5.6nm,1.4s						
TXAR	**Lajitas Array**	**96.11**	**54**	P	**P**	**22 52 19.1**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=316,slow=3.5,SNR=4.6						
TXAR				LR	LR	23 29 26.2	
	comp=Z,16nm,21.1s,baz=0.0,slow=32						
TORD	**Torodi Ar. Bea**	**125.82**	**311**	PKP	**PKPdf**	**22 57 52.2**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=20,slow=1.8,SNR=4.5						
TORD				PP	**PP**	**22 59 43.0**	**-1.9**
	comp=Z,0.6nm,0.9s,baz=57,slow=5.5,SNR=3.7						
PLCA	**Paso Flores**	**148.64**	**127**	PKPbc	**PKPbc**	**22 58 35.7**	**-1.7**
	comp=Z,11nm,1.2s,baz=200,slow=4.4,SNR=5.3						
LPAZ	**La Paz**	**149.84**	**78**	PKP	**PKPdf**	**22 58 36.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=330,slow=5.1,SNR=2.4						
LPAZ				PKPbc	**PKPbc**	**22 58 41.2**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=331,slow=4.1,SNR=9.4						

IDC ***19*** *22:46:39.0±1.3, 56.30N×163.85E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.4/51, mbtmp3.4/6, ML2.2/1, Error ellipse: s-maj=54.4km s-min=20.1km az=161.0*
KRSC ***19*** *22:46:40.9±1.9, 55.70N×164.06E, h16km±40km, ML4.2*

ISC 19 22:46:39.0±2.0, 55.86N±0.05×164.26E±0.04, h8km±13km, n49, σ1^{s}91/57, mb3.5/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.88**	**294**	*e*P	**Pb**	**22 46 55.1**	**-1.5**
KBTR				*e

SONM	**Songino Array**	**35.67**	**282**	P	**P**	**22 53 35.9**	**-1.7**	
	0.3nm,0.4s,baz=46,slow=11,SNR=4.5							
H11N2	**WAKE ISLAND Hy**	**36.13**	**176**	T	T	23 32 37.8		
	baz=357,slow=76,SNR=323							
H11N3	**WAKE ISLAND Hy**	**36.14**	**176**	T	T	23 32 37.9		
	baz=357,slow=76,SNR=81							
H11N1	**WAKE ISLAND Hy**	**36.14**	**176**	T	T	23 32 40.4		
	baz=357,slow=76,SNR=6.2							
H11S1	**WAKE ISLAND Hy**	**37.33**	**176**	T	T	23 33 09.2		
	baz=360							
H11S3	**WAKE ISLAND Hy**	**37.35**	**176**	T	T	23 33 06.0		
	baz=360							
H11S2	**WAKE ISLAND Hy**	**37.35**	**176**	T	T	23 33 13.5		
	baz=360							
MKAR	**Makanchi Array**	**49.14**	**296**	P	**P**	**22 55 25.0**	**-2.0**	
	0.2nm,0.5s,baz=59,slow=8.7,SNR=2.2							
PDAR	**Pinedale Array**	**54.09**	**65**	P	**P**	**22 56 06.0**	**+1.7**	
	0.4nm,0.6s,baz=349,slow=3.0,SNR=3.5							
TXAR	**Lajitas Array**	**67.37**	**71**	P	**P**	**22 57 36.1**	**+1.3**	
	0.3nm,0.5s,baz=294,slow=4.8,SNR=4.1							

IDC ***19*** *22:49:12.2±2.7,6.96S×129.80E,h85km±31km,mb3.8/2, mb1 3.9/6,mb1mx3.4/40,mbtmp4.1/6,Error ellipse: s-maj=56.6km s-min=19.5km az=82.0*

ISC 19 22:49:11.5±0.9,7.02S±0.06×129.9E±0.2,h100km,n6, σ4.35/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.26**	**13**	P	**Pn**	**22 50 41.7**	**+0.3**
	4.1nm,0.3s,baz=244,slow=22,SNR=38						
SIJI				S	**Sn**	**22 51 46.3**	**-5.3**
	5.0nm,0.3s,baz=234,slow=23,SNR=6.3						
FITZ	**Fitzroy Crossi**	**11.77**	**200**	P	**Pn**	**22 51 57.6**	**+1.5**
	baz=24,slow=9.1						
FITZ				S	**Sn**	**22 54 00.1**	**-5.5**
	1.1nm,0.3s,baz=358,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**13.55**	**162**	P	**Pn**	**22 52 20.4**	**+0.7**
	0.8nm,0.3s,baz=338,slow=14,SNR=30						
WRA				S	Sn	22 54 42.0	-6.8
	1.4nm,0.3s,baz=332,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.99**	**167**	P	**P**	**22 53 07.0**	**+3.6**
	0.4nm,0.3s,baz=349,slow=9.8,SNR=16						
ASAR				S	**Sn**	**22 56 06.8**	**-5.3**
	0.3nm,0.3s,baz=347,slow=25,SNR=3.6						
STKA	**Stephens Creek**	**27.03**	**158**	P	**P**	**22 54 47.4**	**+2.9**
	0.8nm,0.3s,baz=350,slow=12,SNR=1.8						
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**	**23 00 02.9**	**+1.7**
	1.5nm,0.7s,baz=127,slow=8.1,SNR=16						

NEIC ***19*** *22:54:59.7±1.1,10.97S±0.10×166.4E±0.1,h159km±8km, mb4.3/16,Error ellipse: s-maj=19.4km s-min=14.2km az=91.0*

IDC ***19*** *22:55:02.7±6.8,10.99S×166.25E,h194km±66km, mb3.6/10,mb1 3.7/11,mb1mx3.5/39,mbtmp4.0/11,Error ellipse: s-maj=46.7km s-min=21.3km az=161.0*

ISC 19 22:54:57.6±0.7,10.90S±0.07×166.3E±0.1,h146km,n36, σ1.05/33,mb4.1/15,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.60**	**169**	Pn	**Pn**	**22 56 07.1**	**+1.4**
SANVU				Sn	**Sn**	**22 56 57.5**	**-1.2**
DZM	**Mont Dzumac**	**11.11**	**179**	P	**Pn**	**22 57 35.7**	**+3.2**
	0.2nm,0.3s,baz=342,slow=20,SNR=1.4						
DZM				S	**Sn**	**22 59 32.8**	**-2.5**
	0.2nm,0.3s,baz=63,slow=12,SNR=2.2						
EIDS	**Eidsvold**	**20.39**	**223**	P	**P**	**22 59 24.4**	**+1.3**
EIDS				IAmb	IAmb	22 59 24.8	
	comp=Z,16nm,0.6s						
CTA	**Charters Tower**	**21.37**	**242**	P	**P**	**22 59 34.1**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=125,slow=13,SNR=2.4						
CTAO	**Charters Tower**	**21.37**	**242**	P	**P**	**22 59 34.8**	**+1.1**
CTAO				IAmb	IAmb	22 59 36.1	
	comp=Z,5.7nm,1.0s						
NIUE	**Niue**	**24.31**	**112**	P	**P**	**23 00 02.3**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	23 31 41.4	
	baz=183,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.21**	**1**	T	T	23 31 44.5	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.22**	**1**	T	T	23 31 48.3	
	baz=183,slow=74						
BFZ	**Birch Farm**	**30.93**	**165**	P	**P**	**23 00 58.7**	**-1.9**
STKA	**Stephens Creek**	**30.94**	**224**	P	**P**	**23 01 00.7**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=27,slow=7.8,SNR=6.5						
STKA	**Stephens Creek**	**30.94**	**224**	IAmb	IAmb	23 01 05.2	
	comp=Z,0.5nm,0.9s						
WR0	**Warramunga Arr**	**31.89**	**250**	P	**P**	**23 01 09.1**	**-0.2**
WR0				IAmb	IAmb	23 01 09.9	
	comp=Z,5.5nm,0.9s						
WB0	**Warramunga Arr**	**31.99**	**250**	P	**P**	**23 01 10.2**	**-0.1**
WB2	**Warramunga Arr**	**32.06**	**250**	P	**P**	**23 01 10.9**	**0.0**
WB2				IAmb	IAmb	23 01 11.9	
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**32.07**	**250**	P	**P**	**23 01 10.7**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=83,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**32.07**	**250**	IAmb	IAmb	23 01 11.4	
	comp=Z,0.2nm,0.9s						
LTZ	**Lake Taylor**	**32.18**	**172**	P	**P**	**23 01 12.1**	**+0.5**
AS31	**Alice Springs**	**33.37**	**243**	P	**P**	**23 01 21.8**	**-0.4**
ASAR	**Alice Springs**	**33.37**	**243**	P	**P**	**23 01 21.4**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=65,slow=10,SNR=28						
BBOO	**Buckleboo**	**35.35**	**227**	P	**P**	**23 01 39.0**	**-0.1**
BBOO				IAmb	IAmb	23 01 39.4	
	comp=Z,6.0nm,0.9s						
KNRA	**Kununurra**	**36.83**	**258**	P	**P**	**23 01 52.1**	**+0.1**
KNRA				IAmb	IAmb	23 02 05.5	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.97**	**255**	P	**P**	**23 02 17.7**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=100,slow=7.8,SNR=12						
FITZ	**Fitzroy Crossi**	**39.97**	**255**	P	**P**	**23 02 18.3**	**+0.1**
FITZ				IAmb	IAmb	23 02 19.2	
	comp=Z,5.6nm,0.8s						
FORT	**Forrest**	**40.60**	**235**	P	**P**	**23 02 22.5**	**-0.7**
PSA00	**Pilbara Seismi**	**45.72**	**251**	P	**P**	**23 03 04.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**72.58**	**293**	P	**P**	**23 06 09.2**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=110,slow=6.9,SNR=4.1						
SONM	**Songino Array**	**78.89**	**324**	P	**P**	**23 06 45.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=140,slow=7.0,SNR=1.9						
CCB	**Clear Creek Bu**	**82.82**	**18**	P	**P**	**23 07 05.3**	**+0.2**
CCB				IAmb	IAmb	23 07 06.0	
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**83.19**	**18**	P	**P**	**23 07 06.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=269,slow=5.3,SNR=9.5						
ILAR	**Eielson Array**	**83.19**	**18**	P	**P**	**23 07 07.7**	**+0.6**
NVAR	**Mina Airpay Bea**	**85.49**	**50**	P	**P**	**23 07 19.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=229,slow=9.2,SNR=3.5						
MKAR	**Makanchi Array**	**93.81**	**317**	P	**P**	**23 07 57.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=92,slow=6.3,SNR=8.1						
ARCES	**ARCESS Array B**	**116.33**	**346**	PKP	**PKPdf**	**23 13 22.2**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=46,slow=5.2,SNR=5.5						
FINES	**FINESS Array B**	**121.84**	**339**	PKP	**PKPdf**	**23 13 32.8**	**-1.2**
	comp=Z,2.1nm,1.1s,baz=108,slow=6.2,SNR=4.9						
ESDC	**Sonseca Array**	**150.07**	**345**	PKPbc	**PKPbc**	**23 14 31.3**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=347,slow=4.0,SNR=4.0						

TAP 19 23:56:55.8,24.98N×121.65E,h73km,ML2.5,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWA	**Mucha**	**0.06**	**272**	*i* P	Pn	23 57 06.7	+0.4
	baz=269						
TWA				*i* S	Sn	23 57 14.6	+0.5
	baz=269						
NHDH	**Xindian Distri**	**0.12**	**263**	*i* P	Pn	23 57 06.7	+0.3
	baz=262						
NHDH				S	Sn	23 57 14.5	+0.3
	baz=262						
NWF	**Wu-fen Shan**	**0.15**	**52**	P	Pn	23 57 06.8	+0.2
	baz=51						
TATO	**Taipei**	**0.15**	**269**	*e*P	Pn	23 57 06.5	+0.1
	baz=267						
TIPB	**Shuangxi**	**0.16**	**92**	*i* P	Pn	23 57 06.9	+0.3
	baz=92						
TIPB				*i* S	Sn	23 57 15.0	+0.5
	baz=92						
YM01	**YM01**	**0.18**	**336**	P	Pn	23 57 06.8	+0.1
	baz=336						
YM01				S	Sn	23 57 15.2	+0.4
	baz=336						
NTC	**Toucheng**	**0.20**	**127**	P	Pn	23 57 07.0	+0.3
	baz=127						
NTC				S	Sn	23 57 15.1	+0.4
	baz=127						
TNOU	**National Taiwa**	**0.20**	**33**	*i* P	Pn	23 57 06.8	+0.1
	baz=31						
TNOU				S	Sn	23 57 14.9	+0.1
	baz=31						
NWLT	**Wulai**	**0.24**	**214**	*e*P	Pn	23 57 07.0	+0.1
	baz=214						
NWLT				*e*S	Sn	23 57 15.6	+0.4
	baz=214						
TWS1	**Kuangyinshan**	**0.24**	**300**	P	Pn	23 57 07.5	+0.5
	baz=300						
TWS1				*e*S	Sn	23 57 16.2	+1.1
	baz=300						
TWE	**Neicheng**	**0.26**	**177**	*i* P	Pn	23 57 07.4	+0.4
	baz=173						
TWE				*i* S	Sn	23 57 15.6	+0.4
	baz=173						
TWY	**Chenhua**	**0.30**	**351**	*e*P	Pn	23 57 07.5	+0.3
	baz=352						
TWY				*e*S	Sn	23 57 16.3	+0.6
	baz=352						
TWB1	**Santiao Chiao**	**0.31**	**84**	*i* P	Pn	23 57 07.6	+0.3
	baz=84						
TWB1				*i* S	Sn	23 57 16.3	+0.6
	baz=84						
ENTT	**Nioudou**	**0.34**	**193**	*i* P	Pn	23 57 07.9	+0.3
	baz=191						
ENTT				S	Sn	23 57 16.5	+0.3
	baz=191						
NDS	**Dongshan**	**0.35**	**170**	*e*P	Pn	23 57 08.0	+0.4
	baz=170						
NDS				*e*S	Sn	23 57 17.0	+0.7
	baz=170						
NDT	**Datong Townshi**	**0.40**	**199**	*i* P	Pn	23 57 08.2	+0.3
	baz=198						
NDT				S	Sn	23 57 17.7	+0.8
	baz=198						
YHNB	**Yeheng**	**0.40**	**219**	P	Pn	23 57 08.2	+0.1
	baz=219						
YHNB				S	Sn	23 57 17.2	+0.1
	baz=219						
NSK	**Sanguang**	**0.40**	**222**	*i* P	Pn	23 57 08.2	+0.1
	baz=220						
NSK				S	Sn	23 57 17.1	0.0
	baz=220						
TWC	**Suao**	**0.41**	**154**	*e*P	Pn	23 57 08.4	+0.4
	baz=152						
TWC				*e*S	Sn	23 57 18.5	+1.4
	baz=152						
NCU	**National Centr**	**0.42**	**269**	*e*P	Pn	23 57 08.4	+0.3
	baz=268						
NCU				*e*S	Sn	23 57 17.1	-0.1
	baz=268						
NCUH	**Zhongli**	**0.42**	**269**	*e*P	Pn	23 57 07.7	-0.4
	baz=268						
NHW	**Xinwu Township**	**0.55**	**273**	*e*P	Pn	23 57 09.8	+0.5
	baz=272						
NNS	**Nan Shan**	**0.59**	**205**	*e*P	Pn	23 57 10.1	+0.2
	baz=204						
NNS				*e*S	Sn	23 57 21.0	+0.7
	baz=204						
NNSB	**Datong**	**0.60**	**204**	P	Pn	23 57 10.2	+0.3
	baz=204						
NNSB				*e*S	Sn	23 57 21.3	+0.9
	baz=204						
NNSH	**Datong**	**0.60**	**204**	P	Pn	23 57 10.0	0.0
	baz=204						
NNSH				*e*S	Sn	23 57 20.8	+0.4
	baz=204						
LIOB	**Emei**	**0.67**	**240**	*i* P	Pn	23 57 11.0	+0.4
	baz=240						
LIOB				S	Sn	23 57 22.2	+0.8
	baz=240						
NSTT	**Nanjuang**	**0.69**	**240**	P	Pn	23 57 11.0	+0.3
	baz=239						
NSTT				S	Sn	23 57 22.2	+0.5
	baz=239						
PCYT	**Pengchaiyu**	**0.75**	**30**	*e*P	Pn	23 57 11.3	-0.1
	baz=30						
PCYT				*e*S	Sn	23 57 23.6	+0.5
	baz=30						
ETLH	**Xiulin Townshi**	**0.78**	**191**	*e*P	Pn	23 57 12.4	+0.5
	baz=191						
ETLH				*e*S	Sn	23 57 24.5	+0.7
	baz=191						
NACB	**Ninganchiao**	**0.80**	**184**	*e*P	Pn	23 57 12.1	0.0
	baz=183						
NACB				*e*S	Sn	23 57 25.0	+0.9
	baz=183						
FUSS	**Fushou**	**0.82**	**207**	*e*P	Pn	23 57 13.0	+0.5
	baz=207						
FUSS				*e*S	Sn	23 57 25.3	+0.5
	baz=207						
TWT	**Tachien**	**0.84**	**211**	*e*S	Sn	23 57 25.9	+0.7
	baz=211						
TDCB	**Techi**	**0.85**	**212**	*e*P	Pn	23 57 13.3	+0.6
	baz=211						
TDCB				*e*S	Sn	23 57 25.9	+0.5
	baz=211						
TWD	**Chiawan**	**0.90**	**183**	*e*S	Sn	23 57 27.1	+1.0
	baz=182						
NMLH	**Miaoli**	**0.90**	**241**	*e*P	Pn	23 57 13.4	+0.2
	baz=240						
WHF	**Hehuan Shan**	**0.90**	**203**	P	Pn	23 57 14.5	+0.9
	baz=202						
WHF				*e*S	Sn	23 57 27.9	+1.0
	baz=202						
WHP	**Taichung City**	**0.95**	**223**	P	Pn	23 57 14.4	+0.5
	baz=222						
WHP				S	Sn	23 57 28.0	+0.7
	baz=222						
CHGB	**Renai**	**1.01**	**206**	*e*P	Pn	23 57 15.9	+1.1
	baz=205						
CHGB				*e*S	Sn	23 57 30.0	+1.1
	baz=205						
OWD	**Renai**	**1.11**	**203**	*e*P	Pn	23 57 17.1	+1.1
	baz=203						
OWD				*e*S	Sn	23 57 31.7	+0.8
	baz=203						
WDJ	**Dajia District**	**1.11**	**236**	*e*P	Pn	23 57 16.6	+0.8
	baz=235						
WCS	**Beigang Elemen**	**1.14**	**216**	*e*P	Pn	23 57 16.8	+0.7
	baz=216						
WCS				*e*S	Sn	23 57 32.1	+0.8
	baz=216						
WNT	**Mingjian**	**1.41**	**219**	*e*P	Pn	23 57 20.3	+0.7
	baz=218						

TAP 19 23:57:18.6,23.38N×120.50E,h8km,ML2.1,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN4	**Tsaushan**	**0.09**	**108**	*i* P	Pg	23 57 21.3	+0.5
	baz=108						
CHN4				*i* S	Sg	23 57 23.6	+1.2
	baz=108						
TWK	**Hsinying**	**0.11**	**186**	*i* P	Pg	23 57 21.8	+0.6
	baz=180						
TWK				*i* S	Sg	23 57 24.5	+1.4
	baz=180						
CHY	**Chiayi**	**0.14**	**329**	P	Pg	23 57 21.9	+0.3
	baz=331						
CHY				S	Sg	23 57 25.1	+1.5
	baz=331						
TPUB	**Ta-pu**	**0.14**	**123**	*i* P	Pg	23 57 22.2	+0.6
	baz=123						
TPUB				*i* S	Sg	23 57 25.2	+1.4
	baz=123						
CHN2	**Minshiung**	**0.15**	**351**	*i* P	Pg	23 57 22.6	+0.8
	baz=350						
CHN2				*i* S	Sg	23 57 26.3	+2.2
	baz=350						
SNST	**Tainan City**	**0.16**	**181**	*i* P	Pg	23 57 22.7	+0.8
	baz=181						
SNST				S	Sg	23 57 26.1	+1.8
	baz=181						
WTP	**Ta-pu**	**0.17**	**142**	*i* P	Pg	23 57 23.0	+0.9
	baz=140						
WTP				*i* S	Sg	23 57 26.4	+1.9
	baz=140						
CHN1	**Nanshi**	**0.20**	**173**	*i* P	Pg	23 57 23.4	+0.8
	baz=172						
CHN1				S	Sg	23 57 27.5	+2.2
	baz=172						
CHN8	**Yiju**	**0.27**	**263**	P	Pg	23 57 24.7	+0.8
	baz=262						
CHN8				*e*S	Sb	23 57 29.9	-0.4
	baz=262						
CHN5	**Tsauling**	**0.27**	**37**	P	Pg	23 57 24.6	+0.6
	baz=36						
CHN5				*e*S	Sb	23 57 29.2	-1.3
	baz=36						
SGST	**Jiashian**	**0.30**	**166**	*e*P	Pg	23 57 24.9	+0.3
	baz=164						
SGST				*e*S	Sb	23 57 30.5	-0.9
	baz=164						
ALS	**Alishan**	**0.31**	**65**	P	Pb	23 57 25.8	-0.7
	baz=65						
ALS				S	Sb	23 57 31.2	-0.6
	baz=65						
WDLH	**Douliu**	**0.31**	**6**	*e*P	Pb	23 57 25.8	-0.6
	baz=6.0						
WDLH				*e*S	Sb	23 57 31.4	-0.2
	baz=6.0						
WGK	**Gukeng**	**0.31**	**10**	*e*P	Pb	23 57 26.1	-0.3
	baz=11						
WGK				*e*S	Sb	23 57 32.5	+0.9
	baz=11						
STYT	**Tauyuan**	**0.32**	**132**	P	Pb	23 57 25.8	-0.7
	baz=131						
STYT				S	Sb	23 57 31.7	-0.2
	baz=131						
WTK	**Tuku**	**0.32**	**341**	*e*P	Pg	23 57 25.7	+0.7
	baz=341						
WTK				*e*S	Sb	23 57 31.3	-0.6
	baz=341						
STYH	**Taoyuan**	**0.33**	**129**	P	Pb	23 57 25.9	-0.8
	baz=129						
STYH				S	Sb	23 57 31.6	-0.5
	baz=129						
SCLT	**Jiali**	**0.35**	**234**	*e*P	Pb	23 57 26.3	-0.7
	baz=233						
SCLT				*e*S	Sb	23 57 33.4	+0.8
	baz=233						
WSF	**Szhu**	**0.36**	**315**	*e*P	Pg	23 57 26.4	+0.7
	baz=315						
WSF				*e*S	Sb	23 57 32.4	-0.7
	baz=315						
SLGT	**Liugui**	**0.41**	**161**	*e*P	Pb	23 57 27.6	-0.4
	baz=160						
SLGT				*e*S	Sb	23 57 34.5	+0.2
	baz=160						
WHYT	**Xinyi Township**	**0.45**	**46**	*e*P	Pb	23 57 28.5	-0.3
	baz=45						
WHYT				*e*S	Sb	23 57 35.8	+0.1
	baz=45						
WJS	**Zhushan**	**0.49**	**25**	*e*P	Pb	23 57 29.0	-0.3
	baz=25						
WJS				*e*S	Sb	23 57 37.0	+0.4
	baz=25						
WNT	**Mingjian**	**0.52**	**19**	*e*P	Pb	23 57 29.8	-0.2
	baz=19						
WNT				*e*S	Sb	23 57 38.2	+0.4
	baz=19						
WNT	**Mingjian**	**0.52**	**19**	*e*S	Sb	23 57 38.2	+0.5
	baz=218						
WRL	**Guolierlin Hig**	**0.53**	**348**	*e*P	Pg	23 57 29.4	+0.5
	baz=347						
WRL				*e*S	Sb	23 57 37.1	-0.9
	baz=347						
SSLB	**Suanglung**	**0.58**	**46**	*e*P	Pb	23 57 30.7	-0.3
	baz=45						
SSLB				*e*S	Sb	23 57 39.5	0.0
	baz=45						
SMLT	**Sun Moon Lake**	**0.62**	**36**	*e*P	Pb	23 57 31.9	+0.1
	baz=36						
SMLT				*e*S	Sb	23 57 41.8	+1.2
	baz=36						
SSD	**Sandimen**	**0.64**	**169**	*e*P	Pb	23 57 32.5	+0.5
	baz=168						
SSD				*e*S	Sb	23 57 42.6	+1.5
	baz=168						
TSMG	**Majia**	**0.68**	**169**	*e*S	Sb	23 57 42.7	+0.4
	baz=168						
TWF1	**Yuli**	**0.73**	**92**	*e*P	Pb	23 57 33.4	-0.1
	baz=92						
TWF1				*e*S	Sb	23 57 44.4	+0.6
	baz=92						
YULB	**Yu-li**	**0.73**	**89**	*e*P	Pg	23 57 33.1	+0.4
	baz=88						
YULB				*e*S	Sb	23 57 43.5	-0.2
	baz=88						
LONT	**Longtian**	**0.75**	**129**	*e*P	Pb	23 57 33.7	-0.1
	baz=129						
LONT				*e*S	Sb	23 57 44.8	+0.7
	baz=129						
FULB	**Fuli**	**0.75**	**104**	*e*P	Pb	23 57 34.4	+0.5
	baz=103						
FULB				*e*S	Sn	23 57 45.9	-1.1
	baz=103						
EYUL	**Yuli**	**0.75**	**92**	*e*P	Pg	23 57 33.3	+0.3
	baz=92						
EYUL				*e*S	Sb	23 57 44.8	+0.5
	baz=92						
DPDB	**Guoxing**	**0.76**	**31**	*e*P	Pb	23 57 33.9	-0.1
	baz=30						
DPDB				*e*S	Sb	23 57 45.1	+0.5
	baz=30						
EHY	**Hungye**	**0.77**	**80**	*e*P	Pb	23 57 34.3	+0.2
	baz=80						
EHY				*e*S	Sb	23 57 45.0	+0.4
	baz=80						
TWG	**Pinlang**	**0.77**	**136**	*e*P	Pb	23 57 34.4	+0.3
	baz=136						
TWG				*e*S	Sb	23 57 45.6	+0.9
	baz=136						
TWGBT	**Beinan**	**0.77**	**136**	*e*P	Pb	23 57 34.2	0.0
	baz=136						
TWGBT				*e*S	Sb	23 57 45.5	+0.6
	baz=136						
MASBT	**Mashibuluo**	**0.77**	**171**	*e*P	Pb	23 57 34.8	+0.5
	baz=170						
MASBT				*e*S	Sb	23 57 46.1	+1.2
	baz=170						
WCS	**Beigang Elemen**	**0.77**	**29**	*e*P	Pg	23 57 33.8	+0.4
	baz=29						
WCS				*e*S	Sb	23 57 45.5	+0.6
	baz=29						
WDGT	**Dungji**	**0.78**	**261**	*e*P	Pg	23 57 33.6	0.0
	baz=260						
WDGT				*e*S	Sb	23 57 44.6	-0.6
	baz=260						
EDH	**Donghe**	**0.84**	**119**	*e*P	Pb	23 57 35.2	-0.2
	baz=118						
EDH				*e*S	Sn	23 57 48.4	-0.8
	baz=118						
OWD	**Renai**	**0.84**	**47**	*e*P	Pb	23 57 35.4	-0.1
	baz=47						
OWD				*e*S	Sn	23 57 48.5	-1.0
	baz=47						
HGSD	**Ruisui**	**0.85**	**82**	*e*P	Pn	23 57 36.4	-0.4
	baz=82						
HGSD				*e*S	Sn	23 57 49.0	-0.5
	baz=82						
PHUB	**P'eng-hu**	**0.86**	**279**	*e*P	Pg	23 57 34.5	-0.7
	baz=278						
PHUB				*e*S	Sg	23 57 46.5	0.0
	baz=278						
PNG	**Penghu**	**0.89**	**282**	*e*P	Pg	23 57 35.6	-0.1
	baz=282						
PNG				*e*S	Sb	23 57 48.9	+0.7
	baz=282						
EGFH	**Guangfu**	**0.90**	**71**	*e*P	Pb	23 57 36.4	+0.1
	baz=71						
EGFH				*e*S	Sb	23 57 49.4	+0.9
	baz=71						
CHGB	**Renai**	**0.92**	**42**	*e*P	Pb	23 57 36.8	-0.1
	baz=42						
CHGB				*e*S	Sb	23 57 49.4	+0.2
	baz=42						
ESL	**Shilin**	**0.96**	**63**	*e*P	Pb	23 57 37.6	+0.2
	baz=63						
ESL				*e*S	Sn	23 57 51.6	-0.5
	baz=63						
WHP	**Taichung City**	**0.98**	**24**	*e*P	Pb	23 57 37.8	0.0
	baz=24						
WHP				*e*S	Sn	23 57 52.0	-0.8
	baz=24						
VCHM	**Qimei**	**1.00**	**260**	*e*P	Pg	23 57 37.6	-0.2
	baz=260						
VCHM				*e*S	Sg	23 57 50.3	-0.4
	baz=260						
WHF	**Hehuan Shan**	**1.03**	**42**	*e*P	Pb	23 57 38.8	-0.2
	baz=42						
WHF				*e*S	Sb	23 57 53.7	+0.9
	baz=42			

TDCB					*e*S	Sn	23 57 54.1	-0.6
	baz=34							
TWT	**Tachien**	**1.07**	**35**	*e*S		Sn	23 57 54.4	-0.7
	baz=34							
FUSS	**Fushou**	**1.10**	**38**	*e*P		Pg	23 57 39.7	0.0
	baz=38							
FUSS					*e*S	Sn	23 57 56.2	+0.2
	baz=38							
LDUT	**Ludao**	**1.14**	**128**	*e*P		Pg	23 57 40.4	0.0
	baz=128							
LDUT					*e*S	Sn	23 57 56.7	+0.3
	baz=128							
SLIU	**Shizi**	**1.19**	**167**	*e*P		Pn	23 57 42.0	+0.5
	baz=166							
SLIU					*e*S	Sn	23 57 59.8	+2.0
	baz=166							
ETLH	**Xiulin Townshi**	**1.22**	**47**	*e*P		Pb	23 57 41.9	0.0
	baz=47							
ETLH					*e*S	Sn	23 57 59.0	+0.3
	baz=47							
NACB	**Ninganchiao**	**1.28**	**51**	*e*P		Pn	23 57 42.4	-0.2
	baz=51							
NACB					*e*S	Sn	23 58 00.6	+0.6
	baz=51							
NNSB	**Datong**	**1.32**	**38**	*e*P		Pg	23 57 43.9	0.0
	baz=37							
NNSB					*e*S	Sn	23 58 02.3	+1.1
	baz=37							
NNSH	**Datong**	**1.32**	**38**	*e*P		Pb	23 57 43.7	0.0
	baz=37							
NNSH					*e*S	Sn	23 58 02.3	+1.1
	baz=37							
NSTT	**Nanjuang**	**1.33**	**20**	*e*P		Pn	23 57 43.3	-0.1
	baz=20							
NSTT					*e*S	Sn	23 58 01.1	-0.1
	baz=20							
LIOB	**Emei**	**1.35**	**20**	*e*P		Pn	23 57 43.4	-0.2
	baz=20							
LIOB					*e*S	Sb	23 58 01.5	+0.1
	baz=20							
YHNB	**Yeheng**	**1.51**	**32**	*e*P		Pn	23 57 46.1	+0.1
	baz=31							
YHNB					*e*S	Sn	23 58 06.1	+0.2
	baz=31							
ENTT	**Nioudou**	**1.59**	**38**	*e*P		Pb	23 57 47.9	-0.2
	baz=38							
ENTT					*e*S	Sg	23 58 09.8	+0.1
	baz=38							
NWLT	**Wulai**	**1.67**	**33**	*e*P		Pn	23 57 48.5	+0.4
	baz=33							
NWLT					*e*S	Sb	23 58 10.9	+0.3
	baz=33							
NDS	**Dongshan**	**1.67**	**41**	*e*P		Pb	23 57 49.4	-0.2
	baz=41							
NDS					*e*S	Sg	23 58 12.5	+0.2
	baz=41							
VWUC	**VWUC**	**1.87**	**329**	*e*P		Pn	23 57 50.3	-0.5
	baz=329							
VWUC					*e*S	Sn	23 58 14.9	+0.3
	baz=329							
KNM	**Kinmen**	**2.16**	**299**	*e*S		Sb	23 58 25.2	+0.5
	baz=296							
KNMB	**Chin-men Tao**	**2.21**	**300**	*e*S		Sn	23 58 24.3	+1.2
	baz=299							

KRSC 20 00:02:06.5±1.9, 50.42N×157.00E, h35km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.62**	**295**	*e*P	Pb	00 02 19.3	+0.2
SKR				*e*S	Sb	00 02 28.1	+0.4
ALID	**Alaid**	**1.03**	**296**	*e*P	Pn	00 02 24.8	+0.2
ALID				*e*S	Sn	00 02 37.6	-0.2
PAU	**Pauzhetka**	**1.05**	**353**	*e*P	Pb	00 02 26.6	+0.3
PAU				*e*S	Sb	00 02 41.2	+1.4
KDTR	**Khodutka, Kamc**	**1.54**	**26**	*e*P	Pb	00 02 33.3	-1.2
KDTR				*e*S	Sb	00 02 53.1	-0.6
MTVR	**Mutnovka**	**2.19**	**19**	*e*P	Pn	00 02 43.0	+2.4
MTVR				*e*S	Sb	00 03 09.9	-2.5
RUS	**Russkaya**	**2.22**	**25**	*e*P	Pn	00 02 43.0	+2.1
RUS				*e*S	Sn	00 03 09.2	+2.1
GRL	**Gorelyy**	**2.23**	**17**	*e*P	Pb	00 02 44.0	-2.3
GRL				*e*S	Sb	00 03 11.3	-2.3
APC	**Apacha**	**2.51**	**2**	*e*P	Pn	00 02 47.2	+2.4
KRMR	**Karymshinskiy**	**2.51**	**16**	*e*P	Pb	00 02 49.3	-1.6
PET	**Petropavlovsk**	**2.80**	**21**	*e*P	Pn	00 02 52.0	+3.2
PET				*e*S	Sb	00 03 25.7	-3.9
DALK	**Dalny**	**2.83**	**22**	*e*P	Pn	00 02 52.1	+2.9
DALK				*e*S	Sn	00 03 26.0	+4.0
UGLR	**Uglovaya**	**3.01**	**21**	*e*P	Pn	00 02 55.4	+3.6
AVH	**Avacha**	**3.04**	**20**	*e*P	Pb	00 02 56.5	-3.5
KOK	**Koryaka**	**3.05**	**19**	*e*P	Pb	00 02 56.6	-3.5
SMAR	**Somma**	**3.06**	**21**	*e*P	Pb	00 02 56.8	-3.5
KRER	**Koryakskii**	**3.08**	**20**	*e*P	Pb	00 02 56.9	-3.8
SDLR	**Sedlovina**	**3.09**	**21**	*e*P	Pn	00 02 55.9	+3.0
KRX	**Arik**	**3.11**	**19**	*e*P	Pn	00 02 56.9	+3.7
NLC	**Nalytchevo**	**3.11**	**27**	*e*S	Sn	00 03 31.0	+2.0
SPN	**Mys Shipunski**	**3.27**	**34**	*e*P	Pn	00 02 57.9	+2.6
SPN				*e*S	Sn	00 03 35.7	+2.8
GNL	**Ganaly**	**3.33**	**10**	*e*P	Pn	00 02 59.4	+3.2
MKZ	**Mys Kozlova**	**5.05**	**33**	*e*P	Pn	00 03 22.4	+2.8
KZV	**Kizimen**	**5.11**	**22**	*e*P	Pn	00 03 27.7	+7.1
TUMR	**Tumrok**	**5.23**	**20**	*e*P	Pb	00 03 29.9	-7.2

*IDC **20** 00:12:42.7±1.8, 5.54S×151.83E, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.8/39, mbtmp4.2/4, MS3.8/7, Ms1 3.8/7, ms1mx3.3/28, Error ellipse: s-maj=79.8km s-min=24.5km az=125.0*

*NEIC **20** 00:12:48.3±2.1, 5.66S±0.07×152.0E±0.1, h34km±7km, mb4.6/15, Error ellipse: s-maj=19.4km s-min=9.8km az=103.0*

ISC 20 00:12:48.4±0.7, 5.67S±0.08×152.0E±0.1, h45km, n32, σ1s01/23, mb4.3/13, MS4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.48**	**8**	Pn	**Pn**	**00 13 11.8**	**-0.9**
RABL					**Sn**	**00 13 31.1**	**+0.2**
HNR	**Honiara**	**8.77**	**116**	LR	LR	00 18 49.1	
	comp=Z,92nm,18.5ss,baz=318,slow=41						
DZM	**Mont Dzumac**	**21.50**	**141**	LR	LR	00 24 50.5	
	comp=Z,117nm,19.3s,baz=252,slow=34						
WB0	**Warramunga Arr**	**22.09**	**229**	P	**P**	**00 17 40.7**	**+0.7**
WB0				IAmb	IAmb	00 17 42.2	
	comp=Z,6.7nm,1.1s						
WR0	**Warramunga Arr**	**22.10**	**228**	P	**P**	**00 17 41.6**	**+1.6**
WR0				IAmb	IAmb	00 17 43.3	
	comp=Z,7.6nm,0.8s						
WB2	**Warramunga Arr**	**22.23**	**229**	P	**P**	**00 17 42.3**	**+0.9**
WB2				IAmb	IAmb	00 17 44.1	
	comp=Z,9.8nm,0.8s						
WRA	**Warramunga Arr**	**22.24**	**229**	P	**P**	**00 17 41.7**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=52,slow=10.0,SNR=25						
WRA	**Warramunga Arr**	**22.24**	**229**	P	**P**	**00 17 41.9**	**+0.3**
PINNC	**Pines Island,**	**22.53**	**140**	P	**P**	**00 17 44.5**	**-0.1**
PINNC				IAmb	IAmb	00 17 46.6	
	comp=Z,56nm,1.2s						
KNRA	**Kununurra**	**24.83**	**245**	P	**P**	**00 18 06.8**	**0.0**
KNRA				IAmb	IAmb	00 18 08.7	
	comp=Z,47nm,1.4s						
AS31	**Alice Springs**	**24.94**	**222**	P	**P**	**00 18 09.4**	**+1.7**
ASAR	**Alice Springs**	**24.94**	**222**	P	**P**	**00 18 08.4**	**+0.7**
	comp=Z,6.4nm,0.7s,baz=58,slow=8.9,SNR=48						
ASAR	**Alice Springs**	**24.94**	**222**	P	**P**	**00 18 09.1**	**+1.4**
STKA	**Stephens Creek**	**27.82**	**199**	P	**P**	**00 18 33.8**	**+0.2**
MSVF	**Nonsavu**	**28.18**	**117**	P	**P**	**00 18 36.8**	**-0.3**
MSVF				IAmb	IAmb	00 18 39.0	
	comp=Z,30nm,1.2s						
FITZ	**Fitzroy Crossi**	**28.50**	**242**	P	**P**	**00 18 38.7**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=71,slow=9.3,SNR=6.8						
FITZ	**Fitzroy Crossi**	**28.50**	**242**	IAmb	IAmb	00 18 50.7	
	comp=Z,23nm,1.5s						
LUWI	**Luwuk**	**29.48**	**278**	P	**P**	**00 18 47.9**	**-0.7**
CAN	**Canberra**	**29.63**	**185**	P	**P**	**00 18 48.9**	**-0.8**
KAPI	**Kappang**	**32.06**	**270**	P	**P**	**00 19 09.3**	**-2.0**
KAPI				IAmb	IAmb	00 19 23.2	
	comp=Z,21nm,1.4s						
NNZ	**Nelson**	**40.25**	**155**	P	**P**	**00 20 21.0**	**+0.1**
JHS	**Saijyo**	**44.17**	**338**	P	**P**	**00 20 54.0**	**+1.0**
JHS				IAmb	IAmb	00 21 20.1	
	comp=Z,20nm,1.4s						
KSRS	**Korea Array**	**48.40**	**334**	LR	LR	00 38 23.3	
	comp=Z,332nm,21.1s,baz=144,slow=32						
USRK	**Ussuriysk Ar.**	**52.80**	**342**	LR	LR	00 41 24.9	
	comp=Z,223nm,20.3s,baz=189,slow=33						
SONM	**Songino Array**	**66.61**	**328**	LR	LR	00 50 23.5	
	comp=Z,139nm,20.9s,baz=102,slow=34						
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**00 24 56.6**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=108,slow=4.7,SNR=1.7						
MKAR				LR	LR	01 00 01.0	
	comp=Z,64nm,21.3s,baz=89,slow=35						
ZALV	**Zalesovo Beam**	**81.40**	**327**	LR	LR	00 59 25.8	
	comp=Z,90nm,21.4s,baz=88,slow=34						
ILAR	**Eielson Array**	**83.28**	**22**	P	**P**	**00 25 10.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=243,slow=6.0,SNR=8.9						
H03S2	**Juan Fernandez**	**117.92**	**133**	T	T	02 39 44.2	
	baz=242,slow=75,SNR=21						
H03S1	**Juan Fernandez**	**117.94**	**133**	T	T	02 39 46.0	
	baz=242,slow=75,SNR=19						
H03S3	**Juan Fernandez**	**117.94**	**133**	T	T	02 39 44.9	
	baz=242,slow=75,SNR=18						
TORD	**Torodi Ar. Bea**	**149.75**	**286**	PKPbc	**PKPbc**	**00 32 33.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=59,slow=3.5,SNR=2.7						

*IDC **20** 00:13:14.4±5.7, 45.54N×148.37E, h135km±50km, mb3.2/7, mb1 3.5/8, mb1mx3.1/55, mbtmp3.6/8, Error ellipse: s-maj=35.9km s-min=28.5km az=79.0*

*SKHL **20** 00:13:16.5±0.6, 44.50N×149.50E, h57km±5km, mb4.1/4*

*JMA **20** 00:13:18.3±0.3, 44.82N×148.81E, h152km, M3.3*

ISC 20 00:13:16.6±1.3, 45.0N±0.1×148.9E±0.1, h156km±9km, n37, σ2s12/36, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.75**	**291**	*i* P	**Pn**	**00 13 39.0**	**-0.9**
KUR				AMB	AMB	00 13 41.2	
	20nm,0.2s						
KUR				*i* S	**Sn**	**00 13 55.7**	**-2.1**
KUR				A	A	00 13 56.5	
	220nm,0.3s						
KUR				A	A	00 13 56.5	
	180nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.33**	**248**	*e*P	**Pn**	**00 13 56.8**	**+0.9**
YUK				AMB	AMB	00 13 57.2	
	40nm,0.4s						
YUK				*e*S	**Sn**	**00 14 27.4**	**+1.2**
YUK				A	A	00 14 39.0	
	130nm,0.4s						
YUK				A	A	00 14 39.0	
	190nm,0.4s						
GRPR	**Tuman**	**2.41**	**247**	*e*P	**Pn**	**00 13 58.2**	**+1.4**
GRPR				AMB	AMB	00 13 59.6	
	20nm,0.2s						
GRPR				*i* S	**Sn**	**00 14 29.8**	**+1.9**
GRPR				A	A	00 14 33.5	
	130nm,0.3s						
GRPR				A	A	00 14 33.5	
	140nm,0.3s						
GLVR	**Golovnino**	**2.69**	**244**	*e*P	**Pn**	**00 14 01.6**	**+1.4**
GLVR				AMB	AMB	00 14 04.4	
	20nm,0.2s						
GLVR				*i* S	**Sn**	**00 14 35.5**	**+1.6**
GLVR				A	A	00 14 40.7	
	160nm,0.4s						
GLVR				A	A	00 14 40.7	
	140nm,0.4s						
NEM2	**Nemuro 2**	**2.75**	**236**	P	**Pn**	**00 14 01.7**	**+0.7**
NEM2				*e*S	**Sn**	**00 14 34.9**	**-0.4**
NMR	**Nemuro--Hokkai**	**2.75**	**236**	*i* P	**Pn**	**00 14 01.8**	**+0.8**
NMR				*i* S	**Sn**	**00 14 35.1**	**-0.3**
JRA	**Rausu**	**2.86**	**250**	P	**Pn**	**00 14 03.6**	**+1.3**
JNK	**Nakash**	**3.27**	**247**	P	**Pn**	**00 14 08.8**	**+1.2**
JAK	**Akkeshi**	**3.59**	**238**	P	**Pn**	**00 14 12.5**	**+0.9**
JAK				*e*S	**Sn**	**00 14 53.9**	**-0.3**
JAR	**Ashorobuto**	**4.02**	**247**	P	**Pn**	**00 14 19.0**	**+1.8**
JOB	**Onbets**	**4.17**	**242**	*e*S	**Sn**	**00 15 08.1**	**+0.3**
JKK2	**Kamakawa 2**	**4.51**	**258**	P	**Pn**	**00 14 24.8**	**+1.3**
JCH	**Churui**	**4.62**	**241**	P	**Pn**	**00 14 25.9**	**+0.9**
JCH				*e*S	**Sn**	**00 15 17.6**	**-0.7**
JBT2	**Biratori 2**	**5.17**	**247**	*e*S	**Sn**	**00 15 31.3**	**-0.2**
JNBK	**Urakawa-nobuka**	**5.18**	**241**	*e*S	**Sn**	**00 15 30.4**	**-1.1**
JNB	**Noboribetsu**	**6.19**	**249**	P	**Pn**	**00 14 46.8**	**+1.1**
JNB				*e*S	**Sn**	**00 15 54.5**	**-1.1**
JKB	**Kayabe**	**6.47**	**244**	P	**Pn**	**00 14 49.1**	**-0.4**
JKB				*e*S	**Sn**	**00 15 58.4**	**-3.9**
JYM2	**Yakumo 2**	**6.79**	**248**	P	**Pn**	**00 14 54.6**	**+0.9**
JTM	**Tenmabayashi**	**7.08**	**237**	*e*S	**Sn**	**00 16 11.6**	**-5.3**
JANG	**Nango**	**7.09**	**232**	*e*S	**Sn**	**00 16 11.9**	**-5.3**
JTH	**Tanohata**	**7.20**	**228**	*e*S	**Sn**	**00 16 16.2**	**-3.8**
OFUJ	**Ofunato**	**7.94**	**225**	*e*S	**Sn**	**00 16 35.0**	**-2.7**
JRG	**Rokugo**	**8.25**	**230**	*e*S	**Sn**	**00 16 43.2**	**-2.0**
PETK	**Petropavlovsk-**	**10.00**	**32**	P	Pn	00 15 31.3	-5.0
	0.4nm,0.3s,baz=157,slow=8.0,SNR=4.1						
TIXI	**Tiksi**	**28.44**	**347**	P	P	00 18 49.7	-6.5
	0.5nm,0.3s,baz=126,slow=6.9,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**29.28**	**143**	T	T	00 50 18.8	
	baz=335,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**29.30**	**143**	T	T	00 50 23.2	
	baz=335,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**29.30**	**143**	T	T	00 50 21.9	
	baz=335,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**30.29**	**145**	T	T	00 51 39.8	
	baz=336,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**30.30**	**145**	T	T	00 51 42.0	
	baz=336,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.31**	**145**	T	T	00 51 41.2	
	baz=336,slow=76,SNR=17						
ILAR	**Eielson Array**	**39.78**	**37**	P	P	00 20 31.0	-2.8
	0.4nm,0.7s,baz=272,slow=9.7,SNR=4.4						
FINES	**FINESS Array B**	**64.34**	**333**	P	P	00 23 29.9	-5.1
	0.8nm,0.7s,baz=32,slow=8.2,SNR=7.8						
WRA	**Warramunga Arr**	**65.94**	**195**	P	**P**	**00 23 48.6**	**+2.9**
	0.5nm,0.9s,baz=12,slow=6.7,SNR=1.8						
NOA	**NORSAR Array B**	**66.90**	**339**	P	P	00 24 00.3	-3.7
	0.3nm,0.5s,baz=31,slow=6.6,SNR=8.1						
GERES	**GERESS Array B**	**78.68**	**332**	P	**P**	**00 24 59.3**	**-1.9**
	0.3nm,0.6s,baz=40,slow=7.7,SNR=3.6						
TXAR	**Lajitas Array**	**80.97**	**57**	P	**P**	**00 25 14.0**	**+0.2**
	0.3nm,0.5s,baz=307,slow=5.1,SNR=4.4						

*IDC **20** 01:05:14.6±2.6, 11.46S×163.24E, h44km±23km, mb4.0/12, mb1 4.1/15, mb1mx4.0/29, mbtmp4.2/15, ML4.0/3, MS3.5/11, Ms1 3.5/11, ms1mx3.3/25, Error ellipse: s-maj=21.3km s-min=13.7km az=69.0*

*NEIC **20** 01:05:14.2±1.3, 11.48S±0.10×163.28E±0.10, h39km±7km, mb4.5/26, Error ellipse: s-maj=17.0km s-min=10.4km az=223.0*

ISC 20 01:05:13.7±0.5, 11.50S±0.08×163.28E±0.09, h35km, n65, σ1s07/56, mb4.5/31, MS3.5/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.87**	**302**	P	**Pn**	**01 06 12.4**	**+1.7**
	24nm,0.3s,baz=96,slow=19,SNR=4.4						
HNR				S	**Sn**	**01 06 55.2**	**+0.1**
	7.9nm,0.3s,baz=180,slow=20,SNR=3.7						
HNR				LR	LR	01 07 40.7	
	comp=Z,918nm,18.7s,baz=118,slow=38						
HNR	**Honiara**	**3.87**	**302**		**Pn**	**01 06 10.9**	**+0.1**
SANVU	**Saraoutou**	**5.47**	**136**	Pn	**Pn**	**01 06 31.6**	**-1.1**
DZM	**Mont Dzumac**	**10.93**	**164**	P	**Pn**	**01 07 48.4**	**+0.5**
	0.7nm,0.3s,baz=78,slow=13,SNR=9.9						
DZM				LR	LR	01 11 14.7	
	comp=Z,500nm,21.3s,baz=7.0,slow=33						
DZM	**Mont Dzumac**	**10.93**	**164**	*e*Pn	**Pn**	**01 07 48.3**	**+0.5**
	1.2nm,0.2s						
DZM				*e*LR	LR	01 10 18.9	
	comp=Z,758nm,25.8s						
MSVF	**Nonsavu**	**15.57**	**115**	LR	LR	01 14 05.7	
	comp=Z,251nm,18.4s,baz=34,slow=34						
CTA	**Charters Tower**	**18.46**	**240**	P	**Pn**	**01 09 27.8**	**+0.9**
	0.2nm,0.3s,baz=108,slow=12,SNR=2.2						
RAO	**Raoul Island**	**24.88**	**138**	P	**P**	**01 10 33.1**	**-0.1**
	157nm,0.4s,baz=342,slow=19,SNR=2.4						
STKA	**Stephens Creek**	**28.48**	**221**	P	**P**	**01 11 04.8**	**-0.8**
	3.6nm,0.8s,baz=34,slow=11,SNR=5.7						
STKA				LR	LR	01 21 09.7	
	comp=Z,116nm,18.3s,baz=73,slow=34						
STKA	**Stephens Creek**	**28.48**	**221**	IAmb	IAmb	01 11 08.8	
	comp=Z,2.3nm,1.1s						
WB0	**Warramunga Arr**	**28.97**	**250**	P	**P**	**01 11 09.8**	**-0.4**
WB0				IAmb	IAmb	01 11 12.3	
	comp=Z,7.1nm,0.9s						
WRA	**Warramunga Arr**	**29.06**	**250**	P	**P**	**01 11 10.0**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=79,slow=9.5,SNR=8.3						
WRA				PcP	**PcP**	**01 14 19.4**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=50,slow=1.3,SNR=2.0						
WRA				LR	LR	01 22 56.8	
	comp=Z,103nm,18.1s,baz=155,slow=37						
WRA	**Warramunga Arr**	**29.06**	**250**	IAmb	IAmb	01 11 14.3	
	comp=Z,0.4nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.99**	**7**	T	T	01 43 12.5	
	baz=188,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**30.00**	**6**	T	T	01 42 53.2	
	baz=188,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**30.01**	**6**	T	T	01 42 54.9	
	baz=188,slow=76,SNR=23						
AS31	**Alice Springs**	**30.43**	**243**	P	**P**	**01 11 21.7**	**-1.5**
ASAR	**Alice Springs**	**30.43**	**243**	P	**P**	**01 11 21.9**	**-1.2**
	comp=Z,8.1nm,0.8s,baz=73,slow=9.9,SNR=52						
ASAR				PcP	**PcP**	**01 14 23.0**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=62,slow=4.3,SNR=5.7						
ASAR	**Alice Springs**	**30.43**	**243**	P	**P**	**01 11 21.7**	**-1.5**
H11N1	**WAKE ISLAND Hy**	**31.22**	**7**	T	T	01 44 35.5	
	baz=188,slow=76,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**31.23**	**7**	T	T	01 44 27.8	
	baz=188,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**31.24**	**7**	T	T	01 44 30.6	
	baz=188,slow=76,SNR=5.5						
BBOO	**Buckleboo**	**32.77**	**225**	P	**P**	**01 11 43.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**36.93**	**255**	P	**P**	**01 12 18.1**	**-1.5**
FITZ				IAmb	IAmb	01 12 30.8	
	comp=Z,16nm,1.5s						
PSA00	**Pilbara Seismi**	**42.70**	**251**	P	**P**	**01 13 06.1**	**-1.5**
PPT2	**Papeete2**	**45.94**	**103**	*e*LR	LR	01 26 29.2	
	comp=Z,103nm,28.0s						
MJAR	**Matsushiro Arr**	**53.31**	**335**	LR	LR	01 35 27.5	
	comp=Z,28nm,21.9s,baz=200,slow=34						
KSRS	**Korea Array**	**58.93**	**327**	P	**P**	**01 15 08.9**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=140,slow=8.2,SNR=5.6						
KSRS				LR	LR	01 37 12.3	
	comp=Z,24nm,21.1s,baz=147,slow=33						
NJ2	**Nanjing**	**60.68**	**317**	*e*P	**P**	**01 15 23.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**62.31**	**335**	P	**P**	**01 15 32.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**62.31**	**335**	P	**P**	**01 15 32.0**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=110,slow=5.5,SNR=12						
USRK	**Ussuriysk Ar.**	**62.31**	**335**	P	**P**	**01 15 32.4**	**+0.1**
PETK	**Petropavlovsk-**	**64.53**	**356**	P	**P**	**01 15 46.7**	**-0.2**
	comp=Z,3.5nm,0.4s,baz=159,slow=11,SNR=6.0						
PETK				LR	LR	01 38 41.3	
	comp=Z,32nm,20.8s,baz=153,slow=31						
VNDA	**Vanda**	**66.01**	**180**	P	**P**	**01 15 58.2**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=350,slow=6.1,SNR=6.6						
VNDA				LR	LR	01 40 16.5	
	comp=Z,40nm,19.5s,baz=7.0,slow=32						
VNDA	**Vanda**	**66.01**	**180**	P	**P**	**01 15 57.3**	**+1.1**
VNDA				IAmb	IAmb	01 16 02.0	
	comp=Z,5.5nm,1.4s						
BJT	**Baijiatuan**	**67.33**	**322**	P	**P**	**01 16 05.2**	**0.0**
BJT				IAmb	IAmb	01 16 08.1	
	comp=Z,3.6nm,0.9s						
BJI	**Beijing**	**67.34**	**322**	P	**P**	**01 16 07.6**	**+2.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**70.09**	**294**	P	**P**	**01 16 22.7**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=101,slow=4.7,SNR=1.7						
HHC	**Hu-ho-hao-te**	**70.64**	**321**	*e*P	**P**	**01 16 28.1**	**+2.2**
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,110nm,7.0s						
HHC				L	L		
	comp=Z,120nm,17.6s						
HHC				L	L		
	comp=Z,140nm,17.6s						
HHC				L	L		
	comp=Z,76nm,18.1s						
CD2	**Chengdu**	**70.98**	**308**	P	**P**	**01 16 27.6**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				L	L		
	comp=Z,220nm,8.8s						
CD2				L	L		
	comp=Z,210nm,7.5s						
CD2				L	L		
	comp=Z,300nm,14.1s						
ULN	**Ulaanbaatar**	**77.27**	**325**	P	**P**	**01 17 03.9**	**-0.7**
ULN				IAmb	IAmb	01 17 07.6	
	comp=Z,9.9nm,1.4s						
SONM	**Songino Array**	**77.62**	**325**	P	**P**	**01 17 06.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=135,slow=5.7,SNR=8.0						
SONM				LR	LR	01 51 23.6	
	comp=Z,18nm,18.9s,baz=115,slow=36						
SONM	**Songino Array**	**77.62**	**325**	P	**P**	**01 17 05.7**	**-0.9**
GTA	**Gaotai**	**77.65**	**315**	*e*P	**P**	**01 17 07.4**	**+0.5**
GTA				pP	pP	01 17 11.0	-5.3
GTA				sP	PcP	01 17 13.8	-3.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
QSPA	**South Pole Qui**	**78.50**	**180**	P	**P**	**01 17 12.2**	**+1.0**
BILL	**Bilibino**	**79.36**	**1**	P	**P**	**01 17 15.3**	**-0.2**
BILL				IAmb	IAmb	01 17 18.0	
	comp=Z,6.1nm,0.9s						
MLY	**Manley**	**83.70**	**18**	P	**P**	**01 17 38.1**	**-0.5**
NEA2	**Nenana**	**83.91**	**19**	P	**P**	**01 17 38.9**	**-0.7**
NEA2				IAmb	IAmb	01 17 41.0	
	comp=Z,3.5nm,1.0s						
WRH	**Wood River Hil**	**84.14**	**19**	P	**

PB09				IAML				01 16 39.9	
	comp=Z,2µm,0.4s								
LVC	**Limon Verde**	**1.10 205**		P		**Pn**	**01 16 22.7**	**+0.4**	
	comp=Z,57nm,0.3s,baz=43,slow=10,SNR=456								
LVC				S		**Sn**	**01 16 42.1**	**-0.1**	
	comp=Z,28nm,0.3s,baz=105,slow=20,SNR=7.6								
LVC	**Limon Verde**	**1.10 205**		*e*P		**Pn**	**01 16 22.7**	**+0.4**	
LVC				*i* S		**Sn**	**01 16 42.5**	**+0.3**	
LVC	**Limon Verde**	**1.10 205**				**Pn**	**01 16 22.5**	**+0.3**	
LVC	**Limon Verde**	**1.10 205**		*e*P		**Pn**	**01 16 22.7**	**+0.4**	
LVC	**Limon Verde**	**1.10 205**		*e*P		**Pn**	**01 16 22.7**	**+0.4**	
LVC				*e*S		**Sn**	**01 16 42.9**	**+0.7**	
PB01	**IPOC Station P**	**1.16 299**	⇑	*i*P		**Pn**	**01 16 22.5**	**+0.1**	
PB01				*i* S		**Sn**	**01 16 42.2**	**-0.2**	
PB01				IAML			01 16 43.8		
	comp=E,5µm,0.2s								
PB01	**IPOC Station P**	**1.16 299**				**Pn**	**01 16 22.5**	**+0.1**	
PB01	**IPOC Station P**	**1.16 299**		*e*P		**Pn**	**01 16 22.6**	**+0.2**	
PB01				*e*S		**Sn**	**01 16 42.6**	**+0.2**	
PB01				IAML			01 16 43.6		
	comp=Z,2µm,0.3s								
PB07	**IPOC Station P**	**1.39 265**	⇑	*i*P		**Pn**	**01 16 25.4**	**+0.7**	
PB07				*i* S		**Sn**	**01 16 46.5**	**0.0**	
PB07				IAML			01 16 47.4		
	comp=E,5µm,0.4s								
PB07	**IPOC Station P**	**1.39 265**				**Pn**	**01 16 25.1**	**+0.4**	
PB07	**IPOC Station P**	**1.39 265**		*e*P		**Pn**	**01 16 25.4**	**+0.7**	
PB07				*e*S		**Sn**	**01 16 47.0**	**+0.5**	
PB07				IAML			01 16 48.0		
	comp=Z,3µm,0.5s								
PB06	**IPOC Station P**	**1.54 224**	⇑	*i*P		**Pn**	**01 16 27.3**	**+1.0**	
PB06				*i* S		**Sn**	**01 16 50.0**	**+0.6**	
PB06				IAML			01 16 52.0		
	comp=E,2µm,0.3s								
PB06	**IPOC Station P**	**1.54 224**				**Pn**	**01 16 26.9**	**+0.6**	
PB06	**IPOC Station P**	**1.54 224**		*e*P		**Pn**	**01 16 27.3**	**+1.0**	
PB06				*e*S		**Sn**	**01 16 50.0**	**+0.6**	
PB06				IAML			01 16 51.5		
	comp=Z,900nm,0.2s								
PB08	**IPOC Station P**	**1.62 334**	⇑	*i*P		**Pn**	**01 16 27.8**	**+0.4**	
PB08				*i* S		**Sn**	**01 16 50.9**	**-0.3**	
PB08				IAML			01 16 53.9		
	comp=N,1µm,0.8s								
PB08	**IPOC Station P**	**1.62 334**				**Pn**	**01 16 27.8**	**+0.4**	
PB08	**IPOC Station P**	**1.62 334**		*e*P		**Pn**	**01 16 27.8**	**+0.4**	
PB08				*e*S		**Sn**	**01 16 51.3**	**0.0**	
PB08				IAML			01 16 51.9		
	comp=Z,504nm,0.3s								
PB04	**IPOC Station P**	**1.78 246**		*i*P		**Pn**	**01 16 29.6**	**+0.8**	
PB04				*i* S		**Sn**	**01 16 53.8**	**-0.2**	
PB04				IAML			01 16 57.2		
	comp=N,1µm,0.3s								
PB04	**IPOC Station P**	**1.78 246**				**Pn**	**01 16 29.7**	**+0.8**	
PB04	**IPOC Station P**	**1.78 246**		*e*P		**Pn**	**01 16 29.7**	**+0.8**	
PB04				*e*S		**Sn**	**01 16 54.8**	**+0.8**	
PB04				IAML			01 16 56.4		
	comp=Z,966nm,0.3s								
PB15	**IPOC Station P**	**1.88 212**	⇓	*i*P		**Pn**	**01 16 31.5**	**+1.4**	
PB15				*i* S		**Sn**	**01 16 57.7**	**+1.5**	
PB15	**IPOC Station P**	**1.88 212**				**Pn**	**01 16 31.5**	**+1.4**	
PB15	**IPOC Station P**	**1.88 212**		*e*P		**Pn**	**01 16 31.5**	**+1.4**	
PB15				*e*S		**Sn**	**01 16 58.1**	**+2.0**	
PB15				IAML			01 17 00.6		
	comp=Z,2µm,0.2s								
TA01	**Diego Aracena**	**1.96 302**	⇑	*i*P		**Pn**	**01 16 30.7**	**-0.1**	
TA01				*i* S		**Sn**	**01 16 56.6**	**-0.7**	
TA01	**Diego Aracena**	**1.96 302**		Pn		**Pn**	**01 16 30.7**	**-0.1**	
PB05	**IPOC Station P**	**2.08 233**	⇑	*i*P		**Pn**	**01 16 33.1**	**+0.9**	
PB05				*i* S		**Sn**	**01 17 00.0**	**-0.1**	
PB05				IAML			01 17 02.5		
	comp=N,798nm,0.5s								
PB05	**IPOC Station P**	**2.08 233**		*e*P		**Pn**	**01 16 33.2**	**+0.9**	
PB05				*e*S		**Sn**	**01 17 00.8**	**+0.7**	
PB05				IAML			01 17 03.6		
	comp=Z,430nm,0.4s								
TA02	**Huaiquique**	**2.09 309**		*e*P		**Pn**	**01 16 32.1**	**-0.3**	
TA02				*e*S		**Sn**	**01 16 58.8**	**-1.4**	
TA02	**Huaiquique**	**2.09 309**				**Pn**	**01 16 31.8**	**-0.5**	
PB11	**IPOC Station P**	**2.18 327**	⇑	*i*P		**Pn**	**01 16 33.1**	**-0.4**	
PB11				*i* S		**Sn**	**01 17 01.3**	**-1.0**	
PB11	**IPOC Station P**	**2.18 327**	Pn			**Pn**	**01 16 33.0**	**-0.6**	
PB11	**IPOC Station P**	**2.18 327**		*e*P		**Pn**	**01 16 33.2**	**-0.4**	
PB11				*e*S		**Sn**	**01 17 01.8**	**-0.5**	
PB11				IAML			01 17 03.4		
	comp=Z,671nm,0.2s								
PSGC	**Pisagua**	**2.57 321**	⇑	*i*P		**Pn**	**01 16 37.1**	**-1.1**	
PSGC				*e*S		**Sn**	**01 17 08.6**	**-2.0**	
PSGCX	**Pisagua**	**2.57 321**	Pn			**Pn**	**01 16 37.3**	**-0.9**	
PSGCX	**Pisagua**	**2.57 321**		*e*P		**Pn**	**01 16 37.1**	**-1.1**	
PSGCX				IAML			01 17 10.4		
	comp=Z,361nm,0.3s								
MNMC	**Minye Minye**	**2.70 335**	⇑	*i*P		**Pn**	**01 16 40.0**	**-0.2**	
MNMC				*i* S		**Sn**	**01 17 13.3**	**-0.7**	
MNMC	**Minye Minye**	**2.70 335**				**Pn**	**01 16 39.9**	**-0.2**	
MNMCX	**Minye Minye**	**2.70 335**		*e*P		Pn	01 16 34.1	-6.0	
MNMCX				*e*P		**Pn**	**01 16 40.2**	**+0.1**	
MNMCX				*e*S		**Sn**	**01 17 13.7**	**-0.3**	
MNMCX				IAML			01 17 14.6		
	comp=Z,1µm,0.4s								
YJA	**Yavi**	**2.74 102**		*e*P		**Pn**	**01 16 41.4**	**+0.7**	
YJA				*e*S		**Sn**	**01 17 15.8**	**+0.8**	
PB10	**IPOC Station P**	**2.75 226**	⇑	*i*P		**Pn**	**01 16 41.0**	**+0.6**	
PB10	**IPOC Station P**	**2.75 226**	Pn			**Pn**	**01 16 41.7**	**+1.4**	
PB10	**IPOC Station P**	**2.75 226**		*e*P		**Pn**	**01 16 41.4**	**+1.0**	
PB10				*e*S		**Sn**	**01 17 13.6**	**-0.9**	
PB10				IAML			01 17 18.4		
	comp=Z,148nm,0.4s								
HJA	**Humahuaca**	**3.20 120**		*e*P		**Pn**	**01 16 47.2**	**+0.9**	
HJA				*e*S		**Sn**	**01 17 28.6**	**+3.4**	
PB16	**IPOC Station P**	**3.42 342**				**Pn**	**01 16 49.5**	**+0.1**	
PB14	**IPOC Station P**	**3.53 211**	Pn			**Pn**	**01 16 51.4**	**+0.9**	
PB14	**IPOC Station P**	**3.53 211**		*e*P		**Pn**	**01 16 51.3**	**+0.7**	
PB14				*e*S		**Sn**	**01 17 31.7**	**-1.0**	
PB14				IAML			01 17 34.7		
	comp=Z,96nm,0.2s								
GO02	**Mina Guanaco**	**3.71 197**	⇑	*i*P		**Pn**	**01 16 53.8**	**+1.0**	
GO02	**Mina Guanaco**	**3.71 197**	Pn			**Pn**	**01 16 53.1**	**+0.3**	
AZAP	**Zapla**	**4.03 131**		*e*P		**Pn**	**01 16 56.8**	**-0.2**	
SLA	**San Lorenzo**	**4.09 140**		*e*P		**Pn**	**01 16 59.0**	**+1.3**	
AC01	**Pan de Azucar**	**4.95 204**	Pn			**Pn**	**01 17 08.3**	**-0.6**	
AC02	**Maricunga**	**5.25 187**	Pn			**Pn**	**01 17 13.2**	**-0.1**	
LPAZ	**La Paz**	**5.29 3**		P		**Pn**	**01 17 14.4**	**+0.3**	
	comp=Z,1.6nm,0.3s,baz=175,slow=5.0,SNR=41								
LPAZ				S		**Sn**	**01 18 13.9**	**-1.0**	
	comp=Z,0.5nm,0.3s,baz=150,slow=14,SNR=1.6								
LPAZ	**La Paz**	**5.29 3**		Pn		**Pn**	**01 17 14.0**	**-0.1**	
LPAZ	**La Paz**	**5.29 3**		*e*P		**Pn**	**01 17 12.5**	**-1.6**	
GO03	**Copiap**	**6.19 195**		*e*P		**Pn**	**01 17 24.6**	**-0.8**	
GO03				*e*S		**Sn**	**01 18 32.8**	**-2.5**	
VCA	**Vinchina**	**7.10 179**		*e*S		**Sn**	**01 19 00.9**	**+3.5**	
VCA				IAML			01 19 31.5		
	comp=Z,14nm,3.7s								
AGUA	**GUANDACOL**	**7.85 181**		*e*P		**Pn**	**01 17 47.0**	**-0.6**	
AGUA				*e*S		**Sn**	**01 19 13.3**	**-1.9**	
AGUA				IAML			01 19 17.7		
	comp=Z,12nm,0.4s								
ACLC	**CERRO LA CRUZ**	**7.90 171**		*e*P		**Pn**	**01 17 47.7**	**-0.6**	
ACLC				IAML			01 19 25.0		
	comp=Z,9.1nm,2.5s								
GO04	**Tololo Observa**	**8.80 194**		*e*P		**Pn**	**01 17 59.5**	**-1.0**	
GO04				*e*S		**Sn**	**01 19 34.1**	**-4.2**	
SIV	**San Ignacio**	**8.91 52**		P		**Pn**	**01 17 57.7**	**-4.1**	
	comp=Z,1.5nm,0.3s,baz=236,slow=8.5,SNR=36								
SIV				S		Sn	01 19 29.9	-11	
	comp=Z,0.4nm,0.3s,baz=155,slow=22,SNR=2.5								
AVFE	**Valle Fertil**	**9.06 175**		*e*P		**Pn**	**01 18 03.1**	**-0.6**	
AVFE				*e*S		**Sn**	**01 19 43.0**	**-1.2**	
AVFE				IAML			01 20 25.6		
	comp=Z,7.7nm,3.8s								
CPUP	**Villa Florida**	**11.16 117**		P		**Pn**	**01 18 27.8**	**-3.7**	
	comp=Z,0.2nm,0.3s,baz=283,slow=11,SNR=4.3								
VILB	**Vilhena**	**11.63 44**		*e*P		**Pn**	**01 18 38.6**	**+0.8**	
ETMB	**Extrema**	**11.91 11**		*e*P		**Pn**	**01 18 40.3**	**-1.0**	
AQDB	**Aquidauana**	**11.92 87**		*e*P		**Pn**	**01 18 43.1**	**+1.7**	
SALV	**Santo Antonio**	**13.30 67**		*e*P		**Pn**	**01 19 00.5**	**+1.2**	
PP1B	**Ponte de Pedra**	**13.35 75**		*e*P		**Pn**	**01 19 01.2**	**+1.3**	
CZSB	**Cruzeiro do Su**	**14.41 343**		*e*P		**Pn**	**01 19 10.4**	**-2.8**	
TRCB	**Terra Rica**	**14.65 98**				**P**	**01 19 17.8**	**-0.8**	
TRCB	**Terra Rica**	**14.65 98**		*e*P		**P**	**01 19 17.6**	**-1.0**	
PTGB	**Pitanga**	**15.34 105**		*e*P		**P**	**01 19 27.2**	**+0.9**	
ITAB	**Concordia**	**15.84 114**		*e*P		**P**	**01 19 32.5**	**+0.8**	
PCMB	**Pacaembu**	**15.94 93**		*e*P		**P**	**01 19 33.6**	**+0.7**	

CPSB	**Cacapava Do Su**	**16.04 126**		*e*P		**Pn**	**01 19 32.8**	**-0.6**	
CLDB	**Colider**	**16.12 51**		*e*P		**P**	**01 19 35.1**	**+0.2**	
PLTB	**Pedras Altas**	**16.63 131**		*e*P		**P**	**01 19 40.2**	**-0.3**	
ARAG	**Araguaiana, MT**	**16.77 72**		*e*P		**Pn**	**01 19 42.3**	**-0.1**	
ITRB	**Iturama**	**16.99 87**		*e*P		**P**	**01 19 44.6**	**+0.1**	
TRQA	**Tornquist**	**17.31 163**		*e*P		**P**	**01 19 46.3**	**-1.5**	
FRTB	**Fartura**	**17.50 99**		*e*P		**Pn**	**01 19 51.0**	**-0.1**	
TIJ01	**Guaruva-PR**	**18.18 106**		*e*P		**P**	**01 19 57.6**	**+0.1**	
BB19B	**Bebedouro**	**18.52 92**		*e*P		**P**	**01 20 01.6**	**+0.3**	
TER01	**Tubaro-SC**	**18.76 115**		*e*P		**P**	**01 20 03.6**	**-0.1**	
SNDB	**Serra Nova Dou**	**18.96 62**		*e*P		**P**	**01 20 04.8**	**-1.1**	
PLCA	**Paso Flores**	**19.16 185**		*e*P		**P**	**01 20 05.4**	**-2.6**	
NPGB	**Novo Progresso**	**19.19 43**		*e*P		**P**	**01 20 06.4**	**-2.1**	
IPMB	**Ipameri, GO**	**19.34 83**		*e*P		**P**	**01 20 09.6**	**-0.5**	
RCLB	**Rio Claro- Sao**	**19.37 96**		*e*P		**P**	**01 20 09.6**	**-0.8**	
SPB	**Sao Paulo**	**19.46 100**		*e*P		**P**	**01 20 11.8**	**+0.5**	
PET01	**Itanhaem-SP**	**19.64 102**		*e*P		**P**	**01 20 13.8**	**+0.5**	
VAO	**Valinhos**	**19.88 98**		*e*P		**P**	**01 20 14.9**	**-1.1**	
BDFB	**Brasilia**	**20.20 76**		P		**P**	**01 20 18.0**	**-1.5**	
	comp=Z,0.4nm,0.3s,baz=239,slow=6.3,SNR=3.9								
BDFB	**Brasilia**	**20.20 76**		IAmb		IAmb	01 20 19.1		
	comp=Z,49nm,1.8s								
ITTB	**Itaituba**	**21.09 37**		*e*P		**P**	**01 20 27.6**	**-1.3**	
PEXB	**Peixe**	**21.41 67**		*e*P		**P**	**01 20 30.7**	**-1.7**	
BSCB	**Bom Sucesso**	**22.02 93**		*e*P		**P**	**01 20 38.9**	**+0.1**	
DIAM	**Diamantina, MG**	**23.47 86**		*e*P		**P**	**01 20 52.4**	**-0.2**	
PRPB	**Parauapebas**	**23.64 52**		*e*P		**P**	**01 20 53.1**	**-0.8**	
SMTB	**Santa Maria do**	**23.70 61**		*e*P		**P**	**01 20 54.5**	**-0.1**	
JANB	**Janauba**	**23.76 78**		*e*P		**P**	**01 20 55.7**	**+0.6**	
SDBA	**SAO DESIDERIO**	**24.23 72**		*e*P		**P**	**01 20 58.8**	**-0.6**	
NAN01	**Guarapari, ES**	**26.86 87**		*e*P		**P**	**01 21 22.7**	**-0.3**	
CMC01	**Camacan, BA**	**28.06 82**		*e*P		**P**	**01 21 33.3**	**-0.4**	
GDU01	**Guandu, BA**	**28.53 79**		*e*P		**P**	**01 21 37.5**	**-0.4**	
TXAR	**Lajitas Array**	**60.98 325**		P		**P**	**01 25 56.7**	**+2.9**	
	comp=Z,0.1nm,0.5s,baz=147,slow=10,SNR=2.0								
DBIC	**Dimbokro**	**68.31 73**		P		**P**	**01 26 42.2**	**+0.7**	
	comp=Z,5.5nm,0.8s,baz=188,slow=5.5,SNR=7.6								
NVAR	**Mina Array Bea**	**75.87 322**		P		**P**	**01 27 29.9**	**+3.6**	
	comp=Z,0.4nm,0.7s,baz=151,slow=4.1,SNR=2.2								
TORD	**Torodi Ar. Bea**	**76.95 70**		P		**P**	**01 27 33.2**	**+0.7**	
	comp=Z,1.8nm,0.6s,baz=256,slow=5.5,SNR=11								
TORD	**Torodi Ar. Bea**	**76.95 70**		IAmb		IAmb	01 27 33.8		
	comp=Z,1.7nm,0.7s								
MKAR	**Makanchi Array**	**145.44 36**		PKPbc		**PKiKP**	**01 35 19.4**	**-0.9**	
	comp=Z,0.2nm,0.5s,baz=310,slow=1.1,SNR=2.4								
MKAR				pPKPbc		pPKPbc	01 35 57.2	0.0	
	comp=Z,0.3nm,0.5s,baz=349,slow=3.1,SNR=3.7								

*IDC **20** 01:21:16.7±1.4,24°.99S×175°.71W,h0km,mb4.3/10, mb1 4.5/12,mb1mx4.3/23,mbtmp4.3/12,ML5.7/1,MS3.6/9, Ms1 3.6/9,ms1mx3.4/35,Error ellipse: s-maj=47.9km s-min=22.7km az=160.0*

*NEIC **20** 01:21:24.4±2.0,24°.53S±0°.09×175°.7W±0°.1,h33km±3km, mb4.7/26,Error ellipse: s-maj=16.4km s-min=12.5km az=91.0*

ISC 20 01:21:21.3±0.5,24°.56S±0°.08×175°.57W±0°.08,h19km,n64, σ1§48/51,mb4.6/24,MS3.6/8,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**9.03**	**318**	Pn	**Pn**	**01 23 32.0**	**+1.3**
	2.7nm,0.3s,baz=132,slow=14,SNR=9.8						
MSVF	**Nonsavu**	**9.03**	**318**		**Pn**	**01 23 33.2**	**+2.4**
AFI	**Afiamalu**	**11.18**	**19**	Pn	Pn	01 23 53.6	-6.7
	1.9nm,0.3s,baz=244,slow=21,SNR=2.1						
AFI				LR	LR	01 28 22.2	
	comp=Z,90nm,20.0s,baz=166,slow=37						
AFI	**Afiamalu**	**11.18**	**19**	Pn	**Pn**	**01 24 00.3**	**0.0**
MXZ	**Matakaoa Point**	**13.97**	**201**	Pn	**Pn**	**01 24 39.0**	**+0.7**
RAR	**Rarotonga**	**14.94**	**80**	Pn	**Pn**	**01 24 47.9**	**-3.6**
	3.9nm,0.3s,baz=322,slow=22,SNR=2.7						
RAR				Sn	Sn	01 27 19.7	-17
	2.8nm,0.3s,baz=329,slow=23,SNR=2.0						
RAR				LR	LR	01 30 30.4	
	comp=Z,78nm,19.3s,baz=222,slow=37						
RAR	**Rarotonga**	**14.94**	**80**	IAmb	IAmb	01 25 02.4	
	comp=Z,51nm,0.8s						
DZM	**Mont Dzumac**	**16.70**	**275**	Pn	**Pn**	**01 25 13.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=92,slow=18,SNR=1.7						
DZM				LR	LR	01 30 21.6	
	comp=Z,232nm,19.8s,baz=100,slow=33						
DZM	**Mont Dzumac**	**16.70**	**275**	*e*Pn	**P**	**01 25 17.0**	**+0.3**
	comp=Z,47nm,1.4s						
DZM				*e*LR	LR	01 29 15.0	
	comp=Z,298nm,24.2s						
TBI	**Tubuai**	**23.89**	**93**	*e*LR	LR	01 32 01.3	
	comp=Z,329nm,36.8s						
PPT2	**Papeete2**	**25.20**	**79**	*e*LR	LR	01 32 53.7	
	comp=Z,205nm,27.8s						
PPT	**Papeete**	**25.21**	**79**	LR	LR	01 35 59.7	
	comp=Z,57nm,18.5s,baz=256,slow=35						
HNR	**Honiara**	**27.75**	**299**	LR	LR	01 36 15.5	
	comp=Z,159nm,19.0s,baz=165,slow=32						
CTA	**Charters Tower**	**35.52**	**269**	P	**P**	**01 28 14.1**	**-3.1**
	comp=Z,3.3nm,0.8s,baz=88,slow=6.7,SNR=5.7						
CTAO	**Charters Tower**	**35.52**	**269**	P	**P**	**01 28 16.2**	**-1.1**
STKA	**Stephens Creek**	**38.25**	**249**	LR	LR	01 43 36.9	
	comp=Z,140nm,18.4s,baz=191,slow=35						
ASAR	**Alice Springs**	**45.91**	**260**	P	**P**	**01 29 40.0**	**-3.0**
	comp=Z,2.2nm,0.9s,baz=97,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**45.91**	**260**	P	**P**	**01 29 40.5**	**-2.6**
WR0	**Warramunga Arr**	**46.20**	**265**	P	**P**	**01 29 43.6**	**-1.7**
WB2	**Warramunga Arr**	**46.38**	**265**	P	**P**	**01 29 46.0**	**-0.7**
WB2				IAmb	IAmb	01 29 50.0	
	comp=Z,8.0nm,1.0s						
WB0	**Warramunga Arr**	**46.38**	**266**	P	**P**	**01 29 45.0**	**-1.8**
WB0				IAmb	IAmb	01 30 03.9	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**46.39**	**265**	P	**P**	**01 29 42.9**	**-4.0**
	comp=Z,1.6nm,0.5s,baz=102,slow=8.3,SNR=16						
VNDA	**Vanda**	**54.10**	**186**	LR	LR	01 49 50.5	
	comp=Z,52nm,20.9s,baz=16,slow=32						
FITZ	**Fitzroy Crossi**	**54.80**	**265**	LR	LR	01 52 45.4	
	comp=Z,132nm,19.7s,baz=142,slow=35						
CASY	**Casey**	**61.30**	**206**	P	**P**	**01 31 36.1**	**+0.9**
QSPA	**South Pole Qui**	**65.53**	**180**	P	**P**	**01 32 04.6**	**+1.3**
QSPA				IAmb	IAmb	01 32 10.2	
	comp=Z,5.0nm,0.9s						
JCJ	**Chichijima**	**65.56**	**319**	LR	LR	01 54 38.7	
	comp=Z,67nm,21.9s,baz=147,slow=30						
MJAR	**Matsushiro Arr**	**74.79**	**323**	P	**P**	**01 32 58.8**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=151,slow=5.6,SNR=1.6						
MAW	**Mawson**	**78.51**	**199**	P	**P**	**01 33 21.3**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=126,slow=11,SNR=2.8						
YSS	**Yuzh-Sakhalins**	**80.51**	**332**	P	**P**	**01 33 31.9**	**0.0**
PETK	**Petropavlovsk-**	**80.76**	**344**	P	**P**	**01 33 33.4**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=131,slow=6.7,SNR=7.6						
CMB	**Columbia Colle**	**80.97**	**41**	P	**P**	**01 33 35.0**	**+0.3**
KSRS	**Korea Array**	**81.40**	**318**	P	**P**	**01 33 37.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=149,slow=5.4,SNR=6.0						
KSAR	**Wonju Array Be**	**81.41**	**318**	P	**P**	**01 33 36.6**	**-0.3**
KS19	**Wonju Array Si**	**81.46**	**318**	P	**P**	**01 33 36.1**	**-1.1**
KS19				IAmb	IAmb	01 33 38.3	
	comp=Z,12nm,1.4s						
LHV	**Little Huntoon**	**82.25**	**42**	P	**P**	**01 33 43.0**	**+1.7**
LHV				IAmb	IAmb	01 33 53.2	
	comp=Z,6.9nm,1.2s						
NVAR	**Mina Array Bea**	**82.48**	**42**	P	**P**	**01 33 43.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=224,slow=8.1,SNR=8.0						
NVAR	**Mina Array Bea**	**82.48**	**42**	P	**P**	**01 33 42.9**	**0.0**
NV11	**Mina Array Sit**	**82.58**	**42**	P	**P**	**01 33 43.9**	**+0.7**
TPH	**Tonopah**	**82.92**	**43**	P	**P**	**01 33 47.1**	**+1.9**
USA0B	**Ussuriysk Arra**	**83.56**	**325**	P	**P**	**01 33 48.4**	**+0.4**
USA0B				IAmb	IAmb	01 33 49.7	
	comp=Z,9.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**83.56**	**325**	P	**P**	**01 33 48.2**	**+0.1**
	comp=Z,5.3nm,0.8s,baz=126,slow=2.5,SNR=12						
USRK	**Ussuriysk Ar.**	**83.56**	**325**	P	**P**	**01 33 49.1**	**+1.0**
K05A	**Summer Lake**	**83.77**	**37**	P	**P**	**01 33 50.9**	**+1.5**
K05A				IAmb	IAmb	01 34 09.6	
	comp=Z,9.3nm,1.2s						
PRN	**Pahroc Range**	**83.87**	**44**	IAmb	IAmb	01 33 54.3	
	comp=Z,7.1nm,1.3s						
SNAA	**Sanae**	**83.90**	**178**	P	**P**	**01 33 50.7**	**+1.1**
SNAA				IAmb	IAmb	01 34 07.2	
	comp=Z,5.4nm,1.1s						
X16A	**Lo Mia Camp, P**	**84.50**	**48**	P	**P**	**01 33 55.1**	**+1.8**
X16A				IAmb	IAmb	01 34 02.7	
	comp=Z,5.8nm,1.3s						
CCUT	**Cedar City**	**85.03**	**45**	IAmb	IAmb	01 34 08.7	
	comp=Z,5.1nm,1.4s						
KNB	**Kanab**	**85.07**	**46**	IAmb	IAmb	01 34 04.8	
	comp=Z,7.3nm,1.3s						

U15A	**North Rim**	**85.08**	**46**	IAmb		IAmb	01 34 00.7		
	comp=Z,3.9nm,1.1s								
J08A	**Circle Bar Ran**	**85.53**	**38**	P		**P**	**01 33 59.5**	**+1.3**	
TX32	**Lajitas Array**	**87.39**	**56**	P		**P**	**01 34 09.4**	**+1.8**	
TXAR	**Lajitas Array**	**87.39**	**56**	P		**P**	**01 34 07.4**	**-0.3**	
	comp=Z,0.1nm,0.6s,baz=260,slow=3.6,SNR=3.6								
ENH	**Enshi**	**90.15**	**303**	P		**P**	**01 34 20.1**	**-0.4**	
BJT	**Baijiatuau**	**90.33**	**314**	P		**P**	**01 34 21.3**	**+0.2**	
CMAR	**Chiang Mai Arr**	**93.56**	**289**	P		**P**	**01 34 36.5**	**0.0**	
	comp=Z,1.7nm,0.3s,baz=127,slow=2.6,SNR=12								
CMAR	**Chiang Mai Arr**	**93.56**	**289**	P		**P**	**01 34 37.3**	**+0.8**	
FINES	**FINESS Array B**	**140.28**	**344**	PKhKP	PKPpre		01 40 42.4		
	comp=Z,0.4nm,0.7s,baz=114,slow=27,SNR=3.3								
FINES				PKP		**PKPdf**	**01 40 48.0**	**-0.3**	
	comp=Z,1.2nm,1.0s,baz=12,slow=10,SNR=3.6								
NAO01	**NORSAR Array S**	**143.46**	**355**	PKPdf		**PKPdf**	**01 40 54.2**	**+0.1**	
AKASG	**Malin Array Be**	**147.64**	**330**	PKPbc		**PKPbc**	**01 41 03.3**	**-0.9**	
	comp=Z,1.9nm,0.5s,baz=42,slow=4.0,SNR=13								
AKASG	**Malin Array Be**	**147.64**	**330**			**PKPbc**	**01 41 03.9**	**-0.3**	
AKBB	**Malin Array Si**	**147.64**	**330**	PKPbc		**PKPbc**	**01 41 05.2**	**+1.0**	
BNN	**Bunyan**	**149.88**	**306**	PKPbc		**PKPbc**	**01 41 10.9**	**+0.3**	
CLL	**Collm**	**152.49**	**348**	*e*PKPbc		**PKiKP**	**01 41 17.0**	**+0.7**	
CLL				*e*PKPab		**PKPab**	**01 41 28.0**	**+1.7**	
CLL				*e*			01 41 38.0		

*NOU **20** 01:31:59.1,40°.92S×175°.14E,h11km,MLv3.5,North Island, New Zealand*

WEL 20 01:31:57.9,41°S±2°×17°5E±°,h10km±2km,M3.3/48, ML3.5/48,MLv3.3/48,Error ellipse: s-maj=0.0km s-min=0.0km az=106.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OGWZ	**Otaki Gorge**	**0.08**	**114**	P	Pg	01 32 01.0	+0.7
OGWZ				S	Sg	01 32 02.9	+0.9
KIW	**Kapiti Island**	**0.14**	**238**	P	Pg	01 32 01.7	+0.5
KIW			

IPIR				*e*			01 37 48.3		
	comp=Z,1μm,0.5s								
IBZA	**Bozab**	**2.11**	**341**	*e*Pn	**Pb**		**01 37 18.8**	**-1.4**	
IBZA				*e*			01 37 55.1		
	comp=Z,1μm,0.6s								
KCHF	**Cheshme Sefid,**	**2.27**	**323**	*e*Pn	**Pn**		**01 37 20.5**	**+1.4**	
KCHF				*e*			01 37 59.6		
	comp=Z,2μm,0.3s								
KER	**Kermanshah**	**2.31**	**326**	*e*Pn	**Pb**		**01 37 23.0**	**-0.6**	
ASAO	**Ashtian**	**2.34**	**28**	*e*Pn	**Pb**		**01 37 22.1**	**-2.1**	
ASAO	**Ashtian**	**2.34**	**28**	*e*Pn	**Pb**		**01 37 22.1**	**-2.1**	
HAGD	**Aghdareh**	**2.37**	**9**	*e*Pn	**Pb**		**01 37 22.8**	**-1.8**	
HAGD				*e*			01 38 02.4		
	comp=Z,1μm,1.0s								
IALM	**Almabolaq**	**2.42**	**350**	*e*Pn	**Pb**		**01 37 23.5**	**-2.0**	
IGHG	**Ghaleghazi**	**2.57**	**317**	*e*Pn	**Pb**		**01 37 26.1**	**-1.9**	
IGHG				*e*			01 38 23.3		
	comp=Z,942nm,0.6s								
IKLH	**Kolahrood**	**2.57**	**70**	*e*Pn	**Pb**		**01 37 26.0**	**-2.0**	
IKLH				*e*			01 38 22.3		
	comp=Z,588nm,1.0s								
ILIN	**Lien**	**2.83**	**330**	*e*Pn	**Pn**		**01 37 28.7**	**+1.7**	
ILIN				*e*			01 38 23.4		
	comp=Z,548nm,0.8s								
KLNJ	**Kolanjah**	**2.87**	**120**	*e*Pn	**Pb**		**01 37 30.8**	**-2.4**	
KLNJ				*e*			01 38 29.8		
	comp=Z,636nm,0.5s								
MIB	**Mutribah**	**2.91**	**204**	*e*P	**Pb**		**01 37 30.9**	**-2.8**	
IDHR	**Dehrash**	**2.94**	**320**	*e*Pn	**Pn**		**01 37 29.8**	**+1.4**	
IDHR				*e*			01 38 20.7		
	comp=Z,803nm,0.3s								
GHVR	**GHOM**	**2.95**	**47**	*e*Pn	**Pn**		**01 37 29.6**	**+1.1**	
GHVR				IAML			01 38 10.7		
	comp=N,37nm,0.6s								
GHVR	**GHOM**	**2.95**	**47**	*e*Pn	**Pn**		**01 37 29.6**	**+1.1**	
UMR	**Umm Al-Rimmam**	**3.03**	**196**	*e*P	**Pb**		**01 37 32.4**	**-3.4**	
IQOM	**Qom**	**3.08**	**39**	*e*Pn	**Pn**		**01 37 31.7**	**+1.3**	
IZEF	**Zefreh**	**3.09**	**81**	*e*Pn	**Pn**		**01 37 32.9**	**+2.3**	
IRAZ	**Razeghan**	**3.10**	**19**	*e*Pn	**Pn**		**01 37 32.5**	**+1.9**	
IRAM	**Ramesheh**	**3.20**	**101**	*e*Pn	**Pn**		**01 37 33.8**	**+1.8**	
IRAM				*e*			01 38 37.9		
	comp=Z,173nm,0.6s								
RST	**Umm Al-Ruwaisa**	**3.31**	**207**	*e*P	**Pn**		**01 37 35.7**	**+2.5**	
QABG	**Abgarm-Qazvin**	**3.31**	**13**	*e*Pn	**Pn**		**01 37 33.7**	**+0.2**	
NASN	**Na'in**	**3.48**	**84**	*e*Pn	**Pn**		**01 37 37.2**	**+1.2**	
NASN	**Na'in**	**3.48**	**84**	*e*Pn	**Pn**		**01 37 37.2**	**+1.2**	
ISFB	**Sefidab**	**3.50**	**57**	*e*Pn	**Pn**		**01 37 37.7**	**+1.6**	
IVRN	**Varamin**	**3.56**	**44**	*e*Pn	**Pn**		**01 37 38.8**	**+1.9**	
RDF	**Al-Radifah**	**3.67**	**196**	*e*P	**Pn**		**01 37 41.3**	**+2.9**	
RDF				*e*S	**Sn**		**01 38 23.6**	**+2.3**	
QRN	**Al-Qurain**	**3.78**	**190**	*e*P	**Pn**		**01 37 41.8**	**+2.0**	
QRN				*e*S	**Sn**		**01 38 26.0**	**+2.1**	
QRN				IAML			01 38 29.3		
	comp=Z,218nm,0.3s								
QSDN	**Sirdan**	**4.04**	**5**	*e*Pn	**Pn**		**01 37 44.7**	**+1.2**	
IGZV	**Ghazvin**	**4.10**	**17**	*e*Pn	**Pn**		**01 37 45.4**	**+1.0**	
QALM	**Alamut, Qazvin**	**4.26**	**22**	*e*Pn	**Pn**		**01 37 48.2**	**+1.6**	
ANAR	**Anarak**	**4.29**	**79**	*e*Pn	**Pn**		**01 37 48.7**	**+1.7**	
ILAS	**Lasjerd**	**4.58**	**50**	*e*Pn	**Pn**		**01 37 53.1**	**+2.1**	
ISHM	**Shahmirzad**	**5.05**	**48**	*e*Pn	**Pn**		**01 37 59.7**	**+2.1**	
IANJ	**Anjilo**	**5.26**	**54**	*e*Pn	**Pn**		**01 38 02.6**	**+2.2**	

IDC 20 01:48:24.9±2.1, 9°02S×127°26E, h0km, mb3.5/1, mb1 3.8/5, mb1mx3.6/34, mbtmp3.7/5, ML3.6/4, MS3.0/2, Ms1 3.2/2, ms1mx2.6/21, Error ellipse: s-maj=37.6km s-min=29.1km az=61.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.74**	**251**	Pn	Pn	01 49 24.1	+0.1
	1.8nm,0.3s,baz=70,slow=19,SNR=3.9						
BATI				Sn	Sn	01 50 11.1	+2.3
	8.6nm,0.3s,baz=75,slow=20,SNR=1.9						
SIJI	**Sorong**	**9.02**	**26**	LR	LR	01 54 08.6	
	comp=Z,107nm,20.0s,baz=356,slow=38						
FITZ	**Fitzroy Crossi**	**9.16**	**190**	Pn	Pn	01 50 38.4	-0.1
	0.7nm,0.3s,baz=11,slow=10.0,SNR=19						
FITZ				Sn	Sn	01 52 16.3	-6.1
	0.5nm,0.3s,baz=45,slow=1.4,SNR=2.0						
WRA	**Warramunga Arr**	**12.84**	**149**	Pn	Pn	01 51 28.9	+0.1
	0.4nm,0.3s,baz=322,slow=15,SNR=18						
WRA				Sn	Sn	01 53 46.7	-5.8
	0.5nm,0.3s,baz=334,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**15.89**	**157**	Pn	Pn	01 52 10.0	-0.1
	0.2nm,0.3s,baz=330,slow=11,SNR=12						
ASAR				Sn	Sn	01 54 58.7	-8.4
	0.1nm,0.3s,baz=316,slow=16,SNR=1.5						
CMAR	**Chiang Mai Arr**	**39.07**	**314**	LR	LR	02 13 48.1	
	comp=Z,22nm,20.2s,baz=197,slow=39						
MKAR	**Makanchi Array**	**68.47**	**329**	P	P	01 59 28.9	-0.1
	0.2nm,0.5s,baz=126,slow=7.0,SNR=2.6						

GUC ***20*** *02:10:04.0±0.4, 36°23S×73°98W, h19km±4km, ML6.0*

NEIC ***20*** *02:10:07.1±2.1, 36°36S±0°05×73°81W±0°09, h11km±1km, mb5.9/479, Ms_20 6.5/886, Mwb6.5/90, Mww6.4, ML6.0(GUC), Mwc6.4(GCMT), Error ellipse: s-maj=13.1km s-min=9.0km az=281.0*

NEIC ***20*** *02:10:07, 36°36S×73°79W, h8km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.94; Mθθ-0.08; Mϕϕ-2.86; Mrθ-1.13; Mθϕ0.10; Mϕr-5.46; Fault plane solution: Mo6.29000×10¹⁸ NP1:ϕs189.96000°, δ76.48000°, λ95.38000°. NP2:ϕs348.03000°, δ14.53000°, λ68.71000°. Principal axes: T 6.3874, Plg58.0000°, Azm107.0000°; N -0.2020, Plg5.0000°, Azm9.0000°; P -6.1854, Plg31.0000°, Azm276.0000°;*

BJI ***20*** *02:10:07.0±0.0, 36°32S×73°76W, h15km, mB6.2/34, Ms6.8/72, Ms7 6.6/69*

VAO ***20*** *02:10:08.2±0.2, 36°31S×73°46W, h10km, mb5.7*

IDC ***20*** *02:10:08.2±1.4, 36°38S×73°65W, h25km±8km, mb5.1/29, mb1 5.1/31, mb1mx5.1/32, mbtmp5.2/31, ML4.9/2, MS6.4/19, Ms1 6.4/19, ms1mx6.3/24, Error ellipse: s-maj=13.1km s-min=7.7km az=83.0*

MOS ***20*** *02:10:09.5±1.2, 36°33S×73°58W, h33km, mb6.0/38, MS6.5/32, Error ellipse: s-maj=12.6km s-min=7.0km az=92.5*

GCMT ***20*** *02:10:13.1±0.0, 36°35S×74°10W, h12km, MW6.4/166, Moment Tensor Solution. s164,c391; s166,c715; Duration: 39.9 Moment tensor: Scale 10¹⁸Nm; Mrr2.94±.01; Mθθ0.06±.01; Mϕϕ-3.00±.01; Mrθ-1.19±.03; Mθϕ-0.71±.01; Mϕr-4.10±.03; Best double couple: Mo5.24600×10¹⁸ NP1:ϕs9.00000°, δ18.00000°, λ84.00000°. NP2:ϕs196.00000°, δ72.00000°, λ92.00000°. Principal axes: T 5.1420, Plg63.0000°, Azm109.0000°; N 0.2070, Plg2.0000°, Azm15.0000°; P -5.3510, Plg27.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***20*** *02:10:13, 36°43S×73°69W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.96; Mθθ-0.33; Mϕϕ-1.63; Mrθ-0.43; Mθϕ-0.79; Mϕr-5.01; Fault plane solution: Mo5.41000×10¹⁸ NP1:ϕs40.00000°, δ12.00000°, λ123.00000°. NP2:ϕs187.00000°, δ80.00000°, λ83.00000°. Principal axes: T 5.4886, Plg55.0000°, Azm88.0000°; N -0.1711, Plg7.0000°, Azm188.0000°; P -5.3175, Plg34.0000°, Azm282.0000°;*

NEIC ***20*** *02:10:13, 36°37S×74°15W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr2.87; Mθθ0.06; Mϕϕ-2.93; Mrθ-0.93; Mθϕ-0.71; Mϕr-4.64; Fault plane solution: Mo5.60000×10¹⁸ NP1:ϕs14.00000°, δ16.00000°, λ92.00000°. NP2:ϕs192.00000°, δ74.00000°, λ89.00000°. Principal axes: T 5.4847, Plg61.0000°, Azm101.0000°; N 0.2169, Plg1.0000°, Azm192.0000°; P -5.7016, Plg29.0000°, Azm282.0000°;*

ISC 20 02:10:07.7±0.4, 36°34S±0°03×73°67W±0°03, h17km±2km, h18km:pP-P, n1805, σ2s21/1520, mb5.9/300, MS6.5/500, 101C-45D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.68**	**139**	*e*P	**Pg**	**02 10 20.1**	**-0.9**
CCSP				*i* S	**Sn**	**02 10 32.0**	**-0.6**
CCSP				IAML		02 10 38.3	
	comp=N,562μm,0.5s						
GO05	**Huala**	**1.94**	**47**	*e*P	**Pn**	**02 10 37.8**	**-1.9**
GO05				*e*S	**Sn**	**02 11 04.0**	**+0.3**
GO05	**Huala**	**1.94**	**47**	*e*P	**Pn**	**02 10 40.0**	**+0.2**
BO03	**Pichilemu**	**2.30**	**38**	*e*P	**Pn**	**02 10 42.4**	**-2.4**
BO03				*e*S	**Sn**	**02 11 12.0**	**-0.7**
BO02	**Sierra Bellavi**	**2.81**	**58**	*e*P	**Pn**	**02 10 51.1**	**-0.7**
BO02				*e*S	**Sn**	**02 11 26.5**	**+1.1**
BO02				IAML		02 11 52.2	
	comp=E,40μm,0.6s						
BO02	**Sierra Bellavi**	**2.81**	**58**	Pn	**Pn**	**02 10 53.3**	**+1.4**
BO01	**Tunca**	**2.87**	**48**	*e*P	**Pn**	**02 10 51.1**	**-1.4**
BO01				IAML		02 11 54.7	
	comp=E,65μm,1.1s						
BO01	**Tunca**	**2.87**	**48**	Pn	**Pn**	**02 10 53.7**	**+1.2**
VA05	**Santo Domingo**	**3.16**	**33**	*e*P	**Pn**	**02 10 54.1**	**-2.4**
VA05				*i* S	**Sn**	**02 11 31.8**	**-2.0**
VA05	**Santo Domingo**	**3.16**	**33**	Pn	**Pn**	**02 10 55.8**	**-0.8**
MT01	**Popeta**	**3.16**	**39**	*e*P	**Pn**	**02 10 54.8**	**-1.9**
MT01				*e*S	**Sn**	**02 11 32.3**	**-1.6**
MT01	**Popeta**	**3.16**	**39**		**Pn**	**02 10 56.6**	**0.0**
MT09	**Talagante**	**3.37**	**41**	*e*P	**Pn**	**02 10 58.0**	**-1.5**
MT09	**Talagante**	**3.37**	**41**		**Pn**	**02 11 00.2**	**+0.6**
VA01	**Torpederas**	**3.70**	**27**	*e*P	**Pn**	**02 11 00.9**	**-3.0**
VA01	**Torpederas**	**3.70**	**27**		**Pn**	**02 11 01.8**	**-2.2**
MT02	**Curacav**	**3.71**	**35**	*e*P	**Pn**	**02 11 01.6**	**-2.5**
MT02	**Curacav**	**3.71**	**35**		**Pn**	**02 11 03.2**	**-0.9**
LMEL	**Las Melosas**	**3.77**	**50**	*e*P	**Pn**	**02 11 04.7**	**-0.5**
MT05	**Renca**	**3.80**	**40**	*e*P	**Pn**	**02 11 04.2**	**-1.2**
MT05				*e*S	**Sn**	**02 11 49.9**	**+0.2**
MT05	**Renca**	**3.80**	**40**	Pn	**Pn**	**02 11 04.6**	**-0.8**
MT03	**Universidad Ad**	**3.84**	**43**	*e*P	**Pn**	**02 11 04.7**	**-1.4**
MT03	**Universidad Ad**	**3.84**	**43**		**Pn**	**02 11 06.4**	**+0.4**
FSR	**Penalolen**	**3.84**	**43**	*e*P	**Pn**	**02 11 07.0**	**+1.0**
ROCH	**El Roble**	**4.01**	**34**	*e*P	**Pn**	**02 11 06.2**	**-2.2**
VA03	**San Esteban**	**4.39**	**37**	*e*P	**Pn**	**02 11 11.2**	**-2.4**
VA03	**San Esteban**	**4.39**	**37**		**Pn**	**02 11 12.4**	**-1.3**
LL03	**Petrohue**	**4.90**	**169**	*e*P	Pn	02 11 17.0	-3.5
LL03	**Petrohue**	**4.90**	**169**		**Pn**	**02 11 19.2**	**-1.2**
H03S1	**Juan Fernandez**	**4.96**	**299**	Pn	Pn	02 11 15.4	-5.7
	baz=84,slow=13,SNR=858						
H03S1				T	T	02 16 11.7	
	baz=120,slow=73,SNR=1163						
H03S3	**Juan Fernandez**	**4.97**	**299**	Pn	**Pn**	**02 11 18.8**	**-2.5**
	baz=84,slow=13,SNR=1275						
H03S3				T	T	02 16 12.2	
	baz=120,slow=73,SNR=354						
H03S2	**Juan Fernandez**	**4.98**	**298**	Pn	Pn	02 11 15.4	-5.9
	baz=84,slow=13,SNR=1396						
H03S2				T	T	02 16 11.7	
	baz=120,slow=73,SNR=655						
PLCA	**Paso Flores**	**5.03**	**152**	Pn	**Pn**	**02 11 19.3**	**-3.0**
	comp=E,20nm,0.3s,baz=320,slow=15,SNR=212						
PLCA				LR	LR	02 13 40.2	
	comp=E,137μm,20.2s,baz=332,slow=43						
PLCA	**Paso Flores**	**5.03**	**152**	P	**Pn**	**02 11 22.3**	**0.0**
PLCA	**Paso Flores**	**5.03**	**152**	Pn	**Pn**	**02 11 22.3**	**0.0**
PLCA	**Paso Flores**	**5.03**	**152**	P	**Pn**	**02 11 21.8**	**-0.4**
PLCA	**Paso Flores**	**5.03**	**152**	*e*P	**Pn**	**02 11 22.1**	**-0.2**
LL05	**Los Muermos**	**5.07**	**178**	*e*P	**Pn**	**02 11 19.6**	**-3.1**
LL05	**Los Muermos**	**5.07**	**178**		**Pn**	**02 11 19.9**	**-2.9**
H03N1	**Juan Fernandez**	**5.19**	**302**	Pn	Pn	02 11 19.2	-5.0
	baz=141,slow=26,SNR=2572						
H03N1				T	T	02 16 37.0	
	baz=111,slow=75,SNR=42						
H03N3	**Juan Fernandez**	**5.19**	**302**	Pn	Pn	02 11 19.5	-4.7
	baz=141,slow=26,SNR=1781						
H03N3				T	T	02 16 40.2	
	baz=111,slow=75,SNR=45						
H03N2	**Juan Fernandez**	**5.20**	**302**	Pn	Pn	02 11 19.7	-4.7
	baz=141,slow=26,SNR=1641						
H03N2				T	T	02 16 37.2	
	baz=111,slow=75,SNR=32						
CO02	**Combarbal**	**5.58**	**24**	Pn	**Pn**	**02 11 28.2**	**-1.7**
CO03	**El Pedregal**	**6.02**	**25**		**Pn**	**02 11 35.4**	**-0.6**
GO04	**Tololo Observa**	**6.60**	**22**	Pn	**Pn**	**02 11 42.6**	**-1.4**
LL02	**Futaleuf**	**6.99**	**169**	Pn	**Pn**	**02 11 48.4**	**-0.7**
LCO	**Las Campanas**	**7.72**	**20**	P	**Pn**	**02 11 57.6**	**-1.9**
LCO	**Las Campanas**	**7.72**	**20**	Pn	**Pn**	**02 11 57.6**	**-1.9**
LCO	**Las Campanas**	**7.72**	**20**	P	**Pn**	**02 11 57.1**	**-2.4**
AC04	**Llanos de Chal**	**8.40**	**16**	Pn	**Pn**	**02 12 05.8**	**-2.7**
GO03	**Copiap**	**9.19**	**19**	P	**Pn**	**02 12 15.6**	**-3.9**
COYC	**Coyhaique**	**9.31**	**173**	Pn	**Pn**	**02 12 19.7**	**-1.2**
COYC	**Coyhaique**	**9.31**	**173**	P	**Pn**	**02 12 20.5**	**-0.4**
TRQA	**Tornquist**	**9.48**	**104**	P	**Pn**	**02 12 24.7**	**+1.3**
TRQA	**Tornquist**	**9.48**	**104**	Pn	**Pn**	**02 12 24.7**	**+1.3**
AC02	**Maricunga**	**10.23**	**23**	Pn	**Pn**	**02 12 33.1**	**-1.0**
AC01	**Pan de Azucar**	**10.49**	**15**	Pn	**Pn**	**02 12 36.7**	**-0.5**
LVC	**Limon Verde**	**14.29**	**18**	Pn	**Pn**	**02 13 30.0**	**+0.5**
	comp=E,1.1nm,0.3s,baz=176,slow=7.4,SNR=14						
LVC				Sn	**Sn**	**02 16 04.5**	**-3.2**
	comp=E,0.8nm,0.3s,baz=239,slow=15,SNR=1.8						
LVC				LR	LR	02 19 40.9	
	comp=E,201μm,19.5s,baz=206,slow=40						
LVC	**Limon Verde**	**14.29**	**18**	Pn	**Pn**	**02 13 28.6**	**-0.9**
LVC	**Limon Verde**	**14.29**	**18**	P	**Pn**	**02 13 29.3**	**-0.2**
LVC	**Limon Verde**	**14.29**	**18**	*e*P	**Pn**	**02 13 29.5**	**0.0**
PB09	**IPOC Station P**	**14.99**	**16**	IAmb	IAmb	02 14 19.3	
	comp=Z,881nm,1.4s						
PB01	**IPOC Station P**	**15.67**	**15**	IAmb	IAmb	02 14 06.7	
	comp=Z,2μm,2.0s						
ITQB	**Itaqui**	**15.76**	**70**	Pn	**Pn**	**02 13 47.7**	**-1.1**
ITQB	**Itaqui**	**15.76**	**70**	*e*P	**Pn**	**02 13 47.5**	**-1.2**
TA02	**Huaiquique**	**16.30**	**12**	IAmb	IAmb	02 14 12.6	
	comp=Z,916nm,1.3s						
PB08	**IPOC Station P**	**16.61**	**15**	IAmb	IAmb	02 14 16.9	
	comp=Z,1μm,1.9s						
MG02	**Cerro Sombrero**	**16.74**	**171**	Pn	**Pn**	**02 13 58.7**	**-2.4**
MG02				IAmb	IAmb	02 14 16.9	
	comp=Z,2μm,1.3s						
PB11	**IPOC Station P**	**16.88**	**13**	IAmb	IAmb	02 14 19.3	
	comp=Z,1μm,1.2s						
GO10	**Punta Arenas**	**16.92**	**175**	Pn	**Pn**	**02 13 59.4**	**-4.0**
GO10				IAmb	IAmb	02 14 16.8	
	comp=Z,3μm,1.8s						
GO10	**Punta Arenas**	**16.92**	**175**	P	**Pn**	**02 14 04.0**	**+0.5**
CPUP	**Villa Florida**	**17.13**	**59**	P	**Pn**	**02 14 02.1**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=239,slow=8.9,SNR=8.4						
CPUP				S	**S**	**02 17 22.5**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=111,slow=14,SNR=1.5						
CPUP	**Villa Florida**	**17.13**	**59**	P	**Pn**	**02 14 02.3**	**-4.0**
CPUP				pmax	pmax		
	comp=Z,793nm,1.6s						
CPUP	**Villa Florida**	**17.13**	**59**	Pn	**Pn**	**02 14 02.2**	**-4.0**
CPUP	**Villa Florida**	**17.13**	**59**	P	**Pn**	**02 14 00.7**	**-5.6**
CPUP	**Villa Florida**	**17.13**	**59**	*e*P	**Pn**	**02 14 03.5**	**-2.8**
PLTB	**Pedras Altas**	**17.24**	**80**	Pn	**Pn**	**02 14 05.8**	**-1.7**
PLTB	**Pedras Altas**	**17.24**	**80**	*e*P	**Pn**	**02 14 05.7**	**-1.9**
MNMC	**Minye Minye**	**17.51**	**13**	P	**Pn**	**02 14 10.2**	**-1.1**
CPSB	**Cacapava Do Su**	**17.89**	**77**	*e*P	**Pn**	**02 14 14.2**	**-1.4**
PB16	**IPOC Station P**	**18.30**	**13**	IAmb	IAmb	02 14 51.3	
	comp=Z,2μm,2.0s						
USHA	**Ushuaia**	**18.85**	**171**	P	**Pn**	**02 14 28.0**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=349,slow=11,SNR=19						
USHA				S	**S**	**02 17 59.2**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=1.9,slow=14,SNR=1.5						
USHA				LR	LR	02 21 28.3	
	comp=Z,172μm,21.2s,baz=346,slow=36						
EFI	**East Falkland**	**18.94**	**149**	*i* P	**P**	**02 14 26.6**	**-1.0**
EFI	**East Falkland**	**18.94**	**149**	P	**P**	**02 14 26.6**	**-1.0**
EFI	**East Falkland**	**18.94**	**149**	P	**P**	**02 14 26.5**	**-1.0**
MG01	**Puerto William**	**19.06**	**169**	P	**P**	**02 14 28.1**	**-0.7**
MG01				IAmb	IAmb	02 14 37.9	
	comp=Z,1μm,1.3s						
ITAB	**Concordia**	**20.40**	**70**	P	**P**	**02 14 42.8**	**-0.9**
ITAB	**Concordia**	**20.40**	**70**	*e*P	**P**	**02 14 43.6**	**-0.1**
LPAZ	**La Paz**	**20.57**	**15**	P	**P**	**02 14 45.8**	**-0.4**
	comp=Z,76nm,1.1s,baz=185,slow=7.7,SNR=94						
LPAZ	**La Paz**	**20.57**	**15**	P	Pn	02 14 47.9	-0.5
LPAZ				pmax	pmax		
	comp=Z,222nm,0.9s						
LPAZ	**La Paz**	**20.57**	**15**	P	Pn	02 14 47.9	-0.5
LPAZ	**La Paz**	**20.57**	**15**	*e*P	**P**	**02 14 46.1**	**-0.1**
LPAZ	**La Paz**	**20.57**	**15**	P	**P**	**02 14 46.5**	**+0.4**
LPAZ	**La Paz**	**20.57**	**15**	*e*P	**P**	**02 14 46.6**	**+0.4**
PTGB	**Pitanga**	**21.86**	**64**	*e*P	**P**	**02 14 58.9**	**-0.7**
TER01	**Tubaro-SC**	**22.09**	**76**	*e*P	**P**	**02 15 01.3**	**-0.6**
AQDB	**Aquidauana**	**22.29**	**50**	P	**P**	**02 15 04.2**	**+0.1**
AQDB				IAMs_20	IAMs_20	02 24 37.8	
	comp=Z,136μm,19.0s						
AQDB	**Aquidauana**	**22.29**	**50**	*e*P	**P**	**02 15 03.9**	**-0.2**
TRCB	**Terra Rica**	**22.67**	**59**	P	**P**	**02 15 07.6**	**-0.6**
TRCB	**Terra Rica**	**22.67**	**59**	*e*P	**P**	**02 15 07.9**	**-0.3**
SIV	**San Ignacio**	**23.16**	**32**	P	**P**	**02 15 12.4**	**-0.9**
	comp=Z,56nm,0.8s,baz=220,slow=11,SNR=84						
SIV				S	**S**	**02 19 26.4**	**+2.2**
	comp=Z,5.4nm,0.8s,baz=220,slow=14,SNR=1.1						
SIV				LR	LR	02 26 16.4	
	comp=Z,335μm,19.1s,baz=221,slow=42						
PCMB	**Pacaembu**	**24.41**	**59**	*e*P	**P**	**02 15 25.4**	**+0.2**
NNA	**Nana**	**24.41**	**352**	P	**P**	**02 15 24.5**	**-0.8**
	comp=Z,32nm,0.8s,baz=192,slow=10,SNR=11						
NNA				S	**S**	**02 19 41.0**	**-3.4**
	comp=Z,4.2nm,0.3s,baz=177,slow=6.6,SNR=1.4						
NNA				LR	LR	02 22 58.3	
	comp=Z,55μm,18.1s,baz=177,slow=32						
NNA	**Nana**	**24.41**	**352**	*ce*P	**P**	**02 15 28.1**	**+2.8**
NNA				pmax	pmax		
	comp=Z,157nm,1.3s						
NNA	**Nana**	**24.41**	**352**	P	**P**	**02 15 24.2**	**-1.1**
NNA				IAmb	IAmb	02 15 37.0	
	comp=Z,299nm,0.9s						
NNA	**Nana**	**24.41**	**352**	⇑P	**P**	**02 15 26.7**	**+1.4**
PTLB	**Pontes e Lacer**	**24.51**	**36**	*e*P	**P**	**02 15 25.9**	**-0.2**
FRTB	**Fartura**	**24.51**	**65**	*e*P	**P**	**02 15 26.0**	**-0.2**
PP1B	**Ponte de Pedra**	**24.99**	**47**	*e*P	**P**	**02 15 30.9**	**+0.4**
PET01	**Itanhaem-SP**	**25.67**	**69**	*e*P	**P**	**02 15 37.4**	**+0.8**
SALV	**Santo Antonio**	**25.89**	**43**	*e*P	**P**	**02 15 38.6**	**0.0**
SPB	**Sao Paulo**	**25.94**	**68**	⇑P	**P**	**02 15 39.0**	**-0.1**
SPB	**Sao Paulo**	**25.94**	**68**	*e*P	**P**	**02 15 40.0**	**+0.9**
VILB	**Vilhena**	**26.24**	**31**	*e*P	**P**	**02 15 42.2**	**+0.3**
ITRB	**Iturama**	**26.31**	**57**	*e*P	**P**	**02 15 42.3**	**-0.2**
RCLB	**Rio Claro- Sao**	**26.56**	**66**	*e*P	**P**	**02 15 45.3**	**+0.5**
VAO	**Valinhos**	**26.63**	**67**	*e*P	**P**	**02 15 46.1**	**+0.6**
BB19B	**Bebedouro**	**26.68**	**62**	*e*P	**P**	**02 15 46.6**	**+0.7**
ETMB	**Extrema**	**27.25**	**16**	*e*P	**P**	**02 15 51.4**	**+0.4**
PARB	**Paraibuna**	**27.45**	**70**	*e*P	**P**	**02 15 53.9**	**+1.0**
ARAG	**Araguaiana, MT**	**28.30**	**49**	*e*P	**P**	**02 16 00.3**	**-0.1**
CZSB	**Cruzeiro do Su**	**28.49**	**2**	*e*P	**P**	**02 16 02.7**	**+0.7**
SAML	**Samuel**	**28.88**	**22**	P	**P**	**02 16 07.2**	**+1.7**
SAML				pmax	pmax		
	comp=Z,332nm,1.9s						
SAML				MLR	MLR		
	comp=Z,146μm,19.0s						
SAML	**Samuel**	**28.88**	**22**	P	**P**	**02 16 07.2**	**+1.7**
SAML				IAmb	IAmb	02 16 08.4	
	comp=Z,332nm,1.9s						
IPMB	**Ipameri, GO**	**28.96**	**58**	*e*P	**P**	**02 16 06.3**	**-0.1**
PMSA	**Palmer Station**	**29.05**	**172**	P	**P**	**02 16 07.2**	**+0.6**
	comp=Z,79nm,1.0s,baz=345,slow=6.8,SNR=7.5						
PMSA				S	**S**	**02 20 55.9**	**-1.1**
	comp=Z,8.9nm,0.5s,baz=0.0,slow=20,SNR=5.1						
PMSA				LR	LR	02 26 15.6	
	comp=Z,43μm,21.3s,baz=340,slow=33						
PMSA	**Palmer Station**	**29.05**	**172**	P	**P**	**02 16 06.1**	**-0.4**
PMSA				IAmb	IAmb	02 16 18.0	
	comp=Z,200nm,1.1s						
PMSA	**Palmer Station**	**29.05**	**172**	IAMs_20	IAMs_20	02 28 34.4	
	comp=Z,130μm,18.0s						
PMSA	**Palmer Station**	**29.05**	**172**	⇓P	**P**	**02 16 08.1**	**+1.5**
PMSA	**Palmer Station**	**29.05**	**172**	*e*P	**P**	**02 16 08.2**	**+1.5**
ATAH	**Atahualpa**	**29.38**	**350**	P	**P**	**02 16 14.0**	**+3.5**
	comp=Z,5.2nm,0.8s,baz=176,slow=7.1,SNR=5.6						
ATAH				S	S	02 20 51.9	-12
	comp=Z,3.7nm,0.6s,baz=135,slow=19,SNR=0.9						
ATAH				LR	LR	02 25 50.2	
	comp=Z,69μm,18.9s,baz=189,slow=32						
BSCB	**Bom Sucesso**	**29.46**	**67**	*e*P	**P**	**

ROSC **El Rosal** 40.96 359 *e*P P **02 17 48.6 -1.4**
MCPB **Macapa, AP** 41.03 34 *e*P P **02 17 51.1 +1.0**
RREF **El Recreo** 41.05 357 *e*P P **02 17 50.1 -0.8**
PIZC **Pizarro, Choco** 41.23 354 *e*P P **02 17 51.6 0.0**
TMAB **Tom-Au,PA,Br** 41.24 41 *e*P P **02 17 52.4 +0.6**
GUY2C **Guyana, Caldas** 41.37 357 *e*P P **02 17 52.5 -0.9**
NORC **Norcasia** 41.69 358 *e*P P **02 17 54.1 -1.5**
RUSC **La Rusia** 42.01 1 P P **02 17 58.4 -0.2**
RUSC **La Rusia** 42.01 1 *e*P P **02 17 55.7 -2.9**
CBOC **Ciudad Bolivar** 42.03 357 *e*P P **02 17 57.4 -1.1**
HELC **Santa Helena** 42.34 357 *e*P P **02 17 58.2 -3.0**
SOLC **Bahia Solano** 42.48 354 *e*P P **02 17 59.9 -2.1**
BARC **Barichara** 42.70 1 *e*P P **02 18 04.0 0.0**
NBMA **Muriti-CE** 42.95 56 *e*P P **02 18 06.9 +1.0**
ROSB **Rosrio** 43.01 46 *e*P P **02 18 06.3 0.0**
NBAN **Anadia - AL** 43.03 61 *e*P P **02 18 07.2 +0.7**
DBBC **Dabeiba** 43.19 356 *e*P P **02 18 09.7 +2.0**
BRRC **Barranca, Sant** 43.21 360 *e*P P 02 18 00.7 -7.2
ELOV **Elorza** 43.28 6 *e*P P **02 18 04.6 -3.9**
PTAC **Punta Ardita,** 43.43 354 *e*P P 02 18 21.2 +12
NBPS **Pedro II - PI** 43.45 51 *e*P P **02 18 10.6 +0.7**
ZARC **Zaragoza, Cauc** 43.61 358 *e*P P **02 18 10.6 -0.5**
NBPB **Pedra_Branca-C** 43.76 54 *e*P P **02 18 13.3 +0.9**
UREC **San Jos de Ur** 43.89 357 *e*P P **02 18 13.0 -0.3**
AZU **Azuero** 44.33 351 *e*P P **02 18 17.4 +0.6**
OCAC **Ocana** 44.34 0 *e*P P 02 18 12.2 -4.9
SOCV **Socops** 44.46 4 *e*P P **02 18 15.6 -2.3**
NBRF **Rio Formoso -** 44.53 61 *e*P P **02 18 19.5 +0.9**
UPD2 **Meteti** 44.83 354 *e*P P 02 18 27.3 +6.5
SMLC **San Martn de** 44.90 359 *e*P P 02 18 15.5 -5.9
MOTC **Monteria, Cord** 44.91 357 *e*P P **02 18 21.2 -0.2**
LCBC **Los crdobas,** 45.02 356 *e*P P **02 18 25.4 +3.0**
SDV **Santo Domingo** 45.07 4 S S **02 24 57.5 -4.0**
comp=Z,63nm,0.5s,baz=232,slow=12,SNR=2.1
SDV **Santo Domingo** 45.07 4 P P **02 18 21.3 -1.6**
SDV IAmb IAmb 02 18 35.0
comp=Z,214nm,1.3s
SDV **Santo Domingo** 45.07 4 *e*P P **02 18 19.8 -3.2**
SDV **Santo Domingo** 45.07 4 *e*P P **02 18 22.6 -0.4**
NBMO **Morrinhos-CE** 45.16 51 *e*P P **02 18 24.6 +1.0**
NBPA **Parau_RN** 45.24 57 *e*P P **02 18 25.7 +1.5**
BAUV **El Baul** 45.35 8 *e*P P **02 18 24.2 -0.7**
UPA **Univ. de Panam** 45.41 352 *e*P P **02 18 27.3 +1.9**
CDITO **Canoas** 45.50 347 P P **02 18 24.2 -2.0**
NBCL **Cascavel-CE** 45.59 54 *e*P P **02 18 28.1 +1.1**
BCIP **Isla Barro Col** 45.63 351 *e*P P 02 18 34.6 +7.4
LL1C **La Loma 1 Cana** 45.63 0 *e*P P **02 18 26.4 -0.8**
LL2C **La Loma 2 Cana** 45.64 0 *e*P P **02 18 24.5 -2.8**
MDP **Montagnes des** 45.68 30 P P **02 18 26.3 -1.3**
comp=Z,60nm,0.6s,baz=213,slow=8.4,SNR=54
MDP S S **02 25 05.6 -4.4**
comp=Z,10.0nm,1.1s,baz=109,slow=18,SNR=2.1
NBPV **Pedro Velho** 46.01 59 *e*P P **02 18 30.8 +0.5**
SJCC **San Jacinto, C** 46.01 358 P P **02 18 27.7 -2.5**
SJCC **San Jacinto, C** 46.01 358 *e*P P **02 18 28.7 -1.5**
RCBR **Riachuelo** 46.01 58 P P **02 18 30.0 -0.4**
comp=Z,47nm,1.1s,baz=84,slow=3.6,SNR=22
RCBR S S **02 25 13.8 -1.1**
comp=Z,4.8nm,0.9s,baz=251,slow=3.6,SNR=1.4
RCBR **Riachuelo** 46.01 58 P P **02 18 30.5 +0.2**
RCBR pmax pmax
comp=Z,791nm,1.9s
RCBR MLR MLR
comp=Z,99µm,18.0s
RCBR **Riachuelo** 46.01 58 P P **02 18 30.5 +0.2**
RCBR **Riachuelo** 46.01 58 ⇑P P **02 18 31.1 +0.7**
RCBR **Riachuelo** 46.01 58 *e*P P **02 18 31.1 +0.7**
RIMA **Rio Macho** 46.85 346 P P **02 18 34.2 -2.8**
RIMA IAmb IAmb 02 19 26.0
comp=Z,144nm,1.5s
PCRV **Puerto La Cruz** 47.04 12 P P **02 18 38.2 -0.1**
comp=Z,34nm,0.9s,baz=143,slow=5.4,SNR=5.7
DABV **Dabajuro** 47.09 4 *e*P P 02 18 31.9 -6.7
SMRC **Santa Marta, M** 47.24 359 *e*P P **02 18 38.5 -1.3**
JTS **Las Juntas de** 47.58 345 *i* P P **02 18 42.9 +0.4**
JTS pmax pmax
comp=Z,136nm,1.6s
JTS **Las Juntas de** 47.58 345 P P **02 18 41.5 -1.0**
JTS IAmb IAmb 02 18 56.3
comp=Z,190nm,1.6s
JTS **Las Juntas de** 47.58 345 *e*P P **02 18 45.2 +2.7**
JTS **Las Juntas de** 47.58 345 ⇓P P **02 18 43.6 +1.1**
VNA3 **Neumayer Olymp** 47.72 157 P P **02 18 43.4 +0.3**
VNA3 **Neumayer Olymp** 47.72 157 PcP PcP **02 20 14.7 +2.7**
VNA3 **Neumayer Olymp** 47.72 157 pP pP 02 18 47.4 -0.9
VNA3 **Neumayer Olymp** 47.72 157 sP sP 02 18 49.6 -0.7
ORTG **Ortega, Santa** 47.76 344 P P **02 18 42.6 -1.3**
ORTG IAmb IAmb 02 18 56.1
comp=Z,77nm,0.9s
URIC **Uribia, Colomb** 47.80 2 *e*P P **02 18 40.2 -4.0**
VNA1 **Neumayer--Stat** 48.07 156 P P **02 18 47.3 +1.6**
VNA1 **Neumayer--Stat** 48.07 156 sP P **02 18 50.5 +4.8**
TRN **Trinidad (W)** 48.14 16 *e*P P **02 18 46.2 -0.5**
TOSP **Speyside** 48.97 17 *e*P P **02 18 53.7 +0.6**
ACON **Acoyapa** 49.25 345 P P **02 18 55.2 -0.1**
ACON IAmb IAmb 02 19 34.3
comp=Z,130nm,1.3s
ESPN **Las Esperanzas** 49.30 346 IAmb IAmb 02 19 08.8
comp=Z,250nm,1.8s
GRGR **Grenville** 49.52 16 *e*P P **02 18 57.1 -0.3**
GRGR **Grenville** 49.52 16 ⇑P P **02 18 57.5 +0.1**
BOAB **BOACO BROADBAND** 49.83 345 P P **02 18 58.7 -1.0**
BOAB **BOACO BROADBAND** 49.83 345 ⇓P P **02 19 01.0 +1.3**
GCMP **Grenada, Carri** 49.91 16 *e*P P **02 18 59.4 -1.0**
SNAA **Sanae** 49.95 157 P P **02 19 01.3 +1.2**
SNAA **Sanae** 49.95 157 S S **02 26 03.6 -5.9**
comp=Z,1.4nm,0.8s,baz=320,slow=8.9,SNR=1.3
SNAA **Sanae** 49.95 157 *c i*P P **02 19 00.1 -0.1**
SNAA pmax pmax
comp=Z,647nm,1.4s
SNAA MLR MLR
comp=Z,41µm,18.0s
SNAA **Sanae** 49.95 157 P P **02 18 59.4 -0.7**
SNAA IAMs_20 IAMs_20 02 39 23.1
comp=Z,41µm,19.0s
SNAA **Sanae** 49.95 157 ⇑P P **02 18 59.6 -0.5**
SVB **Belmont** 50.71 16 *e*P P **02 19 04.9 -1.6**
SVV **Soufriere Volc** 50.77 16 *e*P P **02 19 09.7 +2.9**
SSV **Crater Summit** 50.78 16 *e*P P **02 19 09.7 +2.7**
SFAN **Fancy Village** 50.84 16 *e*P P **02 19 10.0 +2.6**
BBGH **Gun Hill** 50.90 18 *e*P P **02 19 12.4 +3.9**
MCLT **Moule a Chique** 51.20 16 *e*P P **02 19 09.4 -0.8**
SLB **Belfond** 51.30 16 *e*P P **02 19 12.8 +1.9**
SLBI **Saint Lucia, B** 51.50 16 *e*P P **02 19 08.3 -4.1**
TGUH **Tegucigalpa,Un** 51.74 343 P P **02 19 13.3 -0.9**
TGUH IAmb IAmb 02 19 27.2
comp=Z,155nm,1.1s
TGUH **Tegucigalpa,Un** 51.74 343 *e*P P **02 19 15.8 +1.5**
TGUH **Tegucigalpa,Un** 51.74 343 ⇑P P **02 19 17.5 +3.2**
H05S1 **Guadeloupe/Mar** 51.92 16 P P **02 19 15.6 +0.2**
SNR=13
MPOM **Morne Pois Mar** 51.93 16 *e*P P **02 19 14.9 -0.6**
BIM **Bigot** 51.96 16 *e*P P **02 19 14.4 -1.4**
FDF **Fort de France** 52.15 16 *e*P P **02 19 16.2 -1.0**
FDF **Fort de France** 52.15 16 ⇑P P **02 19 16.6 -0.7**
ILAM **Ilet Lapin Mar** 52.25 16 *e*P P **02 19 16.2 -1.7**
DLPL **La Plaine** 52.71 15 *e*P P **02 19 23.2 +1.9**
DSLB **Salisbury** 52.78 15 *e*P P 02 19 14.8 -7.0
TDBA **Terre de Bas,** 53.13 15 *e*P P **02 19 24.3 -0.1**
MAGL **Barre de l'ile** 53.30 15 *e*P P **02 19 24.3 -1.4**
CBE **Ff, Capester** 53.35 14 *e*P P **02 19 24.3 -1.8**
RTAL **Retalhuleu** 53.38 338 IAMs_20 IAMs_20 02 36 33.5
comp=Z,38µm,22.0s
APG **El Apazote** 53.47 340 P P **02 19 27.9 +0.7**
comp=Z,18nm,0.8s,baz=141,slow=7.4,SNR=19
APG S S **02 26 58.5 -0.8**
comp=Z,1.2nm,0.7s,baz=182,slow=20,SNR=1.4
H05N1 **Guadeloupe/Mar** 53.71 15 P P **02 19 27.5 -1.2**
SNR=7.7
ABD **La Joyeuse, An** 53.77 15 *e*P P **02 19 28.0 -1.1**
MLYT **Lee's Yard** 53.87 14 *e*P P **02 19 27.2 -2.7**
MBFL **Flemmings, Mon** 53.90 14 *e*P P **02 19 27.2 -2.9**
QSPA **South Pole Qui** 53.91 180 LR LR 02 41 58.2
comp=Z,25µm,18.5s,baz=166,slow=36
QSPA PKPPKP 02 49 53.1
comp=Z,4.4nm,1.1s,baz=325,slow=2.9,SNR=5.7
QSPA **South Pole Qui** 53.91 180 P P **02 19 29.8 0.0**
QSPA **South Pole Qui** 53.91 180 ⇑P P **02 19 29.4 -0.4**
BPA **Boggy Peak** 54.25 14 *e*P P **02 19 29.5 -3.2**
ANBD **Bethesda, Anti** 54.27 14 *e*P P **02 19 29.7 -3.1**
ANOC **Antigua Open C** 54.33 14 *e*P P **02 19 31.4 -1.7**
SKI **Saint Kitts** 54.37 13 *e*P P **02 19 33.0 -0.5**

MLPR **Magueyes Islan** 54.37 8 P P **02 19 33.6 +0.1**
CDVI **St. Croix** 54.45 10 *e*P P **02 19 32.4 -1.6**
SEUS **St. Eustatius** 54.48 13 *e*P P **02 19 33.9 -0.4**
SJG **San Juan** 54.62 9 P P **02 19 34.9 -0.3**
SJG pmax pmax
comp=Z,149nm,0.9s
SJG MLR MLR
comp=Z,40µm,19.0s
SJG **San Juan** 54.62 9 P P **02 19 34.9 -0.3**
SJG IAmb IAmb 02 19 44.7
comp=Z,149nm,0.9s
SJG **San Juan** 54.62 9 IAMs_20 IAMs_20 02 47 21.0
comp=Z,40µm,19.0s
SJG **San Juan** 54.62 9 *e*P P 02 19 29.8 -5.4
SJG **San Juan** 54.62 9 ⇑P P **02 19 33.5 -1.8**
NVL **N'lazarevskaya** 54.72 156 *e*P P **02 19 32.0 -3.5**
NVL *i* 02 21 35.5
NVL *e*S S **02 27 19.9 +5.2**
NVL pmax pmax
comp=Z,16nm,1.0s
NVL MLR MLR
comp=N,9µm,19.0s
NVL MLR MLR
comp=E,17µm,19.0s
NVL MLR MLR
comp=Z,148nm,19.0s
AOPR **Arecibo Observ** 54.77 8 *e*P P **02 19 33.4 -3.0**
CBYP **Canovanas** 54.81 9 IAmb IAmb 02 19 46.0
comp=Z,151nm,0.9s
ANWB **Willy Bob** 54.87 14 *e*P P **02 19 35.3 -1.8**
ANWB **Willy Bob** 54.87 14 IAmb IAmb 02 19 46.1
comp=Z,151nm,0.8s
ANWB IAMs_20 IAMs_20 02 47 02.1
comp=Z,43µm,18.0s
SDDR **Presa de Saban** 55.06 3 *e*P P **02 19 33.9 -4.6**
SDDR **Presa de Saban** 55.06 3 ⇑P P **02 19 38.2 -0.3**
CCIG **Comitan** 55.17 338 IAMs_20 IAMs_20 02 37 43.3
comp=Z,43µm,22.0s
SC01 **Santiago de lo** 55.53 3 IAMs_20 IAMs_20 02 47 22.9
comp=Z,33µm,18.0s
CMIG **Matias Romero** 56.80 336 P P **02 19 50.7 -0.2**
comp=Z,5.6nm,0.9s,baz=133,slow=9.1,SNR=2.8
CMIG S S **02 27 44.2 +0.7**
comp=Z,2.5nm,0.9s,baz=172,slow=17,SNR=2.2
GRTK **Grand Turk** 57.58 3 IAMs_20 IAMs_20 02 47 23.3
comp=Z,39µm,19.0s
UNM **Universidad Na** 60.39 332 IAMs_20 IAMs_20 02 39 55.5
comp=Z,29µm,21.0s
SBA **Scott Base** 60.52 192 P P **02 20 16.2 0.0**
SBA pmax pmax
comp=Z,228nm,1.5s
SBA **Scott Base** 60.52 192 P P **02 20 16.2 0.0**
SBA IAmb IAmb 02 20 28.9
comp=Z,228nm,1.5s
ASCN **Ascension** 60.72 78 P P **02 20 18.6 +0.2**
ASCN IAMs_20 IAMs_20 02 45 59.0
comp=Z,24µm,19.0s
MOIG **Morelia** 61.49 330 P P **02 20 22.2 -1.5**
MOIG IAmb IAmb 02 21 02.8
comp=Z,112nm,1.1s
VNDA **Vanda** 61.55 192 P P **02 20 22.2 -1.0**
comp=Z,11nm,0.9s,baz=134,slow=6.0,SNR=35
VNDA S S **02 28 43.1 -0.6**
comp=Z,0.7nm,0.9s,baz=177,slow=4.7,SNR=1.2
VNDA PKPPKP P'P'df 02 49 34.6 -8.4
comp=Z,2.5nm,1.1s,baz=329,slow=1.5,SNR=4.3
VNDA **Vanda** 61.55 192 P P **02 20 23.7 +0.5**
VNDA pmax pmax
comp=Z,116nm,1.3s
VNDA **Vanda** 61.55 192 P P **02 20 23.7 +0.5**
VNDA IAmb IAmb 02 20 43.0
comp=Z,116nm,1.3s
061Z **Ochoppi** 62.24 353 IAMs_20 IAMs_20 02 52 08.3
comp=Z,22µm,18.0s
SHEL **Horse Pasture** 63.05 90 P P **02 20 34.3 +0.1**
SHEL pmax pmax
comp=Z,606nm,1.4s
SHEL MLR MLR
comp=Z,16µm,19.0s
SHEL **Horse Pasture** 63.05 90 P P **02 20 34.3 +0.1**
060A **Indiantown** 63.35 353 IAMs_20 IAMs_20 02 50 15.6
comp=Z,30µm,20.0s
SYO **Syowa Base** 64.19 158 ⇑*i*P P **02 20 38.9 -1.9**
SYO **Syowa Base** 64.19 158 ⇓*i*pP P **02 20 42.0 +1.2**
SYO **Syowa Base** 64.19 158 ⇑*i*sP P **02 20 44.2 +3.4**
DWPF **Disney Wildern** 64.52 352 IAMs_20 IAMs_20 02 51 27.6
comp=Z,25µm,20.0s
DWPF **Disney Wildern** 64.52 352 P P **02 20 44.6 +1.2**
baz=173
DWPF S S **02 29 20.8 -1.0**
baz=173
ZAIG **Zacatecas** 64.82 330 P P **02 20 45.7 -0.1**
TBI **Tubuai** 65.50 258 *e*S S **02 29 32.6 -1.9**
comp=Z,65µm,28.2s
TBI *e*LQ LQ 02 37 34.3
comp=Z,18µm,28.5s
TBI *e*LR LR 02 40 18.0
comp=Z,69µm,28.2s,baz=123
TAOE **Nuku Hiva Isla** 65.88 277 *e*S S **02 29 37.2 -2.2**
comp=Z,11µm,23.7s
TAOE **Nuku Hiva Isla** 65.88 277 *e*LR LR 02 40 28.3
comp=Z,66µm,28.8s,baz=131
656A **Willston** 65.89 352 IAMs_20 IAMs_20 02 54 23.8
comp=Z,33µm,19.0s
553A **Crawfordville** 66.94 350 IAMs_20 IAMs_20 02 55 42.7
comp=Z,18µm,18.0s
MEH **Mehetia** 67.25 264 *e*P P **02 21 02.0 +0.6**
comp=Z,54nm,1.2s
MEH **Mehetia** 67.25 264 *e*T T 03 33 42.5
comp=Z,61nm,0.2s
TIGA **Tifton** 68.06 351 IAMs_20 IAMs_20 02 54 05.3
comp=Z,22µm,19.0s
TIGA **Tifton** 68.06 351 P P **02 21 06.9 +0.9**
baz=172,SNR=6.0
TIGA S S **02 30 03.2 -1.4**
baz=172
352A **Blakely** 68.28 350 IAMs_20 IAMs_20 02 56 33.1
comp=Z,31µm,19.0s
257A **Skidaway Islan** 68.30 353 IAMs_20 IAMs_20 02 53 32.9
comp=Z,33µm,20.0s
BRAL **Brewton** 68.31 348 P P **02 21 08.8 +1.2**
baz=169
BRAL S S **02 30 07.2 -0.5**
baz=169
TIAR **Tiarei** 68.44 264 *e*P P **02 21 09.6 +0.7**
comp=Z,19nm,1.0s
TIAR **Tiarei** 68.44 264 *e*T T 03 35 12.2
comp=Z,2.4nm,0.2s
PAE **Paea** 68.58 263 *e*P P **02 21 10.1 +0.4**
comp=Z,58nm,1.5s
PPT2 **Papeete2** 68.61 263 *e*P P **02 21 10.8 +0.7**
comp=Z,208nm,1.2s
PPT2 *e*S S **02 30 10.2 -2.0**
comp=Z,23µm,23.2s
PPT2 **Papeete2** 68.61 263 *e*LR LR 02 41 45.5
comp=Z,93µm,25.2s,baz=120
PPT **Papeete** 68.62 264 P P **02 21 08.4 -1.6**
comp=Z,48nm,0.9s,baz=19,slow=20,SNR=1.9
PPT LR LR 02 43 29.6
comp=Z,35µm,18.3s,baz=98,slow=29
833A **Chaparral WMA,** 68.72 336 P P **02 21 10.9 +0.6**
baz=158
833A S S **02 30 13.8 +1.0**
baz=158
SLBS **Sierra La Lagu** 68.83 324 P P **02 21 11.5 +0.3**
SLBS IAmb IAmb 02 21 23.1
comp=Z,65nm,1.0s
SLBS **Sierra La Lagu** 68.83 324 IAMs_20 IAMs_20 02 43 54.8
comp=Z,23µm,21.0s
SLBS **Sierra La Lagu** 68.83 324 ⇑P P **02 21 12.8 +1.6**
BBSR **BB Station** 68.86 8 P P **02 21 10.9 -0.1**
BBSR IAmb IAmb 02 21 23.0
comp=Z,194nm,1.6s
BBSR **BB Station** 68.86 8 ⇑P P **02 21 11.4 +0.4**
250A **Grady** 68.97 349 IAmb IAmb 02 21 24.2
comp=Z,134nm,1.3s
250A IAMs_20 IAMs_20 02 56 33.5
comp=Z,25µm,19.0s
NHSC **New Hope** 69.35 354 P P **02 21 14.4 +0.3**
NHSC IAMs_20 IAMs_20 02 53 38.6
comp=Z,23µm,20.0s
NHSC **New Hope** 69.35 354 P P **02 21 14.5 +0.5**
baz=174
NHSC S S **02 30 18.8 -1.1**
baz=174
152A **Waverly Hall** 69.42 350 IAmb IAmb 02 21 26.6
comp=Z,91nm,1.1s

SACV **Santiago Islan** 69.54 52 P P **02 21 16.4 +0.8**
SACV IAmb IAmb 02 21 27.8
comp=Z,114nm,1.2s
SACV **Santiago Islan** 69.54 52 IAMs_20 IAMs_20 02 50 53.3
comp=Z,30µm,18.0s
HPIG **69.79 330** P P **02 21 17.7 +0.5**
HPIG IAmb IAmb 02 21 28.7
comp=Z,123nm,1.1s
HPIG IAMs_20 IAMs_20 02 47 06.0
comp=Z,32µm,19.0s
GOGA **Godfrey** 69.99 351 IAmb IAmb 02 21 30.2
comp=Z,205nm,1.5s
GOGA **Godfrey** 69.99 351 P P **02 21 18.3 +0.3**
baz=172,SNR=13
GOGA S S **02 30 24.5 -2.9**
baz=172
VBMS **Vicksburg** 70.00 345 P P **02 21 20.3 +2.3**
baz=166
VBMS S S **02 30 28.7 +1.1**
baz=166
Y58A **Scranton** 70.10 355 IAmb IAmb 02 21 31.1
comp=Z,143nm,0.9s
Y60A **Bolivia** 70.11 356 IAMs_20 IAMs_20 02 49 05.8
comp=Z,24µm,22.0s
146A **Union** 70.11 346 IAmb IAmb 02 21 31.0
comp=Z,199nm,1.3s
Z51A **Franklin** 70.12 350 IAmb IAmb 02 21 31.4
comp=Z,86nm,1.1s
Y59A **Loris** 70.13 355 IAMs_20 IAMs_20 02 48 18.5
comp=Z,21µm,22.0s
Y57A **Sumter** 70.27 354 IAmb IAmb 02 21 30.0
comp=Z,101nm,1.1s
Y57A IAMs_20 IAMs_20 02 54 06.1
comp=Z,31µm,20.0s
435B **Jarrell** 70.44 338 IAmb IAmb 02 21 32.1
comp=Z,85nm,1.1s
435B **Jarrell** 70.44 338 P P **02 21 24.1 +3.3**
baz=160
435B S S **02 30 33.7 +0.9**
baz=160
Z47A **Carrollton** 70.47 347 IAMs_20 IAMs_20 02 58 02.1
comp=Z,22µm,19.0s
Y52A **Lilburn** 70.51 351 IAmb IAmb 02 21 31.6
comp=Z,144nm,1.1s
Y52A IAMs_20 IAMs_20 02 52 45.2
comp=Z,26µm,21.0s
NATX **Nacogdoches** 70.54 341 P P **02 21 23.8 +2.4**
baz=162
HODGE **Hodges** 70.66 352 IAmb IAmb 02 21 34.5
comp=Z,120nm,1.2s
HODGE IAMs_20 IAMs_20 02 55 19.3
comp=Z,28µm,20.0s
X58A **Rowland** 70.72 355 IAmb IAmb 02 21 32.9
comp=Z,110nm,1.0s
Y49A **Blount Mountai** 70.84 349 IAmb IAmb 02 21 33.8
comp=Z,97nm,1.1s
Y49A IAMs_20 IAMs_20 02 56 38.8
comp=Z,19µm,20.0s
JCT **Junction City** 70.85 336 P P **02 21 24.0 +0.6**
JCT pmax pmax
comp=Z,190nm,1.2s
JCT MLR MLR
comp=Z,10µm,18.0s
JCT **Junction City** 70.85 336 P P **02 21 24.0 +0.6**
JCT **Junction City** 70.85 336 ⇓P P **02 21 24.6 +1.2**
JCT **Junction City** 70.85 336 P P **02 21 24.8 +1.4**
baz=158
JCT S S **02 30 39.2 +1.5**
baz=158
BIRD **Birdtown, Kers** 70.90 354 IAmb IAmb 02 21 35.9
comp=Z,158nm,1.6s
BIRD IAMs_20 IAMs_20 02 54 33.8
comp=Z,24µm,20.0s
TX32 **Lajitas Array** 71.15 333 IAmb IAmb 02 21 36.7
comp=Z,79nm,1.1s
TXAR **Lajitas Array** 71.15 333 P P **02 21 24.6 -0.8**
comp=Z,7.0nm,0.6s,baz=151,slow=8.1,SNR=58
TXAR S S **02 30 40.8 -0.7**
comp=Z,0.1nm,0.5s,baz=122,slow=8.6,SNR=1.9
TXAR LR LR 02 47 08.9
comp=Z,23µm,21.7s,baz=0.0,slow=31
TXAR PKP2bc 02 49 18.6
comp=Z,0.2nm,0.8s,baz=64,slow=2.9,SNR=4.1
TX31 **Lajitas Ar. Si** 71.15 333 ⇓P P **02 21 26.0 +0.7**
TX31 ⇑P **sP** **02 21 34.1 +1.6**
PAULI **Pauline** 71.20 353 IAMs_20 IAMs_20 02 52 45.6
comp=Z,28µm,21.0s
X51A **Calhoun** 71.31 350 IAMs_20 IAMs_20 02 53 12.3
comp=Z,20µm,21.0s
CNNC **Cliffs of the** 71.32 356 P P **02 21 27.5 +1.5**
CNNC **Cliffs of the** 71.32 356 P P **02 21 27.7 +1.7**
baz=176
CNNC S S **02 30 43.8 +1.0**
baz=176
MAW **Mawson** 71.32 164 P P **02 21 24.7 -1.0**
comp=Z,64nm,1.1s,baz=214,slow=6.9,SNR=56
MAW S S **02 30 40.2 -2.1**
comp=Z,1.7nm,1.0s,baz=324,slow=12,SNR=1.5
MAW PKPPKP **P'P'df** **02 49 23.3 -3.0**
comp=Z,1.8nm,0.9s,baz=286,slow=3.8,SNR=3.8
MAW LR LR 02 53 08.1
comp=Z,53µm,18.8s,baz=228,slow=36
MAW **Mawson** 71.32 164 P P **02 21 25.9 +0.1**
MAW **Mawson** 71.32 164 ⇑P P **02 21 25.1 -0.7**
W57A **Gilead** 71.37 355 IAmb IAmb 02 21 36.5
comp=Z,103nm,1.0s
FPAL **Fort Paine** 71.39 350 IAmb IAmb 02 21 37.1
comp=Z,138nm,1.2s
FPAL IAMs_20 IAMs_20 02 55 33.4
comp=Z,19µm,21.0s
KMSC **Kings Mountain** 71.47 353 IAmb IAmb 02 21 37.3
comp=Z,112nm,1.1s
KMSC IAMs_20 IAMs_20 02 53 02.8
comp=Z,29µm,21.0s
KMSC **Kings Mountain** 71.47 353 P P **02 21 26.9 -0.1**
baz=174,SNR=9.0
KMSC S S **02 30 42.8 -1.8**
baz=174
BG3 **Lake Jocassee** 71.49 352 IAmb IAmb 02 21 37.8
comp=Z,85nm,1.1s
BG3 IAMs_20 IAMs_20 02 55 38.2
comp=Z,19µm,20.0s
Z41A **Richland Creek** 71.51 343 P P **02 21 29.5 +2.2**
baz=164
Z41A S S **02 30 46.5 +1.4**
baz=164
X48A **Hartselle** 71.52 348 IAMs_20 IAMs_20 02 57 02.9
comp=Z,22µm,20.0s
WHTX **Lake Whitney,** 71.53 339 P P **02 21 28.5 +1.1**
baz=160
WHTX S S **02 30 46.5 +1.1**
baz=160
W52A **Murphy** 71.70 351 IAmb IAmb 02 21 41.2
comp=Z,198nm,1.4s
W52A IAMs_20 IAMs_20 02 57 54.9
comp=Z,24µm,18.0s
V61A **Roper** 71.81 358 IAMs_20 IAMs_20 02 56 52.1
comp=Z,19µm,19.0s
V58A **Windy Hill, Pi** 71.94 355 IAmb IAmb 02 21 39.9
comp=Z,72nm,1.0s
OXF **Oxford** 72.00 346 P P **02 21 30.5 +0.4**
baz=167
OXF S S **02 30 50.8 +0.1**
baz=167
SWET **Sewanee** 72.10 349 P P **02 21 31.1 +0.2**
SWET IAMs_20 IAMs_20 02 55 55.2
comp=Z,20µm,20.0s
CPCT **Cooper Cave** 72.13 351 IAmb IAmb 02 21 41.5
comp=Z,151nm,1.1s
CPCT IAMs_20 IAMs_20 02 56 30.2
comp=Z,24µm,21.0s
V53A **Saluda** 72.14 352 IAmb IAmb 02 21 44.1
comp=Z,99nm,1.0s
V53A IAMs_20 IAMs_20 02 56 15.5
comp=Z,27µm,20.0s
V55A **Taylorsville** 72.16 354 IAmb IAmb 02 21 43.6
comp=Z,202nm,1.2s
V55A IAMs_20 IAMs_20 02 55 34.2
comp=Z,26µm,20.0s
PLAL **Pickwick Lake** 72.21 348 IAmb IAmb 02 21 41.7
comp=Z,121nm,1.1s
TKL **Tuckaleechee C** 72.24 351 P P **02 21 30.3 -1.3**
comp=Z,13nm,0.8s,baz=164,slow=6.6,SNR=20
TKL **Tuckaleechee C** 72.24 351 IAmb IAmb 02 21 41.8
comp=Z,89nm,1.0s
TKL IAMs_20 IAMs_20 02 56 16.1
comp=Z,25µm,20.0s
V52A **Sevierville** 72.40 352 IAmb IAmb 02 21 42.7

comp=Z,138nm,1.1s
V52A IAMs_20 IAMs_20 02 56 18.4
comp=Z,28µm,20.0s
U59A Littleton 72.42 357 P P 02 21 32.9 +0.2
U59A IAmb IAmb 02 21 45.6
comp=Z,149nm,1.2s
U59A IAMs_20 IAMs_20 02 57 19.2
comp=Z,21µm,19.0s
V51A Loudon 72.46 351 IAmb IAmb 02 21 43.2
comp=Z,108nm,1.1s
V51A IAMs_20 IAMs_20 02 58 17.8
comp=Z,28µm,19.0s
U56A King 72.58 354 IAmb IAmb 02 21 44.2
comp=Z,109nm,1.1s
X40A Basin Creek Fa 72.69 343 P **P 02 21 34.5 +0.1**
baz=164,SNR=8.1
X40A S **S 02 30 58.0 -0.8**
baz=164
ABTX Abilene, Hawle 72.78 337 IAmb IAmb 02 21 45.9
comp=Z,183nm,1.1s
ABTX Abilene, Hawle 72.78 337 P **P 02 21 35.0 0.0**
baz=158
ABTX S **S 02 31 00.2 +0.3**
baz=158
U54A Nelsons Funny 72.88 353 IAmb IAmb 02 21 47.6
comp=Z,178nm,1.1s
U54A IAMs_20 IAMs_20 02 55 48.2
comp=Z,23µm,20.0s
MIAR Mount Ida 72.92 343 P **P 02 21 36.0 +0.3**
MIAR pmax pmax
comp=Z,86nm,1.3s
MIAR Mount Ida 72.92 343 P **P 02 21 36.0 +0.3**
MIAR Mount Ida 72.92 343 ⇓P **P 02 21 37.0 +1.4**
MIAR Mount Ida 72.92 343 P **P 02 21 37.1 +1.4**
baz=164,SNR=8.1
MIAR S **S 02 31 00.5 -0.8**
baz=164
SRIG Santa Rosalia 73.00 325 P **P 02 21 37.6 +1.3**
SRIG IAmb IAmb 02 21 48.2
comp=Z,156nm,1.3s
SRIG IAMs_20 IAMs_20 02 47 08.9
comp=Z,24µm,18.0s
T59A Double "B" Far 73.03 357 IAMs_20 IAMs_20 02 57 53.2
comp=Z,24µm,19.0s
TZTN Tazewell 73.09 352 IAMs_20 IAMs_20 02 56 58.6
comp=Z,23µm,20.0s
TZTN Tazewell 73.09 352 P **P 02 21 36.6 -0.1**
baz=172,SNR=11
TZTN S **S 02 31 01.7 -1.5**
baz=172
T57A Hurt 73.15 355 IAmb IAmb 02 21 49.3
comp=Z,143nm,1.4s
T57A IAMs_20 IAMs_20 02 57 22.3
comp=Z,17µm,19.0s
T60A Surry 73.16 357 IAMs_20 IAMs_20 02 58 57.8
comp=Z,18µm,19.0s
W41B Gary Mavity, V 73.22 344 P **P 02 21 37.9 +0.5**
baz=165,SNR=17
W41B S **S 02 31 04.2 -0.5**
baz=165
WVT Waverly 73.29 348 P **P 02 21 36.8 -1.0**
WVT pmax pmax
comp=Z,270nm,1.2s
WVT Waverly 73.29 348 P **P 02 21 36.8 -1.0**
WVT Waverly 73.29 348 ⇑P **P 02 21 37.1 -0.7**
WVT Waverly 73.29 348 P **P 02 21 37.7 -0.2**
baz=168
WVT S **S 02 31 05.9 +0.5**
baz=168
LOOK Love County 73.33 340 IAmb IAmb 02 21 49.0
comp=Z,181nm,1.1s
U49A Red Boiling Sp 73.35 350 IAmb IAmb 02 21 50.7
comp=Z,276nm,1.7s
BLA Blacksburg 73.44 354 IAmb IAmb 02 21 51.3
comp=Z,155nm,1.6s
BLA IAMs_20 IAMs_20 02 55 45.1
comp=Z,18µm,20.0s
BLA Blacksburg 73.44 354 P **P 02 21 38.5 -0.2**
baz=174
BLA S **S 02 31 06.3 -0.9**
baz=174
MBO M'Bour 73.52 58 P **P 02 21 40.7 +1.1**
W39A Magazine 73.59 343 P **P 02 21 40.5 +0.9**
baz=163,SNR=22
W39A S **SKiKP 02 31 11.3 +2.2**
baz=163
S61A Accomac 73.67 358 IAMs_20 IAMs_20 02 56 17.3
comp=Z,26µm,21.0s
T50A Nancy 73.72 351 IAmb IAmb 02 21 52.5
comp=Z,138nm,1.5s
T50A IAMs_20 IAMs_20 02 58 57.2
comp=Z,25µm,18.0s
LCAR Lake Charles 73.85 345 IAmb IAmb 02 21 51.3
comp=Z,172nm,1.0s
HSIG 73.86 326 IAmb IAmb 02 21 53.1
comp=Z,90nm,1.1s
FCAR Ozark Folk Cen 73.88 344 IAmb IAmb 02 21 51.5
comp=Z,123nm,1.0s
S57A Dark Hollow, R 73.89 356 P **P 02 21 41.4 +0.1**
S57A IAmb IAmb 02 21 54.0
comp=Z,157nm,1.2s
S57A IAMs_20 IAMs_20 02 57 51.9
comp=Z,24µm,19.0s
MNTX Cornudas Mount 73.92 332 P **P 02 21 41.1 -0.6**
baz=154
MNTX S **S 02 31 11.6 -1.1**
baz=154
T47A Sharon Grove 74.01 349 IAmb IAmb 02 21 52.2
comp=Z,156nm,1.1s
R58B Mineral 74.03 357 IAmb IAmb 02 21 55.3
comp=Z,241nm,1.4s
X34A Smith Ranch, M 74.08 339 IAmb IAmb 02 21 53.5
comp=Z,179nm,1.1s
S54A Dingess, Beckl 74.10 354 IAmb IAmb 02 21 52.6
comp=Z,99nm,1.1s
S54A IAMs_20 IAMs_20 02 57 04.5
comp=Z,19µm,20.0s
S51A Beattyville 74.18 352 IAmb IAmb 02 21 53.3
comp=Z,112nm,0.9s
S51A IAMs_20 IAMs_20 02 57 30.4
comp=Z,20µm,20.0s
CBN Corbin Frederi 74.25 357 P **P 02 21 44.6 +1.3**
CBN IAMs_20 IAMs_20 02 58 30.5
comp=Z,21µm,21.0s
CBN Corbin Frederi 74.25 357 P **P 02 21 44.0 +0.7**
baz=177
CBN S **S 02 31 16.6 +0.5**
baz=177
R61A Willards 74.31 359 IAMs_20 IAMs_20 02 56 43.3
comp=Z,22µm,20.0s
EPT El Paso 74.41 331 IAMs_20 IAMs_20 02 48 42.5
comp=Z,22µm,21.0s
WMOK Wichita Mounta 74.48 339 ⇑P **P 02 21 44.9 0.0**
WMOK Wichita Mounta 74.48 339 P **P 02 21 45.4 +0.5**
baz=159
WMOK S **S 02 31 17.6 -1.4**
baz=159
R55A Marlinton 74.49 355 IAmb IAmb 02 21 57.8
comp=Z,190nm,1.2s
U40A Yellville 74.49 344 P **P 02 21 45.3 +0.4**
baz=164,SNR=9.5
U40A S **S 02 31 19.0 0.0**
baz=164
AUSN Aus 74.68 112 ⇓*i*P **P 02 21 48.4 +1.8**
R53A Hurricane 74.69 353 IAmb IAmb 02 21 58.3
comp=Z,204nm,1.5s
R53A IAMs_20 IAMs_20 02 57 02.0
comp=Z,23µm,21.0s
T42A Van Buren 74.77 346 IAmb IAmb 02 21 56.5
comp=Z,96nm,1.1s
TUL1 Leonard 74.77 342 P **P 02 21 46.7 +0.2**
baz=162,SNR=16
TUL1 S **S 02 31 22.4 +0.3**
baz=162
Q61A Milford 74.86 359 P **P 02 21 47.7 +0.8**
baz=179
Q61A S **S 02 31 25.8 +2.8**
baz=179
SUR Sutherland 74.87 119 P **P 02 21 47.9 +0.2**
comp=Z,103nm,1.1s,baz=253,slow=4.0,SNR=18
SUR Sutherland 74.87 119 P **P 02 21 48.7 +1.0**
SUR Sutherland 74.87 119 IAMs_20 IAMs_20 02 48 29.7
comp=Z,20µm,20.0s
R50A Paris 74.90 351 IAmb IAmb 02 21 59.3
comp=Z,160nm,1.5s
R50A IAMs_20 IAMs_20 02 57 45.4
comp=Z,23µm,20.0s
R49A Shelbyville 75.01 351 IAmb IAmb 02 21 60.0
comp=Z,244nm,1.4s
R49A IAMs_20 IAMs_20 02 57 55.5
comp=Z,22µm,20.0s
MSTX Muleshoe 75.03 335 IAmb IAmb 02 21 58.9
comp=Z,110nm,1.1s
MSTX Muleshoe 75.03 335 P **P 02 21 48.8 +0.6**
baz=156
MSTX S **S 02 31 26.3 +0.8**
baz=156
S44A Carbondale 75.06 347 IAmb IAmb 02 21 58.3
comp=Z,109nm,1.1s
WCI Wyandotte Cave 75.11 350 P **P 02 21 48.3 -0.1**
WCI pmax pmax
comp=Z,41nm,1.0s
WCI Wyandotte Cave 75.11 350 P **P 02 21 48.3 -0.1**
WCI Wyandotte Cave 75.11 350 IAMs_20 IAMs_20 03 00 34.9
comp=Z,20µm,19.0s
WCI Wyandotte Cave 75.11 350 ⇑P **P 02 21 45.8 -2.6**
WCI Wyandotte Cave 75.11 350 P **P 02 21 47.5 -0.8**
baz=170
WCI S **S 02 31 23.3 -2.4**
baz=170
319A Douglas 75.18 329 IAmb IAmb 02 22 01.1
comp=Z,117nm,1.1s
319A IAMs_20 IAMs_20 03 00 54.8
comp=Z,21µm,18.0s
Q56A Snyder Ridge, 75.18 356 IAmb IAmb 02 22 01.9
comp=Z,133nm,1.3s
Q56A IAMs_20 IAMs_20 02 58 40.1
comp=Z,18µm,19.0s
Q52A Bidwell 75.34 353 IAMs_20 IAMs_20 02 56 25.4
comp=Z,19µm,20.0s
SDMD Soldier's Deli 75.43 357 P **P 02 21 51.2 +1.0**
AMTX Amarillo 75.51 336 P **P 02 21 50.9 -0.1**
baz=157
AMTX S **S 02 31 30.3 -0.4**
baz=157
Q51A Peebles 75.52 352 IAmb IAmb 02 22 01.0
comp=Z,121nm,1.1s
Q51A IAMs_20 IAMs_20 03 00 59.9
comp=Z,21µm,18.0s
P57A Homestead Farm 75.55 357 IAmb IAmb 02 22 02.2
comp=Z,106nm,1.1s
P57A IAMs_20 IAMs_20 02 59 10.0
comp=Z,18µm,21.0s
121A Cookes Peak, D 75.58 331 IAmb IAmb 02 22 03.5
comp=Z,104nm,1.1s
121A IAMs_20 IAMs_20 02 53 59.6
comp=Z,23µm,18.0s
121A Cookes Peak, D 75.58 331 P **P 02 21 52.3 +0.8**
baz=152
121A S **S 02 31 33.0 +1.3**
baz=152
P53A Whipple 75.78 354 IAmb IAmb 02 22 02.6
comp=Z,115nm,1.2s
CCM Cathedral Cave 75.79 346 P **P 02 21 52.3 0.0**
CCM pmax pmax
comp=Z,309nm,1.1s
CCM Cathedral Cave 75.79 346 P **P 02 21 52.3 0.0**
P60A Greenville 75.80 358 IAmb IAmb 02 22 03.4
comp=Z,113nm,1.1s
P60A IAMs_20 IAMs_20 02 59 59.6
comp=Z,21µm,19.0s
P60A Greenville 75.80 358 P **P 02 21 52.2 0.0**
baz=178
P60A S **S 02 31 35.5 +2.2**
baz=178
MCWV Mont Chateau 75.83 355 IAmb IAmb 02 22 05.0
comp=Z,129nm,1.1s
MCWV IAMs_20 IAMs_20 02 59 04.4
comp=Z,22µm,20.0s
MCWV Mont Chateau 75.83 355 P **P 02 21 51.7 -0.9**
baz=175
MCWV S **S 02 31 33.2 -0.6**
baz=175
S39A Bolivar 75.87 344 IAmb IAmb 02 22 03.2
comp=Z,115nm,1.1s
OLIL Olney 75.88 348 P **P 02 21 53.4 +0.6**
OLIL IAmb IAmb 02 22 04.6
comp=Z,206nm,1.6s
OLIL IAMs_20 IAMs_20 02 58 04.2
comp=Z,17µm,21.0s
CROK Carrier 75.91 340 IAMs_20 IAMs_20 02 58 08.7
comp=Z,16µm,19.0s
WUPA West Chester U 75.92 358 IAmb IAmb 02 22 06.3
comp=Z,87nm,1.1s
P51A Williamsport 75.94 353 IAmb IAmb 02 22 03.2
comp=Z,167nm,1.0s
P51A IAMs_20 IAMs_20 02 56 35.1
comp=Z,21µm,21.0s
BLOK Blackwell 75.94 341 IAmb IAmb 02 22 04.1
comp=Z,161nm,1.2s
P52A Corning 76.00 353 P **P 02 21 53.4 -0.1**
baz=173,SNR=59
P52A S **S 02 31 32.8 -2.8**
baz=173
MVL Millersville 76.00 358 P **P 02 21 54.4 +0.9**
BLO Bloomington 76.06 350 IAmb IAmb 02 22 03.6
comp=Z,119nm,1.1s
BLO IAMs_20 IAMs_20 02 58 46.3
comp=Z,26µm,19.0s
P49A Miami Univ. Ec 76.18 351 IAMs_20 IAMs_20 02 54 37.4
comp=Z,18µm,20.0s
P49A Miami Univ. Ec 76.18 351 P **P 02 21 53.8 -0.7**
baz=171
P49A S **S 02 31 35.1 -2.5**
baz=171
Q44A Meyer Farm, Va 76.20 348 IAmb IAmb 02 22 04.4
comp=Z,89nm,1.1s
Q44A IAMs_20 IAMs_20 03 01 19.6
comp=Z,16µm,19.0s
P48A Milroy 76.20 351 IAMs_20 IAMs_20 02 58 29.8
comp=Z,19µm,21.0s
R40A Maddies Statio 76.22 345 IAmb IAmb 02 22 05.1
comp=Z,170nm,1.1s
PAGS Pennsylvania G 76.24 358 IAMs_20 IAMs_20 02 58 08.3
comp=Z,24µm,20.0s
KAN14 Manchester OK 76.33 340 P **P 02 21 56.2 +0.7**
KAN14 IAmb IAmb 02 22 06.3
comp=Z,159nm,1.1s
KAN17 Caldwell West 76.36 340 IAmb IAmb 02 22 06.5
comp=Z,168nm,1.0s
O56A Blue Knob Stat 76.36 356 IAmb IAmb 02 22 11.3
comp=Z,101nm,1.3s
O56A IAMs_20 IAMs_20 02 59 37.5
comp=Z,17µm,20.0s
O56A Blue Knob Stat 76.36 356 P **P 02 21 56.0 +0.4**
baz=176,SNR=18
O56A S **S 02 31 38.6 -1.0**
baz=176
O54A Avella 76.39 355 IAMs_20 IAMs_20 02 57 47.2
comp=Z,24µm,20.0s
O52A Adamsville 76.45 354 IAmb IAmb 02 22 06.1
comp=Z,126nm,1.1s
O52A IAMs_20 IAMs_20 02 58 25.6
comp=Z,18µm,20.0s
ARMS Ukamas 76.50 115 ⇓*i*P **P 02 21 55.1 -1.8**
O53A New Philadelph 76.53 354 IAmb IAmb 02 22 08.8
comp=Z,178nm,1.4s
O53A IAMs_20 IAMs_20 02 55 59.5
comp=Z,18µm,20.0s
O53A New Philadelph 76.53 354 P **P 02 21 55.6 -0.8**
baz=174,SNR=10
O53A S **S 02 31 38.3 -3.1**
baz=174
LUPA Lehigh Univers 76.58 359 IAMs_20 IAMs_20 03 01 32.2
comp=Z,28µm,19.0s
P46A Rosedale 76.60 349 IAmb IAmb 02 22 06.5
comp=Z,123nm,1.1s
P46A IAMs_20 IAMs_20 03 00 56.5
comp=Z,24µm,19.0s
Y22D IRIS PASSCAL I 76.61 332 IAMs_20 IAMs_20 02 50 03.6
comp=Z,21µm,21.0s
Y22D IRIS PASSCAL I 76.61 332 P **P 02 21 59.7 +2.4**
baz=153
Y22D S **S 02 31 48.2 +5.2**
baz=153
TUC Tucson 76.62 328 P **P 02 21 57.3 0.0**
TUC pmax pmax
comp=Z,73nm,1.2s
TUC Tucson 76.62 328 P **P 02 21 57.2 0.0**
TUC Tucson 76.62 328 IAMs_20 IAMs_20 03 02 06.9
comp=Z,15µm,19.0s
TUC Tucson 76.62 328 ⇓P **P 02 21 58.0 +0.7**
TUC Tucson 76.62 328 P **P 02 21 58.0 +0.7**
baz=150
TUC S **S 02 31 45.6 +2.7**
baz=150
SSPA Standing Stone 76.69 357 P **P 02 21 58.4 +1.0**
SSPA Standing Stone 76.69 357 IAMs_20 IAMs_20 02 58 21.3
comp=Z,19µm,21.0s
SSPA Standing Stone 76.69 357 ⇑P **P 02 21 57.2 -0.2**
SSPA Standing Stone 76.69 357 P **P 02 21 56.6 -0.8**
baz=177
SSPA S **S 02 31 42.4 -0.8**
baz=177
CPNY Central Park 76.75 360 IAMs_20 IAMs_20 03 00 09.0
comp=Z,18µm,19.0s
LIC Lamto 76.77 72 *e*P **P 02 21 59.7 +1.2**
comp=Z,479nm,1.3s
N58A Sunbury 76.85 358 IAmb IAmb 02 22 11.2
comp=Z,79nm,1.1s
N59A State Game Lan 76.90 358 IAmb IAmb 02 22 12.0
comp=Z,165nm,1.5s
N59A IAMs_20 IAMs_20 03 00 41.9
comp=Z,26µm,19.0s
N59A State Game Lan 76.90 358 P **P 02 21 58.7 +0.1**
baz=178,SNR=7.3
N59A S **S 02 31 46.7 +1.2**
baz=178
PAL Palisades 76.97 360 P **P 02 21 58.9 0.0**
PAL pmax pmax
comp=Z,110nm,1.7s
PAL MLR MLR
comp=Z,15µm,19.0s
PAL Palisades 76.97 360 P **P 02 21 58.9 0.0**
PAL Palisades 76.97 360 P **P 02 21 58.7 -0.2**
baz=180
PAL S **S 02 31 47.7 +1.6**
baz=180
TIC Toumodi 77.04 72 *e*P **P 02 22 01.1 +1.1**
ODNJ Ogdensburg 77.05 359 IAMs_20 IAMs_20 03 01 14.8
comp=Z,23µm,19.0s
N53A Lisbon 77.05 354 IAmb IAmb 02 22 09.9
comp=Z,112nm,1.1s
N53A IAMs_20 IAMs_20 02 59 55.6
comp=Z,21µm,20.0s
KIC Kosan Boka 77.08 72 *e*P **P 02 22 01.1 +0.9**
comp=Z,304nm,1.1s
TRNY Table Rock, Ra 77.11 360 IAmb IAmb 02 22 12.2
comp=Z,168nm,1.6s
TRNY IAMs_20 IAMs_20 03 01 12.4
comp=Z,23µm,18.0s
WSPT Westport, CT 77.13 0 IAmb IAmb 02 22 13.1
comp=Z,96nm,1.3s
WSPT IAMs_20 IAMs_20 03 02 32.1
comp=Z,16µm,19.0s
N54A Moraine State 77.14 355 IAmb IAmb 02 22 10.4
comp=Z,101nm,1.1s
N54A Moraine State 77.14 355 P **P 02 22 00.0 +0.1**
baz=175,SNR=9.4
N54A S **S 02 31 46.1 -2.0**
baz=175
DBIC Dimbokro 77.18 72 P **P 02 22 00.5 -0.3**
comp=Z,85nm,1.1s,baz=196,slow=6.2,SNR=28
DBIC S **S 02 31 46.1 -3.5**
comp=Z,2.1nm,0.8s,baz=175,slow=9.3,SNR=1.2
DBIC LR LR 02 53 42.2
comp=Z,26µm,19.9s,baz=220,slow=34
DBIC Dimbokro 77.18 72 P **P 02 22 01.6 +0.8**
DBIC pmax pmax
comp=Z,220nm,1.3s
DBIC Dimbokro 77.18 72 P **P 02 22 01.6 +0.8**
DBIC Dimbokro 77.18 72 *i*P **P 02 21 58.7 -2.1**
214A Organ Pipe Nat 77.20 327 P **P 02 22 01.5 +1.0**
baz=149,SNR=20
214A S **S 02 31 52.5 +3.4**
baz=149
ANMO Albuquerque 77.22 333 *i*P **P 02 22 00.8 +0.1**
ANMO pmax pmax
comp=Z,128nm,1.1s
ANMO MLR MLR
comp=Z,15µm,14.0s
ANMO Albuquerque 77.22 333 P **P 02 22 01.4 +0.7**
ANMO IAmb IAmb 02 22 13.2
comp=Z,127nm,1.1s
ANMO Albuquerque 77.22 333 ⇓P **P 02 22 01.7 +1.0**
ANMO Albuquerque 77.22 333 P **P 02 22 02.6 +1.9**
baz=154
ANMO S **S 02 31 51.0 +1.4**
baz=154
YLE Yale 77.28 1 IAMs_20 IAMs_20 02 58 35.9
comp=Z,16µm,20.0s
M66A Nantucket 77.29 3 S **S 02 31 52.0 +2.4**
baz=183
O44A Mansfield 77.32 348 IAmb IAmb 02 22 10.6
comp=Z,114nm,1.1s
O44A IAMs_20 IAMs_20 03 02 15.5
comp=Z,19µm,20.0s
SFIN Lafayette 77.33 350 IAMs_20 IAMs_20 02 59 34.8
comp=Z,27µm,20.0s
SFIN Lafayette 77.33 350 P **P 02 22 00.1 -0.9**
baz=169
SFIN S **S 02 31 45.8 -4.3**
baz=169
SFX San Felipe 77.35 325 P **P 02 22 02.1 +0.9**
N49A Columbus Grove 77.49 352 IAmb IAmb 02 22 11.8
comp=Z,168nm,1.1s
N49A IAMs_20 IAMs_20 02 58 45.0
comp=Z,17µm,20.0s
KSPA Keystone Colle 77.54 358 IAMs_20 IAMs_20 03 01 18.8
comp=Z,24µm,19.0s
M64A Tiverton 77.54 2 IAmb IAmb 02 22 14.0
comp=Z,74nm,1.0s
M64A Tiverton 77.54 2 P **P 02 22 02.7 +0.6**
baz=182,SNR=6.4
M64A S **S 02 31 54.0 +1.7**
baz=182
M55A Ridgway 77.57 356 IAmb IAmb 02 22 12.8
comp=Z,114nm,1.1s
M65A Busby, Falmout 77.57 2 IAMs_20 IAMs_20 02 57 38.6
comp=Z,16µm,20.0s
M65A Busby, Falmout 77.57 2 P **P 02 22 02.9 +0.6**
baz=183
M65A S **S 02 31 54.8 +2.1**
baz=183
WIN Windhoek 77.58 109 ⇓*i*P **P 02 21 59.2 -4.0**
N47A Urbana 77.63 351 IAmb IAmb 02 22 14.1
comp=Z,169nm,1.1s
N47A IAMs_20 IAMs_20 02 56 55.7
comp=Z,20µm,22.0s
SPX San Pedro Mart 77.64 324 IAMs_20 IAMs_20 02 49 53.0
comp=Z,22µm,18.0s
CASY Casey 77.66 182 P **P 02 22 03.7 +1.0**
CASY Casey 77.66 182 ⇑P **P 02 22 03.3 +0.7**
M54A Oil Creek Stat 77.66 355 IAMs_20 IAMs_20 03 00 23.8
comp=Z,19µm,20.0s
M54A Oil Creek Stat 77.66 355 P **P 02 22 02.6 -0.3**
baz=175,SNR=5.9
M54A S **S 02 31 51.5 -2.3**
baz=175
M53A WI Miller and 77.67 355 IAmb IAmb 02 22 15.2
comp=Z,200nm,1.4s
M53A IAMs_20 IAMs_20 03 00 11.9
comp=Z,22µm,20.0s
M53A WI Miller and 77.67 355 P **P 02 22 02.4 -0.4**
baz=174,SNR=7.9
M53A S **S 02 31 50.9 -2.9**
baz=174
P38A Dawn 77.77 344 IAmb IAmb 02 22 13.7
comp=Z,164nm,1.1s
M52A Chesterland 77.82 354 IAmb IAmb 02 22 14.0
comp=Z,157nm,1.1s
M52A IAMs_20 IAMs_20 02 58 10.9
comp=Z,23µm,19.0s
ALLY Alegheny Colle 77.84 355 P **P 02 22 04.4 +0.6**
ALLY IAmb IAmb 02 22 14.1
comp=Z,99nm,1.1s
ALLY IAMs_20 IAMs_20 03 00 23.4
comp=Z,20µm,21.0s
M50A Fremont 77.84 353 IAmb IAmb 02 22 16.0
comp=Z,246nm,1.4s
M50A IAMs_20 IAMs_20 02 55 49.4
comp=Z,17µm,20.0s
L63A North Scituate 77.85 2 IAmb IAmb 02 22 15.3
comp=Z,171nm,1.1s
L63A North Scituate 77.85 2 P **P 02 22 04.3 +0.5**
baz=182,SNR=9.1
L63A S **S 02 31 57.5 +1.9**
baz=182
HDIL Hopedale 77.85 348 IAmb IAmb 02 22 15.6
comp=Z,142nm,0.9s
HDIL Hopedale 77.85 348 P **P 02 22 03.8 0.0**
baz=167
HDIL S **S 02 31 54.3 -1.5**
baz=167

BRYW	**Bryant College**	**77.90**	**2**	IAmb	IAmb	02 22 17.8			
	comp=Z,143nm,1.1s								
L64A	**Middleborough**	**77.94**	**2**	IAmb	IAmb	02 22 15.9			
	comp=Z,131nm,1.1s								
L64A				IAMs_20	IAMs_20	02 54 58.5			
	comp=Z,18µm,21.0s								
L64A	**Middleborough**	**77.94**	**2**	P	**P**	**02 22 04.7**	**+0.4**		
	baz=182,SNR=8.1								
L64A				S	**S**	**02 31 58.7**	**+2.1**		
	baz=182								
KSU1	**Kansas State U**	**77.99**	**342**	P	**P**	**02 22 05.8**	**+1.1**		
	baz=161								
KSU1				S	**S**	**02 31 56.1**	**-1.2**		
	baz=161								
L58A	**Harry Jones Me**	**78.03**	**358**	P	**P**	**02 22 04.8**	**-0.1**		
	baz=178								
L58A				S	**S**	**02 31 57.3**	**-0.4**		
	baz=178								
L65A	**Cape Cod Natio**	**78.06**	**3**	S	**S**	**02 32 00.6**	**+2.7**		
	baz=183								
BINY	**Binghamton**	**78.19**	**358**	P	**P**	**02 22 06.7**	**+1.0**		
BINY				IAMs_20	IAMs_20	03 01 48.9			
	comp=Z,27µm,20.0s								
BINY	**Binghamton**	**78.19**	**358**	P	**P**	**02 22 04.7**	**-1.1**		
	baz=178,SNR=8.1								
BINY				S	**S**	**02 31 58.1**	**-1.2**		
	baz=178								
ERPA	**Erie**	**78.29**	**355**	IAmb	IAmb	02 22 18.5			
	comp=Z,230nm,1.5s								
ERPA				IAMs_20	IAMs_20	02 53 55.5			
	comp=Z,20µm,22.0s								
ERPA	**Erie**	**78.29**	**355**	P	**P**	**02 22 05.6**	**-0.7**		
	baz=175								
ERPA				S	**S**	**02 31 57.4**	**-3.0**		
	baz=175								
WES	**Weston**	**78.37**	**2**	IAmb	IAmb	02 22 20.2			
	comp=Z,128nm,1.3s								
L61B	**Northampton**	**78.42**	**1**	P	**P**	**02 22 07.2**	**+0.2**		
	baz=181,SNR=12								
L61B				S	**S**	**02 32 04.0**	**+2.3**		
	baz=181								
M44A	**Midewin, Midew**	**78.46**	**349**	IAMs_20	IAMs_20	03 00 02.7			
	comp=Z,29µm,20.0s								
T25A	**Trinidad**	**78.47**	**335**	P	**P**	**02 22 09.1**	**+1.4**		
	baz=155,SNR=17								
T25A				S	**S**	**02 32 06.2**	**+3.2**		
	baz=155								
HRV	**Adam Dziewonsk**	**78.49**	**2**	P	**P**	**02 22 08.5**	**+1.1**		
HRV				pmax	pmax				
	comp=Z,119nm,1.2s								
HRV				MLR	MLR				
	comp=Z,12µm,20.0s								
HRV	**Adam Dziewonsk**	**78.49**	**2**	P	**P**	**02 22 08.5**	**+1.1**		
HRV				IAmb	IAmb	02 22 21.1			
	comp=Z,119nm,1.1s								
HRV	**Adam Dziewonsk**	**78.49**	**2**	⇑P	**P**	**02 22 08.1**	**+0.7**		
HRV	**Adam Dziewonsk**	**78.49**	**2**	P	**P**	**02 22 07.2**	**-0.2**		
	baz=182								
HRV				S	**S**	**02 32 06.1**	**+3.6**		
	baz=182								
WVNY	**West Valley, N**	**78.50**	**356**	IAMs_20	IAMs_20	02 59 37.9			
	comp=Z,16µm,19.0s								
GUVIX	**Guadalupe Vict**	**78.52**	**325**	IAMs_20	IAMs_20	02 49 20.0			
	comp=Z,18µm,21.0s								
L48A	**N Adams**	**78.52**	**352**	IAmb	IAmb	02 22 19.4			
	comp=Z,187nm,1.4s								
L48A				IAMs_20	IAMs_20	02 59 25.5			
	comp=Z,19µm,20.0s								
CBKS	**Cedar Bluff**	**78.56**	**339**	IAmb	IAmb	02 22 19.1			
	comp=Z,189nm,1.1s								
CBKS	**Cedar Bluff**	**78.56**	**339**	⇑P	**P**	**02 22 10.0**	**+2.1**		
CBKS	**Cedar Bluff**	**78.56**	**339**	P	**P**	**02 22 09.9**	**+1.9**		
	baz=159,SNR=8.0								
CBKS				S	**S**	**02 32 04.2**	**+0.6**		
	baz=159								
W18A	**Petrified Fore**	**78.62**	**331**	IAmb	IAmb	02 22 21.1			
	comp=Z,153nm,1.2s								
W18A				IAMs_20	IAMs_20	02 53 02.1			
	comp=Z,19µm,18.0s								
W18A	**Petrified Fore**	**78.62**	**331**	P	**P**	**02 22 08.5**	**0.0**		
	baz=151								
W18A				S	**S**	**02 32 09.1**	**+4.3**		
	baz=151								
K61A	**Williamstown**	**78.63**	**0**	P	**P**	**02 22 08.8**	**+0.6**		
	baz=180,SNR=5.7								
K61A				S	**S**	**02 32 08.1**	**+4.0**		
	baz=180								
K62A	**Royalston**	**78.64**	**1**	IAmb	IAmb	02 22 19.9			
	comp=Z,136nm,1.2s								
K62A	**Royalston**	**78.64**	**1**	P	**P**	**02 22 08.4**	**+0.2**		
	baz=181,SNR=9.3								
K62A				S	**S**	**02 32 07.4**	**+3.3**		
	baz=181								
K63A	**Dunstable**	**78.67**	**2**	P	**P**	**02 22 08.0**	**-0.4**		
	baz=182								
K63A				S	**S**	**02 32 08.1**	**+3.6**		
	baz=182								
TRY	**Troy**	**78.69**	**0**	P	**P**	**02 22 09.6**	**+1.1**		
TRY				IAmb	IAmb	02 22 19.9			
	comp=Z,136nm,1.2s								
X16A	**Lo Mia Camp, P**	**78.71**	**329**	IAMs_20	IAMs_20	03 03 23.4			
	comp=Z,18µm,19.0s								
K56A	**Middlesex**	**78.73**	**357**	P	**P**	**02 22 07.8**	**-0.9**		
	baz=177,SNR=9.9								
K56A				S	**S**	**02 32 04.7**	**-0.4**		
	baz=177								
MMNY	**Mt. Morris Dam**	**78.79**	**357**	IAmb	IAmb	02 22 19.6			
	comp=Z,126nm,1.1s								
MMNY				IAMs_20	IAMs_20	02 59 42.6			
	comp=Z,21µm,20.0s								
AAM	**Ann Arbor**	**78.79**	**352**	IAmb	IAmb	02 22 21.1			
	comp=Z,179nm,1.4s								
AAM				IAMs_20	IAMs_20	03 01 22.6			
	comp=Z,18µm,19.0s								
AAM	**Ann Arbor**	**78.79**	**352**	P	**P**	**02 22 07.8**	**-1.2**		
	baz=172								
AAM				S	**S**	**02 32 02.4**	**-3.4**		
	baz=172								
L46A	**Eue Claire**	**78.82**	**350**	IAmb	IAmb	02 22 18.8			
	comp=Z,143nm,1.2s								
L46A				IAMs_20	IAMs_20	02 57 44.3			
	comp=Z,18µm,21.0s								
HQIL	**Hanson Quary C**	**78.84**	**349**	IAMs_20	IAMs_20	03 00 32.6			
	comp=Z,24µm,20.0s								
MCQ	**Macquarie Isla**	**78.86**	**208**	IAMs_20	IAMs_20	02 49 21.0			
	comp=Z,20µm,20.0s								
UABX	**UABC, Campus M**	**78.96**	**325**	IAMs_20	IAMs_20	02 49 15.7			
	comp=Z,18µm,20.0s								
GLA	**Glamis**	**79.03**	**326**	IAMs_20	IAMs_20	02 49 37.6			
	comp=Z,18µm,21.0s								
GLA	**Glamis**	**79.03**	**326**	P	**P**	**02 22 11.8**	**+1.2**		
	baz=147								
GLA				S	**S**	**02 32 12.8**	**+4.0**		
	baz=147								
K50A	**Casco**	**79.16**	**353**	IAmb	IAmb	02 22 22.8			
	comp=Z,246nm,1.2s								
K50A				IAMs_20	IAMs_20	03 03 48.3			
	comp=Z,14µm,18.0s								
J60A	**Lant Hill Farm**	**79.20**	**0**	P	**P**	**02 22 11.3**	**0.0**		
	baz=180								
J60A				S	**S**	**02 32 13.6**	**+3.5**		
	baz=180								
J62A	**Henniker**	**79.20**	**1**	P	**P**	**02 22 11.9**	**+0.6**		
	baz=182,SNR=14								
J62A				S	**S**	**02 32 13.1**	**+3.0**		
	baz=182								
L44A	**Lake County Fo**	**79.22**	**349**	IAMs_20	IAMs_20	03 00 42.6			
	comp=Z,24µm,20.0s								
L44A	**Lake County Fo**	**79.22**	**349**	P	**P**	**02 22 11.2**	**-0.2**		
	baz=168								
L44A				S	**S**	**02 32 07.3**	**-3.0**		
	baz=168								
MEDO	**Medina**	**79.24**	**356**	IAMs_20	IAMs_20	03 03 37.7			
	comp=Z,18µm,18.0s								
CBX	**Cerro Bola**	**79.27**	**324**	P	**P**	**02 22 10.9**	**-1.2**		
J63A	**Strafford**	**79.27**	**2**	P	**P**	**02 22 11.9**	**+0.3**		
	baz=182,SNR=6.3								
J63A				S	**S**	**02 32 14.7**	**+3.9**		
	baz=182								
IKP	**In-Ko-Pah, Jac**	**79.28**	**325**	P	**P**	**02 22 12.1**	**+0.1**		
	baz=146,SNR=5.0								
IKP				S	**S**	**02 32 17.5**	**+5.9**		
	baz=146								
J61A	**Chester**	**79.31**	**1**	P	**P**	**02 22 12.9**	**+1.1**		
	baz=181								
J61A				S	**S**	**02 32 15.4**	**+4.1**		
	baz=181								
J55A	**Hilton**	**79.31**	**357**	IAMs_20	IAMs_20	03 02 16.6			
	comp=Z,21µm,20.0s								
L42A	**Oliver, Polo**	**79.33**	**348**	IAmb	IAmb	02 22 22.0			
	comp=Z,105nm,1.0s								
L42A				IAMs_20	IAMs_20	03 03 08.5			
	comp=Z,24µm,19.0s								
J58A	**Remsen**	**79.33**	**359**	IAMs_20	IAMs_20	03 01 49.2			
	comp=Z,21µm,19.0s								
J58A	**Remsen**	**79.33**	**359**	P	**P**	**02 22 12.2**	**+0.2**		
	baz=179								
J58A				S	**S**	**02 32 12.1**	**+0.6**		
	baz=179								
ACCN	**Adirondack Com**	**79.34**	**360**	IAmb	IAmb	02 22 23.2			
	comp=Z,113nm,1.2s								
J54A	**Appleton**	**79.36**	**356**	IAMs_20	IAMs_20	02 59 52.8			
	comp=Z,19µm,20.0s								
SDCO	**Great Sand Dun**	**79.39**	**335**	P	**P**	**02 22 15.7**	**+2.9**		
	baz=154,SNR=21								
SDCO				S	**S**	**02 32 15.8**	**+2.8**		
	baz=154								
SWSC	**Sam W. Stewart**	**79.39**	**325**	P	**P**	**02 22 13.7**	**+1.2**		
	baz=147,SNR=5.1								
SWSC				S	**S**	**02 32 18.1**	**+5.6**		
	baz=147								
J57A	**Williamstown**	**79.40**	**358**	IAMs_20	IAMs_20	03 02 50.9			
	comp=Z,22µm,18.0s								
J57A	**Williamstown**	**79.40**	**358**	P	**P**	**02 22 11.5**	**-0.8**		
	baz=178,SNR=7.7								
J57A				S	**S**	**02 32 12.5**	**+0.3**		
	baz=178								
N35A	**Tabor**	**79.43**	**343**	P	**P**	**02 22 13.2**	**+0.6**		
N35A				IAmb	IAmb	02 22 22.8			
	comp=Z,192nm,1.1s								
FFD	**Franklin Falls**	**79.45**	**1**	IAmb	IAmb	02 22 24.5			
	comp=Z,153nm,1.2s								
FFD				IAMs_20	IAMs_20	02 59 25.5			
	comp=Z,18µm,19.0s								
TKX	**Tecate**	**79.45**	**324**	IAMs_20	IAMs_20	02 51 05.7			
	comp=Z,17µm,19.0s								
BAR	**Barrett**	**79.57**	**324**	IAMs_20	IAMs_20	02 49 54.0			
	comp=Z,18µm,21.0s								
KSCO	**Kaye Shedlock'**	**79.60**	**337**	P	**P**	**02 22 15.4**	**+1.7**		
	baz=157,SNR=8.7								
KSCO				S	**S**	**02 32 16.7**	**+1.9**		
	baz=157								
MONP2	**Monument Peak**	**79.63**	**325**	P	**P**	**02 22 14.0**	**-0.1**		
	baz=146,SNR=5.1								
MONP2				S	**S**	**02 32 22.1**	**+6.5**		
	baz=146								
WUAZ	**Wupatki**	**79.63**	**330**	⇓P	**P**	**02 22 13.8**	**-0.2**		
WUAZ	**Wupatki**	**79.63**	**330**	P	**P**	**02 22 16.9**	**+2.9**		
	baz=150,SNR=32								
WUAZ				S	**S**	**02 32 22.2**	**+6.8**		
	baz=150								
I58A	**Old Forge**	**79.66**	**359**	P	**P**	**02 22 12.9**	**-0.9**		
	baz=179,SNR=12								
I58A				S	**S**	**02 32 15.3**	**+0.3**		
	baz=179								
HNH	**Hanover**	**79.67**	**1**	P	**P**	**02 22 15.1**	**+1.3**		
I59A	**Olmsteadville**	**79.75**	**360**	P	**P**	**02 22 13.4**	**-0.9**		
	baz=180,SNR=7.1								
I59A				S	**S**	**02 32 17.1**	**+1.1**		
	baz=180								
PDMCI	**Parker Dam,Lak**	**79.77**	**327**	P	**P**	**02 22 15.6**	**+1.0**		
	baz=148								
PDMCI				S	**S**	**02 32 20.8**	**+4.2**		
	baz=148								
K43A	**Burlington**	**79.80**	**349**	IAmb	IAmb	02 22 26.7			
	comp=Z,225nm,1.4s								
K43A				IAMs_20	IAMs_20	03 01 10.9			
	comp=Z,20µm,20.0s								
I60A	**Shoreham**	**79.80**	**0**	P	**P**	**02 22 14.4**	**0.0**		
	baz=180,SNR=14								
I60A				S	**S**	**02 32 18.0**	**+1.6**		
	baz=180								
BC3	**Big Chuckawall**	**79.82**	**326**	P	**P**	**02 22 15.8**	**+0.8**		
	baz=147,SNR=32								
BC3				S	**S**	**02 32 22.4**	**+5.1**		
	baz=147								
J47A	**Sunmer**	**79.85**	**352**	IAmb	IAmb	02 22 26.6			
	comp=Z,219nm,1.6s								
J47A				IAMs_20	IAMs_20	03 02 39.5			
	comp=Z,16µm,20.0s								
S22A	**4UR Ranch, Cre**	**79.85**	**334**	P	**P**	**02 22 17.2**	**+1.9**		
	baz=154,SNR=26								
S22A				S	**S**	**02 32 21.9**	**+4.0**		
	baz=154								
TSUM	**Tsumeb**	**79.85**	**106**	P	**P**	**02 22 15.2**	**-0.5**		
	comp=Z,36nm,1.2s,baz=244,slow=6.2,SNR=34								
TSUM	**Tsumeb**	**79.85**	**106**	P	**P**	**02 22 16.2**	**+0.5**		
TSUM				IAmb	IAmb	02 22 25.1			
	comp=Z,234nm,1.6s								
TSUM	**Tsumeb**	**79.85**	**106**	⇑P	**P**	**02 22 16.4**	**+0.7**		
TSUM	**Tsumeb**	**79.85**	**106**	*i* P	**P**	**02 22 14.7**	**-1.1**		
TSUM				IAmb	IAmb	02 22 28.6			
	comp=Z,247nm,1.6s								
I62A	**Tamworth**	**79.86**	**2**	IAMs_20	IAMs_20	02 59 54.4			
	comp=Z,19µm,21.0s								
I62A	**Tamworth**	**79.86**	**2**	P	**P**	**02 22 14.8**	**-0.1**		
	baz=182,SNR=7.1								
I62A				S	**S**	**02 32 20.3**	**+3.2**		
	baz=182								
I61A	**Oroboro, Fairl**	**79.90**	**1**	P	**P**	**02 22 14.0**	**-1.1**		
	baz=181,SNR=9.6								
I61A				S	**S**	**02 32 20.7**	**+3.2**		
	baz=181								
I57A	**Carthage**	**79.92**	**359**	P	**P**	**02 22 14.6**	**-0.6**		
	baz=178,SNR=9.5								
I57A				S	**S**	**02 32 18.2**	**+0.5**		
	baz=178								
109C	**Camp Elliot, M**	**79.95**	**324**	IAMs_20	IAMs_20	02 51 20.9			
	comp=Z,19µm,18.0s								
109C	**Camp Elliot, M**	**79.95**	**324**	P	**P**	**02 22 15.9**	**+0.4**		
	baz=146								
109C				S	**S**	**02 32 22.8**	**+4.3**		
	baz=146								
I64A	**Boothbay**	**79.96**	**3**	P	**P**	**02 22 14.3**	**-1.0**		
	baz=183,SNR=6.6								
I64A				S	**S**	**02 32 22.8**	**+4.7**		
	baz=183								
MVCO	**Mesa Verde**	**79.98**	**332**	IAmb	IAmb	02 22 27.7			
	comp=Z,119nm,1.2s								
MVCO				IAMs_20	IAMs_20	02 52 24.2			
	comp=Z,23µm,21.0s								
MVCO	**Mesa Verde**	**79.98**	**332**	P	**P**	**02 22 17.9**	**+1.9**		
	baz=152,SNR=16								
MVCO				S	**S**	**02 32 23.2**	**+4.1**		
	baz=152								
I63A	**Otisfield**	**80.06**	**2**	IAmb	IAmb	02 22 27.9			
	comp=Z,154nm,1.2s								
I63A				IAMs_20	IAMs_20	02 59 53.6			
	comp=Z,18µm,22.0s								
I63A	**Otisfield**	**80.06**	**2**	P	**P**	**02 22 15.1**	**-0.8**		
	baz=183,SNR=11								
I63A				S	**S**	**02 32 23.3**	**+4.2**		
	baz=183								
IRM	**Iron Mountain**	**80.10**	**326**	P	**P**	**02 22 19.2**	**+2.8**		
	baz=147,SNR=22								
IRM				S	**S**	**02 32 24.9**	**+4.8**		
	baz=147								
MQZ	**McQueen's Vall**	**80.15**	**222**	IAMs_20	IAMs_20	02 49 10.6			
	comp=Z,20µm,20.0s								
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**02 22 17.1**	**-0.2**		
	comp=Z,118nm,1.1s,baz=236,slow=5.6,SNR=54								
BOSA				S	**S**	**02 32 18.9**	**-2.7**		
	comp=Z,1.6nm,0.9s,baz=188,slow=7.8,SNR=1.3								
BOSA				LR	LR	02 52 26.2			
	comp=Z,17µm,21.5s,baz=230,slow=32								
BOSA	**Boshof**	**80.16**	**118**	P	**P**	**02 22 17.8**	**+0.5**		
BOSA	**Boshof**	**80.16**	**118**	*i* P	**P**	**02 22 16.1**	**-1.2**		
BOSA				IAmb	IAmb	02 22 25.1			
	comp=Z,380nm,1.4s								
LBNH	**Lisbon**	**80.22**	**1**	IAMs_20	IAMs_20	02 59 58.7			
	comp=Z,17µm,19.0s								
LBNH	**Lisbon**	**80.22**	**1**	P	**P**	**02 22 16.7**	**0.0**		
	baz=182,SNR=7.4								
LBNH				S	**S**	**02 32 24.1**	**+3.3**		
	baz=182								
TPFO	**Pinon Flats**	**80.24**	**325**	P	**P**	**02 22 18.1**	**+0.8**		
	baz=146,SNR=5.3								
PFO	**Pinyon Flats O**	**80.25**	**325**	P	**P**	**02 22 18.1**	**+0.7**		
PFO				pmax	pmax				
	comp=Z,85nm,1.2s								
PFO	**Pinyon Flats O**	**80.25**	**325**	P	**P**	**02 22 18.1**	**+0.7**		
PFO	**Pinyon Flats O**	**80.25**	**325**	IAMs_20	IAMs_20	02 51 38.7			
	comp=Z,20µm,18.0s								
PFO	**Pinyon Flats O**	**80.25**	**325**	P	**P**	**02 22 16.1**	**-1.3**		
	baz=146								
PFO				S	**S**	**02 32 27.1**	**+5.2**		
	baz=146								
JFWS	**Jewell Farm**	**80.31**	**348**	IAmb	IAmb	02 22 27.7			
	comp=Z,124nm,1.2s								
JFWS	**Jewell Farm**	**80.31**	**348**	IAMs_20	IAMs_20	03 03 38.5			
	comp=Z,25µm,20.0s								
JFWS	**Jewell Farm**	**80.31**	**348**	P	**P**	**02 22 16.0**	**-1.3**		
	baz=167								
JFWS				S	**S**	**02 32 21.1**	**-0.8**		
	baz=167								
I49A	**Point Hope**	**80.33**	**353**	IAMs_20	IAMs_20	02 57 58.3			
	comp=Z,16µm,20.0s								
ODZ	**Otahua Downs**	**80.33**	**220**	IAMs_20	IAMs_20	02 49 44.3			
	comp=Z,21µm,20.0s								
W13A	**Hualapai Mount**	**80.33**	**328**	IAMs_20	IAMs_20	02 54 06.2			
	comp=Z,13µm,18.0s								
BELC	**Belle Mtn. Jos**	**80.36**	**325**	P	**P**	**02 22 18.8**	**+0.8**		
	baz=147								
BELC				S	**S**	**02 32 28.9**	**+5.8**		
	baz=147								
KUKU	**Kukurantumi**	**80.36**	**75**	*i* P	**P**	**02 22 16.8**	**-1.5**		
Q24A	**Divide**	**80.36**	**336**	P	**P**	**02 22 20.7**	**+2.6**		
	baz=155,SNR=8.0								
Q24A				S	**S**	**02 32 26.8**	**+3.5**		
	baz=155								
NEE2	**Needles Airpor**	**80.38**	**327**	P	**P**	**02 22 17.9**	**0.0**		
	baz=148								
NEE2				S	**S**	**02 32 26.6**	**+3.7**		
	baz=148								
H58A	**Gabriels**	**80.38**	**360**	P	**P**	**02 22 17.2**	**-0.4**		
	baz=180,SNR=22								
H58A				S	**S**	**02 32 23.5**	**+1.0**		
	baz=180								
H57A	**Richville**	**80.44**	**359**	P	**P**	**02 22 16.7**	**-1.2**		
	baz=179,SNR=18								
H57A				S	**S**	**02 32 23.1**	**0.0**		
	baz=179								
H61A	**Lyndonville**	**80.51**	**1**	P	**P**	**02 22 19.0**	**+0.7**		
	baz=182,SNR=23								
H61A				S	**S**	**02 32 26.6**	**+2.7**		
	baz=182								
H60A	**Morristown**	**80.52**	**1**	P	**P**	**02 22 18.2**	**-0.2**		
	baz=181,SNR=10								
H60A				S	**S**	**02 32 27.2**	**+3.1**		
	baz=181								
BGNE	**Belgrade**	**80.56**	**342**	P	**P**	**02 22 20.5**	**+1.8**		
	baz=160								
BGNE				S	**S**	**02 32 23.9**	**-0.7**		
	baz=160								
H62A	**Milan**	**80.56**	**2**	IAMs_20	IAMs_20	03 00 34.0			
	comp=Z,19µm,21.0s								
H62A	**Milan**	**80.56**	**2**	P	**P**	**02 22 18.6**	**-0.1**		
	baz=182								
H62A				S	**S**	**02 32 27.9**	**+3.4**		
	baz=182								
MURC	**Murrieta**	**80.58**	**324**	P	**P**	**02 22 19.4**	**+0.4**		
	baz=146,SNR=5.2								
MURC				S	**S**	**02 32 30.5**	**+5.3**		
	baz=146								
LONY	**Lake Ozonia**	**80.58**	**359**	IAmb	IAmb	02 22 29.7			
	comp=Z,105nm,1.2s								
LONY				IAMs_20	IAMs_20	03 00 52.3			
	comp=Z,19µm,20.0s								
LONY	**Lake Ozonia**	**80.58**	**359**	P	**P**	**02 22 18.5**	**-0.2**		
	baz=179,SNR=16								
LONY				S	**S**	**02 32 26.1**	**+1.4**		
	baz=179								
H59A	**Cadyville**	**80.60**	**360**	P	**P**	**02 22 18.9**	**0.0**		
	baz=180,SNR=6.3								
H59A				S	**S**	**02 32 26.9**	**+2.0**		
	baz=180								
WVL	**Waterville**	**80.61**	**3**	IAmb	IAmb	02 22 31.6			
	comp=Z,242nm,1.8s								
H53A	**Bobcaygeon**	**80.66**	**356**	P	**P**	**02 22 18.7**	**-0.4**		
	baz=176,SNR=14								
H53A				S	**S**	**02 32 24.0**	**-1.4**		
	baz=176								
H63A	**New Sharon**	**80.69**	**3**	P	**P**	**02 22 18.9**	**-0.3**		
	baz=183,SNR=7.0								
H63A				S	**S**	**02 32 30.0**	**+4.3**		
	baz=183								
H64A	**Troy**	**80.70**	**3**	P	**P**	**02 22 19.9**	**+0.6**		
	baz=184,SNR=7.3								
H64A				S	**S**	**02 32 30.0**	**+4.1**		
	baz=184								
OXZ	**Oxford**	**80.74**	**222**	P	**P**	**02 22 18.6**	**-1.4**		
OXZ				IAmb	IAmb	02 22 30.3			
	comp=Z,158nm,1.5s								
OXZ				IAMs_20	IAMs_20	02 49 38.1			
	comp=Z,20µm,21.0s								
FRNY	**Flat Rock**	**80.79**	**0**	IAmb	IAmb	02 22 30.8			
	comp=Z,106nm,1.2s								
FRNY				IAMs_20	IAMs_20	03 00 55.9			
	comp=Z,17µm,20.0s								
U15A	**North Rim**	**80.79**	**329**	IAMs_20	IAMs_20	02 55 12.5			
	comp=Z,14µm,18.0s								
H65A	**Eastbrook**	**80.81**	**4**	P	**P**	**02 22 20.4**	**+0.6**		
	baz=184,SNR=6.8								
H65A				S	**S**	**02 32 30.9**	**+4.0**		
	baz=184								
I45A	**Fountain**	**80.81**	**351**	IAMs_20	IAMs_20	03 00 48.8			
	comp=Z,17µm,18.0s								
PV01	**Paradox Valley**	**80.83**	**333**	P	**P**	**02 22 21.5**	**+1.0**		
PV01				IAMs_20	IAMs_20	02 53 13.4			
	comp=Z,20µm,20.0s								
GMRC	**Granite Mounta**	**80.85**	**326**	P	**P**	**02 22 23.8**	**+3.2**		
	baz=147,SNR=31								
GMRC				S	**S**	**02 32 31.9**	**+3.6**		
	baz=147								
EMMW	**East Machias**	**80.86**	**4**	IAMs_20	IAMs_20	03 00 09.0			
	comp=Z,21µm,20.0s								
SADO	**Sadowa**	**80.88**	**356**	P	**P**	**02 22 20.1**	**-0.2**		
	comp=Z,9.5nm,0.8s,baz=189,slow=5.6,SNR=14								
SADO	**Sadowa**	**80.88**	**356**	IAmb	IAmb	02 22 32.8			
	comp=Z,142nm,1.4s								
SADO				IAMs_20	IAMs_20	03 00 49.6			
	comp=Z,20µm,20.0s								
PV13	**Radium Mtn., P**	**80.94**	**333**	IAmb	IAmb	02 22 32.6			
	comp=Z,122nm,1.1s								
PV13				IAMs_20	IAMs_20	02 52 55.5			
	comp=Z,19µm,21.0s								
H66A	**Whiting**	**80.95**	**5**	P	**P**	**02 22 21.0**	**+0.4**		
	baz=185,SNR=9.5								
H66A				S	**S**	**02 32 31.7**	**+3.3**		
	baz=185								
PV02	**

baz=180,SNR=6.4
G58A S **S** **02 32 31.0 +1.0**

baz=180
PV16 **Nyswonger Mesa** **81.11 333** IAMs_20 IAMs_20 02 52 51.0
comp=Z,19µm,22.0s
HAL **Halifax** **81.11 7** IAMs_20 IAMs_20 02 56 38.8
comp=Z,20µm,21.0s
PV07 **Paradox Valley** **81.12 333** IAMs_20 IAMs_20 02 53 03.4
comp=Z,23µm,21.0s
PV19 **Morning Glory** **81.13 333** IAMs_20 IAMs_20 02 52 50.6
comp=Z,18µm,22.0s
G63A **Kingsbury** **81.16 3** P **P** **02 22 21.8 0.0**
baz=183,SNR=6.5
G63A S **S** **02 32 33.8 +3.2**

baz=183
PV04 **Paradox Valley** **81.18 333** IAMs_20 IAMs_20 02 53 03.7
comp=Z,24µm,21.0s
SMCO **Snowmass** **81.18 334** P **P** **02 22 22.6 +0.1**
SMCO IAmb IAmb 02 22 34.7
comp=Z,149nm,1.1s
SMCO IAMs_20 IAMs_20 02 55 07.9
comp=Z,19µm,18.0s
SMCO **Snowmass** **81.18 334** ⇑P **P** **02 22 24.4 +1.9**
SMCO ⇑P **P** **02 22 24.5 +1.9**
SMCO ⇓P **sP** **02 22 33.7 +3.9**
FMP **Fort Macarthur** **81.19 324** S **S** **02 32 36.5 +5.1**
baz=145
OGNE **Ogallala** **81.19 339** P **P** **02 22 24.5 +2.3**
baz=157
OGNE S **S** **02 32 33.6 +2.2**

baz=157
HEC **Hector,Ludlow** **81.20 326** P **P** **02 22 23.4 +1.0**
baz=147,SNR=6.1
HEC S **S** **02 32 37.7 +6.0**

baz=147
PV14 **Lion Creek, Pa** **81.20 333** IAmb IAmb 02 22 34.0
comp=Z,96nm,1.1s
PV14 IAMs_20 IAMs_20 02 52 53.5
comp=Z,23µm,22.0s
PV10 **Paradox Valley** **81.21 333** IAMs_20 IAMs_20 02 52 50.7
comp=Z,21µm,22.0s
G62A **West of Eustis** **81.23 2** IAmb IAmb 02 22 34.2
comp=Z,92nm,0.9s
G62A IAMs_20 IAMs_20 03 00 33.5
comp=Z,17µm,20.0s
G62A **West of Eustis** **81.23 2** P **P** **02 22 21.7 -0.4**
baz=183,SNR=14
G62A S **S** **02 32 34.2 +2.9**

baz=183
PV22 **Blue Mesa, Par** **81.26 333** IAMs_20 IAMs_20 02 53 07.6
comp=Z,22µm,21.0s
G61A **St-Isidore-de-** **81.27 2** P **P** **02 22 21.1 -1.2**
baz=182,SNR=8.7
G61A S **S** **02 32 34.4 +2.7**

baz=182
ISCO **Idaho Springs** **81.27 336** P **P** **02 22 25.1 +2.1**
baz=155,SNR=6.9
ISCO S **S** **02 32 35.8 +3.1**

baz=155
GGN **Saint George** **81.31 5** IAmb IAmb 02 22 34.1
comp=Z,100nm,1.2s
PKME **Peaks-Kenny Pk** **81.32 3** P **P** **02 22 23.8 +1.2**
PKME IAmb IAmb 02 22 35.4
comp=Z,254nm,1.9s
PKME IAMs_20 IAMs_20 02 59 02.0
comp=Z,22µm,21.0s
PKME **Peaks-Kenny Pk** **81.32 3** P **P** **02 22 23.0 +0.4**
baz=184,SNR=8.8
PKME S **S** **02 32 34.7 +2.5**

baz=184
BFSC **Mount Baldy Ra** **81.32 324** P **P** **02 22 23.8 +0.7**
baz=146,SNR=7.2
BFSC S **S** **02 32 37.6 +4.5**

baz=146
I40A **Norwalk** **81.32 348** IAmb IAmb 02 22 35.0
comp=Z,200nm,1.9s
I40A IAMs_20 IAMs_20 03 04 17.3
comp=Z,24µm,20.0s
WKZ **Wanaka** **81.33 220** IAMs_20 IAMs_20 02 51 11.5
comp=Z,21µm,19.0s
G64A **Maxfield** **81.33 4** P **P** **02 22 21.1 -1.6**
baz=184,SNR=9.5
G65A **Princeton** **81.35 4** IAMs_20 IAMs_20 03 00 33.8
comp=Z,23µm,20.0s
G65A **Princeton** **81.35 4** P **P** **02 22 22.2 -0.5**
baz=185,SNR=6.0
G65A S **S** **02 32 36.0 +3.5**

baz=185
NEPA **Kaukuwa** **81.35 106** *i* P **P** **02 22 22.6 -1.2**
NEPA IAmb IAmb 02 22 26.2
comp=Z,376nm,1.5s
GLMI **Grayling** **81.39 352** IAmb IAmb 02 22 34.5
comp=Z,73nm,0.9s
GLMI IAMs_20 IAMs_20 03 04 37.3
comp=Z,22µm,18.0s
GLMI **Grayling** **81.39 352** P **P** **02 22 21.5 -1.6**
baz=171
GLMI S **S** **02 32 29.4 -3.6**

baz=171
SNCC **San Nicolas Is** **81.41 323** IAMs_20 IAMs_20 02 50 54.6
comp=Z,18µm,19.0s
SNCC **San Nicolas Is** **81.41 323** S **S** **02 32 38.8 +5.0**
baz=144
H43A **Windswept, Lux** **81.44 350** IAmb IAmb 02 22 33.6
comp=Z,79nm,1.0s
G54A **Lake Saint Pet** **81.45 357** P **P** **02 22 21.2 -2.2**
baz=176,SNR=16
G54A S **S** **02 32 32.9 -0.9**

baz=176
MWC **Mount Wilson** **81.50 324** IAMs_20 IAMs_20 02 52 09.4
comp=Z,20µm,18.0s
KNB **Kanab** **81.52 329** IAmb IAmb 02 22 36.4
comp=Z,146nm,1.2s
PASC **Pasadena Art C** **81.52 324** IAMs_20 IAMs_20 02 52 08.7
comp=Z,16µm,19.0s
TUQ **Turquoise Moun** **81.52 326** P **P** **02 22 25.5 +1.4**
baz=147,SNR=13
TUQ S **S** **02 32 39.8 +4.7**

baz=147
RRX **Edison Barstow** **81.54 325** S **S** **02 32 38.7 +3.6**
baz=146
PYZ **Puysegur Point** **81.57 218** IAMs_20 IAMs_20 02 52 39.0
comp=Z,16µm,18.0s
DECC **Green Verdugo** **81.65 324** S **S** **02 32 41.2 +4.9**
baz=145
G45A **Suttons Bay** **81.72 351** IAmb IAmb 02 22 40.6
comp=Z,309nm,1.9s
G45A IAMs_20 IAMs_20 03 03 16.1
comp=Z,20µm,20.0s
F63A **Nahmakanta, Br** **81.77 3** IAmb IAmb 02 22 36.5
comp=Z,101nm,1.1s
F63A IAMs_20 IAMs_20 02 59 13.8
comp=Z,22µm,20.0s
F63A **Nahmakanta, Br** **81.77 3** P **P** **02 22 24.8 -0.2**
baz=184,SNR=9.0
F63A S **S** **02 32 39.5 +2.6**

baz=184
F57A **Harrington** **81.78 359** P **P** **02 22 24.7 -0.3**
baz=179
F57A S **S** **02 32 37.6 +0.7**

baz=179
FOZ **Fox Glacier** **81.80 221** IAMs_20 IAMs_20 02 50 11.0
comp=Z,23µm,20.0s
GSC **Goldstone, Bar** **81.80 326** P **P** **02 22 26.2 +0.6**
GSC pmax pmax
comp=Z,56nm,1.2s
GSC **Goldstone, Bar** **81.80 326** P **P** **02 22 26.2 +0.6**
GSC IAMs_20 IAMs_20 02 50 38.1
comp=Z,17µm,21.0s
GSC **Goldstone, Bar** **81.80 326** P **P** **02 22 26.7 +1.1**
baz=146,SNR=5.3
GSC S **S** **02 32 42.0 +4.1**

baz=146
F59A **Saint Guilaume** **81.81 1** P **P** **02 22 23.9 -1.3**
baz=181
F59A S **S** **02 32 37.3 0.0**

baz=181
F58A **St-Lin Laurent** **81.83 360** S **S** **02 32 36.9 -0.6**
baz=180
F62A **Pittston Farm,** **81.92 3** IAmb IAmb 02 22 37.4
comp=Z,146nm,1.1s
F62A **Pittston Farm,** **81.92 3** P **P** **02 22 25.6 -0.2**
baz=183,SNR=28
F62A S **S** **02 32 42.0 +3.5**

baz=183
F60A **Warwick** **81.94 1** P **P** **02 22 25.2 -0.7**
baz=182,SNR=8.9
F60A S **S** **02 32 38.9 +0.2**

baz=182
I37A **Lemond, Waseca** **81.96 346** IAmb IAmb 02 22 36.5
comp=Z,127nm,1.1s
F64A **Sherman** **81.96 4** IAMs_20 IAMs_20 02 57 03.1
comp=Z,16µm,20.0s
F64A **Sherman** **81.96 4** P **P** **02 22 25.6 -0.4**
baz=184,SNR=6.2
F64A S **S** **02 32 42.2 +3.3**

baz=184
F61A **St Evariste** **81.97 2** P **P** **02 22 25.1 -0.9**
baz=182
F61A S **S** **02 32 40.8 +1.9**

baz=182
EDW2 **Edwards Air Fo** **82.01 325** P **P** **02 22 27.1 +0.5**
baz=146,SNR=6.4
EDW2 S **S** **02 32 44.4 +4.4**

baz=146
ALGO **Algonquin Park** **82.01 357** P **P** **02 22 25.3 -1.0**
baz=176
ALGO S **S** **02 32 38.7 -0.7**

baz=176
SHOC **Shoshone, Teco** **82.06 326** P **P** **02 22 26.4 -0.4**
baz=147,SNR=5.0
SHOC S **S** **02 32 44.3 +3.8**

baz=147
GBN **Guysborough** **82.11 9** IAmb IAmb 02 22 58.4
comp=Z,107nm,1.4s
GBN IAMs_20 IAMs_20 03 02 14.1
comp=Z,18µm,20.0s
SZCU **Shurtz Canyon** **82.12 329** IAmb IAmb 02 22 41.4
comp=Z,92nm,1.3s
OSI **Osito Audit: C** **82.13 324** IAMs_20 IAMs_20 02 52 53.7
comp=Z,14µm,18.0s
OSI **Osito Audit: C** **82.13 324** S **S** **02 32 44.6 +3.3**
baz=145
CCUT **Cedar City** **82.20 329** IAmb IAmb 02 22 40.3
comp=Z,86nm,1.2s
LMN **Caledonia Moun** **82.20 6** P **P** **02 22 28.5 +1.2**
LMN IAmb IAmb 02 22 39.0
comp=Z,95nm,0.9s
LMN IAMs_20 IAMs_20 03 01 43.5
comp=Z,22µm,20.0s
RUDU **RUNDU** **82.25 106** *i* P **P** **02 22 31.2 +2.7**
E58A **La Victoria** **82.33 0** P **P** **02 22 25.9 -2.0**
baz=180,SNR=10
E58A S **S** **02 32 43.3 +0.7**

baz=180
E60A **Ste Agathe de** **82.35 2** P **P** **02 22 26.8 -1.2**
baz=182,SNR=13
E60A S **S** **02 32 44.9 +2.0**

baz=182
LRMC **Laurel Mtn Rad** **82.35 325** S **S** **02 32 47.1 +3.4**
baz=146
N23A **Red Feather La** **82.37 336** P **P** **02 22 31.4 +2.8**
baz=154,SNR=8.4
N23A S **S** **02 32 46.8 +2.9**

baz=154
ECSD **EROS Data Cent** **82.38 343** IAmb IAmb 02 22 38.9
comp=Z,145nm,1.1s
ECSD **EROS Data Cent** **82.38 343** P **P** **02 22 27.9 -0.4**
baz=162
ECSD S **S** **02 32 43.1 -0.2**

baz=162
SRU **San Rafael Swe** **82.41 332** IAmb IAmb 02 22 40.1
comp=Z,71nm,1.0s
E61A **Lac Etchemin** **82.44 2** P **P** **02 22 28.8 +0.3**
baz=183,SNR=7.9
E61A S **S** **02 32 46.2 +2.4**

baz=183
E59A **St. Maurice** **82.45 1** S **S** **02 32 44.4 +0.7**
baz=181
O20A **White River Ci** **82.47 334** IAMs_20 IAMs_20 02 54 14.2
comp=Z,16µm,21.0s
O20A **White River Ci** **82.47 334** P **P** **02 22 31.7 +2.6**
baz=153,SNR=12
O20A S **S** **02 32 48.1 +3.2**

baz=153
Q16A **Castle Valley** **82.49 331** IAmb IAmb 02 22 41.1
comp=Z,110nm,1.1s
E56A **St. Veronique** **82.51 359** P **P** **02 22 28.5 -0.4**
baz=179,SNR=16
E56A S **S** **02 32 43.9 -0.6**

baz=179
E63A **Oxbow** **82.52 4** IAMs_20 IAMs_20 03 01 14.7
comp=Z,17µm,21.0s
E63A **Oxbow** **82.52 4** P **P** **02 22 29.0 +0.1**
baz=184,SNR=7.9
LBTB **Lobatse** **82.52 115** P **P** **02 22 30.1 +0.3**
LBTB pmax pmax
comp=Z,284nm,1.4s
LBTB **Lobatse** **82.52 115** P **P** **02 22 30.1 +0.3**
LBTB **Lobatse** **82.52 115** *i* P **P** **02 22 27.5 -2.3**
LBTB IAmb IAmb 02 22 31.5
comp=Z,287nm,1.4s
LBTB IVMs_BB IVMs_BB 03 07 28.0
comp=Z,6µm,15.2s
E64A **Bridgewater** **82.55 4** P **P** **02 22 29.2 +0.1**
baz=185,SNR=7.5
PHWY **Pilot Hill** **82.58 336** IAmb IAmb 02 22 41.0
comp=Z,82nm,1.2s
G40A **Rib Lake** **82.59 348** IAMs_20 IAMs_20 03 02 39.9
comp=Z,19µm,20.0s
ARVC **Arvin** **82.60 324** P **P** **02 22 33.1 +3.5**
baz=145
E62A **Clayton Lake** **82.66 3** IAMs_20 IAMs_20 03 01 06.2
comp=Z,16µm,21.0s
E62A **Clayton Lake** **82.66 3** P **P** **02 22 30.0 +0.3**
baz=184,SNR=15
MPMC **Manual Prospec** **82.74 326** P **P** **02 22 30.8 +0.2**
baz=146
PRN **Pan Range** **82.78 328** IAmb IAmb 02 22 43.9
comp=Z,126nm,1.0s
PRN IAMs_20 IAMs_20 02 55 33.1
comp=Z,17µm,18.0s
PRN **Pahroc Range** **82.78 328** ⇓P **P** **02 22 32.3 +1.5**
PRN ⇑P **PcP** **02 22 32.7 -2.9**
PQI **Presque Isle** **82.79 4** IAmb IAmb 02 22 49.0
comp=Z,133nm,1.5s
PQI IAMs_20 IAMs_20 03 01 18.9
comp=Z,19µm,20.0s
FURC **Furnace Creek,** **82.80 326** P **P** **02 22 33.6 +3.1**
baz=146,SNR=11
KOWA **Kowa** **82.81 66** P **P** **02 22 30.5 -0.7**
baz=230,slow=5.4,SNR=55
comp=Z,81nm,1.1s,
KOWA **Kowa** **82.81 66** P **P** **02 22 31.9 +0.7**
KOWA **Kowa** **82.81 66** *i* P **P** **02 22 30.5 -0.7**
P17A **Butcher Ranch,** **82.81 332** IAmb IAmb 02 22 42.3
comp=Z,96nm,1.1s
TMUT **Trail Mountain** **82.84 332** IAmb IAmb 02 22 44.5
comp=Z,68nm,1.0s
ISA **Isabella, Lake** **82.87 325** P **P** **02 22 33.9 +2.8**
baz=145,SNR=7.2
PKM **Mcpherson Peak** **82.88 323** P **P** **02 22 33.6 +2.3**
baz=144,SNR=6.3
E46A **Sault Ste Mari** **82.88 353** IAMs_20 IAMs_20 03 03 29.8
comp=Z,19µm,21.0s
D60A **Saint Jean D'O** **82.91 2** P **P** **02 22 30.6 -0.3**
baz=182,SNR=7.5
TPNV **Topopah Spring** **82.92 327** IAmb IAmb 02 22 43.9
comp=Z,72nm,1.2s
TPNV IAMs_20 IAMs_20 02 52 24.7
comp=Z,18µm,22.0s
TPNV **Topopah Spring** **82.92 327** ⇑P **P** **02 22 33.4 +2.0**
TPNV ⇑P **PcP** **02 22 34.0 -2.1**
TPNV ⇓P **sP** **02 22 43.0 +4.3**
TPNV **Topopah Spring** **82.92 327** P **P** **02 22 33.1 +1.6**
baz=147,SNR=14
D59A **Saint-Raymond** **82.98 1** P **P** **02 22 30.9 -0.3**
baz=182
D55A **Sainte-Anne-du** **82.99 359** P **P** **02 22 30.7 -0.7**
baz=179,SNR=14
SPMN **Marine on St.** **83.01 347** IAMs_20 IAMs_20 03 05 38.8
comp=Z,18µm,18.0s
SPMN **Marine on St.** **83.01 347** P **P** **02 22 30.4 -1.0**
baz=165
D56A **ZEC Mazanza, M** **83.01 359** P **P** **02 22 31.2 -0.2**
baz=179,SNR=8.6
D58A **Chemin du LacG** **83.06 1** P **P** **02 22 31.2 -0.5**
baz=181,SNR=15
D62A **Allapoint, All** **83.14 3** IAmb IAmb 02 22 43.7
comp=Z,93nm,1.0s
D62A IAMs_20 IAMs_20 03 00 23.3
comp=Z,19µm,20.0s
D62A **Allapoint, All** **83.14 3** P **P** **02 22 32.3 +0.2**
baz=184,SNR=16
D63A **Stockholm** **83.15 4** P **P** **02 22 32.1 0.0**
baz=185,SNR=9.0
E43A **Lone Tree Farm** **83.20 351** IAmb IAmb 02 22 43.1
comp=Z,99nm,1.1s
E43A IAMs_20 IAMs_20 03 00 25.2
comp=Z,16µm,22.0s
D61A **St Aubert, Com** **83.22 2** P **P** **02 22 32.0 -0.4**
baz=183
COWI **Conover** **83.23 349** IAMs_20 IAMs_20 03 00 24.0
comp=Z,16µm,21.0s
PSUT **Pine Spring** **83.24 329** IAmb IAmb 02 22 50.0
comp=Z,64nm,1.0s
VES **Vestal, Richgr** **83.30 324** P **P** **02 22 33.9 +0.6**
baz=145,SNR=5.5
SMMC **Simmler** **83.31 323** P **P** **02 22 35.0 +1.6**
baz=144
CWC **Cottonwood Cre** **83.33 325** P **P** **02 22 36.4 +2.9**
baz=146
RDMU **Red Mountain** **83.34 333** P **P** **02 22 34.7 +1.1**
RDMU IAmb IAmb 02 22 44.9
comp=Z,124nm,1.1s
LATQ **La Tuque** **83.35 1** P **P** **02 22 33.3 +0.1**
baz=181,SNR=6.7
GRAC **Grapevine Rang** **83.46 326** P **P** **02 22 35.6 +1.5**
baz=146
BATG **Bathurst New B** **83.52 5** P **P** **02 22 33.7 -0.4**
BATG IAmb IAmb 02 22 45.8
comp=Z,58nm,1.0s
BATG IAMs_20 IAMs_20 03 03 51.2
comp=Z,24µm,20.0s
SUSD **Miller** **83.61 342** IAmb IAmb 02 22 46.6
comp=Z,122nm,1.1s
SUSD IAMs_20 IAMs_20 03 05 04.5
comp=Z,17µm,19.0s
SUSD **Miller** **83.61 342** P **P** **02 22 34.3 -0.3**
baz=160
MPU **Maple Canyon** **83.62 332** IAmb IAmb 02 22 46.7
comp=Z,103nm,1.1s
NLU **North Lily Min** **83.74 331** IAmb IAmb 02 22 47.6
comp=Z,114nm,1.4s
F36A **Milaca** **83.76 346** IAmb IAmb 02 22 45.5
comp=Z,61nm,1.1s
F36A IAMs_20 IAMs_20 03 03 47.4
comp=Z,19µm,20.0s
PAGB **Antelope Grade** **83.77 324** IAMs_20 IAMs_20 02 53 16.0
comp=Z,14µm,18.0s
MACI **Morro de la Ar** **83.77 48** P **P** **02 22 36.5 +0.5**
MACI IAmb IAmb 02 22 49.2
comp=Z,115nm,1.0s
NIUE **Niue** **83.78 251** IAMs_20 IAMs_20 02 53 03.9
comp=Z,23µm,19.0s
R11A **Troy Canyon, C** **83.81 328** IAmb IAmb 02 22 48.3
comp=Z,60nm,1.1s
R11A **Troy Canyon, C** **83.81 328** P **P** **02 22 36.8 +0.7**
baz=147,SNR=16
SPR3 **Spring Creek 3** **83.83 329** IAmb IAmb 02 22 47.9
comp=Z,106nm,1.2s
JLU **Jordanelle** **84.06 332** IAmb IAmb 02 22 48.8
comp=Z,69nm,1.0s
E38A **The Farm, Brul** **84.12 348** IAMs_20 IAMs_20 03 03 30.2
comp=Z,20µm,19.0s
K22A **Casper** **84.14 336** P **P** **02 22 39.5 +2.0**
baz=154
VLDQ **Val d'Or** **84.14 357** IAmb IAmb 02 22 47.9
comp=Z,96nm,1.2s
VLDQ IAMs_20 IAMs_20 03 02 56.7
comp=Z,21µm,20.0s
DUG **Dugway, Tooele** **84.24 331** IAmb IAmb 02 22 50.0
comp=Z,139nm,1.2s
DUG IAMs_20 IAMs_20 02 55 18.7
comp=Z,15µm,19.0s
DUG **Dugway, Tooele** **84.24 331** P **P** **02 22 40.8 +2.6**
baz=149,SNR=21
F33A **5 Mile Ranch,** **84.31 344** IAmb IAmb 02 22 48.2
comp=Z,60nm,1.1s
F33A IAMs_20 IAMs_20 03 06 30.1
comp=Z,16µm,18.0s
PMPB **Monarch Peak** **84.42 323** IAMs_20 IAMs_20 02 52 50.3
comp=Z,15µm,19.0s
MLAC **Mammoth, Mammo** **84.65 326** P **P** **02 22 43.8 +3.5**
baz=145,SNR=5.5
RSSD **Black Hills** **84.69 339** P **P** **02 22 40.6 +0.1**
RSSD pmax pmax
comp=Z,40nm,1.0s
RSSD **Black Hills** **84.69 339** P **P** **02 22 40.5 +0.1**
RSSD **Black Hills** **84.69 339** ⇑P **P** **02 22 41.8 +1.3**
RSSD ⇓P **PcP** **02 22 42.0 -1.8**
RSSD ⇑P **pP** **02 22 45.7 -0.1**
RSSD ⇑P **sP** **02 22 49.6 +1.9**
RSSD **Black Hills** **84.69 339** P **P** **02 22 42.2 +1.8**
baz=156
MDPB **Devils Postpil** **84.76 325** IAMs_20 IAMs_20 02 54 19.3
comp=Z,17µm,19.0s
H07S1 **FLORES T-PHASE** **84.90 32** P **P** **02 22 43.2 +1.8**
SNR=8.0
H07S1 **FLORES T-PHASE** **84.90 32** *eP* **P** **02 22 42.3 +1.0**
H07S1 **FLORES T-PHASE** **84.90 32** *e*LQ LQ 02 50 43.0
BGU **Big Grassy Mou** **84.95 331** IAmb IAmb 02 22 56.2
comp=Z,151nm,1.7s
HWUT **Hardware Ranch** **84.97 332** IAMs_20 IAMs_20 02 55 03.3
comp=Z,15µm,22.0s
LHV **Little Huntoon** **85.00 326** IAmb IAmb 02 22 54.3
comp=Z,77nm,1.2s
SPUT **South Promonto** **85.05 332** IAmb IAmb 02 22 53.6
comp=Z,109nm,1.1s
NVAR **Mina Array Bea** **85.06 326** P **P** **02 22 42.8 +0.4**
comp=Z,7.3nm,0.8s,baz=157,slow=6.0,SNR=22
NVAR S **SKSac** **02 33 06.0 -0.3**
comp=Z,0.2nm,0.5s,baz=220,slow=14,SNR=1.2
NVAR PKKPbc **PKKPbc** **02 40 51.0 +0.7**
comp=Z,0.4nm,0.6s,baz=302,slow=2.8,SNR=3.8
NVAR LR LR 02 52 55.8
comp=Z,11µm,20.9s,baz=136,slow=30
LSQQ **Lebel-sur-Quev** **85.07 358** P **P** **02 22 41.2 -0.6**
baz=177
SAO **San Andreas Ge** **85.17 323** IAMs_20 IAMs_20 02 53 35.2
comp=Z,15µm,18.0s
H07N1 **FLORES T-PHASE** **85.20 32** P **P** **02 22 43.8 +1.0**
SNR=8.4
H07N1 **FLORES T-PHASE** **85.20 32** *eP* **P** **02 22 44.2 +1.4**
BW06 **Boulder Array** **85.26 334** P **P** **02 22 44.7 +1.3**
BW06 IAmb IAmb 02 22 55.1
comp=Z,184nm,1.7s
BW06 IAMs_20 IAMs_20 02 55 56.0
comp=Z,24µm,21.0s
BW06 **Boulder Array** **85.26 334** P **P** **02 22 45.1 +1.8**
baz=152
PD31 **Pinedale Array** **85.26 334** IAmb IAmb 02 22 55.1
comp=Z,166nm,1.7s
PDAR **Pinedale Array** **85.26 334** P **P** **02 22 42.9 -0.4**
comp=Z,2.6nm,0.8s,baz=157,slow=4.2,SNR=19
PDAR S **SKSac** **02 33 05.2 -2.1**
comp=Z,0.2nm,0.4s,baz=182,slow=6.9,SNR=1.3
PDAR LR LR 02 56 27.9
comp=Z,17µm,21.4s,baz=150,slow=33
HOR **Horta** **85.32 34** *eP* **P** **02 22 46.5 +3.1**
comp=Z,147nm,1.7s
PCED **Cedros** **85.37 34** *eP* **P** **02 22 45.7 +2.0**
comp=Z,181nm,1.7s
PICO **Pico** **85.39 34** *eP* **P** **02 22 45.2 +1.3**
comp=Z,252nm,1.5s
PICO **Pico** **85.39 34** *e*LQ LQ 02 50 43.9
EYMN **Ely** **85.41 348** IAmb IAmb 02 22 58.8
comp=Z,132nm,1.6s
EYMN **Ely** **85.41 348** IAMs_20 IAMs_20 03 01 47.4
comp=Z,17µm,21.0s
EYMN **Ely** **85.41 348** P **P** **02 22 42.3 -1.4**
baz=166
PID **Ribeirinha** **85.48 34** *eP* **P** **02 22 46.7 +2.4**
comp=Z,340nm,1.7s
HVU **Hansel Valley** **85.58 332** IAmb IAmb 02 22 56.0
comp=Z,79nm,1.1s
WAKR **Walker** **85.63 326** IAMs_20 IAMs_20 02 54 49.4
comp=Z,21µm,19.0s
PMAN **Manadas** **85.65 34** *eP* **P** **02 22 46.7 +1.7**
comp=Z,240nm,1.5s
ROSA **Rosais** **85.65 34** *eP* **P** **02 22 48.6 +3.5**
comp=Z,256nm,1.2s
ROSA **Rosais** **85.65 34** *e*LQ LQ 02 50 53.9
D32A **Dogwood Acres,** **85.69 344** IAmb IAmb 02 22 57.3
comp=Z,79nm,0.9s
PSMA **Santa Maria** **85.72 37** *eP* **P** **02 22 44.0 -1.4**
comp=Z,216nm,1.6s
PSMN **Pico do Norte,** **85.76 37** *eP* **P** **02 22 47.4 +1.7**
comp=Z,310nm,1.6s
PSMN **Pico do Norte,** **85.76 37** *e*LQ LQ 02 50 43.9
MATQ **Matagami** **85.79 357** P **P** **02 22 44.8 -0.7**
baz=177,SNR=6.8
AHID **Auburn Hatcher** **85.81 333** IAmb IAmb 02 23 00.3
comp=Z,134nm,1.2s
AHID IAMs_20 IAMs_20 02 56 25.4

comp=Z,14µm,20.0s
CHGQ Chibougamau 85.87 360 P **P** 02 22 44.1 -1.8
baz=180,SNR=21
YERR Yerington 85.94 326 IAMs_20 IAMs_20 02 55 22.4
comp=Z,20µm,18.0s
SRBC Serra Branca 86.00 34 *e*P **P** **02 22 47.4 +0.6**
comp=Z,125nm,1.1s
PGRA Graciosa 86.02 34 *e*P **P** **02 22 47.3 +0.4**
comp=Z,274nm,1.8s
PGRA Graciosa 86.02 34 *e*LQ LQ 02 50 41.4
ADH Angra Heroismo 86.06 35 *e*P **P** **02 22 47.4 +0.3**
comp=Z,74nm,1.4s
PDA Ponta Delgada 86.06 36 *e*P **P** **02 22 49.9 +2.8**
comp=Z,204nm,1.4s
PSET Sete Cidades 86.10 36 *e*P **P** **02 22 51.1 +3.8**
comp=Z,345nm,1.8s
PSET Sete Cidades 86.10 36 *e*LQ LQ 02 50 58.0
CMLA Cha da Macela 86.14 36 *e*P **P** **02 22 51.5 +4.0**
comp=Z,257nm,1.6s
CMLA Cha da Macela 86.14 36 *e*LQ LQ 02 51 04.7
GRON Grota Negra 86.14 36 *e*P **P** **02 22 49.1 +1.5**
comp=Z,120nm,1.2s
PSCM Serra do Cume 86.15 35 *e*P **P** **02 22 50.1 +2.6**
comp=Z,157nm,1.3s
PAGU Agualva, Azore 86.17 35 *e*P **P** **02 22 48.4 +0.8**
comp=Z,88nm,1.4s
PAGU Agualva, Azore 86.17 35 *e*LQ LQ 02 50 43.0
PNTR Pine Nut 86.18 326 IAMs_20 IAMs_20 02 55 18.0
comp=Z,20µm,19.0s
XMAS Kiritimati 86.18 275 P **P** **02 22 47.1 -1.2**
XMAS IAmb IAmb 02 23 02.2
comp=Z,88nm,0.9s
XMAS Kiritimati 86.18 275 IAMs_20 IAMs_20 02 50 54.6
comp=Z,25µm,22.0s
PCALD Caldeiras da R 86.19 36 *e*P P 02 22 53.4 +5.7
B35A Bob, Littlefor 86.20 347 IAmb IAmb 02 23 02.7
comp=Z,172nm,1.8s
B35A IAMs_20 IAMs_20 03 07 09.3
comp=Z,16µm,19.0s
REDW Red Top Meadow 86.24 334 IAmb IAmb 02 23 17.2
comp=Z,99nm,1.2s
TOA0 Torodi Ar. Sit 86.25 71 P **P** **02 22 47.8 -0.8**
TORD Torodi Ar. Bea 86.25 71 P **P** **02 22 47.4 -1.1**
comp=Z,41nm,1.1s,baz=245,slow=4.9,SNR=86
TORD S **SKSac** **02 33 10.4 -3.8**
comp=Z,0.6nm,1.1s,baz=176,slow=4.3,SNR=1.7
TORD LR LR 02 59 16.7
comp=Z,31µm,20.1s,baz=260,slow=34
TORD Torodi Ar. Bea 86.25 71 P **P** **02 22 48.6 +0.1**
SNOW Snow King Moun 86.29 334 IAmb IAmb 02 23 05.2
comp=Z,128nm,1.4s
SNOW IAMs_20 IAMs_20 02 56 26.2
comp=Z,19µm,22.0s
BART Pico Bartolome 86.32 36 *e*P **P** **02 22 49.1 +0.6**
comp=Z,223nm,1.2s
LOHW Long Hollow 86.37 334 IAMs_20 IAMs_20 02 56 40.3
comp=Z,23µm,21.0s
VCNR Virginia City 86.37 326 IAMs_20 IAMs_20 02 55 25.0
comp=Z,18µm,19.0s
TPAW Teton Pass 86.39 334 IAmb IAmb 02 23 00.1
comp=Z,72nm,1.1s
RUBR Rubicon Trail 86.40 326 IAMs_20 IAMs_20 02 56 50.8
comp=Z,16µm,18.0s
DRLN Deer Lake 86.42 11 P **P** **02 22 50.6 +2.0**
DRLN IAmb IAmb 02 23 00.2
comp=Z,69nm,0.9s
AGMN Agassiz Nation 86.55 345 IAMs_20 IAMs_20 03 05 36.6
comp=Z,21µm,20.0s
AGMN Agassiz Nation 86.55 345 P **P** **02 22 48.5 -0.8**
baz=162
PAHR Pah Rah Range 86.59 326 IAMs_20 IAMs_20 02 55 46.8
comp=Z,16µm,18.0s
AFDM Forest Hills D 86.70 325 IAMs_20 IAMs_20 02 54 56.5
comp=Z,14µm,19.0s
PMOZ Porto Moniz, M 86.72 45 *e*P **P** **02 22 50.6 0.0**
comp=Z,122nm,2.2s
PMOZ Porto Moniz, M 86.72 45 *e*PP PP 02 26 27.8 +14
PMOZ *e*S S 02 33 40.2 +13
PMOZ Porto Moniz, M 86.72 45 *e*LR LR 02 52 37.0
comp=Z,20µm,18.0s
PMAR Madeira 86.80 45 *e*P **P** **02 22 51.9 +0.8**
comp=Z,188nm,1.5s
FLWY Flagg Ranch 86.81 334 IAmb IAmb 02 23 06.5
comp=Z,133nm,1.1s
FLWY IAMs_20 IAMs_20 02 56 55.0
comp=Z,21µm,21.0s
MDND Maddock 86.96 343 P **P** **02 22 51.7 +0.4**
baz=159
BEKR Beckworth 87.16 326 IAMs_20 IAMs_20 02 54 15.7
comp=Z,15µm,21.0s
RLMT Red Lodge 87.24 336 IAmb IAmb 02 23 09.8
comp=Z,93nm,1.4s
RLMT Red Lodge 87.24 336 P **P** **02 22 53.2 +0.2**
baz=152
YNR Norris Junctio 87.36 335 P **P** **02 22 55.0 +1.4**
YNR IAmb IAmb 02 23 11.1
comp=Z,92nm,1.5s
YNE Yellowstone No 87.39 335 IAmb IAmb 02 24 08.0
comp=Z,31nm,0.5s
PMPST Porto Santo, M 87.39 45 *e*P **P** **02 22 55.2 +1.4**
comp=Z,138nm,1.4s
ORV Oroville 87.43 325 IAMs_20 IAMs_20 02 55 28.9
comp=Z,20µm,19.0s
YHH Holmes Hill 87.48 334 IAmb IAmb 02 23 06.0
comp=Z,89nm,1.2s
LAO LASA Array 87.67 338 IAmb IAmb 02 23 05.5
comp=Z,62nm,1.2s
LAO LASA Array 87.67 338 P **P** **02 22 55.3 +0.5**
baz=154
HOPS Hopland Field 87.72 324 IAMs_20 IAMs_20 02 54 05.6
comp=Z,13µm,20.0s
HLID Hailey 87.73 332 IAmb IAmb 02 23 13.0
comp=Z,151nm,1.6s
HLID IAMs_20 IAMs_20 02 58 46.2
comp=Z,15µm,18.0s
HLID Hailey 87.73 332 P **P** **02 22 56.7 +1.3**
baz=148,SNR=21
O03E Paynes Creek 88.16 325 P **P** **02 22 56.4 -1.0**
baz=143
AFI Afiamalu 88.26 254 IAMs_20 IAMs_20 02 51 57.0
comp=Z,15µm,22.0s
ITZ Itezhi-Tezhi 88.38 108 *i* P **P** **02 22 56.7 -2.4**
ULM Lac du Bonnet 88.42 346 P **P** **02 22 58.1 -0.1**
comp=Z,14nm,0.8s,baz=177,slow=4.3,SNR=18
ULM S **SKSac** **02 33 23.1 -2.7**
comp=Z,1.0nm,0.6s,baz=180,slow=5.1,SNR=1.6
ULM Lac du Bonnet 88.42 346 P **P** **02 22 58.4 +0.3**
ULM IAMs_20 IAMs_20 03 06 10.9
comp=Z,13µm,20.0s
WVOR Wild Horse Val 88.49 328 IAmb IAmb 02 23 42.8
comp=Z,102nm,1.4s
O02D Mt. Diablo Mer 88.52 325 P **P** **02 22 59.4 +0.3**
baz=143
DLMT Dillon 88.60 334 IAmb IAmb 02 23 12.0
comp=Z,116nm,1.4s
DLMT IAMs_20 IAMs_20 02 59 39.2
comp=Z,13µm,18.0s
DGMT Dagmar 88.71 340 P **P** **02 22 59.3 -0.4**
baz=156
MOD Modoc Plateau 88.78 327 IAmb IAmb 02 23 12.2
comp=Z,66nm,1.2s
MOD IAMs_20 IAMs_20 02 57 54.2
comp=Z,19µm,18.0s
N02D Trinity Center 89.11 325 P **P** **02 23 04.4 +2.6**
baz=143
J08A Circle Bar Ran 89.18 329 IAMs_20 IAMs_20 02 57 33.5
comp=Z,15µm,18.0s
M04C Macdoel 89.36 326 P **P** **02 23 05.6 +2.5**
baz=143
KHMM Horse Mountain 89.51 324 IAMs_20 IAMs_20 02 56 23.1
comp=Z,16µm,19.0s
M02C Callahan 89.51 325 P **P** **02 23 06.0 +2.3**
baz=142
K05A Summer Lake 89.70 327 IAmb IAmb 02 23 17.8
comp=Z,149nm,1.4s
L04D Klamath Falls 89.92 326 P **P** **02 23 07.4 +1.7**
baz=143
BMO Blue Mountains 89.94 331 IAMs_20 IAMs_20 03 04 05.7
comp=Z,12µm,18.0s
K04D Chiloquin, OR 90.00 327 P **P** **02 23 08.3 +2.3**
baz=143
KRMB Red Mountain 90.10 325 IAMs_20 IAMs_20 02 56 52.3
comp=Z,14µm,19.0s
I07A Izee 90.20 329 IAMs_20 IAMs_20 02 59 59.5
comp=Z,14µm,19.0s
LSZ Lusaka 90.32 109 P **P** **02 23 10.3 +2.0**
LSZ pmax pmax
comp=Z,203nm,1.4s

LSZ Lusaka 90.32 109 P **P** **02 23 10.3 +2.0**
LSZ Lusaka 90.32 109 IAMs_20 IAMs_20 02 58 45.1
comp=Z,16µm,21.0s
LSZ Lusaka 90.32 109 *i* P **P** **02 23 08.0 -0.3**
LSZ IAmb IAmb 02 23 17.9
comp=Z,222nm,1.4s
LSZ IVMs_BB IVMs_BB 03 10 59.6
comp=Z,7µm,15.8s
MSO Missoula 90.34 334 IAMs_20 IAMs_20 03 11 18.2
comp=Z,12µm,19.0s
MSO Missoula 90.34 334 P **P** **02 23 09.2 +1.8**
baz=149
L02E Cave Junction 90.46 325 P **P** **02 23 11.5 +3.5**
baz=142
HUMO Hull Mountain 90.52 326 IAMs_20 IAMs_20 02 55 49.8
comp=Z,14µm,22.0s
PINE Pine Mountain 90.58 328 IAmb IAmb 02 23 21.0
comp=Z,87nm,1.4s
PINE IAMs_20 IAMs_20 02 58 46.4
comp=Z,18µm,18.0s
J04D Umpqua Nationa 90.64 327 P **P** **02 23 11.5 +2.5**
baz=143
KBO Bosley Butte 90.79 325 IAMs_20 IAMs_20 02 57 14.9
comp=Z,14µm,18.0s
F10A Beach Ranch, E 90.84 331 IAmb IAmb 02 23 27.8
comp=Z,62nm,1.3s
K02D Willamette Mer 90.91 326 P **P** **02 23 13.9 +3.7**
baz=142
G08A Pilot Rock 90.97 330 IAMs_20 IAMs_20 02 59 11.7
comp=Z,12µm,18.0s
SCHQ Schefferville 90.99 4 P **P** **02 23 10.1 -0.1**
comp=Z,11nm,1.2s,baz=202,slow=5.8,SNR=5.9
SCHQ Schefferville 90.99 4 P **P** **02 23 10.4 +0.2**
SCHQ IAmb IAmb 02 23 26.6
comp=Z,112nm,2.0s
SCHQ IAMs_20 IAMs_20 03 08 31.9
comp=Z,21µm,20.0s
I05D Terrebonne, OR 91.19 328 P **P** **02 23 14.4 +3.0**
baz=144
I04A Tendick Farm, 91.22 327 P **P** **02 23 13.5 +1.9**
baz=143
KEBM Edson Butte 91.36 325 IAMs_20 IAMs_20 02 57 42.9
comp=Z,12µm,18.0s
J01E Myrtle Point 91.40 326 P **P** **02 23 16.0 +3.7**
baz=142
I03D Drain, OR 91.56 326 P **P** **02 23 15.5 +2.5**
baz=142
F07A Phinny Hill Vi 91.85 330 IAMs_20 IAMs_20 03 01 07.2
comp=Z,13µm,18.0s
G05D Wamic, OR 91.90 329 P **P** **02 23 17.1 +2.5**
baz=144
G05D S **S** **02 34 18.1 +3.1**
baz=144
H04D Lebanon 91.94 327 P **P** **02 23 16.5 +1.7**
baz=143
E08A Dider Farm, El 91.99 331 IAMs_20 IAMs_20 03 00 31.8
comp=Z,16µm,18.0s
HAWA Hanford 92.10 330 IAmb IAmb 02 23 28.1
comp=Z,99nm,1.4s
HAWA IAMs_20 IAMs_20 03 05 21.7
comp=Z,14µm,19.0s
I02D Swisshome 92.10 326 P **P** **02 23 18.2 +2.7**
baz=142
WALA Waterton Lakes 92.23 335 IAmb IAmb 02 23 28.0
comp=Z,90nm,1.4s
WALA IAMs_20 IAMs_20 03 00 32.0
comp=Z,14µm,20.0s
E07A Sunnyside 92.36 330 IAMs_20 IAMs_20 02 58 04.7
comp=Z,14µm,21.0s
D08A Wollman Farm, 92.40 331 IAMs_20 IAMs_20 03 00 31.7
comp=Z,12µm,19.0s
F05D White Salmon 92.48 329 P **P** **02 23 19.8 +2.5**
baz=143
F05D S **S** **02 34 24.2 +4.1**
baz=143
NEW Newport 92.71 333 IAMs_20 IAMs_20 03 01 28.9
comp=Z,12µm,19.0s
NEW Newport 92.71 333 P **P** **02 23 18.4 +0.1**
baz=146
NEW S **S** **02 34 22.9 +0.7**
baz=146
G03D McMinnville, O 92.71 327 P **P** **02 23 20.8 +2.5**
baz=142
G03D S **S** **02 34 27.3 +5.0**
baz=142
C09A Chrisman Ranch 92.76 332 IAmb IAmb 02 23 30.5
comp=Z,84nm,1.5s
AVE Averroes 92.87 50 Pdif **P** **02 23 19.6 +0.2**
AVE SKS **SKSac** **02 33 52.6 +0.3**
LTY Liberty 93.26 330 IAMs_20 IAMs_20 03 06 09.2
comp=Z,13µm,19.0s
LON Longmire 93.31 329 IAMs_20 IAMs_20 03 01 06.9
comp=Z,18µm,18.0s
E04D Cinebar 93.48 329 P **P** **02 23 23.6 +1.7**
baz=143
B08A Colville Reser 93.62 331 IAMs_20 IAMs_20 03 01 37.1
comp=Z,12µm,18.0s
D05A Enumclaw 93.74 329 IAMs_20 IAMs_20 02 58 59.1
comp=Z,14µm,21.0s
FFC Flin Flon 93.91 344 P **P** **02 23 24.4 +0.8**
FFC pmax pmax
comp=Z,20nm,1.2s
FFC Flin Flon 93.91 344 P **P** **02 23 24.4 +0.8**
FFC Flin Flon 93.91 344 IAMs_20 IAMs_20 03 12 17.1
comp=Z,20µm,20.0s
IFR Ifrane 94.44 51 Pdif **P** **02 23 27.0 +0.2**
IFR SKS **SKSac** **02 34 08.5 +7.1**
D03D Eldon 94.47 329 P **P** **02 23 27.9 +1.5**
baz=142
B06A Marblemount 94.60 330 IAMs_20 IAMs_20 03 02 44.8
comp=Z,16µm,19.0s
PFVI Vila Bisbo 94.60 47 *e*P **P** **02 23 27.7 +0.4**
comp=Z,76nm,1.7s
PFVI Vila Bisbo 94.60 47 *e*PP **PP** **02 27 15.2 -0.6**
PFVI *e*S **SKSac** **02 34 10.2 +8.6**
B05A Bryant 94.64 330 P **P** **02 23 28.6 +1.5**
baz=143
NLWA Neilton Lookou 94.69 328 IAMs_20 IAMs_20 03 01 14.1
comp=Z,12µm,19.0s
UWB Uwekahuna B 94.81 290 IAMs_20 IAMs_20 03 09 02.3
comp=Z,11µm,18.0s
MORF Marmelete 94.82 46 *e*P **P** **02 23 28.7 +0.3**
MORF *e*SKSac **SKSac** **02 34 04.2 +1.3**
MORF IAMs_20 IAMs_20 03 07 49.2
comp=Z,26µm,17.6s
MORF Marmelete 94.82 46 *e*P **P** **02 23 28.7 +0.3**
MORF *e* 02 34 04.3
MORF Marmelete 94.82 46 *e*P **P** **02 23 28.6 +0.3**
comp=Z,45nm,1.8s
MORF Marmelete 94.82 46 *e*PP **PP** **02 27 17.6 0.0**
MORF *e*S **SKSac** **02 34 12.8 +10**
MORF *i* SS SS 02 41 19.1 +12
PTEO Sao Teotonio 94.94 46 *e*P **P** **02 23 29.1 +0.3**
comp=Z,55nm,1.6s
PTEO Sao Teotonio 94.94 46 *e*PP **PP** **02 27 20.8 +2.3**
MWH Moku`aweowe 95.09 290 IAMs_20 IAMs_20 02 57 04.6
comp=Z,11µm,19.0s
MLOA Mauna Loa Obse 95.10 290 IAMs_20 IAMs_20 02 57 05.0
comp=Z,12µm,19.0s
POHA Pohakuloa 95.20 291 IAMs_20 IAMs_20 02 59 45.6
comp=Z,12µm,18.0s
PBDV Barranco-do-Ve 95.20 47 *e*P **P** **02 23 30.4 +0.3**
comp=Z,65nm,1.7s
PBDV Barranco-do-Ve 95.20 47 *e*PP **PP** **02 27 20.0 -0.6**
PBDV *e*S S **02 34 49.3 +4.8**
A05A Maple Falls 95.22 330 IAMs_20 IAMs_20 02 59 43.3
comp=Z,14µm,21.0s
KHLU Kahalu`u 95.37 290 IAMs_20 IAMs_20 03 00 49.2
comp=Z,13µm,18.0s
HUH Hualalai 95.39 290 IAMs_20 IAMs_20 03 00 50.5
comp=Z,12µm,18.0s
PCVE Castro Verde 95.40 47 *e*P **P** **02 23 31.4 +0.5**
comp=Z,44nm,1.7s
PCVE Castro Verde 95.40 47 *e*PP **PP** **02 27 21.4 -0.7**
PCVE *e*S S **02 34 49.3 +3.1**
PCVE *i* SS SS **02 41 09.6 -5.1**
MESJ Messejana 95.44 46 *e*P **P** **02 23 31.5 +0.4**
MESJ *e*PP **PP** **02 27 22.3 0.0**
MESJ *e*SKSac **SKSac** **02 34 07.5 +1.4**
MESJ IAMs_20 IAMs_20 03 03 46.0
comp=E,20µm,17.1s
MESJ Messejana 95.44 46 *e*P **P** **02 23 31.5 +0.4**
MESJ *e* 02 27 22.4
MESJ *e* 02 34 07.5
PVAQ Vaqueiros 95.44 47 *e*P **P** **02 23 32.3 +1.2**
comp=E,34nm,2.0s
PVAQ Vaqueiros 95.44 47 *e*PP **PP** **02 27 20.7 -1.6**

PVAQ *e*S **SKSac** **02 34 12.7 +6.6**
PVAQ *i* SS **SS** **02 41 18.0 +2.8**
PVAQ Vaqueiros 95.44 47 *e*LR LR 02 56 04.3
comp=E,33µm,18.0s
PNCL Nicolau / Gran 95.44 46 *e*P **P** **02 23 31.7 +0.6**
comp=E,32nm,1.6s
PNCL Nicolau / Gran 95.44 46 *e*PP **PP** **02 27 21.4 -0.9**
PNCL *e*S **SKSac** **02 34 14.1 +8.0**
PNCL *i* SS SS **02 41 19.4 +4.2**
PMST Lisbon--Monsan 95.49 45 *e*P P 02 23 38.3 +7.0
PMST Lisbon--Monsan 95.49 45 *e*PP **PP** **02 27 21.0 -1.7**
LIS Lisbon 95.49 45 *e*P **P** **02 23 31.5 +0.2**
LIS *e*PP **PP** **02 27 22.6 -0.1**
LIS *e*SKSac **SKSac** **02 34 07.7 +1.4**
LIS IAMs_20 IAMs_20 03 06 40.6
comp=Z,27µm,20.0s
LIS Lisbon 95.49 45 *e*P **P** **02 23 31.5 +0.2**
LIS *e* 02 27 22.6
LIS *e* 02 34 07.7
PGC Sidney 95.50 329 IAMs_20 IAMs_20 03 01 17.2
comp=Z,16µm,20.0s
PMAFR Mafra 95.58 45 *e*P **P** **02 23 32.6 +0.9**
PMAFR Mafra 95.58 45 *e*PP **PP** **02 27 22.5 -0.9**
PMAFR *e*S **SKSac** **02 34 11.4 +4.6**
PMAFR *i* SS **SS** **02 41 16.6 -0.6**
ZOMB Zomba 95.64 114 *i* P **P** **02 23 30.6 -2.1**
SFS San Fernando 95.72 48 Pdif **P** **02 23 34.8 +2.5**
SFS SKS **SKSac** **02 34 13.1 +5.6**
PBEJ Beja 95.77 46 *e*P **P** **02 23 33.9 +1.3**
comp=Z,28nm,1.6s
ARNO Arenosillo 95.82 48 Pdif **P** **02 23 34.6 +1.8**
ARNO SKS **SKSac** **02 34 13.1 +5.0**
CEU Ceuta 95.85 49 Pdif **P** **02 23 33.4 +0.4**
CEU SKS **SKSac** **02 34 10.9 +2.6**
EVO Evora 96.02 46 Pdif **P** **02 23 32.6 -1.1**
EVO SKS **SKSac** **02 34 10.6 +1.5**
EVO Evora 96.02 46 *e*P **P** **02 23 35.1 +1.4**
comp=Z,24nm,2.2s
EVO Evora 96.02 46 *e*PP **PP** **02 27 23.8 -3.1**
PVLZ Peæn de 96.04 50 Pdif **P** **02 23 33.0 -0.8**
PVLZ SKS **SKSac** **02 34 09.3 0.0**
PSBE So Bento 96.23 45 *e*P **P** **02 23 35.3 +0.6**
comp=Z,54nm,1.8s
PSBE So Bento 96.23 45 *e*PP PP 02 27 14.6 -14
PSBE *e*S **SKSac** **02 34 06.5 -3.8**
PSBE *i* SS SS **02 41 27.4 +0.9**
PMTG Montargil 96.26 45 *e*P **P** **02 23 35.0 +0.2**
PMTG Montargil 96.26 45 *e*PP **PP** **02 27 26.9 -1.8**
PMTG *e*S SKSac 02 34 23.2 +13
PMTG *i* SS SS **02 41 25.0 -1.8**
PBAR Barrancos 96.35 47 *e*P **P** **02 23 35.0 -0.2**
comp=Z,24nm,1.8s
PBAR Barrancos 96.35 47 *e*PP **PP** **02 27 28.6 -0.8**
PBAR *e*S **SKSac** **02 34 10.9 0.0**
PBAR *i* SS SS **02 41 28.0 -0.2**
LHI Lord Howe Isla 96.36 223 IAMs_20 IAMs_20 02 58 27.3
comp=Z,13µm,20.0s
PESTR Estremoz 96.49 46 *e*P **P** **02 23 36.0 +0.1**
comp=Z,35nm,1.6s
PESTR Estremoz 96.49 46 *e*PP **PP** **02 27 29.7 -0.8**
PESTR *e*S **SKSac** **02 34 16.8 +5.2**
PESTR *i* SS SS **02 41 27.3 -2.9**
PESTR Estremoz 96.49 46 P **P** **02 23 36.7 +0.9**
PESTR IAMs_20 IAMs_20 03 07 00.2
comp=Z,14µm,18.0s
PCAS Casmilo, Conde 96.77 45 *e*P **P** **02 23 38.2 +1.1**
comp=Z,32nm,1.6s
PCAS Casmilo, Conde 96.77 45 *e*PP **PP** **02 27 31.1 -1.5**
PCAS *e*S **SKSac** **02 34 11.4 -1.6**
PCAS *i* SS SS **02 41 37.6 +3.6**
COI Coimbra 96.92 44 *e*PcP **P** **02 23 38.0 +0.3**
COI Coimbra 96.92 44 *e*PP **PP** **02 27 32.5 -1.3**
COI *e*S SKSac 02 34 31.9 +18
COI Coimbra 96.92 44 *e*LR LR 02 55 15.0
MELI Melilla 96.97 51 Pdif **P** **02 23 37.9 -0.1**
MELI SKS **SKSac** **02 34 21.0 +6.8**
PMRV Marv??o 96.98 46 *e*P **P** **02 23 38.6 +0.5**
PMRV Marv??o 96.98 46 *e*PP **PP** **02 27 33.1 -1.2**
PMRV *e*S **SKSac** **02 34 12.2 -2.0**
PMRV *i* SS SS **02 41 42.0 +4.9**
PMRV Marv??o 96.98 46 *e*LR LR 02 55 08.6
comp=Z,21µm,18.0s
EMAL Malaga-Limoner 96.99 49 Pdif **P** **02 23 39.3 +1.2**
EMAL SKS **SKSac** **02 34 13.7 -0.5**
PCBR Castelo Branco 97.21 45 *e*P Pdif 02 23 39.9 +0.8
PCBR Castelo Branco 97.21 45 *e*PP **PP** **02 27 37.6 +1.6**
MTE Manteigas 97.54 45 *e*P **P** **02 23 40.1 -0.6**
comp=Z,30nm,1.8s
MTE Manteigas 97.54 45 *e*PP **PP** **02 27 37.3 -1.3**
MTE Manteigas 97.54 45 *e*SS SS 02 42 01.8 +17
MTE Manteigas 97.54 45 *e*LR LR 02 56 27.9
comp=Z,32µm,18.0s
PVIS Viseu 97.55 44 *e*P Pdif 02 23 44.5 +3.7
PVIS *i* LQ LQ 02 27 36.5
ITUM Tunduma 97.78 108 *i* P **P** **02 23 41.9 -0.7**
MBAM Mbamba Bay 97.84 110 *i* P **P** **02 23 41.7 -1.0**
ISOK Kyela 97.94 108 *i* P Pdif 02 23 43.6 +0.3
HON Honolulu 97.99 290 IAMs_20 IAMs_20 02 58 26.8
comp=Z,12µm,20.0s
MKIL Mkili 97.99 110 *i* P **P** **02 23 43.1 -0.3**
TOO Toolangi 98.01 210 IAMs_20 IAMs_20 02 59 21.7
comp=Z,18µm,20.0s
PVRL Vila Real 98.03 44 *e*P P 02 23 27.4 -15
PVRL *i* LQ LQ 02 27 36.5
POLO Lamas de Olo 98.05 44 *e*P **P** **02 23 43.0 0.0**
POLO Lamas de Olo 98.05 44 *e*PP **PP** **02 27 41.4 -1.2**
POLO *i* SS SS 02 41 53.1 +0.9
KIP Kipapa 98.05 291 IAMs_20 IAMs_20 03 01 30.6
comp=Z,12µm,18.0s
PGAV Gavieira, Arco 98.18 43 *e*P **P** **02 23 43.2 -0.3**
PGAV Gavieira, Arco 98.18 43 *e*S SKSac 02 34 33.9 +14
PGAV *e*SS **SS** **02 42 02.1 +8.0**
PGAV Gavieira, Arco 98.18 43 *e*LR LR 02 56 22.0
comp=Z,28µm,18.0s
MANDA Manda 98.18 109 *i* P **P** **02 23 43.6 -0.6**
MZUN Kiwira 98.19 108 *i* P Pdif 02 23 46.4 +2.0
TIRI Matiri 98.22 110 *i* P Pdif 02 23 44.8 +0.2
MVO Moncorvo 98.34 44 *e*Pdif **P** **02 23 42.6 -1.6**
MVO A A 02 23 53.3
comp=Z,33nm,1.5s
MVO Moncorvo 98.34 44 *e*S S 02 35 23.9 +12
MVO *e*SS **SS** **02 42 06.1 +10**
MVO Moncorvo 98.34 44 *e*LR LR 02 57 56.3
comp=Z,42µm,18.0s
NKAL Nkalisi 98.36 108 *i* P **P** **02 23 44.0 -1.1**
NIND Nindi 98.38 109 *i* P **P** **02 23 45.1 -0.2**
LOSI Makongolosi 98.39 107 *i* P **P** **02 23 44.6 -0.7**
CAN Canberra 98.39 214 IAMs_20 IAMs_20 02 58 17.1
comp=Z,13µm,21.0s
UNDA Madunda 98.48 109 *i* P Pdif 02 23 46.7 +0.9
JILO Lwanjilo 98.49 107 *i* P **P** **02 23 45.7 -0.1**
UKWA Ukwama 98.53 108 *i* P Pdif 02 23 47.1 +1.0
LIGA Liganga 98.55 110 *i* P **P** **02 23 43.9 -2.1**
MAKE Makete 98.56 108 *i* P Pdif 02 23 47.6 +1.4
MATAM Matamba 98.65 108 *i* P **P** **02 23 45.3 -1.3**
BUMI Ibumi 98.66 109 *i* P Pdif 02 23 48.0 +1.4
TOLA Matola 98.73 109 *i* P Pdif 02 23 47.9 +0.9
ZINI Mgazini 98.75 110 *i* P Pdif 02 23 48.5 +1.6
CHML Chimala 98.78 108 *i* P Pdif 02 23 47.7 +0.7
DZM Mont Dzumac 98.79 234 *e*PP **PP** **02 27 41.6 -6.1**
comp=Z,1µm,26.9s
DZM *e*SKSac **SKSac** **02 34 24.5 -0.2**
comp=Z,7µm,26.1s
DZM *e*S **S** **02 35 13.7 -2.7**
comp=Z,13µm,25.8s
DZM *e*SP **SP** **02 36 35.0 -6.0**
comp=Z,7µm,25.1s
DZM *e*SS **SS** **02 42 05.8 +4.1**
comp=Z,19µm,26.5s
DZM *e*LQ LQ 02 51 38.4
comp=Z,22µm,29.8s
DZM *e*LR LR 02 55 49.4
comp=Z,26µm,28.4s
KIPE Kipengere 98.80 108 *i* P Pdif 02 23 47.9 +0.6
MUDIN Mudindi 98.83 109 *i* P **P** **02 23 47.2 -0.1**
PAB San Pablo 98.84 47 P Pdif 02 23 47.6 +1.1
PAB pmax pmax
comp=Z,15nm,1.3s
PAB MLR MLR
comp=Z,23µm,20.0s
PAB San Pablo 98.84 47 P Pdif 02 23 47.5 +1.0
NGEA Songea 98.88 110 *i* P Pdif 02 23 48.0 +0.5
PBRG Braganca 98.93 44 *e*P **P** **02 23 42.8 -4.0**

PBRG	**Braganca**	**98.93**	**44**	*i* PP	**PP**	**02 27 49.5**	**+0.3**			
PBRG				*e*S	SKSac	02 34 38.8	+15			
PBRG				*i* SS	**SS**	**02 42 07.2**	**+2.8**			
UWEM	**Njombe**	**98.96**	**109**	*i* P	**Pdif**	**02 23 52.3**	**+4.3**			
GAWA	**Igawa**	**99.09**	**108**	*i* P	**Pdif**	**02 23 48.4**	**-0.1**			
ESDC	**Sonseca Array**	**99.15**	**47**	P	**Pdif**	**02 23 47.4**	**-0.5**			
	comp=Z,2.8nm,1.1s,baz=233,slow=4.6,SNR=11									
ESDC				PP	**PP**	**02 27 49.0**	**-1.9**			
	comp=Z,1.2nm,1.1s,baz=251,slow=3.9,SNR=1.6									
ESDC				S	**SKSac**	**02 34 21.2**	**-4.0**			
	comp=Z,0.2nm,0.6s,baz=171,slow=9.1,SNR=1.2									
ESDC				LR	LR	03 07 02.8				
	comp=Z,22µm,20.3s,baz=240,slow=34									
KIMO	**Ikongo**	**99.15**	**110**	*i* P	**Pdif**	**02 23 46.9**	**-1.7**			
ESBB	**Sonseca Array**	**99.15**	**47**	P	**Pdif**	**02 23 47.4**	**-0.5**			
WINO	**Wino**	**99.17**	**109**	*i* P	**Pdif**	**02 23 48.0**	**-0.8**			
KIDE	**Kidegembe**	**99.26**	**109**	*i* P	**Pdif**	**02 23 48.5**	**-0.7**			
BAKO	**Makambako**	**99.36**	**108**	*i* P	**Pdif**	**02 23 49.5**	**-0.3**			
MFRI	**Mfriga**	**99.47**	**109**	*i* P	**Pdif**	**02 23 48.0**	**-2.2**			
CART	**Cartagena**	**99.62**	**50**	Pdif	**Pdif**	**02 23 50.7**	**+0.8**			
CART				SKS	**SKSac**	**02 34 29.7**	**+2.1**			
CART	**Cartagena**	**99.62**	**50**	IAMs_20	IAMs_20	03 07 56.4				
	comp=Z,11µm,20.0s									
BBB	**Bella Bella**	**100.12**	**329**	S	**SKSac**	**02 34 28.5**	**-0.7**			
	comp=Z,11nm,1.2s,baz=99,slow=13,SNR=1.6									
MBAR	**Mbarara**	**101.23**	**99**	IAMs_20	IAMs_20	03 07 46.6				
	comp=Z,15µm,20.0s									
MBAR	**Mbarara**	**101.23**	**99**	*e*P	**Pdif**	**02 24 10.6**	**+13**			
MBAR				*e*S	**SKSac**	**02 34 46.4**	**+9.4**			
MBAR	**Mbarara**	**101.23**	**99**	*i* P	**Pdif**	**02 23 57.2**	**-0.8**			
GETA	**Geita**	**101.84**	**102**	*i* P	**Pdif**	**02 23 53.7**	**-7.0**			
MAHO	**Mahon**	**104.30**	**51**	Pdif	**Pdif**	**02 24 11.3**	**+0.6**			
MAHO				SKS	**SKSac**	**02 34 57.9**	**+8.2**			
JOHN	**Johnston Islan**	**104.35**	**280**	IAMs_20	IAMs_20	03 02 54.2				
	comp=Z,14µm,18.0s									
SFJD	**Kangerlussuaq**	**104.50**	**9**	*i* P	**PKiKP**	**02 28 26.8**	**+0.1**			
SFJD				IAMs_20	IAMs_20	03 14 18.7				
	comp=Z,7µm,18.7s									
SFJD	**Kangerlussuaq**	**104.50**	**9**	IAMs_20	IAMs_20	03 14 25.3				
	comp=Z,11µm,19.0s									
CRAG	**Craig**	**104.55**	**330**	IAMs_20	IAMs_20	03 21 40.7				
	comp=Z,12µm,19.0s									
DY2G	**Dye2**	**104.63**	**11**	*i* P	**PKiKP**	**02 28 30.0**	**+2.7**			
DY2G				IAMs_20	IAMs_20	03 14 55.6				
	comp=Z,24µm,17.6s									
WRAK	**Wrangell Islan**	**104.90**	**331**	IAMs_20	IAMs_20	03 20 14.0				
	comp=Z,14µm,18.0s									
WRAK	**Wrangell Islan**	**104.90**	**331**	P	PKiKP	02 28 38.0	+10			
	baz=135									
ISOG	**Isortoq, Green**	**105.07**	**14**	*i* P	**PKiKP**	**02 28 30.0**	**+2.2**			
ISOG				IAMs_20	IAMs_20	03 15 49.0				
	comp=Z,17µm,17.2s									
KEST	**Kesra**	**105.25**	**57**	PP	**PP**	**02 28 36.1**	**-0.9**			
	comp=Z,5.1nm,1.0s,baz=178,slow=5.5,SNR=3.5									
ANGG	**Ammassalik, Gr**	**105.40**	**15**	*i* P	**PKiKP**	**02 28 34.4**	**+6.0**			
ANGG				IAMs_20	IAMs_20	03 12 07.4				
	comp=Z,20µm,18.8s									
DLBC	**Dease Lake**	**105.45**	**333**	Pdiff	**Pdif**	**02 24 17.6**	**+2.1**			
	comp=Z,0.5nm,0.5s,baz=45,slow=7.1,SNR=1.8									
DLBC				Sdiff		02 34 55.8				
	comp=Z,0.5nm,0.5s,baz=139,slow=19,SNR=1.4									
DLBC				PKKPbc	**PKKPbc**	**02 39 54.5**	**-0.8**			
	comp=Z,2.0nm,0.9s,baz=124,slow=3.2,SNR=3.5									
KIBK	**Kibwezi**	**105.94**	**105**	IAMs_20	IAMs_20	03 17 13.5				
	comp=Z,14µm,18.0s									
KMBO	**Kilima Mbogo**	**106.06**	**104**	PP	**PP**	**02 28 43.6**	**+0.5**			
	comp=Z,0.4nm,0.3s,baz=225,slow=10,SNR=4.4									
KMBO				Sdiff		02 35 03.5				
	comp=Z,0.4nm,0.3s,baz=214,slow=15,SNR=1.5									
SIT	**Sitka**	**106.54**	**330**	IAMs_20	IAMs_20	03 22 57.2				
	comp=Z,13µm,19.0s									
SIT	**Sitka**	**106.54**	**330**	P	PKiKP	02 28 47.3	+17			
	baz=132									
ILULI	**Ilulissat**	**106.55**	**8**	*i* P	**PKiKP**	**02 28 43.3**	**+13**			
ILULI				IAMs_20	IAMs_20	03 12 23.6				
	comp=Z,19µm,19.7s									
JIS	**Juneau Island**	**106.99**	**331**	IAMs_20	IAMs_20	03 14 45.1				
	comp=Z,9µm,18.0s									
BESE	**Bessie Mountai**	**107.38**	**331**	IAMs_20	IAMs_20	03 23 32.4				
	comp=Z,11µm,18.0s									
BORG	**Borgarnes**	**108.74**	**21**	IAMs_20	IAMs_20	03 13 59.3				
	comp=Z,13µm,18.0s									
WHY	**Whitehorse**	**108.78**	**333**	IAMs_20	IAMs_20	03 20 51.5				
	comp=Z,11µm,20.0s									
WHY	**Whitehorse**	**108.78**	**333**	P	PKiKP	02 29 04.9	+30			
	baz=132									
TARA	**Tarawa**	**109.55**	**257**	IAMs_20	IAMs_20	03 02 42.8				
	comp=Z,16µm,22.0s									
HYT	**Haines Junctio**	**109.86**	**332**	IAMs_20	IAMs_20	03 11 37.2				
	comp=Z,10µm,19.0s									
BCPM	**Bancas Point**	**110.14**	**331**	IAMs_20	IAMs_20	03 22 25.5				
	comp=Z,13µm,18.0s									
FORT	**Forrest**	**110.19**	**200**	IAMs_20	IAMs_20	03 14 46.2				
	comp=Z,8µm,18.0s									
NWAO	**Narrogin (SRO)**	**110.35**	**190**	IAMs_20	IAMs_20	03 12 59.5				
	comp=Z,12µm,19.0s									
PINM	**Pinnacle**	**110.47**	**331**	P	PKiKP	02 29 17.0	+39			
	baz=128									
PCA	**Pinnacle**	**110.47**	**331**	IAMs_20	IAMs_20	03 22 45.3				
	comp=Z,12µm,18.0s									
BGES	**Gesves**	**110.63**	**42**	*d*PP	**PP**	**02 29 14.6**	**-1.3**			
ECH	**Echery**	**110.64**	**45**	IAMs_20	IAMs_20	03 15 44.5				
	comp=Z,11µm,19.0s									
TABL	**Table Mountain**	**111.03**	**331**	IAMs_20	IAMs_20	03 23 42.3				
	comp=Z,14µm,20.0s									
MESA	**MESA**	**111.20**	**330**	IAMs_20	IAMs_20	03 10 06.5				
	comp=Z,12µm,22.0s									
MESA	**MESA**	**111.20**	**330**	P	PKiKP	02 29 17.0	+37			
	baz=127									
YAH	**Yahtse**	**111.23**	**330**	IAMs_20	IAMs_20	03 23 29.2				
	comp=Z,15µm,20.0s									
BTNL	**Ternell**	**111.31**	**42**	*dx*	x	02 28 49.3				
BTNL				*d*PP	**PP**	**02 29 20.7**	**0.0**			
BFO	**Black Forest**	**111.37**	**45**	IAMs_20	IAMs_20	03 17 02.8				
	comp=Z,14µm,18.0s									
CTGM	**Chitina Glacie**	**111.42**	**331**	IAMs_20	IAMs_20	03 14 36.5				
	comp=Z,9µm,18.0s									
CTG	**Chitna Glacier**	**111.43**	**331**	P	PKiKP	02 29 23.9	+44			
	baz=127									
GRNC	**Granite Creek**	**111.45**	**331**	IAMs_20	IAMs_20	03 23 55.5				
	comp=Z,10µm,19.0s									
NRCA	**Norcia**	**111.49**	**52**	IAMs_20	IAMs_20	03 16 17.4				
	comp=Z,9µm,20.0s									
BARN	**Barnard Glacie**	**111.61**	**331**	IAMs_20	IAMs_20	03 14 40.7				
	comp=Z,9µm,18.0s									
C36M	**Paulatuk**	**111.65**	**343**	P	PKiKP	02 29 30.6	+51			
	baz=138									
DAVA	**Damuels**	**111.74**	**47**	*e*P	**PKiKP**	**02 28 42.7**	**+1.6**			
	comp=Z,4.6nm,0.9s									
SUCK	**Suckling Hills**	**111.88**	**329**	IAMs_20	IAMs_20	03 26 39.5				
	comp=Z,15µm,19.0s									
TGL	**Tana Glacier**	**111.89**	**330**	IAMs_20	IAMs_20	03 23 47.8				
	comp=Z,12µm,21.0s									
CRQE	**Cirque**	**112.00**	**330**	P	PKiKP	02 29 24.8	+44			
	baz=126									
CRQM	**Cirque**	**112.02**	**330**	IAMs_20	IAMs_20	03 22 32.5				
	comp=Z,10µm,20.0s									
FETA	**Feichten**	**112.10**	**47**	*e*P	**PKiKP**	**02 28 43.4**	**+1.6**			
	comp=Z,11nm,1.3s									
MCARA	**McCarthy VSAT**	**112.33**	**331**	IAMs_20	IAMs_20	03 11 06.5				
	comp=Z,12µm,22.0s									
MCARA	**McCarthy VSAT**	**112.33**	**331**	P	PKiKP	02 29 24.9	+43			
	baz=125									
RETA	**Reutte**	**112.36**	**47**	*e*P	**PKiKP**	**02 28 43.7**	**+1.5**			
	comp=Z,13nm,1.4s									
MOTA	**Moosalm**	**112.49**	**47**	*e*P	**PKiKP**	**02 28 43.9**	**+1.4**			
	comp=Z,14nm,1.4s									
DAWY	**Dawson**	**112.57**	**334**	IAMs_20	IAMs_20	03 25 53.9				
	comp=Z,14µm,21.0s									
BMRM	**Bremner River**	**112.73**	**330**	IAMs_20	IAMs_20	03 23 05.0				
	comp=Z,10µm,18.0s									
BMRM	**Bremner River**	**112.73**	**330**	P	PKiKP	02 29 30.6	+48			
	baz=124									
WATA	**Walderalm**	**112.76**	**47**	*e*P	**PKiKP**	**02 28 44.1**	**+1.0**			
	comp=Z,7.9nm,1.6s									
WTTA	**Wattenberg**	**112.76**	**47**	*e*P	**PKiKP**	**02 28 44.0**	**+0.9**			
	comp=Z,11nm,1.5s									
SCO	**Scoresbysund**	**112.80**	**17**	IAMs_20	IAMs_20	03 14 40.1				
	comp=Z,10µm,20.0s									
L27K	**Beaver Creek,**	**112.85**	**333**	IAMs_20	IAMs_20	03 27 23.3				
	comp=Z,14µm,18.0s									
L27K	**Beaver Creek,**	**112.85**	**333**	P	PKiKP	02 29 30.9	+48			
	baz=126									
EYAK	**Cordova Ski Ar**	**112.96**	**329**	IAMs_20	IAMs_20	03 24 15.0				
	comp=Z,16µm,20.0s									
EYAK	**Cordova Ski Ar**	**112.96**	**329**	P	PKiKP	02 29 28.8	+46			
	baz=124									
N25K	**Chitina, Valde**	**113.08**	**331**	IAMs_20	IAMs_20	03 24 21.3				
	comp=Z,8µm,18.0s									
N25K	**Chitina, Valde**	**113.08**	**331**	P	PKiKP	02 29 32.9	+50			
	baz=124									
HIN	**Hinchinbrook I**	**113.19**	**329**	IAMs_20	IAMs_20	03 24 03.0				
	comp=Z,12µm,20.0s									
FURI	**Furi**	**113.20**	**96**	IAMs_20	IAMs_20	03 19 35.2				
	comp=Z,10µm,19.0s									
FURI	**Furi**	**113.20**	**96**	*e*P	**Pdif**	**02 24 55.6**	**+4.3**			
FURI				*e*S	SKSac	02 35 40.5	+11			
TRI	**Trieste**	**113.30**	**50**	IAMs_20	IAMs_20	03 20 11.2				
	comp=Z,15µm,19.0s									
AAE	**Adis Abeba**	**113.35**	**96**	*e*P	**Pdif**	**02 24 56.0**	**+4.0**			
AAE				*e*S	SKSac	02 35 41.8	+12			
FID	**Port Fidalgo**	**113.37**	**329**	IAMs_20	IAMs_20	03 25 08.9				
	comp=Z,15µm,20.0s									
INK	**Inuvik**	**113.38**	**339**	PKKPbc	PKKPbc	02 39 28.2	-1.5			
	comp=Z,2.2nm,0.8s,baz=264,slow=1.4,SNR=3.1									
INK	**Inuvik**	**113.38**	**339**	P	PKiKP	02 29 38.6	+55			
	baz=131									
K27K	**Chicken**	**113.50**	**333**	IAMs_20	IAMs_20	03 16 38.8				
	comp=Z,10µm,18.0s									
K27K	**Chicken**	**113.50**	**333**	P	PKiKP	02 29 32.7	+49			
	baz=125									
VOJS	**Vojsko**	**113.53**	**49**	*e*Pdiff	**Pdif**	**02 24 53.5**	**+1.8**			
CADS	**Cadrg**	**113.53**	**49**	*e*Pdiff	**Pdif**	**02 24 53.3**	**+1.6**			
CADS				*e*		02 29 46.9				
CADS				*e*		02 31 58.0				
CADS				*e*PS	**PS**	**02 39 18.0**	**+5.3**			
CADS				*e*		02 40 30.1				
KLU	**Klutina**	**113.55**	**330**	IAMs_20	IAMs_20	03 24 39.6				
	comp=Z,11µm,20.0s									
KLU	**Klutina**	**113.55**	**330**	P	PKiKP	02 29 37.7	+54			
	baz=123									
EGAK	**Eagle**	**113.61**	**334**	IAMs_20	IAMs_20	03 25 03.4				
	comp=Z,15µm,20.0s									
EGAK	**Eagle**	**113.61**	**334**	P	PKiKP	02 29 42.3	+58			
	baz=126									
GLI	**Glacier Island**	**113.70**	**329**	IAMs_20	IAMs_20	03 26 51.5				
	comp=Z,12µm,18.0s									
GLI	**Glacier Island**	**113.70**	**329**	P	PKiKP	02 29 39.1	+55			
	baz=122									
GRF	**Grafenberg Arr**	**113.70**	**45**	*e*PP	**PP**	**02 29 32.1**	**-5.8**			
HARP	**HAARP**	**113.74**	**331**	P	PKiKP	02 29 41.7	+57			
	baz=123									
LJU	**Ljubljana**	**113.93**	**50**	*e*PS	PS	02 39 21.4	+5.1			
LJU				*e*		02 40 34.5				
M24K	**Tolsona, Glenn**	**113.98**	**331**	IAMs_20	IAMs_20	03 26 50.1				
	comp=Z,12µm,19.0s									
M24K	**Tolsona, Glenn**	**113.98**	**331**	P	PKiKP	02 29 43.9	+59			
	baz=123									
BOJS	**Bojanci**	**114.12**	**50**	*e*Pdiff	**Pdif**	**02 24 56.4**	**+2.1**			
BOJS				*e*PS	**PKKPbc**	**02 39 23.8**	**-2.8**			
SCRK	**Sand Creek**	**114.17**	**333**	P		02 29 45.5				
	baz=124									
PAX	**Paxson**	**114.18**	**332**	IAMs_20	IAMs_20	03 26 31.9				
	comp=Z,14µm,21.0s									
PAX	**Paxson**	**114.18**	**332**	P		02 29 45.2				
	baz=123									
PWL	**Port Wells**	**114.20**	**329**	IAMs_20	IAMs_20	03 20 35.8				
	comp=Z,9µm,20.0s									
SEW	**Seward**	**114.28**	**328**	IAMs_20	IAMs_20	03 24 42.0				
	comp=Z,9µm,19.0s									
SEW	**Seward**	**114.28**	**328**	P	PKiKP	02 29 43.0	+58			
	baz=121									
MORW	**Morawa**	**114.31**	**189**	IAMs_20	IAMs_20	03 15 26.3				
	comp=Z,15µm,20.0s									
KDAK	**Kodiak Island**	**114.52**	**325**	IAMs_20	IAMs_20	03 10 00.1				
	comp=Z,11µm,18.0s									
KDAK	**Kodiak Island**	**114.52**	**325**	P	PKiKP	02 29 45.3	+59			
	baz=120									
KNK	**Knik Glacier**	**114.54**	**329**	IAMs_20	IAMs_20	03 22 04.1				
	comp=Z,11µm,21.0s									
KNK	**Knik Glacier**	**114.54**	**329**	P		02 29 46.2				
	baz=121									
OHAK	**Old Harbor**	**114.58**	**324**	IAMs_20	IAMs_20	03 06 53.6				
	comp=Z,12µm,20.0s									
OHAK	**Old Harbor**	**114.58**	**324**	P	PKiKP	02 29 44.0	+58			
	baz=119									
O22K	**Cooper Landing**	**114.59**	**328**	P		02 29 46.5				
	baz=121									
MOA	**Molln**	**114.61**	**48**	*e*P	PKPdf	02 28 46.1	-0.3			
	comp=Z,11nm,1.6s									
NKC	**Novy Kostel**	**114.65**	**45**	*e*P	**Pdif**	**02 24 57.1**	**+0.6**			
NKC				*e*		02 29 42.5				
NKC				MLR	MLR					
	comp=Z,18µm,18.5s									
NKC	**Novy Kostel**	**114.65**	**45**	*e*PDIFF	**Pdif**	**02 24 57.1**	**+0.6**			
NKC				*e*PP	**PP**	**02 29 42.5**	**-2.1**			
NKC				AMS	AMS	03 16 10.0				
	comp=Z,18µm,18.5s									
BRSE	**Bradley Lake S**	**114.66**	**327**	P		02 29 47.1				
	baz=120									
SII	**Sitkinak Islan**	**114.68**	**323**	IAMs_20	IAMs_20	03 07 10.5				
	comp=Z,11µm,20.0s									
SII	**Sitkinak Islan**	**114.68**	**323**	P		02 29 46.6				
	baz=119									
SML	**Sawmill**	**114.69**	**330**	IAMs_20	IAMs_20	03 27 24.1				
	comp=Z,14µm,20.0s									
SML	**Sawmill**	**114.69**	**330**	P		02 29 46.5				
	baz=121									
BRLK	**Bradley Lake**	**114.73**	**327**	IAMs_20	IAMs_20	03 12 24.9				
	comp=Z,9µm,18.0s									
GERES	**GERESS Array B**	**114.73**	**47**	PKP	PKPdf	02 28 44.1	-2.6			
	comp=Z,2.7nm,1.0s,baz=224,slow=5.5,SNR=15									
CNPM	**China Poot**	**114.77**	**327**	IAMs_20	IAMs_20	03 25 24.8				
	comp=Z,10µm,20.0s									
KHC	**Kasperske Hory**	**114.79**	**46**	*e*P	**Pdif**	**02 24 59.3**	**+2.1**			
KHC				*e*		02 28 47.8				
KHC				*e*		02 29 45.7				
KHC				MLR	MLR					
	comp=Z,20µm,17.2s									
KHC	**Kasperske Hory**	**114.79**	**46**	*e*PDIFF	**Pdif**	**02 24 59.3**	**+2.1**			
KHC				*e*PKP	**PKiKP**	**02 28 47.8**	**+1.1**			
KHC				*e*PP	**PP**	**02 29 45.7**	**0.0**			
KHC				*e*SDIF		02 37 32.9				
KHC				AMS	AMS	03 19 50.0				
	comp=Z,20µm,17.2s									
WAT6	**Susitna Watana**	**114.86**	**331**	P		02 29 47.8				
	baz=121									
ASAR	**Alice Springs**	**114.89**	**208**	PKP	**PKiKP**	**02 28 46.4**	**-1.5**			
	comp=Z,1.4nm,0.8s,baz=118,slow=1.9,SNR=7.8									
ASAR				PKKPbc	**PKKPbc**	**02 39 24.2**	**+0.5**			
	comp=Z,1.9nm,0.8s,baz=340,slow=3.2,SNR=11									
RC01	**Rabbit Creek A**	**114.91**	**329**	IAMs_20	IAMs_20	03 25 38.5				
	comp=Z,9µm,20.0s									
RC01	**Rabbit Creek A**	**114.91**	**329**	P		02 29 48.3				
	baz=120									
PMR	**Palmer**	**114.91**	**329**	IAMs_20	IAMs_20	03 27 25.5				
	comp=Z,12µm,18.0s									
PMR	**Palmer**	**114.91**	**329**	P		02 29 47.6				
	baz=121									
HOM	**Homer**	**115.01**	**327**	IAMs_20	IAMs_20	03 13 34.4				
	comp=Z,8µm,18.0s									
CKRC	**Cesky Krumlov**	**115.08**	**47**	*e*PDIFF	**Pdif**	**02 25 00.8**	**+2.4**			
CKRC				*e*PKP	**PKiKP**	**02 28 47.9**	**+0.6**			
CKRC				*e*SDIF		02 37 39.0				
CKRC				AMS	AMS	03 19 40.0				
	comp=Z,23µm,18.9s									
ARSA	**Arzberg**	**115.09**	**49**	*e*P	**PKiKP**	**02 28 47.6**	**+0.2**			
	comp=Z,16nm,1.8s									
FIS	**Fire Island**	**115.14**	**329**	IAMs_20	IAMs_20	03 26 18.8				
	comp=Z,10µm,20.0s									
CLL	**Collm**	**115.45**	**44**	*e*Pdif	**Pdif**	**02 25 02.0**	**+2.0**			
CLL				*i* PKiKP	**PKiKP**	**02 28 48.9**	**+1.0**			
CLL	comp=Z,10.0nm,1.3s			*e*PP	**PP**	**02 29 49.0**	**-1.2**			
CLL	comp=Z,341nm,3.7s			*e*PPP	PPP	02 32 18.0				
CLL				*e*PPPP		02 34 11.0				
CLL				*e*SKSac	**SKSac**	**02 35 42.0**	**+6.2**			
CLL				*e*SKKSac	**SKKSac**	**02 36 54.0**	**+4.2**			
CLL				*e*Sdif	**Sdif**	**02 37 38.0**	**+4.4**			
CLL				*e*PS	**PS**	**02 39 34.0**	**+3.9**			
CLL				*e*PPS	PPS	02 40 46.0				
CLL				*e*		02 44 58.0				
CLL				*e*SS	**SS**	**02 45 49.0**	**+0.8**			
CLL				*e*SSS	SSS	02 50 06.0				
CLL				*e*SSSS		02 53 30.0				
CLL				Lm	MLR	03 17 00.0				
	comp=N,11µm,19.6s									
CLL				Lm	MLR	03 17 00.0				
	comp=E,18µm,19.4s									
CLL				Lm	MLR	03 17 00.0				
	comp=Z,25µm,19.5s									
CLL	**Collm**	**115.45**	**44**	PKIKP	**PKiKP**	**02 28 48.9**	**+1.0**			
CLL				MLR	MLR					
	comp=Z,25µm,20.0s									
CLL	**Collm**	**115.45**	**44**	PKPdf	**PKiKP**	**02 28 48.9**	**+1.0**			
HDA	**Harding Lake**	**115.50**	**333**	PKPdf	**PKiKP**	**02 28 48.4**	**+0.8**			
HDA				IAMs_20	IAMs_20	03 26 54.9				
	comp=Z,11µm,19.0s									
HDA	**Harding Lake**	**115.50**	**333**	P		02 29 52.9				
	baz=121									
HDA				P		02 29 52.9				
	baz=121									
SUA	**Susitna One**	**115.52**	**329**	P		02 29 51.9				
	baz=119									
PRP	**Porcupine Dome**	**115.56**	**334**	IAMs_20	IAMs_20	03 11 24.9				
	comp=Z,10µm,22.0s									
PRP	**Porcupine Dome**	**115.56**	**334**	P		02 29 49.7				
	baz=122									
CONA	**Conrad Observa**	**115.60**	**48**	*e*P	**PKiKP**	**02 28 49.3**	**+0.9**			
	comp=Z,15nm,1.7s									
ILAR	**Eielson Array**	**115.66**	**333**	PKP	**PKPdf**	**02 28 47.1**	**-0.8**			
	comp=Z,0.6nm,0.8s,baz=132,slow=1.3,SNR=5.1									
ILAR				PKKPbc	**PKKPbc**	**02 39 20.9**	**-0.9**			
	comp=Z,0.6nm,0.9s,baz=318,slow=4.4,SNR=4.3									
ILAR	**Eielson Array**	**115.66**	**333**		**PKiKP**	**02 28 48.5**	**+0.6**			
PRA	**Prague**	**115.71**	**46**	*e*SDIF		02 37 48.0				
PRA				AMS	AMS	03 17 10.0				
	comp=Z,18µm,19.3s									
RND	**Reindeer**	**115.71**	**331**	IAMs_20	IAMs_20	03 27 16.9				
	comp=Z,10µm,20.0s									
PRU	**Pruhonice**	**115.74**	**46**	*e*P	**Pdif**	**02 25 02.6**	**+1.3**			
PRU				MLR	MLR					
	comp=Z,19µm,20.1s									
PRU	**Pruhonice**	**115.74**	**46**	*e*PDIFF	**Pdif**	**02 25 02.6**	**+1.3**			
PRU				AMS	AMS	03 17 00.0				
	comp=Z,19µm,20.1s									
CUT	**Chulitna**	**115.78**	**330**	IAMs_20	IAMs_20	03 27 51.5				
	comp=Z,10µm,21.0s									
CUT	**Chulitna**	**115.78**	**330**	P		02 29 54.9				
	baz=119									
BRG	**Berggiesshubel**	**115.79**	**45**	*e*PKP	**PKiKP**	**02 28 50.0**	**+1.5**			
BRG				Amp		02 29 03.6				
	comp=Z,25nm,1.7s									
BRG				Amp		02 29 31.1				
	comp=Z,14nm,1.4s									
BRG	**Berggiesshubel**	**115.79**	**45**	SP	SP	02 39 37.0	+6.4			
BRG	**Berggiesshubel**	**115.79**	**45**	SS	SS	02 45 55.0	+2.3			
BRG				Amp		03 16 15.0				
	comp=N,4.4nm,17.6s									
BRG				Amp		03 16 17.0				
	comp=E,15nm,22.7s									
BRG				Amp		03 16 20.0				
	comp=Z,22nm,20.5s									
MCK	**McKinley**	**115.91**	**331**	IAMs_20	IAMs_20	03 24 45.0				
	comp=Z,9µm,19.0s									
MCK	**McKinley**	**115.91**	**331**	P		02 29 55.7				
	baz=120									
CCB	**Clear Creek Bu**	**115.94**	**333**	IAMs_20	IAMs_20	03 27 47.8				
	comp=Z,13µm,18.0s									
IDI	**Anoyia**	**115.95**	**64**	IAMs_20	IAMs_20	03 20 43.2	

OSTC					AMS	AMS	03 22 00.0		
	comp=Z,13µm,17.4s								
KRLC	**Kraliky**	**117.08**	**46**	*e*PKIKP	**PKiKP**	**02 28 52.5**	**+1.4**		
KRLC				MLR	MLR				
	comp=Z,16µm,19.1s								
KRLC	**Kraliky**	**117.08**	**46**	*e*PKP	**PKiKP**	**02 28 52.5**	**+1.4**		
KRLC				AMS	AMS	03 19 50.0			
	comp=Z,16µm,19.1s								
JAVC	**Velka Javorina**	**117.09**	**48**	*e*PKP	**PKiKP**	**02 28 53.5**	**+2.3**		
JAVC				*e*		02 39 46.0			
HARA	**HARA**	**117.11**	**99**	*e*P	**Pdif**	**02 25 10.3**	**+1.7**		
HARA				*e*S	**SKSac**	**02 35 51.8**	**+7.6**		
KSP	**Ksiaz**	**117.12**	**45**	*e*Pdif	**Pdif**	**02 25 13.5**	**+6.0**		
KSP				*e*PKPdf	**PKiKP**	**02 28 52.7**	**+1.6**		
KSP				*e*PP	**PP**	**02 30 01.1**	**-0.8**		
KSP				*e*PS	**PS**	**02 39 52.6**	**+7.3**		
KSP				*e*SS	SS	02 46 09.7	-0.4		
KSP				*e*L	L	03 17 02.1			
	comp=Z,18µm,20.8s								
H23K	**Yukon River**	**117.16**	**333**	P		02 30 04.7			
	baz=118								
MLY	**Manley**	**117.22**	**332**	IAMs_20	IAMs_20	03 18 25.8			
	comp=Z,9µm,18.0s								
MLY	**Manley**	**117.22**	**332**	P		02 30 04.4			
	baz=118								
SDPT	**Sand Point**	**117.29**	**320**	P		02 29 58.3			
	baz=115								
N18K	**Kilae Creek**	**117.37**	**327**	P		02 29 59.8			
	baz=116								
MORC	**Moravsky Berou**	**117.40**	**47**	⇓P	**PKiKP**	**02 28 52.8**	**+1.0**		
MORC	**Moravsky Berou**	**117.40**	**47**	*e*PKP	**PKiKP**	**02 28 52.7**	**+0.9**		
MORC				*e*PP	PP	02 29 55.0	-8.9		
MORC				*e*		02 39 49.4			
MORC	**Moravsky Berou**	**117.40**	**47**	⇓PKIKP	**PKiKP**	**02 28 52.8**	**+1.0**		
MORC	**Moravsky Berou**	**117.40**	**47**		**PKiKP**	**02 28 52.1**	**+0.3**		
MSEY	**Mahe Island**	**117.41**	**119**	IAMs_20	IAMs_20	03 16 21.3			
	comp=Z,11µm,20.0s								
SVW2	**Sparrevohn**	**117.42**	**327**	IAMs_20	IAMs_20	03 22 58.4			
	comp=Z,9µm,21.0s								
BOVS	**Bovan**	**117.42**	**55**	⇑P	**PKiKP**	**02 28 52.2**	**+0.3**		
VYHS	**Vyhne**	**117.64**	**49**	*e*PKIKP	**PKiKP**	**02 28 53.0**	**+0.8**		
VYHS	**Vyhne**	**117.64**	**49**	*e*PKP	**PKiKP**	**02 28 53.0**	**+0.8**		
I21K	**Tanana**	**117.76**	**332**	P		02 30 06.8			
	baz=117								
OKC	**Ostrava-Krasne**	**117.78**	**47**	*e*SDIF		02 38 06.5			
OKC				AMS	AMS	03 22 40.0			
	comp=Z,16µm,18.1s								
VTS	**Vitosha**	**118.01**	**56**	⇓P	**PKiKP**	**02 28 54.3**	**+1.0**		
VTS	**Vitosha**	**118.01**	**56**	⇓PKIKP	**PKiKP**	**02 28 54.3**	**+1.0**		
COLD	**Coldfoot**	**118.05**	**335**	IAMs_20	IAMs_20	03 30 12.6			
	comp=Z,11µm,18.0s								
COLD	**Coldfoot**	**118.05**	**335**	P		02 30 12.1			
	baz=117								
ATD	**Arta Tunnel**	**118.06**	**96**	IAMs_20	IAMs_20	03 17 20.0			
	comp=Z,12µm,19.0s								
ATD	**Arta Tunnel**	**118.06**	**96**	*e*P	**Pdif**	**02 25 14.6**	**+2.0**		
ATD				*e*S	**SKSac**	**02 35 51.1**	**+3.9**		
WRA	**Warramunga Arr**	**118.08**	**210**	PKP	**PKPdf**	**02 28 51.9**	**-2.1**		
	comp=Z,2.1nm,0.7s,baz=160,slow=1.6,SNR=13								
WRA				PP	**PP**	**02 30 08.6**	**+0.9**		
	comp=Z,1.7nm,1.0s,baz=189,slow=1.2,SNR=2.7								
WRA				PKKPbc	**PKKPbc**	**02 39 13.4**	**+1.0**		
	comp=Z,1.5nm,0.8s,baz=342,slow=3.7,SNR=4.0								
WRA	**Warramunga Arr**	**118.08**	**210**	PKIKP	**PKPdf**	**02 28 52.8**	**-1.3**		
WRA	**Warramunga Arr**	**118.08**	**210**		**PKPdf**	**02 28 52.8**	**-1.3**		
WRAB	**Tennant Creek**	**118.08**	**210**	*i* PKIKP	**PKPdf**	**02 28 52.4**	**-1.7**		
WRAB				MLR	MLR				
	comp=Z,9µm,16.0s								
BZS	**Buzias**	**118.19**	**52**	⇓P	**PKiKP**	**02 28 54.5**	**+1.1**		
BZS	**Buzias**	**118.19**	**52**	⇓PKIKP	**PKiKP**	**02 28 54.5**	**+1.1**		
KWAJ	**Kwajalein Atol**	**118.24**	**260**	IAMs_20	IAMs_20	03 07 40.4			
	comp=Z,10µm,20.0s								
H21K	**Melozitna Rive**	**118.28**	**332**	P		02 30 10.5			
	baz=116								
LANS	**Liptovska Anna**	**118.29**	**48**	*e*PKIKP	**PKiKP**	**02 28 55.4**	**+1.9**		
LANS	**Liptovska Anna**	**118.29**	**48**	*e*PKP	**PKiKP**	**02 28 55.3**	**+1.8**		
TTA	**Tatalina**	**118.38**	**329**	IAMs_20	IAMs_20	03 28 48.3			
	comp=Z,9µm,18.0s								
TTA	**Tatalina**	**118.38**	**329**	P		02 30 03.8			
	baz=115								
HERR	**Herculane**	**118.41**	**53**	⇓P	**PKiKP**	**02 28 54.8**	**+1.0**		
TOLK	**Toolik Lake Re**	**118.48**	**336**	IAMs_20	IAMs_20	03 25 04.1			
	comp=Z,10µm,20.0s								
TOLK	**Toolik Lake Re**	**118.48**	**336**	P		02 30 22.8			
	baz=117								
FALS	**False Pass**	**118.64**	**319**	IAMs_20	IAMs_20	03 09 34.1			
	comp=Z,10µm,19.0s								
FALS	**False Pass**	**118.64**	**319**	P		02 30 06.4			
	baz=113								
NB2	**NORSAR Subarra**	**118.70**	**34**	PKPdf	**PKiKP**	**02 28 54.6**	**+0.7**		
	baz=248,slow=1.9								
NOA	**NORSAR Array B**	**118.70**	**34**	PKP	**PKPdf**	**02 28 52.2**	**-1.7**		
	comp=Z,1.2nm,1.0s,baz=245,slow=1.7,SNR=1.5								
NOA				PP	**PP**	**02 30 11.3**	**-1.3**		
	comp=Z,2.6nm,1.1s,baz=244,slow=6.9,SNR=3.4								
NOA				PKKPbc	**PKKPbc**	**02 39 10.9**	**+0.1**		
	comp=Z,1.9nm,1.1s,baz=66,slow=4.5,SNR=3.2								
GZR	**Gura Zlata**	**118.85**	**53**	⇑P	**PKiKP**	**02 28 55.0**	**+0.2**		
GZR	**Gura Zlata**	**118.85**	**53**	⇑PKIKP	**PKiKP**	**02 28 55.0**	**+0.2**		
NIE	**Niedzica**	**118.90**	**48**	*e*PKPdf	**PKiKP**	**02 28 56.3**	**+1.7**		
NIE				*e*PP	**PP**	**02 30 12.8**	**-1.6**		
NIE				*e*PS	**PS**	**02 40 08.8**	**+7.2**		
NIE				*e*SS	SS	02 46 36.7	+3.4		
NIE				*e*L	L	03 24 12.3			
	comp=Z,10µm,18.8s								
DRGR		**119.36**	**52**	⇓P	**PKiKP**	**02 28 56.6**	**+0.9**		
DRGR		**119.36**	**52**	⇓PKIKP	**PKiKP**	**02 28 56.6**	**+0.9**		
CRVS	**Cervenica-Dubn**	**119.40**	**49**	*e*PKIKP	**PKiKP**	**02 28 56.4**	**+0.8**		
CRVS	**Cervenica-Dubn**	**119.40**	**49**	*e*PKP	**PKiKP**	**02 28 56.4**	**+0.8**		
AKAS	**Kas**	**119.80**	**65**	IAMs_20	IAMs_20	03 25 33.4			
	comp=Z,9µm,20.0s								
UZH	**Uzhgorod**	**119.80**	**49**	*e*PKIKP	**PKiKP**	**02 28 59.5**	**+3.1**		
UZH				*i*		02 29 06.0			
UZH				*i*		02 29 16.2			
UZH				*i*		02 40 11.1			
KOLS	**Kolonicke sedl**	**119.91**	**49**	*e*PKIKP	**PKiKP**	**02 28 57.4**	**+0.8**		
KOLS	**Kolonicke sedl**	**119.91**	**49**	*e*PKP	**PKiKP**	**02 28 57.4**	**+0.8**		
HUMR	**Humele**	**119.94**	**55**	⇑P	**PKPdf**	**02 28 56.7**	**-0.1**		
VOIR		**120.34**	**54**	⇑P	**PKiKP**	**02 28 58.5**	**+0.8**		
VOIR		**120.34**	**54**	⇑PKIKP	**PKiKP**	**02 28 58.5**	**+0.8**		
ARCR	**ARCALIA**	**120.51**	**52**	⇑P	**PKiKP**	**02 28 59.6**	**+1.7**		
DOPR	**Dopca**	**120.76**	**53**	⇑P	**PKiKP**	**02 28 59.2**	**+0.8**		
NIKH	**Nikolski High**	**120.93**	**315**	P		02 30 25.1			
	baz=110								
PSAC3	**Pilbara Seismi**	**120.96**	**195**	IAMs_20	IAMs_20	03 27 55.6			
	comp=Z,11µm,18.0s								
PSAA3	**Pilbara Seismi**	**121.00**	**195**	IAMs_20	IAMs_20	03 24 21.6			
	comp=Z,12µm,18.0s								
PSAA1	**Pilbara Seismi**	**121.00**	**195**	IAMs_20	IAMs_20	03 14 04.7			
	comp=Z,13µm,20.0s								
PSA00	**Pilbara Seismi**	**121.01**	**195**	PKPdf	**PKiKP**	**02 28 59.9**	**+0.1**		
PSAB1	**Pilbara Seismi**	**121.01**	**195**	IAMs_20	IAMs_20	03 15 14.8			
	comp=Z,12µm,20.0s								
PSAA2	**Pilbara Seismi**	**121.02**	**195**	IAMs_20	IAMs_20	03 15 04.0			
	comp=Z,13µm,22.0s								
PSAB2	**Pilbara Seismi**	**121.02**	**195**	IAMs_20	IAMs_20	03 15 04.1			
	comp=Z,12µm,20.0s								
PSAC1	**Pilbara Seismi**	**121.05**	**195**	IAMs_20	IAMs_20	03 15 15.0			
	comp=Z,12µm,21.0s								
ISP	**Isparta**	**121.13**	**64**	IAMs_20	IAMs_20	03 23 19.0			
	comp=Z,13µm,20.0s								
NEHR	**Nehoiu**	**121.15**	**54**	⇓P	**PKiKP**	**02 28 59.5**	**+0.2**		
BURAR	**Bucovina Array**	**121.25**	**51**	⇓P	**PKiKP**	**02 29 00.9**	**+1.4**		
BURAR	**Bucovina Array**	**121.25**	**51**	PKPdf	**PKiKP**	**02 28 59.5**	**+0.1**		
LVV	**L'vov**	**121.30**	**49**	*i* PKIKP	**PKiKP**	**02 28 59.5**	**+0.2**		
LVV				*e*		02 30 33.1			
LVV				*e*SS	SS	02 47 06.4	+2.3		
LVV				MLR	MLR				
	comp=N,6µm,22.0s								
LVV				MLR	MLR				
	comp=E,12µm,22.0s								
LVV				MLR	MLR				
	comp=Z,12µm,22.0s								
MBWA	**Marble Bar**	**121.43**	**195**	IAMs_20	IAMs_20	03 22 57.0			
	comp=Z,11µm,18.0s								
BISRR	**Bisoca**	**121.46**	**54**	⇑P	**PKiKP**	**02 29 00.4**	**+0.5**		
PLOR	**Plostina**	**121.53**	**54**	⇑P	**PKPdf**	**02 28 59.5**	**-0.3**		
PLOR	**Plostina**	**121.53**	**54**	⇑PKIKP	**PKPdf**	**02 28 59.5**	**-0.3**		
BIZ	**Bicaz**	**121.57**	**52**	⇓P	**PKiKP**	**02 29 00.7**	**+0.7**		
VRI	**Vrincioaia**	**121.59**	**54**	⇑P	**PKPdf**	**02 28 59.7**	**-0.2**		
VRI				⇑P	**PKPdf**	**02 28 59.8**	**-0.2**		
VRI	**Vrincioaia**	**121.59**	**54**	⇑PKIKP	**PKPdf**	**02 28 59.7**	**-0.2**		
TESR	**Tescani**	**121.77**	**53**	⇓P	**PKiKP**	**02 29 00.8**	**+0.4**		
A21K	**Barrow**	**121.77**	**338**	IAMs_20	IAMs_20	03 22 47.2			
	comp=Z,11µm,21.0s								
A21K	**Barrow**	**121.77**	**338**	P		02 30 35.6			
	baz=110								
HARR	**Harsova**	**121.95**	**55**	⇓P	**PKiKP**	**02 29 02.0**	**+1.2**		
HARR	**Harsova**	**121.95**	**55**	⇓PKIKP	**PKiKP**	**02 29 02.0**	**+1.2**		
CSS	**Mathiatis**	**122.03**	**68**	PKPdf	**PKPdf**	**02 29 00.2**	**-0.9**		
CSS				IAMs_20	IAMs_20	03 30 36.1			
	comp=Z,9µm,18.0s								
SUW	**Suwalki**	**122.21**	**44**	*e*PKPdf	**PKiKP**	**02 29 01.1**	**+0.2**		
SUW				*e*PP	**PP**	**02 30 34.3**	**-2.5**		
SUW				*e*PS	**PS**	**02 40 35.6**	**+4.7**		
SUW				*e*SS	SS	02 47 14.4	-1.0		
SUW				*e*L	L	03 22 01.6			
	comp=Z,26µm,19.7s								
SUW	**Suwalki**	**122.21**	**44**	*e*P	**PKiKP**	**02 29 01.6**	**+0.7**		
CFR	**Carcaliu**	**122.27**	**55**	⇓P	**PKiKP**	**02 29 01.9**	**+0.5**		
CFR	**Carcaliu**	**122.27**	**55**	⇓PKIKP	**PKiKP**	**02 29 01.9**	**+0.5**		
TPGR	**Topolog**	**122.34**	**55**	⇓P	**PKiKP**	**02 29 02.3**	**+0.7**		
VASR	**Vaslui**	**122.55**	**53**	⇑P	**PKiKP**	**02 29 02.5**	**+0.6**		
TLCR		**122.72**	**55**	⇓P	**PKiKP**	**02 29 02.3**	**+0.1**		
TLCR		**122.72**	**55**	⇓PKIKP	**PKiKP**	**02 29 02.3**	**+0.1**		
ANM	**Nome**	**122.85**	**329**	IAMs_20	IAMs_20	03 32 32.6			
	comp=Z,9µm,19.0s								
ANM	**Nome**	**122.85**	**329**	P		02 30 44.1			
	baz=106								
RDOG	**Red Dog Mine**	**122.86**	**333**	IAMs_20	IAMs_20	03 33 43.0			
	comp=Z,12µm,21.0s								
RDOG	**Red Dog Mine**	**122.86**	**333**	P		02 30 42.3			
	baz=106								
FITZ	**Fitzroy Crossi**	**122.86**	**202**	IAMs_20	IAMs_20	03 24 21.0			
	comp=Z,8µm,20.0s								
SPIA	**Saint Paul Isl**	**123.03**	**320**	IAMs_20	IAMs_20	03 31 20.5			
	comp=Z,8µm,19.0s								
SPIA	**Saint Paul Isl**	**123.03**	**320**	P		02 30 33.3			
	baz=107								
PABE	**Paberze**	**123.11**	**42**	*e*P	**PKiKP**	**02 29 04.1**	**+1.5**		
PABE	**Paberze**	**123.11**	**42**		**PKPdf**	**02 29 02.2**	**-0.2**		
MILM	**Milestii Mici**	**123.31**	**53**	⇑P	**PKPdf**	**02 29 03.1**	**0.0**		
SORM	**Soroca**	**123.41**	**52**	⇑P	**PKPdf**	**02 29 03.3**	**0.0**		
SORM	**Soroca**	**123.41**	**52**	⇑PKIKP	**PKPdf**	**02 29 03.3**	**0.0**		
RAF	**Rauma**	**123.54**	**36**	*e*P	**PKPdf**	**02 29 02.6**	**-0.4**		
ANTO	**Ankara**	**123.56**	**62**	PKIKP	**PKiKP**	**02 29 05.3**	**+1.1**		
ANTO	**Ankara**	**123.56**	**62**	PKPdf	**PKiKP**	**02 29 05.3**	**+1.1**		
ATKA	**Atka Island**	**123.76**	**313**	IAMs_20	IAMs_20	03 08 50.9			
	comp=Z,9µm,22.0s								
KNRA	**Kunuurra**	**124.09**	**206**	IAMs_20	IAMs_20	03 16 16.7			
	comp=Z,11µm,19.0s								
BRTR	**Keskin Array B**	**124.11**	**63**	PKP	**PKPdf**	**02 29 03.7**	**-1.4**		
	comp=Z,4.6nm,0.9s,baz=204,slow=2.7,SNR=11								
BRTR				PP	**PP**	**02 30 48.2**	**-2.0**		
	comp=Z,0.8nm,0.5s,baz=215,slow=6.3,SNR=1.8								
TNA	**Tin City**	**124.15**	**330**	PKPdf	**PKPdf**	**02 29 04.3**	**+0.1**		
TNA				IAMs_20	IAMs_20	03 33 17.0			
	comp=Z,9µm,19.0s								
TNA	**Tin City**	**124.15**	**330**	P		02 30 51.2			
	baz=104								
IIGN	**Ignalina**	**124.29**	**43**	*e*P	**PKiKP**	**02 29 06.4**	**+1.4**		
PATS	**Pohnpei**	**124.31**	**251**	IAMs_20	IAMs_20	03 21 32.9			
	comp=Z,10µm,18.0s								
NACGM	**Naroch**	**124.48**	**44**	*i* PKP	**PKPdf**	**02 29 02.2**	**-2.9**		
KBS	**Kingsbay**	**124.53**	**14**	PKIKP	**PKPdf**	**02 29 04.6**	**0.0**		
KBS	**Kingsbay**	**124.53**	**14**	PKPdf	**PKPdf**	**02 29 04.6**	**0.0**		
KBS	**Kingsbay**	**124.53**	**14**	IAMs_20	IAMs_20	03 30 13.7			
	comp=Z,7µm,19.0s								
IDID	**Didziasalis**	**124.57**	**43**	*e*P	**PKiKP**	**02 29 06.4**	**+0.8**		
MEF	**Metsahovi**	**124.59**	**37**	*e*P	**PKiKP**	**02 29 06.4**	**+1.0**		
AKASG	**Malin Array Be**	**124.74**	**49**	PKP	**PKPdf**	**02 29 04.9**	**-0.8**		
	comp=Z,3.7nm,0.7s,baz=271,slow=2.4,SNR=21								
AKASG				PP	**PP**	**02 30 50.4**	**-3.5**		
	comp=Z,4.2nm,1.0s,baz=252,slow=7.4,SNR=12								
AKBB	**Malin Array Si**	**124.74**	**49**	*i* PKIKP	**PKPdf**	**02 29 05.0**	**-0.7**		
MNK	**Minsk**	**124.99**	**44**	*i* PKIKP	**PKiKP**	**02 29 06.5**	**+0.1**		
MNK				*i*		02 30 55.3			
MNK				*i* PPP	PPP	02 33 35.1			
MNK				*i*		02 36 18.4			
MNK				*i* PS	**PS**	**02 40 55.5**	**0.0**		
MNK				*i* SS	SS	02 47 54.2	+3.5		
MNK				*i* SSS	SSS	02 52 29.7			
MNK				pmax	pmax				
	comp=N,6.0nm,1.1s								
MNK				pmax	pmax				
	comp=Z,30nm,1.1s								
MNK				pmax	pmax				
	comp=E,2.0nm,2.2s								
MNK				MLR	MLR				
	comp=Z,21µm,22.0s								
MNK				MLR	MLR				
	comp=E,2µm,21.0s								
MNK				MLR	MLR				
	comp=N,8µm,22.0s								
MNK	**Minsk**	**124.99**	**44**	*i* PKP	**PKiKP**	**02 29 06.5**	**+0.1**		
	comp=E,2.0nm,2.2s								
MNK				*i* PKP	**PKiKP**	**02 29 06.5**	**+0.1**		
	comp=N,6.0nm,1.1s								
MNK				*i* PKP	**PKiKP**	**02 29 06.5**	**+0.1**		
	comp=Z,30nm,1.1s,baz=255								
MNK				*i* PP	**PP**	**02 30 55.4**	**-0.2**		
MNK				*i* SKP		02 32 41.9			
MNK				*i* PKS	**PKSdf**	**02 32 43.1**	**+0.7**		
MNK				*i* PPP	PPP	02 33 35.2			
MNK				*i* SKS	**SKSdf**	**02 36 18.4**	**+1.6**		
MNK				*i* PS	**PS**	**02 40 55.6**	**0.0**		
MNK				*i* SKKS	**SKKSdf**	**02 46 39.7**	**-1.1**		
MNK				*i* SS	**SS**	**02 47 54.2**	**+3.5**		
MNK				*i* SSS	SSS	02 52 29.8			
MNK				*i* LQ	LQ	03 15 55.3			
MNK				*i* LR	LR	03 21 06.0			
MNK				*i* LRM	MLR	03 24 06.1			
	comp=Z,21µm,21.9s								
MNK				*i* LRM	MLR	03 24 20.9			
	comp=E,2µm,20.6s								
MNK				*i* LRM	MLR	03 24 42.9			
	comp=N,8µm,21.9s								
ADK	**Adak**	**125.15**	**312**	IAMs_20	IAMs_20	03 15 05.4			
	comp=Z,8µm,19.0s								
VSU	**Vasula**	**125.34**	**39**	*e*P	**PKiKP**	**02 29 07.4**	**+0.5**		
VSU	**Vasula**	**125.34**	**39**	*i* PKIKP	**PKPdf**	**02 29 06.5**	**-0.1**		
VSU				MLR	MLR				
	comp=Z,42µm,19.0s								
GAMB	**Gambell**	**125.36**	**327**	IAMs_20	IAMs_20	03 31 30.3			
	comp=Z,9µm,19.0s								
GAMB	**Gambell**	**125.36**	**327**	P		02 30 59.0			
	baz=102								
FINES	**FINESS Array B**	**125.66**	**36**	PKP	**PKPdf**	**02 29 05.5**	**-1.7**		
	comp=Z,4.9nm,1.1s,baz=329,slow=2.2,SNR=9.7								
FIA1	**FINESS Array S**	**125.67**	**36**	PKPdf	**PKPdf**	**02 29 06.6**	**-0.6**		
GAZ	**Gaziantep**	**125.79**	**67**	IAMs_20	IAMs_20	03 24 58.5			
	comp=Z,12µm,21.0s								
SNOP	**Sinop**	**126.02**	**61**	IAMs_20	IAMs_20	03 30 17.3			
	comp=Z,10µm,19.0s								
DGAR	**Diego Garcia**	**126.10**	**137**	IAMs_20	IAMs_20	03 18 15.1			
	comp=Z,10µm,20.0s								
SIM	**Simferopol'**	**126.19**	**57**	*i* PKIKP	**PKiKP**	**02 29 09.6**	**+0.4**		
SIM				pmax	pmax				
	comp=Z,23nm,1.0s								
SIM				pmax	pmax				
	comp=E,3µm,18.8s								
RAYN	**Ar Rayn**	**126.54**	**86**	PKIKP	**PKPdf**	**02 29 09.7**	**-0.5**		
RAYN	**Ar Rayn**	**126.54**	**86**	PKPdf	**PKPdf**	**02 29 09.7**	**-0.5**		
ARCES	**ARCESS Array B**	**126.69**	**26**	PKP	**PKPdf**	**02 29 06.0**	**-3.0**		
	comp=E,2.5nm,0.9s,baz=276,slow=0.8,SNR=4.0								
ARCES	**ARCESS Array B**	**126.69**	**26**	PKIKP	**PKPdf**	**02 29 06.0**	**-3.0**		
KEV	**Kevo**	**127.23**	**25**	IAMs_20	IAMs_20	03 19 50.3			
	comp=Z,12µm,22.0s								
ANN	**Anapa**	**128.41**	**58**	*i* PKIKP	**PKPdf**	**02 29 12.3**	**-0.6**		
ANN				*e*		02 31 15.4			
ANN				*e*SP	SP	02 41 24.5	+1.2		
ANN				*e*SS	SS	02 48 31.8	-2.0		
ANN				pmax	pmax				
	comp=Z,36nm,1.1s								
MARD	**Mardin**	**128.50**	**68**	PKPdf	**PKiKP**	**02 29 14.4**	**+0.2**		
MARD				IAMs_20	IAMs_20	03 31 30.3			
	comp=Z,10µm,19.0s								
SOC	**Sochi**	**129.65**	**60**	*i* P	**Pdif**	**02 26 01.4**	**-1.9**		
SOC				*i*		02 29 15.1			
SOC				*e*		02 36 22.2			
SOC				*e*PS	**PS**	**02 41 40.5**	**+3.8**		
SOC				*e*SS	SS	02 48 52.1	+2.8		
SOC				*e*SSS	SSS	02 53 42.3			
SOC				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SOC				pmax	pmax				
	comp=Z,24nm,1.0s								
GURO	**Guroymak-BITLI**	**129.84**	**67**	IAMs_20	IAMs_20	03 33 22.9			
	comp=Z,8µm,18.0s								
OBN	**Obninsk**	**130.04**	**45**	*e*PKIKP	**PKPdf**	**02 29 14.3**	**-1.4**		
OBN				*e*		02 29 20.2			
OBN				*e*		02 31 27.5			
OBN				*e*PPP	PPP	02 34 17.6			
OBN				*e*		02 36 27.5			
OBN				*e*SS	SS	02 48 58.3	+5.0		
OBN				pmax	pmax				
	comp=Z,47nm,1.3s								
OBN				MLR	MLR				
	comp=Z,24µm,18.0s								
OBN	**Obninsk**	**130.04**	**45**		**PKiKP**	**02 29 16.6**	**+0.1**		
RST	**Umm Al-Ruwaisa**	**130.39**	**80**	*e*P	**PP**	**02 31 32.8**	**+1.0**		
RDF	**Al-Radifah**	**130.60**	**81**	*e*P	**PP**	**02 31 33.2**	**+0.1**		
MOS	**Moscow**	**130.72**	**44**	*i* PKIKP	**PKPdf**	**02 29 16.4**	**-0.6**		
MOS				*e*		02 36 18.4			
MOS				*e*PPS	PPS	02 43 13.5			
MOS				pmax	pmax				
	comp=Z,102nm,1.7s								
QRN	**Al-Qurain**	**130.81**	**81**	*e*P	**PP**	**02 31 34.3**	**-0.2**		
SMY	**Shemya**	**130.85**	**312**	IAMs_20	IAMs_20	03 13 32.3			
	comp=Z,12µm,22.0s								
UMR	**Umm Al-Rimmam**	**130.99**	**80**	*e*P	**PP**	**02 31 34.3**	**-1.3**		
LPSR	**Galich'ya Gora**	**131.05**	**48**	*e*PKIKP	**PKPdf**	**02 29 17.1**	**-0.6**		
LPSR				pmax	pmax				
	comp=Z,30nm,1.0s								
VORR	**Voronezh**	**131.07**	**50**	PKIKP	**PKPdf**	**02 29 17.0**	**-0.8**		
VORR				pmax	pmax				
	comp=Z,250nm,1.4s								
KIV	**Kislovodsk**	**131.83**	**60**	⇑P	**PKiKP**	**02 29 21.9**	**+1.2**		
KIV	**Kislovodsk**	**131.83**	**60**	*e*P	**Pdif**	**02 26 13.0**	**-0.1**		
KIV				*i*		02 29 20.3			
KIV				*e*		02 31 39.7			
KIV				*e*PS	**PS**	**02 41 53.5**	**-2.2**		
KIV				*e*SS	SS	02 49 16.6	+0.4		
KIV				pmax	pmax				
	comp=Z,58nm,1.1s								
KBZ	**Khabaz**	**131.92**	**61**	PKP	**PKPdf**	**02 29 16.8**	**-2.8**		
	comp=Z,2.0nm,0.6s,baz=253,slow=4.5,SNR=4.9								
KBZ				PP	**PP**	**02 31 37.9**	**-3.4**		
	comp=Z,3.0nm,0.9s,baz=237,slow=11,SNR=1.7								
KLMR	**Klimovskoe**	**132.07**	**37**	*e*PKIKP	**PKPdf**	**02 29 15.1**	**-4.3**		
KLMR				*e*		02 31 38.8			
KLMR						02 36 24.5			
KLMR				PS	**PS**	**02 41 52.1**	**-4.9**		
KLMR				SS	SS	02 49 22.6	+4.8		
KLMR				pmax	pmax				
	comp=Z,158nm,1.7s								
KLMR				MLR	MLR				
	comp=Z,15µm,19.0s								
KLMR	**Klimovskoe**	**132.07**	**37**	*e*PKPdf	**PKPdf**	**02 29 15.2**	**-4.2**		
KLMR				AMP		02 29 35.1			
	comp=Z,158nm,1.7s								
KLMR				*e*PP	**PP**	**02 31 38.9**	**-2.8**		
KLMR						02

SVE	**Sverdlovsk**	**143.40**	**41**	*i* PKIKP	PKPbc	02 29 39.0	+1.4
SVE				*e*		02 32 51.7	
SVE				*e*		02 51 30.9	
SVE				*e*		02 56 53.2	
SVE				pmax	pmax		
	comp=Z,41nm,1.4s						
SVE				MLR	MLR		
	comp=E,10μm,19.0s						
SVE				MLR	MLR		
	comp=N,6μm,18.0s						
SVE				MLR	MLR		
	comp=Z,13μm,19.0s						
BKNI	**Bangkinang**	**143.84**	**171**	PKPdf	PKPbc	02 29 40.7	+0.6
BKNI				IAMs_20	IAMs_20	03 29 21.9	
	comp=Z,8μm,20.0s						
BKNI	**Bangkinang**	**143.84**	**171**	PKP	PKPab	02 29 39.8	+0.3
MNSI	**Mandailing Nat**	**144.09**	**168**	PKP	PKPbc	02 29 41.2	+0.3
AB31	**Akbulak array**	**144.15**	**54**	*i* PKIKP	**PKPab**	**02 29 39.0**	**-0.6**
AB31				pmax	pmax		
	comp=Z,31nm,0.8s						
ABKAR	**Akbulak array**	**144.15**	**54**	PKPdf	PKPbc	02 29 40.7	+0.6
GSI	**Gunungsitoli**	**144.21**	**165**	PKP	**PKPdf**	**02 29 42.5**	**-0.7**
SBSI	**Sibolga**	**144.71**	**167**	PKP	**PKPab**	**02 29 42.9**	**+0.2**
BTDF	**Bukit Timah Da**	**145.12**	**176**	PKP	**PKPab**	**02 29 44.6**	**+0.4**
NRIK	**Noril'sk**	**145.37**	**12**	PKPbc	PKPbc	**02 29 42.5**	**-0.8**
	comp=Z,46nm,1.0s,baz=6.7,slow=1.7,SNR=48						
NRIK	**Noril'sk**	**145.37**	**12**	IAMs_20	IAMs_20	03 32 48.4	
	comp=Z,11μm,22.0s						
BHUJ	**Bhuj**	**145.81**	**102**	*eP*	**PKPdf**	**02 29 44.8**	**-0.8**
BHUJ				IAmb	IAmb	02 29 54.7	
	comp=Z,1μm,1.7s						
RPSI	**Rantau Prapat**	**145.83**	**167**	PKPdf	**PKPdf**	**02 29 45.2**	**-0.7**
PSI	**Prapat**	**145.94**	**167**	PKIKP	**PKPdf**	**02 29 45.2**	**-1.1**
PSI				MLR	MLR		
	comp=Z,18μm,19.0s						
PSI	**Prapat**	**145.94**	**167**	PKP	**PKPdf**	**02 29 45.9**	**-0.4**
TPTI		**146.02**	**163**	PKP	**PKPdf**	**02 29 46.1**	**-0.2**
POO	**Poona**	**146.37**	**113**	*eP*	**PKPdf**	**02 29 44.0**	**-2.7**
TSI	**Tuntungan**	**146.55**	**166**	PKP	**PKPdf**	**02 29 47.8**	**+0.6**
MLSI	**Meulaboh, Aceh**	**146.80**	**162**	PKP	**PKPdf**	**02 29 47.7**	**+0.1**
KUR	**Kuril'sk**	**147.62**	**299**	*d* PKP2	**PKPbc**	**02 29 50.1**	**-0.6**
KUR				*e*		02 33 18.3	
KUR				*eP*	PPP	02 36 44.2	
KUR				*e*		02 46 08.6	
KUR				*eS*	SSS	02 58 02.1	
KUR				pmax	pmax		
	comp=Z,525nm,1.2s						
KUR				pmax	pmax		
	comp=N,151nm,1.1s						
KUR				pmax	pmax		
	comp=E,121nm,1.1s						
KUR				pmax	pmax		
	comp=Z,4μm,10.2s						
KUR				MLR	MLR		
	comp=Z,6μm,17.0s						
KUR				MLR	MLR		
	comp=E,4μm,18.0s						
KUR				MLR	MLR		
	comp=N,3μm,19.0s						
LHMI	**Lhok Sumawe**	**147.86**	**162**	IAMs_20	IAMs_20	03 32 41.6	
	comp=Z,9μm,20.0s						
LHMI	**Lhok Sumawe**	**147.86**	**162**	PKP	**PKPdf**	**02 29 47.5**	**-1.8**
JCJ	**Chichijima**	**148.29**	**263**	IAMs_20	IAMs_20	03 22 43.5	
	comp=Z,7μm,21.0s						
HYB	**Hyderabad**	**149.04**	**120**	*i* PKP	**PKPbc**	**02 29 56.0**	**+0.7**
HYB	**Hyderabad**	**149.04**	**120**	*eP*	**PKPdf**	**02 29 51.3**	**+0.1**
HYB				IAmb	IAmb	02 30 01.9	
	comp=Z,287nm,1.3s						
KBL	**Kabul**	**149.68**	**82**	PKP2	**PKPbc**	**02 29 56.6**	**-0.1**
KBL	**Kabul**	**149.68**	**82**		**PKPbc**	**02 29 56.6**	**-0.1**
KBL				IAMs_20	IAMs_20	03 46 42.2	
	comp=Z,9μm,18.0s						
BRVK	**Borovoye**	**149.81**	**45**	PKHKP	PKPpre	02 29 52.1	
BRVK				pmax	pmax		
	comp=Z,109nm,1.2s						
YAK	**Yakutsk**	**150.43**	**338**	*eP*	**PKPdf**	**02 29 52.9**	**+1.0**
YAK				*e*		02 33 34.3	
YAK				pmax	pmax		
	comp=Z,393nm,0.9s						
YAK				pmax	pmax		
	comp=N,27nm,1.1s						
YAK				pmax	pmax		
	comp=E,47nm,1.3s						
YAK				pmax	pmax		
	comp=Z,2μm,7.1s						
YAK				pmax	pmax		
	comp=N,266nm,5.0s						
YAK				pmax	pmax		
	comp=E,296nm,5.6s						
YAK	**Yakutsk**	**150.43**	**338**		**PKPbc**	**02 29 57.5**	**+0.3**
YAK				IAMs_20	IAMs_20	03 33 56.4	
	comp=Z,8μm,20.0s						
SKLT	**Songkhla**	**150.50**	**168**	PKP	**PKiKP**	**02 30 00.7**	**+1.1**
NKL	**Nikolayevsk**	**150.74**	**316**	*i* PKIKP	**PKPdf**	**02 29 53.8**	**+1.1**
NKL				*i* PPP	PPP	02 36 59.1	
PKDT	**Phuket**	**150.76**	**164**	PKP	**PKPbc**	**02 29 59.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**151.03**	**303**	*c* PKIKP	**PKPdf**	**02 29 52.6**	**-0.7**
YSS				*e*		02 29 59.0	
YSS				*e*		02 30 04.0	
YSS				*e*		02 33 44.0	
YSS				*eS*	SS	02 53 03.0	+3.9
YSS	**Yuzh-Sakhalins**	**151.03**	**303**		**PKPbc**	**02 29 58.6**	**-0.5**
ERM	**Erimo**	**151.05**	**293**	PKIKP	**PKiKP**	**02 30 00.5**	**+0.6**
ERM	**Erimo**	**151.05**	**293**		**PKiKP**	**02 30 00.5**	**+0.6**
UGL	**Uglegorsk**	**151.10**	**307**	*eP*	**PKPbc**	**02 29 59.1**	**-0.1**
UGL				pmax	pmax		
	comp=Z,100nm,1.1s						
UGL				pmax	pmax		
	comp=Z,2μm,15.5s						
UGL				pmax	pmax		
	comp=N,2μm,17.0s						
KRAB	**Krabi**	**151.27**	**165**	PKP	**PKiKP**	**02 30 01.9**	**+0.7**
KK31	**Karatay Array**	**151.79**	**65**	PKIKP	**PKPdf**	**02 29 54.5**	**-0.2**
KK31	**Karatay Array**	**151.79**	**65**	PKPdf	**PKPdf**	**02 29 54.5**	**-0.2**
BHPL	**Bhopal**	**151.84**	**110**	*eP*	**PKPdf**	**02 29 54.3**	**-1.1**
BHPL				IAmb	IAmb	02 30 11.2	
	comp=Z,103nm,1.3s						
BRZS	**Berezniki**	**152.18**	**50**	⇑*i* PKP	**PKPdf**	**02 29 53.4**	**-1.7**
	baz=50						
BRZS	**Berezniki**	**152.18**	**50**	*c i* PKIKP	**PKPdf**	**02 29 53.3**	**-1.7**
JEW	**Eniwo**	**152.31**	**294**	IAMs_20	IAMs_20	03 53 11.0	
	comp=Z,7μm,19.0s						
DZA	**Taraz**	**152.39**	**65**	*eP*	**PKPdf**	**02 29 55.8**	**+0.2**
	baz=66						
DZA	**Taraz**	**152.39**	**65**	*eP*	**PKPdf**	**02 29 55.8**	**+0.2**
OTUK	**Ortayu**	**152.41**	**54**	PKIKP	**PKPdf**	**02 29 56.6**	**+1.2**
OTUK				pmax	pmax		
	comp=Z,150nm,1.4s						
JTM	**Tenmabayashi**	**152.59**	**290**	IAMs_20	IAMs_20	03 24 45.3	
	comp=Z,10μm,21.0s						
NIL	**Nilore**	**152.84**	**86**	PKIKP	**PKPdf**	**02 29 56.6**	**0.0**
NIL						02 30 05.4	
NIL	**Nilore**	**152.84**	**86**	PKPdf	**PKPdf**	**02 29 56.6**	**0.0**
NIL				PKPbc	**sPKPdf**	**02 30 05.4**	**+1.1**
GRNR	**Gornyy**	**154.07**	**313**	*eP*	**PKPdf**	**02 29 57.8**	**+0.1**
BTLS	**Baital**	**154.16**	**60**	⇑*i* PKP	**PKPdf**	**02 29 57.3**	**-0.8**
	baz=61						
BTLS	**Baital**	**154.16**	**60**	*c i* PKIKP	**PKPdf**	**02 29 57.2**	**-0.8**
AML	**Almayashu**	**154.16**	**67**	P	**PKPdf**	**02 30 00.2**	**+1.5**
	SNR=7.6						
EKS2	**Erkin-Say**	**154.20**	**66**	P	**PKPdf**	**02 30 00.7**	**+2.4**
	SNR=7.2						
MJAR	**Matsushiro Arr**	**154.41**	**280**	PKP	**PKPdf**	**02 29 57.1**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=107,slow=1.3,SNR=5.8						
MJAR				PKPbc	**sPKPdf**	**02 30 05.5**	**-0.7**
	comp=Z,5.1nm,1.0s,baz=141,slow=0.3,SNR=10						
MAJO	**Matsushiro**	**154.41**	**280**	PKIKP	**PKPdf**	**02 29 59.8**	**+1.1**
MAJO						02 30 06.2	
MAJO	**Matsushiro**	**154.41**	**280**	PKPdf	**PKPdf**	**02 29 59.8**	**+1.1**
MAJO					**sPKPdf**	**02 30 06.2**	**0.0**
MAJO				PKPab	**pPKPab**	**02 30 24.8**	**-2.1**
MAT	**Matsushiro**	**154.41**	**280**	PKP	**PKPdf**	**02 29 58.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**154.42**	**280**		**PKPbc**	**02 30 06.5**	**-0.6**
JSD	**Sado**	**154.57**	**283**	IAMs_20	IAMs_20	03 29 25.0	
	comp=Z,9μm,20.0s						
USP	**Ospenovka**	**154.69**	**64**	P	**PKPdf**	**02 30 00.2**	**+1.3**
	SNR=5.6						
AAK	**Ala-Archa**	**154.73**	**66**	PKIKP	**PKPdf**	**02 29 59.3**	**+0.1**
AAK	**Ala-Archa**	**154.73**	**66**	PKPdf	**PKPdf**	**02 29 59.3**	**+0.1**
AAK				PKPab	**PKPab**	**02 30 24.5**	**+1.7**
SGDS	**Sogindy**	**154.77**	**64**	⇑*i* PKP	**PKPdf**	**02 29 57.8**	**-1.2**
	baz=64						
SGDS				*i* PP	**PP**	**02 33 57.0**	**-2.0**
	baz=64						
SGDS	**Sogindy**	**154.77**	**64**	*c i* PKIKP	**PKPdf**	**02 29 57.8**	**-1.2**
SGDS				*i*		02 33 57.0	
DHRM	**DHARAMSHALA**	**154.91**	**91**	*eP*	**PKPdf**	**02 30 00.0**	**+0.2**
DHRM				IAmb	IAmb	02 30 15.4	
	comp=Z,148nm,1.4s						
SMLA	**Simla**	**155.25**	**94**	*eP*	**PKPdf**	**02 30 00.2**	**+0.2**
SMLA				IAmb	IAmb	02 30 12.2	
	comp=Z,20nm,1.0s						
TKM2	**Tokmak 2**	**155.52**	**65**	P	**PKPdf**	**02 30 01.5**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**155.52**	**65**	PKIKP	**PKPdf**	**02 29 59.2**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,70nm,1.3s						
DDI	**Dehra Dun**	**155.67**	**96**	*eP*	**PKPdf**	**02 30 00.7**	**0.0**
DDI				IAmb	IAmb	02 30 40.2	
	comp=Z,271nm,1.7s						
KUU	**Kurty**	**155.94**	**62**	⇑*i* PKP	**PKPdf**	**02 29 59.4**	**-1.2**
	baz=63						
KUU				*eP*	**PP**	**02 34 03.6**	**-1.9**
	baz=63						
KUU	**Kurty**	**155.94**	**62**	*c i* PKIKP	**PKPdf**	**02 29 59.3**	**-1.3**
KUU				*e*		02 34 03.5	
ULHL	**Ulahol**	**156.05**	**66**	P	**PKPdf**	**02 30 02.5**	**+1.5**
	SNR=10						
MTBS	**Maitube**	**156.10**	**64**	⇑*i* PKP	**PKPdf**	**02 29 59.7**	**-1.3**
	baz=65						
MTBS				*eP*	**PP**	**02 34 05.8**	**-0.7**
	baz=65						
MTBS	**Maitube**	**156.10**	**64**	*c i* PKIKP	**PKPdf**	**02 29 59.6**	**-1.3**
MTBS				*e*		02 34 05.7	
CHKK	**Chushkaly**	**156.41**	**62**	*eP*	**PKPdf**	**02 30 00.4**	**-0.8**
	baz=63						
CHKK	**Chushkaly**	**156.41**	**62**	*eP*	**PKPdf**	**02 30 00.3**	**-0.8**
AAA	**Alma-Ata**	**156.45**	**64**	*eP*	**PKPdf**	**02 30 01.4**	**+0.1**
	baz=64						
AAA	**Alma-Ata**	**156.45**	**64**	*eP*	**PKPdf**	**02 30 01.4**	**+0.1**
SEM	**Semipalatinsk**	**156.55**	**45**	⇑*i* PKP	**PKPdf**	**02 29 60.0**	**-1.5**
	baz=45						
SEM				*eP*	**PP**	**02 34 06.6**	**-2.0**
	baz=45						
SEM				*eLR*	LR	03 38 35.0	
	comp=Z,3μm,21.5s,baz=45						
SEM	**Semipalatinsk**	**156.55**	**45**	*c i* PKIKP	**PKPdf**	**02 29 59.9**	**-1.5**
SEM				*e*		02 34 06.5	
MDOK	**Medeo**	**156.55**	**64**	*i* PKP	**PKPdf**	**02 30 00.8**	**-0.8**
	baz=64						
MDOK				*eP*	**PP**	**02 34 05.2**	**-3.8**
	baz=64						
MDOK				*eLR*	LR	03 43 36.4	
	comp=Z,5μm,18.3s,baz=64						
MDOK	**Medeo**	**156.55**	**64**	*i* PKIKP	**PKPdf**	**02 30 00.7**	**-0.8**
MDOK				*e*		02 34 05.2	
ZAA0	**Zalesovo Array**	**156.91**	**34**	PKPdf	**PKPdf**	**02 30 00.5**	**-0.9**
ZAA0				PKPab	**PKPab**	**02 30 32.6**	**+1.2**
ZALV	**Zalesovo Beam**	**156.91**	**34**	PKP	**PKPdf**	**02 30 00.2**	**-1.2**
	comp=Z,15nm,1.0s,baz=280,slow=2.7,SNR=47						
ZALV				PKPab	**PKPab**	**02 30 31.2**	**-0.2**
	comp=Z,43nm,0.9s,baz=305,slow=5.2,SNR=12						
ARXS	**Arharly**	**156.95**	**61**	*eP*	**PKPdf**	**02 30 02.5**	**+0.6**
TDK	**Taldyqorghan**	**157.21**	**59**	*i* PKP	**PKPdf**	**02 30 00.4**	**-1.8**
	baz=59						
TDK				*i* PP	**PP**	**02 34 09.7**	**-2.7**
	baz=59						
TDK				*eLR*	LR	03 42 28.9	
	comp=Z,14μm,19.4s,baz=59						
TDK	**Taldyqorghan**	**157.21**	**59**	*i* PKIKP	**PKPdf**	**02 30 00.3**	**-1.8**
TDK				*i*		02 34 09.6	
ZEA	**Zeya**	**157.31**	**327**	*i* PKIKP	**PKPdf**	**02 30 01.0**	**-0.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.8s						
ZEA				pmax	pmax		
	comp=Z,600nm,11.2s						
ZEA				pmax	pmax		
	comp=E,700nm,15.7s						
ZEA				pmax	pmax		
	comp=N,900nm,14.0s						
JMN	**Monobe**	**157.32**	**272**	IAMs_20	IAMs_20	03 28 46.0	
	comp=Z,8μm,21.0s						
SATY	**Saty**	**157.55**	**64**	⇑*i* PKP	**PKPdf**	**02 30 01.6**	**-1.3**
	baz=64						
SATY				*eP*	**PP**	**02 34 13.6**	**-1.0**
	baz=64						
SATY	**Saty**	**157.55**	**64**	*c* PKIKP	**PKPdf**	**02 30 01.5**	**-1.3**
SATY				*e*		02 34 13.5	
PRZ	**Przheval'sk**	**157.62**	**66**	PKPdf	**PKPdf**	**02 30 03.3**	**+0.3**
PRZ				PKPab	**PKPab**	**02 30 35.7**	**+0.5**
KPKS	**Kokpek**	**157.69**	**63**	⇑*i* PKP	**PKPdf**	**02 30 01.2**	**-1.8**
	baz=63						
KPKS				*eP*	**PP**	**02 34 13.9**	**-1.4**
	baz=63						
KPKS	**Kokpek**	**157.69**	**63**	*c i* PKIKP	**PKPdf**	**02 30 01.1**	**-1.8**
KPKS				*e*		02 34 13.8	
BOD	**Bodaibo**	**157.91**	**349**	*eP*	**PKPab**	**02 30 33.0**	**-2.6**
BOD				pmax	pmax		
	comp=Z,78nm,1.5s						
UZB	**Uzynbulak**	**157.99**	**64**	⇑*i* PKP	**PKPdf**	**02 30 02.3**	**-1.1**
	baz=64						
UZB				*eP*	**PP**	**02 34 15.5**	**-1.4**
	baz=64						
UZB	**Uzynbulak**	**157.99**	**64**	*c i* PKIKP	**PKPdf**	**02 30 02.3**	**-1.1**
UZB				*e*		02 34 15.5	
PDGK	**Podgornoye**	**158.29**	**63**	PKIKP	**PKPdf**	**02 30 03.6**	**-0.1**
PDGK				pmax	pmax		
	comp=Z,34nm,1.5s						
SHLS	**Shalkode**	**158.30**	**63**	⇑*i* PKP	**PKPdf**	**02 30 03.6**	**-0.1**
	baz=64						
SHLS				*eP*	**PP**	**02 34 18.2**	**-0.4**
	baz=64						
SHLS	**Shalkode**	**158.30**	**63**	*c i* PKIKP	**PKPdf**	**02 30 03.6**	**-0.1**
SHLS				*e*		02 34 18.2	
BOK	**Bokaro**	**158.39**	**120**	*eP*	**PKPdf**	**02 30 06.1**	**+1.9**
BOK				IAmb	IAmb	02 30 45.7	
	comp=Z,135nm,1.7s						
UTHA	**Uthaitani**	**158.42**	**162**	P	**PKPab**	**02 30 40.3**	**+1.4**
	comp=Z,6.3nm,1.4s						
UMPA	**Umpang Tak**	**158.88**	**160**	P	**PKPab**	**02 30 45.0**	**+4.1**
USA0B	**Ussuriysk Arra**	**158.96**	**300**	IAMs_20	IAMs_20	03 31 55.0	
	comp=Z,9μm,20.0s						
USRK	**Ussuriysk Ar.**	**158.96**	**300**	PKP	**PKPdf**	**02 30 03.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=166,slow=3.3,SNR=1.7						
USRK				PKPab	**PKPab**	**02 30 40.3**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=93,slow=3.8,SNR=4.4						
USRK	**Ussuriysk Ar.**	**158.96**	**300**	PKPdf	**PKPdf**	**02 30 05.5**	**+1.2**
USRK				PKPab	**PKPab**	**02 30 41.0**	**+0.2**
MAKZ	**Makanchi**	**159.07**	**52**	PKIKP	**PKPdf**	**02 30 03.7**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,42nm,1.4s						
MAKZ	**Makanchi**	**159.07**	**52**		**PKPdf**	**02 30 04.0**	**-0.4**
JOW	**Kunigami**	**159.08**	**249**	IAMs_20	IAMs_20	03 49 30.0	
	comp=Z,8μm,21.0s						
MK31	**Makanchi Array**	**159.27**	**52**	*i* PKIKP	**PKPdf**	**02 30 04.1**	**-0.5**
MK31				pmax	pmax		
	comp=Z,35nm,1.2s						
MKAR	**Makanchi Array**	**159.27**	**52**	PKP	**PKPdf**	**02 30 04.0**	**-0.6**
	comp=Z,9.3nm,1.0s,baz=321,slow=1.7,SNR=53						
MKAR				PKPab	**PKPab**	**02 30 42.6**	**+0.5**
	comp=Z,14nm,1.0s,baz=291,slow=3.7,SNR=6.1						
MKAR				PP	**PP**	**02 34 23.4**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=258,slow=5.8,SNR=3.9						
JSU	**Suzuyama**	**159.43**	**263**	IAMs_20	IAMs_20	03 48 28.7	
	comp=Z,7μm,19.0s						
PHIT	**Phitsanulok**	**160.22**	**163**	P	**PKPab**	**02 30 47.0**	**+0.4**
MDJ	**Mudanjiang**	**160.51**	**302**	PKP	**PKPdf**	**02 30 05.3**	**-0.7**
MDJ				pPKP	pPKPdf	02 30 09.3	-2.2
MDJ				PP	**PP**	**02 34 30.4**	**+0.1**
MDJ				L	L		
	comp=Z,7μm,19.9s						
MDJ				L	L		
	comp=Z,5μm,19.9s						
MDJ				L	L		
	comp=Z,12μm,17.1s						
ZSN	**Zaisan**	**160.60**	**48**	⇑*i* PKP	**PKPdf**	**02 30 05.0**	**-1.2**
	baz=49						
ZSN				*eP*	**PP**	**02 34 29.2**	**-1.4**
	baz=49						
ZSN	**Zaisan**	**160.60**	**48**	*c i* PKIKP	**PKPdf**	**02 30 04.9**	**-1.2**
ZSN				*e*		02 34 29.2	
LOEI	**Loei**	**160.72**	**165**	PKP	PKPdf	02 30 19.9	+13
UTTA	**Uttaradit**	**160.79**	**163**	PKP	PKPdf	02 30 19.2	+12
PANO	**Nakornpanom**	**160.83**	**175**	PKP	**PKPdf**	**02 30 01.1**	**-6.1**
CM05	**Chiang Mai Arr**	**160.98**	**158**	PKP	**PKPdf**	**02 30 11.7**	**+4.4**
CM05	**Chiang Mai Arr**	**160.98**	**158**	P	**PKPdf**	**02 30 11.8**	**+4.4**
	comp=Z,114nmcomp=Z,7.6nm,1.3s						
CM13	**Chiang Mai Arr**	**160.99**	**158**	PKP	PKPdf	02 30 17.0	+10
CM13	**Chiang Mai Arr**	**160.99**	**158**	P	PKPdf	02 30 17.0	+10
	comp=Z,8.5nm,1.1s						
CM04	**Chiang Mai Arr**	**160.99**	**158**	PKP	**PKPdf**	**02 30 10.4**	**+3.1**
CM04	**Chiang Mai Arr**	**160.99**	**158**	P	**PKPdf**	**02 30 10.4**	**+3.1**
	comp=Z,11nm,1.2s						
CM01	**Chiang Mai Arr**	**161.00**	**158**	PKP	PKPdf	02 30 17.7	+10
CM01	**Chiang Mai Arr**	**161.00**	**158**	P	PKPdf	02 30 17.0	+10
	comp=Z,8.8nm,1.4s						
CM02	**Chiang Mai Arr**	**161.01**	**158**	PKP	**PKPdf**	**02 30 14.1**	**+6.7**
CM02	**Chiang Mai Arr**	**161.01**	**158**	P	**PKPdf**	**02 30 14.0**	**+6.7**
	comp=Z,148nmcomp=Z,7.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**161.03**	**158**	PKP	**PKPdf**	**02 30 07.0**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=239,slow=3.0,SNR=9.5						
CMAR				PKPab	**PKPab**	**02 30 50.4**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=216,slow=4.4,SNR=7.0						
CM09	**Chiang Mai Arr**	**161.04**	**158**	PKP	PKPdf	02 30 17.1	+10
CM09	**Chiang Mai Arr**	**161.04**	**158**	P	PKPdf	02 30 17.2	+10
	comp=Z,9.0nm,1.5s						
CM36	**Chiang Mai Arr**	**161.14**	**158**	P	**PKPdf**	**02 30 14.0**	**+6.5**
CM35	**Chiang Mai Arr**	**161.31**	**158**	P	**PKPdf**	**02 30 14.0**	**+6.3**
CHTO	**Chiang Mai**	**161.37**	**158**	PKIKP	**PKPdf**	**02 30 05.9**	**-1.8**
CHTO						02 30 52.0	
CHTO	**Chiang Mai**	**161.37**	**158**	PKP	**PKPdf**	**02 30 14.7**	**+6.9**
CHTO	**Chiang Mai**	**161.37**	**158**		**PKPdf**	**02 30 05.9**	**-1.8**
CHTO					**PKPab**	**02 30 52.0**	**+0.4**
CHTO	**Chiang Mai**	**161.37**	**158**	PKP	**PKPdf**	**02 30 06.4**	**-1.4**
CHTO				PKP	**PKPdf**	**02 30 14.7**	**+6.9**
CMMT	**Chiang Mai**	**161.37**	**158**	PKP	**PKPdf**	**02 30 13.6**	**+5.8**
CMMT	**Chiang Mai**	**161.37**	**158**	P	**PKPdf**	**02 30 13.7**	**+5.9**
	comp=Z,2μmcomp=Z,14nm,1.9s						
CM33	**Chiang Mai Arr**	**161.38**	**158**	P	**PKPdf**	**02 30 14.0**	**+6.2**
CM34	**Chiang Mai Arr**	**161.47**	**158**	P	**PKPdf**	**02 30 14.0**	**+6.1**
NONG	**Nongkai**	**161.58**	**170**	PKP	**PKPdf**	**02 30 13.4**	**+5.4**
PAYA	**Payao**	**162.16**	**160**	PKP	PKPdf	02 30 18.3	+10
PAYA	**Payao**	**162.16**	**160**	P	PKPdf	02 30 18.3	+10
	comp=Z,21nm,0.9s						
QIZ	**Qiongzhong**	**162.49**	**191**	PKP	**PKPdf**	**02 30 07.8**	**-1.1**
QIZ				PP	**PP**	**02 34 43.3**	**+3.6**
QIZ				SS	SS	02 55 02.3	+2.3
QIZ				PPMZ			
	comp=Z,2μm,10.4s						
QIZ				L	L		
	comp=Z,4μm,17.2s						
QIZ				L	L		
	comp=Z,4μm,17.2s						
QIZ				L	L		
	comp=Z,6μm,20.4s						
KSRS	**Korea Array**	**162.69**	**280**	PKP	**PKPdf**	**02 30 07.3**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=144,slow=0.9,SNR=9.8						
KSRS				PKPab	**PKPab**	**02 30 58.5**	**+1.2**
	comp=Z,8.5nm,1.2s,baz=160,slow=7.9,SNR=4.4						
CRAI	**Chiangrai**	**163.12**	**160**	PKP	PKPdf	02 30 20.8	+11
CRAI	**Chiangrai**	**163.12**	**160**	P	PKPdf	02 30 20.9	+11
	comp=Z,6μmcomp=Z,15nm,2.8s						
CIT	**Chita**	**163.50**	**344**	*eP*	**PKPdf**	**02 30 08.0**	**-0.9**
CIT				*e*		02 34 41.4	
CN2	**Changchun**	**163.60**	**303**	*eP*	**PKPdf**	**02 30 02.6**	**-6.6**
CN2				PP	**PP**	**02 34 43.4**	**-3.3**
SHL	**Shillong**	**163.62**	**127**	*eP*	**PKPdf**	**02 30 06.7**	**-3.3**
WMQ	**Urumqi**	**163.91**	**57**	PKP	**PKPdf**	**02 30 11.3**	**+1.7**
WMQ				PKPab	**PKPab**	**02 31 03.6**	**+1.1**
WMQ				PP	**PP**	**02 34 49.0**	**+0.5**
WMQ				SKKS		02 41 32.0	
WMQ				SS	SS	02 55 14.0	-3.1
WMQ				PPMZ			
	comp=Z,6μm,11.7s						
WMQ				L	L		
	comp=Z,9μm,18.7s						
WMQ				L	L		
	comp=Z,10μm,24.9s						
WMQ				L	L		
	comp=Z,27μm,24.9s						
IRK	**Irkutsk**	**164.03**	**5**	*eP*	**PKPdf**	**02 30 07.3**	**-2.0**
IRK				pmax	pmax		
	comp=Z,63nm,2.8s						
MOY	**Mondy**	**164.21**	**12**	*eP*	**PKPdf**	**02 30 10.0**	**+0.3**
MOY				pmax	pmax		
	comp=Z,89nm,3.0s						
QZH	**Quanzhou**	**164.52**	**226**	*i* PKP	**PKPdf**	**02 30 10.3**	**-0.3**
QZH				PKPab	**PKPab**	**02 31 07.3**	**+1.9**
QZH				PP	**PP**	**02 34 55.0**	**+3.8**
QZH				SKKS		02 41 38.1	
QZH				SS	SS	02 55 19.4	-3.1
QZH				PPMZ			
	comp=Z,3μm,12.3s						
QZH				L	L		
	comp=Z,1μm,22.3s						
QZH				L	L		
	comp=Z,3μm,23.7s						
QZH				L	L		
	comp=Z,5μm,19.4s						
TLY	**Talaya**	**164.54**	**6**	*i* PKIKP	**PKPdf**	**02 30 09.8**	**0.0**
GZH	**Guangzhou**	**165.47**	**207**	PKP

comp=Z,690nm,19.4s
GYA L L
comp=Z,690nm,17.0s
GYA L L
comp=Z,2µm,19.3s
WHN Wuhan 171.16 232 ⇑PKP **PKPdf 02 30 14.8 -0.3**
WHN PP **PP 02 35 29.1 +3.8**
WHN SKKS 02 42 16.1
WHN PPMZ
comp=Z,2µm,9.9s
WHN L L
comp=Z,10µm,19.6s
WHN L L
comp=Z,14µm,20.3s
WHN L L
comp=Z,24µm,21.4s
TIA Tai'an 171.28 272 PKP **PKPdf 02 30 15.0 0.0**
TIA PP **PP 02 35 27.1 +0.5**
TIA PPMZ
comp=Z,3µm,12.8s
TIA L L
comp=Z,6µm,23.5s
TIA L L
comp=Z,6µm,18.6s
TIA L L
comp=Z,13µm,20.2s
BJI Beijing 171.41 298 PKP **PKPdf 02 30 15.0 +0.1**
BJI pPKP **pPKPdf 02 30 18.6 -1.8**
BJI **PP 02 35 27.3 +0.4**
BJI SKS **SKSdf 02 37 10.4 -6.9**
BJI SKKS **SKKSac 02 42 11.9 -0.5**
BJI L L
comp=Z,7µm,20.4s
BJI L L
comp=Z,5µm,18.1s
BJI L L
comp=Z,11µm,19.2s
HHC Hu-ho-hao-te 173.91 319 *e*PKP **PKPdf 02 30 15.4 -0.7**
HHC PP **PP 02 35 46.0 +7.3**
HHC SKKS 02 42 28.5
HHC SS SS 02 56 57.0 +0.9
HHC PPMZ
comp=Z,4µm,12.4s
HHC L L
comp=Z,13µm,21.2s
HHC L L
comp=Z,9µm,21.2s
HHC L L
comp=Z,27µm,21.6s
GTA Gaotai 174.00 57 ⇑PKP **PKPdf 02 30 16.0 -0.2**
GTA PKPab **PKPab 02 31 48.3 +1.0**
GTA PP **PP 02 35 40.1 +0.4**
GTA SKKS 02 42 27.4
GTA SS SS 02 57 01.3 +3.3
GTA PPMZ
comp=Z,5µm,10.2s
GTA L L
comp=Z,6µm,21.8s
GTA L L
comp=Z,11µm,19.6s
GTA L L
comp=Z,11µm,22.5s
CD2 Chengdu 174.18 158 ⇓*i*PKP **PKPdf 02 30 16.1 -0.3**
CD2 PP **PP 02 35 42.3 +2.9**
CD2 SKS **SKSdf 02 37 16.3 -2.5**
CD2 SKKS **SKKSac 02 42 26.3 +0.5**
CD2 SS **SS 02 56 58.3 +0.6**
CD2 L L
comp=Z,15µm,18.2s
CD2 L L
comp=Z,10µm,19.0s
CD2 L L
comp=Z,19µm,20.0s
BTO Baotou 174.85 327 *e*PKP **PKPdf 02 30 16.0 -0.4**
BTO L L
comp=Z,12µm,13.1s
BTO L L
comp=Z,11µm,11.6s
TIY Taiyuan 174.93 288 PKP **PKPdf 02 30 15.8 -0.7**
TIY PKPab **PKPab 02 31 51.5 0.0**
TIY PP **PP 02 35 47.9 +3.4**
TIY SS SS 02 57 09.4 +2.0
TIY PPMZ
comp=Z,2µm,13.2s
TIY L L
comp=Z,8µm,16.6s
TIY L L
comp=Z,4µm,17.1s
TIY L L
comp=Z,10µm,18.7s
XAN Xi'an 176.88 224 PKIKP **PKPdf 02 30 18.4 +1.4**
XAN Xi'an 176.88 224 **PKPdf 02 30 18.4 +1.4**
LZH Lanzhou 177.97 96 *e*PKP **PKPdf 02 30 18.5 +1.2**
LZH PKPab PKPab 02 32 05.9 +0.7
LZH PP **PP 02 36 03.8 +4.6**
LZH SKS **SKSdf 02 37 15.8 -3.7**
LZH SKKS **SKKSac 02 42 38.6 -5.7**
LZH SS **SS 02 57 38.1 +1.3**
LZH PPMZ
comp=Z,5µm,7.6s
LZH L L
comp=Z,6µm,20.2s
LZH L L
comp=Z,5µm,20.2s
LZH L L
comp=Z,4µm,21.9s

IDC 20 02:15:29.0±2.3, 6°.61S×128°.84E, h0km, mb3.3/1, mb1 3.9/3, mb1mx3.6/24, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=149.1km s-min=32.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.29**	**159**	Pn	Pn	02 18 52.5	-0.2
	0.4nm,0.3s,baz=341,slow=14,SNR=20						
WRA				Sn	Sn	02 21 16.8	-15
	1.3nm,0.3s,baz=333,slow=21,SNR=9.1						
ASAR	**Alice Springs**	**17.64**	**165**	P	Pn	02 19 36.5	0.0
	0.3nm,0.3s,baz=341,slow=11,SNR=29						
ASAR				S	Sn	02 22 37.7	-16
	0.3nm,0.3s,baz=327,slow=17,SNR=3.0						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	02 26 25.6	+0.1
	0.1nm,0.3s,baz=128,slow=6.7,SNR=2.2						

IDC 20 02:16:47.2±6.1, 7°.33S×127°.13E, h286km±68km, mb3.2/2, mb1 3.4/4, mb1mx3.1/24, mbtmp4.0/4, Error ellipse: s-maj=119.5km s-min=22.4km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.36**	**152**	P	P	02 19 57.2	-0.8
	0.6nm,0.3s,baz=327,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**17.50**	**159**	P	P	02 20 33.0	+0.6
	0.9nm,0.3s,baz=344,slow=12,SNR=25						
ASAR				S	S	02 23 40.6	+1.3
	0.0nm,0.3s,baz=335,slow=20,SNR=4.7						
STKA	**Stephens Creek**	**27.90**	**153**	P	P	02 22 10.8	-0.5
	1.7nm,0.4s,baz=326,slow=9.6,SNR=6.0						
MKAR	**Makanchi Array**	**66.97**	**328**	P	P	02 27 09.7	+0.2
	0.5nm,0.9s,baz=117,slow=6.3,SNR=2.3						

*IDC **20** 02:44:25.3±1.0, 35°.14N×138°.94E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/31, mbtmp3.6/7, MS4.5/1, Ms1 4.5/1, ms1mx3.9/46, Error ellipse: s-maj=32.7km s-min=15.6km az=65.0*
*NEIC **20** 02:44:27.0±1.9, 35°.21N±0°.08×139°.06E±0°.07, h11km±2km, mb4.2/6, Error ellipse: s-maj=13.2km s-min=5.6km az=150.0*
*JMA **20** 02:44:27.2, 35°.23N×139°.03E, h5km±1km, M2.9 Broadband fault plane solution: P waves. NP1: φs=180.00000°, δ=48.00000°, λ=-64.00000°. NP2: φs=324.00000°, δ=48.00000°, λ=-116.00000°. Principal axes: T Plg0.0000°, Azm72.0000°; N Plg19.0000°, Azm342.0000°; P Plg71.0000°, Azm162.0000°;*
JMA Felt II J1.
ISC 20 02:44:26.7±0.8, 35°.23N±0°.03×139°.05E±0°.03, h11km±5km, n43, σ0°.83/43, mb3.9/11, 4C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**0.05**	**42**	⇑P	**Pg**	**02 44 28.8**	**0.0**
JOD2				S	**Sg**	**02 44 30.0**	**-0.4**
AJI	**Ajiro2**	**0.19**	**169**	⇓P	**Pg**	**02 44 31.1**	**+0.4**
AJI				S	**Sg**	**02 44 34.1**	**+0.7**
KTJ3	**Kamata3**	**0.29**	**176**	⇓P	**Pg**	**02 44 32.9**	**+0.3**
KTJ3				S	**Sg**	**02 44 37.2**	**+0.6**
JFNN	**Fujinakano**	**0.30**	**264**	⇑P	**Pg**	**02 44 32.9**	**+0.2**
JFNN				*e*S	**Sg**	**02 44 36.9**	**+0.1**
JYN	**Shimob**	**0.49**	**303**	⇑P	**Pg**	**02 44 36.3**	**0.0**
JIZS	**Izushimoda**	**0.53**	**195**	P	**Pg**	**02 44 37.0**	**0.0**
JIZS				S	**Sb**	**02 44 44.1**	**-1.5**
JIM2	**Oshima 3**	**0.60**	**148**	P	**Pb**	**02 44 39.1**	**-0.1**
SHZ3	**Shizuoka 3**	**0.71**	**257**	P	**Pb**	**02 44 40.6**	**-0.4**
SHZ3				S	**Sb**	**02 44 49.8**	**-1.0**
JRY	**Ryogami san**	**0.80**	**351**	⇑P	**Pb**	**02 44 42.1**	**-0.5**
JRY				*e*S	**Sb**	**02 44 53.3**	**-0.1**
JSG	**Sagara**	**0.90**	**232**		**Pn**	**02 44 44.6**	**-0.7**
JYT	**Yasato**	**1.36**	**43**		**Pn**	**02 44 51.3**	**-0.3**
JGF	**Kuroka**	**1.43**	**286**		**Pn**	**02 44 52.4**	**-0.2**
MJAR	**Matsushiro Arr**	**1.48**	**333**	Pg	**Pn**	**02 44 53.4**	**+0.1**
	6.6nm,0.3s,baz=157,slow=16,SNR=98						
MJAR				Lg	Lg	02 45 11.8	
	2.8nm,0.3s,baz=158,slow=27,SNR=3.5						
MAJO	**Matsushiro**	**1.48**	**333**		**Pb**	**02 44 54.2**	**0.0**
MAT	**Matsushiro**	**1.48**	**333**	P	**Pb**	**02 44 53.8**	**-0.4**
MAT				S	**Sb**	**02 45 13.0**	**0.0**
MJB9	**Matsu-Tunnel**	**1.48**	**333**		**Pb**	**02 44 54.3**	**0.0**
INU	**Inuyama**	**1.67**	**275**		**Pn**	**02 44 55.8**	**0.0**
JSD	**Sado**	**2.88**	**347**	Pn	**Pn**	**02 45 12.4**	**0.0**
JMM	**Marumori**	**2.98**	**28**	Pn	**Pn**	**02 45 14.1**	**+0.2**
JWT	**Wachi**	**2.98**	**272**		**Pn**	**02 45 14.9**	**+0.9**
JHS	**Saijyo**	**4.87**	**269**		**Pn**	**02 45 41.7**	**+1.8**
KSRS	**Korea Array**	**9.25**	**287**	LR	LR	02 50 09.4	
	comp=Z,3µm,18.1s,baz=200,slow=37						
ENH	**Enshi**	**25.30**	**267**	P	**P**	**02 49 51.8**	**-1.5**
MA2	**Magadan**	**25.54**	**14**	P	**P**	**02 49 54.2**	**-1.0**
MA2				IAmb	IAmb	02 49 57.0	
	comp=Z,13nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.00**	**115**	T	T	03 20 41.9	
	baz=308,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.01**	**115**	T	T	03 20 38.1	
	baz=308,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**29.02**	**115**	T	T	03 20 38.4	
	baz=308,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**29.62**	**117**	T	T	03 21 23.7	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**29.62**	**117**	T	T	03 21 23.1	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**29.64**	**117**	T	T	03 21 26.3	
	baz=311						
ZAA0	**Zalesovo Array**	**41.75**	**314**	P	**P**	**02 52 16.1**	**+0.4**
ZAA0				IAmb	IAmb	02 52 35.5	
	comp=Z,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.75**	**314**	P	**P**	**02 52 15.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=107,slow=4.8,SNR=1.8						
MKAR	**Makanchi Array**	**43.48**	**303**	P	**P**	**02 52 31.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=87,slow=9.8,SNR=3.1						
ILAR	**Eielson Array**	**52.04**	**32**	P	**P**	**02 53 37.0**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=283,slow=7.6,SNR=4.3						
KK31	**Karatay Array**	**52.38**	**301**	P	**P**	**02 53 38.7**	**-0.2**
KK31				IAmb	IAmb	02 53 40.9	
	comp=Z,4.0nm,1.4s						
WRA	**Warramunga Arr**	**55.05**	**185**	P	**P**	**02 53 57.4**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=1.9,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**55.05**	**185**	IAmb	IAmb	02 53 59.1	
	comp=Z,0.3nm,1.3s						
ABKAR	**Akbulak array**	**57.64**	**310**	P	**P**	**02 54 17.4**	**+0.7**
FINES	**FINESS Array B**	**69.51**	**332**	P	**P**	**02 55 34.8**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=46,slow=8.0,SNR=4.4						
NVAR	**Mina Array Bea**	**77.61**	**52**	P	**P**	**02 56 24.2**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=292,slow=4.8,SNR=4.8						
NV11	**Mina Array Sit**	**77.70**	**52**	P	**P**	**02 56 21.6**	**-2.2**
NV11				IAmb	IAmb	02 56 39.0	
	comp=Z,3.1nm,1.4s						
TXAR	**Lajitas Array**	**92.74**	**51**	P	**P**	**02 57 41.1**	**+1.7**
	comp=Z,0.4nm,1.0s,baz=270,slow=3.4,SNR=2.5						
LPAZ	**La Paz**	**149.26**	**59**	PKPbc	**PKiKP**	**03 04 17.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=321,slow=0.9,SNR=3.8						

NNC 20 03:05:32.6±9.7, 36°.99N×70°.83E, h0km, mb4.1, mpv3.7, 2C-4D, Error ellipse: s-maj=75.7km s-min=64.5km az=167.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.11**	**358**	⇓P	Pn	03 07 06.0	+1.8
	1.6nm,0.2s,baz=178,slow=13,SNR=34						
KK31				⇑S	Sn	03 08 17.0	+2.3
	1.4nm,0.3s,baz=184,slow=23						
AAK	**Ala-Archa**	**6.30**	**25**	⇑P	Pn	03 07 06.8	-0.2
	4.4nm,0.5s						
AAK				⇓S	Sn	03 08 20.0	+0.3
	3.1nm,0.9s						
TKM2	**Tokmak 2**	**6.96**	**30**	⇓P	Pn	03 07 15.0	-1.0
	1.9nm,0.5s						
TKM2				⇓S	Sn	03 08 35.9	-0.1
	1.7nm,0.9s						

*SOF **20** 03:08:55.2, 40°.03N×21°.36E, h3km, MD3.3*
*BEO **20** 03:08:56.0±1.1, 39°.90N×21°.77E, h9km±5km, ML3.3/7*
*IDC **20** 03:08:57.8±1.4, 40°.07N×21°.42E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.5/41, mbtmp3.5/10, ML3.5/3, Error ellipse: s-maj=21.1km s-min=16.8km az=142.0*
*SKO **20** 03:08:57.7, 40°.01N×21°.54E, h9km*
*THE **20** 03:08:58.8, 40°.14N×21°.62E, h0km±1km, ML3.3/17, Error ellipse: s-maj=1.8km s-min=0.5km az=3.0*
*ATH **20** 03:08:58.7, 40°.13N×21°.62E, h9km±2km, ML3.4/8, Error ellipse: s-maj=2.9km s-min=0.9km az=329.0*
*PDG **20** 03:08:58.7±0.5, 40°.14N×21°.66E, h9km, ML3.5/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
ISC 20 03:08:58.7±0.9, 40°.13N±0°.01×21°.64E±0°.01, h7km±7km, n161, σ1°.28/208, mb3.6/6, 21C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.20**	**29**	P	**Pg**	**03 09 03.0**	**+0.3**
KZN				S	**Sg**	**03 09 06.7**	**+1.2**
	25µm,0.6s						
KZN	**Kozani**	**0.20**	**29**	P	**Pg**	**03 09 03.0**	**+0.3**
KZN				S	**Sg**	**03 09 06.1**	**+0.6**
KZN				AML	AML	03 09 08.9	
	comp=E,58111µm,0.7s						
KZN				AML	AML	03 09 09.4	
	comp=N,40998µm,0.4s						
KPRO	**Kipourio**	**0.28**	**231**	P	**Pg**	**03 09 03.8**	**-0.4**
KPRO				S	**Sg**	**03 09 08.2**	**+0.3**
	comp=N,18µm,0.6s						
KPRO	**Kipourio**	**0.28**	**231**	P	**Pg**	**03 09 03.8**	**-0.4**
KPRO				S	**Sg**	**03 09 08.5**	**+0.6**
KPRO				AML	AML	03 09 10.3	
	comp=E,46170µm,0.5s						
KPRO				AML	AML	03 09 12.0	
	comp=N,25604µm,0.7s						
PENT	**Pentalofos**	**0.39**	**279**	P	**Pg**	**03 09 05.8**	**-0.5**
PENT				S	**Sg**	**03 09 11.9**	**+0.4**
	comp=N,7µm,0.4s						
PENT	**Pentalofos**	**0.39**	**279**	P	**Pg**	**03 09 06.0**	**-0.4**
PENT				AML	AML	03 09 15.1	
	comp=E,13451µm,0.4s						
PENT				AML	AML	03 09 15.1	
	comp=N,15522µm,0.5s						
KTI	**Kastanea**	**0.45**	**54**	P	**Pb**	**03 09 07.7**	**-1.3**
NEST	**Nestorio**	**0.54**	**302**	P	**Pg**	**03 09 08.6**	**-0.5**
NEST	**Nestorio**	**0.54**	**302**	P	**Pg**	**03 09 08.6**	**-0.5**
NEST				AML	AML	03 09 21.4	
	comp=E,9080µm,0.3s						
NEST				AML	AML	03 09 22.4	
	comp=N,9663µm,0.5s						
THL	**Klokotos Trika**	**0.63**	**153**	P	**Pg**	**03 09 10.2**	**-0.6**
THL				S	**Sb**	**03 09 21.1**	**0.0**
	comp=N,2µm,0.5s						
THL	**Klokotos Trika**	**0.63**	**153**	P	**Pg**	**03 09 10.2**	**-0.6**
THL				S	**Sg**	**03 09 19.2**	**+0.1**
THL				AML	AML	03 09 23.9	
	comp=E,3595µm,0.3s						
THL				AML	AML	03 09 25.4	
	comp=N,5238µm,0.5s						
LIT	**Litokhoron**	**0.65**	**92**	P	**Pg**	**03 09 10.7**	**-0.4**
LIT				S	**Sb**	**03 09 21.1**	**-0.6**
	comp=N,5µm,0.3s						
LIT	**Litokhoron**	**0.65**	**92**	P	**Pg**	**03 09 10.8**	**-0.4**
LIT				S	**Sb**	**03 09 21.0**	**-0.6**
LIT				AML	AML	03 09 24.0	
	comp=E,9334µm,0.3s						
LIT				AML	AML	03 09 26.6	
	comp=N,10534µm,0.3s						
LIT	**Litokhoron**	**0.65**	**92**	*i* Pg	**Pg**	**03 09 10.7**	**-0.4**
LIT				*i* Sg	**Sn**	**03 09 23.3**	**-1.6**
FNA	**Florina**	**0.68**	**343**	P	**Pg**	**03 09 11.3**	**-0.5**
FNA				S	**Sg**	**03 09 20.2**	**-0.5**
	comp=N,5µm,0.4s						
FNA	**Florina**	**0.68**	**343**	P	**Pg**	**03 09 11.3**	**-0.5**
FNA				AML	AML	03 09 23.6	
	comp=E,11891µm,0.4s						
FNA				AML	AML	03 09 23.8	
	comp=N,8366µm,0.5s						
FNA	**Florina**	**0.68**	**343**	⇑*i* Pg	**Pg**	**03 09 11.3**	**-0.5**
FNA				*i* Sg	**Sg**	**03 09 20.3**	**-0.5**
LRSO	**Larissa Observ**	**0.74**	**128**	P	**Pb**	**03 09 13.4**	**-0.4**
LRSO	**Larissa Observ**	**0.74**	**128**	P	**Pb**	**03 09 13.2**	**-0.6**
JAN	**Janina**	**0.77**	**232**	P	**Pg**	**03 09 13.0**	**-0.5**
JAN				S	**Sg**	**03 09 23.3**	**-0.3**
	comp=N,972nm,0.9s						
JAN	**Janina**	**0.77**	**232**	P	**Pg**	**03 09 12.7**	**-0.8**
LSK	**Leskovik**	**0.80**	**272**	P	**Pg**	**03 09 13.2**	**-0.9**
LSK				S	**Sg**	**03 09 24.2**	**-0.3**
	comp=N,2µm,0.6s						
KBN	**Korca**	**0.82**	**307**	P	**Pg**	**03 09 13.4**	**-1.0**
KBN				S	**Sb**	**03 09 26.7**	**+0.1**
	comp=N,2µm,0.7s						
GRG	**Griva**	**1.01**	**35**	P	**Pg**	**03 09 17.2**	**-0.8**
GRG	**Griva**	**1.01**	**35**	*i* Pg	**Pg**	**03 09 17.2**	**-0.8**
GRG				*i* Sg	**Sn**	**03 09 34.6**	**+0.9**
THE	**Thessaloniki**	**1.13**	**63**	P	**Pn**	**03 09 20.3**	**-0.5**
THE	**Thessaloniki**	**1.13**	**63**	*i* Pg	**Pn**	**03 09 20.5**	**-0.3**
THE				*i* Sg	**Sn**	**03 09 37.6**	**+1.1**
OHR	**Ohrid**	**1.17**	**327**	*i* Pg	**Pg**	**03 09 20.2**	**-1.0**
OHR				*i* Sg	**Sn**	**03 09 40.2**	**+2.4**
OHR				*e*Lg	Lg	03 09 41.8	
	comp=E,2µm,0.5s						
OHR				*e*Lg	Lg	03 09 42.7	
	comp=N,964nm,0.5s						
IGT	**Igoumenitsa**	**1.17**	**240**	P	**Pg**	**03 09 20.5**	**-0.7**
IGT				S	**Sn**	**03 09 39.9**	**+2.1**
	comp=N,482nm,0.7s						
IGT	**Igoumenitsa**	**1.17**	**240**	P	**Pg**	**03 09 20.4**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.18**	**161**	P	**Pg**	**03 09 20.6**	**-0.7**
MAKR				S	**Sn**	**03 09 39.3**	**+1.4**
	comp=N,3µm,0.7s						
MAKR	**Makrakomi, Fth**	**1.18**	**161**	P	**Pg**	**03 09 20.6**	**-0.7**
MAKR				AML	AML	03 09 42.3	
	comp=N,1925µm,1.0s						
MAKR				AML	AML	03 09 45.0	
	comp=E,1966µm,0.4s						
HORT	**Hortiatis**	**1.21**	**67**	P	**Pn**	**03 09 21.6**	**-0.5**
HORT	**Hortiatis**	**1.21**	**67**	P	**Pn**	**03 09 21.5**	**-0.5**
EVR	**Evrytania**	**1.22**	**174**	P	**Pg**	**03 09 20.7**	**-1.4**
EVR				S	**Sn**	**03 09 40.0**	**+0.9**
	comp=E,745nm,0.8s						
AGG	**Agios Georgios**	**1.23**	**154**	P	**Pg**	**03 09 21.5**	**-0.7**
AGG				S	**Sn**	**03 09 40.6**	**+1.4**
	comp=E,928nm,0.6s						
AGG	**Agios Georgios**	**1.23**	**154**	P	**Pg**	**03 09 21.5**	**-0.7**
SRN	**Sarande**	**1.29**	**259**	P	**Pn**	**03 09 22.8**	**-0.3**
SRN				S	**Sn**	**03 09 40.9**	**+0.4**
	comp=E,1µm,0.7s						
VAY	**Valandovo**	**1.38**	**30**	*e*Pg	**Pb**	**03 09 23.9**	**-0.9**
VAY				*e*Sg	**Sn**	**03 09 45.1**	**+2.2**
VAY	**Valandovo**	**1.38**	**30**	*i* Pg	**Pg**	**03 09 24.2**	**-0.9**
VAY				*i* Sg	**Sn**	**03 09 46.5**	**+3.6**
VAY				*e*Lg	Lg	03 09 49.5	
	comp=E,435nm,0.8s						
VAY				*e*Lg	Lg	03 09 51.7	
	comp=N,548nm,1.0s						
PLG	**Polygyros**	**1.40**	**79**	P	**Pg**	**03 09 24.7**	**-0.8**
PLG	**Polygyros**	**1.40**	**79**	P	**Pg**	**03 09 24.7**	**-0.8**
KNT	**Kendrikon**	**1.40**	**42**	P	**Pb**	**03 09 24.3**	**-0.9**
KNT	**Kendrikon**	**1.40**	**42**	*i* Pg	**Pg**	**03 09 24.8**	**-0.8**
KNT				*i* Sg	**Sn**	**03 09 47.0**	**+3.6**
XOR	**Xorichti**	**1.42**	**122**	P	**Pg**	**03 09 24.9**	**-0.9**
XOR				S	**Sn**	**03 09 45.4**	**+1.6**
	comp=N,788nm,0.7s						
NEO	**Neokhori**	**1.47**	**124**	P	**Pb**	**03 09 25.6**	**-0.8**
SOH	**Sokhos**	**1.48**	**62**	P	**Pg**	**03 09 26.2**	**-0.8**
SOH	**Sokhos**	**1.48**	**62**	P	**Pg**	**03 09 26.2**	**-0.8**
SOH	**Sokhos**	**1.48**	**62**	*i* Pg	**Pg**	**03 09 26.7**	**-0.3**
SOH				*i* Sg	**Sg**	**03 09 50.1**	**+4.1**
TSLK	**Tsoukalades, L**	**1.51**	**211**	P	**Pg**	**03 09 27.4**	**-0.3**
PVO	**Paravola**	**1.52**	**184**	P	**Pn**	**03 09 26.2**	**0.0**
LKD2	**Lefkada island**	**1.54**	**210**	P	**Pb**	**03 09 27.6**	**0.0**
ANX	**Ano Chora**	**1.55**	**172**	P	**Pb**	**03 09 27.3**	**-0.5**
PDO	**Prodromos**	**1.57**	**193**	P	**Pb**	**03 09 28.0**	**-0.1**
PAIG	**Paliouri**	**1.58**	**97**	P	**Pn**	**03 09 26.7**	**-0.3**
PAIG	**Paliouri**	**1.58**	**97**	P	**Pn**	**03 09 26.7**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.59**	**208**	P	**Pb**	**03 09 28.2**	**-0.2**
STIP	**Stip**	**1.61**	**15**	*e*Pn	**Pg**	**03 09 29.3**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.67**	**210**	P	**Pb**	**03 09 30.0**	**+0.3**
EVGI	**Lefkada island**	**1.69**	**207**	P	**Pb**	**03 09 29.6**	**-0.5**
EFP	**Efpalio**	**1.71**	**173**	P	**Pb**	**03 09 30.4**	**-0.1**
SMIA	**Simia**	**1.74**	**135**	P	**Pb**	**03 09 29.8**	**-1.2**
SMIA				S	**Sg**	**03 09 53.6**	**-1.0**
	comp=N,1µm,0.7s						
SERG	**Sergoula**	**1.75**	**169**	P	**Pb**	**03 09 30.1**	**-0.9**
ATAL	**Atalanti**	**1.79**	**143**	P	**Pn**	**03 09 30.1**	**+0.1**
TRIZ	**Trizonia**	**1.79**	**169**	P	**Pb**	**03 09 30.6**	**-1.3**
PHP	**Peshkopia**	**1.80**	**330**	P	**Pb**	**03 09 30.8**	**-1.2**
OUR	**Ouranopolis**	**1.80**	**83**	P	**Pb**	**03 09 31.1**	**-0.9**
LKR	**Lokris**	**1.81**	**144**	P	**Pn**	**03 09 30.6**	**+0.3**
TIR	**Tirane**	**1.82**	**313**	⇓P	**Pg**	**03 09 32.6**	**-0.9**
TIR				⇑S	**Sg**	**03 09 57.7**	**+0.6**
SKO	**Skopje**	**1.84**	**355**	*i* Pn	**Pb**	**03 09 31.8**	**-0.9**
ALIK	**Aliki, Aigiali**	**1.90**	**169**	P	**Pb**	**03 09 33.8**	**+0.1**
LAKA	**Lakka**	**1.91**	**172**	P	**Pb**	**03 09 33.6**	**-0.2**
LAKA	**Lakka**	**1.91**	**172**	P	**Pb**	**03 09 33.6**	**-0.2**
KKB	**Krupnik**	**2.05**	**32**	*i* P	**Pb**	**03 09 35.3**	**-0.9**
NVR	**Nevrokopi**	**2.08**	**53**	P	**Pn**	**03 09 34.4**	**+0.4**
KLV	**Kalavryta, Ach**	**2.12**	**169**	P	**Pn**	**03 09 35.3**	**+0.7**
MMB	**Musomiste**	**2.15**	**47**	*i* P	**Pb**	**03 09 36.7**	**-1.2**
DRO	**Drossia**	**2.18**	**179**	P	**Pb**	**03 09 38.4**	**0.0**
LTK	**Loutraki**	**2.34**	**154**	P	**Pn**	**03 09 37.5**	**-0.1**
KAVA	**Kavala**	**2.35**	**68**	P	**Pn**	**03 09 37.1**	**-0.6**
VILL	**Villia**	**2.35**	**146**	P	**Pn**	**03 09 38.2**	**+0.4**
BOSS	**Bosilegrad**	**2.44**	**15**	*e*Pn	**Pn**	**03 09 39.4**	**+0.4**
ULC	**Ulcinj**	**2.58**	**316**	⇓*i* Pn	**Pn**	**03 09 42.2**	**+1.4**
ULC				*i* Sn	**Sb**	**03 10 15.4**	**-1.7**
BARS	**Barje**	**2.69**	**3**	*e*Pn	**Pn**	**03 09 39.9**	**-2.4**
DION	**Dionisos Attik**	**2.72**	**138**	P	**Pn**	**03 09 42.9**	**+0.2**
VTS	**Vitosha**	**2.76**	**25**	*e*Pn	**Pn**	**03 09 43.4**	**0.0**
VTS				*e*Sn	**Sn**	**03 10 17.3**	**+0.2**
VTS	**Vitosha**	**2.76**	**25**	⇓P	**Pn**	**03 09 43.8**	**+0.4**
VTS				⇑S	**Sn**	**03 10 17.5**	**+0.4**
VTS	**Vitosha**	**2.76**	**25**	*i* P	**Pn**	**03 09 44.2**	**+0.8**
DRME	**Dracevica, Mon**	**2.77**	**319**	*e*Pn	**Pn**	**03 09 44.8**	**+1.4**
DRME	**Dracevica, Mon**	**2.77**	**319**	⇑*i* Pn	**Pn**	**03 09 44.8**	**+1.4**
DRME				*i* Sn	**Sb**	**03 10 20.0**	**-2.6**
PVY	**Plav**	**2.77**	**333**	⇑*i* Pn	**Pn**	**03 09 44.6**	**+1.0**
PVY				*i* Sn	**Sn**	**03 10 19.6**	**+2.3**
VLY	**Voula,Athens**	**2.83**	**143**	P	**Pn**	**03 09 44.7**	**+0.5**
VLY				S	**Sn**	**03 10 18.3**	**-0.2**
	comp=N,122nm,0.7s						
PDG	**Podgorica**	**2.92**	**323**	⇑P	**Pn**	**03 09 47.4**	**+1.9**
PDG				⇓S	**Sb**	**03 10 24.9**	**-1.9**
PDG	**

BOVS	**Bovan**	3.50	1	*e*Pn		Pn	03 09 53.2	-0.3	
BOVS	**Bovan**	3.50	1	⇑P		Pn	03 09 53.4	-0.1	
BLKB	**Belogradchik**	3.57	12	⇓S		Sn	03 10 37.0	0.0	
TREB	**Trebinje**	3.58	317	*e*Pn		Pn	03 09 55.4	+0.8	
TREB	**Trebinje**	3.58	317	*e*Pn		Pn	03 09 54.9	+0.3	
PLE	**Pljevlja**	3.61	333	⇓*i*Pn		Pn	03 09 56.1	+0.9	
PLE				*i* Sn		Sn	03 10 39.8	+1.7	
BRY	**Bratogost**	3.62	321	*e*Pn		Pn	03 09 55.7	+0.4	
BRY	**Bratogost**	3.62	321	⇑*i*Pn		Pn	03 09 56.3	+1.0	
BRY				*i* Sn		Sn	03 10 40.2	+1.9	
ZAGS	**Zajecar**	3.70	7	*e*Pn		Pn	03 09 56.0	-0.3	
MATE	**Matera**	3.81	279	⇑P		Pn	03 09 59.7	+2.0	
GRUS	**Gruza**	3.82	350	*e*Pn		Pn	03 09 58.2	+0.3	
RUDO	**Rudo**	3.88	335	*e*Pn		Pn	03 09 57.7	-1.0	
STON	**Ston**	4.03	314	*e*Pn		Pn	03 09 59.8	-1.0	
BBLS	**Lazići**	4.09	337	*e*Pn		Pn	03 10 01.2	-0.4	
BBLS	**Lazići**	4.09	337	*e*Pn		Pn	03 10 03.8	+2.2	
DIVS	**Divibare**	4.15	343	*e*Pn		Pn	03 10 02.9	+0.4	
DIVS	**Divibare**	4.15	343	*e*Pn		Pn	03 10 03.2	+0.7	
TRUS	**Trudelj**	4.19	348	*e*Pn		Pn	03 10 03.7	+0.7	
HAPS	**Han Pijesak,Bl**	4.43	334	*e*Pn		Pn	03 10 06.5	+0.1	
MDVR	**Moldovita**	4.65	1	⇑P		Pn	03 10 09.0	-0.3	
HERR	**Herculane**	4.78	7	⇑P		Pn	03 10 11.7	+0.6	
FRGS	**Fruska Gora**	5.20	346	*e*Pn		Pn	03 10 17.1	+0.2	
FRGS				*e*Sn		Sn	03 11 18.0	+0.9	
FRGS	**Fruska Gora**	5.20	346	⇓P		Pn	03 10 17.5	+0.6	
FRGS	**Fruska Gora**	5.20	346	*e*Pn		Pn	03 10 17.3	+0.4	
GZR	**Gura Zlata**	5.32	9	⇑P		Pn	03 10 18.9	+0.3	
MGRS	**Mrkonjic Grad**	5.46	323	*e*Pn		Pn	03 10 21.7	+1.3	
IDI	**Anoyia**	5.48	151	Sn		Sn	03 11 25.3	+1.3	
	comp=N,0.6nm,0.3s,baz=43,slow=22,SNR=1.3								
BZS	**Buzias**	5.48	360	⇑P		Pn	03 10 19.9	-0.8	
BLY	**Banja Luka**	5.67	326	*e*Pn		Pn	03 10 24.3	+1.0	
VOIR		5.86	24	⇑P		Pn	03 10 26.3	+0.3	
MRAK	**Mrakovica**	6.00	326	*e*Pn		Pn	03 10 29.5	+1.5	
MLR	**Muntele Rosu**	6.22	29	Pn		Pn	03 10 35.0	+4.0	
	comp=N,1.6nm,0.3s,baz=255,slow=12,SNR=16								
MLR				Sn		Sn	03 11 46.0	+3.7	
	baz=134,slow=19,SNR=1.2								
MORH	**Mrgy, Hungar**	6.46	341	⇓P		Pn	03 10 34.9	+0.8	
MORH	**Mrgy, Hungar**	6.46	341	*e*Pn		Pn	03 10 34.3	+0.1	
AQU	**L'Aquila**	6.60	292	*e*Pn		Pn	03 10 42.7	+6.6	
DRGR		6.70	6	⇑P		Pn	03 10 38.2	+0.7	
PLOR	**Plostina**	6.79	31	⇓P		Pn	03 10 38.0	-0.8	
VRI	**Vrincioaia**	6.83	31	⇓P		Pn	03 10 39.0	-0.4	
CRES	**Cresnjev**	7.28	323	*e*Pn		Pn	03 10 44.4	-1.0	
CEY	**Cerknica**	7.71	319	*e*Pn		Pn	03 10 50.8	-0.5	
PSZ	**Piszkesteto**	7.89	351	⇑P		Pn	03 10 54.1	+0.3	
SOKA	**Soboth**	8.12	326	*e*Pn		Pn	03 10 57.9	+0.9	
	comp=N,1.4nm,0.4s								
OBKA	**Obir**	8.21	323	*e*Pn		Pn	03 10 59.8	+1.6	
	comp=N,0.7nm,0.3s								
VYHS	**Vyhne**	8.60	347	*e*PN		Pn	03 11 05.1	+1.6	
BRTR	**Keskin Array B**	9.22	89	Pn		Pn	03 11 15.8	+3.5	
	comp=N,0.1nm,0.3s,baz=268,slow=14,SNR=2.3								
MOA	**Molln**	9.37	328	*i* Pn		Pn	03 11 15.2	+1.2	
	comp=N,0.8nm,0.5s								
GERES	**GERESS Array B**	10.39	330	Pn		Pn	03 11 29.0	+0.9	
	comp=N,0.1nm,0.3s,baz=147,slow=13,SNR=2.5								
KHC	**Kasperske Hory**	10.67	330	*e*PN		Pn	03 11 43.5	+12	
KHC				*e*SN		Sn	03 13 25.0	-6.6	
HFS	**Hagfors**	20.63	349	P		P	03 13 37.2	-1.2	
	comp=N,1.6nm,0.6s,baz=181,slow=18,SNR=7.7								
FINES	**FINESS Array B**	21.51	6	P		P	03 13 48.8	+1.0	
	comp=N,0.4nm,0.5s,baz=156,slow=12,SNR=6.6								
NOA	**NORSAR Array B**	21.90	346	P		P	03 13 51.0	-1.2	
	comp=N,1.5nm,0.6s,baz=161,slow=10,SNR=12								
EKA	**Eskdalemuir Ar**	22.40	321	P		P	03 13 57.1	-0.4	
	comp=N,0.9nm,0.5s,baz=114,slow=9.3,SNR=11								
ARCES	**ARCESS Array B**	29.54	3	P		P	03 15 03.7	+0.2	
	comp=N,1.8nm,0.9s,baz=192,slow=11,SNR=2.5								
TORD	**Torodi Ar. Bea**	32.10	219	P		P	03 15 26.2	-0.3	
	comp=N,0.8nm,0.8s,baz=35,slow=8.2,SNR=3.1								
MKAR	**Makanchi Array**	43.55	60	P		P	03 17 03.1	+0.1	
	comp=N,0.2nm,0.5s,baz=276,slow=6.5,SNR=2.5								

*IDC **20** 03:20:44.5±0.7, 36°.39S×73°.82W, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.1/27, mbtmp4.0/13, ML4.2/2, Error ellipse: s-maj=28.4km s-min=16.4km az=92.0*
*GUC **20** 03:20:45.3±0.5, 36°.25S×73°.88W, h17km±4km, ML4.1*
*NEIC **20** 03:20:46.5±1.9, 36°.41S±0°.06×73°.7W±0°.1, h12km±2km, mb4.5/24, ML4.2(GUC), Error ellipse: s-maj=13.6km s-min=8.2km az=93.0*
*VAO **20** 03:20:50.5±0.4, 36°.42S×73°.26W, h10km, mb4.6*
ISC 20 03:20:45.5±0.5, **36°.34S**±0°.05×**73°.89W**±0°.06, **h10**km, **n100**, σ1§**46**/93, **mb4.4**/16, **2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.81**	**129**	⇓*i*P	**Pg**	**03 21 00.1**	**-1.0**
CCSP				*i* S	**Sg**	**03 21 11.3**	**-0.4**
GO05	**Huala**	**2.08**	**51**	⇑*i*P	**Pn**	**03 21 18.4**	**-2.1**
GO05				*i* S	**Sn**	**03 21 44.1**	**-2.3**
GO05	**Huala**	**2.08**	**51**		**Pn**	**03 21 18.9**	**-1.6**
BO03	**Pichilemu**	**2.42**	**41**	⇑*i*P	**Pn**	**03 21 23.4**	**-1.8**
BO03				IAML		03 22 16.7	
	comp=N,704nm,0.6s						
BO02	**Sierra Bellavi**	**2.97**	**60**	*e*P	**Pn**	**03 21 31.7**	**-1.1**
BO02				*i* S	**Sn**	**03 22 06.5**	**-1.9**
BO02				IAML		03 22 35.1	
	comp=N,1µm,0.6s						
BO02	**Sierra Bellavi**	**2.97**	**60**		**Pn**	**03 21 32.0**	**-0.7**
BO01	**Tunca**	**3.01**	**51**	*e*P	**Pn**	**03 21 32.4**	**-0.8**
BO01				*i* S	**Sn**	**03 22 08.6**	**-0.7**
BO01				IAML		03 22 36.8	
	comp=N,328nm,0.6s						
BO01	**Tunca**	**3.01**	**51**	Pn	**Pn**	**03 21 33.1**	**-0.1**
VA05	**Santo Domingo**	**3.27**	**36**	*e*P	**Pn**	**03 21 35.3**	**-1.4**
VA05				IAML		03 22 42.0	
	comp=E,505nm,0.7s						
VA05	**Santo Domingo**	**3.27**	**36**		**Pn**	**03 21 35.1**	**-1.6**
MT01	**Popeta**	**3.29**	**42**	*e*P	**Pn**	**03 21 35.3**	**-1.7**
MT01				IAML		03 22 54.1	
	comp=N,239nm,0.5s						
MT01	**Popeta**	**3.29**	**42**		**Pn**	**03 21 35.6**	**-1.4**
MT09	**Talagante**	**3.50**	**44**	*e*P	**Pn**	**03 21 39.0**	**-1.1**
MT09				IAML		03 22 47.3	
	comp=E,565nm,0.6s						
MT09	**Talagante**	**3.50**	**44**		**Pn**	**03 21 39.0**	**-1.1**
VA01	**Torpederas**	**3.79**	**30**		**Pn**	**03 21 44.8**	**+0.8**
MT02	**Curacav**	**3.82**	**37**	*e*P	**Pn**	**03 21 42.4**	**-2.0**
MT02	**Curacav**	**3.82**	**37**		**Pn**	**03 21 42.8**	**-1.6**
LMEL	**Las Melosas**	**3.92**	**52**	*e*P	**Pn**	**03 21 45.3**	**-0.6**
MT05	**Renca**	**3.92**	**42**	*e*P	**Pn**	**03 21 44.9**	**-1.0**
MT05	**Renca**	**3.92**	**42**	Pn	**Pn**	**03 21 45.1**	**-0.7**
MT03	**Universidad Ad**	**3.97**	**45**	*e*P	**Pn**	**03 21 45.6**	**-1.0**
MT03	**Universidad Ad**	**3.97**	**45**		**Pn**	**03 21 45.7**	**-0.9**
ROCH	**El Roble**	**4.11**	**36**	*e*P	**Pn**	**03 21 47.3**	**-1.3**
VA03	**San Esteban**	**4.51**	**39**		**Pn**	**03 21 53.2**	**-0.7**
H03S1	**Juan Fernandez**	**4.81**	**300**	Pn	**Pn**	**03 21 55.8**	**-1.9**
	baz=85,slow=13,SNR=20						
H03S1				T	T	03 26 46.9	
	baz=120,slow=73,SNR=776						
H03S3	**Juan Fernandez**	**4.82**	**300**	Pn	**Pn**	**03 21 55.3**	**-2.6**
	baz=85,slow=13,SNR=24						
H03S3				T	T	03 26 49.7	
	baz=120,slow=73,SNR=703						
H03S2	**Juan Fernandez**	**4.82**	**300**	Pn	**Pn**	**03 21 55.3**	**-2.7**
	baz=85,slow=13,SNR=36						
H03S2				T	T	03 26 49.4	
	baz=120,slow=73,SNR=1054						
LL03	**Petrohue**	**4.93**	**167**		**Pn**	**03 21 57.4**	**-2.2**
H03N3	**Juan Fernandez**	**5.04**	**303**	Pn	**Pn**	**03 22 00.0**	**-0.9**
	baz=140,slow=26,SNR=35						
H03N3				T	T	03 27 08.4	
	baz=111,slow=76,SNR=69						
H03N1	**Juan Fernandez**	**5.04**	**304**	Pn	**Pn**	**03 21 59.7**	**-1.1**
	baz=140,slow=26,SNR=75						
H03N1				T	T	03 27 13.9	
	baz=111,slow=76						
H03N2	**Juan Fernandez**	**5.05**	**303**	Pn	**Pn**	**03 22 00.2**	**-0.8**
	baz=140,slow=26,SNR=31						
H03N2				T	T	03 27 09.3	
	baz=111,slow=76,SNR=49						
LL05	**Los Muermos**	**5.07**	**176**		**Pn**	**03 21 59.6**	**-2.0**
PLCA	**Paso Flores**	**5.11**	**150**	Pn	**Pn**	**03 22 01.4**	**-0.8**
	comp=E,3.1nm,0.3s,baz=331,slow=12,SNR=38						
PLCA				Lg	Lg	03 23 20.7	
	comp=E,2.7nm,0.3s,baz=40,slow=18,SNR=2.0						
PLCA	**Paso Flores**	**5.11**	**150**	Pn	**Pn**	**03 22 00.9**	**-1.3**
PLCA	**Paso Flores**	**5.11**	**150**	*e*P	**Pn**	**03 22 01.9**	**-0.3**
CO02	**Combarbal**	**5.66**	**26**	Pn	**Pn**	**03 22 07.8**	**-2.0**
ZON	**Zonda**	**6.45**	**44**		**Pn**	**03 22 21.2**	**+0.5**
GO04	**Tololo Observa**	**6.67**	**24**	Pn	**Pn**	**03 22 24.9**	**+1.0**
LL02	**Futaleuf**	**7.02**	**168**	Pn	**Pn**	**03 22 26.9**	**-1.5**
TRQA	**Tornquist**	**9.66**	**104**	*e*P	**Pn**	**03 23 02.6**	**-1.9**
AC02	**Maricunga**	**10.31**	**24**	Pn	**Pn**	**03 23 15.2**	**+1.2**
LVC	**Limon Verde**	**14.35**	**19**	Lg	Lg	03 28 17.0	
	comp=E,0.2nm,0.3s,baz=310,slow=14,SNR=2.9						
LVC	**Limon Verde**	**14.35**	**19**	*e*P	**P**	**03 24 11.7**	**-4.6**
PB11	**IPOC Station P**	**16.93**	**14**	Pn	**Pn**	**03 24 41.3**	**-1.4**
PB11				IAmb	IAmb	03 24 54.5	
	comp=Z,24nm,1.0s						
CPUP	**Villa Florida**	**17.29**	**59**	P	**P**	**03 24 47.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=247,slow=11,SNR=3.3						
CPUP	**Villa Florida**	**17.29**	**59**	IAmb	IAmb	03 24 56.7	
	comp=Z,16nm,1.4s						
CPUP	**Villa Florida**	**17.29**	**59**	*e*P	**P**	**03 24 48.5**	**+0.1**
MNMC	**Minye Minye**	**17.56**	**14**	Pn	**Pn**	**03 24 47.2**	**-3.5**
ITAB	**Concordia**	**20.57**	**70**	P	**P**	**03 25 22.8**	**-1.7**
ITAB				IAmb	IAmb	03 25 32.5	
	comp=Z,32nm,0.9s						
ITAB	**Concordia**	**20.57**	**70**	*e*P	**P**	**03 25 24.3**	**-0.2**
LPAZ	**La Paz**	**20.62**	**16**	P	Pn	03 25 28.2	+0.3
	comp=Z,2.8nm,0.9s,baz=179,slow=5.8,SNR=11						
LPAZ	**La Paz**	**20.62**	**16**	P	**P**	**03 25 24.7**	**-1.0**
LPAZ	**La Paz**	**20.62**	**16**	*e*P	Pn	03 25 28.6	+0.7
PTGB	**Pitanga**	**22.03**	**64**	*e*P	**P**	**03 25 40.8**	**+0.5**
AQDB	**Aquidauana**	**22.43**	**50**	P	**P**	**03 25 44.1**	**-0.4**
AQDB	**Aquidauana**	**22.43**	**50**	*e*P	**P**	**03 25 45.1**	**+0.6**
TRCB	**Terra Rica**	**22.83**	**60**	*e*P	**P**	**03 25 50.0**	**+1.2**
SIV	**San Ignacio**	**23.26**	**33**	P	**P**	**03 25 53.3**	**0.0**
	comp=Z,3.8nm,0.7s,baz=231,slow=13,SNR=18						
PCMB	**Pacaembu**	**24.56**	**59**	*e*P	**P**	**03 26 07.2**	**+1.6**
PTLB	**Pontes e Lacer**	**24.62**	**36**	*e*P	**P**	**03 26 07.8**	**+1.7**
VILB	**Vilhena**	**26.34**	**31**	*e*P	**P**	**03 26 24.4**	**+2.6**
ITRB	**Iturama**	**26.47**	**58**	*e*P	**P**	**03 26 24.9**	**+2.0**
RCLB	**Rio Claro- Sao**	**26.73**	**66**	*e*P	**P**	**03 26 27.0**	**+1.7**
CZSB	**Cruzeiro do Su**	**28.50**	**2**	P	**P**	**03 26 47.9**	**+6.8**
BDFB	**Brasilia**	**30.91**	**55**	P	**P**	**03 27 03.6**	**+1.0**
	comp=Z,7.8nm,0.9s,baz=125,slow=3.5,SNR=3.5						
BDFB	**Brasilia**	**30.91**	**55**	IAmb	IAmb	03 27 08.8	
	comp=Z,14nm,1.0s						
JANB	**Januaria**	**33.83**	**59**	*e*P	**P**	**03 27 29.5**	**+1.3**
OTAV	**Otavalo**	**36.64**	**352**	*e*P	**P**	03 27 58.8	+6.0
PRPB	**Parauapebas**	**37.25**	**42**	*e*P	**P**	**03 27 59.8**	**+2.3**
MALB	**Monte Alegre**	**38.83**	**32**	*e*P	**P**	03 28 15.1	+4.3
MCPB	**Macapa, AP**	**41.14**	**34**	*e*P	**P**	**03 28 32.1**	**+2.1**
NBMA	**Muriti-CE**	**43.10**	**57**	*e*P	**P**	**03 28 47.0**	**+0.9**
VNA3	**Neumayer Olymp**	**47.79**	**157**	P	**P**	**03 29 22.1**	**-0.5**
VNA1	**Neumayer--Stat**	**48.14**	**156**	P	**P**	**03 29 25.1**	**-0.1**
SNAA	**Sanae**	**50.01**	**157**	P	**P**	**03 29 39.4**	**-0.3**
SNAA	**Sanae**	**50.01**	**157**	P	**P**	**03 29 39.7**	**+0.1**
	comp=Z,8.5nm,1.1s,baz=297,slow=7.2,SNR=8.0						
SNAA	**Sanae**	**50.01**	**157**	P	**P**	**03 29 39.4**	**-0.3**
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**03 30 09.2**	**+0.4**
	comp=Z,4.5nm,1.1s,baz=129,slow=1.8,SNR=9.0						
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**03 30 09.4**	**+0.5**
VNDA	**Vanda**	**61.51**	**192**	P	**P**	**03 31 03.5**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=129,slow=8.8,SNR=2.6						
VNDA	**Vanda**	**61.51**	**192**	P	**P**	**03 31 02.3**	**+0.4**
VNDA				IAmb	IAmb	03 31 22.4	
	comp=Z,4.0nm,1.3s						
TXAR	**Lajitas Array**	**71.07**	**333**	P	**P**	**03 32 04.6**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=151,slow=8.5,SNR=9.8						
TX31	**Lajitas Ar. Si**	**71.07**	**333**	IAmb	IAmb	03 32 07.0	
	comp=Z,5.9nm,1.1s						
SWET	**Sewanee**	**72.07**	**350**	P	**P**	**03 32 10.4**	**+0.7**
SWET				IAmb	IAmb	03 32 15.8	
	comp=Z,6.7nm,1.0s						
WVT	**Waverly**	**73.26**	**348**	P	**P**	**03 32 18.0**	**+1.3**
WVT				IAmb	IAmb	03 32 38.6	
	comp=Z,5.4nm,1.1s						
MNTX	**Cornudas Mount**	**73.84**	**332**	P	**P**	**03 32 20.8**	**+0.5**
CCM	**Cathedral Cave**	**75.75**	**346**	P	**P**	**03 32 33.6**	**+2.5**
CCM				IAmb	IAmb	03 32 38.8	
	comp=Z,5.1nm,0.8s						
ANMO	**Albuquerque**	**77.14**	**333**	P	**P**	**03 32 40.9**	**+1.5**
ANMO				IAmb	IAmb	03 33 02.0	
	comp=Z,3.4nm,1.2s						
MVCO	**Mesa Verde**	**79.90**	**333**	P	**P**	**03 32 56.4**	**+1.8**
BOSA	**Boshof**	**80.32**	**118**	P	**P**	**03 32 57.2**	**0.0**
	comp=Z,3.2nm,1.0s,baz=289,slow=15,SNR=2.6						
KNB	**Kanab**	**81.43**	**329**	IAmb	IAmb	03 33 16.9	
	comp=Z,4.5nm,1.1s						
HWUT	**Hardware Ranch**	**84.90**	**333**	P	**P**	**03 33 21.6**	**+1.1**
NVAR	**Mina Array Bea**	**84.96**	**327**	P	**P**	**03 33 21.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=200,slow=43,SNR=2.7						
PDAR	**Pinedale Array**	**85.19**	**334**	P	**P**	**03 33 23.5**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=168,slow=4.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**86.42**	**71**	P	**P**	**03 33 27.8**	**-0.8**
	comp=Z,1.9nm,1.2s,baz=234,slow=4.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.42**	**71**	IAmb	IAmb	03 33 31.4	
	comp=Z,6.9nm,1.5s						
RPSI	**Rantau Prapat**	**145.87**	**167**		**PKPdf**	**03 40 24.2**	**-1.0**
PSI	**Prapat**	**145.97**	**167**	PKPbc	**PKPdf**	**03 40 24.2**	**-1.3**
	comp=Z,2.5nm,0.3s,baz=360,slow=9.6,SNR=4.8						
BVAR	**Borovoye Array**	**150.02**	**45**	PKPbc	**PKiKP**	**03 40 36.2**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=239,slow=38,SNR=2.0						
ZALV	**Zalesovo Beam**	**157.01**	**33**	PKPab	**PKPab**	**03 41 11.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=288,slow=5.5,SNR=4.5						

*IDC **20** 03:31:22.5±1.2, 51°.57N×175°.55W, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/45, mbtmp3.5/6, ML3.6/2, Error ellipse: s-maj=58.2km s-min=21.7km az=158.0*
*AEIC **20** 03:31:31.0±0.7, 51°.7N±0°.2×175°.64W±0°.07, h63km±6km, Error ellipse: s-maj=23.1km s-min=4.9km az=169.0*
*NEIC **20** 03:31:31.4±0.7, 51°.72N±0°.07×175°.63W±0°.06, h63km±8km, ML3.5/42(AEIC), Error ellipse: s-maj=10.1km s-min=5.0km az=184.0*
ISC 20 03:31:30.8±1.2, **51°.7N**±0°.2×**175°.62W**±0°.05, **h63**km±10km, **n50**, σ1§**04**/47, **mb3.5/4, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSIG	**Igitkin Island**	**0.33**	**325**		**Pn**	**03 31 41.7**	**+0.3**
GSMY	**Great Sitkin M**	**0.42**	**320**		**Pn**	**03 31 42.6**	**+0.4**
GSCK	**Great Sitkin C**	**0.45**	**311**		**Pn**	**03 31 43.1**	**+0.6**
GSCK					**Sn**	**03 31 52.1**	**+1.1**
GSTR	**Great Sitkin T**	**0.46**	**324**		**Pn**	**03 31 43.2**	**+0.5**
GSTD	**Great Sitkin T**	**0.47**	**316**		**Pn**	**03 31 43.1**	**+0.4**
GSSP	**Great Sitkin S**	**0.51**	**318**		**Pn**	**03 31 43.6**	**+0.5**
ETKA	**Kagalaska Isla**	**0.51**	**287**		**Pn**	**03 31 43.6**	**+0.5**
ADK	**Adak**	**0.68**	**284**		**Pn**	**03 31 45.3**	**+0.3**
ADK					**Sn**	**03 31 56.1**	**+0.7**
KIRH	**Kanaga Island**	**0.93**	**282**		**Pn**	**03 31 48.8**	**+0.7**
KINC	**Kanaga Island**	**0.96**	**283**		**Pn**	**03 31 48.9**	**+0.5**
KINC					**Sn**	**03 32 02.7**	**+1.3**
KIWB	**Kanaga Island**	**0.96**	**279**		**Pn**	**03 31 49.0**	**+0.6**
KIKV	**Kanaga Island**	**0.97**	**280**		**Pn**	**03 31 49.2**	**+0.6**
KICM	**Kanaga Island**	**1.00**	**282**		**Pn**	**03 31 49.5**	**+0.6**
KIMD	**Kanaga Island**	**1.00**	**273**		**Pn**	**03 31 49.5**	**+0.6**
ATKA	**Atka Island**	**1.01**	**61**		**Pn**	**03 31 49.5**	**+0.5**
KOKL	**Mount Kliuchef**	**1.07**	**55**		**Pn**	**03 31 50.5**	**+0.7**
KOFP	**Korovin Flat P**	**1.09**	**59**		**Pn**	**03 31 50.9**	**+0.7**
KOSE	**Korovin Southe**	**1.16**	**57**		**Pn**	**03 31 51.7**	**+0.7**
TAPA	**Tanaga Point A**	**1.36**	**275**		**Pn**	**03 31 54.4**	**+0.7**
TAFP	**Tanaga Falls P**	**1.48**	**278**		**Pn**	**03 31 55.9**	**+0.7**
TAFP					**Sn**	**03 32 14.2**	**+0.5**
TASE	**Tanaga Southea**	**1.50**	**275**		**Pn**	**03 31 56.4**	**+0.8**
GAEA	**Gareloi East**	**1.94**	**273**		**Pn**	**03 32 02.4**	**+0.9**
GALAA	**Gareloi Lava P**	**1.96**	**272**		**Pn**	**03 32 02.5**	**+0.9**
CERAA	**Semis' Rag'd T**	**2.92**	**276**		**Pn**	**03 32 15.2**	**+0.4**
CERAA					**Sn**	**03 32 49.8**	**+1.1**
CESW	**Semis' Southwe**	**3.00**	**275**		**Pn**	**03 32 16.1**	**+0.3**
AMKA	**Amchitka**	**3.19**	**266**		**Pn**	**03 32 19.0**	**+0.6**
LSPA	**Little Sitkin**	**3.61**	**276**		**Pn**	**03 32 25.1**	**+0.9**
LSPA					**Sn**	**03 33 06.5**	**+1.0**
LSNW	**Little Sitkin**	**3.64**	**276**		**Pn**	**03 32 25.2**	**+0.5**
NIKH	**Nikolski High**	**4.33**	**71**		**Pn**	**03 32 35.3**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**4.92**	**67**		**Pn**	**03 32 44.2**	**+2.1**
MAPS	**Pakushin South**	**5.67**	**65**		**Pn**	**03 32 53.7**	**+1.4**
MGOD	**Makushin Gods**	**5.70**	**65**		**Pn**	**03 32 54.2**	**+1.3**
MREP	**Makushin Rep't**	**5.78**	**65**		**Pn**	**03 32 55.5**	**+1.6**
SPIA	**Saint Paul Isl**	**6.30**	**28**		**Pn**	**03 33 02.5**	**+1.6**
CNBA	**Chernabura Isl**	**10.09**	**66**	Pn	**Pn**	**03 33 50.6**	**-2.1**
KDAK	**Kodiak Island**	**14.58**	**56**	Pn	**Pn**	**03 34 50.2**	**-3.1**
	0.3nm,0.3s,baz=230,slow=11,SNR=12						
ILAR	**Eielson Array**	**19.75**	**38**	P	**P**	**03 35 55.8**	**+0.8**
	0.1nm,0.3s,baz=222,slow=10,0,SNR=11						
H11N2	**WAKE ISLAND Hy**	**34.75**	**210**	T	T	04 15 04.2	
	baz=18,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**34.76**	**210**	T	T	04 14 55.7	
	baz=18,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**34.76**	**210**	T	T	04 14 57.0	
	baz=18,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**35.96**	**209**	T	T	04 16 49.0	
	baz=19,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**35.97**	**209**	T	T	04 16 50.3	
	baz=19,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**35.97**	**209**	T	T	04 16 50.4	
	baz=19,slow=76,SNR=10						
KSRS	**Korea Array**	**41.61**	**273**	P	**P**	**03 39 12.3**	**0.0**
	1.2nm,0.7s,baz=68,slow=7.7,SNR=5.8						
PDAR	**Pinedale Array**	**44.31**	**74**	P	**P**	**03 39 34.0**	**-0.4**
	0.3nm,0.6s,baz=284,slow=6.0,SNR=3.7						
TXAR	**Lajitas Array**	**56.64**	**84**	P	**P**	**03 41 07.4**	**0.0**
	0.1nm,0.4s,baz=302,slow=5.2,SNR=1.9						
ASAR	**Alice Springs**	**87.11**	**225**	P	**P**	**03 44 09.8**	**+0.3**
	0.4nm,0.7s,baz=23,slow=4.8,SNR=4.8						
H03N2	**Juan Fernandez**	**119.34**	**108**	T	T	06 01 33.6	
	baz=317,slow=78,SNR=5.9						
H03N1	**Juan Fernandez**	**119.36**	**108**	T	T	06 01 35.4	
	baz=317,slow=78,SNR=6.4						
H03N3	**Juan Fernandez**	**119.36**	**108**	T	T	06 01 26.1	
	baz=317,slow=78,SNR=6.1						

IDC 20 03:37:44.2±8.0, **22°.41N**×**94°.53E**, **h121**km±92km, **mb3.4**/3, **mb1 3.7**/4, **mb1mx3.1**/44, **mbtmp3.8**/4, **ML4.2/1, Error ellipse: s-maj=103.0km s-min=23.8km az=65.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**2.68**	**276**	P	Pn	03 38 26.6	+0.2
	42nm,0.3s,baz=258,slow=20,SNR=1.8						
BRDH				S	Sn	03 38 59.2	+0.5
	53nm,0.3s,baz=226,slow=21,SNR=10						
MKAR	**Makanchi Array**	**26.26**	**341**	P	P	03 43 08.

MJAR Matsushiro Arr 3.61 115 P **P** **04 21 37.3 -0.4**
0.1nm,0.3s,baz=301,slow=10,SNR=7.5
JFT Otama 4.94 95 P **P** **04 21 49.2 -0.2**
JRG Rokugo 5.22 74 P **P** **04 21 51.8 -0.2**
JMM Marumori 5.25 91 P **P** **04 21 52.5 +0.1**
USRK Ussuriysk Ar. 6.26 346 P **P** **04 22 00.3 -1.9**
baz=168,slow=10,SNR=13
MKAR Makanchi Array 38.60 300 P **P** **04 27 07.5 +0.2**
0.3nm,0.5s,baz=87,slow=9.8,SNR=4.3
KURBB Kurchatov Arra 40.73 306 P **P** **04 27 24.1 -0.4**
0.9nm,0.8s,baz=88,slow=8.3,SNR=6.2
FINES FINESS Array B 65.04 330 P **P** **04 30 20.1 +1.5**
0.8nm,0.5s,baz=46,slow=8.2,SNR=12

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*IDC **20** 04:29:01.5±2.1,35°.86N×97°.30W,h0km,mb1 3.7/3, mb1mx3.3/49, mbtmp3.4/3, ML4.0/2, Error ellipse: s-maj=32.3km s-min=12.3km az=103.0*

*IASPEI **20** 04:29:03.6±1.0,35°.77N±0°.02×97°.40W±0°.03,h10km±7km, Error ellipse: s-maj=4.3km s-min=3.4km az=90.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ANF **20** 04:29:03.6±0.2,35°.77N×97°.41W,h6km, ML4.4/23, Error ellipse: s-maj=2.1km s-min=1.8km az=116.0*

*TUL **20** 04:29:03.6±1.5,35°.75N±0°.01×97°.39W±0°.02,h6km±7km, ML3.6, mb_Lg3.5/120(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=105.0*

*NEIC **20** 04:29:03.8±1.2,35°.77N±0°.01×97°.40W±0°.02,h3km, Error ellipse: s-maj=2.4km s-min=1.7km az=93.0*

ISC 20 04:29:03.8±0.9,35°.78N±0°.02×97°.40W±0°.02,h6km±7km, n167,σ0=68/167,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.05**	**289**		**Pg**	**04 29 05.5**	**+0.3**
OK009	**Oakdale Elemen**	**0.20**	**185**		**Pg**	**04 29 07.5**	**-0.3**
OK025	**Westminster Rd**	**0.21**	**166**	Pg	**Pg**	**04 29 07.5**	**-0.4**
BCOK	**Bluff Creek, N**	**0.21**	**234**		**Pg**	**04 29 07.8**	**-0.2**
BCOK				Sg	**Sg**	**04 29 11.0**	**+0.2**
OK005	**Luther M Schoo**	**0.21**	**126**		**Pg**	**04 29 08.2**	**+0.2**
OKCFA	**Oklahoma City**	**0.37**	**187**		**Pg**	**04 29 10.4**	**-0.5**
OKCFA				Sg	**Sg**	**04 29 15.5**	**-0.2**
OKCFA	**Oklahoma City**	**0.37**	**187**	P	**Pg**	**04 29 10.5**	**-0.5**
OKCFA	baz=8.3,SNR=95			S	**Sg**	**04 29 15.6**	**-0.2**
OKCFA	**Oklahoma City**	**0.37**	**187**	P		04 29 10.5	
OKCFA	baz=8.3,SNR=95			S		04 29 15.6	
OKCSW	**OKLAHOMA CITY**	**0.38**	**185**		**Pg**	**04 29 10.6**	**-0.5**
OKCSW				Sg	**Sg**	**04 29 15.7**	**-0.3**
OK031	**S. Brethren Rd**	**0.49**	**69**		**Pg**	**04 29 12.9**	**-0.3**
OK031				Sg	**Sg**	**04 29 20.2**	**+0.6**
OK030	**Cody Creek RV**	**0.52**	**74**		**Pg**	**04 29 13.8**	**-0.1**
OK030				Sg	**Sg**	**04 29 20.1**	**-0.6**
FNO	**Franklin**	**0.52**	**180**		**Pg**	**04 29 13.3**	**-0.6**
FNO				Sg	**Sg**	**04 29 20.1**	**-0.6**
QUOK	**Quay**	**0.68**	**55**	Pg	**Pg**	**04 29 16.9**	**0.0**
CROK	**Carrier**	**0.86**	**327**		**Pg**	**04 29 20.3**	**-0.1**
CROK				Sg	**Sg**	**04 29 31.6**	**0.0**
BLOK	**Blackwell**	**0.99**	**9**		**Pg**	**04 29 22.9**	**+0.1**
BLOK				Sg	**Sb**	**04 29 37.0**	**+0.4**
GC02	**Grant County #**	**1.13**	**341**		**Pb**	**04 29 25.0**	**-0.8**
OK032	**Salt Plains WL**	**1.21**	**328**		**Pn**	**04 29 26.8**	**-0.4**
X34A	**Smith Ranch, M**	**1.23**	**197**		**Pn**	**04 29 26.6**	**-0.9**
KAN13	**South Haven SW**	**1.23**	**357**		**Pn**	**04 29 27.3**	**-0.2**
KAN14	**Manchester OK**	**1.26**	**339**		**Pn**	**04 29 27.7**	**-0.2**
KAN17	**Caldwell West**	**1.29**	**347**		**Pn**	**04 29 28.0**	**-0.4**
TUL1	**Leonard**	**1.31**	**84**	P	**Pn**	**04 29 27.3**	**-1.4**
TUL1	baz=263			S	**Sb**	**04 29 45.0**	**-0.9**
TUL1	**Leonard**	**1.31**	**84**	P		04 29 27.2	
TUL1	baz=263,SNR=282			S		04 29 45.2	
TUL1	**Leonard**	**1.31**	**84**	P		04 29 27.3	
TUL1	baz=263			S		04 29 45.0	
T35A	**Sooner Cattle**	**1.34**	**32**		**Pn**	**04 29 28.6**	**-0.4**
T35B	**Sooner Cattle**	**1.34**	**32**	P	**Pn**	**04 29 28.7**	**-0.3**
T35B	baz=211,SNR=191			S	**Sg**	**04 29 47.4**	**+0.5**
T35B	**Sooner Cattle**	**1.34**	**32**	P		04 29 28.7	
T35B	baz=211,SNR=191			S		04 29 47.4	
KAN09	**Caldwell North**	**1.36**	**353**		**Pb**	**04 29 29.6**	**-0.2**
KAN05	**Bluff City Nor**	**1.38**	**344**		**Pb**	**04 29 29.8**	**-0.1**
U32A	**Winter Ranch,**	**1.43**	**295**		**Pn**	**04 29 29.9**	**-0.4**
U32A	**Winter Ranch,**	**1.43**	**295**	P	**Pn**	**04 29 30.2**	**-0.1**
U32A	baz=116,SNR=39			S	**Sg**	**04 29 50.1**	**+0.4**
U32A	**Winter Ranch,**	**1.43**	**295**	P		04 29 30.2	
U32A	baz=116,SNR=39			S		04 29 50.1	
KS20	**Mayfield South**	**1.45**	**355**		**Pn**	**04 29 30.6**	**0.0**
KS20	comp=Z,418nm,0.8s			IAmb_Lg		04 29 52.0	
KAN10	**Anthony SW Sta**	**1.45**	**338**		**Pb**	**04 29 30.8**	**-0.4**
KAN08	**Anthony NE Sta**	**1.52**	**342**		**Pb**	**04 29 32.1**	**-0.2**
KS21	**Milan North St**	**1.52**	**352**	IAmb_Lg		04 29 55.8	
WMOK	**Wichita Mounta**	**1.54**	**228**		**Pn**	**04 29 31.1**	**-0.7**
WMOK	**Wichita Mounta**	**1.54**	**228**	P	**Pn**	**04 29 31.1**	**-0.7**
WMOK	baz=48,SNR=1000			S	**Sn**	**04 29 51.4**	**-0.6**
WMOK	**Wichita Mounta**	**1.54**	**228**	P		04 29 31.1	
WMOK	baz=48,SNR=684			S		04 29 51.5	
WMOK	**Wichita Mounta**	**1.54**	**228**	P		04 29 31.1	
WMOK	baz=48,SNR=1000			S		04 29 51.4	
KAN16	**Harper SW Stat**	**1.54**	**340**		**Pn**	**04 29 31.7**	**0.0**
LOOK	**Love County**	**1.79**	**174**		**Pn**	**04 29 35.4**	**+0.2**
X37A	**Clayton**	**2.04**	**125**		**Pn**	**04 29 39.0**	**+0.3**
X37A	**Clayton**	**2.04**	**125**	P	**Pn**	**04 29 38.7**	**0.0**
X37A	baz=306,SNR=188			S	**Sb**	**04 30 06.1**	**-0.8**
X37A	**Clayton**	**2.04**	**125**	P		04 29 38.7	
X37A	baz=306,SNR=188			S		04 30 06.1	
Z35A	**Perchaven, San**	**2.45**	**177**		**Pn**	**04 29 44.8**	**+0.6**
Z35A	comp=Z,104nm,0.8s			IAmb_Lg		04 30 21.7	
Z35A	**Perchaven, San**	**2.45**	**177**	P	**Pn**	**04 29 44.3**	**+0.1**
Z35A	baz=357			S	**Sn**	**04 30 16.0**	**+1.6**
Z35A	**Perchaven, San**	**2.45**	**177**	P		04 29 44.3	
Z35A	baz=357			S		04 30 16.0	
U38A	**Gravette**	**2.53**	**74**		**Pn**	**04 29 46.6**	**+1.3**
R32A	**Long Quarter,**	**2.84**	**339**		**Pn**	**04 29 50.4**	**+0.8**
R32A	**Long Quarter,**	**2.84**	**339**	P	**Pn**	**04 29 50.5**	**+0.9**
R32A	baz=158,SNR=19 **Long Quarter,**	**2.84**	**339**	P		04 29 50.5	
W39A	baz=158,SNR=19 **Magazine**	**3.01**	**100**		**Pn**	**04 29 52.5**	**+0.6**
W39A	comp=Z,113nm,0.8s			IAmb_Lg		04 30 44.8	
W39A	**Magazine**	**3.01**	**100**	P	**Pn**	**04 29 52.1**	**+0.2**
W39A	baz=282,SNR=38 **Magazine**	**3.01**	**100**	P		04 29 52.1	
W39A	baz=282 **Magazine**	**3.01**	**100**	P		04 29 52.1	
Z38A	baz=282,SNR=38 **Mt. Pleasant**	**3.21**	**141**	Pn	**Pn**	**04 29 54.4**	**-0.3**
Z38A	**Mt. Pleasant**	**3.21**	**141**	P	**Pn**	**04 29 54.9**	**+0.2**
Z38A	baz=322 **Mt. Pleasant**	**3.21**	**141**	P		04 29 54.9	
MIAR	baz=322 **Mount Ida**	**3.37**	**110**		**Pn**	**04 29 57.6**	**+0.8**
MIAR	comp=Z,83nm,0.9s			IAmb_Lg		04 30 57.3	
MIAR	**Mount Ida**	**3.37**	**110**	P	**Pn**	**04 29 57.0**	**+0.2**
MIAR	baz=292,SNR=51			S	**Sn**	**04 30 38.8**	**+1.7**
MIAR	baz=292 **Mount Ida**	**3.37**	**110**	P		04 29 57.6	
MIAR	baz=292,SNR=21			S		04 30 38.2	
MIAR	baz=292 **Mount Ida**	**3.37**	**110**	P		04 29 57.0	
MIAR	baz=292,SNR=51			S		04 30 38.8	
KSU1	baz=292 **Kansas State U**	**3.37**	**11**	Pn	**Pn**	**04 29 57.5**	**+0.5**
KSU1	comp=Z,180nm,0.9s			IAmb_Lg		04 30 56.5	
KSU1	**Kansas State U**	**3.37**	**11**	P	**Pn**	**04 29 57.3**	**+0.3**
KSU1	baz=191,SNR=5.8 **Kansas State U**	**3.37**	**11**	P		04 29 57.7	
KSU1	baz=191			Sb		04 30 49.8	
KSU1	**Kansas State U**	**3.37**	**11**	P		04 29 57.3	
CBKS	baz=191,SNR=5.8 **Cedar Bluff**	**3.56**	**329**	Pn	**Pn**	**04 29 59.8**	**+0.3**
CBKS	comp=Z,143nm,0.7s			IAmb_Lg		04 31 02.0	
CBKS	**Cedar Bluff**	**3.56**	**329**	S	**Sn**	**04 30 42.5**	**+0.6**
CBKS	baz=148 **Cedar Bluff**	**3.56**	**329**	P		04 30 00.6	
CBKS	baz=148			S		04 30 42.7	
CBKS	**Cedar Bluff**	**3.56**	**329**	S		04 30 42.5	
AMTX	baz=148 **Amarillo**	**3.61**	**257**	Pn	**Pn**	**04 30 01.0**	**+0.7**
AMTX	comp=Z,72nm,0.8s			IAmb_Lg		04 31 01.6	
AMTX	**Amarillo**	**3.61**	**257**	P		04 30 01.9	
ABTX	baz=75 **Abilene, Hawle**	**3.66**	**211**		**Pn**	**04 30 00.6**	**-0.3**
ABTX	comp=Z,94nm,0.9s			IAmb_Lg		04 31 04.4	
ABTX	**Abilene, Hawle**	**3.66**	**211**	P	**Pn**	**04 30 00.5**	**-0.4**
ABTX	baz=30,SNR=6.7 **Abilene, Hawle**	**3.66**	**211**	P		04 30 00.5	
U40A	baz=30,SNR=6.7 **Yellville**	**3.73**	**80**	Pn	**Pn**	**04 30 01.8**	**0.0**
U40A	comp=Z,88nm,0.8s			IAmb_Lg		04 31 07.4	
U40A	**Yellville**	**3.73**	**80**	P	**Pn**	**04 30 02.2**	**+0.3**
U40A	baz=262,SNR=49 **Yellville**	**3.73**	**80**	P		04 30 02.2	
U40A	baz=262 **Yellville**	**3.73**	**80**	P		04 30 02.2	
U40A	baz=262,SNR=49			P		04 30 02.2	
WHTX	**Lake Whitney,**	**3.78**	**181**	Pn	**Pn**	**04 30 02.1**	**-0.5**
WHTX	**Lake Whitney,**	**3.78**	**181**	P	**Pn**	**04 30 02.2**	**-0.3**
WHTX	baz=0.8,SNR=26			S	**Sn**	**04 30 47.9**	**+0.6**
WHTX	baz=0.8 **Lake Whitney,**	**3.78**	**181**	P		04 30 02.9	
WHTX	baz=0.8,SNR=22			Sb		04 30 58.2	
WHTX	baz=0.8 **Lake Whitney,**	**3.78**	**181**	P		04 30 02.2	
WHTX	baz=0.8,SNR=26			S		04 30 47.9	
S39A	baz=0.8 **Bolivar**	**3.79**	**59**		**Pn**	**04 30 03.0**	**+0.3**
S39A	comp=Z,115nm,0.7s			IAmb_Lg		04 31 06.2	
S39A	**Bolivar**	**3.79**	**59**	P	**Pn**	**04 30 03.2**	**+0.6**
S39A	baz=240,SNR=48 **Bolivar**	**3.79**	**59**	P		04 30 03.2	
X40A	baz=240,SNR=48 **Basin Creek Fa**	**3.96**	**108**		**Pn**	**04 30 05.7**	**+0.7**
X40A	**Basin Creek Fa**	**3.96**	**108**	P	**Pn**	**04 30 05.9**	**+1.0**
X40A	baz=290,SNR=26 **Basin Creek Fa**	**3.96**	**108**	P		04 30 05.7	
X40A	baz=290,SNR=15 **Basin Creek Fa**	**3.96**	**108**	P		04 30 05.9	
X40A	baz=290,SNR=26			P		04 30 05.9	
237A	**Washetta, Mont**	**4.00**	**160**		**Pn**	**04 30 04.6**	**-0.9**
237A	comp=Z,74nm,0.8s			IAmb_Lg		04 31 08.3	
237A	**Washetta, Mont**	**4.00**	**160**	P	**Pn**	**04 30 04.9**	**-0.6**
237A	baz=341,SNR=14 **Washetta, Mont**	**4.00**	**160**	P		04 30 04.9	
WLAR	baz=341,SNR=14 **White Oak Lake**	**4.10**	**119**		**Pn**	**04 30 06.7**	**-0.3**
WLAR	comp=Z,74nm,0.8s			IAmb_Lg		04 31 16.3	
WHAR	**Wooly Hollow**	**4.20**	**95**		**Pn**	**04 30 08.9**	**+0.6**
WHAR	comp=Z,78nm,0.7s			IAmb_Lg		04 31 23.9	
W41B	**Gary Mavity, V**	**4.25**	**97**	P	**Pn**	**04 30 09.1**	**+0.1**
W41B	baz=279,SNR=49 **Gary Mavity, V**	**4.25**	**97**	P		04 30 09.1	
W41B	baz=279,SNR=16 **Gary Mavity, V**	**4.25**	**97**	P		04 30 09.1	
FCAR	baz=279,SNR=49 **Ozark Folk Cen**	**4.29**	**87**		**Pn**	**04 30 10.3**	**+0.8**
FCAR	comp=Z,68nm,0.7s			IAmb_Lg		04 31 20.3	
MGMO	**Mountain Grove**	**4.36**	**70**		**Pn**	**04 30 11.6**	**+1.1**
MGMO	comp=Z,140nm,0.8s			IAmb_Lg		04 31 26.2	
MSTX	**Muleshoe**	**4.77**	**249**	Pn	**Pn**	**04 30 16.4**	**+0.2**
MSTX	**Muleshoe**	**4.77**	**249**	P	**Pn**	**04 30 16.1**	**-0.2**
MSTX	baz=67,SNR=12 **Muleshoe**	**4.77**	**249**	P		04 30 16.4	
MSTX	baz=67 **Muleshoe**	**4.77**	**249**	P		04 30 16.1	
R40A	baz=67,SNR=12 **Maddies Statio**	**4.81**	**57**	Pn	**Pn**	**04 30 17.1**	**+0.5**
R40A	comp=Z,60nm,1.0s			IAmb_Lg		04 31 49.4	
R40A	**Maddies Statio**	**4.81**	**57**	P	**Pn**	**04 30 17.0**	**+0.3**
R40A	baz=240,SNR=24 **Maddies Statio**	**4.81**	**57**	P		04 30 17.0	
P38A	baz=240,SNR=24 **Dawn**	**4.91**	**37**		**Pn**	**04 30 18.4**	**+0.3**
P38A	comp=Z,85nm,0.7s			IAmb_Lg		04 31 53.3	
N33A	**J Bar K, Exete**	**4.95**	**360**	Pn	**Pn**	**04 30 19.1**	**+0.4**
N33A	comp=Z,83nm,0.7s			IAmb_Lg		04 31 54.8	
435B	**Jarrell**	**4.99**	**182**	Pn	**Pn**	**04 30 19.5**	**+0.3**
435B	comp=Z,88nm,0.7s			IAmb_Lg		04 31 46.8	
CCAR	**Cane Creek**	**4.99**	**110**	Pn	**Pn**	**04 30 19.6**	**+0.5**
CCAR	comp=Z,145nm,1.1s			IAmb_Lg		04 31 52.1	
LCAR	**Lake Charles**	**5.08**	**85**		**Pn**	**04 30 20.4**	**0.0**
LCAR	comp=Z,51nm,0.8s			IAmb_Lg		04 31 56.1	
T42A	**Van Buren**	**5.24**	**74**	Pn	**Pn**	**04 30 22.1**	**-0.5**
T42A	comp=Z,52nm,0.8s			IAmb_Lg		04 31 59.4	
N35A	**Tabor**	**5.26**	**15**		**Pn**	**04 30 22.6**	**-0.3**
N35A	**Tabor**	**5.26**	**15**	P	**Pn**	**04 30 22.8**	**0.0**
N35A	baz=196,SNR=6.1 **Tabor**	**5.26**	**15**	P		04 30 22.8	
KSCO	baz=196,SNR=6.1 **Kaye Shedlock'**	**5.26**	**309**	Pn	**Pn**	**04 30 23.3**	**+0.2**
KSCO	comp=Z,64nm,0.8s			IAmb_Lg		04 32 01.0	
KSCO	**Kaye Shedlock'**	**5.26**	**309**	P	**Pn**	**04 30 23.5**	**+0.4**
KSCO	baz=126 **Kaye Shedlock'**	**5.26**	**309**	P		04 30 24.3	
KSCO	baz=126 **Kaye Shedlock'**	**5.26**	**309**	P		04 30 23.5	
CCM	baz=126 **Cathedral Cave**	**5.43**	**63**		**Pn**	**04 30 27.3**	**+2.1**
CCM	comp=Z,78nm,0.8s			IAmb_Lg		04 31 59.5	
HBAR	**Harrisburg**	**5.49**	**90**	Pn	**Pn**	**04 30 27.2**	**+1.1**
BGNE	**Belgrade**	**5.65**	**354**	Pn	**Pn**	**04 30 28.4**	**+0.2**
BGNE	comp=Z,55nm,0.7s			IAmb_Lg		04 32 03.8	
JCT	**Junction City**	**5.66**	**202**	P		04 30 28.4	
JCT	baz=20 **Junction City**	**5.66**	**202**	P		04 30 28.4	
JCT	baz=20 **Junction City**	**5.66**	**202**		**Pn**	**04 30 28.1**	**-0.3**
JCT	**Junction City**	**5.66**	**202**	P	**Pn**	**04 30 28.4**	**0.0**
P40A	baz=20 **Paris**	**5.66**	**47**		**Pn**	**04 30 28.6**	**+0.3**
P40A	comp=Z,109nm,0.8s			IAmb_Lg		04 32 09.7	
P40A	**Paris**	**5.66**	**47**	P	**Pn**	**04 30 28.4**	**+0.1**
P40A	baz=230,SNR=6.4 **Paris**	**5.66**	**47**	P		04 30 28.4	
PBMO	baz=230,SNR=6.4 **Poplar Bluff**	**5.72**	**78**	Pn	**Pn**	**04 30 30.0**	**+0.8**
PBMO	comp=Z,108nm,0.8s			IAmb_Lg		04 32 12.5	
LPAR	**Lepanto**	**5.78**	**90**	Pn	**Pn**	**04 30 31.1**	**+1.1**
LPAR					LR	04 32 08.9	
LPAR	comp=Z,63nm,0.8s			IAmb_Lg		04 32 22.3	
T25A	**Trinidad**	**5.81**	**286**	Pn	**Pn**	**04 30 31.3**	**+0.6**
T25A	**Trinidad**	**5.81**	**286**	P		04 30 31.1	
143A	baz=102 **Socs Landing,**	**5.84**	**120**	Pn	**Pn**	**04 30 30.8**	**0.0**
143A	comp=Z,37nm,0.7s			IAmb_Lg		04 32 15.5	
N38A	**Joes South For**	**5.98**	**32**	Pn	**Pn**	**04 30 33.3**	**+0.5**
GNAR	**Gosnell**	**6.00**	**86**		Lg	04 32 12.7	
PEBM	**Pemiscott Bayo**	**6.12**	**85**	IAmb_Lg		04 32 18.6	
L34A	comp=Z,100nm,0.7s **Svendsen Farm,**	**6.23**	**7**	Pn	**Pn**	**04 30 36.7**	**+0.5**
OGNE	**Ogallala**	**6.31**	**326**	Pn	**Pn**	**04 30 38.2**	**+0.8**
OGNE	comp=Z,66nm,0.7s			IAmb_Lg		04 32 32.7	
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg		04 32 26.7	
HENM	comp=Z,106nm,0.8s **Henderson Moun**	**6.47**	**79**		Lg	04 32 29.1	
OXF	**Oxford**	**6.67**	**99**	IAmb_Lg		04 32 52.5	
OXF	comp=Z,66nm,1.1s **Oxford**	**6.67**	**99**	P		04 30 42.7	
W45A	baz=283 **Hickory Valley**	**6.73**	**93**	IAmb_Lg		04 32 53.9	
Y45A	comp=Z,65nm,0.8s **Yeager Farm, C**	**6.74**	**104**	Pn	**Pn**	**04 30 43.2**	**0.0**
Y45A	comp=Z,41nm,0.9s			IAmb_Lg		04 32 41.9	
SDCO	**Great Sand Dun**	**6.79**	**289**		**Pn**	**04 30 44.8**	**+0.6**
SDCO	comp=Z,39nm,0.9s			IAmb_Lg		04 32 46.3	
SDCO	**Great Sand Dun**	**6.79**	**289**	P		04 30 45.3	
GDL2	baz=105,SNR=19 **Guadalupe Moun**	**6.80**	**240**	Pn	**Pn**	**04 30 44.2**	**+0.1**
S44A	**Carbondale**	**6.81**	**71**		**Pn**	**04 30 44.2**	**0.0**
S44A	comp=Z,83nm,0.8s			IAmb_Lg		04 32 52.9	
SIUC	**Southern Illin**	**6.85**	**71**	Pn	**Pn**	**04 30 44.4**	**-0.2**
K31A	**O'Neill**	**6.91**	**352**	IAmb_Lg		04 32 55.2	
735A	comp=Z,90nm,0.8s **Kenedy**	**6.91**	**183**	IAmb_Lg		04 32 50.3	
SCIA	comp=Z,54nm,0.8s **State Center**	**6.93**	**27**		**Pg**	**04 31 13.2**	**-3.3**
SCIA					LR	04 32 47.7	
Q24A	**Divide**	**6.94**	**300**	P		04 30 46.7	
Q24A	baz=115			S		04 32 04.0	
P43A	baz=115 **Skaggs, Pawnee**	**7.34**	**56**		**Pn**	**04 30 51.4**	**0.0**
Q44A	**Meyer Farm, Va**	**7.37**	**62**	Pn	**Pn**	**04 30 52.9**	**+1.1**
ANMO	**Albuquerque**	**7.45**	**266**	Pn	**Pn**	**04 30 53.2**	**+0.1**
ISCO	**Idaho Springs**	**7.64**	**304**	Pn	**Pn**	**04 30 55.9**	**0.0**
ISCO	comp=Z,30nm,0.8s			IAmb_Lg		04 33 19.0	
ISCO	**Idaho Springs**	**7.64**	**304**	P		04 30 56.1	
PLAL	baz=119 **Pickwick Lake**	**7.66**	**93**	Pn	**Pn**	**04 30 56.4**	**+0.5**
K38A	**Parkersburg**	**7.74**	**26**	Pn	**Pn**	**04 30 58.2**	**+1.3**
K38A					LR	04 33 09.3	
K38A	comp=Z,83nm,0.7s			IAmb_Lg		04 33 20.7	
BNM	**Barren Site**	**7.75**	**261**	Pn	**Pn**	**04 30 57.3**	**0.0**
WVT	**Waverly**	**7.77**	**85**	Pn	**Pn**	**04 30 57.6**	**+0.3**
MNTX	**Cornudas Mount**	**7.79**	**241**	Pn	**Pn**	**04 30 57.4**	**-0.3**
MNTX	**Cornudas Mount**	**7.79**	**241**	P	**Pn**	**04 30 57.4**	**-0.3**
MNTX	baz=56,SNR=7.0 **Cornudas Mount**	**7.79**	**241**	P		04 30 57.3	
MNTX	baz=56,SNR=8.2 **Cornudas Mount**	**7.79**	**241**	P		04 30 57.4	
L40A	baz=56,SNR=7.0 **Anamosa**	**7.91**	**36**		**Pn**	**04 30 58.9**	**-0.3**
L40A	comp=Z,73nm,0.8s			IAmb_Lg		04 33 21.3	
ECSD	**EROS Data Cent**	**7.97**	**4**	Pn	**Pn**	**04 30 59.0**	**-1.0**
ECSD	**EROS Data Cent**	**7.97**	**4**	P		04 30 58.6	
HDIL	baz=184,SNR=5.3 **Hopedale**	**7.97**	**51**	Pn	**Pn**	**04 30 59.8**	**-0.3**
HDIL	**Hopedale**	**7.97**	**51**	P		04 31 00.4	
OLIL	baz=236,SNR=11 **Olney**	**7.98**	**66**	Pn	**Pn**	**04 31 00.8**	**+0.6**
O44A	**Mansfield**	**8.29**	**56**	Pn	**Pn**	**04 31 04.8**	**+0.3**
TXAR	**Lajitas Array**	**8.32**	**221**	Pn	**Pn**	**04 31 03.6**	**-1.5**
TXAR	comp=Z,0.3nm,0.3s,baz=44,slow=11,SNR=19			Lg	Lg	04 33 21.9	
TXAR	comp=Z,3.8nm,0.3s,baz=42,slow=27,SNR=6.6 **Lajitas Array**	**8.32**	**221**	Pn	**Pn**	**04 31 05.7**	**+0.7**
TX31	**Lajitas Ar. Si**	**8.32**	**221**	Pn	**Pn**	**04 31 04.4**	**-0.7**
TX32	**Lajitas Array**	**8.32**	**221**	Pn	**Pn**	**04 31 05.5**	**+0.4**
PHWY	**Pilot Hill**	**8.38**	**314**		**Pn**	**04 31 07.2**	**+1.3**
PHWY	comp=Z,40nm,0.9s			IAmb_Lg		04 33 41.9	
T47A	**Sharon Grove**	**8.39**	**79**	Pn	**Pn**	**04 31 06.1**	**+0.3**
T47A	comp=Z,47nm,1.0s			IAmb_Lg		04 33 40.9	
V48A	**Smith Brothers**	**8.60**	**87**	Pn	**Pn**	**04 31 09.3**	**+0.5**
L42A	**Oliver, Polo**	**8.65**	**42**		**Pn**	**04 31 09.3**	**-0.2**
SUSD	**Miller**	**8.73**	**353**	IAmb_Lg		04 33 57.1	
I37A	comp=Z,36nm,0.8s **Lemond, Waseca**	**8.78**	**19**	IAmb_Lg		04 34 04.8	
CLTN	comp=Z,58nm,1.0s **Cedars of Leba**	**8.98**	**85**	IAmb_Lg		04 33 55.3	
JFWS	comp=Z,20nm,0.8s **Jewell Farm**	**9.02**	**36**		**Pn**	**04 31 14.2**	**-0.3**
JFWS	comp=Z,60nm,0.8s			IAmb_Lg		04 33 60.0	
JFWS	**Jewell Farm**	**9.02**	**36**	P		04 31 14.1	
WCI	baz=220 **Wyandotte Cave**	**9.21**	**71**	Pn	**Pn**	**04 31 18.8**	**+1.6**
WCI	comp=Z,38nm,0.8s			IAmb_Lg		04 34 00.3	
M44A	**Midewin, Midew**	**9.22**	**50**	Pn	**Pn**	**04 31 17.5**	**+0.3**
Y49A	**Blount Mountai**	**9.24**	**99**	Pn	**Pn**	**04 31 18.2**	**+0.8**
SFIN	**Lafayette**	**9.33**	**57**	Pn	**Pn**	**04 31 19.8**	**+1.1**
SFIN	comp=Z,61nm,1.1s			IAmb_Lg		04 34 06.1	
SWET	**Sewanee**	**9.37**	**90**	IAmb_Lg		04 34 17.5	
U49A	comp=Z,20nm,0.9s **Red Boiling Sp**	**9.43**	**82**	Pn	**Pn**	**04 31 21.4**	**+1.3**
PV03	**Paradox Valley**	**9.48**	**288**	Pn	**Pn**	**04 31 20.3**	**-0.7**
PV22	**Blue Mesa, Par**	**9.50**	**290**	Pn	**Pn**	**04 31 21.1**	**-0.2**
PV11	**David Mesa, Pa**	**9.51**	**289**	Pn	**Pn**	**04 31 22.0**	**+0.6**
PV11	comp=Z,22nm,1.0s			IAmb_Lg		04 34 23.3	
PV18	**Skein Mesa, Pa**	**9.53**	**288**	Pn	**Pn**	**04 31 22.6**	**+0.9**
PV04	**Paradox Valley**	**9.55**	**289**	IAmb_Lg		04 34 26.1	
I40A	comp=Z,20nm,1.1s **Norwalk**	**9.63**	**31**	IAmb_Lg		04 34 19.6	
RWWY	comp=Z,38nm,0.8s **Rawlins**	**9.67**	**311**	Pn	**Pn**	**04 31 24.5**	**+0.9**
RWWY	comp=Z,19nm,0.9s			IAmb_Lg		04 34 34.9	
FPAL	**Fort Paine**	**9.73**	**94**	Pn	**Pn**	**04 31 25.1**	**+0.7**
FPAL	comp=Z,19nm,0.7s			IAmb_Lg		04 34 22.1	
RSSD	**Black Hills**	**9.76**	**331**	Pn	**Pn**	**04 31 25.3**	**+0.5**
RSSD	comp=Z,24nm,1.1s			IAmb_Lg		04 34 17.4	
K22A	**Casper**	**9.85**	**317**	Pn	**Pn**	**04 31 26.5**	**+0.5**
K22A	comp=Z,54nm,1.1s			IAmb_Lg		04 34 37.2	
W50A	**Signal Mountai**	**9.88**	**90**	IAmb_Lg		04 34 27.9	
SPMN	comp=Z,31nm,0.8s **Marine on St.**	**10.06**	**19**	Pn	**Pn**	**04 31 27.9**	**-0.8**

I42A	**Draeger Farm,**	**10.39**	**36**	Pn		**Pn**	**04 31 32.5**	**-0.8**	
F36A	**Milaca**	**10.49**	**15**	Pn		**Pn**	**04 31 34.8**	**+0.3**	
CPCT	**Cooper Cave**	**10.49**	**88**	Pn		**Pn**	**04 31 35.4**	**+0.8**	
V51A	**Loudon**	**10.60**	**86**	Pn		**Pn**	**04 31 37.2**	**+1.0**	
G40A	**Rib Lake**	**10.94**	**28**	Pn		**Pn**	**04 31 41.0**	**+0.2**	
V52A	**Sevierville**	**11.21**	**86**	Pn		**Pn**	**04 31 44.8**	**+0.2**	
S51A	**Beattyville**	**11.24**	**76**	Pn		**Pn**	**04 31 44.6**	**-0.3**	
H43A	**Windswept, Lux**	**11.38**	**37**	Pn		**Pn**	**04 31 47.6**	**+0.8**	
PDAR	**Pinedale Array**	**11.72**	**310**	Pn		**Pn**	**04 31 51.0**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=5.3								
PDAR				Lg		Lg	04 35 07.7		
	comp=Z,0.4nm,0.3s,baz=121,slow=30,SNR=3.4								
ULM	**Lac du Bonnet**	**14.50**	**4**	Pn		Pn	04 32 21.4	-8.1	
	comp=Z,0.2nm,0.3s,baz=175,slow=11,SNR=1.5								
ULM				Sn		Sn	04 34 54.7	-16	
	comp=Z,0.1nm,0.3s,baz=45,slow=22,SNR=1.5								
ULM				Lg		Lg	04 36 29.4		
	comp=Z,0.3nm,0.3s,baz=98,slow=19,SNR=1.8								

IASPEI ***20*** *04:36:05.7±1.0,35.76N±0.02×97.40W±0.03,h9km±7km, Error ellipse: s-maj=4.4km s-min=3.2km az=103.6,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ANF ***20*** *04:36:05.6±0.2,35.77N×97.41W,h6km,ML4.1/21, Error ellipse: s-maj=2.4km s-min=2.1km az=104.0*

TUL ***20*** *04:36:05.6±1.2,35.75N±0.01×97.39W±0.02,h6km±5km, ML3.5,mb_Lg3.4/108(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=86.0*

NEIC ***20*** *04:36:05.8±1.1,35.76N±0.01×97.40W±0.02,h4km±5km, Error ellipse: s-maj=2.3km s-min=1.8km az=104.0*

ISC 20 04:36:05.8±0.9,35.77N±0.02×97.40W±0.02,h6km±7km, n131,σ0§62/132,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK029	**Liberty Lake**	**0.05**	**304**	Pg		**Pg**	**04 36 07.6**	**+0.4**
OK009	**Oakdale Elemen**	**0.19**	**186**			**Pg**	**04 36 09.4**	**-0.1**
OK025	**Westminster Rd**	**0.19**	**165**	Pg		**Pg**	**04 36 09.4**	**-0.1**
BCOK	**Bluff Creek, N**	**0.20**	**237**			**Pg**	**04 36 09.9**	**+0.1**
OK005	**Luther M Schoo**	**0.20**	**123**			**Pg**	**04 36 10.6**	**+0.8**
OK001	**Jones High Sch**	**0.22**	**156**	Pg		**Pg**	**04 36 09.6**	**-0.5**
OKCFA	**Oklahoma City**	**0.35**	**187**			**Pg**	**04 36 12.4**	**-0.2**
OKCFA				Sg		**Sg**	**04 36 17.1**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**187**	P		**Pg**	**04 36 12.4**	**-0.2**
	baz=8.3,SNR=153							
OKCFA				S		**Sg**	**04 36 17.4**	**+0.1**
	baz=8.3							
OKCFA	**Oklahoma City**	**0.35**	**187**	P			04 36 12.4	
	baz=8.3,SNR=153							
OKCFA				S			04 36 17.4	
	baz=8.3							
OKCSW	**OKLAHOMA CITY**	**0.36**	**185**			**Pg**	**04 36 12.6**	**-0.2**
OKCSW				Sg		**Sg**	**04 36 17.0**	**-0.5**
OK031	**S. Brethren Rd**	**0.49**	**68**			**Pg**	**04 36 15.5**	**+0.3**
OK031				Sg		**Sg**	**04 36 21.9**	**+0.2**
FNO	**Franklin**	**0.51**	**180**			**Pg**	**04 36 15.3**	**-0.3**
FNO				Sg		**Sg**	**04 36 22.0**	**-0.2**
OK030	**Cody Creek RV**	**0.53**	**72**			**Pg**	**04 36 16.1**	**+0.2**
OK030				Sg		**Sg**	**04 36 22.8**	**+0.1**
QUOK	**Quay**	**0.69**	**54**	Pg		**Pg**	**04 36 18.6**	**-0.4**
QUOK				Sg		**Sg**	**04 36 28.1**	**+0.1**
CROK	**Carrier**	**0.88**	**327**			**Pg**	**04 36 22.7**	**+0.2**
CROK				Sg		**Sb**	**04 36 34.7**	**-0.7**
BLOK	**Blackwell**	**1.00**	**8**	Pg		**Pg**	**04 36 25.0**	**-0.1**
GC02	**Grant County #**	**1.15**	**341**			**Pg**	**04 36 27.3**	**-0.4**
GC02				Sg		**Sb**	**04 36 43.2**	**0.0**
X34A	**Smith Ranch, M**	**1.22**	**197**			**Pg**	**04 36 28.4**	**-0.7**
X34A				Sg		**Sb**	**04 36 45.3**	**+0.1**
OK032	**Salt Plains WL**	**1.23**	**328**			**Pg**	**04 36 28.7**	**-0.6**
KAN13	**South Haven SW**	**1.25**	**357**			**Pg**	**04 36 29.4**	**-0.3**
KAN14	**Manchester OK**	**1.27**	**339**			**Pn**	**04 36 29.7**	**-0.4**
KAN14				Sg		**Sb**	**04 36 46.9**	**+0.1**
KAN17	**Caldwell West**	**1.31**	**347**			**Pn**	**04 36 30.4**	**-0.2**
TUL1	**Leonard**	**1.31**	**83**	P		**Pn**	**04 36 29.2**	**-1.5**
	baz=263							
TUL1				S		**Sb**	**04 36 47.2**	**-0.9**
	baz=263							
TUL1	**Leonard**	**1.31**	**83**	P			04 36 29.2	
	baz=263							
TUL1				S			04 36 47.2	
	baz=263							
T35A	**Sooner Cattle**	**1.35**	**32**			**Pn**	**04 36 30.6**	**-0.7**
T35B	**Sooner Cattle**	**1.35**	**32**	P		**Pn**	**04 36 30.7**	**-0.6**
	baz=211							
T35B				S		**Sn**	**04 36 49.6**	**0.0**
	baz=211							
T35B	**Sooner Cattle**	**1.35**	**32**	P			04 36 30.7	
	baz=211							
T35B				S			04 36 49.6	
	baz=211							
KAN09	**Caldwell North**	**1.38**	**353**			**Pn**	**04 36 31.7**	**0.0**
KAN05	**Bluff City Nor**	**1.39**	**344**			**Pn**	**04 36 31.3**	**-0.5**
KAN05				IAmb_Lg			04 36 51.6	
	comp=Z,237nm,0.9s							
U32A	**Winter Ranch,**	**1.44**	**296**			**Pn**	**04 36 32.2**	**-0.3**
U32A	**Winter Ranch,**	**1.44**	**296**	P		**Pn**	**04 36 32.1**	**-0.3**
	baz=116,SNR=43							
U32A	**Winter Ranch,**	**1.44**	**296**	P			04 36 32.1	
	baz=116,SNR=43							
KAN10	**Anthony SW Sta**	**1.47**	**338**			**Pn**	**04 36 32.8**	**-0.1**
KS20	**Mayfield South**	**1.47**	**355**			**Pn**	**04 36 33.0**	**+0.2**
KS20				IAmb_Lg			04 36 55.9	
	comp=Z,369nm,0.7s							
WMOK	**Wichita Mounta**	**1.53**	**228**	Pn		**Pn**	**04 36 33.0**	**-0.6**
WMOK	**Wichita Mounta**	**1.53**	**228**	P		**Pn**	**04 36 33.1**	**-0.6**
	baz=48,SNR=671							
WMOK				S		**Sn**	**04 36 53.3**	**-0.6**
	baz=48							
WMOK	**Wichita Mounta**	**1.53**	**228**	P			04 36 33.1	
	baz=48,SNR=671							
WMOK				S			04 36 53.3	
	baz=48							
KAN08	**Anthony NE Sta**	**1.53**	**343**			**Pb**	**04 36 34.1**	**-0.5**
KS21	**Milan North St**	**1.53**	**352**	IAmb_Lg			04 36 57.8	
	comp=Z,359nm,1.0s							
KAN16	**Harper SW Stat**	**1.55**	**340**			**Pb**	**04 36 34.4**	**-0.6**
LOOK	**Love County**	**1.78**	**174**			**Pn**	**04 36 37.4**	**+0.3**
X37A	**Clayton**	**2.04**	**125**	Pn		**Pn**	**04 36 40.7**	**+0.1**
X37A	**Clayton**	**2.04**	**125**	P		**Pn**	**04 36 40.8**	**+0.1**
	baz=306,SNR=177							
X37A				S		**Sb**	**04 37 08.1**	**-0.7**
	baz=306							
X37A	**Clayton**	**2.04**	**125**	P			04 36 40.8	
	baz=306,SNR=177							
X37A				S			04 37 08.1	
	baz=306							
Z35A	**Perchaven, San**	**2.43**	**177**			**Pn**	**04 36 47.0**	**+0.9**
Z35A				IAmb_Lg			04 37 27.8	
	comp=Z,159nm,1.3s							
Z35A	**Perchaven, San**	**2.43**	**177**	P		**Pn**	**04 36 46.2**	**+0.1**
	baz=357,SNR=33							
Z35A				S		**Sn**	**04 37 17.8**	**+1.6**
	baz=357							
Z35A	**Perchaven, San**	**2.43**	**177**	P			04 36 46.2	
	baz=357,SNR=33							
Z35A				S			04 37 17.8	
	baz=357							
U38A	**Gravette**	**2.53**	**74**			**Pn**	**04 36 48.3**	**+0.9**
U38A	**Gravette**	**2.53**	**74**	P		**Pn**	**04 36 48.1**	**+0.6**
	baz=255,SNR=66							
U38A	**Gravette**	**2.53**	**74**	P			04 36 48.1	
	baz=255,SNR=66							
R32A	**Long Quarter,**	**2.85**	**339**	Pn		**Pn**	**04 36 52.4**	**+0.5**
R32A	**Long Quarter,**	**2.85**	**339**	P		**Pn**	**04 36 53.1**	**+1.2**
	baz=158							
R32A				S		**Sn**	**04 37 27.6**	**+1.0**
	baz=158							
R32A	**Long Quarter,**	**2.85**	**339**	P			04 36 53.1	
	baz=158							
R32A				S			04 37 27.6	
	baz=158							
W39A	**Magazine**	**3.00**	**100**	Pn		**Pn**	**04 36 54.0**	**+0.1**
W39A				IAmb_Lg			04 37 47.5	
	comp=Z,108nm,0.8s							
W39A	**Magazine**	**3.00**	**100**	P		**Pn**	**04 36 54.1**	**+0.1**
	baz=282,SNR=47							
W39A				S		**Sn**	**04 37 30.8**	**+0.5**
	baz=282							
W39A	**Magazine**	**3.00**	**100**	P			04 36 54.1	
	baz=282,SNR=47							
W39A				S			04 37 30.8	
	baz=282							
Z38A	**Mt. Pleasant**	**3.20**	**141**	Pn		**Pn**	**04 36 55.6**	**-1.0**
Z38A				IAmb_Lg			04 37 52.7	
	comp=Z,120nm,0.9s							
Z38A	**Mt. Pleasant**	**3.20**	**141**	P		**Pn**	**04 36 56.3**	**-0.3**
	baz=322							
Z38A	**Mt. Pleasant**	**3.20**	**141**	P			04 36 56.3	
	baz=322							
MIAR	**Mount Ida**	**3.36**	**110**	Pn		**Pn**	**04 36 58.9**	**+0.1**
MIAR				IAmb_Lg			04 37 59.7	
	comp=Z,70nm,0.9s							
MIAR	**Mount Ida**	**3.36**	**110**	P		**Pn**	**04 36 59.5**	**+0.7**
	baz=292,SNR=34							
MIAR				S		**Sn**	**04 37 40.8**	**+1.7**
	baz=292							
MIAR	**Mount Ida**	**3.36**	**110**	P			04 36 59.5	
	baz=292,SNR=34							
MIAR				S			04 37 40.8	
	baz=292							
KSU1	**Kansas State U**	**3.39**	**10**	Pn		**Pn**	**04 36 59.5**	**+0.3**
KSU1				IAmb_Lg			04 37 58.0	
	comp=Z,76nm,0.7s							
CBKS	**Cedar Bluff**	**3.57**	**329**	Pn		**Pn**	**04 37 01.9**	**+0.2**
CBKS	**Cedar Bluff**	**3.57**	**329**	P		**Pn**	**04 37 02.1**	**+0.3**
	baz=148,SNR=9.6							
CBKS				S		**Sn**	**04 37 44.5**	**+0.2**
	baz=148							
CBKS	**Cedar Bluff**	**3.57**	**329**	P			04 37 02.1	
	baz=148,SNR=9.6							
CBKS				S			04 37 44.5	
	baz=148							
AMTX	**Amarillo**	**3.61**	**257**			**Pn**	**04 37 02.7**	**+0.3**
ABTX	**Abilene, Hawle**	**3.65**	**211**	Pn		**Pn**	**04 37 01.9**	**-0.9**
ABTX				IAmb_Lg			04 38 03.6	
	comp=Z,62nm,1.1s							
ABTX	**Abilene, Hawle**	**3.65**	**211**	P		**Pn**	**04 37 02.4**	**-0.4**
	baz=30							
ABTX	**Abilene, Hawle**	**3.65**	**211**	P			04 37 02.4	
	baz=30							
U40A	**Yellville**	**3.73**	**80**	Pn		**Pn**	**04 37 03.8**	**-0.2**
U40A				IAmb_Lg			04 38 09.6	
	comp=Z,62nm,0.7s							
U40A	**Yellville**	**3.73**	**80**	P		**Pn**	**04 37 04.1**	**+0.1**
	baz=262,SNR=84							
U40A	**Yellville**	**3.73**	**80**	P			04 37 04.1	
	baz=262,SNR=84							
U40A				P			04 37 04.1	
	baz=262,SNR=84							
WHTX	**Lake Whitney,**	**3.77**	**181**	Pn		**Pn**	**04 37 03.9**	**-0.6**
WHTX	**Lake Whitney,**	**3.77**	**181**	P		**Pn**	**04 37 04.1**	**-0.3**
	baz=0.8,SNR=11							
WHTX	**Lake Whitney,**	**3.77**	**181**	P			04 37 04.1	
	baz=0.8,SNR=11							
S39A	**Bolivar**	**3.80**	**58**			**Pn**	**04 37 05.5**	**+0.6**
S39A				IAmb_Lg			04 38 06.7	
	comp=Z,62nm,0.7s							
S39A	**Bolivar**	**3.80**	**58**	P		**Pn**	**04 37 05.2**	**+0.3**
	baz=240,SNR=17							
S39A	**Bolivar**	**3.80**	**58**	P			04 37 05.2	
	baz=240,SNR=17							
X40A	**Basin Creek Fa**	**3.95**	**108**	Pn		**Pn**	**04 37 07.3**	**+0.3**
X40A				IAmb_Lg			04 38 19.0	
	comp=Z,102nm,0.7s							
237A	**Washetta, Mont**	**3.98**	**160**	Pn		**Pn**	**04 37 07.0**	**-0.4**
237A	**Washetta, Mont**	**3.98**	**160**	P		**Pn**	**04 37 06.8**	**-0.6**
	baz=341,SNR=8.1							
237A	**Washetta, Mont**	**3.98**	**160**	P			04 37 06.8	
	baz=341,SNR=8.1							
WLAR	**White Oak Lake**	**4.09**	**119**	Pn		**Pn**	**04 37 08.8**	**-0.2**
WLAR				IAmb_Lg			04 38 16.6	
	comp=Z,55nm,0.8s							
WHAR	**Wooly Hollow**	**4.20**	**95**	Pn		**Pn**	**04 37 09.9**	**-0.5**
WHAR				IAmb_Lg			04 38 19.3	
	comp=Z,68nm,0.8s							
W41B	**Gary Mavity, V**	**4.25**	**97**	P		**Pn**	**04 37 10.9**	**-0.2**
	baz=279,SNR=50							
W41B	**Gary Mavity, V**	**4.25**	**97**	P			04 37 10.9	
	baz=279,SNR=50							
FCAR	**Ozark Folk Cen**	**4.29**	**87**	Pn		**Pn**	**04 37 11.4**	**-0.2**
FCAR				IAmb_Lg			04 38 23.9	
	comp=Z,46nm,0.7s							
MGMO	**Mountain Grove**	**4.36**	**70**	Pn		**Pn**	**04 37 13.2**	**+0.6**
MGMO				IAmb_Lg			04 38 21.8	
	comp=Z,90nm,0.9s							
MSTX	**Muleshoe**	**4.77**	**249**	Pn		**Pn**	**04 37 18.6**	**+0.3**
MSTX	**Muleshoe**	**4.77**	**249**	P		**Pn**	**04 37 18.4**	**+0.1**
	baz=67,SNR=10							
MSTX	**Muleshoe**	**4.77**	**249**	P			04 37 18.4	
	baz=67,SNR=10							
R40A	**Maddies Statio**	**4.82**	**57**	Pn		**Pn**	**04 37 18.9**	**+0.1**
R40A				IAmb_Lg			04 38 50.7	
	comp=Z,37nm,0.8s							
R40A	**Maddies Statio**	**4.82**	**57**	P		**Pn**	**04 37 19.0**	**+0.1**
	baz=240,SNR=12							
R40A	**Maddies Statio**	**4.82**	**57**	P			04 37 19.0	
	baz=240,SNR=12							
P38A	**Dawn**	**4.92**	**37**	Pn		**Pn**	**04 37 20.7**	**+0.3**
P38A				IAmb_Lg			04 38 52.7	
	comp=Z,60nm,0.8s							
N33A	**J Bar K, Exete**	**4.96**	**360**	IAmb_Lg			04 38 52.2	
	comp=Z,85nm,0.9s							
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg			04 38 45.1	
	comp=Z,76nm,0.8s							
CCAR	**Cane Creek**	**4.98**	**110**	Pn		**Pn**	**04 37 20.7**	**-0.4**
CCAR				IAmb_Lg			04 38 53.6	
	comp=Z,71nm,0.7s							
LCAR	**Lake Charles**	**5.08**	**85**	Pn		**Pn**	**04 37 21.8**	**-0.7**
LCAR				IAmb_Lg			04 38 52.5	
	comp=Z,43nm,1.0s							
T42A	**Van Buren**	**5.24**	**74**	Pn		**Pn**	**04 37 24.6**	**-0.1**
N35A	**Tabor**	**5.27**	**15**	Pn		**Pn**	**04 37 24.6**	**-0.5**
N35A						Lg	04 38 56.0	
N35A	**Tabor**	**5.27**	**15**	P		**Pn**	**04 37 24.9**	**-0.2**
	baz=196							
N35A	**Tabor**	**5.27**	**15**	P			04 37 24.9	
	baz=196							
KSCO	**Kaye Shedlock'**	**5.27**	**309**	Pn		**Pn**	**04 37 26.1**	**+0.8**
KSCO				IAmb_Lg			04 38 57.5	
	comp=Z,53nm,0.7s							
CCM	**Cathedral Cave**	**5.43**	**63**	IAmb_Lg			04 39 01.4	
	comp=Z,54nm,0.8s							
HBAR	**Harrisburg**	**5.49**	**90**			**Sg**	**04 38 59.6**	**-2.6**
JCT	**Junction City**	**5.64**	**202**	Pn		**Pn**	**04 37 29.4**	**-0.9**
JCT				IAmb_Lg			04 39 16.0	
	comp=Z,74nm,0.7s							
BGNE	**Belgrade**	**5.66**	**354**	Pn		**Pn**	**04 37 31.3**	**+0.8**
BGNE				IAmb_Lg			04 39 06.0	
	comp=Z,43nm,0.7s							
P40A	**Paris**	**5.67**	**47**	Pn		**Pn**	**04 37 30.9**	**+0.3**
P40A				IAmb_Lg			04 39 13.2	
	comp=Z,75nm,0.7s							
PBMO	**Poplar Bluff**	**5.72**	**78**	Pn		**Pn**	**04 37 32.7**	**+1.4**
PBMO						**Sb**	**04 38 55.2**	**+0.4**
PBMO				IAmb_Lg			04 39 13.7	
	comp=Z,84nm,0.8s							
LPAR	**Lepanto**	**5.78**	**90**	IAmb_Lg			04 39 20.9	
	comp=Z,52nm,0.8s							
T25A	**Trinidad**	**5.81**	**286**	Pn		**Pn**	**04 37 33.0**	**+0.2**
T25A				IAmb_Lg			04 39 17.8	
	comp=Z,85nm,1.1s							
143A	**Socs Landing,**	**5.83**	**120**	IAmb_Lg			04 39 17.4	
	comp=Z,29nm,0.7s							
N38A	**Joes South For**	**5.99**	**32**	Pn		**Pn**	**04 37 35.1**	**+0.1**
L34A	**Svendsen Farm,**	**6.24**	**7**	Pn		**Pn**	**04 37 39.5**	**+1.1**
OGNE	**Ogallala**	**6.32**	**326**	Pn		**Pn**	**04 37 40.3**	**+0.7**
OGNE				IAmb_Lg			04 39 36.5	
	comp=Z,49nm,0.8s							
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg			04 39 27.8	
	comp=Z,75nm,0.8s							
OXF	**Oxford**	**6.67**	**99**	IAmb_Lg			04 39 41.2	
	comp=Z,38nm,0.9s							
W45A	**Hickory Valley**	**6.73**	**93**	Pn		**Pn**	**04 37 45.5**	**+0.4**
W45A				IAmb_Lg			04 39 55.7	
	comp=Z,35nm,0.8s							
Y45A	**Yeager Farm, C**	**6.73**	**104**	IAmb_Lg			04 39 49.4	
	comp=Z,29nm,0.8s							
SDCO	**Great Sand Dun**	**6.80**	**289**	Pn		**Pn**	**04 37 46.0**	**-0.4**
S44A	**Carbondale**	**6.82**	**71**	Pn		**Pn**	**04 37 47.2**	**+0.9**
S44A				IAmb_Lg			04 39 42.9	
	comp=Z,53nm,0.8s							
SIUC	**Southern Illin**	**6.85**	**71**	Pn		**Pn**	**04 37 46.6**	**-0.2**
735A	**Kenedy**	**6.90**	**183**	IAmb_Lg			04 39 51.8	
	comp=Z,44nm,0.9s							
SCIA	**State Center**	**6.95**	**27**	IAmb_Lg			04 40 04.5	
	comp=Z,56nm,0.7s							
P43A	**Skaggs, Pawnee**	**7.34**	**56**	Pn		**Pn**	**04 37 53.1**	**-0.4**
Q44A	**Meyer Farm, Va**	**7.38**	**62**	Pn		**Pn**	**04 37 55.1**	**+1.2**
ANMO	**Albuquerque**	**7.45**	**266**	Pn		**Pn**	**04 37 55.4**	**+0.2**
ISCO	**Idaho Springs**	**7.65**	**304**	Pn		**Pn**	**04 37 57.4**	**-0.6**
BNM	**Barren Site**	**7.75**	**261**	Pn		**Pn**	**04 37 58.7**	**-0.6**
WVT	**Waverly**	**7.77**	**85**	Pn		**Pn**	**04 37 59.5**	**+0.1**
MNTX	**Cornudas Mount**	**7.79**	**241**			**Pn**	**04 37 59.6**	**-0.1**
L40A	**Anamosa**	**7.92**	**36**	Pn		**Pn**	**04 38 02.3**	**+0.9**
L40A				IAmb_Lg			04 40 21.2	
	comp=Z,49nm,0.9s							
HDIL	**Hopedale**	**7.97**	**51**			**Pn**	**04 38 01.2**	**-1.0**
ECSD	**EROS Data Cent**	**7.98**	**4**	Pn		**Pn**	**04 38 01.3**	**-1.1**
Y22D	**IRIS PASSCAL I**	**8.00**	**261**	IAmb_Lg			04 40 40.9	
	comp=Z,52nm,1.1s							
USIN	**University of**	**8.10**	**71**	IAmb_Lg			04 40 33.2	
	comp=Z,41nm,0.8s							
Z47A	**Carrollton**	**8.12**	**106**	IAmb_Lg			04 40 31.1	
	comp=Z,25nm,1.2s							
TX31	**Lajitas Ar. Si**	**8.31**	**221**	Pn		**Pn**	**04 38 07.3**	**+0.3**
TX32	**Lajitas Array**	**8.31**	**221**	Pn		**Pn**	**04 38 07.3**	**+0.3**
PHWY	**Pilot Hill**	**8.39**	**314**	Pn		**Pn**	**04 38 07.6**	**-0.6**
PHWY				IAmb_Lg			04 40 37.2	
	comp=Z,32nm,1.1s							
T47A	**Sharon Grove**	**8.39**	**79**	Pn		**Pn**	**04 38 07.3**	**-0.7**
T47A				IAmb_Lg			04 40 44.2	
	comp=Z,42nm,1.2s							
L42A	**Oliver, Polo**	**8.66**	**42**			**Pn**	**04 38 11.6**	**-0.1**
I37A	**Lemond, Waseca**	**8.79**	**19**	IAmb_Lg			04 40 58.0	
	comp=Z,40nm,1.1s							
JFWS	**Jewell Farm**	**9.03**	**36**	Pn		**Pn**	**04 38 17.1**	**+0.3**
JFWS				IAmb_Lg			04 41 01.9	
	comp=Z,49nm,0.7s							
WCI	**Wyandotte Cave**	**9.22**	**71**	Pn		**Pn**	**04 38 20.2**	**+0.9**
WCI				IAmb_Lg			04 40 56.8	
	comp=Z,26nm,0.8s							
BLO	**Bloomington**	**9.29**	**65**	IAmb_Lg			04 41 07.5	
	comp=Z,40nm,0.8s							
SFIN	**Lafayette**	**9.34**	**57**	Pn		**Pn**	**04 38 22.0**	**+1.2**
SFIN				IAmb_Lg			04 41 08.6	
	comp=Z,40nm,1.0s							
I40A	**Norwalk**	**9.64**	**31**	IAmb_Lg			04 41 21.5	
	comp=Z,25nm,0.8s							
PV14	**Lion Creek, Pa**	**9.65**	**289**	IAmb_Lg			04 41 09.0	
	comp=Z,20nm,1.0s							
K43A	**Burlington**	**9.87**	**43**	IAmb_Lg			04 41 35.0	
	comp=Z,43nm,0.8s							
W50A	**Signal Mountai**	**9.88**	**90**	IAmb_Lg			04 41 23.7	
	comp=Z,21nm,0.9s							

IDC ***20*** *04:38:09.9±2.0,24.18S×178.89E,h535km±24km,mb3.1/6, mb1 3.4/8,mb1mx3.2/20,mbtmp4.1/8, Error ellipse: s-maj=25.2km s-min=18.4km az=147.0*

ISC 20 04:38:10.3±0.8,24.25S±0.1×178.9E±0.2,h548km,n11, σ1§00/10,mb3.7/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.51**	**353**	P		**P**	**04 39 52.7**	**-1.1**
	3.2nm,0.3s,baz=258,slow=24,SNR=12							
URZ	**Urewera**	**14.07**	**186**	P		**P**	**04 41 08.3**	**-1.8**
	2.7nm,0.3s,baz=303,slow=18,SNR=9.6							
STKA	**Stephens Creek**	**33.66**	**248**	P		**P**	**04 44 06.8**	**+0.7**
	2.1nm,0.6s,baz=95,slow=10.0,SNR=8.8							
ASAR	**Alice Springs**	**40.99**	**261**	P		**P**	**04 45 06.5**	**+0.3**
	1.4nm,0.3s,baz=92,slow=7.4,SNR=28							
WRA	**Warramunga Arr**	**41.38**	**267**	P		**P**	**04 45 09.2**	**-0.1**
	2.3nm,0.6s,baz=104,slow=8.4,SNR=38							
VNDA	**Vanda**	**53.97**	**185**	P		**P**	**04 46 43.7**	**+1.2**
	0.4nm,0.8s,baz=14,slow=7.2,SNR=5.7							
NVAR	**Mina Array Bea**	**85.69**	**44**	P		**P**	**04 49 52.3**	**+0.6**
	0.8nm,0.9s,baz=237,slow=6.3,SNR=5.3							
TXAR	**Lajitas Array**	**91.46**	**58**	P		**P**	**04 50 19.3**	**+0.5**
	0.3nm,0.7s,baz=207,slow=5.7,SNR=4.8							
FINES	**FINESS Array B**	**138.43**	**341**	PKhKP		PKPpre	04 56 24.7	
	0.9nm,0.7s,baz=337,slow=3.2,SNR=3.6							
FINES				PKP		**PKPdf**	**04 56 33.0**	**-0.1**
	0.2nm,0.3s,baz=91,slow=3.5,SNR=6.6							
NOA	**NORSAR Array B**	**142.24**	**350**	PKhKP		PKPpre	04 56 36.4	
	1.1nm,0.8s,baz=20,slow=3.9,SNR=5.8							
AKASG	**Malin Array Be**	**144.69**	**326**	PKP		**PKPdf**	**04 56 44.2**	**-0.3**
	0.7nm,0.4s,baz=43,slow=4.5,SNR=8.6							

SKHL ***20*** *04:48:36.4±0.8,44.40N×148.40E,h36km±3km,mb4.2/2*
JMA ***20*** *04:48:36.5±0.4,44.02N×148.08E,h0km,M4.0*

ISC 20 04:48:33.5±3.5,44.34N±0.09×148.2E±0.2,h1km±26km, n18,σ1§46/26,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**0.92**	**347**	*i* P		**Pb**	**04 48 51.

ellipse: s-maj=1.9km s-min=1.6km az=126.0

NEIC ***20*** *05:10:54.9±1.2,35°.79N±0°.02×97°.42W±0°.06,h2km±4km, Error ellipse: s-maj=6.7km s-min=3.1km az=97.0*

IASPEI ***20*** *05:10:54.8±1.1,35°.76N±0°.03×97°.40W±0°.03,h9km±7km, mb3.9/6, Error ellipse: s-maj=4.8km s-min=3.7km az=89.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

TUL ***20*** *05:10:54.9±1.3,35°.74N±0°.02×97°.39W±0°.05,h3km±5km, ML4.1,mb4.1/13(NEIC),mb_Lg4.3/153(NEIC), Mwr4.0/24(NEIC), Error ellipse: s-maj=6.2km s-min=2.6km az=78.0*

IDC ***20*** *05:10:55.6±0.6,35°.73N×97°.42W,h0km,mb3.9/7, mb1 4.1/16,mb1mx3.9/45,mbtmp3.9/16,ML3.6/9,MS3.7/1, Ms1 3.7/1,ms1mx3.2/52, Error ellipse: s-maj=12.0km s-min=8.8km az=152.0*

NEIC ***20*** *05:10:55.1,35°.75N×97°.42W,h3km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.34; $M_{\theta\theta}$=1.16; $M_{\phi\phi}$=0.82; $M_{r\theta}$=-0.54; $M_{\theta\phi}$=0.20; $M_{r\phi}$=0.45; Fault plane solution: M_0=1.26000×10^{15} NP1:ϕ_s=222.29000°, δ=52.46000°, λ=-166.69000°. NP2:ϕ_s=124.09000°, δ=79.48000°, λ=-38.29000°. Principal axes: T 1.3331, Plg18.0000°, Azm178.0000°; N -0.1563, Plg51.0000°, Azm291.0000°; P -1.1768, Plg34.0000°, Azm76.0000°;*

ISC 20 05:10:54.9±1.0,35.76N±0°.02×97.39W±0.03,h2km±7km, n191,σ0.89/156,mb3.9/6,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.06**	**303**		**Pg**	**05 10 56.8**	**+0.5**
OK029				Sg	**Sg**	**05 10 58.3**	**+1.2**
OK025	**Westminster Rd**	**0.19**	**167**	Pg	**Pg**	**05 10 58.6**	**0.0**
OK005	**Luther M Schoo**	**0.19**	**124**		**Pg**	**05 10 58.9**	**+0.2**
BCOK	**Bluff Creek, N**	**0.21**	**239**		**Pg**	**05 10 59.0**	**0.0**
OK001	**Jones High Sch**	**0.22**	**158**	Pg	**Pg**	**05 10 59.1**	**0.0**
OKCFA	**Oklahoma City**	**0.35**	**188**		**Pg**	**05 11 01.6**	**-0.1**
OKCFA	**Oklahoma City** baz=9.2,SNR=294	**0.35**	**188**	P	**Pg**	**05 11 01.5**	**-0.1**
OKCFA				S	**Sg**	**05 11 06.5**	**+0.2**
OKCFA	**Oklahoma City** baz=9.2	**0.35**	**188**	P		05 11 01.5	
OKCFA	**Oklahoma City** baz=9.2,SNR=294	**0.35**	**188**	P		05 11 01.5	
OKCFA				S		05 11 06.5	
OKCSW	**OKLAHOMA CITY** baz=9.2	**0.36**	**186**		**Pg**	**05 11 01.7**	**-0.1**
OK031	**S. Brethren Rd** comp=Z,4μm,0.8s	**0.49**	**67**		**Pg**	**05 11 04.5**	**+0.3**
OK031				Sg	**Sg**	**05 11 11.5**	**+0.9**
FNO	**Franklin**	**0.50**	**181**		**Pg**	**05 11 04.4**	**-0.2**
OK030	**Cody Creek RV**	**0.52**	**71**		**Pg**	**05 11 05.2**	**+0.3**
QUOK	**Quay**	**0.69**	**53**	Pg	**Pg**	**05 11 08.2**	**+0.1**
CROK	**Carrier**	**0.88**	**327**		**Pg**	**05 11 12.0**	**+0.1**
CROK	comp=Z,4μm,0.8s			IAmb_Lg		05 11 24.0	
BLOK	**Blackwell** comp=Z,1μm,0.8s	**1.01**	**8**		**Pg**	**05 11 14.1**	**-0.1**
BLOK				IAmb_Lg		05 11 28.4	
GC02	**Grant County #**	**1.15**	**341**		**Pg**	**05 11 16.6**	**-0.4**
X34A	**Smith Ranch, M** comp=Z,1μm,1.0s	**1.21**	**198**	Pg	**Pg**	**05 11 17.5**	**-0.7**
X34A				IAmb_Lg		05 11 33.4	
OK032	**Salt Plains WL**	**1.23**	**328**		**Pg**	**05 11 17.9**	**-0.6**
KAN13	**South Haven SW**	**1.25**	**357**		**Pg**	**05 11 18.6**	**-0.3**
KAN14	**Manchester OK**	**1.28**	**339**		**Pg**	**05 11 18.9**	**-0.6**
KAN14				Sg	**Sn**	**05 11 37.3**	**-0.2**
TUL1	**Leonard** baz=263	**1.31**	**83**	S	**Sg**	**05 11 36.6**	**-0.3**
TUL1	**Leonard** baz=263,SNR=761	**1.31**	**83**	P		05 11 18.4	
TUL1				S		05 11 36.7	
TUL1	**Leonard** baz=263	**1.31**	**83**	S		05 11 36.6	
KAN17	**Caldwell West** comp=Z,1000nm,0.8s	**1.31**	**347**		**Pg**	**05 11 19.6**	**-0.5**
KAN17				IAmb_Lg		05 11 38.2	
T35A	**Sooner Cattle**	**1.35**	**31**	Pn	**Pn**	**05 11 19.9**	**-0.9**
T35B	**Sooner Cattle** baz=211	**1.35**	**31**	P	**Pn**	**05 11 19.9**	**-0.9**
T35B	baz=211			S	**Sg**	**05 11 38.3**	**0.0**
T35B	**Sooner Cattle** baz=211	**1.35**	**31**	P		05 11 19.9	
T35B	baz=211			S		05 11 38.3	
KAN09	**Caldwell North**	**1.38**	**352**		**Pn**	**05 11 20.8**	**-0.4**
KAN05	**Bluff City Nor** comp=Z,1μm,0.9s	**1.40**	**344**		**Pn**	**05 11 21.0**	**-0.5**
KAN05				IAmb_Lg		05 11 41.8	
U32A	**Winter Ranch,**	**1.44**	**296**		**Pn**	**05 11 21.6**	**-0.4**
U32A	**Winter Ranch,** baz=116,SNR=93	**1.44**	**296**	P	**Pn**	**05 11 21.4**	**-0.6**
U32A	**Winter Ranch,** baz=116,SNR=93	**1.44**	**296**	P		05 11 21.4	
KS20	**Mayfield South** comp=Z,3μm,0.7s	**1.47**	**355**		**Pn**	**05 11 22.3**	**-0.2**
KS20				IAmb_Lg		05 11 44.5	
KAN10	**Anthony SW Sta**	**1.47**	**337**		**Pn**	**05 11 22.1**	**-0.4**
WMOK	**Wichita Mounta** comp=Z,1μm,0.8s	**1.53**	**228**	Pn	**Pn**	**05 11 22.4**	**-0.9**
WMOK				IAmb_Lg		05 11 44.5	
WMOK	**Wichita Mounta** baz=48,SNR=331	**1.53**	**228**	P	**Pn**	**05 11 22.4**	**-0.9**
WMOK	baz=48			S	**Sn**	**05 11 43.3**	**-0.4**
WMOK	**Wichita Mounta** baz=48	**1.53**	**228**	P		05 11 22.2	
WMOK	baz=48			S		05 11 44.1	
WMOK	**Wichita Mounta** baz=48,SNR=331	**1.53**	**228**	P		05 11 22.4	
WMOK	baz=48			S		05 11 43.3	
KAN08	**Anthony NE Sta**	**1.53**	**342**		**Pn**	**05 11 23.2**	**-0.1**
KS21	**Milan North St**	**1.54**	**352**		**Pn**	**05 11 23.4**	**0.0**
KS21	**Milan North St** comp=Z,2μm,0.8s	**1.54**	**352**	IAmb_Lg		05 11 46.4	
KAN16	**Harper SW Stat** comp=Z,916nm,0.8s	**1.56**	**340**		**Pn**	**05 11 23.5**	**-0.2**
KAN16				IAmb_Lg		05 11 46.5	
LOOK	**Love County** comp=Z,1μm,0.7s	**1.77**	**174**	Pn	**Pn**	**05 11 26.2**	**-0.3**
LOOK				IAmb_Lg		05 11 55.7	
X37A	**Clayton**	**2.03**	**125**	Pn	**Pn**	**05 11 30.2**	**+0.1**
X37A	**Clayton** baz=306,SNR=133	**2.03**	**125**	P	**Pn**	**05 11 29.9**	**-0.2**
X37A	baz=306			S	**Sn**	**05 11 56.8**	**+0.9**
X37A	**Clayton** baz=306,SNR=133	**2.03**	**125**	P		05 11 29.9	
X37A	baz=306			S		05 11 56.8	
Z35A	**Perchaven, San** comp=Z,909nm,0.9s	**2.43**	**177**		**Pn**	**05 11 35.8**	**+0.3**
Z35A				IAmb_Lg		05 12 13.5	
Z35A	**Perchaven, San** baz=357,SNR=236	**2.43**	**177**	P	**Pn**	**05 11 35.8**	**+0.3**
Z35A	**Perchaven, San** baz=357,SNR=236	**2.43**	**177**	P		05 11 35.8	
U38A	**Gravette**	**2.52**	**74**		**Pn**	**05 11 37.4**	**+0.4**
R32A	**Long Quarter,** comp=Z,464nm,0.7s	**2.86**	**339**		**Pn**	**05 11 42.5**	**+0.9**
R32A				IAmb_Lg		05 12 33.1	
R32A	**Long Quarter,** baz=158	**2.86**	**339**	S	**Sn**	**05 12 17.2**	**+0.7**
R32A	**Long Quarter,** baz=158	**2.86**	**339**	S		05 12 17.2	
W39A	**Magazine** comp=Z,851nm,0.7s	**3.00**	**100**		**Pn**	**05 11 43.2**	**-0.2**
W39A				IAmb_Lg		05 12 36.4	
W39A	**Magazine** baz=282,SNR=58	**3.00**	**100**	P	**Pn**	**05 11 43.1**	**-0.2**
W39A	**Magazine** baz=282,SNR=81	**3.00**	**100**	P		05 11 43.3	
W39A	baz=282			S		05 12 22.3	
W39A	**Magazine** baz=282,SNR=58	**3.00**	**100**	P		05 11 43.1	
Z38A	**Mt. Pleasant** comp=Z,638nm,0.7s	**3.19**	**141**	Pn	**Pn**	**05 11 45.6**	**-0.4**
Z38A				IAmb_Lg		05 12 37.0	
Z38A	**Mt. Pleasant** baz=322,SNR=6.5	**3.19**	**141**	P	**Pn**	**05 11 45.8**	**-0.3**
Z38A	**Mt. Pleasant** baz=322,SNR=6.5	**3.19**	**141**	P		05 11 45.8	
MIAR	**Mount Ida**	**3.35**	**110**	Pn	**Pn**	**05 11 48.5**	**+0.3**
MIAR	**Mount Ida** baz=292,SNR=61	**3.35**	**110**	P	**Pn**	**05 11 48.6**	**+0.3**
MIAR	**Mount Ida** baz=292,SNR=81	**3.35**	**110**	P		05 11 48.8	
MIAR	baz=292			S		05 12 30.5	
MIAR	**Mount Ida** baz=292,SNR=61	**3.35**	**110**	P		05 11 48.6	
KSU1	**Kansas State U** baz=191	**3.39**	**10**	P		05 11 49.0	
CBKS	**Cedar Bluff** baz=148,SNR=50	**3.58**	**329**	P	**Pn**	**05 11 50.8**	**-0.6**
CBKS	**Cedar Bluff** baz=148,SNR=16	**3.58**	**329**	P		05 11 51.9	
CBKS	**Cedar Bluff** baz=148,SNR=50	**3.58**	**329**	P		05 11 50.8	
AMTX	**Amarillo** comp=Z,491nm,0.7s	**3.62**	**257**	IAmb_Lg		05 12 50.6	
ABTX	**Abilene, Hawle** comp=Z,698nm,0.8s	**3.65**	**211**		**Pn**	**05 11 51.1**	**-1.2**
ABTX				IAmb_Lg		05 12 55.3	
ABTX	**Abilene, Hawle** baz=30	**3.65**	**211**	P		05 11 51.1	
U40A	**Yellville** comp=Z,741nm,0.8s	**3.72**	**80**	IAmb_Lg		05 13 00.8	
U40A	**Yellville** baz=262,SNR=28	**3.72**	**80**	P	**Pn**	**05 11 53.0**	**-0.4**
U40A	**Yellville** baz=262,SNR=7.9	**3.72**	**80**	P		05 11 53.6	
U40A	**Yellville** baz=262,SNR=28	**3.72**	**80**	P		05 11 53.0	
U40A	baz=262,SNR=28			P		05 11 53.0	
WHTX	**Lake Whitney,** comp=Z,462nm,0.9s	**3.76**	**181**		**Pn**	**05 11 53.5**	**-0.4**
WHTX				IAmb_Lg		05 12 58.5	
WHTX	**Lake Whitney,** baz=0.9	**3.76**	**181**	P	**Pn**	**05 11 53.4**	**-0.4**
WHTX	**Lake Whitney,** baz=0.9	**3.76**	**181**	Pn		05 11 53.8	
WHTX	baz=0.9			Pb		05 12 02.1	
WHTX	baz=0.9			Sb		05 12 52.3	
WHTX	**Lake Whitney,** baz=0.9	**3.76**	**181**	P		05 11 53.4	
S39A	**Bolivar** comp=Z,822nm,0.8s	**3.79**	**58**	IAmb_Lg		05 13 02.9	
S39A	**Bolivar** baz=240	**3.79**	**58**	P	**Pn**	**05 11 54.3**	**-0.1**
S39A	**Bolivar** baz=240	**3.79**	**58**	P		05 11 54.3	
X40A	**Basin Creek Fa** comp=Z,1μm,0.9s	**3.94**	**108**		**Pn**	**05 11 56.2**	**-0.2**
X40A				IAmb_Lg		05 13 04.8	
X40A	**Basin Creek Fa** baz=290,SNR=34	**3.94**	**108**	P	**Pn**	**05 11 55.9**	**-0.5**
X40A	**Basin Creek Fa** baz=290,SNR=27	**3.94**	**108**	P		05 11 56.9	
X40A	**Basin Creek Fa** baz=290,SNR=34	**3.94**	**108**	P		05 11 55.9	
X40A	baz=290,SNR=34			P		05 11 55.9	
237A	**Washetta, Mont** comp=Z,405nm,0.9s	**3.98**	**160**	IAmb_Lg		05 13 07.3	
237A	**Washetta, Mont** baz=341,SNR=25	**3.98**	**160**	P	**Pn**	**05 11 56.0**	**-0.9**
237A	**Washetta, Mont** baz=341,SNR=25	**3.98**	**160**	P		05 11 56.0	
WLAR	**White Oak Lake** comp=Z,508nm,0.8s	**4.09**	**119**	IAmb_Lg		05 13 15.3	
WHAR	**Wooly Hollow** comp=Z,1μm,1.1s	**4.19**	**95**	Pn	**Pn**	**05 11 59.5**	**-0.2**
WHAR				IAmb_Lg		05 13 12.4	
W41B	**Gary Mavity, V** baz=279,SNR=31	**4.24**	**96**	P	**Pn**	**05 11 60.0**	**-0.5**
W41B	**Gary Mavity, V** baz=279,SNR=30	**4.24**	**96**	P		05 12 00.7	
W41B	baz=279			Sb		05 13 07.1	
W41B	**Gary Mavity, V** baz=279,SNR=31	**4.24**	**96**	P		05 11 60.0	
FCAR	**Ozark Folk Cen** comp=Z,454nm,0.7s	**4.28**	**87**	IAmb_Lg		05 13 21.2	
MGMO	**Mountain Grove** comp=Z,952nm,0.7s	**4.36**	**70**	IAmb_Lg		05 13 18.9	
Z41A	**Richland Creek** baz=305,SNR=8.4	**4.54**	**122**	P		05 12 05.1	
NATX	**Nacogdoches** comp=Z,350nm,0.8s	**4.59**	**150**	IAmb_Lg		05 13 31.7	
MSTX	**Muleshoe** baz=67,SNR=27	**4.77**	**250**	P	**Pn**	**05 12 06.8**	**-1.1**
MSTX	**Muleshoe** baz=67,SNR=16	**4.77**	**250**	P		05 12 07.8	
MSTX	**Muleshoe** baz=67,SNR=27	**4.77**	**250**	P		05 12 06.8	
R40A	**Maddies Statio** comp=Z,578nm,0.7s	**4.81**	**57**		**Pn**	**05 12 08.3**	**0.0**
R40A				IAmb_Lg		05 13 31.9	
R40A	**Maddies Statio** baz=240,SNR=8.1	**4.81**	**57**	P	**Pn**	**05 12 08.2**	**-0.2**
R40A	**Maddies Statio** baz=240,SNR=8.1	**4.81**	**57**	P		05 12 08.2	
P38A	**Dawn** comp=Z,604nm,0.8s	**4.92**	**37**		**Pn**	**05 12 09.7**	**-0.2**
P38A				IAmb_Lg		05 13 43.5	
N33A	**J Bar K, Exete** comp=Z,784nm,0.8s	**4.97**	**359**	IAmb_Lg		05 13 41.2	
435B	**Jarrell** comp=Z,771nm,0.8s	**4.97**	**182**		**Pn**	**05 12 10.5**	**0.0**
435B				IAmb_Lg		05 13 37.5	
435B	**Jarrell** baz=1.9,SNR=9.8	**4.97**	**182**	P		05 12 11.9	
435B	baz=1.9			Sb		05 13 28.3	
CCAR	**Cane Creek** comp=Z,544nm,0.8s	**4.97**	**110**	IAmb_Lg		05 13 44.7	
LCAR	**Lake Charles** comp=Z,432nm,0.8s	**5.07**	**85**		**Pn**	**05 12 11.0**	**-0.9**
LCAR				IAmb_Lg		05 13 37.9	
T42A	**Van Buren** comp=Z,347nm,0.9s	**5.24**	**74**	IAmb_Lg		05 13 45.3	
N35A	**Tabor**	**5.27**	**15**	Pn	**Pn**	**05 12 14.3**	**-0.4**
N35A	**Tabor** baz=196,SNR=14	**5.27**	**15**	P	**Pn**	**05 12 14.4**	**-0.3**
N35A	**Tabor** baz=196,SNR=14	**5.27**	**15**	P		05 12 14.4	
KSCO	**Kaye Shedlock'** comp=Z,527nm,0.7s	**5.28**	**309**	IAmb_Lg		05 13 45.2	
KSCO	**Kaye Shedlock'** baz=126,SNR=17	**5.28**	**309**	P		05 12 16.1	
CCM	**Cathedral Cave** comp=Z,740nm,0.9s	**5.43**	**63**	IAmb_Lg		05 13 52.5	
JCT	**Junction City** comp=Z,876nm,0.8s	**5.64**	**202**	IAmb_Lg		05 14 01.1	
JCT	**Junction City** baz=20,SNR=16	**5.64**	**202**	P		05 12 19.9	
BGNE	**Belgrade** baz=174,SNR=6.4	**5.67**	**354**	P		05 12 20.3	
BGNE	**Belgrade** baz=174,SNR=6.4	**5.67**	**354**	P		05 12 20.0	
BGNE	**Belgrade**	**5.67**	**354**		**Pn**	**05 12 20.1**	**-0.1**
BGNE	comp=Z,803nm,0.8s			IAmb_Lg		05 14 09.3	
BGNE	**Belgrade** baz=174,SNR=6.4	**5.67**	**354**	P	**Pn**	**05 12 20.0**	**-0.1**
LPAR	**Lepanto** comp=Z,559nm,0.9s	**5.77**	**90**	IAmb_Lg		05 14 10.3	
143A	**Socs Landing,** comp=Z,299nm,0.8s	**5.82**	**120**	IAmb_Lg		05 14 14.9	
T25A	**Trinidad** comp=Z,576nm,0.9s	**5.82**	**286**	IAmb_Lg		05 14 08.4	
T25A	**Trinidad** baz=102	**5.82**	**286**	P		05 12 22.4	
N38A	**Joes South For** comp=Z,2μm,0.7s	**5.99**	**32**	Pn	**Pn**	**05 12 24.1**	**-0.5**
N38A				IAmb_Lg		05 14 19.8	
342A	**Flagon Creek P** comp=Z,264nm,1.2s	**6.08**	**135**	IAmb_Lg		05 14 07.5	
MET	**Memphis--Engin** comp=Z,853nm,1.0s	**6.12**	**94**	IAmb_Lg		05 14 26.3	
OGNE	**Ogallala** comp=Z,617nm,0.8s	**6.33**	**326**	IAmb_Lg		05 14 19.3	
OGNE	**Ogallala** baz=144,SNR=24	**6.33**	**326**	P	**Pn**	**05 12 29.0**	**-0.3**
OGNE	**Ogallala** baz=144,SNR=15	**6.33**	**326**	P		05 12 31.3	
OGNE	**Ogallala** baz=144,SNR=24	**6.33**	**326**	P		05 12 29.0	
OXF	**Oxford**	**6.66**	**98**		**Pn**	**05 12 33.5**	**-0.2**
OXF	comp=Z,362nm,0.9s			IAmb_Lg		05 14 32.3	
OXF	**Oxford** baz=283	**6.66**	**98**	P		05 12 34.6	
W45A	**Hickory Valley**	**6.72**	**93**	Pn	**Pn**	**05 12 34.6**	**0.0**
W45A	comp=Z,436nm,0.9s			IAmb_Lg		05 14 40.9	
Y45A	**Yeager Farm, C** comp=Z,246nm,0.8s	**6.73**	**104**	Pn	**Pn**	**05 12 34.1**	**-0.6**
Y45A				IAmb_Lg		05 14 40.6	
Y45A	**Yeager Farm, C** baz=288,SNR=7.8	**6.73**	**104**	P	**Pn**	**05 12 34.8**	**+0.1**
Y45A	**Yeager Farm, C** baz=288,SNR=7.8	**6.73**	**104**	P		05 12 34.8	
SDCO	**Great Sand Dun** baz=105,SNR=36	**6.81**	**289**	P	**Pn**	**05 12 36.6**	**+0.6**
SDCO	**Great Sand Dun** baz=105,SNR=45	**6.81**	**289**	P		05 12 36.6	
SDCO	**Great Sand Dun** baz=105,SNR=36	**6.81**	**289**	P		05 12 36.6	
S44A	**Carbondale** comp=Z,736nm,0.8s	**6.81**	**71**	IAmb_Lg		05 14 38.9	
735A	**Kenedy** comp=Z,532nm,1.0s	**6.90**	**183**	IAmb_Lg		05 14 48.9	
SCIA	**State Center**	**6.95**	**27**		**Pn**	**05 12 36.9**	**-0.8**
SCIA	**State Center** baz=209	**6.95**	**27**	P		05 12 38.4	
Q24A	**Divide** baz=115,SNR=14	**6.96**	**300**	P		05 12 38.1	
N41A	**Harden Midland**	**7.13**	**44**		**Pn**	**05 12 40.2**	**+0.1**
P43A	**Skaggs, Pawnee**	**7.34**	**56**	Pn	**Pn**	**05 12 43.1**	**0.0**
P43A	**Skaggs, Pawnee** baz=240,SNR=5.6	**7.34**	**56**	P	**Pn**	**05 12 42.5**	**-0.5**
P43A	**Skaggs, Pawnee** baz=240,SNR=5.6	**7.34**	**56**	P		05 12 42.5	
Q44A	**Meyer Farm, Va**	**7.37**	**62**		**Pn**	**05 12 43.3**	**-0.2**
Q44A	**Meyer Farm, Va** baz=247,SNR=9.9	**7.37**	**62**	P	**Pn**	**05 12 43.2**	**-0.2**
Q44A	**Meyer Farm, Va** baz=247,SNR=9.9	**7.37**	**62**	P		05 12 43.2	
ANMO	**Albuquerque** comp=Z,1.1nm,0.3s,baz=86,slow=16,SNR=17	**7.45**	**266**	Pn	**Pn**	**05 12 45.7**	**+0.8**
ANMO	comp=Z,4.1nm,0.3s,baz=85,slow=15,SNR=15			Pg	Pb	05 13 10.2	+5.2
ANMO	comp=Z,11nm,0.3s,baz=13,slow=9.7,SNR=4.8			Lg	Lg	05 14 50.1	
833A	**Chaparral WMA,** baz=12	**7.61**	**193**	P		05 12 47.7	
PLAL	**Pickwick Lake** comp=Z,164nm,0.9s	**7.65**	**93**	IAmb_Lg		05 15 05.0	
ISCO	**Idaho Springs**	**7.66**	**304**	Pn	**Pn**	**05 12 47.8**	**+0.1**
ISCO	comp=Z,226nm,0.8s			IAmb_Lg		05 15 12.5	
ISCO	**Idaho Springs** baz=119,SNR=56	**7.66**	**304**	P		05 12 47.7	
K38A	**Parkersburg**	**7.75**	**26**		**Pn**	**05 12 48.3**	**-0.4**
BNM	**Barren Site**	**7.75**	**261**	Pn	**Pn**	**05 12 48.3**	**-0.7**
WVT	**Waverly** comp=Z,169nm,0.8s	**7.76**	**85**	IAmb_Lg		05 15 11.1	
WVT	**Waverly** baz=270	**7.76**	**85**	P		05 12 49.2	
MNTX	**Cornudas Mount**	**7.79**	**241**	Pn	**Pn**	**05 12 48.8**	**-0.5**
MNTX	comp=Z,226nm,0.9s			IAmb_Lg		05 15 19.7	
MNTX	**Cornudas Mount** baz=56,SNR=6.5	**7.79**	**241**	P	**Pn**	**05 12 48.8**	**-0.5**
MNTX	**Cornudas Mount** baz=56,SNR=31	**7.79**	**241**	P		05 12 48.7	
MNTX	**Cornudas Mount** baz=56,SNR=6.5	**7.79**	**241**	P		05 12 48.8	
L40A	**Anamosa** comp=Z,455nm,0.9s	**7.92**	**36**	Pn	**Pn**	**05 12 50.5**	**-0.5**
L40A				IAmb_Lg		05 15 28.6	
HDIL	**Hopedale** baz=235,SNR=30	**7.97**	**51**	P		05 12 51.6	
ECSD	**EROS Data Cent** comp=Z,152nm,0.8s	**7.98**	**4**	Pn	**Pn**	**05 12 50.3**	**-1.6**
ECSD				IAmb_Lg		05 15 14.3	
ECSD	**EROS Data Cent** baz=184,SNR=25	**7.98**	**4**	P		05 12 50.1	
Y22D	**IRIS PASSCAL I** comp=Z,351nm,0.9s	**8.01**	**261**	IAmb_Lg		05 15 31.6	
TXAR	**Lajitas Array** comp=Z,0.7nm,0.3s,baz=52,slow=12,SNR=15	**8.31**	**221**	Pn	**Pn**	**05 12 55.0**	**-1.6**
TXAR	comp=Z,9.8nm,0.3s,baz=47,slow=19,SNR=5.2			Lg	Lg	05 15 13.0	
TXAR	**Lajitas Array**	**8.31**	**221**	Pn	**Pn**	**05 12 54.8**	**-1.8**
SMCO	**Snowmass** comp=Z,137nm,1.2s	**8.35**	**297**	IAmb_Lg		05 15 39.1	
T47A	**Sharon Grove** comp=Z,269nm,0.8s	**8.38**	**79**	IAmb_Lg		05 15 26.1	
T47A	**Sharon Grove** baz=264,SNR=7.1	**8.38**	**79**	P	**Pn**	**05 12 57.5**	**+0.1**
T47A	**Sharon Grove** baz=264,SNR=7.1	**8.38**	**79**	P		05 12 57.5	
PHWY	**Pilot Hill** comp=Z,342nm,1.0s	**8.40**	**314**		**Pn**	**05 12 57.5**	**-0.4**
PHWY				IAmb_Lg		05 15 28.3	
N23A	**Red Feather La** baz=125,SNR=68	**8.45**	**310**	P		05 12 59.8	
V48A	**Smith Brothers** comp=Z,171nm,0.9s	**8.59**	**87**	IAmb_Lg		05 15 40.1	
L42A	**Oliver, Polo**	**8.66**	**42**	Pn	**Pn**	**05 13 01.0**	**-0.2**
SUSD	**Miller** comp=Z,352nm,1.0s	**8.75**	**353**	IAmb_Lg		05 15 44.4	
I37A	**Lemond, Waseca** comp=Z,323nm,0.7s	**8.79**	**19**	IAmb_Lg		05 15 47.1	
CLTN	**Cedars of Leba** comp=Z,162nm,0.9s	**8.98**	**85**	IAmb_Lg		05 15 52.1	
JFWS	**Jewell Farm**	**9.03**	**36**		**Pn**	**05 13 04.9**	**-1.3**
JFWS	**Jewell Farm** baz=220	**9.03**	**36**	P		05 13 05.5	
121A	**Cookes Peak, D** comp=Z,144nm,0.9s	**9.20**	**252**	IAmb_Lg		05 16 11.8	
WCI	**Wyandotte Cave** comp=Z,362nm,0.8s	**9.21**	**71**	Pn	**Pn**	**05 13 09.3**	**+0.6**
WCI				IAmb_Lg		05 15 47.1	
WCI	**Wyandotte Cave** baz=258	**9.21**	**71**	P		05 13 10.1	
Y49A	**Blount Mountai**	**9.22**	**99**		**Pn**	**05 13 08.1**	**-0.8**
Y49A	comp=Z,151nm,1.1s			IAmb_Lg		05 16 06.8	
SFIN	**Lafayette** comp=Z,422nm,0.8s	**9.33**	**57**	IAmb_Lg		05 16 01.7	
SFIN	**Lafayette** baz=243	**9.33**	**57**	P		05 13 12.9	
SWET	**Sewanee** comp=Z,160nm,0.9s	**9.36**	**90**	IAmb_Lg		05 15 58.3	
PV12	**Saucer Basin,** comp=Z,126nm,1.0s	**9.47**	**289**	IAmb_Lg		05 16 13.8	
PV11	**David Mesa, Pa** comp=Z,220nm,1.2s	**9.52**	**289**	IAmb_Lg		05 16 06.3	
PV16	**Nyswonger Mesa** comp=Z,110nm,1.3s	**9.56**	**289**	IAmb_Lg		05 16 16.9	
I40A	**Norwalk** comp=Z,281nm,0.7s	**9.64**	**31**	Pn	**Pn**	**05 13 13.1**	**-1.6**
I40A				IAmb_Lg		05 16 09.8	
PV05	**Paradox Valley** comp=Z,113nm,1.2s	**9.66**	**287**	IAmb_Lg		05 16 10.3	
RWWY	**Rawlins** comp=Z,249nm,1.1s	**9.69**	**311**	IAmb_Lg		05 16 16.2	
FPAL	**Fort Paine** comp=Z,124nm,0.8s	**9.72**	**94**	IAmb_Lg		05 16 23.6	
RSSD	**Black Hills** comp=Z,267nm,1.1s	**9.78**	**331**	IAmb_Lg		05 16 10.6	
RSSD	**Black Hills** baz=146	**9.78**	**331**	P		05 13 18.5	
K43A	**Burlington**	**9.87**	**43**	Pn	**Pn**	**05 13 17.5**	**-0.2**
W50A	**Signal Mountai** comp=Z,370nm,1.2s	**9.87**	**90**	IAmb_Lg		05 16 13.4	
K22A	**Casper** baz=131,SNR=20	**9.87**	**317**	P		05 13 19.5	
SPMN	**Marine on St.**	**10.07**	**19**		**Pn**	**05 13 19.7**	**-0.9**
R49A	**Shelbyville** baz=259,SNR=7.2	**10.09**	**72**	P	**Pn**	**05 13 19.9**	**-0.9**
R49A	**Shelbyville** baz=259,SNR=7.2	**10.09**	**72**	P		05 13 19.9	
R49A	baz=259,SNR=7.2			P		05 13 19.9	
T50A	**Nancy**	**10.20**	**79**		**Pn**	**05 13 22.6**	**+0.3**

I42A	Draeger Farm,	10.40	36			Pn	05 13 24.2	-0.9
V51A	Loudon	10.59	86			Pn	05 13 28.4	+0.7
G40A	Rib Lake	10.95	28	Pn		Pn	05 13 32.7	+0.1
TKL	Tuckaleechee C	11.07	87	Pn		Pn	05 13 34.6	+0.3
	comp=Z,1.0nm,0.3s,baz=197,slow=8.3,SNR=15							
TKL				Lg		Lg	05 16 38.7	
	comp=Z,5.2nm,0.3s,baz=160,slow=12,SNR=7.2							
TKL	Tuckaleechee C	11.07	87	Pn		Pn	05 13 35.0	+0.7
V52A	Sevierville	11.20	86			Pn	05 13 35.9	-0.1
352A	Blakely	11.23	109			Pn	05 13 35.4	-1.0
S51A	Beattyville	11.23	76			Pn	05 13 36.4	0.0
H43A	Windswept, Lux	11.39	37	Pn		Pn	05 13 37.6	-0.9
N49A	Columbus Grove	11.58	60			Pn	05 13 41.1	0.0
Q51A	Peebles	11.64	70	Pn		Pn	05 13 41.4	-0.5
E38A	The Farm, Brul	11.69	20			Pn	05 13 42.1	-0.5
GOGA	Godfrey	11.71	98			Pn	05 13 42.3	-0.7
PDAR	Pinedale Array	11.73	310	Pn		Pn	05 13 42.4	-1.1
	comp=Z,0.7nm,0.3s,baz=122,slow=16,SNR=32							
PDAR				Lg		Lg	05 17 00.1	
	comp=Z,1.6nm,0.3s,baz=111,slow=33,SNR=3.9							
PDAR				LR		LR	05 18 34.6	
	comp=Z,375nm,20.5s,baz=348,slow=39							
AGMN	Agassiz Nation	12.58	5	P			05 13 52.1	
	baz=186,SNR=6.9							
R53A	Hurricane	12.60	74			Pn	05 13 55.3	+0.2
P52A	Corning	12.69	68			Pn	05 13 55.8	-0.5
P52A	Corning	12.69	68	P			05 13 57.0	
	baz=257,SNR=5.6							
LOHW	Long Hollow	12.84	312			Pn	05 13 58.5	0.0
255A	Hazlehurst	12.97	103	Pn		Pn	05 14 00.0	-0.2
V55A	Taylorsville	13.13	85			Pn	05 14 01.6	-0.8
GLMI	Grayling	13.29	43	P			05 14 02.7	
	baz=231,SNR=9.3							
O53A	New Philadelph	13.52	66	P			05 14 06.4	
	baz=256							
ULM	Lac du Bonnet	14.52	4	Pn		Pn	05 14 17.0	-4.3
	comp=Z,1.2nm,0.3s,baz=184,slow=11,SNR=11							
ULM				Sn		Sn	05 16 50.7	-12
	comp=Z,1.5nm,0.3s,baz=269,slow=21,SNR=2.5							
ULM				Lg		Lg	05 18 25.5	
	comp=Z,0.9nm,0.3s,baz=97,slow=21,SNR=2.2							
N54A	Moraine State	14.60	64	P			05 14 21.2	
	baz=255,SNR=5.9							
ELK	Elko	14.88	295	Pn		Pn	05 14 27.9	+1.5
	comp=Z,0.1nm,0.3s,baz=106,slow=9.9,SNR=7.0							
ELK				Lg		Lg	05 18 40.5	
	comp=Z,0.1nm,0.3s,baz=54,slow=7.4,SNR=2.0							
M54A	Oil Creek Stat	14.98	62			Pn	05 14 25.8	-1.9
EGMT	Eagleton	15.30	327			Pn	05 14 31.6	-0.3
O56A	Blue Knob Stat	15.50	68			Pn	05 14 33.5	-1.0
O56A				IAmb		IAmb	05 14 34.9	
	comp=Z,7.6nm,0.9s							
M55A	Ridgway	15.62	63			Pn	05 14 34.2	-2.0
M55A				IAmb		IAmb	05 14 43.1	
	comp=Z,9.5nm,0.8s							
SADO	Sadowa	16.55	52	Pn		Pn	05 14 45.5	-2.5
	comp=Z,0.3nm,0.3s,baz=268,slow=11,SNR=3.7							
SADO				Sn		Sn	05 17 50.1	-2.1
	comp=Z,0.7nm,0.3s,baz=277,slow=9.8,SNR=3.4							
SADO				Lg		Lg	05 19 28.8	
	comp=Z,1.7nm,0.3s,baz=325,slow=13,SNR=9.6							
M57A	Sunshine Farm,	16.79	65	Pn		Pn	05 14 49.9	-1.1
M57A				IAmb		IAmb	05 14 56.7	
	comp=Z,33nm,1.6s							
NVAR	Mina Array Bea	16.89	285	Pn		P	05 14 55.6	+0.8
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=6.3							
KSPA	Keystone Colle	17.83	65	P		Pn	05 15 02.7	-1.4
KSPA				IAmb		IAmb	05 15 08.0	
	comp=Z,29nm,1.5s							
PLVO	Plevna	18.00	53			Pn	05 15 04.0	-2.1
J57A	Williamstown	18.14	59	Pn		Pn	05 15 05.6	-2.3
CMIG	Matias Romero	18.73	173	P		Pn	05 15 16.7	+1.5
	comp=Z,0.6nm,0.3s,baz=139,slow=22,SNR=30							
NEW	Newport	19.19	317	P		P		
	comp=Z,0.1nm,0.3s,baz=129,slow=11,SNR=4.5							
FFC	Flin Flon	19.23	352			P	05 15 18.4	-1.7
K05A	Summer Lake	19.45	298	P		Pn	05 15 23.7	-0.3
K05A				IAmb		IAmb	05 15 27.6	
	comp=Z,15nm,0.9s							
C09A	Chrisman Ranch	19.61	314	P		Pn	05 15 25.5	-0.1
C09A				IAmb		IAmb	05 15 29.7	
	comp=Z,7.9nm,0.8s							
YBH	Yreka Blue Hor	20.59	294	P		P	05 15 36.0	+0.8
	comp=Z,8.0nm,1.0s,baz=86,slow=4.3,SNR=9.6							
YBH	Yreka Blue Hor	20.59	294	P		P	05 15 35.8	+0.6
YBH				IAmb		IAmb	05 15 42.1	
	comp=Z,11nm,1.1s							
SCHQ	Schefferville	28.39	38	P		P	05 16 52.0	+1.6
	comp=Z,1.4nm,0.4s,baz=226,slow=8.7,SNR=8.7							
ILAR	Eielson Array	41.23	330	P		P	05 18 42.6	+1.8
	comp=Z,1.4nm,0.7s,baz=108,slow=6.9,SNR=18							
LPAZ	La Paz	58.72	147	P		P	05 20 55.2	+0.3
	comp=Z,0.5nm,0.6s,baz=140,slow=25,SNR=2.1							
ARCES	ARCESS Array B	67.09	19	P		P	05 21 49.4	+0.1
	comp=Z,1.3nm,0.9s,baz=322,slow=5.7,SNR=4.2							
ESDC	Sonseca Array	70.58	55			P	05 22 13.7	+2.0
	comp=Z,0.5nm,0.6s,baz=277,slow=5.8,SNR=2.7							
FINES	FINESS Array B	72.86	25	P		P	05 22 26.8	+1.9
	comp=Z,0.7nm,0.7s,baz=341,slow=2.9,SNR=5.9							
WRA	Warramunga Arr	132.16	275	PKP		PKiKP	05 30 11.6	-0.2
	comp=Z,0.6nm,0.9s,baz=58,slow=2.1,SNR=1.6							

SJA ***20*** *05:21:55.7±0.6,35.86S×75.99W,h10km,ML5.3,MW5.1*
NEIC ***20*** *05:22:17.8±1.7,36.37S±0.06×73.36W±0.1,h5km±3km, mb5.0/102,Ms_20 5.2/336,Mwr5.5/39,Mww5.5, ML4.7(GUC),Error ellipse: s-maj=14.1km s-min=8.2km az=101.0*
IDC ***20*** *05:22:18.0±0.5,36.40S×73.56W,h0km,mb4.5/18, mb1 4.6/21,mb1mx4.5/27,mbtmp4.5/21,ML4.2/3,MS5.0/7, Ms1 4.9/7,ms1mx4.6/25,Error ellipse: s-maj=20.4km s-min=11.5km az=80.0*
NEIC ***20*** *05:22:18.6,36.37S×73.76W,h8km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.61; Mθθ-0.22; Mϕϕ-0.39; Mrθ-1.25; Mrϕ-0.08; Mθr-1.97; Fault plane solution: M₀2.39000×10¹⁷ NP1:ϕ₁212.24000°, δ83.82000°, λ91.00000°. NP2:ϕ₂23.05000°,δ6.26000°, λ80.86000°. Principal axes: T 2.4858, Plg51.0000°, Azm123.0000°; N -0.2012, Plg1.0000°, Azm32.0000°; P -2.2846, Plg39.0000°, Azm301.0000°;*
GUC ***20*** *05:22:19.8±0.5,36.31S×73.76W,h37km±24km,ML5.1*
VAO ***20*** *05:22:20.9±0.3,36.25S×73.57W,h10km,mb4.9*
GCMT ***20*** *05:22:21.8±0.2,36.47S±0.02×74.10W±0.01,h12km, MW5.4/121,Moment Tensor Solution. s54,c66; s121,c183; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr0.95±.02; Mθθ0.02±.02; Mϕϕ-0.96±.02; Mrθ-0.17±.07; Mrϕ-0.17±.02; Mθr-1.29±.06; Best double couple: M₀1.62300×10¹⁷ NP1:ϕ₁11.00000°,δ18.00000°, λ93.00000°. NP2:ϕ₂188.00000°,δ72.00000°,λ89.00000°. Principal axes: T 1.5990, Plg63.0000°, Azm96.0000°; N 0.0490, Plg1.0000°, Azm188.0000°; P -1.6470, Plg27.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***20*** *05:22:35,36.48S×73.60W,h26km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.10; Mθθ0.29; Mϕϕ-1.39; Mrθ0.69; Mrϕ-0.10; Mθr-1.37; Fault plane solution: M₀1.99000×10¹⁷ NP1:ϕ₁28.00000°, δ26.00000°,λ135.00000°. NP2:ϕ₂160.00000°,δ72.00000°, λ71.00000°. Principal axes: T 1.9746, Plg59.0000°, Azm44.0000°; N 0.0366, Plg18.0000°, Azm166.0000°; P -2.0113, Plg25.0000°, Azm265.0000°;*
ISC 20 05:22:18.9±0.9,36.32S±0.03×73.81W±0.05,h11km±5km, n452,σ1§52/316,mb4.9/61,MS5.2/170,16C-6D,Fault plane solution: NP1:ϕ₁16.95569°,δ84.62649°, λ-89.73792°. **NP2:ϕ₂**194.15924°,δ5.37988°,λ-92.78415°.
Principal axes: T Plg39.6259°, Azm106.7151°; N Plg0.2609°, Azm196.9311°; P Plg50.3728°, Azm287.2463°; **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CCSP	San Pedro de C	0.77	133	i/P		Pg	05 22 33.1	-0.8
CCSP				eS		Sg	05 22 44.0	0.0
CCSP				IAML			05 22 49.8	
	comp=N,84μm,0.5s							
GO05	Huala	2.01	50	i/P		Pn	05 22 51.7	-1.3
GO05	Huala	2.01	50			Pn	05 22 52.4	-0.5
GO05	Huala	2.01	50	i P		Pn	05 22 52.3	-0.7
GO05				↓eS		Sg	05 23 30.4	+6.7
GO05	Huala	2.01	50	i P		Pn	05 22 52.3	-0.7
BO03	Pichilemu	2.37	40	i/P		Pn	05 22 56.2	-1.5
BO03				i S		Sn	05 23 24.1	-2.7
CANA	Caviahue	2.70	126	i P		Pn	05 23 03.2	+0.7
CANA				↓eS		Sg	05 23 50.4	+4.7
CANA				IAML			05 24 03.4	
	comp=Z,4μm,1.5s							
CANA	Caviahue	2.70	126	i P		Pn	05 23 02.9	+0.4
CANA				IAML			05 24 03.4	
	comp=Z,4μm,1.5s							
BO02	Sierra Bellavi	2.90	59	i/P		Pn	05 23 04.1	-1.1
BO02				i S		Sn	05 23 37.2	-3.0
BO02				IAML			05 24 02.2	
	comp=N,6μm,0.4s							
BO02	Sierra Bellavi	2.90	59	Pn		Pn	05 23 04.9	-0.3
BO02	Sierra Bellavi	2.90	59	i P		Pn	05 23 05.8	+0.6
BO02				eS		Sg	05 23 57.6	+5.4
BO02				IAML			05 24 11.0	
	comp=Z,3μm,0.7s							
BO01	Tunca	2.94	50	i/P		Pn	05 23 05.2	-0.5
BO01				IAML			05 24 12.9	
	comp=E,8μm,0.5s							
BO01	Tunca	2.94	50			Pn	05 23 05.7	0.0
VA05	Santo Domingo	3.21	35	ePn		Pn	05 23 07.8	-1.5
VA05				i S		Sn	05 23 44.7	-2.9
VA05				IAML			05 23 56.1	
	comp=E,3μm,0.4s							
VA05	Santo Domingo	3.21	35			Pn	05 23 09.4	+0.1
MT01	Popeta	3.23	41	i/P		Pn	05 23 08.6	-1.0
MT01	Popeta	3.23	41			Pn	05 23 08.7	-0.9
MT09	Talagante	3.44	43	i/P		Pn	05 23 11.7	-0.8
MT09	Talagante	3.44	43			Pn	05 23 12.0	-0.6
EDS3	Malargue	3.62	83	i P		Pn	05 23 17.6	+2.5
VA01	Torpederas	3.74	29			Pn	05 23 15.0	-1.6
MT02	Curacav	3.76	37	i/P		Pn	05 23 15.4	-1.5
MT02	Curacav	3.76	37			Pn	05 23 15.6	-1.3
MT05	Renca	3.86	42	ePn		Pn	05 23 17.8	-0.6
MT05	Renca	3.86	42	Pn		Pn	05 23 18.8	+0.4
MT03	Universidad Ad	3.91	45	i/P		Pn	05 23 18.6	-0.5
MT03	Universidad Ad	3.91	45			Pn	05 23 19.6	+0.5
MT03	Universidad Ad	3.91	45	i P		Pn	05 23 19.0	-0.1
MT03				eS		Sg	05 24 26.0	+1.4
LAMA	Las Malvinas	3.99	71	i P		Pn	05 23 22.9	+2.8
ROC1	El Roble	4.05	35	i P		Pn	05 23 20.8	-0.4
ROC1				eS		Sg	05 24 35.5	+6.3
ROCH	El Roble	4.06	35	ePn		Pn	05 23 20.5	-0.7
VA03	San Esteban	4.45	38	i/P		Pn	05 23 25.9	-0.7
VA03	San Esteban	4.45	38			Pn	05 23 26.1	-0.4
VA03	San Esteban	4.45	38	i P		Pn	05 23 26.4	-0.1
RFA	San Rafael	4.62	72	i P		Pn	05 23 30.5	+1.6
RFA				i P		Pb	05 23 31.3	-8.9
RFA				eS		Sg	05 24 42.3	-5.1
RFA				IAML			05 25 00.7	
	comp=Z,1μm,1.2s							
H03S1	Juan Fernandez	4.85	299	Pn		Pn	05 23 29.0	-2.6
	baz=304,slow=74,SNR=106							
H03S1				T		T	05 28 21.7	
	baz=121,slow=73,SNR=1125							
H03S3	Juan Fernandez	4.86	299	Pn		Pn	05 23 29.2	-2.6
H03S3				T		T	05 28 24.6	
	baz=121,slow=73,SNR=1188							
H03S2	Juan Fernandez	4.87	299	Pn		Pn	05 23 29.0	-2.9
	baz=116,slow=74,SNR=190							
H03S2				T		T	05 28 23.1	
	baz=121,slow=73,SNR=1439							
LL03	Petrohue	4.94	168			Pn	05 23 30.7	-2.4
H03N1	Juan Fernandez	5.08	303	Pn		Pn	05 23 33.1	-1.7
	baz=272,slow=74,SNR=322							
H03N1				T		T	05 28 55.5	
	baz=121,slow=72,SNR=45							
H03N3	Juan Fernandez	5.08	303	Pn		Pn	05 23 33.2	-1.7
	baz=117,slow=74,SNR=270							
H03N3				T		T	05 28 42.9	
	baz=121,slow=72,SNR=74							
LL05	Los Muermos	5.08	177			Pn	05 23 32.5	-2.6
H03N2	Juan Fernandez	5.09	303	Pn		Pn	05 23 33.3	-1.7
H03N2				T		T	05 28 55.7	
	baz=121,slow=72,SNR=53							
PLCA	Paso Flores	5.09	151	Pn		Pn	05 23 34.9	-0.4
	comp=Z,3.1nm,0.3s,baz=320,slow=11,SNR=35							
PLCA				Lg		Lg	05 24 55.5	
	comp=Z,5.9nm,0.3s,baz=303,slow=17,SNR=2.1							
PLCA	Paso Flores	5.09	151	Pn		Pn	05 23 34.5	-0.8
PLCA	Paso Flores	5.09	151	ePn		Pn	05 23 35.7	+0.4
PLCA	Paso Flores	5.09	151	i P		Pn	05 23 34.5	-0.8
AVIZ	Vizcacheras	5.20	58	i P		Pn	05 23 39.9	+3.1
AAGR	Agrelo	5.22	53	i P		Pn	05 23 39.8	+2.7
ARCO	CERRO ARCO	5.31	51	i P		Pn	05 23 40.7	+2.3
AUSP	Uspallata	5.49	43	i P		Pn	05 23 42.5	+1.5
ASAL	Salagasta	5.54	49	i P		Pn	05 23 43.5	+2.0
ASAL				eS		Sg	05 25 14.8	-2.1
ASAL				IAML			05 25 31.7	
	comp=Z,297nm,1.5s							
CO02	Combarbal	5.61	25	Pn		Pn	05 23 41.2	-1.3
RTLS	Leoncito	5.86	41	i P		Pn	05 23 47.3	+1.2
RTLS				IAML			05 25 53.9	
	comp=Z,208nm,1.6s							
CO03	El Pedregal	6.05	26			Pn	05 23 47.5	-1.0
LL01	San Ignacio de	6.15	170			Pn	05 23 47.1	-2.6
LL01	San Ignacio de	6.15	170	i P		Pn	05 23 48.7	-1.0
LL01				IAML			05 25 48.0	
	comp=Z,262nm,2.3s							
RTCV	Cerro Valdivia	6.24	46	i P		Pn	05 23 52.6	+1.6
RTCV				IAML			05 25 57.0	
	comp=Z,210nm,1.7s							
ZON	Zonda	6.39	43			Pn	05 23 54.5	+1.4
GO04	Tololo Observa	6.63	23	Pn		Pn	05 23 55.3	-1.3
RTLL	Cerro Villicun	6.67	43	i P		Pn	05 23 59.4	+2.4
RTLL				IAML			05 25 51.2	
	comp=Z,198nm,1.0s							
GO07	Milladeo Hill,	6.79	179	i P		Pn	05 23 55.6	-2.8
ACAN	Cantantal	6.81	56	i P		Pn	05 23 59.6	+0.8
ACAN				IAML			05 26 15.8	
	comp=Z,93nm,1.1s							
ACCO	Cerro Coronel	6.96	36	i P		Pn	05 24 01.5	+0.3
ACCO				IAML			05 26 18.9	
	comp=Z,203nm,1.9s							
LL02	Futaleuf	7.03	168	Pn		Pn	05 23 59.3	-2.5
AROD	Rodeo	7.13	32	i P		Pn	05 24 04.9	+1.3
ACDV	Cuesta del Vie	7.28	34	i P		Pn	05 24 06.1	+0.6
ACDV				IAML			05 26 17.2	
	comp=Z,156nm,1.7s							
MRA	San Martin	7.74	62	i P		Pn	05 24 12.2	+0.5
MRA				IAML			05 26 40.2	
	comp=Z,34nm,2.3s							
LCO	Las Campanas	7.74	21	Pn		Pn	05 24 11.3	-0.6
ACHE	Chepes	7.87	51	i P		Pn	05 24 12.5	-1.0
AC04	Llanos de Chal	8.42	17	Pn		Pn	05 24 19.5	-1.3
APLL	PUNTA DE LOS L	8.48	48	i P		Pn	05 24 22.8	+0.9
ACLC	CERRO LA CRUZ	8.97	42	i P		Pn	05 24 28.6	0.0
ACLC				IAML			05 26 53.5	
	comp=Z,106nm,2.7s							
COYC	Coyhaique	9.34	172			Pn	05 24 32.0	-1.4
TRQA	Tornquist	9.60	104	ePn		Pn	05 24 37.4	+0.3
AC02	Maricunga	10.26	24	Pn		Pn	05 24 45.3	-1.4
AC01	Pan de Azucar	10.51	16	Pn		Pn	05 24 47.6	-2.0
GO02	Mina Guanaco	11.70	19	Pn		Pn	05 25 05.6	-0.5
PB14	IPOC Station P	12.02	15	Pn		Pn	05 25 10.8	+0.3
PB15	IPOC Station P	13.60	17			Pn	05 25 31.8	-0.2
PB06	IPOC Station P	14.06	16	Pn		Pn	05 25 37.8	-0.4
PB04	IPOC Station P	14.30	14			Pn	05 25 42.6	+1.1
LVC	Limon Verde	14.31	19	Pn		Pn	05 25 43.4	+1.5
	comp=Z,0.4nm,0.3s,baz=200,slow=4.1,SNR=3.9							
LVC				Lg		Lg	05 29 38.7	
	comp=Z,0.1nm,0.3s,baz=309,slow=18,SNR=2.8							
LVC				LR		LR	05 31 18.5	
	comp=Z,4μm,21.2s,baz=204,slow=38							
LVC	Limon Verde	14.31	19	Pn		Pn	05 25 42.2	+0.3
LVC	Limon Verde	14.31	19	ePn		Pn	05 25 42.0	+0.1
PB07	IPOC Station P	14.94	14			Pn	05 25 50.5	+0.2
PB01	IPOC Station P	15.68	15			Pn	05 25 57.3	-2.7
ITQB	Itaqui	15.86	70			Pn	05 26 00.3	-1.9
ITQB	Itaqui	15.86	70	ePn		Pn	05 26 01.5	-0.7
PB08	IPOC Station P	16.63	15			Pn	05 26 11.9	-0.5
PSGCX	Pisagua	16.97	12	P		Pn	05 26 15.9	-0.6
CPUP	Villa Florida	17.23	59	P		Pn	05 26 20.3	+0.8
	comp=Z,0.3nm,0.3s,baz=251,slow=11,SNR=8.0							
CPUP				Lg		Lg	05 31 26.7	
	comp=Z,0.1nm,0.3s,baz=118,slow=17,SNR=2.1							
CPUP				LR		LR	05 33 35.9	
	comp=Z,3μm,20.4s,baz=238,slow=40							
CPUP	Villa Florida	17.23	59	P		Pn	05 26 17.1	-2.4
CPUP	Villa Florida	17.23	59	eP		Pn	05 26 18.8	-0.8
PLTB	Pedras Altas	17.35	81	P		Pn	05 26 18.9	-2.2
PLTB	Pedras Altas	17.35	81	eP		Pn	05 26 20.8	-0.3
MNMC	Minye Minye	17.52	13	P		Pn	05 26 20.5	-3.0
CPSB	Cacapava Do Su	18.00	77	eP		Pn	05 26 27.9	-1.2
PB16	IPOC Station P	18.31	13	P		Pn	05 26 32.2	-1.4
PB16				IAmb		IAmb	05 26 53.5	
	comp=Z,94nm,1.3s							
ITAB	Concordia	20.50	70	P		P	05 26 55.9	-1.1
ITAB	Concordia	20.50	70	eP		P	05 26 56.3	-0.8
LPAZ	La Paz	20.58	16	P		Pn	05 26 59.8	-1.0
	comp=Z,7.5nm,0.7s,baz=178,slow=9.7,SNR=16							
LPAZ	La Paz	20.58	16	P		P	05 26 56.9	-1.7
LPAZ	La Paz	20.58	16	eP		P	05 26 59.1	+0.5
PTGB	Pitanga	21.96	64	eP		P	05 27 12.4	-0.5
TER01	Tubaro-SC	22.20	77	eP		P	05 27 14.0	-1.4
AQDB	Aquidauana	22.37	50	P		P	05 27 15.7	-1.5
AQDB				IAMs_20		IAMs_20	05 37 00.9	
	comp=Z,4μm,19.0s							
AQDB	Aquidauana	22.37	50	eP		P	05 27 17.2	0.0
TRCB	Terra Rica	22.76	60	P		P	05 27 20.6	-0.9
TRCB				IAMs_20		IAMs_20	05 36 59.0	
	comp=Z,6μm,20.0s							
TRCB	Terra Rica	22.76	60	eP		P	05 27 22.1	+0.7
SIV	San Ignacio	23.21	33	P		P	05 27 25.6	-0.5
	comp=Z,12nm,0.7s,baz=223,slow=8.7,SNR=24							
SIV				LR		LR	05 38 27.9	
	comp=Z,9μm,18.9s,baz=221,slow=42							
NNA	Nana	24.38	353	P		P	05 27 38.3	+1.0
	comp=Z,4.0nm,0.5s,baz=211,slow=9.7,SNR=1.7							
NNA				LR		LR	05 35 20.5	
	comp=Z,1μm,18.9s,baz=177,slow=32							
NNA	Nana	24.38	353	P		P	05 27 37.5	+0.1
NNA				IAmb		IAmb	05 27 40.0	
	comp=Z,31nm,1.3s							
PCMB	Pacaembu	24.50	59	eP		P	05 27 37.8	-0.6
PTLB	Pontes e Lacer	24.56	36	eP		P	05 27 39.3	+0.4
FRTB	Fartura	24.61	65	eP		P	05 27 39.2	-0.2
PP1B	Ponte de Pedra	25.06	47	eP		P	05 27 43.3	-0.2
PET01	Itanhaem-SP	25.77	70	eP		P	05 27 51.2	+1.3
SALV	Santo Antonio	25.95	43	eP		P	05 27 51.6	0.0
SPB	Sao Paulo	26.05	68	P		P	05 27 51.9	-0.4
SPB				IAMs_20		IAMs_20	05 38 48.9	
	comp=Z,13μm,21.0s							
SPB	Sao Paulo	26.05	68	eP		P	05 27 54.4	+2.0
VILB	Vilhena	26.29	31	eP		P	05 27 53.3	-1.4
ITRB	Iturama	26.40	57	eP		P	05 27 57.3	+1.7
RCLB	Rio Claro- Sao	26.66	66	eP		P	05 27 57.9	-0.1
VAO	Valinhos	26.74	68	eP		P	05 28 00.3	+1.6
BB19B	Bebedouro	26.78	62	eP		P	05 27 59.0	-0.1
ETMB	Extrema	27.27	17	eP		P	05 28 04.9	+1.5
PARB	Paraibuna	27.56	70	eP		P	05 28 06.1	0.0
ARAG	Araguaiana, MT	28.38	49	eP		P	05 28 13.7	+0.4
CZSB	Cruzeiro do Su	28.48	2	eP		P	05 28 15.3	+1.1
IPMB	Ipameri, GO	29.05	58	eP		P	05 28 19.5	0.0
PMSA	Palmer Station	29.09	171	eP		P	05 28 22.0	+2.9
ATAH	Atahualpa	29.35	351	P		P	05 28 24.5	+2.0
	comp=Z,3.3nm,0.8s,baz=115,slow=11,SNR=1.9							
ATAH				LR		LR	05 38 02.7	
	comp=Z,2μm,18.9s,baz=177,slow=32							
CLDB	Colider	30.12	37	eP		P	05 28 28.9	0.0
BDFB	Brasilia	30.85	55	P		P	05 28 34.7	-0.7
	comp=Z,13nm,0.9s,baz=208,slow=9.0,SNR=8.8							
BDFB	Brasilia	30.85	55	P		P	05 28 34.1	-1.2
BDFB				IAMs_20		IAMs_20	05 41 16.4	
	comp=Z,3μm,18.0s							
CAM01	Campos-RJ	31.43	72	eP		P	05 28 40.5	+0.2
RPN	Rapa Nui	31.43	277		IAMs_20	IAMs_20	05 37 19.0	
	comp=Z,4μm,20.0s							
SNDB	Serra Nova Dou	31.62	46	eP		P	05 28 41.8	-0.2
DIAM	Diamantina, MG	32.05	64	eP		P	05 28 46.1	+0.1
MC01	Montes Claros	32.90	61	eP		P	05 28 52.6	-0.8
PEXB	Peixe	33.31	50	eP		P	05 28 57.3	+0.4
NPGB	Novo Progresso	33.67	35	eP		P	05 29 00.2	+0.2
JANB	Januaria	33.77	59	eP		P	05 29 01.2	+0.3
RIB01	Linhares ES	33.85	69	eP		P	05 29 01.4	-0.1
SDBA	SAO DESIDERIO	35.26	55	eP		P	05 29 14.7	+0.9
ITTB	Itaituba	35.89	32	eP		P	05 29 19.3	+0.2
GUA01	Guaratinga, BA	35.98	66	eP		P	05 29 19.5	-0.4
SMTB	Santa Maria do	36.27

352A Blakely 68.25 350 P **P** 05 33 19.4 -0.2
352A IAmb IAmb 05 33 23.6
comp=Z,14nm,1.1s
PPT2 Papeete2 68.50 264 *e*S **S** 05 42 25.0 +1.1
comp=Z,1µm,26.2s
PPT2 Papeete2 68.50 264 *e*LR LR 05 54 08.8
comp=Z,3µm,25.2s,baz=119
SLBS Sierra La Lagu 68.75 325 IAMs_20 IAMs_20 05 56 06.7
comp=Z,1µm,18.0s
NHSC New Hope 69.32 354 IAMs_20 IAMs_20 06 05 50.4
comp=Z,826nm,21.0s
152A Waverly Hall 69.39 350 P **P** 05 33 26.9 +0.3
152A IAmb IAmb 05 33 35.2
comp=Z,15nm,1.6s
HPIG 69.71 330 IAMs_20 IAMs_20 05 59 28.1
comp=Z,968nm,18.0s
Z47A Carrollton 70.43 347 P **P** 05 33 32.8 -0.3
HODGE Hodges 70.63 353 IAMs_20 IAMs_20 06 07 31.1
comp=Z,936nm,20.0s
JCT Junction City 70.79 336 P **P** 05 33 35.3 -0.1
JCT IAmb IAmb 05 34 03.6
comp=Z,10nm,1.0s
TXAR Lajitas Array 71.08 333 P **P** 05 33 38.6 +1.4
comp=Z,3.8nm,0.8s,baz=153,slow=7.2,SNR=26
TXAR Lajitas Array 71.08 333 P **P** 05 33 38.3 +1.0
TX31 Lajitas Ar. Si 71.08 333 P **P** 05 33 38.4 +1.1
TX32 Lajitas Array 71.08 333 P **P** 05 33 38.6 +1.3
X51A Calhoun 71.27 350 P **P** 05 33 39.1 +1.0
X51A IAmb IAmb 05 33 48.5
comp=Z,13nm,1.0s
MAW Mawson 71.37 164 P **P** 05 33 37.6 -0.8
comp=Z,5.6nm,0.9s,baz=224,slow=8.2,SNR=6.5
MAW Mawson 71.37 164 P **P** 05 33 38.3 -0.1
X48A Hartselle 71.48 348 P **P** 05 33 40.4 +1.0
X48A IAmb IAmb 05 33 47.6
comp=Z,11nm,0.8s
W50A Signal Mountai 71.96 350 P **P** 05 33 42.6 +0.2
W50A IAmb IAmb 05 33 45.9
comp=Z,13nm,0.8s
SWET Sewanee 72.06 350 P **P** 05 33 43.2 +0.2
SWET IAmb IAmb 05 33 53.2
comp=Z,21nm,1.0s
V55A Taylorsville 72.14 354 P **P** 05 33 43.5 +0.2
V55A IAmb IAmb 05 33 57.5
comp=Z,8.5nm,0.9s
V52A Sevierville 72.37 352 IAMs_20 IAMs_20 06 08 20.1
comp=Z,805nm,20.0s
W45A Hickory Valley 72.54 347 P **P** 05 33 46.3 +0.6
W45A IAmb IAmb 05 33 53.5
comp=Z,18nm,1.1s
Z35A Perchaven, San 72.67 340 P **P** 05 33 46.6 0.0
V48A Smith Brothers 72.71 349 P **P** 05 33 46.9 +0.2
CLTN Cedars of Leba 72.98 349 P **P** 05 33 48.0 -0.4
CLTN IAmb IAmb 05 33 56.3
comp=Z,9.7nm,0.9s
WHAR Wooly Hollow 73.29 344 P **P** 05 33 51.0 +0.7
WHAR IAmb IAmb 05 34 01.0
comp=Z,14nm,1.0s
W39A Magazine 73.54 343 P **P** 05 33 52.1 +0.4
W39A IAmb IAmb 05 33 55.7
comp=Z,13nm,1.1s
S61A Accomac 73.65 358 IAMs_20 IAMs_20 06 08 37.9
comp=Z,736nm,20.0s
T50A Nancy 73.69 351 IAMs_20 IAMs_20 06 11 09.0
comp=Z,762nm,19.0s
LCAR Lake Charles 73.81 345 P **P** 05 33 53.5 +0.3
LCAR IAmb IAmb 05 34 05.2
comp=Z,7.7nm,0.7s
FCAR Ozark Folk Cen 73.83 345 P **P** 05 33 53.4 0.0
MNTX Cornudas Mount 73.85 332 P **P** 05 33 53.9 +0.3
X34A Smith Ranch, M 74.03 340 IAMs_20 IAMs_20 06 09 13.2
comp=Z,1µm,19.0s
S51A Beattyville 74.14 352 P **P** 05 33 54.7 -0.5
S51A IAmb IAmb 05 34 17.8
comp=Z,9.9nm,1.0s
PBMO Poplar Bluff 74.35 346 P **P** 05 33 56.4 +0.1
OK025 Westminster Rd 74.81 340 P **P** 05 33 59.8 +0.7
SUR Sutherland 74.98 119 P **P** 05 34 01.2 +0.5
comp=Z,7.8nm,1.0s
OK030 Cody Creek RV 74.99 341 P **P** 05 34 00.7 +0.6
OK030 IAmb IAmb 05 34 10.7
comp=Z,11nm,0.8s
Q51A Peebles 75.49 352 P **P** 05 34 02.6 -0.3
121A Cookes Peak, D 75.51 331 IAMs_20 IAMs_20 06 02 39.7
comp=Z,620nm,19.0s
CCM Cathedral Cave 75.74 346 P **P** 05 34 04.7 +0.3
CCM IAmb IAmb 05 34 15.1
comp=Z,14nm,0.8s
S39A Bolivar 75.83 344 P **P** 05 34 05.0 +0.1
SLM Saint Louis 76.11 347 IAMs_20 IAMs_20 05 56 23.3
comp=Z,1µm,19.0s
P48A Milroy 76.16 351 P **P** 05 34 06.3 -0.5
P48A IAmb IAmb 05 34 16.6
comp=Z,28nm,1.4s
P46A Rosedale 76.57 349 IAMs_20 IAMs_20 06 13 17.3
comp=Z,678nm,19.0s
LIC Lamto 76.88 72 *e*PKIKP **P** 05 34 12.9 +1.4
comp=Z,50nm,1.2s
P43A Skaggs, Pawnee 76.96 348 P **P** 05 34 11.7 +0.4
P43A IAmb IAmb 05 34 21.6
comp=Z,22nm,1.2s
ODNJ Ogdensburg 77.03 359 IAMs_20 IAMs_20 06 13 25.4
comp=Z,598nm,19.0s
TIC Toumodi 77.15 72 *e*PKIKP **P** 05 34 12.7 -0.3
ANMO Albuquerque 77.15 333 P **P** 05 34 14.7 +1.9
ANMO IAmb IAmb 05 34 35.2
comp=Z,16nm,1.2s
ANMO Albuquerque 77.15 333 IAMs_20 IAMs_20 06 02 34.0
comp=Z,637nm,21.0s
KIC Kosan Boka 77.18 72 *e*PKIKP **P** 05 34 12.9 -0.3
comp=Z,51nm,1.1s
DBIC Dimbokro 77.29 72 P **P** 05 34 14.2 +0.5
comp=Z,5.4nm,0.6s,baz=183,slow=6.3,SNR=7.8
DBIC Dimbokro 77.29 72 P **P** 05 34 13.3 -0.5
DBIC IAmb IAmb 05 34 22.0
comp=Z,17nm,1.0s
P40A Paris 77.33 346 P **P** 05 34 14.0 +0.7
P40A IAmb IAmb 05 34 16.7
comp=Z,16nm,0.9s
P38A Dawn 77.73 345 P **P** 05 34 15.1 -0.4
P38A IAmb IAmb 05 34 18.1
comp=Z,8.1nm,0.8s
HDIL Hopedale 77.81 348 P **P** 05 34 15.6 -0.4
BINY Binghamton 78.17 358 IAMs_20 IAMs_20 06 14 09.5
comp=Z,746nm,20.0s
T25A Trinidad 78.40 335 P **P** 05 34 19.7 0.0
T25A IAmb IAmb 05 34 43.1
comp=Z,27nm,1.2s
M44A Midewin, Midew 78.43 349 IAMs_20 IAMs_20 06 12 14.5
comp=Z,800nm,20.0s
W18A Petrified Fore 78.55 331 IAMs_20 IAMs_20 06 04 56.2
comp=Z,599nm,19.0s
MMNY Mt. Morris Dam 78.77 357 IAMs_20 IAMs_20 06 15 59.3
comp=Z,708nm,19.0s
N38A Joes South For 78.78 345 P **P** 05 34 21.1 -0.3
J55A Hilton 79.29 357 IAMs_20 IAMs_20 06 11 48.3
comp=Z,668nm,19.0s
SDCO Great Sand Dun 79.32 335 P **P** 05 34 24.9 +0.1
J57A Williamstown 79.38 358 IAMs_20 IAMs_20 06 15 55.8
comp=Z,607nm,20.0s
MVCO Mesa Verde 79.92 333 P **P** 05 34 28.9 +1.0
MVCO IAmb IAmb 05 34 57.8
comp=Z,20nm,1.4s
PECO Prince Edward 79.93 358 IAMs_20 IAMs_20 06 15 19.1
comp=Z,703nm,20.0s
TSUM Tsumeb 79.97 106 P **P** 05 34 28.3 -0.5
TSUM IAmb IAmb 05 34 36.7
comp=Z,17nm,1.3s
PFO Pinyon Flats O 80.16 325 P **P** 05 34 28.8 -0.5
PFO IAmb IAmb 05 34 51.9
comp=Z,16nm,1.2s
PFO Pinyon Flats O 80.16 325 IAMs_20 IAMs_20 06 03 32.9
comp=Z,686nm,18.0s
BOSA Boshof 80.27 118 P **P** 05 34 30.4 +0.2
comp=Z,9.5nm,1.0s,baz=228,slow=5.0,SNR=7.7
BOSA Boshof 80.27 118 P **P** 05 34 29.3 -0.9
H62A Milan 80.55 2 IAMs_20 IAMs_20 06 17 29.6
comp=Z,576nm,18.0s
EMMW East Machias 80.86 5 IAMs_20 IAMs_20 06 14 14.5
comp=Z,588nm,18.0s
PV13 Radium Mtn., P 80.87 333 P **P** 05 34 34.1 +1.0
PV13 IAmb IAmb 05 34 54.8
comp=Z,13nm,1.1s
PV13 IAMs_20 IAMs_20 06 07 07.5
comp=Z,534nm,18.0s
PV05 Paradox Valley 80.91 333 P **P** 05 34 34.2 +0.9
PV05 IAmb IAmb 05 34 55.0
comp=Z,13nm,1.2s
PV11 David Mesa, Pa 81.02 333 IAMs_20 IAMs_20 06 04 35.3
comp=Z,610nm,19.0s
PLVO Plevna 81.04 358 IAMs_20 IAMs_20 06 10 58.4
comp=Z,577nm,19.0s
PV16 Nyswonger Mesa 81.04 333 P **P** 05 34 33.3 -0.7
PV07 Paradox Valley 81.06 333 IAMs_20 IAMs_20 06 09 50.4
comp=Z,921nm,19.0s
SMCO Snowmass 81.11 335 P **P** 05 34 34.4 -0.2
SMCO IAMs_20 IAMs_20 06 07 20.9
comp=Z,587nm,18.0s
PV14 Lion Creek, Pa 81.14 333 IAMs_20 IAMs_20 06 10 22.5
comp=Z,965nm,19.0s
PV22 Blue Mesa, Par 81.19 333 IAMs_20 IAMs_20 06 17 43.0
comp=Z,1µm,22.0s
ISCO Idaho Springs 81.21 336 P **P** 05 34 34.4 -0.6
GLMI Grayling 81.36 352 IAMs_20 IAMs_20 06 16 48.0
comp=Z,660nm,20.0s
PASC Pasadena Art C 81.43 324 IAMs_20 IAMs_20 06 04 02.6
comp=Z,526nm,18.0s
G45A Suttons Bay 81.69 352 IAMs_20 IAMs_20 06 13 59.8
comp=Z,574nm,20.0s
K31A O'Neill 81.80 342 P **P** 05 34 37.4 -0.3
F62A Pittston Farm, 81.91 3 P **P** 05 34 38.5 +0.4
F62A IAmb IAmb 05 35 04.2
comp=Z,22nm,1.5s
MTPU Mount Pierson 82.06 330 P **P** 05 34 39.2 -0.4
LMN Caledonia Mon 82.20 6 IAMs_20 IAMs_20 06 11 34.0
comp=Z,687nm,21.0s
ECSD EROS Data Cent 82.33 344 P **P** 05 34 40.6 +0.2
ECSD IAmb IAmb 05 34 51.2
comp=Z,10nm,0.8s
ISA Isabella, Lake 82.79 325 IAMs_20 IAMs_20 06 05 33.5
comp=Z,631nm,19.0s
E46A Sault Ste Mari 82.85 353 P **P** 05 34 43.0 0.0
E46A IAMs_20 IAMs_20 06 16 36.5
comp=Z,632nm,21.0s
SPMN Marine on St. 82.97 347 P **P** 05 34 43.4 -0.2
SPMN IAmb IAmb 05 34 53.7
comp=Z,11nm,1.2s
D62A Allapoint, All 83.14 3 P **P** 05 34 45.4 +0.9
SPR3 Spring Creek 3 83.75 329 IAMs_20 IAMs_20 06 17 20.9
comp=Z,563nm,18.0s
RSSD Black Hills 84.64 339 P **P** 05 34 52.2 -0.3
HWUT Hardware Ranch 84.91 333 P **P** 05 34 54.6 +0.7
HWUT IAMs_20 IAMs_20 06 10 11.3
comp=Z,585nm,18.0s
NVAR Mina Array Bea 84.98 326 P **P** 05 34 57.0 +2.6
comp=Z,2.3nm,0.9s,baz=152,slow=5.6,SNR=14
NVAR Mina Array Bea 84.98 326 P **P** 05 34 54.3 -0.1
BW06 Boulder Array 85.20 334 P **P** 05 34 54.3 -1.1
BW06 IAmb IAmb 05 35 05.8
comp=Z,11nm,1.3s
PD31 Pinedale Array 85.20 334 P **P** 05 34 54.3 -1.1
PD31 IAmb IAmb 05 35 05.8
comp=Z,8.0nm,1.2s
PDAR Pinedale Array 85.20 334 P **P** 05 34 57.2 +1.8
comp=Z,0.9nm,0.8s,baz=115,slow=6.7,SNR=7.7
PDAR Pinedale Array 85.20 334 P **P** 05 34 55.1 -0.3
KVN Kaiserville 85.40 327 P **P** 05 34 55.9 -0.6
KVN IAmb IAmb 05 35 18.3
comp=Z,8.5nm,1.1s
HVU Hansel Valley 85.51 332 P **P** 05 34 56.4 -0.5
HVU IAmb IAmb 05 35 09.2
comp=Z,6.1nm,0.9s
ELK Elko 85.60 330 P **P** 05 34 56.7 -0.7
ELK IAMs_20 IAMs_20 06 10 21.8
comp=Z,540nm,18.0s
AHID Auburn Hatcher 85.74 333 P **P** 05 34 59.1 +1.0
AHID IAmb IAmb 05 35 11.9
comp=Z,11nm,1.0s
AHID IAMs_20 IAMs_20 06 07 22.5
comp=Z,567nm,20.0s
YERR Yerington 85.86 326 IAMs_20 IAMs_20 06 07 34.6
comp=Z,551nm,18.0s
REDW Red Top Meadow 86.17 334 P **P** 05 34 59.4 -0.8
REDW IAmb IAmb 05 35 10.8
comp=Z,9.7nm,1.1s
SNOW Snow King Moun 86.23 334 P **P** 05 34 59.6 -1.0
SNOW IAmb IAmb 05 35 11.8
comp=Z,8.4nm,1.1s
VCNR Virginia City 86.29 326 IAMs_20 IAMs_20 06 07 54.2
comp=Z,501nm,18.0s
LOHW Long Hollow 86.31 334 IAMs_20 IAMs_20 06 08 42.3
comp=Z,575nm,22.0s
TPAW Teton Pass 86.32 334 P **P** 05 35 00.2 -0.9
TPAW IAmb IAmb 05 35 29.7
comp=Z,8.1nm,1.0s
TPAW IAMs_20 IAMs_20 06 08 04.7
comp=Z,484nm,19.0s
TOB4 Torodi Ar. Sit 86.34 71 IAMs_20 IAMs_20 06 11 55.6
comp=Z,2µm,20.0s
TOC4 Torodi Ar. Sit 86.34 71 IAMs_20 IAMs_20 06 11 55.6
comp=Z,2µm,20.0s
TOA3 Torodi Ar. Sit 86.35 71 IAMs_20 IAMs_20 06 11 55.8
comp=Z,2µm,20.0s
TOA0 Torodi Ar. Sit 86.35 71 P **P** 05 34 59.4 -2.1
TOA0 IAmb IAmb 05 35 09.4
comp=Z,21nm,1.4s
TORD Torodi Ar. Bea 86.35 71 P **P** 05 35 00.4 -1.1
comp=Z,4.3nm,1.0s,baz=228,slow=3.5,SNR=9.8
TOB3 Torodi Ar. Sit 86.35 71 IAMs_20 IAMs_20 06 11 27.0
comp=Z,2µm,20.0s
AGMN Agassiz Nation 86.51 345 P **P** 05 35 01.8 +0.3
AGMN IAmb IAmb 05 35 16.2
comp=Z,5.3nm,0.7s
FLWY Flagg Ranch 86.75 334 IAMs_20 IAMs_20 06 09 18.1
comp=Z,604nm,21.0s
MCCM Marconi Confer 86.88 323 IAMs_20 IAMs_20 06 12 05.7
comp=Z,631nm,18.0s
MDND Maddock 86.91 343 IAMs_20 IAMs_20 06 20 44.0
comp=Z,550nm,22.0s
H17A Grant Village 86.98 335 IAMs_20 IAMs_20 06 09 38.4
comp=Z,977nm,19.0s
YMR Madison River 87.36 334 P **P** 05 35 06.7 +0.7
YHH Holmes Hill 87.42 335 P **P** 05 35 05.7 -0.7
YHH IAmb IAmb 05 35 18.1
comp=Z,10nm,1.1s
QLMT Earthquake Lak 87.66 334 P **P** 05 35 07.2 -0.2
HLID Hailey 87.66 332 P **P** 05 35 07.1 -0.3
MCMT McKenzie Canyo 88.16 333 P **P** 05 35 09.6 -0.2
ULM Lac du Bonnet 88.37 346 P **P** 05 35 12.0 +1.6
comp=Z,4.8nm,1.0s,baz=209,slow=4.3,SNR=5.0
ULM Lac du Bonnet 88.37 346 P **P** 05 35 09.3 -1.1
ULM IAmb IAmb 05 35 20.7
comp=Z,13nm,1.1s
MOD Modoc Plateau 88.70 327 IAMs_20 IAMs_20 06 10 06.8
comp=Z,480nm,19.0s
PINE Pine Mountain 90.50 328 IAMs_20 IAMs_20 06 10 58.5
comp=Z,467nm,18.0s
KEBM Edson Butte 91.28 325 IAMs_20 IAMs_20 06 13 57.1
comp=Z,499nm,18.0s
WALA Werton Lakes 92.17 335 IAMs_20 IAMs_20 06 11 36.4
comp=Z,568nm,19.0s
D05A Enumclaw 93.67 329 IAMs_20 IAMs_20 06 17 04.2
comp=Z,528nm,18.0s
JCUZ Jacuzzi 94.54 291 IAMs_20 IAMs_20 06 16 49.7
comp=Z,1µm,20.0s
HUH Hualalai 95.27 290 IAMs_20 IAMs_20 06 06 12.1
comp=Z,1µm,21.0s
PESTR Estremoz 96.57 46 IAMs_20 IAMs_20 06 23 27.9
comp=Z,602nm,22.0s
MTE Manteigas 97.61 45 IAMs_20 IAMs_20 06 20 05.6
comp=Z,1µm,22.0s
DZM Mont Dzumac 98.71 235 *e*LR LR 06 08 05.3
comp=Z,917nm,27.8s
PAB San Pablo 98.91 47 IAMs_20 IAMs_20 06 24 44.9
comp=Z,1µm,22.0s
ES14 SONSECA Array 99.19 47 IAMs_20 IAMs_20 06 23 30.4
comp=Z,1µm,22.0s
ES15 SONSECA Array 99.19 47 IAMs_20 IAMs_20 06 22 06.4
comp=Z,946nm,22.0s
ES13 SONSECA Array 99.20 47 IAMs_20 IAMs_20 06 22 07.7
comp=Z,901nm,22.0s
ES12 SONSECA Array 99.21 47 IAMs_20 IAMs_20 06 19 21.9
comp=Z,594nm,20.0s
ES16 SONSECA Array 99.21 47 IAMs_20 IAMs_20 06 22 07.9
comp=Z,843nm,22.0s
ES05 SONSECA Array 99.22 47 IAMs_20 IAMs_20 06 22 08.1
comp=Z,925nm,21.0s
ES04 SONSECA Array 99.22 47 IAMs_20 IAMs_20 06 22 06.2
comp=Z,810nm,20.0s
ESBB Sonseca Array 99.22 47 IAMs_20 IAMs_20 06 22 06.2
comp=Z,754nm,20.0s
ES01 SONSECA Array 99.23 47 IAMs_20 IAMs_20 06 22 06.4
comp=Z,807nm,20.0s
ES06 SONSECA Array 99.23 47 IAMs_20 IAMs_20 06 22 06.4
comp=Z,812nm,20.0s
ES17 SONSECA Array 99.23 47 IAMs_20 IAMs_20 06 19 21.5
comp=Z,731nm,20.0s
ES03 SONSECA Array 99.23 47 IAMs_20 IAMs_20 06 22 38.5
comp=Z,1µm,22.0s
ES07 SONSECA Array 99.24 47 IAMs_20 IAMs_20 06 19 22.6
comp=Z,734nm,20.0s
ES02 SONSECA Array 99.24 47 IAMs_20 IAMs_20 06 22 06.7
comp=Z,773nm,20.0s
ES10 SONSECA Array 99.25 47 IAMs_20 IAMs_20 06 22 06.9
comp=Z,789nm,20.0s
ES18 SONSECA Array 99.25 47 IAMs_20 IAMs_20 06 19 22.0
comp=Z,780nm,21.0s
ES08 SONSECA Array 99.26 47 IAMs_20 IAMs_20 06 19 22.1
comp=Z,782nm,21.0s
ES09 SONSECA Array 99.26 47 IAMs_20 IAMs_20 06 22 07.2
comp=Z,759nm,20.0s
ES19 SONSECA Array 99.28 47 IAMs_20 IAMs_20 06 19 16.6
comp=Z,745nm,20.0s
CART Cartagena 99.70 50 IAMs_20 IAMs_20 06 24 42.0
comp=Z,1µm,22.0s
ILULI Ilulissat 106.55 8 IAMs_20 IAMs_20 06 34 43.9
comp=Z,765nm,22.0s
VSL Villasalto 107.43 54 IAMs_20 IAMs_20 06 26 39.4
comp=Z,1µm,20.0s
WHY Whitehorse 108.71 333 IAMs_20 IAMs_20 06 32 56.0
comp=Z,338nm,18.0s
ESK Eskdalemuir 109.30 35 IAMs_20 IAMs_20 06 30 40.8
comp=Z,958nm,19.0s
MSSA Maissana 110.07 49 IAMs_20 IAMs_20 06 31 28.4
comp=Z,820nm,19.0s
VLC Villacollemand 110.53 50 IAMs_20 IAMs_20 06 29 56.4
comp=Z,1µm,20.0s
UCC Uccle 110.53 42 IAMs_20 IAMs_20 06 32 49.4
comp=Z,642nm,20.0s
ECH Echery 110.71 45 IAMs_20 IAMs_20 06 32 26.2
comp=Z,1µm,20.0s
OSSC Osservatorio P 110.74 51 IAMs_20 IAMs_20 06 31 47.9
comp=Z,926nm,20.0s
SUMG Summit 111.34 11 IAMs_20 IAMs_20 06 38 06.3
comp=Z,564nm,21.0s
SALO Salr 111.35 49 IAMs_20 IAMs_20 06 30 30.3
comp=Z,1µm,19.0s
AQU L'Aquila 111.51 53 IAMs_20 IAMs_20 06 32 40.6
comp=Z,749nm,19.0s
RES Resolute Bay 111.61 354 IAMs_20 IAMs_20 06 33 13.8
comp=Z,551nm,20.0s
TEOL Teolo 111.92 49 IAMs_20 IAMs_20 06 30 34.4
comp=Z,567nm,18.0s
HMT Hamilton 112.16 330 IAMs_20 IAMs_20 06 37 45.2
comp=Z,617nm,20.0s
TULEG Thule 112.63 1 IAMs_20 IAMs_20 06 35 39.6
comp=Z,773nm,20.0s
HIN Hinchinbrook I 113.11 329 IAMs_20 IAMs_20 06 19 11.6
comp=Z,311nm,19.0s
FID Port Fidalgo 113.30 329 IAMs_20 IAMs_20 06 37 23.4
comp=Z,384nm,18.0s
ZOU Zoufplan 113.30 49 IAMs_20 IAMs_20 06 34 14.9
comp=Z,845nm,19.0s
TRI Trieste 113.38 50 IAMs_20 IAMs_20 06 32 05.8
comp=Z,1µm,21.0s
GRFO Grafenberg 113.77 45 IAMs_20 IAMs_20 06 32 52.0
comp=Z,863nm,20.0s
GRA1 Grafenberg Arr 113.77 45 IAMs_20 IAMs_20 06 32 52.1
comp=Z,842nm,20.0s
SCRK Sand Creek 114.10 333 IAMs_20 IAMs_20 06 37 35.6
comp=Z,466nm,18.0s
KDAK Kodiak Island 114.44 325 IAMs_20 IAMs_20 06 22 49.7
comp=Z,465nm,20.0s
SII Sitkinak Islan 114.60 323 IAMs_20 IAMs_20 06 16 23.1
comp=Z,322nm,19.0s
ITM Ithomi 114.79 61 IAMs_20 IAMs_20 06 31 47.4
comp=Z,774nm,20.0s
GEC2 GERESS Array S 114.81 47 IAMs_20 IAMs_20 06 31 32.6
comp=Z,806nm,22.0s
PDG Podgorica 115.37 55 IAMs_20 IAMs_20 06 29 33.6
comp=Z,663nm,21.0s
CLL Collm 115.52 44 *e*PS PS 05 51 40.0 -3.0
CLL *e*PPS PPS 05 53 06.0
CLL *e*SS SS 05 57 48.0 -14
CLL Collm 115.52 44 IAMs_20 IAMs_20 06 29 45.5
comp=Z,924nm,21.0s
FYU Fort Yukon 115.95 335 IAMs_20 IAMs_20 06 40 19.2
comp=Z,302nm,19.0s
IDI Anoyia 116.05 64 IAMs_20 IAMs_20 06 32 55.6
comp=Z,721nm,22.0s
TRF Thorofare Moun 116.23 331 IAMs_20 IAMs_20 06 20 02.8
comp=Z,583nm,18.0s
NEA2 Nenana 116.32 332 IAMs_20 IAMs_20 06 39 12.1
comp=Z,414nm,19.0s
CNBA Chernabura Isl 116.52 320 IAMs_20 IAMs_20 06 24 50.2
comp=Z,440nm,18.0s
DIVS Divibare 116.59 54 IAMs_20 IAMs_20 06 34 58.8
comp=Z,739nm,19.0s
SANT Santorini 116.95 63 IAMs_20 IAMs_20 06 31 27.5
comp=Z,459nm,20.0s
RGN Rugen 117.11 41 IAMs_20 IAMs_20 06 36 21.5
comp=Z,802nm,18.0s
MLY Manley 117.16 332 IAMs_20 IAMs_20 06 29 07.3
comp=Z,306nm,18.0s
KONO Kongsberg 117.45 35 IAMs_20 IAMs_20 06 36 55.2
comp=Z,821nm,22.0s
MORC Moravsky Berou 117.48 47 IAMs_20 IAMs_20 06 34 38.2
comp=Z,839nm,21.0s
WRA Warramunga Arr 118.03 210 PKP **PKPdf** 05 41 04.7 -1.7
comp=Z,2.4nm,1.3s,baz=165,slow=1.5,SNR=4.7
VTS Vitosha 118.10 56 IAMs_20 IAMs_20 06 36 36.8
comp=Z,684nm,19.0s
PSZ Piszkesteto 118.13 50 IAMs_20 IAMs_20 06 36 32.6
comp=Z,634nm,18.0s
ALE Alert 118.73 2 IAMs_20 IAMs_20 06 35 15.1
comp=Z,651nm,20.0s
OJC Ojcow 118.99 47 IAMs_20 IAMs_20 06 35 21.5
comp=Z,743nm,20.0s
AKAS Kas 119.90 65 IAMs_20 IAMs_20 06 35 40.7
comp=Z,443nm,20.0s
RABL Rabaul 121.13 237 IAMs_20 IAMs_20 06 39 16.7
comp=Z,733nm,20.0s
ISP Isparta 121.23 64 IAMs_20 IAMs_20 06 35 21.7
comp=Z,614nm,22.0s
SUW Suwalki 122.28 44 IAMs_20 IAMs_20 06 34 33.3
comp=Z,865nm,21.0s
RDOG Red Dog Mine 122.80 333 IAMs_20 IAMs_20 06 46 05.3
comp=Z,404nm,20.0s
PABE Paberze 123.17 42 IAMs_20 IAMs_20 06 36 01.8
comp=Z,626nm,19.0s
ANTO Ankara 123.65 62 IAMs_20 IAMs_20 06 35 40.9
comp=Z,702nm,21.0s
BRTR Keskin Array B 124.21 63 PKP **PKPdf** 05 41 16.6 -1.1
comp=Z,0.2nm,0.4s,baz=270,slow=2.9,SNR=2.2
ILGA Ilgaz 124.73 61 IAMs_20 IAMs_20 06 36 10.5
comp=Z,762nm,20.0s
AKASG Malin Array Be 124.82 49 PKP **PKPdf** 05 41 17.4 -0.9
comp=Z,0.6nm,0.4s,baz=279,slow=2.2,SNR=5.1
AKASG PP **PP** 05 43 09.5 +2.7
comp=Z,0.2nm,0.3s,baz=257,slow=7.1,SNR=6.8
MANU Manus Island 125.92 234 IAMs_20 IAMs_20 06 40 00.3
comp=Z,424nm,21.0s
SNOP Sinop 126.11 61 IAMs_20 IAMs_20 06 38 26.1
comp=Z,606nm,20.0s
KEV Kevo 127.27 25 IAMs_20 IAMs_20 06 46 25.6
comp=Z,543nm,20.0s
GURO Guroymak-BITLI 129.94 67 IAMs_20 IAMs_20 06 36 56.6
comp=Z,675nm,20.0s
LVZ Lovozero 129.99 28 IAMs_20 IAMs_20 06 45 41.5
comp=Z,877nm,21.0s
OBN Obninsk 130.11 45 IAMs_20 IAMs_20 06 43 38.3
comp=Z,849nm,21.0s
KIV Kislovodsk 131.92 60 IAMs_20 IAMs_20 06 41 23.8
comp=Z,376nm,20.0s
MMRI Maumere 132.80 202 IAMs_20 IAMs_20 06 45 07.2
comp=Z,405nm,19.0s
PETK Petropavlovsk- 140.67 312 PKP **PKiKP** 05 41 49.6 -1.0
comp=Z,2.5nm,0.9s,baz=346,slow=0.6,SNR=2.9
NRIK Noril'sk 145.39 12 PKPbc **PKPab** 05 41 56.4 +0.4
comp=Z,7.3nm,0.9s,baz=323,slow=2.6,SNR=6.3
RPSI Rantau Prapat 145.87 167 **PKPdf** 05 41 57.1 -1.3
PSI Prapat 145.98 167 PKPbc **PKPdf** 05 41 57.6 -1.2
comp=Z,2.8nm,0.5s,baz=357,slow=5.8,SNR=2.0
YAK Yakutsk 150.37 338 IAMs_20 IAMs_20 07 04 59.5
comp=Z,542nm,22.0s
YSS Yuzh-Sakhalins 150.92 303 IAMs_20 IAMs_20 06 56 41.6
comp=Z,453nm,21.0s
GAR Garm 151.59 74 **PKPdf** 05 42 09.4 +2.3
KK31 Karatay Array 151.88 65 **PKPbc** 05 42 12.0 -1.7
KKAR Karatay Array 151.88 65 **PKPbc** 05 42 12.5 -1.2
NIL Nilore 152.96 86 IAMs_20 IAMs_20 06 40 51.5

comp=Z,650nm,21.0s
AAK Ala-Archa 154.83 66 PKP PKPab 05 42 33.6 -2.0
ZALV Zalesovo Beam 156.96 33 PKP PKPdf 05 42 13.2 -0.7
comp=Z,3.1nm,1.0s,baz=323,slow=2.2,SNR=6.1
ZALV PKPab **PKPab 05 42 42.8 -1.3**
comp=Z,5.0nm,0.8s,baz=310,slow=4.7,SNR=6.9
MKAR Makanchi Array 159.36 52 PKP PKPdf 05 42 18.1 +1.0
comp=Z,1.3nm,1.0s,baz=276,slow=2.3,SNR=6.2
MKAR PP **PP 05 46 38.5 +2.2**
comp=Z,1.0nm,0.9s,baz=199,slow=4.0,SNR=5.0
CMAR Chiang Mai Arr 161.09 158 PKP PKPdf 05 42 21.7 +1.8
comp=Z,1.0nm,0.3s,baz=222,slow=27,SNR=4.5
KSRS Korea Array 162.57 280 PKPab PKPab 05 43 11.4 +2.3
comp=Z,1.5nm,0.7s,baz=86,slow=4.9,SNR=5.7
WMQ Urumqi 164.00 56 *e*P **PKPdf 05 42 20.3 -1.8**
WMQ pP sPKPdf 05 42 27.0 +0.7
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,210nm,4.1s
WMQ L L
comp=Z,510nm,18.5s
WMQ L L
comp=Z,650nm,18.5s
WMQ L L
comp=Z,2μm,20.7s
SONM Songino Array 168.49 359 PKP PKPdf 05 42 26.6 +1.0
comp=Z,0.9nm,0.7s,baz=30,slow=24,SNR=3.8
SONM PKPab **pPKPab 05 43 37.6 -0.4**
comp=Z,0.4nm,0.7s,baz=217,slow=1.4,SNR=1.8
NJ2 Nanjing 168.68 252 *e*P **PKPdf 05 42 25.3 -0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
HHC Hu-ho-hao-te 173.82 319 *e*PKP **PKPdf 05 42 24.9 -3.6**
HHC PP **PP 05 47 57.8 +7.1**
GTA Gaotai 174.09 57 *e*PKPbc **PKPdf 05 42 30.4 +1.7**
GTA PKPab **sPKPab 05 44 03.8 -0.5**
GTA PP **PP 05 47 53.0 +0.5**
CD2 Chengdu 174.24 159 PKP **PKPdf 05 42 27.9 -1.0**
CD2 PP **PP 05 47 51.8 -0.3**
CD2 SKS **SKSdf 05 49 32.3 +0.3**
CD2 PPMZ
comp=Z,300nm,10.0s
CD2 L L
comp=Z,560nm,16.9s
CD2 L L
comp=Z,570nm,20.4s
CD2 L L
comp=Z,810nm,19.2s
LZH Lanzhou 178.09 96 *e*PKP **PKPdf 05 42 27.3 -2.4**
LZH pPKP sPKPdf 05 42 39.3 +5.3
LZH sPKP 05 42 41.8
LZH PKS **PKSdf 05 45 55.8 -6.2**
LZH PP **PP 05 48 11.5 -0.6**

IDC 20 05:28:54.3±2.7,7.7°17.5S×129.7°9E, h142km±37km, mb3.4/1, mb1 3.2/5, mb1mx3.0/39, mbtmp3.6/5 Error ellipse: s-maj=65.9km s-min=20.5km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.43**	**13**	P		Pn	05 30 27.0	+0.3
	2.1nm,0.3s,baz=205,slow=22,SNR=11						
SIJI				S		Sn	05 31 32.7	-6.3
	1.2nm,0.3s,baz=244,slow=22,SNR=1.6						
FITZ	**Fitzroy Crossi**	**11.59**	**200**	P		Pn	05 31 35.4	-0.1
	0.2nm,0.3s,baz=27,slow=11,SNR=21						
FITZ				S		Sn	05 33 35.2	-8.4
	0.2nm,0.3s,baz=139,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**13.44**	**161**	P		Pn	05 31 58.0	-1.5
	0.3nm,0.3s,baz=345,slow=13,SNR=13						
WRA				S		Sn	05 34 21.6	-6.7
	0.3nm,0.3s,baz=332,slow=26,SNR=6.7						
ASAR	**Alice Springs**	**16.87**	**167**	P		Pn	05 32 43.7	+1.5
	0.2nm,0.3s,baz=341,slow=8.8,SNR=7.9						
MKAR	**Makanchi Array**	**68.25**	**327**	P		P	05 39 39.7	-0.1
	0.4nm,0.4s,baz=125,slow=7.0,SNR=7.4						

*IDC **20** 05:32:01.0±0.3,59.67°S×26.60°W, h0km, mb5.3/27, mb1 5.4/28, mb1mx5.3/32, mbtmp5.3/28, ML5.9/1, MS5.3/22, Ms1 5.2/22, ms1mx5.2/22, Error ellipse: s-maj=13.9km s-min=9.8km az=43.0*

*MOS **20** 05:32:05.3±0.8,59.61S×26.46W, h34km, mb5.8/31, MS5.2/6, Error ellipse: s-maj=20.0km s-min=9.5km az=104.5*

*NEIC **20** 05:32:08.8±1.8,59.63S±0.09×26.5W±0.2, h50km±3km, mb5.7/104, Mww5.7, Mwc5.7(GCMT), Error ellipse: s-maj=14.2km s-min=11.9km az=54.0*

*GCMT **20** 05:32:11.8±0.1,60.00S±0.01×25.82W±0.01, h44km, MW5.7/150, Moment Tensor Solution. s128,c222; s150,c285; Duration: 1ŧ7 Moment tensor: Scale 10^17 Nm; Mrr3.38±.07; Mθθ 0.16±.05; Mϕϕ -3.55±.04; Mrθ -0.95±.04; Mrϕ -1.57±.03; Mθr 1.16±.04; Best double couple: M0 4.08800×10^17 NP1:ϕs221.00000°, δ43.00000°, λ122.00000°. NP2:ϕs360.00000°, δ55.00000°, λ63.00000°. Principal axes: T 3.9710, Plg68.0000°, Azm213.0000°; N 0.2280, Plg21.0000°, Azm16.0000°; P -4.2050, Plg6.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 05:32:13,60.02S×25.84W, h45km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr3.37; Mθθ 0.25; Mϕϕ -3.62; Mrθ -1.02; Mϕϕ -1.63; Mθr 1.14; Fault plane solution: M0 4.15000×10^17 NP1:ϕs222.00000°, δ44.00000°, λ124.00000°. NP2:ϕs359.00000°, δ55.00000°, λ62.00000°. Principal axes: T 4.0086, Plg66.0000°, Azm212.0000°; N 0.2777, Plg23.0000°, Azm16.0000°; P -4.2863, Plg6.0000°, Azm109.0000°;*

*BJI **20** 05:32:14.3±0.0,59.38S×26.72W, h125km, mB5.4/24*

*NEIC **20** 05:32:17,59.72S×26.81W, h46km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr3.52; Mθθ 0.05; Mϕϕ -3.57; Mrθ 0.61; Mϕϕ -0.93; Mθr 0.86; Fault plane solution: M0 3.81000×10^17 NP1:ϕ187.00000°, δ38.00000°, λ80.00000°. NP2:ϕ20.00000°, δ53.00000°, λ98.00000°. Principal axes: T 3.6945, Plg80.0000°, Azm325.0000°; N 0.2299, Plg6.0000°, Azm195.0000°; P -3.9244, Plg8.0000°, Azm104.0000°;*

ISC 20 05:32:08.3±0.4,59.64S±0.05×26.54W±0.05, h54km±2km, h54km:pP-P, n529, σ1ŧ42/566, mb5.6/70, MS5.3/42, 7C-14D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.63**	**310**		Pn	05 34 04.9	+8.2
VNA1	**Neumayer--Stat**	**13.37**	**153**	P	**Pn**	**05 35 11.8**	**-3.2**
VNA1				S	Sn	05 37 31.4	-10
I27DE	**GEORG VON NEUM**	**13.40**	**153**	Pn	**Pn**	**05 35 13.0**	**-2.4**
	baz=311,slow=9.3,SNR=4.1						
VNA3	**Neumayer Olymp**	**13.52**	**156**	P	**Pn**	**05 35 13.9**	**-3.1**
SNAA	**Sanae**	**15.36**	**151**	P	**Pn**	**05 35 38.6**	**-2.7**
SNAA				S	Sn	05 38 15.9	-14
SNAA	**Sanae**	**15.36**	**151**	Pn	**Pn**	**05 35 38.3**	**-3.1**
	48nm,0.3s,baz=308,slow=13,SNR=391						
SNAA				Sn	Sn	05 38 11.5	-19
	3.1nm,0.3s,baz=9.2,slow=24,SNR=1.8						
SNAA				LR	LR	05 40 24.8	
	comp=Z,8μm,20.1s,baz=302,slow=33						
SNAA	**Sanae**	**15.36**	**151**	*d* P	**Pn**	**05 35 38.5**	**-2.9**
SNAA				pmax	pmax		
	comp=Z,794nm,1.7s						
SNAA	**Sanae**	**15.36**	**151**	Pn	**Pn**	**05 35 38.3**	**-3.1**
SNAA				lAmb	lAmb	05 35 52.1	
	comp=Z,314nm,0.6s						
PMSA	**Palmer Station**	**18.02**	**238**	P	**Pn**	**05 36 17.6**	**+3.1**
	comp=Z,2.5nm,0.3s,baz=87,slow=9.0,SNR=13						
PMSA				LR	LR	05 42 00.3	
	comp=Z,13μm,19.3s,baz=71,slow=33						
PMSA	**Palmer Station**	**18.02**	**238**	P	**Pn**	**05 36 16.8**	**+2.3**
PMSA	**Palmer Station**	**18.02**	**238**	*e*P	**Pn**	**05 36 15.9**	**+1.5**
NVL	**N'lazarevskaya**	**19.15**	**141**	*e*P	**Pn**	**05 36 29.6**	**+1.5**
NVL				pmax	pmax		
	comp=Z,17nm,0.4s						
EFI	**East Falkland**	**19.33**	**280**	P	**Pn**	**05 36 30.2**	**-0.1**
EFI				pmax	pmax		
	comp=Z,392nm,1.1s						
EFI	**East Falkland**	**19.33**	**280**		**Pn**	**05 36 30.2**	**-0.1**
EFI				lAmb	lAmb	05 36 48.8	
	comp=Z,392nm,1.1s						
MG01	**Puerto William**	**22.42**	**264**	P	**P**	**05 37 04.4**	**+2.3**
USHA	**Ushuaia**	**22.88**	**264**	P	**P**	**05 37 09.1**	**+2.2**
	comp=Z,418nm,0.9s,baz=129,slow=4.7,SNR=44						
USHA				LR	LR	05 44 13.5	
	comp=Z,9μm,20.1s,baz=102,slow=32						
MG02	**Cerro Sombrero**	**24.34**	**267**	P	**P**	**05 37 21.3**	**+0.5**
GO10	**Punta Arenas**	**25.07**	**265**	P	**P**	**05 37 28.3**	**+0.9**
GO10				lAmb	lAmb	05 37 54.0	
	comp=Z,316nm,1.1s						
SYO	**Syowa Base**	**28.65**	**137**	*e*P	**P**	**05 37 56.6**	**-2.7**
COYC	**Coyhaique**	**30.34**	**277**	P	**P**	**05 38 16.3**	**+1.7**
QSPA	**South Pole Qui**	**30.60**	**180**	P	**P**	**05 38 18.1**	**+1.2**
QSPA				pP	**pP**	**05 38 30.1**	**+0.4**
TRQA	**Tornquist**	**31.18**	**298**	P	**P**	**05 38 24.0**	**+1.9**
TRQA				*PP	**pP**	**05 38 35.9**	**+0.4**
TRQA	**Tornquist**	**31.18**	**298**	P	**P**	**05 38 24.0**	**+1.9**
TRQA				pP	**pP**	**05 38 35.9**	**+0.4**
TRQA				lAmb	lAmb	05 38 42.5	
	comp=Z,83nm,0.8s						
TRQA	**Tornquist**	**31.18**	**298**	*e*P	**P**	**05 38 24.0**	**+1.9**
LL02	**Futaleuf**	**31.93**	**281**	P	**P**	**05 38 29.1**	**+0.6**
GO07	**Milladeo Hill,**	**32.89**	**279**	P	**P**	**05 38 38.2**	**+1.3**
GO07				lAmb	lAmb	05 38 40.7	
	comp=Z,105nm,0.6s						
PLCA	**Paso Flores**	**33.12**	**285**	P	**P**	**05 38 39.8**	**+0.7**
	comp=Z,29nm,0.7s,baz=150,slow=8.3,SNR=47						
PLCA				LR	LR	05 51 02.1	
	comp=Z,3μm,21.9s,baz=142,slow=34						
PLCA	**Paso Flores**	**33.12**	**285**	P	**P**	**05 38 39.8**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,67nm,1.0s						
PLCA	**Paso Flores**	**33.12**	**285**	P	**P**	**05 38 39.8**	**+0.7**
PLCA	**Paso Flores**	**33.12**	**285**	*e*P	**P**	**05 38 39.6**	**+0.5**
PLTB	**Pedras Altas**	**33.22**	**315**	P	**P**	**05 38 40.6**	**+0.7**
PLTB				lAmb	lAmb	05 38 54.9	
	comp=Z,100nm,1.3s						
PLTB	**Pedras Altas**	**33.22**	**315**	*e*P	**P**	**05 38 40.8**	**+0.8**
LL03	**Petrohue**	**33.72**	**283**	P	**P**	**05 38 43.6**	**-0.6**
CPSB	**Cacapava Do Su**	**34.39**	**316**	*e*P	**P**	**05 38 51.1**	**+1.0**
TER01	**Tubaro-SC**	**34.72**	**324**	*e*P	**P**	**05 38 54.9**	**+2.0**
ITQB	**Itaqui**	**36.22**	**312**	P	**P**	**05 39 07.2**	**+1.4**
ITQB				lAmb	lAmb	05 39 09.0	
	comp=Z,102nm,0.8s						
ITQB	**Itaqui**	**36.22**	**312**	*e*P	**P**	**05 39 06.4**	**+0.7**
MAW	**Mawson**	**37.10**	**141**	P	**P**	**05 39 12.7**	**-0.2**
	comp=Z,42nm,0.9s,baz=237,slow=8.9,SNR=37						
MAW				PcP	**PcP**	**05 41 33.8**	**+1.8**
	comp=Z,24nm,0.9s,baz=242,slow=5.3,SNR=4.5						
MAW				LR	LR	05 52 59.2	
	comp=Z,5μm,19.9s,baz=235,slow=34						
MAW	**Mawson**	**37.10**	**141**	P	**P**	**05 39 12.6**	**-0.2**
	baz=37,SNR=39						
TIJ01	**Guaruva-PR**	**37.70**	**326**	*e*P	**P**	**05 39 17.3**	**-1.2**
BO02	**Sierra Bellavi**	**37.93**	**291**	P	**P**	**05 39 21.6**	**+1.3**
GO05	**Huala**	**38.30**	**289**	P	**P**	**05 39 24.8**	**+1.4**
BO01	**Tunca**	**38.40**	**291**	P	**P**	**05 39 24.9**	**+0.7**
PARB	**Paraibuna**	**38.69**	**331**	*e*P	**P**	**05 39 26.3**	**-0.5**
MT09	**Talagante**	**38.85**	**292**	P	**P**	**05 39 28.9**	**+0.7**
MT03	**Universidad Ad**	**38.86**	**292**	P	**P**	**05 39 29.4**	**+1.1**
MT03				pP	**pP**	**05 39 41.6**	**-0.1**
MT03				sP	**sP**	**05 39 46.1**	**-1.6**
SPB	**Sao Paulo**	**38.90**	**329**	*e*P	**P**	**05 39 29.0**	**+0.5**
MT01	**Popeta**	**38.91**	**291**	P	**P**	**05 39 29.5**	**+1.0**
MT05	**Renca**	**39.05**	**292**	P	**P**	**05 39 31.2**	**+1.4**
DUB01	**Friburgo-RJ**	**39.17**	**336**	*e*P	**P**	**05 39 31.1**	**+0.3**
PTGB	**Pitanga**	**39.19**	**322**	*e*P	**P**	**05 39 31.2**	**+0.2**
VAS01	**Vassouras-RJ**	**39.20**	**335**	*e*P	**P**	**05 39 32.4**	**+1.4**
VA05	**Santo Domingo**	**39.25**	**291**	P	**P**	**05 39 32.2**	**+0.9**
CAM01	**Campos-RJ**	**39.28**	**338**	*e*P	**P**	**05 39 31.3**	**-0.3**
MT02	**Curacav**	**39.35**	**292**	P	**P**	**05 39 33.9**	**+1.7**
VA03	**San Esteban**	**39.48**	**293**	P	**P**	**05 39 35.0**	**+1.5**
VA03				pP	**pP**	**05 39 46.3**	**-0.6**
VA03				sP	**sP**	**05 39 51.3**	**-1.7**
CPUP	**Villa Florida**	**39.50**	**314**	P	**P**	**05 39 34.3**	**+0.8**
	comp=Z,22nm,0.7s,baz=155,slow=6.2,SNR=36						
CPUP				ScP	**ScP**	**05 45 27.2**	**+3.3**
	comp=Z,4.0nm,0.9s,baz=269,slow=1.2,SNR=3.2						
CPUP				LR	LR	05 55 45.4	
	comp=Z,2μm,19.6s,baz=164,slow=36						
CPUP	**Villa Florida**	**39.50**	**314**	P	**P**	**05 39 34.8**	**+1.3**
ZON	**Zonda**	**39.64**	**296**	P	**P**	**05 39 36.3**	**+1.6**
ZON				pmax	pmax		
	comp=Z,284nm,1.6s						
ZON	**Zonda**	**39.64**	**296**	P	**P**	**05 39 36.3**	**+1.6**
ZON				lAmb	lAmb	05 40 02.5	
	comp=Z,284nm,1.6s						
FRTB	**Fartura**	**39.73**	**326**	*e*P	**P**	**05 39 35.7**	**+0.3**
ALF01	**Guarapari-ES**	**40.28**	**339**	*e*P	**P**	**05 39 39.6**	**-0.4**
BSCB	**Bom Sucesso**	**40.74**	**333**	*e*P	**P**	**05 39 44.1**	**+0.2**
CO02	**Combarbal**	**40.99**	**294**	P	**P**	**05 39 47.0**	**+1.0**
CO02				pP	**pP**	**05 39 59.3**	**-0.2**
CO02				lAmb	lAmb	05 40 04.3	
	comp=Z,221nm,1.1s						
CO03	**El Pedregal**	**41.16**	**294**	P	**P**	**05 39 48.3**	**+1.1**
CO03				lAmb	lAmb	05 40 05.7	
	comp=Z,146nm,1.1s						
TRCB	**Terra Rica**	**41.16**	**322**	*e*P	**P**	**05 39 48.0**	**+0.7**
SUR	**Sutherland**	**41.39**	**70**	P	**P**	**05 39 49.2**	**0.0**
	comp=Z,20nm,0.9s,baz=203,slow=12,SNR=9.5						
SUR				PcP	**PcP**	**05 41 48.8**	**+2.3**
	comp=Z,22nm,0.9s,baz=218,slow=3.7,SNR=5.7						
SUR				LR	LR	05 53 33.8	
	comp=Z,4μm,18.1s,baz=210,slow=31						
SUR	**Sutherland**	**41.39**	**70**	P	**P**	**05 39 49.9**	**+0.6**
RIB01	**Linhares ES**	**41.50**	**340**	*e*P	**P**	**05 39 49.6**	**-0.4**
BB19B	**Bebedouro**	**41.60**	**328**	*e*P	**P**	**05 39 52.0**	**+1.1**
PCMB	**Pacaembu**	**41.86**	**324**	*e*P	**P**	**05 39 53.5**	**+0.5**
BSFB	**Barra de Sao F**	**42.05**	**340**	*e*P	**P**	**05 39 54.7**	**+0.2**
SJMB	**Sao Joao De Ma**	**42.23**	**339**	*e*P	**P**	**05 39 55.9**	**-0.1**
SBA	**Scott Base**	**42.52**	**184**	P	**P**	**05 39 59.8**	**+2.1**
SBA				pmax	pmax		
	comp=Z,98nm,0.9s						
SBA	**Scott Base**	**42.52**	**184**	P	**P**	**05 39 59.8**	**+2.1**
SBA				lAmb	lAmb	05 40 02.0	
	comp=Z,98nm,0.9s						
LCO	**Las Campanas**	**42.71**	**296**	P	**P**	**05 40 01.4**	**+1.2**
LCO	**Las Campanas**	**42.71**	**296**	P	**P**	**05 40 01.4**	**+1.2**
NAN01	**Guarapari, ES**	**42.89**	**341**	*e*P	**P**	**05 40 01.3**	**0.0**
VNDA	**Vanda**	**42.99**	**183**	P	**P**	**05 40 02.9**	**+1.3**
	comp=Z,79nm,0.7s,baz=186,slow=6.5,SNR=314						
VNDA				PcP	**PcP**	**05 41 51.9**	**+1.1**
	comp=Z,20nm,0.8s,baz=240,slow=4.8,SNR=4.9						
VNDA				ScP	**ScP**	**05 45 40.5**	**+3.6**
	comp=Z,2.7nm,0.9s,baz=218,slow=2.5,SNR=4.1						
VNDA				LR	LR	05 56 45.2	
	comp=Z,2μm,21.4s,baz=168,slow=34						
VNDA	**Vanda**	**42.99**	**183**	P	**P**	**05 40 03.4**	**+1.8**
VNDA				lAmb	lAmb	05 40 05.2	
	comp=Z,99nm,0.8s						
VNDA				pP	**pP**	**05 40 13.8**	**-1.1**
DIAM	**Diamantina, MG**	**43.11**	**336**	*e*P	**P**	**05 40 03.4**	**0.0**
ITRB	**Iturama**	**43.40**	**326**	*e*P	**P**	**05 40 06.5**	**+1.0**
GO03	**Copiap**	**43.71**	**297**	P	**P**	**05 40 09.2**	**+1.3**
GUA01	**Guaratinga, BA**	**44.07**	**342**	*e*P	**P**	**05 40 11.0**	**+0.1**
AQDB	**Aquidauana**	**44.32**	**319**	*e*P	**P**	**05 40 12.2**	**-0.6**
IPMB	**Ipameri, GO**	**44.47**	**330**	*e*P	**P**	**05 40 15.0**	**+0.9**
MC01	**Montes Claros**	**44.71**	**336**	*e*P	**P**	**05 40 16.2**	**+0.1**
CMC01	**Camacan, BA**	**45.23**	**342**	*e*P	**P**	**05 40 20.1**	**+0.1**
GO02	**Mina Guanaco**	**45.52**	**300**	P	**P**	**05 40 23.4**	**+0.7**
GO02				pP	**pP**	**05 40 34.7**	**-1.7**
GO02				sP	**sP**	**05 40 39.7**	**-2.7**
GO02				lAmb	lAmb	05 40 40.9	
	comp=Z,147nm,0.9s						
NBIT	**Itapeh - BA**	**45.64**	**342**	*e*P	**P**	**05 40 24.1**	**+0.8**
PB14	**IPOC Station P**	**46.35**	**299**	P	**P**	**05 40 29.3**	**+0.1**
PB14				lAmb	lAmb	05 40 31.9	
	comp=Z,52nm,0.8s						
JANB	**Januaria**	**46.39**	**336**	*e*P	**P**	**05 40 29.1**	**-0.2**
BOSA	**Boshof**	**46.64**	**72**	P	**P**	**05 40 30.8**	**-0.4**
	comp=Z,30nm,0.9s,baz=209,slow=8.2,SNR=32						
BOSA				PcP	**PcP**	**05 42 05.6**	**+1.3**
	comp=Z,19nm,0.9s,baz=236,slow=3.9,SNR=4.6						
BOSA				LR	LR	05 56 37.8	
	comp=Z,3μm,19.1s,baz=217,slow=32						
BOSA	**Boshof**	**46.64**	**72**	P	**P**	**05 40 31.3**	**+0.1**
BOSA				pP	**pP**	**05 40 44.5**	**-0.1**
BOSA				lAmb	lAmb	05 40 46.3	
	comp=Z,126nm,1.4s						
BDFB	**Brasilia**	**46.67**	**331**	P	**P**	**05 40 31.7**	**+0.1**
	comp=Z,23nm,0.7s,baz=150,slow=4.8,SNR=36						
BDFB				LR	LR	05 57 07.1	
	comp=Z,3μm,21.8s,baz=161,slow=32						
BDFB	**Brasilia**	**46.67**	**331**	P	**P**	**05 40 32.1**	**+0.6**
PP1B	**Ponte de Pedra**	**46.74**	**322**	*e*P	**P**	**05 40 31.7**	**-0.3**
GDU01	**Guandu, BA**	**46.85**	**343**	*e*P	**P**	**05 40 32.1**	**-0.7**
PB15	**IPOC Station P**	**47.18**	**301**	P	**P**	**05 40 35.9**	**+0.3**
PB15				lAmb	lAmb	05 40 38.9	
	comp=Z,61nm,0.6s						
PB10	**IPOC Station P**	**47.38**	**300**	P	**P**	**05 40 38.1**	**+1.1**
PB10				lAmb	lAmb	05 40 39.7	
	comp=Z,83nm,0.9s						
LVC	**Limon Verde**	**47.46**	**302**	P	**P**	**05 40 39.1**	**+1.1**
	comp=Z,45nm,0.4s,baz=156,slow=5.2,SNR=74						
LVC	**Limon Verde**	**47.46**	**302**	P	**P**	**05 40 39.1**	**+1.1**
LVC				pmax	pmax		
	comp=Z,184nm,1.3s						
LVC	**Limon Verde**	**47.46**	**302**	P	**P**	**05 40 39.1**	**+1.1**
LVC	**Limon Verde**	**47.46**	**302**	*e*P	**P**	**05 40 39.4**	**+1.4**
ARAG	**Araguaiana, MT**	**47.61**	**326**	*e*P	**P**	**05 40 39.1**	**+0.4**
PB06	**IPOC Station P**	**47.66**	**302**	P	**P**	**05 40 40.4**	**+1.0**
PB06				lAmb	lAmb	05 40 42.0	
	comp=Z,82nm,0.8s						
PB04	**IPOC Station P**	**48.24**	**301**	P	**P**	**05 40 44.8**	**+1.0**
PB09	**IPOC Station P**	**48.32**	**302**	P	**P**	**05 40 45.5**	**+1.0**
SALV	**Santo Antonio**	**48.59**	**321**	*e*P	**P**	**05 40 46.7**	**+0.4**
PB07	**IPOC Station P**	**48.66**	**302**	P	**P**	**05 40 48.0**	**+1.0**
SDBA	**SAO DESIDERIO**	**49.09**	**336**	*e*P	**P**	**05 40 50.2**	**0.0**
PB01	**IPOC Station P**	**49.09**	**303**	P	**P**	**05 40 50.9**	**+0.7**
PB08	**IPOC Station P**	**49.75**	**304**	P	**P**	**05 40 56.5**	**+0.9**
PB08				lAmb	lAmb	05 41 16.6	
	comp=Z,92nm,1.1s						
TA01	**Diego Aracena**	**49.81**	**302**	P	**P**	**05 40 56.4**	**+0.8**
TA01				lAmb	lAmb	05 41 13.8	
	comp=Z,81nm,1.1s						
LBTB	**Lobatse**	**49.83**	**70**	P	**P**	**05 40 55.7**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,41nm,0.9s						
LBTB	**Lobatse**	**49.83**	**70**	P	**P**	**05 40 55.7**	**-0.2**
TA02	**Huaiquique**	**50.05**	**302**	P	**P**	**05 40 57.9**	**+0.5**
TA02				lAmb	lAmb	05 41 15.5	
	comp=Z,74nm,0.8s						
PEXB	**Peixe**	**50.14**	**332**	*e*P	**P**	**05 40 58.2**	**0.0**
PTLB	**Pontes e Lacer**	**50.15**	**317**	*e*P	**P**	**05 40 58.0**	**-0.2**
SIV	**San Ignacio**	**50.33**	**315**	P	**P**	**05 40 59.6**	**-0.1**
	comp=Z,43nm,0.6s,baz=165,slow=7.5,SNR=147						
NBAN	**Anadia - AL**	**50.40**	**348**	*e*P	**P**	**05 40 59.6**	**-0.5**
CASY	**Casey**	**50.41**	**159**	P	**P**	**05 41 00.5**	**+0.9**
CASY				lAmb	lAmb	05 41 02.1	
	comp=Z,94nm,1.1s						
PSGCX	**Pisagua**	**50.64**	**303**	P	**P**	**05 41 02.1**	**+0.1**
PSGCX				lAmb	lAmb	05 41 04.3	
	comp=Z,56nm,0.9s						
MNMC	**Minye Minye**	**50.83**	**304**	P	**P**	**05 41 04.5**	**+0.8**
SNDB	**Serra Nova Dou**	**51.02**	**328**	*e*P	**P**	**05 41 05.6**	**+0.8**
TSUM	**Tsumeb**	**51.23**	**58**	LR	LR	05 57 55.7	
	comp=Z,4μm,21.8s,baz=194,slow=30						
TSUM	**Tsumeb**	**51.23**	**58**	P	**P**	**05 41 07.0**	**+0.5**
NBRF	**Rio Formoso -**	**51.26**	**349**	*e*P	**P**	**05 41 06.9**	**+0.3**
H10S2	**ASCENSION HYDR**	**51.37**	**15**	T	T	06 36 55.7	
	baz=33,slow=74,SNR=42						
H10S3	**ASCENSION HYDR**	**51.37**	**15**	T	T	06 36 49.0	
	baz=187,slow=74,SNR=45						
PB16	**IPOC Station P**	**51.51**	**304**	P	**P**	**05 41 09.9**	**+0.8**
PB16				lAmb	lAmb	05 41 39.9	
	comp=Z,76nm,1.2s						
H10N1	**ASCENSION HYDR**	**52.48**	**15**	T	T	06 38 09.8	
	baz=181,slow=72,SNR=43						
H10N3	**ASCENSION HYDR**	**52.49**	**15**	T	T	06 38 09.2	
	baz=181,slow=72,SNR=44						
H10N2	**ASCENSION HYDR**	**52.50**	**15**	T	T	06 38 11.7	
	baz=181,slow=72,SNR=40						
LPAZ	**La Paz**	**52.77**	**307**	P	**P**	**05 41 19.1**	**+0.6**
	comp=Z,21nm,0.5s,baz=85,slow=5.7,SNR=93						
LPAZ				LR	LR	06 03 53.9	
	comp=Z,907nm,21.4s,baz=158,slow=36						
LPAZ	**La Paz**	**52.77**	**307**	P	**P**	**05 41 19.3**	**+0.8**
LPAZ				lAmb	lAmb	05 41 39.0	
	comp=Z,75nm,1.1s						
LPAZ	**La Paz**	**52.77**	**307**	*e*P	**P**	**05 41 20.1**	**+1.6**
LPAZ	**La Paz**	**52.77**	**307**	*e*P	**P**	**05 41 19.5**	**+1.0**
VILB	**Vilhena**	**52.84**	**317**	*e*P	**P**	**05 41 18.0**	**-0.3**
NBMA	**Muriti-CE**	**52.98**	**345**	*e*P	**P**	**05 41 19.9**	**+0.5**
SMTB	**Santa Maria do**	**53.10**	**334**	*e*P	**P**	**05 41 20.9**	**+0.6**
CLDB	**Colider**	**53.36**	**323**	*e*P	**P**	**05 41 21.3**	**-0.9**
NBPV	**Pedro Velho**	**53.52**	**349**	*e*P	**P**	**05 41 23.6**	**+0.3**
RCBR	**Riachuelo**	**54.16**	**348**	P	**P**	**05 41 28.5**	**+0.5**
	comp=Z,7.8nm,0.7s,baz=114,slow=11,SNR=7.0						
RCBR	**Riachuelo**	**54.16**	**348**	P	**P**	**05 41 28.5**	**+0.5**
RCBR				pmax	pmax		
	comp=Z,30nm,1.4s						
RCBR	**Riachuelo**	**54.16**	**348**	*e*P	**P**	**05 41 28.5**	**+0.5**
NBPA	**Parau_RN**	**54.37**	**347**	*e*P	**P**	**05 41 29.6**	**+0.2**
NBPB	**Pedra_Branca-C**	**54.88**	**344**	*e*P	**P**	**05 41 33.6**	**+0.4**
MATP	**Matopo**	**55.12**	**70**	LR	LR	06 00 48.9	
	comp=Z,4μm,21.8s,baz=206,slow=31						
NBCL	**Cascavel-CE**	**56.01**	**346**	*e*P	**P**	**05 41 41.1**	**-0.1**
PRPB	**Parauapebas**	**56.22**	**332**	*e*P	**P**	**05 41 42.8**	**0.0**
NBPS	**Pedro

WHZ IAmb IAmb 05 43 41.4
comp=Z,84nm,1.1s
GR1C Gorgona, Isla 74.33 306 *e*P **P 05 43 38.2 -1.8**
ROSC El Rosal 74.45 310 P **P 05 43 42.0 +0.9**
comp=Z,60nm,0.8s,baz=16,slow=2.5,SNR=28
ROSC LR LR 06 16 50.0
comp=Z,2µm,21.7s,baz=174,slow=36
ROSC El Rosal 74.45 310 P **P 05 43 41.3 +0.1**
ROSC pmax pmax
comp=Z,61nm,0.8s
ROSC El Rosal 74.45 310 P **P 05 43 41.3 +0.1**
ROSC IAmb IAmb 05 43 43.9
comp=Z,61nm,0.8s
ROSC El Rosal 74.45 310 *e*P **P 05 43 40.6 -0.6**
YOTC Yotoco, Valle 74.47 308 *e*P **P 05 43 39.0 -2.0**
TOLC Tolima 74.61 309 *e*P **P 05 43 38.6 -3.4**
ELOV Elorza 74.64 315 *e*P **P 05 43 40.2 -1.5**
DCZ Deep Cove 74.65 190 P **P 05 43 42.5 +1.0**
DCZ IAmb IAmb 05 44 45.7
comp=Z,124nm,1.6s
MLZ Mavora Lakes 74.66 191 P **P 05 43 42.8 +1.2**
MALC Bahia Malaga 74.90 307 *e*P **P 05 43 44.0 +0.7**
MALC Bahia Malaga 74.90 307 *e*P **P 05 43 43.1 -0.2**
RREF El Recreo 74.91 309 *e*P **P 05 43 44.2 +0.1**
RUSC La Rusia 74.94 312 P **P 05 43 43.1 -1.0**
RUSC La Rusia 74.94 312 *e*P **P 05 43 41.5 -2.6**
GUY2C Guyana, Caldas 75.22 309 *e*P **P 05 43 43.9 -1.7**
NORC Norcasia 75.33 310 *e*P **P 05 43 43.1 -2.7**
CNOCA NORCASIA, CALD 75.33 310 *e*P **P 05 43 44.0 -1.9**
KIBK Kibwezi 75.36 69 P **P 05 43 49.1 +3.0**
BARC Barichara 75.62 312 *e*P **P 05 43 43.1 -4.6**
MQZ McQueen's Vall 75.81 194 P **P 05 43 48.4 +0.3**
MQZ IAmb IAmb 05 43 50.9
comp=Z,93nm,1.1s
RPZ Rata Peaks 75.99 193 P **P 05 43 50.3 +1.0**
RPZ IAmb IAmb 05 43 54.1
comp=Z,88nm,1.0s
TOA0 Torodi Ar. Sit 76.04 28 P **P 05 43 50.4 +0.7**
TOA0 IAmb IAmb 05 43 51.9
comp=Z,75nm,0.7s
TORD Torodi Ar. Bea 76.04 28 P **P 05 43 50.1 +0.4**
comp=Z,52nm,0.6s,baz=196,slow=6.0,SNR=171
TORD Torodi Ar. Bea 76.04 28 P **P 05 43 50.5 +0.8**
TORD IAmb IAmb 05 43 51.9
comp=Z,75nm,0.8s
KMBO Kilima Mbogo 76.05 68 P **P 05 43 52.6 +2.4**
comp=Z,6.4nm,0.9s,baz=203,slow=4.2,SNR=8.3
KMBO LR LR 06 14 07.0
comp=Z,5µm,20.0s,baz=190,slow=33
CBOC Ciudad Bolivar 76.05 309 *e*P **P 05 43 47.2 -2.9**
KOWA Kowa 76.10 22 P **P 05 43 50.7 +0.7**
comp=Z,19nm,0.7s,baz=196,slow=5.0,SNR=33
KOWA Kowa 76.10 22 P **P 05 43 51.1 +1.1**
HELC Santa Helena 76.16 309 *e*P **P 05 43 48.9 -2.0**
OXZ Oxford 76.26 194 P **P 05 43 51.8 +1.0**
OXZ IAmb IAmb 05 43 53.7
comp=Z,193nm,1.6s
BRRC Barranca, Sant 76.30 311 *e*P **P 05 43 47.2 -4.0**
LTZ Lake Taylor 76.77 194 P **P 05 43 55.1 +1.4**
LTZ IAmb IAmb 05 43 56.7
comp=Z,109nm,1.2s
SDV Santo Domingo 76.80 315 P **P 05 43 54.4 +0.1**
SDV IAmb IAmb 05 43 55.4
comp=Z,76nm,0.8s
SDV Santo Domingo 76.80 315 *e*P **P 05 43 55.1 +0.8**
SOLC Bahia Solano 76.94 308 *e*P **P 05 43 54.6 -0.2**
ZARC Zaragoza, Cauc 77.09 311 *e*P **P 05 43 53.0 -2.7**
DBBC Dabeiba 77.18 309 *e*P **P 05 43 53.8 -2.5**
OCAC Ocana 77.19 312 *e*P **P 05 43 53.0 -3.4**
UREC San Jos de Ur 77.59 310 *e*P **P 05 43 55.5 -3.1**
TAU Tasmania Unive 77.69 175 P **P 05 43 59.1 +0.3**
TAU pmax pmax
comp=Z,105nm,0.9s
TAU Tasmania Unive 77.69 175 P **P 05 43 59.0 +0.3**
THZ Tophouse 77.69 195 P **P 05 43 59.0 +0.1**
THZ IAmb IAmb 05 44 03.4
comp=Z,100nm,1.0s
TUWZ Tuamarina 77.88 196 P **P 05 44 00.7 +0.9**
SMLC San Martn de 77.99 312 *e*P **P 05 43 57.9 -2.8**
MOTC Monteria, Cord 78.58 310 *e*P **P 05 44 01.2 -2.7**
LODK Lodwar 79.18 64 P **P 05 44 09.8 +2.3**
SJCC San Jacinto, C 79.42 311 *e*P **P 05 44 08.6 0.0**
SMRC Santa Marta, M 80.22 313 *e*P **P 05 44 11.1 -1.8**
RIOS Rincon, Osa 81.70 303 P **P 05 44 21.2 +0.4**
RIOS IAmb IAmb 05 44 22.6
comp=Z,62nm,0.9s
PEZE Perez Zeledon, 82.38 303 P **P 05 44 24.9 +0.4**
TOO Toolangi 82.92 174 P **P 05 44 27.2 +0.1**
baz=83,SNR=17
TOO Toolangi 82.92 174 P **P 05 44 27.5 +0.4**
TOO pmax pmax
comp=Z,44nm,0.9s
TOO Toolangi 82.92 174 P **P 05 44 27.5 +0.4**
NWAO Narrogin (SRO) 83.03 150 P **P 05 44 27.9 +0.3**
baz=83,SNR=8.1
ARPS Mount Arapiles 83.46 171 P **P 05 44 29.6 -0.2**
baz=83,SNR=16
MUN Mundaring 83.67 149 P **P 05 44 30.8 -0.2**
baz=84,SNR=9.6
JTS Las Juntas de 83.74 303 P **P 05 44 31.3 -0.1**
baz=85,slow=5.1
JTS Las Juntas de 83.74 303 *i* P **P 05 44 31.2 -0.2**
JTS pmax pmax
comp=Z,37nm,1.1s
JTS Las Juntas de 83.74 303 *e*P **P 05 44 30.3 -1.1**
STVI Saint Thomas 83.77 324 P **P 05 44 30.4 -0.9**
STVI IAmb IAmb 05 44 32.1
comp=Z,75nm,0.8s
SJG San Juan 83.91 322 P **P 05 44 30.7 -1.4**
comp=Z,16nm,0.8s,baz=65,slow=3.0,SNR=7.5
SJG San Juan 83.91 322 *e*P **P 05 44 29.7 -2.4**
KLBR Kellerberrin 84.43 150 P **P 05 44 34.7 -0.1**
baz=84,SNR=13
TBI Tubuai 85.08 231 *e*LQ LQ 06 08 00.3
comp=Z,364nm,40.8s
TBI *e*LR LR 06 11 41.7
comp=Z,977nm,21.5s
ESPN Las Esperanzas 85.17 304 P **P 05 44 37.6 -1.0**
ACON Acoyapa 85.34 303 P **P 05 44 38.9 -0.4**
ACON IAmb IAmb 05 44 40.0
comp=Z,41nm,0.9s
BOAB BOACO BROADBAN 85.98 303 P **P 05 44 42.9 +0.3**
SDDR Presa de Saban 86.39 318 *e*P **P 05 44 40.5 -4.0**
HTT Hallett 86.50 168 P **P 05 44 45.6 +0.5**
baz=86,SNR=12
BBOO Buckleboo 86.77 165 P **P 05 44 46.4 0.0**
baz=87,SNR=22
BBOO Buckleboo 86.77 165 P **P 05 44 47.1 +0.7**
BBOO IAmb IAmb 05 44 47.2
comp=Z,32nm,0.8s
FORT Forrest 87.50 158 P **P 05 44 50.4 +0.5**
baz=87,SNR=30
FORT Forrest 87.50 158 P **P 05 44 50.7 +0.7**
STKA Stephens Creek 88.30 170 P **P 05 44 53.9 +0.1**
comp=Z,35nm,0.8s,baz=165,slow=5.7,SNR=61
STKA LR LR 06 23 04.0
comp=Z,981nm,18.8s,baz=177,slow=35
STKA Stephens Creek 88.30 170 P **P 05 44 53.8 +0.1**
baz=88,SNR=26
STKA Stephens Creek 88.30 170 P **P 05 44 53.7 -0.1**
STKA pP **pP 05 45 05.8 -2.6**
CMSA Cobar Meteorol 88.94 173 P **P 05 44 57.4 +0.7**
baz=89,SNR=17
MTO3 Montecristo 89.31 300 P **P 05 44 57.9 -0.9**
MEEK Meekatharra 89.37 149 P **P 05 44 59.5 +0.5**
baz=89,SNR=6.6
ESQI Esquipulas 89.44 301 P **P 05 44 59.4 +0.1**
ESQI IAmb IAmb 05 45 00.6
comp=Z,45nm,0.9s
ATD Arta Tunnel 89.76 67 P **P 05 45 00.8 +0.1**
ATD IAmb IAmb 05 45 22.2
comp=Z,65nm,1.2s
ARMA Armidale 90.27 178 P **P 05 45 02.7 -0.5**
ARMA IAmb IAmb 05 45 05.1
comp=Z,36nm,1.1s
PPT2 Papeete2 90.31 233 *e*LQ LQ 06 10 09.1
comp=Z,410nm,23.8s
PPT2 *e*LR LR 06 14 08.9
comp=Z,2µm,24.0s
PPT Papeete 90.33 233 LR LR 06 18 18.0
comp=Z,1µm,18.5s,baz=164,slow=31
PETF Flores 91.76 301 P **P 05 45 09.2 -0.7**
WRKA Warakurna 93.13 157 P **P 05 45 16.6 +0.2**
baz=93,SNR=7.6
QLP Quilpie 93.76 172 P **P 05 45 20.3 +1.1**
baz=94,SNR=6.8
MDT Midelt 93.89 18 P **P 05 45 21.4 +1.9**
comp=Z,4.8nm,0.8s,baz=232,slow=2.8,SNR=7.2
TAOE Nuku Hiva Isla 93.97 245 *e*LR LR 06 15 49.6
comp=Z,4µm,31.6s
RMQ Roma 94.11 176 P **P 05 45 22.5 +1.7**
baz=94,SNR=10.0
PSA00 Pilbara Seismi 94.53 149 P **P 05 45 21.9 -0.9**
ASAR Alice Springs 95.46 162 P **P 05 45 26.6 -0.5**
comp=Z,22nm,0.7s,baz=183,slow=3.8,SNR=155
ASAR PP **PP 05 49 15.5 -1.8**
comp=Z,3.6nm,0.8s,baz=185,slow=7.7,SNR=4.6
ASAR PKKPbc **PKKPbc 06 02 15.9 +0.3**
comp=Z,1.0nm,0.7s,baz=27,slow=1.6,SNR=7.9
ASAR LR LR 06 25 22.5
comp=Z,4µm,21.2s,baz=193,slow=34
ASAR Alice Springs 95.46 162 P **P 05 45 26.1 -1.0**
ASAR pP **pP 05 45 38.5 -3.2**
AS31 Alice Springs 95.46 162 P **P 05 45 26.2 -0.9**
DZM Mont Dzumac 97.89 192 P Pdif 05 45 39.0 +0.8
comp=Z,7.2nm,0.9s,baz=2.9,slow=14,SNR=4.3
DZM Mont Dzumac 97.89 192 *e*LR LR 06 17 40.3
comp=Z,2µm,22.7s
DZM Mont Dzumac 97.89 192 IAmb IAmb 05 45 40.4
comp=Z,48nm,1.4s
WRA Warramunga Arr 99.18 162 P **Pdif 05 45 43.5 -0.4**
comp=Z,5.3nm,0.9s,baz=195,slow=4.4,SNR=18
WRA PP **PP 05 49 45.6 -0.4**
comp=Z,3.0nm,0.9s,baz=198,slow=6.6,SNR=5.6
WRA PKKPbc **PKKPbc 06 02 06.6 +1.1**
comp=Z,0.9nm,0.6s,baz=352,slow=2.9,SNR=8.3
WRA LR LR 06 28 09.4
comp=Z,3µm,20.4s,baz=200,slow=34
WRA Warramunga Arr 99.18 162 P **Pdif 05 45 43.5 -0.4**
WRA pmax pmax
comp=Z,7.0nm,2.0s
WRA Warramunga Arr 99.18 162 **Pdif 05 45 43.5 -0.4**
FITZ Fitzroy Crossi 99.29 153 P **Pdif 05 45 44.7 +0.4**
comp=Z,5.4nm,1.0s,baz=211,slow=5.8,SNR=3.9
FITZ LR LR 06 28 07.8
comp=Z,839nm,20.0s,baz=187,slow=34
FITZ Fitzroy Crossi 99.29 153 IAmb IAmb 05 48 51.3
comp=Z,34nm,1.8s
KEST Kesra 99.55 29 LR LR 06 25 42.4
comp=Z,2µm,19.2s,baz=174,slow=32
ESDC Sonseca Array 100.70 18 P **Pdif 05 45 51.4 +1.4**
comp=Z,1.9nm,0.9s,baz=188,slow=4.6,SNR=8.9
RGRI Rengat 108.28 125 P **Pdif 05 46 24.0 -0.4**
TXAR Lajitas Array 108.72 296 PKiKP **PKiKP 05 50 30.4 -0.4**
comp=Z,0.5nm,0.8s,baz=157,slow=4.9,SNR=5.1
TXAR PKKPbc **PKKPbc 06 01 40.6 +2.9**
comp=Z,1.4nm,0.9s,baz=280,slow=2.0,SNR=12
BRTR Keskin Array B 110.70 46 PKiKP **PKiKP 05 50 34.1 -0.2**
comp=Z,0.9nm,0.9s,baz=160,slow=4.6,SNR=3.5
BRTR PP **PP 05 51 13.4 +0.9**
comp=Z,2.0nm,0.9s,baz=186,slow=5.8,SNR=5.5
GERES GERESS Array B 112.99 28 PKiKP **PKiKP 05 50 38.7 +0.4**
comp=Z,0.9nm,0.8s,baz=171,slow=1.9,SNR=6.2
121A Cookes Peak, D 113.31 295 P 05 50 40.4
baz=147
TUC Tucson 114.52 292 P 05 50 42.4
baz=146
ANMO Albuquerque 114.71 297 *i* PKiKP PKPdf 05 50 40.3 -1.9
UZH Uzhgorod 115.01 33 *e*PKiKP PKPdf 05 50 41.1 -0.8
UZH *i* 05 50 54.3
CLL Collm 115.13 26 *e*PKiKP **PKiKP 05 50 43.0 +0.9**
CLL *e*PS **PS 06 01 25.0 +2.5**
CLL *e*SS SS 06 07 48.0 +12
CLL *e*SSS SSS 06 11 48.0
CLL *e*SSSS 06 15 36.0
CLL Collm 115.13 26 *e*PKiKP **PKiKP 05 50 43.0 +0.9**
T25A Trinidad 115.62 300 P 05 50 44.3
baz=147
SOC Sochi 116.30 48 *i* PKiKP **PKiKP 05 50 45.8 +1.2**
SOC *e* 05 51 52.7
SOC *e*PPP PPP 05 54 22.3
SOC *e* 05 57 27.6
SOC *e*PS **PKKPdf 06 01 39.4 +0.6**
SOC *e*SS SS 06 07 50.3 -1.5
SOC *e*SSS SSS 06 12 13.6
SOC MLR MLR
comp=Z,383nm,22.0s
SDCO Great Sand Dun 116.61 300 P 05 50 45.8
baz=146
S22A 4UR Ranch, Cre 117.20 299 P 05 50 48.2
baz=146
MVCO Mesa Verde 117.51 297 P 05 50 47.5
baz=146
KBZ Khabaz 117.65 50 PKP **PKPdf 05 50 46.6 -0.6**
comp=Z,2.9nm,0.8s,baz=217,slow=1.8,SNR=6.6
PDMCI Parker Dam,Lak 117.75 291 P 05 50 48.6
baz=145
KIV Kislovodsk 117.75 50 *i* PKiKP **PKPdf 05 50 47.5 -0.1**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,1µm,22.0s
ECSD EROS Data Cent 117.89 310 P 05 50 47.9
baz=147
BELC Belle Mtn. Jos 118.39 289 P 05 50 49.5
baz=145
PV18 Skein Mesa, Pa 118.55 297 PKPdf **PKiKP 05 50 50.3 +0.8**
SCHQ Schefferville 118.58 335 PKP **PKPdf 05 50 48.1 -0.5**
comp=Z,8.3nm,0.7s,baz=98,slow=1.7,SNR=20
MAK Makhachkala 118.84 54 *e*P **Pdif 05 47 10.7 +0.2**
MAK *i* 05 50 48.8
MAK *e* 05 52 10.8
MAK *e*PPP PPP 05 54 44.2
MAK pmax pmax
comp=Z,36nm,0.5s
GMRC Granite Mounta 118.86 290 P 05 50 51.1
baz=145
AKASG Malin Array Be 118.89 37 PKP **PKPdf 05 50 48.3 -1.1**
comp=Z,4.6nm,0.7s,baz=236,slow=1.4,SNR=14
AKASG PP **PP 05 52 06.5 -3.4**
comp=Z,0.2nm,0.3s,baz=199,slow=7.7,SNR=5.0
AKASG SKP 05 54 23.3
comp=Z,1.2nm,0.6s,baz=246,slow=1.9,SNR=3.3
AKASG Malin Array Be 118.89 37 PKPdf **PKiKP 05 50 49.6 +0.2**
AKBB Malin Array Si 118.89 37 *i* PKiKP **PKPdf 05 50 47.9 -1.4**
N23A Red Feather La 119.40 301 P 05 50 51.6
baz=145
O20A White River Ci 119.79 299 P 05 50 52.0
baz=145
SHOC Shoshone, Teco 120.06 290 P 05 50 53.1
baz=144
EDW2 Edwards Air Fo 120.06 288 P 05 50 53.3
baz=144
MPMC Manual Prospec 120.77 289 P 05 50 54.6
baz=144
FURC Furnace Creek, 120.80 290 P 05 50 54.8
baz=144
TPNV Topopah Spring 120.89 291 P 05 50 54.4
baz=144
ISA Isabella, Lake 120.92 288 P 05 50 54.5
baz=144
SRAK Srakaew 120.98 118 PKP **PKiKP 05 50 55.8 +1.2**
K22A Casper 121.08 302 P 05 50 53.1
baz=144
RSSD Black Hills 121.22 305 P 05 50 54.0
baz=145
CWC Cottonwood Cre 121.36 289 P 05 50 55.4
baz=144
AGMN Agassiz Nation 121.42 313 P 05 50 53.7
baz=146
GRAC Grapevine Rang 121.46 290 P 05 50 55.2
baz=144
PABE Paberze 121.64 31 *e*P **PKiKP 05 50 55.5 +0.8**
R11A Troy Canyon, C 121.70 292 P 05 50 55.3
baz=143
MNK Minsk 121.82 34 *i* PKiKP **PKPdf 05 50 54.0 -0.9**
MNK *i* 05 52 29.9
MNK *i* PPP PPP 05 55 06.1
MNK *i* 05 57 56.6
MNK *i* PS **PS 06 02 25.2 +2.4**
MNK *i* SS SS 06 09 02.3 -0.5
MNK *i* SSS SSS 06 13 33.7
MNK pmax pmax
comp=Z,18nm,1.1s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK MLR MLR
comp=Z,596nm,26.0s
MNK MLR MLR
comp=E,26nm,12.0s
MNK Minsk 121.82 34 *i* PKP **PKPdf 05 50 54.0 -0.9**
comp=E,3.0nm,1.1s
MNK *i* PKP **PKPdf 05 50 54.0 -0.9**
comp=N,10.0nm,0.7s
MNK *i* PKP **PKPdf 05 50 54.0 -0.9**
comp=Z,18nm,1.1s,baz=209
MNK *i* pPKP **sPKPdf 05 51 21.5 +5.9**
MNK *i* PP **PP 05 52 30.0 +0.1**
MNK *i* SKP 05 54 20.0
MNK *i* PKS **PKSdf 05 54 30.7 -0.5**
MNK *i* PPP PPP 05 55 06.1
MNK *i* SKS **SKSdf 05 57 56.6 -5.0**
MNK *i* sSKS 05 58 45.4
MNK *i* PS **PS 06 02 25.2 +2.4**
MNK *i* SKKS **SKKSdf 06 08 28.8 -6.9**
MNK *i* SS **SS 06 09 02.4 -0.4**
MNK *i* SSS SSS 06 13 33.8
MNK *i* LQ LQ 06 35 40.5
MNK *i* LR LR 06 37 47.6
MNK *i* LRM MLR 06 40 40.7
comp=Z,596nm,25.6s
MNK *i* LRM MLR 06 41 10.1
comp=N,1µm,25.6s
MNK *i* LRM MLR 06 41 30.6
comp=E,26nm,11.9s
NACGM Naroch 121.87 33 *i* PKP **PKPdf 05 50 53.5 -1.4**
DUG Dugway, Tooele 121.90 296 P 05 50 55.6
baz=143
BW06 Boulder Array 122.50 300 P 05 50 56.3
baz=143
PDAR Pinedale Array 122.50 300 PKP **PKPdf 05 50 56.0 -0.9**
comp=E,0.9nm,0.5s,baz=133,slow=5.5,SNR=13
PDAR Pinedale Array 122.50 300 PKPdf **PKPdf 05 50 56.1 -0.8**
CHAI Chaiyaphum 122.62 117 PKP **PKiKP 05 50 58.3 +0.5**
MHMT Maesarieng 122.71 111 PKP **PKiKP 05 50 58.1 +0.1**
PHIT Phitsanulok 123.02 114 PKP **PKiKP 05 50 59.5 +0.9**
ULM Lac du Bonnet 123.05 314 PKP **PKPdf 05 50 56.1 -1.3**
comp=E,3.7nm,0.4s,baz=250,slow=0.5,SNR=10
ULM PKKPbc **PKKPbc 06 00 48.9 +1.1**
comp=E,4.2nm,0.8s,baz=331,slow=4.7,SNR=6.3
NVAR Mina Array Bea 123.05 291 PKP **PKiKP 05 50 58.7 +0.4**
comp=E,2.9nm,0.7s,baz=150,slow=3.2,SNR=27
NVAR PKKPbc **PKKPab 06 00 50.6 +2.6**
comp=E,0.8nm,0.8s,baz=309,slow=3.1,SNR=5.7
NVAR Mina Array Bea 123.05 291 **PKiKP 05 50 58.5 +0.2**
CM13 Chiang Mai Arr 123.39 112 PKP **PKiKP 05 50 59.6 +0.3**
CM05 Chiang Mai Arr 123.39 112 PKP **PKiKP 05 50 59.7 +0.4**
CM04 Chiang Mai Arr 123.40 112 PKP **PKiKP 05 50 59.8 +0.5**
CM01 Chiang Mai Arr 123.41 112 PKP **PKiKP 05 50 59.8 +0.4**
CM02 Chiang Mai Arr 123.42 112 PKP **PKiKP 05 50 59.8 +0.4**
CM15 Chiang Mai Arr 123.42 112 PKP **PKiKP 05 51 00.0 +0.6**
CMAR Chiang Mai Arr 123.43 112 PKP **PKPdf 05 50 59.4 +0.2**
comp=E,28nm,0.8s,baz=232,slow=3.8,SNR=76
CMAR PP **PP 05 52 41.7 +0.8**
comp=E,0.8nm,0.3s,baz=303,slow=41,SNR=1.1
CMAR Chiang Mai Arr 123.43 112 PKIKP **PKPdf 05 50 58.5 -0.7**
CMAR Chiang Mai Arr 123.43 112 PKPdf **PKPdf 05 50 58.5 -0.7**
CM09 Chiang Mai Arr 123.44 112 PKP **PKiKP 05 51 00.1 +0.7**
VRH Novokhopyorsk 123.45 44 *e*PKIKP **PKPdf 05 50 57.9 -0.2**
VRH pmax pmax
comp=Z,30nm,0.8s
UTTA Uttaradit 123.57 114 PKP **PKiKP 05 51 00.1 +0.5**
NC602 NORSAR Array S 123.63 21 *e*PKPdf **PKPdf 05 50 57.8 -0.4**
LPSR Galich'ya Gora 123.64 42 *e*PKIKP **PKPdf 05 50 58.4 0.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
CHTO Chiang Mai 123.74 112 PKP **PKiKP 05 51 00.5 +0.5**
CMMT Chiang Mai 123.74 112 PKP **PKPdf 05 50 59.5 -0.3**
NB2 NORSAR Subarra 123.85 21 PKPdf **PKPdf 05 50 58.4 -0.3**
baz=202,slow=1.9
NOA NORSAR Array B 123.85 21 PKP **PKPdf 05 50 58.4 -0.3**
comp=Z,12nm,0.9s,baz=197,slow=1.6,SNR=32
NOA SKP 05 54 32.4
comp=Z,2.1nm,1.0s,baz=190,slow=1.5,SNR=6.4
NOA PKKPbc **PKKPbc 06 00 46.2 +1.2**
comp=Z,0.3nm,0.6s,baz=30,slow=4.1,SNR=3.5
LAO LASA Array 124.20 305 P 05 50 59.5
baz=143
RLMT Red Lodge 124.25 302 P 05 50 59.7
baz=142
PAYA Payao 124.65 113 PKP **PKiKP 05 51 02.1 +0.3**
MOL Molde 124.65 18 *e*PKPdf **PKiKP 05 51 00.6 +0.2**
DGMT Dagmar 124.79 308 P 05 51 01.5
baz=143
AAL Aland 124.85 26 *e*P **PKPdf 05 51 00.0 -0.5**
OBN Obninsk 124.96 39 *e*PKIKP **PKPdf 05 51 00.8 0.0**
OBN *e* 05 52 51.7
OBN *e*PPP PPP 05 55 32.5
OBN pmax pmax
comp=Z,15nm,0.5s
VSU Vasula 124.97 31 *e*P **PKiKP 05 51 01.1 0.0**
VSU Vasula 124.97 31 *i* PKIKP **PKiKP 05 51 01.1 0.0**
NONG Nongkai 125.04 117 PKP **PKiKP 05 51 02.8 +0.2**
ANGG Ammassalik, Gr 125.22 354 *i* P **PKPdf 05 51 01.1 +0.1**
ANGG IAmb IAmb 05 51 02.0
comp=Z,26nm,0.7s
ISOG Isortoq, Green 125.22 354 *i* P **PKPdf 05 51 00.0 -1.0**
ISOG IAmb IAmb 05 51 03.1
comp=Z,27nm,1.0s
HLID Hailey 125.29 297 P 05 51 02.9
baz=142
CRAI Chiangrai 125.64 113 PKP **PKiKP 05 51 04.7 +1.0**
MOS Moscow 125.82 39 *i* PKIKP **PKPdf 05 51 01.4 -1.1**
MOS *e* 05 53 02.7
MOS MLR MLR
comp=Z,600nm,20.0s
MEF Metsahovi 125.91 29 *e*P **PKiKP 05 51 02.8 -0.1**
RAF Rauma 126.00 27 *e*P **PKPdf 05 51 01.1 -1.5**
O03E Paynes Creek 126.19 289 P 05 51 04.1
baz=141
BELG Belogornoye 126.57 47 *i* PKIKP **PKPdf 05 51 04.0 0.0**
DY2G Dye2 126.65 350 *i* P **PKiKP 05 51 04.6 0.0**
DY2G IAmb IAmb 05 51 05.4
comp=Z,34nm,0.9s
EGMT Eagleton 126.73 304 P 05 51 05.2
baz=141,SNR=5.2
N02D Trinity Center 127.15 289 P 05 51 06.6
baz=141
NSS Namsos 127.22 20 *e*PKPdf **PKiKP 05 51 05.8 +0.4**
M04C Macdoel 127.36 290 P 05 51 06.8
baz=141
FINES FINESS Array B 127.39 29 PKP **PKPdf 05 51 05.0 -0.3**
comp=Z,9.7nm,0.6s,baz=129,slow=2.7,SNR=46
FINES SKPbc SKiKP 05 54 18.0 -19
comp=Z,1.2nm,0.6s,baz=197,slow=4.2,SNR=2.2
FINES FINESS Array B 127.39 29 PKPdf **PKPdf 05 51 05.6 +0.3**
FIA1 FINESS Array S 127.39 29 PKPdf **PKPdf 05 51 05.6 +0.2**
M02C Callahan 127.55 289 P 05 51 07.2
baz=140
SFJD Kangerlussuaq 127.57 348 *i* P **PKPdf 05 51 05.0 -0.6**
SFJD IAmb IAmb 05 51 07.0
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 127.57 348 *i* PKIKP **PKPdf 05 51 04.9 -0.6**
SFJD pmax pmax
comp=Z,18nm,0.9s
MSO Missoula 127.62 300 P 05 51 06.9
baz=140
L04D Klamath Falls 127.92 290 P 05 51 07.6
baz=140
ICESG Greenland Ices 128.78 354 *i* P **PKPdf 05 51 08.3 +0.1**
ICESG IAmb IAmb 05 51 10.2
comp=Z,71nm,1.0s
QIZ Qiongzhong 128.84 123 PKP **PKiKP 05 51 10.3 +0.2**
QIZ PP **PP 05 53 19.8 +3.2**
QIZ L L
comp=Z,480nm,21.1s
QIZ L L
comp=Z,290nm,21.6s
QIZ L L
comp=Z,640nm,23.3s
AB31 Akbulak array 129.07 57 *i* PKIKP **PKPdf 05 51 08.3 -0.6**
AB31 pmax pmax
comp=Z,39nm,0.9s
ABKAR Akbulak array 129.07 57 PKPdf **PKPdf 05 51 08.3 -0.6**
I05D Terrebonne, OR 129.08 293 P 05 51 10.4
baz=139
MOR8 Moi Rana 129.15 20 *e*PKPdf **PKiKP 05 51 09.6 +0.3**
KK31 Karatay Array 129.21 70 *i* PKIKP **PKPdf 05 51 08.9 -0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 129.21 70 PKIKP **PKPdf 05 51 08.9 -0.6**
KKAR Karatay Array 129.21 70 PKPdf **PKPdf 05 51 08.9 -0.6**

KONS	Konsvik	129.22	19	ePKPdf	PKiKP	05 51 09.4	0.0		
DZA	Taraz	129.44	71	ePKP	PKPdf	05 51 09.7	-0.3		
	baz=71								
DZA	Taraz	129.44	71	ePKIKP	PKPdf	05 51 09.6	-0.3		
ILULI	Ilulissat	129.77	349	*i* P	PKPdf	05 51 10.1	+0.4		
ILULI				IAmb	IAmb	05 51 10.8			
	comp=Z,36nm,0.9s								
ILULI	Ilulissat	129.77	349	*i* PKIKP	PKPdf	05 51 10.0	+0.4		
ILULI				pmax	pmax				
	comp=Z,36nm,0.9s								
SCO	Scoresbysund	129.87	2	*i* P	PKiKP	05 51 10.8	+0.1		
SCO				IAmb	IAmb	05 51 12.3			
	comp=Z,39nm,1.3s								
SCO	Scoresbysund	129.87	2	*i* PKIKP	PKiKP	05 51 10.7	+0.1		
SCO				pmax	pmax				
	comp=Z,39nm,1.3s								
H04D	Lebanon	129.88	292	P		05 51 12.1			
	baz=139								
AML	Almayashu	130.00	73	P	PKPdf	05 51 11.6	+0.1		
	SNR=11								
NEW	Newport	130.11	299	P		05 51 12.1			
	baz=138								
FAUS	Fauske	130.38	20	ePKPdf	PKiKP	05 51 11.4	-0.3		
EKS2	Erkin-Say	130.45	72	P	PKiKP	05 51 12.8	-0.1		
	SNR=18								
KLMR	Klimovskoe	130.56	36	ePKIKP	PKPdf	05 51 09.5	-1.8		
KLMR				*e*		05 53 29.9			
KLMR				pmax	pmax				
	comp=Z,65nm,1.3s								
KLMR	Klimovskoe	130.56	36	ePKPdf	PKPdf	05 51 09.6	-1.8		
KLMR				AMP		05 51 13.4			
	comp=Z,65nm,1.3s								
KLMR				*ep*PKPdf	sPKPdf	05 51 36.5	+4.4		
KLMR				*e*PP	PP	05 53 30.0	+2.2		
KLMR				*e*SKPab	SKPbc	05 54 21.4	-8.7		
KLMR				*e*		05 54 34.8			
KLMR				*e*		05 54 34.8			
LOF	Lofoten	130.77	19	ePKPdf	PKiKP	05 51 12.3	-0.2		
AAK	Ala-Archa	130.78	73	P	PKiKP	05 51 13.2	-0.3		
	SNR=11								
AAK	Ala-Archa	130.78	73	PKIKP	PKPdf	05 51 12.4	-0.3		
AAK				pmax	pmax				
	comp=Z,26nm,1.0s								
STEI	Steigen	130.87	19	ePKPdf	PKiKP	05 51 12.6	0.0		
KMI	Kunming	130.94	112	⇓PKP	PKPdf	05 51 14.1	+0.5		
KMI				PP	PP	05 53 32.8	+2.1		
KMI				SKKS		06 00 14.0			
KMI				SS	SS	06 10 54.0	-3.2		
KMI				PPMZ					
	comp=Z,160nm,5.4s								
KMI				L	L				
	comp=Z,590nm,18.8s								
KMI				L	L				
	comp=Z,230nm,18.0s								
KMI				L	L				
	comp=Z,720nm,18.8s								
KBK	Karagaybulak	131.01	73	P	PKiKP	05 51 13.9	-0.1		
	SNR=7.5								
USP	Ospenovka	131.25	72	P	PKPdf	05 51 13.8	+0.4		
	SNR=13								
SGDS	Sogindy	131.45	72	⇓*i* PKP	PKPdf	05 51 13.4	-0.5		
	baz=73								
SGDS	Sogindy	131.45	72	*d i* PKIKP	PKPdf	05 51 13.3	-0.5		
TKM2	Tokmak 2	131.53	74	P	PKPdf	05 51 14.3	+0.1		
	SNR=7.9								
TKM2	Tokmak 2	131.53	74	PKIKP	PKPdf	05 51 13.5	-0.6		
TKM2				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KIRV	Kirov	132.01	43	*i* PKIKP	PKPdf	05 51 14.7	+0.5		
MTBS	Maitube	132.09	74	ePKP	PKPdf	05 51 14.6	-0.5		
	baz=74								
MTBS	Maitube	132.09	74	ePKIKP	PKPdf	05 51 14.5	-0.5		
SUMG	Summit	132.19	355	*i* P	PKiKP	05 51 16.7	+0.9		
SUMG				IAmb	IAmb	05 51 17.9			
	comp=Z,32nm,0.9s								
SUMG	Summit	132.19	355	PKIKP	PKiKP	05 51 16.6	+0.9		
SUMG	Summit	132.19	355	PKPdf	PKiKP	05 51 16.6	+0.9		
D03D	Eldon	132.28	295	P		05 51 17.3			
	baz=137								
BTLS	Baital	132.35	71	⇓PKP	PKPdf	05 51 15.5	+0.1		
	baz=71								
BTLS	Baital	132.35	71	*d i* PKIKP	PKPdf	05 51 15.4	+0.1		
B05A	Bryant	132.35	296	P		05 51 15.9			
	baz=137								
MDOK	Medeo	132.41	74	ePKP	PKPdf	05 51 15.2	-0.6		
	baz=75								
MDOK	Medeo	132.41	74	ePKIKP	PKPdf	05 51 15.1	-0.6		
KUU	Kurty	132.61	73	⇓PKP	PKPdf	05 51 15.8	-0.2		
	baz=74								
KUU	Kurty	132.61	73	*d i* PKIKP	PKPdf	05 51 15.7	-0.2		
TRO	Tromso	133.01	20	ePKPdf	PKiKP	05 51 16.0	+0.2		
PRGR	Permogore	133.04	38	ePKIKP	PKPdf	05 51 16.1	+0.1		
PRGR				*e*		05 53 39.7			
PRGR				pmax	pmax				
	comp=Z,14nm,0.9s								
JETT	Jettan, Norway	133.21	21	ePKPdf	PKPdf	05 51 16.7	+0.4		
KTK1	Kautokeino	133.26	22	ePKPdf	PKPdf	05 51 16.7	+0.4		
UZB	Uzynbulak	133.37	76	⇓PKP	PKPdf	05 51 16.1	-1.4		
	baz=76								
UZB	Uzynbulak	133.37	76	*d i* PKIKP	PKPdf	05 51 16.9	-0.6		
KPKS	Kokpek	133.44	75	⇓*i* PKP	PKPdf	05 51 17.4	-0.2		
	baz=76								
KPKS	Kokpek	133.44	75	*d i* PKIKP	PKPdf	05 51 17.3	-0.2		
ARXS	Arharly	133.57	74	ePKIKP	PKPdf	05 51 17.1	-0.7		
SHLS	Shalkode	133.60	76	ePKP	PKPdf	05 51 18.1	+0.1		
	baz=77								
SHLS	Shalkode	133.60	76	ePKIKP	PKPdf	05 51 18.0	+0.1		
DBG	Daneborg	133.74	2	*i* P	PKiKP	05 51 18.2	-0.1		
DBG				IAmb	IAmb	05 51 19.6			
	comp=Z,13nm,1.0s								
ARU	Arti	133.80	50	*i* PKIKP	PKPdf	05 51 18.0	+0.4		
ARU				MLR	MLR				
	comp=Z,744nm,19.0s								
GYA	Guiyang	133.91	115	⇑PKP	PKiKP	05 51 20.8	+0.5		
ARA0	ARCESS Array S	134.14	23	ePKPdf	PKPdf	05 51 18.6	+0.7		
ARCES	ARCESS Array B	134.14	23	PKhKP	PKPpre	05 51 01.3			
	comp=Z,1.4nm,0.6s,baz=250,slow=0.9,SNR=8.1								
ARCES				PKP	PKPdf	05 51 18.2	+0.2		
	comp=Z,15nm,0.7s,baz=224,slow=1.5,SNR=11								
ARCES				SKPbc	SKPab	05 54 45.9	+0.4		
	comp=Z,5.5nm,0.7s,baz=196,slow=1.7,SNR=7.7								
ARCES	ARCESS Array B	134.14	23	PKPdf	PKPdf	05 51 18.4	+0.5		
APA	Apatity	134.25	28	⇑*i* PKIKP	PKPdf	05 51 13.7	-4.5		
APA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
HAMF	Hammerfest	134.72	21	ePKPdf	PKPdf	05 51 19.5	+0.5		
SVE	Sverdlovsk	134.89	51	*i* PKIKP	PKiKP	05 51 20.5	-0.7		
SVE				pmax	pmax				
	comp=Z,14nm,0.9s								
SVE				MLR	MLR				
	comp=Z,943nm,22.0s								
BRZS	Berezniki	135.27	65	ePKP	PKPdf	05 51 21.4	+0.7		
	baz=65								
BRZS	Berezniki	135.27	65	ePKIKP	PKPdf	05 51 21.3	+0.7		
KULLO	Kullorsuaq	135.49	349	*i* P	PKPdf	05 51 20.5	+0.2		
KULLO				IAmb	IAmb	05 51 21.5			
	comp=Z,45nm,0.9s								
KULLO	Kullorsuaq	135.49	349	*i* PKIKP	PKPdf	05 51 20.5	+0.2		
KULLO				pmax	pmax				
	comp=Z,45nm,0.9s								
DAG	Danmarks Havn	136.25	3	*i* P	PKPdf	05 51 20.7	-1.0		
DAG				IAmb	IAmb	05 51 22.8			
	comp=Z,24nm,0.8s								
DAG	Danmarks Havn	136.25	3	*i* PKIKP	PKPdf	05 51 20.7	-1.0		
DAG				pmax	pmax				
	comp=Z,25nm,0.8s								
BRVK	Borovoye	136.32	60	*i* PKIKP	PKPdf	05 51 22.0	-0.5		
MAKZ	Makanchi	137.46	74	PKIKP	PKPdf	05 51 23.5	-1.4		
MAKZ				pmax	pmax				
	comp=Z,17nm,1.1s								
MKAR	Makanchi Array	137.61	75	PKhKP	PKPpre	05 51 12.4			
MKAR				SKPbc	SKPbc	05 54 52.2	-1.7		
	comp=Z,3.1nm,0.9s,baz=251,slow=3.7,SNR=12								
MKAR				SKPbc	SKPbc	05 54 52.2	-1.7		
	comp=Z,3.3nm,1.0s,baz=228,slow=2.1,SNR=3.6								
MKAR	Makanchi Array	137.61	75	PKHKP	PKPpre	05 51 14.0			
MKAR	Makanchi Array	137.61	75	PKPpre	PKPpre	05 51 14.0			
NEEM	North Greenlan	137.68	352	*i* P	PKiKP	05 51 26.0	-0.7		
NEEM				IAmb	IAmb	05 51 28.4			
	comp=Z,62nm,0.9s								
WMQ	Urumqi	138.18	82	PKP	PKPdf	05 51 26.6	+0.3		
WMQ				PP	PP	05 54 18.6	+2.1		
WMQ				PPMZ					
	comp=Z,260nm,6.3s								
WMQ				L	L				
	comp=Z,540nm,16.5s								
WMQ				L	L				
	comp=Z,750nm,19.5s								
WMQ				L	L				
	comp=Z,1μm,18.1s								
YKA	Yellowknife Ar	139.02	315	PKP	PKPdf	05 51 26.5	-0.7		
	comp=Z,11nm,0.9s,baz=335,slow=5.6,SNR=20								
YKA				PP	PP	05 54 18.6	-2.7		
	comp=Z,3.3nm,0.9s,baz=119,slow=8.2,SNR=5.0								
YKA				SKPbc	SKPbc	05 54 58.9	+1.6		
	comp=Z,5.0nm,0.8s,baz=124,slow=2.6,SNR=7.2								
ZSN	Zaisan	139.33	76	ePKP	PKPdf	05 51 28.4	+0.1		
	baz=76								
ZSN	Zaisan	139.33	76	ePKIKP	PKPdf	05 51 28.3	+0.1		
KBS	Kingsbay	140.20	11	*i* P	PKPdf	05 51 23.3	-5.6		
KBS				IAmb	IAmb	05 51 24.3			
	comp=Z,22nm,0.9s								
LZH	Lanzhou	140.51	104	⇑PKP	PKiKP	05 51 34.0	+0.4		
LZH				sPKP		05 52 12.1			
LZH				PKS	PKSdf	05 55 05.8	-1.2		
LZH				L	L				
	comp=Z,330nm,19.7s								
LZH				L	L				
	comp=Z,330nm,20.1s								
LZH				L	L				
	comp=Z,510nm,21.2s								
WHN	Wuhan	140.86	120	PKP	PKiKP	05 51 34.6	+0.4		
GTA	Gaotai	141.07	97	*eP*	PKPdf	05 51 30.3	-1.5		
GTA				pP	PKiKP	05 51 35.4	+0.8		
GTA				sP	pPKPdf	05 51 38.8	-8.3		
GTA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
GTA				SMN					
	comp=Z,8.0nm,0.9s								
GTA				SME					
	comp=Z,6.0nm,1.0s								
GTA	Gaotai	141.07	97	ePKP	PKPdf	05 51 26.4	-5.4		
GTA				PP	PP	05 54 35.8	+1.5		
GTA				L	L				
	comp=Z,380nm,21.5s								
GTA				L	L				
	comp=Z,440nm,22.2s								
GTA				L	L				
	comp=Z,580nm,20.7s								
NOR	Nord	141.12	2	*i* P	PKPdf	05 51 24.4	-6.1		
NOR	Nord	141.12	2	*i* PKHKP	PKPpre	05 51 24.3			
XAN	Xi'an	141.32	111	PKP	PKPdf	05 51 32.3	0.0		
JOW	Kunigami	142.89	141	PKP	PKPdf	05 51 33.7	-1.7		
	comp=Z,13nm,0.8s,baz=198,slow=3.2								
ZALV	Zalesovo Beam	143.53	68	PKhKP	PKPpre	05 51 31.9			
	comp=Z,10nm,0.3s,baz=230,slow=3.8,SNR=58								
ZALV				SKPbc	SKiKP	05 55 12.1	+2.0		
	comp=Z,1.9nm,0.7s,baz=255,slow=4.3,SNR=3.7								
ZALV	Zalesovo Beam	143.53	68	PKHKP	PKPpre	05 51 31.7			
ZALV	Zalesovo Beam	143.53	68	PKPpre	PKPpre	05 51 31.6			
NJ2	Nanjing	144.09	125	⇑PKP	PKPbc	05 51 35.6	+0.2		
NJ2				pPKP	sPKPdf	05 52 06.9	+8.9		
JIS	Juneau Island	144.44	300		PKPbc	05 51 35.9	+0.3		
BESE	Bessie Mountai	144.82	300	PKPdf	PKPbc	05 51 37.2	+0.3		
WHY	Whitehorse	145.93	303	P		05 51 39.7			
	baz=121,SNR=18								
WHY	Whitehorse	145.93	303	PKPdf	PKPdf	05 51 39.6	0.0		
TIY	Taiyuan	145.96	112	PKPbc	PKPdf	05 51 38.6	-1.8		
TIY				SS	SS	06 13 52.5	-1.6		
TIY				L	L				
	comp=Z,270nm,13.7s								
TIY				L	L				
	comp=Z,170nm,13.2s								
TIY				L	L				
	comp=Z,510nm,20.2s								
JCJ	Chichijima	146.55	162	PKPbc	PKPdf	05 51 42.3	+0.6		
	comp=Z,259nm,0.9s,baz=295,slow=8.6,SNR=7.1								
TIA	Tai'an	146.89	119	PKPbc	PKPdf	05 51 42.3	+0.4		
TIA				L	L				
	comp=Z,420nm,21.1s								
TIA				L	L				
	comp=Z,390nm,18.1s								
TIA				L	L				
	comp=Z,640nm,21.1s								
BTO	Baotou	147.07	106	ePKPbc	PKPdf	05 51 40.6	-1.6		
PINM	Pinnacle	147.97	300	P		05 51 46.8			
	baz=119,SNR=13								
PCA	Pinnacle	147.97	300		PKiKP	05 51 47.6	-0.4		
HHC	Hu-ho-hao-te	148.00	107	ePKPbc	PKPbc	05 51 47.3	+0.3		
HHC				PPMZ					
	comp=Z,260nm,10.7s								
HHC				L	L				
	comp=Z,470nm,20.1s								
HHC				L	L				
	comp=Z,400nm,20.8s								
HHC				L	L				
	comp=Z,660nm,21.3s								
TABL	Table Mountain	148.53	300		PKPbc	05 51 47.9	+0.1		
INK	Inuvik	148.74	317	PKPbc	PKPbc	05 51 46.9	-0.9		
	comp=Z,50nm,0.8s,baz=92,slow=3.9,SNR=62								
INK	Inuvik	148.74	317		PKPbc	05 51 48.0	+0.2		
INK	Inuvik	148.74	317	P		05 51 41.6			
	baz=111								
CTG	Chitna Glacier	148.85	301	P		05 51 48.8			
	baz=117,SNR=7.6								
CRQE	Cirque	149.52	300	P		05 51 44.8			
	baz=116,SNR=12								
JNU	Nakatsue	149.55	141	PKPbc	PKPbc	05 51 51.3	+0.3		
	comp=Z,43nm,0.9s,baz=111,slow=3.4,SNR=9.9								
BJI	Beijing	149.57	113	PKPbc	PKPdf	05 51 46.1	0.0		
BJI				pPKP	sPKPab	05 52 16.8	+0.3		
BJI				sPKP		05 52 28.8			
BJI				PP	PP	05 55 25.9	+1.4		
BJI				SS	SS	06 14 31.4	-3.1		
BJI				PPMZ					
	comp=Z,260nm,9.1s								
BJI				L	L				
	comp=Z,240nm,19.9s								
BJI				L	L				
	comp=Z,230nm,21.5s								
BJI				L	L				
	comp=Z,440nm,25.0s								
MCARA	McCarthy VSAT	149.77	301	P		05 51 45.5			
	baz=115								
HMT	Hamilton	149.86	299		PKPbc	05 51 50.9	0.0		
BCAR	Beaver Creek A	149.94	305	PKPdf	PKPdf	05 51 43.5	-2.6		
L27K	Beaver Creek,	149.96	305	P		05 51 43.8			
	baz=113,SNR=24								
MOY	Mondy	150.07	82	ePKIKP	PKPbc	05 51 51.6	-0.2		
MOY				pmax	pmax				
	comp=Z,55nm,1.8s								
GLB	Gilahina Butte	150.14	301	PKPbc	PKPbc	05 51 51.9	+0.3		
BMRM	Bremner River	150.28	300	P		05 51 45.6			
	baz=115,SNR=6.6								
EGAK	Eagle	150.34	308	P		05 51 44.4			
	baz=111								
SONM	Songino Array	150.42	92	PKPbc	PKPbc	05 51 52.9	+0.1		
	comp=Z,124nm,0.9s,baz=213,slow=2.2,SNR=31								
SONM	Songino Array	150.42	92	PKIKP	PKPdf	05 51 47.6	+0.2		
SONM	Songino Array	150.42	92	PKPdf	PKPdf	05 51 47.6	+0.2		
K27K	Chicken	150.43	306	P		05 51 45.6			
	baz=112								
ZAK	Zakamensk	150.46	86	ePKIKP	PKPdf	05 51 47.5	+0.1		
ZAK				pmax	pmax				
	comp=Z,129nm,1.1s								
N25K	Chitina, Valde	150.55	301	P		05 51 45.4			
	baz=114,SNR=21								
EYAK	Cordova Ski Ar	150.61	298	P		05 51 45.6			
	baz=115,SNR=24								
HIN	Hinchinbrook I	150.88	298		PKPbc	05 51 53.1	-0.2		
FID	Port Fidalgo	151.02	299		PKPbc	05 51 53.9	+0.3		
KLU	Klutina	151.08	300	P		05 51 46.4			
	baz=114,SNR=19								
DL2	Dalian	151.11	122	PKPbc	PKPdf	05 51 47.9	-0.7		
DL2				PKPab	pPKPdf	05 52 03.3	-0.5		
DL2				PPMZ					
	comp=Z,250nm,7.7s								
HARP	HAARP	151.11	302	P		05 51 53.8			
	baz=113,SNR=10								
SCRK	Sand Creek	151.20	306	P		05 51 45.5			
	baz=111,SNR=7.2								
TJN	Taejon	151.26	132	*c i* PKIKP	PKiKP	05 51 55.5	+0.1		
GLI	Glacier Island	151.35	299	P		05 51 54.3			
	baz=114,SNR=15								
TLY	Talaya	151.42	84	ePKIKP	PKPdf	05 51 48.2	-0.5		
TLY				*e*		05 52 03.9			
TLY				pmax	pmax				
	comp=Z,294nm,1.3s								
M24K	Tolsona, Glenn	151.44	301	P		05 51 46.3			
	baz=112,SNR=19								
PAX	Paxson	151.46	303	P		05 51 54.7			
	baz=112,SNR=7.7								
NRIK	Noril'sk	151.51	43	PKPbc	PKPbc	05 51 54.5	0.0		
	comp=Z,18nm,0.9s,baz=188,slow=0.6,SNR=15								
IRK	Irkutsk	152.06	83	ePKIKP	PKPdf	05 51 48.8	-0.8		
IRK				pmax	pmax				
	comp=Z,148nm,1.7s								
SEW	Seward	152.10	296	P		05 51 56.1			
	baz=114								
KNK	Knik Glacier	152.17	299	P		05 51 56.2			
	baz=112,SNR=6.7								
SML	Sawmill	152.26	300	P		05 51 56.4			
	baz=112,SNR=18								
WAT6	Susitna Watana	152.29	302	P		05 51 47.2			
	baz=111,SNR=8.1								
KSAR	Wonju Array Be	152.40	132	PKIKP	PKPdf	05 51 50.3	-0.3		
KSAR	Wonju Array Be	152.40	132	PKPdf	PKPdf	05 51 50.3	-0.3		
KSRS	Korea Array	152.42	132	PKPbc	PKPbc	05 51 57.6	+0.1		
	comp=Z,28nm,0.9s,baz=189,slow=2.0,SNR=41								
BMAR	Burnt Mountain	152.47	313	PKPdf	PKPdf	05 51 47.0	-2.8		
BRSE	Bradley Lake S	152.54	295	P		05 51 57.3			
	baz=114								
KDAK	Kodiak Island	152.55	290	PKPbc	PKPbc	05 51 56.7	-0.4		
	comp=Z,26nm,0.7s,baz=85,slow=2.5,SNR=44								
KDAK	Kodiak Island	152.55	290	P		05 51 56.8			
	baz=117								
HDA	Harding Lake	152.56	306	P		05 51 56.3			
	baz=108								
HDA				P		05 51 56.3			
	baz=108								
RC01	Rabbit Creek A	152.62	298	P		05 51 57.4			
	baz=112								
OHAK	Old Harbor	152.63	289	P		05 51 57.0			
	baz=118								
ILAR	Eielson Array	152.65	306	PKPbc	PKPbc	05 51 56.2	-1.0		
	comp=Z,27nm,0.8s,baz=152,slow=1.6,SNR=79								
ILAR	Eielson Array	152.65	306	PKIKP	PKPdf	05 51 46.7	-3.4		
ILAR	Eielson Array	152.65	306	PKPdf	PKPdf	05 51 46.6	-3.4		
SII	Sitkinak Islan	152.75	287	P		05 51 57.3			
	baz=118								
COLA	College	153.07	306	P		05 51 58.1			
	baz=106								
COLA	College	153.08	306	PKIKP	PKPbc	05 51 58.1	0.0		
COLA	College	153.08	306		PKPbc	05 51 58.1	0.0		
TCOL	CIGO, UAF Yank	153.08	306		PKPbc	05 51 58.1	0.0		
TCOL	CIGO, UAF Yank	153.08	306	P		05 51 58.0			
	baz=106								
CHIR	Chirikof Islan	153.10	284	P		05 51 58.0			
	baz=119								
MCK	McKinley	153.19	304	P		05 51 48.4			
	baz=108,SNR=7.5								
SUA	Susitna One	153.21	298	P		05 51 58.8			
	baz=111,SNR=5.4								
CUT	Chulitna	153.33	300	P		05 51 58.3			
	baz=110,SNR=5.1								
H24K	Noodor Dome	153.35	308	P		05 51 48.0			
	baz=105,SNR=5.7								
NEA2	Nenana	153.50	305	P		05 51 47.9			
	baz=106,SNR=6.9								
SKT	Skwentna	153.74	299	P		05 51 48.5			
	baz=110								
I23K	Minto, Yukon-K	153.77	307	P		05 51 48.1			
	baz=105								
H23K	Yukon River	154.01	308	P		05 51 48.3			
	baz=104								
BPAW	Bear Paw Mtn.	154.16	304	P		05 51 49.1			
	baz=106,SNR=12								
MLY	Manley	154.30	306	P		05 51 49.7			
	baz=104,SNR=8.1								
PPLA	Purkeypile	154.33	301	P		05 51 49.4			
	baz=106								
TOLK	Toolik Lake Re	154.54	314	P		05 51 49.9			
	baz=98,SNR=14								
COLD	Coldfoot	154.56	311	P		05 51 49.9			
	baz=100,SNR=19								
CHNA	Chernabura Isl	154.58	280	P		05 51 51.1			
	baz=120								
N19K	Bonanza Creek	154.67	295	P		05 52 01.4			
	baz=110								
I21K	Tanana	154.85	306	P		05 51 49.8			
	baz=103,SNR=13								
MAT	Matsushiro	154.87	150	PKP	PKPdf	05 51 54.3	+0.1		
MJAR	Matsushiro Arr	154.87	150	PKP	PKPdf	05 51 55.2	+1.0		
	comp=Z,3.4nm,0.7s,baz=168,slow=1.9,SNR=9.9								
MJAR				PKPbc	PKPbc	05 52 03.0	+0.1		
	comp=Z,12nm,0.9s,baz=188,slow=3.1,SNR=17								
MJAR				PKPab	pPKPbc	05 52 17.9	-0.3		
	comp=Z,12nm,0.8s,baz=182,slow=4.8,SNR=10								
MJAR	Matsushiro Arr	154.87	150	PKIKP	PKPdf	05 51 54.5	+0.3		
MJAR	Matsushiro Arr	154.87	150	PKPdf	PKPdf	05 51 54.5	+0.3		
H21K	Melozitna Rive	155.29	307	P		05 51 50.7			
	baz=102,SNR=9.6								
CN2	Changchun	156.76	120	ePKP	PKPdf	05 51 56.5	+0.1		
CN2				PP	PP	05 56 07.9	+2.8		
CN2				PPMZ					
	comp=Z,400nm,6.0s								
CN2				L	L				
	comp=Z,300nm,18.0s								
CN2				L	L				
	comp=Z,300nm,18.0s								
CN2				L	L				
	comp=Z,300nm,20.0s								
A21K	Barrow	157.04	321	P		05 51 52.8			
	baz=85,SNR=9.7								
HIA	Hailar	158.07	103	PKP2	PKPab	05 52 32.4	+0.5		
HIA	Hailar	158.07	103		PKPab	05 52 32.4	+0.5		
MDJ	Mudanjiang	159.18	126	PKP	PKPdf	05 51 59.5	+0.1		
MDJ				pPKP	PKPab	05 52 36.8	+0.1		
MDJ				PP	PP	05 56 20.3	+2.0		
MDJ				L	L				
	comp=Z,480nm,21.4s								
MDJ				L	L				
	comp=Z,270nm,22.1s								
MDJ				L	L				
	comp=Z,760nm,22.8s								
MDJ	Mudanjiang	159.18	126		PKPdf	05 51 59.2	-0.1		
MDJ			

CMIG	**Matias Romero**	**0.72**	**275**	*i* P	Pn	05 34 52.6	-1.5
CMIG				*e*S	Sn	05 35 09.6	-2.1
PCIG		**1.58**	**146**	*e*S	Sn	05 35 23.1	-2.1
VHO	**Vista Hermosa**	**2.49**	**272**	*e*P	Pn	05 35 11.9	-0.3
VHO				*e*S	Sn	05 35 42.2	-2.0
TOIG	**Toxpalan**	**2.99**	**291**	*e*P	Pn	05 35 17.4	-1.1
TOIG				*e*S	Sn	05 35 51.4	-3.9
YOIG	**Yosondua**	**3.27**	**268**	*e*P	Pn	05 35 20.2	-1.9
YOIG				*e*S	Sn	05 35 56.2	-5.7

IDC 20 05:46:43.0±6.5, 6.77S×148.56E, h112km±48km, mb3.1/1, mb1 3.5/3, mb1mx3.1/35, mbtmp3.7/3, Error ellipse: s-maj=124.4km s-min=54.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**208**	P	Pn	05 47 26.8	-1.7
	10.0nm,0.3s,baz=39,slow=12,SNR=14						
PMG				S	Sn	05 48 05.5	+1.8
	5.8nm,0.3s,baz=160,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**19.03**	**225**	P	P	05 50 54.6	-1.8
	0.3nm,0.3s,baz=51,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.92**	**218**	P	P	05 51 27.1	-0.4
	1.1nm,0.6s,baz=53,slow=8.6,SNR=15						
TORD	**Torodi Ar. Bea**	**146.78**	**284**	PKPbc	PKPab	06 06 14.1	-0.5
	0.5nm,0.7s,baz=61,slow=3.9,SNR=2.2						

*IDC **20** 05:55:15.0±2.9, 55.74N×161.36E, h133km±26km, mb3.2/6, mb1 3.5/8, mb1mx3.1/38, mbtmp3.7/8, MS2.4/1, Ms1 2.4/1, ms1mx2.3/24, Error ellipse: s-maj=35.3km s-min=20.4km az=121.0*

*KRSC **20** 05:55:15.2±0.8, 55.50N×161.34E, h141km±8km, ML4.0*

ISC 20 05:55:16.1±0.8, 55.51N±0.03×161.33E±0.04, h142km±5km, n50, σ0892/78, mb3.5/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.56**	**320**	*e*P	Pn	05 55 37.2	+0.2
BZGR				*e*S	Sn	05 55 52.9	-0.1
ZLN	**Zelenaya**	**0.59**	**330**	*e*P	Pn	05 55 37.8	+0.6
ZLN				*e*S	Sn	05 55 54.1	+0.8
TUMD	**Tumrok D**	**0.62**	**240**	*e*P	Pn	05 55 37.1	-0.2
TUMD				*e*S	Sn	05 55 53.0	-0.3
BZWR	**Bezymyannyi-We**	**0.66**	**314**	*e*P	Pn	05 55 37.4	-0.3
BZWR				*e*S	Sn	05 55 54.3	+0.2
KMNR	**Kamenistaya**	**0.67**	**292**	*e*P	Pn	05 55 38.1	+0.4
KMNR				*e*S	Sn	05 55 54.2	+0.1
LGNR	**Loginova**	**0.68**	**328**	*e*P	Pn	05 55 38.4	+0.4
LGNR				*e*S	Sn	05 55 55.1	+0.5
CIRR	**Tsirk**	**0.69**	**332**	*e*P	Pn	05 55 38.1	+0.2
CIRR				*e*S	Sn	05 55 54.6	+0.1
KIRR	**Kirishev**	**0.71**	**309**	*e*P	Pn	05 55 37.6	-0.4
KIRR				*e*S	Sn	05 55 54.1	-0.7
TUMR	**Tumrok**	**0.71**	**252**	*e*P	Pn	05 55 38.0	0.0
TUMR				*e*S	Sn	05 55 54.6	-0.1
KZV	**Kizimen**	**0.72**	**236**	*e*P	Pn	05 55 38.0	-0.1
KZV				*e*S	Sn	05 55 54.7	0.0
KPT	**Kopyto**	**0.78**	**306**	*e*P	Pn	05 55 38.2	-0.2
KPT				*e*S	Sn	05 55 54.8	-0.6
KLY	**Klyuchi**	**0.89**	**335**	*e*P	Pn	05 55 38.7	-0.5
KLY				*e*S	Sn	05 55 55.4	-1.4
MKZ	**Mys Kozlova**	**0.98**	**166**	*e*P	Pn	05 55 40.2	+0.2
MKZ				*e*S	Sn	05 55 58.4	+0.3
KOZ	**Kozyrevsk**	**0.99**	**304**	*e*P	Pn	05 55 40.0	0.0
KOZ				*e*S	Sn	05 55 58.0	-0.3
BDR	**Baidarnaya**	**1.06**	**356**	*e*P	Pn	05 55 40.8	0.0
BDR				*e*S	Sn	05 55 58.6	-1.0
KBG	**Krutoberegovo**	**1.07**	**46**	*e*P	Pn	05 55 40.9	+0.2
KBG				*e*S	Sn	05 55 59.3	-0.3
SMKR	**Semkarok**	**1.07**	**4**	*e*P	Pn	05 55 40.9	0.0
SMKR				*e*S	Sn	05 55 59.4	-0.4
KBTR	**Krutoberegovo**	**1.09**	**50**	*e*P	Pn	05 55 40.9	0.0
KBTR				*e*S	Sn	05 55 59.6	-0.3
SRKR	**Sorokina**	**1.15**	**355**	*e*P	Pn	05 55 41.5	-0.1
SRKR				*e*S	Sn	05 56 00.4	-0.6
SRDR	**Sredinnyy**	**1.22**	**312**	*e*P	Pn	05 55 41.7	-0.5
SRDR				*e*S	Sn	05 56 02.6	+0.5
ESO	**Esso**	**1.55**	**287**	*e*P	Pn	05 55 46.3	+0.7
KII	**Karymskiy**	**1.84**	**217**	*e*P	Pn	05 55 49.8	+0.9
SPN	**Mys Shipunski**	**2.54**	**198**	*e*P	Pn	05 55 56.4	-0.9
SPN				*e*S	Sn	05 56 27.4	-1.6
NLC	**Nalytchevo**	**2.62**	**207**	*e*P	Pn	05 55 58.4	+0.1
NLC				*e*S	Sn	05 56 30.4	-0.3
SDLR	**Sedlovina**	**2.66**	**214**	*e*P	Pn	05 55 59.7	+0.8
BKI	**Bering**	**2.67**	**95**	*e*P	Pn	05 55 59.9	+1.1
BKI				*e*S	Sn	05 56 31.7	-0.1
KRX	**Arik**	**2.67**	**217**	*e*P	Pn	05 56 00.4	+1.3
KRER	**Koryakskii**	**2.68**	**215**	*e*P	Pn	05 56 00.5	+1.2
GNL	**Ganaly**	**2.68**	**229**	*e*P	Pn	05 56 00.2	+1.0
SMAR	**Somma**	**2.70**	**214**	*e*P	Pn	05 56 00.2	+0.7
AVH	**Avacha**	**2.71**	**215**	*e*P	Pn	05 56 01.0	+1.4
KOK	**Koryaka**	**2.73**	**216**	*e*P	Pn	05 56 01.0	+1.2
UGLR	**Uglovaya**	**2.73**	**213**	*e*P	Pn	05 56 00.7	+0.8
DALK	**Dalny**	**2.91**	**212**	*e*P	Pn	05 56 02.4	+0.4
DALK				*e*S	Sn	05 56 37.3	0.0
PET	**Petropavlovsk**	**2.95**	**213**	*e*P	Pn	05 56 03.3	+0.9
PETK	**Petropavlovsk-**	**3.21**	**223**	P	Pn	05 56 06.6	+0.7
	2.9nm,0.3s,baz=56,slow=16,SNR=24						
PETK				LR	LR	05 57 14.1	
	comp=Z,52nm,20.0s,baz=203,slow=35						
KRMR	**Karymshinskiy**	**3.28**	**216**	*e*P	Pn	05 56 07.6	+0.9
RUS	**Russkaya**	**3.51**	**210**	*e*P	Pn	05 56 09.3	-0.3
RUS				*e*S	Sn	05 56 49.7	-1.4
GRL	**Gorelyy**	**3.53**	**214**	*e*P	Pn	05 56 11.2	+1.0
MTVR	**Mutnovka**	**3.56**	**213**	*e*P	Pn	05 56 11.4	+0.9
MTVR				*e*S	Sn	05 56 52.5	-0.1
APC	**Apacha**	**3.57**	**225**	*e*P	Pn	05 56 11.7	+1.3
OSSR	**Ossora**	**3.86**	**13**	*e*P	Pn	05 56 15.6	+1.4
OSSR				*e*S	Sn	05 56 59.2	-0.1
KDTR	**Khodutka, Kamc**	**4.18**	**209**	*e*P	Pn	05 56 17.5	-1.0
KDTR				*e*S	Sn	05 57 03.6	-3.4
ASAJ	**Asahikawa**	**16.56**	**234**	P	Pn	05 59 02.3	+2.5
	0.9nm,0.3s,baz=73,slow=32,SNR=5.2						
MJAR	**Matsushiro Arr**	**24.65**	**229**	P	P	06 00 24.3	+1.0
	1.7nm,0.4s,baz=35,slow=7.1,SNR=5.7						
ILAR	**Eielson Array**	**26.63**	**49**	P	P	06 00 39.1	-1.9
	0.4nm,0.6s,baz=257,slow=6.3,SNR=4.3						
MKAR	**Makanchi Array**	**47.79**	**294**	P	P	06 03 37.0	-1.6
	0.1nm,0.4s,baz=47,slow=8.7,SNR=1.6						
FINES	**FINESS Array B**	**58.19**	**337**	P	P	06 04 53.5	-1.0
	0.4nm,0.5s,baz=19,slow=8.8,SNR=3.9						
WRA	**Warramunga Arr**	**78.58**	**206**	P	P	06 07 02.5	+0.9
	0.3nm,0.4s,baz=17,slow=5.9,SNR=5.9						
ASAR	**Alice Springs**	**82.26**	**205**	P	P	06 07 22.6	+1.4
	0.8nm,0.8s,baz=14,slow=5.5,SNR=7.9						

NOU 20 06:05:10.1, 22.22S×148.03E, h0km, MLv3.9, Queensland, Australia, Queensland

*INET **20** 06:05:06.6, 12.51N×88.16W, h30km, MW3.1*

*UCR **20** 06:05:11.8±1.7, 12.59N×88.18W, h33km±11km, ML3.6*

*SNET **20** 06:05:11.9±1.8, 12.60N×88.30W, h13km±16km, ML3.6*

ISC 20 06:05:12.0±1.8, 12.61N±0.08×88.18W±0.05, h28km±14km, n23, σ0869/34, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.75**	**27**	*e*P	Pb	06 05 26.5	-0.1
CNCH	**Conchagua**	**0.75**	**27**	*e*P	Pb	06 05 26.5	-0.1
LCND	**La Caada**	**0.75**	**22**	*i* P	Pn	06 05 26.3	-0.5
LCND				*e*S	Sn	06 05 38.2	+0.9
LCND				IAML		06 05 43.1	
	comp=Z,2µm,0.3s						
LCND	**La Caada**	**0.75**	**22**	*i* P	Pn	06 05 26.3	-0.5
LCND				*e*S	Sn	06 05 38.2	+0.9
LCND				IAML		06 05 43.1	
	comp=Z,2µm,0.3s						
TECA	**Tecapa**	**0.94**	**340**	*e*P	Pn	06 05 29.3	-0.3
TECA	**Tecapa**	**0.94**	**340**	*e*P	Pn	06 05 29.3	-0.3
COEB	**Comit de Eme**	**0.95**	**339**	*e*P	Pn	06 05 29.2	-0.5
COEB				*e*S	Sb	06 05 42.8	+0.5
COEB				IAML		06 05 48.6	
	comp=Z,2µm,0.2s						
COEB	**Comit de Eme**	**0.95**	**339**	*e*P	Pn	06 05 29.2	-0.5
COEB				*e*S	Sb	06 05 42.8	+0.5
COEB				IAML		06 05 48.6	
	comp=Z,2µm,0.2s						
TECO	**Alcaldia de Te**	**1.10**	**328**	*i* P	Pn	06 05 30.6	-1.0
TECO				*e*S	Sn	06 05 45.3	-0.6
COEG	**Centro de Oper**	**1.22**	**326**	*e*P	Pn	06 05 32.7	-0.6
COEG				*e*S	Sn	06 05 49.2	+0.2
COEG				IAML		06 05 53.0	
	comp=Z,807nm,0.3s						
COEG	**Centro de Oper**	**1.22**	**326**	*e*P	Pn	06 05 32.7	-0.6
COEG				*e*S	Sn	06 05 49.2	+0.2
COEG				IAML		06 05 53.0	
	comp=Z,807nm,0.3s						
SJTE	**Alcalda de S**	**1.29**	**321**	*e*P	Pn	06 05 33.5	-0.8
SJTE				*e*S	Sn	06 05 50.6	-0.1
SJTE	**Alcalda de S**	**1.29**	**321**	*e*P	Pn	06 05 33.5	-0.8
SJTE				*e*S	Sn	06 05 50.6	-0.1
LFRS	**El Faro**	**1.33**	**320**	*e*P	Pn	06 05 34.3	-0.6
LFRS	**El Faro**	**1.33**	**320**	*e*P	Pn	06 05 34.3	-0.6
LBRS	**Las Brisas**	**1.41**	**323**	*e*P	Pn	06 05 35.8	-0.1
LBRS	**Las Brisas**	**1.41**	**323**	*e*P	Pn	06 05 35.8	-0.1
SNET	**Serv Nac Est T**	**1.49**	**316**	*e*P	Pb	06 05 38.5	-0.5
SNET				IAML		06 05 56.2	
	comp=Z,838nm,0.2s						
SNET	**Serv Nac Est T**	**1.49**	**316**	*e*P	Pb	06 05 38.5	-0.5
SNET				*e*S	Sn	06 05 54.7	-0.9
SNET				IAML		06 05 56.2	
	comp=Z,838nm,0.2s						
BOQS	**Boqueron**	**1.55**	**316**	*e*P	Pb	06 05 48.4	+8.1
CEVE	**Cerro Verde**	**1.86**	**311**	*e*P	Pn	06 05 43.7	+1.4
CEVE				*e*S	Sn	06 06 05.9	+0.9
CEVE				IAML		06 06 17.9	
	comp=Z,619nm,0.3s						
CEVE	**Cerro Verde**	**1.86**	**311**	*e*P	Pn	06 05 43.7	+1.4
CEVE				*e*S	Sn	06 06 05.9	+0.9
CEVE				IAML		06 06 17.9	
	comp=Z,619nm,0.3s						
LPLA	**Las Palmas La**	**6.20**	**124**	*e*P	Pn	06 06 41.7	-0.2

*NEIC **20** 06:20:20.8±1.9, 0.72N±0.09×123.74E±0.08, h259km±8km, mb4.5/23, Error ellipse: s-maj=13.8km s-min=10.9km az=218.0*

*IDC **20** 06:20:21.5±2.4, 0.70N×123.73E, h276km±24km, mb3.6/14, mb1 3.7/14, mb1mx3.5/30, mbtmp4.2/14, Error ellipse: s-maj=25.4km s-min=9.5km az=74.0*

*DJA **20** 06:20:22.1±0.6, 1°N±5°×12°4E±°, h246km±5km, M4.2/11, mb4.1/1, mB5.2/1, MLv4.2/11, Mw(mB)4.5/1*

ISC 20 06:20:20.5±0.6, 0.63N±0.05×123.73E±0.06, h264km±5km, n66, σ1830/75, mb4.3/29, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.26**	**102**	P	Pn	06 20 55.1	+0.6
MNI	**Manado**	**1.38**	**54**	P	Pn	06 20 59.8	+0.5
MNI				S	S	06 21 30.0	0.0
MRSI	**Marisa**	**1.79**	**265**	P	Pn	06 21 02.7	+0.3
MRSI				S	S	06 21 33.9	-1.6
LUWI	**Luwuk**	**1.91**	**210**	Pn	Pn	06 21 03.6	+0.1
LUWI				Sn	S	06 21 35.3	-2.1
LUWI	**Luwuk**	**1.91**	**210**	P	Pn	06 21 03.4	0.0
LUWI				S	S	06 21 35.0	-2.4
APSI	**Ampana**	**2.58**	**234**	P	Pn	06 21 10.3	+0.7
APSI				S	S	06 21 47.1	-1.4
TOLI2	**Tolitoli**	**2.99**	**279**	Pn	Pn	06 21 14.3	+0.6
TOLI2				Sn	S	06 21 54.5	-1.5
SANI	**Sanana**	**3.49**	**140**	P	Pn	06 21 18.1	-1.1
TNTI	**Ternate**	**3.64**	**88**		Pn	06 21 20.2	-0.6
TNTI	**Ternate**	**3.64**	**88**	P	Pn	06 21 21.1	+0.2
MPSI	**Mapaga**	**3.84**	**266**	P	Pn	06 21 24.5	+1.4
LBMI	**Labuha**	**3.98**	**108**	P	Pn	06 21 24.5	-0.2
NLAI	**Namlea**	**5.11**	**139**	P	Pn	06 21 39.4	+1.3
FAKI	**Fak Fak**	**9.22**	**113**	Pn	Pn	06 22 29.5	+0.3
BATI	**Baumata**	**10.76**	**180**	P	P	06 22 54.6	+2.0
	2.9nm,0.3s,baz=338,slow=1.5,SNR=2.0						
MTN	**Manton Dam**	**15.27**	**151**		Pn	06 23 44.0	+0.5
MTN				IAmb	IAmb	06 23 45.1	
	comp=Z,22nm,0.6s						
KNRA	**Kununurra**	**16.95**	**163**	P	Pn	06 24 02.6	-0.6
KNRA				IAmb	IAmb	06 24 16.6	
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.70**	**174**	P	P	06 24 20.2	+0.3
	comp=Z,0.7nm,0.3s,baz=349,slow=5.4,SNR=49						
FITZ	**Fitzroy Crossi**	**18.70**	**174**	P	P	06 24 20.4	+0.5
FITZ				IAmb	IAmb	06 24 26.3	
	comp=Z,4.8nm,0.6s						
PSA00	**Pilbara Seismi**	**22.39**	**190**	P	P	06 24 58.4	+1.5
PSA00				IAmb	IAmb	06 25 09.7	
	comp=Z,27nm,1.4s						
YULB	**Yu-li**	**22.75**	**354**	P	P	06 25 00.6	+0.4
YULB				IAmb	IAmb	06 25 02.5	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**22.81**	**153**	P	P	06 25 00.9	+0.1
WRAB	**Tennant Creek**	**22.93**	**154**	P	P	06 25 02.5	+0.6
WRAB				IAmb	IAmb	06 25 05.0	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**22.94**	**154**	P	P	06 25 02.4	+0.5
	comp=Z,15nm,0.5s,baz=334,slow=11,SNR=129						
WRA				S	S	06 28 48.4	-3.7
	comp=Z,0.8nm,0.7s,baz=339,slow=16,SNR=3.1						
WB2	**Warramunga Arr**	**22.94**	**154**	P	P	06 25 02.3	+0.2
WB2				IAmb	IAmb	06 25 05.0	
	comp=Z,24nm,0.8s						
AS31	**Alice Springs**	**26.09**	**158**	P	P	06 25 31.6	+1.1
ASAR	**Alice Springs**	**26.09**	**158**	P	P	06 25 31.4	+0.9
	comp=Z,1.0nm,0.4s,baz=344,slow=14,SNR=20						
ASAR				PcP	PcP	06 28 51.5	+0.8
	comp=Z,0.3nm,0.3s,baz=349,slow=2.4,SNR=3.0						
ASAR				S	S	06 29 39.6	-2.3
	comp=Z,1.4nm,0.9s,baz=350,slow=20,SNR=4.8						
ASAR				ScP	ScP	06 32 04.3	-0.8
	comp=Z,0.5nm,0.4s,baz=340,slow=3.0,SNR=7.2						
ASAR	**Alice Springs**	**26.09**	**158**	P	P	06 25 31.2	+0.7
CMAR	**Chiang Mai Arr**	**30.10**	**307**	P	P	06 26 07.5	+1.5
	comp=Z,0.5nm,0.3s,baz=129,slow=8.3,SNR=5.7						
FORT	**Forrest**	**31.50**	**173**	P	P	06 26 19.0	+1.0
NJ2	**Nanjing**	**31.59**	**352**	*e*P	P	06 26 20.4	+1.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BBOO	**Buckleboo**	**35.23**	**162**	P	P	06 26 50.8	+0.5
BBOO				IAmb	IAmb	06 27 05.0	
	comp=Z,26nm,1.4s						
CD2	**Chengdu**	**35.58**	**330**	P	P	06 26 54.1	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
STKA	**Stephens Creek**	**36.49**	**154**	P	P	06 27 01.9	+1.0
	comp=Z,3.5nm,0.5s,baz=328,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**36.49**	**154**	P	P	06 27 02.1	+1.2
KSRS	**Korea Array**	**36.85**	**6**	P	P	06 27 03.8	0.0
	comp=Z,1.3nm,0.7s,baz=189,slow=9.2,SNR=6.4						
HNR	**Honiara**	**37.42**	**106**	P	P	06 27 09.2	+0.3
MJAR	**Matsushiro Arr**	**38.17**	**19**	P	P	06 27 13.2	-1.7
	comp=Z,1.1nm,0.3s,baz=201,slow=8.7,SNR=4.3						
LZH	**Lanzhou**	**39.82**	**335**	*e*P	P	06 27 29.4	+0.7
LZH				pP	pwP	06 28 26.8	-1.2
LZH				sP	sP	06 28 47.9	-2.7
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				L	L		
	comp=Z,210nm,16.3s						
LZH				L	L		
	comp=Z,310nm,16.8s						
LZH				L	L		
	comp=Z,260nm,17.3s						
ARMA	**Armidale**	**40.72**	**142**	P	P	06 27 38.6	+2.6
ARMA				IAmb	IAmb	06 27 49.8	
	comp=Z,24nm,1.4s						
HHC	**Hu-ho-hao-te**	**41.53**	**346**	*e*P	P	06 27 43.8	+1.3
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
CAN	**Canberra**	**42.84**	**149**	P	P	06 27 55.6	+2.6
CAN				IAmb	IAmb	06 27 56.3	
	comp=Z,15nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.00**	**9**	P	P	06 28 01.5	-0.5
	comp=Z,1.5nm,0.4s,baz=188,slow=4.7,SNR=6.7						
USRK	**Ussuriysk Ar.**	**44.00**	**9**	P	P	06 28 02.1	0.0
GTA	**Gaotai**	**44.35**	**333**	*e*P	P	06 28 06.8	+1.7
GTA				pP	pP	06 28 59.8	+1.2
GTA				sP	sP	06 29 29.3	+1.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**49.37**	**345**	P	P	06 28 42.8	-0.8
	comp=Z,2.7nm,0.8s,baz=160,slow=8.7,SNR=7.2						
SONM	**Songino Array**	**49.37**	**345**	IAmb	IAmb	06 28 45.9	
	comp=Z,2.5nm,0.8s						
WMQ	**Urumqi**	**53.64**	**328**	*e*P	P	06 29 17.8	+2.6
MK31	**Makanchi Array**	**58.47**	**328**	P	P	06 29 48.3	-0.8
MKAR	**Makanchi Array**	**58.47**	**328**	P	P	06 29 48.2	-0.9
	comp=Z,2.0nm,0.5s,baz=125,slow=8.6,SNR=26						
MKAR				PcP	PcP	06 30 35.8	-0.8
	comp=Z,0.9nm,0.5s,baz=142,slow=2.0,SNR=6.4						
MKAR	**Makanchi Array**	**58.47**	**328**	P	P	06 29 48.6	-0.5
PEA0B	**Petropavlovsk-**	**59.43**	**23**	P	P	06 29 55.9	+0.4
PEA0B				IAmb	IAmb	06 30 24.9	
	comp=Z,14nm,1.4s						
PETK	**Petropavlovsk-**	**59.43**	**23**	P	P	06 29 56.3	+0.8
	comp=Z,1.4nm,0.7s,baz=170,slow=3.2,SNR=5.3						
PETK	**Petropavlovsk-**	**59.43**	**23**	P	P	06 29 56.5	+1.0
GAR	**Garm**	**61.89**	**315**	P	P	06 30 13.0	+0.5
GAR				IAmb	IAmb	06 30 14.8	
	comp=Z,12nm,1.1s						
ZALV	**Zalesovo Beam**	**62.05**	**335**	P	P	06 30 11.2	-1.8
	comp=Z,1.0nm,0.4s,baz=133,slow=8.5,SNR=1.3						
ZALV	**Zalesovo Beam**	**62.05**	**335**	P	P	06 30 10.9	-2.2
BKZ	**Black Stump Fm**	**62.38**	**136**	P	P	06 30 16.9	+1.3
KKAR	**Karatay Array**	**63.52**	**319**	P	P	06 30 22.9	-0.1
TIXI	**Tiksi**	**70.99**	**2**	P	P	06 31 08.7	-0.4
TIXI				IAmb	IAmb	06 31 09.0	
	comp=Z,4.8nm,0.8s						
ABKAR	**Akbulak array**	**72.69**	**322**	P	P	06 31 18.6	-1.0
ILAR	**Eielson Array**	**89.17**	**25**	P	P	06 32 44.2	-1.8
	comp=Z,0.2nm,0.5s,baz=236,slow=4.4,SNR=5.3						
ARCES	**ARCESS Array B**	**92.30**	**340**	P	P	06 32 58.6	-1.8
	comp=Z,2.7nm,1.0s,baz=64,slow=5.5,SNR=4.9						
ARCES	**ARCESS Array B**	**92.30**	**340**	IAmb	IAmb	06 33 05.2	
	comp=Z,16nm,1.4s						
FINES	**FINESS Array B**	**93.12**	**332**	P	P	06 33 02.3	-2.0
	comp=Z,0.5nm,0.5s,baz=83,slow=4.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**120.94**	**286**	PKP	PKPdf	06 38 41.6	-0.9
	comp=Z,0.3nm,0.3s,baz=85,slow=2.3,SNR=4.2						

*ANF **20** 06:26:00.8±0.3, 35.93N×97.25W, h3km±2km, ML3.5/13, Error ellipse: s-maj=2.1km s-min=1.6km az=134.0*

*TUL **20** 06:26:01.2±1.2, 35.90N±0.01×97.26W±0.01, h5km±6km, ML3.1, mb_Lg3.0/86(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=152.0*

*NEIC **20** 06:26:01.3±0.7, 35.92N±0.01×97.27W±0.01, h7km±6km, Error ellipse: s-maj=2.3km s-min=0.6km az=131.0*

ISC 20 06:26:01.4±1.0, 35.92N±0.02×97.26W±0.02, h6km±9km, n81, σ0839/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.20**	**232**		Pg	06 26 05.4	-0.1
OK029				Sg	Sg	06 26 08.3	+0.2
OK031	**S. Brethren Rd**	**0.34**	**85**		Pg	06 26 08.3	+0.2
OK031				Sg	Sg	06 26 13.2	+0.6
OK025	**Westminster Rd**	**0.35**	**191**	Pg	Pg	06 26 08.0	-0.1
OK025				Sg	Sg	06 26 12.8	+0.1
OK030	**Cody Creek RV**	**0.39**	**89**		Pg	06 26 08.8	-0.1
OK030				Sg	Sg	06 26 14.5	+0.5
BCOK	**Bluff Creek, N**	**0.39**	**227**		Pg	06 26 08.8	-0.2
BCOK				Sg	Sg	06 26 14.2	+0.1
QUOK	**Quay**	**0.51**	**61**	Pg	Pg	06 26 11.5	+0.2
QUOK				Sg	Sg	06 26 18.5	+0.5
OKCFA	**Oklahoma City**	**0.53**	**197**		Pg	06 26 11.4	-0.3
OKCFA				Sg	Sg	06 26 18.6	+0.1
OKCFA	**Oklahoma City**	**0.53**	**197**	P	Pg	06 26 11.3	-0.3
	baz=18,SNR=26						
OKCFA				S	Sg	06 26 18.6	+0.1
	baz=18						
OKCFA	**Oklahoma City**	**0.53**	**197**	P		06 26 11.3	
	baz=18,SNR=26						
OKCFA				S		06 26 18.6	
	baz=18						
OKCSW	**OKLAHOMA CITY**	**0.54**	**196**		Pg	06 26 11.5	-0.3
OKCSW				Sg	Sg	06 26 18.9	+0.2
FNO	**Franklin**	**0.67**	**190**		Pg	06 26 14.0	-0.4
CROK	**Carrier**	**0.82**	**315**		Pg	06 26 17.3	0.0
BLOK	**Blackwell**	**0.84**	**2**	Pg	Pg	06 26 17.6	0.0
GC02	**Grant County #**	**1.05**	**333**		Pg	06 26 21.3	-0.2
KAN13	**South Haven SW**	**1.10**	**351**		Pg	06 26 22.3	-0.3
T35A	**Sooner Cattle**	**1.16**	**31**		Pg	06 26 23.1	-0.6
T35B	**Sooner Cattle**	**1.16**	**31**	P	Pg	06 26 23.1	-0.6
	baz=211,SNR=97						
T35B				S	Sg	06 26 38.8	0.0
	baz=211						
T35B	**Sooner Cattle**	**1.16**	**31**	P		06 26 23.1	
	baz=211,SNR=97						
T35B				S		06 26 38.8	
	baz=211						
OK032	**Salt Plains WL**	**1.17**	**319**		Pg	06 26 23.4	-0.5
KAN14	**Manchester OK**	**1.18**	**331**		Pg	06 26 23.7	-0.3
TUL1	**Leonard**	**1.19**	**

	baz=242,SNR=9.7								
S39A				S		Sn	06 27 41.9	+0.8	
	baz=242								
S39A	**Bolivar**	**3.62**	**60**	P			06 26 58.2		
	baz=242,SNR=9.7								
S39A				S			06 27 41.9		
	baz=242								
AMTX	**Amarillo**	**3.76**	**255**	IAmb_Lg			06 28 09.4		
	comp=Z,31nm,0.8s								
X40A	**Basin Creek Fa**	**3.90**	**110**	IAmb_Lg			06 28 06.0		
	comp=Z,26nm,0.8s								
237A	**Washetta, Mont**	**4.09**	**162**	S		Sn	06 27 53.0	+0.3	
	baz=343								
237A	**Washetta, Mont**	**4.09**	**162**	S			06 27 53.0		
	baz=343								
WHAR	**Wooly Hollow**	**4.10**	**97**	IAmb_Lg			06 28 16.2		
	comp=Z,20nm,0.8s								
W41B	**Gary Mavity, V**	**4.15**	**99**	P		Pn	06 27 05.4	0.0	
	baz=282,SNR=11								
W41B				S		Sn	06 27 54.1	-0.2	
	baz=282								
W41B	**Gary Mavity, V**	**4.15**	**99**	P			06 27 05.4		
	baz=282,SNR=11								
W41B				S			06 27 54.1		
	baz=282								
FCAR	**Ozark Folk Cen**	**4.17**	**89**	IAmb_Lg			06 28 12.0		
	comp=Z,30nm,0.8s								
MGMO	**Mountain Grove**	**4.20**	**72**	IAmb_Lg			06 28 24.0		
	comp=Z,35nm,0.7s								
R40A	**Maddies Statio**	**4.64**	**58**	IAmb_Lg			06 28 37.6		
	comp=Z,19nm,0.8s								
R40A	**Maddies Statio**	**4.64**	**58**	P		Pn	06 27 12.0	0.0	
	baz=241,SNR=10.0								
R40A	**Maddies Statio**	**4.64**	**58**	P			06 27 12.0		
	baz=241,SNR=10.0								
P38A	**Dawn**	**4.73**	**38**	IAmb_Lg			06 28 31.4		
	comp=Z,20nm,0.9s								
CCAR	**Cane Creek**	**4.93**	**112**	IAmb_Lg			06 28 45.9		
	comp=Z,21nm,0.7s								
LCAR	**Lake Charles**	**4.95**	**87**	IAmb_Lg			06 28 40.5		
	comp=Z,28nm,0.7s								
T42A	**Van Buren**	**5.09**	**76**	IAmb_Lg			06 28 47.5		
	comp=Z,33nm,0.8s								
435B	**Jarrell**	**5.13**	**183**	IAmb_Lg			06 28 46.8		
	comp=Z,26nm,0.9s								
CCM	**Cathedral Cave**	**5.26**	**64**	IAmb_Lg			06 29 00.7		
	comp=Z,18nm,0.8s								
P40A	**Paris**	**5.48**	**47**	IAmb_Lg			06 29 02.8		
	comp=Z,18nm,0.7s								
BGNE	**Belgrade**	**5.52**	**353**	IAmb_Lg			06 29 12.8		
	comp=Z,36nm,0.8s								
LPAR	**Lepanto**	**5.67**	**91**	IAmb_Lg			06 29 07.8		
	comp=Z,34nm,0.8s								
N38A	**Joes South For**	**5.80**	**32**	IAmb_Lg			06 29 13.9		
	comp=Z,25nm,0.8s								
T25A	**Trinidad**	**5.88**	**284**	IAmb_Lg			06 29 10.7		
	comp=Z,18nm,0.8s								
OGNE	**Ogallala**	**6.26**	**325**	IAmb_Lg			06 29 37.7		
	comp=Z,20nm,0.7s								
OXF	**Oxford**	**6.58**	**100**	IAmb_Lg			06 29 39.4		
	comp=Z,26nm,1.0s								
W45A	**Hickory Valley**	**6.63**	**94**	IAmb_Lg			06 29 35.0		
	comp=Z,22nm,0.7s								
SCIA	**State Center**	**6.76**	**27**	IAmb_Lg			06 29 51.4		
	comp=Z,21nm,0.9s								
P43A	**Skaggs, Pawnee**	**7.16**	**56**	IAmb_Lg			06 29 51.9		
	comp=Z,24nm,0.8s								
K38A	**Parkersburg**	**7.56**	**26**	IAmb_Lg			06 30 06.2		
	comp=Z,18nm,1.0s								
L40A	**Anamosa**	**7.72**	**36**	IAmb_Lg			06 30 11.9		
	comp=Z,13nm,0.8s								
OLIL	**Olney**	**7.82**	**66**	IAmb_Lg			06 30 26.2		
	comp=Z,21nm,0.9s								
PHWY	**Pilot Hill**	**8.37**	**312**	IAmb_Lg			06 30 48.5		
	comp=Z,8.4nm,1.0s								
L42A	**Oliver, Polo**	**8.47**	**42**	IAmb_Lg			06 30 32.2		
	comp=Z,12nm,0.8s								
X48A	**Hartselle**	**8.49**	**97**	IAmb_Lg			06 30 30.7		
	comp=Z,11nm,1.1s								
P46A	**Rosedale**	**8.77**	**62**	IAmb_Lg			06 30 38.9		
	comp=Z,15nm,0.8s								
JFWS	**Jewell Farm**	**8.84**	**36**	IAmb_Lg			06 30 43.1		
	comp=Z,9.1nm,0.8s								
WCI	**Wyandotte Cave**	**9.06**	**72**	IAmb_Lg			06 30 50.0		
	comp=Z,15nm,0.9s								
Y49A	**Blount Mountai**	**9.15**	**100**	IAmb_Lg			06 31 04.3		
	comp=Z,8.1nm,1.0s								
SFIN	**Lafayette**	**9.16**	**58**	IAmb_Lg			06 31 15.2		
	comp=Z,12nm,0.8s								
SWET	**Sewanee**	**9.26**	**91**	IAmb_Lg			06 31 00.7		
	comp=Z,8.2nm,1.0s								
K22A	**Casper**	**9.83**	**316**	IAmb_Lg			06 31 31.1		
	comp=Z,13nm,1.2s								

*IDC **20** 06:34:56.4±1.7,6.˙29S×146.˙96E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.6/26,mbtmp3.7/5,ML2.7/2, Error ellipse: s-maj=47.9km s-min=25.5km az=106.0*

ISC 20 06:35:02.8±1.4,6˚4S±0.˙1×146.˙9E±0.˙2,h49km,n6,σ1§45/7, mb3.5/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.01**	**176**	Pn	**Pn**	**06 35 46.6**	**-1.5**
	10nm,0.3s,baz=0.0,slow=6.1,SNR=6.8						
PMG				Sn	**Sn**	**06 36 24.7**	**+1.8**
	3.3nm,0.3s,baz=205,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**18.20**	**221**	P	**P**	**06 39 10.6**	**-1.3**
	0.1nm,0.3s,baz=43,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**21.27**	**215**	P	**P**	**06 39 45.2**	**0.0**
	1.3nm,0.7s,baz=42,slow=9.6,SNR=12						
FITZ	**Fitzroy Crossi**	**23.81**	**239**	P	**P**	**06 40 12.5**	**+1.0**
	3.9nm,1.0s,baz=58,slow=9.5,SNR=2.5						
ILAR	**Eielson Array**	**85.86**	**23**	P	**P**	**06 47 37.3**	**+0.3**
	0.2nm,0.6s,baz=244,slow=5.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**145.12**	**284**	PKPbc	**PKPdf**	**06 54 36.3**	**+0.3**
	1.5nm,0.7s,baz=78,slow=3.7,SNR=4.7						

*IDC **20** 06:56:12.2±1.1,5.˙23S×152.˙45E,h0km,mb4.1/8, mb1 4.3/9,mb1mx4.0/34,mbtmp4.1/9,ML2.0/1,MS3.7/2, Ms1 3.7/2,ms1mx3.1/40,Error ellipse: s-maj=31.9km s-min=20.8km az=116.0*

*NEIC **20** 06:56:19.0±1.7,5.˙34S±0.˙03×152.˙4E±0.˙1,h35km±2km, mb4.5/18,Error ellipse: s-maj=24.5km s-min=3.0km az=100.0*

ISC 20 06:56:18.9±0.7,5˚31S±0.˙09×152˚3E±0.˙1,h40km,n32, σ1§08/30,mb4.3/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.12**	**353**		**Pn**	**06 56 39.2**	**+1.1**
PMG	**Port Moresby**	**6.52**	**231**	Pn	**Pn**	**06 57 53.3**	**+0.9**
	2.0nm,0.3s,baz=36,slow=8.7,SNR=4.0						
PMG				Sn	**Sn**	**06 59 05.4**	**-0.2**
	4.5nm,0.3s,baz=158,slow=21,SNR=7.6						
DZM	**Mont Dzumac**	**21.57**	**142**	P	**P**	**07 01 03.8**	**-1.5**
	6.4nm,1.1s,baz=336,slow=20,SNR=2.6						
DZM				LR	LR	07 08 17.8	
	comp=Z,136nm,21.9s,baz=352,slow=34						
DZM	**Mont Dzumac**	**21.57**	**142**	IAmb	IAmb	07 01 10.8	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**22.59**	**229**	P	**P**	**07 01 18.2**	**+1.9**
WB0				IAmb	IAmb	07 01 44.6	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**22.60**	**228**	P	**P**	**07 01 16.8**	**+0.5**
WR0				IAmb	IAmb	07 01 27.1	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**22.74**	**229**	P	**P**	**07 01 17.4**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=53,slow=9.9,SNR=19						
AS31	**Alice Springs**	**25.44**	**222**	P	**P**	**07 01 41.9**	**-1.3**
ASAR	**Alice Springs**	**25.44**	**222**	P	**P**	**07 01 43.2**	**0.0**
	comp=Z,2.1nm,0.8s,baz=62,slow=8.8,SNR=23						
ASAR	**Alice Springs**	**25.44**	**222**	P	**P**	**07 01 42.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.98**	**242**	P	**P**	**07 02 15.2**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=71,slow=7.2,SNR=2.2						
FITZ	**Fitzroy Crossi**	**28.98**	**242**	P	**P**	**07 02 14.5**	**-0.5**
FITZ				IAmb	IAmb	07 02 36.9	
	comp=Z,16nm,1.4s						
NWAO	**Narrogin (SRO)**	**42.68**	**225**	LR	LR	07 24 53.2	
	comp=Z,158nm,18.2s,baz=153,slow=40						
CMAR	**Chiang Mai Arr**	**57.64**	**296**	P	**P**	**07 06 06.0**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=91,slow=4.5,SNR=1.7						
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**07 07 03.6**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=142,slow=7.3,SNR=4.8						
SONM	**Songino Array**	**66.49**	**328**	IAmb	IAmb	07 07 05.8	
	comp=Z,3.4nm,1.3s						
VNDA	**Vanda**	**72.34**	**178**	P	**P**	**07 07 42.9**	**+2.8**
SUA	**Susitna One**	**79.62**	**24**	P	**P**	**07 08 22.0**	**0.0**
PWL	**Port Wells**	**80.32**	**25**	P	**P**	**07 08 26.5**	**+0.9**
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**07 08 26.3**	**0.0**
	comp=Z,0.8nm,0.8s,baz=110,slow=5.8,SNR=6.4						
MLY	**Manley**	**81.53**	**21**	P	**P**	**07 08 32.4**	**+0.3**
MLY				IAmb	IAmb	07 08 32.4	
	comp=Z,8.7nm,1.3s						
HMT	**Hamilton**	**81.85**	**27**	P	**P**	**07 08 34.7**	**+0.8**
I23K	**Minto, Yukon-K**	**82.09**	**21**	P	**P**	**07 08 35.8**	**+0.8**
I23K				IAmb	IAmb	07 08 36.8	
	comp=Z,3.6nm,1.2s						
CCB	**Clear Creek Bu**	**82.41**	**22**	P	**P**	**07 08 35.8**	**-0.8**
CCB				IAmb	IAmb	07 08 36.5	
	comp=Z,4.9nm,1.0s						
ILAR	**Eielson Array**	**82.81**	**22**	P	**P**	**07 08 37.5**	**-1.2**
	comp=Z,3.4nm,1.0s,baz=250,slow=5.2,SNR=21						
DOT	**Dot Lake**	**83.39**	**24**	P	**P**	**07 08 41.6**	**-0.2**
DOT				IAmb	IAmb	07 08 43.4	
	comp=Z,6.9nm,1.0s						
TOLK	**Toolik Lake Re**	**83.85**	**18**	P	**P**	**07 08 44.9**	**+0.8**
TOLK				IAmb	IAmb	07 08 45.5	
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**84.66**	**180**	P	**P**	**07 08 48.4**	**+0.1**
HYT	**Haines Junctio**	**85.11**	**28**	P	**P**	**07 08 51.6**	**+0.9**
HYT				IAmb	IAmb	07 08 53.5	
	comp=Z,4.7nm,0.8s						
ANWB	**Willy Bob**	**144.49**	**67**	PKPdf	**PKPab**	**07 15 50.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.98**	**287**	PKPbc	**PKPbc**	**07 16 04.8**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=95,slow=3.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.98**	**287**	PKPbc	**PKPbc**	**07 16 04.3**	**-1.9**

IDC 20 07:04:22.5±2.0,2˚38N×126˚16E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/41,mbtmp3.7/3,Error ellipse: s-maj=182.3km s-min=23.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.60**	**160**	P	P	07 09 35.3	+0.1
	0.9nm,0.4s,baz=340,slow=10,SNR=31						
ASAR	**Alice Springs**	**26.97**	**164**	P	P	07 10 06.0	-0.1
	0.3nm,0.4s,baz=340,slow=7.6,SNR=13						
MKAR	**Makanchi Array**	**58.34**	**326**	P	P	07 14 19.4	-0.1
	0.6nm,0.5s,baz=124,slow=8.2,SNR=19						

*IDC **20** 07:12:44.0±2.9,9.˚40N×123.˚97E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/40,mbtmp3.5/4,Error ellipse: s-maj=327.1km s-min=23.0km az=65.0*

*MAN **20** 07:12:45.5,9.˚80N×125.˚08E,h28km,MS2.5*

ISC 20 07:12:44.9±1.7,9˚76N±0.˙04×125˚04E±0.˙04,h17km±12km, n18,σ1§15/28,mb3.5/4,5C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.41**	**335**	*e*P	**Pn**	**07 12 55.6**	**-0.5**
MSLP				*e*S	**Sn**	**07 13 02.9**	**-0.4**
SCPH	**Surigao**	**0.45**	**87**	*e*P	**Pb**	**07 12 54.8**	**+0.4**
BUTP	**Butuan**	**0.98**	**144**	*e*P	**Pb**	**07 13 03.0**	**-0.4**
BUTP				*e*S	**Sn**	**07 13 17.4**	**0.0**
GLSP	**General Luna,**	**1.07**	**89**	*e*P	**Pb**	**07 13 04.5**	**-0.6**
GLSP				*e*S	**Sb**	**07 13 18.1**	**-0.8**
LLP	**Lapu-Lapu**	**1.19**	**298**	*e*P	**Pg**	**07 13 07.7**	**-0.2**
LLP				*e*S	**Sn**	**07 13 22.9**	**+0.2**
CGP	**Cagayan de Oro**	**1.34**	**195**	*i*P	**Pn**	**07 13 08.3**	**-0.6**
CGP				*i*S	**Sn**	**07 13 25.1**	**-1.3**
OCLP	**Ormoc**	**1.35**	**342**	*e*P	**Pn**	**07 13 08.3**	**-0.7**
OCLP				*e*S	**Sb**	**07 13 27.9**	**+1.1**
SNPH	**Sibulan**	**1.82**	**257**	*i*P	**Pn**	**07 13 16.4**	**+0.8**
SNPH				*i*S	**Sn**	**07 13 39.0**	**+0.6**
BUKP	**Musuan**	**1.87**	**179**	*i*P	**Pn**	**07 13 16.6**	**+0.3**
BUKP				*i*S	**Sn**	**07 13 37.4**	**-2.2**
DCPH	**Dipolog City**	**2.04**	**235**	*e*P	**Pn**	**07 13 18.5**	**+0.1**
DCPH				*e*S	**Sn**	**07 13 42.5**	**-1.0**
CNOP	**Candoni, Negro**	**2.36**	**272**	*e*P	**Pn**	**07 13 22.9**	**-0.1**
CNOP				*i*S	**Sn**	**07 13 49.2**	**-2.5**
PAGZ	**Pagadian**	**2.51**	**221**	*e*P	**Pn**	**07 13 24.2**	**-0.8**
RCP	**Roxas**	**2.88**	**309**	*e*P	**Pn**	**07 13 31.3**	**+1.2**
SKMP	**Bagumbayan, Su**	**3.26**	**189**	*e*P	**Pn**	**07 13 37.7**	**+2.3**
WRA	**Warramunga Arr**	**30.91**	**163**	P	**P**	**07 19 03.1**	**+2.1**
	0.3nm,0.7s,baz=341,slow=8.7,SNR=1.4						
ASAR	**Alice Springs**	**34.34**	**165**	P	**P**	**07 19 31.7**	**+0.7**
	0.2nm,0.4s,baz=338,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**51.70**	**324**	P	**P**	**07 21 50.8**	**-0.5**
	0.7nm,0.8s,baz=125,slow=7.9,SNR=7.5						
KURBB	**Kurchatov Area**	**55.81**	**326**	P	**P**	**07 22 20.5**	**-0.7**
	0.3nm,0.2s,baz=125,slow=6.8,SNR=6.3						

*VAO **20** 07:27:18.1±0.3,26.˚81S×69.˚67W,h10km,mb4.4*

*IDC **20** 07:27:25.3±1.1,25.˚97S×69.˚07W,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.1/23,mbtmp4.1/12,ML4.5/3,MS2.8/1, Ms1 2.8/1,ms1mx2.5/18,Error ellipse: s-maj=27.7km s-min=25.5km az=34.0*

*GUC **20** 07:27:26.2±0.7,25.˚84S×69.˚21W,h12km±5km,ML4.1*

*NEIC **20** 07:27:27.1±1.6,25.˚89S±0.˙02×69.˚31W±0.˙08,h6km±1km, mb4.4/8,Mwr3.8/20,ML4.2(GUC),Error ellipse: s-maj=12.9km s-min=3.2km az=258.0*

*NEIC **20** 07:27:27.7,25.˚89S×69.˚32W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr7.33; Mθθ-1.18; Mφφ-6.15; Mrθ1.27; Mrφ-1.71; Mθφ0.75; Fault plane solution: M0 7.18000×10^14^ NP1:φ±190.60000°, δ40.95000°, λ79.64000°. NP2:φ±24.22000°, δ49.86000°, λ98.87000°. Principal axes: T 7.5341, Plg82.0000°, Azm345.0000°; N -0.7653, Plg7.0000°, Azm198.0000°; P -6.7688, Plg4.0000°, Azm108.0000°;*

*SJA **20** 07:27:28.1±0.6,25.˚84S×69.˚59W,h12km±6km,ML4.2, MW4.0*

ISC 20 07:27:25.9±1.1,25˚86S±0.˙02×69˚44W±0.˙04,h1km±7km, n117,σ2§09/134,mb4.1/11,3C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.71**	**349**	*i*P	**Pg**	**07 27 40.4**	**+1.0**
GO02				*i*S	**Sg**	**07 27 50.7**	**+2.1**
GO02				IAML		07 27 57.4	
	comp=E,12μm,0.9s						
GO02	**Mina Guanaco**	**0.71**	**349**	Pg	**Pg**	**07 27 40.4**	**+1.0**
GO02				Sg	**Sb**	**07 27 50.9**	**-0.7**
AC02	**Maricunga**	**1.01**	**164**	*i*P	**Pg**	**07 27 44.2**	**-1.1**
AC02				*i*S	**Sg**	**07 27 57.5**	**-0.9**
AC02	**Maricunga**	**1.01**	**164**	Pg	**Pg**	**07 27 44.4**	**-0.9**
AC02				Sg	**Sg**	**07 27 57.5**	**-0.9**
AC01	**Pan de Azucar**	**1.08**	**254**	*i*P	**Pn**	**07 27 48.9**	**+0.6**
AC01				*i*S	**Sn**	**07 28 05.9**	**+1.9**
AC01				IAML		07 28 06.3	
	comp=E,4μm,0.2s						
AC01	**Pan de Azucar**	**1.08**	**254**	Pg	**Pn**	**07 27 49.1**	**+0.8**
PB14	**IPOC Station P**	**1.51**	**324**	*i*P	**Pg**	**07 27 55.1**	**+0.3**
PB14				*i*S	**Sg**	**07 28 16.7**	**+2.3**
PB14	**IPOC Station P**	**1.51**	**324**	Pn	**Pg**	**07 27 55.6**	**+0.8**
PB14	**IPOC Station P**	**1.51**	**324**	*e*P	**Pg**	**07 27 55.1**	**+0.3**
PB14				*e*S	**Sg**	**07 28 18.8**	**+4.4**
GO03	**Copiap**	**1.87**	**202**	*e*P	**Pn**	**07 28 00.5**	**+1.4**
GO03				*i*S	**Sg**	**07 28 26.2**	**+0.2**
GO03				IAML		07 28 34.3	
	comp=E,1μm,0.7s						
GO03	**Copiap**	**1.87**	**202**		**Pn**	**07 28 00.3**	**+1.2**
GO03	**Copiap**	**1.87**	**202**	*e*P	**Pb**	**07 28 01.2**	**+0.3**
GO03				*e*S	**Sg**	**07 28 26.6**	**+0.6**
PB10	**IPOC Station P**	**2.55**	**336**	*e*P	**Pb**	**07 28 11.1**	**-1.4**
PB10				*i*S	**Sb**	**07 28 45.3**	**+1.0**
PB10				IAML		07 28 50.3	
	comp=E,722nm,0.1s						
PB10	**IPOC Station P**	**2.55**	**336**		**Pn**	**07 28 09.0**	**+0.6**
PB10	**IPOC Station P**	**2.55**	**336**	*e*P	**Pb**	**07 28 10.8**	**-1.6**
PB10				*e*S	**Sg**	**07 28 46.9**	**-0.9**
PB10				IAML		07 28 49.4	
	comp=Z,768nm,0.7s						
PB15	**IPOC Station P**	**2.64**	**359**	*i*P	**Pn**	**07 28 12.4**	**+2.6**
PB15				*i*S	**Sg**	**07 28 50.0**	**-0.7**
PB15	**IPOC Station P**	**2.64**	**359**	*e*P	**Pb**	**07 28 13.4**	**-0.7**
PB15				*e*S	**Sg**	**07 28 50.6**	**-0.2**
PB15				IAML		07 28 51.4	
	comp=Z,4μm,0.4s						
AC04	**Llanos de Chal**	**2.75**	**212**	*e*P	**Pb**	**07 28 14.2**	**-1.8**
AC04				*i*S	**Sb**	**07 28 51.3**	**+1.0**
AC04				IAML		07 28 59.3	
	comp=E,428nm,0.5s						
AC04	**Llanos de Chal**	**2.75**	**212**	Pn	**Pn**	**07 28 12.2**	**+0.9**
VCA	**Vinchina**	**3.07**	**159**	*e*P	**Pn**	**07 28 20.4**	**+4.7**
VCA				*e*S	**Sb**	**07 29 03.7**	**+4.2**
PB05	**IPOC Station P**	**3.07**	**347**	*e*P	**Pn**	**07 28 18.1**	**+2.3**
PB05				*e*S	**Sn**	**07 28 55.6**	**+2.4**
PB05				IAML		07 29 17.6	
	comp=N,1μm,0.8s						
PB05	**IPOC Station P**	**3.07**	**347**	*e*P	**Pn**	**07 28 18.7**	**+2.9**
PB05				*e*S	**Sb**	**07 29 00.2**	**+0.6**
PB05				IAML		07 29 08.9	
	comp=Z,583nm,0.7s						
PB06	**IPOC Station P**	**3.14**	**358**	*e*P	**Pn**	**07 28 18.5**	**+1.8**
PB06				*i*S	**Sb**	**07 29 01.4**	**-0.2**
PB06				IAML		07 29 07.5	
	comp=E,1μm,0.6s						
PB06	**IPOC Station P**	**3.14**	**358**		**Pn**	**07 28 17.8**	**+1.1**
PB06	**IPOC Station P**	**3.14**	**358**	*e*P	**Pn**	**07 28 19.9**	**+3.2**
PB06				*e*S	**Sb**	**07 29 01.5**	**-0.1**
PB06				IAML		07 29 10.2	
	comp=Z,711nm,0.8s						
LVC	**Limon Verde**	**3.27**	**9**	Pn	**Pn**	**07 28 21.0**	**+2.3**
	comp=Z,105nm,0.3s,baz=179,slow=8.8,SNR=466						
LVC				Sn	**Sb**	**07 29 02.7**	**-2.8**
	comp=Z,93nm,0.3s,baz=204,slow=20,SNR=20						
LVC	**Limon Verde**	**3.27**	**9**	*e*P	**Pn**	**07 28 21.3**	**+2.6**
LVC	**Limon Verde**	**3.27**	**9**		**Pn**	**07 28 20.3**	**+1.7**
LVC	**Limon Verde**	**3.27**	**9**	*e*P	**Pn**	**07 28 21.6**	**+2.9**
LVC				IAML		07 29 16.6	
	comp=Z,351nm,0.8s						
LCO	**Las Campanas**	**3.33**	**199**	Pn	**Pn**	**07 28 20.9**	**+1.4**
PB04	**IPOC Station P**	**3.57**	**349**	*e*P	**Pn**	**07 28 23.7**	**+1.0**
PB04	**IPOC Station P**	**3.57**	**349**		**Pn**	**07 28 24.2**	**+1.6**
PB04	**IPOC Station P**	**3.57**	**349**	*e*P	**Pn**	**07 28 25.4**	**+2.8**
PB04				*e*S	**Sg**	**07 29 18.8**	**-1.8**
PB04				IAML		07 29 27.3	
	comp=Z,759nm,0.9s						
AGUA	**GUANDACOL**	**3.71**	**167**	*e*P	**Pn**	**07 28 29.2**	**+4.7**
PB03	**IPOC Station P**	**3.81**	**356**	*i*P	**Pn**	**07 28 27.9**	**+2.0**
PB03				*i*S	**Sn**	**07 29 13.4**	**+2.1**
PB03	**IPOC Station P**	**3.81**	**356**	*e*P	**Pn**	**07 28 28.6**	**+2.7**
PB03				IAML		07 29 34.7	
	comp=Z,527nm,0.6s						
PB07	**IPOC Station P**	**4.13**	**354**		**Pn**	**07 28 31.9**	**+1.5**
PB07	**IPOC Station P**	**4.13**	**354**	*e*P	**Pn**	**07 28 33.2**	**+2.8**
PB07				IAML		07 29 43.2	
	comp=Z,473nm,0.5s						
CYA	**Choya**	**4.13**	**129**	*e*P	**Pn**	**07 28 33.2**	**+2.9**
CYA				*e*S	**Sb**	**07 29 32.2**	**+2.1**
ACLC	**CERRO LA CRUZ**	**4.18**	**149**	*e*P	**Pn**	**07 28 34.5**	**+3.4**
AROD	**Rodeo**	**4.29**	**180**	*e*P	**Pn**	**07 28 37.5**	**+4.8**
ACDV	**Cuesta del Vie**	**4.30**	**176**	*e*P	**Pn**	**07 28 37.5**	**+4.8**
CO05	**La Serena**	**4.35**	**201**	*e*P	**Pn**	**07 28 35.0**	**+1.9**
GO04	**Tololo Observa**	**4.46**	**195**	*e*P	**Pn**	**07 28 37.1**	**+2.1**
GO04	**Tololo Observa**	**4.46**	**195**	Pn	**Pn**	**07 28 36.9**	**+1.9**
GO04	**Tololo Observa**	**4.46**	**195**	*e*P	**Pn**	**07 28 38.3**	**+3.3**
GO04				*e*S	**Sb**	**07 29 36.4**	**-3.3**
ACCO	**Cerro Coronel**	**4.72**	**176**	*e*P	Pn	07 28 44.0	+5.4
PB01	**IPOC Station P**	**4.79**	**359**	*i*P	**Pn**	**07 28 41.3**	**+1.9**
PB01	**IPOC Station P**	**4.79**	**359**		**Pn**	**07 28 41.2**	**+1.9**
CO03	**El Pedregal**	**5.08**	**192**		**Pn**	**07 28 45.5**	**+2.1**
CO03	**El Pedregal**	**5.08**	**192**	*e*P	**Pn**	**07 28 46.1**	**+2.7**
CO03				IAML		07 30 13.8	
	comp=Z,181nm,0.8s						
AVFE	**Valle Fertil**	**5.09**	**160**	*e*P	**Pn**	**07 28 46.4**	**+2.9**
AVFE				*e*S	**Sn**	**07 29 47.1**	**+4.1**
TA01	**Diego Aracena**	**5.31**	**352**	Pn	**Pn**	**07 28 46.7**	**+0.2**
CO02	**Combarbal**	**5.50**	**194**	Pn	**Pn**	**07 28 50.2**	**+1.1**
TA02	**Huaiquique**	**5.60**	**353**		**Pn**	**07 28 51.0**	**+0.6**
PB08	**IPOC Station P**	**5.70**	**3**		**Pn**	**07 28 53.2**	**+1.1**
ACHE	**Chepes**	**5.82**	**156**	*e*P	**Pn**	**07 28 57.0**	**+3.5**
RTLS	**Leoncito**	**5.92**	**179**	*e*P	**Pn**	**07 28 56.7**	**+1.7**
RTLS				IAML		07 30 49.5	
	comp=Z,61nm,0.7s						
RTCV	**Cerro Valdivia**	**6.03**	**173**	*e*P	**Pn**	**07 29 00.0**	**+3.6**
PB11	**IPOC Station P**	**6.07**	**358**	Pn	**Pn**	**07 28 57.3**	**+0.3**
PSGCX	**Pisagua**	**6.26**	**354**	Pn	**Pn**	**07 28 59.4**	**-0.2**
ACAN	**Cantantal**	**6.69**	**163**	*e*P	**Pn**	**07 29 08.6**	**+3.2**
ACAN				IAML		07 31 42.2	
	comp=Z,26nm,2.

IDC 20 07:40:30.2±2.1,4°58S×151°95E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.6/39,mbtmp3.7/4,Error ellipse: s-maj=114.6km s-min=29.5km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.75**	**225**	Sn	Sn	07 43 28.4	-0.1
	1.6nm,0.3s,baz=150,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**22.97**	**227**	P	P	07 45 36.9	+0.3
	1.0nm,0.4s,baz=52,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**25.75**	**221**	P	P	07 46 02.6	-0.3
	0.8nm,0.3s,baz=56,slow=9.5,SNR=25						
FITZ	**Fitzroy Crossi**	**29.03**	**240**	P	P	07 46 32.3	0.0
	2.1nm,0.8s,baz=46,slow=9.8,SNR=1.9						
ILAR	**Eielson Array**	**82.27**	**22**	P	P	07 52 53.4	+0.1
	0.3nm,0.9s,baz=231,slow=5.7,SNR=2.3						

*IDC **20** 07:44:09.9±0.6,25°59N×141°11E,h0km,mb4.1/14, mb1 4.3/14,mb1mx4.1/40,mbtmp4.1/14,Error ellipse: s-maj=23.7km s-min=15.2km az=95.0*
*NEIC **20** 07:44:12.8±2.1,25°55N±0°07×141°5E±0°1,h10km±4km, mb4.5/39,Error ellipse: s-maj=14.6km s-min=10.0km az=85.0*

ISC 20 07:44:11.9±0.5,25°48N±0°07×141°63E±0°07,h10km,n83, σ1s73/84,mb4.5/39,1C-1D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.69**	**17**	Pn	**Pn**	**07 44 42.1**	**+0.7**
	207nm,0.3s,baz=256,slow=21,SNR=42						
JCJ				Sn	**Sb**	**07 45 03.8**	**-0.5**
	165nm,0.3s,baz=307,slow=23,SNR=18						
JCJ	**Chichijima**	**1.69**	**17**		**Pn**	**07 44 42.4**	**+0.9**
INU	**Inuyama**	**10.61**	**339**	Pn	**Pn**	**07 46 46.8**	**+2.8**
JMN	**Monobe**	**10.63**	**322**	Pn	**Pn**	**07 46 46.0**	**+1.8**
JYT	**Yasato**	**10.79**	**354**	Pn	**Pn**	**07 46 47.8**	**+1.5**
KSRS	**Korea Array**	**16.69**	**319**	Pn	**P**	**07 48 07.3**	**-0.8**
	0.5nm,0.3s,baz=133,slow=11,SNR=52						
KSAR	**Wonju Array Be**	**16.70**	**319**	P	**P**	**07 48 08.1**	**-0.2**
KS19	**Wonju Array Si**	**16.75**	**319**	P	**P**	**07 48 08.4**	**-0.5**
KS19				IAmb	IAmb	07 48 10.4	
	comp=Z,30nm,0.9s						
INCN	**Inchon**	**17.49**	**317**	P	**P**	**07 48 16.1**	**-1.0**
INCN				IAmb	IAmb	07 48 17.6	
	comp=Z,34nm,1.2s						
JKA	**Kamikawa-asahi**	**18.61**	**2**	P	**P**	**07 48 26.2**	**-3.1**
YULB	**Yu-li**	**18.63**	**268**	P	**P**	**07 48 29.6**	**-0.1**
NJ2	**Nanjing**	**20.99**	**293**	*eP*	**P**	**07 48 54.3**	**-1.1**
NJ2				pP	**pP**	**07 48 57.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**24.00**	**99**	T	T	08 14 44.4	
	baz=288,slow=74,SNR=41						
H11N1	**WAKE ISLAND Hy**	**24.00**	**99**	T	T	08 14 44.2	
	baz=288,slow=74,SNR=41						
H11N3	**WAKE ISLAND Hy**	**24.02**	**99**	T	T	08 14 43.3	
	baz=288,slow=74,SNR=56						
H11S3	**WAKE ISLAND Hy**	**24.23**	**102**	T	T	08 15 00.5	
	baz=291,slow=75,SNR=410						
H11S1	**WAKE ISLAND Hy**	**24.24**	**102**	T	T	08 15 00.8	
	baz=291,slow=75,SNR=576						
H11S2	**WAKE ISLAND Hy**	**24.25**	**102**	T	T	08 15 01.6	
	baz=291,slow=75,SNR=335						
PATS	**Pohnpei**	**24.45**	**136**	P	**P**	**07 49 31.6**	**+0.5**
WHN	**Wuhan**	**24.58**	**288**	P	**P**	**07 49 34.1**	**+2.0**
WHN				S	**S**	**07 53 58.9**	**+5.8**
KLR	**Kul'dur**	**24.93**	**345**	P	**P**	**07 49 32.4**	**-2.7**
	comp=Z,0.8nm,0.6s,baz=120,slow=12,SNR=3.7						
BJI	**Beijing**	**25.75**	**311**	P	**P**	**07 49 43.4**	**+0.8**
BJI				pP	**pwP**	**07 49 49.5**	**+0.7**
BJI				S	**S**	**07 54 11.3**	**-0.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**29.29**	**309**	*eP*	**P**	**07 50 15.6**	**+1.1**
HHC				S	**S**	**07 55 13.0**	**+5.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,4.7s						
HHC				L	L		
	comp=Z,120nm,12.0s						
HHC				L	L		
	comp=Z,110nm,14.2s						
HHC				L	L		
	comp=Z,97nm,13.6s						
BTO	**Baotou**	**30.29**	**308**	*eP*	**P**	**07 50 26.5**	**+3.1**
BTO				S	**S**	**07 55 24.0**	**+0.6**
LZH	**Lanzhou**	**33.95**	**297**	*eP*	**P**	**07 50 58.1**	**+2.4**
LZH				pP	pwP	07 51 05.4	+3.9
LZH				sP	sP	07 51 08.9	+10
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
KMI	**Kunming**	**35.07**	**278**	⇑P	**P**	**07 51 06.0**	**+0.4**
KMI				pP	pwP	07 51 11.6	+0.2
KMI				sP	sP	07 51 15.0	+6.3
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
ULN	**Ulaanbaatar**	**35.17**	**318**	P	**P**	**07 51 04.8**	**-1.3**
ULN				IAmb	IAmb	07 51 06.2	
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**35.55**	**318**	P	**P**	**07 51 06.8**	**-2.6**
	comp=Z,2.4nm,0.7s,baz=132,slow=9.3,SNR=12						
SONM	**Songino Array**	**35.55**	**318**	P	**P**	**07 51 08.1**	**-1.3**
GTA	**Gaotai**	**37.59**	**302**	⇓P	**P**	**07 51 25.6**	**-1.2**
GTA				pP	pwP	07 51 35.0	+2.0
GTA				sP	sP	07 51 38.8	+9.0
GTA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SHL	**Shillong**	**44.67**	**281**	P	**P**	**07 52 23.9**	**-1.4**
BILL	**Bilibino**	**45.14**	**13**	P	**P**	**07 52 28.9**	**+0.7**
BILL				IAmb	IAmb	07 52 32.4	
	comp=Z,4.9nm,1.1s						
WB0	**Warramunga Arr**	**45.52**	**190**	P	**P**	**07 52 31.6**	**-0.2**
WR0	**Warramunga Arr**	**45.69**	**189**	P	**P**	**07 52 33.6**	**+0.5**
WB2	**Warramunga Arr**	**45.70**	**190**	P	**P**	**07 52 32.7**	**-0.4**
WRA	**Warramunga Arr**	**45.70**	**190**	P	**P**	**07 52 33.1**	**-0.1**
	comp=Z,15nm,0.8s,baz=9.0,slow=8.6,SNR=63						
WRA	**Warramunga Arr**	**45.70**	**190**	P	**P**	**07 52 32.8**	**-0.4**
WMQ	**Urumqi**	**47.13**	**307**	*eP*	**P**	**07 52 43.8**	**-0.5**
ASAR	**Alice Springs**	**49.42**	**189**	P	**P**	**07 53 01.9**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=12,slow=10,SNR=9.4						
ZAAO	**Zalesovo Array**	**50.39**	**320**	P	**P**	**07 53 07.9**	**-1.3**
ZALV	**Zalesovo Beam**	**50.39**	**320**	P	**P**	**07 53 07.9**	**-1.3**
MK31	**Makanchi Array**	**51.13**	**311**	P	**P**	**07 53 13.4**	**-1.5**
MKAR	**Makanchi Array**	**51.13**	**311**	P	**P**	**07 53 12.7**	**-2.2**
	comp=Z,1.9nm,0.7s,baz=93,slow=9.2,SNR=24						
MKAR	**Makanchi Array**	**51.13**	**311**	P	**P**	**07 53 12.5**	**-2.4**
MAKZ	**Makanchi**	**51.34**	**311**	P	**P**	**07 53 15.2**	**-1.3**
STKA	**Stephens Creek**	**57.03**	**180**	P	**P**	**07 53 58.0**	**0.0**
	comp=Z,4.3nm,0.9s,baz=19,slow=6.0,SNR=5.2						
A21K	**Barrow**	**57.12**	**20**	P	**P**	**07 53 59.1**	**+0.9**
A21K				IAmb	IAmb	07 54 03.3	
	comp=Z,12nm,1.4s						
MLY	**Manley**	**57.77**	**28**	P	**P**	**07 54 04.0**	**+1.1**
MLY				IAmb	IAmb	07 54 07.2	
	comp=Z,4.1nm,1.2s						
ARSB	**Arslanbob**	**58.04**	**304**	P	**P**	**07 54 04.1**	**-1.2**
ARSB				IAmb	IAmb	07 54 28.6	
	comp=Z,7.4nm,1.2s						
MCK	**McKinley**	**58.37**	**29**	P	**P**	**07 54 08.1**	**+0.9**
MCK				IAmb	IAmb	07 54 11.1	
	comp=Z,7.6nm,1.2s						
NEA2	**Nenana**	**58.42**	**28**	P	**P**	**07 54 08.1**	**+0.7**
NEA2				IAmb	IAmb	07 54 11.7	
	comp=Z,7.1nm,1.2s						
SCM	**Sheep Creek Mo**	**58.94**	**32**	P	**P**	**07 54 10.9**	**-0.3**
BRVK	**Borovoye**	**58.96**	**318**	P	**P**	**07 54 10.2**	**-1.2**
BRVK				IAmb	IAmb	07 54 11.9	
	comp=Z,4.9nm,0.8s						
IL31		**59.37**	**28**	P	**P**	**07 54 14.3**	**+0.3**
IL31				IAmb	IAmb	07 54 17.2	
	comp=Z,3.6nm,0.9s						
ILAR	**Eielson Array**	**59.37**	**28**	P	**P**	**07 54 14.7**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=263,slow=5.7,SNR=19						
ILAR	**Eielson Array**	**59.37**	**28**	P	**P**	**07 54 14.5**	**+0.5**
KK31	**Karatay Array**	**59.63**	**307**	P	**P**	**07 54 14.5**	**-1.7**
KK31				IAmb	IAmb	07 54 16.2	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**59.63**	**307**	P	**P**	**07 54 14.7**	**-1.5**
PAX	**Paxson**	**59.87**	**30**	P	**P**	**07 54 18.0**	**+0.4**
FYU	**Fort Yukon**	**60.20**	**26**	P	**P**	**07 54 20.4**	**+0.8**
BMAR	**Burnt Mountain**	**60.53**	**25**	P	**P**	**07 54 22.9**	**+0.9**
DOT	**Dot Lake**	**60.53**	**30**	P	**P**	**07 54 22.5**	**+0.5**
DOT				IAmb	IAmb	07 54 25.9	
	comp=Z,5.0nm,1.0s						
SCRK	**Sand Creek**	**60.58**	**29**	P	**P**	**07 54 23.5**	**+1.0**
SCRK				IAmb	IAmb	07 54 25.0	
	comp=Z,5.3nm,0.9s						
L27K	**Beaver Creek,**	**61.53**	**30**	P	**P**	**07 54 30.5**	**+1.6**
L27K				IAmb	IAmb	07 54 36.0	
	comp=Z,3.5nm,1.3s						
BCAR	**Beaver Creek A**	**61.55**	**30**	P	**P**	**07 54 29.7**	**+0.7**
KBL	**Kabul**	**62.30**	**297**	P	**P**	**07 54 33.1**	**-1.7**
DAWY	**Dawson**	**62.60**	**29**	P	**P**	**07 54 37.2**	**+1.1**
DAWY				IAmb	IAmb	07 54 40.6	
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**64.70**	**24**	P	**P**	**07 54 50.3**	**+0.6**
	comp=Z,3.4nm,1.1s,baz=299,slow=4.0,SNR=4.4						
DLBC	**Dease Lake**	**67.82**	**35**	P	**P**	**07 55 12.1**	**+2.1**
DLBC				IAmb	IAmb	07 55 14.1	
	comp=Z,5.6nm,1.4s						
YKA	**Yellowknife Ar**	**73.80**	**28**	P	**P**	**07 55 46.3**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=291,slow=5.6,SNR=7.9						
B08A	**Colville Reser**	**77.05**	**43**	P	**P**	**07 56 07.1**	**+1.8**
B08A				IAmb	IAmb	07 56 08.7	
	comp=Z,3.1nm,0.8s						
PINE	**Pine Mountain**	**77.86**	**47**	P	**P**	**07 56 09.4**	**-0.7**
PINE				IAmb	IAmb	07 56 17.4	
	comp=Z,4.9nm,1.1s						
FINES	**FINESS Array B**	**79.17**	**334**	P	**P**	**07 56 13.5**	**-3.1**
	comp=Z,1.4nm,0.5s,baz=61,slow=5.2,SNR=19						
J08A	**Circle Bar Ran**	**79.67**	**47**	P	**P**	**07 56 19.7**	**-0.3**
BMO	**Blue Mountains**	**79.79**	**45**	P	**P**	**07 56 22.3**	**+1.8**
BMO				IAmb	IAmb	07 56 27.2	
	comp=Z,7.3nm,1.4s						
NVAR	**Mina Array Bea**	**81.91**	**51**	P	**P**	**07 56 34.1**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=285,slow=5.0,SNR=6.0						
AKASG	**Malin Array Be**	**83.62**	**324**	P	**P**	**07 56 36.6**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=47,slow=5.4,SNR=5.0						
R11A	**Troy Canyon, C**	**83.86**	**50**	P	**P**	**07 56 43.3**	**+1.1**
R11A				IAmb	IAmb	07 56 49.6	
	comp=Z,4.1nm,1.4s						
NOA	**NORSAR Array B**	**84.92**	**338**	P	**P**	**07 56 43.6**	**-3.3**
	comp=Z,0.6nm,0.7s,baz=46,slow=4.8,SNR=4.9						
PDAR	**Pinedale Array**	**85.71**	**44**	P	**P**	**07 56 52.4**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=299,slow=3.1,SNR=7.3						
TXAR	**Lajitas Array**	**96.97**	**53**	P	**P**	**07 57 47.6**	**+3.3**
	comp=Z,0.3nm,0.8s,baz=274,slow=3.5,SNR=4.2						
PLCA	**Paso Flores**	**149.25**	**128**	PKPbc	**PKPbc**	**08 04 01.7**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=289,slow=5.0,SNR=4.5						
LPAZ	**La Paz**	**150.79**	**78**	PKPbc	**PKPbc**	**08 04 06.8**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=322,slow=2.9,SNR=12						

*OTT **20** 08:07:52.4±0.2,64°70N×86°92W,h18km,MN3.5/15, 192km west from Coral Harbour, Nu Boothia Ungava Seismic Zone.*
*IDC **20** 08:07:54.4±1.9,64°97N×87°01W,h0km,mb3.2/2, mb1 3.9/5,mb1mx3.4/35,mbtmp3.6/5,ML2.2/2,Error ellipse: s-maj=33.4km s-min=17.6km az=27.0*

ISC 20 08:07:51.3±1.0,64°62N±0°10×86°65W±0°06,h10km,n20, σ2s47/23,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCC	**Fort Churchill**	**6.86**	**214**	PN	**Pn**	**08 09 33.0**	**+1.3**
FCC				SN	**Sn**	**08 10 44.9**	**-4.9**
FCC				Trac		08 10 53.2	
	comp=Z,9.3nm,0.1s						
KNGQ	**Kangiqsujuaq**	**7.33**	**108**	PN	**Pn**	**08 09 39.5**	**+1.3**
KNGQ				SN	**Sn**	**08 10 58.8**	**-2.5**
KNGQ				Trac		08 11 07.6	
	comp=Z,4.6nm,0.0s						
FRB	**Frobisher Bay**	**7.95**	**88**	PN	**Pn**	**08 09 47.8**	**+1.1**
FRB				SN	**Sn**	**08 11 12.3**	**-4.2**
FRB				Trac		08 11 15.9	
	comp=Z,16nm,0.2s						
KJKQ	**Kuujjuarapik**	**10.37**	**151**	PN	**Pn**	**08 10 22.5**	**+2.6**
KJKQ				SN	Sn	08 12 09.1	-6.9
KJKQ				Trac		08 12 13.8	
	comp=Z,1.2nm,0.0s						
KUKN	**Kugluktuk,NWT**	**11.85**	**298**	PN	**Pn**	**08 10 38.5**	**-1.7**
KUKN				SN	Sn	08 12 38.8	-13
KUKN				Trac		08 12 43.4	
	comp=Z,3.3nm,0.1s						
VIMO	**Victor Mine**	**11.93**	**171**	PN	**Pn**	**08 10 41.5**	**+0.2**
VIMO				SN	Sn	08 12 45.5	-8.8
VIMO				Trac		08 12 49.1	
	comp=Z,9.7nm,0.4s						
YKA	**Yellowknife Ar**	**12.59**	**273**	Pn	**Pn**	**08 10 47.5**	**-2.7**
	1.7nm,0.3s,baz=66,slow=11,SNR=62						
YKA				Sn	Sn	08 12 52.9	-17
	0.5nm,0.3s,baz=58,slow=24,SNR=3.9						
YKA				Lg	Lg	08 14 19.1	
	baz=65,slow=27,SNR=1.5						
PKLO	**Pickle Lake**	**13.30**	**190**	PN	**Pn**	**08 11 00.4**	**+0.4**
PKLO				SN	Sn	08 13 18.6	-9.2
PKLO				Trac		08 13 36.9	
	comp=Z,4.3nm,0.2s						
SCHQ	**Schefferville**	**13.93**	**125**	Pn	**Pn**	**08 11 12.0**	**+3.4**
	0.1nm,0.3s,baz=328,slow=9.5,SNR=1.2						
SCHQ				Sn	Sn	08 13 31.8	-11
	0.7nm,0.3s,baz=47,slow=15,SNR=2.5						
SCHQ				Lg	Lg	08 15 08.9	
	0.6nm,0.3s,baz=24,slow=14,SNR=1.3						
GTO	**Geraldton**	**14.92**	**181**	PN	**Pn**	**08 11 20.8**	**-1.3**
GTO				SN	Sn	08 13 56.4	-11
GTO				Trac		08 14 00.1	
	comp=Z,4.0nm,0.3s						
SOLO	**Sioux Lookout**	**14.92**	**194**	PN	**Pn**	**08 11 21.1**	**-1.0**
SOLO				SN	Sn	08 13 57.0	-10
SOLO				Trac		08 14 06.6	
	comp=Z,1.8nm,0.1s						
ULM	**Lac du Bonnet**	**15.21**	**203**	Pn	**Pn**	**08 11 27.9**	**+1.9**
	0.3nm,0.3s,baz=18,slow=12,SNR=2.0						
ULM				Sn	Sn	08 13 56.5	-18
	0.2nm,0.3s,baz=6.4,slow=8.6,SNR=1.3						
ULM				Lg	Lg	08 15 52.2	
	0.2nm,0.3s,baz=304,slow=18,SNR=1.9						
ULM	**Lac du Bonnet**	**15.21**	**203**	PN	**Pn**	**08 11 25.2**	**-0.7**
ULM				SN	Sn	08 14 01.6	-13
ULM				Trac		08 14 16.7	
	comp=Z,3.7nm,0.3s						
KAPO	**Kapuskasing**	**15.37**	**170**	PN	**Pn**	**08 11 27.7**	**-0.3**
KAPO				SN	Sn	08 14 08.1	-10
KAPO				Trac		08 14 27.5	
	comp=Z,3.2nm,0.3s						
EPLO	**Experimental L**	**15.45**	**197**	PN	**Pn**	**08 11 28.3**	**-0.9**
EPLO				SN	Sn	08 14 05.9	-14
EPLO				Trac		08 14 27.1	
	comp=Z,4.9nm,0.2s						
ATKO	**Atikokan Iron**	**16.06**	**192**	PN	**Pn**	**08 11 36.9**	**-0.1**
ATKO				Trac		08 14 33.5	
	comp=Z,0.7nm,0.1s						
PNPO	**Pukaskwa Natio**	**16.07**	**179**	PN	**Pn**	**08 11 36.8**	**-0.3**
PNPO				SN	Sn	08 14 23.8	-11
PNPO				Trac		08 14 28.1	
	comp=Z,3.7nm,0.4s						
TBO	**Thunder Bay**	**16.09**	**187**	PN	**Pn**	**08 11 36.3**	**-1.0**
TBO				SN	Sn	08 14 24.5	-11
TBO				Trac		08 14 41.7	
	comp=Z,1.8nm,0.2s						
ILAR	**Eielson Array**	**24.91**	**298**	P	**P**	**08 13 15.9**	**+2.0**
	0.3nm,0.8s,baz=55,slow=8.4,SNR=4.2						
PDAR	**Pinedale Array**	**25.47**	**222**	P	**P**	**08 13 24.9**	**+5.4**
	0.4nm,0.5s,baz=34,slow=9.8,SNR=7.0						

*SOME **20** 08:10:25.4,40°67N×77°05E,h5km*
*NNC **20** 08:10:26.3±1.1,40°60N×77°30E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=7.2km s-min=5.2km az=173.0*
*KRNET **20** 08:10:27.5±0.1,40°70N×77°24E,h17km,mb3.1*

ISC 20 08:10:23.9±2.2,40°57N±0°08×77°12E±0°03,h10km±15km, n62,σ1s54/95,25C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.27**	**24**	⇑*iP*	**Pn**	**08 10 48.7**	**+0.5**
	baz=22						
TARG				⇑*iS*	**Sg**	**08 11 03.9**	**-1.0**
	baz=22						
KDJ	**Kajisay**	**1.56**	**2**	⇑*iP*	**Pg**	**08 10 54.4**	**+0.5**
	baz=59						
KDJ				⇑*iS*	**Sg**	**08 11 14.1**	**-0.1**
	baz=59						
ULHL	**Ulahol**	**1.80**	**339**	⇑*iP*	**Pg**	**08 10 59.4**	**+0.9**
	baz=34						
ULHL				⇑*iS*	**Sg**	**08 11 22.6**	**+0.6**
	baz=34						
ULHL	**Ulahol**	**1.80**	**339**	P	**Pg**	**08 11 00.0**	**+1.5**
	SNR=37						
BOOM	**Boomskoye usch**	**2.12**	**336**	⇑*iP*	**Pg**	**08 11 04.6**	**+0.1**
	baz=32						
BOOM				⇑*iS*	**Sg**	**08 11 31.7**	**-0.3**
	baz=32						
PRZ	**Przheval'sk**	**2.14**	**26**	⇓*iP*	**Pb**	**08 11 04.2**	**+1.2**
	baz=25						
PRZ				⇓*iS*	**Sg**	**08 11 31.0**	**-1.8**
	baz=25						
ANVS	**Anan'yevo**	**2.25**	**10**	⇑*iP*	**Pb**	**08 11 05.4**	**+0.5**
	baz=9.0						
ANVS				⇑*iS*	**Sg**	**08 11 33.7**	**-2.6**
	baz=9.0						
ARLS	**Aral**	**2.48**	**302**	⇑*eP*	**Pg**	**08 11 10.7**	**-0.7**
	baz=99						
ARLS				⇑*iS*	**Sg**	**08 11 42.2**	**-1.3**
	baz=99						
IZV	**Izvestkoviy**	**2.50**	**351**	*eP*	**Pg**	**08 11 12.5**	**+0.7**
	8.8nm,0.3s						
IZV				*eS*	**Sg**	**08 11 47.1**	**+2.9**
	47nm,0.5s						
IZV	**Izvestkoviy**	**2.50**	**351**	Pg	**Pg**	**08 11 12.5**	**+0.7**
	8.8nm,0.3s						
IZV				Lg	Lg	08 11 46.8	
	47nm,0.5s						
MDOK	**Medeo**	**2.60**	**359**	*eP*	**Pg**	**08 11 13.9**	**+0.2**
	9.7nm,0.4s						
MDOK				*eS*	**Sg**	**08 11 49.6**	**+2.3**
	38nm,0.4s						
MDOK	**Medeo**	**2.60**	**359**	Pn	**Pg**	**08 11 13.2**	**-0.5**
	12nm,0.7s						
MDOK				Sn	**Sg**	**08 11 49.6**	**+2.3**
	57nm,0.5s						
MDOK	**Medeo**	**2.60**	**359**	Pg	**Pg**	**08 11 13.7**	**0.0**
	9.7nm,0.4s						
MDOK				Lg	Lg	08 11 49.0	
	38nm,0.4s						
MTBS	**Maitube**	**2.61**	**349**	*eP*	**Pg**	**08 11 14.3**	**+0.3**
	7.8nm,0.4s						
MTBS				*eS*	**Sg**	**08 11 50.2**	**+2.3**
	34nm,0.3s						
MTBS	**Maitube**	**2.61**	**349**	Pg	**Pg**	**08 11 14.3**	**+0.3**
	7.8nm,0.4s						
MTBS				Lg	Lg	08 11 50.2	
	34nm,0.3s						
TKM2	**Tokmak 2**	**2.62**	**335**	⇑*iP*	**Pb**	**08 11 11.5**	**+0.5**
	baz=32						
TKM2				⇑*iS*	**Sg**	**08 11 44.0**	**-4.0**
	baz=32						
TKM2	**Tokmak 2**	**2.62**	**335**	P	**Pg**	**08 11 13.4**	**-0.7**
	SNR=8.2						
TKM2	**Tokmak 2**	**2.62**	**335**	⇑Pn	**Pg**	**08 11 13.0**	**-1.1**
	4.4nm,0.5s						
TKM2				⇓Lg	Lg	08 11 51.0	
	22nm,0.7s						
KST	**Kastek**	**2.62**	**341**	*eP*	**Pg**	**08 11 14.9**	**+0.7**
	8.8nm,0.4s						
KST				*eS*	**Sg**	**08 11 51.0**	**+2.8**
	32nm,0.3s						
KST	**Kastek**	**2.62**	**341**	Pg	**Pg**	**08 11 14.9**	**+0.7**
	8.8nm,0.4s						
KST				Lg	Lg	08 11 51.0	
	32nm,0.3s						
KBK	**Karagaybulak**	**2.65**	**323**	⇑*iP*	**Pg**	**08 11 12.7**	**-2.0**
	baz=20						
KBK				⇑*iS*	**Sg**	**08 11 45.5**	**-3.5**
	baz=20						
KBK	**Karagaybulak**	**2.65**	**323**	P	**Pg**	**08 11 15.7**	**+1.0**
	SNR=6.5						
KNDC	**Almaty**	**2.65**	**358**	⇑Pg	**Pb**	**08 11 12.2**	**+0.7**
	31nm,0.5s						
KNDC				⇓Lg	Lg	08 11 50.3	
	184nm,0.6s						
KOTS	**Kotyrbulak**	**2.67**	**360**	*eP*	**Pg**	**08 11 15.3**	**+0.3**
	48nm,0.3s						
KOTS				*eS*	**Sg**	**08 11 51.9**	**+2.3**
	100nm,0.3s						
KOTS	**Kotyrbulak**	**2.67**	**360**	Pg	**Pg**	**08 11 15.1**	**0.0**
	48nm,0.3s						
KOTS				Lg	Lg	08 11 51.9	
	100nm,0.3s						
SATY	**Saty**	**2.67**	**21**	*eP*	**Pg**	**08 11 14.0**	**-1.1**
	2.7nm,0.1s						
SATY				*eS*	**Sg**	**08 11 49.9**	**+0.2**
	28nm,0.3s						
SATY	**Saty**	**2.67**	**21**	Pg	**Pg**	**08 11 14.0**	**-1.1**
	2.7nm,0.1s						
SATY				Lg	Lg	08 11 49.9	
	28nm,0.3s						
DGS	**Degeres**	**2.86**	**340**	*eP*	**Pg**	**08 11 19.1**	**+0.4**
	7.2nm,0.5s						
DGS				*eS*	**Sg**	**08 11 58.2**	**+2.5**
	25nm,0.7s						
DGS	**Degeres**	**2.86**	**340**	Pg	**Pg**	**08 11 19.1**	**+0.4**
	7.2nm,0.5s						
DGS				Lg	Lg	08 11 58.2	
	25nm,0.7s						
AAK	**Ala-Archa**	**2.86**	**317**	⇓*iP*	**Pb**	**08 11 15.8**	**+0.7**
	baz=14						
AAK				⇓*iS*	**Sb**	**08 11 50.9**	**+0.6**
	baz=14						
AAK	**Ala-Archa**	**2.86**	**317**	P	**Pg**	**08 11 19.1**	**+0.4**
	SNR=6.3						
AAK	**Ala-Archa**	**2.86**	**317**	⇑Pg	**Pg**	**08 11 18.4**	**-0.3**
	14nm,0.8s						
AAK				⇓Lg	Lg	08 11 58.5	
	47nm,1.1s						
UZB	**Uzynbulak**	**2.94**	**28**	*eP*	**Pg**	**08 11 19.4**	**-0.9**
	3.9nm,0.4s						
UZB				*eS*	**Sg**	**08 11 58.7**	**+0.2**
	8.6nm,0.5s						
UZB	**Uzynbulak**	**2.94**	**28**	Pg	**Pb**	**08 11 18.2**	**+1.6**
	3.9nm,0.4s						
UZB				Lg	Lg	08 11 57

PDGK				⇑Lg	Lg	08 12 05.9		
	18nm,0.8s							
CHKK	**Chushkaly**	**3.29**	**358**	*eP*	**Pg**	**08 11 25.9**	**-1.0**
	16nm,0.5s							
CHKK				*eS*	**Sg**	**08 12 09.6**	**+0.1**
	54nm,0.4s							
CHKK	**Chushkaly**	**3.29**	**358**	Pg	**Pg**	**08 11 25.9**	**-1.0**
	16nm,0.5s							
CHKK				Lg	Lg	08 12 09.6		
	54nm,0.4s							
KRBS	**Karabastau**	**3.31**	**341**	*eP*	**Pg**	**08 11 26.8**	**-0.5**
	2.8nm,0.4s							
KRBS				*eS*	**Sg**	**08 12 11.4**	**+1.2**
	17nm,0.7s							
KRBS	**Karabastau**	**3.31**	**341**	Pg	**Pg**	**08 11 26.8**	**-0.5**
	2.8nm,0.4s							
KRBS				Lg	Lg	08 12 11.4		
	17nm,0.7s							
USP	**Ospenovka**	**3.33**	**325**	⇓*iP*	**Pb**	**08 11 21.8**	**-1.4**
	baz=22							
USP				⇓*iS*	**Sb**	**08 12 01.4**	**-2.4**
	baz=22							
USP	**Ospenovka**	**3.33**	**325**	P	**Pg**	**08 11 27.7**	**-0.1**
	SNR=6.7							
KUU	**Kurty**	**3.38**	**350**	*eP*	**Pg**	**08 11 27.4**	**-1.2**
	1.4nm,0.1s							
KUU				*eS*	**Sg**	**08 12 12.4**	**+0.1**
	51nm,0.8s							
KUU	**Kurty**	**3.38**	**350**	Pg	**Pg**	**08 11 27.4**	**-1.2**
	1.4nm,0.1s							
KUU				Lg	Lg	08 12 12.4		
	51nm,0.8s							
SGDS	**Sogindy**	**3.43**	**328**	Pg	**Pg**	**08 11 29.1**	**-0.5**
	2.9nm,0.3s							
SGDS				Lg	Lg	08 12 15.7		
	14nm,0.7s							
MRKS	**Merke**	**3.64**	**308**	*eP*	**Pg**	**08 11 33.1**	**-0.5**
	2.7nm,0.2s							
MRKS				*eS*	**Sg**	**08 12 22.4**	**+1.5**
	11nm,0.4s							
MRKS	**Merke**	**3.64**	**308**	Pg	**Pg**	**08 11 33.1**	**-0.5**
	2.7nm,0.2s							
MRKS				Lg	Lg	08 12 22.4		
	11nm,0.4s							
ARXS	**Arharly**	**3.68**	**8**	*eP*	**Pg**	**08 11 32.0**	**-2.4**
	6.5nm,0.5s							
ARXS				*eS*	**Sg**	**08 12 20.2**	**-2.0**
	29nm,0.4s							
ARXS	**Arharly**	**3.68**	**8**	Pg	**Pg**	**08 11 32.0**	**-2.4**
	6.5nm,0.5s							
ARXS				Lg	Lg	08 12 20.2		
	29nm,0.4s							
KAPS	**Kapalarasan**	**4.99**	**18**	*eP*	**Pg**	**08 11 56.9**	**-2.6**
	1.6nm,0.3s							
KAPS				*eS*	**Sg**	**08 13 03.3**	**-0.9**
	4.9nm,0.7s							
KAPS	**Kapalarasan**	**4.99**	**18**	Pg	**Pg**	**08 11 56.0**	**-3.5**
	0.2nm,0.4s							
KAPS				Lg	Lg	08 13 01.5		
	0.6nm,0.5s							

NOU 20 08:31:33.9,23°01S×119°04E,h0km,MLv3.6,Western Australia,Western Australia

*VAO **20** 08:48:25.9±1.4, 17°.80S×70°.08W, h170km±9km, mb3.9*
*IDC **20** 08:48:32.0±3.2, 17°.54S×69°.49W, h153km±18km, mb3.5/3, mb1 3.5/3, mb1mx3.2/18, mbtmp3.9/3, Error ellipse: s-maj=77.6km s-min=29.5km az=125.0*
*GUC **20** 08:48:33.3±0.3, 17°.82S×69°.36W, h154km±3km, ML3.3*
ISC 20 08:48:31.1±1.4, 17°.74S±0°.09×69°.5W±0°.2, h151km±9km, n20, σ1°27/28, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**1.40**	**185**	*eP*		**Pn**	**08 49 01.0**	**+1.1**
MNMC				*i* S		**Sn**	**08 49 22.5**	**+0.4**
LPAZ	**La Paz**	**1.92**	**42**	P		**Pn**	**08 49 06.6**	**+0.6**
	21nm,0.3s,baz=224,slow=6.6,SNR=1089							
LPAZ				S		**Sn**	**08 49 31.4**	**-1.3**
	3.7nm,0.3s,baz=123,slow=23,SNR=4.6							
LPAZ	**La Paz**	**1.92**	**42**	⇓*iP*		**Pn**	**08 49 06.9**	**+0.9**
LPAZ				*i* S		**Sn**	**08 49 32.0**	**-0.7**
LPAZ	**La Paz**	**1.92**	**42**	*eP*		**Pn**	**08 49 06.8**	**+0.9**
PSGC	**Pisagua**	**1.96**	**199**	*eP*		**Pn**	**08 49 06.5**	**+0.6**
PSGC				*i* S		**Sn**	**08 49 32.0**	**-0.7**
PSGC				IAML			08 49 32.7	
	comp=N,201nm,0.3s							
PB11	**IPOC Station P**	**2.02**	**185**	*eP*		**Pn**	**08 49 07.3**	**+0.6**
PB11				*i* S		**Sn**	**08 49 33.8**	**-0.4**
PB11				IAML			08 49 40.9	
	comp=E,169nm,0.1s							
PB08	**IPOC Station P**	**2.41**	**173**	*eP*		**Pn**	**08 49 12.4**	**+0.9**
PB08				IAML			08 49 50.2	
	comp=E,82nm,0.3s							
TA01	**Diego Aracena**	**2.90**	**194**	*eP*		**Pn**	**08 49 17.6**	**+0.4**
TA01				*i* S		**Sn**	**08 49 50.0**	**-3.0**
TA01				IAML			08 50 00.4	
	comp=N,56nm,0.5s							
PB01	**IPOC Station P**	**3.29**	**181**	*eP*		**Pn**	**08 49 22.6**	**+0.3**
PB01				*i* S		**Sn**	**08 49 59.9**	**-2.2**
PB01				IAML			08 50 08.7	
	comp=N,62nm,0.3s							
PB07	**IPOC Station P**	**3.99**	**186**	*eP*		**Pn**	**08 49 31.7**	**+0.3**
PB07				*i* S		**Sn**	**08 50 16.6**	**-1.8**
ETMB	**Extrema**	**8.48**	**22**	*eP*		**Pn**	**08 50 29.8**	**-1.2**
CLDB	**Colider**	**14.88**	**65**	*eP*		**Pn**	**08 51 54.5**	**+0.3**
NPGB	**Novo Progresso**	**17.38**	**54**	*eP*		**P**	**08 52 23.2**	**-0.5**
SNDB	**Serra Nova Dou**	**18.46**	**74**	*eP*		**P**	**08 52 35.8**	**+0.3**
ITTB	**Itaituba**	**18.89**	**47**	*eP*		**P**	**08 52 38.7**	**-1.5**
BDFB	**Brasilia**	**20.64**	**87**	P		**P**	**08 53 00.7**	**+1.5**
	comp=N,2.7nm,0.5s,baz=250,slow=12,SNR=4.5							
PEXB	**Peixe**	**21.19**	**78**	*eP*		**P**	**08 53 04.2**	**-0.6**
PLCA	**Paso Flores**	**22.94**	**182**	P		**P**	**08 53 24.4**	**+2.2**
	comp=N,1.0nm,0.6s,baz=20,slow=12,SNR=3.6							
JANB	**Januaria**	**24.26**	**87**	*eP*		**P**	**08 53 33.0**	**-1.6**
TORD	**Torodi Ar. Bea**	**76.61**	**71**	P		**P**	**09 00 06.1**	**+0.5**
	comp=N,0.8nm,0.3s,baz=257,slow=4.7,SNR=7.6							

*IDC **20** 08:49:28.5±3.1, 65°.10N×86°.59W, h0km, mb3.0/1, mb1 3.7/4, mb1mx3.3/40, mbtmp3.5/4, ML2.4/2, Error ellipse: s-maj=57.1km s-min=20.3km az=21.0*
*OTT **20** 08:49:28.7±0.2, 64°.74N×86°.82W, h18km, MN3.2/9, 189km northwest from Coral Harbour, Nu Boothia Ungava Seismic Zone.*
ISC 20 08:49:26.8±1.0, 64°.80N±0°.09×86°.46W±0°.07, h10km, n16, σ2°53/18, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KNGQ	**Kangiqsujuaq**	**7.30**	**110**	PN		**Pn**	**08 51 16.3**	**+2.9**
KNGQ				SN		**Sn**	**08 52 34.4**	**-1.9**
KNGQ				Trac			08 52 44.2	
	comp=Z,1.8nm,0.1s							
FRB	**Frobisher Bay**	**7.86**	**90**	PN		**Pn**	**08 51 24.5**	**+3.5**
FRB				SN		**Sn**	**08 52 47.6**	**-2.2**
FRB				Trac			08 52 51.0	
	comp=Z,7.9nm,0.2s							
CLRN	**Clyde River**	**8.84**	**42**	SN		**Sn**	**08 53 11.2**	**-2.7**
KJKQ	**Kuujjuarapik**	**10.48**	**152**	PN		**Pn**	**08 51 56.9**	**0.0**
KJKQ				SN		Sn	08 53 47.6	-6.7
KJKQ				Trac			08 54 22.0	
	comp=Z,1.4nm,0.0s							
KAJQ	**Kangiqsualujju**	**11.45**	**113**	PN		**Pn**	**08 52 12.6**	**+2.4**
KAJQ				SN		Sn	08 54 11.6	-6.4
KAJQ				Trac			08 54 42.0	
	comp=Z,0.3nm,0.0s							
KUKN	**Kugluktuk,NWT**	**11.84**	**298**	PN		**Pn**	**08 52 15.0**	**-0.5**
KUKN				SN		Sn	08 54 15.2	-12
KUKN				Trac			08 54 55.4	
	comp=Z,28nm,1.4s							
VIMO	**Victor Mine**	**12.10**	**172**	PN		**Pn**	**08 52 17.8**	**-1.3**
VIMO				SN		Sn	08 54 23.2	-11
VIMO				Trac			08 54 33.4	
	comp=Z,1.3nm,0.1s							
YKA	**Yellowknife Ar**	**12.66**	**272**	Pn		**Pn**	**08 52 23.7**	**-3.1**
	1.0nm,0.3s,baz=72,slow=14,SNR=8.3							
YKA				Sn		Sn	08 54 28.3	-19
	0.3nm,0.3s,baz=132,slow=11,SNR=2.0							
LG4Q	**La Grande 4**	**12.83**	**145**	PN		**Pn**	**08 52 28.1**	**-1.0**
LG4Q				SN		Sn	08 54 41.9	-10
LG4Q				Trac			08 55 05.2	
	comp=Z,0.5nm,0.0s							
PKLO	**Pickle Lake**	**13.49**	**190**	PN		**Pn**	**08 52 37.0**	**-1.1**
PKLO				SN		Sn	08 54 56.3	-12
PKLO				Trac			08 55 13.5	
	comp=Z,1.8nm,0.2s							
SCHQ	**Schefferville**	**13.97**	**126**	Pn		**Pn**	**08 52 44.9**	**+0.3**
	0.1nm,0.3s,baz=326,slow=13,SNR=1.2							
SCHQ				Sn		Sn	08 55 08.0	-12
	0.2nm,0.3s,baz=101,slow=12,SNR=2.0							
SCHQ	**Schefferville**	**13.97**	**126**	PN		**Pn**	**08 52 45.2**	**+0.6**
SCHQ				SN		Sn	08 55 10.5	-9.0
SCHQ				Trac			08 55 25.4	
	comp=Z,4.6nm,0.5s							
GTO	**Geraldton**	**15.10**	**181**	PN		**Pn**	**08 52 59.6**	**-0.3**
GTO				SN		Sn	08 55 33.8	-13
GTO				Trac			08 55 52.3	
	comp=Z,1.2nm,0.2s							
SOLO	**Sioux Lookout**	**15.12**	**194**	PN		**Pn**	**08 52 57.4**	**-2.8**
SOLO				SN		Sn	08 55 33.7	-14
SOLO				Trac			08 55 36.7	
	comp=Z,0.7nm,0.1s							
ULM	**Lac du Bonnet**	**15.41**	**203**	Pn		**Pn**	**08 53 03.9**	**-0.2**
	0.3nm,0.3s,baz=20,slow=6.2,SNR=1.6							
ULM				Sn		Sn	08 55 36.6	-18
	0.2nm,0.3s,baz=60,slow=18,SNR=1.5							
PDAR	**Pinedale Array**	**25.66**	**222**	P		**P**	**08 55 02.4**	**+5.6**
	0.1nm,0.5s,baz=50,slow=7.2,SNR=1.4							

*IDC **20** 08:50:55.6±3.7, 35°.95N×139°.88E, h83km±30km, mb3.2/2, mb1 3.4/2, mb1mx3.0/31, mbtmp3.5/2, Error ellipse: s-maj=43.6km s-min=27.9km az=77.0*
*JMA **20** 08:50:55.0±0.1, 36°.12N×139°.99E, h68km±1km, M2.6*
ISC 20 08:50:54.4±1.0, 36°.12N±0°.05×139°.99E±0°.05, h73km±8km, n15, σ0°61/24, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.20**	**57**	P		**Pn**	**08 51 05.4**	**0.0**
JYT				S		**Sn**	**08 51 13.2**	**-0.2**
JAG	**Ashikaga**	**0.53**	**305**	P		**Pn**	**08 51 08.0**	**+0.2**
JAG				S		**Sn**	**08 51 17.6**	**-0.1**
JKT	**Katashina**	**0.88**	**317**	P		**Pn**	**08 51 11.8**	**+0.1**
JKT				S		**Sn**	**08 51 25.0**	**+0.4**
JRY	**Ryogami san**	**0.89**	**264**	P		**Pn**	**08 51 12.2**	**+0.4**
JRY				S		**Sn**	**08 51 25.1**	**+0.4**
JOD2	**Odawara 2**	**1.13**	**221**	P		**Pn**	**08 51 14.8**	**+0.1**
JOD2				S		**Sn**	**08 51 29.4**	**-0.4**
JYN	**Shimob**	**1.33**	**243**	P		**Pn**	**08 51 18.0**	**+0.7**
JYN				eS		**Sn**	**08 51 34.9**	**+0.4**
BSO3	**Boso 3**	**1.38**	**162**	P		**Pn**	**08 51 19.1**	**+1.4**
JFNN	**Fujinakano**	**1.41**	**229**	P		**Pn**	**08 51 18.6**	**+0.3**
JFT	**Otama**	**1.42**	**11**	P		**Pn**	**08 51 19.1**	**+0.6**
JFT				S		**Sn**	**08 51 37.3**	**+0.7**
JFK	**Kawauchi**	**1.43**	**29**	P		**Pn**	**08 51 19.0**	**+0.3**
MJAR	**Matsushiro Arr**	**1.50**	**287**	P		**Pn**	**08 51 19.5**	**0.0**
	2.4nm,0.3s,baz=96,slow=10,SNR=90							
MJAR				S		**Sn**	**08 51 38.9**	**+0.5**
	0.7nm,0.3s,baz=118,slow=24,SNR=4.7							
MAT	**Matsushiro**	**1.50**	**287**	P		**Pn**	**08 51 20.2**	**+0.7**
MAT				S		**Sn**	**08 51 38.6**	**+0.1**
MAT	**Matsushiro**	**1.50**	**287**	P		**Pn**	**08 51 20.5**	**+1.0**
MKAR	**Makanchi Array**	**43.64**	**303**	P		**P**	**08 58 51.7**	**+0.1**
	0.4nm,0.7s,baz=79,slow=7.8,SNR=3.8							
WRA	**Warramunga Arr**	**56.01**	**186**	P		**P**	**09 00 24.4**	**-1.2**
	0.3nm,0.4s,baz=1.8,slow=7.4,SNR=11							

*IDC **20** 09:09:37.5±0.7, 6°.79N×73°.06W, h159km±10km, mb3.2/5, mb1 3.5/8, mb1mx3.2/29, mbtmp3.8/8, MS3.2/1, Ms1 3.2/1, ms1mx2.3/19, Error ellipse: s-maj=30.3km s-min=7.6km az=131.0*
*RSNC **20** 09:09:39.8±0.8, 6°.80N×73°.13W, h145km±3km, ML3.6, Mw3.8*
ISC 20 09:09:37.6±0.8, 6°.83N±0°.03×73°.09W±0°.04, h159km±5km, n44, σ1°20/78, mb3.8/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**202**	*eP*		**Pn**	**09 09 59.3**	**0.0**
BARC				*eS*		**Sn**	**09 10 14.0**	**-2.0**
BARC				*i*			09 10 17.0	
	comp=Z,634nm,0.3s							
PAMC	**Pamplona, Colo**	**0.64**	**37**	*eP*		**Pn**	**09 10 02.0**	**+0.8**
PAMC				*eS*		**Sn**	**09 10 19.4**	**+0.1**
PAMC				*i*			09 10 21.1	
	comp=Z,464nm,0.5s							
BRRC	**Barranca, Sant**	**0.68**	**294**	*eP*		**Pn**	**09 10 01.1**	**+0.3**
BRRC				*eS*		**Sn**	**09 10 17.4**	**-1.3**
BRRC				*i*			09 10 21.5	
	comp=Z,506nm,0.3s							
RUSC	**La Rusia**	**0.93**	**180**	*eP*		**Pn**	**09 10 03.3**	**+0.1**
RUSC				*eS*		**Sn**	**09 10 22.2**	**-0.6**
RUSC				*i*			09 10 25.1	
	comp=Z,301nm,0.3s							
OCAC	**Ocana**	**1.42**	**351**	*eP*		**Pn**	**09 10 07.3**	**+0.1**
OCAC				*eS*		**Sn**	**09 10 30.3**	**+0.3**
OCAC				*i*			09 10 36.2	
	comp=Z,970nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*eP*		**Pn**	**09 10 11.9**	**+0.1**
ZARC				*eS*		**Sn**	**09 10 37.9**	**-0.3**
ZARC				*i*			09 10 43.7	
	comp=Z,766nm,0.4s							
NORC	**Norcasia**	**2.17**	**235**	*eP*		**Pn**	**09 10 15.3**	**+0.1**
NORC				*eS*		**Sn**	**09 10 44.0**	**-0.3**
NORC				*i*			09 10 48.9	
	comp=Z,438nm,0.7s							
SMLC	**San Martn de**	**2.19**	**334**	*eP*		**Pn**	**09 10 16.3**	**+0.8**
SMLC				*eS*		**Sn**	**09 10 45.2**	**+0.5**
SMLC				*i*			09 10 47.6	
	comp=Z,552nm,0.3s							
CHIC	**Chingaza**	**2.27**	**196**	*eP*		**Pn**	**09 10 17.4**	**+0.5**
CHIC				*eS*		**Sn**	**09 10 46.5**	**-0.7**
CHIC				*i*			09 10 56.4	
	comp=Z,146nm,0.3s							
ROSC	**El Rosal**	**2.32**	**212**	P		**Pn**	**09 10 18.8**	**+1.4**
	comp=Z,74nm,0.3s,baz=21,slow=0.7,SNR=61							
ROSC				S		**Sn**	**09 10 47.8**	**-0.3**
	comp=Z,63nm,0.3s,baz=316,slow=21,SNR=11							
ROSC	**El Rosal**	**2.32**	**212**	*eP*		**Pn**	**09 10 19.1**	**+1.7**
ROSC				*eS*		**Sn**	**09 10 47.9**	**-0.2**
ROSC				*i*			09 10 56.7	
	comp=Z,482nm,0.4s							
HELC	**Santa Helena**	**2.50**	**256**	*eP*		**Pn**	**09 10 20.2**	**+0.7**
HELC				*eS*		**Sn**	**09 10 51.6**	**-0.3**
HELC				*i*			09 10 58.4	
	comp=Z,324nm,0.4s							
UREC	**San Jos de Ur**	**2.59**	**291**	*eP*		**Pn**	**09 10 19.1**	**-1.2**
UREC				*eS*		**Sn**	**09 10 50.7**	**-2.6**
UREC				*i*			09 11 03.0	
	comp=Z,362nm,0.2s							
LL2C	**La Loma 2 Cana**	**2.73**	**353**	*eP*		**Pn**	**09 10 24.0**	**+2.0**
LL2C				*eS*		**Sn**	**09 10 57.3**	**+0.9**
LL2C				*i*			09 11 03.8	
	comp=Z,313nm,0.2s							
VILC	**Villavicencio,**	**2.76**	**193**	*eP*		**Pn**	**09 10 22.6**	**+0.1**
VILC				*eS*		**Sn**	**09 10 57.0**	**-0.3**
VILC				*i*			09 11 12.7	
	comp=Z,205nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*eP*		**Pn**	**09 10 23.6**	**+0.7**
GUY2C				*eS*		**Sn**	**09 10 57.7**	**-0.1**
GUY2C				*i*			09 11 05.9	
	comp=Z,309nm,0.6s							
PTGC	**Puerto Gaitan,**	**2.78**	**160**	*eP*		**Pn**	**09 10 22.3**	**-0.2**
PTGC				*eS*		**Sn**	**09 10 55.8**	**-1.6**
PTGC				*i*			09 11 02.5	
	comp=Z,188nm,0.2s							
RREF	**El Recreo**	**2.95**	**230**	*eP*		**Pn**	**09 10 26.9**	**+1.6**
RREF				*eS*		**Sn**	**09 11 02.1**	**-0.1**
RREF				*i*			09 11 12.0	
	comp=Z,103nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.06**	**252**	*eP*		**Pn**	**09 10 27.0**	**+0.8**
CBOC				*eS*		**Sn**	**09 11 03.4**	**-0.4**
CBOC				*i*			09 11 11.7	
	comp=Z,96nm,0.2s							
TOLC	**Tolima**	**3.14**	**225**	*eP*		**Pn**	**09 10 28.6**	**+1.1**
TOLC				*eS*		**Sn**	**09 11 06.0**	**-0.1**
TOLC				*i*			09 11 10.9	
	comp=Z,183nm,0.6s							
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**	**09 10 28.6**	**+0.9**
	comp=Z,50nm,0.3s,baz=255,slow=4.8,SNR=6.7							
SDV				S		**Sn**	**09 11 06.4**	**-0.2**
	comp=Z,34nm,0.3s,baz=36,slow=20,SNR=12							

MOTC	**Monteria, Cord**	**3.21**	**307**	*eP*		**Pn**	**09 10 26.3**	**-1.6**
MOTC				*eS*		**Sn**	**09 11 05.7**	**-1.2**
MOTC				*i*			09 11 21.8	
	comp=Z,70nm,0.3s							
ANIL	**Santa Ana**	**3.27**	**225**	*eP*		**Pn**	**09 10 29.8**	**+0.8**
ANIL				*eS*		**Sn**	**09 11 08.3**	**-0.6**
PRAC	**Prado**	**3.57**	**210**	*eP*		**Pn**	**09 10 32.6**	**0.0**
PRAC				*eS*		**Sn**	**09 11 15.1**	**-0.3**
PRAC				*i*			09 11 21.4	
	comp=Z,132nm,0.6s							
ORTC	**Ortega, Tolima**	**3.61**	**217**	*eP*		**Pn**	**09 10 33.6**	**+0.6**
ORTC				*eS*		**Sn**	**09 11 16.7**	**+0.5**
ORTC				*i*			09 11 22.2	
	comp=Z,119nm,0.5s							
CVALL	**Valledupar, Ce**	**3.66**	**357**	*eP*		**Pn**	**09 10 35.2**	**+1.4**
CVALL				*eS*		**Sn**	**09 11 15.9**	**-1.5**
SJCC	**San Jacinto, C**	**3.69**	**326**	*eP*		**Pn**	**09 10 33.1**	**-0.9**
SJCC				*eS*		**Sn**	**09 11 14.8**	**-3.3**
SJCC				*i*			09 11 19.5	
	comp=Z,76nm,0.4s							
LCBC	**Los crdobas,**	**3.82**	**302**	*eP*		**Pn**	**09 10 35.6**	**-0.2**
LCBC				*eS*		**Sn**	**09 11 21.4**	**+0.4**
LCBC				*i*			09 11 30.6	
	comp=Z,82nm,0.3s							
GUVC	**San Jose del G**	**4.28**	**174**	*eP*		**Pn**	**09 10 42.5**	**+0.8**
GUVC				*eS*		**Sn**	**09 11 30.8**	**-1.0**
GUVC				*i*			09 11 33.7	
	comp=Z,85nm,0.2s							
YOTC	**Yotoco, Valle**	**4.30**	**229**	*eP*		**Pn**	**09 10 43.0**	**+0.9**
YOTC				*eS*		**Sn**	**09 11 32.3**	**-0.1**
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*		**Pn**	**09 10 44.7**	**+0.7**
SMRC				*eS*		**Sn**	**09 11 32.2**	**-3.6**
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*		**Pn**	**09 10 46.1**	**-1.3**
MACC				*eS*		**Sn**	**09 11 36.8**	**-5.2**
MACC				*i*			09 11 42.0	
	comp=Z,26nm,0.5s							
MALC	**Bahia Malaga**	**5.07**	**237**	*eP*		**Pn**	**09 10 51.9**	**-0.2**
MALC				*eS*		**Sn**	**09 11 49.6**	**-0.7**
MALC				*i*			09 12 10.3	
	comp=Z,30nm,0.6s							
FLOC	**Florencia**	**5.80**	**206**	*eP*		**Pn**	**09 11 01.9**	**+0.1**
FLOC				*eS*		**Sn**	**09 12 07.4**	**-0.5**
FLOC				*i*			09 12 42.3	
	comp=Z,9.4nm,0.7s							
BBAC	**Balboa, Cauca**	**6.32**	**221**	*eP*		**Pn**	**09 11 09.9**	**+1.1**
BBAC				*eS*		**Sn**	**09 12 19.2**	**-1.3**
BBAC				*i*			09 12 26.7	
	comp=Z,12nm,0.3s							
PCRV	**Puerto La Cruz**	**9.00**	**68**	P		**Pn**	**09 11 44.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=288,slow=1.1,SNR=9.1							
SIV	**San Ignacio**	**25.61**	**152**	LR		LR	09 26 23.4	
	comp=Z,56nm,19.1s,baz=92,slow=39							
TXAR	**Lajitas Array**	**36.48**	**312**	P		**P**	**09 16 27.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=120,slow=8.6,SNR=2.3							
ULM	**Lac du Bonnet**	**47.29**	**340**	P		**P**	**09 17 54.9**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=162,slow=9.9,SNR=2.1							
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**09 18 02.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=112,slow=7.2,SNR=2.0							
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**09 18 02.0**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=196,slow=5.8,SNR=4.4							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**09 19 49.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=131,slow=7.0,SNR=7.4							
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPbc**	**09 29 07.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=118,slow=3.7,SNR=9.6							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	**09 29 10.6**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=110,slow=2.9,SNR=15							

*IDC **20** 09:18:38.5±1.1, 2°.80N×128°.23E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/33, mbtmp3.7/7, Error ellipse: s-maj=83.6km s-min=17.1km az=76.0*
ISC 20 09:18:49.8±1.0, 2°.8N±0°.1×128°.3E±0°.5, h100km, n7, σ0°41/7, mb3.7/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.88**	**187**	P		**P**	**09 23 24.3**	**+0.2**
	1.1nm,0.5s,baz=354,slow=9.2,SNR=1.6							
WRA	**Warramunga Arr**	**23.32**	**165**	P		**P**	**09 23 49.6**	**+0.3**
	0.7nm,0.4s,baz=348,slow=10,SNR=17							
ASAR	**Alice Springs**	**26.82**	**169**	P		**P**	**09 24 21.2**	**+0.3**
	0.7nm,0.8s,baz=352,slow=7.2,SNR=7.7							
KSRS	**Korea Array**	**34.54**	**359**	P		**P**	**09 25 29.1**	**+0.4**
	0.6nm,0.4s,baz=176,slow=10.0,SNR=5.4							
STKA	**Stephens Creek**	**36.68**	**161**	P		**P**	**09 25 46.7**	**-0.4**
	0.8nm,0.5s,baz=302,slow=7.5,SNR=4.2							
SONM	**Songino Array**	**48.73**	**340**	P		**P**	**09 27 24.0**	**-0.4**
	0.3nm,0.3s,baz=157,slow=7.8,SNR=2.2							
MKAR	**Makanchi Array**	**59.25**	**325**	P		**P**	**09 28 40.9**	**+0.1**
	0.6nm,0.5s,baz=122,slow=8.7,SNR=7.1							

IDC 20 09:37:44.2±3.9, 5°.36S×150°.75E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.1/22, mbtmp3.1/2, Error ellipse: s-maj=149.4km s-min=53.3km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**226**	P		P	09 42 35.9	+0.3
	0.4nm,0.7s,baz=52,slow=10,SNR=5.1							
ASAR	**Alice Springs**	**24.39**	**220**	P		P	09 43 04.5

CLDB Colider 18.49 100 *e*P **P 10 12 09.8 -0.2**
NPGB Novo Progresso 18.88 88 *e*P **P 10 12 13.9 -0.3**
ITTB Itaituba 18.91 79 *e*P **P 10 12 15.3 +0.7**
SALV Santo Antonio 19.76 114 *e*P **Pn 10 12 25.3 -1.4**
AQDB Aquidauana 21.75 126 *e*P **P 10 12 47.0 +2.1**
SNDB Serra Nova Dou 23.00 101 *e*P **P 10 12 56.7 -0.5**
MCPB Macapa, AP 23.57 72 *e*P **P 10 13 01.7 -0.6**
CPUP Villa Florida 24.18 140 P **P 10 13 06.3 -1.4**
1.2nm,0.6s,baz=308,slow=8.6,SNR=4.6
PRPB Parauapebas 24.44 87 *e*P **P 10 13 10.4 +0.1**
ITRB Iturama 25.88 119 *e*P **P 10 13 24.9 +1.7**
PTGB Pitanga 26.85 130 *e*P **P 10 13 34.5 +2.6**
IPMB Ipameri, GO 27.20 113 *e*P **P 10 13 36.0 +0.8**
SDBA SAO DESIDERIO 29.26 101 *e*P **P 10 13 54.4 +0.9**
GDU01 Guandu, BA 34.55 102 *e*P **P 10 14 40.4 +0.7**
TXAR Lajitas Array 46.84 324 P **P 10 16 20.7 +0.4**
0.2nm,0.5s,baz=158,slow=8.8,SNR=4.8
TORD Torodi Ar. Bea 78.46 75 P **P 10 19 48.1 -2.1**
1.3nm,0.7s,baz=278,slow=4.8,SNR=4.5
WRA Warramunga Arr 140.20 225 PKP **PKPdf 10 27 16.8 -0.2**
0.3nm,0.4s,baz=132,slow=2.0,SNR=7.5

IDC 20 10:15:37.4±5.5, 7.87S×124.27E, h295km±58km, mb3.5/3, mb1 3.0/5, mb1mx2.8/31, mbtmp3.7/5, Error ellipse: s-maj=59.5km s-min=14.5km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.46**	**142**	P	P	10 18 60.0	0.0
	0.1nm,0.3s,baz=318,slow=11,SNR=7.5						
WRA				S	S	10 21 49.5	+1.4
	0.1nm,0.3s,baz=312,slow=20,SNR=2.6						
ASAR	**Alice Springs**	**18.22**	**151**	P	P	10 19 29.9	0.0
	0.1nm,0.3s,baz=323,slow=12,SNR=2.2						
ASAR				S	S	10 22 43.7	+0.9
	0.0nm,0.3s,baz=317,slow=24,SNR=2.9						
MKAR	**Makanchi Array**	**65.97**	**330**	P	P	10 25 52.7	+0.2
	0.4nm,0.4s,baz=129,slow=5.7,SNR=6.7						
PETK	**Petropavlovsk-**	**67.05**	**21**	P	P	10 25 58.3	-0.8
	2.4nm,0.4s,baz=200,slow=6.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**69.97**	**336**	P	P	10 26 17.9	+0.8
	0.8nm,0.5s,baz=130,slow=5.0,SNR=2.0						

IDC 20 10:26:13.2±1.7, 4.29N×123.91E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/40, mbtmp3.7/4, Error ellipse: s-maj=129.9km s-min=23.8km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.31**	**176**	P	P	10 31 11.2	-1.3
	1.8nm,0.8s,baz=6.3,slow=9.2,SNR=1.8						
WRA	**Warramunga Arr**	**26.17**	**157**	P	P	10 31 50.2	+0.6
	0.6nm,0.3s,baz=338,slow=9.3,SNR=25						
ASAR	**Alice Springs**	**29.45**	**161**	P	P	10 32 18.9	0.0
	0.2nm,0.3s,baz=338,slow=8.0,SNR=7.9						
MKAR	**Makanchi Array**	**55.52**	**326**	P	P	10 35 50.1	0.0
	0.4nm,0.4s,baz=121,slow=7.7,SNR=7.6						

*IDC **20** 10:56:01.5±1.1, 35.81N×97.36W, h0km, mb1 3.6/5, mb1mx3.3/71, mbtmp3.3/5, ML2.8/4, Error ellipse: s-maj=14.9km s-min=11.2km az=141.0*
*NEIC **20** 10:56:03.5±1.1, 35.77N±0.02×97.40W±0.06, h8km±6km, Error ellipse: s-maj=6.9km s-min=2.7km az=98.0*
*ANF **20** 10:56:03.4±0.5, 35.76N×97.40W, h9km±3km, ML4.2/15, Error ellipse: s-maj=3.2km s-min=2.3km az=120.0*
*TUL **20** 10:56:03.2±1.2, 35.75N±0.04×97.40W±0.05, h6km±7km, ML3.5, mb_Lg3.5/142(NEIC), Mwr3.3/24(SLM), Error ellipse: s-maj=6.1km s-min=5.0km az=106.0*
*NEIC **20** 10:56:03.2, 35.76N×97.41W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.24; $M_{\theta\theta}$=0.98; $M_{\phi\phi}$=-0.73; $M_{r\theta}$=0.27; $M_{\theta\phi}$=0.56; $M_{\phi r}$=-0.43; Fault plane solution: M_0=1.16000×10^{14} NP1:ϕ_s=32.00000°, δ=66.00000°, λ=-164.00000°. NP2:ϕ_s=295.00000°, δ=75.00000°, λ=-25.00000°. Principal axes: T 1.1612, Plg6.0000°, Azm345.0000°; N 0.0007, Plg61.0000°, Azm86.0000°; P -1.1619, Plg28.0000°, Azm252.0000°;*
ISC 20 10:56:03.0±0.8, 35.76N±0.02×97.42W±0.03, h10km±5km, n150, σ0=86/135, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Eagle**	**0.05**	**317**		**Pg**	**10 56 05.1**	**0.0**
OK029				Sg	**Sg**	**10 56 06.5**	**-0.1**
OK009	**Oakdale Elemen**	**0.18**	**182**		**Pg**	**10 56 06.9**	**0.0**
BCOK	**Bluff Creek, N**	**0.19**	**236**		**Pg**	**10 56 07.2**	**+0.1**
BCOK				Sg	**Sg**	**10 56 10.3**	**+0.5**
OK025	**Westminster Rd**	**0.19**	**161**	Pg	**Pg**	**10 56 07.0**	**-0.1**
OK025				Sg	**Sg**	**10 56 10.0**	**+0.1**
OK005	**Luther M Schoo**	**0.21**	**120**		**Pg**	**10 56 07.4**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**185**		**Pg**	**10 56 10.0**	**0.0**
OKCFA				Sg	**Sg**	**10 56 15.1**	**+0.5**
OKCFA	**Oklahoma City**	**0.35**	**185**	P	**Pg**	**10 56 10.0**	**0.0**
	baz=5.6,SNR=66						
OKCFA				S	**Sg**	**10 56 15.1**	**+0.5**
	baz=5.6						
OKCFA	**Oklahoma City**	**0.35**	**185**	P		10 56 10.0	
	baz=5.6,SNR=66						
OKCFA				S		10 56 15.1	
	baz=5.6						
OKCSW	**OKLAHOMA CITY**	**0.36**	**183**		**Pg**	**10 56 10.1**	**0.0**
OKCSW				Sg	**Sg**	**10 56 15.3**	**+0.4**
FNO	**Franklin**	**0.50**	**179**		**Pg**	**10 56 12.8**	**-0.1**
FNO				Sg	**Sg**	**10 56 20.0**	**+0.5**
OK031	**S. Brethren Rd**	**0.51**	**68**		**Pg**	**10 56 12.9**	**0.0**
OK030	**Cody Creek RV**	**0.54**	**72**		**Pg**	**10 56 13.6**	**+0.1**
QUOK	**Quay**	**0.70**	**54**	Pg	**Pg**	**10 56 16.7**	**0.0**
CROK	**Carrier**	**0.87**	**328**		**Pg**	**10 56 20.2**	**+0.3**
CROK				IAmb_Lg		10 56 31.2	
	comp=Z,539nm,0.9s						
BLOK	**Blackwell**	**1.01**	**9**		**Pg**	**10 56 22.5**	**0.0**
GC02	**Grant County #**	**1.15**	**342**		**Pg**	**10 56 24.9**	**-0.2**
X34A	**Smith Ranch, M**	**1.21**	**197**	Pg	**Pb**	**10 56 26.0**	**0.0**
X34A				IAmb_Lg		10 56 42.1	
	comp=Z,214nm,1.1s						
OK032	**Salt Plains WL**	**1.22**	**329**		**Pb**	**10 56 26.2**	**0.0**
KAN13	**South Haven SW**	**1.25**	**358**		**Pn**	**10 56 26.8**	**+0.2**
KAN14	**Manchester OK**	**1.27**	**340**		**Pn**	**10 56 27.1**	**+0.3**
KAN17	**Caldwell West**	**1.31**	**348**		**Pn**	**10 56 27.8**	**+0.4**
TUL1	**Leonard**	**1.33**	**83**	P	**Pn**	**10 56 26.8**	**-0.8**
	baz=264						
TUL1				S	**Sb**	**10 56 44.9**	**-0.1**
	baz=264						
TUL1	**Leonard**	**1.33**	**83**	P		10 56 26.8	
	baz=264,SNR=319						
TUL1				S		10 56 44.9	
	baz=264						
TUL1	**Leonard**	**1.33**	**83**	P		10 56 26.8	
	baz=264						
TUL1				S		10 56 44.9	
	baz=264						
T35A	**Sooner Cattle**	**1.36**	**32**		**Pn**	**10 56 28.3**	**+0.2**
T35B	**Sooner Cattle**	**1.36**	**32**	P	**Pn**	**10 56 28.2**	**+0.1**
	baz=212,SNR=169						
T35B				S	**Sg**	**10 56 46.9**	**0.0**
	baz=212						
T35B	**Sooner Cattle**	**1.36**	**32**	P		10 56 28.2	
	baz=212,SNR=169						
T35B				S		10 56 46.9	
	baz=212						
KAN09	**Caldwell North**	**1.38**	**353**		**Pn**	**10 56 29.0**	**+0.7**
KAN09				IAmb_Lg		10 56 49.4	
	comp=Z,469nm,1.0s						
KAN05	**Bluff City Nor**	**1.39**	**345**		**Pn**	**10 56 29.2**	**+0.7**
KAN05				IAmb_Lg		10 56 48.7	
	comp=Z,218nm,0.7s						
U32A	**Winter Ranch,**	**1.43**	**296**		**Pn**	**10 56 29.7**	**+0.7**
U32A	**Winter Ranch,**	**1.43**	**296**	P	**Pn**	**10 56 29.6**	**+0.6**
	baz=115,SNR=65						
U32A	**Winter Ranch,**	**1.43**	**296**	P		10 56 29.6	
	baz=115,SNR=65						
KAN10	**Anthony SW Sta**	**1.47**	**338**		**Pn**	**10 56 30.3**	**+0.8**
KS20	**Mayfield South**	**1.47**	**356**		**Pb**	**10 56 30.6**	**+0.2**
KS20				IAmb_Lg		10 56 52.3	
	comp=Z,363nm,0.7s						
WMOK	**Wichita Mounta**	**1.52**	**228**		**Pn**	**10 56 30.6**	**+0.4**
WMOK	**Wichita Mounta**	**1.52**	**228**	P	**Pn**	**10 56 30.6**	**+0.4**
	baz=47,SNR=581						
WMOK				S	**Sn**	**10 56 50.9**	**+1.0**
	baz=47						
WMOK	**Wichita Mounta**	**1.52**	**228**	P		10 56 30.5	
	baz=47,SNR=382						
WMOK				S		10 56 51.2	
	baz=47						
WMOK	**Wichita Mounta**	**1.52**	**228**	P		10 56 30.6	
	baz=47,SNR=581						
WMOK				S		10 56 50.9	
	baz=47						
KAN08	**Anthony NE Sta**	**1.53**	**343**		**Pn**	**10 56 31.4**	**+1.0**
KS21	**Milan North St**	**1.53**	**353**	IAmb_Lg		10 56 53.1	
	comp=Z,432nm,0.9s						
KAN16	**Harper SW Stat**	**1.55**	**340**		**Pn**	**10 56 31.6**	**+0.9**
KAN16				IAmb_Lg		10 56 55.0	
	comp=Z,258nm,1.0s						
LOOK	**Love County**	**1.78**	**174**	Pn	**Pn**	**10 56 34.9**	**+1.1**
LOOK				IAmb_Lg		10 56 58.9	
	comp=Z,141nm,0.7s						
X37A	**Clayton**	**2.04**	**124**	Pn	**Pn**	**10 56 38.3**	**+0.9**
X37A				IAmb_Lg		10 57 07.8	
	comp=Z,140nm,0.8s						
X37A	**Clayton**	**2.04**	**124**	P	**Pn**	**10 56 38.0**	**+0.6**
	baz=306,SNR=123						
X37A				S	**Sb**	**10 57 05.6**	**0.0**
	baz=306						
X37A	**Clayton**	**2.04**	**124**	P		10 56 38.0	
	baz=306,SNR=123						
X37A				S		10 57 05.6	
	baz=306						
Z35A	**Perchaven, San**	**2.43**	**177**		**Pn**	**10 56 44.1**	**+1.3**
Z35A				IAmb_Lg		10 57 19.4	
	comp=Z,121nm,0.8s						
Z35A	**Perchaven, San**	**2.43**	**177**	P	**Pn**	**10 56 43.5**	**+0.8**
	baz=357,SNR=34						
Z35A	**Perchaven, San**	**2.43**	**177**	P		10 56 43.5	
	baz=357,SNR=34						
U38A	**Gravette**	**2.54**	**74**		**Pn**	**10 56 45.3**	**+0.9**
R32A	**Long Quarter,**	**2.85**	**339**		**Pn**	**10 56 49.8**	**+1.2**
HHAR	**Hobbs**	**2.86**	**79**		**Pn**	**10 56 49.8**	**+1.0**
HHAR	**Hobbs**	**2.86**	**79**	P	**Pn**	**10 56 49.8**	**+1.0**
	baz=260						
HHAR	**Hobbs**	**2.86**	**79**	P		10 56 49.8	
	baz=260						
W39A	**Magazine**	**3.02**	**100**		**Pn**	**10 56 51.9**	**+1.0**
W39A				IAmb_Lg		10 57 45.7	
	comp=Z,199nm,0.8s						
W39A	**Magazine**	**3.02**	**100**	P	**Pn**	**10 56 51.2**	**+0.3**
	baz=282,SNR=43						
W39A	**Magazine**	**3.02**	**100**	P		10 56 51.5	
	baz=282,SNR=26						
W39A				S		10 57 28.1	
	baz=282						
W39A	**Magazine**	**3.02**	**100**	P		10 56 51.2	
	baz=282,SNR=43						
Z38A	**Mt. Pleasant**	**3.20**	**141**	Pn	**Pn**	**10 56 54.0**	**+0.6**
Z38A				IAmb_Lg		10 57 49.9	
	comp=Z,160nm,0.7s						
MIAR	**Mount Ida**	**3.37**	**110**	Pn	**Pn**	**10 56 56.8**	**+1.1**
MIAR				IAmb_Lg		10 57 57.9	
	comp=Z,246nm,1.1s						
MIAR	**Mount Ida**	**3.37**	**110**	P	**Pn**	**10 56 56.6**	**+0.9**
	baz=292,SNR=68						
MIAR	**Mount Ida**	**3.37**	**110**	P		10 56 57.0	
	baz=292,SNR=20						
MIAR				S		10 57 38.0	
	baz=292						
MIAR	**Mount Ida**	**3.37**	**110**	P		10 56 56.6	
	baz=292,SNR=68						
KSU1	**Kansas State U**	**3.39**	**11**	Pn	**Pn**	**10 56 55.5**	**-0.5**
KSU1				IAmb_Lg		10 57 56.0	
	comp=Z,209nm,0.8s						
KSU1	**Kansas State U**	**3.39**	**11**	P		10 56 57.3	
	baz=191						
CBKS	**Cedar Bluff**	**3.56**	**329**		**Pn**	**10 56 59.9**	**+1.5**
CBKS				IAmb_Lg		10 58 02.5	
	comp=Z,235nm,0.8s						
CBKS	**Cedar Bluff**	**3.56**	**329**	P	**Pn**	**10 56 59.9**	**+1.5**
	baz=148,SNR=21						
CBKS	**Cedar Bluff**	**3.56**	**329**	P		10 56 59.9	
	baz=148						
CBKS				Sb		10 57 56.0	
	baz=148						
CBKS	**Cedar Bluff**	**3.56**	**329**	P		10 56 59.9	
	baz=148,SNR=21						
AMTX	**Amarillo**	**3.60**	**257**	Pn	**Pn**	**10 57 01.3**	**+2.4**
AMTX				IAmb_Lg		10 58 06.9	
	comp=Z,82nm,0.8s						
AMTX	**Amarillo**	**3.60**	**257**	Pb		10 57 07.2	
	baz=75						
ABTX	**Abilene, Hawle**	**3.63**	**211**		**Pn**	**10 57 00.4**	**+1.0**
ABTX				IAmb_Lg		10 58 03.9	
	comp=Z,97nm,0.8s						
ABTX	**Abilene, Hawle**	**3.63**	**211**	P	**Pn**	**10 57 00.3**	**+0.9**
	baz=30						
ABTX	**Abilene, Hawle**	**3.63**	**211**	P		10 57 00.3	
	baz=30,SNR=10						
ABTX	**Abilene, Hawle**	**3.63**	**211**	P		10 57 00.3	
	baz=30						
U40A	**Yellville**	**3.74**	**80**		**Pn**	**10 57 01.2**	**+0.3**
U40A				IAmb_Lg		10 58 02.8	
	comp=Z,103nm,0.7s						
U40A	**Yellville**	**3.74**	**80**	P	**Pn**	**10 57 01.1**	**+0.2**
	baz=262,SNR=38						
U40A	**Yellville**	**3.74**	**80**	P		10 57 01.2	
	baz=262						
U40A				Sb		10 57 59.3	
	baz=262						
U40A	**Yellville**	**3.74**	**80**	P		10 57 01.1	
	baz=262,SNR=38						
U40A				P		10 57 01.1	
	baz=262,SNR=38						
WHTX	**Lake Whitney,**	**3.76**	**181**		**Pn**	**10 57 01.8**	**+0.7**
WHTX	**Lake Whitney,**	**3.76**	**181**	P	**Pn**	**10 57 01.7**	**+0.7**
	baz=0.6,SNR=6.5						
WHTX				S	**Sn**	**10 57 47.2**	**+1.8**
	baz=0.6						
WHTX	**Lake Whitney,**	**3.76**	**181**	P		10 57 01.9	
	baz=0.6						
WHTX				Sb		10 57 59.1	
	baz=0.6						
WHTX	**Lake Whitney,**	**3.76**	**181**	P		10 57 01.7	
	baz=0.6,SNR=6.5						
WHTX				S		10 57 47.2	
	baz=0.6						
S39A	**Bolivar**	**3.81**	**58**	Pn	**Pn**	**10 57 02.8**	**+1.1**
S39A				IAmb_Lg		10 58 09.0	
	comp=Z,118nm,0.7s						
X40A	**Basin Creek Fa**	**3.96**	**107**		**Pn**	**10 57 04.7**	**+0.8**
X40A				IAmb_Lg		10 58 08.9	
	comp=Z,167nm,0.8s						
X40A	**Basin Creek Fa**	**3.96**	**107**	P		10 57 04.8	
	baz=290,SNR=11						
237A	**Washetta, Mont**	**3.98**	**160**		**Pn**	**10 57 04.1**	**0.0**
237A	**Washetta, Mont**	**3.98**	**160**	P	**Pn**	**10 57 04.5**	**+0.4**
	baz=341						
237A				S	**Sn**	**10 57 51.5**	**+0.7**
	baz=341						
237A	**Washetta, Mont**	**3.98**	**160**	P		10 57 04.5	
	baz=341						
237A				S		10 57 51.5	
	baz=341						
WLAR	**White Oak Lake**	**4.10**	**119**	Pn	**Pn**	**10 57 06.3**	**+0.5**
WLAR				IAmb_Lg		10 58 23.9	
	comp=Z,110nm,0.7s						
WHAR	**Wooly Hollow**	**4.21**	**95**	Pn	**Pn**	**10 57 07.8**	**+0.6**
WHAR				IAmb_Lg		10 58 21.4	
	comp=Z,93nm,0.8s						
W41B	**Gary Mavity, V**	**4.26**	**96**	P	**Pn**	**10 57 08.4**	**+0.5**
	baz=280,SNR=60						
W41B	**Gary Mavity, V**	**4.26**	**96**	P		10 57 08.4	
	baz=280,SNR=15						
W41B				S		10 57 59.1	
	baz=280						
W41B	**Gary Mavity, V**	**4.26**	**96**	P		10 57 08.4	
	baz=280,SNR=60						
FCAR	**Ozark Folk Cen**	**4.30**	**87**		**Pn**	**10 57 08.9**	**+0.4**
FCAR				IAmb_Lg		10 58 29.7	
	comp=Z,83nm,0.8s						
MGMO	**Mountain Grove**	**4.38**	**70**		**Pn**	**10 57 09.6**	**+0.1**
MGMO				IAmb_Lg		10 58 19.5	
	comp=Z,194nm,1.1s						
Z41A	**Richland Creek**	**4.55**	**122**	S		10 58 05.8	
	baz=305						
MSTX	**Muleshoe**	**4.75**	**249**	Pn	**Pn**	**10 57 15.3**	**+0.5**
MSTX	**Muleshoe**	**4.75**	**249**	P		10 57 15.8	
	baz=66,SNR=13						
R40A	**Maddies Statio**	**4.83**	**57**	Pn	**Pn**	**10 57 16.2**	**+0.5**
R40A				IAmb_Lg		10 58 40.5	
	comp=Z,79nm,0.8s						
R40A	**Maddies Statio**	**4.83**	**57**	P	**Pn**	**10 57 16.5**	**+0.8**
	baz=240,SNR=22						
R40A	**Maddies Statio**	**4.83**	**57**	P		10 57 16.5	
	baz=240,SNR=22						
P38A	**Dawn**	**4.93**	**37**		**Pn**	**10 57 18.7**	**+1.5**
P38A				IAmb_Lg		10 58 44.4	
	comp=Z,90nm,0.8s						
435B	**Jarrell**	**4.97**	**182**		**Pn**	**10 57 19.9**	**+0.2**
435B	**Jarrell**	**4.97**	**182**	Sb		10 58 36.5	
	baz=1.6						
N33A	**J Bar K, Exete**	**4.97**	**360**		**Pn**	**10 57 19.3**	**+1.6**
N33A				IAmb_Lg		10 58 53.8	
	comp=Z,92nm,0.8s						
CCAR	**Cane Creek**	**4.99**	**110**	Pn	**Pn**	**10 57 18.4**	**+0.4**
LCAR	**Lake Charles**	**5.09**	**85**		**Pn**	**10 57 19.0**	**-0.3**
LCAR				IAmb_Lg		10 58 54.6	
	comp=Z,46nm,0.8s						
T42A	**Van Buren**	**5.25**	**74**		**Pn**	**10 57 21.8**	**+0.2**
KSCO	**Kaye Shedlock'**	**5.27**	**310**	Pn	**Pn**	**10 57 23.9**	**+2.0**
KSCO				IAmb_Lg		10 58 53.7	
	comp=Z,88nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.27**	**310**	P		10 57 24.2	
	baz=126						
N35A	**Tabor**	**5.28**	**15**		**Pn**	**10 57 22.3**	**+0.4**
CCM	**Cathedral Cave**	**5.45**	**63**	IAmb_Lg		10 58 59.0	
	comp=Z,77nm,0.8s						
JCT	**Junction City**	**5.64**	**201**	Pn	**Pn**	**10 57 27.2**	**+0.3**
JCT				IAmb_Lg		10 59 09.0	
	comp=Z,112nm,0.9s						
JCT	**Junction City**	**5.64**	**201**	P		10 57 27.4	
	baz=20,SNR=15						
BGNE	**Belgrade**	**5.67**	**354**		**Pn**	**10 57 28.4**	**+1.1**
BGNE				IAmb_Lg		10 59 19.7	
	comp=Z,86nm,0.7s						
BGNE	**Belgrade**	**5.67**	**354**	P		10 57 28.5	
	baz=174						
P40A	**Paris**	**5.68**	**47**	Pn	**Pn**	**10 57 29.2**	**+1.7**
PBMO	**Poplar Bluff**	**5.73**	**78**	IAmb_Lg		10 59 03.5	
	comp=Z,139nm,0.8s						
LPAR	**Lepanto**	**5.79**	**90**	IAmb_Lg		10 59 15.4	
	comp=Z,102nm,0.9s						
T25A	**Trinidad**	**5.80**	**286**	Pn	**Pn**	**10 57 30.7**	**+1.3**
T25A				IAmb_Lg		10 59 16.5	
	comp=Z,117nm,0.8s						
T25A	**Trinidad**	**5.80**	**286**	P		10 57 30.6	
	baz=102						
143A	**Socs Landing,**	**5.84**	**120**	IAmb_Lg		10 59 19.0	
	comp=Z,67nm,0.9s						
PEBM	**Pemiscott Bayo**	**6.14**	**85**	IAmb_Lg		10 59 24.6	
	comp=Z,132nm,0.8s						
MET	**Memphis--Engin**	**6.14**	**94**	IAmb_Lg		10 59 29.3	
	comp=Z,132nm,0.9s						
L34A	**Svendsen Farm,**	**6.25**	**7**		**Pn**	**10 57 35.4**	**+0.1**
OGNE	**Ogallala**	**6.32**	**326**	Pn	**Pn**	**10 57 37.8**	**+1.5**
OGNE				IAmb_Lg		10 59 26.5	
	comp=Z,58nm,0.8s						
PENMO	**Penman**	**6.34**	**82**	IAmb_Lg		10 59 29.8	
	comp=Z,118nm,1.0s						
OXF	**Oxford**	**6.68**	**98**	Pn	**Pn**	**10 57 41.3**	**+0.1**
OXF				IAmb_Lg		10 59 42.6	
	comp=Z,61nm,0.8s						
OXF	**Oxford**	**6.68**	**98**	P		10 57 41.4	
	baz=283						
OXF				S		10 58 58.0	
	baz=283						
W45A	**Hickory Valley**	**6.74**	**93**		**Pn**	**10 57 42.5**	**+0.4**
W45A				IAmb_Lg		10 59 46.1	
	comp=Z,79nm,0.8s						
Y45A	**Yeager Farm, C**	**6.75**	**104**	Pn	**Pn**	**10 57 41.9**	**-0.2**
Y45A				IAmb_Lg		10 59 55.3	
	comp=Z,47nm,0.9s						
SDCO	**Great Sand Dun**	**6.79**	**289**		**Pn**	**10 57 44.7**	**+1.8**
SDCO				IAmb_Lg		10 59 40.0	
	comp=Z,56nm,1.2s						
SDCO	**Great Sand Dun**	**6.79**	**289**	P		10 57 44.8	
	baz=104,SNR=23						
735A	**Kenedy**	**6.89**	**183**	IAmb_Lg		10 59 47.2	
	comp=Z,51nm,0.8s						
Q24A	**Divide**	**6.94**	**300**	S		10 59 04.6	
	baz=115						
P43A	**Skaggs, Pawnee**	**7.36**	**56**	Pn	**Pn**	**10 57 50.5**	**+0.1**
Q44A	**Meyer Farm, Va**	**7.39**	**62**		**Pn**	**10 57 52.7**	**+1.8**
ANMO	**Albuquerque**	**7.43**	**266**	Pn	**Pn**	**10 57 51.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=86,slow=14,SNR=2.6						
ANMO				Pg	Pb	10 58 18.2	+6.0
	comp=Z,0.3nm,0.3s,baz=89,slow=15,SNR=6.1						
ANMO				Lg	Lg	10 59 55.5	
	comp=Z,2.0nm,0.3s,baz=20,slow=11,SNR=5.4						
ISCO	**Idaho Springs**	**7.64**	**304**	Pn	**Pn**	**10 57 55.6**	**+1.0**
ISCO				IAmb_Lg		11 00 18.5	
	comp=Z,38nm,0.8s						
ISCO	**Idaho Springs**	**7.64**	**304**	P		10 57 56.1	
	baz=119,SNR=6.9						
BNM	**Barren Site**	**7.73**	**261**	Pn	**Pn**	**10 57 56.5**	**+0.6**
MNTX	**Cornudas Mount**	**7.78**	**241**	Pn	**Pn**	**10 57 56.7**	**+0.5**
MNTX	**Cornudas Mount**	**7.78**	**241**	P		10 57 57.0	
	baz=56						
L40A	**Anamosa**	**7.93**	**36**	Pn	**Pn**	**10 57 59.3**	**+1.0**
L40A				IAmb_Lg		11 00 18.8	
	comp=Z,74nm,0.8s						
ECSD	**EROS Data Cent**	**7.99**	**4**	Pn	**Pn**	**10 57 58.5**	**-0.6**
ECSD	**EROS Data Cent**	**7.99**	**4**	P		10 57 58.2	
	baz=185,SNR=6.3						
ECSD				S		10 59 27.1	
	baz=185						
HDIL	**Hopedale**	**7.99**	**51**	Pn	**Pn**	**10 57 59.3**	**+0.2**
HDIL	**Hopedale**	**7.99**	**51**	P		10 57 59.9	
	baz=236,SNR=6.4						
Y22D	**IRIS PASSCAL I**	**7.99**	**261**	IAmb_Lg		11 00 30.6	
	comp=Z,87nm,1.1s						
USIN	**University of**	**8.12**	**71**	IAmb_Lg		11 00 24.3	
	comp=Z,88nm,1.0s						
Z47A	**Carrollton**	**8.13**	**106**	IAmb_Lg		11 00 37.9	
	comp=Z,26nm,0.8s						
TXAR	**Lajitas Array**	**8.30**	**221**	Pn	**Pn**	**10 58 02.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=42,slow=11,SNR=9.0						
TXAR				Sn	**Sn**	**10 59 35.1**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=37,slow=25,SNR=2.1						
TXAR				Lg	Lg	11 00 18.7	
	comp=Z,1.6nm,0.3s,baz=76,slow=18,SNR=4.3						
PHWY	**Pilot Hill**	**8.38**	**314**		**Pn**	**10 58 05.3**	**+0.5**
PHWY				IAmb_Lg		11 00 47.0	
	comp=Z,41nm,0.9s						
T47A	**Sharon Grove**	**8.40**	**79**	Pn	**Pn**	**10 58 04.7**	**-0.2**
X48A	**Hartselle**	**8

	comp=Z,19nm,0.7s							
BRAL	**Brewton**	**9.79**	**115**	IAmb_Lg		11 01 23.4		
	comp=Z,26nm,0.7s							
K22A	**Casper**	**9.86**	**317**	Pn	**Pn**	**10 58 25.5**	**+0.6**	
K22A				IAmb_Lg		11 01 36.7		
	comp=Z,49nm,1.0s							
K43A	**Burlington**	**9.88**	**43**	Pn	**Pn**	**10 58 25.4**	**+0.4**	
W50A	**Signal Mountai**	**9.89**	**90**	IAmb_Lg		11 01 20.5		
	comp=Z,50nm,1.1s							
250A	**Grady**	**10.01**	**109**	Pn	**Pn**	**10 58 26.2**	**-0.6**	
I42A	**Draeger Farm,**	**10.42**	**36**	Pn	**Pn**	**10 58 32.0**	**-0.4**	
CPCT	**Cooper Cave**	**10.50**	**88**	Pn	**Pn**	**10 58 34.2**	**+0.6**	
F36A	**Milaca**	**10.51**	**15**	Pn	**Pn**	**10 58 32.5**	**-1.1**	
TKL	**Tuckaleechee C**	**11.09**	**87**	Pn	**Pn**	**10 58 40.3**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=156,slow=8.9,SNR=1.5							
TKL				Lg	Lg	11 01 42.5		
	comp=Z,0.7nm,0.3s,baz=332,slow=3.2,SNR=4.4							
TKL	**Tuckaleechee C**	**11.09**	**87**	Pn	**Pn**	**10 58 40.9**	**-0.8**	
S51A	**Beattyville**	**11.25**	**76**	Pn	**Pn**	**10 58 43.8**	**-0.1**	
BW06	**Boulder Array**	**11.72**	**310**	Pn	**Pn**	**10 58 51.4**	**+0.9**	
PD31	**Pinedale Array**	**11.72**	**310**	Pn	**Pn**	**10 58 51.1**	**+0.7**	
PDAR	**Pinedale Array**	**11.72**	**310**	Pn	**Pn**	**10 58 51.4**	**+0.9**	
	comp=Z,0.3nm,0.3s,baz=124,slow=13,SNR=6.4							
PDAR				Lg	Lg	11 02 08.0		
	comp=Z,0.2nm,0.3s,baz=117,slow=30,SNR=4.2							
EYMN	**Ely**	**12.94**	**18**	Pn	**Pn**	**10 59 05.8**	**-1.1**	
E43A	**Lone Tree Farm**	**13.19**	**33**	Pn	**Pn**	**10 59 09.7**	**-0.5**	
ULM	**Lac du Bonnet**	**14.52**	**4**	Pn	Pn	10 59 21.1	-7.4	
	comp=Z,0.2nm,0.3s,baz=176,slow=13,SNR=1.6							
ULM				Lg	Lg	11 03 34.2		
	comp=Z,0.3nm,0.3s,baz=286,slow=20,SNR=6.0							
LPIG	**La Paz**	**16.10**	**227**	Pn	**Pn**	**10 59 48.0**	**-1.5**	
	comp=Z,3.4nm,0.3s,baz=43,slow=19,SNR=2.3							

*DDA **20** 11:02:05.0,36.98N×28.34E,h16km±1km,MW3.6*
*THE **20** 11:02:05.2,36.99N×28.41E,h1km±1km,ML3.4/5,Error ellipse: s-maj=1.4km s-min=0.8km az=78.0*
*IDC **20** 11:02:05.1±1.0,36.93N×28.38E,h0km,mb3.5/5, mb1 3.7/10,mb1mx3.4/60,mbtmp3.6/10,ML3.7/5,MS2.2/1, Ms1 2.2/1,ms1mx1.9/43,Error ellipse: s-maj=24.3km s-min=16.2km az=149.0*
*ISK **20** 11:02:05.1,36.98N×28.35E,h2km,ML3.5/12*
*NIC **20** 11:02:06.9±0.0,36.93N×28.29E,h15km±1km,MI3.9/3*
*ATH **20** 11:02:06.0,36.99N×28.32E,h10km±31km,ML3.5/4,Error ellipse: s-maj=31.6km s-min=1.2km az=0.0*

ISC 20 11:02:06.2±0.8,36.99N±0.02×28.34E±0.01,h10km±5km, n85,σ0s97/128,mb3.5/5,5C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**342**	P		**Pg**		**11 02 09.2**	**-0.4**
YER				S		**Sg**		**11 02 12.1**	**+0.1**
YER	**Yerkesik**	**0.15**	**342**	PG		**Pg**		**11 02 09.3**	**-0.4**
YER				SG		**Sg**		**11 02 12.2**	**+0.2**
TURN	**Turunc**	**0.23**	**200**	*i* P		**Pg**		**11 02 10.5**	**-0.4**
TURN				*i* S		**Sg**		**11 02 14.5**	**+0.5**
TURN				IAML				11 02 15.0	
	comp=E,4μm,0.3s								
TURN				IAML				11 02 16.0	
	comp=N,5μm,0.4s								
TURN	**Turunc**	**0.23**	**200**	PG		**Pg**		**11 02 10.6**	**-0.2**
TURN				SG		**Sg**		**11 02 14.5**	**+0.5**
MULA	**Mugla, Merkez-**	**0.27**	**357**	*i* P		**Pg**		**11 02 11.2**	**-0.4**
MULA				*i* S		**Sg**		**11 02 15.7**	**+0.4**
MULA				IAML				11 02 18.0	
	comp=N,5μm,0.2s								
MULA				IAML				11 02 18.0	
	comp=E,6μm,0.2s								
MRSB	**Marmaris-Mugla**	**0.30**	**203**	PG		**Pg**		**11 02 11.3**	**-0.8**
MRSB				SG		**Sg**		**11 02 17.1**	**+1.0**
DALY	**Dalyan (Mula)**	**0.30**	**125**	*i* P		**Pg**		**11 02 11.4**	**-0.8**
DALY				*i* S		**Sg**		**11 02 16.7**	**+0.4**
DALY				IAML				11 02 18.0	
	comp=N,2μm,0.2s								
DALY				IAML				11 02 19.0	
	comp=E,3μm,0.4s								
DALY	**Dalyan (Mula)**	**0.30**	**125**	PG		**Pg**		**11 02 11.7**	**-0.6**
DALY				SG		**Sg**		**11 02 16.8**	**+0.4**
MLSB	**Milas**	**0.54**	**304**	PG		**Pg**		**11 02 16.7**	**-0.1**
MLSB				SG		**Sg**		**11 02 25.5**	**+1.5**
TAVA	**DENIZLI_Tavas**	**0.66**	**44**	*i* P		**Pg**		**11 02 17.8**	**-1.1**
TAVA				*i* S		**Sg**		**11 02 27.7**	**+0.1**
TAVA				IAML				11 02 30.0	
	comp=N,1μm,0.4s								
TAVA				IAML				11 02 31.0	
	comp=E,878nm,0.3s								
DAT	**Datca**	**0.67**	**247**	PG		**Pg**		**11 02 19.4**	**+0.3**
DAT				SG		**Sg**		**11 02 29.0**	**+1.2**
FETY	**Fethiye**	**0.69**	**121**	P		**Pg**		**11 02 17.5**	**-2.1**
FETY				S		**Sg**		**11 02 28.6**	**0.0**
FETY	**Fethiye**	**0.69**	**121**	PG		**Pg**		**11 02 18.2**	**-1.4**
FETY				SG		**Sb**		**11 02 29.4**	**-0.6**
CAME	**Cameli-Denizli**	**0.77**	**93**	PG		**Pg**		**11 02 20.7**	**-0.4**
CAME				SG		**Sb**		**11 02 31.8**	**-0.6**
ARG	**Arkhangelos**	**0.79**	**193**	P		**Pg**		**11 02 20.6**	**-0.8**
ARG				S		**Sn**		**11 02 34.3**	**-0.9**
	comp=E,2μm,0.5s								
ARG	**Arkhangelos**	**0.79**	**193**	P		**Pg**		**11 02 20.7**	**-0.8**
ARG				S		**Sg**		**11 02 32.4**	**+0.7**
ARG				AML	AML			11 02 36.8	
	comp=E,4106μm,0.4s								
ARG				AML	AML			11 02 37.2	
	comp=N,5355μm,0.4s								
ARG	**Arkhangelos**	**0.79**	**193**	PG		**Pg**		**11 02 21.1**	**-0.3**
ARG				SG		**Sg**		**11 02 32.6**	**+0.9**
ARG	**Arkhangelos**	**0.79**	**193**	⇑P		**Pg**		**11 02 20.9**	**-0.5**
ARG				S		**Sg**		**11 02 32.0**	**+0.3**
BODT	**Bodrum**	**0.83**	**275**	P		**Pg**		**11 02 20.7**	**-1.4**
BODT				S		**Sg**		**11 02 33.7**	**+0.8**
BODT	**Bodrum**	**0.83**	**275**	PG		**Pg**		**11 02 22.1**	**0.0**
BODT				SG		**Sb**		**11 02 34.8**	**+0.9**
DDIM	**Aydin, Didim**	**0.99**	**298**	*i* S		**Sb**		**11 02 40.1**	**+1.5**
GOLH	**Golhisar**	**1.01**	**75**	*i* P		**Pg**		**11 02 25.4**	**-0.2**
GOLH				*i* S		**Sb**		**11 02 39.4**	**+0.4**
GOLH				IAML				11 02 47.0	
	comp=N,756nm,0.4s								
NIS1	**Nisyros Isl.**	**1.01**	**248**	P		**Pg**		**11 02 25.7**	**+0.1**
NIS1				S		**Sn**		**11 02 41.7**	**+1.0**
NIS1	**Nisyros Isl.**	**1.01**	**248**	P		**Pg**		**11 02 25.3**	**-0.3**
NIS1				S		**Sg**		**11 02 38.2**	**-0.6**
NIS1				AML	AML			11 02 45.8	
	comp=N,12574μm,0.6s								
NIS1				AML	AML			11 02 47.3	
	comp=E,11134μm,0.5s								
NIS1	**Nisyros Isl.**	**1.01**	**248**	PG		**Pg**		**11 02 25.6**	**0.0**
NIS1				SG		**Sn**		**11 02 40.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**340**	PG		**Pg**		**11 02 25.2**	**-0.6**
AYDB				SG		**Sb**		**11 02 40.6**	**+1.1**
NISR	**Nisiros**	**1.04**	**249**	P		**Pb**		**11 02 25.7**	**-0.6**
NISR				S		**Sn**		**11 02 41.7**	**+0.2**
	comp=E,3μm,1.0s								
NISR	**Nisiros**	**1.04**	**249**	P		**Pb**		**11 02 25.4**	**-0.9**
KOSK	**Kos Island**	**1.12**	**258**	P		**Pb**		**11 02 27.5**	**-0.1**
KOSK				S		**Sn**		**11 02 43.9**	**+0.6**
	comp=E,1μm,0.4s								
KOSK	**Kos Island**	**1.12**	**258**	PN		**Pb**		**11 02 27.7**	**+0.1**
KOSK				SN		**Sn**		**11 02 43.7**	**+0.4**
GCAM	**G?zelcaml?**	**1.13**	**309**	*i* P		**Pb**		**11 02 26.8**	**-1.0**
GCAM				*i* S		**Sg**		**11 02 43.9**	**+1.2**
GCAM				IAML				11 02 46.0	
	comp=N,1μm,0.5s								
GCAM				IAML				11 02 50.0	
	comp=E,1μm,0.7s								
GCAM	**G?zelcaml?**	**1.13**	**309**	PN		**Pb**		**11 02 28.0**	**+0.2**
GCAM				SN		**Sn**		**11 02 44.6**	**+1.0**
AKAS	**Kas**	**1.27**	**126**	PN		**Pn**		**11 02 29.5**	**-0.6**
ELL	**Elmali**	**1.28**	**100**	PN		**Pg**		**11 02 30.8**	**0.0**
ELL	**Elmali**	**1.28**	**100**	P		**Pb**		**11 02 30.5**	**+0.1**
KSL	**Kastellorizon**	**1.30**	**130**	P		**Pb**		**11 02 30.9**	**+0.1**
KSL				S		**Sg**		**11 02 52.1**	**+3.9**
	comp=E,872nm,0.7s								
KSL	**Kastellorizon**	**1.30**	**130**	P		**Pb**		**11 02 30.8**	**+0.1**
KSL				AML	AML			11 02 54.8	
	comp=N,1609μm,0.5s								
KSL				AML	AML			11 02 58.5	
	comp=E,2018μm,0.5s								
KSL	**Kastellorizon**	**1.30**	**130**	⇑P		**Pn**		**11 02 30.7**	**+0.3**
KSL				S		**Sg**		**11 02 49.0**	**+0.8**
SMG	**Samos**	**1.40**	**301**	P		**Pn**		**11 02 31.3**	**-0.4**
SMG				S		**Sn**		**11 02 49.4**	**-0.9**
SMG				AML	AML			11 02 59.0	
	comp=E,3094μm,0.4s								
SMG				AML	AML			11 02 59.8	
	comp=N,3569μm,0.5s								
DEMR	**Demre-Antalya**	**1.47**	**120**	PN		**Pb**		**11 02 33.7**	**+0.2**
MANT	**Manisa**	**1.51**	**6**	*i* P		**Pn**		**11 02 32.8**	**-0.7**
MANT				*i* S		**Sn**		**11 02 53.4**	**+0.1**
MANT				IAML				11 02 54.0	
	comp=N,169nm,0.4s								
MANT				IAML				11 02 57.0	
	comp=E,267nm,1.1s								
BRDR	**BURDUR-Merkez**	**1.54**	**62**	*i* P		**Pg**		**11 02 35.8**	**+0.1**
BRDR				IAML				11 03 04.0	
	comp=N,284nm,0.9s								
BRDR				IAML				11 03 05.0	
	comp=E,306nm,1.0s								
KULA	**Kula-Manisa**	**1.54**	**9**	P		**Pn**		**11 02 33.3**	**-0.5**
KULA				S		**Sn**		**11 02 54.3**	**+0.4**
KULA	**Kula-Manisa**	**1.54**	**9**	PN		**Pn**		**11 02 34.1**	**+0.3**
DGB	**zmir**	**1.57**	**313**	*i* P		**Pn**		**11 02 33.7**	**-0.4**
DGB				IAML				11 03 01.0	
	comp=N,234nm,0.4s								
DGB				IAML				11 03 01.0	
	comp=E,255nm,0.4s								
BASM	**Basmaki-Afyon**	**1.65**	**55**	PN		**Pn**		**11 02 35.9**	**+0.7**
BASM				SN		**Sg**		**11 02 58.6**	**-0.5**
AKUM	**Antalya-Kumluc**	**1.74**	**112**	*i* P		**Pg**		**11 02 39.3**	**-0.3**
AKUM				IAML				11 03 09.0	
	comp=N,241nm,0.4s								
AKUM				IAML				11 03 12.0	
	comp=E,260nm,0.8s								
USAK	**Uak-Merkez**	**1.80**	**17**	*i* P		**Pn**		**11 02 37.4**	**0.0**
USAK				IAML				11 03 14.0	
	comp=E,117nm,1.1s								
BUCA	**Burdur, Bucak-**	**1.80**	**79**	*i* P		**Pb**		**11 02 39.9**	**+0.6**
BUCA				IAML				11 03 13.0	
	comp=N,112nm,1.1s								
KZIL	**AFYON_Kizioren**	**1.91**	**48**	*i* P		**Pn**		**11 02 39.9**	**+1.1**
KZIL				IAML				11 03 16.0	
	comp=E,140nm,0.6s								
KZIL				IAML				11 03 18.0	
	comp=N,100nm,1.6s								
ISP	**Isparta**	**1.93**	**64**	P		**Pb**		**11 02 40.6**	**-0.8**
ISP	**Isparta**	**1.93**	**64**	PN		**Pb**		**11 02 40.6**	**-0.8**
URLA	**Izmir**	**1.95**	**315**	PN		**Pb**		**11 02 41.2**	**-0.5**
SHAP	**Saphane-Kutahy**	**2.15**	**19**	PN		**Pn**		**11 02 43.2**	**+1.1**
ZEDA	**zmir-Bergama**	**2.21**	**334**	*i* P		**Pn**		**11 02 42.6**	**-0.3**
ZEDA				IAML				11 03 24.0	
	comp=N,237nm,0.8s								
ZEDA				IAML				11 03 27.0	
	comp=E,130nm,0.5s								
APE	**Apeiranthos**	**2.25**	**273**	P		**Pn**		**11 02 43.5**	**0.0**
APE	**Apeiranthos**	**2.25**	**273**	P		**Pn**		**11 02 43.5**	**0.0**
APE				S		**Sn**		**11 03 11.4**	**+0.1**
GDZ	**Gediz**	**2.28**	**23**	*i* P		**Pn**		**11 02 42.6**	**-1.4**
CHOS	**Chios island**	**2.29**	**308**	P		**Pn**		**11 02 44.0**	**0.0**
STEP	**BALIKESIR_Sava**	**2.43**	**349**	*i* P		**Pn**		**11 02 45.6**	**-0.3**
STEP				IAML				11 03 32.0	
	comp=N,202nm,0.6s								
STEP				IAML				11 03 36.0	
	comp=E,218nm,0.7s								
NPS	**Neapolis**	**2.80**	**233**	P		**Pn**		**11 02 51.4**	**+0.3**
LAST	**Lasithi**	**2.95**	**233**	P		**Pn**		**11 02 53.5**	**+0.3**
SIGR	**SIGRI**	**2.96**	**319**	P		**Pn**		**11 02 53.2**	**0.0**
IDI	**Anoyia**	**3.27**	**240**	Pn		**Pn**		**11 02 58.3**	**+0.8**
	comp=E,5.5nm,0.3s,baz=55,slow=16,SNR=20								
IDI				Sn		**Sn**		**11 03 37.8**	**+1.3**
	comp=E,6.2nm,0.3s,baz=318,slow=15,SNR=6.2								
IDI	**Anoyia**	**3.27**	**240**	P		**Pn**		**11 02 58.1**	**+0.6**
GADA	**Gvkgeada**	**3.73**	**330**	P		**Pn**		**11 03 03.9**	**+0.2**
AKMS	**Akamas**	**3.79**	**120**	P		**Pn**		**11 03 05.4**	**+0.8**
AKMS				AML	AML			11 03 48.6	
	comp=E,0.5nm,1.2s								
AKMS				AML	AML			11 03 48.6	
	comp=E,0.5nm,1.2s								
AKMS				S		**Sn**		**11 03 50.5**	**+1.2**
AKMS				AML	AML			11 03 50.7	
	comp=E,0.5nm,0.9s								
AKMS				AML	AML			11 03 50.7	
	comp=E,0.5nm,0.9s								
LIA	**Limnos Island**	**3.82**	**320**	P		**Pn**		**11 03 05.5**	**+0.5**
ALFC	**Alefka**	**3.91**	**117**	⇑P		**Pn**		**11 03 06.8**	**+0.5**
ALFC				AML	AML			11 03 52.0	
	comp=E,0.2nm,0.3s								
ALFC				AML	AML			11 03 52.8	
	comp=E,0.2nm,0.3s								
SMTH	**Samothraki Isl**	**4.11**	**329**	P		**Pn**		**11 03 08.9**	**-0.2**
ALIN	**Alexandroupoli**	**4.29**	**336**	P		**Pn**		**11 03 11.9**	**+0.4**
SZAC	**Souni**	**4.31**	**120**	⇑P		**Pn**		**11 03 12.6**	**+0.8**
SZAC				AML	AML			11 04 04.0	
	comp=E,0.3nm,0.4s								
SZAC				AML	AML			11 04 05.8	
	comp=E,0.4nm,0.5s								
CSS	**Mathiatis**	**4.52**	**115**	⇑P		**Pn**		**11 03 15.1**	**+0.3**
ASGA	**Asgata**	**4.55**	**117**	P		**Pn**		**11 03 15.8**	**+0.7**
MVOU	**Mavrovouni**	**4.72**	**113**	P		**Pn**		**11 03 17.7**	**+0.3**
BRTR	**Keskin Array B**	**4.98**	**55**	Pn		**Pn**		**11 03 23.4**	**+2.3**
	comp=E,1.8nm,0.3s,baz=236,slow=14,SNR=14								
BRTR				Sn		**Sn**		**11 04 21.7**	**+2.9**
	comp=E,0.4nm,0.3s,baz=233,slow=5.5,SNR=5.1								
BRTR				LR	LR			11 06 01.6	
	comp=E,27nm,20.2s,baz=251,slow=47								
MMAI	**Mount Meron Ar**	**7.02**	**122**	Pn		**Pn**		**11 03 48.3**	**-0.8**
	comp=E,10nm,0.3s,baz=305,slow=12,SNR=39								
MMAI				Sn		**Sn**		**11 05 06.1**	**-2.9**
	comp=E,6.2nm,0.3s,baz=312,slow=24,SNR=8.0								
EIL	**Elat**	**9.15**	**141**	Pn		**Pn**		**11 04 17.5**	**-0.8**
	comp=E,2.3nm,0.3s,baz=38,slow=2.5,SNR=20								
EIL				Sn		**Sn**		**11 05 57.0**	**-4.4**
	comp=E,0.8nm,0.3s,baz=69,slow=14,SNR=4.6								
GERES	**GERESS Array B**	**15.95**	**323**	Pn		**P**		**11 05 53.0**	**-1.2**
	comp=E,0.1nm,0.3s,baz=125,slow=12,SNR=1.7								
FINES	**FINESS Array B**	**24.52**	**357**	P		**P**		**11 07 26.0**	**+0.5**
	comp=E,1.1nm,0.8s,baz=152,slow=9.3,SNR=3.9								
TORD	**Torodi Ar. Bea**	**33.64**	**232**	P		**P**		**11 08 47.5**	**+0.4**
	comp=E,0.8nm,0.4s,baz=33,slow=8.8,SNR=8.0								
KURBB	**Kurchatov Arra**	**37.97**	**53**	P		**P**		**11 09 26.0**	**+2.1**
	comp=E,0.3nm,0.7s,baz=277,slow=9.2,SNR=2.6								
MKAR	**Makanchi Array**	**40.62**	**59**	P		**P**		**11 09 45.8**	**-0.4**
	comp=E,0.3nm,0.8s,baz=266,slow=10.0,SNR=2.7								
KSRS	**Korea Array**	**75.12**	**54**	P		**P**		**11 13 48.5**	**0.0**
	comp=E,0.6nm,0.6s,baz=308,slow=4.7,SNR=2.7								

NNC 20 11:09:03.3±3.6,37.50N×71.31E,h0km,mb3.9,mpv3.6, 6C,Error ellipse: s-maj=27.9km s-min=19.1km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.63**	**354**	P		Pn		11 10 28.3	+0.1
	1.4nm,0.2s,baz=177,slow=13,SNR=36								
KK31				⇑S		Sn		11 11 35.1	+1.6
	2.4nm,0.4s,baz=172,slow=24,SNR=10.0								
AAK	**Ala-Archa**	**5.68**	**24**	⇑P		Pn		11 10 29.7	+0.7
	4.3nm,0.5s								
AAK				⇑S		Sn		11 11 35.0	0.0
	2.8nm,0.6s								
TKM2	**Tokmak 2**	**6.33**	**30**	⇑P		Pn		11 10 37.3	-0.7
	2.3nm,0.5s								
TKM2				⇑S		Sn		11 11 53.4	+2.4
	1.0nm,0.6s								
AB31	**Akbulak array**	**14.34**	**329**	P		Pn		11 12 27.0	-0.5
	0.3nm,0.3s,baz=134,slow=15,SNR=23								
AB31				⇑S		Sn		11 15 06.7	-0.5
	0.8nm,0.5s,baz=151,slow=22,SNR=3.8								

*MAN **20** 11:12:29.6,8.93N×126.32E,h23km,MS3.1*
*IDC **20** 11:12:38.7±2.9,8.90N×126.43E,h150km±28km,mb3.3/6, mb1 3.5/6,mb1mx3.2/52,mbtmp3.8/6,MS2.8/2,Ms1 2.8/2, ms1mx2.3/24,Error ellipse: s-maj=63.8km s-min=17.2km az=76.0*

ISC 20 11:12:25.0±1.4,8.88N±0.03×126.37E±0.06,h16km±9km, n20,σ1s47/27,mb3.7/6,3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.75**	**277**	*e*P		**Pn**		**11 12 43.4**	**+2.6**
BUTP				*e*S		**Sn**		**11 12 54.5**	**+2.6**
GLSP	**General Luna,**	**0.93**	**345**	*e*P		**Pn**		**11 12 46.0**	**+2.5**
GLSP				*e*S		**Sn**		**11 12 58.5**	**+2.0**
SCPH	**Surigao**	**1.25**	**316**	⇑*e*P		**Pg**		**11 12 50.4**	**+1.1**
BUKP	**Musuan**	**1.63**	**233**	⇓*i*P		**Pg**		**11 12 56.3**	**-0.2**
BUKP				*i* S		**Sg**		**11 13 17.6**	**0.0**
BUKP	**Musuan**	**1.63**	**233**	*e*P		**Pg**		**11 12 57.2**	**+0.7**
BUKP				*e*S		**Sg**		**11 13 18.2**	**+0.6**
CGP	**Cagayan de Oro**	**1.71**	**256**	⇓*i*P		**Pg**		**11 12 56.6**	**-1.3**
CGP				*e*S		**Sn**		**11 13 16.6**	**+0.9**
MATI	**Mati**	**1.92**	**183**	*e*P		**Pg**		**11 13 01.4**	**-0.6**
MATI				*e*S		**Sg**		**11 13 26.4**	**-0.5**
MSLP	**Maasin**	**1.95**	**310**	⇑*i*P		**Pb**		**11 12 59.7**	**-0.4**
MSLP				*i* S		**Sg**		**11 13 26.9**	**-0.8**
DAV	**Davao City (W)**	**1.96**	**204**	P		Pg		11 13 14.3	+12
	6.7nm,0.3s,baz=44,slow=11,SNR=1.3								
DAV				S		**Sg**		**11 13 29.6**	**+1.5**
	94nm,0.3s,baz=304,slow=22,SNR=7.0								
LLP	**Lapu-Lapu**	**2.77**	**301**	⇑*e*P		**Pb**		**11 13 12.3**	**-1.9**
LLP				*i* S		**Sb**		**11 13 45.3**	**-2.6**
DDMP	**Don Marcelino,**	**2.83**	**193**	*e*P		**Pb**		**11 13 15.3**	**+0.2**
DDMP				*e*S		**Sb**		**11 13 49.2**	**-0.4**
CNOP	**Candoni, Negro**	**3.80**	**285**	⇓*e*P		**Pn**		**11 13 24.8**	**+1.9**
FITZ	**Fitzroy Crossi**	**26.81**	**182**	LR		LR		11 29 11.8	
	comp=Z,23nm,18.5s,baz=98,slow=37								
KSRS	**Korea Array**	**28.49**	**3**	LR		LR		11 29 40.0	
	comp=Z,14nm,20.0s,baz=170,slow=36								
WRA	**Warramunga Arr**	**29.69**	**165**	P		**P**		**11 18 29.6**	**-0.8**
	0.3nm,0.5s,baz=348,slow=9.5,SNR=6.1								
ASAR	**Alice Springs**	**33.17**	**167**	P		**P**		**11 19 00.7**	**-0.3**
	0.6nm,0.7s,baz=349,slow=7.3,SNR=7.0								
USRK	**Ussuriysk Ar.**	**35.53**	**7**	P		**P**		**11 19 21.0**	**-0.1**
	1.4nm,0.6s,baz=188,slow=3.8,SNR=4.7								
STKA	**Stephens Creek**	**43.06**	**161**	P		**P**		**11 20 24.4**	**+0.2**
	0.7nm,0.4s,baz=357,slow=8.8,SNR=3.3								
MKAR	**Makanchi Array**	**53.20**	**323**	P		**P**		**11 21 41.0**	**-1.4**
	0.6nm,0.8s,baz=110,slow=10,SNR=5.5								
VNDA	**Vanda**	**88.54**	**173**	P		**P**		**11 25 15.4**	**-0.9**
	0.7nm,0.7s,baz=324,slow=6.6,SNR=5.1								

*IDC **20** 11:14:44.0±2.6,7.26S×130.07E,h131km±37km,mb3.3/1, mb1 3.1/5,mb1mx3.0/40,mbtmp3.5/5,Error ellipse: s-maj=67.2km s-min=21.0km az=90.0*

ISC 20 11:14:40.8±0.9,7.30S±0.06×130.1E±0.2,h100km,n5, σ2s52/9,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.49**	**10**	P		**Pn**		**11 16 16.8**	**+2.9**
	0.5nm,0.3s,baz=73,slow=4.2,SNR=15								
SIJI				S		**Sn**		**11 17 22.8**	**-3.8**
	0.7nm,0.3s,baz=220,slow=23,SNR=1.7								
FITZ	**Fitzroy Crossi**	**11.58**	**202**	P		**Pn**		**11 17 25.1**	**+2.0**
	0.2nm,0.3s,baz=21,slow=9.5,SNR=17								
FITZ				S		**Sn**		**11 19 27.8**	**-2.6**
	0.1nm,0.3s,baz=263,slow=16,SNR=2.0								
WRA	**Warramunga Arr**	**13.22**	**162**	P		**P**		**11 17 49.1**	**-1.8**
	0.1nm,0.3s,baz=347,slow=13,SNR=12								
WRA				S		**Sn**		**11 20 11.2**	**+0.9**
	0.2nm,0.3s,baz=342,slow=22,SNR=2.8								
ASAR	**Alice Springs**	**16.68**	**168**	P		**P**		**11 18 29.4**	**+0.1**
	0.1nm,0.3s,baz=350,slow=11,SNR=4.4								
ASAR				S		**Sn**		**11 21 33.6**	**-0.2**
	0.1nm,0.3s,baz=343,slow=24,SNR=2.2								
MKAR	**Makanchi Array**	**68.53**	**327**	P		**P**		**11 25 32.2**	**-0.5**
	0.3nm,0.5s,baz=120,slow=6.2,SNR=4.6								

*IDC **20** 11:21:14.6±0.9,35.83N×97.38W,h0km,mb3.1/1, mb1 3.7/7,mb1mx3.5/46,mbtmp3.5/7,ML3.0/5,MS3.0/1, Ms1 3.0/1,ms1mx2.2/19,Error ellipse: s-maj=13.8km s-min=9.7km az=141.0*
*TUL **20** 11:21:16±1.5,35.74N±0.01×97.384W±0.009,h5km±5km, ML3.7,mb_Lg3.6/146(NEIC),Mwr3.4/28(SLM),Error ellipse: s-maj=2.3km s-min=0.5km az=156.0*
*NEIC **20** 11:21:16.3±1.3,35.761N±0.008×97.40W±0.02,h6km±5km, Error ellipse: s-maj=2.1km s-min=0.9km az=65.0*
*IASPEI **20** 11:21:16.0±0.9,35.75N±0.02×97.39W±0.

baz=211
T35B S 11 21 59.8
baz=211
KAN09 Caldwell North 1.39 352 Pn 11 21 42.0 +0.2
KAN09 IAmb_Lg 11 22 01.7
comp=Z,402nm,0.7s
KAN05 Bluff City Nor 1.41 344 Pn 11 21 42.2 +0.1
KAN05 IAmb_Lg 11 22 03.3
comp=Z,299nm,0.8s
U32A Winter Ranch, 1.45 296 Pn 11 21 42.9 +0.2
U32A Winter Ranch, 1.45 296 P **Pn 11 21 42.9 +0.2**
baz=116,SNR=50
U32A S **Sn 11 22 02.5 +0.7**
baz=116
U32A Winter Ranch, 1.45 296 P 11 21 42.9
baz=116,SNR=50
U32A S 11 22 02.5
baz=116
KS20 Mayfield South 1.48 355 Pn 11 21 43.4 +0.4
KAN10 Anthony SW Sta 1.48 337 Pn 11 21 43.4 +0.3
WMOK Wichita Mounta 1.53 229 Pn 11 21 43.5 -0.3
WMOK Wichita Mounta 1.53 229 P **Pn 11 21 43.5 -0.3**
baz=48,SNR=1000
WMOK S **Sn 11 22 03.9 +0.2**
baz=48
WMOK Wichita Mounta 1.53 229 P 11 21 43.4
baz=48,SNR=894
WMOK S 11 22 04.0
baz=48
WMOK Wichita Mounta 1.53 229 P 11 21 43.5
baz=48,SNR=1000
WMOK S 11 22 03.9
baz=48
KAN08 Anthony NE Sta 1.54 342 Pn 11 21 44.6 +0.7
KAN08 IAmb_Lg 11 22 06.5
comp=Z,576nm,1.2s
KS21 Milan North St 1.54 352 IAmb_Lg 11 22 06.2
comp=Z,578nm,0.8s
KAN16 Harper SW Stat 1.57 340 Pn 11 21 44.8 +0.6
KAN16 IAmb_Lg 11 22 10.0
comp=Z,228nm,0.9s
LOOK Love County 1.77 175 Pn 11 21 47.6 +0.6
LOOK IAmb_Lg 11 22 11.2
comp=Z,190nm,0.7s
X37A Clayton 2.02 125 Pn 11 21 51.0 +0.6
X37A Clayton 2.02 125 P **Pn 11 21 51.0 +0.6**
baz=306,SNR=175
X37A S **Sb 11 22 18.2 0.0**
baz=306
X37A Clayton 2.02 125 P 11 21 51.0
baz=306,SNR=175
X37A S 11 22 18.2
baz=306
Z35A Perchaven, San 2.42 178 Pn 11 21 56.8 +0.8
Z35A IAmb_Lg 11 22 37.4
comp=Z,291nm,1.1s
Z35A Perchaven, San 2.42 178 P **Pn 11 21 56.7 +0.8**
baz=358,SNR=93
Z35A Perchaven, San 2.42 178 P 11 21 56.7
baz=358,SNR=93
U38A Gravette 2.52 73 Pn 11 21 58.5 +1.1
U38A IAmb_Lg 11 22 42.0
comp=Z,134nm,0.8s
U38A Gravette 2.52 73 P **Pn 11 21 58.4 +1.1**
baz=255,SNR=132
U38A Gravette 2.52 73 P 11 21 58.4
baz=255,SNR=132
HHAR Hobbs 2.84 78 Pn 11 22 02.3 +0.6
HHAR IAmb_Lg 11 22 50.1
comp=Z,186nm,0.8s
HHAR Hobbs 2.84 78 P **Pn 11 22 02.8 +1.1**
baz=260
HHAR Hobbs 2.84 78 P 11 22 02.8
baz=260
R32A Long Quarter, 2.87 339 Pn 11 22 03.9 +1.7
R32A IAmb_Lg 11 22 53.1
comp=Z,124nm,0.8s
R32A Long Quarter, 2.87 339 P **Pn 11 22 04.0 +1.9**
baz=158,SNR=117
R32A Long Quarter, 2.87 339 P 11 22 04.0
baz=158,SNR=117
W39A Magazine 2.99 100 Pn 11 22 04.5 +0.8
W39A IAmb_Lg 11 22 55.9
comp=Z,168nm,0.7s
W39A Magazine 2.99 100 P **Pn 11 22 04.4 +0.6**
baz=282,SNR=123
W39A Magazine 2.99 100 P 11 22 04.5
baz=282,SNR=47
W39A S 11 22 41.3
baz=282
W39A Magazine 2.99 100 P 11 22 04.4
baz=282,SNR=123
Z38A Mt. Pleasant 3.18 141 Pn 11 22 06.8 +0.5
Z38A IAmb_Lg 11 23 03.2
comp=Z,226nm,0.9s
Z38A Mt. Pleasant 3.18 141 P **Pn 11 22 06.9 +0.5**
baz=322
Z38A Mt. Pleasant 3.18 141 P 11 22 06.9
baz=322
MIAR Mount Ida 3.34 110 Pn **Pn 11 22 09.6 +0.9**
MIAR IAmb_Lg 11 23 09.9
comp=Z,222nm,1.1s
MIAR Mount Ida 3.34 110 P **Pn 11 22 09.5 +0.9**
baz=292,SNR=77
MIAR Mount Ida 3.34 110 P 11 22 10.0
baz=292,SNR=26
MIAR S 11 22 51.2
baz=292
MIAR Mount Ida 3.34 110 P 11 22 09.5
baz=292,SNR=77
KSU1 Kansas State U 3.40 10 Pn 11 22 09.3 -0.1
KSU1 Kansas State U 3.40 10 P **Pn 11 22 10.5 +1.1**
baz=191
KSU1 Kansas State U 3.40 10 Pn 11 22 10.1
baz=191
KSU1 Pb 11 22 18.4
baz=191
KSU1 Kansas State U 3.40 10 P 11 22 10.5
baz=191
CBKS Cedar Bluff 3.58 329 Pn 11 22 13.6 +1.6
CBKS IAmb_Lg 11 23 16.9
comp=Z,219nm,0.7s
CBKS Cedar Bluff 3.58 329 P **Pn 11 22 13.2 +1.2**
baz=148,SNR=16
CBKS Cedar Bluff 3.58 329 Pn 11 22 13.4
baz=148
CBKS Pb 11 22 21.4
baz=148
CBKS Sb 11 23 08.6
baz=148
CBKS Cedar Bluff 3.58 329 P 11 22 13.2
baz=148,SNR=16
AMTX Amarillo 3.62 257 Pn **Pn 11 22 11.0 -1.5**
AMTX IAmb_Lg 11 23 13.5
comp=Z,134nm,0.8s
AMTX Amarillo 3.62 257 P 11 22 14.4
baz=75
ABTX Abilene, Hawle 3.64 212 Pn **Pn 11 22 12.5 -0.3**
ABTX IAmb_Lg 11 23 11.1
comp=Z,145nm,0.9s
ABTX Abilene, Hawle 3.64 212 P **Pn 11 22 12.8 -0.1**
baz=30,SNR=19
ABTX Abilene, Hawle 3.64 212 P 11 22 13.0
baz=30,SNR=16
ABTX Abilene, Hawle 3.64 212 P 11 22 12.8
baz=30,SNR=19
U40A Yellville 3.71 79 Pn 11 22 14.8 +1.1
U40A IAmb_Lg 11 23 23.8
comp=Z,110nm,0.7s
U40A Yellville 3.71 79 P **Pn 11 22 14.2 +0.4**
baz=262,SNR=56
U40A Yellville 3.71 79 P 11 22 14.2
baz=262
U40A Sb 11 23 12.0
baz=262
U40A Yellville 3.71 79 P 11 22 14.2
baz=262,SNR=56
U40A P 11 22 14.2
baz=262,SNR=56
WHTX Lake Whitney, 3.75 181 Pn 11 22 14.2 -0.1
WHTX IAmb_Lg 11 23 19.0
comp=Z,84nm,0.7s
WHTX Lake Whitney, 3.75 181 P **Pn 11 22 14.5 +0.2**
baz=0.9,SNR=10
WHTX Sb **Sb 11 23 10.8 +2.6**
baz=0.9
WHTX Lake Whitney, 3.75 181 Pn 11 22 14.6
baz=0.9
WHTX Pb 11 22 22.6
baz=0.9,SNR=29
WHTX Sb 11 23 10.8
baz=0.9
WHTX Lake Whitney, 3.75 181 P 11 22 14.5
baz=0.9,SNR=10
WHTX Sb 11 23 10.8
baz=0.9
S39A Bolivar 3.79 58 Pn 11 22 15.7 +0.9
S39A IAmb_Lg 11 23 22.1
comp=Z,150nm,0.9s
S39A Bolivar 3.79 58 P **Pn 11 22 15.5 +0.8**
baz=240,SNR=21
S39A Bolivar 3.79 58 P 11 22 15.5
baz=240,SNR=21
X40A Basin Creek Fa 3.93 107 Pn 11 22 18.0 +1.2
X40A IAmb_Lg 11 23 25.6
comp=Z,260nm,0.9s
X40A Basin Creek Fa 3.93 107 P **Pn 11 22 17.8 +1.1**
baz=290,SNR=20
X40A Basin Creek Fa 3.93 107 P 11 22 18.0
baz=290,SNR=10
X40A Basin Creek Fa 3.93 107 P 11 22 17.8
baz=290,SNR=20
X40A P 11 22 17.8
baz=290,SNR=20
237A Washetta, Mont 3.97 160 Pn 11 22 16.7 -0.5
237A IAmb_Lg 11 23 30.6
comp=Z,90nm,0.7s
237A Washetta, Mont 3.97 160 P **Pn 11 22 17.0 -0.2**
baz=341,SNR=11
237A S **Sn 11 23 03.6 -0.1**
baz=341
237A Washetta, Mont 3.97 160 P 11 22 17.0
baz=341,SNR=11
237A S 11 23 03.6
baz=341
WLAR White Oak Lake 4.08 119 Pn 11 22 18.8 +0.1
WLAR IAmb_Lg 11 23 33.9
comp=Z,124nm,0.8s
WHAR Wooly Hollow 4.18 95 Pn **Pn 11 22 21.0 +0.9**
WHAR IAmb_Lg 11 23 29.5
comp=Z,138nm,0.8s
W41B Gary Mavity, V 4.23 96 P **Pn 11 22 21.3 +0.5**
baz=279,SNR=65
W41B Gary Mavity, V 4.23 96 Pn 11 22 21.4
baz=279,SNR=19
W41B Pb 11 22 30.9
baz=279
W41B Sb 11 23 28.0
baz=279
W41B Gary Mavity, V 4.23 96 P 11 22 21.3
baz=279,SNR=65
FCAR Ozark Folk Cen 4.27 87 Pn 11 22 22.3 +0.9
FCAR IAmb_Lg 11 23 38.6
comp=Z,163nm,0.9s
MGMO Mountain Grove 4.35 70 Pn 11 22 23.6 +1.1
MGMO IAmb_Lg 11 23 40.6
comp=Z,157nm,0.7s
Z41A Richland Creek 4.53 122 S 11 23 18.2
baz=305
NATX Nacogdoches 4.58 150 Pn 11 22 25.9 +0.2
MSTX Muleshoe 4.78 250 Pn Pn 11 22 29.0 +0.5
MSTX Muleshoe 4.78 250 P **Pn 11 22 28.9 +0.5**
baz=67,SNR=7.9
MSTX Muleshoe 4.78 250 P 11 22 28.8
baz=67,SNR=6.5
MSTX Muleshoe 4.78 250 P 11 22 28.9
baz=67,SNR=7.9
R40A Maddies Statio 4.81 57 Pn 11 22 29.7 +1.0
R40A IAmb_Lg 11 23 57.6
comp=Z,108nm,0.9s
R40A Maddies Statio 4.81 57 P **Pn 11 22 29.2 +0.5**
baz=240,SNR=18
R40A Maddies Statio 4.81 57 P 11 22 29.2
baz=240,SNR=18
P38A Dawn 4.92 37 Pn Pn 11 22 31.6 +1.2
P38A IAmb_Lg 11 23 53.5
comp=Z,128nm,0.7s
P38A Dawn 4.92 37 P **Pn 11 22 30.9 +0.6**
baz=219,SNR=6.4
P38A Dawn 4.92 37 P 11 22 30.9
baz=219,SNR=6.4
435B Jarrell 4.96 182 Pn 11 22 31.0 +0.1
435B Jarrell 4.96 182 Sb 11 23 48.8
baz=1.9
CCAR Cane Creek 4.96 110 Pn Pn 11 22 31.9 +1.0
CCAR IAmb_Lg 11 24 03.8
comp=Z,144nm,0.7s
N33A J Bar K, Exete 4.97 359 Pn 11 22 32.3 +1.2
N33A IAmb_Lg 11 24 02.2
comp=Z,202nm,0.9s
LCAR Lake Charles 5.06 85 Pn 11 22 32.5 +0.2
LCAR IAmb_Lg 11 24 05.1
comp=Z,93nm,1.0s
T42A Van Buren 5.23 74 Pn 11 22 35.0 +0.5
T42A IAmb_Lg 11 24 10.1
comp=Z,71nm,0.7s
N35A Tabor 5.28 14 Pn Pn 11 22 34.8 -0.5
KSCO Kaye Shedlock' 5.29 309 Pn Pn 11 22 35.9 +0.3
KSCO IAmb_Lg 11 24 10.5
comp=Z,128nm,0.8s
KSCO Kaye Shedlock' 5.29 309 P 11 22 36.5
baz=126
CCM Cathedral Cave 5.42 63 Pn Pn 11 22 39.0 +1.8
CCM IAmb_Lg 11 24 16.3
comp=Z,77nm,0.8s
HBAR Harrisburg 5.48 90 Pn 11 22 38.2 +0.2
JCT Junction City 5.64 202 Pn Pn 11 22 40.0 -0.3
JCT Junction City 5.64 202 P **Pn 11 22 40.5 +0.2**
baz=20,SNR=9.9
JCT Junction City 5.64 202 P 11 22 41.0
baz=20
JCT Sb 11 24 10.3
baz=20
JCT Junction City 5.64 202 P 11 22 40.5
baz=20,SNR=9.9
P40A Paris 5.66 47 Pn Pn 11 22 42.0 +1.4
BGNE Belgrade 5.68 354 Pn Pn 11 22 41.3 +0.6
BGNE IAmb_Lg 11 24 21.0
comp=Z,104nm,0.9s
BGNE Belgrade 5.68 354 P 11 22 41.4
baz=174
PBMO Poplar Bluff 5.71 78 Pn Pn 11 22 41.8 +0.7
PBMO IAmb_Lg 11 24 22.2
comp=Z,142nm,0.9s
LPAR Lepanto 5.76 89 Pn 11 22 43.2 +1.3
LPAR IAmb_Lg 11 24 31.2
comp=Z,123nm,0.7s
143A Socs Landing, 5.81 120 IAmb_Lg 11 24 28.3
comp=Z,77nm,0.8s
T25A Trinidad 5.83 286 Pn Pn 11 22 43.2 +0.2
T25A IAmb_Lg 11 24 27.0
comp=Z,170nm,0.9s
T25A Trinidad 5.83 286 P 11 22 43.6
baz=102,SNR=8.5
T25A Sb 11 24 16.3
baz=102
GNAR Gosnell 5.98 86 Pn Pn 11 22 44.5 -0.4
N38A Joes South For 5.99 32 Pn 11 22 46.3 +1.2
441A DeRidder 6.10 144 Pn Pn 11 22 45.9 -0.6
PEBM Pemiscott Bayo 6.11 84 Pn Pn 11 22 46.5 -0.2
MET Memphis--Engin 6.11 94 IAmb_Lg 11 24 37.2
comp=Z,159nm,0.8s
PARMO Parma 6.23 79 Pn Pn 11 22 48.6 +0.3
OGNE Ogallala 6.34 326 Pn Pn 11 22 51.1 +1.2
OGNE IAmb_Lg 11 24 46.8
comp=Z,108nm,0.8s
OGNE Ogallala 6.34 326 P 11 22 51.5
baz=144
SLM Saint Louis 6.38 61 Pn Pn 11 22 51.2 +0.8
OXF Oxford 6.65 98 Pn Pn 11 22 54.4 +0.4
OXF IAmb_Lg 11 24 50.4
comp=Z,87nm,0.9s
OXF Oxford 6.65 98 P 11 22 54.8
baz=283
W45A Hickory Valley 6.71 93 Pn 11 22 56.0 +1.0
W45A IAmb_Lg 11 24 59.0
comp=Z,98nm,0.8s
Y45A Yeager Farm, C 6.71 104 Pn Pn 11 22 55.3 +0.4
Y45A IAmb_Lg 11 24 59.6
comp=Z,53nm,0.8s
GDL2 Guadalupe Moun 6.80 241 Pn Pn 11 22 57.0 +0.7
S44A Carbondale 6.80 71 Pn 11 22 56.9 +0.7
S44A IAmb_Lg 11 25 01.8
comp=Z,119nm,0.9s
SDCO Great Sand Dun 6.82 289 Pn 11 22 57.9 +1.2
SDCO IAmb_Lg 11 24 52.7
comp=Z,64nm,1.0s
SDCO Great Sand Dun 6.82 289 P 11 22 57.9
baz=105,SNR=32
SIUC Southern Illin 6.84 71 Pn Pn 11 22 57.4 +0.7
735A Kenedy 6.89 183 Pn Pn 11 22 57.5 +0.1
735A IAmb_Lg 11 25 00.1
comp=Z,67nm,0.8s
UTMT University of 6.92 83 Pn Pn 11 22 58.6 +0.8
K31A O'Neill 6.94 352 Pn 11 22 59.0 +0.9
SCIA State Center 6.95 27 Pn 11 22 59.4 +1.2
Q24A Divide 6.97 300 P 11 22 60.0
baz=115
344A Westbrook Farm 7.01 126 Pn Pn 11 22 58.9 -0.2
N41A Harden Midland 7.13 44 Pn Pn 11 23 01.4 +0.8
T45A Paducah 7.16 77 Pn Pn 11 23 02.3 +1.3
P43A Skaggs, Pawnee 7.34 56 Pn Pn 11 23 04.2 +0.8
Q44A Meyer Farm, Va 7.37 62 Pn 11 23 05.0 +1.2
ANMO Albuquerque 7.46 266 Pn Pn 11 23 04.8 -0.6
comp=Z,0.3nm,0.3s,baz=86,slow=16,SNR=5.8
ANMO Pg **Pb 11 23 29.9 +3.9**
comp=Z,0.5nm,0.3s,baz=77,slow=14,SNR=7.0
ANMO Lg Lg 11 25 08.4
comp=Z,2.5nm,0.3s,baz=335,slow=11,SNR=3.5
ANMO Albuquerque 7.46 266 Pn Pn 11 23 05.3 -0.1
PLAL Pickwick Lake 7.64 93 Pn Pn 11 23 07.0 -0.7
ISCO Idaho Springs 7.67 304 Pn Pn 11 23 09.0 +0.7
ISCO IAmb_Lg 11 25 32.1
comp=Z,40nm,0.8s
ISCO Idaho Springs 7.67 304 P 11 23 08.8
baz=119,SNR=14
ISCO S 11 24 34.1
baz=119
K38A Parkersburg 7.75 26 Pn Pn 11 23 07.9 -1.3
WVT Waverly 7.75 84 Pn Pn 11 23 09.2 0.0
BNM Barren Site 7.76 261 Pn Pn 11 23 09.7 +0.1
MNTX Cornudas Mount 7.80 241 Pn Pn 11 23 09.9 +0.1
MNTX IAmb_Lg 11 25 41.2
comp=Z,40nm,1.1s
MNTX Cornudas Mount 7.80 241 P 11 23 09.8
baz=56,SNR=11
L40A Anamosa 7.92 35 Pn Pn 11 23 11.4 0.0
L40A IAmb_Lg 11 25 31.3
comp=Z,81nm,0.8s
HDIL Hopedale 7.97 51 Pn Pn 11 23 12.7 +0.5
HDIL Hopedale 7.97 51 P 11 23 12.7
baz=235,SNR=18
OLIL Olney 7.97 65 Pn Pn 11 23 11.7 -0.5
ECSD EROS Data Cent 7.99 4 Pn Pn 11 23 11.3 -1.1
ECSD IAmb_Lg 11 25 33.4
comp=Z,64nm,1.2s
ECSD EROS Data Cent 7.99 4 P 11 23 11.2
baz=184,SNR=8.0
ECSD S 11 24 39.8
baz=184
Y22D IRIS PASSCAL I 8.02 261 Pn 11 23 12.4 -0.6
Y22D IAmb_Lg 11 25 51.2
comp=Z,79nm,0.8s
LENM Lemitar 8.04 261 Pn Pn 11 23 14.4 +1.2
USIN University of 8.09 71 IAmb_Lg 11 25 44.0
comp=Z,73nm,1.0s
Z47A Carrollton 8.10 106 Pn Pn 11 23 15.2 +1.2
Z47A IAmb_Lg 11 25 52.3
comp=Z,32nm,0.8s
O44A Mansfield 8.29 55 Pn Pn 11 23 17.2 +0.5
TX31 Lajitas Ar. Si 8.31 221 Pn 11 23 16.1 -0.9
TX32 Lajitas Array 8.31 221 Pn 11 23 16.2 -0.8
TXAR Lajitas Array 8.31 221 Pn Pn 11 23 16.0 -1.0
comp=Z,0.3nm,0.3s,baz=48,slow=11,SNR=23
TXAR Sn **Sn 11 24 49.1 -2.0**
comp=Z,0.5nm,0.3s,baz=38,slow=24,SNR=1.1
TXAR Lg Lg 11 25 33.2
comp=Z,6.3nm,0.3s,baz=39,slow=40,SNR=5.1
TXAR Lajitas Array 8.31 221 Pn 11 23 16.2 -0.8
T47A Sharon Grove 8.38 79 Pn 11 23 18.0 +0.2
T47A IAmb_Lg 11 25 56.6
comp=Z,70nm,1.1s
PHWY Pilot Hill 8.41 314 Pn Pn 11 23 18.7 +0.2
PHWY IAmb_Lg 11 25 48.6
comp=Z,87nm,1.1s
N23A Red Feather La 8.46 310 P 11 23 21.2
baz=125,SNR=9.4
X48A Hartselle 8.57 96 Pn Pn 11 23 21.6 +1.2
X48A IAmb_Lg 11 25 58.3
comp=Z,49nm,1.3s
V48A Smith Brothers 8.58 87 IAmb_Lg 11 25 59.7
comp=Z,40nm,1.0s
L42A Oliver, Polo 8.66 42 Pn 11 23 21.8 +0.1
SUSD Miller 8.76 353 IAmb_Lg 11 26 05.1
comp=Z,72nm,0.9s
I37A Lemond, Waseca 8.80 19 Pn Pn 11 23 24.1 +0.6
P46A Rosedale 8.94 61 Pn Pn 11 23 26.6 +1.2
CLTN Cedars of Leba 8.97 85 Pn Pn 11 23 25.9 0.0
JFWS Jewell Farm 9.03 36 Pn Pn 11 23 27.9 +1.2
JFWS Jewell Farm 9.03 36 P 11 23 28.1
baz=220,SNR=5.1
121A Cookes Peak, D 9.20 253 Pn Pn 11 23 29.6 +0.3
WCI Wyandotte Cave 9.21 71 Pn Pn 11 23 29.2 +0.1
WCI IAmb_Lg 11 26 16.4
comp=Z,49nm,0.9s
Y49A Blount Mountai 9.22 99 IAmb_Lg 11 26 25.3
comp=Z,29nm,1.0s
M44A Midewin, Midew 9.22 50 Pn Pn 11 23 30.3 +1.0
PV01 Paradox Valley 9.27 288 IAmb_Lg 11 26 17.7
comp=Z,27nm,1.3s
BLO Bloomington 9.28 65 Pn 11 23 29.8 -0.3
BLO IAmb_Lg 11 26 17.4
comp=Z,87nm,0.8s
SFIN Lafayette 9.33 57 IAmb_Lg 11 26 12.9
comp=Z,72nm,0.8s
SWET Sewanee 9.35 90 Pn Pn 11 23 31.8 +0.6
PV02 Paradox Valley 9.41 288 Pn Pn 11 23 32.1 -0.1
U49A Red Boiling Sp 9.41 82 Pn Pn 11 23 33.3 +1.3
PV13 Radium Mtn., P 9.47 288 IAmb_Lg 11 26 33.6
comp=Z,26nm,1.1s
PV11 David Mesa, Pa 9.54 289 IAmb_Lg 11 26 26.4
comp=Z,40nm,1.0s
PV18 Skein Mesa, Pa 9.55 288 IAmb_Lg 11 26 33.0
comp=Z,30nm,1.2s
PV04 Paradox Valley 9.58 289 IAmb_Lg 11 26 27.4
comp=Z,28nm,1.0s
I40A Norwalk 9.64 31 Pn 11 23 34.2 -0.9
I40A IAmb_Lg 11 26 29.2
comp=Z,45nm,0.8s
RWWY Rawlins 9.70 311 IAmb_Lg 11 26 34.8
comp=Z,29nm,0.9s
FPAL Fort Paine 9.71 94 IAmb_Lg 11 26 40.8
comp=Z,29nm,0.8s
RSSD Black Hills 9.79 331 Pn Pn 11 23 38.3 +1.0
RSSD IAmb_Lg 11 26 37.7
comp=Z,27nm,0.7s
W50A Signal Mountai 9.86 90 IAmb_Lg 11 26 35.3
comp=Z,42nm,0.9s
K43A Burlington 9.86 43 Pn Pn 11 23 37.0 -1.1
K22A Casper 9.88 317 Pn Pn 11 23 39.7 +1.1
K22A IAmb_Lg 11 26 49.9
comp=Z,75nm,1.1s
R49A Shelbyville 10.08 72 Pn Pn 11 23 42.1 +0.9
P48A Milroy 10.18 65 Pn Pn 11 23 43.2 +0.7
I42A Draeger Farm, 10.40 36 Pn 11 23 45.6 0.0
CPCT Cooper Cave 10.47 88 Pn Pn 11 23 47.1 +0.6
N47A Urbana 10.51 57 Pn Pn 11 23 48.3 +1.4
F36A Milaca 10.51 15 Pn Pn 11 23 44.9 -2.0
V51A Loudon 10.59 86 Pn 11 23 49.1 +1.1
L46A Eue Claire 10.66 51 Pn 11 23 49.2 +0.3
P49A Miami Univ. Ec 10.72 66 Pn Pn 11 23 50.2 +0.3
R50A Paris 10.74 73 Pn Pn 11 23 48.9 -1.2
SRU San Rafael Swe 10.97 292 Pn Pn 11 23 52.2 -1.3
TKL Tuckaleechee C 11.06 87 Pn Pn 11 23 52.3 -2.3
comp=Z,0.1nm,0.3s,baz=274,slow=15,SNR=2.1
TKL Lg Lg 11 26 56.0
comp=Z,1.0nm,0.3s,baz=100,slow=8.2,SNR=4.9
TKL Tuckaleechee C 11.06 87 Pn 11 23 54.1 -0.5
V52A Sevierville 11.20 86 Pn Pn 11 23 56.2 -0.2
TZTN Tazewell 11.21 82 Pn Pn 11 23 56.5 -0.1
S51A Beattyville 11.23 76 Pn 11 23 57.3 +0.4
H43A Windswept, Lux 11.39 37 Pn Pn 11 23 58.9 0.0
Q51A Peebles 11.63 70 Pn Pn 11 24 01.3 -1.0
E38A The Farm, Brul 11.69 20 Pn Pn 11 24 02.9 -0.2
BW06 Boulder Array 11.74 310 Pn Pn 11 24 05.2 +1.1
PD31 Pinedale Array 11.74 310 Pn Pn 11 24 05.4 +1.3
PDAR Pinedale Array 11.74 310 Pn Pn 11 24 03.0 -1.1
comp=Z,0.3nm,0.3s,baz=121,slow=14,SNR=7.6

PDAR				Lg	Lg	11 27 19.8		
	comp=Z,0.6nm,0.3s,baz=110,slow=31,SNR=2.6							
PDAR	**Pinedale Array**	**11.74**	**310**	Pn	**Pn**	**11 24 03.7**	**-0.4**	
L48A	**N Adams**	**11.83**	**55**	Pn	**Pn**	**11 24 05.3**	**+0.3**	
COWI	**Conover**	**12.06**	**29**	Pn	**Pn**	**11 24 07.5**	**-0.7**	
B35A	**Bob, Littlefor**	**12.88**	**11**	Pn	**Pn**	**11 24 16.6**	**-2.8**	
EYMN	**Ely**	**12.94**	**18**	Pn	**Pn**	**11 24 21.2**	**+1.0**	
D41A	**Chassel**	**13.08**	**28**	Pn	**Pn**	**11 24 19.5**	**-2.6**	
E43A	**Lone Tree Farm**	**13.18**	**33**	Pn	**Pn**	**11 24 22.1**	**-1.3**	
I49A	**Point Hope**	**13.84**	**49**	Pn	**Pn**	**11 24 31.0**	**-1.4**	
N53A	**Lisbon**	**13.93**	**64**	Pn	**Pn**	**11 24 30.9**	**-2.9**	
R55A	**Marlinton**	**14.02**	**75**	Pn	**Pn**	**11 24 34.1**	**-1.0**	
ULM	**Lac du Bonnet**	**14.53**	**4**	Pn	Pn	11 24 36.4	-5.5	
	comp=Z,0.2nm,0.3s,baz=178,slow=9.0,SNR=2.1							
ULM				Lg	Lg	11 28 42.5		
	comp=Z,0.4nm,0.3s,baz=95,slow=16,SNR=2.0							
ULM	**Lac du Bonnet**	**14.53**	**4**		**Pn**	**11 24 41.1**	**-0.7**	
S57A	**Dark Hollow, R**	**14.91**	**77**	Pn	**Pn**	**11 24 46.3**	**-0.8**	
SADO	**Sadowa**	**16.55**	**52**	Pn	**Pn**	**11 25 02.8**	**-5.6**	
	comp=Z,0.2nm,0.3s,baz=269,slow=15,SNR=1.7							
SADO				Lg	Lg	11 29 47.5		
	comp=Z,0.3nm,0.3s,baz=5.0,slow=11,SNR=2.0							
YBH	**Yreka Blue Hor**	**20.60**	**294**	P	**P**	**11 25 54.2**	**-1.5**	
BBB	**Bella Bella**	**27.27**	**317**	LR	LR	11 38 31.5		
	comp=Z,34nm,19.0s,baz=2.5,slow=38							
ILAR	**Eielson Array**	**41.24**	**330**	P	**P**	**11 29 01.6**	**+0.5**	
	comp=Z,0.2nm,0.7s,baz=106,slow=6.7,SNR=4.0							

JMA 20 11:34:16.2, 37.72N×140.02E, h8km±1km, M2.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAR	**Yonezawaarcadi**	**0.22**	**27**	P	Pg	11 34 20.6	0.0
JYAR				S	Sg	11 34 23.9	+0.4
JFT	**Otama**	**0.32**	**129**	P	Pg	11 34 22.7	+0.1
JFT				S	Sg	11 34 27.1	+0.3
JFY	**Yanaizu**	**0.40**	**219**	P	Pg	11 34 24.2	+0.2
JFY				S	Sg	11 34 29.5	+0.2
JYS	**Shirataka**	**0.50**	**4**	P	Pg	11 34 26.1	+0.2
JYS				S	Sg	11 34 33.3	+0.8
JNS	**Sasagawa**	**0.57**	**280**	P	Pg	11 34 27.1	0.0
JNS				S	Sg	11 34 34.6	+0.1
JMM	**Marumori**	**0.63**	**76**	P	Pg	11 34 28.3	-0.1
JMM				S	Sg	11 34 36.7	+0.1
JFK	**Kawauchi**	**0.77**	**117**	P	Pg	11 34 30.6	-0.3
JOU	**Okura**	**0.82**	**38**	P	Pg	11 34 32.0	0.0
JOU				S	Sg	11 34 43.0	+0.3
JYA	**Atsumi**	**0.90**	**345**	P	Pg	11 34 33.4	-0.2
JYA				S	Sg	11 34 45.5	+0.1
MAT	**Matsushiro**	**1.87**	**232**	P	Pb	11 34 49.9	-0.6
MAT				S	Sb	11 35 13.8	-0.2

*IDC **20** 11:41:55.0±0.4, 15°.13N×119°.44E, h0km, mb4.5/26, mb1 4.6/27, mb1mx4.5/39, mbtmp4.5/27, ML4.6/1, MS3.6/18, Ms1 3.6/18, ms1mx3.4/40, Error ellipse: s-maj=16.4km s-min=8.5km az=65.0*

*BJI **20** 11:41:55.8±0.0, 14°.65N×119°.92E, h47km, mB4.7/30, mb4.4/46, Ms4.0/34, Ms7 3.9/31*

*NEIC **20** 11:41:59.3±1.3, 15°.12N±0°.06×119°.53E±0°.09, h26km±4km, mb4.8/102, Error ellipse: s-maj=12.4km s-min=9.4km az=89.0*

*MAN **20** 11:41:59.6, 15°.17N×119°.44E, h30km, MS4.0*

*BGR **20** 11:42:09.9±0.0, 17°.58N×119°.67E, h33km, mb4.8*

ISC 20 11:42:01.9±0.5, 15°.14N±0°.03×119°.56E±0°.04, h47km±4km, h47km:pP-P, n276, σ1s71/290, mb4.8/89, MS3.7/25, 12C-8D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.28**	**15**	*e*P	**Pn**	**11 42 21.0**	**-2.4**
BOLP				*e*S	**Sn**	**11 42 34.9**	**-4.5**
MACP	**Maragondon, Ca**	**1.42**	**128**	*e*P	**Pn**	**11 42 25.2**	**-0.1**
MACP				*e*S	**Sn**	**11 42 44.2**	**+1.4**
SMPP	**San Manuel, Pa**	**1.48**	**47**	*e*P	**Pn**	**11 42 24.8**	**-1.2**
SMPP				*e*S	**Sn**	**11 42 44.6**	**+0.4**
QVP	**Quezon City--P**	**1.49**	**110**	*e*P	**Pn**	**11 42 27.3**	**+1.2**
QVP				*e*S	**Sn**	**11 42 46.9**	**+2.4**
PCPH	**Palayan**	**1.54**	**74↓**	*e*P	**Pn**	**11 42 26.3**	**-0.6**
PCPH				*e*S	**Sn**	**11 42 46.5**	**+0.8**
LUBP	**Lubang**	**1.55**	**154↓**	*e*P	**Pn**	**11 42 22.4**	**-4.5**
LUBP	**Lubang**	**1.55**	**154**	*e*P	**Pn**	**11 42 26.1**	**-0.9**
TGY	**Tagaytay City**	**1.69**	**128**	Pg	**Pn**	**11 42 29.0**	**+0.1**
	392nm,0.3s,baz=291,slow=3.4,SNR=16						
TGY				Lg	Lg	11 42 52.9	
	1μm,0.3s,baz=176,slow=23,SNR=6.8						
TGY				LR	LR	11 43 23.7	
	comp=Z,2μm,19.8s,baz=356,slow=50						
TGY	**Tagaytay City**	**1.69**	**128↓**	*e*P	**Pn**	**11 42 31.0**	**+2.1**
TGY				*e*S	**Sn**	**11 42 54.5**	**+5.1**
PGP	**Puerto Galera**	**2.12**	**140↑**	*e*P	**Pn**	**11 42 34.9**	**+0.1**
PGP				*i* S	**Sn**	**11 43 02.2**	**+2.3**
LQP	**Lukban**	**2.17**	**118↑**	*e*P	**Pn**	**11 42 36.7**	**+1.0**
LQP				*e*S	**Sn**	**11 43 01.3**	**-0.2**
SAMP	**Sagada Mountai**	**2.32**	**34**	*e*P	**Pn**	**11 42 37.1**	**-0.5**
SAMP				*e*S	**Sn**	**11 43 04.3**	**-0.7**
SZP	**Santa**	**2.55**	**20**		**Pn**	**11 42 39.3**	**-1.4**
BOAC	**Boac**	**2.77**	**127**	*e*P	**Pn**	**11 42 44.5**	**+0.7**
BOAC				*e*S	**Sn**	**11 43 18.4**	**+2.4**
CAUP	**Cauayan**	**2.82**	**50**	*e*P	**Pn**	**11 42 46.0**	**+1.5**
CAUP				*e*S	**Sn**	**11 43 25.1**	**+7.9**
SIPP	**Brgy, Tapao**	**2.90**	**17↓**	*i*P	Pn	11 42 52.8	+7.3
SIPP				*i* S	Sn	11 43 34.1	+15
JCNP	**Jose Panganiba**	**3.15**	**105↑**	*e*P	**Pn**	**11 42 48.8**	**-0.2**
JCNP	**Jose Panganiba**	**3.15**	**105**	*e*P	**Pn**	**11 42 50.1**	**+1.1**
APYP	**Conner**	**3.15**	**31↑**	*e*P	**Pn**	**11 42 49.1**	**0.0**
APYP				*i* S	**Sn**	**11 43 28.1**	**+2.6**
APYP	**Conner**	**3.15**	**31**	*e*P	**Pn**	**11 42 49.2**	**+0.2**
APYP				*e*S	**Sn**	**11 43 28.4**	**+3.0**
BUSP	**Coron**	**3.18**	**169**	*e*P	**Pn**	**11 42 49.3**	**-0.1**
CVP	**Callao Caves**	**3.35**	**40↓**	*e*P	**Pn**	**11 42 52.9**	**+1.1**
CVP				*i* S	**Sn**	**11 43 34.4**	**+4.2**
AUQP	**San Andres**	**3.52**	**120**	*e*P	Pn	11 43 03.1	+9.0
ENPP	**El Nido**	**3.91**	**182**	*e*P	**Pn**	**11 42 58.2**	**-1.3**
CUYO	**Cuyo Island**	**4.49**	**161**	*e*P	**Pn**	**11 43 06.6**	**-0.8**
BBP	**Basco**	**5.75**	**23↓**	*e*P	**Pn**	**11 43 23.2**	**-1.5**
TWG	**Pinlang**	**7.77**	**10**		**Pn**	**11 43 51.9**	**-0.6**
TPUB	**Ta-pu**	**8.18**	**7**		**Pn**	**11 43 57.5**	**-0.6**
YULB	**Yu-li**	**8.37**	**11**	Pn	**Pn**	**11 43 59.9**	**-0.8**
SSLB	**Suanglung**	**8.70**	**8**	Pn	**Pn**	**11 44 04.2**	**-1.0**
NACB	**Ninganchiao**	**9.19**	**12**	Pn	**Pn**	**11 44 08.9**	**-2.9**
KNMB	**Chin-men Tao**	**9.34**	**353**	Pn	**Pn**	**11 44 12.7**	**-1.2**
YHNB	**Yeheng**	**9.63**	**10**	Pn	**Pn**	**11 44 16.8**	**-1.2**
YOJ	**Yonaguni jima**	**9.83**	**19**	Pn	**Pn**	**11 44 19.0**	**-1.5**
DAV	**Davao City (W)**	**9.96**	**143**	LR	LR	11 49 05.4	
	comp=Z,7.1nm,21.7s,baz=26,slow=43						
QIZ	**Qiongzhong**	**10.06**	**294**	P	**Pn**	**11 44 20.4**	**-3.4**
QIZ				S	**Sn**	**11 46 16.8**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,19nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,100nm,2.1s						
QIZ				L	L		
	comp=N,310nm,13.7s						
QIZ				L	L		
	comp=E,370nm,14.9s						
QIZ				L	L		
	comp=Z,550nm,18.1s						
QIZ	**Qiongzhong**	**10.06**	**294**	Pn	**Pn**	**11 44 20.6**	**-3.3**
TOLI2	**Tolitoli**	**13.99**	**175**	Pn	**Pn**	**11 45 14.8**	**-2.7**
JOW	**Kunigami**	**14.19**	**34**	Pn	**Pn**	**11 45 18.5**	**-1.7**
MPSI	**Mapaga**	**14.71**	**179**	P	**P**	**11 45 33.3**	**+1.0**
	18nm,0.8s						
MRSI	**Marisa**	**14.76**	**171**	P	**P**	**11 45 34.9**	**+2.1**
	20nm,0.6s						
NONG	**Nongkai**	**16.00**	**283**	P	**P**	**11 45 49.2**	**+2.6**
	16nm,1.4s						
NONG	**Nongkai**	**16.00**	**283**	P	**P**	**11 45 49.0**	**+2.4**
	16nm,1.4s						
SLVN	**Son La**	**16.09**	**295**	Pn	**Pn**	**11 45 43.0**	**-2.1**
LUWI	**Luwuk**	**16.39**	**169**	Pn	**Pn**	**11 45 45.1**	**-3.6**
LUWI				IAmb	IAmb	11 46 00.1	
	comp=Z,53nm,0.7s						
LUWI	**Luwuk**	**16.39**	**169**	P	**P**	**11 45 55.3**	**+4.4**
	comp=Z,2μmcomp=Z,76nm,0.8s						
GYA	**Guiyang**	**16.48**	**315**	*e*P	**P**	**11 45 54.4**	**+2.3**
NJ2	**Nanjing**	**16.85**	**358**	*e*P	**P**	**11 45 56.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CHAI	**Chaiyaphum**	**16.95**	**275**	P	**P**	**11 45 57.6**	**+0.4**
	comp=Z,855nmcomp=Z,31nm,0.9s						
CHAI	**Chaiyaphum**	**16.95**	**275**	P	**P**	**11 45 57.7**	**+0.5**
	comp=Z,213nmcomp=Z,7.8nm,0.9s						
SRAK	**Srakaew**	**16.99**	**268**	P	**Pn**	**11 45 54.8**	**-1.5**
	comp=Z,134nm,1.3s						
TTSI	**Tana Toraja**	**18.07**	**179**	P	**Pn**	**11 46 11.7**	**+2.1**
	comp=Z,1μmcomp=Z,18nm,0.6s						
PHIT	**Phitsanulok**	**18.50**	**279**	P	**Pn**	**11 46 16.5**	**+1.7**
	comp=Z,43nm,1.0s						
PHIT	**Phitsanulok**	**18.50**	**279**	P	**Pn**	**11 46 16.0**	**+1.2**
	comp=Z,11nm,1.0s						
KMI	**Kunming**	**18.64**	**305**	⇑P	**Pn**	**11 46 19.0**	**+2.3**
KMI				pP	pP	11 46 26.5	+0.8
KMI				sP	sP	11 46 30.8	-0.3
KMI				PP	**pwP**	**11 46 34.0**	**+2.1**
KMI				S	**Sn**	**11 49 41.5**	**-2.9**
KMI				SS	**SnSn**	**11 50 09.3**	**+10**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,140nm,5.7s						
KMI				L	L		
	comp=Z,290nm,15.0s						
KMI				L	L		
	comp=Z,190nm,17.3s						
KMI				L	L		
	comp=Z,320nm,16.9s						
BBKI	**Banjar Baru**	**19.06**	**195**	P	**Pn**	**11 46 22.7**	**+1.1**
	comp=Z,31nm,0.4s						
JSU	**Suzuyama**	**19.10**	**30**	P	**P**	**11 46 19.2**	**-1.5**
KKSI	**Kolaka, Sulawe**	**19.30**	**174**	P	**Pn**	**11 46 26.2**	**+1.8**
	comp=Z,992nmcomp=Z,44nm,0.6s						
UTHA	**Uthaitani**	**19.40**	**274**	P	**Pn**	**11 46 29.0**	**+3.3**
	comp=Z,116nmcomp=Z,5.4nm,0.8s						
BNSI	**Bone**	**19.42**	**178**	P	**Pn**	**11 46 28.3**	**+2.5**
	comp=Z,20nm,0.7s						
SIJI	**Sorong**	**19.67**	**143**	P	**P**	**11 46 26.3**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=339,slow=13,SNR=4.9						
SIJI				LR	LR	11 54 09.8	
	comp=Z,64nm,21.1s,baz=228,slow=37						
UMPA	**Umpang Tak**	**19.96**	**276**	P	**Pn**	**11 46 36.6**	**+4.3**
	comp=Z,28nm,1.3s						
UMPA	**Umpang Tak**	**19.96**	**276**	P	**Pn**	**11 46 36.0**	**+3.7**
	comp=Z,7.0nm,1.3s						
CM09	**Chiang Mai Arr**	**19.96**	**282**	P	**Pn**	**11 46 36.5**	**+4.2**
	comp=Z,16nm,1.2s						
CM09	**Chiang Mai Arr**	**19.96**	**282**	P	**Pn**	**11 46 36.5**	**+4.2**
	comp=Z,16nm,1.2s						
CM04	**Chiang Mai Arr**	**19.97**	**282**	P	**Pn**	**11 46 35.9**	**+3.5**
	comp=Z,105nmcomp=Z,14nm,1.2s						
CM04	**Chiang Mai Arr**	**19.97**	**282**	P	**Pn**	**11 46 35.0**	**+2.6**
	comp=Z,105nmcomp=Z,14nm,1.2s						
CM01	**Chiang Mai Arr**	**19.99**	**282**	P	**Pn**	**11 46 36.3**	**+3.7**
	comp=Z,126nmcomp=Z,14nm,1.2s						
CM01	**Chiang Mai Arr**	**19.99**	**282**	P	**Pn**	**11 46 36.4**	**+3.8**
	comp=Z,126nmcomp=Z,14nm,1.2s						
CM05	**Chiang Mai Arr**	**20.00**	**282**	P	Pn	11 46 36.4	+3.6
	comp=Z,7.5nm,1.2s						
CM05	**Chiang Mai Arr**	**20.00**	**282**	P	Pn	11 46 36.0	+3.2
	comp=Z,7.5nm,1.2s						
CM02	**Chiang Mai Arr**	**20.00**	**282**	P	Pn	11 46 36.7	+3.9
	comp=Z,101nmcomp=Z,11nm,1.1s						
CM02	**Chiang Mai Arr**	**20.00**	**282**	P	Pn	11 46 36.7	+3.9
	comp=Z,101nmcomp=Z,11nm,1.1s						
CM31	**Chiang Mai Arr**	**20.01**	**282**	P	**P**	**11 46 29.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**20.01**	**282**	P	**P**	**11 46 30.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=96,slow=11,SNR=4.4						
CMAR				LR	LR	11 54 29.6	
	comp=Z,242nm,18.3s,baz=154,slow=38						
CMAR	**Chiang Mai Arr**	**20.01**	**282**	P	**P**	**11 46 29.9**	**-0.9**
KAPI	**Kappang**	**20.02**	**179**	P	**P**	**11 46 30.6**	**-0.3**
	comp=Z,11nm,0.3s,baz=302,slow=5.8,SNR=5.2						
KAPI				LR	LR	11 55 11.5	
	comp=Z,98nm,19.0s,baz=31,slow=40						
KAPI	**Kappang**	**20.02**	**179**	P	**P**	**11 46 30.9**	**-0.1**
KAPI				IAmb	IAmb	11 46 34.5	
	comp=Z,18nm,0.5s						
KAPI	**Kappang**	**20.02**	**179**	P	**P**	**11 46 31.5**	**+0.6**
	comp=Z,25nm,1.3s						
CM15	**Chiang Mai Arr**	**20.03**	**282**	P	Pn	11 46 35.8	+2.7
	comp=Z,11nm,1.0s						
CM13	**Chiang Mai Arr**	**20.04**	**282**	P	Pn	11 46 35.5	+2.3
	comp=Z,95nmcomp=Z,10nm,0.9s						
CM13	**Chiang Mai Arr**	**20.04**	**282**	P	Pn	11 46 35.5	+2.3
	comp=Z,95nmcomp=Z,10nm,0.9s						
CMMT	**Chiang Mai**	**20.05**	**283**	P	Pn	11 46 34.5	+1.2
	comp=Z,7.0nm,1.1s						
CMMT	**Chiang Mai**	**20.05**	**283**	P	Pn	11 46 34.5	+1.2
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**20.05**	**283**	P	Pn	11 46 35.5	+2.2
	comp=Z,7.0nm,1.1s						
CHTO	**Chiang Mai**	**20.05**	**283**		**P**	**11 46 31.0**	**-0.2**
CHTO	**Chiang Mai**	**20.05**	**283**	P	Pn	11 46 33.0	-0.3
	comp=Z,3.9nm,1.1s						
SKLT	**Songkhla**	**20.18**	**249**	P	Pn	11 46 35.3	+0.4
	comp=Z,31nm,1.2s						
SKLT	**Songkhla**	**20.18**	**249**	P	Pn	11 46 35.3	+0.4
KRAI	**Karang Ratu**	**20.32**	**154**	P	Pn	11 46 36.7	+0.2
	comp=Z,34nm,0.9s						
TIA	**Tai'an**	**21.10**	**355**	P	**P**	**11 46 43.3**	**+0.9**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
TIA				L	L		
	comp=Z,100nm,13.9s						
TIA				L	L		
	comp=Z,140nm,15.5s						
XAN	**Xi'an**	**21.13**	**335**	P	**P**	**11 46 46.1**	**+3.3**
XAN				pP	pP	11 46 54.8	+1.6
XAN				sP	sP	11 46 59.3	+0.5
XAN				S	**S**	**11 50 37.8**	**+2.4**
XAN				sS	sS	11 50 50.8	-1.6
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,37nm,5.3s						
XAN				L	L		
	comp=Z,290nm,16.9s						
XAN				L	L		
	comp=Z,230nm,12.8s						
XAN				L	L		
	comp=Z,440nm,15.7s						
CD2	**Chengdu**	**21.36**	**320**	P	**P**	**11 46 45.3**	**0.0**
CD2				pP	pP	11 46 56.4	+1.0
CD2				sP	sP	11 47 02.8	+1.9
CD2				S	**S**	**11 50 41.3**	**+1.3**
CD2				sS	sS	11 50 58.8	+1.9
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,140nm,14.2s						
CD2				L	L		
	comp=Z,390nm,14.7s						
CD2				L	L		
	comp=Z,310nm,13.3s						
CD2				L	L		
	comp=Z,460nm,16.9s						
JMN	**Monobe**	**22.59**	**32**	P	**P**	**11 46 56.9**	**-1.5**
KSRS	**Korea Array**	**23.43**	**17**	P	**P**	**11 47 05.7**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=206,slow=10,SNR=16						
PSI	**Prapat**	**23.75**	**241**	LR	LR	11 55 59.6	
	comp=Z,88nm,18.2s,baz=79,slow=36						
MMRI	**Maumere**	**23.77**	**173**	P	**P**	**11 47 11.8**	**+1.6**
	comp=Z,54nm,0.8s						
EDFI	**Ende, Flores**	**23.83**	**175**	P	**P**	**11 47 10.7**	**-0.1**
	comp=Z,1μmcomp=Z,133nm,0.6s						
PLAI	**Plampang**	**23.88**	**184**	P	**P**	**11 47 11.7**	**+0.5**
	comp=Z,27nm,1.7s						
MNSI	**Mandailing Nat**	**24.34**	**236**	P	**P**	**11 47 16.5**	**+1.0**
	comp=Z,16nm,0.6s						
JWT	**Wachi**	**24.59**	**32**	P	**P**	**11 47 17.5**	**-0.1**
BJI	**Beijing**	**24.98**	**354**	P	**P**	**11 47 22.8**	**+1.7**
BJI				pP	**pP**	**11 47 33.5**	**+0.9**
BJI				sP	**sP**	**11 47 41.1**	**+3.1**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJI				L	L		
	comp=Z,130nm,14.1s						
BJI				L	L		
	comp=Z,110nm,15.8s						
SOEI	**Soe**	**25.17**	**169**	P	**P**	**11 47 22.3**	**-0.8**
SOEI	**Soe**	**25.17**	**169**	P	**P**	**11 47 22.5**	**-0.6**
	comp=Z,78nm,0.7s						
INU	**Inuyama**	**25.50**	**35**	P	**P**	**11 47 25.1**	**-0.7**
INU				IAmb	IAmb	11 47 27.1	
	comp=Z,22nm,1.3s						
BATI	**Baumata**	**25.51**	**171**	P	**P**	**11 47 25.8**	**-0.3**
	comp=Z,103nm,0.6s,baz=295,slow=2.3,SNR=14						
BATI	**Baumata**	**25.51**	**171**	P	**P**	**11 47 25.0**	**-1.1**
	comp=Z,88nm,1.1s						
JHJ	**Hachijo jima 2**	**25.63**	**42**	LR	LR	11 56 52.7	
	comp=Z,139nm,20.2s,baz=294,slow=35						
HHC	**Hu-ho-hao-te**	**26.55**	**346**	*e*P	**P**	**11 47 38.3**	**+2.9**
HHC				SS		11 53 21.8	
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,79nm,4.5s						
HHC				L	L		
	comp=Z,170nm,14.0s						
HHC				L	L		
	comp=Z,170nm,12.5s						
HHC				L	L		
	comp=Z,170nm,13.2s						
BTO	**Baotou**	**26.70**	**344**	*e*P	**P**	**11 47 40.6**	**+3.8**
BTO				S	**S**	**11 52 12.6**	**+3.6**
BTO				L	L		
	comp=Z,670nm,17.3s						
BTO				L	L		
	comp=Z,470nm,16.7s						
BTO				L	L		
	comp=Z,830nm,17.3s						
GENI	**Genyem**	**26.95**	**129**	P	**P**	**11 47 39.9**	**+0.7**
	comp=Z,58nm,1.0s						
MAT	**Matsushiro**	**27.03**	**35**	P	**P**	**11 47 38.8**	**-0.9**
MJAR	**Matsushiro Arr**	**27.03**	**35**	P	**P**	**11 47 38.0**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=219,slow=7.6,SNR=7.0						
MJAR	**Matsushiro Arr**	**27.03**	**35**	P	**P**	**11 47 38.1**	**-1.6**
BRDH	**Bariadhala**	**27.42**	**290**	LR	LR	11 59 54.4	
	comp=Z,258nm,19.9s,baz=111,slow=40						
JMM	**Marumori**	**29.42**	**36**	P	**P**	**11 47 59.8**	**-1.1**
JMM				IAmb	IAmb	11 48 11.8	
	comp=Z,32nm,1.2s						
MTN	**Manton Dam**	**30.07**	**157**	P	**P**	**11 48 06.9**	**+0.1**
MTN				IAmb	IAmb	11 48 11.1	
	comp=Z,37nm,1.4s						
USA0B	**Ussuriysk Arra**	**30.84**	**18**	P	**P**	**11 48 12.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**30.84**	**18**	P	**P**	**11 48 13.8**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=214,slow=8.3,SNR=6.9						
USRK				LR	LR	12 01 22.4	
	comp=Z,78nm,20.5s,baz=199,slow=38						
USRK	**Ussuriysk Ar.**	**30.84**	**18**	P	**P**	**11 48 11.9**	**-1.4**
JTM	**Tenmabayashi**	**31.67**	**32**	P	**P**	**11 48 19.1**	**-1.7**
JTM				IAmb	IAmb	11 48 41.3	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**31.94**	**163**	P	**P**	**11 48 22.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**33.57**	**170**	P	**P**	**11 48 36.3**	**-1.2**
FITZ				IAmb	IAmb	11 48 37.5	
	comp=Z,12nm,0.8s						
ERM	**Erimo**	**33.64**	**33**	P	**P**	**11 48 37.6**	**-0.3**
SONM	**Songino Array**	**34.38**	**344**	P	**P**	**11 48 44.1**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=163,slow=11,SNR=14						
SONM				PcP	**PcP**	**11 51 19.0**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=193,slow=3.8,SNR=2.7						
SONM				LR	LR	12 03 25.3	
	comp=Z,125nm,19.6s,baz=216,slow=38						
SONM	**Songino Array**	**34.38**	**344**	P	**P**	**11 48 44.0**	**-0.5**
ASAJ	**Asahikawa**	**34.90**	**30**	P	**P**	**11 48 48.7**	**-0.2**
	comp=Z,4.0nm,0.4s,baz=235,slow=7.8,SNR=22						
JKA	**Kamikawa-asahi**	**34.90**	**30**	P	**P**	**11 48 48.3**	**-0.6**
JKA				IAmb	IAmb	11 49 16.4	
	comp=Z,12nm,1.1s						
KLR	**Kul'dur**	**35.43**	**14**	P	**P**	**11 48 53.5**	**+0.1**
	comp=Z,14nm,0.8s,baz=231,slow=6.9,SNR=23						
PSA00	**Pilbara Seismi**	**36.48**	**180**	P	**P**	**11 49 01.2**	**-1.4**
PSA00				IAmb	IAmb	11 49 03.8	
	comp=Z,11nm,0.7s						
PSA00	**Pilbara Seismi**	**36.48**	**180**	P	**P**	**11 49 01.9**	**-0.8**
PSA00				IAmb	IAmb	11 49 03.9	
	comp=Z,29nm,0.8s						
WB0	**Warramunga Arr**	**37.63**	**157**	P	**P**	**11 49 10.4**	**-2.1**
WRAB	**Tennant Creek**	**37.77**	**157**	P	**P**	**11 49 11.6**	**-1.9**
WRA	**Warramunga Arr**	**37.77**	**157**	P	**P**	**11 49 11.8**	**-1.9**
	comp=Z,13nm,0.5s,baz=330,slow=10.0,SNR=250						
WRA				PcP	**PcP**	**11 51 30.1**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=342,slow=3.3,SNR=7.9						
WRA	**Warramunga Arr**	**37.77**	**157**	P	**P**	**11 49 11.3**	**-2.3**
WB2	**Warramunga Arr**	**37.77**	**157**	P	**P**	**11 49 11.8**	**-1.8**
WR0	**Warramunga Arr**	**37.86**	**157**	P	**P**	**11 49 12.4**	**-1.9**
WR0				IAmb	IAmb	11 49 14.3	
	comp=Z,14nm,1.0s						
GIRL	**Giralia**	**37.91**	**188**	P	**P**	**11 49 14.6**	**-0.1**
WMQ	**Urumqi**	**39.40**	**323**	*e*P	**P**	**11 49 28.8**	**+1.7**
WMQ				pP	pwP	11 49 43.3	+0.7
WMQ				sP	sP	11 49 46.5	+2.3
WMQ				pmax	pmax		
	comp=Z,31nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,5.5s						
WMQ				L	L		
	comp=Z,400nm,12.7s						
WMQ				L	L		
	comp=Z,510nm,16.1s

TIXI	Tiksi	56.77	4	P		P	11 51 40.2	-0.4	
	comp=Z,4.6nm,0.5s,baz=178,slow=3.6,SNR=8.4								
TIXI	Tiksi	56.77	4	P		P	11 51 40.5	-0.2	
TIXI				IAmb		IAmb	11 51 41.2		
	comp=Z,23nm,1.4s								
CAN	Canberra	57.43	152	P		P	11 51 45.6	-0.3	
CAN				IAmb		IAmb	11 51 57.1		
	comp=Z,14nm,1.0s								
NRIK	Noril'sk	57.77	347	P		P	11 51 47.2	-0.6	
	comp=Z,6.9nm,0.7s,baz=118,slow=5.0,SNR=7.7								
NRIK				PcP		PcP	11 52 40.9	+0.8	
	comp=Z,4.4nm,0.4s,baz=125,slow=3.2,SNR=2.0								
NRIK				LR		LR	12 18 06.4		
	comp=Z,91nm,18.9s,baz=114,slow=38								
NRIK	Noril'sk	57.77	347	P		P	11 51 47.7	-0.1	
NRIK				IAmb		IAmb	11 52 00.1		
	comp=Z,12nm,0.8s								
TOO	Toolangi	57.83	156	P		P	11 51 48.4	-0.2	
TOO				IAmb		IAmb	11 51 49.3		
	comp=Z,8.3nm,0.8s								
GEYT	Alibeck	58.40	305	P		P	11 51 52.6	-0.2	
	comp=Z,8.8nm,0.9s,baz=75,slow=7.6,SNR=1.6								
ABKAR	Akbulak array	58.93	319	P		P	11 51 56.1	-0.1	
ABKAR	Akbulak array	58.93	319	P		P	11 51 56.8	+0.5	
ABKAR				IAmb		IAmb	11 52 08.9		
	comp=Z,5.8nm,0.7s								
DZM	Mont Dzumac	58.98	128	P		P	11 51 56.6	-0.4	
OUENC	Ouen Island, N	59.48	128	P		P	11 52 00.2	-0.2	
BILL	Bilibino	60.69	18	P		P	11 52 08.1	+0.1	
BILL				IAmb		IAmb	11 52 20.7		
	comp=Z,5.9nm,0.7s								
ARU	Arti	61.58	326	P		P	11 52 13.4	-0.8	
ARU				IAmb		IAmb	11 52 26.2		
	comp=Z,9.9nm,0.8s								
RAYN	Ar Rayn	69.73	290	P		P	11 53 06.6	-0.8	
RAYN				IAmb		IAmb	11 53 26.1		
	comp=Z,8.0nm,1.0s								
GURO	Guroymak-BITLI	71.06	306	P		P	11 53 14.9	-0.5	
GURO				IAmb		IAmb	11 53 29.2		
	comp=Z,9.5nm,1.1s								
KLMR	Klimovskoe	72.06	330	*e*P		P	11 53 18.9	-1.9	
KLMR				*e*PcP		pP	11 53 29.8	-3.9	
KLMR				AMP			11 53 32.6		
	comp=Z,10.0nm,0.8s								
CNBA	Chernabura Isl	72.51	37	P		P	11 53 23.0	-0.6	
CNBA				IAmb		IAmb	11 53 24.6		
	comp=Z,14nm,1.2s								
A21K	Barrow	73.79	19	P		P	11 53 31.2	+0.3	
A21K				IAmb		IAmb	11 53 32.7		
	comp=Z,8.1nm,0.8s								
CHIR	Chirikof Island	74.72	36	P		P	11 53 36.9	+0.3	
CHIR				IAmb		IAmb	11 53 56.5		
	comp=Z,23nm,1.3s								
SII	Sitkinak Islan	75.46	35	P		P	11 53 40.9	0.0	
BKZ	Black Stump Fm	75.74	138	P		P	11 53 42.5	-0.3	
RSO	Redoubt South	75.83	31	P		P	11 53 43.7	+0.6	
KDAK	Kodiak Island	76.20	33	P		P	11 53 44.9	-0.1	
	comp=Z,4.6nm,0.4s,baz=284,slow=4.9,SNR=58								
KDAK	Kodiak Island	76.20	33	P		P	11 53 45.0	-0.1	
KDAK				IAmb		IAmb	11 53 46.5		
	comp=Z,13nm,1.2s								
SKT	Skwentna	76.26	29	P		P	11 53 44.3	-1.1	
SKT				IAmb		IAmb	11 53 46.3		
	comp=Z,5.9nm,0.8s								
MLY	Manley	76.28	26	P		P	11 53 45.7	+0.2	
MLY				IAmb		IAmb	11 53 48.2		
	comp=Z,5.6nm,0.7s								
TOLK	Toolik Lake Re	76.34	22	P		P	11 53 45.6	-0.2	
SUA	Susitna One	76.69	30	P		P	11 53 48.2	+0.3	
SUA				IAmb		IAmb	11 53 50.1		
	comp=Z,13nm,0.9s								
I23K	Minto, Yukon-K	76.85	26	P		P	11 53 48.4	-0.1	
NEA2	Nenana	77.05	26	P		P	11 53 50.0	+0.3	
NEA2				IAmb		IAmb	11 53 52.1		
	comp=Z,3.9nm,0.8s								
MCK	McKinley	77.22	27	P		P	11 53 50.5	-0.2	
MCK				IAmb		IAmb	11 53 52.6		
	comp=Z,5.9nm,0.7s								
RND	Reindeer	77.31	27	P		P	11 53 50.6	-0.7	
RND				IAmb		IAmb	11 53 59.5		
	comp=Z,4.6nm,0.7s								
O22K	Cooper Landing	77.32	31	P		P	11 53 50.7	-0.6	
MDM	Murphy Dome	77.35	26	P		P	11 53 50.8	-0.6	
ARA0	ARCESS Array S	77.35	339	*e*P		P	11 53 51.2	-0.2	
ARCES	ARCESS Array B	77.35	339	P		P	11 53 50.7	-0.7	
	comp=Z,2.7nm,0.6s,baz=79,slow=7.2,SNR=20								
ARCES				LR		LR	12 30 35.4		
	comp=Z,38nm,18.8s,baz=90,slow=38								
GHO	Glory Hole Cre	77.52	29	P		P	11 53 52.6	+0.1	
GHO				IAmb		IAmb	11 54 09.1		
	comp=Z,9.6nm,1.3s								
CCB	Clear Creek Bu	77.58	26	P		P	11 53 52.6	0.0	
PWL	Port Wells	77.94	30	P		P	11 53 54.8	0.0	
ILAR	Eielson Array	77.95	26	P		P	11 53 55.4	+0.7	
	comp=Z,0.7nm,0.7s,baz=292,slow=4.0,SNR=7.6								
ILAR				LR		LR	12 31 42.2		
	comp=Z,20nm,18.0s,baz=44,slow=38								
SPA0	Spitsbergen Ar	77.97	348	*e*P		P	11 53 55.2	+0.5	
SPITS	Spitsbergen Ar	77.97	348	LR		LR	12 32 07.5		
	comp=Z,46nm,20.0s,baz=155,slow=39								
HDA	Harding Lake	77.98	26	P		P	11 53 54.3	-0.6	
KTK1	Kautokeino	78.24	339	*e*P		P	11 53 56.8	+0.5	
SCM	Sheep Creek Mo	78.25	29	P		P	11 53 55.4	-1.2	
SCM				IAmb		IAmb	11 53 58.8		
	comp=Z,6.8nm,0.7s								
BMAR	Burnt Mountain	78.38	23	P		P	11 53 57.2	0.0	
FIA1	FINESS Array S	78.50	331	P		P	11 53 57.1	-0.7	
FIA1				IAmb		IAmb	11 54 16.6		
	comp=Z,5.7nm,1.0s								
FINES	FINESS Array B	78.50	331	P		P	11 53 57.7	-0.1	
	comp=Z,3.0nm,0.6s,baz=50,slow=5.9,SNR=36								
FINES	FINESS Array B	78.50	331	P		P	11 53 56.9	-0.9	
GLI	Glacier Island	78.53	30	P		P	11 53 57.4	-0.7	
GLI				IAmb		IAmb	11 53 59.9		
	comp=Z,6.6nm,0.6s								
AKASG	Malin Array Be	78.66	320	P		P	11 53 57.9	-1.0	
	comp=Z,0.2nm,0.2s,baz=67,slow=5.1,SNR=4.2								
AKASG	Malin Array Be	78.66	320	P		P	11 53 57.5	-1.4	
M24K	Tolsona, Glenn	78.74	29	P		P	11 53 59.6	+0.4	
M24K				IAmb		IAmb	11 54 08.7		
	comp=Z,8.7nm,0.7s								
OPO	Ambohidratompo	78.74	247	LR		LR	12 24 12.8		
	comp=Z,57nm,21.7s,baz=124,slow=32								
MNK	Minsk	78.79	324	*i* P		P	11 53 57.9	-1.7	
MNK									
	comp=E,3.0nm,0.8s								
MNK				*i* P		P	11 53 57.9	-1.7	
	comp=N,11nm,1.2s								
MNK				*i* P		P	11 53 57.9	-1.7	
	comp=Z,14nm,0.8s,baz=80								
MNK				*i* PcP		PcP	11 54 06.2	-2.0	
MNK				*i* PP		PP	11 56 56.3	-1.8	
MNK				*i* PPP		PPP	11 58 43.1		
MNK				*i* S		S	12 03 54.5	+0.7	
MNK				*i* ScS		ScS	12 04 18.2	+0.9	
MNK				*i* SS		SS	12 08 60.0	+1.4	
MNK				*i* SSS		SSS	12 12 29.2		
MNK				*i* LQ		LQ	12 23 43.4		
MNK				*i* LR		LR	12 28 27.5		
MNK				*i* LRM		MLR	12 30 28.9		
	comp=Z,118nm,22.4s								
MNK				*i* LRM		MLR	12 31 01.5		
	comp=E,15nm,14.1s								
MNK				*i* LRM		MLR	12 31 03.4		
	comp=N,163nm,16.0s								
JETT	Jettan, Norway	79.10	339	*e*P		P	11 54 01.1	+0.1	
SCRK	Sand Creek	79.34	26	P		P	11 54 01.6	-1.0	
TRO	Tromso	79.59	340	*e*P		P	11 54 03.8	+0.2	
SORM	Soroca	79.69	317	⇑P		P	11 54 04.9	+0.3	
GLB	Gilahina Butte	79.98	29	P		P	11 54 05.9	-0.1	
GLB				IAmb		IAmb	11 54 08.6		
	comp=Z,4.8nm,0.9s								
K27K	Chicken	80.14	26	P		P	11 54 07.0	+0.3	
K27K				IAmb		IAmb	11 54 09.0		
	comp=Z,9.2nm,1.4s								
EGAK	Eagle	80.34	25	P		P	11 54 07.0	-0.8	
L27K	Beaver Creek,	80.49	27	P		P	11 54 09.1	+0.4	
BCAR	Beaver Creek A	80.51	27	P		P	11 54 09.4	+0.6	
NOR	Nord	81.13	354	*i* P		P	11 54 11.2	-0.6	
NOR				IAmb		IAmb	11 54 12.3		
	comp=Z,2.6nm,0.7s								
VRI	Vrincioaia	81.24	315	⇑P		P	11 54 14.3	+1.3	
CTGM	Chitina Glacie	81.26	29	P		P	11 54 13.8	+0.8	
CTGM				IAmb		IAmb	11 54 16.2		
	comp=Z,13nm,0.7s								
DAWY	Dawson	81.27	26	P		P	11 54 12.6	-0.2	
PLOR	Plostina	81.30	315	⇓P		P	11 54 20.5	+7.1	
STEI	Steigen	81.37	338	*e*P		P	11 54 12.7	-0.5	
BIZ	Bicaz	81.42	316	⇑P		P	11 54 14.8	+0.9	
CASY	Casey	81.46	184	P		P	11 54 13.6	+0.1	
CASY				IAmb		IAmb	11 54 18.1		
	comp=Z,14nm,1.2s								
TABL	Table Mountain	81.49	30	P		P	11 54 15.1	+0.8	
TABL				IAmb		IAmb	11 54 17.3		
	comp=Z,7.6nm,0.8s								
FAUS	Fauske	81.53	338	*e*P		P	11 54 13.8	-0.3	
BURAR	Bucovina Array	81.86	317	⇓P		P	11 54 16.6	+0.3	
BURAR	Bucovina Array	81.86	317	P		P	11 54 16.0	-0.4	
INK	Inuvik	82.16	21	P		P	11 54 16.6	-0.8	
INK				IAmb		IAmb	11 54 18.4		
	comp=Z,5.7nm,0.9s								
MOR8	Moi Rana	82.25	337	*e*P		P	11 54 17.8	-0.1	
DRGR		83.72	317	⇑P		P	11 54 25.7	-0.3	
NSS	Namsos	83.81	336	*e*P		P	11 54 24.7	-1.2	
EUNU	Eureka	83.99	4	P		P	11 54 25.9	-0.9	
EUNU				IAmb		IAmb	11 54 43.3		
	comp=Z,7.0nm,1.1s								
WHY	Whitehorse	84.36	28	P		P	11 54 29.5	+0.5	
WHY				IAmb		IAmb	11 54 32.6		
	comp=Z,4.5nm,0.7s								
C36M	Paulatuk	84.81	19	P		P	11 54 30.8	-0.2	
MDVR	Moldovita	84.93	315	⇑P		P	11 54 32.5	+0.3	
DAG	Danmarks Havn	85.03	351	⇑*i*P		P	11 54 31.0	-0.9	
DAG				IAmb		IAmb	11 54 31.7		
	comp=Z,4.4nm,0.6s								
NC405	NORSAR Array S	85.23	332	P		P	11 54 32.9	-0.3	
NC303	NORSAR Array S	85.34	333	P		P	11 54 33.8	0.0	
NB2	NORSAR Subarra	85.48	332	P		P	11 54 33.5	-1.0	
	baz=68,slow=4.8								
NOA	NORSAR Array B	85.48	332	P		P	11 54 33.8	-0.7	
	comp=Z,3.7nm,0.6s,baz=68,slow=4.8,SNR=31								
NC204	NORSAR Array S	85.59	333	P		P	11 54 34.9	-0.2	
MORC	Moravsky Berou	86.14	321	*e*P		P	11 54 38.1	0.0	
JAVC	Velka Javorina	86.36	320	*e*P		P	11 54 40.8	+1.6	
MOL	Molde	86.42	335	*e*P		P	11 54 39.0	0.0	
VRAC	Vranov	86.88	320	*e*P		P	11 54 42.3	+0.6	
KRUC	Moravsky	87.09	320	*e*P		P	11 54 42.4	-0.2	
JMIC	Jan Mayen	87.13	345	LR		LR	12 37 13.2		
	comp=Z,21nm,19.0s,baz=60,slow=38								
NEEM	North Greenlan	87.43	358	⇑*i*P		P	11 54 44.6	+0.5	
NEEM				IAmb		IAmb	11 54 45.5		
	comp=Z,8.3nm,0.8s								
CLL	Collm	88.32	323	*e*sP		sP	11 55 02.0	-4.6	
KHC	Kasperske Hory	88.79	321	*e*P		P	11 54 56.0	+5.2	
GERES	GERESS Array B	88.83	321	P		P	11 54 51.1	0.0	
	comp=Z,0.6nm,0.8s,baz=59,slow=3.4,SNR=6.1								
GRF	Grafenberg Arr	90.00	322	*e*P		P	11 54 57.0	+0.5	
	comp=Z,4.4nm,0.9s,baz=69,slow=4.5								
YKA	Yellowknife Ar	91.87	22	P		P	11 55 05.3	+0.5	
	comp=Z,3.9nm,0.8s,baz=312,slow=4.0,SNR=21								
VNDA	Vanda	95.62	172	P		P	11 55 22.1	+0.5	
	comp=Z,2.7nm,0.8s,baz=308,slow=6.0,SNR=18								
VNDA				LR		LR	12 39 32.6		
	comp=Z,24nm,20.1s,baz=326,slow=36								
VNDA	Vanda	95.62	172	P		P	11 55 21.7	+0.1	
VNDA				IAmb		IAmb	11 55 22.9		
	comp=Z,4.0nm,0.9s								
TXAR	Lajitas Array	119.21	43	PKP		PKiKP	12 00 47.2	+0.6	
	comp=Z,0.7nm,0.5s,baz=206,slow=1.4,SNR=16								
PLCA	Paso Flores	153.02	163	PKPbc		PKiKP	12 01 55.9	+1.2	
	comp=Z,5.3nm,0.7s,baz=206,slow=2.7,SNR=13								
PLCA	Paso Flores	153.02	163	PKPdf		PKPdf	12 01 45.2	-2.0	
PLCA						PKPbc	12 01 52.6	-1.9	
PLCA				PKPab		sPKPdf	12 02 04.6	-1.2	

TUL ***20*** *11:59:21.4±1.4,36.288N±0.004×96.86W±0.03, h5km±7km, ML3.3, mb_Lg2.8/70(NEIC), Error ellipse: s-maj=3.1km s-min=0.5km az=82.0*
ANF ***20*** *11:59:21.6±0.3,36.28N×96.85W, h5km, ML3.5/11, Error ellipse: s-maj=3.1km s-min=2.6km az=118.0*
NEIC ***20*** *11:59:21.6±1.2,36.30N±0.01×96.88W±0.03, h8km±7km, Error ellipse: s-maj=3.2km s-min=1.9km az=79.0*

ISC 20 11:59:21.5±1.1, 36.30N±0.02×96.87W±0.02, h4km±11km, n103, σ0.9 s78/113, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time (h m s)	Res ISC
QUOK	Quay	0.18	134				Pg	11 59 25.3	+0.2
QUOK						Sg	Sg	11 59 27.8	+0.4
OK031	S. Brethren Rd	0.34	176				Pg	11 59 28.3	+0.2
OK031						Sg	Sg	11 59 32.9	+0.2
OK030	Cody Creek RV	0.38	169				Pg	11 59 28.8	+0.1
OK030						Sg	Sg	11 59 33.9	+0.3
BLOK	Blackwell	0.54	329			Pg	Pg	11 59 32.1	+0.2
BLOK						Sg	Sg	11 59 39.3	+0.3
T35A	Sooner Cattle	0.68	25				Pg	11 59 34.6	-0.1
T35A						Sg	Sg	11 59 43.6	+0.1
T35B	Sooner Cattle	0.68	25	P			Pg	11 59 34.5	-0.1
	baz=204,SNR=210								
T35B				S			Sg	11 59 43.6	+0.1
	baz=204								
T35B	Sooner Cattle	0.68	25	P				11 59 34.5	
	baz=204,SNR=210								
T35B				S				11 59 43.6	
	baz=204								
OK029	Liberty Lake	0.69	224	Pg		Pg	Pg	11 59 34.7	-0.1
OK029				Sg		Sg	Sg	11 59 43.9	+0.2
OK005	Luther M Schoo	0.69	202	Pg		Pg	Pg	11 59 34.7	-0.1
OK005				Sg		Sg	Sg	11 59 44.2	+0.4
OK001	Jones High Sch	0.81	205	Pg		Pg	Pg	11 59 36.5	-0.5
OK001				Sg		Sg	Sg	11 59 47.8	+0.3
OK025	Westminster Rd	0.81	208				Pg	11 59 36.6	-0.4
OK025				Sg			Sg	11 59 48.0	+0.4
OK009	Oakdale Elemen	0.84	212	Pg			Pg	11 59 37.2	-0.5
OK009				Sg			Sg	11 59 49.2	+0.6
KAN13	South Haven SW	0.87	326				Pg	11 59 38.0	-0.1
KAN13				Sg			Sg	11 59 49.6	+0.2
BCOK	Bluff Creek, N	0.88	223				Pg	11 59 38.1	-0.2
BCOK				Sg			Sg	11 59 49.8	+0.1
CROK	Carrier	0.92	283				Pg	11 59 39.1	-0.1
CROK				Sg			Sg	11 59 50.7	-0.5
TUL1	Leonard	0.95	114	P			Pg	11 59 39.1	-0.7
	baz=294,SNR=363								
TUL1				S			Sg	11 59 51.5	-0.7
	baz=294								
TUL1	Leonard	0.95	114	P				11 59 39.1	
	baz=294,SNR=363								
TUL1				S				11 59 51.5	
	baz=294								
GC02	Grant County #	0.97	305				Pg	11 59 39.9	-0.3
GC02						Sg	Sg	11 59 52.8	+0.1
OKCFA	Oklahoma City	1.00	208	Pg			Pg	11 59 39.9	-0.8
OKCFA				Sg			Sg	11 59 53.8	+0.2
OKCFA	Oklahoma City	1.00	208	P			Pg	11 59 39.9	-0.8
	baz=28,SNR=17								
OKCFA				S			Sg	11 59 53.9	+0.3
	baz=28								
OKCFA	Oklahoma City	1.00	208	P				11 59 39.9	
	baz=28,SNR=17								
OKCFA				S				11 59 53.9	
	baz=28								
OKCSW	OKLAHOMA CITY	1.00	208				Pg	11 59 40.0	-0.8
OKCSW						Sg	Sg	11 59 53.7	0.0
KAN09	Caldwell North	1.03	325	Pg			Pg	11 59 41.2	-0.1
KAN09				Sg			Sg	11 59 54.6	-0.1
KAN17	Caldwell West	1.04	316	Pg			Pg	11 59 41.3	-0.1
KAN17				Sg			Sg	11 59 54.8	0.0
KS20	Mayfield South	1.08	330				Pg	11 59 42.1	-0.2
KS20				Sg			Sg	11 59 56.1	-0.2
KAN14	Manchester OK	1.10	307				Pg	11 59 42.5	-0.1
KAN14				Sg			Sg	11 59 56.9	+0.1
FNO	Franklin	1.12	203				Pg	11 59 41.9	-1.1
FNO				Sg			Sg	11 59 57.4	-0.3
KAN05	Bluff City Nor	1.14	315				Pg	11 59 43.1	-0.3
KAN05				Sg			Sg	11 59 58.1	-0.2
OK032	Salt Plains WL	1.19	296				Pg	11 59 43.9	-0.5
OK032				Sg			Sg	11 59 59.5	-0.3
KAN08	Anthony NE Sta	1.28	317				Pn	11 59 45.2	-1.0
KAN10	Anthony SW Sta	1.28	310				Pn	11 59 45.1	-1.2
KAN16	Harper SW Stat	1.33	314	Pn			Pn	11 59 45.2	-1.7
U32A	Winter Ranch,	1.72	273	Pn			Pn	11 59 52.6	+0.3
U32A	Winter Ranch,	1.72	273	P			Pn	11 59 53.0	+0.7
	baz=92								
U32A	Winter Ranch,	1.72	273	P				11 59 53.0	
	baz=92								
X34A	Smith Ranch, M	1.87	205	Pn			Pn	11 59 54.3	0.0
U38A	Gravette	2.01	85	Pn			Pn	11 59 56.7	+0.5
U38A	Gravette	2.01	85	P			Pn	11 59 56.9	+0.7
	baz=266,SNR=81								
U38A	Gravette	2.01	85	P				11 59 56.9	
	baz=266,SNR=81								
X37A	Clayton	2.10	144				Pn	11 59 56.9	-0.5
X37A	Clayton	2.10	144	P			Pn	11 59 57.6	+0.2
	baz=325,SNR=24								
X37A	Clayton	2.10	144	P				11 59 57.6	
	baz=325,SNR=24								
WMOK	Wichita Mounta	2.20	226				Pn	11 59 58.2	-0.6
WMOK	Wichita Mounta	2.20	226	P			Pn	11 59 59.6	+0.8
	baz=45								
WMOK	Wichita Mounta	2.20	226	P				11 59 59.6	
	baz=45								
LOOK	Love County	2.31	186	Pn			Pn	11 59 59.7	-0.7
HHAR	Hobbs	2.37	89				Pn	12 00 01.6	+0.5
R32A	Long Quarter,	2.58	326	Pn			Pn	12 00 04.4	+0.3
R32A				lAmb_Lg				12 00 45.5	
	comp=Z,27nm,0.8s								
R32A	Long Quarter,	2.58	326	S			Sn	12 00 36.9	+1.0
	baz=145								
R32A	Long Quarter,	2.58	326	S				12 00 36.9	
	baz=145								
W39A	Magazine	2.74	113	Pn			Pn	12 00 06.3	+0.1
Z35A	Perchaven, San	2.98	186	Pn			Pn	12 00 09.7	+0.2
S39A	Bolivar	3.16	63	Pn			Pn	12 00 13.2	+1.2
MIAR	Mount Ida	3.21	122				Pn	12 00 12.5	-0.1
MIAR	Mount Ida	3.21	122	P			Pn	12 00 12.8	+0.2
	baz=304,SNR=13								
MIAR	Mount Ida	3.21	122	P				12 00 12.8	
	baz=304,SNR=13								
U40A	Yellville	3.24	88	Pn			Pn	12 00 13.4	+0.3
U40A	Yellville	3.24	88	P			Pn	12 00 13.3	+0.1
	baz=270,SNR=14								
U40A	Yellville	3.24	88	P				12 00 13.3	
	baz=270,SNR=14								
U40A				P				12 00 13.3	
	baz=270,SNR=14								
CBKS	Cedar Bluff	3.39	319	Pn			Pn	12 00 15.6	+0.4
CBKS				lAmb_Lg				12 01 18.4	
	comp=Z,26nm,0.8s								
Z38A	Mt. Pleasant	3.40	152	Pn			Pn	12 00 14.1	-1.3
X40A	Basin Creek Fa	3.76	118	Pn			Pn	12 00 20.9	+0.6
X40A				lAmb_Lg				12 01 20.5	
	comp=Z,16nm,0.7s								
X40A	Basin Creek Fa	3.76	118	P			Pn	12 00 20.8	+0.6
	baz=300,SNR=6.0								
X40A	Basin Creek Fa	3.76	118	P				12 00 20.8	
	baz=300,SNR=6.0								
X40A				P				12 00 20.8	
	baz=300,SNR=6.0								
MGMO	Mountain Grove	3.79	76	Pn			Pn	12 00 21.0	+0.3
MGMO				lAmb_Lg				12 01 27.6	
	comp=Z,21nm,0.8s								
WHAR	Wooly Hollow	3.86	104	Pn			Pn	12 00 21.9	+0.3
FCAR	Ozark Folk Cen	3.87	95	Pn			Pn	12 00 21.7	0.0
WLAR	White Oak Lake	4.04	129	lAmb_Lg				12 01 34.8	
	comp=Z,15nm,0.7s								
AMTX	Amarillo	4.17	252	Pn			Pn	12 00 24.7	-1.2
AMTX				lAmb_Lg				12 01 40.1	
	comp=Z,13nm,0.8s								
R40A	Maddies Statio	4.17	60	Pn			Pn	12 00 25.8	-0.2
R40A				lAmb_Lg				12 01 31.5	
	comp=Z,21nm,0.8s								
R40A	Maddies Statio	4.17	60	P			Pn	12 00 26.1	+0.2
	baz=243,SNR=12								
R40A	Maddies Statio	4.17	60	P				12 00 26.1	
	baz=243,SNR=12								
P38A	Dawn	4.24	37	Pn			Pn	12 00 26.4	-0.5
P38A				lAmb_Lg				12 01 37.1	
	comp=Z,14nm,0.8s								
ABTX	Abilene, Hawle	4.32	213	Pn			Pn	12 00 27.4	-0.6
WHTX	Lake Whitney,	4.32	187	Pn			Pn	12 00 26.3	-1.7
237A	Washetta, Mont	4.37	168	Pn			Pn	12 00 27.0	-1.7
LCAR	Lake Charles	4.63	91	Pn			Pn	12 00 32.8	+0.6
N35A	Tabor	4.66	12	Pn			Pn	12 00 30.9	-1.7
N35A				lAmb_Lg				12 01 58.8	
	comp=Z,19nm,0.8s								
T42A	Van Buren	4.70	79	Pn			Pn	12 00 33.5	+0.3
T42A				lAmb_Lg				12 01 57.9	
	comp=Z,19nm,0.8s								
CCM	Cathedral Cave	4.82	67	Pn			Pn	12 00 36.0	+1.2
CCM				lAmb_Lg				12 01 52.0	
	comp=Z,24nm,0.9s								
NATX	Nacogdoches	4.88	157	Pn			Pn	12 00 35.2	-0.4
P40A	Paris	5.00	48	Pn			Pn	12 00 38.6	+1.4
P40A				lAmb_Lg				12 01 59.5	
	comp=Z,18nm,0.

1.4nm,0.3s,baz=152,slow=22,SNR=1.9
DZM Mont Dzumac 21.77 143 P **P** **12 25 20.4 -0.3**
2.4nm,0.6s,baz=275,slow=11,SNR=6.9
WRA Warramunga Arr 23.17 228 P **P** **12 25 36.2 +0.9**
0.7nm,0.6s,baz=53,slow=9.7,SNR=8.1
ASAR Alice Springs 25.89 222 P **P** **12 26 03.2 +2.9**
0.4nm,0.8s,baz=58,slow=9.3,SNR=2.8
FITZ Fitzroy Crossi 29.36 241 P **P** **12 26 31.6 +0.2**
2.5nm,0.9s,baz=71,slow=14,SNR=8.4
ILAR Eielson Array 82.34 22 P **P** **12 32 48.8 -0.1**
0.3nm,0.5s,baz=248,slow=4.8,SNR=5.1

IDC ***20*** *12:22:32.6±1.5,28°.51N×82°.72E,h0km,mb3.7/6, mb1 3.7/7,mb1mx3.3/61,mbtmp3.6/7,ML3.6/1,MS3.3/1, Ms1 3.3/1,ms1mx2.7/25,Error ellipse: s-maj=70.1km s-min=20.1km az=62.0*

ISC 20 12:22:34.2±1.6,28°.5N±0°.2×82°.7E±0°.4,h10km,n8,σ0s40/7, mb3.7/6,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.24**	**359**	P	**Pn**	**12 26 47.3**	**-0.1**
	0.2nm,0.3s,baz=179,slow=11,SNR=8.5						
KURBB	**Kurchatov Arra**	**22.29**	**353**	P	**P**	**12 27 31.1**	**-0.5**
	0.6nm,0.3s,baz=177,slow=9.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**25.44**	**3**	P	**P**	**12 28 02.6**	**+0.6**
	1.3nm,0.5s,baz=197,slow=9.3,SNR=5.8						
MLR	**Muntele Rosu**	**47.39**	**307**	LR	LR	12 55 32.5	
	comp=Z,32nm,18.8s,baz=40,slow=42						
FINES	**FINESS Array B**	**49.52**	**328**	P	**P**	**12 31 24.6**	**0.0**
	0.8nm,0.9s,baz=106,slow=10,SNR=3.9						
HFS	**Hagfors**	**55.31**	**325**	P	**P**	**12 32 07.9**	**+0.2**
	0.7nm,0.6s,baz=92,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**69.35**	**128**	P	**P**	**12 33 42.1**	**-0.2**
	0.3nm,0.6s,baz=321,slow=6.4,SNR=6.6						
ASAR	**Alice Springs**	**71.58**	**131**	P	**P**	**12 33 56.0**	**0.0**
	0.2nm,0.4s,baz=316,slow=6.1,SNR=7.4						

BJI ***20*** *12:23:02.8±0.0,28°.52N×82°.76E,h4km,mB4.6/39, mb4.7/63,Ms4.2/44,Ms7 3.9/42*

IDC ***20*** *12:23:03.8±0.5,28°.49N×82°.72E,h0km,mb4.3/37, mb1 4.4/40,mb1mx4.3/64,mbtmp4.3/40,ML4.2/3,MS3.5/1, Ms1 3.5/1,ms1mx2.8/23,Error ellipse: s-maj=13.6km s-min=10.7km az=28.0*

MOS ***20*** *12:23:03.5±1.1,28°.53N×82°.66E,h10km,mb4.8/40,Error ellipse: s-maj=6.7km s-min=4.1km az=113.5*

NEIC ***20*** *12:23:05.6±1.2,28°.55N±0°.09×82°.63E±0°.08,h10km±1km, mb4.7/97,Error ellipse: s-maj=16.3km s-min=9.6km az=208.0*

NDI ***20*** *12:23:07.1±3.6,28°.48N×82°.73E,h10km,ML4.5, mb4.7(NEIC)*

ISC 20 12:23:05.0±0.3,28°.50N±0°.04×82°.72E±0°.03,h10km,n366, σ1s88/392,mb4.6/118,MS3.8/13,32C-20D,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**4.46**	**295**	*e*S	**Sn**	**12 25 04.2**	**-0.4**
NDI	**New Delhi**	**4.84**	**273**	*e*P	**Pn**	**12 24 22.0**	**+4.0**
NDI				*e*S	**Sn**	**12 25 16.0**	**+1.9**
GTK	**Tadong**	**5.33**	**101**	*e*P	**Pn**	**12 24 27.6**	**+2.7**
GTK				*e*S	**Sn**	**12 25 26.0**	**-0.5**
GTK				IAML		12 25 29.2	
	comp=E,1μm,0.5s						
BOK	**Bokaro**	**5.48**	**148**	*e*P	**Pn**	**12 24 29.2**	**+2.4**
BOK				*e*S	**Sn**	**12 25 27.7**	**-2.2**
BOK				IAML		12 26 00.1	
	comp=E,687nm,0.4s						
SMLA	**Simla**	**5.49**	**300**	*e*P	**Pn**	**12 24 28.2**	**+1.4**
DHRM	**DHARAMSHALA**	**6.69**	**306**	*e*P	**Pn**	**12 24 43.7**	**+0.2**
BHPL	**Bhopal**	**7.08**	**224**	*e*P	**Pn**	**12 24 47.8**	**-1.0**
BHPL				*e*S	**Sn**	**12 26 05.7**	**-3.8**
BHPL				IAML		12 26 15.2	
	comp=E,141nm,0.4s						
BHPL				IAML		12 26 46.3	
	comp=N,282nm,0.5s						
AJM	**Ajmer**	**7.45**	**256**	*e*P	**Pn**	**12 24 56.0**	**+2.2**
AJM				*i* S	**Sn**	**12 26 16.0**	**-2.5**
LSA	**Lhasa**	**7.47**	**79**	Pn	**Pn**	**12 24 55.9**	**+1.4**
LSA				L	L		
	comp=N,260nm,5.7s						
LSA				L	L		
	comp=N,500nm,7.8s						
LSA				L	L		
	comp=N,510nm,6.1s						
LSA	**Lhasa**	**7.47**	**79**	P	**Pn**	**12 24 56.3**	**+1.8**
LSA	**Lhasa**	**7.47**	**79**	Pn	**Pn**	**12 24 56.3**	**+1.8**
SHL	**Shillong**	**8.68**	**108**	P	**Pn**	**12 25 10.4**	**-0.4**
SHL	**Shillong**	**8.68**	**108**	*e*P	**Pn**	**12 25 08.9**	**-1.9**
SHL				*e*P	**Pn**	**12 25 11.0**	**+0.2**
SHL				*e*S	**Sn**	**12 26 41.9**	**-6.9**
SHL				*e*S	**Sn**	**12 26 44.0**	**-4.8**
SHL				IAML		12 26 46.3	
	comp=N,342nm,0.4s						
SHL	**Shillong**	**8.68**	**108**	Pn	**Pn**	**12 25 10.4**	**-0.4**
CHCP	**Chirah Chowk**	**9.60**	**305**	P	**Pn**	**12 25 25.0**	**+1.7**
NIL	**Nilore**	**9.60**	**305**	P	**Pn**	**12 25 22.2**	**-1.1**
NIL	**Nilore**	**9.60**	**305**		**Pn**	**12 25 22.2**	**-1.1**
THW	**Thamme Wali**	**10.38**	**297**	P	**Pn**	**12 25 34.3**	**+0.4**
KOHI	**KOHIMA**	**10.52**	**103**	*e*P	**Pn**	**12 25 35.5**	**-0.4**
KOHI				*e*S	**Sn**	**12 27 28.3**	**-5.7**
KOHI				IAML		12 27 41.8	
	comp=E,302nm,0.6s						
CEP	**Cherat**	**10.67**	**302**	P	**Pn**	**12 25 38.3**	**+0.3**
MOKO	**MOKOCHONG**	**10.70**	**99**	*e*P	**Pn**	**12 25 38.1**	**-0.4**
MOKO				*e*S	**Sn**	**12 27 32.5**	**-6.0**
MOKO				IAML		12 27 35.5	
	comp=N,277nm,0.6s						
HYB	**Hyderabad**	**11.68**	**200**	*i* P	**Pn**	**12 25 51.0**	**-0.8**
HYB				*e*S	**Sn**	**12 27 56.0**	**-6.4**
KSH	**Kashi**	**12.32**	**335**	P	**Pn**	**12 25 56.8**	**-3.8**
KSH				S	**Sn**	**12 28 16.9**	**-1.2**
KSH				pmax	pmax		
	comp=N,4.0nm,0.6s						
KSH				pmax	pmax		
	comp=N,89nm,3.4s						
KSH				L	L		
	comp=N,2μm,15.6s						
KSH				L	L		
	comp=N,1μm,17.5s						
KSH				L	L		
	comp=N,100nm,8.1s						
POO	**Poona**	**12.83**	**221**	*e*P	**Pn**	**12 26 07.0**	**-0.6**
	comp=N,20nm,1.0s						
POO				*i* S	Sn	12 28 20.0	-11
KBL	**Kabul**	**13.12**	**301**	P	**Pn**	**12 26 08.4**	**-3.3**
KBL	**Kabul**	**13.12**	**301**		**Pn**	**12 26 08.4**	**-3.3**
TARG	**Taragay, Kyrgy**	**13.79**	**344**		**Pn**	**12 26 19.4**	**-1.5**
DRK	**Karamyk**	**14.20**	**323**	Pn	**Pn**	**12 26 25.2**	**-1.2**
KDJ	**Kajisay**	**14.32**	**343**	P	**Pn**	**12 26 25.7**	**-2.3**
KDJ	**Kajisay**	**14.32**	**343**	Pn	**Pn**	**12 26 25.7**	**-2.3**
GAR	**Garm**	**14.69**	**319**	Pn	**Pn**	**12 26 30.6**	**-2.3**
BOOM	**Boomskoye usch**	**15.00**	**340**	P	**Pn**	**12 26 35.9**	**-1.3**
BOOM	**Boomskoye usch**	**15.00**	**340**	Pn	**Pn**	**12 26 35.9**	**-1.3**
ARSB	**Arslanbob**	**15.07**	**331**	P	**Pn**	**12 26 36.0**	**-2.1**
ARSB	**Arslanbob**	**15.07**	**331**	Pn	**Pn**	**12 26 36.0**	**-2.1**
BTK	**Batken**	**15.14**	**323**	P	**Pn**	**12 26 36.4**	**-2.6**
BTK				pmax	pmax		
	comp=Z,35nm,1.1s						
BTK	**Batken**	**15.14**	**323**		**Pn**	**12 26 36.4**	**-2.6**
BTK				IAmb	IAmb	12 26 48.2	
	comp=Z,35nm,1.1s						
CHGR	**Chuyangaron**	**15.16**	**315**		**Pn**	**12 26 36.5**	**-2.8**
TKM2	**Tokmak 2**	**15.50**	**340**	*i* P	**Pn**	**12 26 41.4**	**-2.4**
TKM2				pmax	pmax		
	comp=Z,32nm,1.5s						
AAK	**Ala-Archa**	**15.60**	**337**	Pn	**Pn**	**12 26 44.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=175,slow=14,SNR=4.2						
AAK	**Ala-Archa**	**15.60**	**337**	*ce*P	**Pn**	**12 26 44.1**	**-0.9**
AAK				pmax	pmax		
	comp=Z,22nm,1.3s						
AAK	**Ala-Archa**	**15.60**	**337**	Pn	**Pn**	**12 26 43.9**	**-1.2**
WMQ	**Urumqi**	**15.80**	**13**	*e*P	**P**	**12 26 51.3**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,58nm,3.6s						
WMQ				L	L		
	comp=Z,1μm,11.1s						
WMQ				L	L		
	comp=Z,160nm,12.5s						
WMQ				L	L		
	comp=Z,840nm,13.9s						
KK31	**Karatay Array**	**17.59**	**329**	P	**Pn**	**12 27 07.4**	**-2.8**
KK31				pmax	pmax		
	comp=Z,28nm,1.4s						
KK31	**Karatay Array**	**17.59**	**329**		**Pn**	**12 27 07.3**	**-2.8**
KKAR	**Karatay Array**	**17.59**	**329**	P	**Pn**	**12 27 08.2**	**-2.0**
KKAR	**Karatay Array**	**17.59**	**329**	Pn	**Pn**	**12 27 08.2**	**-2.0**
KKAR	**Karatay Array**	**17.59**	**329**		**Pn**	**12 27 08.6**	**-1.6**
KKAR				IAmb	IAmb	12 27 14.2	
	comp=Z,28nm,1.4s						
CM33	**Chiang Mai Arr**	**17.70**	**119**	P	P	12 27 27.0	+14
CHTO	**Chiang Mai**	**17.70**	**119**	P	**Pn**	**12 27 11.5**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,16nm,1.4s						
CHTO	**Chiang Mai**	**17.70**	**119**	P	P	12 27 20.1	+7.5
	comp=Z,111μmcomp=Z,2μmcomp=Z,7.8nm,1.3s						
CHTO	**Chiang Mai**	**17.70**	**119**	Pn	**Pn**	**12 27 11.5**	**-0.2**
CHTO	**Chiang Mai**	**17.70**	**119**	P	**Pn**	**12 27 11.9**	**+0.2**
	comp=Z,50μmcomp=Z,941nmcomp=Z,4.5nm,1.2s						
CMMT	**Chiang Mai**	**17.70**	**119**	P	**P**	**12 27 19.1**	**+6.5**
	comp=Z,7.5nm,1.2s						
CMMT	**Chiang Mai**	**17.70**	**119**	P	**P**	**12 27 19.1**	**+6.5**
	comp=Z,7.5nm,1.2s						
CM32	**Chiang Mai Arr**	**17.72**	**120**	P	**P**	**12 27 16.0**	**+3.2**
CM34	**Chiang Mai Arr**	**17.83**	**119**	P	**P**	**12 27 20.0**	**+5.9**
GTA	**Gaotai**	**17.84**	**48**	*e*P	**Pn**	**12 27 11.3**	**-2.2**
GTA				pP	P	12 27 15.3	+1.1
GTA				sP	pP	12 27 18.1	+0.3
GTA				S	**Sn**	**12 30 28.3**	**-4.2**
GTA				sS	S	12 30 37.0	-2.3
GTA				pmax	pmax		
	comp=Z,68nm,5.1s						
GTA				L	L		
	comp=Z,230nm,13.1s						
GTA				L	L		
	comp=Z,470nm,12.7s						
GTA				L	L		
	comp=Z,510nm,13.8s						
CM15	**Chiang Mai Arr**	**17.90**	**120**	P	P	12 27 23.2	+8.4
	comp=Z,133nmcomp=Z,11nm,0.9s						
CM15	**Chiang Mai Arr**	**17.90**	**120**	P	P	12 27 23.2	+8.4
	comp=Z,133nmcomp=Z,11nm,0.9s						
CM13	**Chiang Mai Arr**	**17.90**	**121**	P	**P**	**12 27 19.2**	**+4.4**
	comp=Z,8.0nm,0.8s						
CM13	**Chiang Mai Arr**	**17.90**	**121**	P	**P**	**12 27 19.0**	**+4.2**
	comp=Z,8.0nm,0.8s						
CM31	**Chiang Mai Arr**	**17.91**	**120**	P	P	12 27 23.0	+8.1
	comp=Z,350nm,0.8s						
CM31	**Chiang Mai Arr**	**17.91**	**120**	P	**Pn**	**12 27 14.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.91**	**120**	P	**Pn**	**12 27 14.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=309,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**17.91**	**120**	P	**Pn**	**12 27 15.5**	**+1.2**
CM02	**Chiang Mai Arr**	**17.92**	**120**	P	**P**	**12 27 21.4**	**+6.3**
	comp=Z,127nmcomp=Z,18nm,0.9s						
CM02	**Chiang Mai Arr**	**17.92**	**120**	P	**P**	**12 27 21.0**	**+5.9**
	comp=Z,127nmcomp=Z,18nm,0.9s						
CM35	**Chiang Mai Arr**	**17.94**	**119**	P	**P**	**12 27 20.0**	**+4.8**
CM01	**Chiang Mai Arr**	**17.94**	**120**	P	P	12 27 24.9	+10
CM01	**Chiang Mai Arr**	**17.94**	**120**	P	P	12 27 24.9	+10
	comp=Z,12nm,0.8s						
CM05	**Chiang Mai Arr**	**17.94**	**121**	P	P	12 27 24.7	+9.4
CM05	**Chiang Mai Arr**	**17.94**	**121**	P	P	12 27 24.8	+10
	comp=Z,8.1nm,0.8s						
CM09	**Chiang Mai Arr**	**17.95**	**120**	P	**P**	**12 27 20.5**	**+5.1**
	comp=Z,125nmcomp=Z,14nm,0.8s						
CM09	**Chiang Mai Arr**	**17.95**	**120**	P	**P**	**12 27 20.0**	**+4.6**
	comp=Z,125nmcomp=Z,14nm,0.8s						
CM04	**Chiang Mai Arr**	**17.97**	**121**	P	**P**	**12 27 21.8**	**+6.2**
	comp=Z,123nmcomp=Z,14nm,0.9s						
CM04	**Chiang Mai Arr**	**17.97**	**121**	P	**P**	**12 27 21.0**	**+5.4**
	comp=Z,123nmcomp=Z,14nm,0.9s						
CM36	**Chiang Mai Arr**	**17.99**	**120**	P	**P**	**12 27 18.0**	**+2.2**
PAYA	**Payao**	**18.11**	**116**	P	**P**	**12 27 19.3**	**+2.2**
	comp=Z,14μmcomp=Z,212nm,0.7s						
PAYA	**Payao**	**18.11**	**116**	P	**P**	**12 27 19.0**	**+1.9**
	comp=Z,4μmcomp=Z,53nm,0.7s						
KMI	**Kunming**	**18.18**	**96**	⇓P	**P**	**12 27 19.8**	**+1.7**
KMI				pmax	pmax		
	comp=Z,16nm,0.8s						
KMI				L	L		
	comp=Z,280nm,14.9s						
KMI				L	L		
	comp=Z,110nm,16.1s						
KMI				L	L		
	comp=Z,240nm,12.6s						
MK31	**Makanchi Array**	**18.26**	**359**	*d* iP	**P**	**12 27 19.3**	**+0.6**
MK31	**Makanchi Array**	**18.26**	**359**		**Pn**	**12 27 16.3**	**-2.1**
MKAR	**Makanchi Array**	**18.26**	**359**	P	**P**	**12 27 18.8**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=175,slow=11,SNR=43						
MKAR	**Makanchi Array**	**18.26**	**359**	*ce*P	**P**	**12 27 18.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**18.26**	**359**	P	**Pn**	**12 27 16.9**	**-1.6**
MAKZ	**Makanchi**	**18.28**	**358**	P	**Pn**	**12 27 16.7**	**-2.0**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.2s						
MAKZ	**Makanchi**	**18.28**	**358**	P	**Pn**	**12 27 16.7**	**-2.0**
HRA	**Herat**	**18.42**	**294**	P	**P**	**12 27 20.6**	**-0.1**
CD2	**Chengdu**	**18.43**	**77**	P	**P**	**12 27 19.0**	**-1.6**
CD2				S	**Sn**	**12 30 47.6**	**+0.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,110nm,3.9s						
CD2				L	L		
	comp=Z,750nm,14.3s						
CD2				L	L		
	comp=Z,490nm,9.2s						
CD2				L	L		
	comp=Z,460nm,9.2s						
LZH	**Lanzhou**	**19.37**	**62**	*e*P	**Pn**	**12 27 34.8**	**+2.7**
LZH				pP	sP	12 27 37.9	+1.6
LZH				sP	pP	12 27 42.9	+8.3
LZH				S	**Sn**	**12 31 09.1**	**-0.4**
LZH				sS	sS	12 31 16.3	+0.5
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,74nm,4.9s						
LZH				L	L		
	comp=Z,320nm,14.1s						
LZH				L	L		
	comp=Z,500nm,14.1s						
LZH				L	L		
	comp=Z,360nm,14.1s						
UTTA	**Uttaradit**	**19.56**	**119**	P	Pn	12 27 48.4	+14
PHIT	**Phitsanulok**	**19.79**	**121**	P	**Pn**	**12 27 38.6**	**+1.6**
	comp=Z,64nm,0.9s						
PHIT	**Phitsanulok**	**19.79**	**121**	P	**Pn**	**12 27 38.7**	**+1.6**
	comp=Z,16nm,0.9s						
UTHA	**Uthaitani**	**20.12**	**126**	P	Pn	12 27 47.4	+6.4
	comp=Z,6.8nm,0.8s						
SLVN	**Son La**	**20.48**	**106**	P	**P**	**12 27 44.0**	**+0.9**
PALK	**Pallekele**	**21.20**	**186**	P	**P**	**12 27 51.8**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=292,slow=5.4,SNR=1.9						
PALK				LR	LR	12 35 33.5	
	comp=Z,127nm,21.0s,baz=120,slow=35						
PALK	**Pallekele**	**21.20**	**186**	P	**P**	**12 27 50.6**	**-0.3**
PALK				pmax	pmax		
	comp=Z,44nm,1.3s						
PALK	**Pallekele**	**21.20**	**186**	P	**P**	**12 27 50.6**	**-0.3**
PALK				IAmb	IAmb	12 28 05.6	
	comp=Z,44nm,1.3s						
GYA	**Guiyang**	**21.33**	**90**	⇑P	**P**	**12 27 53.0**	**+0.6**
GYA				S	**S**	**12 31 44.5**	**-5.0**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NONG	**Nongkai**	**21.41**	**115**	P	**P**	**12 27 58.5**	**+5.3**
	comp=Z,24nm,1.0s						
NONG	**Nongkai**	**21.41**	**115**	P	**P**	**12 27 58.0**	**+4.8**
	comp=Z,23nm,1.0s						
DGZ	**Jazzator, Alta**	**21.47**	**8**	*c* iP	**P**	**12 27 54.6**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,31nm,1.1s						
CHAI	**Chaiyaphum**	**21.76**	**121**	P	**P**	**12 27 59.7**	**+2.8**
	comp=Z,387nmcomp=Z,49nm,0.9s						
CHAI	**Chaiyaphum**	**21.76**	**121**	P	**P**	**12 27 59.7**	**+2.8**
	comp=Z,96nmcomp=Z,12nm,0.9s						
WSAR	**Wadi Sarin**	**22.29**	**262**	P	**P**	**12 28 03.4**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=279,slow=7.6,SNR=1.7						
KURBB	**Kurchatov Arra**	**22.32**	**353**	P	**P**	**12 28 02.0**	**-0.6**
	comp=Z,16nm,0.9s,baz=176,slow=10.0,SNR=53						
KURBB	**Kurchatov Arra**	**22.32**	**353**	P	**P**	**12 28 01.5**	**-1.1**
KURBB				pmax	pmax		
	comp=Z,31nm,1.2s						
KURK	**Kurchatov**	**22.40**	**353**	P	**P**	**12 28 02.1**	**-1.4**
GEYT	**Alibeck**	**22.58**	**301**	P	**P**	**12 28 01.9**	**-3.7**
XAN	**Xi'an**	**23.03**	**70**	P	**P**	**12 28 10.0**	**-0.4**
XAN				pP	sP	12 28 19.4	+3.7
XAN				S	**S**	**12 32 13.0**	**-8.3**
XAN				pmax	pmax		
	comp=Z,33nm,0.8s						
XAN				pmax	pmax		
	comp=Z,100nm,4.7s						
XAN				L	L		
	comp=Z,300nm,14.7s						
XAN				L	L		
	comp=Z,380nm,11.4s						
XAN				L	L		
	comp=Z,450nm,11.9s						
ENH	**Enshi**	**23.37**	**79**	P	**P**	**12 28 14.2**	**+0.3**
ENH				IAmb	IAmb	12 28 16.6	
	comp=Z,36nm,0.9s						
BTO	**Baotou**	**25.41**	**54**	*e*P	**P**	**12 28 33.8**	**+1.0**
BTO				S	**S**	**12 32 58.9**	**-0.7**
BTO				pmax	pmax		
	comp=Z,68nm,1.1s						
BTO				L	L		
	comp=Z,870nm,16.5s						
BTO				L	L		
	comp=Z,700nm,12.0s						
BTO				L	L		
	comp=Z,880nm,10.4s						
ZAA0	**Zalesovo Array**	**25.47**	**3**	P	**P**	**12 28 33.1**	**+0.1**
ZALV	**Zalesovo Beam**	**25.47**	**3**	P	**P**	**12 28 34.0**	**+0.9**
	comp=Z,26nm,0.8s,baz=188,slow=9.7,SNR=53						
ZALV	**Zalesovo Beam**	**25.47**	**3**	P	**P**	**12 28 33.6**	**+0.6**
ZALV	**Zalesovo Beam**	**25.47**	**3**	P	**P**	**12 28 33.6**	**+0.6**
BVAR	**Borovoye Array**	**26.14**	**343**	P	**P**	**12 28 39.8**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=202,slow=23,SNR=12						
BRVK	**Borovoye**	**26.20**	**343**	⇓*e*P	**P**	**12 28 40.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**26.20**	**343**	P	**P**	**12 28 40.2**	**+0.5**
HHC	**Hu-ho-hao-te**	**26.60**	**55**	*e*P	**P**	**12 28 45.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.3s						
HHC				L	L		
	comp=Z,240nm,11.6s						
HHC				L	L		
	comp=Z,230nm,12.7s						
HHC				L	L		
	comp=Z,220nm,12.0s						
SONM	**Songino Array**	**26.63**	**37**	P	**P**	**12 28 45.7**	**+1.9**
	comp=Z,10nm,0.9s,baz=228,slow=9.2,SNR=30						
SONM	**Songino Array**	**26.63**	**37**	P	**P**	**12 28 45.5**	**+1.7**
SONM				pmax	pmax		
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**26.63**	**37**	P	**P**	**12 28 45.5**	**+1.7**
SONM				IAmb	IAmb	12 28 47.0	
	comp=Z,14nm,1.1s						
ZAK	**Zakamensk**	**26.84**	**30**	*e*P	**P**	**12 28 46.7**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.00**	**38**	*c i*P	**P**	**12 28 48.6**	**+1.4**
ULN				pmax	pmax		
	comp=Z,27nm,1.3s						
ULN	**Ulaanbaatar**	**27.00**	**38**	P	**P**	**12 28 47.3**	**+0.1**
ULN				IAmb	IAmb	12 28 52.4	
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**	**27.00**	**38**	P	**P**	**12 28 48.3**	**+1.1**
	comp=Z,930nmcomp=Z,78nm,1.1s						
ABKAR	**Akbulak array**	**27.09**	**326**	P	**P**	**12 28 48.5**	**+0.8**
ABKAR	**Akbulak array**	**27.09**	**326**	P	**P**	**12 28 48.4**	**+0.6**
ABKAR				IAmb	IAmb	12 28 50.3	
	comp=Z,15nm,1.3s						
WHN	**Wuhan**	**27.55**	**78**	P	**P**	**12 28 53.8**	**+1.7**
TLY	**Talaya**	**27.95**	**28**	⇓*e*P	**P**	**12 28 56.8**	**+1.3**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.6s						
TLY	**Talaya**	**27.95**	**28**	P	**P**	**12 28 56.3**	**+0.8**
AKTO	**Aktyubinsk**	**28.80**	**326**	P	**P**	**12 29 04.1**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=140,slow=8.2,SNR=6.3						
BJT	**Baijiatuan**	**29.77**	**58**	P	**P**	**12 29 12.0**	**+0.2**
BJT				pmax	pmax		
	comp=Z,12nm,1.1s						
BJT	**Baijiatuan**	**29.77**	**58**	P	**P**	**12 29 12.0**	**+0.2**
BJT				IAmb	IAmb	12 29 14.5	
	comp=Z,12nm,1.1s						
BJI	**Beijing**	**29.78**	**58**	P	**P**	**12 29 13.0**	**+1.2**
BJI				pP	**pP**	**12 29 15.3**	**-0.4**
BJI				sP	**sP**	**12 29 16.3**	**-1.0**
BJI				S	**S**	**12 34 09.6**	**+1.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI				L	L		
	comp=Z,100nm,12.5s						
BJI				L	L		
	comp=Z,200nm,17.9s						
BJI				L	L		
	comp=Z,190nm,16.1s						
GSI	**Gunungsitoli**	**30.54**	**150**	P	**P**	**12 29 19.6**	**+0.8**
GSI	**Gunungsitoli**	**30.54**	**150**	P	**P**	**12 29 21.4**	**+2.6**
	comp=Z,27nm,0.7s						
NJ2	**Nanjing**	**31.31**	**74**	*e*P	**P**	**12 29 26.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KNMB	**Chin-men Tao**	**32.10**	**89**	P	**P**	**12 29 33.1**	**+0.6**
ARU	**Arti**	**32.77**	**335**	P	**P**	**12 29 38.4**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=124,slow=8.3,SNR=5.5						
ARU	**Arti**	**32.77**	**335**	*c i*P	**P**	**12 29 38.5**	**+0.5**
ARU						12 30 44.3	
ARU				S	**S**	**12 34 56.3**	**+1.7**
ARU				SS	**SnSn**	**12 36 47.1**	**-3.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARU				MLR	MLR		
	comp=Z,138nm,14.0s						
ARU	**Arti**	**32.77**	**335**	P	**P**	**12 29 37.5**	**-0.4**
GNI	**Garni**	**33.21**	**301**	⇑*e*P	**P**	**12 29 46.4**	**+4.1**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI	**Garni**	**33.21**	**301**	P	**P**	**12 29 41.1**	**-1.1**
GNI				IAmb	IAmb	12 29 50.6	
	comp=Z,11nm,1.0s						
PDSI	**Padang**	**33.83**	**147**	P	**P**	**12 29 47.2**	**-0

comp=Z,300nm,16.0s
KIRV Kirov 37.84 332⇑ *e*P **P 12 30 20.9 -0.7**
KS19 Wonju Array Si 38.60 65 P **P 12 30 28.3 0.0**
KSAR Wonju Array Be 38.62 65 P **P 12 30 28.7 +0.3**
KSAR Wonju Array Be 38.62 65 P **P 12 30 28.7 +0.3**
KSRS Korea Array 38.65 65 P **P 12 30 28.4 -0.2**
comp=Z,2.0nm,0.7s,baz=267,slow=8.7,SNR=12
KSRS PcP **PcP 12 32 41.4 +0.7**
comp=Z,1.4nm,0.9s,baz=261,slow=2.2,SNR=5.8
KSRS ScP **S 12 36 27.4 +2.2**
comp=Z,0.9nm,0.8s,baz=259,slow=4.3,SNR=5.6
MDJ Mudanjiang 40.36 54 P **P 12 30 43.0 +0.2**
MDJ IAmb IAmb 12 30 44.7
comp=Z,19nm,1.1s
NRIK Noril'sk 40.97 3 P **P 12 30 48.7 +1.2**
comp=Z,24nm,1.0s,baz=170,slow=7.1,SNR=15
NRIK Noril'sk 40.97 3*c* *i*P **P 12 30 48.4 +0.9**
NRIK pmax pmax
comp=Z,33nm,1.1s
NRIK Noril'sk 40.97 3 P **P 12 30 47.3 -0.2**
ZEA Zeya 41.01 39 *e*P **P 12 30 49.7 +1.6**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,200nm,9.0s
ZEA MLR MLR
comp=N,100nm,13.0s
ZEA MLR MLR
comp=Z,200nm,12.0s
MSHR Mys Shultsa 41.29 57⇑ *e*P **P 12 30 51.5 +0.9**
MSHR pmax pmax
comp=Z,27nm,0.8s
BR131 Keskin Array S 41.69 299 P **P 12 30 53.0 -1.1**
BR131 pmax pmax
comp=Z,13nm,1.4s
BR131 Keskin Array S 41.69 299 P **P 12 30 53.0 -1.1**
BRTR Keskin Array B 41.69 299 P **P 12 30 56.0 +1.9**
comp=Z,1.2nm,0.5s,baz=82,slow=11,SNR=5.5
BRTR Keskin Array B 41.69 299 P **P 12 30 53.0 -1.1**
BRTR Keskin Array B 41.69 299 P **P 12 30 53.0 -1.1**
VLA Vladivostok 41.86 56⇓ *e*P **P 12 30 55.8 +0.6**
VLA pmax pmax
comp=Z,25nm,1.0s
USA0B Ussuriysk Arra 42.02 55 P **P 12 30 57.0 +0.4**
USA0B pmax pmax
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 42.02 55 P **P 12 30 57.0 +0.4**
USA0B IAmb IAmb 12 30 58.7
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 42.02 55 P **P 12 30 57.6 +1.1**
comp=Z,7.0nm,0.7s,baz=258,slow=7.1,SNR=18
USRK Ussuriysk Ar. 42.02 55 P **P 12 30 57.2 +0.7**
USRK Ussuriysk Ar. 42.02 55 P **P 12 30 57.2 +0.7**
OBN Obninsk 42.37 322 *e*P **P 12 31 00.6 +1.5**
OBN *e* 12 31 04.7
OBN *e* 12 32 38.2
OBN *e* 12 32 54.7
OBN pmax pmax
comp=Z,26nm,0.5s
OBN MLR MLR
comp=Z,86nm,17.0s
KLR Kul'dur 42.54 47 P **P 12 31 01.7 +0.9**
comp=Z,2.2nm,0.3s,baz=260,slow=8.7,SNR=11
KLR Kul'dur 42.54 47⇑ *i*P **P 12 31 01.6 +0.9**
KLR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 43.28 331 *e*P **P 12 31 04.6 -1.9**
KLMR pmax pmax
comp=Z,11nm,1.4s
KLMR Klimovskoe 43.28 331 *e*P **P 12 31 04.6 -1.9**
KLMR AMP 12 31 08.5
comp=Z,11nm,1.4s
JMN Monobe 43.75 70 P **P 12 31 11.9 +1.2**
ELL Elmali 44.76 295 P **P 12 31 18.3 -0.6**
ELL pmax pmax
comp=Z,57nm,0.6s
ELL Elmali 44.76 295 P **P 12 31 18.3 -0.6**
JWT Wachi 44.80 67 P **P 12 31 18.7 -0.4**
JWT IAmb IAmb 12 31 21.4
comp=Z,13nm,1.0s
MPSI Mapaga 45.25 122 P **P 12 31 24.1 +1.3**
comp=Z,14nm,1.0s
MILM Milestii Mici 45.49 309⇑ P **P 12 31 25.9 +1.6**
AKASG Malin Array Be 45.63 314 P **P 12 31 25.9 +0.5**
comp=Z,2.1nm,0.5s,baz=77,slow=6.6,SNR=13
AKASG Malin Array Be 45.63 314 P **P 12 31 25.6 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,1.4s
AKASG Malin Array Be 45.63 314 P **P 12 31 25.6 +0.2**
AKBB Malin Array Si 45.63 314*ce*P **P 12 31 25.8 +0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 45.63 314 P **P 12 31 24.8 -0.6**
AKBB IAmb IAmb 12 31 26.8
comp=Z,7.8nm,0.8s
TPGR Topolog 45.66 306⇓ P **P 12 31 27.5 +1.7**
CFR Carcaliu 45.87 307⇑ P **P 12 31 28.9 +1.5**
CFR Carcaliu 45.87 307⇑ P **P 12 31 28.9 +1.5**
SORM Soroca 45.90 311⇑ P **P 12 31 28.3 +0.7**
SORM Soroca 45.90 311⇑ P **P 12 31 28.3 +0.7**
HARR Harsova 46.00 306⇑ P **P 12 31 30.1 +1.7**
HARR Harsova 46.00 306⇑ P **P 12 31 30.1 +1.7**
VRI Vrincioaia 46.88 307⇓ P **P 12 31 37.8 +2.4**
VRI Vrincioaia 46.88 307⇓ P **P 12 31 37.8 +2.4**
MJB9 Matsu-Tunnel 46.91 65 P **P 12 31 36.5 +0.7**
MJB9 IAmb IAmb 12 31 41.5
comp=Z,7.1nm,1.1s
MAJO Matsushiro 46.92 65⇑ *e*P **P 12 31 36.2 +0.4**
MAJO pmax pmax
comp=Z,19nm,2.2s
MAJO Matsushiro 46.92 65 P **P 12 31 36.4 +0.6**
MAJO IAmb IAmb 12 31 41.9
comp=Z,8.2nm,1.2s
MAT Matsushiro 46.92 65 P **P 12 31 34.8 -1.0**
MJAR Matsushiro Arr 46.92 65 P **P 12 31 36.5 +0.6**
comp=Z,2.7nm,1.0s,baz=287,slow=9.1,SNR=11
MJAR PcP **PcP 12 33 08.4 0.0**
comp=Z,2.7nm,0.9s,baz=298,slow=3.2,SNR=5.7
MJAR Matsushiro Arr 46.92 65 P **P 12 31 36.4 +0.6**
MJAR IAmb IAmb 12 31 38.4
comp=Z,5.9nm,1.4s
PLOR Plostina 46.93 307⇓ P **P 12 31 38.5 +2.7**
PLOR Plostina 46.93 307⇓ P **P 12 31 38.5 +2.7**
TESR Tescani 46.95 308⇓ P **P 12 31 37.8 +1.9**
MNK Minsk 47.06 319 *i* P **P 12 31 36.1 -0.5**
MNK *i* 12 33 08.4
MNK *i* 12 33 26.6
MNK *i* PPP PPP 12 34 09.7
MNK *i* S **S 12 38 28.1 -0.3**
MNK *i* 12 41 30.7
MNK *i* SSS SSS 12 42 54.9
MNK pmax pmax
comp=Z,12nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK MLR MLR
comp=E,11nm,15.0s
MNK MLR MLR
comp=Z,175nm,14.0s
MNK MLR MLR
comp=N,244nm,33.0s
MNK Minsk 47.06 319 *i* P **P 12 31 36.1 -0.5**
comp=E,2.0nm,1.0s
MNK *i* P **P 12 31 36.1 -0.5**
comp=N,10.0nm,0.7s
MNK *i* P **P 12 31 36.1 -0.5**
comp=Z,12nm,1.0s,baz=100
MNK *i* PcP **PcP 12 33 08.4 -0.1**
MNK *i* PP **PP 12 33 26.6 -0.5**
MNK *i* PPP PPP 12 34 09.7
MNK *i* S **S 12 38 28.1 -0.2**
MNK *i* ScS **ScS 12 41 30.8 -0.2**
MNK *i* SS **SS 12 41 56.6 +1.5**
MNK *i* SSS SSS 12 42 54.9
MNK *i* LQ LQ 12 47 57.1
MNK *i* LR LR 12 50 08.9
MNK *i* LRM MLR 12 54 55.1
comp=E,11nm,14.6s
MNK *i* LRM MLR 12 55 05.3
comp=Z,175nm,13.6s
MNK *i* LRM MLR 12 55 06.6
comp=N,244nm,33.1s
BIZ Bicaz 47.34 309⇓ P **P 12 31 40.8 +1.8**
TTSI Tana Toraja 47.47 125 P **P 12 31 42.1 +1.8**
NACGM Naroch 47.76 320 *i* P **P 12 31 42.8 +0.7**
DOPR Dopca 47.81 308⇑ P **P 12 31 44.2 +1.5**
BURAR Bucovina Array 47.97 310⇓ P **P 12 31 45.7 +1.7**
BURAR Bucovina Array 47.97 310 P **P 12 31 43.9 -0.1**
BURAR IAmb IAmb 12 31 51.2
comp=Z,3.9nm,0.9s
JTM Tenmabayashi 48.73 59 P **P 12 31 48.3 -1.5**
LVV L'vov 48.86 313 *e*P P 12 31 42.7 -7.9
IDI Ahoyia 48.98 293 P **P 12 31 52.1 +0.2**
comp=Z,4.9nm,0.8s,baz=122,slow=13,SNR=2.0
VTS Vitosha 49.45 303⇓ P **P 12 31 57.3 +1.8**
VTS Vitosha 49.45 303⇓ P **P 12 31 57.3 +1.8**
VTS Vitosha 49.45 303 P **P 12 31 55.8 +0.3**
VTS IAmb IAmb 12 31 58.4
comp=Z,9.8nm,1.0s
FINES FINESS Array B 49.55 328 P **P 12 31 55.9 +0.2**
comp=Z,2.2nm,0.6s,baz=106,slow=8.2,SNR=22
FINES FINESS Array B 49.55 328 P **P 12 31 55.6 -0.1**
FINES FINESS Array B 49.55 328 P **P 12 31 55.6 -0.1**
DRGR 49.67 309⇑ P **P 12 31 59.6 +2.6**
DRGR 49.67 309⇑ P **P 12 31 59.6 +2.6**
YSS Yuzh-Sakhalins 49.68 51*de*P **P 12 31 58.4 +1.4**
YSS pmax pmax
comp=Z,18nm,1.3s
YSS Yuzh-Sakhalins 49.68 51 P **P 12 31 57.3 +0.3**
TIXI Tiksi 49.95 17*c* *i*P **P 12 31 58.5 -0.1**
TIXI Tiksi 49.95 17 P **P 12 31 57.9 -0.7**
TIXI IAmb IAmb 12 32 05.9
comp=Z,15nm,1.1s
UZH Uzhgorod 49.96 311 *e*P **P 12 31 56.8 -2.2**
UZH *i* 12 31 59.8
UZH *i* 12 32 04.4
LIT Litokhoron 50.23 300 P **P 12 32 00.8 -0.4**
LIT pmax pmax
comp=Z,4.0nm,0.9s
LIT Litokhoron 50.23 300 P **P 12 32 00.8 -0.4**
SIRR Siria 50.41 308⇑ P **P 12 32 05.4 +2.9**
MDVR Moldovita 50.43 306⇑ P **P 12 32 05.2 +2.5**
BZS Buzias 50.46 307⇓ P **P 12 32 04.6 +1.7**
BZS Buzias 50.46 307⇓ P **P 12 32 04.6 +1.7**
AGG Agios Georgios 50.48 299 P **P 12 32 03.1 -0.1**
AGG pmax pmax
comp=Z,9.0nm,0.9s
AGG Agios Georgios 50.48 299 P **P 12 32 03.1 -0.1**
AGG IAmb IAmb 12 32 04.1
comp=Z,8.9nm,0.9s
CRVS Cervenica-Dubn 50.51 311 *e*P **P 12 32 05.6 +2.3**
CRVS Cervenica-Dubn 50.51 311 *e*P **P 12 32 05.6 +2.3**
ITM Ithomi 51.05 296 P **P 12 32 06.8 -0.8**
VYHS Vyhne 52.25 311 *e*P **P 12 32 17.1 +0.7**
VYHS Vyhne 52.25 311 *e*P **P 12 32 17.0 +0.7**
ARCES ARCESS Array B 52.27 338 P **P 12 32 16.4 +0.3**
comp=Z,2.4nm,0.8s,baz=92,slow=7.0,SNR=10.0
ARCES ARCESS Array B 52.27 338 P **P 12 32 16.0 -0.1**
ARCES pmax pmax
comp=Z,21nm,1.5s
ARCES ARCESS Array B 52.27 338 P **P 12 32 16.0 -0.1**
ARCES IAmb IAmb 12 32 34.8
comp=Z,21nm,1.4s
PDG Podgorica 52.40 303⇑ P **P 12 32 18.2 +0.8**
MORH Mrgy, Hungar 52.50 308⇑ P **P 12 32 19.8 +1.6**
JAVC Velka Javorina 53.01 311 *e*P **P 12 32 24.0 +2.0**
MORC Moravsky Berou 53.06 313 *e*P **P 12 32 22.9 +0.6**
MORC Moravsky Berou 53.06 313 P **P 12 32 22.9 +0.6**
MORC pmax pmax
comp=Z,9.0nm,1.4s
MORC Moravsky Berou 53.06 313 P **P 12 32 22.9 +0.6**
MORC IAmb IAmb 12 32 24.6
comp=Z,8.6nm,1.4s
KRLC Kraliky 53.54 313 *e*P **P 12 32 27.0 +1.1**
KRLC Kraliky 53.54 313 *e*P **P 12 32 27.0 +1.1**
VRAC Vranov 53.70 312 *e*P **P 12 32 28.1 +1.1**
DPC Dobruska-Polom 53.83 313 *e*P **P 12 32 29.2 +1.2**
DPC Dobruska-Polom 53.83 313 *e*P **P 12 32 29.2 +1.2**
KRUC Moravsky 53.84 312 *e*P **P 12 32 28.5 +0.5**
OSTC Ostas 53.88 314 *e*P **P 12 32 29.2 +0.8**
CHVC Chvalec 53.99 314 *e*P **P 12 32 30.2 +1.1**
CONA Conrad Observa 54.27 310 *e*P **P 12 32 32.3 +1.0**
comp=Z,7.8nm,1.4s
ARSA Arzberg 54.56 310 *e*P **P 12 32 34.2 +0.9**
comp=Z,3.7nm,0.9s
MA2 Magadan 54.82 35⇓ *i*P **P 12 32 35.9 +0.9**
MA2 pmax pmax
comp=Z,17nm,1.7s
MA2 Magadan 54.82 35 P **P 12 32 35.2 +0.2**
MA2 IAmb IAmb 12 32 36.3
comp=Z,12nm,1.0s
SOKA Soboth 54.95 309 *e*P **P 12 32 36.7 +0.5**
comp=Z,3.8nm,0.8s
OBKA Obir 55.30 309 *e*P **P 12 32 40.1 +1.3**
comp=Z,4.9nm,0.9s
BRG Berggiesshubel 55.31 314 *e*P **P 12 32 39.7 +1.1**
BRG Amp 12 32 40.6
comp=Z,7.4nm,1.3s
BRG *ex* x 12 32 44.2
BRG Amp 12 32 45.4
comp=Z,4.4nm,0.9s
HFS Hagfors 55.34 325 P **P 12 32 38.8 0.0**
comp=Z,5.1nm,0.7s,baz=110,slow=7.8,SNR=16
MOA Molln 55.35 310 *e*P **P 12 32 40.5 +1.4**
comp=Z,4.4nm,1.1s
GERES GERESS Array B 55.63 312 P **P 12 32 41.0 -0.1**
comp=Z,1.1nm,0.9s,baz=79,slow=6.9,SNR=5.5
GERES GERESS Array B 55.63 312 P **P 12 32 40.4 -0.7**
GERES GERESS Array B 55.63 312 P **P 12 32 40.4 -0.7**
KHC Kasperske Hory 55.68 312 *e*P **P 12 32 42.1 +0.7**
KHC Kasperske Hory 55.68 312 *e*P **P 12 32 42.1 +0.7**
SEY Seymchan 55.80 31⇑ *i*P **P 12 32 43.4 +1.4**
NC303 NORSAR Array S 56.52 327 P **P 12 32 46.6 -0.5**
NC303 IAmb IAmb 12 32 52.9
comp=Z,15nm,1.4s
NOA NORSAR Array B 56.59 326 P **P 12 32 47.3 -0.4**
comp=Z,1.6nm,0.8s,baz=90,slow=7.3,SNR=7.1
ABTA Abfaltersbach 56.66 309 *e*P **P 12 32 48.6 +0.1**
comp=Z,5.2nm,1.2s
SPITS Spitsbergen Ar 57.50 347 P **P 12 32 54.6 +0.7**
comp=Z,3.4nm,0.9s,baz=76,slow=12,SNR=2.9
MOTA Moosalm 57.53 310 *e*P **P 12 32 53.5 -1.3**
comp=Z,6.9nm,1.0s
RETA Reutte 57.74 310 *i* P **P 12 32 55.9 -0.2**
comp=Z,1.9nm,0.6s
DAVA Damuels 58.37 310 *e*P **P 12 33 00.7 0.0**
comp=Z,6.1nm,1.1s
PEA0B Petropavlovsk- 58.92 43 P **P 12 33 04.7 +0.5**
PEA0B pmax pmax
comp=Z,25nm,1.4s
PEA0B Petropavlovsk- 58.92 43 P **P 12 33 04.7 +0.5**
PETK Petropavlovsk- 58.92 43 P **P 12 33 04.2 +0.1**
comp=Z,2.0nm,0.8s,baz=304,slow=1.1,SNR=4.3
PETK Petropavlovsk- 58.92 43 P **P 12 33 04.7 +0.5**
KEST Kesra 61.26 297 P **P 12 33 21.7 +1.1**
comp=Z,5.5nm,1.0s,baz=350,slow=7.7,SNR=3.8
KEST Kesra 61.26 297 P **P 12 33 19.9 -0.7**
BILL Bilibino 61.51 25 *e*P **P 12 33 22.7 +1.1**
BILL *e* 12 34 07.2
BILL *e* 12 35 35.6
BILL *e*PPP PPP 12 37 04.2
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL MLR MLR
comp=Z,36nm,17.0s
BILL Bilibino 61.51 25 P **P 12 33 22.2 +0.5**
BILL IAmb IAmb 12 33 24.7
comp=Z,7.1nm,1.2s
WB0 Warramunga Arr 69.24 128 P **P 12 34 12.6 +0.2**
WRA Warramunga Arr 69.32 128 P **P 12 34 13.7 +0.8**
comp=Z,8.2nm,0.6s,baz=322,slow=6.3,SNR=67
WRA Warramunga Arr 69.32 128 P **P 12 34 13.3 +0.4**
WRA Warramunga Arr 69.32 128 P **P 12 34 13.3 +0.4**
WRAB Tennant Creek 69.32 128 P **P 12 34 13.8 +0.9**
WRAB pmax pmax
comp=Z,15nm,1.1s
WRAB Tennant Creek 69.32 128 P **P 12 34 13.8 +0.9**
NWAO Narrogin (SRO) 69.32 149 P **P 12 34 12.7 +0.1**
NWAO 12 34 12.9
NWAO pmax pmax
comp=Z,36nm,1.4s
NWAO pmax pmax
comp=Z,44nm,1.4s
NWAO Narrogin (SRO) 69.32 149 P **P 12 34 12.7 +0.1**
NWAO Narrogin (SRO) 69.32 149 P **P 12 34 12.9 +0.3**
NWAO IAmb IAmb 12 34 30.5
comp=Z,44nm,1.4s
WB2 Warramunga Arr 69.33 128 P **P 12 34 13.8 +0.8**
WR0 Warramunga Arr 69.47 128 P **P 12 34 14.6 +0.7**
WR0 IAmb IAmb 12 34 15.3
comp=Z,6.2nm,0.7s
ESDC Sonseca Array 70.05 305 P **P 12 34 18.0 +0.7**
comp=Z,2.3nm,1.0s,baz=62,slow=5.8,SNR=12
ESDC Sonseca Array 70.05 305 P **P 12 34 18.2 +0.9**
ESDC IAmb IAmb 12 34 23.7
comp=Z,5.1nm,1.3s
PAB San Pablo 70.38 305 P **P 12 34 18.7 -0.7**
PAB pmax pmax
comp=Z,8.0nm,1.4s
PAB San Pablo 70.38 305 P **P 12 34 18.7 -0.7**
PAB IAmb IAmb 12 34 40.6
comp=Z,8.0nm,1.4s
EUNU Eureka 71.51 358 P **P 12 34 25.7 +0.2**
EUNU IAmb IAmb 12 34 27.2
comp=Z,6.2nm,1.1s
AS31 Alice Springs 71.56 131 P **P 12 34 27.1 +0.6**
ASAR Alice Springs 71.56 131 P **P 12 34 27.2 +0.7**
comp=Z,6.1nm,0.7s,baz=314,slow=6.1,SNR=60
SUMG Summit 71.61 344 P **P 12 34 26.9 +0.3**
SUMG Summit 71.61 344 P **P 12 34 26.9 +0.3**
A21K Barrow 72.25 17 P **P 12 34 30.4 +0.4**
MDT Midelt 73.11 298 P **P 12 34 35.7 -0.2**
comp=Z,1.6nm,0.9s,baz=24,slow=20,SNR=2.2
TOLK Toolik Lake Re 75.85 17 P **P 12 34 51.4 +0.2**
TORD Torodi Ar. Bea 76.05 278 P **P 12 34 53.6 +0.5**
comp=Z,3.1nm,0.9s,baz=42,slow=3.9,SNR=7.2
TORD Torodi Ar. Bea 76.05 278 P **P 12 34 52.5 -0.7**
TORD IAmb IAmb 12 34 59.9
comp=Z,4.1nm,0.9s
BMAR Burnt Mountain 78.02 17 P **P 12 35 04.5 +1.1**
MLY Manley 78.03 20 P **P 12 35 03.7 +0.2**
MLY IAmb IAmb 12 35 05.4
comp=Z,8.8nm,1.2s
I23K Minto, Yukon-K 78.36 20 P **P 12 35 06.2 +1.0**
FYU Fort Yukon 78.50 18 P **P 12 35 06.9 +1.0**
FYU IAmb IAmb 12 35 08.6
comp=Z,13nm,1.1s
MDM Murphy Dome 78.84 20 P **P 12 35 07.7 -0.2**
MDM IAmb IAmb 12 35 09.6
comp=Z,11nm,1.2s
KTH Kantishna Hill 79.00 22 P **P 12 35 09.1 +0.2**
KTH IAmb IAmb 12 35 11.2
comp=Z,8.5nm,1.2s
TCOL CIGO, UAF Yank 79.01 20 P **P 12 35 08.7 -0.1**
TCOL IAmb IAmb 12 35 10.3
comp=Z,6.6nm,0.8s
COLA College 79.01 20*c* *i*P **P 12 35 09.2 +0.4**
COLA pmax pmax
comp=Z,8.0nm,1.0s
COLA College 79.01 20 P **P 12 35 08.5 -0.3**
COLA IAmb IAmb 12 35 10.3
comp=Z,6.1nm,0.8s
BOSA Boshof 79.05 229 P **P 12 35 10.2 +0.6**
comp=Z,2.7nm,1.0s,baz=85,slow=1.7,SNR=3.8
PRP Porcupine Dome 79.20 18 P **P 12 35 10.4 +0.3**
PRP IAmb IAmb 12 35 12.4
comp=Z,7.5nm,1.1s
IL31 79.37 19 P **P 12 35 10.0 -0.7**
ILAR Eielson Array 79.37 19 P **P 12 35 10.7 -0.2**
comp=Z,2.9nm,0.9s,baz=300,slow=4.7,SNR=22
ILAR PP **PP 12 38 06.6 -3.5**
comp=Z,0.8nm,0.9s,baz=313,slow=7.5,SNR=5.7
ILAR Eielson Array 79.37 19 P **P 12 35 10.5 -0.3**
ILAR Eielson Array 79.37 19 P **P 12 35 10.5 -0.3**
INK Inuvik 79.82 13 P **P 12 35 13.7 +0.5**
comp=Z,2.4nm,1.0s,baz=327,slow=9.9,SNR=4.9
INK Inuvik 79.82 13 P **P 12 35 13.3 +0.1**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 79.82 13 P **P 12 35 13.2 +0.1**
INK IAmb IAmb 12 35 14.5
comp=Z,7.0nm,1.1s
SKT Skwentna 79.88 23 P **P 12 35 13.7 0.0**
SCRK Sand Creek 80.80 19 P **P 12 35 18.8 +0.1**
SCRK IAmb IAmb 12 35 20.2
comp=Z,8.1nm,1.1s
GHO Glory Hole Cre 80.91 22 P **P 12 35 19.2 -0.1**
GHO IAmb IAmb 12 35 25.5
comp=Z,13nm,1.4s
SML Sawmill 81.08 22 P **P 12 35 19.9 -0.3**
SML IAmb IAmb 12 35 21.8
comp=Z,13nm,1.0s
K27K Chicken 81.30 18 P **P 12 35 21.7 +0.5**
K27K IAmb IAmb 12 35 23.4
comp=Z,5.9nm,1.1s
DAWY Dawson 82.00 17 P **P 12 35 24.9 0.0**
STKA Stephens Creek 82.09 133 P **P 12 35 26.1 +0.3**
comp=Z,3.3nm,1.1s,baz=323,slow=8.7,SNR=3.4
KLU Klutina 82.09 21 P **P 12 35 26.3 +0.8**
KLU IAmb IAmb 12 35 31.8
comp=Z,8.2nm,1.4s
L27K Beaver Creek, 82.13 19 P **P 12 35 26.7 +1.0**
L27K IAmb IAmb 12 35 27.9
comp=Z,5.1nm,1.1s
BCAR Beaver Creek A 82.14 19 P **P 12 35 26.3 +0.6**
KDAK Kodiak Island 82.39 26 P **P 12 35 27.9 +0.9**
comp=Z,6.6nm,0.6s,baz=2.3,slow=4.0,SNR=27
KDAK Kodiak Island 82.39 26 P **P 12 35 27.3 +0.3**
KDAK pmax pmax
comp=Z,13nm,1.1s
KDAK Kodiak Island 82.39 26 P **P 12 35 27.2 +0.3**
N25K Chitina, Valde 82.43 21 P **P 12 35 28.1 +0.8**
N25K IAmb IAmb 12 35 29.6
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 83.08 20 P **P 12 35 31.1 +0.4**
GRNC Granite Creek 83.98 20 P **P 12 35 36.5 +1.0**
GRNC IAmb IAmb 12 35 38.3
comp=Z,12nm,1.4s
HYT Haines Junctio 85.15 19 P **P 12 35 41.5 +0.2**
HYT IAmb IAmb 12 35 43.3
comp=Z,4.4nm,1.0s
YKA Yellowknife Ar 88.26 8 P **P 12 35 55.7 -0.6**
comp=Z,1.3nm,0.8s,baz=341,slow=3.9,SNR=5.6
DLBC Dease Lake 89.17 17 P **P 12 36 00.9 +0.1**
comp=Z,2.0nm,1.1s,baz=305,slow=3.2,SNR=3.2
TXAR Lajitas Array 122.17 7 PKP **PKPdf 12 42 00.6 0.0**
comp=Z,0.5nm,0.8s,baz=153,slow=1.1,SNR=3.8
TXAR Lajitas Array 122.17 7 PKPdf **PKiKP 12 42 01.9 +1.1**
LPAZ La Paz 150.52 288 PKPbc **PKPbc 12 42 58.2 -0.2**
comp=Z,2.7nm,0.9s,baz=81,slow=4.3,SNR=8.7
LPAZ La Paz 150.52 288 PKIKP **PKPdf 12 42 49.5 -3.6**
LPAZ 12 42 56.3
LPAZ 12 43 03.4
LPAZ La Paz 150.52 288 PKPdf **PKPdf 12 42 49.5 -3.6**
LPAZ **pPKPdf 12 42 56.3 -1.0**
LPAZ PKPab **pPKPbc 12 43 03.4 +0.8**

TEH **20** *12:37:58.8,31.°82N×51.°68E,h5km,ML3.6*
THR **20** *12:38:02.4±0.6,31.°89N×51.°84E,h14km±10km,ML3.8*
IDC **20** *12:38:08.4±2.6,31.°68N×51.°55E,h74km±25km,mb3.4/13, mb1 3.5/18,mb1mx3.4/44,mbtmp3.7/18,MS2.8/3, Ms1 2.8/3,ms1mx2.2/33,Error ellipse: s-maj=22.1km s-min=15.9km az=15.0*
ISC 20 12:38:01.5±0.5,31.°82N±0.°03×51.°71E±0.°03,h10km,n57,
σ1§62/59,mb3.7/14,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRAM	**Ramesheh**	**0.57**	**91**	*e*Pg	**Pg**	**12 38 11.1**	**-1.6**
IRAM				*e*		12 38 21.2	
	comp=Z,77μm,0.3s						
IGAR	**Gharneh**	**0.65**	**26**	*e*Pg	**Pg**	**12 38 12.4**	**-1.7**
IGAR				*e*Sg	**Sg**	**12 38 22.2**	**-0.5**
IGAR				*e*		12 38 25.6	
	comp=Z,63μm,0.2s						
KLNJ	**Kolanjah**	**0.81**	**187**	*e*Pg	**Pg**	**12 38 15.5**	**-1.8**
KLNJ				*e*Sg	**Sg**	**12 38 27.5**	**-0.5**
KLNJ				*e*		12 38 33.3	
	comp=Z,40μm,0.6s						
SHK1	**Shahrekord**	**0.86**	**306**	*e*Pg	**Pg**	**12 38 16.2**	**-2.1**
SHK1				*e*Sg	**Sb**	**12 38 29.9**	**-0.7**
SHK1				*e*		12 38 32.6	
	comp=Z,36μm,0.4s						
IPIR	**Pirpir**	**1.11**	**321**	*e*Pg	**Pg**	**12 38 20.9**	**-2.0**
IPIR				*e*		12 38 40.4	
	comp=Z,25μm,0.4s						
IZEF	**Zefreh**	**1.20**	**26**	*e*Pg	**Pb**	**12 38 22.5**	**-1.9**
IZEF				*e*		12 38 43.0	

comp=Z,7µm,0.2s
NASN Na'in 1.35 43 *e*Pg **Pn** **12 38 25.2 -1.5**
IKLH Kolahrood 1.50 356 *e*Pg **Pn** **12 38 28.2 -0.6**
IKLH *e* 12 38 54.3
comp=Z,12µm,0.4s
ISAD Sadrabad 1.68 86 *e*Pn **Pn** **12 38 31.1 -0.2**
ISAD *e* 12 38 58.7
comp=Z,10µm,0.3s
ABEH Behbahan 1.74 226 *e*Pg **Pg** **12 38 34.8 -0.1**
ANAR Anarak 2.19 51 *e*Pn **Pn** **12 38 39.4 +1.3**
KAZ1 Kazerun 2.19 182 *e*Pn **Pn** **12 38 38.3 +0.3**
ICHK Chekchek 2.33 79 *e*Pn **Pn** **12 38 42.7 +2.6**
ICHK *e* 12 39 21.0
comp=Z,4µm,0.6s
KHMZ Khomeyn 2.42 323 *e*Pn **Pb** **12 38 44.0 -1.3**
SHGR Shooshtar-Gavs 2.49 277 *e*Pn **Pb** **12 38 45.6 -0.7**
SHGR IAML 12 39 40.5
comp=N,380nm,0.8s
IMEH Mehriz 2.51 99 *e*Pn **Pn** **12 38 45.1 +2.4**
IMEH *e* 12 39 25.9
comp=Z,3µm,0.6s
ISFB Sefidab 2.56 10 *e*Pn **Pn** **12 38 45.4 +2.2**
ISFB *e* 12 39 29.5
comp=Z,3µm,0.5s
GHVR GHOM 2.68 353 *e*Pn **Pn** **12 38 46.8 +2.0**
GHVR *e*Sg **Sb** **12 39 24.7 +2.1**
GHVR GHOM 2.68 353 *e*Pn **Pn** **12 38 46.8 +2.0**
BMDN Meydan 3.05 308 *e*Pn **Pn** **12 38 50.9 +0.8**
IQOM Qom 3.06 350 *e*Pn **Pn** **12 38 51.3 +1.1**
ASAO Ashtian 3.07 333 *e*Pn **Pn** **12 38 53.0 +2.7**
ASAO Ashtian 3.07 333 *e*Pn **Pn** **12 38 53.0 +2.7**
IVRN Varamin 3.17 0 *e*Pn **Pn** **12 38 53.2 +1.7**
HSAM Samen 3.54 313 *e*Pn **Pn** **12 38 59.0 +2.2**
IHSB Hasanabad 3.63 354 *e*Pn **Pn** **12 38 59.4 +1.5**
IKFM Kafar-mosalman 3.67 299 *e*Pn **Pn** **12 38 58.7 +0.3**
IANJ Anjilo 4.08 26 *e*Pn **Pn** **12 39 05.4 +1.2**
IALM Almaolaq 4.24 317 *e*Pn **Pn** **12 39 07.0 +0.5**
QABG Abgarn-Qazvin 4.26 336 *e*Pn **Pn** **12 39 08.1 +1.3**
KHGB Koh Gabri 4.33 108 *e*Pn **Pn** **12 39 09.6 +1.9**
TPRV Parvadeh(Tabas 4.38 73 *e*Pn **Pn** **12 39 09.8 +1.6**
QALM Alamut, Qazvin 4.69 349 *e*Pn **Pn** **12 39 14.4 +1.9**
TKDS Koohdasht(Taba 4.90 67 *e*Pn **Pn** **12 39 17.4 +2.0**
IGLO Ghaloghah 4.99 20 *e*Pn **Pn** **12 39 18.9 +2.2**
GENO Geno 5.87 137 *e*Pn **Pn** **12 39 31.0 +2.2**
GEYT Alibeck 8.05 39 P Pn 12 40 07.0 +8.4
comp=Z,6.0nm,0.3s,baz=226,slow=14,SNR=2.3
WSAR Wadi Sarin 10.52 143 P **Pn** **12 40 34.1 +1.7**
comp=Z,1.8nm,0.3s,baz=20,slow=12,SNR=10
WSAR S Sn 12 42 22.8 -7.6
comp=Z,0.4nm,0.3s,baz=209,slow=23,SNR=1.8
KBZ Khabaz 13.77 332 LR LR 12 47 49.4
comp=Z,50nm,20.2s,baz=90,slow=42
MMAI Mount Meron Ar 13.83 279 P **Pn** **12 41 20.0 +2.2**
comp=Z,0.6nm,0.3s,baz=93,slow=14,SNR=1.8
MMAI LR LR 12 47 56.9
comp=Z,56nm,21.9s,baz=120,slow=43
BRTR Keskin Array B 16.64 303 P **P** **12 41 57.7 +0.3**
comp=Z,0.2nm,0.3s,baz=127,slow=15,SNR=5.8
AKTO Aktyubinsk 19.18 12 P **Pn** **12 42 27.5 +1.4**
comp=Z,0.2nm,0.3s,baz=204,slow=13,SNR=2.7
AAK Ala-Archa 21.05 53 LR LR 12 52 12.8
comp=Z,22nm,21.0s,baz=178,slow=40
IDI Anoyia 22.59 286 P **P** **12 43 02.9 +0.6**
comp=Z,5.9nm,0.7s,baz=71,slow=8.8,SNR=6.0
MLR Muntele Rosu 24.19 312 P **P** **12 43 20.7 +2.5**
comp=Z,5.1nm,0.6s,baz=133,slow=6.2,SNR=11
AKASG Malin Array Be 25.16 325 P **P** **12 43 26.4 -0.4**
comp=Z,0.4nm,0.4s,baz=135,slow=9.4,SNR=2.7
KURBB Kurchatov Arra 27.33 39 P **P** **12 43 48.0 +1.6**
comp=Z,0.4nm,0.7s,baz=237,slow=8.5,SNR=2.9
MKAR Makanchi Array 27.78 49 P **P** **12 43 52.4 +1.9**
comp=Z,0.1nm,0.5s,baz=249,slow=10,SNR=2.0
MKAR PcP **PcP** **12 47 06.2 -0.6**
comp=Z,0.3nm,0.7s,baz=237,slow=2.8,SNR=2.7
GERES GERESS Array B 33.18 312 P **P** **12 44 37.9 -0.4**
comp=Z,0.5nm,0.5s,baz=106,slow=8.9,SNR=4.9
FINES FINESS Array B 34.01 338 P **P** **12 44 44.9 -0.4**
comp=Z,1.1nm,0.7s,baz=138,slow=13,SNR=9.4
NOA NORSAR Array B 39.34 330 P **P** **12 45 29.2 -1.5**
comp=Z,0.2nm,0.5s,baz=124,slow=8.6,SNR=2.2
ARCES ARCESS Array B 40.55 346 P **P** **12 45 41.4 +0.7**
comp=Z,1.0nm,0.8s,baz=153,slow=8.1,SNR=4.5
TORD Torodi Ar. Bea 49.35 260 P **P** **12 46 49.3 -2.0**
comp=Z,0.9nm,0.7s,baz=46,slow=8.3,SNR=3.0
KSRS Korea Array 61.37 62 P **P** **12 48 17.9 +0.2**
comp=Z,0.4nm,0.6s,baz=282,slow=5.3,SNR=2.9
ILAR Eielson Array 82.63 8 P **P** **12 50 23.1 -1.6**
comp=Z,0.3nm,0.7s,baz=332,slow=5.5,SNR=4.2
WRA Warramunga Arr 94.31 111 P **P** **12 51 20.6 -0.9**
comp=Z,0.5nm,0.8s,baz=317,slow=3.8,SNR=2.6
ASAR Alice Springs 95.94 114 P **P** **12 51 27.7 -1.3**
comp=Z,0.4nm,0.9s,baz=301,slow=5.2,SNR=4.1

*IDC **20** 12:47:15.5±0.7, 15°.07S×173°.54W, h0km, mb4.1/15, mb1 4.4/15, mb1mx4.2/33, mbtmp4.1/15, MS3.5/14, Ms1 3.5/14, ms1mx3.3/40, Error ellipse: s-maj=26.4km s-min=16.3km az=127.0*
*NEIC **20** 12:47:16.9±0.8, 15°.5S±0°.1×173°.48W±0°.09, h31km±5km, mb4.7/48, Error ellipse: s-maj=15.7km s-min=12.5km az=178.0*

ISC 20 12:47:18.1±0.5, 15°.53S±0°.09×173°.50W±0°.09, h42km, n111, σ1$38/85, mb4.6/36, MS3.5/16, 6C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.32**	**46**			Pn	12 47 42.8	-11
NIUE	**Niue**	**4.91**	**136**	Pn		**Pn**	**12 48 28.7**	**-0.7**
MSVF	**Nonsavu**	**8.39**	**254**			**Pn**	**12 49 17.1**	**-0.2**
RAO	**Raoul Island**	**14.25**	**196**	LR	LR	LR	12 55 37.4	
	comp=Z,150nm,21.9s,baz=348,slow=34							
DZM	**Mont Dzumac**	**20.06**	**248**	LR	LR	LR	12 58 18.6	
	comp=Z,147nm,19.4s,baz=84,slow=33							
DZM	**Mont Dzumac**	**20.06**	**248**	*e*LR		LR	12 57 11.2	
	comp=Z,157nm,27.8s							
DZM	**Mont Dzumac**	**20.06**	**248**	P		**P**	**12 51 45.9**	**-2.1**
DZM				IAmb		IAmb	12 52 02.2	
	comp=Z,48nm,1.4s							
PAE	**Paea**	**23.02**	**99**	*e*T		T	13 15 04.4	
	comp=Z,2.1nm,0.3s							
PPT	**Papeete**	**23.02**	**98**	LR		LR	12 59 48.8	
	comp=Z,78nm,18.0s,baz=289,slow=33							
PPT2	**Papeete2**	**23.02**	**98**	*e*LQ		LQ	12 56 35.2	
	comp=Z,272nm,28.0s							
PPT2				*e*LR		LR	12 57 31.9	
	comp=Z,107nm,22.8s,baz=271							
PPT2	**Papeete2**	**23.02**	**98**	*e*T		T	13 15 04.2	
	comp=Z,3.5nm,0.3s							
TBI	**Tubuai**	**23.94**	**113**	*e*LR		LR	12 58 06.6	
	comp=Z,126nm,22.8s							
TBI	**Tubuai**	**23.94**	**113**	*e*T		T	13 16 30.9	
	comp=Z,4.6nm,0.3s							
URZ	**Urewera**	**24.11**	**198**	P		**P**	**12 52 36.1**	**+6.2**
	comp=Z,29nm,0.9s,baz=307,slow=20,SNR=1.8							
URZ	**Urewera**	**24.11**	**198**	P		**P**	**12 52 29.5**	**-0.4**
PMOR	**Pomariorio Ree**	**24.70**	**92**	*e*T		T	13 17 03.6	
	comp=Z,1.7nm,0.3s							
BKZ	**Black Stump Fm**	**25.13**	**199**	P		**P**	**12 52 39.3**	**+0.1**
BKZ				IAmb		IAmb	12 53 05.1	
	comp=Z,30nm,1.5s							
BFZ	**Birch Farm**	**26.60**	**198**	P		**P**	**12 52 52.6**	**+0.1**
BFZ				IAmb		IAmb	12 53 17.7	
	comp=Z,27nm,1.2s							
MSWZ	**Moikau Station**	**27.57**	**198**	P		**P**	**12 53 00.9**	**-0.3**
QRZ	**Quartz Range**	**27.97**	**203**	P		**P**	**12 53 03.8**	**-1.0**
TUWZ	**Tuamarina**	**28.00**	**200**	P		**P**	**12 53 05.0**	**0.0**
THZ	**Tophouse**	**28.65**	**202**	P		**P**	**12 53 10.6**	**-0.4**
KHZ	**Kahutara**	**29.02**	**200**	P		**P**	**12 53 14.0**	**0.0**
KHZ				IAmb		IAmb	12 53 31.0	
	comp=Z,20nm,1.2s							
LTZ	**Lake Taylor**	**29.77**	**201**	P		**P**	**12 53 21.2**	**+0.3**
LTZ				IAmb		IAmb	12 53 23.4	
	comp=Z,28nm,1.3s							
TAOE	**Nuku Hiva Isla**	**33.24**	**82**	*e*LR		LR	13 02 20.2	
	comp=Z,94nm,22.0s							
WHZ	**Wether Hill Ro**	**34.03**	**203**	P		**P**	**12 53 58.0**	**-0.1**
ARMA	**Armidale**	**35.19**	**239**	P		**P**	**12 54 08.0**	**-0.5**
ARMA				IAmb		IAmb	12 54 13.9	
	comp=Z,11nm,1.0s							
CAN	**Canberra**	**38.87**	**232**	P		**P**	**12 54 39.8**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**39.03**	**329**	T		T	13 36 03.3	
	baz=149,slow=76,SNR=9.4							
H11S3	**WAKE ISLAND Hy**	**39.04**	**329**	T		T	13 35 53.3	
	baz=149,slow=76,SNR=9.3							
H11S1	**WAKE ISLAND Hy**	**39.05**	**329**	T		T	13 36 04.8	
	baz=149,slow=76,SNR=13							
H11N3	**WAKE ISLAND Hy**	**39.98**	**331**	T		T	13 37 26.6	
	baz=150,slow=76,SNR=6.6							
H11N1	**WAKE ISLAND Hy**	**39.98**	**331**	T		T	13 37 23.2	
	baz=150,slow=76,SNR=5.2							
H11N2	**WAKE ISLAND Hy**	**40.00**	**331**	T		T	13 37 32.5	
	baz=150,slow=76,SNR=6.5							
TOO	**Toolangi**	**42.31**	**231**	P		**P**	**12 55 07.8**	**-0.2**
TOO				IAmb		IAmb	12 55 36.9	
	comp=Z,13nm,1.2s							
STKA	**Stephens Creek**	**43.89**	**240**	P		**P**	**12 55 25.1**	**+4.3**
	comp=Z,2.9nm,0.8s,baz=82,slow=14,SNR=5.7							
STKA				LR		LR	13 11 17.6	
	comp=Z,65nm,18.6s,baz=14,slow=33							
STKA	**Stephens Creek**	**43.89**	**240**	P		**P**	**12 55 20.2**	**-0.6**
MCQ	**Macquarie Isla**	**44.38**	**203**	P		**P**	**12 55 24.2**	**-0.1**
BBOO	**Buckleboo**	**48.66**	**240**	P		**P**	**12 55 58.1**	**-0.2**
WR0	**Warramunga Arr**	**49.53**	**257**	P		**P**	**12 56 04.2**	**-0.9**
WB0	**Warramunga Arr**	**49.68**	**257**	P		**P**	**12 56 06.0**	**-0.2**
WB0				IAmb		IAmb	12 56 24.6	
	comp=Z,9.6nm,1.4s							
WB2	**Warramunga Arr**	**49.71**	**257**	P		**P**	**12 56 06.0**	**-0.5**
WB2				IAmb		IAmb	12 56 20.9	
	comp=Z,6.1nm,1.1s							
WRA	**Warramunga Arr**	**49.72**	**257**	P		**P**	**12 56 09.5**	**+2.9**
	comp=Z,1.5nm,0.6s,baz=91,slow=6.9,SNR=53							
WRA	**Warramunga Arr**	**49.72**	**257**	P		**P**	**12 56 05.6**	**-0.9**
AS31	**Alice Springs**	**49.98**	**252**	P		**P**	**12 56 07.7**	**-0.9**
ASAR	**Alice Springs**	**49.98**	**252**	P		**P**	**12 56 11.8**	**+3.3**
	comp=Z,4.6nm,0.6s,baz=89,slow=7.5,SNR=64							
ASAR	**Alice Springs**	**49.98**	**252**	P		**P**	**12 56 07.7**	**-0.9**
FAKI	**Fak Fak**	**54.84**	**277**	P		**P**	**12 56 42.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**58.09**	**258**	P		**P**	**12 57 11.8**	**+4.1**
	comp=Z,1.9nm,0.8s,baz=56,slow=3.6,SNR=2.0							
VNDA	**Vanda**	**63.23**	**186**	P		P	12 57 49.2	+7.5
	comp=Z,3.1nm,0.9s,baz=6.6,slow=6.0,SNR=12							
VNDA	**Vanda**	**63.23**	**186**			**P**	**12 57 42.5**	**+0.7**
VNDA				IAmb		IAmb	12 57 50.0	
	comp=Z,5.4nm,1.1s							
MJAR	**Matsushiro Arr**	**68.98**	**320**	P		**P**	**12 58 20.4**	**+1.2**
	comp=Z,10nm,1.0s,baz=152,slow=5.1,SNR=5.6							
MJAR	**Matsushiro Arr**	**68.98**	**320**	P		**P**	**12 58 18.3**	**-1.0**
MJAR				IAmb		IAmb	12 58 37.9	
	comp=Z,6.6nm,1.5s							
JOW	**Kunigami**	**70.48**	**306**	LR		LR	13 24 03.7	
	comp=Z,35nm,19.2s,baz=294,slow=32							
PETK	**Petropavlovsk-**	**72.73**	**342**	P		**P**	**12 58 43.6**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=111,slow=8.3,SNR=5.0							
PETK				LR		LR	13 26 46.8	
	comp=Z,11nm,20.7s,baz=82,slow=33							
PETK	**Petropavlovsk-**	**72.73**	**342**	P		**P**	**12 58 41.2**	**-0.5**
NVAR	**Mina Array Bea**	**74.49**	**42**	P		**P**	**12 58 54.0**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=233,slow=8.2,SNR=4.4							
NVAR	**Mina Array Bea**	**74.49**	**42**	P		**P**	**12 58 51.2**	**-1.4**
QSPA	**South Pole Qui**	**74.51**	**180**	P		**P**	**12 58 52.7**	**+0.5**
QSPA				IAmb		IAmb	12 58 59.5	
	comp=Z,12nm,1.1s							
KDAK	**Kodiak Island**	**75.07**	**11**	P		**P**	**12 58 55.3**	**+0.1**
KDAK				IAmb		IAmb	12 59 01.8	
	comp=Z,11nm,1.2s							
PINE	**Pine Mountain**	**76.06**	**36**	P		**P**	**12 59 00.8**	**-0.7**
PINE				IAmb		IAmb	12 59 22.3	
	comp=Z,11nm,1.4s							
KSRS	**Korea Array**	**76.19**	**316**	P		**P**	**12 59 04.0**	**+2.0**
	comp=Z,1.4nm,1.0s,baz=133,slow=6.3,SNR=3.4							
KSRS				LR		LR	13 29 36.5	
	comp=Z,12nm,19.1s,baz=109,slow=34							
GLI	**Glacier Island**	**79.04**	**13**	P		**P**	**12 59 17.9**	**+0.4**
ZAIG	**Zacatecas**	**79.15**	**63**	P		**P**	**12 59 18.0**	**-1.3**
TMUT	**Trail Mountain**	**79.64**	**44**	P		**P**	**12 59 21.2**	**-0.5**
HLID	**Hailey**	**79.79**	**39**	P		**P**	**12 59 22.2**	**-0.1**
SCM	**Sheep Creek Mo**	**79.85**	**12**	P		**P**	**12 59 22.2**	**+0.2**
TABL	**Table Mountain**	**80.06**	**16**	P		**P**	**12 59 22.6**	**-0.7**
TABL				IAmb		IAmb	12 59 43.1	
	comp=Z,10nm,1.0s							
KLR	**Kul'dur**	**80.58**	**327**	LR		LR	13 32 32.1	
	comp=Z,15nm,18.2s,baz=180,slow=34							
TXAR	**Lajitas Array**	**80.77**	**56**	P		**P**	**12 59 30.1**	**+2.5**
	comp=Z,0.8nm,1.0s,baz=212,slow=5.9,SNR=6.0							
TXAR				LR		LR	13 29 16.2	
	comp=Z,54nm,18.8s,baz=0.0,slow=31							
RND	**Reindeer**	**80.99**	**11**	P		**P**	**12 59 28.1**	**0.0**
RND				IAmb		IAmb	12 59 33.8	
	comp=Z,6.2nm,1.1s							
MCK	**McKinley**	**81.27**	**11**	P		**P**	**12 59 29.6**	**+0.1**
MCK				IAmb		IAmb	12 59 34.5	
	comp=Z,9.0nm,1.0s							
MCMT	**McKenzie Canyo**	**81.42**	**39**	P		**P**	**12 59 29.6**	**-1.4**
WRH	**Wood River Hil**	**82.10**	**11**	P		**P**	**12 59 33.8**	**0.0**
WRH				IAmb		IAmb	12 59 38.9	
	comp=Z,11nm,1.0s							
MLY	**Manley**	**82.17**	**10**	P		**P**	**12 59 34.0**	**-0.3**
HDA	**Harding Lake**	**82.25**	**11**	P		**P**	**12 59 35.1**	**+0.4**
HDA				IAmb		IAmb	12 59 43.8	
	comp=Z,4.1nm,0.8s							
CCB	**Clear Creek Bu**	**82.31**	**11**	P		**P**	**12 59 34.6**	**-0.3**
CCB				IAmb		IAmb	12 59 39.7	
	comp=Z,5.3nm,0.9s							
PDAR	**Pinedale Array**	**82.43**	**42**	P		**P**	**12 59 37.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=204,slow=3.3,SNR=6.0							
PDAR				LR		LR	13 32 10.3	
	comp=Z,48nm,18.5s,baz=266,slow=33							
SCRK	**Sand Creek**	**82.46**	**13**	P		**P**	**12 59 35.7**	**-0.2**
SMCO	**Snowmass**	**82.47**	**46**	P		**P**	**12 59 35.9**	**-1.0**
I23K	**Minto, Yukon-K**	**82.50**	**10**	P		**P**	**12 59 35.4**	**-0.4**
TCOL	**CIGO, UAF Yank**	**82.51**	**11**	P		**P**	**12 59 35.8**	**-0.1**
TCOL				IAmb		IAmb	12 59 40.9	
	comp=Z,9.6nm,0.8s							
COLA	**College**	**82.51**	**11**	P		**P**	**12 59 35.9**	**0.0**
COLA				IAmb		IAmb	12 59 40.9	
	comp=Z,9.7nm,0.8s							
MDM	**Murphy Dome**	**82.52**	**11**	P		**P**	**12 59 34.6**	**-1.4**
IL31		**82.59**	**11**	P		**P**	**12 59 36.1**	**-0.2**
ILAR	**Eielson Array**	**82.59**	**11**	P		**P**	**12 59 37.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=224,slow=5.6,SNR=10							
ILAR				LR		LR	13 29 46.8	
	comp=Z,18nm,19.5s,baz=249,slow=31							
ILAR	**Eielson Array**	**82.59**	**11**	P		**P**	**12 59 36.7**	**+0.3**
HRY	**Holter Researc**	**83.01**	**38**	P		**P**	**12 59 39.3**	**+0.2**
PRP	**Porcupine Dome**	**83.52**	**11**	P		**P**	**12 59 41.8**	**+0.4**
PRP				IAmb		IAmb	12 59 46.9	
	comp=Z,5.9nm,1.0s							
DAWY	**Dawson**	**83.57**	**14**	P		**P**	**12 59 41.6**	**+0.1**
DAWY				IAmb		IAmb	12 59 44.0	
	comp=Z,4.4nm,1.1s							
ABTX	**Abilene, Hawle**	**85.22**	**54**	P		**P**	**12 59 50.3**	**-0.3**
BMAR	**Burnt Mountain**	**85.40**	**11**	P		**P**	**12 59 51.2**	**+0.5**
MAW	**Mawson**	**87.64**	**199**	P		**P**	**13 00 07.6**	**+5.9**
	comp=Z,3.7nm,0.7s,baz=110,slow=6.8,SNR=5.5							
MAW				LR		LR	13 37 32.0	
	comp=Z,52nm,19.1s,baz=50,slow=34							
MAW	**Mawson**	**87.64**	**199**	P		**P**	**13 00 01.9**	**+0.2**
YKA	**Yellowknife Ar**	**90.26**	**23**	P		**P**	**13 00 15.8**	**+1.9**
	comp=Z,1.4nm,1.0s,baz=232,slow=4.3,SNR=4.8							
YKA				LR		LR	13 35 23.3	
	comp=Z,31nm,19.9s,baz=0.0,slow=32							
VNA3	**Neumayer Olymp**	**92.73**	**175**	P		P	13 00 30.7	+5.1
SNAA	**Sanae**	**92.78**	**177**	P		P	13 00 31.1	+5.3
VNA1	**Neumayer--Stat**	**93.43**	**175**	P		P	13 00 34.8	+6.1
ULM	**Lac du Bonnet**	**94.10**	**39**	LR		LR	13 40 04.2	
	comp=Z,59nm,18.4s,baz=310,slow=34							
DPC	**Dobruska-Polom**	**144.37**	**349**	*e*PKP		**PKPdf**	**13 06 50.1**	**+0.3**
BIZ	**Bicaz**	**144.69**	**337**	⇑P		**PKiKP**	**13 06 52.9**	**-1.2**
DOPR	**Dopca**	**145.78**	**336**	⇑P		**PKiKP**	**13 06 55.9**	**-0.5**
KHC	**Kasperske Hory**	**146.00**	**352**	*e*PKP		**PKiKP**	**13 06 56.1**	**-0.7**
DRGR		**146.03**	**340**	⇑P		**PKiKP**	**13 06 56.2**	**-0.8**
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc		**PKiKP**	**13 06 58.0**	**+0.4**
	comp=Z,4.8nm,0.8s,baz=116,slow=2.9,SNR=20							
BRTR	**Keskin Array B**	**146.20**	**321**			**PKPdf**	**13 06 50.6**	**-2.8**
GERES	**GERESS Array B**	**146.26**	**351**	PKPbc		**PKiKP**	**13 06 56.8**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=7.8,slow=3.0,SNR=6.0							
GERES	**GERESS Array B**	**146.26**	**351**			**PKPdf**	**13 06 51.5**	**-1.7**
VOIR		**146.35**	**336**	⇑P		**PKiKP**	**13 06 58.0**	**+0.3**
GZR	**Gura Zlata**	**147.23**	**339**	⇑P		**PKiKP**	**13 06 59.6**	**+0.1**
BZS	**Buzias**	**147.43**	**340**	⇑P		**PKiKP**	**13 06 59.5**	**-0.2**

ROM 20 12:49:20.2±0.1, 36°.196N±0°.010×12°.69E±0°.01, h23km±1km, ML2.7/5, 1D, Error ellipse: s-maj=1.1km s-min=1.0km az=206.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPDG	**Lampedusa Capo**	**0.68**	**184**	P		Pb	12 49 33.6	+0.2
CLTA	**Licata**	**1.40**	**46**	P		Pn	12 49 45.0	+0.6
MMGO	**Monte Magaggia**	**1.48**	**9**	P		Pn	12 49 45.9	+0.4
WDD	**Wied Dalam**	**1.53**	**103**	P		Pb	12 49 47.0	-0.9
WDD				S		Sb	12 50 06.1	-0.7
RAFF	**Raffo Rosso**	**1.69**	**52**	P		Pn	12 49 49.3	+0.9
RAFF				AML		AML		
	comp=N,147µm,1.6s							
RAFF				AML		AML		
	comp=E,157µm,0.4s							
HMDC	**Modica**	**1.85**	**65**	P		Pn	12 49 51.2	+0.6
HMDC				S		Sn	12 50 13.9	+0.6
GIB	**Gibilmanna**	**2.08**	**30**	P		Pn	12 49 55.1	+1.2
GIB				AML		AML		
	comp=N,158µm,0.5s							
GIB				AML		AML		
	comp=E,200µm,1.1s							
HLNI	**Lentini**	**2.10**	**56**	P		Pn	12 49 54.8	+0.8
HLNI				S		Sn	12 50 20.3	+1.0
HLNI				AML		AML		
	comp=E,82µm,1.6s							
HLNI				AML		AML		
	comp=N,98µm,1.4s							
SSY	**Sortino**	**2.14**	**63**	P		Pn	12 49 55.4	+0.8
SSY				AML		AML		
	comp=N,244µm,0.6s							
SSY				AML		AML		
	comp=E,171µm,0.6s							
MSFR	**San Fratello**	**2.38**	**39**	P		Pn	12 49 58.6	+0.6
MUCR	**Ucria**	**2.54**	**43**	P		Pn	12 50 01.1	+0.9
MUCR				AML		AML		
	comp=N,68µm,0.6s							
MUCR				AML		AML		
	comp=E,52µm,1.6s							
MCSR	**Castroreale**	**2.77**	**47**	P		Pn	12 50 04.3	+1.0
MCSR				AML		AML		
	comp=E,61µm,1.5s							
MCSR				AML		AML		
	comp=N,70µm,1.6s							
SPS2	**Spezzano della**	**4.23**	**42**	P		Pn	12 50 25.7	+2.3
MIDA	**Miranda**	**5.57**	**12**	⇓P		Pn	12 50 42.6	+0.8
TRIV	**Trivento**	**5.75**	**14**	P		Pn	12 50 51.7	+7.5
VLS	**Valsamata**	**6.61**	**70**	P		Pn	12 50 54.2	-1.8

IDC 20 13:09:36.3±49.0, 19°.19S×176°.44W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=916.3km s-min=166.9km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**39.69**	**243**	P		P	13 17 10.4	0.0
	1.5nm,0.7s,baz=79,slow=16,SNR=3.5							
WRA	**Warramunga Arr**	**46.25**	**260**	P		P	13 18 03.5	-0.3
	0.6nm,0.3s,baz=97,slow=7.4,SNR=22							
ASAR	**Alice Springs**	**46.26**	**255**	P		P	13 18 03.9	0.0
	2.0nm,0.7s,baz=94,slow=8.3,SNR=19							

*IDC **20** 13:27:53.7±1.2, 37°.06N×142°.62E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.6/42, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=26.5km s-min=22.2km az=92.0*
*JMA **20** 13:27:55.0±0.3, 37°.14N×142°.47E, h15km±5km, M4.1*
*NIED **20** 13:27:55.1, 37°.14N×142°.47E, h15km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr2.21; Mθθ-0.21; Mφφ-2.00; Mrθ0.69; Mrφ-0.90; Mθφ1.45; Fault plane solution: M0 2.80000×10^14^ NP1:ϕs24.00000°, δ62.00000°, λ92.00000°. NP2:ϕs201.00000°, δ28.00000°, λ87.00000°.*

ISC 20 13:27:54.6±3.9, 37°.13N±0°.05×142°.44E±0°.06, h5km±24km, n32, σ1$50/39, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**1.27**	**281**	P		**Pn**	**13 28 18.1**	**-1.0**
JFK				*e*S		**Sb**	**13 28 35.0**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.31**	**269**	P		**Pn**	**13 28 19.2**	**-0.4**
ONAJ				*e*S		**Sb**	**13 28 37.1**	**+0.2**
JMST	**Minamisoumatoc**	**1.37**	**296**	P		**Pn**	**13 28 19.5**	**-0.9**
JMST				*e*S		**Sn**	**13 28 37.2**	**-1.8**
JIKH	**Ishinomakikobu**	**1.41**	**327**	P		**Pn**	**13 28 20.1**	**-0.9**
JMM	**Marumori**	**1.50**	**300**	P		**Pn**	**13 28 21.5**	**-0.7**
JMM				S		**Sn**	**13 28 40.7**	**-1.5**
JIO	**Ouri**	**1.58**	**327**	P		**Pn**	**13 28 22.8**	**-0.5**
JIO				S		**Sb**	**13 28 43.5**	**-1.2**
JFT	**Otama**	**1.72**	**284**	P		**Pn**	**13 28 25.6**	**+0.4**
JFT				*e*S		**Sb**	**13 28 48.7**	**0.0**
JOU	**Okura**	**1.88**	**312**	P		**Pn**	**13 28 27.

JCJ Sn **Sb** **13 51 34.5 +1.8**
704nm,0.3s,baz=73,slow=22,SNR=7.1
JCJ LR LR 13 51 43.5
comp=Z,284nm,21.7s,baz=116,slow=40
JCJ Chichijima 1.61 338 Pn **Pn** **13 51 09.9 -0.1**
CBIJ Chichi jima 1.61 338 P **Pb** **13 51 10.8 -1.9**
CBIJ *eS* **Sb** **13 51 33.8 +1.1**
JHJ Hachijo jima 2 7.96 341 LR LR 13 55 27.2
comp=Z,100nm,19.6s,baz=126,slow=36
BSO3 Boso 3 9.40 348 P **Pn** **13 52 56.0 -0.7**
BSO4 Boso 4 9.61 348 P **Pn** **13 52 59.3 -0.5**
BSO4 *eS* **Sn** **13 54 48.0 +1.3**
JNY Yasuok 10.64 337 P **Pn** **13 53 15.2 +1.2**
JHU Hanno 10.67 344 P **Pn** **13 53 13.6 -0.8**
JYT Yasato 10.84 348 P **Pn** **13 53 15.5 -1.2**
JYT *eS* **Sn** **13 55 13.3 -3.6**
JYT Yasato 10.84 348 **Pn** **13 53 15.4 -1.2**
INU Inuyama 10.95 334 **Pn** **13 53 18.0 -0.1**
JHO Hitachi 11.15 350 P **Pn** **13 53 18.7 -2.3**
JAG Ashikaga 11.18 346 P **Pn** **13 53 19.5 -1.9**
MJAR Matsushiro Arr 11.61 341 Pn **Pn** **13 53 26.4 -0.9**
0.3nm,0.3s,baz=156,slow=12,SNR=28
MJAR Sn **Sn** **13 55 33.3 -2.6**
0.1nm,0.3s,baz=170,slow=15,SNR=1.5
MJAR LR LR 13 57 52.3
comp=Z,139nm,18.6s,baz=160,slow=37
MJAR Matsushiro Arr 11.61 341 **Pn** **13 53 27.1 -0.2**
MAJO Matsushiro 11.62 341 **Pn** **13 53 25.7 -1.6**
JMM Marumori 12.36 352 **Pn** **13 53 35.3 -2.2**
JNU Nakatsue 12.85 308 Pn **Pn** **13 53 42.1 -2.2**
JSD Sado 13.00 344 Pn **Pn** **13 53 42.8 -3.4**
JOW Kunigami 13.15 279 LR LR 13 58 38.8
comp=Z,30nm,19.5s,baz=345,slow=36
JTU Tsushima 14.65 311 P **P** **13 54 14.7 0.0**
ERM Erimo 16.38 1 Pn **Pn** **13 54 28.7 -2.5**
ERM lAmb lAmb 13 54 36.7
comp=Z,105nm,1.4s
KSRS Korea Array 17.35 317 P **P** **13 54 43.5 -1.1**
comp=Z,0.2nm,0.3s,baz=126,slow=11,SNR=46
KSRS LR LR 14 01 01.5
comp=Z,158nm,18.6s,baz=132,slow=36
KS19 Wonju Array Si 17.41 317 P **Pn** **13 54 43.9 -0.3**
JKA Kamikawa-asahi 18.48 359 P **Pn** **13 54 56.9 -0.3**
ASAJ Asahikawa 18.48 359 P **Pn** **13 54 57.5 +0.2**
comp=Z,0.7nm,0.3s,baz=220,slow=12,SNR=10
ASAJ S Sn 13 58 10.5 -12
comp=Z,0.1nm,0.3s,baz=151,slow=33,SNR=1.7
ASAJ LR LR 14 02 43.5
comp=Z,63nm,21.3s,baz=168,slow=39
YHNB Yeheng 19.48 272 P **P** **13 55 07.3 -0.8**
YULB Yu-li 19.75 268 P **P** **13 55 10.6 -0.4**
USA0B Ussuriysk Arra 20.56 337 P **P** **13 55 16.9 -2.8**
USA0B lAmb lAmb 13 55 25.5
comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 20.56 337 P **P** **13 55 20.1 +0.4**
comp=Z,18nm,0.9s,baz=156,slow=11,SNR=28
USRK Ussuriysk Ar. 20.56 337 P **P** **13 55 19.6 -0.1**
NJ2 Nanjing 21.97 293 *eP* **P** **13 55 34.6 -0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
H11N1 WAKE ISLAND Hy 22.92 100 T T 14 19 21.8
baz=290,slow=75
H11N2 WAKE ISLAND Hy 22.92 100 T T 14 19 26.8
baz=290,slow=75
H11N3 WAKE ISLAND Hy 22.94 100 T T 14 19 27.9
baz=290,slow=75
CN2 Changchun 23.04 326 *eP* **P** **13 55 45.5 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 L L
comp=Z,200nm,13.0s
CN2 L L
comp=Z,200nm,13.0s
CN2 L L
comp=Z,200nm,19.0s
H11S3 WAKE ISLAND Hy 23.17 103 T T 14 19 37.6
baz=300,slow=75
H11S1 WAKE ISLAND Hy 23.17 103 T T 14 19 42.6
baz=300,slow=75
H11S2 WAKE ISLAND Hy 23.18 103 T T 14 19 38.6
baz=300,slow=75
TIA Tai'an 24.42 302 P **P** **13 55 57.8 -1.7**
TIA pmax pmax
comp=Z,13nm,0.5s
KLR Kul'dur 25.13 343 P **P** **13 56 06.9 +1.1**
comp=Z,22nm,0.7s,baz=146,slow=7.6,SNR=57
KLR LR LR 14 06 29.8
comp=Z,89nm,18.2s,baz=160,slow=38
WHN Wuhan 25.60 288 ⇑P **P** **13 56 11.8 +1.6**
WHN sP **sP** **13 56 25.3 +3.4**
BJI Beijing 26.53 309 P **P** **13 56 17.4 -1.1**
BJI pmax pmax
comp=Z,5.0nm,0.6s
SIJI Sorong 28.60 205 LR LR 14 05 57.1
comp=Z,89nm,19.4s,baz=263,slow=32
PETK Petropavlovsk- 29.65 18 P **P** **13 56 48.0 +1.7**
comp=Z,2.0nm,0.9s,baz=223,slow=9.9,SNR=1.8
PETK LR LR 14 11 05.1
comp=Z,21nm,19.2s,baz=181,slow=41
PETK Petropavlovsk- 29.65 18 P **P** **13 56 47.5 +1.2**
HHC Hu-ho-hao-te 30.08 308 *eP* **P** **13 56 51.4 +1.0**
HHC SS SS 14 03 27.5 -28
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,57nm,4.2s
HHC L L
comp=Z,85nm,12.5s
HHC L L
comp=Z,160nm,11.6s
HHC L L
comp=Z,130nm,11.5s
XAN Xi'an 30.52 294 P **P** **13 56 53.1 -1.1**
XAN pP pP 13 57 02.5 0.0
XAN sP sP 13 57 09.1 +3.2
XAN pmax pmax
comp=Z,15nm,0.7s
GYA Guiyang 32.47 280 ⇓P **P** **13 57 11.6 0.0**
GYA pmax pmax
comp=Z,2.0nm,0.5s
CD2 Chengdu 34.72 288 ⇓*iP* **P** **13 57 30.4 -0.7**
CD2 pmax pmax
comp=Z,60nm,0.6s
LZH Lanzhou 34.89 297 ⇓P **P** **13 57 31.6 -1.0**
LZH pP pP 13 57 40.6 -0.3
LZH sP sP 13 57 45.6 +1.2
LZH pmax pmax
comp=Z,30nm,1.1s
KMI Kunming 36.16 278 ⇑P **P** **13 57 43.8 +0.1**
KMI pP pP 13 57 52.5 +0.5
KMI sP sP 13 57 58.3 +2.8
KMI pmax pmax
comp=Z,19nm,0.9s
SONM Songino Array 36.22 317 P **P** **13 57 42.2 -1.6**
comp=Z,4.5nm,0.5s,baz=133,slow=9.7,SNR=24
SONM PcP **PcP** **14 00 09.4 +0.7**
comp=Z,1.9nm,1.0s,baz=150,slow=3.6,SNR=4.5
SONM LR LR 14 12 11.0
comp=Z,80nm,20.2s,baz=106,slow=36
SONM Songino Array 36.22 317 P **P** **13 57 42.4 -1.4**
NONG Nongkai 37.51 267 P **P** **13 57 56.3 +1.3**
comp=Z,33nm,0.8s
KAPI Kappang 37.81 220 P **P** **13 57 57.2 -0.2**
comp=Z,8.2nm,0.4s,baz=60,slow=5.3,SNR=4.3
GTA Gaotai 38.47 302 *eP* **P** **13 58 01.8 -1.2**
GTA pP pP 13 58 12.5 +1.2
GTA sP sP 13 58 16.5 +1.8
GTA PcP **PcP** **14 00 17.5 +1.7**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,33nm,5.1s
GTA L L
comp=Z,84nm,15.6s
GTA L L
comp=Z,89nm,16.4s
GTA L L
comp=Z,65nm,14.5s
CHAI Chaiyaphum 39.29 264 P **P** **13 58 10.8 +0.8**
comp=Z,24nm,0.8s
TLY Talaya 39.48 322 P **P** **13 58 11.9 +0.7**
comp=Z,5.5nm,0.7s,baz=218,slow=8.9,SNR=3.8
SRAK Srakaew 39.94 261 P **P** **13 58 12.9 -2.5**
comp=Z,159nm,0.9s
UTTA Uttaradit 39.95 267 P **P** **13 58 17.8 +2.3**
comp=Z,14nm,0.8s
BATI Baumata 40.20 210 P **P** **13 58 17.2 -0.3**
comp=Z,27nm,0.7s,baz=36,slow=2.3,SNR=4.7
PHIT Phitsanulok 40.26 267 P **P** **13 58 19.8 +1.8**
comp=Z,93nm,0.8s
CM09 Chiang Mai Arr 41.14 269 P **P** **13 58 29.1 +3.7**
comp=Z,8.1nm,0.7s
CMAR Chiang Mai Arr 41.18 269 P **P** **13 58 26.0 +0.4**
comp=Z,2.2nm,0.4s,baz=70,slow=6.5,SNR=14
CMAR PcP **PcP** **14 00 25.9 +1.3**
comp=Z,1.0nm,0.4s,baz=118,slow=2.1,SNR=5.9
CMAR LR LR 14 15 14.4
comp=Z,24nm,19.7s,baz=179,slow=36
BILL Bilibino 44.78 12 P **P** **13 58 53.9 -0.3**
BILL lAmb lAmb 13 58 58.6
comp=Z,8.3nm,0.9s
CTA Charters Tower 45.53 176 P **P** **13 59 00.9 +0.4**
comp=Z,3.1nm,0.6s,baz=350,slow=12,SNR=1.7
SHL Shillong 45.74 282 P **P** **13 59 02.6 +0.1**
SHL lAmb lAmb 13 59 03.0
comp=Z,22nm,0.8s
WB0 Warramunga Arr 45.84 191 P **P** **13 59 02.8 -0.2**
WB0 lAmb lAmb 13 59 16.8
comp=Z,19nm,0.9s
WR0 Warramunga Arr 46.00 191 P **P** **13 59 04.3 0.0**
WR0 lAmb lAmb 13 59 18.1
comp=Z,14nm,0.8s
WB2 Warramunga Arr 46.02 191 P **P** **13 59 04.4 -0.1**
WRA Warramunga Arr 46.02 191 P **P** **13 59 04.3 -0.2**
comp=Z,9.2nm,0.7s,baz=11,slow=8.6,SNR=36
WRA Warramunga Arr 46.02 191 P **P** **13 59 04.2 -0.2**
FITZ Fitzroy Crossi 46.55 203 P **P** **13 59 08.4 -0.3**
comp=Z,8.8nm,0.8s,baz=33,slow=8.4,SNR=12
FITZ Fitzroy Crossi 46.55 203 P **P** **13 59 08.8 +0.1**
FITZ lAmb lAmb 13 59 10.5
comp=Z,11nm,0.9s
TIXI Tiksi 46.76 354 P **P** **13 59 09.6 -0.1**
TIXI lAmb lAmb 13 59 16.0
comp=Z,3.9nm,0.6s
WMQ Urumqi 47.95 307 *eP* **P** **13 59 20.0 +0.5**
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,140nm,3.8s
RPSI Rantau Prapat 47.96 249 P **P** **13 59 19.6 -0.2**
RPSI lAmb lAmb 13 59 20.8
comp=Z,16nm,0.7s
AS31 Alice Springs 49.73 191 P **P** **13 59 32.9 -0.3**
ASAR Alice Springs 49.73 191 P **P** **13 59 32.8 -0.4**
comp=Z,1.6nm,0.7s,baz=13,slow=10,SNR=24
ZSN Zaisan 50.18 311 *eP* **P** **13 59 34.7 -1.7**
baz=312
TNA Tin City 50.50 24 P 13 59 40.1
baz=242
ZAA0 Zalesovo Array 51.02 320 P **P** **13 59 40.9 -1.7**
ZAA0 **PcP** **14 00 58.6 +0.3**
ZALV Zalesovo Beam 51.02 320 P **P** **13 59 42.0 -0.5**
comp=Z,3.3nm,0.6s,baz=111,slow=7.4,SNR=11
ZALV PcP **PcP** **14 00 58.4 0.0**
comp=Z,7.4nm,0.8s,baz=107,slow=3.8,SNR=14
ZALV LR LR 14 21 44.2
comp=Z,67nm,19.4s,baz=102,slow=37
ANM Nome 51.03 26 P 13 59 44.2
baz=246
MK31 Makanchi Array 51.90 310 P **P** **13 59 48.5 -0.9**
MK31 lAmb lAmb 13 59 50.3
comp=Z,8.4nm,1.1s
MKAR Makanchi Array 51.90 310 P **P** **13 59 48.1 -1.3**
comp=Z,5.0nm,0.6s,baz=89,slow=8.4,SNR=53
MKAR PcP **PcP** **14 01 02.0 +0.2**
comp=Z,3.0nm,0.7s,baz=84,slow=5.3,SNR=7.5
MKAR LR LR 14 22 50.5
comp=Z,39nm,18.2s,baz=92,slow=37
MKAR Makanchi Array 51.90 310 P **P** **13 59 48.2 -1.1**
MKAR **PcP** **14 01 02.3 +0.4**
MAKZ Makanchi 52.12 311 P **P** **13 59 49.5 -1.5**
MAKZ lAmb lAmb 13 59 51.5
comp=Z,7.4nm,0.8s
DZM Mont Dzumac 52.62 152 LR LR 14 17 57.7
comp=Z,47nm,20.2s,baz=12,slow=31
SEM Semipalatinsk 53.42 315 *eP* **P** **13 59 59.4 -1.4**
comp=Z,12nm,0.7s,baz=315
SHLS Shalkode 53.93 306 *eP* **P** **14 00 00.7 -3.9**
baz=306
N18K Kilae Creek 54.00 32 P 14 00 07.0
baz=258
UZB Uzynbulak 54.26 306 *eP* **P** **14 00 04.7 -2.3**
baz=306
NRIK Noril'sk 54.26 339 P **P** **14 00 06.9 +0.5**
comp=Z,18nm,0.9s,baz=113,slow=8.5,SNR=13
NRIK LR LR 14 24 14.2
comp=Z,86nm,18.1s,baz=123,slow=37
TTA Tatalina 54.44 30 P 14 00 09.0
baz=256
KPKS Kokpek 54.48 306 *eP* **P** **14 00 06.8 -1.8**
baz=306
N19K Bonanza Creek 54.70 32 P 14 00 13.5
baz=259
SATY Saty 54.71 306 *eP* **P** **14 00 09.4 -0.8**
baz=306
KDAK Kodiak Island 55.20 36 P **P** **14 00 13.9 +0.6**
comp=Z,4.3nm,1.0s,baz=309,slow=6.9,SNR=9.5
KDAK Kodiak Island 55.20 36 P **P** **14 00 13.3 -0.1**
KDAK lAmb lAmb 14 00 25.3
comp=Z,9.6nm,1.1s
MDOK Medeo 55.70 306 *eP* **P** **14 00 16.0 -1.4**
baz=306
PPLA Purkeypile 56.15 30 P 14 00 21.9
baz=260
MTBS Maitube 56.15 306 *eP* **P** **14 00 18.8 -1.7**
baz=306
KUU Kurty 56.16 307 *eP* **P** **14 00 18.9 -1.6**
comp=Z,15nm,0.7s,baz=307
SKT Skwentna 56.30 31 P 14 00 22.4
baz=261
H21K Melozitna Rive 56.42 27 P 14 00 23.9
baz=258,SNR=17
A21K Barrow 56.64 20 P 14 00 25.1
baz=250
I21K Tanana 56.66 27 P 14 00 25.3
baz=259,SNR=14
RC01 Rabbit Creek A 57.03 32 P 14 00 29.5
baz=264
SEW Seward 57.07 34 P 14 00 28.7
baz=264
MLY Manley 57.15 28 P 14 00 28.6
baz=260
STKA Stephens Creek 57.16 181 P **P** **14 00 27.4 -0.2**
comp=Z,4.8nm,0.8s,baz=348,slow=9.4,SNR=6.9
STKA Stephens Creek 57.16 181 P **P** **14 00 26.8 -0.8**
PMR Palmer 57.38 32 P 14 00 29.3
baz=264,SNR=6.6
SGDS Sogindy 57.43 307 *eP* **P** **14 00 28.2 -1.4**
baz=307
GHO Glory Hole Cre 57.50 32 P **P** **14 00 30.5 +0.8**
GHO lAmb lAmb 14 00 43.7
comp=Z,7.5nm,1.0s
BTLS Baital 57.70 309 *eP* **P** **14 00 29.9 -1.4**
comp=Z,7.5nm,0.9s,baz=308
MCK McKinley 57.73 29 P 14 00 32.3
baz=263,SNR=5.9
I23K Minto, Yukon-K 57.74 28 P 14 00 33.2
baz=261
COLD Coldfoot 57.76 25 P 14 00 32.6
baz=259,SNR=5.5
H23K Yukon River 57.77 27 P 14 00 32.9
baz=261
SML Sawmill 57.78 32 P 14 00 32.7
baz=264,SNR=6.5
WAT6 Susitna Watana 58.13 31 P 14 00 34.7
baz=264,SNR=6.8
MDM Murphy Dome 58.19 28 P **P** **14 00 33.5 -1.1**
TOLK Toolik Lake Re 58.26 23 P 14 00 36.3
baz=259
BRZS Berezniki 58.28 314 *eP* **P** **14 00 34.0 -1.4**
comp=Z,3.1nm,0.5s,baz=314
GLI Glacier Island 58.30 33 P **P** **14 00 35.6 +0.3**
GLI lAmb lAmb 14 00 39.8
comp=Z,9.0nm,0.9s
GLI Glacier Island 58.30 33 P 14 00 35.7
baz=266
H24K Noodor Dome 58.45 27 P 14 00 38.6
baz=262,SNR=6.0
POKR Poker Plat Res 58.55 28 P 14 00 40.4
baz=263
HIN Hinchinbrook I 58.56 33 P **P** **14 00 37.0 -0.2**
HIN lAmb lAmb 14 00 42.1
comp=Z,12nm,1.0s
HDA Harding Lake 58.67 29 P 14 00 39.8
baz=264
HDA P 14 00 39.8
baz=264
ILAR Eielson Array 58.74 28 P **P** **14 00 37.9 -0.4**
comp=Z,4.8nm,0.9s,baz=260,slow=6.0,SNR=22
ILAR Eielson Array 58.74 28 P **P** **14 00 38.6 +0.3**
KLU Klutina 58.90 32 P 14 00 40.5
baz=267
PAX Paxson 59.21 30 P 14 00 43.3
baz=266,SNR=6.0
PRP Porcupine Dome 59.39 27 P 14 00 44.0
baz=265
BMRM Bremner River 59.52 33 P 14 00 45.6
baz=268,SNR=5.8
N25K Chitina, Valde 59.54 32 P 14 00 47.2
baz=268
BRVK Borovoye 59.62 318 P **P** **14 00 44.0 -0.6**
SCRK Sand Creek 59.93 29 P **P** **14 00 46.3 -0.4**
SCRK lAmb lAmb 14 00 51.3
comp=Z,10.0nm,1.0s
SCRK Sand Creek 59.93 29 P 14 00 47.3
baz=267,SNR=10
BMAR Burnt Mountain 59.95 25 P **P** **14 00 47.6 +0.9**
CRQE Cirque 60.25 33 P 14 00 51.8
baz=270
KKAR Karatay Array 60.46 307 P **P** **14 00 50.2 -0.4**
KKAR Karatay Array 60.46 307 P **P** **14 00 49.3 -1.3**
KKAR lAmb lAmb 14 00 51.2
comp=Z,12nm,0.7s
K27K Chicken 60.77 29 P 14 00 56.2
baz=269
L27K Beaver Creek, 60.87 30 P **P** **14 00 53.8 +0.8**
L27K lAmb lAmb 14 01 06.9
comp=Z,4.4nm,1.1s
L27K Beaver Creek, 60.87 30 P 14 00 53.7
baz=270
EGAK Eagle 61.19 28 P 14 00 57.2
baz=269
PINM Pinnacle 61.67 34 P 14 01 02.9
baz=273
PALK Pallekele 61.81 264 P **P** **14 01 00.5 +0.4**
comp=Z,8.6nm,0.9s,baz=207,slow=6.8,SNR=1.8
DAWY Dawson 61.96 29 P **P** **14 01 01.0 +0.7**
DAWY lAmb lAmb 14 01 05.3
comp=Z,5.9nm,1.2s
CHGR Chuyangaron 62.24 302 P **P** **14 01 01.8 -1.0**
NWAO Narrogin (SRO) 63.11 204 P **P** **14 01 08.1 -0.2**
baz=338,slow=16
INK Inuvik 64.14 24 P **P** **14 01 15.1 +0.4**
comp=Z,4.1nm,0.8s,baz=316,slow=6.2,SNR=7.0
INK Inuvik 64.14 24 P 14 01 18.2
baz=274
ARU Arti 65.98 323 P **P** **14 01 25.9 -1.0**
ABKAR Akbulak array 66.58 315 P **P** **14 01 30.1 -0.7**
ABKAR Akbulak array 66.58 315 P **P** **14 01 29.9 -0.9**
GEYT Alibeck 70.83 304 P **P** **14 01 57.6 0.0**
comp=Z,5.0nm,0.9s,baz=72,slow=2.3,SNR=8.4
GEYT LR LR 14 34 46.4
comp=Z,15nm,18.1s,baz=35,slow=37
EUNU Eureka 71.30 8 P **P** **14 02 00.3 +0.5**
EUNU lAmb lAmb 14 02 03.9
comp=Z,4.3nm,0.8s
RAR Rarotonga 72.56 125 LR LR 14 29 16.9
comp=Z,35nm,18.9s,baz=287,slow=32
YKA Yellowknife Ar 73.17 28 P **P** **14 02 10.4 -0.7**
comp=Z,1.8nm,0.8s,baz=294,slow=4.8,SNR=5.9
KLMR Klimovskoe 74.18 330 *eP* **P** **14 02 15.6 -1.4**
KLMR *eP* **pP** **14 02 28.6 -0.5**
KLMR AMP 14 02 29.9
comp=Z,11nm,1.4s
ARCES ARCESS Array B 75.15 341 P **P** **14 02 23.4 +0.8**
comp=Z,4.3nm,0.8s,baz=69,slow=6.8,SNR=8.9
ARCES ARCESS Array B 75.15 341 lAmb lAmb 14 02 25.7
comp=Z,7.0nm,0.9s
KBZ Khabaz 79.47 313 P **P** **14 02 48.0 +0.8**
comp=Z,19nm,0.9s,baz=84,slow=3.9,SNR=36
KBZ LR LR 14 40 15.2
comp=Z,46nm,20.5s,baz=97,slow=38
FIA1 FINESS Array S 79.55 334 P **P** **14 02 46.9 -0.4**
FIA1 lAmb lAmb 14 02 48.1
comp=Z,10nm,0.7s
FINES FINESS Array B 79.55 334 P **P** **14 02 47.3 -0.1**
comp=Z,8.0nm,0.5s,baz=70,slow=4.9,SNR=131
FINES LR LR 14 40 10.1
comp=Z,27nm,18.5s,baz=56,slow=37
FINES FINESS Array B 79.55 334 P **P** **14 02 47.1 -0.2**
MEF Metsahovi 80.94 334 *eP* **P** **14 02 53.7 -1.1**
NVAR Mina Array Bea 80.97 52 P **P** **14 02 55.2 -0.5**
comp=Z,2.4nm,0.9s,baz=275,slow=5.5,SNR=12
NVAR LR LR 14 32 01.7
comp=Z,29nm,19.5s,baz=260,slow=31
NVAR Mina Array Bea 80.97 52 P **P** **14 02 54.8 -0.9**
VSU Vasula 80.99 331 *eP* **P** **14 02 55.8 +0.7**
RAF Rauma 81.48 335 *eP* **P** **14 02 56.2 -1.4**
MPMC Manual Prospec 82.58 54 P 14 03 05.6
baz=296
MNK Minsk 82.72 328 *i* P **P** **14 03 06.9 +2.6**
comp=E,3.0nm,0.8s
MNK *i* P **P** **14 03 06.9 +2.6**
comp=N,18nm,0.8s
MNK *i* P **P** **14 03 06.9 +2.6**
comp=Z,10.0nm,0.6s,baz=236
MNK *i* PcP **pP** **14 03 11.6 -1.7**
MNK *i* PP **PP** **14 06 16.5 +2.7**
MNK *i* PPP PPP 14 08 07.9
MNK *i* S **S** **14 13 22.6 +2.6**
MNK *i* ScS **ScS** **14 13 36.5 +1.7**
MNK *i* SS **SS** **14 18 46.0 +4.4**
MNK *i* SSS SSS 14 22 14.5
MNK *i* LQ LQ 14 34 32.9
MNK *i* LR LR 14 40 07.0
MNK *i* LRM MLR 14 43 47.1
comp=Z,85nm,18.4s
MNK *i* LRM MLR 14 43 51.2
comp=E,21nm,21.6s
MNK *i* LRM MLR 14 43 57.2
comp=N,222nm,18.4s
FURC Furnace Creek, 82.85 53 P 14 03 08.5
baz=297
R11A Troy Canyon, C 82.92 51 P 14 03 08.7
baz=297
NACGM Naroch 83.02 328 *i* P **P** **14 03 06.1 +0.3**
CIS Catalina Islan 83.06 56 P 14 03 08.4
baz=296
TPNV Topopah Spring 83.08 52 P 14 03 07.4
baz=297
UPP Uppsala 83.80 336 *eP* **P** **14 03 09.3 -0.4**
PABE Paberze 83.96 330 *eP* **P** **14 03 10.7 0.0**
AKASG Malin Array Be 84.18 324 P **P** **14 03 11.1 -0.8**
comp=N,5.5nm,0.7s,baz=46,slow=5.4,SNR=21
PDAR Pinedale Array 84.85 45 P **P** **14 03 16.1 +0.3**
comp=N,0.4nm,0.4s,baz=264,slow=3.0,SNR=6.0
PDAR LR LR 14 39 15.8
comp=N,13nm,18.1s,baz=290,slow=34
NC405 NORSAR Array S 85.00 338 P **P** **14 03 15.5 -0.4**
NB201 NORSAR Array S 85.19 339 P **P** **14 03 16.1 -0.7**
NC204 NORSAR Array S 85.19 339 P **P** **14 03 16.4 -0.5**
NB2 NORSAR Subarra 85.22 339 P **P** **14 03 16.0 -1.0**
baz=48,slow=4.6
NOA NORSAR Array B 85.22 339 P **P** **14 03 16.4 -0.6**
comp=N,3.9nm,0.8s,baz=46,slow=4.7,SNR=24
NOA PP **PP** **14 06 32.1 -2.0**
comp=N,1.3nm,0.9s,baz=44,slow=8.5,SNR=4.2
NOA LR LR 14 46 18.3
comp=N,14nm,18.4s,baz=50,slow=39
SUW Suwalki 85.24 329 *eP* **P** **14 03 17.0 -0.2**
KNB Kanab 85.48 51 P **P** **14 03 19.1 +0.1**
KNB lAmb lAmb 14 03 24.3
comp=Z,6.7nm,1.1s
RAYN Ar Rayn 86.31 294 P **P** **14 03 23.3 +0.1**
BRTR Keskin Array B 87.46 313 P **P** **14 03 27.8 -0.8**
comp=Z,1.9nm,0.6s,baz=106,slow=4.0,SNR=5.9
BRTR LR LR 14 46 26.6
comp=Z,26nm,18.7s,baz=48,slow=38
TESR Tescani 87.98 322 ⇓P **P** **14 03 30.5 -0.3**
BIZ Bicaz 88.03 322 ⇓P **P** **14 03 31.4 +0.5**
BURAR Bucovina Array 88.11 323 ⇑P **P** **14 03 32.0 +0.5**
VRI Vrincioaia 88.31 321 ⇓P **P** **14 03 33.3 +1.0**
PLOR Plostina 88.36 321 ⇓P **P** **14 03 33.6 +0.9**
KOLS Kolonicke sedl 88.85 325 *eP* **P** **14 03 34.9 +0.1**
VOIR 89.51 321 ⇑P **P** **14 03 36.7 -1.4**
AGMN Agassiz Nation 89.61 35 P 14 03 39.5
baz=310
DRGR 89.97 324 ⇑P **P** **14 03 40.5 +0.3**

MORC	Moravsky Berou	90.65	328	*e*P		P	14 03 39.5	-3.8
GZR	Gura Zlata	90.81	322	⇑P		P	14 03 45.0	+0.9
SIRR	Siria	90.86	324	⇑P		P	14 03 44.6	+0.3
VYHS	Vyhne	90.88	327	*e*P		P	14 03 44.9	+0.6
ANMO	Albuquerque	90.97	50	P			14 03 47.5	
	baz=302							
JAVC	Velka Javorina	91.20	327	*e*P		P	14 03 46.7	+0.8
BZS	Buzias	91.30	323	⇑P		P	14 03 46.0	-0.3
VRAC	Vranov	91.42	328	*e*P		P	14 03 46.7	-0.1
CLL	Collm	91.65	331	*e*P		P	14 03 48.0	+0.2
KRUC	Moravsky	91.68	328	*e*P		P	14 03 47.0	-1.0
ECSD	EROS Data Cent	92.09	39	P			14 03 50.6	
	baz=309							
CKRC	Cesky Krumlov	92.84	329	*e*P		P	14 03 52.9	-0.5
KHC	Kasperske Hory	92.95	329	*e*P		P	14 03 54.6	+0.7
GERES	GERESS Array B	93.10	329	P		P	14 03 54.0	-0.7
	comp=Z,0.9nm,0.7s,baz=49,slow=4.1,SNR=7.7							
GERES	GERESS Array B	93.10	329	P		P	14 03 52.9	-1.8
MNTX	Cornudas Mount	93.48	52	P			14 03 57.8	
	baz=303							
TXAR	Lajitas Array	96.01	54	P		P	14 04 10.1	+1.7
	comp=Z,1.2nm,0.9s,baz=291,slow=2.3,SNR=9.5							
TORD	Torodi Ar. Bea	126.02	311	PKP		PKPdf	14 09 43.1	-0.5
	comp=Z,1.1nm,0.8s,baz=7.0,slow=3.6,SNR=3.8							
PLCA	Paso Flores	148.44	127	PKPbc		PKPbc	14 10 28.2	+0.8
	comp=Z,4.4nm,0.6s,baz=229,slow=2.2,SNR=13							
LPAZ	La Paz	149.68	78	PKPbc		PKPbc	14 10 32.6	+0.8
	comp=Z,3.2nm,0.8s,baz=346,slow=2.4,SNR=11							

*NOU **20** 13:57:37.2, 15.49S×168.21E, h0km, MLv4.8, Vanuatu Islands*

*IDC **20** 13:57:43.0±2.5, 15.55S×168.08E, h45km±25km, mb3.8/11, mb1 4.1/14, mb1mx3.9/30, mbtmp4.2/14, ML4.8/3, MS3.5/3, Ms1 3.5/3, ms1mx2.9/21, Error ellipse: s-maj=24.0km s-min=19.6km az=149.0*

*NEIC **20** 13:57:43.3±0.8, 15.62S±0.05×167.93E±0.09, h29km±9km, mb4.6/8, Error ellipse: s-maj=12.5km s-min=7.2km az=70.0*

ISC 20 13:57:42.2±0.6, **15.56S**±0.07×**168.00E**±0.08, **h35**km, **n40, σ1s09/39, mb4.2/14, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SANVU	Saraoutou	0.78	278			Pn	13 57 55.1	-1.6
SANVU	Saraoutou	0.78	278	P		Pn	13 57 55.8	-0.9
LIFNC	LIFOU	5.24	188	Pn		Pn	13 58 56.4	-1.7
LIFNC	LIFOU	5.24	188	P		Pn	13 58 57.8	-0.3
KOUNC	Koumac, New Ca	6.10	215	P		Pn	13 59 10.8	+1.0
YATNC	Mamie plateau,	6.55	189	P		Pn	13 59 15.2	-0.9
DZM	Mont Dzumac	6.65	193	P		Pn	13 59 16.9	-0.6
	9.0nm,0.3s,baz=30,slow=16,SNR=110							
DZM				S		Sn	14 00 29.4	-2.7
	0.9nm,0.3s,baz=160,slow=21,SNR=1.2							
DZM				LR		LR	14 01 18.9	
	comp=Z,103nm,19.1s,baz=88,slow=32							
DZM	Mont Dzumac	6.65	193			Pn	13 59 17.6	+0.1
DZM	Mont Dzumac	6.65	193	P		Pn	13 59 17.2	-0.3
NOUC	Port Laguerre	6.71	194	P		Pn	13 59 18.3	+0.1
ONTNC	Ouen Toro	6.87	192			Pn	13 59 20.8	+0.3
ONTNC	Ouen Toro	6.87	192	P		Pn	13 59 21.5	+1.0
OUENC	Ouen Island, N	6.92	189			Pn	13 59 21.4	+0.4
OUENC	Ouen Island, N	6.92	189	P		Pn	13 59 21.5	+0.4
PINNC	Pines Island,	7.04	184			Pn	13 59 23.2	+0.4
PINNC	Pines Island,	7.04	184	P		Pn	13 59 22.8	0.0
MSVF	Nonsavu	9.87	104	P		Pn	14 00 03.2	+1.4
	0.5nm,0.3s,baz=284,slow=8.9,SNR=5.7							
HNR	Honiara	9.94	307	P		Pn	14 00 04.8	+2.1
	7.2nm,0.3s,baz=212,slow=6.0,SNR=6.7							
HNR				LR		LR	14 03 42.1	
	comp=Z,166nm,19.3s,baz=160,slow=36							
HNR	Honiara	9.94	307	Pn		Pn	14 00 04.4	+1.8
URZ	Urewera	24.00	162	LR		LR	14 10 44.3	
	comp=Z,517nm,21.5s,baz=211,slow=33							
STKA	Stephens Creek	29.02	231	P		P	14 03 40.1	+1.1
	3.5nm,0.8s,baz=22,slow=7.6,SNR=4.6							
WR0	Warramunga Arr	32.13	257	P		P	14 04 08.0	+1.4
WR0				IAmb		IAmb	14 04 21.6	
	comp=Z,8.9nm,1.3s							
WB0	Warramunga Arr	32.27	258	P		P	14 04 08.0	+0.2
WB0				IAmb		IAmb	14 04 09.8	
	comp=Z,6.5nm,1.1s							
WB2	Warramunga Arr	32.31	257	P		P	14 04 07.3	-0.9
WRA	Warramunga Arr	32.32	257	P		P	14 04 08.2	-0.1
	comp=Z,1.2nm,0.8s,baz=81,slow=6.0,SNR=9.2							
AS31	Alice Springs	33.05	250	P		P	14 04 14.7	0.0
ASAR	Alice Springs	33.05	250	P		P	14 04 15.2	+0.5
	comp=Z,3.7nm,0.6s,baz=77,slow=9.0,SNR=50							
ASAR	Alice Springs	33.05	250	P		P	14 04 14.9	+0.3
BBOO	Buckleboo	33.65	234	P		P	14 04 20.2	+0.5
KNRA	Kununurra	37.76	264	P		P	14 04 55.0	-0.1
KNRA				IAmb		IAmb	14 05 06.5	
	comp=Z,28nm,1.2s							
FITZ	Fitzroy Crossi	40.57	260	P		P	14 05 19.2	+0.6
FITZ				IAmb		IAmb	14 05 20.2	
	comp=Z,7.2nm,0.8s							
NWAO	Narrogin (SRO)	48.94	240	P		P	14 06 25.1	-0.1
MJAR	Matsushiro Arr	58.96	332	P		P	14 07 36.3	-1.9
	comp=Z,0.5nm,0.7s,baz=167,slow=6.4,SNR=2.1							
VNDA	Vanda	62.06	182	P		P	14 07 58.2	-0.6
	comp=Z,0.6nm,0.8s,baz=330,slow=3.6,SNR=2.5							
CMAR	Chiang Mai Mr	75.93	294	P		P	14 09 27.7	+1.8
	comp=Z,0.4nm,0.7s,baz=133,slow=4.0,SNR=1.8							
SONM	Songino Array	83.58	323	P		P	14 10 07.0	+0.1
	comp=Z,2.1nm,0.9s,baz=139,slow=5.0,SNR=10.0							
ILAR	Eielson Array	87.09	18	P		P	14 10 22.1	-1.8
	comp=Z,1.3nm,0.8s,baz=232,slow=5.9,SNR=13							
NVAR	Mina Array Bea	87.27	49	P		P	14 10 25.7	0.0
	comp=Z,0.8nm,0.8s,baz=229,slow=9.0,SNR=6.9							
YKA	Yellowknife Ar	97.95	27	P		P	14 11 13.3	-0.9
	comp=Z,1.5nm,0.9s,baz=258,slow=3.7,SNR=5.7							
MKAR	Makanchi Array	98.29	316	P		Pdif	14 11 16.8	+0.7
	comp=Z,0.5nm,0.9s,baz=99,slow=5.4,SNR=3.0							

*IDC **20** 14:18:58.3±1.1, 36.27S×73.31W, h0km, mb4.0/8, mb1 4.1/11, mb1mx4.0/22, mbtmp4.0/11, ML4.0/3, MS3.7/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=34.9km s-min=17.4km az=73.0*

*GUC **20** 14:18:59.6±0.6, 36.22S×73.59W, h15km±7km, ML4.3*

*NEIC **20** 14:18:59.5±1.6, 36.22S±0.05×73.6W±0.1, h12km±4km, Error ellipse: s-maj=13.2km s-min=7.1km az=78.0*

*NEIC **20** 14:19:00.1, 36.19S×73.63W, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mw3.67; Mθθ-0.89; Mϕϕ-2.78; Mrr1.06; Mθϕ-0.24; Mϕr-4.13; Fault plane solution: M₀5.40000×10¹⁵ NP1:ϕs192.72000°, δ71.41000°, λ92.39000°. NP2:ϕs5.27000°, δ18.74000°, λ82.94000°. Principal axes: T 5.7886, Plg64.0000°, Azm107.0000°; N -0.8820, Plg2.0000°, Azm12.0000°; P -4.9067, Plg26.0000°, Azm281.0000°;*

*VAO **20** 14:19:12.1±0.3, 37.03S×73.37W, h175km, mb4.3*

ISC 20 14:18:58.4±1.8, **36.20S**±0.06×**73.58W**±0.05, **h6**km±12km, **n103, σ1s69/107, mb4.5/11, MS3.9/6, 8C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CCSP	San Pedro de C	0.74	149⇑	*e*P		Pg	14 19 12.5	-0.2
CCSP				*e*S		Sg	14 19 21.8	-0.5
CCSP				IAML			14 19 23.3	
	comp=N,64μm,0.4s							
GO05	Huala	1.80	49⇑	*e*P		Pn	14 19 29.7	-0.3
GO05				*e*S		Sn	14 19 52.3	-0.9
GO05	Huala	1.80	49			Pn	14 19 30.4	+0.4
BO03	Pichilemu	2.16	38⇑	*e*P		Pn	14 19 35.2	+0.3
BO03				*e*S		Sn	14 20 02.9	+0.9
BO03				IAML			14 20 18.2	
	comp=N,1μm,0.1s							
BO02	Sierra Bellavi	2.68	59⇑	*e*P		Pn	14 19 43.3	+1.1
BO02				IAML			14 20 31.8	
	comp=E,2μm,0.3s							
BO02	Sierra Bellavi	2.68	59			Pn	14 19 42.8	+0.6
BO01	Tunca	2.73	49⇑	*e*P		Pn	14 19 43.7	+0.9
BO01				*e*S		Sn	14 20 16.7	+0.6
BO01				IAML			14 20 33.7	
	comp=N,726nm,0.6s							
BO01	Tunca	2.73	49			Pn	14 19 43.8	+1.1
VA05	Santo Domingo	3.01	33⇓	*e*P		Pn	14 19 47.0	+0.4
VA05				*e*S		Sn	14 20 20.7	-2.4
VA05				IAML			14 20 52.4	
	comp=N,949nm,0.3s							
VA05	Santo Domingo	3.01	33			Pn	14 19 46.6	0.0
MT01	Popeta	3.02	40	*e*P		Pn	14 19 47.2	+0.5
MT01				*e*S		Sn	14 20 23.9	+0.7
MT01	Popeta	3.02	40			Pn	14 19 46.8	+0.1
MT09	Talagante	3.22	42⇑	*e*P		Pn	14 19 50.4	+0.7
MT09				*e*S		Sn	14 20 26.4	-2.1
MT09				IAML			14 20 53.4	
	comp=N,1μm,0.7s							
MT09	Talagante	3.22	42			Pn	14 19 50.4	+0.7
VA01	Torpederas	3.55	27	Pn		Pn	14 19 54.1	+0.1
MT02	Curacav	3.56	35⇓	*i*P		Pn	14 19 54.3	+0.1
MT02				IAML			14 21 02.5	
	comp=E,236nm,0.7s							
MT02	Curacav	3.56	35			Pn	14 19 54.2	0.0
LMEL	Las Melosas	3.63	51	*e*P		Pn	14 19 57.2	+1.9
MT05	Renca	3.65	41⇑	*i*P		Pn	14 19 56.4	+0.9
MT05	Renca	3.65	41	Pn		Pn	14 19 55.7	+0.2
MT03	Universidad Ad	3.70	44	*e*P		Pn	14 19 57.0	+0.8
MT03				*e*S		Sn	14 20 41.0	+0.8
MT03	Universidad Ad	3.70	44			Pn	14 19 57.0	+0.8
VA03	San Esteban	4.25	37⇑	*i*P		Pn	14 20 04.6	+0.8
VA03	San Esteban	4.25	37			Pn	14 20 04.5	+0.8
H03S1	Juan Fernandez	4.96	297	Pn		Pn	14 20 13.2	-0.1
H03S1				Sn		Sn	14 21 08.1	-2.7
	baz=242,slow=75,SNR=20							
H03S1				T		T	14 25 19.2	
	baz=118,slow=74,SNR=1199							
H03S3	Juan Fernandez	4.97	297	Pn		Pn	14 20 13.4	0.0
H03S3				Sn		Sn	14 21 08.3	-2.8
	baz=242,slow=75,SNR=15							
H03S3				T		T	14 25 25.8	
	baz=118,slow=74,SNR=914							
H03S2	Juan Fernandez	4.98	297	Pn		Pn	14 20 13.1	-0.3
H03S2				Sn		Sn	14 21 08.1	-3.2
	baz=242,slow=75,SNR=23							
H03S2				T		T	14 25 20.0	
	baz=118,slow=74,SNR=1542							
PLCA	Paso Flores	5.11	153	Pn		Pn	14 20 15.5	-0.1
	comp=E,1.3nm,0.3s,baz=330,slow=13,SNR=17							
PLCA				Sn		Sn	14 21 08.6	-6.3
	comp=E,2.9nm,0.3s,baz=357,slow=18,SNR=3.3							
PLCA				Lg		Lg	14 21 32.8	
	comp=E,2.8nm,0.3s,baz=26,slow=22,SNR=1.4							
PLCA	Paso Flores	5.11	153			Pn	14 20 15.4	-0.2
PLCA	Paso Flores	5.11	153	*e*P		Pn	14 20 16.1	+0.6
H03N1	Juan Fernandez	5.18	301	Pn		Pn	14 20 16.9	+0.7
H03N1				Sn		Sn	14 21 11.6	-4.6
H03N1				T		T	14 25 41.9	
	baz=155,slow=77,SNR=23							
H03N3	Juan Fernandez	5.18	300	Pn		Pn	14 20 16.9	+0.7
H03N3				Sn		Sn	14 21 11.9	-4.3
	baz=154,slow=74,SNR=18							
H03N3				T		T	14 25 48.7	
	baz=155,slow=77,SNR=33							
H03N2	Juan Fernandez	5.19	301	Pn		Pn	14 20 17.1	+0.7
H03N2				Sn		Sn	14 21 11.8	-4.7
	baz=353,slow=74,SNR=22							
H03N2				T		T	14 25 40.3	
	baz=155,slow=77,SNR=20							
LL05	Los Muermos	5.19	179			Pn	14 20 14.5	-2.2
CO03	El Pedregal	5.87	25	*e*P		Pn	14 20 22.2	-3.8
CO03	El Pedregal	5.87	25			Pn	14 20 22.6	-3.5
LL01	San Ignacio de	6.23	172			Pn	14 20 28.1	-2.8
GO04	Tololo Observa	6.45	22	Pn		Pn	14 20 31.0	-3.2
GO07	Milladeo Hill,	6.90	181			Pn	14 20 41.3	+1.2
AC02	Maricunga	10.08	23	Pn		Pn	14 21 23.9	-0.3
GO02	Mina Guanaco	11.53	18	Pn		Pn	14 21 42.0	-1.8
LVC	Limon Verde	14.14	18	LR		LR	14 28 10.8	
	comp=E,150nm,18.4s,baz=196,slow=39							
PB11	IPOC Station P	16.74	13	P		Pn	14 22 54.4	+0.7
CPUP	Villa Florida	17.00	59	Pn		Pn	14 22 55.3	-1.6
	comp=E,0.1nm,0.3s,baz=227,slow=15,SNR=1.6							
CPUP	Villa Florida	17.00	59	*e*P		P	14 23 02.1	+3.3
CPSB	Cacapava Do Su	17.79	77	*e*P		Pn	14 23 07.2	+0.5
PB16	IPOC Station P	18.16	12	P		Pn	14 23 11.9	+0.1
PB16				IAmb		IAmb	14 23 16.5	
	comp=Z,26nm,1.5s							
USHA	Ushuaia	18.96	171	P		Pn	14 23 21.7	+0.9
	comp=Z,1.2nm,0.3s,baz=335,slow=3.5,SNR=2.1							
ITAB	Concordia	20.29	70	*e*P		P	14 23 35.1	+0.3
LPAZ	La Paz	20.42	15	P		Pn	14 23 39.1	0.0
	comp=Z,1.8nm,0.6s,baz=151,slow=6.3,SNR=9.2							
LPAZ	La Paz	20.42	15			P	14 23 35.5	-1.5
PTGB	Pitanga	21.75	64	*e*P		P	14 23 51.9	+1.1
TER01	Tubaro-SC	21.99	77	*e*P		P	14 23 53.1	-0.1
AQDB	Aquidauana	22.15	50	P		P	14 23 54.6	-0.4
AQDB				IAmb		IAmb	14 23 58.9	
	comp=Z,14nm,0.6s							
TRCB	Terra Rica	22.54	59	*e*P		P	14 23 60.0	+0.7
SIV	San Ignacio	23.01	32	P		P	14 24 04.5	+0.4
	comp=Z,1.4nm,0.4s,baz=213,slow=6.2,SNR=7.0							
PTLB	Pontes e Lacer	24.36	36	*e*P		P	14 24 18.1	+0.9
FRTB	Fartura	24.39	65	*e*P		P	14 24 15.2	-2.5
PP1B	Ponte de Pedra	24.85	47	*e*P		P	14 24 22.2	+0.5
PET01	Itanhaem-SP	25.55	70	*e*P		P	14 24 27.2	-0.9
SALV	Santo Antonio	25.74	43	*e*P		P	14 24 30.2	+0.4
SPB	Sao Paulo	25.83	68	*e*P		P	14 24 28.3	-2.3
VILB	Vilhena	26.09	31	*e*P		P	14 24 35.2	+2.1
ITRB	Iturama	26.18	57	*e*P		P	14 24 33.9	0.0
BB19B	Bebedouro	26.56	62	*e*P		P	14 24 37.1	-0.2
ETMB	Extrema	27.11	16	*e*P		P	14 24 44.5	+2.3
ALF01	Guarapari-ES	32.62	71	*e*P		P	14 25 29.1	-1.9
PEXB	Peixe	33.09	50	*e*P		P	14 25 35.0	-0.2
NPGB	Novo Progresso	33.47	34	*e*P		P	14 25 38.1	-0.4
NAN01	Guarapari, ES	34.73	67	*e*P		P	14 25 47.4	-2.0
SDBA	SAO DESIDERIO	35.04	55	*e*P		P	14 25 51.9	-0.3
ITTB	Itaituba	35.69	32	*e*P		P	14 25 57.5	-0.2
GUA01	Guaratinga, BA	35.76	66	*e*P		P	14 25 56.0	-2.3
OTAV	Otavalo	36.54	352	*e*P		P	14 26 10.2	+4.7
BOAV	Boa Vista	40.29	20	*e*P		P	14 26 37.0	+0.5
MCPB	Macapa, AP	40.88	34	*e*P		P	14 26 42.1	+0.7
TMAB	Tom-Au,PA,Br	41.09	41	*e*P		P	14 26 43.3	+0.1
NBMA	Muriti-CE	42.82	56	*e*P		P	14 26 56.3	-1.0
NBPS	Pedro II - PI	43.31	51	*e*P		P	14 27 00.8	-0.6
NBPA	Parau_RN	45.11	57	*e*P		P	14 27 14.0	-1.8
NBCL	Cascavel-CE	45.46	54	*e*P		P	14 27 17.3	-1.1
VNA3	Neumayer Olymp	47.82	157	P		P	14 27 36.3	-0.1
VNA1	Neumayer--Stat	48.16	156	P		P	14 27 38.3	-0.6
SNAA	Sanae	50.04	157	P		P	14 27 53.1	-0.3
SNAA	Sanae	50.04	157	P		P	14 27 53.2	-0.2
SNAA				IAmb		IAmb	14 27 55.2	
	comp=Z,4.8nm,0.9s							
TBI	Tubuai	65.60	258	*e*LR		LR	14 49 26.3	
	comp=Z,151nm,29.5s							
MEH	Mehetia	67.33	264	*e*T		T	15 43 06.6	
	comp=Z,24nm,0.2s							
TIAR	Tiarei	68.53	264	*e*T		T	15 44 36.3	
	comp=Z,1.4nm,0.3s							
PPT2	Papeete2	68.70	263	*e*LR		LR	14 50 51.6	
	comp=Z,77nm,23.2s							
PPT	Papeete	68.71	263	LR		LR	14 52 54.7	
	comp=Z,58nm,20.9s,baz=144,slow=30							
TXAR	Lajitas Array	71.07	332	P		P	14 30 19.1	+1.7
	comp=Z,0.3nm,0.6s,baz=156,slow=9.0,SNR=5.6							
MAW	Mawson	71.42	164	LR		LR	15 03 31.1	
	comp=Z,57nm,18.7s,baz=238,slow=38							
SWET	Sewanee	71.98	349	P		P	14 30 23.4	+0.7
DBIC	Dimbokro	77.08	72	P		P	14 30 52.8	-0.1
	comp=Z,3.1nm,0.7s,baz=201,slow=8.3,SNR=4.0							
DBIC				LR		LR	15 03 55.8	
	comp=Z,40nm,18.1s,baz=185,slow=35							
BOSA	Boshof	80.16	118	P		P	14 31 09.6	-0.3
	comp=Z,1.7nm,0.8s,baz=242,slow=4.7,SNR=4.0							
ECSD	EROS Data Cent	82.28	343	P		P	14 31 20.5	+0.1
ECSD				IAmb		IAmb	14 31 22.4	
	comp=Z,6.3nm,1.2s							
NVAR	Mina Array Bea	84.99	326	P		P	14 31 36.6	+1.9
	comp=Z,0.3nm,0.6s,baz=146,slow=5.5,SNR=2.7							
TORD	Torodi Ar. Bea	86.14	71	P		P	14 31 40.0	-0.7
	comp=Z,0.4nm,0.5s,baz=218,slow=3.6,SNR=2.0							
TORD				LR		LR	15 09 38.1	
	comp=Z,44nm,18.3s,baz=200,slow=35							
TORD	Torodi Ar. Bea	86.14	71	IAmb		IAmb	14 31 50.8	
	comp=Z,3.2nm,1.2s							
TPAW	Teton Pass	86.30	334	P		P	14 31 38.8	-2.4
TPAW				IAmb		IAmb	14 31 45.5	
	comp=Z,2.9nm,0.8s							
ULM	Lac du Bonnet	88.31	346	P		P	14 31 50.7	+0.3
	comp=Z,1.7nm,0.5s,baz=163,slow=3.3,SNR=2.5							
ULM	Lac du Bonnet	88.31	346	IAmb		IAmb	14 31 53.5	
	comp=Z,3.0nm,0.9s							
ZALV	Zalesovo Beam	156.76	33	PKPab		PKPab	14 39 24.0	+0.5
	comp=Z,0.3nm,0.3s,baz=298,slow=3.1,SNR=3.7							

MEX 20 14:23:06.7±0.3, **15.69N**×**98.62W**, **h20**km±68km, **MD3.6, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CRIG	Cruz Grande	1.15	335	*e*P		Pn	14 23 24.6	-3.1
CRIG				*e*S		Sb	14 23 38.4	-4.1
TLIG	Tlapa	1.86	2	*e*P		Pn	14 23 34.7	-3.0
TLIG				*e*S		Sn	14 23 56.8	-3.9
FTIG	Fresnillo de T	2.26	12	*e*S		Sn	14 24 07.1	-3.2
HLIG	Huajuapan de L	2.27	20	*e*P		Pn	14 23 40.6	-2.7
HLIG				*e*S		Sn	14 24 07.0	-3.8
MEIG	Mezcala	2.42	337	*e*S		Sn	14 24 14.8	+0.4
ARIG	Puente Sto Nin	3.06	328	*e*P		Pb	14 24 00.4	-0.2

*IDC **20** 14:38:24.1±1.1, 25.51N×142.53E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/31, mbtmp3.8/9, MS3.2/3, Ms1 3.2/3, ms1mx2.7/38, Error ellipse: s-maj=47.2km s-min=16.6km az=86.0*

*NEIC **20** 14:38:30.3±3.0, 25.63N±0.09×141.7E±0.1, h35km±2km, mb4.3/8, Error ellipse: s-maj=23.0km s-min=10.5km az=238.0*

ISC 20 14:38:29.9±0.8, **25.46N**±0.08×**142.0E**±0.1, **h35**km, **n30, σ1s95/21, mb3.9/12, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JCJ	Chichijima	1.64	6	Pn		Pn	14 38 55.2	-1.0
	245nm,0.3s,baz=235,slow=7.0,SNR=56							
JCJ				Sn		Sn	14 39 17.8	+1.6
	74nm,0.3s,baz=302,slow=22,SNR=8.6							
JCJ	Chichijima	1.64	6			Pn	14 38 54.9	-1.3
MJAR	Matsushiro Arr	11.52	345			Pn	14 41 05.7	-6.1
JMM	Marumori	12.41	356	Pn		Pn	14 41 18.0	-6.1
KSRS	Korea Array	16.93	318	P		P	14 42 29.4	+3.8
	0.1nm,0.3s,baz=128,slow=12,SNR=4.5							
KSRS				LR		LR	14 48 03.4	
	comp=Z,21nm,20.7s,baz=148,slow=34							
SSLB	Suanglung	19.21	270	P		P	14 42 47.0	-3.9
TPUB	Ta-pu	19.58	268	P		Pn	14 42 54.1	-2.5
TPUB				IAmb		IAmb	14 42 54.4	
	comp=Z,12nm,1.0s							
H11N1	WAKE ISLAND Hy	23.66	99	T		T	15 07 08.6	
	baz=290,slow=75,SNR=8.6							
H11N2	WAKE ISLAND Hy	23.66	99	T		T	15 07 02.7	
	baz=290,slow=75,SNR=8.3							
H11N3	WAKE ISLAND Hy	23.68	99	T		T	15 07 09.2	
	baz=290,slow=75,SNR=11							
H11S3	WAKE ISLAND Hy	23.90	102	T		T	15 07 32.4	
	baz=291,slow=75,SNR=8.1							
H11S1	WAKE ISLAND Hy	23.90	102	T		T	15 07 34.8	
	baz=291,slow=75,SNR=9.9							
H11S2	WAKE ISLAND Hy	23.91	102	T		T	15 07 28.1	
	baz=291,slow=75,SNR=7.6							
KLR	Kul'dur	25.05	344	P		P	14 43 50.9	+0.2
	comp=Z,1.9nm,0.6s,baz=148,slow=10,SNR=7.8							
SONM	Songino Array	35.80	318	P		P	14 45 27.6	+1.8
	comp=Z,0.5nm,0.4s,baz=131,slow=8.2,SNR=3.1							
HNR	Honiara	38.83	151	LR		LR	15 01 06.0	
	comp=Z,42nm,20.1s,baz=64,slow=35							
CTAO	Charters Tower	45.46	174	P		P	14 46 46.6	+0.9
WB0	Warramunga Arr	45.56	190	P		P	14 46 48.4	+2.0
WB0				IAmb		IAmb	14 47 01.8	
	comp=Z,7.5nm,1.2s							
WR0	Warramunga Arr	45.72	190	P		P	14 46 48.1	+0.4
WR0				IAmb		IAmb	14 47 01.7	
	comp=Z,4.3nm,1.1s							
WB2	Warramunga Arr	45.73	190	P		P	14 46 48.8	+1.0
WB2				IAmb		IAmb	14 47 03.5	
	comp=Z,5.0nm,1.0s							
WRA	Warramunga Arr	45.74	190	P		P	14 46 49.0	+1.1
	comp=Z,1.0nm,0.4s,baz=7.9,slow=8.5,SNR=20							
WRA	Warramunga Arr	45.74	190	P		P	14 46 48.5	+0.6
FITZ	Fitzroy Crossi	46.13	202	P		P	14 46 52.5	+1.6
ASAR	Alice Springs	49.46	190	P		P	14 47 17.4	+0.6
	comp=

SVNB				SN	Sn	14 41 23.8	+1.0	
SVNB				Trac		14 41 26.1		
	comp=Z,27nm,0.1s							
SVNB	Stilesville Qu	1.81	12	Pn	Pn	14 41 00.3	+0.9	
SVNB				Sn	Sn	14 41 23.8	+1.0	
H65A	Eastbrook	2.04	280	P		14 41 02.8		
	baz=98,SNR=21							
H65A				S		14 41 27.4		
	baz=98							
G64A	Maxfield	2.52	291	P		14 41 09.6		
	baz=109,SNR=18							
F64A	Sherman	2.54	306		Pn	14 41 09.6	+0.2	
F64A	Sherman	2.54	306	P		14 41 09.8		
	baz=124							
E64A	Bridgewater	2.64	321	P		14 41 10.7		
	baz=139							
H64A	Troy	2.72	277	P		14 41 12.3		
	baz=94,SNR=13							
PKME	Peaks-Kenny Pk	2.88	289	PN	Pn	14 41 14.2	0.0	
PKME				SN	Sn	14 41 47.9	-1.2	
PKME				LG	Lg	14 41 57.8		
PKME				Trac		14 42 02.4		
	comp=Z,12nm,0.2s							
PKME	Peaks-Kenny Pk	2.88	289		Pn	14 41 14.8	+0.6	
PKME	Peaks-Kenny Pk	2.88	289	P		14 41 14.8		
	baz=106							
PKME				S		14 41 47.8		
	baz=106							
F63A	Nahmakanta, Br	2.92	298	Pn	Pn	14 41 15.2	+0.6	
F63A				lAmb_Lg		14 42 06.0		
	comp=Z,6.7nm,1.1s							
F63A	Nahmakanta, Br	2.92	298	P		14 41 15.3		
	baz=115,SNR=7.2							
F63A				S		14 41 49.1		
	baz=115							
PQI	Presque Isle	2.92	322		Pn	14 41 14.3	-0.3	
BATG	Bathurst New B	2.92	352	PN	Pn	14 41 14.9	+0.3	
BATG				SN	Sn	14 41 49.4	-0.6	
BATG				Trac		14 41 53.1		
	comp=Z,1.4nm,0.0s							
BATG	Bathurst New B	2.92	352		Pn	14 41 14.9	+0.3	
BATG	Bathurst New B	2.92	352	Pn	Pn	14 41 14.9	+0.3	
BATG				Sn	Sn	14 41 49.4	-0.6	
E63A	Oxbow	2.93	315		Pn	14 41 15.1	+0.3	
E63A	Oxbow	2.93	315	P		14 41 15.1		
	baz=132							
E63A				S		14 41 51.2		
	baz=132							
GBN	Guysborough	2.96	69	PN	Pn	14 41 16.8	+1.6	
GBN				SN	Sn	14 41 50.4	-0.6	
GBN				Trac		14 42 03.0		
	comp=Z,6.0nm,0.1s							
GBN	Guysborough	2.96	69	Pn	Pn	14 41 16.8	+1.6	
I64A	Boothbay	3.06	263	P		14 41 16.9		
	baz=80							
G63A	Kingsbury	3.07	285	P		14 41 17.3		
	baz=102,SNR=6.9							
D63A	Stockholm	3.24	326	P		14 41 19.9		
	baz=144							
D63A				S		14 41 57.6		
	baz=144							
F62A	Pittston Farm,	3.55	297	lAmb_Lg		14 42 19.7		
	comp=Z,4.4nm,0.9s							
E62A	Clayton Lake	3.64	309	Pn	Pn	14 41 24.2	-0.3	
E62A				lAmb_Lg		14 42 32.7		
	comp=Z,4.1nm,0.9s							
E62A	Clayton Lake	3.64	309	P		14 41 24.5		
	baz=126							
E62A				S		14 42 06.9		
	baz=126							
D62A	Allapoint, All	3.70	318		Pn	14 41 24.8	-0.5	
G62A	West of Eustis	3.73	285	Pn	Pn	14 41 26.1	+0.4	
G62A				lAmb_Lg		14 42 30.9		
	comp=Z,5.6nm,1.0s							
G62A	West of Eustis	3.73	285	P		14 41 26.4		
	baz=101							
H62A	Milan	4.10	275	Pn	Pn	14 41 31.4	+0.5	
E61A	Lac Etchemin	4.11	302	P		14 41 31.7		
	baz=118							
I62A	Tamworth	4.28	265	Pn	Pn	14 41 33.9	+0.5	
H61A	Lyndonville	4.65	274	P		14 41 38.5		
	baz=89							

*JMA **20** 14:49:34.8±0.2, 25°.62N×143°.23E, h0km±3km, M4.8*
*NEIC **20** 14:49:39.6±1.8, 25°.6N±0°.1×142°.7E±0°.2, h26km±7km, mb4.6/16, Error ellipse: s-maj=23.8km s-min=14.6km az=90.0*
*IDC **20** 14:49:42.2±2.0, 25°.60N×142°.77E, h50km±17km, mb3.9/18, mb1 4.0/21, mb1mx3.9/37, mbtmp4.2/21, ML3.4/3, MS3.0/5, Ms1 3.0/5, ms1mx2.6/51, Error ellipse: s-maj=20.5km s-min=13.3km az=87.0*
ISC 20 14:49:41.1±1.0, 25°.63N±0°.08×142°.8E±0°.1, h40km±8km, n71, σ1°64/78, mb4.4/27, MS3.3/5, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JHH2	Haha-jima-NKT2	1.13	332	P	Pn		14 50 01.1	+0.7
JHH2				S	Sn		14 50 20.1	+5.4
CBIJ	Chichi jima	1.55	340	P	Pn		14 50 06.9	+0.7
CBIJ				eS	Sn		14 50 29.7	+4.7
JCJ	Chichijima	1.55	340	P	Pn		14 50 07.2	+1.0
	784nm,0.3s,baz=234,slow=2.8,SNR=223							
JCJ				S	Sn		14 50 27.8	+2.8
	140nm,0.3s,baz=87,slow=24,SNR=4.2							
JCJ				LR	LR		14 50 39.2	
	comp=Z,111nm,21.7s,baz=122,slow=36							
JCJ	Chichijima	1.55	340	Pn	Pn		14 50 07.0	+0.8
JHU	Hanno	10.62	344	P	Pn		14 52 09.5	-1.1
JHU				eS	Sn		14 54 04.9	-3.3
JYT	Yasato	10.79	349		Pn		14 52 11.8	-1.2
JHO	Hitachi	11.10	351	P	Pn		14 52 14.9	-2.4
JAG	Ashikaga	11.12	346	P	Pn		14 52 15.0	-2.6
JAG				eS	Sn		14 54 14.9	-5.7
MJAR	Matsushiro Arr	11.55	341	P	Pn		14 52 23.1	-0.3
	0.1nm,0.3s,baz=152,slow=11,SNR=9.6							
MJAR	Matsushiro Arr	11.55	341	Pn	Pn		14 52 21.8	-1.6
JMM	Marumori	12.31	353	Pn	Pn		14 52 31.4	-2.4
JSD	Sado	12.94	344	Pn	Pn		14 52 39.2	-3.2
JOW	Kunigami	13.06	278	LR	LR		14 57 46.8	
	comp=Z,28nm,18.6s,baz=302,slow=37							
JTU	Tsushima	14.56	311	P	P		14 53 08.9	-0.4
JTM	Tenmabayashi	15.18	355	Pn	Pn		14 53 08.7	-3.9
JTM				lAmb	lAmb		14 53 14.9	
	comp=Z,44nm,1.5s							
ERM	Erimo	16.34	1	Pn	Pn		14 53 26.1	-1.4
ERM				lAmb	lAmb		14 53 53.8	
	comp=Z,65nm,1.1s							
KSRS	Korea Array	17.26	317	P	P		14 53 40.5	+0.3
	comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=14							
KSRS				LR	LR		14 59 37.3	
	comp=Z,77nm,19.5s,baz=132,slow=34							
JKA	Kamikawa-asahi	18.44	360	P	P		14 53 53.2	0.0
ASAJ	Asahikawa	18.44	360	P	Pn		14 53 53.7	+0.2
	comp=Z,0.4nm,0.3s,baz=254,slow=7.8,SNR=7.7							
ASAJ				LR	LR		15 01 17.5	
	comp=Z,27nm,21.3s,baz=180,slow=38							
USRK	Ussuriysk Ar.	20.49	337	P	P		14 54 16.5	+1.0
	comp=Z,3.7nm,0.7s,baz=169,slow=14,SNR=9.9							
USRK	Ussuriysk Ar.	20.49	337		P		14 54 15.8	+0.3
NJ2	Nanjing	21.88	293	eP	P		14 54 30.3	-0.3
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
CN2	Changchun	22.96	326	eP	P		14 54 44.5	+2.5
H11N2	WAKE ISLAND Hy	23.01	100	T	T		15 18 16.2	
	baz=291,slow=74,SNR=11							
H11N1	WAKE ISLAND Hy	23.01	100	T	T		15 18 16.0	
	baz=291,slow=74,SNR=12							
H11N3	WAKE ISLAND Hy	23.02	100	T	T		15 18 23.4	
	baz=291,slow=74,SNR=14							
H11S3	WAKE ISLAND Hy	23.26	103	T	T		15 18 31.4	
	baz=292,slow=75,SNR=3.7							
H11S1	WAKE ISLAND Hy	23.26	103	T	T		15 18 34.3	
	baz=292,slow=75,SNR=6.0							
H11S2	WAKE ISLAND Hy	23.27	103	T	T		15 18 32.5	
	baz=292,slow=75,SNR=7.5							
KLR	Kul'dur	25.07	343	P	P		14 55 03.1	+1.4
	comp=Z,6.3nm,0.6s,baz=148,slow=8.0,SNR=38							
HHC	Hu-ho-hao-te	30.00	308	eP	P		14 55 46.4	+0.3
HHC				S	S		15 00 31.6	-10
HHC				pmax	pmax			
	comp=Z,24nm,0.8s							
HHC				pmax	pmax			
	comp=Z,71nm,4.9s							
HHC				L	L			
	comp=Z,79nm,12.2s							
HHC				L	L			
	comp=Z,150nm,13.0s							
HHC				L	L			
	comp=Z,92nm,12.1s							
CD2	Chengdu	34.63	288	iP	P		14 56 26.5	-0.2
CD2				pmax	pmax			
	comp=Z,30nm,0.6s							
LZH	Lanzhou	34.80	297	eP	P		14 56 27.6	-0.6
LZH				pP	pP		14 56 38.0	-0.5
LZH				sP	pwP		14 56 39.8	-1.9
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
SONM	Songino Array	36.13	317	P	P		14 56 38.3	-1.2
	comp=Z,1.9nm,0.5s,baz=133,slow=9.4,SNR=11							
SONM				PcP	PcP		14 59 04.6	-0.1
	comp=Z,0.9nm,0.8s,baz=129,slow=1.7,SNR=4.6							
SONM				LR	LR		15 11 28.8	
	comp=Z,36nm,21.0s,baz=87,slow=36							
CMAR	Chiang Mai Arr	41.10	269	P	P		14 57 22.6	+1.2
	comp=Z,1.2nm,0.7s,baz=68,slow=7.7,SNR=8.2							
CMAR	Chiang Mai Arr	41.10	269	P	P		14 57 20.0	-1.3
BILL	Bilibino	44.76	12	P	P		14 57 50.1	-0.2
BILL				lAmb	lAmb		14 58 08.9	
	comp=Z,2.5nm,0.5s							
WRAB	Tennant Creek	46.03	191	P	P		14 58 00.9	0.0
WB2	Warramunga Arr	46.04	191	P	P		14 58 00.9	-0.1
WRA	Warramunga Arr	46.04	191	P	P		14 58 01.0	0.0
	comp=Z,3.8nm,0.4s,baz=8.2,slow=8.5,SNR=63							
WRA	Warramunga Arr	46.04	191	P	P		14 58 00.9	-0.1
WMQ	Urumqi	47.86	307	eP	P		14 58 16.0	+0.9
WMQ				L	L			
	comp=Z,160nm,25.3s							
WMQ				L	L			
	comp=Z,100nm,25.3s							
WMQ				L	L			
	comp=Z,6.0nm,29.5s							
ASAR	Alice Springs	49.76	191	P	P		14 58 29.0	-0.7
	comp=Z,0.7nm,0.6s,baz=16,slow=9.3,SNR=9.0							
ZALV	Zalesovo Beam	50.93	320	P	P		14 58 38.2	-0.1
	comp=Z,1.0nm,0.3s,baz=119,slow=8.6,SNR=3.5							
ZALV				PcP	PcP		14 59 54.1	-0.1
	comp=Z,2.4nm,0.7s,baz=120,slow=4.7,SNR=7.9							
ZALV				LR	LR		15 20 41.1	
	comp=Z,26nm,19.1s,baz=102,slow=36							
MK31	Makanchi Array	51.81	310	P	P		14 58 43.9	-1.2
MKAR	Makanchi Array	51.81	310	P	P		14 58 44.1	-1.0
	comp=Z,1.4nm,0.5s,baz=91,slow=9.4,SNR=18							
MKAR				PcP	PcP		14 59 58.4	+0.6
	comp=Z,1.1nm,0.7s,baz=79,slow=6.3,SNR=5.9							
RDOG	Red Dog Mine	53.37	22	P	P		14 58 58.0	+1.8
NRIK	Norilʹsk	54.19	339	P	P		14 59 02.8	+0.6
	comp=Z,5.8nm,0.7s,baz=106,slow=11,SNR=5.9							
KDAK	Kodiak Island	55.23	36	P	P		14 59 09.7	-0.1
	comp=Z,1.5nm,0.6s,baz=302,slow=8.9,SNR=5.0							
STKA	Stephens Creek	57.20	181	P	P		14 59 23.9	-0.3
	comp=Z,2.6nm,0.7s,baz=349,slow=10,SNR=4.7							
I23K	Minto, Yukon-K	57.75	28	P	P		14 59 29.7	+2.0
ILAR	Eielson Array	58.74	28	P	P		14 59 33.9	-0.8
	comp=Z,1.9nm,0.9s,baz=261,slow=6.2,SNR=19							
SCRK	Sand Creek	59.94	29	P	P		14 59 43.4	+0.3
SCRK				lAmb	lAmb		14 59 48.1	
	comp=Z,3.9nm,0.9s							
KKAR	Karatay Array	60.37	307	P	P		14 59 46.0	-0.2
ARU	Arti	65.90	323	P	P		15 00 22.8	+0.1
ABKAR	Akbulak array	66.49	315	P	P		15 00 26.1	-0.4
ABKAR	Akbulak array	66.49	315	P	P		15 00 25.7	-0.9
ABKAR				lAmb	lAmb		15 00 27.4	
	comp=Z,5.3nm,0.7s							
ARCES	ARCESS Array B	75.09	341	P	P		15 01 18.8	+0.3
	comp=Z,0.7nm,0.5s,baz=64,slow=8.5,SNR=8.2							
ARCES	ARCESS Array B	75.09	341	lAmb	lAmb		15 01 46.8	
	comp=Z,11nm,1.4s							
KBZ	Khabaz	79.39	313	P	P		15 01 43.5	+0.5
	comp=Z,6.6nm,0.9s,baz=100,slow=4.9,SNR=10							
FIA1	FINESS Array S	79.48	334	P	P		15 01 42.8	-0.4
FIA1				lAmb	lAmb		15 01 53.9	
	comp=Z,4.9nm,0.7s							
FINES	FINESS Array B	79.48	334	P	P		15 01 43.6	+0.4
	comp=Z,3.5nm,0.4s,baz=72,slow=4.8,SNR=89							
FINES	FINESS Array B	79.48	334		P		15 01 43.4	+0.2
NVAR	Mina Array Bea	81.01	52	P	P		15 01 53.7	+1.5
	comp=Z,0.7nm,0.9s,baz=282,slow=6.0,SNR=4.0							
MNK	Minsk	82.65	328	iP	P		15 01 59.0	-1.2
	comp=E,2.0nm,1.0s							
MNK				iP	P		15 01 59.0	-1.2
	comp=N,45nm,1.5s							
MNK				iP	P		15 01 59.0	-1.2
	comp=Z,3.0nm,0.8s,baz=236							
MNK				iPcP	PcP		15 02 03.7	-1.4
MNK				iPP	PP		15 05 08.8	-0.8
MNK				iPPP	PPP		15 07 00.2	
MNK				iS	S		15 12 15.1	+0.4
MNK				iScS	ScS		15 12 28.8	-0.7
MNK				iSS	SS		15 17 37.6	+1.6
MNK				iSSS	SSS		15 21 06.9	
MNK				iLQ	LQ		15 33 26.1	
MNK				iLQ	LQ		15 33 26.1	
MNK				iLR	LR		15 39 43.9	
MNK				iLRM	MLR		15 41 32.2	
	comp=E,15nm,28.0s							
MNK				iLRM	MLR		15 41 34.8	
	comp=N,236nm,28.0s							
MNK				iLRM	MLR		15 42 07.8	
	comp=Z,77nm,24.8s							
AKASG	Malin Array Be	84.10	324	P	P		15 02 07.7	0.0
	comp=Z,1.5nm,0.7s,baz=46,slow=5.3,SNR=5.9							
NOA	NORSAR Array B	85.16	339	P	P		15 02 13.0	0.0
	comp=Z,1.7nm,0.8s,baz=46,slow=4.8,SNR=11							
RAYN	Ar Rayn	86.22	294	P	P		15 02 19.2	+0.3
RAYN				lAmb	lAmb		15 02 21.3	
	comp=Z,4.3nm,0.8s							
PTGA	Pitinga	146.93	45	PKPbc	PKPbc		15 09 20.1	0.0
	comp=Z,1.8nm,0.6s,baz=283,slow=23,SNR=2.5							
PLCA	Paso Flores	148.53	127	PKPbc	PKPdf		15 09 21.1	+0.9
	comp=Z,2.2nm,0.8s,baz=304,slow=6.1,SNR=3.0							
LPAZ	La Paz	149.75	78	PKPbc	PKiKP		15 09 29.4	+0.3
	comp=Z,0.9nm,0.6s,baz=270,slow=2.3,SNR=4.9							

*KRSC **20** 15:06:38.8±2.1, 49°.77N×156°.27E, h120km±21km, ML4.3*
*MOS **20** 15:06:38.0±1.0, 50°.03N×155°.20E, h150km, mb4.4/1, Error ellipse: s-maj=15.6km s-min=4.6km az=68.2*
*IDC **20** 15:06:40.7±2.0, 50°.22N×155°.05E, h152km±18km, mb3.4/14, mb1 3.5/18, mb1mx3.4/48, mbtmp3.8/18, Error ellipse: s-maj=18.2km s-min=12.1km az=144.0*
ISC 20 15:06:37.0±0.7, 50°.02N±0°.09×155°.25E±0°.08, h119km, n85, σ2°57/92, mb3.7/15, 3C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SKR	Severo-Kuril's	0.87	40	iP	Pn		15 07 00.3	+2.7
SKR				eS	Sn		15 07 16.8	+3.6
SKR				pmax	pmax			
	comp=Z,455nm,0.5s							
SKR				smax	smax			
	comp=N,657nm,0.9s							
SKR				smax	smax			
	comp=E,465nm,0.7s							
SKR	Severo-Kuril's	0.87	40	eP	Pn		15 07 00.2	+2.7
SKR				eS	Sn		15 07 17.0	+3.8
PAU	Pauzhetka	1.76	34	PN	Pn		15 07 09.7	+2.4
PAU				S	Sn		15 07 33.8	+3.3
PAU	Pauzhetka	1.76	34	eP	Pn		15 07 09.7	+2.4
PAU				eS	Sn		15 07 33.8	+3.3
KDTR	Khodutka, Kamc	2.53	44	PN	Pn		15 07 17.9	+0.8
KDTR				S	Sn		15 07 48.0	+0.1
KDTR	Khodutka, Kamc	2.53	44	eP	Pn		15 07 17.9	+0.8
KDTR				eS	Sn		15 07 48.0	+0.1
MTVR	Mutnovka	3.08	36	PN	Pn		15 07 27.3	+3.0
MTVR				S	Sn		15 08 03.2	+2.3
MTVR	Mutnovka	3.08	36	eP	Pn		15 07 27.3	+3.0
MTVR				eS	Sn		15 08 03.2	+2.3
GRL	Gorelyy	3.09	34	PN	Pn		15 07 28.0	+3.5
GRL	Gorelyy	3.09	34	eP	Pn		15 07 28.0	+3.5
APC	Apacha	3.15	22	PN	Pn		15 07 30.1	+5.1
APC	Apacha	3.15	22	eP	Pn		15 07 30.1	+5.1
RUS	Russkaya	3.17	39	PN	Pn		15 07 26.7	+1.3
RUS				S	Sn		15 08 02.7	-0.1
RUS	Russkaya	3.17	39	eP	Pn		15 07 26.7	+1.3
RUS				eS	Sn		15 08 02.7	-0.1
KRMR	Karymshinskiy	3.34	32	PN	Pn		15 07 31.2	+3.6
KRMR	Karymshinskiy	3.34	32	eP	Pn		15 07 32.1	+3.0
PEA0B	Petropavlovsk-	3.45	25	iePN	Pn		15 07 32.1	+3.0
PETK	Petropavlovsk-	3.45	25	P	Pn		15 07 32.1	+3.0
	comp=E,1.4nm,0.3s,baz=172,slow=11,SNR=32							
PET	Petropavlovsk	3.68	34	ePN	Pn		15 07 34.8	+2.6
PET				eS	Sn		15 08 14.8	-0.1
PET				smax	smax			
	comp=N,67nm,0.7s							
PET				smax	smax			
	comp=E,32nm,0.5s							
PET	Petropavlovsk	3.68	34	eP	Pn		15 07 35.0	+2.8
DALK	Dalny	3.73	35	PN	Pn		15 07 36.1	+3.4
DALK	Dalny	3.73	35	eP	Pn		15 07 36.1	+3.4
UGLR	Uglovaya	3.89	34	PN	Pn		15 07 38.8	+3.7
UGLR	Uglovaya	3.89	34	eP	Pn		15 07 38.8	+3.7
KOK	Koryaka	3.90	31	PN	Pn		15 07 38.8	+3.7
KOK	Koryaka	3.90	31	eP	Pn		15 07 38.8	+3.7
AVH	Avacha	3.91	32	PN	Pn		15 07 39.0	+3.7
AVH	Avacha	3.91	32	eP	Pn		15 07 39.0	+3.7
SMAR	Somma	3.93	33	PN	Pn		15 07 39.6	+3.9
SMAR	Somma	3.93	33	eP	Pn		15 07 39.6	+3.9
KRER	Koryakskii	3.94	32	PN	Pn		15 07 39.2	+3.3
KRER	Koryakskii	3.94	32	eP	Pn		15 07 39.2	+3.3
KRX	Arik	3.96	31	PN	Pn		15 07 39.3	+3.3
KRX	Arik	3.96	31	eP	Pn		15 07 39.3	+3.3
SDLR	Sedlovina	3.97	33	PN	Pn		15 07 38.7	+2.6
SDLR	Sedlovina	3.97	33	eP	Pn		15 07 38.7	+2.6
GNL	Ganaly	4.04	23	PN	Pn		15 07 40.2	+3.1
GNL	Ganaly	4.04	23	eP	Pn		15 07 40.2	+3.1
NLC	Nalytchevo	4.06	37	eS	Sn		15 08 22.7	-1.2
KZV	Kizimen	5.96	29	PN	Pn		15 08 05.1	+2.3
KZV	Kizimen	5.96	29	eP	Pn		15 08 05.1	+2.3
MKZ	Mys Kozlova	6.04	39	PN	Pn		15 08 04.0	+0.3
MKZ				S	Sn		15 09 07.9	-3.5
MKZ	Mys Kozlova	6.04	39	eP	Pn		15 08 04.0	+0.3
MKZ				eS	Sn		15 09 07.9	-3.5
TUMR	Tumrok	6.05	28	PN	Pn		15 08 07.2	+3.1
TUMR	Tumrok	6.05	28	eP	Pn		15 08 07.2	+3.1
TUMD	Tumrok D	6.07	29	eP	Pn		15 08 08.5	+4.3
KMNR	Kamenistaya	6.49	26	PN	Pn		15 08 12.8	+2.8
KMNR	Kamenistaya	6.49	26	eP	Pn		15 08 12.8	+2.8
KUR	Kuril'sk	6.91	229	PN	Pn		15 08 18.7	+3.1
KUR				eS	Sn		15 09 37.8	+5.1
KUR				smax	smax			
	comp=N,20nm,0.2s							
NMR	Nemuro--Hokkai	9.32	228	ePN	Pn		15 08 45.0	-3.2
ASAJ	Asahikawa	10.45	240	P	Pn		15 09 06.0	+2.6
	comp=N,1.4nm,0.3s,baz=64,slow=12,SNR=26							
ERM	Erimo	11.60	231	iePN	Pn		15 09 17.6	-1.1
KLR	Kul'dur	15.24	276	P	P		15 10 07.3	-0.4
	comp=N,0.1nm,0.3s,baz=95,slow=11,SNR=4.9							
KLR	Kul'dur	15.24	276	eP	P		15 10 07.6	-0.2
KLR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MJAO	Matsu Arr-Jizo	18.23	229	eP	Pn		15 10 41.7	-0.6
MAJO	Matsushiro	18.25	229	iePN	Pn		15 10 41.2	-1.3
MAJO				pmax	pmax			
	comp=Z,24nm,2.7s							
MJAR	Matsushiro Arr	18.25	229	P	Pn		15 10 41.7	-0.8
	comp=Z,0.1nm,0.3s,baz=45,slow=9.6,SNR=13							
YAK	Yakutsk	18.52	320	iePN	P		15 10 43.6	-0.1
YAK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BILL	Bilibino	18.88	13	eP	P		15 10 47.6	-0.1
BILL				pmax	pmax			
	comp=Z,2.0nm,1.3s							
KSRS	Korea Array	23.25	248	P	P		15 11 35.3	+1.6
	comp=Z,1.0nm,0.7s,baz=44,slow=10,SNR=7.9							
TIXI	Tiksi	24.79	340	P	P		15 11 45.3	-2.0
	comp=Z,0.9nm,0.3s,baz=120,slow=15,SNR=2.6							
TIXI	Tiksi	24.79	340	iePN	P		15 11 45.7	-1.6
H11N2	WAKE ISLAND Hy	31.62	159	T	T		15 46 23.3	
	baz=352,slow=74,SNR=8.5							
H11N1	WAKE ISLAND Hy	31.63	159	T	T		15 45 37.5	
	baz=352,SNR=7.0							
H11N3	WAKE ISLAND Hy	31.63	159	T	T		15 46 30.6	
	baz=352,slow=74,SNR=9.0							
H11S1	WAKE ISLAND Hy	32.75	160	T	T		15 47 06.6	
	baz=347,slow=76,SNR=71							
H11S3	WAKE ISLAND Hy	32.76	160	T	T		15 47 25.3	
	baz=347,slow=76,SNR=62							
H11S2	WAKE ISLAND Hy	32.77	160	T	T		15 47 08.0	
	baz=347,slow=76,SNR=50							
ILAR	Eielson Array	33.13	42	P	P		15 13 01.4	+0.1
	comp=Z,0.3nm,0.5s,baz=266,slow=6.9,SNR=6.7							
ZALV	Zalesovo Beam	41.92	304	P	P		15 14 14.0	-1.4
	comp=Z,0.9nm,0.5s,baz=59,slow=6.9,SNR=4.0							
ZALV	Zalesovo Beam	41.92	304	P	P		15 14 14.0	-1.4
MKAR	Makanchi Array	46.75	296	P	P		15 14 52.5	-1.5
	comp=Z,0.5nm,0.6s,baz=67,slow=8.5,SNR=7.9							
MKAR				PcP	PcP		15 16 24.4	-0.9
	comp=Z,0.1nm,0.3s,baz=62,slow=5.1,SNR=1.7							
KURK	Kurchatov	46.79	302	P	P		15 14 54.1	0.0
KURBB	Kurchatov Arra	46.88	302	P	P		15 14 54.0	-0.8
	baz=66,slow=8.2							
CMAR	Chiang Mai Arr	54.54	256	P	P		15 15 53.5	+0.9
	comp=Z,1.2nm,0.6s,baz=31,slow=7.0,SNR=7.9							
NVAR	Mina Array Bea	59.71	65	P	P		15 16 30.3	+1.2
	comp=Z,0.4nm,0.5s,baz=293,slow=7.8,SNR=5.2							
FINES	FINESS Array B	61.68	335	P	P		15 16 39.6	-2.2
	comp=Z,0.5nm,0.4s,baz=37,slow=6.8,SNR=9.4							
OBN	Obninsk	63.41	326	eP	P		15 16 51.8	-1.5
OBN				e			15 17

WRA	**Warramunga Arr**	**35.53**	**121**	P	**P**	**15 21 59.0**	**+0.8**
	0.2nm,0.3s,baz=299,slow=10,SNR=21							
ASAR	**Alice Springs**	**36.88**	**127**	P	**P**	**15 22 10.2**	**+0.5**
	0.7nm,0.5s,baz=302,slow=7.8,SNR=32							
STKA	**Stephens Creek**	**46.88**	**133**	P	**P**	**15 23 31.3**	**+0.8**
	1.1nm,0.4s,baz=320,slow=6.8,SNR=4.4							
SONM	**Songino Array**	**50.37**	**3**	P	**P**	**15 23 58.5**	**+1.6**
	0.6nm,0.6s,baz=192,slow=8.7,SNR=3.0							
MKAR	**Makanchi Array**	**52.34**	**343**	P	**P**	**15 24 11.0**	**-0.4**
	0.3nm,0.4s,baz=151,slow=8.7,SNR=6.5							
KURBB	**Kurchatov Arra**	**56.88**	**342**	P	**P**	**15 24 43.3**	**-0.6**
	0.2nm,0.4s,baz=159,slow=7.2,SNR=2.9							
ZALV	**Zalesovo Beam**	**58.27**	**348**	P	**P**	**15 24 53.0**	**-0.5**
	0.6nm,0.5s,baz=125,slow=7.6,SNR=2.0							

MOS ***20*** *15:37:29.2±1.0, 43.°44N×147.°80E, h49km, mb4.7/4, Error ellipse: s-maj=9.5km s-min=8.7km az=80.0*
NIED ***20*** *15:37:30.0, 43.°45N×147.°57E, h12km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.09; Mθθ-0.09; Mφφ-3.00; Mrθ1.12; Mθφ-1.73; Mφr-2.61; Fault plane solution: M₀4.50000×10¹⁴ NP1: φs178.00000°, δ65.00000°, λ62.00000°. NP2:φs50.00000°, δ36.00000°, λ135.00000°.*
JMA ***20*** *15:37:30.0±0.2, 43.°45N×147.°57E, h12km, M3.9*
SKHL ***20*** *15:37:30.7±0.1, 43.°50N×147.°80E, h52km±7km, mb4.9/3*
NEIC ***20*** *15:37:31.3±2.2, 43.°4N±0.°1×147.°8E±0.°1, h49km±7km, mb4.2/8, Error ellipse: s-maj=17.0km s-min=12.0km az=133.0*
IDC ***20*** *15:37:32.6±2.5, 43.°58N×147.°62E, h50km±24km, mb3.6/12, mb1 3.7/16, mb1mx3.5/44, mbtmp3.8/16, ML3.0/4, MS2.6/5, Ms1 2.6/5, ms1mx2.4/39, Error ellipse: s-maj=26.4km s-min=17.8km az=154.0*

ISC 20 15:37:30.6±0.8, 43.°48N±0.°06×147.°76E±0.°07, h37km±2km, n87, σ1°±44/93, mb4.0/19, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.47**	**266**	P		**Pn**	**15 37 54.3**	**-0.2**
NEM2				*e*S		**Sn**	**15 38 12.1**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.48**	**292**	⇓*i*PN		**Pn**	**15 37 53.9**	**-0.7**
YUK				*i* S		**Sn**	**15 38 11.2**	**-1.5**
YUK				smax	smax			
	comp=E,1μm,0.4s							
YUK				smax	smax			
	comp=N,1μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.48**	**292**	*i* P		**Pn**	**15 37 53.8**	**-0.8**
YUK				AMB	AMB		15 37 54.3	
	comp=N,580nm,0.4s							
YUK				*i* S		**Sn**	**15 38 11.0**	**-1.7**
YUK				A	A		15 38 12.3	
	comp=N,1μm,0.4s							
YUK				A	A		15 38 12.3	
	comp=N,1μm,0.4s							
NMR	**Nemuro--Hokkai**	**1.48**	**266**	⇓*i*PN		**Pn**	**15 37 54.3**	**-0.3**
NMR				S		**Sn**	**15 38 12.8**	**+0.1**
NMR	**Nemuro--Hokkai**	**1.48**	**266**	*e*P		**Pn**	**15 37 54.7**	**+0.1**
NMR				*e*S		**Sn**	**15 38 12.3**	**-0.4**
GRPR	**Tuman**	**1.53**	**290**	⇓*i*PN		**Pn**	**15 37 55.1**	**-0.1**
GRPR				*i* S		**Sn**	**15 38 11.9**	**-1.9**
GRPR				pmax	pmax			
	comp=Z,682nm,0.4s							
GRPR				smax	smax			
	comp=N,2μm,0.4s							
GRPR				smax	smax			
	comp=E,1μm,0.2s							
GRPR	**Tuman**	**1.53**	**290**	*i* P		**Pn**	**15 37 55.1**	**-0.1**
GRPR				AMB	AMB		15 37 56.8	
	comp=E,680nm,0.4s							
GRPR				*i* S		**Sn**	**15 38 11.9**	**-1.9**
GRPR				A	A		15 38 13.4	
	comp=E,2μm,0.4s							
GRPR				A	A		15 38 13.4	
	comp=E,1μm,0.4s							
GLVR	**Golovnino**	**1.65**	**280**	*e*PN		**Pn**	**15 37 57.1**	**+0.2**
GLVR				*e*S		**Sn**	**15 38 17.0**	**+0.3**
GLVR				smax	smax			
	comp=N,2μm,0.3s							
GLVR				smax	smax			
	comp=E,985nm,0.3s							
GLVR	**Golovnino**	**1.65**	**280**	*i* P		**Pn**	**15 37 57.1**	**+0.2**
GLVR				*e*S		**Sn**	**15 38 17.0**	**+0.3**
GLVR				A	A		15 38 17.8	
	comp=E,2μm,0.4s							
GLVR				A	A		15 38 17.8	
	comp=E,990nm,0.4s							
KUR	**Kuril'sk**	**1.75**	**3**	*e*PN		**Pn**	**15 37 58.3**	**0.0**
KUR				*i* S		**Sn**	**15 38 18.7**	**-0.6**
KUR				pmax	pmax			
	comp=N,93nm,0.3s							
KUR				pmax	pmax			
	comp=Z,135nm,0.3s							
KUR				pmax	pmax			
	comp=E,46nm,0.2s							
KUR				smax	smax			
	comp=N,548nm,0.3s							
KUR				smax	smax			
	comp=E,405nm,0.4s							
KUR	**Kuril'sk**	**1.75**	**3**	*e*P		**Pn**	**15 37 57.9**	**-0.4**
KUR				AMB	AMB		15 38 00.5	
	comp=E,190nm,0.3s							
KUR				*e*S		**Sn**	**15 38 17.4**	**-1.9**
KUR				A	A		15 38 20.7	
	comp=E,660nm,0.3s							
KUR				A	A		15 38 20.7	
	comp=E,430nm,0.3s							
RUSJ	**Misakicho**	**1.92**	**290**	*i* PN		**Pn**	**15 38 01.0**	**+0.4**
RUSJ				*e*S		**Sn**	**15 38 25.2**	**+1.7**
JKHN	**Kushirohamanak**	**1.94**	**259**	P		**Pn**	**15 38 01.6**	**+0.7**
JRA	**Rausu**	**1.96**	**284**	P		**Pn**	**15 38 01.7**	**+0.5**
JRA				*e*S		**Sn**	**15 38 24.9**	**+0.3**
JNSB	**Nemuroshibetsu**	**2.02**	**279**	P		**Pn**	**15 38 02.9**	**+0.9**
JNSB				*e*S		**Sn**	**15 38 26.7**	**+0.7**
JNK	**Nakash**	**2.21**	**274**	P		**Pn**	**15 38 04.8**	**+0.1**
JAK	**Akkeshi**	**2.29**	**259**	P		**Pn**	**15 38 05.9**	**+0.2**
JTKR	**Abashiri--Toko**	**2.83**	**281**	P		**Pn**	**15 38 14.5**	**+1.3**
JAR	**Ashorobuto**	**2.91**	**268**	P		**Pn**	**15 38 15.3**	**+1.0**
JOB	**Onbets**	**2.93**	**260**	P		**Pn**	**15 38 15.4**	**+0.9**
JMP	**Maruseppu**	**3.23**	**281**	P		**Pn**	**15 38 20.3**	**+1.6**
JCH	**Churui**	**3.34**	**256**	P		**Pn**	**15 38 21.0**	**+0.9**
JCH				*e*S		**Sn**	**15 38 58.7**	**+0.2**
ERM	**Erimo**	**3.69**	**248**	PN		**Pn**	**15 38 27.9**	**+2.9**
ERM	**Erimo**	**3.69**	**248**			**Pn**	**15 38 27.9**	**+2.9**
JEM	**Erimo**	**3.69**	**248**			**Pn**	**15 38 28.1**	**+3.1**
JFR	**Furan**	**3.78**	**267**	P		**Pn**	**15 38 28.1**	**+1.8**
JFR				*e*S		**Sn**	**15 39 11.3**	**+1.8**
JKA	**Kamikawa-asahi**	**3.79**	**281**	Pn		**Pn**	**15 38 28.6**	**+2.3**
JKA	**Kamikawa-asahi**	**3.79**	**281**	*e*P		**Pn**	**15 38 28.6**	**+2.3**
ASAJ	**Asahikawa**	**3.79**	**281**	P		**Pn**	**15 38 28.6**	**+2.2**
	comp=E,5.3nm,0.3s,baz=118,slow=10,SNR=29							
ASAJ				LR	LR		15 39 16.1	
	comp=E,20nm,20.8s,baz=41,slow=28							
JNBK	**Urakawa-nobuka**	**3.87**	**254**	P		**Pn**	**15 38 28.9**	**+1.5**
JEW	**Eniwo**	**4.66**	**264**			**Pn**	**15 38 40.6**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.95**	**316**	⇑*e*PN		**Pn**	**15 38 43.7**	**+1.4**
YSS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
YSS				MLR	MLR			
	comp=Z,100nm,13.0s							
YSS	**Yuzh-Sakhalins**	**4.95**	**316**			**Pn**	**15 38 42.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.95**	**316**	*e*P		**Pn**	**15 38 43.7**	**+1.4**
YSS				AMB	AMB		15 38 47.0	
	comp=Z,10.0nm,1.0s							
YSS				*e*S		**Sn**	**15 39 36.6**	**-1.6**
YSS				A	A		15 39 38.6	
	comp=Z,10.0nm,0.7s							
JTM	**Tenmabayashi**	**5.66**	**244**			**Pn**	**15 38 52.0**	**0.0**
JMM	**Marumori**	**7.71**	**226**	Pn		**Pn**	**15 39 20.1**	**-0.1**
JSD	**Sado**	**9.03**	**236**	Pn		**Pn**	**15 39 39.1**	**+0.8**
MJAR	**Matsushiro Arr**	**10.08**	**230**	P		**Pn**	**15 39 53.3**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=32,slow=13,SNR=4.6							
MAJO	**Matsushiro**	**10.08**	**230**	⇓*e*PN		**Pn**	**15 39 54.9**	**+2.2**
PEA0B	**Petropavlovsk-**	**11.67**	**31**	PN		**Pn**	**15 40 15.3**	**+0.9**
PEA0B	**Petropavlovsk-**	**11.67**	**31**	Pn		**Pn**	**15 40 15.3**	**+0.9**
PETK	**Petropavlovsk-**	**11.67**	**31**	P		**Pn**	**15 40 14.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=209,slow=12,SNR=6.8							
PETK				LR	LR		15 44 36.1	
	comp=Z,32nm,20.0s,baz=237,slow=36							
PETK	**Petropavlovsk-**	**11.67**	**31**	PN		**Pn**	**15 40 15.5**	**+1.1**
PETK	**Petropavlovsk-**	**11.67**	**31**	Pn		**Pn**	**15 40 15.5**	**+1.1**
KLR	**Kul'dur**	**12.45**	**303**	LR		LR	15 44 21.0	
	comp=Z,13nm,18.8s,baz=99,slow=33							
KSRS	**Korea Array**	**16.24**	**255**	P		**Pn**	**15 41 15.0**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=60,slow=13,SNR=3.1							
KSRS				LR		LR	15 47 35.0	
	comp=Z,30nm,19.0s,baz=128,slow=37							
KSRS	**Korea Array**	**16.24**	**255**	P		**Pn**	**15 41 15.0**	**-0.7**
KSRS	**Korea Array**	**16.24**	**255**	*e*P		**Pn**	**15 41 15.0**	**-0.7**
KS19	**Wonju Array Si**	**16.25**	**255**	Pn		**Pn**	**15 41 15.0**	**-1.0**
BILL	**Bilibino**	**26.50**	**16**	*e*P		**P**	**15 43 08.9**	**+4.9**
BILL				*e*			15 43 45.9	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**28.61**	**140**	T		T	16 14 09.8	
	baz=330,slow=76,SNR=34							
H11N1	**WAKE ISLAND Hy**	**28.62**	**140**	T		T	16 14 17.9	
	baz=330,slow=76,SNR=40							
H11N3	**WAKE ISLAND Hy**	**28.63**	**140**	T		T	16 14 11.1	
	baz=330,slow=76,SNR=33							
SONM	**Songino Array**	**28.98**	**293**	P		**P**	**15 43 27.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=87,slow=8.6,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**29.58**	**141**	T		T	16 15 22.5	
	baz=332,slow=76,SNR=61							
H11S3	**WAKE ISLAND Hy**	**29.59**	**141**	T		T	16 15 19.6	
	baz=332,slow=76,SNR=65							
H11S2	**WAKE ISLAND Hy**	**29.60**	**141**	T		T	16 15 23.6	
	baz=332,slow=76,SNR=48							
ILAR	**Eielson Array**	**41.44**	**36**	P		**P**	**15 45 13.9**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=260,slow=8.2,SNR=7.1							
FYU	**Fort Yukon**	**42.08**	**33**	P		**P**	**15 45 18.2**	**-0.1**
FYU				IAmb	IAmb		15 45 22.8	
	comp=Z,2.9nm,0.8s							
BMAR	**Burnt Mountain**	**42.32**	**32**	P		**P**	**15 45 22.6**	**+2.2**
L27K	**Beaver Creek,**	**43.81**	**38**	P		**P**	**15 45 34.4**	**+1.9**
MKAR	**Makanchi Array**	**45.10**	**298**	P		**P**	**15 45 43.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=75,slow=6.3,SNR=1.3							
INK	**Inuvik**	**46.41**	**30**	P		**P**	**15 45 54.6**	**+1.7**
	comp=Z,4.1nm,0.6s,baz=277,slow=6.8,SNR=6.8							
INK	**Inuvik**	**46.41**	**30**	P		**P**	**15 45 54.6**	**+1.7**
INK				IAmb	IAmb		15 45 55.1	
	comp=Z,4.1nm,0.7s							
YKA	**Yellowknife Ar**	**55.78**	**34**	P		**P**	**15 47 03.4**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=283,slow=5.6,SNR=3.4							
ABKAR	**Akbulak array**	**57.57**	**309**	P		**P**	**15 47 16.0**	**-0.2**
ABKAR				IAmb	IAmb		15 47 17.3	
	comp=Z,1.2nm,0.9s							
ABKAR	**Akbulak array**	**57.57**	**309**	P		**P**	**15 47 16.4**	**+0.2**
ARCES	**ARCESS Array B**	**59.65**	**340**	P		**P**	**15 47 29.1**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=46,slow=8.7,SNR=4.1							
CTAO	**Charters Tower**	**63.27**	**182**	P		**P**	**15 47 52.6**	**-2.8**
CTAO				pmax	pmax			
	comp=Z,6.0nm,1.1s							
CTAO	**Charters Tower**	**63.27**	**182**	P		**P**	**15 47 52.6**	**-2.8**
WR0	**Warramunga Arr**	**64.29**	**194**	P		**P**	**15 47 59.7**	**-2.4**
WR0				IAmb	IAmb		15 48 12.2	
	comp=Z,4.9nm,1.1s							
WRAB	**Tennant Creek**	**64.30**	**194**	P		**P**	**15 48 00.0**	**-2.1**
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.8s							
WRAB	**Tennant Creek**	**64.30**	**194**	P		**P**	**15 47 60.0**	**-2.1**
FINES	**FINESS Array B**	**65.31**	**333**	P		**P**	**15 48 07.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=60,slow=6.9,SNR=8.2							
OBN	**Obninsk**	**65.79**	**324**	*e*P		**P**	**15 48 10.7**	**-0.8**
OBN				*e*			15 48 46.6	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
OBN	**Obninsk**	**65.79**	**324**	*e*P		**P**	**15 48 10.9**	**-0.6**
NVAR	**Mina Array Bea**	**67.34**	**58**	P		**P**	**15 48 22.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=288,slow=6.6,SNR=4.4							
DZM	**Mont Dzumac**	**67.46**	**161**	LR		LR	16 13 45.0	
	comp=Z,31nm,19.5s,baz=214,slow=32							
ASAR	**Alice Springs**	**68.02**	**194**	P		**P**	**15 48 27.0**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=9.6,slow=6.0,SNR=2.5							
NOA	**NORSAR Array B**	**70.01**	**339**	P		**P**	**15 48 37.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=32,slow=6.3,SNR=7.0							
AKASG	**Malin Array Be**	**72.05**	**324**	P		**P**	**15 48 50.1**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=40,slow=6.4,SNR=5.5							
CLL	**Collm**	**77.75**	**333**	*e*P		**P**	**15 49 23.0**	**-0.4**
CLL	**Collm**	**77.75**	**333**	*e*P		**P**	**15 49 23.0**	**-0.4**
TXAR	**Lajitas Array**	**82.43**	**57**	P		**P**	**15 49 50.6**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=296,slow=3.5,SNR=6.7							
H03N2	**Juan Fernandez**	**142.52**	**91**	T		T	18 36 05.5	
	baz=304,slow=77,SNR=2.9							
H03N3	**Juan Fernandez**	**142.53**	**91**	T		T	18 36 07.5	
	baz=304,slow=77,SNR=3.8							
H03N1	**Juan Fernandez**	**142.54**	**91**	T		T	18 36 10.9	
	baz=304,slow=77,SNR=3.5							

SOME ***20*** *15:40:55.2, 41.°45N×79.°03E, h10km*
KRNET ***20*** *15:40:56.2±0.1, 41.°45N×79.°02E, h13km, mb3.9*
IDC ***20*** *15:40:56.4±1.4, 41.°52N×79.°03E, h0km, mb3.6/8, mb1 3.6/13, mb1mx3.5/38, mbtmp3.5/13, ML2.7/5, MS2.7/2, Ms1 2.8/2, ms1mx2.2/49, Error ellipse: s-maj=23.3km s-min=12.3km az=151.0*
NNC ***20*** *15:40:58.0±1.4, 41.°52N×79.°14E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=10.0km s-min=5.5km az=157.0*
BJI ***20*** *15:40:59.1±0.0, 41.°30N×79.°58E, h4km, ML3.5/8*

ISC 20 15:40:57.7±1.5, 41.°53N±0.°05×78.°96E±0.°03, h4km±8km, n92, σ1°75/142, mb3.7/7, 31C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.04**	**337**	⇑*i*P		**Pg**	**15 41 17.7**	**0.0**
	baz=37							
PRZ				⇑*i*S		**Sn**	**15 41 33.8**	**-0.6**
	baz=37							
KDJ	**Kajisay**	**1.46**	**295**	⇑*e*P		**Pn**	**15 41 25.0**	**0.0**
	baz=97							
KDJ				⇑*i*S		**Sg**	**15 41 46.3**	**+1.7**
	baz=97							
ANVS	**Anan'yevo**	**1.58**	**323**	⇑*e*P		**Pb**	**15 41 27.3**	**-0.3**
	baz=23							
ANVS				⇑*i*S		**Sg**	**15 41 50.2**	**+1.7**
	baz=23							
SATY	**Saty**	**1.58**	**345**	*e*P		**Pb**	**15 41 27.1**	**-0.5**
	122nm,0.2s							
SATY				*e*S		**Sg**	**15 41 49.9**	**+1.3**
	179nm,0.1s							
SATY	**Saty**	**1.58**	**345**	P		**Pb**	**15 41 27.1**	**-0.5**
	122nm,0.2s							
SATY				S		**Sg**	**15 41 49.9**	**+1.3**
	179nm,0.1s							
UZB	**Uzynbulak**	**1.62**	**2**	*e*P		**Pn**	**15 41 27.1**	**-0.1**
	129nm,0.4s							
UZB				*e*S		**Sg**	**15 41 49.9**	**+0.1**
	102nm,0.2s							
UZB	**Uzynbulak**	**1.62**	**2**	P		**Pn**	**15 41 27.1**	**-0.1**
	129nm,0.4s							
UZB				S		**Sg**	**15 41 49.9**	**+0.1**
	102nm,0.2s							
SHLS	**Shalkode**	**1.67**	**13**	*e*P		**Pg**	**15 41 29.5**	**-0.2**
	380nm,0.4s							
SHLS				*e*S		**Sg**	**15 41 54.0**	**+2.6**
	707nm,0.4s							
SHLS	**Shalkode**	**1.67**	**13**	P		**Pg**	**15 41 29.5**	**-0.2**
	380nm,0.4s							
SHLS				S		**Sg**	**15 41 54.0**	**+2.6**
	707nm,0.4s							
PDGK	**Podgornoye**	**1.84**	**12**	P		**Pn**	**15 41 30.6**	**+0.3**
	33nm,0.2s							
PDGK				S		**Sb**	**15 41 55.7**	**+0.2**
	180nm,0.4s							
PDGK	**Podgornoye**	**1.84**	**12**	⇑Pn		**Pn**	**15 41 30.4**	**+0.1**
	76nm,0.8s							
PDGK				⇑Sn		**Sg**	**15 41 56.8**	**-0.2**
	543nm,0.8s							
KPKS	**Kokpek**	**1.95**	**354**	*e*P		**Pb**	**15 41 33.2**	**-0.6**
	240nm,0.2s							
KPKS				*e*S		**Sg**	**15 42 00.8**	**+0.5**
	542nm,0.3s							
KURS	**Kuram**	**2.04**	**344**	⇓*e*P		**Pb**	**15 41 35.9**	**+0.5**
	72nm,0.5s							
KURS				*e*S		**Sg**	**15 42 04.9**	**+1.5**
	194nm,0.3s							
KURS	**Kuram**	**2.04**	**344**	Pg		**Pb**	**15 41 35.9**	**+0.5**
	72nm,0.5s							
KURS				Lg	Lg		15 42 04.9	
	194nm,0.3s							
ULHL	**Ulahol**	**2.15**	**290**	⇓*i*P		**Pb**	**15 41 36.5**	**-0.9**
	baz=92							
ULHL				⇓*i*S		**Sg**	**15 42 05.8**	**-1.0**
	baz=92							
ULHL	**Ulahol**	**2.15**	**290**	P		**Pg**	**15 41 38.9**	**0.0**
	SNR=13							
MDOK	**Medeo**	**2.16**	**320**	⇓*e*P		**Pb**	**15 41 37.8**	**+0.4**
	89nm,0.3s							
MDOK				*e*S		**Sg**	**15 42 08.6**	**+1.4**
	306nm,0.4s							
MDOK	**Medeo**	**2.16**	**320**	⇑Pn		**Pb**	**15 41 37.5**	**0.0**
	70nm,0.5s							
MDOK				⇑Sn		**Sg**	**15 42 08.2**	**+1.1**
	418nm,0.5s							
MDOK	**Medeo**	**2.16**	**320**	Pg		**Pb**	**15 41 37.9**	**+0.4**
	130nm,0.5s							
MDOK				Lg		Lg	15 42 09.0	
	512nm,0.6s							
KTMS	**Ketmen**	**2.18**	**28**	*e*P		**Pb**	**15 41 36.3**	**-1.5**
	65nm,0.3s							
KTMS				*e*S		**Sb**	**15 42 05.9**	**+0.7**
	472nm,0.6s							
KTMS	**Ketmen**	**2.18**	**28**	Pg		**Pn**	**15 41 36.0**	**+1.1**
	65nm,0.3s							
KTMS				Lg		Lg	15 42 05.1	
	472nm,0.6s							
KOTS	**Kotyrbulak**	**2.19**	**322**	⇑*e*P		**Pb**	**15 41 38.4**	**+0.5**
	192nm,0.2s							
KOTS				*e*S		**Sg**	**15 42 09.5**	**+1.6**
	296nm,0.4s							
KOTS	**Kotyrbulak**	**2.19**	**322**	Pg		**Pb**	**15 41 38.4**	**+0.5**
	192nm,0.2s							
KOTS				Lg		Lg	15 42 09.5	
	296nm,0.4s							
KNDC	**Almaty**	**2.24**	**320**	⇑Pn		**Pb**	**15 41 39.2**	**+0.4**
	175nm,0.6s							
KNDC				⇓Lg		Lg	15 42 14.5	
	872nm,0.7s							
IZV	**Izvestkoviy**	**2.30**	**312**	*e*P		**Pb**	**15 41 40.3**	**+0.4**
	159nm,0.3s							
IZV				*e*S		**Sg**	**15 42 13.1**	**+1.4**
	604nm,0.6s							
IZV	**Izvestkoviy**	**2.30**	**312**	Pg		**Pb**	**15 41 40.2**	**+0.4**
	159nm,0.3s							
IZV				Lg		Lg	15 42 13.0	
	604nm,0.6s							
BOOM	**Boomskoye usch**	**2.44**	**294**	⇓*i*P		**Pb**	**15 41 40.7**	**-1.7**
	baz=95							
BOOM				⇓*i*S		**Sb**	**15 42 13.2**	**+0.3**
	baz=95							
MTBS	**Maitube**	**2.46**	**311**	*e*P		**Pb**	**15 41 42.8**	**+0.1**
	70nm,0.3s							
MTBS				*e*S		**Sg**	**15 42 16.7**	**-0.2**
	307nm,0.5s							
MTBS	**Maitube**	**2.46**	**311**	Pg		**Pb**	**15 41 42.8**	**+0.1**
	70nm,0.3s							
MTBS				Lg		Lg	15 42 16.7	
	307nm,0.5s							
KST	**Kastek**	**2.69**	**305**	*e*P		**Pb**	**15 41 46.0**	**-0.4**
	106nm,0.4s							
KST				*e*S		**Sg**	**15 42 22.6**	**-1.5**
	592nm,0.4s							
KST	**Kastek**	**2.69**	**305**	Pg		**Pb**	**15 41 46.0**	**-0.4**
	106nm,0.4s							
KST				Lg		Lg	15 42 22.6	
	592nm,0.4s							
CHKK	**Chushkaly**	**2.74**	**329**	*e*P		**Pb**	**15 41 47.9**	**+0.6**
	117nm,0.3s							
CHKK				*e*S		**Sg**	**15 42 25.6**	**-0.1**
	1μm,0.5s							
CHKK	**Chushkaly**	**2.74**	**329**	Pg		**Pb**	**15 41 47.9**	**+0.6**
	117nm,0.3s							
CHKK				Lg		Lg	15 42 25.6	
	1μm,0.5s							
KTBS	**Karatobe**	**2.75**	**323**	*e*P		**Pb**	**15 41 48.4**	**+0.9**
	39nm,0.3s							
KTBS				*e*S		**Sg**	**15 42 26.5**	**+0.4**
	454nm,0.6s							
KTBS	**Karatobe**	**2.75**	**323**	Pg		**Pb**	**15 41 48.4**	**+0.9**
	39nm,0.3s							
KTBS				Lg		Lg	15 42 26.5	
	454nm,0.6s							
ARXS	**Arharly**	**2.81**	**343**	*e*P		**Pb**	**15 41 48.9**	**+0.4**
	72nm,0.5s							
ARXS				*e*S		**Sg**	**15 42 27.6**	**-0.4**
	280nm,0.6s							
ARXS	**Arharly**	**2.81**	**343**	Pg		**Pb**	**15 41 48.9**	**+0.4**
	72nm,0.5s							
ARXS				Lg		Lg	15 42 27.6	
	280nm,0.6s							
TKM2	**Tokmak 2**	**2.86**	**300**	⇑*e*P		**Pb**	**15 41 46.8**	**-2.6**
	baz=1.0							
TKM2				⇑*i*S		**Sb**	**15 42 23.6**	**-1.2**
	baz=1.0							
TKM2	**Tokmak 2**	**2.86**	**300**	P		**Pb**	**15 41 49.3**	**-0.1**
	SNR=17							
TKM2	**Tokmak 2**	**2.86**	**300**	⇑Pn		**Pb**	**15 41 47.9**	**-1.5**
	32nm,0.5s							
TKM2				⇑Sn		**Sg**	**15 42 27.2**	**-2.3**
	376nm,0.6s							
DJR	**Jarkent**	**2.87**	**12**	*e*P		**Pb**	**15 41 48.8**	**-0.7**
	18nm,0.2s							
DJR				*e*S		**Sb**	**15 42 26.9**	**+1.9**
	330nm,0.3s							
DJR	**Jarkent**	**2.87**	**12**	Pg		**Pb**	**15 41 48.8**	**-0.7**
	18nm,0.2s							
DJR				Lg		Lg	15 42 26.9	
	330nm,0.3s							
DGS	**Degeres**	**2.92**	**307**	*e*P		**Pb**	**15 41 49.8**	**-0.6**
	70nm,0.5s							
DGS				*e*S		**Sg**	**15 42 28.8**	**-2.5**
	150nm,0.5s							
DGS	**Degeres**	**2.92**

AAK	**Ala-Archa**	**3.50**	**290**	P		**Pg**	**15 42 02.6**	**-2.2**
	SNR=7.1							
AAK	**Ala-Archa**	**3.50**	**290**	⇓Pg		**Pg**	**15 42 05.3**	**+0.5**
	14nm,0.5s							
AAK				⇑Sn		**Sb**	**15 42 43.6**	**+0.3**
	80nm,0.6s							
USP	**Ospenovka**	**3.73**	**299**	⇓*e*P		**Pn**	**15 41 58.7**	**+2.6**
	baz=0.0							
USP				⇓*i*S		**Sn**	**15 42 44.1**	**+3.6**
	baz=0.0							
USP	**Ospenovka**	**3.73**	**299**	P		**Pb**	**15 42 05.8**	**+1.6**
	SNR=11							
SGDS	**Sogindy**	**3.73**	**302**	Pg		**Pb**	**15 42 05.8**	**+1.5**
	20nm,0.5s							
SGDS				Lg		Lg	15 42 56.2	
	57nm,0.9s							
KAPS	**Kapalarasan**	**3.77**	**4**	*e*P		**Pb**	**15 42 04.8**	**0.0**
	16nm,0.7s							
KAPS				*e*S		**Sg**	**15 42 55.1**	**-3.6**
	64nm,0.4s							
KAPS	**Kapalarasan**	**3.77**	**4**	Pg		**Pb**	**15 42 04.8**	**0.0**
	16nm,0.7s							
KAPS				Lg		Lg	15 42 55.1	
	64nm,0.4s							
AML	**Almayashu**	**3.98**	**280**	⇓*i*P		**Pn**	**15 42 01.6**	**+1.7**
	baz=81							
AML				⇓*i*S		**Sn**	**15 42 49.0**	**+1.9**
	baz=81							
AML	**Almayashu**	**3.98**	**280**	P		**Pg**	**15 42 12.0**	**-2.0**
	SNR=16							
EKS2	**Erkin-Say**	**4.02**	**288**	⇑*e*P		**Pn**	**15 42 02.4**	**+2.3**
	baz=89							
EKS2				⇑*i*S		**Sn**	**15 42 50.5**	**+2.8**
	baz=89							
EKS2	**Erkin-Say**	**4.02**	**288**	P		**Pb**	**15 42 10.3**	**+1.2**
	SNR=7.0							
MRKS	**Merke**	**4.43**	**288**	*e*P		**Pb**	**15 42 18.6**	**+2.5**
	17nm,0.4s							
MRKS				*e*S		**Sg**	**15 43 18.3**	**-1.7**
	39nm,0.5s							
MRKS	**Merke**	**4.43**	**288**	Pg		**Pb**	**15 42 18.6**	**+2.5**
	17nm,0.4s							
MRKS				Lg		Lg	15 43 18.3	
	39nm,0.5s							
MNAS	**Manas**	**4.90**	**283**	⇑*e*P		**Pn**	**15 42 14.4**	**+2.1**
	baz=84							
MNAS				⇑*i*S		**Sn**	**15 43 11.2**	**+1.6**
	baz=84							
MAKZ	**Makanchi**	**5.71**	**21**	⇑Pn		**Pn**	**15 42 23.4**	**+0.1**
	1.6nm,0.6s							
MAKZ				⇓Pg		**Pb**	**15 42 41.0**	**+3.1**
	3.6nm,0.8s							
MAKZ				⇓Sn		**Sn**	**15 43 30.7**	**+1.5**
	4.1nm,0.6s							
MAKZ				⇓Lg		Lg	15 43 58.6	
	15nm,0.9s							
MK31	**Makanchi Array**	**5.78**	**23**	⇑Pn		**Pn**	**15 42 24.9**	**+0.6**
	0.2nm,0.2s,baz=201,slow=12,SNR=35							
MK31				Pg		**Pb**	**15 42 41.7**	**+2.6**
	1.3nm,0.4s,baz=202,slow=15,SNR=8.4							
MK31				⇓Sn		**Sn**	**15 43 33.1**	**+2.0**
	15nm,0.8s,baz=198,slow=22,SNR=4.8							
MK31				⇓Lg		Lg	15 44 00.1	
	7.2nm,0.5s,baz=207,slow=25,SNR=2.7							
MKAR	**Makanchi Array**	**5.78**	**23**	Pn		**Pn**	**15 42 24.5**	**+0.2**
	0.4nm,0.3s,baz=202,slow=13,SNR=20							
MKAR				Sn		**Sn**	**15 43 32.5**	**+1.4**
	1.3nm,0.3s,baz=201,slow=25,SNR=5.7							
MKAR				Lg		Lg	15 43 56.9	
	1.9nm,0.3s,baz=208,slow=23,SNR=7.1							
KK31	**Karatay Array**	**6.46**	**287**	⇑Pg		**Pg**	**15 42 59.0**	**-2.3**
	4.5nm,0.7s,baz=110,slow=16,SNR=4.3							
KK31				Lg		Lg	15 44 29.3	
	7.9nm,0.6s,baz=98,slow=28,SNR=5.0							
ZSN	**Zaisan**	**7.27**	**34**	*e*P		**Pb**	**15 43 07.0**	**+2.6**
	3.9nm,0.3s							
ZSN				*e*S		Sg	15 44 41.6	-9.4
	12nm,0.5s							
ZSN	**Zaisan**	**7.27**	**34**	Pg		**Pb**	**15 43 07.0**	**+2.6**
	3.9nm,0.3s							
CHCP	**Chirah Chowk**	**9.06**	**212**	P		**Pn**	**15 43 11.5**	**+2.2**
KURBB	**Kurchatov Arra**	**9.10**	**358**	Pn		**Pn**	**15 43 09.0**	**-0.8**
	0.0nm,0.3s,baz=177,slow=16,SNR=2.6							
KURBB				Lg		Lg	15 45 40.3	
	0.1nm,0.3s,baz=165,slow=26,SNR=6.4							
CEP	**Cherat**	**9.50**	**218**	P		**Pn**	**15 43 17.7**	**+2.2**
BVAR	**Borovoye Array**	**12.88**	**336**	Sn		**Sn**	**15 46 23.1**	**-2.0**
	0.1nm,0.3s,baz=241,slow=39,SNR=2.4							
BVAR				Lg		Lg	15 47 43.9	
	0.2nm,0.3s,baz=234,slow=50,SNR=2.7							
ZALV	**Zalesovo Beam**	**13.03**	**16**	Pn		**Pn**	**15 44 01.2**	**-2.3**
	0.1nm,0.3s,baz=219,slow=11,SNR=1.6							
ZALV				Sn		**Sn**	**15 46 20.1**	**-8.8**
	0.3nm,0.3s,baz=215,slow=18,SNR=2.1							
ZALV				Lg		Lg	15 47 50.1	
	0.3nm,0.3s,baz=165,slow=29,SNR=2.4							
ARU	**Arti**	**19.92**	**325**	P		**P**	**15 45 30.7**	**+0.5**
	0.0nm,0.3s,baz=85,slow=12,SNR=5.5							
SONM	**Songino Array**	**20.44**	**63**	P		**P**	**15 45 34.1**	**-2.0**
	1.6nm,0.9s,baz=267,slow=11,SNR=7.2							
BRTR	**Keskin Array B**	**34.14**	**282**	P		**P**	**15 47 45.1**	**+1.2**
	1.7nm,0.8s,baz=96,slow=7.6,SNR=4.1							
AKASG	**Malin Array Be**	**35.08**	**302**	P		**P**	**15 47 51.3**	**-0.4**
	0.1nm,0.3s,baz=84,slow=9.4,SNR=1.2							
NOA	**NORSAR Array B**	**44.32**	**320**	P		**P**	**15 49 08.0**	**-0.5**
	0.8nm,0.8s,baz=84,slow=8.0,SNR=4.4							
NOA				LR		LR	16 08 16.5	
	comp=Z,15nm,19.7s,baz=135,slow=37							
GERES	**GERESS Array B**	**45.29**	**302**	P		**P**	**15 49 16.9**	**+0.4**
	0.3nm,0.3s,baz=82,slow=10.0,SNR=3.7							
ESDC	**Sonseca Array**	**90.57**	**298**	P		**P**	**15 51 10.5**	**+1.2**
	0.4nm,0.7s,baz=54,slow=7.5,SNR=4.9							
ILAR	**Eielson Array**	**68.12**	**19**	P		**P**	**15 51 58.2**	**-0.2**
	0.4nm,0.8s,baz=316,slow=6.3,SNR=4.7							
TORD	**Torodi Ar. Bea**	**71.91**	**272**	P		**P**	**15 52 20.2**	**-2.1**
	0.9nm,0.7s,baz=59,slow=5.6,SNR=4.3							

IDC 20 15:47:03.2±7.8, 30.28S×178.10W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/24, mbtmp3.4/2, Error ellipse: s-maj=330.0km s-min=56.9km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.03**	**267**	P	P	15 55 04.8	0.0
	0.4nm,0.9s,baz=103,slow=7.6,SNR=4.8						
WRA	**Warramunga Arr**	**44.01**	**272**	P	P	15 55 13.1	+0.4
	0.5nm,0.7s,baz=112,slow=7.4,SNR=6.8						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	16 06 38.0	-3.0
	0.4nm,0.4s,baz=49,slow=4.5,SNR=8.7						

*IDC **20** 15:55:47.1±4.1, 0.71S×100.16E, h88km±39km, mb3.0/4, mb1 3.1/5, mb1mx2.9/58, mbtmp3.3/5, Error ellipse: s-maj=91.0km s-min=23.8km az=59.0*
*DJA **20** 15:55:48.6±0.3, 1.5S×10.0E°, h54km±9km, M3.9/11, mb4.5/1, mB5.0/1, MLv3.7/11, Mw(mB)4.3/1*
ISC 20 15:55:46.8±1.0, 0.70S±0.08×99.96E±0.09, h81km, n18, σ1s90/18, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.54**	**113**	P	**Pn**	**15 56 03.3**	**+2.2**
PDSI				S	**Sn**	**15 56 13.1**	**+1.5**
BKNI	**Bangkinang**	**1.48**	**47**	P	**Pn**	**15 56 13.0**	**+1.1**
MNSI	**Mandailing Nat**	**1.53**	**346**	P	**Pn**	**15 56 14.6**	**+2.0**
MNSI				S	**Sn**	**15 56 33.9**	**+1.9**
GSI	**Gunungsitoli**	**3.10**	**310**	P	**Pn**	**15 56 36.1**	**+2.5**
GSI				S	**Sn**	**15 57 09.2**	**-0.5**
MASI	**Maura Aman, Be**	**3.33**	**137**	P	**Pn**	**15 56 38.7**	**+2.0**
PSI	**Prapat**	**3.62**	**343**	P	**Pn**	**15 56 40.8**	**0.0**
	0.8nm,0.3s,baz=180,slow=14,SNR=7.2						
PSI	**Prapat**	**3.62**	**343**	P	**Pn**	**15 56 41.5**	**+0.7**
MNAI	**Manna**	**4.71**	**141**	P	**Pn**	**15 56 56.8**	**+1.3**
LHSI	**Lahat**	**4.73**	**131**	P	**Pn**	**15 56 58.6**	**+2.9**
TPTI		**4.81**	**325**	P	**Pn**	**15 56 59.5**	**+2.6**
EGSI	**Enggano, Bengk**	**5.17**	**154**	P	**Pn**	**15 57 01.5**	**-0.3**
H08S2	**Diego Garcia H**	**28.24**	**255**	T	T	16 29 41.1	
	baz=75						
H08S3	**Diego Garcia H**	**28.24**	**255**	T	T	16 29 34.4	
	baz=75						
H08S1	**Diego Garcia H**	**28.25**	**255**	T	T	16 29 49.7	
	baz=75						
WRA	**Warramunga Arr**	**38.70**	**122**	P	**P**	**16 03 00.9**	**-2.2**
	0.6nm,0.9s,baz=302,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**40.06**	**127**	P	**P**	**16 03 12.8**	**-1.7**
	0.3nm,0.7s,baz=300,slow=8.0,SNR=5.2						
KSRS	**Korea Array**	**45.93**	**31**	P	**P**	**16 04 00.2**	**-1.4**
	0.3nm,0.6s,baz=228,slow=8.3,SNR=2.4						
MKAR	**Makanchi Array**	**49.77**	**344**	P	**P**	**16 04 31.1**	**-0.1**
	0.2nm,0.4s,baz=159,slow=9.1,SNR=4.5						

*DJA **20** 16:35:18.9±0.5, 3.3S±4.2×12.8E±°, h13km±6km, M2.8/7, MLv2.8/7*
*IDC **20** 16:35:23.7±1.7, 3.23S×128.92E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/35, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=39.6km s-min=25.1km az=95.0*
ISC 20 16:35:21.7±1.2, 2.95S±0.07×128.19E±0.05, h38km, n11, σ0s92/14, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.42**	**150**	P	**Pn**	**16 35 29.3**	**-1.9**
KRAI				S	**Sn**	**16 35 37.8**	**-0.3**
MSAI	**Masohi**	**0.84**	**118**	P	**Pn**	**16 35 37.3**	**+0.2**
NLAI	**Namlea**	**1.12**	**255**	P	**Pn**	**16 35 40.8**	**-0.1**
SANI	**Sanana**	**2.37**	**292**	P	**Pn**	**16 35 57.5**	**-0.6**
SWI	**Sorong**	**3.71**	**56**	P	**Pn**	**16 36 15.0**	**-1.4**
SWI				S	**Sn**	**16 36 58.7**	**-0.2**
SIJI	**Sorong**	**3.71**	**56**	Pn	**Pn**	**16 36 15.8**	**-0.7**
	1.8nm,0.3s,baz=236,slow=23,SNR=8.4						
SIJI				Sn	**Sn**	**16 36 59.4**	**+0.5**
	0.3nm,0.3s,baz=230,slow=23,SNR=1.7						
SIJI	**Sorong**	**3.71**	**56**	P	**Pn**	**16 36 15.8**	**-0.7**
SIJI				S	**Sn**	**16 36 59.1**	**+0.1**
FAKI	**Fak Fak**	**4.06**	**90**	P	**Pn**	**16 36 21.7**	**+0.4**
WRA	**Warramunga Arr**	**17.93**	**161**	P	**P**	**16 39 29.2**	**+0.7**
	0.1nm,0.3s,baz=340,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**21.33**	**165**	P	**P**	**16 40 06.7**	**+1.1**
	1.1nm,0.8s,baz=347,slow=11,SNR=13						
MKAR	**Makanchi Array**	**63.87**	**327**	P	P	16 46 03.2	+13
	0.2nm,0.8s,baz=120,slow=8.5,SNR=1.8						

IDC 20 16:39:54.0±6.6, 19.06N×144.87E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/42, mbtmp3.6/4, Error ellipse: s-maj=228.3km s-min=33.4km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.11**	**195**	P	P	16 47 31.7	+0.1
	0.3nm,0.3s,baz=15,slow=8.6,SNR=10						
FITZ	**Fitzroy Crossi**	**41.48**	**208**	P	P	16 47 43.7	+0.8
	3.3nm,1.1s,baz=33,slow=12,SNR=1.7						
ASAR	**Alice Springs**	**43.79**	**195**	P	P	16 48 00.7	-1.0
	0.2nm,0.5s,baz=12,slow=6.7,SNR=8.7						
MKAR	**Makanchi Array**	**57.65**	**314**	P	P	16 49 46.1	0.0
	0.4nm,0.9s,baz=90,slow=5.8,SNR=2.9						

*DJA **20** 16:52:40.2±0.3, 4.4S±3.2×12.8E±°, h195km±3km, M4.0/11, mb4.2/4, mB4.7/1, MLv3.8/11, Mw(mB)3.9/1*
*IDC **20** 16:52:44.1±4.9, 3.74S×128.43E, h290km±94km, mb3.1/2, mb1 3.5/4, mb1mx2.9/38, mbtmp4.0/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/10, Error ellipse: s-maj=108.1km s-min=17.0km az=66.0*
ISC 20 16:52:39.7±1.0, 4.01S±0.09×127.92E±0.06, h200km, n17, σ1s28/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.83**	**35**	P	**Pn**	**16 53 09.3**	**+0.9**
KRAI				S	**Sn**	**16 53 30.7**	**0.0**
NLAI	**Namlea**	**1.12**	**313**	P	**Pn**	**16 53 11.0**	**+0.7**
NLAI				S	**Sn**	**16 53 34.3**	**+0.3**
MSAI	**Masohi**	**1.20**	**57**	P	**Pn**	**16 53 11.7**	**+0.8**
MSAI				S	**Sn**	**16 53 35.7**	**+0.6**
SANI	**Sanana**	**2.74**	**315**	P	**Pn**	**16 53 24.3**	**-2.0**
FAKI	**Fak Fak**	**4.46**	**76**	P	**Pn**	**16 53 48.2**	**+1.0**
FAKI				S	**Sn**	**16 54 38.0**	**-2.3**
SIJI	**Sorong**	**4.57**	**47**	P	**Pn**	**16 53 49.5**	**+0.8**
	12nm,0.3s,baz=223,slow=22,SNR=154						
SIJI				S	**Sn**	**16 54 43.6**	**+0.6**
	4.7nm,0.3s,baz=300,slow=24,SNR=12						
SIJI	**Sorong**	**4.57**	**47**	P	**Pn**	**16 53 49.4**	**+0.7**
SIJI				S	**Sn**	**16 54 42.6**	**-0.4**
SWI	**Sorong**	**4.57**	**47**	P	**Pn**	**16 53 49.4**	**+0.7**
SWI				S	**Sn**	**16 54 42.6**	**-0.4**
KKSI	**Kolaka, Sulawe**	**6.25**	**268**	P	**Pn**	**16 54 12.4**	**+2.1**
GTOI	**Gorontalo**	**6.73**	**313**	P	**Pn**	**16 54 18.5**	**+2.0**
	0.1nm9.4nm,1.2s						
APSI	**Ampana**	**6.98**	**296**	P	**Pn**	**16 54 21.2**	**+1.5**
	0.1nm22nm,1.0s						
EDFI	**Ende, Flores**	**7.78**	**232**	P	**Pn**	**16 54 31.9**	**+1.7**
DAV	**Davao City (W)**	**11.25**	**348**	P	**Pn**	**16 55 16.2**	**+1.1**
WRA	**Warramunga Arr**	**17.03**	**159**	P	**P**	**16 56 25.0**	**-0.1**
	1.3nm,0.3s,baz=340,slow=11,SNR=117						
ASAR	**Alice Springs**	**20.38**	**164**	P	**P**	**16 57 01.0**	**-0.3**
	1.2nm,0.3s,baz=345,slow=10,SNR=90						
CMAR	**Chiang Mai Arr**	**36.24**	**309**	P	**P**	**16 59 22.2**	**-1.7**
	0.7nm,0.6s,baz=126,slow=6.9,SNR=5.6						
KSRS	**Korea Array**	**41.25**	**0**	LR	LR	17 19 15.4	
	comp=Z,5.9nm,18.8s,baz=180,slow=39						

*IDC **20** 16:54:47.7±1.9, 36.87N×141.24E, h53km±20km, mb3.2/4, mb1 3.4/10, mb1mx3.2/43, mbtmp3.5/10, ML2.8/5, MS2.3/3, Ms1 2.3/3, ms1mx2.0/23, Error ellipse: s-maj=17.8km s-min=11.2km az=97.0*
*JMA **20** 16:54:47.9±0.1, 36.90N×141.07E, h51km±1km, M3.4*
ISC 20 16:54:47.1±1.3, 36.89N±0.05×141.24E±0.09, h43km±12km, n25, σ1s08/28, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.41**	**301**	P	**Pn**	**16 54 56.9**	**0.0**
ONAJ				S	**Sn**	**16 55 03.6**	**-0.2**
JFK	**Kawauchi**	**0.56**	**328**	P	**Pn**	**16 54 58.8**	**0.0**
JFK				S	**Sn**	**16 55 06.5**	**-0.5**
JFFD	**Fukushimafurud**	**0.58**	**290**	P	**Pn**	**16 54 58.6**	**-0.4**
JFFD				S	**Sn**	**16 55 06.0**	**-1.5**
JHO	**Hitachi**	**0.61**	**243**	P	**Pn**	**16 54 59.0**	**-0.4**
JHO				S	**Sn**	**16 55 06.7**	**-1.5**
JFT	**Otama**	**0.96**	**311**	P	**Pn**	**16 55 04.4**	**+0.3**
JFT				S	**Sn**	**16 55 15.8**	**-0.8**
JMM	**Marumori**	**1.04**	**340**	P	**Pn**	**16 55 05.2**	**0.0**
JMM				S	**Sn**	**16 55 17.7**	**-0.8**
JFY	**Yanaizu**	**1.33**	**293**	P	**Pn**	**16 55 08.7**	**-0.5**
MJAR	**Matsushiro Arr**	**2.46**	**263**	P	**Pn**	**16 55 25.1**	**+0.3**
	0.8nm,0.3s,baz=85,slow=14,SNR=57						
MJAR				S	**Sn**	**16 55 53.7**	**+0.1**
	1.8nm,0.3s,baz=102,slow=18,SNR=3.5						
MJAR				LR	LR	16 56 32.8	
	comp=Z,38nm,20.9s,baz=115,slow=43						
MAT	**Matsushiro**	**2.46**	**263**	P	**Pn**	**16 55 25.3**	**+0.5**
MAT				S	**Sn**	**16 55 54.7**	**+1.0**
JHJ	**Hachijo jima 2**	**3.95**	**198**	P	**Pn**	**16 55 46.0**	**+0.9**
	11nm,0.3s,baz=68,slow=24,SNR=5.5						
JHJ				S	**Sn**	**16 56 30.6**	**+0.4**
	19nm,0.3s,baz=91,slow=22,SNR=7.5						
ASAJ	**Asahikawa**	**7.29**	**8**	P	**Pn**	**16 56 31.5**	**+0.5**
	0.3nm,0.3s,baz=227,slow=14,SNR=6.0						
ASAJ				S	**Sn**	**16 57 53.5**	**+1.1**
	0.1nm,0.3s,baz=183,slow=30,SNR=1.3						
USRK	**Ussuriysk Ar.**	**10.14**	**319**	P	**Pn**	**16 57 12.2**	**+2.2**
	baz=130,slow=15,SNR=7.9						
KSRS	**Korea Array**	**10.64**	**277**	P	**Pn**	**16 57 19.8**	**+2.9**
	0.1nm,0.3s,baz=90,slow=14,SNR=4.6						
KSRS				LR	LR	17 01 19.2	
	comp=Z,5.3nm,21.6s,baz=210,slow=37						
PETK	**Petropavlovsk-**	**19.88**	**30**	P	**P**	**16 59 13.7**	**-0.8**
	baz=185,slow=14,SNR=3.5						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**17 00 32.6**	**+0.9**
	0.6nm,0.5s,baz=116,slow=8.4,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	17 30 33.6	
	baz=313,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	17 30 33.4	
	baz=313,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	17 30 34.7	
	baz=313,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.90**	**122**	T	T	17 31 29.7	
	baz=314,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.90**	**122**	T	T	17 31 18.4	
	baz=314,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.91**	**122**	T	T	17 31 24.6	
	baz=314,slow=76,SNR=16						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**17 02 49.3**	**-1.6**
	0.3nm,0.5s,baz=92,slow=8.3,SNR=4.7						
AAK	**Ala-Archa**	**50.44**	**298**	LR	LR	17 24 27.9	
	comp=Z,12nm,18.6s,baz=183,slow=35						
WRA	**Warramunga Arr**	**56.90**	**188**	P	**P**	**17 04 27.3**	**-0.5**
	0.5nm,0.6s,baz=6.5,slow=7.3,SNR=2.0						
ASAR	**Alice Springs**	**60.63**	**188**	P	**P**	**17 04 52.9**	**-0.8**
	0.5nm,1.0s,baz=19,slow=10,SNR=1.5						

ROM 20 17:03:32.5±0.1, 41.947N±0.006×14.055E±0.009, h9km, ML1.2/3, Error ellipse: s-maj=0.7km s-min=0.6km az=23.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTR	**Introdacqua**	**0.13**	**300**	P	Pg	17 03 36.0	+0.5
INTR				S	Sg	17 03 38.6	+0.9
INTR				AML	AML		
	comp=E,275μm,0.7s						
INTR				AML	AML		
	comp=N,300μm,1.4s						
LPEL	**Lama dei Pelig**	**0.14**	**44**	P	Pg	17 03 36.2	+0.5
LPEL				S	Sg	17 03 38.8	+0.9
LPEL				AML	AML		
	comp=E,430μm,0.7s						
LPEL				AML	AML		
	comp=N,392μm,0.2s						
RNI2	**Rionero Sannit**	**0.26**	**163**	P	Pb	17 03 38.9	-0.5
MIDA	**Miranda**	**0.34**	**154**	P	Pg	17 03 39.7	+0.4
MIDA				S	Sb	17 03 45.5	-0.8
POFI	**Posta Fibreno**	**0.34**	**228**	P	Pg	17 03 39.5	+0.1
POFI				S	Sb	17 03 45.7	-0.7
POFI				AML	AML		
	comp=E,42μm,0.4s						
POFI				AML	AML		
	comp=N,35μm,0.5s						
T0110	**Collepietro**	**0.35**	**324**	P	Pg	17 03 40.0	+0.5
T0110				S	Sb	17 03 45.9	-0.6
CERA	**Filignano**	**0.35**	**185**	P	Pg	17 03 39.9	+0.4
CERA				S	Sb	17 03 46.2	-0.4
CERA				AML	AML		
	comp=N,53μm,0.6s						
CERA				AML	AML		
	comp=E,49μm,1.6s						
FAGN	**Fagnano**	**0.47**	**312**	AML	AML		
	comp=E,82μm,0.5s						
FAGN				AML	AML		
	comp=N,74μm,0.2s						

BUC 20 17:16:20.4±0.3, 45.56N×26.51E, h93km±2km, ml2.8/9, 34C-14D, Error ellipse: s-maj=2.7km s-min=1.5km az=13.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.14**	**95**	⇑P	Pn	17 16 33.2	-0.4
BISRR				⇑S	Sn	17 16 43.9	+0.5
BISRR	**Bisoca**	**0.14**	**95**	⇑P	Pn	17 16 33.2	-0.4
BISRR				⇑S	Sn	17 16 43.9	+0.5
PLOR	**Plostina**	**0.31**	**18**	⇑P	Pn	17 16 34.2	0.0
PLOR				⇑S	Sn	17 16 44.7	+0.1
PLOR	**Plostina**	**0.31**	**18**	⇑P	Pn	17 16 34.2	0.0
PLOR				⇑S	Sn	17 16 44.7	+0.1
VRI	**Vrincioaia**	**0.34**	**26**	⇑P	Pn	17 16 34.5	+0.1
VRI				⇑S	Sn	17 16 45.0	+0.3
VRI	**Vrincioaia**	**0.34**	**26**	⇑P	Pn	17 16 34.5	+0.1
VRI				⇑S	Sn	17 16 45.0	+0.3
ISR	**Istrita**	**0.44**	**177**	⇑P	Pn	17 16 35.9	+0.8
ISR				⇑S	Sn	17 16 46.8	+0.8
ISR	**Istrita**	**0.44**	**177**	⇑P	Pn	17 16 35.9	+0.8
ISR				⇑S	Sn	17 16 46.8	+0.8
PETR	**Petresti**	**0.53**	**72**	⇓P	Pn	17 16 36.2	+0.6
PETR				⇑S	Sn	17 16 47.3	+0.4
PETR	**Petresti**	**0.53**	**72**	⇓P	Pn	17 16 36.2	+0.6
PETR				⇑S	Sn	17 16 47.3	+0.4
GHRR		**0.80**	**51**	⇑P	Pn	17 16 38.0	-0.1
GHRR				⇓S	Sn	17 16 52.0	+0.6
GHRR		**0.80**	**51**	⇑P	Pn	17 16 38.0	-0.1
GHRR				⇓S	Sn	17 16 52.0	+0.6
TUDR		**0.81**	**87**	⇓P	Pn	17 16 38.3	+0.1
TUDR				⇑S	Sn	17 16 52.1	+0.6
TUDR		**0.81**	**87**	⇓P	Pn	17 16 38.3	+0.1
TUDR				⇑S	Sn	17 16 52.1	+0.6
DOPR	**Dopca**	**0.89**	**298**	⇓P	Pn	17 16 39.0	0.0
DOPR				⇑S	Sn	17 16 53.4	+0.4
DOPR	**Dopca**	**0.89**	**298**	⇓P	Pn	17 16 39.0	0.0
DOPR				⇑S	Sn	17 16 53.4	+0.4
VOIR		**1.04**	**264**	⇓P	Pn	17 16 40.5	-0.2
VOIR				⇑S	Sn	17 16 56.3	+0.2
VOIR		**1.04**	**264**	⇓P	Pn	17 16 40.5	-0.2
VOIR				⇑S	Sn	17 16 56.3	+0.2
CFR	**Carcaliu**	**1.21**	**108**	⇑P	Pn	17 16 42.7	+0.1
CFR				⇓S	Sn	17 16 59.2	-0.1
CFR	**Carcaliu**	**1.21**	**108**	⇑P	Pn	17 16 42.7	+0.1
CFR				⇓S	Sn	17 16 59.2	-0.1
TPGR	**Topolog**	**1.52**	**117**	⇑P	Pn	17 16 46.5	0.0
TPGR				⇑S	Sn	17 17 06.4	+0.1
TPGR	**Topolog**	**1.52**	**117**	⇑P	Pn	17 16 46.5	0.0
TPGR				⇑S	Sn	17 17 06.4	+0.1

OSTC				*e*SG	**Sg**	**17 18 38.5**	**0.0**
	comp=Z,16nm,0.5s							
KSP	**Ksiaz**	**1.93**	**293**	*e*Pb	**Pn**	**17 18 11.5**	**-0.1**
KSP				*e*Pg	**Pg**	**17 18 14.5**	**-0.1**
KSP				*e*Sg	**Sg**	**17 18 40.6**	**+1.1**
CRVS	**Cervenica-Dubn**	**1.97**	**128**	*e*PN	**Pb**	**17 18 14.5**	**+0.1**
CRVS				*e*SN	**Sg**	**17 18 40.8**	**-0.1**
CHVC	**Chvalec**	**2.00**	**284**	*e*PG	**Pn**	**17 18 12.2**	**-0.5**
CHVC				*e*SG	**Sb**	**17 18 39.5**	**-0.9**
	comp=Z,15nm,0.6s							
UPC	**Upice**	**2.01**	**282**	*e*PG	**Pn**	**17 18 13.7**	**+0.8**
UPC				*e*SG	**Sb**	**17 18 39.8**	**-0.9**
	comp=Z,17nm,0.5s							
KRUC	**Moravsky**	**2.06**	**240**	*e*PN	**Pn**	**17 18 14.6**	**+1.1**
KRUC				*e*SG	**Sb**	**17 18 42.1**	**+0.1**
KRUC	**Moravsky**	**2.06**	**240**	*e*Pn	**Pn**	**17 18 14.5**	**+1.1**
	baz=57							
KRUC				*e*Sg	**Sb**	**17 18 42.0**	**+0.1**
	16nm,0.5s,baz=57							
MODS	**Modra-Piesok**	**2.12**	**215**	*e*PN	**Pn**	**17 18 15.0**	**+0.6**
MODS				*e*SN	**Sn**	**17 18 41.7**	**+0.2**
PSZ	**Piszkesteto**	**2.28**	**166**	⇑P	**Pn**	**17 18 16.4**	**-0.1**
PSZ				⇓S	**Sg**	**17 18 49.6**	**-1.1**
KOLS	**Kolonicke sedl**	**2.39**	**119**	*e*PN	**Pb**	**17 18 20.2**	**-1.3**
KOLS				*e*SN	**Sb**	**17 18 50.4**	**-1.2**
PVCC	**Panska Ves**	**2.93**	**280**	*e*SG	**Sg**	**17 19 10.8**	**-0.9**
	comp=Z,25nm,0.4s							
PRU	**Pruhonice**	**2.94**	**269**	*e*SG	**Sb**	**17 19 08.8**	**+1.5**
	comp=Z,6.4nm,0.3s							
CONA	**Conrad Observa**	**3.06**	**225**	*i* Pn	**Pn**	**17 18 27.9**	**+0.5**
	0.5nm,0.2s							
CONA				*i* Sn	**Sn**	**17 19 05.0**	**+0.2**
	2.8nm,0.4s							
CKRC	**Cesky Krumlov**	**3.39**	**249**	*e*SG	**Sg**	**17 19 24.0**	**-2.4**
	comp=Z,13nm,0.6s							
KHC	**Kasperske Hory**	**3.73**	**257**	*e*PN	**Pn**	**17 18 36.7**	**+0.3**
KHC				*e*PG	**Pb**	**17 18 44.7**	**+0.4**
KHC				*e*SG	**Sg**	**17 19 35.8**	**-1.4**
	comp=Z,9.3nm,0.5s							
MOA	**Molln**	**3.92**	**236**	*e*Pn	**Pn**	**17 18 39.0**	**0.0**
	0.3nm,0.2s							
MOA				*e*Sn	**Sn**	**17 19 28.4**	**+2.8**
	0.5nm,0.2s							
CLL	**Collm**	**4.05**	**289**	*e*Sg	**Sg**	**17 19 48.0**	**+0.4**
	comp=Z,9.0nm,0.5s							
DRGR		**4.12**	**143**	⇑P	**Pn**	**17 18 42.0**	**+0.1**
SIRR	**Siria**	**4.23**	**155**	⇑P	**Pn**	**17 18 43.8**	**+0.5**
BURAR	**Bucovina Array**	**4.76**	**120**	⇑P	**Pn**	**17 18 49.6**	**-1.1**
BZS	**Buzias**	**4.83**	**158**	⇑P	**Pn**	**17 18 52.8**	**+1.3**
GZR	**Gura Zlata**	**5.35**	**151**	⇑P	**Pn**	**17 18 59.2**	**+0.4**

*IDC **20** 17:19:57.4±6.7,35°.39N×70°.68E,h71km±34km,mb3.5/9, mb1 3.6/15,mb1mx3.3/54,mbtmp3.8/15,ML3.6/6, Error ellipse: s-maj=84.7km s-min=25.9km az=155.0*
*NEIC **20** 17:20:03.9±2.4,35°.96N±0°.05×70°.47E±0°.08,h97km±6km, mb4.2/12,Error ellipse: s-maj=9.7km s-min=6.2km az=122.0*
*NNC **20** 17:20:05.6±3.1,36°.51N×70°.26E,h0km,mb4.4,mpv4.0, Error ellipse: s-maj=24.9km s-min=20.4km az=162.0*

ISC 20 17:20:03.5±0.6,35°.90N±0°.05×70°.58E±0°.05,h110km,n52, σ2^{s}17/61,mb3.9/10,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.85**	**223**		**Pn**	**17 20 34.9**	**0.0**
KBL				Sn	**Sn**	**17 20 58.6**	**0.0**
CHGR	**Chuyangaron**	**2.97**	**338**		**Pn**	**17 20 48.2**	**-1.0**
GAR	**Garm**	**3.10**	**356**	Pn	**Pn**	**17 20 51.0**	**+0.1**
NIL	**Nilore**	**3.15**	**135**		**Pn**	**17 20 52.3**	**+0.8**
DRK	**Karamyk**	**3.70**	**15**		**Pn**	**17 20 59.9**	**+0.8**
BTK	**Batken**	**4.15**	**3**	Pn	**Pn**	**17 21 05.9**	**+0.9**
DHRM	**DHARAMSHALA**	**5.98**	**126**	*e*P	**Pn**	**17 21 28.4**	**-1.4**
DHRM				*e*S	**Sn**	**17 22 33.1**	**-4.0**
DHRM				IAML		17 22 36.4	
	comp=N,102nm,0.3s						
KK31	**Karatay Array**	**7.19**	**360**	⇑P	**Pn**	**17 21 44.9**	**-1.0**
	comp=N,51nm,0.4s,baz=189,slow=12,SNR=53						
KK31				⇓S	**Sn**	**17 23 01.2**	**-4.8**
	comp=N,19nm,0.6s,baz=188,slow=22,SNR=12						
KK31	**Karatay Array**	**7.19**	**360**	Pn	**Pn**	**17 21 44.5**	**-1.4**
KKAR	**Karatay Array**	**7.19**	**360**	Pn	**Pn**	**17 21 45.2**	**-0.7**
KKAR	**Karatay Array**	**7.19**	**360**	Pn	**Pn**	**17 21 44.9**	**-1.0**
SMLA	**Simla**	**7.27**	**129**	*e*P	**Pn**	**17 21 45.8**	**-1.3**
SMLA				*e*S	**Sn**	**17 23 02.8**	**-5.3**
SMLA				IAML		17 23 06.8	
	comp=E,40nm,0.3s						
AAK	**Ala-Archa**	**7.38**	**23**	P	**Pn**	**17 21 49.1**	**+0.5**
	comp=E,2.6nm,0.3s,baz=179,slow=3.9,SNR=8.3						
AAK				S	**Sn**	**17 23 09.3**	**-1.5**
	comp=E,2.3nm,0.3s,baz=11,slow=21,SNR=11						
AAK	**Ala-Archa**	**7.38**	**23**	⇑P	**Pn**	**17 21 48.8**	**+0.2**
	comp=E,5.1nm,0.5s						
AAK				⇑S	**Sn**	**17 23 08.9**	**-1.9**
	comp=E,19nm,0.7s						
AAK	**Ala-Archa**	**7.38**	**23**	Pn	**Pn**	**17 21 48.3**	**-0.3**
FRU1	**Bishkek**	**7.58**	**23**	Pn	**Pn**	**17 21 50.3**	**-0.9**
BOOM	**Boomskoye usch**	**7.78**	**31**	Pn	**Pn**	**17 21 54.1**	**0.0**
TKM2	**Tokmak 2**	**8.01**	**27**	⇓P	**Pn**	**17 21 57.3**	**+0.1**
TKM2							
	comp=E,6.2nm,0.8s			⇓S	**Sn**	**17 23 25.6**	**-0.7**
	comp=E,11nm,0.8s						
TARG	**Taragay, Kyrgy**	**8.10**	**42**		**Pn**	**17 21 59.1**	**+0.5**
GEYT	**Alibeck**	**10.18**	**285**	P	**Pn**	**17 22 24.3**	**-2.3**
	comp=E,0.5nm,0.3s,baz=153,slow=11,SNR=7.2						
GEYT				S	**Sn**	**17 24 12.4**	**-6.3**
	comp=E,1.0nm,0.3s,baz=110,slow=13,SNR=4.1						
GYA0B	**ALIBECK ARRAY**	**10.18**	**285**	Pn	**Pn**	**17 22 24.6**	**-1.9**
MAKZ	**Makanchi**	**13.84**	**35**	Pn	**Pn**	**17 23 14.2**	**-0.6**
MKAR	**Makanchi Array**	**13.97**	**35**	P	**Pn**	**17 23 15.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=238,slow=16,SNR=2.9						
AB31	**Akbulak array**	**15.45**	**333**	P	**Pn**	**17 23 34.2**	**-1.0**
	comp=E,7.7nm,0.5s,baz=154,slow=12,SNR=136						
AB31				S	**Sn**	**17 26 20.2**	**-5.9**
	comp=E,2.0nm,0.4s,baz=160,slow=22,SNR=11						
ABKAR	**Akbulak array**	**15.45**	**333**	Pn	**Pn**	**17 23 34.0**	**-1.3**
ABKAR	**Akbulak array**	**15.45**	**333**		**Pn**	**17 23 34.2**	**-1.0**
ABKAR				IAmb	IAmb	17 23 35.2	
	comp=Z,12nm,0.6s						
KURBB	**Kurchatov Array**	**15.80**	**19**	P	**P**	**17 23 42.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=211,slow=10,SNR=7.7						
KURK	**Kurchatov**	**15.91**	**19**	P	**P**	**17 23 42.0**	**-0.3**
BVAR	**Borovoye Array**	**17.12**	**360**	P	**Pn**	**17 23 57.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=174,slow=16,SNR=4.2						
AKTO	**Aktyubinsk**	**17.14**	**332**	P	**Pn**	**17 23 57.8**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=142,slow=13,SNR=14						
AKTO				S	Sn	17 26 54.9	-12
	comp=Z,0.2nm,0.3s,baz=312,slow=20,SNR=2.7						
BRVK	**Borovoye**	**17.16**	**359**	Pn	**P**	**17 23 53.1**	**-3.0**
ZAA0	**Zalesovo Array**	**20.60**	**24**	P	**P**	**17 24 32.2**	**-1.4**
ZAA0				IAmb	IAmb	17 24 36.0	
	comp=Z,3.4nm,0.5s						
ZALV	**Zalesovo Beam**	**20.60**	**24**	P	**P**	**17 24 34.5**	**+0.9**
	comp=Z,3.3nm,0.5s,baz=219,slow=10.0,SNR=17						
ZALV	**Zalesovo Beam**	**20.60**	**24**	P	**P**	**17 24 33.9**	**+0.3**
ARU	**Arti**	**22.09**	**342**	P	**P**	**17 24 52.6**	**+3.2**
	comp=Z,1.8nm,0.6s,baz=161,slow=8.9,SNR=7.8						
ARU				S	**S**	**17 28 50.4**	**+4.8**
	comp=Z,0.3nm,0.3s,baz=7.2,slow=21,SNR=1.6						
ARU	**Arti**	**22.09**	**342**	P	**P**	**17 24 50.6**	**+1.2**
ARU				IAmb	IAmb	17 24 54.0	
	comp=Z,4.9nm,0.5s						
AKASG	**Malin Array Be**	**33.06**	**310**	P	**P**	**17 26 27.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=82,slow=7.2,SNR=5.6						
FIA1	**FINESS Array S**	**37.79**	**327**	P	**P**	**17 27 08.6**	**-0.1**
FINES	**FINESS Array B**	**37.79**	**327**	P	**P**	**17 27 10.6**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=104,slow=9.1,SNR=7.4						
FINES	**FINESS Array B**	**37.79**	**327**	P	**P**	**17 27 08.4**	**-0.2**
ARCES	**ARCESS Array B**	**41.57**	**338**	P	**P**	**17 27 42.1**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=106,slow=7.9,SNR=7.4						
ARCES	**ARCESS Array B**	**41.57**	**338**	P	**P**	**17 27 41.7**	**+1.8**
ARCES				IAmb	IAmb	17 28 02.1	
	comp=Z,17nm,1.6s						
HFS	**Hagfors**	**43.33**	**322**	P	**P**	**17 27 55.4**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=97,slow=12,SNR=5.7						
NC303	**NORSAR Array S**	**44.60**	**324**	P	**P**	**17 28 06.1**	**+1.7**
NC303				IAmb	IAmb	17 28 31.7	
	comp=Z,4.8nm,1.2s						
NB201	**NORSAR Array S**	**44.62**	**323**	P	**P**	**17 28 06.0**	**+1.4**
NOA	**NORSAR Array B**	**44.65**	**323**	P	**P**	**17 28 05.7**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.9,SNR=5.3						
NC204	**NORSAR Array S**	**44.90**	**324**	P	**P**	**17 28 08.2**	**+1.4**
NC204				IAmb	IAmb	17 28 18.5	
	comp=Z,5.7nm,1.2s						
SPITS	**Spitsbergen Ar**	**48.00**	**347**	P	**P**	**17 28 33.7**	**+3.0**
	comp=Z,4.7nm,1.0s,baz=123,slow=12,SNR=2.1						
ESDC	**Sonseca Array**	**57.44**	**298**	P	**P**	**17 29 42.1**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=52,slow=8.9,SNR=2.3						
ESDC	**Sonseca Array**	**57.44**	**298**	IAmb	IAmb	17 29 53.4	
	comp=Z,2.7nm,1.6s						
BMAR	**Burnt Mountain**	**73.60**	**13**	P	**P**	**17 31 27.8**	**+3.5**
WB2	**Warramunga Arr**	**81.98**	**122**	P	**P**	**17 32 12.5**	**+1.2**

IDC 20 17:27:46.7±1.9,1°.17N×124°.05E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/27,mbtmp3.4/3,Error ellipse: s-maj=186.8km s-min=27.9km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.28**	**155**	P	P	17 32 58.0	+1.8
	1.5nm,1.1s,baz=332,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**26.48**	**159**	P	P	17 33 24.6	-1.3
	0.9nm,0.8s,baz=344,slow=7.0,SNR=9.1						
MKAR	**Makanchi Array**	**58.19**	**327**	P	P	17 37 42.7	+0.1
	0.3nm,0.8s,baz=127,slow=9.2,SNR=3.0						

*FUNV **20** 17:37:49.2,9°.06N×70°.05W,h3km,MW3.5*
ISC 20 17:37:49.1±1.5,9°.04N±0°.03×70°.00W±0°.03,h7km±11km, n26,σ1^{s}35/43,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.64**	**256**	*e*P	**Pg**	**17 38 00.5**	**-1.0**
SDV				*e*S	**Sg**	**17 38 09.1**	**-0.8**
SDV				*i*		17 38 10.2	
	comp=Z,124nm,0.1s						
SOCV	**Socops**	**1.13**	**228**	*e*P	**Pn**	**17 38 10.9**	**-0.4**
SOCV				*e*S	**Sg**	**17 38 27.7**	**+2.3**
SOCV	**Socops**	**1.13**	**228**	*e*P	**Pn**	**17 38 10.5**	**-0.8**
SOCV				*e*S	**Sb**	**17 38 25.1**	**-0.8**
TEPV	**Terepaima**	**1.22**	**41**	*e*P	**Pn**	**17 38 11.3**	**-1.3**
TEPV				*e*S	**Sb**	**17 38 28.8**	**+0.4**
SIQV	**Siquisique**	**1.61**	**7**	*e*P	**Pn**	**17 38 17.2**	**-0.7**
SIQV				*e*S	**Sn**	**17 38 39.6**	**+0.6**
MAPV	**Macapo**	**1.71**	**63**	*e*P	**Pn**	**17 38 20.5**	**+1.2**
MAPV				*e*S	**Sb**	**17 38 43.6**	**+0.9**
BAUV	**El Baul**	**1.94**	**93**	*e*P	**Pn**	**17 38 22.5**	**+0.1**
BAUV				*e*S	**Sn**	**17 38 47.7**	**+0.6**
DABV	**Dabajuro**	**1.97**	**342**	*e*P	**Pn**	**17 38 23.1**	**+0.3**
DABV				*e*S	**Sn**	**17 38 47.4**	**-0.5**
DABV	**Dabajuro**	**1.97**	**342**	*e*P	**Pn**	**17 38 22.9**	**0.0**
DABV				*e*S	**Sn**	**17 38 47.0**	**-0.9**
JACV	**Jacura**	**2.34**	**29**	*e*P	**Pn**	**17 38 28.8**	**+0.8**
JACV				*e*S	**Sn**	**17 38 57.6**	**+0.6**
BENV	**Beln**	**2.54**	**69**	*e*P	**Pn**	**17 38 31.4**	**+0.6**
BENV				*e*S	**Sn**	**17 39 02.2**	**+0.2**
CAPV	**Capacho**	**2.57**	**243**	*e*P	**Pn**	**17 38 30.3**	**-1.0**
CAPV				*e*S	**Sn**	**17 39 01.1**	**-1.8**
MONV	**Montecano**	**2.90**	**1**	*e*P	**Pn**	**17 38 35.4**	**-0.2**
MONV				*e*S	**Sn**	**17 39 08.7**	**-2.1**
OCAC	**Ocana**	**3.38**	**257**	*e*P	**Pn**	**17 38 44.9**	**+2.5**
LL2C	**La Loma 2 Cana**	**3.43**	**279**	*e*P	**Pn**	**17 38 45.0**	**+2.0**
LL2C				*e*S	**Sn**	**17 39 25.2**	**+1.3**
CVALL	**Valledupar, Ce**	**3.52**	**295**	*e*P	**Pn**	**17 38 44.9**	**+0.6**
CVALL				*e*S	**Sn**	**17 39 24.3**	**-2.0**
SMLC	**San Martn de**	**4.03**	**267**	*e*P	**Pn**	**17 38 52.9**	**+1.7**
SMLC				*i*		17 38 55.8	
	comp=Z,30nm,0.3s						
SMLC				*e*S	**Sn**	**17 39 38.2**	**-0.4**
PAYV	**Puerto Ayacuch**	**4.28**	**147**	*e*P	**Pn**	**17 38 55.2**	**+0.5**
PAYV				*e*S	**Sn**	**17 39 42.6**	**-2.4**
SMRC	**Santa Marta, M**	**4.66**	**297**	*e*P	**Pn**	**17 39 00.1**	**+0.2**
ZARC	**Zaragoza, Cauc**	**5.05**	**253**	*e*P	**Pn**	**17 39 06.8**	**+1.6**
SJCC	**San Jacinto, C**	**5.18**	**280**	*e*P	**Pn**	**17 39 08.5**	**+1.4**
SJCC				*e*S	**Sn**	**17 40 07.1**	**0.0**
SJCC				*i*		17 40 14.2	
	comp=Z,35nm,0.7s						
PCRV	**Puerto La Cruz**	**5.41**	**78**	*e*P	**Pn**	**17 39 10.8**	**+0.6**
PCRV				*e*S	**Sn**	**17 40 10.5**	**-2.3**
MOTC	**Monteria, Cord**	**5.60**	**268**	*e*P	**Pn**	**17 39 15.1**	**+2.3**
NORC	**Norcasia**	**5.94**	**235**	*e*P	**Pn**	**17 39 19.8**	**+2.3**
GUY2C	**Guyana, Caldas**	**6.53**	**235**	*e*P	Pn	17 39 30.9	+4.8
CBOC	**Ciudad Bolivar**	**6.74**	**243**	*e*P	Pn	17 39 33.5	+4.8

IDC 20 17:43:13.1±1.9,4°.02N×121°.70E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/35,mbtmp3.3/3,Error ellipse: s-maj=246.6km s-min=28.4km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.86**	**153**	P	P	17 48 55.2	-0.5
	0.2nm,0.3s,baz=330,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**29.98**	**157**	P	P	17 49 23.9	+0.4
	0.4nm,1.0s,baz=340,slow=6.8,SNR=4.6						
MKAR	**Makanchi Array**	**54.54**	**328**	P	P	17 52 42.9	-0.1
	0.1nm,0.3s,baz=125,slow=7.7,SNR=4.3						

*IDC **20** 17:49:38.1±1.3,25°.21S×175°.56W,h0km,mb3.8/6, mb1 4.1/6,mb1mx3.8/40,mbtmp3.8/6,ML4.6/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/21,Error ellipse: s-maj=50.1km s-min=22.3km az=143.0*
*NEIC **20** 17:49:41.3±2.7,25°.29S±0°.09×175°.2W±0°.1,h28km±5km, mb4.7/19,Error ellipse: s-maj=15.0km s-min=13.2km az=104.0*

ISC 20 17:49:41.4±0.7,25°.32S±0°.08×175°.3W±0°.1,h23km,n33, σ1^{s}61/29,mb4.6/15,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.54**	**210**	Pn	**Pn**	**17 50 48.9**	**+0.2**
	31nm,0.3s,baz=258,slow=23,SNR=1.4						
RAO				Sn	**Sn**	**17 51 41.1**	**+0.3**
	78nm,0.3s,baz=81,slow=22,SNR=1.8						
NIUE	**Niue**	**7.98**	**40**		Pn	17 51 27.0	-9.0
MSVF	**Nonsavu**	**9.74**	**320**	Pn	**Pn**	**17 52 00.3**	**0.0**
	2.7nm,0.3s,baz=274,slow=23,SNR=9.7						
MSVF	**Nonsavu**	**9.74**	**320**		**Pn**	**17 52 00.4**	**+0.1**
RAR	**Rarotonga**	**14.87**	**77**	Pn	Pn	17 53 02.8	-7.6
	2.8nm,0.3s,baz=254,slow=9.8,SNR=8.3						
DZM	**Mont Dzumac**	**17.00**	**277**	Pn	**P**	**17 53 41.2**	**+1.5**
	0.6nm,0.3s,baz=60,slow=11,SNR=8.7						
DZM	**Mont Dzumac**	**17.00**	**277**	P	**P**	**17 53 41.5**	**+1.9**
THZ	**Tophouse**	**19.07**	**208**	P	**P**	**17 54 02.6**	**+0.3**
THZ				IAmb	IAmb	17 54 32.8	
	comp=Z,40nm,1.2s						
KHZ	**Kahutara**	**19.36**	**206**	P	**P**	**17 54 01.6**	**-3.7**
KHZ				IAmb	IAmb	17 54 19.1	
	comp=Z,84nm,1.6s						
EIDS	**Eidsvold**	**30.31**	**263**	P	**P**	**17 55 51.5**	**+0.2**
EIDS				IAmb	IAmb	17 56 02.8	
	comp=Z,16nm,1.2s						
CTAO	**Charters Tower**	**35.73**	**270**	P	**P**	**17 56 39.1**	**+0.5**
CTAO				IAmb	IAmb	17 57 11.9	
	comp=Z,28nm,1.3s						
STKA	**Stephens Creek**	**38.19**	**250**	LR	LR	18 10 44.1	
	comp=Z,44nm,18.4s,baz=31,slow=33						
AS31	**Alice Springs**	**46.00**	**261**	P	**P**	**17 58 02.5**	**-0.9**
ASAR	**Alice Springs**	**46.00**	**261**	P	**P**	**17 58 02.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=94,slow=7.0,SNR=46						
WR0	**Warramunga Arr**	**46.36**	**266**	P	**P**	**17 58 04.4**	**-1.8**
WR0				IAmb	IAmb	17 58 19.6	
	comp=Z,23nm,1.6s						
WB2	**Warramunga Arr**	**46.54**	**266**	P	**P**	**17 58 05.2**	**-2.3**
WB2				IAmb	IAmb	17 58 27.5	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**46.55**	**266**	P	**P**	**17 58 05.2**	**-2.4**
WB0				IAmb	IAmb	17 58 15.9	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**46.55**	**266**	P	**P**	**17 58 05.4**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=101,slow=7.6,SNR=14						
FORT	**Forrest**	**49.81**	**250**	P	**P**	**17 58 31.7**	**-1.0**
MTN	**Manton Dam**	**51.79**	**273**	P	**P**	**17 58 46.8**	**-1.0**
KNRA	**Kununurra**	**52.92**	**269**	P	**P**	**17 58 54.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**54.95**	**265**	P	**P**	**17 59 10.2**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=76,slow=8.0,SNR=5.7						
FITZ	**Fitzroy Crossi**	**54.95**	**265**	IAmb	IAmb	17 59 25.4	
	comp=Z,28nm,1.8s						
QSPA	**South Pole Qui**	**64.77**	**180**	P	**P**	**18 00 19.6**	**+1.6**
QSPA				IAmb	IAmb	18 00 56.1	
	comp=Z,9.9nm,1.7s						
TOLI2	**Tolitoli**	**67.04**	**283**	P	**P**	**18 00 32.2**	**-1.0**
TOLI2				IAmb	IAmb	18 00 39.7	
	comp=Z,5.1nm,0.9s						
PAGB	**Antelope Grade**	**79.97**	**43**	P	P	18 01 43.0	-5.8
GSC	**Goldstone, Bar**	**81.85**	**45**	P	**P**	**18 01 56.7**	**-2.3**
NVAR	**Mina Array Bea**	**82.90**	**42**	P	**P**	**18 02 05.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=217,slow=5.8,SNR=3.9						
SNAA	**Sanae**	**83.13**	**178**	P	**P**	**18 02 05.9**	**+0.7**
SNAA				IAmb	IAmb	18 02 14.8	
	comp=Z,7.2nm,1.6s						
TXAR	**Lajitas Array**	**87.64**	**56**	P	**P**	**18 02 28.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=218,slow=8.7,SNR=2.7						
ILAR	**Eielson Array**	**92.48**	**12**	P	**P**	**18 02 49.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=221,slow=5.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P	**P**	**18 03 01.1**	**+2.9**
	comp=Z,1.3nm,1.0s,baz=126,slow=4.6,SNR=5.8						
AKASG	**Malin Array Be**	**148.40**	**330**	PKPbc	**PKiKP**	**18 09 27.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=38,slow=3.1,SNR=2.1						

*IDC **20** 17:49:39.2±2.5,2°.31S×134°.90E,h0km,mb3.6/2, mb1 3.9/4,mb1mx3.5/36,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=72.7km s-min=26.5km az=70.0*
*DJA **20** 17:49:46.0±0.6,2°.5±5°×13°.5E±°,h75km±19km,M4.0/6, mb4.5/3,mB5.5/1,MLv3.7/6,Mw(mB)5.0/1*

ISC 20 17:49:43.9±0.9,2°.40S±0°.07×134°.66E±0°.06,h30km,n12, σ0^{s}71/17,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.57**	**217**	P	**Pb**	**17 50 11.9**	**-0.5**
KMPI				S	**Sb**	**17 50 32.9**	**+1.0**
SRPI	**Serui, Papua**	**1.67**	**72**	P	Pb	17 50 16.5	+2.5
SRPI				S	**Sb**	**17 50 35.3**	**+0.7**
BAKI	**Biak**	**1.88**	**50**	P	**Pb**	**17 50 16.9**	**-0.8**
FAKI	**Fak Fak**	**2.46**	**258**	P	**Pn**	**17 50 21.0**	**-1.1**
FAKI				S	**Sn**	**17 50 50.3**	**-0.9**
SIJI	**Sorong**	**3.72**	**294**	Pn	**Pn**	**17 50 39.4**	**0.0**
	3.5nm,0.3s,baz=108,slow=4.7,SNR=59						
SIJI				Sn	**Sn**	**17 51 22.1**	**-0.1**
	4.2nm,0.3s,baz=291,slow=22,SNR=6.3						
SIJI	**Sorong**	**3.72**	**294**	P	**Pn**	**17 50 39.0**	**-0.4**
SIJI				S	**Sn**	**17 51 22.1**	**-0.1**
SWI	**Sorong**	**3.73**	**294**	P	**Pn**	**17 50 39.4**	**-0.1**
SWI				S	**Sn**	**17 51 21.6**	**-0.8**
KRAI	**Karang Ratu**	**6.32**	**262**	P	**Pn**	**17 51 15.9**	**+0.7**
	0.1nm5.7nm,1.5s						
KMSI	**Cibinong**	**11.08**	**285**	P	**Pn**	**17 52 21.2**	**+0.8**
WRA	**Warramunga Arr**	**17.44**	**181**	P	**P**	**17 53 45.5**	**-0.6**
	0.3nm,0.3s,baz=2.8,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.15**	**182**	P		**17 54 27.0**	**+0.2**
	3.7nm,0.8s,baz=6.2,slow=11,SNR=21						
MKAR	**Makanchi Array**	**67.11**	**324**	P	**P**	**18 00 35.6**	**+0.8**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=5.0						

*DJA **20** 18:17:04.3±0.5,8°.5±3°×10°.7E±°,h24km±5km,M3.8/16, mb3.8/1,MLv3.8/16*

ISC 20 18:17:05.1±2.0,7°.57S±0°.09×106°.71E±0°.05,h32km±15km, n18,σ0^{s}95/23,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.49**	**58**	P	**Pn**	**18 17 16.4**	**+0.6**
CNJI				S	**Sn**	**18 17 24.3**	**+1.0**
DBJI	**Dramaga**	**1.01**	**2**	P	**Pn**	**18 17 23.2**	**+0.1**
DBJI				S	**Sb**	**18 17 37.1**	**+0.1**
CISI	**Cisompet, Garu**	**1.09**	**89**	P	**Pn**	**18 17 23.7**	**-0.5**
CISI				S	**Sb**	**18 17 37.7**	**-1.8**
LEM	**Lembang**	**1.16**	**51**	P	**P

SRPI	**Serui, Papua**	**1.76**	**71**	P	**Pn**	**18 42 01.5 +1.2**
SRPI				S	**Sn**	**18 42 22.7 +1.0**
BAKI	**Biak**	**1.97**	**51**	P	**Pb**	**18 42 05.1 -2.0**
FAKI	**Fak Fak**	**2.37**	**258**	P	**Pn**	**18 42 09.5 +0.9**
FAKI				S	**Sn**	**18 42 36.5 -0.2**
SIJI	**Sorong**	**3.65**	**295**	P	**Pn**	**18 42 28.1 +1.8**
SWI	**Sorong**	**3.66**	**295**	P	**Pn**	**18 42 28.3 +1.9**
SWI				S	**Sn**	**18 43 08.9 +0.3**
KRAI	**Karang Ratu**	**6.23**	**262**	P	**Pn**	**18 42 59.4 -2.4**
	0.1nm9.2nm,2.1s					

*MDD **20** 18:42:52.6±0.5, 39°.05N×2°.64W, h18km±5km, mb5.0/1, mbLg2.8/31, Error ellipse: s-maj=3.5km s-min=3.4km az=134.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*LDG **20** 18:42:53.8±0.1, 39°.03N×2°.62W, h20km, Ml2.6/8, Error ellipse: s-maj=3.1km s-min=2.3km az=125.0*
*INMG **20** 18:42:54.1±1.9, 39°.03N×2°.59W, h21km±4km, ML2.5, Error ellipse: s-maj=2.0km s-min=2.0km az=2.0*
*SFS **20** 18:42:54.0, 39°.03N×2°.60W, h20km, ML2.4, MUNERA (ALBACETE)*
*CNRM **20** 18:43:02.3, 38°.57N×2°.83W, h228km, ml2.7, Hypocentre not reviewed by the ISC*

ISC 20 18:42:51.9±1.1, 39°.09N±0°.02×2°.62W±0°.02, h15km±9km, n95, σ1s91/132, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ETOB	**Tobarra**	**0.95**	**117**	⇓Pg		**Pb**	**18 43 10.5**	**+0.4**
	26nm,0.1s,SNR=18							
ETOB				Lg	Lg		18 43 22.5	
	106nm,0.1s,SNR=42							
SESP	**Santiago Espad**	**0.97**	**176**	⇑Pg		**Pb**	**18 43 10.5**	**+0.1**
	19nm,0.1s,SNR=18							
SESP				Lg	Lg		18 43 23.2	
	121nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**1.19**	**300**	Pg		**Pg**	**18 43 15.8**	**+0.9**
	2.5nm,0.1s,baz=119,slow=16,SNR=51							
ESDC				Lg	Lg		18 43 31.6	
	95nm,0.3s,baz=118,slow=29,SNR=8.3							
EQES	**Quesada**	**1.33**	**195**	Pn		**Pn**	**18 43 15.9**	**0.0**
	0.4nm,0.1s,SNR=7.9							
EQES				Pg		**Pb**	**18 43 17.1**	**+0.6**
	8.4nm,0.1s,SNR=150							
EQES				Lg	Lg		18 43 34.4	
	44nm,0.1s,SNR=5.0							
ECHE	**Chera**	**1.38**	**68**	Pn		**Pb**	**18 43 17.3**	**-0.1**
	4.5nm,0.1s,SNR=7.9							
ECHE				Pg		**Pg**	**18 43 19.7**	**+1.3**
	8.8nm,0.2s,SNR=7.9							
ECHE				Lg	Lg		18 43 38.2	
	19nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**1.41**	**289**	Pn		**Pn**	**18 43 17.9**	**+0.8**
	0.3nm,0.1s,SNR=7.9							
PAB				Pg		**Pg**	**18 43 20.0**	**+0.9**
	4.0nm,0.1s,SNR=7.9							
PAB				Sn		**Sg**	**18 43 37.9**	**+0.3**
	33nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**1.64**	**192**	Pn		**Pn**	**18 43 19.6**	**-0.6**
	22nm,0.2s,SNR=7.9							
GORA				Lg	Lg		18 43 43.6	
	79nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**1.65**	**138**	Pg		**Pb**	**18 43 22.9**	**+0.9**
	16nm,0.3s,SNR=7.9							
EMUR				Lg	Lg		18 43 43.9	
	47nm,0.2s,SNR=7.9							
AFON	**Font Roja**	**1.68**	**104**	Pn		**Pn**	**18 43 21.1**	**+0.3**
	6.9nm,0.2s,SNR=12							
AFON				Sn		**Sn**	**18 43 42.5**	**+0.4**
	6.6nm,0.2s,SNR=7.9							
AFON				Lg	Lg		18 43 46.5	
	10nm,0.1s,SNR=5.0							
EADA	**Adamuz**	**1.78**	**240**	Pn		**Pn**	**18 43 22.2**	**0.0**
	0.7nm,0.1s,SNR=7.9							
EADA				Pg		**Pb**	**18 43 25.9**	**+1.6**
	7.8nm,0.1s,SNR=48							
EADA				Lg	Lg		18 43 48.3	
	65nm,0.1s,SNR=25							
ETOR	**Torete**	**1.79**	**14**	Pn		**Pn**	**18 43 23.1**	**+0.9**
	2.5nm,0.2s,SNR=7.9							
ETOR				Pg		**Pg**	**18 43 26.8**	**+0.6**
	93nm,0.2s,SNR=62							
ETOR				Lg	Lg		18 43 50.2	
	278nm,0.1s,SNR=12							
ETRV	**Los Montesinos**	**1.81**	**126**	Pg		**Pb**	**18 43 24.7**	**+0.1**
	3.6nm,0.1s,SNR=7.9							
ETRV				Lg	Lg		18 43 49.9	
	95nm,0.2s,SNR=7.9							
EBEN2	**Beniarda presa**	**1.94**	**101**	Pn		**Pn**	**18 43 24.3**	**-0.1**
	7.1nm,0.1s,SNR=7.9							
EBEN2				Sn		**Sn**	**18 43 47.4**	**-1.0**
	5.7nm,0.1s,SNR=4.0							
EBEN2				Lg	Lg		18 43 54.3	
	9.7nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**1.95**	**323**	Pg		**Pg**	**18 43 30.3**	**+1.0**
	3.8nm,0.2s,SNR=5.9							
GUD				Lg	Lg		18 43 55.4	
	30nm,0.3s,SNR=34							
CART	**Cartagena**	**1.97**	**139**	Pg		**Pg**	**18 43 29.4**	**-0.2**
CART				Lg			18 43 52.5	
CART	**Cartagena**	**1.97**	**139**	P		**Pg**	**18 43 29.4**	**-0.2**
CART				S		**Sb**	**18 43 52.5**	**+0.8**
EQUE	**Quentar**	**1.98**	**199**	Pn		**Pn**	**18 43 25.2**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EQUE				Pg		**Pb**	**18 43 28.5**	**+0.7**
	0.9nm,0.1s,SNR=5.2							
EQUE				Lg	Lg		18 43 54.3	
	24nm,0.3s,SNR=19							
EMOS	**Mosqueruela**	**2.09**	**52**	Pn		**Pn**	**18 43 28.0**	**+1.4**
	2.2nm,0.1s,SNR=28							
EMOS				Pg		**Pg**	**18 43 33.8**	**+1.7**
	1.8nm,0.1s,SNR=7.9							
EMOS				Sn		**Sn**	**18 43 52.7**	**+0.3**
	8.7nm,0.2s,SNR=6.3							
EMOS				Lg	Lg		18 43 59.3	
	23nm,0.2s,SNR=5.0							
ENIJ	**Nijar**	**2.14**	**171**	Pg		**Pb**	**18 43 31.2**	**+0.9**
	5.2nm,0.3s,SNR=7.9							
ENIJ				Lg	Lg		18 43 59.6	
	1.9nm,0.1s,SNR=7.9							
EBER	**Berja**	**2.19**	**186**	Pg		**Pb**	**18 43 32.9**	**+1.5**
	2.8nm,0.2s,SNR=7.9							
EBER				Lg	Lg		18 44 01.6	
	5.8nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**2.29**	**211**	Pn		**Pn**	**18 43 30.2**	**+0.9**
	0.2nm,0.2s,SNR=7.9							
EGOR				Pg		**Pb**	**18 43 34.4**	**+1.3**
	1.0nm,0.2s,SNR=7.9							
EGOR				Lg	Lg		18 44 04.8	
	16nm,0.3s,SNR=7.9							
ELGU	**Los Guajares,**	**2.35**	**200**	Pn		**Pn**	**18 43 31.2**	**+1.2**
	0.3nm,0.1s,SNR=7.9							
ELGU				Pg		**Pb**	**18 43 35.5**	**+1.5**
	1.5nm,0.1s,SNR=7.9							
ELGU				Lg	Lg		18 44 06.4	
	14nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**2.41**	**246**	Pn		**Pn**	**18 43 30.9**	**+0.1**
	0.1nm,0.1s,SNR=7.9							
ECAB				Pg		**Pb**	**18 43 36.0**	**+1.0**
	0.2nm,0.1s,SNR=7.9							
ECAB				Sn		**Sn**	**18 44 00.5**	**+0.5**
	3.6nm,0.2s,SNR=7.9							
ECAB				Lg	Lg		18 44 07.6	
	12nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.94**	**50**	Pn		**Pn**	**18 43 38.8**	**+0.7**
	0.4nm,0.1s,SNR=7.9							
ERTA				Sn		**Sn**	**18 44 11.6**	**-1.5**
	1.7nm,0.2s,SNR=7.9							
ERTA				Lg	Lg		18 44 24.6	
	11nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**3.04**	**215**	Pn		**Pn**	**18 43 38.8**	**-0.6**
	0.1nm,0.2s,SNR=7.9							
EMIJ				Sn		**Sn**	**18 44 12.0**	**-3.6**
	0.8nm,0.2s,SNR=7.9							
EMIJ				Lg	Lg		18 44 26.7	
	1.5nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.09**	**90**	Pn		**Pn**	**18 43 39.9**	**-0.2**
	1.1nm,0.2s,SNR=7.9							
EIBI				Sn		**Sn**	**18 44 16.0**	**-0.8**
	1.9nm,0.2s,SNR=7.9							
ESPR	**Espera**	**3.38**	**230**	Lg		Lg	18 44 40.0	
	4.3nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.44**	**266**	Pn		**Pn**	**18 43 46.2**	**+1.3**
	0.9nm,0.1s,SNR=7.9							
EBAD				Sn		**Sn**	**18 44 24.3**	**-1.1**
	2.6nm,0.2s,SNR=7.9							
EBAD				Lg	Lg		18 44 39.9	
	10nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.44**	**249**	Pn		**Pn**	**18 43 45.1**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EMIN				Lg	Lg		18 44 39.5	
	4.4nm,0.2s,SNR=7.9							
PBAR	**Barrancos**	**3.58**	**257**	Pn		**Pn**	**18 43 47.2**	**+0.4**
PBAR				Lg	Lg		18 44 43.9	
	9.5nm,0.7s							
PBAR	**Barrancos**	**3.58**	**257**	*e*Pn		**Pn**	**18 43 47.2**	**+0.4**
PBAR				*e*Sg		**Sg**	**18 44 43.9**	**-2.8**
PBAR				A	A		18 44 49.6	
	9.5nm,0.7s							
EPOB	**Poblet**	**3.63**	**50**	Pn		**Pn**	**18 43 48.3**	**+0.7**
	1.1nm,0.2s,SNR=7.9							
EPOB				Sn		**Sn**	**18 44 28.5**	**-1.6**
	2.8nm,0.6s,SNR=7.9							
EPOB				Lg	Lg		18 44 45.0	
	2.7nm,0.3s,SNR=7.9							
PMRV	**Marv??o**	**3.72**	**277**	Pn		**Pb**	**18 43 56.6**	**-0.6**
PMRV				Sn		**Sb**	**18 44 39.2**	**-2.9**
PMRV				Lg	Lg		18 44 47.5	
	11nm,0.4s							
PMRV	**Marv??o**	**3.72**	**277**	*e*Pn		**Pb**	**18 43 56.6**	**-0.6**
PMRV				*e*Sn		**Sb**	**18 44 39.2**	**-2.9**
PMRV				*e*Sg		**Sg**	**18 44 47.5**	**-3.8**
PMRV				A	A		18 44 55.4	
	11nm,0.4s							
PCBR	**Castelo Branco**	**3.83**	**283**	Lg		Lg	18 44 51.6	
	2.2nm,0.3s							
PCBR	**Castelo Branco**	**3.83**	**283**	*e*Sg		**Sg**	**18 44 51.6**	**-3.3**
PCBR				A	A		18 45 01.0	
	4.3nm,0.3s							
PESTR	**Estremoz**	**3.88**	**268**	*e*Pn		**Pn**	**18 43 51.3**	**+0.4**
PESTR				*e*Sg		**Sb**	**18 44 52.0**	**+5.3**
PESTR				A	A		18 44 58.9	
	8.0nm,0.4s							
PESTR	**Estremoz**	**3.88**	**268**	P			18 44 00.1	
PESTR				S			18 44 51.5	
EORO	**Oroz-Betelu**	**3.93**	**14**	Pn		**Pn**	**18 43 54.4**	**+2.7**
	0.2nm,0.1s,SNR=7.9							
EORO				Pg		**Pg**	**18 44 07.2**	**0.0**
	9.4nm,0.4s,SNR=7.9							
EORO				Lg	Lg		18 44 57.4	
	14nm,0.4s,SNR=7.9							
MVO	**Moncorvo**	**3.96**	**303**	Pn		**Pn**	**18 43 55.0**	**+2.8**
	0.5nm,0.1s,SNR=4.0							
MVO				Sn		**Sn**	**18 44 37.5**	**-0.9**
	0.5nm,0.1s,SNR=7.9							
MVO				Lg	Lg		18 44 57.1	
	21nm,0.5s,SNR=7.9							
MVO	**Moncorvo**	**3.96**	**303**	*e*Sn		**Sn**	**18 44 38.3**	**-0.1**
MVO				*e*Sg		**Sg**	**18 44 57.3**	**-1.9**
MVO				A	A		18 45 02.0	
	11nm,0.4s							
MTE	**Manteigas**	**4.01**	**291**	Lg		Lg	18 44 58.3	
	4.0nm,0.6s							
MTE	**Manteigas**	**4.01**	**291**	*e*Sg		**Sg**	**18 44 58.3**	**-2.5**
MTE				A	A		18 45 04.8	
	8.0nm,0.6s							
ETSF	**Etsaut**	**4.12**	**22**	Pn		**Pn**	**18 43 54.9**	**+0.6**
ETSF				Pg		**Pg**	**18 44 11.4**	**+0.7**
ETSF				Sn		**Sn**	**18 44 39.7**	**-2.5**
	0.9nm,0.3s							
ETSF				Lg	Lg		18 45 04.7	
	1.0nm,0.3s							
ETSF	**Etsaut**	**4.12**	**22**	*e*Pn		**Pn**	**18 43 54.9**	**+0.6**
ETSF	**Etsaut**	**4.12**	**22**	*e*Pg		**Pg**	**18 44 11.4**	**+0.7**
ETSF				*e*Sn		**Sn**	**18 44 39.7**	**-2.5**
	1.9nm,0.3s							
ETSF				*e*Sg		**Sg**	**18 45 04.7**	**+0.6**
	2.0nm,0.3s							
EGRO	**El Granado**	**4.12**	**249**	Pn		**Pn**	**18 43 54.9**	**+0.5**
	0.2nm,0.1s,SNR=7.9							
EGRO				Sn		**Sn**	**18 44 39.7**	**-2.5**
	0.3nm,0.1s,SNR=7.9							
EGRO				Lg	Lg		18 45 01.1	
	7.4nm,0.5s,SNR=7.9							
PBRG	**Braganca**	**4.15**	**312**	Lg		Lg	18 45 03.6	
	4.6nm,0.6s							
PBRG	**Braganca**	**4.15**	**312**	*e*Sg		**Sg**	**18 45 03.6**	**-1.6**
PBRG				A	A		18 45 07.6	
	9.2nm,0.6s							
SJPF	**Ste Jean**	**4.16**	**14**	Pn		**Pn**	**18 43 55.2**	**+0.4**
SJPF				Pg		**Pg**	**18 44 12.1**	**+0.5**
SJPF				Sn		**Sn**	**18 44 40.7**	**-2.5**
	0.9nm,0.2s							
SJPF				Lg	Lg		18 45 05.4	
	2.5nm,0.3s							
SJPF	**Ste Jean**	**4.16**	**14**	*e*Pn		**Pn**	**18 43 55.2**	**+0.4**
SJPF	**Ste Jean**	**4.16**	**14**	*e*Pg		**Pg**	**18 44 12.1**	**+0.5**
SJPF				*e*Sn		**Sn**	**18 44 40.7**	**-2.5**
	1.8nm,0.2s							
SJPF				*e*Sg		**Sg**	**18 45 05.4**	**0.0**
	5.0nm,0.3s							
ELAN	**Lanestosa**	**4.19**	**352**	Pg		**Pg**	**18 44 12.2**	**+0.1**
	1.6nm,0.2s,SNR=7.9							
ELAN				Lg	Lg		18 45 05.4	
	6.7nm,0.5s,SNR=7.9							
EALK	**Alkurruntz**	**4.21**	**11**	Pg		**Pg**	**18 44 12.8**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EALK				Sn		**Sn**	**18 44 44.3**	**-0.3**
	3.5nm,0.2s,SNR=7.9							
EALK				Lg	Lg		18 45 04.0	
	22nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**4.24**	**314**	Pn		**Pn**	**18 43 57.8**	**+1.9**
	0.4nm,0.2s,SNR=7.9							
ECAL				Sn		**Sn**	**18 44 43.2**	**-1.9**
	0.3nm,0.1s,SNR=7.9							
ECAL				Lg	Lg		18 45 06.7	
	19nm,0.4s,SNR=7.9							
PBEJ	**Beja**	**4.24**	**257**	Lg		Lg	18 45 05.4	
	2.5nm,0.6s							
PBEJ	**Beja**	**4.24**	**257**	*e*Sg		**Sg**	**18 45 05.4**	**-2.7**
PBEJ				A	A		18 45 13.8	
	4.9nm,0.6s							
EVO	**Evora**	**4.25**	**264**	Lg		Lg	18 45 05.4	
	6.5nm,0.3s							
EVO	**Evora**	**4.25**	**264**	*e*Sg		**Sg**	**18 45 05.4**	**-2.8**
EVO				A	A		18 45 12.4	
	6.5nm,0.3s							
ATE	**Arette**	**4.25**	**19**	Sn		**Sn**	**18 44 44.4**	**-1.0**
	1.2nm,0.2s,SNR=7.9							
ATE				Lg	Lg		18 45 05.6	
	4.3nm,0.5s,SNR=7.9							
ETOS	**Mallorca**	**4.27**	**79**	Pn		**Pn**	**18 43 56.7**	**+0.4**
	0.2nm,0.2s,SNR=7.9							
TAF	**Taforalt**	**4.27**	**178**	P			18 44 03.3	
TAF				S			18 44 48.2	
PVAQ	**Vaqueiros**	**4.35**	**249**	Pn		**Pn**	**18 43 57.5**	**+0.1**
PVAQ				Sn		**Sn**	**18 44 47.4**	**-0.4**
PVAQ				Lg	Lg		18 45 07.3	
	6.7nm,0.7s							
PVAQ	**Vaqueiros**	**4.35**	**249**	*e*Pn		**Pn**	**18 43 57.5**	**+0.1**
PVAQ				*e*Sn		**Sn**	**18 44 47.4**	**-0.4**
PVAQ				*e*Sg		**Sb**	**18 45 07.3**	**+7.1**
PVAQ				A	A		18 45 13.4	
	6.7nm,0.7s							
PVAQ	**Vaqueiros**	**4.35**	**249**	P			18 44 04.0	
PVAQ				S			18 44 55.4	
CSOR	**Sort**	**4.35**	**40**	Pn		**Pn**	**18 43 59.0**	**+1.4**
	0.2nm,0.1s,SNR=7.9							
CSOR				Sn		**Sn**	**18 44 45.6**	**-2.4**
	0.7nm,0.1s,SNR=7.9							
CSOR				Lg	Lg		18 45 09.1	
	6.0nm,0.5s,SNR=7.9							
PMTG	**Montargil**	**4.36**	**272**	Lg		Lg	18 45 07.8	
	5.7nm,0.4s							
PMTG	**Montargil**	**4.36**	**272**	*e*Sg		**Sg**	**18 45 07.8**	**-4.0**
PMTG				A	A		18 45 12.8	
	5.7nm,0.4s							
PVIS	**Viseu**	**4.37**	**294**	Lg		Lg	18 45 10.1	
PVIS	**Viseu**	**4.37**	**294**	*e*Sg		**Sg**	**18 45 10.1**	**-2.0**
PCVE	**Castro Verde**	**4.50**	**253**	Sn		**Sn**	**18 44 50.7**	**-0.8**
PCVE				Lg	Lg		18 45 12.9	
	4.5nm,0.4s							
PCVE	**Castro Verde**	**4.50**	**253**	*e*Sn		**Sn**	**18 44 50.7**	**-0.8**
PCVE				*e*Sg		**Sg**	**18 45 12.9**	**-3.4**
PCVE				A	A		18 45 17.8	
	4.5nm,0.4s							
EPF	**Esparros**	**4.53**	**29**	Pn		**Pn**	**18 44 00.2**	**+0.2**
EPF				Pg		**Pg**	**18 44 18.9**	**+0.2**
EPF				Sn		**Sn**	**18 44 49.5**	**-2.9**
	0.9nm,0.2s							
EPF				Lg	Lg		18 45 17.3	
	1.3nm,0.3s							
EPF	**Esparros**	**4.53**	**29**	*e*Pn		**Pn**	**18 44 00.2**	**+0.2**
EPF	**Esparros**	**4.53**	**29**	*e*Pg		**Pg**	**18 44 18.9**	**+0.2**
EPF				*e*Sn		**Sn**	**18 44 49.5**	**-2.9**
	1.7nm,0.2s							
EPF				*e*Sg		**Sg**	**18 45 17.3**	**-0.1**
	2.6nm,0.3s							
PBDV	**Barranco-do-Ve**	**4.57**	**248**	Lg		Lg	18 45 14.0	
	5.0nm,0.4s							
PBDV	**Barranco-do-Ve**	**4.57**	**248**	*e*Sg		**Sb**	**18 45 14.0**	**+7.4**
PBDV				A		A	18 45 21.5	
	5.0nm,0.4s							
POLO	**Lamas de Olo**	**4.57**	**302**	Lg		Lg	18 45 15.5	
	2.4nm,0.5s							
POLO	**Lamas de Olo**	**4.57**	**302**	*e*Sg		**Sg**	**18 45 15.5**	**-3.1**
POLO				A		A	18 45 28.0	
	2.4nm,0.5s							
EARI	**Arriondas**	**4.64**	**336**	Pn		**Pn**	**18 44 02.9**	**+1.4**
	0.1nm,0.1s,SNR=4.0							
EARI				Sn		**Sn**	**18 44 52.2**	**-2.9**
	1.1nm,0.3s,SNR=7.9							
EARI				Lg	Lg		18 45 18.6	
	0.7nm,0.2s,SNR=7.9							
PNCL	**Nicolau / Gran**	**4.73**	**260**	Lg		Lg	18 45 19.9	
	4.6nm,0.5s							
PNCL	**Nicolau / Gran**	**4.73**	**260**	*e*Sg		**Sg**	**18 45 19.9**	**-3.7**
PNCL				A		A	18 45 30.8	
	4.6nm,0.5s							
JBK	**JBK**	**4.74**	**179**	P			18 44 10.5	
JBK				S			18 45 03.5	
PCAB	**Cabril**	**4.89**	**304**	Lg		Lg	18 45 27.4	
PCAB	**Cabril**	**4.89**	**304**	*e*Sg		**Sg**	**18 45 27.4**	**-1.3**
ELOB	**Lobios**	**4.99**	**306**	Lg		Lg	18 45 30.7	
	12nm,0.7s,SNR=7.9							
PTEO	**Sao Teotonio**	**5.04**	**254**	Lg		Lg	18 45 30.6	
PTEO	**Sao Teotonio**	**5.04**	**254**	*e*Sg		**Sg**	**18 45 30.6**	**-3.0**
PGAV	**Gavieira, Arco**	**5.17**	**306**	Lg		Lg	18 45 37.5	
	3.7nm,0.5s							
PGAV	**Gavieira, Arco**	**5.17**	**306**	*e*Sg		**Sg**	**18 45 37.5**	**-0.5**
PGAV				A		A	18 45 42.0	
	3.7nm,0.5s							
PFVI	**Vila Bisbo**	**5.27**	**250**	*e*Sn		**Sn**	**18 45 09.1**	**-1.3**
EPON	**Pontenova**	**5.44**	**323**	Lg		Lg	18 45 44.5	
	14nm,0.6s,SNR=7.9							
EAGO	**Agolada(Pontev**	**5.56**	**314**	Lg		Lg	18 45 48.5	
	9.5nm,0.6s,SNR=7.9							
MTLF	**Montolieu**	**5.60**	**39**	Pn		**Pn**	**18 44 14.7**	**+0.1**
MTLF				Pg		**Pg**	**18 44 38.4**	**-0.7**
MTLF				Sn		**Sn**	**18 45 15.0**	**-3.7**
MTLF				Lg	Lg		18 45 50.4	
	0.9nm,0.3s							
MTLF	**Montolieu**	**5.60**	**39**	*e*Pn		**Pn**	**18 44 14.7**	**+0.1**
MTLF	**Montolieu**	**5.60**	**39**	*e*Pg		**Pg**	**18 44 38.4**	**-0.7**
MTLF				*e*Sn		**Sn**	**18 45 15.0**	**-3.7**
MTLF				*e*Sg		**Sg**	**18 45 50.4**	**-1.3**
	1.7nm,0.3s							
LFF	**La Frestale**	**6.36**	**22**	Pn		**Pn**	**18 44 24.0**	**-1.0**
LFF	**La Frestale**	**6.36**	**22**	*e*Pn		**Pn**	**18 44 24.0**	**-1.0**
LFF	**La Frestale**	**6.36**	**22**	*e*P		**Pn**	**18 44 28.2**	**+3.2**
ZHG	**ZHG**	**6.50**	**211**	P			18 44 32.3	
ZHG				S			18 45 43.2	

*IDC **20** 18:46:53.4±2.9, 36°.29N×70°.71E, h199km±27km, mb3.4/12, mb1 3.4/18, mb1mx3.2/51, mbtmp3.9/18, Error ellipse: s-maj=17.5km s-min=14.3km az=173.0*
*NEIC **20** 18:46:56.1±2.6, 36°.49N±0°.06×70°.62E±0°.06, h219km±5km, mb4.0/22, Error ellipse: s-maj=8.6km s-min=6.8km az=144.0*
*NNC **20** 18:46:57.9±4.2, 36°.97N×70°.79E, h0km, mb4.9, mpv4.5, Error ellipse: s-maj=35.7km s-min=33.0km az=121.0*

ISC 20 18:46:54.7±0.5, 36°.50N±0°.05×70°.70E±0°.05, h204km, n74, σ1s58/83, mb3.9/18, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.38**	**215**			**Pn**	**18 47 39.7**	**+1.9**
KBL					Sn	**S**	**18 48 11.8**	**+1.1**
CHGR	**Chuyangaron**	**2.48**	**331**			**Pn**	**18 47 40.5**	**+1.9**
CHGR					Sn	**S**	**18 48 12.5**	**+0.1**
GAR	**Garm**	**2.51**	**353**		Pn	**Pn**	**18 47 41.3**	**+2.2**
GAR					Sn	**S**	**18 48 13.6**	**+0.3**
CEP	**Cherat**	**2.85**	**159**		P	**Pn**	**18 47 45.3**	**+2.3**
CHCP	**Chirah Chowk**	**3.53**	**143**		P	**Pn**	**18 47 53.4**	**+2.5**
NIL	**Nilore**	**3.53**	**143**		Pn	**Pn**	**18 47 53.3**	**+2.4**
NIL					Sn	**S**	**18 48 35.0**	**+0.6**
THW	**Thamme Wali**	**3.80**	**167**		P	**Pn**	**18 47 55.9**	**+1.7**
SARP	**Sargodha**	**4.85**	**160**		P	**Pn**	**18 48 08.2**	**+0.9**
THN	**Thein Dam**	**5.80**	**133**		*e*S	**S**	**18 49 26.5**	**+0.4**
AML	**Almayashu**	**6.08**	**22**		P	**Pn**	**18 48 24.4**	**+1.1**
	SNR=325							
DHRM	**DHARAMSHALA**	**6.28**	**131**		*e*P	**Pn**	**18 48 26.3**	**+0.5**
DHRM					*e*S	**S**	**18 49 34.2**	**-3.5**
DHRM					IAML		18 49 37.4	
	comp=N,512nm,0.6s							
EKS2	**Erkin-Say**	**6.60**	**20**		P	**Pn**	**18 48 31.0**	**+1.3**
	SNR=41							
KK31	**Karatay Array**	**6.60**	**359**		⇓P	**Pn**	**18 48 30.3**	**+0.7**
	comp=N,8.6nm,0.3s,baz=175,slow=12,SNR=275							
KK31					⇓S	**S**	**18 49 41.2**	**-3.6**
	comp=N,14nm,0.4s							
KK31	**Karatay Array**	**6.60**	**359**		Pn	**Pn**	**18 48 30.5**	**+0.9**
KKAR	**Karatay Array**	**6.60**	**359**		Sn	**S**	**18 49 41.8**	**-3.1**
**AA

GNI	**Garni**	**20.66**	**288**	P		**P**		**18 51 18.5**	**-0.5**
ARU	**Arti**	**21.55**	**341**			**P**		**18 51 28.8**	**+1.0**
ARU				IAmb		IAmb		18 51 31.3	
	comp=Z,6.6nm,0.7s								
ULN	**Ulaanbaatar**	**28.98**	**55**	P		**P**		**18 52 36.4**	**+1.1**
ULN				IAmb		IAmb		18 52 39.5	
	comp=Z,2.4nm,0.5s								
AKASG	**Malin Array Be**	**32.76**	**309**	P		**P**		**18 53 08.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=99,slow=9.4,SNR=2.2								
NRIK	**Noril'sk**	**34.17**	**11**	P		**P**		**18 53 21.8**	**+1.7**
	comp=Z,4.1nm,0.5s,baz=200,slow=3.7,SNR=3.8								
NRIK	**Noril'sk**	**34.17**	**11**	IAmb		IAmb		18 53 22.6	
	comp=Z,8.7nm,1.1s								
FIA1	**FINESS Array S**	**37.35**	**326**	P		**P**		**18 53 47.8**	**+0.7**
FIA1				IAmb		IAmb		18 53 56.0	
	comp=Z,4.3nm,1.1s								
FINES	**FINESS Array B**	**37.35**	**326**	P		**P**		**18 53 48.0**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=122,slow=8.2,SNR=20								
FINES	**FINESS Array B**	**37.35**	**326**	P		**P**		**18 53 47.7**	**+0.6**
KEV	**Kevo**	**40.71**	**338**	P		**P**		**18 54 15.1**	**+0.2**
ARCES	**ARCESS Array B**	**41.05**	**338**	P		**P**		**18 54 18.8**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=113,slow=7.9,SNR=16								
ARCES	**ARCESS Array B**	**41.05**	**338**	IAmb		IAmb		18 54 33.8	
	comp=Z,12nm,1.4s								
NC405	**NORSAR Array S**	**44.00**	**323**	P		**P**		**18 54 42.0**	**+0.4**
NC303	**NORSAR Array S**	**44.18**	**323**	P		**P**		**18 54 43.9**	**+0.9**
NC303				IAmb		IAmb		18 55 04.9	
	comp=Z,4.2nm,1.1s								
NOA	**NORSAR Array B**	**44.23**	**323**	P		**P**		**18 54 43.5**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=104,slow=7.3,SNR=10								
NC204	**NORSAR Array S**	**44.48**	**323**	P		**P**		**18 54 45.7**	**+0.3**
NC204				IAmb		IAmb		18 54 47.2	
	comp=Z,9.8nm,1.1s								
KSRS	**Korea Array**	**45.11**	**71**	P		**P**		**18 54 50.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=273,slow=6.9,SNR=2.0								
TIXI	**Tiksi**	**45.86**	**22**	P		**P**		**18 54 56.8**	**+0.7**
TIXI				IAmb		IAmb		18 54 57.5	
	comp=Z,4.6nm,0.9s								
KBS	**Kingsbay**	**48.56**	**347**	P		**P**		**18 55 18.0**	**+1.3**
KBS				IAmb		IAmb		18 55 26.0	
	comp=Z,9.6nm,1.4s								
TOA0	**Torodi Ar. Sit**	**65.48**	**268**	P		**P**		**18 57 14.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**65.48**	**268**	P		**P**		**18 57 14.6**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=54,slow=5.4,SNR=4.7								
TORD	**Torodi Ar. Bea**	**65.48**	**268**	P		**P**		**18 57 14.2**	**-2.0**
BMAR	**Burnt Mountain**	**73.00**	**13**	P		**P**		**18 58 02.9**	**+1.3**
INK	**Inuvik**	**73.94**	**9**	P		**P**		**18 58 07.5**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=337,slow=4.6,SNR=5.1								
INK	**Inuvik**	**73.94**	**9**	IAmb		IAmb		18 58 08.8	
	comp=Z,2.8nm,0.7s								
ILAR	**Eielson Array**	**74.84**	**16**	P		**P**		**18 58 11.7**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=313,slow=5.5,SNR=5.0								
KDAK	**Kodiak Island**	**79.29**	**22**	P		**P**		**18 58 37.6**	**+0.5**
WRA	**Warramunga Arr**	**82.20**	**122**	P		**P**		**18 58 51.3**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=324,slow=4.6,SNR=5.5								
WB2	**Warramunga Arr**	**82.20**	**122**	P		**P**		**18 58 51.9**	**-1.2**
ASAR	**Alice Springs**	**84.45**	**125**	P		**P**		**18 59 03.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=315,slow=4.9,SNR=8.5								

*GUC **20** 18:54:23.8±0.5, 36°29S×73°81W, h24km±9km, ML4.2*
*IDC **20** 18:54:24.6±2.1, 36°41S×73°64W, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.6/21, mbtmp3.4/3, ML3.8/1, MS2.6/1, Ms1 2.5/1, ms1mx2.5/5, Error ellipse: s-maj=79.3km s-min=21.6km az=69.0*
*NEIC **20** 18:54:25.8±1.2, 36°17S±0°06×73°7W±0°1, h9km±5km, mb4.2/10, ML4.2(GUC), Error ellipse: s-maj=14.0km s-min=8.9km az=106.0*

ISC 20 18:54:24.4±0.7, 36°23S±0°05×73°71W±0°04, h10km, n56, σ1℗40/65, mb4.3/3, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.78**	**142**	**⇑eP**		**Pg**	**18 54 37.4**	**-2.1**
CCSP				*eS*		**Sg**	**18 54 48.1**	**-1.6**
CCSP				IAML			18 54 49.6	
	comp=E,30μm,0.4s							
GO05	**Huala**	**1.89**	**51**	*eP*		**Pn**	**18 54 56.6**	**-0.2**
GO05				*eS*		**Sb**	**18 55 20.9**	**-1.9**
GO05	**Huala**	**1.89**	**51**			**Pn**	**18 54 56.5**	**-0.4**
GO05				Sn		**Sn**	**18 55 20.1**	**-0.6**
BO03	**Pichilemu**	**2.24**	**40**	**⇑eP**		**Pn**	**18 55 01.3**	**-0.3**
BO03				**⇓eS**		**Sn**	**18 55 29.7**	**+0.3**
BO02	**Sierra Bellavi**	**2.79**	**60**	**⇑eP**		**Pn**	**18 55 09.1**	**-0.1**
BO02				*eS*		**Sn**	**18 55 43.9**	**+1.0**
BO02				IAML			18 56 00.3	
	comp=N,1μm,0.7s							
BO02	**Sierra Bellavi**	**2.79**	**60**			**Pn**	**18 55 10.2**	**+1.0**
BO01	**Tunca**	**2.82**	**50**	**⇑eP**		**Pn**	**18 55 09.2**	**-0.4**
BO01				*eS*		**Sn**	**18 55 44.2**	**+0.5**
BO01				IAML			18 55 59.4	
	comp=N,427nm,0.5s							
BO01	**Tunca**	**2.82**	**50**			**Pn**	**18 55 10.0**	**+0.4**
VA05	**Santo Domingo**	**3.09**	**34**	*eP*		**Pn**	**18 55 12.9**	**-0.3**
VA05				IAML			18 56 23.9	
VA05	**Santo Domingo**	**3.09**	**34**			**Pn**	**18 55 13.0**	**-0.3**
MT01	**Popeta**	**3.10**	**41**	**⇑eP**		**Pn**	**18 55 13.6**	**+0.1**
MT01				*eS*		**Sn**	**18 55 51.2**	**+0.5**
MT01				IAML			18 56 14.9	
	comp=E,279nm,0.5s							
MT01	**Popeta**	**3.10**	**41**			**Pn**	**18 55 13.4**	**-0.1**
MT09	**Talagante**	**3.31**	**43**	**⇑eP**		**Pn**	**18 55 16.9**	**+0.4**
MT09				*eS*		**Sn**	**18 55 56.0**	**0.0**
MT09				IAML			18 56 18.0	
	comp=N,461nm,0.5s							
MT09	**Talagante**	**3.31**	**43**			**Pn**	**18 55 16.9**	**+0.4**
VA01	**Torpederas**	**3.62**	**29**	Pn		**Pn**	**18 55 20.7**	**+0.1**
MT02	**Curacav**	**3.64**	**36**	**⇓*iP***		**Pn**	**18 55 20.8**	**-0.1**
MT02	**Curacav**	**3.64**	**36**			**Pn**	**18 55 20.8**	**-0.1**
LMEL	**Las Melosas**	**3.73**	**51**	**⇑eP**		**Pn**	**18 55 23.1**	**+0.8**
LMEL				*eS*		**Sn**	**18 56 07.7**	**+1.4**
MT05	**Renca**	**3.74**	**42**	*eP*		**Pn**	**18 55 23.0**	**+0.7**
MT05	**Renca**	**3.74**	**42**			**Pn**	**18 55 23.0**	**+0.7**
MT03	**Universidad Ad**	**3.79**	**45**	*eP*		**Pn**	**18 55 23.4**	**+0.4**
MT03	**Universidad Ad**	**3.79**	**45**			**Pn**	**18 55 23.5**	**+0.4**
ROCH	**El Roble**	**3.94**	**35**	*eP*		**Pn**	**18 55 25.2**	**+0.1**
VA03	**San Esteban**	**4.33**	**38**	**⇑*iP***		**Pn**	**18 55 31.1**	**+0.6**
VA03	**San Esteban**	**4.33**	**38**			**Pn**	**18 55 31.1**	**+0.6**
H03S1	**Juan Fernandez**	**4.88**	**298**	Pn		**Pn**	**18 55 39.8**	**+2.1**
	baz=242,slow=75,SNR=12							
H03S1				T		T	19 00 50.5	
	baz=119,slow=75,SNR=1398							
H03S3	**Juan Fernandez**	**4.89**	**298**	Pn		**Pn**	**18 55 40.7**	**+2.9**
	baz=242,slow=75,SNR=9.5							
H03S3				T		T	19 00 54.0	
	baz=119,slow=75,SNR=1733							
H03S2	**Juan Fernandez**	**4.90**	**298**	Pn		**Pn**	**18 55 39.6**	**+1.7**
	baz=242,slow=75,SNR=18							
H03S2				T		T	19 00 50.6	
	baz=119,slow=75,SNR=1106							
H03N1	**Juan Fernandez**	**5.10**	**302**	Pn		**Pn**	**18 55 43.5**	**+2.8**
	baz=142,slow=25,SNR=14							
H03N1				Sn		**Sn**	**18 56 36.8**	**-2.7**
	baz=273,slow=74,SNR=7.5							
H03N1				T		T	19 01 21.9	
	baz=122,slow=71,SNR=7.4							
H03N3	**Juan Fernandez**	**5.10**	**301**	Pn		**Pn**	**18 55 43.6**	**+2.8**
	baz=142,slow=25,SNR=6.8							
H03N3				Sn		**Sn**	**18 56 37.0**	**-2.5**
	baz=116,slow=74,SNR=3.1							
H03N3				T		T	19 01 19.6	
	baz=122,slow=71,SNR=15							
H03N2	**Juan Fernandez**	**5.12**	**301**	Pn		**Pn**	**18 55 43.7**	**+2.8**
	baz=142,slow=25,SNR=4.9							
H03N2				Sn		**Sn**	**18 56 38.6**	**-1.3**
H03N2				T		T	19 01 22.0	
	baz=122,slow=71,SNR=13							
PLCA	**Paso Flores**	**5.13**	**152**	Pn		**Pn**	**18 55 41.5**	**+0.1**
	comp=N,0.8nm,0.3s,baz=330,slow=13,SNR=14							
PLCA				Lg		Lg	18 57 00.7	
	comp=N,1.8nm,0.3s,baz=263,slow=17,SNR=2.8							
PLCA				LR		LR	18 57 15.6	
	comp=N,52nm,18.0s,baz=287,slow=34							
PLCA	**Paso Flores**	**5.13**	**152**			**Pn**	**18 55 42.2**	**+0.8**
CO02	**Combarbal**	**5.50**	**25**			**Pn**	**18 55 46.7**	**+0.2**
CO03	**El Pedregal**	**5.94**	**26**			**Pn**	**18 55 53.0**	**+0.4**
LL01	**San Ignacio de**	**6.22**	**171**	Pn		**Pn**	**18 55 58.5**	**+2.2**
ZON	**Zonda**	**6.27**	**43**			**Pn**	**18 55 57.7**	**+0.6**
GO04	**Tololo Observa**	**6.51**	**23**			**Pn**	**18 56 01.0**	**+0.4**
LCO	**Las Campanas**	**7.63**	**20**			**Pn**	**18 56 17.4**	**+1.5**
GO03	**Copiap**	**9.10**	**20**	Pn		**Pn**	**18 56 35.7**	**-0.2**
TRQA	**Tornquist**	**9.54**	**105**	Pn		**Pn**	**18 56 44.1**	**+2.2**
AC02	**Maricunga**	**10.15**	**24**			**Pn**	**18 56 50.3**	**-0.4**
AC01	**Pan de Azucar**	**10.40**	**16**	Pn		**Pn**	**18 56 52.7**	**-0.9**
GO02	**Mina Guanaco**	**11.59**	**19**	Pn		**Pn**	**18 57 12.2**	**+2.1**
PB01	**IPOC Station P**	**15.57**	**15**	P		**P**	**18 58 08.5**	**0.0**
PB01				IAmb		IAmb	18 58 12.7	
	comp=Z,8.7nm,0.7s							
PB11	**IPOC Station P**	**16.79**	**13**	P		**P**	**18 58 21.6**	**-0.5**
PB11				IAmb		IAmb	18 58 27.9	
	comp=Z,16nm,1.0s							
PSGCX	**Pisagua**	**16.87**	**12**	P		**P**	**18 58 24.5**	**+1.6**
PSGCX				IAmb		IAmb	18 58 33.3	
	comp=Z,26nm,1.6s							
PB16	**IPOC Station P**	**18.21**	**13**	P		**P**	**18 58 40.2**	**+2.0**
ITAB	**Concordia**	**20.39**	**70**	P		Pn	18 59 01.6	-2.0
LPAZ	**La Paz**	**20.47**	**15**	P		Pn	18 59 06.4	+1.2
	comp=Z,1.4nm,0.6s,baz=177,slow=9.3,SNR=7.1							
LPAZ	**La Paz**	**20.47**	**15**	P		Pn	18 59 05.8	+0.7
LPAZ				IAmb		IAmb	18 59 20.2	
	comp=Z,12nm,1.6s							
AQDB	**Aquidauana**	**22.25**	**50**	P		**P**	**18 59 21.2**	**-0.3**
AQDB				IAmb		IAmb	18 59 24.1	
	comp=Z,11nm,0.7s							
PTGA	**Pitinga**	**37.55**	**23**	P		**P**	**19 01 35.5**	**-3.5**
SNAA	**Sanae**	**50.06**	**157**	P		**P**	**19 03 19.9**	**+1.0**
SNAA				IAmb		IAmb	19 03 21.2	
	comp=Z,3.6nm,0.9s							
QSPA	**South Pole Qui**	**54.01**	**180**	P		**P**	**19 03 50.1**	**+1.5**
TXAR	**Lajitas Array**	**71.04**	**333**	P		**P**	**19 05 45.3**	**+2.7**
	comp=Z,0.1nm,0.4s,baz=146,slow=6.6,SNR=2.6							

*IDC **20** 19:15:32.3±1.1, 2°23S×134°36E, h0km, mb4.0/6, mb1 4.4/10, mb1mx4.0/31, mbtmp4.2/10, ML4.4/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/36, Error ellipse: s-maj=35.6km s-min=19.2km az=78.0*
*NEIC **20** 19:15:38.0±0.9, 2°31S±0°06×134°15E±0°07, h29km±5km, mb4.2/15, Error ellipse: s-maj=12.5km s-min=5.9km az=129.0*
*DJA **20** 19:15:37.7±0.4, 2°S±3°×13°4E±°, h74km±14km, M4.4/9, mb4.4/5, MLv4.3/9*

ISC 20 19:15:36.6±0.5, 2°34S±0°05×134°20E±0°04, h27km, n44, σ1℗65/55, mb4.1/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.40**	**201**	P		**Pb**	**19 16 02.2**	**0.0**
KMPI				S		**Sb**	**19 16 23.9**	**+4.2**
FAKI	**Fak Fak**	**2.03**	**253**			**Pn**	**19 16 09.3**	**+0.3**
FAKI				Sn		**Sn**	**19 16 33.8**	**+0.2**
FAKI	**Fak Fak**	**2.03**	**253**	P		**Pn**	**19 16 09.2**	**+0.1**
FAKI				S		**Sb**	**19 16 35.7**	**-2.0**
SRPI	**Serui, Papua**	**2.09**	**77**	P		**Pn**	**19 16 09.0**	**-0.9**
SRPI				S		**Sn**	**19 16 36.0**	**+0.9**
BAKI	**Biak**	**2.22**	**59**	P		**Pn**	**19 16 11.8**	**+0.1**
SIJI	**Sorong**	**3.27**	**296**	Pn		**Pn**	**19 16 26.3**	**+0.1**
	57nm,0.3s,baz=261,slow=23,SNR=135							
SIJI				Sn		**Sn**	**19 17 03.5**	**-0.8**
	27nm,0.3s,baz=294,slow=18,SNR=9.2							
SIJI				LR		LR	19 18 10.2	
	comp=Z,401nm,18.0s,baz=111,slow=47							
SIJI	**Sorong**	**3.27**	**296**	P		**Pn**	**19 16 26.1**	**-0.1**
SIJI				S		**Sn**	**19 17 04.7**	**+0.4**
SWI	**Sorong**	**3.28**	**296**	P		**Pn**	**19 16 26.2**	**-0.1**
SWI				S		**Sn**	**19 17 04.0**	**-0.5**
BNDI	**Bandanaira**	**4.80**	**243**	P		**Pn**	**19 16 50.2**	**+3.0**
BNDI				S		**Sn**	**19 17 43.0**	**+1.0**
KRAI	**Karang Ratu**	**5.88**	**260**	P		**Pn**	**19 17 03.8**	**+1.8**
	0.1nm26nm,0.6s							
KRAI				S		**Sn**	**19 18 09.7**	**+1.2**
	0.1nm26nm,0.6s							
GENI	**Genyem**	**5.97**	**93**	P		**Pn**	**19 17 03.5**	**+0.2**
	0.3nm37nm,0.7s							
NLAI	**Namlea**	**7.15**	**263**	P		**Pn**	**19 17 20.9**	**+1.5**
NLAI				S		**Sn**	**19 18 40.3**	**+0.5**
MTN	**Manton Dam**	**10.87**	**196**			**Pn**	**19 18 10.2**	**-0.4**
BATI	**Baumata**	**13.06**	**233**	Pn		**Pn**	**19 18 41.4**	**+0.8**
	2.6nm,0.3s,baz=93,slow=2.7,SNR=5.7							
KNRA	**Kununurra**	**14.30**	**202**			**Pn**	**19 18 55.2**	**-2.2**
WRA	**Warramunga Arr**	**17.50**	**180**	P		**P**	**19 19 40.4**	**+0.6**
	1.0nm,0.3s,baz=358,slow=11,SNR=50							
WRA				S		**Sn**	**19 22 44.0**	**-9.0**
	0.1nm,0.3s,baz=355,slow=24,SNR=2.5							
WRA				LR		LR	19 27 09.5	
	comp=Z,215nm,21.0s,baz=135,slow=40							
WRA	**Warramunga Arr**	**17.50**	**180**	P		**P**	**19 19 40.3**	**+0.4**
WB2	**Warramunga Arr**	**17.50**	**180**			**P**	**19 19 40.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**17.77**	**208**	P		**Pn**	**19 19 41.6**	**-0.6**
	0.9nm,0.3s,baz=38,slow=8.9,SNR=16							
FITZ				S		Sn	19 22 46.5	-13
	0.2nm,0.3s,baz=273,slow=20,SNR=2.7							
FITZ	**Fitzroy Crossi**	**17.77**	**208**	P		**P**	**19 19 42.1**	**-0.7**
JAGI	**Jajag, Banyuwa**	**20.86**	**252**	P		**P**	**19 20 16.4**	**-0.3**
JAGI				IAmb		IAmb	19 20 23.6	
	comp=Z,18nm,0.9s							
AS31	**Alice Springs**	**21.20**	**181**	P		**P**	**19 20 21.1**	**+0.7**
AS31				IAmb		IAmb	19 20 27.7	
	comp=Z,5.5nm,0.8s							
ASAR	**Alice Springs**	**21.20**	**181**	P		**P**	**19 20 21.8**	**+1.4**
	comp=Z,10nm,0.7s,baz=2.5,slow=9.8,SNR=69							
PSA00	**Pilbara Seismi**	**23.68**	**215**	P		**P**	**19 20 47.2**	**+1.0**
PSA00				IAmb		IAmb	19 20 55.0	
	comp=Z,16nm,1.2s							
PSA00	**Pilbara Seismi**	**23.68**	**215**	P		**P**	**19 20 46.7**	**+0.5**
PSA00				IAmb		IAmb	19 20 52.9	
	comp=Z,6.0nm,1.4s							
FORT	**Forrest**	**28.88**	**191**	P		**P**	**19 21 34.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**40.38**	**302**	P		**P**	**19 23 13.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=122,slow=7.4,SNR=6.5							
CMAR	**Chiang Mai Arr**	**40.38**	**302**	P		**P**	**19 23 12.8**	**+0.1**
CHTO	**Chiang Mai**	**40.55**	**303**	P		**P**	**19 23 13.8**	**-0.1**
CHTO				IAmb		IAmb	19 23 15.9	
	comp=Z,2.0nm,0.8s							
MK31	**Makanchi Array**	**66.79**	**324**	P		**P**	**19 26 26.2**	**+0.4**
MK31				IAmb		IAmb	19 26 26.8	
	comp=Z,1.6nm,0.5s							
MKAR	**Makanchi Array**	**66.79**	**324**	P		**P**	**19 26 26.5**	**+0.7**
	comp=Z,2.2nm,0.3s,baz=107,slow=8.6,SNR=81							
MKAR	**Makanchi Array**	**66.79**	**324**	P		**P**	**19 26 26.2**	**+0.4**
MAKZ	**Makanchi**	**66.98**	**324**	P		**P**	**19 26 27.7**	**+0.7**
ZALV	**Zalesovo Beam**	**69.40**	**331**	P		**P**	**19 26 41.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=126,slow=7.3,SNR=4.4							
KK31	**Karatay Array**	**72.73**	**317**	P		**P**	**19 27 02.7**	**+0.2**
KK31				IAmb		IAmb	19 27 05.8	
	comp=Z,2.9nm,1.4s							
KKAR	**Karatay Array**	**72.73**	**317**	P		**P**	**19 27 02.7**	**+0.2**
VNDA	**Vanda**	**76.58**	**174**	P		**P**	**19 27 24.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=320,slow=7.5,SNR=2.4							
VNDA	**Vanda**	**76.58**	**174**	P		**P**	**19 27 24.4**	**+0.3**
VNDA				IAmb		IAmb	19 27 47.3	
	comp=Z,3.0nm,1.4s							
ABKAR	**Akbulak array**	**81.54**	**320**	P		**P**	**19 27 52.0**	**+0.1**
KDAK	**Kodiak Island**	**83.09**	**31**	P		**P**	**19 28 00.3**	**+0.6**
ILAR	**Eielson Array**	**87.38**	**25**	P		**P**	**19 28 19.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=250,slow=5.1,SNR=4.3							
QSPA	**South Pole Qui**	**87.61**	**180**	P		**P**	**19 28 21.9**	**-0.4**
BMAR	**Burnt Mountain**	**88.77**	**22**	P		**P**	**19 28 28.4**	**+0.7**
K27K	**Chicken**	**89.33**	**26**	P		**P**	**19 28 31.4**	**+1.1**
K27K				IAmb		IAmb	19 28 34.6	
	comp=Z,1.2nm,0.9s							

IDC 20 19:26:20.9±2.5, 7°27S×127°69E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=283.5km s-min=33.0km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**154**	Pn		Pn	19 29 42.0	-0.8
	0.9nm,0.3s,baz=331,slow=14,SNR=36							
WRA				Sn		Sn	19 32 06.0	-15
	0.7nm,0.3s,baz=337,slow=22,SNR=5.6							
ASAR	**Alice Springs**	**17.36**	**161**	P		Pn	19 30 25.4	+0.6
	0.4nm,0.3s,baz=338,slow=9.3,SNR=46							
ASAR				S		Sn	19 33 25.8	-13
	0.1nm,0.3s,baz=334,slow=37,SNR=1.8							
MKAR	**Makanchi Array**	**67.22**	**328**	P		P	19 37 17.1	0.0
	0.2nm,0.3s,baz=132,slow=7.4,SNR=2.5							

*INET **20** 19:32:08.2, 10°62N×86°86W, h15km, MW4.1*
*IDC **20** 19:32:11.7±1.2, 11°08N×86°50W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/34, mbtmp3.9/10, ML3.0/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/39, Error ellipse: s-maj=42.9km s-min=11.2km az=37.0*

*UCR **20** 19:32:16.3±1.8, 10°84N×86°62W, h13km±11km, ML3.2, MW4.6, mb4.5(NEIC)*
*NEIC **20** 19:32:17.2±1.2, 10°81N±0°06×86°64W±0°07, h30km±7km, mb4.5/59, Error ellipse: s-maj=11.8km s-min=6.1km az=48.0*
*SNET **20** 19:32:18.0±0.3, 10°82N×86°77W, h33km±999km, ML3.3*

ISC 20 19:32:13.8±1.8, 10.77N±0°06×86.67W±0°05, h14km±11km, n126, σ1℗07/124, mb4.5/35, MS3.2/5, 7C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**1.06**	**93**	Pn		**Pn**	**19 32 35.1**	**+0.8**
HZTE				Sn		**Sn**	**19 32 50.2**	**+1.3**
GBS3	**Finca Las Img**	**1.20**	**89**	**⇑*iP***		**Pn**	**19 32 36.8**	**+0.6**
GBS3				*iS*		**Sb**	**19 32 51.7**	**0.0**
LAPC	**Finca la Perla**	**1.22**	**90**	**⇑*iP***		**Pb**	**19 32 36.0**	**-0.7**
LAPC				*iS*		**Sb**	**19 32 51.9**	**-0.5**
BUEV	**Buena Vista**	**1.25**	**89**	**⇑*iP***		**Pg**	**19 32 37.7**	**-0.1**
BUEV				*eS*		**Sn**	**19 32 54.5**	**+1.0**
GUAI	**GUAI**	**1.25**	**113**	**⇑*iP***		**Pn**	**19 32 36.9**	**0.0**
GB1A	**Borinquen Arri**	**1.25**	**88**	**⇑*iP***		**Pg**	**19 32 37.9**	**-0.1**
ORTG	**Ortega, Santa**	**1.26**	**109**			**Pn**	**19 32 37.4**	**+0.3**
ORTG				Sn		**Sb**	**19 32 53.0**	**-0.6**
GPS2	**Hotel Rincn d**	**1.30**	**91**	*eP*		**Pb**	**19 32 38.5**	**+0.4**
MASN	**Masaya**	**1.31**	**23**			**Pg**	**19 32 38.8**	**-0.3**
DUNO	**Dulce Nombre,**	**1.35**	**120**	Pn		**Pn**	**19 32 39.2**	**+0.9**
PLVR	**Palo Verde**	**1.37**	**108**	*eP*		**Pn**	**19 32 38.0**	**-0.6**
LIM1	**Limonal**	**1.40**	**93**	*i P*		**Pb**	**19 32 40.0**	**+0.2**
COLC	**Colonia**	**1.45**	**94**	*i P*		**Pb**	**19 32 40.9**	**+0.2**
HORNC	**Hornillas**	**1.47**	**92**	**⇑*iP***		**Pn**	**19 32 40.9**	**+0.9**
CUI	**Cuipilapa**	**1.49**	**94**	*eP*		**Pn**	**19 32 40.3**	**+0.1**
ACAL	**Aguas Claras**	**1.62**	**95**	**⇑*iP***		**Pb**	**19 32 43.5**	**-0.1**
CNGN	**Cerro Negro**	**1.72**	**359**	Pn		**Pn**	**19 32 44.1**	**+0.6**
JTS	**Las Juntas de**	**1.76**	**106**	Pg		**Pn**	**19 32 44.4**	**+0.4**
	13nm,0.3s,baz=9.6,slow=17,SNR=26							
JTS				Lg		Lg	19 33 04.0	
	50nm,0.3s,baz=342,slow=14,SNR=4.5							
JTS	**Las Juntas de**	**1.76**	**106**			**Pn**	**19 32 44.5**	**+0.5**
CAO2	**Cobano, Puntar**	**1.88**	**125**	Pn		**Pn**	**19 32 46.5**	**+0.9**
ACON	**Acoyapa**	**1.89**	**51**	*eP*		**Pn**	**19 32 46.8**	**+0.9**
ACON	**Acoyapa**	**1.89**	**51**			**Pn**	**19 32 46.6**	**+0.9**
BOAB	**BOACO BROADBAN**	**1.94**	**31**	Pn		**Pn**	**19 32 47.2**	**+0.8**
ARE1	**Arenal 1**	**1.95**	**99**	*eP*		**Pn**	**19 32 48.1**	**+1.6**
CRIN	**San Cristobal**	**1.95**	**349**	Pn		**Pn**	**19 32 47.3**	**+0.6**
COVE	**Coope Vega, Sa**	**2.23**	**91**	Pn		**Pn**	**19 32 52.1**	**+1.9**
JACO	**JACO, Garabito**	**2.27**	**119**			**Pn**	**19 32 52.7**	**+1.8**
HDC	**Heredia**	**2.63**	**107**			**Pn**	**19 32 58.4**	**+2.3**
ESPN	**Las Esperanzas**	**2.72**	**58**	Pn		**Pn**	**19 32 58.3**	**+1.1**
CNCH	**Conchagua**	**2.74**	**336**	*eP*		**Pn**	**19 32 59.0**	**+1.5**
CNCH	**Conchagua**	**2.74**	**336**	*eP*		**Pn**	**19 32 59.0**	**+1.5**
LCND	**La Caada**	**2.79**	**335**	IAML			19 33 32.7	
	comp=Z,127nm,0.4s							
LCND	**La Caada**	**2.79**	**335**	IAML			19 33 32.7	
	comp=Z,127nm,0.4s							
LCR2	**La Lucha 2**	**2.82**	**111**	*eP*		**Pn**	**19 33 01.7**	**+3.0**

CBN	**Corbin Frederi**	**28.56**	**15**	P			19 38 10.5	
	baz=199							
P49A	**Miami Univ. Ec**	**28.70**	**3**	P			19 38 09.7	
	baz=184							
Q56A	**Snyder Ridge,**	**28.93**	**12**	P		**P**	**19 38 13.7**	**+0.9**
Q56A				IAmb		IAmb	19 38 14.8	
	comp=Z,14nm,0.8s							
P52A	**Corning**	**29.03**	**7**	P			19 38 13.5	
	baz=189,SNR=9.2							
P52A	**Corning**	**29.03**	**7**	P		**P**	**19 38 13.1**	**-0.4**
MCWV	**Mont Chateau**	**29.40**	**11**	P			19 38 17.4	
	baz=194							
SFIN	**Lafayette**	**29.49**	**359**	P			19 38 17.0	
	baz=179							
O53A	**New Philadelph**	**29.76**	**8**	P			19 38 20.3	
	baz=191,SNR=9.1							
ANMO	**Albuquerque**	**30.07**	**326**	P		**P**	**19 38 22.1**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=172,slow=7.0,SNR=2.2							
PAGS	**Pennsylvania G**	**30.64**	**15**	P		**P**	**19 38 28.4**	**+0.7**
SSPA	**Standing Stone**	**30.74**	**13**	P		**P**	**19 38 28.7**	**+0.1**
SSPA	**Standing Stone**	**30.74**	**13**	P			19 38 29.3	
	baz=197							
M53A	**WI Miller and**	**31.00**	**9**	P			19 38 31.1	
	baz=191							
M53A	**WI Miller and**	**31.00**	**9**	P		**P**	**19 38 30.7**	**-0.3**
M54A	**Oil Creek Stat**	**31.23**	**10**	P			19 38 32.3	
	baz=193							
N59A	**State Game Lan**	**31.53**	**16**	P			19 38 36.7	
	baz=201,SNR=7.6							
N59A	**State Game Lan**	**31.53**	**16**	P		**P**	**19 38 36.3**	**+0.6**
M57A	**Sunshine Farm,**	**31.59**	**14**	P		**P**	**19 38 36.5**	**+0.4**
ERPA	**Erie**	**31.77**	**9**	P			19 38 37.7	
	baz=192							
LPAZ	**La Paz**	**32.55**	**145**	LR		LR	19 52 25.5	
	comp=Z,34nm,19.0s,baz=312,slow=37							
L58A	**Harry Jones Me**	**32.57**	**15**	P			19 38 45.2	
	baz=200,SNR=5.5							
BINY	**Binghamton**	**32.68**	**15**	P			19 38 46.1	
	baz=200,SNR=6.1							
BINY	**Binghamton**	**32.68**	**15**	P		**P**	**19 38 45.6**	**-0.1**
K56A	**Middlesex**	**32.84**	**13**	P			19 38 47.4	
	baz=197							
PV12	**Saucer Basin,**	**33.84**	**328**	P		**P**	**19 38 57.4**	**+1.3**
PV12				IAmb		IAmb	19 39 19.1	
	comp=Z,5.4nm,1.0s							
L61B	**Northampton**	**33.85**	**19**	P			19 38 56.0	
	baz=205							
J58A	**Remsen**	**33.94**	**15**	P			19 38 56.6	
	baz=200							
ECSD	**EROS Data Cent**	**33.95**	**347**	P			19 38 55.9	
	baz=162							
ECSD	**EROS Data Cent**	**33.95**	**347**	P		**P**	**19 38 55.8**	**-1.1**
I58A	**Old Forge**	**34.33**	**15**	P			19 38 59.8	
	baz=201							
H53A	**Bobcaygeon**	**34.40**	**10**	P			19 39 00.4	
	baz=194,SNR=5.2							
SADO	**Sadowa**	**34.49**	**9**	LR		LR	19 53 16.1	
	comp=Z,28nm,19.3s,baz=14,slow=37							
I59A	**Olmsteadville**	**34.72**	**16**	P			19 39 03.2	
	baz=202							
SPMN	**Marine on St.**	**34.73**	**352**	P			19 39 02.4	
	baz=169							
SPMN	**Marine on St.**	**34.73**	**352**	P		**P**	**19 39 02.1**	**-1.5**
G54A	**Lake Saint Pet**	**35.28**	**10**	P			19 39 07.9	
	baz=195,SNR=5.8							
LONY	**Lake Ozonia**	**35.30**	**15**	P			19 39 08.2	
	baz=201							
SRU	**San Rafael Swe**	**35.33**	**327**	P		**P**	**19 39 10.2**	**+1.2**
I62A	**Tamworth**	**35.56**	**19**	P		**P**	**19 39 11.0**	**+0.3**
I62A				IAmb		IAmb	19 39 32.3	
	comp=Z,7.1nm,1.1s							
ALGO	**Algonquin Park**	**35.83**	**10**	P			19 39 12.5	
	baz=194							
RSSD	**Black Hills**	**36.46**	**339**	P			19 39 19.7	
	baz=150							
H64A	**Troy**	**36.95**	**21**	P			19 39 22.5	
	baz=209							
G62A	**West of Eustis**	**37.02**	**19**	P			19 39 23.7	
	baz=207,SNR=5.7							
G62A	**West of Eustis**	**37.02**	**19**	P		**P**	**19 39 23.4**	**+0.3**
G63A	**Kingsbury**	**37.23**	**20**	P			19 39 25.2	
	baz=208							
F60A	**Warwick**	**37.26**	**17**	P			19 39 24.5	
	baz=204							
E58A	**La Victoria**	**37.27**	**15**	P			19 39 25.1	
	baz=202							
H65A	**Eastbrook**	**37.34**	**22**	P			19 39 26.5	
	baz=211							
D55A	**Sainte-Anne-du**	**37.35**	**13**	P			19 39 25.0	
	baz=198							
PKME	**Peaks-Kenny Pk**	**37.47**	**20**	P			19 39 27.0	
	baz=209							
PKME	**Peaks-Kenny Pk**	**37.47**	**20**	P		**P**	**19 39 27.5**	**+0.6**
PKME				IAmb		IAmb	19 39 28.0	
	comp=Z,7.0nm,0.7s							
PDAR	**Pinedale Array**	**37.60**	**332**	P		**P**	**19 39 26.3**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=135,slow=10,SNR=2.2							
E60A	**Ste Agathe de**	**37.77**	**17**	P			19 39 29.0	
	baz=205							
F63A	**Nahmakanta, Br**	**37.91**	**20**	P			19 39 30.6	
	baz=209							
G65A	**Princeton**	**38.03**	**22**	P		**P**	**19 39 32.2**	**+0.6**
G65A				IAmb		IAmb	19 39 32.8	
	comp=Z,7.1nm,0.7s							
G65A	**Princeton**	**38.03**	**22**	P			19 39 32.2	
	baz=211							
D58A	**Chemin du LacG**	**38.04**	**15**	P			19 39 31.5	
	baz=202							
E61A	**Lac Etchemin**	**38.11**	**18**	P			19 39 33.2	
	baz=206							
AGMN	**Agassiz Nation**	**38.19**	**350**	P			19 39 32.1	
	baz=165							
AGMN	**Agassiz Nation**	**38.19**	**350**	P		**P**	**19 39 32.0**	**-1.0**
AGMN				IAmb		IAmb	19 39 33.6	
	comp=Z,5.7nm,1.0s							
F64A	**Sherman**	**38.31**	**21**	P			19 39 34.2	
	baz=210							
E62A	**Clayton Lake**	**38.59**	**19**	P			19 39 36.5	
	baz=208							
E63A	**Oxbow**	**38.77**	**20**	P			19 39 38.0	
	baz=209							
ELK	**Elko**	**39.07**	**325**	LR		LR	19 58 19.8	
	comp=Z,36nm,18.0s,baz=174,slow=40							
D62A	**Allapoint, All**	**39.15**	**19**	P			19 39 41.0	
	baz=208							
D63A	**Stockholm**	**39.42**	**20**	P			19 39 43.5	
	baz=209							
NVAR	**Mina Array Bea**	**39.46**	**320**	P		**P**	**19 39 42.5**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=165,slow=4.7,SNR=1.8							
NVAR	**Mina Array Bea**	**39.46**	**320**	P		**P**	**19 39 44.8**	**+0.7**
LMN	**Caledonia Moun**	**39.63**	**24**	P		**P**	**19 39 45.1**	**-0.1**
ULM	**Lac du Bonnet**	**40.09**	**351**	P		**P**	**19 39 46.0**	**-2.8**
	comp=Z,2.0nm,0.8s,baz=173,slow=8.6,SNR=3.1							
BATG	**Bathurst New B**	**40.34**	**22**	P		**P**	**19 39 50.8**	**-0.2**
BATG				IAmb		IAmb	19 39 52.1	
	comp=Z,11nm,1.1s							
GBN	**Guysborough**	**40.69**	**27**	P		**P**	**19 39 53.5**	**-0.3**
RPN	**Rapa Nui**	**43.62**	**210**	LR		LR	19 53 22.2	
	comp=Z,75nm,21.4s,baz=236,slow=29							
YBH	**Yreka Blue Hor**	**44.12**	**321**	LR		LR	20 00 17.4	
	comp=Z,36nm,21.7s,baz=165,slow=38							
BDFB	**Brasilia**	**46.41**	**124**	P		**P**	**19 40 41.2**	**+0.7**
	comp=Z,2.1nm,0.4s,baz=275,slow=11,SNR=3.6							
SCHQ	**Schefferville**	**46.67**	**16**	P		**P**	**19 40 39.5**	**-2.4**
	comp=Z,3.8nm,0.7s,baz=214,slow=18,SNR=2.9							
BCAR	**Beaver Creek A**	**65.09**	**336**	P		**P**	**19 42 54.4**	**+0.5**
ILAR	**Eielson Array**	**67.86**	**336**	P		**P**	**19 43 08.3**	**-3.1**
	comp=Z,1.0nm,0.9s,baz=110,slow=4.0,SNR=6.7							
ILAR	**Eielson Array**	**67.86**	**336**	P		**P**	**19 43 10.5**	**-0.9**
BMAR	**Burnt Mountain**	**68.11**	**339**	P		**P**	**19 43 13.0**	**-0.1**
RND	**Reindeer**	**68.15**	**335**	P		**P**	**19 43 13.9**	**+0.4**
RND				IAmb		IAmb	19 43 14.9	
	comp=Z,4.3nm,0.8s							
BPAW	**Bear Paw Mtn.**	**69.28**	**335**	P			19 43 20.5	
	baz=109							
MLY	**Manley**	**69.48**	**336**	P		**P**	**19 43 21.9**	**+0.2**
MLY	**Manley**	**69.48**	**336**	P			19 43 21.5	
	baz=109							
KSRS	**Korea Array**	**122.09**	**328**	PKP		**PKPdf**	**19 51 08.3**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=12,slow=1.7,SNR=13							
ASAR	**Alice Springs**	**139.32**	**246**	PKP		**PKPdf**	**19 51 43.6**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=84,slow=2.1,SNR=9.9							
WRA	**Warramunga Arr**	**139.51**	**252**	PKP		**PKPdf**	**19 51 43.2**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=94,slow=2.2,SNR=2.6							
CMAR	**Chiang Mai Arr**	**150.43**	**349**	PKPbc		**PKPbc**	**19 52 05.5**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=338,slow=3.9,SNR=8.3							

JMA ***20*** *19:42:45.5±0.1, 35°.13N×139°.90E, h94km±1km, MJ3.1*
IDC ***20*** *19:42:49.1±0.9, 34°.85N×139°.10E, h102km±9km, mb3.2/4, mb1 3.4/4, mb1mx3.0/57, mbtmp3.5/4, Error ellipse: s-maj=44.3km s-min=6.0km az=69.0*

ISC 20 19:42:45.8±0.9, 35°.12N±0°.05×139°.90E±0°.05, h92km±6km, n27, σ0953/32, mb3.4/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.09**	**186**	P	**Pn**	**19 42 59.1**	**+0.3**
TATJ				eS	Sn	19 43 09.0	+0.6
JYO	**Yokosk**	**0.22**	**298**	P	**Pn**	**19 42 59.4**	**+0.3**
JYO				eS	Sn	19 43 09.6	+0.6
JKUC	**kamogawauchiur**	**0.25**	**81**	P	**Pn**	**19 42 59.3**	**+0.1**
JKUC				S	Sn	19 43 09.5	+0.3
KTR	**Katsuura**	**0.34**	**85**	P	**Pn**	**19 42 59.8**	**+0.1**
KTR				S	Sn	19 43 10.5	+0.5
JIM2	**Oshima 3**	**0.56**	**224**	P	**Pn**	**19 43 00.8**	**-0.5**
JIM2				S	Sn	19 43 12.3	-0.5
BSO3	**Boso 3**	**0.59**	**122**	P	**Pn**	**19 43 01.4**	**+0.2**
BSO3				X		19 43 14.3	
JOD2	**Odawara 2**	**0.68**	**282**	P	**Pn**	**19 43 01.9**	**-0.4**
JOD2				S	Sn	19 43 13.8	-0.9
JIZS	**Izushimoda**	**0.93**	**245**	P	**Pn**	**19 43 04.9**	**0.0**
JIZS				S	Sn	19 43 19.7	+0.5
JFNN	**Fujinakano**	**1.00**	**275**	P	**Pn**	**19 43 06.0**	**+0.4**
JFNN				S	Sn	19 43 21.1	+0.6
BSO1	**Boso 1**	**1.00**	**117**	P	**Pn**	**19 43 05.0**	**-0.1**
JYN	**Shimob**	**1.17**	**289**	P	**Pn**	**19 43 08.0**	**+0.3**
JRY	**Ryogami san**	**1.21**	**318**	P	**Pn**	**19 43 08.5**	**+0.4**
JMKN	**Mikurajimanish**	**1.25**	**192**	P	**Pn**	**19 43 09.0**	**+0.4**
JAG	**Ashikaga**	**1.35**	**345**	P	**Pn**	**19 43 09.8**	**0.0**
MJAR	**Matsushiro Arr**	**1.98**	**316**	P	**Pn**	**19 43 18.4**	**+0.6**
	3.2nm,0.3s,baz=153,slow=12,SNR=102						
MJAR				S	**Sn**	**19 43 42.7**	**+0.6**
	2.6nm,0.3s,baz=160,slow=22,SNR=6.4						
MAT	**Matsushiro**	**1.98**	**316**	P	**Pn**	**19 43 18.6**	**+0.8**
MAT				S	**Sn**	**19 43 42.3**	**+0.1**
JHJ	**Hachijo jima 2**	**2.00**	**183**	P	**Pn**	**19 43 19.1**	**+1.1**
	50nm,0.3s,baz=321,slow=21,SNR=16						
JHJ				S	**Sn**	**19 43 43.2**	**+0.5**
	47nm,0.3s,baz=262,slow=23,SNR=8.8						
SONM	**Songino Array**	**27.90**	**307**	P	**P**	**19 48 27.5**	**+0.4**
	0.2nm,0.4s,baz=112,slow=12,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.32**	**116**	T	T	20 18 19.1	
	baz=309,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.33**	**116**	T	T	20 18 13.7	
	baz=309,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.34**	**116**	T	T	20 18 14.6	
	baz=309,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.95**	**118**	T	T	20 19 01.5	
	baz=312,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.95**	**118**	T	T	20 19 01.8	
	baz=312,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.97**	**118**	T	T	20 18 58.3	
	baz=312						
MKAR	**Makanchi Array**	**44.12**	**304**	P	**P**	**19 50 44.5**	**-0.4**
	0.2nm,0.6s,baz=86,slow=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**55.01**	**186**	P	**P**	**19 52 07.0**	**-0.7**
	0.9nm,0.7s,baz=2.5,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**58.74**	**186**	P	**P**	**19 52 33.6**	**-0.5**
	0.6nm,0.9s,baz=17,slow=10.0,SNR=6.1						

HLW ***20*** *19:52:41.8, 34°.41N×26°.39E, h11km±24km, Ml4.7*
NIC ***20*** *19:52:41.2±0.0, 33°.97N×26°.02E, h32km±34km, Ml5.0/5*
MOS ***20*** *19:52:42.7±1.0, 34°.34N×26°.13E, h22km, mb5.3/38, MS4.0/17, Error ellipse: s-maj=4.8km s-min=2.8km az=88.3*
NEIC ***20*** *19:52:43.9±1.7, 34°.31N±0°.05×26°.23E±0°.06, h15km±3km, mb5.0/186, ML4.5(THE), Error ellipse: s-maj=8.5km s-min=6.5km az=213.0*
PDG ***20*** *19:52:43.8±0.4, 34°.04N×24°.55E, h10km±11km, ML4.7/13, Error ellipse: s-maj=26.1km s-min=13.2km az=90.0*
BJI ***20*** *19:52:43.6±0.0, 34°.14N×25°.83E, h46km, mB4.8/33, mb4.8/56, Ms4.5/12, Ms7 4.1/13*
THE ***20*** *19:52:44.4, 34°.27N×26°.30E, h4km±2km, ML4.5/8, Error ellipse: s-maj=3.3km s-min=1.1km az=111.0*
IDC ***20*** *19:52:45.2±1.9, 34°.38N×26°.20E, h27km±12km, mb4.8/33, mb1 4.8/45, mb1mx4.8/51, mbtmp4.9/45, ML4.5/10, MS3.8/30, Ms1 3.8/30, ms1mx3.7/51, Error ellipse: s-maj=12.4km s-min=8.9km az=168.0*
ISK ***20*** *19:52:45.8, 34°.39N×26°.23E, h70km, ML4.4/32*
MED_RC ***20*** *19:52:46.0±1.6, 34°.18N×26°.20E, h44km±1km, MW4.8/10, Moment Tensor Solution.Mantle waves: s10,c19; Duration: 1≈2 Moment tensor: Scale 10^16 Nm; Mrr 1.67±.21; Mθθ -2.21±.12; Mφφ 0.54±.13; Mrθ 0.26±.08; Mθφ 0.28±.11; Mφr -0.01±.09; Best double couple: M=1.97000×10^16 NP1:φ=277.00000°, δ=41.00000°, λ=91.00000°. NP2:φ=95.00000°, δ=49.00000°, λ=89.00000°. Principal axes: T 1.6900, Plg=86.0000°, Azm=351.0000°; N 0.5700, Plg=1.0000°, Azm=96.0000°; P -2.2500, Plg=4.0000°, Azm=186.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
DDA ***20*** *19:52:47.8, 34°.75N×26°.38E, h7km±4km, MW4.5*

ISC 20 19:52:43.6±0.5, 34°.29N±0°.03×26°.21E±0°.02, h19km±1km, h19km: pP-P, n1071, σ1951/1154, mb5.0/213, MS3.9/32, 131C-61D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.83**	**332**	P	**Pg**	**19 53 00.2**	**+0.4**
ZKR	**Zakros**	**0.83**	**0**	P	**Pn**	**19 53 00.7**	**+0.4**
ZKR	**Zakros**	**0.83**	**0**	PG	**Pn**	**19 53 00.8**	**+0.4**
ZKR				SG	**Sn**	**19 53 12.3**	**+0.3**
ZKR	**Zakros**	**0.83**	**0**		**Pn**	**19 53 00.2**	**-0.1**
ZKR	**Zakros**	**0.83**	**0**	P	**Pn**	**19 53 00.3**	**0.0**
ZKR				AML	AML	19 53 14.0	
	27nm,0.5s						
ZKR				AML	AML	19 53 14.0	
	27nm,0.5s						
ZKR				S	**Sn**	**19 53 15.8**	**+3.8**
ZKR				AML	AML	19 53 23.6	
	52nm,0.5s						
ZKR				AML	AML	19 53 23.6	
	52nm,0.5s						
STIA	**Sitia Lasithi**	**0.92**	**354**	P	**Pb**	**19 53 01.1**	**+0.1**
STIA				S	**Sn**	**19 53 16.2**	**+2.0**
STIA	**Sitia Lasithi**	**0.92**	**354**		**Pb**	**19 53 01.0**	**+0.1**
STIA					**Sn**	**19 53 16.3**	**+2.0**
LAST	**Lasithi**	**1.06**	**326**	P	**Pg**	**19 53 04.5**	**+0.2**
LAST				S	**Sn**	**19 53 21.9**	**+4.0**
	20μm,0.8s						
LAST	**Lasithi**	**1.06**	**326**		**Pg**	**19 53 04.5**	**+0.2**
NPS	**Neapolis**	**1.09**	**333**	P	**Pg**	**19 53 05.1**	**+0.3**
NPS				S	**Sn**	**19 53 22.4**	**+3.8**
	16μm,0.9s						
NPS	**Neapolis**	**1.09**	**333**	P	**Pg**	**19 53 05.3**	**+0.5**
NPS	**Neapolis**	**1.09**	**333**		**Pg**	**19 53 05.3**	**+0.5**
SIVA	**Sivas**	**1.37**	**303**	P	**Pg**	**19 53 09.6**	**+1.0**
SIVA				S	**Sg**	**19 53 29.0**	**+1.1**
	42μm,0.6s						
SIVA	**Sivas**	**1.37**	**303**		**Pg**	**19 53 09.9**	**-0.1**
HRKL	**Herakleio**	**1.37**	**319**	P	**Pg**	**19 53 10.2**	**+0.1**
HRKL	**Herakleio**	**1.37**	**319**	PN	**Pg**	**19 53 09.8**	**-0.3**
HRKL	**Herakleio**	**1.37**	**319**		**Pg**	**19 53 10.4**	**+0.3**
KSTL	**Kastelli Herak**	**1.38**	**318**	P	**Pn**	**19 53 07.6**	**-0.3**
KSTL				S	**Sn**	**19 53 23.8**	**-1.9**
KSTL	**Kastelli Herak**	**1.38**	**318**		**Pn**	**19 53 07.7**	**-0.2**
KSTL					**Sn**	**19 53 23.1**	**-2.6**
IACM	**Heraklion**	**1.39**	**318**	P	**Pg**	**19 53 10.6**	**+0.2**
IACM	**Heraklion**	**1.39**	**318**		**Pg**	**19 53 10.8**	**+0.4**
TMBK	**Timbaki Herakl**	**1.43**	**304**	P	**Pb**	**19 53 10.7**	**+1.1**
TMBK				S	**Sg**	**19 53 30.2**	**+0.4**
	8μm,0.8s						
TMBK	**Timbaki Herakl**	**1.43**	**304**		**Pb**	**19 53 10.7**	**+1.1**
TMBK					**Sb**	**19 53 28.7**	**+1.3**
IDI	**Anoyia**	**1.48**	**313**	Pg	**Pb**	**19 53 11.2**	**+0.7**
	264nm,0.3s,baz=142,slow=11,SNR=1794						
IDI				Lg	Lg	19 53 31.9	
	319nm,0.3s,baz=101,slow=21,SNR=7.2						
IDI	**Anoyia**	**1.48**	**313**	P	**Pb**	**19 53 11.4**	**+0.9**
IDI	**Anoyia**	**1.48**	**313**	↓P	**Pn**	**19 53 09.7**	**+0.4**
IDI	**Anoyia**	**1.48**	**313**	PN	**Pb**	**19 53 11.4**	**+0.9**
IDI	**Anoyia**	**1.48**	**313**	Pn	**Pb**	**19 53 10.6**	**0.0**
IDI	**Anoyia**	**1.48**	**313**	↑P	**Pb**	**19 53 11.3**	**+0.7**
PRNS	**Prines Rethymn**	**1.77**	**308**	P	**Pb**	**19 53 16.4**	**+0.9**
PRNS					S	**Sg**	**19 53 39.8**	**-1.0**
GVDS	**Gavdos**	**1.84**	**288**	P	**Pb**	**19 53 16.3**	**-0.3**
GVDS	**Gavdos**	**1.84**	**288**	PN	**Pb**	**19 53 16.4**	**-0.2**
GVD	**Gavdhos**	**1.84**	**288**	P	**Pn**	**19 53 15.9**	**+1.7**
GVD					S	**Sb**	**19 53 40.2**	**+0.9**
	8μm,0.5s							
GVD	**Gavdhos**	**1.84**	**288**	PN	**Pb**	**19 53 16.2**	**-0.4**
VAM	**Vamos**	**2.00**	**305**	P	**Pb**	**19 53 18.7**	**-0.7**
SANT	**Santorini**	**2.17**	**344**	P	**Pn**	**19 53 19.8**	**+1.0**
SANT	**Santorini**	**2.17**	**344**	↓P	**Pn**	**19 53 20.1**	**+1.3**
SANT	**Santorini**	**2.17**	**344**	PN	**Pn**	**19 53 19.7**	**+1.0**
SANT	**Santorini**	**2.17**	**344**	Pn	**Pn**	**19 53 19.4**	**+0.6**
SANT	**Santorini**	**2.17**	**344**	↑P	**Pn**	**19 53 19.7**	**+0.9**
THR6	**Thira Island,**	**2.17**	**342**	P	**Pn**	**19 53 20.2**	**+1.4**
IMMV	**Iera Moni Meta**	**2.18**	**303**	P	**Pn**	**19 53 21.1**	**+2.2**
IMMV	**Iera Moni Meta**	**2.18**	**303**	PN	**Pb**	**19 53 21.4**	**-1.0**
THR9	**Santorini-Faro**	**2.18**	**342**	P	**Pn**	**19 53 20.2**	**+1.3**
THR8	**Santorini-Mono**	**2.20**	**344**	P	**Pn**	**19 53 20.3**	**+1.2**
SNT5	**Nea Kammeni, S**	**2.22**	**343**	P	**Pn**	**19 53 20.6**	**+1.2**
SNT1	**Gialos, Santor**	**2.22**	**343**	P	**Pn**	**19 53 20.5**	**+1.1**
THR7	**Fira-Santorini**	**2.23**	**343**	P	**Pn**	**19 53 21.1**	**+1.6**
THT2	**Imerovigli**	**2.24**	**343**	P	**Pn**	**19 53 20.6**	**+0.9**
THR5	**Thira Island,**	**2.24**	**342**	P	**Pn**	**19 53 21.0**	**+1.3**
SAP3	**Santorini-Thir**	**2.26**	**342**	P	**Pn**	**19 53 20.9**	**+0.9**
CMBO	**Columbo, Santo**	**2.28**	**343**	P	**Pn**	**19 53 21.6**	**+1.4**
KNDR	**Palaiochora Ch**	**2.29**	**295**	P	**Pn**	**19 53 22.1**	**+1.8**
KNDR	**Palaiochora Ch**	**2.29**	**295**	PN	**Pn**	**19 53 21.6**	**+1.3**
KNDR					SN	**Sn**	**19 53 50.2**	**+2.2**
NIS1	**Nisyros Isl.**	**2.44**	**19**	P	**Pn**	**19 53 24.4**	**+1.9**
NIS1	**Nisyros Isl.**	**2.44**	**19**	PN	**Pn**	**19 53 23.7**	**+1.2**
ARG	**Arkhangelos**	**2.48**	**39**	P	**Pb**	**19 53 26.1**	**-1.5**
ARG	**Arkhangelos**	**2.48**	**39**	PN	**Pn**	**19 53 24.7**	**+1.7**
ARG	**Arkhangelos**	**2.48**	**39**	S	**Sb**	**19 53 58.5**	**+0.6**
ARG	**Arkhangelos**	**2.48**	**39**	↑P	**Pb**	**19 53 26.2**	**-1.5**
KOSK	**Kos Island**	**2.54**	**14**	P	**Pn**	**19 53 25.5**	**+1.7**
KOSK	**Kos Island**	**2.54**	**14**	PN	**Pn**	**19 53 25.7**	**+1.9**
DAT	**Datca**	**2.68**	**24**	P	**Pn**	**19 53 27.6**	**+1.7**
DAT	**Datca**	**2.68**	**24**	PN	**Pn**	**19 53 27.5**	**+1.7**
MHLO	**Agia Marina, M**	**2.82**	**329**	P	**Pn**	**19 53 29.2**	**+1.6**
APE	**Apeiranthos**	**2.83**	**349**	P	**Pn**	**19 53 29.2**	**+1.3**
APE				S	**Sn**	**19 54 01.9**	**+0.4**
APE	**Apeiranthos**	**2.83**	**349**	↓P	**Pn**	**19 53 29.1**	**+1.2**
APE	**Apeiranthos**	**2.83**	**349**	PN	**Pn**	**19 53 29.2**	**+1.3**
APE	**Apeiranthos**	**2.83**	**349**	↑P	**Pn**	**19 53 28.7**	**+0.8**
APE	**Apeiranthos**	**2.83**	**349**	↑P	**Pn**	**19 53 28.9**	**+0.9**
ANKY	**Antikythira Is**	**2.86**	**304**	P	**Pn**	**19 53 30.8**	**+2.5**
BODT	**Bodrum**	**2.91**	**18**	P	**Pn**	**19 53 29.3**	**+0.3**
BODT	**Bodrum**	**2.91**	**18**	PN	**Pn**	**19 53 29.9**	**+0.9**
SLUM	**Salum**	**2.91**	**197**	P	**Pn**	**19 53 29.1**	**+0.1**
	baz=200							
SLUM					AMP		19 54 00.0	
	baz=200							
SLUM					S	**Sn**	**19 54 01.7**	**-1.7**
	baz=200							
MRSB	**Marmaris-Mugla**	**2.92**	**33**	PN	**Pn**	**19 53 30.2**	**+1.2**
BDRM	**Kayabasi**	**2.95**	**20**	*i* P	**Pn**	**19 53 31.5**	**+2.0**
BDRM				IAML		19 54 07.0	
	comp=N,743nm,0.5s						
BDRM				*i* S	**Sn**	**19 54 07.2**	**+2.9**
BDRM				IAML		19 54 49.0	
	comp=E,266nm,0.9s						
TURN	**Turunc**	**2.99**	**33**	PN	**Pn**	**19 53 31.6**	**+1.6**
MATC	**Matruh**	**3.06**	**163**	P	**Pn**	**19 53 31.0**	**+0.1**
	baz=166							
DALY	**Dalyan (Mula)**	**3.21**	**38**	*i* P	**Pn**	**19 53 35.9**	**+2.8**
DALY				IAML		19 54 45.0	
	comp=N,475nm,0.8s						
DALY				IAML		19 54 50.0	
	comp=E,431nm,1.4s						
DALY	**Dalyan (Mula)**	**3.21**	**38**	PN	**Pn**	**19 53 34.6**	**+1.5**
KTHA	**Kythira Island**	**3.24**	**308**	P	**Pn**	**19 53 34.5**	**+1.0**
KTHA	**Kythira Island**	**3.24**	**308**	PN	**Pn**	**19 53 34.7**	**+1.2**
MLSB	**Milas**	**3.26**	**22**	PN	**Pn**	**19 53 35.5**	**+1.7**
KTHR	**Kythira**	**3.28**	**308**	P	**Pn**	**19 53 35.4**	**+1.3**
KTHR				S	**Sn**	**19 54 14.8**	**+2.2**
	comp=E,2μm,0.4s						
YER	**Yerkesik**	**3.30**	**30**	P	**Pn**	**19 53 36.5**	**+2.1**
YER	**Yerkesik**	**3.30**	**30**	PN	**Pn**	**19 53 35.9**	**+1.5**
FETY	**Fethiye**	**3.31**	**44**	P	**Pn**	**19 53 35.1**	**+0.6**

EREA	**Eretria**	**4.52**	**337**	P		**Pn**	19 53 52.8	**+1.7**
VILL	**Villia**	**4.53**	**330**	P		**Pn**	19 53 52.5	**+1.3**
ITM	**Ithomi**	**4.53**	**311**	P		**Pn**	19 53 52.3	**+1.1**
ITM	**Ithomi**	**4.53**	**311**	PN		**Pn**	19 53 52.5	**+1.3**
ITM	**Ithomi**	**4.53**	**311**	Pn		**Pn**	19 53 52.5	**+1.3**
ITM	**Ithomi**	**4.53**	**311**	⇑P		**Pn**	19 53 52.1	**+1.0**
LOUT	**Loutraki**	**4.53**	**326**	P		**Pn**	19 53 52.3	**+1.1**
LTK	**Loutraki**	**4.56**	**326**	P		**Pn**	19 53 52.6	**+1.0**
MANT	**Manisa**	**4.60**	**24**	Pn		**Pn**	19 53 54.3	**+1.9**
BUCA	**Burdur, Bucak-**	**4.66**	**48**	*i* P		**Pn**	19 53 55.7	**+2.7**
KULA	**Kula-Manisa**	**4.66**	**24**	P		**Pn**	19 53 54.7	**+1.6**
KULA	**Kula-Manisa**	**4.66**	**24**	PN		**Pn**	19 53 54.3	**+1.2**
KYMI	**Kymi, Euboea I**	**4.66**	**339**	P		**Pn**	19 53 54.6	**+1.6**
THAL	**Thalero**	**4.72**	**324**	P		**Pn**	19 53 54.6	**+0.8**
ZEDA	**zmir-Bergama**	**4.72**	**8**	*i* P		**Pn**	19 53 56.0	**+2.1**
ZEDA				IAML			19 55 58.0	
	comp=E,117nm,2.7s							
ZEDA				IAML			19 56 09.0	
	comp=N,91nm,2.1s							
BCK	**Bucak**	**4.76**	**47**	PN		**Pn**	19 53 56.1	**+1.7**
DKL	**Dikili**	**4.81**	**6**	PN		**Pn**	19 53 56.5	**+1.5**
AMT	**Artemida-Makis**	**4.88**	**313**	P		**Pn**	19 53 57.2	**+1.1**
AMT				S		**Sn**	19 54 52.9	**+0.8**
	comp=N,1µm,0.5s							
SIGR	**SIGRI**	**4.92**	**357**	P		**Pn**	19 53 57.9	**+1.3**
SIGR	**SIGRI**	**4.92**	**357**	PN		**Pn**	19 53 58.1	**+1.5**
PRK	**Paraskevi**	**4.95**	**1**	P		**Pn**	19 53 59.3	**+2.3**
USAK	**Uak-Merkez**	**4.96**	**26**	*i* P		**Pn**	19 53 59.1	**+1.9**
USAK				IAML			19 55 27.0	
	comp=N,67nm,1.9s							
USAK				IAML			19 55 40.0	
	comp=E,56nm,1.6s							
ISP	**Isparta**	**4.96**	**43**	P		**Pn**	19 53 58.6	**+1.3**
ISP	**Isparta**	**4.96**	**43**	PN		**Pn**	19 53 58.5	**+1.3**
ISP	**Isparta**	**4.96**	**43**	Pn		**Pn**	19 53 58.6	**+1.3**
KLV	**Kalavryta, Ach**	**4.99**	**320**	P		**Pn**	19 53 58.0	**+0.5**
LKR	**Lokris**	**5.07**	**330**	P		**Pn**	19 53 59.8	**+1.2**
SWA2		**5.07**	**188**	P		**Pn**	19 53 58.3	**-0.3**
	baz=190							
ATAL	**Atalanti**	**5.09**	**331**	P		**Pn**	19 54 00.3	**+1.4**
AKMS	**Akamas**	**5.10**	**80**	P		**Pn**	19 53 59.1	**0.0**
AKMS				AML	AML		19 54 54.5	
	comp=E,3.6nm,1.1s							
AKMS				AML	AML		19 54 54.8	
	comp=E,2.0nm,0.8s							
KEPZ	**Antalya-Kepez**	**5.11**	**58**	*i* P		**Pn**	19 54 01.4	**+2.2**
KEPZ				IAML			19 54 55.0	
	comp=N,25nm,0.5s							
DRO	**Drossia**	**5.16**	**316**	P		**Pn**	19 54 02.4	**+2.5**
DRO				S		**Sn**	19 55 00.8	**+1.8**
	comp=N,1µm,0.5s							
ALIK	**Aliki, Aigiali**	**5.17**	**321**	P		**Pn**	19 54 00.4	**+0.5**
ALIK				S		**Sn**	19 55 01.5	**+2.5**
SMIA	**Simia**	**5.18**	**333**	P		**Pn**	19 54 01.6	**+1.4**
OSC2	**CSNet OBS 4**	**5.19**	**102**	P		**Pn**	19 53 58.9	**-1.4**
OSC2				S		**Sn**	19 55 00.7	**+1.1**
LAKA	**Lakka**	**5.22**	**320**	P		**Pn**	19 54 01.8	**+1.1**
STEP	**BALIKESIR_Sava**	**5.22**	**13**	*i* P		**Pn**	19 54 02.9	**+2.1**
STEP				IAML			19 56 03.0	
	comp=E,122nm,1.8s							
STEP				IAML			19 56 09.0	
	comp=N,140nm,0.9s							
BUHA	**Balikesir, Bur**	**5.25**	**7**	*i* P		**Pn**	19 54 03.1	**+2.0**
BUHA				IAML			19 56 00.0	
	comp=N,113nm,1.5s							
BUHA				IAML			19 56 09.0	
	comp=E,136nm,2.0s							
TRIZ	**Trizonia**	**5.27**	**322**	P		**Pn**	19 54 01.8	**+0.5**
NATA	**Nata**	**5.27**	**83**	P		**Pn**	19 54 01.5	**+0.1**
SERG	**Sergoula**	**5.31**	**322**	P		**Pn**	19 54 02.4	**+0.4**
ALFC	**Alefka**	**5.33**	**79**	⇑P		**Pn**	19 54 02.1	**-0.1**
ALFC				AML	AML		19 55 00.2	
	comp=E,2.5nm,0.5s							
ALFC				AML	AML		19 55 01.1	
	comp=E,1.6nm,0.8s							
RLS	**Riolos of Patr**	**5.38**	**316**	P		**Pn**	19 54 04.7	**+1.9**
EFP	**Efpalio**	**5.40**	**321**	P		**Pn**	19 54 03.5	**+0.4**
GEDZ	**Gediz**	**5.40**	**27**	PN		**Pn**	19 54 05.4	**+2.2**
SEDI	**Konya, Seydise**	**5.50**	**53**	*i* P		**Pn**	19 54 08.1	**+3.4**
SEDI				IAML			19 55 12.0	
	comp=E,180nm,0.6s							
SEDI				IAML			19 55 14.0	
	comp=N,198nm,1.1s							
BALB	**Balikesir**	**5.51**	**14**	PN		**Pn**	19 54 06.6	**+2.0**
BALB	**Balikesir**	**5.51**	**14**	Pn		**Pn**	19 54 06.9	**+2.2**
SHUT	**Suhut-Afyon**	**5.51**	**38**	PN		**Pn**	19 54 06.2	**+1.4**
ANX	**Ano Chora**	**5.52**	**322**	P		**Pn**	19 54 05.0	**+0.1**
SZAC	**Souni**	**5.53**	**83**	⇑P		**Pn**	19 54 04.9	**-0.1**
SZAC				AML	AML		19 55 05.3	
	comp=N,2.7nm,0.6s							
SZAC				AML	AML		19 55 05.4	
	comp=N,2.4nm,0.6s							
SEYD	**Seydisehir-KON**	**5.53**	**54**	PN		**Pn**	19 54 06.7	**+1.7**
EZN	**Ezine**	**5.53**	**1**	P		**Pn**	19 54 06.4	**+1.5**
EZN	**Ezine**	**5.53**	**1**	PN		**Pn**	19 54 06.3	**+1.4**
LTHK	**Lithakia**	**5.54**	**310**	P		**Pn**	19 54 04.0	**-1.0**
BOZC	**Bozcaada**	**5.55**	**359**	PN		**Pn**	19 54 06.3	**+1.1**
LEF	**Lefka**	**5.56**	**80**	⇑P		**Pn**	19 54 06.6	**+1.2**
DURS	**Dursunbey**	**5.61**	**18**	*i* P		**Pn**	19 54 08.0	**+1.9**
XOR	**Xorichti**	**5.62**	**335**	P		**Pn**	19 54 07.7	**+1.5**
LIA	**Limnos Island**	**5.66**	**352**	P		**Pn**	19 54 09.2	**+2.3**
AGG	**Agios Georgios**	**5.66**	**328**	P		**Pn**	19 54 07.6	**+0.8**
AGG	**Agios Georgios**	**5.66**	**328**	P		**Pn**	19 54 07.4	**+0.6**
AGG	**Agios Georgios**	**5.66**	**328**			**Pn**	19 54 07.4	**+0.6**
AGG	**Agios Georgios**	**5.66**	**328**	⇑P		**Pn**	19 54 07.8	**+1.0**
PVO	**Paravola**	**5.74**	**320**	P		**Pn**	19 54 10.2	**+2.4**
MAKR	**Makrakomi, Fth**	**5.75**	**326**	P		**Pn**	19 54 09.2	**+1.3**
VLMS	**Volimes, Zakyn**	**5.75**	**310**	P		**Pn**	19 54 07.0	**-0.9**
EVR	**Evrytania**	**5.82**	**324**	P		**Pn**	19 54 10.0	**+1.0**
ASGA	**Asgata**	**5.83**	**83**	P		**Pn**	19 54 09.4	**+0.4**
ASGA				AML	AML		19 55 13.8	
	comp=N,2.0nm,0.6s							
ASGA				AML	AML		19 55 14.2	
	comp=N,1.8nm,0.5s							
CSS	**Mathiatis**	**5.91**	**81**	Pn		**Pn**	19 54 10.8	**+0.6**
CSS	**Mathiatis**	**5.91**	**81**	⇑P		**Pn**	19 54 09.9	**-0.2**
CSS	**Mathiatis**	**5.91**	**81**	⇓P		**Pn**	19 54 10.0	**-0.2**
PDO	**Prodromos**	**5.91**	**318**	P		**Pn**	19 54 12.2	**+2.0**
HMYD	**Mayadein**	**5.93**	**138**	P		**Pn**	19 54 10.0	**-0.5**
	baz=139							
PSDA	**Pessada-Kefalo**	**5.94**	**312**	P		**Pn**	19 54 09.9	**-0.7**
HNAT	**Natroun**	**5.96**	**140**	P		**Pn**	19 54 10.9	**0.0**
	baz=141							
HNAT				S		**Sn**	19 55 14.6	**-4.1**
	baz=141							
VLS	**Valsamata**	**5.98**	**312**	P		**Pn**	19 54 10.6	**-0.5**
KEF5	**Kardakata, Kep**	**6.11**	**312**	P		**Pn**	19 54 12.5	**-0.5**
KEF4	**Livadi, Kephal**	**6.13**	**312**	P		**Pn**	19 54 12.8	**-0.3**
KEF3	**Kipouria, Keph**	**6.14**	**311**	P		**Pn**	19 54 12.5	**-0.8**
DMLN	**Damoulianata-K**	**6.15**	**312**	P		**Pn**	19 54 12.4	**-1.0**
MVOU	**Mavrovouni**	**6.16**	**81**	P		**Pn**	19 54 14.3	**+0.8**
FSK	**Fiskardo**	**6.17**	**314**	P		**Pn**	19 54 14.1	**+0.3**
SMTH	**Samothraki Isl**	**6.20**	**355**	P		**Pn**	19 54 15.5	**+1.4**
EVGI	**Lefkada island**	**6.22**	**316**	P		**Pn**	19 54 15.6	**+1.1**
THL	**Klokotos Trika**	**6.25**	**329**	P		**Pn**	19 54 15.3	**+0.5**
NYDR	**Nydri-Lefkada**	**6.26**	**316**	P		**Pn**	19 54 16.2	**+1.2**
OUR	**Ouranopolis**	**6.29**	**344**	P		**Pn**	19 54 16.6	**+1.2**
DRAG	**Dragano-Lefkad**	**6.32**	**316**	P		**Pn**	19 54 16.3	**+0.6**
LKD2	**Lefkada island**	**6.34**	**317**	P		**Pn**	19 54 16.9	**+0.8**
TSLK	**Tsoukalades, L**	**6.36**	**317**	P		**Pn**	19 54 17.7	**+1.3**
THAS	**Thassos island**	**6.42**	**350**	P		**Pn**	19 54 18.1	**+1.0**
KOT	**Kottamia**	**6.45**	**131**	P		**Pn**	19 54 15.5	**-2.1**
	baz=132							
KOT				S		**Sn**	19 55 25.2	**-5.5**
	baz=132							
PLG	**Polygyros**	**6.46**	**341**	P		**Pn**	19 54 19.0	**+1.2**
PARAL	**Paralimni**	**6.49**	**82**	P		**Pn**	19 54 18.9	**+0.8**
HSAF	**As Saff**	**6.50**	**134**	P		**Pn**	19 54 17.1	**-1.2**
	baz=136							
LIT	**Litokhoron**	**6.52**	**334**	P		**Pn**	19 54 19.4	**+0.9**
LIT	**Litokhoron**	**6.52**	**334**	P		**Pn**	19 54 19.5	**+0.9**
LIT	**Litokhoron**	**6.52**	**334**			**Pn**	19 54 19.5	**+0.9**
LIT	**Litokhoron**	**6.52**	**334**	⇑P		**Pn**	19 54 19.5	**+1.0**
ALN	**Alexandroupoli**	**6.60**	**359**	P		**Pn**	19 54 21.4	**+1.8**
ALN	**Alexandroupoli**	**6.60**	**359**	P		**Pn**	19 54 21.2	**+1.6**
ALN	**Alexandroupoli**	**6.60**	**359**			**Pn**	19 54 21.2	**+1.6**
HHAG	**Hagoal**	**6.60**	**129**	S		**Sn**	19 55 28.1	**-6.4**
	baz=131							
GLL	**Jalalah**	**6.62**	**134**	P		**Pn**	19 54 18.7	**-1.3**
	baz=135							
HORT	**Hortiatis**	**6.77**	**339**	P		**Pn**	19 54 23.6	**+1.6**
KPRO	**Kipourio**	**6.86**	**327**	P		**Pn**	19 54 24.8	**+1.6**
RDO	**Rodhopi**	**6.87**	**356**	P		**Pn**	19 54 25.1	**+1.8**
RDO	**Rodhopi**	**6.87**	**356**	⇑P		**Pn**	19 54 25.3	**+2.0**
SOH	**Sokhos**	**6.91**	**342**	P		**Pn**	19 54 26.0	**+2.1**
KZN	**Kozani**	**6.97**	**331**	P		**Pn**	19 54 27.7	**+2.9**
IGT	**Igoumenitsa**	**7.04**	**320**	P		**Pn**	19 54 24.9	**-0.8**
NBNS	**Bani Suef**	**7.12**	**141**	P		**Pn**	19 54 26.9	**+0.1**
	baz=142							
NVR	**Nevrokopi**	**7.29**	**346**	P		**Pn**	19 54 31.0	**+1.8**
GRG	**Griva**	**7.31**	**337**	P		**Pn**	19 54 30.5	**+1.1**
HFRF	**Wahat Farafira**	**7.34**	**165**	P		**Pn**	19 54 29.2	**-0.7**
	baz=166							
HFRF				S		**Sn**	19 55 45.7	**-7.0**
	baz=166							
HFRF				AMP			19 56 00.0	
	baz=166							
KNT	**Kendrikon**	**7.35**	**340**	P		**Pn**	19 54 31.8	**+1.9**
LSK	**Leskovik**	**7.37**	**324**	P		**Pn**	19 54 30.1	**-0.1**
NEST	**Nestorio**	**7.37**	**328**	P		**Pn**	19 54 30.4	**+0.1**
KEK	**Kerkira**	**7.46**	**318**	P		**Pn**	19 54 30.2	**-1.2**
KEK	**Kerkira**	**7.46**	**318**	⇓S		**Sn**	19 55 51.9	**-3.6**
SRN	**Sarande**	**7.47**	**320**	P		**Pn**	19 54 30.2	**-1.3**
FNA	**Florina**	**7.54**	**331**	P		**Pn**	19 54 33.8	**+1.3**
FNA	**Florina**	**7.54**	**331**	P		**Pn**	19 54 33.1	**+0.6**
FNA	**Florina**	**7.54**	**331**			**Pn**	19 54 33.1	**+0.6**
FNA	**Florina**	**7.54**	**331**	⇑P		**Pn**	19 54 33.6	**+1.1**
EDRB	**Edirne**	**7.56**	**3**	P		**Pn**	19 54 34.2	**+1.4**
VAY	**Valandovo**	**7.59**	**339**	*i* Pn		**Pn**	19 54 35.3	**+2.1**
BR231	**Keskin MP Arra**	**7.63**	**42**			**Pn**	19 54 35.1	**+1.2**
KBN	**Korca**	**7.66**	**327**	P		**Pn**	19 54 36.3	**+2.1**
ANTO	**Ankara**	**7.66**	**41**	P		**Pn**	19 54 35.6	**+1.3**
ANTO	**Ankara**	**7.66**	**41**			**Pn**	19 54 35.6	**+1.3**
TAMRE	**El Minia**	**7.72**	**147**	P		**Pn**	19 54 34.6	**-0.5**
	baz=148							
MMAI	**Mount Meron Ar**	**7.77**	**97**	Pn		**Pn**	19 54 35.1	**-0.6**
	comp=N,17nm,0.3s,baz=275,slow=12,SNR=52							
MMAI				Sn		**Sn**	19 55 56.9	**-6.3**
	comp=N,25nm,0.3s,baz=300,slow=22,SNR=6.8							
DQRL	**Deir Qamar**	**7.79**	**92**	*e*P		**Pn**	19 54 35.3	**-0.8**
BHL	**Bhannes**	**7.84**	**90**	*e*P		**Pn**	19 54 37.3	**+0.5**
RCY	**Rachaya**	**8.04**	**93**	*e*P		**Pn**	19 54 38.7	**-0.9**
BR131	**Keskin Array S**	**8.04**	**45**	P		**Pn**	19 54 40.8	**+1.2**
BR131	**Keskin Array S**	**8.04**	**45**	Pn		**Pn**	19 54 40.8	**+1.2**
BRTR	**Keskin Array B**	**8.04**	**45**	Pn		**Pn**	19 54 40.9	**+1.3**
	comp=N,1.3nm,0.3s,baz=222,slow=12,SNR=45							
BRTR	**Keskin Array B**	**8.04**	**45**	P		**Pn**	19 54 40.8	**+1.2**
STIP	**Stip**	**8.05**	**338**	*i* Pn		**Pn**	19 54 40.5	**+1.0**
OHR	**Ohrid**	**8.05**	**329**	*i* Pn		**Pn**	19 54 41.4	**+1.8**
HWQ	**Hawqa**	**8.06**	**87**	*e*P		**Pn**	19 54 39.3	**-0.4**
GHAJ	**Ghor Haditha**	**8.42**	**108**	Pn		**Pn**	19 54 45.3	**+0.7**
SCTE	**Santa Cesarea**	**8.46**	**315**	Pn		**Pn**	19 54 44.3	**-0.8**
SKO	**Skopje**	**8.54**	**335**	*i* Pn		**Pn**	19 54 46.2	**-0.1**
VTS	**Vitosha**	**8.64**	**345**	⇑P		**Pn**	19 54 48.0	**+0.2**
VTS	**Vitosha**	**8.64**	**345**	P		**Pn**	19 54 49.1	**+1.4**
VTS	**Vitosha**	**8.64**	**345**	Pn		**Pn**	19 54 49.1	**+1.4**
VTS	**Vitosha**	**8.64**	**345**	⇓P		**Pn**	19 54 49.1	**+1.4**
TIR	**Tirane**	**8.65**	**326**	⇑P		**Pn**	19 54 46.7	**-1.1**
TIR	**Tirane**	**8.65**	**326**	P		**Pn**	19 54 47.9	**+0.1**
TIR	**Tirane**	**8.65**	**326**			**Pn**	19 54 47.9	**+0.1**
TIR	**Tirane**	**8.65**	**326**	⇓P		**Pn**	19 54 48.6	**+0.8**
PHP	**Peshkopia**	**8.68**	**330**	P		**Pn**	19 54 47.5	**-0.7**
EIL	**Elat**	**8.73**	**119**	Pn		**Pn**	19 54 48.0	**-0.9**
	comp=N,5.9nm,0.3s,baz=241,slow=6.2,SNR=56							
EIL				Sn		Sn	19 56 17.4	-9.4
	comp=N,12nm,0.3s,baz=268,slow=22,SNR=6.6							
EIL	**Elat**	**8.73**	**119**	⇑P		**Pn**	19 54 48.0	**-0.9**
BNN	**Bunyan**	**8.99**	**57**	Pn		**Pn**	19 54 53.8	**+1.2**
ILGA	**Ilgaz**	**9.00**	**39**	Pn		**Pn**	19 54 53.1	**+0.4**
CEL	**Celeste**	**9.23**	**298**	Pn		**Pn**	19 54 55.8	**+0.1**
CEL	**Celeste**	**9.23**	**298**	⇑P		**Pn**	19 54 55.8	**+0.1**
GAZ	**Gaziantep**	**9.39**	**69**			**Pn**	19 54 58.1	**0.0**
ULC	**Ulcinj**	**9.42**	**326**	⇓*i* Pn		**Pn**	19 54 55.4	**-3.0**
ULC				*i* Sn		Sn	19 56 33.6	-10
DRME	**Dracevica, Mon**	**9.63**	**327**	*e*Pn		**Pn**	19 54 58.0	**-3.2**
DRME	**Dracevica, Mon**	**9.63**	**327**	⇓*i* Pn		**Pn**	19 54 57.1	**-4.1**
DRME				*i* Sn		Sn	19 56 38.8	-10
PVY	**Plav**	**9.63**	**331**	⇑*i* Pn		**Pn**	19 54 59.8	**-1.6**
PVY				*i* Sn		**Sn**	19 56 41.2	**-7.9**
WDD	**Wied Dalam**	**9.71**	**282**			**Pn**	19 55 01.7	**-0.6**
WDD	**Wied Dalam**	**9.71**	**282**	⇑P		**Pn**	19 55 02.3	**0.0**
PDG	**Podgorica**	**9.79**	**328**	*e*Pn		**Pn**	19 55 00.1	**-3.3**
PDG	**Podgorica**	**9.79**	**328**			**Pn**	19 55 00.8	**-2.6**
PDG	**Podgorica**	**9.79**	**328**	⇓P		**Pn**	19 55 00.0	**-3.3**
TTG	**Podgorica**	**9.79**	**328**	⇓*i* Pn		**Pn**	19 55 00.1	**-3.3**
TTG				*i* Sn		Sn	19 56 43.1	-10
VLAD	**Vladila**	**9.80**	**352**	⇑P		**Pn**	19 55 04.8	**+1.3**
BUM	**Brajici-Budva**	**9.85**	**326**	⇓*i* Pn		**Pn**	19 55 01.4	**-2.9**
BUM				*i* Sn		Sn	19 56 43.8	-11
MATE	**Matera**	**9.87**	**313**	⇓P		**Pn**	19 55 02.3	**-2.0**
MATE	**Matera**	**9.87**	**313**	⇑P		**Pn**	19 55 02.4	**-2.0**
IVA	**Berane**	**9.89**	**332**	⇑*i* Pn		**Pn**	19 55 02.7	**-2.2**
IVA				*i* Sn		**Sn**	19 56 47.6	**-7.8**
BOVS	**Bovan**	**9.97**	**341**	⇑P		**Pn**	19 55 06.6	**+0.7**
KOME	**Kolasin**	**10.03**	**330**	⇑*i* Pn		**Pn**	19 55 04.6	**-2.1**
KOME				*i* Sn		Sn	19 56 50.1	-8.6
CEME	**Cevo**	**10.03**	**327**	⇓*i* Pn		**Pn**	19 55 02.9	**-3.9**
CEME				*i* Sn		Sn	19 56 48.4	-10
RAFF	**Raffo Rosso**	**10.07**	**290**	Pn		**Pn**	19 55 06.4	**-0.8**
VAE	**Valguarnera**	**10.09**	**292**	Pn		**Pn**	19 55 08.1	**+0.5**
	comp=N,30nm,0.3s,baz=283,slow=2.2,SNR=45							
VAE				Sn		Sn	19 56 50.7	-10
	comp=N,12nm,0.3s,baz=103,slow=10,SNR=5.0							
VAE				LR		LR	20 00 11.9	
	comp=N,491nm,19.6s,baz=89,slow=44							
HCY	**Herceg Novi**	**10.15**	**326**	*e*Pn		**Pn**	19 55 04.8	**-3.6**
HCY	**Herceg Novi**	**10.15**	**326**	⇓*i* Pn		**Pn**	19 55 04.7	**-3.6**
HCY				*e*Sn		Sn	19 56 50.6	-11
NKME	**Niksic**	**10.20**	**328**	⇑*i* Pn		**Pn**	19 55 05.9	**-3.1**
NKME				*i* Sn		Sn	19 56 52.7	-10
NKY	**Niksic**	**10.21**	**329**	⇓*i* Pn		**Pn**	19 55 07.0	**-2.3**
NKY				*i* Sn		Sn	19 56 53.5	-10
TIRR	**Tirgusor**	**10.30**	**9**	⇓P		**Pn**	19 55 12.7	**+2.3**
TIRR	**Tirgusor**	**10.30**	**9**	⇓P		**Pn**	19 55 12.7	**+2.3**
TIRR	**Tirgusor**	**10.30**	**9**	P		**Pn**	19 55 11.2	**+0.9**
TIRR	**Tirgusor**	**10.30**	**9**			**Pn**	19 55 11.2	**+0.9**
TIRR	**Tirgusor**	**10.30**	**9**	⇓P		**Pn**	19 55 12.9	**+2.5**
TLBR	**Topalu**	**10.34**	**7**	⇑P		**Pn**	19 55 13.1	**+2.2**
SULR		**10.38**	**0**	⇑P		**Pn**	19 55 13.3	**+1.9**
TREB	**Trebinje**	**10.43**	**326**	*e*Pn		**Pn**	19 55 07.9	**-4.2**
HARR	**Harsova**	**10.47**	**7**	⇑P		**Pn**	19 55 13.8	**+1.1**
PLE	**Pljevlja**	**10.48**	**332**	⇑*i* Pn		**Pn**	19 55 10.0	**-2.9**
PLE				*i* Sn		Sn	19 57 01.4	-8.4
BRY	**Bratogost**	**10.48**	**327**	*e*Pn		**Pn**	19 55 10.5	**-2.5**
BRY	**Bratogost**	**10.48**	**327**	⇓*i* Pn		**Pn**	19 55 10.0	**-3.0**
BRY				*i* Sn		Sn	19 56 59.1	-11
STFAR	**Stefanesti-Arg**	**10.61**	**355**	⇑P		**Pn**	19 55 16.5	**+1.9**
TPGR	**Topolog**	**10.69**	**8**	⇑P		**Pn**	19 55 18.2	**+2.5**
RUDO	**Rudo**	**10.73**	**332**	*e*Pn		Pn	19 55 11.9	-4.3
ISR	**Istrita**	**10.82**	**1**	⇑P		**Pn**	19 55 19.5	**+1.9**
STON	**Ston**	**10.85**	**325**	*e*Pn		Pn	19 55 12.9	-5.0
DIVS	**Divibare**	**10.92**	**336**	*e*Pn		**Pn**	19 55 18.2	**-0.7**
DIVS	**Divibare**	**10.92**	**336**			**Pn**	19 55 18.7	**-0.2**
BBLS	**Lazići**	**10.93**	**333**	*e*Pn		**Pn**	19 55 14.9	**-4.1**
HERR	**Herculane**	**10.98**	**346**	⇑P		**Pn**	19 55 20.4	**+0.8**
CFR	**Carcaliu**	**10.98**	**7**	⇑P		**Pn**	19 55 21.6	**+2.0**
CLTB	**Caltabellotta**	**11.04**	**291**			**Pn**	19 55 21.4	**+0.9**
CLTB	**Caltabellotta**	**11.04**	**291**	⇓P		**Pn**	19 55 21.8	**+1.2**
MDVR	**Moldovita**	**11.04**	**343**	⇑P		**Pn**	19 55 20.6	**+0.1**
CORL	**Corleone**	**11.05**	**293**			**Pn**	19 55 21.8	**+1.1**
TLCR		**11.07**	**10**	⇓P		**Pn**	19 55 22.5	**+1.7**
VOIR		**11.17**	**356**	⇑P		**Pn**	19 55 23.6	**+1.2**
MLR	**Muntele Rosu**	**11.19**	**359**	Pn		**Pn**	19 55 22.9	**+0.2**
	comp=N,0.3nm,0.3s,baz=234,slow=3.9,SNR=14							
MLR				LR		LR	20 00 39.7	
	comp=N,2µm,18.1s,baz=182,slow=43							
BISRR	**Bisoca**	**11.26**	**2**	⇑P		**Pn**	19 55 25.9	**+2.5**
HAPS	**Han Pijesak,Bl**	**11.29**	**332**	*e*Pn		Pn	19 55 18.9	-5.1
GZR	**Gura Zlata**	**11.40**	**348**	⇑P		**Pn**	19 55 26.5	**+1.0**
PAOL	**Paolisi**	**11.42**	**310**			**Pn**	19 55 24.3	**-1.4**
PLOR	**Plostina**	**11.56**	**2**	⇑P		**Pn**	19 55 29.5	**+1.9**
VRI	**Vrincioaia**	**11.57**	**2**	⇑P		**Pn**	19 55 29.3	**+1.5**
DOPR	**Dopca**	**11.69**	**357**	⇑P		**Pn**	19 55 31.0	**+1.7**
OZUR		**11.80**	**359**	⇑P		**Pn**	19 55 32.2	**+1.3**
BZS	**Buzias**	**11.85**	**344**	⇑P		**Pn**	19 55 32.0	**+0.4**
DEV	**Deva**	**11.86**	**349**	⇓P		**Pn**	19 55 33.1	**+1.4**
FRGS	**Fruska Gora**	**11.92**	**338**	⇑P		**Pn**	19 55 32.2	**-0.3**
FRGS	**Fruska Gora**	**11.92**	**338**	*e*Pn		**Pn**	19 55 32.8	**+0.3**
TESR	**Tescani**	**12.22**	**1**	⇑P		**Pn**	19 55 37.4	**+0.8**
SIM	**Simferopol'**	**12.26**	**27**	P		**Pn**	19 55 40.0	**+2.8**
SIM				pmax	pmax			
	comp=Z,30nm,0.4s							
MGRS	**Mrkonjic Grad**	**12.33**	**328**	*e*Pn		**Pn**	19 55 36.5	**-1.6**
INTR	**Introdacqua**	**12.37**	**312**	Pn		**Pn**	19 55 38.7	**-0.1**
SIRR	**Siria**	**12.46**	**345**	⇑P		**Pn**	19 55 40.5	**+0.6**
BLY	**Banja Luka**	**12.55**	**329**	*e*Pn		**Pn**	19 55 38.9	**-2.2**
BLY	**Banja Luka**	**12.55**	**329**	⇑P		**Pn**	19 55 37.7	**-3.4**
BIZ	**Bicaz**	**12.64**	**360**	⇑P		**Pn**	19 55 43.6	**+1.3**
KOPT	**Kop Dagi**	**12.75**	**59**			**Pn**	19 55 45.3	**+1.2**
DRGR		**12.77**	**349**	⇓P		**Pn**	19 55 45.3	**+1.1**
MILM	**Milestii Mici**	**12.77**	**8**	⇑P		**Pn**	19 55 44.5	**+0.3**
AQU	**L'Aquila**	**12.88**	**312**	*e*Pn		**Pn**	19 55 47.0	**+1.4**
AQU	**L'Aquila**	**12.88**	**312**	⇓P		**Pn**	19 55 48.1	**+2.4**
MRAK	**Mrakovica**	**12.88**	**329**	*e*Pn		**Pn**	19

AKBB Malin Array Si 16.55 7 Pn Pn 19 56 33.8 -0.7
AKBB IAmb IAmb 19 56 38.0
comp=Z,60nm,0.7s
OJC Ojcow 16.60 345 *e*P Pn 19 56 34.5 -0.7
OJC Ojcow 16.60 345 P Pn 19 56 34.3 -1.0
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 16.60 345 Pn Pn 19 56 34.3 -1.0
OJC Ojcow 16.60 345 ⇓P Pn 19 56 34.5 -0.7
BOB Bobbio (Coli) 16.61 314 ⇑P Pn 19 56 36.0 +0.6
VRAC Vranov 16.61 338 Pn Pn 19 56 34.0 -1.3
comp=Z,2.1nm,0.3s,baz=143,slow=11,SNR=25
VRAC LR LR 20 04 12.3
comp=Z,299nm,19.1s,baz=166,slow=42
VRAC Vranov 16.61 338 ⇑P Pn 19 56 34.1 -1.3
VRAC Vranov 16.61 338 *e*PN Pn 19 56 34.3 -1.1
OKC Ostrava-Krasne 16.64 342 *e*P Pn 19 56 35.0 -0.7
OKC MLR MLR
comp=Z,700nm,13.0s
OKC Ostrava-Krasne 16.64 342 *e*P Pn 19 56 35.0 -0.7
OKC *e*S S 20 00 10.7 +20
OKC AMS AMS 20 04 10.0
comp=Z,700nm,13.0s
MORC Moravsky Berou 16.75 340 ⇑P Pn 19 56 36.6 -0.5
MORC Moravsky Berou 16.75 340 *e*PN Pn 19 56 35.9 -1.2
MORC Moravsky Berou 16.75 340 P Pn 19 56 36.3 -0.8
MORC pmax pmax
comp=Z,31nm,0.7s
MORC Moravsky Berou 16.75 340 Pn Pn 19 56 36.3 -0.8
MORC Moravsky Berou 16.75 340 ⇓P Pn 19 56 36.2 -0.8
GOF Gofitskoye 16.81 45 ⇑*e*P P 19 56 39.7 -0.2
GOF pmax pmax
comp=Z,123nm,0.9s
TREC Trest 16.97 335 AMS AMS 20 05 10.0
comp=Z,400nm,19.7s
WTTA Wattenberg 16.99 324 *i* Pn Pn 19 56 38.3 -2.0
comp=Z,36nm,0.9s,SNR=25
CKRC Cesky Krumlov 17.00 332 *e*P Pn 19 56 39.1 -1.2
CKRC *e*S Sn 19 59 49.9 +1.1
CKRC AMS AMS 20 04 50.0
comp=Z,600nm,13.4s
WATA Walderalm 17.07 324 *e*Pn Pn 19 56 39.0 -2.2
comp=Z,75nm,1.2s,SNR=38
KRLC Kraliky 17.23 339 *e*P Pn 19 56 42.8 -0.4
KRLC Kraliky 17.23 339 *e*P Pn 19 56 42.8 -0.4
GEC2 GERESS Array S 17.26 331 Pn 19 56 42.8 -0.8
GERES GERESS Array B 17.26 331 P Pn 19 56 42.5 -1.1
comp=Z,1.4nm,0.3s,baz=144,slow=12,SNR=56
GERES S Sn 19 59 55.0 -0.2
comp=Z,0.3nm,0.3s,baz=153,slow=23,SNR=2.0
GERES PcP PcP 20 01 26.5 +0.4
comp=Z,0.1nm,0.3s,baz=160,slow=3.1,SNR=2.6
GERES ScP ScP 20 04 58.1 -1.9
comp=Z,0.1nm,0.3s,baz=108,slow=4.3,SNR=4.2
GERES LR LR 20 05 09.3
comp=Z,532nm,18.3s,baz=140,slow=43
GERES GERESS Array B 17.26 331 Pn 19 56 41.8 -1.8
FETA Feichten 17.27 322 *e*Pn Pn 19 56 43.7 -0.2
comp=Z,66nm,0.8s,SNR=55
MOTA Moosalm 17.31 323 *e*Pn Pn 19 56 42.8 -1.5
comp=Z,22nm,0.6s,SNR=26
KHC Kasperske Hory 17.54 332 *e*P Pn 19 56 46.5 -0.5
KHC MLR MLR
comp=Z,600nm,13.6s
KHC Kasperske Hory 17.54 332 *e*P Pn 19 56 46.5 -0.5
KHC AMS AMS 20 04 50.0
comp=Z,600nm,13.6s
KHC Kasperske Hory 17.54 332 ⇑P Pn 19 56 46.5 -0.5
DAVOX Davos/Dischmat 17.56 320 P Pn 19 56 47.7 +0.2
comp=Z,2.9nm,0.3s,baz=141,slow=10,SNR=40
DAVOX S Sn 19 59 48.0 -14
comp=Z,0.3nm,0.3s,baz=312,slow=20,SNR=1.1
DAVOX LR LR 20 05 24.6
comp=Z,1μm,18.4s,baz=82,slow=43
RETA Reutte 17.57 323 *e*Pn Pn 19 56 46.7 -0.8
comp=Z,15nm,0.5s,SNR=18
DPC Dobruska-Polom 17.61 339 *e*P Pn 19 56 46.7 -1.2
DPC MLR MLR
comp=Z,600nm,13.1s
DPC Dobruska-Polom 17.61 339 *e*P Pn 19 56 46.7 -1.2
DPC AMS AMS 20 04 50.0
comp=Z,600nm,13.1s
TUE Stuetta 17.65 319 Pn 19 56 48.3 -0.4
TUE Stuetta 17.65 319 ⇑P Pn 19 56 49.4 +0.8
OSTC Ostas 17.83 339 *e*P Pn 19 56 49.6 -1.0
OSTC AMS AMS 20 05 00.0
comp=Z,600nm,13.8s
PBCC Pribram 17.83 333 *e*P Pn 19 56 49.2 -1.4
UPC Upice 17.85 338 *e*P Pn 19 56 50.7 -0.1
UPC MLR MLR
comp=Z,700nm,14.1s
UPC Upice 17.85 338 *e*P Pn 19 56 50.7 -0.1
UPC AMS AMS 20 04 50.0
comp=Z,700nm,14.1s
PRU Pruhonice 17.88 335 *e*P Pn 19 56 49.4 -1.8
PRU MLR MLR
comp=N,300nm,15.5s
PRU Pruhonice 17.88 335 *e*P Pn 19 56 49.4 -1.8
PRU AMS AMS 20 05 40.0
DAVA Damuels 17.89 321 *e*Pn Pn 19 56 51.4 0.0
comp=N,39nm,0.5s,SNR=29
CHVC Chvalec 17.90 339 *e*P Pn 19 56 51.2 -0.3
CHVC AMS AMS 20 05 00.0
comp=N,600nm,14.4s
BEL Belsk 17.97 349 *e*P P 19 56 53.6 +0.9
PRA Prague 17.99 335 AMS AMS 20 05 50.0
comp=N,400nm,13.4s
UBR Ueberruh 18.03 323 *e*P Pn 19 56 52.6 -0.5
baz=138,slow=13
KSP Ksiaz 18.06 339 *e*P Pn 19 56 52.0 -1.4
KSP Ksiaz 18.06 339 ⇑P Pn 19 56 51.6 -1.8
PVCC Panska Ves 18.33 336 *e*P Pn 19 56 54.7 -2.0
PVCC MLR MLR
comp=Z,400nm,16.9s
PVCC Panska Ves 18.33 336 *e*P Pn 19 56 54.7 -2.0
PVCC AMS AMS 20 06 00.0
comp=Z,400nm,16.9s
MAHO Mahon 18.36 294 P Pn 19 57 00.0 +2.9
MAHO S S 20 00 26.8 +0.6
BNI Bardonecchia 18.44 311 P P 19 56 57.2 -0.9
BNI pmax pmax
comp=Z,20nm,0.8s
BNI Bardonecchia 18.44 311 P P 19 56 57.1 -0.9
BNI Bardonecchia 18.44 311 ⇑P P 19 56 58.0 -0.1
ROTZ Rotzenmuhle 18.59 331 *e*P P 19 56 58.5 -1.1
baz=138,slow=13
MAK Makhachkala 18.72 56 *e*P P 19 57 00.4 -0.6
MAK *e*S S 20 00 33.0 -0.3
MAK pmax pmax
comp=Z,151nm,1.0s
MAK MLR MLR
comp=Z,282nm,15.0s
SENIN Lac Senin/Sane 18.75 316 P P 19 57 00.6 -0.9
NKC Novy Kostel 18.86 332 *e*P P 19 57 01.7 -0.9
NKC MLR MLR
comp=Z,600nm,15.1s
NKC Novy Kostel 18.86 332 *e*P P 19 57 01.7 -0.9
NKC AMS AMS 20 06 00.0
comp=Z,600nm,15.1s
WERN Wernitzgruen 18.93 332 *e*P P 19 57 02.6 -0.7
baz=138,slow=13
GRA1 Grafenberg Arr 18.95 329 P P 19 57 03.3 -0.2
GRF Grafenberg Arr 18.95 329 P P 19 57 03.3 -0.2
GRF pmax pmax
comp=Z,45nm,0.9s
GRFO Grafenberg 18.95 329 P P 19 57 03.1 -0.4
GRFO pmax pmax
comp=Z,40nm,0.9s
GRFO Grafenberg 18.95 329 P P 19 57 03.1 -0.4
TANN Tannenbergstha 19.00 332 *e*P P 19 57 03.2 -0.9
baz=138,slow=13
FBE Freiberg 19.08 334 *e*P P 19 57 04.5 -0.4
baz=138,slow=13
VORD Divnogorie 19.20 26 *e*P Pn 19 57 07.3 +0.1
VORD pmax pmax
comp=Z,140nm,0.8s
STU Stuttgart 19.22 324 P P 19 57 06.2 -0.2
STU pmax pmax
comp=Z,49nm,0.7s
STU Stuttgart 19.22 324 P P 19 57 06.2 -0.2
STU IAmb IAmb 19 57 08.8
comp=Z,49nm,0.7s
STU Stuttgart 19.22 324 ⇑P P 19 57 06.3 -0.1
BFO Black Forest 19.36 322 P P 19 57 07.9 -0.2
BFO pmax pmax
comp=Z,47nm,1.0s
BFO Black Forest 19.36 322 P P 19 57 07.9 -0.2
BFO Black Forest 19.36 322 P P 19 57 07.1 -1.0
VSR Storozhevoye 19.36 25 *e*P P 19 57 08.1 +0.1
VSR pmax pmax
comp=Z,50nm,0.6s
CLL Collm 19.53 335 *e*P P 19 57 09.0 -0.8
comp=Z,21nm,0.8s
CLL *i* pP **sP** 19 57 15.0 -1.5
CLL *e*(PP) 19 57 23.0
CLL *e*pPP 19 57 28.0
CLL *e*PPP PPP 19 57 32.0
CLL *e* 19 58 46.0
CLL *e*S **Sn** **20 00 50.0 +0.3**
CLL *e*SS **SnSn** **20 01 06.0 +2.1**
CLL *e*SSS SSS 20 01 22.0
CLL *i* PcP **PcP** **20 01 30.9 +1.2**
CLL Lm MLR 20 06 00.0
comp=N,300nm,18.3s
CLL Lm MLR 20 06 00.0
comp=E,200nm,19.0s
CLL *e*(PKiKP) 20 09 24.0
CLL Collm 19.53 335 *e*P P 19 57 09.0 -0.8
CLL *e*S Sn 20 00 36.0 -14
CLL pmax pmax
comp=Z,21nm,0.8s
CLL Collm 19.53 335 P P 19 57 09.2 -0.6
CLL Collm 19.53 335 *e*P P 19 57 09.2 -0.6
baz=138,slow=13
VORR Voronezh 19.75 24 *e*P P 19 57 13.0 +0.7
VORR pmax pmax
comp=Z,250nm,1.4s
SUW Suwalki 19.84 355 *e*P P 19 57 11.6 -1.5
SUW Suwalki 19.84 355 P P 19 57 11.4 -1.7
SUW pmax pmax
comp=Z,180nm,0.8s
SUW Suwalki 19.84 355 P P 19 57 11.4 -1.7
SUW Suwalki 19.84 355 ⇑P P 19 57 11.2 -1.9
ECH Echery 19.90 320 P P 19 57 13.3 -0.6
ECH pmax pmax
comp=Z,48nm,0.9s
ECH Echery 19.90 320 P P 19 57 13.3 -0.6
ECH IAmb IAmb 19 57 15.9
comp=Z,48nm,0.9s
ECH Echery 19.90 320 ⇑P P 19 57 13.5 -0.4
RAYN Ar Rayn 19.97 117 P P 19 57 15.8 +0.9
RAYN pmax pmax
comp=Z,13nm,0.9s
RAYN Ar Rayn 19.97 117 P P 19 57 15.8 +0.9
GKP Gorka Klasztor 20.02 344 *e*P P 19 57 14.2 -1.0
GKP Gorka Klasztor 20.02 344 *e*P P 19 57 14.2 -1.0
MNK Minsk 20.25 3 *i* P P 19 57 14.5 -3.1
MNK *i* *PP **sP** 19 57 23.2 -1.1
MNK *i* 19 57 31.4
MNK *i* S **S** **20 00 59.7 -4.1**
MNK *i* 20 01 28.0
MNK pmax pmax
comp=E,1.0nm,1.4s
MNK pmax pmax
comp=N,23nm,1.4s
MNK pmax pmax
comp=Z,13nm,0.7s
MNK MLR MLR
comp=N,459nm,17.0s
MNK MLR MLR
comp=Z,449nm,15.0s
MNK MLR MLR
comp=E,36nm,12.0s
MNK Minsk 20.25 3 *i* P P 19 57 14.5 -3.1
comp=E,1.0nm,1.4s
MNK *i* P P 19 57 14.5 -3.1
comp=N,23nm,1.4s
MNK *i* P P 19 57 14.5 -3.1
comp=Z,13nm,0.7s,baz=184
MNK *i* pP **sP** 19 57 23.2 -1.0
MNK *i* PP **PnPn** 19 57 31.4 -3.0
MNK *i* S **S** **20 00 59.8 -4.0**
MNK *i* sS **pS** **20 01 14.5 -1.0**
MNK *i* SS **SnSn** **20 01 19.2 -2.4**
MNK *i* PcP **PcP** **20 01 28.0 -2.9**
MNK *i* LQ LQ 20 03 23.4
MNK *i* LR LR 20 04 47.0
MNK *i* LRM MLR 20 05 53.0
comp=N,459nm,17.1s
MNK *i* LRM MLR 20 05 53.4
comp=Z,449nm,14.8s
MNK *i* LRM MLR 20 06 12.7
comp=E,36nm,11.6s
VRH Novokhopyorsk 20.31 29 *e*P P 19 57 19.4 +1.1
VRH pmax pmax
comp=Z,200nm,0.6s
LPSR Galich'ya Gora 20.45 23 *e*P P 19 57 19.2 -0.6
LPSR pmax pmax
comp=Z,210nm,0.9s
TNS Taunus Mts 20.57 326 *e*P P 19 57 20.8 -0.4
baz=138,slow=13
NACGM Naroch 20.62 1 *i* P P 19 57 20.4 -1.2
baz=51
KLNR Kaliningrad 20.75 350 *de*P P 19 57 21.7 -1.3
KLNR pmax pmax
comp=Z,152nm,0.7s
FLTG Flechtingen 21.00 334 *e*P P 19 57 24.3 -1.4
baz=138,slow=13
FLTG Flechtingen 21.00 334 P P 19 57 23.9 -1.9
IDID Didziasalis 21.03 1 *e*P P 19 57 25.3 -0.8
IIGN Ignalina 21.06 0 *e*P P 19 57 25.9 -0.5
PABE Paberze 21.27 356 *e*P P 19 57 27.4 -1.3
PABE IAmb IAmb 19 57 51.3
comp=Z,42nm,0.7s
PABE Paberze 21.27 356 P P 19 57 26.8 -1.8
PABE IAmb IAmb 19 57 31.1
comp=Z,70nm,0.8s
ISAL Salakas 21.28 360 *e*P P 19 57 28.7 -0.1
WLF Walferdange 21.31 322 *d*P P 19 57 29.2 0.0
comp=Z,76nm,0.9s
WLF *d*pP **sP** 19 57 35.8 +0.1
WLF Walferdange 21.31 322 P P 19 57 28.9 -0.3
WLF pmax pmax
comp=Z,83nm,0.8s
WLF Walferdange 21.31 322 P P 19 57 28.9 -0.3
WLF IAmb IAmb 19 57 30.8
comp=Z,83nm,0.8s
WLF Walferdange 21.31 322 ⇑P P 19 57 29.2 0.0
BHOU Houvegnez 21.82 323 *d*P P 19 57 34.5 -0.2
comp=Z,42nm,0.9s
BHOU *d*PnPn **PnPn** 19 57 54.5 -1.5
BTNL Ternell 21.91 324 *d*P P 19 57 35.8 +0.1
comp=Z,86nm,0.9s
BTNL *d*sP **pwP** **19 57 46.8 +1.9**
PBUR Paburge 21.94 354 *e*P P 19 57 34.5 -1.3
PBUR IAmb IAmb 19 58 00.5
comp=Z,55nm,0.5s
MEM Membach 21.99 324 *d*P P 19 57 36.6 +0.2
comp=Z,136nm,0.8s
OBN Obninsk 22.04 16 P P 19 57 35.9 -1.0
comp=Z,17nm,0.7s,baz=138,slow=0.8,SNR=19
OBN S S **20 01 29.4 -10**
comp=Z,1.8nm,0.4s,baz=44,slow=21,SNR=1.5
OBN LR LR 20 07 09.3
comp=Z,145nm,19.0s,baz=182,slow=39
OBN Obninsk 22.04 16 *c* *i*P P 19 57 35.2 -1.7
OBN *e* 19 57 58.0
OBN *e* 20 01 36.3
OBN pmax pmax
comp=Z,76nm,0.8s
OBN MLR MLR
comp=Z,545nm,16.0s
OBN Obninsk 22.04 16 P P 19 57 35.7 -1.2
OBN IAmb IAmb 19 57 41.0
comp=Z,64nm,0.7s
OBN Obninsk 22.04 16 ⇑P P 19 57 35.2 -1.7
RCHB Rochefort 22.09 322 *d*P P 19 57 36.8 -0.6
comp=Z,28nm,1.0s
BSTI Sart Tilman 22.18 323 *d*P P 19 57 39.1 +0.6
comp=Z,24nm,1.1s
BSTI *d*PnPn **PnPn** **19 58 00.7 -0.3**
BCLA Clavier 22.21 323 *d*P P 19 57 38.8 -0.1
comp=Z,33nm,1.1s
BCLA *d*PnPn **PnPn** **19 58 01.1 -0.2**
CART Cartagena 22.25 286 P P 19 57 36.7 -2.7
CART S S **20 01 39.7 -3.7**
CART Cartagena 22.25 286 P P 19 57 38.8 -0.6
CART IAmb IAmb 19 57 40.1
comp=Z,35nm,0.8s
BSD Bornholm Skovb 22.26 343 *i* P P 19 57 36.9 -2.4
BSD Bornholm Skovb 22.26 343 *i* P P 19 57 36.9 -2.4
BEBN Eben Emael 22.27 324 *d*P P 19 57 39.6 +0.2
BEBN *d*PnPn **PnPn** **19 58 01.9 -0.1**
BGES Gesves 22.30 323 *d*P P 19 57 39.4 -0.4
comp=Z,21nm,0.0s
IBBN Ibbenburen 22.36 329 ⇓P P 19 57 39.9 -0.4
DOU Dourbes 22.38 321 *d*P P 19 57 39.6 -0.9
comp=Z,36nm,0.9s
DOU *d*PnPn **PnPn** **19 58 01.8 -1.7**
BMRD Maredsous 22.41 322 *d*P P 19 57 40.4 -0.6
comp=Z,17nm,1.1s
CLF Chambon-Foret 22.55 315 P P 19 57 42.3 -0.2
CLF IAmb IAmb 19 57 45.2
comp=Z,85nm,1.1s
CLF Chambon-Foret 22.55 315 ⇑P P 19 57 42.4 0.0
SNF Seneffe 22.78 322 *d*P P 19 57 44.4 -0.5
comp=Z,36nm,0.8s
SNF *d*PnPn **PnPn** **19 58 08.4 -0.7**
MOS Moscow 22.86 17 *e*P P 19 57 43.6 -2.0
MOS *e* 19 58 31.0
MOS *e*S S **20 01 50.4 -3.7**
MOS pmax pmax
comp=Z,73nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.3s
MOS MLR MLR
comp=Z,800nm,16.0s
UCC Uccle 22.92 323 P P 19 57 46.3 0.0
UCC pmax pmax
comp=Z,32nm,0.8s
UCC Uccle 22.92 323 P P 19 57 46.3 0.0
UCC IAmb IAmb 19 57 52.6
comp=Z,32nm,0.8s
LUNU Lund 23.10 341 *i* P P 19 57 45.8 -2.3
SLIT Slitere, Latvi 23.50 355 *e*P P 19 57 51.0 -1.0
BJUU Bjuv 23.61 341 *i* P P 19 57 50.7 -2.5
BELG Belogornoye 23.72 34 P P 19 57 53.8 -0.6
comp=Z,41nm,0.5s,baz=287,slow=1.5,SNR=20
BELG S S 20 01 57.1 -11
comp=Z,11nm,1.0s,baz=250,slow=11,SNR=1.8
BELG Belogornoye 23.72 34 *c* *i*P P 19 57 53.7 -0.6
BELG pmax pmax
comp=Z,13nm,0.9s
DEL Delary 23.75 343 *i* P P 19 57 51.4 -3.1
VSU Vasula 24.18 1 *e*P P 19 57 58.0 -0.6
VSU Vasula 24.18 1 *c* *i*P P 19 57 57.3 -1.3
VSU pmax pmax
comp=Z,149nm,0.7s
VSU Vasula 24.18 1 ⇑P P 19 57 57.3 -1.3
ESBB Sonseca Array 24.63 291 P P 19 58 02.8 -0.1
ESBB IAmb IAmb 19 58 04.0
comp=Z,33nm,0.7s
ESDC Sonseca Array 24.63 291 P P 19 58 03.4 +0.4
comp=Z,29nm,0.7s,baz=80,slow=9.1,SNR=237
ESDC PcP PcP **20 01 40.7 +0.5**
comp=Z,0.8nm,0.7s,baz=93,slow=2.5,SNR=3.6
ESDC ScP ScP **20 05 15.2 -2.9**
comp=Z,0.2nm,0.5s,baz=64,slow=3.0,SNR=2.5
ESDC LR LR 20 08 45.9
comp=Z,192nm,20.1s,baz=85,slow=39
ESDC Sonseca Array 24.63 291 P P 19 58 02.5 -0.5
PAB San Pablo 24.92 291 P P 19 58 05.5 -0.2
PAB pmax pmax
comp=Z,25nm,0.9s
PAB San Pablo 24.92 291 P P 19 58 05.5 -0.2
PAB IAmb IAmb 19 58 06.7
comp=Z,24nm,0.8s
PAB San Pablo 24.92 291 ⇑P P 19 58 05.5 -0.2
MUD Monsted U'grnd 25.06 337 *e*P P 19 58 06.2 -0.3
MUD Monsted U'grnd 25.06 337 *e*P P 19 58 06.2 -0.3
BORU Boraas 25.06 343 *i* P P 19 58 05.1 -1.4
ONAU Onsala 25.06 342 *i* P P 19 58 05.8 -0.8
PUL Pulkovo 25.64 5 *e*P P 19 58 12.3 +0.5
PUL Pulkovo 25.64 5 *d* *i*P P 19 58 13.1 +1.3
PUL pmax pmax
comp=Z,299nm,0.9s
MDT Midelt 25.68 275 P P 19 58 13.2 +0.6
comp=Z,6.2nm,0.8s,baz=86,slow=10,SNR=18
JSA Saint Aubin 25.70 314 *e*P P 19 58 11.9 -0.5
JSA IAmb IAmb 19 58 12.8
comp=Z,69nm,0.8s
JVM Valle D.L. Mar 25.73 314 *e*P P 19 58 12.2 -0.5
LIJA Lijar 25.78 285 P P 19 58 12.5 -1.0
WACR West Acre 25.93 323 *e*P P 19 58 13.2 -1.3
WACR IAmb IAmb 19 58 19.1
comp=Z,106nm,0.9s
GEYT Alibeck 25.96 73 P P 19 58 15.2 +0.2
comp=Z,20nm,0.5s,baz=260,slow=15,SNR=25
GEYT LR LR 20 12 34.0
comp=Z,103nm,19.5s,baz=240,slow=46
GEYT Alibeck 25.96 73 P P 19 58 15.2 +0.2
GYA0B ALIBECK ARRAY 25.96 73 P P 19 58 15.7 +0.6
GYA0B IAmb IAmb 19 58 56.7
comp=Z,28nm,0.9s
MEF Metsahovi 25.97 358 *e*P P 19 58 14.0 -0.8
UPP Uppsala 26.20 350 *e*P P 19 58 15.7 -1.1
AAL Aland 26.22 353 *e*P P 19 58 16.2 -0.8
STRU Stroemstad 26.69 343 *i* P P 19 58 19.1 -2.2
HOMB Homborsund 26.76 339 *e*P P 19 58 20.7 -1.3
STRD Stroud 26.87 319 *e*P P 19 58 21.8 -1.2
PBRG Braganca 26.89 296 *e*P P 19 58 23.4 0.0
comp=Z,23nm,0.8s
RAF Rauma 26.91 355 *e*P P 19 58 20.8 -2.4
PBAR Barrancos 27.02 288 *e*P P 19 58 24.8 +0.3
comp=Z,31nm,1.2s
MVO Moncorvo 27.06 295 *e*P P 19 58 25.1 +0.2
comp=Z,40nm,0.9s
MVO *e*S S **20 03 05.5 +3.5**
MVO A A 20 10 04.2
comp=Z,139nm,20.0s
HFS Hagfors 27.12 346 P P 19 58 23.5 -1.7
comp=Z,18nm,0.5s,baz=127,slow=9.4,SNR=95
HFS LR LR 20 10 32.3
comp=Z,336nm,21.9s,baz=157,slow=40
FIA1 FINESS Array S 27.18 360 P P 19 58 24.4 -1.2
FIA1 IAmb IAmb 19 58 25.2
comp=Z,24nm,0.8s
FINES FINESS Array B 27.18 360 P P 19 58 24.1 -1.5
comp=Z,12nm,0.4s,baz=161,slow=10,SNR=186
FINES PcP PcP **20 01 45.0 -0.6**
comp=Z,2.6nm,0.8s,baz=208,slow=2.7,SNR=2.0
FINES LR LR 20 11 28.2
comp=Z,159nm,18.9s,baz=179,slow=42
FINES P3KP 20 32 06.4
comp=Z,0.3nm,0.6s,baz=54,slow=3.3,SNR=4.6
SNART Snartemo 27.21 338 *e*P P 19 58 26.3 +0.3
DYA Yadsworthy 27.25 315 *e*P P 19 58 25.5 -1.0
PMRV Marv??o 27.27 291 *e*P P 19 58 26.6 -0.2
comp=Z,36nm,0.9s
PMRV *e*S S **20 03 06.5 +1.2**
PMRV A A 20 10 28.3
comp=Z,152nm,22.0s
PCBR Castelo Branco 27.34 292 *e*P P 19 58 27.0 -0.4
comp=Z,18nm,1.0s
MTE Manteigas 27.41 293 *e*P P 19 58 28.0 -0.1
comp=Z,24nm,2.1s
MTE *e*S S **20 03 07.9 +0.4**
MTE A A 20 10 33.4
comp=Z,186nm,20.0s
MTE Manteigas 27.41 293 P P 19 58 27.1 -1.0
MTE Manteigas 27.41 293 ⇑P P 19 58 28.1 -0.1
PESTR Estremoz 27.43 289 *e*P P 19 58 28.1 -0.2
comp=Z,37nm,1.0s
PESTR Estremoz 27.43 289 P P 19 58 27.4 -0.8
PESTR Estremoz 27.43 289 ⇑P P 19 58 27.8 -0.4
PVRL Vila Real 27.58 295 *e*P P 19 58 29.6 0.0
PVAQ Vaqueiros 27.59 286 *e*P P 19 58 29.5 -0.2
comp=Z,41nm,2.3s
PVAQ *e*S S **20 03 12.0 +1.7**
PVAQ A A 20 14 41.5
comp=Z,56nm,18.0s
PVAQ Vaqueiros 27.59 286 P P 19 58 29.4 -0.2
PVAQ IAmb IAmb 19 58 30.5
comp=Z,21nm,0.8s
OSL Oslo 27.60 343 *e*P P 19 58 27.0 -2.4
UOSS Minazif 27.60 102 P P 19 58 29.6 -0.3
KONO Kongsberg 27.63 342 ⇑*i*P P 19 58 28.4 -1.4
KONO pmax pmax
comp=Z,11nm,1.0s
KONO Kongsberg 27.63 342 *e*P P 19 58 28.6 -1.1
KONO Kongsberg 27.63 342 P P 19 58 28.3 -1.4
POLO Lamas de Olo 27.65 295 *e*P P 19 58 30.4 +0.1
comp=Z,14nm,2.0s
PBEJ Beja 27.68 288 *e*P P 19 58 30.5 +0.1
comp=Z,22nm,1.4s

PVIS **Viseu** 27.69 293 *e*P P 19 58 30.5 -0.1
comp=Z,27nm,1.3s
EVO **Evora** 27.77 289 *e*P P 19 58 31.4 +0.1
comp=Z,25nm,1.5s
PBDV **Barranco-do-Ve** 27.77 286 *e*P P 19 58 31.5 +0.1
comp=Z,53nm,2.3s
PCVE **Castro Verde** 27.83 287 *e*P P 19 58 32.0 +0.2
comp=Z,23nm,1.5s
PCAB **Cabril** 27.85 296 *e*P P 19 58 32.3 +0.3
comp=Z,34nm,2.5s
PMTG **Montargil** 27.92 290 *e*P P 19 58 32.2 -0.4
comp=Z,21nm,2.0s
KLMR **Klimovskoe** 27.94 14*c i*P P 19 58 31.5 -0.9
KLMR *e*S S 20 03 11.2 -4.0
KLMR pmax pmax
comp=Z,90nm,0.8s
KLMR MLR MLR
comp=Z,591nm,14.0s
KLMR **Klimovskoe** 27.94 14⇑*i*P P 19 58 31.6 -0.9
KLMR ⇑*i*P P 19 58 31.6 -0.9
KLMR ⇑*i*P P 19 58 31.6 -0.9
KLMR AMP 19 58 32.6
comp=Z,90nm,0.8s
KLMR *e*S S 20 03 11.3 -4.0
KLMR *e*S S 20 03 11.3 -4.0
KLMR LQ LQ 20 07 26.8
KLMR LQ LQ 20 07 26.8
KLMR LR LR 20 07 50.6
KLMR AMP 20 10 44.6
comp=Z,591nm,14.3s
FOEL **Foel Wylfa** 27.98 321 *e*P P 19 58 31.6 -1.4
PGAV **Gavieira, Arco** 28.05 296 *e*P P 19 58 34.1 +0.3
COI **Coimbra** 28.07 292 P P 19 58 33.8 -0.1
COI pmax pmax
comp=Z,25nm,0.8s
COI **Coimbra** 28.07 292 *e*P P 19 58 34.2 +0.3
comp=Z,37nm,1.6s
COI **Coimbra** 28.07 292 P P 19 58 33.8 -0.1
COI IAmb IAmb 19 58 35.2
comp=Z,25nm,0.8s
NC602 **NORSAR Array S** 28.12 345 *e*P P 19 58 32.5 -1.6
NC602 **NORSAR Array S** 28.12 345 P P 19 58 32.6 -1.6
NC602 IAmb IAmb 19 58 35.7
comp=Z,29nm,0.7s
PCAS **Casmilo, Conde** 28.13 292 *e*P P 19 58 34.6 +0.1
comp=Z,32nm,2.1s
PNCL **Nicolau / Gran** 28.19 288 *e*P P 19 58 35.7 +0.7
comp=Z,31nm,1.8s
AKTO **Aktyubinsk** 28.23 45 P P 19 58 35.1 -0.1
comp=Z,12nm,0.6s,baz=247,slow=8.6,SNR=34
AKTO LR LR 20 14 20.1
comp=Z,122nm,18.7s,baz=232,slow=46
BLS5 **Blasjo** 28.32 339 *e*P P 19 58 35.6 -0.3
NAO01 **NORSAR Array S** 28.36 344 P P 19 58 34.8 -1.5
PTEO **Sao Teotonio** 28.38 287 *e*P P 19 58 37.0 +0.3
EDMD **Edmundbyers** 28.40 325 *e*P P 19 58 36.0 -0.7
EDMD IAmb IAmb 19 58 37.6
comp=Z,28nm,0.9s
NC405 **NORSAR Array S** 28.42 345 P P 19 58 35.1 -1.7
NC405 IAmb IAmb 19 58 36.2
comp=Z,22nm,0.9s
NB201 **NORSAR Array S** 28.46 345 P P 19 58 35.7 -1.4
NB201 IAmb IAmb 19 58 37.0
comp=Z,37nm,1.1s
NB2 **NORSAR Subarra** 28.47 345 P P 19 58 35.6 -1.7
baz=156,slow=9.3
NOA **NORSAR Array B** 28.47 345 P P 19 58 35.5 -1.8
comp=Z,11nm,0.9s,baz=148,slow=11,SNR=45
NOA LR LR 20 11 34.7
comp=Z,85nm,21.3s,baz=150,slow=40
PFVI **Vila Bisbo** 28.50 286 *e*P P 19 58 38.3 +0.6
comp=Z,107nm,1.6s
PFVI **Vila Bisbo** 28.50 286 P P 19 58 37.1 -0.7
KMY **Karmoy** 28.53 337 *e*P P 19 58 36.9 -0.8
NBO00 **NORSAR Array S** 28.55 344 P P 19 58 36.8 -1.2
NC303 **NORSAR Array S** 28.60 345 P P 19 58 37.1 -1.3
ODD1 **Odda** 28.67 339 *e*P P 19 58 38.9 -0.1
PMAFR **Mafra** 28.75 290 *e*P P 19 58 40.1 +0.1
NC204 **NORSAR Array S** 28.78 344 P P 19 58 38.9 -1.1
NC204 IAmb IAmb 19 58 40.1
comp=Z,39nm,1.0s
KIRV **Kirov** 28.80 25 P P 19 58 39.4 -0.8
comp=Z,21nm,0.5s,baz=43,slow=5.0,SNR=7.9
KIRV **Kirov** 28.80 25*c e*P P 19 58 39.2 -1.0
SKAR **Skarslia** 28.85 342 *e*P P 19 58 40.2 -0.4
ABKAR **Akbulak array** 28.98 49 P P 19 58 42.6 +0.7
ABKAR **Akbulak array** 28.98 49 P P 19 58 42.4 +0.5
ABKAR **Akbulak array** 28.98 49 ⇑P P 19 58 42.4 +0.5
EKA **Eskdalemuir Ar** 29.25 325 P P 19 58 43.9 -0.3
comp=Z,32nm,0.7s,baz=124,slow=9.5,SNR=119
EKA PcP PcP 20 01 51.3 +0.5
comp=Z,0.8nm,0.5s,baz=124,slow=3.1,SNR=3.5
ESK **Eskdalemuir** 29.26 325 *e*P P 19 58 43.8 -0.5
ESK **Eskdalemuir** 29.26 325 P P 19 58 43.5 -0.9
ESK pmax pmax
comp=Z,41nm,0.9s
ESK **Eskdalemuir** 29.26 325 P P 19 58 43.5 -0.9
ESK **Eskdalemuir** 29.26 325 ⇑P P 19 58 43.8 -0.5
ESY **Stoneypath** 29.33 326 *e*P P 19 58 44.3 -0.7
IOMK **Kirk Michael** 29.37 322 *e*P P 19 58 44.9 -0.4
BER **Bergen** 29.43 339 *e*P P 19 58 45.8 0.0
EBL **Broad Law** 29.45 326 *e*P P 19 58 45.5 -0.5
EDI **Edinburgh** 29.60 326 *e*P P 19 58 47.1 -0.1
NEWG **New Galloway** 29.65 324 *e*P P 19 58 47.2 -0.5
NEWG IAmb IAmb 19 58 48.4
comp=Z,38nm,1.0s
HRA **Herat** 29.66 79 P P 19 58 49.3 +1.0
GAL1 **Galloway** 29.75 323 *e*P P 19 58 48.3 -0.4
GAL1 IAmb IAmb 19 58 50.0
comp=Z,39nm,0.8s
HYA **Hoyanger** 29.82 341 *e*P P 19 58 49.4 +0.2
DOMB **Dombas** 29.84 344 *e*P P 19 58 48.6 -0.9
DRUM **Mains of Drumt** 29.86 328 *e*P P 19 58 48.4 -1.2
EDU **Dundee** 29.88 327 *e*P P 19 58 49.1 -0.6
PRGR **Permogore** 30.05 18 *e*P P 19 58 48.6 -2.6
PRGR *e*S S 20 03 44.8 -3.5
PRGR pmax pmax
comp=Z,23nm,1.0s
PGBU **Glenifferbraes** 30.14 325 *e*P P 19 58 51.7 -0.4
PGBU IAmb IAmb 19 58 53.4
comp=Z,36nm,1.0s
INVG **Invergeldie, C** 30.28 326 *e*P P 19 58 52.8 -0.5
INVG IAmb IAmb 19 58 53.4
comp=Z,39nm,0.7s
EAB **Aberfoyle** 30.28 326 *e*P P 19 58 53.2 -0.1
AKN **Aaknes** 30.45 342 *e*P P 19 58 54.9 +0.1
FOO **Floro** 30.50 340 *e*P P 19 58 53.6 -1.5
CLGH **Cloghs, Cushen** 30.56 323 *e*P P 19 58 55.6 -0.2
MCD **Coleburn Disti** 30.60 329 *e*P P 19 58 55.0 -1.2
TOA0 **Torodi Ar. Sit** 30.62 233 P P 19 58 56.5 -0.2
TOA0 IAmb IAmb 19 58 58.3
comp=Z,24nm,0.9s
TORD **Torodi Ar. Bea** 30.62 233 P P 19 58 57.2 +0.5
comp=Z,8.5nm,0.3s,baz=33,slow=8.4,SNR=91
TORD PcP PcP 20 01 55.9 +0.9
comp=Z,0.7nm,0.5s,baz=57,slow=3.6,SNR=1.7
TORD LR LR 20 14 16.9
comp=Z,252nm,18.4s,baz=30,slow=42
TORD **Torodi Ar. Bea** 30.62 233 P P 19 58 56.8 0.0
TORD IAmb IAmb 19 58 58.3
comp=Z,17nm,1.0s
TBLU **Trondheim** 30.65 346 *e*P P 19 58 55.9 -0.6
MOL **Molde** 30.65 343 *e*P P 19 58 54.9 -1.7
LAWE **Loch Awe, Argy** 30.82 325 *e*P P 19 58 57.5 -0.6
LAWE IAmb IAmb 19 58 58.3
comp=Z,18nm,0.7s
MDO **Dochfour** 31.00 328 *e*P P 19 58 58.6 -1.1
ARU **Arti** 31.26 35 LR LR 20 15 25.7
comp=Z,108nm,18.3s,baz=244,slow=44
ARU **Arti** 31.26 35*c i*P P 19 59 01.8 -0.2
ARU 20 00 03.0
ARU 20 01 54.9
ARU S S 20 04 07.8 +0.4
ARU SS SnSn 20 05 48.7 -1.7
ARU pmax pmax
comp=Z,12nm,1.1s
ARU MLR MLR
comp=Z,158nm,16.0s
ARU **Arti** 31.26 35 P P 19 59 01.5 -0.4
ARU IAmb IAmb 19 59 21.0
comp=Z,9.4nm,0.6s
ARU **Arti** 31.26 35 ⇑P P 19 59 01.7 -0.2
LRW **Lerwick** 31.42 334 ⇑P P 19 59 02.3 -1.0
NSS **Namsos** 31.50 348 *e*P P 19 59 02.9 -1.1

KPL **Plockton** 31.52 327 *e*P P 19 59 03.4 -0.8
KPL IAmb IAmb 19 59 04.3
comp=Z,42nm,0.9s
LODK **Lodwar** 31.87 163 P P 19 59 08.3 +0.6
SVE **Sverdlovsk** 32.45 35⇑*e*P P 19 59 13.1 +0.7
SVE pmax pmax
comp=Z,33nm,0.6s
SVE MLR MLR
comp=Z,160nm,14.0s
LEWI **Lewis, Hebride** 32.51 327 *e*P P 19 59 11.4 -1.5
LEWI IAmb IAmb 19 59 13.2
comp=Z,37nm,0.7s
MOR8 **Moi Rana** 32.68 351 *e*P P 19 59 13.5 -0.8
STOK **Stokkvaagen** 33.02 350 *e*P P 19 59 16.5 -0.8
KONS **Konsvik** 33.17 350 *e*P P 19 59 17.4 -1.1
NBB40 **Tonnes** 33.19 350 *e*P P 19 59 17.9 -0.9
NBB13 **Alf Garage** 33.26 351 *e*P P 19 59 18.4 -1.0
NBB17 **Glomfjord BΨr** 33.36 351 *e*P P 19 59 19.6 -0.6
NBB30 **Finnes** 33.53 351 *e*P P 19 59 20.7 -1.1
NBB05 **Inndyr** 33.56 351 *e*P P 19 59 21.3 -0.7
APA **Apatity** 33.59 5⇑*i*P P 19 59 19.8 -2.4
APA *i* S S 20 04 36.0 -7.4
APA pmax pmax
comp=Z,24nm,0.7s
APA MLR MLR
comp=Z,500nm,15.0s
KOWA **Kowa** 33.65 242 P P 19 59 23.4 0.0
N2ST **Straumen** 33.68 353 *e*P P 19 59 21.7 -1.3
FAUS **Fauske** 33.74 352 *e*P P 19 59 22.3 -1.3
N2TV **TΨrnvik** 33.94 352 *e*P P 19 59 24.1 -1.1
LVZ **Lovozero** 34.01 6*d e*P P 19 59 25.1 -0.9
LVZ pmax pmax
comp=Z,30nm,0.8s
LVZ **Lovozero** 34.01 6 P P 19 59 25.0 -0.9
LVZ **Lovozero** 34.01 6 ⇑P P 19 59 25.3 -0.6
N2IH **Innhavet** 34.24 353 *e*P P 19 59 27.1 -0.7
N2RO **R st** 34.26 350 *e*P P 19 59 26.5 -1.5
STEI **Steigen** 34.27 353 *e*P P 19 59 27.2 -0.9
N2SV **S rvΨgen** 34.50 351 *e*P P 19 59 28.4 -1.7
CHGR **Chuyangaron** 34.58 70 P P 19 59 32.1 +0.8
CHGR IAmb IAmb 19 59 35.0
comp=Z,18nm,0.8s
LOF **Lofoten** 34.66 352 *e*P P 19 59 30.0 -1.5
KTK1 **Kautokeino** 34.82 358 *e*P P 19 59 31.7 -1.1
KBL **Kabul** 35.14 77 P P 19 59 37.0 +0.7
KBL pmax pmax
comp=Z,7.0nm,1.2s
KBL **Kabul** 35.14 77 P P 19 59 37.0 +0.7
ARA0 **ARCESS Array S** 35.30 360 *e*P P 19 59 35.4 -1.7
ARCES **ARCESS Array B** 35.30 360 P P 19 59 35.7 -1.4
comp=Z,18nm,0.6s,baz=176,slow=9.2,SNR=157
ARCES PcP PcP 20 02 07.1 0.0
comp=Z,0.7nm,0.4s,baz=182,slow=4.3,SNR=1.3
ARCES **ARCESS Array B** 35.30 360 P P 19 59 35.6 -1.5
ARCES IAmb IAmb 19 59 37.7
comp=Z,26nm,0.8s
KK31 **Karatay Array** 35.33 62 P P 19 59 38.2 +0.5
KK31 pmax pmax
comp=Z,17nm,0.8s
KK31 **Karatay Array** 35.33 62 P P 19 59 38.2 +0.5
KK31 IAmb IAmb 19 59 40.2
comp=Z,17nm,0.8s
KKAR **Karatay Array** 35.33 62 P P 19 59 38.4 +0.8
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR **Karatay Array** 35.33 62 P P 19 59 38.5 +0.8
KKAR IAmb IAmb 19 59 40.2
comp=Z,17nm,0.8s
KKAR **Karatay Array** 35.33 62 P P 19 59 38.4 +0.8
KKAR **Karatay Array** 35.33 62 ⇑P P 19 59 38.5 +0.8
GAR **Garm** 35.44 69 P P 19 59 40.1 +1.3
GAR IAmb IAmb 19 59 44.1
comp=Z,15nm,0.8s
JETT **Jettan, Norway** 35.47 356 *e*P P 19 59 37.3 -1.3
KEV **Kevo** 35.52 0 P P 19 59 38.4 -0.6
KEV pmax pmax
comp=Z,23nm,1.0s
KEV **Kevo** 35.52 0 P P 19 59 38.4 -0.6
KEV IAmb IAmb 19 59 40.1
comp=Z,23nm,1.0s
KEV **Kevo** 35.52 0 ⇑P P 19 59 38.2 -0.8
TRO **Tromso** 35.63 356 *e*P P 19 59 38.3 -1.5
DZA **Taraz** 35.94 63 *e*P P 19 59 42.9 0.0
baz=63
DZA **Taraz** 35.94 63 *e*P P 19 59 42.9 0.0
BRVK **Borovoye** 36.28 45*c i*P P 19 59 46.4 +0.8
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK **Borovoye** 36.28 45 P P 19 59 46.5 +0.8
BRVK IAmb IAmb 19 59 48.3
comp=Z,37nm,1.1s
BRVK **Borovoye** 36.28 45 ⇑P P 19 59 46.5 +0.9
HAMF **Hammerfest** 36.44 359 *e*P P 19 59 45.0 -1.8
BRZS **Berezniki** 37.21 51⇑*i*P P 19 59 54.4 +0.7
comp=Z,6.1nm,0.5s,baz=51
BRZS **Berezniki** 37.21 51*c i*P P 19 59 54.3 +0.7
BRZS pmax pmax
comp=Z,6.0nm,0.5s
EKS2 **Erkin-Say** 37.75 63 P P 19 59 60.0 +1.5
SNR=17
BTLS **Baital** 37.86 59 *e*P P 20 00 00.2 +1.0
comp=Z,6.0nm,0.7s,baz=59
BTLS **Baital** 37.86 59 *e*P P 20 00 00.2 +1.0
BTLS pmax pmax
comp=Z,6.0nm,0.7s
USP **Ospenovka** 38.24 62 P P 20 00 03.6 +1.2
SNR=7.4
AAK **Ala-Archa** 38.28 63 P P 20 00 04.5 +1.6
SNR=6.6
AAK **Ala-Archa** 38.28 63*c i*P P 20 00 04.6 +1.6
AAK pmax pmax
comp=Z,39nm,0.8s
AAK **Ala-Archa** 38.28 63 P P 20 00 03.5 +0.6
SGDS **Sogindy** 38.33 61 *e*P P 20 00 02.9 -0.4
baz=62
SGDS **Sogindy** 38.33 61 *e*P P 20 00 02.8 -0.4
CHMS **Chmysh** 38.44 62 P P 20 00 05.9 +1.7
SNR=12
KBK **Karagaybulak** 38.61 63 P P 20 00 07.7 +2.0
SNR=7.5
NIL **Nilore** 38.74 77 P P 20 00 07.3 +0.5
NIL pmax pmax
comp=Z,33nm,0.6s
NIL **Nilore** 38.74 77 P P 20 00 07.3 +0.5
TKM2 **Tokmak 2** 39.07 62 P P 20 00 11.2 +1.6
SNR=14
TKM2 **Tokmak 2** 39.07 62 *i* P P 20 00 10.6 +1.0
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
KUU **Kurty** 39.54 61⇑*i*P P 20 00 14.7 +1.4
comp=Z,16nm,0.7s,baz=61
KUU **Kurty** 39.54 61*c i*P P 20 00 14.7 +1.4
KUU pmax pmax
comp=Z,16nm,0.7s
ULHL **Ulahol** 39.60 63 P P 20 00 16.4 +2.3
SNR=5.9
MTBS **Maitube** 39.66 62 *e*P P 20 00 15.0 +0.5
baz=62
MTBS **Maitube** 39.66 62 *e*P P 20 00 14.9 +0.5
DBIC **Dimbokro** 39.72 233 P P 20 00 14.7 -0.4
comp=Z,4.0nm,0.4s,baz=22,slow=9.2,SNR=12
DBIC **Dimbokro** 39.72 233 P P 20 00 14.6 -0.4
DBIC IAmb IAmb 20 00 32.9
comp=Z,48nm,1.5s
DBIC **Dimbokro** 39.72 233 ⇑P P 20 00 14.8 -0.2
KSH **Kashi** 39.73 68 P P 20 00 14.0 -1.1
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH pmax pmax
comp=Z,77nm,4.8s
TIC **Toumodi** 39.85 234 *e*P P 20 00 15.8 -0.3
KIC **Kosan Boka** 39.87 233 *e*P P 20 00 16.1 -0.2
comp=Z,33nm,0.8s
CHKK **Chushkaly** 40.01 61 *e*P P 20 00 18.2 +1.0
baz=61
CHKK **Chushkaly** 40.01 61 *e*P P 20 00 18.2 +1.0
MDOK **Medeo** 40.11 62 *e*P P 20 00 18.9 +0.6
baz=62
MDOK **Medeo** 40.11 62 *e*P P 20 00 18.8 +0.6
LIC **Lamto** 40.16 233 *e*P P 20 00 18.5 -0.2
comp=Z,35nm,0.8s
BJO1 **Bjornoya** 40.45 357 *e*P P 20 00 17.4 -3.0
TARG **Taragay, Kyrgy** 40.81 64 P P 20 00 25.6 +1.2
TDK **Taldyqorghan** 40.95 59 *e*P P 20 00 25.6 +0.5
baz=59

TDK **Taldyqorghan** 40.95 59 *e*P P 20 00 25.5 +0.5
SATY **Saty** 41.11 62⇑*i*P P 20 00 27.7 +1.3
baz=62
SATY **Saty** 41.11 62*c i*P P 20 00 27.7 +1.3
JMIC **Jan Mayen** 41.16 344 LR LR 20 16 11.6
comp=Z,52nm,21.8s,baz=112,slow=34
KPKS **Kokpek** 41.27 61 *e*P P 20 00 27.7 -0.1
baz=61
KPKS **Kokpek** 41.27 61 *e*P P 20 00 27.6 -0.1
UZB **Uzynbulak** 41.55 62 *e*P P 20 00 30.4 +0.2
baz=62
UZB **Uzynbulak** 41.55 62 *e*P P 20 00 30.3 +0.2
BORG **Borgarnes** 41.73 332 P P 20 00 32.3 +1.3
comp=Z,21nm,0.8s,baz=260,slow=6.3,SNR=4.9
BORG **Borgarnes** 41.73 332 P P 20 00 31.9 +0.8
BORG IAmb IAmb 20 00 34.2
comp=Z,30nm,0.9s
SHLS **Shalkode** 41.87 61 *e*P P 20 00 35.4 +2.7
baz=62
SHLS **Shalkode** 41.87 61 *e*P P 20 00 35.4 +2.7
PDGK **Podgornoye** 41.87 61 *i* P P 20 00 33.2 +0.5
PDGK pmax pmax
comp=Z,10.0nm,0.6s
SEM **Semipalatinsk** 42.09 51⇑*e*P P 20 00 35.5 +1.0
comp=Z,18nm,0.8s,baz=51
SEM **Semipalatinsk** 42.09 51*c e*P P 20 00 35.5 +1.0
SEM pmax pmax
comp=Z,18nm,0.8s
HOPEN **Hopen** 42.32 360 *e*P P 20 00 35.0 -0.7
HSPB **Hornsund (broa** 43.08 356 *e*P P 20 00 41.9 0.0
HSPB **Hornsund (broa** 43.08 356 *e*P P 20 00 41.0 -1.0
MAKZ **Makanchi** 43.32 56 P P 20 00 45.2 +0.9
MAKZ pmax pmax
comp=Z,20nm,0.7s
MAKZ **Makanchi** 43.32 56 P P 20 00 45.2 +0.9
MAKZ IAmb IAmb 20 00 46.4
comp=Z,20nm,0.7s
MAKZ **Makanchi** 43.32 56 ⇑P P 20 00 44.2 -0.1
MK31 **Makanchi Array** 43.54 56*c i*P P 20 00 46.8 +0.7
MK31 **Makanchi Array** 43.54 56 P P 20 00 46.9 +0.8
MKAR **Makanchi Array** 43.54 56 P P 20 00 47.4 +1.3
comp=Z,36nm,0.6s,baz=277,slow=6.4,SNR=504
MKAR PcP PcP 20 02 33.6 -0.1
comp=Z,4.5nm,0.7s,baz=259,slow=4.7,SNR=2.3
MKAR LR LR 20 21 59.3
comp=Z,133nm,21.7s,baz=264,slow=40
MKAR **Makanchi Array** 43.54 56 *i* P P 20 00 47.0 +0.9
MKAR pmax pmax
comp=Z,36nm,0.6s
MKAR **Makanchi Array** 43.54 56 P P 20 00 47.1 +1.0
SPA0 **Spitsbergen Ar** 44.20 357 *e*P P 20 00 50.4 -0.6
SPITS **Spitsbergen Ar** 44.20 357 P P 20 00 50.4 -0.6
comp=Z,7.4nm,0.6s,baz=168,slow=7.4,SNR=3.1
SCO **Scoresbysund** 44.46 339 *i* P P 20 00 54.4 +1.4
SCO IAmb IAmb 20 00 55.0
comp=Z,28nm,0.7s
SCO **Scoresbysund** 44.46 339 *i* P P 20 00 54.4 +1.4
SCO pmax pmax
comp=Z,28nm,0.7s
SCO **Scoresbysund** 44.46 339 P P 20 00 54.1 +1.0
ZAA0 **Zalesovo Array** 44.99 46 P P 20 00 57.9 +0.4
ZALV **Zalesovo Beam** 44.99 46 P P 20 00 57.8 +0.2
comp=Z,37nm,0.5s,baz=267,slow=8.5,SNR=170
ZALV LR LR 20 23 59.5
comp=Z,89nm,19.4s,baz=260,slow=42
KBS **Kingsbay** 45.15 356 *i* P P 20 00 58.1 -0.4
KBS IAmb IAmb 20 00 59.2
comp=Z,60nm,0.7s
KBS **Kingsbay** 45.15 356*c i*P P 20 00 57.9 -0.5
KBS pmax pmax
comp=Z,25nm,0.7s
KBS **Kingsbay** 45.15 356 *e*P P 20 00 58.2 -0.2
KBS **Kingsbay** 45.15 356 P P 20 00 58.1 -0.4
KBS **Kingsbay** 45.15 356 ⇑P P 20 00 57.9 -0.5
ZSN **Zaisan** 45.24 55 *e*P P 20 01 00.3 +0.7
baz=55
ZSN **Zaisan** 45.24 55 *e*P P 20 01 00.3 +0.7
DBG **Daneborg** 45.98 344⇑*i*P P 20 01 05.7 +0.6
DBG IAmb IAmb 20 01 06.4
comp=Z,11nm,0.8s
DBG **Daneborg** 45.98 344 ⇑P P 20 01 05.7 +0.6
DGZ **Jazzator, Alta** 46.74 51*c i*P P 20 01 12.6 +1.0
DGZ pmax pmax
comp=Z,24nm,0.7s
DAG **Danmarks Havn** 47.09 347⇑*i*P P 20 01 13.4 -0.4
DAG IAmb IAmb 20 01 14.0
comp=Z,14nm,0.8s
DAG **Danmarks Havn** 47.09 347⇑*i*P P 20 01 13.4 -0.4
DAG pmax pmax
comp=Z,15nm,0.8s
WMQ **Urumqi** 47.70 59 *e*P P 20 01 20.9 +1.8
WMQ sP pwP 20 01 40.8 +13
WMQ pmax pmax
comp=Z,27nm,0.7s
NRIK **Noril'sk** 48.30 25 P P 20 01 24.1 +0.8
comp=Z,9.1nm,0.6s,baz=222,slow=4.5,SNR=6.8
NRIK LR LR 20 24 54.6
comp=Z,120nm,19.1s,baz=248,slow=40
NRIK **Noril'sk** 48.30 25*c i*P P 20 01 24.0 +0.8
NRIK pmax pmax
comp=Z,8.0nm,0.7s
NRIK **Noril'sk** 48.30 25 P P 20 01 23.6 +0.3
NRIK IAmb IAmb 20 01 24.8
comp=Z,8.7nm,0.8s
PYUN **Piuthan** 48.43 81 *e*P P 20 01 26.7 +1.6
comp=Z,105nm,0.6s
DANN **Dangsing** 48.97 80 *e*P P 20 01 30.8 +1.5
comp=Z,163nm,0.7s
KOLN **Koldanda** 49.06 81 *e*P P 20 01 31.0 +1.1
comp=Z,25nm,0.7s
HYB **Hyderabad** 49.47 96 *i* P P 20 01 33.5 +0.5
GKN **Gorkha** 49.81 80 *e*P P 20 01 36.3 +0.6
comp=Z,45nm,0.6s
ICESG **Greenland Ices** 49.84 335 *i* P P 20 01 35.6 +0.2
ICESG IAmb IAmb 20 01 38.0
comp=Z,16nm,0.8s
ICESG **Greenland Ices** 49.84 335 ⇓P P 20 01 35.8 +0.3
ICESG ⇑P pP 20 01 36.1 -4.1
NOR **Nord** 49.92 352⇑*i*P P 20 01 34.8 -0.8
NOR IAmb IAmb 20 01 35.4
comp=Z,16nm,0.8s
NOR **Nord** 49.92 352⇑*i*P P 20 01 34.7 -0.8
NOR pmax pmax
comp=Z,16nm,0.8s
SUMG **Summit** 50.10 339⇑*i*P P 20 01 37.9 +0.4
SUMG IAmb IAmb 20 01 39.4
comp=Z,16nm,0.8s
SUMG **Summit** 50.10 339⇑*i*P P 20 01 37.8 +0.4
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG **Summit** 50.10 339 P P 20 01 37.6 +0.2
SUMG IAmb IAmb 20 01 39.6
comp=Z,16nm,0.7s
SUMG **Summit** 50.10 339 ⇑P P 20 01 37.8 +0.4
DMN **Daman** 50.35 81 *e*P P 20 01 40.7 +0.9
comp=Z,44nm,0.8s
KKN **Kakani** 50.42 80 *e*P P 20 01 41.2 +0.9
comp=Z,38nm,0.6s
PKIN **Phulchoki** 50.60 81 *e*P P 20 01 42.3 +0.6
comp=Z,33nm,0.8s
PKI **Pulchoki** 50.61 81 *e*P P 20 01 42.4 +0.5
comp=Z,43nm,0.8s
DY2G **Dye2** 52.15 331⇑*i*P P 20 01 53.2 +0.5
DY2G IAmb IAmb 20 01 53.9
comp=Z,29nm,0.8s
TSUM **Tsumeb** 53.82 190 P P 20 02 05.7 +0.3
NEEM **North Greenlan** 54.05 345 *i* P P 20 02 06.5 -0.2
NEEM IAmb IAmb 20 02 11.7
comp=Z,13nm,0.8s
LSA **Lhasa** 54.44 76 P P 20 02 11.0 +0.6
LSA pmax pmax
comp=Z,22nm,1.6s
LSA **Lhasa** 54.44 76 P P 20 02 11.0 +0.6
LSA IAmb IAmb 20 02 39.0
comp=Z,22nm,1.6s
MOY **Mondy** 54.96 47 *e*P P 20 02 15.4 +1.9
MOY pmax pmax
comp=Z,11nm,1.3s
ZAK **Zakamensk** 56.67 48 *e*P P 20 02 26.8 +1.1
ZAK pmax pmax
comp=Z,14nm,0.9s
IRK **Irkutsk** 56.80 46 *e*P P 20 02 25.6 -0.9
IRK pmax pmax
comp=Z,22nm,0.9s
GTA **Gaotai** 57.61 62 ⇑P P 20 02 33.5 +0.9

GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,22nm,4.4s
GTA L L
comp=Z,74nm,18.2s
GTA L L
comp=Z,68nm,18.2s
GTA L L
comp=Z,91nm,21.1s
SONM Songino Array 59.37 50 P **P** **20 02 46.1 +1.4**
comp=Z,12nm,0.6s,baz=284,slow=7.8,SNR=111
SONM Songino Array 59.37 50 P **P** **20 02 45.2 +0.5**
SONM pmax pmax
comp=Z,13nm,0.6s
SONM Songino Array 59.37 50 P **P** **20 02 45.2 +0.5**
SONM lAmb lAmb 20 02 46.7
comp=Z,12nm,0.6s
ULN Ulaanbaatar 59.78 50*c iP* **P** **20 02 48.8 +1.2**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 59.78 50 P **P** **20 02 48.4 +0.8**
ULN lAmb lAmb 20 02 49.5
comp=Z,12nm,0.7s
ULN Ulaanbaatar 59.78 50 P **P** **20 02 48.8 +1.2**
comp=Z,67nm,0.9s
EUNU Eureka 60.21 349 P **P** **20 02 50.0 0.0**
EUNU lAmb lAmb 20 02 51.0
comp=Z,12nm,1.1s
DRLN Deer Lake 61.12 312 P **P** **20 02 56.5 0.0**
TIXI Tiksi 61.68 21*c iP* **P** **20 02 59.6 -0.3**
TIXI Tiksi 61.68 21 P **P** **20 02 59.5 -0.3**
TIXI lAmb lAmb 20 03 00.5
comp=Z,11nm,0.8s
LZH Lanzhou 61.80 64*e*P P 20 03 08.4 +6.8
LZH sP pwP 20 03 17.8 +7.4
LZH pmax pmax
comp=Z,22nm,1.2s
BOSA Boshof 62.57 181 P **P** **20 03 07.2 +0.8**
comp=Z,6.1nm,1.0s,baz=21,slow=5.4,SNR=8.0
BOSA LR LR 20 34 11.7
comp=Z,208nm,18.4s,baz=360,slow=40
BOSA Boshof 62.57 181 P **P** **20 03 07.2 +0.8**
BOSA lAmb lAmb 20 03 07.6
comp=Z,16nm,1.4s
CD2 Chengdu 63.89 69 P **P** **20 03 16.9 +1.5**
CD2 pmax pmax
comp=Z,20nm,0.7s
SCHQ Schefferville 64.41 320 P **P** **20 03 18.6 +0.2**
comp=Z,34nm,0.6s,baz=66,slow=5.5,SNR=36
SCHQ Schefferville 64.41 320 P **P** **20 03 18.3 -0.1**
GBN Guysborough 65.09 309 P **P** **20 03 23.2 +0.3**
HHC Hu-ho-hao-te 65.40 56*e*P **P** **20 03 26.8 +1.6**
HHC sS sS 20 12 26.6 +9.4
HHC ScS **SKSac** **20 13 15.8 -3.9**
HHC pmax pmax
comp=Z,33nm,1.1s
HHC pmax pmax
comp=Z,92nm,5.7s
HHC L L
comp=Z,95nm,16.7s
HHC L L
comp=Z,120nm,16.5s
HHC L L
comp=Z,120nm,16.6s
CHTO Chiang Mai 65.63 83 P **P** **20 03 26.0 -0.8**
CHTO pmax pmax
comp=Z,6.0nm,1.1s
CHTO Chiang Mai 65.63 83 P **P** **20 03 26.0 -0.8**
CMMT Chiang Mai 65.64 83 P **P** **20 03 28.2 +1.3**
comp=Z,6.1nm,0.8s
CM31 Chiang Mai Arr 65.81 84 P **P** **20 03 27.9 0.0**
CM31 lAmb lAmb 20 03 51.8
comp=Z,8.1nm,0.9s
CMAR Chiang Mai Arr 65.81 84 P **P** **20 03 28.4 +0.4**
comp=Z,3.6nm,0.8s,baz=297,slow=8.3,SNR=22
CMAR Chiang Mai Arr 65.81 84 P **P** **20 03 27.9 -0.1**
CM02 Chiang Mai Arr 65.82 84 P **P** **20 03 29.5 +1.4**
comp=Z,9.6nm,0.9s
PAYA Payao 66.12 82 P **P** **20 03 30.8 +0.8**
comp=Z,212nm,0.8s
YAK Yakutsk 66.20 30*e*P **P** **20 03 29.4 -0.3**
YAK pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 66.20 30 P **P** **20 03 29.2 -0.6**
SUR Sutherland 66.51 185 P **P** **20 03 33.1 +0.9**
HAL Halifax 66.75 309 P **P** **20 03 34.3 +0.7**
HAL pmax pmax
comp=Z,35nm,1.0s
HAL Halifax 66.75 309 P **P** **20 03 34.3 +0.7**
LMN Caledonia Moun 67.00 311 P **P** **20 03 35.5 +0.3**
HIA Hailar 67.03 45 P **P** **20 03 36.3 +0.9**
HIA pmax pmax
comp=Z,17nm,0.6s
HIA Hailar 67.03 45 P **P** **20 03 36.3 +0.9**
BATG Bathurst New B 67.15 312 P **P** **20 03 36.7 +0.5**
UTTA Uttaradit 67.49 83 P **P** **20 03 39.9 +1.2**
comp=Z,11nm,0.8s
D63A Stockholm 68.51 313 P 20 03 45.6
baz=62
ENH Enshi 68.58 67 P **P** **20 03 45.7 +0.2**
ENH lAmb lAmb 20 04 04.1
comp=Z,7.0nm,0.8s
GGN Saint George 68.61 311 P **P** **20 03 45.3 0.0**
PQI Presque Isle 68.62 312 P **P** **20 03 45.7 +0.3**
E64A Bridgewater 68.62 312 P 20 03 46.1
baz=62,SNR=11
BJI Beijing 68.92 55 P **P** **20 03 48.0 +0.7**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,43nm,5.3s
BJT Baijiatuau 68.92 55 P **P** **20 03 47.6 +0.2**
BJT pmax pmax
comp=Z,8.0nm,1.0s
BJT Baijiatuau 68.92 55 P **P** **20 03 47.6 +0.2**
BJT lAmb lAmb 20 03 49.5
comp=Z,7.7nm,1.0s
E63A Oxbow 68.98 312 P **P** **20 03 48.3 +0.6**
E63A lAmb lAmb 20 03 49.7
comp=Z,14nm,0.8s
E63A Oxbow 68.98 312 P 20 03 48.6
baz=62,SNR=8.8
G65A Princeton 69.02 311 P **P** **20 03 48.6 +0.8**
G65A lAmb lAmb 20 03 49.6
comp=Z,17nm,0.9s
G65A Princeton 69.02 311 P 20 03 49.0
baz=62,SNR=8.7
D62A Allapoint, All 69.06 313 P **P** **20 03 48.9 +0.8**
D62A Allapoint, All 69.06 313 P 20 03 49.3
baz=62,SNR=23
H66A Whiting 69.06 310 P 20 03 49.2
baz=62,SNR=14
ZEA Zeya 69.09 39*e*P **P** **20 03 49.4 +1.2**
EMMW East Machias 69.19 310 P **P** **20 03 49.8 +0.9**
F64A Sherman 69.20 312 P **P** **20 03 49.5 +0.6**
F64A lAmb lAmb 20 03 50.7
comp=Z,14nm,0.8s
F64A Sherman 69.20 312 P 20 03 50.1
baz=62,SNR=9.8
E62A Clayton Lake 69.56 313 P **P** **20 03 52.0 +0.8**
E62A Clayton Lake 69.56 313 P 20 03 52.3
baz=61,SNR=16
D61A St Aubert, Com 69.68 314 P 20 03 53.2
baz=61,SNR=6.8
H65A Eastbrook 69.69 311 P 20 03 52.9
baz=62,SNR=10
F63A Nahmakanta, Br 69.74 312 P 20 03 53.6
baz=61,SNR=6.2
G64A Maxfield 69.74 311 P 20 03 53.8
baz=62,SNR=16
PKME Peaks-Kenny Pk 70.07 312 P **P** **20 03 54.5 +0.1**
PKME lAmb lAmb 20 03 56.7
comp=Z,6.4nm,0.7s
PKME Peaks-Kenny Pk 70.07 312 P 20 03 55.3
baz=61
F62A Pittston Farm, 70.18 312 P 20 03 56.5
baz=61,SNR=6.4
E61A Lac Etchemin 70.24 313 P 20 03 56.7
baz=61,SNR=5.7
H64A Troy 70.32 311 P 20 03 57.0
baz=61
G63A Kingsbury 70.34 312 P 20 03 57.3
baz=61
F61A St Evariste 70.77 313 P 20 04 00.1
baz=60,SNR=5.6

CHGQ Chibougamau 70.77 318 P 20 03 59.5
baz=60
H63A New Sharon 70.82 311 P 20 03 59.8
baz=60
E60A Ste Agathe de 70.84 313 P 20 04 00.2
baz=60,SNR=7.5
G62A West of Eustis 70.86 312 P 20 04 00.3
baz=60
D58A Chemin du LacG 71.34 315 P 20 04 03.0
baz=60,SNR=12
F60A Warwick 71.35 313 P 20 04 03.4
baz=60,SNR=14
TIA Tai'an 71.39 59 P **P** **20 04 03.3 +0.7**
TIA pmax pmax
comp=Z,8.0nm,0.9s
G61A St-Isidore-de- 71.43 312 P 20 04 04.4
baz=60,SNR=12
I63A Otisfield 71.47 311 P 20 04 04.3
baz=60
H62A Milan 71.56 312 P 20 04 05.0
baz=60,SNR=6.6
F59A Saint Guilaume 71.91 313 P 20 04 06.7
baz=59
E58A La Victoria 71.94 314 P 20 04 06.9
baz=59,SNR=11
G60A Masonville 72.02 313 P 20 04 07.2
baz=59
I62A Tamworth 72.03 311 P 20 04 08.0
baz=60
H61A Lyndonville 72.06 312 P 20 04 08.3
baz=59,SNR=6.2
J63A Strafford 72.16 310 P 20 04 08.6
baz=60
LBNH Lisbon 72.20 312 P **P** **20 04 08.7 +1.4**
LBNH pmax pmax
comp=Z,17nm,0.9s
LBNH Lisbon 72.20 312 P **P** **20 04 08.7 +1.4**
LBNH lAmb lAmb 20 04 09.9
comp=Z,17nm,0.8s
LBNH Lisbon 72.21 312 P 20 04 09.2
baz=59,SNR=6.4
D56A ZEC Mazanza, M 72.46 315 P 20 04 10.0
baz=58,SNR=24
TPTI 72.47 98 P **P** **20 04 08.0 -1.3**
comp=Z,6.8nm,1.2s
H60A Morristown 72.52 312 P 20 04 11.0
baz=59,SNR=5.3
I61A Oroboro, Fairl 72.54 311 P 20 04 11.0
baz=59
MATQ Matagami 72.65 319 P 20 04 10.8
baz=57
J62A Henniker 72.65 311 P 20 04 11.7
baz=59
LSQQ Lebel-sur-Quev 72.66 318 P 20 04 11.1
baz=58
L64A Middleborough 72.69 309 P 20 04 11.7
baz=59
HNH Hanover 72.70 311 P **P** **20 04 11.7 +1.4**
HNH lAmb lAmb 20 04 13.4
comp=Z,21nm,0.9s
K63A Dunstable 72.75 310 P 20 04 11.9
baz=59
WES Weston 72.77 310 P **P** **20 04 11.4 +0.7**
WES pmax pmax
comp=Z,35nm,0.9s
WES Weston 72.77 310 P **P** **20 04 11.4 +0.7**
TRQ Mont Tremblant 72.77 314 P **P** **20 04 11.1 +0.4**
E56A St. Veronique 72.89 315 P 20 04 12.5
baz=58,SNR=8.7
D55A Sainte-Anne-du 72.89 315 P 20 04 12.7
baz=58,SNR=13
FRNY Flat Rock 72.92 313 P **P** **20 04 12.3 +0.7**
G58A Ormstown 73.04 313 P 20 04 13.7
baz=58
J61A Chester 73.06 311 P 20 04 14.3
baz=59,SNR=5.2
H59A Cadyville 73.08 313 P 20 04 14.1
baz=58,SNR=6.6
CN2 Changchun 73.11 48*e*P **P** **20 04 13.3 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 L L
comp=Z,100nm,19.0s
CN2 L L
comp=Z,100nm,19.0s
CN2 L L
comp=Z,100nm,23.0s
H58A Gabriels 73.50 313 P 20 04 16.5
baz=58,SNR=8.6
L61B Northampton 73.60 310 P 20 04 17.4
baz=58
G57A Newington 73.62 314 P 20 04 17.0
baz=58
LONY Lake Ozonia 73.63 313 P **P** **20 04 16.7 +0.9**
LONY lAmb lAmb 20 04 18.3
comp=Z,16nm,0.8s
LONY Lake Ozonia 73.64 313 P 20 04 17.2
baz=58,SNR=10
I59A Olmsteadville 73.64 312 P 20 04 17.6
baz=58
J60A Lant Hill Farm 73.65 311 P 20 04 18.1
baz=58
BILL Bilibino 73.69 15*d iP* **P** **20 04 15.2 -0.5**
BILL *e* 20 04 28.4
BILL *e* 20 06 59.9
BILL *e*PPP PPP 20 08 43.8
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,74nm,19.0s
BILL Bilibino 73.69 15 P **P** **20 04 15.5 -0.2**
K61A Williamstown 73.86 311 P 20 04 19.4
baz=58
KLR Kul'dur 73.86 41*c iP* **P** **20 04 17.6 +0.6**
KLR pmax pmax
comp=Z,11nm,0.9s
SEY Seymchan 74.03 23*ce*P **P** **20 04 18.6 +0.8**
H57A Richville 74.21 313 P 20 04 20.9
baz=57,SNR=10
I58A Old Forge 74.37 312 P 20 04 22.0
baz=57,SNR=11
C36M Paulatuk 74.39 349 P 20 04 19.8
baz=25
I57A Carthage 74.65 313 P 20 04 23.5
baz=57,SNR=11
A21K Barrow 74.67 1 P **P** **20 04 21.8 +0.5**
A21K lAmb lAmb 20 04 22.9
comp=Z,13nm,0.8s
A21K Barrow 74.67 1 P 20 04 22.2
baz=358,SNR=6.1
NJ2 Nanjing 74.71 62*e*P **P** **20 04 22.3 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
J58A Remsen 74.74 312 P 20 04 24.0
baz=57,SNR=12
ALGO Algonquin Park 74.97 316 P 20 04 24.5
baz=56,SNR=15
J57A Williamstown 75.15 313 P 20 04 26.3
baz=57,SNR=8.2
MDJ Mudanjiang 75.19 46 P **P** **20 04 26.8 +2.0**
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ pmax pmax
comp=Z,66nm,8.4s
G54A Lake Saint Pet 75.30 315 P 20 04 27.0
baz=56,SNR=18
PECO Prince Edward 75.46 313 P **P** **20 04 27.7 +1.3**
PECO lAmb lAmb 20 04 28.5
comp=Z,13nm,0.7s
BINY Binghamton 75.80 311 P **P** **20 04 29.6 +1.1**
BINY Binghamton 75.80 311 P 20 04 30.1
baz=56,SNR=11
L58A Harry Jones Me 75.80 311 P 20 04 30.1
baz=56,SNR=8.1
MA2 Magadan 75.90 26 P **P** **20 04 29.4 +0.8**
MA2 pmax pmax
comp=Z,29nm,0.9s
MA2 Magadan 75.90 26 P **P** **20 04 29.4 +0.8**
H53A Bobcaygeon 76.05 315 P 20 04 31.1
baz=56,SNR=7.3
SADO Sadowa 76.27 315 P **P** **20 04 32.0 +1.0**
comp=Z,12nm,0.5s,baz=48,slow=3.7,SNR=16
K56A Middlesex 76.35 312 P 20 04 33.2
baz=56,SNR=10
N59A State Game Lan 76.38 310 P 20 04 33.3
baz=56,SNR=10.0
INK Inuvik 76.60 352 P **P** **20 04 31.7 -0.7**

INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 76.60 352 P **P** **20 04 31.7 -0.7**
INK Inuvik 76.60 352 P 20 04 32.2
baz=17
USA0B Ussuriysk Arra 76.84 45 P **P** **20 04 34.4 +0.2**
USA0B pmax pmax
comp=Z,16nm,0.7s
USA0B Ussuriysk Arra 76.84 45 P **P** **20 04 34.4 +0.2**
USA0B lAmb lAmb 20 04 35.2
comp=Z,16nm,0.7s
USRK Ussuriysk Ar. 76.84 45 P **P** **20 04 34.5 +0.3**
comp=Z,19nm,0.7s,baz=298,slow=4.6,SNR=35
MVL Millersville 77.25 310 P **P** **20 04 37.9 +1.2**
MVL lAmb lAmb 20 04 39.1
comp=Z,15nm,1.0s
TOLK Toolik Lake Re 77.33 358 P **P** **20 04 37.1 +0.4**
TOLK Toolik Lake Re 77.34 358 P 20 04 37.7
baz=3.6
PAGS Pennsylvania G 77.36 310 P **P** **20 04 37.9 +0.7**
PDSI Padang 77.53 100 P **P** **20 04 40.0 +1.4**
RDOG Red Dog Mine 77.74 3 P **P** **20 04 39.7 +0.8**
RDOG lAmb lAmb 20 04 40.5
comp=Z,7.9nm,0.8s
RDOG Red Dog Mine 77.74 3 P 20 04 39.9
baz=352
SSPA Standing Stone 77.86 311 P **P** **20 04 40.6 +0.5**
SSPA lAmb lAmb 20 04 42.0
comp=Z,16nm,0.9s
SSPA Standing Stone 77.86 311 P 20 04 41.4
baz=55
KS19 Wonju Array Si 78.06 53 P **P** **20 04 41.8 +0.5**
KS19 lAmb lAmb 20 04 58.4
comp=Z,34nm,1.6s
KSAR Wonju Array Be 78.10 53 P **P** **20 04 42.0 +0.6**
KSAR Wonju Array Be 78.10 53 P **P** **20 04 42.0 +0.6**
KSRS Korea Array 78.12 53 P **P** **20 04 42.3 +0.8**
comp=Z,5.7nm,0.7s,baz=306,slow=4.6,SNR=34
KSRS PP **PP** **20 07 38.4 +0.8**
comp=Z,0.8nm,0.7s,baz=301,slow=7.6,SNR=4.2
KSRS LR LR 20 43 16.1
comp=Z,70nm,21.6s,baz=304,slow=39
E46A Sault Ste Mari 78.25 319 P **P** **20 04 42.9 +0.8**
ERPA Erie 78.30 313 P **P** **20 04 42.8 +0.3**
ERPA Erie 78.30 313 P 20 04 43.3
baz=54
TJN Taejon 78.35 54||*e*P **P** **20 04 41.6 -1.2**
BMAR Burnt Mountain 78.36 356 P **P** **20 04 43.2 +0.9**
M54A Oil Creek Stat 78.46 312 P 20 04 44.6
baz=54,SNR=7.7
O56A Blue Knob Stat 78.50 311 P 20 04 44.8
baz=55,SNR=6.9
YKA Yellowknife Ar 78.54 343 P **P** **20 04 43.5 +0.1**
comp=Z,6.6nm,0.7s,baz=39,slow=5.6,SNR=18
COLD Coldfoot 78.77 359 P **P** **20 04 45.1 +0.6**
COLD Coldfoot 78.77 359 P 20 04 45.3
baz=3.0,SNR=7.0
N54A Moraine State 78.98 312 P 20 04 47.4
baz=54
FYU Fort Yukon 79.25 357 P **P** **20 04 48.0 +0.8**
FYU lAmb lAmb 20 06 12.2
comp=Z,22nm,1.8s
UGL Uglegorsk 79.33 37*e*P **P** **20 04 48.7 +0.7**
UGL pmax pmax
comp=Z,60nm,0.9s
GLMI Grayling 79.37 317 P **P** **20 04 49.4 +1.0**
GLMI Grayling 79.37 317 P 20 04 49.7
baz=52
JSRW J. Sargeant Re 79.54 309 P **P** **20 04 50.1 +0.8**
MCWV Mont Chateau 79.65 311 P **P** **20 04 51.0 +1.0**
MCWV Mont Chateau 79.65 311 P 20 04 51.2
baz=54
E43A Lone Tree Farm 79.70 320 P **P** **20 04 50.5 +0.4**
E43A lAmb lAmb 20 04 51.5
comp=Z,13nm,0.7s
TNA Tin City 79.87 6 P **P** **20 04 50.6 0.0**
TNA Tin City 79.87 6 P 20 04 50.8
baz=348
H24K Noodor Dome 80.10 358 P 20 04 52.6
baz=5.0,SNR=5.2
O53A New Philadelph 80.15 312 P 20 04 53.7
baz=53,SNR=5.5
H23K Yukon River 80.16 358 P 20 04 53.7
baz=3.5,SNR=7.0
H21K Melozitna Rive 80.38 360 P 20 04 54.7
baz=0.8
Q54A Coxs Mills 80.67 311 P **P** **20 04 55.6 +0.2**
EGAK Eagle 80.77 355 P **P** **20 04 55.6 +0.2**
EGAK Eagle 80.77 355 P 20 04 55.6
baz=10
FFC Flin Flon 80.81 332 P **P** **20 04 56.1 +0.2**
FFC pmax pmax
comp=Z,15nm,0.7s
FFC Flin Flon 80.81 332 P **P** **20 04 56.0 +0.2**
FFC lAmb lAmb 20 04 57.0
comp=Z,15nm,0.7s
I23K Minto, Yukon-K 80.83 358 P **P** **20 04 56.0 +0.2**
I23K Minto, Yukon-K 80.83 358 P 20 04 56.6
baz=3.7,SNR=6.5
I21K Tanana 80.85 359 P 20 04 57.0
baz=1.5,SNR=5.5
MLY Manley 80.98 359 P **P** **20 04 57.0 +0.3**
MLY Manley 80.98 359 P 20 04 57.3
baz=2.5,SNR=8.2
MDM Murphy Dome 80.99 358 P **P** **20 04 57.0 +0.3**
MDM lAmb lAmb 20 04 58.1
comp=Z,11nm,0.9s
ANM Nome 81.06 5 P **P** **20 04 57.1 +0.1**
ANM pmax pmax
comp=Z,10.0nm,1.0s
ANM Nome 81.06 5 P **P** **20 04 57.1 +0.1**
ANM lAmb lAmb 20 04 58.4
comp=Z,10nm,1.0s
ANM Nome 81.06 5 P 20 04 57.4
baz=350
COLA College 81.06 357||*e*P **P** **20 04 57.6 +0.6**
COLA pmax pmax
comp=Z,4.0nm,0.8s
YSS Yuzh-Sakhalins 81.08 38*e*P **P** **20 04 58.4 +1.0**
YSS *e* 20 07 57.8
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 81.08 38 P **P** **20 04 58.1 +0.7**
YSS lAmb lAmb 20 05 00.3
comp=Z,22nm,0.9s
P52A Corning 81.08 312 P 20 04 58.4
baz=53,SNR=5.5
IL31 81.12 357 P **P** **20 04 57.7 +0.4**
ILAR Eielson Array 81.12 357 P **P** **20 04 57.8 +0.4**
comp=Z,2.5nm,0.8s,baz=355,slow=4.0,SNR=19
ILAR LR LR 20 42 28.6
comp=Z,31nm,21.4s,baz=342,slow=37
ILAR Eielson Array 81.12 357 P **P** **20 04 57.6 +0.2**
GAMB Gambell 81.24 8 P **P** **20 04 57.6 -0.3**
GAMB lAmb lAmb 20 05 23.8
comp=Z,18nm,1.5s
CCB Clear Creek Bu 81.28 357 P **P** **20 04 58.2 +0.1**
DAWY Dawson 81.32 354 P **P** **20 04 58.8 +0.3**
NEA2 Newana 81.38 358 P 20 04 59.8
baz=3.9
WRH Wood River Hil 81.47 358 P **P** **20 04 59.2 0.0**
WRH lAmb lAmb 20 05 00.1
comp=Z,14nm,0.8s
HDA Harding Lake 81.49 357 P **P** **20 04 59.3 0.0**
HDA lAmb lAmb 20 05 00.1
comp=Z,10nm,0.8s
HDA Harding Lake 81.49 357 P 20 04 59.5
baz=5.7,SNR=13
HDA P 20 04 59.5
baz=5.7,SNR=13
ULM Lac du Bonnet 81.51 327 P **P** **20 04 59.5 -0.2**
comp=Z,6.3nm,0.5s,baz=63,slow=5.3,SNR=14
ULM LR LR 20 41 29.7
comp=Z,83nm,20.2s,baz=29,slow=36
ULM Lac du Bonnet 81.51 327 P **P** **20 04 59.3 -0.4**
ULM lAmb lAmb 20 05 00.2
comp=Z,19nm,1.2s
K27K Chicken 81.58 355 P **P** **20 05 00.7 +0.9**
K27K Chicken 81.58 355 P 20 05 00.8
baz=9.8
HUMP Col San Antoni 81.65 286 P **P** **20 05 01.8 +0.8**
SCRK Sand Creek 81.76 356 P **P** **20 05 01.5 +0.6**
SCRK Sand Creek 81.76 356 P 20 05 01.8
baz=8.2,SNR=9.2
B35A Bob, Littlefor 81.82 324 P **P** **20 05 01.4 +0.1**
B35A lAmb lAmb 20 05 02.0

comp=Z,5.3nm,0.6s
BPAW Bear Paw Mtn. 81.92 359 P **P** **20 05 01.4 -0.3**
BPAW IAmb IAmb 20 05 02.7
comp=Z,8.8nm,0.9s
BPAW Bear Paw Mtn. 81.92 359 P 20 05 01.7
baz=2.3,SNR=8.7
G40A Rib Lake 82.13 320 P **P** **20 05 03.5 +0.4**
G40A IAmb IAmb 20 05 04.3
comp=Z,11nm,0.8s
CHUM Lake Minchumin 82.16 359 P 20 05 03.5
baz=1.2
MCK McKinley 82.24 358 P 20 05 03.5
baz=4.0
BCAR Beaver Creek A 82.51 355 P **P** **20 05 05.6 +0.8**
L27K Beaver Creek, 82.51 355 P **P** **20 05 05.5 +0.7**
L27K Beaver Creek, 82.52 355 P 20 05 05.9
baz=9.9,SNR=8.8
P49A Miami Univ. Ec 82.72 313 P 20 05 06.3
baz=51,SNR=6.1
ASAJ Asahikawa 82.88 41 P **P** **20 05 07.3 +0.3**
ASAJ pmax pmax
comp=Z,7.0nm,0.7s
JKA Kamikawa-asahi 82.88 41 P **P** **20 05 07.3 +0.4**
JKA IAmb IAmb 20 05 08.2
comp=Z,7.3nm,0.7s
AGMN Agassiz Nation 82.89 325 P 20 05 07.0
baz=45
PPLA Purkeypile 83.14 359 P **P** **20 05 08.6 +0.4**
PPLA Purkeypile 83.15 359 P 20 05 08.8
baz=1.3,SNR=9.0
PETK Petropavlovsk- 83.30 27 P **P** **20 05 09.0 0.0**
comp=Z,2.6nm,0.8s,baz=44,slow=4.5,SNR=4.1
PETK LR LR 20 45 21.6
comp=Z,59nm,21.4s,baz=300,slow=38
PETK Petropavlovsk- 83.30 27 P **P** **20 05 08.8 -0.2**
PETK Petropavlovsk- 83.30 27 P **P** **20 05 08.8 -0.2**
WAT6 Susitna Watana 83.35 357 P 20 05 09.8
baz=5.0,SNR=9.0
SPMN Marine on St. 83.52 322 P **P** **20 05 10.3 +0.1**
SPMN IAmb IAmb 20 05 11.5
comp=Z,10nm,0.9s
SPMN Marine on St. 83.52 322 P 20 05 10.9
baz=47
SFIN Lafayette 83.59 315 P 20 05 11.2
baz=50
JFWS Jewell Farm 83.72 319 P 20 05 11.7
baz=48
TZTN Tazewell 83.86 310 P 20 05 12.6
baz=52
SKT Skwentna 84.06 359 P **P** **20 05 12.2 -0.5**
SKT IAmb IAmb 20 05 12.9
comp=Z,7.9nm,0.6s
SKT Skwentna 84.06 359 P 20 05 12.2
baz=1.9,SNR=12
WHY Whitehorse 84.13 351 P 20 05 13.1
baz=16
SML Sawmill 84.14 357 P 20 05 13.6
baz=4.5
N25K Chitina, Valde 84.16 356 P 20 05 13.5
baz=7.6
GHO Glory Hole Cre 84.20 358 P **P** **20 05 14.2 +0.6**
GHO IAmb IAmb 20 05 15.3
comp=Z,10nm,1.0s
JMN Monobe 84.23 53 P **P** **20 05 14.7 +0.5**
JWT Wachi 84.27 51 P **P** **20 05 15.1 +0.8**
JWT IAmb IAmb 20 05 16.2
comp=Z,9.2nm,0.8s
HYT Haines Junctio 84.30 352 P **P** **20 05 14.9 +0.9**
HYT IAmb IAmb 20 05 16.0
comp=Z,9.1nm,1.0s
KLU Klutina 84.35 356 P 20 05 15.2
baz=6.5
WCI Wyandotte Cave 84.49 313 P **P** **20 05 15.9 +0.5**
WCI pmax pmax
comp=Z,22nm,1.0s
WCI Wyandotte Cave 84.49 313 P **P** **20 05 15.9 +0.5**
WCI Wyandotte Cave 84.50 313 P 20 05 16.3
baz=50
KNK Knik Glacier 84.54 357 P **P** **20 05 15.8 +0.6**
KNK IAmb IAmb 20 05 16.6
comp=Z,9.7nm,0.7s
KNK Knik Glacier 84.54 357 P 20 05 16.3
baz=4.4
TKL Tuckaleechee C 84.55 310 P **P** **20 05 16.1 +0.4**
TKL pmax pmax
comp=Z,11nm,1.3s
TKL Tuckaleechee C 84.55 310 P **P** **20 05 16.1 +0.4**
TKL IAmb IAmb 20 05 40.7
comp=Z,11nm,1.2s
SUA Susitna One 84.56 359 P **P** **20 05 15.7 +0.3**
SUA IAmb IAmb 20 05 17.0
comp=Z,9.6nm,0.8s
SUA Susitna One 84.56 359 P 20 05 15.9
baz=2.5,SNR=9.0
RC01 Rabbit Creek A 84.91 358 P **P** **20 05 17.4 +0.4**
RC01 IAmb IAmb 20 05 18.2
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 84.91 358 P 20 05 17.4
baz=3.4
MDND Maddock 84.95 327 P 20 05 17.6
baz=42
SVW2 Sparrevohn 84.95 1 P **P** **20 05 18.0 +0.8**
GLI Glacier Island 85.02 357 P 20 05 18.1
baz=5.5
N19K Bonanza Creek 85.24 0 P 20 05 18.8
baz=359
OLIL Olney 85.25 314 P **P** **20 05 19.6 +0.5**
MJB9 Matsu-Tunnel 85.25 49 P **P** **20 05 19.7 +0.5**
MJB9 IAmb IAmb 20 05 20.2
comp=Z,12nm,0.9s
MAJO Matsushiro 85.26 49⇓*i*P **P** **20 05 19.7 +0.4**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 85.26 49 P **P** **20 05 19.3 0.0**
MAJO IAmb IAmb 20 05 20.2
comp=Z,10nm,0.9s
MAT Matsushiro 85.26 49 P **P** **20 05 19.0 -0.3**
MJAR Matsushiro Arr 85.26 49 P **P** **20 05 19.9 +0.7**
comp=Z,10nm,0.8s,baz=307,slow=4.9,SNR=41
MJAR Matsushiro Arr 85.26 49 P **P** **20 05 20.0 +0.7**
MJAR Matsushiro Arr 85.26 49 P **P** **20 05 20.1 +0.8**
MJAR IAmb IAmb 20 05 21.2
comp=Z,7.9nm,0.9s
EYAK Cordova Ski Ar 85.28 356 P 20 05 19.6
baz=6.7
PCA Pinnacle 85.30 353 P **P** **20 05 20.2 +1.1**
PINM Pinnacle 85.30 353 P 20 05 20.3
baz=11,SNR=5.6
N18K Kilae Creek 85.36 1 P 20 05 20.5
baz=358
DLBC Dease Lake 85.51 348 LR LR 20 45 21.3
comp=Z,108nm,21.2s,baz=21,slow=37
GOGA Godfrey 85.75 308 P 20 05 22.9
baz=51
SEW Seward 85.89 358 P 20 05 22.4
baz=3.6
JMM Marumori 85.98 46 P **P** **20 05 23.0 +0.2**
BDFB Brasilia 86.18 248 P **P** **20 05 25.3 +1.2**
comp=Z,2.7nm,0.6s,baz=61,slow=7.6,SNR=3.7
BDFB Brasilia 86.18 248 P **P** **20 05 24.7 +0.5**
SWET Sewanee 86.19 311 P **P** **20 05 24.2 +0.2**
ECSD EROS Data Cent 86.51 322 P **P** **20 05 25.8 +0.4**
ECSD IAmb IAmb 20 05 26.4
comp=Z,7.6nm,0.9s
ECSD EROS Data Cent 86.51 322 P 20 05 25.8
baz=44,SNR=8.9
WVT Waverly 86.79 312 P 20 05 26.7
baz=49
PTGA Pitinga 87.25 267 P **P** **20 05 30.2 +0.8**
PTGA IAmb IAmb 20 05 44.9
comp=Z,6.1nm,0.9s
WRAK Wrangell Islan 87.83 348 P **P** **20 05 32.3 +0.9**
WRAK IAmb IAmb 20 05 33.9
comp=Z,10.0nm,0.8s
WRAK Wrangell Islan 87.83 348 P 20 05 33.0
baz=18,SNR=5.1
KDAK Kodiak Island 88.28 359 LR LR 20 46 53.5
comp=Z,41nm,21.2s,baz=39,slow=37
KDAK Kodiak Island 88.28 359 P **P** **20 05 34.6 +1.1**
KDAK pmax pmax
comp=Z,6.0nm,0.8s
KDAK Kodiak Island 88.28 359 P **P** **20 05 34.5 +1.1**
KDAK IAmb IAmb 20 05 35.1
comp=Z,6.2nm,0.8s
KDAK Kodiak Island 88.28 359 P 20 05 34.3
baz=1.0

OHAK Old Harbor 88.85 360 P 20 05 36.7
baz=0.4
NEW Newport 91.52 336 P **P** **20 05 49.8 +0.8**
NEW pmax pmax
comp=Z,13nm,0.7s
NEW Newport 91.52 336 P **P** **20 05 49.8 +0.8**
NEW Newport 91.53 336 P 20 05 49.9
baz=30,SNR=12
MSO Missoula 91.65 334 P 20 05 50.1
baz=32
C09A Chrisman Ranch 92.31 337 P **P** **20 05 53.4 +0.9**
PDAR Pinedale Array 93.30 329 P **P** **20 05 57.4 -0.2**
comp=Z,1.3nm,0.7s,baz=35,slow=4.9,SNR=2.7
PDAR LR LR 20 49 24.5
comp=Z,52nm,20.3s,baz=51,slow=36
PDAR Pinedale Array 93.30 329 P **P** **20 05 57.1 -0.5**
HAWA Hanford 93.95 337 P **P** **20 06 01.1 +0.9**
HAWA IAmb IAmb 20 06 02.2
comp=Z,8.1nm,0.8s
D03D Eldon 94.02 340 P 20 06 01.3
baz=25
F05D White Salmon 95.02 338 P 20 06 05.7
baz=26
SDCO Great Sand Dun 95.45 324 P 20 06 07.6
baz=38
S22A 4UR Ranch, Cre 96.09 324 P 20 06 10.7
baz=37
I04A Tendick Farm, 97.19 338 P 20 06 15.2
baz=26
M04C Macdoel 98.81 336 P 20 06 23.6
baz=26
CPUP Villa Florida 99.43 245 LR LR 20 51 59.1
comp=Z,76nm,21.1s,baz=64,slow=36
NVAR Mina Array Bea 100.51 332 P **Pdif** **20 06 30.2 0.0**
comp=Z,0.6nm,0.7s,baz=46,slow=5.1,SNR=4.7
TXAR Lajitas Array 100.97 317 P **Pdif** **20 06 32.7 +0.4**
comp=Z,0.5nm,0.8s,baz=69,slow=6.2,SNR=6.1
TXAR Lajitas Array 100.97 317 P **Pdif** **20 06 33.3 +1.0**
TXAR Lajitas Array 100.97 317 **Pdif** **20 06 33.3 +1.0**
SYO Syowa Base 103.46 175⇑*eX* **Pdif** **20 06 41.0 -1.0**
WRA Warramunga Arr 115.62 97 PKP **PKPdf** **20 11 23.9 -1.0**
comp=Z,0.7nm,0.6s,baz=319,slow=1.5,SNR=6.8
WRA Warramunga Arr 115.62 97 PKIKP **PKPdf** **20 11 24.0 -1.0**
ASAR Alice Springs 117.03 101 PKP **PKPdf** **20 11 26.4 -1.3**
comp=Z,0.6nm,0.6s,baz=292,slow=1.5,SNR=8.3
ASAR Alice Springs 117.03 101 PKIKP **PKPdf** **20 11 26.8 -0.8**
ASAR Alice Springs 117.03 101 PKPdf **PKPdf** **20 11 26.8 -0.8**

IDC 20 19:58:01.8±3.6, 4°43S×152°90E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, Error ellipse: s-maj=128.1km s-min=35.8km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.55**	**229**	Pn	Pn	19 59 59.7	+6.6
	0.7nm,0.3s,baz=40,slow=18,SNR=2.1						
PMG				Sn	Sn	20 01 22.6	+3.1
	0.3nm,0.3s,baz=280,slow=7.1,SNR=1.4						
WRA	**Warramunga Arr**	**23.77**	**228**	P	P	20 03 16.5	+0.3
	0.9nm,0.4s,baz=55,slow=10,SNR=21						
ASAR	**Alice Springs**	**26.49**	**222**	P	P	20 03 41.4	+0.3
	0.1nm,0.3s,baz=54,slow=9.1,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**26.52**	**30**	T	T	20 31 25.3	
	baz=211,slow=76,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**26.53**	**30**	T	T	20 31 18.4	
	baz=211,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**26.54**	**30**	T	T	20 31 22.5	
	baz=211,slow=76,SNR=5.5						
MKAR	**Makanchi Array**	**80.11**	**319**	P	P	20 10 13.9	0.0
	0.1nm,0.4s,baz=94,slow=7.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**150.28**	**289**	PKPbc	PKPbc	20 17 55.1	-1.0
	0.3nm,0.4s,baz=71,slow=2.6,SNR=3.9						

*IDC **20** 20:15:35.2±1.2, 40°75N×43°14E, h0km, mb3.1/3, mb1 3.6/6, mb1mx3.2/35, mbtmp3.3/6, ML3.5/3, Error ellipse: s-maj=21.3km s-min=8.8km az=51.0*
*DDA **20** 20:15:37.1, 41°05N×43°48E, h11km±2km, ML3.2*
*MOS **20** 20:15:37.9±1.5, 40°99N×43°43E, h10km, mb4.0/1, Error ellipse: s-maj=7.2km s-min=3.8km az=76.8*
*NSSP **20** 20:15:37.4, 41°00N×43°47E, h9km, Ms3.5*
*ISK **20** 20:15:37.3, 41°05N×43°51E, h5km, ML3.3/15*
*TIF **20** 20:15:37.4, 41°06N×43°51E, h17km*
*NORS **20** 20:15:39.5±0.0, 41°28N×43°35E, h1km, MPVA4.3*
ISC 20 20:15:37.5±1.0, 41°04N±0°01×43°47E±0°01, h7km±8km, n115, σ1§23/184, mb3.0/3, 13C-11D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.25**	**24**	P	**Pg**	**20 15 42.9**	**+0.4**
BGD				S	**Sg**	**20 15 47.2**	**+1.4**
BGD	**Bogdanovka**	**0.25**	**24**	PG	**Pg**	**20 15 42.9**	**+0.4**
GMRZ	**Gyumri**	**0.36**	**129**	*i* P	**Pn**	**20 15 48.0**	**-1.3**
GMRZ				S	**Sb**	**20 15 54.0**	**+1.8**
EAK	**Akyaka**	**0.37**	**163**	*i* P	**Pg**	**20 15 43.8**	**-0.9**
EAK				*i* S	**Sg**	**20 15 49.3**	**-0.3**
EAK				IAML		20 15 54.0	
	comp=E,7μm,0.5s						
EAK				IAML		20 15 55.0	
	comp=N,7μm,0.4s						
AKH	**Akhalkalaki**	**0.37**	**3**	P	**Pg**	**20 15 45.1**	**+0.3**
AKH				S	**Sg**	**20 15 50.4**	**+0.7**
AKH	**Akhalkalaki**	**0.37**	**3**	PG	**Pg**	**20 15 45.1**	**+0.3**
AKH	**Akhalkalaki**	**0.37**	**3**	PG	**Pg**	**20 15 45.1**	**+0.3**
AKH				SG	**Sg**	**20 15 50.2**	**+0.5**
KARS	**Kars**	**0.50**	**216**	PG	**Pb**	**20 15 48.2**	**-0.5**
KARS	**Kars**	**0.50**	**216**	PG	**Pb**	**20 15 48.3**	**-0.5**
KARS				SG	**Sb**	**20 15 55.6**	**-0.8**
DMNI	**Dmanisi**	**0.62**	**62**	P	**Pg**	**20 15 49.4**	**-0.1**
DMNI				S	**Sg**	**20 15 57.9**	**+0.4**
DMNI	**Dmanisi**	**0.62**	**62**	PG	**Pg**	**20 15 49.4**	**-0.1**
DMNI				S	**Sg**	**20 15 57.9**	**+0.4**
DIGO	**Kars**	**0.63**	**186**	*i* P	**Pg**	**20 15 48.8**	**-0.8**
BRNG	**Burnasheti**	**0.65**	**25**	P	**Pg**	**20 15 50.2**	**+0.3**
BRNG				S	**Sb**	**20 15 59.6**	**-0.9**
STE	**Stepanavan**	**0.69**	**93**	*i* P	**Pg**	**20 15 50.9**	**+0.2**
STE				S	**Sn**	**20 16 10.3**	**+5.5**
TRLG	**Trialeti**	**0.69**	**44**	P	**Pg**	**20 15 50.7**	**-0.2**
TRLG				S	**Sg**	**20 16 00.1**	**+0.2**
TRLG	**Trialeti**	**0.69**	**44**	PG	**Pg**	**20 15 50.7**	**-0.2**
TRLG				S	**Sg**	**20 16 00.1**	**+0.2**
BKRG	**Bakuriani**	**0.72**	**3**	P	**Pg**	**20 15 51.6**	**+0.2**
BKRG				S	**Sb**	**20 16 01.7**	**-1.0**
BKRG	**Bakuriani**	**0.72**	**3**	PG	**Pg**	**20 15 51.6**	**+0.2**
BKRG				S	**Sb**	**20 16 01.7**	**-1.0**
EPOS	**Posof**	**0.72**	**310**	*i* P	**Pg**	**20 15 51.0**	**-0.4**
EPOS				*i* S	**Sb**	**20 16 01.8**	**-1.0**
EPOS				IAML		20 16 02.0	
	comp=N,3μm,0.4s						
EPOS				IAML		20 16 02.0	
	comp=E,873nm,0.4s						
KZRT	**Kazreti**	**0.79**	**63**	P	**Pg**	**20 15 52.2**	**-0.4**
KZRT				S	**Sg**	**20 16 02.5**	**-0.3**
KZRT	**Kazreti**	**0.79**	**63**	*i* P	**Pg**	**20 15 51.9**	**-0.7**
KZRT				*i* S	**Sg**	**20 16 02.5**	**-0.3**
KZRT	**Kazreti**	**0.79**	**63**	PG	**Pg**	**20 15 52.2**	**-0.4**
KZRT				S	**Sg**	**20 16 02.5**	**-0.3**
ABS	**Abastumani**	**0.87**	**326**	P	**Pb**	**20 15 54.5**	**-0.5**
ABS				S	**Sb**	**20 16 06.7**	**-0.2**
ABS	**Abastumani**	**0.87**	**326**	PG	**Pb**	**20 15 54.5**	**-0.5**
ABS				S	**Sb**	**20 16 06.7**	**-0.2**
ARUZ	**Aruch**	**0.89**	**148**⇑	*i* P	**Pg**	**20 15 54.3**	**-0.3**
ARUZ				⇓*i* S	**Sg**	**20 16 06.5**	**+0.3**
SENK	**Senkaya-Erzuru**	**0.97**	**241**	PG	**Pn**	**20 15 57.2**	**-0.6**
VNNZ	**Vanand**	**0.97**	**164**⇓	*i* P	**Pg**	**20 15 56.0**	**-0.2**
VNNZ				⇑*i* S	**Sb**	**20 16 09.6**	**-0.2**
METS	**Metsamor**	**1.00**	**152**⇑	*i* P	**Pg**	**20 15 56.5**	**-0.2**
METS				⇑S	**Sb**	**20 16 10.6**	**-0.1**
KAPZ	**Kaputan**	**1.18**	**127**⇑	*i* P	**Pb**	**20 15 59.8**	**-0.5**
KAPZ				⇓*i* S	**Sb**	**20 16 15.9**	**0.0**
BTNK	**Botanikuri**	**1.19**	**57**	P	**Pb**	**20 15 59.3**	**-1.1**
BTNK				S	**Sb**	**20 16 15.3**	**-0.8**
BTNK	**Botanikuri**	**1.19**	**57**	*i* P	**Pb**	**20 15 59.4**	**-1.1**
BTNK				*i* S	**Sb**	**20 16 15.6**	**-0.5**
BTNK				IAML		20 16 17.0	
	comp=E,642nm,0.1s						
BTNK	**Botanikuri**	**1.19**	**57**	PG	**Pb**	**20 15 59.3**	**-1.1**
BTNK				S	**Sb**	**20 16 15.3**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.21**	**151**	PN	**Pb**	**20 15 59.9**	**-0.8**

SEAG Tbilisi Sea 1.24 54 P **Pn** **20 16 00.9 -0.4**
SEAG S **Sg** **20 16 17.1 -0.2**
SEAG Tbilisi Sea 1.24 54 PG **Pn** **20 16 00.9 -0.4**
SEAG S **Sg** **20 16 17.2 -0.2**
KOTA Agri, Merkez-K 1.25 189 *i* P **Pg** **20 16 01.7 +0.2**
IGDI IGDIR 1.26 158 *i* P **Pn** **20 16 00.5 -1.1**
IGDI IAML 20 16 17.0
comp=E,512nm,0.5s
IGDI IAML 20 16 18.0
comp=N,307nm,0.3s
DDEM Demirkent 1.31 264 *i* P **Pb** **20 16 02.1 -0.3**
DDEM *i* S **Sn** **20 16 20.9 +0.9**
DDEM IAML 20 16 25.0
comp=N,1μm,0.4s
DDEM IAML 20 16 26.0
comp=E,951nm,0.4s
GNI Garni 1.32 132 Pg **Pn** **20 16 02.3 -0.2**
comp=E,34nm,0.3s,baz=293,slow=7.7,SNR=132
GNI Lg Lg 20 16 20.3
comp=E,132nm,0.3s,baz=77,slow=20,SNR=10
GNI Garni 1.32 132⇑*i* P **Pn** **20 16 02.2 -0.2**
GNI ⇑*i* S **Sn** **20 16 20.3 -0.1**
GNI Garni 1.32 132 PN **Pn** **20 16 02.2 -0.2**
GNI SN **Sn** **20 16 21.3 +0.9**
DBAD Bademkaya 1.34 270 *i* P **Pn** **20 16 02.6 -0.2**
DBAD *i* S **Sg** **20 16 21.1 +0.6**
DBAD IAML 20 16 25.0
comp=E,292nm,0.5s
DBAD IAML 20 16 28.0
comp=N,453nm,0.7s
TKB Tkibuli 1.36 345 P **Pb** **20 16 03.0 -0.3**
TKB S **Sg** **20 16 21.6 +0.4**
TKB Tkibuli 1.36 345 PG **Pb** **20 16 03.0 -0.3**
TKB S **Sg** **20 16 21.6 +0.4**
NRKZ NAREK 1.38 138⇓*i* P **Pb** **20 16 02.9 -0.4**
NRKZ ⇑*i* S **Sn** **20 16 21.5 +0.3**
DBOC Borcka 1.39 283 *i* P **Pn** **20 16 03.3 -0.1**
DBOC *i* S **Sg** **20 16 22.7 +0.5**
DBOC IAML 20 16 23.0
comp=E,184nm,0.5s
DYDN Diyadin 1.50 173 *i* P **Pb** **20 16 05.9 0.0**
AGRB Hanur-Agry 1.50 194 PN **Pb** **20 16 05.9 0.0**
HOMI Horasan 1.55 231 *i* P **Pb** **20 16 06.3 -0.4**
ONI Oni 1.55 360 P **Pg** **20 16 07.0 -0.1**
ONI S **Sg** **20 16 27.1 -0.2**
ONI Oni 1.55 360 *i* PG **Pg** **20 16 07.1 -0.1**
ONI pmax pmax
comp=Z,132nm,0.3s
ONI Oni 1.55 360 *i* Pg **Pg** **20 16 07.1 -0.1**
ONI *e*Sg **Sg** **20 16 28.1 +0.8**
HOPA Hopa-Artvin 1.56 284 PN **Pb** **20 16 06.1 -0.6**
KOPR Koprukoy-ERZUR 1.61 230 PN **Pb** **20 16 07.9 +0.2**
GUDG Gudauri 1.61 28 P **Pn** **20 16 04.1 -2.5**
GUDG Gudauri 1.61 28 PN **Pn** **20 16 04.1 -2.5**
ZEI Tsey 1.78 10*d* *i*PN **Pb** **20 16 10.6 +0.1**
ZEI Tsey 1.78 10 *e*Pg **Pb** **20 16 10.6 +0.1**
ZEI *e*Sg **Sg** **20 16 35.3 +0.7**
PNSH Pansheti 1.81 28 P **Pb** **20 16 10.7 -0.4**
PNSH S **Sg** **20 16 34.8 -1.0**
PNSH Pansheti 1.81 28 PN **Pb** **20 16 10.7 -0.4**
MTEO Meteo 1.82 26 P **Pb** **20 16 11.5 0.0**
MTEO S **Sg** **20 16 37.2 +1.1**
DIGR Digorskoe uzhe 1.86 3 *e*PN **Pg** **20 16 12.3 -0.9**
DIGR *e*S **Sg** **20 16 37.4 +0.1**
DIGR Digorskoe uzhe 1.86 3 *e*Pg **Pg** **20 16 12.3 -0.9**
DIGR *e*Sg **Sg** **20 16 37.4 +0.1**
LACR Lac 1.89 19*de*PN **Pb** **20 16 12.2 -0.2**
LACR Lac 1.89 19 *e*Pg **Pg** **20 16 12.8 -0.9**
LACR *e*Sg **Sg** **20 16 39.3 +1.0**
CLDR Caldiran 1.92 169 *i* P **Pb** **20 16 12.1 -0.9**
CLDR Caldiran 1.92 169 PN **Pn** **20 16 11.3 +0.4**
ERZM Erzurum 1.96 235 *i* P **Pb** **20 16 13.8 +0.2**
DDFL Dedoflistskaro 2.04 78 P **Pg** **20 16 15.9 -0.6**
DDFL S **Sg** **20 16 47.2 +4.1**
DDFL Dedoflistskaro 2.04 78 *i* P **Pb** **20 16 15.6 +0.6**
DDFL Dedoflistskaro 2.04 78 PN **Pg** **20 16 16.0 -0.6**
DDFL S **Sg** **20 16 47.2 +4.1**
CHOM Cayeli-Rize 2.04 273 PN **Pb** **20 16 14.6 -0.4**
KORR Kora 2.10 12*c* *i*PN **Pg** **20 16 17.0 -0.6**
KORR Kora 2.10 12 *e*Pg **Pg** **20 16 17.1 -0.6**
KORR *e*Sg **Sg** **20 16 46.2 +1.5**
VLKR Vladikavkaz 2.20 24 *e*PN **Pg** **20 16 19.7 +0.1**
VLKR *e*S **Sg** **20 16 50.8 +2.7**
VLKR Vladikavkaz 2.20 24 *e*Pg **Pg** **20 16 19.7 +0.1**
VLKR *e*Pg **Pg** **20 16 19.8 +0.1**
VLKR *e*Sg **Sg** **20 16 50.9 +2.7**
VLKR *e*Sg **Sg** **20 16 50.9 +2.7**
GANJ Ganja 2.20 99 PN **Pb** **20 16 15.9 -1.8**
ARNR Ardon 2.23 16 *e*PN **Pg** **20 16 20.5 +0.3**
ARNR *e*S **Sg** **20 16 51.9 +2.9**
ARNR Ardon 2.23 16 *e*Pg **Pg** **20 16 20.4 +0.3**
ARNR *e*Sg **Sg** **20 16 51.9 +2.9**
LGD Lagodekhi 2.23 68 P **Pb** **20 16 17.2 -1.0**
LGD S **Sb** **20 16 46.1 0.0**
LGD Lagodekhi 2.23 68 *e*PN **Pb** **20 16 17.2 -1.0**
LSNR Lesken 2.25 7 *e*PN **Pb** **20 16 19.3 +0.7**
LSNR *e*S **Sg** **20 16 50.0 +0.1**
LSNR Lesken 2.25 7 *e*Pg **Pb** **20 16 19.3 +0.7**
LSNR *e*Sg **Sg** **20 16 50.0 +0.1**
KMGR Komgaron 2.27 27 *e*PN **Pg** **20 16 20.4 -0.6**
KMGR *e*S **Sg** **20 16 51.8 +1.3**
KMGR Komgaron 2.27 27 *e*Pg **Pg** **20 16 20.4 -0.6**
KMGR *e*Sg **Sg** **20 16 51.8 +1.3**
NEY Neytrino 2.28 346*d* *i*PN **Pb** **20 16 19.3 +0.3**
NEY pmax pmax
comp=Z,115nm,0.6s
NEY Neytrino 2.28 346 *e*Pg **Pb** **20 16 19.4 +0.4**
NEY *e*Sg **Sg** **20 16 49.3 -1.4**
NAX Nakhchivan 2.43 139 PN **Pb** **20 16 21.4 -0.1**
VRTB Varto-Mus 2.43 220 PN **Pn** **20 16 18.9 +1.2**
VANB Van 2.44 181 PN **Pb** **20 16 20.3 -1.5**
NCK Nalchik 2.46 2⇑*e*PN **Pb** **20 16 21.5 -0.5**
BTLR Botlikh 2.62 51⇓*e*PN **Pb** **20 16 25.1 +0.2**
BTLR *e*S **Sg** **20 16 59.8 -1.9**
BTLR pmax pmax
comp=Z,43nm,0.8s
BTLR smax smax
comp=Z,162nm,0.8s
KBZ Khabaz 2.72 351 Pn **Pb** **20 16 25.5 -0.9**
comp=Z,3.2nm,0.3s,baz=177,slow=8.0,SNR=50
KBZ Sn **Sg** **20 17 03.2 -1.7**
comp=Z,5.8nm,0.3s,baz=55,slow=12,SNR=8.3
KBZ Khabaz 2.72 351*de*PN **Pb** **20 16 25.3 -1.2**
AKDM Akdamar-Van 2.73 188 PN **Pn** **20 16 23.1 +1.2**
YEDI Yedisu-Bingol 2.75 235 PN **Pn** **20 16 23.8 +1.6**
MNGR Mingechevir, A 2.76 94 PN **Pb** **20 16 25.1 -2.0**
DVE Vedeno 2.76 45*d* *i*PN **Pb** **20 16 27.4 +0.2**
DVE *e*S **Sg** **20 17 06.0 -0.1**
DVE pmax pmax
comp=Z,47nm,0.9s
DVE smax smax
comp=Z,155nm,0.8s
DVE Vedeno 2.76 45 *e*Pn **Pb** **20 16 27.8 +0.6**
DVE *e*Sn **Sg** **20 17 04.0 -2.0**
SHA1 Shidzhatmaz 2.76 348*de*PN **Pb** **20 16 25.8 -1.6**
SHA1 pmax pmax
comp=Z,22nm,0.4s
PRTR Priterechnaya 2.78 12⇑*e*PN **Pb** **20 16 26.9 -0.6**
KTUT Trabzon 2.80 270 PN **Pn** **20 16 24.5 +1.8**
SEKA Sheki 2.83 85 PN **Pn** **20 16 24.1 +1.0**
KVAR Kislovodsk Arr 2.97 349 Pn **Pb** **20 16 28.3 -2.6**
baz=281,slow=22,SNR=4.3
KVAR Sn **Sg** **20 17 10.1 -2.8**
baz=301,slow=22,SNR=9.7
KIV Kislovodsk 2.97 349 *e*PN **Pb** **20 16 28.3 -2.5**
KIV *e*S **Sb** **20 17 05.6 -1.8**
KIV pmax pmax
comp=Z,126nm,1.1s
KIV Kislovodsk 2.97 349 PN **Pn** **20 16 26.4 +1.2**
AKT Akhty 3.25 81⇓*e*PN **Pb** **20 16 33.2 -2.3**
MAK Makhachkala 3.57 56 *e*PN **Pn** **20 16 32.8 -0.5**
MAK *e*S **Sn** **20 17 15.8 +0.1**
MAK pmax pmax
comp=Z,98nm,0.9s
MAK MLR MLR
comp=Z,131nm,10.0s
SOC Sochi 3.77 314 *e*PN **Pn** **20 16 38.5 +2.5**
SOC *e* 20 16 45.2
SOC *e* 20 17 24.9
SOC *e*SS **Sg** **20 17 34.8 -3.6**
SOC pmax pmax
comp=Z,9.0nm,0.5s

SOC					MLR	MLR			
	comp=Z,52nm,8.0s								
GOF	**Gofitskoye**	**4.03**	**356**	⇑	*e*Pn	**Pg**	**20**	**16**	**58.0 +3.3**
GOF					*e*S	**Sg**	**20**	**17**	**46.8 -0.1**
GOF					pmax	pmax			
	comp=Z,20nm,0.6s								
GOF					smax	smax			
	comp=N,100nm,0.6s								
MLR	**Muntele Rosu**	**13.52**	**295**		Pn	**Pn**	**20**	**18**	**49.7 0.0**
	comp=N,0.1nm,0.3s,baz=108,slow=20,SNR=1.6								
GERES	**GERESS Array B**	**22.36**	**300**		P	**P**	**20**	**20**	**34.1 -2.0**
	comp=N,0.1nm,0.3s,baz=96,slow=10,SNR=1.5								
KURBB	**Kurchatov Arra**	**26.03**	**57**		P	**P**	**20**	**21**	**12.4 +1.3**
	comp=N,0.2nm,0.6s,baz=265,slow=8.7,SNR=2.2								
KURK	**Kurchatov**	**26.10**	**56**		P	**P**	**20**	**21**	**12.4 +0.7**
ILAR	**Eielson Array**	**74.22**	**5**		P	**P**	**20**	**27**	**14.2 -0.4**
	comp=N,0.5nm,0.8s,baz=343,slow=5.8,SNR=4.1								

*NSSP **20** 20:38:23.1,41.00N×43.45E,h10km,Ms3.1*
*DDA **20** 20:38:24.3,41.05N×43.47E,h6km±3km,ML3.0*
*TIF **20** 20:38:24.8,41.07N×43.52E,h18km*
*ISK **20** 20:38:24.4,41.04N×43.51E,h6km,ML3.0/13*
*MOS **20** 20:38:26.6±2.4,40.98N×43.53E,h16km,mb3.7/1,Error ellipse: s-maj=9.8km s-min=4.2km az=79.9*
*NORS **20** 20:38:26.7±0.0,41.28N×43.44E,h1km,MPVA3.9*
ISC 20 20:38:25.0±0.9,**41.05N**±0.01×**43.50E**±0.02,**h14**km±7km,
n91,σ1$**01**/150,**15C-6D**,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.23**	**19**		P		**Pg**		**20 38 30.1**	**0.0**
BGD					S		**Sg**		**20 38 34.4**	**+0.7**
BGD	**Bogdanovka**	**0.23**	**19**		PG		**Pg**		**20 38 30.2**	**0.0**
AKH	**Akhalkalaki**	**0.36**	**359**		P		**Pg**		**20 38 32.2**	**-0.1**
AKH					S		**Sg**		**20 38 37.5**	**+0.1**
AKH	**Akhalkalaki**	**0.36**	**359**		PG		**Pg**		**20 38 32.3**	**-0.1**
AKH	**Akhalkalaki**	**0.36**	**359**		PG		**Pg**		**20 38 32.3**	**-0.1**
AKH					SG		**Sg**		**20 38 37.4**	**-0.1**
EAK	**Akyaka**	**0.37**	**167**	*i*	P		**Pg**		**20 38 31.0**	**-1.5**
EAK				*i*	S		**Sg**		**20 38 36.5**	**-1.2**
EAK					IAML				20 38 41.0	
	comp=E,3μm,0.5s									
EAK					IAML				20 38 44.0	
	comp=N,2μm,0.6s									
KARS	**Kars**	**0.53**	**217**		PG		**Pg**		**20 38 35.4**	**0.0**
KARS					S		**Sg**		**20 38 42.8**	**+0.3**
KARS	**Kars**	**0.53**	**217**		PG		**Pg**		**20 38 35.5**	**0.0**
KARS					SG		**Sg**		**20 38 42.8**	**+0.3**
DMNI	**Dmanisi**	**0.59**	**61**		P		**Pg**		**20 38 36.6**	**-0.1**
DMNI					S		**Sb**		**20 38 45.0**	**-0.5**
DMNI	**Dmanisi**	**0.59**	**61**		PG		**Pg**		**20 38 36.6**	**-0.1**
DMNI					S		**Sb**		**20 38 45.0**	**-0.5**
BRNG	**Burnasheti**	**0.62**	**23**		P		**Pg**		**20 38 37.4**	**+0.1**
BRNG					S		**Sb**		**20 38 46.8**	**+0.2**
DIGO	**Kars**	**0.64**	**189**	*i*	P		**Pg**		**20 38 36.1**	**-1.5**
DIGO				*i*	S		**Sb**		**20 38 48.5**	**+1.5**
DIGO					IAML				20 38 49.0	
	comp=E,1μm,0.4s									
DIGO					IAML				20 38 53.0	
	comp=N,876nm,0.4s									
STE	**Stepanavan**	**0.66**	**94**	*i*	P		**Pb**		**20 38 38.2**	**-0.2**
STE					S		**Sn**		**20 38 49.2**	**-1.1**
TRLG	**Trialeti**	**0.67**	**43**		P		**Pg**		**20 38 37.8**	**-0.3**
TRLG					S		**Sg**		**20 38 47.2**	**+0.3**
TRLG	**Trialeti**	**0.67**	**43**		PG		**Pg**		**20 38 37.8**	**-0.3**
TRLG					S		**Sg**		**20 38 47.3**	**+0.3**
BKRG	**Bakuriani**	**0.71**	**1**		P		**Pg**		**20 38 38.8**	**-0.1**
BKRG					S		**Sb**		**20 38 48.8**	**-0.2**
BKRG	**Bakuriani**	**0.71**	**1**		PG		**Pg**		**20 38 38.8**	**-0.1**
BKRG					S		**Sb**		**20 38 48.8**	**-0.2**
EPOS	**Posof**	**0.74**	**308**	*i*	P		**Pg**		**20 38 38.2**	**-1.2**
EPOS				*i*	S		**Sg**		**20 38 48.7**	**-0.5**
EPOS					IAML				20 38 49.0	
	comp=E,305nm,0.4s									
EPOS					IAML				20 38 49.0	
	comp=N,1μm,0.4s									
KZRT	**Kazreti**	**0.76**	**63**		P		**Pg**		**20 38 39.4**	**-0.3**
KZRT					S		**Sg**		**20 38 49.7**	**0.0**
KZRT	**Kazreti**	**0.76**	**63**	*i*	P		**Pg**		**20 38 39.5**	**-0.3**
KZRT				*i*	S		**Sg**		**20 38 49.7**	**0.0**
KZRT	**Kazreti**	**0.76**	**63**		PG		**Pg**		**20 38 39.4**	**-0.3**
KZRT					S		**Sg**		**20 38 49.7**	**0.0**
ARUZ	**Aruch**	**0.89**	**149**	⇑	*i*P		**Pg**		**20 38 41.6**	**-0.6**
VNNZ	**Vanand**	**0.97**	**165**	⇓	*i*P		**Pb**		**20 38 43.3**	**-0.4**
VNNZ				⇓	*i*S		**Sn**		**20 38 57.7**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.00**	**241**		PG		**Pb**		**20 38 44.1**	**-0.1**
METS	**Metsamor**	**1.00**	**154**	*e*	P		**Pn**		**20 38 44.6**	**-0.1**
BTNK	**Botanikuri**	**1.17**	**57**		P		**Pb**		**20 38 46.6**	**-0.4**
BTNK					S		**Sn**		**20 39 02.9**	**+0.2**
BTNK	**Botanikuri**	**1.17**	**57**	*i*	P		**Pb**		**20 38 46.4**	**-0.5**
BTNK				*i*	S		**Sn**		**20 39 02.9**	**+0.2**
BTNK					IAML				20 39 05.0	
	comp=E,228nm,0.1s									
BTNK	**Botanikuri**	**1.17**	**57**		PG		**Pb**		**20 38 46.6**	**-0.4**
BTNK					S		**Sn**		**20 39 02.9**	**+0.2**
KAPZ	**Kaputan**	**1.17**	**128**	⇓	*i*P		**Pb**		**20 38 46.9**	**-0.1**
KAPZ				⇓	*i*S		**Sn**		**20 39 03.0**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.20**	**152**		PN		**Pn**		**20 38 47.6**	**+0.1**
SEAG	**Tbilisi Sea**	**1.21**	**53**		P		**Pb**		**20 38 48.0**	**+0.2**
SEAG					S		**Sg**		**20 39 04.9**	**+0.7**
SEAG	**Tbilisi Sea**	**1.21**	**53**		PG		**Pb**		**20 38 48.0**	**+0.2**
SEAG					S		**Sg**		**20 39 04.9**	**+0.7**
IGDI	**IGDIR**	**1.26**	**159**	*i*	P		**Pn**		**20 38 47.5**	**-0.7**
IGDI					IAML				20 39 04.0	
	comp=E,266nm,0.4s									
IGDI					IAML				20 39 08.0	
	comp=N,165nm,0.5s									
KOTA	**Agri, Merkez-K**	**1.27**	**190**	*i*	P		**Pb**		**20 38 49.0**	**+0.2**
GNI	**Garni**	**1.30**	**133**	⇑	*i*P		**Pb**		**20 38 49.3**	**-0.1**
GNI				⇑	*i*S		**Sg**		**20 39 07.8**	**+0.7**
GNI	**Garni**	**1.30**	**133**	*c*	*i*PG		**Pb**		**20 38 49.3**	**-0.1**
GNI					*e*S		**Sg**		**20 39 08.5**	**+1.4**
GNI					pmax	pmax				
	comp=Z,152nm,0.5s									
GNI					smax	smax				
	comp=Z,319nm,0.7s									
GNI	**Garni**	**1.30**	**133**		PN		**Pb**		**20 38 49.5**	**+0.1**
DDEM	**Demirkent**	**1.33**	**264**	*i*	P		**Pn**		**20 38 49.4**	**+0.1**
DDEM				*i*	S		**Sg**		**20 39 08.2**	**+0.2**
DDEM					IAML				20 39 12.0	
	comp=E,643nm,0.4s									
DDEM					IAML				20 39 13.0	
	comp=N,704nm,0.4s									
TKB	**Tkibuli**	**1.36**	**344**		P		**Pb**		**20 38 50.1**	**0.0**
TKB					S		**Sg**		**20 39 08.7**	**-0.1**
TKB	**Tkibuli**	**1.36**	**344**		PG		**Pb**		**20 38 50.2**	**0.0**
DBAD	**Bademkaya**	**1.37**	**269**	*i*	P		**Pn**		**20 38 49.8**	**0.0**
DBAD					IAML				20 39 09.0	
	comp=E,183nm,0.3s									
DBAD					IAML				20 39 12.0	
	comp=N,292nm,0.6s									
NRKZ	**NAREK**	**1.37**	**139**	⇑	*i*P		**Pn**		**20 38 50.1**	**+0.3**
NRKZ				⇑	*i*S		**Sg**		**20 39 09.6**	**+0.4**
DBOC	**Borcka**	**1.42**	**283**	*i*	P		**Pn**		**20 38 50.4**	**0.0**
DBOC				*i*	S		**Sb**		**20 39 09.3**	**+0.2**
DBOC					IAML				20 39 19.0	
	comp=E,135nm,0.6s									
AGRB	**Hanur-Agry**	**1.52**	**195**		PN		**Pb**		**20 38 52.8**	**-0.3**
ONI	**Oni**	**1.54**	**359**		P		**Pg**		**20 38 54.3**	**-0.3**
ONI					S		**Sg**		**20 39 14.9**	**+0.2**
ONI	**Oni**	**1.54**	**359**	⇓	*i*Pg		**Pg**		**20 38 54.3**	**-0.3**
ONI	**Oni**	**1.54**	**359**	*i*	Pg		**Pg**		**20 38 54.3**	**-0.3**
ONI					*e*Sg		**Sg**		**20 39 14.9**	**+0.2**
HOPA	**Hopa-Artvin**	**1.59**	**283**		PN		**Pn**		**20 38 53.3**	**+0.6**
GUDG	**Gudauri**	**1.59**	**27**		P		**Pn**		**20 38 51.3**	**-1.7**
GUDG	**Gudauri**	**1.59**	**27**		PN		**Pn**		**20 38 51.3**	**-1.7**
KOPR	**Koprukoy-ERZUR**	**1.64**	**230**		PN		**Pb**		**20 38 54.7**	**-0.4**
ZEI	**Tsey**	**1.76**	**10**	*e*	PN		**Pb**		**20 38 57.9**	**+0.6**
ZEI	**Tsey**	**1.76**	**10**	*e*	Pg		**Pb**		**20 38 57.9**	**+0.6**
ZEI				*e*	Sg		**Sg**		**20 39 22.2**	**+0.4**
PNSH	**Pansheti**	**1.79**	**27**		P		**Pb**		**20 38 58.1**	**+0.4**
PNSH					S		**Sg**		**20 39 21.7**	**-1.0**
PNSH	**Pansheti**	**1.79**	**27**		PN		**Pb**		**20 38 58.1**	**+0.4**
MTEO	**Meteo**	**1.80**	**25**		P		**Pb**		**20 38 58.7**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.85**	**2**	*e*	PN		**Pg**		**20 38 59.7**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.85**	**2**	*e*	Pg		**Pg**		**20 38 59.7**	**-0.9**
DIGR				*e*	Sg		**Sg**		**20 39 24.4**	**-0.2**
LACR	**Lac**	**1.87**	**18**	*e*	PN		**Pg**		**20 39 00.1**	**-0.9**
LACR	**Lac**	**1.87**	**18**	*e*	Pg		**Pg**		**20 39 00.1**	**-0.9**
LACR				*e*	Sg		**Sg**		**20 39 25.1**	**-0.3**
CLDR	**Caldiran**	**1.93**	**170**		PN		**Pn**		**20 38 58.2**	**+0.6**
ERZM	**Erzurum**	**1.99**	**236**	*i*	P		**Pb**		**20 39 01.5**	**+0.4**
DDFL	**Dedoflistskaro**	**2.01**	**78**		P		**Pg**		**20 39 03.6**	**0.0**
DDFL					S		**Sg**		**20 39 34.3**	**+4.6**
DDFL	**Dedoflistskaro**	**2.01**	**78**	*i*	P		**Pg**		**20 39 03.5**	**0.0**
DDFL	**Dedoflistskaro**	**2.01**	**78**		PN		**Pg**		**20 39 03.6**	**0.0**
DDFL					S		**Sg**		**20 39 34.3**	**+4.6**
CHOM	**Cayeli-Rize**	**2.07**	**272**		PN		**Pn**		**20 39 00.8**	**+1.4**
KORR	**Kora**	**2.08**	**12**	*e*	PN		**Pg**		**20 39 04.6**	**-0.3**
KORR				*e*	S		**Sg**		**20 39 33.1**	**+1.2**
KORR	**Kora**	**2.08**	**12**	*e*	Pg		**Pg**		**20 39 04.6**	**-0.3**
KORR				*e*	Sg		**Sg**		**20 39 33.1**	**+1.2**
VLKR	**Vladikavkaz**	**2.18**	**23**	*e*	PN		**Pg**		**20 39 06.2**	**-0.6**
VLKR				*e*	S		**Sg**		**20 39 36.4**	**+1.3**
VLKR	**Vladikavkaz**	**2.18**	**23**	*e*	Pg		**Pg**		**20 39 06.2**	**-0.6**
VLKR				*e*	Pg		**Pg**		**20 39 06.2**	**-0.6**
VLKR				*e*	Sg		**Sg**		**20 39 36.2**	**+1.1**
VLKR				*e*	Sg		**Sg**		**20 39 36.4**	**+1.3**
LGD	**Lagodekhi**	**2.21**	**68**		P		**Pb**		**20 39 04.9**	**+0.2**
LGD					S		**Sg**		**20 39 35.3**	**-0.6**
LGD	**Lagodekhi**	**2.21**	**68**		PN		**Pb**		**20 39 04.9**	**+0.2**
LGD					S		**Sg**		**20 39 35.3**	**-0.6**
LSNR	**Lesken**	**2.24**	**6**	*e*	PN		**Pb**		**20 39 06.5**	**+1.2**
LSNR				*e*	S		**Sg**		**20 39 38.0**	**+0.9**
LSNR	**Lesken**	**2.24**	**6**	*e*	Pg		**Pb**		**20 39 06.5**	**+1.2**
LSNR				*e*	Sg		**Sg**		**20 39 38.0**	**+0.9**
NEY	**Neytrino**	**2.27**	**346**	⇑	*e*PN		**Pb**		**20 39 07.1**	**+1.2**
NEY					*i* S		**Sg**		**20 39 36.3**	**-1.8**
NEY					pmax	pmax				
	comp=Z,5.0nm,0.7s									
NEY					smax	smax				
	comp=Z,31nm,0.8s									
NEY	**Neytrino**	**2.27**	**346**	*e*	Pg		**Pb**		**20 39 06.6**	**+0.7**
NEY				*e*	Sg		**Sg**		**20 39 36.4**	**-1.8**
NCK	**Nalchik**	**2.45**	**2**	⇑	*e*PN		**Pb**		**20 39 09.1**	**+0.3**
NCK					S		**Sg**		**20 39 46.9**	**+3.3**
NCK					pmax	pmax				
	comp=Z,40nm,0.6s									
NCK					smax	smax				
	comp=Z,51nm,1.0s									
BTLR	**Botlikh**	**2.60**	**51**	⇑	*e*PN		**Pb**		**20 39 12.7**	**+1.3**
BTLR					*e*S		**Sg**		**20 39 47.0**	**-1.4**
BTLR					pmax	pmax				
	comp=Z,21nm,0.6s									
BTLR					smax	smax				
	comp=Z,97nm,0.7s									
BAYT	**Aydıntepe-Bayb**	**2.64**	**257**		PN		**Pn**		**20 39 09.0**	**+1.7**
KBZ	**Khabaz**	**2.72**	**351**	*ce*	PN		**Pg**		**20 39 15.3**	**-1.7**
DVE	**Vedeno**	**2.73**	**45**	⇓	*e*PN		**Pb**		**20 39 14.6**	**+0.9**
DVE					*e*S		**Sg**		**20 39 51.9**	**-0.9**
DVE					pmax	pmax				
	comp=Z,39nm,0.6s									
DVE					smax	smax				
	comp=Z,80nm,0.7s									
DVE	**Vedeno**	**2.73**	**45**	*e*	Pn		**Pg**		**20 39 16.6**	**-0.8**
DVE				*e*	Sn		**Sg**		**20 39 51.1**	**-1.6**
SHA1	**Shidzhatmaz**	**2.76**	**347**	⇑	*e*PN		**Pb**		**20 39 13.3**	**-1.0**
YEDI	**Yedisu-Bingol**	**2.78**	**236**		PN		**Pn**		**20 39 11.1**	**+1.9**
KTUT	**Trabzon**	**2.83**	**270**		PN		**Pn**		**20 39 11.3**	**+1.6**
KIV	**Kislovodsk**	**2.97**	**349**	*e*	PN		**Pb**		**20 39 17.0**	**-0.7**
KIV				*e*	S		**Sb**		**20 39 54.2**	**+0.3**
KIV					pmax	pmax				
	comp=Z,33nm,1.1s									
KIV	**Kislovodsk**	**2.97**	**349**		PN		**Pn**		**20 39 13.3**	**+1.5**
ARXR	**Arkhyz**	**3.01**	**327**	⇑	*e*PN		**Pb**		**20 39 17.7**	**-0.7**
PYA1	**Pyatigorsk**	**3.03**	**354**	⇓	*e*PN		**Pb**		**20 39 18.0**	**-0.7**
AKT	**Akhty**	**3.22**	**81**	⇑	*e*PN		**Pb**		**20 39 21.3**	**-0.7**
AKT				*i*	S		**Sg**		**20 40 05.8**	**-2.5**
AKT					pmax	pmax				
	comp=Z,5.0nm,0.7s									
AKT					smax	smax				
	comp=Z,18nm,0.8s									
GOF	**Gofitskoye**	**4.02**	**355**	⇑	*e*PN		**Pb**		**20 39 33.1**	**-2.5**
GOF					*e*S		**Sg**		**20 40 34.8**	**+0.7**
GOF					pmax	pmax				
	comp=Z,16nm,0.7s									
GOF					smax	smax				
	comp=N,41nm,0.6s									

*SCB **20** 20:47:30.3±1.7,21.52S×66.92W,h190km±12km,ML3.6/6,Error ellipse: s-maj=6.0km s-min=4.9km az=1.0*
*IDC **20** 20:47:33.3±8.9,20.90S×66.53W,h251km±75km,mb3.3/1,mb1 3.3/2,mb1mx3.0/19,mbtmp3.8/2,Error ellipse: s-maj=118.7km s-min=91.9km az=41.0*
ISC 20 20:47:25.9±1.1,**21.55S**±0.06×**66.86W**±0.06,**h207**km,**n23**,
σ1$**79**/30,**Southern Bolivia**

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.17**	**76**		P		**Pn**		**20 47 59.8**	**+1.7**
MOCB					S		**S**		**20 48 22.8**	**0.0**
MOCB					IAML				20 48 26.2	
	273nm,0.5s									
LVC	**Limon Verde**	**2.18**	**241**		P		**Pn**		**20 48 09.1**	**+2.0**
PB09	**IPOC Station P**	**2.23**	**263**		P		**Pn**		**20 48 09.9**	**+2.4**
PB01	**IPOC Station P**	**2.50**	**281**		P		**Pn**		**20 48 12.2**	**+1.9**
PB08	**IPOC Station P**	**2.56**	**303**		P		**Pn**		**20 48 14.0**	**+2.7**
PB03	**IPOC Station P**	**2.74**	**259**		P		**Pn**		**20 48 15.0**	**+2.0**
PB06	**IPOC Station P**	**2.77**	**245**		P		**Pn**		**20 48 15.5**	**+2.1**
PB07	**IPOC Station P**	**2.83**	**266**		P		**Pn**		**20 48 15.6**	**+1.6**
PB07					S		**S**		**20 48 51.0**	**-0.1**
PB07					IAML				20 48 52.7	
	103nm,0.4s									
PB15	**IPOC Station P**	**2.93**	**235**		P		**Pn**		**20 48 17.3**	**+2.0**
HMBC	**Humberstone**	**3.10**	**293**		P		**Pn**		**20 48 18.3**	**+1.1**
PB04	**IPOC Station P**	**3.16**	**255**		P		**Pn**		**20 48 19.7**	**+1.8**
PB11	**IPOC Station P**	**3.17**	**304**		P		**Pn**		**20 48 19.3**	**+1.3**
PB11					S		**S**		**20 48 57.9**	**-0.4**
PB11					IAML				20 49 01.1	
	164nm,0.1s									
PB05	**IPOC Station P**	**3.36**	**247**		P		**Pn**		**20 48 22.1**	**+1.8**
MNMC	**Minye Minye**	**3.52**	**313**		P		**Pn**		**20 48 24.6**	**+2.3**
MNMC					S		**S**		**20 49 05.7**	**-0.4**
MNMC					IAML				20 49 09.0	
	292nm,0.2s									
PSGC	**Pisagua**	**3.62**	**302**		P		**Pn**		**20 48 24.4**	**+1.0**
PSGC					S		**S**		**20 49 06.2**	**-1.9**
PSGC					IAML				20 49 08.4	
	63nm,0.2s									
PB10	**IPOC Station P**	**3.94**	**239**		P		**Pn**		**20 48 28.6**	**+1.4**
PB10					S		**S**		**20 49 13.6**	**-1.3**
PB10					IAML				20 49 17.7	
	31nm,0.3s									
PB14	**IPOC Station P**	**4.48**	**226**		P		**Pn**		**20 48 35.2**	**+1.0**
BBOE	**La Paz, Chanca**	**4.83**	**347**		P		**Pn**		**20 48 40.5**	**+1.6**
LPAZ	**La Paz**	**5.37**	**347**		P		**Pn**		**20 48 47.7**	**+1.9**
	2.1nm,0.3s,baz=157,slow=10.0,SNR=60									
LPAZ					S		**S**		**20 49 47.4**	**-1.1**
	baz=4.2,slow=8.5,SNR=1.0									
LPAZ	**La Paz**	**5.37**	**347**		P		**Pn**		**20 48 47.5**	**+1.7**
BBOB	**La Paz, Bander**	**5.51**	**347**		P		**Pn**		**20 48 49.4**	**+1.9**
TORD	**Torodi Ar. Bea**	**75.58**	**69**		P		**P**		**20 58 48.2**	**-0.1**
	0.5nm,0.5s,baz=254,slow=5.1,SNR=2.1									
MKAR	**Makanchi Array**	**144.53**	**37**		PKP		**PKiKP**		**21 06 38.0**	**-3.3**
	0.7nm,0.9s,baz=319,slow=2.4,SNR=3.6									

TAP 20 20:52:58.7,23.55N×120.74E,h8km,ML0.8,B,Taiwan

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.07**	**123**		P		Pg		20 53 01.3	+0.4
	baz=121									
ALS					S		Sg		20 53 03.3	+0.7
	baz=121									
CHN5	**Tsauling**	**0.07**	**310**		P		Pg		20 53 01.2	+0.4
	baz=309									
CHN5					S		Sg		20 53 03.1	+0.8
	baz=309									
WHYT	**Xinyi Township**	**0.18**	**35**		*e*P		Pg		20 53 03.4	+1.0
	baz=35									
WHYT					S		Sg		20 53 06.6	+1.6
	baz=35									
CHN4	**Tsaushan**	**0.24**	**214**		P		Pg		20 53 04.5	+1.1
	baz=214									
CHN4					S		Sg		20 53 08.8	+2.1
	baz=214									
TPUB	**Ta-pu**	**0.27**	**202**		*e*P		Pg		20 53 04.7	+0.7
	baz=202									
TPUB					S		Sb		20 53 09.1	-1.4
	baz=202									
WTP	**Ta-pu**	**0.32**	**201**		*e*P		Pb		20 53 06.1	-0.6
	baz=199									
CHN1	**Nanshi**	**0.41**	**208**		*e*P		Pb		20 53 07.9	-0.3
	baz=208									
CHN1					*e*S		Sb		20 53 14.5	-0.1
	baz=208									

TAP 20 20:53:04.5,23.55N×120.75E,h7km,ML0.8,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.07**	**123**	P		Pg		20 53 07.1	+0.6
	baz=120								
ALS				S		Sg		20 53 09.0	+1.0
	baz=120								
CHN5	**Tsauling**	**0.08**	**310**	P		Pg		20 53 07.0	+0.4
	baz=311								
CHN5				S		Sg		20 53 08.8	+0.8
	baz=311								
WHYT	**Xinyi Township**	**0.18**	**34**	*e*P		Pg		20 53 09.0	+0.8
	baz=41								
WHYT				*e*S		Sg		20 53 12.3	+1.7
	baz=41								
CHN4	**Tsaushan**	**0.24**	**216**	*e*P		Pg		20 53 10.4	+1.2
	baz=204								
CHN4				*e*S		Sg		20 53 14.7	+2.3
	baz=204								
TPUB	**Ta-pu**	**0.27**	**203**	*e*P		Pg		20 53 10.5	+0.7
	baz=193								
TPUB				*e*S		Sb		20 53 15.3	-1.1
	baz=193								
SSLB	**Suanglung**	**0.31**	**39**	*e*S		Pg		20 53 11.0	+0.4
	baz=39								
SSLB	**Suanglung**	**0.31**	**39**	*e*P		Pg		20 53 10.7	+0.2
	baz=48								
SSLB				*e*S		Sb		20 53 16.3	-1.4
	baz=48								
WTP	**Ta-pu**	**0.32**	**202**	*e*P		Pg		20 53 11.6	+0.8
	baz=195								
WTP				*e*S		Sb		20 53 17.6	-0.5
	baz=195								
WTP	**Ta-pu**	**0.32**	**202**	*e*S		Pg		20 53 11.6	+0.7
	baz=199								
TWK	**Hsinying**	**0.36**	**220**	*e*S		Pb		20 53 12.8	-0.6
	baz=217								
TWK	**Hsinying**	**0.36**	**220**	*e*P		Pb		20 53 12.6	-0.7
	baz=218								
TWK				*e*S		Sb		20 53 19.3	0.0
	baz=218								
TYC	**Yuchr**	**0.37**	**16**	*e*P		Pb		20 53 12.8	-0.7
	baz=27								
TYC				*e*S		Sb		20 53 19.7	+0.3
	baz=27								
STYH	**Taoyuan**	**0.38**	**176**	*e*P		Pg		20 53 11.8	0.0
	baz=167								
STYH				*e*S		Sg		20 53 17.4	+0.7
	baz=167								
CHN1	**Nanshi**	**0.41**	**209**	*e*P		Pb		20 53 13.3	-0.8
	baz=208								
CHN1				*e*S		Sb		20 53 20.6	0.0
	baz=208								
ELDTW	**Lidau**	**0.43**	**145**	*e*P		Pg		20 53 13.7	+0.7
	baz=137								
ELDTW				*e*S		Sg		20 53 19.7	+1.0
	baz=137								

*NSSP **20** 20:57:27.9,40.98N×43.45E,h8km,Ms3.1*
*ISK **20** 20:57:28.8,41.05N×43.53E,h5km,ML3.0/9*
*DDA **20** 20:57:28.6,41.04N×43.44E,h4km±2km,ML2.9*
*MOS **20** 20:57:30.3±1.5,40.99N×43.49E,h14km,mb3.8/1,Error ellipse: s-maj=10.3km s-min=4.2km az=77.8*
*NORS **20** 20:57:31.8±0.0,41.32N×43.29E,h1km,MPVA3.9*
*TIF **20** 20:57:39.2,41.07N×43.52E,h15km*
ISC 20 20:57:29.6±1.0,**41.03N**±0.01×**43.49E**±0.02,**h4**km±10km,
n84,σ1$**20**/143,**11C-8D**,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.25**	**19**		P		**Pg**		**20 57 34.5**	**+0.1**
**BG

	comp=Z,181nm,0.7s							
GNI	**Garni**	**1.30**	**132**		PN	**Pn**	**20 57 53.9**	**-0.7**
DDEM	**Demirkent**	**1.32**	**265**	*i*	P	**Pn**	**20 57 53.6**	**-1.3**
DDEM					IAML		20 58 16.0	
	comp=E,643nm,0.5s							
DDEM					IAML		20 58 17.0	
	comp=N,479nm,0.4s							
DBAD	**Bademkaya**	**1.36**	**270**	*i*	P	**Pn**	**20 57 54.1**	**-1.3**
DBAD					IAML		20 58 19.0	
	comp=N,167nm,0.5s							
DBAD					IAML		20 58 20.0	
	comp=E,158nm,0.4s							
NRKZ	**NAREK**	**1.36**	**139**	⇓	*i*P	**Pn**	**20 57 54.6**	**-0.9**
NRKZ				⇑	*i*S	**Sb**	**20 58 13.2**	**-0.3**
TKB	**Tkibuli**	**1.37**	**344**		P	**Pn**	**20 57 54.5**	**-1.0**
TKB					S	**Sb**	**20 58 13.1**	**-0.6**
TKB	**Tkibuli**	**1.37**	**344**		PG	**Pn**	**20 57 54.5**	**-1.0**
TKB					S	**Sb**	**20 58 13.1**	**-0.6**
DBOC	**Borcka**	**1.41**	**284**	*i*	P	**Pn**	**20 57 54.9**	**-1.2**
DBOC				*i*	S	**Sb**	**20 58 14.1**	**-0.8**
DBOC					IAML		20 58 17.0	
	comp=E,103nm,0.3s							
AGRB	**Hanur-Agry**	**1.50**	**195**		PN	**Pn**	**20 57 57.7**	**+0.2**
ONI	**Oni**	**1.56**	**359**		P	**Pn**	**20 57 58.6**	**+0.4**
ONI					S	**Sb**	**20 58 19.3**	**+0.1**
ONI	**Oni**	**1.56**	**359**	*i*	PG	**Pn**	**20 57 58.6**	**+0.4**
ONI					pmax	pmax		
	comp=Z,68nm,0.3s							
HOPA	**Hopa-Artvin**	**1.58**	**284**		PN	**Pn**	**20 57 58.2**	**-0.2**
GUDG	**Gudauri**	**1.61**	**27**		P	**Pn**	**20 57 55.5**	**-3.5**
GUDG	**Gudauri**	**1.61**	**27**		PN	**Pn**	**20 57 55.5**	**-3.5**
KOPR	**Koprukoy-ERZUR**	**1.62**	**231**		PN	**Pn**	**20 57 59.8**	**+0.7**
ZEI	**Tsey**	**1.78**	**10**	*e*	PN	**Pb**	**20 58 03.4**	**+0.4**
ZEI				*e*	S	**Sg**	**20 58 27.5**	**+0.6**
ZEI	**Tsey**	**1.78**	**10**	*e*	Pg	**Pb**	**20 58 03.4**	**+0.4**
ZEI				*e*	Sg	**Sg**	**20 58 27.5**	**+0.6**
PNSH	**Pansheti**	**1.81**	**27**		P	**Pn**	**20 58 02.3**	**+0.5**
PNSH					S	**Sn**	**20 58 25.2**	**-0.1**
PNSH	**Pansheti**	**1.81**	**27**		PN	**Pn**	**20 58 02.3**	**+0.5**
MTEO	**Meteo**	**1.82**	**25**		P	**Pb**	**20 58 03.1**	**-0.7**
MTEO					S	**Sg**	**20 58 28.8**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.87**	**2**	*e*	PN	**Pb**	**20 58 03.8**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.87**	**2**	*e*	Pg	**Pb**	**20 58 03.8**	**-0.6**
DIGR				*e*	Sg	**Sg**	**20 58 29.0**	**-0.6**
LACR	**Lac**	**1.89**	**18**	*e*	PN	**Pb**	**20 58 04.4**	**-0.4**
LACR				*e*	S	**Sg**	**20 58 30.8**	**+0.4**
LACR	**Lac**	**1.89**	**18**	*e*	Pg	**Pb**	**20 58 04.4**	**-0.4**
LACR				*e*	Sg	**Sg**	**20 58 30.8**	**+0.4**
CLDR	**Caldiran**	**1.91**	**170**		PN	**Pn**	**20 58 03.0**	**-0.2**
ERZM	**Erzurum**	**1.97**	**236**	*i*	P	**Pb**	**20 58 06.1**	**-0.1**
DDFL	**Dedoflistskaro**	**2.03**	**77**		P	**Pb**	**20 58 08.0**	**+1.0**
DDFL					S	**Sg**	**20 58 38.6**	**+4.0**
DDFL	**Dedoflistskaro**	**2.03**	**77**	*i*	P	**Pb**	**20 58 08.0**	**+1.0**
DDFL	**Dedoflistskaro**	**2.03**	**77**		PN	**Pb**	**20 58 08.0**	**+1.0**
DDFL					S	**Sg**	**20 58 38.6**	**+4.0**
KORR	**Kora**	**2.10**	**12**	*e*	PN	**Pb**	**20 58 08.9**	**+0.7**
KORR				*e*	S	**Sg**	**20 58 36.0**	**-1.0**
KORR	**Kora**	**2.10**	**12**	*e*	Pg	**Pb**	**20 58 08.9**	**+0.7**
KORR				*e*	Sg	**Sg**	**20 58 36.0**	**-1.0**
VLKR	**Vladikavkaz**	**2.20**	**23**	*e*	PN	**Pg**	**20 58 11.5**	**-0.2**
VLKR				*e*	S	**Sg**	**20 58 42.1**	**+1.8**
VLKR	**Vladikavkaz**	**2.20**	**23**	*e*	Pg	**Pg**	**20 58 11.5**	**-0.2**
VLKR				*e*	Sg	**Sg**	**20 58 42.1**	**+1.8**
LGD	**Lagodekhi**	**2.22**	**68**		P	**Pn**	**20 58 08.9**	**+1.7**
LGD					S	**Sb**	**20 58 39.3**	**+1.2**
LGD	**Lagodekhi**	**2.22**	**68**		PN	**Pn**	**20 58 08.9**	**+1.7**
LGD					S	**Sb**	**20 58 39.3**	**+1.2**
LSNR	**Lesken**	**2.26**	**6**	*e*	PN	**Pb**	**20 58 11.7**	**+0.7**
LSNR				*e*	S	**Sg**	**20 58 42.5**	**+0.3**
LSNR	**Lesken**	**2.26**	**6**	*e*	Pg	**Pb**	**20 58 11.7**	**+0.7**
LSNR				*e*	Sg	**Sg**	**20 58 42.5**	**+0.3**
KMGR	**Komgaron**	**2.27**	**26**	*e*	PN	**Pg**	**20 58 12.4**	**-0.7**
KMGR				*e*	S	**Sg**	**20 58 43.9**	**+1.4**
KMGR	**Komgaron**	**2.27**	**26**	*e*	Pg	**Pg**	**20 58 12.4**	**-0.7**
KMGR				*e*	Sg	**Sg**	**20 58 43.9**	**+1.4**
NEY	**Neytrino**	**2.29**	**346**	*de*	PN	**Pb**	**20 58 10.8**	**-0.8**
NEY				*i*	S	**Sb**	**20 58 40.7**	**+0.4**
NEY					pmax	pmax		
	comp=Z,7.0nm,0.8s							
NEY					smax	smax		
	comp=Z,28nm,0.7s							
NEY	**Neytrino**	**2.29**	**346**	*e*	Pg	**Pb**	**20 58 10.5**	**-1.1**
NEY				*e*	Sg	**Sb**	**20 58 40.5**	**+0.3**
NCK	**Nalchik**	**2.46**	**2**	⇓	*e*PN	**Pn**	**20 58 11.4**	**+0.8**
NCK				*e*	S	**Sg**	**20 58 53.1**	**+4.3**
NCK					pmax	pmax		
	comp=Z,41nm,0.9s							
NCK					smax	smax		
	comp=Z,43nm,0.8s							
KBZ	**Khabaz**	**2.73**	**351**	*ce*	PN	**Pb**	**20 58 18.5**	**-0.5**
DVE	**Vedeno**	**2.75**	**45**	⇑	*e*PN	**Pb**	**20 58 19.9**	**+0.5**
DVE				*e*	S	**Sg**	**20 58 56.4**	**-1.5**
DVE					pmax	pmax		
	comp=Z,34nm,0.6s							
DVE					smax	smax		
	comp=Z,60nm,0.7s							
DVE	**Vedeno**	**2.75**	**45**	*e*	Pn	**Pb**	**20 58 19.6**	**+0.2**
DVE				*e*	Sn	**Sg**	**20 58 55.8**	**-2.2**
SHA1	**Shidzhatmaz**	**2.78**	**347**	*ce*	PN	**Pn**	**20 58 17.0**	**+2.0**
KIV	**Kislovodsk**	**2.98**	**349**	*e*	PN	**Pn**	**20 58 20.0**	**+2.2**
KIV				*e*	S	**Sb**	**20 58 57.0**	**-3.2**
KIV					pmax	pmax		
	comp=Z,64nm,1.0s							
PYA1	**Pyatigorsk**	**3.04**	**355**	⇓	*e*PN	**Pn**	**20 58 21.0**	**+2.4**
AKT	**Akhty**	**3.23**	**81**	⇑	*e*PN	**Pb**	**20 58 24.9**	**-2.6**
AKT				*e*	S	**Sb**	**20 59 06.3**	**-1.0**
AKT					pmax	pmax		
	comp=Z,12nm,0.9s							
AKT					smax	smax		
	comp=Z,28nm,1.1s							
GOF	**Gofitskoye**	**4.04**	**356**	⇑	*e*PN	**Pg**	**20 58 49.9**	**+3.0**
GOF				*e*	S	**Sg**	**20 59 38.3**	**-1.0**
GOF					pmax	pmax		
	comp=Z,13nm,0.7s							
GOF					smax	smax		
	comp=N,29nm,0.7s							

*SOME **20** 21:09:40.0, 41.˚42N×79.˚05E, h10km*
*KRNET **20** 21:09:41.0±0.1, 41.˚36N×79.˚11E, h28km, mb2.5*
*NNC **20** 21:09:42.3±1.9, 41.˚46N×79.˚05E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=13.1km s-min=7.8km az=157.0*

ISC 20 21:09:42.0±1.8, **41.˚41N**±0.˚08×**79.˚13E**±0.˚05, **h10**km, **n50, σ1§45/82, 17C-4D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.20**	**333**	⇑*e*P	**Pg**	**21 10 05.4**	**+0.3**
PRZ	baz=35			⇑*e*S	**Sn**	**21 10 23.1**	**+1.6**
	baz=35						
KDJ	**Kajisay**	**1.63**	**297**	⇑*e*P	**Pb**	**21 10 11.5**	**-0.7**
KDJ	baz=99			⇑*e*S	**Sg**	**21 10 33.9**	**-0.5**
	baz=99						
SATY	**Saty**	**1.73**	**342**	*e*P	**Pb**	**21 10 12.7**	**-1.3**
SATY	3.3nm,0.1s			*e*S	**Sg**	**21 10 36.4**	**-1.3**
	28nm,0.1s						
SATY	**Saty**	**1.73**	**342**	P	**Pb**	**21 10 12.7**	**-1.3**
SATY	5.6nm,0.2s			S	**Sg**	**21 10 36.4**	**-1.3**
	28nm,0.1s						
UZB	**Uzynbulak**	**1.74**	**357**	*e*P	**Pn**	**21 10 12.2**	**-0.2**
UZB	7.5nm,0.2s			*e*S	**Sb**	**21 10 35.4**	**-0.5**
	11nm,0.2s						
UZB	**Uzynbulak**	**1.74**	**357**	P	**Pn**	**21 10 11.6**	**-0.8**
UZB	7.5nm,0.2s			S	**Sn**	**21 10 34.2**	**-0.4**
	11nm,0.2s						
ANVS	**Anan'yevo**	**1.75**	**322**	⇑*i*P	**Pb**	**21 10 14.0**	**-0.3**
ANVS	baz=24			⇑*i*S	**Sg**	**21 10 38.1**	**-0.2**
	baz=24						
SHLS	**Shalkode**	**1.76**	**8**	*e*P	**Pg**	**21 10 14.8**	**-0.9**
SHLS	28nm,0.2s			*e*S	**Sg**	**21 10 39.9**	**+1.3**
	33nm,0.3s						
PDGK	**Podgornoye**	**1.93**	**8**	S	**Sb**	**21 10 40.7**	**-0.9**
PDGK	18nm,0.3s **Podgornoye**	**1.93**	**8**	⇑P	**Pg**	**21 10 18.5**	**-0.6**
	5.1nm,0.5s						
PDGK	32nm,0.6s			⇓S	**Sg**	**21 10 42.2**	**-1.9**
KPKS	**Kokpek**	**2.08**	**351**	*e*P	**Pb**	**21 10 18.9**	**-0.9**
KPKS	20nm,0.2s			*e*S	**Sg**	**21 10 47.1**	**-1.8**
	64nm,0.3s						
KURS	**Kuram**	**2.19**	**341**	*e*P	**Pb**	**21 10 21.1**	**-0.7**
KURS	5.3nm,0.4s			*e*S	**Sg**	**21 10 50.8**	**-1.7**
	11nm,0.2s						
KURS	**Kuram**	**2.19**	**341**	Pg	**Pb**	**21 10 20.9**	**-0.9**
KURS	5.3nm,0.4s			Lg	Lg	21 10 50.4	
	11nm,0.2s						
KTMS	**Ketmen**	**2.22**	**24**	*e*P	**Pb**	**21 10 21.3**	**-1.1**
KTMS	10nm,0.4s			*e*S	**Sb**	**21 10 50.6**	**+0.6**
	17nm,0.2s						
KTMS	**Ketmen**	**2.22**	**24**	Pg	**Pb**	**21 10 21.2**	**-1.1**
KTMS	10nm,0.4s			Lg	Lg	21 10 50.9	
	17nm,0.2s						
ULHL	**Ulahol**	**2.32**	**292**	⇓*i*P	**Pb**	**21 10 22.6**	**-1.4**
ULHL	baz=93			⇓*i*S	**Sb**	**21 10 52.8**	**+0.1**
	baz=93						
MDOK	**Medeo**	**2.34**	**319**	*e*P	**Pb**	**21 10 23.1**	**-1.2**
MDOK	4.0nm,0.2s			*e*S	**Sb**	**21 10 53.9**	**+0.6**
	17nm,0.3s						
MDOK	**Medeo**	**2.34**	**319**	Pn	**Pb**	**21 10 23.1**	**-1.2**
MDOK	7.2nm,0.7s			⇑Sn	**Sb**	**21 10 53.8**	**+0.6**
	17nm,0.4s						
MDOK	**Medeo**	**2.34**	**319**	Pg	**Pb**	**21 10 23.2**	**-1.0**
MDOK	5.6nm,0.6s			Lg	Lg	21 10 54.5	
	28nm,0.6s						
KOTS	**Kotyrbulak**	**2.36**	**321**	*e*P	**Pb**	**21 10 23.6**	**-1.1**
KOTS	14nm,0.2s			*e*S	**Sb**	**21 10 54.6**	**+0.7**
	21nm,0.2s						
KOTS	**Kotyrbulak**	**2.36**	**321**	Pg	**Pb**	**21 10 23.6**	**-1.1**
KOTS	14nm,0.2s			Lg	Lg	21 10 55.1	
	21nm,0.2s						
IZV	**Izvestkoviy**	**2.48**	**312**	*e*P	**Pb**	**21 10 25.9**	**-0.8**
IZV	7.6nm,0.3s			*e*S	**Sg**	**21 10 59.1**	**-2.5**
	32nm,0.2s						
IZV	**Izvestkoviy**	**2.48**	**312**	Pg	**Pb**	**21 10 25.3**	**-1.4**
IZV	7.6nm,0.3s			Lg	Lg	21 10 57.9	
	32nm,0.2s						
BOOM	**Boomskoye usch**	**2.62**	**295**	⇑*i*P	**Pb**	**21 10 26.5**	**-2.5**
BOOM	baz=97			⇑*i*S	**Sb**	**21 11 00.1**	**-1.2**
	baz=97						
MTBS	**Maitube**	**2.64**	**311**	*e*P	**Pb**	**21 10 28.3**	**-1.2**
MTBS	6.7nm,0.3s			*e*S	**Sb**	**21 11 03.2**	**+1.2**
	11nm,0.2s						
MTBS	**Maitube**	**2.64**	**311**	Pg	**Pb**	**21 10 28.3**	**-1.2**
MTBS	6.7nm,0.3s			Lg	Lg	21 11 03.0	
	11nm,0.2s						
KST	**Kastek**	**2.86**	**306**	*e*P	**Pb**	**21 10 31.8**	**-1.4**
KST	4.9nm,0.3s			*e*S	**Sb**	**21 11 09.2**	**+0.8**
	26nm,0.5s						
KST	**Kastek**	**2.86**	**306**	Pg	**Pb**	**21 10 31.9**	**-1.4**
KST	4.9nm,0.3s			Lg	Lg	21 11 09.5	
	26nm,0.5s						
CHKK	**Chushkaly**	**2.91**	**328**	*e*P	**Pb**	**21 10 33.1**	**-0.9**
CHKK	7.7nm,0.3s			*e*S	**Sb**	**21 11 11.3**	**+1.7**
	57nm,0.6s						
CHKK	**Chushkaly**	**2.91**	**328**	Pg	**Pb**	**21 10 32.7**	**-1.2**
CHKK	7.7nm,0.3s			Lg	Lg	21 11 11.1	
	58nm,0.6s						
KTBS	**Karatobe**	**2.93**	**323**	*e*P	**Pb**	**21 10 33.1**	**-1.2**
KTBS	3.0nm,0.2s			*e*S	**Sb**	**21 11 11.3**	**+1.2**
	28nm,0.3s						
KTBS	**Karatobe**	**2.93**	**323**	Pg	**Pb**	**21 10 33.1**	**-1.2**
KTBS	3.0nm,0.2s			Lg	Lg	21 11 11.4	
	28nm,0.3s						
DJR	**Jarkent**	**2.96**	**9**	*e*P	**Pb**	**21 10 34.0**	**-0.8**
DJR	2.2nm,0.2s			*e*S	**Sb**	**21 11 12.9**	**+1.8**
	29nm,0.2s						
DJR	**Jarkent**	**2.96**	**9**	Pg	**Pb**	**21 10 34.0**	**-0.8**
DJR	2.2nm,0.2s			Lg	Lg	21 11 12.0	
	29nm,0.2s						
ARXS	**Arharly**	**2.96**	**341**	*e*P	**Pb**	**21 10 33.6**	**-1.3**
ARXS	5.8nm,0.5s			*e*S	**Sb**	**21 11 12.0**	**+0.9**
	15nm,0.2s						
ARXS	**Arharly**	**2.96**	**341**	Pg	**Pb**	**21 10 34.0**	**-0.9**
ARXS	5.8nm,0.5s			Lg	Lg	21 11 12.9	
	15nm,0.2s						
TKM2	**Tokmak 2**	**3.03**	**301**	⇑*i*P	**Pn**	**21 10 32.6**	**+2.4**
TKM2	baz=2.0			⇑*i*S	**Sb**	**21 11 09.9**	**-3.4**
	baz=2.0						
TKM2	**Tokmak 2**	**3.03**	**301**	⇑Pg	**Pb**	**21 10 33.6**	**-2.6**
TKM2	1.3nm,0.3s			⇓Sn	**Sb**	**21 11 14.4**	**+1.1**
	13nm,0.7s						
DGS	**Degeres**	**3.09**	**307**	Pg	**Pb**	**21 10 36.0**	**-1.1**
DGS	3.6nm,0.6s			Lg	Lg	21 11 16.3	
	9.5nm,0.3s						
KUU	**Kurty**	**3.23**	**321**	*e*P	**Pb**	**21 10 38.0**	**-1.3**
KUU	1.7nm,0.2s			*e*S	**Sb**	**21 11 19.4**	**+0.8**
	13nm,0.3s						
KUU	**Kurty**	**3.23**	**321**	Pg	**Pb**	**21 10 38.4**	**-0.9**
KUU	1.7nm,0.2s			Lg	Lg	21 11 20.7	
	13nm,0.3s						
KBK	**Karagaybulak**	**3.36**	**293**	⇑*i*P	**Pn**	**21 10 36.9**	**+2.2**
KBK	baz=94			⇑*i*S	**Sb**	**21 11 18.5**	**-4.1**
	baz=94						
KRBS	**Karabastau**	**3.43**	**313**	*e*P	**Pb**	**21 10 42.3**	**-0.5**
KRBS	2.0nm,0.3s			*e*S	**Sb**	**21 11 27.2**	**+2.7**
	4.8nm,0.2s						
KRBS	**Karabastau**	**3.43**	**313**	Pg	**Pb**	**21 10 42.1**	**-0.7**
KRBS	2.0nm,0.3s			Lg	Lg	21 11 27.0	
	4.8nm,0.2s						
TDK	**Taldyqorghan**	**3.63**	**352**	*e*P	**Pb**	**21 10 45.7**	**-0.5**
TDK	3.8nm,0.2s			*e*S	**Sb**	**21 11 32.7**	**+2.4**
	25nm,0.3s						
TDK	**Taldyqorghan**	**3.63**	**352**	Pg	**Pb**	**21 10 45.2**	**-1.0**
TDK	8.7nm,0.4s			Lg	Lg	21 11 32.3	
	25nm,0.3s						
KAPS	**Kapalarasan**	**3.88**	**2**	*e*P	**Pb**	**21 10 49.9**	**-0.5**
KAPS	1.9nm,0.2s			*e*S	**Sb**	**21 11 39.8**	**+2.4**
	5.8nm,0.3s						
KAPS	**Kapalarasan**	**3.88**	**2**	Pg	**Pb**	**21 10 50.0**	**-0.5**
KAPS	1.9nm,0.2s			Lg	Lg	21 11 40.4	
	5.8nm,0.3s						
SGDS	**Sogindy**	**3.91**	**303**	Pg	**Pb**	**21 10 50.9**	**-0.1**
SGDS	1.4nm,0.5s			Lg	Lg	21 11 42.1	
	4.4nm,0.4s						
AML	**Almayashu**	**4.13**	**282**	⇑*e*P	**Pn**	**21 10 47.9**	**+2.4**
AML	baz=83			⇑*e*S	**Sn**	**21 11 36.3**	**+2.2**
	baz=83						

*JMA **20** 21:25:14.8±0.4, 44.˚00N×148.˚13E, h0km, M3.9*
*SKHL **20** 21:25:15.6±0.4, 44.˚50N×148.˚30E, h45km±4km, mb4.5/2*

ISC 20 21:25:11.0±2.9, **44.˚30N**±0.˚09×**148.˚4E**±0.˚2, **h8**km±22km,

n19, σ1§88/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.00**	**339**	*i* P	**Pg**	**21 25 30.4**	**+0.2**
KUR				AMB	AMB	21 25 31.1	
	250nm,0.3s						
KUR				*i* S	**Sb**	**21 25 41.7**	**-2.0**
KUR				A	A	21 25 43.0	
	880nm,0.2s						
KUR				A	A	21 25 43.0	
	560nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.83**	**262**	*i* P	**Pb**	**21 25 43.7**	**-0.9**
YUK				AMB	AMB	21 25 43.9	
	100nm,0.2s						
YUK				*e*S	**Sn**	**21 26 04.5**	**-1.4**
YUK				A	A	21 26 11.5	
	420nm,0.4s						
YUK				A	A	21 26 11.5	
	360nm,0.4s						
GRPR	**Tuman**	**1.90**	**261**	*e*P	**Pb**	**21 25 44.9**	**-0.9**
GRPR				*e*S	**Sn**	**21 26 06.6**	**-1.1**
GRPR				A	A	21 26 11.6	
	340nm,0.4s						
GRPR				A	A	21 26 11.6	
	290nm,0.4s						
NEM2	**Nemuro 2**	**2.12**	**245**	P	**Pn**	**21 25 47.9**	**+1.2**
NEM2				*e*S	**Sn**	**21 26 12.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.13**	**245**	*i* P	**Pn**	**21 25 47.9**	**+1.1**
NMR				*e*S	**Sn**	**21 26 12.2**	**-1.2**
GLVR	**Golovnino**	**2.13**	**256**	*i* P	**Pb**	**21 25 49.0**	**-0.9**
GLVR				*e*S	**Sn**	**21 26 14.5**	**+1.0**
GLVR				A	A	21 26 16.2	
	290nm,0.4s						
GLVR				A	A	21 26 16.2	
	280nm,0.4s						
JRA	**Rausu**	**2.37**	**262**	P	**Pb**	**21 25 52.7**	**-1.2**
JRA				*e*S	**Sn**	**21 26 20.6**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.49**	**259**	P	**Pb**	**21 25 54.3**	**-1.6**
JNSB				*e*S	**Sn**	**21 26 23.5**	**+1.3**
JKHN	**Kushirohamanak**	**2.63**	**243**	P	**Pn**	**21 25 55.4**	**+1.7**
JNK	**Nakash**	**2.73**	**256**	P	**Pn**	**21 25 57.4**	**+2.3**
AKK	**Akkeshi**	**2.87**	**245**	*i* P	**Pn**	**21 25 58.7**	**+1.8**
AKK				*e*S	**Sn**	**21 26 31.0**	**-0.6**
JAK	**Akkeshi**	**2.97**	**245**	P	**Pn**	**21 26 00.1**	**+1.7**
JAK				*e*S	**Sn**	**21 26 34.0**	**-0.1**
JTKR	**Abashiri--Toko**	**3.23**	**266**	P	**Pb**	**21 26 06.2**	**-2.4**
JAR	**Ashorobuto**	**3.48**	**255**	P	**Pn**	**21 26 08.6**	**+3.2**
JAR				*e*S	**Sn**	**21 26 48.7**	**+2.0**
JCH	**Churui**	**4.02**	**247**	P	**Pn**	**21 26 15.2**	**+2.4**
JCH				*e*S	**Sn**	**21 27 00.7**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.57**	**246**	P	**Pn**	**21 26 23.3**	**+2.9**
JKB	**Kayabe**	**5.89**	**248**	P	**Pn**	**21 26 41.2**	**+2.7**
JKB				*e*S	**Sn**	**21 27 46.2**	**+0.1**
JOT	**Ohata**	**6.12**	**244**	P	**Pn**	**21 26 43.8**	**+2.1**
JOT				*e*S	**Sn**	**21 27 50.2**	**-1.7**
JANG	**Nango**	**6.42**	**235**	P	**Pn**	**21 26 47.5**	**+1.7**
JANG				*e*S	**Sn**	**21 27 55.2**	**-4.0**

IDC 20 21:29:10.2±1.8, **28.˚23N**×**99.˚83E, h0**km, **mb3.4**/2, **mb1 3.7**/2, **mb1mx3.1**/47, **mbtmp3.4**/2, **Error ellipse: s-maj=92.3km s-min=30.6km az=61.0, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.76**	**185**	Pg	Pn	**21 32 10.0**	**+38**
	0.2nm,0.3s,baz=357,slow=17,SNR=1.4						
MKAR	**Makanchi Array**	**23.08**	**328**	P	P	**21 34 17.6**	**+0.1**
	0.3nm,0.6s,baz=140,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**58.36**	**141**	P	P	**21 39 07.3**	**-0.3**
	1.5nm,1.0s,baz=328,slow=7.7,SNR=6.0						

*IDC **20** 21:38:03.8±1.3, 34.˚23N×26.˚30E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/36, mbtmp3.5/7, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx1.9/39, Error ellipse: s-maj=27.0km s-min=13.6km az=31.0*
*ATH **20** 21:38:05.7, 34.˚26N×26.˚25E, h61km±27km, ML2.9/5, Error ellipse: s-maj=31.6km s-min=2.8km az=6.0*
*ISK **20** 21:38:05.9, 34.˚24N×26.˚32E, h17km, ML3.2/12*
*HLW **20** 21:38:06.3, 34.˚27N×26.˚26E, h17km±18km, Ml3.5*
*THE **20** 21:38:07.6, 34.˚20N×26.˚37E, h40km±34km, ML3.0/3, Error ellipse: s-maj=34.7km s-min=3.2km az=12.0*

ISC 20 21:38:06.7±1.6, **34.˚21N**±0.˚04×**26.˚32E**±0.˚04, **h23**km±14km, **n44, σ1§19/56, mb3.5/5, Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.91**	**354**	P	**Pb**	**21 38 23.3**	**-0.5**
ZKR				S	**Sn**	**21 38 36.4**	**0.0**
	718nm,0.7s						
ZKR	**Zakros**	**0.91**	**354**	P	**Pb**	**21 38 23.3**	**-0.5**
ZKR				S	**Sn**	**21 38 36.4**	**0.0**
ZKR				AML	AML	21 38 42.3	
	comp=E,2067μm,0.8s						
ZKR				AML	AML	21 38 44.1	
	comp=N,876μm,0.4s						
ZKR	**Zakros**	**0.91**	**354**	PG	**Pb**	**21 38 23.2**	**-0.5**
ZKR				SG	**Sn**	**21 38 36.3**	**-0.1**
LAST	**Lasithi**	**1.18**	**324**	P	**Pn**	**21 38 27.1**	**-0.8**
LAST				S	**Sn**	**21 38 42.8**	**-0.4**
	comp=N,265nm,0.8s						
LAST	**Lasithi**	**1.18**	**324**	P	**Pn**	**21 38 27.1**	**-0.8**
LAST				S	**Sn**	**21 38 42.7**	**-0.4**
LAST				AML	AML	21 38 48.8	
	comp=N,1126μm,0.8s						
LAST				AML	AML	21 38 51.1	
	comp=E,1009μm,0.6s						
NPS	**Neapolis**	**1.20**	**331**	P	**Pn**	**21 38 27.4**	**-0.7**
NPS	**Neapolis**	**1.20**	**331**	P	**Pn**	**21 38 27.4**	**-0.7**
NPS				AML	AML	21 38 56.1	
	comp=E,976μm,0.9s						
NPS				AML	AML	21 38 56.5	
	comp=N,717μm,0.6s						
SIVA	**Sivas**	**1.48**	**303**	P	**Pn**	**21 38 32.1**	**+0.1**
SIVA	**Sivas**	**1.48**	**303**	P	**Pn**	**21 38 32.0**	**0.0**
SIVA				AML	AML	21 38 58.6	
	comp=E,1366μm,0.4s						
SIVA				AML	AML	21 39 01.1	
	comp=N,1220μm,0.6s						
HRKL	**Herakleio**	**1.49**	**318**	PN	**Pn**	**21 38 33.1**	**+1.0**
HRKL				SN	**Sb**	**21 38 51.9**	**-0.2**
IDI	**Anoyia**	**1.60**	**313**	Pg	**Pn**	**21 38 34.1**	**+0.4**
	comp=N,6.1nm,0.3s,baz=135,slow=8.6,SNR=56						
IDI				Lg	Lg	21 38 54.3	
	comp=N,7.2nm,0.3s,baz=271,slow=16,SNR=8.9						
IDI	**Anoyia**	**1.60**	**313**	P	**Pn**	**21 38 34.0**	**+0.4**
IDI	**Anoyia**	**1.60**	**313**	P	**Pn**	**21 38 34.0**	**+0.4**
IDI				AML	AML	21 39 08.0	
	comp=N,218μm,0.6s						
IDI				AML	AML	21 39 19.5	
	comp=E,253μm,0.6s						
IDI	**Anoyia**	**1.60**	**313**	PN	**Pn**	**21

RYAN				AMP			21 40 00.0
	baz=145						
HSAF	**As Saff**	**6.38**	**134**	P	**Pn**	**21 39 41.5**	**+2.2**
	baz=134						
HFRF	**Wahat Farafira**	**7.24**	**166**	P	**Pn**	**21 39 52.8**	**+1.6**
	baz=165						
MMAI	**Mount Meron Ar**	**7.67**	**96**	Pn	**Pn**	**21 39 57.5**	**+0.4**
	comp=E,1.0nm,0.3s,baz=281,slow=16,SNR=8.2						
MMAI				Sn	**Sn**	**21 41 23.0**	**-0.2**
	comp=E,0.3nm,0.3s,baz=248,slow=12,SNR=1.4						
BRTR	**Keskin Array B**	**8.03**	**45**	LR	LR	21 44 23.4	
	comp=E,39nm,20.0s,baz=182,slow=47						
EIL	**Elat**	**8.62**	**119**	Pn	**Pn**	**21 40 11.2**	**+1.3**
	comp=E,0.5nm,0.3s,baz=224,slow=2.1,SNR=9.1						
EIL				Sn	**Sn**	**21 41 43.2**	**-3.2**
	comp=E,0.3nm,0.3s,baz=86,slow=15,SNR=1.4						
HKAT	**Jabal Katrina**	**8.67**	**129**	P	**Pn**	**21 40 11.7**	**+0.9**
	baz=128						
HKAT				S	**Sn**	**21 41 45.2**	**-2.8**
	baz=128						
ESDC	**Sonseca Array**	**24.75**	**292**	P	**P**	**21 43 25.9**	**-0.6**
	comp=E,0.2nm,0.4s,baz=80,slow=9.0,SNR=5.4						
FINES	**FINESS Array B**	**27.25**	**360**	P	**P**	**21 43 47.9**	**-0.9**
	comp=E,1.1nm,0.9s,baz=179,slow=9.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**30.65**	**233**	P	**P**	**21 44 19.9**	**+0.4**
	comp=E,0.4nm,0.3s,baz=34,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**35.38**	**360**	P	**P**	**21 44 58.7**	**-1.5**
	comp=E,0.8nm,0.8s,baz=168,slow=8.9,SNR=1.6						
MKAR	**Makanchi Array**	**43.51**	**56**	P	**P**	**21 46 10.2**	**+1.9**
	comp=E,0.5nm,0.6s,baz=274,slow=7.5,SNR=8.3						

IDC 20 21:41:29.9±2.8, 6°34.S×130°47.E, h115km±39km, mb3.3/1, mb1 3.4/5, mb1mx3.1/30, mbtmp3.7/5, Error ellipse: s-maj=83.2km s-min=21.6km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.49**	**8**	P	Pn	21 42 49.8	+0.4
	2.2nm,0.3s,baz=150,slow=20,SNR=7.1						
SIJI				S	Sn	21 43 45.6	-5.8
	2.9nm,0.3s,baz=272,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**12.61**	**202**	P	Pn	21 44 24.4	-0.7
	0.1nm,0.3s,baz=32,slow=12,SNR=6.3						
FITZ				S	Sn	21 46 34.7	-9.3
	0.1nm,0.3s,baz=237,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**14.04**	**165**	P	Pn	21 44 42.2	-1.6
	0.3nm,0.3s,baz=355,slow=13,SNR=22						
WRA				S	Sn	21 47 10.7	-8.1
	0.3nm,0.3s,baz=345,slow=24,SNR=7.1						
ASAR	**Alice Springs**	**17.55**	**170**	P	Pn	21 45 28.8	+1.4
	0.2nm,0.3s,baz=351,slow=10,SNR=11						
ASAR				S	Sn	21 48 34.4	-8.8
	0.1nm,0.3s,baz=356,slow=23,SNR=1.3						
MKAR	**Makanchi Array**	**67.93**	**326**	P	P	21 52 16.2	-0.1
	0.3nm,0.4s,baz=123,slow=6.5,SNR=6.5						

SKO 20 21:59:41.2, 41°49N×22°44.E, h0km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.20**	**150**	*e*Pg	Pg	21 59 44.6	-0.3
VAY				*i* Sg	Sg	21 59 47.6	+0.1
VAY				*e*Lg	Lg	21 59 47.8	
	comp=N,3.9nm,0.3s						
VAY				*e*Lg	Lg	21 59 47.8	
	comp=E,1.2nm,0.2s						
STIP	**Stip**	**0.28**	**317**	*e*Pg	Pg	21 59 46.5	-0.1
STIP				*i* Sg	Sg	21 59 50.1	-0.2
KNT	**Kendrikon**	**0.48**	**133**	*e*Pg	Pg	21 59 49.8	-0.6
KNT				*i* Sg	Sg	21 59 56.5	-0.1

MEX 20 22:00:16.6±0.3, 29°52N×109°87W, h20km, MD3.7, Sonora

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGIG		**1.85**	**63**	*e*P	Pn	22 00 47.8	+0.4
CGIG				*e*S	Sn	22 01 06.2	-4.0
TUC	**Tucson**	**2.88**	**344**	*e*P	Pn	22 00 59.2	-2.3
TUC				*e*S	Sn	22 01 32.4	-3.3

ATH 20 22:00:20.7, 40°.16N×21°.66E, h18km±1km, ML1.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=59.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.17**	**29**	P	Pg	22 00 25.3	0.0
KZN				S	Sg	22 00 28.0	-0.3
KZN				AML	AML	22 00 28.6	
	comp=N,414μm,0.2s						
KZN				AML	AML	22 00 28.7	
	comp=E,558μm,0.1s						
KPRO	**Kipourio**	**0.30**	**229**	P	Pg	22 00 26.8	-0.5
KPRO				AML	AML	22 00 34.6	
	comp=E,189μm,0.5s						
KPRO				AML	AML	22 00 34.8	
	comp=N,122μm,0.4s						
NEST	**Nestorio**	**0.54**	**299**	P	Pg	22 00 31.3	-0.1
NEST				AML	AML	22 00 44.6	
	comp=E,92μm,0.3s						
NEST				AML	AML	22 00 45.8	
	comp=N,75μm,0.5s						
LIT	**Litokhoron**	**0.64**	**95**	P	Pg	22 00 32.5	-0.7
LIT				AML	AML	22 00 46.8	
	comp=E,99μm,0.3s						
LIT				AML	AML	22 00 48.5	
	comp=N,98μm,0.3s						
THL	**Klokotos Trika**	**0.65**	**155**	P	Pg	22 00 33.2	-0.3
THL				S	Sg	22 00 42.0	-0.1
THL				AML	AML	22 00 46.5	
	comp=E,52μm,0.2s						
THL				AML	AML	22 00 47.3	
	comp=N,74μm,0.3s						
FNA	**Florina**	**0.66**	**341**	P	Pg	22 00 32.9	-0.9
FNA				S	Sg	22 00 42.4	-0.2
FNA				AML	AML	22 00 44.8	
	comp=E,119μm,0.3s						
FNA				AML	AML	22 00 47.9	
	comp=N,76μm,0.3s						

IDC 20 22:58:25.3±3.5, 15°.79S×173°.91W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=173.7km s-min=32.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.28**	**257**	P	P	23 07 16.0	-0.4
	0.8nm,0.6s,baz=95,slow=8.2,SNR=12						
WRA				PcP	PcP	23 08 39.7	+0.3
	0.7nm,0.9s,baz=98,slow=3.5,SNR=2.1						
ASAR	**Alice Springs**	**49.53**	**252**	P	P	23 07 18.1	-0.2
	5.8nm,0.7s,baz=87,slow=8.2,SNR=70						
ASAR				PcP	PcP	23 08 40.4	+0.2
	0.3nm,0.7s,baz=92,slow=5.6,SNR=1.6						
ILAR	**Eielson Array**	**82.92**	**11**	P	P	23 10 51.5	-0.1
	0.3nm,0.5s,baz=226,slow=5.4,SNR=5.5						
BRTR	**Keskin Array B**	**146.15**	**320**	PKPbc	PKPdf	23 18 07.2	+0.1
	1.2nm,0.7s,baz=71,slow=4.6,SNR=8.0						
GERES	**GERESS Array B**	**146.45**	**351**	PKPbc	PKPdf	23 18 07.2	0.0
	0.2nm,0.5s,baz=46,slow=2.8,SNR=1.9						

*IDC **20** 23:12:29.7±5.0, 35°.28N×86°.06E, h68km±48km, mb3.3/10, mb1 3.4/14, mb1mx3.3/39, mbtmp3.6/14, ML3.0/4, MS3.1/7, Ms1 3.1/7, ms1mx2.8/32, Error ellipse: s-maj=40.2km s-min=17.0km az=42.0*

ISC 20 23:12:26.5±0.9, 35°.2N±0°.1×85°.9E±0°.2, h35km, n17, σ1§03/14, mb3.6/8, MS3.0/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**11.93**	**348**	P	**Pn**	**23 15 14.8**	**+0.8**
	0.2nm,0.3s,baz=154,slow=13,SNR=24						
KURBB	**Kurchatov Arra**	**16.35**	**343**	P	**Pn**	**23 16 13.8**	**+0.6**
	0.1nm,0.3s,baz=160,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	**18.79**	**358**	P	**P**	**23 16 42.5**	**-0.1**
	0.1nm,0.3s,baz=176,slow=11,SNR=1.2						
ZALV				LR	LR	23 24 35.1	
	comp=Z,39nm,21.0s,baz=176,slow=39						
SONM	**Songino Array**	**19.80**	**44**	P	**P**	**23 16 54.0**	**+0.2**
	0.1nm,0.3s,baz=248,slow=12,SNR=2.1						
SONM				LR	LR	23 24 54.8	
	comp=Z,74nm,18.7s,baz=223,slow=38						
CMAR	**Chiang Mai Arr**	**20.26**	**142**	P	**P**	**23 17 00.0**	**+1.1**
	0.6nm,0.3s,baz=98,slow=40,SNR=1.6						
TLY	**Talaya**	**20.83**	**32**	LR	LR	23 26 25.7	
	comp=Z,37nm,18.1s,baz=218,slow=40						
BVAR	**Borovoye Array**	**20.97**	**333**	P	**P**	**23 17 06.0**	**-0.4**
	0.7nm,0.7s,baz=172,slow=20,SNR=4.0						
GEYT	**Alibeck**	**22.49**	**285**	LR	LR	23 27 52.1	
	comp=Z,50nm,21.0s,baz=160,slow=41						
AKTO	**Aktyubinsk**	**25.34**	**316**	P	**P**	**23 17 50.9**	**+1.0**
	2.3nm,0.7s,baz=111,slow=9.6,SNR=9.5						
AKTO				LR	LR	23 29 11.4	
	comp=Z,39nm,18.5s,baz=125,slow=40						
PALK	**Pallekele**	**28.18**	**191**	LR	LR	23 29 41.5	
	comp=Z,40nm,18.3s,baz=107,slow=36						
BRTR	**Keskin Array B**	**41.29**	**292**	P	**P**	**23 20 09.5**	**+0.9**
	0.6nm,0.7s,baz=95,slow=9.3,SNR=4.2						
BRTR				LR	LR	23 39 42.3	
	comp=Z,34nm,18.1s,baz=82,slow=40						
FINES	**FINESS Array B**	**45.53**	**324**	P	**P**	**23 20 40.3**	**-2.0**
	0.8nm,1.0s,baz=107,slow=12,SNR=1.5						
NOA	**NORSAR Array B**	**52.70**	**324**	P	**P**	**23 21 36.2**	**-1.0**
	0.5nm,0.9s,baz=85,slow=7.1,SNR=2.5						
GERES	**GERESS Array B**	**53.44**	**308**	P	**P**	**23 21 43.3**	**+0.4**
	0.5nm,0.7s,baz=64,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**71.50**	**132**	P	**P**	**23 23 44.1**	**+0.3**
	0.9nm,0.8s,baz=323,slow=6.4,SNR=2.9						
ASAR	**Alice Springs**	**74.09**	**135**	P	**P**	**23 23 57.7**	**-1.5**
	0.5nm,0.9s,baz=324,slow=4.6,SNR=1.4						
TORD	**Torodi Ar. Bea**	**77.90**	**278**	P	**P**	**23 24 20.7**	**-0.4**
	0.5nm,0.8s,baz=24,slow=4.9,SNR=1.6						

*DDA **20** 23:15:02.4, 42°.04N×46°.34E, h6km±4km, ML2.7*
*TIF **20** 23:15:04.3, 41°.84N×46°.35E, h15km*
*DRS **20** 23:15:04.2±0.0, 41°.81N×46°.27E, h12km*
*MOS **20** 23:15:05.0±0.0, 41°.85N×46°.39E, h19km, MPVA3.3*
*NORS **20** 23:15:05.1±0.0, 41°.85N×46°.41E, h21km, MPVA3.2*

ISC 20 23:15:05.1±0.8, 41°.83N±0°.03×46°.29E±0°.02, h15km±5km, n32, σ1§16/63, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.04**	**284**	P	**Pg**	**23 15 07.6**	**-0.3**
LGD				S	**Sg**	**23 15 09.9**	**+0.1**
DDFL	**Dedoflistskaro**	**0.40**	**199**	P	**Pb**	**23 15 14.2**	**+0.2**
DDFL	**Dedoflistskaro**	**0.40**	**199**	*i* P	**Pb**	**23 15 14.2**	**+0.2**
DDFL				*i* S	**Sn**	**23 15 24.9**	**+1.2**
GNBR	**Gunib**	**0.75**	**41**	*i* Pg	**Pn**	**23 15 19.8**	**-1.5**
GNBR				*e*Sg	**Sn**	**23 15 30.5**	**-1.9**
XNZR	**Khunzakh**	**0.78**	**23**	*e*Pg	**Pn**	**23 15 20.1**	**-1.5**
XNZR				*e*Sg	**Sn**	**23 15 30.9**	**-2.3**
BTLR	**Botlikh**	**0.84**	**356**	*e*Pg	**Pn**	**23 15 21.7**	**-0.8**
BTLR				*e*Sg	**Sn**	**23 15 33.5**	**-1.0**
ARKR	**Arakani**	**0.94**	**34**	*i* Pg	**Pn**	**23 15 23.2**	**-0.5**
ARKR				*e*Sg	**Sn**	**23 15 36.5**	**-0.4**
URKR	**Urkarakh**	**1.05**	**71**	*e*Pg	**Pn**	**23 15 25.4**	**0.0**
URKR				*e*Sg	**Sn**	**23 15 40.2**	**+0.2**
KRNR	**Karanay**	**1.10**	**24**	*i* Pg	**Pg**	**23 15 25.8**	**-0.5**
KRNR				*e*Sg	**Sn**	**23 15 40.8**	**-0.2**
SEAG	**Tbilisi Sea**	**1.12**	**267**	P	**Pg**	**23 15 26.4**	**-0.2**
SEAG				S	**Sg**	**23 15 42.8**	**+1.6**
BTNK	**Botanikuri**	**1.13**	**263**	P	**Pn**	**23 15 26.1**	**-0.3**
BTNK				S	**Sg**	**23 15 42.7**	**+1.1**
BTNK	**Botanikuri**	**1.13**	**263**	*i* P	**Pb**	**23 15 26.4**	**+0.1**
BTNK				*i* S	**Sg**	**23 15 42.8**	**+1.3**
BTNK				IAML		23 15 43.0	
	comp=E,150nm,0.4s						
AKT	**Akhty**	**1.13**	**107**	*i* Pg	**Pg**	**23 15 25.9**	**-1.0**
AKT				*e*Sg	**Sn**	**23 15 41.9**	**+0.1**
DVE	**Vedeno**	**1.14**	**354**	*e*Pg	**Pg**	**23 15 27.2**	**+0.2**
	comp=E,24nm,0.4s						
DVE				*e*Sg	**Sn**	**23 15 43.6**	**+1.7**
	comp=E,92nm,0.5s						
BUJR	**Buynaksk**	**1.17**	**31**	*e*Pg	**Pg**	**23 15 28.0**	**+0.4**
BUJR				*e*Sg	**Sn**	**23 15 44.4**	**+1.8**
SGKR	**Sergokala**	**1.20**	**58**	*e*Pg	**Pg**	**23 15 28.9**	**+0.8**
SGKR				*e*Sg	**Sg**	**23 15 46.0**	**+2.2**
DBC	**Dubki**	**1.26**	**18**	*e*Pg	**Pg**	**23 15 29.1**	**-0.3**
DBC				*e*Sg	**Sg**	**23 15 46.2**	**+0.5**
DLMR	**Dylym**	**1.27**	**11**	*e*Pg	**Pg**	**23 15 30.1**	**+0.6**
DLMR				*e*Sg	**Sg**	**23 15 47.9**	**+1.8**
KSMR	**Kasumkent**	**1.39**	**99**	*e*Pg	**Pg**	**23 15 31.1**	**-0.7**
KSMR				*e*Sg	**Sg**	**23 15 49.7**	**-0.3**
PNSH	**Pansheti**	**1.48**	**304**	P	**Pb**	**23 15 32.4**	**-0.1**
PNSH				S	**Sg**	**23 15 52.7**	**-0.3**
GUDG	**Gudauri**	**1.49**	**296**	P	**Pn**	**23 15 29.3**	**-2.3**
GUDG				S	**Sn**	**23 15 49.7**	**-1.3**
MTEO	**Meteo**	**1.56**	**304**	P	**Pg**	**23 15 34.5**	**-0.7**
MTEO				S	**Sg**	**23 15 55.6**	**+0.1**
KMGR	**Komgaron**	**1.62**	**320**	*e*Pg	**Pg**	**23 15 37.4**	**+1.2**
	comp=E,12nm,0.4s						
KMGR				*e*Sg	**Sg**	**23 16 00.3**	**+3.0**
	comp=E,34nm,0.5s						
DMNI	**Dmanisi**	**1.65**	**253**	P	**Pn**	**23 15 33.1**	**-0.5**
DMNI				S	**Sn**	**23 15 55.6**	**+0.9**
TRLG	**Trialeti**	**1.67**	**261**	P	**Pn**	**23 15 34.2**	**+0.3**
TRLG				S	**Sb**	**23 15 57.3**	**+0.9**
LACR	**Lac**	**1.79**	**305**	*e*Pg	**Pg**	**23 15 39.0**	**-0.4**
LACR				*e*Sg	**Sg**	**23 16 03.0**	**+0.4**
BRNG	**Burnasheti**	**1.86**	**265**	P	**Pb**	**23 15 38.4**	**-0.4**
BRNG				S	**Sg**	**23 16 03.9**	**-1.0**
BKRG	**Bakuriani**	**2.07**	**269**	P	**Pb**	**23 15 40.9**	**-1.7**
BKRG				S	**Sb**	**23 16 09.9**	**+1.7**
AKH	**Akhalkalaki**	**2.14**	**260**	P	**Pb**	**23 15 42.7**	**-1.0**
AKH				S	**Sb**	**23 16 10.7**	**+0.7**
ONI	**Oni**	**2.25**	**291**	*e*Pn	**Pb**	**23 15 46.0**	**+0.6**
ONI				*e*Sn	**Sg**	**23 16 15.7**	**-1.5**
TKB	**Tkibuli**	**2.51**	**283**	P	**Pb**	**23 15 48.5**	**-1.4**
TKB				S	**Sb**	**23 16 21.3**	**+0.7**
ABS	**Abastumani**	**2.60**	**270**	P	**Pb**	**23 15 50.0**	**-1.6**
ABS				S	**Sb**	**23 16 25.2**	**+1.9**

*IDC **20** 23:27:04.9±2.8, 54°.12S×160°.23E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/28, mbtmp4.0/4, Error ellipse: s-maj=147.7km s-min=28.1km az=67.0*
*NEIC **20** 23:27:08.9±1.0, 54°.56S±0°.08×158°.7E±0°.1, h12km±5km, mb4.1/6, Error ellipse: s-maj=12.2km s-min=9.3km az=138.0*

ISC 20 23:27:08.6±2.4, 54°.5S±0°.1×158°.6E±0°.2, h11km±17km, n29, σ0§73/19, mb4.1/6, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**0.21**	**81**	Pg	**Pg**	**23 27 12.5**	**-0.4**
MCQ				Sg	**Sg**	**23 27 16.3**	**+0.4**
WHZ	**Wether Hill Ro**	**10.51**	**38**	Pn	**Pn**	**23 29 38.6**	**-0.5**
MLZ	**Mavora Lakes**	**11.02**	**38**	Pn	**Pn**	**23 29 46.9**	**+0.8**
TAU	**Tasmania Unive**	**13.79**	**323**	Pn	**Pn**	**23 30 23.8**	**0.0**
TOO	**Toolangi**	**19.19**	**327**	P	**P**	**23 31 32.7**	**+0.4**
TOO				IAmb	IAmb	23 31 40.9	
	comp=Z,15nm,1.3s						
QSPA	**South Pole Qui**	**35.58**	**180**	P	**P**	**23 34 07.2**	**+1.4**
	comp=Z,1.8nm,1.1s,baz=5.1,slow=9.1,SNR=2.3						
QSPA	**South Pole Qui**	**35.58**	**180**	P	**P**	**23 34 05.7**	**-0.1**
QSPA				IAmb	IAmb	23 34 11.6	
	comp=Z,7.0nm,1.5s						
ASAR	**Alice Springs**	**35.92**	**319**	P	**P**	**23 34 10.1**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=156,slow=8.4,SNR=25						
ASAR				PcP	**PcP**	**23 36 34.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=150,slow=3.8,SNR=4.6						
ASAR	**Alice Springs**	**35.92**	**319**	P	**P**	**23 34 08.1**	**-0.8**
AS31	**Alice Springs**	**35.92**	**319**	P	**P**	**23 34 09.7**	**+0.8**
AS31				IAmb	IAmb	23 34 10.9	
	comp=Z,1.2nm,0.7s						
H01W1	**Cape Leeuwin H**	**36.41**	**284**	T	T	00 12 53.0	
	baz=136,slow=76,SNR=3592						
H01W2	**Cape Leeuwin H**	**36.42**	**284**	T	T	00 12 53.6	
	baz=136,slow=76,SNR=4543						
H01W3	**Cape Leeuwin H**	**36.43**	**284**	T	T	00 12 54.4	
	baz=136,slow=76,SNR=4481						
WR0	**Warramunga Arr**	**39.07**	**323**	P	**P**	**23 34 36.0**	**+0.4**
WR0				IAmb	IAmb	23 34 44.6	
	comp=Z,8.0nm,1.3s						
WRA	**Warramunga Arr**	**39.16**	**322**	P	**P**	**23 34 36.5**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=154,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**39.16**	**322**	P	**P**	**23 34 36.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**44.27**	**312**	P	**P**	**23 35 18.2**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=149,slow=7.2,SNR=2.0						
FITZ	**Fitzroy Crossi**	**44.27**	**312**	P	**P**	**23 35 18.5**	**+0.3**
H03S2	**Juan Fernandez**	**79.05**	**134**	T	T	01 06 30.5	
	baz=208,slow=74						
H03S1	**Juan Fernandez**	**79.05**	**134**	T	T	01 06 31.6	
	baz=208,slow=74						
H03S3	**Juan Fernandez**	**79.07**	**134**	T	T	01 06 30.9	
	baz=208,slow=74						
H03N3	**Juan Fernandez**	**79.38**	**134**	T	T	01 06 44.2	
	baz=214,slow=80,SNR=260						
H03N2	**Juan Fernandez**	**79.39**	**134**	T	T	01 06 45.5	
	baz=214,slow=80,SNR=224						
H03N1	**Juan Fernandez**	**79.40**	**134**	T	T	01 06 42.9	
	baz=214,slow=80,SNR=152						
H08S2	**Diego Garcia H**	**81.57**	**269**	T	T	01 09 20.5	
	baz=143,slow=76,SNR=411						
H08S1	**Diego Garcia H**	**81.58**	**269**	T	T	01 09 21.4	
	baz=143,slow=76,SNR=362						
H08S3	**Diego Garcia H**	**81.59**	**269**	T	T	01 09 18.8	
	baz=143,slow=76,SNR=272						
BOSA	**Boshof**	**87.97**	**220**	P	**P**	**23 39 58.3**	**-0.5**
FINES	**FINESS Array B**	**154.41**	**305**	PKPbc	**PKPbc**	**23 47 07.1**	**-0.5**
	comp=Z,0.8nm,1.0s,baz=103,slow=4.4,SNR=4.5						

*IDC **20** 23:33:48.6±1.1, 6°.90S×126°.72E, h427km±13km, mb3.0/4, mb1 3.0/8, mb1mx2.9/35, mbtmp3.8/8, Error ellipse: s-maj=20.1km s-min=11.3km az=83.0*

ISC 20 23:33:48.1±0.8, 6°.88S±0°.07×126°.7E±0°.1, h412km, n9, σ1§21/13, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.49**	**222**	P	**P**	**23 35 07.7**	**+2.2**
	70nm,0.3s,baz=63,slow=1.4,SNR=74						
BATI				S	**S**	**23 36 09.1**	**+0.4**
	9.0nm,0.3s,baz=92,slow=21,SNR=2.0						
SIJI	**Sorong**	**7.48**	**37**	P	**P**	**23 35 39.0**	**+1.2**
	1.0nm,0.3s,baz=195,slow=22,SNR=9.6						
SIJI				S	**S**	**23 37 08.1**	**+1.1**
	0.7nm,0.3s,baz=331,slow=19,SNR=1.2						
FITZ	**Fitzroy Crossi**	**11.21**	**185**	P	**P**	**23 36 19.5**	**+0.7**
	0.1nm,0.3s,baz=214,slow=2.5,SNR=3.2						
WRA	**Warramunga Arr**	**14.94**	**151**	P	**P**	**23 36 59.9**	**+0.3**
	0.1nm,0.3s,baz=328,slow=11,SNR=6.3						
WRA				S	**S**	**23 39 37.3**	**-0.7**
	0.1nm,0.3s,baz=326,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**18.06**	**158**	P	**P**	**23 37 33.2**	**+0.3**
	0.7nm,0.3s,baz=335,slow=8.9,SNR=43						
ASAR				S	**S**	**23 40 37.2**	**-1.2**
	0.1nm,0.3s,baz=347,slow=20,SNR=5.5						
SONM	**Songino Array**	**57.36**	**344**	P	**P**	**23 42 53.8**	**-1.6**
	0.4nm,0.3s,baz=154,slow=8.0,SNR=2.6						
MKAR	**Makanchi Array**	**66.39**	**328**	P	**P**	**23 43 54.2**	**-0.4**
	0.4nm,0.4s,baz=124,slow=7.9,SNR=8.1						
ZALV	**Zalesovo Beam**	**70.08**	**335**	P	**P**	**23 44 15.9**	**-1.1**
	0.8nm,0.4s,baz=133,slow=7.6,SNR=3.7						
QSPA	**South Pole Qui**	**83.10**	**180**	P	**P**	**23 45 28.1**	**-0.9**
	0.3nm,0.5s,baz=0.0,slow=3.0,SNR=1.2						

JMA 20 23:36:10.7, 34°.84N×136°.87E, h37km±1km, M2.5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.31**	**133**	P	Pn	23 36 18.6	-0.3
JAA				S	Sn	23 36 24.2	-1.7
TSUJ	**Tsu 2**	**0.39**	**251**	P	Pn	23 36 19.3	-0.3
TSUJ				S	Sn	23 36 25.8	-0.6
JIE	**Ise**	**0.47**	**197**	P	Pn	23 36 20.8	0.0
JIE				S	Sn	23 36 27.6	-0.3
JYTA	**Yamagatataniai**	**0.76**	**352**	S	Sn	23 36 35.1	0.0
JKN2	**Miekihoku**	**0.78**	**220**	P	Pn	23 36 24.9	-0.2
JKN2				S	Sn	23 36 35.2	-0.3
JHE	**Heguri**	**0.99**	**260**	P	Pn	23 36 28.2	+0.1
JHE				S	Sn	23 36 41.3	+0.4
SHZ3	**Shizuoka 3**	**1.12**	**78**	P	Pn	23 36 30.6	+0.7
JWY	**Kouya**	**1.22**	**240**	P	Pn	23 36 31.2	-0.1
MAT	**Matsushiro**	**2.02**	**32**	P	Pn	23 36 45.0	+2.8
MAT				S	Sn	23 37 10.5	+4.3

*NOU **20** 23:39:06.8, 23°.60S×176°.53W, h170km, ML5.8, South of Fiji Islands*
*MOS **20** 23:39:06.0±0.9, 23°.42S×177°.21W, h134km, mb5.5/18, Error ellipse: s-maj=7.1km s-min=6.2km az=102.6*
*NEIC **20** 23:39:08.2, 23°.53S×177°.10W, h151km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.24; Mθθ=0.20; Mrθ=-0.28; Mθφ=-0.22; Mφr=1.02; Fault plane solution: Mo1.10000×10¹⁸ NP1:φ§197.54000°, δ89.80000°, λ73.58000°. NP2:φ§106.85000°, δ16.43000°, λ179.28000°. Principal axes: T 1.1437, Plg43.0000°, Azm92.0000°; N -0.0855, Plg16.0000°, Azm198.0000°; P -1.0581, Plg43.0000°, Azm303.0000°;*
*IDC **20** 23:39:09.7±0.4, 23°.49S×177°.16W, h159km±3km, mb5.4/43, mb1 5.4/45, mb1mx5.4/46, mbtmp5.8/45, MS4.5/17, Ms1 4.5/17, ms1mx4.4/28 Error ellipse: s-maj=7.3km s-min=6.8km az=42.0*
*NEIC **20** 23:39:09.5±2.2, 23°.53S±0°.07×177°.08W±0°.08, h151km±1km, mb5.7/286, Mwb6.0/68, Mwc5.9/75, Mww5.9, Mwc5.9(GCMT), Error ellipse: s-maj=12.7km s-min=11.6km az=101.0*
*BJI **20** 23:39:10.4±0.0, 23°.25S×177°.25W, h170km, mB5.8/66, mb5.5/71*
*NEIC **20** 23:39:10, 23°.57S×176°.81W, h156km, Moment T

comp=Z,5µm,20.5s,baz=8.5,slow=34
RAO Raoul Island 5.70 187 P **Pn** **23 40 31.4 -0.9**
GLKZ Green Lake 5.71 187 P **Pn** **23 40 31.9 -0.4**
GLKZ S **Sn** **23 41 36.4 -1.1**
MSVF Nonsavu 7.35 321 P **Pn** **23 40 55.1 +0.9**
115nm,0.3s,baz=137,slow=15,SNR=745
MSVF Nonsavu 7.35 321 P **Pn** **23 40 54.9 +0.6**
MSVF Nonsavu 7.35 321 Pn **Pn** **23 40 54.9 +0.6**
MSVF Nonsavu 7.35 321 P **Pn** **23 40 54.9 +0.6**
NIUE Niue 8.07 58 P Pn 23 40 57.1 -6.6
AFI Afiamalu 10.86 29 P Pn 23 41 33.4 -7.3
OUZ Omahuta 14.13 213 P **P** **23 42 25.6 +0.6**
PINNC Pines Island, 14.22 271 **P** **23 42 26.8 +0.7**
PINNC Pines Island, 14.22 271 P **P** **23 42 30.0 +3.9**
NFK Norfolk Island 14.45 245 P **P** **23 42 29.7 +1.0**
baz=14,SNR=17
WMGZ Waiomatatini S 14.71 194 P Pn 23 42 24.5 -5.0
WMGZ S Sn 23 44 53.4 -20
LIFNC LIFOU 14.74 278 P **P** **23 42 31.4 -0.5**
LIFNC LIFOU 14.74 278 P **P** **23 42 33.6 +1.7**
HAZ Te Kaha 14.80 196 P Pn 23 42 23.7 -6.9
HAZ S Sn 23 44 57.6 -18
OUENC Ouen Island, N 14.80 271 **P** **23 42 33.3 +0.7**
OUENC Ouen Island, N 14.80 271 P **P** **23 42 35.0 +2.4**
YATNC Mamie plateau, 14.81 273 P **P** **23 42 35.3 +2.6**
PKGZ Pakihiroa 14.85 195 P Pn 23 42 23.3 -8.1
PKGZ S Sn 23 44 57.2 -19
PUZ Puketiti 14.98 194 P Pn 23 42 25.2 -7.8
PUZ S Sn 23 45 00.2 -20
RUGZ Raukumara Rang 15.02 196 P **Pn** **23 42 29.2 -4.4**
RUGZ S Sn 23 45 03.7 -17
TWGZ Tauwhareparae 15.15 195 P **Pn** **23 42 28.8 -6.2**
TWGZ S Sn 23 45 06.1 -18
ONTNC Ouen Toro 15.17 272 P **P** **23 42 39.9 +3.2**
DZM Mont Dzumac 15.22 272 P **P** **23 42 39.3 +2.0**
37nm,0.3s,baz=100,slow=14,SNR=151
DZM ScP **ScP** **23 50 53.7 +3.8**
0.8nm,0.3s,baz=47,slow=17,SNR=10.0
DZM Mont Dzumac 15.22 272 *e*P **P** **23 42 39.0 +1.7**
4µm,0.8s
DZM *e*LR LR 23 46 20.0
comp=Z,10µm,26.6s
DZM Mont Dzumac 15.22 272 P **P** **23 42 38.6 +1.3**
DZM Mont Dzumac 15.22 272 P **P** **23 42 39.4 +2.1**
OPRZ Ohinepanea 15.22 199 P **P** **23 42 37.4 +0.3**
NOUC Port Laguerre 15.34 272 P **P** **23 42 41.2 +2.7**
FUNA Funafuti 15.37 346 **Pn** **23 42 37.9 +0.1**
FUNA IAmb IAmb 23 42 42.9
comp=Z,362nm,1.1s
CNGZ Carnagh Statio 15.39 194 P Pn 23 42 30.2 -7.8
CNGZ S Sn 23 45 06.3 -23
EDRZ Edgecumbe 15.41 198 P **P** **23 42 39.5 +0.2**
EDRZ S **Sn** **23 45 20.5 -9.4**
TKGZ Te Karaka 15.43 195 P **Pn** **23 43 35.2 -3.2**
TKGZ S Sn 23 45 13.0 -17
URZ Urewera 15.45 197 P **Pn** **23 42 37.6 -1.1**
comp=Z,14nm,0.3s,baz=248,slow=2.7,SNR=22
URZ S Sn 23 45 14.9 -16
comp=Z,17nm,0.3s,baz=208,slow=23,SNR=7.1
URZ LR LR 23 47 36.5
comp=Z,806nm,20.2s,baz=31,slow=33
URZ Urewera 15.45 197 Pn **Pn** **23 42 38.5 -0.1**
URZ IAmb IAmb 23 43 22.0
comp=Z,135nm,0.6s
URZ Urewera 15.45 197 P **Pn** **23 42 34.3 -4.4**
URZ S Sn 23 45 13.7 -17
KARZ Kaharoa 15.48 200 P **P** **23 42 40.5 +0.5**
RAGZ Rawiri 15.59 196 P **Pn** **23 42 37.8 -2.6**
RAGZ S Sn 23 45 17.3 -17
TARZ Mount Tarawera 15.60 199 P **P** **23 42 41.8 +0.5**
RRRZ Republican Roa 15.69 199 P **Pn** **23 42 41.8 +0.1**
RIGZ Rimuhau 15.71 195 P **Pn** **23 42 36.1 -5.8**
RIGZ S Sn 23 45 15.0 -22
MUGZ Murupara 15.75 198 P **Pn** **23 42 38.7 -3.7**
MUGZ S Sn 23 45 24.3 -14
HSRZ Hossack Road 15.75 200 P **P** **23 42 42.7 -0.2**
HRRZ Handcock Road 15.81 199 P **Pn** **23 42 41.8 -1.3**
RTZ Ruatahuna 15.82 197 P **Pn** **23 42 40.9 -2.4**
RTZ S S 23 45 17.6 -22
PRGZ Paritu Road 15.88 194 P **Pn** **23 42 40.8 -3.2**
PRGZ S S 23 45 22.5 -18
WPRZ Whakapapatarin 15.96 199 P **P** **23 42 45.4 +0.1**
TLZ Tolley Road 15.99 201 P **P** **23 42 47.1 +1.5**
KNZ Kokohu 16.03 195 P **Pn** **23 42 41.5 -4.1**
KNZ S S 23 45 22.1 -21
KUTZ Kaahu Road 16.04 200 P **P** **23 42 46.8 +0.6**
RAHZ Arahi 16.07 196 P **Pn** **23 42 43.6 -2.7**
RAHZ S S 23 45 25.3 -19
MTHZ Maungataniwha 16.08 197 P **Pn** **23 42 44.1 -2.3**
MTHZ S S 23 45 28.6 -16
MHGZ Mahia Peninsul 16.10 194 P **Pn** **23 42 43.4 -3.2**
MHGZ S S 23 45 24.0 -21
MRHZ Matea Rd 16.18 198 P **Pn** **23 42 45.1 -2.5**
MRHZ S S 23 45 29.6 -17
WHHZ Waihua 16.18 196 P **Pn** **23 42 45.7 -2.0**
WHHZ S S 23 45 30.2 -17
RAR Rarotonga 16.23 85 P **Pn** **23 42 46.0 -2.3**
comp=Z,20nm,0.3s,baz=245,slow=7.7,SNR=47
RAR S S 23 45 35.4 -13
comp=Z,20nm,0.3s,baz=83,slow=18,SNR=9.7
RAR Rarotonga 16.23 85 P **Pn** **23 42 45.9 -2.4**
RAR pmax pmax
comp=Z,3µm,1.1s
RAR Rarotonga 16.23 85 Pn **Pn** **23 42 45.9 -2.4**
RAR Rarotonga 16.23 85 P Pn 23 42 39.5 -8.8
NMHZ Naumai 16.32 197 P **P** **23 42 45.5 -3.8**
NMHZ S S 23 45 34.4 -16
HIZ Hauiti 16.39 203 P **P** **23 42 49.6 -0.4**
HIZ IAmb IAmb 23 43 21.1
comp=Z,560nm,1.6s
RATZ Rangitukua 16.40 200 P **P** **23 42 49.2 -1.0**
ARHZ Aropaoanui 16.42 196 P **P** **23 42 44.4 -5.9**
ARHZ S S 23 45 33.9 -18
BKZ Black Stump Fm 16.47 198 P **P** **23 42 49.0 -1.8**
BKZ Black Stump Fm 16.47 198 P **P** **23 42 46.2 -4.7**
BKZ S S 23 45 37.9 -16
RITZ Rihia Road 16.48 200 P **P** **23 42 51.1 +0.1**
RITZ S **S** **23 45 46.7 -7.0**
TMVZ Te Maari 16.65 200 P **P** **23 42 51.0 -2.0**
MCHZ McNeill Hill 16.67 197 P **P** **23 42 49.8 -3.3**
MCHZ S S 23 45 42.0 -16
NNVZ North Ngauruho 16.69 200 P **P** **23 42 52.6 -1.0**
KWHZ Kaweka Forest 16.73 198 P **P** **23 42 50.8 -2.9**
KWHZ S S 23 45 44.7 -15
NGZ Ngauruhoe 16.74 200 P **P** **23 42 52.9 -1.1**
CKHZ Cape Kidnapper 16.77 196 P **P** **23 42 50.5 -3.7**
CKHZ S S 23 43 41.1 -19
SANVU Saraoutou 16.82 296 P **Pn** **23 42 57.5 +2.0**
SANVU Saraoutou 16.82 296 P **Pn** **23 42 58.8 +3.3**
BHHZ Black Hill Sta 16.89 198 P **P** **23 42 51.5 -4.0**
BHHZ S S 23 45 46.6 -17
KAHZ Kahuranaki 16.95 196 P **P** **23 42 50.7 -5.5**
KAHZ S S 23 45 50.2 -14
WPHZ Waipukurau 17.32 197 P **P** **23 42 57.7 -2.5**
WPHZ S S 23 45 56.6 -16
PRHZ Porangahau 17.46 196 P **P** **23 42 57.8 -3.9**
KOUNC Koumac, New Ca 17.48 276 P **Pn** **23 43 06.2 +2.8**
ANWZ Angora Road 17.68 196 P **P** **23 43 02.6 -1.5**
ANWZ S S 23 46 04.9 -14
PRWZ Pori Road 17.91 197 P **P** **23 43 05.2 -1.4**
PRWZ S S 23 46 05.2 -19
BFZ Birch Farm 17.95 197 P **P** **23 43 04.9 -2.2**
BFZ Birch Farm 17.95 197 P **P** **23 43 04.6 -2.5**
BFZ S S 23 46 05.8 -19
LHI Lord Howe Isla 22.51 244 P **P** **23 43 57.5 +2.0**
baz=23,SNR=34
LHI Lord Howe Isla 22.51 244 P **P** **23 43 57.7 +2.2**
TBI Tubuai 25.37 95 *e*P **P** **23 44 22.1 +0.5**
comp=Z,506nm,0.9s
TBI *e*LQ LQ 23 49 36.0
comp=Z,11µm,27.1s
TBI *e*LR LR 23 50 55.5
comp=Z,8µm,26.0s,baz=274
TBI Tubuai 25.37 95 *e*T T 00 08 53.5
comp=Z,85nm,0.3s
HNR Honiara 26.03 299 P **P** **23 44 28.1 +0.5**
comp=Z,2µm,0.9s,baz=187,slow=1.4,SNR=42
HNR Honiara 26.03 299 P **P** **23 44 27.8 +0.1**
HNR Honiara 26.03 299 P **P** **23 44 29.6 +2.0**
PAE Paea 26.43 82 *e*P **P** **23 44 30.9 -0.2**
comp=Z,58nm,1.0s
PAE Paea 26.43 82 *e*T T 00 10 04.0
comp=Z,50nm,0.3s
PPT2 Papeete2 26.45 82 *e*P **P** **23 44 31.5 0.0**
comp=Z,272nm,0.9s
PPT2 *e*LQ LQ 23 49 56.1
comp=Z,17µm,26.8s
PPT2 *e*LR LR 23 51 15.0
comp=Z,7µm,24.8s,baz=254
PPT2 Papeete2 26.45 82 *e*T T 00 10 07.2
comp=Z,49nm,0.3s
PPT Papeete 26.46 82 P **P** **23 44 30.9 -0.6**
comp=Z,200nm,0.8s,baz=19,slow=2.6,SNR=16
PPTF Pamatai, Papee 26.46 82 P **P** **23 44 30.7 -0.9**
PPTF IAmb IAmb 23 44 37.3
comp=Z,272nm,0.8s
TARA Tarawa 26.59 337 P **P** **23 44 31.5 -1.2**
TIAR Tiarei 26.67 82 *e*P **P** **23 44 33.4 0.0**
comp=Z,44nm,1.0s
TIAR Tiarei 26.67 82 *e*T T 00 10 23.0
comp=Z,2.2nm,0.2s
MEH Mehetia 27.74 84 *e*P **P** **23 44 43.1 +0.2**
comp=Z,46nm,1.1s
MEH Mehetia 27.74 84 *e*T T 00 11 44.0
comp=Z,172nm,0.3s
ARMA Armidale 28.60 249 P **P** **23 44 52.2 +1.7**
baz=29,SNR=74
ARMA Armidale 28.60 249 P **P** **23 44 52.0 +1.5**
ARMA IAmb IAmb 23 45 31.7
comp=Z,158nm,1.0s
PMOR Pomariorio Ree 28.84 78 *e*P **P** **23 44 52.3 -0.3**
comp=Z,219nm,0.9s
PMOR Pomariorio Ree 28.84 78 *e*T T 00 13 04.5
comp=Z,8.1nm,0.4s
EIDS Eidsvold 28.95 260 P **P** **23 44 55.1 +1.5**
baz=29,SNR=52
EIDS Eidsvold 28.95 260 P **P** **23 44 55.2 +1.6**
VAH Vaihoa 28.99 79 *e*P **P** **23 44 53.5 -0.5**
comp=Z,110nm,1.0s
VAH Vaihoa 28.99 79 *e*T T 00 13 16.2
comp=Z,35nm,0.3s
MGCD Mangrove Creek 29.45 244 P **P** **23 44 58.8 +0.9**
baz=30,SNR=78
RIV Riverview 29.53 243 P **P** **23 44 59.9 +1.3**
baz=30,SNR=8.4
RMQ Roma 30.99 257 P **P** **23 45 12.4 +0.8**
baz=31,SNR=123
CAN Canberra 31.58 240 P **P** **23 45 18.5 +1.7**
CAN pmax pmax
comp=Z,876nm,1.9s
CAN Canberra 31.58 240 P **P** **23 45 18.5 +1.7**
XMAS Kiritimati 31.87 40 P **P** **23 45 18.5 -0.7**
XMAS IAmb IAmb 23 45 19.7
comp=Z,165nm,0.8s
MILA Mila 31.88 237 P **P** **23 45 21.6 +2.3**
baz=32,SNR=39
CMSA Cobar Meteorol 33.78 248 P **P** **23 45 36.3 +0.5**
baz=34,SNR=210
CTA Charters Tower 34.10 269 P **P** **23 45 39.4 +0.7**
comp=Z,561nm,0.5s,baz=94,slow=11,SNR=722
CTA ScP **ScP** **23 51 44.7 +2.5**
comp=Z,12nm,0.9s,baz=70,slow=5.9,SNR=3.6
CTAO Charters Tower 34.10 269 P **P** **23 45 39.7 +1.0**
CTAO pmax pmax
comp=Z,534nm,0.6s
CTAO Charters Tower 34.10 269 P **P** **23 45 39.7 +1.0**
TOO Toolangi 34.84 238 P **P** **23 45 46.1 +1.2**
baz=35,SNR=139
TOO Toolangi 34.84 238 P **P** **23 45 46.2 +1.3**
TOO pmax pmax
comp=Z,143nm,0.7s
TOO Toolangi 34.84 238 P **P** **23 45 46.2 +1.3**
TOO IAmb IAmb 23 45 48.1
comp=Z,143nm,0.7s
QLP Quilpie 35.03 257 P **P** **23 45 47.0 +0.4**
baz=35,SNR=49
TAU Tasmania Unive 35.09 228 P **P** **23 45 47.8 +0.9**
TAU pmax pmax
comp=Z,97nm,1.3s
TAU Tasmania Unive 35.09 228 P **P** **23 45 47.8 +0.9**
RABL Rabaul 35.34 298 P **P** **23 45 48.7 -0.7**
RABL Rabaul 35.34 298 P **P** **23 45 50.0 +0.6**
KWAJ Kwajalein Atol 35.46 333 P **P** **23 45 49.7 -0.6**
KWAJ pmax pmax
comp=Z,823nm,1.2s
KWAJ Kwajalein Atol 35.46 333 P **P** **23 45 49.7 -0.6**
MCQ Macquarie Isla 35.69 204 P **P** **23 45 52.7 +0.9**
MCQ pmax pmax
comp=Z,363nm,1.3s
MCQ Macquarie Isla 35.69 204 P **P** **23 45 52.7 +0.9**
MTSU Mount Surprise 36.35 271 P **P** **23 45 59.3 +1.3**
baz=36,SNR=162
PMG Port Moresby 36.89 286 P **P** **23 46 03.2 +0.6**
comp=Z,1µm,0.9s,baz=108,slow=5.4,SNR=116
PMG ScP **ScP** **23 51 55.2 +2.8**
comp=Z,74nm,0.9s,baz=44,slow=7.5,SNR=10
PMG LR LR 23 58 27.2
comp=Z,2µm,18.4s,baz=82,slow=31
STKA Stephens Creek 37.28 248 P **P** **23 46 06.1 +0.4**
comp=Z,76nm,0.5s,baz=96,slow=10,SNR=145
STKA pP **pwP** **23 46 41.9 -0.9**
comp=Z,35nm,0.6s,baz=91,slow=14,SNR=3.2
STKA ScP **ScP** **23 51 55.9 +2.2**
comp=Z,7.0nm,0.7s,baz=85,slow=6.3,SNR=3.7
STKA LR LR 00 01 23.4
comp=Z,2µm,18.3s,baz=72,slow=36
STKA Stephens Creek 37.28 248 P **P** **23 46 06.3 +0.6**
baz=37,SNR=29
STKA Stephens Creek 37.28 248 P **P** **23 46 06.6 +0.9**
ARPS Mount Arapiles 37.55 240 P **P** **23 46 08.4 +0.5**
baz=38,SNR=44
TAOE Nuku Hiva Isla 38.27 74 *e*P **P** **23 46 13.6 -0.7**
comp=Z,3µm,0.9s
TAOE *e*S **S** **23 51 53.3 -3.1**
comp=Z,1µm,24.4s
TAOE *e*LQ LQ 23 55 05.4
comp=Z,6µm,29.2s
TAOE *e*LR LR 23 56 42.8
comp=Z,4µm,26.5s,baz=245
TAOE Nuku Hiva Isla 38.27 74 *e*T T 00 24 51.6
comp=Z,81nm,0.3s
TAOE Nuku Hiva Isla 38.27 74 P **P** **23 46 14.3 +0.1**
PATS Pohnpei 38.58 319 P **P** **23 46 17.4 +0.7**
baz=39,SNR=13
PATS Pohnpei 38.58 319 P **P** **23 46 17.1 +0.4**
HTT Hallett 39.60 246 P **P** **23 46 25.1 0.0**
baz=40,SNR=166
QIS Mount Isa 40.10 266 P **P** **23 46 29.3 0.0**
baz=40,SNR=51
MANU Manus Island 40.48 297 P **P** **23 46 32.6 +0.2**
MANU IAmb IAmb 23 46 34.3
comp=Z,178nm,0.9s
JOHN Johnston Islan 40.74 11 P **P** **23 46 34.5 +0.1**
BBOO Buckleboo 41.99 247 P **P** **23 46 43.9 -0.7**
baz=42,SNR=89
BBOO Buckleboo 41.99 247 P **P** **23 46 44.3 -0.3**
BBOO IAmb IAmb 23 46 48.7
comp=Z,117nm,0.7s
PTCN Pitcairn Islan 42.72 102 P **P** **23 46 51.1 +0.4**
MMPI Merauke 43.32 283 P **P** **23 46 56.8 +1.3**
comp=Z,35µmcomp=Z,4µm,0.7s
AS31 Alice Springs 44.68 260 P **P** **23 47 06.3 0.0**
ASAR Alice Springs 44.68 260 P **P** **23 47 06.2 -0.1**
comp=Z,211nm,0.9s,baz=94,slow=7.6,SNR=296
ASAR pP **pwP** **23 47 43.5 -1.5**
comp=Z,320nm,1.0s,baz=92,slow=8.2,SNR=10
ASAR PcP **PcP** **23 48 47.0 +0.9**
comp=Z,52nm,0.6s,baz=106,slow=3.6,SNR=12
ASAR ScP **ScP** **23 52 25.6 +2.5**
comp=Z,16nm,0.8s,baz=97,slow=3.1,SNR=6.0
ASAR S **S** **23 53 26.7 -4.0**
comp=Z,2.3nm,0.8s,baz=106,slow=42,SNR=1.7
ASAR P3KPbc 00 15 55.6
comp=Z,0.5nm,0.8s,baz=291,slow=2.1,SNR=4.5
ASAR PKP2ab 00 19 47.9
comp=Z,1.4nm,0.9s,baz=282,slow=3.2,SNR=5.3
ASAR P4KPbc 00 24 56.4
comp=Z,0.6nm,0.6s,baz=105,slow=4.3,SNR=10
ASAR Alice Springs 44.68 260 P **P** **23 47 06.7 +0.3**
WRAB Tennant Creek 45.04 265 *d*P **P** **23 47 08.2 -1.0**
WRAB pmax pmax
comp=Z,578nm,1.3s
WRAB Tennant Creek 45.04 265 P **P** **23 47 08.7 -0.5**
WRA Warramunga Arr 45.05 265 P **P** **23 47 08.8 -0.4**
comp=Z,250nm,0.7s,baz=102,slow=8.3,SNR=575
WRA pP **pP** **23 47 45.1 +0.6**
comp=Z,272nm,1.0s,baz=102,slow=8.1,SNR=6.4
WRA PcP **PcP** **23 48 48.0 +0.7**
comp=Z,40nm,0.6s,baz=100,slow=3.0,SNR=5.3
WRA ScP **ScP** **23 52 26.3 +1.7**
comp=Z,27nm,0.8s,baz=101,slow=4.1,SNR=14
WRA S **S** **23 53 29.9 -6.1**
comp=Z,6.5nm,0.6s,baz=102,slow=14,SNR=10
WRA LR LR 00 03 53.2
comp=Z,2µm,21.5s,baz=110,slow=33
WRA PKP2ab 00 19 49.5
comp=Z,1.4nm,1.0s,baz=295,slow=2.9,SNR=4.9
WRA Warramunga Arr 45.05 265 P **P** **23 47 08.1 -1.2**
WRA **pP** **23 47 44.6 +0.1**
WRA PcP **PcP** **23 48 48.3 +0.9**
WRA **ScP** **23 52 28.5 +3.9**
WAKE Wake Island 45.43 338 P **P** **23 47 11.3 -0.7**
WAKE IAmb IAmb 23 47 13.4
comp=Z,322nm,1.0s
GENI Genyem 46.25 290 P **P** **23 47 18.8 +0.1**
comp=Z,6µmcomp=Z,8µmcomp=Z,837nm,0.9s
KHLU Kahalu`u 47.64 28 P **P** **23 47 29.3 -0.1**
HUH Hualalai 47.75 28 P **P** **23 47 30.6 +0.1**
HUH IAmb IAmb 23 47 31.6
comp=Z,194nm,1.0s
MLH Mauna Loa 47.77 28 P **P** **23 47 30.5 -0.1**
MLH IAmb IAmb 23 47 33.3
comp=Z,394nm,1.5s
HMH Humu'ula Sheep 47.82 28 P **P** **23 47 31.1 +0.1**
POHA Pohakuloa 47.94 28 P **P** **23 47 32.1 +0.2**
POHA IAmb IAmb 23 48 19.0
comp=Z,201nm,0.9s
HPAH Hawaii Prepara 48.11 27 P **P** **23 47 32.9 -0.1**
HON Honolulu 48.36 24 P **P** **23 47 34.4 -0.4**
HON pmax pmax
comp=Z,317nm,0.9s
HON Honolulu 48.36 24 P **P** **23 47 34.4 -0.4**
KIP Kipapa 48.44 24*d*iP **P** **23 47 35.9 +0.5**
KIP pmax pmax
comp=Z,205nm,0.8s
KIP Kipapa 48.44 24 P **P** **23 47 35.5 +0.1**
KIP IAmb IAmb 23 47 37.1
comp=Z,210nm,0.9s
KDU Kakadu 48.88 274 P **P** **23 47 38.6 -0.4**
baz=49,SNR=45
FORT Forrest 48.88 249 P **P** **23 47 37.3 -1.5**
baz=49,SNR=284
FORT Forrest 48.88 249 P **P** **23 47 37.7 -1.2**
WRKA Warakurna 49.47 257 P **P** **23 47 42.2 -1.3**
baz=50,SNR=581
SRPI Serui, Papua 50.01 289 P **P** **23 47 48.1 +0.6**
comp=Z,7µmcomp=Z,749nm,0.8s
MTN Manton Dam 50.05 273 P **P** **23 47 47.3 -0.6**
baz=50,SNR=23
MTN Manton Dam 50.05 273 P **P** **23 47 47.3 -0.6**
MTN IAmb IAmb 23 47 48.8
comp=Z,91nm,0.7s
BAKI Biak 50.46 289 P **P** **23 47 51.8 +0.9**
comp=Z,9µmcomp=Z,1µm,0.8s
KNRA Kununurra 51.32 268 P **P** **23 47 57.2 -0.1**
baz=51,SNR=53
KNRA Kununurra 51.32 268 P **P** **23 47 57.4 +0.1**
KMPI Kaimana, Papua 51.39 285 P **P** **23 47 58.3 +0.4**
comp=Z,9µmcomp=Z,1µm,0.7s
SAUI Saumlaki 51.70 279 P **P** **23 48 01.1 +0.9**
SAUI Saumlaki 51.70 279 P **P** **23 48 02.3 +2.1**
comp=Z,24µmcomp=Z,3µm,1.0s
FAKI Fak Fak 53.02 285 P **P** **23 48 09.6 -0.3**
FAKI Fak Fak 53.02 285 P **P** **23 48 09.5 -0.4**
comp=Z,6µmcomp=Z,5µmcomp=Z,477nm,0.9s
FITZ Fitzroy Crossi 53.47 264 P **P** **23 48 12.9 -0.2**
comp=Z,82nm,0.6s,baz=113,slow=6.0,SNR=99
FITZ pP **pP** **23 48 51.2 +1.6**
comp=Z,163nm,1.0s,baz=114,slow=8.6,SNR=4.7
FITZ S **S** **23 55 31.1 -2.4**
comp=Z,5.9nm,1.0s,baz=182,slow=23,SNR=8.4
FITZ Fitzroy Crossi 53.47 264 P **P** **23 48 13.1 -0.1**
baz=54,SNR=78
FITZ Fitzroy Crossi 53.47 264 P **P** **23 48 13.1 -0.1**
FITZ IAmb IAmb 23 48 15.8
comp=Z,142nm,0.8s
ANA2 Anatahan 53.77 314 P **P** **23 48 15.0 -0.3**
SARN Sarigan 53.99 314 P **P** **23 48 16.5 -0.4**
comp=Z,250nm,0.9s
BNDI Bandanaira 54.40 282 P **P** **23 48 20.5 +0.6**
comp=Z,24µmcomp=Z,3µm,0.7s
SIJI Sorong 54.84 287 P **P** **23 48 23.0 -0.1**
comp=Z,2µm,0.7s,baz=93,slow=4.7,SNR=282
SIJI Sorong 54.84 287 P **P** **23 48 22.9 -0.2**
comp=Z,10µmcomp=Z,1µm,0.9s
SWI Sorong 54.85 287 P **P** **23 48 23.2 0.0**
comp=Z,5µmcomp=Z,24µmcomp=Z,3µm,0.8s
SBA Scott Base 54.88 184 P **P** **23 48 25.1 +2.7**
SBA pmax pmax
comp=Z,120nm,1.0s
SBA Scott Base 54.88 184 P **P** **23 48 25.1 +2.7**
SBA IAmb IAmb 23 49 04.9
comp=Z,120nm,1.0s
VNDA Vanda 54.94 185 P **P** **23 48 25.2 +2.3**
comp=Z,9.5nm,0.9s,baz=1.6,slow=7.9,SNR=23
VNDA pP **pwP** **23 49 01.7 -0.1**
comp=Z,31nm,0.9s,baz=3.9,slow=5.1,SNR=8.2
VNDA ScP **ScP** **23 53 08.3 +2.4**
comp=Z,8.6nm,0.8s,baz=342,slow=4.8,SNR=4.4
VNDA LR LR 00 10 33.9
comp=Z,191nm,18.1s,baz=19,slow=34
VNDA P4KPbc 00 25 40.8
comp=Z,0.8nm,0.8s,baz=301,slow=5.2,SNR=4.6
VNDA Vanda 54.94 185 P **P** **23 48 25.0 +2.1**
MSAI Masohi 55.79 283 P **P** **23 48 29.7 -0.2**
comp=Z,2µmcomp=Z,235nm,0.7s
KRAI Karang Ratu 56.28 282 P **P** **23 48 33.2 -0.2**
comp=Z,9µmcomp=Z,750nm,0.8s
SOEI Soe 57.44 273 P **P** **23 48 42.9 +1.1**
SOEI Soe 57.44 273 P **P** **23 48 43.3 +1.6**
comp=Z,15µmcomp=Z,2µm,1.0s
NLAI Namlea 57.47 282 P **P** **23 48 41.9 +0.1**
comp=Z,7µmcomp=Z,595nm,0.8s
KLBR Kellerberrin 57.53 247 P **P** **23 48 40.9 -1.1**
baz=58,SNR=127
MEEK Meekatharra 57.72 252 P **P** **23 48 42.0 -1.5**
baz=58,SNR=34
NWAO Narrogin (SRO) 57.76 245 P **P** **23 48 43.1 -0.4**
comp=Z,31nm,0.6s,baz=138,slow=7.7,SNR=28
NWAO Narrogin (SRO) 57.76 245 P **P** **23 48 42.8 -0.8**
baz=58,SNR=27
NWAO Narrogin (SRO) 57.76 245 P **P** **23 48 42.7 -0.8**
NWAO IAmb IAmb 23 49 20.6
comp=Z,75nm,1.1s
PSA00 Pilbara Seismi 57.80 259 P **P** **23 48 43.1 -0.9**
PSA00 IAmb IAmb 23 48 49.7
comp=Z,51nm,0.8s
PSA00 Pilbara Seismi 57.80 259 P **P** **23 48 42.9 -1.1**
PSA00 IAmb IAmb 23 49 37.2
comp=Z,166nm,1.9s
BATI Baumata 57.83 273 P **P** **23 48 45.5 +1.2**
comp=Z,332nm,0.5s,baz=157,slow=2.5,SNR=74
BATI Baumata 57.83 273 P **P** **23 48 45.7 +1.4**
comp=Z,3µmcomp=Z,4µmcomp=Z,273nm,0.7s
LBMI Labuha 58.27 285 P **P** **23 48 48.0 +0.6**
comp=Z,10µmcomp=Z,1µm,0.8s
MUN Mundaring 58.77 246 P **P** **23 48 49.9 -0.7**
baz=59,SNR=24
SANI Sanana 58.99 282 P **P** **23 48 52.1 -0.2**
comp=Z,5µmcomp=Z,6µmcomp=Z,847nm,0.8s
TNTI Ternate 59.05 286 P **P** **23 48 52.4 -0.3**
TNTI Ternate 59.05 286 P **P** **23 48 52.7 0.0**
comp=Z,3µmcomp=Z,8µmcomp=Z,763nm,0.8s
GAMI Galela, Maluku 59.18 287 P **P** **23 48 52.7 -0.9**
comp=Z,7µmcomp=Z,731nm,0.9s
MORW Morawa 59.45 249 P **P** **23 48 54.1 -1.2**
baz=59,SNR=83
MORW Morawa 59.45 249 P **P** **23 48 54.5 -0.8**
MORW IAmb IAmb 23 48 57.8
comp=Z,66nm,0.6s
MMRI Maumere 59.71 274 P **P** **23 48 56.6 -0.7**
MMRI Maumere 59.71 274 P **P** **23 48 57.0 -0.3**
comp=Z,7µmcomp=Z,551nm,1.1s
EDFI Ende, Flores 60.17 273 P **P** **23 49 00.0 -0.6**
comp=Z,5µmcomp=Z,3µmcomp=Z,270nm,0.9s
BASI Baing, Sumba 60.65 271 P **P** **23 49 05.3 +1.6**
comp=Z,3µmcomp=Z,8µmcomp=Z,814nm,1.3s
RPN Rapa Nui 60.70 109 P **P** **23 49 04.7 +0.9**
comp=Z,364nm,0.9s,baz=272,slow=3.0,SNR=8.4
CASY Casey 61.56 206 P **P** **23 49 09.9 +1.0**
MNI Manado 61.59 285 P **P** **23 49 09.6 -0.4**
comp=Z,462nm,0.8s
WBSI Waikabubak, Su 61.95 271 P **P** **23 49 12.6 +0.1**
comp=Z,5µmcomp=Z,338nm,0.6s
KKSI Kolaka, Sulawe 62.00 278 P **P** **23 49 12.4 -0.4**
comp=Z,3µmcomp=Z,182nm,1.1s

SGSI Sangihe 62.04 288 P **P** **23 49 13.1 +0.1**
comp=Z,20µmcomp=Z,682nm,0.7s
LUWI Luwuk 62.32 282 P **P** **23 49 14.9 +0.1**
LUWI Luwuk 62.32 282 P **P** **23 49 15.0 +0.2**
comp=Z,5µmcomp=Z,10µmcomp=Z,886nm,1.1s
GIRL Giralia 62.55 256 P **P** **23 49 17.0 +0.8**
baz=62,SNR=12
GIRL Giralia 62.55 256 P **P** **23 49 16.8 +0.5**
DDMP Don Marcelino, 63.07 290 *e*P **P** **23 49 16.6 -3.2**
BNSI Bone 63.31 277 P **P** **23 49 21.7 +0.3**
comp=Z,5µmcomp=Z,380nm,1.1s
APSI Ampana 63.38 281 P **P** **23 49 22.7 +0.8**
comp=Z,3µmcomp=Z,4µmcomp=Z,371nm,1.0s
KAPI Kappang 63.39 276 P **P** **23 49 21.4 -0.5**
comp=Z,58nm,0.6s,baz=99,slow=4.2,SNR=27
KAPI PP **PP** **23 51 43.3 -0.2**
comp=Z,37nm,1.0s,baz=30,slow=1.3,SNR=3.8
KAPI Kappang 63.39 276 P **P** **23 49 22.0 +0.1**
KAPI pmax pmax
comp=Z,698nm,1.8s
KAPI Kappang 63.39 276 P **P** **23 49 22.0 +0.1**
KAPI Kappang 63.39 276 P **P** **23 49 22.1 +0.1**
comp=Z,3µmcomp=Z,180nm,1.3s
MKS Makassar 63.57 276 P **P** **23 49 24.7 +1.6**
comp=Z,3µmcomp=Z,126nm,0.8s
DAV Davao City (W) 63.67 291 P **P** **23 49 24.1 +0.4**
comp=Z,263nm,0.7s,baz=88,slow=2.1,SNR=17
DAV Davao City (W) 63.67 291 P **P** **23 49 23.9 +0.1**
DAV Davao City (W) 63.67 291 P **P** **23 49 24.7 +1.0**
comp=Z,342nm,0.7s
MRSI Marisa 63.73 283 P **P** **23 49 23.6 -0.6**
comp=Z,2µmcomp=Z,188nm,1.2s
PLAI Plampang 63.73 272 P **P** **23 49 23.9 -0.3**
comp=Z,6µmcomp=Z,9µmcomp=Z,699nm,0.9s
JCJ Chichijima 63.88 320 P **P** **23 49 24.9 +0.1**
comp=Z,94nm,0.5s,baz=296,slow=21,SNR=8.7
JCJ Chichijima 63.88 320 P **P** **23 49 25.1 +0.3**
TTSI Tana Toraja 64.13 278 P **P** **23 49 26.7 -0.1**
comp=Z,2µmcomp=Z,196nm,1.1s
SKMP Bagumbayan, Su 64.28 290 *e*P **P** **23 49 26.8 -1.0**
BUKP Musuan 64.52 292 *e*P **P** **23 49 29.7 +0.4**
TWSI Taliwang, Sumb 64.58 271 P **P** **23 49 29.9 +0.2**
comp=Z,3µmcomp=Z,251nm,0.6s
GLSP General Luna, 64.60 294 *e*P **P** **23 49 28.5 -1.3**
PMSI Majene 64.77 278 P **P** **23 49 32.5 +1.5**
comp=Z,3µmcomp=Z,5µmcomp=Z,418nm,1.3s
TOLI2 Tolitoli 65.05 283 P **P** **23 49 32.1 -0.7**
CGP Cagayan de Oro 65.12 292‖ *e*P **P** **23 49 33.6 +0.5**
MPSI Mapaga 65.50 282 P **P** **23 49 34.9 -0.7**
comp=Z,5µmcomp=Z,4µmcomp=Z,435nm,0.9s
MSLP Maasin 65.85 294‖ *i*P **P** **23 49 37.1 -0.7**
MSLP *i* S **pP** **23 50 16.8 +1.2**
KHKI Kahang-Kahang 65.89 271 P **P** **23 49 38.1 -0.1**
comp=Z,3µmcomp=Z,310nm,0.8s
PAGZ Pagadian 65.94 291 *e*P **P** **23 49 40.4 +1.9**
DNP Denpasar 66.14 271 P **P** **23 49 41.2 +1.5**
comp=Z,542nm,0.5s
SRBI Singaraja 66.36 271 P **P** **23 49 41.5 +0.4**
comp=Z,5µmcomp=Z,6µmcomp=Z,572nm,0.9s
QSPA South Pole Qui 66.52 180 P **P** **23 49 42.8 +1.4**
comp=Z,59nm,0.6s,baz=6.5,slow=0.9,SNR=249
QSPA pP **pwP** **23 50 20.8 -1.1**
comp=Z,82nm,0.9s,baz=40,slow=3.3,SNR=3.2
QSPA S **S** **23 58 23.1 +4.2**
comp=Z,2.7nm,1.0s,baz=48,slow=23,SNR=10.0
QSPA South Pole Qui 66.52 180 P **P** **23 49 43.0 +1.6**
QSPA IAmb IAmb 23 50 26.1
comp=Z,87nm,0.9s
BYJI Banyuwangi 67.10 271 P **P** **23 49 48.4 +2.6**
comp=Z,159nm,0.7s
JAGI Jajag, Banyuwa 67.19 271 P **P** **23 49 45.1 -1.3**
JAGI Jajag, Banyuwa 67.19 271 P **P** **23 49 45.9 -0.5**
comp=Z,4µmcomp=Z,3µmcomp=Z,358nm,1.1s
CNOP Candoni, Negro 67.57 292‖ *e*P **P** **23 49 46.4 -2.3**
KMMI Kalianget 67.89 272 P **P** **23 49 52.1 +1.3**
comp=Z,5µmcomp=Z,6µmcomp=Z,537nm,0.8s
RCP Roxas 68.36 294‖ *e*P **P** **23 49 53.4 -0.2**
BBKI Banjar Baru 68.49 276 P **P** **23 49 55.8 +1.2**
comp=Z,4µmcomp=Z,276nm,0.7s
SCSP San Jose Seism 68.81 296 *e*P **P** **23 49 56.7 +0.3**
MTKI Muara Teweh, K 69.47 278 P **P** **23 50 01.4 +0.8**
comp=Z,2µmcomp=Z,3µmcomp=Z,183nm,0.9s
PWJI Pagerwojo 69.51 270 P **P** **23 50 00.7 -0.1**
comp=Z,4µmcomp=Z,418nm,0.8s
SJI Sawahan 69.65 270 P **P** **23 50 02.0 +0.2**
comp=Z,4µmcomp=Z,393nm,0.8s
JHJ Hachijo jima 2 69.75 322 P **P** **23 50 02.0 +0.2**
comp=Z,430nm,0.9s,baz=197,slow=7.7,SNR=6.9
PKKI Palangkaraya 69.78 277 P **P** **23 50 03.8 +1.3**
comp=Z,9µmcomp=Z,1µm,0.8s
PCJI Pacitan 70.02 270 P **P** **23 50 04.2 +0.3**
comp=Z,12µmcomp=Z,1µm,0.8s
BOAC Boac 70.09 295 *e*P **P** **23 50 05.7 +1.5**
SJMP San Jose 70.18 294 *e*P **P** **23 50 01.9 -3.0**
SPMM Sapulut 70.51 284 P **P** **23 50 07.0 +0.1**
LQP Lukban 70.68 296‖ *e*P **P** **23 50 08.1 0.0**
UGM Wanagama 70.73 270 P **P** **23 50 08.2 -0.1**
UGM Wanagama 70.73 270 P **P** **23 50 09.1 +0.8**
comp=Z,5µmcomp=Z,600nm,0.9s
SMRI Semarang 71.13 270 P **P** **23 50 11.0 +0.3**
SMRI Semarang 71.13 270 P **P** **23 50 11.8 +1.1**
comp=Z,5µmcomp=Z,425nm,0.7s
TGY Tagaytay City 71.18 295 P **P** **23 50 12.6 +1.7**
comp=Z,268nm,0.6s,baz=251,slow=2.7,SNR=4.7
PBKI Pangkalan Bun 71.69 275 P **P** **23 50 15.8 +1.7**
comp=Z,7µmcomp=Z,752nm,1.0s
JSG Sagara 71.79 322 P **P** **23 50 14.9 +0.8**
JYT Yasato 71.85 325 P **P** **23 50 14.9 +0.5**
JYT IAmb IAmb 23 50 18.0
comp=Z,113nm,0.9s
CTJI Waduk Cacaban 72.30 270 P **P** **23 50 18.9 +1.2**
comp=Z,3µmcomp=Z,249nm,0.8s
KPJI Karang Pucung 72.41 270 P **P** **23 50 18.1 -0.2**
comp=Z,4µmcomp=Z,415nm,0.6s
SMPP San Manuel, Pa 72.45 297 *e*P **P** **23 50 16.9 -1.5**
JOW Kunigami 72.75 310 P **P** **23 50 20.2 +0.3**
comp=Z,190nm,0.8s,baz=170,slow=5.2,SNR=25
JOW Kunigami 72.75 310 P **P** **23 50 20.3 +0.3**
JOW IAmb IAmb 23 50 22.9
comp=Z,169nm,0.8s
SAMP Sagada Mountai 72.76 298 *e*P **P** **23 50 15.8 -4.5**
JMM Marumori 72.78 326 P **P** **23 50 19.7 -0.2**
APYP Conner 72.89 299 *e*P **P** **23 50 21.4 +0.4**
JGF Kuroka 72.93 323 P **P** **23 50 20.4 -0.5**
INU Inuyama 72.93 322 P **P** **23 50 21.1 +0.2**
STKI Sintang 73.00 278 P **P** **23 50 22.7 +0.9**
comp=Z,10µmcomp=Z,200nm,0.9s
MJAR Matsushiro Arr 73.15 324 P **P** **23 50 21.1 -1.0**
comp=Z,73nm,1.0s,baz=156,slow=6.2,SNR=29
MJAR pP **pwP** **23 51 02.7 -1.2**
comp=Z,21nm,0.9s,baz=158,slow=5.4,SNR=2.2
MJAR LR LR 00 16 24.7
comp=Z,240nm,20.8s,baz=45,slow=31
MJAR Matsushiro Arr 73.15 324 P **P** **23 50 21.2 -0.9**
MJAR pmax pmax
comp=Z,49nm,0.9s
MJAR Matsushiro Arr 73.15 324 P **P** **23 50 21.2 -0.9**
MAJO Matsushiro 73.15 324*d* *i*P **P** **23 50 21.7 -0.5**
MAJO pmax pmax
comp=Z,65nm,0.8s
MAJO Matsushiro 73.15 324 P **P** **23 50 21.2 -0.9**
MAJO IAmb IAmb 23 50 24.3
comp=Z,65nm,0.8s
MAT Matsushiro 73.15 324 P **P** **23 50 20.9 -1.3**
MAT S **S** **23 59 36.8 +0.2**
MJB9 Matsu-Tunnel 73.15 324 P **P** **23 50 21.7 -0.5**
MJB9 IAmb IAmb 23 50 24.3
comp=Z,67nm,0.8s
SBUM Sibu 73.33 280 P **P** **23 50 24.0 +0.3**
JCJI Jatiwangi 73.33 270 P **P** **23 50 24.3 +0.6**
comp=Z,9µmcomp=Z,872nm,0.9s
CISI Cisompet, Garu 73.34 269 P **P** **23 50 23.1 -0.8**
CISI IAmb IAmb 23 50 25.8
comp=Z,381nm,1.4s
CISI Cisompet, Garu 73.34 269 P **P** **23 50 24.0 +0.1**
comp=Z,2µmcomp=Z,3µmcomp=Z,186nm,0.8s
JMN Monobe 73.62 319 P **P** **23 50 24.8 -0.2**
LEM Lembang 73.80 270 P **P** **23 50 27.1 +0.4**
comp=Z,669nm,0.8s,baz=76,slow=3.8,SNR=88
CNJI Cibinong 74.07 269 P **P** **23 50 28.3 +0.3**
comp=Z,5µmcomp=Z,560nm,0.9s
JSD Sado 74.22 325 P **P** **23 50 28.7 +0.4**
JSD IAmb IAmb 23 50 30.7
comp=Z,69nm,0.8s
XMIS Christmas Isla 74.24 265 P **P** **23 50 29.4 +0.3**
XMIS IAmb IAmb 23 50 31.9
comp=Z,247nm,0.9s
XMIS Christmas Isla 74.24 265 P **P** **23 50 30.6 +1.5**
comp=Z,287nm,0.9s
JSU Suzuyama 74.26 315 P **P** **23 50 28.9 +0.2**
JSU IAmb IAmb 23 50 31.1
comp=Z,102nm,1.0s
KSM Kuching 74.64 279 P **P** **23 50 32.0 +0.6**
CBJI Citeko 74.66 270 P **P** **23 50 31.1 -0.4**
comp=Z,545nm,0.8s
AMKA Amchitka 74.68 358 P **P** **23 50 30.6 0.0**
DBJI Dramaga 74.70 269 P **P** **23 50 32.2 +0.5**
comp=Z,43µmcomp=Z,248nm,0.8s
ERM Erimo 74.88 330‖ *e*P **P** **23 50 33.7 +1.7**
ERM pmax pmax
comp=Z,79nm,2.0s
ERM Erimo 74.88 330 P **P** **23 50 34.2 +2.2**
ERM IAmb IAmb 23 51 19.5
comp=Z,139nm,1.7s
JHS Saijyo 74.95 320 P **P** **23 50 32.8 +0.1**
JHS IAmb IAmb 23 50 34.8
comp=Z,111nm,0.7s
JNU Nakatsue 75.05 317 P **P** **23 50 33.4 +0.1**
comp=Z,75nm,0.7s,baz=83,slow=1.3,SNR=9.1
KIWB Kanaga Island 75.09 360 P **P** **23 50 32.9 -0.2**
ADK Adak 75.12 0 P **P** **23 50 32.7 -0.5**
ADK pmax pmax
comp=Z,588nm,1.4s
ADK Adak 75.12 0 P **P** **23 50 32.7 -0.5**
YOJ Yonaguni jima 75.16 305 P **P** **23 50 34.0 0.0**
YOJ pmax pmax
comp=Z,135nm,1.0s
YOJ Yonaguni jima 75.16 305 P **P** **23 50 34.0 0.0**
YOJ IAmb IAmb 23 50 36.7
comp=Z,135nm,1.0s
YUK Yuzh-Kuril'sk 75.34 333 *e*P **P** **23 50 34.7 +0.1**
YUK *e* 23 50 46.9
YUK *e* 23 53 25.5
YUK *e*PPP PPP 23 55 12.4
YUK *e*S **S** **00 00 01.7 +1.1**
YUK *e* 00 00 33.2
YUK *e*SS **SS** **00 04 56.3 +1.4**
YUK pmax pmax
comp=Z,167nm,1.1s
YUK pmax pmax
comp=E,71nm,1.0s
YUK pmax pmax
comp=N,92nm,1.1s
YUK pmax pmax
comp=Z,209nm,1.4s
GSTR Great Sitkin T 75.34 1 P **P** **23 50 34.5 0.0**
TPI Tanjungpandan 75.35 273 P **P** **23 50 36.6 +1.2**
comp=Z,1µmcomp=Z,132nm,0.9s
ATKA Atka Island 75.49 2 P **P** **23 50 34.7 -0.5**
KUR Kuril'sk 75.54 335*d* *i*P **P** **23 50 34.9 -0.8**
KUR *e* 23 53 24.3
KUR *i* S **S** **00 00 04.2 +1.4**
KUR pmax pmax
comp=Z,827nm,4.4s
KUR pmax pmax
comp=Z,137nm,1.3s
KUR MLR MLR
comp=Z,381nm,19.0s
CGJI Cibinong 75.65 269 P **P** **23 50 36.0 -1.1**
comp=Z,6µmcomp=Z,632nm,0.7s
TWG Pinlang 75.71 303 P **P** **23 50 36.2 -1.0**
TWG IAmb IAmb 23 50 37.4
comp=Z,156nm,0.7s
YULB Yu-li 75.85 304 P **P** **23 50 37.1 -0.9**
YULB IAmb IAmb 23 50 41.5
comp=Z,77nm,0.7s
NACB Ninganchiao 76.06 304 P **P** **23 50 38.8 -0.4**
NACB IAmb IAmb 23 50 41.1
comp=Z,317nm,1.2s
JEW Eniwo 76.31 330 P **P** **23 50 40.4 +0.2**
TPUB Ta-pu 76.31 303 P **P** **23 50 39.5 -1.2**
SSLB Suanglung 76.33 304 P **P** **23 50 39.4 -1.4**
SMY Shemya 76.36 355 P **P** **23 50 39.3 -0.8**
SMY pmax pmax
comp=Z,483nm,1.7s
SMY Shemya 76.36 355 P **P** **23 50 39.3 -0.8**
YHNB Yeheng 76.50 305 P **P** **23 50 41.1 -0.6**
YHNB IAmb IAmb 23 50 44.1
comp=Z,207nm,0.9s
BLSI Bandar Lampung 76.54 270 P **P** **23 50 42.8 +0.6**
comp=Z,376nm,0.8s
NIKH Nikolski High 76.55 5 P 23 50 42.0
baz=188
NIKH Nikolski High 76.56 5 P **P** **23 50 41.5 +0.3**
TATO Taipei 76.59 305 P **P** **23 50 41.9 -0.2**
JKA Kamikawa-asahi 76.79 331 P **P** **23 50 43.6 +0.8**
ASAJ Asahikawa 76.79 331 P **P** **23 50 43.8 +0.9**
comp=Z,55nm,1.0s,baz=216,slow=7.5,SNR=26
PPBI Pangkal Pinang 76.97 273 P **P** **23 50 46.2 +1.6**
comp=Z,4µmcomp=Z,179nm,0.8s
KASI Kota Agung 77.16 270 P **P** **23 50 45.1 -0.6**
comp=Z,4µmcomp=Z,450nm,0.9s
LWLI Liwa 77.76 270 P **P** **23 50 49.6 +0.5**
comp=Z,4µmcomp=Z,412nm,0.7s
MDSI Maura Dua 77.86 270 P **P** **23 50 48.2 -1.3**
comp=Z,2µmcomp=Z,2µmcomp=Z,149nm,0.9s
PMBI Palembang 77.92 272 P **P** **23 50 50.9 +1.0**
PMBI IAmb IAmb 23 50 53.0
comp=Z,227nm,0.9s
AKUT Akutan 78.00 7 P **P** **23 50 49.0 -0.2**
PMSA Palmer Station 78.17 156 P **P** **23 50 51.4 +1.1**
comp=Z,30nm,0.8s,baz=219,slow=5.2,SNR=6.1
PMSA Palmer Station 78.17 156 P **P** **23 50 51.4 +1.1**
PMSA Palmer Station 78.17 156 *e*P P 23 50 55.2 +4.9
KNMB Chin-men Tao 78.67 303 P **P** **23 50 53.9 +0.3**
KNMB IAmb IAmb 23 50 55.8
comp=Z,108nm,0.8s
LHSI Lahat 78.72 271 P **P** **23 50 55.0 +0.8**
comp=Z,2µmcomp=Z,140nm,1.0s
QZH Quanzhou 78.77 304‖ *i*P **P** **23 50 53.9 -0.3**
QZH pmax pmax
comp=Z,140nm,0.8s
QZH pmax pmax
comp=Z,1µm,4.5s
QZH L L
comp=Z,460nm,18.9s
QZH L L
comp=Z,500nm,18.5s
MAW Mawson 78.96 200 P **P** **23 50 56.3 +1.8**
comp=Z,46nm,0.6s,baz=135,slow=5.6,SNR=74
MAW pP **pwP** **23 51 36.8 +0.3**
comp=Z,106nm,1.0s,baz=105,slow=6.7,SNR=6.1
MAW LR LR 00 25 20.8
comp=Z,176nm,18.1s,baz=106,slow=35
MAW Mawson 78.96 200 P **P** **23 50 56.3 +1.8**
baz=79,SNR=64
MAW Mawson 78.96 200 P **P** **23 50 55.5 +0.9**
YSS Yuzh-Sakhalins 78.98 333 *e*P **P** **23 50 54.3 -0.6**
YSS *e* 23 53 54.7
YSS *e*S **S** **00 00 37.9 -2.0**
YSS *e* 00 00 48.1
YSS *e* 00 00 58.5
YSS *e**SS **sS** **00 01 48.8 +0.8**
YSS *e*SS **SS** **00 05 47.8 -1.9**
YSS pmax pmax
comp=Z,600nm,3.9s
YSS smax smax
comp=E,400nm,9.9s
MLR MLR
comp=N,200nm,17.0s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzh-Sakhalins 78.98 333 P **P** **23 50 55.1 +0.2**
YSS IAmb IAmb 23 51 00.2
comp=Z,71nm,0.9s
FALS False Pass 78.99 8 P 23 50 55.6
baz=193
FALS False Pass 78.99 8 P **P** **23 50 54.7 0.0**
FALS IAmb IAmb 23 50 57.6
comp=Z,150nm,0.7s
MNAI Manna 79.03 270 P **P** **23 50 55.8 -0.2**
MNAI Manna 79.03 270 P **P** **23 50 57.6 +1.6**
comp=Z,520nm,0.8s
PET Petropavlovsk 79.13 345*d* *i*P **P** **23 50 55.1 -0.4**
PET *e**PP **pP** **23 51 33.7 -0.9**
PET *e* 23 54 03.4
PET *i* S **S** **00 00 40.4 -0.7**
PET *e**SS **sS** **00 01 47.5 -1.7**
PET *e*SS **SS** **00 05 49.9 -1.7**
PET *e*SSS SSS 00 09 14.6
PET pmax pmax
comp=Z,37nm,1.5s
PET pmax pmax
comp=Z,700nm,8.2s
PET pmax pmax
comp=Z,500nm,14.7s
PET pmax pmax
comp=Z,200nm,15.1s
PET Petropavlovsk 79.13 345 P **P** **23 50 55.8 +0.3**
SCZ2 Santa Cruz Isl 79.14 46 P 23 50 58.0
baz=232,SNR=11
SCI2 San Clemente I 79.25 47 P 23 50 58.2
baz=233,SNR=7.1
EGSI Enggano, Bengk 79.27 269 P **P** **23 50 59.1 +1.9**
comp=Z,2µmcomp=Z,252nm,0.8s
TJN Taejon 79.36 317*d* *i*P **P** **23 50 56.8 -0.4**
SBC Santa Barbara 79.37 45 P 23 50 59.3
baz=232
PEA0B Petropavlovsk- 79.43 345*ce*P **P** **23 50 56.1 -1.1**
PEA0B Petropavlovsk- 79.43 345 P **P** **23 50 56.9 -0.3**
PEA0B IAmb IAmb 23 50 58.8
comp=Z,174nm,1.6s
PETK Petropavlovsk- 79.43 345 P **P** **23 50 56.6 -0.6**
comp=Z,20nm,0.7s,baz=130,slow=6.8,SNR=30
PETK LR LR 00 20 54.5
comp=Z,492nm,21.9s,baz=159,slow=32
JMBI JAMBI 79.47 273 P **P** **23 51 01.5 +3.2**
comp=Z,5µmcomp=Z,291nm,1.0s
CNBA Chernabura Isl 79.51 10 P **P** **23 50 57.7 +0.2**
CNBA IAmb IAmb 23 50 59.6
comp=Z,276nm,1.4s
CHNA Chernabura Isl 79.52 10 P 23 50 58.0
baz=196,SNR=16
CHNA S 00 00 44.3
baz=196
PKM Mcpherson Peak 79.58 45 P 23 51 00.6
baz=232,SNR=18
PKM S 00 00 53.1
baz=232
CIS Catalina Islan 79.59 47 P 23 50 59.8
baz=233,SNR=8.9
KSRS Korea Array 79.71 319 P **P** **23 50 59.8 +0.7**
comp=Z,21nm,1.0s,baz=130,slow=5.3,SNR=76
KSRS pP **pwP** **23 51 41.6 +0.2**
comp=Z,13nm,1.0s,baz=144,slow=6.8,SNR=2.4
KSRS LR LR 00 24 07.9
comp=Z,466nm,20.0s,baz=123,slow=34
SAO San Andreas Ge 79.72 42 P **P** **23 51 00.1 +1.0**
SAO pmax pmax
comp=Z,78nm,0.9s
SAO San Andreas Ge 79.72 42 P **P** **23 51 00.1 +1.0**
SAO IAmb IAmb 23 51 01.7
comp=Z,78nm,0.9s
KSAR Wonju Array Be 79.72 319 P **P** **23 51 00.0 +0.9**
KSAR Wonju Array Be 79.72 319 P **P** **23 50 60.0 +0.9**
SMMC Simmler 79.72 44 P 23 51 01.4
baz=232,SNR=10
KS19 Wonju Array Si 79.77 319 P **P** **23 51 01.0 +1.6**
PMPB Monarch Peak 79.78 43 P **P** **23 51 00.9 +1.3**
PMPB IAmb IAmb 23 51 02.3
comp=Z,97nm,0.9s
CCX Cicese 79.87 49 P **P** **23 51 00.9 +0.9**
SDPT Sand Point 79.88 10 P 23 50 59.5
baz=195,SNR=9.3
SDPT S 00 00 47.3
baz=195
SDPT Sand Point 79.88 10 P **P** **23 50 59.4 -0.1**
UBSI University, Be 79.89 270 P **P** **23 51 01.4 +0.8**
comp=Z,5µmcomp=Z,512nm,0.6s
OSI Osito Audit: C 80.12 45 P **P** **23 51 02.1 +0.7**
OSI IAmb IAmb 23 51 05.1
comp=Z,76nm,0.8s
OSI Osito Audit: C 80.12 45 P 23 51 03.5
baz=232,SNR=7.4
OSI S 00 00 58.8
baz=232
CBX Cerro Bola 80.13 48 P **P** **23 51 02.0 +0.4**
DECC Green Verdugo 80.16 46 P 23 51 02.8
baz=233,SNR=12
DECC S 00 00 58.7
baz=233
109C Camp Elliot, M 80.17 48 P 23 51 02.9
baz=234,SNR=6.9
109C S 00 00 58.5
baz=234
109C Camp Elliot, M 80.17 48 P **P** **23 51 02.0 +0.4**
HOPS Hopland Field 80.18 40 P **P** **23 51 02.7 +1.1**
SSE Sheshan 80.27 310 P **P** **23 51 02.3 +0.1**
SSE pmax pmax
comp=Z,25nm,0.8s
SSE pmax pmax
comp=Z,300nm,7.2s
SSE L L
comp=Z,180nm,19.2s
LPIG La Paz 80.30 58 P **P** **23 51 02.8 +0.3**
comp=Z,31nm,0.5s,baz=343,slow=3.5,SNR=4.4
MWC Mount Wilson 80.32 46 P **P** **23 51 03.3 +0.6**
MWC pmax pmax
comp=Z,115nm,0.8s
MWC Mount Wilson 80.32 46 P **P** **23 51 03.3 +0.6**
MWC IAmb IAmb 23 51 05.5
comp=Z,115nm,0.8s
ARVC Arvin 80.36 45 P 23 51 04.2
baz=232,SNR=37
ARVC S 00 01 01.7
baz=232
SLBS Sierra La Lagu 80.37 59 P **P** **23 51 03.7 +0.7**
INCN Inchon 80.52 318 P **P** **23 51 04.2 +0.8**
INCN pmax pmax
comp=Z,49nm,0.9s
INCN Inchon 80.52 318 P **P** **23 51 04.2 +0.8**
MURC Murrieta 80.52 47 P 23 51 05.0
baz=234,SNR=18
MURC S 00 01 03.5
baz=234
GO10 Punta Arenas 80.54 144 P **P** **23 51 05.3 +1.8**
GO10 IAmb IAmb 23 51 46.1
comp=Z,214nm,1.1s
BTDF Bukit Timah Da 80.55 276 P **P** **23 51 04.7 +0.6**
comp=Z,2µmcomp=Z,2µmcomp=Z,164nm,0.7s
BFSC Mount Baldy Ra 80.59 46 P 23 51 05.0
baz=233,SNR=28
MONP2 Monument Peak 80.63 48 P 23 51 05.7
baz=234,SNR=47
MONP2 S 00 01 03.8
baz=234
VES Vestal, Richgr 80.63 44 P 23 51 05.2
baz=232,SNR=28
VES S 00 01 03.6
baz=232
SPIA Saint Paul Isl 80.64 4 P 23 51 04.4
baz=186,SNR=34
SPIA Saint Paul Isl 80.64 4 P **P** **23 51 04.3 +0.8**
SFX San Felipe 80.66 50 P **P** **23 51 05.0 +0.8**
GO09 Cerro Castillo 80.67 142 P **P** **23 51 05.3 +1.2**
IKP In-Ko-Pah, Jac 80.70 48 P 23 51 06.1
baz=234,SNR=51
IKP S 00 01 05.2
baz=234
VOG Valley Oaks Go 80.74 44 P 23 51 06.0
baz=232
EDW2 Edwards Air Fo 80.76 46 P 23 51 06.1
baz=233,SNR=122
EDW2 S 00 01 04.8
baz=233
ISA Isabella, Lake 80.92 45 P 23 51 07.3
baz=232,SNR=72
UGL Uglegorsk 80.96 334 *e*P **P** **23 51 06.1 +0.7**
UGL *e*S **S** **00 00 59.0 -1.5**
UGL pmax pmax
comp=Z,550nm,4.0s
UGL pmax pmax
comp=Z,60nm,1.3s
UGL smax smax
comp=E,2µm,12.0s
UGL smax smax
comp=N,2µm,7.0s
PFO Pinyon Flats O 81.03 47 P 23 51 07.6
baz=234,SNR=12
TPFO Pinon Flats 81.03 47 P 23 51 07.6
baz=234,SNR=18
PFO Pinyon Flats O 81.03 47 P **P** **23 51 07.4 +1.1**
comp=N,32nm,0.8s,baz=260,slow=3.8,SNR=63
PFO Pinyon Flats O 81.03 47 P **P** **23 51 07.0 +0.6**
SWSC Sam W. Stewart 81.09 48 P 23 51 07.9
baz=234,SNR=15
O02D Mt. Diablo Mer 81.12 39 P 23 51 08.6
baz=229,SNR=51

USHA	**Ushuaia**	**81.14**	**146**	P		**P**		**23 51 07.7**	**+1.2**	
	comp=N,70nm,0.8s,baz=175,slow=2.3,SNR=7.1									
CHIR	**Chirikof Islan**	**81.17**	**12**	P				23 51 07.0		
	baz=200,SNR=11									
CHIR	**Chirikof Islan**	**81.17**	**12**	P		**P**		**23 51 06.6**	**+0.3**	
CHIR				IAmb		IAmb		23 51 10.7		
	comp=Z,185nm,1.0s									
RGRI	**Rengat**	**81.18**	**273**	P		**P**		**23 51 09.0**	**+1.5**	
	comp=Z,464nm,0.8s									
VLA	**Vladivostok**	**81.25**	**325**	*d*	iP		**P**	**23 51 07.8**	**+0.7**	
VLA					pmax		pmax			
	comp=Z,66nm,1.1s									
MSHR	**Mys Shultsa**	**81.26**	**324**	*d*	iP		**P**	**23 51 08.2**	**+1.0**	
MSHR					pmax		pmax			
	comp=Z,126nm,1.0s									
LRMC	**Laurel Mtn Rad**	**81.32**	**45**	P				23 51 09.4		
	baz=233,SNR=9.8									
RRX	**Edison Barstow**	**81.41**	**46**	P				23 51 09.6		
	baz=234,SNR=5.5									
BELC	**Belle Mtn. Jos**	**81.56**	**47**	P				23 51 10.7		
	baz=234,SNR=34									
CWC	**Cottonwood Cre**	**81.64**	**44**	P				23 51 10.9		
	baz=233									
N02D	**Trinity Center**	**81.69**	**38**	P				23 51 11.3		
	baz=229,SNR=31									
MG02	**Cerro Sombrero**	**81.70**	**144**	P		**P**		**23 51 10.6**	**+1.2**	
BC3	**Big Chuckawall**	**81.73**	**48**	P				23 51 11.6		
	baz=235,SNR=24									
O03E	**Paynes Creek**	**81.77**	**39**	P				23 51 11.2		
	baz=230,SNR=41									
GSC	**Goldstone, Bar**	**81.79**	**46**	P				23 51 11.6		
	baz=234,SNR=66									
MPMC	**Manual Prospec**	**81.79**	**45**	P				23 51 11.8		
	baz=233,SNR=107									
GLA	**Glamis**	**81.82**	**49**	P				23 51 12.3		
	baz=235,SNR=16									
HEC	**Hector,Ludlow**	**81.82**	**47**	P				23 51 11.7		
	baz=234,SNR=100									
M02C	**Callahan**	**81.88**	**38**	P				23 51 12.6		
	baz=229,SNR=31									
MLAC	**Mammoth, Mammo**	**81.89**	**43**	P				23 51 13.2		
	baz=232									
GZH	**Guangzhou**	**81.92**	**299**	P		**P**		**23 51 13.1**	**+2.0**	
GZH				sP		**sP**		**23 52 14.4**	**+7.0**	
GZH				PP		**PP**		**23 54 24.9**	**+3.7**	
GZH				pmax		pmax				
	comp=Z,430nm,0.7s									
TIN	**Tinemaha, Big**	**81.92**	**44**	P				23 51 13.0		
	baz=232,SNR=7.0									
USA0B	**Ussuriysk Arra**	**81.94**	**326**	P		**P**		**23 51 11.0**	**+0.3**	
USA0B				pmax		pmax				
	comp=Z,90nm,1.1s									
USA0B	**Ussuriysk Arra**	**81.94**	**326**	P		**P**		**23 51 11.0**	**+0.3**	
USA0B				IAmb		IAmb		23 51 14.7		
	comp=Z,90nm,1.1s									
USRK	**Ussuriysk Ar.**	**81.94**	**326**	P		**P**		**23 51 11.6**	**+0.9**	
	comp=Z,64nm,0.9s,baz=113,slow=3.1,SNR=88									
USRK				LR		LR		00 24 03.1		
	comp=Z,189nm,21.7s,baz=133,slow=33									
USRK	**Ussuriysk Ar.**	**81.94**	**326**	P		**P**		**23 51 11.4**	**+0.7**	
L02E	**Cave Junction**	**81.97**	**37**	P				23 51 12.8		
	baz=228,SNR=5.9									
WAKR	**Walker**	**82.06**	**42**	P		**P**		**23 51 12.8**	**+1.0**	
SII	**Sitkinak Islan**	**82.14**	**13**	P				23 51 12.1		
	baz=201,SNR=25									
YBH	**Yreka Blue Hor**	**82.19**	**38**	P		**P**		**23 51 13.0**	**+0.8**	
	comp=Z,28nm,0.8s,baz=190,slow=3.3,SNR=66									
YBH	**Yreka Blue Hor**	**82.19**	**38**	P		**P**		**23 51 13.0**	**+0.8**	
IRM	**Iron Mountain**	**82.23**	**48**	P				23 51 14.2		
	baz=235,SNR=44									
GMRC	**Granite Mounta**	**82.25**	**47**	P				23 51 14.0		
	baz=234,SNR=67									
K02D	**Willamette Mer**	**82.30**	**37**	P				23 51 14.4		
	baz=228,SNR=8.2									
HSIG		**82.38**	**54**	P		**P**		**23 51 13.2**	**-0.2**	
HSIG				IAmb		IAmb		23 51 15.9		
	comp=Z,61nm,0.7s									
113A	**Mohawk Valley,**	**82.39**	**49**	P		**P**		**23 51 14.2**	**+0.9**	
113A				IAmb		IAmb		23 51 17.0		
	comp=Z,71nm,0.8s									
GRAC	**Grapevine Rang**	**82.43**	**44**	P				23 51 15.2		
	baz=233									
FURC	**Furnace Creek,**	**82.44**	**45**	P				23 51 14.8		
	baz=233,SNR=32									
NJ2	**Nanjing**	**82.45**	**310**	⇑	P	**P**		**23 51 15.1**	**+1.5**	
NJ2					pP	**pP**		**23 51 54.0**	**+0.9**	
NJ2					PP	**PP**		**23 54 24.1**	**-1.2**	
NJ2					pmax	pmax				
	comp=Z,80nm,1.1s									
NJ2					pmax	pmax				
	comp=Z,910nm,5.2s									
TUQ	**Turquoise Moun**	**82.45**	**46**	P				23 51 15.1		
	baz=234,SNR=46									
J01E	**Myrtle Point**	**82.46**	**36**	P				23 51 15.0		
	baz=228,SNR=9.0									
YERR	**Yerington**	**82.47**	**42**	P		**P**		**23 51 14.5**	**+0.6**	
SHOC	**Shoshone, Teco**	**82.49**	**46**	P				23 51 15.3		
	baz=234,SNR=6.6									
214A	**Organ Pipe Nat**	**82.61**	**51**	P		**P**		**23 51 15.8**	**+1.2**	
214A	**Organ Pipe Nat**	**82.61**	**51**	P				23 51 16.1		
	baz=236,SNR=20									
BKNI	**Bangkinang**	**82.63**	**274**	P		**P**		**23 51 15.2**	**+0.1**	
BKNI	**Bangkinang**	**82.63**	**274**	P		**P**		**23 51 16.6**	**+1.5**	
	comp=Z,4µmcomp=Z,3µmcomp=Z,262nm,0.8s									
PDSI	**Padang**	**82.67**	**272**	P		**P**		**23 51 14.4**	**-0.9**	
	comp=Z,2µmcomp=Z,792nmcomp=Z,75nm,0.7s									
NVAR	**Mina Array Bea**	**82.71**	**43**	P		**P**		**23 51 15.9**	**+0.8**	
	comp=Z,27nm,0.8s,baz=224,slow=9.3,SNR=180									
NVAR				pP		**pP**		**23 51 54.9**	**+0.3**	
	comp=Z,39nm,1.1s,baz=229,slow=8.3,SNR=2.5									
NVAR				PKKPbc		**PKKPbc**		**00 09 40.2**	**+0.2**	
	comp=Z,0.8nm,0.5s,baz=61,slow=3.7,SNR=6.2									
NVAR				PKPPKP				00 17 41.0		
	comp=Z,0.8nm,0.9s,baz=82,slow=2.2,SNR=3.9									
NVAR				LR		LR		00 24 25.3		
	comp=Z,219nm,18.0s,baz=248,slow=33									
NVAR	**Mina Array Bea**	**82.71**	**43**	P		**P**		**23 51 15.4**	**+0.3**	
M04C	**Macdoel**	**82.72**	**38**	P				23 51 16.4		
	baz=229,SNR=23									
L04D	**Klamath Falls**	**82.74**	**38**	P				23 51 16.4		
	baz=229,SNR=17									
NV11	**Mina Array Sit**	**82.80**	**43**	P		**P**		**23 51 16.3**	**+0.8**	
QIZ	**Qiongzhong**	**82.84**	**294**	P		**P**		**23 51 17.4**	**+1.4**	
QIZ				pP		**pP**		**23 51 55.4**	**-0.1**	
QIZ				pmax		pmax				
	comp=Z,15nm,0.8s									
QIZ				pmax		pmax				
	comp=Z,620nm,5.7s									
QIZ	**Qiongzhong**	**82.84**	**294**	P		**P**		**23 51 17.1**	**+1.1**	
NEE2	**Needles Airpor**	**82.94**	**47**	P				23 51 18.0		
	baz=235,SNR=9.3									
OHAK	**Old Harbor**	**82.94**	**13**	P				23 51 16.1		
	baz=202,SNR=20									
PDMCI	**Parker Dam,Lak**	**83.00**	**48**	P				23 51 18.2		
	baz=235,SNR=30									
TPNV	**Topopah Spring**	**83.12**	**45**	P				23 51 18.6		
	baz=234,SNR=49									
TPNV	**Topopah Spring**	**83.13**	**45**	P		**P**		**23 51 18.2**	**+0.9**	
TPNV				pmax		pmax				
	comp=Z,48nm,0.9s									
TPNV	**Topopah Spring**	**83.13**	**45**	P		**P**		**23 51 18.2**	**+0.9**	
I03D	**Drain, OR**	**83.14**	**36**	P				23 51 18.2		
	baz=228,SNR=12									
I02D	**Swisshome**	**83.14**	**36**	P				23 51 18.7		
	baz=228									
TPH	**Tonopah**	**83.17**	**43**	P		**P**		**23 51 18.2**	**+0.7**	
TPH				pmax		pmax				
	comp=Z,268nm,1.0s									
TPH	**Tonopah**	**83.17**	**43**	P		**P**		**23 51 18.2**	**+0.7**	
K04D	**Chiloquin, OR**	**83.31**	**38**	P				23 51 19.4		
	baz=229,SNR=5.5									
COYC	**Coyhaique**	**83.36**	**137**	P		**P**		**23 51 19.3**	**+1.0**	
COYC				IAmb		IAmb		23 51 22.0		
	comp=Z,92nm,0.8s									
GO07	**Milladeo Hill,**	**83.44**	**134**	P		**P**		**23 51 20.2**	**+1.5**	
MDJ	**Mudanjiang**	**83.48**	**325**	P		**P**		**23 51 19.8**	**+1.2**	
MDJ				pP		pwP		23 52 01.1	-0.6	
MDJ				PP		**PP**		**23 54 36.5**	**+2.9**	
MDJ				pmax		pmax				
	comp=Z,77nm,0.9s									
MDJ				pmax		pmax				
	comp=Z,800nm,8.5s									
MDJ	**Mudanjiang**	**83.48**	**325**	P		**P**		**23 51 19.2**	**+0.6**	
MDJ				IAmb		IAmb		23 51 22.7		
	comp=Z,57nm,0.9s									
J04D	**Umpqua Nationa**	**83.51**	**37**	P				23 51 20.6		
	baz=229,SNR=18									
KDAK	**Kodiak Island**	**83.61**	**13**	P				23 51 19.5		
	baz=202									
KDAK	**Kodiak Island**	**83.61**	**13**	P		**P**		**23 51 19.7**	**+0.7**	
KDAK				pmax		pmax				
	comp=Z,254nm,2.0s									
KDAK	**Kodiak Island**	**83.61**	**13**	P		**P**		**23 51 19.6**	**+0.7**	
KDAK				IAmb		IAmb		23 51 21.0		
	comp=Z,254nm,1.9s									
H03S2	**Juan Fernandez**	**83.61**	**124**	T		T		01 23 16.3		
	baz=244,slow=75									
H03S1	**Juan Fernandez**	**83.62**	**124**	T		T		01 23 17.4		
	baz=244,slow=75									
H03S3	**Juan Fernandez**	**83.62**	**124**	T		T		01 23 21.1		
	baz=244,slow=75									
I04A	**Tendick Farm,**	**83.71**	**36**	P				23 51 20.8		
	baz=229,SNR=14									
COR	**Corvallis**	**83.75**	**35**	P		**P**		**23 51 21.5**	**+1.5**	
COR				pmax		pmax				
	comp=Z,40nm,0.9s									
COR	**Corvallis**	**83.75**	**35**	P		**P**		**23 51 21.5**	**+1.5**	
H03N2	**Juan Fernandez**	**83.76**	**124**	T		T		01 23 07.2		
	baz=243,slow=74									
H03N3	**Juan Fernandez**	**83.76**	**124**	T		T		01 23 27.0		
	baz=243									
H03N1	**Juan Fernandez**	**83.78**	**124**	T		T		01 23 36.7		
	baz=243,slow=74									
K05A	**Summer Lake**	**83.86**	**38**	P		**P**		**23 51 22.1**	**+1.1**	
K05A				IAmb		IAmb		23 51 23.5		
	comp=Z,111nm,0.9s									
SYO	**Syowa Base**	**83.92**	**193**	‖	*e*P	**P**		**23 51 19.6**	**-1.0**	
SYO	**Syowa Base**	**83.92**	**193**	‖	*e*X	**P**		**23 51 21.2**	**+0.6**	
SYO	**Syowa Base**	**83.92**	**193**	‖	*e*pP	pP		23 51 58.6	-1.8	
H04D	**Lebanon**	**84.01**	**36**	P				23 51 22.7		
	baz=228,SNR=12									
MNSI	**Mandailing Nat**	**84.16**	**273**	P		**P**		**23 51 21.5**	**-1.4**	
	comp=Z,3µmcomp=Z,234nm,0.8s									
G03D	**McMinnville, O**	**84.19**	**35**	P				23 51 24.1		
	baz=228,SNR=5.3									
TUC	**Tucson**	**84.25**	**51**	P		**P**		**23 51 24.6**	**+1.6**	
TUC				pmax		pmax				
	comp=Z,124nm,0.8s									
TUC	**Tucson**	**84.25**	**51**	P		**P**		**23 51 24.6**	**+1.6**	
TUC				IAmb		IAmb		23 51 26.7		
	comp=Z,124nm,0.8s									
TUC	**Tucson**	**84.25**	**51**	P				23 51 24.6		
	baz=238									
IPM	**Ipoh**	**84.32**	**277**	P		**P**		**23 51 24.0**	**+0.3**	
LL05	**Los Muermos**	**84.32**	**133**	P		**P**		**23 51 24.6**	**+1.4**	
LL05				IAmb		IAmb		23 51 29.0		
	comp=Z,145nm,1.1s									
R11A	**Troy Canyon, C**	**84.37**	**44**	P				23 51 24.5		
	baz=234,SNR=16									
R11A				S				00 01 40.2		
	baz=234									
R11A	**Troy Canyon, C**	**84.37**	**44**	P		**P**		**23 51 24.2**	**+0.6**	
DL2	**Dalian**	**84.50**	**317**	‖	*i*P	**P**		**23 51 24.1**	**+0.2**	
DL2					pP	**pwP**		**23 52 11.5**	**+4.7**	
DL2					PP	**PP**		**23 54 42.5**	**+0.5**	
DL2					pmax	pmax				
	comp=Z,58nm,0.8s									
DL2					pmax	pmax				
	comp=Z,490nm,6.2s									
PINE	**Pine Mountain**	**84.52**	**37**	P		**P**		**23 51 25.4**	**+1.2**	
PINE				IAmb		IAmb		23 51 26.9		
	comp=Z,79nm,0.9s									
GRNR	**Gornyy**	**84.59**	**332**	⇑	*i*P	**P**		**23 51 24.9**	**+0.8**	
GRNR					pmax	pmax				
	comp=Z,5.0nm,0.9s									
LL01	**San Ignacio de**	**84.59**	**134**	P		**P**		**23 51 25.5**	**+0.9**	
LL02	**Futaleuf**	**84.59**	**135**	P		**P**		**23 51 25.8**	**+1.3**	
I05D	**Terrebonne, OR**	**84.65**	**37**	P				23 51 26.0		
	baz=230,SNR=18									
I05D				S				00 01 43.6		
	baz=230									
NKL	**Nikolayevsk**	**84.72**	**336**	*e*	P	**P**		**23 51 25.4**	**+0.8**	
NKL				*i*				23 54 36.7		
NKL				*e*	S	**S**		**00 01 33.0**	**-5.3**	
NKL				pmax		pmax				
	comp=Z,49nm,1.0s									
NKL				pmax		pmax				
	comp=E,69nm,0.9s									
NKL				smax		smax				
	comp=E,160nm,2.1s									
NKL				MLR		MLR				
	comp=E,2µm,15.0s									
NKL				MLR		MLR				
	comp=N,1.0nm,13.0s									
NKL				MLR		MLR				
	comp=Z,337nm,19.0s									
WHN	**Wuhan**	**84.90**	**306**	P		**P**		**23 51 27.0**	**+0.9**	
WHN				pP		**pP**		**23 52 06.8**	**+0.9**	
WHN				pmax		pmax				
	comp=Z,170nm,1.2s									
WHN				pmax		pmax				
	comp=Z,1µm,5.1s									
WHN				L		L				
	comp=Z,4µm,46.3s									
F04D	**Rainier, OR**	**84.90**	**34**	P				23 51 28.1		
	baz=228									
F04D				S				00 01 46.8		
	baz=228									
SNAA	**Sanae**	**84.93**	**178**	P		**P**		**23 51 26.3**	**+0.5**	
SNAA	**Sanae**	**84.93**	**178**	pP		pP		23 52 06.5	+0.8	
SNAA	**Sanae**	**84.93**	**178**	P		**P**		**23 51 26.0**	**+0.2**	
	comp=Z,32nm,0.7s,baz=204,slow=6.3,SNR=137									
SNAA				pP		**pP**		**23 52 05.1**	**-0.6**	
	comp=Z,133nm,1.0s,baz=193,slow=5.2,SNR=13									
SNAA	**Sanae**	**84.93**	**178**	*c*	iP	**P**		**23 51 25.9**	**+0.1**	
SNAA				pmax		pmax				
	comp=Z,167nm,2.5s									
SNAA	**Sanae**	**84.93**	**178**	P		**P**		**23 51 26.0**	**+0.2**	
SNAA				IAmb		IAmb		23 52 07.9		
	comp=Z,169nm,1.0s									
WVOR	**Wild Horse Val**	**84.97**	**39**	P		**P**		**23 51 27.3**	**+0.9**	
WVOR				pmax		pmax				
	comp=Z,54nm,0.9s									
WVOR	**Wild Horse Val**	**84.97**	**39**	P		**P**		**23 51 27.3**	**+0.9**	
VNA3	**Neumayer Olymp**	**85.04**	**176**	P		**P**		**23 51 26.7**	**+0.4**	
VNA3	**Neumayer Olymp**	**85.04**	**176**	pP		pP		23 52 07.1	+0.9	
SNY	**Shenyang**	**85.06**	**320**	⇓	P	**P**		**23 51 27.0**	**+0.3**	
SNY					pP	**pP**		**23 52 07.5**	**+1.0**	
SNY				pmax		pmax				
	comp=Z,30nm,0.9s									
SNY				pmax		pmax				
	comp=Z,620nm,3.7s									
SNY				L		L				
	comp=Z,560nm,21.0s									
SNY				L		L				
	comp=Z,430nm,23.9s									
SNY				L		L				
	comp=Z,500nm,22.6s									
LCMT	**Little Creek M**	**85.13**	**46**	P		**P**		**23 51 28.3**	**+1.0**	
LL03	**Petrohue**	**85.16**	**133**	P		**P**		**23 51 27.9**	**+0.5**	
LL03				IAmb		IAmb		23 51 50.3		
	comp=Z,106nm,0.9s									
CN2	**Changchun**	**85.21**	**322**	*e*	P	**P**		**23 51 28.3**	**+0.9**	
CN2				PP		**PP**		**23 54 50.0**	**+2.4**	
CN2				pmax		pmax				
	comp=Z,70nm,1.4s									
CN2				pmax		pmax				
	comp=Z,800nm,5.0s									
G05D	**Wamic, OR**	**85.25**	**36**	P				23 51 28.6		
	baz=230,SNR=10.0									
G05D				S				00 01 50.1		
	baz=230									
HPIG		**85.34**	**58**	P		**P**		**23 51 29.2**	**+0.5**	
HPIG				IAmb		IAmb		23 51 31.4		
	comp=Z,72nm,0.9s									
NLWA	**Neilton Lookou**	**85.34**	**33**	P		**P**		**23 51 29.4**	**+1.3**	
E04D	**Cinebar**	**85.45**	**34**	P				23 51 30.0		
	baz=228,SNR=14									
E04D				S				00 01 51.8		
	baz=228									
RPSI	**Rantau Prapat**	**85.52**	**275**	P		**P**		**23 51 29.5**	**-0.2**	
RPSI				IAmb		IAmb		23 51 31.9		
	comp=Z,109nm,0.8s									
O19K	**Port Alsworth**	**85.52**	**11**	P				23 51 28.6		
	baz=201									
O19K				S				00 01 47.1		
	baz=201									
HOM	**Homer**	**85.53**	**13**	P				23 51 29.8		
	baz=203,SNR=13									
HOM				S				00 01 48.3		
	baz=203									
PSI	**Prapat**	**85.56**	**275**	P		**P**		**23 51 29.6**	**-0.4**	
	comp=Z,82nm,0.8s,baz=0.5,slow=2.3,SNR=46									
PSI	**Prapat**	**85.56**	**275**	P		**P**		**23 51 30.1**	**+0.1**	
	comp=Z,743nmcomp=Z,69nm,0.9s									
WUAZ	**Wupatki**	**85.56**	**48**	P				23 51 31.0		
	baz=237,SNR=24									
WUAZ				S				00 01 56.7		
	baz=237									
WUAZ	**Wupatki**	**85.56**	**48**	P		**P**		**23 51 30.6**	**+1.1**	
KLR	**Kul'dur**	**85.56**	**329**	P		**P**		**23 51 29.4**	**+0.3**	
	comp=Z,24nm,0.8s,baz=105,slow=3.8,SNR=62									
KLR	**Kul'dur**	**85.56**	**329**	*d*	iP	**P**		**23 51 29.1**	**+0.1**	
KLR				pmax		pmax				
	comp=Z,36nm,0.9s									
F05D	**White Salmon**	**85.59**	**35**	P				23 51 30.4		
	baz=229									
F05D				S				00 01 52.7		
	baz=229									
MOIG	**Morelia**	**85.59**	**66**	P		**P**		**23 51 30.4**	**+0.3**	
MOIG				IAmb		IAmb		23 51 32.8		
	comp=Z,153nm,0.9s									
DIB	**Dawson Inlet,**	**85.70**	**25**	P		**P**		**23 51 30.5**	**+1.0**	
N18K	**Kilae Creek**	**85.71**	**10**	P				23 51 29.2		
	baz=199,SNR=23									
N18K				S				00 01 48.2		
	baz=199									
VNA1	**Neumayer--Stat**	**85.71**	**176**	P		**P**		**23 51 30.5**	**+1.0**	
VNA1	**Neumayer--Stat**	**85.71**	**176**	pP		pP		23 52 10.5	+1.1	
D04E	**Lakebay**	**85.76**	**34**	S				00 01 57.0		
	baz=228									
SKLT	**Songkhla**	**85.78**	**280**	P		**P**		**23 51 32.4**	**+1.5**	
	comp=Z,2µmcomp=Z,135nm,0.8s									
BRSE	**Bradley Lake S**	**85.79**	**13**	P				23 51 30.3		
	baz=204,SNR=48									
BRSE				S				00 01 49.8		
	baz=204									
D03D	**Eldon**	**85.83**	**33**	P				23 51 32.2		
	baz=228,SNR=11									
D03D				S				00 01 56.7		
	baz=228									
ZAIG	**Zacatecas**	**85.85**	**63**	P		**P**		**23 51 31.8**	**+0.4**	
TIA	**Tai'an**	**85.93**	**312**	P		**P**		**23 51 32.1**	**+1.0**	
TIA				pmax		pmax				
	comp=Z,26nm,0.7s									
ELK	**Elko**	**85.99**	**42**	P		**P**		**23 51 32.2**	**+0.5**	
ELK				pmax		pmax				
	comp=Z,25nm,0.9s									
ELK	**Elko**	**85.99**	**42**	P		**P**		**23 51 32.1**	**+0.5**	
PAF	**Port-aux-Franc**	**86.00**	**217**	P		**P**		**23 51 32.0**	**+0.6**	
PAF				pmax		pmax				
	comp=Z,887nm,1.5s									
PAF	**Port-aux-Franc**	**86.00**	**217**	P		**P**		**23 51 32.0**	**+0.6**	
RSO	**Redoubt South**	**86.06**	**12**	P		**P**		**23 51 31.4**	**0.0**	
N19K	**Bonanza Creek**	**86.07**	**11**	P				23 51 31.0		
	baz=201,SNR=59									
N19K				S				00 01 51.6		
	baz=201									
SVW2	**Sparrevohn**	**86.15**	**10**	P		**P**		**23 51 31.4**	**-0.2**	
TSI	**Tuntungan**	**86.17**	**275**	P		**P**		**23 51 34.5**	**+1.7**	
	comp=Z,131nm,0.9s									
GSI	**Gunungsitoli**	**86.20**	**273**	P		**P**		**23 51 33.6**	**+0.6**	
GSI	**Gunungsitoli**	**86.20**	**273**	P		**P**		**23 51 33.8**	**+0.8**	
	comp=Z,4µmcomp=Z,230nm,0.7s									
SEW	**Seward**	**86.39**	**13**	P				23 51 33.1		
	baz=205,SNR=17									
SEW				S				00 01 54.8		
	baz=205									
SEW	**Seward**	**86.39**	**13**	P		**P**		**23 51 33.3**	**+0.5**	
SEW				IAmb		IAmb		23 51 35.8		
	comp=Z,53nm,0.8s									
PGC	**Sidney**	**86.40**	**32**	P		**P**		**23 51 34.0**	**+1.0**	
MID	**Middleton Isla**	**86.49**	**15**	P		**P**		**23 51 34.4**	**+1.1**	
MID				pmax		pmax				
	comp=Z,132nm,1.1s									
MID	**Middleton Isla**	**86.49**	**15**	P		**P**		**23 51 34.4**	**+1.1**	
MID				IAmb		IAmb		23 51 36.0		
	comp=Z,132nm,1.1s									
121A	**Cookes Peak, D**	**86.53**	**52**	P		**P**		**23 51 35.8**	**+1.4**	
121A				IAmb		IAmb		23 51 38.1		
	comp=Z,70nm,0.9s									
121A	**Cookes Peak, D**	**86.53**	**52**	P				23 51 36.0		
	baz=239,SNR=50									
PLCA	**Paso Flores**	**86.59**	**133**	P		**P**		**23 51 35.5**	**+0.9**	
	comp=Z,18nm,0.8s,baz=228,slow=5.4,SNR=34									
PLCA				PKKPbc		**PKKPbc**		**00 09 30.2**	**+0.6**	
	comp=Z,2.8nm,0.7s,baz=114,slow=5.8,SNR=5.0									
PLCA				LR		LR		00 21 37.5		
	comp=Z,497nm,22.0s,baz=250,slow=29									
PLCA	**Paso Flores**	**86.59**	**133**	P		**P**		**23 51 35.8**	**+1.2**	
PLCA				pmax		pmax				
	comp=Z,77nm,1.5s									
PLCA	**Paso Flores**	**86.59**	**133**	P		**P**		**23 51 35.8**	**+1.2**	
CAPN	**Captain Cook N**	**86.65**	**12**	S				00 01 60.0		
	baz=204									
O22K	**Cooper Landing**	**86.68**	**13**	P				23 51 35.0		
	baz=205									
O22K				S				00 01 58.2		
	baz=205									
O22K	**Cooper Landing**	**86.68**	**13**	P		**P**		**23 51 34.7**	**+0.5**	
O22K				IAmb		IAmb		23 51 41.6		
	comp=Z,192nm,1.2s									
BBB	**Bella Bella**	**86.72**	**28**	P		**P**		**23 51 35.9**	**+1.3**	
BBB				IAmb		IAmb		23 51 38.1		
	comp=Z,61nm,0.8s									
A04D	**Lummi Island**	**86.81**	**33**	P				23 51 37.0		
	baz=228,SNR=18									
A04D				S				00 02 05.4		
	baz=228									
B05A	**Bryant**	**86.82**	**33**	P				23 51 36.5		
	baz=229,SNR=21									
B05A				S				00 02 04.9		
	baz=229									
PAYG	**Puerto Ayora**	**86.84**	**89**	P		**P**		**23 51 36.9**	**+0.7**	
PAYG				IAmb		IAmb		23 51 42.0		
	comp=Z,56nm,0.9s									
SP

GLI S 00 02 06.8
baz=207
GLI Glacier Island 87.61 14 P **P** **23 51 38.8 +0.1**
EYAK Cordova Ski Ar 87.62 15 P 23 51 39.1
baz=208,SNR=30
EYAK S 00 02 07.3
baz=208
EYAK Cordova Ski Ar 87.62 15 P **P** **23 51 39.3 +0.7**
EYAK IAmb IAmb 23 51 41.3
comp=Z,85nm,1.0s
SIT Sitka 87.67 21 P 23 51 40.5
baz=218,SNR=6.3
SIT S 00 02 10.5
baz=218
SIT Sitka 87.67 21 P **P** **23 51 40.0 +1.0**
SIT pmax pmax
comp=Z,53nm,1.2s
SIT Sitka 87.67 21 P **P** **23 51 40.0 +1.0**
SIT IAmb IAmb 23 51 41.5
comp=Z,53nm,1.2s
SKT Skwentna 87.69 12 P 23 51 38.5
baz=203,SNR=61
SKT Skwentna 87.69 12 P **P** **23 51 38.5 -0.5**
SKT IAmb IAmb 23 51 40.3
comp=Z,54nm,1.0s
SUCK Suckling Hills 87.69 16 P **P** **23 51 40.0 +0.9**
SUCK IAmb IAmb 23 51 41.8
comp=Z,273nm,1.9s
KNK Knik Glacier 87.79 13 P 23 51 40.0
baz=206,SNR=28
KNK S 00 02 08.4
baz=206
KNK Knik Glacier 87.79 13 P **P** **23 51 40.0 +0.5**
KNK IAmb IAmb 23 51 42.0
comp=Z,83nm,0.9s
HMT Hamilton 87.80 16 P **P** **23 51 40.1 +0.5**
HMT IAmb IAmb 23 51 42.5
comp=Z,94nm,1.2s
PMR Palmer 87.81 13 P 23 51 40.0
baz=206,SNR=13
PMR S 00 02 08.0
baz=206
TTA Tatalina 87.82 9 P 23 51 40.2
baz=199,SNR=62
TTA S 00 02 11.8
baz=199
TTA Tatalina 87.82 9 P **P** **23 51 40.3 +0.6**
TTA pmax pmax
comp=Z,121nm,1.2s
TTA Tatalina 87.82 9 P **P** **23 51 40.3 +0.6**
TTA IAmb IAmb 23 51 42.6
comp=Z,121nm,1.2s
MNTX Cornudas Mount 87.88 54 P 23 51 41.6
baz=241,SNR=160
MNTX S 00 02 17.0
baz=241
MNTX Cornudas Mount 87.88 54 P **P** **23 51 41.4 +0.7**
MNTX IAmb IAmb 23 51 44.2
comp=Z,87nm,0.8s
PATY Pattaya 87.93 285 P **P** **23 51 44.6 +3.4**
comp=Z,171nm,0.9s
Y22D IRIS PASSCAL I 87.93 51 P **P** **23 51 42.4 +1.3**
Y22D IAmb IAmb 23 51 46.2
comp=Z,108nm,1.1s
Y22D IRIS PASSCAL I 87.93 51 P 23 51 43.3
baz=240,SNR=5.8
LENM Lemitar 87.94 51 P **P** **23 51 41.7 +0.6**
TX31 Lajitas Ar. Si 88.04 57 P **P** **23 51 42.7 +1.1**
TXAR Lajitas Array 88.04 57 P **P** **23 51 43.0 +1.4**
comp=Z,34nm,0.7s,baz=214,slow=6.8,SNR=370
TXAR pP **pP** **23 52 22.6 +0.8**
comp=Z,22nm,0.9s,baz=230,slow=7.8,SNR=3.4
TXAR PKKPbc **PKKPbc** **00 09 26.5 -0.1**
comp=Z,1.1nm,0.7s,baz=176,slow=4.1,SNR=9.1
TXAR PKPPKP 00 17 38.3
comp=Z,0.9nm,0.9s,baz=90,slow=3.8,SNR=4.2
TXAR LR LR 00 21 13.4
comp=Z,202nm,21.5s,baz=0.0,slow=29
TXAR Lajitas Array 88.04 57 P **P** **23 51 42.7 +1.1**
EFI East Falkland 88.08 147 ⇓*i*P **P** **23 51 42.2 +0.9**
EFI pmax pmax
comp=Z,76nm,1.0s
EFI East Falkland 88.08 147 P **P** **23 51 42.3 +1.0**
EFI IAmb IAmb 23 52 25.1
comp=Z,99nm,0.9s
NONG Nongkai 88.09 291 P **P** **23 51 43.4 +1.5**
comp=Z,8µmcomp=Z,403nm,1.0s
HLID Hailey 88.13 40 P 23 51 42.8
baz=235,SNR=51
HLID S 00 02 19.6
baz=235
HLID Hailey 88.13 40 P **P** **23 51 42.7 +0.9**
PKDT Phuket 88.14 279 P **P** **23 51 45.3 +3.0**
comp=Z,2µmcomp=Z,48nm,1.0s
SURT Suratani 88.16 281 P **P** **23 51 47.1 +4.8**
SML Sawmill 88.17 13 P 23 51 41.5
baz=206,SNR=25
SML S 00 02 12.2
baz=206
CHAI Chaiyaphum 88.18 288 P P 23 51 55.9 +13
WRAK Wrangell Islan 88.20 23 P 23 51 43.3
baz=220,SNR=5.6
WRAK S 00 02 17.6
baz=220
WRAK Wrangell Islan 88.20 23 P **P** **23 51 43.0 +1.5**
WRAK IAmb IAmb 23 51 45.3
comp=Z,63nm,0.9s
MESA MESA 88.25 17 P 23 51 43.5
baz=212,SNR=7.2
MESA S 00 02 15.6
baz=212
BMRM Bremner River 88.26 15 P 23 51 42.4
baz=210,SNR=20
BMRM S 00 02 14.3
baz=210
GO05 Huala 88.31 128 P **P** **23 51 43.0 +0.1**
ANM Nome 88.32 5 P 23 51 43.7
baz=191,SNR=7.4
ANM S 00 02 16.2
baz=191
CUT Chulitna 88.32 12 P 23 51 41.9
baz=204,SNR=31
CUT S 00 02 12.7
baz=204
ANM Nome 88.32 5 P **P** **23 51 42.9 +1.0**
ANM pmax pmax
comp=Z,36nm,1.3s
ANM Nome 88.32 5 P **P** **23 51 42.9 +1.0**
LHMI Lhok Sumawe 88.34 276 P **P** **23 51 43.3 +0.1**
LHMI Lhok Sumawe 88.34 276 P **P** **23 51 45.1 +1.9**
comp=Z,3µmcomp=Z,267nm,0.9s
KLU Klutina 88.42 14 P 23 51 43.0
baz=208,SNR=35
KLU S 00 02 14.8
baz=208
PPLA Purkeypile 88.42 11 P 23 51 41.7
baz=203,SNR=18
PPLA S 00 02 11.5
baz=203
ENH Enshi 88.42 304 P **P** **23 51 44.1 +0.8**
MVCO Mesa Verde 88.43 48 P 23 51 44.2
baz=239,SNR=12
MVCO S 00 02 22.5
baz=239
CRQM Cirque 88.44 16 P **P** **23 51 43.9 +1.0**
CRQM IAmb IAmb 23 51 45.7
comp=Z,153nm,1.2s
CRQE Cirque 88.45 16 P 23 51 44.0
baz=211,SNR=28
BJT Baijiatuau 88.62 315 P **P** **23 51 44.8 +0.9**
BJT pmax pmax
comp=Z,42nm,0.8s
BJT Baijiatuau 88.62 315 P **P** **23 51 44.8 +0.9**
BJT IAmb IAmb 23 51 48.0
comp=Z,42nm,0.8s
BJI Beijing 88.63 315 P **P** **23 51 44.3 +0.4**
BJI PP **PP** **23 55 11.1 -4.1**
BJI pmax pmax
comp=Z,39nm,1.6s
BJI pmax pmax
comp=Z,670nm,4.7s
BJI L L
comp=Z,290nm,19.6s
BJI L L
comp=Z,300nm,23.7s
BJI L L
comp=Z,350nm,21.8s

PINM Pinnacle 88.64 18 P 23 51 44.8
baz=213,SNR=22
PINM S 00 02 19.3
baz=213
PCA Pinnacle 88.64 18 P **P** **23 51 44.7 +1.0**
PCA IAmb IAmb 23 51 46.6
comp=Z,85nm,1.0s
PV14 Lion Creek, Pa 88.68 47 P **P** **23 51 45.2 +0.6**
BCPM Bancas Point 88.70 18 P **P** **23 51 45.1 +1.3**
BCPM IAmb IAmb 23 51 46.9
comp=Z,125nm,1.1s
ANMO Albuquerque 88.70 51 P 23 51 46.0
baz=240
ANMO S 00 02 25.5
baz=240
ANMO Albuquerque 88.70 51*c i*P **P** **23 51 45.9 +1.2**
ANMO pmax pmax
comp=Z,47nm,0.8s
ANMO Albuquerque 88.70 51 P **P** **23 51 45.8 +1.2**
ANMO IAmb IAmb 23 51 47.0
comp=Z,42nm,0.9s
HWUT Hardware Ranch 88.76 43 P **P** **23 51 45.1 +0.3**
N25K Chitina, Valde 88.82 15 P 23 51 45.0
baz=210,SNR=110
N25K S 00 02 19.0
baz=210
N25K Chitina, Valde 88.82 15 P **P** **23 51 44.9 +0.4**
SLVN Son La 88.85 294 P **P** **23 51 46.7 +1.2**
GYA Guiyang 88.86 299 ⇓P **P** **23 51 46.5 +1.0**
GYA pP pP 23 52 24.3 -1.2
GYA PP **PP** **23 55 14.3 -3.1**
GYA pmax pmax
comp=Z,9.0nm,0.9s
GYA pmax pmax
comp=Z,140nm,4.3s
M24K Tolsona, Glenn 88.90 14 P 23 51 46.2
baz=208,SNR=36
M24K S 00 02 20.5
baz=208
CAST Castle Rocks 88.92 11 P 23 51 45.1
baz=203
CAST Castle Rocks 88.92 11 P **P** **23 51 45.4 +0.6**
CAST IAmb IAmb 23 51 45.9
comp=Z,38nm,0.8s
JIS Juneau Island 88.94 21 P **P** **23 51 46.2 +1.3**
JIS IAmb IAmb 23 51 48.4
comp=Z,66nm,1.2s
WAT6 Susitna Watana 88.99 13 P 23 51 45.5
baz=207,SNR=105
WAT6 S 00 02 19.5
baz=207
MCARA McCarthy VSAT 89.01 16 P 23 51 46.4
baz=211,SNR=24
MCARA S 00 02 21.9
baz=211
PHET Kaeng Krachan 89.02 284 P **P** **23 51 48.9 +2.5**
comp=Z,2µmcomp=Z,294nm,0.7s
BESE Bessie Mountai 89.03 21 P **P** **23 51 47.0 +1.5**
BESE IAmb IAmb 23 51 49.1
comp=Z,120nm,1.3s
CTG Chitna Glacier 89.08 17 P 23 51 46.7
baz=212,SNR=51
CTG S 00 02 23.0
baz=212
TNA Tin City 89.12 4 P 23 51 46.2
baz=188,SNR=62
TNA S 00 02 22.5
baz=188
TNA Tin City 89.12 4 P **P** **23 51 46.5 +0.9**
TNA IAmb IAmb 23 51 48.3
comp=Z,73nm,1.0s
VA05 Santo Domingo 89.17 127 P **P** **23 51 47.1 +0.3**
VA05 IAmb IAmb 23 52 33.9
comp=Z,46nm,1.1s
BO01 Tunca 89.21 127 P **P** **23 51 47.9 +0.9**
BO02 Sierra Bellavi 89.24 128 P **P** **23 51 48.0 +0.7**
TRF Thorofare Moun 89.27 12 P 23 51 46.3
baz=204,SNR=51
TRF S 00 02 20.9
baz=204
MT01 Popeta 89.34 127 P **P** **23 51 48.4 +0.7**
MT01 IAmb IAmb 23 51 51.4
comp=Z,65nm,0.8s
PBKT Sadao Pong 89.35 288 P **P** **23 51 51.4 +3.6**
comp=Z,38nm,0.8s
HARP HAARP 89.39 14 P 23 51 48.1
baz=209,SNR=19
HARP S 00 02 24.2
baz=209
NEW Newport 89.39 35 P 23 51 48.1
baz=233,SNR=14
NEW S 00 02 26.0
baz=233
NEW Newport 89.39 35 P **P** **23 51 47.6 +0.2**
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 89.39 35 P **P** **23 51 47.6 +0.2**
VA01 Torpederas 89.44 126 P **P** **23 51 49.1 +1.0**
VA01 IAmb IAmb 23 51 51.1
comp=Z,50nm,0.8s
SEY Seymchan 89.53 347*de*P **P** **23 51 47.7 +0.1**
MT09 Talagante 89.57 127 P **P** **23 51 49.4 +0.4**
MT09 IAmb IAmb 23 51 52.6
comp=Z,35nm,0.8s
AHID Auburn Hatcher 89.69 42 P **P** **23 51 49.7 +0.6**
MT02 Curacav 89.70 126 P **P** **23 51 49.9 +0.5**
MT02 IAmb IAmb 23 54 44.1
comp=Z,69nm,1.6s
BPAW Bear Paw Mtn. 89.74 11 P 23 51 47.9
baz=204,SNR=20
BPAW S 00 02 24.0
baz=204
MCK McKinley 89.78 12 P 23 51 49.2
baz=206,SNR=76
MCK S 00 02 26.0
baz=206
PAX Paxson 89.82 14 P 23 51 49.8
baz=209,SNR=8.1
PAX Paxson 89.82 14 P **P** **23 51 49.6 +0.5**
PAX pmax pmax
comp=Z,58nm,1.1s
PAX Paxson 89.82 14 P **P** **23 51 49.6 +0.5**
PAX IAmb IAmb 23 51 51.3
comp=Z,58nm,1.1s
S22A 4UR Ranch, Cre 89.84 48 P 23 51 51.3
baz=240,SNR=26
S22A S 00 02 36.7
baz=240
TIY Taiyuan 89.91 312 *e*P **P** **23 51 50.0 -0.1**
TIY pP **pP** **23 52 29.8 -0.5**
TIY pmax pmax
comp=Z,560nm,4.9s
TIY L L
comp=Z,290nm,15.5s
TIY L L
comp=Z,310nm,15.7s
TIY L L
comp=Z,190nm,20.7s
MT05 Renca 89.94 127 P **P** **23 51 51.0 +0.5**
MT05 IAmb IAmb 23 52 35.4
comp=Z,230nm,1.7s
HYT Haines Junctio 90.02 18 P **P** **23 51 51.3 +1.2**
HYT IAmb IAmb 23 51 53.5
comp=Z,57nm,1.1s
PHIT Phitsanulok 90.09 289 P **P** **23 51 53.5 +2.2**
comp=Z,3µmcomp=Z,330nm,1.0s
O20A White River Ci 90.11 46 P 23 51 51.8
baz=239,SNR=18
REDW Red Top Meadow 90.16 42 P **P** **23 51 52.4 +1.0**
REDW IAmb IAmb 23 51 53.5
comp=Z,51nm,1.1s
UTTA Uttaradit 90.20 289 P **P** **23 51 54.1 +2.3**
comp=Z,590nmcomp=Z,71nm,1.1s
UTHA Uthaitani 90.27 287 P **P** **23 51 54.9 +2.7**
comp=Z,1µmcomp=Z,181nm,0.9s
MSO Missoula 90.28 38 P 23 51 51.7
baz=235,SNR=16
MSO S 00 02 35.7
baz=235
MSO Missoula 90.28 38 P **P** **23 51 51.5 -0.2**
NEA2 Nenana 90.54 12 P 23 51 52.3
baz=206,SNR=32
NEA2 S 00 02 31.4
baz=206
DLBC Dease Lake 90.55 23 P **P** **23 51 54.1 +1.5**
DLBC IAmb IAmb 23 51 56.3

comp=Z,64nm,1.0s
I21K Tanana 90.56 10 P 23 51 52.6
baz=203,SNR=109
I21K S 00 02 32.9
baz=203
XAN Xi'an 90.62 307 P **P** **23 51 54.9 +1.4**
XAN pP pwP 23 52 35.6 -0.9
XAN pmax pmax
comp=Z,100nm,0.9s
XAN pmax pmax
comp=Z,940nm,5.5s
XAN L L
comp=Z,580nm,7.7s
XAN L L
comp=Z,450nm,7.9s
XAN L L
comp=Z,590nm,14.7s
XAN Xi'an 90.62 307 IAmb IAmb 23 51 56.4
comp=Z,63nm,0.8s
MLY Manley 90.64 11 P 23 51 52.1
baz=204,SNR=53
MLY S 00 02 32.5
baz=204
MLY Manley 90.64 11 P **P** **23 51 52.0 -0.9**
MLY IAmb IAmb 23 51 55.7
comp=Z,37nm,1.1s
BW06 Boulder Array 90.64 43 P 23 51 54.1
baz=238,SNR=59
BW06 S 00 02 40.3
baz=238
BW06 Boulder Array 90.64 43 P **P** **23 51 53.5 -0.2**
BW06 IAmb IAmb 23 51 57.0
comp=Z,36nm,0.9s
PDAR Pinedale Array 90.64 43 P **P** **23 51 54.0 +0.3**
comp=Z,30nm,0.8s,baz=210,slow=3.2,SNR=155
PDAR PKKPbc **PKKPbc** **00 09 20.6 -0.4**
comp=Z,1.1nm,0.5s,baz=110,slow=3.4,SNR=6.9
PDAR PKPPKP 00 17 29.6
comp=Z,0.2nm,0.3s,baz=338,slow=43,SNR=1.6
PDAR Pinedale Array 90.64 43 P **P** **23 51 53.5 -0.2**
WHY Whitehorse 90.66 19 P 23 51 54.1
baz=218
WHY S 00 02 40.0
baz=218
ZEA Zeya 90.69 331 *e*P **P** **23 51 54.3 +1.1**
ZEA *e**SP **sP** **23 52 47.7 -2.3**
ZEA *e* 23 55 26.1
ZEA *e* 00 02 11.7
ZEA *e*S **S** **00 02 37.6 +2.6**
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA pmax pmax
comp=N,100nm,5.7s
ZEA pmax pmax
comp=Z,100nm,5.3s
ZEA pmax pmax
comp=Z,200nm,9.2s
ZEA smax smax
comp=N,900nm,13.3s
KHLT Khaolaem Dam 90.71 286 P **P** **23 51 57.7 +3.5**
comp=N,50nm,1.2s
DOT Dot Lake 90.73 14 P **P** **23 51 54.0 +0.8**
DOT IAmb IAmb 23 51 56.4
comp=Z,80nm,1.0s
L27K Beaver Creek, 90.74 15 P 23 51 54.0
baz=212,SNR=55
L27K S 00 02 38.1
baz=212
L27K Beaver Creek, 90.74 15 P **P** **23 51 54.0 +0.6**
L27K IAmb IAmb 23 51 56.2
comp=Z,50nm,1.0s
BCAR Beaver Creek A 90.75 15 P **P** **23 51 54.0 +0.6**
SDCO Great Sand Dun 90.75 49 P 23 51 54.8
baz=240,SNR=42
SDCO S 00 02 45.8
baz=240
SDCO Great Sand Dun 90.75 49 P **P** **23 51 55.0 +0.7**
CO02 Combarbal 90.77 125 P **P** **23 51 55.3 +0.8**
CO02 IAmb IAmb 23 51 58.2
comp=Z,53nm,0.8s
HDA Harding Lake 90.78 13 P 23 51 53.3
baz=207,SNR=56
HDA P 23 51 53.3
baz=207,SNR=56
HDA S 00 02 35.0
baz=207
HDA S 00 02 35.0
baz=207
H21K Melozitna Rive 90.87 10 P 23 51 54.1
baz=202
H21K S 00 02 37.8
baz=202
H17A Grant Village 90.89 41 P 23 51 56.6
baz=237,SNR=17
MSTX Muleshoe 90.89 53 P **P** **23 51 55.4 +0.6**
MSTX Muleshoe 90.89 53 P 23 51 55.2
baz=242
MSTX S 00 02 45.0
baz=242
833A Chaparral WMA, 90.91 59 P 23 51 55.2
baz=244
833A S 00 02 40.7
baz=244
I23K Minto, Yukon-K 90.99 11 P 23 51 53.5
baz=205,SNR=37
I23K S 00 02 36.2
baz=205
TCOL CIGO, UAF Yank 91.02 12 P 23 51 54.2
baz=207,SNR=10
TCOL S 00 02 36.6
baz=207
TCOL CIGO, UAF Yank 91.02 12 P **P** **23 51 54.7 +0.2**
TCOL IAmb IAmb 23 51 57.8
comp=Z,78nm,0.8s
COLA College 91.02 12 S 00 02 36.8
baz=207
COLA College 91.02 12*c i*P **P** **23 51 54.3 -0.2**
COLA pmax pmax
comp=Z,92nm,1.0s
COLA College 91.02 12 P **P** **23 51 54.7 +0.2**
COLA IAmb IAmb 23 51 57.8
comp=Z,82nm,0.8s
SCRK Sand Creek 91.03 14 P 23 51 55.2
baz=210,SNR=86
SCRK S 00 02 40.1
baz=210
UMPA Umpang Tak 91.04 287 P **P** **23 52 00.1 +4.3**
comp=Z,68nm,1.4s
IL31 91.12 12 P **P** **23 51 54.9 0.0**
IL31 IAmb IAmb 23 51 56.9
comp=Z,62nm,1.1s
ILAR Eielson Array 91.12 12 P **P** **23 51 54.9 -0.1**
comp=Z,29nm,0.9s,baz=223,slow=5.2,SNR=98
ILAR pP **pP** **23 52 33.9 -1.3**
comp=Z,16nm,0.9s,baz=219,slow=5.3,SNR=3.4
ILAR PKKPbc **PKKPdf** **00 09 17.0 -0.3**
comp=Z,0.4nm,0.6s,baz=1.2,slow=4.7,SNR=4.2
ILAR PKPPKP 00 17 28.7
comp=Z,0.5nm,0.8s,baz=356,slow=4.8,SNR=4.6
ILAR LR LR 00 28 56.5
comp=Z,92nm,18.5s,baz=222,slow=33
ILAR Eielson Array 91.12 12 P **P** **23 51 54.6 -0.4**
CO03 El Pedregal 91.18 124 P **P** **23 51 57.2 +0.8**
T25A Trinidad 91.22 50 P 23 51 56.7
baz=241,SNR=33
T25A S 00 02 47.9
baz=241
POKR Poker Plat Res 91.32 12 P 23 51 55.4
baz=207,SNR=9.1
POKR S 00 02 39.1
baz=207
YMP Mirror Lake Pl 91.33 41 P **P** **23 51 57.9 +1.0**
YMP IAmb IAmb 23 52 15.4
comp=Z,28nm,0.9s
GO04 Tololo Observa 91.41 124 P **P** **23 51 59.0 +1.3**
GO04 IAmb IAmb 23 52 03.5
comp=Z,39nm,0.9s
KMI Kunming 91.45 297 ⇓P **P** **23 51 58.9 +1.1**
KMI PP **PP** **23 55 38.8 +0.7**
KMI pmax pmax
comp=Z,600nm,3.6s
KMI L L
comp=Z,320nm,19.0s
KMI L L
comp=Z,310nm,19.2s

KMI L L
comp=Z,430nm,19.0s
KMI Kunming 91.45 297 IAmb IAmb 23 52 02.6
comp=Z,64nm,1.1s
PAYA Payao 91.45 290 P P 23 52 05.0 +7.3
PAYA Payao 91.45 290 P P 23 52 05.0 +7.4
K27K Chicken 91.50 15 P 23 51 57.9
baz=212
K27K S 00 02 45.3
baz=212
JCT Junction City 91.54 57 P **P** **23 51 57.9 0.0**
JCT pmax pmax
comp=Z,32nm,0.7s
JCT Junction City 91.54 57 P **P** **23 51 57.9 0.0**
JCT IAmb IAmb 23 52 03.0
comp=Z,32nm,0.7s
JCT Junction City 91.54 57 P 23 51 57.7
baz=244
JCT S 00 02 47.7
baz=244
H23K Yukon River 91.57 11 P 23 51 57.0
baz=205,SNR=15
H23K S 00 02 40.5
baz=205
WALA Waterton Lakes 91.58 36 P **P** **23 51 58.1 +0.5**
WALA IAmb IAmb 23 52 50.2
comp=Z,34nm,1.1s
Q24A Divide 91.59 48 P 23 51 58.7
baz=241
Q24A S 00 02 51.8
baz=241
HIA Hailar 91.64 324 P **P** **23 51 58.3 +0.5**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 91.64 324 P **P** **23 51 58.3 +0.5**
ISCO Idaho Springs 91.69 47 P 23 51 59.0
baz=240,SNR=22
ISCO S 00 02 52.2
baz=240
CM36 Chiang Mai Arr 91.78 289 P **P** **23 52 01.0 +1.8**
CM35 Chiang Mai Arr 91.79 289 P **P** **23 52 00.0 +0.8**
CM04 Chiang Mai Arr 91.83 289 P **P** **23 52 01.7 +2.3**
comp=Z,749nmcomp=Z,98nm,1.0s
CM04 Chiang Mai Arr 91.83 289 P **P** **23 52 01.8 +2.3**
CM09 Chiang Mai Arr 91.84 289 P **P** **23 52 02.1 +2.6**
comp=Z,722nmcomp=Z,92nm,1.0s
CM09 Chiang Mai Arr 91.84 289 P **P** **23 52 02.0 +2.6**
CM01 Chiang Mai Arr 91.86 289 P **P** **23 52 01.9 +2.4**
comp=Z,802nmcomp=Z,98nm,0.8s
CM01 Chiang Mai Arr 91.86 289 P **P** **23 52 01.9 +2.4**
CM05 Chiang Mai Arr 91.86 289 P **P** **23 52 01.8 +2.3**
comp=Z,617nmcomp=Z,82nm,1.0s
CM05 Chiang Mai Arr 91.86 289 P **P** **23 52 01.0 +1.5**
CM34 Chiang Mai Arr 91.87 290 P **P** **23 52 01.0 +1.4**
CM02 Chiang Mai Arr 91.87 289 P **P** **23 52 02.1 +2.5**
comp=Z,814nmcomp=Z,103nm,1.0s
CM02 Chiang Mai Arr 91.87 289 P **P** **23 52 02.1 +2.5**
H24K Noodor Dome 91.88 12 P 23 51 57.7
baz=207,SNR=15
H24K S 00 02 43.8
baz=207
CM31 Chiang Mai Arr 91.89 289 P **P** **23 52 02.5 +2.9**
CM31 Chiang Mai Arr 91.89 289 P **P** **23 52 01.1 +1.5**
CMAR Chiang Mai Arr 91.89 289 P **P** **23 52 01.5 +1.9**
comp=Z,50nm,0.8s,baz=134,slow=3.5,SNR=99
CMAR PKKPbc **PKKPbc** **00 09 17.1 +0.7**
comp=Z,3.0nm,0.7s,baz=288,slow=4.5,SNR=13
CMAR Chiang Mai Arr 91.89 289 P **P** **23 52 00.9 +1.3**
CM15 Chiang Mai Arr 91.90 289 P **P** **23 52 02.5 +2.8**
CM15 Chiang Mai Arr 91.90 289 P **P** **23 52 02.6 +2.8**
CM13 Chiang Mai Arr 91.90 289 P **P** **23 52 01.9 +2.2**
comp=Z,743nmcomp=Z,95nm,1.0s
CM13 Chiang Mai Arr 91.90 289 P **P** **23 52 02.0 +2.2**
CCIG Comitan 91.94 73 P **P** **23 52 01.0 +0.9**
CCIG IAmb IAmb 23 52 04.8
comp=Z,35nm,1.0s
RDOG Red Dog Mine 91.95 5 P 23 52 00.3
baz=193,SNR=12
RDOG Red Dog Mine 91.95 5 P **P** **23 51 60.0 +1.2**
RDOG IAmb IAmb 23 52 02.2
comp=Z,63nm,1.1s
N23A Red Feather La 92.01 46 P 23 52 00.3
baz=240
N23A S 00 02 54.6
baz=240
CMMT Chiang Mai 92.03 290 P **P** **23 52 00.9 +0.6**
comp=Z,2µmcomp=Z,172nm,0.8s
CMMT Chiang Mai 92.03 290 P **P** **23 52 00.9 +0.6**
CM33 Chiang Mai Arr 92.03 290 P **P** **23 52 01.0 +0.7**
CHTO Chiang Mai 92.03 290 P **P** **23 52 01.3 +1.0**
CHTO pmax pmax
comp=Z,124nm,0.8s
CHTO Chiang Mai 92.03 290 P **P** **23 52 01.9 +1.6**
comp=Z,2µmcomp=Z,173nm,0.8s
CHTO Chiang Mai 92.03 290 P **P** **23 52 01.3 +1.0**
CHTO Chiang Mai 92.03 290 P **P** **23 52 01.9 +1.6**
comp=Z,873nmcomp=Z,97nm,0.8s
LCO Las Campanas 92.04 123 P **P** **23 52 02.4 +1.8**
LCO pmax pmax
comp=Z,51nm,1.0s
LCO Las Campanas 92.04 123 P **P** **23 52 02.4 +1.8**
LCO IAmb IAmb 23 52 45.6
comp=Z,51nm,1.0s
CM32 Chiang Mai Arr 92.05 289 P **P** **23 52 02.0 +1.6**
PRP Porcupine Dome 92.05 13 P 23 51 59.9
baz=209,SNR=79
PRP S 00 02 47.3
baz=209
HHC Hu-ho-hao-te 92.06 314 *e*P **P** **23 52 01.3 +1.2**
HHC PP **PP** **23 55 38.6 -3.9**
HHC pmax pmax
comp=Z,64nm,1.3s
HHC pmax pmax
comp=Z,550nm,8.5s
RLMT Red Lodge 92.06 41 P 23 52 01.1
baz=238,SNR=22
RLMT S 00 02 55.2
baz=238
AMTX Amarillo 92.11 53 P **P** **23 52 00.9 +0.5**
AMTX IAmb IAmb 23 52 03.2
comp=Z,58nm,0.8s
BILL Bilibino 92.16 354*c i*P **P** **23 52 00.5 +0.7**
BILL *e* 23 55 43.8
BILL *e*PPP PPP 23 57 41.0
BILL *i* S **SKSac** **00 02 17.5 +0.6**
BILL *i* 00 02 46.0
BILL *e*SS **SS** **00 09 03.1 +1.1**
BILL pmax pmax
comp=Z,160nm,1.3s
BILL Bilibino 92.16 354 P **P** **23 52 00.4 +0.7**
EGAK Eagle 92.35 15 P 23 52 01.1
baz=213,SNR=113
EGAK S 00 02 51.3
baz=213
EGAK Eagle 92.35 15 P **P** **23 52 01.5 +0.8**
EGAK IAmb IAmb 23 52 03.4
comp=Z,79nm,1.1s
K22A Casper 92.50 44 P 23 52 02.4
baz=240,SNR=23
K22A S 00 02 57.6
baz=240
ABTX Abilene, Hawle 92.61 56 P 23 52 03.0
baz=244
ABTX S 00 02 57.9
baz=244
MHMT Maesarieng 92.65 289 P **P** **23 52 06.3 +3.1**
comp=Z,79nm,0.8s
MHMT Maesarieng 92.65 289 P **P** **23 52 06.0 +2.8**
COLD Coldfoot 92.74 10 P 23 52 03.1
baz=205,SNR=28
COLD S 00 02 55.6
baz=205
BTO Baotou 92.96 313 *e*P **P** **23 52 06.8 +2.5**
BTO pmax pmax
comp=Z,95nm,1.6s
BTO PPMZ
comp=Z,2µm,9.4s
BTO L L
comp=Z,810nm,21.1s
BTO L L
comp=Z,1µm,21.1s
BTO L L
comp=Z,2µm,20.2s
GO03 Copiap 93.07 122 P **P** **23 52 05.8 +0.7**
GO03 IAmb IAmb 23 52 46.8
comp=Z,81nm,1.8s

CD2 Chengdu 93.11 302⇑ *i*P **P** **23 52 06.6 +1.5**
CD2 pP pP 23 52 46.8 +1.7
CD2 sP sP 23 53 03.0 +1.2
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,670nm,6.0s
CD2 L L
comp=Z,540nm,19.6s
CD2 L L
comp=Z,740nm,25.1s
CD2 L L
comp=Z,510nm,25.7s
EGMT Eagleton 93.31 38 P 23 52 06.0
baz=238,SNR=9.1
EGMT S 00 03 04.7
baz=238
EGMT Eagleton 93.31 38 P **P** **23 52 06.2 +0.6**
KSCO Kaye Shedlock' 93.34 49 P 23 52 06.7
baz=242
KSCO S 00 03 06.3
baz=242
435B Jarrell 93.39 58 P 23 52 06.9
baz=245
435B S 00 03 04.5
baz=245
AC01 Pan de Azucar 93.47 120 P **P** **23 52 08.0 +1.0**
MTO3 Montecristo 93.65 76 P **P** **23 52 08.1 0.0**
TRQA Tornquist 93.66 134 P **P** **23 52 08.0 +0.4**
TRQA pmax pmax
comp=Z,35nm,1.4s
TRQA Tornquist 93.66 134 P **P** **23 52 08.0 +0.4**
TRQA IAmb IAmb 23 52 51.4
comp=Z,35nm,1.4s
BMAR Burnt Mountain 93.91 12 P **P** **23 52 09.1 +1.2**
WHTX Lake Whitney, 94.01 57 P 23 52 09.3
baz=245
WHTX S 00 03 09.9
baz=245
TOLK Toolik Lake Re 94.12 10 P 23 52 08.8
baz=205,SNR=14
TOLK S 00 03 05.4
baz=205
TOLK Toolik Lake Re 94.13 10 P **P** **23 52 09.5 +0.6**
WMOK Wichita Mounta 94.18 54 P 23 52 09.4
baz=244
WMOK S 00 03 12.8
baz=244
WMOK Wichita Mounta 94.19 54 P **P** **23 52 09.6 -0.3**
WMOK pmax pmax
comp=Z,11nm,0.8s
WMOK Wichita Mounta 94.19 54 P **P** **23 52 09.6 -0.3**
AC02 Maricunga 94.30 122 P **P** **23 52 12.4 +1.1**
PB14 IPOC Station P 94.34 119 P **P** **23 52 12.6 +1.3**
PB14 IAmb IAmb 23 52 14.4
comp=Z,28nm,0.8s
NNA Nana 94.49 105*ce*P **P** **23 52 14.1 +2.2**
NNA pmax pmax
comp=Z,19nm,0.7s
NNA Nana 94.49 105 P **P** **23 52 12.2 +0.3**
OGNE Ogallala 94.64 47 P **P** **23 52 12.1 +0.2**
OGNE IAmb IAmb 23 52 16.0
comp=Z,42nm,0.8s
OGNE Ogallala 94.64 47 P 23 52 11.9
baz=243
OGNE S 00 03 16.6
baz=243
LAO LASA Array 94.69 41 P 23 52 13.0
baz=240,SNR=12
GO02 Mina Guanaco 94.73 120 P **P** **23 52 13.7 +0.6**
GO02 IAmb IAmb 23 52 54.6
comp=Z,28nm,1.0s
RSSD Black Hills 94.80 44 P 23 52 12.9
baz=242
RSSD S 00 03 17.2
baz=242
RSSD Black Hills 94.80 44 P **P** **23 52 13.2 +0.4**
RSSD pmax pmax
comp=Z,64nm,0.9s
RSSD Black Hills 94.80 44 P **P** **23 52 13.2 +0.4**
RSSD IAmb IAmb 23 52 15.7
comp=Z,64nm,0.9s
YAK Yakutsk 95.25 338 P **P** **23 52 13.4 -0.6**
comp=Z,34nm,0.8s,baz=259,slow=0.8,SNR=3.6
YAK Yakutsk 95.25 338*d i*P **P** **23 52 13.7 -0.3**
YAK *i* *PP **pwP** **23 53 00.0 +2.3**
YAK *e* 23 56 06.6
YAK *e*PPP PPP 23 58 09.6
YAK *e*S **SKSac** **00 02 30.7 -3.1**
YAK *e* 00 03 12.7
YAK *e*SS **SS** **00 09 42.0 -4.2**
YAK *i* SSS SSS 00 13 28.0
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,17nm,1.5s
YAK pmax pmax
comp=Z,46nm,1.6s
YAK pmax pmax
comp=N,24nm,1.4s
YAK pmax pmax
comp=E,19nm,1.5s
YAK smax smax
comp=N,529nm,2.0s
YAK smax smax
comp=E,200nm,1.9s
YAK Yakutsk 95.25 338 P **P** **23 52 13.4 -0.6**
LZH Lanzhou 95.26 307⇓ P **P** **23 52 17.5 +2.5**
LZH pP pwP 23 52 56.8 -1.4
LZH sP sP 23 53 15.8 +3.8
LZH PP **PP** **23 56 09.5 +1.9**
LZH pmax pmax
comp=E,61nm,1.0s
LZH pmax pmax
comp=E,160nm,4.9s
LZH L L
comp=E,300nm,18.6s
LZH L L
comp=E,370nm,19.5s
LZH L L
comp=E,350nm,19.5s
CBKS Cedar Bluff 95.27 50 P 23 52 14.7
baz=244
CBKS S 00 03 22.9
baz=244
A21K Barrow 95.71 7 P 23 52 15.9
baz=199,SNR=5.5
A21K S 00 03 17.9
baz=199
A21K Barrow 95.71 7 P **P** **23 52 16.4 +0.5**
JTS Las Juntas de 96.02 81 P **P** **23 52 20.1 +1.3**
JTS pmax pmax
comp=Z,35nm,0.9s
JTS Las Juntas de 96.02 81 P **P** **23 52 20.1 +1.3**
JTS IAmb IAmb 23 52 21.9
comp=Z,35nm,0.8s
JTS Las Juntas de 96.02 81 *e*P **P** **23 52 20.4 +1.7**
NATX Nacogdoches 96.08 58 P 23 52 18.8
baz=246
TA01 Diego Aracena 96.42 116 P **P** **23 52 22.9 +2.4**
TA01 IAmb IAmb 23 52 28.3
comp=Z,18nm,1.1s
LVC Limon Verde 96.50 118 P **P** **23 52 22.6 +1.3**
LVC pmax pmax
comp=Z,18nm,1.0s
LVC Limon Verde 96.50 118 P **P** **23 52 22.6 +1.3**
LVC IAmb IAmb 23 53 03.8
comp=Z,18nm,0.9s
LVC Limon Verde 96.50 118 *e*P **P** **23 52 24.1 +2.8**
TA02 Huaiquique 96.60 115 P **P** **23 52 22.2 +0.9**
TA02 IAmb IAmb 23 53 07.9
comp=Z,40nm,1.2s
PB09 IPOC Station P 96.62 117 P **P** **23 52 22.1 +0.5**
PB09 IAmb IAmb 23 53 06.7
comp=Z,20nm,1.1s
DGMT Dagmar 96.75 40 P 23 52 21.7
baz=242
DGMT S 00 03 35.5
baz=242
DGMT Dagmar 96.75 40 P **P** **23 52 22.1 +0.9**
DGMT IAmb IAmb 23 52 23.9
comp=Z,39nm,0.8s
PB01 IPOC Station P 96.77 116 P **P** **23 52 23.6 +1.4**
TUL1 Leonard 96.89 54 P 23 52 22.1
baz=246
INK Inuvik 97.01 15 P 23 52 21.7
baz=220,SNR=14
INK S 00 03 30.1
baz=220
INK Inuvik 97.01 15 P **P** **23 52 21.9 0.0**
comp=Z,11nm,0.9s,baz=207,slow=5.3,SNR=8.0
INK PKiKP **PKiKP** **23 56 57.7 +0.8**
comp=Z,3.3nm,1.0s,baz=162,slow=3.0,SNR=1.8
INK Inuvik 97.01 15 P Pdif 23 52 22.1 +0.2
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 97.01 15 P Pdif 23 52 22.1 +0.1
INK IAmb IAmb 23 52 24.0
comp=Z,20nm,1.1s
PB11 IPOC Station P 97.23 115 P Pdif 23 52 26.0 +1.6
PB11 IAmb IAmb 23 52 29.8
comp=Z,46nm,0.9s
BGNE Belgrade 97.47 48 P 23 52 25.2
baz=245
BGNE S 00 03 42.8
baz=245
MNMC Minye Minye 97.58 115 P Pdif 23 52 27.9 +1.8
MNMC IAmb IAmb 23 52 32.1
comp=Z,26nm,0.6s
MIAR Mount Ida 98.02 56 P 23 52 27.8
baz=247
MIAR S 00 03 45.5
baz=247
PB16 IPOC Station P 98.03 114 P Pdif 23 52 29.6 +1.1
PB16 IAmb IAmb 23 52 33.5
comp=Z,19nm,0.8s
WLAR White Oak Lake 98.04 57 P Pdif 23 52 28.6 +1.2
WLAR IAmb IAmb 23 52 32.7
comp=Z,19nm,0.9s
OTAV Otavalo 98.06 93 *e*P Pdif 23 52 31.3 +2.7
W39A Magazine 98.11 55 P 23 52 28.7
baz=247
W39A S 00 03 46.9
baz=247
ULN Ulaanbaatar 98.19 319*d i*P **P** **23 52 27.1 -0.8**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 98.19 319 P Pdif 23 52 28.6 +0.7
ULN Ulaanbaatar 98.19 319 P Pdif 23 52 29.5 +1.5
comp=Z,1µmcomp=Z,32nm,0.9s
SUSD Miller 98.21 45 P 23 52 28.4
baz=245
SUSD S 00 03 47.2
baz=245
X40A Basin Creek Fa 98.56 56 S 00 03 49.8
baz=247
SONM Songino Array 98.58 319 P Pdif 23 52 30.7 +1.0
comp=Z,2.9nm,0.8s,baz=132,slow=3.2,SNR=14
SONM PP **PP** **23 56 29.8 -3.0**
comp=Z,6.5nm,1.0s,baz=128,slow=6.7,SNR=5.7
SONM PKKPbc **PKKPbc** **00 08 59.2 -0.6**
comp=Z,1.2nm,0.7s,baz=265,slow=3.1,SNR=4.9
SONM LR LR 00 34 29.1
comp=Z,129nm,19.2s,baz=122,slow=34
SONM Songino Array 98.58 319 P Pdif 23 52 30.2 +0.5
YKA Yellowknife Ar 98.95 25 P Pdif 23 52 30.8 +0.1
comp=Z,4.7nm,0.8s,baz=234,slow=4.1,SNR=14
YKA pP pP 23 53 10.8 -0.2
comp=Z,7.6nm,1.1s,baz=230,slow=4.4,SNR=3.2
YKA PKiKP **PKiKP** **23 57 02.0 +1.5**
comp=Z,0.5nm,0.6s,baz=306,slow=4.1,SNR=1.8
YKA PKKPbc **PKKPbc** **00 08 56.8 -2.4**
comp=Z,2.1nm,0.7s,baz=46,slow=2.9,SNR=8.3
YKA LR LR 00 32 44.5
comp=Z,185nm,18.9s,baz=0.0,slow=32
U40A Yellville 99.26 54 P 23 52 33.4
baz=248
W41B Gary Mavity, V 99.27 56 P 23 52 32.9
baz=248
ECSD EROS Data Cent 99.46 46 P 23 52 34.2
baz=246
GTA Gaotai 99.52 309⇓ P **Pdif** **23 52 34.5 +0.5**
GTA pP pwP 23 53 23.3 +5.8
GTA PP **PP** **23 56 37.9 -2.3**
GTA pmax pmax
comp=Z,12nm,1.5s
GTA pmax pmax
comp=Z,140nm,5.8s
GTA L L
comp=Z,220nm,18.2s
GTA L L
comp=Z,320nm,20.0s
GTA L L
comp=Z,440nm,20.4s
LPAZ La Paz 100.14 113 P **Pdif** **23 52 40.2 +2.3**
comp=Z,10nm,0.7s,baz=223,slow=3.3,SNR=43
LPAZ PKKPbc **PKKPbc** **00 08 54.1 -0.5**
comp=Z,3.3nm,0.6s,baz=51,slow=1.9,SNR=14
LPAZ La Paz 100.14 113 Pdif **Pdif** **23 52 39.8 +1.8**
LPAZ La Paz 100.14 113 *e*P **Pdif** **23 52 39.4 +1.5**
LPAZ La Paz 100.14 113 *e*P **Pdif** **23 52 39.5 +1.6**
ZAK Zakamensk 101.49 320 *e*P **Pdif** **23 52 41.6 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.9s
TLY Talaya 101.79 321⇓ *e*P **Pdif** **23 52 44.1 +0.4**
TLY pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 101.91 345*d i*P **Pdif** **23 52 42.9 -0.8**
ULM Lac du Bonnet 102.44 41 P **Pdif** **23 52 46.2 -0.3**
comp=Z,5.1nm,0.9s,baz=260,slow=5.3,SNR=8.8
GUY2C Guyana, Caldas 102.85 90 *e*P **Pdif** **23 52 49.7 -0.1**
PAMC Pamplona, Colo 106.10 89 *e*P **Pdif** **23 53 01.8 -2.5**
WMQ Urumqi 109.52 310 Pdif **Pdif** **23 53 20.3 +2.0**
WMQ PP **PP** **23 57 53.0 -1.1**
WMQ PPMZ
comp=Z,630nm,6.1s
WMQ L L
comp=Z,300nm,19.1s
WMQ L L
comp=Z,370nm,22.3s
WMQ L L
comp=Z,510nm,22.3s
DGZ Jazzator, Alta 111.03 316⇑ *i*PKiKP **PKiKP** **23 57 23.8 +0.4**
ZSN Zaisan 112.25 313 *e*PKiKP **PKiKP** **23 57 25.2 -0.4**
baz=313
ZSN Zaisan 112.25 313 *i* PKiKP **PKiKP** **23 57 25.2 -0.4**
ZALV Zalesovo Beam 113.37 320 Pdiff **Pdif** **23 53 34.8 -0.3**
comp=Z,0.4nm,0.4s,baz=326,slow=24,SNR=1.6
ZALV PKiKP **PKiKP** **23 57 26.6 -0.8**
comp=Z,8.4nm,0.4s,baz=140,slow=1.3,SNR=22
ZALV PKKPbc **PKKPbc** **00 08 12.8 -1.4**
comp=Z,1.2nm,0.7s,baz=323,slow=0.7,SNR=4.1
BINY Binghamton 113.45 53 P 23 57 28.8
baz=259
L58A Harry Jones Me 113.52 53 P 23 57 27.9
baz=259
J57A Williamstown 113.67 51 P 23 57 28.4
baz=259
NRIK Noril'sk 113.69 337 PKiKP **PKiKP** **23 57 27.6 0.0**
comp=Z,4.6nm,0.4s,baz=66,slow=1.9,SNR=9.4
NRIK Noril'sk 113.69 337⇑ *i*PKiKP **PKiKP** **23 57 28.5 +0.8**
MK31 Makanchi Array 113.86 312*d i*PKiKP **PKiKP** **23 57 28.8 +0.1**
MKAR Makanchi Array 113.86 312 Pdiff **Pdif** **23 53 40.1 +2.6**
comp=Z,1.8nm,0.7s,baz=104,slow=4.8,SNR=14
MKAR PKiKP **PKiKP** **23 57 28.2 -0.5**
comp=Z,3.8nm,0.4s,baz=199,slow=0.9,SNR=41
MKAR PKKPbc **PKKPbc** **00 08 12.1 -0.2**
comp=Z,5.5nm,0.8s,baz=278,slow=3.7,SNR=21
MKAR PKKPab **PKKPab** **00 08 18.3 +1.1**
comp=Z,3.3nm,0.7s,baz=276,slow=4.3,SNR=8.9
MKAR Makanchi Array 113.86 312 Pdif **Pdif** **23 53 41.1 +3.6**
LSQQ Lebel-sur-Quev 113.94 45 P 23 57 27.4
baz=261
I57A Carthage 114.00 51 P 23 57 28.2
baz=260
J58A Remsen 114.17 51 P 23 57 28.5
baz=260
PTGA Pitinga 114.45 102 PKKPbc PKKPbc 00 08 12.1 +2.7
comp=Z,1.3nm,0.4s,baz=106,slow=13,SNR=4.6
D55A Sainte-Anne-du 114.64 47 P 23 57 29.1
baz=261,SNR=6.4
E56A St. Veronique 114.86 48 P 23 57 29.4
baz=261
D56A ZEC Mazanza, M 115.12 48 P 23 57 30.5
baz=262,SNR=6.8
SHLS Shalkode 115.25 308 *e*PKiKP **PKPdf** **23 57 29.6 -2.1**
baz=308
SHLS *e*PP **PP** **23 58 30.6 -4.3**
baz=308
SHLS Shalkode 115.25 308 *i* PKIKP **PKPdf** **23 57 29.5 -2.1**
SHLS *e* 23 58 30.6

G58A	**Ormstown**	**115.33**	**50**	P			23 57 31.0			
	baz=261									
UZB	**Uzynbulak**	**115.57 308**				*e*PKiKP	**PKPdf**	**23 57 31.9**	**-0.3**		
	baz=308									
UZB				*e*PP		**PP**	**23 58 35.3**	**-1.9**		
	baz=308									
UZB	**Uzynbulak**	**115.57 308**	*d*	*i* PKiKP		**PKPdf**	**23 57 31.9**	**-0.3**		
UZB				*e*			23 58 35.2			
SEM	**Semipalatinsk**	**115.71 316**		*e*PKiKP		**PKPdf**	**23 57 30.2**	**-2.3**		
	baz=316									
SEM				*e*PP		**PP**	**23 58 34.6**	**-3.4**		
	baz=316									
SEM	**Semipalatinsk**	**115.71 316**		*i* PKiKP		**PKPdf**	**23 57 30.1**	**-2.3**		
SEM				*e*			23 58 34.6			
CHGQ	**Chibougamau**	**115.74**	**44**	P			23 57 31.6			
	baz=264									
SJG	**San Juan**	**115.81**	**81**	PKiKP		**PKPdf**	**23 57 32.6**	**-0.6**		
SJG	**San Juan**	**115.81**	**81**			**PKPdf**	**23 57 32.6**	**-0.6**		
KPKS	**Kokpek**	**115.86 308**		*e*PKiKP		**PKPdf**	**23 57 32.1**	**-0.6**		
	baz=308									
KPKS				*e*PP		**PP**	**23 58 37.1**	**-2.1**		
	baz=308									
KPKS	**Kokpek**	**115.86 308**		*i* PKiKP		**PKPdf**	**23 57 32.1**	**-0.6**		
KPKS				*e*			23 58 37.0			
L61B	**Northampton**	**115.90**	**53**	P			23 57 32.5			
	baz=261									
SATY	**Saty**	**116.00 308**		*e*PKiKP		**PKPdf**	**23 57 32.0**	**-1.1**		
	baz=308									
SATY				*e*PP		**PP**	**23 58 37.5**	**-2.7**		
	baz=308									
SATY	**Saty**	**116.00 308**		*i* PKiKP		**PKPdf**	**23 57 31.9**	**-1.1**		
SATY				*e*			23 58 37.5			
E58A	**La Victoria**	**116.04**	**48**	P			23 57 32.3			
	baz=262									
TARG	**Taragay, Kyrgy**	**116.24 306**				**PKPdf**	**23 57 33.9**	**-0.1**		
TDK	**Taldyqorghan**	**116.28 310**		*e*PKiKP		**PKPdf**	**23 57 31.5**	**-1.9**		
	baz=310									
TDK				*e*PP		**PP**	**23 58 40.1**	**-1.8**		
	baz=310									
TDK	**Taldyqorghan**	**116.28 310**		*i* PKiKP		**PKPdf**	**23 57 31.5**	**-1.9**		
TDK				*e*			23 58 40.1			
D58A	**Chemin du LacG**	**116.40**	**48**	P			23 57 32.6			
	baz=263,SNR=15									
LATQ	**La Tuque**	**116.50**	**47**	P			23 57 32.3			
	baz=263									
LBNH	**Lisbon**	**116.71**	**51**	P			23 57 34.3			
	baz=262									
LBNH	**Lisbon**	**116.71**	**51**	PKiKP		**PKiKP**	**23 57 34.4**	**+0.1**		
LBNH	**Lisbon**	**116.71**	**51**			**PKiKP**	**23 57 34.4**	**+0.1**		
KURBB	**Kurchatov Arra**	**116.82 316**		PKKPbc		PKKPbc	00 08 02.3	+0.2		
	comp=Z,2.8nm,0.8s,baz=272,slow=4.2,SNR=19									
BDFB	**Brasilia**	**116.82 123**		PKP		**PKPdf**	**23 57 35.2**	**-0.2**		
	comp=Z,3.7nm,0.7s,baz=180,slow=3.6,SNR=5.8									
BDFB				PKKPbc		**PKKPbc**	**00 08 03.0**	**+1.5**		
	comp=Z,5.0nm,0.7s,baz=47,slow=4.2,SNR=6.5									
F60A	**Warwick**	**116.91**	**49**	P			23 57 33.9			
	baz=263,SNR=5.5									
MDOK	**Medeo**	**117.00 308**		*e*PKP		**PKPdf**	**23 57 34.1**	**-1.0**		
	baz=308									
MDOK				*e*PP		**PP**	**23 58 44.7**	**-2.5**		
	baz=308									
MDOK	**Medeo**	**117.00 308**		*e*PKiKP		**PKPdf**	**23 57 34.0**	**-1.0**		
MDOK				*e*			23 58 44.7			
CHKK	**Chushkaly**	**117.14 309**		*e*PKP		**PKPdf**	**23 57 33.5**	**-1.6**		
	baz=309									
CHKK	**Chushkaly**	**117.14 309**		*e*PKiKP		**PKPdf**	**23 57 33.5**	**-1.6**		
H62A	**Milan**	**117.30**	**51**	P			23 57 35.5			
	baz=263									
E60A	**Ste Agathe de**	**117.30**	**49**	P			23 57 34.6			
	baz=264,SNR=6.7									
MTBS	**Maitube**	**117.45 308**		*e*PKP		**PKPdf**	**23 57 35.2**	**-0.6**		
	baz=308									
MTBS				*e*PP		**PP**	**23 58 48.6**	**-1.6**		
	baz=308									
MTBS	**Maitube**	**117.45 308**		*e*PKiKP		**PKPdf**	**23 57 35.2**	**-0.6**		
MTBS				*e*			23 58 48.6			
ULHL	**Ulahol**	**117.47 307**		P		**PKiKP**	**23 57 37.2**	**+1.1**		
	SNR=7.2									
F61A	**St Evariste**	**117.57**	**49**	P			23 57 35.9			
	baz=264									
KUU	**Kurty**	**117.61 309**		*e*PKP		**PKPdf**	**23 57 35.2**	**-0.9**		
	baz=308									
KUU				*e*PP		**PP**	**23 58 49.4**	**-1.8**		
	baz=308									
KUU	**Kurty**	**117.61 309**		*e*PKiKP		**PKPdf**	**23 57 35.1**	**-0.9**		
KUU				*e*			23 58 49.3			
I63A	**Otisfield**	**117.64**	**51**	P			23 57 36.1			
	baz=263									
G62A	**West of Eustis**	**117.81**	**50**	P			23 57 36.1			
	baz=264,SNR=8.2									
E61A	**Lac Etchemin**	**117.97**	**49**	P			23 57 36.5			
	baz=264,SNR=11									
TKM2	**Tokmak 2**	**118.03 307**		P		**PKPdf**	**23 57 36.5**	**-0.6**		
	SNR=19									
D61A	**St Aubert, Com**	**118.24**	**48**	P			23 57 36.7			
	baz=265									
F62A	**Pittston Farm,**	**118.28**	**49**	P			23 57 37.2			
	baz=265									
I64A	**Boothbay**	**118.31**	**52**	P			23 57 37.0			
	baz=264									
WVL	**Waterville**	**118.36**	**51**			**PKPdf**	**23 57 37.1**	**-0.2**		
NIL	**Nilore**	**118.44 297**		PKiKP		**PKiKP**	**23 57 38.1**	**+0.1**		
NIL	**Nilore**	**118.44 297**		PKPdf		**PKiKP**	**23 57 38.1**	**+0.1**		
G63A	**Kingsbury**	**118.44**	**50**	P			23 57 37.1			
	baz=264									
KBK	**Karagaybulak**	**118.47 307**		P		**PKiKP**	**23 57 38.7**	**+0.8**		
	SNR=12									
E62A	**Clayton Lake**	**118.65**	**48**	P			23 57 37.5			
	baz=265,SNR=9.9									
CHMS	**Chumysh**	**118.65 307**		P		**PKPdf**	**23 57 37.3**	**-0.8**		
	SNR=14									
H64A	**Troy**	**118.68**	**51**	P			23 57 37.4			
	baz=264,SNR=6.2									
PKME	**Peaks-Kenny Pk**	**118.69**	**50**	P			23 57 37.8			
	baz=265,SNR=7.8									
SGDS	**Sogindy**	**118.79 308**		*e*PKP		**PKPdf**	**23 57 37.6**	**-0.8**		
	baz=308									
SGDS				*e*PP		**PP**	**23 58 57.3**	**-2.1**		
	baz=308									
SGDS	**Sogindy**	**118.79 308**		*e*PKiKP		**PKPdf**	**23 57 37.5**	**-0.8**		
SGDS				*e*			23 58 57.3			
AAK	**Ala-Archa**	**118.80 307**		PKKPbc		PKKPbc	00 07 54.9	-0.2		
	comp=Z,3.5nm,0.6s,baz=279,slow=3.5,SNR=8.9									
AAK	**Ala-Archa**	**118.80 307**		PKPdf		**PKiKP**	**23 57 39.3**	**+0.8**		
AAK	**Ala-Archa**	**118.80 307**	*d*	*i* PKiKP		**PKiKP**	**23 57 39.1**	**+0.5**		
AAK	**Ala-Archa**	**118.80 307**		PKPdf		**PKiKP**	**23 57 38.9**	**+0.3**		
F63A	**Nahmakanta, Br**	**118.86**	**50**	P			23 57 38.0			
	baz=265									
USP	**Ospenovka**	**118.86 308**		P		**PKiKP**	**23 57 38.6**	**0.0**		
	SNR=8.2									
D62A	**Allapoint, All**	**119.01**	**48**	P			23 57 37.7			
	baz=266									
G64A	**Maxfield**	**119.06**	**50**	P			23 57 38.8			
	baz=265,SNR=11									
EKS2	**Erkin-Say**	**119.33 307**		P		**PKiKP**	**23 57 39.9**	**+0.3**		
	SNR=12									
AML	**Almayashu**	**119.33 306**		P		**PKiKP**	**23 57 40.2**	**+0.2**		
	SNR=13									
AML	**Almayashu**	**119.33 306**		*i* PKPdf		**PKiKP**	**23 57 40.2**	**+0.2**		
	SNR=23									
BTLS	**Baital**	**119.36 310**		⇓*i* PKP		**PKPdf**	**23 57 38.5**	**-0.8**		
	baz=310									
BTLS				*i* PP		**PP**	**23 59 01.1**	**-2.0**		
	baz=310									
BTLS	**Baital**	**119.36 310**	*d*	*i*PKiKP		**PKPdf**	**23 57 38.5**	**-0.8**		
BTLS				*i*			23 59 01.1			
E63A	**Oxbow**	**119.39**	**49**	P			23 57 38.2			
	baz=266									
F64A	**Sherman**	**119.40**	**49**	P			23 57 38.7			
	baz=266									
D63A	**Stockholm**	**119.65**	**48**	P			23 57 38.8			
	baz=266									
E64A	**Bridgewater**	**119.80**	**49**	P			23 57 39.1			
	baz=266									
G65A	**Princeton**	**119.90**	**50**	P			23 57 40.2			
	baz=266,SNR=7.9									
BSFB	**Barra de Sao F**	**120.04 131**		*e*P		**PKiKP**	**23 57 42.6**	**+1.0**		
H66A	**Whiting**	**120.05**	**51**	P			23 57 40.7			
	baz=266									
KULLO	**Kullorsuaq**	**120.37**	**16**	*i* P		**PKPdf**	**23 57 39.7**	**-0.7**		
KULLO				*i*			23 57 48.8			
KULLO	**Kullorsuaq**	**120.37**	**16**	*i* PKiKP		**PKPdf**	**23 57 39.6**	**-0.7**		
NEEM	**North Greenlan**	**120.41**	**12**	*i* P		**PKPdf**	**23 57 40.6**	**-0.2**		
NEEM				IAmb		IAmb	23 57 42.4			
	comp=Z,26nm,0.7s									
BRZS	**Berezniki**	**120.53 315**		*e*PKP		**PKPdf**	**23 57 40.6**	**-0.8**		
	baz=315									
BRZS				*e*PP		**PP**	**23 59 07.1**	**-4.0**		
	baz=315									
BRZS	**Berezniki**	**120.53 315**		*e*PKiKP		**PKPdf**	**23 57 40.6**	**-0.8**		
BRZS				*e*			23 59 07.9			
SCHQ	**Schefferville**	**120.56**	**39**	PKP		**PKPdf**	**23 57 40.6**	**-0.7**		
	comp=Z,4.8nm,0.6s,baz=302,slow=2.6,SNR=8.7									
SCHQ				PKKPbc		**PKKPbc**	**00 07 48.2**	**-0.6**		
	comp=Z,2.9nm,0.6s,baz=90,slow=4.2,SNR=7.6									
SCHQ	**Schefferville**	**120.56**	**39**	PKPdf		**PKiKP**	**23 57 41.5**	**+0.1**		
SMTB	**Santa Maria do**	**121.10 117**		*e*P		**PKiKP**	**23 57 44.9**	**+1.1**		
DZA	**Taraz**	**121.14 307**		*e*PKP		**PKPdf**	**23 57 42.5**	**-0.4**		
	baz=307									
DZA	**Taraz**	**121.14 307**		*e*PKiKP		**PKPdf**	**23 57 42.4**	**-0.4**		
UPNV	**Upernavik**	**121.35**	**17**	*i* P		**PKPdf**	**23 57 41.9**	**-0.4**		
UPNV				*i*			23 57 50.4			
NOR	**Nord**	**121.36**	**3**	*i* P		**PKiKP**	**23 57 42.9**	**+0.5**		
NOR	**Nord**	**121.36**	**3**	*i* PKiKP		**PKiKP**	**23 57 42.8**	**+0.5**		
GAR	**Garm**	**121.56 302**		PKPdf		**PKiKP**	**23 57 44.2**	**+0.2**		
MCPB	**Macapa, AP**	**121.66 106**		*e*P		**PKiKP**	**23 57 44.9**	**0.0**		
KKAR	**Karatay Array**	**121.76 307**		PKiKP		**PKPdf**	**23 57 43.3**	**-0.7**		
KKAR	**Karatay Array**	**121.76 307**		PKPdf		**PKPdf**	**23 57 43.3**	**-0.7**		
SUR	**Sutherland**	**121.78 198**		PKPdf		**PKiKP**	**23 57 45.4**	**+0.5**		
BRVK	**Borovoye**	**121.98 319**	*d*	*i*PKiKP		**PKPdf**	**23 57 43.8**	**-0.3**		
KBL	**Kabul**	**122.03 297**		PKiKP		**PKPdf**	**23 57 45.0**	**-0.1**		
KBL	**Kabul**	**122.03 297**		PKPdf		**PKPdf**	**23 57 45.0**	**-0.1**		
CHGR	**Chuyangaron**	**122.42 302**				**PKiKP**	**23 57 46.1**	**+0.4**		
HAL	**Halifax**	**122.69**	**51**	PKiKP		**PKPdf**	**23 57 45.6**	**-0.1**		
HAL	**Halifax**	**122.69**	**51**			**PKPdf**	**23 57 45.5**	**-0.1**		
NUUG	**Nuugaatsiaq**	**122.69**	**18**	*i* P		**PKiKP**	**23 57 45.6**	**+0.5**		
MDP	**Montagnes des**	**123.55 100**		PKP		**PKPdf**	**23 57 48.0**	**-0.3**		
	comp=Z,9.0nm,0.7s,baz=238,slow=3.9,SNR=4.1									
NBIT	**Itapeh - BA**	**123.66 129**		*e*P		**PKPdf**	**23 57 48.4**	**0.0**		
BOSA	**Boshof**	**123.81 204**		PKP		**PKiKP**	**23 57 49.7**	**+0.7**		
	comp=Z,18nm,0.8s,baz=123,slow=2.4,SNR=21									
BOSA	**Boshof**	**123.81 204**		PKPdf		**PKiKP**	**23 57 49.4**	**+0.5**		
ILULI	**Ilulissat**	**124.34**	**20**	*i* P		**PKPdf**	**23 57 47.9**	**-0.2**		
ILULI				IAmb		IAmb	23 57 49.4			
	comp=Z,22nm,0.7s									
ILULI	**Ilulissat**	**124.34**	**20**	*i* PKiKP		**PKPdf**	**23 57 47.8**	**-0.2**		
ILULI				pmax		pmax				
	comp=Z,22nm,0.7s									
KBS	**Kingsbay**	**124.42 358**		*i* P		**PKiKP**	**23 57 48.7**	**+0.3**		
KBS				IAmb		IAmb	23 57 50.3			
	comp=Z,90nm,0.9s									
KBS	**Kingsbay**	**124.42 358**		*e*PKPdf		**PKiKP**	**23 57 49.4**	**+1.0**		
SPA0	**Spitsbergen Ar**	**124.96 357**		*e*PKPdf		**PKPdf**	**23 57 49.3**	**+0.2**		
SFJD	**Kangerlussuaq**	**125.46**	**23**	PKP		**PKiKP**	**23 57 50.6**	**0.0**		
	comp=Z,8.0nm,0.5s,baz=140,slow=4.8,SNR=8.9									
SFJD	**Kangerlussuaq**	**125.46**	**23**	*i* P		**PKiKP**	**23 57 51.6**	**+0.8**		
SFJD	**Kangerlussuaq**	**125.46**	**23**	*i* PKiKP		**PKiKP**	**23 57 51.5**	**+0.8**		
SFJD	**Kangerlussuaq**	**125.46**	**23**	PKPdf		**PKiKP**	**23 57 51.4**	**+0.7**		
DAG	**Danmarks Havn**	**125.70**	**6**	*i* P		**PKPdf**	**23 57 49.2**	**-1.4**		
DAG				IAmb		IAmb	23 57 51.4			
	comp=Z,19nm,0.9s									
DAG				*i*			23 57 57.2			
DAG	**Danmarks Havn**	**125.70**	**6**	*i* PKiKP		**PKPdf**	**23 57 49.1**	**-1.4**		
DAG				pmax		pmax				
	comp=Z,19nm,0.9s									
HOPEN	**Hopen**	**125.87 354**		*e*PKPdf		**PKiKP**	**23 57 51.5**	**+0.2**		
HOPEN				IVmB_BB			23 57 52.5			
	comp=Z,278nm,1.4s									
HOPEN				*e*PP		**PP**	**23 59 44.9**	**-1.0**		
HOPEN				*e*SKPdf		**SKPdf**	**00 01 08.4**	**-2.6**		
HOPEN				*e*SS		**SS**	**00 16 31.7**	**-1.6**		
SUMG	**Summit**	**125.92**	**14**	*i* P		**PKiKP**	**23 57 51.9**	**-0.2**		
SUMG	**Summit**	**125.92**	**14**	*i* PKiKP		**PKiKP**	**23 57 51.8**	**-0.2**		
HSPB	**Hornsund (broa**	**126.15 356**		*e*PKP		**PKiKP**	**23 57 52.0**	**+0.1**		
HSPB	**Hornsund (broa**	**126.15 356**		*e*PKPdf		**PKPdf**	**23 57 51.6**	**+0.1**		
LBTB	**Lobatse**	**126.92 206**		PKiKP		**PKiKP**	**23 57 55.5**	**+0.3**		
LBTB	**Lobatse**	**126.92 206**				**PKiKP**	**23 57 55.5**	**+0.3**		
SVE	**Sverdlovsk**	**126.95 324**		*e*PKiKP		**PKPdf**	**23 57 53.6**	**+0.1**		
SVE				pmax		pmax				
	comp=Z,61nm,0.9s									
DY2G	**Dye2**	**127.24**	**22**	⇓*i* P		**PKPdf**	**23 57 53.0**	**-1.1**		
HRA	**Herat**	**127.59 296**		PKPdf		**PKPdf**	**23 57 55.9**	**+0.2**		
DBG	**Daneborg**	**127.76**	**8**	*i* P		**PKPdf**	**23 57 54.5**	**0.0**		
DBG				IAmb		IAmb	23 57 56.2			
	comp=Z,20nm,0.9s									
ICESG	**Greenland Ices**	**127.87**	**18**	*i* P		**PKPdf**	**23 57 55.2**	**-0.2**		
ARU	**Arti**	**128.16 324**		*i* PKiKP		**PKiKP**	**23 57 56.3**	**-0.2**		
ARU							23 59 58.5			
ARU							00 04 51.9			
ARU				SP		SP	00 09 45.7	-5.3		
ARU				PS		PS	00 10 09.5	-1.3		
ARU				SS		**SS**	**00 16 56.6**	**-6.3**		
ARU				MLR		MLR				
	comp=Z,455nm,20.0s									
ARU	**Arti**	**128.16 324**		PKPdf		**PKiKP**	**23 57 56.2**	**-0.2**		
BJO1	**Bjornoya**	**128.31 355**		*e*PKPdf		**PKPdf**	**23 57 54.8**	**-0.8**		
BJO1				*e*SS		SS	00 16 57.4	-6.2		
ABKAR	**Akbulak array**	**128.84 315**		PKPdf		**PKPdf**	**23 57 57.3**	**0.0**		
AKTO	**Aktyubinsk**	**129.86 317**		SKPab		SKPbc	00 01 06.8	+0.2		
	comp=Z,4.2nm,0.8s,baz=78,slow=3.8,SNR=5.8									
NRS	**Narsarsuaq**	**130.07**	**28**	*e*		**PKPdf**	**23 57 52.1**	**-7.1**		
ISOG	**Isortoq, Green**	**130.24**	**21**	*i* P		**PKPdf**	**23 57 59.5**	**+0.1**		
NBMO	**Morrinhos-CE**	**130.40 117**		*e*P		**PKPdf**	**23 58 01.5**	**+0.1**		
ANGG	**Ammassalik, Gr**	**130.64**	**21**	*e*		**PKPdf**	**23 57 59.9**	**-0.3**		
SCO	**Scoresbysund**	**130.87**	**11**	*e*P		**PKiKP**	**23 58 01.0**	**-0.4**		
SCO	**Scoresbysund**	**130.87**	**11**	*e*PKiKP		**PKiKP**	**23 58 01.0**	**-0.4**		
GEYT	**Alibeck**	**131.07 300**		PKP		**PKiKP**	**23 58 03.4**	**+0.5**		
	comp=Z,20nm,0.7s,baz=146,slow=2.9,SNR=15									
GEYT				PP		**PP**	**00 00 18.9**	**-2.5**		
	comp=Z,6.9nm,0.9s,baz=108,slow=4.8,SNR=4.0									
GEYT				SKPab		**SKPab**	**00 01 14.2**	**+2.3**		
	comp=Z,32nm,1.0s,baz=198,slow=3.9,SNR=16									
GYA0B	**ALIBECK ARRAY**	**131.07 300**		PKPdf		**PKiKP**	**23 58 02.9**	**0.0**		
SOHO	**SOHO**	**131.17 282**		*i* PKPdf		**PKPdf**	**23 58 02.4**	**-0.1**		
	SNR=42									
HAMF	**Hammerfest**	**131.36 351**		*e*PKPdf		**PKPdf**	**23 58 01.3**	**-0.2**		
HAMF				IVmB_BB			23 58 02.1			
	comp=Z,883nm,2.3s									
HAMF				*e*SKPdf		**SKPab**	**00 01 16.2**	**+4.2**		
HAMF				*e*SS		**SS**	**00 17 37.1**	**-3.8**		
LVZ	**Lovozero**	**131.54 345**	*d*	*i*PKiKP		**PKPdf**	**23 58 02.1**	**+0.1**		
MDH	**Madha**	**131.59 284**		*i* PKPdf		**PKPdf**	**23 58 02.8**	**-0.5**		
	SNR=5.7									
UOSS	**Minazif**	**131.61 283**		*i* PKPdf		**PKPdf**	**23 58 03.8**	**+0.5**		
	SNR=15									
UOSS	**Minazif**	**131.61 283**		PKPdf		**PKPdf**	**23 58 03.8**	**+0.5**		
KEV	**Kevo**	**131.62 349**		PKiKP		**PKiKP**	**23 58 02.6**	**-0.4**		
KEV	**Kevo**	**131.62 349**		PKPdf		**PKiKP**	**23 58 02.6**	**-0.4**		
HATD	**Hatta, Dubai**	**131.66 283**		*i* PKiKP		**PKiKP**	**23 58 05.0**	**+0.5**		
	SNR=19									
ASHO	**Ashiyiah**	**131.70 283**		*i* PKiKP		**PKiKP**	**23 58 05.0**	**+0.4**		
	SNR=10									
MSFE	**Esma-Masafi**	**131.72 284**		*i* PKiKP		**PKiKP**	**23 58 05.0**	**+0.4**		
	SNR=13									
SHME	**Shamm**	**131.85 285**		*i* PKiKP		**PKiKP**	**23 58 06.5**	**+1.7**		
	SNR=5.8									
ALNE	**Al Ain**	**131.86 282**		*i* PKiKP		**PKiKP**	**23 58 05.4**	**+0.5**		
	SNR=12									
KIRV	**Kirov**	**132.01 329**	*d*	*i*PKiKP		**PKPdf**	**23 58 03.4**	**+0.4**		
ARA0	**ARCESS Array S**	**132.07 349**		*e*PKPdf		**PKiKP**	**23 58 03.6**	**-0.3**		
ARCES	**ARCESS Array B**	**132.07 349**		PKP		**PKPdf**	**23 58 03.0**	**+0.1**		
	comp=Z,12nm,0.4s,baz=16,slow=1.3,SNR=35									
ARCES				SKPab		**SKPab**	**00 01 16.2**	**+1.1**		
	comp=Z,21nm,0.9s,baz=40,slow=2.5,SNR=11									
ARCES				PKKP		**PKKPdf**	**00 07 56.1**	**-3.6**		
	comp=Z,1.0nm,0.7s,baz=232,slow=1.4,SNR=5.1									
ARCES	**ARCESS Array B**	**132.07 349**		PKiKP		**PKPdf**	**23 58 03.2**	**+0.3**		
ARCES	**ARCESS Array B**	**132.07 349**				**PKPdf**	**23 58 03.2**	**+0.3**		
APA	**Apatity**	**132.10 345**		⇑*i* PKiKP		**PKPdf**	**23 58 03.2**	**+0.3**		
APA				*i* *PP		**pPKPdf**	**23 58 41.0**	**-4.1**		
APA				pmax		pmax				
	comp=Z,24nm,1.0s									
JMIC	**Jan Mayen**	**132.10**	**5**	PKP		**PKiKP**	**23 58 03.9**	**-0.1**		
	comp=Z,34nm,0.8s,baz=114,slow=0.5,SNR=8.3									
JMIC	**Jan Mayen**	**132.10**	**5**	*e*PKPdf		**PKiKP**	**23 58 04.4**	**+0.4**		
JMIC				*e*SP		SP	00 10 29.0	+5.2		
JMIC				*e*SS		**SS**	**00 17 52.5**	**+2.6**		
NAZ	**Nazwa, Dubai**	**132.11 283**		*i* PKiKP		**PKiKP**	**23 58 06.0**	**+0.7**		
	SNR=8.0									
FAQ	**Al Faqa, Dubai**	**132.13 283**		PKPdf		**PKPdf**	**23 58 00.5**	**-3.8**		
PRGR	**Permogore**	**132.15 334**		*e*PKiKP		**PKPdf**	**23 58 02.2**	**-1.0**		
PRGR				pmax		pmax				
	comp=Z,21nm,0.9s									
RCBR	**Riachuelo**	**132.20 123**		SKPab		**SKPab**	**00 01 18.3**	**+0.9**		
	comp=Z,33nm,0.8s,baz=123,slow=3.6,SNR=7.9									
ASUD	**Al Ashush, Dub**	**132.34 282**		*i* PKiKP		**PKiKP**	**23 58 07.1**	**+1.3**		
	SNR=9.6									
JETT	**Jettan, Norway**	**132.82 352**		*e*PKPdf		**PKiKP**	**23 58 05.0**	**-0.5**		
JETT				*e*SKPdf		**SKPab**	**00 01 21.4**	**+3.1**		

KTK1	**Kautokeino**	**132.91 350**		*e*PKPdf		PKPdf	23 57 56.4	-8.1		
TRO	**Tromso**	**132.93 352**		*e*PKPdf		**PKPdf**	**23 58 05.0**	**+0.5**		
TRO				IVmB_BB			23 58 05.2			
	comp=Z,674nm,2.6s									
TRO				*e*SS		SS	00 17 56.7	-3.2		
LSZ	**Lusaka**	**134.14 215**		SKPab		**SKPab**	**00 01 25.0**	**-0.8**		
	comp=Z,13nm,0.9s,baz=183,slow=5.6,SNR=6.8									
LSZ	**Lusaka**	**134.14 215**		PKiKP		**PKiKP**	**23 58 09.6**	**-0.3**		
LSZ	**Lusaka**	**134.14 215**		PKPdf		**PKiKP**	**23 58 09.6**	**-0.3**		
N2IH	**Innhavet**	**134.87 353**		*e*PKPdf		**PKPdf**	**23 58 00.7**	**-7.5**		
LOF	**Lofoten**	**134.95 354**		*e*PKPdf		**PKPdf**	**23 58 02.8**	**-5.5**		
LOF				IVmB_BB			23 58 10.4			
	comp=Z,441nm,1.9s									
LOF				*e*PP		**PP**	**00 00 44.2**	**-0.3**		
LOF				*e*SS		SS	00 18 21.7	-2.4		
STEI	**Steigen**	**134.98 353**		*e*PKPdf		**PKPdf**	**23 58 02.2**	**-6.1**		
STEI				IVmB_BB			23 58 17.3			
	comp=Z,829nm,0.9s									
STEI				*e*SKPdf		**SKPab**	**00 01 25.8**	**-1.9**		
STEI				*e*SS		**SS**	**00 18 21.7**	**-2.7**		
KLMR	**Klimovskoe**	**135.00 336**		*e*PKHKP		PKPpre	23 58 01.1			
KLMR				SP		SP	00 10 44.1	-5.0		
KLMR				pmax		pmax				
	comp=Z,50nm,0.9s									
KLMR	**Klimovskoe**	**135.00 336**		*e*PKPdf		**PKPdf**	**23 58 01.2**	**-7.4**		
KLMR				AMP			23 58 18.0			
	comp=Z,50nm,0.9s									
KLMR				PP		**PP**	**00 00 37.4**	**-7.8**		
KLMR				SKP			00 01 26.0			
KLMR				SP		SP	00 10 44.1	-5.0		
KLMR				SS		SS	00 18 07.1	-18		
KLMR				SS		SS	00 18 07.1	-18		
TSUM	**Tsumeb**	**135.13 200**		SKPbc		**SKPbc**	**00 01 25.5**	**-0.5**		
	comp=Z,14nm,0.9s,baz=145,slow=4.4,SNR=5.8									
TSUM	**Tsumeb**

HFS	**Hagfors**	**142.68**	**351**	PKhKP	PKPpre	23 58 19.1			BEL				*e*PKPbc	**PKiKP**	**23 58 37.9**	**-0.3**	CLL			*e*PPS	PPS	00 15 12.0		
	comp=Z,89nm,0.6s,baz=64,slow=3.4,SNR=180																CLL			*e*		00 18 50.0		
SKAR	**Skarslia**	**142.72**	**356**	*e*PKPdf	**PKPdf**	**23 58 19.6**	**-3.2**		**KiS**	**Kishinev**	**148.71**	**325**	⇓*i*P	**PKPdf**	**23 58 33.0**	**-0.3**	CLL			*e*SS	**SS**	**00 21 24.0**	**-7.4**
SKAR				*e*PP	**PP**	**00 01 32.7**	**+0.2**			comp=Z,500nm,2.4s							CLL			*e*SS	SSS	00 22 33.0		
SKAR				*e*SS	SS	00 19 58.5	+2.9		**KIS**	**Kishinev**	**148.71**	**325**	⇑P	**PKPbc**	**23 58 37.4**	**+0.2**	CLL			*e*SSS	SSS	00 27 07.0		
FURI	**Furi**	**142.78**	**253**		**PKPdf**	**23 58 24.7**	**0.0**		**KIS**	**Kishinev**	**148.71**	**325***d*	*i*PKIKP	**PKPdf**	**23 58 33.0**	**-0.3**	CLL			*e*SSS		00 28 14.0		
ASK	**Askoy**	**143.07**	**358**	*e*PKPdf	PKPbc	23 58 20.9	+0.3		KIS				*e*		23 59 17.8		CLL			*e*SSSS		00 31 24.0		
BER	**Bergen**	**143.17**	**358**	*e*PKPdf	PKPbc	23 58 21.1	+0.2		KIS				pmax	pmax			**CLL**	**Collm**	**151.22**	**347**	*e*PKIKP	**PKPdf**	**23 58 37.0**	**-0.1**
BER				*e*PP	**PP**	**00 01 30.7**	**-4.3**			comp=Z,500nm,2.4s							CLL			*i*		23 58 50.9		
BER				*e*SS	SS	00 20 02.8	+2.3		**MILM**	**Milestii Mici**	**148.77**	**325**	⇓P	**PKPbc**	**23 58 37.7**	**+0.3**	CLL			*e*		23 59 23.0		
SLIT	**Slitere, Latvi**	**143.19**	**343**	*e*P	PKPab	23 58 13.5	-6.1		**ILTH**	**Belurgan, Co L**	**148.80**	**10**	*e*P	**PKPdf**	**23 58 32.9**	**-0.3**	CLL			pmax	pmax			
OSL	**Oslo**	**143.24**	**353**	*e*PKPdf	PKPab	23 58 20.2	+0.5		**ILGA**	**Ilgaz**	**148.86**	**311**		**PKPdf**	**23 58 34.6**	**+0.5**		comp=Z,306nm,0.8s						
OSL				*e*PP	**PP**	**00 01 36.4**	**+0.9**		ILGA				PKPbc	**PKiKP**	**23 58 40.2**	**+0.8**	CLL			pmax	pmax			
OSL				*e*SS	SS	00 20 04.2	+2.8		**LNIZ**	**Loecknitz**	**148.91**	**347**	*e*PKPbc	**PKiKP**	**23 58 39.0**	**+0.3**		comp=Z,330nm,1.1s						
ODD1	**Odda**	**143.59**	**357**	*e*PKPdf	PKPbc	23 58 22.6	+0.5			baz=13,slow=2.1							**CLL**	**Collm**	**151.22**	**347**	*e*PKPdf	**PKPdf**	**23 58 37.6**	**+0.5**
KONO	**Kongsberg**	**143.63**	**354**	*e*PKPdf	PKPab	23 58 21.7	+0.4		**LVV**	**L'vov**	**149.00**	**333**	*e*PKP2	**PKiKP**	**23 58 39.3**	**+0.2**		baz=16,slow=1.4						
KONO				*e*SS	SS	00 20 07.4	+1.4		**GDLE**	**Glaisdale, N Y**	**149.06**	**4**	*e*P	**PKPdf**	**23 58 34.5**	**+0.8**	CLL			*e*PKPbc	**PKiKP**	**23 58 45.0**	**+1.4**	
IDID	**Didziasalis**	**143.69**	**337**	*e*P	PKPbc	23 58 23.2	+0.7		**BSEG**	**Bad Segeberg**	**149.16**	**351**	*e*PKPbc	**PKiKP**	**23 58 39.8**	**+0.5**		baz=13,slow=2.1						
ISAL	**Salakas**	**143.71**	**338**	*e*P	**PKPdf**	**23 58 23.6**	**-0.9**			baz=13,slow=2.1							CLL			*e*X		23 58 50.8		
SOC	**Sochi**	**143.77**	**312***c*	*i*PKIKP	PKPbc	23 58 23.4	+0.2		**HLG**	**Helgoland**	**149.19**	**354**	*e*pPKPbc	pPKPbc	23 59 19.9	0.0		baz=17,slow=2.2						
SOC				*e*		23 59 03.6			**PCED**	**Cedros**	**149.26**	**53**	*e*PKP	**PKPbc**	**23 58 38.9**	**0.0**	**UPC**	**Upice**	**151.22**	**342**	*e*PKIKP	**PKPdf**	**23 58 38.2**	**+1.0**
SOC				*e*		23 59 08.5			**HWQ**	**Hawqa**	**149.26**	**298**	*e*P	**PKPbc**	**23 58 39.7**	**+0.5**	**UPC**	**Upice**	**151.22**	**342**	*e*PKPDF	**PKPdf**	**23 58 38.2**	**+1.0**
SOC				*e*		00 01 37.7			**CALA**	**Caldeira**	**149.28**	**53**	*e*PKP	**PKiKP**	**23 58 40.0**	**-0.2**	UPC			⇑*e*PKP		**23 58 44.2**	**+0.5**	
SOC				pmax	pmax				**PFCBR**	**Castelo Branco**	**149.29**	**54**	*e*PKP	**PKPbc**	**23 58 38.8**	**-0.2**	**DPC**	**Dobruska-Polom**	**151.28**	**342**	*e*PKIKP	**PKPdf**	**23 58 38.2**	**+0.9**
	comp=Z,20nm,0.6s								**BR131**	**Keskin Array S**	**149.44**	**309**	PKHKP	PKPpre	23 58 35.3		DPC			MLR	MLR			
SOC				pmax	pmax				**BR131**	**Keskin Array S**	**149.44**	**309**	PKPdf	**PKPdf**	**23 58 35.3**	**+0.3**		comp=Z,300nm,18.7s						
	comp=Z,63nm,1.0s								BR131				PKPbc	**PKiKP**	**23 58 40.2**	**-0.4**	**DPC**	**Dobruska-Polom**	**151.28**	**342**	*e*PKPDF	**PKPdf**	**23 58 38.2**	**+0.9**
MBAR	**Mbarara**	**143.80**	**232**	PKIKP	**PKPdf**	**23 58 26.0**	**-0.3**		**BRTR**	**Keskin Array B**	**149.44**	**309**	PKPbc	**PKPbc**	**23 58 39.9**	**+0.3**	DPC			⇑*e*PKP		**PKiKP**	**23 58 44.6**	**+0.7**
MBAR	**Mbarara**	**143.80**	**232**	PKPdf	**PKPdf**	**23 58 26.0**	**-0.3**			comp=Z,62nm,0.6s,baz=144,slow=4.2,SNR=132							DPC			AMS	AMS	01 09 00.0		
IIGN	**Ignalina**	**143.85**	**337**	*e*P	**PKPdf**	**23 58 23.9**	**-0.9**		**BRTR**	**Keskin Array B**	**149.44**	**309**	PKPdf	**PKPdf**	**23 58 34.4**	**-0.5**		comp=Z,300nm,18.7s						
MNK	**Minsk**	**143.89**	**335**	*i*PKIKP	PKPbc	23 58 23.4	+0.3		BRTR				PKPbc	**PKPbc**	**23 58 40.0**	**+0.4**	**LANS**	**Liptovska Anna**	**151.31**	**337**	*e*PKIKP	**PKPdf**	**23 58 39.7**	**+2.3**
MNK				*i*		00 01 41.8			**VASR**	**Vaslui**	**149.48**	**325**	⇓P	**PKiKP**	**23 58 40.6**	**+0.3**	**LANS**	**Liptovska Anna**	**151.31**	**337**	*e*PKP	**PKPdf**	**23 58 39.7**	**+2.3**
MNK				*i* PPP	PPP	00 04 50.5			**RCY**	**Rachaya**	**149.50**	**296**	*e*P	**PKiKP**	**23 58 41.5**	**+0.6**	LANS			*e*		23 58 45.5		
MNK				*i*		00 05 17.8			**PICO**	**Pico**	**149.51**	**53**	*e*PKP	**PKiKP**	**23 58 40.3**	**-0.4**	**RASA**	**Rasa**	**151.37**	**322**	⇑P	**PKiKP**	**23 58 45.2**	**+1.1**
MNK				*i* SS	SS	00 20 07.7	-1.8		**DSB**	**Dublin**	**149.55**	**11**	PKPdf	**PKPdf**	**23 58 35.2**	**+0.7**	**KRLC**	**Kraliky**	**151.39**	**341**	*e*PKIKP	**PKPdf**	**23 58 38.2**	**+0.7**
MNK				*i* SSS	SSS	00 25 35.5			DSB				PKPbc	**PKiKP**	**23 58 40.6**	**+0.4**	**KRLC**	**Kraliky**	**151.39**	**341**	*e*PKPDF	**PKPdf**	**23 58 38.2**	**+0.7**
MNK				pmax	pmax				**ROSA**	**Rosais**	**149.57**	**53**	*e*PKP	**PKPbc**	**23 58 40.0**	**+0.3**	KRLC			⇑*e*PKP		**PKiKP**	**23 58 44.7**	**+0.6**
	comp=Z,258nm,1.3s								**ROSA**	**Rosais**	**149.57**	**53**		**PKPbc**	**23 58 40.1**	**+0.4**	**LEHL**	**Lehliu**	**151.39**	**323**	⇓P	**PKiKP**	**23 58 44.9**	**+0.7**
MNK				pmax	pmax				**BHL**	**Bhannes**	**149.58**	**297**	*e*P	**PKiKP**	**23 58 41.0**	**0.0**	**MORC**	**Moravsky Berou**	**151.42**	**340**	⇓P	**PKiKP**	**23 58 44.9**	**+0.7**
	comp=N,92nm,1.3s								**SRBC**	**Serra Branca**	**149.60**	**52**	*e*PKP	**PKiKP**	**23 58 40.3**	**-0.4**	**MORC**	**Moravsky Berou**	**151.42**	**340**	*e*PKP	**PKPdf**	**23 58 38.3**	**+0.7**
MNK				pmax	pmax				**PGRA**	**Graciosa**	**149.65**	**52**	*e*PKP	**PKiKP**	**23 58 38.1**	**-1.4**	MORC			*e*		23 58 44.9		
	comp=E,11nm,1.3s								**DQRL**	**Deir Qamar**	**149.68**	**297**	*e*P	**PKiKP**	**23 58 41.5**	**+0.3**	**MORC**	**Moravsky Berou**	**151.42**	**340**	PKIKP	**PKPdf**	**23 58 38.1**	**+0.6**
MNK				MLR	MLR				**PMAN**	**Manadas**	**149.71**	**53**	*e*PKP	**PKPbc**	**23 58 40.3**	**+0.3**	**MORC**	**Moravsky Berou**	**151.42**	**340**	PKPdf	**PKPdf**	**23 58 38.1**	**+0.6**
	comp=N,134nm,19.0s								**PID**	**Ribeirinha**	**149.76**	**53**	*e*PKP	**PKiKP**	**23 58 40.7**	**-0.4**	MORC			PKPbc	**PKiKP**	**23 58 45.2**	**+1.0**	
MNK				MLR	MLR				**TLCR**		**149.83**	**322**	⇓P	**PKiKP**	**23 58 41.6**	**+0.6**	**SECR**		**151.44**	**324**	⇓P	**PKiKP**	**23 58 44.3**	**0.0**
	comp=E,14nm,17.0s								**TLCR**		**149.83**	**322**	⇓PKP2	**PKiKP**	**23 58 41.6**	**+0.6**	**KECS**	**Kecovo**	**151.48**	**335**	*e*PKIKP	**PKiKP**	**23 58 46.2**	**+1.9**
MNK				MLR	MLR				**VARL**	**Varlezi**	**149.93**	**324**	⇑P	**PKiKP**	**23 58 42.2**	**+1.1**	**KECS**	**Kecovo**	**151.48**	**335**	*e*PKP	**PKiKP**	**23 58 46.2**	**+1.9**
	comp=Z,254nm,19.0s								**RUE**	**Ruedersdorf**	**149.95**	**347**	*e*PKPbc	**PKiKP**	**23 58 42.0**	**+1.0**	**MESR**	**Meseneni**	**151.49**	**331**	⇑P	**PKiKP**	**23 58 45.9**	**+1.5**
MNK	**Minsk**	**143.89**	**335**	*i* PKP	PKPbc	23 58 23.4	+0.3			baz=13,slow=2.1							**CBBR**	**Cluj-Babes-Bol**	**151.50**	**329**	⇑P	**PKiKP**	**23 58 45.4**	**+1.0**
	comp=E,11nm,1.3s								**ANTO**	**Ankara**	**149.98**	**310**	PKHKP	PKPpre	23 58 36.0		**FBE**	**Freiberg**	**151.51**	**346**	*e*PKPdf	**PKPdf**	**23 58 37.9**	**+0.3**
MNK				*i* PKP	PKPbc	23 58 23.4	+0.3		**ANTO**	**Ankara**	**149.98**	**310**		**PKPdf**	**23 58 36.0**	**+0.3**		baz=16,slow=1.4						
	comp=N,92nm,1.3s								ANTO				PKPbc	**PKiKP**	**23 58 41.8**	**+0.2**	FBE			*e*PKPbc	**PKiKP**	**23 58 46.0**	**+1.8**	
MNK				*i* PKP	PKPbc	23 58 23.4	+0.3		**BR231**	**Keskin MP Arra**	**150.01**	**310**		**PKPdf**	**23 58 35.7**	**0.0**		baz=13,slow=2.1						
	comp=Z,258nm,1.3s,baz=222								BR231				PKPbc	**PKiKP**	**23 58 41.8**	**+0.1**	FBE			*e*X		23 58 51.4		
MNK				*i* pPKP	pPKPdf	23 59 05.6	-1.5		**GHAJ**	**Ghor Haditha**	**150.05**	**292**		**PKiKP**	**23 58 41.8**	**-0.1**		baz=17,slow=2.2						
MNK				*i* PP	**PP**	**00 01 38.9**	**-0.9**		**LMK**	**Market Rasen**	**150.06**	**4**	*e*P	**PKPbc**	**23 58 40.5**	**+0.1**	**LEF**	**Lefka**	**151.52**	**301**	⇑P	**PKiKP**	**23 58 44.7**	**-0.1**
MNK				*i* SKP		00 01 41.9			**GHRR**		**150.06**	**325**	⇓P	**PKiKP**	**23 58 42.2**	**+0.8**	**CJR**	**Cluj-Napoca**	**151.52**	**329**	⇓P	**PKiKP**	**23 58 44.8**	**+0.3**
MNK				*i* PKS	**PKSdf**	**00 01 59.0**	**-1.3**		**BURAR**	**Bucovina Array**	**150.10**	**329**	⇓P	**PKiKP**	**23 58 42.5**	**+0.9**	**CJR**	**Cluj-Napoca**	**151.52**	**329**	⇓PKIKP	**PKiKP**	**23 58 44.8**	**+0.3**
MNK				*i* PPP	PPP	00 04 50.5			**BURAR**	**Bucovina Array**	**150.10**	**329**	PKPdf	**PKPdf**	**23 58 36.4**	**+0.8**	**GTTG**	**Gottingen**	**151.54**	**351**	*e*PKPdf	**PKPdf**	**23 58 37.9**	**+0.3**
MNK				*i* SKS	**SKSdf**	**00 05 17.8**	**-1.1**		BURAR				PKPbc	**PKiKP**	**23 58 43.0**	**+1.3**		baz=16,slow=1.4						
MNK				*i* SKKS	**SKKSdf**	**00 14 30.9**	**-3.4**		**BIZ**	**Bicaz**	**150.15**	**327**	⇓P	**PKiKP**	**23 58 42.3**	**+0.7**	GTTG			*e*PKPbc	**PKiKP**	**23 58 45.5**	**+1.2**	
MNK				*i* PPS	PPS	00 18 04.8			**TESR**	**Tescani**	**150.16**	**326**	⇑P	**PKiKP**	**23 58 41.3**	**-0.4**		baz=13,slow=2.1						
MNK				*i* SS	**SS**	**00 20 07.8**	**-1.8**		**SCHL**	**Schela**	**150.19**	**323**	⇓P	**PKiKP**	**23 58 42.1**	**+0.4**	GTTG			*e*pPKPbc	**pPKPbc**	**23 59 25.3**	**-0.5**	
MNK				*i* SSS	SSS	00 25 35.5			**CFR**	**Carcaliu**	**150.22**	**323**	⇑P	**PKiKP**	**23 58 41.8**	**0.0**	**NEUB**	**Neuenburg**	**151.56**	**348**	*e*PKPdf	**PKPdf**	**23 58 38.0**	**+0.4**
MNK				*i* LRM	MLR	01 03 20.9			**CFR**	**Carcaliu**	**150.22**	**323**	⇑PKIKP	**PKiKP**	**23 58 41.8**	**0.0**		baz=16,slow=1.4						
	comp=N,134nm,18.5s								**TPGR**	**Topolog**	**150.26**	**322**	⇑P	**PKiKP**	**23 58 42.0**	**+0.1**	NEUB			*e*PKPbc	**PKiKP**	**23 58 45.9**	**+1.5**	
MNK				*i* LRM	MLR	01 03 21.6			**OJC**	**Ojcow**	**150.29**	**338**	*e*PKPdf	**PKPdf**	**23 58 36.2**	**+0.5**		baz=13,slow=2.1						
	comp=E,14nm,17.2s								OJC				*e*PKPbc	**PKiKP**	**23 58 42.0**	**+0.2**	**SULR**		**151.57**	**323**	⇓P	**PKiKP**	**23 58 44.8**	**+0.2**
MNK				*i* LRM	MLR	01 03 49.0			OJC				*e*PKPab	**PKPab**	**23 58 48.4**	**+0.5**	**PVCC**	**Panska Ves**	**151.59**	**344**	*e*PKIKP	**PKPdf**	**23 58 39.8**	**+2.1**
	comp=Z,254nm,19.2s								OJC				*e*SS	SS	00 21 22.8	+1.2	PVCC			MLR	MLR			
NACGM	**Naroch**	**144.00**	**337**	*i* PKP	PKPbc	23 58 24.2	+0.8		**OJC**	**Ojcow**	**150.29**	**338**	PKIKP	**PKPdf**	**23 58 36.1**	**+0.3**		comp=Z,300nm,20.3s						
	baz=220								**OJC**	**Ojcow**	**150.29**	**338**	PKPdf	**PKPdf**	**23 58 36.1**	**+0.3**	**PVCC**	**Panska Ves**	**151.59**	**344**	*e*PKPDF	**PKPdf**	**23 58 39.8**	**+2.1**
STRU	**Strumstad**	**144.07**	**353**	*i* P	PKPbc	23 58 23.5	0.0		OJC				PKPbc	**PKiKP**	**23 58 41.9**	**+0.1**	PVCC			⇑*e*PKP		**PKiKP**	**23 58 45.4**	**+0.9**
BLS5	**Blasjo**	**144.08**	**357**	*e*PKPdf	**PKPdf**	**23 58 24.9**	**-0.3**		**PAGU**	**Agualva, Azore**	**150.32**	**52**	*e*PKP	**PKiKP**	**23 58 42.5**	**+0.3**	PVCC			AMS	AMS	01 06 20.0		
KMY	**Karmoy**	**144.34**	**358**	*e*PKPbc	PKPbc	23 58 24.7	+0.4		**FOEL**	**Foel Wylfa**	**150.36**	**7**	*e*P	**PKPdf**	**23 58 36.3**	**+0.5**		comp=Z,300nm,20.3s						
KOPT	**Kop Dagi**	**144.36**	**306**	PKPdf	**PKPdf**	**23 58 26.9**	**+0.3**		**PETR**	**Petresti**	**150.37**	**324**	⇓P	**PKiKP**	**23 58 43.3**	**+1.2**	**VOIR**		**151.71**	**326**	⇓P	**PKiKP**	**23 58 45.6**	**+0.6**
ASCN	**Ascension**	**144.45**	**150**		**PKPdf**	**23 58 26.7**	**-0.5**		**PSCM**	**Serra do Cume**	**150.40**	**52**	*e*PKP	**PKiKP**	**23 58 42.9**	**+0.5**	**VOIR**		**151.71**	**326**	⇓PKIKP	**PKiKP**	**23 58 45.6**	**+0.6**
PABE	**Paberze**	**144.49**	**339**	*e*P	**PKPdf**	**23 58 25.7**	**-0.2**		**KOLS**	**Kolonicke sedl**	**150.41**	**334**	*e*PKIKP	**PKPdf**	**23 58 38.5**	**+2.5**	**LTVH**	**Ltavrtes, Hu**	**151.78**	**332**	⇑P	**PKiKP**	**23 58 46.2**	**+1.3**
KTUT	**Trabzon**	**144.61**	**308**	⇑P	**PKPdf**	**23 58 26.7**	**+0.1**		**KOLS**	**Kolonicke sedl**	**150.41**	**334**	*e*PKP	**PKPdf**	**23 58 38.5**	**+2.5**	**PDA**	**Ponta Delgada**	**151.81**	**53**	*e*PKP	**PKiKP**	**23 58 45.5**	**+0.2**
PBUR	**Paburge**	**144.68**	**342**	*e*P	**PKPdf**	**23 58 26.2**	**-0.1**		KOLS				*e*		23 58 43.7		**DRGR**		**151.87**	**330**	⇓P	**PKiKP**	**23 58 45.7**	**+0.4**
LEWI	**Lewis, Hebride**	**144.75**	**9**	*e*P	**PKPab**	**23 58 25.2**	**-0.4**		**STHS**	**Stebnicka Huta**	**150.43**	**335**	*e*PKIKP	**PKiKP**	**23 58 42.6**	**+0.5**	**DRGR**		**151.87**	**330**	⇓PKIKP	**PKiKP**	**23 58 45.7**	**+0.4**
BIGH	**Upper Bighouse**	**144.77**	**6**	*e*P	**PKPab**	**23 58 25.5**	**-0.1**		**STHS**	**Stebnicka Huta**	**150.43**	**335**	*e*PKP	**PKiKP**	**23 58 42.6**	**+0.5**	**GRON**	**Grota Negra**	**151.90**	**53**	*e*PKP	**PKPdf**	**23 58 41.1**	**+2.4**
ANN	**Anapa**	**144.80**	**316***d*	*i*PKIKP	**PKPdf**	**23 58 26.7**	**-0.1**		**TIRR**	**Tirgusor**	**150.50**	**321**	⇓P	**PKiKP**	**23 58 42.5**	**+0.1**	**CMLA**	**Cha da Macela**	**151.91**	**53**	*e*PKP	**PKPbc**	**23 58 42.5**	**-2.7**
ANN				*e*		00 01 53.3			**TIRR**	**Tirgusor**	**150.50**	**321**	⇓PKIKP	**PKiKP**	**23 58 42.5**	**+0.1**	**CMLA**	**Cha da Macela**	**151.91**	**53**	PKIKP	**PKPdf**	**23 58 41.1**	**+2.5**
ANN				pmax	pmax				**VRI**	**Vrincioaia**	**150.55**	**325**	⇑P	**PKiKP**	**23 58 42.3**	**-0.2**	**CMLA**	**Cha da Macela**	**151.91**	**53**		**PKPdf**	**23 58 41.1**	**+2.5**
	comp=Z,712nm,1.2s								VRI				⇓P	**PKPbc**	**23 58 42.4**	**+0.6**	**BUG**	**Bochum--Univer**	**151.97**	**354**	*e*PKPdf	**PKPdf**	**23 58 38.4**	**+0.2**
MARD	**Mardin**	**144.80**	**302**		**PKPab**	**23 58 26.8**	**+0.1**		**VRI**	**Vrincioaia**	**150.55**	**325**	⇑PKIKP	**PKiKP**	**23 58 42.3**	**-0.2**		baz=16,slow=1.4						
HOMB	**Homborsund**	**145.09**	**355**	*e*PKPbc	**PKPdf**	**23 58 27.3**	**+0.4**		**FLTG**	**Flechtingen**	**150.58**	**350**	*e*PKPdf	**PKPdf**	**23 58 36.4**	**+0.3**	BUG			*e*PKPbc	**PKiKP**	**23 58 46.4**	**+1.2**	
HOMB				IVmB_BB		23 58 28.2				baz=16,slow=1.4																
	comp=Z,8μm,1.1s								FLTG				*e*PKPbc	**PKiKP**	**23 58 43.0**	**+0.7**		baz=13,slow=2.1						
HOMB				*e*SS	SS	00 20 25.0	+2.5			baz=13,slow=2.1							BUG			*e*pPKPbc	**pPKPbc**	**23 59 26.2**	**-0.5**	
SNART	**Snartemo**	**145.12**	**356**	*e*PKPbc	**PKPab**	**23 58 27.1**	**+0.1**		**NRDL**	**Niedersach Rie**	**150.59**	**351**	*e*PKPdf	**PKPdf**	**23 58 36.7**	**+0.7**	**SGRR**	**Singureni**	**152.02**	**323**	⇓P	**PKiKP**	**23 58 45.6**	**0.0**
BORU	**Boraas**	**145.22**	**351**	*i* P	**PKPdf**	**23 58 26.8**	**-0.3**			baz=16,slow=1.4							**PRA**	**Prague**	**152.04**	**344**	*e*PKIKP	**PKiKP**	**23 58 46.6**	**+1.2**
ONAU	**Onsala**	**145.57**	**351**	*i* P	**PKPdf**	**23 58 27.7**	**0.0**		NRDL				*e*PKPbc	**PKiKP**	**23 58 43.5**	**+1.3**	**PRA**	**Prague**	**152.04**	**344**	⇑*e*PKP	**PKiKP**	**23 58 46.6**	**+1.2**
FABU	**Falkenberg**	**145.84**	**350**	*i* P	**PKPbc**	**23 58 29.1**	**+0.1**			baz=13,slow=2.1							**KASTN**	**Kahler Asten**	**152.08**	**353**	*e*PKPdf	**PKPdf**	**23 58 38.8**	**+0.3**
SUW	**Suwalki**	**145.98**	**339**	*e*PKP	**PKPab**	**23 58 30.2**	**-0.1**		**EFOR**	**EFORIE**	**150.59**	**320**	⇓P	**PKiKP**	**23 58 43.1**	**+0.6**		baz=16,slow=1.4						
SUW	**Suwalki**	**145.98**	**339**	*e*P	**PKiKP**	**23 58 31.8**	**-1.0**		**PLOR**	**Plostina**	**150.60**	**325**	⇑P	**PKiKP**	**23 58 42.5**	**-0.1**	KASTN			*e*PKPbc	**PKiKP**	**23 58 46.9**	**+1.4**	
AKASG	**Malin Array Be**	**146.06**	**330**	PKPbc	**PKPbc**	**23 58 29.5**	**-0.5**		PLOR				⇓P	**PKPbc**	**23 58 43.6**	**+1.6**		baz=13,slow=2.1						
	comp=Z,187nm,0.5s,baz=42,slow=4.2,SNR=591								**PLOR**	**Plostina**	**150.60**	**325**	⇑PKIKP	**PKiKP**	**23 58 42.5**	**-0.1**	KASTN			*e*PKPab	**PKPab**	**23 58 55.5**	**+0.2**	
AKASG				SKPbc	**SKiKP**	**00 01 55.3**	**+1.4**		**HARR**	**Harsova**	**150.63**	**322**	⇓P	**PKiKP**	**23 58 43.0**	**+0.4**		baz=14,slow=4.2						
	comp=Z,5.6nm,0.6s,baz=43,slow=2.8,SNR=4.0								**HARR**	**Harsova**	**150.63**	**322**	⇓PKIKP	**PKiKP**	**23 58 43.0**	**+0.4**	**VYHS**	**Vyhne**	**152.09**	**337**	*e*PKIKP	**PKPdf**	**23 58 39.6**	**+1.0**
AKASG	**Malin Array Be**	**146.06**	**330**	PKPdf	**PKPdf**	**23 58 29.2**	**+0.4**		**UZH**	**Uzhgorod**	**150.64**	**333**	⇓*i*PKIKP	**PKPbc**	**23 58 40.3**	**-1.6**	VYHS			*e*		23 58 52.4		
AKBB	**Malin Array Si**	**146.06**	**330***d*	*i*PKIKP	**PKPdf**	**23 58 28.6**	**-0.2**		UZH				*i*		23 58 49.3		**VYHS**	**Vyhne**	**152.09**	**337**	*e*PKP	**PKPdf**	**23 58 39.6**	**+1.0**
DEL	**Delary**	**146.16**	**349**	*i* P	**PKPdf**	**23 58 29.0**	**+0.2**		**TLBR**	**Topalu**	**150.66**	**322**	⇑P	**PKPbc**	**23 58 42.3**	**+0.2**	VYHS			*e*		23 58 46.8		
DEL				*i* P	**PKPbc**	**23 58 30.1**	**+0.1**		**MFTR**	**Murfatlar**	**150.66**	**321**	⇓P	**PKiKP**	**23 58 43.0**	**+0.3**	VYHS			*e*		23 58 52.4		
GOET	**G??ttrup**	**146.25**	**354**	*i* P	**PKPab**	**23 58 31.4**	**+0.1**		**CWF**	**Charnwood Fore**	**150.70**	**5**	*e*P	**PKPdf**	**23 58 36.0**	**-0.3**	**PRU**	**Pruhonice**	**152.09**	**344**	*e*PKIKP	**PKPdf**	**23 58 39.6**	**+1.1**
GOET				IAmb	IAmb	23 58 33.5			**GRER**		**150.73**	**324**	⇓P	**PKiKP**	**23 58 44.4**	**+1.6**	PRU			MLR	MLR			
	comp=Z,229nm,0.8s								**CRVS**	**Cervenica-Dubn**	**150.76**	**334**	*e*PKIKP	**PKPdf**	**23 58 38.7**	**+2.2**		comp=Z,300nm,19.9s						
KLNR	**Kaliningrad**	**146.40**	**342***de*	PKIKP	**PKPbc**	**23 58 30.0**	**-0.8**		**CRVS**	**Cervenica-Dubn**	**150.76**	**334**	*e*PKP	**PKPdf**	**23 58 38.7**	**+2.2**	**PRU**	**Pruhonice**	**152.09**	**344**	*e*PKPDF	**PKPdf**	**23 58 39.6**	**+1.1**
DRUM	**Mains of Drumt**	**146.46**	**5**	*e*P	**PKPdf**	**23 58 29.2**	**0.0**		CRVS				*e*		23 58 44.3		PRU			⇑*e*PKP	**PKiKP**	**23 58 45.9**	**+0.4**	
BJUU	**Bjuv**	**146.68**	**350**	*i* P	**PKPbc**	**23 58 31.5**	**0.0**		**BISRR**	**Bisoca**	**150.76**	**324**	⇓P	**PKiKP**	**23 58 43.4**	**+0.4**	PRU			AMS	AMS	01 06 40.0		
SIM	**Simferopol'**	**146.82**	**318**	*i* PKP2	**PKPbc**	**23 58 31.8**	**-0.5**		**TSMN**	**Mangalia Port-**	**150.78**	**320**	⇓P	**PKiKP**	**23 58 43.4**	**+0.5**		comp=Z,300nm,19.9s						
SIM				pmax	pmax				**NIE**	**Niedzica**	**150.78**	**336**	*e*PKPdf	**PKPdf**	**23 58 38.3**	**+1.8**	**MOX**	**Moxa**	**152.13**	**348**	*e*PKPdf	**PKPdf**	**23 58 38.9**	**+0.4**
	comp=Z,269nm,0.5s								NIE				*e*PKPbc	**PKiKP**	**23 58 43.9**	**+1.0**		baz=16,slow=1.4						
MUD	**Monsted U'grnd**	**146.83**	**354**	*i* P	**PKPbc**	**23 58 32.3**	**+0.3**		NIE				*e*PKPab	**PKPab**	**23 58 49.8**	**-0.2**	MOX			*e*PKPbc	**PKiKP**	**23 58 47.2**	**+1.6**	
MUD				IAmb	IAmb	23 58 36.0			**CVDA**	**Cernavoda**	**150.79**	**321**	⇑P	**PKiKP**	**23 58 43.6**	**+0.6**		baz=13,slow=2.1						
	comp=Z,269nm,1.1s								**WACR**	**West Acre**	**150.84**	**3**	*e*P	**PKPbc**	**23 58 42.1**	**-0.1**	MOX			*e*X		23 58 52.0		
MUD	**Monsted U'grnd**	**146.83**	**354**	*i* PKP2	**PKPbc**	**23 58 32.2**	**+0.3**		**KSP**	**Ksiaz**	**150.84**	**342**	*e*PKPdf	**PKPdf**	**23 58 37.6**	**+1.1**		baz=17,slow=2.2						
MUD				pmax	pmax				KSP				*e*PKPbc	**PKiKP**	**23 58 43.4**	**+0.5**	MOX			*e*PKPab	**PKPab**	**23 58 56.0**	**+0.5**	
	comp=Z,270nm,1.1s								KSP				*e*PKPab	**PKPab**	**23 58 45.5**	**+0.4**		baz=14,slow=4.2						
LUNU	**Lund**	**147.03**	**349**	*i* P	**PKPbc**	**23 58 32.0**	**-0.5**		**BMR**	**Baia Mare**	**150.86**	**331**	⇓P	**PKiKP**	**23 58 43.2**	**+0.1**	MOX			*e*pPKPbc	**pPKPbc**	**23 59 26.5**	**-0.8**	
LUNU				*i* P	**PKPbc**	**23 58 32.0**	**-0.5**		**BMR**	**Baia Mare**	**150.86**	**331**	⇓PKIKP	**PKiKP**	**23 58 43.2**	**+0.1**	**VRAC**	**Vranov**	**152.13**	**341**	PKP	**PKPdf**	**23 58 39.9**	**+1.3**
H07N1	**FLORES T-PHASB**	**147.14**	**53**	*e*PKP	**P

GUNZ *e*PKPbc **PKiKP** 23 58 47.6 +1.7
baz=13,slow=2.1
GUNZ *e*X 23 58 52.9
baz=17,slow=2.2
GUNZ *e*PKPab **PKPab** 23 58 57.0 +1.0
baz=14,slow=4.2
WERN Wernitzgruen 152.31 347 *e*PKPdf **PKPdf** 23 58 39.5 +0.6
baz=16,slow=1.4
WERN *e*PKPbc **PKiKP** 23 58 47.9 +1.9
baz=13,slow=2.1
WERN *e*X 23 58 53.2
baz=17,slow=2.2
WERN *e*PKPab **PKPab** 23 58 57.5 +1.2
baz=14,slow=4.2
WERN *ep*PKPbc **pPKPbc** 23 59 27.3 -0.5
LOT Lotru 152.35 327 ⇑P **PKiKP** 23 58 46.6 +0.2
NKC Novy Kostel 152.35 347 *e*PKIKP **PKiKP** 23 58 46.6 +0.5
NKC Novy Kostel 152.35 347 ‖ *e*PKP **PKiKP** 23 58 46.6 +0.5
NKC *ex* x 00 08 57.9
HUMR Humele 152.36 325 ⇑P **PKPbc** 23 58 46.0 0.0
KRUC Moravsky 152.41 341 *e*PKP **PKPdf** 23 58 39.4 +0.4
KRUC *e* 23 58 47.0
DEV Deva 152.46 329 ⇑P **PKPdf** 23 58 40.3 +1.1
DEV Deva 152.46 329 ⇑PKIKP **PKPdf** 23 58 40.3 +1.1
TREC Trest 152.47 342 *e*PKIKP **PKPdf** 23 58 40.7 +1.6
TREC Trest 152.47 342 *e*PKPDF **PKPdf** 23 58 40.7 +1.6
TREC ⇑*e*PKP **PKiKP** 23 58 47.6 +1.2
PBCC Pribram 152.51 344 *e*PKPDF **PKPdf** 23 58 39.5 +0.4
PBCC ⇑*e*PKP **PKiKP** 23 58 46.8 +0.4
BSZH Besenyszg 152.53 334 ⇑P **PKiKP** 23 58 48.5 +2.0
SMOL Smolenice 152.56 339 *e*PKIKP **PKiKP** 23 58 47.9 +1.4
SMOL *e* 23 58 53.9
SMOL Smolenice 152.56 339 *e*PKP **PKiKP** 23 58 47.9 +1.4
SMOL *e* 23 58 53.9
MANZ Manzenberg 152.66 347 *e*PKPdf **PKPdf** 23 58 39.7 +0.4
baz=16,slow=1.4
MANZ *e*PKPbc **PKiKP** 23 58 48.2 +1.5
baz=13,slow=2.1
MANZ *e*X 23 58 53.5
baz=17,slow=2.2
MANZ *e*PKPab **PKPab** 23 58 58.6 +0.8
baz=14,slow=4.2
ZIMR 152.72 323 ⇓P **PKiKP** 23 58 49.4 +2.4
ZIMR 152.72 323 ⇓PKIKP **PKiKP** 23 58 49.4 +2.4
MODS Modra-Piesok 152.73 339 *e*PKIKP **PKPdf** 23 58 40.0 +0.5
MODS Modra-Piesok 152.73 339 *e*PKP **PKPdf** 23 58 40.0 +0.5
MODS *e* 23 58 48.2
MODS *e* 23 58 53.1
BEBN Eben Emael 152.73 356 *d*PKPbc **PKiKP** 23 58 47.2 +0.4
BEBN *d*PKPab **PKPab** 23 58 58.9 +0.9
SIRR Siria 152.74 331 ⇓P **PKiKP** 23 58 47.5 +0.5
UCC Uccle 152.79 358 *d*PKPdf **PKPdf** 23 58 39.4 0.0
UCC *d*PKPbc **PKiKP** 23 58 47.5 +0.6
UCC *dx* x 23 58 54.4
UCC *d*PKPbc **PKPab** 23 58 57.9 -0.3
UCC Uccle 152.79 358 PKIKP **PKPdf** 23 58 39.9 +0.4
UCC Uccle 152.79 358 PKPdf **PKPdf** 23 58 39.9 +0.4
UCC PKPbc **PKiKP** 23 58 47.8 +0.9
ROTZ Rotzenmuhle 152.84 347 *e*PKPdf **PKPdf** 23 58 40.1 +0.4
baz=16,slow=1.4
ROTZ *e*PKPbc **PKiKP** 23 58 48.3 +1.2
baz=13,slow=2.1
ROTZ *e*X 23 58 53.8
baz=17,slow=2.2
ROTZ *e*PKPab **PKPab** 23 58 59.4 +0.9
baz=14,slow=4.2
SRO Srobarova 152.85 337 *e*PKIKP **PKiKP** 23 58 47.7 +0.6
SRO Srobarova 152.85 337 *e*PKP **PKiKP** 23 58 47.7 +0.6
SRO *e* 23 58 54.0
SRO2 Moca 152.86 337 *e*PKIKP **PKPbc** 23 58 46.7 -0.3
SRO2 Moca 152.86 337 *e*PKP **PKPbc** 23 58 46.7 -0.3
SRO2 *e* 23 58 52.6
GZR Gura Zlata 152.88 328 ⇓P **PKiKP** 23 58 47.4 0.0
GZR Gura Zlata 152.88 328 ⇓PKIKP **PKiKP** 23 58 47.4 0.0
AHRW Bad Neuenahr-A 152.88 354 *e*PKPdf **PKPdf** 23 58 40.1 +0.5
baz=16,slow=1.4
AHRW *e*PKPbc **PKiKP** 23 58 48.7 +1.6
baz=13,slow=2.1
AHRW *e*X 23 58 54.1
baz=17,slow=2.2
AHRW *e*PKPab **PKPab** 23 58 59.5 +0.9
baz=14,slow=4.2
MEM Membach 152.90 356 *d*PKPdf **PKPdf** 23 58 39.9 +0.2
MEM *d*PKPbc **PKiKP** 23 58 47.4 +0.2
MEM *dp*PKPbc **pPKPbc** 23 59 28.0 -0.9
MEM *dx* x 23 59 32.9
BTNL Ternell 152.91 355 *d*PKPdf **PKPdf** 23 58 39.9 +0.2
BTNL *d*PKPbc **PKiKP** 23 58 47.5 +0.3
BTNL *d*PKPab **PKPab** 23 58 59.5 +0.8
BTNL *dp*PKPdf **pPKPdf** 23 59 21.2 -0.7
BTNL *dp*PKPbc **pPKPbc** 23 59 28.2 -0.7
ZST Bratislava 152.94 339 *e*PKIKP **PKPdf** 23 58 41.8 +2.0
ZST Bratislava 152.94 339 *e*PKP **PKPdf** 23 58 41.8 +2.0
ZST *e* 23 58 48.0
ZST *e* 23 58 54.4
BSTI Sart Tilman 152.95 356 *d*PKPdf **PKPdf** 23 58 40.0 +0.3
BSTI *d*PKPbc **PKiKP** 23 58 47.7 +0.5
BSTI *d*PKPab **PKPab** 23 58 59.9 +1.1
BSTI *dp*PKPbc **pPKPbc** 23 59 28.3 -0.7
VLAD Vladila 153.02 324 ⇑P **PKiKP** 23 58 47.7 +0.1
TNS Taunus Mts 153.04 352 *e*PKPdf **PKPdf** 23 58 40.4 +0.4
baz=16,slow=1.4
TNS *e*PKPbc **PKiKP** 23 58 48.7 +1.2
baz=13,slow=2.1
TNS *e*X 23 58 54.6
baz=17,slow=2.2
TNS *e*PKPab **PKPab** 23 58 59.8 +0.5
baz=14,slow=4.2
SNF Seneffe 153.09 358 *d*PKPdf **PKPdf** 23 58 40.0 +0.1
SNF *d*PKPbc **PKiKP** 23 58 47.7 +0.2
SNF *d*PKPab **PKPab** 23 59 00.5 +1.1
SNF *dp*PKPdf **pPKPdf** 23 59 21.0 -1.1
AMBH Ambrzfalva 153.09 332 ⇓P **PKPdf** 23 58 41.2 +1.2
GRA1 Grafenberg Arr 153.11 348 *e*PKP **PKPdf** 23 58 40.8 +0.8
GRA1 PKPbc **PKiKP** 23 58 48.9 +1.2
GRF Grafenberg Arr 153.11 348 PKIKP **PKPdf** 23 58 40.8 +0.8
GRF Grafenberg Arr 153.11 348 *e*PKPdf **PKPdf** 23 58 40.8 +0.8
baz=16,slow=1.4
GRF *e*X 23 58 54.8
baz=17,slow=2.2
GRF *e*PKPab **PKPab** 23 59 00.8 +1.1
baz=14,slow=4.2
GRFO Grafenberg 153.11 348 PKIKP **PKPdf** 23 58 41.0 +1.0
GRFO Grafenberg 153.11 348 PKPdf **PKPdf** 23 58 41.0 +1.0
GRFO PKPbc **PKiKP** 23 58 48.6 +1.0
KHC Kasperske Hory 153.12 344 *e*PKIKP **PKPdf** 23 58 40.2 +0.1
KHC *e* 23 59 32.0
KHC MLR MLR
comp=Z,300nm,19.2s
KHC Kasperske Hory 153.12 344 *e*PKPDF **PKPdf** 23 58 40.2 +0.1
KHC ⇑*e*PKP **PKiKP** 23 58 48.0 +0.3
KHC *ep*PKP **pPKPbc** 23 59 32.0 +2.4
KHC *ex* x 00 02 24.4
KHC *e*SKKS 00 09 10.8
KHC AMS AMS 01 13 20.0
comp=Z,300nm,19.2s
BCLA Clavier 153.13 357 *d*PKPdf **PKPdf** 23 58 40.6 +0.6
BCLA *d*PKPbc **PKiKP** 23 58 48.9 +1.3
BCLA *d*PKPab **PKPab** 23 59 00.4 +0.8
BCLA *ds*PKP 23 59 40.1
BHOU Houvegnez 153.15 356 *d*PKPdf **PKPdf** 23 58 40.7 +0.6
BHOU *d*PKPbc **PKiKP** 23 58 48.4 +0.7
BHOU *d*PKPab **PKPab** 23 59 00.9 +1.1
BHOU *dp*PKPdf **pPKPdf** 23 59 22.5 +0.3
BHOU *dp*PKPbc **pPKPbc** 23 59 28.9 -0.6
BGES Gesves 153.18 357 *d*PKPdf **PKPdf** 23 58 40.0 -0.1
BGES *d*PKPbc **PKiKP** 23 58 47.9 +0.1
BGES *d*PKPab **PKPab** 23 59 00.6 +0.7
BGES *dp*PKPdf **pPKPdf** 23 59 21.6 -0.7
SRE Strehaia 153.19 327 ⇑P **PKiKP** 23 58 49.0 +1.0
SRE Strehaia 153.19 327 ⇑PKIKP **PKiKP** 23 58 49.0 +1.0
CKRC Cesky Krumlov 153.22 343 *e*PKPDF **PKPdf** 23 58 40.8 +0.6
CKRC ⇑*e*PKP **PKiKP** 23 58 48.7 +0.8
CKRC AMS AMS 01 07 00.0
comp=Z,300nm,21.1s
BZS Buzias 153.26 330 ⇓P **PKPdf** 23 58 40.9 +0.6
BZS Buzias 153.26 330 ⇓PKIKP **PKPdf** 23 58 40.9 +0.6
BMRD Maredsous 153.27 357 *d*PKPdf **PKPdf** 23 58 40.5 +0.3
BMRD *d*PKPbc **PKiKP** 23 58 48.2 +0.3
BMRD *d*PKPab **PKPab** 23 59 01.1 +0.8
WET Wettzell 153.28 345 *e*PKPdf **PKPdf** 23 58 40.8 +0.5
baz=16,slow=1.4
WET *e*PKPbc **PKiKP** 23 58 49.4 +1.4
baz=13,slow=2.1
WET *e*X 23 58 55.5
baz=17,slow=2.2
WET *e*PKPab **PKPab** 23 59 01.5 +1.1
baz=14,slow=4.2
ELL Elmali 153.28 306 PKIKP **PKPdf** 23 58 41.1 +0.3
ELL Elmali 153.28 306 PKPdf **PKPdf** 23 58 41.1 +0.3
ELL PKPbc **PKiKP** 23 58 49.2 +0.7
TIM Timisoara 153.34 331 ⇓P **PKPbc** 23 58 44.7 -3.4
TIM Timisoara 153.34 331 ⇓PKIKP **PKPbc** 23 58 44.7 -3.4
GEC2 GERESS Array S 153.36 344 **PKPdf** 23 58 40.5 0.0
GEC2 GERESS Array S 153.36 344 *e*PKPdf **PKPdf** 23 58 41.0 +0.5
baz=16,slow=1.4
GERES GERESS Array B 153.36 344 PKP **PKPdf** 23 58 40.6 +0.1
comp=Z,9.2nm,0.9s,baz=70,slow=1.6,SNR=53
GERES PKPbc **PKiKP** 23 58 48.8 +0.5
comp=Z,25nm,0.8s,baz=56,slow=2.5,SNR=32
GERES GERESS Array B 153.36 344 PKPdf **PKPdf** 23 58 40.0 -0.5
RCHB Rochefort 153.40 357 *d*PKPdf **PKPdf** 23 58 40.1 -0.3
RCHB *d*PKPbc **PKiKP** 23 58 49.1 +0.9
HERR Herculane 153.42 328 ⇑P **PKPbc** 23 58 48.0 -0.4
BALB Balikesir 153.47 313 PKPdf **PKPdf** 23 58 40.9 +0.1
BALB PKPbc **PKiKP** 23 58 48.9 +0.2
DOU Dourbes 153.49 358 *d*PKPdf **PKPdf** 23 58 39.8 -0.7
DOU *d*PKPbc **PKiKP** 23 58 48.7 +0.3
DOU *d*PKPab **PKPab** 23 59 00.5 -0.7
DOU *dp*PKP **pPKPbc** 23 59 29.0 -1.2
MANT Manisa 153.55 310 PKPdf **PKPdf** 23 58 40.9 -0.4
MANT PKPbc **PKiKP** 23 58 50.1 +0.9
CONA Conrad Observa 153.58 340 *e*P **PKPdf** 23 58 40.8 -0.1
comp=Z,33nm,1.6s,SNR=16
CONA *e*P **PKiKP** 23 58 50.8 +2.0
comp=Z,122nm,0.8s
CONA *e*P **PKPab** 23 59 03.0 +1.3
comp=Z,150nm,1.9s
PUNG Punghina 153.60 326 ⇑P **PKiKP** 23 58 49.3 +0.5
BANR Banloc 153.65 330 ⇑P **PKPdf** 23 58 41.6 +0.7
AKAS Kas 153.70 305 **PKPbc** 23 58 48.6 -0.8
WLF Walferdange 153.82 355 *d*PKPdf **PKPdf** 23 58 42.4 +1.4
WLF *d*PKPbc **PKiKP** 23 58 50.0 +0.9
WLF *d*PKPab **PKPab** 23 59 03.9 +1.3
WLF *dp*PKPbc **pPKPbc** 23 59 30.7 -0.2
WLF Walferdange 153.82 355 PKIKP **PKPdf** 23 58 42.1 +1.1
WLF Walferdange 153.82 355 PKPdf **PKPdf** 23 58 42.1 +1.1
WLF PKPbc **PKiKP** 23 58 50.8 +1.7
WLF Walferdange 153.82 355 *e*PKPdf **PKPdf** 23 58 41.8 +0.8
baz=16,slow=1.4
WLF *e*X 23 58 57.3
baz=17,slow=2.2
WLF *e*PKPab **PKPab** 23 59 04.1 +1.5
baz=14,slow=4.2
ALN Alexandroupoli 153.99 317 PKIKP **PKPdf** 23 58 41.2 -0.3
ALN Alexandroupoli 153.99 317 PKPdf **PKPdf** 23 58 41.2 -0.3
ALN PKPbc **PKiKP** 23 58 50.2 +0.5
MORH Mrgy, Hungar 154.06 334 ⇓P **PKPdf** 23 58 41.6 +0.2
MOA Molln 154.12 342 *i* P **PKPdf** 23 58 40.9 -0.6
comp=Z,14nm,1.0s,SNR=10
MOA *e*P **PKPab** 23 59 05.2 +1.2
comp=Z,74nm,1.3s
ARSA Arzberg 154.28 340 *i* P **PKPdf** 23 58 41.4 -0.3
comp=Z,16nm,1.3s,SNR=11
ARSA *e*P **PKPab** 23 59 05.5 +0.8
comp=Z,22nm,0.9s
STU Stuttgart 154.35 350 PKIKP **PKPdf** 23 58 41.8 0.0
STU Stuttgart 154.35 350 **PKPdf** 23 58 41.8 0.0
STU Stuttgart 154.35 350 *e*PKPdf **PKPdf** 23 58 41.8 0.0
baz=16,slow=1.4
STU *e*X 23 58 57.6
baz=17,slow=2.2
STU *e*PKPab **PKPab** 23 59 05.6 +0.7
baz=14,slow=4.2
FRGS Fruska Gora 154.42 331 ⇓P **PKPdf** 23 58 42.3 +0.3
FUR Furstenfeldbru 154.56 347 *e*PKPdf **PKPdf** 23 58 42.1 -0.1
baz=16,slow=1.4
FUR *e*X 23 58 57.9
baz=17,slow=2.2
FUR *e*PKPab **PKPab** 23 59 06.7 +0.9
baz=14,slow=4.2
VTS Vitosha 154.58 323 ⇑P **PKPdf** 23 58 42.4 -0.1
VTS Vitosha 154.58 323 ⇑PKIKP **PKPdf** 23 58 42.4 -0.1
RJOB Jochberg 154.61 344 *e*PKPdf **PKPdf** 23 58 42.4 +0.1
baz=16,slow=1.4
RJOB *e*X 23 58 58.4
baz=17,slow=2.2
RJOB *e*PKPab **PKPab** 23 59 07.4 +1.2
baz=14,slow=4.2
BOVS Bovan 154.68 327 ⇑P **PKPdf** 23 58 41.9 -0.4
BFO Black Forest 154.91 351 *e*PKPdf **PKPdf** 23 58 42.8 +0.2
baz=16,slow=1.4
BFO *e*X 23 58 58.4
baz=17,slow=2.2
BFO *e*PKPab **PKPab** 23 59 07.6 +0.2
baz=14,slow=4.2
SOKA Soboth 154.95 340 *e*P **PKPdf** 23 58 41.6 -1.1
comp=Z,11nm,0.4s
SOKA *e*P **PKPab** 23 59 08.4 +0.8
comp=Z,86nm,1.1s
PERS Pernice 154.96 340 *e*PKPdf **PKPdf** 23 58 42.1 -0.6
PERS *e* 23 59 51.9
PERS *e*PKPab **PKPab** 23 59 08.2 +0.5
KBA Koelnbreinsper 155.08 343 *i* P **PKPdf** 23 58 42.1 -1.0
comp=Z,30nm,1.2s,SNR=9.1
KBA *e*P PKPab 23 58 53.2 -15
comp=Z,45nm,0.8s
KBA *e*P pPKPdf 23 59 08.9 -17
comp=Z,43nm,0.7s
ECH Echery 155.17 353 PKIKP **PKPdf** 23 58 43.6 +0.6
ECH 23 59 08.2
ECH Echery 155.17 353 PKPdf **PKPdf** 23 58 43.6 +0.6
ECH PKPab **PKPab** 23 59 08.2 -0.3
OBKA Obir 155.25 340 *e*P **PKPdf** 23 58 42.9 -0.4
comp=Z,13nm,1.2s
OBKA *e*P PKPab 23 58 52.7 -16
comp=Z,32nm,0.9s
OBKA *e*P pPKPdf 23 59 08.9 -17
comp=Z,22nm,0.9s
UBR Ueberruh 155.25 348 *e*PKPdf **PKPdf** 23 58 43.1 -0.1
baz=16,slow=1.4
UBR *e*PKPbc PKPab 23 58 51.2 -18
baz=13,slow=2.1
UBR *e*X 23 58 58.6
baz=17,slow=2.2
UBR *ep*PKPbc pPKPbc 23 59 33.1 -1.2
WATA Walderalm 155.28 346 *i* P **PKPdf** 23 58 42.3 -1.0
comp=Z,33nm,1.1s,SNR=16
WATA *e*P PKPab 23 58 53.4 -16
comp=Z,50nm,1.0s
WATA *e*P pPKPdf 23 59 09.7 -16
comp=Z,84nm,1.0s
RETA Reutte 155.31 347 *i* P **PKPdf** 23 58 42.7 -0.6
comp=Z,20nm,1.3s,SNR=12
RETA *e*P **PKPab** 23 59 09.6 +0.4
comp=Z,63nm,0.8s
WTTA Wattenberg 155.33 346 *i* P **PKPdf** 23 58 42.6 -0.8
comp=Z,53nm,1.1s,SNR=18
WTTA *e*P **PKPab** 23 59 10.0 +0.6
comp=Z,97nm,1.1s
MOTA Moosalm 155.37 346 *i* P **PKPdf** 23 58 43.0 -0.4
comp=Z,49nm,1.2s,SNR=22
MOTA *e*P **PKPab** 23 59 10.0 +0.4
comp=Z,60nm,0.8s
MYKA Terra Mystica 155.41 342 *i* P **PKPdf** 23 58 42.8 -0.6
comp=Z,26nm,1.4s,SNR=6.5
MYKA *e*P **PKPab** 23 59 09.2 -0.4
comp=Z,96nm,1.2s
CLF Chambon-Foret 155.59 1 **PKPdf** 23 58 44.3 +0.9
CLF PKPab **PKPab** 23 59 12.0 +1.8
ABTA Abfaltersbach 155.60 344 *i* P **PKPdf** 23 58 43.2 -0.5
comp=Z,57nm,1.1s,SNR=25
ABTA *e*P **PKPab** 23 59 10.4 -0.1
comp=Z,63nm,1.1s
LJU Ljubljana 155.67 340 *e*PKPdf **PKPdf** 23 58 43.4 -0.3
LJU *i* 23 58 60.0
LJU *e*PKPab **PKPab** 23 59 10.9 +0.2
DAVA Damuels 155.67 348 *i* P **PKPdf** 23 58 43.4 -0.4
comp=Z,26nm,1.3s,SNR=12
DAVA *e*P **PKPab** 23 59 11.1 +0.3
comp=Z,55nm,0.8s
FETA Feichten 155.76 347 *i* P **PKPdf** 23 58 43.7 -0.3
comp=Z,52nm,1.1s,SNR=33
FETA *e*P **PKPab** 23 59 10.9 -0.3
comp=Z,60nm,1.0s
STIP Stip 155.78 323 *i* PKP **PKPdf** 23 58 50.1 +6.1
VAY Valandovo 155.81 322 *i* PKP PKPdf 23 58 53.7 +10
VAY *i* S **SKKSac** 00 09 21.1 -1.7
BOJS Bojanci 155.91 338 *e*PKPdf **PKPdf** 23 58 43.7 -0.3
BOJS *e* 23 58 54.5
SKO Skopje 155.99 324 *i* PKP **PKPdf** 23 58 44.0 -0.3
SKO *i* S **SKKSac** 00 09 25.2 +1.4
DAVOX Davos/Dischmat 156.16 348 PKP **PKPdf** 23 58 44.8 +0.3
comp=Z,17nm,0.9s,baz=39,slow=1.4,SNR=25
TRI Trieste 156.21 341 PKIKP **PKPdf** 23 58 44.8 +0.4
TRI 23 59 12.9
TRI Trieste 156.21 341 PKPdf **PKPdf** 23 58 44.8 +0.4
TRI PKPab **PKPab** 23 59 12.9 0.0
APE Apeiranthos 156.33 310 ⇑P **PKPdf** 23 58 43.6 -1.3
APE Apeiranthos 156.33 310 ⇑PKIKP **PKPdf** 23 58 43.6 -1.3
CTI Castel Tesino 156.47 345 PKIKP **PKPdf** 23 58 44.9 0.0
CTI Castel Tesino 156.47 345 PKPdf **PKPdf** 23 58 44.9 0.0
CTI PKPab **PKPab** 23 59 14.0 -0.2
TUE Stuetta 156.56 349 PKPdf **PKPdf** 23 58 44.9 -0.2
TUE PKPab **PKPab** 23 59 16.1 +1.4
LIT Litokhoron 156.64 319 PKIKP **PKPdf** 23 58 46.2 +1.0
LIT Litokhoron 156.64 319 PKPdf **PKPdf** 23 58 46.2 +1.0
LIT PKPab **PKPab** 23 59 15.7 +0.6
PDG Podgorica 156.78 328 ⇓P **PKPdf** 23 58 45.2 0.0
OHR Ohrid 156.94 324 *i* PKP **PKPdf** 23 58 45.4 -0.2
OHR Ohrid 156.94 324 *i* S **SKKSac** 00 09 26.7 -2.2
SENIN Lac Senin/Sane 156.98 352 PKPdf **PKPdf** 23 58 46.5 +0.9
SENIN PKPab **PKPab** 23 59 17.0 +0.5
AGG Agios Georgios 157.40 318 PKIKP **PKPdf** 23 58 45.3 -0.9
AGG Agios Georgios 157.40 318 PKPdf **PKPdf** 23 58 45.2 -0.9
IDI Anoyia 157.60 306 ⇓P **PKPdf** 23 58 46.8 +0.2
PRMA PARMA 158.00 346 **PKPdf** 23 58 46.5 -0.2
PRMA **PKPab** 23 59 21.2 +0.5
ZCCA Zocca 158.23 344 **PKPdf** 23 58 47.8 +0.7
ZCCA PKPab **PKPab** 23 59 23.5 +1.7
BNI Bardonecchia 158.34 353 PKIKP **PKPdf** 23 58 47.7 +0.4
BNI 23 59 23.5
BNI Bardonecchia 158.34 353 PKPdf **PKPdf** 23 58 47.7 +0.4
BNI PKPab **PKPab** 23 59 23.5 +1.2
VLC Villacollemand 158.55 345 **PKPab** 23 59 23.4 +0.2
ITM Ithomi 158.74 314 **PKPdf** 23 58 47.9 0.0
ITM PKPab **PKPab** 23 59 24.8 +0.5
OSSC Osservatorio P 158.93 343 **PKPdf** 23 58 47.7 -0.2
OSSC PKPab **PKPab** 23 59 25.0 +0.2
AQU L'Aquila 159.32 337 PKP2 **PKPab** 23 59 27.5 +0.9
AQU L'Aquila 159.32 337 PKPab **PKPab** 23 59 27.5 +0.9
MATE Matera 159.37 329 ⇓P **PKPdf** 23 58 48.3 -0.1
PGAV Gavieira, Arco 159.44 24 *e*PKPdf **PKPdf** 23 58 50.9 +2.3
PGAV Gavieira, Arco 159.44 24 *i* PKPab **PKPab** 23 59 26.4 -0.8
PGAV Gavieira, Arco 159.44 24 *e*PP PP 00 03 16.1 +7.7
PGAV Gavieira, Arco 159.44 24 *e*SS SS 00 23 04.2 +3.5
PCAB Cabril 159.75 24 *e*PKPdf **PKPdf** 23 58 51.0 +2.1
PCAB Cabril 159.75 24 *i* PKPab **PKPab** 23 59 29.2 +0.7
PMOZ Porto Moniz, M 160.09 58 *e*PKPdf **PKPdf** 23 58 55.7 +6.1
PMOZ Porto Moniz, M 160.09 58 *i* PKPab **PKPab** 23 59 29.7 -0.7
PMOZ Porto Moniz, M 160.09 58 *e*PP PP 00 03 13.3 +0.2
PMOZ Porto Moniz, M 160.09 58 *e*SS SS 00 23 26.6 +17
PBRG Braganca 160.12 22 *e*PKPdf **PKPdf** 23 58 48.7 -0.6
PBRG Braganca 160.12 22 *i* PKPab **PKPab** 23 59 29.4 -0.7
PBRG Braganca 160.12 22 *e*PP PP 00 03 22.0 +10
POLO Lamas de Olo 160.13 24 *e*PKPdf **PKPdf** 23 58 50.6 +1.2
POLO Lamas de Olo 160.13 24 *i* PKPab **PKPab** 23 59 29.1 -1.1
POLO Lamas de Olo 160.13 24 *e*SS SS 00 23 16.7 +8.8
PVRL Vila Real 160.24 24 *e*PKPdf **PKPdf** 23 58 50.4 +0.9
PVRL Vila Real 160.24 24 *i* PKPab **PKPab** 23 59 30.9 +0.3
PMAR Madeira 160.34 58 *e*PKPdf **PKPdf** 23 58 46.0 -4.0
PMAR Madeira 160.34 58 *i* PKPab **PKPab** 23 59 24.0 -7.3
PMAR Madeira 160.34 58 *e*PP PP 00 03 11.6 -2.9
MVO Moncorvo 160.59 23 *e*PKPdf **PKPdf** 23 58 51.2 +1.3
MVO Moncorvo 160.59 23 *i* PKPab **PKPab** 23 59 31.5 -0.7
MVO Moncorvo 160.59 23 *e*PP PP 00 03 20.7 +6.2
MVO Moncorvo 160.59 23 *e*SS SS 00 23 17.1 +4.4
PMPST Porto Santo, M 160.65 56 *e*PKPdf **PKPdf** 23 58 50.3 +0.2
PMPST Porto Santo, M 160.65 56 *i* PKPab **PKPab** 23 59 31.4 -1.4
PMPST Porto Santo, M 160.65 56 *e*PP PP 00 03 16.4 +0.5
PMPST Porto Santo, M 160.65 56 *e*SS SS 00 23 32.0 +17
PVIS Viseu 160.66 25 *e*PKPdf **PKPdf** 23 58 51.0 +1.0
PVIS Viseu 160.66 25 *i* PKPab **PKPab** 23 59 32.4 -0.1
PMPS Porto Santo 160.66 56 *e*PKPdf **PKPdf** 23 58 51.6 +1.5
PMPS Porto Santo 160.66 56 *i* PKPab **PKPab** 23 59 30.7 -2.1
COI Coimbra 160.87 27 PKIKP **PKPdf** 23 58 50.4 +0.3
COI 23 59 33.6
COI Coimbra 160.87 27 *e*PKPdf **PKPdf** 23 58 50.8 +0.7
COI Coimbra 160.87 27 *e*SS SS 00 23 21.9 +6.3
COI Coimbra 160.87 27 PKPdf **PKPdf** 23 58 50.4 +0.3
COI **PKPab** 23 59 33.6 +0.3
PCAS Casmilo, Conde 160.97 28 *e*PKPdf **PKPdf** 23 58 51.4 +1.1
PCAS Casmilo, Conde 160.97 28 *i* PKPab **PKPab** 23 59 33.4 -0.4
PCAS Casmilo, Conde 160.97 28 *e*SS SS 00 23 25.1 +8.4
MTE Manteigas 161.06 25 *e*PKPdf **PKPdf** 23 58 51.5 +1.1
MTE Manteigas 161.06 25 *e*SS SS 00 23 22.2 +4.5
MTE *e*SS **SS** 00 23 22.7 +5.0
MTE Manteigas 161.06 25 PKPdf **PKPdf** 23 58 51.2 +0.8
MTE PKPab **PKPab** 23 59 34.0 -0.3
LIC Lamto 161.16 155 *e*PKIKP **PKPdf** 23 58 52.5 +1.3
comp=Z,146nm,1.0s
LIC Lamto 161.16 155 *e*PKP2 PKPab 00 00 18.3 +43
comp=Z,128nm,1.4s
LIC Lamto 161.16 155 *e*P **PKPab** 23 59 35.7 +0.5
comp=Z,86nm,0.8s
PSBE So Bento 161.28 29 *e*PKPdf **PKPdf** 23 58 51.4 +0.8
PSBE So Bento 161.28 29 *i* PKPab **PKPab** 23 59 34.9 -0.3
PSBE So Bento 161.28 29 *e*SS SS 00 23 27.4 +7.3
KIC Kosan Boka 161.39 156 *e*PKIKP **PKPdf** 23 58 52.0 +0.5
comp=Z,97nm,0.9s
KIC Kosan Boka 161.39 156 *e*PKP2 PKPab 00 00 19.4 +43
comp=Z,72nm,0.9s
KIC Kosan Boka 161.39 156 *e*P **PKPab** 23 59 37.4 +1.2
comp=Z,43nm,0.7s
PMAFR Mafra 161.50 31 *e*PKPdf **PKPdf** 23 58 53.6 +2.7
PMAFR Mafra 161.50 31 *i* PKPab **PKPab** 23 59 35.0 -1.2
PMAFR Mafra 161.50 31 *e*SS SS 00 23 30.8 +8.3
TIC Toumodi 161.54 155 *e*PKIKP **PKPdf** 23 58 52.1 +0.5
TIC Toumodi 161.54 155 *e*PKP2 PKPab 00 00 20.0 +43
TIC Toumodi 161.54 155 *e*P **PKPab** 23 59 38.1 +1.2
PCBR Castelo Branco 161.57 26 *e*PKPdf **PKPdf** 23 58 50.6 -0.3
PCBR Castelo Branco 161.57 26 *i* PKPab **PKPab** 23 59 32.7 -3.7
DBIC Dimbokro 161.63 155 PKP **PKPdf** 23 58 52.0 +0.3
comp=Z,9.9nm,0.8s,baz=144,slow=1.5,SNR=9.0
DBIC PKPab **PKPab** 23 59 38.4 +1.2
comp=Z,20nm,0.8s,baz=210,slow=3.0,SNR=6.9
DBIC pPKPab **pPKPab** 00 00 18.4 +0.4
comp=Z,20nm,0.9s,baz=185,slow=5.0,SNR=3.8
DBIC Dimbokro 161.63 155 PKPdf **PKPdf** 23 58 51.5 -0.1
DBIC **PKPab** 23 59 38.8 +1.5
PMST Lisbon--Monsan 161.73 31 *e*PKPdf **PKPdf** 23 58 52.4 +1.3
LIS Lisbon 161.76 31 *e*PKPdf **PKPdf** 23 58 51.6 +0.5
LIS Lisbon 161.76 31 *e*PKPdf **PKPdf** 23 58 52.8 +1.7
PMTG Montargil 161.90 29 *e*PKPdf **PKPdf** 23 58 52.1 +0.9
PMTG Montargil 161.90 29 *i* PKPab **PKPab** 23 59 34.0 -3.9
PMTG Montargil 161.90 29 *e*SS SS 00 23 35.4 +9.0
PMRV Marv??o 161.95 26 *e*PKPdf **PKPdf** 23 58 52.0 +0.7
PMRV Marv??o 161.95 26 *i* PKPab **PKPab** 23 59 33.2 -4.9
PMRV Marv??o 161.95 26 *e*SS SS 00 23 27.6 +0.7
PESTR Estremoz 162.34 28 *e*PKPdf **PKPdf** 23 58 52.0 +0.3
PESTR Estremoz 162.34 28 *i* PKPab **PKPab** 23 59 33.4 -6.5
PESTR Estremoz 162.34 28 *e*SS SS 00 23 36.4 +5.4
PESTR Estremoz 162.34 28 PKPdf **PKPdf** 23 58 52.1 +0.3
PESTR PKPab **PKPab** 23 59 34.0 +0.4
EVO Evora 162.43 29 PKP **PKPdf** 23 58 50.8 -1.0
EVO Evora 162.43 29 *e*PKPdf **PKPdf** 23 58 51.7 -0.1
EVO Evora 162.43 29 *i* PKPab **PKPab** 23 59 33.4 -6.9
PNCL Nicolau / Gran 162.53 31 *e*PKPdf **PKPdf** 23 58 53.1 +1.2
PNCL Nicolau / Gran 162.53 31 *e*PP PP 00 03 56.3 +31
PTEO Sao Teotonio 162.88 33 *e*PKPdf **PKPdf** 23 58 53.8 +1.6
PTEO Sao Teotonio 162.88 33 *i* PKPab PKPab 23 59 31.4 -11
MESJ Messejana 162.90 31 *e*PKPdf **PKPdf** 23 58 52.6 +0.4
MESJ *e*SS SS 00 23 40.0 +3.0
PBEJ Beja 162.91 30 *e*PKPdf **PKPdf** 23 58 53.0 +0.7
PBEJ Beja 162.91 30 *i* PKPab PKPab 23 59 34.0 -8.4
ESBB Sonseca Array 162.93 18 **PKPdf** 23 58 53.3 +1.0
ESBB **PKPab** 23 59 43.0 +0.6
ESDC Sonseca Array 162.93 18 PKP **PKPdf** 23 58 52.2 -0.1
comp=Z,4.3nm,1.0s,baz=336,slow=3.4,SNR=24
ESDC PKPab **PKPab** 23 59 43.1 +0.7
comp=Z,18nm,1.0s,baz=323,slow=2.6,SNR=8.3
ESDC pPKPab **pPKPab** 00 00 23.6 +0.8
comp=Z,16nm,1.1s,baz=329,slow=4.2,SNR=4.9
ESDC PP **PP** 00 03 25.5 -1.3
comp=Z,2.8nm,1.1s,baz=356,slow=6.3,SNR=4.0
ESDC Sonseca Array 162.93 18 **PKPdf** 23 58 53.2 +0.8
ESDC PKPab **PKPab** 23 59 42.9 +0.4
PAB San Pablo 162.94 19 PKIKP **PKPdf** 23 58 53.0 +0.6

PAB	**San Pablo**	**162.94**	**19**			**PKPdf**	**23 58 53.0**	**+0.6**
VAE	**Valguarnera**	**162.96**	**327**	PKPab		**PKPab**	**23 59 44.1**	**+1.4**
	comp=Z,9.2nm,0.9s,baz=52,slow=19,SNR=1.8							
MORF	**Marmelete**	**163.11**	**33**	*e*PKPdf		**PKPdf**	**23 58 53.0**	**+0.5**
MORF	**Marmelete**	**163.11**	**33**	*e*PKPdf		**PKPdf**	**23 58 54.1**	**+1.5**
MORF	**Marmelete**	**163.11**	**33**	*i* PKPab		**PKPab**	**23 59 43.0**	**-0.3**
MORF	**Marmelete**	**163.11**	**33**	*e*SS		SS	00 23 46.6	+7.3
PCVE	**Castro Verde**	**163.15**	**31**	*e*PKPdf		**PKPdf**	**23 58 53.5**	**+1.0**
PCVE	**Castro Verde**	**163.15**	**31**	*i* PKPab		PKPab	23 59 34.4	-9.0
PCVE	**Castro Verde**	**163.15**	**31**	*e*SS		SS	00 23 46.6	+7.1
PFVI	**Vila Bisbo**	**163.15**	**34**	*e*PKPdf		**PKPdf**	**23 58 54.0**	**+1.5**
PFVI	**Vila Bisbo**	**163.15**	**34**	*e*SS		SS	00 23 48.3	+8.6
CORL	**Corleone**	**163.15**	**330**			**PKPdf**	**23 58 52.9**	**+0.3**
PBAR	**Barrancos**	**163.16**	**28**	*e*PKPdf		**PKPdf**	**23 58 53.4**	**+0.9**
PBAR	**Barrancos**	**163.16**	**28**	*i* PKPab		**PKPab**	**23 59 43.5**	**+0.1**
PBAR	**Barrancos**	**163.16**	**28**	*e*SS		SS	00 23 46.6	+7.2
PVAQ	**Vaqueiros**	**163.49**	**31**	*e*PKPdf		**PKPdf**	**23 58 53.6**	**+0.8**
PVAQ	**Vaqueiros**	**163.49**	**31**	*i* PKPab		**PKPab**	**23 59 40.3**	**-4.6**
PVAQ	**Vaqueiros**	**163.49**	**31**	*e*PP		PP	00 03 30.8	+0.8
PVAQ	**Vaqueiros**	**163.49**	**31**	*e*SS		SS	00 23 44.6	+1.6
PBDV	**Barranco-do-Ve**	**163.51**	**32**	*e*PKPdf		**PKPdf**	**23 58 55.3**	**+2.4**
PBDV	**Barranco-do-Ve**	**163.51**	**32**	*i* PKPab		PKPab	23 59 29.7	-15
MAHO	**Mahon**	**163.68**	**356**	PKP		PKPdf	23 58 42.3	-11
ARNO	**Arenosillo**	**164.19**	**29**	PKP		**PKPdf**	**23 58 52.6**	**-0.9**
LIJA	**Lijar**	**164.92**	**26**	PKP		**PKPdf**	**23 58 56.0**	**+1.7**
EMAL	**Malaga-Limoner**	**165.42**	**24**	PKP		**PKPdf**	**23 59 00.8**	**+6.3**
CART	**Cartagena**	**165.64**	**12**	PKP		**PKPdf**	**23 58 56.9**	**+2.2**
CEU	**Ceuta**	**165.79**	**28**	PKP		**PKPdf**	**23 58 54.8**	**-0.1**
KEST	**Kesra**	**166.64**	**337**	PKP		**PKPdf**	**23 58 56.9**	**+1.2**
	comp=Z,11nm,0.9s,baz=281,slow=1.2,SNR=6.0							
KEST				PKPab		**PKPab**	**23 59 59.3**	**+0.4**
	comp=Z,26nm,0.8s,baz=266,slow=4.3,SNR=9.5							
KEST	**Kesra**	**166.64**	**337**			**PKPdf**	**23 58 55.3**	**-0.4**
KEST				PKPab		**PKPab**	**23 59 59.3**	**+0.4**
AVE	**Averroes**	**166.75**	**41**	PKP		**PKPdf**	**23 58 56.3**	**+0.5**
PVLZ	**Peæn de**	**166.86**	**27**	PKP		**PKPdf**	**23 58 53.3**	**-2.4**
MELI	**Melilla**	**167.27**	**22**	PKP		**PKPdf**	**23 58 54.8**	**-1.2**
IFR	**Ifrane**	**167.86**	**34**	PKP		**PKPdf**	**23 58 58.5**	**+1.7**
MDT	**Midelt**	**168.68**	**34**	PKP		**PKPdf**	**23 58 58.4**	**+1.2**
	comp=Z,14nm,0.8s,baz=106,slow=1.6,SNR=32							
MDT				PKPab		**PKPab**	**00 00 09.1**	**+1.0**
	comp=Z,13nm,0.8s,baz=340,slow=3.0,SNR=7.5							
KOWA	**Kowa**	**168.88**	**143**	PKP		**PKPdf**	**23 58 57.0**	**-0.7**
	comp=Z,18nm,0.7s,baz=102,slow=1.3,SNR=34							
KOWA				PKPab		**PKPab**	**00 00 09.7**	**+0.5**
	comp=Z,9.9nm,0.7s,baz=214,slow=5.7,SNR=4.8							
KOWA	**Kowa**	**168.88**	**143**			**PKPdf**	**23 58 57.3**	**-0.4**
KOWA						**PKPab**	**00 00 09.1**	**-0.1**
TOA0	**Torodi Ar. Sit**	**169.58**	**174**			**PKPdf**	**23 58 57.7**	**-0.4**
TOA0				PKPab		**PKPab**	**00 00 13.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**169.58**	**174**	PKP		**PKPdf**	**23 58 57.4**	**-0.7**
	comp=Z,20nm,0.9s,baz=340,slow=0.6,SNR=44							
TORD				PKPab		**PKPab**	**00 00 12.9**	**+0.8**
	comp=Z,23nm,0.8s,baz=203,slow=3.0,SNR=17							
TORD				pPKPab		**pPKPab**	**00 00 52.3**	**-0.5**
	comp=Z,51nm,1.0s,baz=204,slow=3.2,SNR=8.4							
TORD	**Torodi Ar. Bea**	**169.58**	**174**			**PKPdf**	**23 58 57.6**	**-0.6**
TORD				pPKPdf		**pPKPdf**	**23 59 39.2**	**-1.4**
TORD				PKPab		**PKPab**	**00 00 13.1**	**+0.9**
TORD				pPKPab		**pPKPab**	**00 00 49.1**	**-3.7**

IDC 20 23:48:12.4±95.0, 25.06S×173.76W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/41, mbtmp4.4/3 Error ellipse: s-maj=1796.0km s-min=223.4km az=92.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.62**	**250**	P	P	23 55 46.1	+0.3
	3.3nm,0.7s,baz=114,slow=5.0,SNR=3.4						
ASAR	**Alice Springs**	**47.45**	**260**	P	P	23 56 48.6	-0.6
	9.8nm,0.8s,baz=103,slow=7.0,SNR=5.9						
WRA	**Warramunga Arr**	**47.99**	**265**	P	P	23 56 53.4	0.0
	3.5nm,1.0s,baz=106,slow=8.7,SNR=5.2						

ISK 20 23:56:27.9, 37.10N×28.80E, h15km, ML1.7/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.31**	**203**	PG	Pb	23 56 34.9	-0.2
YER	**Yerkesik**	**0.42**	**275**	PG	Pb	23 56 36.7	-0.3
YER				SG	Sb	23 56 43.0	-0.1
CAME	**Cameli-Denizli**	**0.43**	**111**	PG	Pb	23 56 37.1	-0.2
FETY	**Fethiye**	**0.52**	**154**	PG	Pb	23 56 38.7	0.0
FETY				SG	Sb	23 56 46.1	+0.1
TURN	**Turunc**	**0.55**	**234**	PG	Pb	23 56 39.1	-0.1
ELL	**Elmali**	**0.95**	**111**	PG	Pb	23 56 46.2	0.0
ARG	**Arkhangelos**	**1.04**	**212**	PG	Pg	23 56 48.0	+0.1
AKAS	**Kas**	**1.08**	**143**	PN	Pg	23 56 49.9	+1.1
AYDB	**Zeytinkoy-Aydi**	**1.11**	**320**	PN	Pg	23 56 49.3	-0.1
KULA	**Kula-Manisa**	**1.42**	**356**	PN	Pn	23 56 53.6	+0.4

*BJI **21** 00:13:27.5±0.0, 27.07N×103.35E, h14km, ML4.0/19*
*IDC **21** 00:13:31.1±5.4, 27.21N×103.53E, h33km±43km, mb3.5/10, mb1 3.7/11, mb1mx3.4/53, mbtmp3.7/11, Error ellipse: s-maj=26.7km s-min=17.5km az=66.0*

ISC 21 00:13:28.4±0.7, 27.12N±0.04×103.47E±0.07, h10km, n16, σ1§86/22, mb3.9/9, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.10**	**198**	⇑Pg	**Pn**	**00 14 03.4**	**-0.4**
KMI				Sg	**Sn**	**00 14 31.1**	**+1.0**
KMI				SMN			
	320nm,1.2s						
KMI				SME			
	480nm,0.8s						
GYA	**Guiyang**	**2.93**	**102**	Pn	**Pn**	**00 14 18.3**	**+3.1**
GYA				Sn	**Sg**	**00 15 02.3**	**-0.3**
CD2	**Chengdu**	**3.78**	**4**	Pn	**Pn**	**00 14 28.3**	**+1.4**
CD2				Pg	**Pb**	**00 14 38.4**	**+3.0**
CD2				Sn	**Sn**	**00 15 15.1**	**+3.6**
CD2				Sg	**Sg**	**00 15 29.5**	**-0.5**
CD2				SMN			
	740nm,0.7s						
CD2				SME			
	1µm,0.8s						
XAN	**Xi'an**	**8.34**	**33**	P	**Pn**	**00 15 29.5**	**0.0**
XAN				S	**Sn**	**00 17 01.9**	**-1.9**
XAN				SMN			
	110nm,1.0s						
XAN				SME			
	120nm,1.1s						
CMAR	**Chiang Mai Arr**	**9.58**	**207**	Pn	**Pn**	**00 15 49.8**	**+3.3**
	baz=16,slow=12,SNR=4.2						
CMAR				Pg		00 16 28.4	
	0.6nm,0.3s,baz=18,slow=15,SNR=4.7						
CMAR				Lg	Lg	00 18 32.4	
	baz=20,slow=27,SNR=1.1						
SONM	**Songino Array**	**20.80**	**6**	P	**P**	**00 18 09.5**	**-0.5**
	1.7nm,0.6s,baz=192,slow=11,SNR=7.2						
WMQ	**Urumqi**	**20.98**	**327**	*e*P	**P**	**00 18 12.1**	**+0.3**
KSRS	**Korea Array**	**23.04**	**57**	P	**P**	**00 18 32.8**	**-1.0**
	1.6nm,0.6s,baz=243,slow=11,SNR=13						
WRA	**Warramunga Arr**	**55.53**	**144**	P	**P**	**00 23 03.2**	**-0.9**
	1.2nm,0.6s,baz=332,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**58.43**	**147**	P	**P**	**00 23 23.6**	**-0.9**
	0.3nm,0.4s,baz=329,slow=7.1,SNR=6.3						
FINES	**FINESS Array B**	**60.58**	**327**	P	**P**	**00 23 36.9**	**-2.1**
	0.9nm,0.9s,baz=60,slow=7.7,SNR=5.8						
ARCES	**ARCESS Array B**	**60.67**	**337**	P	**P**	**00 23 38.2**	**-1.3**
	1.1nm,0.8s,baz=83,slow=8.1,SNR=5.2						
MLR	**Muntele Rosu**	**62.76**	**309**	P	**P**	**00 23 54.2**	**+0.1**
	1.1nm,0.7s,baz=95,slow=12,SNR=3.6						
SPITS	**Spitsbergen Ar**	**63.06**	**347**	P	**P**	**00 23 53.8**	**-1.7**
	0.5nm,0.5s,baz=64,slow=6.6,SNR=0.9						
NOA	**NORSAR Array B**	**67.72**	**328**	P	**P**	**00 24 24.3**	**-1.6**
	0.3nm,0.7s,baz=79,slow=4.5,SNR=3.6						
GERES	**GERESS Array B**	**69.95**	**315**	P	**P**	**00 24 39.0**	**-1.1**
	0.2nm,0.5s,baz=81,slow=6.1,SNR=2.3						

*NNC **21** 00:15:22.4±0.8, 50.94N×84.23E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=11.3km s-min=4.9km az=105.0*
*SOME **21** 00:15:24.7, 50.68N×83.97E, h0km*
*ASRS **21** 00:15:24.3±0.2, 51°N±1°×84°E±1°, h10km, MLh3.3/11, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 21 00:15:24.4±0.7, 50.95N±0.02×84.45E±0.03, h10km, n34, σ1§73/62, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKR	**Ust'-Kan**	**0.20**	**94**	Pg	**Pg**	**00 15 29.1**	**+0.4**
UKR				Sg	**Sg**	**00 15 33.4**	**+1.8**
GALT	**Gorno-Altaysk,**	**1.37**	**42**	Pg	**Pb**	**00 15 50.3**	**+0.1**
GALT				Sg	**Sg**	**00 16 10.6**	**+2.0**
ARTR	**Artybash**	**1.96**	**63**	Pg	**Pg**	**00 16 01.1**	**-1.0**
ARTR				Sg	**Sg**	**00 16 27.7**	**+0.2**
CHBI	**Chibit, Altay**	**2.04**	**107**	Pg	**Pb**	**00 16 00.7**	**-1.0**
CHBI				Sg	**Sg**	**00 16 28.3**	**-1.8**
AKAR	**Aktash**	**2.11**	**106**	Pg	**Pb**	**00 16 01.7**	**-1.2**
AKAR				Sg	**Sg**	**00 16 30.6**	**-1.7**
ULGR	**Ulagan, Altay**	**2.25**	**97**	Pg	**Pb**	**00 16 04.3**	**-0.9**
ULGR				Sg	**Sg**	**00 16 35.5**	**-1.2**
DGZ	**Jazzator, Alta**	**2.28**	**122**	Pg	**Pb**	**00 16 04.8**	**-1.0**
DGZ				Sg	**Sg**	**00 16 35.4**	**-2.4**
ELT	**Eltsovka**	**2.56**	**25**	Pg	**Pn**	**00 16 07.7**	**+1.7**
ELT				Sg	**Sg**	**00 16 45.8**	**-0.9**
CUR	**Chagan-Uzun**	**2.63**	**107**	Pg	**Pb**	**00 16 09.7**	**-2.0**
CUR				Sg	**Sg**	**00 16 47.3**	**-1.6**
SEM	**Semipalatinsk**	**2.73**	**260**	*e*P	**Pn**	**00 16 10.0**	**+1.5**
	13nm,0.2s						
SEM				*e*S	**Sn**	**00 16 43.1**	**+1.5**
	80nm,0.2s						
SEM	**Semipalatinsk**	**2.73**	**260**	Pg	**Pn**	**00 16 10.2**	**+1.8**
	13nm,0.2s						
SEM				Lg	Lg	00 16 43.1	
	85nm,0.2s						
TASR	**Tashtagol**	**2.79**	**48**	Pg	**Pn**	**00 16 11.5**	**+2.4**
TASR				Sg	**Sg**	**00 16 52.9**	**-1.2**
ZAA0	**Zalesovo Array**	**3.01**	**4**	⇑Pn	**Pn**	**00 16 12.2**	**+0.1**
	2.1nm,0.6s						
ZAA0				⇓Sn	**Sn**	**00 16 49.1**	**+0.9**
	2.8nm,0.3s						
ZAA0				⇓Lg	Lg	00 16 59.0	
	5.2nm,0.5s						
BJR1	**Bachatsky 1, K**	**3.43**	**16**	Sg	**Sg**	**00 17 13.2**	**-1.3**
BJR3	**Bachatsky-3 (S**	**3.44**	**17**	Sg	**Sg**	**00 17 14.5**	**-0.3**
ZSN	**Zaisan**	**3.52**	**175**	*e*P	**Pb**	**00 16 25.4**	**-1.4**
	3.0nm,0.3s						
ZSN				*e*S	**Sb**	**00 17 11.2**	**+1.8**
	42nm,0.3s						
ZSN	**Zaisan**	**3.52**	**175**	Pg	**Pb**	**00 16 25.4**	**-1.4**
	5.9nm,0.2s						
ZSN				Lg	Lg	00 17 11.3	
	42nm,0.3s						
SALR	**Pechorkino, Sa**	**3.55**	**12**	Pn	**Pn**	**00 16 20.2**	**+0.6**
SALR				Pg	**Pb**	**00 16 29.4**	**+2.1**
SALR				Sg	**Sg**	**00 17 16.6**	**-1.8**
TEL	**Teeli**	**3.63**	**87**	Pn	**Pn**	**00 16 22.8**	**+2.1**
TEL				Pg	**Pg**	**00 16 31.7**	**-2.2**
TEL				Sg	**Sg**	**00 17 19.6**	**-1.4**
POMOR	**Pomortsevo, Ku**	**3.68**	**19**	Sg	**Sg**	**00 17 22.3**	**-0.3**
KHAR	**Kharino, NSO,**	**3.70**	**352**	Sg	**Sg**	**00 17 23.9**	**+0.6**
KURBB	**Kurchatov Arra**	**3.77**	**267**	⇓Pn	**Pn**	**00 16 20.7**	**-1.9**
	1.2nm,0.3s						
KURBB				⇑Lg	Lg	00 17 16.1	
	42nm,0.5s						
BSTK	**Bystrovka, Nov**	**3.78**	**344**	Sg	**Sg**	**00 17 26.7**	**+0.9**
NVS	**Novosibirsk**	**3.96**	**350**	Pn	**Pn**	**00 16 23.1**	**-2.1**
NVS				Pg	**Pb**	**00 16 37.0**	**+2.7**
NVS				Sg	**Sg**	**00 17 30.4**	**-1.3**
NVSII	**Novosibirsk**	**3.96**	**350**	Pn	**Pn**	**00 16 26.7**	**+1.5**
NVSII				Pg	**Pg**	**00 16 38.4**	**-1.9**
NVSII				Sg	**Sg**	**00 17 29.6**	**-2.0**
MK31	**Makanchi Array**	**4.40**	**200**	⇓Pn	**Pn**	**00 16 31.0**	**-0.2**
	0.3nm,0.2s,baz=40,slow=6.2,SNR=54						
MK31				⇑Pg	**Pb**	**00 16 40.1**	**-1.7**
	0.7nm,0.2s,baz=22,slow=49,SNR=18						
MK31				⇓Lg	Lg	00 17 38.6	
	17nm,0.6s,baz=28,slow=26,SNR=22						
MKAR	**Makanchi Array**	**4.40**	**200**	Pn	**Pn**	**00 16 31.0**	**-0.2**
MKAR				Pg	**Pb**	**00 16 40.5**	**-1.3**
MKAR				Sg	**Sb**	**00 17 36.1**	**+1.2**
MAKZ	**Makanchi**	**4.46**	**202**	Pn	**Pn**	**00 16 32.3**	**+0.2**
MAKZ				Pg	**Pb**	**00 16 42.5**	**-0.3**
MAKZ				Sg	**Sb**	**00 17 37.7**	**+1.1**
MAKZ	**Makanchi**	**4.46**	**202**	⇑Pn	**Pn**	**00 16 31.8**	**-0.3**
	0.7nm,0.3s						
MAKZ				⇑Pg	**Pb**	**00 16 41.7**	**-1.1**
	4.9nm,0.6s						
MAKZ				⇑Lg	Lg	00 17 40.7	
	10nm,0.5s						
SHRR	**Shira**	**4.96**	**42**	Sg	**Sg**	**00 18 00.5**	**-3.1**
BRCR	**Berchikul'**	**5.24**	**25**	Sg	**Sg**	**00 18 07.7**	**-4.7**
KAPS	**Kapalarasan**	**6.62**	**213**	*e*P	**Pb**	**00 17 19.6**	**+0.1**
	1.1nm,0.4s						
KAPS				*e*S	**Sb**	**00 18 42.2**	**+3.5**
	5.5nm,0.8s						
KAPS	**Kapalarasan**	**6.62**	**213**	Pg	**Pb**	**00 17 19.6**	**+0.1**
	1.2nm,0.2s						
KAPS				Lg	Lg	00 18 42.2	
	5.5nm,0.8s						
DJR	**Jarkent**	**7.33**	**207**	Pg	**Pb**	**00 17 36.0**	**+4.3**
	1.2nm,0.2s						
DJR				Lg	Lg	00 19 11.3	
	3.4nm,0.6s						

NNC 21 00:45:27.9±11.0, 36.90N×69.88E, h0km, mb3.5, mpv3.2, 3C-1D, Error ellipse: s-maj=87.1km s-min=75.4km az=170.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.21**	**4**	⇑P	Pn	00 47 03.1	+2.3
	0.4nm,0.3s,baz=183,slow=14,SNR=23						
KK31				⇓S	Sn	00 48 14.9	+2.3
	0.4nm,0.3s,baz=191,slow=25,SNR=5.7						
AAK	**Ala-Archa**	**6.74**	**30**	P	Pn	00 47 07.6	-0.6
	0.8nm,0.4s						
AAK				S	Sn	00 48 26.8	+1.1
	1.0nm,0.7s						
TKM2	**Tokmak 2**	**7.44**	**34**	⇑P	Pn	00 47 16.9	-1.0
	1.7nm,0.9s						
TKM2				⇑S	Sn	00 48 41.8	-1.3
	0.3nm,0.5s						

*IASPEI **21** 00:58:55.9±0.9, 35.76N±0.02×97.41W±0.03, h10km±7km, Error ellipse: s-maj=4.6km s-min=3.3km az=93.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ANF **21** 00:58:56.2±0.5, 35.76N×97.40W, h9km±3km, ML3.6/12, Error ellipse: s-maj=3.4km s-min=2.6km az=140.0*
*NEIC **21** 00:58:56.4±1.1, 35.76N±0.04×97.40W±0.04, h8km±7km, Error ellipse: s-maj=5.8km s-min=4.7km az=141.0*
*TUL **21** 00:58:56±0.9, 35.75N±0.01×97.40W±0.06, h6km±7km, ML3.4, mb_Lg3.1/97(NEIC), Error ellipse: s-maj=7.0km s-min=0.6km az=75.0*

ISC 21 00:58:56.2±0.9, 35.76N±0.02×97.40W±0.02, h7km±6km, n102, σ0§51/87, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.06**	**310**		**Pg**	**00 58 57.9**	**-0.1**
OK029				Sg	**Sg**	**00 58 59.3**	**+0.1**
OK009	**Oakdale Elemen**	**0.18**	**185**		**Pg**	**00 58 59.7**	**-0.1**
OK025	**Westminster Rd**	**0.19**	**163**	Pg	**Pg**	**00 58 59.9**	**-0.1**
BCOK	**Bluff Creek, N**	**0.20**	**238**		**Pg**	**00 59 00.0**	**-0.2**
BCOK				Sg	**Sg**	**00 59 03.2**	**+0.3**
OK005	**Luther M Schoo**	**0.20**	**121**		**Pg**	**00 59 00.3**	**0.0**
OK001	**Jones High Sch**	**0.22**	**155**	Pg	**Pg**	**00 59 00.5**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**186**		**Pg**	**00 59 02.8**	**-0.2**
OKCFA				Sg	**Sg**	**00 59 07.8**	**+0.2**
OKCFA	**Oklahoma City**	**0.35**	**186**	P	**Pg**	**00 59 02.8**	**-0.2**
	baz=7.1,SNR=49						
OKCFA				S	**Sg**	**00 59 07.9**	**+0.3**
	baz=7.1						
OKCFA	**Oklahoma City**	**0.35**	**186**	P		00 59 02.8	
	baz=7.1,SNR=49						
OKCFA				S		00 59 07.9	
	baz=7.1						
OKCSW	**OKLAHOMA CITY**	**0.36**	**185**		**Pg**	**00 59 03.0**	**-0.2**
OKCSW				Sg	**Sg**	**00 59 08.2**	**+0.3**
OK031	**S. Brethren Rd**	**0.50**	**67**		**Pg**	**00 59 05.9**	**+0.1**
OK031				Sg	**Sg**	**00 59 12.9**	**+0.6**
FNO	**Franklin**	**0.50**	**180**		**Pg**	**00 59 05.7**	**-0.3**
FNO				Sg	**Sg**	**00 59 12.8**	**+0.3**

OK030	**Cody Creek RV**	**0.53**	**72**			**Pg**	**00 59 06.5**	**0.0**
QUOK	**Quay**	**0.70**	**54**	Pg		**Pg**	**00 59 09.6**	**-0.1**
W35A	**Tecumseh**	**0.74**	**144**			**Pg**	**00 59 09.9**	**-0.7**
W35A				IAmb_Lg			00 59 19.4	
	comp=Z,288nm,1.0s							
CROK	**Carrier**	**0.88**	**328**			**Pg**	**00 59 13.0**	**-0.1**
BLOK	**Blackwell**	**1.01**	**9**			**Pg**	**00 59 15.3**	**-0.3**
GC02	**Grant County #**	**1.15**	**341**			**Pg**	**00 59 17.7**	**-0.5**
X34A	**Smith Ranch, M**	**1.21**	**197**	Pg		**Pb**	**00 59 18.8**	**-0.6**
OK032	**Salt Plains WL**	**1.23**	**328**			**Pb**	**00 59 19.0**	**-0.7**
KAN13	**South Haven SW**	**1.25**	**357**			**Pn**	**00 59 19.7**	**-0.4**
KAN14	**Manchester OK**	**1.28**	**339**			**Pn**	**00 59 20.0**	**-0.5**
KAN17	**Caldwell West**	**1.31**	**347**			**Pn**	**00 59 20.5**	**-0.5**
TUL1	**Leonard**	**1.32**	**83**	P		**Pn**	**00 59 19.7**	**-1.3**
	baz=263							
TUL1				S		**Sb**	**00 59 37.8**	**-0.5**
	baz=263							
TUL1	**Leonard**	**1.32**	**83**	P			00 59 19.7	
	baz=263							
TUL1				S			00 59 37.8	
	baz=263							
T35A	**Sooner Cattle**	**1.36**	**32**			**Pn**	**00 59 21.2**	**-0.4**
T35B	**Sooner Cattle**	**1.36**	**32**	P		**Pn**	**00 59 21.2**	**-0.4**
	baz=212							
T35B				S		**Sg**	**00 59 40.0**	**0.0**
	baz=212							
T35B	**Sooner Cattle**	**1.36**	**32**	P			00 59 21.2	
	baz=212							
T35B				S			00 59 40.0	
	baz=212							
KAN09	**Caldwell North**	**1.38**	**353**			**Pn**	**00 59 22.0**	**+0.1**
KAN05	**Bluff City Nor**	**1.40**	**344**			**Pb**	**00 59 22.4**	**-0.3**
U32A	**Winter Ranch,**	**1.43**	**296**			**Pn**	**00 59 22.6**	**-0.1**
U32A	**Winter Ranch,**	**1.43**	**296**	P		**Pn**	**00 59 22.3**	**-0.3**
	baz=116,SNR=32							
U32A	**Winter Ranch,**	**1.43**	**296**	P			00 59 22.3	
	baz=116,SNR=32							
KAN10	**Anthony SW Sta**	**1.47**	**338**			**Pn**	**00 59 23.2**	**+0.1**
KS20	**Mayfield South**	**1.47**	**355**			**Pb**	**00 59 23.5**	**-0.4**
KS20				IAmb_Lg			00 59 44.8	
	comp=Z,136nm,0.7s							
WMOK	**Wichita Mounta**	**1.52**	**228**			**Pn**	**00 59 23.5**	**-0.3**
WMOK	**Wichita Mounta**	**1.52**	**228**	P		**Pn**	**00 59 23.5**	**-0.3**
	baz=48,SNR=261							
WMOK				S		**Sn**	**00 59 43.9**	**+0.1**
	baz=48							
WMOK	**Wichita Mounta**	**1.52**	**228**	P			00 59 23.5	
	baz=48,SNR=261							
WMOK				S			00 59 43.9	
	baz=48							
KAN08	**Anthony NE Sta**	**1.53**	**343**			**Pb**	**00 59 24.6**	**-0.3**
KAN08				IAmb_Lg			00 59 46.1	
	comp=Z,98nm,1.0s							
KAN16	**Harper SW Stat**	**1.56**	**340**			**Pn**	**00 59 24.6**	**+0.3**
LOOK	**Love County**	**1.77**	**174**			**Pn**	**00 59 27.8**	**+0.6**
X37A	**Clayton**	**2.03**	**124**			**Pn**	**00 59 31.2**	**+0.3**
X37A	**Clayton**	**2.03**	**124**	P		**Pn**	**00 59 31.1**	**+0.2**
	baz=306,SNR=141							
X37A	**Clayton**	**2.03**	**124**	P			00 59 31.1	
	baz=306,SNR=141							
Z35A	**Perchaven, San**	**2.43**	**177**			**Pn**	**00 59 36.7**	**+0.5**
Z35A				IAmb_Lg			01 00 14.7	
	comp=Z,55nm,1.2s							
Z35A	**Perchaven, San**	**2.43**	**177**	P		**Pn**	**00 59 36.8**	**+0.5**
	baz=357,SNR=21							
Z35A	**Perchaven, San**	**2.43**	**177**	P			00 59 36.8	
	baz=357,SNR=21							
U38A	**Gravette**	**2.54**	**74**			**Pn**	**00 59 38.6**	**+0.9**
HHAR	**Hobbs**	**2.85**	**79**			**Pn**	**00 59 42.5**	**+0.4**
R32A	**Long Quarter,**	**2.85**	**339**			**Pn**	**00 59 43.5**	**+1.4**
W39A	**Magazine**	**3.01**	**100**			**Pn**	**00 59 44.5**	**+0.2**
W39A				IAmb_Lg			01 00 39.0	
	comp=Z,57nm,0.8s							
W39A	**Magazine**	**3.01**	**100**	P		**Pn**	**00 59 44.4**	**+0.2**
	baz=282,SNR=40							
W39A	**Magazine**	**3.01**	**100**	P			00 59 44.4	
	baz=282,SNR=40							
Z38A	**Mt. Pleasant**	**3.20**	**141**			**Pn**	**00 59 46.9**	**0.0**
Z38A				IAmb_Lg			01 00 43.1	
	comp=Z,41nm,0.8s							
MIAR	**Mount Ida**	**3.36**	**110**	Pn		**Pn**	**00 59 49.6**	**+0.5**
MIAR				IAmb_Lg			01 00 49.9	
	comp=Z,42nm,0.7s							
MIAR	**Mount Ida**	**3.36**	**110**	P		**Pn**	**00 59 49.4**	**+0.3**
	baz=292	

	comp=Z,42nm,0.8s						
LPAR	**Lepanto**	5.78	90	IAmb_Lg		01 02 08.6	
	comp=Z,26nm,0.7s						
T25A	**Trinidad**	5.81	286		Pn	**01 00 23.4**	**+0.4**
T25A				IAmb_Lg		01 02 07.0	
	comp=Z,36nm,1.0s						
143A	**Socs Landing,**	5.83	120	IAmb_Lg		01 02 11.8	
	comp=Z,20nm,0.9s						
L34A	**Svendsen Farm,**	6.25	7	IAmb_Lg		01 02 24.2	
	comp=Z,35nm,0.7s						
OGNE	**Ogallala**	6.33	326	IAmb_Lg		01 02 29.9	
	comp=Z,18nm,0.8s						
OXF	**Oxford**	6.67	98	IAmb_Lg		01 02 45.3	
	comp=Z,20nm,0.8s						
W45A	**Hickory Valley**	6.73	93	IAmb_Lg		01 02 32.8	
	comp=Z,27nm,0.7s						
S44A	**Carbondale**	6.82	71	IAmb_Lg		01 02 29.0	
	comp=Z,33nm,0.8s						
SIUC	**Southern Illin**	6.86	71	IAmb_Lg		01 02 36.5	
	comp=Z,38nm,0.8s						
SCIA	**State Center**	6.95	27	IAmb_Lg		01 02 49.9	
	comp=Z,34nm,0.8s						
L40A	**Anamosa**	7.92	36	IAmb_Lg		01 03 18.3	
	comp=Z,18nm,0.8s						
SMCO	**Snowmass**	8.34	297	IAmb_Lg		01 03 17.9	
	comp=Z,10nm,1.2s						
PHWY	**Pilot Hill**	8.39	314	IAmb_Lg		01 03 40.2	
	comp=Z,18nm,1.1s						
T47A	**Sharon Grove**	8.40	79	IAmb_Lg		01 03 31.7	
	comp=Z,24nm,1.1s						
V48A	**Smith Brothers**	8.60	87	IAmb_Lg		01 03 39.9	
	comp=Z,13nm,1.1s						
JFWS	**Jewell Farm**	9.04	36	IAmb_Lg		01 03 52.3	
	comp=Z,24nm,0.7s						
WCI	**Wyandotte Cave**	9.22	71	IAmb_Lg		01 04 00.4	
	comp=Z,12nm,0.8s						
BLO	**Bloomington**	9.30	65	IAmb_Lg		01 03 55.8	
	comp=Z,18nm,0.8s						
SFIN	**Lafayette**	9.34	57	IAmb_Lg		01 04 03.6	
	comp=Z,18nm,0.8s						
SWET	**Sewanee**	9.37	90	IAmb_Lg		01 04 09.5	
	comp=Z,7.6nm,0.8s						
I40A	**Norwalk**	9.65	31	IAmb_Lg		01 04 07.1	
	comp=Z,15nm,0.9s						
RWWY	**Rawlins**	9.68	311	IAmb_Lg		01 04 14.8	
	comp=Z,9.6nm,1.1s						
K22A	**Casper**	9.87	317	IAmb_Lg		01 04 29.4	
	comp=Z,11nm,1.0s						
W50A	**Signal Mountai**	9.88	90	IAmb_Lg		01 04 15.5	
	comp=Z,11nm,0.8s						

*IDC **21** 01:25:42.4±1.6, 35°.85N×22°.49E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.2/41, mbtmp3.5/5, Error ellipse: s-maj=46.8km s-min=28.6km az=121.0*
*ATH **21** 01:25:46.8, 35°.69N×22°.25E, h20km±31km, ML3.0/5, Error ellipse: s-maj=31.6km s-min=1.6km az=0.0*
*THE **21** 01:25:49.9, 35°.78N×22°.48E, h22km±2km, ML3.0/6, Error ellipse: s-maj=2.2km s-min=0.8km az=71.0*

ISC 21 01:25:47.1±1.2, 35°.74N±0°.04×22°.39E±0°.04, h32km±3km, n73, σ1§80/81, mb3.4/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTHR	**Kythira**	0.72	43	P	**Pn**	**01 26 01.6**	**+0.5**
KTHR				S	**Sb**	**01 26 10.4**	**-0.6**
	2µm,0.3s						
ANKY	**Antikythira Is**	0.75	80	P	**Pn**	**01 26 03.3**	**+1.8**
ANKY				S	**Sn**	**01 26 13.3**	**+1.6**
	1µm,0.5s						
ANKY	**Antikythira Is**	0.75	80	P	**Pn**	**01 26 03.3**	**+1.8**
KTHA	**Kythira Island**	0.75	46	P	**Pn**	**01 26 02.3**	**+0.8**
KTHA				S	**Sn**	**01 26 12.8**	**+1.0**
	1µm,0.7s						
KTHA	**Kythira Island**	0.75	46	P	**Pn**	**01 26 02.4**	**+0.9**
KTHA				S	**Sn**	**01 26 14.0**	**+2.2**
KTHA				AML	AML	01 26 15.5	
	comp=N,1409µm,0.4s						
KTHA				AML	AML	01 26 16.0	
	comp=E,3905µm,0.5s						
VLI	**Velíai**	1.07	24	P	**Pb**	**01 26 07.8**	**+0.6**
VLI				S	**Sn**	**01 26 21.7**	**+1.9**
	comp=E,922nm,0.7s						
VLI	**Velíai**	1.07	24	P	**Pb**	**01 26 08.0**	**+0.8**
MNVA	**Monemvasia**	1.08	29	P	**Pb**	**01 26 08.2**	**+0.9**
KNDR	**Palaiochora Ch**	1.17	115	P	**Pb**	**01 26 08.4**	**-0.3**
PYL	**PYLOS**	1.27	336	P	**Pn**	**01 26 09.8**	**+1.2**
PYL	**PYLOS**	1.27	336	P	**Pn**	**01 26 09.7**	**+1.0**
PYL				S	**Sb**	**01 26 26.5**	**-0.1**
PYL				AML	AML	01 26 35.0	
	comp=E,687µm,0.7s						
PYL				AML	AML	01 26 37.3	
	comp=N,491µm,0.5s						
IMMV	**Iera Moni Meta**	1.32	101	P	**Pb**	**01 26 12.0**	**+0.6**
IMMV	**Iera Moni Meta**	1.32	101	P	**Pb**	**01 26 12.1**	**+0.8**
IMMV				AML	AML	01 26 40.3	
	comp=N,1212µm,0.4s						
IMMV				AML	AML	01 26 50.2	
	comp=E,1173µm,0.6s						
ITM	**Ithomi**	1.49	346	P	**Pb**	**01 26 14.4**	**+0.2**
ITM				S	**Sb**	**01 26 35.2**	**+2.4**
	comp=E,310nm,0.6s						
ITM	**Ithomi**	1.49	346	P	**Pn**	**01 26 13.1**	**+1.4**
VAM	**Vamos**	1.51	102	P	**Pb**	**01 26 14.5**	**0.0**
VAM	**Vamos**	1.51	102	P	**Pb**	**01 26 14.5**	**0.0**
VLX	**Vlachokerasia**	1.63	360	P	**Pb**	**01 26 17.0**	**+0.3**
VLX	**Vlachokerasia**	1.63	360	P	**Pb**	**01 26 16.7**	**+0.1**
VLX				AML	AML	01 26 51.9	
	comp=N,591µm,0.6s						
VLX				AML	AML	01 26 52.6	
	comp=E,719µm,0.7s						
GVD	**Gavdhos**	1.65	122	P	**Pb**	**01 26 16.2**	**-0.7**
KRND	**KRANIDI**	1.75	20	P	**Pn**	**01 26 16.6**	**+1.3**
KRND	**KRANIDI**	1.75	20	AML	AML	01 26 48.6	
	comp=E,471µm,0.5s						
KRND				AML	AML	01 26 48.7	
	comp=N,535µm,0.5s						
PRNS	**Prines Rethymn**	1.76	102	P	**Pb**	**01 26 17.1**	**-1.6**
AMT	**Artemida-Makis**	1.88	343	P	**Pb**	**01 26 19.9**	**-0.9**
AMT				S	**Sb**	**01 26 44.0**	**+0.2**
	comp=N,340nm,0.5s						
AMT	**Artemida-Makis**	1.88	343	P	**Pb**	**01 26 19.5**	**-1.2**
MHLO	**Agia Marina, M**	1.88	59	P	**Pn**	**01 26 18.2**	**+1.2**
MHLO				S	**Sn**	**01 26 40.7**	**+1.0**
IDI	**Anoyia**	2.09	102	P	**Pn**	**01 26 21.5**	**+1.6**
SIVA	**Sivas**	2.10	109	P	**Pb**	**01 26 22.6**	**-1.9**
SIVA	**Sivas**	2.10	109	P	**Pb**	**01 26 23.1**	**-1.5**
KSTL	**Kastelli Herak**	2.23	100	P	**Pb**	**01 26 28.4**	**+1.7**
DRO	**Drossia**	2.28	346	P	**Pn**	**01 26 25.1**	**+2.6**
THAL	**Thalero**	2.31	5	P	**Pb**	**01 26 26.4**	**-1.7**
KLV	**Kalavryta, Ach**	2.31	355	P	**Pb**	**01 26 26.2**	**-2.0**
LTK	**Loutraki**	2.33	11	P	**Pb**	**01 26 26.1**	**-2.4**
VLY	**Voula,Athens**	2.39	28	P	**Pn**	**01 26 25.2**	**+1.1**
THR6	**Thira Island,**	2.51	75	P	**Pn**	**01 26 27.1**	**+1.4**
LAKA	**Lakka**	2.52	353	P	**Pb**	**01 26 29.4**	**-2.3**
SNT5	**Nea Kammeni, S**	2.52	74	P	**Pn**	**01 26 27.1**	**+1.3**
THR3	**Thira Island,**	2.53	74	P	**Pn**	**01 26 27.1**	**+1.2**
VILL	**Villia**	2.53	17	P	**Pn**	**01 26 27.6**	**+1.6**
LAST	**Lasithi**	2.58	102	P	**Pn**	**01 26 28.5**	**+1.8**
PTL	**Penteli**	2.59	27	P	**Pn**	**01 26 27.8**	**+1.0**
TRIZ	**Trizonia**	2.64	355	P	**Pn**	**01 26 30.3**	**+2.9**
DION	**Dionisos Attik**	2.64	27	P	**Pn**	**01 26 28.5**	**+1.0**
NPS	**Neapolis**	2.67	99	P	**Pn**	**01 26 29.4**	**+1.5**
SERG	**Sergoula**	2.69	354	P	**Pn**	**01 26 30.8**	**+2.7**
EFP	**Efpalio**	2.71	352	P	**Pb**	**01 26 32.8**	**-2.2**
PSDA	**Pessada-Kefalo**	2.78	329	P	**Pn**	**01 26 30.9**	**+1.5**
ANX	**Ano Chora**	2.88	353	P	**Pn**	**01 26 34.4**	**+3.6**
EREA	**Eretria**	2.95	24	P	**Pn**	**01 26 33.3**	**+1.6**
LKR	**Lokris**	2.95	9	P	**Pn**	**01 26 33.3**	**+1.6**
KEF3	**Kipouria, Keph**	2.96	327	P	**Pn**	**01 26 33.1**	**+1.3**
PVO	**Paravola**	2.96	347	P	**Pn**	**01 26 35.1**	**+3.3**
ATAL	**Atalanti**	3.00	9	P	**Pn**	**01 26 34.4**	**+2.1**
PDO	**Prodromos**	3.02	342	P	**Pn**	**01 26 35.4**	**+2.8**
EVGI	**Lefkada island**	3.20	335	P	**Pn**	**01 26 38.1**	**+3.0**
SMIA	**Simia**	3.21	11	P	**Pn**	**01 26 37.5**	**+2.3**
EVR	**Evrytania**	3.21	352	P	**Pn**	**01 26 39.5**	**+4.1**
NYDR	**Nydri-Lefkada**	3.27	336	P	**Pn**	**01 26 38.1**	**+2.1**
MAKR	**Makrakomi, Fth**	3.28	356	P	**Pn**	**01 26 39.0**	**+2.7**
AGG	**Agios Georgios**	3.28	359	P	**Pn**	**01 26 38.8**	**+2.5**
DRAG	**Dragano-Lefkad**	3.28	334	P	**Pn**	**01 26 38.9**	**+2.6**
LKD2	**Lefkada island**	3.35	336	P	**Pn**	**01 26 39.6**	**+2.4**
TSLK	**Tsoukalades, L**	3.38	336	P	**Pn**	**01 26 40.2**	**+2.6**
THL	**Klokotos Trika**	3.83	356	P	**Pn**	**01 26 45.4**	**+1.6**
IGT	**Igoumenitsa**	4.13	337	P	**Pn**	**01 26 48.7**	**+0.8**
KPRO	**Kipourio**	4.29	349	P	**Pn**	**01 26 53.1**	**+2.9**
FNA	**Florina**	5.10	351	P	**Pn**	**01 27 02.7**	**+1.3**
HFS	**Hagfors**	25.05	350	P	**P**	**01 31 07.2**	**-0.9**
	comp=N,1.2nm,0.9s,baz=170,slow=12,SNR=4.2						
FINES	**FINESS Array B**	25.84	4	P	**P**	**01 31 13.9**	**-1.3**
	comp=N,0.7nm,0.8s,baz=174,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	29.21	225	P	**P**	**01 31 47.2**	**+1.2**
	comp=N,0.3nm,0.6s,baz=51,slow=11,SNR=1.4						
ARCES	**ARCESS Array B**	33.90	2	P	**P**	**01 32 25.6**	**-1.0**
	comp=N,0.2nm,0.4s,baz=194,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	45.34	57	P	**P**	**01 34 01.0**	**-1.1**
	comp=N,0.7nm,0.4s,baz=275,slow=7.6,SNR=12						

*IDC **21** 01:28:12.7±3.4, 36°.24N×70°.87E, h160km±30km, mb3.3/10, mb1 3.4/15, mb1mx3.1/52, mbtmp3.8/15, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=20.4km s-min=16.6km az=25.0*
*NEIC **21** 01:28:18.2±1.4, 36°.57N±0°.06×70°.86E±0°.10, h217km±5km, mb4.0/6, Error ellipse: s-maj=11.5km s-min=7.8km az=106.0*
*NNC **21** 01:28:22.4±2.8, 36°.95N×70°.96E, h210km±22km, mb3.2, mpv4.5, Error ellipse: s-maj=24.7km s-min=15.7km az=24.0*

ISC 21 01:28:16.6±0.6, 36°.57N±0°.05×70°.86E±0°.05, h200km, n64, σ2§90/78, mb3.6/11, 7C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	2.46	350	Pn	**Pn**	**01 29 02.9**	**+2.8**
CHGR	**Chuyangaron**	2.48	328		**Pn**	**01 29 03.0**	**+2.7**
KBL	**Kabul**	2.51	217	Pn	**Pn**	**01 29 03.8**	**+2.9**
CEP	**Cherat**	2.88	162	⇓P	**Pn**	**01 29 07.7**	**+2.7**
CHCP	**Chirah Chowk**	3.51	145	P	**Pn**	**01 29 15.1**	**+2.7**
NIL	**Nilore**	3.51	145	Pn	**Pn**	**01 29 15.2**	**+2.7**
THW	**Thamme Wali**	3.84	169	⇓P	**Pn**	**01 29 18.8**	**+2.3**
SARP	**Sargodha**	4.88	162	P	**Pn**	**01 29 31.0**	**+1.6**
KSH	**Kashi**	4.99	52	P	**Pn**	**01 29 28.3**	**-2.6**
KSH				S	Sn	01 30 20.4	-9.2
KSH				SMN			
	84nm,0.3s						
KSH				SME			
	84nm,0.3s						
AML	**Almayashu**	5.97	21	P	**Pn**	**01 29 45.4**	**+1.6**
	SNR=228						
EKS2	**Erkin-Say**	6.48	19	P	**Pn**	**01 29 52.3**	**+2.2**
	SNR=18						
KK31	**Karatay Array**	6.53	358	⇓P	**Pn**	**01 29 52.1**	**+1.6**
	6.2nm,0.3s,baz=183,slow=12,SNR=289						
KK31				⇑S	**Sn**	**01 31 02.5**	**-2.6**
	21nm,0.3s,baz=190,slow=25,SNR=16						
KK31	**Karatay Array**	6.53	358	Pn	**Pn**	**01 29 52.3**	**+1.8**
KKAR	**Karatay Array**	6.53	358	Pn	**Pn**	**01 29 51.9**	**+1.3**
KKAR	**Karatay Array**	6.53	358	Pn	**Pn**	**01 29 52.3**	**+1.8**
AAK	**Ala-Archa**	6.67	24	P	**Pn**	**01 29 54.1**	**+1.5**
	SNR=22						
AAK	**Ala-Archa**	6.67	24	⇓P	**Pn**	**01 29 54.2**	**+1.6**
	14nm,0.3s						
AAK				⇑S	**Sn**	**01 31 07.5**	**-1.3**
	24nm,0.8s						
AAK	**Ala-Archa**	6.67	24	Pn	**Pn**	**01 29 54.4**	**+1.8**
KBK	**Karagaybulak**	6.84	26	P	**Pn**	**01 29 56.8**	**+1.9**
	SNR=14						
ULHL	**Ulahol**	7.03	35	P	**Pn**	**01 29 58.9**	**+1.5**
	SNR=222						
CHMS	**Chumysh**	7.08	24	P	**Pn**	**01 29 59.8**	**+2.0**
	SNR=10						
USP	**Ospenovka**	7.25	22	P	**Pn**	**01 30 02.1**	**+2.2**
	SNR=8.5						
TKM2	**Tokmak 2**	7.31	28	P	**Pn**	**01 30 02.6**	**+1.6**
	SNR=64						
TKM2	**Tokmak 2**	7.31	28	⇑P	**Pn**	**01 30 02.2**	**+1.2**
	54nm,1.0s						
TKM2				⇓S	**Sn**	**01 31 21.3**	**-2.6**
	15nm,1.1s						
TARG	**Taragay, Kyrgy**	7.46	44		**Pn**	**01 30 02.1**	**-0.9**
SMLA	**Simla**	7.55	134	*e*P	**Pn**	**01 30 04.6**	**+0.7**
SMLA				*e*S	**Sn**	**01 31 24.8**	**-4.6**
SMLA				IAML		01 31 27.9	
	comp=E,113nm,0.5s						
MDOK	**Medeo**	8.12	34	⇑P	**Pn**	**01 30 13.0**	**+1.6**
	comp=E,15nm,0.5s						
GEYT	**Alibeck**	10.25	281	P	**Pn**	**01 30 36.4**	**-2.7**
	comp=E,0.3nm,0.3s,baz=114,slow=18,SNR=4.0						
GEYT				S	**Sn**	**01 32 32.8**	**-0.7**
	comp=E,0.7nm,0.3s,baz=113,slow=17,SNR=2.4						
GEYT	**Alibeck**	10.25	281		**Pn**	**01 30 38.2**	**-0.8**
MAKZ	**Makanchi**	13.16	36	⇓P	**Pn**	**01 31 15.8**	**-0.1**
	comp=E,2.7nm,0.4s						
MAKZ	**Makanchi**	13.16	36		**Pn**	**01 31 16.7**	**+0.7**
MK31	**Makanchi Array**	13.30	36	⇓P	**Pn**	**01 31 18.4**	**+0.8**
	comp=E,0.7nm,0.4s						
MK31	**Makanchi Array**	13.30	36	Pn	**Pn**	**01 31 18.4**	**+0.8**
MKAR	**Makanchi Array**	13.30	36	P	**Pn**	**01 31 18.9**	**+1.2**
	comp=E,0.4nm,0.3s,baz=205,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	13.30	36	Pn	**Pn**	**01 31 17.4**	**-0.3**
WMQ	**Urumqi**	14.75	55	*e*P	**P**	**01 31 38.1**	**+1.5**
AB31	**Akbulak array**	14.96	331	⇓P	**Pn**	**01 31 39.4**	**+1.3**
	comp=E,2.2nm,0.5s						
AB31				⇓S	**S**	**01 34 24.3**	**+0.1**
	comp=E,2.1nm,0.6s,baz=157,slow=22,SNR=4.9						
ABKAR	**Akbulak array**	14.96	331		**Pn**	**01 31 38.4**	**+0.3**
KURBB	**Kurchatov Arra**	15.09	19	P	**Pn**	**01 31 41.4**	**+1.7**
	comp=E,0.2nm,0.3s,baz=208,slow=12,SNR=2.0						
KURBB	**Kurchatov Arra**	15.09	19	⇓P	**Pn**	**01 31 38.8**	**-0.8**
	comp=E,3.6nm,0.6s						
KURK	**Kurchatov**	15.20	19	P	**Pn**	**01 31 41.4**	**+0.4**
BVAR	**Borovoye Array**	16.45	359	P	**Pn**	**01 31 57.4**	**+1.3**
	comp=E,1.6nm,0.3s,baz=211,slow=17,SNR=20						
BRVK	**Borovoye**	16.49	359	⇑P	**P**	**01 31 57.7**	**+2.1**
	comp=E,3.9nm,0.6s						
BRVK	**Borovoye**	16.49	359	P	**P**	**01 31 57.1**	**+1.5**
BRVK				IAmb	IAmb	01 32 01.7	
	comp=Z,4.4nm,0.6s						
AKTO	**Aktyubinsk**	16.66	330	P	**Pn**	**01 32 00.3**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=134,slow=11,SNR=22						
AKTO				S	**Sn**	**01 35 07.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=2.0						
AKTO	**Aktyubinsk**	16.66	330	⇑P	**Pn**	**01 32 00.1**	**+1.5**
	comp=Z,3.0nm,0.8s						
AKTO				⇓S	**S**	**01 35 01.8**	**+0.5**
	comp=Z,2.0nm,1.1s						
ZAA0	**Zalesovo Array**	19.90	25	⇑P	**P**	**01 32 33.5**	**+1.0**
	comp=Z,0.7nm,0.7s						
ZAA0	**Zalesovo Array**	19.90	25	P	**P**	**01 32 32.2**	**-0.4**
ZAA0				IAmb	IAmb	01 32 39.1	
	comp=Z,3.5nm,0.7s						
ZALV	**Zalesovo Beam**	19.90	25	P	**P**	**01 32 34.2**	**+1.6**
	comp=Z,2.6nm,0.4s,baz=223,slow=11,SNR=15						
ZALV	**Zalesovo Beam**	19.90	25	P	**P**	**01 32 33.2**	**+0.7**
ARU	**Arti**	21.53	341	P	**P**	**01 32 51.4**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=141,slow=13,SNR=3.3						
ARU	**Arti**	21.53	341	IAmb	IAmb	01 33 12.8	
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	28.39	55	LR	LR	01 46 18.3	
	comp=Z,44nm,20.2s,baz=336,slow=38						
HHC	**Hu-ho-hao-te**	31.84	70	*e*P	**P**	**01 34 23.1**	**+0.4**
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.8s						
MNK	**Minsk**	34.37	315	*i* P	**P**	**01 34 41.4**	**-2.9**
	comp=E,1.0nm,0.7s						
MNK				*i* P	**P**	**01 34 41.4**	**-2.9**
	comp=N,7.0nm,1.0s						
MNK				*i* P	**P**	**01 34 41.4**	**-2.9**
	comp=Z,3.0nm,0.8s,baz=282						
MNK				*i* pP	**pP**	**01 35 22.7**	**-3.0**
MNK				*i* PP	**PP**	**01 36 03.1**	**-3.2**
MNK				*i* PcP	**PcP**	**01 37 13.5**	**-1.7**
MNK				*i* S	**S**	**01 39 53.2**	**-3.5**
MNK				*i* sS	**sS**	**01 41 07.2**	**-4.2**
MNK				*i* SS	**SnSn**	**01 42 34.8**	**+2.0**
MNK				*i* ScS	**ScS**	**01 44 41.9**	**-2.1**
MNK				*i* LRM	MLR	01 49 55.6	
	comp=E,2.0nm,18.1s						
MNK				*i* LRM	MLR	01 50 13.5	
	comp=N,17nm,15.5s						
MNK				*i* LRM	MLR	01 50 13.5	
	comp=Z,47nm,15.4s						
FINES	**FINESS Array B**	37.36	326	P	**P**	**01 35 11.5**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=122,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	41.03	338	P	**P**	**01 35 42.4**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=113,slow=7.7,SNR=15						
HFS	**Hagfors**	42.94	322	P	**P**	**01 35 57.8**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=12,SNR=1.9						
NOA	**NORSAR Array B**	44.25	323	P	**P**	**01 36 08.0**	**+2.1**
	comp=Z,0.1nm,0.4s,baz=102,slow=7.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	65.61	269	P	**P**	**01 38 39.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=53,slow=6.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	65.61	269	IAmb	IAmb	01 40 11.3	
	comp=Z,7.0nm,1.7s						
YKA	**Yellowknife Ar**	81.18	3	P	**P**	**01 40 11.6**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=325,slow=3.0,SNR=6.1						
WRA	**Warramunga Arr**	82.12	122	P	**P**	**01 40 14.6**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=322,slow=4.9,SNR=13						
ASAR	**Alice Springs**	84.39	125	P	**P**	**01 40 26.2**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=313,slow=5.0,SNR=22						

KRSC 21 01:43:12.5±1.2, 48°.35N×156°.22E, h15km±22km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	2.34	358	P	Pn	01 43 50.9	+0.6
ALID	**Alaid**	2.56	350	S	Sb	01 44 27.3	-2.2
PAU	**Pauzhetka**	3.15	7	S	Sb	01 44 42.8	-3.3
KDTR	**Khodutka, Kamc**	3.66	18	P	Pn	01 44 12.2	+3.6
KDTR				S	Sn	01 44 56.2	+4.7
MTVR	**Mutnovka**	4.33	16	P	Pn	01 44 21.9	+4.1
RUS	**Russkaya**	4.34	19	*e*P	Pn	01 44 21.4	+3.5
RUS				S	Sn	01 45 12.9	+4.7
GRL	**Gorelyy**	4.37	15	*e*P	Pn	01 44 23.0	+4.6
UGLR	**Uglovaya**	5.14	18	P	Pn	01 44 33.8	+4.9
AVH	**Avacha**	5.17	17	P	Pn	01 44 34.1	+4.7
KOK	**Koryaka**	5.18	16	P	Pn	01 44 33.5	+4.0
SDLR	**Sedlovina**	5.22	18	P	Pn	01 44 33.9	+3.9

*IDC **21** 01:47:51.1±7.8, 5°.50S×151°.51E, h90km±54km, mb3.6/4, mb1 3.8/5, mb1mx3.3/36, mbtmp3.9/5, ML1.9/1, MS3.7/2, Ms1 3.8/2, ms1mx2.8/38, Error ellipse: s-maj=86.0km s-min=34.6km az=106.0*

ISC 21 01:47:45.4±2.7, 5°.5S±0°.4×151°.9E±0°.5, h50km, n8, σ1§25/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	6.10	230	P	**Pn**	**01 49 14.8**	**+1.8**
	2.0nm,0.3s,baz=43,slow=15,SNR=4.9						
PMG				S	**Sn**	**01 50 20.8**	**-0.8**
	2.0nm,0.3s,baz=204,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	22.32	228	P	**P**	**01 52 38.1**	**-1.0**
	1.9nm,0.7s,baz=52,slow=9.9,SNR=12						
ASAR	**Alice Springs**	25.05	222	P	**P**	**01 53 04.9**	**-0.3**
	3.2nm,0.8s,baz=58,slow=8.8,SNR=31						
FITZ	**Fitzroy Crossi**	28.54	242	P	**P**	**01 53 35.5**	**-1.0**
	0.6nm,0.3s,baz=49,slow=13,SNR=5.7						
RAR	**Rarotonga**	49.36	113	LR	LR	02 16 55.5	
	comp=Z,240nm,19.1s,baz=192,slow=35						
CMAR	**Chiang Mai Arr**	57.33	296	LR	LR	02 25 01.7	
	comp=Z,20nm,18.1s,baz=315,slow=39						
SONM	**Songino Array**	66.40	328	P	**P**	**01 58 29.7**	**+0.3**
	0.6nm,0.6s,baz=125,slow=2.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	149.63	287	PKPbc	**PKPbc**	**02 07 30.1**	**-0.5**
	1.5nm,0.6s,baz=73,slow=2.9,SNR=9.7						

*JMA **21** 01:57:47.8±0.4, 36°.69N×142°.40E, h4km±4km, M4.4*
*NIED **21** 01:57:47.8, 36°.69N×142°.40E, h4km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.77; Mθθ0.04; Mφφ-1.81; Mrθ1.05; Mθφ-0.54; Mφr1.68; Fault plane solution: M0 2.72000×10^15^ NP1:θ§28.00000°, δ69.00000°, λ100.00000°. NP2:θ§182.00000°, δ23.00000°, λ66.00000°.*
*IDC **21** 01:57:49.0±0.6, 36°.65N×142°.31E, h0km, mb4.1/20, mb1 4.2/28, mb1mx4.1/51, mbtmp4.1/28, ML4.0/6, MS3.6/15, Ms1 3.6/15, ms1mx3.3/47 Error ellipse: s-maj=15.3km s-min=13.8km az=108.0*
*NEIC **21** 01:57:52.0±1.6, 36°.68N±0°.06×142°.31E±0°.09, h19km±4km, mb4.3/26, Error ellipse: s-maj=10.7km s-min=8.2km az=102.0*
*MOS **21** 01:57:53.5±0.9, 37°.01N×142°.24E, h29km, mb4.5/23, Error ellipse: s-maj=8.8km s-min=5.2km az=100.3*

ISC 21 01:57:49.4±0.4, 36°.71N±0°.04×142°.36E±0°.05, h10km, n159, σ2§14/163, mb4.3/50, MS3.8/17, 14C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	1.31	288	P

KUR	**Kuril'sk**	**9.48**	**24**	P		**Pn**	**02 00 08.7**	**+2.8**
KUR				*i* S		**Sn**	**02 01 47.4**	**-5.1**
KUR				pmax	pmax			
	comp=Z,20nm,0.5s							
KUR				smax	smax			
	comp=N,31nm,0.6s							
KUR				smax	smax			
	comp=E,86nm,0.6s							
JCJ	**Chichijima**	**9.58**	**181**	Pn		**Pn**	**02 00 07.3**	**-0.1**
	comp=E,7.6nm,0.3s,baz=324,slow=19,SNR=1.1							
JCJ				Sn		**Sn**	**02 01 46.8**	**-8.4**
	comp=E,11nm,0.3s,baz=253,slow=19,SNR=1.8							
YSS	**Yuzh-Sakhalins**	**10.24**	**2**	*e*P		**Pn**	**02 00 17.6**	**+1.2**
YSS				*e*S		**Sn**	**02 02 06.7**	**-4.6**
YSS				pmax	pmax			
	comp=Z,20nm,0.5s							
YSS				MLR	MLR			
	comp=Z,200nm,11.0s							
YSS				MLR	MLR			
	comp=N,100nm,15.0s							
MSHR	**Mys Shultsa**	**10.44**	**308⇑**	*i* P		**Pn**	**02 00 21.9**	**+2.8**
MSHR				pmax	pmax			
	comp=Z,26nm,1.8s							
USA0B	**Ussuriysk Arra**	**10.88**	**317**	P		**Pn**	**02 00 27.3**	**+2.2**
USA0B	**Ussuriysk Arra**	**10.88**	**317**	Pn		**Pn**	**02 00 27.3**	**+2.2**
USRK	**Ussuriysk Ar.**	**10.88**	**317**	Pn		**Pn**	**02 00 27.8**	**+2.8**
	baz=113,slow=12,SNR=6.0							
USRK				LR	LR		02 04 27.3	
	comp=Z,365nm,18.3s,baz=77,slow=37							
USRK	**Ussuriysk Ar.**	**10.88**	**317**	Pn		**Pn**	**02 00 27.2**	**+2.2**
KSRS	**Korea Array**	**11.56**	**278**	Pn		**Pn**	**02 00 37.2**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=89,slow=14,SNR=14							
KSRS				LR	LR		02 05 00.5	
	comp=Z,400nm,18.1s,baz=82,slow=37							
KSAR	**Wonju Array Be**	**11.59**	**278**	P		**Pn**	**02 00 34.7**	**-0.1**
KSAR	**Wonju Array Be**	**11.59**	**278**	Pn		**Pn**	**02 00 34.7**	**-0.1**
KLR	**Kul'dur**	**14.71**	**332**	Pn		**Pn**	**02 01 19.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=2.0							
KLR				LR	LR		02 06 52.2	
	comp=Z,195nm,18.3s,baz=136,slow=37							
KLR	**Kul'dur**	**14.71**	**332⇓**	*e*P		**Pn**	**02 01 17.7**	**+0.2**
KLR				pmax	pmax			
	comp=Z,5.0nm,1.5s							
SKR	**Severo-Kuril's**	**17.11**	**31**	*e*P		**P**	**02 01 52.7**	**+2.5**
SKR				*e*S		**Sn**	**02 05 01.4**	**+2.7**
SKR				pmax	pmax			
	comp=Z,100nm,2.8s							
SKR				MLR	MLR			
	comp=Z,100nm,15.0s							
PETK	**Petropavlovsk-**	**19.60**	**28**	P		**Pn**	**02 02 20.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=188,slow=8.1,SNR=5.3							
PETK	**Petropavlovsk-**	**19.60**	**28**	P		**Pn**	**02 02 20.0**	**+1.0**
ZEA	**Zeya**	**20.01**	**333**	*e*P		Pn	02 02 22.9	-0.9
ZEA				pmax	pmax			
	comp=N,10.0nm,0.5s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ZEA				MLR	MLR			
	comp=E,100nm,12.0s							
ZEA				MLR	MLR			
	comp=N,200nm,14.0s							
ZEA				MLR	MLR			
	comp=Z,200nm,14.0s							
MA2	**Magadan**	**23.52**	**11⇑**	*e*P		**P**	**02 03 01.0**	**+1.6**
MA2				pmax	pmax			
	comp=Z,19nm,1.9s							
HHC	**Hu-ho-hao-te**	**24.30**	**289**	*e*P		**P**	**02 03 08.6**	**+1.5**
HHC				S		**S**	**02 07 26.9**	**+0.9**
HHC				SS		SnSn	02 08 23.8	+15
HHC				pmax	pmax			
	comp=Z,16nm,0.7s							
HHC				pmax	pmax			
	comp=Z,67nm,4.3s							
HHC				L	L			
	comp=Z,160nm,11.8s							
HHC				L	L			
	comp=Z,130nm,13.7s							
HHC				L	L			
	comp=Z,130nm,13.8s							
YAK	**Yakutsk**	**26.56**	**347**	*ce*P		**P**	**02 03 28.1**	**+0.9**
YAK				pmax	pmax			
	comp=Z,23nm,0.8s							
YAK	**Yakutsk**	**26.56**	**347**	P		**P**	**02 03 27.8**	**+0.7**
SEY	**Seymchan**	**26.97**	**10⇓**	*i* P		**P**	**02 03 33.9**	**+3.0**
XAN	**Xi'an**	**27.32**	**274**	P		**P**	**02 03 34.6**	**+0.2**
XAN				pP		pwP	02 03 43.1	+3.0
XAN				sP		sP	02 03 47.3	+10
XAN				pmax	pmax			
	comp=Z,10.0nm,0.6s							
XAN				pmax	pmax			
	comp=Z,10.0nm,3.7s							
H11N2	**WAKE ISLAND Hy**	**27.33**	**122**	T		T	02 32 20.1	
	baz=313,slow=75,SNR=31							
H11N1	**WAKE ISLAND Hy**	**27.34**	**122**	T		T	02 32 18.0	
	baz=313,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**27.35**	**122**	T		T	02 32 19.0	
	baz=313,slow=75,SNR=28							
H11S1	**WAKE ISLAND Hy**	**28.05**	**124**	T		T	02 33 32.1	
	baz=316,slow=76,SNR=22							
H11S3	**WAKE ISLAND Hy**	**28.05**	**124**	T		T	02 33 34.1	
	baz=316,slow=76,SNR=21							
H11S2	**WAKE ISLAND Hy**	**28.06**	**124**	T		T	02 33 34.3	
	baz=316,slow=76,SNR=15							
ENH	**Enshi**	**28.07**	**266**	P		**P**	**02 03 41.0**	**-0.1**
ULN	**Ulaanbaatar**	**28.16**	**304**	*c i* P		**P**	**02 03 42.8**	**+0.8**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ULN	**Ulaanbaatar**	**28.16**	**304**	P		**P**	**02 03 42.4**	**+0.4**
ULN				IAmb	IAmb		02 03 54.5	
	comp=Z,9.4nm,1.2s							
SONM	**Songino Array**	**28.60**	**304**	P		**P**	**02 03 46.8**	**+1.0**
	comp=Z,6.9nm,0.7s,baz=105,slow=9.0,SNR=34							
SONM				LR		LR	02 16 35.4	
	comp=Z,52nm,19.2s,baz=63,slow=39							
SONM	**Songino Array**	**28.60**	**304**	P		**P**	**02 03 46.2**	**+0.4**
SONM				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SONM	**Songino Array**	**28.60**	**304**	P		**P**	**02 03 46.2**	**+0.4**
SONM				IAmb	IAmb		02 03 47.9	
	comp=Z,5.7nm,0.8s							
LZH	**Lanzhou**	**30.87**	**281**	*e*P		**P**	**02 04 03.8**	**-2.3**
LZH				pP		pwP	02 04 13.5	+1.7
LZH				pmax	pmax			
	comp=Z,22nm,1.2s							
LZH				pmax	pmax			
	comp=Z,71nm,4.3s							
LZH				L	L			
	comp=Z,170nm,14.1s							
LZH				L	L			
	comp=Z,320nm,14.1s							
LZH				L	L			
	comp=Z,260nm,14.1s							
ZAK	**Zakamensk**	**31.07**	**309**	*e*P		P	02 04 18.3	+11
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
TLY	**Talaya**	**31.12**	**311**	P		**P**	**02 04 09.5**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=147,slow=6.2,SNR=4.6							
TLY	**Talaya**	**31.12**	**311**	IAmb		IAmb	02 04 10.9	
	comp=Z,3.1nm,0.7s							
GTA	**Gaotai**	**33.38**	**288**	*e*P		**P**	**02 04 29.1**	**+1.0**
GTA				pP		pwP	02 04 36.4	+2.6
GTA				sP		sP	02 04 40.8	+10
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BILL	**Bilibino**	**34.13**	**16**	*i* P		**P**	**02 04 32.1**	**-2.0**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**34.13**	**16**	P		**P**	**02 04 35.5**	**+1.4**
BILL				IAmb	IAmb		02 04 48.6	
	comp=Z,4.3nm,1.1s							
KMI	**Kunming**	**35.67**	**262**	⇑P		**P**	**02 04 50.4**	**+2.3**
KMI				pP		pwP	02 04 58.8	+5.0
KMI				pmax	pmax			
	comp=Z,8.0nm,0.9s							
TIXI	**Tiksi**	**35.71**	**353⇑**	*e*P		**P**	**02 04 48.1**	**+0.5**
TIXI	**Tiksi**	**35.71**	**353**	P		**P**	**02 04 48.8**	**+1.2**
DGZ	**Jazzator, Alta**	**41.20**	**306**	*ce*P		**P**	**02 05 36.0**	**+1.7**
WMQ	**Urumqi**	**41.66**	**297**	*e*P		**P**	**02 05 40.4**	**+2.3**
ZAA0	**Zalesovo Array**	**42.70**	**313**	P		**P**	**02 05 46.6**	**+0.4**
ZAA0				IAmb	IAmb		02 05 57.9	
	comp=Z,3.9nm,0.8s							
ZALV	**Zalesovo Beam**	**42.70**	**313**	P		**P**	**02 05 47.3**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=97,slow=7.6,SNR=9.4							
ZALV	**Zalesovo Beam**	**42.70**	**313**	*i* P		**P**	**02 05 47.2**	**+1.0**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**42.70**	**313**	P		**P**	**02 05 46.6**	**+0.4**
NRIK	**Noril'sk**	**43.88**	**335**	LR		LR	02 25 35.0	
	comp=Z,117nm,18.3s,baz=121,slow=38							
NRIK	**Noril'sk**	**43.88**	**335⇑**	*e*P		**P**	**02 05 56.1**	**+0.5**
NRIK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
MK31	**Makanchi Array**	**44.94**	**303**	P		**P**	**02 06 05.0**	**+0.6**
MK31				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MK31	**Makanchi Array**	**44.94**	**303**	P		**P**	**02 06 05.0**	**+0.6**
MK31				IAmb	IAmb		02 06 08.2	
	comp=Z,3.5nm,1.0s							
MKAR	**Makanchi Array**	**44.94**	**303**	P		**P**	**02 06 05.0**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=88,slow=9.6,SNR=23							
MKAR				LR		LR	02 25 50.9	
	comp=Z,45nm,19.3s,baz=48,slow=37							
MAKZ	**Makanchi**	**45.14**	**303**	P		**P**	**02 06 06.9**	**+0.9**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MAKZ	**Makanchi**	**45.14**	**303**	P		**P**	**02 06 06.9**	**+0.9**
MAKZ				IAmb	IAmb		02 06 18.3	
	comp=Z,3.3nm,0.8s							
KDAK	**Kodiak Island**	**46.84**	**42**	P		**P**	**02 06 21.1**	**+1.9**
	comp=Z,4.6nm,0.9s,baz=281,slow=5.2,SNR=3.6							
MLY	**Manley**	**47.73**	**32**	P		**P**	**02 06 27.6**	**+1.5**
MLY				IAmb	IAmb		02 06 33.4	
	comp=Z,2.5nm,0.8s							
PMR	**Palmer**	**48.44**	**36**	P		**P**	**02 06 33.8**	**+2.3**
PMR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PMR	**Palmer**	**48.44**	**36**	P		**P**	**02 06 33.8**	**+2.3**
PMR				IAmb	IAmb		02 06 40.7	
	comp=Z,4.0nm,1.0s							
MDM	**Murphy Dome**	**48.79**	**32**	P		**P**	**02 06 35.9**	**+1.6**
MDM				IAmb	IAmb		02 06 38.1	
	comp=Z,2.8nm,0.7s							
IL31		**49.37**	**32**	P		**P**	**02 06 39.8**	**+1.2**
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**	**02 06 40.5**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=267,slow=6.8,SNR=18							
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**	**02 06 40.0**	**+1.4**
ILAR	**Eielson Array**	**49.37**	**32**	P		**P**	**02 06 40.0**	**+1.4**
SCRK	**Sand Creek**	**50.66**	**33**	P		**P**	**02 06 49.6**	**+0.9**
BRVK	**Borovoye**	**51.41**	**313⇓**	*i* P		**P**	**02 06 54.1**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KK31	**Karatay Array**	**53.94**	**301**	P		**P**	**02 07 14.0**	**+0.8**
KK31				pmax	pmax			
	comp=Z,4.0nm,1.3s							
KK31	**Karatay Array**	**53.94**	**301**	P		**P**	**02 07 14.0**	**+0.8**
KK31				IAmb	IAmb		02 07 26.2	
	comp=Z,4.3nm,1.3s							
INK	**Inuvik**	**54.33**	**27**	P		**P**	**02 07 17.6**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=328,slow=7.0,SNR=4.2							
INK	**Inuvik**	**54.33**	**27**	IAmb		IAmb	02 07 38.8	
	comp=Z,4.2nm,1.4s							
GAR	**Garm**	**55.52**	**296**	P		**P**	**02 07 25.7**	**+0.8**
SVE	**Sverdlovsk**	**55.89**	**319**	*e*P		**P**	**02 07 28.5**	**+1.4**
SVE				pmax	pmax			
	comp=Z,8.0nm,1.2s							
FITZ	**Fitzroy Crossi**	**56.75**	**199**	P		**P**	**02 07 34.5**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=270,slow=20,SNR=2.0							
WRA	**Warramunga Arr**	**56.85**	**189**	P		**P**	**02 07 34.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=5,slow=3,SNR=7.1							
ARU	**Arti**	**57.11**	**319**	LR		LR	02 34 25.5	
	comp=Z,95nm,18.2s,baz=76,slow=38							
ARU	**Arti**	**57.11**	**319**	*c i* P		**P**	**02 07 36.3**	**+0.6**
ARU				*PP		**pwP**	**02 07 44.5**	**+3.0**
ARU				S		**S**	**02 15 29.2**	**-1.3**
ARU				SS		**SS**	**02 19 18.0**	**-0.7**
ARU				pmax	pmax			
	comp=Z,11nm,1.7s							
ARU				MLR	MLR			
	comp=Z,96nm,18.0s							
ARU	**Arti**	**57.11**	**319**	P		**P**	**02 07 35.2**	**-0.5**
ABKAR	**Akbulak array**	**58.73**	**311**	P		**P**	**02 07 46.8**	**-0.4**
AS31	**Alice Springs**	**60.57**	**189**	P		**P**	**02 08 00.5**	**+0.4**
ASAR	**Alice Springs**	**60.58**	**189**	P		**P**	**02 08 00.8**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=12,slow=8.5,SNR=7.5							
KIRV	**Kirov**	**60.97**	**323**	LR		LR	02 36 49.9	
	comp=Z,33nm,18.1s,baz=98,slow=38							
KIRV	**Kirov**	**60.97**	**323**	*c i* P		**P**	**02 08 03.5**	**+1.1**
ARCES	**ARCESS Array B**	**64.57**	**340**	P		**P**	**02 08 28.0**	**+1.7**
	comp=Z,2.9nm,1.1s,baz=57,slow=6.6,SNR=2.1							
GEYT	**Alibeck**	**64.66**	**299**	LR		LR	02 38 48.1	
	comp=Z,36nm,19.4s,baz=90,slow=38							
OBN	**Obninsk**	**68.81**	**324**	*i* P		**P**	**02 08 54.2**	**+0.7**
OBN				*i*			02 09 19.5	
OBN				pmax	pmax			
	comp=Z,6.0nm,1.4s							
OBN				MLR	MLR			
	comp=Z,73nm,16.0s							
FINES	**FINESS Array B**	**69.46**	**333**	P		**P**	**02 08 58.6**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=47,slow=8.4,SNR=12							
FINES				LR		LR	02 41 29.0	
	comp=Z,40nm,19.4s,baz=9.5,slow=38							
FINES	**FINESS Array B**	**69.46**	**333**	*i* P		**P**	**02 08 58.7**	**+1.2**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
VSU	**Vasula**	**71.12**	**330**	*ce*P		**P**	**02 09 09.3**	**+1.6**
VSU				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KBZ	**Khabaz**	**71.69**	**311**	P		**P**	**02 09 12.8**	**+1.4**
	comp=Z,3.3nm,0.9s,baz=30,slow=2.2,SNR=6.9							
KBZ	**Khabaz**	**71.69**	**311⇑**	*e*P		**P**	**02 09 12.5**	**+1.1**
KBZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV	**Kislovodsk**	**71.69**	**311**	*e*P		**P**	**02 09 13.6**	**+2.0**
KIV				pmax	pmax			
	comp=Z,15nm,0.9s							
KIV				MLR	MLR			
	comp=Z,115nm,18.0s							
MNK	**Minsk**	**73.19**	**326**	*i* P		P	02 09 13.9	-6.3
MNK				*i*			02 09 31.0	
MNK				*i* S		S	02 18 37.5	-10
MNK				*i* SSS		SSS	02 26 39.1	
MNK				pmax	pmax			
	comp=E,1.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,13nm,0.7s							
MNK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MNK				MLR	MLR			
	comp=N,61nm,21.0s							
MNK				MLR	MLR			
	comp=E,10.0nm,18.0s							
MNK				MLR	MLR			
	comp=Z,53nm,20.0s							
MNK	**Minsk**	**73.19**	**326**	*i* P		P	02 09 14.0	-6.2
	comp=E,1.0nm,0.7s							
MNK				*i* P		P	02 09 14.0	-6.2
	comp=N,13nm,0.7s							
MNK				*i* P		P	02 09 14.0	-6.2
	comp=Z,2.0nm,0.8s,baz=51							
MNK				*i* PcP		**PcP**	**02 09 31.0**	**-5.7**
MNK				*i* PP		**PP**	**02 11 55.7**	**-6.9**
MNK				*i* PPP		PPP	02 13 40.3	
MNK				*i* S		S	02 18 37.5	-10
MNK				*i* SS		**SS**	**02 23 18.3**	**-10**
MNK				*i* SSS		SSS	02 26 39.2	
MNK				*i* LQ		LQ	02 36 18.8	
MNK				*i* LR		LR	02 41 50.9	
MNK				*i* LRM		MLR	02 44 03.2	
	comp=N,61nm,21.2s							
MNK				*i* LRM		MLR	02 44 10.8	
	comp=E,10.0nm,17.8s							
MNK				*i* LRM		MLR	02 44 13.3	
	comp=Z,53nm,19.5s							
NVAR	**Mina Array Bea**	**74.58**	**54**	P		**P**	**02 09 30.4**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=47,slow=28,SNR=2.8							
NOA	**NORSAR Array B**	**74.78**	**338**	P		**P**	**02 09 30.6**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=39,slow=5.8,SNR=6.4							
NOA				LR		LR	02 46 00.1	
	comp=Z,53nm,18.9s,baz=50,slow=39							
AKASG	**Malin Array Be**	**75.02**	**323**	P		**P**	**02 09 31.8**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=46,slow=6.1,SNR=18							
AKASG				LR		LR	02 43 51.9	
	comp=Z,25nm,21.3s,baz=50,slow=37							
AKBB	**Malin Array Si**	**75.02**	**323**	*i* P		**P**	**02 09 31.4**	**+0.5**
AKBB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PDAR	**Pinedale Array**	**77.35**	**46**	P		**P**	**02 09 46.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=321,slow=1.2,SNR=2.0							
BURAR	**Bucovina Array**	**79.04**	**322**	P		**P**	**02 09 54.6**	**+0.9**
BURAR				IAmb	IAmb		02 09 56.0	
	comp=Z,1.6nm,0.7s							
BRTR	**Keskin Array B**	**79.64**	**312**	*ce*P		**P**	**02 09 58.9**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=131,slow=5.1,SNR=4.6							
BRTR	**Keskin Array B**	**79.64**	**312**	*ce*P		**P**	**02 09 58.9**	**+1.7**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
OJC	**Ojcow**	**79.73**	**327**	P		**P**	**02 09 57.4**	**0.0**
OJC				pmax	pmax			
	comp=Z,9.0nm,1.2s							
OJC	**Ojcow**	**79.73**	**327**	P		**P**	**02 09 57.4**	**0.0**
DPC	**Dobruska-Polom**	**81.14**	**328**	*e*P		**P**	**02 10 06.8**	**+1.8**
DPC	**Dobruska-Polom**	**81.14**	**328**	*e*P		**P**	**02 10 06.8**	**+1.8**
X16A	**Lo Mia Camp, P**	**81.40**	**53**	P		**P**	**02 10 07.1**	**+0.3**
X16A				IAmb	IAmb		02 10 22.4	
	comp=Z,4.0nm,1.3s							
CLL	**Collm**	**81.76**	**331**	*i* P		**P**	**02 10 09.4**	**+1.3**
CLL	**Collm**	**81.76**	**331**	*i* P		**P**	**02 10 09.4**	**+1.3**
KHC	**Kasperske Hory**	**83.22**	**329**	*e*P		**P**	**02 10 16.9**	**+1.0**
KHC	**Kasperske Hory**	**83.22**	**329**	*e*P		**P**	**02 10 16.9**	**+1.0**
GERES	**GERESS Array B**	**83.39**	**329**	P		**P**	**02 10 18.1**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=29,slow=6.6,SNR=7.5							
TXAR	**Lajitas Array**	**89.72**	**53**	P		**P**	**02 10 49.5**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=293,slow=2.5,SNR=4.3							
ESDC	**Sonseca Array**	**97.92**	**334**	LR		LR	03 00 07.1	
	comp=Z,56nm,18.4s,baz=130,slow=38							
LPAZ	**La Paz**	**146.20**	**61**	PKPbc		**PKiKP**	**02 17 32.0**	**-2.4**
	comp=Z,1.0nm,0.6s,baz=45,slow=2.9,SNR=5.4							

***IDC 21** 02:16:22.0±4.5, 14°.77S×167°.33E, h120km±38km, mb3.7/7, mb1 3.9/8, mb1mx3.5/39, mbtmp4.1/8, Error ellipse: s-maj=27.6km s-min=25.7km az=55.0*
*NEIC **21** 02:16:22.8±1.9, 14°.8S±0°.1×167°.4E±0°.2, h125km±4km, mb4.1/7, Error ellipse: s-maj=29.6km s-min=15.5km az=103.0*

ISC 21 02:16:22.5±0.9, 14°.78S±0°.09×167°.4E±0°.2, h129km, n29, σ0§76/29, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.69**	**196**			**Pn**	**02 16 41.5**	**-1.2**
LIFNC	**LIFOU**	**5.97**	**181**	Pn		**Pn**	**02 17 46.4**	**-2.2**
YATNC	**Mamie plateau,**	**7.26**	**184**	P		**Pn**	**02 18 04.2**	**-1.8**
DZM	**Mont Dzumac**	**7.31**	**187**	P		**Pn**	**02 18 06.2**	**-0.6**
	4.8nm,0.3s,baz=134,slow=21,SNR=57							
DZM				S		**Sn**	**02 19 29.0**	**+0.6**
	1.7nm,0.3s,baz=143,slow=8.6,SNR=2.2							
DZM	**Mont Dzumac**	**7.31**	**187**			**Pn**	**02 18 05.6**	**-1.2**
DZM	**Mont Dzumac**	**7.31**	**187**	P		**Pn**	**02 18 06.5**	**-0.3**
NOUC	**Port Laguerre**	**7.36**	**188**	P		**Pn**	**02 18 07.7**	**+0.4**
ONTNC	**Ouen Toro**	**7.54**	**187**	Pn		**Pn**	**02 18 09.8**	**-0.1**
ONTNC	**Ouen Toro**	**7.54**	**187**	P		**Pn**	**02 18 09.9**	**+0.1**
OUENC	**Ouen Island, N**	**7.62**	**184**	Pn		**Pn**	**02 18 11.0**	**+0.2**
OUENC	**Ouen Island, N**	**7.62**	**184**	P		**Pn**	**02 18 11.1**	**+0.2**
PINNC	**Pines Island,**	**7.80**	**180**	Pn		**Pn**	**02 18 12.3**	**-0.9**
EIDS	**Eidsvold**	**18.58**	**233**	P		P	**02 20 30.0**	**+0.3**
EIDS				IAmb	IAmb		02 20 33.3	
	comp=Z,12nm,1.0s							
URZ	**Urewera**	**24.92**	**162**	P		**P**	**02 21 33.9**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=120,slow=20,SNR=1.1							
STKA	**Stephens Creek**	**29.06**	**230**	P		**P**	**02 22 11.0**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=39,slow=9.7,SNR=4.5							
STKA	**Stephens Creek**	**29.06**	**230**	IAmb		IAmb	02 22 17.1	
	comp=Z,3.0nm,1.5s							
WB0	**Warramunga Arr**	**31.88**	**256**	P		**P**	**02 22 35.5**	**-0.2**
WB0				IAmb		IAmb	02 22 45.8	
	comp=Z,4.2nm,1.1s							
WRA	**Warramunga Arr**	**31.94**	**256**	P		**P**	**02 22 35.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=85,slow=8.9,SNR=2.2							
WRA				PcP		**PcP**	**02 25 23.9**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=91,slow=3.4,SNR=3.4							
WRA	**Warramunga Arr**	**31.94**	**256**	IAmb		IAmb	02 22 37.9	
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**32.77**	**249**	P		**P**	**02 22 42.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=75,slow=9.1,SNR=12							
ASAR				PcP		**PcP**	**02 25 26.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=88,slow=2.6,SNR=5.2							
VNDA	**Vanda**	**62.82**	**181**	P		**P**	**02 26 34.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=352,slow=7.8,SNR=12							
VNDA	**Vanda**	**62.82**	**181**	P		**P**	**02 26 34.5**	**+0.5**
VNDA				IAmb	IAmb		02 26 37.9	
	comp=Z,3.7nm,1.3s							
SBA	**Scott Base**	**63.09**	**180**	P		**P**	**02 26 36.5**	**+0.8**
QSPA	**South Pole Qui**	**75.25**	**180**	P		**P**	**02 27 51.0**	**-0.1**
QSPA				IAmb	IAmb		02 27 53.4	
	comp=Z,3.7nm,0.8s							
ILAR	**Eielson Array**	**86.53**	**18**	P		**P**	**02 28 50.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=236,slow=5.8,SNR=8.9							
MKAR	**Makanchi Array**	**97.33**	**316**	P		Pdif	02 29 41.8	+0.7
	comp=Z,0.5nm,0.7s,baz=92,slow=5.3,SNR=5.5							
ARCES	**ARCESS Array B**	**120.33**	**345**	PKP		**PKiKP**	**02 34 58.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=84,slow=2.0,SNR=15							
FINES	**FINESS Array B**	**125.81**	**338**	PKP		**PKiKP**	**02 35 09.4**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=90,slow=1.9,SNR=5.1							
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**66**	P	**Pn**	**02 33 44.5**	**+0.8**
	194nm,0.3s,baz=143,slow=2.2,SNR=8.6						
RAO				S	**S**	**02 34 18.0**	**-1.7**
	71nm,0.3s,baz=270,slow=20,SNR=1.6						
URZ	**Urewera**	**9.31**	**201**	P	**P**	**02 35 11.0**	**+0.7**
	2.6nm,0.3s,baz=122,slow=24,SNR=11						
URZ				S	**S**	**02 36 53.5**	**-0.9**
	1.5nm,0.3s,baz=127,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**34.04**	**256**	P	**P**	**02 39 12.0**	**+0.9**
	2.3nm,0.7s,baz=103,slow=8.1,SNR=4.5						
ASAR	**Alice Springs**	**42.51**	**266**	P	**P**	**02 40 20.5**	**-0.7**
	1.4nm,0.5s,baz=100,slow=6.7,SNR=39						
WRA	**Warramunga Arr**	**43.42**	**272**	P	**P**	**02 40 27.4**	**-1.0**
	1.1nm,0.4s,baz=111,slow=7.5,SNR=21						
FINES	**FINESS Array B**	**144.16**	**340**	PKP	**PKPab**	**02 51 51.5**	**+0.2**
	0.8nm,0.5s,baz=53,slow=3.5,SNR=18						

*IDC **21** 02:51:01.7±1.6,34°.48N×142°.07E,h0km,mb3.6/5, mb1 3.6/8,mb1mx3.5/39,mbtmp3.6/8,ML3.3/3,Error ellipse: s-maj=38.9km s-min=20.9km az=75.0*
*JMA **21** 02:51:02.3±0.5,34°.43N×142°.05E,h36km±4km,M3.1*
ISC 21 02:51:02.2±2.1,34°.53N±0°.05×141°.93E±0°.08,h9km±11km, n28,σ2°.04/31,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.80**	**280**	P	**Pn**	**02 51 18.8**	**-0.3**
BSO3	**Boso 3**	**1.20**	**284**	P	**Pg**	**02 51 25.4**	**+0.1**
BSO3				*e*S	**Sn**	**02 51 42.1**	**+0.9**
BSO4	**Boso 4**	**1.39**	**290**	P	**Pg**	**02 51 28.7**	**-0.2**
CHOJ	**Chosi**	**1.47**	**324**	P	**Pn**	**02 51 29.2**	**+0.4**
CHOJ				S	**Sg**	**02 51 48.3**	**-1.1**
JKUC	**kamogawauchiur**	**1.56**	**294**	P	**Pn**	**02 51 30.4**	**+0.4**
JMKN	**Mikurajimanish**	**2.04**	**253**	P	**Pn**	**02 51 36.3**	**-0.4**
JMKN				S	**Sn**	**02 52 00.8**	**-1.4**
JIM2	**Oshima 3**	**2.07**	**276**	P	**Pn**	**02 51 36.7**	**-0.4**
JHJ	**Hachijo jima 2**	**2.27**	**232**	Pn	**Pn**	**02 51 40.8**	**+0.9**
	14nm,0.3s,baz=52,slow=9.7,SNR=6.9						
JHJ				Sn	**Sn**	**02 52 07.5**	**-0.5**
	59nm,0.3s,baz=229,slow=23,SNR=11						
JOD2	**Odawara 2**	**2.45**	**288**	P	**Pn**	**02 51 42.1**	**-0.2**
JIZS	**Izushimoda**	**2.52**	**275**	P	**Pn**	**02 51 43.6**	**+0.3**
JAG	**Ashikaga**	**2.77**	**314**	P	**Pn**	**02 51 47.5**	**+0.8**
JAG				S	**Sn**	**02 52 20.9**	**+0.6**
JRY	**Ryogami san**	**2.89**	**302**	P	**Pn**	**02 51 49.3**	**+0.9**
JYN	**Shimob**	**2.94**	**290**	P	**Pn**	**02 51 49.4**	**+0.2**
JYN				S	**Sn**	**02 52 24.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.64**	**305**	Pn	**Pn**	**02 52 00.3**	**+1.6**
	0.6nm,0.3s,baz=106,slow=6.2,SNR=28						
MJAR				Sn	**Sb**	**02 52 45.9**	**-5.1**
	0.2nm,0.3s,baz=138,slow=15,SNR=4.6						
MAT	**Matsushiro**	**3.64**	**305**	P	**Pn**	**02 52 00.3**	**+1.6**
MAT				*e*S	**Sn**	**02 52 40.5**	**-1.3**
JCJ	**Chichijima**	**7.41**	**178**	Sn	**Sn**	**02 54 08.9**	**-5.8**
	6.9nm,0.3s,baz=90,slow=20,SNR=1.7						
ASAJ	**Asahikawa**	**9.59**		Pn	**Pn**	**02 53 21.1**	**+0.7**
	0.7nm,0.3s,baz=189,slow=12,SNR=5.3						
ASAJ				Sn	**Sn**	**02 55 03.2**	**-5.0**
	0.1nm,0.3s,baz=313,slow=16,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**26.57**	**117**	T	T	03 24 37.6	
	baz=309,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**26.57**	**117**	T	T	03 24 36.3	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**26.58**	**117**	T	T	03 24 38.6	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**27.20**	**120**	T	T	03 25 29.5	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.20**	**120**	T	T	03 25 27.8	
	baz=313,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**27.22**	**120**	T	T	03 25 28.9	
	baz=313						
SONM	**Songino Array**	**29.59**	**308**	P	**P**	**02 57 10.3**	**+2.8**
	0.5nm,0.5s,baz=103,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**45.84**	**304**	P	**P**	**02 59 26.1**	**+1.6**
	0.3nm,0.6s,baz=90,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**54.65**	**189**	P	**P**	**03 00 32.3**	**+1.0**
	0.8nm,0.8s,baz=6.2,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**58.37**	**189**	P	**P**	**03 00 58.4**	**+0.6**
	0.4nm,0.8s,baz=17,slow=11,SNR=1.6						
FINES	**FINESS Array B**	**71.23**	**333**	P	**P**	**03 02 22.6**	**+1.3**
	0.4nm,0.7s,baz=45,slow=14,SNR=1.9						

*IDC **21** 02:59:33.9±8.2,37°.03N×142°.29E,h0km,mb3.6/2, mb1 3.6/3,mb1mx3.3/40,mbtmp3.5/3,ML2.7/1,MS3.0/6, Ms1 3.1/6,ms1mx2.6/45,Error ellipse: s-maj=146.1km s-min=49.8km az=144.0*
*JMA **21** 02:59:35.3±0.3,36°.70N×142°.24E,h34km,M3.4*
ISC 21 02:59:34.5±2.0,36°.71N±0°.09×142°.2E±0°.1,h10km,n27, σ1°36/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.21**	**290**	P	**Pn**	**02 59 56.3**	**-1.2**
JFK	**Kawauchi**	**1.26**	**302**	P	**Pn**	**02 59 57.6**	**-0.6**
JHO	**Hitachi**	**1.33**	**266**	P	**Pn**	**02 59 58.3**	**-0.8**
JHYU	**Hitachinakayam**	**1.36**	**255**	P	**Pn**	**02 59 59.3**	**-0.2**
JHYU				S	**Sb**	**03 00 16.6**	**-1.0**
JFFD	**Fukushimafurud**	**1.38**	**287**	P	**Pn**	**02 59 59.3**	**-0.6**
CHOJ	**Chosi**	**1.49**	**228**	P	**Pn**	**03 00 01.2**	**0.0**
JMM	**Marumori**	**1.62**	**316**	P	**Pn**	**03 00 02.8**	**-0.3**
JFT	**Otama**	**1.71**	**299**	P	**Pn**	**03 00 04.5**	**+0.2**
JIO	**Ouri**	**1.88**	**339**	P	**Pn**	**03 00 06.2**	**-0.4**
JOU	**Okura**	**2.07**	**324**	P	**Pn**	**03 00 10.2**	**+0.9**
JAG	**Ashikaga**	**2.25**	**264**	P	**Pn**	**03 00 11.6**	**-0.1**
JAG				S	**Sn**	**03 00 38.6**	**-0.8**
JYK	**Kaneyama**	**2.66**	**327**	P	**Pn**	**03 00 17.6**	**+0.3**
MJAR	**Matsushiro Arr**	**3.23**	**268**	Pn	**Pn**	**03 00 26.4**	**+1.1**
	0.7nm,0.3s,baz=76,slow=12,SNR=41						
MJAR				Sn	**Sn**	**03 01 08.2**	**+4.4**
	0.7nm,0.3s,baz=90,slow=13,SNR=2.7						
MJAR				LR	LR	03 01 55.2	
	comp=Z,106nm,20.8s,baz=115,slow=43						
MAT	**Matsushiro**	**3.23**	**268**	P	**Pn**	**03 00 26.8**	**+1.5**
MAT				*e*S	**Sn**	**03 01 02.3**	**-1.5**
USRK	**Ussuriysk Ar.**	**10.80**	**317**	LR	LR	03 06 02.3	
	comp=Z,52nm,19.6s,baz=157,slow=37						
KSRS	**Korea Array**	**11.45**	**278**	LR	LR	03 06 34.5	
	comp=Z,69nm,18.4s,baz=92,slow=37						
KLR	**Kul'dur**	**14.66**	**332**	LR	LR	03 08 52.6	
	comp=Z,39nm,18.0s,baz=155,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.42**	**121**	T	T	03 34 49.2	
	baz=311,slow=74,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**27.43**	**121**	T	T	03 34 50.8	
	baz=311,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**27.44**	**121**	T	T	03 34 50.7	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	03 35 40.8	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	03 35 47.6	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**28.15**	**124**	T	T	03 35 42.3	
	baz=319						
SONM	**Songino Array**	**28.50**	**304**	P	**P**	**03 05 30.4**	**+0.4**
	1.1nm,0.7s,baz=103,slow=9.0,SNR=6.1						
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**03 07 48.1**	**-0.6**
	0.3nm,0.6s,baz=91,slow=8.5,SNR=3.6						
MSVF	**Nonsavu**	**63.84**	**142**	LR	LR	03 31 50.3	
	comp=Z,71nm,21.4s,baz=152,slow=30						
NOA	**NORSAR Array B**	**74.74**	**338**	LR	LR	03 46 42.4	
	comp=Z,13nm,19.7s,baz=175,slow=38						

IDC 21 03:06:49.4±2.1,3°.89S×151°.79E,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.3/30,mbtmp3.3/3,Error ellipse: s-maj=164.3km s-min=29.4km az=126.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**225**	P	P	03 11 59.7	+0.3
	0.9nm,0.9s,baz=53,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**26.17**	**220**	P	P	03 12 26.2	+0.5
	0.2nm,0.5s,baz=46,slow=8.1,SNR=1.4						
ILAR	**Eielson Array**	**81.70**	**22**	P	P	03 19 09.1	-0.4
	0.3nm,0.7s,baz=248,slow=5.7,SNR=5.8						

*GUC **21** 03:12:48.9±0.6,24°.25S×67°.40W,h213km±8km,ML3.8*
*IDC **21** 03:12:51.0±1.6,23°.98S×67°.29W,h205km±15km,mb3.0/1, mb1 3.1/6,mb1mx3.0/44,mbtmp3.6/6,Error ellipse: s-maj=29.8km s-min=21.6km az=26.0*
ISC 21 03:12:49.1±0.8,24°.20S±0°.04×67°.50W±0°.09, h220km±11km,n26,σ1°08/45,15C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.04**	**320**	P	**Pn**	**03 13 30.1**	**+0.1**
	34nm,0.3s,baz=137,slow=8.2,SNR=284						
LVC				S	**S**	**03 14 01.3**	**-0.4**
	21nm,0.3s,baz=223,slow=5.7,SNR=28						
LVC	**Limon Verde**	**2.04**	**320**	*e*P	**Pn**	**03 13 29.9**	**-0.1**
LVC				*e*S	**S**	**03 14 01.0**	**-0.7**
PB15	**IPOC Station P**	**2.06**	**298**	⇑*i*P	**Pn**	**03 13 30.5**	**+0.5**
PB15				*i*S	**S**	**03 14 02.1**	**+0.5**
GO02	**Mina Guanaco**	**2.13**	**243**	⇑*i*P	**Pn**	**03 13 30.4**	**-0.3**
GO02				*i*S	**S**	**03 14 02.7**	**-0.3**
GO02				IAML		03 14 03.7	
	comp=E,539nm,0.5s						
PB06	**IPOC Station P**	**2.41**	**308**	⇑*i*P	**Pn**	**03 13 34.2**	**+0.7**
PB06				*i*S	**S**	**03 14 08.1**	**0.0**
PB06				IAML		03 14 10.5	
	comp=N,415nm,0.5s						
PB14	**IPOC Station P**	**2.68**	**260**	⇑*i*P	**Pn**	**03 13 36.9**	**+0.3**
PB14				*i*S	**S**	**03 14 13.7**	**+0.3**
PB14				IAML		03 14 15.2	
	comp=E,88nm,0.4s						
PB05	**IPOC Station P**	**2.82**	**298**	⇑*i*P	**Pn**	**03 13 38.7**	**+0.7**
PB05				*i*S	**S**	**03 14 16.0**	**+0.1**
PB05				IAML		03 14 20.0	
	comp=N,99nm,0.4s						
PB10	**IPOC Station P**	**2.88**	**283**	⇑*i*P	**Pn**	**03 13 39.6**	**+1.2**
PB10				*i*S	**S**	**03 14 17.4**	**+0.5**
PB10				IAML		03 14 22.8	
	comp=E,84nm,0.4s						
PB09	**IPOC Station P**	**2.88**	**326**	⇑*i*P	**Pn**	**03 13 39.4**	**+0.7**
PB09				*i*S	**S**	**03 14 17.5**	**+0.2**
PB09				IAML		03 14 19.0	
	comp=N,190nm,0.5s						
PB03	**IPOC Station P**	**2.98**	**315**	⇑*i*P	**Pn**	**03 13 40.3**	**+0.5**
PB03				*i*S	**S**	**03 14 19.0**	**-0.3**
AC02	**Maricunga**	**3.01**	**209**	⇑*i*P	**Pn**	**03 13 39.2**	**-1.2**
AC02				*i*S	**S**	**03 14 19.1**	**-1.3**
AC02				IAML		03 14 24.3	
	comp=N,50nm,0.2s						
PB04	**IPOC Station P**	**3.06**	**307**	⇑*i*P	**Pn**	**03 13 41.5**	**+0.7**
PB04				*i*S	**S**	**03 14 21.2**	**+0.2**
PB07	**IPOC Station P**	**3.30**	**318**	⇑*i*P	**Pn**	**03 13 44.0**	**+0.5**
PB07				*i*S	**S**	**03 14 25.3**	**-0.6**
AC01	**Pan de Azucar**	**3.41**	**235**	⇑*i*P	**Pn**	**03 13 43.7**	**-0.9**
AC01				*i*S	**S**	**03 14 26.5**	**-1.5**
PB01	**IPOC Station P**	**3.64**	**329**	⇑*i*P	**Pn**	**03 13 47.3**	**-0.2**
PB01				*i*S	**S**	**03 14 31.9**	**-1.2**
GO03	**Copiap**	**4.18**	**215**	⇑*i*P	**Pn**	**03 13 52.0**	**-1.9**
GO03				*i*S	**S**	**03 14 42.1**	**-2.8**
PB08	**IPOC Station P**	**4.32**	**339**	⇑*i*P	**Pn**	**03 13 56.3**	**+0.3**
PB08				*i*S	**S**	**03 14 47.9**	**-0.6**
TA01	**Diego Aracena**	**4.38**	**325**	*e*P	**Pn**	**03 13 56.2**	**-0.3**
PB11	**IPOC Station P**	**4.85**	**335**	⇓*i*P	**Pn**	**03 14 01.4**	**-1.0**
PB11				*i*S	**S**	**03 14 57.9**	**-2.2**
PSGC	**Pisagua**	**5.19**	**331**	*e*P	**Pn**	**03 14 05.0**	**-1.5**
LPAZ	**La Paz**	**7.89**	**356**	P	**Pn**	**03 14 42.2**	**+0.5**
	comp=N,0.4nm,0.3s,baz=160,slow=5.8,SNR=18						
LPAZ				S	**S**	**03 16 09.1**	**-2.5**
	comp=N,0.0nm,0.3s,baz=51,slow=6.5,SNR=2.5						
CPUP	**Villa Florida**	**9.45**	**105**	P	**Pn**	**03 15 02.6**	**+1.6**
	comp=N,0.2nm,0.3s,baz=287,slow=12,SNR=7.4						
SIV	**San Ignacio**	**10.15**	**38**	P	**Pn**	**03 15 08.3**	**-1.9**
	comp=N,0.2nm,0.3s,baz=238,slow=11,SNR=12						
BDFB	**Brasilia**	**20.18**	**69**	P	**P**	**03 17 06.9**	**-0.5**
	comp=N,0.5nm,0.3s,baz=247,slow=7.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.07**	**69**	P	**P**	**03 24 19.2**	**+0.7**
	comp=N,0.3nm,0.5s,baz=256,slow=5.3,SNR=1.3						
MKAR	**Makanchi Array**	**146.97**	**39**	PKPbc	**PKiKP**	**03 32 08.7**	**+0.6**
	comp=N,0.4nm,0.6s,baz=292,slow=3.8,SNR=4.5						

JMA 21 03:41:58.2±0.2,24°.96N×123°.48E,h17km,M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.65**	**221**	P	Pg	03 42 10.7	-0.4
YOJ				*e*S	Sg	03 42 19.4	-0.4
IRIF	**Iriomote-Funau**	**0.66**	**160**	P	Pg	03 42 11.0	-0.2
IRIF				*e*S	Sg	03 42 19.7	-0.4
JISG	**Ishigakijimahi**	**0.84**	**116**	P	Pb	03 42 13.9	-0.5
JISG				*e*S	Sb	03 42 25.1	-0.3
JIJ	**Ishigaki jima**	**0.85**	**134**	P	Pb	03 42 13.6	-0.8
JIJ				S	Sb	03 42 24.9	-1.2
JKRS	**Kuro-shima**	**0.87**	**146**	P	Pb	03 42 14.1	+0.1
JKRS				S	Sb	03 42 26.1	0.0
JTJ	**Tarama**	**1.16**	**106**	P	Pb	03 42 19.8	+0.1
JTJ				*e*S	Sn	03 42 34.7	-0.3

TAP 21 03:42:22.5,24°.97N×121°.91E,h121km,ML2.3,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi**	**0.08**	**271**	P	Pn	03 42 38.0	-1.0
	baz=260						
TWE	**Neicheng**	**0.33**	**222**	P	Pn	03 42 40.4	+0.7
	baz=220						
TWE				S	Sn	03 42 54.1	+1.5
	baz=220						
YM01	**YM01**	**0.36**	**299**	*e*P	Pn	03 42 39.9	0.0
	baz=299						
YM01				*e*S	Sn	03 42 53.4	+0.5
	baz=299						
NDS	**Dongshan**	**0.38**	**208**	*i*P	Pn	03 42 40.5	+0.6
	baz=205						
NDS				S	Sn	03 42 53.9	+0.9
	baz=205						
NWLT	**Wulai**	**0.42**	**243**	P	Pn	03 42 40.3	+0.1
	baz=241						
NWLT				S	Sn	03 42 53.0	-0.4
	baz=241						
ENTT	**Nioudou**	**0.46**	**224**	P	Pn	03 42 41.1	+0.8
	baz=234						
NDT	**Datong Townshi**	**0.52**	**225**	*e*P	Pn	03 42 39.7	-0.9
	baz=233						
NDT				S	Sn	03 42 54.1	-0.2
	baz=233						
YHNB	**Yeheng**	**0.57**	**238**	P	Pn	03 42 40.4	-0.8
	baz=237						
YHNB				S	Sn	03 42 54.5	-0.6
	baz=237						
NNS	**Nan Shan**	**0.72**	**223**	*e*P	Pn	03 42 42.8	+0.5
	baz=226						
NNS				*e*S	Sn	03 42 57.9	+0.7
	baz=226						
NNSH	**Datong**	**0.72**	**222**	*i*P	Pn	03 42 42.8	+0.5
	baz=224						
NNSH				*i*S	Sn	03 42 56.4	-0.8
	baz=224						
NNSB	**Datong**	**0.72**	**222**	P	Pn	03 42 42.6	+0.3
	baz=225						
NNSB				S	Sn	03 42 56.9	-0.3
	baz=225						
NACB	**Ninganchiao**	**0.84**	**200**	P	Pn	03 42 43.0	-0.2
	baz=198						
NACB				S	Sn	03 42 59.0	+0.3
	baz=198						
ETLH	**Xiulin Townshi**	**0.86**	**207**	P	Pn	03 42 43.4	0.0
	baz=212						
ETLH				S	Sn	03 42 58.9	-0.2
	baz=212						
LIOB	**Emei**	**0.88**	**248**	P	Pn	03 42 44.0	+0.5
	baz=241						
LIOB				S	Sn	03 42 58.7	-0.6
	baz=241						
NSTT	**Nanjuang**	**0.89**	**248**	P	Pn	03 42 43.8	+0.2
	baz=240						
NSTT				S	Sn	03 42 59.1	-0.4
	baz=240						
FUSS	**Fushou**	**0.94**	**220**	S	Sn	03 43 01.0	+0.2
	baz=212						
TWT	**Tachien**	**0.98**	**223**	P	Pn	03 42 45.9	+1.2
	baz=222						
TWT				S	Sn	03 43 01.1	-0.2
	baz=222						
WHF	**Hehuan Shan**	**1.01**	**216**	*i*P	Pn	03 42 46.4	+1.1
	baz=213						
WHF				*i*S	Sn	03 43 02.7	+0.4
	baz=213						
WHP	**Taichung City**	**1.12**	**232**	*i*P	Pn	03 42 46.7	+0.8
	baz=230						
WHP				S	Sn	03 43 03.4	-0.2
	baz=230						
OWD	**Renai**	**1.21**	**214**	P	Pn	03 42 47.7	+0.7
	baz=216						
OWD				S	Sn	03 43 05.4	-0.1
	baz=216						
WCS	**Beigang Elemen**	**1.29**	**225**	P	Pn	03 42 48.5	+0.9
	baz=229						
WCS				S	Sn	03 43 07.2	+0.5
	baz=229						
HGSD	**Ruisui**	**1.54**	**197**	*e*P	Pn	03 42 50.5	0.0
	baz=194						
HGSD				*e*S	Sn	03 43 11.9	+0.2
	baz=194						
YULB	**Yu-li**	**1.67**	**200**	P	Pn	03 42 51.0	-1.1
	baz=193						
YULB				S	Sn	03 43 13.2	-1.3
	baz=193						

*JMA **21** 03:45:28.9±0.1,24°.57N×122°.55E,h105km±2km,M2.7*
*TAP **21** 03:45:29.1,24°.67N×122°.59E,h104km,ML3.7,C*
ISC 21 03:45:30.0±1.3,24°.62N±0°.04×122°.61E±0°.02,h96km±7km, n109,σ0°78/208,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.35**	**118**	P	**Pn**	**03 45 44.7**	**+0.3**
JYNG				S	**Sn**	**03 45 55.9**	**+0.8**
YOJ	**Yonaguni jima**	**0.40**	**113**	P	**Pn**	**03 45 44.9**	**+0.2**
YOJ				S	**Sn**	**03 45 56.7**	**+1.0**
YOJ	**Yonaguni jima**	**0.40**	**113**	P	**Pn**	**03 45 45.0**	**+0.3**
	baz=124						
YOJ				S	**Sn**	**03 45 56.9**	**+1.3**
	baz=124						
EGS		**0.65**	**290**	*i*P	**Pn**	**03 45 47.3**	**+0.7**
	baz=278						
EGS				S	**Sn**	**03 45 58.9**	**-0.2**
	baz=278						
TWB1	**Santiao Chiao**	**0.68**	**305**	*i*P	**Pn**	**03 45 46.7**	**-0.2**
	baz=302						
TWB1				S	**Sn**	**03 45 59.6**	**0.0**
	baz=302						
TWC	**Suao**	**0.69**	**269**	*i*P	**Pn**	**03 45 46.5**	**-0.4**
	baz=263						
TWC				*i*S	**Sn**	**03 45 59.0**	**-0.7**
	baz=263						
NTC	**Toucheng**	**0.74**	**289**	*i*P	**Pn**	**03 45 47.4**	**-0.1**
	baz=281						
NTC				*i*S	**Sn**	**03 46 00.2**	**-0.4**
	baz=281						
EWUT	**Wuta**	**0.77**	**257**	*i*P	**Pn**	**03 45 47.6**	**-0.2**
	baz=254						
EWUT				*i*S	**Sn**	**03 46 01.3**	**+0.3**
	baz=254						
TIPB	**Shuangxi**	**0.79**	**297**	*i*P	**Pn**	**03 45 47.8**	**-0.2**
	baz=288						
TIPB				*i*S	**Sn**	**03 46 00.5**	**-1.0**
	baz=288						
ILA	**Ilan**	**0.79**	**281**	P	**Pn**	**03 45 48.2**	**+0.3**
	baz=275						
ILA				*i*S	**Sn**	**03 46 01.5**	**0.0**
	baz=275						
NDS	**Dongshan**	**0.81**	**271**	*i*P	**Pn**	**03 45 48.0**	**-0.1**
	baz=268						
NDS				S	**Sn**	**03 46 01.1**	**-0.6**
	baz=268						
TWE	**Neicheng**	**0.86**	**277**	*i*P	**Pn**	**03 45 48.5**	**-0.1**
	baz=274						
TWE				*i*S	**Sn**	**03 46 02.4**	**-0.2**
	baz=274						
NWF	**Wu-fen Shan**	**0.88**	**301**	*i*P	**Pn**	**03 45 48.6**	**-0.3**
	baz=292						
NWF				S	**Sn**	**03 46 02.2**	**-0.9**
	baz=292						
TNOU	**National Taiwa**	**0.92**	**305**	P	**Pn**	**03 45 49.1**	**-0.1**
	baz=299						
TNOU				S	**Sn**	**03 46 03.5**	**-0.3**
	baz=299						
ENTT	**Nioudou**	**0.95**	**272**	*i*P	**Pn**	**03 45 49.9**	**+0.4**
	baz=270						
ENTT				*e*S	**Sn**	**03 46 04.4**	**+0.1**
	baz=270						
NDT	**Datong Townshi**	**0.99**	**269**	*i*P	**Pn**	**03 45 50.5**	**+0.4**
	baz=265						
NDT				S	**Sn**	**03 46 05.7**	**+0.5**
	baz=265						
TWA	**Mucha**	**1.00**	**291**	P	**Pn**	**03 45 49.7**	**-0.4**
	baz=281						
TWA				*i*S	**Sn**	**03 46 04.5**	**-0.7**
	baz=281						
ETL	**Fush Village**	**1.01**	**243**	P	**Pn**	**03 45 49.6**	**-0.7**
	baz=241						
ETL				S	**Sn**	**03 46 05.2**	**-0.2**
	baz=241						
NWLT	**Wulai**	**1.02**	**279**	*i*P	**Pn**	**03 45 50.5**	**+0.1**
	baz=283						
NWLT				*i*S	**Sn**	**03 46 05.2**	**-0.5**
	baz=283						
NACB	**Ninganchiao**	**1.02**	**245**	P	**Pn**	**03 45 49.6**	**-0.8**
	baz=242						
NACB				S	**Sn**	**03 46 05.2**	**-0.5**
	baz=242						
NHDH	**Xindian Distri**	**1.04**	**290**	P	**Pn**	**03 45 50.5**	**0.0**
	baz=279						
NHDH				*i*S	**Sn**	**03 46 05.5**	**-0.6**
	baz=279						
IRIF	**Iriomote-Funau**	**1.06**	**105**	P	**Pn**	**03 45 50.9**	**+0.1**
IRIF				S	**Sn**	**03 46 06.7**	**+0.2**
TWD	**Chiawan**	**1.06**	**240**	*i*P	**Pn**	**03 45 50.4**	**-0.4**
	baz=232						
TWD				*i*S	**Sn**	**03 46 06.1**	**-0.5**
	baz=232						
TAP1	**Taipei**	**1.07**	**293**	P	**Pn**	**03 45 50.7**	**-0.2**
	baz=283						
TATO	**Taipei**	**1.08**	**290**	P	**Pn**	**03 45 50.3**	**-0.7**
	baz=280						
TATO				S	**Sn**	**03 46 05.4**	**-1.4**
	baz=280						
YM01	**YM01**	**1.08**	**299**	P	**Pn**	**03 45 51.0**	**0.0**
	baz=289						
YM01				S	**Sn**	**03 46 06.4**	**-0.5**
	baz=289						
YM08	**YM08**	**1.08**	**302**	*e*P	**Pn**	**03 45 50.9**	**-0.2**
	baz=291						
YM08				S	**Sn**	**03 46 06.3**	**-0.7**
	baz=291						
ETLH	**Xiulin Townshi**	**1.10**	**248**	P	**Pn**	**03 45 50.9**	**-0.5**
	baz=246						
ETLH				S	**Sn**	**03

baz=227
ETM Tongmen 1.21 238 P **Pn 03 45 51.9 -0.5**
baz=229
ETM S **Sn 03 46 09.2 -0.2**
baz=229
HATJ Hateruma jima 1.23 117 P **Pn 03 45 53.2 +0.5**
HATJ *e*S **Sn 03 46 10.6 +0.7**
NTY Taoyuan 1.25 288 S **Sn 03 46 09.8 -0.5**
baz=282
FUSS Fushou 1.29 254 *i* P **Pn 03 45 53.9 +0.1**
baz=247
FUSS *i* S **Sn 03 46 12.2 +0.4**
baz=247
WHF Hehuan Shan 1.31 249 *i* P **Pn 03 45 54.0 -0.2**
baz=247
WHF *i* S **Sn 03 46 12.1 -0.3**
baz=247
TEGC Jichi Village 1.33 227 P **Pn 03 45 53.6 -0.3**
baz=232
TEGC S **Sn 03 46 12.9 +0.9**
baz=232
JKRS Kuro-shima 1.33 106 P **Pn 03 45 54.5 +0.5**
JKRS S **Sn 03 46 12.6 +0.4**
NCU National Centr 1.34 286 P **Pn 03 45 54.2 +0.1**
baz=291
NCU *i* S **Sn 03 46 12.8 +0.5**
baz=291
ESL Shilin 1.34 233 *i* P **Pn 03 45 53.3 -0.8**
baz=226
ESL *i* S **Sn 03 46 11.0 -1.3**
baz=226
NCUH Zhongli 1.34 285 P **Pn 03 45 53.8 -0.3**
baz=291
NCUH *i* S **Sn 03 46 12.4 +0.1**
baz=291
TWT Tachien 1.35 255 *i* P **Pn 03 45 55.0 +0.6**
baz=253
TWT *i* S **Sn 03 46 13.3 +0.4**
baz=253
TDCB Techi 1.37 255 P **Pn 03 45 54.8 +0.3**
baz=253
TDCB S **Sn 03 46 13.1 -0.1**
baz=253
NJD Zhudong 1.39 275 S **Sn 03 46 14.4 +1.1**
baz=273
CHGB Renai 1.42 247 P **Pn 03 45 55.3 0.0**
baz=240
CHGB S **Sn 03 46 14.7 +0.3**
baz=240
JIJ Ishigaki jima 1.42 100 P **Pn 03 45 55.1 0.0**
JIJ S **Sn 03 46 13.7 -0.4**
EGFH Guangfu 1.43 229 *i* P **Pn 03 45 54.5 -0.7**
baz=224
EGFH *i* S **Sn 03 46 14.3 0.0**
baz=224
LIOB Emei 1.45 271 *i* P **Pn 03 45 55.5 0.0**
baz=269
LIOB *i* S **Sn 03 46 14.6 -0.1**
baz=269
HSN1 Hsinchu 1.45 277 S **Sn 03 46 14.8 +0.1**
baz=275
NSTT Nanjuang 1.46 271 *i* P **Pn 03 45 55.5 -0.1**
baz=269
NSTT *i* S **Sn 03 46 14.6 -0.3**
baz=269
OWD Renai 1.46 243 P **Pn 03 45 55.3 -0.4**
baz=237
OWD S **Sn 03 46 14.9 -0.3**
baz=237
SBCB Hsinchu 1.48 277 P **Pn 03 45 56.5 +0.7**
baz=275
SBCB S **Sn 03 46 15.7 +0.3**
baz=275
HSN Hsinchu 1.50 277 P **Pn 03 45 55.2 -0.8**
baz=276
HSN *i* S **Sn 03 46 15.0 -0.8**
baz=276
WHP Taichung City 1.55 258 *i* P **Pn 03 45 57.6 +0.8**
baz=254
WHP *i* S **Sn 03 46 17.8 +0.7**
baz=254
JISG Ishigakijimahi 1.55 91 P **Pn 03 45 56.5 -0.2**
JISG S **Sn 03 46 16.9 0.0**
HGSD Ruisui 1.56 224 P **Pn 03 45 56.3 -0.5**
baz=223
HGSD S **Sn 03 46 16.6 -0.5**
baz=223
NJN Zhunan 1.58 273 S **Sn 03 46 17.7 +0.1**
baz=271
EHY Hungye 1.61 227 *i* P **Pn 03 45 56.5 -1.0**
baz=226
EHY S **Sn 03 46 17.8 -0.6**
baz=226
WPL Puli Township 1.62 248 P **Pn 03 45 58.0 +0.4**
baz=245
WPL S **Sn 03 46 19.2 +0.7**
baz=245
DPDB Guoxing 1.64 250 P **Pn 03 45 58.1 +0.3**
baz=248
DPDB S **Sn 03 46 19.8 +0.7**
baz=248
WCS Beigang Elemen 1.64 250 *i* P **Pn 03 45 58.6 +0.8**
baz=249
WCS *i* S **Sn 03 46 20.3 +1.3**
baz=249
NMLH Miaoli 1.65 268 *i* P **Pn 03 45 58.0 0.0**
baz=273
NMLH *i* S **Sn 03 46 18.9 -0.3**
baz=273
NSY Sanyi 1.69 264 *i* P **Pn 03 45 58.3 -0.2**
baz=262
NSY *i* S **Sn 03 46 20.8 +0.6**
baz=262
YULB Yu-li 1.71 225 P **Pn 03 45 57.5 -1.2**
baz=230
YULB S **Sn 03 46 19.0 -1.5**
baz=230
SMLT Sun Moon Lake 1.72 245 *i* P **Pn 03 45 59.5 +0.5**
baz=238
SMLT S **Sn 03 46 22.8 +1.9**
baz=238
SSLB Suanglung 1.72 242 P **Pn 03 45 58.8 -0.1**
baz=238
SSLB S **Sn 03 46 21.7 +0.9**
baz=238
EYUL Yuli 1.73 223 *i* P **Pn 03 45 58.4 -0.5**
baz=230
EYUL S **Sn 03 46 22.2 +1.3**
baz=230
TWF1 Yuli 1.74 224 *i* P **Pn 03 45 58.2 -0.9**
baz=230
TWF1 S **Sn 03 46 20.7 -0.5**
baz=230
TYC Yuchr 1.75 246 *i* P **Pn 03 45 59.6 +0.4**
baz=241
TYC S **Sn 03 46 22.8 +1.4**
baz=241
WDJ Dajia District 1.81 262 P **Pn 03 45 59.9 -0.1**
baz=260
WDJ *i* S **Sn 03 46 22.9 +0.1**
baz=260
TCU Taichung 1.82 256 *e*P **Pn 03 46 01.1 +1.0**
baz=254
WWF Wufeng 1.83 252 P **Pn 03 46 00.7 +0.4**
baz=261
WWF S **Sn 03 46 24.1 +0.8**
baz=261
WHYT Xinyi Township 1.84 241 P **Pn 03 46 01.5 +1.0**
baz=235
WHYT S **Sn 03 46 25.5 +1.8**
baz=235
FULB Fuli 1.85 221 *i* P **Pn 03 45 59.9 -0.7**
baz=214
FULB S **Sn 03 46 24.2 +0.4**
baz=214
WJS Zhushan 1.89 246 *i* P **Pn 03 46 01.7 +0.7**
baz=244
WJS *i* S **Sn 03 46 26.4 +1.8**
baz=244
CHKT Chengkung 1.89 217 *i* P **Pn 03 46 00.1 -0.9**
baz=211
CHKT S **Sn 03 46 23.1 -1.5**
baz=211
WNT1 Nantou City 1.90 248 P **Pn 03 46 02.1 +1.1**
baz=247
WNT1 S **Sn 03 46 26.4 +1.7**
baz=247
WNT Mingjian 1.90 248 *i* P **Pn 03 46 01.6 +0.5**
baz=246
WNT *i* S **Sn 03 46 26.3 +1.4**
baz=246
JTJ Tarama 1.91 89 P **Pn 03 46 01.4 +0.2**
JTJ S **Sn 03 46 25.5 +0.5**
WCHH Zhanghua 1.94 254 P **Pn 03 46 01.3 -0.3**
baz=253
ALS Alishan 1.98 237 *i* P **Pn 03 46 02.9 +0.4**
baz=230
ALS *i* S **Sn 03 46 29.2 +2.0**
baz=230
EDH Donghe 2.03 216 *i* P **Pn 03 46 01.9 -0.8**
baz=211
EDH S **Sn 03 46 26.1 -1.7**
baz=211
CHN5 Tsauling 2.03 240 *i* P **Pn 03 46 03.6 +0.6**
baz=233
CHN5 *i* S **Sn 03 46 30.1 +2.0**
baz=233
ELDTW Lidau 2.03 226 *i* P **Pn 03 46 02.3 -0.7**
baz=223
ELDTW S **Sn 03 46 26.7 -1.5**
baz=223
WGK Gukeng 2.08 244 S **Sn 03 46 31.6 +2.4**
baz=243
WDLH Douliu 2.10 244 *i* P **Pn 03 46 03.8 0.0**
baz=243
WDLH *i* S **Sn 03 46 32.0 +2.4**
baz=243
WRL Guolierlin Hig 2.15 251 *i* P **Pn 03 46 04.1 -0.3**
baz=258
WRL *i* S **Sn 03 46 29.9 -0.9**
baz=258
LONT Longtian 2.17 219 P **Pn 03 46 03.9 -0.8**
baz=225
LONT S **Sn 03 46 30.8 -0.5**
baz=225
LDUT Ludao 2.20 209 *i* P **Pn 03 46 03.9 -1.1**
baz=212
LDUT *i* S **Sn 03 46 30.6 -1.2**
baz=212
STYH Taoyuan 2.21 230 *i* P **Pn 03 46 05.7 +0.6**
baz=229
STYH *i* S **Sn 03 46 34.4 +2.4**
baz=229
STYT Tauyuan 2.23 230 *i* P **Pn 03 46 06.0 +0.5**
baz=229
STYT *i* S **Sn 03 46 33.9 +1.3**
baz=229
WTK Tuku 2.23 246 P **Pn 03 46 04.9 -0.5**
baz=245
WTK S **Sn 03 46 32.2 -0.2**
baz=245
CHN4 Tsaushan 2.23 236 *i* P **Pn 03 46 06.1 +0.6**
baz=235
CHN4 *i* S **Sn 03 46 34.4 +1.8**
baz=235
TPUB Ta-pu 2.23 234 P **Pn 03 46 06.3 +0.8**
baz=234
TPUB S **Sn 03 46 33.8 +1.1**
baz=234
TWGBT Beinan 2.27 218 P **Pn 03 46 04.5 -1.5**
baz=223
TWGBT S **Sn 03 46 32.8 -0.7**
baz=223
TWG Pinlang 2.27 218 *i* P **Pn 03 46 04.9 -1.1**
baz=223
TWG *i* S **Sn 03 46 32.8 -0.8**
baz=223
WTP Ta-pu 2.28 234 *i* P **Pn 03 46 06.3 +0.2**
baz=233
WTP S **Sn 03 46 34.6 +0.9**
baz=233
CHY Chiayi 2.29 241 P **Pn 03 46 06.8 +0.7**
baz=250
CHY S **Sn 03 46 33.9 +0.1**
baz=250
JIRB Irabujima 2.34 84 P **Pn 03 46 07.1 +0.2**
JIRB S **Sn 03 46 34.7 -0.5**
TWK Hsinying 2.36 236 *i* P **Pn 03 46 07.7 +0.6**
baz=235
TWK S **Sn 03 46 36.4 +0.7**
baz=235
JIKM Ikemajima 2.42 82 P **Pn 03 46 05.6 -2.3**
JIKM *e*S **Sn 03 46 37.1 +0.1**
JMJ2 Miyako jima3 2.48 87 P **Pn 03 46 09.4 +0.7**
JMJ2 *e*S **Sn 03 46 38.1 -0.3**

*IDC **21** 04:02:44.4±0.6,32˚.65N×83˚.20E,h0^{km},mb3.9/21,*
mb1 4.0/24,mb1mx4.0/41,mbtmp3.9/24,ML3.7/3,MS3.1/9,
Ms1 3.1/9,ms1mx2.8/45,Error ellipse: s-maj=18.4km
s-min=12.8km az=36.0
*NEIC **21** 04:02:46.7±1.3,32˚.69N±0˚.09×83˚.24E±0˚.06,h10^{km}±1^{km},*
mb4.3/18,Error ellipse: s-maj=15.4km s-min=8.5km
az=4.0
*MOS **21** 04:02:51.0±1.3,32˚.84N×83˚.21E,h58^{km},mb4.4/8,Error*
ellipse: s-maj=13.4km s-min=6.8km az=107.3

ISC 21 04:02:49.7±0.5,**32˚.69N**±0˚.07×**83˚.28E**±0˚.06,**h35^{km},n106,**
σ1§**46**/98,**mb4.1**/31,**MS3.2**/9,**8C-3D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**5.42**	**255**		*e*P	**Pn**	**04 04 09.2**	**+1.1**
SMLA					*e*S	**Sn**	**04 05 12.6**	**+3.4**
SMLA					IAML		04 05 18.8	
	comp=N,36nm,0.9s							
NIL	**Nilore**	**8.46**	**279**		P	**Pn**	**04 04 47.4**	**-2.3**
NIL	**Nilore**	**8.46**	**279**		Pn	**Pn**	**04 04 47.4**	**-2.3**
KSH	**Kashi**	**9.01**	**321**		P	**Pn**	**04 04 58.8**	**+1.4**
KSH					pmax	pmax		
	comp=N,6.0nm,0.3s							
KSH					pmax	pmax		
	comp=N,95nm,4.4s							
TARG	**Taragay, Kyrgy**	**10.02**	**336**			**Pn**	**04 05 10.0**	**-1.4**
SHL	**Shillong**	**10.34**	**131**		P	**Pn**	**04 05 13.2**	**-2.5**
SHL	**Shillong**	**10.34**	**131**		Pn	**Pn**	**04 05 13.2**	**-2.5**
WMQ	**Urumqi**	**11.64**	**16**		*e*P	**Pn**	**04 05 34.3**	**+1.0**
WMQ					pmax	pmax		
	comp=N,25nm,1.1s							
WMQ					pmax	pmax		
	comp=N,91nm,4.9s							
WMQ					SMN			
	comp=N,13nm,0.7s							
WMQ					SME			
	comp=N,24nm,0.7s							
KBL	**Kabul**	**12.01**	**283**		P	**Pn**	**04 05 34.7**	**-3.8**
KBL	**Kabul**	**12.01**	**283**		Pn	**Pn**	**04 05 34.7**	**-3.8**
GAR	**Garm**	**12.25**	**305**		Pn	**Pn**	**04 05 40.4**	**-1.3**
CHGR	**Chuyangaron**	**12.92**	**301**		Pn	**Pn**	**04 05 49.8**	**-1.1**
MK31	**Makanchi Array**	**14.10**	**357**	‖	*e*P	**Pn**	**04 06 05.5**	**-1.4**
MK31	**Makanchi Array**	**14.10**	**357**			**Pn**	**04 06 05.0**	**-1.9**
MKAR	**Makanchi Array**	**14.10**	**357**		Pn	**Pn**	**04 06 05.3**	**-1.5**
	comp=N,0.1nm,0.3s,baz=176,slow=14,SNR=11							
MKAR	**Makanchi Array**	**14.10**	**357**		*i* P	**Pn**	**04 06 05.1**	**-1.8**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**14.10**	**357**		Pn	**Pn**	**04 06 04.7**	**-2.2**
MAKZ	**Makanchi**	**14.13**	**356**		P	**Pn**	**04 06 06.5**	**-0.8**
MAKZ	**Makanchi**	**14.13**	**356**			**Pn**	**04 06 06.5**	**-0.8**
KK31	**Karatay Array**	**14.46**	**320**		P	**Pn**	**04 06 10.2**	**-1.5**
KK31	**Karatay Array**	**14.46**	**320**		Pn	**Pn**	**04 06 10.2**	**-1.5**
KKAR	**Karatay Array**	**14.46**	**320**		P	**Pn**	**04 06 10.5**	**-1.2**
KKAR	**Karatay Array**	**14.46**	**320**		Pn	**Pn**	**04 06 10.5**	**-1.2**
GTA	**Gaotai**	**14.95**	**59**		*e*P	**P**	**04 06 26.4**	**+2.7**
GTA					pP		04 06 30.1	
GTA					sP		04 06 32.6	
GTA					pmax	pmax		
	comp=Z,5.0nm,0.8s							
GTA					pmax	pmax		
	comp=Z,26nm,5.1s							
GTA					L	L		
	comp=Z,170nm,14.9s							
GTA					L	L		
	comp=Z,85nm,13.8s							
GTA					L	L		
	comp=Z,98nm,13.4s							
DGZ	**Jazzator, Alta**	**17.27**	**9**	‖	*i*P	**Pn**	**04 06 49.2**	**+1.1**
KURBB	**Kurchatov Arra**	**18.25**	**350**		P	**P**	**04 06 58.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=172,slow=11,SNR=16							
KURK	**Kurchatov**	**18.33**	**351**		P	**P**	**04 06 58.4**	**-2.4**
KURK	**Kurchatov**	**18.33**	**351**		P	**P**	**04 06 58.4**	**-2.4**
CMAR	**Chiang Mai Arr**	**19.98**	**131**		P	**P**	**04 07 18.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=315,slow=10,SNR=8.6							
CMAR					LR	LR	04 17 15.9	
	comp=Z,12nm,21.3s,baz=335,slow=44							
CMAR	**Chiang Mai Arr**	**19.98**	**131**	*ce*	P	**Pn**	**04 07 22.5**	**+1.5**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
GEYT	**Alibeck**	**21.16**	**291**		LR	LR	04 17 20.4	
	comp=Z,54nm,18.4s,baz=280,slow=42							
ZAA0	**Zalesovo Array**	**21.27**	**3**		P	**P**	**04 07 32.9**	**+0.1**
ZALV	**Zalesovo Beam**	**21.27**	**3**		P	**P**	**04 07 32.2**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=198,slow=9.3,SNR=9.1							
ZALV	**Zalesovo Beam**	**21.27**	**3**	*i*	P	**P**	**04 07 35.7**	**+2.9**
ZALV					pmax	pmax		
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**21.27**	**3**		P	**P**	**04 07 33.2**	**+0.3**
BVAR	**Borovoye Array**	**22.34**	**339**		P	**P**	**04 07 44.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=194,slow=16,SNR=2.1							
BRVK	**Borovoye**	**22.40**	**339**	*ce*	P	**P**	**04 07 47.4**	**+2.5**
SONM	**Songino Array**	**23.11**	**42**		P	**P**	**04 07 52.4**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=229,slow=11,SNR=9.6							
SONM	**Songino Array**	**23.11**	**42**		P	**P**	**04 07 53.8**	**+1.2**
SONM					pmax	pmax		
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**23.11**	**42**		P	**P**	**04 07 53.8**	**+1.2**
WSAR	**Wadi Sarin**	**23.67**	**253**		LR	LR	04 19 21.3	
	comp=Z,50nm,19.1s,baz=104,slow=42							
HHC	**Hu-ho-hao-te**	**24.00**	**62**	*e*	P	**P**	**04 07 59.9**	**-1.3**
HHC					pmax	pmax		
	comp=Z,20nm,0.7s							
HHC					pmax	pmax		
	comp=Z,41nm,4.1s							
HHC					L	L		
	comp=Z,210nm,12.6s							
HHC					L	L		
	comp=Z,82nm,13.1s							
HHC					L	L		
	comp=Z,110nm,12.7s							
ABKAR	**Akbulak array**	**24.02**	**320**		P	**P**	**04 08 01.7**	**+0.6**
AKTO	**Aktyubinsk**	**25.71**	**321**		P	**P**	**04 08 16.3**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=132,slow=7.5,SNR=15							
ARU	**Arti**	**29.25**	**332**		P	**P**	**04 08 48.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=120,slow=2.7,SNR=3.8							
ARU	**Arti**	**29.25**	**332**	*c*	*i*P	**P**	**04 08 48.3**	**+0.2**
ARU					S	**S**	**04 13 41.7**	**+3.3**
ARU					SS	**SnSn**	**04 15 00.4**	**-4.9**
ARU					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ARU	**Arti**	**29.25**	**332**		IAmb	IAmb	04 09 08.7	
	comp=Z,8.3nm,1.5s							
HIA	**Hailar**	**31.75**	**48**	‖	*e*P	**P**	**04 09 10.7**	**+0.4**
HIA					pmax	pmax		
	comp=Z,5.0nm,1.1s							
KIRV	**Kirov**	**34.44**	**329**		LR	LR	04 24 30.0	
	comp=Z,38nm,19.3s,baz=164,slow=38							
KIRV	**Kirov**	**34.44**	**329**	‖	*e*P	**P**	**04 09 34.6**	**+1.0**
KSRS	**Korea Array**	**36.59**	**70**		P	**P**	**04 09 52.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=276,slow=10.0,SNR=6.4							
KLR	**Kul'dur**	**39.43**	**51**		P	**P**	**04 10 17.1**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=275,slow=7.0,SNR=8.4							
MMAI	**Mount Meron Ar**	**39.94**	**284**		LR	LR	04 27 58.5	
	comp=Z,39nm,20.2s,baz=0.0,slow=38							
BRTR	**Keskin Array B**	**40.24**	**295**		P	**P**	**04 10 23.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=113,slow=9.5,SNR=5.1							
BRTR	**Keskin Array B**	**40.24**	**295**	*ce*	P	**P**	**04 10 25.8**	**+2.6**
AKASG	**Malin Array Be**	**43.14**	**311**		P	**P**	**04 10 45.5**	**-1.1**
	comp=Z,0.1nm,0.2s,baz=80,slow=8.1,SNR=5.5							
AKASG	**Malin Array Be**	**43.14**	**311**	*ce*	P	**P**	**04 10 46.4**	**-0.2**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.6s							
ELL	**Elmali**	**43.59**	**291**		P	**P**	**04 10 51.2**	**+0.6**
ELL					pmax	pmax		
	comp=Z,39nm,0.8s							
ELL	**Elmali**	**43.59**	**291**		P	**P**	**04 10 51.2**	**+0.6**
MJAR	**Matsushiro Arr**	**44.86**	**69**		P	**P**	**04 11 01.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=290,slow=11,SNR=2.3							
MJAR	**Matsushiro Arr**	**44.86**	**69**		IAmb	IAmb	04 11 15.8	
	comp=Z,1.6nm,1.0s							
MLR	**Muntele Rosu**	**45.39**	**304**		LR	LR	04 32 18.6	
	comp=Z,31nm,18.5s,baz=166,slow=39							
VSU	**Vasula**	**45.44**	**322**	‖	*e*P	**P**	**04 11 05.1**	**+0.3**
VSU					pmax	pmax		
	comp=Z,13nm,0.9s							
BURAR	**Bucovina Array**	**45.76**	**307**		P	**P**	**04 11 07.7**	**0.0**
ALN	**Alexandroupoli**	**45.85**	**297**		P	**P**	**04 11 08.3**	**-0.1**
ALN					pmax	pmax		
	comp=Z,4.0nm,1.0s							
ALN	**Alexandroupoli**	**45.85**	**297**		P	**P**	**04 11 08.3**	**-0.1**
ALN					IAmb	IAmb	04 11 10.1	
	comp=Z,3.7nm,1.0s							
FIA1	**FINESS Array S**	**46.29**	**326**		P	**P**	**04 11 12.1**	**+0.6**
FIA1					IAmb	IAmb	04 11 13.1	
	comp=Z,3.4nm,0.8s							
FINES	**FINESS Array B**	**46.30**	**326**		P	**P**	**04 11 11.5**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=102,slow=8.5,SNR=22							
FINES	**FINESS Array B**	**46.30**	**326**	*i*	P	**P**	**04 11 12.8**	**+1.2**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**46.30**	**326**		P	**P**	**04 11 12.4**	**+0.8**
ARCES	**ARCESS Array B**	**48.59**	**337**		P	**P**	**04 11 29.8**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=98,slow=8.7,SNR=11							
ARCES	**ARCESS Array B**	**48.59**	**337**		P	**P**	**04 11 29.5**	**+0.1**
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**48.59**	**337**		P	**P**	**04 11 29.5**	**+0.1**
ARCES					IAmb	IAmb	04 11 31.1	
	comp=Z,2.8nm,0.7s							
VRAC	**Vranov**	**51.33**	**310**		LR	LR	04 35 30.7	
	comp=Z,27nm,20.3s,baz=110,slow=38							
DPC	**Dobruska-Polom**	**51.37**	**311**		*e*P	**P**	**04 11 51.7**	**+0.9**
DPC	**Dobruska-Polom**	**51.37**	**311**		*e*P	**P**	**04 11 51.7**	**+0.9**
OSTC	**Ostas**	**51.42**	**311**		*e*P	**P**	**04 11 50.3**	**-0.8**
CHVC	**Chvalec**	**51.52**	**311**		*e*P	**P**	**04 11 51.8**	**0.0**
HFS	**Hagfors**	**52.22**	**324**		LR	LR	04 35 17.8	
	comp=Z,31nm,19.2s,baz=130,slow=37							
NC405	**NORSAR Array S**	**53.17**	**325**		P	**P**	**04 12 04.2**	**+0.3**
GERES	**GERESS Array B**	**53.27**	**309**		P	**P**	**04 12 04.6**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=77,slow=7.0,SNR=12							
GERES	**GERESS Array B**	**53.27**	**309**		P	**P**	**04 12 05.1**	**+0.1**
GERES	**GERESS Array B**	**53.27**	**309**		P	**P**	**04 12 05.1**	**+0.1**
KHC	**Kasperske Hory**	**53.31**	**310**	*e*	P	**P**	**04 12 05.7**	**+0.6**
KHC	**Kasperske Hory**	**53.31**	**310**	*e*	P	**P**	**04 12 05.7**	**+0.6**
NOA	**NORSAR Array B**	**53.41**	**325**		P	**P**	**04 12 05.6**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=86,slow=7.1,SNR=15							
NOA					LR	LR	04 36 15.9	
	comp=Z,16nm,19.1s,baz=245,slow=38							
SENIN	**Lac Senin/Sane**	**58.04**	**308**		P	**P**	**04 12 39.2**	**-0.1**
SENIN					IAmb	IAmb	04 12 51.4	
	comp=Z,8.9nm,1.4s							
ESDC	**Sonseca Array**	**68.09**	**304**		P	**P**	**04 13 45.7**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=93,slow=10,SNR=1.8							
ESDC	**Sonseca Array**	**68.09**	**304**		IAmb	IAmb	04 13 51.4	
	comp=Z,1.1nm,1.2s							
WRA	**Warramunga Arr**	**71.56**	**130**		P	**P**	**04 14 07.7**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=324,slow=6.2,SNR=11							
WRA	**Warramunga Arr**	**71.56**	**130**		IAmb	IAmb	04 14 09.4	
	comp=Z,0.2nm,1.1s							
WRAB	**Tennant Creek**	**71.56**	**130**		P	**P**	**04 14 07.6**	**+0.2**
WRAB					pmax	pmax		
	comp=Z,11nm,0.6s							
WRAB	**Tennant Creek**	**71.56**	**130**		P	**P**	**04 14 07.6**	**+0.2**
TOLK	**Toolik Lake Re**	**71.72**	**18**		P	**P**	**04 14 08.2**	**+0.4**
TOLK					IAmb	IAmb	04 14 09.8	
	comp=Z,3.5nm,0.8s							
BMAR	**Burnt Mountain**	**73.89**	**17**		P	**P**	**04 14 22.1**	**+1.5**
ASAR	**Alice Springs**	**73.99**	**132**		P	**P**	**04 14 22.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=314,slow=5.7,SNR=12							
MDM	**Murphy Dome**	**74.75**	**20**		P	**P**	**04 14 26.1**	**+0.4**
MDM					IAmb	IAmb	04 14 27.7	
	comp=Z,3.0nm,1.0s							
NEA2	**Nenana**	**74.77**	**21**		P	**P**	**04 14 25.6**	**-0.1**
NEA2					IAmb	IAmb	04 14 27.7	
	comp=Z,3.7nm,0.8s							
ILAR	**Eielson Array**	**75.27**	**20**		P	**P**	**04 14 29.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=305,slow=4.9,SNR=17							
ILAR	**Eielson Array**	**75.27**	**20**		P	**P**	**04 14 28.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.01**	**277**		P	**P**	**04 14 33.1**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=54,slow=4.5,SNR=2.8							
SML	**Sawmill**	**77.03**	**22**		P	**P**	**04 14 39.6**	**+0.8**
BOSA	**Boshof**	**82.15**	**229**		P	**P**	**04 15 06.7**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=26,slow=6.2,SNR=4.7							
YKA	**Yellowknife Ar**	**84.06**	**8**		P	**P**	**04 15 16.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=344,slow=4.9,SNR=9.8							
YKA	**Yellowknife Ar**	**84.06**	**8**	*ce*	P	**P**	**04 15 16.7**	**+0.4**
YKA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CPUP	**Villa Florida**	**145.28**	**270**		PKPbc	**PKPbc**	**04 22 22.9**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=92,slow=6.1,SNR=3.2							

NEIC ***21*** *04:14:11.5±1.5, 15°.94S±0°.07×71°.53W±0°.1, h133km±7km, mb4.1/15, Error ellipse: s-maj=15.7km s-min=9.0km az=73.0*

VAO ***21*** *04:14:12.2±0.4, 15°.89S×71°.58W, h147km, mb4.3*

IDC ***21*** *04:14:13.2±1.5, 15°.94S×71°.42W, h150km±13km, mb3.7/8, mb1 3.8/12, mb1mx3.6/44, mbtmp4.2/12, Error ellipse: s-maj=16.6km s-min=15.1km az=31.0*

ISC 21 04:14:12.0±0.5, 16°.00S±0°.05×71°.53W±0°.06, h150km, n102, σ1§17/99, mb4.0/11, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.62**	**154**		**Pn**	**04 14 55.3**	**+0.6**
PB16	**IPOC Station P**	**3.03**	**140**		**Pn**	**04 15 01.2**	**+0.9**
LPAZ	**La Paz**	**3.28**	**96**	P	**Pn**	**04 15 04.7**	**+1.1**
	7.1nm,0.3s,baz=287,slow=8.6,SNR=274						
LPAZ				S	**Sn**	**04 15 43.2**	**-0.2**
	3.0nm,0.3s,baz=182,slow=24,SNR=7.8						
LPAZ	**La Paz**	**3.28**	**96**	Pn	**Pn**	**04 15 03.9**	**+0.3**
LPAZ	**La Paz**	**3.28**	**96**	*eP*	**Pn**	**04 15 05.0**	**+1.4**
MNMC	**Minye Minye**	**3.62**	**150**		**Pn**	**04 15 07.8**	**+0.1**
PSGCX	**Pisagua**	**3.82**	**160**	Pn	**Pn**	**04 15 09.6**	**-0.5**
PB11	**IPOC Station P**	**4.15**	**155**	Pn	**Pn**	**04 15 13.6**	**-0.8**
TA02	**Huaiquique**	**4.45**	**163**		**Pn**	**04 15 17.6**	**-0.6**
PB08	**IPOC Station P**	**4.70**	**152**		**Pn**	**04 15 21.9**	**+0.1**
TA01	**Diego Aracena**	**4.72**	**164**	Pn	**Pn**	**04 15 21.1**	**-0.6**
PB01	**IPOC Station P**	**5.38**	**159**		**Pn**	**04 15 29.9**	**-0.7**
PB07	**IPOC Station P**	**5.91**	**165**		**Pn**	**04 15 37.5**	**-0.2**
PB04	**IPOC Station P**	**6.44**	**156**		**Pn**	**04 15 44.2**	**-0.5**
NNA	**Nana**	**6.51**	**307**	P	**Pn**	**04 15 46.4**	**+0.7**
	2.5nm,0.3s,baz=151,slow=11,SNR=6.3						
NNA				S	**Sn**	**04 16 55.2**	**-3.8**
	5.3nm,0.3s,baz=17,slow=17,SNR=14						
NNA	**Nana**	**6.51**	**307**	Pn	**Pn**	**04 15 45.5**	**-0.2**
PB06	**IPOC Station P**	**6.92**	**165**		**Pn**	**04 15 50.4**	**-0.8**
LVC	**Limon Verde**	**7.03**	**160**	P	**Pn**	**04 15 53.0**	**+0.2**
	5.9nm,0.3s,baz=357,slow=8.9,SNR=61						
LVC				S	**Sn**	**04 17 08.6**	**-3.2**
	15nm,0.3s,baz=180,slow=20,SNR=28						
LVC	**Limon Verde**	**7.03**	**160**	Pn	**Pn**	**04 15 52.8**	**0.0**
LVC	**Limon Verde**	**7.03**	**160**	*eP*	**Pn**	**04 15 53.0**	**+0.2**
PB15	**IPOC Station P**	**7.43**	**165**		**Pn**	**04 15 57.5**	**-0.6**
PB10	**IPOC Station P**	**7.53**	**173**	Pn	**Pn**	**04 15 58.9**	**-0.3**
ETMB	**Extrema**	**8.04**	**41**	*eP*	**Pn**	**04 16 04.6**	**-1.4**
CZSB	**Cruzeiro do Su**	**8.30**	**352**	*eP*	**Pn**	**04 16 08.8**	**-0.6**
PB14	**IPOC Station P**	**8.65**	**173**	Pn	**Pn**	**04 16 13.6**	**-0.8**
GO02	**Mina Guanaco**	**9.30**	**169**		**Pn**	**04 16 22.2**	**-0.8**
SIV	**San Ignacio**	**10.06**	**91**	P	**Pn**	**04 16 30.3**	**-2.7**
	0.7nm,0.3s,baz=296,slow=8.0,SNR=13						
SAML	**Samuel**	**10.75**	**50**		**Pn**	**04 16 39.2**	**-2.7**
AC02	**Maricunga**	**11.01**	**169**	Pn	**Pn**	**04 16 45.8**	**-0.1**
PTLB	**Pontes e Lacer**	**11.95**	**89**	*eP*	**Pn**	**04 16 58.4**	**+0.7**
CO03	**El Pedregal**	**14.79**	**177**	Pn	**Pn**	**04 17 34.3**	**+0.4**
SALV	**Santo Antonio**	**15.23**	**92**	*eP*	**P**	**04 17 41.4**	**+0.5**
PP1B	**Ponte de Pedra**	**16.03**	**98**	*eP*	**P**	**04 17 51.1**	**+1.4**
CLDB	**Colider**	**16.13**	**74**	*eP*	**P**	**04 17 51.7**	**+0.8**
MT01	**Popeta**	**17.79**	**179**	P	**Pn**	**04 18 10.9**	**+0.5**
MT01				IAmb	IAmb	04 18 20.8	
	comp=Z,27nm,1.5s						
NPGB	**Novo Progresso**	**18.16**	**63**	*eP*	**Pn**	**04 18 13.5**	**-1.4**
BO01	**Tunca**	**18.32**	**179**	P	**Pn**	**04 18 16.6**	**+0.1**
BO01				IAmb	IAmb	04 18 19.8	
	comp=Z,6.1nm,0.8s						
BO02	**Sierra Bellavi**	**18.73**	**178**	P	**Pn**	**04 18 20.5**	**-0.9**
BO02				IAmb	IAmb	04 18 25.1	
	comp=Z,20nm,1.3s						
ARAG	**Araguaiana, MT**	**18.98**	**92**	*eP*	**Pn**	**04 18 22.6**	**-1.8**
PTGA	**Pitinga**	**18.98**	**38**	P	**P**	**04 18 20.5**	**-1.6**
	comp=Z,3.5nm,0.3s,baz=220,slow=12,SNR=52						
PTGA	**Pitinga**	**18.98**	**38**	P	**P**	**04 18 20.8**	**-1.3**
ITQB	**Itaqui**	**19.31**	**137**	*eP*	**Pn**	**04 18 27.9**	**-0.3**
ITTB	**Itaituba**	**19.35**	**55**	*eP*	**P**	**04 18 25.7**	**-0.5**
PCMB	**Pacaembu**	**19.98**	**109**	*eP*	**Pn**	**04 18 34.6**	**-1.5**
SNDB	**Serra Nova Dou**	**20.04**	**81**	*eP*	**P**	**04 18 33.5**	**-0.1**
ORTC	**Ortega, Tolima**	**20.12**	**349**	*eP*	Pn	04 18 36.2	-1.7
PTGB	**Pitanga**	**20.19**	**119**	*eP*	**P**	**04 18 35.8**	**+0.6**
YOTC	**Yotoco, Valle**	**20.42**	**346**	*eP*	**P**	**04 18 37.9**	**+0.2**
ITRB	**Iturama**	**20.49**	**104**	*eP*	Pn	04 18 39.8	-2.4
TOLC	**Tolima**	**20.79**	**349**	*eP*	Pn	04 18 52.3	+6.1
BOAV	**Boa Vista**	**21.27**	**32**	*eP*	**P**	**04 18 46.3**	**-0.4**
PLMC	**San Jos del P**	**21.29**	**347**	*eP*	**P**	**04 18 47.5**	**+0.5**
GUY2C	**Guyana, Caldas**	**21.42**	**350**	*eP*	**P**	**04 18 50.5**	**+1.6**
RUSC	**La Rusia**	**21.80**	**356**	*eP*	**P**	**04 18 50.9**	**-2.0**
RUSC	**La Rusia**	**21.80**	**356**	*eP*	**P**	**04 18 52.2**	**-0.7**
FRTB	**Fartura**	**21.92**	**113**	*eP*	**P**	**04 18 55.4**	**+1.8**
MALB	**Monte Alegre**	**22.07**	**52**	*eP*	**P**	**04 18 54.2**	**-0.9**
CBOC	**Ciudad Bolivar**	**22.17**	**348**	*eP*	**P**	**04 18 57.6**	**+1.3**
BB19B	**Bebedouro**	**22.38**	**107**	*eP*	**P**	**04 18 59.4**	**+1.3**
IPMB	**Ipameri, GO**	**22.39**	**98**	*eP*	**P**	**04 18 58.0**	**-0.3**
HELC	**Santa Helena**	**22.40**	**350**	*eP*	**P**	**04 18 59.0**	**+0.3**
BARC	**Barichara**	**22.50**	**356**	*eP*	**P**	**04 18 58.8**	**-0.7**
BDFB	**Brasilia**	**22.63**	**92**	P	**P**	**04 18 59.9**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=275,slow=9.5,SNR=9.0						
PLTB	**Pedras Altas**	**22.64**	**137**	P	**P**	**04 18 59.6**	**-0.9**
PEXB	**Peixe**	**22.86**	**83**	*eP*	**P**	**04 19 02.6**	**-0.1**
PRPB	**Parauapebas**	**23.42**	**68**	*eP*	**P**	**04 19 08.0**	**+0.2**
RCLB	**Rio Claro- Sao**	**23.53**	**109**	*eP*	**P**	**04 19 10.1**	**+1.3**
TRQA	**Tornquist**	**23.53**	**161**	P	**P**	**04 19 09.7**	**+1.0**
TRQA				IAmb	IAmb	04 19 14.4	
	comp=Z,4.1nm,0.8s						
TRQA	**Tornquist**	**23.53**	**161**	*eP*	**P**	**04 19 09.8**	**+1.2**
ZARC	**Zaragoza, Cauc**	**23.57**	**352**	*eP*	**P**	**04 19 06.8**	**-2.3**
UREC	**San Jos de Ur**	**23.93**	**350**	*eP*	**P**	**04 19 12.6**	**+0.2**
SMTB	**Santa Maria do**	**24.42**	**76**	*eP*	**P**	**04 19 17.2**	**+0.3**
PLCA	**Paso Flores**	**24.66**	**178**	P	**P**	**04 19 21.9**	**+3.0**
	comp=Z,1.8nm,0.7s,baz=357,slow=11,SNR=7.4						
PLCA	**Paso Flores**	**24.66**	**178**	IAmb	IAmb	04 19 24.0	
	comp=Z,0.9nm,0.6s						
PLCA	**Paso Flores**	**24.66**	**178**	*eP*	**P**	**04 19 20.2**	**+1.3**
MCPB	**Macapa, AP**	**24.71**	**53**	*eP*	**P**	**04 19 20.2**	**+0.7**
SMLC	**San Martn de**	**24.77**	**354**	*eP*	**P**	**04 19 18.9**	**-1.1**
SJCC	**San Jacinto C**	**25.98**	**352**	P	**P**	**04 19 31.5**	**+0.5**
SDBA	**SAO DESIDERIO**	**26.05**	**86**	*eP*	**P**	**04 19 31.1**	**-0.7**
JANB	**Januaria**	**26.24**	**92**	*eP*	**P**	**04 19 33.3**	**-0.1**
DIAM	**Diamantina, MG**	**26.71**	**99**	*eP*	**P**	**04 19 38.7**	**+1.0**
BSFB	**Barra de Sao F**	**29.40**	**100**	*eP*	**P**	**04 20 03.5**	**+2.1**
NAN01	**Guarapari, ES**	**30.09**	**98**	*eP*	**P**	**04 20 09.3**	**+1.8**
GUA01	**Guaratinga, BA**	**30.45**	**96**	*eP*	**P**	**04 20 12.2**	**+1.5**
CMC01	**Camacan, BA**	**30.82**	**93**	*eP*	**P**	**04 20 15.0**	**+1.0**
NBIT	**Itapeh - BA**	**30.94**	**92**	*eP*	**P**	**04 20 15.7**	**+0.6**
GDU01	**Guandu, BA**	**30.96**	**90**	*eP*	**P**	**04 20 15.3**	**+0.1**
NBPB	**Pedra_Branca-C**	**33.01**	**75**	*eP*	**P**	**04 20 33.7**	**+0.5**
NBAN	**Anadia - AL**	**34.91**	**84**	*eP*	**P**	**04 20 49.6**	**-0.1**
USHA	**Ushuaia**	**38.83**	**177**	P	**P**	**04 21 22.1**	**0.0**
	comp=Z,32nm,0.5s,baz=78,slow=3.4,SNR=3.1						
TXAR	**Lajitas Array**	**54.71**	**325**	P	**P**	**04 23 28.0**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=150,slow=7.3,SNR=3.1						
ULM	**Lac du Bonnet**	**69.36**	**344**	P	**P**	**04 25 04.2**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=112,slow=6.1,SNR=3.1						
ULM	**Lac du Bonnet**	**69.36**	**344**	IAmb	IAmb	04 25 05.2	
	comp=Z,3.3nm,1.1s						
DBIC	**Dimbokro**	**69.72**	**77**	P	**P**	**04 25 06.2**	**+0.1**
	comp=Z,7.4nm,1.0s,baz=250,slow=5.8,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**77.97**	**72**	P	**P**	**04 25 54.5**	**+0.2**
TOA0				IAmb	IAmb	04 25 55.6	
	comp=Z,4.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.97**	**72**	P	**P**	**04 25 54.6**	**+0.4**
	comp=Z,4.8nm,0.6s,baz=269,slow=4.5,SNR=18						
TORD	**Torodi Ar. Bea**	**77.97**	**72**	P	**P**	**04 25 53.5**	**-0.7**
TORD				IAmb	IAmb	04 25 55.6	
	comp=Z,3.9nm,0.8s						
ESDC	**Sonseca Array**	**83.74**	**46**	P	**P**	**04 26 25.5**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.5,SNR=5.3						
ESDC	**Sonseca Array**	**83.74**	**46**	P	**P**	**04 26 25.1**	**+0.7**
YKA	**Yellowknife Ar**	**85.20**	**341**	P	**P**	**04 26 32.6**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=136,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**142.38**	**30**	PKhKP	PKPpre	04 33 22.8	
	comp=Z,0.1nm,0.4s,baz=300,slow=2.8,SNR=2.1						
SONM	**Songino Array**	**148.21**	**3**	PKPbc	**PKPab**	**04 33 43.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=339,slow=3.7,SNR=2.8						

BGR ***21*** *04:16:17.4±0.0, 38°.33N×143°.12E, h33km, mb4.4*

MOS ***21*** *04:16:19.1±1.0, 38°.29N×141°.73E, h53km, mb4.5/18, Error ellipse: s-maj=8.5km s-min=6.5km az=102.6*

JMA ***21*** *04:16:20.5±0.1, 38°.18N×141°.69E, h50km±1km, M4.0 JMA Felt II J1.*

NIED ***21*** *04:16:20.5, 38°.18N×141°.69E, h50km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.71; Mθθ-0.25; Mφφ-1.46; Mrθ0.48; Mθφ-0.52; Mφr1.31;*

Fault plane solution: M0 2.19000×10^15 NP1:φs20.00000°, δ65.00000°, λ90.00000°. NP2:φs201.00000°, δ25.00000°, λ91.00000°.

NEIC ***21*** *04:16:21.2±2.2, 38°.22N±0°.07×141°.6E±0°.1, h50km±6km, mb4.4/23 Error ellipse: s-maj=13.1km s-min=8.1km az=122.0*

IDC ***21*** *04:16:22.0±0.6, 38°.08N×141°.58E, h68km±4km, mb3.6/21, mb1 3.8/27, mb1mx3.6/58, mbtmp3.9/27, MS3.1/10, Ms1 3.1/10, ms1mx2.9/39, Error ellipse: s-maj=13.1km s-min=8.2km az=111.0*

ISC 21 04:16:19.8±0.5, 38°.19N±0°.04×141°.78E±0°.05, h49km±3km, h49km:pP-P, n139, σ1§46/151, mb4.2/40, MS3.1/5, 9C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.27**	**296**	P	**Pn**	**04 16 29.0**	**+0.4**
JIKH				*i* S	**Sn**	**04 16 35.0**	**+0.2**
JIO	**Ouri**	**0.43**	**308**	P	**Pn**	**04 16 30.5**	**+0.4**
JIO				S	**Sn**	**04 16 37.3**	**-0.2**
JKMT	**Kesennumamotoy**	**0.66**	**339**	P	**Pn**	**04 16 33.5**	**+0.5**
JKMT				S	**Sn**	**04 16 42.5**	**-0.1**
JMM	**Marumori**	**0.84**	**248**	P	**Pn**	**04 16 34.8**	**-0.5**
JMM				S	**Sn**	**04 16 45.5**	**-1.2**
JMM	**Marumori**	**0.84**	**248**		**Pn**	**04 16 34.9**	**-0.5**
JMK	**Ichinoseki**	**0.88**	**330**	P	**Pn**	**04 16 36.4**	**+0.6**
JMK				S	**Sn**	**04 16 47.8**	**+0.2**
JOU	**Okura**	**0.89**	**282**	P	**Pn**	**04 16 36.1**	**0.0**
JOU				S	**Sn**	**04 16 47.5**	**-0.5**
JFK	**Kawauchi**	**1.09**	**221**	P	**Pn**	**04 16 38.4**	**-0.4**
JFK				*e*S	**Sn**	**04 16 52.0**	**-0.8**
JFT	**Otama**	**1.32**	**240**	P	**Pn**	**04 16 42.1**	**+0.2**
JFT				S	**Sn**	**04 16 57.7**	**-0.7**
JYK	**Kaneyama**	**1.33**	**304**	P	**Pn**	**04 16 42.2**	**+0.2**
JOM	**Ohasama**	**1.33**	**344**	P	**Pn**	**04 16 42.8**	**+0.7**
JOM				S	**Sn**	**04 16 59.3**	**+0.6**
JYS	**Shirataka**	**1.35**	**272**	P	**Pn**	**04 16 42.4**	**+0.1**
JYS				*e*S	**Sn**	**04 16 59.1**	**+0.1**
JRK	**Rokugo**	**1.50**	**324**	P	**Pn**	**04 16 45.2**	**+0.9**
JYA	**Atsumi**	**1.67**	**285**	P	**Pn**	**04 16 46.9**	**+0.3**
JYT	**Yasato**	**2.33**	**213**	Pn	**Pn**	**04 16 55.4**	**-0.3**
JSD	**Sado**	**2.78**	**268**	Pn	**Pn**	**04 17 00.4**	**-1.4**
MJAR	**Matsushiro Arr**	**3.29**	**241**	P	**Pn**	**04 17 09.6**	**+0.8**
	0.8nm,0.3s,baz=59,slow=11,SNR=57						
MJAR				S	**Sn**	**04 17 43.5**	**-3.1**
	1.0nm,0.3s,baz=69,slow=18,SNR=6.3						
MJAR				LR	LR	04 18 39.8	
	comp=Z,242nm,20.9s,baz=65,slow=45						
MJAR	**Matsushiro Arr**	**3.29**	**241**	Pn	**Pn**	**04 17 09.9**	**+1.1**
MAJO	**Matsushiro**	**3.29**	**241**	*i* P	**Pn**	**04 17 10.2**	**+1.4**
MAJO	**Matsushiro**	**3.29**	**241**	Pn	**Pn**	**04 17 09.4**	**+0.6**
MAT	**Matsushiro**	**3.29**	**241**		**Pn**	**04 17 10.0**	**+1.2**
MAT				*e*S	**Sn**	**04 17 52.0**	**+5.4**
MJB9	**Matsu-Tunnel**	**3.29**	**241**		**Pn**	**04 17 09.9**	**+1.1**
ERM	**Erimo**	**3.96**	**15**	*i* P	**Pn**	**04 17 18.8**	**+0.8**
ERM	**Erimo**	**3.96**	**15**	Pn	**Pn**	**04 17 19.1**	**+1.1**
JEM	**Erimo**	**3.96**	**15**	Pn	Pn	04 17 50.5	+32
JGF	**Kuroka**	**4.39**	**235**		**Pn**	**04 17 24.7**	**+0.8**
JSG	**Sagara**	**4.55**	**221**	Pn	**Pn**	**04 17 27.7**	**+1.6**
JEW	**Eniwo**	**4.65**	**357**	Pn	**Pn**	**04 17 29.7**	**+2.3**
INU	**Inuyama**	**4.76**	**235**	Pn	**Pn**	**04 17 30.0**	**+1.0**
JHJ	**Hachijo jima 2**	**5.32**	**198**	P	**Pn**	**04 17 37.9**	**+1.2**
	20nm,0.3s,baz=332,slow=23,SNR=10						
JHJ				S	**Sn**	**04 18 33.5**	**-3.0**
	38nm,0.3s,baz=282,slow=22,SNR=7.6						
JWT	**Wachi**	**5.89**	**242**	Pn	**Pn**	**04 17 46.3**	**+1.9**
ASAJ	**Asahikawa**	**5.95**	**6**	P	Pn	04 17 50.3	+5.0
	1.1nm,0.3s,baz=31,slow=7.3,SNR=3.6						
ASAJ				S	**Sn**	**04 18 53.6**	**+1.5**
	1.3nm,0.3s,baz=28,slow=32,SNR=1.4						
NMR	**Nemuro--Hokkai**	**5.98**	**29**	*e*P	**Pn**	**04 17 44.5**	**-1.2**
NMR				*e*S	**Sn**	**04 18 48.5**	**-4.2**
RUSJ	**Misakicho**	**6.46**	**23**	*e*P	**Pn**	**04 17 52.2**	**-0.1**
RUSJ				*e*S	**Sn**	**04 19 01.2**	**-3.4**
GRPR	**Tuman**	**6.53**	**26**	*e*P	**Pn**	**04 17 53.7**	**+0.4**
GRPR				*e*S	**Sn**	**04 19 02.2**	**-4.2**
GRPR				smax	smax		
	comp=N,224nm,0.4s						
GRPR				smax	smax		
	comp=E,166nm,0.3s						
JHS	**Saijyo**	**7.66**	**248**	Pn	**Pn**	**04 18 10.2**	**+1.3**
KUR	**Kuril'sk**	**8.38**	**31**	P	**Pn**	**04 18 20.4**	**+1.9**
KUR				*e*S	**Sn**	**04 19 50.4**	**-1.3**
KUR				smax	smax		
	comp=E,30nm,0.5s						
KUR				smax	smax		
	comp=N,16nm,0.3s						
MSHR	**Mys Shultsa**	**9.21**	**302**	*ce*P	**Pn**	**04 18 32.1**	**+2.1**
MSHR				pmax	pmax		
	comp=Z,19nm,0.8s						
USA0B	**Ussuriysk Arra**	**9.51**	**312**	P	**Pn**	**04 18 32.6**	**-1.4**
USA0B	**Ussuriysk Arra**	**9.51**	**312**		**Pn**	**04 18 32.6**	**-1.4**
USRK	**Ussuriysk Ar.**	**9.51**	**312**	P	**Pn**	**04 18 36.5**	**+2.5**
	baz=126,slow=14,SNR=18						
USRK				LR	LR	04 22 13.6	
	comp=Z,89nm,18.0s,baz=71,slow=37						
USRK	**Ussuriysk Ar.**	**9.51**	**312**	P	**Pn**	**04 18 32.8**	**-1.2**
USRK	**Ussuriysk Ar.**	**9.51**	**312**		**Pn**	**04 18 32.8**	**-1.2**
KSRS	**Korea Array**	**10.99**	**270**	P	**Pn**	**04 18 56.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=80,slow=14,SNR=8.9						
KSRS				LR	LR	04 22 59.2	
	comp=Z,65nm,20.2s,baz=83,slow=37						
KS19	**Wonju Array Si**	**11.02**	**271**	Pn	**Pn**	**04 18 52.7**	**-2.1**
MDJ	**Mudanjiang**	**11.17**	**309**	Pn	**Pn**	**04 18 58.8**	**+2.0**
TJN	**Taejon**	**11.63**	**265**	*ce*P	**Pn**	**04 19 06.6**	**+3.6**
KLR	**Kul'dur**	**13.19**	**330**	P	**Pn**	**04 19 27.9**	**+3.6**
	comp=Z,0.0nm,0.3s,baz=145,slow=12,SNR=2.0						
KLR				LR	LR	04 24 32.4	
	comp=Z,67nm,18.3s,baz=133,slow=37						
KLR	**Kul'dur**	**13.19**	**330**	*i* P	**P**	**04 19 28.9**	**-4.1**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SKR	**Severo-Kuril's**	**16.11**	**35**	*e*P	Pn	04 19 45.5	-17
SKR				pmax	pmax		
	comp=Z,71nm,1.2s						
PETK	**Petropavlovsk-**	**18.55**	**31**	LR	LR	04 27 07.7	
	comp=Z,39nm,21.9s,baz=234,slow=34						
BJT	**Baijiatuan**	**19.94**	**283**	P	**P**	**04 20 45.6**	**-2.0**
BJT				pmax	pmax		
	comp=Z,23nm,0.7s						
BJT	**Baijiatuan**	**19.94**	**283**	P	**P**	**04 20 45.6**	**-2.0**
BJT				IAmb	IAmb	04 20 55.6	
	comp=Z,23nm,0.7s						
MA2	**Magadan**	**22.16**	**12**	P	**P**	**04 21 12.3**	**+0.9**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MA2	**Magadan**	**22.16**	**12**	P	**P**	**04 21 12.3**	**+0.9**
ULN	**Ulaanbaatar**	**26.96**	**302**	*ce*P	**P**	**04 21 56.1**	**-0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**04 22 01.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=98,slow=11,SNR=6.5						
SONM				LR	LR	04 33 19.0	
	comp=Z,50nm,20.9s,baz=134,slow=37						
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**04 22 00.8**	**+0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**04 22 00.8**	**+0.1**
ENH	**Enshi**	**27.74**	**263**	P	**P**	**04 22 02.6**	**-1.2**
ENH				IAmb	IAmb	04 22 04.3	
	comp=Z,15nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	04 52 27.9	
	baz=316,slow=75,SNR=870						
H11N1	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	04 52 25.5	
	baz=316,slow=75,SNR=1439						
H11N3	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	04 52 26.2	
	baz=316,slow=75,SNR=812						
H11S1	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	04 53 24.0	
	baz=318,slow=76,SNR=338						
H11S3	**WAKE ISLAND Hy**	**29.27**	**125**	T	T	04 53 20.8	
	baz=318,slow=76,SNR=530						
H11S2	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	04 53 22.9	
	baz=318,slow=76,SNR=344						
BILL	**Bilibino**	**32.84**	**17**	*i* P	**P**	**04 22 47.8**	**-0.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
DGZ	**Jazzator, Alta**	**39.96**	**305**	*i* P	**P**	**04 23 49.1**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	**Zalesovo Array**	**41.36**	**311**	P	**P**	**04 24 00.0**	**-0.8**
ZAA0				IAmb	IAmb	04 24 19.1	
	comp=Z,5.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.36**	**311**	P	**P**	**04 24 00.5**	**-0.3**
	comp=Z,2.8nm,0.5s,baz=88,slow=7.8,SNR=12						
ZALV				pP	**sP**	**04 24 18.4**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=83,slow=6.7,SNR=6.7						
ZALV				PcP	**PcP**	**04 25 57.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=36,slow=3.7,SNR=1.5						
ZALV				LR	LR	04 41 21.4	
	comp=Z,25nm,18.4s,baz=218,slow=36						
ZALV	**Zalesovo Beam**	**41.36**	**311**	*i* P	**P**	**04 24 00.9**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**43.76**	**301**	P	**P**	**04 24 20.6**	**+0.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MK31	**Makanchi Array**	**43.76**	**301**	P	**P**	**04 24 20.6**	**+0.2**
MK31				IAmb	IAmb	04 24 39.0	
	comp=Z,4.5nm,0.8s						
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**04 24 20.4**	**0.0**
	comp=Z,2.2nm,0.7s,baz=85,slow=9.9,SNR=19						
MKAR				pP	**sP**	**04 24 38.2**	**-0.9**
	comp=Z,4.7nm,0.7s,baz=86,slow=9.8,SNR=18						
MKAR	**Makanchi Array**	**43.76**	**301**	*i* P	**P**	**04 24 21.0**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**04 24 20.7**	**+0.3**
MAKZ	**Makanchi**	**43.97**	**301**	P	**P**	**04 24 22.0**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**43.97**	**301**	P	**P**	**04 24 22.0**	**-0.1**
MAKZ				IAmb	IAmb	04 24 40.8	
	comp=Z,4.9nm,0.8s						
ILAR	**Eielson Array**	**48.37**	**33**	P	**P**	**04 24 56.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=271,slow=6.1,SNR=5.0						
KLU	**Klutina**	**49.07**	**37**	P	**P**	**04 25 05.5**	**+3.6**
BOOM	**Boomskoye usch**	**49.24**	**297**	P	**P**	**04 25 04.0**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BOOM	**Boomskoye usch**	**49.24**	**297**	P	**P**	**04 25 04.0**	**+0.4**
N25K	**Chitina, Valde**	**49.68**	**37**	P	**P**	**04 25 10.2**	**+3.6**
BRVK	**Borovoye**	**50.07**	**312**	P	**P**	**04 25 10.6**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRVK	**Borovoye**	**50.07**	**312**	P	**P**	**04 25 10.6**	**+1.1**
BRVK				IAmb	IAmb	04 25 28.5	
	comp=Z,4.8nm,1.1s						
AAK	**Ala-Archa**	**50.20**	**298**	LR	LR	04 45 53.1	
	comp=Z,29nm,22.0s,baz=92,slow=35						
AAK	**Ala-Archa**	**50.20**	**298**	*i* P	**P**	**04 25 10.2**	**-0.7**
KK31	**Karatay Array**	**52.80**	**299**	P	**P**	**04 25 29.8**	**-0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**52.80**	**299**	P	**P**	**04 25 29.8**	**-0.3**
KK31				IAmb	IAmb	04 25 48.9	
	comp=Z,4.7nm,1.0s						
KKAR	**Karatay Array**

comp=Z,0.2nm,0.8s,baz=341,slow=4.8,SNR=1.8
LPAZ La Paz 145.85 59 PKPbc **PKPbc 04 35 55.2 +0.3**
comp=Z,0.9nm,0.7s,baz=159,slow=2.1,SNR=5.2
H03N2 Juan Fernandez 146.84 94 T T 07 20 26.9
baz=293,slow=76,SNR=8.6
H03N3 Juan Fernandez 146.85 94 T T 07 20 25.9
baz=293,slow=76,SNR=9.9
H03N1 Juan Fernandez 146.86 94 T T 07 20 27.6
baz=293,slow=76,SNR=10

*IDC **21** 04:43:40.3±1.1,4.°23S×100.°58E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/43, mbtmp3.8/6, Error ellipse: s-maj=50.5km s-min=20.7km az=57.0*
*DJA **21** 04:43:50.1±0.7,4.°5S×3.°2E, h12km±4km, M3.4/9, MLv3.4/9*
ISC 21 04:43:45.9±1.1,**3.°6S**±0.°1×**101.°4E**±0.°1,**h10**km,**n21,**
σ1s90/17, mb3.8/8, 2C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UBSI	**University, Be**	**0.89**	**98**	P	**Pn**	**04 44 05.1**	**+0.6**
UBSI				S	Sb	04 44 15.9	+0.4
MASI	**Maura Aman, Be**	**0.98**	**60**	P	Pn	04 44 04.8	-1.0
KSI	**Kapahiang**	**1.20**	**91**	P	**Pn**	**04 44 10.5**	**+1.6**
MNAI	**Manna**	**1.72**	**115**	P	**Pn**	**04 44 17.9**	**+1.9**
MNAI				S	**Sn**	**04 44 39.2**	**+1.1**
EGSI	**Enggano, Bengk**	**1.93**	**153**	P	**Pg**	**04 44 23.8**	**+0.9**
LHSI	**Lahat**	**2.14**	**95**	P	**Pn**	**04 44 24.1**	**+2.4**
PDSI	**Padang**	**2.85**	**341**	P	**Pn**	**04 44 34.9**	**+3.3**
MDSI	**Maura Dua**	**2.91**	**107**	P	**Pn**	**04 44 33.6**	**+1.3**
LWLI	**Liwa**	**3.00**	**117**	P	**Pn**	**04 44 36.5**	**+2.8**
H08S2	**Diego Garcia H**	**29.02**	**261**	T	T	05 19 48.3	
baz=84,slow=75,SNR=10							
H08S3	**Diego Garcia H**	**29.03**	**261**	T	T	05 19 48.4	
baz=84,slow=75,SNR=8.3							
H08S1	**Diego Garcia H**	**29.04**	**261**	T	T	05 19 33.1	
baz=84,slow=75,SNR=5.4							
WRA	**Warramunga Arr**	**35.98**	**119**	P	**P**	**04 50 46.0**	**-1.4**
0.2nm,0.3s,baz=304,slow=8.9,SNR=8.7							
ASAR	**Alice Springs**	**37.18**	**125**	P	**P**	**04 50 56.9**	**-0.7**
0.6nm,0.3s,baz=301,slow=8.0,SNR=18							
MK31	**Makanchi Array**	**52.97**	**344**	⇓Pn	**P**	**04 53 01.9**	**-0.8**
0.3nm,0.4s,baz=168,slow=8.3,SNR=7.4							
MK31				⇑Lg	Lg	04 54 04.9	
0.6nm,0.8s,baz=179,slow=28,SNR=6.6							
MKAR	**Makanchi Array**	**52.97**	**344**	P	**P**	**04 53 01.6**	**-1.1**
0.4nm,0.3s,baz=142,slow=7.9,SNR=7.8							
MAKZ	**Makanchi**	**53.07**	**343**	⇑Pn	**P**	**04 53 02.3**	**-1.1**
0.9nm,0.9s							
MAKZ				⇓Lg	Lg	04 54 07.0	
0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**57.50**	**343**	P	**P**	**04 53 33.6**	**-1.6**
0.2nm,0.2s,baz=159,slow=8.0,SNR=1.9							
ZALV	**Zalesovo Beam**	**59.02**	**349**	P	**P**	**04 53 43.9**	**-2.0**
0.7nm,0.4s,baz=160,slow=8.9,SNR=2.8							
MAW	**Mawson**	**69.06**	**195**	P	P	04 54 42.7	-9.0
0.7nm,0.3s,baz=18,slow=6.4,SNR=2.0							
TXAR	**Lajitas Array**	**145.09**	**40**	PKPbc	**PKPdf**	**05 03 22.6**	**-2.0**
0.2nm,0.6s,baz=46,slow=2.6,SNR=2.0							

JMA 21 04:47:18.5±0.2,**24.°95N**×**124.°03E**,**h2**km±5km,**M2.0,**
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.44**	**145**	P	Pg	04 47 27.3	+0.3
JISG				*e*S	Sg	04 47 33.7	+1.0
JIJ	**Ishigaki jima**	**0.59**	**170**	P	Pg	04 47 30.0	+0.1
JIJ				*e*S	Sg	04 47 37.7	+0.1
IRIF	**Iriomote-Funau**	**0.67**	**204**	P	Pg	04 47 31.6	+0.2
IRIF				S	Sg	04 47 40.4	+0.3
JTJ	**Tarama**	**0.68**	**117**	P	Pg	04 47 32.1	+0.5
JTJ				S	Sg	04 47 40.8	+0.3
JKRS	**Kuro-shima**	**0.71**	**182**	P	Pg	04 47 32.5	+0.4
JKRS				*e*S	Sg	04 47 42.3	+1.0
HATJ	**Hateruma jima**	**0.91**	**193**	S	Sg	04 47 48.7	+0.9
JIRB	**Irabujima**	**1.04**	**96**	S	Sg	04 47 52.1	0.0

TAP 21 04:47:21.5,23.°96N×122.°64E, h55km±1km,**ML2.6, D,**
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.60**	**34**	P	Pn	04 47 34.5	+0.3
baz=33							
YOJ				S	Sn	04 47 44.0	+0.6
baz=33							
EWUT	**Wuta**	**0.92**	**302**	S	Sn	04 47 52.0	+1.4
baz=302							
TWC	**Suao**	**0.97**	**312**	*e*P	Pn	04 47 39.2	+0.3
baz=313							
TWC				S	Sn	04 47 52.0	+0.3
baz=313							
NACB	**Ninganchiao**	**0.98**	**283**	P	Pn	04 47 38.7	-0.3
baz=273							
NACB				S	Sn	04 47 51.3	-0.7
baz=273							
NDS	**Dongshan**	**1.07**	**309**	*i* P	Pn	04 47 40.4	+0.1
baz=309							
NDS				*i* S	Sn	04 47 55.5	+1.2
baz=309							
ETLH	**Xiulin Townshi**	**1.08**	**283**	P	Pn	04 47 40.1	-0.4
baz=284							
ETLH				S	Sn	04 47 54.6	-0.1
baz=284							
ESL	**Shilin**	**1.11**	**263**	S	Sn	04 47 53.9	-1.3
baz=256							
EGFH	**Guangfu**	**1.15**	**255**	S	Sn	04 47 55.6	-0.5
baz=246							
HGSD	**Ruisui**	**1.21**	**247**	P	Pn	04 47 41.8	-0.3
baz=247							
HGSD				S	Sn	04 47 56.0	-1.5
baz=247							
NNSB	**Datong**	**1.24**	**292**	P	Pn	04 47 42.7	+0.1
baz=293							
NNSB				S	Sn	04 47 58.6	+0.3
baz=293							
NNSH	**Datong**	**1.24**	**292**	*i* P	Pn	04 47 42.4	-0.3
baz=292							
NNSH				*i* S	Sn	04 47 58.5	+0.2
baz=292							
TIPB	**Shuangxi**	**1.25**	**324**	*i* P	Pn	04 47 43.6	+0.9
baz=325							
TIPB				*i* S	Sn	04 47 58.1	-0.4
baz=325							
NNS	**Nan Shan**	**1.25**	**293**	S	Sn	04 47 58.9	+0.2
baz=293							
WHF	**Hehuan Shan**	**1.27**	**278**	*i* P	Pn	04 47 42.8	-0.5
baz=279							
WHF				*i* S	Sn	04 47 59.4	-0.1
baz=279							
EHY	**Hungye**	**1.29**	**250**	*i* P	Pn	04 47 42.7	-0.5
baz=249							
EHY				S	Sn	04 47 58.7	-0.8
baz=249							
FUSS	**Fushou**	**1.31**	**283**	*i* P	Pn	04 47 43.8	+0.2
baz=283							
FUSS				*e*S	Sn	04 48 00.8	+0.6
baz=283							
NWLT	**Wulai**	**1.32**	**308**	*i* P	Pn	04 47 44.7	+1.1
baz=309							
NWLT				*i* S	Sn	04 48 00.1	-0.1
baz=309							
OWD	**Renai**	**1.34**	**270**	*i* P	Pn	04 47 43.9	-0.1
baz=280							
OWD				*i* S	Sn	04 48 00.0	-0.8
baz=280							
CHGB	**Renai**	**1.34**	**274**	P	Pn	04 47 44.2	0.0
baz=275							
CHGB				S	Sn	04 48 00.3	-0.8
baz=275							
YHNB	**Yeheng**	**1.35**	**302**	P	Pn	04 47 44.7	+0.6
baz=302							
YHNB				S	Sn	04 48 02.2	+1.1
baz=302							
NWF	**Wu-fen Shan**	**1.35**	**325**	P	Pn	04 47 44.8	+0.7
baz=326							
NWF				*e*S	Sn	04 48 01.8	+0.8
baz=326							
YULB	**Yu-li**	**1.35**	**245**	P	Pn	04 47 43.9	-0.2
baz=238							
YULB				S	Sn	04 48 00.2	-0.9
baz=238							
EYUL	**Yuli**	**1.36**	**243**	*i* P	Pn	04 47 44.1	0.0
baz=243							
EYUL				S	Sn	04 48 01.1	0.0
baz=243							
TWT	**Tachien**	**1.37**	**282**	*i* P	Pn	04 47 44.3	-0.1
baz=283							
TWF1	**Yuli**	**1.37**	**244**	*i* P	Pn	04 47 44.3	-0.1
baz=243							
TWF1				*i* S	Sn	04 48 01.1	-0.4
baz=243							
FULB	**Fuli**	**1.45**	**239**	P	Pn	04 47 44.8	-0.6
baz=229							
FULB				S	Sn	04 48 02.3	-1.1
baz=229							
CHKT	**Chengkung**	**1.45**	**234**	S	Sn	04 48 01.1	-2.3
baz=225							
SSLB	**Suanglung**	**1.55**	**264**	P	Pn	04 47 46.7	-0.1
baz=264							
SSLB				S	Sn	04 48 05.7	-0.2
baz=264							
EDH	**Donghe**	**1.57**	**231**	P	Pn	04 47 47.1	0.0
baz=225							
EDH				*i* S	Sn	04 48 04.1	-2.2
baz=225							
WHP	**Taichung City**	**1.58**	**282**	P	Pn	04 47 48.6	+1.4
baz=282							
WHP				S	Sn	04 48 08.0	+1.4
baz=282							
WCS	**Beigang Elemen**	**1.58**	**274**	*i* P	Pn	04 47 48.1	+1.0
baz=280							
WCS				S	Sn	04 48 06.9	+0.3
baz=280							
SMLT	**Sun Moon Lake**	**1.59**	**267**	P	Pn	04 47 48.1	+0.6
baz=268							
SMLT				S	Sn	04 48 07.0	0.0
baz=268							
LIOB	**Emei**	**1.63**	**295**	*e*P	Pn	04 47 48.8	+1.0
baz=295							
LDUT	**Ludao**	**1.68**	**220**	*e*P	Pn	04 47 46.9	-1.5
baz=219							
LDUT				S	Sn	04 48 07.8	-1.0
baz=219							
ELDTW	**Lidau**	**1.68**	**243**	*i* P	Pn	04 47 48.0	-0.5
baz=242							
ELDTW				S	Sn	04 48 07.9	-1.1
baz=242							
ALS	**Alishan**	**1.74**	**255**	*i* P	Pn	04 47 50.6	+1.0
baz=254							
ALS				S	Sn	04 48 10.1	-0.8
baz=254							
CHN5	**Tsauling**	**1.83**	**259**	*i* P	Pn	04 47 52.2	+1.6
baz=252							
CHN5				*i* S	Sn	04 48 15.8	+3.0
baz=252							
STYH	**Taoyuan**	**1.88**	**246**	P	Pn	04 47 51.5	+0.2
baz=239							
STYH				S	Sn	04 48 15.0	+1.1
baz=239							
STYT	**Tauyuan**	**1.90**	**246**	P	Pn	04 47 52.6	+1.0
baz=239							
STYT				S	Sn	04 48 15.4	+1.0
baz=239							
TPUB	**Ta-pu**	**1.96**	**251**	P	Pn	04 47 54.0	+1.7
baz=249							
TPUB				S	Sn	04 48 18.0	+2.2
baz=249							
CHN4	**Tsaushan**	**1.97**	**252**	*i* P	Pn	04 47 54.4	+1.9
baz=251							
CHN4				*i* S	Sn	04 48 19.7	+3.6
baz=251							
WTP	**Ta-pu**	**1.99**	**249**	*i* P	Pn	04 47 54.9	+2.1
baz=241							
WTP				*i* S	Sn	04 48 19.5	+3.0
baz=241							
SLGT	**Liugui**	**2.07**	**243**	P	Pn	04 47 54.8	+1.0
baz=235							
SLGT				S	Sn	04 48 19.5	+1.1
baz=235							
WRL	**Guolierlin Hig**	**2.07**	**269**	*e*P	Pn	04 47 57.1	+3.3
baz=281							
WRL				S	Sn	04 48 21.2	+2.7
baz=281							
CHN1	**Nanshi**	**2.09**	**249**	*i* P	Pn	04 47 54.6	+0.6
baz=255							
CHN1				*i* S	Sn	04 48 22.2	+3.4
baz=255							
TWK	**Hsinying**	**2.09**	**251**	*i* P	Pn	04 47 55.7	+1.5
baz=249							
TWK				*i* S	Sn	04 48 22.2	+3.2
baz=249							
TSMG	**Majia**	**2.22**	**236**	*e*P	Pn	04 47 56.4	+0.6
baz=232							
TSMG				*e*S	Sn	04 48 21.4	-0.8
baz=232							
EAST	**Anshuo**	**2.28**	**227**	P	Pn	04 47 56.3	-0.4
baz=231							
MASBT	**Mashibuluo**	**2.28**	**234**	P	Pn	04 47 57.0	+0.2
baz=230							
MASBT				*e*S	Sn	04 48 24.3	+0.6
baz=230							
SLIU	**Shizi**	**2.43**	**225**	P	Pn	04 47 59.0	+0.3
baz=216							

IDC 21 05:11:48.2±4.3,**16.°51S**×**177.°92W**,**h406**km±27km,
mb2.8/3, mb1 3.1/4, mb1mx2.8/26, mbtmp3.6/4, Error ellipse: s-maj=264.5km s-min=31.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.04**	**252**	P	P	05 13 01.4	+0.5
0.5nm,0.3s,baz=133,slow=19,SNR=4.5							
WRA	**Warramunga Arr**	**45.36**	**258**	P	P	05 19 27.8	-0.7
0.7nm,1.0s,baz=98,slow=8.8,SNR=2.9							
ASAR	**Alice Springs**	**45.63**	**253**	P	P	05 19 30.1	-0.4
0.9nm,1.1s,baz=93,slow=7.6,SNR=2.9							
ASAR				PcP	PcP	05 21 02.2	+1.1
0.5nm,0.9s,baz=96,slow=5.7,SNR=1.9							
NVAR	**Mina Array Bea**	**78.10**	**44**	P	P	05 23 03.7	-0.3
0.4nm,0.6s,baz=210,slow=7.2,SNR=2.8							

*IDC **21** 05:17:51.8±2.0,21.°26N×94.°67E, h106km±18km, mb3.2/7, mb1 3.5/9, mb1mx3.2/35, mbtmp3.6/9, Error ellipse: s-maj=51.8km s-min=16.0km az=50.0*
ISC 21 05:17:51.2±0.8,**21.°4N**±0.°1×**94.°7E**±0.°1,**h97**km,**n10,**
σ1s18/14, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**3.12**	**295**	P	**Pn**	**05 18 40.0**	**+1.5**
34nm,0.3s,baz=66,slow=19,SNR=2.1							
BRDH				S	**Sn**	**05 19 13.7**	**-1.2**
239nm,0.3s,baz=37,slow=20,SNR=30							
SHL	**Shillong**	**4.89**	**329**	*e*PN	**Pn**	**05 19 04.0**	**+1.3**
SHL				*e*SN	**Sn**	**05 19 56.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**4.94**	**126**	P	**Pn**	**05 19 03.5**	**+0.4**
1.7nm,0.3s,baz=303,slow=13,SNR=15							
MKAR	**Makanchi Array**	**27.27**	**341**	P	**P**	**05 23 27.1**	**+0.7**
0.3nm,0.6s,baz=155,slow=8.8,SNR=3.0							
MKAR				PcP	**PcP**	**05 26 43.6**	**-0.2**
0.1nm,0.3s,baz=180,slow=2.4,SNR=1.4							
MKAR				ScP	**ScP**	**05 30 14.8**	**-0.7**
0.2nm,0.4s,baz=123,slow=4.3,SNR=1.6							
ZALV	**Zalesovo Beam**	**33.36**	**349**	P	**P**	**05 24 20.6**	**+0.6**
0.7nm,0.3s,baz=185,slow=6.5,SNR=2.1							
WRA	**Warramunga Arr**	**56.48**	**134**	P	**P**	**05 27 21.9**	**-1.6**
0.5nm,0.8s,baz=311,slow=6.7,SNR=6.8							
ASAR	**Alice Springs**	**58.84**	**137**	P	**P**	**05 27 39.4**	**-0.6**
0.3nm,0.5s,baz=314,slow=6.4,SNR=4.7							
ARCES	**ARCESS Array B**	**62.88**	**338**	P	**P**	**05 28 06.5**	**-0.2**
1.3nm,0.9s,baz=82,slow=7.4,SNR=1.1							
GERES	**GERESS Array B**	**68.38**	**315**	P	**P**	**05 28 42.4**	**-0.1**
0.2nm,0.4s,baz=76,slow=4.1,SNR=2.4							
ILAR	**Eielson Array**	**82.09**	**22**	P	**P**	**05 30 01.4**	**+0.7**
0.2nm,0.6s,baz=283,slow=4.5,SNR=2.1							

*NEIC **21** 05:24:21.8±1.9,21.°37S±0.°10×179.°0W±0.°1, h570km±6km, mb4.6/158, Error ellipse: s-maj=14.4km s-min=13.7km az=159.0*
*NOU **21** 05:24:22.1,21.°40S×178.°73W, h596km, mb4.9, Fiji Islands Region*
*IDC **21** 05:24:22.1±0.6,21.°43S×179.°03W, h578km±6km, mb4.0/24, mb1 4.2/28, mb1mx4.1/36, mbtmp4.9/28, Error ellipse: s-maj=10.7km s-min=8.9km az=155.0*

*BGR **21** 05:24:24.3±0.0,21.°11S×178.°03W, h600km*
ISC 21 05:24:22.1±0.4,**21.°49S**±0.°05×**178.°97W**±0.°05,
h582km±4km,**h584**km;**pP-P, n519,** σ1s**30**/584,**mb4.6**/118,
54C-94D, Fault plane solution: NP1:ϕs27.47813°,
δ82.82291°,λ-117.55906°. **NP2:**ϕs284.01502°,
δ28.40727°,λ-15.22542°. **Principal axes:** T Plg32.2503°,
Azm140.2355°; N Plg27.3250°, Azm31.2086°; P
Plg45.2598°, Azm269.7824°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.25**	**3**	P	**P**	**05 25 42.2**	**+0.8**
MSVF	**Nonsavu**	**4.68**	**323**	P	**P**	**05 25 52.5**	**+0.9**
36nm,0.3s,baz=143,slow=12,SNR=172							
MSVF	**Nonsavu**	**4.68**	**323**	P	**P**	**05 25 52.6**	**+1.1**
MSVF	**Nonsavu**	**4.68**	**323**	P	**P**	**05 25 52.3**	**+0.8**
TAVE	**Taveuni**	**4.84**	**349**	P	**P**	**05 25 54.3**	**+1.5**
DGTI	**Dogotuki**	**5.31**	**346**	P	**P**	**05 25 57.0**	**+0.4**
RIZ	**Raoul Island**	**7.78**	**173**	P	**P**	**05 26 17.1**	**-1.4**
RIZ				S	**S**	**05 27 48.0**	**-6.0**
RAO	**Raoul Island**	**7.78**	**173**	P	**P**	**05 26 19.2**	**+0.6**
68nm,0.3s,baz=47,slow=19,SNR=1.7							
RAO				S	**S**	**05 27 52.8**	**-1.4**
107nm,0.3s,baz=76,slow=19,SNR=2.5							
GLKZ	**Green Lake**	**7.79**	**173**	P	**P**	**05 26 18.0**	**-0.7**
GLKZ				S	**S**	**05 27 53.5**	**-0.8**
NIUE	**Niue**	**8.82**	**76**	P	**P**	**05 26 27.9**	**-0.9**
NIUE	**Niue**	**8.82**	**76**	P	**P**	**05 26 28.2**	**-0.7**
AFI	**Afiamalu**	**10.19**	**43**	P	**P**	**05 26 39.3**	**-3.3**
AFI	**Afiamalu**	**10.19**	**43**	P	**P**	**05 26 39.6**	**-3.0**
PINNC	**Pines Island,**	**12.64**	**262**	P	**P**	**05 27 07.6**	**+0.3**
LIFNC	**LIFOU**	**12.89**	**271**	P	**P**	**05 27 09.4**	**-0.5**
DZM	**Mont Dzumac**	**13.56**	**265**	P	**P**	**05 27 15.7**	**-1.2**
1.0nm,0.3s,baz=84,slow=18,SNR=3.2							
DZM				ScP	**ScP**	**05 34 35.5**	**+1.4**
0.2nm,0.3s,baz=96,slow=7.8,SNR=6.7							
DZM	**Mont Dzumac**	**13.56**	**265**	*e*P	**P**	**05 27 14.2**	**-2.7**
52nm,0.9s							
DZM	**Mont Dzumac**	**13.56**	**265**	P	**P**	**05 27 16.8**	**-0.1**
DZM	**Mont Dzumac**	**13.56**	**265**	P	**P**	**05 27 20.3**	**+3.4**
36nm,0.8s							
NOUC	**Port Laguerre**	**13.69**	**265**	P	**P**	**05 27 20.2**	**+2.1**
SANVU	**Saraoutou**	**14.42**	**292**	P	**P**	**05 27 24.9**	**-0.5**
OUZ	**Omahuta**	**15.15**	**204**	P	**P**	**05 27 34.5**	**+2.4**
OUZ	**Omahuta**	**15.15**	**204**	P	**P**	**05 27 35.0**	**+2.9**
GRZ	**Great Barrier**	**15.49**	**197**	P	**P**	**05 27 37.6**	**+2.4**
WCZ	**Waipu Caves**	**15.53**	**201**	P	**P**	**05 27 38.8**	**+3.1**
KOUNC	**Koumac, New Ca**	**15.66**	**270**	P	**P**	**05 27 40.1**	**+3.0**
KUZ	**Kuaotunu**	**15.88**	**196**	P	**P**	**05 27 40.2**	**+1.3**
WIAZ	**Waiheke Island**	**16.08**	**197**	P	**P**	**05 27 42.9**	**+2.0**
MBAZ	**Motutapu North**	**16.13**	**198**	P	**P**	**05 27 43.8**	**+2.5**
MXZ	**Matakaoa Point**	**16.19**	**188**	P	**P**	**05 27 42.1**	**+0.4**
RVAZ	**Riverhead Bore**	**16.22**	**199**	P	**P**	**05 27 45.1**	**+3.4**
ETAZ	**East Tamaki Re**	**16.29**	**198**	P	**P**	**05 27 45.4**	**+2.7**
MKAZ	**Moumakai**	**16.37**	**197**	P	**P**	**05 27 45.4**	**+2.0**
WMGZ	**Waiomatatini S**	**16.43**	**187**	P	**P**	**05 27 44.1**	**+0.1**
HAZ	**Te Kaha**	**16.45**	**189**	P	**P**	**05 27 43.5**	**-0.7**
HAZ				S	**S**	**05 30 23.2**	**-5.6**
RUGZ	**Raukumara Rang**	**16.67**	**189**	P	**P**	**05 27 45.6**	**-0.7**
RUGZ				S	**S**	**05 30 26.5**	**-6.1**
TWGZ	**Tauwhareparae**	**16.83**	**188**	P	**P**	**05 27 48.7**	**+1.0**
TWGZ				S	**S**	**05 30 29.6**	**-5.5**
TOZ	**Tahuroa Road**	**16.87**	**195**	P	**P**	**05 27 50.4**	**+2.4**
TOZ				S	**S**	**05 30 32.5**	**-3.1**
KMRZ	**Kaimai**	**16.88**	**194**	P	**P**	**05 27 50.2**	**+2.1**
URZ	**Urewera**	**17.05**	**191**	P	**P**	**05 27 47.9**	**-1.6**
12nm,0.3s,baz=301,slow=5.9,SNR=39							
URZ				S	**S**	**05 30 31.8**	**-6.7**
1.2nm,0.3s,baz=307,slow=20,SNR=2.2							
URZ	**Urewera**	**17.05**	**191**	P	**P**	**05 27 48.0**	**-1.6**
URZ	**Urewera**	**17.05**	**191**	P	**P**	**05 27 47.8**	**-1.6**
URZ				S	**S**	**05 30 32.9**	**-5.6**
TKGZ	**Te Karaka**	**17.11**	**189**	P	**P**	**05 27 50.1**	**-0.1**
MUGZ	**Murupara**	**17.32**	**191**	P	**P**	**05 27 51.2**	**-0.8**
RAR	**Rarotonga**	**17.89**	**93**	P	**P**	**05 27 57.8**	**+0.3**
2.0nm,0.3s,baz=257,slow=7.7,SNR=4.3							
RAR	**Rarotonga**	**17.89**	**93**	P	**P**	**05 27 57.9**	**+0.4**
BKZ	**Black Stump Fm**	**18.04**	**191**	P	**P**	**05 27 57.0**	**-1.7**
SNZO	**South Karori**	**20.47**	**194**	P	**P**	**05 28 19.9**	**-0.6**
HNR	**Honiara**	**23.55**	**297**	P	**P**	**05 28 48.5**	**-0.1**
44nm,0.4s,baz=191,slow=10,SNR=4.3							
HNR	**Honiara**	**23.55**	**297**	P	**P**	**05 28 48.2**	**-0.4**
TBI	**Tubuai**	**27.32**	**99**	*e*P	**P**	**05 29 21.6**	**-0.1**
78nm,0.6s							
EIDS	**Eidsvold**	**27.72**	**256**	P	**P**	**05 29 25.5**	**+0.4**
ARMA	**Armidale**	**27.82**	**245**	P	**P**	**05 29 27.7**	**+1.6**
PPT2	**Papeete2**	**27.95**	**87**	*e*P	**P**	**05 29 26.8**	**-0.5**
104nm,1.4s							
PPT	**Papeete**	**27.96**	**87**	P	**P**	**05 29 27.3**	**0.0**
43nm,0.8s,baz=246,slow=9.5,SNR=4.7							
TIAR	**Tiarei**	**28.17**	**87**	*e*P	**P**	**05 29 28.6**	**-0.6**
17nm,1.0s							
PMOR	**Pomariorio Ree**	**30.18**	**83**	*e*P	**P**	**05 29 45.8**	**-0.6**
102nm,1.2s							
PMOR				*e*pP	**pP**	**05 31 17.0**	**-1.8**
113nm,1.3s							
VAH	**Vaihoa**	**30.36**	**84**	*e*P	**P**	**05 29 47.2**	**-0.8**
55nm,0.9s							
CAN	**Canberra**	**31.21**	**237**	P	**P**	**05 29 56.2**	**+1.1**
CTA	**Charters Tower**	**32.50**	**266**	P	**P**	**05 30 06.3**	**0.0**
25nm,0.4s,baz=108,slow=11							
CTA				ScP	**ScP**	**05 35 25.8**	**+1.2**
2.2nm,0.6s,baz=180,slow=4.0,SNR=4.2							
CTAO	**Charters Tower**	**32.50**	**266**	P	**P**	**05 30 06.6**	**+0.4**
TOO	**Toolangi**	**34.58**	**234**	P	**P**	**05 30 24.5**	**+1.0**
TAU	**Tasmania Unive**	**35.28**	**225**	P	**P**	**05 30 29.6**	**+0.5**
STKA	**Stephens Creek**	**36.54**	**245**	P	**P**	**05 30 40.4**	**+0.6**
22nm,0.5s,baz=87,slow=10.0,SNR=34							
STKA				ScP	**ScP**	**05 35 40.2**	**+1.2**
2.5nm,0.7s,baz=162,slow=3.2,SNR=3.4							
STKA	**Stephens Creek**	**36.54**	**245**	P	**P**	**05 30 40.6**	**+0.9**
STKA				IAmb	IAmb	05 30 41.7	
comp=Z,9.7nm,0.8s							
MANU	**Manus Island**	**38.04**	**296**	P	**P**	**05 30 51.9**	**-0.3**
MANU				IAmb	IAmb	05 30 52.8	
comp=Z,23nm,1.1s							
BBOO	**Buckleboo**	**41.30**	**244**	P	**P**	**05 31 18.0**	**0.0**
WR0	**Warramunga Arr**	**43.38**	**263**	P	**P**	**05 31 33.6**	**-0.8**
AS31	**Alice Springs**	**43.41**	**258**	P	**P**	**05 31 34.8**	**+0.1**
ASAR	**Alice Springs**	**43.41**	**258**	P	**P**	**05 31 34.8**	**+0.1**
comp=Z,62nm,0.8s,baz=90,slow=8.2,SNR=450							
ASAR				PcP	**PcP**	**05 33 09.8**	**+0.1**
comp=Z,7.5nm,0.7s,baz=110,slow=3.9,SNR=10						

SBA Scott Base 56.83 184 P P 05 33 14.1 +2.6
TNTI Ternate 56.84 286 P P 05 33 12.6 0.0
TNTI Ternate 56.84 286 P P 05 33 11.6 -1.0
comp=Z,79nm,1.1s
VNDA Vanda 56.84 185 P P 05 33 13.7 +2.1
comp=Z,3.1nm,0.5s,baz=0.5,slow=6.7,SNR=47
VNDA Vanda 56.84 185 P P 05 33 13.4 +1.8
GAMI Galela, Maluku 56.94 287 P P 05 33 12.2 -1.1
comp=Z,78nm,0.9s
NWAO Narrogin (SRO) 57.12 244 P P 05 33 14.7 +0.4
NWAO IAmb IAmb 05 33 22.1
comp=Z,46nm,1.4s
EDFI Ende, Flores 58.36 273 P P 05 33 22.3 -0.8
comp=Z,366nmcomp=Z,34nm,1.0s
MORW Morawa 58.62 248 P P 05 33 24.5 +0.1
MORW IAmb IAmb 05 33 25.3
comp=Z,59nm,1.1s
GIRL Giralia 61.41 255 P P 05 33 43.8 +0.8
CASY Casey 62.68 205 P P 05 33 51.7 +1.3
CASY IAmb IAmb 05 33 52.2
comp=Z,20nm,1.1s
TOLI2 Tolitoli 62.93 283 P P 05 33 51.9 -1.1
TOLI2 IAmb IAmb 05 33 53.4
comp=Z,29nm,0.9s
QSPA South Pole Qui 68.58 180 P P 05 34 28.2 +0.9
QSPA IAmb IAmb 05 34 29.6
comp=Z,41nm,1.3s
INU Inuyama 70.26 323 P P 05 34 36.7 -0.9
INU IAmb IAmb 05 34 38.4
comp=Z,15nm,1.0s
MJAR Matsushiro Arr 70.48 324 P P 05 34 38.3 -0.6
comp=Z,12nm,0.8s,baz=157,slow=5.8,SNR=38
MJAR Matsushiro Arr 70.48 324 P P 05 34 38.4 -0.5
MAJO Matsushiro 70.48 324 P P 05 34 38.4 -0.5
MAJO IAmb IAmb 05 34 39.5
comp=Z,16nm,0.9s
MAT Matsushiro 70.48 324 P P 05 34 38.2 -0.7
MAT eS S 05 43 03.8 -2.6
MJB9 Matsu-Tunnel 70.48 324 P P 05 34 38.6 -0.4
MJB9 IAmb IAmb 05 34 39.4
comp=Z,18nm,0.9s
JMN Monobe 70.94 320 P P 05 34 42.1 +0.4
JMN IAmb IAmb 05 34 43.4
comp=Z,17nm,0.9s
JWT Wachi 71.13 322 P P 05 34 42.7 -0.1
JWT IAmb IAmb 05 34 43.8
comp=Z,19nm,0.9s
SBUM Sibu 71.28 280 P P 05 34 45.0 +0.9
JSD Sado 71.56 326 P P 05 34 45.6 +0.4
JSD IAmb IAmb 05 34 46.9
comp=Z,34nm,1.0s
JSU Suzuyama 71.59 316 P P 05 34 45.6 0.0
JSU IAmb IAmb 05 34 46.5
comp=Z,32nm,1.1s
JHS Saijyo 72.27 320 P P 05 34 49.8 +0.4
KSM Kuching 72.66 279 P P 05 34 52.0 -0.1
ADK Adak 73.09 1 P P 05 34 52.9 -0.7
NACB Ninganchiao 73.49 305 P P 05 34 56.0 -0.5
NACB IAmb IAmb 05 34 57.1
comp=Z,30nm,1.0s
JEW Eniwo 73.67 331 P P 05 34 57.8 +0.7
TPUB Ta-pu 73.76 304 P P 05 34 57.3 -0.9
SSLB Suanglung 73.77 304 P P 05 34 57.3 -0.9
YHNB Yeheng 73.93 305 P P 05 34 59.0 -0.1
JKA Kamikawa-asahi 74.17 332 P P 05 35 00.4 +0.4
JKA IAmb IAmb 05 35 02.4
comp=Z,21nm,0.9s
ASAJ Asahikawa 74.17 332 P P 05 35 00.8 +0.8
comp=Z,17nm,0.8s,baz=220,slow=4.7
PEA0B Petropavlovsk- 77.00 346 P P 05 35 15.4 0.0
PETK Petropavlovsk- 77.00 346 P P 05 35 15.1 -0.4
comp=Z,17nm,0.8s,baz=138,slow=7.5,SNR=23
PETK Petropavlovsk- 77.00 346 P P 05 35 15.0 -0.4
KSRS Korea Array 77.03 319 P P 05 35 16.6 +0.7
comp=Z,3.0nm,0.9s,baz=144,slow=6.5,SNR=18
KSAR Wonju Array Be 77.05 319 P P 05 35 16.3 +0.3
KS19 Wonju Array Si 77.10 319 P P 05 35 16.4 +0.1
INCN Inchon 77.84 319 P P 05 35 20.1 -0.3
USA0B Ussuriysk Arra 79.28 326 P P 05 35 28.4 +0.6
USA0B IAmb IAmb 05 35 29.7
comp=Z,25nm,1.0s
USRK Ussuriysk Ar. 79.28 326 P P 05 35 28.9 +1.1
comp=Z,16nm,0.9s,baz=126,slow=3.6,SNR=33
USRK Ussuriysk Ar. 79.28 326 P P 05 35 28.3 +0.5
NJ2 Nanjing 79.82 310 eP P 05 35 31.4 +0.5
NJ2 pmax pmax
comp=Z,16nm,0.6s
MAW Mawson 80.32 200 P P 05 35 33.9 +1.0
comp=Z,3.4nm,0.6s,baz=142,slow=6.6,SNR=6.1
MAW Mawson 80.32 200 P P 05 35 34.4 +1.5
SII Sitkinak Islan 80.52 14 P P 05 35 34.0 0.0
SII IAmb IAmb 05 35 34.8
comp=Z,13nm,0.8s
MONP2 Monument Peak 80.54 49 P 05 35 36.2
baz=237
O02D Mt. Diablo Mer 80.62 40 P 05 35 37.7
baz=232
ISA Isabella, Lake 80.68 46 P P 05 35 36.1 +0.7
PMSA Palmer Station 80.74 157 P P 05 35 36.6 +1.5
PMSA IAmb IAmb 05 35 37.6
comp=Z,19nm,1.1s
CMB Columbia Colle 80.81 43 P P 05 35 35.8 -0.2
MDJ Mudanjiang 80.81 326 P P 05 35 36.0 +0.2
MDJ IAmb IAmb 05 35 37.6
comp=Z,23nm,1.2s
PFO Pinyon Flats O 80.91 49 P 05 35 39.1
baz=237
TPFO Pinon Flats 80.91 49 P 05 35 39.0
baz=237
N02D Trinity Center 81.16 40 P 05 35 40.2
baz=232
O03E Paynes Creek 81.28 41 P 05 35 40.3
baz=232
OHAK Old Harbor 81.32 14 P 05 35 38.0
baz=204
M02C Callahan 81.33 39 P 05 35 40.8
baz=231
CWC Cottonwood Cre 81.38 45 P 05 35 40.3
baz=235
BELC Belle Mtn. Jos 81.44 48 P 05 35 40.6
baz=237
WAKR Walker 81.69 43 P P 05 35 41.9 +1.2
BEKR Beckworth 81.91 42 P P 05 35 42.8 +1.0
PNTR Pine Nut 81.92 43 P P 05 35 43.7 +1.8
PNTR IAmb IAmb 05 35 45.1
comp=Z,15nm,0.7s
KDAK Kodiak Island 81.99 14 P P 05 35 41.7 +0.2
HUMO Hull Mountain 82.03 38 P P 05 35 44.1 +2.0
L04D Klamath Falls 82.17 39 P 05 35 44.3
baz=232
FURC Furnace Creek, 82.21 46 P 05 35 44.6
baz=236
RYN Ryan 82.34 43 P P 05 35 45.0 +1.1
NVAR Mina Array Bea 82.37 44 P P 05 35 45.3 +1.1
comp=Z,2.7nm,0.6s,baz=224,slow=8.2,SNR=31
NVAR pP pP 05 37 46.8 -0.3
comp=Z,0.7nm,0.8s,baz=229,slow=9.1,SNR=3.7
PAHR Pah Rah Range 82.42 42 P P 05 35 45.1 +0.8
NV11 Mina Array Sit 82.47 44 P P 05 35 45.4 +0.8
KVN Kaiserville 82.85 43 P P 05 35 47.2 +0.6
TPH Tonopah 82.87 44 P P 05 35 47.5 +0.8
TPH IAmb IAmb 05 35 49.1
comp=Z,18nm,0.8s
TPNV Topopah Spring 82.88 46 P 05 35 47.9
baz=236
J04D Umpqua Nationa 82.91 38 P 05 35 48.5
baz=232
KLR Kul'dur 82.92 330 P P 05 35 47.0 +0.6
comp=Z,6.2nm,0.8s,baz=127,slow=5.3,SNR=21
I04A Tendick Farm, 83.08 37 P 05 35 48.3
baz=232
MOD Modoc Plateau 83.16 40 P P 05 35 50.1 +2.1
TIA Tai'an 83.28 313 P P 05 35 48.9 +0.4
TIA pmax pmax
comp=Z,18nm,1.2s
K05A Summer Lake 83.31 39 P P 05 35 50.3 +1.6
K05A IAmb IAmb 05 35 51.9
comp=Z,10nm,0.9s
RPSI Rantau Prapat 83.64 275 P P 05 35 49.0 -1.8
RPSI IAmb IAmb 05 35 51.4
comp=Z,24nm,0.9s
PSI Prapat 83.68 275 P P 05 35 50.6 -0.5
comp=Z,18nm,0.9s,baz=178,slow=2.7,SNR=14
O19K Port Alsworth 83.84 12 P 05 35 50.1
baz=203

CNPM China Poot 83.87 14 P P 05 35 50.4 -0.5
CNPM IAmb IAmb 05 35 51.5
comp=Z,12nm,0.8s
PINE Pine Mountain 83.92 38 P P 05 35 52.1 +0.4
PINE IAmb IAmb 05 35 54.9
comp=Z,13nm,1.0s
I05D Terrebonne, OR 84.03 38 P 05 35 53.5
baz=232
BRLK Bradley Lake 84.17 14 P P 05 35 52.0 -0.3
BRLK IAmb IAmb 05 35 52.8
comp=Z,16nm,0.9s
BRSE Bradley Lake S 84.18 14 P 05 35 52.1
baz=206
TUC Tucson 84.30 52 P 05 35 54.7
baz=240
GSI Gunungsitoli 84.38 274 P P 05 35 54.8 +0.4
N19K Bonanza Creek 84.38 12 P 05 35 52.1
baz=203
RSO Redoubt South 84.40 13 P P 05 35 53.1 -0.6
WVOR Wild Horse Val 84.47 40 P P 05 35 54.9 +0.5
MA2 Magadan 84.50 345 P P 05 35 53.6 -0.4
MA2 IAmb IAmb 05 35 54.2
comp=Z,12nm,1.1s
SEW Seward 84.80 14 P P 05 35 54.9 -0.4
MID Middleton Isla 84.96 16 P P 05 35 56.7 +0.6
MID IAmb IAmb 05 36 02.6
comp=Z,29nm,1.1s
GAMB Gambell 85.18 3 P 05 35 56.8
baz=187
GAMB Gambell 85.18 3 P P 05 35 57.1 +0.1
U15A North Rim 85.30 48 P P 05 36 00.5 +1.7
U15A IAmb IAmb 05 36 01.7
comp=Z,6.4nm,0.7s
PGC Sidney 85.59 33 P P 05 35 59.8 +0.4
PGC IAmb IAmb 05 36 14.0
comp=Z,15nm,1.1s
RC01 Rabbit Creek A 85.61 14 P 05 35 58.8
baz=207,SNR=5.5
RC01 Rabbit Creek A 85.61 14 P P 05 35 59.3 0.0
RC01 IAmb IAmb 05 35 59.7
comp=Z,9.2nm,0.9s
PWL Port Wells 85.73 14 P P 05 35 59.5 -0.3
PWL IAmb IAmb 05 36 00.2
comp=Z,15nm,0.9s
SUA Susitna One 85.73 13 P 05 35 59.3
baz=206,SNR=8.5
SUA Susitna One 85.73 13 P P 05 35 59.4 -0.5
SUA IAmb IAmb 05 36 00.0
comp=Z,13nm,0.7s
ENH Enshi 85.85 305 P P 05 36 01.3 +0.2
G08A Pilot Rock 85.95 38 P P 05 36 02.0 +0.5
G08A IAmb IAmb 05 36 04.8
comp=Z,16nm,1.5s
BJT Baijiatuan 85.96 316 P P 05 36 00.9 -0.5
BJT IAmb IAmb 05 36 02.3
comp=Z,11nm,1.1s
BJI Beijing 85.96 316 P P 05 36 01.4 0.0
BJI pmax pmax
comp=Z,9.0nm,0.9s
CRAG Craig 85.99 24 P 05 36 02.4
baz=222
A04D Lummi Island 86.01 34 P 05 36 02.3
baz=231
SKT Skwentna 86.03 13 P 05 35 59.7
baz=206
COYC Coyhaique 86.03 138 P P 05 36 02.5 +0.7
SKT Skwentna 86.03 13 P P 05 35 59.9 -1.4
GLI Glacier Island 86.04 15 P 05 36 00.7
baz=210
GLI Glacier Island 86.04 15 P P 05 36 00.3 -0.9
FID Port Fidalgo 86.08 15 P P 05 36 00.4 -1.1
FID IAmb IAmb 05 36 01.8
comp=Z,13nm,1.0s
TTA Tatalina 86.08 10 P 05 36 01.5
baz=201,SNR=6.5
TTA Tatalina 86.08 10 P P 05 36 01.3 -0.2
EYAK Cordova Ski Ar 86.08 16 P 05 36 01.1
baz=211
EYAK Cordova Ski Ar 86.08 16 P P 05 36 01.0 -0.5
EYAK IAmb IAmb 05 36 02.1
comp=Z,10nm,1.0s
LTY Liberty 86.18 36 P P 05 36 02.5 +0.1
KNK Knik Glacier 86.19 14 P 05 36 01.5
baz=208
KNK Knik Glacier 86.19 14 P P 05 36 02.0 0.0
KNK IAmb IAmb 05 36 02.5
comp=Z,10nm,0.8s
PMR Palmer 86.19 14 P 05 36 00.8
baz=208,SNR=5.5
PMR Palmer 86.19 14 P P 05 36 00.9 -1.0
PMR IAmb IAmb 05 36 03.0
comp=Z,10nm,1.0s
HAWA Hanford 86.28 37 P P 05 36 03.8 +1.0
HMT Hamilton 86.29 16 P P 05 36 02.6 +0.1
HMT IAmb IAmb 05 36 03.3
comp=Z,7.3nm,0.7s
SML Sawmill 86.56 14 P 05 36 02.5
baz=208
SML Sawmill 86.56 14 P P 05 36 03.4 -0.5
SML IAmb IAmb 05 36 05.3
comp=Z,5.0nm,0.6s
CUT Chulitna 86.67 13 P 05 36 03.5
baz=207
CUT Chulitna 86.67 13 P P 05 36 03.5 -0.7
MFID Camas Ranch 86.73 41 P P 05 36 05.6 +0.5
BMRM Bremner River 86.73 16 P 05 36 04.5
baz=212
PPLA Purkeypile 86.73 12 P 05 36 04.4
baz=205
BMRM Bremner River 86.73 16 P P 05 36 04.0 -0.6
BMRM IAmb IAmb 05 36 04.9
comp=Z,11nm,0.6s
MESA MESA 86.78 18 P 05 36 05.3
baz=214
MESA MESA 86.78 18 P P 05 36 05.0 -0.1
SCM Sheep Creek Mo 86.82 14 P P 05 36 04.7 -0.4
KLU Klutina 86.85 15 P 05 36 05.2
baz=211
KLU Klutina 86.85 15 P P 05 36 04.6 -0.6
KLU IAmb IAmb 05 36 07.7
comp=Z,16nm,1.5s
CRQM Cirque 86.94 17 P P 05 36 05.3 -0.5
CRQM IAmb IAmb 05 36 07.6
comp=Z,12nm,0.7s
CRQE Cirque 86.95 17 P 05 36 05.8
baz=213
WRAK Wrangell Islan 86.99 24 P 05 36 06.9
baz=223
WRAK Wrangell Islan 86.99 24 P P 05 36 06.5 +0.7
YAH Yahtse 86.99 18 P P 05 36 06.5 +0.4
YAH IAmb IAmb 05 36 09.9
comp=Z,18nm,0.8s
D08A Wollman Farm, 87.02 36 P P 05 36 07.1 +0.9
D08A IAmb IAmb 05 36 09.0
comp=Z,9.7nm,1.0s
SNAA Sanae 87.04 179 P P 05 36 05.5 -0.7
SNAA ScS S 05 45 59.7 +3.1
SNAA Sanae 87.04 179 P P 05 36 05.6 -0.5
comp=Z,1.1nm,0.5s,baz=204,slow=9.2,SNR=18
E09A Wood Farm, Sta 87.13 37 P P 05 36 07.5 +0.7
TNA Tin City 87.19 5 P 05 36 06.6
baz=190
TNA Tin City 87.19 5 P P 05 36 06.4 -0.2
VNA3 Neumayer Olymp 87.21 177 P P 05 36 06.6 -0.3
VNA3 ScS S 05 46 01.1 +3.0
VNA3 Neumayer Olymp 87.21 177 pP pP 05 38 12.3 -0.1
TABL Table Mountain 87.23 18 P P 05 36 07.6 +0.4
N25K Chitina, Valde 87.28 16 P 05 36 07.0
baz=212
N25K Chitina, Valde 87.28 16 P P 05 36 07.1 -0.1
N25K IAmb IAmb 05 36 08.0
comp=Z,10nm,0.6s
GRNC Granite Creek 87.30 17 P P 05 36 07.8 +0.3
GRNC IAmb IAmb 05 36 08.4
comp=Z,16nm,1.2s
M24K Tolsona, Glenn 87.32 15 P 05 36 07.7
baz=210
M24K Tolsona, Glenn 87.33 15 P P 05 36 07.9 +0.5
M24K IAmb IAmb 05 36 08.6
comp=Z,11nm,0.8s
F10A Beach Ranch, E 87.34 38 P P 05 36 08.5 +0.6
F10A IAmb IAmb 05 36 10.1
comp=Z,9.9nm,0.9s
GLB Gilahina Butte 87.34 16 P P 05 36 07.6 +0.1
GLB IAmb IAmb 05 36 08.1

comp=Z,8.0nm,0.6s
WAT6 Susitna Watana 87.38 14 P 05 36 07.2
baz=209,SNR=19
MCARA McCarthy VSAT 87.50 16 P 05 36 08.7
baz=213
MCARA McCarthy VSAT 87.50 16 P P 05 36 08.7 +0.6
MCARA IAmb IAmb 05 36 21.2
comp=Z,12nm,0.9s
B08A Colville Reser 87.56 35 P P 05 36 09.2 +0.4
B08A IAmb IAmb 05 36 10.7
comp=Z,6.3nm,0.8s
KTH Kantishna Hill 87.58 12 P P 05 36 07.4 -1.2
KTH IAmb IAmb 05 36 08.4
comp=Z,13nm,0.9s
CTG Chitna Glacier 87.60 17 P 05 36 09.0
baz=215
CTGM Chitina Glacie 87.61 17 P P 05 36 09.3 +0.5
CTGM IAmb IAmb 05 36 09.8
comp=Z,14nm,0.9s
TRF Thorofare Moun 87.61 12 P 05 36 08.0
baz=207
TRF Thorofare Moun 87.61 12 P P 05 36 08.2 -0.7
TRF IAmb IAmb 05 36 08.9
comp=Z,13nm,0.7s
HLID Hailey 87.67 41 P P 05 36 10.9 +1.3
HLID Hailey 87.67 41 P 05 36 10.8
baz=237
C09A Chrisman Ranch 87.81 36 P P 05 36 10.5 +0.6
RND Reindeer 87.86 13 P P 05 36 09.2 -0.7
VNA1 Neumayer--Stat 87.87 177 P P 05 36 09.8 -0.1
VNA1 ScS S 05 46 06.7 +2.5
VNA1 Neumayer--Stat 87.87 177 pP pP 05 38 14.6 -1.0
XAN Xi'an 88.02 308 P P 05 36 12.3 +1.0
BPAW Bear Paw Mtn. 88.06 12 P 05 36 09.1
baz=206
MNTX Cornudas Mount 88.06 55 P 05 36 12.6
baz=243
MCK McKinley 88.14 13 P 05 36 10.5
baz=208,SNR=9.7
MCK McKinley 88.14 13 P P 05 36 10.5 -0.6
MCK IAmb IAmb 05 36 12.2
comp=Z,15nm,0.9s
TXAR Lajitas Array 88.35 58 P P 05 36 14.5 +1.4
comp=Z,1.4nm,0.7s,baz=223,slow=4.8,SNR=17
TXAR pP pP 05 38 18.3 0.0
comp=Z,0.2nm,0.7s,baz=220,slow=9.0,SNR=2.1
TXAR PKKPbc PKKPbc 05 53 53.1 +0.5
comp=Z,0.4nm,0.7s,baz=100,slow=2.8,SNR=5.9
HYT Haines Junctio 88.60 19 P P 05 36 14.0 +0.5
MENT Mentasta 88.63 15 P P 05 36 13.5 0.0
MENT IAmb IAmb 05 36 14.3
comp=Z,5.0nm,0.7s
NEW Newport 88.71 36 P 05 36 14.0
baz=235
ANMO Albuquerque 88.73 52 P P 05 36 15.3 +0.5
ANMO Albuquerque 88.73 52 P 05 36 15.8
baz=243
I21K Tanana 88.85 11 P 05 36 14.0
baz=205,SNR=19
NEA2 Nenana 88.87 12 P 05 36 13.3
baz=208
NEA2 Nenana 88.88 12 P P 05 36 13.4 -1.1
MLY Manley 88.94 12 P 05 36 13.5
baz=206,SNR=16
MLY Manley 88.94 12 P P 05 36 13.5 -1.4
MLY IAmb IAmb 05 36 15.4
comp=Z,10.0nm,1.3s
WRH Wood River Hil 88.97 13 P P 05 36 14.0 -0.9
KMI Kunming 88.99 297 ⇓P P 05 36 17.6 +1.3
KMI pmax pmax
comp=Z,12nm,0.8s
H21K Melozitna Rive 89.14 11 P 05 36 15.5
baz=204,SNR=9.2
DOT Dot Lake 89.15 15 P P 05 36 15.7 -0.1
DOT IAmb IAmb 05 36 16.4
comp=Z,6.7nm,0.8s
HDA Harding Lake 89.15 13 P 05 36 15.0
baz=210,SNR=6.2
HDA P 05 36 15.0
baz=210,SNR=6.2
HDA Harding Lake 89.15 13 P P 05 36 15.0 -0.8
HDA IAmb IAmb 05 36 15.8
comp=Z,6.9nm,0.6s
CCB Clear Creek Bu 89.18 13 P P 05 36 14.8 -1.1
CCB IAmb IAmb 05 36 15.6
comp=Z,8.2nm,0.7s
L27K Beaver Creek, 89.21 16 P 05 36 16.1
baz=214
L27K Beaver Creek, 89.21 16 P P 05 36 16.2 0.0
L27K IAmb IAmb 05 36 17.4
comp=Z,10nm,1.4s
BCAR Beaver Creek A 89.22 16 P P 05 36 16.2 0.0
PLCA Paso Flores 89.25 134 P P 05 36 18.2 +1.1
comp=Z,6.1nm,0.9s,baz=219,slow=5.5,SNR=8.4
WHY Whitehorse 89.29 20 P 05 36 17.1
baz=220
WHY Whitehorse 89.29 20 P P 05 36 17.4 +0.8
WHY IAmb IAmb 05 36 18.0
comp=Z,3.9nm,0.8s
MCMT McKenzie Canyo 89.30 41 P P 05 36 17.8 +0.5
I23K Minto, Yukon-K 89.31 12 P 05 36 15.4
baz=207
I23K Minto, Yukon-K 89.31 12 P P 05 36 15.4 -1.1
I23K IAmb IAmb 05 36 16.4
comp=Z,3.3nm,0.6s
DLBC Dease Lake 89.32 23 P P 05 36 17.2 +0.4
MDM Murphy Dome 89.37 13 P P 05 36 15.9 -1.0
MDM IAmb IAmb 05 36 16.5
comp=Z,12nm,1.0s
TCOL CIGO, UAF Yank 89.37 13 P P 05 36 16.1 -0.7
COLA College 89.37 13 P 05 36 16.0
baz=209
COLA College 89.37 13 P P 05 36 16.0 -0.7
HHC Hu-ho-hao-te 89.40 315 eP P 05 36 18.3 +0.7
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,110nm,5.0s
SCRK Sand Creek 89.45 15 P 05 36 17.3
baz=212
SCRK Sand Creek 89.45 15 P P 05 36 17.3 0.0
IL31 89.48 13 P P 05 36 16.4 -0.9
IL31 IAmb IAmb 05 36 17.8
comp=Z,5.0nm,0.8s
ILAR Eielson Array 89.48 13 P P 05 36 16.1 -1.3
comp=Z,4.1nm,0.7s,baz=222,slow=5.3,SNR=31
ILAR pP pP 05 38 24.2 +0.5
comp=Z,0.2nm,0.6s,baz=201,slow=4.8,SNR=4.4
ILAR Eielson Array 89.48 13 P P 05 36 15.7 -1.6
CMAR Chiang Mai Arr 89.59 290 P P 05 36 20.4 +1.5
comp=Z,13nm,0.9s,baz=128,slow=3.1,SNR=50
BILL Bilibino 89.93 355 P P 05 36 18.8 -0.5
BILL IAmb IAmb 05 36 20.0
comp=Z,8.8nm,1.0s
K27K Chicken 89.95 15 P 05 36 20.0
baz=214
K27K Chicken 89.95 15 P P 05 36 20.1 +0.6
K27K IAmb IAmb 05 36 20.8
comp=Z,7.0nm,1.0s
BW06 Boulder Array 90.30 44 P 05 36 22.1
baz=241
PD31 Pinedale Array 90.31 44 P P 05 36 22.2 +0.3
PDAR Pinedale Array 90.31 44 P P 05 36 22.9 +0.9
comp=Z,1.9nm,0.7s,baz=199,slow=2.9,SNR=19
PDAR Pinedale Array 90.31 44 P P 05 36 22.2 +0.3
BTO Baotou 90.31 314 eP P 05 36 17.5 -4.4
BTO pmax pmax
comp=Z,9.0nm,0.5s
BTO PPMZ
comp=Z,240nm,3.2s
PRP Porcupine Dome 90.42 13 P 05 36 21.5
baz=211
PRP Porcupine Dome 90.42 13 P P 05 36 21.7 -0.1
PRP IAmb IAmb 05 36 23.1
comp=Z,5.3nm,1.1s
DAWY Dawson 90.66 16 P P 05 36 22.6 -0.3
DAWY IAmb IAmb 05 36 24.7
comp=Z,5.6nm,0.9s
EGAK Eagle 90.80 15 P 05 36 23.1
baz=215
EGAK Eagle 90.80 15 P P 05 36 23.2 -0.2
EGAK IAmb IAmb 05 36 24.0
comp=Z,4.4nm,0.7s
COLD Coldfoot 91.02 11 P 05 36 24.2
baz=207
LZH Lanzhou 92.65 308 eP P 05 36 33.9 +1.1

LZH pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 95.47 15 P **P** **05 36 43.2 -1.3**
comp=Z,1.1nm,0.6s,baz=215,slow=5.7,SNR=3.5
SONM Songino Array 95.91 319 P **P** **05 36 46.7 -0.6**
comp=Z,0.6nm,0.6s,baz=78,slow=4.3,SNR=2.3
GTA Gaotai 96.90 310 *e*P **P** **05 36 55.1 +3.2**
GTA pP pwP 05 39 04.5 +2.0
GTA sP sP 05 39 54.3 -1.3
GTA pmax pmax
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 110.69 321 PKiKP **PKiKP** **05 41 47.6 -1.4**
comp=Z,1.5nm,0.6s,baz=132,slow=1.5,SNR=5.4
MKAR Makanchi Array 111.22 313 PKiKP **PKiKP** **05 41 49.0 -1.3**
comp=Z,1.6nm,0.7s,baz=151,slow=0.5,SNR=14
KURK Kurchatov 114.10 317 PKPdf 05 41 54.4 -1.2
KURBB Kurchatov Arra 114.15 317 PKiKP PKPdf 05 41 54.4 -1.3
KURBB PP **PP** **05 43 02.5 +0.2**
comp=Z,0.2nm,0.4s,baz=91,slow=4.9,SNR=1.7
NEEM North Greenlan 118.73 11 *i*P **PKPdf** **05 42 03.5 -0.7**
NEEM IAmb IAmb 05 42 04.2
comp=Z,4.6nm,0.7s
KK31 Karatay Array 119.15 308 PKPdf **PKPdf** **05 42 04.5 -1.1**
KKAR Karatay Array 119.15 308 PKPdf **PKPdf** **05 42 04.5 -1.1**
BVAR Borovoye Array 119.25 320 PKP **PKPdf** **05 42 04.5 -1.0**
comp=Z,2.1nm,0.5s,baz=58,slow=7.6,SNR=16
BRVK Borovoye 119.31 320 **PKPdf** **05 42 04.8 -0.8**
KBL Kabul 119.56 298 PKPdf **PKPdf** **05 42 06.7 -0.3**
SPA0 Spitsbergen Ar 122.80 356 *e*PKPdf **PKPdf** **05 42 11.0 -0.6**
DAG Danmarks Havn 123.81 5 *i*P **PKPdf** **05 42 11.8 -1.8**
DAG IAmb IAmb 05 42 12.5
comp=Z,4.2nm,0.7s
SUMG Summit 124.33 13 *i*P **PKPdf** **05 42 15.1 -0.1**
SUMG IAmb IAmb 05 42 16.5
comp=Z,5.1nm,0.9s
BOSA Boshof 124.97 206 PKP **PKPdf** **05 42 17.6 +0.1**
comp=Z,1.8nm,0.8s,baz=158,slow=3.4,SNR=3.7
ARU Arti 125.49 325 PKP **PKPdf** **05 42 16.6 -0.8**
comp=Z,2.4nm,0.6s,baz=91,slow=1.2,SNR=12
DBG Daneborg 125.93 7 *i*P **PKPdf** **05 42 16.6 -1.1**
DBG IAmb IAmb 05 42 17.3
comp=Z,4.0nm,0.8s
DY2G Dye2 125.96 21 *i*P **PKPdf** **05 42 18.1 -0.1**
DY2G IAmb IAmb 05 42 18.6
comp=Z,6.4nm,0.6s
ABKAR Akbulak array 126.17 316 **PKPdf** **05 42 18.4 -0.5**
ABKAR Akbulak array 126.17 316 PKPdf **PKPdf** **05 42 18.1 -0.8**
ICESG Greenland Ices 126.41 17 *i*P **PKPdf** **05 42 18.3 -0.9**
ICESG IAmb IAmb 05 42 19.0
comp=Z,4.3nm,0.7s
AKTO Aktyubinsk 127.19 318 PKP **PKPdf** **05 42 20.7 -0.1**
comp=Z,3.7nm,0.8s,baz=357,slow=1.3,SNR=11
GEYT Alibeck 128.54 302 PKP **PKPdf** **05 42 23.2 -0.6**
comp=Z,4.7nm,0.8s,baz=15,slow=2.2,SNR=6.4
HAMF Hammerfest 129.05 350 *e*PKPdf **PKiKP** **05 42 24.3 -0.2**
ANGG Ammassalik, Gr 129.29 20 **PKiKP** **05 42 24.9 -0.2**
ARA0 ARCESS Array S 129.72 349 *e*PKPdf **PKPdf** **05 42 24.2 -0.8**
ARCES ARCESS Array B 129.72 349 PKP **PKPdf** **05 42 24.0 -1.1**
comp=Z,5.1nm,0.6s,baz=57,slow=0.9,SNR=47
ARCES SKPbc SKPab 05 44 55.2 +1.5
comp=Z,4.3nm,0.7s,baz=38,slow=4.6,SNR=12
ARCES SKP 05 45 06.9
comp=Z,2.2nm,0.9s,baz=23,slow=4.0,SNR=2.5
JETT Jettan, Norway 130.52 351 *e*PKPdf **PKPdf** **05 42 26.6 0.0**
KTK1 Kautokeino 130.57 350 *e*PKPdf **PKPdf** **05 42 26.6 0.0**
TRO Tromso 130.65 352 *e*PKPdf **PKPdf** **05 42 27.1 +0.4**
KLMR Klimovskoe 132.41 336 *e*PKPdf **PKPdf** **05 42 29.5 -0.8**
KLMR AMP 05 42 30.8
comp=Z,6.0nm,0.8s
KLMR *e*PP **PP** **05 45 02.4 0.0**
STEI Steigen 132.72 353 *e*PKPdf **PKPdf** **05 42 29.9 -0.8**
MOR8 Moi Rana 134.50 352 *e*PKPdf **PKPdf** **05 42 32.8 -1.4**
NSS Namsos 136.37 353 *e*PKPdf **PKPdf** **05 42 38.1 +0.5**
FIA1 FINESS Array S 136.46 343 PKPdf **PKPdf** **05 42 37.6 -0.3**
FINES FINESS Array B 136.46 343 PKhKP PKPpre 05 42 25.4
comp=Z,0.4nm,0.3s,baz=42,slow=3.0,SNR=11
FINES PKP **PKPdf** **05 42 38.2 +0.3**
comp=Z,3.8nm,0.6s,baz=88,slow=3.2,SNR=12
FINES SKPbc **SKPbc** **05 45 16.1 0.0**
comp=Z,3.6nm,1.0s,baz=66,slow=6.5,SNR=6.6
FINES FINESS Array B 136.46 343 PKPdf **PKPdf** **05 42 37.7 -0.2**
KMBO Kilima Mbogo 138.07 242 PKhKP PKPpre 05 42 35.1
comp=Z,2.3nm,0.7s,baz=72,slow=11,SNR=4.1
KMBO PKP **PKPdf** **05 42 43.6 +1.0**
comp=Z,1.4nm,0.9s,baz=212,slow=3.1,SNR=4.8
KMBO SKPbc **SKPbc** **05 45 23.7 +1.0**
comp=Z,2.1nm,0.7s,baz=125,slow=2.2,SNR=4.1
AAL Aland 139.09 346 *e*P PKPpre 05 42 33.4
AKN Aaknes 139.14 356 *e*PKPdf **PKPdf** **05 42 43.2 +0.4**
NOA NORSAR Array B 139.85 352 PKhKP PKPpre 05 42 36.0
comp=Z,2.2nm,0.7s,baz=8.0,slow=2.3,SNR=19
NOA SKPbc **SKPbc** **05 45 26.3 +0.6**
comp=Z,1.5nm,0.9s,baz=15,slow=4.4,SNR=4.5
NC602 NORSAR Array S 140.10 352 *e* PKPpre 05 42 38.1
SKAR Skarslia 140.51 354 *e*PKPdf **PKPdf** **05 42 45.2 -0.2**
IGN Ignalina 141.29 337 *e*P **PKPdf** **05 42 43.0 -3.8**
MNK Minsk 141.31 335 *i* PKP **PKPdf** **05 42 48.3 +1.4**
comp=E,1.0nm,0.9s
MNK *i* PKP **PKPdf** **05 42 48.3 +1.4**
comp=N,14nm,0.9s
MNK *i* PKP **PKPdf** **05 42 48.3 +1.4**
comp=Z,11nm,1.0s,baz=42
MNK *i* pPKP **pPKPdf** **05 45 07.1 +5.4**
MNK *i* SKP 05 45 26.4
MNK *i* P **sPKPdf** **05 45 59.1 +1.7**
MNK *i* PKS **PKSdf** **05 46 24.1 +1.7**
MNK *i* SKS **SKSdf** **05 49 01.8 -0.2**
MNK *i* PPP PPP 05 49 12.6
MNK *i* SKKS **SKKSdf** **05 48 29.4 +2.8**
MNK *i* SS **SS** **06 03 42.4 +2.1**
MNK *i* SSS SSS 06 09 07.8
MNK *i* LRM MLR 06 45 53.6
comp=Z,71nm,20.4s
MNK *i* LRM MLR 06 46 12.2
comp=E,16nm,17.2s
MNK *i* LRM MLR 06 46 20.0
comp=N,159nm,18.8s
KONO Kongsberg 141.40 353 *e* PKPpre 05 42 41.4
STRU Stroemstad 141.79 352 *i*P **PKPdf** **05 42 43.0 -4.6**
BLS5 Blasjo 141.91 356 *e* PKPpre 05 42 43.2
PABE Paberze 141.95 339 *e*P **PKPdf** **05 42 44.6 -3.3**
PBUR Paburge 142.18 341 *e*P **PKPdf** **05 42 43.3 -4.1**
HOMB Homborsund 142.87 353 *e*PKPdf **PKPdf** **05 42 48.7 -0.8**
SNART Snartemo 142.92 355 *e*PKPdf **PKPdf** **05 42 47.4 -2.3**
ONAU Onsala 143.26 350 *i*P PKPab 05 42 47.6 -0.9
AKASG Malin Array Be 143.43 330 PKP PKPab 05 42 48.4 -1.0
comp=N,34nm,0.7s,baz=42,slow=4.4,SNR=156
AKASG SKPbc **SKPbc** **05 45 34.5 -0.4**
comp=N,4.9nm,0.9s,baz=48,slow=2.5,SNR=8.2
SUW Suwalki 143.43 338 *e*PKP PKPab 05 42 48.6 -0.6
SUW Suwalki 143.43 338 *e*P PKPab 05 42 48.8 -0.4
FABU Falkenberg 143.51 349 *i*P PKPab 05 42 48.3 -1.1
MBAR Mbarara 143.61 237 PKPdf PKPab 05 42 50.7 -0.7
URFA Urfa 143.73 304 *e*P PKPbc 05 42 49.8 -1.2
MALT Malatya 143.79 306 *e*P PKPbc 05 42 49.5 -1.7
DEL Delary 143.80 348 *i*P PKPbc 05 42 49.0 -1.5
DEL Delary 143.80 348 *i*P PKPbc 05 42 49.4 -1.1
BJUU Bjuv 144.33 348 *i*P PKPbc 05 42 50.9 -1.3
SVSK Karacayir 144.34 309 *e*P **PKPab** **05 42 53.4 +0.2**
DARE Darende-Malaty 144.43 307 *e*P **PKPab** **05 42 53.5 -0.2**
MUD Monsted U'grnd 144.57 352 *i*P **PKPdf** **05 42 51.5 -1.0**
MUD Monsted U'grnd 144.57 352 IAmb IAmb 05 42 54.2
comp=Z,20nm,0.7s
LUNU Lund 144.67 348 *i*P **PKPdf** **05 42 52.0 -0.7**
BSD Bornholm Skovb 144.84 346 *e*P **PKPdf** **05 42 53.1 +0.1**
BSD Bornholm Skovb 144.84 346 ⇓*i*P **PKPdf** **05 42 52.8 -0.2**
BSD Bornholm Skovb 144.84 346 IAmb IAmb 05 42 53.6
comp=Z,30nm,0.9s
GAZ Gaziantep 145.04 305 PKPdf **PKPdf** **05 42 53.1 -1.0**
KMRS Kahramanmaras 145.18 305 *e*P **PKPbc** **05 42 55.2 -0.2**
SARI SarD1z-Kayseri 145.27 307 *e*P **PKPdf** **05 42 54.5 -0.1**
BNN Bunyan 145.54 308 *e*P **PKPdf** **05 42 55.2 +0.2**
BNN Bunyan 145.54 308 **PKPdf** **05 42 55.2 +0.2**
SORM Soroca 145.56 327 ⇑P **PKPbc** **05 42 55.6 -0.4**
CORM Corum 145.93 311 *e*P **PKPbc** **05 42 56.7 -0.9**
BEL Belsk 146.05 338 *e*PKP **PKPbc** **05 42 57.4 +0.1**
MILM Milestii Mici 146.10 325 ⇑P **PKPbc** **05 42 57.0 -0.6**
ILGA Ilgaz 146.21 313 **PKPbc** **05 42 58.7 +0.2**
SKMB Sankelmark Bun 146.22 351 *e*PKPbc **PKPbc** **05 42 57.3 -0.4**
baz=16,slow=2.4
LNIZ Loecknitz 146.50 346 *e*PKPbc **PKPbc** **05 42 58.4 -0.1**
baz=16,slow=2.4
CMRD Camardi-Nigde 146.58 306 *e*P **PKPbc** **05 42 59.1 -0.3**
BR131 Keskin Array S 146.81 311 PKPdf **PKPdf** **05 42 57.3 +0.2**
BRTR Keskin Array B 146.81 311 PKPbc **PKPbc** **05 42 59.4 -0.6**
comp=Z,7.3nm,0.7s,baz=23,slow=4.4,SNR=40
BRTR Keskin Array B 146.81 311 *e*P **PKPbc** **05 42 59.2 -0.8**
BRTR Keskin Array B 146.81 311 PKPdf **PKPdf** **05 42 56.8 -0.3**
BSEG Bad Segeberg 146.85 350 *e*PKPbc **PKPbc** **05 42 59.2 -0.1**
baz=16,slow=2.4
TLCR 147.16 323 ⇓P **PKPbc** **05 43 00.7 +0.2**
MERS Mersin 147.19 305 *e*P **PKPbc** **05 43 00.4 -0.6**
AFSR Afar-Bala (An 147.33 310 *e*P **PKPbc** **05 42 59.9 -1.4**
ANTO Ankara 147.35 311 *e*P **PKPbc** **05 43 00.8 -0.5**
ANTO Ankara 147.35 311 **PKPbc** **05 43 01.2 -0.1**
GHRR 147.39 325 ⇑P **PKiKP** **05 43 02.0 -0.7**
BURAR Bucovina Array 147.46 329 ⇑P **PKPbc** **05 43 01.8 +0.5**
BURAR Bucovina Array 147.46 329 **PKPbc** **05 43 01.9 +0.6**
BIZ Bicaz 147.49 327 ⇓P **PKPbc** **05 43 01.6 +0.3**
TESR Tescani 147.50 326 ⇓P **PKPbc** **05 43 01.0 -0.4**
RUE Ruedersdorf 147.54 345 *e*PKPbc **PKPbc** **05 43 01.2 0.0**
baz=16,slow=2.4
CFR Carcaliu 147.55 323 ⇑P **PKPbc** **05 43 01.5 0.0**
TPGR Topolog 147.58 322 ⇓P **PKPbc** **05 43 02.2 +0.5**
KIZK Mersin 147.60 305 *e*P **PKPbc** **05 43 01.2 -0.7**
OJC Ojcow 147.74 337 *e*PKPbc **PKPbc** **05 43 01.6 -0.3**
KOLS Kolonicke sedl 147.81 333 *e*PKP **PKPbc** **05 43 02.4 +0.3**
TIRR Tirgusor 147.83 322 ⇓P **PKPbc** **05 43 01.8 -0.4**
VRI Vrincioaia 147.88 325 ⇓P **PKPbc** **05 43 01.6 -0.8**
YUVA Yuva-Kibriscik 147.89 313 *e*P **PKPbc** **05 43 01.9 -0.8**
PLOR Plostina 147.93 325 ⇑P **PKPbc** **05 43 02.2 -0.4**
KEBE Keben-Mersin 147.94 305 *e*P **PKPbc** **05 43 02.1 -0.8**
IKL Isikli 148.03 305 *e*P **PKPbc** **05 43 02.2 -0.8**
TEVE Tevekalti-Mers 148.15 305 *e*P **PKPbc** **05 43 02.7 -0.7**
CRVS Cervenica-Dubn 148.16 334 *e*PKP **PKPbc** **05 43 03.3 +0.3**
NIE Niedzica 148.21 336 *e*PKPbc **PKPbc** **05 43 03.7 +0.6**
NIE *e*PKPab **PKPab** **05 43 08.7 +0.4**
FLTG Flechtingen 148.22 348 *e*PKPbc **PKPbc** **05 43 02.4 -0.6**
baz=16,slow=2.4
BMR Baia Mare 148.22 331 ⇑P **PKPbc** **05 43 03.2 0.0**
ARCR ARCALIA 148.25 329 ⇑P **PKPbc** **05 43 03.6 +0.3**
NRDL Niedersach Rie 148.27 349 *e*PKPbc **PKPbc** **05 43 02.8 -0.2**
baz=16,slow=2.4
BERE Bereket-Mersin 148.34 305 *e*P **PKPbc** **05 43 03.3 -0.7**
KSP Ksiaz 148.35 341 *e*PKPbc **PKPbc** **05 43 03.6 +0.2**
KSP *e*PKPab **PKPab** **05 43 09.2 +0.3**
KIZT Kizilcal 148.40 310 *e*P **PKPbc** **05 43 03.2 -0.9**
SVRH Sivrihisar-ESK 148.42 311 *e*P **PKPdf** **05 42 53.2 -6.5**
EIL Elat 148.43 292 *e*P **PKPbc** **05 43 03.6 -0.6**
LFK Lefkose 148.43 303 *e*P **PKPbc** **05 43 03.6 -0.6**
TEKE Tekeli-Mersin 148.49 305 *e*P **PKPbc** **05 43 03.0 -1.2**
DOPR Dopca 148.51 327 ⇑P **PKPbc** **05 43 04.1 +0.1**
ASSE Asse, Remlinge 148.52 349 *e*PKPbc **PKPbc** **05 43 03.3 -0.3**
baz=16,slow=2.4
OSTC Ostas 148.63 341⇑*e*PKP **PKPbc** **05 43 04.6 +0.5**
CHVC Chvalec 148.65 341⇑*e*PKP **PKPbc** **05 43 04.0 -0.2**
CSS Mathiatis 148.69 302 *e*P **PKPbc** **05 43 03.9 -0.8**
UPC Upice 148.74 341⇑*e*PKP **PKPbc** **05 43 04.3 0.0**
UPC *e*PKPab **PKPab** **05 43 10.4 -0.1**
LANS Liptovska Anna 148.74 336 *e*PKP **PKiKP** **05 43 05.6 +0.2**
SECR 148.78 325 ⇑P **PKPbc** **05 43 04.5 -0.1**
DPC Dobruska-Polom 148.78 341⇑*e*PKP **PKPbc** **05 43 04.5 0.0**
DPC *e*PKPAB **PKPab** **05 43 11.1 +0.4**
IBBN Ibbenburen 148.80 352 *e*PKPbc **PKPbc** **05 43 04.1 -0.3**
baz=16,slow=2.4
CLL Collm 148.81 345 *e*PKPdf **PKPdf** **05 42 59.0 -0.8**
CLL ⇓*i*PKPbc **PKPbc** **05 43 04.3 -0.2**
comp=Z,29nm,0.9s
CLL *i* PKPab **PKPab** **05 43 10.0 -0.7**
comp=Z,10.0nm,0.8s
CLL *e*pPKPab **pPKPab** **05 45 20.0 +0.8**
CLL *e*SKPbc **SKPbc** **05 45 46.0 -0.8**
CLZ Clausthal 148.85 349 *e*PKPbc **PKPbc** **05 43 04.3 -0.3**
baz=16,slow=2.4
CJR Cluj-Napoca 148.88 329 ⇓P **PKPbc** **05 43 04.9 0.0**
KRLC Kraliky 148.88 340⇑*e*PKP **PKPbc** **05 43 04.8 0.0**
SILT Sile 148.89 316 *e*P **PKPbc** **05 43 04.3 -0.7**
MORC Moravsky Berou 148.89 339 ⇑P **PKPbc** **05 43 05.1 +0.3**
MORC Moravsky Berou 148.89 339 *e*PKP **PKPbc** **05 43 04.4 -0.4**
MORC *e* 05 43 11.3
BORA Eskisehir 148.96 313 *e*P **PKPbc** **05 43 04.6 -0.7**
LEF Lefka 148.98 303 ⇓P **PKPbc** **05 43 05.0 -0.4**
LEF Lefka 148.98 303 *e*P **PKPbc** **05 43 04.7 -0.7**
VOIR 149.05 326 ⇑P **PKPbc** **05 43 04.9 -0.4**
GAZI Gazipasa 149.07 305 *e*P **PKPbc** **05 43 04.5 -1.1**
FBE Freiberg 149.08 345 *e*PKPbc **PKPbc** **05 43 05.5 +0.4**
baz=16,slow=2.4
FBE *e*PKPab **PKPab** **05 43 11.5 -0.3**
baz=15,slow=4.2
PVCC Panska Ves 149.13 343⇑*e*PKP **PKPbc** **05 43 05.5 +0.2**
NEUB Neuenburg 149.17 347 *e*PKPbc **PKPbc** **05 43 05.1 -0.2**
baz=16,slow=2.4
NEUB *e*PKPab **PKPab** **05 43 12.0 -0.2**
baz=15,slow=4.2
ADVT Abdulvahap 149.18 314 *e*P **PKPbc** **05 43 04.7 -1.0**
DRGR 149.24 330 ⇑P **PKPbc** **05 43 05.3 -0.5**
SHUT Suhut-Afyon 149.48 310 *e*P **PKPbc** **05 43 05.0 -0.7**
VYHS Vyhne 149.52 336 *e*PKP **PKPbc** **05 43 06.3 0.0**
VYHS *e* 05 43 14.2
PRA Prague 149.58 343⇑*e*PKP **PKPbc** **05 43 06.5 +0.2**
PSZ Piszkesteto 149.58 335 ⇑P **PKPbc** **05 43 06.5 0.0**
KOLL Kolacno 149.61 337 *e*PKP **PKiKP** **05 43 07.0 -0.2**
VRAC Vranov 149.61 340 ⇑P **PKPbc** **05 43 06.7 +0.2**
VRAC Vranov 149.61 340 *e*PKP **PKPbc** **05 43 06.1 -0.4**
VRAC *e* 05 43 14.5
PRU Pruhonice 149.62 343⇑*e*PKP **PKPbc** **05 43 04.8 -1.7**
PRU *e*PKPab **PKPab** **05 43 12.5 -1.6**
JAVC Velka Javorina 149.63 338 *e*PKP **PKiKP** **05 43 07.4 +0.1**
HUMR Humele 149.69 325 ⇑P **PKPbc** **05 43 06.0 -0.8**
ARMT Armutlu 149.70 315 *e*P **PKPbc** **05 43 05.9 -1.1**
BUG Bochum--Univer 149.72 352 *e*PKPbc **PKPbc** **05 43 06.2 -0.4**
baz=16,slow=2.4
MOX Moxa 149.74 347 *e*PKPbc **PKPbc** **05 43 06.5 -0.2**
baz=16,slow=2.4
MOX *e*PKPab **PKPab** **05 43 13.7 -0.9**
baz=15,slow=4.2
TANN Tannenbergstha 149.76 345 *e*PKPbc **PKPbc** **05 43 06.9 0.0**
baz=16,slow=2.4
PLN Plauen 149.77 346 *e*PKPbc **PKPbc** **05 43 06.7 -0.1**
baz=16,slow=2.4
WERD Werda 149.77 346 *e*PKPbc **PKPbc** **05 43 06.7 -0.1**
baz=16,slow=2.4
WERD *e*PKPab **PKPab** **05 43 14.3 -0.4**
baz=15,slow=4.2
KASTN Kahler Asten 149.79 351 *e*PKPbc **PKPbc** **05 43 06.4 -0.5**
baz=16,slow=2.4
DEV Deva 149.81 329 ⇑P **PKPbc** **05 43 07.1 0.0**
GUNZ Gunzen 149.84 346 *e*PKPbc **PKPbc** **05 43 07.1 0.0**
baz=16,slow=2.4
KRUC Moravsky 149.89 340 *e*PKP **PKPbc** **05 43 06.6 -0.5**
KRUC *e* 05 43 15.4
WERN Wernitzgruen 149.90 345 *e*PKPbc **PKPbc** **05 43 07.2 0.0**
baz=16,slow=2.4
WERN *e*PKPab **PKPab** **05 43 15.2 -0.2**
baz=15,slow=4.2
NKC Novy Kostel 149.94 345⇑*e*PKP **PKPbc** **05 43 07.0 -0.2**
TREC Trest 149.97 341⇑*e*PKP **PKPbc** **05 43 07.2 -0.1**
PBCC Pribram 150.05 343⇑*e*PKP **PKPbc** **05 43 07.0 -0.5**
PBCC *e*PKPAB **PKPab** **05 43 16.0 +0.1**
SIRR Siria 150.11 331 ⇑P **PKPbc** **05 43 08.0 +0.2**
MODS Modra-Piesok 150.18 338 *e*PKP **PKPbc** **05 43 07.4 -0.5**
GZR Gura Zlata 150.22 328 ⇓P **PKPbc** **05 43 07.5 -0.6**
MANZ Manzenberg 150.25 346 *e*PKPbc **PKPbc** **05 43 08.0 0.0**
baz=16,slow=2.4
MANZ *e*PKPab **PKPab** **05 43 16.2 -0.6**
baz=15,slow=4.2
KORT Korkueli 150.26 308 *e*P **PKPbc** **05 43 07.6 -1.0**
SRO Srobarova 150.28 336 *e*PKP **PKiKP** **05 43 08.6 0.0**
ROTZ Rotzenmuhle 150.43 345 *e*PKPbc **PKPbc** **05 43 08.4 0.0**
baz=16,slow=2.4
ROTZ *e*PKPab **PKPab** **05 43 17.0 -0.6**
baz=15,slow=4.2
BZS Buzias 150.62 330 ⇑P **PKPbc** **05 43 08.2 -0.7**
AHRW Bad Neuenahr-A 150.62 352 *e*PKPbc **PKPbc** **05 43 08.7 -0.1**
baz=16,slow=2.4
AHRW *e*PKPab **PKPab** **05 43 17.2 -1.1**
baz=15,slow=4.2
KHC Kasperske Hory 150.66 343⇑*e*PKP **PKPbc** **05 43 08.3 -0.7**
KHC *e*PKPAB **PKPab** **05 43 18.4 -0.2**
KHC *ex* x 05 45 31.0
MEM Membach 150.68 354 *d*PKPdf **PKPdf** **05 43 03.1 +0.3**
MEM *d*PKPbc **PKPbc** **05 43 08.4 -0.4**
MEM *d*PKPab **PKPab** **05 43 17.5 -1.0**
BTNL Ternell 150.69 353 *d*PKPbc **PKPbc** **05 43 08.7 -0.3**
BTNL *d*PKPab **PKPab** **05 43 17.8 -0.8**
GRF Grafenberg Arr 150.72 346 *e*PKPbc **PKPbc** **05 43 09.0 -0.1**
baz=16,slow=2.4
GRF *e*PKPab **PKPab** **05 43 18.6 -0.2**
baz=15,slow=4.2
GRFO Grafenberg 150.72 346 **PKPbc** **05 43 08.8 -0.3**
GRFO PKPab **PKPab** **05 43 19.6 +0.8**
TNS Taunus Mts 150.74 350 *e*PKPbc **PKPbc** **05 43 09.0 -0.1**
baz=16,slow=2.4
TNS *e*PKPab **PKPab** **05 43 18.0 -0.9**
baz=15,slow=4.2
CKRC Cesky Krumlov 150.74 342⇑*e*PKP **PKPdf** **05 42 03.7 -0.2**
CKRC *e*PKPAB **PKPbc** **05 43 08.1 -1.0**
BSTI Sart Tilman 150.75 354 *d*PKPbc **PKPbc** **05 43 08.8 -0.2**
HERR Herculane 150.77 328 ⇓P **PKPbc** **05 43 08.8 -0.5**
BALB Balikesir 150.81 314 **PKPab** **05 43 19.4 -0.1**
KULA Kula-Manisa 150.83 312 *e*P **PKPbc** **05 43 08.9 -0.9**
WET Wettzell 150.84 344 *e*PKPbc **PKPbc** **05 43 09.2 -0.2**
baz=16,slow=2.4
WET *e*PKPab **PKPab** **05 43 19.1 -0.2**
baz=15,slow=4.2
GEC2 GERESS Array S 150.89 343 *e*PKPbc **PKPbc** **05 43 09.3 -0.4**
baz=16,slow=2.4
GERES GERESS Array B 150.89 343 PKP **PKPdf** **05 43 03.3 0.0**
comp=Z,0.4nm,0.6s,baz=288,slow=1.3,SNR=4.7
GERES PKPbc **PKPbc** **05 43 09.2 -0.4**
comp=Z,8.2nm,0.7s,baz=38,slow=2.4,SNR=64
GERES GERESS Array B 150.89 343 **PKPbc** **05 43 09.3 -0.3**
MANT Manisa 150.91 312 **PKPbc** **05 43 09.6 -0.5**
MANT PKPab **PKPab** **05 43 20.0 -0.3**
SNF Seneffe 150.93 356 *d*PKPbc **PKPbc** **05 43 09.1 -0.3**
SNF *d*PKPab **PKPab** **05 43 19.1 -0.5**
BHOU Houvegnez 150.93 353 *d*PKPbc **PKPbc** **05 43 09.3 -0.2**
BHOU *d*PKPab **PKPab** **05 43 18.8 -0.8**
BCLA Clavier 150.94 354 *d*PKPdf **PKPdf** **05 43 03.9 +0.7**
BCLA *dx* x 05 43 08.3
BCLA *d*PKPab **PKPab** **05 43 18.9 -0.7**
BCLA *dx* x 05 43 28.6
BGES Gesves 150.99 355 *d*PKPbc **PKPbc** **05 43 09.1 -0.5**
BGES *d*PKPab **PKPab** **05 43 18.7 -1.2**
CONA Conrad Observa 151.05 339 *i* P **PKPbc** **05 43 09.6 -0.4**
comp=Z,16nm,0.7s,SNR=17
BMRD Maredsous 151.10 355 *d*PKPbc **PKPbc** **05 43 09.4 -0.4**
BMRD *d*PKPab **PKPab** **05 43 19.0 -1.3**
AKAS Kas 151.12 307 *e*P **PKPbc** **05 43 08.4 -2.2**
LPK Lapseki 151.16 317 *e*P **PKPbc** **05 43 08.3 -2.0**
MDVR Moldovita 151.19 329 ⇑P **PKPbc** **05 43 10.0 -0.3**
DOU Dourbes 151.32 355 *d*PKPdf **PKPdf** **05 43 03.6 -0.1**
DOU *d*PKPbc **PKPbc** **05 43 10.0 -0.4**
DOU *d*PKPab **PKPab** **05 43 21.6 +0.4**
ALN Alexandroupoli 151.32 318 *e*P **PKPbc** **05 43 09.1 -1.6**
FETY Fethiye 151.34 308 *e*P **PKPbc** **05 43 09.1 -1.8**
MORH Mrgy, Hungar 151.46 334 ⇓P **PKPbc** **05 43 10.3 -0.5**
RDO Rodhopi 151.49 319 *e*P **PKPbc** **05 43 09.9 -1.1**
WLF Walferdange 151.60 353 *d*PKPdf **PKPdf** **05 43 04.7 +0.5**
WLF *d*PKPbc **PKiKP** **05 43 11.4 +0.2**
WLF Walferdange 151.60 353 **PKPbc** **05 43 10.9 -0.1**
WLF Walferdange 151.60 353 *e*PKPbc **PKiKP** **05 43 11.1 -0.1**
baz=16,slow=2.4
WLF *e*PKPab **PKPab** **05 43 21.8 -0.7**
baz=15,slow=4.2
MOA Molln 151.62 341 *i* P **PKPbc** **05 43 10.5 -0.7**
comp=Z,6.2nm,0.7s
AYDB Zeytinkoy-Aydi 151.63 311 *e*P **PKPbc** **05 43 10.9 -0.7**
ARSA Arzberg 151.75 339 *i* P **PKPbc** **05 43 10.8 -0.7**
comp=Z,2.1nm,0.8s
FRGS Fruska Gora 151.79 331 ⇓P **PKPbc** **05 43 11.3 -0.4**
VTS Vitosha 151.91 324 ⇓P **PKPbc** **05 43 11.8 -0.3**
VTS Vitosha 151.91 324 **PKPbc** **05 43 11.7 -0.5**
VTS PKPab **PKPab** **05 43 24.7 +0.5**
STU Stuttgart 152.01 348 PKPdf **PKPdf** **05 43 04.5 -0.2**
STU **PKPbc** **05 43 11.7 -0.3**
STU Stuttgart 152.01 348 *e*PKPbc **PKPbc** **05 43 11.7 -0.3**
baz=16,slow=2.4
STU *e*PKPab **PKPab** **05 43 23.0 -1.2**
baz=15,slow=4.2
BOVS Bovan 152.02 327 ⇑P **PKPbc** **05 43 10.7 -1.4**
FUR Furstenfeldbru 152.14 345 *e*PKPbc **PKPbc** **05 43 12.0 -0.3**
baz=16,slow=2.4
FUR *e*PKPab **PKPab** **05 43 24.2 -0.6**
baz=15,slow=4.2
RJOB Jochberg 152.15 343 *e*PKPbc **PKPbc** **05 43 12.1 -0.3**
baz=16,slow=2.4
RJOB *e*PKPab **PKPab** **05 43 25.1 +0.2**
baz=15,slow=4.2
URLA Izmir 152.32 313 *e*P **PKPbc** **05 43 10.8 -2.2**
SOKA Soboth 152.42 339 *e*P **PKPbc** **05 43 12.2 -0.9**
comp=Z,9.6nm,1.0s
DIVS Divibare 152.52 330 **PKPbc** **05 43 12.7 -0.6**
BFO Black Forest 152.59 349 *e*PKPbc **PKPbc** **05 43 12.8 -0.5**
baz=16,slow=2.4
KBA Koelnbreinsper 152.59 342 *e*P **PKPbc** **05 43 12.6 -0.9**
comp=Z,9.8nm,1.0s
CHOS Chios island 152.68 314 *e*P **PKPbc** **05 43 12.7 -1.2**
WATA Walderalm 152.84 344 *e*P **PKPbc** **05 43 12.8 -1.2**
comp=Z,4.8nm,0.8s
UBR Ueberruh 152.87 346 *e*PKPbc **PKPbc** **05 43 13.1 -0.8**
baz=16,slow=2.4
WTTA Wattenberg 152.90 344 *e*P **PKPbc** **05 43 13.3 -0.9**
comp=Z,5.9nm,0.7s,SNR=5.0
RETA Reutte 152.90 345 *e*P **PKPbc** **05 43 13.5 -0.5**
comp=Z,3.8nm,0.8s
MYKA Terra Mystica 152.91 341 *e*P **PKPbc** **05 43 12.9 -1.2**
comp=Z,3.8nm,0.5s
MOTA Moosalm 152.95 345 *e*P **PKPbc** **05 43 13.2 -1.1**
comp=Z,13nm,1.0s,SNR=5.3
ABTA Abfaltersbach 153.13 342 *i* P **PKPbc** **05 43 13.7 -0.9**
comp=Z,10nm,0.8s,SNR=6.1
DAVA Damuels 153.29 347 *e*P **PKPbc** **05 43 14.9 -0.1**
comp=Z,7.5nm,0.9s
FETA Feichten 153.35 345 *e*P **PKPbc** **05 43 14.3 -0.8**
comp=Z,6.9nm,0.9s
LIT Litokhoron 153.97 320 PKPab **PKPab** **05 43 32.4 -0.5**
CTI Castel Tesino 154.01 343 PKPab **PKPab** **05 43 31.9 -1.0**
PDG Podgorica 154.13 328 ⇑P **PKPbc** **05 43 12.9 -3.7**
FNA Florina 154.17 323 **PKPbc** **05 43 16.0 -0.9**
FNA PKPab **PKPab** **05 43 32.8 -1.0**
SENIN Lac Senin/Sane 154.67 350 PKPab **PKPab** **05 43 35.2 -0.7**
ITM Ithomi 156.07 315 PKPab **PKPab** **05 43 41.3 -0.8**
NRCA Norcia 156.44 337 **PKPab** **05 43 43.7 +0.2**
ESDC Sonseca Array 161.38 12 PKPab **PKPab** **05 44 04.5 -0.5**
comp=Z,3.2nm,1.1s,baz=332,slow=3.6,SNR=12
ESDC Sonseca Array 161.38 12 PKPab **PKPab** **05 44 04.1 -1.0**
KEST Kesra 164.06 335 PKPab **PKPab** **05 44 16.7 -0.3**
comp=Z,7.6nm,0.8s,baz=327,slow=4.5,SNR=6.0
DBIC Dimbokro 164.20 158 PKP **PKPdf** **05 43 19.6 -0.8**
comp=Z,2.4nm,0.7s,baz=135,slow=1.4,SNR=5.1
TORD Torodi Ar. Bea 171.68 184 PKP **PKPdf** **05 43 24.0 -1.3**
comp=Z,1.7nm,0.9s,baz=191,slow=2.9,SNR=6.2
TORD PKPab **PKPab** **05 44 50.4 -0.6**
comp=Z,1.5nm,0.7s,baz=185,slow=2.5,SNR=5.3
TORD PP **PP** **05

1.6nm,0.1s

KRNET 21 05:35:01.2±0.1, 42°37N×80°51E, mb2.4, 8C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.57**	**275**	⇑*i*P	Pn	05 35 29.8	-0.7
	baz=75						
PRZ				⇑*i*S	Sg	05 35 50.7	-0.9
	baz=75						
ANVS	**Anan'yevo**	**2.14**	**282**	⇑*i*P	Pn	05 35 38.4	0.0
	baz=82						
ANVS				⇑*i*S	Sn	05 36 05.2	-0.6
	baz=82						
KDJ	**Kajisay**	**2.48**	**266**	⇑*i*P	Pn	05 35 42.7	-0.4
	baz=65						
KDJ				⇑*i*S	Sn	05 36 13.4	-0.9
	baz=65						
BOOM	**Boomskoye usch**	**3.39**	**274**	⇑*i*P	Pn	05 35 55.6	+0.1
	baz=74						
BOOM				⇑*i*S	Sn	05 36 35.1	-1.4
	baz=74						

IDC 21 05:36:58.7±2.3, 4°29N×122°86E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/47, mbtmp3.5/3, Error ellipse: s-maj=347.7km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.59**	**155**	P	P	05 42 38.9	0.0
	0.3nm,0.3s,baz=335,slow=9.6,SNR=9.3						
ASAR	**Alice Springs**	**29.80**	**159**	P	P	05 43 07.5	0.0
	0.5nm,0.9s,baz=336,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**54.94**	**327**	P	P	05 46 31.5	-0.1
	0.3nm,0.3s,baz=130,slow=7.7,SNR=5.3						

*BJI **21** 05:40:43.6±0.0, 24°.39N×142°.81E, h48km, mB4.8/36, mb4.7/54, Ms4.2/29, Ms7 4.0/32*
*JMA **21** 05:40:46.4, 24°.54N×142°.10E, h112km±2km, M4.6*
*IDC **21** 05:40:47.9±2.0, 24°.51N×142°.24E, h47km±19km, mb4.3/30, mb1 4.4/35, mb1mx4.3/49, mbtmp4.5/35, ML4.1/5, MS4.0/27, Ms1 4.0/27, ms1mx3.9/36, Error ellipse: s-maj=15.0km s-min=10.0km az=90.0*
*NEIC **21** 05:40:48.3±1.1, 24°.52N±0°.08×142°.3E±0°.1, h44km±7km, mb4.8/189, Error ellipse: s-maj=14.3km s-min=11.3km az=86.0*
*GCMT **21** 05:40:50.3±0.5, 24°.45N±0°.03×142°.55E±0°.04, h30km±1km, MW4.8/67, Moment Tensor Solution. s20,c20; s67,c86; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.66±.21; Mθθ -2.38±.13; Mφφ 0.71±.13; Mrθ 0.33±.15; Mφθ -0.09±.07; Mφr -0.74±.18; Best double couple: Mo 2.25000×10^16 NP1: φs 242.00000°, δ 48.00000°, λ 50.00000°. NP2: φs 114.00000°, δ 56.00000°, λ 125.00000°. Principal axes: T 2.0930, Plg 61.0000°, Azm 81.0000°; N 0.3120, Plg 29.0000°, Azm 272.0000°; P -2.4070, Plg 5.0000°, Azm 179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 05:40:45.3±0.3, 24°54N±0°.04×142°40E±0°.06, h25km, n336, σ1°29/337, mb4.8/127, MS4.0/35, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.09**	**354**	P	**Pb**	**05 41 21.1**	**-1.5**
JHH2				*e*S	**Sb**	**05 41 47.3**	**-0.9**
CBIJ	**Chichi jima**	**2.55**	**356**	P	**Pn**	**05 41 27.1**	**+2.0**
JCJ	**Chichijima**	**2.55**	**356**	P	**Pn**	**05 41 27.6**	**+2.5**
	368nm,0.3s,baz=123,slow=6.4,SNR=117						
JCJ				S	**Sb**	**05 42 01.0**	**-0.4**
	182nm,0.3s,baz=115,slow=23,SNR=3.7						
JCJ				LR	LR	05 42 19.2	
	comp=Z,2μm,19.1s,baz=145,slow=36						
JCJ	**Chichijima**	**2.55**	**356**	Pn	**Pn**	**05 41 27.3**	**+2.3**
JHJ	**Hachijo jima 2**	**8.85**	**346**	P	**Pn**	**05 42 53.8**	**+2.2**
	12nm,0.3s,baz=84,slow=22,SNR=2.1						
JHJ				LR	LR	05 46 25.2	
	comp=Z,982nm,18.4s,baz=146,slow=38						
BSO3	**Boso 3**	**10.36**	**351**	P	**Pn**	**05 43 13.3**	**+1.3**
JSG	**Sagara**	**10.74**	**341**	Pn	**Pn**	**05 43 17.5**	**0.0**
JOD2	**Odawara 2**	**11.07**	**346**	P	**Pn**	**05 43 22.6**	**+0.6**
JNY	**Yasuok**	**11.48**	**341**	P	**Pn**	**05 43 29.1**	**+1.5**
JHU	**Hanno**	**11.59**	**347**	P	**Pn**	**05 43 28.3**	**-0.8**
INU	**Inuyama**	**11.74**	**338**	Pn	**Pn**	**05 43 31.6**	**+0.5**
JYT	**Yasato**	**11.80**	**351**	Pn	**Pn**	**05 43 33.2**	**+1.2**
JRY	**Ryogami san**	**11.83**	**346**	P	**Pn**	**05 43 32.1**	**-0.3**
JGF	**Kuroka**	**11.86**	**340**		**Pn**	**05 43 33.6**	**+0.9**
JAG	**Ashikaga**	**12.12**	**349**	P	**Pn**	**05 43 34.3**	**-2.0**
JHO	**Hitachi**	**12.13**	**353**	P	**Pn**	**05 43 36.2**	**-0.4**
JWT	**Wachi**	**12.30**	**332**	Pn	**Pn**	**05 43 39.3**	**+0.5**
MJAR	**Matsushiro Arr**	**12.49**	**344**	P	**Pn**	**05 43 41.1**	**-0.4**
	0.4nm,0.3s,baz=157,slow=10,SNR=15						
MJAR				LR	LR	05 48 27.4	
	comp=Z,816nm,19.7s,baz=155,slow=37						
MJAR	**Matsushiro Arr**	**12.49**	**344**	Pn	**Pn**	**05 43 41.3**	**-0.2**
MAJO	**Matsushiro**	**12.49**	**344**	Pn	**Pn**	**05 43 41.6**	**+0.1**
MAT	**Matsushiro**	**12.49**	**344**	P	**Pn**	**05 43 41.3**	**-0.2**
MAT				*e*S	**Sn**	**05 45 56.5**	**-3.4**
JOW	**Kunigami**	**12.94**	**283**	LR	LR	05 48 12.8	
	comp=Z,756nm,21.2s,baz=121,slow=35						
JOW	**Kunigami**	**12.94**	**283**	Pn	**Pn**	**05 43 49.4**	**+1.8**
JHS	**Saijyo**	**13.17**	**324**	Pn	**Pn**	**05 43 53.9**	**+3.1**
JMM	**Marumori**	**13.36**	**354**		**Pn**	**05 43 52.7**	**-0.5**
JSD	**Sado**	**13.91**	**346**	Pn	**Pn**	**05 43 58.0**	**-2.7**
JTU	**Tsushima**	**15.05**	**314**		**P**	**05 44 23.4**	**+1.9**
JTU				IAmb	IAmb	05 44 37.5	
	comp=Z,69nm,1.4s						
JTM	**Tenmabayashi**	**16.24**	**356**	Pn	**Pn**	**05 44 30.6**	**-1.0**
JTM				IAmb	IAmb	05 44 43.9	
	comp=Z,82nm,1.1s						
ERM	**Erimo**	**17.44**	**2**		**P**	**05 44 47.8**	**0.0**
ERM				IAmb	IAmb	05 44 51.9	
	comp=Z,73nm,1.2s						
KSRS	**Korea Array**	**17.85**	**320**	P	**P**	**05 44 53.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=16						
KSRS				LR	LR	05 51 00.9	
	comp=Z,471nm,21.9s,baz=130,slow=34						
KSAR	**Wonju Array Be**	**17.87**	**319**	P	**P**	**05 44 53.1**	**+0.5**
KS19	**Wonju Array Si**	**17.92**	**320**		**Pn**	**05 44 52.1**	**-0.6**
JEW	**Eniwo**	**18.27**	**358**		**P**	**05 44 57.9**	**+0.9**
YULB	**Yu-li**	**19.32**	**271**		**Pn**	**05 45 10.5**	**+0.6**
ASAJ	**Asahikawa**	**19.53**	**0**	P	**Pn**	**05 45 13.2**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=212,slow=19,SNR=6.0						
ASAJ				LR	LR	05 53 04.7	
	comp=Z,257nm,21.9s,baz=166,slow=38						
JKA	**Kamikawa-asahi**	**19.53**	**0**		**Pn**	**05 45 11.9**	**-0.3**
TWG	**Pinlang**	**19.61**	**269**	P	**P**	**05 45 11.9**	**0.0**
TWG				IAmb	IAmb	05 45 35.2	
	comp=Z,37nm,1.1s						
USA0B	**Ussuriysk Arra**	**21.38**	**339**	P	**P**	**05 45 30.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**21.38**	**339**	P	**P**	**05 45 30.3**	**-0.5**
	comp=Z,11nm,0.9s,baz=159,slow=9.8,SNR=18						
USRK	**Ussuriysk Ar.**	**21.38**	**339**	P	**P**	**05 45 30.8**	**-0.1**
NJ2	**Nanjing**	**22.02**	**295**	*e*P	**P**	**05 45 36.4**	**-1.4**
NJ2				S	**S**	**05 49 42.8**	**+3.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,84nm,3.5s						
NJ2				L	L		
	comp=Z,250nm,14.7s						
NJ2				L	L		
	comp=Z,270nm,15.2s						
NJ2				L	L		
	comp=Z,390nm,16.5s						
YSS	**Yuzh-Sakhalins**	**22.37**	**1**	P	**P**	**05 45 42.8**	**+1.4**
YSS				IAmb	IAmb	05 45 59.0	
	comp=Z,40nm,1.1s						
TGY	**Tagaytay City**	**22.73**	**247**	LR	LR	05 53 02.9	
	comp=Z,172nm,19.1s,baz=86,slow=32						
H11N1	**WAKE ISLAND Hy**	**23.18**	**97**	T	T	06 09 42.1	
	baz=287						
H11N2	**WAKE ISLAND Hy**	**23.18**	**97**	T	T	06 09 38.2	
	baz=287						
H11N3	**WAKE ISLAND Hy**	**23.19**	**97**	T	T	06 09 41.5	
	baz=287						
PATS	**Pohnpei**	**23.29**	**136**	P	**P**	**05 45 52.5**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**23.36**	**100**	T	T	06 09 56.7	
	baz=291,slow=74,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**23.37**	**100**	T	T	06 09 53.7	
	baz=291,slow=74,SNR=76						
H11S2	**WAKE ISLAND Hy**	**23.38**	**100**	T	T	06 09 57.0	
	baz=291,slow=74,SNR=10						
CN2	**Changchun**	**23.70**	**328**	*e*P	**P**	**05 45 55.6**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				L	L		
	comp=Z,300nm,16.0s						
CN2				L	L		
	comp=Z,300nm,16.0s						
CN2				L	L		
	comp=Z,400nm,16.0s						
TIA	**Tai'an**	**24.64**	**304**	P	**P**	**05 46 03.4**	**-0.5**
TIA				S	**S**	**05 50 31.5**	**+7.6**
TIA				pmax	pmax		
	comp=Z,25nm,0.9s						
TIA				pmax	pmax		
	comp=Z,84nm,3.9s						
TIA				L	L		
	comp=Z,220nm,14.3s						
TIA				L	L		
	comp=Z,180nm,14.9s						
TIA				L	L		
	comp=Z,250nm,17.7s						
KLR	**Kul'dur**	**26.02**	**344**	P	**P**	**05 46 16.2**	**0.0**
	comp=Z,26nm,0.9s,baz=145,slow=8.6,SNR=56						
SIJI	**Sorong**	**27.47**	**205**	LR	LR	05 55 08.5	
	comp=Z,351nm,18.7s,baz=36,slow=31						
ENH	**Enshi**	**29.71**	**288**	P	**P**	**05 46 48.3**	**-1.2**
ENH				IAmb	IAmb	05 46 51.5	
	comp=Z,10nm,0.7s						
HIA	**Hailar**	**30.39**	**330**	P	**P**	**05 46 55.3**	**0.0**
HHC	**Hu-ho-hao-te**	**30.42**	**310**	*e*P	**P**	**05 46 59.1**	**+3.3**
HHC				S	**S**	**05 52 01.3**	**+6.0**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,70nm,4.3s						
HHC				L	L		
	comp=Z,130nm,13.0s						
HHC				L	L		
	comp=Z,220nm,14.2s						
HHC				L	L		
	comp=Z,240nm,12.2s						
PETK	**Petropavlovsk-**	**30.78**	**18**	LR	LR	06 04 41.7	
	comp=Z,71nm,18.1s,baz=208,slow=46						
GYA	**Guiyang**	**32.25**	**281**	*e*P	**P**	**05 47 13.8**	**+1.7**
GYA				S	**S**	**05 52 19.9**	**-4.3**
GYA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GYA				L	L		
	comp=Z,41nm,19.4s						
LZH	**Lanzhou**	**35.01**	**298**	*e*P	**P**	**05 47 38.4**	**+2.4**
LZH				pP	pwP	05 47 51.8	+5.6
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				pmax	pmax		
	comp=Z,100nm,6.0s						
LZH				L	L		
	comp=Z,190nm,16.3s						
LZH				L	L		
	comp=Z,210nm,16.3s						
LZH				L	L		
	comp=Z,170nm,17.4s						
KMI	**Kunming**	**35.91**	**279**	⇑P	**P**	**05 47 45.8**	**+1.8**
KMI				pP	pwP	05 47 54.9	+0.9
KMI				sP	sP	05 47 59.1	+5.6
KMI				PP	**PP**	**05 49 05.9**	**+0.2**
KMI				S	**S**	**05 53 18.5**	**-2.5**
KMI				pmax	pmax		
	comp=Z,21nm,0.9s						
KMI				pmax	pmax		
	comp=Z,33nm,3.5s						
KMI				L	L		
	comp=Z,140nm,18.6s						
KMI				L	L		
	comp=Z,220nm,18.2s						
KMI				L	L		
	comp=Z,230nm,23.2s						
ULN	**Ulaanbaatar**	**36.34**	**319**	P	**P**	**05 47 46.1**	**-1.2**
SONM	**Songino Array**	**36.72**	**319**	P	**P**	**05 47 49.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=104,slow=9.2,SNR=4.3						
SONM				LR	LR	06 03 39.9	
	comp=Z,267nm,18.9s,baz=100,slow=37						
SONM	**Songino Array**	**36.72**	**319**	P	**P**	**05 47 50.3**	**-0.2**
HNR	**Honiara**	**37.86**	**151**	LR	LR	06 02 17.3	
	comp=Z,268nm,21.8s,baz=327,slow=34						
SOEI	**Soe**	**38.41**	**210**	P	**P**	**05 48 04.0**	**-1.1**
YAK	**Yakutsk**	**38.46**	**350**	P	**P**	**05 48 04.6**	**-0.2**
GTA	**Gaotai**	**38.68**	**303**	*e*P	**P**	**05 48 06.9**	**-0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,42nm,4.9s						
GTA				L	L		
	comp=Z,110nm,18.2s						
GTA				L	L		
	comp=Z,99nm,17.8s						
GTA				L	L		
	comp=Z,120nm,20.0s						
MTN	**Manton Dam**	**38.75**	**198**	P	**P**	**05 48 07.0**	**-0.7**
UTTA	**Uttaradit**	**39.50**	**268**	P	**P**	05 48 27.5	+13
PHIT	**Phitsanulok**	**39.79**	**268**	P	**P**	**05 48 19.4**	**+2.9**
	comp=Z,56nm,1.0s						
CMMT	**Chiang Mai**	**40.66**	**271**	P	**P**	**05 48 26.7**	**+3.0**
CHTO	**Chiang Mai**	**40.66**	**271**	P	**P**	**05 48 27.7**	**+3.9**
	comp=Z,9.8nm,1.7s						
CMAR	**Chiang Mai Arr**	**40.76**	**270**	P	**P**	**05 48 25.2**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=59,slow=8.0,SNR=10						
CMAR				LR	LR	06 05 16.1	
	comp=Z,116nm,19.9s,baz=154,slow=36						
CMAR	**Chiang Mai Arr**	**40.76**	**270**	P	**P**	**05 48 23.7**	**-0.9**
CTAO	**Charters Tower**	**44.52**	**175**	P	**P**	**05 48 54.4**	**-0.6**
CTAO				IAmb	IAmb	05 48 55.4	
	comp=Z,16nm,0.9s						
WB0	**Warramunga Arr**	**44.73**	**191**	P	**P**	**05 48 55.8**	**-0.8**
WB0				IAmb	IAmb	05 48 56.6	
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**44.89**	**191**	P	**P**	**05 48 57.3**	**-0.6**
WR0				IAmb	IAmb	05 49 00.8	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**44.90**	**191**	P	**P**	**05 48 57.9**	**-0.1**
WB2	**Warramunga Arr**	**44.90**	**191**	P	**P**	**05 48 57.4**	**-0.6**
WRA	**Warramunga Arr**	**44.91**	**191**	P	**P**	**05 48 56.9**	**-1.2**
	comp=Z,18nm,0.6s,baz=12,slow=8.6,SNR=168						
WRA				PcP	**PcP**	**05 50 39.2**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=5.4,slow=3.4,SNR=6.5						
WRA	**Warramunga Arr**	**44.91**	**191**	P	**P**	**05 48 56.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**45.42**	**203**	P	**P**	**05 49 01.4**	**-0.8**
	comp=Z,16nm,0.8s,baz=30,slow=9.1,SNR=48						
FITZ	**Fitzroy Crossi**	**45.42**	**203**	P	**P**	**05 49 01.7**	**-0.4**
FITZ				IAmb	IAmb	05 49 08.1	
	comp=Z,13nm,0.8s						
SHL	**Shillong**	**45.55**	**282**	P	**P**	**05 49 03.5**	**+0.1**
BILL	**Bilibino**	**45.90**	**12**	P	**P**	**05 49 05.8**	**+0.4**
BILL				IAmb	IAmb	05 49 07.4	
	comp=Z,13nm,1.1s						
LEM	**Lembang**	**46.05**	**232**	P	**P**	**05 49 07.4**	**-0.1**
	comp=Z,18nm,0.7s,baz=85,slow=12,SNR=2.0						
PSI	**Prapat**	**47.15**	**250**	P	**P**	**05 49 16.7**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=359,slow=11,SNR=2.3						
TIXI	**Tiksi**	**47.76**	**354**	P	**P**	**05 49 19.6**	**-0.3**
	comp=Z,9.4nm,0.8s,baz=145,slow=7.5,SNR=10						
TIXI	**Tiksi**	**47.76**	**354**	P	**P**	**05 49 20.0**	**+0.2**
TIXI				IAmb	IAmb	05 49 27.4	
	comp=Z,15nm,1.1s						
WMQ	**Urumqi**	**48.25**	**308**	*e*P	**P**	**05 49 24.6**	**+0.4**
WMQ				pP	pwP	05 49 38.6	+4.1
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.7s						
WMQ				L	L		
	comp=Z,430nm,25.5s						
WMQ				L	L		
	comp=Z,370nm,15.3s						
WMQ				L	L		
	comp=Z,370nm,25.5s						
AS31	**Alice Springs**	**48.62**	**190**	P	**P**	**05 49 27.0**	**-0.2**
ASAR	**Alice Springs**	**48.62**	**190**	P	**P**	**05 49 26.0**	**-1.1**
	comp=Z,4.1nm,0.6s,baz=14,slow=1.1,SNR=82						
ASAR				PcP	**PcP**	**05 50 53.4**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=12,slow=5.7,SNR=2.5						
ASAR	**Alice Springs**	**48.62**	**190**	P	**P**	**05 49 26.2**	**-1.0**
EIDS	**Eidsvold**	**50.32**	**170**	P	**P**	**05 49 39.7**	**-0.3**
PSA00	**Pilbara Seismi**	**50.81**	**207**	P	**P**	**05 49 43.0**	**-0.8**
PSA00				IAmb	IAmb	05 49 58.8	
	comp=Z,8.5nm,1.0s						
PSA00	**Pilbara Seismi**	**50.81**	**207**	P	**P**	**05 49 43.1**	**-0.7**
PSA00				IAmb	IAmb	05 49 49.8	
	comp=Z,5.0nm,1.0s						
ZAA0	**Zalesovo Array**	**51.56**	**320**	P	**P**	**05 49 47.1**	**-1.9**
ZALV	**Zalesovo Beam**	**51.56**	**320**	P	**P**	**05 49 47.5**	**-1.5**
	comp=Z,3.5nm,0.7s,baz=103,slow=6.7,SNR=9.6						
ZALV				PcP	**PcP**	**05 51 01.1**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=54,slow=2.6,SNR=1.4						
ZALV				LR	LR	06 13 42.6	
	comp=Z,154nm,19.2s,baz=92,slow=38						
ZALV	**Zalesovo Beam**	**51.56**	**320**	P	**P**	**05 49 47.3**	**-1.8**
TNA	**Tin City**	**51.63**	**24**	P	**P**	**05 49 50.0**	**+0.6**
DZM	**Mont Dzumac**	**51.89**	**151**	P	**P**	**05 49 51.5**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=45,slow=7.1,SNR=7.1						
DZM	**Mont Dzumac**	**51.89**	**151**	*e*LR	LR	06 05 10.4	
	comp=Z,381nm,23.3s						
DZM	**Mont Dzumac**	**51.89**	**151**	P	**P**	**05 49 52.0**	**+0.1**
MK31	**Makanchi Array**	**52.27**	**311**	P	**P**	**05 49 53.3**	**-1.3**
MKAR	**Makanchi Array**	**52.27**	**311**	P	**P**	**05 49 53.5**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=92,slow=9.7,SNR=24						
MKAR				LR	LR	06 13 29.3	
	comp=Z,94nm,18.9s,baz=74,slow=38						
MKAR	**Makanchi Array**	**52.27**	**311**	P	**P**	**05 49 53.3**	**-1.3**
MAKZ	**Makanchi**	**52.49**	**311**	P	**P**	**05 49 55.4**	**-0.7**
MAKZ				IAmb	IAmb	05 49 57.1	
	comp=Z,12nm,1.1s						
RDOG	**Red Dog Mine**	**54.51**	**22**	P	**P**	**05 50 12.7**	**+2.1**
RDOG				IAmb	IAmb	05 50 25.1	
	comp=Z,9.8nm,1.0s						
KURK	**Kurchatov**	**54.93**	**316**	P	**P**	**05 50 13.1**	**-0.8**
KURBB	**Kurchatov Arra**	**54.98**	**316**	P	**P**	**05 50 13.1**	**-1.2**
	comp=Z,8.8nm,0.7s,baz=91,slow=7.9,SNR=45						
NRIK	**Noril'sk**	**55.09**	**339**	P	**P**	**05 50 14.4**	**-0.4**
	comp=Z,3.4nm,0.3s,baz=101,slow=8.5,SNR=7.3						
NRIK				LR	LR	06 14 40.8	
	comp=Z,210nm,18.1s,baz=102,slow=37						
NRIK	**Noril'sk**	**55.09**	**339**	P	**P**	**05 50 14.5**	**-0.4**
NRIK				IAmb	IAmb	05 50 16.3	
	comp=Z,8.6nm,0.8s						
TARG	**Taragay, Kyrgy**	**55.51**	**305**	P	**P**	**05 50 17.1**	**-1.7**
TARG				IAmb	IAmb	05 50 21.3	
	comp=Z,12nm,1.0s						
KDJ	**Kajisay**	**55.95**	**305**	P	**P**	**05 50 20.0**	**-1.6**
KDJ				IAmb	IAmb	05 50 24.7	
	comp=Z,7.6nm,1.0s						
STKA	**Stephens Creek**	**56.10**	**181**	P	**P**	**05 50 21.1**	**-1.4**
	comp=Z,2.4nm,0.4s,baz=0.3,slow=8.6,SNR=11						
STKA				LR	LR	06 17 26.8	
	comp=Z,126nm,18.1s,baz=29,slow=39						
STKA	**Stephens Creek**	**56.10**	**181**	P	**P**	**05 50 21.2**	**-1.2**
KDAK	**Kodiak Island**	**56.30**	**36**	P	**P**	**05 50 24.3**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=310,slow=7.8,SNR=6.2						
KDAK	**Kodiak Island**	**56.30**	**36**	P	**P**	**05 50 24.3**	**+0.7**
KDAK				IAmb	IAmb	05 50 35.4	
	comp=Z,8.1nm,1.1s						
FORT	**Forrest**	**56.70**	**195**	P	**P**	**05 50 26.1**	**-0.6**
BOOM	**Boomskoye usch**	**56.84**	**306**	P	**P**	**05 50 27.9**	**-0.1**
BOOM				IAmb	IAmb	05 50 29.6	
	comp=Z,8.3nm,0.8s						
KSH	**Kashi**	**57.08**	**302**	P	**P**	**05 50 32.6**	**+2.9**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BBOO	**Buckleboo**	**57.35**	**186**	P	**P**	**05 50 30.3**	**-1.0**
H21K	**Melozitna Rive**	**57.55**	**26**	P		05 50 35.0	
	baz=258						
A21K	**Barrow**	**57.77**	**19**	P	**P**	**05 50 34.7**	**+0.9**
A21K				IAmb	IAmb	05 50 37.3	
	comp=Z,5.7nm,0.8s						
I21K	**Tanana**	**57.78**	**27**	P		05 50 36.5	
	baz=259						
AAK	**Ala-Archa**	**57.89**	**306**	P	**P**	**05 50 35.1**	**-0.3**
AAK				IAmb	IAmb	05 50 36.3	
	comp=Z,4.2nm,0.7s						
RC01	**Rabbit Creek A**	**58.15**	**32**	P	**P**	**05 50 36.2**	**-0.5**
RC01				IAmb	IAmb	05 50 50.0	
	comp=Z,6.2nm,1.0s						
SEW	**Seward**	**58.18**	**33**	P	**P**	**05 50 38.2**	**+1.4**
SEW				IAmb	IAmb	05 51 07.0	
	comp=Z,14nm,1.2s						
MLY	**Manley**	**58.27**	**27**	P	**P**	**05 50 38.1**	**+0.5**
MLY	**Manley**	**58.27**	**27**	P		05 50 39.5	
	baz=260						
BWN	**Browne**	**58.68**	**28**	P	**P**	**05 50 38.5**	**-1.8**
KNK	**Knik Glacier**	**58.80**	**32**	P	**P**	**05 50 40.7**	**-0.5**
RND	**Reindeer**	**58.84**	**29**	P	**P**	**05 50 42.8**	**+1.2**
RND				IAmb	IAmb	05 51 05.0	
	comp=Z,4.0nm,0.7s						
MCK	**McKinley**	**58.85**	**29**	P	**P**	**05 50 42.5**	**+1.0**
MCK				IAmb	IAmb	05 50 52.5	
	comp=Z,6.6nm,1.0s						
MCK	**McKinley**	**58.85**	**29**	P		05 50 44.0	
	baz=262						
COLD	**Coldfoot**	**58.89**	**25**	P	**P**	**05 50 42.5**	**+0.7**
COLD				IAmb	IAmb	05 50 59.3	
	comp=Z,7.2nm,1.0s						
COLD	**Coldfoot**	**58.89**	**25**	P		05 50 44.1	
	baz=259,SNR=9.0						
SML	**Sawmill**	**58.90**	**31**	P	**P**	**05 50 42.5**	**+0.5**
SML				IAmb	IAmb	05 50 53.5	
	comp=Z,9.1nm,0.9s						
SML	**Sawmill**	**58.90**	**31**	P		05 50 43.8	
	baz=264						
H23K	**Yukon River**	**58.90**	**26**	P		05 50 44.4	
	baz=261						
NEA2	**Nenana**	**58.91**	**28**	P	**P**	**05 50 42.8**	**+0.9**
NEA2				IAmb	IAmb	05 50 56.8	
	comp=Z,5.2nm,0.9s						
NEA2	**Nenana**	**58.91**	**28**	P		05 50 43.2	
	baz=262						
WAT6	**Susitna Watana**	**59.25**	**30**	P		05 50 46.1	
	baz=264						
SCM	**Sheep Creek Mo**	**59.37**	**31**	P	**P**	**05 50 45.4**	**+0.1**
TOLK	**Toolik Lake Re**	**59.39**	**23**	P	**P**	**05 50 46.6**	**+1.4**
TOLK				IAmb	IAmb	05 50 57.5	
	comp=Z,7.3nm,0.9s						
TOLK	**Toolik Lake Re**	**59.39**	**23**	P		05 50 47.7	
	baz=259,SNR=7.6						
GLI	**Glacier Island**	**59.41**	**32**	P	**P**	**05 50 46.9**	**+1.4**
GLI				IAmb	IAmb	05 50 56.4	
	comp=Z,6.3n

CRQM	**Cirque**	**61.34**	**33**	P	**P**	**05 51 00.1 +1.2**		
CRQM				IAmb	IAmb	05 51 08.6		
	comp=Z,6.4nm,0.8s							
GAR	**Garm**	**61.50**	**302**	P	**P**	**05 50 59.9 -0.3**		
K27K	**Chicken**	**61.90**	**29**	P		05 51 01.3		
	baz=269							
L27K	**Beaver Creek,**	**61.99**	**30**	P	**P**	**05 51 04.5 +1.5**		
L27K	**Beaver Creek,**	**61.99**	**30**	P		05 51 05.2		
	baz=269							
BCAR	**Beaver Creek A**	**62.01**	**30**	P	**P**	**05 51 04.4 +1.2**		
EGAK	**Eagle**	**62.31**	**28**	P	**P**	**05 51 06.7 +1.6**		
EGAK	**Eagle**	**62.31**	**28**	P		05 51 05.8		
	baz=269							
CHGR	**Chuyangaron**	**62.45**	**302**	P	**P**	**05 51 06.2 -0.4**		
DAWY	**Dawson**	**63.08**	**29**	P	**P**	**05 51 12.2 +1.9**		
KBL	**Kabul**	**63.36**	**298**	P	**P**	**05 51 12.7 -0.2**		
HYT	**Haines Junctio**	**64.10**	**32**	P	**P**	**05 51 18.8 +1.6**		
HYT				IAmb	IAmb	05 51 29.3		
	comp=Z,7.9nm,1.1s							
INK	**Inuvik**	**65.27**	**24**	P	**P**	**05 51 25.5 +1.0**		
INK	**Inuvik**	**65.27**	**24**	P		05 51 25.0		
	baz=274							
WHY	**Whitehorse**	**65.40**	**32**	P	**P**	**05 51 26.7 +1.1**		
WHY				IAmb	IAmb	05 51 47.1		
	comp=Z,6.3nm,1.1s							
JIS	**Juneau Island**	**65.95**	**35**	P	**P**	**05 51 30.6 +1.6**		
JIS				IAmb	IAmb	05 51 44.5		
	comp=Z,13nm,1.2s							
ARU	**Arti**	**66.56**	**323**	P	**P**	**05 51 32.2 -0.9**		
ABKAR	**Akbulak array**	**67.03**	**315**	P	**P**	**05 51 34.9 -1.3**		
DIB	**Dawson Inlet,**	**67.88**	**40**	P	**P**	**05 51 42.2 +0.8**		
DLBC	**Dease Lake**	**68.19**	**34**	P	**P**	**05 51 45.3 +1.9**		
DLBC				IAmb	IAmb	05 51 55.6		
	comp=Z,7.2nm,1.2s							
MOBC	**Moresby Island**	**68.19**	**40**	P	**P**	**05 51 44.1 +0.6**		
MOBC				IAmb	IAmb	05 51 54.5		
	comp=Z,14nm,1.4s							
C36M	**Paulatuk**	**68.51**	**22**	P	**P**	**05 51 45.2 +0.1**		
C36M				IAmb	IAmb	05 51 57.1		
	comp=Z,17nm,1.4s							
GEYT	**Alibeck**	**71.06**	**304**	LR	LR	06 26 54.9		
	comp=Z,75nm,18.6s,baz=5.0,slow=39							
EUNU	**Eureka**	**72.39**	**8**	P	**P**	**05 52 09.9 +1.1**		
SPA0	**Spitsbergen Ar**	**72.92**	**350**	*e*P	**P**	**05 52 12.5 +0.6**		
KBS	**Kingsbay**	**73.08**	**351**	P	**P**	**05 52 14.7 +1.9**		
KBS				IAmb	IAmb	05 52 16.9		
	comp=Z,12nm,0.9s							
YKA	**Yellowknife Ar**	**74.29**	**28**	P	**P**	**05 52 20.8 +0.6**		
	comp=Z,1.9nm,0.6s,baz=292,slow=5.4,SNR=17							
YKA				LR	LR	06 26 18.7		
	comp=Z,30nm,19.6s,baz=0.0,slow=37							
PGC	**Sidney**	**74.61**	**43**	P	**P**	**05 52 22.6 +0.4**		
PGC				IAmb	IAmb	05 52 39.9		
	comp=Z,11nm,1.1s							
BJO1	**Bjornoya**	**74.75**	**347**	*e*P	**P**	**05 52 23.4 +0.8**		
KLMR	**Klimovskoe**	**74.89**	**330**	*e*P	**P**	**05 52 21.7 -1.9**		
KLMR				AMP		05 52 35.2		
	comp=Z,11nm,1.2s							
D03D	**Eldon**	**75.21**	**44**	P		05 52 27.0		
	baz=290							
KEV	**Kevo**	**75.45**	**341**	P	**P**	**05 52 27.4 +0.7**		
KEV				IAmb	IAmb	05 52 28.1		
	comp=Z,12nm,0.9s							
HAMF	**Hammerfest**	**75.91**	**342**	*e*P	**P**	**05 52 29.2 -0.1**		
ARA0	**ARCESS Array S**	**76.01**	**341**	*e*P	**P**	**05 52 30.5 +0.5**		
ARCES	**ARCESS Array B**	**76.01**	**341**	P	**P**	**05 52 30.4 +0.4**		
	comp=Z,12nm,0.8s,baz=57,slow=7.4,SNR=36							
ARCES				LR	LR	06 30 24.2		
	comp=Z,247nm,20.3s,baz=80,slow=39							
ARCES	**ARCESS Array B**	**76.01**	**341**	P	**P**	**05 52 30.6 +0.6**		
ARCES				IAmb	IAmb	05 52 32.0		
	comp=Z,13nm,0.8s							
H04A	**Detroit Lake**	**76.81**	**47**	P	**P**	**05 52 36.2 +1.2**		
H04A				IAmb	IAmb	05 52 36.9		
	comp=Z,9.9nm,0.9s							
KTK1	**Kautokeino**	**76.97**	**341**	*e*P	**P**	**05 52 36.1 +0.7**		
I04A	**Tendick Farm,**	**76.99**	**48**	P		05 52 37.1		
	baz=292							
B08A	**Colville Reser**	**77.27**	**43**	P	**P**	**05 52 38.5 +1.0**		
B08A				IAmb	IAmb	05 52 39.3		
	comp=Z,5.9nm,0.8s							
J04D	**Umpqua Nationa**	**77.39**	**48**	P		05 52 40.0		
	baz=292							
JETT	**Jettan, Norway**	**77.46**	**342**	*e*P	**P**	**05 52 38.5 +0.3**		
I05D	**Terrebonne, OR**	**77.50**	**47**	P		05 52 40.0		
	baz=292							
M02C	**Callahan**	**77.56**	**50**	P		05 52 41.0		
	baz=292							
L04D	**Klamath Falls**	**77.64**	**49**	P		05 52 40.6		
	baz=292							
TRO	**Tromso**	**77.82**	**343**	*e*P	**P**	**05 52 40.8 +0.7**		
N02D	**Trinity Center**	**77.82**	**51**	P		05 52 41.7		
	baz=292							
PINE	**Pine Mountain**	**77.97**	**47**	P	**P**	**05 52 43.5 +1.7**		
O02D	**Mt. Diablo Mer**	**78.06**	**51**	P		05 52 43.3		
	baz=292							
M04C	**Macdoel**	**78.12**	**50**	P		05 52 43.8		
	baz=292							
PPT2	**Papeete2**	**78.40**	**115**	*e*LR	LR	06 17 25.3		
	comp=Z,109nm,25.2s							
K05A	**Summer Lake**	**78.41**	**48**	P	**P**	**05 52 45.9 +1.7**		
K05A				IAmb	IAmb	05 52 46.5		
	comp=Z,11nm,0.8s							
PMOR	**Pomariorio Ree**	**78.52**	**112**	*e*T	T	07 18 43.1		
	comp=Z,3.6nm,0.2s							
NEW	**Newport**	**78.66**	**42**	P	**P**	**05 52 46.4 +1.1**		
NEW	**Newport**	**78.66**	**42**	P		05 52 46.4		
	baz=294							
O03E	**Paynes Creek**	**78.71**	**51**	P		05 52 46.3		
	baz=293							
E09A	**Wood Farm, Sta**	**78.73**	**44**	P	**P**	**05 52 46.1 +0.5**		
MOD	**Modoc Plateau**	**79.14**	**49**	P	**P**	**05 52 48.5 +0.4**		
ORV	**Oroville**	**79.21**	**51**	P	**P**	**05 52 48.5 +0.1**		
ORV				IAmb	IAmb	05 52 49.8		
	comp=Z,8.0nm,1.1s							
F10A	**Beach Ranch, E**	**79.53**	**44**	P	**P**	**05 52 51.1 +0.9**		
J08A	**Circle Bar Ran**	**79.79**	**47**	P	**P**	**05 52 52.4 +0.7**		
J08A				IAmb	IAmb	05 52 53.6		
	comp=Z,6.0nm,0.9s							
AFDM	**Forest Hills D**	**79.83**	**52**	P	**P**	**05 52 52.2 +0.4**		
KBZ	**Khabaz**	**79.89**	**313**	P	**P**	**05 52 52.0 0.0**		
	comp=Z,14nm,0.9s,baz=88,slow=2.1,SNR=28							
KBZ				LR	LR	06 30 55.2		
	comp=Z,97nm,20.9s,baz=63,slow=38							
KIV	**Kislovodsk**	**79.94**	**314**	P	**P**	**05 52 52.1 -0.2**		
KIV				IAmb	IAmb	05 53 04.0		
	comp=Z,7.6nm,0.6s							
BMO	**Blue Mountains**	**79.95**	**45**	P	**P**	**05 52 52.9 +0.5**		
STEI	**Steigen**	**79.95**	**342**	*e*P	**P**	**05 52 52.0 +0.2**		
ONI	**Oni**	**79.99**	**312**	P	**P**	**05 52 53.0 +0.3**		
ONI				IAmb	IAmb	05 53 11.1		
	comp=Z,6.6nm,0.8s							
WVOR	**Wild Horse Val**	**80.06**	**48**	P	**P**	**05 52 53.8 +0.7**		
WALA	**Waterton Lakes**	**80.25**	**40**	P	**P**	**05 52 53.1 -0.9**		
LOF	**Lofoten**	**80.28**	**343**	*e*P	**P**	**05 52 53.4 -0.1**		
FAUS	**Fauske**	**80.31**	**342**	*e*P	**P**	**05 52 54.4 +0.6**		
FIA1	**FINESS Array S**	**80.32**	**334**	P	**P**	**05 52 53.4 -0.5**		
FIA1				IAmb	IAmb	05 53 04.0		
	comp=Z,13nm,1.1s							
FINES	**FINESS Array B**	**80.32**	**334**	P	**P**	**05 52 53.1 -0.8**		
	comp=Z,4.5nm,0.6s,baz=66,slow=4.7,SNR=48							
FINES				LR	LR	06 32 11.0		
	comp=Z,98nm,18.3s,baz=50,slow=38							
FINES	**FINESS Array B**	**80.32**	**334**	P	**P**	**05 52 53.5 -0.4**		
JTMT	**Jette**	**80.61**	**42**	P	**P**	**05 52 56.6 +0.6**		
JTMT				IAmb	IAmb	05 52 57.9		
	comp=Z,6.4nm,0.7s							
CMB	**Columbia Colle**	**80.61**	**53**	P	**P**	**05 52 56.6 +0.6**		
CMB				IAmb	IAmb	05 52 57.7		
	comp=Z,8.4nm,0.8s							
PAHR	**Pah Rah Range**	**80.65**	**51**	P	**P**	**05 52 56.9 +0.5**		
PNTR	**Pine Nut**	**80.75**	**51**	P	**P**	**05 52 57.7 +0.6**		
PNTR				IAmb	IAmb	05 52 58.9		
	comp=Z,6.8nm,0.7s							
WAKR	**Walker**	**81.10**	**52**	P	**P**	**05 52 60.0 +1.1**		
MOR8	**Moi Rana**	**81.39**	**341**	*e*P	**P**	**05 52 58.5 -1.1**		
MFID	**Camas Ranch**	**81.52**	**46**	P	**P**	**05 53 01.8 +1.0**		
MFID				IAmb	IAmb	05 53 02.8		
	comp=Z,6.4nm,0.8s							
MEF	**Metsahovi**	**81.70**	**334**	*e*P	**P**	**05 53 01.1 -0.2**		
VSU	**Vasula**	**81.72**	**331**	*e*P	**P**	**05 53 01.4 0.0**		
MDPB	**Devils Postpil**	**81.72**	**53**	P	**P**	**05 53 02.5 +0.3**		
KVN	**Kaiserville**	**81.83**	**51**	P	**P**	**05 53 03.4 +0.7**		
NVAR	**Mina Array Bea**	**81.94**	**52**	P	**P**	**05 53 04.4 +1.0**		
	comp=Z,2.6nm,0.7s,baz=293,slow=5.0,SNR=23							

NVAR	**Mina Array Bea**	**81.94**	**52**	P	**P**	**05 53 03.9 +0.5**		
NV11	**Mina Array Sit**	**82.05**	**51**	P	**P**	**05 53 04.5 +0.7**		
HLID	**Hailey**	**82.38**	**46**	P	**P**	**05 53 06.7 +1.2**		
HLID	**Hailey**	**82.38**	**46**	P		05 53 06.3		
	baz=297							
TAOE	**Nuku Hiva Isla**	**82.39**	**103**	*e*LR	LR	06 19 12.7		
	comp=Z,112nm,25.0s							
VES	**Vestal, Richgr**	**82.46**	**54**	P		05 53 05.9		
	baz=295							
HRY	**Holter Researc**	**82.56**	**42**	P	**P**	**05 53 06.3 0.0**		
LRM	**Limekiln Ridge**	**82.60**	**43**	P	**P**	**05 53 06.3 -0.4**		
BCYI	**Bear Canyon**	**82.69**	**45**	P	**P**	**05 53 08.3 +1.2**		
TPH	**Tonopah**	**82.87**	**51**	P	**P**	**05 53 08.7 +0.5**		
ELK	**Elko**	**83.08**	**48**	P	**P**	**05 53 10.1 +0.8**		
EGMT	**Eagleton**	**83.18**	**40**	P		05 53 10.4		
	baz=299							
NSS	**Namsos**	**83.28**	**341**	*e*P	**P**	**05 53 09.6 +0.2**		
MNK	**Minsk**	**83.39**	**328**	*i* P	**P**	**05 53 07.2 -3.0**		
	comp=E,2.0nm,0.7s							
MNK				*i* P	**P**	**05 53 07.2 -3.0**		
	comp=N,6.0nm,0.8s							
MNK				*i* P	**P**	**05 53 07.2 -3.0**		
	comp=Z,12nm,0.8s,baz=238							
MNK				*i* PP	**PP**	**05 56 18.0 -3.7**		
MNK				*i* PPP	PPP	05 58 09.8		
MNK				*i* S	**S**	**06 03 25.1 -4.7**		
MNK				*i* SS	**SS**	**06 08 49.9 -4.5**		
MNK				*i* SSS	SSS	06 12 19.2		
MNK				*i* LR	LR	06 25 49.5		
MNK				*i* LRM	MLR	06 31 47.9		
	comp=Z,142nm,27.5s							
MNK				*i* LRM	MLR	06 32 23.2		
	comp=N,121nm,21.7s							
MNK				*i* LRM	MLR	06 32 47.8		
	comp=E,20nm,24.6s							
AAL	**Aland**	**83.47**	**335**	*e*P	**P**	**05 53 08.9 -1.5**		
MPMC	**Manual Prospec**	**83.54**	**53**	P		05 53 12.4		
	baz=296,SNR=5.7							
NACGM	**Naroch**	**83.70**	**328**	*i* P	**P**	**05 53 10.6 -1.2**		
QLMT	**Earthquake Lak**	**83.70**	**43**	P	**P**	**05 53 13.6 +1.2**		
FFC	**Flin Flon**	**83.80**	**32**	P	**P**	**05 53 13.3 +1.0**		
FFC				IAmb	IAmb	05 53 26.4		
	comp=Z,7.1nm,1.0s							
FURC	**Furnace Creek,**	**83.82**	**53**	P		05 53 13.8		
	baz=296							
TPNV	**Topopah Spring**	**84.05**	**52**	P	**P**	**05 53 14.1 -0.2**		
TPNV				IAmb	IAmb	05 53 15.7		
	comp=Z,5.5nm,0.8s							
TPNV	**Topopah Spring**	**84.05**	**52**	P		05 53 14.8		
	baz=296,SNR=6.0							
YMR	**Madison River**	**84.07**	**43**	P	**P**	**05 53 14.0 -0.3**		
YMR				IAmb	IAmb	05 53 16.8		
	comp=Z,6.3nm,0.7s							
YHH	**Holmes Hill**	**84.08**	**43**	P	**P**	**05 53 15.7 +1.3**		
HVU	**Hansel Valley**	**84.27**	**47**	P	**P**	**05 53 15.8 +0.6**		
HVU				IAmb	IAmb	05 53 29.4		
	comp=Z,7.9nm,1.3s							
GSC	**Goldstone, Bar**	**84.37**	**54**	P	**P**	**05 53 16.1 +0.3**		
GSC				IAmb	IAmb	05 53 17.3		
	comp=Z,13nm,1.4s							
GSC	**Goldstone, Bar**	**84.37**	**54**	P		05 53 16.6		
	baz=296							
H17A	**Grant Village**	**84.44**	**44**	P	**P**	**05 53 17.9 +1.7**		
H17A				IAmb	IAmb	05 53 20.2		
	comp=Z,12nm,1.3s							
H17A	**Grant Village**	**84.44**	**44**	P		05 53 19.1		
	baz=299,SNR=5.8							
SPR3	**Spring Creek 3**	**84.49**	**50**	P	**P**	**05 53 17.4 +0.7**		
UPP	**Uppsala**	**84.58**	**335**	*e*P	**P**	**05 53 15.1 -1.1**		
PABE	**Paberze**	**84.67**	**330**	*e*P	**P**	**05 53 16.5 -0.2**		
SPUT	**South Promonto**	**84.70**	**47**	P	**P**	**05 53 18.1 +0.7**		
SPUT				IAmb	IAmb	05 53 19.5		
	comp=Z,6.4nm,1.3s							
PRN	**Pahroc Range**	**84.70**	**51**	P	**P**	**05 53 17.8 +0.3**		
PRN				IAmb	IAmb	05 53 19.3		
	comp=Z,5.3nm,1.0s							
REDW	**Red Top Meadow**	**84.77**	**45**	P	**P**	**05 53 17.1 -0.7**		
AKASG	**Malin Array Be**	**84.79**	**324**	P	**P**	**05 53 16.4 -1.0**		
	comp=Z,6.4nm,0.6s,baz=51,slow=5.0,SNR=34							
AKASG				LR	LR	06 34 44.8		
	comp=Z,121nm,18.9s,baz=50,slow=38							
AKASG	**Malin Array Be**	**84.79**	**324**	P	**P**	**05 53 16.5 -1.0**		
AKBB	**Malin Array Si**	**84.79**	**324**	P	**P**	**05 53 16.2 -1.3**		
LOHW	**Long Hollow**	**84.81**	**44**	P	**P**	**05 53 18.8 +0.8**		
RLMT	**Red Lodge**	**84.90**	**42**	P	**P**	**05 53 19.9 +1.5**		
RLMT	**Red Lodge**	**84.90**	**42**	P		05 53 20.1		
	baz=300,SNR=9.0							
DUG	**Dugway, Tooele**	**84.98**	**48**	P	**P**	**05 53 19.3 +0.4**		
DUG				IAmb	IAmb	05 53 20.5		
	comp=Z,5.7nm,0.8s							
DUG	**Dugway, Tooele**	**84.98**	**48**	P		05 53 19.8		
	baz=298,SNR=7.8							
SHPR	**Sheep Range**	**85.03**	**52**	P	**P**	**05 53 19.7 +0.5**		
SHPR				IAmb	IAmb	05 53 21.1		
	comp=Z,4.0nm,0.9s							
PSUT	**Pine Spring**	**85.03**	**50**	P	**P**	**05 53 19.1 -0.1**		
PSUT				IAmb	IAmb	05 53 41.6		
	comp=Z,4.2nm,0.7s							
HWUT	**Hardware Ranch**	**85.15**	**46**	P	**P**	**05 53 20.2 +0.5**		
HWUT				IAmb	IAmb	05 53 21.0		
	comp=Z,4.9nm,0.8s							
PFO	**Pinyon Flats O**	**85.37**	**55**	P	**P**	**05 53 21.0 +0.1**		
PFO				IAmb	IAmb	05 53 22.3		
	comp=Z,7.2nm,1.1s							
PFO	**Pinyon Flats O**	**85.37**	**55**	P		05 53 21.5		
	baz=296,SNR=5.4							
GMRC	**Granite Mounta**	**85.44**	**54**	P		05 53 21.9		
	baz=297,SNR=5.4							
BELC	**Belle Mtn. Jos**	**85.54**	**55**	P		05 53 22.0		
	baz=297							
MONP2	**Monument Peak**	**85.72**	**56**	P		05 53 23.3		
	baz=296							
NC405	**NORSAR Array S**	**85.83**	**338**	P	**P**	**05 53 21.6 -0.8**		
CCUT	**Cedar City**	**85.83**	**51**	P	**P**	**05 53 23.9 +0.7**		
CCUT				IAmb	IAmb	05 53 25.2		
	comp=Z,6.4nm,1.3s							
NC303	**NORSAR Array S**	**85.86**	**339**	P	**P**	**05 53 22.3 -0.3**		
MPU	**Maple Canyon**	**85.86**	**48**	P	**P**	**05 53 22.3 -1.0**		
MPU				IAmb	IAmb	05 53 24.4		
	comp=Z,3.8nm,0.8s							
BW06	**Boulder Array**	**85.89**	**45**	P	**P**	**05 53 23.5 +0.1**		
PD31	**Pinedale Array**	**85.89**	**45**	P	**P**	**05 53 23.5 +0.1**		
PDAR	**Pinedale Array**	**85.89**	**45**	P	**P**	**05 53 23.7 +0.3**		
	comp=Z,1.6nm,0.8s,baz=276,slow=4.3,SNR=12							
PDAR				LR	LR	06 25 25.5		
	comp=Z,84nm,21.9s,baz=284,slow=31							
PDAR	**Pinedale Array**	**85.89**	**45**	P	**P**	**05 53 23.2 -0.2**		
BW06	**Boulder Array**	**85.89**	**45**	P		05 53 23.2		
	baz=300							
LAO	**LASA Array**	**85.92**	**40**	P	**P**	**05 53 23.8 +0.5**		
LAO	**LASA Array**	**85.93**	**40**	P		05 53 24.6		
	baz=302							
SUW	**Suwalki**	**85.93**	**329**	*e*P	**P**	**05 53 22.8 -0.2**		
SUW	**Suwalki**	**85.93**	**329**	P	**P**	**05 53 22.6 -0.5**		
DOMB	**Dombas**	**86.00**	**340**	*e*P	**P**	**05 53 23.3 0.0**		
NB201	**NORSAR Array S**	**86.02**	**338**	P	**P**	**05 53 23.1 -0.3**		
NC204	**NORSAR Array S**	**86.03**	**339**	P	**P**	**05 53 23.2 -0.3**		
NB2	**NORSAR Subarra**	**86.05**	**338**	P	**P**	**05 53 22.6 -1.0**		
	baz=43,slow=5.1							
NOA	**NORSAR Array B**	**86.05**	**338**	P	**P**	**05 53 22.6 -1.0**		
	comp=Z,3.4nm,0.9s,baz=42,slow=5.0,SNR=11							
NOA				LR	LR	06 35 54.6		
	comp=Z,117nm,20.1s,baz=55,slow=38							
IKP	**In-Ko-Pah, Jac**	**86.06**	**56**	P		05 53 24.6		
	baz=297							
MOL	**Molde**	**86.07**	**341**	*e*P	**P**	**05 53 23.7 +0.1**		
BC3	**Big Chuckawall**	**86.10**	**55**	P		05 53 25.2		
	baz=297							
IRM	**Iron Mountain**	**86.10**	**54**	P		05 53 25.0		
	baz=297							
DGMT	**Dagmar**	**86.13**	**38**	P		05 53 24.9		
	baz=303							
NC602	**NORSAR Array S**	**86.16**	**338**	*e*P	**P**	**05 53 24.2 +0.1**		
LCMT	**Little Creek M**	**86.17**	**51**	P	**P**	**05 53 25.3 +0.5**		
LCMT				IAmb	IAmb	05 53 26.6		
	comp=Z,6.7nm,0.8s							
MSU	**Marysvale**	**86.21**	**49**	P	**P**	**05 53 25.6 +0.5**		
RAYN	**Ar Rayn**	**86.36**	**294**	P	**P**	**05 53 25.8 -0.1**		
RAYN				IAmb	IAmb	05 53 28.2		
	comp=Z,8.1nm,1.1s							
MTPU	**Mount Pierson**	**86.43**	**50**	P	**P**	**05 53 27.3 +0.9**		
MTPU				IAmb	IAmb	05 53 28.3		
	comp=Z,4.1nm,1.1s							
KNB	**Kanab**	**86.46**	**51**	P	**P**	**05 53 26.8 +0.5**		
AKN	**Aaknes**	**86.53**	**341**	*e*P	**P**	**05 53 25.7 -0.2**		

W13A	**Hualapai Mount**	**86.60**	**53**	P	**P**	**05 53 26.6 -0.4**		
Q16A	**Castle Valley**	**86.70**	**49**	P	**P**	**05 53 28.4 +0.9**		
Q16A				IAmb	IAmb	05 53 28.8		
	comp=Z,6.0nm,0.9s							
P17A	**Butcher Ranch,**	**86.73**	**48**	P	**P**	**05 53 28.2 +0.6**		
P17A				IAmb	IAmb	05 53 29.2		
	comp=Z,5.7nm,0.9s							
GLA	**Glamis**	**86.84**	**55**	P	**P**	**05 53 28.4 +0.3**		
GLA	**Glamis**	**86.84**	**55**	P		05 53 28.9		
	baz=297							
SRU	**San Rafael Swe**	**87.05**	**48**	P	**P**	**05 53 29.2 +0.1**		
SRU				IAmb	IAmb	05 53 40.1		
	comp=Z,4.7nm,0.8s							
U15A	**North Rim**	**87.12**	**51**	P	**P**	**05 53 30.2 +0.6**		
U15A				IAmb	IAmb	05 53 31.5		
	comp=Z,5.6nm,0.9s							
SKAR	**Skarslia**	**87.27**	**339**	*e*P	**P**	**05 53 29.7 +0.1**		
113A	**Mohawk Valley,**	**87.76**	**55**	P	**P**	**05 53 32.9 +0.5**		
113A				IAmb	IAmb	05 53 34.0		
	comp=Z,8.5nm,1.1s							
Y14A	**Wickenburg**	**87.78**	**54**	P	**P**	**05 53 32.9 +0.3**		
BRTR	**Keskin Array B**	**87.88**	**313**	P	**P**	**05 53 31.9 -1.2**		
	comp=Z,1.7nm,0.9s,baz=57,slow=4.6,SNR=6.5							
BRTR				LR	LR	06 36 53.1		
	comp=Z,56nm,18.1s,baz=54,slow=38							
BRTR	**Keskin Array B**	**87.88**	**313**	P	**P**	**05 53 31.3 -1.8**		
PV14	**Lion Creek, Pa**	**88.44**	**48**	P	**P**	**05 53 36.9 +1.0**		
PV20	**West Nyswonger**	**88.49**	**48**	P	**P**	**05 53 36.4 +0.3**		
PV19	**Morning Glory**	**88.50**	**48**	P	**P**	**05 53 36.5 +0.4**		
PV04	**Paradox Valley**	**88.50**	**48**	P	**P**	**05 53 36.3 +0.2**		
PV17	**East Wray Mesa**	**88.53**	**48**	P	**P**	**05 53 36.4 +0.1**		
PV16	**Nyswonger Mesa**	**88.54**	**48**	P	**P**	**05 53 36.7 +0.4**		
PV16				IAmb	IAmb	05 53 38.0		
	comp=Z,5.6nm,0.9s							
PV11	**David Mesa, Pa**	**88.58**	**48**	P	**P**	**05 53 37.3 +0.8**		
PV18	**Skein Mesa, Pa**	**88.58**	**48**	P	**P**	**05 53 36.9 +0.4**		
PV18				IAmb	IAmb	05 53 38.0		
	comp=Z,7.2nm,1.0s							
PV12	**Saucer Basin,**	**88.61**	**48**	P	**P**	**05 53 37.3 +0.7**		
PV03	**Paradox Valley**	**88.61**	**48**	P	**P**	**05 53 37.1 +0.4**		
PV03				IAmb	IAmb	05 53 38.2		
	comp=Z,5.6nm,1.0s							
PV13	**Radium Mtn., P**	**88.68**	**48**	P	**P**	**05 53 37.2 +0.2**		
PV13				IAmb	IAmb	05 53 38.4		
	comp=Z,4.5nm,0.9s							
X16A	**Lo Mia Camp, P**	**88.69**	**53**	P	**P**	**05 53 37.6 +0.5**		
X16A				IAmb	IAmb	05 53 48.9		
	comp=Z,6.2nm,1.4s							
BURAR	**Bucovina Array**	**88.70**	**323**	P	**P**	**05 53 35.8 -0.9**		
BURAR				IAmb	IAmb	05 53 37.8		
	comp=Z,3.3nm,0.8s							
214A	**Organ Pipe Nat**	**88.86**	**55**	P		05 53 38.3		
	baz=298							
PV01	**Paradox Valley**	**88.86**	**48**	P	**P**	**05 53 38.1 +0.2**		
PV01				IAmb	IAmb	05 53 39.3		
	comp=Z,2.7nm,0.8s							
KOLS	**Kolonicke sedl**	**89.48**	**325**	*e*P	**P**	**05 53 40.0 -0.3**		
CRVS	**Cervenica-Dubn**	**89.92**	**326**	*e*P	**P**	**05 53 42.6 +0.3**		
OJC	**Ojcow**	**89.92**	**327**	P	**P**	**05 53 41.4 -0.9**		
OJC				IAmb	IAmb	05 53 43.0		
	comp=Z,5.7nm,1.0s							
SDCO	**Great Sand Dun**	**91.14**	**47**	P	**P**	**05 53 49.2 +0.6**		
SDCO	**Great Sand Dun**	**91.14**	**47**	P		05 53 49.1		
	baz=303							
MORC	**Moravsky Berou**	**91.32**	**328**	*e*P	**P**	**05 53 47.2 -1.6**		
MORC	**Moravsky Berou**	**91.32**	**328**	P	**P**	**05 53 47.6 -1.2**		
MORC				IAmb	IAmb	05 53 49.5		
	comp=Z,4.8nm,1.2s							
PSZ	**Piszkesteto**	**91.35**	**325**	P	**P**	**05 53 48.7 -0.3**		
OSTC	**Ostas**	**91.43**	**329**	*e*P	**P**	**05 53 50.0 +0.7**		
CHVC	**Chvalec**	**91.48**	**329**	*e*P	**P**	**05 53 49.2 -0.4**		
DPC	**Dobruska-Polom**	**91.52**	**329**	*e*P	**P**	**05 53 49.0 -0.7**		
VYHS	**Vyhne**	**91.52**	**326**	*e*P	**P**	**05 53 49.5 -0.3**		
JAVC	**Velka Javorina**	**91.86**	**327**	*e*P	**P**	**05 53 52.1 +0.7**		
ANMO	**Albuquerque**	**91.97**	**50**	P	**P**	**05 53 52.9 +0.6**		
ANMO	**Albuquerque**	**91.97**	**50**	P		05 53 53.5		
	baz=302							
VRAC	**Vranov**	**92.09**	**328**	*e*P	**P**	**05 53 51.9 -0.5**		
T25A	**Trinidad**	**92.19**	**47**	P	**P**	**05 53 53.5 +0.2**		
T25A	**Trinidad**	**92.19**	**47**	P		05 53 54.5		
	baz=303							
KRUC	**Moravsky**	**92.35**	**328**	*e*P	**P**	**05 53 53.0 -0.6**		
CLL	**Collm**	**92.37**	**331**	*i* P	**P**	**05 53 52.8 -0.8**		
	comp=Z,5.0nm,1.1s							
CLL				*e*pP	**pwP**	**05 54 06.0 +1

ASAR	**Alice Springs**	**47.66**	**257**	P	**P**	**06 03 41.4**	**-2.2**
	comp=Z,2.0nm,0.7s,baz=92,slow=8.3,SNR=15							
ASAR				PcP	**PcP**	**06 05 13.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=110,slow=3.3,SNR=1.1							
ASAR				LR	LR	06 22 59.5		
	comp=Z,247nm,18.1s,baz=84,slow=35							
WR0	**Warramunga Arr**	**47.71**	**262**	P	**P**	**06 03 42.7**	**-1.3**
WB0	**Warramunga Arr**	**47.88**	**263**	P	**P**	**06 03 42.6**	**-2.8**
WB0				IAmb	IAmb	06 03 45.0		
	comp=Z,7.1nm,1.1s							
WB2	**Warramunga Arr**	**47.89**	**262**	P	**P**	**06 03 42.0**	**-3.4**
WRA	**Warramunga Arr**	**47.90**	**262**	P	**P**	**06 03 42.5**	**-3.0**
	comp=Z,3.9nm,1.1s,baz=95,slow=8.5,SNR=9.8							
WRA	**Warramunga Arr**	**47.90**	**262**	P	**P**	**06 03 42.6**	**-3.0**
FORT	**Forrest**	**52.04**	**247**	P	**P**	**06 04 15.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**56.33**	**262**	P	**P**	**06 04 46.8**	**-1.4**
FITZ				IAmb	IAmb	06 05 06.9		
	comp=Z,12nm,1.4s							
SBA	**Scott Base**	**56.94**	**185**	P	**P**	**06 04 53.1**	**+1.5**
SBA				IAmb	IAmb	06 04 55.9		
	comp=Z,3.7nm,0.9s							
VNDA	**Vanda**	**57.06**	**186**	P	**P**	**06 04 53.6**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=5.5,slow=5.7,SNR=8.6							
VNDA	**Vanda**	**57.06**	**186**	P	**P**	**06 04 53.9**	**+1.4**
VNDA				IAmb	IAmb	06 04 55.4		
	comp=Z,3.4nm,1.1s							
QSPA	**South Pole Qui**	**68.38**	**180**	P	**P**	**06 06 09.4**	**+1.2**
QSPA				IAmb	IAmb	06 06 10.5		
	comp=Z,5.0nm,0.9s							
MJAR	**Matsushiro Arr**	**73.28**	**322**	P	**P**	**06 06 37.4**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=155,slow=5.8,SNR=4.4							
MJAR	**Matsushiro Arr**	**73.28**	**322**	P	**P**	**06 06 37.8**	**-0.4**
PETK	**Petropavlovsk-**	**78.37**	**343**	P	**P**	**06 07 07.1**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=110,slow=6.5,SNR=3.6							
NVAR	**Mina Array Bea**	**79.55**	**41**	P	**P**	**06 07 15.2**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=228,slow=9.1,SNR=11							
NVAR				LR	LR	06 37 38.9		
	comp=Z,51nm,18.4s,baz=246,slow=32							
NVAR	**Mina Array Bea**	**79.55**	**41**	P	**P**	**06 07 13.7**	**-0.3**
NV11	**Mina Array Sit**	**79.64**	**42**	P	**P**	**06 07 14.7**	**+0.2**
KVN	**Kaiserville**	**80.06**	**41**	P	**P**	**06 07 17.4**	**+0.6**
KSRS	**Korea Array**	**80.12**	**317**	P	**P**	**06 07 18.1**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=135,slow=6.1,SNR=4.6							
KSAR	**Wonju Array Be**	**80.14**	**317**	P	**P**	**06 07 15.8**	**-1.1**
Y14A	**Wickenburg**	**80.36**	**48**	P	**P**	**06 07 19.1**	**+0.8**
MAW	**Mawson**	**81.60**	**199**	P	**P**	**06 07 25.7**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=127,slow=11,SNR=3.0							
MAW				LR	LR	06 43 26.9		
	comp=Z,77nm,18.2s,baz=219,slow=36							
MAW	**Mawson**	**81.60**	**199**	P	**P**	**06 07 24.6**	**+0.3**
H03S2	**Juan Fernandez**	**82.42**	**123**	T	T	07 39 44.6		
	baz=247,slow=74,SNR=3.2							
H03S1	**Juan Fernandez**	**82.44**	**123**	T	T	07 39 32.2		
	baz=247,slow=74,SNR=4.0							
H03S3	**Juan Fernandez**	**82.44**	**123**	T	T	07 39 54.9		
	baz=247,slow=74,SNR=4.3							
MSU	**Marysvale**	**83.47**	**44**	P	**P**	**06 07 35.8**	**+0.9**
G08A	**Pilot Rock**	**83.49**	**36**	P	**P**	**06 07 35.6**	**+1.0**
G08A				IAmb	IAmb	06 07 36.8		
	comp=Z,3.2nm,1.0s							
MFID	**Camas Ranch**	**84.09**	**39**	P	**P**	**06 07 37.6**	**-0.1**
MFID				IAmb	IAmb	06 07 39.8		
	comp=Z,2.9nm,0.9s							
BMO	**Blue Mountains**	**84.13**	**37**	P	**P**	**06 07 38.4**	**+0.5**
TXAR	**Lajitas Array**	**84.80**	**56**	P	**P**	**06 07 42.1**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=210,slow=7.2,SNR=3.9							
F10A	**Beach Ranch, E**	**84.87**	**36**	P	**P**	**06 07 41.7**	**+0.1**
F10A				IAmb	IAmb	06 07 43.5		
	comp=Z,3.7nm,0.9s							
SRU	**San Rafael Swe**	**84.88**	**44**	P	**P**	**06 07 43.0**	**+1.1**
SRU				IAmb	IAmb	06 07 43.7		
	comp=Z,3.7nm,1.0s							
HLID	**Hailey**	**85.00**	**39**	P	**P**	**06 07 42.8**	**+0.4**
HLID				IAmb	IAmb	06 07 44.2		
	comp=Z,2.0nm,0.9s							
ANMO	**Albuquerque**	**85.47**	**50**	P	**P**	**06 07 45.3**	**+0.3**
ANMO				IAmb	IAmb	06 07 47.9		
	comp=Z,3.9nm,1.1s							
PV07	**Paradox Valley**	**85.76**	**46**	P	**P**	**06 07 47.3**	**+1.0**
PV07				IAmb	IAmb	06 07 55.1		
	comp=Z,4.3nm,1.4s							
CMIG	**Matias Romero**	**86.75**	**70**	LR	LR	06 40 32.1		
	comp=Z,51nm,19.1s,baz=214,slow=31							
PDAR	**Pinedale Array**	**87.48**	**42**	P	**P**	**06 07 54.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=210,slow=4.5,SNR=4.8							
RPSI	**Rantau Prapat**	**88.03**	**274**	P	**P**	**06 07 57.1**	**-0.6**
ILAR	**Eielson Array**	**88.75**	**11**	P	**P**	**06 07 60.0**	**0.0**
	comp=Z,0.7nm,1.0s,baz=219,slow=6.2,SNR=5.6							
ILAR	**Eielson Array**	**88.75**	**11**	P	**P**	**06 07 59.8**	**-0.1**
GSI	**Gunungsitoli**	**88.77**	**272**	P	**P**	**06 08 01.3**	**0.0**
NNA	**Nana**	**92.38**	**104**	LR	LR	06 42 36.0		
	comp=Z,49nm,20.6s,baz=224,slow=31							
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P	**P**	**06 08 25.1**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=112,slow=2.7,SNR=6.6							
YKA	**Yellowknife Ar**	**96.17**	**24**	P	**P**	**06 08 33.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=249,slow=1.1,SNR=4.2							
LPAZ	**La Paz**	**98.37**	**111**	LR	LR	06 46 39.2		
	comp=Z,63nm,18.0s,baz=187,slow=31							
ULM	**Lac du Bonnet**	**99.30**	**40**	LR	LR	06 48 13.0		
	comp=Z,60nm,19.6s,baz=315,slow=32							
ARCES	**ARCESS Array B**	**130.69**	**351**	PKP	**PKPdf**	**06 14 17.4**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=64,slow=5.9,SNR=3.8							
ARCES	**ARCESS Array B**	**130.69**	**351**		**PKPdf**	**06 14 16.6**	**-0.5**
FINES	**FINESS Array B**	**137.85**	**346**	PKP	**PKPdf**	**06 14 28.0**	**-2.6**
	comp=Z,0.8nm,1.0s,baz=316,slow=5.8,SNR=1.8							
AKASG	**Malin Array Be**	**145.70**	**333**	PKPbc	**PKPdf**	**06 14 44.0**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=39,slow=4.5,SNR=12							
AKASG	**Malin Array Be**	**145.70**	**333**	PKPdf	**PKPdf**	**06 14 43.8**	**-1.2**
CLL	**Collm**	**149.91**	**351**	*e*PKPbc	**PKPbc**	**06 14 56.0**	**-0.8**
	comp=Z,4.0nm,1.0s							
CLL				*i* PKPab	**PKPab**	**06 15 02.1**	**-0.3**
	comp=Z,5.0nm,1.0s							
OSTC	**Ostas**	**150.05**	**347**⇑	*e*PKP	**PKiKP**	**06 14 57.7**	**-0.4**
BRTR	**Keskin Array B**	**150.21**	**313**	PKPbc	**PKPbc**	**06 14 57.7**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=75,slow=1.4,SNR=5.5							
DPC	**Dobruska-Polom**	**150.22**	**346**⇑	*e*PKP	**PKPbc**	**06 14 57.5**	**-0.2**
KRLC	**Kraliky**	**150.37**	**346**⇑	*e*PKP	**PKiKP**	**06 14 58.4**	**-0.4**
PRU	**Pruhonice**	**150.93**	**348**⇑	*e*PKP	**PKiKP**	**06 14 59.9**	**0.0**
KHC	**Kasperske Hory**	**151.93**	**349**⇑	*e*PKP	**PKPbc**	**06 15 01.6**	**-0.1**
CKRC	**Cesky Krumlov**	**152.09**	**348**⇑	*e*PKP	**PKiKP**	**06 15 02.5**	**+0.1**
GERES	**GERESS Array B**	**152.18**	**349**	PKPbc	**PKPbc**	**06 15 02.3**	**0.0**
	comp=Z,1.1nm,1.0s,baz=56,slow=3.4,SNR=7.1							

*SKHL **21** 06:03:38.2±0.3, 43.°50N×145.°40E, h128km±7km, mb4.6/2, msha5.2/3*
*JMA **21** 06:03:38.9±0.1, 43.°51N×145.°44E, h122km±1km, M2.5*
ISC 21 06:03:38.4±3.0, **43.°51N**±0.°08×**145.°45E**±0.°09, **h125**km±17km, **n17**, σ=**0.48**/30, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLVR	**Golovnino**	**0.23**	**12**	*e*P	**Pn**	**06 03 56.3**	**+0.6**
GLVR				AMB	AMB	06 03 56.5	
	130nm,0.1s						
GLVR				*e*S	**Sn**	**06 04 09.6**	**+0.7**
GLVR				A	A	06 04 10.2	
	1μm,0.3s						
GLVR				A	A	06 04 10.2	
	1μm,0.3s						
NMR	**Nemuro--Hokkai**	**0.24**	**125**	*e*P	**Pn**	**06 03 55.9**	**+0.1**
NMR				*e*S	**Sn**	**06 04 08.4**	**-0.4**
NEM2	**Nemuro 2**	**0.26**	**124**	P	**Pn**	**06 03 55.8**	**0.0**
NEM2				*e*S	**Sn**	**06 04 08.3**	**-0.6**
JNSB	**Nemuroshibetsu**	**0.42**	**309**	P	**Pn**	**06 03 56.8**	**+0.3**
JNSB				*e*S	**Sn**	**06 04 10.5**	**+0.4**
JKHN	**Kushirohamanak**	**0.48**	**207**	P	**Pn**	**06 03 57.1**	**+0.3**
JKHN				*e*S	**Sn**	**06 04 10.7**	**+0.1**
JRA	**Rausu**	**0.49**	**331**	P	**Pn**	**06 03 56.9**	**+0.1**
JRA				*e*S	**Sn**	**06 04 10.4**	**-0.4**
GRPR	**Tuman**	**0.54**	**26**	*e*P	**Pn**	**06 03 57.2**	**+0.1**
GRPR				*e*S	**Sn**	**06 04 10.4**	**-0.9**
GRPR				A	A	06 04 12.0	
	90nm,0.1s						
GRPR				A	A	06 04 12.0	
	180nm,0.1s						
JNK	**Nakash**	**0.54**	**278**	P	**Pn**	**06 03 57.2**	**0.0**
JNK				*e*S	**Sn**	**06 04 10.8**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**0.60**	**29**	*e*P	**Pn**	**06 03 57.6**	**+0.1**
YUK				AMB	AMB	06 03 58.2	
	80nm,0.2s						
YUK				*e*S	**Sn**	**06 04 12.4**	**+0.3**
YUK				A	A	06 04 13.4	
	120nm,0.2s						
YUK				A	A	06 04 13.4	
	80nm,0.2s						
JAK	**Akkeshi**	**0.75**	**227**	P	**Pn**	**06 03 58.9**	**+0.2**
JAK				*e*S	**Sn**	**06 04 13.8**	**-0.2**
JTKR	**Abashiri--Toko**	**1.21**	**293**	P	**Pn**	**06 04 02.9**	**0.0**
JAR	**Ashorobuto**	**1.25**	**261**	P	**Pn**	**06 04 03.8**	**+0.5**
JAR				*e*S	**Sn**	**06 04 22.3**	**0.0**
JOB	**Onbets**	**1.33**	**243**	P	**Pn**	**06 04 04.7**	**+0.5**
JOB				*e*S	**Sn**	**06 04 23.5**	**-0.3**
JMP	**Maruseppu**	**1.59**	**289**	P	**Pn**	**06 04 07.2**	**-0.1**
JCH	**Churui**	**1.77**	**240**	P	**Pn**	**06 04 09.6**	**+0.3**
JCH				*e*S	**Sn**	**06 04 31.7**	**-1.3**
JKK2	**Kamakawa 2**	**2.00**	**281**	P	**Pn**	**06 04 12.3**	**+0.3**
JFR	**Furan**	**2.11**	**262**	P	**Pn**	**06 04 14.1**	**+0.6**

*IDC **21** 06:15:26.7±0.5, 24.°13N×122.°56E, h0km, mb4.5/24, mb1 4.6/26, mb1mx4.4/40, mbtmp4.5/26, ML3.7/2, MS3.9/23, Ms1 3.9/23, ms1mx3.7/36, Error ellipse: s-maj=16.2km s-min=12.3km az=65.0*
*BJI **21** 06:15:28.5±0.0, 23.°94N×122.°47E, h13km, mB4.6/40, mb4.5/54, ML4.2/11, Ms4.4/56, Ms7 4.3/51*
*NIED **21** 06:15:29.9, 23.°90N×122.°44E, h15km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.21; Mθθ-0.64; Mφφ0.42; Mrθ1.02; Mθφ0.12; Mφr0.54; Fault plane solution: M₀1.28000×10¹⁶ NP1:φs62.00000°, δ84.00000°, λ67.00000°. NP2:φs318.00000°, δ24.00000°, λ165.00000°.*
*JMA **21** 06:15:29.8±0.2, 23.°90N×122.°44E, h15km±3km, M4.7*
*TAP **21** 06:15:30.5, 23.°95N×122.°44E, h22km, ML5.0, D*
*NEIC **21** 06:15:31.6±1.7, 23.°97N±0.°05×122.°43E±0.°07, h29km±4km, mb4.8/111, ML5.1(TAP), Error ellipse: s-maj=9.6km s-min=6.6km az=115.0*
*MOS **21** 06:15:31.0±0.8, 24.°12N×122.°49E, h37km, mb5.0/17, MS4.1/4, Error ellipse: s-maj=12.8km s-min=6.5km az=118.1*
ISC 21 06:15:30.9±0.9, **23.°93N**±0.°02×**122.°50E**±0.°01, **h31**km±6km, **n458**, σ1°62/589, **mb4.8**/102, **MS4.0**/30, **22C-12D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**38**	P	**Pn**	**06 15 43.6**	**-0.6**
JYNG				S	**Sn**	**06 15 52.8**	**-0.8**
YOJ	**Yonaguni jima**	**0.71**	**41**	P	**Pn**	**06 15 44.5**	**-0.3**
YOJ				S	**Sn**	**06 15 54.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.71**	**41**	⇓*i*P	**Pn**	**06 15 44.5**	**-0.3**
	baz=55						
YOJ				*e*S	**Sn**	**06 15 54.3**	**-0.4**
	baz=55						
YOJ	**Yonaguni jima**	**0.71**	**41**		**Pn**	**06 15 44.6**	**-0.3**
EHP	**Heping Village**	**0.79**	**299**	*e*P	**Pb**	**06 15 44.8**	**-1.5**
	baz=299						
EHP				*e*S	**Sn**	**06 15 56.2**	**-0.5**
	baz=299						
HWA	**Hwalien**	**0.82**	**274**	P	**Pb**	**06 15 45.5**	**-1.1**
	baz=259						
HWA				S	**Sn**	**06 15 57.1**	**-0.2**
	baz=259						
TEYL	**Yanliau Villag**	**0.82**	**266**	P	**Pb**	**06 15 45.5**	**-1.3**
	baz=254						
TEYL				S	**Sb**	**06 15 56.6**	**-0.9**
	baz=254						
ETL	**Fush Village**	**0.83**	**286**	P	**Pb**	**06 15 45.4**	**-1.5**
	baz=270						
ETL				S	**Sb**	**06 15 56.0**	**-1.8**
	baz=270						
EWUT	**Wuta**	**0.83**	**308**	P	**Pb**	**06 15 45.4**	**-1.6**
	baz=309						
EWUT				S	**Sn**	**06 15 57.2**	**-0.6**
	baz=309						
TWD	**Chiawan**	**0.84**	**281**	⇓*i*P	**Pb**	**06 15 45.1**	**-1.9**
	baz=265						
TWD				*i* S	**Sb**	**06 15 56.0**	**-2.0**
	baz=265						
NACB	**Ninganchiao**	**0.86**	**287**	⇑*i*P	**Pb**	**06 15 45.2**	**-2.2**
	baz=271						
NACB				S	**Sb**	**06 15 56.7**	**-1.9**
	baz=271						
NACB	**Ninganchiao**	**0.86**	**287**		**Pb**	**06 15 45.6**	**-1.8**
TEGC	**Jichi Village**	**0.90**	**256**	*e*P	**Pb**	**06 15 46.6**	**-1.4**
	baz=253						
TEGC				S	**Sb**	**06 15 57.9**	**-1.9**
	baz=253						
TWC	**Suao**	**0.90**	**319**	*i* P	**Pb**	**06 15 46.0**	**-2.1**
	baz=321						
TWC				S	**Sb**	**06 15 57.0**	**-2.8**
	baz=321						
ETM	**Tongmen**	**0.92**	**273**	*e*P	**Pb**	**06 15 46.1**	**-2.3**
	baz=260						
ETM				S	**Sb**	**06 15 57.4**	**-2.9**
	baz=260						
ETLH	**Xiulin Townshi**	**0.97**	**287**	P	**Pb**	**06 15 47.4**	**-1.9**
	baz=273						
ETLH				S	**Sb**	**06 15 59.6**	**-2.1**
	baz=273						
ESL	**Shilin**	**0.98**	**264**	⇓*i*P	**Pb**	**06 15 46.9**	**-2.5**
	baz=261						
ESL				S	**Sb**	**06 15 57.2**	**-4.8**
	baz=261						
NDS	**Dongshan**	**1.00**	**315**	P	**Pb**	**06 15 48.2**	**-1.6**
	baz=316						
NDS				*e*S	**Sb**	**06 16 01.2**	**-1.5**
	baz=316						
EGFH	**Guangfu**	**1.01**	**256**	*e*P	**Pb**	**06 15 48.4**	**-1.5**
	baz=252						
EGFH				S	**Sb**	**06 16 01.0**	**-1.9**
	baz=252						
HGSD	**Ruisui**	**1.07**	**247**	P	**Pn**	**06 15 48.5**	**-1.3**
	baz=243						
HGSD				S	**Sb**	**06 16 01.3**	**-3.3**
	baz=243						
ILA	**Ilan**	**1.08**	**321**	P	**Pb**	**06 15 49.6**	**-1.5**
	baz=322						
ILA				*e*S	**Sn**	**06 16 05.2**	**+1.4**
	baz=322						
TWE	**Neicheng**	**1.09**	**317**	⇓*i*P	**Pb**	**06 15 50.1**	**-1.2**
	baz=318						
TWE				S	**Sn**	**06 16 04.4**	**+0.2**
	baz=318						
NTC	**Toucheng**	**1.11**	**327**	*e*P	**Pb**	**06 15 50.6**	**-0.9**
	baz=328						
NTC				*e*S	**Sn**	**06 16 04.5**	**0.0**
	baz=328						
ENTT	**Nioudou**	**1.11**	**310**	⇓*i*P	**Pb**	**06 15 50.5**	**-1.0**
	baz=295						
ENTT				S	**Sn**	**06 16 04.5**	**-0.1**
	baz=295						
NDT	**Datong Townshi**	**1.12**	**307**	P	**Pb**	**06 15 50.5**	**-1.3**
	baz=307						
NDT				*e*S	**Sn**	**06 16 05.3**	**+0.4**
	baz=307						
NNSB	**Datong**	**1.13**	**296**	⇑*i*P	**Pn**	**06 15 50.0**	**-0.8**
	baz=282						
NNSB				S	**Sb**	**06 16 03.4**	**-3.1**
	baz=282						
NNSH	**Datong**	**1.13**	**296**	*e*P	**Pn**	**06 15 50.2**	**-0.5**
	baz=284						
NNSH				*e*S	**Sb**	**06 16 04.0**	**-2.5**
	baz=284						
NNS	**Nan Shan**	**1.15**	**297**	⇓*i*P	**Pn**	**06 15 50.4**	**-0.6**
	baz=283						
NNS				S	**Sb**	**06 16 05.3**	**-1.6**
	baz=283						
WHF	**Hehuan Shan**	**1.15**	**281**	⇓*i*P	**Pn**	**06 15 50.1**	**-1.1**
	baz=267						
WHF				S	**Sb**	**06 16 03.7**	**-3.5**
	baz=267						
EHY	**Hungye**	**1.15**	**249**	P	**Pn**	**06 15 50.0**	**-0.9**
	baz=246						
EHY				S	**Sb**	**06 16 04.7**	**-2.3**
	baz=246						
TWB1	**Santiao Chiao**	**1.17**	**337**	P	**Pb**	**06 15 51.5**	**-1.2**
	baz=339						
FUSS	**Fushou**	**1.19**	**286**	P	**Pn**	**06 15 51.4**	**-0.3**
	baz=284						
FUSS				*e*S	**Sb**	**06 16 05.5**	**-2.7**
	baz=284						
IRIF	**Iriomote-Funau**	**1.20**	**70**	P	**Pb**	**06 15 53.1**	**0.0**
IRIF				S	**Sn**	**06 16 09.1**	**+2.3**
HATJ	**Hateruma jima**	**1.21**	**83**	P	**Pb**	**06 15 53.2**	**0.0**
HATJ				S	**Sn**	**06 16 09.9**	**+3.0**
OWD	**Renai**	**1.21**	**272**	P	**Pn**	**06 15 50.5**	**-1.3**
	baz=270						
TIPB	**Shuangxi**	**1.21**	**330**	P	**Pb**	**06 15 52.0**	**-1.2**
	baz=331						
TIPB				S	**Sn**	**06 16 08.1**	**+1.0**
	baz=331						
CHGB	**Renai**	**1.22**	**277**⇑	*i*P	**Pn**	**06 15 51.1**	**-0.9**
	baz=262						
CHGB				S	**Sb**	**06 16 04.9**	**-4.1**
	baz=262						
YULB	**Yu-li**	**1.22**	**244**⇑	*i*P	**Pn**	**06 15 51.0**	**-0.8**
	baz=241						
YULB				S	**Sn**	**06 16 05.8**	**-1.6**
	baz=241						
YULB	**Yu-li**	**1.22**	**244**		**Pn**	**06 15 51.1**	**-0.7**
EYUL	**Yuli**	**1.22**	**242**	P	**Pn**	**06 15 51.6**	**-0.3**
	baz=239						
EYUL				S	**Sn**	**06 16 06.2**	**-1.2**
	baz=239						
TWF1	**Yuli**	**1.24**	**243**	P	**Pn**	**06 15 51.8**	**-0.3**
	baz=239						
TWF1				S	**Sn**	**06 16 07.1**	**-0.7**
	baz=239						
NWLT	**Wulai**	**1.24**	**313**	P	**Pb**	**06 15 52.4**	**-1.4**
	baz=299						
TWT	**Tachien**	**1.25**	**285**	P	**Pb**	**06 15 52.7**	**-1.3**
	baz=271						
TWT				*e*S	**Sn**	**06 16 08.0**	**-0.3**
	baz=271						
YHNB	**Yeheng**	**1.26**	**306**⇑	*i*P	**Pn**	**06 15 52.1**	**-0.4**
	baz=306						
YHNB				S	**Sb**	**06 16 08.9**	**-1.2**
	baz=306						
YHNB	**Yeheng**	**1.26**	**306**		**Pn**	**06 15 52.1**	**-0.4**
TDCB	**Techi**	**1.27**	**285**	P	**Pn**	**06 15 52.0**	**-0.6**
	baz=272						
TDCB				S	**Sn**	**06 16 07.9**	**-0.7**
	baz=272						
NWF	**Wu-fen Shan**	**1.31**	**330**	*e*P	**Pb**	**06 15 53.5**	**-1.5**
	baz=331						
FULB	**Fuli**	**1.32**	**237**	*e*P	**Pn**	**06 15 52.8**	**-0.4**
	baz=221						
FULB				*e*S	**Sn**	**06 16 08.0**	**-1.8**
	baz=221						
CHKT	**Chengkung**	**1.32**	**232**	P	**Pn**	**06 15 51.9**	**-1.4**
	baz=228						
CHKT				S	**Sn**	**06 16 07.6**	**-2.3**
	baz=228						
TWA	**Mucha**	**1.34**	**322**	P	**Pb**	**06 15 54.6**	**-0.9**
	baz=323						
TWA				S	**Sb**	**06 16 12.7**	**+0.4**
	baz=323						
NHDH	**Xindian Distri**	**1.36**	**320**	*e*P	**Pb**	**06 15 54.6**	**-1.2**
	baz=320						
NHDH				*e*S	**Sb**	**06 16 12.9**	**+0.1**
	baz=320						
TNOU	**National Taiwa**	**1.39**	**332**	*e*P	**Pn**	**06 15 54.0**	**-0.2**
	baz=332						
TATO	**Taipei**	**1.39**	**319**⇑	*i*P	**Pb**	**06 15 55.0**	**-1.3**
	baz=302						
TATO				S	**Sb**	**06 16 13.2**	**-0.5**
	baz=302						
TATO	**Taipei**	**1.39**	**319**		**Pb**	**06 15 54.6**	**-1.7**
WPL	**Puli Township**	**1.41**	**274**	*e*P	**Pn**	**06 15 54.5**	**0.0**
	baz=272						
JKRS	**Kuro-shima**	**1.42**	**77**	P	**Pb**	**06 15 56.4**	**-0.4**
JKRS				S	**Sb**	**06 16 16.2**	**+1.7**
SSLB	**Suanglung**	**1.42**	**265**	P	**Pn**	**06 15 53.8**	**-0.8**
	baz=262						
SSLB				*e*S	**Sn**	**06 16 10.5**	**-1.8**
	baz=262						
SSLB	**Suanglung**	**1.42**	**265**		**Pn**	**06 15 54.6**	**0.0**
TAP1	**Taipei**	**1.42**	**322**	*e*P	**Pb**	**06 15 55.8**	**-1.0**
	baz=321						
TAP	**Taipei**	**1.43**	**321**	*e*P	**Pb**	**06 15 55.8**	**-1.2**
	baz=322						
TAP				*e*S	**Sb**	**06 16 15.9**	**+1.1**
	baz=322						
ECS	**Chishang**	**1.43**	**235**	*e*P	**Pn**	**06 15 54.8**	**0.0**
	baz=220						
ECS				*e*S	**Sn**	**06 16 11.9**	**-0.7**
	baz=220						
BACT	**New Taipei Cit**	**1.44**	**318**	*e*P	**Pb**	**06 15 55.7**	**-1.4**
	baz=318						
DPDB	**Guoxing**	**1.44**	**275**	P	**Pn**	**06 15 55.2**	**+0.3**
	baz=263						
DPDB				*e*S	**Sn**	**06 16 13.2**	**+0.4**
	baz=263						
EDH	**Donghe**	**1.45**	**229**	*e*S	**Sn**	**06 16 10.6**	**-2.4**
	baz=216						
WCS	**Beigang Elemen**	**1.46**	**276**	*e*P	**Pb**	**06 15 55.7**	**-1.7**
	baz=265						
WCS				*e*S	**Sn**	**06 16 13.6**	**+0.5**
	baz=265						
SMLT	**Sun Moon Lake**	**1.46**	**269**	*e*P	**Pn**	**06 15 55.5**	**+0.2**
	baz=256						
YM01	**YM01**	**1.48**	**325**	*e*P	**Pn**	**06 15 55.5**	**+0.1**
	baz=326						
YM01				*e*S	**Sb**	**06 16 15.2**	**-1.1**
	baz=326						
TYC	**Yuchr**	**1.50**	**270**	P	**Pn**	**06 15 55.7**	**0.0**
	baz=267						
TYC				S	**Sn**	**06 16 13.8**	**-0.3**
	baz=267						
YM08	**YM08**	**1.50**	**327**	*e*P	**Pb**	**06 15 56.5**	**-1.8**
	baz=328						
YM08				*e*S	**Sb**	**06 16 16.1**	**-0.9**
	baz=328						
TWS1	**Kuangyinshan**	**1.53**	**320**	P	**Pb**	**06 15 57.1**	**-1.6**
	baz=321						
TWS1				S	**Sb**	**06 16 19.7**	**+2.1**
	baz=321						
LIOB	**Emei**	**1.53**	**298**	P	**Pb**	**06 15 57.1**	**-1.5**
	baz=284						
LIOB				*e*S	**Sb**	**06 16 16.0**	**-1.7**
	baz=284						
NTY	**Taoyuan**	**1.53**	**315**	*e*P	**Pn**	**06 15 56.0**	**-0.1**
	baz=315						
NSTT	**Nanjuang**	**1.54**	**298**⇓	*i*P	**Pb**	**06 15 57.0**	**-1.7**
	baz=283						
NSTT				S	**Sn**	**06 16 14.

baz=266
NSY Sanyi 1.66 288 *i* P **Pb** 06 15 59.6 -1.3
baz=286
NSY S **Sb** 06 16 20.6 -0.8
baz=286
WNT Mingjian 1.66 269 P **Pb** 06 15 59.4 -1.5
baz=266
WNT S **Sb** 06 16 20.1 -1.2
baz=266
WNT1 Nantou City 1.66 270 P **Pb** 06 15 59.7 -1.2
baz=267
WNT1 *e*S **Sb** 06 16 20.8 -0.7
baz=267
NJN Zhunan 1.66 297 *e*P **Pb** 06 15 59.2 -1.7
baz=296
NJN *e*S **Sb** 06 16 20.1 -1.4
baz=296
NMLH Miaoli 1.67 292 P **Pb** 06 15 59.5 -1.6
baz=290
NMLH S **Sb** 06 16 20.2 -1.6
baz=290
TCU Taichung 1.68 278 *e*P **Pb** 06 16 00.2 -1.0
baz=276
TCU *e*S **Sb** 06 16 21.7 -0.3
baz=276
CHN5 Tsauling 1.70 259 P **Pn** 06 15 59.4 +0.9
baz=246
CHN5 S **Sb** 06 16 22.9 +0.3
baz=246
TTN Taitung 1.70 227 *e*P **Pn** 06 15 58.7 +0.2
baz=224
TTN *e*S **Sn** 06 16 18.2 -1.0
baz=224
TWGBT Beinan 1.71 230 P **Pn** 06 15 57.9 -0.6
baz=239
TWGBT S **Sn** 06 16 17.6 -1.7
baz=239
TWG Pinlang 1.71 230 *e*P **Pn** 06 15 58.2 -0.4
baz=239
TWG *e*S **Sn** 06 16 16.9 -2.5
baz=239
TWG Pinlang 1.71 230 **Pn** 06 15 57.8 -0.8
PCYT Pengchaiyu 1.74 347 P **Pb** 06 15 59.7 -2.6
baz=348
WDJ Daija District 1.75 284 *e*P **Pb** 06 16 00.2 -2.1
baz=282
WDJ *e*S **Sb** 06 16 21.9 -2.0
baz=282
STYH Taoyuan 1.75 245 *e*P **Pn** 06 15 59.9 +0.8
baz=232
STYH *e*S **Sn** 06 16 20.1 -0.2
baz=232
STYT Tauyuan 1.77 245 *e*P **Pn** 06 16 00.1 +0.7
baz=232
STYT *e*S **Sn** 06 16 21.0 +0.1
baz=232
WCHH Zhanghua 1.78 275 *e*P **Pb** 06 16 01.2 -1.6
baz=273
WCHH *e*S **Sb** 06 16 22.9 -2.0
baz=273
JISG Ishigakijimahi 1.78 68 P **Pb** 06 16 00.7 -2.3
JISG S **Sb** 06 16 23.9 -1.0
WGK Gukeng 1.79 263 P **Pb** 06 16 01.3 -1.8
baz=260
WGK *e*S **Sb** 06 16 25.5 +0.5
baz=260
WDLH Douliu 1.81 263 *e*P **Pb** 06 16 01.7 -1.7
baz=260
WDLH *e*S **Sb** 06 16 24.5 -1.2
baz=260
TPUB Ta-pu 1.82 250 P **Pn** 06 16 01.2 +1.0
baz=237
TPUB S **Sn** 06 16 23.3 +1.1
baz=237
TPUB Ta-pu 1.82 250 **Pb** 06 16 01.4 -2.2
CHN4 Tsaushan 1.84 252 P **Pb** 06 16 02.3 -1.5
baz=249
CHN4 S **Sb** 06 16 25.1 -1.4
baz=249
WTP Ta-pu 1.85 249 P **Pb** 06 16 01.9 -2.3
baz=235
WTP S **Sb** 06 16 25.7 -1.3
baz=235
CHN2 Minshiung 1.89 258 P **Pb** 06 16 03.4 -1.4
baz=256
CHN2 S **Sb** 06 16 27.4 -0.7
baz=256
SLGT Liugui 1.94 242 *e*P **Pb** 06 16 03.2 -2.4
baz=230
SLGT *e*S **Sb** 06 16 27.5 -1.8
baz=230
ECL Taimali 1.94 227 *e*P **Pn** 06 16 01.7 0.0
baz=224
ECL *e*S **Sn** 06 16 23.3 -1.7
baz=224
WRL Guolierlin Hig 1.94 270 *e*P **Pn** 06 16 02.8 +1.0
baz=267
WRL *e*S **Sn** 06 16 26.8 +1.7
baz=267
WTK Tuku 1.94 263 *e*P **Pb** 06 16 03.2 -2.5
baz=261
WTK *e*S **Sb** 06 16 27.4 -2.1
baz=261
CHY Chiayi 1.95 258 *e*P **Pb** 06 16 03.2 -2.5
baz=255
CHY *e*S **Sn** 06 16 26.4 +1.1
baz=255
SGST Jiashian 1.95 245 *e*P **Pn** 06 16 02.7 +0.8
baz=242
SGST *e*S **Sn** 06 16 26.8 +1.6
baz=242
CHN1 Nanshi 1.95 248 P **Pb** 06 16 03.6 -2.2
baz=245
CHN1 S **Sb** 06 16 28.5 -1.2
baz=245
TWK Hsinying 1.96 251 P **Pb** 06 16 03.5 -2.5
baz=248
TWK S **Sb** 06 16 28.1 -1.9
baz=248
SNST Tainan City 1.96 249 *e*P **Pb** 06 16 04.0 -2.0
baz=247
SNST *e*S **Sb** 06 16 28.0 -2.1
baz=247
WTCT Ta-ch'eng 2.03 269 *e*P **Pn** 06 16 04.3 +1.4
baz=266
WTCT S **Sb** 06 16 30.1 -1.8
baz=266
LAY Lan-yu 2.07 205 *e*P **Pn** 06 16 02.5 -1.1
baz=202
SSD Sandimen 2.08 236 *e*P **Pb** 06 16 05.4 -2.5
baz=225
WMLT Mailiao 2.08 267 *e*P **Pb** 06 16 05.3 -2.7
baz=253
WMLT *e*S **Sb** 06 16 31.7 -1.9
baz=253
TSMG Majia 2.09 235 *e*P **Pb** 06 16 06.1 -2.1
baz=224
WSF Szhu 2.10 263 *e*P **Pb** 06 16 05.9 -2.5
baz=260
WSF *e*S **Sb** 06 16 31.6 -2.5
baz=260
SCST Cishan 2.11 241 *e*P **Pb** 06 16 07.5 -1.0
baz=238
SCST *e*S **Sb** 06 16 34.0 -0.3
baz=238
CHN3 Shinhua 2.13 247 *e*S **Sb** 06 16 34.1 -0.8
baz=244
JTJ Tarama 2.14 70 P **Pb** 06 16 06.2 -2.8
JTJ S **Sb** 06 16 32.6 -2.4
TAW Tawu 2.15 224 *e*P **Pn** 06 16 04.2 -0.4
baz=231
TAW *e*S **Sn** 06 16 28.0 -2.1
baz=231
MASBT Mashibuluo 2.15 233 *e*P **Pn** 06 16 05.6 +0.8
baz=223
MASBT *e*S **Sn** 06 16 33.0 +2.6
baz=223
EAST Anshuo 2.16 225 *e*P **Pn** 06 16 04.2 -0.6
baz=222
SGLT Jiouru 2.20 237 *e*P **Pb** 06 16 09.2 -0.8
baz=227
TWM1 Shoushan 2.20 240 *e*P **Pb** 06 16 08.7 -1.4
baz=238
TWM1 *e*S **Sb** 06 16 36.6 -0.3
baz=238
SCLT Jiali 2.24 251 *e*P **Pn** 06 16 07.4 +1.5
baz=248
SCLT *e*S **Sb** 06 16 35.4 -2.7

baz=248
TAI1 Yung-k'ang 2.26 248 *e*P **Pb** 06 16 08.7 -2.4
baz=245
TAI1 *e*S **Sb** 06 16 36.5 -2.1
baz=245
SSPT Xinbi 2.28 231 *e*P **Pb** 06 16 09.2 -2.2
baz=223
SNJT Kaohsiung City 2.30 240 *e*P **Pb** 06 16 10.1 -1.7
baz=237
SLIU Shizi 2.31 223 *e*P **Pn** 06 16 06.3 -0.5
baz=230
SCZT Fangliau 2.32 229 *e*P **Pn** 06 16 08.8 +1.9
baz=217
SCZT *e*S **Sn** 06 16 35.5 +1.2
baz=217
TSEB Hengchuen, Pin 2.50 216 *e*P **Pn** 06 16 11.1 +1.7
baz=224
TSEB *e*S **Sn** 06 16 39.8 +1.0
baz=224
WLCH Liuqiu 2.50 232 *e*P **Pb** 06 16 14.0 -1.2
baz=245
HEN Hengchun 2.50 221 *e*P **Pn** 06 16 10.6 +1.1
baz=218
HEN *e*S **Sn** 06 16 39.3 +0.3
baz=218
TWKBT Hengchun 2.51 218 *e*P **Pn** 06 16 09.6 0.0
baz=216
TWKBT *e*S **Sn** 06 16 39.1 -0.1
baz=216
TWK1 Hengchun 2.51 219 *e*P **Pn** 06 16 10.2 +0.5
baz=216
TWK1 *e*S **Sn** 06 16 38.8 -0.4
baz=216
TWP Hsiaoliuchiu 2.52 232 *e*P **Pb** 06 16 13.5 -1.9
baz=245
TWP *e*S **Sb** 06 16 44.8 -1.2
baz=245
SNW Nanwan 2.53 220 *e*P **Pb** 06 16 12.5 -3.2
baz=217
JIRB Irabujima 2.60 69 P **Pb** 06 16 12.9 -4.0
JIRB S **Sb** 06 16 43.5 -4.9
WDGT Dungji 2.68 256 *e*P **Pn** 06 16 12.7 +0.7
WDGT *e*S **Sn** 06 16 43.2 -0.2
baz=253
JIKM Ikemajima 2.70 68 P **Pb** 06 16 15.2 -3.3
JIKM S **Sb** 06 16 46.7 -4.5
JMJ Miyako jima 2 2.70 70 *e*P **Pb** 06 16 14.5 -4.0
baz=72
JMJ2 Miyako jima3 2.71 72 P **Pb** 06 16 14.9 -3.8
JMJ2 *e*S **Sn** 06 16 45.9 +1.9
PHUB P'eng-hu 2.71 262 *e*P **Pn** 06 16 12.9 +0.5
baz=259
PHUB *e*S **Sn** 06 16 44.3 +0.2
baz=259
PNG Penghu 2.72 263 P **Pn** 06 16 13.2 +0.7
baz=260
PNG S **Sn** 06 16 44.5 +0.3
baz=260
JOGS Gusukube 2.78 72 *e*S **Sb** 06 16 51.1 -2.5
VCHM Qimei 2.90 256 *e*P **Pn** 06 16 15.8 +0.8
baz=254
VCHM *e*S **Sn** 06 16 46.9 -2.0
baz=254
VWUC VWUC 2.97 292 *e*P **Pn** 06 16 15.1 -0.8
baz=290
MATB Ma-tsu 3.20 314 *e*P **Pn** 06 16 18.4 -0.8
baz=312
MSUT Lienchiang 3.23 314 *e*P **Pn** 06 16 18.9 -0.6
baz=313
PTMZ Houxiangcun 3.27 291 *e*P **Pn** 06 16 19.3 -0.7
baz=288
BBP Basco 3.50 188 *e*P **Pn** 06 16 22.2 -1.1
BBP *e*S **Sn** 06 16 59.0 -4.6
LYJJ Jianjiangzhen 3.60 317 *e*P **Pn** 06 16 24.1 -0.5
baz=315
XPSS Dashiqiu 3.65 326 *e*P **Pn** 06 16 24.7 -0.6
baz=335
QZH Quanzhou 3.70 287⇑ *i*Pn **Pn** 06 16 25.1 -0.9
QZH Sn **Sn** 06 17 05.9 -2.6
QZH SMN
460nm,0.3s
QZH SME
550nm,0.4s
QZH L L
comp=N,2μm,16.6s
QZH L L
comp=E,2μm,9.9s
QZH L L
comp=Z,2μm,12.8s
KNM Kinmen 3.74 278 *e*P **Pn** 06 16 27.9 +1.4
baz=276
KNMB Chin-men Tao 3.79 279 *e*P **Pn** 06 16 26.7 -0.5
baz=277
KNMB Chin-men Tao 3.79 279 Pn **Pn** 06 16 26.6 -0.6
MHZQ Yeshan 3.82 305 *e*P **Pn** 06 16 26.6 -1.0
baz=303
AXDP Jialang 4.24 284 *e*P **Pn** 06 16 32.8 -0.6
baz=282
ZPLA Ao Xicun 4.34 271 *e*P **Pn** 06 16 34.7 -0.1
baz=269
JOW Kunigami 5.97 60 Pn **Pn** 06 16 55.9 -1.3
9.8nm,0.3s,baz=220,slow=10,SNR=25
JOW Sn **Sn** 06 18 04.1 -0.5
baz=180,slow=20,SNR=1.1
JOW Kunigami 5.97 60 *e*P **Pn** 06 16 57.3 0.0
baz=63
JOW Kunigami 5.97 60 Pn **Pn** 06 16 57.1 -0.1
APYP Conner 6.14 191 *e*P **Pn** 06 17 00.1 +0.5
APYP *e*S **Sn** 06 18 06.2 -2.6
SZP Santa 6.62 197 **Pn** 06 17 08.9 +2.7
SAMP Sagada Mountai 6.97 193 *e*P **Pn** 06 17 12.4 +1.4
SAMP *e*S **Sn** 06 18 25.6 -3.7
CAUP Cauayan 6.97 185 *e*P **Pn** 06 17 13.0 +2.0
CAUP *e*S **Sn** 06 18 34.6 +5.4
SSE Sheshan 7.24 351 Pn **Pn** 06 17 13.9 -0.6
SSE Sn **Sn** 06 18 35.6 -0.1
SSE SMN
38nm,0.9s
SSE SME
63nm,1.0s
SSE L L
comp=N,750nm,15.1s
SSE L L
comp=E,260nm,15.3s
SMPP San Manuel, Pa 7.92 193 *e*P **Pn** 06 17 24.4 +0.4
SMPP *e*S **Sn** 06 18 44.9 -7.7
GZH Guangzhou 8.44 266 P **Pn** 06 17 27.5 -3.6
GZH S **Sn** 06 18 52.9 -12
GZH SMN
160nm,0.8s
GZH SME
140nm,1.1s
NJ2 Nanjing 8.71 339 *e*P **Pn** 06 17 35.4 +0.6
NJ2 S **Sn** 06 19 11.9 0.0
NJ2 pmax pmax
comp=Z,25nm,0.5s
NJ2 SMN
110nm,0.8s
NJ2 SME
98nm,0.9s
NJ2 L L
comp=N,2μm,12.0s
NJ2 L L
comp=E,1μm,11.4s
NJ2 L L
comp=Z,2μm,12.7s
WHN Wuhan 9.79 314⇑ P Pn 06 17 54.9 +5.3
WHN S **Sn** **06 19 43.8 +5.2**
WHN L L
comp=N,2μm,11.0s
WHN L L
comp=E,2μm,14.7s
WHN L L
comp=Z,3μm,12.6s
LQP Lukban 9.80 185⇓ *e*P **Pn** 06 17 52.2 +2.2
TGY Tagaytay City 9.88 189 LR LR 06 21 48.9
comp=Z,454nm,20.8s,baz=158,slow=38
QIZ Qiongzhong 12.74 250 P **Pn** 06 18 30.5 +0.4
QIZ S **Sn** 06 20 52.9 +1.9
QIZ L L
comp=N,390nm,23.7s
QIZ L L
comp=E,310nm,19.3s
QIZ L L
comp=Z,320nm,19.6s
TJN Taejon 13.10 18 *i* P **Pn** 06 18 34.4 -0.5

KSAR Wonju Array Be 14.24 18 Pn **P** 06 18 53.4 -4.0
KSRS Korea Array 14.27 18 Pn **Pn** 06 18 52.9 +2.1
2.8nm,0.3s,baz=196,slow=12,SNR=58
KSRS LR LR 06 25 12.4
comp=Z,580nm,18.4s,baz=197,slow=42
KS19 Wonju Array Si 14.29 18 Pn **P** 06 18 54.8 -3.2
GYA Guiyang 14.55 283 *e*P **Pn** 06 18 56.8 +1.9
GYA pmax pmax
comp=Z,2.0nm,0.8s
GYA L L
comp=Z,180nm,14.9s
DL2 Dalian 14.95 357 P **P** 06 19 05.9 +0.6
DL2 *e*S **S** 06 21 55.3 -6.5
DL2 pmax pmax
comp=Z,15nm,1.1s
DL2 pmax pmax
comp=Z,140nm,7.9s
DL2 L L
comp=N,860nm,12.5s
DL2 L L
comp=E,280nm,11.7s
DL2 L L
comp=Z,1μm,12.4s
XAN Xi'an 15.56 313 P **P** 06 19 14.1 +2.0
XAN pmax pmax
comp=Z,21nm,1.0s
XAN pmax pmax
comp=Z,210nm,9.3s
XAN L L
comp=N,560nm,10.2s
XAN L L
comp=E,660nm,14.7s
XAN L L
comp=Z,1μm,14.7s
JWT Wachi 15.92 42 Pn **P** 06 19 14.6 -1.5
BJI Beijing 16.93 343 P **P** 06 19 27.6 +0.4
BJI S **Sn** 06 22 32.0 -0.6
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,170nm,9.9s
BJI L L
comp=N,730nm,12.3s
BJI L L
comp=E,150nm,10.0s
BJI L L
comp=Z,870nm,13.0s
KMI Kunming 18.02 278⇑ P **P** 06 19 41.8 +2.2
KMI pP pwP 06 19 48.1 -3.3
KMI sP sP 06 19 50.3 -0.2
KMI PP **PnPn** 06 19 57.1 +6.6
KMI S **Sn** 06 22 59.4 -0.2
KMI SS **SnSn** 06 23 18.8 +5.6
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI pmax pmax
comp=Z,180nm,4.9s
KMI L L
comp=N,300nm,12.1s
KMI L L
comp=E,820nm,13.9s
KMI L L
comp=Z,780nm,13.9s
JCJ Chichijima 18.05 76 LR LR 06 25 36.8
comp=Z,170nm,19.1s,baz=124,slow=34
MAJO Matsushiro 18.47 43 *i* P **Pn** 06 19 44.4 -0.2
MAJO pmax pmax
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 18.47 43 P **P** 06 19 43.3 -1.0
comp=Z,0.1nm,0.3s,baz=241,slow=11,SNR=5.8
NONG Nongkai 18.98 256 P Pn 06 19 59.5 +8.7
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 19.21 334 *e*P **Pn** 06 19 54.4 +0.9
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,120nm,4.0s
HHC L L
comp=Z,1μm,14.0s
HHC L L
comp=Z,640nm,13.4s
HHC L L
comp=Z,1μm,14.2s
BTO Baotou 19.66 331 *e*P **Pn** 06 20 00.3 +1.4
BTO S **S** 06 23 37.9 +0.4
BTO pmax pmax
comp=Z,30nm,1.1s
BTO pmax pmax
comp=Z,560nm,12.4s
BTO L L
comp=Z,5μm,14.9s
BTO L L
comp=Z,2μm,13.4s
BTO L L
comp=Z,7μm,13.5s
MSHR Mys Shultsa 19.94 19*ce*P **P** 06 20 00.5 +0.2
MSHR pmax pmax
comp=Z,17nm,1.0s
CN2 Changchun 19.98 6 *e*P **P** 06 19 59.9 -0.7
CN2 *e*S **S** 06 23 37.3 -6.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 L L
comp=Z,1μm,14.0s
CN2 L L
comp=Z,400nm,14.0s
CN2 L L
comp=Z,1μm,14.0s
LZH Lanzhou 20.15 311 *e*P Pn 06 20 05.8 +1.0
LZH pP pwP 06 20 14.1 -0.3
LZH sP sP 06 20 19.3 +5.5
LZH sS Sn 06 23 58.8 +7.9
LZH SS **SnSn** 06 24 11.8 +6.3
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,200nm,6.0s
LZH L L
comp=Z,620nm,13.0s
LZH L L
comp=Z,550nm,14.6s
LZH L L
comp=Z,640nm,14.6s
CHAI Chaiyaphum 20.85 251 P Pn 06 20 16.8 +3.8
comp=Z,14nm,0.9s
USA0B Ussuriysk Arra 21.67 19 P **P** 06 20 18.1 -0.8
USRK Ussuriysk Ar. 21.67 19 P **P** 06 20 17.7 -1.2
comp=Z,4.6nm,0.7s,baz=210,slow=12,SNR=14
USRK LR LR 06 29 25.3
comp=Z,362nm,18.7s,baz=185,slow=39
USRK Ussuriysk Ar. 21.67 19 P **P** 06 20 17.2 -1.7
PHIT Phitsanulok 21.72 256 P **P** 06 20 25.0 +5.4
comp=Z,50nm,1.0s
CHTO Chiang Mai 22.50 261 P **P** 06 20 27.9 -0.2
comp=Z,4.6nm,1.1s
GAMI Galela, Maluku 22.55 166 P **P** 06 20 31.6 +3.1
comp=Z,65nm,0.9s
CMAR Chiang Mai Arr 22.61 261 P **P** 06 20 31.0 +1.8
comp=Z,1.2nm,0.3s,baz=68,slow=6.4,SNR=4.4
CMAR LR LR 06 29 07.4
comp=Z,51nm,20.7s,baz=97,slow=36
TOLI2 Tolitoli 22.74 184 P **P** 06 20 30.2 -0.3
JTM Tenmabayashi 22.92 38 P **P** 06 20 27.6 -4.7
MRSI Marisa 23.32 181 P **P** 06 20 41.0 +4.6
comp=Z,28nm,0.8s
TNTI Ternate 23.50 168 P **P** 06 20 40.5 +2.3
comp=Z,36nm,1.9s
GTA Gaotai 24.62 314⇓ P **P** 06 20 49.3 +0.6
GTA pP pwP 06 20 58.4 -2.6
GTA sP sP 06 21 02.4 +2.2
GTA sS sS 06 25 20.8 -0.9
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,76nm,4.5s
GTA L L
comp=Z,170nm,14.5s
GTA L L
comp=Z,480nm,14.9s
GTA L L
comp=Z,510nm,14.5s
LBMI Labuha 24.89 168 P **P** 06 20 54.0 +2.8
comp=Z,1μmcomp=Z,83nm,1.0s
ERM Erimo 24.91 39 *i* P **P** 06 20 50.2 -0.9
ERM pmax pmax
comp=Z,9.0nm,1.0s

ASAJ Asahikawa 26.01 34 P **P** **06 20 58.6 -2.5**
comp=Z,3.3nm,0.4s,baz=255,slow=14,SNR=6.3
JKA Kamikawa-asahi 26.01 34 P **P** **06 21 01.4 +0.3**
SIJI Sorong 26.08 160 P **P** **06 21 03.7 +1.8**
comp=Z,20nm,0.3s,baz=86,slow=22,SNR=9.5
KLR Kul'dur 26.29 14 *ce*P **P** **06 21 02.9 -0.6**
KLR pmax pmax
comp=Z,1.0nm,0.9s
ULN Ulaanbaatar 26.86 337 *ce*P **P** **06 21 09.1 +0.1**
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 26.86 337 P **P** **06 21 08.6 -0.3**
ULN IAmb IAmb 06 21 09.4
comp=Z,19nm,1.4s
ULN Ulaanbaatar 26.86 337 P **P** **06 21 08.5 -0.5**
comp=Z,35nm,0.9s
SONM Songino Array 27.08 336 P **P** **06 21 10.1 -0.8**
comp=Z,16nm,0.9s,baz=150,slow=9.3,SNR=56
SONM PcP **PcP** **06 24 31.8 +0.5**
comp=Z,0.6nm,0.3s,baz=124,slow=3.8,SNR=3.0
SONM LR LR 06 33 05.2
comp=Z,684nm,18.3s,baz=156,slow=39
SONM Songino Array 27.08 336 P **P** **06 21 10.9 0.0**
SONM IAmb IAmb 06 21 12.0
comp=Z,15nm,0.8s
NLAI Namlea 27.37 170 P **P** **06 21 17.3 +3.8**
comp=Z,49nm,1.0s
KAPI Kappang 28.89 186 LR LR 06 33 14.5
comp=Z,67nm,20.0s,baz=24,slow=37
ZAK Zakamensk 30.35 335 *eP* **P** **06 21 38.3 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
PBA Port Blair 30.77 252 P P 06 21 41.6 -2.2
TLY Talaya 31.27 337 P **P** **06 21 46.9 -1.0**
comp=Z,3.2nm,0.6s,baz=152,slow=9.4,SNR=6.4
TLY Talaya 31.27 337 *eP* **P** **06 21 47.3 -0.6**
TLY pmax pmax
comp=Z,17nm,1.0s
TLY MLR MLR
comp=Z,1µm,10.0s
TLY Talaya 31.27 337 P **P** **06 21 47.0 -1.0**
KSI Kapahiang 33.57 218 P P 06 22 16.0 +7.6
WMQ Urumqi 34.70 313 *eP* **P** **06 22 14.3 -3.7**
WMQ pP pwP 06 22 26.9 -3.5
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ L L
comp=Z,200nm,14.1s
WMQ L L
comp=Z,620nm,16.3s
WMQ L L
comp=Z,290nm,14.7s
DGZ Jazzator, Alta 37.53 322 *c i*P **P** **06 22 42.0 -0.2**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 39.36 316 *eP* **P** **06 22 57.0 -0.5**
MK31 Makanchi Array 39.36 316 P **P** **06 22 57.7 +0.2**
MK31 IAmb IAmb 06 22 58.7
comp=Z,21nm,1.3s
MKAR Makanchi Array 39.36 316 P **P** **06 22 57.4 -0.1**
comp=Z,8.9nm,0.5s,baz=101,slow=9.7,SNR=125
MKAR PcP **PcP** **06 25 05.4 -0.2**
comp=Z,0.9nm,0.6s,baz=76,slow=6.1,SNR=2.9
MKAR LR LR 06 40 34.3
comp=Z,239nm,18.4s,baz=104,slow=38
MKAR Makanchi Array 39.36 316 P **P** **06 22 57.7 +0.2**
PETK Petropavlovsk- 39.42 33 LR LR 06 39 29.1
comp=Z,149nm,19.1s,baz=222,slow=37
MAKZ Makanchi 39.56 316 P **P** **06 22 59.0 -0.2**
MAKZ IAmb IAmb 06 23 00.5
comp=Z,22nm,1.1s
SHLS Shalkode 40.15 309 *eP* **P** **06 23 02.3 -2.0**
PDGK Podgornoye 40.18 310 *i*P **P** **06 23 04.5 0.0**
PDGK pmax pmax
comp=Z,36nm,0.8s
KPKS Kokpek 40.78 309 *eP* **P** **06 23 09.6 +0.2**
TARG Taragay, Kyrgy 41.03 307 P **P** **06 23 11.7 -0.2**
ZAA0 Zalesovo Array 41.12 327 P **P** **06 23 11.2 -0.7**
ZAA0 IAmb IAmb 06 23 11.6
comp=Z,17nm,0.6s
ZALV Zalesovo Beam 41.12 327 P **P** **06 23 10.9 -1.0**
comp=Z,17nm,0.5s,baz=112,slow=8.0,SNR=58
ZALV PcP **PcP** **06 25 11.0 0.0**
comp=Z,1.8nm,0.6s,baz=107,slow=4.0,SNR=3.2
ZALV LR LR 06 40 58.7
comp=Z,147nm,21.4s,baz=108,slow=37
ZALV Zalesovo Beam 41.12 327 P **P** **06 23 11.1 -0.8**
ARXS Arharly 41.56 310 *eP* **P** **06 23 16.5 +0.7**
KDJ Kajisay 41.57 307 P **P** **06 23 17.5 +1.5**
KDJ IAmb IAmb 06 23 18.5
comp=Z,19nm,1.1s
FITZ Fitzroy Crossi 41.88 176 P **P** **06 23 20.1 +1.7**
FITZ IAmb IAmb 06 23 33.6
comp=Z,38nm,1.8s
KSH Kashi 42.05 303 P **P** **06 23 24.0 +4.1**
KSH pP pwP 06 23 30.5 -1.7
KSH S **S** **06 29 37.3 +0.1**
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,76nm,2.9s
KSH L L
comp=Z,460nm,5.7s
KSH L L
comp=Z,370nm,5.5s
ULHL Ulahol 42.27 307 P **P** **06 23 23.6 +1.7**
SNR=9.5
BOOM Boomskoye usch 42.54 307 P **P** **06 23 25.4 +1.5**
TKM2 Tokmak 2 42.87 308 P **P** **06 23 27.9 +1.2**
SNR=24
TKM2 Tokmak 2 42.87 308 P **P** **06 23 27.5 +0.9**
KURBB Kurchatov Arra 43.08 320 P **P** **06 23 27.3 -0.7**
comp=Z,5.9nm,0.6s,baz=112,slow=8.4,SNR=37
KURBB Kurchatov Arra 43.08 320 P **P** **06 23 26.6 -1.3**
KBK Karagaybulak 43.29 307 P **P** **06 23 31.6 +1.6**
SNR=12
CHMS Chumysh 43.49 308 P **P** **06 23 32.6 +1.1**
SNR=9.3
FRU1 Bishkek 43.55 308 P **P** **06 23 33.4 +1.4**
AAK Ala-Archa 43.62 307 *ce*P **P** **06 23 32.5 -0.1**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 43.62 307 P **P** **06 23 33.7 +1.1**
SGDS Sogindy 43.66 309 *eP* **P** **06 23 33.3 +0.4**
USP Osgenovka 43.72 308 P **P** **06 23 34.6 +1.3**
SNR=6.0
NIL Nilore 43.88 294 P **P** **06 23 34.6 -0.1**
AML Almayashu 44.12 306 P **P** **06 23 38.7 +1.8**
SNR=17
EKS2 Erkin-Say 44.14 307 P **P** **06 23 38.4 +1.6**
SNR=6.8
WB0 Warramunga Arr 44.95 164 P **P** **06 23 43.8 +0.6**
WB0 IAmb IAmb 06 23 59.8
comp=Z,25nm,1.6s
WRAB Tennant Creek 45.10 164 P **P** **06 23 46.3 +1.9**
WRAB IAmb IAmb 06 23 58.0
comp=Z,14nm,1.1s
WRA Warramunga Arr 45.10 164 P **P** **06 23 45.5 +1.0**
comp=Z,7.7nm,0.9s,baz=348,slow=9.5,SNR=29
WRA Warramunga Arr 45.10 164 *i*P **P** **06 23 46.0 +1.5**
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA Warramunga Arr 45.10 164 P **P** **06 23 45.0 +0.5**
WB2 Warramunga Arr 45.11 164 P **P** **06 23 46.2 +1.7**
WB2 IAmb IAmb 06 23 58.0
comp=Z,19nm,1.2s
WR0 Warramunga Arr 45.17 164 P **P** **06 23 45.9 +0.9**
WR0 IAmb IAmb 06 23 58.5
comp=Z,9.7nm,0.8s
DRK Karamyk 45.25 303 P **P** **06 23 47.9 +2.0**
DRK IAmb IAmb 06 23 48.7
comp=Z,17nm,0.8s
PSA00 Pilbara Seismi 45.30 183 P **P** **06 23 46.5 +0.6**
PSA00 IAmb IAmb 06 24 25.6
comp=Z,18nm,1.9s
BTK Batken 46.05 303 P **P** **06 23 52.3 +0.3**
BTK IAmb IAmb 06 23 54.2
comp=Z,26nm,1.5s
GAR Garm 46.37 302 P **P** **06 23 54.3 -0.3**
KK31 Karatay Array 46.58 307 *eP* **P** **06 23 56.5 +0.5**
KK31 Karatay Array 46.58 307 P **P** **06 23 56.6 +0.5**
KK31 IAmb IAmb 06 23 58.0
comp=Z,9.1nm,0.6s
KKAR Karatay Array 46.58 307 P **P** **06 23 56.7 +0.8**
KKAR Karatay Array 46.58 307 P **P** **06 23 56.8 +0.8**
KKAR IAmb IAmb 06 23 58.0
comp=Z,9.1nm,0.6s
CHGR Chuyangaron 47.26 301 P **P** **06 24 01.2 -0.2**
KBL Kabul 47.36 296 P **P** **06 24 02.3 -0.1**
TIXI Tiksi 47.89 3 *ce*P **P** **06 24 04.5 -1.2**
TIXI Tiksi 47.89 3 P **P** **06 24 04.1 -1.6**
TIXI IAmb IAmb 06 24 05.8
comp=Z,4.7nm,0.7s
AS31 Alice Springs 48.59 166 P **P** **06 24 13.3 +1.6**
ASAR Alice Springs 48.59 166 P **P** **06 24 13.9 +2.2**
comp=Z,2.5nm,0.5s,baz=343,slow=7.6,SNR=50
ASAR Alice Springs 48.59 166 P **P** **06 24 13.6 +1.9**
BRVK Borovoye 48.70 321 *ce*P **P** **06 24 12.8 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 48.70 321 P **P** **06 24 11.7 -0.6**
BRVK IAmb IAmb 06 24 13.6
comp=Z,8.2nm,0.6s
NRIK Noril'sk 49.97 345 P **P** **06 24 20.6 -1.1**
comp=Z,1.9nm,0.4s,baz=124,slow=3.6,SNR=2.8
NRIK LR LR 06 47 28.8
comp=Z,213nm,21.1s,baz=153,slow=39
NRIK Noril'sk 49.97 345 *i*P **P** **06 24 21.0 -0.7**
NRIK pmax pmax
comp=Z,2.0nm,0.8s
NRIK Noril'sk 49.97 345 P **P** **06 24 20.9 -0.7**
AMKA Amchitka 51.08 42 P **P** **06 24 30.6 +0.2**
BILL Bilibino 51.52 19 *i*P **P** **06 24 35.6 +2.2**
BILL *i* 06 25 46.6
BILL *i* 06 26 30.4
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,190nm,17.0s
AB31 Akbulak array 54.48 314 *eP* **P** **06 24 55.5 0.0**
ABKAR Akbulak array 54.48 314 P **P** **06 24 56.2 +0.7**
SVE Sverdlovsk 54.96 324 *eP* **P** **06 24 58.7 -0.2**
AKTO Aktyubinsk 55.80 316 P **P** **06 25 04.9 -0.1**
GEYT Alibeck 55.96 301 P **P** **06 25 07.6 +1.2**
comp=Z,13nm,0.9s,baz=112,slow=1.6,SNR=12
GEYT LR LR 06 54 07.6
comp=Z,111nm,18.1s,baz=215,slow=42
GEYT Alibeck 55.96 301 P **P** **06 25 07.9 +1.4**
GYA0B ALIBECK ARRAY 55.96 301 P **P** **06 25 06.5 0.0**
GYA0B IAmb IAmb 06 25 09.3
comp=Z,16nm,1.1s
ARU Arti 56.03 323 *d i*P **P** **06 25 05.3 -1.3**
ARU 06 26 03.0
ARU S **S** **06 32 51.1 -1.8**
ARU SS **SS** **06 36 31.3 -7.7**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 56.03 323 P **P** **06 25 06.1 -0.5**
ARU IAmb IAmb 06 25 06.6
comp=Z,7.5nm,0.6s
BBOO Buckleboo 57.88 167 P **P** **06 25 18.8 -1.1**
STKA Stephens Creek 58.42 161 P **P** **06 25 25.6 +2.0**
comp=Z,4.1nm,1.0s,baz=338,slow=12,SNR=4.4
STKA LR LR 06 51 31.7
comp=Z,61nm,20.2s,baz=23,slow=37
STKA Stephens Creek 58.42 161 P **P** **06 25 26.5 +2.9**
TNA Tin City 60.03 27 P **P** **06 25 35.6 +1.2**
KIRV Kirov 61.12 325 *ce*P **P** **06 25 41.7 -0.2**
PRGR Permogore 63.03 329 *eP* **P** **06 25 52.1 -2.6**
PRGR pmax pmax
comp=Z,19nm,1.2s
AKT Akhty 63.46 306 *eP* **P** **06 25 58.8 +0.7**
AKT *e* 06 26 35.4
AKT pmax pmax
comp=Z,11nm,0.6s
TTA Tatalina 65.13 30 P **P** **06 26 09.5 +0.8**
TTA IAmb IAmb 06 28 08.1
comp=Z,17nm,2.0s
GNI Garni 65.94 305 *ce*P **P** **06 26 16.1 +1.7**
GNI pmax pmax
comp=Z,15nm,1.3s
GNI Garni 65.94 305 P **P** **06 26 14.0 -0.3**
KLMR Klimovskoe 66.02 328 *eP* **P** **06 26 11.8 -2.5**
KLMR *e* 06 26 42.8
KLMR pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 66.02 328 *eP* **P** **06 26 11.9 -2.4**
KLMR AMP 06 26 23.6
comp=Z,5.0nm,0.8s
KLMR *e*PcP **PcP** **06 26 42.8 -1.9**
KLMR LR LR 06 55 32.4
ZEI Tsey 66.04 308 *eP* **P** **06 26 15.1 +0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ONI Oni 66.40 308 P **P** **06 26 17.8 +0.7**
ONI IAmb IAmb 06 26 20.9
comp=Z,12nm,1.1s
KBZ Khabaz 66.58 309 P **P** **06 26 18.6 +0.5**
comp=Z,7.8nm,0.9s,baz=151,slow=3.8,SNR=15
KBZ LR LR 06 59 11.9
comp=Z,78nm,20.1s,baz=68,slow=40
KBZ Khabaz 66.58 309 *ce*P **P** **06 26 18.5 +0.4**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 66.68 309 *eP* **P** **06 26 19.4 +0.4**
KIV pmax pmax
comp=Z,54nm,1.0s
KIV MLR MLR
comp=Z,181nm,17.0s
KIV Kislovodsk 66.68 309 P **P** **06 26 20.4 +1.4**
SHA1 Shidzhatmaz 66.74 309 *eP* **P** **06 26 19.6 0.0**
NEY Neytrino 66.80 309 *i*P **P** **06 26 19.5 -0.3**
NEY pmax pmax
comp=Z,2.0nm,0.9s
COLD Coldfoot 67.16 25 P **P** **06 26 22.3 +0.8**
COLD IAmb IAmb 06 26 37.6
comp=Z,8.2nm,1.7s
TOLK Toolik Lake Re 67.21 23 P **P** **06 26 22.6 +0.8**
MLY Manley 67.23 27 P **P** **06 26 22.8 +0.8**
MLY IAmb IAmb 06 26 33.3
comp=Z,6.7nm,1.5s
BPAW Bear Paw Mtn. 67.25 28 P **P** **06 26 23.1 +0.9**
KDAK Kodiak Island 67.42 35 P **P** **06 26 23.3 0.0**
KDAK IAmb IAmb 06 27 53.6
comp=Z,16nm,1.7s
GEVA Gevas 67.61 303 P **P** **06 26 25.0 -0.1**
GEVA IAmb IAmb 06 26 27.2
comp=Z,10nm,0.8s
I23K Minto, Yukon-K 67.79 27 P **P** **06 26 26.4 +1.0**
I23K IAmb IAmb 06 27 21.4
comp=Z,24nm,2.0s
NEA2 Nenana 68.00 28 P **P** **06 26 27.4 +0.5**
MCK McKinley 68.20 29 P **P** **06 26 28.1 0.0**
MDM Murphy Dome 68.29 27 P **P** **06 26 29.5 +0.8**
MDM IAmb IAmb 06 26 55.9
comp=Z,6.3nm,1.2s
RND Reindeer 68.30 29 P **P** **06 26 28.8 0.0**
RND IAmb IAmb 06 26 29.8
comp=Z,11nm,1.4s
OBN Obninsk 68.44 322 *i*P **P** **06 26 29.5 -0.2**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,124nm,18.0s
ILAR Eielson Array 68.89 27 P **P** **06 26 31.2 -1.2**
comp=Z,0.5nm,0.4s,baz=267,slow=5.0,SNR=9.0
ILAR LR LR 06 58 38.6
comp=Z,40nm,18.1s,baz=278,slow=38
PWL Port Wells 69.01 32 P **P** **06 26 33.2 0.0**
PWL IAmb IAmb 06 26 36.2
comp=Z,8.4nm,0.9s
BMAR Burnt Mountain 69.27 24 P **P** **06 26 36.2 +1.5**
SCM Sheep Creek Mo 69.29 30 P **P** **06 26 35.7 +0.7**
SCM IAmb IAmb 06 26 36.2
comp=Z,5.0nm,0.6s
RAYN Ar Rayn 69.57 287 P **P** **06 26 37.7 +0.3**
RAYN IAmb IAmb 06 26 38.9
comp=Z,6.5nm,1.0s
GLI Glacier Island 69.60 31 P **P** **06 26 38.3 +1.5**
GLI IAmb IAmb 06 27 32.7
comp=Z,4.1nm,0.8s
MARD Mardin 69.60 303 P **P** **06 26 37.6 +0.1**
KEV Kevo 69.66 338 P **P** **06 26 36.7 -0.3**
FID Port Fidalgo 69.93 32 P **P** **06 26 38.7 -0.2**
FID IAmb IAmb 06 26 50.3
comp=Z,4.9nm,0.9s
SPA0 Spitsbergen Ar 69.99 348 *eP* **P** **06 26 38.6 -0.4**
HIN Hinchinbrook I 70.00 32 P **P** **06 26 39.8 +0.5**
HIN IAmb IAmb 06 28 13.3
comp=Z,12nm,1.2s
ARA0 ARCESS Array S 70.22 338 *eP* **P** **06 26 40.0 -0.5**
ARCES ARCESS Array B 70.22 338 P **P** **06 26 40.0 -0.6**
comp=Z,1.6nm,0.5s,baz=64,slow=8.1,SNR=22
ARCES LR LR 07 02 31.1
comp=Z,75nm,18.4s,baz=90,slow=40
ARCES ARCESS Array B 70.22 338 P **P** **06 26 40.3 -0.2**
SCRK Sand Creek 70.30 28 P **P** **06 26 41.1 -0.2**
HAMF Hammerfest 70.52 340 *eP* **P** **06 26 41.7 -0.6**
KTK1 Kautokeino 71.15 338 *eP* **P** **06 26 45.9 -0.2**
EGAK Eagle 71.28 27 P **P** **06 26 47.5 +0.5**
L27K Beaver Creek, 71.47 29 P **P** **06 26 49.2 +0.9**
L27K IAmb IAmb 06 27 32.3
comp=Z,9.7nm,1.8s
BCAR Beaver Creek A 71.49 29 P **P** **06 26 49.5 +1.1**
JETT Jettan, Norway 71.93 339 *eP* **P** **06 26 50.8 -0.1**
DAWY Dawson 72.22 27 P **P** **06 26 52.6 -0.2**
FIA1 FINESS Array S 72.27 330 P **P** **06 26 53.2 +0.2**
FIA1 IAmb IAmb 06 26 55.2
comp=Z,13nm,1.4s
FINES FINESS Array B 72.27 330 P **P** **06 26 52.1 -0.9**
comp=Z,2.8nm,0.5s,baz=64,slow=5.6,SNR=39
FINES LR LR 07 01 55.3
comp=Z,321nm,18.2s,baz=72,slow=39
FINES FINESS Array B 72.27 330 *ce*P **P** **06 26 53.2 +0.2**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 72.27 330 P **P** **06 26 53.0 0.0**
CTGM Chitina Glacie 72.30 31 P **P** **06 26 54.1 +0.6**
CTGM IAmb IAmb 06 29 14.4
comp=Z,6.5nm,0.6s
GAZ Gaziantep 72.38 303 P **P** **06 26 52.6 -1.7**
GAZ IAmb IAmb 06 26 55.6
comp=Z,11nm,0.8s
TRO Tromso 72.39 339 *eP* **P** **06 26 53.7 +0.2**
VSU Vasula 72.86 327 *eP* **P** **06 26 57.7 +1.1**
INK Inuvik 73.01 22 P **P** **06 26 57.3 0.0**
MEF Metsahovi 73.44 329 *eP* **P** **06 27 00.2 +0.3**
MNK Minsk 73.46 323 *i*P P 06 26 52.3 -7.9
MNK *i* 06 27 12.6
MNK *i*S S 06 36 18.3 -9.2
MNK *i* 06 37 05.8
MNK *i*SSS SSS 06 44 22.1
MNK MLR MLR
comp=Z,51nm,17.0s
MNK MLR MLR
comp=N,860nm,24.0s
MNK MLR MLR
comp=E,68nm,18.0s
MNK Minsk 73.46 323 *i*P P 06 26 52.3 -7.9
MNK *i*P P 06 26 52.3 -7.9
MNK *i*P P 06 26 52.3 -7.9
baz=71
MNK *i*PcP pwP 06 27 12.6 -0.7
MNK *i*PP PP 06 29 35.2 -8.6
MNK *i*PPP PPP 06 31 20.1
MNK *i*S S 06 36 18.3 -9.2
MNK *i*ScS **SKKSac** **06 37 05.8 +1.3**
MNK *i*SS SS 06 40 54.0 -16
MNK *i*SSS SSS 06 44 22.1
MNK *i*LQ LQ 06 54 09.0
MNK *i*LR LR 06 58 17.1
MNK *i*LRM MLR 07 01 56.7
comp=Z,51nm,16.9s
MNK *i*LRM MLR 07 02 28.1
comp=N,860nm,23.8s
MNK *i*LRM MLR 07 02 31.5
comp=E,68nm,17.8s
AKASG Malin Array Be 73.86 319 P **P** **06 27 01.9 -0.7**
comp=E,2.7nm,0.6s,baz=58,slow=5.9,SNR=12
AKASG LR LR 07 02 38.9
comp=E,54nm,19.1s,baz=25,slow=38
AKASG Malin Array Be 73.86 319 P **P** **06 27 02.5 -0.1**
AKBB Malin Array Si 73.86 319 *ce*P **P** **06 27 02.6 0.0**
AKBB Malin Array Si 73.86 319 P **P** **06 27 02.4 -0.2**
BR131 Keskin Array S 74.29 307 P **P** **06 27 05.9 +0.3**
BR131 IAmb IAmb 06 27 07.6
comp=Z,15nm,0.8s
BRTR Keskin Array B 74.29 307 P **P** **06 27 06.1 +0.5**
comp=Z,13nm,1.0s,baz=101,slow=6.4,SNR=35
BRTR LR LR 07 03 04.7
comp=Z,53nm,20.1s,baz=71,slow=38
BRTR Keskin Array B 74.29 307 *ce*P **P** **06 27 06.5 +0.9**
BRTR pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 74.29 307 P **P** **06 27 06.5 +0.9**
STEI Steigen 74.29 338 *eP* **P** **06 27 04.4 -0.4**
FAUS Fauske 74.50 337 *eP* **P** **06 27 05.9 -0.1**
ANTO Ankara 74.86 307 P **P** **06 27 08.8 0.0**
PABE Paberze 75.26 324 *eP* **P** **06 27 11.3 +0.6**
PABE Paberze 75.26 324 P **P** **06 27 10.7 0.0**
MOR8 Moi Rana 75.33 336 *eP* **P** **06 27 09.9 -1.0**
KONS Konsvik 75.66 337 *eP* **P** **06 27 12.5 -0.2**
SSS Mathiatis 76.06 302 P **P** **06 27 15.0 -0.7**
SUW Suwalki 76.22 323 *eP* **P** **06 27 17.4 +1.2**
SUW Suwalki 76.22 323 P **P** **06 27 15.6 -0.6**
UPP Uppsala 76.72 330 *eP* **P** **06 27 19.0 +0.1**
NSS Namsos 77.00 335 *eP* **P** **06 27 20.1 -0.3**
ISP Isparta 77.22 306 P **P** **06 27 22.3 0.0**
ISP IAmb IAmb 06 27 24.0
comp=Z,14nm,1.0s
BURAR Bucovina Array 77.38 317 P **P** **06 27 22.8 -0.2**
ELL Elmali 78.05 305 P **P** **06 27 26.5 -0.5**
DLBC Dease Lake 78.56 31 P **P** **06 27 30.4 +1.1**
NC405 NORSAR Array S 78.76 332 P **P** **06 27 29.9 -0.3**
NB201 NORSAR Array S 78.97 332 P **P** **06 27 31.2 -0.2**
NB2 NORSAR Subarra 79.01 332 P **P** **06 27 30.6 -1.1**
baz=61,slow=5.6
NOA NORSAR Array B 79.01 332 P **P** **06 27 30.8 -0.9**
comp=Z,1.4nm,0.6s,baz=57,slow=5.4,SNR=20
NOA LR LR 07 05 59.8
comp=Z,156nm,19.2s,baz=75,slow=38
NC602 NORSAR Array S 79.02 332 *eP* **P** **06 27 31.6 -0.1**
NC204 NORSAR Array S 79.08 333 P **P** **06 27 31.6 -0.5**
DOMB Dombas 79.39 334 *eP* **P** **06 27 33.5 -0.2**
OJC Ojcow 79.64 320 P **P** **06 27 36.0 +0.7**
OJC IAmb IAmb 06 27 36.5
comp=Z,4.9nm,0.7s
DIB Dawson Inlet, 79.67 36 P **P** **06 27 36.0 +0.6**
DIB IAmb IAmb 06 27 36.5
comp=Z,5.9nm,0.7s
MOBC Moresby Island 79.97 36 P **P** **06 27 37.5 +0.4**
MOBC IAmb IAmb 06 27 37.8
comp=Z,26nm,1.6s
AKN Aaknes 80.14 335 *eP* **P** **06 27 37.9 +0.1**
KONO Kongsberg 80.41 332 *eP* **P** **06 27 39.1 -0.2**
PSZ Piszkesteto 80.56 318 P **P** **06 27 40.6 +0.2**
PSZ IAmb IAmb 06 27 44.2
comp=Z,6.7nm,1.2s
VTS Vitosha 80.60 312 P **P** **06 27 41.6 +0.8**
VTS IAmb IAmb 06 27 42.5
comp=Z,5.5nm,0.9s
VYHS Vyhne 80.95 319 *eP* **P** **06 27 43.5 +1.1**
VYHS Vyhne 80.95 319 *eP* **P** **06 27 43.5 +1.1**
MORC Moravsky Berou 81.14 321 P **P** **06 27 43.7 +0.3**
FOO Floro 81.23 335 *eP* **P** **06 27 43.4 -0.1**
KRLC Kraliky 81.45 321 *eP* **P** **06 27 45.8 +0.7**
KRLC Kraliky 81.45 321 *eP* **P** **06 27 45.8 +0.7**
OSTC Ostas 81.55 322 *eP* **P** **06 27 46.8 +1.2**
DPC Dobruska-Polom 81.58 322 *eP* **P** **06 27 46.9 +1.1**
DPC Dobruska-Polom 81.58 322 *eP* **P** **06 27 46.9 +1.1**
BLS5 Blasjo 81.88 332 *eP* **P** **06 27 46.9 -0.2**
AGG Agios Georgios 82.70 309 P **P** **06 27 50.5 -1.3**
YKA Yellowknife Ar 82.74 23 P **P** **06 27 51.1 -0.4**
comp=Z,1.0nm,0.6s,baz=311,slow=4.8,SNR=14
YKA LR LR 07 09 14.0
comp=Z,40nm,19.1s,baz=0.0,slow=39
CLL Collm 82.98 323 *eP* **P** **06 27 53.0 0.0**
CLL Lm MLR 07 09 00.0
comp=Z,200nm,19.2s
CLL Collm 82.98 323 *eP* **P** **06 27 53.0 0.0**
CKRC Cesky Krumlov 83.46 321 *eP* **P** **06 27 56.2 +0.6**
ITM Ithomi 83.77 308 P **P** **06 27 56.5 -0.9**
GEC2 GERESS Array S 83.80 321 P **P** **06 27 57.5 +0.1**
GEC2 IAmb IAmb 06 27 58.5
comp=Z,4.7nm,1.0s
GERES GERESS Array B 83.80 321 P **P** **06 27 57.6 +0.2**
comp=Z,2.1nm,0.8s,baz=60,slow=3.7,SNR=18
GERES GERESS Array B 83.80 321 P **P** **06 27 57.8 +0.4**
WLF Walferdange 87.55 324 P **P** **06 28 16.0 +0.1**
B06A Marblemount 88.03 37 P **P** **06 28 18.7 +0.5**
LON Longmire 88.86 38 P **P** **06 28 22.8 +0.6**

LON IAmb IAmb 06 28 25.2
comp=Z,3.6nm,0.9s
LTY Liberty 89.20 37 P **P 06 28 24.0 +0.1**
LTY IAmb IAmb 06 28 25.7
comp=Z,4.1nm,0.8s
B08A Colville Reser 89.29 36 P **P 06 28 24.6 +0.4**
C09A Chrisman Ranch 90.20 36 P **P 06 28 28.6 +0.1**
D08A Wollman Farm, 90.29 37 P **P 06 28 28.3 -0.5**
D08A IAmb IAmb 06 28 31.6
comp=Z,6.5nm,0.9s
HAWA Hanford 90.34 38 P **P 06 28 28.4 -0.7**
HAWA IAmb IAmb 06 28 32.1
comp=Z,4.9nm,0.9s
NEW Newport 90.53 35 P **P 06 28 30.4 +0.4**
NEW IAmb IAmb 06 28 32.7
comp=Z,6.7nm,0.8s
E08A Dider Farm, El 90.55 37 P **P 06 28 30.6 +0.6**
E08A IAmb IAmb 06 28 32.5
comp=Z,5.6nm,0.9s
JTMT Jette 92.34 34 P **P 06 28 39.2 +0.7**
JTMT IAmb IAmb 06 28 41.1
comp=Z,5.0nm,1.0s
BMO Blue Mountains 92.52 38 P **P 06 28 40.2 +0.8**
BMO IAmb IAmb 06 28 42.0
comp=Z,5.9nm,1.6s
MOD Modoc Plateau 92.52 42 P **P 06 28 39.6 +0.2**
MOD IAmb IAmb 06 28 41.7
comp=Z,2.7nm,0.9s
J08A Circle Bar Ran 92.75 40 P **P 06 28 40.8 +0.4**
J08A IAmb IAmb 06 28 43.0
comp=Z,3.0nm,0.9s
FFC Flin Flon 92.88 24 P **P 06 28 40.5 -0.2**
HRY Holter Researc 94.28 34 P **P 06 28 47.7 +0.2**
PPT Papeete 95.13 107 LR LR 07 02 37.6
comp=Z,43nm,20.8s,baz=230,slow=30
NVAR Mina Array Bea 95.80 44 P **P 06 28 55.0 +0.3**
comp=Z,0.7nm,0.8s,baz=285,slow=4.8,SNR=5.8
ULM Lac du Bonnet 98.71 24 LR LR 07 17 33.4
comp=Z,34nm,18.1s,baz=325,slow=38
PCRV Puerto La Cruz 145.40 12 PKPbc **PKPbc 06 35 05.5 -1.0**
comp=Z,6.6nm,0.5s,baz=24,slow=2.4,SNR=6.7
PLCV Puerto La Cruz 145.42 12 **PKPbc 06 35 05.5 -1.0**
ROSC El Rosal 147.04 32 PKPbc **PKPab 06 35 12.8 -0.7**
comp=Z,9.0nm,0.6s,baz=245,slow=14,SNR=3.5
MDP Montagnes des 150.76 350 PKPbc **PKPbc 06 35 21.1 +0.1**
comp=Z,4.6nm,0.6s,baz=20,slow=3.2,SNR=7.2
RCBR Riachuelo 152.52 307 PKPbc **PKiKP 06 35 25.6 +0.2**
comp=Z,10nm,0.8s,baz=276,slow=4.5,SNR=4.4

*SKHL **21** 06:27:38.3±0.4, 43.˚50N×146.˚00E, h106km±3km, mb4.5/3, msha5.4/3*
*JMA **21** 06:27:38.4±0.1, 43.˚43N×145.˚67E, h107km±1km, M2.9*
ISC 21 06:27:37.3±3.2, **43.˚44N**±0.˚08×**145.˚7E**±0.˚1, **h114**km±17km, **n15**, σ0**960**/**28**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NMR	**Nemuro--Hokkai**	**0.07**	**176**	*eP*			**Pn**	**06 27 53.2**	**+0.4**
NMR				*eS*			**Sn**	**06 28 04.1**	**-0.4**
NEM2	**Nemuro 2**	**0.08**	**169**	P			**Pn**	**06 27 53.2**	**+0.3**
NEM2				*eS*			**Sn**	**06 28 04.0**	**-0.5**
GLVR	**Golovnino**	**0.33**	**334**	*eP*			**Pn**	**06 27 54.3**	**+0.8**
GLVR	140nm,0.1s			AMB		AMB	AMB	06 27 54.5	
GLVR				*eS*			**Sn**	**06 28 06.5**	**+0.7**
GLVR	520nm,0.2s			A		A	A	06 28 09.1	
GLVR	700nm,0.2s			A		A	A	06 28 09.1	
JKHN	**Kushirohamanak**	**0.55**	**229**	P			**Pn**	**06 27 55.2**	**+0.4**
JKHN				*eS*			**Sn**	**06 28 07.7**	**-0.2**
GRPR	**Tuman**	**0.55**	**4**	*eP*			**Pn**	**06 27 55.1**	**+0.3**
GRPR	50nm,0.1s			AMB		AMB	AMB	06 27 56.4	
GRPR				*eS*			**Sn**	**06 28 07.4**	**-0.7**
GRPR	440nm,0.2s			A		A	A	06 28 09.5	
GRPR	540nm,0.2s			A		A	A	06 28 09.5	
YUK	**Yuzh-Kuril'sk**	**0.60**	**10**	*eP*			**Pn**	**06 27 55.3**	**+0.1**
YUK	90nm,0.2s			AMB		AMB	AMB	06 27 56.4	
YUK	370nm,0.3s			*eS*			**Sn**	**06 28 07.7**	**-1.0**
YUK	430nm,0.3s			A		A	A	06 28 09.2	
YUK				A		A	A	06 28 09.2	
JNSB	**Nemuroshibetsu**	**0.62**	**303**	P			**Pn**	**06 27 55.8**	**+0.5**
JNSB				*eS*			**Sn**	**06 28 09.0**	**+0.1**
JRA	**Rausu**	**0.66**	**319**	P			**Pn**	**06 27 56.0**	**+0.4**
JRA				*eS*			**Sn**	**06 28 09.0**	**-0.4**
JNK	**Nakash**	**0.74**	**281**	P			**Pn**	**06 27 56.5**	**+0.2**
JNK				*eS*			**Sn**	**06 28 09.8**	**-0.9**
JAK	**Akkeshi**	**0.87**	**240**	P			**Pn**	**06 27 57.7**	**+0.2**
JAK				*eS*			**Sn**	**06 28 12.2**	**-0.5**
JTKR	**Abashiri--Toko**	**1.42**	**293**	P			**Pn**	**06 28 03.6**	**+0.3**
JAR	**Ashorobuto**	**1.43**	**265**	P			**Pn**	**06 28 04.1**	**+0.7**
JAR				*eS*			**Sn**	**06 28 23.2**	**-0.1**
JOB	**Onbets**	**1.48**	**249**	P			**Pn**	**06 28 04.8**	**+0.8**
JOB				*eS*			**Sn**	**06 28 24.0**	**-0.4**
JMP	**Maruseppu**	**1.80**	**289**	P			**Pn**	**06 28 08.3**	**+0.3**
JCH	**Churui**	**1.92**	**245**	P			**Pn**	**06 28 09.7**	**+0.4**
JCH				*eS*			**Sn**	**06 28 32.4**	**-1.4**

IDC 21 06:32:19.9±4.9, **11.˚65S×166.˚67E, h0km, mb3.6**/4, **mb1 3.8**/4, **mb1mx3.6**/24, **mbtmp3.6**/4, **Error ellipse: s-maj=218.9km s-min=33.0km az=139.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.14**	**251**	P			P	06 38 49.3	-0.2
	0.2nm,0.8s,baz=66,slow=10,SNR=1.0								
ASAR	**Alice Springs**	**33.35**	**245**	P			P	06 38 59.9	-0.2
	0.6nm,1.1s,baz=71,slow=10,SNR=1.7								
ILAR	**Eielson Array**	**83.79**	**18**	P			P	06 44 50.5	-0.2
	0.8nm,0.5s,baz=232,slow=5.1,SNR=12								
MKAR	**Makanchi Array**	**94.58**	**317**	P			P	06 45 43.3	+0.6
	0.3nm,0.5s,baz=103,slow=6.4,SNR=4.0								

*IDC **21** 07:09:58.5±2.2, 17.˚34S×12.˚47W, h0km, mb4.2/12, mb1 4.2/12, mb1mx4.0/37, mbtmp4.2/12, MS3.9/24, Ms1 3.9/24, ms1mx3.8/34, Error ellipse: s-maj=59.8km s-min=20.9km az=54.0*
ISC 21 07:09:60.0±2.0, **17.˚4S**±0.˚2×**12.˚5W**±0.˚3, **h10**km, **n33**, σ1**§21**/15, **mb4.2**/14, **MS3.9**/24, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIC	**Lamto**	**24.60**	**18**	*eP*			**P**	**07 15 22.2**	**+1.6**
KIC	78nm,1.5s **Kosan Boka**	**24.82**	**19**	*eP*			**P**	**07 15 23.6**	**+1.1**
TIC	19nm,0.9s **Toumodi**	**25.00**	**18**	*eP*			**P**	**07 15 25.0**	**+0.8**
DBIC	**Dimbokro**	**25.07**	**18**	LR			LR	07 22 60.0	
RCBR	comp=Z,278nm,20.1s,baz=170,slow=31 **Riachuelo**	**25.62**	**294**	LR			LR	07 22 34.3	
TSUM	comp=Z,177nm,21.0s,baz=139,slow=30 **Tsumeb**	**28.59**	**98**	LR			LR	07 25 28.1	
KOWA	comp=Z,133nm,19.1s,baz=328,slow=32 **Kowa**	**32.77**	**15**	P			**P**	**07 16 32.1**	**-1.4**
TORD	2.7nm,0.8s,baz=196,slow=10,SNR=4.1 **Torodi Ar. Bea**	**33.42**	**26**	P			**P**	**07 16 38.0**	**-1.1**
TORD	13nm,0.6s,baz=204,slow=8.8,SNR=39			LR			LR	07 27 54.2	
SUR	comp=Z,316nm,21.3s,baz=195,slow=32 **Sutherland**	**33.52**	**123**	P			**P**	**07 16 39.3**	**-0.8**
BOSA	12nm,1.1s,baz=307,slow=15,SNR=3.0 **Boshof**	**36.34**	**115**	P			**P**	**07 17 03.6**	**-0.9**
BOSA	2.9nm,0.9s,baz=267,slow=9.4,SNR=3.0			LR			LR	07 29 39.3	
MATP	comp=Z,182nm,19.8s,baz=286,slow=32 **Matopo**	**38.82**	**101**	P			**P**	**07 17 24.9**	**-0.7**
LSZ	5.1nm,0.8s,baz=264,slow=9.1,SNR=9.2 **Lusaka**	**39.03**	**93**	P			**P**	**07 17 29.2**	**+1.8**
CPUP	1.7nm,0.3s,baz=251,slow=7.6,SNR=8.1 **Villa Florida**	**42.39**	**250**	LR			LR	07 32 00.1	
MBAR	comp=Z,88nm,21.3s,baz=112,slow=31 **Mbarara**	**45.66**	**73**	LR			LR	07 35 52.0	
PTGA	comp=Z,122nm,18.6s,baz=264,slow=34 **Pitinga**	**49.54**	**284**	LR			LR	07 38 47.7	
	comp=Z,163nm,18.1s,baz=130,slow=35								
MDT	**Midelt**	**50.49**	**9**	LR			LR	07 40 15.9	
	comp=Z,66nm,19.1s,baz=216,slow=36								
PLCA	**Paso Flores**	**54.77**	**232**	LR			LR	07 40 02.1	
	comp=Z,207nm,19.1s,baz=178,slow=33								
KEST	**Kesra**	**56.74**	**21**	LR			LR	07 42 35.9	
	comp=Z,142nm,21.7s,baz=263,slow=34								
ESDC	**Sonseca Array**	**57.33**	**8**	P			**P**	**07 19 46.7**	**-1.6**
	0.5nm,0.8s,baz=186,slow=5.0,SNR=4.7								
ESDC							LR	07 44 14.6	
	comp=Z,101nm,18.2s,baz=310,slow=36								
VAE	**Valguarnera**	**60.17**	**25**	LR			LR	07 44 25.9	
	comp=Z,172nm,19.9s,baz=164,slow=34								
ATD	**Arta Tunnel**	**61.75**	**66**	LR			LR	07 45 20.7	
	comp=Z,76nm,20.4s,baz=156,slow=34								
ROSC	**El Rosal**	**64.91**	**284**	LR			LR	07 48 11.0	
	comp=Z,263nm,18.1s,baz=276,slow=35								
GERES	**GERESS Array B**	**69.94**	**18**	LR			LR	07 50 39.0	
	comp=Z,99nm,21.9s,baz=240,slow=35								
BRTR	**Keskin Array B**	**71.26**	**36**	P			**P**	**07 21 20.7**	**+1.0**
	1.4nm,0.8s,baz=194,slow=8.2,SNR=6.6								
BRTR							LR	07 52 50.3	
	comp=Z,33nm,21.5s,baz=234,slow=36								
AKASG	**Malin Array Be**	**77.06**	**26**	P			**P**	**07 21 53.5**	**+0.3**
	0.5nm,0.2s,baz=224,slow=5.7,SNR=1.9								
KBZ	**Khabaz**	**79.13**	**37**	LR			LR	07 57 26.3	
	comp=Z,36nm,19.4s,baz=208,slow=36								
NOA	**NORSAR Array B**	**80.45**	**11**	P			**P**	**07 22 12.7**	**+1.0**
	0.3nm,0.7s,baz=206,slow=5.9,SNR=3.5								
NOA							LR	07 58 27.2	
	comp=Z,55nm,19.5s,baz=205,slow=36								
FINES	**FINESS Array B**	**84.37**	**18**	P			**P**	**07 22 31.5**	**-0.5**
	2.0nm,0.9s,baz=194,slow=5.3,SNR=6.6								
FINES							LR	08 00 22.8	
	comp=Z,85nm,19.1s,baz=216,slow=36								
VNDA	**Vanda**	**85.22**	**179**	LR			LR	07 55 53.8	
	comp=Z,106nm,18.8s,baz=160,slow=32								
SCHQ	**Schefferville**	**85.44**	**332**	P			**P**	**07 22 38.1**	**+0.5**
	2.0nm,0.8s,baz=52,slow=12,SNR=2.1								
GEYT	**Alibeck**	**86.05**	**48**	LR			LR	07 59 34.4	
	comp=Z,81nm,19.7s,baz=190,slow=35								
ARCES	**ARCESS Array B**	**90.78**	**13**	LR			LR	08 04 49.7	
	comp=Z,45nm,19.3s,baz=230,slow=36								
ULM	**Lac du Bonnet**	**99.05**	**326**	LR			LR	07 59 48.3	
	comp=Z,30nm,20.1s,baz=109,slow=30								

*IDC **21** 07:20:10.1±6.4, 0.˚05N×101.˚00E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/46, mbtmp3.6/4, Error ellipse: s-maj=340.7km s-min=24.5km az=54.0*
*DJA **21** 07:20:15.3±0.5, 1.˚5S×10.˚0E±.˚, h75km±8km, M3.3/7, MLv3.3/7*
ISC 21 07:20:15.0±1.0, **0.˚60S**±0.˚06×**99.˚84E**±0.˚06, **h50**km, **n12**, σ2**§50**/14, **mb3.7**/6, **1C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.70**	**116**	P			**Pn**	**07 20 31.8**	**+3.1**
PDSI				S			**Sn**	**07 20 41.6**	**+2.9**
SISI	**Saibi**	**1.03**	**226**	P			**Pn**	**07 20 34.5**	**+1.3**
SISI				S			**Sn**	**07 20 48.8**	**+2.2**
MNSI	**Mandailing Nat**	**1.41**	**350**	P			**Pn**	**07 20 42.0**	**+3.7**
BKNI	**Bangkinang**	**1.52**	**53**	P			**Pn**	**07 20 41.0**	**+1.3**
GSI	**Gunungsitoli**	**2.95**	**310**	P			**Pn**	**07 21 01.7**	**+2.4**
PSI	**Prapat**	**3.50**	**345**	P			**Pn**	**07 21 07.5**	**+0.4**
WRA	**Warramunga Arr**	**38.85**	**122**	P			**P**	**07 27 32.1**	**-3.6**
	0.6nm,0.9s,baz=302,slow=8.9,SNR=4.7								
ASAR	**Alice Springs**	**40.21**	**127**	P			**P**	**07 27 44.2**	**-2.8**
	0.2nm,0.4s,baz=301,slow=8.0,SNR=1.4								
MK31	**Makanchi Array**	**49.65**	**344**	Pn			**P**	**07 29 00.9**	**-0.7**
	0.2nm,0.3s,baz=157,slow=9.0,SNR=9.5								
MK31				Lg			Lg	07 29 33.2	
	1.2nm,0.6s,baz=166,slow=27,SNR=3.7								
MKAR	**Makanchi Array**	**49.65**	**344**	P			**P**	**07 29 01.2**	**-0.4**
	0.5nm,0.3s,baz=163,slow=8.8,SNR=11								
MAKZ	**Makanchi**	**49.75**	**344**	⇑Pn			**P**	**07 29 01.2**	**-1.1**
	1.2nm,1.1s								
MAKZ				⇓Lg			Lg	07 29 32.8	
	0.6nm,0.7s								
ZALV	**Zalesovo Beam**	**55.77**	**349**	P			**P**	**07 29 45.8**	**-0.9**
	0.6nm,0.3s,baz=162,slow=6.0,SNR=3.6								

*INET **21** 07:27:28.4, 10.˚18N×83.˚05W, h20km, MW4.5*
*IDC **21** 07:27:30.9±0.6, 10.˚20N×83.˚07W, h0km, mb4.2/21, mb1 4.4/26, mb1mx4.3/42, mbtmp4.3/26, ML3.9/5, MS3.6/14, Ms1 3.6/14, ms1mx3.4/33, Error ellipse: s-maj=19.6km s-min=12.2km az=26.0*
*UPA **21** 07:27:33.9±1.9, 10.˚09N×83.˚09W, h15km±12km, MW5.0*
*NEIC **21** 07:27:34.5±1.5, 10.˚07N±0.˚04×83.˚12W±0.˚04, h18km±3km, mb4.6/239, Mwr4.5/45, Md4.9(UCR), Error ellipse: s-maj=5.7km s-min=4.7km az=52.0*
*NEIC **21** 07:27:34.7, 10.˚05N×83.˚11W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.68; $M_{\theta\theta}$-3.43; $M_{\phi\phi}$-2.25; $M_{r\theta}$-1.58; $M_{\theta\phi}$2.50; $M_{r\phi}$3.10; Fault plane solution: $M_0$6.55000×10^{15} NP1:ϕ_s118.00000°, δ31.03000°, λ70.52000°. NP2:ϕ_s320.43000°, δ60.92000°, λ101.35000°. Principal axes: T 6.7999, Plg72.0000°, Azm257.0000°; N -0.5249, Plg10.0000°, Azm135.0000°; P -6.2750, Plg15.0000°, Azm42.0000°;*
ISC 21 07:27:34.6±0.9, **10.˚13N**±0.˚03×**83.˚04W**±0.˚03, **h21**km±3km, **n396**, σ1**§23**/406, **mb4.6**/141, **MS3.5**/10, **4C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATAN	**Batan**	**0.33**	**264**	⇓*iP*			**Pb**	**07 27 40.5**	**-1.2**
BATAN				*eS*			**Sb**	**07 27 44.3**	**-2.3**
BATAN	**Batan**	**0.33**	**264**				**Pb**	**07 27 40.5**	**-1.2**
RIMA	**Rio Macho**	**0.89**	**246**				**Pb**	**07 27 48.9**	**-2.5**
RIMA					Sg		**Sb**	**07 27 59.9**	**-3.0**
DRK0	**Durika**	**0.89**	**193**	⇓*iP*			**Pb**	**07 27 49.0**	**-2.4**
DRK0				*eS*			**Sb**	**07 28 01.4**	**-1.6**
CNI2	**El Empalme, Bo**	**0.90**	**141**	⇑*iP*			**Pb**	**07 27 50.1**	**-1.5**
CNI2				*eS*			**Sb**	**07 27 60.0**	**-3.2**
SRBA	**San Rafael, Bu**	**0.95**	**199**				**Pb**	**07 27 50.0**	**-2.4**
SRBA					Sg		**Sb**	**07 28 01.6**	**-3.0**
PEZE	**Perez Zeledon,**	**0.97**	**220**				**Pb**	**07 27 50.1**	**-2.8**
PEZE					Sg		**Sb**	**07 28 02.1**	**-3.2**
HDC	**Heredia**	**1.06**	**263**	⇑*iP*			**Pb**	**07 27 52.1**	**-2.3**
HDC				*eS*			**Sb**	**07 28 05.8**	**-2.2**
HDC	**Heredia**	**1.06**	**263**				**Pb**	**07 27 52.3**	**-2.1**
HDC							**Sb**	**07 28 06.2**	**-1.8**
BRU2	**Volcan**	**1.38**	**165**	⇓*iP*			**Pn**	**07 27 57.4**	**-1.4**
BRU2				*eS*			**Sn**	**07 28 14.6**	**-1.9**
COVE	**Coope Vega, Sa**	**1.46**	**294**				**Pn**	**07 27 58.0**	**-1.7**
CHGR2	**Aguacate**	**1.48**	**143**	*eP*			**Pn**	**07 27 59.2**	**-0.9**
CHGR2				*eS*			**Sn**	**07 28 15.1**	**-3.8**
BCO2	**Palmira**	**1.50**	**160**	*eP*			**Pn**	**07 28 00.3**	**-0.1**
BCO2				*eS*			**Sn**	**07 28 18.5**	**-0.9**
RIOS	**Rincon, Osa**	**1.50**	**198**				**Pn**	**07 27 58.6**	**-1.7**
RIOS					Sn		**Sn**	**07 28 17.3**	**-2.0**
CDITO	**Canoas**	**1.56**	**174**	⇓*iP*			**Pn**	**07 28 00.4**	**-0.7**
CDITO				*eS*			**Sn**	**07 28 20.0**	**-0.8**
CDITO	**Canoas**	**1.56**	**174**				**Pn**	**07 28 00.5**	**-0.7**
JACO	**JACO, Garabito**	**1.66**	**254**				**Pn**	**07 28 01.2**	**-1.3**
PIRO	**Carate, Puerto**	**1.74**	**190**	⇓*iP*			**Pn**	**07 28 02.8**	**-0.9**
PIRO				*eS*			**Sb**	**07 28 27.4**	**0.0**
DVD	**David**	**1.79**	**161**	⇑*eP*			**Pn**	**07 28 03.9**	**-0.4**
DVD				*eS*			**Sn**	**07 28 26.7**	**+0.4**
JTS	**Las Juntas de**	**1.89**	**275**	Pn			**Pn**	**07 28 04.8**	**-1.0**
JTS	413nm,0.3s,baz=139,slow=13,SNR=786				Sn		**Sn**	**07 28 29.8**	**+0.9**
JTS	906nm,0.3s,baz=23,slow=19,SNR=38				LR		LR	07 28 35.1	
JTS	comp=Z,638nm,20.6s,baz=174,slow=34 **Las Juntas de**	**1.89**	**275**	⇑*iP*			**Pn**	**07 28 04.7**	**-1.0**
JTS				*eS*			**Sn**	**07 28 29.7**	**+0.8**
JTS	**Las Juntas de**	**1.89**	**275**	Pn			**Pn**	**07 28 04.6**	**-1.0**
CAO2	**Cobano, Puntar**	**2.08**	**258**				**Pn**	**07 28 07.8**	**-0.6**
ORTG	**Ortega, Santa**	**2.39**	**276**	Pn			**Pn**	**07 28 13.6**	**+1.0**
ESPN	**Las Esperanzas**	**2.39**	**329**				**Pn**	**07 28 13.8**	**+1.2**
DUNO	**Dulce Nombre,**	**2.41**	**269**				**Pn**	**07 28 13.1**	**+0.1**
HZTE	**Horizontes, Gu**	**2.58**	**283**				**Pn**	**07 28 14.2**	**-1.0**
ACON	**Acoyapa**	**2.77**	**311**				**Pn**	**07 28 16.8**	**-1.1**
BCIP	**Isla Barro Col**	**3.30**	**107**	Pn			**Pn**	**07 28 24.6**	**-0.6**
BCIP	**Isla Barro Col**	**3.30**	**107**	*eP*			**Pn**	**07 28 23.6**	**-1.6**
BOAB	**BOACO BROADBAN**	**3.45**	**312**				**Pn**	**07 28 25.7**	**-1.5**
MASN	**Masaya**	**3.56**	**301**	Pn			**Pn**	**07 28 27.8**	**-1.0**
AZU	**Azuero**	**3.59**	**130**	*eP*			**Pn**	**07 28 28.0**	**-1.1**
PRVC	**Isla de Provid**	**3.62**	**27**	Pn			**Pn**	**07 28 29.5**	**0.0**
PRVC	**Isla de Provid**	**3.62**	**27**	*eP*			**Pn**	**07 28 29.6**	**+0.1**
PRVC	**Isla de Provid**	**3.62**	**27**	*eP*			**Pn**	**07 28 27.9**	**-1.6**
UPA	**Univ. de Panam**	**3.65**	**108**	*eP*			**Pn**	**07 28 29.3**	**-0.5**
MATN	**Matagalpa**	**3.96**	**315**				**Pn**	**07 28 34.0**	**-0.3**
CNGN	**Cerro Negro**	**4.29**	**304**				**Pn**	**07 28 38.3**	**-0.5**
CRIN	**San Cristobal**	**4.68**	**303**	Pn			**Pn**	**07 28 43.9**	**-0.4**
TGUH	**Tegucigalpa,Un**	**5.68**	**314**	Pn			**Pn**	**07 28 57.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**5.68**	**314**	*eP*			**Pn**	**07 28 57.3**	**-0.8**
LCBC	**Los crdobas,**	**6.71**	**100**	*eP*			**Pn**	**07 29 12.4**	**+0.4**
MOTC	**Monteria, Cord**	**7.40**	**100**	*eP*			**Pn**	**07 29 22.3**	**+0.7**
DBBC	**Dabeiba**	**7.43**	**114**	*eP*			**Pn**	**07 29 22.3**	**+0.2**
MTO3	**Montecristo**	**7.49**	**305**				**Pn**	**07 29 22.6**	**-0.3**
ESQI	**Esquipulas**	**7.56**	**306**				**Pn**	**07 29 24.1**	**+0.2**
SJCC	**San Jacinto, C**	**7.75**	**91**				**Pn**	**07 29 26.9**	**+0.6**
SJCC	**San Jacinto, C**	**7.75**	**91**	*eP*			**Pn**	**07 29 23.9**	**-2.5**
UREC	**San Jos de Ur**	**7.79**	**107**	*eP*			**Pn**	**07 29 26.4**	**-0.5**
CBOC	**Ciudad Bolivar**	**8.15**	**121**	*eP*			**Pn**	**07 29 33.0**	**+0.9**
HELC	**Santa Helena**	**8.41**	**117**	*eP*			**Pn**	**07 29 38.3**	**-1.9**
ZARC	**Zaragoza, Cauc**	**8.50**	**107**	*eP*			**Pn**	**07 29 37.1**	**+0.4**
ARGC	**Ariguani, Magd**	**8.67**	**91**	*eP*			**Pn**	**07 29 38.7**	**-0.2**
APG	**El Apazote**	**8.71**	**305**	Pn			**Pn**	**07 29 40.4**	**+0.7**
	0.1nm,0.3s,baz=122,slow=14,SNR=6.9								
APG					Lg		Lg	07 32 02.5	
	0.4nm,0.3s,baz=197,slow=23,SNR=4.6								
APG					LR		LR	07 33 08.7	
	comp=Z,312nm,19.6s,baz=98,slow=39								
SMRC	**Santa Marta, M**	**8.73**	**82**	*eP*			**Pn**	**07 29 36.2**	**-3.5**
SMLC	**San Martn de**	**8.95**	**98**	*eP*			**Pn**	**07 29 41.2**	**-1.6**
YOYC	**Yotoco, Valle**	**9.03**	**132**	*eP*			**Pn**	**07 29 47.8**	**+3.8**
GUY2C	**Guyana, Caldas**	**9.04**	**122**	*eP*			**Pn**	**07 29 43.6**	**-0.8**
NORC	**Norcasia**	**9.28**	**119**	*eP*			**Pn**	**07 29 48.6**	**+1.2**
FSCY	**Frank Sound, G**	**9.30**	**11**	Pn			**Pn**	**07 29 47.6**	**0.0**
LL1C	**La Loma 1 Cana**	**9.37**	**93**	*eP*			**Pn**	**07 29 49.3**	**+0.7**
TOLC	**Tolima**	**9.44**	**125**	*eP*			**Pn**	**07 29 48.8**	**-1.0**
LL2C	**La Loma 2 Cana**	**9.48**	**93**	*eP*			**Pn**	**07 29 47.6**	**-2.5**
MTDJ	**Mount Denham**	**9.65**	**33**	Pn			**Pn**	**07 29 54.0**	**+1.5**
BRRC	**Barranca, Sant**	**9.70**	**107**	*eP*			**Pn**	**07 29 53.5**	**+0.4**
HUEH	**Huehuetenango**	**9.73**	**303**	Pn			**Pn**	**07 29 53.1**	**-0.6**
OCAC	**Ocana**	**9.78**	**100**	*eP*			**Pn**	**07 29 54.4**	**0.0**
POPC	**Popayan, Colom**	**9.84**	**140**	*eP*			**Pn**	**07 29 51.1**	**-4.2**
ORTC	**Ortega, Tolima**	**9.90**	**128**	*eP*			**Pn**	**07 29 57.6**	**+1.7**
HOJ	**Hope**	**9.92**	**37**	*i P*			**Pn**	**07 29 57.0**	**+0.9**
STH	**Stony Hill**	**9.94**	**37**	*i P*			**Pn**	**07 29 57.1**	**+0.7**
CBCY	**The Bluff, Cay**	**10.06**	**18**	Pn			**Pn**	**07 29 58.2**	**+0.2**
ROSC	**El Rosal**	**10.12**	**121**	Pn			**Pn**	**07 29 59.6**	**+0.4**
	2.5nm,0.3s,baz=96,slow=19,SNR=3.7								
ROSC					LR		LR	07 34 07.9	
	comp=Z,371nm,18.2s,baz=3.5,slow=39								
SOTA	**Rioblanco**	**10.20**	**141**	*eP*			**Pn**	**07 30 02.1**	**+1.7**
PRAC	**Prado**	**10.30**	**128**	*eP*			**Pn**	**07 30 00.1**	**-1.3**
GCUF	**Volcan Galeras**	**10.51**	**147**	*eP*			**Pn**	**07 30 06.9**	**+2.3**
RUSC	**La Rusia**	**10.72**	**112**	Pn			**Pn**	**07 30 08.5**	**+0.9**
RUSC	**La Rusia**	**10.72**	**112**	*eP*			**Pn**	**07 30 08.3**	**+0.8**
CHIC	**Chingaza**	**10.73**	**120**	*eP*			Pn	07 30 12.4	+4.9
OTAV	**Otavalo**	**10.84**	**155**	*eP*			Pn	07 30 19.1	+10
VILC	**Villavicencio,**	**11.04**	**122**	*eP*			**Pn**	**07 30 11.6**	**+0.1**
MACC	**Macarena, Meta**	**12.10**	**130**	*eP*			**Pn**	**07 30 25.6**	**-0.4**
SOCV	**Socops**	**12.17**	**98**	*eP*			**Pn**	**07 30 26.4**	**-0.6**
SDV	**Santo Domingo**	**12.30**	**95**	Pn			**Pn**	**07 30 29.5**	**+0.6**
	11nm,0.3s,baz=329,slow=8.3,SNR=3.2								
SDV					Sn		**Sn**	**07 32 42.0**	**-3.7**
	13nm,0.3s,baz=36,slow=22,SNR=9.0								
SDV					LR		LR	07 36 47.0	
	comp=Z,198nm,18.0s,baz=238,slow=45								
GTBY	**Guantanamo Bay**	**12.38**	**37**	Pn			**Pn**	**07 30 30.9**	**+1.1**
GTBY	**Guantanamo Bay**	**12.38**	**37**	*eP*			**Pn**	**07 30 29.6**	**-0.2**
SOR	**Soroa**	**12.59**	**0**				**Pn**	**07 30 35.4**	**+2.8**
**CMIG

V53A	Saluda	25.42	0	P		P	07 33 02.4	+1.4		
Z38A	Mt. Pleasant	25.51	336	P		P	07 33 01.4	-0.3		
WHTX	Lake Whitney,	25.52	331	P		P	07 33 01.9	+0.1		
WHTX	Lake Whitney, baz=146	25.52	331	P			07 33 01.9			
W45A	Hickory Valley	25.53	348	P		P	07 33 02.3	+0.4		
JCT	Junction City	25.56	325	P		P	07 33 01.9	-0.4		
JCT	Junction City baz=139,SNR=29	25.56	325	P			07 33 02.2			
V51A	Loudon	25.58	358	P		P	07 33 03.9	+1.5		
V48A	Smith Brothers	25.72	353	P		P	07 33 04.4	+0.8		
V48A	comp=Z,9.1nm,0.8s			IAmb		IAmb	07 33 16.8			
V58A	Windy Hill, Pi	25.79	7	P		P	07 33 05.5	+1.2		
V58A	comp=Z,18nm,0.8s			IAmb		IAmb	07 33 13.1			
X40A	Basin Creek Fa	25.84	341	P		P	07 33 04.7	0.0		
CLTN	Cedars of Leba	26.01	354	P		P	07 33 06.4	+0.1		
MIAR	Mount Ida	26.14	340	P		P	07 33 07.6	+0.2		
MIAR	comp=Z,11nm,1.1s			IAmb		IAmb	07 33 08.7			
MIAR	Mount Ida baz=156,SNR=7.8	26.14	340	P			07 33 07.8			
WVT	Waverly baz=170	26.24	351	P			07 33 08.9			
W41B	Gary Mavity, V baz=160,SNR=11	26.30	343	P			07 33 09.5			
U49A	Red Boiling Sp	26.38	355	P		P	07 33 10.5	+1.0		
WHAR	Wooly Hollow	26.42	343	P		P	07 33 10.5	+0.5		
WHAR	comp=Z,19nm,0.8s			IAmb		IAmb	07 33 11.3			
Z35A	Perchaven, San	26.53	333	P		P	07 33 10.8	-0.2		
W39A	Magazine	26.80	340	P		P	07 33 13.9	+0.5		
W39A	comp=Z,15nm,0.9s			IAmb		IAmb	07 33 15.2			
W39A	Magazine baz=156,SNR=8.0	26.80	340	P			07 33 14.3			
T50A	Nancy	26.82	357	P		P	07 33 14.2	+0.7		
X37A	Clayton	26.83	337	P		P	07 33 13.5	-0.1		
X37A	comp=Z,16nm,1.1s			IAmb		IAmb	07 33 18.6			
LCAR	Lake Charles	26.85	345	P		P	07 33 14.1	+0.3		
LCAR	comp=Z,17nm,0.8s			IAmb		IAmb	07 33 15.8			
FCAR	Ozark Folk Cen	26.94	344	P		P	07 33 13.6	-1.0		
FCAR	comp=Z,13nm,0.9s			IAmb		IAmb	07 33 16.2			
T47A	Sharon Grove	26.99	353	P		P	07 33 15.6	+0.5		
LOOK	Love County	27.06	334	P		P	07 33 15.5	-0.2		
PARMO	Parma	27.10	348	P		P	07 33 16.0	-0.1		
HPIG		27.11	311	P		P	07 33 16.0	-0.5		
ABTX	Abilene, Hawle baz=142	27.12	328	P			07 33 16.3			
ABTX	Abilene, Hawle	27.12	328	P		P	07 33 16.0	-0.3		
ABTX	comp=Z,20nm,1.4s			IAmb		IAmb	07 33 22.3			
TXAR	Lajitas Array	27.15	318	P		P	07 33 15.4	-1.3		
TXAR	comp=Z,0.9nm,0.8s,baz=131,slow=8.8,SNR=11			PcP		PcP	07 36 37.1	-0.1		
TXAR	comp=Z,0.4nm,0.7s,baz=116,slow=6.1,SNR=2.9			LR		LR	07 47 33.7			
TXAR	comp=Z,52nm,18.1s,baz=0.0,slow=44	27.15	318	P		P	07 33 16.2	-0.5		
TX31	Lajitas Ar. Si	27.15	318	P		P	07 33 16.1	-0.6		
TX32	Lajitas Array	27.15	318	P		P	07 33 16.1	-0.6		
S51A	Beattyville	27.39	359	P		P	07 33 20.2	+1.5		
S51A	comp=Z,7.1nm,0.7s			IAmb		IAmb	07 33 27.5			
U40A	Yellville	27.58	343	P		P	07 33 21.4	+1.0		
U40A	comp=Z,11nm,0.8s			IAmb		IAmb	07 33 22.7			
X34A	Smith Ranch, M	27.86	333	P		P	07 33 23.4	+0.5		
SIUC	Southern Illin	28.02	350	P		P	07 33 24.3	+0.1		
R49A	Shelbyville	28.10	356	P		P	07 33 26.0	+1.0		
WCI	Wyandotte Cave baz=173	28.13	355	P			07 33 26.5			
WCI	Wyandotte Cave	28.13	355	P		P	07 33 25.5	+0.3		
WCI	comp=Z,9.9nm,0.9s			IAmb		IAmb	07 33 33.5			
TUL1	Leonard baz=153	28.16	338	P			07 33 25.6			
MGMO	Mountain Grove	28.16	344	P		P	07 33 25.9	+0.2		
MGMO	comp=Z,17nm,0.9s			IAmb		IAmb	07 33 27.1			
WMOK	Wichita Mounta baz=146,SNR=6.0	28.40	332	P			07 33 27.0			
WMOK	Wichita Mounta	28.40	332	P		P	07 33 26.4	-1.4		
WMOK	comp=Z,14nm,1.4s			IAmb		IAmb	07 33 28.1			
OK031	S. Brethren Rd	28.60	336	P		P	07 33 29.1	-0.4		
OK031	comp=Z,14nm,1.1s			IAmb		IAmb	07 33 29.7			
Q52A	Bidwell	28.71	1	P		P	07 33 31.4	+0.9		
CCM	Cathedral Cave	28.76	346	P		P	07 33 30.7	-0.2		
CCM	comp=Z,17nm,1.3s			IAmb		IAmb	07 33 32.0			
Q51A	Peebles	28.77	360	P		P	07 33 32.3	+1.3		
S39A	Bolivar	28.96	343	P		P	07 33 32.5	-0.2		
S39A	comp=Z,13nm,1.1s			IAmb		IAmb	07 33 33.6			
R40A	Maddies Statio	29.23	345	P		P	07 33 35.4	+0.3		
P53A	Whipple	29.27	3	P		P	07 33 36.7	+1.3		
P48A	Milroy	29.28	356	P		P	07 33 35.7	+0.1		
P48A	comp=Z,11nm,0.7s			IAmb		IAmb	07 33 43.3			
LPIG	La Paz	29.45	302	LR		LR	07 44 53.0			
MNTX	comp=Z,124nm,19.8s,baz=162,slow=36 Cornudas Mount	29.81	319	P		P	07 33 40.4	0.0		
MNTX	Cornudas Mount baz=132,SNR=5.6	29.81	319	P			07 33 40.4			
MSTX	Muleshoe	29.84	326	P		P	07 33 39.5	-1.2		
O53A	New Philadelph	30.04	3	P		P	07 33 43.3	+1.1		
O53A	comp=Z,12nm,0.8s			IAmb		IAmb	07 33 50.6			
O53A	New Philadelph baz=184	30.04	3	P			07 33 43.9			
LPAZ	La Paz	30.12	150	LR		LR	07 46 30.2			
LPAZ	comp=Z,72nm,20.5s,baz=23,slow=38 La Paz	30.12	150	eP		P	07 33 46.3	+2.5		
P40A	Paris	30.36	346	P		P	07 33 45.3	+0.2		
P40A	comp=Z,13nm,1.2s			IAmb		IAmb	07 33 45.4			
SSPA	Standing Stone baz=190	30.72	8	P			07 33 50.9			
ITTB	Itaituba	30.78	117	eP		P	07 33 54.3	+5.2		
HDIL	Hopedale	30.80	351	P		P	07 33 47.9	-1.1		
HDIL	comp=Z,6.8nm,0.7s			IAmb		IAmb	07 33 56.4			
P38A	Dawn	30.82	344	P		P	07 33 49.6	+0.5		
MALB	Monte Alegre	31.03	111	eP		P	07 33 55.3	+4.1		
N41A	Harden Midland	31.23	349	P		P	07 33 52.4	-0.3		
N41A	comp=Z,11nm,1.1s			IAmb		IAmb	07 33 54.4			
R32A	Long Quarter,	31.48	336	P		P	07 33 54.8	-0.2		
R32A	comp=Z,13nm,1.1s			IAmb		IAmb	07 33 57.3			
N38A	Joes South For	31.84	345	P		P	07 33 58.5	+0.4		
BNM	Barren Site	32.22	322	P		P	07 34 02.0	+0.2		
CBKS	Cedar Bluff	32.23	335	P		P	07 34 01.5	-0.1		
CBKS	comp=Z,6.0nm,0.7s			IAmb		IAmb	07 34 03.0			
L42A	Oliver, Polo	32.27	351	P		P	07 34 01.2	-0.6		
N35A	Tabor	32.57	342	P		P	07 34 03.9	-0.7		
L40A	Anamosa	32.61	349	P		P	07 34 04.3	-0.5		
L40A	comp=Z,9.7nm,0.8s			IAmb		IAmb	07 34 12.0			
ANMO	Albuquerque	32.66	323	P		P	07 34 05.6	0.0		
ANMO	comp=Z,6.2nm,1.0s			IAmb		IAmb	07 34 07.4			
ANMO	Albuquerque baz=134	32.66	323	P			07 34 06.4			
SCIA	State Center	32.89	346	P		P	07 34 07.5	+0.2		
SCIA	comp=Z,10nm,1.0s			IAmb		IAmb	07 34 08.2			
N33A	J Bar K, Exete	33.04	340	P		P	07 34 08.6	0.0		
T25A	Trinidad	33.09	328	P		P	07 34 09.9	+0.5		
T25A	comp=Z,9.3nm,1.1s			IAmb		IAmb	07 34 11.1			
T25A	Trinidad baz=139,SNR=5.3	33.09	328	P			07 34 10.0			
K38A	Parkersburg	33.49	347	P		P	07 34 12.2	-0.3		
K38A	comp=Z,13nm,1.1s			IAmb		IAmb	07 34 13.1			
KSCO	Kaye Shedlock'	33.66	332	P		P	07 34 14.5	+0.3		
KSCO	comp=Z,9.5nm,0.8s			IAmb		IAmb	07 34 16.4			
J58A	Remsen	33.78	10	P		P	07 34 15.3	+0.2		
J58A	Remsen baz=194	33.78	10	P			07 34 16.6			
L34A	Svendsen Farm,	33.80	342	P		P	07 34 15.1	-0.2		
L34A	comp=Z,8.7nm,0.7s			IAmb		IAmb	07 34 32.7			
BGNE	Belgrade	33.88	339	P		P	07 34 15.5	-0.4		
I42A	Draeger Farm,	34.02	352	P		P	07 34 16.5	-0.6		
I42A	comp=Z,7.3nm,1.0s			IAmb		IAmb	07 34 24.3			
SDCO	Great Sand Dun	34.12	327	P		P	07 34 18.7	+0.3		
SDCO	comp=Z,7.1nm,0.9s			IAmb		IAmb	07 34 20.0			
SDCO	Great Sand Dun baz=138,SNR=18	34.12	327	P			07 34 19.0			
I57A	Carthage baz=193	34.28	9	P			07 34 21.3			
H43A	Windswept, Lux	34.45	354	P		P	07 34 20.4	-0.4		
H43A	comp=Z,6.0nm,0.8s			IAmb		IAmb	07 34 21.2			
I59A	Olmsteadville baz=196	34.47	12	P			07 34 23.6			
W18A	Petrified Fore	34.79	320	P		P	07 34 24.9	+0.8		
W18A	Petrified Fore baz=130	34.79	320	P			07 34 25.9			
H57A	Richville baz=193	34.84	10	P			07 34 26.2			
S22A	4UR Ranch, Cre baz=136,SNR=9.9	34.84	326	P			07 34 25.5			
Q24A	Divide baz=140	34.85	329	P			07 34 25.1			
OGNE	Ogallala	34.98	335	P		P	07 34 25.4	-0.2		
PLVO	Plevna	35.16	7	P		P	07 34 27.7	+0.8		
PLVO	comp=Z,12nm,0.9s			IAmb		IAmb	07 34 35.4			
K31A	O'Neill	35.16	340	P		P	07 34 26.7	-0.4		
LVC	Limon Verde	35.37	157	eP		P	07 34 32.0	+2.6		
MVCO	Mesa Verde baz=133,SNR=10	35.41	324	P			07 34 29.9			
MVCO	Mesa Verde	35.41	324	P		P	07 34 29.5	0.0		
H60A	Morristown baz=198	35.45	13	P			07 34 33.6			
X16A	Lo Mia Camp, P	35.47	317	P		P	07 34 30.1	0.0		
ECSD	EROS Data Cent baz=157	35.49	343	P			07 34 29.3			
ECSD	EROS Data Cent	35.49	343	P		P	07 34 29.1	-0.8		
ECSD	comp=Z,7.1nm,1.1s			IAmb		IAmb	07 34 30.1			
ISCO	Idaho Springs	35.72	330	P		P	07 34 32.5	+0.3		
ISCO	comp=Z,5.1nm,0.8s			IAmb		IAmb	07 34 33.2			
ISCO	Idaho Springs baz=140,SNR=6.4	35.72	330	P			07 34 32.8			
ALGO	Algonquin Park baz=188	35.95	6	P			07 34 34.3			
SMCO	Snowmass	35.95	328	P		P	07 34 34.4	0.0		
SMCO	comp=Z,7.0nm,1.1s			IAmb		IAmb	07 34 35.9			
SPMN	Marine on St.	35.96	348	P		P	07 34 33.2	-0.6		
SPMN	comp=Z,14nm,1.3s			IAmb		IAmb	07 34 33.7			
SPMN	Marine on St. baz=164	35.96	348	P			07 34 33.0			
PV01	Paradox Valley	36.09	325	P		P	07 34 35.3	0.0		
WUAZ	Wupatki baz=128,SNR=7.2	36.09	319	P			07 34 36.8			
WUAZ	Wupatki	36.09	319	P		P	07 34 35.8	+0.5		
WUAZ	comp=Z,12nm,0.9s			IAmb		IAmb	07 34 37.6			
PV15	Paradox Valley	36.18	325	P		P	07 34 36.4	+0.3		
PV15	comp=Z,14nm,1.1s			IAmb		IAmb	07 34 37.8			
PV02	Paradox Valley	36.23	325	P		P	07 34 36.7	+0.1		
PV02	comp=Z,18nm,1.2s			IAmb		IAmb	07 34 38.1			
PV13	Radium Mtn., P	36.24	325	P		P	07 34 36.8	+0.1		
PV13	comp=Z,14nm,1.2s			IAmb		IAmb	07 34 38.6			
PV03	Paradox Valley	36.33	325	P		P	07 34 37.5	+0.2		
PV03	comp=Z,12nm,1.0s			IAmb		IAmb	07 34 38.6			
PV07	Paradox Valley	36.34	325	P		P	07 34 37.5	+0.1		
PV07	comp=Z,14nm,1.0s			IAmb		IAmb	07 34 38.9			
PV12	Saucer Basin,	36.34	325	P		P	07 34 37.8	+0.3		
PV05	Paradox Valley	36.35	324	P		P	07 34 37.2	-0.4		
PV05	comp=Z,11nm,0.9s			IAmb		IAmb	07 34 38.4			
PV18	Skein Mesa, Pa	36.36	325	P		P	07 34 37.6	0.0		
PV11	David Mesa, Pa	36.37	325	P		P	07 34 37.8	+0.1		
PV16	Nyswonger Mesa	36.41	325	P		P	07 34 38.0	0.0		
PV16	comp=Z,14nm,1.1s			IAmb		IAmb	07 34 39.2			
PV17	East Wray Mesa	36.41	325	P		P	07 34 37.8	-0.2		
PV19	Morning Glory	36.44	325	P		P	07 34 37.8	-0.5		
PV19	comp=Z,9.8nm,1.0s			IAmb		IAmb	07 34 39.4			
PV04	Paradox Valley	36.45	325	P		P	07 34 38.3	-0.1		
PV04	comp=Z,15nm,1.1s			IAmb		IAmb	07 34 39.8			
PV20	West Nyswonger	36.45	325	P		P	07 34 38.3	-0.1		
PV20	comp=Z,11nm,1.0s			IAmb		IAmb	07 34 39.5			
PV22	Blue Mesa, Par	36.49	325	P		P	07 34 38.9	+0.2		
PV22	comp=Z,11nm,1.0s			IAmb		IAmb	07 34 40.0			
TRQ	Mont Tremblant	36.69	10	P		P	07 34 40.8	+0.7		
F36A	Milaca	36.72	348	P		P	07 34 39.0	-1.3		
N23A	Red Feather La baz=140,SNR=5.2	36.72	330	P			07 34 41.5			
PHWY	Pilot Hill	36.80	331	P		P	07 34 41.4	-0.1		
SUSD	Miller baz=154	36.85	341	P			07 34 40.5			
SUSD	Miller	36.85	341	P		P	07 34 40.4	-1.1		
TMAB	Tom-Au,PA,Br	36.95	108	eP		P	07 34 46.8	+4.2		
D55A	Sainte-Anne-du baz=192,SNR=11	37.32	9	P			07 34 46.6			
O20A	White River Ci baz=137,SNR=7.9	37.32	327	P			07 34 46.4			
F33A	5 Mile Ranch,	37.35	345	P		P	07 34 44.4	-1.2		
F33A	comp=Z,5.4nm,0.6s			IAmb		IAmb	07 34 47.4			
D56A	ZEC Mazanza, M baz=194	37.46	9	P			07 34 47.6			
D58A	Chemin du LacG baz=196	37.83	11	P			07 34 53.3			
PKCU	Pink Cliffs	37.87	321	P		P	07 34 51.6	+1.1		
SRU	San Rafael Swe	37.87	324	P		P	07 34 50.2	-0.2		
SRU	comp=Z,13nm,1.0s			IAmb		IAmb	07 34 51.4			
RWWY	Rawlins	37.94	330	P		P	07 34 50.4	-0.7		
RWWY	comp=Z,15nm,0.9s			IAmb		IAmb	07 34 51.8			
Q16A	Castle Valley	38.12	323	P		P	07 34 52.6	0.0		
LATQ	La Tuque baz=197	38.13	11	P			07 34 54.1			
E62A	Clayton Lake baz=202	38.14	15	P			07 34 55.2			
E62A	Clayton Lake	38.14	15	P		P	07 34 54.8	+2.5		
E62A	comp=Z,7.8nm,0.7s			IAmb		IAmb	07 35 01.9			
VLDQ	Val d'Or	38.15	6	P		P	07 34 53.1	+0.8		
VLDQ	comp=Z,13nm,1.3s			IAmb		IAmb	07 35 00.4			
MTPU	Mount Pierson	38.16	322	P		P	07 34 53.2	+0.1		
LCMT	Little Creek M	38.19	319	P		P	07 34 54.0	+0.8		
P17A	Butcher Ranch,	38.24	324	P		P	07 34 53.6	+0.1		
P17A	comp=Z,12nm,1.2s			IAmb		IAmb	07 34 54.5			
RDMU	Red Mountain	38.34	327	P		P	07 34 54.0	-0.5		
K22A	Casper	38.35	332	P		P	07 34 54.5	+0.1		
K22A	comp=Z,11nm,0.9s			IAmb		IAmb	07 34 55.9			
K22A	Casper baz=141,SNR=7.7	38.35	332	P			07 34 55.0			
EYMN	Ely	38.36	351	P		P	07 34 53.7	-0.5		
TMUT	Trail Mountain	38.39	324	P		P	07 34 54.9	-0.1		
RSSD	Black Hills	38.43	335	P		P	07 34 55.3	+0.1		
RSSD	comp=Z,11nm,1.2s			IAmb		IAmb	07 34 57.0			
RSSD	Black Hills baz=146	38.43	335	P			07 34 56.1			
SNDB	Serra Nova Dou	38.44	124	eP		P	07 35 00.5	+5.2		
MSU	Marysvale	38.45	322	P		P	07 34 56.1	+0.6		
TPFO	Pinon Flats baz=120	38.53	312	P			07 34 56.5			
CCUT	Cedar City	38.59	320	P		P	07 34 55.8	-0.8		
LMQ	La Malbaie	38.81	14	P		P	07 34 58.9	+0.9		
MPU	Maple Canyon	39.11	324	P		P	07 35 00.9	0.0		
LSQQ	Lebel-sur-Quev baz=190	39.13	6	P			07 35 00.9			
PP1B	Ponte de Pedra	39.16	135	eP		P	07 35 06.6	+5.3		
E28A	Huff	39.30	341	P		P	07 35 01.4	-0.8		
PSUT	Pine Spring	39.50	321	P		P	07 35 04.6	+0.5		
AGMN	Agassiz Nation baz=160	39.54	347	P			07 35 03.3			
AGMN	Agassiz Nation	39.54	347	P		P	07 35 02.9	-1.2		
PRN	Pahroc Range	39.59	319	P		P	07 35 04.2	-0.7		
CTU	Camp Tracy	39.63	325	P		P	07 35 04.7	-0.5		
MATQ	Matagami baz=188	39.76	5	P			07 35 06.0			
BW06	Boulder Array	39.91	329	P		P	07 35 06.7	-0.9		
BW06	Boulder Array baz=137,SNR=8.8	39.91	329	P			07 35 07.4			
PD31	Pinedale Array	39.91	329	P		P	07 35 06.8	-0.7		
PDAR	Pinedale Array	39.91	329	P		P	07 35 06.5	-1.1		
PDAR	comp=Z,3.2nm,0.9s,baz=138,slow=10.0,SNR=24 Pinedale Array	39.91	329	P		P	07 35 06.7	-0.8		
DUG	Dugway, Tooele baz=131	39.91	324	P			07 35 08.0			
DUG	Dugway, Tooele	39.91	324	P		P	07 35 06.5	-1.0		
MDND	Maddock	40.10	343	P		P	07 35 08.7	0.0		
TPNV	Topopah Spring baz=124,SNR=5.1	40.13	317	P			07 35 10.9			
HWUT	Hardware Ranch	40.15	326	P		P	07 35 08.7	-0.7		
HWUT	comp=Z,16nm,0.8s			IAmb		IAmb	07 35 10.2			
MPMC	Manual Prospec baz=121	40.50	315	P			07 35 13.0			
AHID	Auburn Hatcher	40.70	328	P		P	07 35 12.9	-1.1		
AHID	comp=Z,11nm,1.1s			IAmb		IAmb	07 35 14.7			
REDW	Red Top Meadow	41.00	329	P		P	07 35 15.9	-0.6		
SNOW	Snow King Moun	41.02	329	P		P	07 35 16.7	0.0		
SNOW	comp=Z,19nm,1.2s			IAmb		IAmb	07 35 17.9			
ECR	Eagle Creek	41.05	328	P		P	07 35 16.7	-0.2		
LOHW	Long Hollow	41.05	329	P		P	07 35 16.5	-0.4		
TPAW	Teton Pass	41.14	329	P		P	07 35 17.5	-0.2		
ULM	Lac du Bonnet	41.38	348	P		P	07 35 17.9	-1.4		
ULM	comp=Z,7.4nm,0.9s,baz=152,slow=7.4,SNR=10 Lac du Bonnet	41.38	348	P		P	07 35 17.7	-1.6		
ULM	comp=Z,9.0nm,0.9s			IAmb		IAmb	07 35 18.8			
TPH	Tonopah	41.39	318	P		P	07 35 20.1	+0.3		
LAO	LASA Array	41.42	336	P		P	07 35 19.8	+0.1		
LAO	comp=Z,17nm,1.2s			IAmb		IAmb	07 35 20.7			
LAO	LASA Array baz=144	41.42	336	P			07 35 19.8			
FLWY	Flagg Ranch	41.44	330	P		P	07 35 20.0	-0.1		
FLWY	comp=Z,14nm,1.1s			IAmb		IAmb	07 35 21.3			
RLMT	Red Lodge	41.52	332	P		P	07 35 20.1	-0.6		
RLMT	comp=Z,11nm,1.1s			IAmb		IAmb	07 35 21.7			
RLMT	Red Lodge baz=139,SNR=8.3	41.52	332	P			07 35 20.8			
ELK	Elko	41.69	323	P		P	07 35 22.0	-0.3		
YNE	Yellowstone No	41.78	331	P		P	07 35 22.0	-1.0		
YMR	Madison River	41.99	330	P		P	07 35 24.7	0.0		
YMR	comp=Z,8.7nm,1.0s			IAmb		IAmb	07 35 26.2			
YHH	Holmes Hill	42.02	330	P		P	07 35 25.2	+0.2		
DGMT	Dagmar baz=148,SNR=18	42.13	339	P			07 35 25.9			
DGMT	Dagmar	42.13	339	P		P	07 35 25.5	0.0		
YHB	Horse Butte	42.16	330	P		P	07 35 25.9	-0.1		
NV11	Mina Array Sit	42.20	318	P		P	07 35 26.5	+0.1		
GCMT	Greycliff	42.20	332	P		P	07 35 26.0	-0.2		
NVAR	Mina Array Bea	42.30	318	P		P	07 35 26.9	-0.4		
NVAR	comp=Z,4.1nm,0.7s,baz=131,slow=6.8,SNR=36			PcP		PcP	07 37 21.7	+0.9		
NVAR	comp=Z,0.5nm,0.8s,baz=112,slow=4.0,SNR=2.2			LR		LR	07 55 33.4			
NVAR	comp=Z,58nm,19.0s,baz=128,slow=40	42.30	318	P		P	07 35 27.4	+0.2		
LHV	Little Huntoon	42.34	317	P		P	07 35 27.3	+0.1		
QLMT	Earthquake Lak	42.34	330	P		P	07 35 28.0	+0.6		
MDPB	Devils Postpil	42.40	316	P		P	07 35 28.4	+0.2		
KVN	Kaiserville	42.50	319	P		P	07 35 28.4	-0.5		
RYN	Ryan	42.55	318	P		P	07 35 29.5	+0.2		
BCYI	Bear Canyon	42.98	328	P		P	07 35 32.7	0.0		
HLID	Hailey	43.02	326	P		P	07 35 32.5	-0.4		
HLID	Hailey baz=132,SNR=9.7	43.02	326	P			07 35 32.8			
MCMT	McKenzie Canyo	43.05	329	P		P	07 35 33.4	+0.1		
BDFB	Brasilia	43.12	126	P		P	07 35 33.5	-0.6		
DLMT	comp=Z,5.2nm,1.1s,baz=14,slow=14,SNR=3.1 Dillon	43.30	330	P		P	07 35 35.2	+0.1		
DLMT	comp=Z,8.8nm,1.1s			IAmb		IAmb	07 35 37.3			
MFID	Camas Ranch	43.70	325	P		P	07 35 37.9	-0.5		
HRY	Holter Researc	43.89	331	P		P	07 35 40.1	+0.2		
EGMT	Eagleton	43.95	334	P		P	07 35 40.5	+0.3		
EGMT	comp=Z,17nm,1.4s			IAmb		IAmb	07 35 41.5			
EGMT	Eagleton baz=141	43.95	334	P			07 35 41.1			
BEKR	Beckworth	44.41	318	P		P	07 35 44.5	+0.2		
DRLN	Deer Lake	44.43	24	P		P	07 35 45.1	+1.1		
WVOR	Wild Horse Val	44.74	322	P		P	07 35 46.2	-0.6		
MSO	Missoula baz=135	44.99	330	P			07 35 48.5			
MSO	Missoula	44.99	330	P		P	07 35 48.0	-0.7		
MSO	comp=Z,11nm,1.4s			IAmb		IAmb	07 35 49.2			
ORV	Oroville	45.01	317	P		P	07 35 48.8	0.0		
ORV	comp=Z,6.4nm,1.1s			IAmb		IAmb	07 35 50.7			
J08A	Circle Bar Ran	45.19	323	P		P	07 35 49.5	-0.8		
J08A	comp=Z,5.8nm,1.0s			IAmb		IAmb	07 35 50.6			
BMO	Blue Mountains	45.44	326	P		P	07 35 50.5	-1.7		
BMO	comp=Z,6.4nm,1.1s			IAmb		IAmb	07 35 51.6			
MOD	Modoc Plateau	45.47	321	P		P	07 35 51.8	-0.8		
F10A	Beach Ranch, E	46.11	327	P		P	07 35 56.4	-1.1		
F10A	comp=Z,6.7nm,0.9s			IAmb		IAmb	07 35 58.9			
I07A	Izee	46.22	324	P		P	07 35 57.1	-1.3		
I07A	comp=Z,5.2nm,1.0s			IAmb		IAmb	07 35 58.3			
M04C	Macdoel baz=122,SNR=7.2	46.37	320	P			07 35 58.9			
SCHQ	Schefferville	46.40	13	P		P	07 35 58.9	-0.7		
SCHQ	comp=Z,1.7nm,0.6s,baz=230,slow=6.5,SNR=6.6 Schefferville	46.40	13	P		P	07 35 59.2	-0.4		
SCHQ	comp=Z,7.5nm,0.8s			IAmb		IAmb	07 36 07.1			
WALA	Waterton Lakes	46.56	332	P		P	07 36 00.6	-0.5		
WALA	comp=Z,6.1nm,1.2s			IAmb		IAmb	07 36 02.0			
G08A	Pilot Rock	46.63	325	P		P	07 36 00.6	-1.0		
L04D	Klamath Falls baz=122	46.90	320	P			07 36 03.5			
PINE

C09A					IAmb	IAmb	07 36 11.0		
	comp=Z,3.8nm,0.8s								
E07A	**Sunnyside**	**47.90**	**326**	P		**P**	**07 36 11.2**	**-0.2**
G05D	**Wamic, OR**	**47.95**	**324**	P			07 36 12.2		
	baz=125								
VAO	**Valinhos**	**48.29**	**133**	*e*P		P	07 36 19.9	+5.1
B08A	**Colville Reser**	**48.73**	**328**	P		**P**	**07 36 17.2**	**-0.6**
B08A					IAmb	IAmb	07 36 17.8		
	comp=Z,5.8nm,0.9s								
LTY	**Liberty**	**48.77**	**326**	P		**P**	**07 36 17.6**	**-0.6**
LTY					IAmb	IAmb	07 36 17.8		
	comp=Z,4.2nm,0.8s								
NBIT	**Itapeh - BA**	**49.88**	**119**	*e*P		P	07 36 31.8	+4.8
B06A	**Marblemount**	**49.96**	**327**	P		**P**	**07 36 25.7**	**-1.4**
E03A	**Lebam**	**49.98**	**324**	P		**P**	**07 36 27.0**	**-0.3**
D03D	**Eldon**	**50.26**	**325**	P			07 36 28.1		
	baz=125								
PLCA	**Paso Flores**	**51.91**	**168**	P		**P**	**07 36 42.0**	**0.0**
	comp=Z,8.8nm,1.0s,baz=344,slow=9.4,SNR=11								
YKA	**Yellowknife Ar**	**57.02**	**343**	P		**P**	**07 37 17.9**	**-0.8**
	comp=Z,10.0nm,0.9s,baz=134,slow=8.0,SNR=72								
DLBC	**Dease Lake**	**59.87**	**334**	P		**P**	**07 37 38.8**	**0.0**
DLBC					IAmb	IAmb	07 37 40.1		
	comp=Z,7.5nm,1.0s								
TABL	**Table Mountain**	**65.81**	**333**	P		**P**	**07 38 18.0**	**-0.5**
TABL					IAmb	IAmb	07 38 19.5		
	comp=Z,4.4nm,1.0s								
DAWY	**Dawson**	**66.61**	**336**	P		**P**	**07 38 22.8**	**-0.6**
DAWY					IAmb	IAmb	07 38 23.6		
	comp=Z,5.4nm,1.3s								
INK	**Inuvik**	**66.72**	**342**	P		**P**	**07 38 23.7**	**-0.2**
INK	**Inuvik**	**66.72**	**342**	P			07 38 23.7		
	baz=124,SNR=8.9								
CRQM	**Cirque**	**66.84**	**332**	P		**P**	**07 38 24.6**	**-0.4**
BCAR	**Beaver Creek A**	**67.15**	**335**	P		**P**	**07 38 26.9**	**+0.1**
L27K	**Beaver Creek,**	**67.17**	**335**	P		**P**	**07 38 27.0**	**+0.1**
L27K	**Beaver Creek,**	**67.17**	**335**	P			07 38 27.1		
	baz=114,SNR=16								
GLB	**Gilahina Butte**	**67.40**	**333**	P		**P**	**07 38 28.1**	**-0.2**
GLB					IAmb	IAmb	07 38 29.4		
	comp=Z,6.7nm,1.1s								
BMRM	**Bremner River**	**67.58**	**332**	P			07 38 30.2		
	baz=111								
EGAK	**Eagle**	**67.62**	**337**	P		**P**	**07 38 29.2**	**-0.5**
EGAK					IAmb	IAmb	07 38 30.1		
	comp=Z,7.5nm,1.4s								
EGAK	**Eagle**	**67.62**	**337**	P			07 38 29.2		
	baz=115,SNR=5.6								
K27K	**Chicken**	**67.67**	**336**	P		**P**	**07 38 30.0**	**0.0**
K27K					IAmb	IAmb	07 38 38.0		
	comp=Z,3.7nm,1.1s								
K27K	**Chicken**	**67.67**	**336**	P			07 38 30.1		
	baz=114								
SUMG	**Summit**	**67.79**	**13**	*i* P		**P**	**07 38 30.4**	**-0.8**
SUMG					IAmb	IAmb	07 38 31.0		
	comp=Z,7.7nm,1.0s								
SUMG	**Summit**	**67.79**	**13**	P		**P**	**07 38 29.9**	**-1.3**
N25K	**Chitina, Valde**	**67.81**	**333**	P		**P**	**07 38 30.9**	**-0.2**
N25K					IAmb	IAmb	07 38 32.2		
	comp=Z,5.0nm,0.9s								
N25K	**Chitina, Valde**	**67.81**	**333**	P			07 38 30.8		
	baz=111								
MENT	**Mentasta**	**67.91**	**335**	P		**P**	**07 38 31.0**	**-0.6**
MENT					IAmb	IAmb	07 38 40.5		
	comp=Z,4.9nm,1.2s								
EYAK	**Cordova Ski Ar**	**67.97**	**332**	P		**P**	**07 38 31.4**	**-0.6**
EYAK					IAmb	IAmb	07 38 33.1		
	comp=Z,8.1nm,1.1s								
EYAK	**Cordova Ski Ar**	**67.97**	**332**	P			07 38 31.5		
	baz=109								
DOT	**Dot Lake**	**68.33**	**335**	P		**P**	**07 38 34.0**	**-0.1**
DOT					IAmb	IAmb	07 38 34.6		
	comp=Z,5.0nm,0.7s								
KLU	**Klutina**	**68.36**	**333**	P		**P**	**07 38 34.0**	**-0.6**
KLU					IAmb	IAmb	07 38 35.2		
	comp=Z,3.9nm,0.9s								
KLU	**Klutina**	**68.36**	**333**	P			07 38 34.5		
	baz=110								
SCRK	**Sand Creek**	**68.42**	**336**	P		**P**	**07 38 34.3**	**-0.5**
SCRK					IAmb	IAmb	07 38 55.5		
	comp=Z,4.8nm,1.3s								
SCRK	**Sand Creek**	**68.42**	**336**	P			07 38 34.7		
	baz=112,SNR=5.8								
PAX	**Paxson**	**68.67**	**334**	P		**P**	**07 38 35.2**	**-1.2**
PAX					IAmb	IAmb	07 38 37.0		
	comp=Z,11nm,1.4s								
PAX	**Paxson**	**68.67**	**334**	P			07 38 35.9		
	baz=111,SNR=5.8								
M24K	**Tolsona, Glenn**	**68.68**	**333**	P			07 38 36.1		
	baz=110								
SCM	**Sheep Creek Mo**	**69.11**	**333**	P		**P**	**07 38 38.9**	**-0.3**
SCM					IAmb	IAmb	07 38 47.4		
	comp=Z,6.8nm,1.0s								
NEEM	**North Greenlan**	**69.31**	**7**	*i* P		**P**	**07 38 39.8**	**-0.7**
NEEM					IAmb	IAmb	07 38 39.9		
	comp=Z,6.5nm,0.9s								
NEEM				*i*			07 38 46.8		
KNK	**Knik Glacier**	**69.50**	**332**	P		**P**	**07 38 40.7**	**-0.8**
WAT6	**Susitna Watana**	**69.53**	**333**	P			07 38 41.2		
	baz=108,SNR=11								
SML	**Sawmill**	**69.55**	**333**	P		**P**	**07 38 41.2**	**-0.7**
SML	**Sawmill**	**69.56**	**333**	P			07 38 42.0		
	baz=108								
HDA	**Harding Lake**	**69.78**	**335**	P		**P**	**07 38 42.7**	**-0.5**
HDA	**Harding Lake**	**69.78**	**335**	P			07 38 42.8		
	baz=110,SNR=7.6								
HDA				P			07 38 42.8		
	baz=110,SNR=7.6								
GHO	**Glory Hole Cre**	**69.81**	**332**	P		**P**	**07 38 42.7**	**-0.8**
IL31		**69.88**	**336**	P		**P**	**07 38 42.3**	**-1.4**
IL31					IAmb	IAmb	07 38 44.3		
	comp=Z,4.1nm,0.7s								
ILAR	**Eielson Array**	**69.88**	**336**	P		**P**	**07 38 43.0**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=112,slow=4.6,SNR=54								
ILAR	**Eielson Array**	**69.88**	**336**	P		**P**	**07 38 43.1**	**-0.7**
BMAR	**Burnt Mountain**	**69.98**	**339**	P		**P**	**07 38 43.9**	**-0.5**
RND	**Reindeer**	**70.26**	**334**	P		**P**	**07 38 45.9**	**-0.4**
MDM	**Murphy Dome**	**70.48**	**336**	P		**P**	**07 38 47.5**	**0.0**
H24K	**Noodor Dome**	**70.63**	**337**	P			07 38 48.0		
	baz=109								
NEA2	**Nenana**	**70.71**	**335**	P			07 38 48.4		
	baz=108,SNR=5.7								
OHAK	**Old Harbor**	**70.87**	**327**	P			07 38 49.7		
	baz=101								
I23K	**Minto, Yukon-K**	**71.00**	**336**	P		**P**	**07 38 50.4**	**-0.2**
I23K					IAmb	IAmb	07 38 51.5		
	comp=Z,5.2nm,0.8s								
I23K	**Minto, Yukon-K**	**71.00**	**336**	P			07 38 50.4		
	baz=108,SNR=13								
SKT	**Skwentna**	**71.06**	**332**	P			07 38 50.1		
	baz=105								
H23K	**Yukon River**	**71.28**	**336**	P			07 38 51.7		
	baz=108								
BPAW	**Bear Paw Mtn.**	**71.37**	**335**	P			07 38 52.0		
	baz=106,SNR=7.6								
MLY	**Manley**	**71.53**	**336**	P			07 38 53.3		
	baz=106,SNR=8.6								
COLD	**Coldfoot**	**71.95**	**338**	P		**P**	**07 38 56.3**	**0.0**
COLD	**Coldfoot**	**71.95**	**338**	P			07 38 56.7		
	baz=108								
I21K	**Tanana**	**72.07**	**336**	P			07 38 56.8		
	baz=105								
TOLK	**Toolik Lake Re**	**72.16**	**339**	P		**P**	**07 38 57.7**	**+0.1**
TOLK	**Toolik Lake Re**	**72.16**	**339**	P			07 38 57.2		
	baz=108								
H21K	**Melozitna Rive**	**72.53**	**336**	P			07 38 58.9		
	baz=104								
N18K	**Kilae Creek**	**72.84**	**331**	P			07 39 00.5		
	baz=100								
DAG	**Danmarks Havn**	**74.45**	**12**	*i* P		**P**	**07 39 08.6**	**-2.3**
DAG					IAmb	IAmb	07 39 09.9		
	comp=Z,1.9nm,0.6s								
DAG				*i*			07 39 16.4		
MDT	**Midelt**	**74.90**	**59**	P		**P**	**07 39 15.3**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=307,slow=6.9,SNR=6.1								
ESDC	**Sonseca Array**	**75.22**	**52**	P		**P**	**07 39 16.9**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=281,slow=5.5,SNR=19								
ESDC					LR	LR	08 10 26.3		
	comp=Z,20nm,18.3s,baz=265,slow=34								
EKA	**Eskdalemuir Ar**	**75.98**	**35**	P		**P**	**07 39 19.2**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=266,slow=6.3,SNR=2.8								
PMSA	**Palmer Station**	**76.05**	**172**	*e*P		**P**	**07 39 23.0**	**+2.9**
KOWA	**Kowa**	**77.00**	**77**	P		**P**	**07 39 26.0**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=252,slow=9.6,SNR=2.2								
SPITS	**Spitsbergen Ar**	**82.08**	**12**	P		**P**	**07 39 51.2**	**-1.9**
	comp=Z,2.0nm,0.7s,baz=299,slow=5.9,SNR=2.2								
TORD	**Torodi Ar. Bea**	**82.68**	**78**	P		**P**	**07 39 56.5**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=296,slow=6.0,SNR=2.2								
NOA	**NORSAR Array B**	**83.27**	**29**	P		**P**	**07 39 59.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=277,slow=5.1,SNR=5.0								
NOA					LR	LR	08 12 41.6		
	comp=Z,14nm,21.9s,baz=245,slow=33								
HFS	**Hagfors**	**84.63**	**30**	P		**P**	**07 40 05.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=208,slow=11,SNR=2.2								
CLL	**Collm**	**85.93**	**39**	*e*P		**P**	**07 40 16.0**	**+2.8**
GERES	**GERESS Array B**	**86.86**	**41**	P		**P**	**07 40 16.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=316,slow=3.7,SNR=4.1								
GERES					LR	LR	08 12 42.4		
	comp=Z,57nm,20.7s,baz=284,slow=31								
GERES	**GERESS Array B**	**86.86**	**41**	P		**P**	**07 40 18.2**	**+0.2**
ARCES	**ARCESS Array B**	**86.93**	**20**	P		**P**	**07 40 16.4**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=284,slow=6.1,SNR=5.8								
ARCES	**ARCESS Array B**	**86.93**	**20**	P		**P**	**07 40 17.1**	**-0.7**
ARCES					IAmb	IAmb	07 40 24.1		
	comp=Z,2.6nm,0.8s								
FINES	**FINESS Array B**	**90.09**	**27**	P		**P**	**07 40 31.8**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=242,slow=6.0,SNR=2.5								
FINES	**FINESS Array B**	**90.09**	**27**	P		**P**	**07 40 32.3**	**-0.7**
MNK	**Minsk**	**93.62**	**33**	*i* P		**P**	**07 40 45.5**	**-3.9**
	comp=E,1.0nm,0.8s								
MNK				*i* P		**P**	**07 40 45.5**	**-3.9**
	comp=N,11nm,0.8s								
MNK				*i* P		**P**	**07 40 45.5**	**-3.9**
	comp=Z,6.0nm,0.6s,baz=114								
MNK				*i* PP		**PP**	**07 44 30.4**	**-3.5**
MNK				*i* PPP		PPP	07 46 31.0		
MNK				*i* S		**SKSac**	**07 51 17.0**	**-5.8**
MNK				*i* PS		**PS**	**07 53 10.4**	**-2.5**
MNK				*i* SS		**SS**	**07 58 11.3**	**-2.7**
MNK				*i* SSS		SSS	08 01 46.9		
MNK				*i* LQ		LQ	08 16 14.5		
MNK				*i* LR		LR	08 21 48.6		
MNK				*i* LRM		MLR	08 23 50.3		
	comp=E,4.0nm,13.0s								
MNK				*i* LRM		MLR	08 23 50.3		
	comp=Z,28nm,18.8s								
MNK				*i* LRM		MLR	08 24 02.4		
	comp=N,33nm,20.3s								
AKASG	**Malin Array Be**	**95.87**	**36**	LR		LR	08 21 32.0		
	comp=N,37nm,20.4s,baz=270,slow=34								
MKAR	**Makanchi Array**	**121.83**	**12**	PKP		**PKPdf**	**07 46 25.2**	**-2.3**
	comp=N,0.3nm,0.6s,baz=335,slow=2.1,SNR=3.5								
KSRS	**Korea Array**	**124.47**	**330**	PKP		**PKPdf**	**07 46 31.5**	**-1.3**
	comp=N,0.2nm,0.3s,baz=27,slow=0.3,SNR=5.6								
ASAR	**Alice Springs**	**142.30**	**244**	PKhKP		PKPpre	07 47 01.1		
	comp=N,1.2nm,0.6s,baz=117,slow=3.4,SNR=18								
WRA	**Warramunga Arr**	**142.68**	**250**	PKhKP		PKPpre	07 47 02.8		
	comp=N,2.4nm,1.0s,baz=105,slow=3.0,SNR=9.3								
FITZ	**Fitzroy Crossi**	**151.11**	**251**	PKPbc		**PKPbc**	**07 47 26.2**	**-1.0**
	comp=N,4.7nm,0.9s,baz=142,slow=6.7,SNR=4.0								
FITZ	**Fitzroy Crossi**	**151.11**	**251**	PKPbc		**PKPbc**	**07 47 26.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**151.52**	**356**	PKPbc		**PKPbc**	**07 47 27.1**	**-1.2**
	comp=N,2.7nm,0.8s,baz=340,slow=3.2,SNR=11								
CMAR	**Chiang Mai Arr**	**151.52**	**356**			**PKPbc**	**07 47 27.2**	**-1.0**

NNC 21 07:39:51.7±9.7, 36.46N×70.40E, h0km, mb3.6, mpv3.3, 2C-4D, Error ellipse: s-maj=78.3km s-min=70.6km az=143.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.64**	**1**	⇓P	Pn	07 41 32.5	+2.0
	0.6nm,0.3s,baz=178,slow=12,SNR=32						
KK31				⇑S	Sn	07 42 48.6	+1.8
	0.8nm,0.3s,baz=188,slow=21,SNR=7.8						
AAK	**Ala-Archa**	**6.93**	**26**	⇓P	Pn	07 41 34.2	-0.4
	0.9nm,0.3s						
AAK				⇓S	Sn	07 42 54.5	+0.1
	1.3nm,0.5s						
TKM2	**Tokmak 2**	**7.59**	**30**	⇑P	Pn	07 41 42.5	-1.3
	0.9nm,0.6s						
TKM2				⇓S	Sn	07 43 11.8	+1.1
	1.4nm,0.4s						

*IDC **21** 07:42:57.3±1.9, 23.13S×113.89W, h0km, mb3.8/4, mb1 4.3/4, mb1mx3.9/24, mbtmp3.8/4, MS3.8/7, Ms1 3.8/7, ms1mx3.6/20, Error ellipse: s-maj=105.4km s-min=47.0km az=106.0*

*NEIC **21** 07:43:00.4±1.4, 23.1S±0.2×114.7W±0.2, h10km±1km, mb4.7/58, Error ellipse: s-maj=27.9km s-min=26.1km az=243.0*

ISC 21 07:42:58.4±1.0, 23.3S±0.2×114.8W±0.2, h10km, n91, σ0s76/74, mb4.7/32, MS4.0/10, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAOE	**Nuku Hiva Isla**	**28.16**	**296**	*e*LR	LR	07 55 25.2	
	comp=Z,651nm,25.8s,baz=128						
TBI	**Tubuai**	**31.75**	**263**	*e*LR	LR	07 56 57.5	
	comp=Z,395nm,27.2s,baz=72						
PAYG	**Puerto Ayora**	**32.76**	**50**	P	**P**	**07 49 31.7**	**0.0**
PPT2	**Papeete2**	**32.99**	**273**	*e*LR	LR	07 57 35.0	
	comp=Z,264nm,26.0s						
H03N2	**Juan Fernandez**	**33.04**	**116**	T	T	08 24 32.0	
	baz=282,slow=75						
H03N3	**Juan Fernandez**	**33.05**	**116**	T	T	08 24 33.3	
	baz=282,slow=75						
H03N1	**Juan Fernandez**	**33.06**	**116**	T	T	08 24 33.2	
	baz=282,slow=75						
GO04	**Tololo Observa**	**39.74**	**110**	P	**P**	**07 50 31.8**	**+0.1**
GO04				IAmb	IAmb	07 50 45.2	
	comp=Z,34nm,1.4s						
MT05	**Renca**	**39.85**	**115**	P	**P**	**07 50 32.9**	**+0.6**
MT05				IAmb	IAmb	07 51 01.0	
	comp=Z,22nm,1.1s						
PLCA	**Paso Flores**	**40.92**	**126**	LR	LR	08 03 19.7	
	comp=Z,206nm,21.4s,baz=224,slow=30						
PB16	**IPOC Station P**	**42.53**	**92**	P	**P**	**07 50 55.3**	**+0.2**
TLIG	**Tlapa**	**43.59**	**23**	P	**P**	**07 51 02.6**	**-0.4**
LPAZ	**La Paz**	**44.35**	**90**	LR	LR	08 05 23.9	
	comp=Z,135nm,19.8s,baz=245,slow=31						
CPUP	**Villa Florida**	**51.93**	**106**	LR	LR	08 09 36.9	
	comp=Z,135nm,20.1s,baz=216,slow=31						
TXAR	**Lajitas Array**	**53.40**	**12**	P	**P**	**07 52 17.7**	**-0.7**
	comp=Z,0.9nm,1.1s,baz=172,slow=10.0,SNR=4.8						
TXAR				LR	LR	08 10 21.4	
	comp=Z,62nm,19.9s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**53.40**	**12**	P	**P**	**07 52 18.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**53.40**	**12**	P	**P**	**07 52 18.9**	**+0.5**
TX31				IAmb	IAmb	07 52 23.9	
	comp=Z,14nm,1.5s						
319A	**Douglas**	**54.60**	**6**	P	**P**	**07 52 28.1**	**+0.9**
319A				IAmb	IAmb	07 52 34.2	
	comp=Z,15nm,1.3s						
214A	**Organ Pipe Nat**	**54.95**	**2**	P	**P**	**07 52 30.4**	**+0.8**
214A				IAmb	IAmb	07 52 33.9	
	comp=Z,9.1nm,1.2s						
JCT	**Junction City**	**55.36**	**16**	P	**P**	**07 52 32.5**	**-0.1**
JCT				IAmb	IAmb	07 52 34.2	
	comp=Z,12nm,1.2s						
MNTX	**Cornudas Mount**	**55.40**	**10**	P	**P**	**07 52 33.5**	**+0.6**
MNTX				IAmb	IAmb	07 52 34.9	
	comp=Z,11nm,1.5s						
TUC	**Tucson**	**55.40**	**4**	P	**P**	**07 52 34.0**	**+1.1**
BAR	**Barrett**	**55.66**	**358**	P	**P**	**07 52 35.7**	**+0.9**
BAR				IAmb	IAmb	07 52 37.1	
	comp=Z,14nm,1.4s						
113A	**Mohawk Valley,**	**55.73**	**1**	P	**P**	**07 52 34.5**	**-0.7**
121A	**Cookes Peak, D**	**55.90**	**7**	P	**P**	**07 52 35.3**	**-1.3**
121A				IAmb	IAmb	07 52 41.0	
	comp=Z,6.8nm,1.1s						
PFO	**Pinyon Flats O**	**56.59**	**358**	P	**P**	**07 52 42.6**	**+1.1**
Y14A	**Wickenburg**	**56.92**	**2**	P	**P**	**07 52 44.4**	**+0.6**
LENM	**Lemitar**	**57.61**	**8**	P	**P**	**07 52 49.5**	**+0.7**
BNM	**Barren Site**	**57.63**	**8**	P	**P**	**07 52 50.0**	**+0.9**
X18A	**Snowflake**	**57.67**	**5**	P	**P**	**07 52 50.1**	**+0.9**
W13A	**Hualapai Mount**	**58.06**	**1**	P	**P**	**07 52 52.7**	**+0.8**
MSTX	**Muleshoe**	**58.07**	**12**	P	**P**	**07 52 51.2**	**-0.7**
WUAZ	**Wupatki**	**58.56**	**3**	P	**P**	**07 52 55.2**	**-0.2**
ISA	**Isabella, Lake**	**58.71**	**357**	P	**P**	**07 52 57.3**	**+1.0**
ISA				IAmb	IAmb	07 53 06.9	
	comp=Z,7.9nm,1.4s						
SHPR	**Sheep Range**	**59.45**	**360**	P	**P**	**07 53 02.4**	**+0.8**
SHPR				IAmb	IAmb	07 53 06.0	
	comp=Z,8.3nm,1.2s						
TPNV	**Topopah Spring**	**59.91**	**359**	P	**P**	**07 53 05.9**	**+1.2**
143A	**Socs Landing,**	**59.99**	**23**	P	**P**	**07 53 06.0**	**+0.9**
WLAR	**White Oak Lake**	**60.30**	**21**	P	**P**	**07 53 07.8**	**+0.6**
PRN	**Pahroc Range**	**60.35**	**360**	P	**P**	**07 53 09.0**	**+1.3**
PRN				IAmb	IAmb	07 53 10.1	
	comp=Z,10nm,1.3s						
PKCU	**Pink Cliffs**	**60.44**	**2**	P	**P**	**07 53 09.7**	**+1.2**
PKCU				IAmb	IAmb	07 53 10.9	
	comp=Z,9.2nm,1.2s						
MVCO	**Mesa Verde**	**60.45**	**6**	P	**P**	**07 53 08.4**	**-0.1**
MVCO				IAmb	IAmb	07 53 09.9	
	comp=Z,4.7nm,1.1s						
CCUT	**Cedar City**	**60.51**	**1**	P	**P**	**07 53 09.8**	**+0.9**
CCUT				IAmb	IAmb	07 53 11.2	
	comp=Z,7.4nm,1.3s						
BCOK	**Bluff Creek, N**	**60.84**	**16**	P	**P**	**07 53 10.7**	**-0.2**
CMB	**Columbia Colle**	**61.20**	**355**	P	**P**	**07 53 14.0**	**+0.6**
CMB				IAmb	IAmb	07 53 17.1	
	comp=Z,6.7nm,1.3s						
LHV	**Little Huntoon**	**61.29**	**357**	P	**P**	**07 53 15.1**	**+1.2**
LHV				IAmb	IAmb	07 53 16.1	
	comp=Z,8.8nm,1.3s						
R11A	**Troy Canyon, C**	**61.30**	**359**	P	**P**	**07 53 14.9**	**+0.8**
R11A				IAmb	IAmb	07 53 16.4	
	comp=Z,6.5nm,1.3s						
SDCO	**Great Sand Dun**	**61.32**	**8**	P	**P**	**07 53 15.0**	**+0.5**
SDCO				IAmb	IAmb	07 53 15.8	
	comp=Z,5.9nm,1.3s						
NV11	**Mina Array Sit**	**61.46**	**357**	P	**P**	**07 53 15.7**	**+0.5**
NV11				IAmb	IAmb	07 53 20.8	
	comp=Z,7.9nm,1.4s						
NVAR	**Mina Array Bea**	**61.46**	**357**	P	**P**	**07 53 15.6**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=183,slow=9.0,SNR=20						
NVAR				LR	LR	08 14 11.2	
	comp=Z,45nm,19.9s,baz=166,slow=30						
NVAR	**Mina Array Bea**	**61.46**	**357**	P	**P**	**07 53 15.9**	**+0.6**
MSU	**Marysvale**	**61.51**	**2**	P	**P**	**07 53 16.6**	**+1.0**
PV14	**Lion Creek, Pa**	**61.56**	**5**	P	**P**	**07 53 16.9**	**+0.8**
PV14				IAmb	IAmb	07 53 19.5	
	comp=Z,7.9nm,1.3s						
KAN17	**Caldwell West**	**62.11**	**15**	P	**P**	**07 53 19.9**	**+0.4**
PNTR	**Pine Nut**	**62.19**	**356**	P	**P**	**07 53 19.7**	**-0.6**
Z51A	**Franklin**	**62.98**	**28**	P	**P**	**07 53 25.2**	**-0.1**
DUG	**Dugway, Tooele**	**63.17**	**2**	P	**P**	**07 53 27.4**	**+0.8**
DUG				IAmb	IAmb	07 53 30.6	
	comp=Z,5.8nm,1.4s						
ELK	**Elko**	**63.69**	**360**	P	**P**	**07 53 30.7**	**+0.5**
ELK				IAmb	IAmb	07 53 31.9	
	comp=Z,6.0nm,1.4s						
MOD	**Modoc Plateau**	**65.04**	**356**	P	**P**	**07 53 39.7**	**+0.8**
WVOR	**Wild Horse Val**	**65.47**	**357**	P	**P**	**07 53 42.2**	**+0.6**
PD31	**Pinedale Array**	**65.89**	**4**	P	**P**	**07 53 43.8**	**-0.7**
PDAR	**Pinedale Array**	**65.89**	**4**	P	**P**	**07 53 43.0**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=170,slow=5.5,SNR=4.9						
K05A	**Summer Lake**	**65.90**	**355**	P	**P**	**07 53 44.7**	**+0.2**
HUMO	**Hull Mountain**	**65.97**	**353**	P	**P**	**07 53 45.3**	**+0.5**
N35A	**Tabor**	**66.25**	**16**	P	**P**	**07 53 47.2**	**+0.6**
MFID	**Camas Ranch**	**66.36**	**359**	P	**P**	**07 53 47.6**	**+0.3**
MFID				IAmb	IAmb	07 53 50.8	
	comp=Z,6.5nm,1.2s						
J08A	**Circle Bar Ran**	**66.38**	**357**	P	**P**	**07 53 48.0**	**+0.5**
J08A				IAmb	IAmb	07 53 49.4	
	comp=Z,5.9nm,1.0s						
HLID	**Hailey**	**66.50**	**0**	P	**P**	**07 53 48.5**	**+0.1**
HLID				IAmb	IAmb	07 54 02.8	
	comp=Z,10nm,1.5s						
K31A	**O'Neill**	**67.22**	**13**	P	**P**	**07 53 52.7**	**-0.1**
BCYI	**Bear Canyon**	**67.26**	**1**	P	**P**	**07 53 53.9**	**+0.6**
MCMT	**McKenzie Canyo**	**67.79**	**2**	P	**P**	**07 53 56.6**	**+0.1**
QLMT	**Earthquake Lak**	**67.84**	**3**	P	**P**	**07 53 57.6**	**+0.7**
G08A	**Pilot Rock**	**68.33**	**357**	P	**P**	**07 54 00.3**	**+0.5**
G08A				IAmb	IAmb	07 54 01.5	
	comp=Z,6.8nm,1.2s						
HRY	**Holter Researc**	**69.70**	**2**	P	**P**	**07 54 07.6**	**-0.7**
DZM	**Mont Dzumac**	**71.72**	**253**	LR	LR	08 18 09.8	
	comp=Z,63nm,19.0s,baz=288,slow=29						
DZM	**Mont Dzumac**	**71.72**	**253**	*e*LR	LR	08 15 20.3	
	comp=Z,132nm,23.9s						
COWI	**Conover**	**72.88**	**18**	P	**P**	**07 54 27.5**	**+0.1**
DLBC	**Dease Lake**	**82.38**	**352**	P	**P**	**07 55 20.6**	**+0.4**
DLBC				IAmb	IAmb	07 55 21.2	
	comp=Z,5.4nm,1.0s						
YKA	**Yellowknife Ar**	**85.47**	**0**	P	**P**	**07 55 34.7**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=171,slow=5.4,SNR=15						
GRNC	**Granite

	baz=251							
EGFH	**Guangfu**	**1.01 252**	*e*P	**Pb**	**07 43 39.6**	**+0.7**		
	baz=251							
EGFH			S	**Sb**	**07 43 52.4**	**+0.5**		
	baz=251							
ILA	**Ilan**	**1.03 320**	*i* P	**Pb**	**07 43 38.6**	**-0.5**		
	baz=307							
ILA			*e*S	**Sb**	**07 43 54.1**	**+1.9**		
	baz=307							
TWE	**Neicheng**	**1.05 315**	*i* P	**Pb**	**07 43 39.2**	**-0.3**		
	baz=313							
TWE			S	**Sb**	**07 43 52.8**	**0.0**		
	baz=313							
NTC	**Toucheng**	**1.05 326**	P	**Pb**	**07 43 39.1**	**-0.4**		
	baz=323							
NTC			S	**Sb**	**07 43 53.3**	**+0.3**		
	baz=323							
ENTT	**Nioudou**	**1.06 308**	*i* P	**Pb**	**07 43 39.7**	**-0.1**		
	baz=294							
ENTT			S	**Sb**	**07 43 53.7**	**+0.5**		
	baz=294							
NDT	**Datong Townshi**	**1.08 305**	P	**Pb**	**07 43 39.6**	**-0.4**		
	baz=292							
NDT			S	**Sb**	**07 43 54.5**	**+0.8**		
	baz=292							
HGSD	**Ruisui**	**1.08 244**	P	**Pn**	**07 43 39.3**	**0.0**		
	baz=242							
HGSD			S	**Sn**	**07 43 53.7**	**+0.4**		
	baz=242							
NNSB	**Datong**	**1.10 294**	P	**Pn**	**07 43 39.8**	**+0.3**		
	baz=283							
NNSB			S	**Sn**	**07 43 54.0**	**+0.1**		
	baz=283							
NNSH	**Datong**	**1.10 294**	P	**Pn**	**07 43 39.7**	**+0.2**		
	baz=282							
NNSH			S	**Sb**	**07 43 54.3**	**-0.1**		
	baz=282							
NNS	**Nan Shan**	**1.11 295**	*i* P	**Pb**	**07 43 40.1**	**-0.5**		
	baz=292							
NNS			S	**Sb**	**07 43 54.5**	**-0.3**		
	baz=292							
TWB1	**Santiao Chiao**	**1.12 336**	*i* P	**Pn**	**07 43 39.8**	**+0.1**		
	baz=348							
TWB1			S	**Sb**	**07 43 54.3**	**-0.5**		
	baz=348							
WHF	**Hehuan Shan**	**1.12 279**	*i* P	**Pn**	**07 43 40.0**	**-0.2**		
	baz=276							
WHF			S	**Sb**	**07 43 55.8**	**+0.4**		
	baz=276							
TIPB	**Shuangxi**	**1.15 329**	P	**Pb**	**07 43 40.5**	**-0.8**		
	baz=327							
TIPB			S	**Sb**	**07 43 55.3**	**-0.6**		
	baz=327							
FUSS	**Fushou**	**1.16 283**	*i* P	**Pn**	**07 43 41.0**	**+0.5**		
	baz=281							
FUSS			S	**Sb**	**07 43 56.1**	**-0.3**		
	baz=281							
EHY	**Hungye**	**1.16 246**	P	**Pn**	**07 43 40.7**	**+0.4**		
	baz=258							
EHY			S	**Sb**	**07 43 56.3**	**+0.2**		
	baz=258							
IRIF	**Iriomote-Funau**	**1.19 73**	P	**Pb**	**07 43 41.7**	**-0.2**		
IRIF			S	**Sb**	**07 43 57.3**	**+0.3**		
NWLT	**Wulai**	**1.19 312**	P	**Pb**	**07 43 41.4**	**-0.6**		
	baz=309							
NWLT			S	**Sb**	**07 43 57.2**	**+0.2**		
	baz=309							
OWD	**Renai**	**1.20 269**	P	**Pn**	**07 43 41.4**	**+0.5**		
	baz=267							
OWD			S	**Sn**	**07 43 56.3**	**+0.1**		
	baz=267							
CHGB	**Renai**	**1.20 274**	P	**Pn**	**07 43 41.4**	**+0.4**		
	baz=272							
CHGB			*e*S	**Sb**	**07 43 58.2**	**+0.8**		
	baz=272							
HATJ	**Hateruma jima**	**1.21 86**	P	**Pb**	**07 43 41.7**	**-0.5**		
HATJ			S	**Sb**	**07 43 57.8**	**+0.3**		
TWT	**Tachien**	**1.22 283**	P	**Pb**	**07 43 42.6**	**0.0**		
	baz=270							
TWT			S	**Sb**	**07 43 58.0**	**-0.1**		
	baz=270							
YULB	**Yu-li**	**1.23 242**	P	**Pn**	**07 43 41.6**	**+0.3**		
	baz=231							
YULB			S	**Sn**	**07 43 56.8**	**-0.2**		
	baz=231							
EYUL	**Yuli**	**1.24 240**	P	**Pn**	**07 43 41.4**	**0.0**		
	baz=238							
EYUL			S	**Sb**	**07 43 58.2**	**-0.1**		
	baz=238							
TDCB	**Techi**	**1.24 283**	P	**Pn**	**07 43 41.6**	**+0.1**		
	baz=270							
TDCB			S	**Sn**	**07 43 57.2**	**-0.1**		
	baz=270							
TWF1	**Yuli**	**1.25 240**	*i* P	**Pn**	**07 43 42.1**	**+0.5**		
	baz=239							
TWF1			*i* S	**Sb**	**07 43 58.5**	**-0.2**		
	baz=239							
NWF	**Wu-fen Shan**	**1.26 330**	*i* P	**Pn**	**07 43 41.7**	**0.0**		
	baz=328							
NWF			*e*S	**Sb**	**07 43 59.6**	**+0.6**		
	baz=328							
TWA	**Mucha**	**1.29 321**	P	**Pb**	**07 43 43.2**	**-0.3**		
	baz=334							
TWA			S	**Sn**	**07 43 58.2**	**-0.2**		
	baz=334							
NHDH	**Xindian Distri**	**1.31 318**	*i* P	**Pb**	**07 43 43.8**	**-0.1**		
	baz=331							
NHDH			*e*S	**Sb**	**07 44 01.0**	**+0.7**		
	baz=331							
TNOU	**National Taiwa**	**1.33 331**	P	**Pn**	**07 43 42.1**	**-0.6**		
	baz=329							
TNOU			S	**Sn**	**07 43 59.6**	**+0.2**		
	baz=329							
FULB	**Fuli**	**1.34 235**	P	**Pn**	**07 43 42.4**	**-0.4**		
	baz=224							
FULB			S	**Sn**	**07 43 59.9**	**+0.2**		
	baz=224							
TATO	**Taipei**	**1.34 318**	P	**Pb**	**07 43 44.1**	**-0.3**		
	baz=331							
CHKT	**Chengkung**	**1.35 230**	P	**Pn**	**07 43 42.4**	**-0.4**		
	baz=220							
CHKT			S	**Sn**	**07 43 58.1**	**-1.7**		
	baz=220							
WPL	**Puli Township**	**1.40 272**	P	**Pn**	**07 43 44.5**	**+1.0**		
	baz=270							
WPL			S	**Sb**	**07 44 02.1**	**-0.7**		
	baz=270							
SSLB	**Suanglung**	**1.41 262**	*e*P	**Pb**	**07 43 45.6**	**0.0**		
	baz=261							
SSLB			S	**Sn**	**07 44 02.2**	**+0.8**		
	baz=261							
JKRS	**Kuro-shima**	**1.42 79**	P	**Pb**	**07 43 44.7**	**-1.0**		
JKRS			*e*S	**Sb**	**07 44 02.4**	**-1.0**		
DPDB	**Guoxing**	**1.42 272**	P	**Pb**	**07 43 45.2**	**-0.7**		
	baz=264							
DPDB			S	**Sb**	**07 44 02.9**	**-0.7**		
	baz=264							
YM01	**YM01**	**1.43 325**	*e*P	**Pb**	**07 43 45.2**	**-0.7**		
	baz=323							
YM01			*e*S	**Sb**	**07 44 03.1**	**-0.6**		
	baz=323							
WCS	**Beigang Elemen**	**1.44 273**	*i* P	**Pb**	**07 43 45.5**	**-0.6**		
	baz=271							
SMLT	**Sun Moon Lake**	**1.45 266**	*e*P	**Pb**	**07 43 47.0**	**+0.6**		
	baz=264							
SMLT			S	**Sb**	**07 44 04.1**	**-0.4**		
	baz=264							
YM08	**YM08**	**1.45 326**	*e*P	**Pb**	**07 43 45.4**	**-0.9**		
	baz=324							
YM08			S	**Sn**	**07 44 02.2**	**-0.2**		
	baz=324							
ECS	**Chishang**	**1.46 233**	P	**Pn**	**07 43 44.7**	**+0.4**		
	baz=224							
ECS			S	**Sn**	**07 44 03.9**	**+1.4**		
	baz=224							
EDH	**Donghe**	**1.48 227**	P	**Pn**	**07 43 44.3**	**-0.3**		
	baz=219							
EDH			S	**Sn**	**07 44 01.9**	**-1.0**		
	baz=219							
TWS1	**Kuangyinshan**	**1.48 319**	*e*P	**Pb**	**07 43 48.0**	**+1.3**		
	baz=331							
TWS1			*e*S	**Sb**	**07 44 06.4**	**+1.3**		
	baz=331							
YUS	**Yu-Shan**	**1.48 251**	*i* P	**Pn**	**07 43 45.9**	**+0.7**		
	baz=249							
YUS			S	**Sn**	**07 44 04.1**	**+0.2**		
	baz=249							
TYC	**Yuchr**	**1.49 267**	P	**Pb**	**07 43 46.2**	**-0.8**		
	baz=266							
TYC			S	**Sn**	**07 44 04.4**	**+1.2**		
	baz=266							
LIOB	**Emei**	**1.49 297**	P	**Pb**	**07 43 46.3**	**-0.7**		
	baz=294							
LIOB			*e*S	**Sn**	**07 44 02.8**	**-0.7**		
	baz=294							
NSTT	**Nanjuang**	**1.50 296**	*i* P	**Pb**	**07 43 46.7**	**-0.4**		
	baz=294							
NSTT			S	**Sb**	**07 44 05.3**	**-0.4**		
	baz=294							
NTST	**Danshui**	**1.51 322**	*e*P	**Pb**	**07 43 48.5**	**+1.2**		
	baz=333							
NTST			*e*S	**Sn**	**07 44 02.2**	**-1.5**		
	baz=333							
TWY	**Chenhua**	**1.52 328**	*e*P	**Pb**	**07 43 48.2**	**+0.8**		
	baz=327							
TWY			*e*S	**Sb**	**07 44 05.5**	**-0.8**		
	baz=327							
NCUH	**Zhongli**	**1.54 310**	P	**Pb**	**07 43 47.3**	**-0.5**		
	baz=308							
NCUH			S	**Sb**	**07 44 07.0**	**+0.2**		
	baz=308							
ELDTW	**Lidau**	**1.56 240**	*i* P	**Pn**	**07 43 46.2**	**+0.3**		
	baz=238							
ELDTW			S	**Sn**	**07 44 04.2**	**-1.0**		
	baz=238							
JIJ	**Ishigaki jima**	**1.56 76**	P	**Pn**	**07 43 46.4**	**+0.6**		
JIJ			S	**Sn**	**07 44 05.5**	**+0.4**		
LDUT	**Ludao**	**1.60 216**	P	**Pn**	**07 43 45.9**	**-0.4**		
	baz=215							
LDUT			*e*S	**Sn**	**07 44 03.4**	**-2.6**		
	baz=215							
TWQ1	**Liyutan**	**1.60 284**	P	**Pb**	**07 43 48.5**	**-0.4**		
	baz=282							
TWQ1			S	**Sb**	**07 44 08.8**	**+0.1**		
	baz=282							
ALS	**Alishan**	**1.61 253**	P	**Pn**	**07 43 48.0**	**+1.4**		
	baz=252							
ALS			S	**Sb**	**07 44 08.4**	**-0.7**		
	baz=252							
WJS	**Zhushan**	**1.61 265**	*e*P	**Pb**	**07 43 49.7**	**+0.6**		
	baz=263							
WJS			*e*S	**Sb**	**07 44 12.2**	**+3.1**		
	baz=263							
NSY	**Sanyi**	**1.63 286**	P	**Pb**	**07 43 49.0**	**-0.4**		
	baz=284							
NSY			S	**Sb**	**07 44 09.8**	**+0.2**		
	baz=284							
WWF	**Wufeng**	**1.63 273**	P	**Pb**	**07 43 49.0**	**-0.4**		
	baz=271							
WWF			S	**Sb**	**07 44 11.0**	**+1.4**		
	baz=271							
LONT	**Longtian**	**1.64 230**	P	**Pn**	**07 43 47.2**	**+0.3**		
	baz=241							
LONT			S	**Sn**	**07 44 07.2**	**+0.1**		
	baz=241							
NMLH	**Miaoli**	**1.64 290**	P	**Pb**	**07 43 48.5**	**-1.0**		
	baz=288							
NMLH			*e*S	**Sb**	**07 44 10.5**	**+0.7**		
	baz=288							
WNT	**Mingjian**	**1.65 267**	P	**Pb**	**07 43 49.0**	**-0.7**		
	baz=265							
WNT			S	**Sb**	**07 44 09.8**	**-0.2**		
	baz=265							
WNT1	**Nantou City**	**1.65 268**	P	**Pb**	**07 43 49.8**	**+0.1**		
	baz=266							
WNT1			S	**Sb**	**07 44 11.0**	**+0.9**		
	baz=266							
CHN5	**Tsauling**	**1.70 257**	P	**Pb**	**07 43 49.9**	**-0.6**		
	baz=247							
CHN5			*e*S	**Sb**	**07 44 12.6**	**+1.1**		
	baz=247							
WDJ	**Dajia District**	**1.72 283**	P	**Pn**	**07 43 48.8**	**+0.8**		
	baz=281							
WDJ			*e*S	**Sb**	**07 44 12.4**	**+0.3**		
	baz=281							
TWGBT	**Beinan**	**1.73 228**	P	**Pn**	**07 43 47.8**	**-0.4**		
	baz=239							
TWGBT			*e*S	**Sn**	**07 44 08.6**	**-0.7**		
	baz=239							
TWG	**Pinlang**	**1.73 229**	*i* P	**Pn**	**07 43 48.7**	**+0.5**		
	baz=239							
TWG			S	**Sn**	**07 44 09.1**	**-0.3**		
	baz=239							
STYH	**Taoyuan**	**1.76 243**	*e*P	**Pn**	**07 43 48.2**	**-0.3**		
	baz=236							
STYH			S	**Sn**	**07 44 11.4**	**+1.4**		
	baz=236							
WCHH	**Zhanghua**	**1.76 274**	P	**Pb**	**07 43 50.4**	**-1.2**		
	baz=272							
WCHH			S	**Sb**	**07 44 13.3**	**+0.1**		
	baz=272							
JISG	**Ishigakijimahi**	**1.77 70**	P	**Pn**	**07 43 48.8**	**+0.1**		
JISG			S	**Sn**	**07 44 10.7**	**+0.4**		
STYT	**Tauyuan**	**1.78 243**	P	**Pn**	**07 43 49.4**	**+0.6**		
	baz=235							
STYT			S	**Sn**	**07 44 11.9**	**+1.3**		
	baz=235							
WGK	**Gukeng**	**1.78 261**	*e*P	**Pb**	**07 43 52.8**	**+0.8**		
	baz=259							
WGK			*e*S	**Sb**	**07 44 16.4**	**+2.5**		
	baz=259							
WDLH	**Douliu**	**1.80 261**	P	**Pb**	**07 43 51.8**	**-0.5**		
	baz=259							
WDLH			S	**Sb**	**07 44 14.0**	**-0.5**		
	baz=259							
TPUB	**Ta-pu**	**1.83 249**	P	**Pb**	**07 43 51.4**	**-1.3**		
	baz=247							
TPUB			*e*S	**Sb**	**07 44 15.3**	**+0.1**		
	baz=247							
CHN4	**Tsaushan**	**1.84 250**	*e*P	**Pb**	**07 43 53.2**	**+0.3**		
	baz=249							
CHN4			*e*S	**Sb**	**07 44 16.6**	**+1.0**		
	baz=249							
WRL	**Guolierlin Hig**	**1.93 268**	P	**Pb**	**07 43 53.0**	**-1.4**		
	baz=279							
WRL			S	**Sb**	**07 44 17.8**	**-0.2**		
	baz=279							
CHY	**Chiayi**	**1.95 256**	*e*P	**Pb**	**07 43 56.1**	**+1.3**		
	baz=254							
CHY			S	**Sb**	**07 44 17.1**	**-1.5**		
	baz=254							
SLGT	**Liugui**	**1.95 240**	P	**Pb**	**07 43 53.3**	**-1.5**		
	baz=232							
SGST	**Jiashian**	**1.96 243**	P	**Pb**	**07 43 53.7**	**-1.3**		
	baz=234							
SGST			*e*S	**Sb**	**07 44 19.0**	**0.0**		
	baz=234							
CHN1	**Nanshi**	**1.96 247**	*e*P	**Pb**	**07 43 55.1**	**+0.1**		
	baz=245							
CHN1			S	**Sb**	**07 44 18.1**	**-1.0**		
	baz=245							
TWK	**Hsinying**	**1.96 249**	*e*P	**Pb**	**07 43 54.4**	**-0.6**		
	baz=247							
TWK			*e*S	**Sb**	**07 44 19.0**	**-0.1**		
	baz=247							
WTCT	**Ta-ch'eng**	**2.02 267**	S	**Sb**	**07 44 19.5**	**-1.1**		
	baz=279							
SSD	**Sandimen**	**2.10 235**	*i* P	**Pn**	**07 43 54.6**	**+1.5**		
	baz=229							
SSD			*e*S	**Sn**	**07 44 18.3**	**0.0**		
	baz=229							
TSMG	**Majia**	**2.11 233**	P	**Pn**	**07 43 55.1**	**+1.7**		
	baz=227							
LAY	**Lan-yu**	**2.12 204**	*i* P	**Pn**	**07 43 53.2**	**-0.2**		
	baz=203							
LAY			*e*S	**Sn**	**07 44 15.7**	**-3.1**		
	baz=203							
SCST	**Cishan**	**2.13 240**	P	**Pb**	**07 43 56.5**	**-1.3**		
	baz=228							
SCST			S	**Sb**	**07 44 23.0**	**-0.7**		
	baz=228							
JTJ	**Tarama**	**2.13 72**	P	**Pn**	**07 43 55.4**	**+1.8**		
JTJ			S	**Sn**	**07 44 20.3**	**+1.2**		
CHN8	**Yiju**	**2.18 254**	S	**Sb**	**07 44 23.5**	**-1.7**		
	baz=252							
MASBT	**Mashibuluo**	**2.18 232**	P	**Pn**	**07 43 55.4**	**+1.1**		
	baz=227							
MASBT			*e*S	**Sn**	**07 44 20.2**	**-0.1**		
	baz=227							
EAST	**Anshuo**	**2.19 224**	P	**Pn**	**07 43 55.1**	**+0.7**		
	baz=231							
EAST			S	**Sn**	**07 44 20.9**	**+0.3**		
	baz=231							
TWM1	**Shoushan**	**2.21 239**	P	**Pb**	**07 43 58.9**	**-0.4**		
	baz=238							
TWM1			*e*S	**Sb**	**07 44 27.5**	**+1.2**		
	baz=238							
SSPT	**Xinbi**	**2.31 230**	*e*P	**Pb**	**07 43 59.1**	**-1.7**		
	baz=225							
SLIU	**Shizi**	**2.34 222**	P	**Pn**	**07 43 56.8**	**+0.2**		
	baz=229							
SCZT	**Fangliau**	**2.34 227**	*e*P	**Pn**	**07 43 58.7**	**+2.1**		
	baz=221							
SCZT			*e*S	**Sb**	**07 44 27.8**	**-2.3**		
	baz=221							
TSEB	**Hengchuen, Pin**	**2.53 215**	*e*P	**Pn**	**07 44 00.8**	**+1.6**		
	baz=223							
TSEB			S	**Sn**	**07 44 31.1**	**+2.0**		
	baz=223							
TWKBT	**Hengchun**	**2.55 217**	P	**Pn**	**07 44 01.0**	**+1.7**		
	baz=216							
TWKBT			S	**Sn**	**07 44 30.1**	**+0.7**		
	baz=216							
TWK1	**Hengchun**	**2.55 218**	P	**Pn**	**07 44 00.3**	**+0.9**		
	baz=216							
TWK1			S	**Sn**	**07 44 30.1**	**+0.7**		
	baz=216							
JIRB	**Irabujima**	**2.59 70**	P	**Pn**	**07 44 01.9**	**+1.9**		
JIRB			S	**Sn**	**07 44 31.9**	**+1.3**		
WDGT	**Dungji**	**2.69 255**	P	**Pn**	**07 44 03.1**	**+1.9**		
	baz=253							
WDGT			*e*S	**Sn**	**07 44 33.0**	**+0.1**		
	baz=253							
JIKM	**Ikemajima**	**2.69 69**	P	**Pn**	**07 44 03.4**	**+2.1**		
JIKM			*e*S	**Sn**	**07 44 34.1**	**+1.2**		
JMJ	**Miyako jima 2**	**2.69 71**	*e*P	**Pn**	**07 43 59.6**	**-1.8**		
	baz=73							
JMJ			*e*S	**Sn**	**07 44 34.6**	**+1.6**		
	baz=73							
JMJ2	**Miyako jima3**	**2.70 73**	*e*S	**Sn**	**07 44 34.4**	**+1.1**		
PHUB	**P'eng-hu**	**2.71 261**	P	**Pn**	**07 44 02.7**	**+1.1**		
	baz=274							
PHUB			S	**Sn**	**07 44 34.4**	**+1.0**		
	baz=274							
PNG	**Penghu**	**2.71 262**	S	**Sn**	**07 44 34.9**	**+1.4**		
	baz=275							
JOGS	**Gusukube**	**2.78 73**	S	**Sn**	**07 44 36.9**	**+1.8**		
VCHM	**Qimei**	**2.90 255**	*e*S	**Sn**	**07 44 37.9**	**-0.3**		
	baz=254							
VWUC	**VWUC**	**2.94 291**	*e*P	**Pn**	**07 44 04.1**	**-0.6**		
	baz=289							
PTMZ	**Houxiangcun**	**3.24 290**	*e*P	**Pn**	**07 44 08.4**	**-0.5**		
	baz=288							
LYJJ	**Jianjiangzhen**	**3.55 317**	*e*P	**Pn**	**07 44 13.6**	**+0.4**		
	baz=315							
XPSS	**Dashiqiu**	**3.59 325**	*e*P	**Pn**	**07 44 13.3**	**-0.4**		
	baz=324							
KNM	**Kinmen**	**3.72 278**	*i* P	**Pn**	**07 44 17.8**	**+2.3**		
	baz=276							
KNM			*e*S	**Sn**	**07 44 59.2**	**+0.8**		
	baz=276							
KNMB	**Chin-men Tao**	**3.77 278**	P	**Pn**	**07 44 16.6**	**+0.5**		
	baz=277							
KNMB			*e*S	**Sn**	**07 44 57.6**	**-2.0**		
	baz=277							
AXDP	**Jialang**	**4.21 283**	*e*P	**Pn**	**07 44 22.1**	**-0.2**		
	baz=272							
AXDP			*e*S	**Sn**	**07 45 08.7**	**-1.8**		
	baz=272							
ZPLA	**Ao Xicun**	**4.33 270**	*e*P	**Pn**	**07 44 24.0**	**+0.1**		
	baz=269							
ZPLA			*e*S	**Sn**	**07 45 11.1**	**-2.3**		
	baz=269							
JOW	**Kunigami**	**5.96 60**	*e*P	**Pn**	**07 44 45.3**	**-1.0**		
	baz=63							

IDC 21 08:25:43.8±6.5, 58°27S×149°85E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/29, mbtmp3.5/2, MS3.6/2, Ms1 3.5/2, ms1mx3.0/12, Error ellipse: s-maj=464.5km s-min=70.9km az=78.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.76**	**172**	LR	LR	08 36 32.5	
	comp=Z,136nm,19.4s,baz=338,slow=33						
H01W1	**Cape Leeuwin H**	**33.26**	**299**	T	T	09 08 09.0	
	baz=147,slow=76						
H01W2	**Cape Leeuwin H**	**33.26**	**299**	T	T	09 08 08.8	
	baz=147,slow=76						
H01W3	**Cape Leeuwin H**	**33.27**	**299**	T	T	09 08 03.2	
	baz=147,slow=76						
ASAR	**Alice Springs**	**36.42**	**335**	P	P	08 32 49.8	-0.2
	0.3nm,0.7s,baz=163,slow=9.8,SNR=5.2						
MAW	**Mawson**	**37.36**	**219**	LR	LR	08 48 41.3	
	comp=Z,88nm,18.2s,baz=216,slow=37						
WRA	**Warramunga Arr**	**39.93**	**337**	P	P	08 33 19.5	0.0
	1.0nm,1.0s,baz=164,slow=7.5,SNR=2.9						
H08S2	**Diego Garcia H**	**76.89**	**277**	T	T	10 01 58.7	
	baz=149,slow=76						
H08S1	**Diego Garcia H**	**76.90**	**277**	T	T	10 02 03.1	
	baz=149,slow=76						
H08S3	**Diego Garcia H**	**76.91**	**277**	T	T	10 02 00.3	
	baz=149,slow=76						
FINES	**FINESS Array B**	**152.34**	**301**	PKPbc	PKPbc	08 45 39.9	-0.2
	0.8nm,0.7s,baz=94,slow=4.2,SNR=2.3						

NNC 21 08:27:58.7±7.9, 37°58N×71°81E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=60.4km s-min=53.4km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.45**	**21**	⇑P	Pn	08 29 20.3	-1.0
	2.0nm,0.4s						
AAK				⇑S	Sn	08 30 24.3	-0.5
	3.4nm,0.7s						
KK31	**Karatay Array**	**5.60**	**350**	⇑P	Pn	08 29 25.2	+1.9
	0.2nm,0.2s,baz=158,slow=11,SNR=3.1						
KK31				⇓S	Sn	08 30 28.9	+0.5
	1.9nm,0.3s,baz=153,slow=17,SNR=14						
TKM2	**Tokmak 2**	**6.07**	**27**	⇓P	Pn	08 29 28.5	-1.3
	5.3nm,0.7s						
TKM2				⇑S	Sn	08 30 44.2	+4.1
	0.4nm,0.3s						

*IDC **21** 08:32:22.2±0.9, 24°.05N×122°.49E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.6/37, mbtmp3.8/10, ML3.3/1, Error ellipse: s-maj=29.2km s-min=19.1km az=63.0*
*JMA **21** 08:32:26.4±0.2, 23°.94N×122°.43E, h23km±4km, M3.6*
*TAP **21** 08:32:26.6, 23°.96N×122°.46E, h32km, ML4.2, D*
*NIED **21** 08:32:26.4, 23°.94N×122°.43E, h23km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}0.94; $M_{\theta\theta}$-2.76; $M_{\phi\phi}$1.82; $M_{r\theta}$3.75; $M_{\theta\phi}$0.88; $M_{\phi r}$2.23; Fault plane solution: $M_0$5.07000×10^{14} NP1:ϕ_s62.00000°, δ84.00000°, λ62.00000°. NP2:ϕ_s320.00000°, δ29.00000°, λ167.00000°.*

ISC 21 08:32:26.2±1.0, 23°.92N±0°.02×122°.43E±0°.02, h25km±9km, n169, σ0$\frac{9}{4}$/297, mb3.7/9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.71**	**41**	P	**Pb**	**08 32 39.6**	**-0.4**
JYNG				*e*S	**Sb**	**08 32 48.1**	**-1.3**
HWA	**Hwalien**	**0.76**	**275**	P	**Pn**	**08 32 41.1**	**-0.1**
	baz=259						
HWA				S	**Sn**	**08 32 52.9**	**+1.0**
	baz=259						
TEYL	**Yanliau Villag**	**0.76**	**267**	P	**Pn**	**08 32 41.1**	**-0.2**
	baz=255						
TEYL				S	**Sn**	**08 32 52.2**	**+0.2**
	baz=255						
YOJ	**Yonaguni jima**	**0.76**	**44**	P	**Pb**	**08 32 40.5**	**-0.4**
YOJ				S	**Sb**	**08 32 49.5**	**-1.3**
YOJ	**Yonaguni jima**	**0.76**	**44**	P	**Pb**	**08 32 40.4**	**-0.4**
	baz=45						
YOJ				S	**Sb**	**08 32 49.5**	**-1.3**
	baz=45						
ETL	**Fush Village**	**0.77**	**288**	P	**Pb**	**08 32 41.1**	**0.0**
	baz=271						
ETL				*e*S	**Sn**	**08 32 53.7**	**+1.3**
	baz=271						
TWD	**Chiawan**	**0.78**	**282**	P	**Pb**	**08 32 40.7**	**-0.4**
	baz=278						
TWD				S	**Sb**	**08 32 51.7**	**+0.5**
	baz=278						
EWUT	**Wuta**	**0.79**	**312**	*i* P	**Pb**	**08 32 41.0**	**-0.4**
	baz=308						
EWUT				S	**Sb**	**08 32 51.9**	**+0.2**
	baz=308						

NACB	**Ninganchiao**	**0.80 289**	P	**Pb**	**08 32 41.3**	**-0.2**
	baz=272					
NACB			S	**Sb**	**08 32 51.8**	**-0.2**
	baz=272					
TEGC	**Jichi Village**	**0.84 256**	P	**Pb**	**08 32 42.0**	**-0.1**
	baz=253					
TEGC			S	**Sn**	**08 32 54.3**	**+0.3**
	baz=253					
ETM	**Tongmen**	**0.86 274**	P	**Pb**	**08 32 41.9**	**-0.5**
	baz=262					
ETM			S	**Sb**	**08 32 53.0**	**-0.5**
	baz=262					
TWC	**Suao**	**0.87 323**	P	**Pb**	**08 32 42.0**	**-0.7**
	baz=319					
TWC			S	**Sb**	**08 32 52.9**	**-1.0**
	baz=319					
ETLH	**Xiulin Townshi**	**0.91 289**	P	**Pb**	**08 32 43.3**	**-0.2**
	baz=274					
ETLH			S	**Sb**	**08 32 55.3**	**+0.1**
	baz=274					
ESL	**Shilin**	**0.92 264**	S	**Sb**	**08 32 54.8**	**-0.4**
	baz=251					
EGFH	**Guangfu**	**0.95 255**	P	**Pn**	**08 32 43.8**	**-0.2**
	baz=252					
EGFH			*e*S	**Sn**	**08 32 58.2**	**+1.5**
	baz=252					
NDS	**Dongshan**	**0.97 318**	*i* P	**Pn**	**08 32 44.1**	**-0.1**
	baz=314					
NDS			S	**Sn**	**08 32 57.1**	**0.0**
	baz=314					
HGSD	**Ruisui**	**1.01 246**	P	**Pn**	**08 32 44.2**	**-0.6**
	baz=243					
HGSD			*e*S	**Sb**	**08 32 56.9**	**-1.1**
	baz=243					
EGS		**1.03 334**	*i* P	**Pb**	**08 32 45.3**	**-0.1**
	baz=320					
EGS			*e*S	**Sn**	**08 32 59.7**	**+1.0**
	baz=320					
ILA	**Ilan**	**1.05 324**	P	**Pb**	**08 32 45.5**	**-0.2**
	baz=311					
ILA			S	**Sn**	**08 33 00.7**	**+1.5**
	baz=311					
TWE	**Neicheng**	**1.06 319**	P	**Pb**	**08 32 45.8**	**-0.1**
	baz=317					
ENTT	**Nioudou**	**1.07 313**	*i* P	**Pb**	**08 32 46.0**	**-0.1**
	baz=296					
ENTT			*e*S	**Sb**	**08 32 58.7**	**-0.9**
	baz=296					
NDT	**Datong Townshi**	**1.08 310**	P	**Pb**	**08 32 46.2**	**-0.1**
	baz=306					
NDT			S	**Sn**	**08 33 00.8**	**+0.9**
	baz=306					
NNSB	**Datong**	**1.08 298**	P	**Pn**	**08 32 45.7**	**-0.2**
	baz=284					
NNSB			S	**Sb**	**08 32 59.8**	**-0.3**
	baz=284					
NNSH	**Datong**	**1.08 298**	P	**Pn**	**08 32 45.9**	**0.0**
	baz=284					
NNSH			S	**Sn**	**08 33 00.4**	**+0.2**
	baz=284					
NTC	**Toucheng**	**1.08 330**	*i* P	**Pb**	**08 32 46.1**	**-0.1**
	baz=327					
NTC			S	**Sn**	**08 33 00.8**	**+0.8**
	baz=327					
WHF	**Hehuan Shan**	**1.09 282**	P	**Pn**	**08 32 46.3**	**+0.1**
	baz=279					
WHF			S	**Sn**	**08 33 00.8**	**0.0**
	baz=279					
EHY	**Hungye**	**1.09 248**	*i* P	**Pn**	**08 32 45.9**	**0.0**
	baz=261					
EHY			S	**Sb**	**08 33 00.3**	**0.0**
	baz=261					
NNS	**Nan Shan**	**1.10 299**	*i* P	**Pb**	**08 32 46.4**	**-0.2**
	baz=285					
NNS			S	**Sn**	**08 33 01.1**	**+0.6**
	baz=285					
FUSS	**Fushou**	**1.13 287**	*i* P	**Pn**	**08 32 46.9**	**+0.2**
	baz=284					
FUSS			S	**Sb**	**08 33 02.3**	**+0.6**
	baz=284					
OWD	**Renai**	**1.15 272**	P	**Pn**	**08 32 47.0**	**+0.2**
	baz=269					
OWD			S	**Sb**	**08 33 01.8**	**-0.1**
	baz=269					
CHGB	**Renai**	**1.16 277**	P	**Pb**	**08 32 47.4**	**-0.2**
	baz=264					
CHGB			S	**Sb**	**08 33 02.7**	**+0.4**
	baz=264					
YULB	**Yu-li**	**1.16 244**	P	**Pn**	**08 32 47.0**	**+0.1**
	baz=232					
YULB			S	**Sb**	**08 33 02.7**	**+0.5**
	baz=232					
TWB1	**Santiao Chiao**	**1.16 340**	P	**Pn**	**08 32 46.9**	**0.0**
	baz=353					
TWB1			*e*S	**Sb**	**08 33 03.7**	**+1.5**
	baz=353					
EYUL	**Yuli**	**1.16 241**	P	**Pn**	**08 32 47.2**	**+0.3**
	baz=239					
EYUL			S	**Sb**	**08 33 03.0**	**+0.7**
	baz=239					
TWF1	**Yuli**	**1.18 242**	P	**Pb**	**08 32 47.7**	**-0.2**
	baz=239					
TWF1			S	**Sb**	**08 33 03.1**	**+0.4**
	baz=239					
TIPB	**Shuangxi**	**1.19 333**	P	**Pb**	**08 32 47.6**	**-0.5**
	baz=330					
TIPB			S	**Sb**	**08 33 02.9**	**-0.2**
	baz=330					
TWT	**Tachien**	**1.19 287**	*i* P	**Pb**	**08 32 48.3**	**0.0**
	baz=274					
TWT			S	**Sb**	**08 33 03.8**	**+0.4**
	baz=274					
NWLT	**Wulai**	**1.20 316**	P	**Pb**	**08 32 48.2**	**-0.2**
	baz=313					
NWLT			S	**Sb**	**08 33 03.4**	**-0.1**
	baz=313					
TDCB	**Techi**	**1.21 286**	P	**Pb**	**08 32 48.3**	**-0.2**
	baz=274					
TDCB			S	**Sb**	**08 33 04.0**	**+0.2**
	baz=274					
FULB	**Fuli**	**1.26 236**	P	**Pn**	**08 32 48.3**	**0.0**
	baz=224					
FULB			*e*S	**Sb**	**08 33 07.2**	**+2.0**
	baz=224					
IRIF	**Iriomote-Funau**	**1.26 70**	P	**Pn**	**08 32 48.7**	**+0.5**
IRIF			*e*S	**Sb**	**08 33 05.1**	**0.0**
CHKT	**Chengkung**	**1.27 230**	P	**Pn**	**08 32 48.2**	**-0.2**
	baz=219					
CHKT			S	**Sn**	**08 33 03.2**	**-1.3**
	baz=219					
HATJ	**Hateruma jima**	**1.27 83**	P	**Pb**	**08 32 49.1**	**-0.3**
HATJ			S	**Sb**	**08 33 05.3**	**0.0**
NWF	**Wu-fen Shan**	**1.29 333**	*i* P	**Pn**	**08 32 48.7**	**-0.1**
	baz=331					
NWF			*e*S	**Sb**	**08 33 07.8**	**+1.7**
	baz=331					
TWA	**Mucha**	**1.31 324**	*i* P	**Pb**	**08 32 49.6**	**-0.6**
	baz=339					
TWA			*e*S	**Sb**	**08 33 08.2**	**+1.6**
	baz=339					
NHDH	**Xindian Distri**	**1.33 322**	P	**Pb**	**08 32 50.7**	**+0.2**
	baz=319					
NHDH			S	**Sb**	**08 33 06.5**	**-0.6**
	baz=319					
WPL	**Puli Township**	**1.35 274**	P	**Pn**	**08 32 49.1**	**-0.4**
	baz=271					
WPL			*e*S	**Sn**	**08 33 06.6**	**0.0**
	baz=271					
SSLB	**Suanglung**	**1.35 265**	P	**Pn**	**08 32 49.9**	**+0.3**
	baz=262					
SSLB			S	**Sb**	**08 33 07.2**	**-0.6**
	baz=262					
TATO	**Taipei**	**1.36 321**	P	**Pb**	**08 32 50.4**	**-0.6**
	baz=318					
TATO			S	**Sb**	**08 33 07.4**	**-0.6**
	baz=318					
TNOU	**National Taiwa**	**1.37 334**	P	**Pn**	**08 32 49.6**	**-0.1**
	baz=332					
TNOU			*e*S	**Sb**	**08 33 07.7**	**-0.5**
	baz=332					
ECS	**Chishang**	**1.38 234**	P	**Pn**	**08 32 50.2**	**+0.4**
	baz=223					
ECS			*e*S	**Sb**	**08 33 08.9**	**+0.4**
	baz=223					
DPDB	**Guoxing**	**1.38 275**	P	**Pb**	**08 32 50.7**	**-0.6**
	baz=272					
DPDB			*e*S	**Sb**	**08 33 08.3**	**-0.3**
	baz=272					

TAP1	**Taipei**	**1.39 324**	P	**Pb**	**08 32 51.1**	**-0.4**
	baz=321					
TAP1			*e*S	**Sb**	**08 33 10.2**	**+1.4**
	baz=321					
WCS	**Beigang Elemen**	**1.39 276**	*i* P	**Pb**	**08 32 50.9**	**-0.7**
	baz=274					
EDH	**Donghe**	**1.39 228**	P	**Pn**	**08 32 50.0**	**0.0**
	baz=218					
EDH			S	**Sn**	**08 33 06.3**	**-1.4**
	baz=218					
SMLT	**Sun Moon Lake**	**1.40 269**	*i* P	**Pb**	**08 32 51.0**	**-0.8**
	baz=266					
SMLT			S	**Sb**	**08 33 09.1**	**-0.1**
	baz=266					
BACT	**New Taipei Cit**	**1.40 320**	P	**Pn**	**08 32 50.9**	**+0.7**
	baz=318					
BACT			*e*S	**Sb**	**08 33 10.4**	**+1.2**
	baz=318					
YM01	**YM01**	**1.45 328**	P	**Pb**	**08 32 52.1**	**-0.5**
	baz=341					
YM01			*e*S	**Sn**	**08 33 07.9**	**-1.3**
	baz=341					
WHYT	**Xinyi Township**	**1.46 262**	*e*P	**Pb**	**08 32 53.0**	**+0.3**
	baz=248					
WHYT			S	**Sb**	**08 33 10.6**	**-0.2**
	baz=248					
NJD	**Zhudong**	**1.47 304**	P	**Pb**	**08 32 52.7**	**-0.2**
	baz=301					
NJD			*e*S	**Sb**	**08 33 13.2**	**+2.0**
	baz=301					
LIOB	**Emei**	**1.48 300**	P	**Pb**	**08 32 53.3**	**+0.2**
	baz=297					
LIOB			S	**Sb**	**08 33 10.9**	**-0.5**
	baz=297					
YM08	**YM08**	**1.48 329**	P	**Pn**	**08 32 51.8**	**+0.5**
	baz=327					
JKRS	**Kuro-shima**	**1.48 77**	P	**Pb**	**08 32 52.3**	**-0.8**
JKRS			*e*S	**Sn**	**08 33 10.5**	**+0.7**
ELDTW	**Lidau**	**1.48 241**	*i* P	**Pn**	**08 32 51.3**	**-0.1**
	baz=239					
ELDTW			S	**Sn**	**08 33 09.6**	**-0.5**
	baz=239					
NSTT	**Nanjuang**	**1.48 299**	P	**Pb**	**08 32 53.1**	**-0.1**
	baz=296					
NSTT			S	**Sb**	**08 33 12.0**	**+0.4**
	baz=296					
NTY	**Taoyuan**	**1.49 317**	*e*P	**Pn**	**08 32 51.3**	**-0.1**
	baz=330					
TWS1	**Kuangyinshan**	**1.50 322**	P	**Pb**	**08 32 52.8**	**-0.6**
	baz=336					
ANP	**Anpu**	**1.51 327**	*e*P	**Pb**	**08 32 54.1**	**+0.4**
	baz=325					
ANP			*e*S	**Sb**	**08 33 12.4**	**-0.1**
	baz=325					
LDUT	**Ludao**	**1.52 216**	*i* P	**Pn**	**08 32 51.3**	**-0.5**
	baz=214					
LDUT			S	**Sn**	**08 33 09.3**	**-1.4**
	baz=214					
NTST	**Danshui**	**1.53 325**	P	**Pn**	**08 32 52.6**	**+0.6**
	baz=338					
ALS	**Alishan**	**1.54 255**	P	**Pn**	**08 32 53.1**	**+0.8**
	baz=252					
ALS			S	**Sb**	**08 33 12.9**	**-0.5**
	baz=252					
NCU	**National Centr**	**1.54 313**	P	**Pb**	**08 32 53.8**	**-0.4**
	baz=310					
NCU			*e*S	**Sb**	**08 33 12.6**	**-0.7**
	baz=310					
NCUH	**Zhongli**	**1.54 313**	P	**Pn**	**08 32 53.0**	**+0.9**
	baz=310					
NCUH			*e*S	**Sb**	**08 33 14.5**	**+1.2**
	baz=310					
HSN1	**Hsinchu**	**1.55 304**	P	**Pb**	**08 32 53.2**	**-1.0**
	baz=303					
TWY	**Chenhua**	**1.55 331**	*e*P	**Pb**	**08 32 54.1**	**-0.2**
	baz=330					
LONT	**Longtian**	**1.56 230**	P	**Pn**	**08 32 52.7**	**+0.4**
	baz=241					
LONT			S	**Sn**	**08 33 12.1**	**+0.4**
	baz=241					
WJS	**Zhushan**	**1.56 267**	*e*P	**Pn**	**08 32 53.0**	**+0.7**
	baz=264					
WJS			S	**Sb**	**08 33 15.2**	**+1.5**
	baz=264					
TWQ1	**Liyutan**	**1.57 286**	*i* P	**Pb**	**08 32 54.6**	**0.0**
	baz=283					
TWQ1			*e*S	**Sb**	**08 33 15.7**	**+1.6**
	baz=283					
SBCB	**Hsinchu**	**1.58 304**	P	**Pb**	**08 32 53.9**	**-0.9**
	baz=301					
SBCB			S	**Sb**	**08 33 14.9**	**+0.7**
	baz=301					
WWF	**Wufeng**	**1.59 275**	P	**Pb**	**08 32 55.4**	**+0.5**
	baz=267					
WWF			*e*S	**Sb**	**08 33 16.9**	**+2.4**
	baz=267					
HSN	**Hsinchu**	**1.60 304**	P	**Pb**	**08 32 54.2**	**-0.8**
	baz=302					
HSN			S	**Sn**	**08 33 13.2**	**+0.6**
	baz=302					
WNT	**Mingjian**	**1.60 269**	P	**Pb**	**08 32 55.0**	**0.0**
	baz=266					
WNT			S	**Sb**	**08 33 15.5**	**+0.8**
	baz=266					
WNT1	**Nantou City**	**1.60 270**	P	**Pb**	**08 32 55.6**	**+0.5**
	baz=267					
WNT1			S	**Sb**	**08 33 16.0**	**+1.2**
	baz=267					
NSY	**Sanyi**	**1.60 288**	*i* P	**Pb**	**08 32 55.1**	**0.0**
	baz=287					
NJN	**Zhunan**	**1.61 299**	*e*P	**Pb**	**08 32 56.4**	**+1.1**
	baz=296					
NJN			S	**Sb**	**08 33 16.2**	**+0.9**
	baz=296					
NMLH	**Miaoli**	**1.62 293**	P	**Pb**	**08 32 55.2**	**-0.2**
	baz=290					
NMLH			S	**Sb**	**08 33 15.9**	**+0.5**
	baz=290					
TCU	**Taichung**	**1.62 279**	P	**Pb**	**08 32 55.4**	**0.0**
	baz=275					
TCU			S	**Sb**	**08 33 16.9**	**+1.5**
	baz=275					
JIJ	**Ishigaki jima**	**1.63 74**	P	**Pn**	**08 32 53.8**	**+0.5**
JIJ			*e*S	**Sn**	**08 33 13.6**	**+0.1**
CHN5	**Tsauling**	**1.63 259**	*i* P	**Pb**	**08 32 55.4**	**-0.3**
	baz=248					
CHN5			*e*S	**Sb**	**08 33 17.1**	**+1.1**
	baz=248					
TTN	**Taitung**	**1.65 226**	*e*S	**Sb**	**08 33 15.6**	**-0.7**
	baz=214					
TWGBT	**Beinan**	**1.65 229**	P	**Pn**	**08 32 53.9**	**+0.2**
	baz=239					
TWGBT			S	**Sn**	**08 33 13.7**	**-0.4**
	baz=239					
TWG	**Pinlang**	**1.65 229**	P	**Pn**	**08 32 53.9**	**+0.2**
	baz=239					
TWG			S	**Sn**	**08 33 14.3**	**+0.2**
	baz=239					
STYH	**Taoyuan**	**1.69 244**	P	**Pb**	**08 32 55.8**	**-0.8**
	baz=235					
STYH			S	**Sn**	**08 33 15.8**	**+0.9**
	baz=235					
WDJ	**Dajia District**	**1.69 285**	P	**Pb**	**08 32 56.0**	**-0.6**
	baz=282					
WDJ			*e*S	**Sb**	**08 33 19.0**	**+1.6**
	baz=282					
STYT	**Tauyuan**	**1.71 244**	P	**Pn**	**08 32 55.6**	**+1.2**
	baz=235					
STYT			S	**Sn**	**08 33 16.2**	**+0.8**
	baz=235					
WCHH	**Zhanghua**	**1.72 276**	P	**Pb**	**08 32 56.5**	**-0.6**
	baz=287					
WCHH			S	**Sb**	**08 33 19.0**	**+0.8**
	baz=287					
WGK	**Gukeng**	**1.72 263**	P	**Pb**	**08 32 56.7**	**-0.5**
	baz=260					
WGK			*e*S	**Sb**	**08 33 20.8**	**+2.3**
	baz=260					
PCYT	**Pengchaiyu**	**1.74 349**	P	**Pn**	**08 32 55.2**	**+0.4**
	baz=334					
WDLH	**Douliu**	**1.75 263**	P	**Pb**	**08 32 57.1**	**-0.5**
	baz=260					
WDLH			*e*S	**Sb**	**08 33 19.7**	**+0.6**
	baz=260					
TPUB	**Ta-pu**	**1.76 250**	P	**Pb**	**08 32 57.3**	**-0.5**
	baz=238					
TPUB			S	**Sb**	**08 33 19.4**	**-0.1**
	baz=238					

CHN4	**Tsaushan**	**1.77 252**	P	**Pb**	**08 32 58.0**	**-0.1**
	baz=249					
CHN4			*e*S	**Sb**	**08 33 20.9**	**+1.0**
	baz=249					
WTP	**Ta-pu**	**1.79 249**	*i* P	**Pb**	**08 32 57.6**	**-0.8**
	baz=238					
WTP			*e*S	**Sb**	**08 33 21.4**	**+0.9**
	baz=238					
CHN2	**Minshiung**	**1.83 258**	P	**Pb**	**08 32 58.9**	**-0.1**
	baz=256					
CHN2			*e*S	**Sb**	**08 33 22.6**	**+1.2**
	baz=256					
JISG	**Ishigakijimahi**	**1.84 68**	P	**Pn**	**08 32 56.6**	**+0.3**
JISG			S	**Sn**	**08 33 19.6**	**+0.8**
SLGT	**Liugui**	**1.88 241**	P	**Pb**	**08 32 59.5**	**-0.3**
	baz=232					
WRL	**Guolierlin Hig**	**1.88 270**	*i* P	**Pb**	**08 32 58.8**	**-1.0**
	baz=281					
WRL			S	**Sb**	**08 33 23.1**	**+0.3**
	baz=281					
WTK	**Tuku**	**1.88 264**	*i* P	**Pb**	**08 32 59.0**	**-0.9**
	baz=261					
WTK			*i* S	**Sb**	**08 33 23.6**	**+0.6**
	baz=261					
CHY	**Chiayi**	**1.88 258**	P	**Pb**	**08 32 59.2**	**-0.7**
	baz=255					
CHY			S	**Sb**	**08 33 23.2**	**+0.2**
	baz=255					
SGST	**Jiashian**	**1.89 244**	P	**Pb**	**08 32 59.3**	**-0.6**
	baz=234					
SGST			S	**Sb**	**08 33 23.3**	**+0.2**
	baz=234					
ECL	**Taimali**	**1.89 226**	*e*P	**Pn**	**08 32 57.3**	**+0.5**
	baz=235					
ECL			S	**Sn**	**08 33 18.8**	**-1.0**
	baz=235					
CHN1	**Nanshi**	**1.89 248**	*i* P	**Pb**	**08 32 59.9**	**-0.1**
	baz=245					
CHN1			*e*S	**Sb**	**08 33 24.2**	**+1.0**
	baz=245					
TWK	**Hsinying**	**1.89 250**	*i* P	**Pb**	**08 32 59.2**	**-0.9**
	baz=248					
TWK			*i* S	**Sb**	**08 33 23.6**	**+0.2**
	baz=248					
SNST	**Tainan City**	**1.90 249**	*i* P	**Pb**	**08 32 59.9**	**-0.3**
	baz=247					
SNST			S	**Sb**	**08 33 24.0**	**+0.4**
	baz=247					
WTCT	**Ta-ch'eng**	**1.96 269**	P	**Pb**	**08 33 00.1**	**-1.2**
	baz=279					
WTCT			S	**Sb**	**08 33 25.7**	**+0.3**
	baz=279					
SSD	**Sandimen**	**2.02 235**	P	**Pn**	**08 33 00.3**	**+1.6**
	baz=229					
SSD			*e*S	**Sb**	**08 33 25.7**	**-1.3**
	baz=229					
WMLT	**Mailiao**	**2.02 267**	S	**Sb**	**08 33 27.2**	**+0.2**
	baz=280					
TSMG	**Majia**	**2.03 234**	*e*P	**Pb**	**08 33 01.8**	**-0.7**
	baz=226					
LAY	**Lan-yu**	**2.03 204**	*e*P	**Pn**	**08 32 59.4**	**+0.4**
	baz=202					
LAY			*e*S	**Sn**	**08 33 21.0**	**-2.6**
	baz=202					
WSF	**Szhu**	**2.04 263**	P	**Pb**	**08 33 01.2**	**-1.4**
	baz=260					
WSF			S	**Sb**	**08 33 27.4**	**-0.1**
	baz=260					
ICHU	**Yijhu**	**2.04 255**	P	**Pb**	**08 33 01.2**	**-1.5**
	baz=252					
ICHU			S	**Sb**	**08 33 26.1**	**-1.6**
	baz=252					
SCST	**Cishan**	**2.05 240**	P	**Pb**	**08 33 02.0**	**-0.7**
	baz=227					
SCST			S	**Sb**	**08 33 28.3**	**+0.4**
	baz=227					
CHN3	**Shinhua**	**2.07 247**	S	**Sb**	**08 33 30.0**	**+1.6**
	baz=244					
TAW	**Tawu**	**2.10 223**	P	**Pn**	**08 33 00.3**	**+0.6**
	baz=230					
TAW			*e*S	**Sn**	**08 33 23.3**	**-1.6**
	baz=230					
MASBT	**Mashibuluo**	**2.10 232**	P	**Pn**	**08 33 00.8**	**+1.0**
	baz=224					
EAST	**Anshuo**	**2.11 224**	P	**Pn**	**08 33 00.1**	**+0.2**
	baz=222					
CHN8	**Yiju**	**2.11 255**	P	**Pb**	**08 33 02.2**	**-1.5**
	baz=252					
CHN8			*e*S	**Sb**	**08 33 29.8**	**+0.2**
	baz=252					
SGLT	**Jiouru**	**2.14 237**	*e*P	**Pb**	**08 33 04.6**	**+0.4**
	baz=234					
SGLT			*e*S	**Sb**	**08 33 31.1**	**+0.7**
	baz=234					
TWM1	**Shoushan**	**2.14 240**	*e*P	**Pb**	**08 33 04.6**	**+0.3**
	baz=238					
TWM1			*e*S	**Sb**	**08 33 33.2**	**+2.8**
	baz=238					
SCLT	**Jiali**	**2.18 251**	P	**Pb**	**08 33 02.9**	**-2.0**
	baz=248					
SCLT			*e*S	**Sb**	**08 33 31.3**	**-0.2**
	baz=248					
JTJ	**Tarama**	**2.20 70**	P	**Pn**	**08 33 02.4**	**+1.3**
JTJ			*e*S	**Sn**	**08 33 28.7**	**+1.2**
TAI1	**Yung-k'ang**	**2.20 247**	S	**Sb**	**08 33 32.1**	**+0.1**
	baz=244					
SSPT	**Xinbi**	**2.23 231**	*e*P	**Pb**	**08 33 04.4**	**-1.4**
	baz=224					
SNJT	**Kaohsiung City**	**2.24 239**	P	**Pb**	**08 33 05.3**	**-0.8**
	baz=236					
SNJT			S	**Sb**	**08 33 35.4**	**+2.0**
	baz=236					
SLIU	**Shizi**	**2.26 222**	*e*P	**Pn**	**08 33 02.2**	**+0.3**
	baz=228					
SCZT	**Fangliau**	**2.26 228**	*e*P	**Pb**	**08 33 05.0**	**-1.4**
	baz=220					
TSEB	**Hengchuen, Pin**	**2.45 215**	S	**Sn**	**08 33 36.4**	**+2.7**
	baz=222					
HEN	**Hengchun**	**2.46 220**	P	**Pn**	**08 33 05.9**	**+1.2**
	baz=218					
HEN			S	**Sn**	**08 33 35.8**	**+1.9**
	baz=218					
TWKBT	**Hengchun**	**2.46 217**	P	**Pn**	**08 33 06.8**	**+2.0**
	baz=215					
TWKBT			*e*S	**Sn**	**08 33 33.9**	**-0.3**
	baz=215					
TWK1	**Hengchun**	**2.47 218**	P	**Pn**	**08 33 05.5**	**+0.6**
	baz=215					
TWK1			S	**Sn**	**08 33 35.1**	**+1.0**
	baz=215					
WDGT	**Dungji**	**2.62 256**	*i* P	**Pn**	**08 33 08.3**	**+1.3**
	baz=253					
WDGT			S	**Sn**	**08 33 39.7**	**+1.7**
	baz=253					
PHUB	**P'eng-hu**	**2.65 262**	P	**Pn**	**08 33 08.3**	**+1.0**
	baz=274					
PHUB			*e*S	**Sn**	**08 33 39.2**	**+0.6**
	baz=274					
PNG	**Penghu**	**2.66 263**	P	**Pn**	**08 33 08.8**	**+1.3**
	baz=275					
PNG			S	**Sn**	**08 33 40.8**	**+2.0**
	baz=275					
JIRB	**Irabujima**	**2.66 69**	P	**Pn**	**08 33 08.4**	**+0.9**
JIKM	**Ikemajima**	**2.76 68**	P	**Pn**	**08 33 11.3**	**+2.4**
JMJ	**Miyako jima 2**	**2.76 70**	*e*P	**Pn**	**08 33 11.7**	**+2.8**
	baz=73					
JMJ			*e*S	**Sn**	**08 33 42.9**	**+1.4**
	baz=73					
JMJ2	**Miyako jima3**	**2.77 72**	P	**Pn**	**08 33 11.2**	**+2.2**
VCHM	**Qimei**	**2.84 256**	P	**Pn**	**08 33 11.1**	**+1.1**
	baz=253					
VCHM			S	**Sn**	**08 33 44.0**	**+0.6**
	baz=253					
VWUC	**VWUC**	**2.92 292**	*e*P	**Pn**	**08 33 11.1**	**0.0**
	baz=292					
MATB	**Ma-tsu**	**3.17 315**	*e*P	**Pn**	**08 33 14.3**	**-0.2**
	baz=313					
MSUT	**Lienchiang**	**3.19 315**	*e*P	**Pn**	**08 33 14.3**	**-0.5**
	baz=312					
MSUT			*e*S	**Sn**	**08 33 50.4**	**-1.7**
	baz=312					
PTMZ	**Houxiangcun**	**3.21 291**	*e*P	**Pn**	**08 33 14.9**	**-0.2**
	baz=291					
LYJJ	**Jianjiangzhen**	**3.57 318**	*e*P	**Pn**	**08 33 19.5**	**-0.5**
	baz=306					
XPSS	**Dashiqiu**	**3.62 327**	*e*P	**Pn**	**08 33 20.6**	**-0.1**
	baz=334					
XPSS			*e*S	**Sn**	**08 34 01.3**	**-1.3**

	baz=334						
KNM	**Kinmen**	**3.68**	**279**	P	**Pn**	**08 33 24.2**	**+2.7**
	baz=275						
KNM				*e*S	**Sn**	**08 34 05.0**	**+0.9**
	baz=275						
KNMB	**Chin-men Tao**	**3.73**	**279**	*e*P	**Pn**	**08 33 22.2**	**+0.1**
	baz=276						
KNMB				*e*S	**Sn**	**08 34 03.8**	**-1.6**
	baz=276						
MHZQ	**Yeshan**	**3.77**	**306**	*e*P	**Pn**	**08 33 21.4**	**-1.4**
	baz=306						
AXDP	**Jialang**	**4.18**	**284**	*e*P	**Pn**	**08 33 28.7**	**+0.3**
	baz=281						
AXDP				*e*S	**Sn**	**08 34 15.8**	**-0.6**
	baz=281						
ZPLA	**Ao Xicun**	**4.28**	**271**	*e*P	**Pn**	**08 33 30.0**	**+0.2**
	baz=268						
ZPLA				*e*S	**Sn**	**08 34 17.3**	**-1.6**
	baz=268						
JOW	**Kunigami**	**6.03**	**60**	Pn	**Pn**	**08 33 52.3**	**-1.6**
	1.7nm,0.3s,baz=135,slow=15,SNR=5.8						
JOW				Sn	**Sn**	**08 35 00.5**	**-1.7**
	0.1nm,0.3s,baz=336,slow=20,SNR=2.3						
KSRS	**Korea Array**	**14.29**	**18**	Pn	**Pn**	**08 35 49.5**	**+2.5**
	0.4nm,0.3s,baz=198,slow=12,SNR=18						
SONM	**Songino Array**	**27.07**	**336**	P	**P**	**08 38 05.3**	**-1.5**
	1.0nm,0.6s,baz=154,slow=9.2,SNR=6.0						
MKAR	**Makanchi Array**	**39.32**	**316**	P	**P**	**08 39 52.8**	**-0.5**
	1.3nm,0.5s,baz=103,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**41.09**	**327**	P	**P**	**08 40 06.5**	**-1.3**
	1.8nm,0.4s,baz=96,slow=7.1,SNR=5.5						
WRA	**Warramunga Arr**	**45.11**	**164**	P	**P**	**08 40 41.2**	**+0.6**
	1.0nm,0.8s,baz=347,slow=8.7,SNR=4.5						
ASAR	**Alice Springs**	**48.59**	**166**	P	**P**	**08 41 08.4**	**+0.6**
	0.4nm,0.6s,baz=344,slow=7.2,SNR=7.6						
ILAR	**Eielson Array**	**68.93**	**27**	P	**P**	**08 43 27.4**	**-1.4**
	0.2nm,0.5s,baz=269,slow=5.1,SNR=1.9						
ARCES	**ARCESS Array B**	**70.21**	**338**	P	**P**	**08 43 36.4**	**-0.2**
	1.2nm,0.9s,baz=70,slow=7.8,SNR=4.2						
FINES	**FINESS Array B**	**72.25**	**330**	P	**P**	**08 43 48.6**	**-0.4**
	0.3nm,0.4s,baz=61,slow=6.8,SNR=6.3						
BRTR	**Keskin Array B**	**74.25**	**307**	P	**P**	**08 44 01.4**	**-0.1**
	0.6nm,0.8s,baz=73,slow=4.8,SNR=3.9						

NEIC ***21*** *08:40:48.8±0.9, 53°.47N±0°.09×179°.52E±0°.09, h14km±8km, ML3.3(AEIC), Error ellipse: s-maj=13.5km s-min=6.3km az=204.0*

IDC ***21*** *08:40:48.0±5.0, 52°.38N×179°.24E, h168km±49km, mb3.1/13, mb1 3.3/15, mb1mx3.2/36, mbtmp3.6/15, Error ellipse: s-maj=29.7km s-min=12.2km az=166.0*

AEIC ***21*** *08:40:50±0.5, 52°.3N±0°.4×179°.3E±0°.1, h198km±9km, Error ellipse: s-maj=52.5km s-min=10.6km az=185.0*

ISC 21 08:40:50.3±0.7, 52°.4N±0°.1×179°.20E±0°.05, h200km, n32, σ1§65/33, mb3.3/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEAP	**Semis' Anvil P**	**0.46**	**149**			**Pn**	**08 41 16.3**	**-1.0**
CESW	**Semis' Southwe**	**0.55**	**155**			**Pn**	**08 41 16.0**	**-1.6**
CERAA	**Semis' Rag'd T**	**0.58**	**148**			**Pn**	**08 41 16.3**	**-1.5**
LSPA	**Little Sitkin**	**0.58**	**221**			**Pn**	**08 41 17.0**	**-0.8**
LSNW	**Little Sitkin**	**0.60**	**225**			**Pn**	**08 41 16.8**	**-1.1**
LSSA	**Little Sitkin**	**0.61**	**223**			**Pn**	**08 41 17.0**	**-1.0**
GALAA	**Gareloi Lava P**	**1.41**	**116**			**Pn**	**08 41 21.9**	**-1.4**
GAEA	**Gareloi East**	**1.41**	**115**			**Pn**	**08 41 21.8**	**-1.4**
TASE	**Tanaga Southea**	**1.80**	**107**			**Pn**	**08 41 25.3**	**-1.5**
TAFP	**Tanaga Falls P**	**1.81**	**105**			**Pn**	**08 41 25.3**	**-1.6**
KICM	**Kanaga Island**	**2.27**	**101**			**Pn**	**08 41 30.2**	**-1.5**
KIMD	**Kanaga Island**	**2.29**	**105**			**Pn**	**08 41 30.2**	**-1.7**
KIWB	**Kanaga Island**	**2.32**	**102**			**Pn**	**08 41 30.3**	**-1.8**
ADK	**Adak**	**2.59**	**100**	Pn		**Pn**	**08 41 33.0**	**-2.1**
GSTD	**Great Sitkin T**	**2.89**	**95**			**Pn**	**08 41 36.8**	**-1.8**
GSTR	**Great Sitkin T**	**2.93**	**94**	Pn		**Pn**	**08 41 37.8**	**-1.4**
SMY	**Shemya**	**3.13**	**278**			**Pn**	**08 41 40.9**	**-0.5**
PETK	**Petropavlovsk-**	**13.04**	**282**	P		**Pn**	**08 43 46.2**	**-1.9**
	0.1nm,0.3s,baz=79,slow=18,SNR=1.1							
PETK				S		**S**	**08 46 08.2**	**-5.2**
	0.1nm,0.3s,baz=332,slow=15,SNR=1.4							
KDAK	**Kodiak Island**	**16.95**	**60**	P		**Pn**	**08 44 33.8**	**-1.9**
	1.9nm,0.3s,baz=224,slow=2.1,SNR=72							
ILAR	**Eielson Array**	**21.26**	**41**	P		**P**	**08 45 20.3**	**-0.4**
	0.4nm,0.6s,baz=245,slow=7.9,SNR=6.6							
INK	**Inuvik**	**27.35**	**36**	P		**P**	**08 46 16.7**	**+0.3**
	0.4nm,0.5s,baz=234,slow=3.1,SNR=1.5							
MJAR	**Matsushiro Arr**	**32.76**	**257**	P		**P**	**08 47 04.9**	**+0.7**
	0.9nm,0.7s,baz=6.2,slow=6.4,SNR=4.2							
YKA	**Yellowknife Ar**	**35.44**	**47**	P		**P**	**08 47 28.0**	**+1.0**
	0.4nm,0.6s,baz=284,slow=8.2,SNR=3.5							
KSRS	**Korea Array**	**38.41**	**268**	P		**P**	**08 47 54.0**	**+1.7**
	0.5nm,0.5s,baz=61,slow=8.4,SNR=4.4							
NVAR	**Mina Array Bea**	**44.65**	**82**	P		**P**	**08 48 44.5**	**+1.3**
	0.4nm,0.5s,baz=301,slow=7.0,SNR=5.6							
SONM	**Songino Array**	**45.09**	**295**	P		**P**	**08 48 48.1**	**+1.8**
	0.9nm,0.6s,baz=66,slow=9.2,SNR=5.7							
PDAR	**Pinedale Array**	**47.18**	**72**	P		**P**	**08 49 03.3**	**+0.4**
	0.2nm,0.6s,baz=312,slow=5.6,SNR=4.1							
MKAR	**Makanchi Array**	**58.43**	**307**	P		**P**	**08 50 25.0**	**+0.2**
	0.1nm,0.3s,baz=44,slow=6.8,SNR=2.4							
TXAR	**Lajitas Array**	**59.72**	**80**	P		**P**	**08 50 34.3**	**+0.4**
	0.3nm,0.5s,baz=318,slow=6.1,SNR=5.6							
NOA	**NORSAR Array B**	**66.50**	**354**	P		**P**	**08 51 19.0**	**+1.0**
	0.1nm,0.3s,baz=9.5,slow=5.4,SNR=1.5							
WRA	**Warramunga Arr**	**81.91**	**222**	P		**P**	**08 52 47.9**	**+0.5**
	0.7nm,0.9s,baz=32,slow=6.0,SNR=2.7							
ASAR	**Alice Springs**	**85.42**	**221**	P		**P**	**08 53 06.2**	**+1.1**
	0.3nm,0.8s,baz=21,slow=6.0,SNR=2.0							

IPEC ***21*** *09:31:20.6±0.1, 50°.24N×18°.99E, h3km±1km, ML2.7/4, Error ellipse: s-maj=1.9km s-min=0.7km az=165.0*

VIE ***21*** *09:31:20.3±0.3, 50°.33N×18°.97E, h0km, mb2.0/3, ml2.8/5, Error ellipse: s-maj=4.2km s-min=1.6km az=169.0 8 km N of Katowice Suspected Mining induced.*

PRU ***21*** *09:31:21.2±0.0, 50°.22N×18°.94E, h0km*

BGR ***21*** *09:31:21.2±0.4, 50°.15N×18°.93E, h1km, ML2.9/5, Error ellipse: s-maj=15.6km s-min=5.6km az=176.0*

IDC ***21*** *09:31:22.0±0.9, 50°.21N×18°.99E, h0km, mb1 3.1/5, mb1mx2.9/52, mbtmp3.0/5, ML2.6/5, Error ellipse: s-maj=15.3km s-min=6.8km az=147.0*

LDG ***21*** *09:31:23.9±0.3, 50°.14N×18°.69E, h1km, Ml3.3/4, Error ellipse: s-maj=9.2km s-min=5.1km az=16.0, Suspected Mining induced.*

ISC 21 09:31:19.7±0.7, 50°.31N±0°.03×18°.94E±0°.02, h0km, n64, σ1§62/98, 8C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.56**	**99**	*e*Pg		**Pg**	**09 31 30.6**	**+0.1**
OJC				*e*Sg		**Sg**	**09 31 38.7**	**+0.9**
OJC	**Ojcow**	**0.56**	**99**	*e*Pg		**Pg**	**09 31 30.3**	**-0.2**
OJC				*e*Sg		**Sg**	**09 31 38.7**	**+0.9**
OKC	**Ostrava-Krasne**	**0.70**	**227**	*e*PG		**Pg**	**09 31 33.5**	**+0.5**
OKC				*e*SG		**Sg**	**09 31 41.9**	**-0.1**
	comp=Z,59nm,0.6s							
OKC	**Ostrava-Krasne**	**0.70**	**227**	*e*Pg		**Pg**	**09 31 33.9**	**+0.9**
MORC	**Moravsky Berou**	**1.05**	**240**	⇑P		**Pb**	**09 31 41.5**	**+0.8**
MORC				⇑S		**Sb**	**09 31 55.0**	**0.0**
MORC	**Moravsky Berou**	**1.05**	**240**	*e*PG		**Pg**	**09 31 40.5**	**+0.8**
MORC				*e*SG		**Sg**	**09 31 53.3**	**0.0**
MORC	**Moravsky Berou**	**1.05**	**240**	*e*Pg		**Pg**	**09 31 40.5**	**+0.8**
	baz=63							
MORC				*e*Sg		**Sg**	**09 31 53.2**	**0.0**
	88nm,0.2s,baz=63							
MORC	**Moravsky Berou**	**1.05**	**240**	*e*Pg		**Pg**	**09 31 39.9**	**+0.2**
MORC				*e*Sg		**Sb**	**09 31 55.0**	**0.0**
LANS	**Liptovska Anna**	**1.21**	**163**	*e*PG		**Pb**	**09 31 43.4**	**-0.2**
LANS				*e*SG		**Sb**	**09 31 59.6**	**-0.2**
LANS				*e*LG		Lg	09 32 03.7	
NIE	**Niedzica**	**1.26**	**135**	*e*Pg		**Pg**	**09 31 43.7**	**-0.1**
NIE				*e*Sg		**Sb**	**09 32 01.1**	**+0.1**
KRLC	**Kraliky**	**1.40**	**261**	*e*PG		**Pg**	**09 31 45.9**	**-0.7**
KRLC				*e*SG		**Sb**	**09 32 06.3**	**+1.0**
	comp=Z,52nm,0.5s							
JAVC	**Velka Javorina**	**1.67**	**210**	*e*PN		**Pn**	**09 31 50.2**	**-0.1**
JAVC				*e*SG		**Sn**	**09 32 11.6**	**-0.9**
JAVC	**Velka Javorina**	**1.67**	**210**	*e*Pn		**Pn**	**09 31 50.2**	**-0.1**
	baz=31							
JAVC				*e*Sg		**Sn**	**09 32 11.5**	**-0.9**
	76nm,0.8s,baz=31							
DPC	**Dobruska-Polom**	**1.68**	**272**	*e*PG		**Pn**	**09 31 50.9**	**+0.6**
DPC				*e*SG		**Sg**	**09 32 15.4**	**+1.9**
	comp=Z,50nm,0.6s							
DPC	**Dobruska-Polom**	**1.68**	**272**	*e*Pn		**Pn**	**09 31 51.1**	**+0.8**
DPC				*e*Sg		**Sg**	**09 32 15.4**	**+1.9**
STHS	**Stebnicka Huta**	**1.74**	**120**	*e*PN		**Pn**	**09 31 52.3**	**+1.1**
STHS				*e*SN		**Sg**	**09 32 18.4**	**+2.7**
OSTC	**Ostas**	**1.76**	**279**	*e*PG		**Pn**	**09 31 52.2**	**+0.8**
OSTC				*e*SG		**Sg**	**09 32 17.9**	**+1.8**
	comp=Z,76nm,1.0s							
KSP	**Ksiaz**	**1.77**	**289**	*e*Pg		**Pg**	**09 31 55.1**	**+1.5**
KSP				*e*Sg		**Sg**	**09 32 20.3**	**+3.9**
KSP	**Ksiaz**	**1.77**	**289**	*e*Pn		**Pg**	**09 31 55.1**	**+1.5**
KSP				*e*Sg		**Sg**	**09 32 19.5**	**+3.1**
VRAC	**Vranov**	**1.82**	**237**	Pn		**Pb**	**09 31 53.8**	**-0.1**
	2.9nm,0.3s,baz=58,slow=15,SNR=10							
VRAC				Sn		**Sb**	**09 32 17.5**	**+0.3**
	10nm,0.3s,baz=345,slow=9.1,SNR=13							
VRAC	**Vranov**	**1.82**	**237**	⇑P		**Pb**	**09 31 53.7**	**-0.1**
VRAC				⇑S		**Sb**	**09 32 17.4**	**+0.2**
VRAC	**Vranov**	**1.82**	**237**	*e*PN		**Pn**	**09 31 52.9**	**+0.6**
VRAC				*e*SG		**Sb**	**09 32 17.3**	**0.0**
VRAC	**Vranov**	**1.82**	**237**	*e*Pn		**Pn**	**09 31 52.8**	**+0.5**
	baz=58							
VRAC				*e*Sg		**Sb**	**09 32 17.2**	**0.0**
	53nm,0.5s,baz=58							
VYHS	**Vyhne**	**1.82**	**182**	*e*PN		**Pn**	**09 31 52.4**	**+0.1**
VYHS				*e*SN		**Sn**	**09 32 15.6**	**-0.5**
CHVC	**Chvalec**	**1.86**	**280**	*e*PG		**Pb**	**09 31 54.9**	**+0.3**
CHVC				*e*SG		**Sg**	**09 32 20.8**	**+1.3**
	comp=Z,36nm,0.6s							
UPC	**Upice**	**1.88**	**277**	*e*PG		**Pb**	**09 31 56.2**	**+1.3**
UPC				*e*SG		**Sg**	**09 32 21.2**	**+1.1**
	comp=Z,26nm,0.6s							
KRUC	**Moravsky**	**2.07**	**234**	*e*PN		**Pn**	**09 31 56.2**	**+0.5**
KRUC				*e*SG		**Sb**	**09 32 25.0**	**+0.5**
KRUC	**Moravsky**	**2.07**	**234**	*e*Pn		**Pn**	**09 31 56.2**	**+0.5**
	baz=54							
KRUC				*e*Sg		**Sb**	**09 32 24.9**	**+0.5**
	30nm,0.6s,baz=54							
CRVS	**Cervenica-Dubn**	**2.17**	**130**	*e*PN		**Pb**	**09 32 00.3**	**+0.5**
CRVS				*e*SG		**Sg**	**09 32 32.1**	**+2.8**
PSZ	**Piszkesteto**	**2.48**	**165**	⇓P		**Pn**	**09 32 02.4**	**+1.0**
KOLS	**Kolonicke sedl**	**2.57**	**121**	*e*		**Pn**	**09 32 02.8**	**+0.2**
KOLS	**Kolonicke sedl**	**2.57**	**121**	*e*PG		**Pg**	**09 32 10.6**	**+1.6**
KOLS				*e*			09 32 32.9	
PVCC	**Panska Ves**	**2.80**	**276**	*e*SG		**Sg**	**09 32 51.6**	**+2.0**
	comp=Z,47nm,0.6s							
PRU	**Pruhonice**	**2.84**	**265**	*e*PG		**Pb**	**09 32 11.5**	**+0.2**
PRU				*e*SG		**Sg**	**09 32 50.7**	**-0.3**
	comp=Z,34nm,0.9s							
CONA	**Conrad Observa**	**3.13**	**221**	*e*Pn		**Pn**	**09 32 11.0**	**+0.7**
	0.4nm,0.2s							
CONA				*e*Sn		**Sn**	**09 32 48.9**	**+0.5**
	1.9nm,0.2s							
PBCC	**Pribram**	**3.25**	**261**	*e*SG		**Sg**	**09 33 04.0**	**0.0**
KHC	**Kasperske Hory**	**3.67**	**253**	*e*SN		**Sn**	**09 33 02.0**	**+0.3**
KHC				*e*SG		**Sg**	**09 33 17.0**	**-0.6**
	comp=Z,19nm,0.7s							
GEC2	**GERESS Array S**	**3.71**	**249**	*e*Sg		**Sg**	**09 33 15.7**	**-3.1**
GERES	**GERESS Array B**	**3.71**	**249**	Pn		**Pn**	**09 32 20.1**	**+1.7**
	0.1nm,0.3s,baz=66,slow=14,SNR=4.1							
GERES				Pg		**Pg**	**09 32 29.1**	**-1.7**
	0.6nm,0.3s,baz=64,slow=16,SNR=8.5							
GERES				Sn		**Sn**	**09 33 04.5**	**+1.8**
	0.8nm,0.3s,baz=71,slow=24,SNR=4.3							
GERES				Lg		Lg	09 33 19.1	
	1.3nm,0.3s,baz=66,slow=27,SNR=6.1							
ARSA	**Arzberg**	**3.81**	**218**	Pg		**Pg**	**09 32 35.7**	**+3.1**
	2.6nm,0.7s							
ARSA				Sg		**Sg**	**09 33 26.4**	**+4.5**
	4.5nm,0.7s							
CLL	**Collm**	**3.89**	**287**	*e*Sg		**Sg**	**09 33 27.0**	**+2.3**
	comp=Z,20nm,1.1s							
CLL	**Collm**	**3.89**	**287**	*e*Sg		**Sg**	**09 33 26.6**	**+2.0**
MOA	**Molln**	**3.94**	**233**	*e*Pn		**Pn**	**09 32 22.1**	**+0.8**
	comp=Z,0.2nm,0.1s							
WET	**Wettzell**	**4.10**	**256**	*e*Sg		**Sb**	**09 33 26.9**	**+4.1**
TANN	**Tannenbergstha**	**4.15**	**274**	*e*Sg		**Sg**	**09 33 31.2**	**-1.6**
NKC	**Novy Kostel**	**4.16**	**271**	*e*SG		**Sg**	**09 33 33.1**	**-0.2**
	comp=Z,22nm,1.0s							
WERD	**Werda**	**4.24**	**274**	*e*Sg		**Sg**	**09 33 34.0**	**-2.0**
DRGR		**4.33**	**143**	⇑P		**Pn**	**09 32 27.2**	**+0.5**
ROTZ	**Rotzenmuhle**	**4.37**	**265**	*e*Sg		**Sg**	**09 33 38.0**	**-2.0**
CJR	**Cluj-Napoca**	**4.75**	**138**	⇓P		**Pn**	**09 32 33.4**	**+0.8**
BURAR	**Bucovina Array**	**4.94**	**121**	⇑P		**Pn**	**09 32 36.5**	**+1.3**
FRGS	**Fruska Gora**	**5.19**	**173**	⇑P		**Pn**	**09 32 38.9**	**+0.3**
GZR	**Gura Zlata**	**5.56**	**151**	⇑P		**Pn**	**09 32 44.5**	**+0.8**
AKASG	**Malin Array Be**	**6.58**	**83**	Pn		**Pn**	**09 32 56.3**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=276,slow=19,SNR=1.7							
AKASG				Sn		**Sn**	**09 34 09.5**	**-3.7**
	comp=Z,1.2nm,0.3s,baz=262,slow=23,SNR=3.5							
AKASG				Lg		Lg	09 34 49.7	
	comp=Z,1.3nm,0.3s,baz=254,slow=23,SNR=2.3							
DAVOX	**Davos/Dischmat**	**6.97**	**243**	Lg		Lg	09 35 02.1	
	comp=Z,0.2nm,0.3s,baz=198,slow=20,SNR=1.9							
CDF	**Champ du Feu**	**7.85**	**260**	*e*Pn		**Pn**	**09 33 14.7**	**-0.4**
CDF				*e*Sg		**Sg**	**09 35 26.3**	**-5.3**
	comp=Z,0.9nm,0.6s							
HINF	**Hinteralfeld**	**8.32**	**257**	*e*P		**Pn**	**09 33 24.2**	**+2.6**
HINF				*e*Sg		**Sg**	**09 35 42.5**	**-4.2**
	comp=Z,1.2nm,0.3s							
HAU	**Haudompre**	**8.57**	**259**	*e*Pn		**Pn**	**09 33 24.1**	**-0.8**
GIVF	**Givet**	**9.06**	**274**	*e*P		Pn	09 33 36.7	+5.1
MEZF	**Maizieres J'vi**	**9.23**	**264**	*e*Pn		**Pn**	**09 33 33.3**	**-0.7**
	baz=72							
MEZF				*e*Sg		Sn	09 36 05.3	+47
	comp=Z,6.7nm,0.6s							
SFTF	**Sexfontaines**	**9.33**	**262**	*e*P		Pn	09 33 40.9	+5.5
SFTF				*e*Sg		Sn	09 36 12.3	+51
	comp=Z,3.7nm,0.3s							
HFS	**Hagfors**	**10.28**	**345**	Pn		**Pn**	**09 33 46.3**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=1.1							
FINES	**FINESS Array B**	**11.85**	**17**	Pn		**Pn**	**09 34 07.5**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=195,slow=12,SNR=14							
FINES				Sn		Sn	09 36 15.3	-7.1
	comp=Z,0.2nm,0.3s,baz=198,slow=22,SNR=5.9							
FINES				Lg		Lg	09 37 37.6	
	comp=Z,0.1nm,0.3s,baz=193,slow=24,SNR=1.7							
ARCES	**ARCESS Array B**	**19.54**	**7**	Pn		**P**	**09 35 48.1**	**-0.4**
	baz=186,slow=13,SNR=5.6							

IDC ***21*** *09:31:14.4±3.3, 23°.97N×123°.15E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.1/60, mbtmp3.4/4, ML3.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/21, Error ellipse: s-maj=84.4km s-min=26.8km az=116.0*

TAP ***21*** *09:31:19.9, 24°.51N×122°.71E, h90km, ML3.8, C*

JMA ***21*** *09:31:19.8±0.1, 24°.43N×122°.67E, h90km±1km, M2.8*

ISC 21 09:31:19.7±0.9, 24°.48N±0°.03×122°.71E±0°.02, h88km±5km, n137, σ1§31/250, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**97**	P		**Pn**	**09 31 33.2**	**+0.7**
JYNG				S		**Sn**	**09 31 42.8**	**+0.9**
YOJ	**Yonaguni jima**	**0.27**	**93**	P		**Pn**	**09 31 33.5**	**+0.8**
YOJ				S		**Sn**	**09 31 42.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.27**	**93**	P		**Pn**	**09 31 33.4**	**+0.6**
	baz=104							
YOJ				S		**Sn**	**09 31 43.0**	**+0.7**
	baz=104							
TWC	**Suao**	**0.80**	**280**	*i* P		**Pn**	**09 31 37.2**	**+0.2**
	baz=282							
TWC				*i* S		**Sn**	**09 31 50.0**	**+0.1**
	baz=282							
EGS		**0.80**	**297**	*i* P		**Pn**	**09 31 37.8**	**+0.8**
	baz=293							
TWB1	**Santiao Chiao**	**0.84**	**309**	*i* P		**Pn**	**09 31 37.7**	**+0.2**
	baz=303							
TWB1				S		**Sn**	**09 31 50.5**	**-0.3**
	baz=303							
EWUT	**Wuta**	**0.85**	**268**	P		**Pn**	**09 31 38.0**	**+0.5**
	baz=261							
EWUT				S		**Sn**	**09 31 51.2**	**+0.2**
	baz=261							
NTC	**Toucheng**	**0.89**	**295**	*i* P		**Pn**	**09 31 38.3**	**+0.3**
	baz=293							
NTC				S		**Sn**	**09 31 51.1**	**-0.6**
	baz=293							
EHP	**Heping Village**	**0.90**	**260**	S		**Sn**	**09 31 53.1**	**+1.2**
	baz=257							
NDS	**Dongshan**	**0.92**	**280**	P		**Pn**	**09 31 38.8**	**+0.4**
	baz=278							
NDS				S		**Sn**	**09 31 51.6**	**-0.7**
	baz=278							
ILA	**Ilan**	**0.92**	**288**	P		**Pn**	**09 31 38.3**	**0.0**
	baz=286							
ILA				S		**Sn**	**09 31 53.0**	**+0.6**
	baz=286							
IRIF	**Iriomote-Funau**	**0.94**	**99**	P		**Pn**	**09 31 39.3**	**+0.8**
IRIF				S		**Sn**	**09 31 53.4**	**+0.8**
TIPB	**Shuangxi**	**0.94**	**302**	P		**Pn**	**09 31 39.0**	**+0.3**
	baz=295							
TIPB				S		**Sn**	**09 31 52.3**	**-0.6**
	baz=295							
TWE	**Neicheng**	**0.98**	**284**	*i* P		**Pn**	**09 31 39.5**	**+0.5**
	baz=282							
TWE				S		**Sn**	**09 31 53.5**	**0.0**
	baz=282							
NWF	**Wu-fen Shan**	**1.03**	**305**	P		**Pn**	**09 31 40.4**	**+0.7**
	baz=297							
NWF				S		**Sn**	**09 31 55.0**	**+0.2**
	baz=297							
ETL	**Fush Village**	**1.04**	**253**	P		**Pn**	**09 31 39.9**	**+0.1**
	baz=250							
ETL				S		**Sn**	**09 31 54.8**	**-0.1**
	baz=250							
ENTT	**Nioudou**	**1.06**	**279**	*i* P		**Pn**	**09 31 40.7**	**+0.8**
	baz=277							
ENTT				S		**Sn**	**09 31 55.4**	**+0.3**
	baz=277							
NACB	**Ninganchiao**	**1.06**	**254**	P		**Pn**	**09 31 40.0**	**0.0**
	baz=245							
NACB				S		**Sn**	**09 31 54.4**	**-0.8**
	baz=245							
HATJ	**Hateruma jima**	**1.08**	**113**	P		**Pn**	**09 31 40.6**	**+0.4**
HATJ				S		**Sn**	**09 31 56.9**	**+1.4**
TNOU	**National Taiwa**	**1.08**	**308**	P		**Pn**	**09 31 40.5**	**+0.3**
	baz=301							
TNOU				S		**Sn**	**09 31 55.4**	**-0.2**
	baz=301							
TWD	**Chiawan**	**1.09**	**249**	*i* P		**Pn**	**09 31 40.6**	**+0.3**
	baz=247							
TWD				S		**Sn**	**09 31 55.8**	**0.0**
	baz=247							
NDT	**Datong Townshi**	**1.10**	**277**	*i* P		**Pn**	**09 31 41.5**	**+1.1**
	baz=277							
NDT				*i* S		**Sn**	**09 31 56.4**	**+0.4**
	baz=277							
HWA	**Hwalien**	**1.13**	**244**	P		**Pn**	**09 31 41.1**	**+0.4**
	baz=242							
HWA				S		**Sn**	**09 31 57.3**	**+0.8**
	baz=242							
NWLT	**Wulai**	**1.14**	**285**	*i* P		**Pn**	**09 31 41.7**	**+0.8**
	baz=289							
NWLT				S		**Sn**	**09 31 56.3**	**-0.6**
	baz=289							
TWA	**Mucha**	**1.14**	**296**	*i* P		**Pn**	**09 31 41.4**	**+0.5**
	baz=286							
TWA				S		**Sn**	**09 31 56.6**	**-0.3**
	baz=286							
ETLH	**Xiulin Townshi**	**1.16**	**257**	P		**Pn**	**09 31 41.4**	**+0.2**
	baz=250							
ETLH				S		**Sn**	**09 31 57.2**	**-0.1**
	baz=250							
NHDH	**Xindian Distri**	**1.18**	**294**	P		**Pn**	**09 31 41.8**	**+0.4**
	baz=287							
NHDH				S		**Sn**	**09 31 57.1**	**-0.6**
	baz=287							
TEYL	**Yanliau Villag**	**1.19**	**239**	P		**Pn**	**09 31 41.6**	**+0.2**
	baz=234							
TEYL				S		**Sn**	**09 31 57.8**	**+0.1**
	baz=234							
JKRS	**Kuro-shima**	**1.21**	**101**	P		**Pn**	**09 31 43.1**	**+1.4**
JKRS				S		**Sn**	**09 31 59.5**	**+1.3**
NNSB	**Datong**	**1.21**	**268**	P		**Pn**	**09 31 42.4**	**+0.5**
	baz=259							
NNSB				S		**Sn**	**09 31 57.7**	**-0.9**
	baz=259							
NNSH	**Datong**	**1.21**	**268**	P		**Pn**	**09 31 42.1**	**+0.2**
	baz=259							
NNSH				S		**Sn**	**09 31 58.5**	**-0.1**
	baz=259							
TATO	**Taipei**	**1.22**	**294**	P		**Pn**	**09 31 42.3**	**+0.5**
	baz=285							
TATO				S		**Sn**	**09 31 57.7**	**-0.8**
	baz=285							
NNS	**Nan

NSTT				S		Sn	09 32 06.7	+0.4
	baz=274							
HSN1	**Hsinchu**	**1.57 281**		P		**Pn**	09 31 47.4	+1.1
	baz=280							
HSN1				S		**Sn**	09 32 06.5	+0.1
	baz=280							
EHY	**Hungye**	**1.60 233**	*i*	P		**Pn**	09 31 46.5	-0.1
	baz=231							
EHY				*e*S		**Sn**	09 32 05.5	-1.5
	baz=231							
SBCB	**Hsinchu**	**1.60 282**		P		**Pn**	09 31 47.1	+0.4
	baz=280							
SBCB				S		**Sn**	09 32 08.1	+1.0
	baz=280							
HSN	**Hsinchu**	**1.62 282**		P		**Pn**	09 31 47.3	+0.4
	baz=281							
HSN				*e*S		**Sn**	09 32 07.2	-0.3
	baz=281							
WPL	**Puli Township**	**1.67 254**		P		**Pn**	09 31 48.6	+1.0
	baz=249							
WPL				S		**Sn**	09 32 09.6	+0.9
	baz=249							
YULB	**Yu-li**	**1.69 230**		P		**Pn**	09 31 47.6	-0.2
	baz=238							
YULB				S		**Sn**	09 32 08.0	-1.1
	baz=238							
DPDB	**Guoxing**	**1.69 255**		P		**Pn**	09 31 49.7	+1.8
	baz=251							
DPDB				*e*S		**Sn**	09 32 11.1	+1.8
	baz=251							
NJN	**Zhunan**	**1.69 277**		S		**Sn**	09 32 10.3	+1.2
	baz=276							
WCS	**Beigang Elemen**	**1.70 256**		P		**Pn**	09 31 49.0	+1.1
	baz=252							
WCS				S		**Sn**	09 32 10.8	+1.5
	baz=252							
EYUL	**Yuli**	**1.70 229**	*i*	P		**Pn**	09 31 48.4	+0.4
	baz=237							
EYUL				S		**Sn**	09 32 10.4	+1.0
	baz=237							
TWF1	**Yuli**	**1.71 229**		P		**Pn**	09 31 48.3	+0.1
	baz=237							
TWF1				S		**Sn**	09 32 09.2	-0.5
	baz=237							
SSLB	**Suanglung**	**1.75 247**		P		**Pn**	09 31 49.1	+0.5
	baz=246							
SSLB				S		**Sn**	09 32 09.6	-0.9
	baz=246							
NMLH	**Miaoli**	**1.75 272**	*i*	P		**Pn**	09 31 49.2	+0.6
	baz=271							
NMLH				*e*S		**Sn**	09 32 10.4	-0.2
	baz=271							
SMLT	**Sun Moon Lake**	**1.76 251**	*i*	P		**Pn**	09 31 50.0	+1.2
	baz=245							
SMLT				*e*S		**Sn**	09 32 12.9	+2.0
	baz=245							
NSY	**Sanyi**	**1.78 268**		P		**Pn**	09 31 50.2	+1.2
	baz=267							
NSY				S		**Sn**	09 32 12.2	+0.9
	baz=267							
JTJ	**Tarama**	**1.82 84**		P		**Pn**	09 31 50.7	+1.3
JTJ				S		**Sn**	09 32 12.2	+0.1
FULB	**Fuli**	**1.82 226**		P		**Pn**	09 31 49.3	-0.2
	baz=219							
FULB				S		**Sn**	09 32 12.5	+0.3
	baz=219							
CHKT	**Chengkung**	**1.85 222**		P		**Pn**	09 31 49.5	-0.3
	baz=217							
CHKT				S		**Sn**	09 32 11.1	-1.7
	baz=217							
WHYT	**Xinyi Township**	**1.87 246**		P		**Pn**	09 31 51.9	+1.7
	baz=244							
WHYT				S		**Sn**	09 32 14.0	+0.6
	baz=244							
YUS	**Yu-Shan**	**1.89 239**		P		**Pn**	09 31 51.7	+0.8
	baz=237							
YUS				S		**Sn**	09 32 14.1	-0.4
	baz=237							
WWF	**Wufeng**	**1.89 257**		P		**Pn**	09 31 51.7	+1.3
	baz=267							
WWF				S		**Sn**	09 32 15.3	+1.5
	baz=267							
WDJ	**Dajia District**	**1.89 267**	*e*P			**Pn**	09 31 51.4	+1.0
	baz=265							
WDJ				S		**Sn**	09 32 14.0	+0.1
	baz=265							
WJS	**Zhushan**	**1.93 251**		P		**Pn**	09 31 52.4	+1.5
	baz=249							
WJS				S		**Sn**	09 32 16.9	+2.2
	baz=249							
WNT	**Mingjian**	**1.95 253**		P		**Pn**	09 31 53.0	+1.8
	baz=251							
WNT				S		**Sn**	09 32 17.6	+2.5
	baz=251							
EDH	**Donghe**	**1.98 221**		P		**Pn**	09 31 51.3	-0.3
	baz=216							
EDH				S		**Sn**	09 32 14.9	-0.9
	baz=216							
ALS	**Alishan**	**1.99 242**		P		**Pn**	09 31 53.5	+1.5
	baz=234							
ALS				S		**Sn**	09 32 18.2	+1.5
	baz=234							
WCHH	**Zhanghua**	**2.01 259**		S		**Sn**	09 32 16.5	+0.1
	baz=267							
ELDTW	**Lidau**	**2.01 231**		P		**Pn**	09 31 52.4	+0.2
	baz=225							
ELDTW				S		**Sn**	09 32 15.6	-1.2
	baz=225							
CHN5	**Tsauling**	**2.06 245**		P		**Pn**	09 31 54.6	+1.9
	baz=237							
CHN5				S		**Sn**	09 32 20.6	+2.7
	baz=237							
WGK	**Gukeng**	**2.12 249**		P		**Pn**	09 31 55.5	+2.1
	baz=247							
WGK				S		**Sn**	09 32 22.0	+2.9
	baz=247							
LDUT	**Ludao**	**2.13 213**		P		**Pn**	09 31 53.0	-0.6
	baz=211							
LDUT				S		**Sn**	09 32 16.4	-3.0
	baz=211							
LONT	**Longtian**	**2.13 223**		P		**Pn**	09 31 53.3	-0.3
	baz=229							
LONT				S		**Sn**	09 32 19.8	+0.3
	baz=229							
WDLH	**Douliu**	**2.14 249**		P		**Pn**	09 31 56.1	+2.4
	baz=259							
WDLH				S		**Sn**	09 32 21.5	+1.9
	baz=259							
STYH	**Taoyuan**	**2.20 234**		P		**Pn**	09 31 55.9	+1.4
	baz=229							
STYH				S		**Sn**	09 32 22.0	+1.0
	baz=229							
WRL	**Guolierlin Hig**	**2.21 255**		P		**Pn**	09 31 55.0	+0.4
	baz=254							
WRL				S		**Sn**	09 32 21.1	-0.2
	baz=254							
STYT	**Tauyuan**	**2.22 234**	*i*	P		**Pn**	09 31 56.4	+1.6
	baz=228							
STYT				S		**Sn**	09 32 22.4	+0.8
	baz=228							
TWGBT	**Beinan**	**2.23 223**		P		**Pn**	09 31 54.8	-0.1
	baz=227							
TWGBT				S		**Sn**	09 32 20.7	-1.1
	baz=227							
TWG	**Pinlang**	**2.23 223**		S		**Sn**	09 32 20.6	-1.3
	baz=227							
TPUB	**Ta-pu**	**2.24 239**		P		**Pn**	09 31 57.0	+1.9
	baz=230							
TPUB				S		**Sn**	09 32 23.7	+1.6
	baz=230							
TTN	**Taitung**	**2.24 220**		P		**Pn**	09 31 55.1	+0.1
	baz=215							
CHN4	**Tsaushan**	**2.24 240**	*i*	P		**Pn**	09 31 57.0	+1.9
	baz=248							
CHN4				S		**Sn**	09 32 24.2	+2.1
	baz=248							
JIRB	**Irabujima**	**2.27 81**		P		**Pn**	09 31 56.1	+0.8
JIRB				*e*S		**Sn**	09 32 22.9	+0.3
WTK	**Tuku**	**2.27 250**		P		**Pn**	09 31 56.4	+1.1
	baz=259							
WTK				S		**Sn**	09 32 23.5	+0.9
	baz=259							
WTP	**Ta-pu**	**2.28 238**		P		**Pn**	09 31 57.3	+1.7
	baz=236							
WTP				*e*S		**Sn**	09 32 26.4	+3.4
	baz=236							
CHY	**Chiayi**	**2.31 245**		P		**Pn**	09 31 57.7	+1.8
	baz=256							
CHY				*e*S		**Sn**	09 32 26.6	+2.9
	baz=256							
JIKM	**Ikemajima**	**2.35 79**		S		**Sn**	09 32 25.4	+0.8
TWK	**Hsinying**	**2.37 240**		P		**Pn**	09 31 58.4	+1.7
	baz=238							
TWK				S		**Sn**	09 32 27.7	+2.5
	baz=238							
JMJ	**Miyako jima 2**	**2.37 81**		P		**Pn**	09 31 58.6	+1.9
	baz=84							
JMJ				*e*S		**Sn**	09 32 27.7	+2.5
	baz=84							
CHN1	**Nanshi**	**2.38 238**		P		**Pn**	09 31 58.4	+1.5
	baz=246							
CHN1				S		**Sn**	09 32 27.5	+2.1
	baz=246							
SNST	**Tainan City**	**2.38 239**		P		**Pn**	09 31 59.5	+2.6
	baz=237							
SNST				S		**Sn**	09 32 27.1	+1.7
	baz=237							
JMJ2	**Miyako jima3**	**2.39 83**		P		**Pn**	09 31 58.2	+1.1
JMJ2				*e*S		**Sn**	09 32 26.2	+0.5
SGST	**Jiashian**	**2.40 235**		P		**Pn**	09 31 58.2	+1.1
	baz=243							
SGST				S		**Sn**	09 32 28.8	+3.0
	baz=243							
SLGT	**Liugui**	**2.40 232**		P		**Pn**	09 31 59.4	+2.1
	baz=223							
SLGT				S		**Sn**	09 32 28.8	+2.9
	baz=223							
WSF	**Szhu**	**2.43 250**		S		**Sn**	09 32 27.9	+1.4
	baz=258							
JOGS	**Gusukube**	**2.47 83**	*e*S			**Sn**	09 32 28.1	+0.7
ECL	**Taimali**	**2.47 221**		P		**Pn**	09 31 57.5	-0.6
	baz=219							
ECL				S		**Sn**	09 32 26.2	-1.3
	baz=219							
ICHU	**Yijhu**	**2.49 244**	*e*P			**Pn**	09 31 59.7	+1.4
	baz=242							
ICHU				S		**Sn**	09 32 29.1	+1.2
	baz=242							
SSD	**Sandimen**	**2.57 228**		P		**Pn**	09 32 01.2	+1.7
	baz=227							
SSD				S		**Sn**	09 32 31.9	+1.9
	baz=227							
SCST	**Cishan**	**2.58 233**		P		**Pn**	09 32 02.3	+2.7
	baz=240							
SCST				S		**Sn**	09 32 34.3	+4.1
	baz=240							
TSMG	**Majia**	**2.59 228**		P		**Pn**	09 32 02.3	+2.6
	baz=226							
TSMG				S		**Sn**	09 32 32.1	+1.7
	baz=226							
LAY	**Lan-yu**	**2.65 204**		P		**Pn**	09 32 00.8	+0.2
	baz=198							
LAY				*e*S		**Sn**	09 32 28.2	-3.7
	baz=198							
MASBT	**Mashibuluo**	**2.66 226**		P		**Pn**	09 32 02.3	+1.6
	baz=232							
MASBT				S		**Sn**	09 32 33.7	+1.6
	baz=232							
TWM1	**Shoushan**	**2.67 232**	*e*P			Pn	09 32 05.6	+4.8
	baz=231							
EAST	**Anshuo**	**2.70 220**	*i*	P		**Pn**	09 32 01.4	+0.2
	baz=218							
EAST				*e*S		**Sn**	09 32 32.8	-0.3
	baz=218							
SCZT	**Fangliau**	**2.84 223**	*e*P			**Pn**	09 32 05.6	+2.4
	baz=221							
SCZT				*e*S		**Sn**	09 32 39.0	+2.5
	baz=221							
SLIU	**Shizi**	**2.86 218**	*e*P			**Pn**	09 32 03.2	-0.1
	baz=221							
SLIU				*e*S		**Sn**	09 32 34.8	-2.0
	baz=221							
VWUC	**VWUC**	**3.01 280**	*e*P			**Pn**	09 32 04.8	-0.5
	baz=269							
PHUB	**P'eng-hu**	**3.03 252**		P		**Pn**	09 32 05.6	0.0
	baz=250							
PHUB				S		**Sn**	09 32 39.6	-1.4
	baz=250							
WDGT	**Dungji**	**3.05 247**		P		**Pn**	09 32 06.5	+0.7
	baz=245							
WDGT				S		**Sn**	09 32 40.1	-1.3
	baz=245							
TWKBT	**Hengchun**	**3.07 215**	*e*P			**Pn**	09 32 04.8	-1.4
	baz=213							
TWKBT				*e*S		**Sn**	09 32 44.0	+2.0
	baz=213							
VCHM	**Qimei**	**3.26 248**		S		**Sn**	09 32 45.8	-0.8
	baz=246							
PTMZ	**Houxiangcun**	**3.31 280**		P		**Pn**	09 32 09.6	+0.2
	baz=269							
KNMB	**Chin-men Tao**	**3.94 271**	*e*S			**Sn**	09 32 59.1	-3.9
	baz=269							
ZPLA	**Ao Xicun**	**4.56 264**		S		**Sn**	09 33 15.2	-3.0
	baz=262							
JOW	**Kunigami**	**5.54 64**		Pn		**Pn**	09 32 38.4	-1.3
	0.7nm,0.3s,baz=125,slow=23,SNR=12							
JOW				Sn		**Sn**	09 33 38.8	-3.2
	1.1nm,0.3s,baz=116,slow=25,SNR=7.6							
JOW	**Kunigami**	**5.54 64**	*e*P			**Pn**	09 32 38.7	-1.0
	baz=68							
JOW				*e*S		**Sn**	09 33 38.8	-3.2
	baz=68							
KSRS	**Korea Array**	**13.68 18**		Pn		**P**	09 34 33.6	-2.0
	0.2nm,0.3s,baz=197,slow=11,SNR=11							
SONM	**Songino Array**	**26.66 335**		LR		LR	09 47 18.7	
	comp=Z,27nm,20.8s,baz=266,slow=35							
WRA	**Warramunga Arr**	**45.58 165**		P		**P**	09 39 31.4	+0.2
	0.3nm,0.6s,baz=348,slow=8.9,SNR=7.2							
ASAR	**Alice Springs**	**49.07 166**		P		**P**	09 39 59.2	+1.0
	0.6nm,1.1s,baz=345,slow=13,SNR=1.8							

MAN 21 09:33:41.3, 6.12N×125.91E, h135km, mb4.2, ML3.0, MS2.8, Mindanao

ISK 21 09:54:39.6, 40.13N×29.95E, h0km, ML1.5/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAVI	**Cavuskoy**	**0.11**	**312**	PG	Pg	09 54 42.7	+1.0
AUBOZ	**BOZOYUK**	**0.23**	**164**	PG	Pg	09 54 44.5	+0.6
AUBOZ				SG	Sg	09 54 49.7	+2.9
BORA	**Eskisehir**	**0.46**	**122**	PG	Pg	09 54 49.5	+1.1
BORA				SG	Sb	09 54 56.6	-1.4
SRCK	**Saricakaya, Es**	**0.53**	**99**	PG	Pg	09 54 50.5	+0.8
SRCK				SG	Sb	09 54 59.0	-0.9
GULT	**Gulveren**	**0.53**	**55**	PG	Pg	09 54 50.4	+0.7
GULT				SG	Sb	09 54 59.2	-0.8
ARMT	**Armutlu**	**0.94**	**298**	PG	Pb	09 54 58.5	-0.3
ARMT				SG	Sb	09 55 12.1	+0.3

DDA 21 09:55:04.4, 39.51N×28.11E, h7km±3km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.30**	**72**	*i* P	Pg	09 55 10.2	0.0
DURS				IAML		09 55 14.0	
	comp=E,232nm,0.5s						
DURS				*i* S	Sg	09 55 15.7	+1.5
STEP	**BALIKESIR_Sava**	**0.33**	**247**	*i* P	Pg	09 55 11.4	+0.5
STEP				*i* S	Sb	09 55 16.8	-1.4
STEP				IAML		09 55 22.0	
	comp=N,169nm,0.7s						
BALY	**Balya**	**0.44**	**302**	*i* P	Pg	09 55 13.2	+0.2
BALY				*i* S	Sg	09 55 20.0	+1.1
BUHA	**Balikesir, Bur**	**0.80**	**270**	*i* P	Pb	09 55 20.6	-0.1
BUHA				*i* S	Sb	09 55 31.8	+0.2
ZEDA	**zmir-Bergama**	**0.97**	**236**	*i* P	Pb	09 55 23.2	-0.2
ZEDA				*i* S	Sg	09 55 34.3	-1.2
USAK	**Uak-Merkez**	**1.06**	**138**	*i* P	Pn	09 55 25.6	-0.1
USAK				*i* S	Sg	09 55 35.7	-2.8
USAK				IAML		09 55 41.0	
	comp=N,48nm,0.7s						
USAK				IAML		09 55 41.0	
	comp=E,43nm,0.9s						
MANT	**Manisa**	**1.07**	**161**	*i* P	Pg	09 55 22.3	-2.8
MANT				*i* S	Sg	09 55 33.9	-5.0
MANT				IAML		09 55 41.0	
	comp=E,28nm,0.5s						
GDZ	**Gediz**	**1.14**	**111**	*i* P	Pg	09 55 25.7	-0.6
GDZ				*i* S	Sg	09 55 38.3	-2.9
BAYC	**CANAKKALE_Bayr**	**1.23**	**281**	*i* P		Pn	09 55 28.4	+0.4
BAYC				*i* S		Sg	09 55 41.6	-2.3

IDC 21 10:00:57.5±1.8, 2.15N×125.13E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/46, mbtmp3.7/5, Error ellipse: s-maj=114.8km s-min=25.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.12**	**179**	P	P	10 05 33.4	+0.2
	1.0nm,0.6s,baz=8.1,slow=14,SNR=1.1						
WRA	**Warramunga Arr**	**23.74**	**158**	P	P	10 06 11.9	+0.2
	3.5nm,0.5s,baz=337,slow=10,SNR=46						
ASAR	**Alice Springs**	**27.04**	**162**	P	P	10 06 41.5	-0.2
	0.6nm,0.6s,baz=341,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**37.27**	**157**	P	P	10 08 11.2	-0.1
	1.6nm,0.9s,baz=336,slow=9.6,SNR=1.8						
MKAR	**Makanchi Array**	**57.96**	**327**	P	P	10 10 51.8	-0.1
	0.2nm,0.3s,baz=134,slow=6.5,SNR=2.4						

*JMA **21** 10:04:27.6±0.2, 24.07N×122.52E, h38km, M1.9*
*TAP **21** 10:04:28.1, 24.96N×122.78E, h42km±1km, ML2.5, D*
ISC 21 10:04:27.9±1.5, 24.90N±0.07×122.75E±0.04, h23km±16km, n21, σ0.70/29, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.48**	**158**	P	**Pn**	**10 04 38.9**	**-0.5**
JYNG				S	**Sn**	**10 04 46.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.50**	**151**	P	**Pn**	**10 04 39.2**	**-0.4**
YOJ				*e*S	**Sn**	**10 04 47.5**	**0.0**
YOJ	**Yonaguni jima**	**0.50**	**151**	*i* P	**Pn**	**10 04 39.6**	**0.0**
	baz=157						
YOJ				S	**Sn**	**10 04 47.6**	**+0.1**
	baz=157						
TWB1	**Santiao Chiao**	**0.70**	**279**	*e*P	**Pb**	**10 04 40.7**	**-0.7**
	baz=274						
EGS		**0.74**	**266**	*e*P	**Pb**	**10 04 41.6**	**-0.5**
	baz=256						
NTC	**Toucheng**	**0.83**	**267**	*e*P	**Pb**	**10 04 43.3**	**-0.4**
	baz=271						
NTC				*e*S	**Sn**	**10 04 56.8**	**+1.0**
	baz=271						
TIPB	**Shuangxi**	**0.84**	**275**	*e*P	**Pb**	**10 04 43.6**	**-0.2**
	baz=266						
TWC	**Suao**	**0.87**	**251**	*i* P	**Pn**	**10 04 44.5**	**-0.1**
	baz=248						
PCYT	**Pengchaiyu**	**0.95**	**320**	P	**Pn**	**10 04 45.6**	**-0.2**
	baz=325						
NDS	**Dongshan**	**0.97**	**254**	P	**Pb**	**10 04 46.6**	**+0.5**
	baz=252						
EWUT	**Wuta**	**0.99**	**243**	P	**Pb**	**10 04 47.5**	**+1.1**
	baz=241						
EWUT				S	**Sn**	**10 04 59.7**	**0.0**
	baz=241						
TWE	**Neicheng**	**1.00**	**260**	P	**Pn**	**10 04 46.4**	**-0.1**
	baz=257						
IRIF	**Iriomote-Funau**	**1.06**	**122**	P	**Pb**	**10 04 47.3**	**-0.1**
YM08	**YM08**	**1.09**	**285**	P	**Pb**	**10 04 48.0**	**0.0**
	baz=282						
YM08				S	**Sn**	**10 05 02.8**	**+0.7**
	baz=282						
NWLT	**Wulai**	**1.14**	**264**	*e*P	**Pb**	**10 04 50.9**	**+2.1**
	baz=262						
TATO	**Taipei**	**1.15**	**274**	P	**Pb**	**10 04 48.9**	**-0.1**
	baz=271						
YHNB	**Yeheng**	**1.27**	**260**	*e*P	**Pb**	**10 04 52.2**	**+1.1**
	baz=258						
NNSB	**Datong**	**1.33**	**250**	*e*P	**Pb**	**10 04 51.7**	**-0.5**
	baz=255						
NNSB				S	**Sb**	**10 05 08.7**	**-0.1**
	baz=255						
NNSH	**Datong**	**1.33**	**250**	P	**Pb**	**10 04 52.2**	**+0.1**
	baz=242						
NNS	**Nan Shan**	**1.33**	**250**	*e*P	**Pn**	**10 04 50.0**	**-1.2**
	baz=256						
NNS				*e*S	**Sn**	**10 05 08.3**	**0.0**
	baz=256						
JIJ	**Ishigaki jima**	**1.38**	**113**	P	**Pb**	**10 04 53.7**	**+0.8**

*JMA **21** 10:34:08.0±0.1, 22.89N×121.45E, h22km±4km, M3.7*
*NIED **21** 10:34:08.0, 22.89N×121.45E, h22km, MW3.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; Mrr-0.71; Mθθ1.76; Mφφ-1.05; Mrθ-0.17; Mθφ0.00; Mφr1.01; Fault plane solution: M0 1.84000×10^14^ NP1: φs128.00000°, δ66.00000°, λ-34.00000°. NP2: φs233.00000°, δ59.00000°, λ-152.00000°.*
*TAP **21** 10:34:09.7, 22.90N×121.28E, h35km, ML3.7, B*
ISC 21 10:34:09.5±0.9, 22.88N±0.02×121.37E±0.02, h34km±5km, n134, σ1.30/218, 9C-16D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDH	**Donghe**	**0.11**	**328**	⇓*i* P	**Pn**	**10 34 15.9**	**+4.3**
	baz=18						
EDH				S	**Sb**	**10 34 20.0**	**+0.4**
	baz=18						
CHKT	**Chengkung**	**0.22**	**360**	⇑*i* P	**Pb**	**10 34 16.7**	**+0.3**
	baz=29						
CHKT				*i* S	**Sb**	**10 34 21.7**	**+0.6**
	baz=29						
LONT	**Longtian**	**0.22**	**277**	⇓*i* P	**Pb**	**10 34 16.0**	**-0.4**
	baz=273						
LONT				*e*S	**Sb**	**10 34 20.4**	**-0.7**
	baz=273						
LDUT	**Ludao**	**0.23**	**155**	P	**Pn**	**10 34 17.3**	**+1.6**
	baz=138						
LDUT				S	**Sb**	**10 34 22.7**	**+1.5**
	baz=138						
TTN	**Taitung**	**0.24**	**238**	P	**Pn**	**10 34 17.1**	**+1.1**
	baz=225						
TTN				S	**Sb**	**10 34 22.8**	**+1.5**
	baz=225						
ECS	**Chishang**	**0.25**	**328**	⇓*i* P	**Pb**	**10 34 16.8**	**0.0**
	baz=338						
ECS				S	**Sn**	**10 34 22.2**	**+2.2**
	baz=338						
TWGBT	**Beinan**	**0.27**	**257**	⇓*i* P	**Pb**	**10 34 16.3**	**-0.7**
	baz=251						
TWGBT				*i* S	**Sb**	**10 34 20.7**	**-1.3**
	baz=251						
TWG	**Pinlang**	**0.28**	**258**	⇓*i* P	**Pb**	**10 34 16.3**	**-0.7**
	baz=251						
TWG				*i* S	**Sb**	**10 34 20.9**	**-1.3**
	baz=251						
FULB	**Fuli**	**0.32**	**348**	P	**Pb**	**10 34 17.6**	**-0.1**
	baz=356						
FULB				S	**Sb**	**10 34 23.6**	**+0.4**
	baz=356						
ELDTW	**Lidau**	**0.45**	**314**	⇓*i* P	**Pb**	**10 34 18.2**	**-1.2**
	baz=322						
ELDTW				*i* S	**Sb**	**10 34 23.8**	**-2.4**
	baz=322						
EYUL	**Yuli**	**0.47**	**355**	*e*P	**Pb**	**10 34 19.1**	**-0.6**
	baz=356						
EYUL				*e*S	**Sb**	**10 34 24.8**	**-1.9**
	baz=356						
ECL	**Taimali**	**0.47**	**234**	⇑*i* P	**Pb**	**10 34 18.4**	**-1.4**
	baz=217						
ECL				S	**Sb**	**10 34 24.6**	**-2.1**
	baz=217						
TWF1	**Yuli**	**0.47**	**352**	⇑*i* P	**Pb**	**10 34 18.7**	**-1.1**
	baz=356						
TWF1				S	**Sb**	**10 34 24.8**	**-2.1**
	baz=356						
YULB	**Yu-li**	**0.51**	**353**	⇑*i* P	**Pb**	**10 34 19.1**	**-1.3**
	baz=354						
YULB				S	**Sb**	**10 34 25.3**	**-2.6**
	baz=354						
HGSD	**Ruisui**	**0.61**	**5**	P	**Pb**	**10 34 21.4**	**-0.6**
	baz=24						
HGSD				S	**Sb**	**10 34 30.4**	**0.0**
	baz=24						
STYH	**Taoyuan**	**0.62**	**298**	⇓*i* P	**Pb**	**10 34 21.1**	**-0.9**
	baz=295						
STYH				S	**Sb**	**10 34 29.2**	**-1.3**
	baz=295						
EHY	**Hungye**	**0.62**	**356**	⇑*i* P	**Pb**	**10 34 20.7**	**-1.5**
	baz=358						
EHY				*e*S	**Sb**	**10 34 28.3**	**-2.6**
	baz=358						
STYT	**Tauyuan**	**0.63**	**297**	⇓*i* P	**Pb**	**10 34 21.3**	**-1.0**
	baz=294						
STYT				S	**Sb**	**10 34 29.4**	**-1.6**

	baz=294										
SLGT	**Liugui**	**0.67**	**280**		P		**Pb**	**10 34 22.3**	**-0.6**
	baz=284										
SLGT					*e*S		**Sb**	**10 34 30.5**	**-1.6**
	baz=284										
TAW	**Tawu**	**0.68**	**220**		P		**Pb**	**10 34 21.5**	**-1.5**
	baz=209										
TAW					S		**Sb**	**10 34 29.9**	**-2.3**
	baz=209										
TSMG	**Majia**	**0.69**	**256**		P		**Pb**	**10 34 22.0**	**-1.2**
	baz=251										
TSMG					S		**Sb**	**10 34 29.8**	**-2.7**
	baz=251										
EAST	**Anshuo**	**0.69**	**224**		P		**Pb**	**10 34 21.7**	**-1.5**
	baz=215										
EAST					S		**Sb**	**10 34 30.4**	**-2.1**
	baz=215										
SSD	**Sandimen**	**0.69**	**259**	⇓	*i*P		**Pb**	**10 34 22.0**	**-1.2**
	baz=255										
SSD					S		**Sb**	**10 34 29.8**	**-2.7**
	baz=255										
YUS	**Yu-Shan**	**0.72**	**328**		P		**Pb**	**10 34 23.1**	**-0.9**
	baz=334										
MASBT	**Mashibuluo**	**0.73**	**249**		P		**Pb**	**10 34 22.8**	**-1.0**
	baz=244										
MASBT					S		**Sb**	**10 34 30.9**	**-2.7**
	baz=244										
SGST	**Jiashian**	**0.75**	**286**	⇓	*i*P		**Pb**	**10 34 22.9**	**-1.3**
	baz=291										
SGST					S		**Sb**	**10 34 32.4**	**-1.8**
	baz=291										
WTP	**Ta-pu**	**0.78**	**298**	⇓	*i*P		**Pb**	**10 34 24.3**	**-0.5**
	baz=300										
WTP					S		**Sb**	**10 34 35.4**	**+0.2**
	baz=300										
EGFH	**Guangfu**	**0.79**	**4**		*e*P		**Pb**	**10 34 22.8**	**-2.0**
	baz=11										
TPUB	**Ta-pu**	**0.80**	**302**	⇓	*i*P		**Pb**	**10 34 24.5**	**-0.5**
	baz=304										
TPUB					S		**Sb**	**10 34 35.0**	**-0.6**
	baz=304										
SCST	**Cishan**	**0.80**	**271**		P		**Pb**	**10 34 24.9**	**-0.2**
	baz=269										
SCST					S		**Sb**	**10 34 35.5**	**-0.2**
	baz=269										
ALS	**Alishan**	**0.81**	**321**	⇓	*i*P		**Pb**	**10 34 24.8**	**-0.6**
	baz=326										
ALS					S		**Sb**	**10 34 35.4**	**-0.9**
	baz=326										
SGLT	**Jiouru**	**0.82**	**259**		*e*P		**Pn**	**10 34 25.4**	**+0.8**
	baz=256										
CHN1	**Nanshi**	**0.83**	**292**	⇓	*i*P		**Pn**	**10 34 25.3**	**+0.5**
	baz=299										
CHN1					*i* S		**Sb**	**10 34 36.9**	**+0.4**
	baz=299										
SSPT	**Xinbi**	**0.83**	**242**		P		**Pn**	**10 34 25.3**	**+0.5**
	baz=230										
SSPT					*e*S		**Sb**	**10 34 36.6**	**0.0**
	baz=230										
TEGC	**Jichi Village**	**0.84**	**11**		*e*P		**Pn**	**10 34 24.9**	**0.0**
	baz=16										
TEGC					*e*S		**Sb**	**10 34 36.9**	**+0.1**
	baz=16										
SLIU	**Shizi**	**0.84**	**219**		*e*P		**Pn**	**10 34 23.8**	**-1.2**
	baz=208										
SLIU					*e*S		**Sb**	**10 34 33.8**	**-3.0**
	baz=208										
CHN4	**Tsaushan**	**0.85**	**304**		P		**Pn**	**10 34 25.6**	**+0.5**
	baz=306										
CHN4					S		**Sb**	**10 34 37.1**	**0.0**
	baz=306										
LAY	**Lan-yu**	**0.85**	**168**		P		**Pn**	**10 34 25.1**	**-0.1**
	baz=164										
LAY					*e*S		**Sn**	**10 34 37.9**	**+1.5**
	baz=164										
SCZT	**Fangliau**	**0.85**	**234**		*e*P		**Pn**	**10 34 24.7**	**-0.4**
	baz=228										
SCZT					*e*S		**Sb**	**10 34 35.9**	**-1.2**
	baz=228										
TWM1	**Shoushan**	**0.87**	**267**	⇑	*i*P		**Pb**	**10 34 27.0**	**+0.8**
	baz=264										
TWM1					S		**Sn**	**10 34 40.5**	**+3.6**
	baz=264										
TWK	**Hsinying**	**0.90**	**296**	⇓	*i*P		**Pn**	**10 34 26.1**	**+0.4**
	baz=297										
TWK					*i* S		**Sb**	**10 34 37.6**	**-0.7**
	baz=297										
ESL	**Shilin**	**0.93**	**4**	⇑	*i*P		**Pn**	**10 34 24.8**	**-1.4**
	baz=19										
ESL					S		**Sb**	**10 34 35.5**	**-3.9**
	baz=19										
WHYT	**Xinyi Township**	**0.94**	**330**		P		**Pn**	**10 34 27.1**	**+0.8**
	baz=339										
WHYT					S		**Sb**	**10 34 38.5**	**-1.2**
	baz=339										
CHN3	**Shinhua**	**0.94**	**282**		*e*P		**Pb**	**10 34 28.0**	**+0.6**
	baz=282										
CHN3					*e*S		**Sn**	**10 34 42.4**	**+3.8**
	baz=282										
CHN5	**Tsauling**	**0.95**	**319**	⇓	*i*P		**Pn**	**10 34 27.3**	**+0.7**
	baz=323										
CHN5					*i* S		**Sb**	**10 34 40.2**	**+0.1**
	baz=323										
SNJT	**Kaohsiung City**	**0.96**	**263**		P		**Pb**	**10 34 28.8**	**+1.1**
	baz=260										
SNJT					S		**Sb**	**10 34 42.7**	**+2.6**
	baz=260										
SSLB	**Suanglung**	**0.98**	**337**	⇑	*i*P		**Pn**	**10 34 26.9**	**0.0**
	baz=347										
SSLB					S		**Sn**	**10 34 38.4**	**-1.2**
	baz=347										
TEYL	**Yanliau Villag**	**1.01**	**12**		*e*P		**Pn**	**10 34 27.5**	**+0.3**
	baz=16										
TEYL					*e*S		**Sn**	**10 34 41.1**	**+0.9**
	baz=16										
KAU	**Kaohsiung**	**1.02**	**253**		*e*P		**Pb**	**10 34 29.9**	**+1.2**
	baz=248										
KAU					*e*S		**Sb**	**10 34 45.2**	**+3.3**
	baz=248										
HEN	**Hengchun**	**1.05**	**214**		*e*P		**Pb**	**10 34 30.0**	**+0.9**
	baz=198										
HEN					S		**Sn**	**10 34 41.0**	**-0.1**
	baz=198										
WLCH	**Liuqiu**	**1.05**	**240**		*e*P		**Pb**	**10 34 31.0**	**+1.7**
	baz=235										
CHY	**Chiayi**	**1.06**	**306**		*e*P		**Pn**	**10 34 28.6**	**+0.6**
	baz=308										
CHY					*e*S		**Sn**	**10 34 42.6**	**+1.0**
	baz=308										
TWKBT	**Hengchun**	**1.06**	**209**		*e*P		**Pn**	**10 34 27.7**	**-0.3**
	baz=195										
TWKBT					*e*S		**Sn**	**10 34 40.8**	**-0.8**
	baz=195										
TSEB	**Hengchuen, Pin**	**1.07**	**204**		*e*P		**Pn**	**10 34 28.1**	**+0.1**
	baz=191										
TWK1	**Hengchun**	**1.07**	**209**		P		**Pn**	**10 34 27.8**	**-0.3**
	baz=195										
TWK1					*e*S		**Sn**	**10 34 41.2**	**-0.4**
	baz=195										
TWP	**Hsiaoliuchiu**	**1.07**	**240**		*e*P		**Pb**	**10 34 31.1**	**+1.6**
	baz=235										
OWD	**Renai**	**1.08**	**351**		*e*P		**Pn**	**10 34 27.9**	**-0.5**
	baz=4.0										
OWD					*e*S		**Sn**	**10 34 39.8**	**-2.5**
	baz=4.0										
ETM	**Tongmen**	**1.09**	**6**		*e*P		**Pn**	**10 34 27.1**	**-1.3**
	baz=23										
SMLT	**Sun Moon Lake**	**1.09**	**337**	⇑	*i*P		**Pn**	**10 34 29.2**	**+0.8**
	baz=342										
SMLT					S		**Sn**	**10 34 43.0**	**+0.6**
	baz=342										
WGK	**Gukeng**	**1.09**	**318**		*e*P		**Pn**	**10 34 29.8**	**+1.4**
	baz=322										
WGK					*e*S		**Sb**	**10 34 43.9**	**0.0**
	baz=322										
WJS	**Zhushan**	**1.11**	**328**		*e*P		**Pn**	**10 34 30.1**	**+1.5**
	baz=333										
WJS					*e*S		**Sb**	**10 34 44.5**	**+0.2**
	baz=333										
WDLH	**Douliu**	**1.11**	**317**		*e*P		**Pn**	**10 34 29.3**	**+0.7**
	baz=320										
WDLH					*e*S		**Sb**	**10 34 44.4**	**+0.1**
	baz=320										
HWA	**Hwalien**	**1.11**	**11**		*e*P		**Pn**	**10 34 28.2**	**-0.5**
	baz=18										
SCLT	**Jiali**	**1.12**	**285**		*e*P		**Pn**	**10 34 30.0**	**+1.2**
	baz=286										
SCLT					*e*S		**Sb**	**10 34 44.9**	**+0.2**
	baz=286										
TYC	**Yuchr**	**1.12**	**335**		*i* P		**Pn**	**10 34 29.9**	**+1.1**
	baz=341										
TYC					S		**Sn**	**10 34 43.9**	**+0.9**
	baz=341										
CHN8	**Yiju**	**1.16**	**294**		*e*P		**Pn**	**10 34 29.8**	**+0.5**
	baz=295										
CHN8					*e*S		**Sb**	**10 34 45.7**	**-0.1**
	baz=295										
WNT	**Mingjian**	**1.18**	**328**		P		**Pn**	**10 34 31.1**	**+1.6**
	baz=333										
WNT					*e*S		**Sb**	**10 34 46.3**	**0.0**
	baz=333										
CHGB	**Renai**	**1.19**	**352**		P		**Pn**	**10 34 29.9**	**-0.1**
	baz=5.0										
CHGB					*e*S		**Sn**	**10 34 43.5**	**-1.5**
	baz=5.0										
WPL	**Puli Township**	**1.19**	**342**		*e*P		**Pn**	**10 34 30.5**	**+0.8**
	baz=346										
WNT1	**Nantou City**	**1.20**	**328**		*e*P		**Pb**	**10 34 31.8**	**0.0**
	baz=333										
WNT1					*e*S		**Sb**	**10 34 47.4**	**+0.4**
	baz=333										
WTK	**Tuku**	**1.21**	**312**		*e*P		**Pn**	**10 34 30.6**	**+0.7**
	baz=315										
WTK					*e*S		**Sn**	**10 34 46.0**	**+0.9**
	baz=315										
TWD	**Chiawan**	**1.21**	**10**		P		**Pn**	**10 34 29.2**	**-0.9**
	baz=16										
DPDB	**Guoxing**	**1.22**	**341**		*e*P		**Pn**	**10 34 31.2**	**+1.0**
	baz=344										
WCS	**Beigang Elemen**	**1.24**	**341**		*e*P		**Pn**	**10 34 31.6**	**+1.1**
	baz=346										
WCS					*e*S		**Sn**	**10 34 46.6**	**+0.6**
	baz=346										
WHF	**Hehuan Shan**	**1.26**	**356**		P		**Pn**	**10 34 30.7**	**-0.4**
	baz=11										
WHF					*e*S		**Sn**	**10 34 46.1**	**-1.0**
	baz=11										
ETL	**Fush Village**	**1.29**	**10**		*e*P		**Pn**	**10 34 29.5**	**-1.7**
	baz=16										
NACB	**Ninganchiao**	**1.30**	**9**		*e*P		**Pn**	**10 34 29.8**	**-1.5**
	baz=15										
WWF	**Wufeng**	**1.31**	**332**		*e*P		**Pn**	**10 34 32.7**	**+1.3**
	baz=337										
WWF					*e*S		**Sb**	**10 34 50.0**	**-0.1**
	baz=337										
ETLH	**Xiulin Townshi**	**1.32**	**5**		*e*P		**Pn**	**10 34 30.4**	**-1.3**
	baz=20										
WRL	**Guolierlin Hig**	**1.36**	**318**		*e*P		**Pn**	**10 34 32.5**	**+0.4**
	baz=321										
FUSS	**Fushou**	**1.37**	**355**		*e*P		**Pn**	**10 34 32.5**	**+0.1**
	baz=8.0										
TDCB	**Techi**	**1.38**	**352**		*e*P		**Pn**	**10 34 33.0**	**+0.5**
	baz=5.0										
WCHH	**Zhanghua**	**1.41**	**328**		*e*P		**Pn**	**10 34 33.6**	**+0.9**
	baz=322										
WCHH					*e*S		**Sn**	**10 34 51.6**	**+1.6**
	baz=322										
TCU	**Taichung**	**1.41**	**334**		*e*P		**Pn**	**10 34 34.7**	**+1.9**
	baz=337										
NNSB	**Datong**	**1.54**	**1**		*e*P		**Pn**	**10 34 34.7**	**0.0**
	baz=19										
NNSH	**Datong**	**1.54**	**1**		*e*P		**Pn**	**10 34 35.0**	**+0.3**
	baz=18										
NNS	**Nan Shan**	**1.55**	**0**		*e*P		**Pn**	**10 34 35.3**	**+0.4**
	baz=18										
EWUT	**Wuta**	**1.60**	**14**		*e*P		**Pn**	**10 34 35.0**	**-0.4**
	baz=19										
WDJ	**Dajia District**	**1.61**	**336**		*e*P		**Pn**	**10 34 37.2**	**+1.7**
	baz=341										
WDJ					*e*S		**Sn**	**10 34 57.4**	**+2.3**
	baz=341										
WDGT	**Dungji**	**1.62**	**284**		*e*P		**Pn**	**10 34 35.2**	**-0.4**
	baz=283										
NSY	**Sanyi**	**1.63**	**340**		P		**Pn**	**10 34 38.0**	**+2.2**
	baz=346										
NSY					S		**Sb**	**10 34 59.5**	**+0.3**
	baz=346										
NDT	**Datong Townshi**	**1.72**	**4**		*e*P		**Pn**	**10 34 37.3**	**+0.3**
	baz=20										
NMLH	**Miaoli**	**1.73**	**342**		*e*P		**Pn**	**10 34 39.1**	**+1.8**
	baz=348										
NMLH					*e*S		**Sn**	**10 35 00.9**	**+2.8**
	baz=348										
ENTT	**Nioudou**	**1.76**	**6**		*e*P		**Pn**	**10 34 37.6**	**0.0**
	baz=22										
PHUB	**P'eng-hu**	**1.77**	**291**		*e*P		**Pn**	**10 34 36.8**	**-0.9**
	baz=292										
PHUB					*e*S		**Sn**	**10 34 57.2**	**-1.7**
	baz=292										
NDS	**Dongshan**	**1.77**	**10**		*e*P		**Pn**	**10 34 37.8**	**0.0**
	baz=16										
NSTT	**Nanjuang**	**1.77**	**349**		*e*P		**Pn**	**10 34 39.1**	**+1.3**
	baz=354										
NSTT					*e*S		**Sn**	**10 35 01.1**	**+1.9**
	baz=354										
TWC	**Suao**	**1.78**	**14**		*e*P		**Pn**	**10 34 38.2**	**+0.4**
	baz=20										
YHNB	**Yeheng**	**1.78**	**0**		*e*P		**Pn**	**10 34 38.5**	**+0.5**
	baz=19										
LIOB	**Emei**	**1.79**	**350**		*e*P		**Pn**	**10 34 39.5**	**+1.5**
	baz=354										
PNG	**Penghu**	**1.80**	**293**		*e*P		**Pn**	**10 34 37.9**	**-0.2**
	baz=279										
VCHM	**Qimei**	**1.81**	**281**		*e*P		**Pn**	**10 34 38.0**	**-0.3**
	baz=280										
VCHM					*e*S		**Sn**	**10 34 58.3**	**-1.8**
	baz=280										
TWE	**Neicheng**	**1.85**	**9**		*e*P		**Pn**	**10 34 38.9**	**0.0**
	baz=23										
NWLT	**Wulai**	**1.89**	**4**		*e*P		**Pn**	**10 34 39.7**	**+0.3**
	baz=22										
NTC	**Toucheng**	**2.01**	**12**		*e*P		**Pn**	**10 34 42.6**	**+1.5**
	baz=18										
NHDH	**Xindian Distri**	**2.08**	**4**		*e*P		**Pn**	**10 34 42.9**	**+0.9**
	baz=21										
TWA	**Mucha**	**2.10**	**5**		*e*P		**Pn**	**10 34 43.0**	**+0.7**
	baz=21										
TIPB	**Shuangxi**	**2.12**	**11**		*e*P		**Pn**	**10 34 43.9**	**+1.2**
	baz=18										
JYNG	**Yonagunijimaku**	**2.13**	**42**		P		**Pn**	**10 34 44.1**	**+1.4**
JYNG					S		**Sn**	**10 35 08.8**	**+0.8**
YOJ	**Yonaguni jima**	**2.18**	**43**		P		**Pn**	**10 34 44.6**	**+1.2**
YOJ					*e*S		**Sn**	**10 35 09.7**	**+0.5**
YOJ	**Yonaguni jima**	**2.18**	**43**		P		**Pn**	**10 34 44.8**	**+1.4**
	baz=54										
YOJ					*e*S		**Sn**	**10 35 10.2**	**+1.0**
	baz=54										
TWB1	**Santiao Chiao**	**2.19**	**15**		*e*P		**Pn**	**10 34 44.9**	**+1.3**
	baz=21										
TWS1	**Kuangyinshan**	**2.21**	**1**		*e*P		**Pn**	**10 34 45.1**	**+1.3**
	baz=21										
NWF	**Wu-fen Shan**	**2.21**	**10**		*e*P		**Pn**	**10 34 44.7**	**+0.8**
	baz=16										
YM01	**YM01**	**2.26**	**5**		*e*P		**Pn**	**10 34 44.8**	**+0.3**
	baz=23										
HATJ	**Hateruma jima**	**2.53**	**62**		P		**Pn**	**10 34 49.3**	**+1.2**
HATJ					S		**Sn**	**10 35 18.4**	**+0.6**
IRIF	**Iriomote-Funau**	**2.61**	**56**		P		**Pn**	**10 34 50.9**	**+1.7**
IRIF					S		**Sn**	**10 35 20.9**	**+1.2**
VWUC	**VWUC**	**2.74**	**321**		*e*P		**Pn**	**10 34 50.4**	**-0.6**
	baz=310										
JKRS	**Kuro-shima**	**2.78**	**60**		P		**Pn**	**10 34 53.1**	**+1.5**
JKRS					S		**Sn**	**10 35 24.3**	**+0.4**
JIJ	**Ishigaki jima**	**2.94**	**59**		P		**Pn**	**10 34 54.7**	**+0.8**
JIJ					S		**Sn**	**10 35 28.3**	**+0.2**
PTMZ	**Houxiangcun**	**2.97**	**317**		*e*P		**Pn**	**10 34 54.0**	**-0.3**
	baz=318										
KNM	**Kinmen**	**3.09**	**300**		*e*P		**Pn**	**10 34 57.2**	**+1.3**
	baz=298										
KNMB	**Chin-men Tao**	**3.15**	**301**		*e*P		**Pn**	**10 34 56.6**	**-0.1**
	baz=300										
JISG	**Ishigakijimahi**	**3.19**	**57**		P		**Pn**	**10 34 57.6**	**+0.4**
JISG					S		**Sn**	**10 35 33.9**	**-0.2**
ZPLA	**Ao Xicun**	**3.48**	**288**		*e*P		**Pn**	**10 35 00.9**	**-0.4**
	baz=286										
MATB	**Ma-tsu**	**3.50**	**339**		*e*P		**Pn**	**10 35 00.9**	**-0.7**
	baz=341										
JTJ	**Tarama**	**3.52**	**60**		P		**Pn**	**10 35 02.8**	**+1.0**
JTJ					S		**Sn**	**10 35 42.8**	**+0.5**
AXDP	**Jialang**	**3.70**	**304**		*e*P		**Pn**	**10 35 03.9**	**-0.4**
	baz=303										
JIRB	**Irabujima**	**3.99**	**60**		P		**Pn**	**10 35 09.1**	**+0.9**
JIRB					S		**Sn**	**10 35 53.8**	**0.0**
JMJ2	**Miyako jima3**	**4.07**	**62**		P		**Pn**	**10 35 10.9**	**+1.5**
JMJ2					S		**Sn**	**10 35 56.8**	**+0.9**
JMJ	**Miyako jima 2**	**4.08**	**61**		*e*P		**Pn**	**10 35 11.1**	**+1.7**
	baz=63										
JIKM	**Ikemajima**	**4.09**	**59**		P		**Pn**	**10 35 10.8**	**+1.1**
JIKM					*e*S		**Sn**	**10 35 56.6**	**+0.2**
JOGS	**Gusukube**	**4.15**	**62**		S		**Sn**	**10 35 57.4**	**-0.3**
XPSS	**Dashiqiu**	**4.17**	**345**		*e*P		**Pn**	**10 35 10.6**	**-0.2**
	baz=350										

IDC ***21*** *10:44:39.2±1.5, 12°.90N×57°.36E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/32, mbtmp3.6/7, MS3.2/3, Ms1 3.2/3, ms1mx2.7/32, Error ellipse: s-maj=47.3km s-min=27.3km az=41.0*

ISC 21 10:44:42.0±1.5, 12°.9N±0°.3×57°.4E±0°.3, h17km, n12, σ0^{s}79/7, mb3.5/7, MS3.4/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**33.92**	**326**	P		P	**P**	**10 51 25.2**	**+0.9**
	0.5nm,0.7s,baz=135,slow=8.9,SNR=4.0								
MKAR	**Makanchi Array**	**39.73**	**27**	P		P	**P**	**10 52 14.2**	**+0.5**
	0.3nm,0.6s,baz=205,slow=7.7,SNR=3.7								
CMAR	**Chiang Mai Arr**	**40.33**	**77**	LR		LR		11 07 03.3	
	comp=Z,8.0nm,21.0s,baz=240,slow=33								
ZALV	**Zalesovo Beam**	**46.31**	**22**	P		P	**P**	**10 53 05.9**	**-0.8**
	0.9nm,0.6s,baz=240,slow=8.1,SNR=2.0								
ZALV				LR		LR		11 13 43.6	
	comp=Z,43nm,19.1s,baz=200,slow=38								
BOSA	**Boshof**	**51.68**	**217**	LR		LR		11 14 04.0	
	comp=Z,51nm,19.8s,baz=24,slow=34								
FINES	**FINESS Array B**	**53.47**	**342**	P		P	**P**	**10 54 00.6**	**-0.4**
	1.0nm,0.9s,baz=118,slow=11,SNR=2.1								
ESDC	**Sonseca Array**	**59.85**	**308**	P		P	**P**	**10 54 46.5**	**-0.4**
	0.5nm,0.6s,baz=84,slow=6.1,SNR=6.9								
H01W3	**Cape Leeuwin H**	**71.77**	**134**	T		T		12 14 06.1	
	baz=302,slow=75,SNR=6.9								
H01W2	**Cape Leeuwin H**	**71.78**	**134**	T		T		12 14 05.7	
	baz=302,slow=75,SNR=6.1								
H01W1	**Cape Leeuwin H**	**71.79**	**134**	T		T		12 14 16.9	
	baz=302,slow=75,SNR=7.5								
WRA	**Warramunga Arr**	**82.44**	**112**	P		P	**P**	**10 57 03.6**	**-0.4**
	0.3nm,0.8s,baz=261,slow=4.2,SNR=1.3								
ASAR	**Alice Springs**	**83.13**	**116**	P		P	**P**	**10 57 08.2**	**+0.6**
	0.3nm,0.8s,baz=283,slow=5.4,SNR=4.4								

NEIC ***21*** *10:56:03.3±1.4, 15°.71S±0°.05×73°.82W±0°.09, h75km±4km, mb4.7/149, ML4.6(ARE), Error ellipse: s-maj=13.4km s-min=6.1km az=67.0*

VAO ***21*** *10:56:03.8±0.4, 15°.56S×73°.78W, h65km, mb4.4*

ARE ***21*** *10:56:04±0.0, 15°.77S×73°.86W, h72km, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*

IDC ***21*** *10:56:04.4±0.7, 15°.55S×73°.79W, h78km±6km, mb4.0/13, mb1 4.2/16, mb1mx4.0/32, mbtmp4.3/16, MS3.3/4, Ms1 3.4/4, ms1mx3.1/22, Error ellipse: s-maj=22.2km s-min=13.9km az=66.0*

ISC 21 10:56:03.2±0.4, 15°.75S±0°.05×73°.89W±0°.06, h75km, n278, σ1^{s}37/272, mb4.7/82, 15C-15D, Fault plane solution: NP1: ϕ_S46.49973°, δ68.32173°, λ-16.90327°. **NP2:** ϕ_S142.90457°, δ74.32429°, λ-157.43916°. **Principal axes:** T Plg4.0224°, Azm273.7944°; N Plg62.7635°, Azm175.9425°; P Plg26.8885°, Azm5.8378°; **Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.28**	**128**	⇑	*i*P	P	**Pn**	**10 57 05.9**	**0.0**
AP01	**Chacalluta**	**4.28**	**128**			P	**Pn**	**10 57 05.0**	**-1.0**
NNA	**Nana**	**4.71**	**322**	P		P	**Pn**	**10 57 12.0**	**+0.1**
	11nm,0.3s,baz=128,slow=10,SNR=23								
NNA				S			**Sn**	**10 58 10.5**	**+5.2**
	80nm,0.3s,baz=218,slow=20,SNR=6.1								
NNA	**Nana**	**4.71**	**322**	Pn			**Pn**	**10 57 11.8**	**-0.1**
PSGC	**Pisagua**	**5.25**	**137**	⇑	*i*P		**Pn**	**10 57 18.5**	**-0.8**
PSGCX	**Pisagua**	**5.25**	**137**	Pn			**Pn**	**10 57 19.0**	**-0.3**
MNMC	**Minye Minye**	**5.30**	**130**	⇑	*i*P		**Pn**	**10 57 18.9**	**-1.2**
MNMC	**Minye Minye**	**5.30**	**130**				**Pn**	**10 57 20.6**	**+0.4**
LPAZ	**La Paz**	**5.57**	**96**	P			**Pn**	**10 57 27.1**	**+3.1**
	4.7nm,0.3s,baz=289,slow=7.5,SNR=58								
LPAZ				LR			LR	10 59 48.5	
	comp=Z,110nm,19.1s,baz=262,slow=41								
LPAZ	**La Paz**	**5.57**	**96**	⇑	*i*P		**Pn**	**10 57 26.5**	**+2.4**
LPAZ	**La Paz**	**5.57**	**96**	Pn			**Pn**	**10 57 22.8**	**-1.3**
PB11	**IPOC Station P**	**5.67**	**135**	⇑	*i*P		**Pn**	**10 57 24.0**	**-1.1**
PB11	**IPOC Station P**	**5.67**	**135**	Pn			**Pn**	**10 57 25.1**	**0.0**
TA02	**Huaiquique**	**5.75**	**142**		*e*P		**Pn**	**10 57 27.2**	**+1.3**
TA02	**Huaiquique**	**5.75**	**142**				**Pn**	**10 57 26.4**	**+0.4**
TA01	**Diego Aracena**	**5.95**	**144**	⇑	*i*P		**Pn**	**10 57 28.8**	**0.0**
TA01	**Diego Aracena**	**5.95**	**144**	Pn			**Pn**	**10 57 28.7**	**0.0**
PB08	**IPOC Station P**	**6.28**	**135**	⇑	*i*P		**Pn**	**10 57 33.7**	**+0.1**
PB08	**IPOC Station P**	**6.28**	**135**				**Pn**	**10 57 34.1**	**+0.6**
PB01	**IPOC Station P**	**6.72**	**142**				**Pn**	**10 57 39.1**	**-0.3**
PB07	**IPOC Station P**	**7.05**	**148**				**Pn**	**10 57 43.4**	**-0.6**
PB04	**IPOC Station P**	**7.44**	**152**				**Pn**	**10 57 48.5**	**-0.8**
CZSB	**Cruzeiro do Su**	**8.06**	**8**		*e*P		**Pn**	**10 57 55.8**	**-1.8**
LVC	**Limon Verde**	**8.29**	**146**	P			**Pn**	**

PLMC	**San Jos del P**	**20.66**	**353**	*eP*	**P**	**11 00 37.4**	**+0.3**
GUY2C	**Guyana, Caldas**	**20.89**	**356**	‖*eP*	Pn	11 00 41.6	-1.6
ITQB	**Itaqui**	**21.07**	**134**	*eP*	**P**	**11 00 43.2**	**+1.8**
ITTB	**Itaituba**	**21.13**	**60**	*eP*	**P**	**11 00 41.2**	**-1.0**
NORC	**Norcasia**	**21.20**	**357**	*eP*	**P**	**11 00 43.5**	**+0.6**
ARAG	**Araguaiana, MT**	**21.26**	**93**	*eP*	**P**	**11 00 44.2**	**+0.7**
RUSC	**La Rusia**	**21.52**	**2**	P	**P**	**11 00 46.9**	**+0.1**
RUSC	**La Rusia**	**21.52**	**2**	*eP*	**P**	**11 00 47.6**	**+0.8**
CBOC	**Ciudad Bolivar**	**21.58**	**354**	*eP*	**P**	**11 00 46.5**	**-0.6**
HELC	**Santa Helena**	**21.86**	**356**	*eP*	**P**	**11 00 52.1**	**+1.8**
SOLC	**Bahia Solano**	**22.11**	**351**	*eP*	**P**	**11 00 54.3**	**+1.7**
BARC	**Barichara**	**22.21**	**2**	*eP*	**P**	**11 00 52.3**	**-1.6**
SNDB	**Serra Nova Dou**	**22.26**	**83**	*eP*	**P**	**11 00 53.3**	**-1.0**
PTGB	**Pitanga**	**22.32**	**117**	*eP*	**P**	**11 00 57.4**	**+2.3**
BOAV	**Boa Vista**	**22.36**	**37**	*eP*	**P**	**11 00 54.7**	**-0.6**
DBBC	**Dabeiba**	**22.74**	**354**	*eP*	**P**	**11 00 59.6**	**+0.3**
ITRB	**Iturama**	**22.75**	**103**	*eP*	**P**	**11 01 00.9**	**+1.4**
ZARC	**Zaragoza, Cauc**	**23.11**	**358**	*eP*	**P**	**11 01 01.8**	**-1.2**
ITAB	**Concordia**	**23.21**	**123**	P	**P**	**11 01 02.4**	**-1.5**
ITAB				IAmb	IAmb	11 01 06.0	
	comp=Z,24nm,1.3s						
UREC	**San Jos de Ur**	**23.41**	**356**	*eP*	**P**	**11 01 07.4**	**+1.6**
MALB	**Monte Alegre**	**23.77**	**56**	*eP*	**P**	**11 01 09.1**	**-0.1**
OCAC	**Ocana**	**23.84**	**1**	*eP*	**P**	**11 01 08.4**	**-1.5**
SOCV	**Socops**	**24.07**	**7**	*eP*	**P**	**11 01 11.1**	**-0.7**
FRTB	**Fartura**	**24.12**	**112**	*eP*	**P**	**11 01 11.9**	**-0.3**
SMLC	**San Martn de**	**24.39**	**360**	*eP*	**P**	**11 01 13.0**	**-1.6**
PLTB	**Pedras Altas**	**24.41**	**134**	P	**P**	**11 01 12.8**	**-1.9**
MOTC	**Monteria, Cord**	**24.43**	**356**	*eP*	**P**	**11 01 15.4**	**+0.4**
BB19B	**Bebedouro**	**24.63**	**106**	*eP*	**P**	**11 01 18.0**	**+1.1**
IPMB	**Ipameri, GO**	**24.67**	**99**	*eP*	**P**	**11 01 17.6**	**+0.3**
SDV	**Santo Domingo**	**24.69**	**8**	P	**P**	**11 01 16.2**	**-1.4**
	comp=Z,30nm,0.4s,baz=11,slow=5.1,SNR=2.2						
SDV	**Santo Domingo**	**24.69**	**8**	*eP*	**P**	**11 01 17.0**	**-0.6**
PLCA	**Paso Flores**	**25.06**	**174**	P	**P**	**11 01 23.9**	**+3.3**
	comp=Z,3.1nm,0.8s,baz=351,slow=14,SNR=6.9						
PLCA				pP	**pP**	**11 01 41.4**	**+3.5**
	comp=Z,7.8nm,1.2s,baz=3.4,slow=13,SNR=3.7						
PLCA	**Paso Flores**	**25.06**	**174**	IAmb	IAmb	11 01 42.4	
	comp=Z,24nm,1.4s						
PLCA	**Paso Flores**	**25.06**	**174**	*eP*	**P**	**11 01 23.8**	**+3.1**
PEXB	**Peixe**	**25.10**	**85**	*eP*	**P**	**11 01 21.1**	**-0.1**
SJCC	**San Jacinto, C**	**25.52**	**357**	P	**P**	**11 01 23.8**	**-1.1**
SJCC				IAmb	IAmb	11 01 38.0	
	comp=Z,26nm,0.8s						
SJCC	**San Jacinto, C**	**25.52**	**357**	*eP*	**P**	**11 01 23.2**	**-1.7**
TER01	**Tubaro-SC**	**26.16**	**123**	*eP*	**P**	**11 01 32.3**	**+1.6**
VAO	**Valinhos**	**26.38**	**110**	*eP*	**P**	**11 01 33.5**	**+0.7**
MCPB	**Macapa, AP**	**26.43**	**57**	*eP*	**P**	**11 01 33.7**	**+0.5**
CAO2	**Cobano, Puntar**	**27.61**	**336**	P	**P**	**11 01 42.6**	**-1.1**
RIB01	**Linhares ES**	**32.11**	**101**	*eP*	**P**	**11 02 25.2**	**+1.6**
CMC01	**Camacan, BA**	**33.10**	**94**	*eP*	**P**	**11 02 32.1**	**-0.2**
NBIT	**Itapeh - BA**	**33.22**	**93**	*eP*	**P**	**11 02 34.2**	**+0.9**
GDU01	**Guandu, BA**	**33.23**	**91**	*eP*	**P**	**11 02 35.3**	**+1.9**
NBPS	**Pedro II - PI**	**33.82**	**74**	*eP*	**P**	**11 02 38.8**	**+0.1**
SJG	**San Juan**	**34.50**	**13**	P	**P**	**11 02 42.6**	**-1.7**
SJG				IAmb	IAmb	11 02 53.3	
	comp=Z,20nm,1.2s						
AOPR	**Arecibo Observ**	**34.60**	**12**	P	**P**	**11 02 44.0**	**-1.2**
CBYP	**Canovanas**	**34.72**	**13**	P	**P**	**11 02 44.3**	**-1.9**
NBPB	**Pedra_Branca-C**	**35.16**	**77**	*eP*	**P**	**11 02 49.7**	**-0.5**
NBMA	**Muriti-CE**	**35.37**	**80**	*eP*	**P**	**11 02 52.5**	**+0.5**
NBAN	**Anadia - AL**	**37.15**	**85**	*eP*	**P**	**11 03 06.0**	**-1.2**
ZAIG	**Zacatecas**	**47.47**	**323**	P	**P**	**11 04 29.7**	**-1.4**
154A	**Montrose**	**48.89**	**350**	P	**P**	**11 04 40.9**	**-0.6**
NHSC	**New Hope**	**48.95**	**353**	P	**P**	**11 04 41.7**	**-0.2**
152A	**Waverly Hall**	**49.25**	**348**	P	**P**	**11 04 42.6**	**-1.7**
152A				IAmb	IAmb	11 04 44.7	
	comp=Z,13nm,1.1s						
GOGA	**Godfrey**	**49.73**	**349**	P	**P**	**11 04 47.0**	**-0.9**
GOGA				IAmb	IAmb	11 04 48.3	
	comp=Z,12nm,1.1s						
342A	**Flagon Creek P**	**50.09**	**339**	P	**P**	**11 04 49.5**	**-1.2**
JSC	**Jenkinsville**	**50.25**	**352**	P	**P**	**11 04 51.3**	**-0.5**
JSC				IAmb	IAmb	11 04 52.6	
	comp=Z,6.7nm,0.9s						
HODGE	**Hodges**	**50.34**	**351**	P	**P**	**11 04 52.1**	**-0.4**
HODGE				IAmb	IAmb	11 04 53.1	
	comp=Z,9.0nm,1.0s						
BIRD	**Birdtown, Kers**	**50.50**	**353**	P	**P**	**11 04 53.4**	**-0.4**
Z47A	**Carrollton**	**50.52**	**345**	P	**P**	**11 04 53.3**	**-0.6**
Y49A	**Blount Mountai**	**50.76**	**347**	P	**P**	**11 04 54.4**	**-1.3**
Y49A				IAmb	IAmb	11 04 55.5	
	comp=Z,3.9nm,0.7s						
PAULI	**Pauline**	**50.85**	**352**	P	**P**	**11 04 55.3**	**-1.1**
PAULI				IAmb	IAmb	11 04 57.2	
	comp=Z,11nm,0.9s						
KMSC	**Kings Mountain**	**51.10**	**352**	P	**P**	**11 04 58.0**	**-0.3**
KMSC				IAmb	IAmb	11 04 59.1	
	comp=Z,11nm,0.8s						
FPAL	**Fort Paine**	**51.24**	**348**	P	**P**	**11 04 58.8**	**-0.6**
FPAL				IAmb	IAmb	11 04 59.9	
	comp=Z,14nm,1.0s						
W52A	**Murphy**	**51.45**	**349**	P	**P**	**11 05 00.6**	**-0.4**
W52A				IAmb	IAmb	11 05 01.5	
	comp=Z,10.0nm,1.1s						
X48A	**Hartselle**	**51.47**	**346**	P	**P**	**11 05 00.1**	**-0.9**
X48A				IAmb	IAmb	11 05 00.6	
	comp=Z,4.8nm,0.7s						
W50A	**Signal Mountai**	**51.82**	**348**	P	**P**	**11 05 02.3**	**-1.3**
W50A				IAmb	IAmb	11 05 03.9	
	comp=Z,16nm,1.1s						
CPCT	**Cooper Cave**	**51.91**	**349**	P	**P**	**11 05 03.2**	**-1.1**
CPCT				IAmb	IAmb	11 05 04.6	
	comp=Z,4.5nm,0.8s						
SWET	**Sewanee**	**51.96**	**347**	P	**P**	**11 05 03.4**	**-1.3**
TKL	**Tuckaleechee C**	**51.98**	**350**	P	**P**	**11 05 03.6**	**-1.1**
TKL				IAmb	IAmb	11 05 05.6	
	comp=Z,18nm,1.4s						
V52A	**Sevierville**	**52.13**	**350**	P	**P**	**11 05 05.3**	**-0.6**
V51A	**Loudon**	**52.22**	**349**	P	**P**	**11 05 05.7**	**-0.9**
V51A				IAmb	IAmb	11 05 06.8	
	comp=Z,8.0nm,0.8s						
PLAL	**Pickwick Lake**	**52.22**	**345**	P	**P**	**11 05 04.9**	**-1.7**
WLAR	**White Oak Lake**	**52.47**	**340**	P	**P**	**11 05 07.6**	**-0.9**
U54A	**Nelsons Funny**	**52.52**	**352**	P	**P**	**11 05 08.1**	**-0.8**
V48A	**Smith Brothers**	**52.65**	**347**	P	**P**	**11 05 07.8**	**-2.0**
T57A	**Hurt**	**52.71**	**355**	P	**P**	**11 05 09.5**	**-0.7**
T57A				IAmb	IAmb	11 05 11.1	
	comp=Z,8.9nm,0.8s						
TZTN	**Tazewell**	**52.80**	**350**	P	**P**	**11 05 09.2**	**-1.7**
TZTN				IAmb	IAmb	11 05 16.2	
	comp=Z,8.6nm,1.1s						
U49A	**Red Boiling Sp**	**53.18**	**348**	P	**P**	**11 05 12.8**	**-0.8**
U49A				IAmb	IAmb	11 05 13.4	
	comp=Z,4.9nm,0.6s						
TXAR	**Lajitas Array**	**53.25**	**327**	P	**P**	**11 05 14.8**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=153,slow=9.1,SNR=65						
TXAR	**Lajitas Array**	**53.25**	**327**	P	**P**	**11 05 14.5**	**+0.1**
TX31	**Lajitas Ar. Si**	**53.25**	**327**	P	**P**	**11 05 14.2**	**-0.3**
TX32	**Lajitas Array**	**53.25**	**327**	P	**P**	**11 05 14.0**	**-0.4**
TX32				IAmb	IAmb	11 05 15.8	
	comp=Z,5.0nm,0.8s						
WVT	**Waverly**	**53.26**	**346**	P	**P**	**11 05 12.7**	**-1.5**
WVT				IAmb	IAmb	11 05 13.6	
	comp=Z,5.3nm,0.9s						
MIAR	**Mount Ida**	**53.41**	**340**	P	**P**	**11 05 15.3**	**-0.1**
MIAR				IAmb	IAmb	11 05 16.4	
	comp=Z,6.6nm,0.9s						
S57A	**Dark Hollow, R**	**53.44**	**355**	P	**P**	**11 05 15.5**	**0.0**
S57A				IAmb	IAmb	11 05 16.1	
	comp=Z,8.9nm,0.9s						
T50A	**Nancy**	**53.49**	**349**	P	**P**	**11 05 14.3**	**-1.6**
T50A				IAmb	IAmb	11 05 15.9	
	comp=Z,7.1nm,0.8s						
WHAR	**Wooly Hollow**	**53.68**	**341**	P	**P**	**11 05 16.6**	**-0.7**
WHAR				IAmb	IAmb	11 05 18.0	
	comp=Z,8.8nm,1.0s						
ABTX	**Abilene, Hawle**	**54.05**	**333**	P	**P**	**11 05 20.1**	**0.0**
X37A	**Clayton**	**54.07**	**338**	P	**P**	**11 05 20.5**	**+0.4**
X37A				IAmb	IAmb	11 05 21.8	
	comp=Z,18nm,1.3s						
W39A	**Magazine**	**54.07**	**340**	P	**P**	**11 05 19.6**	**-0.6**
W39A				IAmb	IAmb	11 05 21.8	
	comp=Z,8.9nm,0.9s						
FCAR	**Ozark Folk Cen**	**54.18**	**342**	P	**P**	**11 05 20.0**	**-1.0**
T45A	**Paducah**	**54.30**	**345**	P	**P**	**11 05 20.7**	**-1.1**
PBMO	**Poplar Bluff**	**54.53**	**344**	P	**P**	**11 05 22.1**	**-1.3**
PBMO				IAmb	IAmb	11 05 23.5	
	comp=Z,7.4nm,1.0s						
R50A	**Paris**	**54.63**	**350**	P	**P**	**11 05 22.9**	**-1.3**
R50A				IAmb	IAmb	11 05 24.4	
	comp=Z,10nm,1.1s						
Q56A	**Snyder Ridge,**	**54.73**	**355**	P	**P**	**11 05 24.0**	**-0.9**
Q56A				IAmb	IAmb	11 05 26.4	
	comp=Z,10.0nm,0.8s						
WCI	**Wyandotte Cave**	**54.94**	**348**	P	**P**	**11 05 25.1**	**-1.4**
X34A	**Smith Ranch, M**	**55.01**	**336**	P	**P**	**11 05 27.3**	**+0.3**
X34A				IAmb	IAmb	11 05 27.9	
	comp=Z,6.9nm,0.8s						
S44A	**Carbondale**	**55.09**	**345**	P	**P**	**11 05 26.9**	**-0.6**
SIUC	**Southern Illin**	**55.10**	**345**	P	**P**	**11 05 26.5**	**-1.1**
MGMO	**Mountain Grove**	**55.40**	**342**	P	**P**	**11 05 28.6**	**-1.1**
MGMO				IAmb	IAmb	11 05 30.3	
	comp=Z,13nm,1.4s						
MVL	**Millersville**	**55.51**	**358**	P	**P**	**11 05 29.6**	**-0.8**
MVL				IAmb	IAmb	11 05 29.9	
	comp=Z,6.4nm,1.1s						
P52A	**Corning**	**55.63**	**352**	P	**P**	**11 05 30.1**	**-1.2**
P52A				IAmb	IAmb	11 05 30.8	
	comp=Z,7.0nm,0.9s						
OLIL	**Olney**	**55.81**	**347**	P	**P**	**11 05 31.5**	**-1.1**
P48A	**Milroy**	**55.97**	**349**	P	**P**	**11 05 31.9**	**-1.9**
P48A				IAmb	IAmb	11 05 33.0	
	comp=Z,6.8nm,0.8s						
MNTX	**Cornudas Mount**	**56.02**	**328**	P	**P**	**11 05 33.9**	**-0.4**
S39A	**Bolivar**	**56.21**	**341**	P	**P**	**11 05 34.6**	**-0.9**
S39A				IAmb	IAmb	11 05 36.0	
	comp=Z,7.2nm,0.8s						
O49A	**Covington**	**56.49**	**350**	P	**P**	**11 05 36.3**	**-1.2**
O49A				IAmb	IAmb	11 05 37.1	
	comp=Z,12nm,0.9s						
M57A	**Sunshine Farm,**	**56.88**	**357**	P	**P**	**11 05 39.1**	**-1.1**
M57A				IAmb	IAmb	11 05 41.8	
	comp=Z,6.8nm,0.9s						
P43A	**Skaggs, Pawnee**	**57.00**	**346**	P	**P**	**11 05 39.8**	**-1.3**
M55A	**Ridgway**	**57.11**	**356**	P	**P**	**11 05 42.1**	**+0.2**
M55A				IAmb	IAmb	11 05 43.0	
	comp=Z,10.0nm,0.8s						
N49A	**Columbus Grove**	**57.19**	**351**	P	**P**	**11 05 41.4**	**-1.0**
N47A	**Urbana**	**57.40**	**349**	P	**P**	**11 05 42.1**	**-1.8**
BRYW	**Bryant College**	**57.42**	**2**	P	**P**	**11 05 43.4**	**-0.7**
BINY	**Binghamton**	**57.69**	**358**	P	**P**	**11 05 45.3**	**-0.6**
BINY				IAmb	IAmb	11 05 48.1	
	comp=Z,11nm,1.1s						
HDIL	**Hopedale**	**57.82**	**346**	P	**P**	**11 05 45.0**	**-1.8**
319A	**Douglas**	**57.88**	**324**	P	**P**	**11 05 46.8**	**-0.8**
319A				IAmb	IAmb	11 05 49.8	
	comp=Z,11nm,1.0s						
WVNY	**West Valley, N**	**58.03**	**356**	P	**P**	**11 05 47.2**	**-1.1**
WVNY				IAmb	IAmb	11 05 49.4	
	comp=Z,8.7nm,0.8s						
LENM	**Lemitar**	**58.79**	**328**	P	**P**	**11 05 52.5**	**-1.5**
ANMO	**Albuquerque**	**59.15**	**329**	P	**P**	**11 05 56.8**	**+0.3**
PECO	**Prince Edward**	**59.46**	**357**	P	**P**	**11 05 57.6**	**-0.5**
J47A	**Sunmer**	**59.55**	**351**	P	**P**	**11 05 57.2**	**-1.6**
K43A	**Burlington**	**59.66**	**348**	P	**P**	**11 05 58.0**	**-1.7**
L40A	**Anamosa**	**59.71**	**345**	P	**P**	**11 05 58.4**	**-1.5**
L40A				IAmb	IAmb	11 05 59.6	
	comp=Z,13nm,1.2s						
DELO	**Deloro Mine**	**60.07**	**357**	P	**P**	**11 06 01.8**	**-0.6**
DELO				IAmb	IAmb	11 06 03.0	
	comp=Z,7.2nm,1.0s						
SADO	**Sadowa**	**60.42**	**356**	P	**P**	**11 06 03.6**	**-1.2**
SADO				IAmb	IAmb	11 06 04.8	
	comp=Z,5.5nm,0.8s						
PLVO	**Plevna**	**60.57**	**357**	P	**P**	**11 06 04.8**	**-1.0**
PLVO				IAmb	IAmb	11 06 06.7	
	comp=Z,4.7nm,1.1s						
I42A	**Draeger Farm,**	**60.92**	**348**	P	**P**	**11 06 06.7**	**-1.4**
I42A				IAmb	IAmb	11 06 08.4	
	comp=Z,10nm,1.1s						
SDCO	**Great Sand Dun**	**60.95**	**332**	P	**P**	**11 06 08.7**	**-0.2**
SDCO				IAmb	IAmb	11 06 10.4	
	comp=Z,4.6nm,0.7s						
L34A	**Svendsen Farm,**	**61.07**	**341**	P	**P**	**11 06 08.6**	**-0.7**
I40A	**Norwalk**	**61.29**	**346**	P	**P**	**11 06 09.9**	**-0.8**
I40A				IAmb	IAmb	11 06 10.9	
	comp=Z,12nm,1.2s						
X16A	**Lo Mia Camp, P**	**61.36**	**325**	P	**P**	**11 06 11.1**	**-0.5**
E62A	**Clayton Lake**	**62.20**	**3**	P	**P**	**11 06 17.1**	**+0.3**
E62A				IAmb	IAmb	11 06 17.8	
	comp=Z,5.9nm,0.8s						
ECSD	**EROS Data Cent**	**62.74**	**342**	P	**P**	**11 06 19.7**	**-0.8**
ECSD				IAmb	IAmb	11 06 21.0	
	comp=Z,8.9nm,0.9s						
SMCO	**Snowmass**	**62.78**	**332**	P	**P**	**11 06 20.6**	**-0.7**
PV15	**Paradox Valley**	**62.83**	**330**	P	**P**	**11 06 21.9**	**+0.5**
PV15				IAmb	IAmb	11 06 25.0	
	comp=Z,6.2nm,1.0s						
PV13	**Radium Mtn., P**	**62.85**	**330**	P	**P**	**11 06 21.9**	**+0.4**
E43A	**Lone Tree Farm**	**62.96**	**350**	P	**P**	**11 06 21.1**	**-0.7**
E43A				IAmb	IAmb	11 06 21.5	
	comp=Z,5.5nm,0.8s						
SPMN	**Marine on St.**	**63.07**	**345**	P	**P**	**11 06 21.4**	**-1.1**
BATG	**Bathurst New B**	**63.13**	**6**	P	**P**	**11 06 22.4**	**-0.6**
BATG				IAmb	IAmb	11 06 24.1	
	comp=Z,4.6nm,0.8s						
U15A	**North Rim**	**63.31**	**326**	P	**P**	**11 06 24.6**	**-0.1**
F36A	**Milaca**	**63.84**	**345**	P	**P**	**11 06 27.0**	**-0.6**
F36A				IAmb	IAmb	11 06 28.2	
	comp=Z,15nm,0.8s						
KNB	**Kanab**	**64.03**	**326**	P	**P**	**11 06 28.8**	**-0.5**
KNB				IAmb	IAmb	11 06 31.9	
	comp=Z,4.7nm,0.9s						
E38A	**The Farm, Brul**	**64.08**	**347**	P	**P**	**11 06 27.9**	**-1.2**
E38A				IAmb	IAmb	11 06 29.4	
	comp=Z,5.6nm,0.7s						
LCMT	**Little Creek M**	**64.26**	**326**	P	**P**	**11 06 31.1**	**+0.3**
SRU	**San Rafael Swe**	**64.42**	**329**	P	**P**	**11 06 32.4**	**+0.6**
MTPU	**Mount Pierson**	**64.46**	**327**	P	**P**	**11 06 32.9**	**+0.6**
F33A	**5 Mile Ranch,**	**64.57**	**343**	P	**P**	**11 06 31.5**	**-0.9**
CCUT	**Cedar City**	**64.72**	**326**	P	**P**	**11 06 34.2**	**+0.3**
MSU	**Marysvale**	**64.81**	**328**	P	**P**	**11 06 33.5**	**-0.9**
P17A	**Butcher Ranch,**	**64.81**	**329**	P	**P**	**11 06 34.8**	**+0.5**
TMUT	**Trail Mountain**	**64.91**	**329**	P	**P**	**11 06 35.7**	**+0.6**
RDMU	**Red Mountain**	**65.10**	**331**	P	**P**	**11 06 36.4**	**+0.1**
EYMN	**Ely**	**65.33**	**347**	P	**P**	**11 06 36.0**	**-1.4**
EYMN				IAmb	IAmb	11 06 37.6	
	comp=Z,9.4nm,1.1s						
PSUT	**Pine Spring**	**65.70**	**326**	P	**P**	**11 06 40.1**	**-0.1**
JLU	**Jordanelle**	**66.03**	**329**	P	**P**	**11 06 42.1**	**-0.2**
B35A	**Bob, Littlefor**	**66.23**	**346**	P	**P**	**11 06 42.3**	**-0.8**
B35A				IAmb	IAmb	11 06 43.4	
	comp=Z,11nm,0.8s						
SPR3	**Spring Creek 3**	**66.30**	**326**	P	**P**	**11 06 43.5**	**-0.7**
DUG	**Dugway, Tooele**	**66.39**	**328**	P	**P**	**11 06 43.9**	**-0.6**
AGMN	**Agassiz Nation**	**66.70**	**344**	P	**P**	**11 06 45.4**	**-0.7**
AGMN				IAmb	IAmb	11 06 46.8	
	comp=Z,11nm,0.7s						
PDAR	**Pinedale Array**	**66.82**	**332**	P	**P**	**11 06 46.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=120,slow=8.7,SNR=4.3						
PDAR				LR	LR	11 38 53.2	
	comp=Z,24nm,18.9s,baz=170,slow=38						
HWUT	**Hardware Ranch**	**66.85**	**330**	P	**P**	**11 06 47.3**	**-0.2**
TPH	**Tonopah**	**67.22**	**324**	P	**P**	**11 06 50.0**	**+0.1**
TPH				IAmb	IAmb	11 06 52.4	
	comp=Z,8.4nm,1.0s						
MDND	**Maddock**	**67.36**	**342**	P	**P**	**11 06 50.4**	**+0.1**
LHV	**Little Huntoon**	**68.08**	**323**	P	**P**	**11 06 55.9**	**+0.9**
NVAR	**Mina Array Bea**	**68.08**	**324**	P	**P**	**11 06 56.0**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=141,slow=6.9,SNR=5.9						
ULM	**Lac du Bonnet**	**68.51**	**345**	P	**P**	**11 06 56.8**	**-0.6**
	comp=Z,8.7nm,0.8s,baz=154,slow=5.7,SNR=13						
ULM	**Lac du Bonnet**	**68.51**	**345**	P	**P**	**11 06 56.2**	**-1.2**
ULM				IAmb	IAmb	11 06 57.7	
	comp=Z,9.4nm,0.8s						
YNE	**Yellowstone No**	**68.80**	**333**	P	**P**	**11 07 00.2**	**+0.5**
YNE				IAmb	IAmb	11 07 01.3	
	comp=Z,6.5nm,1.0s						
SNAA	**Sanae**	**69.22**	**161**	P	**P**	**11 07 01.0**	**-0.7**
DGMT	**Dagmar**	**69.39**	**339**	P	**P**	**11 07 02.6**	**-0.4**
DGMT				IAmb	IAmb	11 07 04.9	
	comp=Z,17nm,0.9s						
VCNR	**Virginia City**	**69.44**	**324**	P	**P**	**11 07 03.4**	**-0.3**
PAHR	**Pah Rah Range**	**69.57**	**324**	P	**P**	**11 07 05.1**	**+0.7**
PAHR				IAmb	IAmb	11 07 07.1	
	comp=Z,6.1nm,0.9s						
MFID	**Camas Ranch**	**70.29**	**329**	P	**P**	**11 07 09.2**	**+0.4**
MFID				IAmb	IAmb	11 07 11.1	
	comp=Z,5.8nm,0.9s						
SCHQ	**Schefferville**	**70.56**	**4**	P	**P**	**11 07 09.8**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=138,slow=8.2,SNR=4.7						
SCHQ	**Schefferville**	**70.56**	**4**	IAmb	IAmb	11 07 10.5	
	comp=Z,3.5nm,0.8s						
ORV	**Oroville**	**70.68**	**323**	P	**P**	**11 07 10.6**	**-0.5**
ORV				IAmb	IAmb	11 07 13.8	
	comp=Z,5.9nm,0.9s						
F10A	**Beach Ranch, E**	**72.83**	**330**	P	**P**	**11 07 24.6**	**+0.6**
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**11 07 32.1**	**-0.9**
QSPA				IAmb	IAmb	11 07 56.3	
	comp=Z,22nm,1.5s						
TOA0	**Torodi Ar. Sit**	**80.07**	**73**	P	**P**	**11 08 04.4**	**-1.0**
TOA0				IAmb	IAmb	11 08 05.9	
	comp=Z,4.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.07**	**73**	P	**P**	**11 08 05.0**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=259,slow=4.8,SNR=12						
TORD				pP	**pP**	**11 08 26.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=268,slow=5.0,SNR=3.6						
TORD				LR	LR	11 41 02.8	
	comp=Z,45nm,20.7s,baz=180,slow=34						
TORD	**Torodi Ar. Bea**	**80.07**	**73**	P	**P**	**11 08 04.0**	**-1.4**
VNDA	**Vanda**	**81.64**	**190**	P	**P**	**11 08 12.2**	**-0.5**
YKA	**Yellowknife Ar**	**84.26**	**342**	P	**P**	**11 08 26.2**	**0.0**
	comp=Z,1.9nm,1.0s,baz=139,slow=5.2,SNR=16						
YKA				pP	**pP**	**11 08 46.6**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=135,slow=5.2,SNR=3.8						
PAB	**San Pablo**	**84.89**	**47**	P	**P**	**11 08 29.6**	**-0.5**
PAB				IAmb	IAmb	11 08 31.8	
	comp=Z,7.0nm,0.9s						
ESDC	**Sonseca Array**	**85.21**	**47**	P	**P**	**11 08 32.7**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=250,slow=5.2,SNR=19						
ESDC				pP	**pP**	**11 08 53.2**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=252,slow=6.0,SNR=3.9						
ESDC	**Sonseca Array**	**85.21**	**47**	P	**P**	**11 08 30.3**	**-1.4**
DLBC	**Dease Lake**	**86.97**	**334**	P	**P**	**11 08 39.8**	**-0.1**
DLBC				IAmb	IAmb	11 08 42.1	
	comp=Z,5.6nm,0.9s						
NIUE	**Niue**	**90.46**	**250**	P	**P**	**11 08 55.3**	**-2.0**
SUMG	**Summit**	**91.20**	**10**	P	**P**	**11 09 00.2**	**+0.3**
TABL	**Table Mountain**	**92.84**	**333**	P	**P**	**11 09 07.0**	**-0.5**
DAWY	**Dawson**	**93.82**	**336**	P	**P**	**11 09 11.2**	**-0.6**
DAWY				IAmb	IAmb	11 09 12.6	
	comp=Z,2.2nm,0.9s						
ILAR	**Eielson Array**	**97.07**	**336**	P	Pdif	11 09 26.9	+0.3
	comp=Z,0.3nm,0.8s,baz=126,slow=1.6,SNR=2.8						
CLL	**Collm**	**100.21**	**40**	*e*Pdif	**Pdif**	**11 09 41.0**	**+0.1**
	comp=Z,6.0nm,1.4s						
H11S2	**WAKE ISLAND Hyl**	**22.25**	**282**	T	T	13 29 00.6	
	baz=99,slow=74,SNR=50						
H11S1	**WAKE ISLAND Hyl**	**22.26**	**282**	T	T	13 28 58.0	
	baz=99,slow=74,SNR=45						
H11S3	**WAKE ISLAND Hyl**	**22.27**	**282**	T	T	13 28 58.4	
	baz=99,slow=74,SNR=67						
WRA	**Warramunga Arr**	**134.96**	**219**	PKP	**PKPdf**	**11 15 15.3**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=138,slow=2.2,SNR=6.9						
WRA				pPKP	**pPKPdf**	**11 15 37.6**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=140,slow=2.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**138.41**	**19**	PKP	**PKPdf**	**11 15 20.3**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=299,slow=3.0,SNR=8.9						
MKAR	**Makanchi Array**	**143.25**	**28**	PKP	PKPbc	11 15 26.5	+0.4
	comp=Z,0.8nm,0.8s,baz=329,slow=1.4,SNR=7.0						
USRK	**Ussuriysk Ar.**	**144.15**	**328**	PKP	PKPbc	11 15 29.4	+0.7
	comp=Z,1.1nm,0.6s,baz

JNBK			S		Sn	11 34 28.6	+0.5
JCH	**Churui**	**3.19 356**	P		**Pn**	**11 33 55.8**	**-0.7**
JCH			*e*S		**Sn**	**11 34 33.5**	**-1.0**
JFT	**Otama**	**3.23 235**	P		**Pn**	**11 33 55.9**	**-1.2**
JAK	**Akkeshi**	**3.65 12**	P		**Pn**	**11 34 01.7**	**-1.1**
JAK			*e*S		**Sn**	**11 34 43.6**	**-2.2**
JEW	**Eniwo**	**3.79 335**			**Pn**	**11 34 05.9**	**+1.1**
JYT	**Yasato**	**4.21 222**	Pn		**Pn**	**11 34 09.0**	**-1.6**
JSD	**Sado**	**4.44 253**	Pn		**Pn**	**11 34 12.2**	**-1.5**
JKA	**Kamikawa-asahi**	**4.75 351**			**Pn**	**11 34 18.6**	**+0.7**
ASAJ	**Asahikawa**	**4.75 351**	P		**Pn**	**11 34 18.4**	**+0.4**
	2.2nm,0.3s,baz=191,slow=9.0,SNR=28						
ASAJ			S		**Sn**	**11 35 11.7**	**-1.2**
	1.5nm,0.3s,baz=118,slow=21,SNR=3.5						
MAJO	**Matsushiro**	**5.18 238**	Pn		**Pn**	**11 34 23.6**	**-0.3**
MAT	**Matsushiro**	**5.18 238**	P		**Pn**	**11 34 24.1**	**+0.2**
MAT			*e*S		**Sn**	**11 35 23.4**	**-0.2**
MJAR	**Matsushiro Arr**	**5.18 238**	P		**Pn**	**11 34 24.3**	**+0.4**
	0.8nm,0.3s,baz=40,slow=12,SNR=128						
MJAR			S		**Sn**	**11 35 25.8**	**+2.1**
	baz=31,slow=14,SNR=1.0						
MJAR	**Matsushiro Arr**	**5.18 238**	Pn		**Pn**	**11 34 22.8**	**-1.1**
MJB9	**Matsu-Tunnel**	**5.18 238**	Pn		**Pn**	**11 34 23.3**	**-0.7**
JGF	**Kuroka**	**6.30 235**			**Pn**	**11 34 38.3**	**-1.0**
INU	**Inuyama**	**6.67 234**	Pn		**Pn**	**11 34 43.7**	**-0.7**
JHJ	**Hachijo jima 2**	**7.03 208**	P		**Pn**	**11 34 49.4**	**0.0**
	4.1nm,0.3s,baz=64,slow=22,SNR=1.5						
JHJ			S		Sn	11 35 58.8	-10
	8.8nm,0.3s,baz=84,slow=23,SNR=1.4						
JWT	**Wachi**	**7.76 240**	Pn		**Pn**	**11 34 59.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**9.92 302**	P		**Pn**	**11 35 30.4**	**+1.5**
	baz=102,slow=13,SNR=9.0						
USRK	**Ussuriysk Ar.**	**9.92 302**			**Pn**	**11 35 28.8**	**-0.2**
USA0B	**Ussuriysk Arra**	**9.92 302**	Pn		**Pn**	**11 35 29.1**	**+0.2**
KSRS	**Korea Array**	**12.49 266**	P		**Pn**	**11 36 05.5**	**+1.4**
	0.1nm,0.3s,baz=81,slow=13,SNR=9.4						
KSRS			LR		LR	11 40 31.9	
	comp=Z,46nm,18.9s,baz=86,slow=36						
PETK	**Petropavlovsk-**	**16.73 31**	P		**P**	**11 37 03.7**	**+0.7**
	0.1nm,0.3s,baz=230,slow=13,SNR=1.7						
JOW	**Kunigami**	**17.96 230**	LR		LR	11 44 40.8	
	comp=Z,41nm,19.9s,baz=332,slow=39						
SONM	**Songino Array**	**28.02 300**	P		**P**	**11 38 57.8**	**+0.3**
	1.1nm,0.6s,baz=83,slow=8.8,SNR=8.0						
SONM			LR		LR	11 50 07.7	
	comp=Z,25nm,19.1s,baz=66,slow=36						
SONM	**Songino Array**	**28.02 300**	P		**P**	**11 38 57.2**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**28.04 128**	T		T	12 08 14.3	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.05 128**	T		T	12 08 17.8	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.06 128**	T		T	12 08 18.6	
	baz=316						
ZALV	**Zalesovo Beam**	**41.65 310**	P		**P**	**11 40 54.6**	**0.0**
	2.6nm,0.5s,baz=86,slow=8.1,SNR=7.1						
ZALV	**Zalesovo Beam**	**41.65 310**	P		**P**	**11 40 54.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**43.82 255**	P		**P**	**11 41 12.9**	**+0.3**
	0.4nm,0.3s,baz=44,slow=6.9,SNR=2.0						
KDAK	**Kodiak Island**	**44.15 44**	P		**P**	**11 41 16.4**	**+1.6**
	2.6nm,0.9s,baz=17,slow=20,SNR=2.0						
KDAK	**Kodiak Island**	**44.15 44**	P		**P**	**11 41 15.3**	**+0.6**
KDAK			IAmb		IAmb	11 41 27.0	
	comp=Z,5.7nm,1.2s						
MK31	**Makanchi Array**	**44.38 300**	P		**P**	**11 41 16.6**	**-0.3**
MK31			IAmb		IAmb	11 41 26.8	
	comp=Z,2.8nm,0.7s						
MKAR	**Makanchi Array**	**44.38 300**	P		**P**	**11 41 16.8**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=83,slow=9.5,SNR=14						
MKAR	**Makanchi Array**	**44.38 300**	P		**P**	**11 41 16.1**	**-0.7**
MAKZ	**Makanchi**	**44.59 301**	P		**P**	**11 41 18.0**	**-0.5**
MAKZ			IAmb		IAmb	11 41 28.5	
	comp=Z,3.8nm,1.0s						
KURBB	**Kurchatov Arra**	**45.96 306**	P		**P**	**11 41 28.8**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=80,slow=8.3,SNR=31						
ILAR	**Eielson Array**	**46.53 34**	P		**P**	**11 41 35.3**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=273,slow=6.2,SNR=6.1						
ILAR			LR		LR	12 03 47.3	
	comp=Z,15nm,19.3s,baz=160,slow=39						
BMAR	**Burnt Mountain**	**47.38 30**	P		**P**	**11 41 41.0**	**+0.8**
BCAR	**Beaver Creek A**	**48.92 36**	P		**P**	**11 41 52.0**	**-0.2**
BVAR	**Borovoye Array**	**50.29 311**	P		**P**	**11 42 01.9**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=38,slow=7.3,SNR=6.9						
INK	**Inuvik**	**51.45 28**	P		**P**	**11 42 13.3**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=299,slow=4.4,SNR=2.1						
INK	**Inuvik**	**51.45 28**	P		**P**	**11 42 12.0**	**+0.8**
INK			IAmb		IAmb	11 42 22.3	
	comp=Z,2.6nm,0.6s						
ARU	**Arti**	**55.75 318**	P		**P**	**11 42 43.3**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=101,slow=3.7,SNR=6.3						
ARU	**Arti**	**55.75 318**	P		**P**	**11 42 42.6**	**-0.3**
ARU			IAmb		IAmb	11 42 43.9	
	comp=Z,4.8nm,0.8s						
ABKAR	**Akbulak array**	**57.76 310**	P		**P**	**11 42 56.9**	**-0.4**
AKTO	**Aktyubinsk**	**58.40 312**	P		**P**	**11 43 01.2**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=64,slow=13,SNR=3.6						
WB0	**Warramunga Arr**	**59.53 190**	P		**P**	**11 43 07.8**	**-2.0**
WR0	**Warramunga Arr**	**59.69 190**	P		**P**	**11 43 08.4**	**-2.6**
WRA	**Warramunga Arr**	**59.70 190**	P		**P**	**11 43 09.1**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=7.4,slow=6.9,SNR=6.0						
WRA	**Warramunga Arr**	**59.70 190**	P		**P**	**11 43 09.9**	**-1.1**
YKA	**Yellowknife Ar**	**60.85 31**	P		**P**	**11 43 18.4**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=300,slow=6.6,SNR=1.5						
ASAR	**Alice Springs**	**63.43 190**	P		**P**	**11 43 35.4**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=15,slow=5.1,SNR=2.0						
FINES	**FINESS Array B**	**67.51 333**	P		**P**	**11 44 01.7**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=79,slow=9.9,SNR=6.0						
FINES	**FINESS Array B**	**67.51 333**	P		**P**	**11 44 01.1**	**-1.1**
KBZ	**Khabaz**	**70.67 311**	P		**P**	**11 44 22.4**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=74,slow=5.6,SNR=3.6						
NVAR	**Mina Array Bea**	**72.16 55**	P		**P**	**11 44 33.2**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=302,slow=10,SNR=2.6						
HFS	**Hagfors**	**72.62 336**	P		**P**	**11 44 33.5**	**0.0**
	comp=Z,1.1nm,0.6s,baz=37,slow=7.8,SNR=9.2						
NOA	**NORSAR Array B**	**72.64 338**	P		**P**	**11 44 33.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=40,slow=5.8,SNR=2.8						
NOA			LR		LR	12 22 19.4	
	comp=Z,14nm,19.0s,baz=225,slow=40						
AKASG	**Malin Array Be**	**73.47 323**	P		**P**	**11 44 38.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=45,slow=5.6,SNR=2.4						
PDAR	**Pinedale Array**	**74.74 47**	P		**P**	**11 44 45.8**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=328,slow=3.2,SNR=1.9						
PDAR	**Pinedale Array**	**74.74 47**	P		**P**	**11 44 46.0**	**-0.7**
TXAR	**Lajitas Array**	**87.27 54**	P		**P**	**11 45 55.6**	**+2.1**
	comp=Z,0.1nm,0.5s,baz=297,slow=2.7,SNR=1.6						

*NEIC **21** 12:05:55.2±1.3,25.°18S±0.°09×176.°2W±0.°1, h129km±6km, mb4.4/24, Error ellipse: s-maj=17.6km s-min=11.2km az=112.0*
*IDC **21** 12:06:01.0±2.3,25.°28S×176.°95W, h104km±20km, mb3.8/13, mb1 4.0/16, mb1mx3.9/34, mbtmp4.2/16, MS3.3/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=19.7km s-min=14.9km az=81.0*
ISC 21 12:05:53.6±0.5, 25°24S±0.°06×176°17W±0.°09, h100km, n70, σ2°84/52, mb4.2/21, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.29 201**		P	**Pn**	**12 06 59.9**	**+3.2**
	102nm,0.3s,baz=68,slow=7.7,SNR=5.8						
RAO				S	**Sn**	**12 07 47.5**	**+1.8**
	162nm,0.3s,baz=214,slow=23,SNR=1.9						
RAO	**Raoul Island**	**4.29 201**			**Pn**	**12 06 59.6**	**+2.9**
NIUE	**Niue**	**8.43 45**	Pn		**Pn**	**12 07 54.0**	**+1.1**
MSVF	**Nonsavu**	**9.21 323**	P		**Pn**	**12 08 06.8**	**+3.1**
	3.1nm,0.3s,baz=159,slow=12,SNR=22						
MSVF	**Nonsavu**	**9.21 323**			**Pn**	**12 08 04.5**	**+0.9**
AFI	**Afiamalu**	**12.00 21**	Pn		**Pn**	**12 08 41.9**	**+0.4**
URZ	**Urewera**	**14.18 202**	P		**P**	**12 09 14.7**	**+0.6**
	0.7nm,0.3s,baz=128,slow=20,SNR=2.4						
URZ				S	Sn	12 11 32.6	-13
	1.3nm,0.3s,baz=121,slow=22,SNR=1.9						
URZ	**Urewera**	**14.18 202**			**Pn**	**12 09 10.3**	**+0.5**
BKZ	**Black Stump Fm**	**15.21 202**	Pn		**Pn**	**12 09 22.5**	**-0.4**
BKZ			IAmb		IAmb	12 09 31.0	
	comp=Z,44nm,1.5s						
DZM	**Mont Dzumac**	**16.24 278**	P		**P**	**12 09 42.0**	**+4.6**
	comp=Z,0.3nm,0.3s,baz=113,slow=14,SNR=2.5						
DZM	**Mont Dzumac**	**16.24 278**	Pn		**Pn**	**12 09 33.9**	**-2.2**
DZM			IAmb		IAmb	12 09 51.0	
	comp=Z,19nm,1.1s						
BFZ	**Birch Farm**	**16.65 201**			**Pn**	**12 09 40.2**	**-0.7**
BFZ			IAmb		IAmb	12 09 44.2	
	comp=Z,60nm,1.3s						
TUWZ	**Tuamarina**	**18.12 205**	P		**P**	**12 09 56.2**	**-1.5**

THZ	**Tophouse**	**18.80 206**	P		**P**	**12 10 05.1**	**-0.2**
THZ			IAmb		IAmb	12 10 33.4	
	comp=Z,70nm,1.4s						
HNR	**Honiara**	**27.62 300**	LR		LR	12 20 25.7	
	comp=Z,55nm,19.9s,baz=131,slow=32						
CTA	**Charters Tower**	**34.98 271**	P		**P**	**12 12 38.2**	**+1.7**
	comp=Z,4.0nm,0.5s,baz=101,slow=12,SNR=9.7						
CTAO	**Charters Tower**	**34.98 271**	P		**P**	**12 12 33.1**	**-3.4**
STKA	**Stephens Creek**	**37.51 250**	P		**P**	**12 12 57.3**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=142,slow=15,SNR=5.6						
STKA			LR		LR	12 26 22.6	
	comp=Z,44nm,19.5s,baz=29,slow=33						
STKA	**Stephens Creek**	**37.51 250**	P		**P**	**12 12 56.1**	**-1.8**
BBOO	**Buckleboo**	**42.16 248**	P		**P**	**12 13 34.2**	**-2.3**
AS31	**Alice Springs**	**45.27 261**	P		**P**	**12 13 58.3**	**-3.2**
AS31			IAmb		IAmb	12 14 00.1	
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**45.27 261**	P		**P**	**12 13 58.7**	**-2.8**
WB2	**Warramunga Arr**	**45.79 266**	P		**P**	**12 14 03.6**	**-2.0**
WB2			IAmb		IAmb	12 14 19.0	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**45.80 266**	P		**P**	**12 14 02.8**	**-3.0**
WRA	**Warramunga Arr**	**45.80 266**	P		**P**	**12 14 07.1**	**+1.3**
	comp=Z,1.1nm,0.4s,baz=102,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**45.80 266**	P		**P**	**12 14 03.4**	**-2.3**
FORT	**Forrest**	**49.13 250**	P		**P**	**12 14 29.4**	**-2.0**
KNRA	**Kununurra**	**52.17 269**	P		**P**	**12 14 51.2**	**-3.2**
SBA	**Scott Base**	**53.29 184**	P		**P**	**12 15 01.0**	**-0.7**
SBA			IAmb		IAmb	12 15 11.9	
	comp=Z,3.7nm,0.9s						
VNDA	**Vanda**	**53.38 186**	P		P	12 15 09.8	+7.5
	comp=Z,0.5nm,0.6s,baz=31,slow=5.4,SNR=4.3						
VNDA	**Vanda**	**53.38 186**	P		**P**	**12 15 01.6**	**-0.7**
SIJI	**Sorong**	**56.17 287**	P		**P**	**12 15 24.9**	**+1.4**
	comp=Z,5.1nm,0.6s,baz=37,slow=20,SNR=1.8						
MORW	**Morawa**	**59.70 250**	P		**P**	**12 15 45.5**	**-2.4**
CASY	**Casey**	**60.46 206**	P		**P**	**12 15 51.6**	**-0.9**
CASY			IAmb		IAmb	12 16 15.6	
	comp=Z,5.9nm,1.1s						
QSPA	**South Pole Qui**	**64.85 180**	P		**P**	**12 16 19.9**	**-1.9**
QSPA			IAmb		IAmb	12 16 30.5	
	comp=Z,4.2nm,1.2s						
ADK	**Adak**	**76.79 360**	P		**P**	**12 17 32.0**	**-1.9**
MAW	**Mawson**	**77.69 200**	P		P	12 17 44.7	+5.8
	comp=Z,6.5nm,0.8s,baz=136,slow=7.5,SNR=11						
MAW	**Mawson**	**77.69 200**	P		**P**	**12 17 37.3**	**-1.6**
PETK	**Petropavlovsk-**	**81.27 344**	P		P	12 18 04.2	+5.8
	comp=Z,2.9nm,0.7s,baz=107,slow=9.5,SNR=6.1						
PETK	**Petropavlovsk-**	**81.27 344**	P		**P**	**12 17 55.2**	**-3.2**
KSRS	**Korea Array**	**81.54 318**	P		P	12 18 05.3	+5.2
	comp=Z,0.4nm,0.5s,baz=122,slow=5.9,SNR=3.0						
H03S2	**Juan Fernandez**	**81.95 123**	T		T	13 49 22.0	
	baz=242,slow=74,SNR=50						
H03S1	**Juan Fernandez**	**81.96 124**	T		T	13 49 08.6	
	baz=242,slow=74,SNR=51						
H03S3	**Juan Fernandez**	**81.97 123**	T		T	13 49 06.8	
	baz=242,slow=74,SNR=57						
H03N2	**Juan Fernandez**	**82.11 123**	T		T	13 49 09.5	
	baz=249,slow=72,SNR=10.0						
H03N3	**Juan Fernandez**	**82.11 123**	T		T	13 49 07.7	
	baz=249,slow=72,SNR=10						
H03N1	**Juan Fernandez**	**82.13 123**	T		T	13 49 26.4	
	baz=249,slow=72,SNR=14						
YBH	**Yreka Blue Hor**	**82.97 37**	P		**P**	**12 18 04.9**	**-2.7**
YBH			IAmb		IAmb	12 18 25.3	
	comp=Z,5.2nm,1.1s						
SNAA	**Sanae**	**83.24 178**	P		P	12 18 15.3	+6.6
SNAA	**Sanae**	**83.24 178**	P		**P**	**12 18 07.0**	**-1.6**
VNA3	**Neumayer Olymp**	**83.32 176**	P		P	12 18 15.7	+6.7
NVAR	**Mina Array Bea**	**83.34 42**	P		P	12 18 20.0	+10
	comp=Z,0.8nm,0.7s,baz=225,slow=9.1,SNR=7.5						
NVAR	**Mina Array Bea**	**83.34 42**	P		**P**	**12 18 07.1**	**-2.7**
VNA1	**Neumayer--Stat**	**84.00 176**	P		P	12 18 19.3	+6.9
PLCA	**Paso Flores**	**84.81 133**	P		P	12 18 26.0	+8.7
	comp=Z,1.5nm,0.7s,baz=228,slow=6.4,SNR=3.7						
TXAR	**Lajitas Array**	**86.22 56**	P		P	12 18 42.8	+8.9
	comp=Z,0.2nm,0.7s,baz=201,slow=4.8,SNR=2.5						
EYAK	**Cordova Ski Ar**	**89.01 14**	P		**P**	**12 18 35.0**	**-1.7**
EYAK			IAmb		IAmb	12 18 49.5	
	comp=Z,3.0nm,1.1s						
GHO	**Glory Hole Cre**	**89.44 13**	P		**P**	**12 18 37.0**	**-1.9**
GHO			IAmb		IAmb	12 18 50.7	
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**91.27 43**	P		P	12 18 57.2	+9.2
	comp=Z,0.4nm,0.6s,baz=176,slow=2.4,SNR=4.7						
ILAR	**Eielson Array**	**92.55 12**	P		P	12 19 00.5	+7.3
	comp=Z,0.3nm,0.8s,baz=207,slow=3.8,SNR=2.3						
MKAR	**Makanchi Array**	**115.64 312**	PKP		**PKiKP**	**12 24 28.7**	**+4.7**
	comp=Z,0.2nm,0.6s,baz=66,slow=4.2,SNR=2.0						
ARCES	**ARCESS Array B**	**133.86 350**	PKP		**PKiKP**	**12 25 04.9**	**+5.4**
	comp=Z,0.6nm,0.7s,baz=62,slow=2.9,SNR=7.3						
ARCES	**ARCESS Array B**	**133.86 350**			**PKPdf**	**12 24 56.1**	**-2.1**
NOA	**NORSAR Array B**	**143.86 354**	PKP		**PKiKP**	**12 25 20.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=16,slow=5.0,SNR=4.2						
AKASG	**Malin Array Be**	**147.94 329**	PKPbc		**PKPab**	**12 25 32.0**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=41,slow=4.5,SNR=18						
AKASG	**Malin Array Be**	**147.94 329**			**PKPdf**	**12 25 19.9**	**-4.0**
BRTR	**Keskin Array B**	**151.16 307**	PKPbc		**PKiKP**	**12 25 40.9**	**+4.8**
	comp=Z,0.4nm,0.4s,baz=156,slow=4.3,SNR=2.9						
MMAI	**Mount Meron Ar**	**151.43 293**	PKPbc		**PKiKP**	**12 25 41.5**	**+4.8**
	comp=Z,0.8nm,0.3s,baz=156,slow=39,SNR=1.3						
GERES	**GERESS Array B**	**155.20 344**	PKPab		**PKPab**	**12 26 05.8**	**+5.6**
	comp=Z,0.4nm,0.6s,baz=20,slow=4.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**167.81 170**	PKPab		**PKPab**	**12 27 02.9**	**+7.1**
	comp=Z,1.1nm,0.8s,baz=205,slow=3.4,SNR=3.3						

*VIE **21** 12:06:34.5±0.4,50.°13N×18.°41E, h0km, mb2.1/4, ml2.5/4, Error ellipse: s-maj=4.5km s-min=2.8km az=6.0 35 km NNE of Ostrava Suspected Mining induced.*
*IDC **21** 12:06:35.5±1.1,49.°98N×18.°52E, h0km, mb1 2.8/3, mb1mx2.7/48, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=21.0km s-min=8.5km az=147.0*
*IPEC **21** 12:06:35.1±0.2,50.°09N×18.°46E, h0km±3km, ML2.3/4, Error ellipse: s-maj=2.4km s-min=1.1km az=150.0*
*PRU **21** 12:06:36.5±0.0,50.°06N×18.°40E, h0km*
ISC 21 12:06:34.4±0.7, 50°04N±0.°03×18°43E±0.°02, h0km, n47, σ0°96/83, 10C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.16 286**		*e*PG	**Pg**	**12 06 39.5**	**+2.0**
RAC				*e*SG	**Sg**	**12 06 42.8**	**+3.2**
OKC	**Ostrava-Krasne**	**0.28 222**		*e*PG	**Pb**	**12 06 41.5**	**-0.8**
OKC				*e*SG	**Sb**	**12 06 46.1**	**-1.4**
	comp=Z,304nm,0.9s						
MORC	**Moravsky Berou**	**0.63 246**		⇑P	**Pb**	**12 06 47.7**	**-0.7**
MORC				⇑S	**Sb**	**12 06 58.0**	**+0.1**
MORC	**Moravsky Berou**	**0.63 246**		*e*PG	**Pb**	**12 06 48.0**	**-0.5**
MORC				*e*SG	**Sg**	**12 06 56.1**	**+1.3**
MORC	**Moravsky Berou**	**0.63 246**		*e*Pg	**Pb**	**12 06 47.9**	**-0.5**
	baz=62						
MORC				*e*Sg	**Sg**	**12 06 56.1**	**+1.3**
	47nm,0.3s,baz=62						
OJC	**Ojcow**	**0.90 78**		*e*Pg	**Pg**	**12 06 51.8**	**+0.2**
OJC				*e*Sg	**Sb**	**12 07 04.7**	**-0.6**
KRLC	**Kraliky**	**1.06 272**		*e*PG	**Pg**	**12 06 54.7**	**-0.1**
KRLC				*e*SG	**Sg**	**12 07 09.4**	**+0.8**
	comp=Z,40nm,0.5s						
LANS	**Liptovska Anna**	**1.12 143**		*e*PG	**Pb**	**12 06 57.1**	**+0.4**
LANS				*e*SG	**Sn**	**12 07 13.6**	**+0.1**
LANS				*e*LG	Lg	12 07 17.8	
JAVC	**Velka Javorina**	**1.28 203**		*e*PG	**Pn**	**12 07 00.3**	**+0.6**
JAVC				*e*SG	**Sb**	**12 07 16.8**	**+0.3**
JAVC	**Velka Javorina**	**1.28 203**		*e*Pg	**Pn**	**12 07 00.2**	**+0.6**
	baz=22						
JAVC				*e*Sg	**Sb**	**12 07 16.8**	**+0.3**
	45nm,0.6s,baz=22						
NIE	**Niedzica**	**1.36 117**		*e*Pg	**Pb**	**12 07 01.5**	**+0.7**
NIE				*e*Sg	**Sn**	**12 07 21.4**	**+1.9**
DPC	**Dobruska-Polom**	**1.39 284**		*e*PG	**Pn**	**12 07 01.4**	**+0.2**
DPC				*e*SG	**Sb**	**12 07 20.1**	**+0.4**
	comp=Z,77nm,0.5s						
VRAC	**Vranov**	**1.40 239**		Pg	**Pb**	**12 07 01.7**	**+0.2**
	3.4nm,0.3s,baz=61,slow=15,SNR=27						
VRAC				Lg	Lg	12 07 20.6	
	6.7nm,0.3s,baz=142,slow=17,SNR=13						
VRAC	**Vranov**	**1.40 239**		⇑P	**Pn**	**12 07 01.4**	**+0.1**
VRAC				⇑S	**Sn**	**12 07 21.2**	**+0.7**
VRAC	**Vranov**	**1.40 239**		*e*PG	**Pg**	**12 07 01.6**	**+0.3**
VRAC				*e*SG	**Sb**	**12 07 20.3**	**+0.3**
VRAC	**Vranov**	**1.40 239**		*e*Pg	**Pg**	**12 07 01.5**	**+0.3**
	baz=57						
VRAC				*e*Sg	**Sb**	**12 07 20.2**	**+0.3**

	44nm,0.5s,baz=57						
OSTC	**Ostas**	**1.51 291**		*e*PG	**Pn**	**12 07 02.8**	**0.0**
OSTC				*e*SG	**Sn**	**12 07 24.5**	**+1.3**
	comp=Z,29nm,0.6s						
VYHS	**Vyhne**	**1.57 170**		*e*PN	**Pn**	**12 07 04.2**	**+0.6**
VYHS				*e*SN	**Sg**	**12 07 26.0**	**+1.1**
KSP	**Ksiaz**	**1.59 301**		*e*Pg	**Pn**	**12 07 03.9**	**+0.1**
KSP				*e*Sg	**Sn**	**12 07 25.2**	**+0.2**
CHVC	**Chvalec**	**1.62 291**		*e*PG	**Pn**	**12 07 04.7**	**+0.4**
CHVC				*e*SG	**Sg**	**12 07 27.3**	**+0.8**
	comp=Z,81nm,1.4s						
UPC	**Upice**	**1.62 288**		*e*PG	**Pb**	**12 07 05.4**	**+0.2**
UPC				*e*SG	**Sg**	**12 07 27.4**	**+0.9**
	comp=Z,26nm,0.6s						
KRUC	**Moravsky**	**1.65 234**		*e*PG	**Pb**	**12 07 05.7**	**0.0**
KRUC				*e*SG	**Sg**	**12 07 28.0**	**+0.5**
KRUC	**Moravsky**	**1.65 234**		*e*Pg	**Pb**	**12 07 05.7**	**0.0**
	baz=52						
KRUC				*e*Sg	**Sg**	**12 07 27.9**	**+0.5**
	29nm,0.7s,baz=52						
MODS	**Modra-Piesok**	**1.83 205**		*e*PN	**Pn**	**12 07 07.0**	**-0.2**
MODS				*e*SN	**Sn**	**12 07 31.6**	**+0.5**
STHS	**Stebnicka Huta**	**1.93 108**		*e*PN	**Pg**	**12 07 11.4**	**0.0**
TREC	**Trest**	**2.05 250**		*e*SG	**Sg**	**12 07 40.8**	**+0.4**
	comp=Z,13nm,0.5s						
CRVS	**Cervenica-Dubn**	**2.28 119**		*e*PN	**Pb**	**12 07 17.5**	**+1.0**
PSZ	**Piszkesteto**	**2.33 155**		⇑P	**Pn**	**12 07 14.7**	**+0.6**
PSZ				⇑S	**Sn**	**12 07 43.3**	**-0.2**
PRU	**Pruhonice**	**2.51 270**		*e*PG	**Pb**	**12 07 20.7**	**+0.3**
PRU				*e*SG	**Sg**	**12 07 54.5**	**-0.6**
	comp=Z,7.3nm,0.4s						
PVCC	**Panska Ves**	**2.53 283**		*e*SG	**Sg**	**12 07 55.5**	**-0.1**
	comp=Z,42nm,0.4s						
CONA	**Conrad Observa**	**2.71 220**		Pn	**Pn**	**12 07 19.6**	**+0.3**
	0.6nm,0.3s						
CONA				Sn	**Sn**	**12 07 52.6**	**-0.2**
	2.3nm,0.3s						
KOLS	**Kolonicke sedl**	**2.74 112**		*e*PG	**Pg**	**12 07 28.4**	**+1.5**
PBCC	**Pribram**	**2.89 265**		*e*PG	**Pb**	**12 07 28.4**	**+1.5**
PBCC				*e*SG	**Sg**	**12 08 08.0**	**+0.7**
BSZH	**Besenyszg**	**3.00 155**		⇓P	**Pn**	**12 07 24.0**	**+0.8**
KHC	**Kasperske Hory**	**3.29 256**		*e*PN	**Pn**	**12 07 27.5**	**+0.3**
KHC				*e*PG	**Pg**	**12 07 35.8**	**-1.6**
KHC				*e*SN	**Sn**	**12 08 05.5**	**-1.5**
KHC				*e*SG	**Sg**	**12 08 20.4**	**+0.4**
	comp=Z,11nm,0.5s						
GERES	**GERESS Array B**	**3.31 251**	Pn		**Pn**	**12 07 27.6**	**0.0**
	0.2nm,0.3s,baz=68,slow=16,SNR=2.7						
GERES			Pg		**Pg**	**12 07 37.3**	**-0.6**
	1.0nm,0.3s,baz=68,slow=16,SNR=17						
GERES			Sn		**Sn**	**

	comp=N,698nm,0.5s								
BRNG	**Burnasheti**	**0.64**	**25**	P		**Pb**	**12 36 19.0**	**-0.6**	
BRNG				S		**Sb**	**12 36 28.4**	**-0.4**	
STE	**Stepanavan**	**0.68**	**93**	⇑*i*P		**Pb**	**12 36 19.9**	**-0.4**	
STE				⇑*i*S		**Sn**	**12 36 31.1**	**-1.9**	
TRLG	**Trialeti**	**0.69**	**44**	P		**Pg**	**12 36 19.4**	**0.0**	
TRLG				S		**Sb**	**12 36 29.0**	**-1.2**	
BKRG	**Bakuriani**	**0.72**	**3**	P		**Pb**	**12 36 20.4**	**-0.6**	
BKRG				S		**Sb**	**12 36 30.5**	**-0.5**	
EPOS	**Posof**	**0.72**	**310**	*i* P		**Pg**	**12 36 19.8**	**-0.3**	
EPOS				*i* S		**Sg**	**12 36 27.4**	**-2.1**	
KZRT	**Kazreti**	**0.78**	**64**	P		**Pg**	**12 36 21.0**	**-0.1**	
KZRT				S		**Sb**	**12 36 31.3**	**-1.5**	
KZRT	**Kazreti**	**0.78**	**64**	*i* P		**Pg**	**12 36 20.7**	**-0.4**	
KZRT				*i* S		**Sg**	**12 36 27.4**	**-3.9**	
ABS	**Abastumani**	**0.87**	**326**	P		**Pg**	**12 36 23.2**	**+0.5**	
ABS				S		**Sb**	**12 36 35.5**	**+0.2**	
ARUZ	**Aruch**	**0.89**	**148**	⇓*i*P		**Pg**	**12 36 23.1**	**-0.1**	
ARUZ				⇑*i*S		**Sg**	**12 36 35.6**	**+0.7**	
SENK	**Senkaya-Erzuru**	**0.97**	**241**	PG		**Pg**	**12 36 25.6**	**+0.8**	
SENK				SG		**Sb**	**12 36 39.6**	**+1.2**	
VNNZ	**Vanand**	**0.98**	**164**	⇑*i*P		**Pg**	**12 36 24.7**	**-0.1**	
VNNZ				⇑*i*S		**Sb**	**12 36 38.5**	**+0.2**	
METS	**Metsamor**	**1.00**	**152**	⇑*i*P		**Pb**	**12 36 26.0**	**+0.3**	
METS				⇑*i*S		**Sb**	**12 36 40.1**	**+0.9**	
KAPZ	**Kaputan**	**1.18**	**127**	⇓*i*P		**Pg**	**12 36 28.4**	**-0.3**	
KAPZ				⇑*i*S		**Sb**	**12 36 44.6**	**+0.3**	
TASB	**TASBURUN-IGDIR**	**1.21**	**151**	PN		**Pb**	**12 36 29.0**	**-0.2**	
IGDI	**IGDIR**	**1.26**	**158**	*i* P		**Pn**	**12 36 29.2**	**-0.8**	
IGDI				*i* S		**Sb**	**12 36 40.0**	**-6.5**	
DDEM	**Demirkent**	**1.31**	**264**	*i* P		**Pn**	**12 36 31.1**	**+0.3**	
DDEM				*i* S		**Sb**	**12 36 46.6**	**-1.3**	
DDEM				IAML			12 36 54.0		
	comp=N,383nm,0.4s								
DDEM				IAML			12 36 58.0		
	comp=E,336nm,0.4s								
GNI	**Garni**	**1.32**	**132**	⇑*i*P		**Pb**	**12 36 31.1**	**0.0**	
GNI				⇑*i*S		**Sn**	**12 36 49.1**	**+0.4**	
GNI	**Garni**	**1.32**	**132**	PN		**Pg**	**12 36 31.3**	**0.0**	
GNI				SN		**Sn**	**12 36 50.1**	**+1.4**	
DBAD	**Bademkaya**	**1.34**	**270**	*i* P		**Pn**	**12 36 31.5**	**+0.3**	
DBAD				*i* S		**Sb**	**12 36 46.2**	**-2.6**	
DBAD				IAML			12 36 56.0		
	comp=N,121nm,0.5s								
TKB	**Tkibuli**	**1.35**	**345**	P		**Pb**	**12 36 31.8**	**+0.1**	
TKB				S		**Sg**	**12 36 50.4**	**+0.7**	
NRKZ	**NAREK**	**1.38**	**138**	⇑*i*P		**Pn**	**12 36 31.8**	**+0.1**	
NRKZ				⇓*i*S		**Sg**	**12 36 51.2**	**+0.7**	
DBOC	**Borcka**	**1.39**	**283**	*i* P		**Pn**	**12 36 32.5**	**+0.7**	
DBOC				*i* S		**Sn**	**12 36 45.9**	**-4.5**	
AGRB	**Hanur-Agry**	**1.51**	**194**	PN		**Pg**	**12 36 35.9**	**+0.9**	
ONI	**Oni**	**1.55**	**360**	P		**Pg**	**12 36 35.9**	**+0.2**	
ONI				S		**Sg**	**12 36 56.9**	**+1.0**	
ONI	**Oni**	**1.55**	**360**	*e*Pg		**Pg**	**12 36 36.0**	**+0.2**	
ONI				*e*Sg		**Sg**	**12 36 56.7**	**+0.9**	
ZEI	**Tsey**	**1.77**	**10**	*e*Pg		**Pg**	**12 36 39.7**	**-0.5**	
ZEI				*e*Sg		**Sg**	**12 37 03.1**	**-0.1**	
PNSH	**Pansheti**	**1.81**	**28**	P		**Pb**	**12 36 39.6**	**+0.1**	
PNSH				S		**Sg**	**12 37 03.8**	**-0.5**	
MTEO	**Meteo**	**1.82**	**26**	P		**Pg**	**12 36 40.2**	**-0.7**	
MTEO				S		**Sg**	**12 37 05.6**	**+1.0**	
DIGR	**Digorskoe uzhe**	**1.86**	**3**	*e*Pg		**Pg**	**12 36 41.2**	**-0.5**	
DIGR				*e*Sg		**Sg**	**12 37 06.4**	**+0.6**	
LACR	**Lac**	**1.89**	**19**	*e*Pg		**Pg**	**12 36 41.2**	**-1.1**	
LACR				*e*Sg		**Sg**	**12 37 07.0**	**+0.3**	
ERZM	**Erzurum**	**1.96**	**235**	*i* P		**Pg**	**12 36 43.9**	**+0.2**	
ERZM				*i* S		**Sb**	**12 37 07.5**	**+0.6**	
DDFL	**Dedoflistskaro**	**2.04**	**78**	P		**Pg**	**12 36 46.2**	**+1.0**	
DDFL				S		**Sg**	**12 37 16.2**	**+4.6**	
DDFL	**Dedoflistskaro**	**2.04**	**78**	*i* P		**Pg**	**12 36 46.0**	**+0.9**	
DDFL				*i* S		**Sb**	**12 37 09.2**	**+0.3**	
EJDE	**Erzurum, Palan**	**2.04**	**235**	*i* P		**Pb**	**12 36 43.8**	**+0.1**	
EJDE				IAML			12 37 24.0		
	comp=E,74nm,0.6s								
EJDE				IAML			12 37 26.0		
	comp=N,60nm,0.9s								
CHOM	**Cayeli-Rize**	**2.05**	**272**	PN		**Pn**	**12 36 42.3**	**+1.5**	
LGD	**Lagodekhi**	**2.23**	**68**	P		**Pb**	**12 36 46.6**	**-0.1**	
LGD				S		**Sb**	**12 37 15.1**	**+0.7**	
NEY	**Neytrino**	**2.27**	**346**	*e*Pg		**Pb**	**12 36 48.1**	**+0.7**	
NEY				*e*Sg		**Sg**	**12 37 18.1**	**-1.1**	
SHA1	**Shidzhatmaz**	**2.76**	**348**	*e*Pn		**Pg**	**12 36 57.7**	**-1.3**	
SHA1				*e*Sn		**Sg**	**12 37 34.1**	**-0.7**	
MNK	**Minsk**	**17.00**	**328**	*i* P		**Pn**	**12 40 04.3**	**+0.3**	
	comp=E,1.0nm,0.7s								
MNK				*i* P		**Pn**	**12 40 04.3**	**+0.3**	
	comp=N,12nm,0.6s								
MNK				*i* P		**Pn**	**12 40 04.3**	**+0.3**	
	comp=Z,2.0nm,0.4s,baz=314								
MNK				*i* PP		**PnPn**	**12 40 13.8**	**+0.2**	
MNK				*i* PPP		PPP	12 40 21.6		
MNK				*i* S		**Sn**	**12 43 13.4**	**+0.4**	
MNK				*i* SS		**SnSn**	**12 43 28.0**	**+1.8**	
MNK				*i* SSS		SSS	12 43 40.8		
MNK				*i* PcP		**PcP**	**12 44 51.1**	**+1.6**	
MNK				*i* LQ		LQ	12 45 03.9		
MNK				*i* LR		LR	12 46 21.0		
MNK				*i* LRM		MLR	12 47 32.2		
	comp=N,24nm,13.4s								
MNK				*i* LRM		MLR	12 47 37.1		
	comp=E,4.0nm,14.1s								
MNK				*i* LRM		MLR	12 47 37.8		
	comp=Z,24nm,12.8s								

*IDC **21** 12:48:26.1±1.5,27.78N×85.46E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/51,mbtmp3.5/6,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/32,Error ellipse: s-maj=59.4km s-min=24.0km az=59.0*

ISC 21 12:48:28.9±1.6,27.8N±0.2×85.5E±0.4,h18km,n7,σ0§43/6, mb3.6/5,Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.09**	**353**	P	**Pn**	**12 52 50.9**	**-0.5**
	0.1nm,0.3s,baz=172,slow=11,SNR=8.9						
SONM	**Songino Array**	**25.77**	**34**	P	**P**	**12 53 59.0**	**+0.3**
	0.6nm,0.5s,baz=228,slow=9.0,SNR=2.5						
BRTR	**Keskin Array B**	**44.13**	**299**	LR	LR	13 18 46.5	
	comp=Z,24nm,18.1s,baz=146,slow=41						
FINES	**FINESS Array B**	**51.39**	**328**	P	**P**	**12 57 32.5**	**+0.2**
	0.5nm,0.5s,baz=103,slow=8.4,SNR=6.4						
ARCES	**ARCESS Array B**	**53.79**	**338**	P	**P**	**12 57 50.3**	**+0.3**
	0.5nm,0.5s,baz=91,slow=7.3,SNR=8.3						
WRA	**Warramunga Arr**	**67.01**	**130**	P	**P**	**12 59 21.1**	**0.0**
	0.5nm,0.9s,baz=324,slow=6.5,SNR=2.0						
ASAR	**Alice Springs**	**69.31**	**133**	P	**P**	**12 59 35.2**	**-0.3**
	0.3nm,0.8s,baz=317,slow=6.9,SNR=1.9						

IDC 21 12:50:51.6±2.5,6.51S×130.15E,h159km±35km,mb3.2/1, mb1 3.0/5,mb1mx2.9/33,mbtmp3.5/5,Error ellipse: s-maj=62.2km s-min=20.1km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.71**	**11**	P	Pn	12 52 15.0	+0.3
	0.5nm,0.3s,baz=229,slow=23,SNR=9.2						
SIJI				S	Sn	12 53 16.6	-3.2
	1.2nm,0.3s,baz=200,slow=22,SNR=6.7						
FITZ	**Fitzroy Crossi**	**12.33**	**201**	P	Pn	12 53 40.8	-1.1
	0.1nm,0.3s,baz=29,slow=8.3,SNR=8.6						
FITZ				S	Sn	12 55 46.9	-12
	0.2nm,0.3s,baz=111,slow=24,SNR=6.6						
WRA	**Warramunga Arr**	**13.96**	**163**	P	Pn	12 54 02.6	-0.1
	0.2nm,0.3s,baz=345,slow=11,SNR=22						
WRA				S	Sn	12 56 29.2	-8.4
	0.3nm,0.3s,baz=338,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**17.43**	**168**	P	Pn	12 54 45.2	0.0
	0.1nm,0.3s,baz=339,slow=9.6,SNR=7.5						
ASAR				S	S	12 57 55.2	-2.4
	0.1nm,0.3s,baz=272,slow=25,SNR=1.1						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	13 01 33.0	-0.1
	0.4nm,0.5s,baz=120,slow=5.9,SNR=5.4						

IDC 21 13:01:39.7±2.5,6.58S×129.92E,h131km±38km,mb3.1/1, mb1 3.1/5,mb1mx2.9/27,mbtmp3.5/5,Error ellipse: s-maj=67.5km s-min=17.0km az=92.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.83**	**13**	P	Pn	13 03 06.0	+2.0
	0.5nm,0.3s,baz=180,slow=20,SNR=7.0						
SIJI				S	Sn	13 04 09.0	-0.7
	0.9nm,0.3s,baz=210,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**12.19**	**200**	P	Pn	13 04 28.0	-1.1
	0.2nm,0.3s,baz=26,slow=12,SNR=11						
FITZ				S	Sn	13 06 34.2	-9.3
	0.1nm,0.3s,baz=322,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**13.96**	**163**	P	Pn	13 04 51.3	-0.7
	0.2nm,0.3s,baz=347,slow=13,SNR=11						
WRA				S	Sn	13 07 18.8	-7.5
	0.2nm,0.3s,baz=354,slow=23,SNR=1.5						
ASAR	**Alice Springs**	**17.41**	**168**	P	Pn	13 05 35.1	+0.4
	0.1nm,0.3s,baz=340,slow=9.8,SNR=17						
ASAR				S	S	13 08 42.8	-6.0
	0.1nm,0.3s,baz=336,slow=14,SNR=1.8						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	13 12 23.7	-0.1
	0.2nm,0.5s,baz=120,slow=7.5,SNR=2.5						

*IDC **21** 13:22:37.5±1.5,31.80N×81.90E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/39,mbtmp3.6/7,ML3.1/1,Error ellipse: s-maj=53.1km s-min=22.9km az=57.0*

ISC 21 13:22:43.1±1.5,32.0N±0.2×82.1E±0.3,h35km,n7,σ1§23/7, mb3.6/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**14.78**	**1**	Pn	**Pn**	**13 26 08.5**	**-1.1**
	0.1nm,0.3s,baz=184,slow=11,SNR=6.6						
CMAR	**Chiang Mai Arr**	**20.32**	**128**	P	**P**	**13 27 16.1**	**-0.2**
	0.4nm,0.3s,baz=317,slow=11,SNR=1.7						
SONM	**Songino Array**	**24.32**	**42**	P	**P**	**13 27 59.3**	**+1.8**
	0.9nm,0.4s,baz=211,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**46.31**	**327**	P	**P**	**13 31 06.2**	**+1.1**
	0.3nm,0.4s,baz=101,slow=9.9,SNR=3.8						
ARCES	**ARCESS Array B**	**48.84**	**337**	P	**P**	**13 31 24.4**	**-0.3**
	0.5nm,0.7s,baz=88,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**71.91**	**128**	P	**P**	**13 34 02.4**	**-0.6**
	0.6nm,1.1s,baz=326,slow=6.5,SNR=1.5						
ASAR	**Alice Springs**	**74.28**	**132**	P	**P**	**13 34 16.7**	**-0.2**
	0.5nm,0.8s,baz=312,slow=5.6,SNR=3.0						

*IDC **21** 13:30:15.0±7.5,5.73S×146.50E,h81km±80km,mb3.0/4, mb1 3.3/7,mb1mx3.1/31,mbtmp3.5/7,ML3.3/2,Error ellipse: s-maj=62.5km s-min=32.2km az=140.0*

ISC 21 13:30:12.2±1.2,5.6S±0.1×146.4E±0.2,h50km,n7,σ0§77/8, mb3.4/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.89**	**169**	P	**Pn**	**13 31 09.8**	**+0.3**
	3.8nm,0.3s,baz=0.0,slow=3.0,SNR=11						
PMG				S	**Sn**	**13 31 53.2**	**-0.8**
	5.5nm,0.3s,baz=3.2,slow=18,SNR=7.8						
CTA	**Charters Tower**	**14.44**	**181**	P	**Pn**	**13 33 34.7**	**+0.9**
	0.1nm,0.3s,baz=8.7,slow=13,SNR=1.5						
WRA	**Warramunga Arr**	**18.48**	**218**	P	**P**	**13 34 23.2**	**-1.1**
	0.1nm,0.3s,baz=41,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**21.65**	**213**	P	**P**	**13 34 58.3**	**-0.3**
	0.3nm,0.5s,baz=44,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**23.79**	**237**	P	**P**	**13 35 20.6**	**+0.1**
	1.3nm,0.7s,baz=61,slow=10,SNR=1.4						
MKAR	**Makanchi Array**	**76.78**	**321**	P	**P**	**13 41 58.9**	**+0.2**
	0.2nm,0.6s,baz=115,slow=5.8,SNR=1.6						
ILAR	**Eielson Array**	**85.32**	**23**	P	**P**	**13 42 43.2**	**-0.4**
	0.2nm,0.5s,baz=238,slow=4.3,SNR=4.4						

*IDC **21** 13:41:44.7±0.8,27.66N×85.87E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.6/37,mbtmp3.8/12,ML4.0/1,Error ellipse: s-maj=24.9km s-min=17.9km az=60.0*
*NEIC **21** 13:41:47.3±1.2,27.8N±0.1×86.03E±0.05,h10km±1km, mb4.1/13,Error ellipse: s-maj=17.1km s-min=7.9km az=175.0*
*NDI **21** 13:41:48.5±2.2,27.67N×85.98E,h11km±15km,ML3.9, mb4.1(NEIC)*

ISC 21 13:41:47.4±0.6,27.69N±0.07×85.93E±0.05,h19km,n40, σ1§75/41,mb3.9/14,1C,Nepal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**2.40**	**98**	*e*P	**Pn**	**13 42 27.1**	**+1.2**
BOK	**Bokaro**	**3.88**	**181**	*e*P	**Pn**	**13 42 48.8**	**+2.7**
LSA	**Lhasa**	**5.00**	**65**	Pn	**Pn**	**13 43 01.5**	**-0.4**
SHL	**Shillong**	**5.73**	**110**	⇑*e*P	**Pn**	**13 43 12.1**	**+0.4**
SHL				*e*S	**Sn**	**13 44 13.1**	**-4.0**
SHL	**Shillong**	**5.73**	**110**	Pn	**Pn**	**13 43 11.8**	**+0.1**
DDI	**Dehra Dun**	**7.38**	**293**	*e*S	**Sn**	**13 44 56.6**	**-0.8**
KOHI	**KOHIMA**	**7.57**	**103**	*e*P	**Pn**	**13 43 39.2**	**+2.3**
KOHI				*e*S	**Sn**	**13 44 57.8**	**-4.6**
KOHI				IAML		13 45 09.8	
	comp=E,22nm,0.6s						
SMLA	**Simla**	**8.38**	**296**	*e*P	**Pn**	**13 43 49.1**	**+1.3**
SMLA				*e*S	**Sn**	**13 45 18.3**	**-3.5**
SMLA				IAML		13 45 23.1	
	comp=E,86nm,0.3s						
BHPL	**Bhopal**	**8.87**	**242**	*e*P	**Pn**	**13 43 55.9**	**+1.3**
BHPL				*e*S	**Sn**	**13 45 29.3**	**-4.9**
BHPL				IAML		13 45 36.5	
	comp=E,188nm,0.3s						
NIL	**Nilore**	**12.42**	**302**	Pn	**Pn**	**13 44 41.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**15.08**	**125**	Pn	**Pn**	**13 45 22.3**	**+2.7**
	comp=E,0.1nm,0.3s,baz=302,slow=11,SNR=6.4						
TARG	**Taragay, Kyrgy**	**15.51**	**337**	Pn	**Pn**	**13 45 24.8**	**-0.7**
TARG				IAmb	IAmb	13 45 44.3	
	comp=Z,3.5nm,0.8s						
MK31	**Makanchi Array**	**19.28**	**352**	P	**P**	**13 46 10.6**	**-0.4**
MKAR	**Makanchi Array**	**19.28**	**352**	P	**P**	**13 46 11.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=174,slow=12,SNR=15						
MKAR	**Makanchi Array**	**19.28**	**352**	P	**P**	**13 46 10.2**	**-0.8**
MAKZ	**Makanchi**	**19.34**	**352**	P	**P**	**13 46 11.1**	**-0.5**
KURBB	**Kurchatov Arra**	**23.59**	**348**	P	**P**	**13 46 57.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=169,slow=10.0,SNR=7.7						
KURK	**Kurchatov**	**23.66**	**348**	P	**P**	**13 46 57.0**	**-0.6**
WSAR	**Wadi Sarin**	**25.02**	**266**	P	**P**	**13 47 11.3**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=112,slow=11,SNR=4.3						
SONM	**Songino Array**	**25.67**	**33**	P	**P**	**13 47 16.7**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=232,slow=9.0,SNR=5.7						
SONM	**Songino Array**	**25.67**	**33**	IAmb	IAmb	13 47 25.3	
	comp=Z,2.5nm,1.1s						
ZAA0	**Zalesovo Array**	**26.25**	**359**	P	**P**	**13 47 21.2**	**+0.1**
ZAA0				IAmb	IAmb	13 47 24.2	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**26.25**	**359**	P	**P**	**13 47 21.3**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=182,slow=9.8,SNR=6.8						
TLY	**Talaya**	**27.42**	**24**	P	**P**	**13 47 33.7**	**+1.8**
	comp=Z,5.3nm,0.7s,baz=270,slow=16,SNR=11						
TLY	**Talaya**	**27.42**	**24**	P	**P**	**13 47 33.2**	**+1.4**
TLY				IAmb	IAmb	13 47 35.9	
	comp=Z,5.2nm,0.7s						
ABKAR	**Akbulak array**	**29.37**	**324**	P	**P**	**13 47 50.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**40.21**	**53**	P	**P**	**13 49 21.9**	**-0.8**
FINES	**FINESS Array B**	**51.73**	**328**	P	**P**	**13 50 53.6**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=144,slow=5.2,SNR=1.3						
ARCES	**ARCESS Array B**	**54.08**	**338**	P	**P**	**13 51 10.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=97,slow=7.4,SNR=1.8						
ARCES	**ARCESS Array B**	**54.08**	**338**	IAmb	IAmb	13 51 14.3	
	comp=Z,9.9nm,1.5s						
KEST	**Kesra**	**64.14**	**298**	P	**P**	**13 52 19.9**	**-1.0**
	comp=Z,2.8nm,1.0s,baz=82,slow=7.1,SNR=2.1						
WB0	**Warramunga Arr**	**66.52**	**130**	P	**P**	**13 52 36.8**	**+0.5**
WRA	**Warramunga Arr**	**66.61**	**130**	P	**P**	**13 52 37.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=323,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**66.61**	**130**	IAmb	IAmb	13 52 46.0	
	comp=Z,0.1nm,1.0s						
WB2	**Warramunga Arr**	**66.61**	**130**	P	**P**	**13 52 37.6**	**+0.7**
WR0	**Warramunga Arr**	**66.75**	**130**	P	**P**	**13 52 38.5**	**+0.7**
AS31	**Alice Springs**	**68.91**	**133**	P	**P**	**13 52 52.1**	**+0.8**
AS31				IAmb	IAmb	13 52 55.7	
	comp=Z,2.6nm,1.4s						
ASAR	**Alice Springs**	**68.91**	**133**	P	**P**	**13 52 52.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=311,slow=5.6,SNR=8.6						
ESDC	**Sonseca Array**	**72.83**	**306**	P	**P**	**13 53 15.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=82,slow=9.2,SNR=2.4						
TOLK	**Toolik Lake Re**	**75.75**	**18**	P	**P**	**13 53 33.0**	**+1.4**
TOLK				IAmb	IAmb	13 53 38.1	
	comp=Z,4.5nm,1.4s						

*ECX **21** 13:41:59.1±0.5,32.22N×115.35W,h8km±2km,MD1.9, ML1.9*
*MEX **21** 13:42:01.4±1.1,32.37N×115.13W,h38km±9km,MD3.5*

ISC 21 13:41:59.7±1.1,32.30N±0.05×115.19W±0.07,h29km±7km, n12,σ0§65/25,2C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.11**	**356**	*i* P	**Pb**	**13 42 05.0**	**-0.1**
MBIG				*i* P	**Pn**	**13 42 05.6**	**0.0**
MBIG				*e*S	**Sb**	**13 42 07.0**	**-1.6**
MBIG				*i* S	Pb	13 42 10.4	+5.4
MBIG	**Mexicali**	**0.11**	**356**	*e*P	**Pn**	**13 42 05.7**	**+0.1**
MBIG				*e*S	**Sb**	**13 42 10.4**	**+1.8**
CPBX	**Cerro Prieto**	**0.16**	**321**	*e*P	**Pb**	**13 42 04.9**	**-0.5**
CPBX				*e*S	**Sb**	**13 42 09.8**	**+0.5**
CPBX				⇑*e*		13 42 12.4	
CPBX				IAML		13 42 12.4	
	comp=E,722nm,0.3s						
CPBX				IAML		13 42 13.0	
	comp=N,836nm,0.2s						
YUH2	**Yuha Desert**	**0.71**	**300**	*e*P	**Pb**	**13 42 13.5**	**-0.1**
YUH2				*e*S	**Sn**	**13 42 23.4**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.85**	**295**	*e*P	**Pb**	**13 42 16.2**	**+0.1**
IKP				*e*S	**Sb**	**13 42 27.1**	**-0.1**
CBX	**Cerro Bola**	**1.25**	**271**	*e*P	**Pb**	**13 42 22.1**	**-0.6**
CBX				*e*S	**Sn**	**13 42 37.4**	**+0.1**
CBX	**Cerro Bola**	**1.25**	**271**	*e*P	**Pb**	**13 42 22.3**	**-0.5**
CBX				*e*S	**Sn**	**13 42 37.8**	**+0.5**
CBX				⇑*e*		13 42 39.1	
CBX				IAML		13 42 39.1	
	comp=N,30nm,0.5s						
TJIG	**Tijuana**	**1.26**	**277**	*e*P	**Pn**	**13 42 21.7**	**+0.3**
TJIG				*e*S	**Sn**	**13 42 37.8**	**+0.3**
SPIG	**San Pedro Mart**	**1.27**	**191**	*e*P	**Pn**	**13 42 22.5**	**+0.7**
SPIG				*e*S	**Sn**	**13 42 38.0**	**0.0**
SPX	**San Pedro Mart**	**1.28**	**191**	*e*P	**Pn**	**13 42 22.4**	**+0.5**
SPX				*e*S	**Sn**	**13 42 38.2**	**-0.1**
SPX	**San Pedro Mart**	**1.28**	**191**	*e*P	**Pn**	**13 42 21.3**	**-0.6**
SPX				*e*S	**Sn**	**13 42 38.3**	**0.0**
BAR	**Barrett**	**1.31**	**287**	*e*P	**Pb**	**13 42 23.6**	**-0.2**
BAR				*e*S	**Sb**	**13 42 40.2**	**0.0**

*NEIC **21** 14:05:43.8±1.1,59.29N±0.04×152.50W±0.06,h75km±5km, Error ellipse: s-maj=6.5km s-min=4.3km az=169.0*
*AEIC **21** 14:05:44±1.2,59.34N±0.04×152.51W±0.06,h71km±5km, ML3.3,ML3.5/84(NEIC),Error ellipse: s-maj=6.2km s-min=4.1km az=168.0*

ISC 21 14:05:43.6±0.8,59.27N±0.06×152.51W±0.04,h73km±7km, n187,σ0§57/171,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AU22	**Augustine Moun**	**0.45**	**283**		**Pn**	**14 05 56.3**	**+0.1**
AU22					**Sn**	**14 06 05.8**	**+0.4**
AUQ	**Augustine Qik'**	**0.47**	**280**		**Pn**	**14 05 56.8**	**+0.3**
AUQ					**Sn**	**14 06 06.6**	**+0.6**
AUP	**Augustine Pinn**	**0.48**	**281**		**Pn**	**14 05 56.9**	**+0.3**
AUL	**Augustine Lava**	**0.49**	**283**		**Pn**	**14 05 56.8**	**+0.2**
AUL					**Sn**	**14 06 07.0**	**+0.8**
AUCH	**Augustine Cone**	**0.49**	**281**		**Pn**	**14 05 56.8**	**+0.2**
AUW	**Augustine West**	**0.50**	**281**		**Pn**	**14 05 56.9**	**+0.2**
OPT	**Oil Point**	**0.53**	**316**		**Pn**	**14 05 56.8**	**-0.2**
OPT	**Oil Point**	**0.53**	**316**	P		14 05 56.8	
	baz=131						
HOM	**Homer**	**0.59**	**49**		**Pn**	**14 05 57.8**	**+0.3**
HOM					**Sn**	**14 06 08.2**	**+0.4**
HOM	**Homer**	**0.59**	**49**	P		14 05 57.8	
	baz=233						
HOM				S		14 06 08.2	
	baz=233						
CNPM	**China Poot**	**0.70**	**68**		**Pn**	**14 05 58.7**	**0.0**
CNPM					**Sn**	**14 06 10.2**	**+0.3**
CNPM	**China Poot**	**0.70**	**68**	IAML		14 06 10.6	
	comp=N,2μm,0.5s						
ILS	**Iliamna Low So**	**0.74**	**338**		**Pn**	**14 05 58.8**	**-0.5**
IVE	**Iliamna Volcan**	**0.79**	**341**		**Pn**	**14 05 59.2**	**-0.6**
IVE					**Sn**	**14 06 11.0**	**-0.9**
BRLK	**Bradley Lake**	**0.96**	**59**	Pn	**Pn**	**14 06 01.4**	**-0.4**
BRLK	**B

GHO				IAML			14 07 15.3	
	comp=N,157nm,0.7s							
GLI	**Glacier Island**	**3.15**	**57**			**Pn**	**14 06 29.6**	**-1.3**
GLI	**Glacier Island**	**3.15**	**57**	IAML			14 07 10.2	
	comp=E,134nm,0.3s							
GLI				IAML			14 07 23.4	
	comp=N,104nm,0.6s							
GLI	**Glacier Island**	**3.15**	**57**	P			14 06 29.6	
	baz=242							
MID	**Middleton Isla**	**3.16**	**85**			**Pn**	**14 06 30.7**	**-0.3**
MID				IAML			14 07 09.2	
	comp=N,112nm,0.4s							
MID				IAML			14 07 09.9	
	comp=E,116nm,0.4s							
HIN	**Hinchinbrook I**	**3.23**	**67**			**Pn**	**14 06 31.5**	**-0.5**
HIN	**Hinchinbrook I**	**3.23**	**67**	IAML			14 07 08.8	
	comp=N,104nm,0.7s							
HIN				IAML			14 07 09.7	
	comp=E,95nm,0.7s							
SML	**Sawmill**	**3.27**	**37**			**Pn**	**14 06 32.3**	**-0.3**
SML	**Sawmill**	**3.27**	**37**	IAML			14 07 34.1	
	comp=N,92nm,1.0s							
SML				IAML			14 07 34.6	
	comp=E,95nm,0.8s							
SML	**Sawmill**	**3.27**	**37**	P			14 06 32.3	
	baz=221							
CUT	**Chulitna**	**3.33**	**18**			**Pn**	**14 06 33.4**	**+0.2**
CUT	**Chulitna**	**3.33**	**18**	IAML			14 07 34.0	
	comp=N,156nm,0.8s							
CUT	**Chulitna**	**3.33**	**18**	P			14 06 33.4	
	baz=200							
FID	**Port Fidalgo**	**3.37**	**61**			**Pn**	**14 06 32.2**	**-1.6**
FID	**Port Fidalgo**	**3.37**	**61**	IAML			14 07 12.6	
	comp=N,147nm,0.5s							
FID				IAML			14 07 12.9	
	comp=E,108nm,0.2s							
JPK	**Jack Peak**	**3.45**	**56**			**Pn**	**14 06 34.2**	**-0.7**
SCM	**Sheep Creek Mo**	**3.62**	**43**			**Pn**	**14 06 37.5**	**+0.2**
SCM	**Sheep Creek Mo**	**3.62**	**43**	IAML			14 07 21.4	
	comp=N,122nm,0.4s							
EYAK	**Cordova Ski Ar**	**3.63**	**67**			**Pn**	**14 06 36.5**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.64**	**67**	P			14 06 36.5	
	baz=253							
PPLA	**Purkeypile**	**3.64**	**2**			**Pn**	**14 06 38.6**	**+1.0**
PPLA	**Purkeypile**	**3.64**	**2**	P			14 06 38.7	
	baz=183							
DIV	**Divide**	**3.84**	**58**			**Pn**	**14 06 40.0**	**-0.3**
CHIR	**Chirikof Islan**	**3.85**	**207**			**Pn**	**14 06 40.2**	**-0.1**
KLU	**Klutina**	**3.95**	**53**			**Pn**	**14 06 41.6**	**-0.2**
KLU	**Klutina**	**3.95**	**53**	IAML			14 07 27.2	
	comp=E,90nm,0.4s							
KLU	**Klutina**	**3.95**	**53**	P			14 06 41.6	
	baz=239							
HUR	**Hurricane**	**3.97**	**19**			**Pn**	**14 06 42.1**	**+0.2**
WAT7	**Susitna Watana**	**3.99**	**25**			**Pn**	**14 06 42.6**	**+0.3**
TT01	**Tatalina**	**4.02**	**336**			**Pn**	**14 06 42.8**	**+0.1**
TTA	**Tatalina**	**4.04**	**337**			**Pn**	**14 06 42.8**	**-0.2**
TTA	**Tatalina**	**4.04**	**337**	P			14 06 42.8	
	baz=153							
WAT6	**Susitna Watana**	**4.05**	**33**			**Pn**	**14 06 43.2**	**-0.1**
WAT6	**Susitna Watana**	**4.05**	**33**	P			14 06 43.2	
	baz=218							
WAT1	**Susitna Watana**	**4.05**	**27**			**Pn**	**14 06 43.2**	**+0.1**
M24K	**Tolsona, Glenn**	**4.21**	**45**			**Pn**	**14 06 45.2**	**-0.1**
M24K	**Tolsona, Glenn**	**4.21**	**45**	IAML			14 07 35.8	
	comp=N,73nm,0.7s							
M24K	**Tolsona, Glenn**	**4.21**	**45**	P			14 06 45.3	
	baz=231							
HMT	**Hamilton**	**4.30**	**72**			**Pn**	**14 06 46.2**	**-0.2**
BMRM	**Bremner River**	**4.30**	**63**			**Pn**	**14 06 46.5**	**-0.1**
BMRM	**Bremner River**	**4.30**	**63**	IAML			14 07 36.7	
	comp=E,62nm,0.5s							
BMRM				IAML			14 07 37.1	
	comp=N,72nm,0.4s							
BMRM	**Bremner River**	**4.30**	**63**	P			14 06 46.5	
	baz=251							
TRF	**Thorofare Moun**	**4.33**	**13**			**Pn**	**14 06 47.2**	**+0.2**
TRF	**Thorofare Moun**	**4.33**	**13**	P			14 06 47.3	
	baz=195							
CHGN	**Chignik**	**4.34**	**229**	Pn		**Pn**	**14 06 48.2**	**+1.1**
KTH	**Kantishna Hill**	**4.36**	**9**			**Pn**	**14 06 47.5**	**+0.1**
KTH	**Kantishna Hill**	**4.36**	**9**	IAML			14 08 12.1	
	comp=E,41nm,0.9s							
KTH				IAML			14 08 20.0	
	comp=N,68nm,1.0s							
NICHA	**Nichawak Mount**	**4.43**	**74**			**Pn**	**14 06 48.5**	**+0.3**
SUCK	**Suckling Hills**	**4.50**	**76**			**Pn**	**14 06 49.5**	**+0.3**
RND	**Reindeer**	**4.50**	**21**			**Pn**	**14 06 49.5**	**+0.2**
RND	**Reindeer**	**4.50**	**21**	IAML			14 07 41.1	
	comp=E,40nm,0.3s							
N25K	**Chitina, Valde**	**4.56**	**56**			**Pn**	**14 06 49.9**	**-0.2**
N25K	**Chitina, Valde**	**4.56**	**56**	P			14 06 49.9	
	baz=243							
CHUM	**Lake Minchumin**	**4.63**	**1**			**Pn**	**14 06 51.1**	**+0.2**
BGLC	**Bering Glacier**	**4.75**	**76**			**Pn**	**14 06 53.4**	**+0.8**
GRIN	**Grindle Hills**	**4.75**	**74**			**Pn**	**14 06 52.9**	**+0.2**
HARP	**HAARP**	**4.77**	**46**			**Pn**	**14 06 53.4**	**+0.5**
MCK	**McKinley**	**4.79**	**19**			**Pn**	**14 06 53.9**	**+0.8**
MCK	**McKinley**	**4.79**	**19**	IAML			14 07 49.6	
	comp=N,34nm,0.5s							
MCK				IAML			14 07 50.4	
	comp=E,29nm,0.2s							
KHIT	**Khitrov Hills**	**4.81**	**72**			**Pn**	**14 06 53.0**	**-0.6**
GLB	**Gilahina Butte**	**4.83**	**60**			**Pn**	**14 06 53.5**	**-0.3**
GLB	**Gilahina Butte**	**4.83**	**60**	IAML			14 07 47.9	
	comp=N,38nm,0.5s							
GLB				IAML			14 07 49.6	
	comp=E,32nm,0.3s							
BPAW	**Bear Paw Mtn.**	**4.90**	**8**			**Pn**	**14 06 54.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**4.90**	**8**	P			14 06 54.5	
	baz=189							
VRDI	**Verde Repeater**	**4.92**	**63**	Pn		**Pn**	**14 06 55.1**	**0.0**
CRQM	**Cirque**	**4.93**	**68**			**Pn**	**14 06 54.7**	**-0.6**
CRQM	**Cirque**	**4.93**	**68**	IAML			14 07 52.8	
	comp=E,40nm,0.5s							
CRQE	**Cirque**	**4.95**	**69**	P			14 06 54.7	
	baz=257							
PAX	**Paxson**	**5.04**	**40**			**Pn**	**14 06 56.5**	**-0.1**
KULT	**Kultieth River**	**5.04**	**75**			**Pn**	**14 06 57.1**	**+0.4**
TGL	**Tana Glacier**	**5.08**	**69**			**Pn**	**14 06 56.6**	**-0.6**
TGL	**Tana Glacier**	**5.08**	**69**	IAML			14 07 55.0	
	comp=E,34nm,0.5s							
TGL				IAML			14 07 55.7	
	comp=N,40nm,0.5s							
BWN	**Browne**	**5.12**	**15**			**Pn**	**14 06 57.5**	**-0.2**
MCARA	**McCarthy VSAT**	**5.17**	**62**			**Pn**	**14 06 58.2**	**-0.1**
KIAG	**Kiagna River**	**5.34**	**68**			**Pn**	**14 07 00.5**	**-0.3**
PTPK	**Patty Peak**	**5.36**	**65**			**Pn**	**14 07 00.5**	**-0.6**
BALM	**Baldy**	**5.38**	**66**			**Pn**	**14 07 00.6**	**-0.7**
MESA	**MESA**	**5.42**	**76**			**Pn**	**14 07 02.2**	**+0.3**
YAH	**Yahtse**	**5.54**	**74**			**Pn**	**14 07 03.8**	**+0.2**
NEA2	**Nenana**	**5.58**	**15**			**Pn**	**14 07 03.6**	**-0.3**
NEA2	**Nenana**	**5.58**	**15**	P			14 07 03.6	
	baz=199							
GRNC	**Granite Creek**	**5.59**	**70**			**Pn**	**14 07 03.9**	**-0.4**
WRH	**Wood River Hil**	**5.62**	**20**			**Pn**	**14 07 04.0**	**-0.4**
MENT	**Mentasta**	**5.63**	**45**			**Pn**	**14 07 05.2**	**+0.6**
BARN	**Barnard Glacie**	**5.70**	**67**			**Pn**	**14 07 05.2**	**-0.6**
RKAV	**Rock Avalanche**	**5.73**	**75**			**Pn**	**14 07 05.6**	**-0.6**
HDA	**Harding Lake**	**5.79**	**25**			**Pn**	**14 07 06.5**	**-0.2**
CHX	**Chaix Hills**	**5.83**	**77**			**Pn**	**14 07 08.5**	**+1.1**
CCB	**Clear Creek Bu**	**5.83**	**20**			**Pn**	**14 07 06.6**	**-0.7**
MLY	**Manley**	**5.84**	**7**			**Pn**	**14 07 07.7**	**+0.2**
CTGM	**Chitina Glacie**	**5.84**	**68**			**Pn**	**14 07 07.5**	**-0.1**
TABL	**Table Mountain**	**5.85**	**74**			**Pn**	**14 07 07.9**	**+0.1**
CNBA	**Chernabura Isl**	**5.90**	**224**			**Pn**	**14 07 08.0**	**-0.3**
PS08	**TAPS Pump Stn8**	**5.93**	**25**			**Pn**	**14 07 08.7**	**0.0**
I21K	**Tanana**	**5.93**	**2**			**Pn**	**14 07 09.2**	**+0.5**
SAMH	**Samovar Hills**	**6.00**	**77**			**Pn**	**14 07 10.8**	**+1.1**
TCOL	**CIGO, UAF Yank**	**6.03**	**19**			**Pn**	**14 07 09.4**	**-0.6**
TCOL	**CIGO, UAF Yank**	**6.03**	**19**	P			14 07 10.0	
	baz=204							
COLA	**College**	**6.03**	**19**			**Pn**	**14 07 09.5**	**-0.5**
MDM	**Murphy Dome**	**6.05**	**18**			**Pn**	**14 07 09.6**	**-0.8**
I23K	**Minto, Yukon-K**	**6.08**	**13**			**Pn**	**14 07 10.4**	**-0.2**
I23K	**Minto, Yukon-K**	**6.08**	**13**	P			14 07 10.7	
	baz=196							
IL31		**6.12**	**23**			**Pn**	**14 07 11.0**	**-0.2**
ILAR	**Eielson Array**	**6.12**	**23**	Pn		**Pn**	**14 07 10.7**	**-0.6**
SCRK	**Sand Creek**	**6.22**	**37**			**Pn**	**14 07 12.2**	**-0.6**
SCRK	**Sand Creek**	**6.22**	**37**	P			14 07 12.2	
	baz=225							
PCA	**Pinnacle**	**6.26**	**77**			**Pn**	**14 07 13.1**	**-0.2**
YUK2	**White River**	**6.28**	**61**			**Pn**	**14 07 14.0**	**+0.4**
POKR	**Poker Plat Res**	**6.33**	**20**			**Pn**	**14 07 13.7**	**-0.4**
PS07	**TAPS Pump Stn7**	**6.37**	**16**			**Pn**	**14 07 14.8**	**+0.1**
H21K	**Melozitna Rive**	**6.41**	**359**			**Pn**	**14 07 15.0**	**-0.2**
L27K	**Beaver Creek,**	**6.41**	**49**			**Pn**	**14 07 15.0**	**-0.3**
BC03		**6.43**	**49**			**Pn**	**14 07 15.2**	**-0.3**
BCAR	**Beaver Creek A**	**6.43**	**49**	Pn		**Pn**	**14 07 15.8**	**+0.2**
YUK3	**Moose Creek**	**6.45**	**62**			**Pn**	**14 07 16.1**	**0.0**
BCPM	**Bancas Point**	**6.57**	**79**			**Pn**	**14 07 17.8**	**+0.4**
PNL	**Peninsula**	**6.69**	**81**			**Pn**	**14 07 19.1**	**-0.1**
H23K	**Yukon River**	**6.72**	**10**			**Pn**	**14 07 19.6**	**+0.1**
K27K	**Chicken**	**6.88**	**42**	Pn		**Pn**	**14 07 21.7**	**0.0**
H24K	**Noodor Dome**	**6.92**	**16**			**Pn**	**14 07 22.5**	**+0.2**
PRP	**Porcupine Dome**	**7.05**	**24**	Pn		**Pn**	**14 07 23.1**	**-1.0**
YUK4	**Talbot Arm**	**7.19**	**67**			**Pn**	**14 07 26.8**	**+0.7**
YUK6	**Outpost Mounta**	**7.26**	**71**			**Pn**	**14 07 27.9**	**+0.8**
YUK7	**Dusty Glacier**	**7.33**	**74**			**Pn**	**14 07 28.1**	**0.0**
YUK5	**Granite Creek**	**7.53**	**69**			**Pn**	**14 07 31.9**	**+1.2**
EGAK	**Eagle**	**7.67**	**39**			**Pn**	**14 07 32.3**	**-0.1**
HYT	**Haines Junctio**	**7.67**	**72**			**Pn**	**14 07 32.8**	**+0.2**
DAWY	**Dawson**	**7.87**	**47**			**Pn**	**14 07 34.7**	**-0.5**
FYU	**Fort Yukon**	**8.03**	**21**	Pn		**Pn**	**14 07 36.3**	**-1.0**
COLD	**Coldfoot**	**8.05**	**6**			**Pn**	**14 07 37.7**	**0.0**
ANM	**Nome**	**8.05**	**317**			**Pn**	**14 07 37.8**	**+0.2**
BMAR	**Burnt Mountain**	**8.92**	**20**	Pn		**Pn**	**14 07 48.4**	**-1.1**
BM01	**Burnt Mountain**	**8.95**	**20**			**Pn**	**14 07 48.4**	**-1.4**
WHY	**Whitehorse**	**8.95**	**74**	Pn		**Pn**	**14 07 50.9**	**+0.9**
SIT	**Sitka**	**9.35**	**96**	Pn		**Pn**	**14 07 54.2**	**-1.1**
JIS	**Juneau Island**	**9.47**	**88**	Pn		**Pn**	**14 07 57.0**	**+0.1**
TOLK	**Toolik Lake Re**	**9.49**	**7**	Pn		**Pn**	**14 07 56.4**	**-0.9**
TNA	**Tin City**	**9.51**	**318**	Pn		**Pn**	**14 07 59.0**	**+1.5**
GAMB	**Gambell**	**10.20**	**304**	Pn		**Pn**	**14 08 07.5**	**+0.7**
NIKH	**Nikolski High**	**11.08**	**242**	Pn		**Pn**	**14 08 18.1**	**-0.8**
WRAK	**Wrangell Islan**	**11.11**	**96**	Pn		**Pn**	**14 08 18.5**	**-0.8**
CRAG	**Craig**	**11.13**	**102**	Pn		**Pn**	**14 08 18.4**	**-1.2**
DLBC	**Dease Lake**	**11.66**	**84**	Pn		**Pn**	**14 08 28.0**	**+1.1**
DIB	**Dawson Inlet,**	**12.66**	**110**	Pn		**Pn**	**14 08 41.0**	**+0.5**
ATKA	**Atka Island**	**14.07**	**249**	P		**P**	**14 09 03.6**	**-1.1**
ADK	**Adak**	**15.48**	**252**	P		**P**	**14 09 19.3**	**-0.9**
KIWB	**Kanaga Island**	**15.72**	**253**	P		**P**	**14 09 23.9**	**+0.8**
ZAA0	**Zalesovo Array**	**58.11**	**324**	P		**P**	**14 15 28.8**	**-0.1**
ZALV	**Zalesovo Beam**	**58.11**	**324**	P		**P**	**14 15 28.4**	**-0.5**
ABKAR	**Akbulak array**	**68.63**	**338**	P		**P**	**14 16 39.2**	**+0.8**
GERES	**GERESS Array B**	**71.65**	**10**	P		**P**	**14 16 57.6**	**+0.6**

*IDC **21** 14:18:08.2±1.2, 36.69N×142.63E, h0km, mb3.8/9, mb1 3.9/14, mb1mx3.6/53, mbtmp3.8/14, ML3.7/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=27.0km s-min=21.1km az=107.0*

*NEIC **21** 14:18:10.7±1.9, 36.70N±0.04×142.4E±0.1, h10km±1km, mb4.1/5, Error ellipse: s-maj=16.4km s-min=2.9km az=115.0*

*BJI **21** 14:18:12.7±0.0, 36.79N×141.76E, h10km, mB4.7/9, mb4.4/19, Ms4.6/3, Ms7 4.5/3*

*JMA **21** 14:18:12.1±0.3, 36.71N×142.24E, h23km, M3.7*

*NIED **21** 14:18:12.1, 36.71N×142.24E, h23km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr4.83; Mθθ-0.06; Mφφ-4.77; Mrθ1.56; Mrφ-2.03; Mθφ5.07; Fault plane solution: M₀7.41000×10¹⁴ NP1:φs18.00000°, δ68.00000°, λ88.00000°. NP2:φs204.00000°, δ22.00000°, λ95.00000°.*

ISC 21 14:18:10.5±0.7, 36.70N±0.05×142.48E±0.07, h15km, n63, σ1°39/63, mb3.9/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.40**	**287**	P	**Pn**	**14 18 33.7**	**-1.9**
JFK	**Kawauchi**	**1.44**	**298**	P	**Pn**	**14 18 35.0**	**-1.1**
JHO	**Hitachi**	**1.54**	**267**	P	**Pn**	**14 18 36.0**	**-1.3**
JHO				eS	**Sn**	**14 18 53.3**	**-3.7**
JHYU	**Hitachinakayam**	**1.56**	**257**	P	**Pn**	**14 18 36.6**	**-1.1**
JHYU				eS	**Sn**	**14 18 53.8**	**-3.9**
JFFD	**Fukushimafurud**	**1.58**	**285**	P	**Pn**	**14 18 36.1**	**-1.9**
JMM	**Marumori**	**1.78**	**311**	P	**Pn**	**14 18 39.8**	**-0.8**
JMM	**Marumori**	**1.78**	**311**		**Pn**	**14 18 40.0**	**-0.6**
JYT	**Yasato**	**1.90**	**256**	Pn	**Pn**	**14 18 41.2**	**-1.1**
JIO	**Ouri**	**1.97**	**333**	P	**Pn**	**14 18 43.4**	**+0.2**
JOU	**Okura**	**2.20**	**320**	P	**Pn**	**14 18 47.7**	**+1.2**
JFY	**Yanaizu**	**2.33**	**288**	P	**Pn**	**14 18 48.4**	**+0.2**
BSO1	**Boso 1**	**2.38**	**211**	P	**Pn**	**14 18 49.7**	**+1.3**
BSO1				S	**Sn**	**14 19 17.1**	**0.0**
JAG	**Ashikaga**	**2.45**	**264**	P	**Pn**	**14 18 49.2**	**-0.7**
JMK	**Ichinoseki**	**2.46**	**337**	P	**Pn**	**14 18 50.7**	**+0.7**
JYK	**Kaneyama**	**2.78**	**323**	P	**Pn**	**14 18 54.9**	**+0.5**
MJAR	**Matsushiro Arr**	**3.44**	**269**	Pn	**Pn**	**14 19 04.1**	**+0.6**
	2.7nm,0.3s,baz=102,slow=10,SNR=181						
MJAR				Sn	**Sn**	**14 19 45.1**	**+1.2**
	0.6nm,0.3s,baz=82,slow=18,SNR=5.0						
MJAR	**Matsushiro Arr**	**3.44**	**269**	Pn	**Pn**	**14 19 04.3**	**+0.8**
MAJO	**Matsushiro**	**3.44**	**269**	Pn	**Pn**	**14 19 04.4**	**+0.9**
MAT	**Matsushiro**	**3.44**	**269**	P	**Pn**	**14 19 04.3**	**+0.8**
MAT				eS	**Sn**	**14 19 45.2**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.44**	**269**	Pn	**Pn**	**14 19 04.4**	**+0.8**
JSD	**Sado**	**3.61**	**293**		**Pn**	**14 19 05.3**	**-0.6**
JHJ2	**Mitsune**	**4.20**	**212**	Pn	**Pn**	**14 19 14.5**	**+0.6**
JHJ	**Hachijo jima 2**	**4.20**	**213**	Pn	**Pn**	**14 19 14.2**	**+0.2**
	25nm,0.3s,baz=72,slow=20,SNR=8.6						
JHJ				Sn	**Sn**	**14 19 59.3**	**-3.6**
	35nm,0.3s,baz=90,slow=22,SNR=9.0						
JTM	**Tenmabayashi**	**4.23**	**345**	Pn	**Pn**	**14 19 14.9**	**+0.6**
JGF	**Kuroka**	**4.29**	**257**		**Pn**	**14 19 16.3**	**+1.2**
INU	**Inuyama**	**4.63**	**255**	Pn	**Pn**	**14 19 20.5**	**+0.6**
ERM	**Erimo**	**5.33**	**5**	Pn	**Pn**	**14 19 30.0**	**+0.5**
JWT	**Wachi**	**5.91**	**258**	Pn	**Pn**	**14 19 37.4**	**-0.1**
JEW	**Eniwo**	**6.18**	**353**	Pn	**Pn**	**14 19 43.7**	**+2.6**
ASAJ	**Asahikawa**	**7.41**	**1**	Pn	**Pn**	**14 19 58.7**	**+0.7**
	2.2nm,0.3s,baz=219,slow=12,SNR=35						
ASAJ				Sn	**Sn**	**14 21 18.8**	**-3.0**
	0.5nm,0.3s,baz=1.0,slow=26,SNR=2.0						
ASAJ				LR	LR	14 23 17.5	
	comp=Z,69nm,21.6s,baz=170,slow=42						
JKA	**Kamikawa-asahi**	**7.41**	**1**	Pn	**Pn**	**14 19 58.6**	**+0.6**
JKA	**Kamikawa-asahi**	**7.41**	**1**		**Sn**	**14 21 18.8**	**-3.0**
JMN	**Monobe**	**7.63**	**250**		**Pn**	**14 20 01.7**	**+0.5**
JHS	**Saijyo**	**7.79**	**260**	Pn	**Pn**	**14 20 05.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**10.25**	**1**	Pn	**Pn**	**14 20 38.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**10.95**	**316**	Pn	**Pn**	**14 20 48.0**	**+1.6**
	baz=123,slow=13,SNR=1.8						
JSU	**Suzuyama**	**11.23**	**246**	Pn	**Pn**	**14 20 50.6**	**+0.1**
KSRS	**Korea Array**	**11.65**	**278**	Pn	**Pn**	**14 20 57.8**	**+1.7**
	0.1nm,0.3s,baz=90,slow=14,SNR=2.6						
KSRS				LR	LR	14 25 12.8	
	comp=Z,77nm,20.0s,baz=110,slow=36						
NJ2	**Nanjing**	**20.02**	**264**	eP	**P**	**14 22 42.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**24.39**	**289**	eP	**P**	**14 23 26.8**	**-1.4**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.2s						
H11N2	**WAKE ISLAND Hy**	**27.25**	**122**	T	T	14 52 31.4	
	baz=314,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**27.25**	**122**	T	T	14 52 31.9	
	baz=314,slow=75,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**27.27**	**122**	T	T	14 52 32.6	
	baz=314,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**27.96**	**124**	T	T	14 53 32.6	
	baz=316,slow=74,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**27.97**	**124**	T	T	14 53 29.3	
	baz=316,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**27.98**	**124**	T	T	14 53 34.6	
	baz=316,slow=74,SNR=4.9						
ENH	**Enshi**	**28.16**	**267**	P	**P**	**14 24 01.4**	**-0.8**
ENH				IAmb	IAmb	14 24 03.9	
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**28.68**	**304**	P	**P**	**14 24 07.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=110,slow=9.3,SNR=12						
SONM	**Songino Array**	**28.68**	**304**	IAmb	IAmb	14 24 17.9	
	comp=Z,1.6nm,0.8s						
LZH	**Lanzhou**	**30.96**	**281**	eP	**P**	**14 24 26.4**	**-0.8**
LZH				pP	pP	14 24 31.4	+0.5
LZH				sP	pwP	14 24 36.5	+1.8
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
WMQ	**Urumqi**	**41.75**	**297**	eP	**P**	**14 26 00.8**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,69nm,5.7s						
WMQ				L	L		
	comp=Z,670nm,7.3s						
WMQ				L	L		
	comp=Z,700nm,16.3s						
ZALV	**Zalesovo Beam**	**42.77**	**313**	P	**P**	**14 26 07.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=90,slow=4.3,SNR=2.4						
MK31	**Makanchi Array**	**45.02**	**303**	P	**P**	**14 26 25.2**	**-0.1**
MK31				IAmb	IAmb	14 26 39.8	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**14 26 25.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=91,slow=9.3,SNR=8.1						
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**14 26 24.8**	**-0.6**
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**14 26 57.8**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=263,slow=6.0,SNR=6.6						
CTAO	**Charters Tower**	**56.59**	**176**	P	**P**	**14 27 52.2**	**-0.5**
WRA	**Warramunga Arr**	**56.86**	**189**	P	**P**	**14 27 54.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=5.5,slow=7.4,SNR=5.8						
ABKAR	**Akbulak array**	**58.80**	**311**	P	**P**	**14 28 08.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**61.01**	**349**	P	**P**	**14 28 22.4**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=64,slow=3.4,SNR=2.8						
FINES	**FINESS Array B**	**69.50**	**333**	P	**P**	**14 29 18.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=52,slow=5.4,SNR=1.4						
AKASG	**Malin Array Be**	**75.08**	**323**	P	**P**	**14 29 52.7**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=42,slow=6.6,SNR=2.2						
GERES	**GERESS Array B**	**83.44**	**329**	P	**P**	**14 30 38.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=40,slow=7.7,SNR=3.4						

BYKL 21 14:30:58.6±0.1, 53.50N×109.10E, h18km±2km, 4C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.32**	**222**	↓↓*i*Pg	Pg	14 31 05.4	-0.1
SYVR	**Suvo**	**0.56**	**73**	↑↑*i*Pg	Pb	14 31 09.8	0.0
SYVR				Pmax		14 31 10.8	
	574nm,0.3s						
SYVR				*e*Sg	Sb	14 31 18.1	+0.6
SYVR				Smax		14 31 18.3	
	4μm,0.3s						
OGRR	**Ongureny**	**0.91**	**280**	↑*i*Pg	Pg	14 31 16.1	-0.2
OGRR				Pmax		14 31 16.3	
	927nm,0.3s						
OGRR				*e*Sg	Sb	14 31 27.6	0.0
OGRR				Smax		14 31 28.3	
	2μm,0.2s						
KELR	**Kotokel**	**0.96**	**220**	*e*Pg	Pb	14 31 16.1	-0.6
KELR				*e*Sg	Sb	14 31 28.6	-0.5
ZRHB	**Zarechye**	**1.51**	**232**	*e*Pg	Pb	14 31 26.0	-0.1
ZRHB				Pmax		14 31 29.0	
	215nm,0.3s						
ZRHB				*e*Sg	Sb	14 31 46.1	+1.2
ZRHB				Smax		14 31 50.7	
	6μm,0.7s						
TRG	**Tyrgan**	**1.82**	**247**	*e*Pn	Pn	14 31 29.0	0.0
TRG				*e*Pg	Pb	14 31 30.9	-0.4
TRG				Pmax		14 31 31.3	
	54nm,0.2s						
TRG				*e*Sg	Sb	14 31 54.2	+0.5
TRG				Smax		14 31 58.5	
	3μm,0.3s						
YLYR	**Ulyunkhan**	**1.84**	**40**	↓↓*i*Pn	Pn	14 31 30.2	+1.0
YLYR				*e*Pg	Pb	14 31 31.5	-0.1
YLYR				Pmax		14 31 31.7	
	137nm,0.3s						
YLYR				*e*Sg	Sb	14 31

IDC ***21*** *14:30:59.4±0.5,53˚.36N×108˚.95E,h0km,mb4.0/20, mb1 4.2/27,mb1mx4.1/42,mbtmp4.0/27,ML3.3/7,MS3.6/20, Ms1 3.6/20,ms1mx3.5/41,Error ellipse: s-maj=12.8km s-min=9.4km az=147.0*

MOS ***21*** *14:31:01.9±1.1,53˚.47N×109˚.10E,h15km,mb4.6/43, MS3.8/10,Error ellipse: s-maj=6.7km s-min=4.9km az=82.2*

MOS Felt (IV-V) at Maksimikha, Ust'-Barguzin; (IV) at Barguzin, Suvo; (III) at Bol'shoy Tarel'; (II-III) at Ulan-Ude; (II) at Irkutsk.

BYKL ***21*** *14:31:03.9±0.1,53˚.51N×109˚.08E,h22km±2km, Mw4.4/14(IEC),#STATIONS KDAK ERM MAJO INCN TATO ENH XAN AAK BRVK KIV ARU OBN LVZ KBS FELT I=IV-V MSK at Makarinino, Ust-Barguzin, Adamovo, Zorino, Zhuravlikha, Maximikha; IV at Gusikha, Barguzin, Suvo; III-IV at Uro, Goryachinsk, Sobolikha, Turka, Gremyachinsk; III at Bolshaya Tarel; II-III at Ulan-Ude.*

NEIC ***21*** *14:31:03.2±1.4,53˚.50N±0˚.09×109˚.1E±0˚.1,h12km±4km, mb4.5/122,Error ellipse: s-maj=12.4km s-min=9.6km az=174.0*

BGR ***21*** *14:31:09.7±0.0,54˚.33N×109˚.56E,h33km,mb4.5*

ISC 21 14:31:02.1±0.9,53˚.51N±0˚.02×109˚.12E±0˚.02,h10km±5km, n377,σ1°75/449,mb4.5/111,MS3.6/22,38C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.34**	**222**	*e*Pg		**Pb**	**14 31 10.6**	**+0.4**
MXMB				*e*Sg		**Sb**	**14 31 15.8**	**+0.1**
SYVR	**Suvo**	**0.55**	**74**	*e*Pg		**Pb**	**14 31 15.0**	**+1.1**
SYVR				Pmax			14 31 15.2	
	3μm,0.4s							
SYVR				*e*Sg		**Sb**	**14 31 23.3**	**+1.6**
SYVR				Smax			14 31 23.5	
	19μm,0.4s							
SYVR	**Suvo**	**0.55**	**74**	*e*PG		**Pb**	**14 31 14.9**	**+1.1**
SYVR				*e*			14 31 21.8	
SYVR				pmax	pmax			
	comp=Z,3μm,0.4s							
SYVR				smax	smax			
	comp=N,24μm,0.6s							
OGRR	**Ongureny**	**0.92**	**279**	⇑*i*Pg		**Pb**	**14 31 21.3**	**+1.1**
OGRR				Pmax			14 31 21.5	
	comp=N,7μm,0.2s							
OGRR				*e*Sg		**Sg**	**14 31 33.0**	**+1.3**
OGRR				*e*Sb		**Sn**	**14 31 35.6**	**+1.2**
OGRR				max			14 31 36.3	
	comp=N,16μm,0.3s							
OGRR	**Ongureny**	**0.92**	**279**	⇑*i*PG		**Pb**	**14 31 21.3**	**+1.1**
OGRR				*e*			14 31 33.1	
OGRR				pmax	pmax			
	comp=Z,7μm,0.4s							
OGRR				smax	smax			
	comp=N,16μm,0.3s							
KELR	**Kotokel**	**0.98**	**220**	*e*Pg		**Pg**	**14 31 21.5**	**+0.6**
KELR				*e*Sg		**Sg**	**14 31 34.5**	**+0.8**
ZRHB	**Zarechye**	**1.53**	**232**	*e*Pg		**Pb**	**14 31 31.0**	**+0.5**
ZRHB				Pmax			14 31 36.0	
	comp=N,1μm,0.3s							
ZRHB				*e*Sg		**Sg**	**14 31 52.0**	**+0.8**
ZRHB				Smax			14 31 57.1	
	comp=N,18μm,0.3s							
ZRH	**Zaryechye, Bai**	**1.53**	**231**	*e*PN		**Pb**	**14 31 31.0**	**+0.4**
ZRH				*e*			14 31 50.0	
ZRH				pmax	pmax			
	comp=Z,986nm,0.7s							
ZRH				smax	smax			
	comp=N,18μm,0.7s							
YLYR	**Ulyunkhan**	**1.82**	**41**	⇓*i*Pn		**Pn**	**14 31 35.4**	**+1.9**
YLYR				*e*Pg		**Pb**	**14 31 36.7**	**+1.2**
YLYR				Pmax			14 31 44.1	
	comp=N,1μm,0.5s							
YLYR				*e*Sg		**Sg**	**14 32 00.9**	**+0.3**
YLYR				*e*			14 32 06.1	
YLYR				max			14 32 09.7	
	comp=N,12μm,1.5s							
YLYR	**Ulyunkhan**	**1.82**	**41**	*e*PN		**Pn**	**14 31 35.3**	**+1.8**
YLYR				*e*			14 31 59.7	
YLYR				pmax	pmax			
	comp=Z,743nm,0.3s							
YLYR				smax	smax			
	comp=N,12μm,0.8s							
TRG	**Tyrgan**	**1.83**	**247**	*e*Pn		**Pn**	**14 31 34.3**	**+0.5**
TRG				*e*Pg		**Pb**	**14 31 36.0**	**+0.3**
TRG				*e*			14 31 42.8	
TRG				max			14 31 42.9	
	comp=N,1μm,0.2s							
TRG				*e*Sg		**Sb**	**14 31 59.8**	**+1.1**
TRG				Smax			14 32 05.9	
	comp=N,6μm,0.3s							
TRG	**Tyrgan**	**1.83**	**247**	*e*PN		**Pn**	**14 31 34.2**	**+0.5**
TRG				*e*S		**Sn**	**14 31 56.1**	**-0.9**
TRG				*e*			14 31 57.9	
TRG				pmax	pmax			
	comp=Z,1μm,0.3s							
TRG				smax	smax			
	comp=E,6μm,0.3s							
UUDB	**Ulan-Yde**	**1.87**	**209**	*e*Pn		**Pn**	**14 31 35.3**	**+1.0**
UUDB				⇑*i*Pg		**Pb**	**14 31 36.8**	**+0.4**
UUDB				Pmax			14 31 37.0	
	comp=E,3μm,0.5s							
UUDB				*e*Sg		**Sg**	**14 32 02.0**	**-0.2**
UUDB				Smax			14 32 03.3	
	comp=E,12μm,0.4s							
FFNB	**Fofonovo**	**2.05**	**225**	*e*Pg		**Pb**	**14 31 40.2**	**+0.8**
FFNB				*e*Sg		**Sb**	**14 32 07.0**	**+2.0**
STDB	**Stepnoy Dvoret**	**2.14**	**232**	*e*Pg		**Pg**	**14 31 43.2**	**0.0**
STDB				*e*Sg		**Sg**	**14 32 10.8**	**-0.2**
NIZ	**Nizh Angarsk**	**2.28**	**6**	*e*Pn		**Pn**	**14 31 42.1**	**+2.2**
NIZ				*e*Pg		**Pb**	**14 31 44.5**	**+1.1**
NIZ				*e*			14 31 51.3	
NIZ				max			14 31 51.8	
	comp=E,2μm,0.9s							
NIZ				*e*Sg		**Sb**	**14 32 14.2**	**+2.6**
NIZ				Smax			14 32 17.0	
	comp=E,12μm,0.5s							
NIZ	**Nizh Angarsk**	**2.28**	**6**	*e*PN		**Pb**	**14 31 43.0**	**-0.4**
NIZ				*e*			14 32 14.9	
NIZ				pmax	pmax			
	comp=Z,2μm,0.7s							
NIZ				smax	smax			
	comp=N,9μm,0.5s							
HRMR	**Khuramsha**	**2.30**	**216**	*e*Pn		**Pn**	**14 31 41.3**	**+1.1**
HRMR				*e*Pg		**Pb**	**14 31 44.1**	**+0.3**
HRMR				Pmax			14 31 50.5	
	comp=N,3μm,0.5s							
HRMR				*e*Sg		**Sb**	**14 32 14.8**	**+2.5**
HRMR				Smax			14 32 17.2	
	comp=N,31μm,0.5s							
KMO	**Kumora**	**2.67**	**26**	*e*Pg		**Pb**	**14 31 52.7**	**+2.7**
KMO				Pmax			14 31 58.5	
	comp=N,2μm,1.0s							
KMO				*e*Sg		**Sg**	**14 32 27.5**	**-0.3**
KMO				Smax			14 32 40.0	
	comp=N,15μm,1.3s							
KMO	**Kumora**	**2.67**	**26**	*e*PN		**Pn**	**14 31 47.2**	**+2.0**
KMO				*e*			14 31 51.7	
KMO				*e*S		**Sn**	**14 32 19.9**	**+2.3**
KMO				*e*			14 32 27.2	
KMO				pmax	pmax			
	comp=Z,2μm,0.5s							
KMO				smax	smax			
	comp=N,14μm,1.1s							
KMO	**Kumora**	**2.67**	**26**	*e*Pg		**Pn**	**14 31 47.5**	**+2.3**
BGT	**Bolshoye Golou**	**2.69**	**238**	Pmax			14 31 01.3	
	comp=N,531nm,0.5s							
BGT				*e*Pg		**Pb**	**14 31 52.1**	**+1.7**
BGT				*e*Sn		**Sn**	**14 32 18.4**	**+0.3**
BGT				*e*Sg		**Sg**	**14 32 27.0**	**-1.5**
BGT				*e*SgSg		**SnSn**	**14 32 32.3**	**+3.5**
BGT				max			14 32 32.7	
	comp=N,2μm,0.6s							
YOA	**Uoyan**	**3.03**	**29**	*e*Pg		**Pb**	**14 31 58.9**	**+2.8**
YOA				Pmax			14 32 10.1	
	comp=N,5μm,1.2s							
YOA				*e*Sg		**Sg**	**14 32 39.2**	**-0.1**
YOA				Smax			14 32 57.9	
	comp=N,30μm,1.6s							
YOA	**Uoyan**	**3.03**	**29**	*e*PN		**Pn**	**14 31 53.3**	**+3.2**
YOA				*e*			14 31 58.9	
YOA				*e*			14 32 40.0	
YOA				pmax	pmax			
	comp=Z,2μm,0.6s							
YOA				smax	smax			
	comp=N,32μm,1.6s							
YOA	**Uoyan**	**3.03**	**29**	*e*Pg		**Pn**	**14 31 53.3**	**+3.2**
CIT	**Chita**	**3.08**	**117**	*e*Pg		**Pb**	**14 31 59.6**	**+2.5**
CIT				Pmax			14 32 00.7	
	comp=N,3μm,0.3s							
CIT				*e*Sg		**Sg**	**14 32 40.4**	**-0.6**
CIT				Smax			14 32 48.0	
	comp=N,9μm,0.5s							
CIT	**Chita**	**3.08**	**117**	*e*PN		**Pn**	**14 31 54.1**	**+3.2**
CIT				*e*			14 31 59.7	
CIT				*e*S		**Sn**	**14 32 29.5**	**+1.7**
CIT				*e*			14 32 38.7	
CIT				pmax	pmax			
	comp=Z,3μm,0.8s							
CIT				smax	smax			
	comp=N,10μm,0.8s							
CIT	**Chita**	**3.08**	**117**	*e*Pg		**Pn**	**14 31 54.4**	**+3.5**
LSTR	**Listvyanka**	**3.08**	**239**	*e*Pn		**Pn**	**14 31 51.4**	**+0.5**
LSTR				*e*Pg		**Pb**	**14 31 58.8**	**+1.7**
LSTR				Pmax			14 32 00.2	
	comp=N,163nm,0.5s							
LSTR				*e*Sn		**Sn**	**14 32 26.4**	**-1.4**
LSTR				*e*Sg		**Sb**	**14 32 38.4**	**+3.7**
LSTR				Smax			14 32 50.8	
	comp=N,2μm,0.7s							
IRK	**Irkutsk**	**3.20**	**249**	*e*Pn		**Pn**	**14 31 52.5**	**0.0**
IRK				*e*Pg		**Pb**	**14 31 59.9**	**+0.9**
IRK				Pmax			14 32 11.5	
	comp=N,822nm,0.5s							
IRK				*e*Sn		**Sn**	**14 32 29.4**	**-1.3**
IRK				*e*Sg		**Sb**	**14 32 41.5**	**+3.4**
IRK				Smax			14 32 45.5	
	comp=N,6μm,0.5s							
IRK	**Irkutsk**	**3.20**	**249**	*e*PN		**Pb**	**14 32 00.4**	**+1.4**
IRK				*e*			14 32 39.4	
IRK				pmax	pmax			
	comp=Z,816nm,0.5s							
IRK				smax	smax			
	comp=N,6μm,0.5s							
UKT	**Uakit**	**3.29**	**51**	⇓*i*Pn		**Pn**	**14 31 55.8**	**+2.0**
UKT				*e*Pg		**Pb**	**14 32 03.0**	**+2.3**
UKT				Pmax			14 32 13.4	
	comp=N,606nm,0.9s							
UKT				*e*			14 32 36.7	
UKT				*e*Sg		**Sg**	**14 32 46.0**	**-1.8**
UKT				max			14 32 54.9	
	comp=N,2μm,0.8s							
IVK	**Ivanovka**	**3.34**	**241**	*e*Pn		**Pn**	**14 31 54.9**	**+0.5**
IVK				*e*Pg		**Pb**	**14 32 03.0**	**+1.6**
IVK				Pmax			14 32 13.5	
	comp=N,202nm,0.5s							
IVK				*e*Sn		**Sn**	**14 32 33.2**	**-0.9**
IVK				*e*Sg		**Sb**	**14 32 46.6**	**+4.6**
IVK				Smax			14 32 50.3	
	comp=N,2μm,0.2s							
SVKR	**Severomuysk**	**3.66**	**43**	*e*Pn		**Pn**	**14 32 01.5**	**+2.6**
SVKR				*e*Pg		**Pb**	**14 32 10.1**	**+3.1**
SVKR				Pmax			14 32 20.2	
	comp=N,682nm,0.5s							
SVKR				*e*Sg		**Sg**	**14 32 57.7**	**-2.0**
SVKR				Smax			14 33 09.5	
	comp=N,6μm,0.6s							
SVKR	**Severomuysk**	**3.66**	**43**	*e*PN		**Pg**	**14 32 12.6**	**+0.4**
SVKR				*e*			14 32 57.2	
SVKR				pmax	pmax			
	comp=Z,671nm,0.5s							
SVKR				smax	smax			
	comp=E,7μm,1.3s							
TLY	**Talaya**	**3.81**	**243**	Pn		Pn	14 31 55.9	-4.9
	comp=E,0.0nm,0.3s,baz=61,slow=9.1,SNR=7.7							
TLY				Sn		**Sn**	**14 32 38.0**	**-7.7**
	comp=E,1.0nm,0.3s,baz=45,slow=10,SNR=4.0							
TLY				Lg		Lg	14 32 57.9	
	comp=E,2.1nm,0.3s,baz=288,slow=20,SNR=12							
TLY				LR		LR	14 33 37.1	
	comp=E,452nm,18.4s,baz=54,slow=43							
TLY	**Talaya**	**3.81**	**243**	*e*Pn		**Pn**	**14 32 01.2**	**+0.3**
TLY				*e*Pg		**Pb**	**14 32 11.5**	**+2.1**
TLY				*e*			14 32 16.8	
TLY				max			14 32 22.2	
	comp=E,187nm,0.4s							
TLY				*e*Sg		**Sg**	**14 33 01.7**	**-2.6**
TLY				Smax			14 33 07.6	
	comp=E,2μm,0.5s							
TLY	**Talaya**	**3.81**	**243**	*e*PN		**Pn**	**14 32 01.2**	**+0.3**
TLY				*e*S		**Sb**	**14 32 59.9**	**+4.3**
TLY	**Talaya**	**3.81**	**243**	Pn		**Pn**	**14 32 01.0**	**+0.1**
TLY	**Talaya**	**3.81**	**243**	*e*Pn		Pn	14 31 56.1	-4.8
KPC	**Khapcheranga**	**4.32**	**151**	*e*Pn		**Pn**	**14 32 08.2**	**+0.2**
KPC				*e*Pg		**Pb**	**14 32 21.0**	**+2.8**
KPC				Pmax			14 32 26.9	
	comp=E,484nm,0.5s							
KPC				*e*Sn		**Sn**	**14 32 57.9**	**-0.6**
KPC				*e*Sg		**Sg**	**14 33 18.6**	**-2.2**
KPC				Smax			14 33 26.7	
	comp=E,4μm,0.8s							
KPC	**Khapcheranga**	**4.32**	**151**	*e*PN		**Pn**	**14 32 08.2**	**+0.2**
KPC				*e*			14 32 19.4	
KPC				*e*			14 33 13.8	
KPC				pmax	pmax			
	comp=Z,481nm,0.7s							
KPC				smax	smax			
	comp=E,4μm,1.0s							
KPC	**Khapcheranga**	**4.32**	**151**	*e*Sg		**Sb**	**14 33 13.3**	**+2.9**
ARS	**Arshan**	**4.37**	**251**	*e*Pn		**Pn**	**14 32 08.9**	**+0.3**
ARS				*e*Pg		**Pb**	**14 32 21.8**	**+2.8**
ARS				Pmax			14 32 31.9	
	comp=E,580nm,0.5s							
ARS				*e*Sg		**Sg**	**14 33 18.9**	**-3.5**
ARS				Smax			14 33 20.1	
	comp=E,7μm,0.8s							
ZAK	**Zakamensk**	**4.78**	**231**	*e*Pn		**Pn**	**14 32 15.5**	**+1.2**
ZAK				*e*Pg		**Pb**	**14 32 30.4**	**+4.4**
ZAK				Pmax			14 32 37.2	
	comp=E,102nm,0.6s							
ZAK				*e*Sg		**Sg**	**14 33 32.6**	**-2.9**
ZAK				Smax			14 33 51.3	
	comp=E,1μm,0.8s							
ZAK	**Zakamensk**	**4.78**	**231**	*e*PN		**Pn**	**14 32 15.5**	**+1.2**
ZAK				*e*			14 32 29.7	
ZAK				*e*			14 33 29.7	
ZAK				pmax	pmax			
	comp=Z,102nm,0.5s							
ZAK				smax	smax			
	comp=N,1μm,0.8s							
NLYR	**Nelyaty**	**4.83**	**49**	*e*Pn		**Pn**	**14 32 16.7**	**+1.9**
NLYR				*e*Pg		**Pg**	**14 32 31.6**	**-2.9**
NLYR				Pmax			14 32 41.6	
	comp=N,259nm,0.7s							
NLYR				*e*Sg		**Sg**	**14 33 34.9**	**-2.0**
NLYR				Smax			14 33 54.2	
	comp=N,3μm,1.2s							
NLYR	**Nelyaty**	**4.83**	**49**	⇑*i*PN		**Pn**	**14 32 16.7**	**+1.9**
NLYR				*e*			14 32 32.8	
NLYR				*e*			14 33 32.1	
NLYR				pmax	pmax			
	comp=Z,274nm,0.9s							
NLYR				smax	smax			
	comp=N,3μm,1.4s							
BOD	**Bodaibo**	**5.12**	**31**	*e*Pn		**Pn**	**14 32 20.6**	**+1.7**
BOD				*e*Pg		**Pb**	**14 32 35.4**	**+3.6**
BOD				Pmax			14 32 43.0	
	comp=N,155nm,1.2s							
BOD				*e*Sn		**Sn**	**14 33 16.3**	**-1.8**
BOD				*e*Sg		**Sg**	**14 33 42.3**	**-4.2**
BOD				Smax			14 33 46.6	
	comp=N,2μm,0.8s							
BOD				*e*			14 33 51.1	
BOD	**Bodaibo**	**5.12**	**31**	*e*PN		**Pn**	**14 32 19.7**	**+0.8**
BOD				*e*			14 32 34.9	
BOD				*e*			14 33 43.4	
BOD				pmax	pmax			
	comp=Z,158nm,1.1s							
BOD				smax	smax			
	comp=E,2μm,1.5s							
ORL	**Orlik**	**5.70**	**264**	*e*Pn		**Pn**	**14 32 29.2**	**+2.2**
ORL				*e*			14 32 34.8	
ORL				*e*Pg		**Pb**	**14 32 45.7**	**+4.0**
ORL				Pmax			14 32 48.2	
	comp=E,185nm,0.5s							
ORL				*e*Sg		**Sg**	**14 33 59.7**	**-5.3**
ORL				Smax			14 34 08.0	
	comp=E,1μm,0.7s							
ORL	**Orlik**	**5.70**	**264**	*e*PN		**Pn**	**14 32 28.9**	**+1.9**
ORL				*e*			14 32 45.7	
ORL				*e*S		**Sn**	**14 33 30.0**	**-2.5**
ORL				*e*			14 33 59.4	
ORL				pmax	pmax			
	comp=Z,249nm,0.5s							
ORL				smax	smax			
	comp=N,1μm,1.4s							
ULN	**Ulaanbaatar**	**5.80**	**194**	*e*Pn		**Pn**	**14 32 30.4**	**+2.0**
ULN				*e*Pg		**Pb**	**14 32 48.0**	**+4.5**
ULN				*e*Sg		**Sg**	**14 34 03.5**	**-4.9**
ULN	**Ulaanbaatar**	**5.80**	**194**	*ce*PN		**Pn**	**14 32 28.1**	**-0.3**
ULN				pmax	pmax			
	comp=Z,14nm,0.7s							
ULN	**Ulaanbaatar**	**5.80**	**194**	Pn		**Pn**	**14 32 28.6**	**+0.1**
SONM	**Songino Array**	**5.94**	**198**	Pn		**Pn**	**14 32 26.8**	**-3.5**
	comp=Z,3.5nm,0.3s,baz=12,slow=12,SNR=22							
SONM				Lg		Lg	14 34 05.1	
	comp=Z,91nm,0.3s,baz=11,slow=28,SNR=12							
SONM	**Songino Array**	**5.94**	**198**	PN		**Pn**	**14 32 30.2**	**-0.1**
SONM	**Songino Array**	**5.94**	**198**	Pn		**Pn**	**14 32 30.2**	**-0.1**
VTMR	**Vitim**	**6.24**	**16**	*e*Pg		Pb	14 32 55.9	+5.2
VTMR				*e*Sg		**Sg**	**14 34 17.3**	**-4.9**
CRS	**Chara**	**6.24**	**53**	*e*Pn		**Pn**	**14 32 36.0**	**+1.7**
CRS				*e*Pg		Pg	14 32 57.2	-4.4
CRS				*e*			14 33 04.9	
CRS				max			14 33 06.2	
	comp=Z,285nm,1.2s							
CRS				*e*Sg		**Sg**	**14 34 18.7**	**-3.6**
CRS				Smax			14 34 35.9	
	comp=Z,1μm,1.1s							
CRS	**Chara**	**6.24**	**53**	*e*PN		**Pn**	**14 32 35.6**	**+1.3**
CRS				*e*S		**Sg**	**14 34 17.1**	**-5.2**
CRS				smax	smax			
	comp=E,1μm,1.0s							
TUP	**Tupik**	**6.46**	**78**	*e*PN		**Pn**	**14 32 38.6**	**+1.3**
TUP				*e*			14 32 59.0	
TUP				*e*S		**Sn**	**14 33 51.5**	**+0.4**
TUP				*e*			14 34 23.8	
TUP				pmax	pmax			
	comp=Z,78nm,0.7s							
TUP				smax	smax			
	comp=N,2μm,1.0s							
KHNR	**Khani**	**7.09**	**57**	*e*Pn		**Pn**	**14 32 47.1**	**+1.2**
KHNR				*e*Pg		Pb	14 33 12.0	+6.7
KHNR				*e*Sn		**Sn**	**14 34 04.0**	**-2.5**
KHNR				*e*Sg		**Sg**	**14 34 43.2**	**-6.3**
YKLR	**Yuktali**	**7.83**	**62**	*e*Pn		**Pn**	**14 32 57.2**	**+1.1**
YKLR				*e*Sg		**Sg**	**14 35 06.9**	**-6.3**
HIA	**Hailar**	**7.89**	**118**	*e*		**Pn**	**14 32 55.6**	**-1.2**
HIA				*e*			14 34 19.7	
HIA				*e*Sg		**Sg**	**14 35 09.2**	**-5.9**
HIA	**Hailar**	**7.89**	**118**	PN		**Pn**	**14 32 55.7**	**-1.2**
HIA	**Hailar**	**7.89**	**118**			**Pn**	**14 32 55.7**	**-1.2**
IENR	**Iengra**	**9.47**	**67**	*e*Pn		**Pn**	**14 33 20.3**	**+1.7**
IENR				*e*Sn		**Sn**	**14 35 01.5**	**-3.5**
IENR				*e*Sg			14 35 57.6	
ZEA	**Zeya**	**10.77**	**82**	*e*P		Pn	14 33 42.2	+5.9
ZEA				pmax	pmax			
	comp=N,10.0nm,0.5s							
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ZEA				MLR	MLR			
	comp=E,500nm,6.0s							
ZEA				MLR	MLR			
	comp=Z,500nm,10.0s							
HHC	**Hu-ho-hao-te**	**12.78**	**172**	*e*P		**Pn**	**14 34 07.6**	**+3.7**
HHC				pmax	pmax			
	comp=Z,12nm,0.9s							
HHC				pmax	pmax			
	comp=Z,65nm,4.4s							
HHC				L	L			
	comp=Z,870nm,10.7s							
HHC				L	L			
	comp=Z,580nm,10.9s							
HHC				L	L			
	comp=Z,950nm,10.8s							
YAK	**Yakutsk**	**13.84**	**44**	*e*P		**Pn**	**14 34 16.4**	**-1.7**
YAK				*e*S		**Sn**	**14 36 52.0**	**+0.3**
YAK				pmax	pmax			
	comp=Z,23nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,12nm,1.3s							
YAK				pmax	pmax			
	comp=Z,11nm,1.0s							
YAK				pmax	pmax			
	comp=N,12nm,1.1s							
YAK				pmax	pmax			
	comp=E,25nm,1.3s							
YAK				smax	smax			
	comp=N,24nm,1.6s							
YAK				smax	smax			
	comp=E,31nm,1.8s							
YAK				MLR	MLR			
	comp=Z,241nm,16.0s							
YAK				MLR	MLR			
	comp=N,220nm,17.0s							
YAK				MLR	MLR			
	comp=E,170nm,17.0s							
YAK	**Yakutsk**	**13.84**	**44**			**Pn**	**14 34 16.9**	**-1.3**
DGZ	**Jazzator, Alta**	**13.99**	**263**	*i* P		**Pn**	**14 34 23.0**	**+2.6**
BJI	**Beijing**	**14.31**	**158**	P		**Pn**	**14 34 25.3**	**+0.7**
BJI				pP		**P**	**14 34 28.4**	**-3.5**
BJI				S		**Sn**	**14 37 04.3**	**+1.0**
BJI				pmax	pmax			
	comp=E,15nm,0.7s							
BJI				L	L			
	comp=E,710nm,11.0s							
BJI				L	L			
	comp=E,250nm,11.8s							
BJI				L	L			
	comp=E,660nm,10.9s							
BJT	**Baijiatuau**	**14.33**	**158**	P		**Pn**	**14 34 24.8**	**-0.1**
BJT	**Baijiatuau**	**14.33**	**158**	Pn		**Pn**	**14 34 24.8**	**-0.1**
ZAA0	**Zalesovo Array**	**14.37**	**282**			**Pn**	**14 34 23.6**	**-1.9**
ZALV	**Zalesovo Beam**	**14.37**	**282**	Pn		**Pn**	**14 34 22.4**	**-3.1**
	comp=E,0.1nm,0.3s,baz=82,slow=11,SNR=7.2							
ZALV				Lg		Lg	14 38 29.3	
	comp=E,0.6nm,0.3s,baz=90,slow=22,SNR=9.9							
ZALV				LR		LR	14 40 11.2	
	comp=E,254nm,18.2s,baz=112,slow=39							
ZALV	**Zalesovo Beam**	**14.37**	**282**	*i* P		**Pn**	**14 34 25.8**	**+0.3**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**14.37**	**282**	Pn		**Pn**	**14 34 24.4**	**-1.1**
CN2	**Changchun**	**14.49**	**126**	*e*P		**P**	**14 34 32.0**	**-1.9**
CN2				*e*S		**Sn**	**14 37 15.3**	**+7.6**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				L	L			
	comp=Z,400nm,10.0s							
CN2				L	L			
	comp=Z,500nm,10.0s							
CN2				L	L			
	comp=Z,800nm,11.0s							
KLR	**Kul'dur**	**14.75**	**98**	Pn		**Pn**	**14 34 29.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=298,slow=16,SNR=1.5							
KLR				Lg		Lg	14 38 47.2	
	comp=Z,1.1nm,0.3s,baz=331,slow=19,SNR=5.5							
KLR				LR		LR	14 40 42.7	
	comp=Z,420nm,18.2s,baz=287,slow=39							
KLR	**Kul'dur**	**14.75**	**98**	*i* P		**Pn**	**14 34 32.0**	**+1.3**
KLR				pmax	pmax			
	comp=Z,9.0nm,1.4s							
KLR				MLR	MLR			
	comp=Z,409nm,13.0s							
KLR	**Kul'dur**	**14.75**	**98**			**Pn**	**14 34 29.8**	**-0.9**
GTA	**Gaotai**	**15.47**	**208**	*e*P		**P**	**14 34 45.8**	**+0.8**
GTA				pP		pP	14 34 49.8	+2.0
GTA				sP		sP	14 34 52.8	+3.6

WMQ pP pP 14 35 07.3 +1.6
WMQ sP sP 14 35 11.3 +4.3
WMQ pmax pmax
comp=Z,17nm,0.6s
WMQ pmax pmax
comp=Z,94nm,3.7s
USRK Ussuriysk Ar. 17.63 113 Lg Lg 14 40 18.0
baz=306,slow=30,SNR=7.1
LZH Lanzhou 17.81 194 *e*P **Pn 14 35 08.6 -1.6**
LZH pP pP 14 35 13.9 +0.1
LZH pmax pmax
comp=Z,19nm,1.2s
LZH pmax pmax
comp=Z,95nm,5.4s
MSHR Mys Shultsa 18.27 118 *i* P **Pn 14 35 15.9 +0.3**
MSHR pmax pmax
comp=Z,20nm,1.3s
MSHR MLR MLR
comp=Z,694nm,14.0s
MK31 Makanchi Array 18.39 259 *i* P **P 14 35 16.4 -0.7**
MK31 Makanchi Array 18.39 259 **P 14 35 16.4 -0.7**
MKAR Makanchi Array 18.39 259 P **P 14 35 14.6 -2.5**
comp=Z,0.2nm,0.3s,baz=68,slow=10,SNR=13
MKAR Lg Lg 14 40 38.5
comp=Z,0.1nm,0.3s,baz=73,slow=17,SNR=3.0
MKAR LR LR 14 42 32.5
comp=Z,292nm,18.3s,baz=52,slow=38
MKAR Makanchi Array 18.39 259 *i* P **P 14 35 16.7 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 18.39 259 **P 14 35 14.9 -2.2**
MAKZ Makanchi 18.56 260 P **P 14 35 18.4 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,1.4s
MAKZ Makanchi 18.56 260 P **P 14 35 18.4 -0.6**
NRIK Noril'sk 18.74 336 P **P 14 35 20.2 -0.5**
comp=Z,0.8nm,0.3s,baz=140,slow=11,SNR=12
NRIK S Sn 14 38 33.6 -17
comp=Z,0.9nm,0.3s,baz=158,slow=16,SNR=4.9
NRIK Lg Lg 14 40 51.6
comp=Z,0.1nm,0.3s,baz=184,slow=19,SNR=4.0
NRIK LR LR 14 43 09.9
comp=Z,375nm,20.5s,baz=149,slow=39
NRIK Noril'sk 18.74 336 *ce*P **Pn 14 35 22.2 +1.1**
NRIK pmax pmax
comp=Z,16nm,0.9s
NRIK MLR MLR
comp=Z,551nm,14.0s
NRIK Noril'sk 18.74 336 **P 14 35 20.8 0.0**
NRIK IAmb IAmb 14 35 46.5
comp=Z,17nm,0.6s
KURK Kurchatov 18.86 274 P **P 14 35 20.6 -1.6**
KURK Kurchatov 18.86 274 P **P 14 35 20.6 -1.6**
KURBB Kurchatov Arra 18.95 274 P **P 14 35 20.6 -2.6**
comp=Z,0.1nm,0.3s,baz=68,slow=11,SNR=16
KURBB Lg Lg 14 40 57.9
comp=Z,0.0nm,0.3s,baz=57,slow=29,SNR=4.7
XAN Xi'an 19.47 180 P **Pn 14 35 30.3 +0.1**
XAN pP sP 14 35 38.9 +5.7
XAN sP pP 14 35 41.3 +9.4
XAN pmax pmax
comp=Z,6.0nm,0.5s
TIXI Tiksi 20.15 18 P **P 14 35 35.4 -0.6**
TIXI pmax pmax
comp=Z,25nm,0.5s
TIXI Tiksi 20.15 18 P **P 14 35 35.4 -0.6**
KS19 Wonju Array Si 20.61 133 P **P 14 35 41.7 +0.3**
KSAR Wonju Array Be 20.67 133 P **P 14 35 42.1 +0.1**
KSAR Wonju Array Be 20.67 133 P **P 14 35 42.1 +0.1**
KSRS Korea Array 20.68 133 P **P 14 35 41.1 -0.9**
comp=Z,0.5nm,0.8s,baz=337,slow=6.4,SNR=2.1
KSRS Lg Lg 14 42 01.3
comp=Z,1.9nm,0.9s,baz=326,slow=30,SNR=5.1
KSRS LR LR 14 45 09.3
comp=Z,98nm,19.4s,baz=318,slow=41
KSRS Korea Array 20.68 133 P **P 14 35 41.1 -0.9**
NJ2 Nanjing 22.57 158 *e*P **P 14 36 03.3 +0.9**
NJ2 pmax pmax
comp=Z,12nm,0.5s
BVAR Borovoye Array 22.98 285 P **P 14 36 04.9 -1.8**
comp=Z,1.5nm,0.6s,baz=25,slow=6.9,SNR=14
BVAR Sn Sn 14 40 33.7 +1.1
comp=Z,2.3nm,0.6s,baz=57,slow=11,SNR=3.8
BVAR Borovoye Array 22.98 285 P **P 14 36 04.9 -1.8**
BVAR Borovoye Array 22.98 285 P **P 14 36 04.9 -1.8**
BVAR Sn 14 40 33.7 +1.1
BRVK Borovoye 23.03 285 *ce*P **P 14 36 09.1 +1.9**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 23.03 285 P **P 14 36 07.3 +0.2**
MA2 Magadan 23.43 58 P **P 14 36 10.9 -0.3**
MA2 pmax pmax
comp=Z,7.0nm,1.1s
MA2 Magadan 23.43 58 P **P 14 36 10.9 -0.3**
KDJ Kajisay 24.07 255 P **P 14 36 18.5 +0.8**
KDJ pmax pmax
comp=Z,9.0nm,0.9s
KDJ Kajisay 24.07 255 P **P 14 36 18.5 +0.8**
SEY Seymchan 24.19 50 *i* P **P 14 36 20.2 +1.8**
BOOM Boomskoye usch 24.56 257 P **P 14 36 23.3 +1.1**
BOOM pmax pmax
comp=Z,7.0nm,0.8s
BOOM Boomskoye usch 24.56 257 **P 14 36 23.3 +1.1**
AAK Ala-Archa 25.31 259 *ce*P **P 14 36 28.5 -0.5**
AAK pmax pmax
comp=Z,40nm,2.5s
MJAR Matsushiro Arr 26.39 118 LR LR 14 47 29.5
comp=Z,134nm,19.5s,baz=310,slow=37
SVE Sverdlovsk 27.42 297 *e*P P 14 37 02.3 +15
SVE pmax pmax
comp=Z,16nm,0.9s
SVE MLR MLR
comp=Z,395nm,17.0s
SKR Severo-Kuril's 28.60 76 *e*P P 14 37 04.8 +6.6
SKR MLR MLR
comp=Z,100nm,20.0s
ARU Arti 28.63 296 P **P 14 36 57.7 -0.7**
comp=Z,0.4nm,0.3s,baz=76,slow=17,SNR=1.3
ARU LR LR 14 50 17.1
comp=Z,220nm,18.5s,baz=76,slow=40
ARU Arti 28.63 296 *i* P **P 14 36 58.5 0.0**
ARU pmax pmax
comp=Z,3.0nm,1.0s
ARU MLR MLR
comp=Z,262nm,16.0s
JHJ Hachijo jima 2 29.86 121 LR LR 14 49 28.9
comp=Z,49nm,19.5s,baz=9.5,slow=37
BILL Bilibino 30.12 39 *i* P **P 14 37 13.9 +2.4**
BILL *i* 14 40 15.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,80nm,15.0s
ABKAR Akbulak array 30.49 282 P **P 14 37 15.3 +0.3**
CHGR Chuyangaron 30.98 258 P **P 14 37 20.2 +0.7**
PRGR Permogore 33.69 310 *e*P **P 14 37 40.5 -2.4**
PRGR pmax pmax
comp=Z,35nm,1.5s
CMAR Chiang Mai Arr 35.87 197 P **P 14 38 00.4 -1.7**
comp=Z,0.4nm,0.6s,baz=321,slow=16,SNR=1.7
CMAR LR LR 14 52 32.8
comp=Z,24nm,19.2s,baz=210,slow=36
CMAR Chiang Mai Arr 35.87 197 P **P 14 38 00.4 -1.7**
KLMR Klimovskoe 36.74 310 *e*P **P 14 38 08.6 -0.6**
KLMR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 36.74 310 *e*P **P 14 38 08.6 -0.6**
KLMR AMP 14 38 18.2
comp=Z,10.0nm,1.3s
GEYT Alibeck 37.98 267 LR LR 14 54 57.5
comp=Z,117nm,18.3s,baz=50,slow=38
ARCES ARCESS Array B 39.27 326 P **P 14 38 30.4 0.0**
comp=Z,1.6nm,0.7s,baz=64,slow=11,SNR=3.8
ARCES PcP **PcP 14 40 39.1 +0.1**
comp=Z,1.7nm,0.5s,baz=72,slow=4.0,SNR=5.0
ARCES ARCESS Array B 39.27 326 P **P 14 38 31.0 +0.6**
ARCES pmax pmax
comp=Z,10.0nm,1.4s
ARCES ARCESS Array B 39.27 326 P **P 14 38 31.0 +0.6**
TNA Tin City 40.55 39 **P 14 38 43.2 +2.1**
OBN Obninsk 40.59 303 *i* P **P 14 38 43.0 +1.5**
OBN *i* 14 40 18.1
OBN *i* 14 40 44.1
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,379nm,15.0s
FIA1 FINESS Array S 42.42 315 P **P 14 38 56.4 -0.1**
FINES FINESS Array B 42.42 315 P **P 14 38 54.5 -1.9**
comp=Z,2.9nm,0.8s,baz=62,slow=8.8,SNR=14
FINES LR LR 14 58 16.5
comp=Z,202nm,19.6s,baz=71,slow=39
FINES FINESS Array B 42.42 315 *i* P **P 14 38 55.9 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 42.42 315 P **P 14 38 56.4 -0.1**
KIV Kislovodsk 43.34 285 *e*P **P 14 39 05.3 +1.0**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,137nm,16.0s
MNK Minsk 45.20 306 *i* P **P 14 39 15.5 -3.4**
MNK *i* 14 41 00.2
MNK *i* S **S 14 45 54.0 -4.4**
MNK *i* SS **ScS 14 49 16.6 +1.2**
MNK MLR MLR
comp=N,30nm,12.0s
MNK MLR MLR
comp=E,15nm,13.0s
MNK MLR MLR
comp=Z,77nm,13.0s
MNK Minsk 45.20 306 *i* P **P 14 39 15.5 -3.4**
MNK *i* P **P 14 39 15.5 -3.4**
MNK *i* P **P 14 39 15.5 -3.4**
baz=56
MNK *i* PP **PcP 14 41 00.2 +1.4**
MNK *i* PPP PPP 14 41 37.9
MNK *i* ScP **ScP 14 44 49.4 -1.9**
MNK *i* PcS **PcS 14 44 50.6 -1.8**
MNK *i* S **S 14 45 54.0 -4.4**
MNK *i* SS **ScS 14 49 16.7 +1.3**
MNK *i* SSS SSS 14 49 55.9
MNK *i* LQ LQ 14 54 46.7
MNK *i* LR LR 14 58 28.0
MNK *i* LRM MLR 14 59 56.3
comp=N,30nm,11.5s
MNK *i* LRM MLR 15 00 07.7
comp=E,15nm,12.8s
MNK *i* LRM MLR 15 00 10.2
comp=Z,77nm,12.8s
NACGM Naroch 45.51 307 *i* P P 14 39 04.5 -17
baz=238
COLD Coldfoot 45.92 32 P **P 14 39 25.4 +1.0**
TTA Tatalina 46.37 39 P **P 14 39 29.0 +0.9**
TTA pmax pmax
comp=Z,3.0nm,1.1s
TTA Tatalina 46.37 39 P **P 14 39 29.0 +0.9**
AKASG Malin Array Be 46.71 301 P **P 14 39 29.6 -1.3**
comp=Z,1.3nm,0.5s,baz=48,slow=9.2,SNR=15
AKASG LR LR 15 00 33.1
comp=Z,84nm,18.1s,baz=35,slow=38
AKASG Malin Array Be 46.71 301 *i* P **P 14 39 30.7 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 46.71 301 P **P 14 39 31.8 +0.9**
AKBB Malin Array Si 46.71 301 *ce*P **P 14 39 32.3 +1.4**
I23K Minto, Yukon-K 47.43 34 P **P 14 39 38.1 +1.9**
I23K IAmb IAmb 14 39 38.7
comp=Z,3.0nm,0.8s
BMAR Burnt Mountain 47.53 30 **P 14 39 38.8 +1.6**
KTH Kantishna Hill 47.86 36 P **P 14 39 41.9 +2.1**
KTH IAmb IAmb 14 40 07.9
comp=Z,5.3nm,1.2s
FYU Fort Yukon 47.88 31 **P 14 39 41.6 +1.9**
MDM Murphy Dome 47.92 34 **P 14 39 41.9 +1.7**
MDM IAmb IAmb 14 39 52.2
comp=Z,5.0nm,1.1s
CCB Clear Creek Bu 48.26 34 P **P 14 39 44.1 +1.4**
CCB IAmb IAmb 14 39 45.1
comp=Z,3.0nm,0.8s
WRH Wood River Hil 48.27 34 P **P 14 39 43.6 +0.8**
WRH IAmb IAmb 14 39 44.7
comp=Z,3.6nm,0.9s
NC405 NORSAR Array S 48.41 320 P **P 14 39 45.1 +1.1**
PRP Porcupine Dome 48.46 32 P **P 14 39 45.0 +0.6**
NC303 NORSAR Array S 48.47 320 P **P 14 39 45.5 +1.1**
NC303 IAmb IAmb 14 40 04.5
comp=Z,6.3nm,1.0s
IL31 48.49 34 P **P 14 39 45.6 +1.2**
ILAR Eielson Array 48.49 34 P **P 14 39 45.4 +0.9**
comp=Z,4.2nm,0.6s,baz=301,slow=7.2,SNR=27
ILAR LR LR 15 02 46.0
comp=Z,50nm,19.7s,baz=335,slow=39
ILAR Eielson Array 48.49 34 P **P 14 39 45.4 +0.9**
ILAR Eielson Array 48.49 34 **P 14 39 45.4 +0.9**
SKT Skwentna 48.61 38 P **P 14 39 46.8 +1.3**
SKT IAmb IAmb 14 40 12.6
comp=Z,4.8nm,1.3s
NOA NORSAR Array B 48.65 320 P **P 14 39 44.8 -1.0**
comp=Z,0.3nm,0.4s,baz=45,slow=8.1,SNR=6.2
NOA LR LR 15 01 46.4
comp=Z,48nm,20.6s,baz=60,slow=38
NOA NORSAR Array B 48.65 320 P **P 14 39 44.8 -1.0**
NOA NORSAR Array B 48.65 320 P **P 14 39 44.8 -1.0**
NC204 NORSAR Array S 48.67 320 P **P 14 39 46.6 +0.6**
RND Reindeer 48.68 36 P **P 14 39 47.0 +0.9**
RND pmax pmax
comp=Z,3.0nm,1.2s
RND Reindeer 48.68 36 P **P 14 39 47.0 +0.9**
HDA Harding Lake 48.70 34 P **P 14 39 46.7 +0.6**
HDA IAmb IAmb 14 39 47.7
comp=Z,3.2nm,0.7s
SORM Soroca 48.72 298 ⇑P **P 14 39 46.4 0.0**
SORM Soroca 48.72 298 ⇑P **P 14 39 46.4 0.0**
NBO00 NORSAR Array S 48.82 320 P **P 14 39 47.2 +0.1**
RC01 Rabbit Creek A 49.84 39 P **P 14 39 55.3 +0.4**
RC01 IAmb IAmb 14 39 56.4
comp=Z,4.7nm,0.8s
INK Inuvik 50.02 26 P **P 14 39 56.4 +0.3**
comp=Z,0.9nm,0.6s,baz=7.7,slow=11,SNR=3.6
INK Inuvik 50.02 26 P **P 14 39 56.8 +0.7**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 50.02 26 P **P 14 39 56.8 +0.7**
PAX Paxson 50.14 35 P **P 14 39 57.6 +0.4**
PAX pmax pmax
comp=Z,3.0nm,0.8s
PAX Paxson 50.14 35 P **P 14 39 57.6 +0.4**
DOT Dot Lake 50.16 34 P **P 14 39 57.3 0.0**
DOT IAmb IAmb 14 39 58.6
comp=Z,4.6nm,0.7s
EGAK Eagle 50.33 32 P **P 14 39 59.5 +1.0**
EGAK IAmb IAmb 14 40 00.8
comp=Z,4.8nm,0.9s
TLCR 50.34 295 ⇑P **P 14 40 00.1 +1.2**
TLCR 50.34 295 ⇑P **P 14 40 00.1 +1.2**
PWL Port Wells 50.51 38 P **P 14 40 00.4 +0.4**
K27K Chicken 50.55 33 P **P 14 40 00.7 +0.5**
K27K IAmb IAmb 14 40 02.8
comp=Z,8.7nm,1.4s
BNN Bunyan 50.55 284 P **P 14 40 01.2 +0.4**
TESR Tescani 50.64 298 ⇑P **P 14 40 02.7 +1.5**
BIZ Bicaz 50.66 298 ⇑P **P 14 40 02.4 +1.2**
BURAR Bucovina Array 50.69 300 ⇑P **P 14 40 02.8 +1.2**
BURAR Bucovina Array 50.69 300 P **P 14 40 02.2 +0.6**
CFR Carcaliu 50.71 296 ⇑P **P 14 40 02.8 +1.1**
CFR Carcaliu 50.71 296 ⇑P **P 14 40 02.8 +1.1**
TPGR Topolog 50.77 295 ⇑P **P 14 40 03.3 +1.2**
KDAK Kodiak Island 50.87 43 P **P 14 40 03.7 +1.0**
KDAK pmax pmax
comp=Z,7.0nm,1.2s
KDAK Kodiak Island 50.87 43 P **P 14 40 03.7 +1.0**
KDAK IAmb IAmb 14 40 15.8
comp=Z,6.8nm,1.2s
OHAK Old Harbor 50.94 44 P **P 14 40 04.1 +0.8**
KLU Klutina 50.97 37 P **P 14 40 04.4 +0.9**
KLU IAmb IAmb 14 40 05.8
comp=Z,7.9nm,1.2s
VRI Vrincioaia 51.02 297 ⇑P **P 14 40 06.0 +2.0**
VRI Vrincioaia 51.02 297 ⇑P **P 14 40 06.0 +2.0**
PLOR Plostina 51.07 297 ⇑P **P 14 40 04.2 -0.2**
PLOR Plostina 51.07 297 ⇑P **P 14 40 04.2 -0.2**
HARR Harsova 51.14 295 ⇑P **P 14 40 06.4 +1.5**
HARR Harsova 51.14 295 ⇑P **P 14 40 06.4 +1.5**
BR131 Keskin Array S 51.24 287 P **P 14 40 06.5 +0.6**
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 51.24 287 P **P 14 40 06.5 +0.6**
BR131 IAmb IAmb 14 40 08.3
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 51.24 287 P **P 14 40 06.2 +0.2**
comp=Z,3.6nm,0.7s,baz=76,slow=5.5,SNR=19
BRTR LR LR 15 07 15.3
comp=Z,37nm,19.0s,baz=60,slow=42
BRTR Keskin Array B 51.24 287 *i* P **P 14 40 07.6 +1.7**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 51.24 287 P **P 14 40 06.7 +0.8**
FID Port Fidalgo 51.27 38 P **P 14 40 06.5 +0.9**
FID IAmb IAmb 14 40 08.8
comp=Z,5.2nm,1.0s
L27K Beaver Creek, 51.30 33 **P 14 40 07.0 +1.0**
BCAR Beaver Creek A 51.31 33 **P 14 40 06.9 +0.9**
N25K Chitina, Valde 51.36 36 P **P 14 40 07.4 +0.9**
N25K IAmb IAmb 14 40 08.8
comp=Z,4.5nm,0.7s
DAWY Dawson 51.38 32 **P 14 40 07.4 +0.9**
C36M Paulatuk 51.47 21 P **P 14 40 06.6 -0.4**
ARCR ARCALIA 51.48 300 ⇑P **P 14 40 09.8 +2.4**
DOPR Dopca 51.66 298 ⇑P **P 14 40 11.0 +2.2**
EYAK Cordova Ski Ar 51.67 37 P **P 14 40 10.6 +2.0**
EYAK IAmb IAmb 14 40 27.0
comp=Z,4.7nm,0.9s
VOIR 52.19 298 ⇑P **P 14 40 14.8 +1.9**
VOIR 52.19 298 ⇑P **P 14 40 14.8 +1.9**
HMT Hamilton 52.35 37 P **P 14 40 15.5 +1.7**
HMT IAmb IAmb 14 40 18.6
comp=Z,5.1nm,1.0s
DRGR 52.52 300 ⇑P **P 14 40 16.5 +1.2**
DRGR 52.52 300 ⇑P **P 14 40 16.5 +1.2**
SUCK Suckling Hills 52.71 37 P **P 14 40 18.4 +2.0**
BARN Barnard Glacie 52.76 35 P **P 14 40 18.9 +1.9**
BARN IAmb IAmb 14 40 19.8
comp=Z,6.4nm,0.8s
CTGM Chitina Glacie 52.94 35 P **P 14 40 20.1 +1.9**
CTGM IAmb IAmb 14 40 22.2
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 53.13 306 ⇑P **P 14 40 21.1 +1.4**
MORC Moravsky Berou 53.13 306 P **P 14 40 20.3 +0.6**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 53.13 306 P **P 14 40 20.2 +0.6**
CHVC Chvalec 53.30 307 *e*P **P 14 40 21.7 +0.8**
GZR Gura Zlata 53.42 299 ⇑P **P 14 40 22.3 +0.4**
BZS Buzias 53.87 300 ⇑P **P 14 40 26.6 +1.5**
BZS Buzias 53.87 300 ⇑P **P 14 40 26.6 +1.5**
HERR Herculane 53.95 299 ⇑P **P 14 40 27.1 +1.4**
CLL Collm 54.23 310 *i* P **P 14 40 27.8 +0.1**
comp=Z,4.0nm,1.0s
CLL *e* 14 40 43.0
CLL *e*SS **SKiKP 14 51 36.0 -2.5**
CLL Collm 54.23 310 P **P 14 40 28.0 +0.3**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 54.23 310 P **P 14 40 28.0 +0.3**
CLL IAmb IAmb 14 40 29.2
comp=Z,3.3nm,0.8s
VTS Vitosha 55.06 296 ⇑P **P 14 40 35.5 +1.5**
VTS Vitosha 55.06 296 P **P 14 40 34.6 +0.6**
VTS pmax pmax
comp=Z,9.0nm,1.1s
VTS Vitosha 55.06 296 P **P 14 40 34.6 +0.6**
VTS IAmb IAmb 14 40 36.1
comp=Z,8.6nm,1.1s
CONA Conrad Observa 55.20 305 *e*P **P 14 40 36.3 +1.4**
comp=Z,1.4nm,0.6s
KHC Kasperske Hory 55.46 307 *e*P **P 14 40 37.9 +1.2**
KHC Kasperske Hory 55.46 307 *e*P **P 14 40 37.9 +1.2**
GEC2 GERESS Array S 55.60 307 P **P 14 40 37.8 0.0**
GEC2 IAmb IAmb 14 40 39.6
comp=Z,8.4nm,1.5s
GERES GERESS Array B 55.60 307 P **P 14 40 37.3 -0.5**
comp=Z,1.0nm,0.7s,baz=51,slow=7.0,SNR=11
GERES LR LR 15 07 05.5
comp=Z,120nm,19.7s,baz=72,slow=39
GERES GERESS Array B 55.60 307 P **P 14 40 37.6 -0.2**
GERES GERESS Array B 55.60 307 P **P 14 40 37.6 -0.2**
DIVS Divibare 55.75 299 P **P 14 40 38.7 -0.2**
RAYN Ar Rayn 55.81 264 P **P 14 40 40.2 +0.7**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 55.81 264 **P 14 40 40.2 +0.7**
RAYN IAmb IAmb 14 40 41.6
comp=Z,5.1nm,0.8s
ARSA Arzberg 55.83 305 *e*P **P 14 40 40.9 +1.5**
comp=Z,0.7nm,0.5s
MOA Molln 56.02 306 *e*P **P 14 40 41.0 +0.3**
comp=Z,1.4nm,0.8s
GRA1 Grafenberg Arr 56.18 309 P **P 14 40 43.0 +1.2**
GRA1 IAmb IAmb 14 40 44.2
comp=Z,6.6nm,0.9s
GRF Grafenberg Arr 56.18 309 P **P 14 40 43.0 +1.2**
GRF pmax pmax
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 56.18 309 *e*P **P 14 40 42.6 +0.8**
comp=Z,5.4nm,1.1s,baz=45,slow=6.5
GRFO Grafenberg 56.18 309 P **P 14 40 43.0 +1.2**
GRFO pmax pmax
comp=Z,7.0nm,0.9s
GRFO Grafenberg 56.18 309 P **P 14 40 43.0 +1.2**
GRFO IAmb IAmb 14 40 44.1
comp=Z,6.6nm,0.9s
SOKA Soboth 56.47 305 *e*P **P 14 40 45.4 +1.4**
comp=Z,3.5nm,0.7s
OBKA Obir 56.83 305 *i* P **P 14 40 47.8 +1.3**
comp=Z,5.0nm,0.8s
KBA Koelnbreinsper 57.01 306 *e*P **P 14 40 49.6 +1.7**
comp=Z,9.0nm,1.0s
MYKA Terra Mystica 57.18 305 *e*P **P 14 40 50.2 +1.2**
comp=Z,1.4nm,0.4s
SIJI Sorong 57.25 153 LR LR 15 03 33.2
comp=Z,32nm,21.6s,baz=50,slow=34
ABTA Abfaltersbach 57.65 306 *e*P **P 14 40 52.9 +0.6**
comp=Z,3.4nm,1.3s
WATA Walderalm 57.68 307 *e*P **P 14 40 54.0 +1.4**
comp=Z,3.8nm,0.6s
WTTA Wattenberg 57.70 307 *e*P **P 14 40 54.1 +1.3**
comp=Z,2.7nm,0.7s
MOTA Moosalm 57.90 307 *e*P **P 14 40 55.2 +1.0**
comp=Z,2.1nm,0.5s
STAL STALIGIAL 57.90 306 P **P 14 40 54.0 -0.1**
STAL IAmb IAmb 14 40 54.9
comp=Z,6.8nm,1.0s
RETA Reutte 57.96 308 *e*P **P 14 40 55.6 +1.1**
comp=Z,2.0nm,0.9s
AGG Agios Georgios 58.06 294 P **P 14 40 55.3 0.0**
AGG pmax pmax
comp=Z,8.0nm,0.9s
AGG Agios Georgios 58.06 294 P **P 14 40 55.3 0.0**
ESK Eskdalemuir 58.10 321 P **P 14 40 56.1 +0.8**
ESK pmax pmax
comp=Z,23nm,1.2s
ESK Eskdalemuir 58.10 321 P **P 14 40 56.1 +0.8**
FETA Feichten 58.31 307 *e*P **P 14 40 58.3 +1.3**
comp=Z,3.8nm,0.8s
BFO Black Forest 58.48 310 P **P 14 40 58.6 +0.5**
BFO pmax pmax
comp=Z,8.0nm,1.2s
BFO Black Forest 58.48 310 P **P 14 40 58.6 +0.5**
BFO IAmb IAmb 14 40 59.7
comp=Z,7.6nm,1.2s
WLF Walferdange 58.49 312 P **P 14 40 58.1 0.0**
WLF pmax pmax
comp=Z,15nm,1.4s
WLF Walferdange 58.49 312 P **P 14 40 58.1 0.0**
ANGG Ammassalik, Gr 58.51 345 P **P 14 40 57.5 -0.4**
ANGG IAmb IAmb 14 40 58.3
comp=Z,5.2nm,0.7s
CTI Castel Tesino 58.57 306 P **P 14 40 58.5 -0.3**
CTI pmax pmax
comp=Z,6.0nm,0.8s
CTI Castel Tesino 58.57 306 P **P 14 40 58.5 -0.3**
ECH Echery 59.10 310 P **P 14 41 03.1 +0.7**
ECH pmax pmax
comp=Z,8.0nm,1.2s
ECH Echery 59.10 310 P **P 14 41 03.1 +0.7**
ECH IAmb IAmb 14 41 04.0
comp=Z,7.8nm,1.2s
YKA Yellowknife Ar 59.34 22 P **P 14 41 03.6 -0.2**
comp=Z,1.9nm,0.8s,baz=332,slow=6.3,SNR=13
YKA LR LR 15 10 08.3
comp=Z,17nm,18.5s,baz=0.0,slow=40
YKA Yellowknife Ar 59.34 22 *i* P **P 14 41 03.7 0.0**
YKA pmax pmax

comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 59.34 22 P P 14 41 03.6 -0.2
ITM Ithomi 59.60 292 P P 14 41 05.2 -0.8
NRCA Norcia 60.17 303 P P 14 41 10.8 +0.9
OSSC Osservatorio P 60.60 304 P P 14 41 12.6 -0.2
BNI Bardonecchia 61.67 308 P P 14 41 20.8 +0.7
BNI pmax pmax
comp=Z,5.0nm,1.0s
BNI Bardonecchia 61.67 308 P P 14 41 20.8 +0.7
BNI IAmb IAmb 14 41 22.8
comp=Z,4.9nm,1.0s
NLWA Neilton Lookou 69.87 35 P P 14 42 14.3 +1.5
B08A Colville Reser 70.52 32 P 14 42 17.9 +1.1
B08A IAmb IAmb 14 42 19.1
comp=Z,5.4nm,0.9s
D05A Enumclaw 70.68 34 P P 14 42 19.4 +1.6
ESBB Sonseca Array 70.77 311 P P 14 42 19.0 +0.5
ESBB IAmb IAmb 14 42 20.3
comp=Z,3.9nm,0.8s
ESDC Sonseca Array 70.77 311 P P 14 42 16.2 -2.3
comp=Z,4.2nm,0.8s,baz=30,slow=6.4,SNR=33
ESDC Sonseca Array 70.77 311 P P 14 42 19.2 +0.7
ESDC IAmb IAmb 14 42 20.3
comp=Z,4.4nm,1.0s
PAB San Pablo 71.05 311 P P 14 42 21.1 +0.9
PAB pmax pmax
comp=Z,3.0nm,0.8s
PAB San Pablo 71.05 311 P P 14 42 21.1 +0.9
PAB IAmb IAmb 14 42 21.8
comp=Z,2.7nm,0.8s
LTY Liberty 71.06 33 P P 14 42 21.2 +1.0
LTY IAmb IAmb 14 42 22.2
comp=Z,6.9nm,1.4s
SCHQ Schefferville 71.97 358 P P 14 42 24.5 -0.9
comp=Z,4.1nm,1.0s,baz=23,slow=7.8,SNR=3.7
SCHQ Schefferville 71.97 358 P P 14 42 24.5 -0.9
SCHQ Schefferville 71.97 358 IAmb IAmb 14 42 26.6
comp=Z,4.9nm,1.0s
FITZ Fitzroy Crossi 72.73 164 P P 14 42 30.5 +0.3
FITZ IAmb IAmb 14 42 48.4
comp=Z,8.0nm,1.4s
F10A Beach Ranch, E 73.30 32 P 14 42 35.4 +1.7
F10A IAmb IAmb 14 42 36.3
comp=Z,5.8nm,0.8s
MSO Missoula 73.53 29 P 14 42 35.9 +0.9
MSO IAmb IAmb 14 42 37.4
comp=Z,6.5nm,1.0s
PINE Pine Mountain 74.01 35 P P 14 42 39.9 +2.0
PINE IAmb IAmb 14 42 40.7
comp=Z,3.7nm,0.9s
HRY Holter Researc 74.24 28 P P 14 42 39.5 +0.3
BMO Blue Mountains 74.28 32 P P 14 42 40.3 +0.9
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO Blue Mountains 74.28 32 P P 14 42 40.3 +0.9
BMO IAmb IAmb 14 42 41.8
comp=Z,6.7nm,0.9s
K05A Summer Lake 74.97 36 P P 14 42 45.2 +1.7
J08A Circle Bar Ran 75.23 34 P P 14 42 46.7 +1.8
J08A IAmb IAmb 14 42 47.5
comp=Z,4.2nm,0.8s
DLMT Dillon 75.25 29 P P 14 42 46.3 +1.2
DLMT IAmb IAmb 14 42 47.5
comp=Z,5.3nm,0.9s
MCMT McKenzie Canyo 75.67 29 P P 14 42 48.2 +0.6
GCMT Greycliff 75.68 27 P P 14 42 48.8 +1.3
BCYI Bear Canyon 75.97 30 P P 14 42 50.1 +0.8
MFID Camas Ranch 76.04 32 P 14 42 50.7 +1.2
MDND Maddock 76.11 19 P P 14 42 50.3 +0.6
YHB Horse Butte 76.22 28 P P 14 42 51.4 +0.7
WRA Warramunga Arr 76.33 156 P P 14 42 49.2 -2.0
comp=Z,1.2nm,0.7s,baz=341,slow=4.6,SNR=10
WRA Warramunga Arr 76.33 156 *i* P **P 14 42 51.5 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 76.33 156 P **P 14 42 49.2 -2.0**
HLID Hailey 76.35 31 P 14 42 52.4 +1.1
YNR Norris Junctio 76.39 28 P **P 14 42 52.1 +0.4**
RLMT Red Lodge 76.41 27 P 14 42 53.0 +1.3
RLMT IAmb IAmb 14 42 54.0
comp=Z,5.5nm,1.0s
B35A Bob, Littlefor 76.67 15 P P 14 42 52.6 -0.3
B35A IAmb IAmb 14 42 54.1
comp=Z,3.2nm,0.8s
EYMN Ely 77.41 14 P P 14 42 56.9 -0.2
EYMN IAmb IAmb 14 43 12.0
comp=Z,3.7nm,1.1s
LOHW Long Hollow 77.43 28 P P 14 42 58.2 +0.7
LOHW IAmb IAmb 14 43 00.3
comp=Z,8.9nm,1.4s
TPAW Teton Pass 77.44 29 P 14 42 59.5 +1.8
REDW Red Top Meadow 77.59 29 P P 14 42 58.9 +0.5
REDW IAmb IAmb 14 43 01.3
comp=Z,6.8nm,1.2s
BEKR Beckworth 77.68 37 P P 14 42 59.6 +0.6
BEKR IAmb IAmb 14 43 01.3
comp=Z,8.0nm,1.4s
PDAR Pinedale Array 78.50 28 P P 14 43 03.2 -0.3
comp=Z,0.9nm,0.6s,baz=37,slow=3.5,SNR=8.8
PDAR LR LR 15 23 24.3
comp=Z,31nm,20.1s,baz=349,slow=40
PDAR Pinedale Array 78.50 28 P P 14 43 03.6 +0.1
ELK Elko 78.64 33 P P 14 43 05.6 +1.3
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 78.64 33 P P 14 43 05.6 +1.3
RSSD Black Hills 78.68 24 P P 14 43 04.9 +0.5
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 78.68 24 P 14 43 04.9 +0.5
RSSD IAmb IAmb 14 43 06.1
comp=Z,3.9nm,0.7s
HWUT Hardware Ranch 78.99 30 P P 14 43 07.3 +1.2
F36A Milaca 79.13 16 P P 14 43 06.3 -0.3
F36A IAmb IAmb 14 43 06.8
comp=Z,3.2nm,0.8s
KVN Kaiserville 79.20 36 P P 14 43 08.9 +1.5
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 79.20 36 P 14 43 08.9 +1.5
SUSD Miller 79.50 20 P P 14 43 09.3 +0.6
NVAR Mina Array Bea 79.68 36 P P 14 43 10.1 0.0
comp=Z,0.8nm,0.6s,baz=315,slow=4.1,SNR=7.9
NVAR Mina Array Bea 79.68 36 P P 14 43 11.3 +1.2
ASAR Alice Springs 79.81 157 P P 14 43 07.8 -2.6
comp=Z,1.2nm,0.8s,baz=352,slow=5.1,SNR=18
ASAR Alice Springs 79.81 157 P P 14 43 10.9 +0.5
ASAR Alice Springs 79.81 157 P P 14 43 10.9 +0.5
DUG Dugway, Tooele 79.91 31 P P 14 43 12.5 +1.4
DUG pmax pmax
comp=Z,5.0nm,1.1s
DUG Dugway, Tooele 79.91 31 P P 14 43 12.5 +1.4
NLU North Lily Min 80.35 31 P 14 43 14.8 +1.2
NLU IAmb IAmb 14 43 23.0
comp=Z,4.6nm,1.0s
SPR3 Spring Creek 3 80.51 33 P 14 43 16.1 +1.4
RDMU Red Mountain 80.53 29 P P 14 43 15.9 +1.3
ECSD EROS Data Cent 80.64 19 P P 14 43 15.0 +0.1
ECSD IAmb IAmb 14 43 16.1
comp=Z,4.7nm,1.0s
P17A Butcher Ranch, 81.20 30 P P 14 43 19.0 +0.9
P17A IAmb IAmb 14 43 20.5
comp=Z,5.1nm,0.9s
O20A White River Ci 81.31 28 P 14 43 19.8 +1.0
O20A IAmb IAmb 14 43 21.0
comp=Z,6.3nm,0.8s
SMCO Snowmass 82.56 28 P 14 43 26.8 +1.2
PV07 Paradox Valley 82.77 29 P P 14 43 27.5 +1.0
PV07 IAmb IAmb 14 43 30.1
comp=Z,3.2nm,0.7s
SDCO Great Sand Dun 84.30 27 P P 14 43 35.2 +0.7
SDCO IAmb IAmb 14 43 36.4
comp=Z,3.5nm,0.9s
ANMO Albuquerque 86.66 29 *ce* P **P 14 43 48.0 +1.9**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
ANMO Albuquerque 86.66 29 P 14 43 46.8 +0.7
ANMO IAmb IAmb 14 43 48.8
comp=Z,2.8nm,1.0s
TORD Torodi Ar. Bea 89.59 292 P P 14 43 58.7 -1.4
comp=Z,1.7nm,0.9s,baz=28,slow=3.9,SNR=5.4
TORD Torodi Ar. Bea 89.59 292 P 14 43 59.8 -0.2
TORD IAmb IAmb 14 44 11.4
comp=Z,2.6nm,0.9s

TXAR Lajitas Array 92.72 28 P P 14 44 14.7 +0.1
comp=Z,0.1nm,0.5s,baz=35,slow=3.3,SNR=1.8
TXAR Lajitas Array 92.72 28 P P 14 44 14.7 +0.1
SNAA Sanae 146.25 212 PKPdf PKPdf 14 50 41.0 +0.8
VNA1 Neumayer--Stat 147.97 214 PKPdf PKPbc 14 50 46.1 +0.1
VNA3 Neumayer Olymp 148.43 213 PKPdf PKPbc 14 50 47.1 -0.2
CPUP Villa Florida 151.03 334 PKPbc PKPbc 14 50 53.5 -1.5
comp=Z,1.5nm,0.5s,baz=36,slow=5.5,SNR=4.6

*ECX **21** 14:54:36.2±0.6, 31.80N×116.37W, h6km±4km, MD1.6, ML1.8*
*MEX **21** 14:54:36.9±0.6, 31.73N×116.57W, h16km±218km, MD3.6*
ISC 21 14:54:34.3±1.1, 31.77N±0.06×116.46W±0.07,
h30km±10km, n12, σ0.945/23, 2C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCX	**Cicese**	**0.20**	**300**	⇑ *i* P	**Pn**	**14 54 41.2**	**0.0**
CCX				*i* S	**Sb**	**14 54 44.9**	**+0.3**
CBX	**Cerro Bola**	**0.57**	**343**	*e* P	**Pn**	**14 54 46.4**	**-0.1**
CBX				*e* S	**Sn**	**14 54 54.0**	**-0.8**
CBX	**Cerro Bola**	**0.57**	**343**	*e* P	**Pn**	**14 54 46.5**	**+0.1**
CBX				*e* S	**Sn**	**14 54 54.3**	**-0.5**
CBX				⇓ *e*		14 54 55.3	
CBX				IAML		14 54 55.3	
	comp=N,89nm,0.2s						
CBX				⇓ *e*		14 54 55.3	
CBX				IAML		14 54 55.3	
	comp=E,65nm,0.2s						
TJIG	**Tijuana**	**0.69**	**345**	*e* P	**Pn**	**14 54 48.1**	**+0.2**
TJIG				*e* S	**Sn**	**14 54 57.3**	**-0.3**
TJIG	**Tijuana**	**0.69**	**345**	*e* P	**Pn**	**14 54 48.3**	**+0.4**
TJIG				*e* S	**Sn**	**14 54 57.3**	**-0.3**
BAR	**Barrett**	**0.92**	**349**	*e* P	**Pn**	**14 54 52.3**	**+1.1**
BAR				*i* S	**Sn**	**14 55 04.3**	**+0.7**
YUH2	**Yuha Desert**	**0.99**	**28**	*e* S	**Sn**	**14 55 05.2**	**+0.2**
SPIG	**San Pedro Mart**	**1.12**	**130**	*e* P	**Pb**	**14 54 55.1**	**-0.1**
SPIG				*e* S	**Sn**	**14 55 08.9**	**+0.2**
SPIG	**San Pedro Mart**	**1.12**	**130**	*e* P	**Pb**	**14 54 55.0**	**-0.2**
SPIG				*e* S	**Sb**	**14 55 09.7**	**+0.1**
SPX	**San Pedro Mart**	**1.12**	**130**	⇑ *e* P	**Pb**	**14 54 55.1**	**-0.2**
SPX				*e* S	**Sn**	**14 55 09.1**	**+0.3**
SPX	**San Pedro Mart**	**1.12**	**130**	*e* P	**Pb**	**14 54 55.3**	**0.0**
SPX				*e* S	**Sb**	**14 55 09.4**	**-0.3**
ECBX	**El Chinero**	**1.24**	**103**	*e* P	**Pb**	**14 54 56.8**	**-0.2**
ECBX				*e* S	**Sb**	**14 55 12.1**	**-0.6**

*IDC **21** 15:16:31.9±0.5, 30.46N×141.53E, h0km, mb4.2/27, mb1 4.3/32, mb1mx4.2/50, mbtmp4.2/32, ML3.7/4, MS3.5/13, Ms1 3.5/13, ms1mx3.3/32, Error ellipse: s-maj=16.4km s-min=13.3km az=78.0*
*JMA **21** 15:16:32.9±0.3, 30.76N×141.86E, h0km, M4.4*
*NIED **21** 15:16:32.9, 30.76N×141.86E, h0km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 1015Nm; Mrr-0.43; Mθθ-1.81; Mϕϕ2.24; Mrθ-1.04; Mθϕ3.63; Mϕr0.69; Fault plane solution: M0 4.35000×10^15 NP1: ϕs167.00000°, δ78.00000°, λ-167.00000°. NP2: ϕs74.00000°, δ77.00000°, λ-12.00000°.*
*BJI **21** 15:16:33.0±0.0, 30.37N×141.87E, h44km, mB4.7/22, mb4.5/36, Ms4.0/16, Ms7 3.9/16*
*NEIC **21** 15:16:37.6±2.0, 30.51N±0.06×141.58E±0.07, h32km±5km, mb4.5/76, Error ellipse: s-maj=11.5km s-min=4.9km az=222.0*
ISC 21 15:16:36.3±0.5, 30.60N±0.06×141.65E±0.06, h28km, n172,
σ1.988/180, mb4.5/68, MS3.8/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.93**	**328**	P	**Pn**	**15 17 21.7**	**+0.7**
JHJ2	**Mitsune**	**2.95**	**329**	P	**Pn**	**15 17 21.8**	**+0.5**
JHJ2	**Mitsune**	**2.95**	**329**	Pn	**Pn**	**15 17 21.4**	**+0.1**
JHJ	**Hachijo jima 2**	**2.97**	**328**	Pn	**Pn**	**15 17 21.5**	**-0.1**
	7.6nm,0.3s,baz=128,slow=23,SNR=12						
JHJ				Sn	**Sn**	**15 17 53.6**	**-2.8**
	44nm,0.3s,baz=71,slow=16,SNR=4.8						
JCJ	**Chichijima**	**3.52**	**172**	Pn	**Pn**	**15 17 27.5**	**-1.7**
	30nm,0.3s,baz=283,slow=21,SNR=10.0						
JCJ				Sn	Sn	15 18 02.0	-7.9
	16nm,0.3s,baz=294,slow=23,SNR=1.8						
JCJ				LR	LR	15 18 44.7	
	comp=Z,851nm,19.6s,baz=124,slow=39						
JMKN	**Mikurajimanish**	**3.72**	**333**	P	**Pn**	**15 17 32.3**	**+0.4**
JMKN				eS	**Sn**	**15 18 16.7**	**+1.9**
BSO1	**Boso 1**	**4.09**	**352**	P	**Pn**	**15 17 37.4**	**+1.0**
JIM2	**Oshima 3**	**4.51**	**336**	P	**Pn**	**15 17 43.0**	**+0.1**
JIM2				S	**Sn**	**15 18 35.2**	**+0.8**
HMMJ	**Hamamatsu 2**	**5.38**	**323**	P	**Pn**	**15 17 57.2**	**+2.4**
JHU	**Hanno**	**5.60**	**340**	P	**Pn**	**15 17 58.3**	**+0.5**
JHU				eS	**Sn**	**15 19 01.6**	**+0.4**
JIE	**Ise**	**5.63**	**313**	S	**Sn**	**15 19 06.4**	**+4.4**
JNY	**Yasuok**	**5.72**	**327**	P	**Pn**	**15 18 02.3**	**+2.9**
JYT	**Yasato**	**5.75**	**348**		**Pn**	**15 18 00.8**	**+1.1**
JRY	**Ryogami san**	**5.87**	**338**	S	**Sn**	**15 19 10.7**	**+2.7**
JAO	**Obara**	**5.94**	**323**	P	**Pn**	**15 18 05.4**	**+2.9**
JHO	**Hitachi**	**6.07**	**352**	P	**Pn**	**15 18 04.4**	**+0.3**
JAG	**Ashikaga**	**6.10**	**343**	P	**Pn**	**15 18 05.5**	**+1.0**
INU	**Inuyama**	**6.13**	**322**		**Pn**	**15 18 07.7**	**+2.6**
JGF	**Kuroka**	**6.15**	**325**		**Pn**	**15 18 07.9**	**+2.5**
MJAR	**Matsushiro Arr**	**6.59**	**335**	Pn	**Pn**	**15 18 12.4**	**+1.1**
	0.6nm,0.3s,baz=157,slow=10,SNR=26						
MJAR				LR	LR	15 20 37.1	
	comp=Z,412nm,18.6s,baz=135,slow=37						
MJAR	**Matsushiro Arr**	**6.59**	**335**	Pn	**Pn**	**15 18 13.0**	**+1.7**
MAJO	**Matsushiro**	**6.59**	**335**		**Pn**	**15 18 13.3**	**+1.9**
MAT	**Matsushiro**	**6.59**	**335**	P	**Pn**	**15 18 13.7**	**+2.4**
MAT				eS	**Sn**	**15 19 29.2**	**+3.7**
MJB9	**Matsu-Tunnel**	**6.59**	**335**		**Pn**	**15 18 13.5**	**+2.1**
JWT	**Wachi**	**7.03**	**313**		**Pn**	**15 18 20.3**	**+2.9**
JMM	**Marumori**	**7.29**	**355**		**Pn**	**15 18 21.1**	**+0.2**
JMN	**Monobe**	**7.29**	**297**	Pn	**Pn**	**15 18 23.6**	**+2.6**
JSD	**Sado**	**7.93**	**340**	Pn	**Pn**	**15 18 30.4**	**+0.6**
JTM	**Tenmabayashi**	**10.18**	**358**	Pn	**Pn**	**15 19 00.9**	**+0.4**
ERM	**Erimo**	**11.46**	**6**	Pn	**Pn**	**15 19 16.2**	**-1.9**
JEW	**Eniwo**	**12.22**	**359**	Pn	**Pn**	**15 19 28.9**	**+0.5**
JOW	**Kunigami**	**12.32**	**256**	LR	LR	15 23 18.2	
	comp=Z,230nm,21.9s,baz=120,slow=33						
KSRS	**Korea Array**	**13.27**	**305**	Pn	**Pn**	**15 19 45.7**	**+2.9**
	0.2nm,0.3s,baz=108,slow=13,SNR=20						
KSRS				LR	LR	15 25 04.0	
	comp=Z,293nm,18.1s,baz=123,slow=38						
KSAR	**Wonju Array Be**	**13.29**	**305**	Pn	**Pn**	**15 19 46.8**	**+3.6**
KS19	**Wonju Array Si**	**13.33**	**305**		**Pn**	**15 19 46.1**	**+2.4**
JKA	**Kamikawa-asahi**	**13.52**	**3**	Pn	**Pn**	**15 19 44.6**	**-1.6**
JKA	**Kamikawa-asahi**	**13.52**	**3**		**Sn**	**15 22 10.1**	**-5.3**
ASAJ	**Asahikawa**	**13.52**	**3**	Pn	**Pn**	**15 19 45.0**	**-1.1**
	0.9nm,0.3s,baz=215,slow=9.7,SNR=14						
ASAJ				Sn	**Sn**	**15 22 10.1**	**-5.3**
	0.1nm,0.3s,baz=325,slow=32,SNR=0.9						
USRK	**Ussuriysk Ar.**	**15.58**	**333**	Pn	**Pn**	**15 20 13.0**	**-0.9**
	baz=167,slow=12,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**16.36**	**3**	Pn	**Pn**	**15 20 24.1**	**+0.3**
MDJ	**Mudanjiang**	**16.92**	**329**	P	**P**	**15 20 33.6**	**+0.9**
CN2	**Changchun**	**18.40**	**320**	*e* P	**P**	**15 20 49.1**	**0.0**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				L	L		
	comp=N,200nm,12.0s						
CN2				L	L		
	comp=E,200nm,12.0s						
CN2				L	L		
	comp=Z,200nm,15.0s						
NACB	**Ninganchiao**	**18.91**	**255**	P	**P**	**15 20 55.1**	**+0.3**
YULB	**Yu-li**	**19.49**	**253**	P	**P**	**15 21 01.3**	**+0.1**
NJ2	**Nanjing**	**19.52**	**280**	*e* P	**P**	**15 21 01.3**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KLR	**Kul'dur**	**20.07**	**341**	P	**P**	**15 21 07.7**	**+0.4**
	2.1nm,0.3s,baz=147,slow=11,SNR=17						
BJI	**Beijing**	**22.76**	**301**	P	**P**	**15 21 34.4**	**-1.9**
BJI				pP	**sP**	**15 21 45.8**	**-0.4**
BJI				sP	**pwP**	**15 21 50.5**	**+3.3**
BJI				S	**S**	**15 25 34.3**	**-9.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI				L	L		
	comp=N,82nm,12.1s						
BJI				L	L		
	comp=E,230nm,16.3s						
BJI				L	L		

comp=Z,290nm,19.8s
HIA Hailar 24.95 325 P P 15 21 56.4 -0.8
H11N2 WAKE ISLAND Hy 25.23 109 T T 15 48 13.6
baz=300,slow=75,SNR=33
H11N1 WAKE ISLAND Hy 25.23 110 T T 15 48 19.0
baz=300,slow=75,SNR=27
H11N3 WAKE ISLAND Hy 25.25 109 T T 15 48 19.2
baz=300,slow=75,SNR=28
H11S3 WAKE ISLAND Hy 25.70 112 T T 15 48 47.5
baz=304,slow=74,SNR=54
H11S1 WAKE ISLAND Hy 25.70 112 T T 15 48 47.8
baz=304,slow=74,SNR=60
H11S2 WAKE ISLAND Hy 25.72 112 T T 15 48 52.8
baz=304,slow=74,SNR=47
HHC Hu-ho-hao-te 26.36 301 *e* P **P 15 22 10.3 +0.1**
HHC S **S 15 26 35.8 -6.0**
HHC SS **SnSn 15 27 50.9 +7.8**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,69nm,3.9s
HHC L L
comp=N,220nm,14.2s
HHC L L
comp=E,280nm,13.0s
HHC L L
comp=Z,320nm,13.0s
ULN Ulaanbaatar 31.53 313 P P 15 22 54.6 -1.5
ULN IAmb IAmb 15 22 58.2
comp=Z,3.9nm,0.7s
LZH Lanzhou 31.91 290 *e* P **P 15 22 58.3 -1.4**
LZH pP pP 15 23 08.0 +1.1
LZH sP pwP 15 23 16.0 +4.8
LZH pmax pmax
comp=Z,22nm,1.1s
SONM Songino Array 31.93 313 P P 15 22 59.6 0.0
comp=Z,3.4nm,0.8s,baz=115,slow=8.4,SNR=14
SONM LR LR 15 36 16.8
comp=Z,76nm,18.7s,baz=95,slow=37
SONM Songino Array 31.93 313 P P 15 22 58.0 -1.7
TLY Talaya 34.98 318 P P 15 23 26.1 +0.1
TLY IAmb IAmb 15 23 29.4
comp=Z,5.7nm,1.0s
GTA Gaotai 35.12 296 *e* P **P 15 23 26.4 -1.1**
GTA pP pP 15 23 36.4 +1.6
GTA sP pwP 15 23 40.3 +1.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,61nm,5.1s
GTA L L
comp=Z,120nm,17.4s
GTA L L
comp=Z,170nm,17.8s
GTA L L
comp=Z,190nm,17.1s
CHAI Chaiyaphum 39.05 257 P P 15 24 00.4 -0.5
comp=Z,15nm,0.8s
PAYA Payao 39.29 263 P P 15 23 51.1 -12
CMAR Chiang Mai Arr 40.46 263 P P 15 24 10.6 -2.1
comp=Z,0.4nm,0.7s,baz=45,slow=7.8,SNR=2.6
CMAR LR LR 15 40 57.2
comp=Z,31nm,20.1s,baz=134,slow=36
TIXI Tiksi 41.69 354 P P 15 24 21.0 -1.1
comp=Z,1.5nm,0.5s,baz=152,slow=9.8,SNR=2.0
WMQ Urumqi 44.22 303 *e* P **P 15 24 45.0 +1.9**
MTN Manton Dam 44.36 195 P P 15 24 43.2 -1.1
ZALV Zalesovo Beam 46.58 317 P P 15 25 00.8 -0.7
comp=Z,1.4nm,0.5s,baz=88,slow=11,SNR=3.6
ZALV PcP **PcP 15 26 36.3 +1.0**
comp=Z,0.7nm,0.3s,baz=60,slow=3.6,SNR=3.5
MK31 Makanchi Array 47.94 307 P P 15 25 11.6 -0.7
MK31 IAmb IAmb 15 25 13.9
comp=Z,4.4nm,1.0s
MKAR Makanchi Array 47.94 307 P P 15 25 11.8 -0.5
comp=Z,3.8nm,0.8s,baz=91,slow=9.0,SNR=33
MKAR PcP **PcP 15 26 41.9 +1.6**
comp=Z,0.4nm,0.7s,baz=90,slow=5.8,SNR=2.1
MKAR Makanchi Array 47.94 307 P P 15 25 11.7 -0.6
MAKZ Makanchi 48.15 307 P P 15 25 13.5 -0.5
MAKZ IAmb IAmb 15 25 15.9
comp=Z,7.2nm,1.2s
RDOG Red Dog Mine 49.22 24 P P 15 25 21.7 -0.1
RDOG IAmb IAmb 15 25 25.5
comp=Z,4.5nm,1.0s
NRIK Noril'sk 49.23 338 P P 15 25 22.8 +0.9
comp=Z,2.0nm,0.4s,baz=135,slow=11,SNR=2.6
WR0 Warramunga Arr 50.73 189 P P 15 25 31.2 -2.6
WB2 Warramunga Arr 50.73 189 P P 15 25 31.0 -2.8
WRA Warramunga Arr 50.74 189 P P 15 25 31.3 -2.5
comp=Z,0.6nm,0.3s,baz=4.9,slow=7.5,SNR=25
WRA PcP **PcP 15 26 51.1 +0.4**
comp=Z,0.5nm,0.6s,baz=2.5,slow=4.1,SNR=1.4
WRA Warramunga Arr 50.74 189 P P 15 25 31.2 -2.6
KDAK Kodiak Island 51.89 38 P P 15 25 42.4 +0.3
comp=Z,4.9nm,0.9s,baz=279,slow=8.5,SNR=7.7
KDAK Kodiak Island 51.89 38 P P 15 25 42.6 +0.6
KDAK IAmb IAmb 15 25 43.8
comp=Z,6.7nm,1.1s
A21K Barrow 52.34 21 P P 15 25 47.1 +1.9
A21K IAmb IAmb 15 25 48.5
comp=Z,6.9nm,0.9s
BPAW Bear Paw Mtn. 53.08 30 P P 15 25 52.2 +1.4
MLY Manley 53.28 29 P P 15 25 54.0 +1.6
MLY IAmb IAmb 15 25 55.3
comp=Z,3.6nm,0.9s
NEA2 Nenana 53.95 30 P P 15 25 58.7 +1.5
MCK McKinley 53.95 31 P P 15 25 57.6 +0.3
MCK IAmb IAmb 15 25 58.7
comp=Z,7.9nm,1.3s
RND Reindeer 53.97 31 P P 15 25 58.2 +0.7
RND IAmb IAmb 15 25 59.6
comp=Z,4.5nm,0.9s
KNK Knik Glacier 54.09 34 P P 15 25 59.4 +1.1
SML Sawmill 54.15 33 P P 15 25 59.9 +1.1
TOLK Toolik Lake Re 54.16 25 P P 15 25 59.9 +1.2
TOLK IAmb IAmb 15 26 01.7
comp=Z,3.5nm,0.9s
MDM Murphy Dome 54.33 30 P P 15 26 01.4 +1.4
MDM IAmb IAmb 15 26 02.8
comp=Z,5.3nm,0.9s
ASAR Alice Springs 54.46 189 P P 15 25 59.4 -2.0
comp=Z,0.7nm,0.4s,baz=0.7,slow=5.7,SNR=53
POKR Poker Flat Res 54.68 29 P P 15 26 04.4 +1.9
POKR IAmb IAmb 15 26 05.9
comp=Z,3.1nm,0.8s
HDA Harding Lake 54.86 30 P P 15 26 03.8 0.0
IL31 54.90 30 P P 15 26 04.0 0.0
IL31 IAmb IAmb 15 26 05.6
comp=Z,3.4nm,0.9s
ILAR Eielson Array 54.90 30 P P 15 26 04.8 +0.7
comp=Z,2.4nm,0.9s,baz=264,slow=6.1,SNR=30
ILAR Eielson Array 54.90 30 P P 15 26 04.3 +0.2
EYAK Cordova Ski Ar 55.41 35 P P 15 26 09.3 +1.5
EYAK IAmb IAmb 15 26 10.8
comp=Z,6.0nm,1.1s
FYU Fort Yukon 55.65 28 P P 15 26 11.8 +2.4
FYU IAmb IAmb 15 26 14.5
comp=Z,6.2nm,1.1s
BMAR Burnt Mountain 55.93 27 P P 15 26 13.6 +2.1
BMRM Bremner River 55.96 34 P P 15 26 13.5 +1.7
BMRM IAmb IAmb 15 26 17.0
comp=Z,5.1nm,0.9s
SCRK Sand Creek 56.15 31 P P 15 26 13.9 +0.6
SCRK IAmb IAmb 15 26 15.9
comp=Z,4.3nm,1.0s
GLB Gilahina Butte 56.32 34 P P 15 26 15.9 +1.5
KK31 Karatay Array 56.70 304 P P 15 26 17.1 -0.3
KK31 IAmb IAmb 15 26 18.4
comp=Z,5.8nm,0.8s
KKAR Karatay Array 56.70 304 P P 15 26 17.1 -0.3
KKAR Karatay Array 56.70 304 P P 15 26 17.0 -0.4
KKAR IAmb IAmb 15 26 18.4
comp=Z,5.8nm,0.8s
K27K Chicken 56.99 31 P P 15 26 20.7 +1.7
K27K IAmb IAmb 15 26 22.5
comp=Z,6.0nm,1.0s
L27K Beaver Creek, 57.15 32 P P 15 26 21.9 +1.6
L27K IAmb IAmb 15 26 23.7
comp=Z,5.3nm,0.9s
BCAR Beaver Creek A 57.17 32 P P 15 26 22.2 +1.8
EGAK Eagle 57.35 30 P P 15 26 22.4 +0.8
GRNC Granite Creek 57.37 35 P P 15 26 22.0 -0.1
GRNC IAmb IAmb 15 26 24.3
comp=Z,5.0nm,1.0s

BARN	**Barnard Glacie**	**57.38**	**34**	P	**P**	**15 26 22.7**	**+0.6**
CHGR	**Chuyangaron**	**58.79**	**299**	P	**P**	**15 26 31.1**	**-1.1**
HYT	**Haines Junctio**	**59.42**	**34**	P	**P**	**15 26 37.5**	**+1.2**
INK	**Inuvik**	**60.06**	**25**	P	**P**	**15 26 41.3**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=285,slow=7.9,SNR=8.9						
INK	**Inuvik**	**60.06**	**25**	P	**P**	**15 26 40.8**	**+0.4**
INK				IAmb	IAmb	15 26 43.4	
	comp=Z,4.6nm,1.1s						
ARU	**Arti**	**61.40**	**321**	P	**P**	**15 26 49.3**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=93,slow=4.6,SNR=4.0						
ARU	**Arti**	**61.40**	**321**	P	**P**	**15 26 49.3**	**-0.4**
STKA	**Stephens Creek**	**62.13**	**180**	LR	LR	15 53 13.5	
	comp=Z,62nm,20.5s,baz=26,slow=36						
ABKAR	**Akbulak array**	**62.35**	**313**	P	**P**	**15 26 55.7**	**-0.4**
ABKAR	**Akbulak array**	**62.35**	**313**	P	**P**	**15 26 55.4**	**-0.8**
ABKAR				IAmb	IAmb	15 26 58.0	
	comp=Z,4.3nm,0.8s						
C36M	**Paulatuk**	**63.21**	**23**	P	**P**	**15 27 02.3**	**+0.7**
AKTO	**Aktyubinsk**	**63.22**	**315**	P	**P**	**15 27 01.5**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=74,slow=10,SNR=4.5						
DIB	**Dawson Inlet,**	**63.78**	**42**	P	**P**	**15 27 07.6**	**+2.1**
KIRV	**Kirov**	**65.55**	**325**	P	**P**	**15 27 19.2**	**+2.1**
	comp=Z,8.9nm,0.6s,baz=34,slow=2.3,SNR=3.5						
GEYT	**Alibeck**	**67.24**	**302**	P	**P**	**15 27 28.4**	**0.0**
	comp=Z,3.2nm,0.8s,baz=37,slow=9.8,SNR=4.3						
YKA	**Yellowknife Ar**	**69.30**	**29**	P	**P**	**15 27 41.4**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=294,slow=5.4,SNR=11						
ARCES	**ARCESS Array B**	**70.09**	**340**	P	**P**	**15 27 46.3**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=45,slow=7.0,SNR=4.9						
ARCES				LR	LR	16 03 39.1	
	comp=Z,50nm,18.2s,baz=85,slow=40						
ARCES	**ARCESS Array B**	**70.09**	**340**	P	**P**	**15 27 46.9**	**+1.3**
NLWA	**Neilton Lookou**	**70.99**	**46**	P	**P**	**15 27 52.9**	**+1.5**
H04A	**Detroit Lake**	**73.21**	**48**	P	**P**	**15 28 06.4**	**+1.6**
H04A				IAmb	IAmb	15 28 06.9	
	comp=Z,6.6nm,1.0s						
B08A	**Colville Reser**	**73.31**	**43**	P	**P**	**15 28 06.8**	**+1.5**
B08A				IAmb	IAmb	15 28 07.8	
	comp=Z,4.9nm,0.9s						
PINE	**Pine Mountain**	**74.41**	**48**	P	**P**	**15 28 14.1**	**+2.1**
FIA1	**FINESS Array S**	**74.61**	**333**	P	**P**	**15 28 12.8**	**+0.2**
FIA1				IAmb	IAmb	15 28 13.3	
	comp=Z,7.2nm,1.2s						
FINES	**FINESS Array B**	**74.61**	**333**	P	**P**	**15 28 13.1**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=71,slow=5.1,SNR=13						
FINES				LR	LR	16 03 25.8	
	comp=Z,39nm,19.2s,baz=36,slow=38						
NEW	**Newport**	**74.66**	**43**	P	**P**	**15 28 14.3**	**+1.1**
NEW				IAmb	IAmb	15 28 16.1	
	comp=Z,5.5nm,0.9s						
E09A	**Wood Farm, Sta**	**74.89**	**45**	P	**P**	**15 28 16.4**	**+1.9**
KBZ	**Khabaz**	**75.30**	**312**	P	**P**	**15 28 17.7**	**+0.9**
	comp=Z,6.9nm,0.9s,baz=94,slow=2.3,SNR=13						
ORV	**Oroville**	**76.01**	**52**	P	**P**	**15 28 22.0**	**+0.9**
ORV				IAmb	IAmb	15 28 23.5	
	comp=Z,4.8nm,1.2s						
WALA	**Waterton Lakes**	**76.11**	**41**	P	**P**	**15 28 23.3**	**+1.7**
WALA				IAmb	IAmb	15 28 24.3	
	comp=Z,4.9nm,0.8s						
BMO	**Blue Mountains**	**76.20**	**46**	P	**P**	**15 28 23.9**	**+1.7**
JTMT	**Jette**	**76.57**	**42**	P	**P**	**15 28 25.7**	**+1.4**
BEKR	**Beckworth**	**76.64**	**52**	P	**P**	**15 28 25.9**	**+1.0**
BEKR				IAmb	IAmb	15 28 27.4	
	comp=Z,3.7nm,0.8s						
AFDM	**Forest Hills D**	**76.66**	**53**	P	**P**	**15 28 25.8**	**+1.0**
AFDM				IAmb	IAmb	15 28 37.2	
	comp=Z,5.0nm,1.4s						
MSO	**Missoula**	**77.24**	**43**	P	**P**	**15 28 29.1**	**+1.1**
MSO				IAmb	IAmb	15 28 31.3	
	comp=Z,3.6nm,1.1s						
CMB	**Columbia Colle**	**77.50**	**53**	P	**P**	**15 28 30.1**	**+0.5**
YERR	**Yerington**	**77.83**	**52**	P	**P**	**15 28 32.8**	**+1.2**
YERR				IAmb	IAmb	15 28 33.9	
	comp=Z,3.1nm,0.9s						
MFID	**Camas Ranch**	**77.84**	**47**	P	**P**	**15 28 31.9**	**+0.5**
MFID				IAmb	IAmb	15 28 34.2	
	comp=Z,5.0nm,0.9s						
WAKR	**Walker**	**77.93**	**52**	P	**P**	**15 28 33.3**	**+1.2**
WAKR				IAmb	IAmb	15 28 36.8	
	comp=Z,9.6nm,1.4s						
MNK	**Minsk**	**77.95**	**327**	*i* P	**P**	**15 28 29.7**	**-2.0**
	comp=E,3.0nm,1.0s						
MNK				*i* P	**P**	**15 28 29.7**	**-2.0**
	comp=N,6.0nm,0.8s						
MNK				*i* P	**P**	**15 28 29.7**	**-2.0**
	comp=Z,5.0nm,0.8s,baz=234						
MNK				*i* PcP	**pP**	**15 28 40.1**	**+0.7**
MNK				*i* PP	**PP**	**15 31 23.9**	**-3.4**
MNK				*i* LRM	MLR	16 04 45.9	
	comp=Z,47nm,20.4s						
MNK				*i* LRM	MLR	16 04 59.9	
	comp=N,70nm,22.2s						
MNK				*i* LRM	MLR	16 05 08.2	
	comp=E,3.0nm,13.4s						
KVN	**Kaiserville**	**78.56**	**51**	P	**P**	**15 28 36.9**	**+1.3**
LRM	**Limekiln Ridge**	**78.65**	**43**	P	**P**	**15 28 37.4**	**+1.3**
HLID	**Hailey**	**78.65**	**46**	P	**P**	**15 28 37.5**	**+1.5**
NVAR	**Mina Array Bea**	**78.74**	**52**	P	**P**	**15 28 38.0**	**+1.3**
	comp=E,1.8nm,0.8s,baz=281,slow=6.1,SNR=10						
NVAR				LR	LR	15 57 35.7	
	comp=E,22nm,19.9s,baz=263,slow=31						
NVAR	**Mina Array Bea**	**78.74**	**52**	P	**P**	**15 28 38.2**	**+1.6**
DLMT	**Dillon**	**78.81**	**44**	P	**P**	**15 28 38.3**	**+1.5**
BCYI	**Bear Canyon**	**78.88**	**45**	P	**P**	**15 28 38.6**	**+1.3**
MCMT	**McKenzie Canyo**	**78.94**	**44**	P	**P**	**15 28 38.7**	**+1.0**
FFC	**Flin Flon**	**79.03**	**32**	P	**P**	**15 28 38.6**	**+1.0**
FFC				IAmb	IAmb	15 28 39.5	
	comp=Z,6.6nm,0.9s						
AKASG	**Malin Array Be**	**79.53**	**323**	P	**P**	**15 28 40.5**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=50,slow=5.7,SNR=8.4						
AKASG	**Malin Array Be**	**79.53**	**323**	P	**P**	**15 28 40.0**	**-0.5**
AKBB	**Malin Array Si**	**79.53**	**323**	P	**P**	**15 28 40.0**	**-0.5**
ELK	**Elko**	**79.59**	**49**	P	**P**	**15 28 41.3**	**0.0**
TPH	**Tonopah**	**79.65**	**52**	P	**P**	**15 28 42.8**	**+1.2**
QLMT	**Earthquake Lak**	**79.79**	**44**	P	**P**	**15 28 44.2**	**+2.0**
HFS	**Hagfors**	**80.04**	**336**	P	**P**	**15 28 43.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=177,slow=36,SNR=2.3						
NOA	**NORSAR Array B**	**80.20**	**338**	P	**P**	**15 28 44.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=41,slow=5.3,SNR=5.7						
NOA				LR	LR	16 07 27.6	
	comp=Z,48nm,19.7s,baz=40,slow=38						
PDAR	**Pinedale Array**	**82.06**	**45**	P	**P**	**15 28 55.3**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=282,slow=2.9,SNR=7.2						
BRTR	**Keskin Array B**	**83.29**	**312**	P	**P**	**15 29 01.3**	**+0.5**
	comp=Z,4.8nm,0.9s,baz=100,slow=4.3,SNR=24						
BRTR				LR	LR	16 08 28.1	
	comp=Z,27nm,20.5s,baz=81,slow=37						
ULM	**Lac du Bonnet**	**84.78**	**33**	LR	LR	16 04 57.7	
	comp=Z,12nm,22.0s,baz=226,slow=34						
TXAR	**Lajitas Array**	**93.88**	**53**	P	**P**	**15 29 53.6**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=295,slow=2.8,SNR=30						
TXAR	**Lajitas Array**	**93.88**	**53**	P	**P**	**15 29 53.2**	**+1.5**
LPAZ	**La Paz**	**149.31**	**69**	PKPbc	**PKPbc**	**15 36 24.3**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=28,slow=13,SNR=6.2						

*IDC **21** 15:47:11.4±2.7, 41.07°N×13.45°E, h430km±36km, mb2.6/5, mb1 2.7/9, mb1mx2.5/40, mbtmp3.5/9, Error ellipse: s-maj=39.5km s-min=20.3km az=107.0*

ISC 21 15:47:09.5±1.2, 41.0°N±0.1×13.6°E±0.2, h400km, n9, σ1°35/9, mb3.0/4, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**6.40**	**336**	P	**Pn**	**15 48 46.3**	**-0.3**
	0.3nm,0.3s,baz=144,slow=19,SNR=3.0						
GERES	**GERESS Array B**	**7.88**	**0**	P	**P**	**15 49 05.6**	**+2.2**
	0.2nm,0.3s,baz=170,slow=7.9,SNR=6.5						
EKA	**Eskdalemuir Ar**	**18.14**	**328**	P	**P**	**15 50 55.5**	**+0.4**
	baz=142,slow=10,SNR=6.8						
HFS	**Hagfors**	**19.19**	**0**	P	**P**	**15 51 04.0**	**-1.9**
	0.3nm,0.3s,baz=178,slow=10,SNR=7.5						
NOA	**NORSAR Array B**	**20.15**	**357**	P	**P**	**15 51 14.4**	**-0.5**
	0.3nm,0.4s,baz=176,slow=9.7,SNR=6.3						
FINES	**FINESS Array B**	**21.87**	**16**	P	**P**	**15 51 30.0**	**-0.5**
	1.2nm,0.8s,baz=194,slow=9.5,SNR=7.1						
ARCES	**ARCESS Array B**	**29.31**	**9**	P	**P**	**15 52 35.3**	**-1.3**
	0.6nm,0.7s,baz=191,slow=9.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**29.61**	**204**	P	**P**	**15 52 40.0**	**+0.1**
	0.5nm,0.6s,baz=13,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**48.42**	**59**	P	**P**	**15 55 13.2**	**+0.1**
	0.2nm,0.5s,baz=263,slow=5.5,SNR=3.2						

*JMA **21** 16:18:37.9±0.1, 24.53°N×122.02°E, h72km±1km, M2.5*

*TAP **21** 16:18:38.3, 24.57°N×122.07°E, h66km, ML3.2, B*

ISC 21 16:18:39.3±1.2, 24.56°N±0.03°×122.07°E±0.02, h60km±6km, n102, σ0.84/188, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.21**	**285**	*i* P	**Pn**	**16 18 48.9**	**+0.1**
	baz=281						
TWC				*i* S	**Sn**	**16 18 56.5**	**+0.8**
	baz=281						
EWUT	**Wuta**	**0.29**	**248**	*i* P	**Pn**	**16 18 49.5**	**+0.1**
	baz=244						
EWUT				*i* S	**Sn**	**16 18 57.4**	**+0.8**
	baz=244						
EGS		**0.32**	**336**	*i* P	**Pn**	**16 18 49.7**	**+0.1**
	baz=337						
EGS				S	**Sn**	**16 18 57.7**	**+0.7**
	baz=337						
NDS	**Dongshan**	**0.34**	**284**	*i* P	**Pn**	**16 18 49.8**	**+0.1**
	baz=281						
NDS				*i* S	**Sn**	**16 18 58.1**	**+0.8**
	baz=281						
ILA	**Ilan**	**0.36**	**305**	*eP*	**Pn**	**16 18 49.7**	**-0.2**
	baz=304						
ILA				*eS*	**Sn**	**16 18 59.3**	**+1.7**
	baz=304						
NTC	**Toucheng**	**0.37**	**323**	*i* P	**Pn**	**16 18 49.7**	**-0.3**
	baz=323						
NTC				*eS*	**Sn**	**16 18 57.5**	**-0.3**
	baz=323						
EHP	**Heping Village**	**0.39**	**231**	*eS*	**Sn**	**16 18 59.0**	**+0.9**
	baz=227						
TWE	**Neicheng**	**0.41**	**294**	*i* P	**Pn**	**16 18 50.6**	**+0.3**
	baz=293						
TWE				*eS*	**Sn**	**16 18 55.0**	**-3.3**
	baz=293						
TWB1	**Santiao Chiao**	**0.46**	**350**	*i* P	**Pn**	**16 18 50.5**	**-0.4**
	baz=351						
TWB1				*eS*	**Sn**	**16 18 58.7**	**-0.6**
	baz=351						
ENTT	**Nioudou**	**0.47**	**280**	*i* P	**Pn**	**16 18 51.1**	**+0.1**
	baz=278						
ENTT				*eS*	**Sn**	**16 19 00.4**	**+0.9**
	baz=278						
TIPB	**Shuangxi**	**0.47**	**331**	*i* P	**Pn**	**16 18 50.6**	**-0.4**
	baz=331						
TIPB				*eS*	**Sn**	**16 18 59.1**	**-0.4**
	baz=331						
NDT	**Datong Townshi**	**0.51**	**275**	*i* P	**Pn**	**16 18 51.4**	**-0.1**
	baz=273						
NDT				*eS*	**Sn**	**16 19 00.8**	**+0.5**
	baz=273						
NWLT	**Wulai**	**0.56**	**293**	P	**Pn**	**16 18 52.0**	**0.0**
	baz=292						
NWLT				*i* S	**Sn**	**16 19 01.4**	**0.0**
	baz=292						
ETL	**Fush Village**	**0.57**	**226**	*eP*	**Pn**	**16 18 51.5**	**-0.6**
	baz=224						
ETL				*eS*	**Sn**	**16 19 01.3**	**-0.1**
	baz=224						
NWF	**Wu-fen Shan**	**0.58**	**333**	*i* P	**Pn**	**16 18 51.8**	**-0.5**
	baz=332						
NWF				*eS*	**Sn**	**16 19 01.1**	**-0.6**
	baz=332						
NACB	**Ninganchiao**	**0.58**	**229**	P	**Pn**	**16 18 51.6**	**-0.6**
	baz=227						
NACB				S	**Sn**	**16 19 01.5**	**0.0**
	baz=227						
TWA	**Mucha**	**0.61**	**314**	*i* P	**Pn**	**16 18 52.2**	**-0.3**
	baz=313						
TWA				S	**Sn**	**16 19 03.1**	**+0.8**
	baz=313						
ETLH	**Xiulin Townshi**	**0.64**	**237**	*i* P	**Pn**	**16 18 52.7**	**-0.3**
	baz=235						
ETLH				*eS*	**Sn**	**16 19 02.4**	**-0.5**
	baz=235						
NNSB	**Datong**	**0.64**	**259**	*i* P	**Pn**	**16 18 52.8**	**-0.2**
	baz=257						
NNSB				*i* S	**Sn**	**16 19 02.9**	**-0.1**
	baz=257						
NNSH	**Datong**	**0.64**	**259**	*i* P	**Pn**	**16 18 52.6**	**-0.4**
	baz=257						
NNSH				*eS*	**Sn**	**16 19 02.5**	**-0.5**
	baz=257						
NHDH	**Xindian Distri**	**0.64**	**309**	P	**Pn**	**16 18 52.5**	**-0.4**
	baz=308						
NHDH				S	**Sn**	**16 19 03.0**	**+0.1**
	baz=308						
TWD	**Chiawan**	**0.64**	**223**	*i* P	**Pn**	**16 18 52.6**	**-0.3**
	baz=220						
TWD				*i* S	**Sn**	**16 19 03.1**	**+0.3**
	baz=220						
YHNB	**Yeheng**	**0.65**	**280**	*i* P	**Pn**	**16 18 52.8**	**-0.2**
	baz=279						
YHNB				S	**Sn**	**16 19 02.6**	**-0.4**
	baz=279						
NNS	**Nan Shan**	**0.65**	**260**	*i* P	**Pn**	**16 18 52.7**	**-0.4**
	baz=258						
NNS				*i* S	**Sn**	**16 19 03.3**	**+0.2**
	baz=258						
TNOU	**National Taiwa**	**0.65**	**335**	P	**Pn**	**16 18 52.5**	**-0.5**
	baz=334						
TNOU				*eS*	**Sn**	**16 19 02.1**	**-0.9**
	baz=334						
TATO	**Taipei**	**0.68**	**308**	*i* P	**Pn**	**16 18 53.1**	**-0.2**
	baz=307						
TATO				*i* S	**Sn**	**16 19 03.4**	**-0.1**
	baz=307						
TAP	**Taipei**	**0.71**	**313**	P	**Pn**	**16 18 53.2**	**-0.4**
	baz=312						
TAP				S	**Sn**	**16 19 04.5**	**+0.3**
	baz=312						
HWA	**Hwalien**	**0.72**	**217**	P	**Pn**	**16 18 53.5**	**-0.3**
	baz=214						
HWA				*eS*	**Sn**	**16 19 05.7**	**+1.3**
	baz=214						
BACT	**New Taipei Cit**	**0.72**	**308**	*eS*	**Sn**	**16 19 05.2**	**+0.7**
	baz=306						
YM01	**YM01**	**0.75**	**322**	P	**Pn**	**16 18 53.5**	**-0.7**
	baz=321						
YM01				*eS*	**Sn**	**16 19 04.2**	**-0.9**
	baz=321						
YM08	**YM08**	**0.77**	**325**	P	**Pn**	**16 18 53.4**	**-1.1**
	baz=324						
YM08				*eS*	**Sn**	**16 19 03.6**	**-1.9**
	baz=324						
ETM	**Tongmen**	**0.79**	**222**	*eP*	**Pn**	**16 18 54.7**	**0.0**
	baz=221						
ETM				*eS*	**Sn**	**16 19 05.1**	**-0.9**
	baz=221						
JYNG	**Yonagunijimaku**	**0.80**	**97**	P	**Pn**	**16 18 54.9**	**+0.1**
JYNG					*eS*	**Sn**	**16 19 07.1**	**+0.9**
ANP	**Anpu**	**0.81**	**321**	P	**Pn**	**16 18 54.3**	**-0.7**
	baz=321						
ANP				*eS*	**Sn**	**16 19 06.1**	**-0.4**
	baz=321						
TWS1	**Kuangyinshan**	**0.81**	**312**	*i* P	**Pn**	**16 18 54.6**	**-0.2**
	baz=312						
TWS1				S	**Sn**	**16 19 06.9**	**+0.6**
	baz=312						
TEYL	**Yanliau Villag**	**0.81**	**213**	P	**Pn**	**16 18 54.4**	**-0.5**
	baz=212						
TEYL				S	**Sn**	**16 19 06.5**	**+0.1**
	baz=212						
FUSS	**Fushou**	**0.82**	**248**	P	**Pn**	**16 18 54.9**	**-0.4**
	baz=246						
FUSS				S	**Sn**	**16 19 06.6**	**-0.4**
	baz=246						
NTST	**Danshui**	**0.83**	**317**	P	**Pn**	**16 18 54.6**	**-0.6**
	baz=316						
NTST				*eS*	**Sn**	**16 19 07.5**	**+0.6**
	baz=316						
NTY	**Taoyuan**	**0.83**	**302**	*eP*	**Pn**	**16 18 55.3**	**+0.1**
	baz=301						
NTY				*eS*	**Sn**	**16 19 07.1**	**+0.2**
	baz=301						
WHF	**Hehuan Shan**	**0.84**	**241**	*eP*	**Pn**	**16 18 55.4**	**-0.4**
	baz=239						
WHF				S	**Sn**	**16 19 07.8**	**-0.1**
	baz=239						
YOJ	**Yonaguni jima**	**0.86**	**96**	P	**Pn**	**16 18 55.5**	**0.0**
YOJ				*eS*	**Sn**	**16 19 08.3**	**+0.8**
YOJ	**Yonaguni jima**	**0.86**	**96**	P	**Pn**	**16 18 55.6**	**+0.1**
	baz=96						
YOJ				S	**Sn**	**16 19 07.8**	**+0.3**
	baz=96						
TWT	**Tachien**	**0.87**	**250**	*i* P	**Pn**	**16 18 56.3**	**+0.4**
	baz=248						
TWT				S	**Sn**	**16 19 08.3**	**+0.3**
	baz=248						
TDCB	**Techi**	**0.89**	**250**	P	**Pn**	**16 18 56.3**	**+0.2**
	baz=249						
TDCB				S	**Sn**	**16 19 08.0**	**-0.3**
	baz=249						
NCU	**National Centr**	**0.91**	**297**	*eS*	**Sn**	**16 19 08.8**	**+0.3**
	baz=296						
NCUH	**Zhongli**	**0.91**	**297**	*eP*	**Pn**	**16 18 55.8**	**-0.3**
	baz=296						
NCUH				S	**Sn**	**16 19 08.9**	**+0.3**
	baz=296						
NJD	**Zhudong**	**0.92**	**282**	*eS*	**Sn**	**16 19 09.3**	**+0.6**
	baz=280						
ESL	**Shilin**	**0.94**	**219**	P	**Pn**	**16 18 55.3**	**-1.4**
	baz=217						
ESL				*eS*	**Sn**	**16 19 08.1**	**-1.3**
	baz=217						
CHGB	**Renai**	**0.96**	**239**	*i* P	**Pn**	**16 18 56.8**	**-0.2**
	baz=238						
CHGB				S	**Sn**	**16 19 10.1**	**0.0**
	baz=238						
LIOB	**Emei**	**0.97**	**276**	*i* P	**Pn**	**16 18 56.6**	**-0.4**
	baz=274						
LIOB				S	**Sn**	**16 19 10.2**	**+0.2**
	baz=274						
TEGC	**Jichi Village**	**0.97**	**210**	*eS*	**Sn**	**16 19 10.8**	**+0.7**
	baz=208						
NSTT	**Nanjuang**	**0.98**	**275**	*i* P	**Pn**	**16 18 56.6**	**-0.5**
	baz=273						
NSTT				*i* S	**Sn**	**16 19 09.8**	**-0.4**
	baz=273						
OWD	**Renai**	**1.01**	**234**	*i* P	**Pn**	**16 18 57.4**	**-0.3**
	baz=232						
OWD				*eS*	**Sn**	**16 19 10.3**	**-1.0**
	baz=232						
SBCB	**Hsinchu**	**1.02**	**284**	*eS*	**Sn**	**16 19 10.9**	**-0.2**
	baz=282						
HSN	**Hsinchu**	**1.03**	**284**	*eS*	**Sn**	**16 19 10.9**	**-0.7**
	baz=285						
NHW	**Xinwu Township**	**1.04**	**296**	*eP*	**Pn**	**16 18 57.3**	**-0.6**
	baz=295						
NHW				*eS*	**Sn**	**16 19 11.7**	**+0.2**
	baz=295						
EGFH	**Guangfu**	**1.06**	**214**	P	**Pn**	**16 18 57.8**	**-0.4**
	baz=213						
EGFH				*eS*	**Sn**	**16 19 11.5**	**-0.7**
	baz=213						
NMLH	**Miaoli**	**1.17**	**269**	*eP*	**Pn**	**16 18 59.4**	**-0.2**
	baz=268						
NMLH				*eS*	**Sn**	**16 19 15.4**	**+0.7**
	baz=268						
DPDB	**Guoxing**	**1.17**	**244**	*eP*	**Pn**	**16 19 00.4**	**+0.7**
	baz=242						
DPDB				*eS*	**Sn**	**16 19 15.1**	**+0.3**
	baz=242						
WCS	**Beigang Elemen**	**1.17**	**245**	*eP*	**Pn**	**16 18 60.0**	**+0.4**
	baz=244						
WCS				*eS*	**Sn**	**16 19 15.7**	**+1.0**
	baz=244						
NSY	**Sanyi**	**1.20**	**264**	P	**Pn**	**16 19 00.4**	**+0.3**
	baz=262						
NSY				*eS*	**Sn**	**16 19 15.7**	**+0.2**
	baz=262						
HGSD	**Ruisui**	**1.21**	**209**	*eS*	**Sn**	**16 19 15.8**	**+0.1**
	baz=208						
EHY	**Hungye**	**1.25**	**214**	*eP*	**Pn**	**16 19 00.7**	**0.0**
	baz=212						
EHY				*eS*	**Sn**	**16 19 14.8**	**-1.8**
	baz=212						
SMLT	**Sun Moon Lake**	**1.26**	**238**	*eP*	**Pn**	**16 19 01.4**	**+0.5**
	baz=237						
SMLT				*eS*	**Sn**	**16 19 18.5**	**+1.4**
	baz=237						
SSLB	**Suanglung**	**1.28**	**233**	P	**Pn**	**16 19 01.4**	**+0.3**
	baz=232						
SSLB				*eS*	**Sn**	**16 19 18.8**	**+1.5**
	baz=232						
TYC	**Yuchr**	**1.29**	**240**	*eP*	**Pn**	**16 19 01.9**	**+0.8**
	baz=238						
TYC				*eS*	**Sn**	**16 19 17.9**	**+0.4**
	baz=238						
WDJ	**Dajia District**	**1.32**	**261**	*eS*	**Sn**	**16 19 18.3**	**0.0**
	baz=260						
WWF	**Wufeng**	**1.35**	**248**	*eP*	**Pn**	**16 19 02.6**	**+0.5**
	baz=247						
WWF				*eS*	**Sn**	**16 19 19.6**	**+0.5**
	baz=247						
YULB	**Yu-li**	**1.36**	**212**	*eP*	**Pn**	**16 19 02.2**	**0.0**
	baz=210						
YULB				*eS*	**Sn**	**16 19 18.8**	**-0.4**
	baz=210						
WHYT	**Xinyi Township**	**1.41**	**233**	*eP*	**Pn**	**16 19 03.2**	**+0.4**
	baz=231						
WHYT				*eS*	**Sn**	**16 19 21.9**	**+1.5**
	baz=231						
WJS	**Zhushan**	**1.43**	**240**	*eP*	**Pn**	**16 19 03.5**	**+0.4**
	baz=238						
WJS				*eS*	**Sn**	**16 19 22.4**	**+1.5**
	baz=238						
WNT	**Mingjian**	**1.44**	**242**	*eS*	**Sn**	**16 19 21.9**	**+0.8**
	baz=241						
IRIF	**Iriomote-Funau**	**1.52**	**98**	P	**Pn**	**16 19 04.1**	**-0.2**
IRIF					S	**Sn**	**16 19 23.1**	**-0.1**
FULB	**Fuli**	**1.53**	**208**	P	**Pn**	**16 19 03.7**	**-0.7**
	baz=207						
FULB				S	**Sn**	**16 19 23.2**	**-0.1**
	baz=207						
ALS	**Alishan**	**1.56**	**228**	*eP*	**Pn**	**16 19 05.6**	**+0.5**
	baz=227						
ALS				*eS*	**Sn**	**16 19 26.2**	**+1.8**
	baz=227						
CHKT	**Chengkung**	**1.59**	**204**	*eP*	**Pn**	**16 19 03.5**	**-1.7**
	baz=203						
CHKT				*eS*	**Sn**	**16 19 21.8**	**-2.9**
	baz=203						
CHN5	**Tsauling**	**1.59**	**234**	P	**Pn**	**16 19 06.0**	**+0.6**
	baz=232						
CHN5				*eS*	**Sn**	**16 19 26.1**	**+1.1**
	baz=232						
WGK	**Gukeng**	**1.63**	**238**	*eS*	**Sn**	**16 19 26.3**	**+0.6**
	baz=237						
WDLH	**Douliu**	**1.65**	**239**	*eS*	**Sn**	**16 19 26.9**	**+0.8**
	baz=237						
ELDTW	**Lidau**	**1.67**	**216**	*eP*	**Pn**	**16 19 06.1**	**-0.3**
	baz=214						
ELDTW				*eS*	**Sn**	**16 19 25.7**	**-1.2**
	baz=214						
WRL	**Guolierlin Hig**	**1.68**	**248**	P	**Pn**	**16 19 06.0**	**-0.5**
	baz=246						
WRL				S	**Sn**	**16 19 25.8**	**-1.2**
	baz=246						
EDH	**Donghe**	**1.73**	**204**	P	**

JIJ				S		Sn	16 19 31.4	-0.8
WSF	**Szhu**	**1.92**	**242**	*e*S		Sn	16 19 32.9	+0.1
	baz=241							
TWK	**Hsinying**	**1.94**	**229**	*e*P		Pn	16 19 10.7	+0.7
	baz=227							
TWK				*e*S		Sn	16 19 34.4	+1.1
	baz=227							
LDUT	**Ludao**	**1.95**	**197**	*e*S		Sn	16 19 30.4	-3.2
	baz=196							
CHN1	**Nanshi**	**1.97**	**226**	P		Pn	16 19 11.5	+1.2
	baz=225							
CHN1				*e*S		Sn	16 19 35.0	+1.1
	baz=225							
SGST	**Jiashian**	**2.00**	**223**	*e*P		Pn	16 19 11.2	+0.4
	baz=222							
SGST				*e*S		Sn	16 19 34.6	-0.2
	baz=222							
SLGT	**Liugui**	**2.03**	**220**	*e*P		Pn	16 19 11.7	+0.4
	baz=219							
SLGT				*e*S		Sn	16 19 36.0	+0.4
	baz=219							
JISG	**Ishigakijimahi**	**2.04**	**89**	P		Pn	16 19 11.2	-0.1
JISG				*e*S		Sn	16 19 35.5	-0.1
CHN8	**Yiju**	**2.09**	**235**	*e*S		Sn	16 19 36.8	0.0
	baz=234							
SSD	**Sandimen**	**2.23**	**217**	*e*P		Pn	16 19 14.2	+0.2
	baz=215							
SSD				*e*S		Sn	16 19 40.2	-0.3
	baz=215							
JTJ	**Tarama**	**2.39**	**87**	P		Pn	16 19 16.8	+0.7
JTJ				*e*S		Sn	16 19 45.7	+1.4

*ISK **21** 16:19:13.5,36°.34N×45°.37E,h25km,ML3.6/6*
*ISN **21** 16:19:14.8±0.3,36°.64N×45°.35E,h0km,ML3.1*
*TEH **21** 16:19:16.7,36°.90N×45°.26E,h10km,ML3.0*
*DDA **21** 16:19:16.8,36°.78N×45°.18E,h13km±2km,ML2.5*

ISC 21 16:19:16.8±1.2,36°.85N±0°.03×45°.23E±0°.03,h2km±13km, n42,σ1§27/54,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.39**	**102**	*e*Pg		**Pg**	**16 19 23.4**	**-0.8**
MAHB				*e*Sg		**Sg**	**16 19 28.8**	**-0.5**
YOVA	**Hakkari_Yksek**	**1.05**	**315**	*i* P		**Pg**	**16 19 36.4**	**-0.6**
YOVA				*i* S		**Sb**	**16 19 51.8**	**-0.4**
YOVA				IAML			16 20 00.0	
	comp=E,122nm,0.5s							
YOVA				IAML			16 20 00.0	
	comp=N,117nm,0.4s							
CUKT	**Cukurca**	**1.36**	**288**	*i* P		**Pn**	**16 19 41.5**	**-1.4**
CUKT				*i* S		**Sg**	**16 20 02.4**	**+2.0**
CUKT	**Cukurca**	**1.36**	**288**	PN		**Pn**	**16 19 42.0**	**-0.9**
CUKT				SN		**Sg**	**16 20 02.9**	**+2.4**
CUKT	**Cukurca**	**1.36**	**288**	*e*Pn		**Pn**	**16 19 41.5**	**-1.4**
HAKT	**HAKKARI**	**1.41**	**301**	*i* P		**Pn**	**16 19 43.0**	**-0.6**
HAKT				*i* S		**Sg**	**16 20 04.4**	**+2.3**
HAKT				IAML			16 20 09.0	
	comp=E,165nm,0.5s							
BASK	**Baskale_VAN**	**1.55**	**321**	*i* P		**Pg**	**16 19 47.4**	**+0.9**
BASK				IAML			16 20 16.0	
	comp=N,38nm,0.6s							
ITBZ	**Tabriz**	**1.56**	**27**	*e*Pg		**Pn**	**16 19 44.7**	**-1.0**
ITBZ				*e*			16 20 08.8	
	comp=Z,2μm,0.5s							
IKRK	**Kirkuk**	**1.61**	**207**	*e*Pg		**Pg**	**16 19 47.5**	**-0.2**
	baz=33							
IKRK				*e*Sg		**Sg**	**16 20 10.4**	**+1.8**
IKRK				AML		AML	16 20 12.7	
	comp=E,292nm,0.6s							
IKRK				AML		AML	16 20 13.2	
	comp=N,304nm,0.4s							
IHSH	**Hashtrud**	**1.69**	**74**	*e*Pn		**Pn**	**16 19 46.5**	**-1.0**
IHSH				*e*			16 19 49.9	
	comp=Z,3μm,0.1s							
IMRD	**Marand**	**1.90**	**11**	*e*Pn		**Pn**	**16 19 50.7**	**+0.3**
IMRD				*e*			16 20 24.0	
	comp=Z,2μm,0.4s							
IHRS	**Heris**	**2.06**	**44**	*e*Pn		**Pn**	**16 19 53.0**	**+0.5**
IHRS				*e*			16 20 00.5	
	comp=Z,1μm,0.2s							
OZAP	**Van, Ozalp-Mer**	**2.06**	**332**	*i* P		**Pg**	**16 19 56.1**	**-0.2**
ISRB	**Sarab**	**2.17**	**63**	*e*Pn		**Pn**	**16 19 55.2**	**+1.1**
ISRB				*e*			16 20 00.8	
	comp=Z,2μm,0.4s							
TVAN	**Van**	**2.22**	**320**	*i* P		**Pb**	**16 19 57.5**	**-0.2**
TVAN				*i* S		**Sb**	**16 20 25.6**	**-0.1**
TVAN				IAML			16 20 33.0	
	comp=E,26nm,0.9s							
TVAN				IAML			16 20 36.0	
	comp=N,83nm,0.7s							
GEVA	**Gevas**	**2.26**	**311**	*i* P		**Pb**	**16 19 57.3**	**-1.1**
GEVA				*i* S		**Sb**	**16 20 26.9**	**-0.1**
GEVA				IAML			16 20 34.0	
	comp=E,33nm,0.7s							
GEVA				IAML			16 20 42.0	
	comp=N,37nm,0.6s							
VANB	**Van**	**2.28**	**321**	PN		**Pn**	**16 19 56.2**	**+0.7**
VANB				SN		**Sb**	**16 20 27.3**	**0.0**
VANB	**Van**	**2.28**	**321**	*e*Pn		**Pn**	**16 19 55.5**	**0.0**
AKDM	**Akdamar-Van**	**2.32**	**310**	PN		**Pn**	**16 19 57.4**	**-2.0**
AKDM	**Akdamar-Van**	**2.32**	**310**	*e*Pn		**Pn**	**16 19 56.6**	**+0.5**
SIRT	**Sirnak**	**2.33**	**287**	PN		**Pn**	**16 19 55.4**	**-0.7**
SIRT	**Sirnak**	**2.33**	**287**	*e*Pn		**Pn**	**16 19 55.1**	**-1.0**
IDHR	**Dehrash**	**2.34**	**156**	*e*Pn		**Pb**	**16 19 58.6**	**-1.1**
SIRN	**Sırnak**	**2.34**	**287**	*i* P		**Pn**	**16 19 57.1**	**+0.7**
SIRN				*i* S		**Sb**	**16 20 27.3**	**-1.9**
ILIN	**Lien**	**2.38**	**143**	*e*			16 17 00.3	
	comp=Z,3μm,1.0s							
ILIN				*e*Pn		**Pb**	**16 19 58.8**	**-1.7**
PERV	**Siirt/Pervari-**	**2.41**	**298**	*i* P		**Pb**	**16 20 01.0**	**+0.2**
IGHG	**Ghaleghazi**	**2.74**	**156**	*e*Pn		**Pb**	**16 20 04.6**	**-1.9**
IGHG				*e*			16 20 49.8	
	comp=Z,2μm,0.8s							
SRTM	**Siirt_Merkez**	**2.87**	**294**	*i* P		**Pb**	**16 20 09.0**	**+0.2**
SRTM				*i* S		**Sg**	**16 20 47.1**	**-2.0**
IBZA	**Bozab**	**3.19**	**137**	*e*Pn		**Pn**	**16 20 10.0**	**+1.8**
AGRB	**Hanur-Agry**	**3.25**	**328**	*e*Pn		**Pn**	**16 20 10.9**	**+2.0**
BTMN	**Batman**	**3.32**	**289**	*i* P		**Pb**	**16 20 16.0**	**-0.4**
BTMN				*i* S		**Sb**	**16 20 58.3**	**+0.9**
SVAN	**Silvan-Diyarba**	**3.46**	**293**	*i* P		**Pb**	**16 20 19.4**	**+0.7**
SVAN	**Silvan-Diyarba**	**3.46**	**293**	PN		**Pn**	**16 20 12.2**	**+0.5**
SVAN	**Silvan-Diyarba**	**3.46**	**293**	*e*Pn		**Pn**	**16 20 11.5**	**-0.2**
MUSM	**Mu-Merkez**	**3.49**	**304**	*i* P		**Pb**	**16 20 19.6**	**+0.2**
MARD	**Mardin**	**3.59**	**279**	*i* P		**Pg**	**16 20 24.6**	**-1.1**
QABG	**Abgarm-Qazvin**	**3.69**	**107**	*e*Pn		**Pn**	**16 20 16.9**	**+1.9**
HAGD	**Aghdareh**	**3.76**	**121**	*e*Pn		**Pn**	**16 20 18.1**	**+2.1**
HAGD				*e*			16 20 31.5	
	comp=Z,189nm,0.5s							
HSAM	**Samen**	**3.80**	**133**	*e*Pn		**Pn**	**16 20 18.9**	**+2.3**
HSAM				*e*			16 21 32.4	
	comp=Z,174nm,1.2s							
MAZI	**Mazidag**	**3.87**	**281**	PN		**Pn**	**16 20 16.5**	**-0.9**
MAZI	**Mazidag**	**3.87**	**281**	*e*Pn		**Pn**	**16 20 16.5**	**-0.9**
IKFM	**Kafar-mosalman**	**3.94**	**146**	*e*Pn		**Pn**	**16 20 19.9**	**+1.6**

*CNRM **21** 16:27:21.7,35°.59N×3°.65W,h10km,ml2.6,Hypocentre not reviewed by the ISC*
*MDD **21** 16:27:22.8±0.3,35°.56N×3°.66W,h6km±3km,mb3.0/1, mbLg2.4/16,Error ellipse: s-maj=3.1km s-min=1.9km az=24.0,PRXIMO*
*INMG **21** 16:27:24.9±1.6,35°.44N×3°.57W,h21km±7km,ML2.1,Error ellipse: s-maj=5.0km s-min=4.0km az=135.0*
*SFS **21** 16:27:24.0,35°.40N×3°.60W,h19km,ML2.3,ALBORAN SUR*
*IGIL **21** 16:27:24.7,35°.42N×3°.61W,h19km*

ISC 21 16:27:23.7±1.0,35°.38N±0°.04×3°.59W±0°.02,h32km±10km, n61,σ1§62/108,2C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**240**	P			16 27 31.2	
PALE				S			16 27 36.2	
GOG	**Mont Gurugu**	**0.51**	**108**	P			16 27 34.3	
GOG				S			16 27 42.0	
EMEL	**Melilla**	**0.52**	**99**	⇑P		**Pb**	**16 27 34.5**	**-0.1**
	135nm,0.1s,SNR=18							
EMEL				S		**Sn**	**16 27 42.5**	**-0.2**
	674nm,0.1s,SNR=22							
MELI	**Melilla**	**0.54**	**99**	P		**Pb**	**16 27 34.7**	**-0.2**
	37nm,0.1s,SNR=7.9							
MELI				S		**Sb**	**16 27 42.5**	**0.0**
	265nm,0.1s,SNR=7.9							
MELI	**Melilla**	**0.54**	**99**	P		**Pb**	**16 27 34.6**	**-0.3**
MELI				S		**Sb**	**16 27 42.2**	**-0.3**
PVLZ	**Peæn de**	**0.62**	**251**	P		**Pb**	**16 27 36.1**	**-0.1**
PVLZ				S		**Sb**	**16 27 44.4**	**-0.3**
PVLZ	**Peæn de**	**0.62**	**251**	P		**Pb**	**16 27 36.1**	**-0.1**
PVLZ				S		**Sb**	**16 27 44.4**	**-0.3**
EALB	**Alboran**	**0.72**	**39**	⇑P		**Pn**	**16 27 37.0**	**-0.6**
	62nm,0.1s,SNR=18							
EALB				S		**Sb**	**16 27 46.5**	**-0.8**
	78nm,0.1s,SNR=5.9							
TAF	**Taforalt**	**1.12**	**120**	P			16 27 45.7	
TAF				S			16 28 04.6	
JBK	**JBK**	**1.34**	**141**	P			16 27 47.6	
JBK				S			16 28 07.3	
CHEFC	**Chefchaouen**	**1.46**	**260**	P			16 27 50.1	
CHEFC				S			16 28 07.0	
ELGU	**Los Guajares,**	**1.48**	**359**	P		**Pn**	**16 27 47.6**	**-0.7**
	3.2nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**16 28 04.2**	**-2.4**
	38nm,0.2s,SNR=7.9							
SMIR	**Smir Dam**	**1.49**	**282**	P			16 27 47.0	
SMIR				S			16 28 04.7	
EMIJ	**Mijas**	**1.52**	**321**	P		**Pn**	**16 27 47.3**	**-1.4**
	1.4nm,0.1s,SNR=22							
EMIJ				S		**Sn**	**16 28 05.0**	**-2.5**
	18nm,0.2s,SNR=14							
EMAL	**Malaga-Limoner**	**1.54**	**334**	S		**Sn**	**16 28 05.0**	**-2.8**
EMAL	**Malaga-Limoner**	**1.54**	**334**	S		**Sn**	**16 28 05.0**	**-2.8**
EMAL	**Malaga-Limoner**	**1.54**	**334**	P		**Pn**	**16 27 48.4**	**-0.5**
CEU	**Ceuta**	**1.54**	**290**	P		**Pn**	**16 27 46.9**	**-2.1**
CEU				S		**Sn**	**16 28 02.8**	**-5.2**
CEU	**Ceuta**	**1.54**	**290**	P		**Pn**	**16 27 46.9**	**-2.1**
CEU				S		**Sn**	**16 28 02.8**	**-5.2**
ECEU	**Ceuta**	**1.55**	**290**	P		**Pn**	**16 27 48.2**	**-0.8**
	3.4nm,0.1s,SNR=4.9							
ECEU				S		**Sn**	**16 28 06.4**	**-1.7**
	16nm,0.1s,SNR=4.8							
EBER	**Berja**	**1.61**	**20**	P		**Pn**	**16 27 49.8**	**-0.4**
	3.4nm,0.2s,SNR=24							
EBER				S		**Sn**	**16 28 10.0**	**0.0**
	5.2nm,0.1s,SNR=6.9							
EGOR	**Sierra Gorda,**	**1.77**	**346**	P		**Pn**	**16 27 52.2**	**-0.2**
	0.3nm,0.2s,SNR=7.9							
EGOR				S		**Sn**	**16 28 14.0**	**0.0**
	10nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**1.82**	**4**	P		**Pn**	**16 27 53.4**	**+0.4**
	0.4nm,0.1s,SNR=15							
EQUE				S		**Sn**	**16 28 14.6**	**-0.5**
	5.2nm,0.2s,SNR=5.2							
RSA	**Sarsar**	**1.90**	**255**	P			16 27 54.0	
RSA				S			16 28 19.6	
ENIJ	**Nijar**	**1.94**	**35**	P		**Pn**	**16 27 52.7**	**-1.8**
	0.5nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**16 28 17.2**	**-0.6**
	11nm,0.3s,SNR=7.9							
LCRM	**LCR**	**1.99**	**212**	P			16 27 59.8	
LCRM				S			16 28 28.6	
LIJA	**Lijar**	**2.12**	**316**	P		**Pb**	**16 28 02.0**	**+0.5**
LIJA				S		**Sb**	**16 28 30.0**	**+2.6**
LIJA	**Lijar**	**2.12**	**316**	P		**Pb**	**16 28 02.0**	**+0.5**
LIJA				S		**Sb**	**16 28 30.0**	**+2.6**
IFR	**Ifrane**	**2.25**	**215**	P		**Pn**	**16 28 00.5**	**+1.5**
IFR				S		**Sn**	**16 28 26.5**	**+0.7**
EQES	**Quesada**	**2.45**	**10**	P		**Pn**	**16 28 03.9**	**+2.3**
	3.2nm,0.1s,SNR=48							
EQES				S		**Sn**	**16 28 31.0**	**+0.5**
	11nm,0.2s,SNR=5.3							
TDRA	**Tendrara**	**2.67**	**151**	P			16 28 09.6	
TDRA				S			16 28 44.7	
MD31	**MD31**	**2.69**	**202**	P			16 28 07.9	
MD31				S			16 28 43.8	
MDT	**Midelt**	**2.70**	**199**	P			16 28 08.1	
MDT				S			16 28 44.4	
SESP	**Santiago Espad**	**2.86**	**17**	P		**Pn**	**16 28 09.3**	**+2.1**
	1.1nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**16 28 40.0**	**-0.7**
	9.9nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**2.89**	**344**	P		**Pn**	**16 28 09.6**	**+2.0**
	0.5nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**16 28 42.3**	**+1.0**
	4.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**3.06**	**332**	P		**Pn**	**16 28 11.5**	**+1.6**
	0.0nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**16 28 46.2**	**+0.6**
	3.0nm,0.3s,SNR=7.9							
ZHG	**ZHG**	**3.18**	**233**	P			16 28 15.0	
EMIN	**Mina Concepcio**	**3.44**	**315**	P		**Pn**	**16 28 15.3**	**+0.2**
	1.6nm,0.2s,SNR=14							
EMIN				S		**Sn**	**16 28 52.7**	**-2.0**
	0.5nm,0.2s							
ETOB	**Tobarra**	**3.64**	**26**	P		**Pn**	**16 28 20.3**	**+2.3**
	1.7nm,0.2s,SNR=16							
ETOB				S		**Sn**	**16 28 58.3**	**-1.6**
	0.5nm,0.2s							
EGRO	**El Granado**	**3.80**	**306**	P		**Pn**	**16 28 20.4**	**+0.3**
	2.3nm,0.1s,SNR=15							
EGRO				S		**Sn**	**16 29 01.1**	**-2.6**
	3.7nm,0.3s							
PVAQ	**Vaqueiros**	**3.90**	**302**	P		**Pn**	**16 28 21.8**	**+0.4**
PVAQ				S		**Sn**	**16 29 06.0**	**0.0**
	2.1nm,0.2s							
PVAQ	**Vaqueiros**	**3.90**	**302**	*e*P		**Pn**	**16 28 21.8**	**+0.4**
PVAQ				*e*S		**Sn**	**16 29 06.0**	**0.0**
PVAQ				A		A	16 29 12.7	
	2.1nm,0.2s							
PBAR	**Barrancos**	**3.93**	**316**	P		**Pn**	**16 28 22.1**	**+0.3**
PBAR				S		**Sn**	**16 29 05.2**	**-1.7**
	1.8nm,0.4s							
PBAR	**Barrancos**	**3.93**	**316**	*e*P		**Pn**	**16 28 22.1**	**+0.3**
PBAR				*e*S		**Sn**	**16 29 05.2**	**-1.7**
PBAR				A		A	16 29 10.0	
	1.8nm,0.4s							
PBDV	**Barranco-do-Ve**	**3.97**	**299**	P		**Pn**	**16 28 22.9**	**+0.5**
PBDV				S		**Sn**	**16 29 06.6**	**-1.3**
	2.7nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.97**	**299**	*e*P		**Pn**	**16 28 22.9**	**+0.5**
PBDV				*e*S		**Sn**	**16 29 06.6**	**-1.3**
PBDV				A		A	16 29 16.9	
	2.7nm,0.7s							
PAB	**San Pablo**	**4.20**	**352**	P		**Pn**	**16 28 27.2**	**+1.6**
	0.4nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**16 29 11.2**	**-2.4**
	0.8nm,0.3s,SNR=7.9							
PCVE	**Castro Verde**	**4.23**	**303**	P		**Pn**	**16 28 27.4**	**+1.4**
PCVE				S		**Sn**	**16 29 14.5**	**+0.2**
	2.3nm,0.4s							
PCVE	**Castro Verde**	**4.23**	**303**	*e*P		**Pn**	**16 28 27.4**	**+1.4**
PCVE				*e*S		**Sn**	**16 29 14.5**	**+0.2**
PCVE				A		A	16 29 20.9	
	2.3nm,0.4s							
ESDC	**Sonseca Array**	**4.29**	**356**	P		**Pn**	**16 28 28.7**	**+1.7**
	0.3nm,0.3s,baz=175,slow=12,SNR=8.4							
ESDC				S		**Sn**	**16 29 12.8**	**-3.1**
	1.3nm,0.6s,baz=180,slow=23,SNR=4.8							
EBAD	**Badajoz**	**4.34**	**322**	P		**Pn**	**16 28 28.4**	**+0.9**
	1.5nm,0.2s,SNR=9.2							
EBAD				S		**Sn**	**16 29 15.1**	**-1.9**
	2.6nm,0.2s							
MESJ	**Messejana**	**4.46**	**305**	*e*P		**Pn**	**16 28 29.2**	**+0.1**
MESJ	**Messejana**	**4.46**	**305**	P		**Pn**	**16 28 29.2**	**+0.1**
MORF	**Marmelete**	**4.52**	**297**	S		**Sn**	**16 29 23.1**	**+1.7**
MORF	**Marmelete**	**4.52**	**297**	*e*S		**Sn**	**16 29 23.1**	**+1.7**
PFVI	**Vila Bisbo**	**4.58**	**294**	*e*S		**Sn**	**16 29 22.9**	**0.0**
PFVI				A		A	16 29 28.3	
	6.4nm,0.9s							
PTEO	**Sao Teotonio**	**4.67**	**299**	P		**Pn**	**16 28 32.8**	**+0.8**
PTEO				S		**Sn**	**16 29 25.2**	**+0.1**
PTEO	**Sao Teotonio**	**4.67**	**299**	*e*P		**Pn**	**16 28 32.8**	**+0.8**
PTEO				*e*S		**Sn**	**16 29 25.2**	**+0.1**
PESTR	**Estremoz**	**4.72**	**319**	*e*P		**Pn**	**16 28 34.5**	**+1.7**
PESTR				*e*S		**Sn**	**16 29 25.6**	**-0.9**
PESTR				A		A	16 29 33.6	
	1.1nm,0.7s							
PESTR	**Estremoz**	**4.72**	**319**	P			16 28 31.5	
PESTR				S			16 29 25.0	
EVO	**Evora**	**4.74**	**313**	P		**Pn**	**16 28 34.1**	**+1.2**
EVO				S		**Sn**	**16 29 26.8**	**0.0**
EVO	**Evora**	**4.74**	**313**	*e*P		**Pn**	**16 28 34.1**	**+1.2**
EVO				*e*S		**Sn**	**16 29 26.8**	**0.0**
PNCL	**Nicolau / Gran**	**4.81**	**306**	P		**Pn**	**16 28 34.2**	**+0.2**
PNCL				S		**Sn**	**16 29 27.8**	**-0.8**
	1.3nm,0.8s							
PNCL	**Nicolau / Gran**	**4.81**	**306**	*e*P		**Pn**	**16 28 34.2**	**+0.2**
PNCL				*e*S		**Sn**	**16 29 27.8**	**-0.8**
PNCL				A		A	16 29 33.6	
	1.3nm,0.8s							
PMRV	**Marv??o**	**5.05**	**324**	P		**Pn**	**16 28 38.4**	**+1.2**
PMRV				S		**Sn**	**16 29 32.8**	**-1.6**
PMRV	**Marv??o**	**5.05**	**324**	*e*P		**Pn**	**16 28 38.4**	**+1.2**
PMRV				*e*S		**Sn**	**16 29 32.8**	**-1.6**
PMTG	**Montargil**	**5.22**	**316**	P		**Pn**	**16 28 41.3**	**+1.8**
PMTG	**Montargil**	**5.22**	**316**	*e*P		**Pn**	**16 28 41.3**	**+1.8**
EIBI	**Ibiza**	**5.36**	**46**	P		**Pn**	**16 28 42.2**	**+0.8**
	0.8nm,0.1s,SNR=7.9							
EIBI				S		**Sn**	**16 29 39.3**	**-2.8**
	0.9nm,0.2s,SNR=7.9							
PSBE	**So Bento**	**5.85**	**316**	*e*P		**Pn**	**16 28 49.6**	**+1.4**
PCAS	**Casmilo, Conde**	**6.07**	**322**	P		**Pn**	**16 28 52.7**	**+1.4**
PCAS	**Casmilo, Conde**	**6.07**	**322**	*e*P		**Pn**	**16 28 52.7**	**+1.4**
MVO	**Moncorvo**	**6.38**	**336**	P		**Pn**	**16 28 56.9**	**+1.4**
	1.7nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**16 30 01.9**	**-5.3**
	0.5nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**6.38**	**336**	*e*P		**Pn**	**16 28 57.1**	**+1.6**

*NEIC **21** 16:38:11.9±0.8,17°.9S±0°.2×178°.7W±0°.2,h570km±5km, mb4.3/16,Error ellipse: s-maj=32.7km s-min=23.3km az=153.0*
*IDC **21** 16:38:11.6±1.8,17°.84S×178°.63W,h578km±19km,mb3.1/7, mb1 3.4/8,mb1mx3.0/33,mbtmp4.0/8,Error ellipse: s-maj=35.1km s-min=18.6km az=150.0*

ISC 21 16:38:11.4±0.8,17°.9S±0°.2×178°.6W±0°.2,h579km,n32, σ0§62/32,mb4.1/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**273**	P		**P**	**16 39 29.9**	**-0.1**
	2.9nm,0.3s,baz=111,slow=5.0,SNR=27							
MSVF	**Nonsavu**	**3.19**	**273**	P		**P**	**16 39 29.2**	**-0.8**
ARMA	**Armidale**	**29.77**	**240**	P		**P**	**16 43 33.1**	**+0.7**
ARMA				IAmb		IAmb	16 43 59.1	
	comp=Z,13nm,1.1s							
STKA	**Stephens Creek**	**38.46**	**241**	P		**P**	**16 44 45.8**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=106,slow=7.9,SNR=6.2							
STKA	**Stephens Creek**	**38.46**	**241**	IAmb		IAmb	16 44 47.2	
	comp=Z,5.7nm,1.5s							
BBOO	**Buckleboo**	**43.23**	**241**	P		**P**	**16 45 23.2**	**+0.6**
WR0	**Warramunga Arr**	**44.25**	**260**	P		**P**	**16 45 30.7**	**0.0**
WR0				IAmb		IAmb	16 45 51.5	
	comp=Z,9.7nm,1.4s							
WB0	**Warramunga Arr**	**44.41**	**260**	P		**P**	**16 45 31.7**	**-0.2**
WB0				IAmb		IAmb	16 45 57.0	
	comp=Z,5.6nm,1.1s							
WB2	**Warramunga Arr**	**44.43**	**260**	P		**P**	**16 45 31.9**	**-0.2**
WB2				IAmb		IAmb	16 45 47.2	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**44.44**	**260**	P		**P**	**16 45 32.1**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=94,slow=6.8,SNR=21							
WRA				PcP		**PcP**	**16 47 03.0**	**0.0**
	comp=Z,0.4nm,0.8s,baz=100,slow=4.1,SNR=1.6							
WRA	**Warramunga Arr**	**44.44**	**260**	P		**P**	**16 45 31.6**	**-0.6**
AS31	**Alice Springs**	**44.60**	**254**	P		**P**	**16 45 33.7**	**+0.4**
AS31				IAmb		IAmb	16 45 34.6	
	comp=Z,4.2nm,0.6s							
ASAR	**Alice Springs**	**44.61**	**254**	P		**P**	**16 45 33.6**	**+0.2**
	comp=Z,14nm,0.6s,baz=88,slow=8.1,SNR=288							
ASAR				PcP		**PcP**	**16 47 03.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=103,slow=3.8,SNR=2.3							
ASAR	**Alice Springs**	**44.61**	**254**	P		**P**	**16 45 33.4**	**0.0**
MTN	**Manton Dam**	**48.61**	**269**	P		**P**	**16 46 03.3**	**-0.3**
FORT	**Forrest**	**49.83**	**245**	P		**P**	**16 46 12.4**	**0.0**
KNRA	**Kununurra**	**50.30**	**264**	P		**P**	**16 46 16.1**	**+0.2**
KNRA				IAmb		IAmb	16 46 41.2	
	comp=Z,39nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.84**	**261**	P		**P**	**16 46 34.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=104,slow=4.2,SNR=1.1							
SOEI	**Soe**	**55.88**	**270**	P		**P**	**16 46 57.1**	**+1.3**
SOEI				IAmb		IAmb	16 47 14.1	
	comp=Z,39nm,1.3s							
PSA00	**Pilbara Seismi**	**57.72**	**255**	P		**P**	**16 47 08.2**	**+0.1**
PSA00	**Pilbara Seismi**	**57.72**	**255**	P		**P**	**16 47 08.0**	**-0.1**
PSA00				IAmb		IAmb	16 47 16.6	
	comp=Z,23nm,1.4s							
NWAO	**Narrogin (SRO)**	**59.04**	**242**	P		**P**	**16 47 15.4**	**-1.4**
MJAR	**Matsushiro Arr**	**67.80**	**323**	P		**P**	**16 48 11.8**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=155,slow=6.6,SNR=6.0							
MJAR	**Matsushiro Arr**	**67.80**	**323**	IAmb		IAmb	16 48 12.3	
	comp=Z,2.5nm,1.3s							
NVAR	**Mina Array Bea**	**79.56**	**44**	P		**P**	**16 49 19.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=232,slow=5.6,SNR=1.9							
TXAR	**Lajitas Array**

HUMP	Col San Antoni	3.06	98	Pn		Pn	17 02 10.0	-0.6
JAKH	Jacmel	3.33	264	Pn		Pn	17 02 14.2	+0.2
JAKH	Jacmel	3.33	264	*i* P		Pn	17 02 14.3	+0.2
LGNH	Logne	3.39	269	Pn		Pn	17 02 14.6	-0.3
GRTK	Grand Turk	3.49	326			Pn	17 02 15.9	-0.4
GRTK	Grand Turk	3.49	326	*i* P		Pn	17 02 16.0	-0.3
GRTK				*eS*		Sn	17 02 53.6	-3.5
GRTK				IAML			17 03 01.8	
	comp=Z,480nm,0.2s							
CUPR	Culebra, Puert	3.58	94	Pn		Pn	17 02 16.2	-1.2
STVI	Saint Thomas	3.88	93	Pn		Pn	17 02 21.0	-0.5
CDVI	St. Croix	4.15	101	Pn		Pn	17 02 24.2	-0.9
ABVI	Anegada Island	4.46	88	Pn		Pn	17 02 28.4	-0.8
GTBY	Guantanamo Bay	5.88	284	Pn		Pn	17 02 45.4	-3.1
GTBY	Guantanamo Bay	5.88	284	⇓*iP*		Pn	17 02 46.0	-2.4
SKI	Saint Kitts	6.13	101	*eP*		Pn	17 02 52.9	+1.2
SKI	Saint Kitts	6.13	101	*eS*		Sn	17 04 03.4	+2.8
ANWB	Willy Bob	6.96	97	*eP*		Pn	17 03 00.6	-2.4
ANWB	Willy Bob	6.96	97	*eS*		Sn	17 04 15.2	-5.4
ANWB	Willy Bob	6.96	97	Pn		Pn	17 03 00.5	-2.5
BPA	Boggy Peak	7.01	102	*eP*		Pn	17 03 03.4	-0.4
BPA	Boggy Peak	7.01	102	*eS*		Sn	17 04 18.7	-3.4
ANDO	Antigua, Disas	7.02	101	*eP*		Pn	17 03 03.7	-0.1
ANDO	Antigua, Disas	7.02	101	*eS*		Sn	17 04 16.9	-5.4
ABD	La Joyeuse, An	7.51	105	*eP*		Pn	17 03 12.4	+2.0
ABD	La Joyeuse, An	7.51	105	*eS*		Sn	17 04 32.6	-1.4
CBE	Ff, Capester	7.53	108	*eP*		Pn	17 03 13.5	+2.7
CBE	Ff, Capester	7.53	108	*eS*		Sn	17 04 38.3	+3.6
DABV	Dabajuro	7.80	192	*eP*		Pn	17 03 15.1	+0.7
MAGL	Barre de l'ile	7.87	108	*eP*		Pn	17 03 15.6	+0.2
MAGL	Barre de l'ile	7.87	108	*eS*		Sn	17 04 42.8	0.0
MTDJ	Mount Denham	8.08	269	Pn		Pn	17 03 18.2	0.0
MTDJ	Mount Denham	8.08	269	*eP*		Pn	17 03 18.5	+0.2
FDF	Fort de France	8.48	116	Pn		Pn	17 03 23.9	+0.1
BIM	Bigot	8.65	117			Pn	17 03 25.3	-0.8
MPOM	Morne Pois Mar	8.87	117	*eP*		Pn	17 03 29.6	+0.8
MPOM	Morne Pois Mar	8.87	117	*eS*		Sn	17 05 06.3	-0.8
SMRC	Santa Marta, M	8.94	215	*eP*		Pn	17 03 23.9	-5.9
PCRV	Puerto La Cruz	9.41	152	P		Pn	17 03 34.0	-2.3
	comp=Z,0.3nm,0.3s,baz=32,slow=23,SNR=1.8							
PCRV				S		Sn	17 05 08.8	-11
	comp=Z,1.8nm,0.3s,baz=23,slow=10,SNR=2.0							
SDV	Santo Domingo	9.79	189	P		Pn	17 03 37.6	-3.9
	comp=Z,10.0nm,0.3s,baz=1,9,slow=3.4,SNR=2.1							
LL2C	La Loma 2 Cana	9.96	206	*eP*		Pn	17 03 42.2	-1.5
LL1C	La Loma 1 Cana	10.02	207	*eP*		Pn	17 03 41.9	-2.6
SOCV	Socops	10.42	190	*eP*		Pn	17 03 50.7	+0.8
SJCC	San Jacinto, C	10.51	215	Pn		Pn	17 03 51.3	+0.2
SJCC	San Jacinto, C	10.51	215	*eP*		Pn	17 03 47.1	-4.1
SMLC	San Martn de	10.91	207	*eP*		Pn	17 03 52.5	-3.9
OCAC	Ocana	11.12	203	*eP*		Pn	17 03 57.3	-2.2
MOTC	Monteria, Cord	11.70	214	*eP*		Pn	17 04 05.9	-1.2
PAMC	Pamplona, Colo	11.76	198	*eP*		Pn	17 04 07.0	-1.2
ZARC	Zaragoza, Cauc	12.42	208	*eP*		Pn	17 04 14.5	-2.0
UREC	San Jos de Ur	12.51	211	*eP*		Pn	17 04 16.4	-1.3
BARC	Barichara	12.61	199	*eP*		Pn	17 04 18.4	-0.8
DBBC	Dabeiba	13.47	212	*eP*		Pn	17 04 30.7	+0.3
SOR	Soroa	13.72	290			P	17 04 37.0	-1.0
HELC	Santa Helena	13.87	208	*eP*		Pn	17 04 36.4	+0.7
NOAC	Norcasia	14.16	204	*eP*		P	17 04 42.1	-1.0
BBSR	BB Station	14.25	15	Pn		Pn	17 04 41.5	+1.5
CBOC	Ciudad Bolivar	14.38	209	*eP*		Pn	17 04 40.2	-1.8
ROSC	El Rosal	14.63	201	P		Pn	17 04 40.9	-4.5
	baz=192,slow=21,SNR=1.0							
CHIC	Chingaza	14.63	199	*eP*		Pn	17 04 46.4	+1.0
GUY2C	Guyana, Caldas	14.67	206	*eP*		Pn	17 04 46.3	+0.3
TOLC	Tolima	15.23	205	*eP*		Pn	17 04 51.6	-1.3
ORTC	Ortega, Tolima	15.82	203	*eP*		Pn	17 04 57.3	-2.7
YOTC	Yotoco, Valle	16.20	207	*eP*		P	17 05 05.9	+0.2
SRBA	San Rafael, Bu	16.73	238	P		P	17 05 13.3	+1.8
MACC	Macarena, Meta	17.03	197	*eP*		Pn	17 05 16.4	+1.6
OTAV	Otavalo	20.47	208	P		P	17 05 53.5	+0.8
WVT	Waverly	24.07	320	P		P	17 06 28.3	+0.2
L40A	Anamosa	30.04	326	P		P	17 07 21.9	+0.3
L40A				IAmb		IAmb	17 07 22.7	
	comp=Z,4.3nm,0.5s							
WMOK	Wichita Mounta	30.90	307	P		P	17 07 30.1	+0.8
WMOK				IAmb		IAmb	17 07 30.6	
	comp=Z,2.8nm,0.6s							
TXAR	Lajitas Array	33.28	295	P		P	17 07 51.1	+0.8
	comp=Z,0.5nm,0.4s,baz=113,slow=7.7,SNR=17							
TX31	Lajitas Ar. Si	33.28	295	P		P	17 07 51.3	+1.0
TX32	Lajitas Array	33.28	295	P		P	17 07 50.9	+0.6
TX32				IAmb		IAmb	17 07 57.6	
	comp=Z,11nm,2.0s							
MSTX	Muleshoe	33.71	304	P		P	17 07 54.7	+0.7
MSTX				IAmb		IAmb	17 07 54.9	
	comp=Z,5.7nm,1.1s							
F36A	Milaca	33.90	329	P		P	17 07 55.1	-0.2
F36A				IAmb		IAmb	17 08 46.8	
	comp=Z,8.6nm,1.6s							
ECSD	EROS Data Cent	34.12	323	P		P	17 07 56.5	-0.7
ECSD				IAmb		IAmb	17 07 59.0	
	comp=Z,4.5nm,1.1s							
MNTX	Cornudas Mount	35.22	299	P		P	17 08 07.3	+0.5
SCHQ	Schefferville	36.19	2	P		P	17 08 16.3	+1.4
	comp=Z,1.5nm,0.5s,baz=180,slow=12,SNR=3.1							
AGMN	Agassiz Station	36.75	330	P		P	17 08 20.1	+0.4
SDCO	Great Sand Dun	37.06	309	P		P	17 08 22.4	-0.5
SDCO				IAmb		IAmb	17 08 24.9	
	comp=Z,9.6nm,1.9s							
MNMC	Minye Minye	37.51	181	P		P	17 08 23.2	-3.5
PB09	IPOC Station P	40.16	180	P		P	17 08 48.2	-0.4
RLMT	Red Lodge	42.55	317	P		P	17 09 06.8	-1.3
RLMT				IAmb		IAmb	17 09 23.3	
	comp=Z,15nm,1.9s							
NV11	Mina Array Sit	46.85	306	P		P	17 09 44.2	+1.9
NV11				IAmb		IAmb	17 09 45.1	
	comp=Z,3.8nm,0.6s							
NVAR	Mina Array Bea	46.97	305	P		P	17 09 45.0	+1.7
	comp=Z,0.7nm,0.5s,baz=109,slow=4.7,SNR=6.7							
YKA	Yellowknife Ar	53.90	336	P		P	17 10 34.8	+0.1
	comp=Z,0.2nm,0.3s,baz=114,slow=8.8,SNR=2.4							
YKA				pP		pP	17 11 03.3	+1.0
	comp=Z,0.6nm,0.7s,baz=114,slow=7.6,SNR=3.3							
ILAR	Eielson Array	68.15	333	P		P	17 12 12.2	+1.2
	comp=Z,0.8nm,1.1s,baz=154,slow=2.4,SNR=4.9							
FINES	FINESS Array B	76.25	30	P		P	17 13 00.4	+1.2
	comp=Z,1.0nm,0.9s,baz=336,slow=3.0,SNR=4.9							

*ISK **21** 17:06:14.9,36°.13N×31°.54E,h89km,ML2.7/34*
*DDA **21** 17:06:17.9,36°.27N×31°.72E,h61km±1km,ML2.4*
*NIC **21** 17:06:17.3±0.0,36°.17N×31°.70E,h28km±2km,Ml2.9/4*
ISC 21 17:06:17.2±1.3**,36°.17N**±0°.03×**31°.62E**±0°.03**,h70**km±11km**,**n68**,σ1§02/86**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.56	83	*i* P	Pn	17 06 30.6	-0.1
GAZI				*i* S	Sn	17 06 39.8	-0.7
GAZI				IAML		17 06 41.0	
	comp=N,163nm,0.3s						
GAZI				IAML		17 06 44.0	
	comp=E,176nm,0.3s						
GAZI	Gazipasa	0.56	83	PG	Pn	17 06 30.5	-0.1
KEPZ	Antalya-Kepez	0.73	359	*i* P	Pn	17 06 32.5	0.0
KEPZ				*i* S	Sn	17 06 43.0	-0.8
KEPZ				IAML		17 06 44.0	
	comp=N,110nm,0.2s						
KEPZ				IAML		17 06 45.0	
	comp=E,146nm,0.6s						
AKUM	Antalya-Kumluc	1.04	279	*i* P	Pn	17 06 38.7	+2.5
AKUM				IAML		17 07 02.0	
	comp=E,76nm,0.5s						
AKUM				IAML		17 07 02.0	
	comp=N,80nm,0.7s						
ANTB	Antalya	1.07	313	PG	Pn	17 06 35.9	-0.6
BOZY	Bozyazi-Mersin	1.10	93	PN	Pn	17 06 37.3	+0.4
ERMK	Ermenek	1.14	65	*i* P	Pn	17 06 39.4	+1.7
ERMK				*i* S	Sn	17 06 52.0	-1.0
ERMK				IAML		17 06 57.0	
	comp=N,103nm,0.3s						
ERMK				IAML		17 06 59.0	
	comp=E,63nm,0.4s						
TEKE	Tekeli-Mersin	1.21	91	PN	Pn	17 06 38.8	+0.5
TEKE				SN	Sn	17 06 55.9	+1.8
SEYD	Seydisehir-KON	1.25	8	PN	Pn	17 06 38.9	-0.1
SEYD				SN	Sn	17 06 56.6	+1.3
ALFC	Alefka	1.28	141	P	Pn	17 06 38.9	-0.5
ALFC				S	Sn	17 06 54.6	-1.4
ALFC				AML	AML	17 06 55.0	
	comp=E,0.9nm,0.1s						
ALFC				AML	AML	17 06 55.0	
	comp=E,0.9nm,0.1s						
ALFC				AML	AML	17 06 55.9	
	comp=E,1.2nm,0.1s						
ALFC				AML	AML	17 06 55.9	
	comp=E,1.2nm,0.1s						
AKMS	Akamas	1.29	153	P	Pn	17 06 39.1	-0.2
AKMS				S	Sn	17 06 56.0	0.0
AKMS				AML	AML	17 07 03.6	
	comp=E,0.7nm,0.4s						
AKMS				AML	AML	17 07 03.6	
	comp=E,0.7nm,0.4s						
AKMS				AML	AML	17 07 04.5	
	comp=E,0.9nm,0.5s						
AKMS				AML	AML	17 07 04.5	
	comp=E,0.9nm,0.5s						
SEDI	Konya, Seydise	1.29	5	*i* P	Pn	17 06 40.0	+0.6
SEDI				*i* S	Sn	17 06 55.9	-0.3
BERE	Bereket-Mersin	1.31	82	PN	Pn	17 06 40.8	+1.1
KORT	Korkueli	1.32	309	PN	Pn	17 06 38.9	-1.0
AKDN	Akdeniz- Kıbrı	1.40	128	PN	Pn	17 06 40.7	-0.1
BUCA	Burdur, Bucak-	1.44	324	*i* P	Pn	17 06 40.1	-1.3
LEF	Lefka	1.47	135	PN	Pn	17 06 40.9	-0.8
KKBE	Karaman, Kazim	1.49	45	*i* P	Pn	17 06 43.2	+1.0
KKBE				*i* S	Sn	17 07 01.5	+0.5
TEVE	Tevekalti-Mers	1.50	79	PN	Pn	17 06 43.2	+1.1
ELL	Elmali	1.50	293	PN	Pn	17 06 41.2	-1.0
ELL	Elmali	1.50	293	S	Sn	17 07 03.1	+2.0
BCK	Bucak	1.53	328	PN	Pn	17 06 42.4	-0.3
AKK1	Akkuyu-Mersin	1.55	90	PN	Pn	17 06 44.1	+1.3
GULN	MERSIN_Gulnar	1.56	89	*i* P	Pn	17 06 43.4	+0.5
GULN				*i* S	Sn	17 07 03.2	+0.9
AKK2	Akkuyu-Mersin	1.56	91	PN	Pn	17 06 43.2	+0.3
AKKU	Akkuyu-Mersin	1.56	90	PN	Pn	17 06 43.5	+0.6
AKAS	Kas	1.63	273	*i* P	Pn	17 06 44.0	0.0
AKAS				IAML		17 07 17.0	
	comp=N,35nm,1.0s						
AKAS	Kas	1.63	273	PN	Pn	17 06 42.8	-1.2
KRMN	Karaman	1.66	52	PN	Pn	17 06 44.3	-0.1
TISA	Tisan-Mersin	1.67	90	PN	Pn	17 06 44.4	+0.1
IKL	Isikli	1.67	87	PN	Pn	17 06 45.1	+0.7
KARG	Kargicak-Mersi	1.69	88	PN	Pn	17 06 44.9	+0.2
KEBE	Keben-Mersin	1.71	80	PN	Pn	17 06 46.4	+1.4
SZAC	Souni	1.75	144	S	Sn	17 07 08.2	+1.3
ATHAL	Athalassa	1.77	125	S	Sn	17 07 07.3	-0.1
LFK	Lefkose	1.79	119	PN	Pn	17 06 46.3	+0.2
CSS	Mathiatis	1.84	130	PN	Pn	17 06 45.6	-1.1
CSS	Mathiatis	1.84	130	P	Pn	17 06 46.0	-0.7
KONT	Konya--Tatoy	1.87	18	*i* P	Pn	17 06 47.2	+0.1
KONT	Konya--Tatoy	1.87	18	PN	Pn	17 06 47.6	+0.5
SILI	Silifke-Mersin	1.87	83	PN	Pn	17 06 47.8	+0.7
ISP	Isparta	1.87	332	PN	Pn	17 06 46.6	-0.6
ASGA	Asgata	1.91	136	P	Pn	17 06 47.5	-0.2
ASGA				S	Sn	17 07 11.1	+0.3
ASGA				AML	AML	17 07 21.8	
	comp=N,0.3nm,0.5s						
ASGA				AML	AML	17 07 21.8	
	comp=N,0.3nm,0.5s						
ASGA				AML	AML	17 07 22.5	
	comp=N,0.3nm,0.4s						
ASGA				AML	AML	17 07 22.5	
	comp=N,0.3nm,0.4s						
DOGA	KONYA_Doganhis	1.94	1	*i* P	Pn	17 06 48.8	+0.7
BAGO	Egridir - ISPA	1.94	340	*i* P	Pn	17 06 48.1	+0.1
BAGO				*i* S	Sn	17 07 11.7	+0.1
GOLH	Golhisar	1.97	303	*i* P	Pn	17 06 49.7	+1.1
GOLH				IAML		17 07 22.0	
	comp=E,29nm,0.9s						
GOLH				IAML		17 07 23.0	
	comp=N,33nm,0.5s						
MVOU	Mavrovouni	2.00	124	P	Pn	17 06 48.2	-0.7
MVOU				S	Sn	17 07 11.6	-1.4
MVOU				AML	AML	17 07 13.5	
	comp=N,0.3nm,0.3s						
MVOU				AML	AML	17 07 13.5	
	comp=N,0.3nm,0.3s						
MVOU				AML	AML	17 07 13.5	
	comp=N,0.2nm,0.2s						
MVOU				AML	AML	17 07 13.5	
	comp=N,0.2nm,0.2s						
CAME	Cameli-Denizli	2.02	293	PN	Pn	17 06 48.2	-1.1
KIZK	Mersin	2.06	81	*i* P	Pn	17 06 50.9	+1.3
KIZK				*i* S	Sn	17 07 12.7	-1.7
KIZK	Mersin	2.06	81	PN	Pn	17 06 50.1	+0.5
FETY	Fethiye	2.10	284	PN	Pn	17 06 48.7	-1.5
LADK	Ladik-KONYA	2.11	16	PN	Pn	17 06 49.7	-0.8
BASM	Basmaki-Afyon	2.15	325	PN	Pn	17 06 49.5	-0.5
EREN	Erenkoy	2.17	106	PN	Pn	17 06 51.2	+0.2
KERG	Konya-Eregli	2.36	57	*i* P	Pn	17 06 54.7	+0.8
KERG				*i* S	Sn	17 07 21.1	-0.9
KERG				IAML		17 07 23.0	
	comp=E,37nm,0.3s						
KERG				IAML		17 07 27.0	
	comp=N,19nm,0.4s						
KDHN	Kadinhani	2.38	9	*i* P	Pn	17 06 52.9	-1.2
KZIL	AFYON_Kizioren	2.40	331	*i* P	Pn	17 06 55.0	+0.7
KZIL				*i* S	Sn	17 07 20.7	-2.0
MERS	Mersin	2.44	72	PN	Pn	17 06 55.4	+0.6
TAVA	DENIZLI_Tavas	2.53	302	*i* P	Pn	17 06 59.4	+3.3
OSC1	CSNet OBS 1	2.68	186	S	Sn	17 07 31.0	+1.7
DED	Mersin	2.68	72	*i* P	Pn	17 06 59.1	+1.1
DED				*i* S	Sn	17 07 28.5	-0.9
DED				IAML		17 07 35.0	
	comp=N,16nm,0.4s						
KIZT	Kizilcal	2.72	4	PN	Pn	17 06 58.2	-0.4
GULE	Gulek	2.77	65	*i* P	Pn	17 07 01.3	+1.9
GULE				*i* S	Sn	17 07 30.7	-1.1
GULE				IAML		17 07 37.0	
	comp=E,42nm,0.3s						
GULE				IAML		17 07 38.0	
	comp=Z,15nm,0.3s						
GULE				IAML		17 07 38.0	
	comp=N,25nm,0.3s						
KARA	Karaisali	2.97	67	PN	Pn	17 07 02.5	+0.6
CMRD	Camardi-Nigde	3.08	60	PN	Pn	17 07 03.9	+0.3
CEYT	Ceyhan	3.43	75	PN	Pn	17 07 08.2	0.0
KOZT	Kozan	3.62	68	PN	Pn	17 07 10.4	-0.4
TAHT	Tahtakopru-Hat	3.69	85	PN	Pn	17 07 11.8	0.0

*GCG **21** 17:19:41.6±0.9, 16°.99N×91°.21W,h35km±999km,MD4.6*
*INET **21** 17:19:45.4, 12°.81N×90°.07W,h15km, MW5.0*
*BGR **21** 17:19:47.9±0.0, 12°.40N×90°.79W,h33km,mb4.8*
*IDC **21** 17:19:49.8±0.5, 13°.43N×89°.40W,h0km,mb4.3/20,*
mb1 4.5/21,mb1mx4.5/30,mbtmp4.4/21,ML4.3/1, MS4.0/22,
Ms1 4.0/22,ms1mx3.9/27,Error ellipse: s-maj=24.0km
s-min=12.1km az=54.0
*SNET **21** 17:19:53.9±0.9, 13°.06N×89°.98W,h19km±4km,ML4.8*
*SSS **21** 17:19:53.9, 13°.06N×89°.98W,h19km, ML4.8*
*UCR **21** 17:19:56.4±2.0, 13°.21N×89°.94W,h33km±10km,ML4.6,*
mb4.8(NEIC)
*NEIC **21** 17:19:59.2±2.3, 13°.25N±0°.06×89°.80W±0°.07,h73km±6km,*
mb4.8/100,Md4.8(SNET), Error ellipse: s-maj=11.1km
s-min=8.1km az=53.0
ISC 21 17:19:57.8±0.7**,13°.23N**±0°.04×**89°.87W**±0°.05**,h65**km±5km**,**n315**,σ1§68/296**,mb4.7**/67**,2C-28D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	Cerro Verde	0.64	22	*i* P	Pn	17 20 09.9	-2.0
CEVE				*eS*	Sn	17 20 22.5	+0.3
CEVE	Cerro Verde	0.64	22	*i* P	Pn	17 20 09.9	-2.0
CEVE				*eS*	Sn	17 20 22.5	+0.3
SBLS	San Blas	0.65	22	⇓*iP*	Pn	17 20 10.0	-2.1
SBLS	San Blas	0.65	22	⇓*iP*	Pn	17 20 10.0	-2.1
SNJE	San Jose	0.68	22	⇓*iP*	Pn	17 20 10.4	-2.0
SNJE	San Jose	0.68	22	⇓*iP*	Pn	17 20 10.4	-2.0
RTR	El Retiro	0.69	18	*eP*	Pn	17 20 10.6	-1.9
RTR	El Retiro	0.69	18	*eP*	Pn	17 20 10.6	-1.9
BOQS	Boqueron	0.76	49	⇓*iP*	Pn	17 20 11.7	-1.6
BOQS	Boqueron	0.76	49	⇓*iP*	Pn	17 20 11.7	-1.6
SNET	Serv Nac Est T	0.77	54	⇓*iP*	Pn	17 20 11.4	-1.8
SNET				*eS*	Sn	17 20 25.6	+1.1
SNET	Serv Nac Est T	0.77	54	⇓*iP*	Pn	17 20 11.4	-1.8
SNET				*eS*	Sn	17 20 25.6	+1.1
SNET	Serv Nac Est T	0.77	54		Pn	17 20 11.3	-1.9
UEES	Universidad Ev	0.78	52	*eP*	Pn	17 20 11.8	-1.6
UEES				IAML		17 20 30.2	
	comp=Z,20µm,0.3s						
UEES	Universidad Ev	0.78	52	*eP*	Pn	17 20 11.8	-1.6
UEES				IAML		17 20 30.2	
	comp=Z,20µm,0.3s						
OPAM	Oficina de Pla	0.81	54	*eP*	Pn	17 20 12.3	-1.4
OPAM	Oficina de Pla	0.81	54	*eP*	Pn	17 20 12.3	-1.4
LFRS	El Faro	0.88	64	⇓*iP*	Pn	17 20 13.1	-1.5
LFRS	El Faro	0.88	64	⇓*iP*	Pn	17 20 13.1	-1.5
LFU	La Fuente	0.89	55	*eP*	Pn	17 20 13.7	-1.1
LFU	La Fuente	0.89	55	*eP*	Pn	17 20 13.7	-1.1
SJTE	Alcalda de S	0.92	66	⇓*eP*	Pn	17 20 13.7	-1.4
SJTE	Alcalda de S	0.92	66	⇓*eP*	Pn	17 20 13.7	-1.4
LBRS	Las Brisas	0.95	58	⇓*iP*	Pn	17 20 14.5	-0.9
LBRS	Las Brisas	0.95	58	⇓*iP*	Pn	17 20 14.5	-0.9
PAVA	Las Pavas	1.02	62	⇓*iP*	Pn	17 20 15.7	-0.7
PAVA	Las Pavas	1.02	62	⇓*iP*	Pn	17 20 15.7	-0.7
COEG	Centro de Oper	1.03	68	⇓*eP*	Pn	17 20 15.4	-1.2
COEG				IAML		17 20 37.3	
	comp=Z,19µm,0.4s						
COEG	Centro de Oper	1.03	68	⇓*eP*	Pn	17 20 15.4	-1.2
COEG				IAML		17 20 37.3	
	comp=Z,19µm,0.4s						
TECO	Alcaldia de Te	1.10	74	⇓*eP*	Pn	17 20 15.9	-1.4
TECO				*eS*	Sn	17 20 32.6	+0.7
MTO3	Montecristo	1.26	23	⇓*iP*	Pn	17 20 19.4	-0.3
MTO3	Montecristo	1.26	23	⇓*iP*	Pn	17 20 19.4	-0.3
MTO3	Montecristo	1.26	23		Pn	17 20 19.4	-0.3
COEB	Comit de Eme	1.33	78	⇓*eP*	Pn	17 20 19.1	-1.3
COEB				IAML		17 20 41.8	
	comp=Z,10µm,0.4s						
COEB	Comit de Eme	1.33	78	⇓*eP*	Pn	17 20 19.1	-1.3
COEB				IAML		17 20 41.8	
	comp=Z,10µm,0.4s						
PQSS	Presa 15 de Se	1.33	73	*eP*	Pn	17 20 19.6	-0.8
PQSS				*eS*	Sn	17 20 39.6	+2.3
TECA	Tecapa	1.35	79	⇓*eP*	Pn	17 20 19.6	-1.3
TECA	Tecapa	1.35	79	⇓*eP*	Pn	17 20 19.6	-1.3
PCG	Pacaya	1.36	328	*eP*	Pn	17 20 19.7	-1.2
PCG				*eS*	Sn	17 20 55.5	+17
ESQI	Esquipulas	1.41	21	⇓*eP*	Pn	17 20 21.7	+0.1
ESQI	Esquipulas	1.41	21		Pn	17 20 21.9	+0.3
NBG	Las Nubes	1.42	341	*eP*	Pn	17 20 21.7	-0.2
NBG				*eS*	Sn	17 20 52.0	+12
PACA	Pacayal	1.52	81	*eP*	Pn	17 20 22.9	-0.2
PACA	Pacayal	1.52	81	*eP*	Pn	17 20 22.9	-0.2
FUG	Fuego 3	1.53	322	*eP*	Pn	17 20 21.0	-2.3
LCY	Lacayo	1.54	83	⇑*eP*	Pn	17 20 22.6	-0.7
LCY	Lacayo	1.54	83	⇑*eP*	Pn	17 20 22.6	-0.7
JUCU	Jucuarın	1.58	89	*eP*	Pn	17 20 22.6	-1.1
JUCU				IAML		17 20 50.3	
	comp=Z,12µm,0.4s						
JUCU	Jucuarın	1.58	89	*eP*	Pn	17 20 22.6	-1.1
JUCU				IAML		17 20 50.3	
	comp=Z,12µm,0.4s						
LCND	La Caada	1.93	88	⇓*eP*	Pn	17 20 27.3	-1.1
LCND				IAML		17 20 57.8	
	comp=Z,8µm,0.3s						
LCND	La Caada	1.93	88	⇓*eP*	Pn	17 20 27.3	-1.1
LCND				IAML		17 20 57.8	
	comp=Z,8µm,0.3s						
CNCH	Conchagua	1.98	89	*eP*	Pn	17 20 28.5	-0.8
CNCH	Conchagua	1.98	89	*eP*	Pn	17 20 28.5	-0.8
HUEH	Huehuetenango	2.61	323		Pn	17 20 38.0	+0.1
TGUH	Tegucigalpa,Un	2.65	72	Pn	Pn	17 20 37.9	-0.5
TGUH	Tegucigalpa,Un	2.65	72	*eP*	Pn	17 20 36.7	-1.7
CRIN	San Cristobal	2.80	101		Pn	17 20 39.0	-1.3
CNGN	Cerro Negro	3.17	103	*eP*	Pn	17 20 45.1	-0.3
CNGN	Cerro Negro	3.17	103		Pn	17 20 45.3	-0.2
PETF	Flores	3.66	0		Pn	17 20 53.1	+1.0
CCIG	Comitan	3.74	324		Pn	17 20 54.3	+1.0
MAN	Matagalpa	3.85	94		Pn	17 20 53.8	-1.0
BOAB	BOACO BROADBAN	4.17	100		Pn	17 20 57.0	-2.0
ACON	Acoyapa	4.75	105	*eP*	Pn	17 21 05.4	-1.6
HZTE	Horizontes, Gu	4.87	120		Pn	17 21 09.0	+0.4
GBS3	Finca Las Img	4.96	119	*eP*	Pn	17 21 11.1	+1.3
GB1A	Borin

MACC Macarena, Meta 19.30 123 eP P 17 24 17.6 -0.2
237A Washetta, Mont 19.46 345 P P 17 24 19.4 +0.1
JCT Junction City 19.46 333 P P 17 24 20.4 +0.9
JCT Junction City 19.46 333 P 17 24 20.8
baz=150,SNR=7.0
PTGC Puerto Gaitan, 19.68 116 eP P 17 24 21.4 -0.4
PTLC Puerto Leguiza 19.79 130 eP Pn 17 24 28.1 +3.0
WHTX Lake Whitney, 19.93 341 P 17 24 25.6
baz=158
Z41A Richland Creek 20.11 353 P 17 24 31.8
baz=172,SNR=12
TXAR Lajitas Array 20.51 324 P P 17 24 32.8 +1.9
comp=Z,26nm,0.8s,baz=149,slow=11,SNR=208
TXAR PcP PcP 17 28 40.8 +0.5
comp=Z,2.2nm,0.9s,baz=157,slow=3.5,SNR=6.6
TXAR LR LR 17 34 28.3
comp=Z,132nm,18.8s,baz=0.0,slow=43
TXAR Lajitas Array 20.51 324 P Pn 17 24 33.5 -0.1
TX31 Lajitas Ar. Si 20.51 324 P Pn 17 24 33.5 -0.1
TX32 Lajitas Array 20.51 324 P Pn 17 24 33.5 -0.1
TX32 IAmb IAmb 17 24 34.4
comp=Z,38nm,0.9s
Y49A Blount Mountai 20.77 8 P Pn 17 24 35.7 -0.8
GOGA Godfrey 20.92 15 P P 17 24 36.7 +1.6
GOGA Godfrey 20.92 15 P 17 24 36.7
baz=197
OXF Oxford 21.19 1 P P 17 24 39.8 +1.8
OXF Oxford 21.19 1 P 17 24 41.8
baz=181,SNR=7.9
ABTX Abilene, Hawle 21.27 337 P 17 24 39.0
baz=153
ABTX Abilene, Hawle 21.27 337 P P 17 24 39.8 +0.8
ABTX IAmb IAmb 17 24 46.3
comp=Z,41nm,1.1s
X40A Basin Creek Fa 21.33 353 P 17 24 42.6
baz=172,SNR=12
MIAR Mount Ida 21.48 352 P 17 24 41.7
baz=170,SNR=8.2
MIAR Mount Ida 21.48 352 P P 17 24 42.4 +1.2
FPAL Fort Paine 21.56 10 P P 17 24 42.9 +0.9
FPAL IAmb IAmb 17 24 58.9
comp=Z,41nm,1.0s
SLBS Sierra La Lagu 21.67 302 P P 17 24 45.6 +2.3
SLBS IAmb IAmb 17 24 49.4
comp=Z,48nm,1.1s
NHSC New Hope 21.67 22 P 17 24 43.8
baz=206
PLAL Pickwick Lake 21.71 4 P P 17 24 44.2 +0.6
PLAL IAmb IAmb 17 24 48.6
comp=Z,25nm,1.0s
X37A Clayton 21.84 348 P P 17 24 47.2 +2.3
X37A IAmb IAmb 17 25 06.6
comp=Z,58nm,1.1s
W41B Gary Mavity, V 21.95 355 P 17 24 49.1
baz=174,SNR=10
WHAR Wooly Hollow 22.07 355 P P 17 24 49.1 +1.7
WHAR IAmb IAmb 17 24 51.7
comp=Z,24nm,0.9s
LPIG La Paz 22.15 302 P P 17 24 50.5 +2.2
comp=Z,54nm,1.0s,baz=0.1,slow=2.2,SNR=5.9
W39A Magazine 22.15 351 IAmb IAmb 17 25 02.9
comp=Z,30nm,1.2s
W39A Magazine 22.15 351 P 17 24 48.6
baz=170,SNR=7.6
SWET Sewanee 22.17 9 IAmb IAmb 17 24 51.0
comp=Z,20nm,0.7s
X34A Smith Ranch, M 22.46 343 P P 17 24 52.0 +0.3
X34A IAmb IAmb 17 24 55.6
comp=Z,49nm,1.0s
V48A Smith Brothers 22.58 6 IAmb IAmb 17 25 10.1
comp=Z,76nm,1.5s
WVT Waverly 22.87 4 P P 17 24 56.0 +0.1
WVT Waverly 22.87 4 P 17 24 56.3
baz=185
WMOK Wichita Mounta 22.88 341 P 17 24 54.7
baz=157,SNR=24
BIRD Birdtown, Kers 22.96 20 P P 17 24 55.8 -1.0
BIRD IAmb IAmb 17 25 14.1
comp=Z,38nm,1.1s
TKL Tuckaleechee C 22.99 13 P P 17 24 57.2 0.0
comp=Z,23nm,0.8s,baz=182,slow=9.7,SNR=21
TKL Tuckaleechee C 22.99 13 IAmb IAmb 17 25 19.6
comp=Z,30nm,0.9s
KMSC Kings Mountain 23.14 18 P 17 24 59.2
baz=201
TUL1 Leonard 23.20 348 P 17 24 59.5
baz=165
ATAH Atahualpa 23.23 150 P P 17 25 06.8 +6.8
comp=Z,5.6nm,0.9s,baz=343,slow=11,SNR=3.8
OK025 Westminster Rd 23.25 344 P P 17 24 58.7 -1.0
MNTX Cornudas Mount 23.26 325 P P 17 25 00.3 +0.5
MNTX IAmb IAmb 17 25 02.2
comp=Z,38nm,1.2s
MNTX Cornudas Mount 23.26 325 P 17 25 01.2
baz=139,SNR=40
PARMO Parma 23.33 0 P P 17 24 59.7 -0.7
U49A Red Boiling Sp 23.47 8 IAmb IAmb 17 25 03.5
comp=Z,34nm,0.8s
MSTX Muleshoe 23.74 333 P 17 25 05.4
baz=147,SNR=7.2
T47A Sharon Grove 23.78 5 IAmb IAmb 17 25 07.2
comp=Z,45nm,0.8s
V55A Taylorsville 23.83 18 IAmb IAmb 17 25 07.4
comp=Z,19nm,0.8s
TZTN Tazewell 23.89 13 P 17 25 06.0
baz=195
AMTX Amarillo 24.06 336 P 17 25 07.4
baz=151
U54A Nelsons Funny 24.29 16 IAmb IAmb 17 25 26.2
comp=Z,38nm,0.8s
V58A Windy Hill, Pi 24.46 21 IAmb IAmb 17 25 11.9
comp=Z,23nm,0.8s
S51A Beattyville 24.94 12 P P 17 25 15.2 +0.1
WCI Wyandotte Cave 25.10 7 P P 17 25 16.6 +0.1
WCI IAmb IAmb 17 25 34.2
comp=Z,24nm,0.9s
WCI Wyandotte Cave 25.10 7 P 17 25 16.6
baz=188
121A Cookes Peak, D 25.25 322 IAmb IAmb 17 25 24.6
comp=Z,47nm,0.8s
121A Cookes Peak, D 25.25 322 P 17 25 21.0
baz=135,SNR=42
ANMO Albuquerque 26.32 328 P P 17 25 27.4 -0.4
comp=Z,2.3nm,0.6s,baz=158,slow=9.4,SNR=11
ANMO PcP PcP 17 28 54.7 +2.1
comp=Z,1.7nm,0.8s,baz=192,slow=4.2,SNR=3.8
ANMO Albuquerque 26.32 328 P P 17 25 28.6 +0.8
ANMO Albuquerque 26.32 328 P 17 25 29.8
baz=141
CZSB Cruzeiro do Su 26.91 140 eP P 17 25 34.4 +1.2
TUC Tucson 26.97 318 P P 17 25 35.0 +1.3
TUC IAmb IAmb 17 25 41.0
comp=Z,17nm,0.9s
TUC Tucson 26.97 318 P 17 25 35.5
baz=130
T25A Trinidad 27.13 334 P 17 25 37.8
baz=148,SNR=8.1
SFIN Lafayette 27.15 5 P 17 25 34.9
baz=186
214A Organ Pipe Nat 28.11 315 P 17 25 45.9
baz=126,SNR=7.2
SDCO Great Sand Dun 28.11 333 P 17 25 45.7
baz=146
W18A Petrified Fore 28.23 324 P 17 25 47.5
baz=136
L42A Oliver, Polo 28.66 0 IAmb IAmb 17 25 51.3
comp=Z,16nm,1.0s
S22A 4UR Ranch, Cre 28.71 331 P 17 25 51.0
baz=144
L40A Anamosa 28.75 358 IAmb IAmb 17 25 50.9
comp=Z,22nm,0.9s
L44A Lake County Fo 28.89 3 P 17 25 50.4
baz=184
N54A Moraine State 28.95 16 P 17 25 51.1
baz=200
MVCO Mesa Verde 29.11 328 P 17 25 54.7
baz=140
WUAZ Wupatki 29.47 323 P 17 25 58.4
baz=134,SNR=13
JFWS Jewell Farm 29.58 359 P 17 25 56.1
baz=179
PV12 Saucer Basin, 30.12 329 IAmb IAmb 17 26 07.3
comp=Z,12nm,0.8s
GLA Glamis 30.12 315 P 17 26 04.2
baz=125
N59A State Game Lan 30.21 22 P 17 26 03.3
baz=208

PDMCI Parker Dam,Lak 30.41 318 P 17 26 06.5
baz=128,SNR=10
I42A Draeger Farm, 30.56 1 IAmb IAmb 17 26 06.2
comp=Z,21nm,1.1s
SWSC Sam W. Stewart 30.74 314 P 17 26 09.2
baz=124,SNR=7.8
IKP In-Ko-Pah, Jac 30.80 313 P 17 26 10.1
baz=123,SNR=9.4
BC3 Big Chuckawall 30.90 315 P 17 26 10.8
baz=125,SNR=27
ECSD EROS Data Cent 30.94 350 IAmb IAmb 17 26 09.6
comp=Z,16nm,0.9s
ECSD EROS Data Cent 30.94 350 P 17 26 08.1
baz=167,SNR=25
BOAV Boa Vista 30.96 108 eP P 17 26 08.3 -0.8
IRM Iron Mountain 30.98 317 P 17 26 11.5
baz=126,SNR=12
MONP2 Monument Peak 31.15 313 P 17 26 13.3
baz=123,SNR=12
H43A Windswept, Lux 31.18 3 IAmb IAmb 17 26 11.3
comp=Z,19nm,0.9s
L58A Harry Jones Me 31.18 20 P 17 26 11.3
baz=207
BINY Binghamton 31.28 20 P 17 26 11.8
baz=207
O20A White River Ci 31.29 332 P 17 26 14.2
baz=144,SNR=7.7
K56A Middlesex 31.30 18 P 17 26 11.7
baz=204
BELC Belle Mtn. Jos 31.47 316 P 17 26 15.8
baz=125,SNR=13
TPFO Pinon Flats 31.56 314 P 17 26 16.5
baz=124,SNR=7.1
PFO Pinyon Flats O 31.57 314 P 17 26 17.0
baz=124,SNR=7.1
GMRC Granite Mounta 31.70 317 P 17 26 17.9
baz=126,SNR=12
SPMN Marine on St. 31.98 356 P 17 26 17.2
baz=174,SNR=7.8
SUSD Miller 32.06 348 P 17 26 18.7
baz=163
MURC Murrieta 32.08 314 P 17 26 21.7
baz=123
HEC Hector,Ludlow 32.17 316 P 17 26 22.5
baz=125
TUQ Turquoise Moun 32.26 318 P 17 26 23.1
baz=127,SNR=5.2
J57A Williamstown 32.36 19 P 17 26 20.6
baz=206,SNR=5.8
J57A Williamstown 32.36 19 IAmb IAmb 17 26 21.8
comp=Z,18nm,0.8s
J58A Remsen 32.54 20 P 17 26 22.5
baz=207
J58A Remsen 32.55 20 IAmb IAmb 17 26 23.2
comp=Z,8.2nm,0.7s
H53A Bobcaygeon 32.69 15 P 17 26 23.4
baz=200
BFSC Mount Baldy Ra 32.75 314 P 17 26 27.3
baz=123,SNR=7.0
GSC Goldstone, Bar 32.76 317 P 17 26 27.5
baz=125,SNR=6.7
COWI Conover 32.77 1 IAmb IAmb 17 26 24.9
comp=Z,13nm,0.9s
ETMB Extrema 32.80 133 eP P 17 26 25.7 +0.5
CIS Catalina Islan 32.84 313 P 17 26 28.3
baz=121
I58A Old Forge 32.94 20 P 17 26 25.8
baz=207
RSSD Black Hills 33.09 341 P 17 26 28.6
baz=154
E43A Lone Tree Farm 33.12 4 P P 17 26 27.4 -0.3
DECC Green Verdugo 33.23 314 P 17 26 31.8
baz=122
EDW2 Edwds Air Fo 33.33 315 P 17 26 31.9
baz=123,SNR=9.1
TPNV Topopah Spring 33.38 320 P 17 26 33.2
baz=128,SNR=19
TPNV Topopah Spring 33.38 320 P P 17 26 29.9 -0.4
TPNV IAmb IAmb 17 26 34.1
comp=Z,17nm,0.9s
I59A Olmsteadville 33.41 21 P 17 26 30.8
baz=209
FURC Furnace Creek, 33.48 318 P 17 26 33.6
baz=127,SNR=14
H57A Richville 33.49 19 P 17 26 30.6
baz=206
DUG Dugway, Tooele 33.58 327 P 17 26 34.5
baz=137,SNR=5.6
G54A Lake Saint Pet 33.58 15 P 17 26 31.3
baz=201
MPMC Manual Prospec 33.65 317 P 17 26 34.8
baz=126,SNR=34
H58A Gerlels 33.85 20 P 17 26 33.5
baz=208
R11A Troy Canyon, C 33.86 322 P 17 26 37.2
baz=131,SNR=14
LONY Lake Ozonia 33.90 20 IAmb IAmb 17 26 34.9
comp=Z,8.8nm,0.9s
LONY Lake Ozonia 33.90 20 P 17 26 34.1
baz=207
BW06 Boulder Array 34.00 334 P 17 26 35.9
baz=144
PDAR Pinedale Array 34.00 334 P P 17 26 36.0 +0.3
comp=Z,1.6nm,0.8s,baz=128,slow=9.6,SNR=11
PDAR PcP PcP 17 29 13.5 +1.0
comp=Z,2.8nm,0.9s,baz=116,slow=3.4,SNR=10
PDAR ScP ScP 17 32 59.2 +7.3
comp=Z,0.8nm,0.8s,baz=159,slow=5.9,SNR=5.3
PDAR LR LR 17 43 20.3
comp=Z,112nm,20.1s,baz=146,slow=42
ARVC Arvin 34.04 315 P 17 26 38.5
baz=123,SNR=14
ISA Isabella, Lake 34.09 316 P 17 26 39.1
baz=124,SNR=11
ALGO Algonquin Park 34.11 15 P 17 26 35.6
baz=201
GRAC Grapevine Rang 34.12 319 P 17 26 39.8
baz=127,SNR=6.8
G57A Newington 34.20 19 P 17 26 36.5
baz=206
H59A Cadyville 34.22 21 P 17 26 36.7
baz=209
CWC Cottonwood Cre 34.26 317 P 17 26 40.3
baz=125
PKM Mcpherson Peak 34.60 314 P 17 26 44.1
baz=121,SNR=5.9
VES Vestal, Richgr 34.60 316 P 17 26 43.4
baz=123,SNR=25
EYMN Ely 34.63 358 IAmb IAmb 17 26 40.6
comp=Z,13nm,0.9s
EYMN Ely 34.63 358 P 17 26 40.0
baz=177,SNR=7.8
TIN Tinemaha, Big 34.71 318 P 17 26 44.6
baz=126
REDW Red Top Meadow 35.04 333 IAmb IAmb 17 26 47.3
comp=Z,18nm,0.8s
TPAW Teton Pass 35.19 333 IAmb IAmb 17 26 54.0
comp=Z,9.3nm,0.9s
AGMN Agassiz Nation 35.31 353 P 17 26 46.2
baz=170,SNR=21
MDND Maddock 35.45 349 P 17 26 48.1
baz=163,SNR=21
NVAR Mina Array Bea 35.58 320 P P 17 26 52.1 +2.8
comp=Z,42nm,0.8s,baz=136,slow=8.5,SNR=145
NVAR PcP PcP 17 29 19.0 +1.9
comp=Z,5.6nm,0.8s,baz=145,slow=3.2,SNR=8.3
NVAR LR LR 17 44 37.4
comp=Z,236nm,18.2s,baz=136,slow=42
D55A Sainte-Anne-du 35.78 17 P 17 26 50.1
baz=204
RLMT Red Lodge 35.81 336 P 17 26 51.9
baz=146
RYN Ryan 35.83 320 IAmb IAmb 17 26 54.9
comp=Z,18nm,0.9s
LPAZ La Paz 36.36 143 P P 17 26 56.8 +0.1
comp=Z,0.7nm,0.4s,baz=18,slow=4.6,SNR=3.7
LPAZ LR LR 17 41 50.9
comp=Z,349nm,21.4s,baz=320,slow=36
LPAZ La Paz 36.36 143 eP P 17 26 57.1 +0.5
D58A Chemin du LacG 36.64 20 P 17 26 57.5
baz=208
HLID Hailey 36.86 330 P 17 27 02.4
baz=138,SNR=6.3
PAHR Pah Rah Range 37.02 321 P P 17 27 04.3 +2.8
PAHR IAmb IAmb 17 27 04.8
comp=Z,14nm,0.9s
DGMT Dagmar 37.09 344 P 17 27 02.2
baz=156,SNR=7.5

ULM Lac du Bonnet 37.24 354 P P 17 27 01.8 -1.2
comp=Z,20nm,0.8s,baz=172,slow=8.8,SNR=29
ULM LR LR 17 45 18.0
comp=Z,263nm,18.9s,baz=179,slow=41
LSQQ Lebel-sur-Quev 37.27 14 P 17 27 02.8
baz=201
MATQ Matagami 37.78 13 P 17 27 06.9
baz=200,SNR=7.5
D62A Allapoint, All 37.99 23 P 17 27 08.7
baz=214
ITTB Itaituba 38.14 115 eP P 17 27 09.4 -1.7
D63A Stockholm 38.32 24 P 17 27 12.2
baz=215
MALB Monte Alegre 38.37 110 eP P 17 27 11.8 -1.2
CHGQ Chibougamau 38.72 16 P 17 27 14.7
baz=204
J08A Circle Bar Ran 38.82 326 P P 17 27 15.8 -0.8
J08A IAmb IAmb 17 27 20.8
comp=Z,7.5nm,0.7s
O03E Paynes Creek 38.87 320 P 17 27 18.3
baz=125,SNR=13
MSO Missoula 39.12 334 P 17 27 19.7
baz=141
VILB Vilhena 39.27 130 eP P 17 27 19.8 -0.7
O02D Mt. Diablo Mer 39.42 319 P 17 27 22.1
baz=124,SNR=12
M04C Macdoel 39.75 322 P 17 27 25.6
baz=126,SNR=6.3
NPGB Novo Progresso 39.76 118 eP P 17 27 22.6 -2.1
MCPB Macapa, AP 39.84 107 eP P 17 27 24.9 -0.4
M02C Callahan 40.15 321 P 17 27 27.6
baz=125
YBH Yreka Blue Hor 40.25 321 P P 17 27 28.6 +0.1
L04D Klamath Falls 40.29 322 P 17 27 30.0
baz=126
PINE Pine Mountain 40.46 325 P P 17 27 30.9 +0.5
PINE IAmb IAmb 17 27 32.2
comp=Z,8.2nm,1.0s
J04D Umpqua Nationa 40.78 323 P 17 27 35.0
baz=127
LVC Limon Verde 41.12 150 P P 17 27 36.9 +0.8
comp=Z,1.0nm,0.3s,baz=291,slow=22,SNR=6.5
LVC Limon Verde 41.12 150 eP P 17 27 37.0 +0.8
CLDB Colider 41.44 124 eP P 17 27 37.6 -0.9
PTLB Pontes e Lacer 41.67 132 eP P 17 27 40.8 +0.5
I03D Drain, OR 41.78 323 P 17 27 42.4
baz=126
J01E Myrtle Point 41.81 322 P 17 27 43.0
baz=125
FFC Flin Flon 42.47 350 P P 17 27 46.7 +0.3
FFC IAmb IAmb 17 27 49.3
comp=Z,10.0nm,0.9s
PRPB Parauapebas 44.21 113 eP P 17 28 00.6 -0.4
TMAB Tom-Au,PA,Br 44.25 107 eP P 17 28 00.8 -0.5
SALV Santo Antonio 44.50 130 eP P 17 28 03.0 -0.1
SCHQ Schefferville 45.25 19 P P 17 28 07.6 -1.1
comp=Z,22nm,0.7s,baz=216,slow=7.2,SNR=30
SCHQ Schefferville 45.25 19 P P 17 28 07.8 -0.9
SNDB Serra Nova Dou 45.73 122 eP P 17 28 12.7 -0.4
PP1B Ponte de Pedra 46.17 131 eP P 17 28 16.6 +0.2
ARAG Araguaiana, MT 47.37 126 eP P 17 28 25.6 -0.2
SMTB Santa Maria do 47.38 115 eP P 17 28 25.3 -0.6
AQDB Aquidauana 47.44 134 eP P 17 28 26.9 +0.6
H03N2 Juan Fernandez 47.57 168 T T 18 19 17.1
baz=346,slow=77,SNR=20
H03N1 Juan Fernandez 47.58 168 T T 18 19 19.4
baz=346,slow=77,SNR=18
H03N3 Juan Fernandez 47.59 168 T T 18 19 18.6
baz=346,slow=77,SNR=30
ROSB Rosrio 48.14 106 eP P 17 28 31.1 -0.8
PEXB Peixe 48.30 120 eP P 17 28 32.2 -0.9
BDFB Brasilia 50.37 123 P P 17 28 48.7 -0.3
comp=Z,1.6nm,0.6s,baz=288,slow=9.6,SNR=1.9
BDFB LR LR 17 52 34.4
comp=Z,254nm,18.9s,baz=287,slow=39
BDFB Brasilia 50.37 123 IAmb IAmb 17 28 59.1
comp=Z,10nm,1.2s
CPUP Villa Florida 50.48 141 P P 17 28 48.9 -0.5
comp=Z,3.0nm,0.9s,baz=342,slow=9.1,SNR=4.4
CPUP LR LR 17 49 25.7
comp=Z,173nm,19.9s,baz=286,slow=35
CPUP Villa Florida 50.48 141 IAmb IAmb 17 29 02.6
comp=Z,13nm,1.3s
ITRB Iturama 50.83 129 eP P 17 28 49.7 -2.6
NBPS Pedro II - PI 51.17 107 eP P 17 28 53.6 -1.4
PCMB Pacaembu 51.33 132 eP P 17 28 56.5 +0.6
SDBA SAO DESIDERIO 51.35 118 eP P 17 28 56.7 +0.4
YKA Yellowknife Ar 52.26 346 P P 17 29 02.0 -0.2
comp=Z,8.8nm,0.9s,baz=143,slow=8.1,SNR=48
YKA LR LR 17 55 00.1
comp=Z,140nm,18.3s,baz=0.0,slow=40
PTGB Pitanga 52.76 136 eP P 17 29 07.5 +0.9
BB19B Bebedouro 53.02 129 eP P 17 29 08.7 +0.1
JANB Januaria 53.13 120 eP P 17 29 08.9 -0.6
NBPB Pedra_Branca-C 53.31 107 eP P 17 29 10.7 -0.1
ITQB Itaqui 53.36 144 eP P 17 29 11.6 +0.7
TAOE Nuku Hiva Isla 54.54 249 eT T 18 27 37.3
comp=Z,23nm,0.2s
NBMA Muriti-CE 54.73 109 eP P 17 29 20.6 -0.6
NBPN Ponto Novo - B 54.79 114 eP P 17 29 21.8 +0.3
DIAM Diamantina, MG 55.29 123 eP P 17 29 24.1 -1.1
VAO Valinhos 55.33 130 eP P 17 29 26.1 +0.7
NBPA Parau_RN 55.68 106 eP P 17 29 27.6 -0.4
GDU01 Guandu, BA 56.56 116 eP P 17 29 34.2 -0.1
PLCA Paso Flores 56.60 162 P P 17 29 33.4 -0.8
comp=Z,1.4nm,0.7s,baz=0.0,slow=8.1,SNR=3.1
PLCA LR LR 17 49 26.3
comp=Z,206nm,18.4s,baz=311,slow=31
PLCA Paso Flores 56.60 162 IAmb IAmb 17 29 39.2
comp=Z,0.5nm,0.6s
RCBR Riachuelo 56.84 106 eP P 17 29 35.8 -0.5
NBIT Itapeh - BA 57.22 118 eP P 17 29 39.0 +0.1
CMC01 Camacan, BA 57.34 118 eP P 17 29 39.5 -0.3
NBAN Anadia - AL 57.87 110 eP P 17 29 42.7 -0.8
BSFB Barra de Sao F 57.87 122 eP P 17 29 43.2 -0.2
BCAR Beaver Creek A 61.57 336 P P 17 30 07.6 -0.6
L27K Beaver Creek, 61.59 336 P 17 30 08.8
baz=119,SNR=7.1
INK Inuvik 61.77 343 P P 17 30 09.0 -0.4
INK IAmb IAmb 17 30 10.0
comp=Z,7.1nm,0.8s
INK Inuvik 61.77 343 P 17 30 08.8
baz=130,SNR=8.0
BMRM Bremner River 61.78 333 P 17 30 09.5
baz=116
N25K Chitina, Valde 62.06 334 P 17 30 12.3
baz=116,SNR=5.9
EYAK Cordova Ski Ar 62.12 332 P 17 30 13.1
baz=114
K27K Chicken 62.16 337 P 17 30 12.3
baz=120
EGAK Eagle 62.20 338 P 17 30 11.6
baz=121
KLU Klutina 62.58 333 P 17 30 15.6
baz=114,SNR=6.5
SCRK Sand Creek 62.88 336 P 17 30 17.5
baz=118
PAX Paxson 63.02 335 P 17 30 17.6
baz=116
SML Sawmill 63.76 333 P 17 30 22.8
baz=112
WAT6 Susitna Watana 63.81 334 P 17 30 23.6
baz=113,SNR=6.6
PMOR Pomariorio Ree 63.91 246 eT T 18 39 19.7
comp=Z,2.2nm,0.2s
HDA Harding Lake 64.23 336 P 17 30 25.2
baz=115,SNR=5.8
HDA P 17 30 25.2
baz=115,SNR=5.8
ILAR Eielson Array 64.36 336 P P 17 30 26.3 -0.3
comp=Z,7.9nm,1.1s,baz=126,slow=4.7,SNR=37
ILAR LR LR 18 01 10.8
comp=Z,132nm,20.9s,baz=128,slow=38
BMAR Burnt Mountain 64.72 340 P P 17 30 29.1 +0.1
MCK McKinley 64.76 335 P 17 30 29.1
baz=112
H24K Noodor Dome 65.19 337 P 17 30 31.7
baz=114,SNR=7.7
SKT Skwentna 65.24 333 P 17 30 31.8
baz=109,SNR=5.9
I23K Minto, Yukon-K 65.48 336 IAmb IAmb 17 30 34.8
comp=Z,11nm,1.0s
I23K Minto, Yukon-K 65.48 336 P 17 30 33.7
baz=113,SNR=19
BPAW Bear Paw Mtn. 65.74 335 P 17 30 35.1
baz=111,SNR=9.5

MLY	**Manley**	**65.97**	**336**	P			17 30 37.1	
	baz=111,SNR=10							
CHUM	**Lake Minchumin**	**66.21**	**335**	P			17 30 38.4	
	baz=109							
N19K	**Bonanza Creek**	**66.24**	**331**	P			17 30 38.3	
	baz=106							
PPT	**Papeete**	**66.40**	**244**	LR	LR		17 51 53.9	
	comp=Z,260nm,18.7s,baz=92,slow=29							
PPT2	**Papeete2**	**66.41**	**244**	*e*LR	LR		17 50 40.0	
	comp=Z,210nm,24.5s							
SUMG	**Summit**	**66.43**	**15**	P	**P**		**17 30 39.6**	**-0.8**
SUMG				IAmb	IAmb		17 30 41.4	
	comp=Z,8.4nm,0.9s							
I21K	**Tanana**	**66.52**	**336**	P			17 30 40.2	
	baz=110,SNR=6.6							
COLD	**Coldfoot**	**66.60**	**338**	P			17 30 41.9	
	baz=113,SNR=8.5							
N18K	**Kilae Creek**	**66.87**	**331**	P			17 30 42.4	
	baz=105							
H21K	**Melozitna Rive**	**67.00**	**336**	P			17 30 42.9	
	baz=110							
ESDC	**Sonseca Array**	**78.56**	**52**	P	**P**		**17 31 49.8**	**-3.0**
	comp=Z,1.1nm,0.8s,baz=287,slow=6.1,SNR=7.2							
ESDC				LR	LR		18 02 45.6	
	comp=Z,62nm,19.3s,baz=335,slow=33							
DBIC	**Dimbokro**	**83.66**	**85**	P	**P**		**17 32 17.1**	**-3.1**
	comp=Z,2.3nm,0.6s,baz=166,slow=4.1,SNR=4.1							
DBIC				LR	LR		18 05 49.2	
	comp=Z,61nm,20.7s,baz=243,slow=33							
NOA	**NORSAR Array B**	**83.82**	**29**	P	**P**		**17 32 18.9**	**-1.2**
	comp=Z,3.0nm,1.1s,baz=286,slow=5.3,SNR=4.2							
NOA				LR	LR		18 07 46.2	
	comp=Z,50nm,20.1s,baz=270,slow=34							
ARCES	**ARCESS Array B**	**86.20**	**19**	P	**P**		**17 32 31.1**	**-0.8**
	comp=Z,2.4nm,1.0s,baz=277,slow=4.6,SNR=8.1							
ARCES				LR	LR		18 10 16.7	
	comp=Z,34nm,19.4s,baz=345,slow=35							
GRF	**Grafenberg Arr**	**87.06**	**40**	*e*P	**P**		**17 32 35.7**	**-0.7**
	comp=Z,6.8nm,1.2s,baz=279,slow=5.1							
NKC	**Novy Kostel**	**87.65**	**39**	*e*P	**P**		**17 32 39.7**	**+0.4**
CLL	**Collm**	**87.65**	**38**	*i* P	**P**		**17 32 37.1**	**-2.2**
	comp=Z,5.0nm,1.0s							
CLL				*e*(pP)	**pP**		**17 32 55.0**	**-2.3**
TORD	**Torodi Ar. Bea**	**88.54**	**77**	P	**P**		**17 32 42.6**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=292,slow=5.7,SNR=2.1							
TORD				LR	LR		18 12 19.0	
	comp=Z,62nm,18.5s,baz=265,slow=36							
KHC	**Kasperske Hory**	**88.69**	**40**	*e*P	**P**		**17 32 44.6**	**+0.3**
GERES	**GERESS Array B**	**88.86**	**40**	P	**P**		**17 32 44.2**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=277,slow=2.2,SNR=9.3							
GERES				LR	LR		18 09 38.1	
	comp=Z,43nm,20.0s,baz=280,slow=34							
OSTC	**Ostas**	**89.82**	**38**	*e*P	**P**		**17 32 48.9**	**-0.6**
DPC	**Dobruska-Polom**	**89.96**	**38**	*e*P	**P**		**17 32 49.5**	**-0.7**
FINES	**FINESS Array B**	**90.30**	**26**	P	**P**		**17 32 50.3**	**-1.1**
	comp=Z,2.8nm,1.1s,baz=156,slow=10,SNR=4.5							
FINES				LR	LR		18 12 05.5	
	comp=Z,48nm,19.9s,baz=300,slow=35							
MNK	**Minsk**	**94.57**	**31**	*i* P	**P**		**17 33 08.1**	**-3.3**
	comp=E,1.0nm,0.8s							
MNK				*i* P	**P**		**17 33 08.1**	**-3.3**
	comp=N,10.0nm,0.7s							
MNK				*i* P	**P**		**17 33 08.1**	**-3.3**
	comp=Z,4.0nm,0.7s,baz=300							
MNK				*i* PP	**PP**		**17 36 54.5**	**-4.9**
MNK				*i* PPP	PPP		17 38 55.4	
MNK				*i* S	**SKSac**			
MNK				*i* ScS	**S**		**17 44 15.4**	**-3.4**
MNK				*i* ScS	**ScS**		**17 44 20.4**	**+0.4**
MNK				*i* PS	**PS**		**17 45 51.5**	**+8.9**
MNK				*i* SS	**SS**		**17 50 41.4**	**-0.6**
MNK				*i* SSS	SSS		17 54 24.8	
MNK				*i* LQ	LQ		18 10 17.6	
MNK				*i* LR	LR		18 14 20.5	
MNK				*i* LRM	MLR		18 15 55.9	
	comp=N,115nm,24.2s							
MNK				*i* LRM	MLR		18 16 24.2	
	comp=Z,29nm,16.5s							
MNK				*i* LRM	MLR		18 16 43.0	
	comp=E,6.0nm,21.6s							
MSVF	**Nonsavu**	**95.89**	**253**	LR	LR		18 07 36.0	
	comp=E,59nm,19.5s,baz=22,slow=30							
AKASG	**Malin Array Be**	**97.21**	**34**	LR	LR		18 18 44.8	
	comp=E,37nm,18.2s,baz=295,slow=36							
NRIK	**Noril'sk**	**97.62**	**1**	LR	LR		18 20 06.7	
	comp=E,121nm,19.7s,baz=24,slow=37							
ZALV	**Zalesovo Beam**	**112.93**	**3**	PP	**PP**		**17 39 12.9**	**-2.7**
	comp=E,2.5nm,0.9s,baz=341,slow=8.5,SNR=8.1							
ZALV	**Zalesovo Beam**	**112.93**	**3**		**PP**		**17 39 14.0**	**-1.6**
SONM	**Songino Array**	**117.50**	**348**	PKP	**PKiKP**		**17 38 37.5**	**+0.8**
	comp=E,0.3nm,0.4s,baz=48,slow=2.1,SNR=4.0							
BOSA	**Boshof**	**118.16**	**115**	PKP	**PKPdf**		**17 38 38.1**	**-0.3**
	comp=E,1.8nm,0.8s,baz=316,slow=4.0,SNR=4.4							
KSRS	**Korea Array**	**118.34**	**326**	PKP	**PKiKP**		**17 38 39.3**	**+0.9**
	comp=E,1.6nm,0.8s,baz=3.0,slow=1.0,SNR=11							
MKAR	**Makanchi Array**	**119.84**	**6**	PKP	**PKPdf**		**17 38 41.1**	**0.0**
	comp=E,0.5nm,0.7s,baz=0.0,slow=1.2,SNR=4.8							
HHC	**Hu-ho-hao-te**	**122.64**	**341**	*e*P	**PKPdf**		**17 38 43.3**	**-3.4**
HHC				PKS	**PKSdf**		**17 42 24.6**	**+1.1**
HHC				SKS	**SKSdf**		**17 45 52.8**	**-0.6**
HHC				L	L			
	comp=E,120nm,20.9s							
HHC				L	L			
	comp=E,130nm,22.0s							
HHC				L	L			
	comp=E,150nm,20.9s							
WMQ	**Urumqi**	**123.18**	**2**	*e*P	**PKPdf**		**17 38 47.8**	**+0.2**
GTA	**Gaotai**	**126.86**	**351**	*e*PKPbc	**PKiKP**		**17 38 55.8**	**+0.5**
GTA				sPKP			17 39 10.9	
GTA				L	L			
	comp=E,66nm,17.5s							
GTA				L	L			
	comp=E,69nm,18.2s							
GTA				L	L			
	comp=E,68nm,17.1s							
WRA	**Warramunga Arr**	**137.21**	**255**	PKP	**PKPdf**		**17 39 15.9**	**+1.2**
	comp=E,2.3nm,0.9s,baz=90,slow=2.5,SNR=9.9							
ASAR	**Alice Springs**	**137.35**	**249**	PKhKP	PKPpre		17 39 10.5	
	comp=E,0.4nm,0.7s,baz=98,slow=3.9,SNR=4.2							
ASAR				PKP	**PKPdf**		**17 39 16.0**	**+1.1**
	comp=E,1.2nm,0.9s,baz=81,slow=1.7,SNR=6.0							
FITZ	**Fitzroy Crossi**	**145.51**	**257**	PKPbc	**PKPab**		**17 39 30.9**	**+0.9**
	comp=E,12nm,0.9s,baz=105,slow=2.4,SNR=13							
FITZ	**Fitzroy Crossi**	**145.51**	**257**		**PKPab**		**17 39 31.2**	**+1.2**
NONG	**Nongkai**	**146.35**	**337**	PKP	**PKPab**		**17 39 33.6**	**+0.5**
CHTO	**Chiang Mai**	**146.99**	**345**	P	**PKPbc**		**17 39 34.7**	**+0.6**
	comp=E,11nm,1.0s							
CMMT	**Chiang Mai**	**146.99**	**345**	P	**PKPbc**		**17 39 33.7**	**-0.4**
	comp=E,11nm,1.0s							
CM09	**Chiang Mai Arr**	**147.33**	**344**	PKP	**PKPbc**		**17 39 36.2**	**+1.1**
CM09	**Chiang Mai Arr**	**147.33**	**344**	P	**PKPbc**		**17 39 36.2**	**+1.1**
	comp=E,125nmcomp=E,16nm,0.9s							
CMAR	**Chiang Mai Arr**	**147.33**	**344**	PKPbc	**PKPbc**		**17 39 35.5**	**+0.4**
	comp=E,8.5nm,0.7s,baz=342,slow=3.6,SNR=53							
CM15	**Chiang Mai Arr**	**147.34**	**344**	PKP	**PKPbc**		**17 39 36.0**	**+0.9**
CM15	**Chiang Mai Arr**	**147.34**	**344**	P	**PKPbc**		**17 39 36.0**	**+0.9**
	comp=E,122nmcomp=E,15nm,0.8s							
CM02	**Chiang Mai Arr**	**147.35**	**344**	PKP	**PKPbc**		**17 39 36.3**	**+1.2**
CM02	**Chiang Mai Arr**	**147.35**	**344**	P	**PKPbc**		**17 39 36.3**	**+1.2**
	comp=E,89nmcomp=E,12nm,0.8s							
CM01	**Chiang Mai Arr**	**147.36**	**344**	P	**PKPbc**		**17 39 36.3**	**+1.1**
	comp=E,119nmcomp=E,14nm,0.8s							
CM13	**Chiang Mai Arr**	**147.38**	**344**	P	**PKPbc**		**17 39 36.2**	**+1.0**
	comp=E,128nmcomp=E,15nm,0.8s							
CM04	**Chiang Mai Arr**	**147.38**	**344**	P	**PKPbc**		**17 39 36.4**	**+1.2**
	comp=E,125nmcomp=E,16nm,0.8s							
CM05	**Chiang Mai Arr**	**147.39**	**344**	P	**PKPbc**		**17 39 36.4**	**+1.2**
	comp=E,97nmcomp=E,12nm,0.9s							
UTTA	**Uttaradit**	**147.55**	**341**	P	**PKPbc**		**17 39 36.9**	**+1.3**
PHIT	**Phitsanulok**	**148.11**	**341**	PKP	**PKiKP**		**17 39 39.2**	**+0.2**
PHIT	**Phitsanulok**	**148.11**	**341**	P	**PKiKP**		**17 39 39.2**	**+0.2**
	comp=E,87nm,0.9s							
CHAI	**Chaiyaphum**	**148.77**	**338**	PKP	**PKiKP**		**17 39 41.0**	**+0.7**
CHAI	**Chaiyaphum**	**148.77**	**338**	P	**PKiKP**		**17 39 41.0**	**+0.7**
SRAK	**Srakaew**	**150.47**	**336**	PKP	**PKiKP**		**17 39 45.1**	**+1.2**
SRAK	**Srakaew**	**150.47**	**336**	P	**PKiKP**		**17 39 45.1**	**+1.2**
	comp=E,158nm,1.1s							
KHLT	**Khaolaem Dam**	**150.92**	**343**	PKP	**PKiKP**		**17 39 46.1**	**+1.3**

*ANF **21** 17:51:37.9±0.2, 36°.28N×96°.87W, h5km, ML3.8/15, Error ellipse: s-maj=2.0km s-min=1.9km az=148.0*
*NEIC **21** 17:51:38.1±1.1, 36°.28N±0°.01×96°.91W±0°.04, h5km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=259.0*
*TUL **21** 17:51:38±1.7, 36°.29N±0°.01×96°.86W±0°.03, h5km±7km,*

ML3.4, mb_Lg3.1/107(NEIC), Error ellipse: s-maj=3.8km s-min=1.3km az=71.0
ISC 21 17:51:37.9±1.2, 36°.29N±0°.02×96°.88W±0°.02, h4km±11km, n101, σ0§52/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.18**	**130**	Pg	**Pg**	**17 51 41.7**	**+0.1**
OK031	**S. Brethren Rd**	**0.34**	**174**		**Pg**	**17 51 44.7**	**+0.2**
OK031				Sg	**Sg**	**17 51 49.3**	**+0.4**
OK030	**Cody Creek RV**	**0.37**	**167**		**Pg**	**17 51 45.2**	**+0.1**
BLOK	**Blackwell**	**0.54**	**330**	Pg	**Pg**	**17 51 48.6**	**+0.2**
BLOK				Sg	**Sg**	**17 51 55.9**	**+0.6**
OK029	**Liberty Lake**	**0.68**	**223**		**Pg**	**17 51 51.1**	**+0.2**
OK005	**Luther M Schoo**	**0.68**	**202**	Pg	**Pg**	**17 51 51.0**	**0.0**
T35A	**Sooner Cattle**	**0.69**	**25**		**Pg**	**17 51 50.9**	**-0.3**
T35A				Sg	**Sg**	**17 52 00.7**	**+0.5**
T35B	**Sooner Cattle**	**0.69**	**25**	P	**Pg**	**17 51 50.8**	**-0.4**
	baz=204,SNR=558						
T35B				S	**Sg**	**17 52 00.6**	**+0.4**
	baz=204						
T35B	**Sooner Cattle**	**0.69**	**25**	P		17 51 50.8	
	baz=204,SNR=558						
T35B				S		17 52 00.6	
	baz=204						
OK025	**Westminster Rd**	**0.80**	**208**		**Pg**	**17 51 53.0**	**-0.2**
BCOK	**Bluff Creek, N**	**0.86**	**223**		**Pg**	**17 51 54.3**	**-0.2**
KAN13	**South Haven SW**	**0.86**	**327**		**Pg**	**17 51 54.5**	**0.0**
CROK	**Carrier**	**0.91**	**284**		**Pg**	**17 51 55.5**	**0.0**
TUL1	**Leonard**	**0.96**	**113**	P	**Pg**	**17 51 55.6**	**-0.8**
	baz=294,SNR=376						
TUL1				S	**Sg**	**17 52 07.8**	**-1.0**
	baz=294						
TUL1	**Leonard**	**0.96**	**113**	P		17 51 55.6	
	baz=294,SNR=376						
TUL1				S		17 52 07.8	
	baz=294						
OKCFA	**Oklahoma City**	**0.99**	**208**		**Pg**	**17 51 56.2**	**-0.7**
OKCFA	**Oklahoma City**	**0.99**	**208**	P	**Pg**	**17 51 56.2**	**-0.7**
	baz=28,SNR=44						
OKCFA				S	**Sb**	**17 52 10.4**	**-0.7**
	baz=28						
OKCFA	**Oklahoma City**	**0.99**	**208**	P		17 51 56.2	
	baz=28,SNR=44						
OKCFA				S		17 52 10.4	
	baz=28						
OKCSW	**OKLAHOMA CITY**	**0.99**	**207**		**Pg**	**17 51 56.3**	**-0.7**
KAN09	**Caldwell North**	**1.03**	**325**	Pg	**Pg**	**17 51 57.5**	**-0.2**
KS20	**Mayfield South**	**1.08**	**330**	Pg	**Pg**	**17 51 58.4**	**-0.3**
KAN14	**Manchester OK**	**1.09**	**308**	Pg	**Pg**	**17 51 58.8**	**-0.1**
FNO	**Franklin**	**1.11**	**202**		**Pg**	**17 51 58.3**	**-1.0**
KAN05	**Bluff City Nor**	**1.14**	**316**		**Pg**	**17 51 59.5**	**-0.3**
OK032	**Salt Plains WL**	**1.19**	**296**		**Pg**	**17 52 00.2**	**-0.4**
KAN10	**Anthony SW Sta**	**1.28**	**311**		**Pn**	**17 52 02.0**	**-0.6**
KAN16	**Harper SW Stat**	**1.33**	**315**		**Pn**	**17 52 02.8**	**-0.6**
KAN12	**Harper NE Stat**	**1.34**	**319**		**Pn**	**17 52 03.0**	**-0.5**
U32A	**Winter Ranch,**	**1.71**	**274**		**Pn**	**17 52 09.2**	**+0.6**
U32A				lAmb_Lg		17 52 33.9	
	comp=Z,145nm,0.8s						
U32A	**Winter Ranch,**	**1.71**	**274**	P	**Pn**	**17 52 09.2**	**+0.6**
	baz=92,SNR=18						
U32A				Sb	**Sg**	**17 52 32.9**	**0.0**
	baz=92						
U32A	**Winter Ranch,**	**1.71**	**274**	P		17 52 09.2	
	baz=92,SNR=18						
U32A				Sb		17 52 32.9	
	baz=92						
X34A	**Smith Ranch, M**	**1.86**	**205**		**Pn**	**17 52 11.3**	**+0.7**
X34A				lAmb_Lg		17 52 40.7	
	comp=Z,153nm,0.9s						
U38A	**Gravette**	**2.02**	**85**		**Pn**	**17 52 13.2**	**+0.4**
X37A	**Clayton**	**2.10**	**144**		**Pn**	**17 52 14.3**	**+0.4**
X37A				lAmb_Lg		17 52 47.2	
	comp=Z,123nm,0.7s						
X37A	**Clayton**	**2.10**	**144**	P	**Pn**	**17 52 14.1**	**+0.2**
	baz=325,SNR=62						
X37A	**Clayton**	**2.10**	**144**	P		17 52 14.1	
	baz=325,SNR=62						
WMOK	**Wichita Mounta**	**2.19**	**226**		**Pn**	**17 52 15.3**	**+0.1**
WMOK	**Wichita Mounta**	**2.19**	**226**	P	**Pn**	**17 52 15.3**	**+0.1**
	baz=45,SNR=75						
WMOK	**Wichita Mounta**	**2.19**	**226**	P		17 52 15.3	
	baz=45,SNR=75						
LOOK	**Love County**	**2.31**	**186**		**Pn**	**17 52 17.2**	**+0.5**
HHAR	**Hobbs**	**2.38**	**89**		**Pn**	**17 52 19.2**	**+1.4**
R32A	**Long Quarter,**	**2.58**	**326**		**Pn**	**17 52 20.9**	**+0.3**
R32A				lAmb_Lg		17 53 05.4	
	comp=Z,61nm,0.8s						
R32A	**Long Quarter,**	**2.58**	**326**	P	**Pn**	**17 52 20.5**	**0.0**
	baz=145,SNR=14						
R32A				S	**Sn**	**17 52 53.1**	**+0.7**
	baz=145						
R32A	**Long Quarter,**	**2.58**	**326**	P		17 52 20.5	
	baz=145,SNR=14						
R32A				S		17 52 53.1	
	baz=145						
W39A	**Magazine**	**2.75**	**113**		**Pn**	**17 52 24.4**	**+1.5**
W39A				lAmb_Lg		17 53 10.4	
	comp=Z,67nm,1.0s						
W39A	**Magazine**	**2.75**	**113**	P	**Pn**	**17 52 22.8**	**0.0**
	baz=295,SNR=55						
W39A	**Magazine**	**2.75**	**113**	P		17 52 22.8	
	baz=295,SNR=55						
KSU1	**Kansas State U**	**2.81**	**4**	lAmb_Lg		17 53 14.1	
	comp=Z,75nm,0.9s						
Z35A	**Perchaven, San**	**2.97**	**186**	Pn	**Pn**	**17 52 26.2**	**+0.3**
Z35A	**Perchaven, San**	**2.97**	**186**	P	**Pn**	**17 52 25.7**	**-0.1**
	baz=6.1,SNR=12						
Z35A	**Perchaven, San**	**2.97**	**186**	P		17 52 25.7	
	baz=6.1,SNR=12						
S39A	**Bolivar**	**3.17**	**63**	Pn	**Pn**	**17 52 29.1**	**+0.4**
S39A	**Bolivar**	**3.17**	**63**	P	**Pn**	**17 52 28.7**	**0.0**
	baz=245,SNR=25						
S39A	**Bolivar**	**3.17**	**63**	P		17 52 28.7	
	baz=245,SNR=25						
MIAR	**Mount Ida**	**3.21**	**122**	Pn	**Pn**	**17 52 29.9**	**+0.7**
MIAR	**Mount Ida**	**3.21**	**122**	P	**Pn**	**17 52 29.2**	**0.0**
	baz=304,SNR=36						
MIAR	**Mount Ida**	**3.21**	**122**	P		17 52 29.2	
	baz=304,SNR=36						
U40A	**Yellville**	**3.25**	**88**	P	**Pn**	**17 52 29.6**	**-0.2**
	baz=270						
U40A	**Yellville**	**3.25**	**88**	P		17 52 29.6	
	baz=270						
U40A				P		17 52 29.6	
	baz=270						
CBKS	**Cedar Bluff**	**3.39**	**319**	lAmb_Lg		17 53 34.4	
	comp=Z,69nm,0.7s						
Z38A	**Mt. Pleasant**	**3.40**	**152**	lAmb_Lg		17 53 31.5	
	comp=Z,49nm,0.8s						
X40A	**Basin Creek Fa**	**3.77**	**117**		**Pn**	**17 52 37.4**	**+0.5**
X40A				lAmb_Lg		17 53 39.5	
	comp=Z,46nm,0.8s						
X40A	**Basin Creek Fa**	**3.77**	**117**	P	**Pn**	**17 52 37.2**	**+0.3**
	baz=300,SNR=12						
X40A	**Basin Creek Fa**	**3.77**	**117**	P		17 52 37.2	
	baz=300,SNR=12						
X40A				P		17 52 37.2	
	baz=300,SNR=12						
MGMO	**Mountain Grove**	**3.81**	**76**		**Pn**	**17 52 38.0**	**+0.6**
MGMO				lAmb_Lg		17 53 48.3	
	comp=Z,42nm,0.7s						
WHAR	**Wooly Hollow**	**3.87**	**104**	lAmb_Lg		17 53 39.6	
	comp=Z,64nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.88**	**95**	lAmb_Lg		17 53 43.0	
	comp=Z,35nm,0.8s						
W41B	**Gary Mavity, V**	**3.93**	**105**	P	**Pn**	**17 52 39.0**	**-0.1**
	baz=288,SNR=22						
W41B	**Gary Mavity, V**	**3.93**	**105**	P		17 52 39.0	
	baz=288,SNR=22						
AMTX	**Amarillo**	**4.16**	**252**	lAmb_Lg		17 53 53.7	
	comp=Z,71nm,0.8s						
R40A	**Maddies Statio**	**4.19**	**60**		**Pn**	**17 52 42.5**	**-0.1**
R40A	**Maddies Statio**	**4.19**	**60**	P	**Pn**	**17 52 42.5**	**-0.1**
	baz=243,SNR=19						
R40A	**Maddies Statio**	**4.19**	**60**	P		17 52 42.5	
	baz=243,SNR=19						
P38A	**Dawn**	**4.25**	**37**	lAmb_Lg		17 53 53.3	
	comp=Z,33nm,0.7s						
P38A	**Dawn**	**4.25**	**37**	P	**Pn**	**17 52 43.3**	**-0.2**
	baz=219						
P38A	**Dawn**	**4.25**	**37**	P		17 52 43.3	
	baz=219						
237A	**Washetta, Mont**	**4.37**	**168**	lAmb_Lg		17 53 54.6	
	comp=Z,36nm,0.9s						
N33A	**J Bar K, Exete**	**4.46**	**354**	lAmb_Lg		17 54 03.8	
	comp=Z,36nm,0.7s						
LCAR	**Lake Charles**	**4.64**	**91**	lAmb_Lg		17 54 12.5	
	comp=Z,29nm,0.8s						
T42A	**Van Buren**	**4.71**	**79**	lAmb_Lg		17 54 14.3	
	comp=Z,53nm,0.8s						
CCM	**Cathedral Cave**	**4.83**	**67**	lAmb_Lg		17 54 13.9	
	comp=Z,50nm,0.7s						
NATX	**Nacogdoches**	**4.88**	**157**	lAmb_Lg		17 54 24.7	
	comp=Z,29nm,0.9s						
P40A	**Paris**	**5.01**	**48**	lAmb_Lg		17 54 12.3	
	comp=Z,46nm,0.8s						
BGNE	**Belgrade**	**5.21**	**349**	lAmb_Lg		17 54 34.9	
	comp=Z,53nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.30**	**303**	lAmb_Lg		17 54 36.0	
	comp=Z,24nm,0.7s						
N38A	**Joes South For**	**5.33**	**31**	lAmb_Lg		17 54 39.2	
	comp=Z,44nm,0.8s						
435B	**Jarrell**	**5.53**	**186**	lAmb_Lg		17 54 45.7	
	comp=Z,26nm,0.8s						
SLM	**Saint Louis**	**5.78**	**64**	lAmb_Lg		17 54 41.7	
	comp=Z,50nm,0.9s						
JCT	**Junction City**	**6.29**	**204**	lAmb_Lg		17 55 07.8	
	comp=Z,23nm,0.8s						
SCIA	**State Center**	**6.29**	**26**	lAmb_Lg		17 54 58.5	
	comp=Z,38nm,0.8s						
SIUC	**Southern Illin**	**6.30**	**75**	lAmb_Lg		17 54 54.2	
	comp=Z,48nm,0.8s						
OXF	**Oxford**	**6.36**	**104**	lAmb_Lg		17 55 10.3	
	comp=Z,33nm,0.8s						
W45A	**Hickory Valley**	**6.36**	**98**	lAmb_Lg		17 54 56.8	
	comp=Z,39nm,0.7s						
Y45A	**Yeager Farm, C**	**6.49**	**110**	lAmb_Lg		17 55 13.4	
	comp=Z,23nm,1.0s						
K38A	**Parkersburg**	**7.10**	**25**	lAmb_Lg		17 55 32.8	
	comp=Z,20nm,0.8s						
L40A	**Anamosa**	**7.25**	**36**	lAmb_Lg		17 55 26.7	
	comp=Z,22nm,0.9s						
O44A	**Mansfield**	**7.66**	**57**	lAmb_Lg		17 55 48.9	
	comp=Z,27nm,0.7s						
L42A	**Oliver, Polo**	**8.00**	**42**	lAmb_Lg		17 55 52.1	
	comp=Z,22nm,0.8s						
V48A	**Smith Brothers**	**8.17**	**91**	lAmb_Lg		17 56 01.2	
	comp=Z,17nm,1.1s						
X48A	**Hartselle**	**8.24**	**100**	lAmb_Lg		17 55 57.7	
	comp=Z,19nm,1.1s						
SUSD	**Miller**	**8.29**	**350**	lAmb_Lg		17 56 07.1	
	comp=Z,19nm,0.7s						
JFWS	**Jewell Farm**	**8.36**	**36**	lAmb_Lg		17 55 59.4	
	comp=Z,13nm,0.7s						
CLTN	**Cedars of Leba**	**8.53**	**88**	lAmb_Lg		17 56 09.5	
	comp=Z,13nm,0.9s						
WCI	**Wyandotte Cave**	**8.66**	**74**	lAmb_Lg		17 56 12.5	
	comp=Z,32nm,0.8s						
SFIN	**Lafayette**	**8.70**	**59**	lAmb_Lg		17 56 10.6	
	comp=Z,30nm,0.7s						
HQIL	**Hanson Quary C**	**8.92**	**49**	lAmb_Lg		17 56 27.8	
	comp=Z,23nm,0.9s						
U49A	**Red Boiling Sp**	**8.96**	**85**	lAmb_Lg		17 56 21.7	
	comp=Z,12nm,0.8s						
SWET	**Sewanee**	**8.97**	**94**	lAmb_Lg		17 56 18.0	
	comp=Z,18nm,1.0s						
L44A	**Lake County Fo**	**9.11**	**47**	lAmb_Lg		17 56 22.5	
	comp=Z,18nm,0.8s						
W50A	**Signal Mountai**	**9.47**	**93**	lAmb_Lg		17 56 53.1	
	comp=Z,14nm,0.8s						
RSSD	**Black Hills**	**9.54**	**327**	lAmb_Lg		17 56 56.0	
	comp=Z,11nm,1.0s						
R49A	**Shelbyville**	**9.54**	**74**	lAmb_Lg		17 56 46.5	
	comp=Z,25nm,1.3s						
F33A	**5 Mile Ranch,**	**9.55**	**2**	lAmb_Lg		17 56 40.7	
	comp=Z,11nm,0.9s						
P48A	**Milroy**	**9.59**	**67**	lAmb_Lg		17 56 49.3	
	comp=Z,18nm,0.7s						
I42A	**Draeger Farm,**	**9.74**	**36**	lAmb_Lg		17 56 58.5	
	comp=Z,12nm,0.8s						
N47A	**Urbana**	**9.88**	**59**	lAmb_Lg		17 56 52.9	
	comp=Z,20nm,0.7s						
X51A	**Calhoun**	**9.96**	**96**	lAmb_Lg		17 56 54.2	
	comp=Z,15nm,0.9s						

*ISK **21** 18:24:46.4, 33°.51N×27°.63E, h5km, ML3.3/15*
*IDC **21** 18:24:48.4±2.8, 33°.57N×27°.70E, h0km, mb3.5/2, mb1 3.4/8, mb1mx3.3/38, mbtmp3.3/8, ML3.4/5, Error ellipse: s-maj=51.0km s-min=23.1km az=30.0*
*NIC **21** 18:24:51.9±0.0, 33°.44N×27°.69E, h32km±18km, Ml3.7/3*
ISC 21 18:24:51.4±1.1, 33°.45N±0°.08×27°.64E±0°.05, h35km, n38, σ1§37/45, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**2.04**	**325**	PN	**Pn**	**18 25 23.0**	**-0.2**
ZKR				SN	**Sn**	**18 25 48.9**	**+1.5**
ZKR

az=179.0
*KRSC **21** 18:26:49.3±1.6, 52°.65N×160°.70E, h42km±15km, ML3.8*
ISC 21 18:26:49.2±1.9, **52°.67N**±0°.05×**160°.58E**±0°.06, **h11**km±12km, **n47**, σ1**s45**/53, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.55**	**322**	*i* P	**Pb**	**18 27 01.7**	**+0.9**
SPN				eS	**Sb**	**18 27 09.0**	**+0.3**
NLC	**Nalytchevo**	**0.90**	**304**	eP	**Pb**	**18 27 07.0**	**+0.2**
NLC				eS	**Sn**	**18 27 19.0**	**-1.8**
DALK	**Dalny**	**1.17**	**289**	eP	**Pb**	**18 27 11.5**	**+0.2**
DALK				eS	**Sn**	**18 27 26.6**	**-0.7**
UGLR	**Uglovaya**	**1.19**	**298**	eP	**Pb**	**18 27 11.9**	**0.0**
SDLR	**Sedlovina**	**1.19**	**301**	eP	**Pb**	**18 27 11.9**	**0.0**
PET	**Petropavlovsk**	**1.22**	**288**	eP	**Pb**	**18 27 12.3**	**0.0**
PET				eS	**Sn**	**18 27 28.0**	**-0.7**
SMAR	**Somma**	**1.23**	**300**	eP	**Pb**	**18 27 12.2**	**-0.4**
AVH	**Avacha**	**1.26**	**299**	eP	**Pb**	**18 27 13.1**	**0.0**
KRER	**Koryakskii**	**1.28**	**301**	eP	**Pb**	**18 27 13.4**	**0.0**
RUS	**Russkaya**	**1.28**	**260**	eP	**Pg**	**18 27 13.5**	**-0.4**
RUS				eS	**Sn**	**18 27 30.0**	**-0.2**
KOK	**Koryaka**	**1.33**	**299**	eP	**Pb**	**18 27 13.9**	**-0.3**
KRX	**Arik**	**1.36**	**301**	eP	**Pb**	**18 27 14.2**	**-0.5**
MTVR	**Mutnovka**	**1.48**	**264**	eP	**Pg**	**18 27 16.8**	**-0.7**
MTVR				eS	**Sn**	**18 27 36.0**	**+0.8**
KRMR	**Karymshinskiy**	**1.50**	**277**	eP	**Pn**	**18 27 17.0**	**+1.0**
KRMR				eS	**Sn**	**18 27 36.4**	**+0.9**
KII	**Karymskiy**	**1.53**	**334**	eP	**Pn**	**18 27 17.2**	**+0.7**
GRL	**Gorelyy**	**1.53**	**267**	eP	**Pn**	**18 27 17.8**	**+1.2**
GRL				eS	**Sn**	**18 27 37.3**	**+0.7**
KDTR	**Khodutka, Kamc**	**1.76**	**242**	eP	**Pn**	**18 27 20.8**	**+1.2**
KDTR				eS	**Sn**	**18 27 42.6**	**+0.6**
PETK	**Petropavlovsk-** 28nm,0.3s,baz=95,slow=20,SNR=186	**1.80**	**285**	Pg	**Pn**	**18 27 21.1**	**+0.9**
PETK				LR	LR	18 27 39.6	
	comp=Z,14nm,22.0s,baz=4.1,slow=29						
PETK				Lg	Lg	18 27 45.2	
	19nm,0.3s,baz=94,slow=39,SNR=14						
GNL	**Ganaly**	**1.89**	**304**	eP	**Pb**	**18 27 23.1**	**-0.7**
MKZ	**Mys Kozlova**	**2.01**	**19**	eP	**Pn**	**18 27 23.4**	**+0.4**
MKZ				eS	**Sn**	**18 27 47.1**	**-1.0**
APC	**Apacha**	**2.09**	**278**	eP	**Pb**	**18 27 26.3**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.37**	**262**	eP	**Pn**	**18 27 30.1**	**+2.1**
KZV	**Kizimen**	**2.46**	**356**	eP	**Pn**	**18 27 30.7**	**+1.4**
KZV				eS	**Sn**	**18 27 59.8**	**+0.4**
TUMD	**Tumrok D**	**2.54**	**358**	eP	**Pn**	**18 27 32.0**	**+1.6**
TUMD				eS	**Sn**	**18 28 00.9**	**-0.4**
PAU	**Pauzhetka**	**2.62**	**244**	P	**Pn**	**18 27 33.6**	**+2.2**
TUMR	**Tumrok**	**2.63**	**355**	eP	**Pn**	**18 27 33.8**	**+2.1**
TUMR				eS	**Sn**	**18 28 04.5**	**+0.8**
KMNR	**Kamenistaya**	**3.10**	**356**	eP	**Pn**	**18 27 39.8**	**+1.7**
KIRR	**Kirishev**	**3.29**	**358**	eP	**Pn**	**18 27 41.8**	**+1.0**
ZLN	**Zelenaya**	**3.36**	**2**	eP	**Pn**	**18 27 44.5**	**+2.8**
SKR	**Severo-Kuril's**	**3.42**	**236**	eS	**Sn**	**18 28 22.8**	**0.0**
ESO	**Esso**	**3.44**	**342**	eP	**Pn**	**18 27 45.1**	**+2.3**
ALID	**Alaid**	**3.61**	**242**	eP	**Pn**	**18 27 47.8**	**+2.7**
SRDR	**Sredinnyy**	**3.69**	**353**	eP	**Pn**	**18 27 48.7**	**+2.5**
KBTR	**Krutoberegovo**	**3.78**	**19**	P	**Pn**	**18 27 50.0**	**+2.7**
BDR	**Baidarnaya**	**3.92**	**5**	eP	**Pn**	**18 27 52.2**	**+2.8**
SMKR	**Semkarok**	**3.96**	**7**	eP	**Pn**	**18 27 52.2**	**+2.4**
SRKR	**Sorokina**	**4.01**	**5**	eP	**Pn**	**18 27 53.7**	**+3.1**
BKI	**Bering**	**4.07**	**49**	eP	**Pn**	**18 27 51.8**	**+0.4**
BKI				eS	Sn	18 28 34.3	-4.7
ILAR	**Eielson Array**	**28.91**	**45**	LR	LR	18 45 47.0	
	comp=Z,23nm,19.1s,baz=151,slow=40						
H11N2	**WAKE ISLAND Hy**	**33.24**	**169**	T	T	19 08 48.0	
	baz=353,slow=76,SNR=87						
H11N3	**WAKE ISLAND Hy**	**33.25**	**169**	T	T	19 08 49.2	
	baz=353,slow=76,SNR=55						
H11N1	**WAKE ISLAND Hy**	**33.26**	**169**	T	T	19 08 49.4	
	baz=353,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**34.42**	**170**	T	T	19 10 14.2	
	baz=353,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.44**	**170**	T	T	19 10 13.4	
	baz=353,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.44**	**170**	T	T	19 10 13.7	
	baz=353						
MKAR	**Makanchi Array**	**48.61**	**296**	P	**P**	**18 35 30.1**	**-2.5**
	0.1nm,0.3s,baz=53,slow=8.4,SNR=4.5						
FINES	**FINESS Array B**	**60.63**	**337**	P	**P**	**18 36 59.5**	**0.0**
	0.4nm,0.4s,baz=35,slow=7.7,SNR=7.5						

*KLM **21** 18:27:56, 6°.04S×128°.24E, h374km, mb4.7*
*IDC **21** 18:27:57.4±1.3, 5°.96S×128°.12E, h390km±15km, mb3.7/12, mb1 3.8/17, mb1mx3.6/33, mbtmp4.5/17, Error ellipse: s-maj=16.9km s-min=11.0km az=74.0*
*DJA **21** 18:27:57.5±0.2, 6°.S±2°×12°.8E±°, h379km±3km, M4.4/42, mB4.9/14, mb4.5/42, MLv4.8/14, Mw(mB)4.2/14*
*NEIC **21** 18:27:57.4±1.0, 6°.0S±0°.1×128°.09E±0°.09, h388km±13km, mb4.3/18, Error ellipse: s-maj=16.2km s-min=12.6km az=194.0*
ISC 21 18:27:57.5±0.4, **6°.01S**±0°.05×**128°.13E**±0°.06, **h400**km, **n125**, σ1**s57**/122, **mb4.2**/32, **1C**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRAI	**Karang Ratu**	**2.68**	**6**	P	**Pn**	**18 28 56.4**	**-1.9**
MSAI	**Masohi**	**2.76**	**17**	P	**Pn**	**18 28 55.9**	**-3.0**
NLAI	**Namlea**	**2.94**	**339**	P	**Pn**	**18 28 59.9**	**-0.3**
SAUI	**Saumlaki**	**3.71**	**122**	Pn	**Pn**	**18 29 06.3**	**-0.6**
SAUI	**Saumlaki**	**3.71**	**122**	P	**Pn**	**18 29 06.0**	**-0.9**
SANI	**Sanana**	**4.47**	**331**	P	**Pn**	**18 29 11.3**	**-2.9**
FAKI	**Fak Fak**	**5.12**	**53**	P	**Pn**	**18 29 19.2**	**-1.7**
	2.2nm3µm182nm,0.8s						
SOEI	**Soe**	**5.34**	**226**	Pn	**Pn**	**18 29 22.1**	**-1.2**
SOEI	**Soe**	**5.34**	**226**	P	**Pn**	**18 29 22.0**	**-1.2**
	1.8nm5µm481nm,0.8s						
SIJI	**Sorong**	**5.99**	**32**	P	**Pn**	**18 29 28.6**	**-1.5**
	49nm,0.3s,baz=204,slow=9.8,SNR=89						
SIJI				S	**S**	**18 30 38.1**	**-7.4**
	17nm,0.3s,baz=83,slow=23,SNR=13						
SIJI	**Sorong**	**5.99**	**32**	P	**Pn**	**18 29 28.8**	**-1.3**
	0.3nm2µm82nm,0.6s						
SWI	**Sorong**	**5.99**	**32**	P	**Pn**	**18 29 28.6**	**-1.5**
	0.8nm2µm145nm,0.6s						
BATI	**Baumata**	**6.08**	**226**	P	**Pn**	**18 29 30.5**	**-0.6**
	234nm,0.3s,baz=78,slow=1.2,SNR=181						
BATI				S	**S**	**18 30 43.3**	**-4.0**
	baz=283,slow=22,SNR=1.5						
BATI	**Baumata**	**6.08**	**226**	P	**Pn**	**18 29 30.5**	**-0.6**
	2.2nm6µm535nm,0.5s						
MMRI	**Maumere**	**6.40**	**246**	Pn	**Pn**	**18 29 32.9**	**-1.7**
MMRI	**Maumere**	**6.40**	**246**	P	**Pn**	**18 29 33.3**	**-1.3**
	0.7nm2µm133nm,0.5s						
KKSI	**Kolaka, Sulawe**	**6.71**	**285**	P	**Pn**	**18 29 37.8**	**-0.2**
	0.6nm57nm,0.6s						
EDFI	**Ende, Flores**	**6.95**	**247**	P	**Pn**	**18 29 39.4**	**-1.3**
LUWI	**Luwuk**	**7.28**	**312**		**Pn**	**18 29 41.1**	**-3.2**
LUWI	**Luwuk**	**7.28**	**312**	P	**Pn**	**18 29 43.3**	**-1.0**
	0.3nm1µm82nm,1.1s						
MTN	**Manton Dam**	**7.41**	**157**	Pn	**Pn**	**18 29 45.8**	**0.0**
BNSI	**Bone**	**8.15**	**281**	P	**Pn**	**18 29 53.8**	**-0.5**
	35nm,1.0s						
APSI	**Ampana**	**8.21**	**308**	P	**Pn**	**18 29 54.1**	**-0.9**
	16nm,1.1s						
KAPI	**Kappang**	**8.40**	**276**	P	**P**	**18 29 57.8**	**+0.5**
	0.5nm,0.3s,baz=146,slow=9.5,SNR=2.2						
KAPI				S	**S**	**18 31 31.8**	**-3.4**
	0.4nm,0.3s,baz=60,slow=20,SNR=1.1						
KAPI	**Kappang**	**8.40**	**276**		**Pn**	**18 29 53.7**	**-3.4**
KAPI	**Kappang**	**8.40**	**276**	P	**Pn**	**18 29 56.6**	**-0.5**
	11nm,0.7s						
BASI	**Baing, Sumba**	**8.57**	**240**	P	**Pn**	**18 29 58.6**	**-0.4**
	67nm,0.7s						
MKS	**Makassar**	**8.66**	**275**	P	**P**	**18 30 00.5**	**+0.3**
	22nm,1.2s						
TTSI	**Tana Toraja**	**8.79**	**289**	P	**Pn**	**18 30 01.6**	**-0.1**
	43nm,0.8s						
MRSI	**Marisa**	**8.93**	**316**	P	**P**	**18 30 03.3**	**0.0**
	0.4nm952nm111nm,0.6s						
SRPI	**Serui, Papua**	**9.07**	**63**	P	**Pn**	**18 30 04.9**	**0.0**
	2µm198nm,0.5s						
BAKI	**Biak**	**9.29**	**59**	P	**Pn**	**18 30 09.7**	**+2.4**
	4µm458nm,0.7s						
WBSI	**Waikabubak, Su**	**9.38**	**247**	P	**P**	**18 30 05.3**	**-3.0**
	55nm,1.0s						
PMSI	**Majene**	**9.52**	**285**	P	**P**	**18 30 09.6**	**-0.2**
	46nm,0.9s						
KNRA	**Kununurra**	**9.63**	**176**		**Pn**	**18 30 11.6**	**+0.4**
PCI	**Palu**	**9.71**	**301**	P	**P**	**18 30 10.2**	**-1.7**
	119nm6.1nm,0.9s						
SGSI	**Sangihe**	**9.97**	**345**	P	**P**	**18 30 13.4**	**-1.5**
	110nm,0.5s						
TOLI2	**Tolitoli**	**10.19**	**314**	P	**P**	**18 30 16.8**	**-0.5**
MPSI	**Mapaga**	**10.36**	**307**	P	**Pn**	**18 30 20.1**	**+0.3**
	459nm41nm,0.8s						
PLAI	**Plampang**	**10.64**	**254**	P	**P**	**18 30 20.0**	**-2.3**
	30nm,0.5s						
TWSI	**Taliwang, Sumb**	**11.48**	**256**	P	**P**	**18 30 31.6**	**0.0**
	10.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.26**	**191**	P	**P**	**18 30 40.7**	**+0.6**
	1.7nm,0.3s,baz=21,slow=10.0,SNR=61						
FITZ				S	**S**	**18 32 52.2**	**-2.3**
	0.4nm,0.3s,baz=50,slow=4.9,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.26**	**191**	P	**P**	**18 30 40.4**	**+0.3**
MMPI	**Merauke**	**12.40**	**102**	P	**Pn**	**18 30 43.4**	**0.0**
	298nm,0.9s						
KHKI	**Kahang-Kahang**	**12.64**	**259**	P	**P**	**18 30 44.7**	**+0.3**
	31nm,1.4s						
BBKI	**Banjar Baru**	**13.48**	**280**	P	**Pn**	**18 30 55.5**	**-0.5**
	94nm,0.8s						
ABJI	**Asem Bagus**	**13.91**	**262**	P	**P**	**18 30 58.4**	**+0.1**
	66nm,1.0s						
JAGI	**Jajag, Banyuwa**	**14.08**	**259**	P	**P**	**18 31 00.2**	**+0.1**
	38nm,1.4s						
KMMI	**Kalianget**	**14.11**	**265**	P	**P**	**18 31 01.9**	**+1.5**
	66nm,1.7s						
MTKI	**Muara Teweh, K**	**14.13**	**290**	P	**P**	**18 31 01.7**	**+1.0**
	48nm,0.8s						
PKKI	**Palangkaraya**	**14.61**	**284**	P	**P**	**18 31 05.7**	**-0.2**
	63nm,0.8s						
WB0	**Warramunga Arr**	**14.97**	**157**	P	**P**	**18 31 10.3**	**+0.6**
WRAB	**Tennant Creek**	**15.11**	**157**	P	**P**	**18 31 11.2**	**0.0**
WRAB				IAmb	IAmb	18 31 12.6	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**15.11**	**157**	P	**P**	**18 31 11.9**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=340,slow=12,SNR=245						
WRA				S	**S**	**18 33 49.6**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=341,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**15.11**	**157**	P	**P**	**18 31 10.7**	**-0.6**
WB2	**Warramunga Arr**	**15.11**	**157**	P	**P**	**18 31 11.9**	**+0.6**
WB2				IAmb	IAmb	18 31 12.7	
	comp=Z,22nm,0.8s						
WR0	**Warramunga Arr**	**15.20**	**156**	P	**P**	**18 31 13.0**	**+0.7**
SPMM	**Sapulut**	**15.78**	**312**	P	**P**	**18 31 20.0**	**+1.4**
TBJI	**Tambak Boyo**	**16.20**	**266**	P	**P**	**18 31 23.4**	**+0.3**
	comp=Z,110nm,1.2s						
PWJI	**Pagerwojo**	**16.33**	**262**	P	**P**	**18 31 24.2**	**-0.2**
	comp=Z,28nm,1.7s						
SJI	**Sawahan**	**16.34**	**263**	P	**P**	**18 31 25.9**	**+1.3**
	comp=Z,32nm,2.8s						
PBKI	**Pangkalan Bun**	**16.74**	**281**	P	**P**	**18 31 29.4**	**+0.6**
	comp=Z,64nm,2.1s						
PCJI	**Pacitan**	**16.96**	**262**	P	**P**	**18 31 31.2**	**0.0**
	comp=Z,76nm,1.7s						
PSA00	**Pilbara Seismi**	**17.43**	**207**	P	**P**	**18 31 35.4**	**-0.6**
PSA00				IAmb	IAmb	18 31 36.2	
	comp=Z,11nm,0.9s						
PSA00	**Pilbara Seismi**	**17.43**	**207**	P	**P**	**18 31 35.7**	**-0.4**
PSA00				IAmb	IAmb	18 31 36.7	
	comp=Z,10nm,1.1s						
UGM	**Wanagama**	**17.58**	**263**	P	**P**	**18 31 38.0**	**+0.2**
	comp=Z,139nm,1.5s						
SBUM	**Sibu**	**17.97**	**297**	P	**P**	**18 31 43.0**	**+1.1**
AS31	**Alice Springs**	**18.41**	**163**	P	**P**	**18 31 47.3**	**+0.8**
AS31				IAmb	IAmb	18 31 47.9	
	comp=Z,6.7nm,0.3s						
ASAR	**Alice Springs**	**18.42**	**163**	P	**P**	**18 31 47.1**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=344,slow=12,SNR=318						
ASAR				S	**S**	**18 34 54.8**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=344,slow=22,SNR=18						
KPJI	**Karang Pucung**	**19.12**	**265**	P	**P**	**18 31 54.5**	**+0.7**
	comp=Z,22nm,0.9s						
PTKI	**Pontianak**	**19.58**	**287**	P	**P**	**18 31 59.3**	**+1.1**
	comp=Z,4µmcomp=Z,171nm,0.6s						
CISI	**Cisompet, Garu**	**20.23**	**264**	P	**P**	**18 32 05.0**	**+0.7**
	comp=Z,25nm,1.0s						
CTA	**Charters Tower**	**22.49**	**130**	P	**P**	**18 32 26.7**	**+1.9**
	comp=Z,8.0nm,0.9s,baz=310,slow=10.0,SNR=3.9						
NWAO	**Narrogin (SRO)**	**28.64**	**199**	P	**P**	**18 33 20.4**	**+1.1**
	comp=Z,31nm,1.1s,baz=42,slow=10,SNR=2.3						
STKA	**Stephens Creek**	**28.65**	**156**	P	**P**	**18 33 20.5**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=333,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**28.65**	**156**	P	**P**	**18 33 18.7**	**-0.8**
IPM	**Ipoh**	**29.00**	**290**	P	**P**	**18 33 24.0**	**+1.2**
PSI	**Prapat**	**30.45**	**286**	P	**P**	**18 33 36.2**	**+0.6**
	comp=Z,12nm,0.9s						
GSI	**Gunungsitoli**	**31.36**	**282**	P	**P**	**18 33 43.8**	**+0.4**
GSI	**Gunungsitoli**	**31.36**	**282**	P	**P**	**18 33 44.1**	**+0.7**
	comp=Z,32nm,0.9s						
CHAI	**Chaiyaphum**	**33.82**	**310**	P	**P**	**18 34 08.9**	**+4.5**
	comp=Z,15nm,0.7s						
CHAI	**Chaiyaphum**	**33.82**	**310**	P	**P**	**18 34 08.9**	**+4.5**
	comp=Z,3.8nm,0.7s						
UTTA	**Uttaradit**	**36.03**	**311**	P	**P**	**18 34 23.5**	**+0.5**
	comp=Z,13nm,0.8s						
UTTA	**Uttaradit**	**36.03**	**311**	P	**P**	**18 34 23.6**	**+0.5**
	comp=Z,3.4nm,0.8s						
CM36	**Chiang Mai Arr**	**37.60**	**311**	P	**P**	18 34 41.0	+4.9
CM04	**Chiang Mai Arr**	**37.62**	**311**	P	**P**	18 34 41.5	+5.3
	comp=Z,103nmcomp=Z,12nm,0.9s						
CM04	**Chiang Mai Arr**	**37.62**	**311**	P	**P**	18 34 41.5	+5.3
	comp=Z,103nmcomp=Z,12nm,0.9s						
CM05	**Chiang Mai Arr**	**37.64**	**311**	P	**P**	18 34 41.6	+5.1
	comp=Z,8.2nm,0.8s						
CM05	**Chiang Mai Arr**	**37.64**	**311**	P	**P**	18 34 41.6	+5.2
	comp=Z,8.2nm,0.8s						
CM01	**Chiang Mai Arr**	**37.64**	**311**	P	**P**	18 34 41.7	+5.2
	comp=Z,11nm,0.7s						
CM35	**Chiang Mai Arr**	**37.65**	**311**	P	**P**	**18 34 37.0**	**+0.5**
CM02	**Chiang Mai Arr**	**37.66**	**311**	P	**P**	18 34 41.7	+5.1
	comp=Z,9.5nm,0.8s						
CM02	**Chiang Mai Arr**	**37.66**	**311**	P	**P**	18 34 41.8	+5.1
	comp=Z,9.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.68**	**311**	P	**P**	**18 34 37.1**	**+0.4**
	comp=Z,6.7nm,0.8s,baz=140,slow=6.6,SNR=31						
CMAR	**Chiang Mai Arr**	**37.68**	**311**	P	**P**	**18 34 36.6**	**-0.1**
CM13	**Chiang Mai Arr**	**37.68**	**311**	P	**P**	**18 34 41.5**	**+4.7**
	comp=Z,11nm,0.8s						
CM13	**Chiang Mai Arr**	**37.68**	**311**	P	**P**	18 34 41.5	+4.8
	comp=Z,11nm,0.8s						
CM15	**Chiang Mai Arr**	**37.69**	**311**	P	**P**	18 34 41.6	+4.8
	comp=Z,83nmcomp=Z,11nm,0.7s						
CMMT	**Chiang Mai**	**37.89**	**311**	P	**P**	**18 34 38.5**	**0.0**
	comp=Z,16nm,0.8s						
CMMT	**Chiang Mai**	**37.89**	**311**	P	**P**	**18 34 38.0**	**-0.5**
CHTO	**Chiang Mai**	**37.89**	**311**	P	**P**	**18 34 39.5**	**+1.0**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**37.89**	**311**	P	**P**	**18 34 38.5**	**-0.1**
CHTO				IAmb	IAmb	18 34 44.2	
	comp=Z,9.6nm,0.8s						
CHTO	**Chiang Mai**	**37.89**	**311**	P	**P**	**18 34 39.5**	**+1.0**
CM33	**Chiang Mai Arr**	**37.89**	**311**	P	**P**	**18 34 39.0**	**+0.5**
KSRS	**Korea Array**	**43.24**	**360**	P	**P**	**18 35 22.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=176,slow=9.8,SNR=5.5						
MJAR	**Matsushiro Arr**	**43.37**	**12**	P	**P**	**18 35 21.7**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=189,slow=9.2,SNR=12						
MJAR	**Matsushiro Arr**	**43.37**	**12**	P	**P**	**18 35 21.3**	**-1.1**
XAN	**Xi'an**	**43.78**	**337**	P	**P**	**18 35 24.9**	**-0.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**50.21**	**317**	P	**P**	**18 36 16.0**	**+0.6**
LSA				IAmb	IAmb	18 36 17.2	
	comp=Z,9.8nm,0.7s						
GTA	**Gaotai**	**52.23**	**332**	⇑P	**P**	**18 36 30.0**	**+0.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	**Ulaanbaatar**	**56.77**	**343**	P	**P**	**18 37 04.3**	**+2.6**
SONM	**Songino Array**	**56.93**	**343**	P	**P**	**18 37 04.1**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=167,slow=7.1,SNR=20						
PETK	**Petropavlovsk-**	**63.99**	**19**	P	**P**	**18 37 50.6**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=202,slow=6.2,SNR=4.7						
NIL	**Nilore**	**65.17**	**311**	P	**P**	**18 37 57.7**	**+0.1**
MK31	**Makanchi Array**	**66.39**	**327**	P	**P**	**18 38 06.0**	**+0.9**
MK31				IAmb	IAmb	18 38 06.3	
	comp=Z,3.8nm,0.6s						
MKAR	**Makanchi Array**	**66.39**	**327**	P	**P**	**18 38 05.9**	**+0.8**
	comp=Z,6.3nm,0.4s,baz=115,slow=8.7,SNR=101						
MKAR				PcP	**PcP**	**18 38 32.5**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=138,slow=4.6,SNR=2.2						
MKAR	**Makanchi Array**	**66.39**	**327**	P	**P**	**18 38 06.1**	**+1.0**
MAKZ	**Makanchi**	**66.57**	**327**	P	**P**	**18 38 06.8**	**+0.7**
MAKZ				IAmb	IAmb	18 38 07.2	
	comp=Z,4.5nm,0.5s						
ZAA0	**Zalesovo Array**	**69.88**	**334**	P	**P**	**18 38 26.6**	**+0.3**
ZAA0				IAmb	IAmb	18 38 27.2	
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**69.88**	**334**	P	**P**	**18 38 26.6**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=121,slow=5.0,SNR=17						
WSAR	**Wadi Sarin**	**73.76**	**296**	P	**P**	**18 38 49.9**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=152,slow=3.8,SNR=7.2						
ABKAR	**Akbulak array**	**80.58**	**322**	P	**P**	**18 39 26.4**	**-0.3**
ABKAR				IAmb	IAmb	18 39 27.8	
	comp=Z,2.3nm,0.5s						
AKTO	**Aktyubinsk**	**82.16**	**323**	P	**P**	**18 39 34.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=118,slow=4.7,SNR=5.5						
ILAR	**Eielson Array**	**93.25**	**25**	P	**P**	**18 40 26.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=258,slow=4.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**126.79**	**282**	PKP	**PKiKP**	**18 46 16.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=73,slow=1.7,SNR=2.6						

*NOU **21** 18:46:34.2, 31°.99S×138°.71E, h0km, MLv2.8, South Australia*
*AUST **21** 18:46:34.0±0.7, 31°.98S×138°.68E, h10km, Error ellipse: s-maj=9.2km s-min=7.4km az=92.0*
*IDC **21** 18:46:36.0±5.5, 31°.51S×138°.65E, h0km, mb1 3.1/3, mb1mx3.0/17, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=100.2km s-min=23.8km az=35.0*
ISC 21 18:46:34.5±0.8, **32°.00S**±0°.04×**138°.64E**±0°.04, **h27**km, **n11**, σ1**s84**/19, **South Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**1.45**	**171**	P	**Pn**	**18 47 00.3**	**+1.3**
	baz=1.5						
HTT				S	**Sb**	**18 47 19.8**	**+0.9**
	baz=1.5						
LCRK	**Leigh Creek**	**1.59**	**347**	P	**Pb**	**18 47 03.0**	**-0.1**
	baz=1.6,SNR=6.4						
LCRK				S	**Sb**	**18 47 24.4**	**+1.6**
	baz=1.6						
BBOO	**Buckleboo**	**2.33**	**249**	P	**Pn**	**18 47 13.4**	**+2.4**
	baz=2.4,SNR=6.4						
BBOO				S	**Sb**	**18 47 42.9**	**-1.2**
	baz=2.4						
STKA	**Stephens Creek**	**2.52**	**88**	Pn	**Pb**	**18 47 18.6**	**-0.4**
	1.1nm,0.3s,baz=273,slow=14,SNR=21						
STKA				Sn	**Sb**	**18 47 50.3**	**+0.7**
	2.0nm,0.3s,baz=293,slow=21,SNR=5.3						
STKA	**Stephens Creek**	**2.52**	**88**	P	**Pn**	**18 47 14.9**	**+1.3**
	baz=2.5						
MULG	**Mulgathing**	**4.28**	**292**	P	**Pn**	**18 47 39.5**	**+1.6**
	baz=4.3						
MULG				S	**Sn**	**18 48 29.2**	**+2.2**
	baz=4.3						
INKA	**Innaminka**	**4.62**	**24**	P	**Pn**	**18 47 44.2**	**+1.7**
	baz=4.6						
INKA				S	**Sn**	**18 48 36.6**	**+1.3**
	baz=4.6						
ARPS	**Mount Arapiles**	**5.45**	**152**	P	**Pn**	**18 47 54.8**	**+0.9**
	baz=5.5						
ARPS				S	**Sn**	**18 48 53.8**	**-1.8**
	baz=5.5						
CMSA	**Cobar Meteorol**	**6.03**	**87**	P	**Pn**	**18 48 02.8**	**+1.0**
	baz=6.0						
ASAR	**Alice Springs**	**9.30**	**332**	Pn	**Pn**	**18 48 46.2**	**-0.6**
	0.0nm,0.3s,baz=153,slow=12,SNR=1.8						
ASAR				Sn	**Sn**	**18 50 26.3**	**-4.3**
	0.0nm,0.3s,baz=153,slow=23,SNR=1.8						
WRA	**Warramunga Arr**	**12.61**	**341**	Pn	**Pn**	**18 49 30.4**	**-1.8**
	0.0nm,0.3s,baz=162,slow=13,SNR=1.7						

IDC 21 18:55:35.3±7.0, **18°.54S**×**175°.00W**, **h0**km, **mb3.6**/2, **mb1 3.9**/2, **mb1mx3.4**/34, **mbtmp3.6**/2, **Error ellipse: s-maj=313.4km s-min=68.1km az=145.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

	baz=315								
HHAR	**Hobbs**	**2.90**	**89**			**Pn**	**18 59 00.3**	**+1.3**
CBKS	**Cedar Bluff**	**3.08**	**326**	IAmb_Lg			18 59 53.8	
	comp=Z,344nm,0.8s							
W39A	**Magazine**	**3.23**	**109**			**Pn**	**18 59 05.1**	**+1.5**
W39A	**Magazine**	**3.23**	**109**	P		**Pn**	**18 59 04.4**	**+0.8**
	baz=291,SNR=17							
W39A	**Magazine**	**3.23**	**109**	P			18 59 04.4	
	baz=291,SNR=17							
S39A	**Bolivar**	**3.65**	**66**			**Pn**	**18 59 09.8**	**+0.5**
S39A				IAmb_Lg			19 00 11.3	
	comp=Z,29nm,0.8s							
S39A	**Bolivar**	**3.65**	**66**	P		**Pn**	**18 59 10.0**	**+0.7**
	baz=248,SNR=12							
S39A	**Bolivar**	**3.65**	**66**	P			18 59 10.0	
	baz=248,SNR=12							
MIAR	**Mount Ida**	**3.66**	**117**			**Pn**	**18 59 10.7**	**+1.2**
MIAR	**Mount Ida**	**3.66**	**117**	P		**Pn**	**18 59 10.5**	**+1.0**
	baz=300,SNR=34							
MIAR	**Mount Ida**	**3.66**	**117**	P			18 59 10.5	
	baz=300,SNR=34							
Z38A	**Mt. Pleasant**	**3.67**	**145**			**Pn**	**18 59 10.2**	**+0.5**
X40A	**Basin Creek Fa**	**4.23**	**114**			**Pn**	**18 59 18.7**	**+1.4**
X40A				IAmb_Lg			19 00 29.4	
	comp=Z,32nm,0.7s							
X40A	**Basin Creek Fa**	**4.23**	**114**	P		**Pn**	**18 59 18.9**	**+1.5**
	baz=297,SNR=8.7							
X40A	**Basin Creek Fa**	**4.23**	**114**	P			18 59 18.9	
	baz=297,SNR=8.7							
X40A				P			18 59 18.9	
	baz=297,SNR=8.7							
MGMO	**Mountain Grove**	**4.31**	**77**	IAmb_Lg			19 00 32.0	
	comp=Z,28nm,0.8s							
WHAR	**Wooly Hollow**	**4.37**	**102**			**Pn**	**18 59 20.2**	**+0.9**
WHAR				IAmb_Lg			19 00 34.5	
	comp=Z,34nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.39**	**94**	IAmb_Lg			19 00 28.9	
	comp=Z,18nm,0.9s							
WLAR	**White Oak Lake**	**4.46**	**124**	IAmb_Lg			19 00 43.9	
	comp=Z,21nm,0.8s							
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg			19 00 40.1	
	comp=Z,29nm,0.8s							
R40A	**Maddies Statio**	**4.64**	**63**			**Pn**	**18 59 22.7**	**-0.3**
R40A	**Maddies Statio**	**4.64**	**63**	P		**Pn**	**18 59 23.3**	**+0.3**
	baz=246,SNR=9.8							
R40A	**Maddies Statio**	**4.64**	**63**	P			18 59 23.3	
	baz=246,SNR=9.8							
KSCO	**Kaye Shedlock'**	**4.88**	**305**	IAmb_Lg			19 00 56.0	
	comp=Z,26nm,0.7s							
NATX	**Nacogdoches**	**5.10**	**151**	IAmb_Lg			19 00 56.4	
	comp=Z,15nm,0.8s							
BGNE	**Belgrade**	**5.14**	**355**	IAmb_Lg			19 01 03.1	
	comp=Z,33nm,1.0s							
LCAR	**Lake Charles**	**5.16**	**91**	IAmb_Lg			19 00 59.6	
	comp=Z,17nm,0.9s							
T42A	**Van Buren**	**5.22**	**80**	IAmb_Lg			19 00 55.6	
	comp=Z,18nm,0.8s							
CCAR	**Cane Creek**	**5.28**	**115**	IAmb_Lg			19 01 06.1	
	comp=Z,33nm,0.9s							
CCM	**Cathedral Cave**	**5.32**	**69**	IAmb_Lg			19 01 05.8	
	comp=Z,20nm,0.8s							
P40A	**Paris**	**5.41**	**52**	IAmb_Lg			19 01 07.6	
	comp=Z,29nm,0.8s							
435B	**Jarrell**	**5.49**	**181**	Pn		**Pn**	**18 59 34.8**	**+0.2**
435B				IAmb_Lg			19 01 13.4	
	comp=Z,15nm,0.7s							
T25A	**Trinidad**	**5.60**	**281**	Pn		**Pn**	**18 59 36.7**	**+0.3**
N38A	**Joes South For**	**5.62**	**35**	IAmb_Lg			19 01 19.0	
	comp=Z,30nm,1.0s							
PBMO	**Poplar Bluff**	**5.73**	**83**	IAmb_Lg			19 01 15.3	
	comp=Z,25nm,0.7s							
L34A	**Svendsen Farm,**	**5.74**	**9**	IAmb_Lg			19 01 29.0	
	comp=Z,25nm,0.8s							
OGNE	**Ogallala**	**5.84**	**324**	IAmb_Lg			19 01 23.8	
	comp=Z,20nm,0.8s							
143A	**Socs Landing,**	**6.19**	**124**	IAmb_Lg			19 01 44.7	
	comp=Z,14nm,0.7s							
SCIA	**State Center**	**6.54**	**30**	IAmb_Lg			19 01 51.1	
	comp=Z,28nm,0.7s							
S44A	**Carbondale**	**6.77**	**76**	IAmb_Lg			19 01 45.7	
	comp=Z,27nm,0.7s							
W45A	**Hickory Valley**	**6.88**	**97**	IAmb_Lg			19 01 50.2	
	comp=Z,22nm,0.9s							
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg			19 02 11.4	
	comp=Z,12nm,0.8s							
PHWY	**Pilot Hill**	**7.96**	**311**	IAmb_Lg			19 02 36.3	
	comp=Z,11nm,0.9s							
O44A	**Mansfield**	**8.11**	**59**	IAmb_Lg			19 02 37.1	
	comp=Z,18nm,0.8s							
SUSD	**Miller**	**8.22**	**353**	IAmb_Lg			19 02 37.4	
	comp=Z,16nm,0.7s							
L42A	**Oliver, Polo**	**8.36**	**45**	IAmb_Lg			19 02 45.0	
	comp=Z,17nm,0.8s							
T47A	**Sharon Grove**	**8.41**	**82**	IAmb_Lg			19 02 48.1	
	comp=Z,13nm,0.8s							
JFWS	**Jewell Farm**	**8.68**	**38**	IAmb_Lg			19 02 45.7	
	comp=Z,17nm,0.7s							
V48A	**Smith Brothers**	**8.69**	**90**	IAmb_Lg			19 02 47.4	
	comp=Z,8.3nm,1.1s							
X48A	**Hartselle**	**8.75**	**99**	IAmb_Lg			19 02 47.7	
	comp=Z,9.0nm,1.3s							
M44A	**Midewin, Midew**	**8.98**	**53**	IAmb_Lg			19 03 05.0	
	comp=Z,11nm,0.8s							
SFIN	**Lafayette**	**9.15**	**60**	IAmb_Lg			19 03 18.0	
	comp=Z,13nm,0.7s							
WCI	**Wyandotte Cave**	**9.16**	**74**	IAmb_Lg			19 02 59.0	
	comp=Z,10nm,0.8s							
RSSD	**Black Hills**	**9.27**	**330**	IAmb_Lg			19 03 09.3	
	comp=Z,7.7nm,0.9s							
Y49A	**Blount Mountai**	**9.43**	**102**	IAmb_Lg			19 03 36.1	
	comp=Z,9.9nm,1.3s							
W50A	**Signal Mountai**	**9.99**	**93**	IAmb_Lg			19 03 36.8	
	comp=Z,6.2nm,0.8s							

*VAO **21** 19:13:12.8±0.4,22°.43S×66°.66W,h246km±4km,mb4.1*
*SJA **21** 19:13:18.7±0.6,22°.30S×66°.16W,h260km±3km,ML4.2, MW4.0*
*IDC **21** 19:13:18.6±0.8,22°.10S×66°.12W,h247km±10km,mb3.6/7, mb1 3.5/13,mb1mx3.4/31,mbtmp4.1/13, Error ellipse: s-maj=15.8km s-min=11.6km az=127.0*
*GUC **21** 19:13:19.3±0.5,22°.23S×66°.61W,h310km±13km,MW4.3*
ISC 21 19:13:17.8±0.6,22°.27S±0'.04×66°.18W±0'.04,h257km±6km, n114,σ1§64/152,mb4.0/7,12C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
YJA	**Yavi**	**0.62**	**82**	*eP*		**Pn**	**19 13 54.2**	**+1.7**
YJA				*eS*		**S**	**19 14 20.2**	**+0.6**
HJA	**Humahuaca**	**1.18**	**143**	*eP*		**Pn**	**19 13 56.8**	**+1.7**
HJA				*eS*		**S**	**19 14 24.9**	**+0.6**
AZAP	**Zapla**	**2.20**	**152**	*eP*		**Pn**	**19 14 04.2**	**+1.2**
AZAP				*eS*		**S**	**19 14 38.3**	**-0.4**
AZAP				IAML			19 14 39.2	
	comp=Z,222nm,0.7s							
ASTB	**Santa Barbara**	**2.31**	**137**	*eP*		**Pn**	**19 14 05.2**	**+1.3**
SLA	**San Lorenzo**	**2.52**	**166**	*eP*		**Pn**	**19 14 07.8**	**+1.8**
ALOL	**LOMAS DE OLMED**	**2.54**	**128**	*eP*		**Pn**	**19 14 06.8**	**+0.8**
LVC	**Limon Verde**	**2.55**	**262**	P		**Pn**	**19 14 08.3**	**+1.9**
	comp=Z,40nm,0.3s,baz=110,slow=6.0,SNR=33							
LVC				S		**S**	**19 14 45.5**	**+0.6**
	comp=Z,19nm,0.3s,baz=271,slow=21,SNR=35							
PB09	**IPOC Station P**	**2.88**	**279**	*eP*		**Pn**	**19 14 11.4**	**+1.8**
PB09	**IPOC Station P**	**2.88**	**279**	*eP*		**Pn**	**19 14 10.6**	**+1.0**
PB09				*eS*		**S**	**19 14 52.3**	**+1.7**
PB09				IAML			19 14 56.8	
	comp=Z,244nm,0.4s							
PB06	**IPOC Station P**	**3.17**	**261**	*eP*		**Pn**	**19 14 13.9**	**+1.2**
PB06				*i S*		**S**	**19 14 56.6**	**+0.4**
PB06	**IPOC Station P**	**3.17**	**261**	*eP*		**Pn**	**19 14 14.9**	**+2.2**
PB06				*eS*		**S**	**19 14 56.5**	**+0.4**
PB06				IAML			19 14 59.2	
	comp=Z,409nm,0.1s							
PB15	**IPOC Station P**	**3.18**	**252**	*eP*		**Pn**	**19 14 15.2**	**+2.3**
PB15				*i S*		**S**	**19 14 56.9**	**+0.4**
PB15	**IPOC Station P**	**3.18**	**252**	*eS*		**S**	**19 14 57.5**	**+1.0**
PB01	**IPOC Station P**	**3.31**	**291**	*iP*		**Pn**	**19 14 15.7**	**+1.5**
PB01				*i S*		**S**	**19 14 58.3**	**-0.6**
PB01	**IPOC Station P**	**3.31**	**291**	*eP*		**Pn**	**19 14 15.9**	**+1.7**
PB01				*eS*		**S**	**19 14 58.6**	**-0.3**
PB01				IAML			19 15 00.3	
	comp=Z,563nm,0.4s							
PB03	**IPOC Station P**	**3.32**	**273**	*eP*		**Pn**	**19 14 15.3**	**+0.9**
PB03				*i S*		**S**	**19 14 58.3**	**-0.9**
PB03	**IPOC Station P**	**3.32**	**273**	*eP*		**Pn**	**19 14 16.0**	**+1.6**
PB03				*eS*		**S**	**19 14 58.6**	**-0.6**
PB03				IAML			19 15 00.2	
	comp=Z,978nm,0.3s							
PB07	**IPOC Station P**	**3.48**	**278**	*eP*		**Pn**	**19 14 14.9**	**-1.3**
PB07				*eP*		**Pn**	**19 14 16.1**	**-0.1**
PB07				*eS*		**S**	**19 15 01.8**	**-0.7**
PB07				IAML			19 15 03.9	
	comp=Z,562nm,0.1s							
PB08	**IPOC Station P**	**3.49**	**307**	*iP*		**Pn**	**19 14 19.0**	**+2.4**
PB08				*i S*		**S**	**19 15 04.1**	**+1.1**
PB08	**IPOC Station P**	**3.49**	**307**	*eP*		**Pn**	**19 14 19.1**	**+2.6**
PB08				*eS*		**S**	**19 15 04.6**	**+1.6**
PB08				IAML			19 15 08.2	
	comp=Z,213nm,0.3s							
PB04	**IPOC Station P**	**3.67**	**268**	*iP*		**Pn**	**19 14 19.8**	**+1.4**
PB04				*i S*		**S**	**19 15 05.0**	**-1.5**
PB04	**IPOC Station P**	**3.67**	**268**	*eP*		**Pn**	**19 14 20.0**	**+1.6**
PB04				*eS*		**S**	**19 15 05.6**	**-0.8**
PB04				IAML			19 15 07.7	
	comp=Z,653nm,0.1s							
PB05	**IPOC Station P**	**3.76**	**260**	*iP*		**Pn**	**19 14 20.7**	**+1.4**
PB05				*i S*		**S**	**19 15 06.1**	**-2.1**
PB05	**IPOC Station P**	**3.76**	**260**	*eP*		**Pn**	**19 14 20.5**	**+1.2**
PB05				*eS*		**S**	**19 15 06.6**	**-1.6**
PB05				IAML			19 15 13.4	
	comp=Z,213nm,0.2s							
FSA	**Cafayete**	**3.83**	**177**	*eP*		**Pn**	**19 14 21.7**	**+1.5**
HMBC	**Humberstone**	**3.98**	**299**	*iP*		**Pn**	**19 14 22.8**	**+0.9**
HMBC				*i S*		**S**	**19 15 11.3**	**-1.5**
PB11	**IPOC Station P**	**4.09**	**307**	*iP*		**Pn**	**19 14 24.4**	**+1.1**
PB11				*i S*		**S**	**19 15 14.0**	**-1.2**
TA01	**Diego Aracena**	**4.09**	**294**	*iP*		**Pn**	**19 14 23.8**	**+0.8**
TA01				*eS*		**S**	**19 15 12.0**	**-2.9**
TA02	**Huaiquique**	**4.19**	**298**	*iP*		**Pn**	**19 14 25.0**	**+0.9**
TA02				*i S*		**S**	**19 15 14.8**	**-2.1**
PB10	**IPOC Station P**	**4.22**	**252**	*iP*		**Pn**	**19 14 25.4**	**+0.9**
PB10				*eS*		**S**	**19 15 15.5**	**-2.1**
GO02	**Mina Guanaco**	**4.25**	**227**	*iP*		**Pn**	**19 14 26.5**	**+1.3**
GO02				*i S*		**S**	**19 15 18.4**	**-0.4**
MNMC	**Minye Minye**	**4.47**	**314**	*iP*		**Pn**	**19 14 29.4**	**+1.6**
PB14	**IPOC Station P**	**4.53**	**238**	*eP*		**Pn**	**19 14 24.9**	**-3.6**
PB14				*eP*		**Pn**	**19 14 30.0**	**+1.5**
PB14				*eS*		**S**	**19 15 22.6**	**-2.2**
PB14				IAML			19 15 25.3	
	comp=Z,295nm,0.2s							
PSGC	**Pisagua**	**4.54**	**305**	*iP*		**Pn**	**19 14 28.6**	**+0.1**
PSGC				*i S*		**S**	**19 15 22.1**	**-2.7**
AP01	**Chacalluta**	**5.50**	**314**	*iP*		**Pn**	**19 14 41.1**	**+1.1**
CYA	**Choya**	**6.16**	**177**	*eP*		**Pn**	**19 14 50.3**	**+2.2**
LPAZ	**La Paz**	**6.23**	**342**	P		**Pn**	**19 14 50.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=155,slow=8.9,SNR=23							
LPAZ				S		**S**	**19 16 00.2**	**-2.8**
	baz=202,slow=10,SNR=1.3							
LPAZ	**La Paz**	**6.23**	**342**	*eP*		**Pn**	**19 14 51.0**	**+1.4**
LPAZ	**La Paz**	**6.23**	**342**	*eP*		**Pn**	**19 14 51.7**	**+2.1**
GO03	**Copiap**	**6.45**	**214**	*eP*		**Pn**	**19 14 51.8**	**0.0**
GO03				*eS*		**S**	**19 16 04.2**	**-2.9**
VCA	**Vinchina**	**6.70**	**195**	*eP*		**Pn**	**19 14 56.3**	**+1.4**
VCA				*eS*		**S**	**19 16 12.8**	**0.0**
VCA				IAML			19 16 21.5	
	comp=Z,15nm,1.6s							
ACLC	**CERRO LA CRUZ**	**7.16**	**185**	*eP*		**Pn**	**19 15 01.2**	**+0.5**
ACLC				*eS*		**S**	**19 16 21.9**	**-1.6**
ACLC				IAML			19 16 22.9	
	comp=Z,22nm,0.4s							
SIV	**San Ignacio**	**7.89**	**39**	P		**Pn**	**19 15 09.5**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=243,slow=7.3,SNR=95							
SIV				S		**S**	**19 16 35.2**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=247,slow=15,SNR=1.3							
APLL	**PUNTA DE LOS L**	**8.10**	**182**	*eP*		**Pn**	**19 15 12.2**	**-0.2**
ACDV	**Cuesta del Vie**	**8.30**	**198**	*eP*		**Pn**	**19 15 16.4**	**+1.3**
ACDV				*eS*		**S**	**19 16 49.4**	**-0.3**
ACDV				IAML			19 17 40.2	
	comp=Z,11nm,2.2s							
AROD	**Rodeo**	**8.40**	**200**	*eP*		**Pn**	**19 15 18.3**	**+1.8**
AROD				*eS*		**S**	**19 16 51.9**	**-0.4**
ACCO	**Cerro Coronel**	**8.68**	**197**	*eP*		**Pn**	**19 15 20.2**	**+0.2**
ACCO				*eS*		**S**	**19 16 54.4**	**-4.3**
GO04	**Tololo Observa**	**8.90**	**207**	*eP*		**Pn**	**19 15 22.6**	**0.0**
GO04				*eS*		**S**	**19 16 59.9**	**-3.7**
CPUP	**Villa Florida**	**9.03**	**118**	P		**Pn**	**19 15 26.6**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=155,slow=19,SNR=1.5							
CPUP	**Villa Florida**	**9.03**	**118**	*eP*		**Pn**	**19 15 21.8**	**-2.3**
PTLB	**Pontes e Lacer**	**9.51**	**46**	*eP*		**Pn**	**19 15 29.9**	**-0.4**
RTCV	**Cerro Valdivia**	**9.79**	**192**	*eP*		**Pn**	**19 15 34.4**	**+0.8**
RTCV				*eS*		S	19 17 12.0	-12
RTLS	**Leoncito**	**9.89**	**196**	*eP*		**Pn**	**19 15 37.0**	**+1.8**
AQDB	**Aquidauana**	**9.93**	**82**	*eP*		**Pn**	**19 15 36.6**	**+1.1**
ACAN	**Cantantal**	**10.01**	**185**	*eP*		**Pn**	**19 15 36.2**	**-0.2**
ACAN				*eS*		**S**	**19 17 29.0**	**0.0**
MRA	**San Martin**	**10.12**	**178**	*eS*		**S**	**19 17 24.2**	**-7.5**
ASAL	**Salagasta**	**10.55**	**192**	*eP*		**Pn**	**19 15 43.6**	**+0.4**
ARCO	**CERRO ARCO**	**10.81**	**192**	*eP*		**Pn**	**19 15 47.2**	**+0.6**
VILA	**Vilhena**	**10.88**	**34**	*eP*		**Pn**	**19 15 48.4**	**+1.0**
AAGR	**Agrelo**	**11.03**	**192**	*eS*		**S**	**19 17 49.0**	**-3.7**
PP1B	**Ponte de Pedra**	**11.60**	**68**	*eP*		**P**	**19 15 58.5**	**-1.2**
SALV	**Santo Antonio**	**11.76**	**59**	*eP*		**Pn**	**19 15 58.3**	**-0.1**
ETMB	**Extrema**	**12.38**	**360**	*eP*		**Pn**	**19 16 03.9**	**-2.2**
TRCB	**Terra Rica**	**12.53**	**95**	*eP*		**Pn**	**19 16 07.6**	**-0.3**
RFA	**San Rafael**	**12.62**	**189**	*eP*		**Pn**	**19 16 09.4**	**+0.5**
ITAB	**Concordia**	**13.69**	**114**	*eP*		**P**	**19 16 22.7**	**-0.1**
CPSB	**Cacapava Do Su**	**14.00**	**128**	*eP*		**Pn**	**19 16 24.8**	**-0.9**
ARAG	**Araguaiana, MT**	**15.07**	**67**	*eP*		**Pn**	**19 16 39.0**	**+0.3**
CLDB	**Colider**	**15.07**	**43**	*eP*		**Pn**	**19 16 38.7**	**-0.1**
FRTB	**Fartura**	**15.36**	**97**	*eP*		**P**	**19 16 41.6**	**+0.2**
BB19B	**Bebedouro**	**16.45**	**89**	*eP*		**P**	**19 16 53.9**	**+0.6**
SPB	**Sao Paulo**	**17.32**	**98**	*eP*		**P**	**19 17 03.9**	**+1.1**
IPMB	**Ipameri, GO**	**17.40**	**79**	*eP*		**P**	**19 17 05.0**	**+1.2**
PET01	**Itanhaem-SP**	**17.49**	**100**	*eP*		**P**	**19 17 05.5**	**+1.0**
SNDB	**Serra Nova Dou**	**17.51**	**57**	*eP*		**P**	**19 17 05.4**	**+0.6**
VAO	**Valinhos**	**17.75**	**96**	*eP*		**P**	**19 17 08.3**	**+0.7**
NPGB	**Novo Progresso**	**18.38**	**36**	*eP*		**P**	**19 17 13.6**	**-0.8**
BDFB	**Brasilia**	**18.39**	**72**	P		**P**	**19 17 15.6**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=253,slow=15,SNR=6.4							
PLCA	**Paso Flores**	**18.78**	**190**	P		**Pn**	**19 17 22.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=359,slow=11,SNR=5.4							
PEXB	**Peixe**	**19.83**	**62**	*eP*		**P**	**19 17 29.8**	**+0.1**
BSCB	**Bom Sucesso**	**19.94**	**90**	*eP*		**P**	**19 17 31.3**	**+0.3**
ITTB	**Itaituba**	**20.47**	**31**	*eP*		**P**	**19 17 35.8**	**-0.8**
VAS01	**Vassouras-RJ**	**21.04**	**94**	*eP*		**P**	**19 17 42.8**	**+0.3**
DIAM	**Diamantina, MG**	**21.47**	**83**	*eP*		**P**	**19 17 47.3**	**+0.5**
MC01	**Montes Claros**	**21.67**	**79**	*eP*		**P**	**19 17 48.1**	**-0.5**
JANB	**Januaria**	**21.91**	**75**	*eP*		**P**	**19 17 50.4**	**-0.2**
PTGA	**Pitinga**	**22.25**	**17**	P		**P**	**19 17 53.7**	**0.0**
	comp=Z,2.3nm,0.3s,baz=302,slow=23,SNR=3.6							
SMTB	**Santa Maria do**	**22.29**	**56**	*eP*		**P**	**19 17 54.2**	**+0.1**
PRPB	**Parauapebas**	**22.49**	**47**	*eP*		**P**	**19 17 54.8**	**-1.1**
SDBA	**SAO DESIDERIO**	**22.53**	**68**	*eP*		**P**	**19 17 56.0**	**-0.3**
MALB	**Monte Alegre**	**23.37**	**31**	*eP*		**P**	**19 18 04.4**	**+0.6**
SJMB	**Sao Joao De Ma**	**23.67**	**86**	*eP*		**P**	**19 18 07.2**	**+0.6**
BSFB	**Barra de Sao F**	**23.96**	**86**	*eP*		**P**	**19 18 08.7**	**-0.5**
NAN01	**Guarapari, ES**	**24.85**	**85**	*eP*		**P**	**19 18 16.3**	**-1.1**
BOAV	**Boa Vista**	**25.13**	**13**	*eP*		**P**	**19 18 19.6**	**-0.1**
OTAV	**Otavalo**	**25.36**	**330**	*eP*		**P**	**19 18 17.4**	**-5.1**
GUA01	**Guaratinga, BA**	**25.49**	**82**	*eP*		**P**	**19 18 22.9**	**-0.1**
TULM	**Tulcn-Chalpat**	**25.49**	**332**	*eP*		**P**	**19 18 27.0**	**+3.3**
MCPB	**Macapa, AP**	**25.76**	**34**	*eP*		**P**	**19 18 24.9**	**-0.5**
CRUC	**La Cruz**	**25.92**	**335**	*eP*		**P**	**19 18 39.9**	**+13**
GDU01	**Guandu, BA**	**26.66**	**76**	*eP*		**P**	**19 18 32.5**	**-1.0**
NBPN	**Ponto Novo - B**	**27.32**	**70**	*eP*		**P**	**19 18 38.6**	**-0.9**
NBPS	**Pedro II - PI**	**29.82**	**57**	*eP*		**P**	**19 19 01.4**	**-0.3**
MDP	**Montagnes des**	**30.26**	**28**	P		**P**	**19 19 05.3**	**0.0**
	comp=Z,7.8nm,0.5s,baz=208,slow=11,SNR=13							
NBMA	**Muriti-CE**	**30.28**	**65**	*eP*		**P**	**19 19 05.4**	**-0.2**
NBAN	**Anadia - AL**	**31.29**	**71**	*eP*		**P**	**19 19 13.6**	**-0.8**
TXAR	**Lajitas Array**	**62.73**	**323**	P		**P**	**19 23 17.2**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=142,slow=4.5,SNR=4.6							
DBIC	**Dimbokro**	**66.54**	**72**	P		**P**	**19 23 41.2**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=234,slow=8.8,SNR=2.0							
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P		**P**	**19 24 33.0**	**0.0**
	comp=Z,1.1nm,0.4s,baz=266,slow=5.9,SNR=20							
BOSA	**Boshof**	**80.85**	**117**	P		**P**	**19 25 05.3**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=297,slow=4.5,SNR=1.6							
YKA	**Yellowknife Ar**	**92.77**	**340**	P		**P**	**19 26 03.0**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=124,slow=5.0,SNR=3.4							
ASAR	**Alice Springs**	**130.34**	**204**	PKP		**PKiKP**	**19 32 00.3**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=127,slow=1.7,SNR=14							
WRA	**Warramunga Arr**	**133.50**	**207**	PKP		**PKiKP**	**19 32 06.5**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=153,slow=2.0,SNR=13							
MKAR	**Makanchi Array**	**144.71**	**38**	PKP		**PKPdf**	**19 32 25.4**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=353,slow=3.0,SNR=6.5							

*INET **21** 19:37:48.9,12°.47N×89°.33W,h15km,MW3.2*
SNET 21 19:38:02.6±0.9,13°.01N×89°.02W,h40km±31km,ML3.5, 3C-9D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TECO	**Alcaldia de Te**	**0.57**	**24**	*iP*		**Pn**	**19 38 14.5**	**+0.1**
TECO				*eS*		Sn	19 38 23.8	+1.1
TECO				IAML			19 38 24.6	
	comp=Z,1μm,0.1s							
SJTE	**Alcalda de S**	**0.60**	**1**	*eP*		**Pn**	**19 38 14.9**	**+0.1**
SJTE				*eS*		Sn	19 38 24.4	+1.0
LFRS	**El Faro**	**0.61**	**356**	*iP*		**Pn**	**19 38 15.0**	**0.0**
COEG	**Centro de Oper**	**0.62**	**13**	*eP*		**Pn**	**19 38 15.2**	**+0.1**
COEG				IAML			19 38 29.4	
	comp=Z,3μm,0.3s							
COEB	**Comit de Eme**	**0.68**	**44**	*eP*		**Pn**	**19 38 16.2**	**+0.3**
COEB				*eS*		Sn	19 38 26.6	+1.3
TECA	**Tecapa**	**0.70**	**46**	*iP*		**Pn**	**19 38 16.5**	**+0.4**
TECA				*eS*		Sn	19 38 27.1	+1.2
PAVA	**Las Pavas**	**0.70**	**6**	*eP*		**Pn**	**19 38 16.6**	**+0.4**
SNET	**Serv Nac Est T**	**0.70**	**343**	*eP*		**Pn**	**19 38 16.2**	**+0.1**
SNET				*eS*		Sn	19 38 26.3	+0.4
SNET				IAML			19 38 27.2	
	comp=Z,1μm,0.3s							
OPAM	**Oficina de Pla**	**0.72**	**346**	*eP*		**Pn**	**19 38 16.5**	**+0.2**
LBRS	**Las Brisas**	**0.72**	**358**	*iP*		**Pn**	**19 38 16.9**	**+0.4**
UEES	**Universidad Ev**	**0.73**	**343**	*eP*		**Pn**	**19 38 16.7**	**+0.1**
LFU	**La Fuente**	**0.74**	**353**	*iP*		**Pn**	**19 38 17.0**	**+0.3**
PQSS	**Presa 15 de Se**	**0.76**	**36**	*iP*		**Pn**	**19 38 17.2**	**+0.4**
BOQS	**Boqueron**	**0.76**	**341**	*eP*		**Pn**	**19 38 17.4**	**+0.3**
BOQS				*eS*		Sn	19 38 28.8	+1.2
JUCU	**Jucuar¡n**	**0.79**	**72**	*eP*		**Pn**	**19 38 16.9**	**-0.4**
JUCU				*eS*		Sn	19 38 28.3	+0.3
JUCU				IAML			19 38 32.6	
	comp=Z,2μm,0.3s							
LCY	**Lacayo**	**0.82**	**60**	*eP*		**Pn**	**19 38 18.1**	**+0.3**
PACA	**Pacayal**	**0.82**	**56**	*eP*		**Pn**	**19 38 18.4**	**+0.6**
CEVE	**Cerro Verde**	**1.00**	**324**	*eP*		**Pn**	**19 38 21.4**	**+0.9**
CEVE				IAML			19 38 36.7	
	comp=Z,2μm,0.4s							
SBLS	**San Blas**	**1.01**	**325**	*eP*		**Pn**	**19 38 21.1**	**+0.6**
SNJE	**San Jose**	**1.03**	**326**	*eP*		**Pn**	**19 38 21.0**	**+0.3**
RTR	**El Retiro**	**1.07**	**325**	*eP*		**Pn**	**19 38 21.9**	**+0.6**
LCND	**La Caada**

TWB1				eS	Sg	19 56 57.6	-0.3	
	baz=358							
NSK	**Sanguang**	**0.69**	**300**	P	**Pb**	**19 56 49.3**	**0.0**	
NSK	baz=300			S	**Sg**	**19 56 58.2**	**-0.3**	
FUSS	**Fushou**	**0.71**	**263**	P	**Pg**	**19 56 49.8**	**0.0**	
FUSS	baz=261			eS	**Sb**	**19 57 00.4**	**+1.2**	
WHF	**Hehuan Shan**	**0.71**	**255**	P	**Pg**	**19 56 49.6**	**-0.3**	
WHF	baz=252			eS	**Sb**	**19 57 00.1**	**+0.7**	
ESL	**Shilin**	**0.74**	**226**	eP	**Pb**	**19 56 49.7**	**-0.5**	
ESL	baz=222			eS	**Sg**	**19 57 01.6**	**+1.4**	
TWA	**Mucha**	**0.75**	**329**	eP	**Pb**	**19 56 50.4**	**0.0**	
TWA	baz=323			eS	**Sn**	**19 57 01.8**	**-0.7**	
TEGC	**Jichi Village**	**0.76**	**215**	eP	**Pg**	**19 56 51.2**	**+0.6**	
TEGC	baz=211			eS	**Sn**	**19 57 03.2**	**+0.5**	
NWF	**Wu-fen Shan**	**0.76**	**344**	eP	**Pg**	**19 56 51.0**	**+0.3**	
NWF	baz=341			eS	**Sg**	**19 57 01.5**	**+0.6**	
NHDH	**Xindian Distri**	**0.77**	**325**	eP	**Pn**	**19 56 51.5**	**-0.3**	
NHDH	baz=320			eS	**Sn**	**19 57 02.0**	**-0.8**	
TWT	**Tachien**	**0.77**	**264**	eP	**Pb**	**19 56 50.8**	**+0.1**	
TWT	baz=262			eS	**Sg**	**19 57 01.8**	**+0.7**	
TDCB	**Techi**	**0.78**	**264**	eP	**Pg**	**19 56 51.2**	**0.0**	
TDCB	baz=262			eS	**Sb**	**19 57 01.5**	**+0.1**	
TATO	**Taipei**	**0.80**	**323**	eP	**Pg**	**19 56 51.6**	**+0.3**	
TATO	baz=319			eS	**Sn**	**19 57 02.5**	**-1.0**	
CHGB	**Renai**	**0.81**	**250**	P	**Pb**	**19 56 51.3**	**-0.2**	
CHGB	baz=238			S	**Sg**	**19 57 03.3**	**+0.7**	
TAP	**Taipei**	**0.84**	**327**	eP	**Pn**	**19 56 53.1**	**+0.4**	
TAP	baz=329			eS	**Sn**	**19 57 04.8**	**+0.2**	
TNOU	**National Taiwa**	**0.84**	**345**	eP	**Pg**	**19 56 52.2**	**+0.1**	
TNOU	baz=348			eS	**Sn**	**19 57 04.0**	**-0.6**	
EGFH	**Guangfu**	**0.85**	**219**	eP	**Pb**	**19 56 52.2**	**+0.1**	
EGFH	baz=216			eS	**Sg**	**19 57 04.4**	**+0.6**	
JYNG	**Yonagunijimaku**	**0.86**	**82**	P	**Pb**	**19 56 52.5**	**+0.3**	
JYNG				eS	**Sg**	**19 57 04.7**	**+0.8**	
YM01	**YM01**	**0.90**	**334**	eP	**Pb**	**19 56 53.0**	**0.0**	
YM01	baz=349			eS	**Sn**	**19 57 05.9**	**-0.3**	
YOJ	**Yonaguni jima**	**0.92**	**82**	P	**Pb**	**19 56 53.3**	**+0.1**	
YOJ				eS	**Sg**	**19 57 06.5**	**+0.7**	
YOJ	**Yonaguni jima**	**0.92**	**82**	eP	**Pb**	**19 56 53.2**	**+0.1**	
YOJ	baz=77			eS	**Sn**	**19 57 07.0**	**+0.4**	
NTY	**Taoyuan**	**0.93**	**316**	eP	**Pg**	**19 56 53.9**	**0.0**	
NTY	baz=321			eS	**Sn**	**19 57 08.0**	**+1.2**	
NJD	**Zhudong**	**0.93**	**295**	eP	**Pn**	**19 56 55.1**	**+1.1**	
NJD	baz=294			eS	**Sn**	**19 57 08.4**	**+1.5**	
YM08	**YM08**	**0.93**	**336**	eP	**Pb**	**19 56 53.2**	**-0.2**	
YM08	baz=349			eS	**Sn**	**19 57 07.2**	**+0.3**	
TWS1	**Kuangyinshan**	**0.93**	**325**	eP	**Pg**	**19 56 53.8**	**-0.1**	
TWS1	baz=336			eS	**Sn**	**19 57 08.2**	**+1.3**	
ANP	**Anpu**	**0.96**	**332**	eP	**Pb**	**19 56 53.4**	**-0.6**	
LIOB	baz=335 **Emei**	**0.96**	**289**	eP	**Pn**	**19 56 54.6**	**+0.2**	
LIOB	baz=288			eS	**Sn**	**19 57 07.8**	**+0.2**	
NSTT	**Nanjuang**	**0.97**	**288**	eP	**Pg**	**19 56 54.4**	**-0.2**	
NSTT	baz=287			eS	**Sg**	**19 57 07.0**	**-0.4**	
NTST	**Danshui**	**0.97**	**328**	eP	**Pg**	**19 56 54.5**	**-0.2**	
NTST	baz=339			eS	**Sn**	**19 57 09.3**	**+1.4**	
NCU	**National Centr**	**0.98**	**310**	eP	**Pn**	**19 56 55.5**	**+0.8**	
NCU	baz=311			eS	**Sn**	**19 57 08.9**	**+0.8**	
NCUH	**Zhongli**	**0.98**	**310**	eP	**Pb**	**19 56 54.3**	**+0.1**	
NCUH	baz=310			eS	**Sn**	**19 57 08.7**	**+0.6**	
HGSD	**Ruisui**	**1.00**	**213**	eP	**Pb**	**19 56 53.7**	**-0.8**	
HGSD	baz=210			eS	**Sn**	**19 57 09.4**	**+0.9**	
TWY	**Chenhua**	**1.01**	**338**	eP	**Pg**	**19 56 55.7**	**+0.3**	
TWY	baz=341			eS	**Sn**	**19 57 09.2**	**+0.4**	
WPL	**Puli Township**	**1.02**	**252**	eP	**Pb**	**19 56 54.8**	**-0.1**	
WPL	baz=250			eS	**Sb**	**19 57 08.4**	**+0.5**	
DPDB	**Guoxing**	**1.04**	**253**	eP	**Pb**	**19 56 54.9**	**-0.4**	
DPDB	baz=251			eS	**Sn**	**19 57 10.4**	**+0.8**	
EHY	**Hungye**	**1.04**	**218**	eP	**Pb**	**19 56 53.5**	**-1.8**	
EHY	baz=214			eS	**Sb**	**19 57 07.6**	**-1.0**	
WCS	**Beigang Elemen**	**1.04**	**255**	eP	**Pb**	**19 56 55.3**	**0.0**	
WCS	baz=253			eS	**Sn**	**19 57 10.1**	**+0.4**	
HSN	**Hsinchu**	**1.06**	**296**	eP	**Pg**	**19 56 57.5**	**+1.2**	
HSN	baz=298			eS	**Sn**	**19 57 10.7**	**+0.7**	
SSLB	**Suanglung**	**1.11**	**241**	eP	**Pb**	**19 56 55.6**	**-0.9**	
SSLB	baz=230			eS	**Sb**	**19 57 10.6**	**-0.1**	
SMLT	**Sun Moon Lake**	**1.11**	**246**	eP	**Pb**	**19 56 55.9**	**-0.7**	
SMLT	baz=236			eS	**Sg**	**19 57 12.2**	**+0.2**	
NMLH	**Miaoli**	**1.13**	**280**	eP	**Pb**	**19 56 57.3**	**+0.5**	
NMLH	baz=279			eS	**Sg**	**19 57 13.3**	**+0.8**	
TWQ1	**Liyutan**	**1.13**	**271**	eP	**Pb**	**19 56 57.9**	**+0.2**	
TWQ1	baz=268			eS	**Sg**	**19 57 13.1**	**+0.6**	
TYC	**Yuchr**	**1.14**	**248**	eP	**Pn**	**19 56 56.5**	**-0.4**	
TYC	baz=235			eS	**Sn**	**19 57 12.4**	**+0.3**	
NSY	**Sanyi**	**1.14**	**274**	eP	**Pg**	**19 56 58.2**	**+0.2**	
NSY	baz=273			eS	**Sg**	**19 57 14.0**	**+1.0**	
YULB	**Yu-li**	**1.15**	**215**	eP	**Pn**	**19 56 55.0**	**-2.0**	
YULB	baz=226			eS	**Sb**	**19 57 10.3**	**-1.4**	
EYUL	**Yuli**	**1.17**	**213**	eP	**Pn**	**19 56 55.8**	**-1.6**	
	baz=223							
TWF1	**Yuli**	**1.18**	**214**	eP	**Pn**	**19 56 54.5**	**-2.9**	
TWF1	baz=225			eS	**Sb**	**19 57 12.5**	**-0.1**	
WWF	**Wufeng**	**1.23**	**257**	eP	**Pg**	**19 56 59.7**	**+0.1**	
WWF	baz=254			eS	**Sg**	**19 57 17.7**	**+1.9**	
WHYT	**Xinyi Township**	**1.24**	**239**	eP	**Pn**	**19 56 58.3**	**0.0**	
WHYT	baz=231			eS	**Sg**	**19 57 16.3**	**+0.4**	
WJS	**Zhushan**	**1.28**	**247**	eP	**Pg**	**19 57 00.5**	**-0.1**	
WJS	baz=231			eS	**Sg**	**19 57 18.1**	**+0.8**	
PCYT	**Pengchaiyu**	**1.29**	**2**	eP	**Pn**	**19 56 58.7**	**-0.2**	
PCYT	baz=7.0			eS	**Sb**	**19 57 14.3**	**-1.4**	
WNT	**Mingjian**	**1.30**	**250**	eP	**Pb**	**19 56 59.7**	**0.0**	
WNT	baz=247			eS	**Sg**	**19 57 19.0**	**+1.2**	
FULB	**Fuli**	**1.31**	**210**	eP	**Pn**	**19 56 57.9**	**-1.4**	
FULB	baz=192			eS	**Sn**	**19 57 16.8**	**+0.5**	
CHKT	**Chengkung**	**1.37**	**206**	eP	**Pn**	**19 56 58.9**	**-1.0**	
CHKT	baz=188			eS	**Sn**	**19 57 17.2**	**-0.4**	
ALS	**Alishan**	**1.38**	**234**	eP	**Pn**	**19 57 00.7**	**+0.3**	
ALS	baz=220			eS	**Sg**	**19 57 20.1**	**-0.3**	
CHN5	**Tsauling**	**1.43**	**239**	eP	**Pb**	**19 57 01.9**	**0.0**	
CHN5	baz=223			eS	**Sg**	**19 57 21.3**	**-0.6**	
ELDTW	**Lidau**	**1.46**	**219**	eP	**Pn**	**19 57 00.8**	**-0.6**	
ELDTW	baz=216			eS	**Sn**	**19 57 19.2**	**-1.0**	
WGK	**Gukeng**	**1.48**	**244**	eP	**Pb**	**19 57 03.5**	**+0.8**	
WGK	baz=241			eS	**Sb**	**19 57 22.0**	**+0.9**	
WDLH	**Douliu**	**1.49**	**245**	eP	**Pb**	**19 57 02.9**	**-0.1**	
WDLH	baz=242			eS	**Sg**	**19 57 23.8**	**-0.3**	
WRL	**Guolierlin Hig**	**1.56**	**254**	eP	**Pn**	**19 57 01.8**	**-0.8**	
WRL	baz=251			eS	**Sb**	**19 57 23.8**	**+0.4**	
IRIF	**Iriomote-Funau**	**1.57**	**90**	P	**Pn**	**19 57 02.6**	**-0.1**	
IRIF				eS	**Sn**	**19 57 22.7**	**+0.1**	
WTK	**Tuku**	**1.62**	**247**	eP	**Pb**	**19 57 04.7**	**-0.5**	
WTK	baz=244			eS	**Sb**	**19 57 25.8**	**+0.5**	
STYH	**Taoyuan**	**1.62**	**225**	eP	**Pn**	**19 57 04.2**	**+0.8**	
STYH	baz=214			eS	**Sb**	**19 57 25.1**	**-0.2**	
CHN4	**Tsaushan**	**1.63**	**233**	eP	**Pb**	**19 57 05.2**	**-0.1**	
CHN4	baz=231			eS	**Sg**	**19 57 28.1**	**-0.2**	
TPUB	**Ta-pu**	**1.63**	**231**	eP	**Pn**	**19 57 04.8**	**+1.2**	
TPUB	baz=219			eS	**Sb**	**19 57 27.0**	**+1.3**	
LONT	**Longtian**	**1.64**	**210**	eP	**Pn**	**19 57 02.5**	**-1.3**	
STYT	baz=206 **Tauyuan**	**1.64**	**225**	eP	**Pn**	**19 57 03.9**	**+0.1**	
STYT	baz=214			eS	**Sb**	**19 57 26.0**	**+0.1**	
CHY	**Chiayi**	**1.68**	**240**	eP	**Pb**	**19 57 05.8**	**-0.3**	
CHY	baz=238			eS	**Sb**	**19 57 28.5**	**+1.6**	
WTP	**Ta-pu**	**1.68**	**230**	eP	**Pb**	**19 57 05.7**	**-0.5**	
WTP	baz=219			eS	**Sg**	**19 57 28.9**	**-1.0**	
TWK	**Hsinying**	**1.76**	**233**	eP	**Pb**	**19 57 06.8**	**-0.7**	
TWK	baz=218			eS	**Sb**	**19 57 30.2**	**+1.0**	
CHN1	**Nanshi**	**1.78**	**230**	eP	**Pn**	**19 57 06.7**	**+1.1**	
CHN1	baz=228			eS	**Sb**	**19 57 30.6**	**+0.7**	
SGST	**Jiashian**	**1.81**	**227**	eP	**Pn**	**19 57 06.2**	**0.0**	
SGST	baz=215			eS	**Sb**	**19 57 31.3**	**+0.5**	
JKRS	**Kuro-shima**	**1.82**	**93**	P	**Pn**	**19 57 07.0**	**+0.7**	
JKRS				eS	**Sn**	**19 57 30.2**	**+1.3**	
SLGT	**Liugui**	**1.83**	**223**	eP	**Pn**	**19 57 07.9**	**+1.5**	
SLGT	baz=221			eS	**Sb**	**19 57 31.8**	**+0.3**	
JIJ	**Ishigaki jima**	**1.94**	**89**	P	**Pn**	**19 57 07.9**	**0.0**	
JIJ				eS	**Sn**	**19 57 31.1**	**-0.8**	
SCST	**Cishan**	**2.01**	**224**	eP	**Pb**	**19 57 11.5**	**-0.2**	
SCST	baz=220			eS	**Sb**	**19 57 37.5**	**+1.1**	
SSD	**Sandimen**	**2.03**	**219**	eP	**Pn**	**19 57 10.8**	**+1.7**	
SSD	baz=215			eS	**Sn**	**19 57 35.8**	**+1.8**	
JISG	**Ishigakijimahi**	**2.11**	**83**	P	**Pn**	**19 57 10.2**	**0.0**	
JISG				S	**Sn**	**19 57 35.9**	**-0.1**	
MASBT	**Mashibuluo**	**2.13**	**217**	eP	**Pn**	**19 57 11.0**	**+0.5**	
MASBT	baz=199			eS	**Sn**	**19 57 38.8**	**+2.2**	
EAST	**Anshuo**	**2.22**	**209**	eP	**Pn**	**19 57 12.5**	**+0.7**	
EAST	baz=194			eS	**Sn**	**19 57 38.4**	**-0.4**	
VWUC	**VWUC**	**2.42**	**286**	eP	**Pn**	**19 57 13.1**	**-1.4**	
VWUC	baz=283			eS	**Sn**	**19 57 41.0**	**-2.7**	
PTMZ	**Houxiangcun**	**2.72**	**286**	eP	**Pn**	**19 57 16.9**	**-1.7**	
PTMZ	baz=282			eS	**Sn**	**19 57 48.3**	**-2.8**	

NNC 21 19:58:10.1±7.0, 36°54N×69°09E, h0km, mb4.0, mpv3.7, 4C-2D, Error ellipse: s-maj=52.9km s-min=49.8km az=168.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.62**	**31**	P		Pn	19 59 50.1	+1.0
	SNR=24							
KK31	**Karatay Array**	**6.64**	**9**	Pn		Pn	19 59 49.3	+0.3
	0.7nm,0.4s,baz=180,slow=12,SNR=19							
KK31				⇑Sn		Sn	20 01 05.0	-0.4
	1.1nm,0.4s							
KK31				⇑Lg		Lg	20 01 41.1	
	12nm,0.8s,baz=189,slow=29,SNR=8.4							
EKS2	**Erkin-Say**	**7.10**	**29**	P		Pn	19 59 57.0	+1.5
	SNR=7.9							
AAK	**Ala-Archa**	**7.38**	**33**	⇑Pn		Pn	19 59 59.5	+0.2
	4.2nm,0.5s							
AAK				⇓Sn		Sn	20 01 26.6	+2.9
	2.0nm,0.5s							
KBK	**Karagaybulak**	**7.60**	**35**	P		Pn	20 00 04.7	+2.4
	SNR=6.5							
CHMS	**Chumysh**	**7.78**	**32**	P		Pn	20 00 05.8	+1.1
	SNR=9.9							
USP	**Ospenovka**	**7.90**	**30**	P		Pn	20 00 06.5	+0.2
	SNR=7.0							
ULHL	**Ulahol**	**7.94**	**42**	P		Pn	20 00 08.0	+1.0
	SNR=7.2							
TKM2	**Tokmak 2**	**8.11**	**36**	P		Pn	20 00 10.0	+0.7
	SNR=9.5							
TKM2	**Tokmak 2**	**8.11**	**36**	⇑Pn		Pn	20 00 08.2	-1.1
	2.1nm,0.4s							
TKM2				⇓Sn		Sn	20 01 43.8	+2.2
	1.0nm,0.4s							

*IDC **21** 20:16:01.1±7.3, 36°.32N×70°.85E, h178km±66km, mb3.2/8, mb1 3.2/12, mb1mx2.9/43, mbtmp3.6/12, Error ellipse: s-maj=40.9km s-min=19.7km az=30.0*

*NNC **21** 20:16:10.9±3.7, 37°.01N×70°.84E, h201km±44km, mb2.8, mpv3.8, Error ellipse: s-maj=33.1km s-min=24.6km az=33.0*

ISC 21 20:16:03.1±1.1, 36°.53N±0°.09×70°.8E±0°.1, h188km, n17, σ1s71/22, mb3.3/7, 5C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.57**	**358**	⇓P		Pn	20 17 39.2	+1.6
	6.9nm,0.6s,baz=190,slow=14,SNR=60							
KK31				⇓S		Sn	20 18 49.3	-3.0
	8.9nm,0.4s,baz=182,slow=19,SNR=13							
AAK	**Ala-Archa**	**6.72**	**24**	⇑P		Pn	20 17 41.8	+2.0
	2.6nm,0.4s							
AAK				⇑S		Sn	20 18 55.9	-0.3
	6.4nm,0.7s							
TKM2	**Tokmak 2**	**7.37**	**28**	⇓P		Pn	20 17 49.9	+1.7
	9.0nm,1.0s							
TKM2				⇓S		Sn	20 19 08.7	-2.7
	5.6nm,0.8s							
MKAR	**Makanchi Array**	**13.35**	**36**	P		Pn	20 19 05.9	+0.6
	0.3nm,0.3s,baz=217,slow=12,SNR=13							
AB31	**Akbulak array**	**14.99**	**331**	⇑P		P	20 19 29.1	+2.6
	1.1nm,0.5s,baz=142,slow=12,SNR=37							
AB31				⇓S		S	20 22 11.2	-1.8
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**15.14**	**19**	P		P	20 19 28.9	+0.8
	0.1nm,0.3s,baz=213,slow=9.8,SNR=3.8							
BVAR	**Borovoye Array**	**16.50**	**359**	P		P	20 19 43.0	-0.1
	0.2nm,0.3s,baz=39,slow=21,SNR=2.7							
AKTO	**Aktyubinsk**	**16.68**	**330**	P		P	20 19 46.4	+1.3
	0.2nm,0.3s,baz=154,slow=12,SNR=4.5							
AKTO	**Aktyubinsk**	**16.68**	**330**	⇑P		Pn	20 19 47.5	+1.5
	1.7nm,0.9s							
AKTO				⇑S		S	20 22 46.8	-2.7
	2.1nm,1.2s							
ZALV	**Zalesovo Beam**	**19.95**	**25**	P		P	20 20 20.7	+0.2
	2.2nm,0.4s,baz=219,slow=11,SNR=11							
FINES	**FINESS Array B**	**37.38**	**326**	P		P	20 22 57.9	+0.6
	0.7nm,0.8s,baz=100,slow=7.6,SNR=3.4							
ARCES	**ARCESS Array B**	**41.06**	**338**	P		P	20 23 28.6	+0.9
	0.7nm,0.4s,baz=111,slow=8.1,SNR=12							
NOA	**NORSAR Array B**	**44.27**	**323**	P		P	20 23 54.0	+0.3
	0.3nm,0.5s,baz=97,slow=7.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**65.58**	**269**	P		P	20 26 25.6	-1.4
	0.2nm,0.4s,baz=51,slow=5.4,SNR=1.6							
INK	**Inuvik**	**73.90**	**9**	P		P	20 27 16.9	0.0
	0.5nm,0.4s,baz=292,slow=5.4,SNR=1.6							
WRA	**Warramunga Arr**	**82.13**	**122**	P		P	20 28 01.3	-1.6
	0.3nm,0.6s,baz=324,slow=4.8,SNR=7.3							
ASAR	**Alice Springs**	**84.39**	**125**	P		P	20 28 13.2	-1.2
	0.3nm,0.6s,baz=311,slow=4.8,SNR=8.8							

*NEIC **21** 20:30:32.9±1.9, 36°.51N±0°.06×141°.31E±0°.08, h47km±8km, mb4.3/4, Error ellipse: s-maj=11.2km s-min=5.6km az=130.0*

*JMA **21** 20:30:33.7±0.1, 36°.49N×141°.12E, h53km±1km, M4.1 JMA Felt II J1.*

*IDC **21** 20:30:33.9±2.0, 36°.54N×141°.12E, h55km±18km, mb3.7/22, mb1 3.9/27, mb1mx3.8/42, mbtmp4.1/27, ML4.2/4, MS2.9/11, Ms1 2.9/11, ms1mx2.8/43, Error ellipse: s-maj=16.6km s-min=13.2km az=118.0*

*NIED **21** 20:30:33.7, 36°.49N×141°.13E, h52km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.30; $M_{\theta\theta}$1.08; $M_{\phi\phi}$-1.38; $M_{r\theta}$0.75; $M_{\theta\phi}$-0.08; $M_{r\phi}$0.45; Fault plane solution: $M_0$1.53000×10¹⁵ NP1:φs43.00000°, δ80.00000°, λ144.00000°. NP2:φs141.00000°, δ55.00000°, λ12.00000°.*

ISC 21 20:30:32.6±1.0, 36°.50N±0°.04×141°.25E±0°.07, h46km±9km, n78, σ1s38/83, mb3.9/21, MS3.0/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.56**	**254**	P		Pn	20 30 44.7	+0.4
JHYU				S		Sn	20 30 52.5	-0.1
JHO	**Hitachi**	**0.56**	**282**	P		Pn	20 30 44.6	+0.3
JHO				S		Sn	20 30 52.5	-0.2
ONAJ	**Iwakimizuishiy**	**0.70**	**329**	P		Pn	20 30 46.7	+0.5
ONAJ				S		Sn	20 30 56.2	+0.1
JIHU	**Itakohorinouch**	**0.79**	**228**	P		Pn	20 30 48.5	+1.1
JIHU				S		Sn	20 30 59.3	+1.2
JYT	**Yasato**	**0.89**	**253**	P		Pn	20 30 48.8	0.0
JYT				S		Sn	20 30 59.4	-1.1
JYT	**Yasato**	**0.89**	**253**			Pn	20 30 48.7	0.0
JFK	**Kawauchi**	**0.92**	**341**	P		Pn	20 30 49.6	+0.5
JFK				S		Sn	20 31 01.4	+0.2
JFT	**Otama**	**1.25**	**325**	P		Pn	20 30 55.2	+1.6
JFT				S		Sn	20 31 10.7	+1.4
JMM	**Marumori**	**1.41**	**345**	P		Pn	20 30 56.8	+1.0
JMM				S		Sn	20 31 14.4	+1.2
JMM	**Marumori**	**1.41**	**345**			Pn	20 30 56.8	+1.0
JAG	**Ashikaga**	**1.45**	**268**	P		Pn	20 30 56.5	+0.2
JAG				S		Sn	20 31 13.6	-0.5
JFY	**Yanaizu**	**1.53**	**307**	P		Pn	20 30 58.4	+0.9
JFY				S		Sn	20 31 17.7	+1.5
JKT	**Katashina**	**1.63**	**280**	P		Pn	20 30 59.7	+0.8
JKT				S		Sn	20 31 19.3	+0.6
MJAR	**Matsushiro Arr**	**2.45**	**272**	P		Pn	20 31 10.8	+0.7
	18nm,0.3s,baz=96,slow=9.4,SNR=1349							
MJAR				S		Sn	20 31 40.3	+1.5
	4.7nm,0.3s,baz=141,slow=15,SNR=5.3							
MJAR				LR		LR	20 32 22.3	
	comp=Z,130nm,20.9s,baz=155,slow=47							
MJAR	**Matsushiro Arr**	**2.45**	**272**	Pn		Pn	20 31 10.3	+0.3
MAJO	**Matsushiro**	**2.45**	**272**	Pn		Pn	20 31 11.3	+1.3
MAT	**Matsushiro**	**2.45**	**272**	P		Pn	20 31 11.0	+0.9
MAT				eS		Sn	20 31 38.9	+0.1
MJB9	**Matsu-Tunnel**	**2.45**	**272**			Pn	20 31 11.5	+1.4
JSD	**Sado**	**2.83**	**304**	Pn		Pn	20 31 15.9	+0.6
JSG	**Sagara**	**3.09**	**235**			Pn	20 31 22.1	+3.3
JGF	**Kuroka**	**3.28**	**255**			Pn	20 31 23.2	+1.7
JHJ2	**Mitsune**	**3.58**	**200**	Pn		Pn	20 31 26.0	+0.5
JHJ	**Hachijo jima 2**	**3.58**	**200**	P		Pn	20 31 26.1	+0.6
	104nm,0.3s,baz=323,slow=14,SNR=36							
JHJ				S		Sn	20 32 04.8	-1.9
	106nm,0.3s,baz=98,slow=23,SNR=9.1							
JHJ				LR		LR	20 32 48.7	
	comp=Z,98nm,20.9s,baz=303,slow=38							
INU	**Inuyama**	**3.62**	**253**	Pn		Pn	20 31 28.7	+2.6
JTM	**Tenmabayashi**	**4.28**	**358**	Pn		Pn	20 31 37.2	+2.0
JWT	**Wachi**	**4.90**	**257**	Pn		Pn	20 31 45.2	+1.5
ERM	**Erimo**	**5.70**	**14**	Pn		Pn	20 31 54.2	-0.4
JEW	**Eniwo**	**6.33**	**1**	Pn		Pn	20 32 03.5	+0.2
JHS	**Saijyo**	**6.78**	**260**	Pn		Pn	20 32 12.0	+2.5
ASAJ	**Asahikawa**	**7.68**	**7**	P		Pn	20 32 21.2	-0.5
	11nm,0.3s,baz=209,slow=10,SNR=84							
ASAJ				S		Sn	20 33 40.3	-7.0
	0.7nm,0.3s,baz=198,slow=22,SNR=0.9							
ASAJ				LR		LR	20 35 57.2	
	comp=Z,31nm,20.6s,baz=184,slow=42							
JKA	**Kamikawa-asahi**	**7.68**	**7**	Pn		Pn	20 32 21.1	-0.7
JCJ	**Chichijima**	**9.41**	**175**	P		Pn	20 32 43.7	-1.9
	24nm,0.3s,baz=277,slow=23,SNR=7.3							
JCJ				S		Sn	20 34 17.1	-13
	4.2nm,0.3s,baz=273,slow=23,SNR=7.2							
JCJ				LR		LR	20 37 19.1	
	comp=Z,110nm,18.0s,baz=124,slow=43							
JCJ	**Chichijima**	**9.41**	**175**			Pn	20 32 43.9	-1.6
USRK	**Ussuriysk Ar.**	**10.44**	**320**	P		Pn	20 32 58.9	-0.6
	baz=124,slow=14,SNR=3.9							
YSS	**Yuzh-Sakhalins**	**10.51**	**6**	Pn		Pn	20 33 00.9	+0.5
KSRS	**Korea Array**	**10.70**	**279**	P		Pn	20 33 04.3	+1.1
	0.3nm,0.3s,baz=96,slow=14,SNR=9.1							
KSRS				LR		LR	20 36 56.4	
	comp=Z,58nm,19.0s,baz=80,slow=36							
KLR	**Kul'dur**	**14.49**	**334**	LR		LR	20 39 14.2	
	comp=Z,58nm,18.5s,baz=194,slow=96							
PETK	**Petropavlovsk-**	**20.21**	**30**	P		P	20 35 04.9	+1.4
	3.0nm,0.8s,baz=204,slow=6.2,SNR=5.3							
PETK	**Petropavlovsk-**	**20.21**	**30**	P		P	20 35 02.1	-1.3
MA2	**Magadan**	**23.90**	**12**	P		P	20 35 42.8	+1.0

	6.5nm,0.7s,baz=186,slow=9.5,SNR=7.7							
MA2					LR	LR	20 44 49.2	
	comp=Z,18nm,19.6s,baz=170,slow=36							
MA2	**Magadan**	**23.90**	**12**	P	**P**	**20 35 38.9**	**-2.9**	
MA2				IAmb	IAmb	20 35 45.0		
	comp=Z,9.3nm,0.9s							
YAK	**Yakutsk**	**26.56**	**348**	P	**P**	**20 36 05.6**	**-0.3**	
	comp=Z,7.2nm,0.6s,baz=112,slow=3.7,SNR=8.2							
YAK				LR	LR	20 46 39.4		
	comp=Z,40nm,18.9s,baz=220,slow=36							
SEY	**Seymchan**	**27.34**	**11**	P	**P**	**20 36 11.6**	**-1.2**	
	comp=Z,1.3nm,0.6s,baz=126,slow=22,SNR=1.9							
SONM	**Songino Array**	**27.98**	**305**	P	**P**	**20 36 18.4**	**-0.5**	
	comp=Z,1.4nm,0.7s,baz=103,slow=8.0,SNR=9.8							
SONM				LR	LR	20 47 26.5		
	comp=Z,30nm,18.6s,baz=224,slow=36							
H11N2	**WAKE ISLAND Hy**	**27.99**	**120**	T	T	21 06 17.2		
	baz=312,slow=75,SNR=85							
H11N1	**WAKE ISLAND Hy**	**28.00**	**120**	T	T	21 06 29.7		
	baz=312,slow=75,SNR=123							
H11N3	**WAKE ISLAND Hy**	**28.01**	**120**	T	T	21 06 17.7		
	baz=312,slow=75,SNR=85							
H11S1	**WAKE ISLAND Hy**	**28.69**	**122**	T	T	21 07 08.5		
	baz=314,slow=76,SNR=180							
H11S3	**WAKE ISLAND Hy**	**28.69**	**122**	T	T	21 07 07.8		
	baz=314,slow=76,SNR=114							
H11S2	**WAKE ISLAND Hy**	**28.70**	**122**	T	T	21 07 17.4		
	baz=314,slow=76,SNR=135							
CMAR	**Chiang Mai Arr**	**41.23**	**256**	P	**P**	**20 38 12.3**	**-0.9**	
	comp=Z,0.2nm,0.6s,baz=51,slow=7.9,SNR=1.7							
ZALV	**Zalesovo Beam**	**42.18**	**313**	P	**P**	**20 38 20.6**	**+0.1**	
	comp=Z,3.6nm,0.5s,baz=95,slow=7.3,SNR=17							
ZALV	**Zalesovo Beam**	**42.18**	**313**	P	**P**	**20 38 19.0**	**-1.5**	
MKAR	**Makanchi Array**	**44.29**	**303**	P	**P**	**20 38 37.3**	**-0.4**	
	comp=Z,0.9nm,0.6s,baz=84,slow=12,SNR=9.3							
MKAR	**Makanchi Array**	**44.29**	**303**	P	**P**	**20 38 36.8**	**-0.9**	
KURK	**Kurchatov**	**46.18**	**308**	P	**P**	**20 38 52.7**	**+0.3**	
KURBB	**Kurchatov Arra**	**46.23**	**308**	P	**P**	**20 38 52.7**	**-0.2**	
	comp=Z,5.0nm,0.6s,baz=82,slow=7.7,SNR=57							
KDAK	**Kodiak Island**	**47.59**	**42**	P	**P**	**20 39 04.6**	**+1.2**	
	comp=Z,3.8nm,0.7s,baz=336,slow=6.5,SNR=6.1							
KDAK	**Kodiak Island**	**47.59**	**42**	P	**P**	**20 39 04.9**	**+1.5**	
ILAR	**Eielson Array**	**50.02**	**32**	P	**P**	**20 39 23.4**	**+1.4**	
	comp=Z,2.9nm,0.8s,baz=270,slow=6.2,SNR=30							
ILAR	**Eielson Array**	**50.02**	**32**	P	**P**	**20 39 21.6**	**-0.4**	
INK	**Inuvik**	**54.92**	**27**	P	**P**	**20 39 58.0**	**-0.2**	
	comp=Z,3.2nm,0.8s,baz=288,slow=5.5,SNR=6.0							
WRA	**Warramunga Arr**	**56.52**	**188**	P	**P**	**20 40 10.5**	**+0.4**	
	comp=Z,1.0nm,0.8s,baz=5.4,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**56.52**	**188**	P	**P**	**20 40 10.4**	**+0.2**	
ASAR	**Alice Springs**	**60.24**	**188**	P	**P**	**20 40 36.8**	**+0.6**	
	comp=Z,0.3nm,0.8s,baz=20,slow=11,SNR=2.7							
ARCES	**ARCESS Array B**	**64.45**	**339**	P	**P**	**20 41 03.1**	**-0.6**	
ARCES				LR	LR	21 13 12.5		
	comp=Z,24nm,18.1s,baz=205,slow=40							
ARCES	**ARCESS Array B**	**64.45**	**339**	P	**P**	**20 41 03.6**	**-0.1**	
ARCES				IAmb	IAmb	20 41 09.8		
	comp=Z,2.9nm,1.1s							
FINES	**FINESS Array B**	**69.22**	**332**	P	**P**	**20 41 34.0**	**-0.2**	
	comp=Z,2.0nm,0.7s,baz=54,slow=9.7,SNR=12							
NOA	**NORSAR Array B**	**74.63**	**337**	P	**P**	**20 42 07.0**	**+0.3**	
	comp=Z,1.1nm,0.7s,baz=39,slow=5.8,SNR=8.1							
NOA				LR	LR	21 17 58.3		
	comp=Z,15nm,19.4s,baz=235,slow=38							
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**20 42 05.8**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=47,slow=6.6,SNR=5.5							
PDAR	**Pinedale Array**	**78.14**	**45**	P	**P**	**20 42 28.2**	**+1.1**	
	comp=Z,0.3nm,0.5s,baz=101,slow=3.0,SNR=4.9							
PDAR	**Pinedale Array**	**78.14**	**45**	P	**P**	**20 42 26.5**	**-0.7**	
GERES	**GERESS Array B**	**83.09**	**328**	P	**P**	**20 42 53.3**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=44,slow=5.8,SNR=4.9							
SCHQ	**Schefferville**	**85.89**	**16**	P	**P**	**20 43 08.2**	**+1.0**	
	comp=Z,1.5nm,0.7s,baz=11,slow=5.2,SNR=2.8							
TXAR	**Lajitas Array**	**90.55**	**52**	P	**P**	**20 43 30.0**	**-0.1**	
	comp=Z,0.4nm,0.8s,baz=270,slow=2.5,SNR=4.7							
H03N2	**Juan Fernandez**	**147.10**	**97**	T	T	23 34 55.7		
	baz=291,slow=76,SNR=19							
H03N3	**Juan Fernandez**	**147.11**	**97**	T	T	23 34 57.4		
	baz=291,slow=76,SNR=25							
H03N1	**Juan Fernandez**	**147.11**	**97**	T	T	23 34 55.6		
	baz=291,slow=76,SNR=19							

*KRNET **21** 20:31:27.5±0.1, 42.97N×79.06E, h13km, mb2.4*
*NNC **21** 20:31:28.2±0.6, 42.86N×79.09E, h0km±3km, mb2.2, mpv3.0, Error ellipse: s-maj=5.4km s-min=2.4km az=162.0*
*SOME **21** 20:31:28.2, 42.83N×79.03E, h10km*

ISC 21 20:31:28.6±0.9, 42.83N±0.04×79.07E±0.02, h10km, n45, σ1s28/79, 14C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
UZB	**Uzynbulak**	**0.32**	**354**	*e*P	**Pg**	**20 31 34.5**		**-0.5**
	26nm,0.1s							
UZB				*e*S	**Sg**	**20 31 39.2**		**-0.1**
	81nm,0.1s							
UZB	**Uzynbulak**	**0.32**	**354**	P	**Pg**	**20 31 34.5**		**-0.5**
	26nm,0.1s							
UZB				S	**Sg**	**20 31 39.2**		**-0.1**
	81nm,0.1s							
SHLS	**Shalkode**	**0.43**	**41**	*e*P	**Pn**	**20 31 41.0**		**0.0**
	9.2nm,0.1s							
SHLS				*e*S	**Sb**	**20 31 50.6**		**+5.4**
	62nm,0.3s							
SHLS	**Shalkode**	**0.43**	**41**	P	**Pn**	**20 31 41.0**		**0.0**
	9.2nm,0.1s							
SHLS				S	**Sb**	**20 31 50.6**		**+5.4**
	62nm,0.3s							
SATY	**Saty**	**0.54**	**295**	*e*P	**Pg**	**20 31 38.8**		**-0.3**
	5.3nm,0.1s							
SATY				*e*S	**Sg**	**20 31 46.5**		**+0.3**
	55nm,0.1s							
SATY	**Saty**	**0.54**	**295**	P	**Pg**	**20 31 38.8**		**-0.3**
	5.3nm,0.1s							
SATY				S	**Sg**	**20 31 46.5**		**+0.3**
	55nm,0.1s							
PDGK	**Podgornoye**	**0.59**	**31**	P	**Pg**	**20 31 38.9**		**-1.1**
	3.5nm,0.2s							
PDGK				S	**Sg**	**20 31 46.8**		**-1.0**
	15nm,0.3s							
PDGK	**Podgornoye**	**0.59**	**31**	⇓P	**Pg**	**20 31 38.7**		**-1.3**
	1.5nm,0.2s							
PDGK				⇑S	**Sg**	**20 31 46.8**		**-1.0**
	29nm,0.5s							
PRZ	**Przheval'sk**	**0.60**	**235**	⇑*i*P	**Pg**	**20 31 40.5**		**+0.2**
	baz=26							
PRZ				⇑*i*S	**Sb**	**20 31 49.9**		**-0.1**
	baz=26							
ANVS	**Anan'yevo**	**1.03**	**268**	⇑*i*P	**Pg**	**20 31 47.3**		**-1.2**
	baz=61							
ANVS				⇑*i*S	**Sg**	**20 32 01.7**		**-0.2**
	baz=61							
KTMS	**Ketmen**	**1.12**	**56**	*e*P	**Pg**	**20 31 48.5**		**-1.6**
	0.7nm,0.0s							
KTMS				*e*S	**Sg**	**20 32 03.1**		**-1.6**
	9.9nm,0.2s							
KTMS	**Ketmen**	**1.12**	**56**	P	**Pg**	**20 31 48.5**		**-1.6**
	0.7nm,0.0s							
KTMS				S	**Sg**	**20 32 03.2**		**-1.6**
	9.9nm,0.2s							
KOTS	**Kotyrbulak**	**1.49**	**286**	*e*P	**Pb**	**20 31 56.2**		**-0.3**
	6.4nm,0.2s							
KOTS				*e*S	**Sg**	**20 32 16.6**		**0.0**
	9.0nm,0.2s							
KOTS	**Kotyrbulak**	**1.49**	**286**	P	**Pb**	**20 31 56.2**		**-0.3**
	6.4nm,0.2s							
KOTS				S	**Sg**	**20 32 16.6**		**0.0**
	9.0nm,0.2s							
MDOK	**Medeo**	**1.52**	**283**	*e*P	**Pn**	**20 31 56.3**		**+0.3**
	2.8nm,0.2s							
MDOK				*e*S	**Sb**	**20 32 16.6**		**+0.3**
	5.6nm,0.3s							
MDOK	**Medeo**	**1.52**	**283**	P	**Pn**	**20 31 56.0**		**0.0**
	1.3nm,0.4s							
MDOK				S	**Sb**	**20 32 16.4**		**+0.1**
	4.8nm,0.5s							
MDOK	**Medeo**	**1.52**	**283**	Pg	**Pn**	**20 31 56.3**		**+0.3**
	2.8nm,0.2s							
MDOK				Lg	Lg	20 32 16.7		
	5.6nm,0.3s							
KDJ	**Kajisay**	**1.56**	**244**	⇑*i*P	**Pb**	**20 31 57.4**		**-0.3**
	baz=39							
KDJ				⇑*i*S	**Sg**	**20 32 19.6**		**+0.7**
	baz=39							
DJR	**Jarkent**	**1.59**	**19**	*e*P	**Pb**	**20 31 57.3**		**-0.9**
	6.5nm,0.1s							
DJR				*e*S	**Sg**	**20 32 18.4**		**-1.3**
	24nm,0.2s							
DJR	**Jarkent**	**1.59**	**19**	P	**Pb**	**20 31 57.3**		**-0.9**
	6.5nm,0.1s							
DJR				S	**Sg**	**20 32 18.4**		**-1.3**
	24nm,0.2s							
ARXS	**Arharly**	**1.65**	**327**	*e*P	**Pb**	**20 31 58.9**		**-0.3**
	5.7nm,0.1s							
ARXS				*e*S	**Sg**	**20 32 20.6**		**-1.1**
	22nm,0.1s							
ARXS	**Arharly**	**1.65**	**327**	P	**Pb**	**20 31 58.9**		**-0.3**
	5.7nm,0.1s							
ARXS				S	**Sg**	**20 32 20.6**		**-1.1**
	22nm,0.1s							
IZV	**Izvestkoviy**	**1.82**	**277**	*e*P	**Pb**	**20 32 01.6**		**-0.4**
	0.9nm,0.1s							
IZV				*e*S	**Sb**	**20 32 25.5**		**+0.6**
	13nm,0.4s							
IZV	**Izvestkoviy**	**1.82**	**277**	P	**Pb**	**20 32 01.6**		**-0.4**
	0.9nm,0.1s							
IZV				S	**Sb**	**20 32 25.5**		**+0.6**
	13nm,0.4s							
CHKK	**Chushkaly**	**1.83**	**305**	*e*P	**Pb**	**20 32 01.9**		**-0.3**
	2.2nm,0.2s							
CHKK				*e*S	**Sb**	**20 32 25.9**		**+0.7**
	38nm,0.2s							
CHKK	**Chushkaly**	**1.83**	**305**	P	**Pb**	**20 32 01.9**		**-0.3**
	2.2nm,0.2s							
CHKK				S	**Sb**	**20 32 25.9**		**+0.7**
	38nm,0.2s							
KTBS	**Karatobe**	**1.96**	**298**	*e*P	**Pb**	**20 32 04.4**		**+0.1**
	8.4nm,0.2s							
KTBS				*e*S	**Sg**	**20 32 30.3**		**-1.1**
	14nm,0.2s							
KTBS	**Karatobe**	**1.96**	**298**	Pg	**Pb**	**20 32 04.4**		**+0.1**
	8.4nm,0.2s							
KTBS				Lg	Lg	20 32 30.3		
	14nm,0.2s							
MTBS	**Maitube**	**1.96**	**280**	*e*P	**Pb**	**20 32 04.8**		**+0.3**
	2.2nm,0.1s							
MTBS				*e*S	**Sg**	**20 32 30.8**		**-0.9**
	9.7nm,0.3s							
MTBS	**Maitube**	**1.96**	**280**	Pg	**Pb**	**20 32 04.8**		**+0.3**
	2.2nm,0.1s							
MTBS				Lg	Lg	20 32 30.8		
	9.7nm,0.3s							
ULHL	**Ulahol**	**2.17**	**255**	⇑*e*P	**Pb**	**20 32 07.7**		**-0.4**
	baz=52							
ULHL				⇑*i*S	**Sb**	**20 32 36.3**		**+1.2**
	baz=52							
KUU	**Kurty**	**2.26**	**299**	*e*P	**Pb**	**20 32 09.3**		**-0.1**
	0.9nm,0.1s							
KUU				*e*S	**Sg**	**20 32 39.1**		**-2.0**
	18nm,0.2s							
KUU	**Kurty**	**2.26**	**299**	Pg	**Pb**	**20 32 09.3**		**-0.1**
	0.9nm,0.1s							
KUU				Lg	Lg	20 32 39.1		
	18nm,0.2s							
KST	**Kastek**	**2.29**	**276**	*e*P	**Pb**	**20 32 11.0**		**+0.9**
	1.7nm,0.1s							
KST				*e*S	**Sg**	**20 32 41.6**		**-0.6**
	9.4nm,0.3s							
KST	**Kastek**	**2.29**	**276**	Pg	**Pb**	**20 32 11.0**		**+0.9**
	1.7nm,0.1s							
KST				Lg	Lg	20 32 41.6		
	9.4nm,0.3s							
BOOM	**Boomskoye usch**	**2.33**	**263**	⇑*e*P	**Pb**	**20 32 09.3**		**-1.5**
	baz=59							
BOOM				⇑*i*S	**Sb**	**20 32 39.2**		**-0.6**
	baz=59							
DGS	**Degeres**	**2.45**	**281**	*e*P	**Pb**	**20 32 13.5**		**+0.6**
	0.9nm,0.1s							
DGS				*e*S	**Sg**	**20 32 45.5**		**-1.8**
	7.4nm,0.4s							
DGS	**Degeres**	**2.45**	**281**	Pg	**Pb**	**20 32 13.5**		**+0.6**
	0.9nm,0.1s							
DGS				Lg	Lg	20 32 45.6		
	7.4nm,0.4s							
KAPS	**Kapalarasan**	**2.46**	**5**	*e*P	**Pb**	**20 32 12.7**		**-0.3**
	2.5nm,0.2s							
KAPS				*e*S	**Sg**	**20 32 44.9**		**-2.9**
	8.6nm,0.2s							
KAPS	**Kapalarasan**	**2.46**	**5**	Pg	**Pb**	**20 32 12.7**		**-0.3**
	2.5nm,0.2s							
KAPS				Lg	Lg	20 32 44.9		
	8.6nm,0.2s							
TKM2	**Tokmak 2**	**2.56**	**273**	⇓Pn	**Pb**	**20 32 15.7**		**+1.0**
	0.7nm,0.3s							
TKM2				⇑Lg	Lg	20 32 50.0		
	3.3nm,0.4s							
KRBS	**Karabastau**	**2.63**	**290**	*e*P	**Pb**	**20 32 15.6**		**-0.1**
	1.0nm,0.2s							
KRBS				*e*S	**Sb**	**20 32 50.2**		**+2.1**
	7.7nm,0.2s							
KRBS	**Karabastau**	**2.63**	**290**	Pg	**Pb**	**20 32 15.6**		**-0.1**
	1.0nm,0.2s							
KRBS				Lg	Lg	20 32 50.2		
	7.7nm,0.2s							
MAKZ	**Makanchi**	**4.48**	**26**	⇓Pn	**Pn**	**20 32 38.4**		**+1.9**
	1.4nm,0.9s							
MAKZ				⇓Lg	Lg	20 33 47.1		
	0.8nm,0.9s							
MK31	**Makanchi Array**	**4.58**	**29**	⇑Pn	**Pn**	**20 32 39.4**		**+1.5**
	0.2nm,0.5s,baz=208,slow=13,SNR=7.8							
MK31				⇑Lg	Lg	20 33 51.0		
	0.6nm,0.7s,baz=207,slow=27,SNR=4.3							

MAN 21 20:42:12.7, 8.96N×122.32E, h65km, mb4.7, ML3.6, MS3.5, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CNOP	**Candoni, Negro**	**0.92**	**20**	*e*P	Pn	20 42 30.9		+0.9
CNOP				*e*S	Sn	20 42 44.7		+2.0
SNPH	**Sibulan**	**0.98**	**67**	⇓*i*P	Pn	20 42 32.9		+2.1
SNPH				⇓*i*S	Sn	20 42 48.3		+4.0
DCPH	**Dipolog City**	**1.09**	**110**	⇑*e*P	Pn	20 42 33.8		+1.7
PAGZ	**Pagadian**	**1.53**	**136**	*e*P	Pn	20 42 38.3		+0.4
PAGZ				*e*S	Sn	20 43 02.4		+5.5
LLP	**Lapu-Lapu**	**2.11**	**50**	⇓*e*P	Pn	20 42 49.7		+3.9
LLP				*i* S	Sn	20 43 17.6		+6.6
CUYO	**Cuyo Island**	**2.27**	**326**	*e*P	Pn	20 42 49.5		+1.6
CUYO				*e*S	Sn	20 43 15.7		+0.8
CGP	**Cagayan de Oro**	**2.40**	**102**	⇓*e*P	Pn	20 42 54.0		+4.3
MSLP	**Maasin**	**2.77**	**65**	*e*P	Pn	20 42 55.8		+1.1
MSLP				*e*S	Sn	20 43 27.8		+0.8
BUKP	**Musuan**	**2.92**	**111**	*e*P	Pn	20 43 01.5		+4.7
SKMP	**Bagumbayan, Su**	**3.28**	**138**	*e*P	Pn	20 43 02.8		+1.2
ENPP	**El Nido**	**3.62**	**308**	*e*P	Pn	20 43 07.3		+1.0
BUSP	**Coron**	**3.67**	**326**	*e*P	Pn	20 43 09.0		+2.0
BUSP				*e*S	Sn	20 43 49.0		-0.2
GLSP	**General Luna,**	**3.85**	**77**	*e*P	Pn	20 43 11.2		+1.8
GLSP				*e*S	Sn	20 43 54.7		+1.2

*SOME **21** 20:45:11.6, 47.50N×79.08E, h20km*
*NNC **21** 20:45:14.2±1.6, 47.28N×78.93E, h22km±17km, mb3.5, mpv3.2, Error ellipse: s-maj=14.3km s-min=6.2km az=52.0*

ISC 21 20:45:14.3±1.2, 47.55N±0.02×79.20E±0.03, h26km±14km, n48, σ2s37/70, 6C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MAKZ	**Makanchi**	**2.04**	**110**	P	**Pn**	**20 45 47.1**		**+0.3**
MAKZ				S	**Sb**	**20 46 14.5**		**-0.9**
MAKZ	**Makanchi**	**2.04**	**110**	⇑Pn	**Pn**	**20 45 46.6**		**-0.3**
	1.5nm,0.3s							
MAKZ				⇑Sn	**Sb**	**20 46 15.0**		**-0.5**
	12nm,0.3s							
MK31	**Makanchi Array**	**2.24**	**109**	Pn	**Pn**	**20 45 49.8**		**+0.2**
	2.4nm,0.4s,baz=277,slow=16,SNR=130							
MK31				⇑Sn	**Sb**	**20 46 21.5**		**+0.2**
	8.0nm,0.4s,baz=276,slow=27,SNR=17							
MKAR	**Makanchi Array**	**2.24**	**109**	P	**Pn**	**20 45 50.2**		**+0.5**
MKAR				S	**Sb**	**20 46 20.8**		**-0.6**
KAPS	**Kapalarasan**	**2.27**	**177**	*e*P	**Pn**	**20 45 50.1**		**0.0**
	0.5nm,0.2s							
KAPS				*e*S	**Sn**	**20 46 17.0**		**-0.3**
	3.6nm,0.4s							
KAPS	**Kapalarasan**	**2.27**	**177**	Pg	**Pn**	**20 45 48.6**		**-1.5**
	0.5nm,0.2s							
KAPS				Lg	Lg	20 46 16.8		
	3.6nm,0.4s							
SEM	**Semipalatinsk**	**2.94**	**13**	*e*P	**Pb**	**20 46 04.7**		**-1.4**
SEM				*e*S	**Sb**	**20 46 41.4**		**-0.2**
KURBB	**Kurchatov Arra**	**3.10**	**352**	⇑Pn	**Pn**	**20 46 04.0**		**+2.5**
	1.9nm,0.5s							
KURBB				⇑Sn	**Sb**	**20 46 45.6**		**-0.5**
	19nm,0.8s							
DJR	**Jarkent**	**3.25**	**173**	*e*P	**Pb**	**20 46 11.1**		**-0.2**
	0.7nm,0.5s							
DJR				*e*S	**Sb**	**20 46 50.8**		**+0.5**
	0.8nm,0.6s							
DJR	**Jarkent**	**3.25**	**173**	Pg	**Pb**	**20 46 11.1**		**-0.2**
	0.7nm,0.5s							
DJR				Lg	Lg	20 46 54.2		
	0.6nm,0.2s							
ARXS	**Arharly**	**3.48**	**197**	*e*P	**Pb**	**20 46 14.6**		**-0.6**
	2.9nm,0.2s							
ARXS				*e*S	**Sb**	**20 46 57.1**		**+0.2**
	32nm,0.5s							
ARXS	**Arharly**	**3.48**	**197**	Pg	**Pb**	**20 46 12.5**		**-2.6**
	3.8nm,0.2s							
ARXS				Lg	Lg	20 46 57.2		
	32nm,0.5s							
CHKK	**Chushkaly**	**4.01**	**204**	*e*P	**Pb**	**20 46 24.1**		**-0.1**
	1.2nm,0.3s							
CHKK				*e*S	**Sb**	**20 47 13.8**		**+1.5**
	21nm,0.4s							
CHKK	**Chushkaly**	**4.01**	**204**	Pg	**Pb**	**20 46 22.3**		**-1.9**
	0.7nm,0.1s							
CHKK				Lg	Lg	20 47 13.8		
	21nm,0.4s							
KUU	**Kurty**	**4.17**	**210**	*e*P	**Pb**	**20 46 26.4**		**-0.5**
	1.3nm,0.1s							
KUU				*e*S	**Sb**	**20 47 17.3**		**+0.4**
	26nm,0.4s							
KUU	**Kurty**	**4.17**	**210**	Pg	**Pb**	**20 46 24.3**		**-2.6**
	1.8nm,0.1s							
KUU				Lg	Lg	20 47 17.3		
	26nm,0.4s							
KTBS	**Karatobe**	**4.23**	**206**	*e*P	**Pb**	**20 46 27.3**		**-0.6**
	0.4nm,0.3s							
KTBS				*e*S	**Sb**	**20 47 19.3**		**+0.8**
	14nm,0.4s							
KTBS	**Karatobe**	**4.23**	**206**	Pg	**Pb**	**20 46 25.5**		**-2.4**
	0.6nm,0.2s							
KTBS				Lg	Lg	20 47 19.3		
	14nm,0.4s							
PDGK	**Podgornoye**	**4.23**	**177**	Pg	**Pb**	**20 46 27.2**		**-0.8**
	3.0nm,0.4s							
PDGK				Lg	Lg	20 47 22.6		
	3.7nm,0.6s							
PDGK	**Podgornoye**	**4.23**	**177**	⇑Pg	**Pb**	**20 46 27.7**		**-0.3**
	2.4nm,0.3s							
PDGK				⇓Lg	Lg	20 47 19.8		
	6.7nm,0.6s							
SHLS	**Shalkode**	**4.40**	**178**	*e*P	**Pb**	**20 46 32.0**		**+1.0**
	3.7nm,0.3s							
SHLS				*e*S	**Sb**	**20 47 27.0**		**+3.4**
	3.2nm,0.4s							
SHLS	**Shalkode**	**4.40**	**178**	Pg	**Pb**	**20 46 29.0**		**-1.9**
	3.7nm,0.3s							
SHLS				Lg	Lg	20 47 26.1		
	3.2nm,0.4s							
UZB	**Uzynbulak**	**4.41**	**182**	*e*P	**Pb**	**20 46 31.0**		**0.0**
	1.9nm,0.3s							
UZB				*e*S	**Sb**	**20 47 26.0**		**+2.2**
	3.3nm,0.3s							
UZB	**Uzynbulak**	**4.41**	**182**	Pg	**Pb**	**20 46 28.9**		**-2.2**
	2.7nm,0.6s							
UZB				Lg	Lg	20 47 26.0		
	3.3nm,0.3s							
SATY	**Saty**	**4.53**	**187**	*e*P	**Pb**	**20 46 34.0**		**+0.9**
	0.9nm,0.3s							
SATY				*e*S	**Sb**	**20 47 30.8**		**+3.6**
	6.7nm,0.2s							
SATY	**Saty**	**4.53**	**187**	Pg	**Pb**	**20 46 31.6**		**-1.5**
	1.3nm,0.2s							
SATY				Lg	Lg	20 47 30.5		
	6.7nm,0.2s							
KOTS	**Kotyrbulak**	**4.56**	**200**	*e*P	**Pb**	**20 46 34.5**		**+0.8**
	1.9nm,0.3s							
KOTS				*e*S	**Sb**	**20 47 30.6**		**+2.4**
	9.9nm,0.6s							
KOTS	**Kotyrbulak**	**4.56**	**200**	Pg	**Pb**	**20 46 32.1**		**-1.6**
	3.2nm,0.3s							
KOTS				Lg	Lg	20 47 30.6		
	9.9nm,0.6s							
KRBS	**Karabastau**	**4.58**	**214**	Pg	**Pb**	**20 46 31.8**		**-2.1**
	0.8nm,0.2s							
KRBS				Lg	Lg	20 47 30.0		
	9.4nm,0.3s							
MDOK	**Medeo**	**4.64**	**200**	*e*P	**Pb**	**20 46 35.5**		**+0.5**
	0.6nm,0.3s							
MDOK				*e*S	**Sb**	**20 47 33.7**		**+3.1**
	5.4nm,0.6s							
MDOK	**Medeo**	**4.64**	**200**	Pg	**Pb**	**20 46 33.2**		**-1.9**
	1.4nm,0.6s							
MDOK				Lg	Lg	20 47 32.9		
	7.6nm,0.6s							
MDOK	**Medeo**	**4.64**	**200**	Pg	**Pb**	**20 46 33.9**		**-1.2**
	1.2nm,0.2s							
MDOK				Lg	Lg	20 47 33.7		
	5.4nm,0.6s							
MTBS	**Maitube**	**4.83**	**205**	*e*P	**Pb**	**20 46 37.9**		**-0.4**
	1.0nm,0.2s							
MTBS				*e*S	**Sb**	**20 47 38.2**		**+2.1**
	10nm,0.2s							
MTBS	**Maitube**	**4.83**	**205**	Pg	**Pb**	**20 46 36.4**		**-1.9**
	2.2nm,0.2s							
MTBS				Lg	Lg	20 47 38.2		
	10nm,0.2s							
DGS	**Degeres**	**4.94**	**210**	*e*P	**Pb**	**20 46 40.1**		**0.0**
	2.7nm,0.3s							
DGS				*e*S	**Sb**	**20 47 41.

	baz=98							
FRU1			⇑*i*S		Sg	20 46 28.7	+0.5	
	baz=98							
CHMS	**Chumysh**	**0.49**	**321**	⇑*i*P	Pg	20 46 22.7	-0.4	
	baz=21							
CHMS				⇑*i*S	Sg	20 46 29.7	0.0	
	baz=21							
CHMS	**Chumysh**	**0.49**	**321**	⇓P	Pg	20 46 22.9	-0.2	
	4.0nm,0.1s,SNR=14							
CHMS				⇑S	Sg	20 46 29.5	-0.2	
	19nm,0.2s							
BOOM	**Boomskoye usch**	**0.58**	**102**	⇑*i*P	Pg	20 46 24.5	-0.4	
	baz=2.0							
BOOM				⇑*i*S	Sg	20 46 32.6	0.0	
	baz=2.0							
USP	**Ospenovka**	**0.81**	**323**	⇑*i*P	Pg	20 46 28.7	-0.5	
	baz=23							
USP				⇑*i*S	Sg	20 46 39.8	-0.1	
	baz=23							
USP	**Ospenovka**	**0.81**	**323**	⇓P	Pg	20 46 28.8	-0.4	
	3.2nm,0.1s,SNR=17							
USP				⇑S	Sg	20 46 39.8	-0.1	
	4.0nm,0.2s							
ULHL	**Ulahol**	**0.88**	**115**	⇓P	Pg	20 46 29.7	-0.7	
	0.8nm,0.2s,SNR=5.8							
ULHL				⇑S	Sg	20 46 41.2	-0.7	
	2.3nm,0.1s							
ARLS	**Aral**	**0.98**	**220**	⇑*i*P	Pb	20 46 31.9	-0.2	
	baz=20							
ARLS				⇑*i*S	Sg	20 46 45.5	+0.3	
	baz=20							
EKS2	**Erkin-Say**	**1.03**	**273**	⇑*i*P	Pb	20 46 32.7	-0.2	
	baz=73							
EKS2				⇑*i*S	Sn	20 46 47.3	-0.2	
	baz=73							
KDJ	**Kajisay**	**1.57**	**107**	⇑*i*P	Pg	20 46 42.8	-0.7	
	baz=7.0							
KDJ				⇑*i*S	Sg	20 47 03.8	0.0	
	baz=7.0							
ANVS	**Anan'yevo**	**1.85**	**84**	⇑*i*P	Pb	20 46 46.9	0.0	
	baz=84							
ANVS				⇑*i*S	Sg	20 47 12.1	-0.7	
	baz=84							

*IDC **21** 20:49:53.7±1.2,25°.58N×109°.80W, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.5/38, mbtmp3.3/5, ML2.9/3, MS3.3/15, Ms1 3.3/15, ms1mx3.2/31, Error ellipse: s-maj=26.4km s-min=10.9km az=112.0*

*MEX **21** 20:49:54.5±1.0,25°.78N×110°.22W, h17km±24km, MD4.3*

ISC 21 20:49:53.0±1.1,25.74N±0°.06×110.19W±0°.05, h10km, n28, σ3§66/27, MS3.2/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**1.04**	**97**	*e*P	**Pb**	**20 50 11.5**	**-1.7**
TSIG				*e*S	**Sg**	**20 50 23.8**	**-3.0**
LPIG	**La Paz**	**1.63**	**184**	Pg	**Pn**	**20 50 21.7**	**-0.1**
	22nm,0.3s,baz=202,slow=2.2,SNR=5.4						
LPIG				Lg	Lg	20 50 42.7	
	22nm,0.3s,baz=189,slow=22,SNR=9.5						
CSIG	**Choix**	**1.96**	**56**	*e*P	**Pn**	**20 50 24.1**	**-2.2**
CSIG				*e*S	**Sn**	**20 50 47.1**	**-4.0**
GUYB	**Guaymas**	**2.24**	**344**	*e*P	**Pn**	**20 50 26.4**	**-3.7**
GUYB				*e*S	**Sn**	**20 50 50.7**	**-7.1**
SRIG	**Santa Rosalia**	**2.42**	**311**	*e*P	**Pn**	**20 50 29.2**	**-3.5**
SRIG				*e*S	**Sn**	**20 50 56.9**	**-5.6**
SSIG	**Sanalona**	**2.91**	**108**	*e*P	**Pn**	**20 50 38.7**	**-0.7**
SSIG				*e*P	**Pn**	**20 50 38.7**	**-0.7**
SSIG				*e*S	**Sn**	**20 51 08.7**	**-5.7**
HSIG		**3.34**	**348**	*e*P	**Pn**	**20 50 47.1**	**+1.8**
HSIG				*e*S	**Sn**	**20 51 23.9**	**-1.2**
HPIG		**4.23**	**73**	*e*P	**Pn**	**20 50 58.0**	**+0.2**
HPIG				*e*S	**Sn**	**20 51 41.2**	**-6.1**
PDIG	**Papasquiaro**	**4.39**	**98**	*e*P	**Pn**	**20 51 00.2**	**+0.2**
PDIG				*e*S	**Sn**	**20 51 49.8**	**-1.4**
NZIG	**Nacozari, Sono**	**4.65**	**7**	*e*P	**Pn**	**20 51 01.9**	**-1.7**
NZIG				*e*S	**Sn**	**20 51 53.2**	**-4.5**
TXAR	**Lajitas Array**	**6.81**	**57**	Pn	**Pn**	**20 51 32.1**	**-1.0**
	0.1nm,0.3s,baz=227,slow=12,SNR=7.6						
TXAR				Pg	**Pb**	**20 51 54.6**	**+3.1**
	0.2nm,0.3s,baz=240,slow=14,SNR=5.6						
TXAR				Sn	**Sn**	**20 52 48.1**	**-2.6**
	0.7nm,0.3s,baz=232,slow=17,SNR=6.8						
TXAR				Lg	Lg	20 53 22.6	
	1.0nm,0.3s,baz=246,slow=22,SNR=4.5						
TXAR				LR	LR	20 54 21.7	
	comp=Z,292nm,18.1s,baz=0.0,slow=40						
PFO	**Pinyon Flats O**	**9.55**	**327**	LR	LR	20 55 18.8	
	comp=Z,98nm,21.2s,baz=182,slow=33						
ANMO	**Albuquerque**	**9.73**	**18**	Pn	**Pn**	**20 52 17.7**	**+4.5**
	0.1nm,0.3s,baz=193,slow=14,SNR=4.1						
ANMO				Lg	Lg	20 54 49.4	
	0.1nm,0.3s,baz=70,slow=23,SNR=0.9						
ANMO				LR	LR	20 56 17.0	
	comp=Z,200nm,18.5s,baz=192,slow=39						
NVAR	**Mina Array Bea**	**14.39**	**334**	LR	LR	20 58 45.4	
	comp=Z,30nm,21.5s,baz=165,slow=36						
ELK	**Elko**	**15.55**	**346**	Pn	**P**	**20 53 41.1**	**+4.1**
	0.0nm,0.3s,baz=166,slow=10,SNR=6.2						
ELK				LR	LR	20 59 42.7	
	comp=Z,194nm,18.1s,baz=170,slow=37						
CMIG	**Matias Romero**	**16.63**	**118**	LR	LR	21 00 06.6	
	comp=Z,131nm,20.1s,baz=260,slow=38						
PDAR	**Pinedale Array**	**17.00**	**2**	Pn	**P**	**20 53 55.3**	**+2.3**
	baz=174,slow=10.0,SNR=2.8						
PDAR				Lg	Lg	20 58 53.5	
	0.1nm,0.3s,baz=178,slow=25,SNR=1.8						
PDAR				LR	LR	21 00 47.2	
	comp=Z,213nm,19.0s,baz=190,slow=38						
YBH	**Yreka Blue Hor**	**19.02**	**330**	LR	LR	21 02 05.6	
	comp=Z,26nm,19.7s,baz=226,slow=38						
NEW	**Newport**	**23.14**	**348**	LR	LR	21 04 24.7	
	comp=Z,67nm,18.9s,baz=164,slow=37						
TKL	**Tuckaleechee C**	**24.70**	**60**	LR	LR	21 05 22.9	
	comp=Z,101nm,19.0s,baz=249,slow=38						
JTS	**Las Juntas de**	**28.41**	**118**	LR	LR	21 06 05.4	
	comp=Z,63nm,18.8s,baz=346,slow=35						
BBB	**Bella Bella**	**29.70**	**338**	LR	LR	21 08 22.3	
	comp=Z,53nm,19.2s,baz=182,slow=37						
SADO	**Sadowa**	**31.40**	**45**	LR	LR	21 10 10.3	
	comp=Z,30nm,19.8s,baz=68,slow=39						
ROSC	**El Rosal**	**40.13**	**115**	LR	LR	21 16 02.6	
	comp=Z,72nm,20.8s,baz=4.0,slow=40						
ILAR	**Eielson Array**	**45.56**	**339**	P	**P**	**20 58 17.3**	**+4.4**
	0.5nm,0.9s,baz=141,slow=5.3,SNR=6.2						
ILAR				LR	LR	21 19 55.1	
	comp=Z,33nm,18.2s,baz=142,slow=39						
H03N2	**Juan Fernandez**	**65.93**	**152**	T	T	22 12 25.3	
	baz=331,slow=77,SNR=6.4						
H03N1	**Juan Fernandez**	**65.94**	**152**	T	T	22 12 29.6	
	baz=331,slow=77,SNR=9.1						
H03N3	**Juan Fernandez**	**65.95**	**152**	T	T	22 12 26.0	
	baz=331,slow=77,SNR=7.5						

*IDC **21** 21:27:18.7±1.8,8°.56N×127°.11E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/56, mbtmp3.8/8, MS4.5/1, Ms1 4.5/1, ms1mx3.2/49, Error ellipse: s-maj=144.8km s-min=18.2km az=71.0*

*MAN **21** 21:27:28.7, 8°.22N×126°.61E, h46km, MS3.7*

ISC 21 21:27:28.6±1.2,8°.22N±0°.04×126°.65E±0°.08, h73km±11km, n28, σ1§22/34, mb3.8/8, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.26**	**306**	*e*P	**Pn**	**21 27 50.3**	**-0.2**
BUTP				*e*S	**Sn**	**21 28 07.9**	**+0.8**
MATI	**Mati**	**1.32**	**197**	*e*P	**Pn**	**21 27 51.2**	**-0.1**
MATI				*e*S	**Sn**	**21 28 07.9**	**-0.5**
BUKP	**Musuan**	**1.61**	**258**	*e*P	**Pn**	**21 27 55.0**	**-0.1**
BUKP				*e*S	**Sn**	**21 28 14.4**	**-0.8**
GLSP	**General Luna,**	**1.64**	**342**	*e*P	**Pn**	**21 27 55.0**	**-0.6**
GLSP				*e*S	**Sn**	**21 28 15.8**	**-0.1**
SCPH	**Surigao**	**1.93**	**324**	⇓*i*P	**Pn**	**21 28 01.4**	**+1.9**
CGP	**Cagayan de Oro**	**1.95**	**277**	⇑*e*P	**Pn**	**21 27 59.8**	**+0.1**
CGP				*i* S	**Sn**	**21 28 21.4**	**-1.9**
KCP	**Kidapawan**	**1.96**	**232**	⇑*e*P	**Pn**	**21 28 00.7**	**+0.9**
KCP				*i* S	**Sn**	**21 28 23.4**	**-0.1**
DDMP	**Don Marcelino,**	**2.29**	**204**	*e*P	**Pn**	**21 28 04.8**	**+0.4**
DDMP				*e*S	**Sn**	**21 28 31.8**	**+0.2**
MSLP	**Maasin**	**2.60**	**317**	*e*P	**Pn**	**21 28 08.2**	**-0.2**
MSLP				*e*S	**Sn**	**21 28 38.7**	**-0.3**
SKMP	**Bagumbayan, Su**	**2.69**	**231**	*e*P	**Pn**	**21 28 08.7**	**-0.8**
PAGZ	**Pagadian**	**3.26**	**264**	*e*P	**Pn**	**21 28 17.9**	**+0.6**
PAGZ				*e*S	**Sn**	**21 28 58.4**	**+3.4**
DCPH	**Dipolog City**	**3.28**	**277**	⇓*e*P	**Pn**	**21 28 19.4**	**+1.7**
DCPH				*i* S	**Sn**	**21 28 54.2**	**-1.5**
LLP	**Lapu-Lapu**	**3.37**	**308**	⇑*e*P	**Pn**	**21 28 20.6**	**+1.6**
LLP				*i* S	**Sn**	**21 28 58.3**	**+0.5**
SNPH	**Sibulan**	**3.56**	**289**	*e*P	**Pn**	**21 28 22.0**	**+0.5**
SNPH				*e*S	**Sn**	**21 29 00.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**26.17**	**182**	P	**P**	**21 32 57.6**	**+1.3**
	1.7nm,0.8s,baz=3.8,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**28.99**	**165**	P	**P**	**21 33 23.6**	**+2.1**
	0.4nm,0.9s,baz=348,slow=11,SNR=1.2						
ASAR	**Alice Springs**	**32.47**	**168**	P	**P**	**21 33 52.6**	**+0.3**
	0.2nm,0.3s,baz=344,slow=7.4,SNR=5.1						
ASAR				LR	LR	21 51 36.4	
	comp=Z,798nm,18.6s,baz=12,slow=45						
H11S3	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	22 18 17.1	
	baz=262,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	22 18 13.1	
	baz=262,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	22 18 17.3	
	baz=262,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**40.58**	**69**	T	T	22 18 47.5	
	baz=259,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**40.59**	**69**	T	T	22 18 43.3	
	baz=259,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**40.60**	**69**	T	T	22 18 45.2	
	baz=259,slow=75,SNR=12						
MKAR	**Makanchi Array**	**53.88**	**324**	P	**P**	**21 36 44.0**	**-0.4**
	0.4nm,0.5s,baz=112,slow=8.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**56.60**	**332**	P	**P**	**21 37 02.1**	**-1.7**
	0.5nm,0.3s,baz=128,slow=6.0,SNR=2.7						
KURBB	**Kurchatov Arra**	**57.97**	**326**	P	**P**	**21 37 13.2**	**-0.3**
	0.8nm,0.4s,baz=125,slow=7.3,SNR=14						
BVAR	**Borovoye Array**	**63.56**	**326**	P	**P**	**21 37 51.1**	**-0.4**
	0.4nm,0.3s,baz=74,slow=11,SNR=7.8						
FINES	**FINESS Array B**	**87.87**	**332**	P	**P**	**21 40 09.0**	**-0.9**
	0.7nm,0.4s,baz=74,slow=4.6,SNR=17						

*BJI **21** 21:28:14.0±0.0,20°.15S×177°.93W, h557km, mB5.7/59, mb5.8/81*

*MOS **21** 21:28:15.7±0.9,20°.37S×178°.40W, h565km, mb5.9/20, MS4.6/4, Error ellipse: s-maj=7.4km s-min=6.2km az=96.4*

*NOU **21** 21:28:16.1, 20°.43S×178°.33W, h554km, ML5.7, Fiji Islands Region*

*BGR **21** 21:28:16.8±0.0, 20°.91S×178°.13W, h576km±3km*

*NEIC **21** 21:28:16.3±1.4, 20°.43S±0°.08×178°.33W±0°.09, h563km±3km, mb5.8/438, Mwb6.0/46, Mww6.0, Mwc6.0(GCMT), Error ellipse: s-maj=12.4km s-min=11.3km az=101.0*

*IDC **21** 21:28:17.2±0.3, 20°.40S×178°.41W, h572km±3km, mb5.3/44, mb1 5.3/48, mb1mx5.2/52, mbtmp6.1/48, Error ellipse: s-maj=6.9km s-min=6.4km az=15.0*

*NEIC **21** 21:28:17, 20°.46S×178°.35W, h564km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=1.10; $M_{\theta\theta}$=0.07; $M_{\phi\phi}$=1.03; $M_{r\theta}$=-0.52; $M_{r\phi}$=-0.01; $M_{\theta\phi}$=-0.58; Fault plane solution: M_0=1.32000×10^{18} NP1:ϕ_s=20.35000°, δ62.48000°, λ=-71.52000°. NP2:ϕ_s=164.48000°, δ32.74000°, λ=-121.31000°. Principal axes: T 1.1884, Plg16.0000°, Azm97.0000°; N 0.2310, Plg16.0000°, Azm192.0000°; P -1.4194, Plg67.0000°, Azm326.0000°;*

*NEIC **21** 21:28:18, 20°.26S×178°.35W, h570km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=0.72; $M_{\theta\theta}$=0.22; $M_{\phi\phi}$=0.94; $M_{r\theta}$=-0.34; $M_{r\phi}$=-0.17; $M_{\theta\phi}$=-0.53; Fault plane solution: M_0=1.07000×10^{18} NP1:ϕ_s=146.00000°, δ36.00000°, λ=-134.00000°. NP2:ϕ_s=16.00000°, δ65.00000°, λ=-62.00000°. Principal axes: T 1.0958, Plg16.0000°, Azm87.0000°; N -0.0519, Plg25.0000°, Azm184.0000°; P -1.0439, Plg60.0000°, Azm328.0000°;*

*NEIC **21** 21:28:18, 20°.31S×178°.29W, h575km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=0.82; $M_{\theta\theta}$=0.27; $M_{\phi\phi}$=1.09; $M_{r\theta}$=-0.42; $M_{r\phi}$=-0.23; $M_{\theta\phi}$=-0.50; Fault plane solution: M_0=1.20000×10^{18} NP1:ϕ_s=144.00000°, δ40.00000°, λ=-136.00000°. NP2:ϕ_s=17.00000°, δ63.00000°, λ=-59.00000°. Principal axes: T 1.2245, Plg13.0000°, Azm85.0000°; N -0.0430, Plg28.0000°, Azm182.0000°; P -1.1815, Plg59.0000°, Azm333.0000°;*

*GCMT **21** 21:28:18.3±0.1, 20°.34S±0°.01×178°.36W±0°.01, h571km, MW6.0/160, Moment Tensor Solution. s160,c347; s111,c129; Duration: 2§4 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.81±.01; $M_{\theta\theta}$=0.30±.01; $M_{\phi\phi}$=1.12±.01; $M_{r\theta}$=0.42±.01; $M_{\theta\phi}$=0.29±.01; $M_{r\phi}$=0.48±.01; Best double couple: M_0=1.21900×10^{18} NP1:ϕ_s=141.00000°, δ42.00000°, λ=-137.00000°. NP2:ϕ_s=16.00000°, δ63.00000°, λ=-56.00000°. Principal axes: T 1.2550, Plg11.0000°, Azm83.0000°; N -0.0660, Plg30.0000°, Azm179.0000°; P -1.1840, Plg58.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 21 21:28:16.3±0.2, 20°.47S±0°.03×178°.37W±0°.03, h571km±1km, h572km: pP-P, n1778, σ1§43/1977, mb5.9/407, 141C-412D, Fault plane solution: NP1:ϕ_s5.42278°, δ60.03773°, λ=-85.68552°. **NP2:**ϕ_s176.83255°, δ30.24274°, λ=-97.43518°. **Principal axes:** T Plg14.9348°, Azm92.2667°; N Plg3.7370°, Azm183.2649°; P Plg74.5836°, Azm286.9662°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.34**	**308**	P	**P**	**21 29 43.2**	**+0.8**
	445nm,0.3s,baz=145,slow=6.0,SNR=1613						
MSVF				S	**S**	**21 30 53.3**	**+0.9**
	baz=332,slow=22,SNR=0.5						
MSVF	**Nonsavu**	**4.34**	**308**	P	**P**	**21 29 43.6**	**+1.2**
NIUE	**Niue**	**8.07**	**82**		**P**	**21 30 15.0**	**-0.4**
NIUE	**Niue**	**8.07**	**82**	P	**P**	**21 30 15.4**	**0.0**
RIZ	**Raoul Island**	**8.75**	**177**	P	**P**	**21 30 21.1**	**-0.8**
RIZ				S	**S**	**21 32 04.4**	**-0.6**
RAO	**Raoul Island**	**8.76**	**177**	P	**P**	**21 30 21.6**	**-0.4**
	710nm,0.3s,baz=90,slow=4.5,SNR=24						
RAO				S	S	21 31 54.0	-11
	280nm,0.3s,baz=114,slow=20,SNR=4.6						
RAO	**Raoul Island**	**8.76**	**177**	P	**P**	**21 30 21.2**	**-0.8**
RAO				S	**S**	**21 32 02.2**	**-2.9**
RAO	**Raoul Island**	**8.76**	**177**	P	**P**	**21 30 21.2**	**-0.8**
RAO				S	**S**	**21 32 02.2**	**-2.9**
RAO	**Raoul Island**	**8.76**	**177**	P	**P**	**21 30 21.8**	**-0.2**
GLKZ	**Green Lake**	**8.77**	**177**	P	**P**	**21 30 20.0**	**-2.1**
GLKZ				S	**S**	**21 32 05.5**	**+0.2**
AFI	**Afiamalu**	**9.06**	**45**	P	**P**	**21 30 22.8**	**-2.5**
AFI	**Afiamalu**	**9.06**	**45**	P	**P**	**21 30 22.8**	**-2.5**
AFI	**Afiamalu**	**9.06**	**45**	P	**P**	**21 30 22.8**	**-2.5**
FUNA	**Funafuti**	**12.10**	**348**		**P**	**21 30 54.9**	**-1.2**
PINNC	**Pines Island,**	**13.37**	**258**	P	**P**	**21 31 09.2**	**+0.2**
PINNC	**Pines Island,**	**13.37**	**258**	P	**P**	**21 31 09.8**	**+0.8**
LIFNC	**LIFOU**	**13.48**	**266**	P	**P**	**21 31 09.1**	**-1.0**
LIFNC	**LIFOU**	**13.48**	**266**	P	**P**	**21 31 09.4**	**-0.8**
YATNC	**Mamie plateau,**	**13.83**	**261**	P	**P**	**21 31 13.6**	**-0.2**
OUENC	**Ouen Island, N**	**13.91**	**259**	P	**P**	**21 31 15.0**	**+0.5**
OUENC	**Ouen Island, N**	**13.91**	**259**	P	**P**	**21 31 14.6**	**+0.1**
DZM	**Mont Dzumac**	**14.25**	**261**	P	**P**	**21 31 17.8**	**-0.3**
	55nm,0.3s,baz=86,slow=13,SNR=169						
DZM				S	**S**	**21 33 41.2**	**-6.1**
	1.0nm,0.3s,baz=88,slow=18,SNR=1.2						
DZM				ScP	**ScP**	**21 38 31.7**	**0.0**
	0.7nm,0.3s,baz=57,slow=19,SNR=6.8						
DZM	**Mont Dzumac**	**14.25**	**261**	*e*P	**P**	**21 31 17.3**	**-0.8**
	2µm,1.3s						
DZM	**Mont Dzumac**	**14.25**	**261**	P	**P**	**21 31 18.2**	**+0.1**
DZM				ScP	**ScP**	**21 38 35.2**	**+3.6**
DZM	**Mont Dzumac**	**14.25**	**261**	P	**P**	**21 31 17.9**	**-0.2**
ONTNC	**Ouen Toro**	**14.26**	**260**	P	**P**	**21 31 18.0**	**0.0**
ONTNC	**Ouen Toro**	**14.26**	**260**	P	**P**	**21 31 18.0**	**0.0**
NOUC	**Port Laguerre**	**14.38**	**261**	P	**P**	**21 31 19.2**	**-0.1**
SANVU	**Saraoutou**	**14.60**	**288**	P	**P**	**21 31 21.5**	**0.0**
NFK	**Norfolk Island**	**15.08**	**233**	P	**P**	**21 31 28.1**	**+2.1**
	baz=15,SNR=10						
NFK	**Norfolk Island**	**15.08**	**233**	P	**P**	**21 31 29.1**	**+3.1**
KOUNC	**Koumac, New Ca**	**16.25**	**267**	P	**P**	**21 31 39.0**	**+1.6**
OUZ	**Omahuta**	**16.31**	**204**	P	**P**	**21 31 39.9**	**+2.2**
OUZ	**Omahuta**	**16.31**	**204**	P	**P**	**21 31 40.0**	**+2.3**
GRZ	**Great Barrier**	**16.63**	**198**	P	**P**	**21 31 42.3**	**+1.8**
WCZ	**Waipu Caves**	**16.69**	**201**	P	**P**	**21 31 42.3**	**+1.2**
MXZ	**Matakaoa Point**	**17.28**	**189**	P	**P**	**21 31 45.5**	**-0.9**
MXZ	**Matakaoa Point**	**17.28**	**189**	P	**P**	**21 31 44.7**	**-1.8**
MYRZ	**Mayor Island**	**17.40**	**195**	P	**P**	**21 31 50.3**	**+2.8**
RAR	**Rarotonga**	**17.40**	**96**	P	**P**	**21 31 48.5**	**+0.7**
	17nm,0.3s,baz=243,slow=6.1,SNR=31						
RAR	**Rarotonga**	**17.40**	**96**	P	**P**	**21 31 48.6**	**+0.9**
RAR				pmax	pmax		
	comp=Z,2µm,1.4s						
RAR	**Rarotonga**	**17.40**	**96**	P	**P**	**21 31 48.6**	**+0.9**
RAR	**Rarotonga**	**17.40**	**96**	P	**P**	**21 31 48.9**	**+1.1**
WIZ	**White Island**	**17.43**	**192**	P	**P**	**21 31 49.8**	**+2.0**
RUGZ	**Raukumara Rang**	**17.77**	**190**	P	**P**	**21 31 49.7**	**-1.4**
RUGZ				S	**S**	**21 34 42.1**	**-3.7**
PUZ	**Puketiti**	**17.79**	**189**	P	**P**	**21 31 51.1**	**0.0**
PUZ				S	**S**	**21 34 45.8**	**-0.1**
WHRZ	**Whale Island**	**17.80**	**192**	P	**P**	**21 31 52.7**	**+1.5**
TGRZ	**Tauranga**	**17.82**	**194**	P	**P**	**21 31 54.1**	**+2.7**
OPRZ	**Ohinepanea**	**17.87**	**193**	P	**P**	**21 31 52.6**	**+0.8**
TWGZ	**Tauwhareparae**	**17.93**	**189**	P	**P**	**21 31 52.1**	**-0.3**
TWGZ				S	**S**	**21 34 45.6**	**-2.7**
MARZ	**Manawahe**	**17.98**	**193**	P	**P**	**21 31 54.0**	**+1.1**
KMRZ	**Kaimai**	**18.01**	**195**	P	**P**	**21 31 55.5**	**+2.3**
TOZ	**Tahuroa Road**	**18.01**	**196**	P	**P**	**21 31 55.2**	**+2.1**
EDRZ	**Edgecumbe**	**18.08**	**193**	P	**P**	**21 31 53.5**	**-0.4**
KARZ	**Kaharoa**	**18.11**	**194**	P	**P**	**21 31 54.6**	**+0.5**
URZ	**Urewera**	**18.16**	**191**	P	**P**	**21 31 52.3**	**-2.2**
	comp=Z,145nm,0.3s,baz=301,slow=23,SNR=199						
URZ				S	**S**	**21 34 48.3**	**-3.5**
	comp=Z,9.7nm,0.3s,baz=36,slow=22,SNR=4.7						
URZ	**Urewera**	**18.16**	**191**	P	**P**	**21 31 52.3**	**-2.2**
URZ	**Urewera**	**18.16**	**191**	P	**P**	**21 31 52.3**	**-2.2**
NGRZ	**Ngongotaha**	**18.20**	**194**	P	**P**	**21 31 57.2**	**+2.4**
CNGZ	**Carnagh Statio**	**18.20**	**189**	P	**P**	**21 31 55.5**	**+0.7**
TKGZ	**Te Karaka**	**18.21**	**190**	P	**P**	**21 31 54.7**	**-0.2**
TARZ	**Mount Tarawera**	**18.26**	**193**	P	**P**	**21 31 56.3**	**+0.8**
UTU	**Utuhina**	**18.27**	**194**	P	**P**	**21 31 57.7**	**+2.3**
RAGZ	**Rawiri**	**18.34**	**191**	P	**P**	**21 31 56.5**	**+0.3**
RRRZ	**Republican Roa**	**18.35**	**193**	P	**P**	**21 31 57.2**	**+0.9**
HSRZ	**Hossack Road**	**18.39**	**194**	P	**P**	**21 31 57.8**	**+1.2**
MUGZ	**Murupara**	**18.44**	**192**	P	**P**	**21 31 55.4**	**-1.6**
GRRZ	**Galatos Road**	**18.45**	**194**	P	**P**	**21 31 58.9**	**+1.7**
HRRZ	**Handcock Road**	**18.45**	**193**	P	**P**	**21 31 57.7**	**+0.5**
RIGZ	**Rimuhau**	**18.48**	**190**	P	**P**	**21 31 57.0**	**-0.5**
RTZ	**Ruatahuna**	**18.53**	**192**	P	**P**	**21 31 57.1**	**-0.8**
PRRZ	**Plateau Road**	**18.53**	**193**	P	**P**	**21 31 58.3**	**+0.4**
TLZ	**Tolley Road**	**18.57**	**195**	P	**P**	**21 31 59.8**	**+1.6**
WPRZ	**Whakapapatarin**	**18.60**	**194**	P	**P**	**21 31 59.1**	**+0.6**
ALRZ	**Allen Road**	**18.61**	**193**	P	**P**	**21 31 59.1**	**+0.5**
SNGZ	**Shannon Statio**	**18.63**	**191**	P	**P**	**21 31 58.3**	**-0.5**
PRGZ	**Paritu Road**	**18.68**	**189**	P	**P**	**21 31 59.5**	**+0.3**
MTHZ	**Maungataniwha**	**18.79**	**192**	P	**P**	**21 32 00.2**	**-0.1**
WHTZ	**Whakaora**	**18.79**	**194**	P	**P**	**21 32 01.2**	**+1.0**
RAHZ	**Arahi**	**18.80**	**191**	P	**P**	**21 31 58.7**	**-1.7**
KNZ	**Kokohu**	**18.81**	**190**	P	**P**	**21 32 00.2**	**-0.1**
MRHZ	**Matea Rd**	**18.85**	**193**	P	**P**	**21 32 00.2**	**-0.7**
WATZ	**Wairara**	**18.88**	**194**	P	**P**	**21 32 01.6**	**+0.5**
MHGZ	**Mahia Peninsul**	**18.90**	**189**	P	**P**	**21 32 01.7**	**+0.5**
HIZ	**Hauiti**	**18.92**	**197**	P	**P**	**21 32 02.9**	**+1.5**
HIZ	**Hauiti**	**18.92**	**197**	P	**P**	**21 32 03.8**	**+2.4**
WHHZ	**Waihua**	**18.93**	**191**	P	**P**	**21 32 01.4**	**-0.1**
HATZ	**Hinemaiaia**	**18.98**	**193**	P	**P**	**21 32 01.8**	**-0.2**
RATZ	**Rangitukua**	**19.02**	**194**	P	**P**	**21 32 01.9**	**-0.5**
NMIZ	**Naumai**	**19.03**	**192**	P	**P**	**21 32 01.8**	**-0.6**
RITZ	**Rithia Road**	**19.11**	**194**	P	**P**	**21 32 03.8**	**+0.7**
KATZ	**Kakaramea**	**19.14**	**194**	P	**P**	**21 32 05.0**	**+1.5**
ARHZ	**Aropaoanui**	**19.16**	**191**	P	**P**	**21 32 03.3**	**-0.2**
BKZ	**Black Stump Fm**	**19.16**	**192**	P	**P**	**21 32 02.3**	**-1.3**
BKZ	**Black Stump Fm**	**19.16**	**192**	P	**P**	**21 32 01.2**	**-2.3**
NTVZ	**North Tongarir**	**19.27**	**194**	P	**P**	**21 32 05.4**	**+0.7**
TMVZ	**Te Maari**	**19.28**	**194**	P	**P**	**21 32 04.4**	**-0.4**
ETVZ	**East Tongariro**	**19.29**	**194**	P	**P**	**21 32 05.2**	**+0.3**
**

PPT2 comp=Z,1µm,1.2s *e*ScP **ScP** 21 39 06.0 +2.0
comp=Z,206nm,1.1s
PPT **Papeete** 27.36 89 P **P** 21 33 18.0 +1.1
comp=Z,755nm,0.8s,baz=42,slow=4.7,SNR=42
PPT ScP **ScP** 21 39 04.3 +0.5
comp=Z,164nm,0.9s,baz=284,slow=4.7,SNR=7.9
PPT **Papeete** 27.36 89 P **P** 21 33 18.0 +1.1
PPTF **Pamatai, Papee** 27.36 89 P **P** 21 33 17.6 +0.6
TIAR **Tiarei** 27.58 89⇑*i*P **P** 21 33 19.9 +1.1
comp=Z,153nm,1.0s
TIAR *e*ScP **ScP** 21 39 06.8 +2.2
comp=Z,18nm,0.9s
DCZ **Deep Cove** 27.64 202 P **P** 21 33 19.3 +0.4
WHZ **Wether Hill Ro** 27.74 201 P **P** 21 33 20.6 +0.8
PYZ **Puysegur Point** 28.42 202 P **P** 21 33 25.9 +0.2
PYZ IAmb IAmb 21 33 29.1
comp=Z,494nm,1.2s
EIDS **Eidsvold** 28.52 254 P **P** 21 33 27.7 +0.8
baz=29,SNR=132
EIDS **Eidsvold** 28.52 254 P **P** 21 33 27.5 +0.6
EIDS IAmb IAmb 21 33 29.1
comp=Z,251nm,0.9s
MEH **Mehetia** 28.72 90 *e*P **P** 21 33 29.9 +1.2
comp=Z,361nm,1.1s
MEH *e*ScP **ScP** 21 39 10.3 +2.1
comp=Z,50nm,1.1s
ARMA **Armidale** 28.77 244 P **P** 21 33 30.9 +1.7
baz=29,SNR=106
ARMA **Armidale** 28.77 244 P **P** 21 33 29.9 +0.7
ARMA IAmb IAmb 21 33 32.2
comp=Z,364nm,1.1s
PMOR **Pomariorio Ree** 29.50 84⇑*i*P **P** 21 33 36.3 +0.8
comp=Z,2µm,1.1s
PMOR *e*ScP **ScP** 21 39 12.6 +1.9
comp=Z,133nm,0.9s
VAH **Vaihoa** 29.69 85⇑*i*P **P** 21 33 37.6 +0.5
comp=Z,1µm,1.0s
VAH *e*ScP **ScP** 21 39 13.2 +1.9
comp=Z,153nm,1.2s
MGCD **Mangrove Creek** 29.93 239 P **P** 21 33 40.8 +1.9
baz=30,SNR=102
RIV **Riverview** 30.08 237 P **P** 21 33 41.8 +1.6
baz=30,SNR=10
XMAS **Kiritimati** 30.35 45 P **P** 21 33 42.7 -0.1
XMAS IAmb IAmb 21 33 43.9
comp=Z,318nm,0.8s
XMAS **Kiritimati** 30.35 45 P **P** 21 33 43.5 +0.7
RMQ **Roma** 30.69 252 P **P** 21 33 47.4 +1.8
baz=31,SNR=45
KWAJ **Kwajalein Atol** 32.19 333 P **P** 21 33 58.7 +0.3
KWAJ pmax pmax
comp=Z,3µm,1.0s
KWAJ **Kwajalein Atol** 32.19 333 P **P** 21 33 58.6 +0.3
KWAJ **Kwajalein Atol** 32.19 333 P **P** 21 33 59.3 +0.9
CAN **Canberra** 32.24 236 P **P** 21 33 59.4 +0.6
CAN pmax pmax
comp=Z,243nm,1.0s
CAN **Canberra** 32.24 236 P **P** 21 33 59.4 +0.6
CAN IAmb IAmb 21 34 01.0
comp=Z,243nm,1.0s
MILA **Mila** 32.72 233 P **P** 21 34 03.7 +1.0
baz=33,SNR=29
RABL **Rabaul** 32.92 295 P **P** 21 34 03.9 -0.8
RABL **PcP** 21 36 31.5 -0.4
RABL **Rabaul** 32.92 295 P **P** 21 34 05.7 +1.0
CTA **Charters Tower** 33.15 264 P **P** 21 34 07.2 +0.6
comp=Z,373nm,0.5s,baz=90,slow=10,SNR=542
CTA PcP **PcP** 21 36 33.0 +0.6
comp=Z,88nm,0.8s,baz=90,slow=3.0,SNR=4.8
CTA S S 21 38 36.9 -10
comp=Z,22nm,1.0s,baz=115,slow=11,SNR=2.3
CTA ScP **ScP** 21 39 23.2 +0.1
comp=Z,44nm,0.9s,baz=136,slow=6.1,SNR=4.1
CTAO **Charters Tower** 33.15 264 P **P** 21 34 07.0 +0.4
CTAO pmax pmax
comp=Z,395nm,0.7s
CTAO **Charters Tower** 33.15 264 P **P** 21 34 07.0 +0.4
CMSA **Cobar Meteorol** 33.99 244 P **P** 21 34 14.2 +0.8
baz=34,SNR=396
QLP **Quilpie** 34.74 253 P **P** 21 34 20.5 +0.8
baz=35,SNR=93
PMG **Port Moresby** 35.00 283 P **P** 21 34 22.6 +0.5
comp=Z,181nm,0.7s,baz=72,slow=6.6,SNR=49
PMG PcP **PcP** 21 36 38.6 +0.7
comp=Z,60nm,0.9s,baz=211,slow=17,SNR=3.1
PMG S **S** 21 39 06.2 -8.2
comp=Z,19nm,0.8s,baz=192,slow=8.1,SNR=1.9
MTSU **Mount Surprise** 35.25 267 P **P** 21 34 25.0 +0.8
baz=35,SNR=299
PATS **Pohnpei** 35.52 317 P **P** 21 34 27.9 +1.5
baz=36,SNR=20
PATS **Pohnpei** 35.52 317 P **P** 21 34 26.7 +0.3
PATS **PcP** 21 36 38.6 -0.9
TOO **Toolangi** 35.64 234 P **P** 21 34 28.3 +1.1
baz=36,SNR=74
TOO **Toolangi** 35.64 234 P **P** 21 34 27.9 +0.8
TOO pmax pmax
comp=Z,280nm,0.8s
TOO **Toolangi** 35.64 234 P **P** 21 34 27.9 +0.8
TOO IAmb IAmb 21 34 29.3
comp=Z,280nm,0.8s
MOO **Moorlands** 36.28 225 P **P** 21 34 33.6 +1.3
baz=36,SNR=6.1
TAU **Tasmania Unive** 36.41 224 P **P** 21 34 34.3 +1.0
TAU pmax pmax
comp=Z,86nm,0.8s
TAU **Tasmania Unive** 36.41 224 P **P** 21 34 34.3 +1.0
STKA **Stephens Creek** 37.49 244 P **P** 21 34 43.6 +1.3
comp=Z,146nm,0.4s,baz=93,slow=9.3,SNR=575
STKA PcP **PcP** 21 36 45.2 -0.2
comp=Z,104nm,0.8s,baz=46,slow=3.7,SNR=6.4
STKA ScP **ScP** 21 39 40.6 +1.8
comp=Z,22nm,0.9s,baz=244,slow=22,SNR=3.2
STKA PKiKP **PKiKP** 21 43 58.9 -1.2
comp=Z,6.1nm,0.6s,baz=164,slow=4.0,SNR=5.7
STKA **Stephens Creek** 37.49 244 P **P** 21 34 43.6 +1.3
baz=38,SNR=649
STKA **Stephens Creek** 37.49 244 P **P** 21 34 43.5 +1.1
STKA pmax pmax
comp=Z,109nm,1.1s
STKA **Stephens Creek** 37.49 244 P **P** 21 34 43.5 +1.1
MCQ **Macquarie Isla** 38.09 201 P **P** 21 34 49.2 +2.3
baz=38,SNR=24
MCQ **Macquarie Isla** 38.09 201 P **P** 21 34 47.7 +0.9
MCQ pmax pmax
comp=Z,681nm,0.7s
MCQ **Macquarie Isla** 38.09 201 P **P** 21 34 47.7 +0.9
MCQ **Macquarie Isla** 38.09 201 P **P** 21 34 49.4 +2.6
comp=Z,948nm,1.2s
MANU **Manus Island** 38.12 294 P **P** 21 34 48.3 +0.6
MANU IAmb IAmb 21 34 50.2
comp=Z,307nm,1.1s
ARPS **Mount Arapiles** 38.22 236 P **P** 21 34 49.0 +0.8
baz=38,SNR=78
TAOE **Nuku Hiva Isla** 38.63 78⇑*i*P **P** 21 34 52.5 +0.5
comp=Z,2µm,1.1s
TAOE **Nuku Hiva Isla** 38.63 78 P **P** 21 34 52.5 +0.5
TAOE **Nuku Hiva Isla** 38.63 78 P **P** 21 34 53.1 +1.1
QIS **Mount Isa** 39.28 262 P **P** 21 34 57.1 +0.1
baz=39,SNR=48
HTT **Hallett** 39.94 242 P **P** 21 35 03.1 +0.9
baz=40,SNR=124
H11S2 **WAKE ISLAND Hy** 41.39 338 P **P** 21 35 12.2 -1.3
baz=345,slow=76,SNR=5.2
H11S3 **WAKE ISLAND Hy** 41.40 338 P **P** 21 35 12.8 -0.7
baz=345,slow=76,SNR=4.3
H11S1 **WAKE ISLAND Hy** 41.41 338 P **P** 21 35 12.3 -1.3
baz=345,slow=76,SNR=2.5
MMPI **Merauke** 41.56 281 P **P** 21 35 16.4 +1.2
WAKE **Wake Island** 42.14 339 P **P** 21 35 18.8 -0.7
BBOO **Buckleboo** 42.25 243 P **P** 21 35 21.1 +0.7
baz=42,SNR=395
BBOO **Buckleboo** 42.25 243 P **P** 21 35 21.2 +0.7
H11N3 **WAKE ISLAND Hy** 42.46 339 P **P** 21 35 21.8 0.0
baz=174,slow=9.5,SNR=63
H11N1 **WAKE ISLAND Hy** 42.46 339 P **P** 21 35 21.9 0.0
baz=174,slow=9.5,SNR=17
H11N2 **WAKE ISLAND Hy** 42.48 339 P **P** 21 35 22.1 +0.1
baz=174,slow=9.5,SNR=22
WR0 **Warramunga Arr** 44.07 262 P **P** 21 35 34.9 +0.2
WR0 IAmb IAmb 21 35 36.5
comp=Z,281nm,1.0s
GENI **Genyem** 44.15 288 P **P** 21 35 36.3 +0.9
comp=Z,3µmcomp=Z,13µmcomp=Z,1µm,0.8s
AS31 **Alice Springs** 44.19 257 P **P** 21 35 36.4 +0.7
AS31 IAmb IAmb 21 35 37.6
comp=Z,240nm,0.9s
ASAR **Alice Springs** 44.19 257 P **P** 21 35 36.2 +0.6
comp=Z,808nm,0.8s,baz=95,slow=7.8,SNR=2959
ASAR PcP **PcP** 21 37 08.3 +0.5
comp=Z,180nm,0.8s,baz=104,slow=3.7,SNR=20
ASAR S **S** 21 41 26.1 -2.1
comp=Z,99nm,0.9s,baz=92,slow=15,SNR=38
ASAR PKiKP **PKiKP** 21 44 05.4 -0.9
comp=Z,5.8nm,0.8s,baz=92,slow=1.9,SNR=4.8
ASAR P3KP 22 05 44.0
comp=Z,1.5nm,0.9s,baz=328,slow=1.4,SNR=6.2
ASAR PKP2bc 22 07 33.6
comp=Z,8.2nm,1.1s,baz=279,slow=4.1,SNR=12
ASAR P4KPbc 22 13 20.6
comp=Z,0.6nm,0.6s,baz=99,slow=4.7,SNR=7.2
WB0 **Warramunga Arr** 44.24 262 P **P** 21 35 36.2 +0.2
WB0 IAmb IAmb 21 35 36.9
comp=Z,361nm,0.7s
WB2 **Warramunga Arr** 44.25 262 P **P** 21 35 36.1 0.0
WB2 IAmb IAmb 21 35 37.2
comp=Z,542nm,0.9s
WRAB **Tennant Creek** 44.25 262 *de*P **P** 21 35 35.9 -0.2
WRAB pmax pmax
comp=Z,517nm,1.0s
WRAB **Tennant Creek** 44.25 262 P **P** 21 35 36.1 0.0
WRAB IAmb IAmb 21 35 37.1
comp=Z,459nm,0.9s
WRA **Warramunga Arr** 44.26 262 P **P** 21 35 36.0 -0.3
comp=Z,360nm,1.0s,baz=96,slow=7.2,SNR=1268
WRA PcP **PcP** 21 37 07.9 -0.2
comp=Z,103nm,0.9s,baz=97,slow=4.0,SNR=13
WRA S **S** 21 41 26.1 -3.1
comp=Z,114nm,1.0s,baz=95,slow=13,SNR=20
WRA PKiKP **PKiKP** 21 44 05.1 -1.3
comp=Z,7.4nm,0.7s,baz=82,slow=0.6,SNR=7.5
WRA PKP2bc 22 07 32.3
comp=Z,9.6nm,1.1s,baz=303,slow=3.4,SNR=13
WRA **Warramunga Arr** 44.26 262 P **P** 21 35 36.3 +0.1
WRA pmax pmax
comp=Z,40nm,0.8s
WRA **Warramunga Arr** 44.26 262 P **P** 21 35 36.3 +0.1
PTCN **Pitcairn Islan** 44.57 105 P **P** 21 35 38.1 -0.4
PTCN IAmb IAmb 21 35 41.7
comp=Z,546nm,0.8s
PTCN **Pitcairn Islan** 44.57 105 P **P** 21 35 39.4 +0.9
KHLU **Kahalu`u** 45.49 30 P **P** 21 35 45.0 -0.6
KHLU IAmb IAmb 21 35 47.4
comp=Z,278nm,0.8s
MWH **Moku'aweowe** 45.54 31 P **P** 21 35 45.4 -1.1
MWH IAmb IAmb 21 35 55.4
comp=Z,263nm,1.4s
MLOA **Mauna Loa Obse** 45.59 31 P **P** 21 35 46.5 -0.3
HUH **Hualalai** 45.60 30 P **P** 21 35 45.1 -1.6
HUH IAmb IAmb 21 35 48.4
comp=Z,241nm,1.0s
PUH **Pauahi** 45.63 31 P **P** 21 35 45.9 -0.8
PUH IAmb IAmb 21 35 48.4
comp=Z,227nm,1.0s
MLH **Mauna Loa** 45.65 31 P **P** 21 35 46.7 -0.3
MLH IAmb IAmb 21 35 49.3
comp=Z,275nm,1.1s
HMH **Humu'ula Sheep** 45.70 31 P **P** 21 35 47.9 +0.5
HMH IAmb IAmb 21 35 49.5
comp=Z,556nm,1.0s
HPAH **Hawaii Prepara** 45.96 30 P **P** 21 35 49.6 +0.5
HPAH IAmb IAmb 21 35 50.9
comp=Z,502nm,0.9s
HON **Honolulu** 46.06 27 P **P** 21 35 49.7 -0.1
HON pmax pmax
comp=Z,571nm,1.0s
HON **Honolulu** 46.06 27 P **P** 21 35 49.7 -0.1
HON IAmb IAmb 21 35 51.6
comp=Z,571nm,1.0s
DHH **Diamond Head** 46.09 27 P **P** 21 35 50.0 0.0
DHH **Diamond Head** 46.09 27 P **P** 21 35 50.0 0.0
KIP **Kipapa** 46.14 27 *ce*P **P** 21 35 51.4 +1.0
KIP pmax pmax
comp=Z,515nm,1.6s
KIP **Kipapa** 46.14 27 P **P** 21 35 51.1 +0.7
KIP IAmb IAmb 21 35 52.3
comp=Z,1µm,1.8s
WMR **Waimanalo Ridg** 46.19 27 P **P** 21 35 51.5 +0.7
HLK **Haleakala** 46.33 29 P **P** 21 35 51.9 -0.3
HLK IAmb IAmb 21 35 53.9
comp=Z,315nm,0.9s
KDU **Kakadu** 47.60 271 P **P** 21 36 01.8 +0.2
baz=48,SNR=206
SRPI **Serui, Papua** 47.98 287 P **P** 21 36 05.2 +0.8
comp=Z,8µmcomp=Z,858nm,1.0s
BAKI **Biak** 48.40 287 P **P** 21 36 08.8 +1.3
comp=Z,11µmcomp=Z,1µm,1.1s
MIDW **Midway** 48.41 1 P **P** 21 36 06.8 -0.4
MIDW IAmb IAmb 21 36 08.4
comp=Z,680nm,1.4s
MTN **Manton Dam** 48.82 271 P **P** 21 36 10.4 -0.1
baz=49,SNR=174
MTN **Manton Dam** 48.82 271 P **P** 21 36 10.5 -0.1
FORT **Forrest** 48.99 247 P **P** 21 36 11.8 +0.2
baz=49,SNR=290
FORT **Forrest** 48.99 247 P **P** 21 36 12.1 +0.4
WRKA **Warakurna** 49.14 254 P **P** 21 36 13.4 +0.5
baz=49,SNR=1000
KMPI **Kaimana, Papua** 49.53 283 P **P** 21 36 17.0 +1.2
comp=Z,9µmcomp=Z,1µm,1.0s
SAUI **Saumlaki** 50.15 277 P **P** 21 36 20.8 +0.4
SAUI **Saumlaki** 50.15 277 P **P** 21 36 22.4 +2.0
comp=Z,14µmcomp=Z,2µm,1.1s
KNRA **Kununurra** 50.31 266 P **P** 21 36 21.9 +0.4
baz=50,SNR=130
KNRA **Kununurra** 50.31 266 P **P** 21 36 22.1 +0.5
KNRA IAmb IAmb 21 36 23.0
comp=Z,441nm,0.7s
ANA2 **Anatahan** 50.81 313 P **P** 21 36 25.4 +0.3
SARN **Sarigan** 51.02 314 P **P** 21 36 27.0 +0.4
FAKI **Fak Fak** 51.15 283 P **P** 21 36 27.8 +0.1
FAKI IAmb IAmb 21 36 29.1
comp=Z,727nm,1.2s
FAKI **Fak Fak** 51.15 283 P **P** 21 36 27.8 +0.1
comp=Z,2µmcomp=Z,6µmcomp=Z,549nm,1.1s
BNDI **Bandanaira** 52.68 280 P **P** 21 36 39.5 +0.8
comp=Z,17µmcomp=Z,1µm,0.9s
FITZ **Fitzroy Crossi** 52.69 262 pP **pP** 21 38 26.8 +1.8
comp=Z,103nm,1.1s,baz=104,slow=12,SNR=3.3
FITZ S **S** 21 43 24.4 0.0
comp=Z,20nm,1.1s,baz=275,slow=21,SNR=15
FITZ PKPPKP **P'P'df** 22 06 54.9 -2.6
comp=Z,16nm,1.0s,baz=282,slow=4.6,SNR=12
FITZ **Fitzroy Crossi** 52.69 262 P **P** 21 36 39.3 +0.6
baz=53,SNR=173
FITZ **Fitzroy Crossi** 52.69 262 P **P** 21 36 39.0 +0.4
SIJI **Sorong** 52.89 285 P **P** 21 36 40.3 +0.1
comp=Z,2µm,0.8s
SIJI pP **pP** 21 38 27.1 +0.3
comp=Z,92nm,1.2s,baz=96,slow=6.6,SNR=2.2
SIJI S **S** 21 43 24.7 -2.6
comp=Z,30nm,1.1s,baz=266,slow=20,SNR=17
SIJI **Sorong** 52.89 285 P **P** 21 36 40.3 +0.1
comp=Z,10µmcomp=Z,1µm,0.9s
SWI **Sorong** 52.90 285 P **P** 21 36 40.4 +0.2
comp=Z,23µmcomp=Z,3µm,0.9s
MSAI **Masohi** 54.03 281 P **P** 21 36 48.4 +0.2
comp=Z,137nm,0.6s
NLAI **Namlea** 55.76 280 P **P** 21 37 00.3 +0.1
comp=Z,5µmcomp=Z,537nm,1.2s
SOEI **Soe** 56.15 272 P **P** 21 37 04.2 +1.1
SOEI **Soe** 56.15 272 P **P** 21 37 04.7 +1.6
comp=Z,21µmcomp=Z,3µm,0.9s
BATI **Baumata** 56.58 271 S **S** 21 44 13.0 -2.4
comp=Z,21nm,0.8s,baz=267,slow=23,SNR=2.2
BATI **Baumata** 56.58 271 P **P** 21 37 07.7 +1.7
comp=Z,1µmcomp=Z,5µmcomp=Z,551nm,0.9s
TNTI **Ternate** 57.12 285 P **P** 21 37 09.9 +0.4
TNTI IAmb IAmb 21 37 11.4
comp=Z,870nm,0.9s
TNTI **Ternate** 57.12 285 P **P** 21 37 10.0 +0.4
comp=Z,2µmcomp=Z,9µmcomp=Z,1µm,1.0s
GAMI **Galela, Maluku** 57.19 286 P **P** 21 37 09.2 -0.9
comp=Z,5µmcomp=Z,685nm,1.0s
SANI **Sanana** 57.24 281 P **P** 21 37 10.3 -0.1
comp=Z,2µmcomp=Z,8µmcomp=Z,936nm,1.0s
PSA00 **Pilbara Seismi** 57.34 257 P **P** 21 37 11.2 +0.2
PSA00 IAmb IAmb 21 37 12.2
comp=Z,787nm,0.8s
PSA00 **Pilbara Seismi** 57.34 257 P **P** 21 37 10.9 -0.1
PSA00 IAmb IAmb 21 37 12.2
comp=Z,745nm,0.8s
MEEK **Meekatharra** 57.60 251 P **P** 21 37 12.6 -0.2
baz=58,SNR=89
KLBR **Kellerberrin** 57.76 245 P **P** 21 37 14.0 +0.3
baz=58,SNR=171
SBA **Scott Base** 57.88 184 P **P** 21 37 17.0 +3.3
SBA pmax pmax
comp=Z,550nm,1.2s
SBA **Scott Base** 57.88 184 P **P** 21 37 17.0 +3.3
SBA IAmb IAmb 21 37 18.5
comp=Z,550nm,1.1s
VNDA **Vanda** 57.91 185 P **P** 21 37 16.5 +2.6
comp=Z,109nm,0.9s,baz=1.4,slow=7.3,SNR=460
VNDA ScP **ScP** 21 41 04.1 +0.2
comp=Z,9.7nm,0.8s,baz=9.8,slow=6.7,SNR=2.3
VNDA **Vanda** 57.91 185 P **P** 21 37 16.3 +2.4
VNDA pmax pmax
comp=Z,477nm,1.6s
VNDA **Vanda** 57.91 185 P **P** 21 37 16.3 +2.4
VNDA IAmb IAmb 21 37 17.7
comp=Z,477nm,1.6s
NWAO **Narrogin (SRO)** 58.07 243 P **P** 21 37 16.3 +0.6
comp=Z,217nm,0.8s,baz=112,slow=6.3,SNR=36
NWAO **Narrogin (SRO)** 58.07 243 P **P** 21 37 16.4 +0.6
baz=58,SNR=35
NWAO **Narrogin (SRO)** 58.07 243 P **P** 21 37 16.1 +0.3
NWAO pmax pmax
comp=Z,533nm,1.2s
NWAO **Narrogin (SRO)** 58.07 243 P **P** 21 37 16.1 +0.3
NWAO IAmb IAmb 21 37 17.6
comp=Z,428nm,1.2s
NWAO **Narrogin (SRO)** 58.07 243 P **P** 21 37 16.1 +0.3
NWAO IAmb IAmb 21 37 17.5
comp=Z,533nm,1.2s
MMRI **Maumere** 58.41 272 P **P** 21 37 18.2 -0.1
MMRI IAmb IAmb 21 37 19.5
comp=Z,765nm,0.9s
MMRI **Maumere** 58.41 272 P **P** 21 37 18.2 -0.1
comp=Z,2µmcomp=Z,9µmcomp=Z,897nm,0.9s
BLDU **Ballidu** 58.75 246 P **P** 21 37 20.5 +0.1
baz=59,SNR=122
EDFI **Ende, Flores** 58.88 272 P **P** 21 37 21.3 -0.3
comp=Z,4µmcomp=Z,509nm,1.1s
MUN **Mundaring** 59.03 244 P **P** 21 37 22.8 +0.6
baz=59,SNR=31
BASI **Baing, Sumba** 59.47 270 P **P** 21 37 26.5 +1.1
comp=Z,7µmcomp=Z,817nm,1.3s
MORW **Morawa** 59.52 248 P **P** 21 37 25.7 +0.1
baz=60,SNR=52
MORW **Morawa** 59.52 248 P **P** 21 37 25.8 +0.2
MORW IAmb IAmb 21 37 27.0
comp=Z,494nm,1.1s
SGSI **Sangihe** 60.02 287 P **P** 21 37 29.0 -0.1
comp=Z,5µmcomp=Z,478nm,0.6s
H01W1 **Cape Leeuwin H** 60.45 241 P **P** 21 37 33.6 +2.3
baz=111,slow=7.8,SNR=9.4
KKSI **Kolaka, Sulawe** 60.46 277 P **P** 21 37 32.1 +0.1
comp=Z,286nm,1.0s
H01W2 **Cape Leeuwin H** 60.47 241 P **P** 21 37 33.8 +2.4
baz=111,slow=7.8,SNR=12
H01W3 **Cape Leeuwin H** 60.47 241 P **P** 21 37 33.6 +2.1
baz=111,slow=7.8,SNR=11
LUWI **Luwuk** 60.59 281 P **P** 21 37 33.6 +0.8
LUWI **Luwuk** 60.59 281 P **P** 21 37 33.5 +0.7
comp=Z,13µmcomp=Z,1µm,1.1s
WBSI **Waikabubak, Su** 60.76 270 P **P** 21 37 34.2 +0.2
comp=Z,6µmcomp=Z,610nm,1.1s
JCJ **Chichijima** 60.79 320 P **P** 21 37 33.1 -0.7
comp=Z,268nm,0.9s,baz=347,slow=9.4,SNR=6.9
JCJ **Chichijima** 60.79 320 P **P** 21 37 33.7 -0.2
JCJ IAmb IAmb 21 37 36.3
comp=Z,430nm,1.0s
MATI **Mati** 60.84 291 *e*P **P** 21 37 31.2 -3.3
DDMP **Don Marcelino,** 60.94 290 *e*P **P** 21 37 33.1 -2.0
DAV **Davao City (W)** 61.50 290 P **P** 21 37 38.5 -0.3
comp=Z,692nm,0.8s,baz=102,slow=1.7,SNR=33
DAV **Davao City (W)** 61.50 290 P **P** 21 37 38.9 +0.1
DAV **Davao City (W)** 61.50 290 P **P** 21 37 39.9 +1.1
comp=Z,6µmcomp=Z,954nm,0.8s
APSI **Ampana** 61.67 280 P **P** 21 37 41.0 +1.1
comp=Z,2µmcomp=Z,6µmcomp=Z,693nm,1.2s
BNSI **Bone** 61.82 276 P **P** 21 37 41.1 +0.2
comp=Z,5µmcomp=Z,588nm,1.0s
KCP **Kidapawan** 61.90 290⇑*i*P **P** 21 37 41.4 -0.1
KAPI **Kappang** 61.94 275 P **P** 21 37 41.8 +0.1
KAPI pmax pmax
comp=Z,139nm,0.9s
KAPI **Kappang** 61.94 275 P **P** 21 37 41.8 +0.1
KAPI **Kappang** 61.94 275 P **P** 21 37 41.9 +0.2
comp=Z,3µmcomp=Z,213nm,1.2s
MRSI **Marisa** 61.95 282 P **P** 21 37 41.4 -0.3
comp=Z,2µmcomp=Z,4µmcomp=Z,408nm,0.9s
MKS **Makassar** 62.13 275 P **P** 21 37 44.5 +1.6
comp=Z,3µmcomp=Z,166nm,1.1s
SKMP **Bagumbayan, Su** 62.16 289 *e*P **P** 21 37 42.0 -1.1
GIRL **Giralia** 62.23 255 P **P** 21 37 44.9 +1.5
baz=62,SNR=19
GIRL **Giralia** 62.23 255 P **P** 21 37 43.4 0.0
GLSP **General Luna,** 62.31 293 *e*P **P** 21 37 43.0 -1.0
BUKP **Musuan** 62.33 291 *e*P **P** 21 37 44.2 0.0
BUTP **Butuan** 62.35 292 *e*P **P** 21 37 43.8 -0.5
PLAI **Plampang** 62.53 271 P **P** 21 37 45.5 0.0
comp=Z,2µmcomp=Z,12µmcomp=Z,1µm,1.1s
TTSI **Tana Toraja** 62.57 277 P **P** 21 37 45.9 +0.1
comp=Z,3µmcomp=Z,165nm,0.9s
CGP **Cagayan de Oro** 62.92 291‖*e*P **P** 21 37 49.5 +1.6
PMSI **Majene** 63.25 277 P **P** 21 37 51.1 +0.9
comp=Z,6µmcomp=Z,578nm,1.0s
TOLI2 **Tolitoli** 63.26 282 P **P** 21 37 50.3 +0.1
TOLI2 IAmb IAmb 21 37 51.6
comp=Z,413nm,0.9s
TWSI **Taliwang, Sumb** 63.39 270 P **P** 21 37 51.0 0.0
comp=Z,1µmcomp=Z,5µmcomp=Z,704nm,1.0s
MSLP **Maasin** 63.57 293‖*i*P **P** 21 37 50.5 -1.6
MPSI **Mapaga** 63.77 281 P **P** 21 37 53.3 -0.1
comp=Z,2µmcomp=Z,6µmcomp=Z,681nm,0.9s
BESP **Borongan** 63.78 295 *e*P **P** 21 37 53.4 0.0
PAGZ **Pagadian** 63.79 290 *e*P **P** 21 37 53.2 -0.3
PAGZ **Pagadian** 63.79 290‖*i*P **P** 21 37 54.4 +0.9
CASY **Casey** 63.85 205 P **P** 21 37 54.2 +1.2
CASY IAmb IAmb 21 37 55.3
comp=Z,846nm,1.2s
OCLP **Ormoc** 64.22 294 *e*P **P** 21 37 55.8 -0.5
LLP **Lapu-Lapu** 64.43 293‖*e*P **P** 21 37 57.6 +0.1
SNPH **Sibulan** 64.60 291‖*e*P **P** 21 37 58.6 -0.1
KHKI **Kahang-Kahang** 64.71 270 P **P** 21 37 58.6 -0.7
comp=Z,4µmcomp=Z,388nm,1.1s
DNP **Denpasar** 64.98 270 P **P** 21 38 01.8 +0.7
comp=Z,14µmcomp=Z,1µm,0.9s
SRBI **Singaraja** 65.17 270 P **P** 21 38 02.3 +0.1
comp=Z,7µmcomp=Z,731nm,1.1s
CNOP **Candoni, Negro** 65.35 292 *e*P **P** 21 38 00.5 -2.8
BYJI **Banyuwangi** 65.93 270 P **P** 21 38 08.0 +1.0
comp=Z,7µmcomp=Z,547nm,0.9s
JAGI **Jajag, Banyuwa** 66.04 270 P **P** 21 38 06.8 -0.9
comp=Z,6µmcomp=Z,756nm,0.9s
RCP **Roxas** 66.07 293‖*e*P **P** 21 38 06.8 -1.1
ABJI **Asem Bagus** 66.18 270 P **P** 21 38 09.1 +0.6
comp=Z,6µmcomp=Z,650nm,1.0s
SCSP **San Jose Semm** 66.42 296 *e*P **P** 21 38 09.3 -0.7
JHJ2 **Mitsune** 66.58 322 P **P** 21 38 11.0 +0.4
JHJ **Hachijo jima 2** 66.60 322 P **P** 21 38 10.9 +0.2
comp=Z,888nm,0.8s,baz=61,slow=21,SNR=24
KMMI **Kalianget** 66.67 271 P **P** 21 38 12.6 +1.0
comp=Z,6µmcomp=Z,631nm,1.0s
BBKI **Banjar Baru** 67.06 275 P **P** 21 38 15.0 +1.0
comp=Z,4µmcomp=Z,299nm,0.9s
CUYO **Cuyo Island** 67.23 292 *e*P **P** 21 38 14.3 -0.7
JCNP **Jose Panganiba** 67.43 296 *e*P **P** 21 38 14.8 -1.3
SJMP **San Jose** 67.89 293 *e*P **P** 21 38 18.6 -0.4
MTKI **Muara Teweh, K** 67.92 278 P **P** 21 38 19.7 +0.5
comp=Z,5µmcomp=Z,272nm,0.9s
PKKI **Palangkaraya** 68.31 276 P **P** 21 38 22.5 +0.9
comp=Z,9µmcomp=Z,1µm,1.0s
LQP **Lukban** 68.32 295‖*i*P **P** 21 38 21.9 +0.1
PWJI **Pagerwojo** 68.38 269 P **P** 21 38 22.2 +0.2
comp=Z,4µmcomp=Z,431nm,1.0s
BUSP **Coron** 68.48 293 *e*P **P** 21 38 22.7 +0.1
SJI **Sawahan** 68.51 270 P **P** 21 38 23.4 +0.5
comp=Z,5µmcomp=Z,439nm,1.2s
JSG **Sagara** 68.64 323 P **P** 21 38 23.5 +0.3
SPMM **Sapulut** 68.64 284 P **P** 21 38 25.0 +1.3
TBJI **Tambak Boyo** 68.73 271 P **P** 21 38 25.5 +1.4
comp=Z,8µmcomp=Z,727nm,1.0s
TGY **Tagaytay City** 68.83 295 P **P** 21 38 25.7 +1.0
comp=Z,988nm,0.9s,baz=133,slow=1.1,SNR=18

PCJI	Pacitan		68.91	269	P		P		21 38 25.8	+0.6
	comp=Z,14µmcomp=Z,2µm,0.9s									
QVP	Quezon City--P		69.02	295	*e*P		P		21 38 25.7	-0.1
MACP	Maragondon, Ca		69.09	295	*e*P		P		21 38 25.6	-0.6
BATP	Bataraza		69.15	288	*e*P		P		21 38 26.4	-0.3
LUBP	Lubang		69.24	294	*e*P		P		21 38 25.1	-2.1
QSPA	South Pole Qui		69.60	180	P		P		21 38 30.6	+2.0
	comp=Z,519nm,0.8s,baz=282,slow=0.5,SNR=2102									
QSPA					pP		pwP		21 40 26.2	-0.8
	comp=Z,60nm,1.1s,baz=62,slow=1.8,SNR=2.8									
QSPA					S		S		21 46 48.4	-3.3
	comp=Z,4.5nm,1.1s,baz=352,slow=9.2,SNR=1.6									
QSPA	South Pole Qui		69.60	180	P		P		21 38 30.6	+2.0
UGM	Wanagama		69.62	269	P		P		21 38 29.7	+0.2
UGM	Wanagama		69.62	269	P		P		21 38 30.0	+0.5
	comp=Z,648nm,0.8s									
CVP	Callao Caves		69.85	299⇓	*e*P		P		21 38 31.0	+0.3
JOW	Kunigami		69.88	310	P		P		21 38 31.7	+0.9
	comp=Z,246nm,0.8s,baz=128,slow=12,SNR=94									
JOW	Kunigami		69.88	310	P		P		21 38 31.6	+0.9
JOW					IAmb		IAmb		21 38 33.1	
	comp=Z,374nm,1.0s									
SMRI	Semarang		69.97	270	P		P		21 38 31.8	+0.1
SMRI					IAmb		IAmb		21 38 33.5	
	comp=Z,431nm,0.9s									
SMRI	Semarang		69.97	270	P		P		21 38 32.4	+0.8
	comp=Z,8µmcomp=Z,670nm,1.0s									
MJAR	Matsushiro Arr		69.98	324	P		P		21 38 30.8	-0.3
	comp=Z,95nm,0.8s,baz=153,slow=5.9,SNR=36									
MJAR					PKPPKP		P'P'df		22 06 25.9	-1.1
	comp=Z,5.2nm,1.0s,baz=331,slow=2.9,SNR=9.9									
MJAR	Matsushiro Arr		69.98	324	P		P		21 38 31.3	+0.2
MJAR					pmax		pmax			
	comp=Z,409nm,1.6s									
MJAR	Matsushiro Arr		69.98	324	P		P		21 38 31.3	+0.2
MJAR					IAmb		IAmb		21 38 32.7	
	comp=Z,409nm,1.6s									
MAT	Matsushiro		69.98	324	P		P		21 38 31.2	+0.1
MAT					S		S		21 46 58.2	+1.5
SMPP	San Manuel, Pa		70.03	297	*e*P		P		21 38 31.0	-0.8
PBKI	Pangkalan Bun		70.29	275	P		P		21 38 34.7	+1.2
	comp=Z,11µmcomp=Z,1µm,1.0s									
SAMP	Sagada Mountai		70.30	298	*e*P		P		21 38 31.7	-1.7
APYP	Conner		70.41	298⇓	*i*P		P		21 38 34.2	+0.2
APYP					*i* S		PcP		21 38 51.6	+0.5
JMN	Monobe		70.53	319	P		P		21 38 34.9	+0.5
JMN					IAmb		IAmb		21 38 37.0	
	comp=Z,425nm,1.2s									
JWT	Wachi		70.68	321	P		P		21 38 35.5	+0.2
JWT					IAmb		IAmb		21 38 37.2	
	comp=Z,286nm,1.1s									
CTJI	Waduk Cacaban		71.17	269	P		P		21 38 39.2	+0.6
	comp=Z,4µmcomp=Z,331nm,1.1s									
JSU	Suzuyama		71.26	315	P		P		21 38 39.3	+0.5
JSU					IAmb		IAmb		21 38 40.8	
	comp=Z,630nm,1.3s									
KPJI	Karang Pucung		71.30	269	P		P		21 38 39.6	+0.2
	comp=Z,5µmcomp=Z,462nm,1.1s									
STKI	Sintang		71.46	277	P		P		21 38 41.6	+1.3
	comp=Z,54µmcomp=Z,404nm,1.1s									
AMKA	Amchitka		71.56	358	P		P		21 38 40.1	+0.1
ERM	Erimo		71.62	331	*ce*P		P		21 38 41.8	+1.2
ERM					pmax		pmax			
	comp=Z,270nm,1.7s									
ERM	Erimo		71.62	331	P		P		21 38 40.8	+0.3
ERM					IAmb		IAmb		21 38 43.8	
	comp=Z,377nm,1.6s									
JTM	Tenmabayashi		71.66	329	P		P		21 38 41.7	+0.8
JTM					IAmb		IAmb		21 38 43.0	
	comp=Z,966nm,1.5s									
SBUM	Sibu		71.66	280	P		P		21 38 43.0	+1.5
JHS	Saijyo		71.85	320	P		P		21 38 42.7	+0.5
JNU	Nakatsue		72.01	317	P		P		21 38 43.7	+0.5
	comp=Z,268nm,1.0s,baz=172,slow=0.3,SNR=37									
JNU	Nakatsue		72.01	317	P		P		21 38 43.3	+0.1
JNU					IAmb		IAmb		21 38 44.9	
	comp=Z,529nm,1.1s									
KIWB	Kanaga Island		72.01	1	P		P		21 38 42.8	+0.1
ADK	Adak		72.05	1	P		P		21 38 42.8	0.0
ADK					pmax		pmax			
	comp=Z,2µm,1.3s									
ADK	Adak		72.05	1	P		P		21 38 42.8	0.0
YUK	Yuzh-Kuril'sk		72.06	334	*d* *i*P		P		21 38 43.2	+0.1
YUK					*i*				21 38 55.7	
YUK					*i* *SP		PP		21 41 35.4	+1.4
YUK					*e*S		S		21 47 19.7	0.0
YUK					*i* SS		SS		21 52 17.4	+4.2
YUK					pmax		pmax			
	comp=E,104nm,1.2s									
YUK					pmax		pmax			
	comp=Z,678nm,1.2s									
YUK					pmax		pmax			
	comp=N,176nm,1.2s									
YUK					pmax		pmax			
	comp=Z,809nm,1.5s									
JCJI	Jatiwangi		72.19	270	P		P		21 38 44.7	+0.1
	comp=Z,11µmcomp=Z,1µm,1.1s									
KUR	Kuril'sk		72.25	336	*d* *i*P		P		21 38 45.0	+0.9
KUR					*e*				21 38 59.6	
KUR					*e*				21 41 36.9	
KUR					pmax		pmax			
	comp=N,361nm,1.7s									
KUR					pmax		pmax			
	comp=Z,1µm,1.7s									
KUR					pmax		pmax			
	comp=E,234nm,2.6s									
KUR					pmax		pmax			
	comp=Z,1µm,3.8s									
CISI	Cisompet, Garu		72.27	268	P		P		21 38 44.5	-0.6
CISI					IAmb		IAmb		21 38 45.8	
	comp=Z,347nm,1.1s									
CISI	Cisompet, Garu		72.27	268	P		P		21 38 44.4	-0.7
	comp=Z,3µmcomp=Z,342nm,1.1s									
GSTR	Great Sitkin T		72.28	1	P		P		21 38 44.1	-0.1
YOJ	Yonaguni jima		72.43	305	P		P		21 38 45.7	0.0
YOJ					pmax		pmax			
	comp=Z,443nm,1.0s									
YOJ	Yonaguni jima		72.43	305	P		P		21 38 45.7	0.0
YOJ					IAmb		IAmb		21 38 47.2	
	comp=Z,443nm,1.0s									
ATKA	Atka Island		72.45	3	P		P		21 38 44.5	-0.6
LEM	Lembang		72.69	269	S		S		21 47 29.6	+1.2
	comp=Z,12nm,0.5s,baz=301,slow=23,SNR=6.0									
CNJI	Cibinong		72.99	268	P		P		21 38 49.1	-0.1
	comp=Z,7µmcomp=Z,886nm,1.1s									
JEW	Eniwo		73.06	330	P		P		21 38 49.4	+0.5
TWG	Pinlang		73.07	303	P		P		21 38 47.6	-1.8
TWG					IAmb		IAmb		21 38 49.1	
	comp=Z,179nm,0.8s									
SMY	Shemya		73.18	355	P		P		21 38 48.9	-0.4
SMY					pmax		pmax			
	comp=Z,905nm,1.0s									
SMY	Shemya		73.18	355	P		P		21 38 48.9	-0.4
YULB	Yu-li		73.19	303	P		P		21 38 48.2	-1.9
PTKI	Pontianak		73.31	276	P		P		21 38 51.7	+0.7
	comp=Z,5µmcomp=Z,556nm,0.8s									
XMIS	Christmas Isla		73.37	265	P		P		21 38 51.5	+0.2
XMIS					IAmb		IAmb		21 38 53.1	
	comp=Z,364nm,1.0s									
NACB	Ninganchiao		73.37	304	P		P		21 38 50.4	-0.7
NACB					IAmb		IAmb		21 38 52.4	
	comp=Z,384nm,1.1s									
JKA	Kamikawa-asahi		73.53	332	P		P		21 38 53.3	+1.8
JKA					IAmb		IAmb		21 38 55.0	
	comp=Z,600nm,1.0s									
ASAJ	Asahikawa		73.53	332	P		P		21 38 53.2	+1.6
	comp=Z,464nm,0.9s,baz=210,slow=7.5,SNR=184									
ASAJ	Asahikawa		73.53	332	P		P		21 38 53.3	+1.8
ASAJ					pmax		pmax			
	comp=Z,600nm,1.0s									
CBJI	Citeko		73.55	269	P		P		21 38 51.6	-0.7
	comp=Z,8µmcomp=Z,601nm,1.1s									
NIKH	Nikolski High		73.59	6	P				21 38 51.6	
	baz=189									
NIKH					S				21 47 35.0	
	baz=189									
NIKH	Nikolski High		73.59	6	P		P		21 38 51.4	-0.3
DBJI	Dramaga		73.60	269	P		P		21 38 52.9	+0.3
	comp=Z,6µmcomp=Z,584nm,1.2s									
SSLB	Suanglung		73.67	304	P		P		21 38 51.8	-1.0
SSLB					IAmb		IAmb		21 38 53.2	
	comp=Z,380nm,1.1s									
TPUB	Ta-pu		73.67	303	P		P		21 38 51.8	-1.0
YHNB	Yeheng		73.80	305	P		P		21 38 53.2	-0.4
YHNB					IAmb		IAmb		21 38 54.9	
	comp=Z,419nm,1.0s									
JTU	Tsushima		73.86	317	P		P		21 38 53.4	-0.1
TATO	Taipei		73.88	305	P		P		21 38 53.5	-0.5
TATO					IAmb		IAmb		21 38 55.1	
	comp=Z,597nm,1.0s									
TPI	Tanjungpandan		74.03	273	P		P		21 38 55.8	+0.7
	comp=Z,4µmcomp=Z,323nm,1.2s									
SKR	Severo-Kuril's		74.33	343	*d* *i*P		P		21 38 55.9	+0.1
SKR					*e*PP		pP		21 40 52.5	-1.7
SKR					*i*				21 41 55.5	
SKR					*i* S		S		21 47 46.5	+2.2
SKR					pmax		pmax			
	comp=Z,286nm,1.4s									
SKR					pmax		pmax			
	comp=Z,1µm,3.0s									
SKR					MLR		MLR			
	comp=Z,200nm,15.0s									
CGJI	Cibinong		74.57	269	P		P		21 38 57.5	-0.6
	comp=Z,8µmcomp=Z,828nm,1.1s									
ULDB	Ulung-do Bore		74.84	320	P		P		21 39 00.3	+1.2
	SNR=14									
AKUT	Akutan		75.08	8	P		P		21 38 59.5	-0.4
AKUT					IAmb		IAmb		21 39 01.5	
	comp=Z,328nm,0.9s									
GOS1	Gosan-ri		75.18	314	P		P		21 39 02.1	+1.1
	SNR=12									
HALB	Hallimjungang-		75.20	315	P		P		21 39 02.2	+1.0
	SNR=22									
BLSI	Bandar Lampung		75.40	270	P		P		21 39 02.1	-0.7
	comp=Z,6µmcomp=Z,688nm,0.9s									
IMWB	Imwonan-gil		75.62	319	P		P		21 39 04.4	+1.0
	SNR=10									
PPBI	Pangkal Pinang		75.66	273	P		P		21 39 05.1	+0.9
	comp=Z,2µmcomp=Z,13µmcomp=Z,481nm,1.3s									
YSS	Yuzh-Sakhalins		75.71	334	*k* *i*P		P		21 39 05.2	+1.6
YSS					*e*PP		pwP		21 41 07.0	+2.0
YSS					*e*				21 42 03.9	
YSS					*e*S		S		21 47 56.8	-2.6
YSS					*e*				21 48 21.0	
YSS					*e*SS		SS		21 53 17.1	+9.1
YSS					pmax		pmax			
	comp=Z,660nm,1.1s									
YSS					pmax		pmax			
	comp=Z,1µm,5.5s									
YSS					smax		smax			
	comp=E,300nm,3.5s									
YSS					MLR		MLR			
	comp=Z,300nm,15.0s									
YSS	Yuzh-Sakhalins		75.71	334	P		P		21 39 05.0	+1.3
YSS					IAmb		IAmb		21 39 06.4	
	comp=Z,588nm,1.0s									
KSTBA	Taebaek		75.79	319	P		P		21 39 05.6	+1.1
	SNR=27									
KSJDO	Jindo		75.82	316	P		P		21 39 05.2	+0.6
	SNR=10									
PET	Petropavlovsk		75.85	346	*k* *i*P		P		21 39 04.3	0.0
PET					*e*SP		PP		21 42 04.0	-1.4
PET					*i* S		S		21 48 01.4	+0.8
PET					*e*				21 48 24.6	
PET					*e*SP		ScS		21 48 44.6	+19
PET					*e*SPP		SPP		21 48 57.6	
PET					*e*SS		SS		21 53 11.7	+1.9
PET					*e*SSS		SSS		21 56 37.3	
PET					pmax		pmax			
	comp=Z,323nm,0.9s									
PET					pmax		pmax			
	comp=Z,2µm,5.4s									
PET					pmax		pmax			
	comp=Z,1µm,14.7s									
PET					MLR		MLR			
	comp=Z,400nm,19.0s									
PET	Petropavlovsk		75.85	346	P		P		21 39 04.2	-0.1
PET					IAmb		IAmb		21 39 05.0	
	comp=Z,169nm,0.8s									
KSGWL	Sabuk		75.92	319	P		P		21 39 06.6	+1.5
	SNR=8.0									
KNMB	Chin-men Tao		76.02	303	P		P		21 39 05.9	0.0
KNMB					IAmb		IAmb		21 39 08.0	
	comp=Z,418nm,1.2s									
KSMGY	Mungyeong		76.05	318	P		P		21 39 06.4	+0.6
	SNR=34									
KASI	Kota Agung		76.05	269	P		P		21 39 05.8	-0.5
	comp=Z,7µmcomp=Z,976nm,1.1s									
FALS	False Pass		76.10	9	P				21 39 05.2	
	baz=194									
FALS	False Pass		76.10	9	P		P		21 39 05.0	-0.6
FALS					IAmb		IAmb		21 39 06.4	
	comp=Z,656nm,1.2s									
QZH	Quanzhou		76.11	304⇓	*i*P		P		21 39 07.3	+1.0
QZH					sP		PP		21 42 05.6	-2.4
QZH					S		S		21 48 06.3	+1.8
QZH					SS		SS		21 53 14.8	+0.2
QZH					pmax		pmax			
	comp=Z,300nm,1.2s									
QZH					pmax		pmax			
	comp=Z,940nm,4.3s									
KSBON	Boeun		76.11	318	P		P		21 39 06.7	+0.6
	SNR=37									
KSYOW	Yeongwol		76.13	319	P		P		21 39 07.6	+1.4
	SNR=30									
PEA0B	Petropavlovsk-		76.15	345	P		P		21 39 06.5	+0.6
PEA0B					pmax		pmax			
	comp=Z,983nm,1.2s									
PEA0B	Petropavlovsk-		76.15	345	P		P		21 39 06.5	+0.6
PETK	Petropavlovsk-		76.15	345	P		P		21 39 06.3	+0.3
	comp=Z,329nm,0.8s,baz=119,slow=8.6,SNR=501									
PETK					PKiKP		PKiKP		21 44 44.8	-0.2
	comp=Z,13nm,0.7s,baz=122,slow=4.6,SNR=10									
PETK	Petropavlovsk-		76.15	345	P		P		21 39 06.4	+0.4
GOCB	Gochang-gun		76.17	316	P		P		21 39 07.0	+0.5
	SNR=20									
KSCHJ	Chungju		76.24	318	P		P		21 39 07.6	+0.8
	SNR=44									
KSCHJ	Chungju		76.24	318	P		P		21 39 07.6	+0.8
	SNR=40									
TJN	Taejon		76.31	318	*de*P		P		21 39 07.6	+0.4
SMKB	Mukjeong-gil		76.40	317	P		P		21 39 09.0	+1.2
	SNR=31									
KOJ2	Gongju-si		76.51	318	P		P		21 39 10.0	+1.7
	SNR=11									
LWLI	Liwa		76.63	270	P		P		21 39 09.3	-0.4
	comp=Z,7µmcomp=Z,730nm,0.9s									
KSRS	Korea Array		76.63	319	P		P		21 39 09.9	+1.0
	comp=Z,75nm,1.0s,baz=142,slow=6.4,SNR=255									
KSRS					PP		PP		21 42 11.6	-0.6
	comp=Z,6.8nm,1.0s,baz=132,slow=7.4,SNR=4.2									
KSRS					PKiKP		PKiKP		21 44 46.1	-0.1
	comp=Z,2.5nm,0.8s,baz=178,slow=0.8,SNR=6.5									
KSRS					PKPPKP				22 06 14.2	
	comp=Z,0.9nm,0.6s,baz=327,slow=2.7,SNR=5.1									
KSAR	Wonju Array Be		76.65	319	P		P		21 39 09.9	+0.9
KSAR	Wonju Array Be		76.65	319	P		P		21 39 09.9	+0.9
PMBI	Palembang		76.67	272	P		P		21 39 10.7	+0.9
PMBI	Palembang		76.67	272	P		P		21 39 11.1	+1.4
	comp=Z,11µmcomp=Z,1µm,1.1s									
CNBA	Chernabura Isl		76.69	11	P		P		21 39 08.7	-0.1
CNBA					IAmb		IAmb		21 39 10.2	
	comp=Z,448nm,1.2s									
CHNA	Chernabura Isl		76.69	11	P				21 39 08.9	
	baz=198,SNR=22									
CHNA					S				21 48 08.8	
	baz=198									
MDSI	Maura Dua		76.70	270	P		P		21 39 08.8	-1.1
	comp=Z,2µmcomp=Z,3µmcomp=Z,321nm,1.0s									
KS19	Wonju Array Si		76.70	319	P		P		21 39 10.2	+0.8
SDPT	Sand Point		77.03	10	P				21 39 10.6	
	baz=197,SNR=35									
SDPT					S				21 48 11.7	
	baz=197									
SDPT	Sand Point		77.04	10	P		P		21 39 10.2	-0.5
SSE	Sheshan		77.40	310	P		P		21 39 13.8	+0.5
SSE					S		S		21 48 19.3	+1.3
SSE					pmax		pmax			
	comp=Z,60nm,1.0s									
INCN	Inchon		77.45	318	P		P		21 39 14.3	+0.8
INCN					pmax		pmax			
	comp=Z,529nm,1.4s									
INCN	Inchon		77.45	318	P		P		21 39 14.3	+0.8
INCN					IAmb		IAmb		21 39 16.0	
	comp=Z,530nm,1.4s									
SNCC	San Nicolas Is		77.48	47	P				21 39 15.9	
	baz=235									
LHSI	Lahat		77.53	271	P		P		21 39 14.2	-0.2
	comp=Z,7µmcomp=Z,585nm,1.1s									
SPIA	Saint Paul Isl		77.64	5	P				21 39 14.5	
	baz=188,SNR=43									
SPIA	Saint Paul Isl		77.64	5	P		P		21 39 14.4	+0.5
UGL	Uglegorsk		77.68	335⇓	*i*P		P		21 39 15.3	+1.0
UGL					*e*				21 42 21.9	
UGL					*e*S		S		21 48 24.3	+4.2
UGL					pmax		pmax			
	comp=Z,3µm,4.0s									
UGL					pmax		pmax			
	comp=Z,800nm,0.9s									
UGL					smax		smax			
	comp=E,1µm,11.0s									
SCZ2	Santa Cruz Isl		77.83	47	P				21 39 17.7	
	baz=235,SNR=7.2									
MNAI	Manna		77.89	270	P		P		21 39 16.6	+0.2
MNAI	Manna		77.89	270	P		P		21 39 16.4	0.0
	comp=E,14µmcomp=E,1µm,0.9s									
SCI2	San Clemente I		78.00	48	P				21 39 18.5	
	baz=236,SNR=5.2									
SBC	Santa Barbara		78.03	46	P				21 39 19.0	
	baz=235									
VLA	Vladivostok		78.06	325	*d* *i*P		P		21 39 17.6	+1.1
VLA					pmax		pmax			
	comp=Z,247nm,1.1s									
MSHR	Mys Shultsa		78.09	324	*de*P		P		21 39 18.1	+1.4
MSHR					pmax		pmax			
	comp=Z,454nm,1.1s									
MCCM	Marconi Confer		78.17	42	P		P		21 39 17.1	-0.1
JMBI	JAMBI		78.18	273	P		P		21 39 19.9	+2.0
	comp=Z,9µmcomp=Z,886nm,1.2s									
EGSI	Enggano, Bengk		78.19	269	P		P		21 39 19.1	+1.1
	comp=Z,5µmcomp=Z,459nm,1.1s									
PKM	Mcpherson Peak		78.22	46	P				21 39 20.1	
	baz=235,SNR=15									
PKM					S				21 48 33.8	
	baz=235									
SAO	San Andreas Ge		78.24	43	P		P		21 39 19.6	+1.9
SAO					pmax		pmax			
	comp=Z,172nm,1.1s									
SAO	San Andreas Ge		78.24	43	P		P		21 39 19.6	+1.9
CIS	Catalina Islan		78.33	48	P				21 39 19.8	
	baz=236									
CIS					S				21 48 34.4	
	baz=236									
PMPB	Monarch Peak		78.33	44	P		P		21 39 18.5	+0.2
SMMC	Simmler		78.34	45	P				21 39 20.6	
	baz=234									
SMMC					S				21 48 34.8	
	baz=234									
HKC	Hong Kong Obse		78.36	299	⇑P		P		21 39 20.0	+1.4
CHIR	Chirikof Islan		78.40	13	P				21 39 18.7	
	baz=202									
CHIR					S				21 48 27.7	
	baz=202									
CHIR	Chirikof Islan		78.40	13	P		P		21 39 18.6	+0.6
PAGB	Antelope Grade		78.41	45	P		P		21 39 19.4	+0.7
KSI	Kapahiang		78.47	270	P		P		21 39 18.9	-0.6
	comp=Z,9µmcomp=Z,987nm,1.0s									
HOPS	Hopland Field		78.57	41	P		P		21 39 20.0	+0.6
HOPS					IAmb		IAmb		21 39 22.8	
	comp=Z,252nm,1.1s									
FMP	Fort Macarthur		78.59	47	P				21 39 21.6	
	baz=236									
GDXM	Geysers		78.63	41	P		P		21 39 20.2	+0.4
CCX	Cicese		78.72	50	P		P		21 39 20.5	+0.1
UBSI	University, Be		78.73	270	P		P		21 39 21.4	+0.6
	comp=Z,14µmcomp=Z,998nm,1.2s									
USA0B	Ussuriysk Arra		78.74	326	P		P		21 39 20.5	+0.3
USA0B					pmax		pmax			
	comp=Z,339nm,1.0s									
USA0B	Ussuriysk Arra		78.74	326	P		P		21 39 20.5	+0.3
USA0B					IAmb		IAmb		21 39 23.0	
	comp=Z,339nm,1.0s									
USRK	Ussuriysk Ar.		78.74	326	P		P		21 39 21.4	+1.2
	comp=Z,164nm,0.8s,baz=125,slow=3.2,SNR=326									
USRK					PP		PP		21 42 29.3	-0.1
	comp=Z,10nm,1.0s,baz=164,slow=6.8,SNR=2.9									
USRK	Ussuriysk Ar.		78.74	326	P		P		21 39 20.6	+0.5
OSI	Osito Audit: C		78.80	47	P				21 39 22.6	
	baz=235									
OSI					S				21 48 39.1	
	baz=235									
OSI	Osito Audit: C		78.80	47	P		P		21 39 20.8	0.0
DECC	Green Verdugo		78.86	47	P				21 39 22.7	
	baz=236,SNR=5.6									
DECC					S				21 48 39.3	
	baz=236									
TYV	Tymovskoe		78.87	336	*e*P		P		21 39 22.0	+1.3
TYV					*e*S		S		21 48 27.7	-4.7
TYV					pmax		pmax			
	comp=Z,3µm,3.1s									
TYV					pmax		pmax			
	comp=Z,519nm,1.4s									
TYV					smax		smax			
	comp=E,1µm,11.3s									
PASC	Pasadena Art C		78.92	47	P		P		21 39 21.9	+0.5
109C	Camp Elliot, M		78.96	49	P				21 39 23.4	
	baz=237,SNR=5.9									
109C					S				21 48 41.1	
	baz=237									
109C	Camp Elliot, M		78.96	49	P		P		21 39 22.5	+0.9
CBX	Cerro Bola		78.96	49	P		P		21 39 22.4	+0.5
MASI	Maura Aman, Be		78.97	271	P		P		21 39 22.4	+0.2
	comp=E,11µmcomp=E,1µm,1.2s									
ARVC	Arvin		79.02	46	P				21 39 23.7	
	baz=235,SNR=9.9									
ARVC					S				21 48 41.3	
	baz=235									
MWC	Mount Wilson		79.03	47	P		P		21 39 21.9	-0.3
MWC					pmax		pmax			
	comp=Z,83nm,1.1s									
MWC	Mount Wilson		79.03	47	P		P		21 39 21.9	-0.3
BTDF	Bukit Timah Da		79.11	276	P		P		21 39 23.9	+1.1
	comp=Z,1µmcomp=Z,4µmcomp=Z,390nm,1.2s									
JCC	Jacoby Creek,		79.13

ISA	**Isabella, Lake**	**79.56**	**46**	P	**P**	**21 39 25.1**	**+0.3**
NJ2	**Nanjing**	**79.59**	**310**	⇓*i*P	**P**	**21 39 26.3**	**+1.4**
NJ2				pP	**pwP**	**21 41 27.0**	**-0.9**
NJ2				sP	**sP**	**21 42 25.9**	**+3.3**
NJ2				PP	**PP**	**21 42 34.9**	**-1.7**
NJ2				S	**S**	**21 48 44.4**	**+3.7**
NJ2				sS	**sS**	**21 52 17.9**	**+2.5**
NJ2				SS	**SS**	**21 54 06.4**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,230nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,2µm,3.5s						
CMB	**Columbia Colle**	**79.67**	**43**	P	**P**	**21 39 25.4**	**+0.1**
CMB				pmax	pmax		
	comp=Z,108nm,1.1s						
CMB	**Columbia Colle**	**79.67**	**43**	P	**P**	**21 39 25.4**	**+0.1**
PFO	**Pinyon Flats O**	**79.81**	**48**	P		21 39 28.0	
	baz=237,SNR=27						
PFO				S		21 48 50.7	
	baz=237						
PFO	**Pinyon Flats O**	**79.81**	**48**	P	**P**	**21 39 27.6**	**+1.4**
	comp=Z,26nm,1.0s,baz=243,slow=3.9,SNR=34						
PFO				pP	**pwP**	**21 41 28.8**	**-1.1**
	comp=Z,9.4nm,1.2s,baz=214,slow=4.6,SNR=3.9						
PFO	**Pinyon Flats O**	**79.81**	**48**	P	**P**	**21 39 26.2**	**0.0**
PFO				pmax	pmax		
	comp=Z,90nm,1.4s						
PFO	**Pinyon Flats O**	**79.81**	**48**	P	**P**	**21 39 26.2**	**0.0**
TPFO	**Pinon Flats**	**79.81**	**48**	P		21 39 27.9	
	baz=237,SNR=23						
AFDM	**Forest Hills D**	**79.84**	**42**	P	**P**	**21 39 26.4**	**+0.2**
RGRI	**Rengat**	**79.85**	**273**	P	**P**	**21 39 29.3**	**+2.6**
	comp=Z,73µmcomp=Z,398nm,0.5s						
WDC	**Whiskeytown Da**	**79.87**	**40**	P	**P**	**21 39 26.5**	**+0.3**
WDC				pmax	pmax		
	comp=Z,266nm,1.3s						
WDC	**Whiskeytown Da**	**79.87**	**40**	P	**P**	**21 39 26.5**	**+0.3**
WDC				IAmb	IAmb	21 39 29.6	
	comp=Z,266nm,1.2s						
ORV	**Oroville**	**79.88**	**41**	P	**P**	**21 39 26.6**	**+0.3**
ORV				pmax	pmax		
	comp=Z,149nm,1.2s						
ORV	**Oroville**	**79.88**	**41**	P	**P**	**21 39 26.6**	**+0.3**
SWSC	**Sam W. Stewart**	**79.92**	**49**	P		21 39 28.6	
	baz=238,SNR=26						
SWSC				S		21 48 50.9	
	baz=238						
N02D	**Trinity Center**	**80.01**	**39**	P		21 39 29.6	
	baz=232,SNR=92						
N02D				S		21 48 50.4	
	baz=232						
RRX	**Edison Barstow**	**80.12**	**47**	P		21 39 29.5	
	baz=236						
RRX				S		21 48 52.1	
	baz=236						
O03E	**Paynes Creek**	**80.14**	**40**	P		21 39 29.3	
	baz=232,SNR=98						
O03E				S		21 48 50.4	
	baz=232						
M02C	**Callahan**	**80.18**	**39**	P		21 39 30.5	
	baz=232,SNR=129						
M02C				S		21 48 52.2	
	baz=232						
OHAK	**Old Harbor**	**80.19**	**14**	P		21 39 28.3	
	baz=204,SNR=101						
OHAK				S		21 48 46.7	
	baz=204						
OHAK	**Old Harbor**	**80.20**	**14**	P	**P**	**21 39 28.0**	**+0.5**
OHAK				IAmb	IAmb	21 39 29.6	
	comp=Z,787nm,1.4s						
L02E	**Cave Junction**	**80.22**	**38**	P		21 39 30.3	
	baz=231,SNR=14						
L02E				S		21 48 52.6	
	baz=231						
CWC	**Cottonwood Cre**	**80.26**	**45**	P		21 39 30.2	
	baz=236						
CWC				S		21 48 54.3	
	baz=236						
MDPB	**Devils Postpil**	**80.28**	**44**	P	**P**	**21 39 28.5**	**-0.3**
MDJ	**Mudanjiang**	**80.29**	**325**	P	**P**	**21 39 29.6**	**+1.3**
MDJ				S	**S**	**21 48 53.0**	**+5.6**
MDJ	**Mudanjiang**	**80.29**	**325**	P	**P**	**21 39 28.7**	**+0.4**
MDJ				IAmb	IAmb	21 39 31.1	
	comp=Z,325nm,1.0s						
BELC	**Belle Mtn. Jos**	**80.34**	**48**	P		21 39 30.9	
	baz=237,SNR=55						
BELC				S		21 48 55.4	
	baz=237						
MLAC	**Mammoth, Mammo**	**80.44**	**44**	P		21 39 31.7	
	baz=235,SNR=6.2						
MLAC				S		21 48 57.2	
	baz=235						
MPMC	**Manual Prospec**	**80.44**	**46**	P		21 39 31.3	
	baz=236,SNR=79						
MPMC				S		21 48 55.9	
	baz=236						
YBH	**Yreka Blue Hor**	**80.48**	**39**	P	**P**	**21 39 31.0**	**+1.5**
	comp=Z,133nm,0.9s,baz=185,slow=2.1,SNR=276						
YBH				pP	**pP**	**21 41 31.2**	**+1.5**
	comp=Z,21nm,1.0s,baz=166,slow=5.5,SNR=6.0						
YBH	**Yreka Blue Hor**	**80.48**	**39**	P	**P**	**21 39 29.2**	**-0.2**
YBH				IAmb	IAmb	21 39 33.1	
	comp=Z,248nm,1.1s						
GSC	**Goldstone, Bar**	**80.49**	**47**	P		21 39 31.3	
	baz=237,SNR=35						
GSC				S		21 48 56.7	
	baz=237						
GSC	**Goldstone, Bar**	**80.49**	**47**	P	**P**	**21 39 29.6**	**-0.1**
GSC				pmax	pmax		
	comp=Z,170nm,1.5s						
GSC	**Goldstone, Bar**	**80.49**	**47**	P	**P**	**21 39 29.6**	**-0.1**
TIN	**Tinemaha, Big**	**80.51**	**45**	P		21 39 31.8	
	baz=235,SNR=23						
K02D	**Willamette Mer**	**80.53**	**38**	P		21 39 31.8	
	baz=231,SNR=28						
QIZ	**Qiongzhong**	**80.53**	**294**	P	**P**	**21 39 30.0**	**-0.1**
QIZ				pP	**pP**	**21 41 29.5**	**-0.8**
QIZ				S	**S**	**21 48 52.0**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,92nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,1µm,3.5s						
BC3	**Big Chuckawall**	**80.54**	**49**	P		21 39 32.2	
	baz=238,SNR=38						
BC3				S		21 48 58.9	
	baz=238						
WAKR	**Walker**	**80.55**	**43**	P	**P**	**21 39 29.9**	**-0.2**
WAKR				IAmb	IAmb	21 39 33.6	
	comp=Z,284nm,1.2s						
HEC	**Hector,Ludlow**	**80.55**	**47**	P		21 39 31.7	
	baz=237,SNR=27						
HEC				S		21 48 56.6	
	baz=237						
GLA	**Glamis**	**80.67**	**50**	P		21 39 33.0	
	baz=238,SNR=25						
GLA				S		21 48 59.2	
	baz=238						
GLA	**Glamis**	**80.67**	**50**	P	**P**	**21 39 30.5**	**-0.1**
GLA				pmax	pmax		
	comp=Z,142nm,1.1s						
GLA	**Glamis**	**80.67**	**50**	P	**P**	**21 39 30.5**	**-0.1**
J01E	**Myrtle Point**	**80.67**	**37**	P		21 39 32.3	
	baz=230,SNR=17						
J01E				S		21 48 56.6	
	baz=230						
BEKR	**Beckworth**	**80.77**	**41**	P	**P**	**21 39 31.1**	**0.0**
BEKR				IAmb	IAmb	21 39 34.3	
	comp=Z,309nm,1.4s						
PNTR	**Pine Nut**	**80.79**	**42**	P	**P**	**21 39 31.4**	**0.0**
PNTR				IAmb	IAmb	21 39 34.6	
	comp=Z,311nm,1.0s						
KDAK	**Kodiak Island**	**80.86**	**14**	P		21 39 31.6	
	baz=204						
KDAK				S		21 48 54.0	
	baz=204						
KDAK	**Kodiak Island**	**80.86**	**14**	P	**P**	**21 39 31.4**	**+0.5**
	comp=Z,258nm,1.0s,baz=222,slow=2.4,SNR=121						
KDAK				pP	**pwP**	**21 41 33.3**	**-1.2**
	comp=Z,43nm,1.2s,baz=282,slow=3.4,SNR=2.5						
KDAK				PKiKP	**PKiKP**	**21 44 52.2**	**+0.2**
	comp=Z,5.3nm,0.7s,baz=291,slow=3.2,SNR=4.7						
KDAK				S	**S**	**21 48 50.4**	**-2.1**
	comp=Z,34nm,1.3s,baz=348,slow=19,SNR=24						
KDAK	**Kodiak Island**	**80.86**	**14**	P	**P**	**21 39 31.4**	**+0.5**
VCNR	**Virginia City**	**80.88**	**42**	P	**P**	**21 39 31.6**	**-0.1**
HUMO	**Hull Mountain**	**80.88**	**38**	P	**P**	**21 39 31.6**	**+0.2**
HUMO				IAmb	IAmb	21 39 35.2	
	comp=Z,282nm,1.1s						
YERR	**Yerington**	**80.96**	**43**	P	**P**	**21 39 32.1**	**-0.1**
YERR				IAmb	IAmb	21 39 35.2	
	comp=Z,234nm,1.2s						
GMRC	**Granite Mounta**	**81.00**	**48**	P		21 39 34.1	
	baz=237,SNR=40						
GMRC				S		21 49 01.3	
	baz=237						
LHV	**Little Huntoon**	**81.01**	**44**	P	**P**	**21 39 32.1**	**-0.1**
LHV				IAmb	IAmb	21 39 35.7	
	comp=Z,216nm,1.2s						
L04D	**Klamath Falls**	**81.02**	**39**	P		21 39 34.2	
	baz=232,SNR=97						
L04D				S		21 48 59.9	
	baz=232						
COCO	**West Island**	**81.02**	**260**	P	**P**	**21 39 32.0**	**-0.7**
COCO				pmax	pmax		
	comp=Z,701nm,1.2s						
COCO	**West Island**	**81.02**	**260**	P	**P**	**21 39 32.0**	**-0.7**
COCO				IAmb	IAmb	21 39 35.7	
	comp=Z,701nm,1.1s						
IRM	**Iron Mountain**	**81.02**	**49**	P		21 39 34.6	
	baz=238,SNR=53						
IRM				S		21 49 02.4	
	baz=238						
M04C	**Macdoel**	**81.02**	**39**	P		21 39 34.4	
	baz=232,SNR=74						
M04C				S		21 49 01.1	
	baz=232						
GRAC	**Grapevine Rang**	**81.05**	**45**	P		21 39 34.7	
	baz=236,SNR=10						
GRAC				S		21 49 02.5	
	baz=236						
FURC	**Furnace Creek,**	**81.09**	**46**	P		21 39 34.4	
	baz=236,SNR=35						
FURC				S		21 49 02.3	
	baz=236						
TUQ	**Turquoise Moun**	**81.17**	**47**	P		21 39 35.1	
	baz=237,SNR=7.7						
TUQ				S		21 49 04.1	
	baz=237						
SHOC	**Shoshone, Teco**	**81.18**	**47**	P		21 39 34.8	
	baz=237,SNR=9.3						
SHOC				S		21 49 03.8	
	baz=237						
NVAR	**Mina Array Bea**	**81.24**	**44**	P	**P**	**21 39 35.2**	**+1.6**
	comp=Z,64nm,0.9s,baz=224,slow=8.4,SNR=205						
NVAR				pP	**pP**	**21 41 34.6**	**+0.4**
	comp=Z,12nm,1.0s,baz=230,slow=9.2,SNR=5.1						
NVAR				S	**S**	**21 49 00.2**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=214,slow=3.1,SNR=2.0						
NVAR				PKKPbc	**PKKPbc**	**21 58 06.5**	**+1.1**
	comp=Z,8.3nm,0.8s,baz=84,slow=3.0,SNR=23						
NVAR				PKPPKP	**P'P'df**	**22 06 08.5**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=77,slow=6.4,SNR=4.1						
PAHR	**Pah Rah Range**	**81.28**	**42**	IAmb	IAmb	21 39 36.9	
	comp=Z,208nm,1.2s						
BKNI	**Bangkinang**	**81.30**	**274**	P	**P**	**21 39 34.8**	**+0.6**
	comp=Z,3µmcomp=Z,6µmcomp=Z,446nm,1.2s						
GRNR	**Gornyy**	**81.32**	**333**	⇓*i*P	**P**	**21 39 35.0**	**+1.5**
GRNR				pmax	pmax		
	comp=N,70nm,1.1s						
GRNR				pmax	pmax		
	comp=E,60nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,290nm,1.0s						
GRNR				MLR	MLR		
	comp=E,90nm,14.0s						
I02D	**Swisshome**	**81.32**	**36**	P		21 39 35.8	
	baz=230,SNR=12						
I02D				S		21 49 03.3	
	baz=230						
I03D	**Drain, OR**	**81.34**	**37**	P		21 39 35.7	
	baz=231,SNR=35						
I03D				S		21 49 02.9	
	baz=231						
PDSI	**Padang**	**81.41**	**272**	P	**P**	**21 39 34.1**	**-0.7**
	comp=E,1µmcomp=E,1µmcomp=E,126nm,1.1s						
NKL	**Nikolayevsk**	**81.43**	**336**	*e*P	**P**	**21 39 34.3**	**+0.4**
NKL				*e*S	**S**	**21 49 02.7**	**+4.3**
NKL				pmax	pmax		
	comp=E,53nm,0.8s						
NKL				pmax	pmax		
	comp=N,1.0nm,0.5s						
NKL				pmax	pmax		
	comp=Z,398nm,1.0s						
NKL				smax	smax		
	comp=N,2.0nm,0.6s						
NKL				MLR	MLR		
	comp=E,1µm,16.0s						
PMSA	**Palmer Station**	**81.46**	**157**	P	**P**	**21 39 36.0**	**+2.0**
	comp=E,131nm,0.8s,baz=226,slow=5.0,SNR=26						
PMSA	**Palmer Station**	**81.46**	**157**	P	**P**	**21 39 35.2**	**+1.1**
PMSA				IAmb	IAmb	21 39 37.1	
	comp=Z,162nm,0.9s						
DL2	**Dalian**	**81.47**	**317**	⇓*i*P	**P**	**21 39 35.5**	**+1.0**
DL2				sP	**sP**	**21 42 28.3**	**-4.6**
DL2				S	**S**	**21 49 01.5**	**+2.0**
DL2				sS	**sS**	**21 52 36.3**	**+1.1**
DL2				pmax	pmax		
	comp=Z,210nm,1.2s						
DL2				pmax	pmax		
	comp=Z,2µm,4.9s						
MAW	**Mawson**	**81.48**	**200**	P	**P**	**21 39 35.3**	**+1.2**
	comp=Z,134nm,0.9s,baz=128,slow=6.2,SNR=113						
MAW	**Mawson**	**81.48**	**200**	P	**P**	**21 39 35.2**	**+1.2**
	baz=82,SNR=83						
MAW	**Mawson**	**81.48**	**200**	P	**P**	**21 39 35.3**	**+1.2**
214A	**Organ Pipe Nat**	**81.56**	**51**	P		21 39 37.5	
	baz=240,SNR=36						
214A				S		21 49 08.6	
	baz=240						
K04D	**Chiloquin, OR**	**81.59**	**39**	P		21 39 37.2	
	baz=232,SNR=12						
K04D				S		21 49 05.8	
	baz=232						
NEE2	**Needles Airpor**	**81.71**	**48**	P		21 39 37.9	
	baz=238,SNR=12						
NEE2				S		21 49 08.8	
	baz=238						
J04D	**Umpqua Nationa**	**81.76**	**38**	P		21 39 38.4	
	baz=232,SNR=34						
TPNV	**Topopah Spring**	**81.77**	**46**	P		21 39 38.1	
	baz=237,SNR=61						
TPNV				S		21 49 08.8	
	baz=237						
PDMCI	**Parker Dam,Lak**	**81.81**	**49**	P		21 39 38.5	
	baz=238,SNR=31						
PDMCI				S		21 49 10.1	
	baz=238						
COR	**Corvallis**	**81.92**	**36**	P	**P**	**21 39 36.8**	**+0.1**
COR				pmax	pmax		
	comp=Z,203nm,1.1s						
COR	**Corvallis**	**81.92**	**36**	P	**P**	**21 39 36.8**	**+0.1**
COR				IAmb	IAmb	21 39 40.2	
	comp=Z,203nm,1.1s						
I04A	**Tendick Farm,**	**81.93**	**37**	P		21 39 38.4	
	baz=232,SNR=59						
SNY	**Shenyang**	**81.96**	**320**	⇓P	**P**	**21 39 37.4**	**+0.5**
SNY				S	**S**	**21 48 59.9**	**-4.3**
SNY				pmax	pmax		
	comp=Z,150nm,2.1s						
SNY				pmax	pmax		
	comp=Z,2µm,10.6s						
MOD	**Modoc Plateau**	**82.01**	**40**	IAmb	IAmb	21 39 40.5	
	comp=Z,276nm,1.1s						
CN2	**Changchun**	**82.06**	**323**	⇓*i*P	**P**	**21 39 38.1**	**+0.7**
CN2				*e*pP	pwP	21 41 42.4	+1.0
CN2				*e*sP	sP	21 42 30.8	-5.2
CN2				SKS	**S**	**21 49 04.3**	**-0.9**
CN2				*e*S	**SKKSac**	**21 49 08.1**	**-0.4**
CN2				sS	sS	21 52 34.3	-6.7
CN2				SS	**SS**	**21 54 46.3**	**+4.1**
CN2				pmax	pmax		
	comp=Z,300nm,1.2s						
CN2				pmax	pmax		
	comp=Z,2µm,3.0s						
WHN	**Wuhan**	**82.14**	**307**	⇓P	**P**	**21 39 39.1**	**+1.0**
WHN				sP	**sP**	**21 42 32.0**	**-4.6**
WHN				SKS	**S**	**21 49 03.6**	**-3.0**
WHN				S	**SKKSac**	**21 49 08.5**	**-1.2**
WHN				pmax	pmax		
	comp=Z,3µm,4.0s						
K05A	**Summer Lake**	**82.15**	**39**	IAmb	IAmb	21 39 41.7	
	comp=Z,464nm,1.0s						
H04D	**Lebanon**	**82.20**	**37**	P		21 39 40.1	
	baz=231,SNR=53						
H04D				S		21 49 11.1	
	baz=231						
KLR	**Kul'dur**	**82.32**	**330**	P	**P**	**21 39 39.6**	**+1.0**
	comp=Z,99nm,1.0s,baz=109,slow=4.1,SNR=210						
KLR				PKiKP	**PKiKP**	**21 44 54.5**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=163,slow=2.2,SNR=5.3						
KLR	**Kul'dur**	**82.32**	**330**	*de*P	**P**	**21 39 39.7**	**+1.1**
KLR				pmax	pmax		
	comp=Z,200nm,1.1s						
G03D	**McMinnville, O**	**82.34**	**36**	P		21 39 40.7	
	baz=231,SNR=25						
G03D				S		21 49 12.7	
	baz=231						
H04A	**Detroit Lake**	**82.61**	**37**	IAmb	IAmb	21 39 42.9	
	comp=Z,280nm,1.1s						
CNPM	**China Peak**	**82.75**	**14**	IAmb	IAmb	21 39 42.3	
	comp=Z,656nm,1.0s						
PINE	**Pine Mountain**	**82.77**	**38**	IAmb	IAmb	21 39 44.8	
	comp=Z,540nm,1.1s						
HOM	**Homer**	**82.78**	**13**	P		21 39 41.4	
	baz=205,SNR=47						
IPM	**Ipoh**	**82.78**	**277**	P	**P**	**21 39 43.0**	**+1.2**
PRN	**Pahroc Range**	**82.82**	**46**	IAmb	IAmb	21 39 45.0	
	comp=Z,183nm,1.1s						
MNSI	**Mandailing Nat**	**82.83**	**274**	P	**P**	**21 39 41.1**	**-0.9**
	comp=Z,3µmcomp=Z,282nm,0.9s						
I05D	**Terrebonne, OR**	**82.87**	**37**	P		21 39 43.5	
	baz=232,SNR=58						
I05D				S		21 49 17.7	
	baz=232						
N18K	**Kilae Creek**	**82.88**	**11**	P		21 39 41.5	
	baz=201,SNR=132						
R11A	**Troy Canyon, C**	**82.97**	**45**	P		21 39 43.6	
	baz=237,SNR=21						
R11A				S		21 49 19.2	
	baz=237						
TIA	**Tai'an**	**83.00**	**313**	P	**P**	**21 39 43.1**	**+0.8**
TIA				pP	**pwP**	**21 41 48.3**	**+0.8**
TIA				S	**S**	**21 49 12.4**	**-2.4**
TIA				sS	**sS**	**21 52 51.8**	**+0.8**
TIA				pmax	pmax		
	comp=Z,160nm,1.4s						
E03A	**Lebam**	**83.02**	**35**	IAmb	IAmb	21 39 45.4	
	comp=Z,498nm,1.1s						
F04D	**Rainier, OR**	**83.03**	**35**	P		21 39 44.6	
	baz=231,SNR=11						
F04D				S		21 49 20.3	
	baz=231						
BRSE	**Bradley Lake S**	**83.05**	**14**	P		21 39 42.6	
	baz=206,SNR=228						
TUC	**Tucson**	**83.23**	**52**	P		21 39 46.2	
	baz=241						
TUC				S		21 49 26.1	
	baz=241						
TUC	**Tucson**	**83.23**	**52**	P	**P**	**21 39 43.7**	**0.0**
TUC				pmax	pmax		
	comp=Z,112nm,1.1s						
TUC	**Tucson**	**83.23**	**52**	P	**P**	**21 39 43.7**	**0.0**
N19K	**Bonanza Creek**	**83.26**	**12**	P		21 39 43.0	
	baz=202,SNR=104						
WVOR	**Wild Horse Val**	**83.33**	**40**	IAmb	IAmb	21 39 47.2	
	comp=Z,207nm,1.1s						
SVW2	**Sparrevohn**	**83.33**	**11**	IAmb	IAmb	21 39 44.3	
	comp=Z,132nm,0.7s						
DIB	**Dawson Inlet,**	**83.40**	**26**	IAmb	IAmb	21 39 46.3	
	comp=Z,170nm,1.1s						
H02S1	**DAWSON INLET T**	**83.40**	**26**	P	**P**	**21 39 44.8**	**+1.0**
	SNR=48						
NLWA	**Neilton Lookou**	**83.40**	**34**	IAmb	IAmb	21 39 47.4	
	comp=Z,248nm,1.0s						
G05D	**Wamic, OR**	**83.44**	**37**	P		21 39 45.9	
	baz=232,SNR=26						
G05D				S		21 49 24.1	
	baz=232						
E04D	**Cinebar**	**83.56**	**35**	P		21 39 46.8	
	baz=231,SNR=64						
E04D				S		21 49 24.4	
	baz=231						
MA2	**Magadan**	**83.66**	**345**	P	**P**	**21 39 44.7**	**-0.3**
	comp=Z,205nm,0.9s,baz=145,slow=5.5,SNR=184						
MA2	**Magadan**	**83.66**	**345**	P	**P**	**21 39 44.9**	**-0.1**
MA2				pmax	pmax		
	comp=Z,311nm,1.0s						
MA2	**Magadan**	**83.66**	**345**	P	**P**	**21 39 44.9**	**-0.1**
MA2				IAmb	IAmb	21 39 46.3	
	comp=Z,311nm,1.0s						
SEW	**Seward**	**83.67**	**14**	P		21 39 45.1	
	baz=207,SNR=95						
SEW	**Seward**	**83.67**	**14**	IAmb	IAmb	21 39 46.4	
	comp=Z,365nm,0.9s						
F05D	**White Salmon**	**83.75**	**36**	P		21 39 47.5	
	baz=232						
F05D				S		21 49 26.0	
	baz=232						
I07A	**Izee**	**83.78**	**38**	IAmb	IAmb	21 39 49.4	
	comp=Z,211nm,1.0s						
D04E	**Lakebay**	**83.84**	**34**	P		21 39 48.6	
	baz=231,SNR=6.3						
D04E				S		21 49 28.9	
	baz=231						
CAPN	**Captain Cook N**	**83.89**	**13**	P		21 39 47.6	
	baz=206						
D03D	**Eldon**	**83.90**	**34**	P		21 39 48.5	
	baz=231,SNR=88						
D03D				S		21 49 28.1	
	baz=231						
319A	**Douglas**	**83.91**	**53**	IAmb	IAmb	21 39 51.0	
	comp=Z,151nm,1.0s						
O22K	**Cooper Landing**	**83.94**	**14**	P		21 39 46.8	
	baz=207						
J08A	**Circle Bar Ran**	**83.96**	**39**	IAmb	IAmb	21 39 50.2	
	comp=Z,260nm,1.2s						
SPCR	**Spurr Chakacha**	**84.06**	**12**	P		21 39 46.8	
	baz=204,SNR=60						
LON	**Longmire**	**84.09**	**35**	IAmb	IAmb	21 39 50.3	
	comp=Z,306nm,1.9s						
RPSI	**Rantau Prapat**	**84.11**	**275**	IAmb	IAmb	21 39 49.8	
	comp=Z,308nm,1.1s						
GAMB	**Gambell**	**84.12**	**3**	P		21 39 48.4	
	baz=186,SNR=50						
GAMB	**Gambell**	**84.12**	**3**	IAmb	IAmb	21 39 49.6	
	comp=Z,368nm,1.0s						
KNB	**Kanab**	**84.13**	**47**	IAmb	IAmb	21 39 51.6	
	comp=Z,284nm,1.7s						
SKLT	**Songkhla**	**84.13**	**280**	P	**P**	**21 39 50.1**	**+1.7**
	comp=Z,7µmcomp=Z,528nm,1.3s						
SKLT	**Songkhla**	**84.13**	**280**	P	**P**	**21 39 50.7**	**+2.3**
PSI	**Prapat**	**84.14**	**275**	P	**P**	**21 39 48.3**	**-0.4**
	comp=Z,2µmcomp=Z,125nm,1.4s						
U15A	**North Rim**	**84.19**	**48**	IAmb	IAmb	21 39 52.1	
	comp=Z,150nm,1.1s						
SZCU	**Shurtz Canyon**	**84.25**	**46**	IAmb	IAmb	21 39 52.1	
	comp=Z,285nm,1.9s						
D05A	**Enumclaw**	**84.27**	**35**	IAmb	IAmb	21 39 51.9	
	comp=Z,627nm,1.3s						
USHA	**Ushuaia**	**84.34**	**147**	P	**P**	**21 39 50.3**	**+1.6**
	comp=Z,40nm,0.9s,baz=87,slow=1.4,SNR=3.8						
WUAZ	**Wupatki**	**84.38**	**49**	P		21 39 51.3	
	baz=240,SNR=25						
WUAZ				S		21 49 38.4	
	baz=240						
PGC	**Sidney**	**84.42**	**33**	IAmb	IAmb	21 39 51.9	
	comp=Z,273nm,1.1s						
RC01	**Rabbit Creek A**	**84.48**	**14**	P		21 39 49.3	
	baz=207,SNR=190						
RC01				S		21 49 28.4	
	baz=207						
BBB	**Bella Bella**	**84.54**	**28**	IAmb	IAmb	21 39 52.3	
	comp=Z,304nm,1.4s						
SUA	**Susitna One**	**84.60**	**13**	P		21 39 49.8	
	baz=206,SNR=286						
SUA				S		21 49 29.6	
	baz=206						
F07A	**Phinny Hill Vi**	**84.61**	**37**	IAmb	IAmb	21 39 53.1	
	comp=Z,201nm,1.3s						
HIN	**Hinchinbrook I**	**84.63**	**15**	IAmb	IAmb	21 39 51.5	
	comp=Z,709nm,1.4s						
PKCU	**Pink Cliffs**	**84.70**	**47**	IAmb	IAmb	21 39 55.1	
	comp=Z,164nm,1.1s						
TSI	**Tuntungan**	**84.73**	**276**	P	**P**	**21 39 52.3**	**+0.9**
	comp=Z,365nm,1.1s						
G08A	**Pilot Rock**	**84.80**	**38**	IAmb	IAmb	21 39 54.2	
	comp=Z,316nm,1.2s						
CRAG	**Craig**	**84.82**	**24**	P		21 39 52.5	
	baz=222,SNR=34						
CRAG				S		21 49 35.9	
	baz=222						

CRAG	**Craig**	**84.83**	**24**	IAmb	IAmb	21 39 53.9
	comp=Z,195nm,1.0s					
A04D	**Lummi Island**	**84.85**	**33**	P		21 39 53.0
A04D	baz=231,SNR=18			S		21 49 36.6
	baz=231					
B05A	**Bryant**	**84.88**	**34**	P		21 39 52.9
B05A	baz=231,SNR=81			S		21 49 36.1
	baz=231					
GSI	**Gunungsitoli**	**84.88**	**273**	P	**P**	**21 39 53.2 +1.1**
	comp=Z,10µmcomp=Z,788nm,1.2s					
GLI	**Glacier Island**	**84.90**	**15**	P		21 39 51.3
GLI	baz=209,SNR=268			S		21 49 32.2
	baz=209					
SKT	**Skwentna**	**84.91**	**12**	P		21 39 50.2
SKT	baz=205,SNR=97			S		21 49 30.4
	baz=205					
SKT	**Skwentna**	**84.91**	**12**	IAmb	IAmb	21 39 51.7
	comp=Z,247nm,1.3s					
FID	**Port Fidalgo**	**84.94**	**15**	IAmb	IAmb	21 39 52.8
	comp=Z,552nm,1.2s					
EYAK	**Cordova Ski Ar**	**84.94**	**16**	P		21 39 51.7
EYAK	baz=210,SNR=48			S		21 49 33.0
	baz=210					
EYAK	**Cordova Ski Ar**	**84.94**	**16**	IAmb	IAmb	21 39 53.1
	comp=Z,346nm,1.2s					
TTA	**Tatalina**	**84.97**	**10**	P		21 39 52.2
TTA	baz=201,SNR=300			S		21 49 36.6
	baz=201					
TTA	**Tatalina**	**84.97**	**10**	IAmb	IAmb	21 39 53.7
	comp=Z,373nm,1.1s					
LTY	**Liberty**	**85.02**	**35**	IAmb	IAmb	21 39 54.8
	comp=Z,226nm,1.4s					
E07A	**Sunnyside**	**85.05**	**36**	IAmb	IAmb	21 39 55.4
	comp=Z,293nm,1.2s					
SUCK	**Suckling Hills**	**85.05**	**17**	IAmb	IAmb	21 39 53.7
	comp=Z,201nm,1.2s					
KNK	**Knik Glacier**	**85.06**	**14**	P		21 39 52.4
KNK	baz=208,SNR=127			S		21 49 34.0
	baz=208					
KNK	**Knik Glacier**	**85.06**	**14**	IAmb	IAmb	21 39 53.5
	comp=Z,417nm,0.9s					
PMR	**Palmer**	**85.06**	**14**	P		21 39 52.2
PMR	baz=207,SNR=217			S		21 49 33.4
	baz=207					
HAWA	**Hanford**	**85.13**	**36**	IAmb	IAmb	21 39 55.7
	comp=Z,332nm,1.1s					
HMT	**Hamilton**	**85.14**	**16**	IAmb	IAmb	21 39 54.3
	comp=Z,349nm,1.1s					
BGLC	**Bering Glacier**	**85.22**	**17**	P		21 39 54.2
	baz=213,SNR=10					
BGLC				S		21 49 38.7
	baz=213					
SIT	**Sitka**	**85.22**	**22**	P		21 39 54.0
	baz=220,SNR=18					
C06D	**Leavenworth**	**85.30**	**35**	P		21 39 54.6
	baz=232,SNR=7.1					
ANM	**Nome**	**85.35**	**6**	P		21 39 53.8
	baz=192,SNR=16					
ANM				S		21 49 40.0
	baz=192					
W18A	**Petrified Fore**	**85.35**	**50**	P		21 39 55.7
	baz=241					
W18A				S		21 49 47.1
	baz=241					
B06A	**Marblemount**	**85.36**	**34**	IAmb	IAmb	21 39 56.0
	comp=Z,122nm,1.0s					
SML	**Sawmill**	**85.43**	**14**	P		21 39 54.0
	baz=208,SNR=116					
SML				S		21 49 37.5
	baz=208					
SML	**Sawmill**	**85.43**	**14**	IAmb	IAmb	21 40 08.2
	comp=Z,223nm,1.0s					
E08A	**Dider Farm, El**	**85.45**	**37**	IAmb	IAmb	21 39 57.1
	comp=Z,231nm,1.1s					
CUT	**Chulitna**	**85.55**	**13**	P		21 39 54.3
	baz=206,SNR=78					
CUT				S		21 49 37.7
	baz=206					
121A	**Cookes Peak, D**	**85.57**	**53**	P		21 39 57.5
	baz=242					
121A				S		21 49 49.9
	baz=242					
MFID	**Camas Ranch**	**85.58**	**40**	IAmb	IAmb	21 39 58.0
	comp=Z,153nm,1.1s					
BMRM	**Bremner River**	**85.59**	**16**	P		21 39 55.1
	baz=212,SNR=217					
BMRM				S		21 49 40.1
	baz=212					
BMRM	**Bremner River**	**85.59**	**16**	IAmb	IAmb	21 39 56.4
	comp=Z,392nm,1.0s					
PPLA	**Purkeypile**	**85.61**	**12**	P		21 39 53.4
	baz=204,SNR=46					
PPLA				S		21 49 36.4
	baz=204					
PPLA	**Purkeypile**	**85.62**	**12**	IAmb	IAmb	21 39 54.9
	comp=Z,191nm,1.3s					
LASI	**Langsa, Aceh**	**85.62**	**276**	P	**P**	**21 39 57.9 +2.2**
	comp=Z,5µmcomp=Z,526nm,1.0s					
BJI	**Beijing**	**85.62**	**316**	P	**P**	**21 39 56.0 +1.0**
BJI				pP	**pP**	**21 41 57.9 -0.1**
BJI				sP	**sP**	**21 42 57.0 +2.4**
BJI				PP	**PP**	**21 43 26.8 +1.8**
BJI				SKS	**SKSac**	**21 49 24.9 -1.3**
BJI				S	**ScS**	**21 49 44.8 -1.6**
BJI				sS	**sS**	**21 53 20.3 +2.1**
BJI				SS	**SS**	**21 55 39.5 +5.3**
BJI				pmax	pmax	
	comp=Z,170nm,1.5s					
BJI				pmax	pmax	
	comp=Z,2µm,4.4s					
MESA	**MESA**	**85.64**	**17**	P		21 39 56.1
	baz=214,SNR=131					
MESA				S		21 49 42.1
	baz=214					
KLU	**Klutina**	**85.72**	**15**	P		21 39 55.6
	baz=210,SNR=152					
KLU				S		21 49 40.7
	baz=210					
KLU	**Klutina**	**85.72**	**15**	IAmb	IAmb	21 39 57.0
	comp=Z,254nm,1.0s					
DUG	**Dugway, Tooele**	**85.77**	**44**	P		21 39 57.1
	baz=239,SNR=19					
DUG				S		21 49 47.4
	baz=239					
CRQE	**Cirque**	**85.81**	**17**	P		21 39 56.4
	baz=213,SNR=126					
CRQE				S		21 49 42.0
	baz=213					
WRAK	**Wrangell Islan**	**85.82**	**24**	P		21 39 57.2
	baz=222,SNR=112					
WRAK				S		21 49 45.5
	baz=222					
KRAB	**Krabi**	**85.82**	**280**	P	**P**	**21 39 58.6 +2.0**
	comp=Z,37µmcomp=Z,5µm,0.9s					
KRAB	**Krabi**	**85.82**	**280**	P	**P**	**21 39 59.1 +2.5**
WRAK	**Wrangell Islan**	**85.82**	**24**	IAmb	IAmb	21 39 58.5
	comp=Z,321nm,1.0s					
D08A	**Wollman Farm,**	**85.86**	**36**	IAmb	IAmb	21 39 59.1
	comp=Z,206nm,1.0s					
NONG	**Nongkai**	**85.93**	**291**	P	**P**	**21 39 58.1 +1.1**
	comp=Z,7µmcomp=Z,322nm,1.7s					
NONG	**Nongkai**	**85.93**	**291**	P	**P**	**21 39 58.6 +1.6**
TPTI		**85.94**	**275**	P	**P**	**21 39 57.7 +0.5**
	comp=Z,2µmcomp=Z,119nm,1.6s					
E09A	**Wood Farm, Sta**	**85.97**	**37**	IAmb	IAmb	21 39 59.3
	comp=Z,293nm,1.2s					
PATY	**Pattaya**	**86.02**	**285**	P	**P**	**21 40 00.0 +2.5**
	comp=Z,4µmcomp=Z,431nm,0.9s					
PATY	**Pattaya**	**86.02**	**285**	P	**P**	**21 39 59.9 +2.4**
PCA	**Pinnacle**	**86.05**	**18**	IAmb	IAmb	21 39 58.8
	comp=Z,304nm,1.0s					
PINM	**Pinnacle**	**86.05**	**18**	P		21 39 57.5
	baz=215,SNR=58					
PINM				S		21 49 44.7
	baz=215					
CAST	**Castle Rocks**	**86.11**	**12**	P		21 39 56.0
	baz=205,SNR=8.1					
CAST	**Castle Rocks**	**86.11**	**12**	IAmb	IAmb	21 39 57.2
	comp=Z,111nm,0.8s					
VRDI	**Verde Repeater**	**86.11**	**16**	IAmb	IAmb	21 39 59.2
	comp=Z,335nm,1.3s					
BCPM	**Bancas Point**	**86.12**	**18**	IAmb	IAmb	21 39 59.3
	comp=Z,325nm,1.1s					
NAYO	**Nakonayok**	**86.12**	**287**	P	**P**	**21 40 00.3 +2.3**
TNA	**Tin City**	**86.12**	**4**	P		21 39 57.4
	baz=190,SNR=45					
TNA				S		21 49 46.8
	baz=190					
TNA	**Tin City**	**86.13**	**4**	P	**P**	**21 39 56.9 +0.1**
TNA				IAmb	IAmb	21 39 58.6
	comp=Z,134nm,0.9s					
TNA				pP	**pP**	**21 41 58.5 -1.5**
CHAI	**Chaiyaphum**	**86.13**	**288**	P	**P**	**21 39 59.0 +1.0**
	comp=Z,2µmcomp=Z,218nm,1.1s					
CHAI	**Chaiyaphum**	**86.13**	**288**	P	**P**	**21 39 59.4 +1.4**
N25K	**Chitina, Valde**	**86.14**	**15**	P		21 39 57.9
	baz=211,SNR=322					
N25K				S		21 49 45.0
	baz=211					
GRNC	**Granite Creek**	**86.15**	**17**	IAmb	IAmb	21 39 59.5
	comp=Z,330nm,1.0s					
M24K	**Tolsona, Glenn**	**86.19**	**15**	P		21 39 58.3
	baz=210,SNR=106					
M24K				S		21 49 46.7
	baz=210					
WAT6	**Susitna Watana**	**86.25**	**14**	P		21 39 58.1
	baz=209,SNR=414					
WAT6				S		21 49 45.2
	baz=209					
SEY	**Seymchan**	**86.26**	**347**	P	**P**	**21 39 58.1 +0.6**
	comp=Z,406nm,0.9s,baz=149,slow=5.4,SNR=461					
SEY				pP	**pP**	**21 42 01.8 +1.1**
	comp=Z,45nm,1.2s,baz=133,slow=8.2,SNR=2.3					
SEY				PKiKP	**PKiKP**	**21 45 00.5 -0.1**
	comp=Z,2.0nm,0.5s,baz=50,slow=17,SNR=1.3					
GYA	**Guiyang**	**86.33**	**300**	jP	**P**	**21 40 00.1 +1.2**
GYA				PP	**PP**	**21 43 29.5 -1.6**
GYA				SKS	**SKSac**	**21 49 33.8 +2.3**
GYA				S	**S**	**21 49 49.4 +1.8**
GYA				sS	sS	21 53 23.9 -2.3
GYA				pmax	pmax	
	comp=Z,24nm,0.9s					
GYA				pmax	pmax	
	comp=Z,210nm,3.5s					
MCARA	**McCarthy VSAT**	**86.36**	**16**	P		21 39 58.8
	baz=213,SNR=72					
MCARA				S		21 49 47.5
	baz=213					
MCARA	**McCarthy VSAT**	**86.36**	**16**	IAmb	IAmb	21 40 00.3
	comp=Z,493nm,1.2s					
B08A	**Colville Reser**	**86.40**	**35**	IAmb	IAmb	21 40 00.8
	comp=Z,211nm,1.1s					
COYC	**Coyhaique**	**86.41**	**138**	IAmb	IAmb	21 40 02.7
	comp=Z,109nm,0.8s					
KTH	**Kantishna Hill**	**86.46**	**12**	IAmb	IAmb	21 39 59.2
	comp=Z,345nm,1.0s					
CTG	**Chitna Glacier**	**86.46**	**17**	P		21 39 59.7
	baz=214,SNR=144					
CTG				S		21 49 49.2
	baz=214					
SURT	**Suratani**	**86.46**	**281**	P	**P**	**21 40 02.3 +2.7**
	comp=Z,69nmcomp=Z,9.2nm,1.1s					
SURT	**Suratani**	**86.46**	**281**	P	**P**	**21 40 01.9 +2.3**
CTGM	**Chitina Glacie**	**86.46**	**17**	IAmb	IAmb	21 40 00.9
	comp=Z,343nm,1.0s					
JIS	**Juneau Island**	**86.48**	**22**	IAmb	IAmb	21 40 01.4
	comp=Z,236nm,1.4s					
TRF	**Thorofare Moun**	**86.49**	**12**	P		21 39 58.6
	baz=206,SNR=89					
TRF				S		21 49 46.0
	baz=206					
TRF	**Thorofare Moun**	**86.49**	**12**	IAmb	IAmb	21 39 59.8
	comp=Z,242nm,0.8s					
CHUM	**Lake Minchumin**	**86.49**	**11**	P		21 39 58.3
	baz=204,SNR=138					
CHUM				S		21 49 46.0
	baz=204					
PKDT	**Phuket**	**86.50**	**280**	P	**P**	**21 40 00.7 +0.9**
	comp=Z,5µmcomp=Z,266nm,1.8s					
PKDT	**Phuket**	**86.50**	**280**	P	**P**	**21 40 00.7 +0.9**
HLID	**Hailey**	**86.53**	**41**	P		21 40 01.4
	baz=238,SNR=215					
HLID				S		21 49 55.6
	baz=238					
HLID	**Hailey**	**86.53**	**41**	IAmb	IAmb	21 40 02.8
	comp=Z,145nm,1.1s					
BESE	**Bessie Mountai**	**86.55**	**21**	IAmb	IAmb	21 40 01.9
	comp=Z,251nm,1.0s					
SLVN	**Son La**	**86.55**	**294**	IAmb	IAmb	21 40 04.5
	comp=Z,215nm,1.6s					
C09A	**Chrisman Ranch**	**86.65**	**36**	IAmb	IAmb	21 40 02.5
	comp=Z,283nm,1.2s					
SYO	**Syowa Base**	**86.68**	**193**	j*i*P	**P**	**21 40 00.0 +0.4**
SYO	**Syowa Base**	**86.68**	**193**	j*i*PcP	**PcP**	**21 40 00.6 -0.6**
SYO	**Syowa Base**	**86.68**	**193**	j*e*pP	pP	21 42 03.6 +1.0
HARP	**HAARP**	**86.69**	**15**	P		21 40 00.5
	baz=211,SNR=65					
HARP				S		21 49 50.5
	baz=211					
P17A	**Butcher Ranch,**	**86.78**	**46**	IAmb	IAmb	21 40 04.1
	comp=Z,208nm,1.7s					
LHMI	**Lhok Sumawe**	**86.84**	**277**	P	**P**	**21 40 02.9 +1.5**
	comp=Z,9µmcomp=Z,792nm,1.0s					
Y22D	**IRIS PASSCAL I**	**86.92**	**52**	P		21 40 03.6
Y22D	baz=243			S		21 50 04.0
	baz=243					
Y22D	**IRIS PASSCAL I**	**86.92**	**52**	IAmb	IAmb	21 40 05.0
	comp=Z,247nm,1.7s					
BPAW	**Bear Paw Mtn.**	**86.94**	**12**	P		21 39 59.8
	baz=206,SNR=112					
BPAW				S		21 49 49.2
	baz=206					
BPAW	**Bear Paw Mtn.**	**86.94**	**12**	IAmb	IAmb	21 40 01.5
	comp=Z,700nm,2.0s					
TIY	**Taiyuan**	**87.00**	**312**	*e*P	**P**	**21 40 02.3 +0.6**
TIY				pP	**pP**	**21 42 05.8 +1.5**
TIY				sP	**sP**	**21 43 02.3 +1.0**
TIY				PP	**PP**	**21 43 37.0 +0.9**
TIY				SKS	**SKSac**	**21 49 36.1 +1.2**
TIY				S	**ScS**	**21 49 56.9 -1.2**
TIY				pmax	pmax	
	comp=Z,210nm,1.1s					
MNTX	**Cornudas Mount**	**87.01**	**55**	P		21 40 03.9
	baz=244					
MNTX				S		21 50 02.5
	baz=244					
MCK	**McKinley**	**87.01**	**13**	P		21 40 01.2
	baz=207,SNR=234					
MCK				S		21 49 50.9
	baz=207					
PAX	**Paxson**	**87.10**	**14**	P		21 40 01.7
	baz=211,SNR=132					
PAX	**Paxson**	**87.11**	**14**	IAmb	IAmb	21 40 02.4
	comp=Z,128nm,1.0s					
PHET	**Kaeng Krachan**	**87.13**	**285**	P	**P**	**21 40 05.2 +2.5**
	comp=Z,5µmcomp=Z,636nm,1.0s					
PHET	**Kaeng Krachan**	**87.13**	**285**	P	**P**	**21 40 05.4 +2.7**
MVCO	**Mesa Verde**	**87.23**	**49**	P		21 40 04.2
	baz=242					
MVCO				S		21 50 02.8
	baz=242					
PBKT	**Sadao Pong**	**87.28**	**289**	P	**P**	**21 40 05.2 +1.9**
TX31	**Lajitas Ar. Si**	**87.33**	**57**	IAmb	IAmb	21 40 07.1
	comp=Z,242nm,1.1s					
TXAR	**Lajitas Array**	**87.33**	**57**	P	**P**	**21 40 05.3 +1.7**
	comp=Z,46nm,0.9s,baz=224,slow=5.2,SNR=192					
TXAR				pP	**pwP**	**21 42 08.4 -1.5**
	comp=Z,31nm,1.1s,baz=212,slow=4.4,SNR=12					
TXAR				S	**SKSac**	**21 49 36.0 -1.4**
	comp=Z,0.5nm,0.8s,baz=251,slow=5.6,SNR=1.3					
TXAR				PKKP	**PKKPdf**	**21 57 44.7 +0.1**
	comp=Z,2.1nm,0.8s,baz=108,slow=2.0,SNR=5.9					
TXAR				PKKPbc	**PKKPbc**	**21 57 51.0 +0.4**
	comp=Z,8.7nm,0.8s,baz=122,slow=2.5,SNR=24					
TXAR				PKPPKP	**P'P'df**	**22 05 56.9 -0.5**
	comp=Z,1.2nm,0.8s,baz=116,slow=2.1,SNR=6.0					
PV19	**Morning Glory**	**87.41**	**47**	IAmb	IAmb	21 40 06.5
	comp=Z,199nm,1.8s					
ZEA	**Zeya**	**87.43**	**331**	*de*	P	**21 40 04.4 +1.1**
ZEA				*e*		21 43 08.0
ZEA				pmax	pmax	
	comp=N,60nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,110nm,1.0s					
HYT	**Haines Junctio**	**87.45**	**19**	IAmb	IAmb	21 40 05.9
	comp=Z,214nm,1.0s					
MENT	**Mentasta**	**87.50**	**15**	IAmb	IAmb	21 40 05.6
	comp=Z,158nm,0.8s					
PV12	**Saucer Basin,**	**87.54**	**48**	IAmb	IAmb	21 40 07.3
	comp=Z,189nm,1.5s					
NEW	**Newport**	**87.55**	**36**	P		21 40 05.0
	baz=235,SNR=72					
NEW				S		21 50 00.6
	baz=235					
ANMO	**Albuquerque**	**87.65**	**51**	P		21 40 06.5
	baz=243					
ANMO				S		21 50 08.3
	baz=243					
ANMO	**Albuquerque**	**87.65**	**51**	pP	pP	21 42 09.4 +1.4
	comp=Z,9.2nm,1.1s,baz=210,slow=2.9,SNR=3.0					
ANMO	**Albuquerque**	**87.65**	**51**	*ce*P	**P**	**21 40 06.4 +1.4**
ANMO				pmax	pmax	
	comp=Z,94nm,1.3s					
ANMO	**Albuquerque**	**87.65**	**51**	P	**P**	**21 40 04.7 -0.4**
ANMO				pP	**pP**	**21 42 06.1 -1.9**
I21K	**Tanana**	**87.74**	**11**	P		21 40 04.7
	baz=205,SNR=613					
I21K				S		21 49 56.4
	baz=205					
NEA2	**Nenana**	**87.75**	**12**	P		21 40 04.0
	baz=207,SNR=280					
NEA2				S		21 49 57.1
	baz=207					
NEA2	**Nenana**	**87.75**	**12**	IAmb	IAmb	21 40 05.9
	comp=Z,215nm,1.0s					
MLY	**Manley**	**87.83**	**11**	P		21 40 04.6
	baz=206,SNR=437					
MLY				S		21 49 57.3
	baz=206					
MLY	**Manley**	**87.83**	**11**	IAmb	IAmb	21 40 05.6
	comp=Z,361nm,1.1s					
XAN	**Xi'an**	**87.84**	**307**	P	**P**	**21 40 07.0 +1.3**
XAN				SKS	**SKSac**	**21 49 40.1 +0.1**
XAN				S	**ScS**	**21 50 06.3 +1.1**
XAN				SS	**SS**	**21 56 10.5 +4.0**
XAN				pmax	pmax	
	comp=Z,400nm,1.1s					
XAN				pmax	pmax	
	comp=Z,1µm,10.4s					
PHIT	**Phitsanulok**	**88.00**	**289**	P	**P**	**21 40 08.6 +1.8**
	comp=Z,8µmcomp=Z,955nm,1.2s					
PHIT	**Phitsanulok**	**88.00**	**289**	P	**P**	**21 40 08.7 +1.9**
DOT	**Dot Lake**	**88.02**	**15**	IAmb	IAmb	21 40 07.6
	comp=Z,331nm,1.1s					
HDA	**Harding Lake**	**88.03**	**13**	P		21 40 06.0
	baz=209,SNR=471					
HDA				P		21 40 06.0
	baz=209,SNR=471					
HDA				S		21 49 59.8
	baz=209					
HDA				S		21 49 59.8
	baz=209					
H21K	**Melozitna Rive**	**88.03**	**10**	P		21 40 06.5
	baz=204					
H21K				S		21 50 01.8
	baz=204					
SNAA	**Sanae**	**88.05**	**179**	P	**P**	**21 40 06.3 +0.2**
SNAA	**Sanae**	**88.05**	**179**	PKKPdf	PKKPdf	21 57 47.0 +5.2
SNAA	**Sanae**	**88.05**	**179**	pP	pP	21 42 10.1 +0.8
SNAA	**Sanae**	**88.05**	**179**	P	**P**	**21 40 06.1 0.0**
	comp=Z,60nm,1.0s,baz=204,slow=6.3,SNR=175					
SNAA				pP	**pP**	**21 42 10.2 +1.0**
	comp=Z,20nm,1.1s,baz=147,slow=2.1,SNR=2.7					
SNAA				S	**SKSac**	**21 49 39.9 -0.3**
	comp=Z,7.5nm,0.9s,baz=8.2,slow=23,SNR=19					
SNAA				PKKPbc	**PKKPbc**	**21 57 46.9 -3.3**
	comp=Z,9.6nm,0.9s,baz=215,slow=1.4,SNR=21					
SNAA	**Sanae**	**88.05**	**179**	P	**P**	**21 40 06.5 +0.3**
SNAA				IAmb	IAmb	21 40 07.7
	comp=Z,170nm,1.4s					
L27K	**Beaver Creek,**	**88.07**	**16**	P		21 40 06.8
	baz=214,SNR=252					
L27K				S		21 50 03.6
	baz=214					
L27K	**Beaver Creek,**	**88.07**	**16**	IAmb	IAmb	21 40 08.2
	comp=Z,257nm,1.2s					
UTTA	**Uttaradit**	**88.09**	**290**	P	**P**	**21 40 08.8 +1.7**
	comp=Z,2µmcomp=Z,191nm,1.2s					
UTTA	**Uttaradit**	**88.09**	**290**	P	**P**	**21 40 08.6 +1.4**
WHY	**Whitehorse**	**88.14**	**20**	P		21 40 07.9
	baz=220,SNR=187					
WHY				S		21 50 06.7
	baz=220					
WHY	**Whitehorse**	**88.14**	**20**	IAmb	IAmb	21 40 09.1
	comp=Z,189nm,0.9s					
DLBC	**Dease Lake**	**88.16**	**23**	P	**P**	**21 40 07.8 +1.2**
	comp=Z,93nm,0.9s,baz=224,slow=4.9,SNR=174					
DLBC	**Dease Lake**	**88.16**	**23**	IAmb	IAmb	21 40 09.5
	comp=Z,205nm,1.1s					
AHID	**Auburn Hatcher**	**88.19**	**43**	IAmb	IAmb	21 40 10.3
	comp=Z,146nm,1.1s					
I23K	**Minto, Yukon-K**	**88.19**	**12**	P		21 40 06.2
	baz=207,SNR=230					
I23K				S		21 50 00.9
	baz=207					
I23K	**Minto, Yukon-K**	**88.19**	**12**	IAmb	IAmb	21 40 07.6
	comp=Z,136nm,0.7s					
VNA3	**Neumayer Olymp**	**88.20**	**176**	P	**P**	**21 40 07.3 +0.6**
VNA3	**Neumayer Olymp**	**88.20**	**176**	PKKPdf	PKKPdf	21 57 46.6 +5.2
VNA3	**Neumayer Olymp**	**88.20**	**176**	pP	pP	21 42 12.2 +2.4
TCOL	**CIGO, UAF Yank**	**88.25**	**13**	P		21 40 06.8
	baz=208,SNR=146					
TCOL				S		21 50 01.8
	baz=208					
TCOL	**CIGO, UAF Yank**	**88.25**	**13**	pP	pP	21 42 10.3 +0.2
COLA	**College**	**88.25**	**13**	P		21 40 06.7
	baz=208					
COLA				S		21 50 01.8
	baz=208					
COLA	**College**	**88.25**	**13**	*d*/P	**P**	**21 40 06.2 -0.6**
COLA				pmax	pmax	
	comp=Z,613nm,0.8s					
COLA	**College**	**88.25**	**13**	P	**P**	**21 40 06.9 +0.1**
COLA				pP	**pP**	**21 42 10.5 +0.4**
UTHA	**Uthaitani**	**88.27**	**287**	P	**P**	**21 40 09.9 +1.9**
	comp=Z,3µmcomp=Z,344nm,1.0s					
UTHA	**Uthaitani**	**88.27**	**287**	P	**P**	**21 40 10.2 +2.1**
SCRK	**Sand Creek**	**88.31**	**14**	P		21 40 07.9
	baz=212,SNR=298					
SCRK				S		21 50 05.2
	baz=212					
SCRK	**Sand Creek**	**88.31**	**14**	IAmb	IAmb	21 40 10.4
	comp=Z,181nm,1.0s					
ILAR	**Eielson Array**	**88.36**	**13**	P	**P**	**21 40 07.2 -0.2**
	comp=Z,197nm,0.9s,baz=228,slow=5.5,SNR=878					
ILAR				pP	**pP**	**21 42 12.2 +1.5**
	comp=Z,25nm,0.9s,baz=234,slow=6.2,SNR=8.7					
ILAR				PKiKP	**PKiKP**	**21 45 03.9 -0.2**
	comp=Z,2.5nm,0.5s,baz=276,slow=3.1,SNR=16					
ILAR				S	**SKSac**	**21 49 41.9 +0.3**
	comp=Z,0.7nm,0.7s,baz=235,slow=5.6,SNR=5.1					
ILAR				ScS	**S**	**21 50 04.7 +0.1**
	comp=Z,8.1nm,1.1s,baz=220,slow=8.4,SNR=14					
ILAR				PKKP	**PKKPdf**	**21 57 44.2 +0.1**
	comp=Z,1.8nm,0.5s,baz=357,slow=2.0,SNR=12					
ILAR				PKPPKP	**P'P'df**	**22 05 46.6 -6.0**
	comp=Z,1.5nm,0.8s,baz=347,slow=3.4,SNR=9.6					
ILAR	**Eielson Array**	**88.36**	**13**	pP	pP	21 42 10.9 +0.2
HIA	**Hailar**	**88.47**	**325**	IAmb	IAmb	21 40 10.0
	comp=Z,111nm,0.9s					
POKR	**Poker Plat Res**	**88.55**	**13**	P		21 40 08.0
	baz=209,SNR=78					
POKR				S		21 50 03.8
	baz=209					
MSO	**Missoula**	**88.56**	**38**	P		21 40 09.5
	baz=238,SNR=43					
MSO	**Missoula**	**88.56**	**38**	IAmb	IAmb	21 40 10.9
	comp=Z,115nm,1.4s					
DLMT	**Dillon**	**88.58**	**40**	IAmb	IAmb	21 40 12.2
	comp=Z,225nm,1.2s					
REDW	**Red Top Meadow**	**88.64**	**42**	IAmb	IAmb	21 40 12.5
	comp=Z,253nm,1.1s					
TPAW	**Teton Pass**	**88.64**	**42**	IAmb	IAmb	21 40 12.7
	comp=Z,157nm,1.2s					
S22A	**4UR Ranch, Cre**	**88.65**	**49**	P		21 40 11.4
	baz=243					
S22A				S		21 50 17.1
	baz=243					
NVL	**N'lazarevskaya**	**88.73**	**183**	*e*P	**P**	**21 40 10.0 +0.8**
NVL				pmax	pmax	
	comp=Z,33nm,0.6s					
SNOW	**Snow King Moun**	**88.75**	**42**	IAmb	IAmb	21 40 13.1
	comp=Z,222nm,1.1s					

KHLT	Khaolaem Dam	88.76	286		P		P	21 40 11.7	+1.4
	comp=Z,1µmcomp=Z,112nm,1.1s								
KHLT	Khaolaem Dam	88.76	286		P		P	21 40 11.3	+1.0
H23K	Yukon River	88.76	11		P			21 40 08.8	
	baz=207,SNR=112								
H23K					S			21 50 06.0	
	baz=207								
O20A	White River Ci	88.78	46		P			21 40 11.6	
	baz=242,SNR=30								
O20A					S			21 50 16.7	
	baz=242								
O20A	White River Ci	88.79	46		IAmb		IAmb	21 40 13.0	
	comp=Z,128nm,1.2s								
K27K	Chicken	88.81	15		P			21 40 10.7	
	baz=214								
K27K					S			21 50 10.7	
	baz=214								
VNA1	Neumayer--Stat	88.86	177		P		P	21 40 10.7	+0.9
VNA1	Neumayer--Stat	88.86	177		PKKPdf		PKKPdf	21 57 45.5	+5.2
VNA1	Neumayer--Stat	88.86	177		pP		pP	21 42 12.6	-0.3
LOHW	Long Hollow	88.92	42		IAmb		IAmb	21 40 13.7	
	comp=Z,167nm,1.4s								
BILL	Bilibino	88.97	354	*c*	*i*P		P	21 40 10.3	+0.2
BILL					*i* *PP		pP	21 42 16.7	+2.4
BILL					*i*			21 43 47.6	
BILL					*i* S		SKSac	21 49 44.5	-0.5
BILL					pmax		pmax		
	comp=Z,189nm,1.3s								
BILL	Bilibino	88.97	354		P		P	21 40 10.7	+0.6
BILL					IAmb		IAmb	21 40 13.2	
	comp=Z,159nm,1.1s								
RDOG	Red Dog Mine	88.99	6		P			21 40 11.5	
	baz=194,SNR=25								
RDOG	Red Dog Mine	88.99	6		IAmb		IAmb	21 40 12.9	
	comp=Z,182nm,1.0s								
KMI	Kunming	89.03	297	⇓	P		P	21 40 13.8	+2.1
KMI					pP		pwP	21 42 18.3	-0.3
KMI					PP		PP	21 43 54.3	+1.8
KMI					S		S	21 50 12.3	-0.5
KMI					sS		sS	21 53 47.3	-5.5
KMI					pmax		pmax		
	comp=Z,250nm,1.2s								
KMI					pmax		pmax		
	comp=Z,1µm,3.5s								
UMPA	Umpang Tak	89.03	288		P		P	21 40 13.6	+2.0
	comp=Z,4µmcomp=Z,264nm,1.1s								
UMPA	Umpang Tak	89.03	288		P		P	21 40 13.9	+2.3
HHC	Hu-ho-hao-te	89.08	314	*e*	P		P	21 40 12.8	+1.4
HHC					sP		sP	21 43 12.8	+1.4
HHC					PP		PP	21 43 55.9	+3.4
HHC					SKS		SKSac	21 49 48.5	+1.4
HHC					S		ScS	21 50 19.6	+4.2
HHC					pmax		pmax		
	comp=Z,180nm,1.1s								
HHC					pmax		pmax		
	comp=Z,1µm,7.0s								
H24K	Noodor Dome	89.09	12		P			21 40 09.7	
	baz=208,SNR=82								
H24K					S			21 50 08.6	
	baz=208								
FLWY	Flagg Ranch	89.10	42		IAmb		IAmb	21 40 14.9	
	comp=Z,210nm,1.1s								
BW06	Boulder Array	89.17	43		IAmb		IAmb	21 40 14.3	
	comp=Z,129nm,1.1s								
BW06	Boulder Array	89.17	43		P			21 40 12.9	
	baz=241								
BW06					S			21 50 18.6	
	baz=241								
PD31	Pinedale Array	89.17	43		IAmb		IAmb	21 40 14.3	
	comp=Z,116nm,1.1s								
PDAR	Pinedale Array	89.17	43		P		P	21 40 12.9	+0.9
	comp=Z,69nm,0.9s,baz=207,slow=3.0,SNR=292								
PDAR					pP		pwP	21 42 17.4	-1.2
	comp=Z,5.4nm,0.8s,baz=220,slow=3.9,SNR=5.7								
PDAR					PKKP		PKKPdf	21 57 42.0	-0.1
	comp=Z,8.2nm,0.8s,baz=84,slow=4.6,SNR=17								
PDAR					PKPPKP		P'P'df	22 05 53.8	+0.7
	comp=Z,3.4nm,0.9s,baz=96,slow=5.5,SNR=8.7								
CRAI	Chiangrai	89.18	292		P		P	21 40 13.7	+1.5
	comp=Z,2µmcomp=Z,169nm,1.3s								
CRAI	Chiangrai	89.18	292		P		P	21 40 14.1	+1.9
SMCO	Snowmass	89.21	47		IAmb		IAmb	21 40 15.2	
	comp=Z,98nm,1.4s								
PRP	Porcupine Dome	89.29	13		P			21 40 11.9	
	baz=210,SNR=85								
PAYA	Payao	89.29	291		P		P	21 40 14.7	+1.9
PRP	Porcupine Dome	89.29	13		IAmb		IAmb	21 40 13.9	
	comp=Z,215nm,1.0s								
H17A	Grant Village	89.33	42		P			21 40 15.6	
	baz=240								
H17A	Grant Village	89.33	42		IAmb		IAmb	21 40 16.8	
	comp=Z,101nm,0.9s								
YHH	Holmes Hill	89.35	41		IAmb		IAmb	21 40 17.4	
	comp=Z,193nm,1.5s								
YNM	Yellowstone No	89.41	41		IAmb		IAmb	21 40 17.8	
	comp=Z,202nm,1.2s								
YNR	Norris Junctio	89.42	41		IAmb		IAmb	21 40 18.0	
	comp=Z,146nm,1.4s								
LKWY	Lake	89.52	42		IAmb		IAmb	21 40 17.9	
	comp=Z,117nm,1.1s								
PLCA	Paso Flores	89.55	134		P		P	21 40 15.8	+2.1
	comp=Z,18nm,0.9s,baz=228,slow=5.2,SNR=25								
PLCA					pP		pP	21 42 18.2	+0.9
	comp=Z,8.6nm,1.1s,baz=224,slow=7.4,SNR=4.4								
PLCA					PKKPbc		PKKPbc	21 57 44.5	-0.9
	comp=Z,13nm,0.9s,baz=77,slow=1.6,SNR=16								
PLCA					PKPPKP		P'P'df	22 05 46.4	-7.9
	comp=Z,5.8nm,0.9s,baz=90,slow=1.0,SNR=6.8								
PLCA	Paso Flores	89.55	134		P		P	21 40 14.0	+0.3
PLCA					pmax		pmax		
	comp=Z,28nm,1.0s								
PLCA	Paso Flores	89.55	134		P		P	21 40 14.0	+0.3
SDCO	Great Sand Dun	89.59	49		P			21 40 15.3	
	baz=244								
SDCO					S			21 50 24.8	
	baz=244								
EGAK	Eagle	89.66	15		P			21 40 14.1	
	baz=214,SNR=527								
EGAK					S			21 50 16.9	
	baz=214								
CM04	Chiang Mai Arr	89.72	290		P		P	21 40 16.8	+2.0
	comp=Z,3µmcomp=Z,345nm,1.0s								
CM09	Chiang Mai Arr	89.73	290		P		P	21 40 16.8	+2.0
	comp=Z,2µmcomp=Z,277nm,1.0s								
CM01	Chiang Mai Arr	89.75	290		P		P	21 40 16.9	+2.0
	comp=Z,2µmcomp=Z,306nm,1.0s								
CM05	Chiang Mai Arr	89.75	290		P		P	21 40 16.8	+1.9
	comp=Z,100nmcomp=Z,2µmcomp=Z,236nm,1.0s								
WALA	Waterton Lakes	89.76	36		IAmb		IAmb	21 40 16.9	
	comp=Z,107nm,1.0s								
CM02	Chiang Mai Arr	89.77	290		P		P	21 40 16.9	+1.9
	comp=Z,2µmcomp=Z,270nm,1.0s								
CM31	Chiang Mai Arr	89.78	290		P		P	21 40 17.4	+2.4
CMAR	Chiang Mai Arr	89.78	290		P		P	21 40 16.8	+1.7
	comp=Z,168nm,0.9s,baz=122,slow=2.9,SNR=519								
CMAR					PP		PP	21 43 58.7	+0.5
	comp=Z,12nm,1.0s,baz=126,slow=5.3,SNR=4.6								
CMAR					PKiKP		PKiKP	21 45 08.3	+0.5
	comp=Z,6.3nm,0.9s,baz=196,slow=1.0,SNR=10								
CMAR					PKKPbc		PKKPbc	21 57 44.0	-0.1
	comp=Z,9.0nm,0.8s,baz=288,slow=4.6,SNR=21								
CMAR					SKKPbc		SKKPbc	22 00 29.3	0.0
	comp=Z,2.8nm,0.6s,baz=289,slow=4.2,SNR=8.3								
CMAR					PKPPKP			22 05 54.0	
	comp=Z,2.3nm,0.6s,baz=280,slow=4.3,SNR=9.1								
CMAR	Chiang Mai Arr	89.78	290	*i*	P		P	21 40 17.0	+2.0
CMAR					pmax		pmax		
	comp=Z,174nm,0.9s								
CM15	Chiang Mai Arr	89.79	290		P		P	21 40 16.9	+1.8
	comp=Z,2µmcomp=Z,229nm,1.0s								
CM13	Chiang Mai Arr	89.80	290		P		P	21 40 17.0	+1.9
	comp=Z,96nmcomp=Z,2µmcomp=Z,252nm,1.0s								
CMMT	Chiang Mai	89.90	290		P		P	21 40 15.9	+0.3
	comp=Z,4µmcomp=Z,386nm,1.2s								
CMMT	Chiang Mai	89.90	290		P		P	21 40 16.4	+0.8
CHTO	Chiang Mai	89.91	290		P		P	21 40 15.8	+0.2
CHTO					pmax		pmax		
	comp=Z,212nm,0.8s								
CHTO	Chiang Mai	89.91	290		P		P	21 40 16.9	+1.3
	comp=Z,4µmcomp=Z,387nm,1.3s								
CHTO	Chiang Mai	89.91	290		P		P	21 40 15.8	+0.2
CHTO	Chiang Mai	89.91	290		P		P	21 40 16.9	+1.3
	comp=Z,809nmcomp=Z,2µmcomp=Z,217nm,1.3s								
COLD	Coldfoot	89.91	11		P			21 40 15.5	
	baz=206,SNR=334								
COLD					S			21 50 19.7	
	baz=206								
MSTX	Muleshoe	89.97	54		P			21 40 16.8	
	baz=245								
MSTX					S			21 50 28.2	
	baz=245								
YNE	Yellowstone No	89.98	41		IAmb		IAmb	21 40 19.0	
	comp=Z,146nm,1.2s								
BTO	Baotou	90.01	314	⇓*e*	P		P	21 40 17.5	+1.8
BTO					SKS		SKSac	21 49 55.5	+3.1
BTO					S		ScS	21 50 24.4	+1.3
BTO					pmax		pmax		
	comp=Z,380nm,1.3s								
BTO					pmax		pmax		
	comp=Z,4µm,3.2s								
T25A	Trinidad	90.11	50		P			21 40 17.4	
	baz=244								
T25A					S			21 50 28.3	
	baz=244								
RWWY	Rawlins	90.20	45		IAmb		IAmb	21 40 18.2	
	comp=Z,128nm,1.1s								
FYU	Fort Yukon	90.26	13		IAmb		IAmb	21 40 18.3	
	comp=Z,86nm,1.1s								
833A	Chaparral WMA,	90.34	60		P			21 40 18.8	
	baz=247								
833A					S			21 50 29.5	
	baz=247								
Q24A	Divide	90.38	48		P			21 40 19.2	
	baz=244								
Q24A					S			21 50 31.5	
	baz=244								
ISCO	Idaho Springs	90.43	47		P			21 40 19.3	
	baz=244								
ISCO					S			21 50 31.1	
	baz=244								
CD2	Chengdu	90.48	303		P		P	21 40 19.3	+1.2
CD2					pP		pwP	21 42 24.5	0.0
CD2					sP		sP	21 43 16.3	-2.4
CD2					PP		PP	21 44 02.9	-0.6
CD2					SKS		SKSac	21 49 53.3	-2.1
CD2					S		ScS	21 50 30.0	+2.7
CD2					SS		SS	21 56 47.0	+2.6
CD2					pmax		pmax		
	comp=Z,90nm,1.3s								
CD2					pmax		pmax		
	comp=Z,930nm,5.3s								
RLMT	Red Lodge	90.50	41		P			21 40 19.7	
	baz=241,SNR=37								
RLMT					S			21 50 31.8	
	baz=241								
RLMT	Red Lodge	90.50	41		IAmb		IAmb	21 40 21.1	
	comp=Z,70nm,1.1s								
MHMT	Maesarieng	90.57	289		P		P	21 40 19.6	+0.9
	comp=Z,3µmcomp=Z,235nm,1.6s								
MHMT	Maesarieng	90.57	289		P		P	21 40 19.4	+0.7
N23A	Red Feather La	90.69	46		P			21 40 20.7	
	baz=243,SNR=23								
N23A					S			21 50 33.9	
	baz=243								
JCT	Junction City	90.86	58		P			21 40 20.7	
	baz=247								
JCT					S			21 50 34.4	
	baz=247								
K22A	Casper	91.09	45		IAmb		IAmb	21 40 23.2	
	comp=Z,119nm,1.2s								
K22A	Casper	91.09	45		P			21 40 21.9	
	baz=243,SNR=33								
K22A					S			21 50 36.8	
	baz=243								
AMTX	Amarillo	91.17	53		P			21 40 22.0	
	baz=246								
AMTX					S			21 50 37.7	
	baz=246								
TOLK	Toolik Lake Re	91.28	10		P			21 40 21.5	
	baz=207,SNR=73								
TOLK					S			21 50 30.8	
	baz=207								
TOLK	Toolik Lake Re	91.28	10		IAmb		IAmb	21 40 22.9	
	comp=Z,240nm,1.4s								
EFI	East Falkland	91.30	147	*e*	P		P	21 40 22.9	+1.5
EFI					pmax		pmax		
	comp=Z,81nm,0.8s								
EFI	East Falkland	91.30	147		P		P	21 40 22.3	+0.9
EFI					IAmb		IAmb	21 40 23.5	
	comp=Z,72nm,0.8s								
EGMT	Eagleton	91.61	39		P			21 40 24.1	
	baz=241								
EGMT					S			21 50 39.9	
	baz=241								
EGMT	Eagleton	91.61	39		IAmb		IAmb	21 42 17.6	
	comp=Z,88nm,0.9s								
ABTX	Abilene, Hawle	91.82	56		P			21 40 25.2	
	baz=247								
ABTX					S			21 50 43.2	
	baz=247								
ABTX	Abilene, Hawle	91.82	56		IAmb		IAmb	21 42 37.4	
	comp=Z,143nm,1.5s								
YAK	Yakutsk	91.95	338		P		P	21 40 23.4	-0.6
	comp=Z,171nm,0.8s,baz=113,slow=1.8,SNR=128								
YAK					PP		PP	21 44 10.3	-3.8
	comp=Z,17nm,0.9s,baz=113,slow=7.7,SNR=4.3								
YAK	Yakutsk	91.95	338	*d*	*i*P		P	21 40 23.7	-0.3
YAK					*e**PP		pP	21 42 32.3	+3.9
YAK					*e*			21 44 09.5	
YAK					*e*PPP		PPP	21 46 21.1	
YAK					*e*S		SKSac	21 49 59.0	-3.0
YAK					*e*			21 50 35.4	
YAK					*e*SS		SS	21 57 02.0	-1.8
YAK					*e*SSS		SSS	22 00 43.0	
YAK					pmax		pmax		
	comp=Z,373nm,0.9s								
YAK					pmax		pmax		
	comp=N,44nm,1.0s								
YAK					pmax		pmax		
	comp=E,58nm,1.0s								
YAK					pmax		pmax		
	comp=Z,227nm,1.6s								
YAK					pmax		pmax		
	comp=N,134nm,1.6s								
YAK					pmax		pmax		
	comp=E,86nm,1.6s								
YAK					smax		smax		
	comp=N,131nm,1.9s								
YAK					smax		smax		
	comp=E,28nm,1.3s								
YAK	Yakutsk	91.95	338		P		P	21 40 24.0	0.0
KSCO	Kaye Shedlock'	92.18	49		IAmb		IAmb	21 40 28.5	
	comp=Z,156nm,1.1s								
KSCO	Kaye Shedlock'	92.18	49		P			21 40 27.3	
	baz=245								
KSCO					S			21 50 46.4	
	baz=245								
LZH	Lanzhou	92.47	308	⇓	P		P	21 40 28.9	+1.6
LZH					SKS		SKSac	21 50 02.4	-4.1
LZH					S		ScS	21 50 48.8	+4.8
LZH					SS		SS	21 57 15.5	+2.8
LZH					pmax		pmax		
	comp=Z,170nm,1.1s								
LZH					pmax		pmax		
	comp=Z,200nm,4.1s								
435B	Jarrell	92.74	58		P			21 40 29.6	
	baz=248								
435B					S			21 50 50.7	
	baz=248								
A21K	Barrow	92.78	7		P			21 40 28.0	
	baz=200,SNR=24								
A21K					S			21 50 42.0	
	baz=200								
LAO	LASA Array	93.11	41		P			21 40 31.8	
	baz=243								
LAO					S			21 50 55.4	
	baz=243								
LAO	LASA Array	93.11	41		IAmb		IAmb	21 40 33.0	
	comp=Z,76nm,1.1s								
CIT	Chita	93.27	325	*e*	P		P	21 40 30.6	+0.2
CIT				*e*				21 43 31.5	
CIT					pmax		pmax		
	comp=Z,254nm,2.1s								
WHTX	Lake Whitney,	93.29	57		P			21 40 31.7	
	baz=248								
WHTX					S			21 50 55.2	
	baz=248								
WMOK	Wichita Mounta	93.30	54		P			21 40 31.1	
	baz=247								
WMOK					S			21 50 55.8	
	baz=247								
RSSD	Black Hills	93.37	44		P			21 40 32.0	
	baz=245								
RSSD					S			21 50 55.9	
	baz=245								
RSSD	Black Hills	93.37	44		P		P	21 40 31.1	-0.2
RSSD					pmax		pmax		
	comp=Z,84nm,1.4s								
RSSD	Black Hills	93.37	44		P		P	21 40 31.1	-0.2
RSSD					IAmb		IAmb	21 40 33.3	
	comp=Z,84nm,1.4s								
OGNE	Ogallala	93.39	48		P			21 40 32.1	
	baz=246								
OGNE					S			21 50 56.3	
	baz=246								
OGNE	Ogallala	93.39	48		IAmb		IAmb	21 40 33.5	
	comp=Z,129nm,1.8s								
CBKS	Cedar Bluff	94.16	50		P			21 40 35.9	
	baz=247								
INK	Inuvik	94.33	15		P			21 40 34.7	
	baz=222,SNR=114								
INK					S			21 50 55.6	
	baz=222								
INK	Inuvik	94.33	15		P		P	21 40 34.2	-0.5
	comp=Z,106nm,1.1s,baz=219,slow=4.9,SNR=144								
INK					pP		pP	21 42 40.4	+1.6
	comp=Z,14nm,1.0s,baz=235,slow=8.9,SNR=2.8								
INK					PKiKP		PKiKP	21 45 13.5	-0.6
	comp=Z,12nm,0.9s,baz=137,slow=1.7,SNR=4.6								
INK					PKKPbc		PKKPdf	21 57 31.4	-2.0
	comp=Z,5.1nm,0.7s,baz=349,slow=3.2,SNR=8.6								
INK	Inuvik	94.33	15		IAmb		IAmb	21 40 36.0	
	comp=Z,157nm,1.1s								
OK032	Salt Plains WL	94.51	52		IAmb		IAmb	21 42 48.5	
	comp=Z,102nm,1.6s								
FNO	Franklin	94.55	54		IAmb		IAmb	21 42 49.0	
	comp=Z,134nm,1.0s								
CROK	Carrier	94.57	53		IAmb		IAmb	21 40 47.0	
	comp=Z,66nm,0.9s								
R32A	Long Quarter,	94.75	51		IAmb		IAmb	21 40 40.6	
	comp=Z,65nm,0.9s								
ULN	Ulaanbaatar	95.11	319	*ce*	P		P	21 40 38.8	-0.2
ULN					pmax		pmax		
	comp=Z,116nm,1.8s								
ULN	Ulaanbaatar	95.11	319		P		P	21 40 39.1	+0.1
ULN	Ulaanbaatar	95.11	319		P		P	21 40 38.7	-0.2
	comp=Z,4µmcomp=Z,199nm,0.8s								
DGMT	Dagmar	95.12	40		P			21 40 40.3	
	baz=245								
DGMT					S			21 51 12.6	
	baz=245								
SONM	Songino Array	95.50	319		P		P	21 40 40.4	-0.3
	comp=Z,12nm,0.8s,baz=129,slow=5.1,SNR=60								
SONM					pP		pwP	21 42 46.6	-0.7
	comp=Z,9.1nm,1.2s,baz=118,slow=2.5,SNR=3.0								
SONM					sP		sP	21 43 43.6	+1.8
	comp=Z,8.7nm,1.1s,baz=130,slow=4.5,SNR=4.4								
SONM					PP		PP	21 44 37.0	-4.9
	comp=Z,13nm,1.1s,baz=124,slow=7.9,SNR=7.2								
SONM					PKiKP		PKiKP	21 45 16.9	0.0
	comp=Z,3.3nm,0.6s,baz=98,slow=2.0,SNR=7.2								
SONM					PKKP		PKKPbc	21 57 30.3	-0.4
	comp=Z,4.8nm,0.9s,baz=265,slow=2.6,SNR=10								
SONM					PKKPab		PKKPab	21 58 07.1	
	comp=Z,2.9nm,0.9s,baz=295,slow=4.9,SNR=5.3								
SONM					PKPPKP			22 05 40.1	
	comp=Z,2.0nm,1.1s,baz=222,slow=2.0,SNR=7.4								
SONM	Songino Array	95.50	319		IAmb		IAmb	21 40 42.0	
	comp=Z,79nm,1.5s								
LKP	Lekhapani	95.59	297	*e*	P		P	21 40 41.7	+0.3
LKP					IAmb		IAmb	21 40 43.2	
	comp=Z,57nm,0.9s								
T35A	Sooner Cattle	95.82	53		IAmb		IAmb	21 43 32.2	
	comp=Z,69nm,0.9s								
TUL1	Leonard	96.00	54		S			21 51 19.3	
	baz=249								
BGNE	Belgrade	96.27	48		P			21 40 45.6	
	baz=248								
BGNE	Belgrade	96.27	48		IAmb		IAmb	21 40 47.1	
	comp=Z,112nm,1.0s								
K31A	O'Neill	96.30	47		IAmb		IAmb	21 42 55.5	
	comp=Z,138nm,1.2s								
MOKO	MOKOCHONG	96.37	296	*e*	P		P	21 40 45.1	-0.1
MOKO					IAmb		IAmb	21 40 47.4	
	comp=Z,59nm,0.9s								
KOHI	KOHIMA	96.52	295	*e*	P		P	21 40 45.3	-0.5
KOHI					IAmb		IAmb	21 40 47.2	
	comp=Z,109nm,1.6s								
E28A	Huff	96.52	43		IAmb		IAmb	21 42 55.2	
	comp=Z,72nm,1.3s								
KSU1	Kansas State U	96.53	51		S			21 51 24.1	
	baz=249								
YKA	Yellowknife Ar	96.63	25		P		P	21 40 45.0	-0.2
	comp=Z,19nm,0.9s,baz=238,slow=4.2,SNR=18								
YKA					pP		pP	21 42 50.9	+1.4
	comp=Z,4.3nm,0.8s,baz=237,slow=4.3,SNR=6.8								
YKA					PP		PP	21 44 47.7	-2.1
	comp=Z,5.2nm,1.1s,baz=234,slow=7.6,SNR=4.9								
YKA					PKiKP		PKiKP	21 45 18.1	-0.2
	comp=Z,2.7nm,0.8s,baz=219,slow=1.3,SNR=4.9								
YKA					PKKP		PKKPbc	21 57 25.9	-2.2
	comp=Z,1.5nm,0.4s,baz=354,slow=4.7,SNR=11								
YKA					PKKPab		PKKPab	21 57 58.8	
	comp=Z,4.3nm,1.0s,baz=58,slow=5.0,SNR=8.6								
YKA					SKKP			22 00 06.5	
	comp=Z,1.0nm,0.7s,baz=61,slow=5.0,SNR=3.8								
YKA					PKPPKP		P'P'df	22 05 40.3	+2.7
	comp=Z,1.6nm,0.8s,baz=62,slow=3.1,SNR=7.4								
GTA	Gaotai	96.68	309	⇓	P		P	21 40 46.9	+0.7
GTA					PP		PP	21 44 50.9	-0.2
GTA					SKS		SKSac	21 50 28.4	-0.1
GTA					S		ScS	21 51 22.8	+3.9
GTA					pmax		pmax		
	comp=Z,44nm,1.5s								
GTA					pmax		pmax		
	comp=Z,330nm,5.1s								
ATAH	Atahualpa	96.79	100		PP		PP	21 44 53.2	+0.8
	comp=Z,9.1nm,1.1s,baz=269,slow=7.5,SNR=4.2								
ATAH					PKKPbc		PKKPbc	21 57 25.8	-0.6
	comp=Z,9.5nm,0.8s,baz=102,slow=9.3,SNR=5.4								
SUSD	Miller	96.84	45		S			21 51 25.5	
	baz=248								
C36M	Paulatuk	97.52	17		P			21 40 48.9	
	baz=230,SNR=28								
C36M	Paulatuk	97.52	17		P		Pdif	21 40 48.7	-0.3
C36M					IAmb		IAmb	21 40 51.0	
	comp=Z,42nm,0.9s								
C36M					pP		pP	21 42 53.5	0.0
MDND	Maddock	97.69	42		P			21 40 51.1	
	baz=248								
ECSD	EROS Data Cent	98.16	46		P			21 40 53.2	
	baz=250								
SHL	Shillong	98.36	294	*e*	P		P	21 40 54.2	0.0
SHL					IAmb		IAmb	21 40 54.6	
	comp=Z,28nm,1.1s								
ZAK	Zakamensk	98.38	321	*e*	P		Pdif	21 40 50.9	-2.6
ZAK					pmax		pmax		
	comp=Z,16nm,1.7s								
ZAK					pmax		pmax		
	comp=Z,12nm,1.5s								
IRK	Irkutsk	98.51	323	*e*	P		Pdif	21 40 53.1	-0.8
IRK					pmax		pmax		
	comp=N,35nm,2.9s								
TIXI	Tiksi	98.63	345		P		Pdif	21 40 53.3	-0.6
	comp=N,29nm,1.1s,baz=125,slow=6.2,SNR=39		

ULM pP pP 21 43 09.7 +0.8
comp=Z,1.1nm,0.4s,baz=226,slow=5.9,SNR=2.5
ULM PKKPbc **PKKPbc** **21 57 12.9 -3.0**
comp=Z,6.5nm,0.7s,baz=55,slow=2.8,SNR=6.8
POPC Popayan, Colom 101.84 92 *eP* PKiKP 21 45 20.5 -8.9
LPAZ La Paz 102.39 113 P **Pdif 21 41 17.8 +5.0**
comp=Z,3.1nm,0.7s,baz=242,slow=3.5,SNR=14
LPAZ PKiKP **PKiKP 21 45 31.9 +1.0**
comp=Z,10nm,1.1s,baz=237,slow=6.5,SNR=8.6
LPAZ PKKPbc **PKKPbc 21 57 11.3 -0.1**
comp=Z,7.5nm,0.7s,baz=31,slow=5.9,SNR=18
LPAZ PKPPKP 22 05 25.7
comp=Z,1.4nm,0.8s,baz=63,slow=7.1,SNR=4.7
LPAZ La Paz 102.39 113 *eP* **Pdif 21 41 15.3 +2.5**
YOTC Yotoco, Valle 102.64 90 *eP* **PKiKP 21 45 35.0 +4.2**
PALK Pallekele 102.71 273 PKiKP **PKiKP 21 45 31.0 +0.2**
comp=Z,17nm,1.0s,baz=259,slow=5.2,SNR=2.0
TOLC Tolima 103.81 90 *eP* **PKiKP 21 45 30.2 -2.9**
RREF El Recreo 103.89 90 *eP* **PKiKP 21 45 35.1 +1.4**
GUY2C Guyana, Caldas 103.98 90 *eP* **PKiKP 21 45 33.5 -0.1**
HELC Santa Helena 104.15 89 *eP* **PKiKP 21 45 33.9 +0.1**
NORC Norcasia 104.56 89 *eP* PKiKP 21 45 43.4 +9.2
ROSC El Rosal 104.83 90 PP **PP 21 45 53.2 +1.0**
comp=Z,6.6nm,0.6s,baz=25,slow=6.1,SNR=5.9
ROSC PKKPbc **PKKPbc 21 57 05.0 +1.3**
comp=Z,12nm,0.5s,baz=285,slow=5.4,SNR=7.2
TKL Tuckaleechee C 105.24 57 PKiKP **PKiKP 21 45 35.0 +0.2**
comp=Z,6.9nm,0.9s,baz=196,slow=5.8,SNR=5.4
TKL PKKPbc **PKKPbc 21 57 01.4 -1.1**
comp=Z,3.9nm,0.8s,baz=114,slow=4.4,SNR=4.1
TKL PKKPab **PKKPab 21 57 19.2 -1.9**
comp=Z,9.1nm,0.9s,baz=136,slow=7.9,SNR=7.5
CPUP Villa Florida 106.29 127 PKiKP **PKiKP 21 45 36.7 -0.4**
comp=Z,2.4nm,0.8s,baz=36,slow=5.0,SNR=4.9
CPUP PP **PP 21 46 01.0 -0.4**
comp=Z,6.9nm,1.0s,baz=233,slow=5.7,SNR=4.8
CPUP PKKPbc **PKKPbc 21 56 55.6 -3.8**
comp=Z,6.5nm,1.0s,baz=44,slow=2.8,SNR=8.2
CPUP PKKPab **PKKPdf 21 57 11.6 +2.6**
comp=Z,4.3nm,0.7s,baz=40,slow=3.6,SNR=7.7
CPUP PKPPKP 22 05 18.1
comp=Z,4.2nm,1.0s,baz=353,slow=3.9,SNR=5.9
RUSC La Rusia 106.34 90 *eP* **PKiKP 21 45 36.0 -2.1**
P52A Corning 107.43 54 P 21 45 38.2
baz=258
HYB Hyderabad 107.82 282 *i* PKP **PKiKP 21 45 39.0 -1.1**
O53A New Philadelph 108.25 53 P 21 45 39.6
baz=258
SIV San Ignacio 108.57 116 PKiKP **PKiKP 21 45 41.5 -0.1**
comp=Z,2.1nm,0.4s,baz=249,slow=3.4,SNR=11
SIV PP **PP 21 46 19.6 +1.3**
comp=Z,15nm,1.1s,baz=252,slow=9.6,SNR=19
SIV PKKPbc **PKKPbc 21 56 51.5 -0.7**
comp=Z,13nm,0.8s,baz=95,slow=5.2,SNR=24
SIV PKKPab **PKKPab 21 57 07.2 -1.4**
comp=Z,12nm,1.0s,baz=95,slow=5.6,SNR=12
SOCV Socops 109.21 88 *eP* **PKiKP 21 45 38.8 -4.0**
ZSN Zaisan 109.28 314 ⇓*i*PKiKP **PKiKP 21 45 41.6 -0.4**
baz=314
N54A Moraine State 109.30 53 P 21 45 41.7
baz=259
M54A Oil Creek Stat 109.64 52 P 21 45 42.7
baz=260
O56A Blue Knob Stat 110.24 53 P 21 45 44.5
baz=260
ZALV Zalesovo Beam 110.25 321 Pdiff **Pdif 21 41 45.0 -1.0**
comp=Z,1.5nm,0.6s,baz=110,slow=4.3,SNR=7.5
ZALV PKiKP **PKiKP 21 45 43.0 -0.5**
comp=Z,54nm,0.6s,baz=96,slow=0.9,SNR=143
ZALV PP **PP 21 46 27.5 -2.3**
comp=Z,16nm,1.0s,baz=90,slow=4.4,SNR=4.6
ZALV SKP 21 48 26.4
comp=Z,5.7nm,0.6s,baz=168,slow=1.5,SNR=4.2
ZALV PKKPbc **PKKPbc 21 56 45.8 -1.8**
comp=Z,2.1nm,0.6s,baz=272,slow=4.2,SNR=5.0
ZALV PKKPab **PKKPab 21 56 59.0 +0.6**
comp=Z,0.9nm,0.4s,baz=280,slow=4.2,SNR=3.5
ZALV SKKPbc SKKPbc 21 59 37.2 -1.5
comp=Z,2.3nm,0.8s,baz=248,slow=3.9,SNR=3.6
NRIK Noril'sk 110.40 338 Pdiff **Pdif 21 41 44.8 -1.6**
comp=Z,3.3nm,0.6s,baz=110,slow=3.9,SNR=4.6
NRIK PKiKP **PKiKP 21 45 43.4 0.0**
comp=Z,20nm,0.7s,baz=79,slow=1.9,SNR=19
NRIK PKKPbc **PKKPbc 21 56 44.7 -2.8**
comp=Z,2.7nm,0.7s,baz=126,slow=3.5,SNR=3.2
NRIK Noril'sk 110.40 338*c* *i*PKIKP **PKiKP 21 45 43.6 +0.2**
PTLB Pontes e Lacer 110.46 116 *eP* **PKiKP 21 45 45.0 -0.1**
AQDB Aquidauana 110.71 122 *eP* **PKiKP 21 45 45.6 +0.2**
VILB Vilhena 110.74 113 *eP* **PKiKP 21 45 46.2 +0.5**
SSPA Standing Stone 110.81 53 P 21 45 44.1
baz=260
H53A Bobcaygeon 110.92 49 P 21 45 45.0
baz=262
MK31 Makanchi Array 110.92 313*d* *i*PKIKP **PKiKP 21 45 44.4 -0.7**
MKAR Makanchi Array 110.92 313 Pdiff **Pdif 21 41 49.1 -0.2**
comp=Z,4.4nm,0.7s,baz=85,slow=5.4,SNR=20
MKAR PKiKP **PKiKP 21 45 44.5 -0.6**
comp=Z,49nm,0.6s,baz=70,slow=1.7,SNR=131
MKAR SKP 21 48 27.1
comp=Z,7.2nm,0.9s,baz=104,slow=1.8,SNR=3.4
MKAR PKKPbc **PKKPbc 21 56 44.8 -0.5**
comp=Z,7.5nm,0.8s,baz=273,slow=4.2,SNR=21
MKAR PKPPKP 22 05 09.3
comp=Z,1.2nm,1.0s,baz=322,slow=5.1,SNR=4.6
MKAR Makanchi Array 110.92 313 Pdif **Pdif 21 41 49.9 +0.6**
PTGB Pitanga 111.12 128 *eP* **PKiKP 21 45 46.7 +0.4**
G54A Lake Saint Pet 111.38 48 P 21 45 45.5
baz=262
ALGO Algonquin Park 111.48 48 P 21 45 45.6
baz=262
K56A Middlesex 111.55 51 P 21 45 46.0
baz=262
TRCB Terra Rica 111.81 126 *eP* **PKiKP 21 45 48.0 +0.4**
MATQ Matagami 112.20 43 P 21 45 46.5
baz=264
SHLS Shalkode 112.43 309 ⇓*i*PKiKP **PKiKP 21 45 47.1 -1.1**
baz=309
SHLS Shalkode 112.43 309*d* *i*PKIKP **PKiKP 21 45 47.1 -1.1**
N59A State Game Lan 112.44 53 P 21 45 48.3
baz=262
BINY Binghamton 112.46 52 P 21 45 48.3
baz=262
L58A Harry Jones Me 112.54 52 P 21 45 48.4
baz=262
LSQQ Lebel-sur-Quev 112.56 44 P 21 45 47.6
baz=264
J57A Williamstown 112.61 50 P 21 45 47.8
baz=263
SEM Semipalatinsk 112.67 317 ⇓*i*PKiKP **PKiKP 21 45 47.4 -1.2**
comp=Z,23nm,0.6s,baz=317
SEM Semipalatinsk 112.67 317*d* *i*PKIKP **PKiKP 21 45 47.3 -1.2**
SEM pmax pmax
comp=Z,23nm,0.6s
UZB Uzynbulak 112.75 309 ⇓*i*PKiKP **PKiKP 21 45 48.4 -0.5**
comp=Z,33nm,1.3s,baz=309
UZB *i* PP **PP 21 46 46.3 -1.7**
baz=309
UZB Uzynbulak 112.75 309*d* *i*PKIKP **PKiKP 21 45 48.3 -0.5**
UZB *i* 21 46 46.2
UZB pmax pmax
comp=Z,33nm,1.3s
PP1B Ponte de Pedra 112.89 120 *eP* **PKiKP 21 45 50.1 +0.4**
I57A Carthage 112.92 50 P 21 45 48.7
baz=263,SNR=5.0
SALV Santo Antonio 113.11 118 *eP* **PKiKP 21 45 50.8 +0.7**
J58A Remsen 113.12 51 P 21 45 49.2
baz=263
H57A Richville 113.17 49 P 21 45 49.0
baz=264
SATY Saty 113.18 309 ⇓*i*PKiKP **PKiKP 21 45 49.3 -0.4**
baz=309
SATY *e*PP **PP 21 46 49.4 -1.6**
baz=309
SATY Saty 113.18 309*d* *i*PKIKP **PKiKP 21 45 49.3 -0.4**
SATY *e* 21 46 49.3
D55A Sainte-Anne-du 113.37 47 P 21 45 49.2
baz=265
I58A Old Forge 113.38 50 P 21 45 49.9
baz=264,SNR=7.8
G57A Newington 113.52 49 P 21 45 49.8
baz=264
PCMB Pacaembu 113.53 126 *eP* **PKiKP 21 45 51.1 +0.3**
E56A St. Veronique 113.63 47 P 21 45 49.8
baz=265
KURK Kurchatov 113.73 317 *i* PKIKP **PKiKP 21 45 49.8 -0.5**
LONY Lake Ozonia 113.76 49 P 21 45 50.3
baz=264,SNR=6.2

KURBB Kurchatov Arra 113.79 317 Pdiff **Pdif 21 42 02.6 +0.8**
comp=Z,0.5nm,0.7s,baz=102,slow=3.8,SNR=5.3
KURBB PKiKP **PKiKP 21 45 49.8 -0.6**
comp=Z,76nm,0.7s,baz=98,slow=1.7,SNR=401
KURBB PP **PP 21 46 54.2 -0.5**
comp=Z,17nm,1.0s,baz=90,slow=6.2,SNR=4.4
KURBB SKP 21 48 32.7
comp=Z,10.0nm,0.8s,baz=103,slow=1.6,SNR=5.5
KURBB PKKPbc **PKKPbc 21 56 36.2 +0.4**
comp=Z,8.4nm,1.0s,baz=280,slow=3.9,SNR=14
KURBB SKKPbc SKKPbc 21 59 25.3 -2.7
comp=Z,3.1nm,0.8s,baz=273,slow=3.5,SNR=10
F57A Harrington 113.80 48 P 21 45 50.8
baz=265
PAL Palisades 113.85 53 P 21 45 51.0
baz=263
D56A ZEC Mazanza, M 113.86 47 P 21 45 50.3
baz=265
H58A Gabriels 114.03 50 P 21 45 50.9
baz=264,SNR=5.5
G58A Ormstown 114.18 49 P 21 45 50.9
baz=265,SNR=9.6
I59A Olmsteadville 114.18 50 P 21 45 51.3
baz=264
MDOK Medeo 114.18 309 *i* PKiKP PKPdf 21 45 50.9 -0.7
baz=309
MDOK *e*PP **PP 21 46 56.0 -2.0**
baz=309
MDOK Medeo 114.18 309 *i* PKIKP PKPdf 21 45 50.9 -0.7
MDOK *e* 21 46 56.0
CHKK Chushkaly 114.30 310 ⇓*i*PKiKP PKPdf 21 45 50.9 -0.8
baz=310
CHKK Chushkaly 114.30 310 ⇓*i*PKIKP PKPdf 21 45 50.8 -0.8
CHGQ Chibougamau 114.32 44 P 21 45 50.4
baz=267
J60A Lant Hill Farm 114.46 51 P 21 45 51.7
baz=264
KSH Kashi 114.58 305 ⇓*i*PKP **PKiKP 21 45 53.3 +0.8**
KSH SKS **SKSdf 21 52 15.4 +4.4**
KSH PPMZ
comp=Z,200nm,3.1s
I60A Shoreham 114.61 50 P 21 45 52.2
baz=265,SNR=7.0
MTBS Maitube 114.63 309 ⇓*i*PKiKP PKPdf 21 45 52.0 -0.4
baz=309
MTBS *e*PP **PP 21 46 59.4 -1.6**
baz=309
MTBS Maitube 114.63 309*d* *i*PKIKP PKPdf 21 45 52.0 -0.4
MTBS *e* 21 46 59.4
ULHL Ulahol 114.68 308 P **PKiKP 21 45 53.1 +0.4**
SNR=14
KUU Kurty 114.77 310 ⇓*i*PKiKP PKPdf 21 45 51.5 -1.0
baz=310
KUU *e*PP **PP 21 47 00.2 -1.6**
baz=310
KUU Kurty 114.77 310*d* *i*PKIKP PKPdf 21 45 51.5 -1.0
KUU *e* 21 47 00.2
E58A La Victoria 114.82 47 P 21 45 52.3
baz=266
L61B Northampton 114.92 52 P 21 45 53.0
baz=264
H60A Morristown 115.09 49 P 21 45 53.1
baz=266
J61A Chester 115.10 51 P 21 45 53.3
baz=265,SNR=5.4
F59A Saint Guilaume 115.13 48 P 21 45 53.2
baz=266
D58A Chemin du LacG 115.14 47 P 21 45 52.7
baz=266
SPB Sao Paulo 115.17 130 *eP* **PKiKP 21 45 54.5 +0.6**
TKM2 Tokmak 2 115.22 309 P **PKPdf 21 45 53.6 -0.1**
SNR=6.0
ITRB Iturama 115.31 125 *eP* **PKiKP 21 45 54.4 0.0**
I61A Oroboro, Fairl 115.39 50 P 21 45 54.1
baz=266
CLDB Colider 115.51 113 *eP* **PKiKP 21 45 54.9 +0.1**
LBNH Lisbon 115.62 50 PKIKP **PKiKP 21 45 54.6 +0.5**
LBNH Lisbon 115.62 50 **PKiKP 21 45 54.6 +0.5**
LBNH Lisbon 115.62 50 P 21 45 54.1
baz=266
J62A Henniker 115.63 51 P 21 45 54.5
baz=265
H61A Lyndonville 115.64 50 P 21 45 54.0
baz=266
KBK Karagaybulak 115.67 308 P **PKPdf 21 45 54.5 0.0**
SNR=40
F60A Warwick 115.72 48 P 21 45 54.1
baz=267,SNR=9.3
RCLB Rio Claro- Sao 115.82 129 *eP* **PKiKP 21 45 56.4 +1.1**
CHMS Chumysh 115.84 309 P **PKPdf 21 45 54.5 -0.2**
SNR=42
VAO Valinhos 115.87 130 *eP* **PKiKP 21 45 56.1 +0.7**
BB19B Bebedouro 115.90 127 *eP* **PKiKP 21 45 56.0 +0.5**
SGDS Sogindy 115.97 309 ⇓*i*PKiKP **PKPdf 21 45 54.4 -0.5**
baz=309
SGDS *e*PP **PP 21 47 08.7 -1.5**
baz=309
SGDS Sogindy 115.97 309*d* *i*PKIKP **PKPdf 21 45 54.4 -0.5**
SGDS *e* 21 47 08.6
G61A St-Isidore-de- 115.97 49 P 21 45 54.7
baz=267
NIL Nilore 116.00 298 PKIKP **PKPdf 21 45 54.8 -0.5**
NIL Nilore 116.00 298 **PKPdf 21 45 54.8 -0.5**
NIL Nilore 116.00 298 P **PKPdf 21 45 54.6 -0.6**
AAK Ala-Archa 116.00 308 P **PKPdf 21 45 55.0 -0.2**
SNR=18
AAK Ala-Archa 116.00 308 *i* PKPdf **PKPdf 21 45 55.0 -0.2**
SNR=21
AAK Ala-Archa 116.00 308*c* *i*PKIKP **PKPdf 21 45 54.9 -0.2**
AAK pmax pmax
comp=Z,99nm,0.7s
AAK Ala-Archa 116.00 308 **PKPdf 21 45 54.9 -0.2**
AAK Ala-Archa 116.00 308 P **PKPdf 21 45 54.9 -0.2**
I62A Tamworth 116.02 50 P 21 45 54.8
baz=266
USP Ospenovka 116.05 309 P **PKPdf 21 45 54.9 -0.2**
SNR=70
E60A Ste Agathe de 116.09 48 P 21 45 54.8
baz=267,SNR=8.5
H62A Milan 116.19 50 P 21 45 55.7
baz=266
PTGA Pitinga 116.20 101 PKP **PKPdf 21 45 56.0 -0.2**
comp=Z,9.8nm,0.6s,baz=248,slow=3.6,SNR=8.6
PTGA PP **PP 21 47 11.0 -1.1**
comp=Z,17nm,1.1s,baz=252,slow=6.1,SNR=8.1
PTGA SKP 21 48 38.7
comp=Z,15nm,0.8s,baz=213,slow=2.7,SNR=10
PTGA Pitinga 116.20 101 **PKPdf 21 45 56.1 -0.2**
ARAG Araguaiana, MT 116.38 120 *eP* **PKPdf 21 45 56.4 0.0**
F61A St Evariste 116.39 48 P 21 45 55.7
baz=267,SNR=5.3
SJG San Juan 116.40 79 PKIKP **PKPdf 21 45 55.5 -0.8**
comp=Z,37nm,0.8s,baz=41,slow=2.3,SNR=12
SJG San Juan 116.40 79 **PKPdf 21 45 56.2 -0.2**
SJG San Juan 116.40 79 **PKPdf 21 45 56.2 -0.2**
SJG San Juan 116.40 79 *eP* **PKPdf 21 45 50.3 -6.1**
D60A Saint Jean D'O 116.47 47 P 21 45 55.7
baz=268
BTLS Baital 116.48 311 ⇓*i*PKiKP **PKPdf 21 45 55.5 -0.3**
comp=Z,43nm,0.6s,baz=311
BTLS *e*PP **PP 21 47 12.1 -1.5**
baz=311
BTLS Baital 116.48 311*d* *i*PKIKP **PKPdf 21 45 55.4 -0.3**
BTLS *e* 21 47 12.0
BTLS pmax pmax
comp=Z,43nm,0.6s
EKS2 Erkin-Say 116.53 308 P **PKiKP 21 45 56.3 +0.1**
SNR=47
AML Almayashu 116.56 308 P **PKiKP 21 45 56.7 +0.2**
SNR=38
AML Almayashu 116.56 308 *i* PKiKP **PKiKP 21 45 56.8 +0.2**
SNR=92
AML Almayashu 116.56 308 P **PKPdf 21 45 56.3 -0.3**
I63A Otisfield 116.58 50 P 21 45 56.6
baz=267,SNR=5.6
G62A West of Eustis 116.67 49 P 21 45 56.3
baz=267,SNR=6.2
E61A Lac Etchemin 116.75 47 P 21 45 56.6
baz=268,SNR=14
D61A St Aubert, Com 116.98 47 P 21 45 56.7
baz=268,SNR=5.0
F62A Pittston Farm, 117.10 48 P 21 45 56.5
baz=268,SNR=5.3
G63A Kingsbury 117.31 49 P 21 45 57.5
baz=268
E62A Clayton Lake 117.43 47 P 21 45 57.4
baz=269,SNR=14

BRZS Berezniki 117.52 316 ⇓*i*PKiKP **PKPdf 21 45 56.8 -0.9**
comp=Z,35nm,0.6s,baz=316
BRZS *e*PP **PP 21 47 19.5 -1.1**
baz=316
BRZS Berezniki 117.52 316*d* *i*PKIKP **PKPdf 21 45 56.7 -0.9**
BRZS *e* 21 47 19.4
BRZS pmax pmax
comp=Z,35nm,0.6s
PKME Peaks-Kenny Pk 117.55 49 P 21 45 57.9
baz=268,SNR=5.9
H64A Troy 117.58 50 P 21 45 57.7
baz=268
CDVI St. Croix 117.59 80 **PKPdf 21 45 57.6 -1.0**
NEEM North Greenlan 117.61 11 ⇓*i*P **PKPdf 21 45 57.3 -0.1**
NEEM IAmb IAmb 21 45 58.2
comp=Z,81nm,0.8s
NEEM *i* 21 47 16.5
KULLO Kullorsuaq 117.69 15 ⇓*i*P **PKPdf 21 45 56.6 -0.6**
KULLO IAmb IAmb 21 45 57.5
comp=Z,107nm,1.3s
KULLO *i* 21 47 15.5
KULLO Kullorsuaq 117.69 15 ⇓*i*PKIKP **PKPdf 21 45 56.6 -0.6**
KULLO pmax pmax
comp=Z,110nm,1.3s
NPGB Novo Progresso 117.69 110 *eP* **PKiKP 21 45 59.3 +0.2**
F63A Nahmakanta, Br 117.69 48 P 21 45 58.3
baz=268,SNR=6.0
D62A Allapoint, All 117.76 47 P 21 45 57.9
baz=269,SNR=9.3
G64A Maxfield 117.93 49 P 21 45 58.8
baz=268,SNR=8.2
IPMB Ipameri, GO 117.96 125 *eP* **PKPdf 21 45 59.5 -0.1**
E63A Oxbow 118.18 48 P 21 45 58.6
baz=269,SNR=6.8
F64A Sherman 118.22 48 P 21 45 59.0
baz=269
NOR Nord 118.34 3 ⇓*i*P **PKPdf 21 45 57.9 -0.5**
NOR IAmb IAmb 21 45 58.9
comp=Z,14nm,0.9s
NOR Nord 118.34 3 ⇓*i*PKIKP **PKPdf 21 45 57.9 -0.5**
NOR pmax pmax
comp=Z,14nm,0.9s
DZA Taraz 118.34 308 ⇓*i*PKiKP **PKPdf 21 45 59.1 -0.4**
baz=308
DZA Taraz 118.34 308*d* *i*PKIKP **PKPdf 21 45 59.0 -0.4**
D63A Stockholm 118.40 47 P 21 45 59.0
baz=270,SNR=11
PQI Presque Isle 118.46 47 **PKPdf 21 45 59.3 -0.2**
ITTB Itaituba 118.55 107 *eP* **PKPdf 21 46 00.7 0.0**
E64A Bridgewater 118.59 48 P 21 45 59.5
baz=270,SNR=8.2
BSCB Bom Sucesso 118.71 130 *eP* **PKPdf 21 46 01.0 0.0**
UPNV Upernavik 118.73 17 ⇓*i*P **PKPdf 21 45 59.1 -0.2**
UPNV IAmb IAmb 21 45 59.9
comp=Z,66nm,0.7s
G65A Princeton 118.77 49 P 21 46 00.2
baz=269,SNR=6.7
SNDB Serra Nova Dou 118.78 117 *eP* **PKiKP 21 46 01.2 0.0**
BVAR Borovoye Array 118.83 320 Pdiff **Pdif 21 42 21.0 -3.2**
comp=Z,0.1nm,0.4s,baz=326,slow=36,SNR=2.5
BVAR PKP **PKPdf 21 45 58.4 -1.6**
comp=Z,85nm,0.6s,baz=221,slow=15,SNR=275
VAS01 Vassouras-RJ 118.83 132 *eP* **PKiKP 21 46 01.4 +0.3**
SCHQ Schefferville 118.86 38 PKP **PKPdf 21 45 59.6 -0.4**
comp=Z,23nm,0.9s,baz=345,slow=2.6,SNR=30
SCHQ PKKPbc **PKKPbc 21 56 17.7 -0.8**
comp=Z,5.7nm,0.5s,baz=71,slow=3.2,SNR=8.8
BRVK Borovoye 118.89 320*c* *i*PKIKP **PKPdf 21 45 58.5 -1.6**
BRVK pmax pmax
comp=Z,218nm,1.0s
BRVK Borovoye 118.89 320 **PKPdf 21 45 59.9 -0.2**
BRVK Borovoye 118.89 320 P **PKPdf 21 45 59.8 -0.3**
KK31 Karatay Array 118.95 309 PKIKP **PKPdf 21 46 00.5 -0.1**
KK31 Karatay Array 118.95 309 **PKPdf 21 46 00.5 -0.1**
VOI Vohitsoka 119.02 229 **PKPdf 21 46 00.7 -0.9**
BDFB Brasilia 119.46 123 PKP **PKPdf 21 46 02.5 0.0**
comp=Z,16nm,0.6s,baz=4.6,slow=1.1,SNR=28
BDFB SKP 21 48 44.9
comp=Z,12nm,0.9s,baz=142,slow=7.0,SNR=4.2
BDFB PKKPbc **PKKPbc 21 56 16.6 +0.5**
comp=Z,23nm,0.8s,baz=97,slow=2.1,SNR=27
BDFB Brasilia 119.46 123 **PKPdf 21 46 01.4 -1.1**
BDFB Brasilia 119.46 123 **PKPdf 21 46 01.4 -1.1**
KBL Kabul 119.57 299 PKIKP **PKPdf 21 46 02.2 -0.1**
KBL Kabul 119.57 299 **PKPdf 21 46 02.2 -0.1**
KBL Kabul 119.57 299 P **PKiKP 21 46 03.0 +0.6**
SNR=47
DUB01 Friburgo-RJ 119.71 132 *eP* **PKiKP 21 46 03.1 +0.2**
NUUG Nuugaatsiaq 120.10 18 ⇓*i*P **PKPdf 21 46 01.7 -0.2**
NUUG IAmb IAmb 21 46 02.5
comp=Z,119nm,1.0s
NUUG *i* 21 47 31.9
BBSR BB Station 120.25 64 **PKiKP 21 46 03.6 +0.1**
CAM01 Campos-RJ 120.38 132 *eP* **PKiKP 21 46 04.5 +0.3**
ABPO Ambohimpanom 120.54 232 PKIKP **PKPdf 21 46 03.9 -0.7**
ABPO Ambohimpanom 120.54 232 **PKPdf 21 46 03.9 -0.7**
H05N1 Guadeloupe/Mar 120.67 83 PKP **PKPdf 21 46 03.9 -0.8**
SNR=9.7
OPO Ambohidratompo 120.85 232 PKP **PKPdf 21 46 05.1 -0.1**
comp=Z,85nm,0.8s
MALB Monte Alegre 120.95 105 *eP* **PKiKP 21 46 05.8 +0.3**
PEXB Peixe 121.19 119 *eP* **PKiKP 21 46 06.1 +0.2**
DIAM Diamantina, MG 121.21 128 *eP* **PKiKP 21 46 06.1 +0.1**
KBS Kingsbay 121.29 358 ⇓*i*P **PKiKP 21 46 04.6 +0.3**
KBS IAmb IAmb 21 46 05.4
comp=Z,228nm,1.0s
KBS Kingsbay 121.29 358*c* *i*PKIKP **PKiKP 21 46 04.4 +0.1**
KBS pmax pmax
comp=Z,107nm,1.0s
KBS Kingsbay 121.29 358 *e*PKPdf **PKiKP 21 46 04.3 0.0**
KBS *e*PP **PP 21 47 42.9 -2.1**
KBS *e*SS SS 22 03 38.2 +3.2
KBS Kingsbay 121.29 358 **PKiKP 21 46 04.7 +0.5**
SPA0 Spitsbergen Ar 121.81 356 *e*PKPdf **PKPdf 21 46 05.2 +0.1**
SPA0 *e*SP SP 21 56 44.5 -0.3
SPA0 *e*SS **SS 22 03 37.9 -3.6**
ILULI Ilulissat 121.83 20 ⇓*i*P **PKPdf 21 46 05.0 -0.4**
ILULI IAmb IAmb 21 46 05.8
comp=Z,254nm,1.1s
ILULI Ilulissat 121.83 20 ⇓*i*PKIKP **PKPdf 21 46 04.9 -0.4**
ILULI pmax pmax
comp=Z,250nm,1.1s
ILULI Ilulissat 121.83 20 **PKPdf 21 46 05.2 -0.1**
ALF01 Guarapari-ES 121.83 132 *eP* **PKiKP 21 46 07.3 +0.3**
MC01 Montes Claros 121.98 126 *eP* **PKiKP 21 46 07.7 +0.2**
HOPEN Hopen 122.68 354 *e*PKPdf **PKPdf 21 46 06.8 0.0**
HOPEN *e*PP **PP 21 47 54.5 +0.3**
HOPEN *e*SS SS 22 03 50.6 -1.7
JANB Januaria 122.70 124 *eP* **PKPdf 21 46 08.5 -0.2**
DAG Danmarks Havn 122.74 5 ⇓*i*P **PKPdf 21 46 06.0 -0.9**
DAG IAmb IAmb 21 46 07.8
comp=Z,58nm,0.9s
DAG *i* 21 47 49.4
DAG Danmarks Havn 122.74 5 ⇓*i*PKIKP **PKPdf 21 46 06.0 -0.9**
DAG pmax pmax
comp=Z,58nm,0.9s
SJMB Sao Joao De Ma 122.76 130 *eP* **PKPdf 21 46 08.6 -0.1**
BSFB Barra de Sao F 122.92 130 *eP* **PKPdf 21 46 08.5 -0.4**
RIB01 Inhares ES 122.92 131 *eP* **PKPdf 21 46 08.8 -0.2**
PRPB Parauapebas 122.95 112 *eP* **PKiKP 21 46 09.5 0.0**
HSPB Hornsund (broa 123.00 356 *e*PKP **PKPdf 21 46 07.4 0.0**
HSPB *e*PP **PP 21 47 53.8 -2.5**
SFJD Kangerlussuaq 123.04 22 PKP **PKPdf 21 46 07.1 -0.6**
comp=Z,65nm,0.7s,baz=239,slow=0.8,SNR=32
SFJD PP **PP 21 47 54.3 -2.6**
comp=Z,39nm,1.1s,baz=297,slow=8.5,SNR=7.2
SFJD SKP 21 48 53.6
comp=Z,14nm,0.6s,baz=191,slow=6.2,SNR=5.3
SFJD Kangerlussuaq 123.04 22 ⇓*i*P **PKPdf 21 46 06.9 -0.8**
SFJD IAmb IAmb 21 46 08.0
comp=Z,44nm,0.8s
SFJD Kangerlussuaq 123.04 22 ⇓*i*PKIKP **PKPdf 21 46 06.9 -0.8**
SFJD pmax pmax
comp=Z,44nm,0.8s
SFJD Kangerlussuaq 123.04 22 **PKPdf 21 46 07.4 -0.2**
SUMG Summit 123.20 13 ⇓*i*P **PKiKP 21 46 09.0 +0.2**
SUMG IAmb IAmb 21 46 09.9
comp=Z,134nm,1.0s
SUMG *i* 21 47 53.1
SUMG Summit 123.20 13 ⇓*i*PKIKP **PKiKP 21 46 08.9 +0.2**
SUMG pmax pmax
comp=Z,130nm,1.0s
SUMG Summit 123.20 13 PKP **PKiKP 21 46 08.7 0.0**
SMTB Santa Maria do 123.51 116 *eP* **PKiKP 21 46 10.7 +0.2**

SVE	**Sverdlovsk**	**123.77**	**325**	*e*PKIKP	**PKPdf**	**21 46 09.4**	**0.0**
SVE				pmax	pmax		
	comp=Z,302nm,1.0s						
SDBA	**SAO DESIDERIO**	**123.78**	**121**	*e*P	**PKiKP**	**21 46 11.0**	**-0.1**
NUUK	**Nuuk**	**123.89**	**25**⇓	*i*P	**PKiKP**	**21 46 09.6**	**-0.1**
NUUK				IAmb	IAmb	21 46 10.5	
	comp=Z,165nm,0.9s						
NAN01	**Guarapari, ES**	**124.08**	**130**	*e*P	**PKiKP**	**21 46 11.9**	**+0.3**
SUR	**Sutherland**	**124.34**	**200**	PKP	**PKiKP**	**21 46 12.2**	**+0.2**
	comp=Z,171nm,0.9s,baz=224,slow=1.1,SNR=91						
SUR				PP	**PP**	**21 48 04.8**	**-0.5**
	comp=Z,33nm,1.0s,baz=135,slow=6.4,SNR=4.9						
SUR				PKKPbc	**PKKPbc**	**21 55 57.2**	**-1.6**
	comp=Z,26nm,0.9s,baz=295,slow=2.8,SNR=14						
SUR	**Sutherland**	**124.34**	**200**		**PKPdf**	**21 46 11.5**	**-0.2**
DY2G	**Dye2**	**124.80**	**21**⇓	*i*P	**PKPdf**	**21 46 11.2**	**-0.3**
DY2G				IAmb	IAmb	21 46 12.1	
	comp=Z,353nm,1.0s						
DY2G				*i*		21 48 02.5	
DBG	**Daneborg**	**124.84**	**7**⇓	*i*P	**PKPdf**	**21 46 10.8**	**-0.2**
DBG				IAmb	IAmb	21 46 11.7	
	comp=Z,86nm,0.9s						
ARU	**Arti**	**124.98**	**325**	PKP	**PKPdf**	**21 46 11.6**	**-0.1**
	comp=Z,106nm,0.7s,baz=87,slow=0.5,SNR=271						
ARU				PP	**PP**	**21 48 06.3**	**-3.7**
	comp=Z,18nm,1.0s,baz=64,slow=5.8,SNR=7.3						
ARU				PKKPbc	**PKKPbc**	**21 55 55.2**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=201,slow=1.7,SNR=9.2						
ARU	**Arti**	**124.98**	**325**	*i* PKIKP	**PKPdf**	**21 46 11.6**	**-0.1**
ARU						21 52 23.5	
ARU				SP	SP	21 57 08.4	-5.3
ARU	**Arti**	**124.98**	**325**		**PKPdf**	**21 46 11.8**	**+0.1**
BJO1	**Bjornoya**	**125.13**	**354**	*e*PKPdf	**PKPdf**	**21 46 09.2**	**-2.4**
BJO1				*e*PP	**PP**	**21 48 06.3**	**-4.1**
BJO1				*e*SS	SS	22 04 26.2	+3.4
GUA01	**Guaratinga, BA**	**125.13**	**129**	*e*P	**PKiKP**	**21 46 13.8**	**+0.1**
MDP	**Montagnes des**	**125.18**	**98**	PKP	**PKiKP**	**21 46 13.9**	**+0.1**
	comp=Z,31nm,0.8s,baz=242,slow=4.4,SNR=13						
ICESG	**Greenland Ices**	**125.27**	**17**⇓	*i*P	**PKPdf**	**21 46 12.0**	**-0.4**
ICESG				IAmb	IAmb	21 46 12.9	
	comp=Z,266nm,1.1s						
CMC01	**Camacan, BA**	**126.13**	**128**	*e*P	**PKiKP**	**21 46 15.5**	**-0.2**
BOSA	**Boshof**	**126.14**	**206**	PKP	**PKPdf**	**21 46 14.9**	**-0.2**
	comp=Z,94nm,1.0s,baz=143,slow=1.8,SNR=68						
BOSA				PP	**PP**	**21 48 18.2**	**+1.1**
	comp=Z,11nm,0.9s,baz=133,slow=9.1,SNR=2.9						
BOSA				PKKPbc	**PKKPbc**	**21 55 50.5**	**-1.0**
	comp=Z,13nm,1.0s,baz=322,slow=2.6,SNR=14						
BOSA				PKKP	**PKKPdf**	**21 56 30.7**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=305,slow=1.3,SNR=3.8						
BOSA				SKKPbc	SKKPbc	21 58 42.8	-2.7
	comp=Z,2.7nm,0.9s,baz=342,slow=5.3,SNR=2.1						
BOSA	**Boshof**	**126.14**	**206**		**PKPdf**	**21 46 14.5**	**-0.6**
TMAB	**Tom-Au,PA,Br**	**126.25**	**109**	*e*P	**PKiKP**	**21 46 16.7**	**+0.8**
JLN	**Jalan Bani Buh**	**126.42**	**283**	P	**PKiKP**	**21 46 15.9**	**-0.2**
	SNR=12						
NBIT	**Itapeh - BA**	**126.47**	**128**	*e*P	**PKiKP**	**21 46 16.6**	**+0.2**
AKTO	**Aktyubinsk**	**126.81**	**318**	PKP	**PKPdf**	**21 46 15.1**	**-0.3**
	comp=Z,126nm,0.8s,baz=44,slow=2.9,SNR=161						
AKTO				PKKPbc	**PKKPbc**	**21 55 47.8**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=286,slow=5.0,SNR=3.6						
WBK	**Wadi Bani Khal**	**126.90**	**283**	P	**PKPdf**	**21 46 16.6**	**+0.2**
	SNR=5.2						
GDU01	**Guandu, BA**	**127.13**	**127**	*e*P	**PKiKP**	**21 46 17.5**	**-0.2**
WSAR	**Wadi Sarin**	**127.31**	**284**	PKP	**PKiKP**	**21 46 17.9**	**+0.1**
	comp=Z,52nm,1.0s,baz=234,slow=1.6,SNR=21						
WSAR	**Wadi Sarin**	**127.31**	**284**	P	**PKiKP**	**21 46 17.5**	**-0.3**
	SNR=9.5						
MHTO	**MHTO**	**127.55**	**281**	P	**PKPdf**	**21 46 17.8**	**+0.1**
	SNR=13						
JMDO	**Jabal Madar**	**127.66**	**283**	P	**PKiKP**	**21 46 18.7**	**+0.1**
	SNR=9.3						
DQM	**DQM**	**127.75**	**280**	P	**PKiKP**	**21 46 18.9**	**+0.1**
	SNR=5.3						
ISOG	**Isortoq, Green**	**127.76**	**20**⇓	*i*P	**PKPdf**	**21 46 15.9**	**-0.8**
ISOG				IAmb	IAmb	21 46 18.2	
	comp=Z,104nm,1.1s						
ISOG				*i*		21 48 24.1	
BIDO	**Bidbid**	**127.81**	**284**	P	**PKiKP**	**21 46 19.0**	**+0.2**
	SNR=15						
SMDO	**Samad**	**127.81**	**284**	P	**PKPdf**	**21 46 18.5**	**+0.2**
	SNR=18						
NRS	**Narsarsuaq**	**127.86**	**27**⇓	*i*P	**PKPdf**	**21 46 16.5**	**-0.5**
NRS				IAmb	IAmb	21 46 17.5	
	comp=Z,235nm,1.1s						
NRS	**Narsarsuaq**	**127.86**	**27**⇓	*i*PKIKP	**PKPdf**	**21 46 16.5**	**-0.5**
NRS				pmax	pmax		
	comp=Z,240nm,1.1s						
SCO	**Scoresbysund**	**128.04**	**10**⇓	*i*P	**PKiKP**	**21 46 17.8**	**-0.1**
SCO				IAmb	IAmb	21 46 18.8	
	comp=Z,176nm,1.3s						
SCO	**Scoresbysund**	**128.04**	**10**⇓	*i*PKIKP	**PKiKP**	**21 46 17.7**	**-0.1**
SCO				pmax	pmax		
	comp=Z,180nm,1.3s						
HAMF	**Hammerfest**	**128.13**	**351**	*e*PKPdf	**PKPdf**	**21 46 16.9**	**-0.5**
HAMF				*ep*PKPdf	**pPKPdf**	**21 48 27.1**	**-2.7**
HAMF				*e*SS	SS	22 05 02.4	+2.6
ANGG	**Ammassalik, Gr**	**128.14**	**20**⇓	*i*P	**PKPdf**	**21 46 16.4**	**-1.1**
ANGG				IAmb	IAmb	21 46 17.7	
	comp=Z,50nm,1.0s						
LVZ	**Lovozero**	**128.26**	**345***c*	*i*PKIKP	**PKPdf**	**21 46 17.7**	**0.0**
LVZ				pmax	pmax		
	comp=Z,113nm,0.8s						
LVZ	**Lovozero**	**128.26**	**345**		**PKPdf**	**21 46 17.3**	**-0.4**
NBPN	**Ponto Novo - B**	**128.42**	**123**	*e*P	**PKPdf**	**21 46 19.9**	**+0.2**
GEYT	**Alibeck**	**128.47**	**303**	PKhKP	PKPpre	21 46 04.2	
	comp=Z,11nm,0.7s,baz=90,slow=1.4,SNR=14						
GEYT				PKP	**PKPdf**	**21 46 18.8**	**-0.2**
	comp=Z,82nm,0.7s,baz=197,slow=2.5,SNR=65						
GEYT				PP	pPKPdf	21 48 31.8	+0.5
	comp=Z,27nm,1.1s,baz=116,slow=6.6,SNR=8.0						
BSY	**Bisya**	**128.54**	**283**	P	**PKiKP**	**21 46 20.1**	**-0.2**
	SNR=12						
HOQ	**Hoqain**	**128.56**	**284**	P	**PKiKP**	**21 46 20.1**	**-0.2**
	SNR=5.9						
ARMS	**Ukamas**	**128.70**	**201**	*i* P	**PKiKP**	**21 46 21.6**	**+0.9**
KIRV	**Kirov**	**128.76**	**330**	PKP	**PKPdf**	**21 46 19.0**	**+0.2**
	comp=Z,193nm,0.8s,baz=80,slow=1.1,SNR=83						
KIRV				SKPab	SKPab	21 48 48.0	
	comp=Z,86nm,0.7s,baz=31,slow=0.3,SNR=13						
APA	**Apatity**	**128.82**	**345**⇑	*i*PKIKP	**PKPdf**	**21 46 17.1**	**-1.6**
APA				*i*		21 48 40.0	
APA				*i* PPP	PPP	21 51 28.0	
APA				pmax	pmax		
	comp=Z,86nm,0.8s						
ARA0	**ARCESS Array S**	**128.82**	**349**	*e*	PKPpre	21 46 05.9	
ARA0				*e*PKPdf	**PKPdf**	**21 46 18.8**	**+0.1**
ARCES	**ARCESS Array B**	**128.82**	**349**	PKhKP	PKPpre	21 46 05.8	
	comp=Z,5.4nm,0.7s,baz=5.7,slow=0.9,SNR=24						
ARCES				PKP	**PKPdf**	**21 46 18.2**	**-0.6**
	comp=Z,85nm,0.6s,baz=2.6,slow=2.0,SNR=68						
ARCES				SKPab	SKPab	21 48 48.3	
	comp=Z,42nm,0.8s,baz=19,slow=4.1,SNR=13						
ARCES				PKKPbc	PKKPbc	21 55 39.6	
	comp=Z,2.4nm,0.6s,baz=213,slow=3.0,SNR=13						
ARCES				PKKP	**PKKPdf**	**21 56 25.9**	**-2.2**
	comp=Z,3.9nm,0.8s,baz=212,slow=2.4,SNR=6.3						
ARCES				SKKPbc	**SKKPbc**	**21 58 36.6**	**-3.5**
	comp=Z,3.8nm,0.9s,baz=208,slow=1.7,SNR=4.1						
PRGR	**Permogore**	**128.87**	**335**	*e*PKIKP	**PKPdf**	**21 46 16.5**	**-2.5**
PRGR				*e*		21 48 31.4	
PRGR				pmax	pmax		
	comp=Z,65nm,1.4s						
JMIC	**Jan Mayen**	**129.12**	**4**	*e*PKPdf	**PKiKP**	**21 46 20.4**	**+0.4**
JMIC				*ep*PKPdf	**pPKPdf**	**21 48 30.4**	**-1.4**
JMIC				*e*SS	SS	22 05 15.9	+4.2
ARQ	**Araqi**	**129.24**	**284**	P	**PKiKP**	**21 46 21.4**	**-0.3**
	SNR=10						
SOCY	**Socotra**	**129.26**	**269**		**PKPdf**	**21 46 21.6**	**+0.3**
SOHO	**SOHO**	**129.34**	**285**	*i* PKPdf	**PKPdf**	**21 46 20.3**	**-0.7**
	SNR=66						
SOHO	**SOHO**	**129.34**	**285**	P	**PKPdf**	**21 46 20.0**	**-1.0**
JETT	**Jettan, Norway**	**129.59**	**352**	*e*	PKPpre	21 45 57.4	
JETT				*e*PKPdf	**PKPdf**	**21 46 19.7**	**-0.6**
KTK1	**Kautokeino**	**129.67**	**350**	*e*PKPdf	**PKPdf**	**21 46 20.0**	**-0.4**
MDH	**Madha**	**129.69**	**286**	*i* PKPdf	**PKPdf**	**21 46 20.7**	**-1.0**
	SNR=12						
MDH	**Madha**	**129.69**	**286**	P	**PKPdf**	**21 46 21.5**	**-0.1**
	SNR=12						
TRO	**Tromso**	**129.72**	**352**	*e*PKPdf	**PKPdf**	**21 46 19.9**	**-0.5**
TRO				*ep*PKPdf	**pPKPdf**	**21 48 32.6**	**-0.3**
TRO				*e*SS	SS	22 05 21.6	+2.7
DMTO	**DMTO**	**129.72**	**276**	P	**PKPdf**	**21 46 22.1**	**+0.2**
UOSS	**Minazif**	**129.73**	**286**	*i* PKPdf	**PKPdf**	**21 46 20.7**	**-1.1**
	SNR=9.7						
UOSS	**Minazif**	**129.73**	**286**	P	**PKPdf**	**21 46 21.4**	**-0.4**
BANOM	**Banah**	**129.75**	**287**	*i* PKPdf	**PKPdf**	**21 46 21.4**	**-0.5**
	SNR=6.2						
BANOM	**Banah**	**129.75**	**287**	P	**PKPdf**	**21 46 22.1**	**+0.3**
HATD	**Hatta, Dubai**	**129.78**	**286**	*i* PKPdf	**PKPdf**	**21 46 21.2**	**-0.7**
	SNR=38						
HATD	**Hatta, Dubai**	**129.78**	**286**	P	**PKPdf**	**21 46 21.4**	**-0.5**
	SNR=28						
MSFE	**Esma-Masafi**	**129.82**	**286**	*i* PKPdf	**PKPdf**	**21 46 21.2**	**-0.7**
	SNR=32						
MASF	**Masafi**	**129.82**	**286**	P	**PKiKP**	**21 46 22.7**	**-0.1**
	SNR=15						
ASHO	**Ashiyiah**	**129.83**	**286**	*i* PKPdf	**PKPdf**	**21 46 21.0**	**-1.0**
	SNR=37						
ASHO	**Ashiyiah**	**129.83**	**286**	P	**PKPdf**	**21 46 22.3**	**+0.3**
	SNR=24						
SHME	**Shamm**	**129.90**	**287**	*i* PKPdf	**PKPdf**	**21 46 20.8**	**-1.2**
	SNR=12						
ALNE	**Al Ain**	**130.04**	**285**	*i* PKPdf	**PKPdf**	**21 46 22.0**	**-0.4**
	SNR=5.7						
ALNE	**Al Ain**	**130.04**	**285**	P	**PKPdf**	**21 46 22.7**	**+0.3**
	SNR=5.7						
NAZ	**Nazwa, Dubai**	**130.22**	**286**	*i* PKPdf	**PKPdf**	**21 46 22.0**	**-0.7**
	SNR=24						
NAZ	**Nazwa, Dubai**	**130.22**	**286**	P	**PKPdf**	**21 46 22.9**	**+0.3**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**130.26**	**286**	*i* PKPdf	**PKPdf**	**21 46 21.8**	**-1.0**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**130.26**	**286**	P	**PKPdf**	**21 46 23.1**	**+0.3**
	SNR=5.9						
RBK	**Rabkut**	**130.37**	**276**	P	**PKPdf**	**21 46 23.5**	**+0.3**
UMZA	**Um Al Zommool**	**130.40**	**283**	P	**PKPdf**	**21 46 21.7**	**-1.4**
ASUD	**Al Ashush, Dub**	**130.49**	**285**	*i* PKPdf	**PKPdf**	**21 46 22.4**	**-0.7**
	SNR=23						
ASUD	**Al Ashush, Dub**	**130.49**	**285**	P	**PKPdf**	**21 46 23.5**	**+0.3**
	SNR=12						
AJN	**Ajban**	**130.79**	**285**	*i* PKPdf	**PKPdf**	**21 46 23.2**	**-0.6**
	SNR=6.4						
AJN	**Ajban**	**130.79**	**285**	P	**PKPdf**	**21 46 23.9**	**+0.2**
	SNR=6.3						
WHFO	**Wadi Hawf**	**130.86**	**276**	P	**PKPdf**	**21 46 24.6**	**+0.5**
AUSN	**Aus**	**131.04**	**197**	*i* P	PKPpre	21 46 09.6	
ABTO	**Aybut**	**131.18**	**275**	P	**PKPdf**	**21 46 25.0**	**+0.3**
N2VI	**Vinje**	**131.51**	**354**	*e*PKPdf	**PKPdf**	**21 46 23.4**	**-0.4**
MATP	**Matopo**	**131.60**	**215**	PKhKP	PKPpre	21 46 09.1	
	comp=Z,6.0nm,0.6s,baz=152,slow=3.1,SNR=17						
MATP				PKP	**PKPdf**	**21 46 25.9**	**+0.2**
	comp=Z,78nm,0.8s,baz=176,slow=2.0,SNR=64						
MATP				SKPab	**SKPab**	**21 49 00.8**	**+1.2**
	comp=Z,114nm,1.1s,baz=146,slow=3.9,SNR=14						
N2IH	**Innhavet**	**131.66**	**353**	*e*	PKPpre	21 46 10.1	
N2IH				*e*PKPdf	**PKPdf**	**21 46 23.8**	**-0.2**
KLMR	**Klimovskoe**	**131.71**	**336**	*e*PKIKP	**PKPdf**	**21 46 22.2**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,268nm,1.2s						
KLMR	**Klimovskoe**	**131.71**	**336**	*e*PKPdf	**PKPdf**	**21 46 22.3**	**-2.1**
KLMR				AMP		21 46 26.4	
	comp=Z,268nm,1.2s						
KLMR				*e*PP	**PP**	**21 48 46.1**	**-7.0**
KLMR				*e*PKKP	**PKKPdf**	**21 56 21.0**	**-1.3**
KLMR				*e*SP	SP	21 57 46.3	-25
KLMR				*e*SKKPbc	**SKKPbc**	**21 58 23.8**	**-5.6**
LOF	**Lofoten**	**131.76**	**354**	*e*PKPdf	**PKPdf**	**21 46 23.7**	**-0.5**
LOF				IVmB_BB		21 46 25.4	
	comp=Z,1μm,2.2s						
LOF				*e*PP	**PP**	**21 48 55.0**	**+2.0**
LOF				*e*SS	SS	22 05 44.8	+1.3
STEI	**Steigen**	**131.78**	**353**	*e*PKPdf	**PKPdf**	**21 46 24.0**	**-0.3**
STEI				*ep*PKPdf	**pPKPdf**	**21 48 36.5**	**-0.3**
N2TV	**TΨrnvik**	**132.14**	**353**	*e*	PKPpre	21 46 11.7	
N2TV				*e*PKPdf	sPdif	21 46 24.6	-0.2
N2ST	**Straumen**	**132.29**	**353**	*e*PKPdf	**PKPdf**	**21 46 25.1**	**-0.2**
N2VA	**Vr_y**	**132.29**	**354**	*e*PKPdf	**PKPdf**	**21 46 24.9**	**-0.3**
FAUS	**Fauske**	**132.29**	**353**	*e*PKPdf	**PKPdf**	**21 46 24.9**	**-0.4**
FAUS				IVmBBB		21 46 26.6	
	comp=Z,911nm,1.7s						
FAUS				*e*PP	**PP**	**21 48 58.9**	**+2.5**
FAUS				*e*SS	SS	22 05 53.0	+3.0
BELG	**Belogornoye**	**132.37**	**323**	PKhKP	PKPpre	21 46 09.6	
	comp=Z,17nm,0.7s,baz=137,slow=1.4,SNR=11						
BELG				PKiKP	sPdif	21 46 25.7	0.0
	comp=Z,717nm,0.9s,baz=340,slow=1.1,SNR=88						
BELG				SKPab	**SKPab**	**21 49 01.9**	**+0.1**
	comp=Z,389nm,0.9s,baz=77,slow=0.5,SNR=22						
N2RO	**R_st**	**132.49**	**355**	*e*PKPdf	**PKPdf**	**21 46 25.4**	**-0.2**
GHWR	**Ruwais**	**132.64**	**284**	P	**PKPdf**	**21 46 27.7**	**+0.4**
NBB05	**Inuvkyr**	**132.77**	**353**	*e*PKPdf	**PKPdf**	**21 46 26.5**	**+0.3**
NBB30	**Finnes**	**132.86**	**354**	*e*PKPdf	**PKPdf**	**21 46 26.0**	**-0.4**
BORG	**Borgarnes**	**133.18**	**13**	PKP	**PKPdf**	**21 46 27.5**	**+0.5**
	comp=Z,62nm,0.9s,baz=318,slow=1.7,SNR=19						
BORG				SKPab	**SKPab**	**21 49 04.1**	**-0.8**
	comp=Z,36nm,1.0s,baz=338,slow=1.4,SNR=6.8						
BORG	**Borgarnes**	**133.18**	**13**	PKIKP	**PKPdf**	**21 46 26.1**	**-0.9**
BORG	**Borgarnes**	**133.18**	**13**		**PKPdf**	**21 46 26.1**	**-0.9**
NBB40	**Tonnes**	**133.38**	**354**	*e*	PKPpre	21 46 13.6	
NBB40				*e*PKPdf	**PKPdf**	**21 46 27.3**	**0.0**
KONS	**Konsvik**	**133.38**	**354**	*e*PKPdf	**PKPdf**	**21 46 27.6**	**+0.3**
KONS				*e*PP	**PP**	**21 49 04.8**	**+1.5**
MOR8	**Moi Rana**	**133.56**	**353**	*e*PKPdf	**PKPdf**	**21 46 26.8**	**-1.0**
SLWR	**Sila**	**133.72**	**284**	P	**PKiKP**	**21 46 30.8**	**+0.1**
TRNA	**Frayna**	**134.22**	**285**	P	**PKiKP**	**21 46 31.1**	**-0.6**
SHMA	**Al-Shehemyia**	**134.53**	**287**	P	**PKiKP**	**21 46 31.9**	**-0.4**
WIN	**Windhoek**	**134.64**	**200**	*i* P	PKPpre	21 46 19.2	
RCBR	**Riachuelo**	**134.81**	**121**	PKhKP	PKPpre	21 46 19.7	
	comp=Z,6.3nm,0.7s,baz=125,slow=12,SNR=1.6						
RCBR				PKP	**PKPdf**	**21 46 31.9**	**+0.2**
	comp=Z,29nm,0.8s,baz=201,slow=4.1,SNR=7.3						
RCBR				SKPbc	**SKPbc**	**21 49 09.1**	**0.0**
	comp=Z,54nm,0.8s,baz=43,slow=3.1,SNR=13						
NSS	**Namsos**	**135.42**	**354**	*e*	PKPpre	21 46 18.7	
NSS				*e*PKPdf	**PKPdf**	**21 46 31.1**	**-0.1**
FINES	**FINESS Array B**	**135.64**	**343**	PKhKP	PKPpre	21 46 17.5	
	comp=Z,5.5nm,0.5s,baz=47,slow=3.3,SNR=32						
FINES				PKP	**PKPdf**	**21 46 31.1**	**-0.6**
	comp=Z,109nm,0.9s,baz=35,slow=5.1,SNR=27						
FINES				SKP		21 49 12.1	
	comp=Z,50nm,0.8s,baz=59,slow=5.1,SNR=16						
FINES				PKKPbc	PKKPbc	21 55 18.6	
	comp=Z,1.5nm,0.8s,baz=201,slow=1.0,SNR=4.1						
FINES				SKKPbc	SKKPbc	21 58 12.3	-2.8
	comp=Z,1.3nm,0.6s,baz=183,slow=2.8,SNR=6.7						
MAK	**Makhachkala**	**135.66**	**311**	*e*P	**Pdif**	**21 43 39.3**	**0.0**
MAK				*i*		21 46 33.7	
MAK				*e*		21 48 42.4	
MAK				*e*		21 49 17.6	
MAK				*e*		21 52 50.6	
MAK				*e*SS	SS	22 06 25.5	-6.5
MAK				*e*SSS	SSS	22 11 44.6	
MAK				pmax	pmax		
	comp=Z,304nm,0.8s						
MOS	**Moscow**	**135.70**	**332**	*e*PKHKP	PKPpre	21 46 13.6	
MOS				*i*		21 46 30.7	
MOS				pmax	pmax		
	comp=Z,201nm,0.9s						
PUL	**Pulkovo**	**135.72**	**340***c*	*i*PKIKP	**PKiKP**	**21 46 32.8**	**-0.8**
PUL				pmax	pmax		
	comp=Z,340nm,1.0s						
AKT	**Akhty**	**135.88**	**309**	*e*PKHKP	PKPpre	21 46 19.8	
AKT				*e*		21 46 32.0	
AKT				*e*		21 49 18.7	
AKT				pmax	pmax		
	comp=Z,127nm,0.8s						
LSZ	**Lusaka**	**135.93**	**218**	PKhKP	PKPpre	21 46 23.0	
	comp=Z,7.1nm,0.5s,baz=106,slow=0.7,SNR=15						
LSZ				PKP	**PKPdf**	**21 46 34.0**	**+0.2**
	comp=Z,100nm,0.8s,baz=219,slow=1.1,SNR=17						
LSZ				SKP		21 49 14.4	
	comp=Z,9.1nm,0.8s,baz=89,slow=6.4,SNR=3.2						
VRH	**Novokhopyorsk**	**136.18**	**324**	*e*PKIKP	**PKPdf**	**21 46 32.8**	**-0.2**
VRH				pmax	pmax		
	comp=Z,210nm,0.6s						
OBN	**Obninsk**	**136.56**	**331**	⇑P	PKPpre	21 46 24.4	
OBN	**Obninsk**	**136.56**	**331**	*i* PKIKP	**PKPdf**	**21 46 33.5**	**-0.1**
OBN				*i*		21 52 51.1	
OBN				pmax	pmax		
	comp=Z,213nm,0.8s						
TBLU	**Trondheim**	**136.84**	**354**	*e*PKPdf	**PKPdf**	**21 46 32.3**	**-1.6**
LPSR	**Galich'ya Gora**	**136.92**	**327**	*e*PKIKP	**PKPdf**	**21 46 34.4**	**0.0**
LPSR				pmax	pmax		
	comp=Z,230nm,1.1s						
RAF	**Rauma**	**137.08**	**346**	*e*P	PKPpre	21 46 25.3	
MEF	**Metsahovi**	**137.12**	**344**	*e*P	PKPpre	21 46 24.8	
VORR	**Voronezh**	**137.28**	**326**	*e*PKIKP	**PKPdf**	**21 46 34.0**	**-1.1**
VORR				pmax	pmax		
	comp=Z,300nm,1.4s						
UMR	**Umm Al-Rimmam**	**137.50**	**292**	*e*P	PKPpre	21 46 24.6	
TSUM	**Tsumeb**	**137.59**	**203**	PKhKP	PKPpre	21 46 27.8	
	comp=Z,12nm,0.7s,baz=128,slow=3.2,SNR=17						
TSUM				PKP	**PKPdf**	**21 46 37.8**	**+0.9**
	comp=Z,61nm,0.9s,baz=95,slow=1.7,SNR=25						
TSUM				SKPbc	**SKPbc**	**21 49 15.2**	**-2.2**
	comp=Z,18nm,1.0s,baz=256,slow=1.5,SNR=3.0						
TSUM	**Tsumeb**	**137.59**	**203**		PKPpre	21 46 26.7	
VORD	**Divnogorie**	**137.62**	**325**	*e*PKIKP	**PKPdf**	**21 46 34.7**	**-1.0**
VORD				pmax	pmax		
	comp=Z,110nm,0.7s						
RDF	**Al-Radifah**	**137.65**	**291**	*e*P	PKPpre	21 46 24.8	
MOL	**Molde**	**137.73**	**356**	*e*PKPdf	**PKPdf**	**21 46 35.1**	**-0.5**
MOL				*e*SKPdf	**SKPbc**	**21 49 17.4**	**+1.3**
MOL				*e*PKSdf	**PKSdf**	**21 50 12.0**	**+0.7**
MIB	**Mutribah**	**137.82**	**292**	*e*P	PKPpre	21 46 25.5	
VSU	**Vasula**	**137.90**	**341**	*e*P	PKPpre	21 46 27.8	
VSU	**Vasula**	**137.90**	**341**	*i* PKIKP	**PKPdf**	**21 46 35.1**	**-0.9**
RUDU	**RUNDU**	**137.94**	**206**	*i* P	PKPpre	21 46 30.3	
GOF	**Gofitskoye**	**138.04**	**315**⇑	*e*PKHKP	PKPpre	21 46 29.1	
GOF				pmax	pmax		
	comp=Z,172nm,0.9s						
RST	**Umm Al-Ruwaisa**	**138.12**	**292**	*e*P	PKPpre	21 46 25.8	
DOMB	**Dombas**	**138.14**	**355**	*e*PKPdf	PKPpre	21 46 29.2	
DOMB				*e*SKPdf	**SKPdf**	**21 49 18.6**	**+1.0**
AKN	**Aaknes**	**138.16**	**356**	*e*PKPdf	**PKPdf**	**21 46 36.8**	**+0.4**
AKN				*e*SKPdf	**SKPdf**	**21 49 19.0**	**+1.4**
AAL	**Aland**	**138.23**	**346**	*e*P	PKPpre	21 46 26.4	
ZEI	**Tsey**	**138.25**	**312**	*i* PKHKP	PKPpre	21 46 29.8	
ZEI				pmax	pmax		
	comp=Z,69nm,1.0s						
GNI	**Garni**	**138.41**	**308**	PKhKP	PKPpre	21 46 29.5	
	comp=Z,16nm,1.0s,baz=320,slow=2.9,SNR=7.7						
GNI				PKP	**PKPdf**	**21 46 38.0**	**+0.3**
	comp=Z,95nm,1.0s,baz=360,slow=2.8,SNR=31						
GNI				SKPab	**SKPab**	**21 49 28.1**	**-1.0**
	comp=Z,33nm,1.1s,baz=118,slow=7.1,SNR=4.0						
GNI				SKKPbc	**SKKPbc**	**21 58 06.9**	**+3.2**
	comp=Z,32nm,1.2s,baz=296,slow=2.8,SNR=7.5						
GNI	**Garni**	**138.41**	**308**	PKPdf	PKPpre	21 46 27.4	
GNI	**Garni**	**138.41**	**308**		PKPpre	21 46 29.2	
KBZ	**Khabaz**	**138.62**	**314**	PKhKP	PKPpre	21 46 29.3	
	comp=Z,14nm,0.8s,baz=143,slow=2.0,SNR=28						
KBZ				SKPab	**SKPab**	**21 49 30.4**	**+0.7**
	comp=Z,14nm,0.9s,baz=63,slow=2.3,SNR=5.6						
KBZ				SKKPbc	**SKKPbc**	**21 58 02.6**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=211,slow=3.9,SNR=4.3						
KBZ	**Khabaz**	**138.62**	**314***d*	*i*PKIKP	**PKPdf**	**21 46 37.1**	**-0.6**
KIV	**Kislovodsk**	**138.68**	**314**	⇑P	PKPpre	21 46 31.2	
KIV	**Kislovodsk**	**138.68**	**314**	*i* PKPdf	PKPpre	21 46 29.7	
	SNR=12

ANN *e* 21 49 52.6
ANN *e* 21 52 55.1
ANN pmax pmax
comp=Z,117nm,0.8s
ANN pmax pmax
comp=Z,72nm,0.8s
HOMB Homborsund 141.91 354 *e*PKPdf **PKPdf 21 46 39.6 -3.6**
HOMB *e*SS SS 22 07 42.6 +0.3
SNART Snartemo 141.96 355 *e*PKPdf **PKPdf 21 46 39.5 -3.8**
MARD Mardin 142.14 305 **PKPdf 21 46 41.5 -3.0**
ONAU Onsala 142.35 351 ⇓*i*P **PKPdf 21 46 39.7 -4.3**
ONAU ⇓*i*P **PKiKP 21 46 39.9 -7.4**
FURI Furi 142.46 258 **PKPdf 21 46 45.3 -0.6**
FABU Falkenberg 142.60 350 ⇓*i*P **PKPdf 21 46 41.0 -3.4**
SUW Suwalki 142.68 339 *e*PKP **PKPdf 21 46 41.9 -2.8**
SUW Suwalki 142.68 339 *e*P **PKPdf 21 46 43.0 -1.7**
AKASG Malin Array Be 142.82 331 PKhKP PKPpre 21 46 42.1
comp=Z,505nm,0.6s,baz=43,slow=4.6,SNR=1819
AKASG SKP 21 49 26.6
comp=Z,3.2nm,0.6s,baz=36,slow=2.3,SNR=1.3
AKASG SKKPbc SKKPbc 21 57 44.1 -2.6
comp=Z,0.5nm,0.3s,baz=248,slow=4.3,SNR=6.7
DEL Delary 142.91 349 *i* P **PKPdf 21 46 42.4 -2.6**
LODK Lodwar 143.04 247 P **PKPdf 21 46 45.9 -0.8**
GOET G??ttrup 143.05 353 ⇓*i*P PKPbc 21 46 43.7 +0.3
GOET IAmb IAmb 21 46 44.7
comp=Z,770nm,0.8s
SHEL Horse Pasture 143.09 168 PKiKP **PKPdf 21 46 46.4 -0.3**
SHEL Horse Pasture 143.09 168 **PKPdf 21 46 46.4 -0.3**
BJUU Bjuv 143.44 349 ⇓*i*P PKPab 21 46 44.5 0.0
DRUM Mains of Drumt 143.47 4 *e*P PKPab 21 46 44.1 -0.5
GID Gilleleje 143.53 350 *i* P PKPbc 21 46 45.4 +0.5
MUD Monsted U'grnd 143.62 353 ⇓*i*P PKPbc 21 46 45.6 +0.4
MUD IAmb IAmb 21 46 46.5
comp=Z,2μm,1.0s
MUD Monsted U'grnd 143.62 353 ⇓*i*PKiKP PKPbc 21 46 45.6 +0.4
MUD pmax pmax
comp=Z,2μm,1.0s
SIM Simferopol' 143.74 320 *d i*PKiKP PKPbc 21 46 45.8 -0.2
SIM pmax pmax
comp=Z,1μm,0.8s
LUNU Lund 143.78 349 *i* P PKPbc 21 46 45.0 -0.7
LUNU ⇓*i*P PKPab 21 46 45.8 0.0
COP Copenhagen 143.91 350 ⇓*i*P PKPab 21 46 46.4 +0.1
COP IAmb IAmb 21 46 47.2
comp=Z,999nm,1.0s
COP Copenhagen 143.91 350 ⇓*i*PKiKP PKPab 21 46 46.4 +0.1
COP pmax pmax
comp=Z,1μm,1.0s
BSD Bornholm Skovb 143.98 347 *e*P **PKPdf 21 46 46.8 -0.1**
BSD Bornholm Skovb 143.98 347 ⇓*i*P PKPbc 21 46 46.2 -0.2
BSD IAmb IAmb 21 46 47.3
comp=Z,1μm,0.9s
BSD Bornholm Skovb 143.98 347 ⇓*i*PKiKP PKPbc 21 46 46.1 -0.3
BSD pmax pmax
comp=Z,1μm,0.9s
DIKM Dikmen 144.61 314 ⇑P **PKPdf 21 46 45.8 -2.7**
MBAR Mbarara 144.64 237 PKP **PKPab 21 46 50.4 -0.2**
comp=Z,496nm,0.8s,baz=129,slow=2.6,SNR=463
MBAR Mbarara 144.64 237 PKPbc 21 46 50.2 +0.2
MBAR Mbarara 144.64 237 P **PKPab 21 46 51.5 +0.8**
RGN Rugen 144.83 348 PKPbc 21 46 49.3 +0.3
RGN Rugen 144.83 348 *e*PKPbc **PKPab 21 46 50.1 +0.2**
baz=17,slow=2.5
CLGH Cloghs, Cushen 144.94 8 *e*P **PKPdf 21 46 48.2 -0.4**
SORM Soroca 145.00 328 ⇓P **PKPdf 21 46 48.4 -0.5**
SORM Soroca 145.00 328 ⇓PKiKP **PKPdf 21 46 48.4 -0.5**
ESK Eskdalemuir 145.01 5 *e*P **PKPdf 21 46 48.3 -0.4**
ESK Eskdalemuir 145.01 5 PKiKP **PKPbc 21 46 49.6 0.0**
ESK Eskdalemuir 145.01 5 **PKPbc 21 46 49.6 0.0**
GKP Gorka Klasztor 145.12 344 *e*PKP **PKPbc 21 46 49.7 -0.2**
GKP *e*PP **PP 21 50 12.6 -1.9**
GKP Gorka Klasztor 145.12 344 *e*P **PKPbc 21 46 50.3 +0.4**
NEWG New Galloway 145.12 6 *e*P **PKPdf 21 46 48.6 -0.3**
SKMB Sankelmark Bun 145.29 352 *e*PKPbc **PKPab 21 46 51.4 -0.2**
baz=17,slow=2.5
BEL Belsk 145.30 339 *e*PKPbc **PKPbc 21 46 50.2 -0.3**
BEL *e*PKPab **PKPab 21 46 51.6 -0.2**
BEL *e*PP **PP 21 50 13.9 -1.8**
BZK Bozkurt 145.30 315 ⇓P **PKPdf 21 46 45.5 -4.2**
KIS Kishinev 145.52 326 *i* P **PKPdf 21 46 48.7 -1.2**
comp=Z,1μm,6.5s
KIS Kishinev 145.52 326 *e*PKP 21 48 50.5
KIS Kishinev 145.52 326 ⇓P **PKPdf 21 46 47.4 -2.4**
KIS Kishinev 145.52 326 *i* PKiKP **PKPdf 21 46 48.7 -1.2**
KIS *e* 21 49 58.0
MILM Milestii Mici 145.57 326 ⇑P **PKPdf 21 46 48.3 -1.6**
EDMD Edmundbyers 145.58 4 *e*P **PKPdf 21 46 49.7 -0.1**
LNIZ Loecknitz 145.64 347 *e*PKPbc **PKPab 21 46 52.4 -0.7**
baz=17,slow=2.5
LVV L'vov 145.72 334 *e*PKiKP **PKPdf 21 46 50.2 +0.1**
LVV *e* 21 49 03.0
LVV *e* 21 49 58.0
LVV *e* 21 53 42.0
BSEG Bad Segeberg 145.93 351 *e*PKPbc **PKPbc 21 46 53.1 +0.8**
baz=17,slow=2.5
ILTH Belurgan, Co L 145.94 8 *e*P **PKPdf 21 46 50.7 +0.4**
HLG Helgoland 146.00 353 *e*PKPbc **PKPab 21 46 53.5 -0.9**
baz=17,slow=2.5
GDLE Glaisdale, N Y 146.05 3 *e*P **PKPdf 21 46 50.9 +0.3**
H07N1 FLORES T-PHASE 46.06 48 PKPbc **PKPdf 21 46 50.8 -0.3**
H07N1 FLORES T-PHASE 46.06 48 *e*PKP **PKPbc 21 46 54.0 +0.9**
H07S1 FLORES T-PHASE 46.12 49 PKPbc **PKPdf 21 46 51.2 0.0**
SNR=14
H07S1 FLORES T-PHASE 46.12 49 *e*PKP **PKPbc 21 46 53.6 +0.3**
VASR Vaslui 146.28 327 ⇑P **PKPdf 21 46 50.4 -0.8**
BRTR Keskin Array B 146.56 312 PKP **PKPdf 21 46 52.0 -0.1**
comp=Z,192nm,0.7s,baz=130,slow=1.1,SNR=153
BRTR PKPbc **PKPbc 21 46 54.9 +0.2**
comp=Z,204nm,0.7s,baz=116,slow=3.4,SNR=179
BRTR pPKPbc **pPKPdf 21 49 05.1 +0.3**
comp=Z,12nm,1.1s,baz=98,slow=2.0,SNR=1.8
BRTR SKPbc **SKPbc 21 49 37.2 -1.7**
comp=Z,13nm,0.9s,baz=115,slow=2.1,SNR=2.6
BRTR SKPab SKiKP 21 50 06.3 +27
comp=Z,18nm,0.9s,baz=80,slow=3.6,SNR=3.6
BRTR SKKPbc **SKKPbc 21 57 31.0 +0.1**
comp=Z,11nm,0.9s,baz=229,slow=4.5,SNR=16
PRAR RASCA 146.56 329 ⇑P **PKPdf 21 46 49.8 -1.9**
BIR Birlad 146.62 326 ⇑P **PKPdf 21 46 51.9 +0.2**
BIR Birlad 146.62 326 ⇑PKiKP **PKPdf 21 46 51.9 +0.2**
H10S3 ASCENSION HYDR 146.66 150 PKPbc **PKPdf 21 46 53.7 +1.2**
baz=200,slow=7.4,SNR=6.6
H10S2 ASCENSION HYDR 146.66 150 PKPbc **PKPbc 21 46 54.9 -0.2**
baz=20,slow=74,SNR=8.3
TLCR 146.68 324 ⇓P **PKPdf 21 46 51.7 -0.1**
TLCR 146.68 324 ⇓PKiKP **PKPdf 21 46 51.7 -0.1**
RUE Ruedersdorf 146.68 346 *e*PKPdf **PKPdf 21 46 52.2 +0.6**
baz=17,slow=1.5
RUE *e*PKPbc **PKPbc 21 46 55.2 +0.9**
baz=17,slow=2.5
HWQ Hawqa 146.74 302 *e*P **PKPdf 21 46 52.2 -0.3**
GIUM Giurgiulesti 146.82 325 ⇑P **PKPdf 21 46 50.8 -1.3**
BURAR Bucovina Array 146.86 330 ⇑P **PKPdf 21 46 51.6 -0.7**
GHRR 146.87 326 ⇑P **PKPdf 21 46 52.0 -0.2**
JURR Jurilovca 146.91 323 ⇓P **PKPdf 21 46 51.7 -0.5**
BIZ Bicaz 146.92 329 ⇓P **PKPdf 21 46 51.2 -1.1**
GISR Galati 146.93 325 ⇑P **PKPdf 21 46 50.8 -1.5**
TESR Tescani 146.95 328 ⇓P **PKPdf 21 46 49.9 -2.4**
OJC Ojcow 147.00 338 *e*PKPdf **PKPdf 21 46 52.5 +0.2**
OJC *e*PKPbc **PKPbc 21 46 55.9 +0.6**
OJC *e*PKPab **PKPab 21 46 59.8 +1.1**
SCHL Schela 147.01 325 ⇑P **PKPdf 21 46 51.5 -0.9**
RCY Rachaya 147.03 300 *e*P **PKPdf 21 46 53.5 +0.4**
LMK Market Rasen 147.03 2 *e*P **PKPdf 21 46 52.8 +0.6**
TUDR 147.04 325 ⇑P **PKPdf 21 46 52.9 +0.4**
CFR Carcaliu 147.06 325 ⇑P **PKPdf 21 46 51.8 -0.7**
CFR Carcaliu 147.06 325 ⇑PKiKP **PKPdf 21 46 51.8 -0.7**
BHL Bhannes 147.07 301 *e*P **PKPdf 21 46 53.1 +0.1**
ANTO Ankara 147.08 313 PKiKP **PKPdf 21 46 53.1 +0.3**
ANTO Ankara 147.08 313 **PKPdf 21 46 53.1 +0.3**
TPGR Topolog 147.10 324 ⇑P **PKPdf 21 46 53.3 +0.6**
KOLS Kolonicke sedl 147.13 335 *e*PKiKP **PKPdf 21 46 53.7 +1.2**
KOLS *e* 21 46 57.0
KOLS Kolonicke sedl 147.13 335 *e*PKP **PKPdf 21 46 53.7 +1.2**
KOLS *e* 21 46 57.0
QRWL Qaraoun 147.14 300 *e*P **PKPdf 21 46 53.9 +0.8**
STHS Stebnicka Huta 147.15 336 *e*PKP2 **PKPbc 21 46 56.0 +0.3**
STHS Stebnicka Huta 147.15 336 *e*PKP **PKPbc 21 46 56.0 +0.3**
PETR Petresti 147.18 326 ⇑P **PKPdf 21 46 52.1 -0.5**
DQRL Deir Qamar 147.19 301 *e*P **PKPdf 21 46 53.7 +0.5**
ODBI Odobesti 147.25 326 ⇑P **PKPdf 21 46 52.2 -0.6**
FLTG Flechtingen 147.33 349 *e*PKPdf **PKPdf 21 46 53.1 +0.4**
baz=17,slow=1.5
FLTG *e*PKPbc **PKPbc 21 46 56.7 +0.6**
baz=17,slow=2.5
VRI Vrincioaia 147.35 327 ⇑P **PKPdf 21 46 52.6 -0.4**
VRI Vrincioaia 147.35 327 ⇑PKiKP **PKPdf 21 46 52.6 -0.4**
TIRR Tirgusor 147.36 323 ⇓P **PKPdf 21 46 52.0 -1.0**
TIRR Tirgusor 147.36 323 ⇓PKHKP PKPpre 21 46 52.0
NRDL Niedersach Rie 147.36 350 *e*PKPdf **PKPdf 21 46 53.5 +0.8**
baz=17,slow=1.5
NRDL *e*PKPbc **PKiKP 21 46 56.9 -0.7**
baz=17,slow=2.5
NRDL *ep*PKPbc **pPKPab 21 49 08.6 +1.3**
UZH Uzhgorod 147.36 334 ⇓*i*PKP2 **PKiKP 21 46 57.5 -0.4**
PLOR Plostina 147.40 327 ⇑P **PKPdf 21 46 51.3 -1.8**
PLOR ⇓P **PKPbc 21 46 52.7 -3.8**
PLOR Plostina 147.40 327 ⇑PKHKP PKPpre 21 46 51.3
TSCT Constanta Port 147.40 323 ⇑P **PKPdf 21 46 53.3 +0.2**
EFOR EFORIE 147.47 323 ⇑P **PKPdf 21 46 52.9 -0.3**
CRVS Cervenica-Dubn 147.48 335 *e*PKiKP **PKPdf 21 46 53.5 +0.4**
CRVS *e* 21 47 01.7
CRVS Cervenica-Dubn 147.48 335 *e*PKP **PKPdf 21 46 53.5 +0.4**
CRVS *e* 21 46 57.7
CRVS *e* 21 47 01.7
IWEX Carrickbyrne, 147.49 10 *e*P **PKPdf 21 46 51.7 -1.3**
NIE Niedzica 147.50 337 *e*PKPdf **PKPdf 21 46 54.2 +1.1**
NIE *e*PKPbc **PKiKP 21 46 58.1 -0.1**
NIE *e*PKPab **PKPab 21 47 02.1 +1.3**
MMAI Mount Meron Ar 147.50 300 PKPbc **PKPbc 21 46 57.7 +0.5**
comp=Z,617nm,0.7s,baz=70,slow=3.6,SNR=407
MMAI *p*PKPbc **pPKPab 21 49 08.4 +0.5**
comp=Z,20nm,0.8s,baz=46,slow=4.2,SNR=3.1
MMAI SKKPbc 21 57 27.3
comp=Z,6.5nm,0.8s,baz=199,slow=2.3,SNR=6.8
TLBR Topalu 147.51 324 ⇓P **PKPdf 21 46 53.5 +0.3**
GRER 147.55 326 ⇑P **PKPbc 21 46 55.3 -1.6**
KSP Ksiaz 147.56 343 *e*PKPdf **PKPdf 21 46 53.7 +0.6**
KSP *e*PKPbc **PKiKP 21 46 57.9 -0.3**
KSP *e*PKPab **PKPab 21 47 02.3 +1.4**
BISRR Bisoca 147.57 326 ⇑P **PKPdf 21 46 54.1 +0.7**
BMR Baia Mare 147.60 332 ⇑P **PKPdf 21 46 53.8 +0.5**
BMR Baia Mare 147.60 332 ⇑PKiKP **PKPdf 21 46 53.8 +0.5**
ASSE Asse, Remlinge 147.62 350 *e*PKPdf **PKPdf 21 46 53.5 +0.4**
baz=17,slow=1.5
ASSE *e*PKPbc **PKiKP 21 46 57.5 -0.7**
baz=17,slow=2.5
CVDA Cernavoda 147.64 323 ⇑P **PKPdf 21 46 53.7 +0.2**
ARCR ARCALIA 147.65 330 ⇑P **PKPdf 21 46 54.1 +0.7**
OZUR 147.67 328 ⇓P **PKPdf 21 46 50.8 -2.8**
ASCN Ascension 147.69 149 **PKPbc 21 46 56.7 -1.5**
H10N3 ASCENSION HYDR 147.71 149 PKPbc **PKPbc 21 46 56.6 -1.3**
baz=196,slow=3.3,SNR=21
CWF Charnwood Fore 147.71 3 *e*P **PKPdf 21 46 51.7 -1.6**
H10N1 ASCENSION HYDR 147.71 149 PKPbc **PKPbc 21 46 57.1 -0.7**
baz=196,slow=3.3,SNR=18
H10N2 ASCENSION HYDR 147.72 149 PKPbc **PKPbc 21 46 57.1 -0.8**
baz=196,slow=3.3,SNR=19
WACR West Acre 147.79 1 *e*P **PKPdf 21 46 53.9 +0.4**
OSTC Ostas 147.83 342 *e*PKPDF **PKPdf 21 46 54.6 +0.9**
OSTC ⇑*e*PKP **PKiKP 21 46 58.6 -0.3**
CHVC Chvalec 147.85 343 *e*PKPDF **PKPdf 21 46 54.1 +0.4**
CHVC ⇑*e*PKP **PKiKP 21 46 58.4 -0.5**
AMRR Amara 147.86 324 ⇑P **PKPdf 21 46 54.5 +0.7**
AMRR Amara 147.86 324 ⇑PKHKP PKPpre 21 46 54.5
IBBN Ibbenburen 147.86 353 *e*PKPdf **PKPdf 21 46 53.8 +0.2**
baz=17,slow=1.5
IBBN *e*PKPbc **PKiKP 21 46 58.2 -0.6**
baz=17,slow=2.5
IBBN *e*PKPab **PKPab 21 47 02.7 +0.7**
baz=16,slow=4.2
IBBN *ep*PKPbc **pPKPab 21 49 10.1 +0.8**
NEHR Nehoiu 147.87 326 ⇓P **PKPdf 21 46 54.4 +0.5**
OKC Ostrava-Krasne 147.88 340 *e*PKHKP PKPpre 21 46 54.4
OKC *e* 21 47 03.1
OKC Ostrava-Krasne 147.88 340 *e*PKPDF **PKPdf 21 46 54.4 +0.7**
OKC ⇑*e*PKP **PKPbc 21 46 58.1 +0.5**
OKC *e*PKPAB **PKPab 21 47 03.1 +0.9**
ICOR Ion Corvin 147.91 323 ⇑P **PKPdf 21 46 54.8 +0.9**
UPC Upice 147.94 343 *e*PKHKP PKPpre 21 46 54.5
UPC Upice 147.94 343 *e*PKPDF **PKPdf 21 46 54.5 +0.7**
UPC ⇑*e*PKP **PKiKP 21 46 58.7 -0.4**
CLZ Clausthal 147.95 350 *e*PKPdf **PKPdf 21 46 54.6 +0.8**
baz=17,slow=1.5
CLZ *e*PKPbc **PKiKP 21 46 58.7 -0.4**
baz=17,slow=2.5
CLZ *ep*PKPbc **pPKPab 21 49 10.7 +0.9**
ISR Istrita 147.95 326 ⇓P **PKPdf 21 46 54.0 -0.1**
ISR Istrita 147.95 326 ⇓PKHKP PKPpre 21 46 54.0
CLL Collm 147.95 347 *e*PSSrev 22 22 00.0
CLL Collm 147.95 347 ⇓*e*PKHKP PKPpre 21 46 54.0
CLL *i* 21 47 02.6
CLL pmax pmax
comp=Z,148nm,1.1s
CLL pmax pmax
comp=Z,1μm,0.9s
CLL pmax pmax
comp=Z,421nm,0.8s
CLL Collm 147.95 347 *e*PKPdf **PKPdf 21 46 54.0 +0.2**
baz=17,slow=1.5
CLL *e*PKPbc **PKiKP 21 46 58.5 -0.5**
baz=17,slow=2.5
CLL Collm 147.95 347 *e*PKPdf **PKPdf 21 46 54.0 +0.2**
comp=Z,148nm,1.1s
CLL Collm 147.95 347 *e*PKPlp 21 46 58.0
comp=Z,600nm,20.5s
CLL Collm 147.95 347 ⇓*i*PKPbc **PKiKP 21 46 58.5 -0.5**
comp=Z,1μm,0.9s
CLL Collm 147.95 347 *i* PKPab **PKPab 21 47 02.6 +0.2**
comp=Z,421nm,0.8s
CLL Collm 147.95 347 *ep*PKPbc pPKPbc 21 49 08.0 -0.4
CLL Collm 147.95 347 *e* 21 49 13.0
CLL Collm 147.95 347 *es*PKPbc sPKPbc 21 49 57.0 -6.9
CLL Collm 147.95 347 *es*PP 21 53 25.0
CLL Collm 147.95 347 *e*PPPP 21 56 06.0
CLL Collm 147.95 347 *e* 22 00 18.0
CLL Collm 147.95 347 *e*PSKS 22 00 49.0
CLL Collm 147.95 347 *e*PPS PPS 22 03 18.0
CLL Collm 147.95 347 *e*SS SS 22 08 45.0 -5.5
CLL Collm 147.95 347 *e* 22 10 18.0
CLL Collm 147.95 347 *es*SS 22 12 12.0
CLL Collm 147.95 347 *e*SSS SSS 22 14 42.0
CLL Collm 147.95 347 *es*SSS 22 17 42.0
CLL Collm 147.95 347 *e*SSSS 22 19 12.0
DOPR Dopca 147.96 328 ⇑P **PKPdf 21 46 54.3 +0.3**
DPC Dobruska-Polom 147.99 342 *e*PKHKP PKPpre 21 46 54.3
DPC Dobruska-Polom 147.99 342 *e*PKPDF **PKPdf 21 46 54.3 +0.3**
DPC ⇑*e*PKP **PKiKP 21 46 58.7 -0.5**
LANS Liptovska Anna 148.02 338 *e*PKHKP PKPpre 21 46 55.6
LANS *e* 21 47 00.1
LANS Liptovska Anna 148.02 338 *e*PKP **PKPdf 21 46 55.6 +1.6**
LANS *e* 21 47 00.1
LANS *e* 21 47 04.9
KRLC Kraliky 148.10 341 *e*PKHKP PKPpre 21 46 55.1
KRLC *e* 21 47 04.4
KRLC Kraliky 148.10 341 *e*PKPDF **PKPdf 21 46 55.1 +1.0**
KRLC ⇑*e*PKP **PKiKP 21 46 59.0 -0.5**
KRLC *e*PKPAB **PKPab 21 47 04.4 +1.2**
MORC Moravsky Berou 148.13 340 ⇑P **PKPdf 21 46 55.1 +1.0**
MORC Moravsky Berou 148.13 340 ⇓*i*PKP **PKPdf 21 46 54.6 +0.4**
MORC *e* 21 46 59.0
MORC *e* 21 49 11.2
MORC Moravsky Berou 148.13 340 ⇑PKHKP PKPpre 21 46 55.1
KECS Kecovo 148.20 336 *e*PKHKP PKPpre 21 46 54.9
KECS *e* 21 47 04.3
KECS Kecovo 148.20 336 *e*PKP **PKPdf 21 46 54.9 +0.6**
KECS *e* 21 46 59.4
KECS *e* 21 47 04.3
PCED Cedros 148.21 49 *e*PKP **PKPbc 21 46 56.8 -2.0**
RASA Rasa 148.21 324 ⇑P **PKPdf 21 46 53.8 -0.6**
LEHL Lehliu 148.23 325 ⇑P **PKPdf 21 46 53.6 -0.8**
CALA Caldeira 148.23 49 *e*PKP **PKPbc 21 46 57.0 -1.9**
FBE Freiberg 148.23 346 *e*PKPdf **PKPdf 21 46 54.9 +0.6**
baz=17,slow=1.5
FBE *e*PKPbc **PKiKP 21 46 59.3 -0.3**
baz=17,slow=2.5
FBE *e*PKPab **PKPab 21 47 04.3 +0.7**
baz=16,slow=4.2
FBE *ep*PKPbc **pPKPab 21 49 11.8 +1.1**
MESR Meseseni 148.24 332 ⇑P **PKPdf 21 46 54.4 +0.1**
SECR 148.25 326 ⇓P **PKPdf 21 46 54.7 +0.2**
CBBR Cluj-Babes-Bol 148.25 331 ⇓P **PKPdf 21 46 54.8 +0.4**
CJR Cluj-Napoca 148.27 331 ⇑P **PKPdf 21 46 54.6 +0.1**
CJR Cluj-Napoca 148.27 331 ⇑PKHKP PKPpre 21 46 54.6
NEUB Neuenburg 148.30 348 *e*PKPdf **PKPdf 21 46 55.1 +0.8**
baz=17,slow=1.5
NEUB *e*PKPbc **PKiKP 21 46 59.7 -0.1**
baz=17,slow=2.5
GTTG Gottingen 148.30 350 *e*PKPdf **PKPdf 21 46 54.8 +0.5**
baz=17,slow=1.5
GTTG *e*PKPbc **PKiKP 21 46 59.5 -0.2**
baz=17,slow=2.5
PVCC Panska Ves 148.30 344 *e*PKHKP PKPpre 21 46 55.5
PVCC Panska Ves 148.30 344 *e*PKPDF **PKPdf 21 46 55.5 +1.1**
PVCC ⇑*e*PKP **PKiKP 21 46 59.4 -0.4**
HOR Horta 148.30 49 *e*PKP **PKPbc 21 46 58.2 -0.8**
MDB Medias 148.32 329 ⇑P **PKPdf 21 46 54.7 +0.1**
MDB Medias 148.32 329 ⇑PKHKP PKPpre 21 46 54.7
PCAN Candelaria 148.43 49 *e*PKP **PKPdf 21 46 57.1 +2.1**
PICO Pico 148.46 49 *e*PKP **PKPbc 21 46 57.4 -2.1**
SRBC Serra Branca 148.49 48 *e*PKP **PKPdf 21 46 57.1 +2.0**
ROSA Rosais 148.49 48 *e*PKP **PKPdf 21 46 56.9 +1.8**
VOIR 148.50 328 ⇓P **PKPdf 21 46 56.0 +1.0**
VOIR 148.50 328 ⇓PKHKP PKPpre 21 46 56.0
LTVH Ltavrtes, Hu 148.51 333 ⇑P **PKPdf 21 46 55.1 +0.4**
PGRA Graciosa 148.53 47 *e*PKP **PKPdf 21 46 56.8 +1.7**
EIL Elat 148.55 294 PKP **PKPdf 21 46 55.0 -0.4**
comp=Z,52nm,0.9s,baz=152,slow=3.3,SNR=28
EIL PKPbc **PKiKP 21 47 00.7 -0.2**
comp=Z,244nm,0.7s,baz=124,slow=2.8,SNR=122
INCR INCERC-Sediu C 148.60 325 ⇑P **PKPdf 21 46 54.4 -0.6**
DRGR 148.61 332 ⇓P **PKPdf 21 46 54.1 -1.0**
DRGR 148.61 332 ⇓PKiKP **PKPdf 21 46 54.1 -1.0**
PMAN Manadas 148.64 48 *e*PKP **PKPdf 21 46 57.3 +2.0**
MTUR Matau 148.64 327 ⇑P **PKPdf 21 46 56.8 +1.6**
MTUR Matau 148.64 327 ⇑PKHKP PKPpre 21 46 56.8
PID Ribeirinha 148.70 49 *e*PKP **PKPdf 21 46 57.5 +2.1**
BUC1 Bucharest 148.74 325 ⇓P **PKPdf 21 46 54.9 -0.4**
BUC1 Bucharest 148.74 325 ⇓PKiKP **PKPdf 21 46 54.9 -0.4**
PRA Prague 148.76 344 *e*PKHKP PKPpre 21 46 55.7
PRA Prague 148.76 344 *e*PKPDF **PKPdf 21 46 55.7 +0.6**
PRA ⇑*e*PKP **PKiKP 21 47 00.4 -0.3**
BUG Bochum--Univer 148.77 353 *e*PKPdf **PKPdf 21 46 55.3 +0.2**
baz=17,slow=1.5
BUG *e*PKPbc **PKiKP 21 47 00.3 -0.4**
baz=17,slow=2.5
VYHS Vyhne 148.80 338 *e*PKHKP PKPpre 21 46 55.5
VYHS *e* 21 47 07.1
VYHS Vyhne 148.80 338 *e*PKP **PKPdf 21 46 55.5 +0.2**
VYHS *e* 21 47 00.7
VYHS *e* 21 47 07.1
PRU Pruhonice 148.81 344 *e*PKHKP PKPpre 21 46 55.6
PRU *e* 21 47 06.4
PRU Pruhonice 148.81 344 *e*PKPDF **PKPdf 21 46 55.6 +0.4**
PRU ⇑*e*PKP **PKPbc 21 47 00.3 +0.4**
PRU *e*PKPAB **PKPab 21 47 06.4 +0.4**
VRAC Vranov 148.84 341 ⇑P **PKPdf 21 46 56.1 +0.8**
VRAC Vranov 148.84 341 *e* 21 49 12.9
VRAC Vranov 148.84 341 ⇑PKHKP PKPpre 21 46 56.1
VRAC Vranov 148.84 341 ⇓*i*PKP **PKPdf 21 46 55.5 +0.2**
VRAC Vranov 148.84 341 *e* **PKiKP 21 47 00.8 -0.2**
KASTN Kahler Asten 148.86 352 *e*PKPdf **PKPdf 21 46 55.6 +0.3**
baz=17,slow=1.5
KASTN *e*PKPbc **PKiKP 21 47 00.8 -0.2**
baz=17,slow=2.5
KASTN *e*PKPab **PKPab 21 47 06.2 -0.1**
baz=16,slow=4.2
MOX Moxa 148.87 348 *e*PKPdf **PKPdf 21 46 55.5 +0.2**
baz=17,slow=1.5
MOX *e*PKPbc **PKiKP 21 47 00.9 -0.1**
baz=17,slow=2.5
LEF Lefka 148.88 305 ⇑P **PKPdf 21 46 56.1 +0.3**
JAVC Velka Javorina 148.88 339 *e* 21 49 14.5
JAVC Velka Javorina 148.88 339 ⇓*i*PKP **PKPdf 21 46 56.9 +1.4**
JAVC Velka Javorina 148.88 339 *e* **PKiKP 21 47 02.1 +1.0**
PSZ Piszkesteto 148.89 336 ⇑P **PKPdf 21 46 55.8 +0.3**
PSZ Piszkesteto 148.89 336 ⇑PKHKP PKPpre 21 46 55.8
PLN Plauen 148.91 347 *e*PKPdf **PKPdf 21 46 55.6 +0.2**
baz=17,slow=1.5
PLN *e*PKPbc **PKiKP 21 47 01.1 +0.1**
baz=17,slow=2.5
PLN *e*PKPab **PKPab 21 47 06.9 +0.5**
baz=16,slow=4.2
TANN Tannenbergstha 148.91 347 *e*PKPdf **PKPdf 21 46 55.6 +0.1**
baz=17,slow=1.5
TANN *e*PKPbc **PKiKP 21 47 01.1 0.0**
baz=17,slow=2.5
TANN *e*PKPab **PKPab 21 47 06.8 +0.3**
baz=16,slow=4.2
WERD Werda 148.91 347 *e*PKPdf **PKPdf 21 46 55.8 +0.4**
baz=17,slow=1.5
WERD *e*PKPbc **PKiKP 21 47 00.9 -0.2**
baz=17,slow=2.5
WERD *e*PKPab **PKPab 21 47 07.1 +0.6**
baz=16,slow=4.2
STFAR Stefanesti-Arg 148.94 327 ⇓P **PKPdf 21 46 56.3 +0.6**
ISK Istanbul-Kandi 148.95 318 P **PKPbc 21 47 00.9 +0.4**
GUNZ Gunzen 148.98 347 *e*PKPdf **PKPdf 21 46 56.0 +0.5**
baz=17,slow=1.5
GUNZ *e*PKPbc **PKiKP 21 47 01.5 +0.2**
baz=17,slow=2.5
GUNZ *e*PKPab **PKPab 21 47 07.4 +0.6**
baz=16,slow=4.2
UBBA Unterbreizbach 149.00 350 *e*PKPdf **PKPdf 21 46 55.6 +0.3**
baz=17,slow=1.5
UBBA *e*PKPbc **PKiKP 21 47 00.8 -0.2**
baz=17,slow=2.5
UBBA *e*PKPab **PKPab 21 47 07.8 +1.1**
baz=16,slow=4.2
UBBA *ep*PKPbc **pPKPab 21 49 13.3 -0.4**
WERN Wernitzgruen 149.05 347 *e*PKPdf **PKPdf 21 46 56.2 +0.5**
baz=17,slow=1.5
WERN *e*PKPbc **PKiKP 21 47 01.5 +0.1**
baz=17,slow=2.5
WERN *e*PKPab **PKPab 21 47 07.9 +0.9**
baz=16,slow=4.2
WERN *ep*PKPbc **pPKPab 21 49 13.4 -0.4**
NKC Novy Kostel 149.08 346 *e*PKiKP **PKPdf 21 46 55.7 0.0**
NKC *e* 21 47 08.0
NKC Novy Kostel 149.08 346 *e*PKPDF **PKPdf 21 46 55.7 0.0**
NKC ⇑*e*PKP **PKiKP 21 47 01.7 +0.3**
NKC *e*PKPAB **PKPab 21 47 08.0 +0.8**
KRUC Moravsky 149.11 341 ⇓*i*PKP **PKPdf 21 46 55.9 +0.2**
KRUC *e* 21 47 01.4
KRUC *e* 21 49 13.5
HUMR Humele 149.16 326 ⇑P **PKPdf 21 46 55.8 -0.2**
TREC Trest 149.18 342 *e*PKHKP PKPpre 21 46 56.0
TREC Trest 149.18 342 *e*PKPDF **PKPdf 21 46 56.0 +0.1**
TREC ⇑*e*PKP **PKPbc 21 47 01.2 +0.4**
PAGU Agualva, Azore 149.20 47 *e*PKP **PKPdf 21 46 58.4 +2.2**
DEV Deva 149.21 330 ⇓P **PKPdf 21 46 56.1 +0.1**
DEV Deva 149.21 330 ⇓PKiKP **PKPdf 21 46 56.1 +0.1**
ADH Angra Heroismo 149.22 48 *e*PKP **PKPdf 21 46 58.6 +2.4**
PBCC Pribram 149.22 344 *e*PKPDF **PKPdf 21 46 56.5 +0.6**
PBCC ⇑*e*PKP **PKiKP 21 47 01.5 -0.2**
PBCC *e*PKPAB **PKPab 21 47 07.9 +0.1**
SMOL Smolenice 149.26 339 *e*PKHKP PKPpre 21 46 57.0
SMOL Smolenice 149.26 339 *e* **PKiKP 21 47 02.5 +0.6**
SMOL Smolenice 149.26 339 *e*PKP **PKPdf 21 46 57.0 +1.0**
PSCM Serra do Cume 149.28 47 *e*PKP **PKPdf 21 46 58.6 +2.3**
COPA Copaceanca 149.31 326 ⇓P **PKPdf 21 46 55.1 -1.0**
MANZ Manzenberg 149.39 347 *e*PKPdf **PKPdf 21 46 56.7 +0.5**
baz=17,slow=1.5
MANZ *e*PKPbc **PKiKP 21 47 02.3 +0.2**
baz=17,slow=2.5
MANZ *ep*PKPbc **pPKPab 21 49 14.3 -1.1**
MODS Modra-Piesok 149.44 339 *e*PKiKP **PKPdf 21 46 56.4 +0.1**
MODS Modra-Piesok 149.44 339 *e* **PKiKP 21 47 02.0 -0.2**
MODS Modra-Piesok 149.44 339 *e*PKP **PKPdf 21 46 56.4 +0.1**
SIRR Siria 149.48 332 ⇑P **PKPdf 21 46 56.9 +0.5**
ZIMR 149.55 325 ⇑P **PKPdf 21 46 57.3 +0.7**
ZIMR 149.55 325 ⇑PKHKP PKPpre 21 46 57.3
SRO Srobarova 149.56 338 *e*PKHKP PKPpre 21 46 57.2
SRO *e* 21 47 10.5
SRO Srobarova 149.56 338 *e* **PKPab 21 47 10.5 +1.3**
SRO Srobarova 149.56 338 *e*PKP **PKPdf 21 46 57.2 +0.8**
SRO Srobarova 149.56 338 *e* **PKiKP 21 47 02.6 +0.2**
BEBN Eben Emael 149.56 355 *d*PKPdf **PKPdf 21 46 56.4 0.0**
BEBN *d*PKPbc **PKiKP 21 47

GZR	Gura Zlata	149.64	330	⇑P	PKPdf	21 46 56.9	+0.2		
GZR	Gura Zlata	149.64	330	⇑PKIKP	PKPdf	21 46 56.9	+0.2		
ZST	Bratislava	149.65	339	*e*PKHKP	PKPpre	21 47 03.1			
ZST	Bratislava	149.65	339	*e*PKP	PKiKP	21 47 03.1	+0.5		
UCC	Uccle	149.65	357	*d*PKPdf	PKPdf	21 46 56.8	+0.3		
UCC				*d*PKPbc	PKPbc	21 47 02.1	+0.2		
UCC				*d*PKPab	PKPab	21 47 09.2	-0.2		
AHRW	Bad Neuenahr-A	149.68	353	*e*PKPdf	PKPdf	21 46 57.1	+0.5		
	baz=17,slow=1.5								
AHRW				*e*PKPbc	PKiKP	21 47 02.8	+0.2		
	baz=17,slow=2.5								
MEM	Membach	149.72	354	*d*PKPdf	PKPdf	21 46 56.9	+0.3		
MEM				*d*PKPbc	PKiKP	21 47 02.5	-0.2		
BTNL	Ternell	149.73	354	*d*PKPdf	PKPdf	21 46 57.0	+0.3		
BTNL				*d*PKPbc	PKPbc	21 47 01.8	-0.3		
BTNL				*d*PKiKP	PKiKP	21 47 02.7	-0.1		
BTNL				*d*PKPab	PKPab	21 47 08.6	-1.3		
DYA	Yadsworthy	149.77	7	*e*P	PKPdf	21 46 56.9	+0.2		
BSTI	Sart Tilman	149.78	355	*d*PKPdf	PKPdf	21 46 57.1	+0.4		
BSTI				*d*PKPbc	PKiKP	21 47 02.8	0.0		
BSTI				*d*PKPab	PKPab	21 47 09.8	-0.2		
TNS	Taunus Mts	149.82	351	*e*PKPdf	PKPdf	21 46 57.2	+0.3		
	baz=17,slow=1.5								
TNS				*e*PKPbc	PKiKP	21 47 03.4	+0.4		
	baz=17,slow=2.5								
TNS				*e*PKPab	PKPab	21 47 10.8	+0.5		
	baz=16,slow=4.2								
AMBH	Ambrzfalva	149.82	333	⇑P	PKPdf	21 46 57.3	+0.4		
VLAD	Vladila	149.83	326	⇑P	PKPdf	21 46 59.2	+2.2		
KHC	Kasperske Hory	149.84	344	*e*PKIKP	PKPdf	21 46 57.3	+0.4		
KHC				*e*		21 47 11.6			
KHC	Kasperske Hory	149.84	344	*e*PKPDF	PKPdf	21 46 57.3	+0.4		
KHC				⇑*e*PKP	PKiKP	21 47 03.3	+0.2		
KHC				*e*PKPAB	PKPab	21 47 11.6	+1.2		
KHC				*ep*PKP	pPKPab	21 49 16.0	-1.0		
CCA1	Carnmenellis	149.85	9	*e*P	PKPdf	21 46 55.5	-1.3		
GRF	Grafenberg Arr	149.85	348	*e*PKPdf	PKPdf	21 46 57.3	+0.4		
	baz=17,slow=1.5								
GRF				*e*PKPbc	PKiKP	21 47 03.5	+0.5		
	baz=17,slow=2.5								
GRF				*e*PKPab	PKPab	21 47 11.0	+0.6		
	baz=16,slow=4.2								
GRF				*ep*PKPbc	pPKPab	21 49 15.7	-1.4		
GRFO	Grafenberg	149.85	348	PKHKP	PKPpre	21 46 57.5			
GRFO	Grafenberg	149.85	348		PKPdf	21 46 57.5	+0.6		
EDRB	Edirne	149.92	321	P	PKPdf	21 46 58.6	+1.4		
SNF	Seneffe	149.95	357	*d*PKPdf	PKPdf	21 46 57.1	+0.1		
SNF				*d*PKPbc	PKPbc	21 47 02.5	-0.1		
SNF				*d*PKPab	PKPab	21 47 10.7	0.0		
SRE	Strehaia	149.97	328	⇑P	PKPdf	21 46 58.8	+1.5		
SRE	Strehaia	149.97	328	⇑PKHKP	PKPpre	21 46 58.8			
BCLA	Clavier	149.97	355	*d*PKPdf	PKPdf	21 46 57.1	+0.1		
BCLA				*d*PKPbc	PKPbc	21 47 02.5	-0.1		
BCLA				*d*PKPab	PKPab	21 47 09.9	-0.9		
BHOU	Houvegnez	149.97	354	*d*PKPdf	PKPdf	21 46 57.5	+0.4		
BHOU				*d*PKPbc	PKPbc	21 47 02.9	+0.2		
BHOU				*d*PKPab	PKPab	21 47 10.3	-0.6		
WET	Wettzell	150.00	345	*e*PKPdf	PKPdf	21 46 57.6	+0.4		
	baz=17,slow=1.5								
WET				*e*PKPbc	PKiKP	21 47 03.5	+0.1		
	baz=17,slow=2.5								
WET				*e*PKPab	PKPab	21 47 11.8	+0.7		
	baz=16,slow=4.2								
WET				*ep*PKPbc	pPKPab	21 49 16.2	-1.4		
BZS	Buzias	150.00	331	||P	PKPdf	21 46 56.7	-0.5		
BZS	Buzias	150.00	331	||PKIKP	PKPdf	21 46 56.7	-0.5		
BGES	Gesves	150.02	356	*d*PKPdf	PKPdf	21 46 57.2	+0.1		
BGES				*d*PKPbc	PKiKP	21 47 03.1	-0.3		
BGES				*d*PKPab	PKPab	21 47 11.2	+0.1		
GEC2	GERESS Array S	150.07	344	*e*PKPdf	PKPdf	21 46 57.7	+0.3		
	baz=17,slow=1.5								
GEC2				*e*PKPbc	PKiKP	21 47 03.6	0.0		
	baz=17,slow=2.5								
GERES	GERESS Array B	150.07	344	PKP	PKPdf	21 46 57.2	-0.2		
	comp=Z,21nm,0.8s,baz=66,slow=1.6,SNR=188								
GERES				PKPbc	PKPbc	21 47 03.2	+0.2		
	comp=Z,258nm,0.8s,baz=25,slow=3.2,SNR=126								
GERES				SKKPbc		21 57 13.4			
	comp=Z,1.1nm,0.8s,baz=180,slow=5.9,SNR=2.1								
TIM	Timisoara	150.09	332	⇑P	PKPdf	21 46 60.0	+2.6		
TIM	Timisoara	150.09	332	⇑PKHKP	PKPpre	21 47 00.0			
BMRD	Maredsous	150.12	356	*d*PKPdf	PKPdf	21 46 57.6	+0.3		
BMRD				*d*PKPbc	PKiKP	21 47 03.6	0.0		
BMRD				*d*PKPab	PKPab	21 47 11.6	+0.1		
HERR	Herculane	150.19	330	⇑P	PKPdf	21 46 57.7	+0.1		
RCHB	Rochefort	150.24	355	*d*PKPdf	PKPdf	21 46 57.7	+0.3		
RCHB				*d*PKPbc	PKiKP	21 47 03.7	-0.1		
RCHB				*d*PKPab	PKPab	21 47 11.4	-0.5		
CONA	Conrad Observa	150.28	341	*i* P	PKPdf	21 46 57.5	-0.2		
	comp=Z,23nm,0.8s,SNR=40								
CONA				*e*P	PKiKP	21 47 04.4	+0.3		
	comp=Z,417nm,0.8s								
CONA				*i* P	PKPab	21 47 13.6	+1.3		
	comp=Z,143nm,0.8s								
CONA				*e*P	pPKPbc	21 49 16.2	+1.4		
	comp=Z,132nm,1.6s								
DOU	Dourbes	150.34	356	*d*PKPdf	PKPdf	21 46 57.9	+0.3		
DOU				*d*PKPbc	PKPbc	21 47 03.5	0.0		
DOU				*d*PKPab	PKPab	21 47 11.9	-0.5		
PUNG	Punghina	150.38	328	⇑P	PKPdf	21 46 58.9	+1.1		
BANR	Banloc	150.40	332	⇑P	PKPdf	21 46 59.0	+1.2		
KULA	Kula-Manisa	150.55	314	P	PKPdf	21 46 59.7	+1.3		
MDVR	Moldovita	150.59	330	⇑P	PKPdf	21 46 58.5	+0.3		
WLF	Walferdange	150.64	354	*d*PKPdf	PKPdf	21 46 58.5	+0.4		
WLF				*d*PKPbc	PKPbc	21 47 04.1	-0.1		
WLF				*d*PKPab	PKPab	21 47 13.4	-0.3		
WLF	Walferdange	150.64	354	*e*PKPdf	PKPdf	21 46 58.9	+0.8		
	baz=17,slow=1.5								
WLF				*e*PKPbc	PKiKP	21 47 05.6	+0.9		
	baz=17,slow=2.5								
WLF				*e*PKPab	PKPab	21 47 14.7	+1.0		
	baz=16,slow=4.2								
PSET	Sete Cidades	150.66	48	*e*PKP	PKPdf	21 47 01.0	+2.5		
PDA	Ponta Delgada	150.74	48	*e*PKP	PKiKP	21 47 06.4	+1.2		
MORH	Mrgy, Hungar	150.78	335	⇑P	PKPdf	21 46 58.7	+0.4		
MORH	Mrgy, Hungar	150.78	335	||P	PKPdf	21 46 58.1	-0.3		
GRON	Grota Negra	150.82	48	*e*PKP	PKPdf	21 47 01.9	+3.1		
CMLA	Cha da Macela	150.83	48	*e*PKP	PKPdf	21 47 01.3	+2.5		
CMLA	Cha da Macela	150.83	48	P		21 47 01.5			
MOA	Molln	150.83	342	*i* P	PKPdf	21 46 57.9	-0.6		
	comp=Z,15nm,0.7s,SNR=24								
MOA				*e*P	PKiKP	21 47 05.0	-0.1		
	comp=Z,105nm,0.6s								
MOA				*e*P	PKPab	21 47 15.5	+0.9		
	comp=Z,160nm,1.1s								
MOA				*e*P	pPKPbc	21 49 17.8	+1.7		
	comp=Z,73nm,1.4s								
ALN	Alexandroupoli	150.92	320	P	PKPdf	21 46 56.9	-1.9		
KSL	Kastellorizon	150.99	309	P	PKPdf	21 46 58.3	-0.7		
ARSA	Arzberg	150.99	340	*i* P	PKPdf	21 46 58.1	-0.6		
	comp=Z,8.7nm,0.8s,SNR=16								
ARSA				*e*P	PKPbc	21 47 05.2	+0.1		
	comp=Z,98nm,0.8s								
ARSA				*e*P	PKPab	21 47 16.1	+0.8		
	comp=Z,38nm,0.7s								
ARSA				*e*P	pPKPbc	21 49 17.4	+0.8		
	comp=Z,32nm,1.2s								
BART	Pico Bartolome	151.07	48	*e*PKP	PKPdf	21 47 01.5	+2.3		
RDO	Rodhopi	151.07	321	P	PKPdf	21 46 58.1	-0.9		
STU	Stuttgart	151.11	350	*e*PKPdf	PKPdf	21 46 59.2	+0.3		
	baz=17,slow=1.5								
STU				*e*PKPbc	PKiKP	21 47 06.2	+0.5		
	baz=17,slow=2.5								
STU				*e*PKPab	PKPab	21 47 16.1	+0.4		
	baz=16,slow=4.2								
FETY	Fethiye	151.14	310	P	PKPdf	21 46 58.0	-1.3		
FRGS	Fruska Gora	151.16	333	⇑P	PKPdf	21 46 58.7	-0.4		
FRGS	Fruska Gora	151.16	333	||P	PKPdf	21 46 58.7	-0.4		
JSA	Saint Aubin	151.18	5	*e*P	PKPdf	21 46 59.5	+0.6		
BEHE	Becsehely	151.25	338	||P	PKPdf	21 46 59.1	0.0		
FUR	Furstenfeldbru	151.29	346	*e*PKPdf	PKPdf	21 46 59.2	0.0		
	baz=17,slow=1.5								
FUR				*e*PKPbc	PKiKP	21 47 06.2	+0.1		
	baz=17,slow=2.5								
FUR				*e*PKPab	PKPab	21 47 17.2	+0.7		
	baz=16,slow=4.2								
RJOB	Jochberg	151.33	344	*e*PKPdf	PKPdf	21 46 59.2	0.0		
	baz=17,slow=1.5								
RJOB				*e*PKPbc	PKPbc	21 47 06.0	+0.1		
	baz=17,slow=2.5								
RJOB				*e*PKPab	PKPab	21 47 17.8	+1.0		
	baz=16,slow=4.2								
EZN	Ezine	151.38	318	P	PKPdf	21 46 58.9	-0.6		
VTS	Vitosha	151.40	325	⇑P	PKPdf	21 46 60.0	+0.3		
VTS	Vitosha	151.40	325	⇑PKIKP	PKPdf	21 47 00.0	+0.3		
KOGS	Kog	151.46	339	*i* PKPdf	PKPdf	21 46 59.0	-0.4		
KOGS				*e*PKPbc	PKPbc	21 47 06.2	+0.1		
KOGS				*i* PKPab	PKPab	21 47 17.5	+0.3		
PSMA	Santa Maria	151.47	49	*e*PKP	PKPdf	21 47 01.5	+1.8		
YER	Yerkesik	151.48	311	P	PKPdf	21 46 59.2	-0.6		
PSMN	Pico do Norte,	151.51	49	*e*PKP	PKPdf	21 47 01.8	+2.0		
SOKA	Soboth	151.65	340	*i* P	PKPdf	21 46 59.2	-0.6		
	comp=Z,56nm,1.2s,SNR=35								
SOKA				*i* P	PKPbc	21 47 06.6	-0.1		
	comp=Z,270nm,1.1s								
SOKA				*e*P	PKPab	21 47 18.6	+0.4		
	comp=Z,242nm,1.3s								
SOKA				*e*P	pPKPbc	21 49 18.4	+0.1		
	comp=Z,53nm,1.5s								
PERS	Pernice	151.66	340	*i* PKPdf	PKPdf	21 46 59.1	-0.7		
PERS				*i* PKPbc	PKPbc	21 47 06.5	-0.2		
BFO	Black Forest	151.68	351	PKIKP	PKPdf	21 46 59.6	-0.1		
BFO	Black Forest	151.68	351		PKPdf	21 46 59.6	-0.1		
BFO	Black Forest	151.68	351	*e*PKPdf	PKPdf	21 46 59.7	-0.1		
	baz=17,slow=1.5								
BFO				*e*PKPbc	PKiKP	21 47 07.2	+0.3		
	baz=17,slow=2.5								
BFO				*e*PKPab	PKPab	21 47 18.2	+0.1		
	baz=16,slow=4.2								
BFO				*ep*PKPbc	pPKPbc	21 49 20.0	+1.7		
BLCB	Balcova	151.71	315	P	PKPdf	21 46 58.9	-1.1		
PRK	Paraskevi	151.74	317	P	PKPdf	21 47 00.2	+0.2		
KBA	Koelnbreinsper	151.79	343	*i* P	PKPdf	21 46 59.2	-0.9		
	comp=Z,17nm,0.9s,SNR=39								
KBA				*e*P	PKPbc	21 47 06.8	-0.4		
	comp=Z,258nm,1.1s								
KBA				*e*P	pPKPbc	21 49 18.5	-0.2		
	comp=Z,57nm,1.9s								
THAS	Thassos island	151.89	321	P	PKPdf	21 46 58.8	-1.4		
DIVS	Divibare	151.91	331	||P	PKPdf	21 47 00.1	-0.2		
NVR	Nevrokopi	151.91	323	P	PKPdf	21 46 59.4	-0.9		
OBKA	Obir	151.96	341	*i* P	PKPdf	21 46 59.6	-0.7		
	comp=Z,20nm,1.0s,SNR=20								
OBKA				*i* P	PKPbc	21 47 07.1	-0.3		
	comp=Z,96nm,0.8s								
OBKA				*e*P	PKPab	21 47 19.2	-0.3		
	comp=Z,75nm,1.2s								
OBKA				*e*P	pPKPbc	21 49 19.1	+0.1		
	comp=Z,46nm,1.5s								
UBR	Ueberruh	151.99	348	*e*PKPdf	PKPdf	21 47 00.2	-0.1		
	baz=17,slow=1.5								
UBR				*e*PKPbc	PKiKP	21 47 08.1	+0.5		
	baz=17,slow=2.5								
UBR				*ep*PKPbc	pPKPbc	21 49 20.7	+1.6		
WATA	Walderalm	152.00	346	*e*P	PKPdf	21 46 59.9	-0.5		
	comp=Z,72nm,1.0s,SNR=54								
WATA				*i* P	PKPbc	21 47 07.5	0.0		
	comp=Z,179nm,0.6s								
WATA				*e*P	PKPab	21 47 20.2	+0.5		
	comp=Z,385nm,1.1s								
WATA				*e*P	pPKPbc	21 49 20.4	+1.1		
	comp=Z,56nm,1.4s								
ARG	Arkhangelos	152.02	310	P	PKPdf	21 47 00.1	-0.5		
SIGR	SIGRI	152.03	317	P	PKPdf	21 46 59.4	-1.1		
RETA	Reutte	152.04	347	*e*P	PKPdf	21 47 00.1	-0.3		
	comp=Z,43nm,1.0s,SNR=28								
RETA				*e*P	PKiKP	21 47 07.7	0.0		
	comp=Z,121nm,0.7s								
RETA				*e*P	PKPab	21 47 20.2	+0.4		
	comp=Z,255nm,1.2s								
RETA				*e*P	pPKPbc	21 49 20.6	+1.3		
	comp=Z,59nm,1.5s								
LIA	Limnos Island	152.04	319	P	PKPdf	21 46 59.3	-1.2		
WTTA	Wattenberg	152.06	345	*i* P	PKPdf	21 47 00.3	-0.2		
	comp=Z,54nm,1.0s,SNR=56								
WTTA				*i* P	PKiKP	21 47 08.0	+0.1		
	comp=Z,196nm,0.5s								
WTTA				*i* P	PKPab	21 47 20.7	+0.7		
	comp=Z,215nm,0.7s								
WTTA				*e*P	pPKPbc	21 49 20.1	+0.6		
	comp=Z,72nm,1.2s								
MOTA	Moosalm	152.10	346	*e*P	PKPdf	21 47 00.1	-0.5		
	comp=Z,103nm,0.9s,SNR=73								
MOTA				*i* P	PKiKP	21 47 07.9	0.0		
	comp=Z,235nm,0.8s								
MOTA				*e*P	PKPab	21 47 20.4	+0.3		
	comp=Z,196nm,0.9s								
MOTA				*e*P	pPKPbc	21 49 20.4	+0.9		
	comp=Z,88nm,1.7s								
MYKA	Terra Mystica	152.12	342	*i* P	PKPdf	21 46 59.7	-0.8		
	comp=Z,36nm,0.9s,SNR=24								
MYKA				*i* P	PKPbc	21 47 07.2	-0.5		
	comp=Z,103nm,0.6s								
MYKA				*e*P	PKPab	21 47 19.8	-0.3		
	comp=Z,108nm,0.8s								
MYKA				*e*P	pPKPbc	21 49 19.0	-0.3		
	comp=Z,51nm,1.5s								
DAT	Datca	152.17	311	P	PKPdf	21 46 59.2	-1.7		
BODT	Bodrum	152.20	312	P	PKPdf	21 46 58.3	-2.5		
SMG	Samos	152.20	314	P	PKPdf	21 46 59.7	-1.1		
SRS	Serrai	152.22	323	P	PKPdf	21 46 58.5	-2.2		
CRES	Cresnjev	152.27	339	||P	PKPdf	21 47 00.5	-0.2		
ABTA	Abfaltersbach	152.32	344	*e*P	PKPdf	21 47 00.1	-0.7		
	comp=Z,140nm,0.9s,SNR=99								
ABTA				*i* P	PKPbc	21 47 07.9	-0.3		
	comp=Z,385nm,0.6s								
ABTA				*e*P	PKPab	21 47 21.1	+0.1		
	comp=Z,163nm,0.7s								
ABTA				*e*P	pPKPbc	21 49 19.6	-0.2		
	comp=Z,58nm,1.1s								
BBLS	Lazići	152.35	332	||P	PKPdf	21 47 00.5	-0.4		
CHOS	Chios island	152.36	316	P	PKPdf	21 47 00.2	-0.9		
LJU	Ljubljana	152.38	340	*i* PKPdf	PKPdf	21 47 00.7	-0.1		
LJU				*i* PKPbc	PKiKP	21 47 08.6	+0.2		
HAPS	Han Pijesak,BI	152.38	332	*e*P	PKPdf	21 47 01.1	+0.1		
DAVA	Damuels	152.42	348	*e*P	PKPdf	21 47 00.9	-0.1		
	comp=Z,56nm,0.9s,SNR=29								
DAVA				*i* P	PKiKP	21 47 08.7	+0.1		
	comp=Z,294nm,1.3s								
DAVA				*i* P	PKPab	21 47 21.7	+0.2		
	comp=Z,308nm,1.0s								
DAVA				*e*P	pPKPbc	21 49 21.3	+1.1		
	comp=Z,53nm,1.2s								
MRAK	Mrakovica	152.45	336	||P	PKPdf	21 47 01.7	+0.7		
FETA	Feichten	152.49	346	*i* P	PKPdf	21 47 01.2	+0.1		
	comp=Z,146nm,0.8s,SNR=128								
FETA				*i* P	PKiKP	21 47 09.1	+0.3		
	comp=Z,116nm,0.6s								
FETA				*e*P	PKPab	21 47 22.2	+0.4		
	comp=Z,242nm,1.3s								
FETA				*e*P	pPKPbc	21 49 23.1	+2.7		
	comp=Z,54nm,1.1s								
OUR	Ouranopolis	152.50	321	P	PKPdf	21 46 59.7	-1.4		
NIS1	Nisyros Isl.	152.51	311	P	PKPdf	21 46 59.9	-1.4		
SOH	Sokhos	152.55	322	P	PKPdf	21 46 58.6	-2.7		
BLY	Banja Luka	152.56	336	||P	PKPdf	21 47 00.8	-0.3		
RUDO	Rudo	152.57	331	||P	PKPdf	21 46 59.9	-1.3		
KNT	Kendrikon	152.58	324	P	PKPdf	21 46 59.6	-1.7		
STIP	Stip	152.60	325	*i* P	PKPdf	21 47 01.4	+0.1		
BOJS	Bojanci	152.62	339	*e*PKPdf	PKPdf	21 47 01.5	+0.3		
BOJS				*i* PKPbc	PKiKP	21 47 09.4	+0.6		
VAY	Valandovo	152.65	324	*i* P	PKPdf	21 47 00.7	-0.6		
CEY	Cerknica	152.68	340	||P	PKPdf	21 47 01.0	-0.3		
PLE	Pljevlja	152.78	331	||PKP	PKPdf	21 47 01.1	-0.5		
PLG	Polygyros	152.79	322	P	PKPdf	21 46 59.3	-2.3		
SKO	Skopje	152.80	326	*i* P	PKPdf	21 47 01.8	+0.3		
HORT	Hortiatis	152.84	322	P	PKPdf	21 46 59.8	-2.0		
MGRS	Mrkonjic Grad	152.88	335	*e*P	PKPdf	21 47 01.8	+0.2		
IVA	Berane	152.90	330	||PKP	PKPdf	21 47 01.3	-0.5		
PAIG	Paliouri	152.94	321	P	PKPdf	21 46 59.5	-2.3		
PVY	Plav	153.08	329	||PKP	PKPdf	21 47 01.6	-0.5		
KOME	Kolasin	153.10	330	||PKP	PKPdf	21 47 01.8	-0.3		
NKY	Niksic	153.37	331	||PKP	PKPdf	21 47 02.1	-0.4		
APE	Apeiranthos	153.42	314	P	PKPdf	21 47 00.7	-1.9		
NKME	Niksic	153.42	331	||PKP	PKPdf	21 47 02.0	-0.5		
KYMI	Kymi, Euboea I	153.47	318	P	PKPdf	21 46 59.8	-2.8		
BRY	Bratogost	153.50	331	*e*P	PKPdf	21 47 02.4	-0.3		
BRY	Bratogost	153.50	331	||PKP	PKPdf	21 47 02.1	-0.6		
LIT	Litokhoron	153.52	322	P	PKPdf	21 47 01.0	-1.7		
PHP	Peshkopia	153.52	327	P	PKPdf	21 47 01.5	-1.2		
PDG	Podgorica	153.54	330	⇑P	PKPdf	21 47 02.4	-0.1		
PDG	Podgorica	153.54	330	||P	PKPdf	21 47 01.9	-0.6		
TTG	Podgorica	153.54	330	||PKP	PKPdf	21 47 02.3	-0.2		
XOR	Xorichti	153.58	320	P	PKPdf	21 47 01.1	-1.7		
CEME	Cevo	153.61	330	||PKP	PKPdf	21 47 02.0	-0.8		
KARY	Karystos	153.61	316	P	PKPdf	21 47 01.4	-1.4		
FNA	Florina	153.68	325	P	PKPdf	21 47 01.2	-1.7		
TREB	Trebinje	153.74	331	*e*P	PKPdf	21 47 02.5	-0.3		
OHR	Ohrid	153.75	326	*i* P	PKPdf	21 47 03.0	+0.1		
DRME	Dracevica, Mon	153.76	330	||P	PKPdf	21 47 01.9	-1.0		
DRME	Dracevica, Mon	153.76	330	||PKP	PKPdf	21 47 02.6	-0.3		
KZN	Kozani	153.79	323	P	PKPdf	21 47 01.7	-1.4		
THR8	Santorini-Mono	153.80	312	P	PKPdf	21 47 01.5	-1.6		
SNT1	Gialos, Santor	153.83	312	P	PKPdf	21 47 00.8	-2.3		
SANT	Santorini	153.83	312	P	PKPdf	21 47 01.3	-1.9		
THR3	Thira Island,	153.85	312	P	PKPdf	21 47 02.2	-1.0		
SNT5	Nea Kammeni, S	153.86	312	P	PKPdf	21 47 02.1	-1.1		
SALO	Salr	153.87	346		PKPdf	21 47 02.5	-0.4		
SALO				PKPab	PKPab	21 47 26.9	-0.6		
SMIA	Simia	153.88	319	P	PKPdf	21 47 02.9	-0.3		
HCV	Herceg Novi	153.88	331	*e*P	PKPdf	21 47 02.4	-0.7		
STON	Ston	153.90	332	||P	PKPdf	21 47 00.9	-2.1		
ZKR	Zakros	153.90	309	P	PKPdf	21 47 02.1	-1.2		
ULC	Ulcinj	153.91	329	||PKP	PKPdf	21 47 02.4	-0.7		
DION	Dionisos Attik	153.91	317	P	PKPdf	21 47 01.2	-2.1		
STIA	Sitia Lasithi	153.95	309	P	PKPdf	21 47 02.3	-1.1		
PTL	Penteli	153.97	317	P	PKPdf	21 47 01.6	-1.8		
ATHU	Athens Univers	154.07	317	P	PKPdf	21 47 01.7	-1.8		
KBN	Korca	154.11	325	P	PKPdf	21 47 03.2	-0.3		
ATAL	Atalanti	154.11	319	P	PKPdf	21 47 01.7	-1.8		
ATH	Athens Observa	154.11	317	P	PKPdf	21 47 01.9	-1.6		
NEST	Nestorio	154.11	324	P	PKPdf	21 47 02.7	-0.9		
VLY	Voula,Athens	154.13	317	P	PKPdf	21 47 01.5	-2.0		
LKR	Lokris	154.15	319	P	PKPdf	21 47 01.8	-1.7		
THL	Klokotos Trika	154.15	322	P	PKPdf	21 47 01.9	-1.6		
VILL	Villia	154.25	318	P	PKPdf	21 47 01.4	-2.4		
KPRO	Kipourio	154.26	323	P	PKPdf	21 47 01.9	-1.9		
NPS	Neapolis	154.27	310	P	PKPdf	21 47 03.0	-0.8		
AGG	Agios Georgios	154.32	321	P	PKPdf	21 47 02.6	-1.2		
LAST	Lasithi	154.41	310	P	PKPdf	21 47 03.3	-0.8		
MAKR	Makrakomi, Fth	154.44	321	P	PKPdf	21 47 02.8	-1.2		
LSK	Leskovik	154.54	325	P	PKPdf	21 47 03.8	-0.3		
LTK	Loutraki	154.55	318	P	PKPdf	21 47 02.2	-1.9		
LOUT	Loutraki	154.57	318	P	PKPdf	21 47 02.3	-1.9		
EVR	Evrytania	154.69	321	P	PKPdf	21 47 03.7	-0.7		
IDI	Anoyia	154.77	311	P	PKPdf	21 47 03.8	-0.8		
IDI	Anoyia	154.77	311	⇑P	PKPdf	21 46 59.6	-5.0		
KRND	KRANIDI	154.82	317	P	PKPdf	21 47 01.5	-3.0		
ANX	Ano Chora	154.84	320	P	PKPdf	21 47 04.6	0.0		
SERG	Sergoula	154.87	320	P	PKPdf	21 47 03.5	-1.1		
TRIZ	Trizonia	154.89	320	P	PKPdf	21 47 03.6	-0.9		
EFP	Efpalio	154.95	320	P	PKPdf	21 47 04.2	-0.4		
SIVA	Sivas	154.96	310	P	PKPdf	21 47

TIC	**Toumodi**	**164.82**	**154**	*e*PKP2	**PKPab**	**21**	**48**	**17.7 +1.6**
AVE	**Averroes**	**164.90**	**30**	PKP	**PKPdf**	**21**	**47**	**15.1 -0.6**
DBIC	**Dimbokro**	**164.91**	**154**	PKP	**PKPdf**	**21**	**47**	**16.2 -0.1**
	comp=Z,107nm,0.9s,baz=160,slow=0.8,SNR=61							
DBIC				PKPab	**PKPab**	**21**	**48**	**17.6 +1.2**
	comp=Z,80nm,0.9s,baz=184,slow=5.8,SNR=13							
DBIC				PP	**PP**	**21**	**52**	**05.1 +1.8**
	comp=Z,11nm,0.9s,baz=166,slow=6.6,SNR=4.2							
ZHG	**ZHG**	**165.12**	**28**	P		21	47	17.1
TAF	**Taforalt**	**165.27**	**13**	P		21	47	18.0
SRHM	**Skhour des Reh**	**165.32**	**34**	P		21	47	18.0
LCRM	**LCR**	**165.63**	**22**	P		21	47	18.4
IFR	**Ifrane**	**165.68**	**23**	PKP	**PKPdf**	**21**	**47**	**16.1 -0.5**
JBK	**JBK**	**165.69**	**14**	P		21	47	18.0
CZD	**Col de Zad**	**166.14**	**24**	P		21	47	19.1
OUK	**Oukaimeden**	**166.31**	**37**	P		21	47	19.0
TTIG	**Tnine Tigouga,**	**166.46**	**40**	P		21	47	19.0
MDT	**Midelt**	**166.50**	**23**	PKP	**PKPdf**	**21**	**47**	**18.7 +1.5**
	comp=Z,75nm,1.0s,baz=341,slow=0.1,SNR=114							
MDT				PKPab	**PKPab**	**21**	**48**	**24.3 +1.1**
	comp=Z,32nm,0.9s,baz=258,slow=3.0,SNR=11							
MDT				PP	**PP**	**21**	**52**	**12.3 +0.7**
	comp=Z,23nm,1.2s,baz=338,slow=3.5,SNR=5.4							
TDRA	**Tendrara**	**167.06**	**14**	P		21	47	19.3
TZRR	**Tazzarine**	**167.85**	**31**	P		21	47	19.5
FIGM	**Figuig**	**168.09**	**12**	P		21	47	20.0
KOWA	**Kowa**	**171.98**	**137**	PKP	**PKPdf**	**21**	**47**	**20.3 -0.5**
	comp=Z,84nm,0.9s,baz=205,slow=0.4,SNR=119							
KOWA				PKPab	**PKPab**	**21**	**48**	**49.1 +1.3**
	comp=Z,31nm,0.8s,baz=223,slow=4.6,SNR=8.6							
KOWA				PP	**PP**	**21**	**52**	**40.9 +1.7**
	comp=Z,2.9nm,0.8s,baz=189,slow=5.3,SNR=1.5							
KOWA	**Kowa**	**171.98**	**137**		**PKPdf**	**21**	**47**	**20.6 -0.2**
TORD	**Torodi Ar. Bea**	**172.72**	**180**	PKP	**PKPdf**	**21**	**47**	**20.3 -0.8**
	comp=Z,74nm,0.9s,baz=330,slow=1.0,SNR=186							
TORD				PKPab	**PKPab**	**21**	**48**	**51.2 +0.3**
	comp=Z,62nm,0.9s,baz=174,slow=3.7,SNR=24							
TORD				pPKPab	**pPKPab**	**21**	**50**	**56.5 +0.8**
	comp=Z,45nm,1.3s,baz=174,slow=2.7,SNR=6.8							
TORD				PP	**PP**	**21**	**52**	**41.6 -0.1**
	comp=Z,16nm,1.2s,baz=128,slow=8.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**172.72**	**180**		**PKPdf**	**21**	**47**	**20.9 -0.3**
TORD				PKPab	**PKPab**	**21**	**48**	**51.1 +0.3**
TORD					**PP**	**21**	**52**	**41.2 -0.5**

*VIE **21** 21:45:39.3±0.2, 46°.46N×10°.61E, h12km, mb0.1/1, ml1.1/4*
Error ellipse: s-maj=2.1km s-min=1.9km az=80.0 18 km E of Bormio
ROM 21 21:45:39.0±0.2, **46°.44N**±0°.02×**10°.60E**±0°.01, **h10**km±1km, **ML0.9/4, 1C-2D, Error ellipse: s-maj=1.7km s-min=1.0km az=340.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.16**	**285**	P		P	Pg	21 45 43.3	+0.7
BRMO				S		S	Sg	21 45 45.6	+0.4
BRMO				AML		AML			
	comp=N,45μm,0.4s								
BRMO				AML		AML			
	comp=E,109μm,0.1s								
MOSI	**Grossmontoni**	**0.18**	**349**	⇓P		P	Pg	21 45 43.6	+0.6
MOSI				S		S	Sg	21 45 46.8	+0.9
MOSI				AML		AML			
	comp=N,36μm,0.8s								
MOSI				AML		AML			
	comp=E,37μm,1.5s								
MABI	**Malga Bissina**	**0.39**	**189**	⇑P		P	Pb	21 45 47.6	-0.4
MABI				S		S	Sg	21 45 52.5	+0.7
MABI				AML		AML			
	comp=E,25μm,0.1s								
MABI				AML		AML			
	comp=N,25μm,0.1s								
BERNI	**Berninapass**	**0.40**	**267**	⇓P		P	Pb	21 45 47.7	-0.6
BERNI				S		S	Sg	21 45 53.4	+1.1
APPI	**Appiano**	**0.43**	**84**	P		P	Pg	21 45 48.2	+0.6
APPI				S		S	Sg	21 45 53.8	+0.5
APPI				AML		AML			
	comp=E,18μm,0.3s								
APPI				AML		AML			
	comp=N,27μm,0.3s								
FETA	**Feichten**	**0.59**	**8**	*e*Pg		Pg		21 45 50.6	+0.1
	comp=N,0.2nm,0.1s								
FETA				*e*Sg		Sg		21 45 58.3	0.0
	comp=N,0.4nm,0.1s								

*TAP **21** 21:50:03.8, 24°.29N×122°.14E, h9km±1km, ML3.2, C*
*JMA **21** 21:50:04.1, 24°.18N×122°.09E, h37km±1km, M2.5*
ISC 21 21:50:04.3±0.9, **24°.25N**±0°.03×**122°.12E**±0°.02, **h22**km±8km, **n51**, σ0**s44**/80, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.36**	**302**	*i* P			**Pb**	**21 50 11.8**	**-0.3**
	baz=295								
EWUT				*i* S			**Sb**	**21 50 17.7**	**+0.3**
	baz=295								
TWC	**Suao**	**0.43**	**326**	P			**Pb**	**21 50 12.7**	**-0.5**
	baz=321								
TWC				S			**Sb**	**21 50 18.4**	**-0.9**
	baz=321								
ETL	**Fush Village**	**0.46**	**258**	P			**Pb**	**21 50 14.4**	**+0.7**
	baz=254								
ETL				S			**Sn**	**21 50 22.9**	**-0.3**
	baz=254								
NACB	**Ninganchiao**	**0.48**	**261**	P			**Pb**	**21 50 14.5**	**+0.4**
	baz=256								
NACB				S			**Sn**	**21 50 23.2**	**-0.5**
	baz=256								
TWD	**Chiawan**	**0.51**	**250**	*e*P			**Pb**	**21 50 14.8**	**+0.3**
	baz=246								
TWD				*e*S			**Sn**	**21 50 23.7**	**-0.5**
	baz=246								
NDS	**Dongshan**	**0.53**	**316**	P			**Pb**	**21 50 14.6**	**-0.3**
	baz=311								
NDS				*e*S			**Sb**	**21 50 22.6**	**+0.5**
	baz=311								
HWA	**Hwalien**	**0.54**	**240**	*e*P			**Pn**	**21 50 16.0**	**-0.7**
	baz=236								
HWA				*e*S			**Sn**	**21 50 24.2**	**-0.8**
	baz=236								
ETLH	**Xiulin Townshi**	**0.58**	**266**	P			**Pb**	**21 50 16.2**	**+0.3**
	baz=261								
ETLH				*e*S			**Sn**	**21 50 26.1**	**-0.1**
	baz=261								
TEYL	**Yanliau Villag**	**0.61**	**231**	*e*P			**Pb**	**21 50 16.6**	**+0.3**
	baz=231								
TEYL				*e*S			**Sn**	**21 50 26.2**	**-0.5**
	baz=231								
TWE	**Neicheng**	**0.62**	**319**	P			**Pb**	**21 50 16.1**	**-0.4**
	baz=315								
ENTT	**Nioudou**	**0.63**	**308**	P			**Pb**	**21 50 16.6**	**-0.2**
	baz=303								
ENTT				*e*S			**Sb**	**21 50 26.0**	**+0.8**
	baz=303								
ETM	**Tongmen**	**0.64**	**243**	*e*P			**Pb**	**21 50 16.6**	**-0.2**
	baz=241								
NDT	**Datong Townshi**	**0.65**	**302**	P			**Pb**	**21 50 17.1**	**+0.1**
	baz=298								
NDT				*e*S			**Sn**	**21 50 26.7**	**-1.1**
	baz=298								
NTC	**Toucheng**	**0.65**	**336**	*e*P			**Pb**	**21 50 16.7**	**-0.3**
	baz=333								
NTC				*e*S			**Sb**	**21 50 26.7**	**+1.0**
	baz=333								
NNSB	**Datong**	**0.69**	**285**	*e*P			**Pb**	**21 50 18.0**	**+0.2**
	baz=281								
NNSB				*e*S			**Sn**	**21 50 28.6**	**-0.4**
	baz=281								
NNSH	**Datong**	**0.69**	**285**	*e*P			**Pn**	**21 50 18.3**	**-0.6**
	baz=281								
NNSH				*e*S			**Sn**	**21 50 28.7**	**-0.3**
	baz=281								
NNS	**Nan Shan**	**0.70**	**286**	P			**Pb**	**21 50 18.3**	**+0.3**
	baz=281								
NNS				*e*S			**Sn**	**21 50 28.7**	**-0.6**
	baz=281								
TWB1	**Santiao Chiao**	**0.76**	**351**	*e*P			**Pb**	**21 50 18.9**	**0.0**
	baz=349								
TWB1				*e*S			**Sn**	**21 50 29.9**	**-0.6**
	baz=349								
ESL	**Shilin**	**0.76**	**235**	*e*P			**Pn**	**21 50 19.5**	**-0.2**
	baz=233								
TIPB	**Shuangxi**	**0.76**	**340**	*e*P			**Pb**	**21 50 18.9**	**0.0**
	baz=337								
TIPB				*e*S			**Sb**	**21 50 28.8**	**-0.1**
	baz=337								
NWLT	**Wulai**	**0.77**	**313**	*e*P			**Pb**	**21 50 19.2**	**+0.2**
	baz=309								
NWLT				*e*S			**Sn**	**21 50 30.8**	**+0.2**
	baz=309								
JYNG	**Yonagunijimaku**	**0.78**	**75**	P			**Pn**	**21 50 19.5**	**-0.5**
JYNG				S			**Sb**	**21 50 29.7**	**+0.3**
WHF	**Hehuan Shan**	**0.79**	**262**	*e*P			**Pb**	**21 50 19.6**	**0.0**
	baz=259								
WHF				*e*S			**Sn**	**21 50 31.6**	**-0.1**
	baz=259								
YHNB	**Yeheng**	**0.79**	**302**	P			**Pb**	**21 50 19.6**	**+0.1**
	baz=298								
YHNB				*e*S			**Sb**	**21 50 29.7**	**-0.1**
	baz=298								
FUSS	**Fushou**	**0.80**	**270**	*e*P			**Pn**	**21 50 19.9**	**-0.5**
	baz=266								
FUSS				*e*S			**Sn**	**21 50 31.5**	**-0.2**
	baz=266								
YOJ	**Yonaguni jima**	**0.84**	**76**	P			**Pb**	**21 50 20.1**	**-0.1**
YOJ				S			**Sn**	**21 50 31.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.84**	**76**	*e*P			**Pb**	**21 50 20.1**	**-0.1**
	baz=77								
YOJ				*e*S			**Sn**	**21 50 32.0**	**-0.5**
	baz=77								
EGFH	**Guangfu**	**0.86**	**227**	*e*P			**Pn**	**21 50 21.3**	**+0.3**
	baz=226								
TWT	**Tachien**	**0.86**	**270**	*e*P			**Pn**	**21 50 21.6**	**+0.4**
	baz=267								
TWT				*e*S			**Sn**	**21 50 33.6**	**+0.5**
	baz=267								
NWF	**Wu-fen Shan**	**0.87**	**340**	*e*P			**Pb**	**21 50 20.9**	**+0.2**
	baz=337								
TWA	**Mucha**	**0.87**	**326**	*e*P			**Pn**	**21 50 21.3**	**0.0**
	baz=324								
TDCB	**Techi**	**0.88**	**270**	*e*P			**Pn**	**21 50 21.2**	**-0.2**
	baz=267								
CHGB	**Renai**	**0.88**	**258**	*e*P			**Pb**	**21 50 20.9**	**-0.2**
	baz=255								
NHDH	**Xindian Distri**	**0.89**	**323**	*e*P			**Pn**	**21 50 21.9**	**+0.4**
	baz=320								
OWD	**Renai**	**0.91**	**251**	*e*P			**Pb**	**21 50 21.4**	**-0.1**
	baz=249								
TATO	**Taipei**	**0.92**	**322**	*e*P			**Pn**	**21 50 22.0**	**+0.1**
	baz=319								
TNOU	**National Taiwa**	**0.95**	**341**	*e*P			**Pb**	**21 50 22.1**	**0.0**
	baz=338								
TNOU				*e*S			**Sn**	**21 50 34.8**	**-0.3**
	baz=338								
YM01	**YM01**	**1.02**	**331**	*e*P			**Pb**	**21 50 23.7**	**+0.4**
	baz=328								
YM08	**YM08**	**1.05**	**333**	*e*P			**Pb**	**21 50 24.0**	**+0.3**
	baz=330								
TWS1	**Kuangyinshan**	**1.06**	**323**	*e*P			**Pb**	**21 50 24.5**	**+0.6**
	baz=321								
LIOB	**Emei**	**1.08**	**292**	*e*P			**Pb**	**21 50 24.9**	**+0.6**
	baz=289								
NSTT	**Nanjuang**	**1.08**	**291**	*e*P			**Pb**	**21 50 24.9**	**+0.5**
	baz=288								
WPL	**Puli Township**	**1.09**	**257**	*e*P			**Pn**	**21 50 24.0**	**-0.2**
	baz=255								
NTST	**Danshui**	**1.09**	**326**	*e*P			**Pb**	**21 50 25.1**	**+0.6**
	baz=324								
NCUH	**Zhongli**	**1.11**	**310**	*e*P			**Pb**	**21 50 25.4**	**+0.6**
	baz=307								
TWY	**Chenhua**	**1.12**	**335**	*e*P			**Pb**	**21 50 25.5**	**+0.5**
	baz=333								
IRIF	**Iriomote-Funau**	**1.47**	**87**	P			**Pn**	**21 50 29.3**	**-0.2**
IRIF				*e*S			**Sn**	**21 50 48.2**	**+0.1**
JKRS	**Kuro-shima**	**1.73**	**90**	P			**Pn**	**21 50 33.3**	**+0.3**
JKRS				*e*S			**Sn**	**21 50 55.2**	**+0.9**
JIJ	**Ishigaki jima**	**1.85**	**86**	P			**Pn**	**21 50 34.4**	**-0.3**
JIJ				S			**Sn**	**21 50 56.9**	**-0.5**
JISG	**Ishigakijimahi**	**2.03**	**80**	S			**Sn**	**21 51 02.0**	**+0.2**
JTJ	**Tarama**	**2.39**	**80**	*e*S			**Sn**	**21 51 10.8**	**+0.2**

TRN 21 21:52:06.9, 17°.54N×61°.76W, h36km, MD4.0, 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.13**	**350**	*e*P			Pn	21 52 14.7	-3.8
ANWB				*e*S			Sn	21 52 19.5	-10
ANOC	**Antigua Open C**	**0.42**	**189**	⇑*i*P			Pn	21 52 17.9	+1.6
ANOC				*e*S			Sn	21 52 25.3	+2.2
ANDO	**Antigua, Disas**	**0.43**	**189**	*e*P			Pn	21 52 17.9	+1.6
ANDO				*e*S			Sn	21 52 25.4	+2.2
ANBD	**Bethesda, Anti**	**0.49**	**180**	⇑*i*P			Pn	21 52 18.6	+1.2
ANBD				*e*S			Sn	21 52 27.1	+2.5
BPA	**Boggy Peak**	**0.50**	**191**	⇑*i*P			Pn	21 52 18.6	+1.0
BPA				*e*S			Sn	21 52 26.6	+1.6
MBFL	**Flemmings, Mon**	**0.90**	**209**	*e*P			Pn	21 52 24.3	+1.3
MBFL				*e*S			Sn	21 52 37.1	+2.3
MLYT	**Lee's Yard**	**0.91**	**207**	*e*P			Pn	21 52 24.7	+1.5
MLYT				*e*S			Sn	21 52 37.6	+2.4
NVDO	**Nevis, Disaste**	**0.92**	**243**	*e*P			Pn	21 52 25.2	+1.9
NVDO				*e*S			Sn	21 52 38.7	+3.3
SKI	**Saint Kitts**	**0.96**	**258**	*e*P			Pn	21 52 25.2	+1.4
SKI				*e*S			Sn	21 52 38.8	+2.6
SKOC	**St. Kitts, UWI**	**0.96**	**255**	*e*P			Pn	21 52 25.3	+1.5
SKOC				*e*S			Sn	21 52 38.8	+2.6
ABD	**La Joyeuse, An**	**1.09**	**166**	*e*P			Pn	21 52 27.3	+1.6
ABD				*e*S			Sn	21 52 41.0	+1.5
SEUS	**St. Eustatius**	**1.17**	**268**	*e*P			Pn	21 52 28.5	+1.9
SEUS				*e*S			Sn	21 52 43.4	+2.1
CBE	**Ff, Capester**	**1.47**	**174**	*e*P			Pn	21 52 32.4	+1.5
CBE				*e*S			Sn	21 52 51.2	+2.4
MAGL	**Barre de l'ile**	**1.65**	**164**	*e*P			Pn	21 52 34.9	+1.6
MAGL				*e*S			Sn	21 52 56.5	+3.3
TBG	**Guadaloupe-3**	**1.68**	**176**	*e*P			Pn	21 52 34.9	+1.1
TBG				*e*S			Sn	21 52 56.2	+2.1
TDBA	**Terre de Bas,**	**1.69**	**176**	*e*P			Pn	21 52 35.3	+1.5
TDBA				*e*S			Sn	21 52 57.1	+2.9
MDPV	**Dominica, Penn**	**1.93**	**170**	*e*P			Pn	21 52 38.9	+1.7
MDVC	**Dominica, Viel**	**1.94**	**170**	*e*S			Sn	21 53 03.8	+3.3
DSLB	**Salisbury**	**2.12**	**171**	*e*P			Pn	21 52 41.5	+1.7
SVN	**Savane Anatole**	**2.74**	**168**	*e*P			Pn	21 52 51.8	+3.3
BAMF	**Morne Balai**	**2.77**	**168**	*e*P			Pn	21 52 51.9	+3.1
GBMF	**Grand Be**	**2.79**	**168**	*e*P			Pn	21 52 53.2	+4.1
FDF	**Fort de France**	**2.85**	**168**	*e*P			Pn	21 52 51.8	+1.8
FDF				*e*S			Sn	21 52 57.7	+3.9
CDVI	**St. Croix**	**2.87**	**275**	*e*P			Pn	21 52 52.5	+2.3
ILAM	**Ilet Lapin Mar**	**2.88**	**163**	*e*P			Pn	21 52 51.7	+1.4
ILAM				*e*S			Sn	21 53 26.3	+2.7
ZAM	**Aeronautique**	**3.03**	**166**	*e*P			Pn	21 52 54.9	+2.5
LPMF	**Morne Lapointe**	**3.05**	**165**	*e*P			Pn	21 52 55.2	+2.7
TRMF	**Trois Ilets**	**3.06**	**167**	*e*P			Pn	21 52 54.9	+2.1
BIM	**Bigot**	**3.08**	**167**	*e*P			Pn	21 52 55.0	+2.0
MPOM	**Morne Pois Mar**	**3.20**	**164**	*e*P			Pn	21 52 56.4	+1.7
SLBI	**Saint Lucia, B**	**3.58**	**168**	*e*P			Pn	21 53 01.5	+1.7
SJG	**San Juan**	**4.22**	**278**	*e*P			Pn	21 53 11.3	+2.6
SJG	**San Juan**	**4.22**	**278**	*e*S			Sn	21 53 58.1	+1.4
SVB	**Belmont**	**4.27**	**173**	*e*P			Pn	21 53 11.3	+1.9
AOPR	**Arecibo Observ**	**4.82**	**280**	*e*P			Pn	21 53 19.4	+2.4
TRN	**Trinidad (W)**	**6.86**	**177**	*e*P			Pn	21 53 47.3	+2.3

*ISK **21** 22:01:58.6, 36°.85N×44°.19E, h5km, ML3.5/19*
*ISN **21** 22:01:58.8±1.3, 37°.06N×44°.15E, h16km±8km, ML3.6*
*TEH **21** 22:01:59.7, 36°.98N×44°.45E, h5km, ML3.5*
*DDA **21** 22:01:59.6, 36°.95N×44°.26E, h5km±2km, ML3.5*
ISC 21 22:01:59.3±1.2, **36°.96N**±0°.02×**44°.32E**±0°.02, **h4**km±11km, **n70**, σ1**s49**/93, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.63**	**358**	*i* P			**Pg**	**22 02 11.8**	**+0.4**
YOVA				*i* S			**Sb**	**22 02 21.6**	**-0.7**
YOVA	**Hakkari_Yksek**	**0.63**	**358**	*e*Pg			**Pg**	**22 02 11.8**	**+0.4**
CUKT	**Cukurca**	**0.64**	**297**	*i* P			**Pg**	**22 02 11.1**	**-0.5**
CUKT				*i* S			**Sb**	**22 02 20.7**	**-1.9**
CUKT				IAML				22 02 24.0	
	comp=N,4μm,0.9s								
CUKT				IAML				22 02 26.0	
	comp=E,9μm,0.8s								
CUKT	**Cukurca**	**0.64**	**297**	PG			**Pg**	**22 02 10.9**	**-0.7**
CUKT				SG			**Sb**	**22 02 21.4**	**-1.1**
CUKT	**Cukurca**	**0.64**	**297**	*e*Pg			**Pg**	**22 02 10.9**	**-0.7**
HAKT	**HAKKARI**	**0.77**	**321**	*i* P			**Pb**	**22 02 14.8**	**-0.8**
HAKT				*i* S			**Sb**	**22 02 24.8**	**-1.7**
HAKT	**HAKKARI**	**0.77**	**321**	*e*Pg			**Pb**	**22 02 14.7**	**-0.8**
BASK	**Baskale_VAN**	**1.12**	**347**	*i* P			**Pg**	**22 02 21.1**	**+0.2**
BASK				*i* S			**Sn**	**22 02 36.7**	**-1.3**
BASK	**Baskale_VAN**	**1.12**	**347**	*e*Pn			**Pg**	**22 02 21.0**	**+0.2**
MAHB	**Mahabad**	**1.13**	**99**	*e*Pg			**Pb**	**22 02 18.9**	**-2.6**
MAHB				*e*Sg			**Sb**	**22 02 32.5**	**-4.1**
MAHB				*e*				22 02 38.7	
	comp=Z,14μm,0.5s								
IKRK	**Kirkuk**	**1.56**	**179**	*e*Pg			**Pb**	**22 02 28.0**	**-0.8**
IKRK				*e*Sg			**Sg**	**22 02 51.0**	**+1.6**
IKRK				AML		AML		22 02 52.8	
	comp=E,762nm,0.4s								
IKRK				AML		AML		22 02 53.2	
	comp=N,1μm,0.4s								
SIRT	**Sirnak**	**1.60**	**290**	PN			**Pb**	**22 02 28.5**	**-1.0**
SIRT				SN			**Sg**	**22 02 50.3**	**-0.3**
SIRT	**Sirnak**	**1.60**	**290**	*e*Pn			**Pg**	**22 02 29.2**	**-0.7**
SIRN	**Sirnak**	**1.61**	**290**	*i* P			**Pb**	**22 02 29.2**	**-0.6**
SIRN				*i* S			**Sg**	**22 02 51.6**	**+0.4**
SIRN				IAML				22 02 57.0	
	comp=E,853nm,0.6s								
SIRN				IAML				22 02 59.0	
	comp=N,727nm,0.5s								
SIRN	**Sirnak**	**1.61**	**290**	*e*Pn			**Pb**	**22 02 29.2**	**-0.6**
GEVA	**Gevas**	**1.68**	**324**	*i* P			**Pb**	**22 02 30.8**	**-0.2**
GEVA				*i* S			**Sg**	**22 02 55.4**	**+2.0**
GEVA	**Gevas**	**1.68**	**324**	*e*Pn			**Pb**	**22 02 30.8**	**-0.2**
OZAP	**Van, Ozalp-Mer**	**1.72**	**351**	*i* P			**Pg**	**22 02 33.2**	**+0.9**
OZAP				*i* S			**Sg**	**22 02 57.8**	**+3.2**
PERV	**Siirt/Pervari-**	**1.72**	**305**	*i* P			**Pg**	**22 02 31.8**	**-0.6**
PERV				IAML				22 03 00.0	
	comp=E,793nm,0.5s								
PERV				IAML				22 03 04.0	
	comp=N,456nm,0.6s								
TVAN	**Van**	**1.73**	**335**	*i* P			**Pg**	**22 02 32.2**	**-0.3**
TVAN				*i* S			**Sg**	**22 02 55.0**	**+0.2**
TVAN	**Van**	**1.73**	**335**	*e*Pn			**Pg**	**22 02 32.1**	**-0.3**
AKDM	**Akdamar-Van**	**1.73**	**322**	PN			**Pg**	**22 02 32.5**	**-0.1**
AKDM	**Akdamar-Van**	**1.73**	**322**	*e*Pn			**Pg**	**22 02 32.5**	**-0.1**
VANB	**Van**	**1.79**	**336**	PN			**Pb**	**22 02 31.8**	**-1.0**
VANB	**Van**	**1.79**	**336**	*e*Pn			**Pb**	**22 02 32.2**	**-0.6**
ITBZ	**Tabriz**	**1.93**	**48**	*e*Pn			**Pn**	**22 02 33.7**	**+0.6**
IMRD	**Marand**	**2.06**	**32**	*e*Pn			**Pb**	**22 02 36.9**	**-0.6**
VMUR	**Van-Muradiye**	**2.11**	**344**	*i* P			**Pb**	**22 02 38.4**	**0.0**
VMUR				*i* S			**Sg**	**22 03 08.6**	**+1.4**
SRTM	**Siirt_Merkez**	**2.17**	**299**	*i* P			**Pb**	**22 02 39.0**	**-0.2**
SRTM				*i* S			**Sg**	**22 03 08.6**	**-0.4**
SRTM				IAML				22 03 16.0	
	comp=N,319nm,0.6s								
SRTM				IAML				22 03 19.0	
	comp=E,253nm,0.5s								
CLDR	**Caldiran**	**2.20**	**352**	*i* P			**Pn**	**22 02 38.1**	**+1.1**
CLDR	**Caldiran**	**2.20**	**352**	PN			**Pb**	**22 02 38.5**	**-1.4**
BLIS	**Bitlis-Merkez**	**2.27**	**310**	*i* P			**Pb**	**22 02 38.7**	**-2.3**
BLIS				*i* S			**Sb**	**22 03 08.9**	**-0.7**
MIDY	**Mardin/Midyat-**	**2.38**	**282**	*i* P			**Pn**	**22 02 39.7**	**+0.5**
MIDY				*i* S			**Sb**	**22 03 12.6**	**+0.1**
MIDY				IAML				22 03 20.0	
	comp=E,332nm,0.8s								
MIDY				IAML				22 03 25.0	
	comp=N,214nm,0.3s								
GURO	**Guroymak-BITLI**	**2.41**	**312**	PN			**Pb**	**22 02 41.3**	**-2.1**
MLAZ	**Malazgirt-MUS**	**2.59**	**328**	PN			**Pb**	**22 02 43.8**	**-2.6**
BTMN	**Batman**	**2.60**	**292**	*i* P			**Pb**	**22 02 45.3**	**-1.3**
BTMN				*i* S			**Sg**	**22 03 22.4**	**-0.5**
BTMN				IAML				22 03 31.0	
	comp=E,273nm,1.1s								
BTMN				IAML				22 03 36.0	
	comp=N,330nm,0.6s								
SVAN	**Silvan-Diyarba**	**2.75**	**297**	*i* P			**Pb**	**22 02 48.9**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.75**	**297**	PN			**Pn**	**22 02 44.9**	**+0.6**
ISRB	**Sarab**	**2.80**	**71**	*e*Pn			**Pn**	**22 02 46.8**	**+1.6**
ISRB				*e*				22 03 31.5	
	comp=Z,1μm,0.7s								
IDHR	**Dehrash**	**2.81**	**143**	*e*Pn			**Pn**	**22 02 46.8**	**+1.5**
IDHR				*e*				22 02 53.9	
	comp=Z,4μm,0.4s								
AGRB	**Hanur-Agry**	**2.81**	**339**	PN			**Pb**	**22 02 47.4**	**-2.9**
MUSM	**Mu-Merkez**	**2.84**	**309**	*i* P			**Pn**	**22 02 46.9**	**+1.3**
MUSM				*i* S			**Sb**	**22 03 24.0**	**-1.8**
MARD	**Mardin**	**2.85**	**278**	*i* P			**Pb**	**22 02 47.7**	**-3.2**
MARD				*i* S			**Sb**	**22 03 26.4**	**+0.2**

MKAR	**Makanchi Array**	**112.18**	**313**	PKiKP	**PKiKP**	**23 15 28.3**	**0.0**	
	0.1nm,0.4s,baz=127,slow=0.6,SNR=4.0							
ARCES	**ARCESS Array B**	**131.75**	**348**	PKP	**PKiKP**	**23 16 05.4**	**-0.8**	
	2.6nm,1.0s,baz=11,slow=2.5,SNR=8.4							
FINES	**FINESS Array B**	**138.33**	**342**	PKhKP	PKPpre	23 16 07.2		
	0.5nm,0.7s,baz=46,slow=4.0,SNR=1.9							
NOA	**NORSAR Array B**	**141.93**	**351**	PKhKP	PKPpre	23 16 20.8		
	0.7nm,0.7s,baz=15,slow=4.9,SNR=5.5							
AKASG	**Malin Array Be**	**144.92**	**328**	PKP	**PKPab**	**23 16 30.1**	**-1.0**	
	1.9nm,0.4s,baz=44,slow=4.2,SNR=20							
BRTR	**Keskin Array B**	**147.63**	**308**	PKPbc	**PKiKP**	**23 16 38.7**	**-1.0**	
	0.9nm,0.7s,baz=141,slow=4.7,SNR=6.5							
BRTR				PKPab	**PKPab**	**23 16 43.0**	**+0.5**	
	1.5nm,0.7s,baz=90,slow=3.8,SNR=8.9							
OSTC	**Ostas**	**150.46**	**339**	*e*PKP	**PKiKP**	**23 16 46.5**	**+1.4**	
CHVC	**Chvalec**	**150.48**	**339**	*e*PKP	**PKiKP**	**23 16 46.0**	**+0.8**	
DPC	**Dobruska-Polom**	**150.60**	**339**	*e*PKP	**PKiKP**	**23 16 46.3**	**+0.9**	
KRLC	**Kraliky**	**150.68**	**338**	*e*PKP	**PKiKP**	**23 16 45.9**	**+0.3**	
CLL	**Collm**	**150.74**	**343**	*i* PKPbc	**PKiKP**	**23 16 46.0**	**+0.4**	
	comp=Z,7.0nm,0.7s							
CLL				*e*		23 16 56.0		
PVCC	**Panska Ves**	**151.00**	**341**	*e*PKP	**PKiKP**	**23 16 47.4**	**+1.2**	
KHC	**Kasperske Hory**	**152.53**	**341**	*e*PKP	**PKPdf**	**23 16 41.1**	**-0.7**	
GERES	**GERESS Array B**	**152.75**	**340**	PKPbc	**PKiKP**	**23 16 50.2**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=0.0,slow=4.0,SNR=4.4							
GERES				PKPab	**PKPab**	**23 17 03.3**	**-0.2**	
	comp=Z,0.3nm,0.6s,baz=3.8,slow=2.9,SNR=2.3							
TORD	**Torodi Ar. Bea**	**169.40**	**188**	PKPab	**PKPab**	**23 18 18.2**	**+1.4**	
	comp=Z,0.6nm,0.7s,baz=167,slow=5.2,SNR=2.5							

*MAN **21** 23:14:08.9,5.°07N×125.°95E,h96km,MS3.5*
*IDC **21** 23:14:09.8±0.9,5.°09N×125.°66E,h120km±8km,mb3.9/19, mb1 4.0/22,mb1mx3.8/50,mbtmp4.3/22,MS3.1/3, Ms1 3.1/3,ms1mx2.7/32,Error ellipse: s-maj=19.9km s-min=7.8km az=85.0*
*BJI **21** 23:14:10.2±0.0,5.°20N×126.°10E,h116km,mB5.0/3, mb4.6/6*
*DJA **21** 23:14:11.1±0.2,5.°N±2.°×12.°6E±.°,h100km±3km,M4.7/36, mB5.2/13,mb4.6/36,MLv5.0/12,Mw(mB)4.6/13*
*NEIC **21** 23:14:11.5±1.8,5.°11N±0.°06×125.°8E±0.°1,h124km±8km, mb4.5/40,Error ellipse: s-maj=15.4km s-min=9.0km az=81.0*

ISC 21 23:14:10.3±0.6,5.°14N±0.°03×125.°90E±0.°06,h121km±6km, n135,σ1°52/146,mb4.3/36,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.98**	**349**		*e*P	**Pn**	**23 14 29.9**	**-2.3**
DDMP					*e*S	**Sn**	**23 14 46.0**	**-2.8**
SGSI	**Sangihe**	**1.49**	**194**	P		**Pn**	**23 14 37.4**	**-0.2**
SGSI				S		**Sn**	**23 14 57.2**	**-1.2**
MATI	**Mati**	**1.83**	**11**		*e*P	**Pn**	**23 14 40.4**	**-1.3**
MATI					*e*S	**Sn**	**23 15 03.4**	**-2.4**
SKMP	**Bagumbayan, Su**	**1.93**	**316**		*e*P	**Pn**	**23 14 41.1**	**-1.8**
SKMP					*e*S	**Sn**	**23 15 06.4**	**-1.3**
DAV	**Davao City (W)**	**1.95**	**351**	P		**Pn**	**23 14 42.6**	**-0.5**
	178nm,0.3s,baz=181,slow=1.1,SNR=15							
DAV				S		**Sn**	**23 15 08.9**	**+0.6**
	288nm,0.3s,baz=144,slow=24,SNR=4.6							
DAV				LR		LR	23 15 23.1	
	comp=Z,39nm,20.9s,baz=88,slow=37							
DAV	**Davao City (W)**	**1.95**	**351**			**Pn**	**23 14 44.3**	**+1.1**
DAV	**Davao City (W)**	**1.95**	**351**	P		**Pn**	**23 14 44.0**	**+0.8**
DAV				S		**Sn**	**23 15 08.9**	**+0.6**
KCP	**Kidapawan**	**2.03**	**337**	⇑	*i* P	**Pn**	**23 14 44.3**	**+0.1**
KCP					*i* S	**Sn**	**23 15 08.8**	**-1.3**
BUKP	**Musuan**	**2.85**	**343**		*e*P	**Pn**	**23 14 54.7**	**0.0**
BUKP					*e*S	**Sn**	**23 15 26.6**	**-2.3**
CGP	**Cagayan de Oro**	**3.51**	**340**	⇑	*e*P	**Pn**	**23 15 04.3**	**+1.0**
CGP					*e*S	**Sn**	**23 15 45.1**	**+0.7**
PAGZ	**Pagadian**	**3.67**	**317**		*e*P	**Pn**	**23 15 03.5**	**-2.0**
PAGZ					*e*S	Sn	23 15 38.7	-10
GAMI	**Galela, Maluku**	**3.78**	**150**	P		**Pn**	**23 15 05.7**	**-1.3**
GAMI				S		**Sn**	**23 15 48.9**	**-1.9**
MNI	**Manado**	**3.82**	**196**	P		**Pn**	**23 15 07.7**	**+0.3**
BUTP	**Butuan**	**3.82**	**356**		*e*P	**Pn**	**23 15 08.2**	**+0.8**
BUTP					*e*S	**Sn**	**23 15 48.4**	**-3.3**
TNTI	**Ternate**	**4.58**	**161**			**Pn**	**23 15 16.6**	**-0.9**
TNTI	**Ternate**	**4.58**	**161**	P		**Pn**	**23 15 16.9**	**-0.7**
GLSP	**General Luna,**	**4.62**	**3**		*e*P	**Pn**	**23 15 18.5**	**+0.3**
GLSP					*e*S	**Sn**	**23 16 14.9**	**+3.9**
KMSI	**Cibinong**	**4.92**	**203**	P		**Pn**	**23 15 23.5**	**+1.3**
MSLP	**Maasin**	**5.07**	**348**		*e*P	**Pn**	**23 15 24.2**	**0.0**
MSLP					*e*S	**Sn**	**23 16 20.8**	**-1.0**
GTOI	**Gorontalo**	**5.32**	**213**	P		**Pn**	**23 15 27.7**	**+0.1**
	0.9nm2µm116nm,0.6s							
LLP	**Lapu-Lapu**	**5.49**	**340**	⇓	*e*P	**Pn**	**23 15 30.4**	**+0.4**
LLP					*e*S	**Sn**	**23 16 31.9**	**-0.1**
MRSI	**Marisa**	**6.08**	**221**	P		**Pn**	**23 15 39.0**	**+1.1**
	1.4nm1µm147nm,0.7s							
TOLI2	**Tolitoli**	**6.49**	**232**			**Pn**	**23 15 42.8**	**-0.5**
LUWI	**Luwuk**	**6.88**	**207**	Pn		**Pn**	**23 15 50.3**	**+1.6**
LUWI	**Luwuk**	**6.88**	**207**	P		**Pn**	**23 15 50.5**	**+1.8**
	1.4nm2µm127nm,0.7s							
RCP	**Roxas**	**7.10**	**334**	⇓	*e*P	**Pn**	**23 15 53.0**	**+1.3**
SANI	**Sanana**	**7.14**	**179**	P		**Pn**	**23 15 49.9**	**-2.2**
	0.9nm9µm107nm,0.7s							
APSI	**Ampana**	**7.35**	**215**	P		**Pn**	**23 15 56.9**	**+1.8**
	0.6nm993nm90nm,1.3s							
MPSI	**Mapaga**	**7.66**	**232**	P		**Pn**	**23 16 00.7**	**+1.6**
	0.3nm21nm,0.8s							
SWI	**Sorong**	**8.01**	**138**	P		**Pn**	**23 16 04.7**	**+0.7**
	0.1nm1µm29nm,0.9s							
SIJI	**Sorong**	**8.02**	**138**	P		**Pn**	**23 16 03.5**	**-0.7**
	3.2nm,0.3s,baz=202,slow=22,SNR=18							
SIJI				S		**Sn**	**23 17 30.6**	**-2.7**
	2.9nm,0.3s,baz=199,slow=22,SNR=8.1							
SIJI				LR		LR	23 19 19.4	
	comp=Z,121nm,18.6s,baz=330,slow=38							
SIJI	**Sorong**	**8.02**	**138**	P		**Pn**	**23 16 04.7**	**+0.6**
	0.1nm660nm12nm,1.1s							
NLAI	**Namlea**	**8.40**	**172**	P		**Pn**	**23 16 07.8**	**-1.5**
	0.8nm8µm52nm,0.6s							
PCI	**Palu**	**8.52**	**225**	P		Pn	23 16 19.1	+8.2
MSAI	**Masohi**	**8.95**	**160**	P		**Pn**	**23 16 17.3**	**+0.6**
	3µm17nm,0.8s							
TTSI	**Tana Toraja**	**10.14**	**217**	P		**Pn**	**23 16 34.8**	**+2.0**
	1µm37nm,1.0s							
FAKI	**Fak Fak**	**10.21**	**141**	Pn		**Pn**	**23 16 34.0**	**+0.3**
FAKI	**Fak Fak**	**10.21**	**141**	P		**Pn**	**23 16 34.3**	**+0.6**
	38nm,1.3s							
BKB	**Balikpapan**	**11.01**	**235**	P		**Pn**	**23 16 45.8**	**+1.4**
	117nm,1.1s							
BNSI	**Bone**	**11.10**	**212**	P		**Pn**	**23 16 46.8**	**+1.2**
	23nm,1.0s							
KAPI	**Kappang**	**11.80**	**211**	P		**Pn**	**23 16 51.2**	**-3.7**
	0.8nm,0.3s,baz=126,slow=12,SNR=1.7							
KAPI	**Kappang**	**11.80**	**211**	P		Pn	**23 16 57.6**	**+2.7**
	22nm,0.8s							
BAKI	**Biak**	**11.98**	**121**	P		Pn	**23 16 57.1**	**-0.2**
	64nm,1.3s							
MTKI	**Muara Teweh, K**	**12.54**	**242**	P		**P**	**23 17 09.2**	**-2.1**
BBKI	**Banjar Baru**	**13.96**	**233**	P		**P**	**23 17 29.2**	**+2.1**
PKKI	**Palangkaraya**	**13.99**	**239**	P		**P**	**23 17 26.4**	**-1.0**
	104nm,1.1s							
SAUI	**Saumlaki**	**14.10**	**157**	P		**Pn**	**23 17 25.9**	**+1.1**
	468nm,1.3s							
MMRI	**Maumere**	**14.16**	**195**	P		**P**	**23 17 28.6**	**-0.7**
	39nm,0.9s							
EDFI	**Ende, Flores**	**14.42**	**197**	P		**Pn**	**23 17 29.7**	**+0.8**
	9.2nm,0.9s							
SOEI	**Soe**	**14.88**	**186**	P		**P**	**23 17 36.8**	**-0.7**
	31nm,0.8s							
STKI	**Sintang**	**15.26**	**251**	P		**P**	**23 17 44.6**	**+3.1**
BATI	**Baumata**	**15.40**	**188**	P		**Pn**	**23 17 39.2**	**-2.0**
	3.6nm,0.3s,baz=297,slow=15,SNR=1.4							
BATI				S		**Sn**	**23 20 32.0**	**+0.1**
	1.5nm,0.3s,baz=304,slow=21,SNR=1.2							
BATI	**Baumata**	**15.40**	**188**	P		**P**	**23 17 43.0**	**-0.1**
	24nm,1.0s							
PLAI	**Plampang**	**16.06**	**210**	P		**P**	**23 17 52.5**	**+2.1**
	75nm,0.9s							
BASI	**Baing, Sumba**	**16.15**	**199**	P		**P**	**23 17 51.9**	**+0.5**
	76nm,1.4s							
PBKI	**Pangkalan Bun**	**16.21**	**242**	P		**P**	**23 17 54.1**	**+2.1**
	5µm79nm,0.8s							
TWSI	**Taliwang, Sumb**	**16.45**	**213**	P		**P**	**23 17 57.4**	**+2.6**
	38nm,0.9s							
KLNI	**Mataram**	**16.64**	**216**	P		**P**	**23 17 58.5**	**+1.7**
	22nm,0.9s							
JAGI	**Jajag, Banyuwa**	**17.88**	**221**	P		**Pn**	**23 18 13.2**	**+1.6**
	39nm,0.8s							
TPUB	**Ta-pu**	**18.76**	**345**	P		**P**	**23 18 19.4**	**-0.7**
TPUB					IAmb	IAmb	23 18 24.8	
	comp=Z,12nm,0.8s							
SJI	**Sawahan**	**19.03**	**228**	P		**Pn**	**23 18 26.2**	**+1.0**
	comp=Z,28nm,1.4s							
SSLB	**Suanglung**	**19.15**	**346**	P		**P**	**23 18 24.3**	**0.0**
SSLB					IAmb	IAmb	23 18 25.3	
	comp=Z,14nm,0.9s							
PWJI	**Pagerwojo**	**19.20**	**227**	P		**Pn**	**23 18 28.0**	**+1.0**
	comp=Z,46nm,1.9s							
PCJI	**Pacitan**	**19.77**	**228**	P		**Pn**	**23 18 32.9**	**-0.9**
	comp=Z,67nm,1.7s							
CTJI	**Waduk Cacaban**	**20.58**	**234**	P		Pn	23 18 42.2	-1.1
	comp=Z,32nm,1.1s							
KNRA	**Kununurra**	**20.87**	**172**	P		**P**	**23 18 44.0**	**+1.2**
KNRA					IAmb	IAmb	23 19 00.0	
	comp=Z,19nm,0.7s							
KPJI	**Karang Pucung**	**20.98**	**234**	P		Pn	23 18 47.7	-0.2
	comp=Z,32nm,1.6s							
PPBI	**Pangkal Pinang**	**21.03**	**250**	P		**P**	**23 18 48.2**	**+3.5**
JOW	**Kunigami**	**21.70**	**6**	P		**P**	**23 18 51.5**	**-0.2**
	comp=Z,15nm,0.7s,baz=210,slow=8.2,SNR=6.7							
JOW	**Kunigami**	**21.70**	**6**	P		**P**	**23 18 53.0**	**+1.4**
JOW					IAmb	IAmb	23 18 56.5	
	comp=Z,32nm,1.1s							
BTDF	**Bukit Timah Da**	**22.40**	**261**	P		**P**	**23 19 01.3**	**+2.2**
	comp=Z,34nm,0.8s							
CNJI	**Cibinong**	**22.44**	**237**	P		**P**	**23 19 03.0**	**+3.6**
	comp=Z,93nm,1.3s							
FITZ	**Fitzroy Crossi**	**23.09**	**181**	P		**P**	**23 19 05.0**	**-0.6**
	comp=Z,4.3nm,0.5s,baz=360,slow=9.8,SNR=21							
FITZ	**Fitzroy Crossi**	**23.09**	**181**	P		**P**	**23 19 06.1**	**+0.5**
MDSI	**Maura Dua**	**23.70**	**247**	P		**P**	**23 19 13.9**	**+2.5**
	comp=Z,21nm,1.0s							
KASI	**Kota Agung**	**23.85**	**244**	P		**P**	**23 19 14.8**	**+2.1**
	comp=Z,29nm,0.8s							
PDSI	**Padang**	**26.11**	**257**	P		**P**	**23 19 38.3**	**+5.1**
WB0	**Warramunga Arr**	**26.12**	**162**	P		**P**	**23 19 33.5**	**+0.4**
WB0					IAmb	IAmb	23 19 36.5	
	comp=Z,8.4nm,1.1s							
WRAB	**Tennant Creek**	**26.26**	**162**	P		**P**	**23 19 35.4**	**+0.9**
WRAB					IAmb	IAmb	23 19 38.2	
	comp=Z,6.6nm,0.8s							
WRA	**Warramunga Arr**	**26.27**	**162**	P		**P**	**23 19 34.5**	**0.0**
	comp=Z,0.9nm,0.4s,baz=329,slow=11,SNR=20							
WRA	**Warramunga Arr**	**26.27**	**162**		IAmb	IAmb	23 19 41.9	
	comp=Z,0.3nm,1.1s							
WB2	**Warramunga Arr**	**26.27**	**162**	P		**P**	**23 19 34.9**	**+0.4**
WR0	**Warramunga Arr**	**26.35**	**161**	P		**P**	**23 19 35.9**	**+0.6**
JCJ	**Chichijima**	**26.80**	**34**	P		**P**	**23 19 38.5**	**-0.7**
PSI	**Papat**	**27.00**	**266**	P		**P**	**23 19 39.4**	**-2.0**
	comp=Z,4.8nm,0.6s,baz=358,slow=3.8,SNR=2.9							
PSA00	**Pilbara Seismi**	**27.20**	**192**	P		**P**	**23 19 42.4**	**-0.4**
PSA00					IAmb	IAmb	23 19 43.4	
	comp=Z,16nm,0.8s							
PSA00	**Pilbara Seismi**	**27.20**	**192**	P		**P**	**23 19 41.9**	**-0.9**
PSA00					IAmb	IAmb	23 19 43.3	
	comp=Z,9.7nm,0.9s							
GSI	**Gunungsitoli**	**28.53**	**263**	P		**P**	**23 19 53.5**	**-1.2**
GSI					IAmb	IAmb	23 19 56.0	
	comp=Z,16nm,0.9s							
GSI	**Gunungsitoli**	**28.53**	**263**	P		**P**	**23 19 55.4**	**+0.6**
JMN	**Monobe**	**29.40**	**14**	P		**P**	**23 20 03.3**	**+1.0**
JMN					IAmb	IAmb	23 20 18.5	
	comp=Z,11nm,1.0s							
JTU	**Tsushima**	**29.42**	**6**	P		**P**	**23 20 04.0**	**+1.6**
JTU					IAmb	IAmb	23 20 10.7	
	comp=Z,10nm,1.1s							
CMAR	**Chiang Mai Arr**	**29.46**	**299**	P		**P**	**23 20 00.6**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=119,slow=7.3,SNR=2.1							
CMAR					ScP	**ScP**	**23 26 35.2**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=127,slow=2.4,SNR=4.4							
CHTO	**Chiang Mai**	**29.60**	**300**	P		**P**	**23 20 03.9**	**-0.4**
ASAR	**Alice Springs**	**29.67**	**165**	P		**P**	**23 20 04.5**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=89,slow=8.4,SNR=20							
ASAR					PcP	**PcP**	**23 23 06.4**	**0.0**
	comp=Z,1.0nm,0.8s,baz=0.0,slow=3.2,SNR=4.3							
ASAR					ScP	**ScP**	**23 26 36.8**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=337,slow=2.7,SNR=7.5							
GIRL	**Giralia**	**29.87**	**202**	P		**P**	**23 20 05.7**	**-0.8**
JHS	**Saijyo**	**30.46**	**12**	P		**P**	**23 20 14.3**	**+2.7**
JHS					IAmb	IAmb	23 20 22.4	
	comp=Z,4.3nm,0.7s							
JWT	**Wachi**	**31.26**	**15**	P		**P**	**23 20 19.9**	**+1.3**
JWT					IAmb	IAmb	23 20 24.3	
	comp=Z,8.2nm,1.0s							
INU	**Inuyama**	**31.77**	**17**	P		**P**	**23 20 24.3**	**+1.1**
JGF	**Kuroka**	**32.11**	**18**	P		**P**	**23 20 26.8**	**+0.7**
JGF					IAmb	IAmb	23 20 28.2	
	comp=Z,4.9nm,0.8s							
KSRS	**Korea Array**	**32.22**	**3**	P		**P**	**23 20 27.2**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=184,slow=10.0,SNR=20							
KSRS				LR		LR	23 35 51.6	
	comp=Z,27nm,18.6s,baz=199,slow=40							
MAJO	**Matsushiro**	**33.24**	**18**	P		**P**	**23 20 36.0**	**0.0**
MAJO					IAmb	IAmb	23 20 36.6	
	comp=Z,10nm,0.8s							
MAT	**Matsushiro**	**33.24**	**18**	P		**P**	**23 20 35.6**	**-0.4**
MJAR	**Matsushiro Arr**	**33.24**	**18**	P		**P**	**23 20 35.8**	**-0.1**
	comp=Z,7.2nm,0.7s,baz=196,slow=9.4,SNR=23							
MJAR	**Matsushiro Arr**	**33.24**	**18**	P		**P**	**23 20 35.2**	**-0.8**
MJB9	**Matsu-Tunnel**	**33.24**	**18**	P		**P**	**23 20 35.1**	**-0.9**
MJB9					IAmb	IAmb	23 20 36.6	
	comp=Z,12nm,0.8s							
MORW	**Morawa**	**35.30**	**195**	P		**P**	**23 20 52.9**	**-1.0**
FORT	**Forrest**	**35.77**	**177**	P		**P**	**23 20 58.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**38.74**	**192**	P		**P**	**23 21 22.1**	**-0.7**
	comp=Z,22nm,1.1s,baz=21,slow=8.2,SNR=7.4							
NWAO	**Narrogin (SRO)**	**38.74**	**192**	P		**P**	**23 21 22.9**	**0.0**
NWAO					IAmb	IAmb	23 21 36.7	
	comp=Z,10nm,1.0s							
BBOO	**Buckleboo**	**38.95**	**166**	P		**P**	**23 21 25.4**	**+0.7**
USA0B	**Ussuriysk Arra**	**39.27**	**7**	P		**P**	**23 21 28.9**	**+1.8**
USA0B					IAmb	IAmb	23 21 29.5	
	comp=Z,7.6nm,0.9s							
USRK	**Ussuriysk Ar.**	**39.27**	**7**	P		**P**	**23 21 28.4**	**+1.2**
	comp=Z,4.0nm,0.6s,baz=198,slow=7.7,SNR=15							
STKA	**Stephens Creek**	**39.73**	**159**	P		**P**	**23 21 31.4**	**+0.2**
	comp=Z,5.3nm,0.7s,baz=333,slow=9.4,SNR=8.2							
STKA	**Stephens Creek**	**39.73**	**159**		IAmb	IAmb	23 21 33.0	
	comp=Z,1.4nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**42.43**	**66**	T		T	00 08 05.5	
	baz=255,slow=75,SNR=18							
H11N2	**WAKE ISLAND Hy**	**42.44**	**66**	T		T	00 08 04.3	
	baz=255,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**42.45**	**66**	T		T	00 08 05.1	
	baz=255,slow=75,SNR=14							
KLR	**Kul'dur**	**44.22**	**6**	P		**P**	**23 22 07.8**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=193,slow=8.7,SNR=8.0							
ONTNC	**Ouen Toro**	**48.15**	**126**	P		**P**	**23 22 39.5**	**+1.0**
PETK	**Petropavlovsk-**	**54.46**	**23**	P		**P**	**23 23 25.1**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=194,slow=5.5,SNR=6.5							
PETK	**Petropavlovsk-**	**54.46**	**23**	P		**P**	**23 23 25.6**	**+0.5**
MK31	**Makanchi Array**	**55.94**	**325**	P		**P**	**23 23 35.6**	**-0.2**
MKAR	**Makanchi Array**	**55.94**	**325**	P		**P**	**23 23 34.4**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=122,slow=8.3,SNR=10							
MKAR					ScP	**ScP**	**23 28 19.2**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=126,slow=3.7,SNR=3.3							
MAKZ	**Makanchi**	**56.12**	**325**	P		**P**	**23 23 37.8**	**+0.6**
MAKZ					IAmb	IAmb	23 23 39.0	
	comp=Z,3.2nm,0.9s							
ZALV	**Zalesovo Beam**	**58.97**	**333**	P		**P**	**23 23 56.0**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=132,slow=8.8,SNR=1.5							
LBZ	**Lake Benmore**	**63.30**	**146**	P		**P**	**23 24 27.7**	**+1.3**
MQZ	**McQueen's Vall**	**64.30**	**144**	P		**P**	**23 24 33.0**	**+0.2**
I23K	**Minto, Yukon-K**	**83.16**	**25**	P		**P**	**23 26 25.1**	**+2.6**
ILAR	**Eielson Array**	**84.20**	**25**	P		**P**	**23 26 29.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=223,slow=6.7,SNR=5.2							
VNDA	**Vanda**	**84.92**	**173**	P		**P**	**23 26 31.3**	**0.0**
	comp=Z,1.4nm,0.9s,baz=39,slow=2.6,SNR=9.2							
VNDA	**Vanda**	**84.92**	**173**	P		**P**	**23 26 30.2**	**-1.1**
ARCES	**ARCESS Array B**	**88.85**	**340**	P		**P**	**23 26 50.4**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=82,slow=7.6,SNR=1.5							
FINES	**FINESS Array B**	**90.21**	**332**	P		**P**	**23 26 54.7**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=5.5,SNR=6.8							
NOA	**NORSAR Array B**	**97.17**	**334**	LR		LR	00 13 39.3	
	comp=Z,8.3nm,18.0s,baz=210,slow=37							
TORD	**Torodi Ar. Bea**	**121.69**	**289**	PKP		**PKPdf**	**23 32 49.4**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=56,slow=1.9,SNR=4.9							

*KNET **21** 23:40:18.4±0.5,42.°75N×73.°88E,h12km±6km,ml3.1,Error ellipse: s-maj=4.0km s-min=2.1km az=132.0*
*SOME **21** 23:40:18.6,42.°82N×73.°85E,h10km*
*NNC **21** 23:40:18.8±0.4,42.°81N×73.°89E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=3.7km s-min=2.4km az=18.0*

*KRNET **21** 23:40:18.5±0.1,42.°74N×73.°85E,h21km,mb3.8*
ISC 21 23:40:18.5±1.0,42.°79N±0.°02×73.°87E±0.°01,h4km±8km, n87,σ1°58/154,55C-24D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.15**	**208**	⇑	*i* P	**Pg**	**23 40 22.1**	**+0.7**
	baz=12							
EKS2				⇑	*i* S	**Sg**	**23 40 24.4**	**+1.0**
	baz=12							
EKS2	**Erkin-Say**	**0.15**	**208**	⇓	P	**Pg**	**23 40 21.9**	**+0.5**
	2µm,0.1s,SNR=7571							
EKS2				⇑	S	**Sg**	**23 40 24.2**	**+0.8**
	18µm,0.1s							
MRKS	**Merke**	**0.47**	**265**		*e*P	**Pg**	**23 40 28.1**	**+0.5**
	baz=70							
MRKS					*e*S	**Sg**	**23 40 34.4**	**+0.6**
	baz=70							
MRKS	**Merke**	**0.47**	**265**		*e*P	**Pg**	**23 40 28.1**	**+0.5**
	870nm,0.2s							
MRKS					*e*S	**Sg**	**23 40 34.4**	**+0.6**
	5µm,0.2s							
MRKS	**Merke**	**0.47**	**265**	P		**Pg**	**23 40 28.1**	**+0.5**
	870nm,0.2s							
MRKS				S		**Sg**	**23 40 34.4**	**+0.6**
	5µm,0.2s							
AAK	**Ala-Archa**	**0.49**	**108**	⇓	*i* P	**Pg**	**23 40 28.4**	**+0.6**
	baz=2.0							
AAK				⇓	*i* S	**Sg**	**23 40 35.2**	**+1.1**
	baz=2.0							
AAK	**Ala-Archa**	**0.49**	**108**	⇑	P	**Pg**	**23 40 28.5**	**+0.7**
	136nm,0.1s,SNR=92							
AAK				⇑	S	**Sg**	**23 40 35.2**	**+1.1**
	752nm,0.2s							
AAK	**Ala-Archa**	**0.49**	**108**	⇑	P	**Pg**	**23 40 28.5**	**+0.7**
	57nm,0.3s							
AAK				⇑	S	**Sg**	**23 40 35.0**	**+0.9**
	369nm,0.3s							
FRU1	**Bishkek**	**0.56**	**88**	⇓	*i* P	**Pg**	**23 40 29.8**	**+0.6**
	baz=81							
FRU1				⇓	*i* S	**Sb**	**23 40 37.8**	**-1.5**
	baz=81							
USP	**Ospenovka**	**0.66**	**44**	⇓	*i* P	**Pb**	**23 40 31.9**	**-0.7**
	baz=42							
USP				⇓	*i* S	**Sb**	**23 40 41.3**	**-0.9**
	baz=42							
USP	**Ospenovka**	**0.66**	**44**	P		**Pb**	**23 40 32.1**	**-0.5**
	86nm,0.1s,SNR=441							
USP				⇑	S	**Sb**	**23 40 41.5**	**-0.8**
	403nm,0.1s							
AML	**Almayashu**	**0.67**	**191**	⇓	*i* P	**Pg**	**23 40 30.8**	**-0.6**
	baz=90							
AML				⇓	*i* S	**Sg**	**23 40 39.6**	**-0.5**
	baz=90							
AML	**Almayashu**	**0.67**	**191**	P		**Pg**	**23 40 31.1**	**-0.3**
	253nm,0.1s,SNR=338							
AML				⇓	S	**Sg**	**23 40 39.7**	**-0.4**
	355nm,0.2s							
CHMS	**Chumysh**	**0.68**	**72**	⇑	*i* P	**Pb**	**23 40 32.0**	**-0.9**
	baz=69	

	111nm,0.3s								
IZV	**Izvestkoviy**	**2.03**	**82**	*e*P		**Pb**	**23 40 55.7**	**-0.3**
	151nm,0.2s								
IZV				*e*S		**Sg**	**23 41 23.4**	**-0.3**
	215nm,0.4s								
IZV	**Izvestkoviy**	**2.03**	**82**	Pg		**Pb**	**23 40 55.7**	**-0.3**
	151nm,0.2s								
IZV				Lg		Lg	23 41 23.4		
	215nm,0.4s								
KUU	**Kurty**	**2.11**	**58**	*e*P		**Pb**	**23 40 56.8**	**-0.5**
	18nm,0.3s								
KUU				*e*S		**Sg**	**23 41 24.9**	**-1.4**
	649nm,0.5s								
KUU	**Kurty**	**2.11**	**58**	Pg		**Pb**	**23 40 56.0**	**-1.3**
	18nm,0.3s								
KUU				Lg		Lg	23 41 24.9		
	649nm,0.5s								
KTBS	**Karatobe**	**2.25**	**65**	*e*P		**Pb**	**23 40 59.2**	**-0.5**
	24nm,0.4s								
KTBS				*e*S		**Sg**	**23 41 29.6**	**-1.2**
	482nm,0.8s								
KTBS	**Karatobe**	**2.25**	**65**	Pg		**Pb**	**23 40 57.8**	**-1.9**
	24nm,0.4s								
KTBS				Lg		Lg	23 41 29.4		
	482nm,0.8s								
BTLS	**Baital**	**2.25**	**3**	*e*P		**Pb**	**23 40 58.9**	**-0.8**
	13nm,0.2s								
BTLS				*e*S		**Sb**	**23 41 27.7**	**-0.2**
	175nm,0.2s								
KNDC	**Almaty**	**2.31**	**78**	⇑Pn		**Pb**	**23 40 59.6**	**-1.1**
	36nm,0.3s								
KNDC				⇓Lg		Lg	23 41 31.5		
	215nm,0.5s								
MDOK	**Medeo**	**2.36**	**80**	*e*P		**Pb**	**23 41 01.2**	**-0.4**
	52nm,0.4s								
MDOK				*e*S		**Sg**	**23 41 32.4**	**-2.0**
	148nm,0.6s								
MDOK	**Medeo**	**2.36**	**80**	⇑Pn		**Pb**	**23 40 59.6**	**-2.0**
	24nm,0.4s								
MDOK				⇑Lg		Lg	23 41 32.6		
	128nm,0.6s								
MDOK	**Medeo**	**2.36**	**80**	Pg		**Pb**	**23 40 60.0**	**-1.7**
	52nm,0.4s								
MDOK				Lg		Lg	23 41 30.7		
	148nm,0.6s								
TRKS	**Terek-Say**	**2.39**	**239**	⇑*i*P		**Pn**	**23 40 58.4**	**-0.1**
	baz=38								
TRKS				⇑*i*S		**Sn**	**23 41 27.6**	**-0.7**
	baz=38								
OHH	**Osh**	**2.41**	**200**	⇑*i*P		**Pn**	**23 40 58.4**	**-0.2**
	baz=0.0								
OHH				⇑*i*S		**Sn**	**23 41 27.5**	**-1.1**
	baz=0.0								
KOTS	**Kotyrbulak**	**2.42**	**78**	*e*P		**Pb**	**23 41 02.9**	**+0.3**
	37nm,0.3s								
KOTS				*e*S		**Sg**	**23 41 34.9**	**-1.3**
	93nm,0.3s								
KOTS	**Kotyrbulak**	**2.42**	**78**	Pg		**Pb**	**23 41 00.8**	**-1.8**
	86nm,0.3s								
KOTS				Lg		Lg	23 41 34.9		
	93nm,0.3s								
KK31	**Karatay Array**	**2.48**	**278**	⇑Pn		**Pb**	**23 41 03.0**	**-0.7**
	3.4nm,0.2s,baz=100,slow=16,SNR=71								
KK31				⇑Lg		Lg	23 41 35.9		
	100nm,0.5s,baz=102,slow=29,SNR=42								
CHKK	**Chushkaly**	**2.51**	**64**	*e*P		**Pb**	**23 41 03.5**	**-0.6**
	6.3nm,0.3s								
CHKK				*e*S		**Sg**	**23 41 36.6**	**-2.5**
	252nm,0.4s								
CHKK	**Chushkaly**	**2.51**	**64**	Pg		**Pb**	**23 41 02.2**	**-1.9**
	6.3nm,0.3s								
CHKK				Lg		Lg	23 41 33.9		
	252nm,0.4s								
KDJ	**Kajisay**	**2.54**	**104**	⇑*i*P		**Pn**	**23 41 01.5**	**+0.9**
	baz=3.0								
KDJ				⇑*i*S		**Sn**	**23 41 32.6**	**+0.6**
	baz=3.0								
SFK	**Sufi-Kurgan**	**2.79**	**186**	⇓*i*P		**Pn**	**23 41 03.9**	**-0.2**
	baz=86								
SFK				⇓*i*S		**Sn**	**23 41 37.1**	**-1.1**
	baz=86								
ANVS	**Anan'yevo**	**2.80**	**89**	⇑*e*P		**Pn**	**23 41 04.9**	**+0.8**
	baz=88								
ANVS				⇑*i*S		**Sn**	**23 41 39.1**	**+0.7**
	baz=88								
ARXS	**Arharly**	**3.21**	**62**	*e*P		**Pb**	**23 41 16.6**	**+0.6**
	47nm,0.4s								
ARXS				*e*S		**Sg**	**23 41 58.4**	**-3.3**
	149nm,0.5s								
ARXS	**Arharly**	**3.21**	**62**	Pg		**Pb**	**23 41 16.7**	**+0.6**
	47nm,0.4s								
ARXS				Lg		Lg	23 41 58.4		
	149nm,0.5s								
SATY	**Saty**	**3.34**	**84**	*e*P		**Pb**	**23 41 18.4**	**0.0**
	11nm,0.3s								
SATY				*e*S		**Sg**	**23 42 02.0**	**-3.8**
	69nm,0.3s								
SATY	**Saty**	**3.34**	**84**	Pg		**Pb**	**23 41 18.4**	**0.0**
	11nm,0.3s								
SATY				Lg		Lg	23 42 02.0		
	69nm,0.3s								
PRZ	**Przheval'sk**	**3.36**	**94**	⇓*i*P		**Pn**	**23 41 12.8**	**+1.0**
	baz=93								
PRZ				⇓*i*S		**Sn**	**23 41 52.4**	**+0.2**
	baz=93								
BTK	**Batken**	**3.57**	**221**	⇑*i*P		**Pn**	**23 41 14.6**	**0.0**
	baz=21								
BTK				⇑*i*S		**Sn**	**23 41 55.6**	**-1.6**
	baz=21								
DRK	**Karamyk**	**3.66**	**206**	⇑*i*P		**Pn**	**23 41 16.0**	**-0.1**
	baz=6.0								
DRK				⇑*i*S		**Sn**	**23 41 58.0**	**-1.8**
	baz=6.0								
UZB	**Uzynbulak**	**3.80**	**83**	*e*P		**Pb**	**23 41 27.1**	**+0.9**
	8.9nm,0.2s								
UZB				*e*S		**Sb**	**23 42 15.7**	**+3.1**
	53nm,0.5s								
UZB	**Uzynbulak**	**3.80**	**83**	Pg		**Pb**	**23 41 27.0**	**+0.9**
	8.9nm,0.2s								
UZB				Lg		Lg	23 42 15.7		
	53nm,0.5s								
SHLS	**Shalkode**	**4.12**	**83**	*e*P		**Pg**	**23 41 40.2**	**+2.8**
	28nm,0.7s								
SHLS				*e*S		**Sg**	**23 42 37.8**	**+7.0**
	46nm,0.5s								
SHLS	**Shalkode**	**4.12**	**83**	Pg		**Pg**	**23 41 40.2**	**+2.8**
	28nm,0.7s								
SHLS				Lg		Lg	23 42 37.8		
	46nm,0.5s								
PDGK	**Podgornoye**	**4.15**	**81**	Pg		**Pb**	**23 41 34.3**	**+2.1**
	4.2nm,0.5s								
PDGK				Lg		Lg	23 42 28.3		
	18nm,0.6s								
PDGK	**Podgornoye**	**4.15**	**81**	⇓Pg		**Pb**	**23 41 31.6**	**-0.6**
	6.8nm,0.5s								
PDGK				⇑Lg		Lg	23 42 28.1		
	29nm,0.6s								
DJR	**Jarkent**	**4.57**	**68**	*e*P		**Pg**	**23 41 42.2**	**-3.8**
	0.9nm,0.4s								
DJR				*e*S		**Sg**	**23 42 42.1**	**-3.2**
	3.8nm,0.5s								
DJR	**Jarkent**	**4.57**	**68**	Pg		**Pb**	**23 41 42.0**	**+2.7**
	0.9nm,0.4s								
DJR				Lg		Lg	23 42 42.1		
	3.8nm,0.5s								
KAPS	**Kapalarasan**	**4.68**	**56**	*e*P		**Pb**	**23 41 43.1**	**+2.0**
	0.3nm,0.2s								
KAPS				*e*S		**Sg**	**23 42 43.4**	**-5.2**
	5.7nm,0.5s								
KAPS	**Kapalarasan**	**4.68**	**56**	Pg		**Pb**	**23 41 42.8**	**+1.8**
	0.3nm,0.2s								
KAPS				Lg		Lg	23 42 43.4		
	5.7nm,0.5s								
KTMS	**Ketmen**	**4.79**	**80**	*e*P		**Pb**	**23 41 45.2**	**+2.2**
	0.3nm,0.1s								
KTMS				*e*S		**Sg**	**23 42 46.9**	**-5.4**
	12nm,0.3s								
KTMS	**Ketmen**	**4.79**	**80**	Pg		**Pb**	**23 41 45.2**	**+2.2**
	0.3nm,0.1s								
KTMS				Lg		Lg	23 42 46.9		
	12nm,0.3s								
MAKZ	**Makanchi**	**7.03**	**52**	⇓Pn		**Pn**	**23 42 03.7**	**+1.6**
	0.3nm,0.3s								
MAKZ				⇑Sn		**Sn**	**23 43 23.6**	**+1.2**
	1.3nm,0.5s								
MAKZ				⇑Lg		Lg	23 44 01.9		
	7.6nm,0.7s								
MK31	**Makanchi Array**	**7.20**	**53**	⇓Pn		**Pn**	**23 42 06.1**	**+1.6**
	0.2nm,0.3s,baz=229,slow=12,SNR=7.6								
MK31				⇑Sn		**Sn**	**23 43 25.2**	**-1.5**
	0.8nm,0.5s,baz=232,slow=21,SNR=3.9								
MK31				⇓Lg		Lg	23 44 06.0		
	0.9nm,0.3s,baz=153,slow=137,SNR=4.4								
KURBB	**Kurchatov Arra**	**8.46**	**21**	⇑Pn		**Pn**	**23 42 20.1**	**-1.6**
	2.2nm,0.8s								
KURBB				⇑Sn		**Sn**	**23 44 02.2**	**+4.6**
	7.6nm,0.8s								
KURBB				⇑Lg		Lg	23 44 49.7		
	18nm,0.7s								
AB31	**Akbulak array**	**11.63**	**309**	⇑Pn		**Pn**	**23 43 03.4**	**-1.7**
	2.1nm,0.6s,baz=111,slow=14,SNR=26								
AB31				⇑Sn		**Sn**	**23 45 19.7**	**+4.4**
	0.2nm,0.3s,baz=108,slow=21,SNR=5.4								
AKTO	**Aktyubinsk**	**13.29**	**311**	⇑Pn		**Pn**	**23 43 26.4**	**-1.4**
	2.2nm,0.8s								
AKTO				⇑Sn		**Sn**	**23 45 58.7**	**+2.7**
	0.7nm,0.6s								

*NOU **21** 23:53:41.7,37°.53S×176°.60E,h263km,ML4.0,North Island, New Zealand*
WEL 21 23:53:47.4±0.7,37°S±4°×17°6E±°,h205km±6km,M3.0/38, MLv3.0/38,Error ellipse: s-maj=0.0km s-min=0.0km az=118.8,North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.37**	**170**	P		Pn	23 54 15.2	+0.5
QMRZ	**Omania**	**0.63**	**187**	P		Pn	23 54 16.7	+1.0
TOZ	**Tahuroa Road**	**0.81**	**252**	P		Pn	23 54 17.2	+0.7
URZ	**Urewera**	**0.93**	**147**	P		Pn	23 54 16.9	-0.3
URZ				S		S	23 54 41.3	+0.9
KUZ	**Kuaotunu**	**0.95**	**320**	P		Pn	23 54 17.4	0.0
MUGZ	**Murupara**	**1.02**	**167**	P		Pn	23 54 18.0	+0.1
RUGZ	**Raukumara Rang**	**1.07**	**117**	P		Pn	23 54 17.3	-1.0
RUGZ				S		S	23 54 41.8	-0.4
HAZ	**Te Kaha**	**1.08**	**105**	P		Pn	23 54 17.8	-0.4
HAZ				S		S	23 54 42.0	+0.1
MKAZ	**Moumakai**	**1.11**	**289**	P		Pn	23 54 18.8	+0.3
RTZ	**Ruatahuna**	**1.20**	**161**	P		Pn	23 54 19.4	+0.2
RTZ				S		S	23 54 45.0	+1.0
RAGZ	**Rawiri**	**1.26**	**144**	P		Pn	23 54 20.4	+0.7
RAGZ				S		S	23 54 45.7	+1.1
WIAZ	**Waiheke Island**	**1.27**	**302**	P		Pn	23 54 19.7	0.0
PKGZ	**Pakihiroa**	**1.34**	**108**	P		Pn	23 54 20.5	+0.2
PKGZ				S		S	23 54 46.3	+0.8
ETAZ	**East Tamaki Re**	**1.34**	**293**	P		Pn	23 54 20.2	-0.1
MRHZ	**Matea Rd**	**1.35**	**182**	P		Pn	23 54 20.7	+0.3
MRHZ				S		S	23 54 46.4	+0.4
TWGZ	**Tauwhareparae**	**1.38**	**121**	P		Pn	23 54 21.3	+0.7
TWGZ				S		S	23 54 47.4	+1.3
MTHZ	**Maungataniwha**	**1.40**	**168**	P		Pn	23 54 20.8	+0.1
MTHZ				S		S	23 54 47.2	+0.6
MBAZ	**Motutapu North**	**1.45**	**299**	P		Pn	23 54 21.2	+0.2
TKGZ	**Te Karaka**	**1.45**	**132**	P		Pn	23 54 21.4	+0.3
TKGZ				S		S	23 54 47.6	+0.5
MXZ	**Matakaoa Point**	**1.46**	**94**	P		Pn	23 54 21.1	-0.1
MXZ				S		S	23 54 48.3	+1.2
SNGZ	**Shannon Statio**	**1.47**	**153**	P		Pn	23 54 21.6	+0.3
SNGZ				S		S	23 54 48.4	+0.8
GRZ	**Great Barrier**	**1.47**	**326**	P		Pn	23 54 21.1	-0.3
RAHZ	**Arahi**	**1.52**	**162**	P		Pn	23 54 22.1	+0.4
RAHZ				S		S	23 54 49.7	+1.4
AWAZ	**Awhitu Peninsu**	**1.52**	**285**	P		Pn	23 54 21.7	0.0
PUZ	**Puketiti**	**1.53**	**113**	P		Pn	23 54 20.8	-1.1
PUZ				S		S	23 54 48.6	+0.2
WMGZ	**Waiomatatini S**	**1.58**	**103**	P		Pn	23 54 22.3	+0.1
WMGZ				S		S	23 54 50.0	+1.0
ABAZ	**Army Bay**	**1.58**	**303**	P		Pn	23 54 22.5	+0.2
RIGZ	**Rimuhau**	**1.59**	**141**	P		Pn	23 54 22.9	+0.5
RIGZ				S		S	23 54 50.9	+1.5
WTAZ	**Waiatarua**	**1.61**	**289**	P		Pn	23 54 22.7	+0.1
HIZ	**Hauiti**	**1.64**	**231**	P		Pn	23 54 23.2	+0.3
CNGZ	**Carnagh Statio**	**1.70**	**127**	P		Pn	23 54 24.3	+0.9
WHHZ	**Waihua**	**1.71**	**160**	P		Pn	23 54 24.2	+0.8
NTVZ	**North Tongarir**	**1.74**	**201**	P		Pn	23 54 24.1	+0.3
TWVZ	**Taurewa**	**1.79**	**207**	P		Pn	23 54 24.2	-0.1
OTVZ	**Oturere**	**1.80**	**200**	P		Pn	23 54 24.5	0.0
OTVZ				S		S	23 54 54.4	+1.3
KNZ	**Kokohu**	**1.81**	**149**	P		Pn	23 54 24.3	0.0
PRGZ	**Paritu Road**	**1.82**	**143**	P		Pn	23 54 24.8	+0.3
SNVZ	**South Ngauruho**	**1.83**	**201**	P		Pn	23 54 24.7	-0.1
ARHZ	**Aropaoanui**	**1.83**	**167**	P		Pn	23 54 24.8	+0.2
ARHZ				S		S	23 54 54.3	+1.0
NGZ	**Ngauruhoe**	**1.83**	**202**	P		Pn	23 54 25.2	+0.4
TUVZ	**Tukino**	**1.90**	**200**	P		Pn	23 54 25.4	0.0
FWVZ	**Far West T-bar**	**1.92**	**202**	P		Pn	23 54 25.8	+0.1
KWHZ	**Kaweka Forest**	**1.94**	**181**	P		Pn	23 54 25.5	-0.3
WNVZ	**Wahianoa**	**1.97**	**200**	P		Pn	23 54 25.7	-0.4
MCHZ	**McNeill Hill**	**1.97**	**175**	P		Pn	23 54 26.1	+0.1
MCHZ				S		S	23 54 56.5	+0.8
MOVZ	**Moawhango**	**2.01**	**196**	P		Pn	23 54 25.7	-0.7
MOVZ				S		S	23 54 56.2	-0.3
MHGZ	**Mahia Peninsul**	**2.02**	**146**	P		Pn	23 54 26.4	0.0
BHHZ	**Black Hill Sta**	**2.03**	**189**	P		Pn	23 54 25.8	-0.9
BHHZ				S		S	23 54 56.3	-0.7
VRZ	**Vera Road**	**2.13**	**219**	P		Pn	23 54 28.0	+0.5
KRHZ	**Kereru**	**2.16**	**182**	P		Pn	23 54 27.4	-0.6
CKHZ	**Cape Kidnapper**	**2.23**	**168**	P		Pn	23 54 28.7	+0.1
CKHZ				S		S	23 54 59.9	-0.1
WCZ	**Waipu Caves**	**2.30**	**311**	P		Pn	23 54 29.0	-0.4
KAHZ	**Kahuranaki**	**2.33**	**172**	P		Pn	23 54 29.5	-0.4
PNHZ	**Pukenui**	**2.44**	**185**	P		Pn	23 54 29.9	-1.0
PNHZ				S		S	23 55 03.5	-1.1
WAZ	**Wanganui**	**2.56**	**207**	P		Pn	23 54 31.7	-0.5
PXZ	**Pawanui**	**2.57**	**173**	P		Pn	23 54 32.0	-0.3
PXZ				S		S	23 55 06.1	-0.9
WPHZ	**Waipukurau**	**2.58**	**181**	P		Pn	23 54 32.1	-0.4
WPHZ				S		S	23 55 06.1	-1.2
PKE	**Pukeiti**	**2.60**	**228**	P		Pn	23 54 33.6	+0.8
TSZ	**Takapari Road**	**2.61**	**189**	P		Pn	23 54 31.5	-1.3
PRHZ	**Porangahau**	**2.79**	**177**	P		Pn	23 54 33.9	-0.9
DVHZ	**Dannevirke**	**2.83**	**185**	P		Pn	23 54 33.5	-1.8
DVHZ				S		S	23 55 10.4	-1.9
POWZ	**Post Office Ro**	**2.96**	**190**	P		Pn	23 54 34.6	-2.2
ANWZ	**Angora Road**	**2.98**	**180**	P		Pn	23 54 35.9	-1.1
ANWZ				S		S	23 55 13.9	-1.5
PRWZ	**Pori Road**	**3.10**	**187**	P		Pn	23 54 37.0	-1.4
BFZ	**Birch Farm**	**3.20**	**183**	P		Pn	23 54 37.9	-1.8
BFZ				S		S	23 55 16.4	-3.8
OUZ	**Omahuta**	**3.24**	**313**	P		Pn	23 54 39.0	-1.1
MRZ	**Mangatainoka R**	**3.25**	**192**	P		Pn	23 54 37.7	-2.6
MRZ				S		S	23 55 18.3	-3.0
TIWZ	**Tintock**	**3.33**	**188**	P		Pn	23 54 39.5	-1.6
TIWZ				S		S	23 55 19.6	-3.3
OGWZ	**Otaki Gorge**	**3.48**	**197**	P		Pn	23 54 40.7	-2.3
OGWZ				S		S	23 55 22.5	-3.7
HOWZ	**Holdsworth Sta**	**3.50**	**192**	P		Pn	23 54 40.4	-2.7
HOWZ				S		S	23 55 22.2	-4.3
KIW	**Kapiti Island**	**3.59**	**199**	P		Pn	23 54 41.5	-2.8
TMWZ	**Te Maipa**	**3.65**	**187**	P		Pn	23 54 42.7	-2.4
MTW	**Mount Morrison**	**3.75**	**191**	P		Pn	23 54 43.1	-3.1
CAW	**Cannon Point**	**3.79**	**196**	P		Pn	23 54 43.6	-3.1
DUWZ	**D'Urville Isla**	**3.87**	**210**	P		Pn	23 54 44.4	-3.3
TRWZ	**Traveller**	**3.96**	**189**	P		Pn	23 54 46.2	-2.7
PAWZ	**Paruwai Farm**	**3.98**	**191**	P		Pn	23 54 46.1	-3.0
WEL	**Wellington**	**4.02**	**199**	P		Pn	23 54 46.7	-2.9
MSWZ	**Moikau Station**	**4.04**	**193**	P		Pn	23 54 46.4	-3.5
TCW	**Tory Channel**	**4.10**	**204**	P		Pn	23 54 47.3	-3.2
PLWZ	**Palliser**	**4.19**	**193**	P		Pn	23 54 48.2	-3.6
TUWZ	**Tuamarina**	**4.41**	**206**	P		Pn	23 54 50.5	-3.9
NNZ	**Nelson**	**4.44**	**212**	P		Pn	23 54 51.1	-3.6
QRZ	**Quartz Range**	**4.54**	**221**	P		Pn	23 54 52.0	-4.0
BSWZ	**Blackbirch Sta**	**4.68**	**205**	P		Pn	23 54 54.5	-3.3
THZ	**Tophouse**	**5.09**	**212**	P		Pn	23 54 58.8	-4.2
KHZ	**Kahutara**	**5.42**	**204**	P		Pn	23 55 03.2	-4.0
DSZ	**Denniston Nort**	**5.58**	**219**	P		Pn	23 55 04.3	-5.0
GVZ	**Greta Valley S**	**6.08**	**205**	P		Pn	23 55 11.3	-4.4
LTZ	**Lake Taylor**	**6.20**	**210**	P		Pn	23 55 12.6	-4.6
INZ	**Inchbonnie**	**6.50**	**215**	P		Pn	23 55 16.4	-4.7
OXZ	**Oxford**	**6.75**	**209**	P		Pn	23 55 19.0	-5.4
OKCZ	**Okains Bay**	**6.76**	**202**	P		Pn	23 55 19.9	-4.5
MQZ	**McQueen's Vall**	**6.87**	**204**	P		Pn	23 55 20.3	-5.5
RACZ	**Rakaia**	**7.06**	**206**	P		Pn	23 55 22.7	-5.6
MHCZ	**Mount Hutt**	**7.11**	**210**	P		Pn	23 55 24.3	-4.7
WACZ	**Wakanui South**	**7.35**	**207**	P		Pn	23 55 26.9	-5.2
RPZ	**Rata Peaks**	**7.47**	**212**	P		Pn	23 55 28.7	-5.0
ARCZ	**Arundel**	**7.61**	**210**	P		Pn	23 55 30.0	-5.5
FOZ	**Fox Glacier**	**7.89**	**218**	P		Pn	23 55 33.5	-5.6
TMZ	**Timaru**	**8.04**	**209**	P		Pn	23 55 35.7	-5.4
ODZ	**Otahua Downs**	**8.74**	**208**	P		Pn	23 55 45.6	-4.5
JCZ	**Jackson Bay**	**8.80**	**219**	P		Pn	23 55 45.1	-5.8

*MAN **21** 23:55:24.9,4°.20N×124°.94E,h12km,MS3.6*
*NEIC **21** 23:55:41.9±1.9,4°.53N±0°.07×124°.9E±0°.2,h74km±7km, mb4.4/12,Error ellipse: s-maj=24.4km s-min=8.5km az=103.0*
*IDC **21** 23:55:44.7±2.0,4°.71N×125°.28E,h120km±20km,mb3.7/7, mb1 3.9/8,mb1mx3.4/46,mbtmp4.1/8,MS3.1/2,Ms1 3.1/2, ms1mx2.6/35,Error ellipse: s-maj=54.1km s-min=14.4km az=83.0*
ISC 21 23:55:37.6±0.7,4°.74N±0°.05×124°.93E±0°.08,h50km,n35, σ2§12/32,mb4.2/11,1D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.57**	**30**	*e*P		**Pn**	**23 55 59.6**	**-3.4**
DDMP				*e*S		**Sn**	**23 56 26.4**	**+4.1**
SKMP	**Bagumbayan, Su**	**1.81**	**348**	*e*P		**Pn**	**23 56 04.2**	**-2.2**
SKMP				*e*S		**Sn**	**23 56 33.0**	**+4.6**
KCP	**Kidapawan**	**2.26**	**4**	⇓*e*P		**Pn**	**23 56 12.5**	**-0.2**
DAV	**Davao City (W)**	**2.41**	**16**	P		Pn	23 56 22.7	+8.1
	25nm,0.3s,baz=293,slow=14,SNR=1.5							
DAV				S		Sn	23 56 52.7	+10
	69nm,0.3s,baz=317,slow=19,SNR=5.8							
DAV	**Davao City (W)**	**2.41**	**16**			Pn	23 56 22.5	+7.9
MATI	**Mati**	**2.56**	**31**	*e*P		**Pn**	**23 56 13.5**	**-3.3**
MATI				*e*S		**Sn**	**23 56 50.0**	**+3.3**
BUKP	**Musuan**	**3.13**	**2**	*e*P		**Pn**	**23 56 22.4**	**-2.1**
PAGZ	**Pagadian**	**3.45**	**334**	*e*P		**Pn**	**23 56 26.4**	**-2.5**
PAGZ				*e*S		**Sn**	**23 57 07.8**	**-0.8**
GLSP	**General Luna,**	**5.15**	**13**	*e*P		**Pn**	**23 56 49.9**	**-2.4**
GLSP				*e*S		Sn	23 57 56.8	+6.3
TOLI2	**Tolitoli**	**5.49**	**229**	Pn		**Pn**	**23 56 55.5**	**-1.4**
LUWI	**Luwuk**	**6.13**	**201**	Pn		**Pn**	**23 57 09.3**	**+3.6**
KAPI	**Kappang**	**10.98**	**208**	LR		LR	00 02 37.5	
	comp=Z,65nm,20.2s,baz=45,slow=37							
KNRA	**Kununurra**	**20.63**	**169**	P		**P**	**00 00 11.9**	**-1.1**
KNRA				IAmb		IAmb	00 00 13.8	
	comp=Z,17nm,0.9s							
FITZ	**Fitzroy Crossi**	**22.70**	**178**	P		**P**	**00 00 35.2**	**0.0**
	comp=Z,4.2nm,0.7s,baz=4.3,slow=7.0,SNR=9.9							
FITZ	**Fitzroy Crossi**	**22.70**	**178**	IAmb		IAmb	00 00 54.9	
	comp=Z,8.9nm,1.1s							
WB0	**Warramunga Arr**	**26.07**	**159**	P		**P**	**00 01 05.7**	**-1.0**
WB0				IAmb		IAmb	00 01 08.5	
	comp=Z,27nm,0.9s							
WRA	**Warramunga Arr**	**26.21**	**160**	P		**P**	**00 01 06.9**	**-1.1**
	comp=Z,14nm,0.8s,baz=341,slow=10.0,SNR=27							
WRA	**Warramunga Arr**	**26.21**	**160**	P		**P**	**00 01 07.6**	**-0.4**
WB2	**Warramunga Arr**	**26.21**	**160**	P		**P**	**00 01 07.0**	**-1.0**
WB2				IAmb		IAmb	00 01 10.9	
	comp=Z,21nm,0.9s							
WR0	**Warramunga Arr**	**26.30**	**159**	P		**P**	**00 01 07.7**	**-1.0**
WR0				IAmb		IAmb	00 01 11.2	
	comp=Z,15nm,0.8s							
PSA00	**Pilbara Seismi**	**26.62**	**191**	P		**P**	**00 01 11.8**	**+0.2**
PSA00				IAmb		IAmb	00 01 37.2	
	comp=Z,11nm,1.5s							
AS31	**Alice Springs**	**29.55**	**163**	P		**P**	**00 01 36.7**	**-1.1**
ASAR	**Alice Springs**	**29.55**	**163**	P		**P**	**00 01 36.9**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=351,slow=7.1,SNR=26							
MJAR	**Matsushiro Arr**	**33.92**	**19**	P		**P**	**00 02 14.1**	**-2.0**
	comp=Z,1.3nm,0.5s,baz=195,slow=9.8,SNR=2.1							
FORT	**Forrest**	**35.44**	**175**	P		**P**	**00 02 29.5**	**+0.3**
SHL	**Shillong**	**37.84**	**307**			**S**	**00 08 37.4**	**-0.6**
BBOO	**Buckleboo**	**38.80**	**165**	P		**P**	**00 02 57.6**	**-0.1**
STKA	**Stephens Creek**	**39.72**	**158**	P		**P**	**00 03 05.1**	**-0.3**
	comp=Z,6.4nm,0.8s,baz=334,slow=8.7,SNR=8.9							
STKA	**Stephens Creek**	**39.72**	**158**	IAmb		IAmb	00 03 10.0	
	comp=Z,2.2nm,1.1s							
USRK	**Ussuriysk Ar.**	**39.79**	**8**	P		**P**	**00 03 08.4**	**+2.6**

σ0°80′11, **mb3.7**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.82**	**263**	P	**Pb**	**00 13 11.1**	**-0.2**
JHO	**Hitachi**	**0.84**	**281**	P	**Pn**	**00 13 11.7**	**-0.2**
JFK	**Kawauchi**	**1.08**	**328**	P	**Pb**	**00 13 15.9**	**+0.1**
JFT	**Otama**	**1.47**	**317**	P	**Pn**	**00 13 21.0**	**+0.5**
JAG	**Ashikaga**	**1.73**	**270**	P	**Pn**	**00 13 23.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.73**	**273**	Pn	**Pn**	**00 13 38.9**	**+1.0**
	0.2nm,0.3s,baz=86,slow=17,SNR=7.3						
MAT	**Matsushiro**	**2.73**	**273**	P	**Pn**	**00 13 38.8**	**+0.9**
MAT				*eS*	**Sn**	**00 14 10.5**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**27.73**	**120**	T	T	00 47 04.2	
	baz=313,slow=75,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**27.73**	**120**	T	T	00 47 00.8	
	baz=313,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**27.75**	**120**	T	T	00 47 00.9	
	baz=313,slow=75,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**28.42**	**122**	T	T	00 47 51.5	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.42**	**122**	T	T	00 47 50.8	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.44**	**122**	T	T	00 47 51.9	
	baz=314						
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**00 21 04.1**	**-1.2**
	0.3nm,0.7s,baz=89,slow=6.6,SNR=2.2						
WRA	**Warramunga Arr**	**56.50**	**188**	P	**P**	**00 22 35.4**	**-0.3**
	1.0nm,0.9s,baz=6.0,slow=8.5,SNR=1.8						
ASAR	**Alice Springs**	**60.23**	**188**	P	**P**	**00 23 02.7**	**+1.1**
	0.3nm,0.5s,baz=13,slow=8.7,SNR=2.7						

JMA ***22*** *00:14:33.3±0.3,36.°71N×142.°31E,h7km±4km,M3.2*
IDC ***22*** *00:15:03.7±3.4,36.°25N×139.°25E,h145km±12km,mb3.0/3, mb1 3.1/3,mb1mx2.8/41,mbtmp3.4/3,Error ellipse: s-maj=95.0km s-min=29.2km az=68.0*

ISC 22 00:14:36.0±2.2, 36.°74N±0.°09×142.°2E±0.°1, h15km, n11, σ0°99/15, **mb3.5**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.16**	**288**	P	**Pn**	**00 14 57.1**	**-0.7**
JHO	**Hitachi**	**1.30**	**265**	P	**Pn**	**00 14 59.2**	**-0.4**
JHO				*eS*	**Sb**	**00 15 18.2**	**+1.6**
JHYU	**Hitachinakayam**	**1.34**	**253**	P	**Pn**	**00 14 59.9**	**-0.3**
JFT	**Otama**	**1.66**	**298**	P	**Pb**	**00 15 05.5**	**-0.8**
JFT				*eS*	**Sb**	**00 15 28.1**	**+1.1**
JOU	**Okura**	**2.02**	**324**	P	**Pn**	**00 15 10.2**	**+0.7**
JOU				*eS*	**Sb**	**00 15 36.9**	**-0.4**
JAG	**Ashikaga**	**2.21**	**263**	P	**Pn**	**00 15 12.7**	**+0.5**
JAG				*eS*	**Sb**	**00 15 42.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.19**	**268**	P	**Pn**	**00 15 27.0**	**+1.3**
	0.7nm,0.3s,baz=105,slow=9.5,SNR=7.9						
MAT	**Matsushiro**	**3.20**	**268**	P	**Pn**	**00 15 27.4**	**+1.7**
MAT				*eS*	**Sb**	**00 16 10.5**	**-0.8**
SONM	**Songino Array**	**28.45**	**304**	P	**P**	**00 20 30.4**	**+0.1**
	0.8nm,0.8s,baz=103,slow=6.2,SNR=3.4						
MKAR	**Makanchi Array**	**44.79**	**302**	P	**P**	**00 22 49.0**	**-0.1**
	0.2nm,0.6s,baz=94,slow=7.5,SNR=2.0						
WRA	**Warramunga Arr**	**56.86**	**189**	P	P	00 24 27.5	+7.4
	0.4nm,0.7s,baz=0.5,slow=7.5,SNR=1.4						

IDC ***22*** *00:17:29.5±4.6,25.°21S×177.°59W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.8/31,mbtmp4.1/3,Error ellipse: s-maj=221.6km s-min=67.4km az=161.0*
NEIC ***22*** *00:18:29.0±1.0,26.°3S±0.°1×179.°8W±0.°1,h460km±11km, mb4.0/14,Error ellipse: s-maj=18.2km s-min=16.4km az=137.0*

ISC 22 00:18:28.2±0.7, 26.°27S±0.°10×179.°9W±0.°1, h450km, n25, σ1°91/25, **mb3.9**/10, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.44**	**150**	P	**P**	**00 19 39.5**	**+1.0**
MSVF	**Nonsavu**	**8.71**	**347**	P	**P**	**00 20 32.3**	**+0.8**
MXZ	**Matakaoa Point**	**11.37**	**187**	P	**P**	**00 20 59.9**	**-0.1**
PINNC	**Pines Island,**	**12.12**	**285**	P	**P**	**00 21 09.6**	**+1.2**
AFI	**Afiamalu**	**14.44**	**33**	P	**P**	**00 21 32.0**	**-1.6**
CTA	**Charters Tower**	**31.69**	**274**	P	**P**	**00 24 13.8**	**+0.3**
	4.4nm,0.5s,baz=93,slow=9.2,SNR=8.0						
CTA	**Charters Tower**	**31.69**	**274**	P	**P**	**00 24 13.8**	**+0.3**
CTAO	**Charters Tower**	**31.69**	**274**	P	**P**	**00 24 14.2**	**+0.8**
CTAO				IAmb	IAmb	00 24 33.9	
	comp=Z,9.6nm,1.1s						
BBOO	**Buckleboo**	**38.69**	**250**	P	**P**	**00 25 10.7**	**-1.3**
BBOO				IAmb	IAmb	00 25 22.2	
	comp=Z,11nm,1.0s						
ASAR	**Alice Springs**	**41.83**	**263**	P	**P**	**00 25 38.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.6,SNR=7.9						
ASAR	**Alice Springs**	**41.83**	**263**	P	**P**	**00 25 38.0**	**+0.5**
WR0	**Warramunga Arr**	**42.24**	**269**	P	**P**	**00 25 40.4**	**-0.3**
WR0				IAmb	IAmb	00 25 55.4	
	comp=Z,3.7nm,1.1s						
WB2	**Warramunga Arr**	**42.42**	**269**	P	**P**	**00 25 41.9**	**-0.2**
WB2				IAmb	IAmb	00 25 55.2	
	comp=Z,2.9nm,1.1s						
WRA	**Warramunga Arr**	**42.43**	**269**	P	**P**	**00 25 42.1**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=104,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**42.43**	**269**	P	**P**	**00 25 42.1**	**-0.1**
WB0	**Warramunga Arr**	**42.43**	**269**	P	**P**	**00 25 41.8**	**-0.5**
FORT	**Forrest**	**45.65**	**252**	P	**P**	**00 26 05.2**	**-2.0**
KNRA	**Kununurra**	**48.85**	**272**	P	**P**	**00 26 31.3**	**-0.3**
KNRA				IAmb	IAmb	00 26 43.4	
	comp=Z,12nm,1.1s						
SAUI	**Saumlaki**	**49.76**	**282**	P	**P**	**00 26 36.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**50.81**	**267**	P	**P**	**00 26 45.8**	**-0.3**
FITZ				IAmb	IAmb	00 26 51.0	
	comp=Z,3.8nm,1.1s						
POHA	**Pohakuloa**	**51.48**	**30**	P	**P**	**00 26 51.2**	**+0.1**
VNDA	**Vanda**	**52.04**	**185**	P	**P**	**00 26 53.8**	**-0.3**
PSA00	**Pilbara Seismi**	**54.90**	**261**	P	**P**	**00 27 14.3**	**-1.1**
PSA00				IAmb	IAmb	00 27 15.0	
	comp=Z,7.2nm,0.9s						
CASY	**Casey**	**58.05**	**207**	P	**P**	**00 27 37.3**	**+0.8**
CASY				IAmb	IAmb	00 27 38.3	
	comp=Z,8.1nm,0.5s						
BRTR	**Keskin Array B**	**149.06**	**304**	PKPbc	**PKPdf**	**00 37 22.4**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=90,slow=1.4,SNR=2.3						

RSNC ***22*** *00:25:26.7±1.2,6.°84N×73.°11W,h160km±4km,ML4.1, Mw4.3,Fault plane solution: NP1:φs31.00000°, δ48.00000°,λ118.00000°.*
IDC ***22*** *00:25:26.4±0.6,6.°76N×72.°95W,h158km±6km,mb3.6/15, mb1 3.8/21,mb1mx3.7/34,mbtmp4.1/21,Error ellipse: s-maj=12.2km s-min=7.0km az=134.0*
NEIC ***22*** *00:25:27.8±1.8,6.°82N±0.°05×73.°03W±0.°06,h152km±7km, mb4.3/110,Error ellipse: s-maj=8.7km s-min=7.6km az=106.0*
VAO ***22*** *00:25:27.4±0.3,6.°68N×72.°99W,h146km,mb4.1*

ISC 22 00:25:26.9±0.5, 6.°83N±0.°03×73.°06W±0.°03, h159km±5km, n222, σ1°56/257, **mb4.3**/74, **9C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**208**	*iP*	**Pn**	**00 25 48.2**	**-0.5**
BARC				*eS*	**Sn**	**00 26 04.2**	**-1.3**
BARC				*i*		00 26 05.1	
	comp=Z,3μm,0.4s						
PAMC	**Pamplona, Colo**	**0.61**	**35**	*iP*	**Pn**	**00 25 51.0**	**+0.6**
PAMC				*eS*	**Sn**	**00 26 08.3**	**-0.1**
PAMC				*i*		00 26 12.6	
	comp=Z,2μm,0.6s						
BRRC	**Barranca, Sant**	**0.71**	**293**	*iP*	**Pn**	**00 25 50.1**	**-0.3**
BRRC				*eS*	**Sn**	**00 26 07.5**	**-0.8**
BRRC				*i*		00 26 11.8	
	comp=Z,2μm,0.2s						
RUSC	**La Rusia**	**0.94**	**182**	Pn	**Pn**	**00 25 51.9**	**-0.7**
RUSC				Sn	**Sn**	**00 26 10.9**	**-1.4**
RUSC	**La Rusia**	**0.94**	**182**	*eP*	**Pn**	**00 25 52.1**	**-0.6**
RUSC				*eS*	**Sn**	**00 26 11.1**	**-1.2**
RUSC				*i*		00 26 12.3	
	comp=Z,1μm,0.4s						
OCAC	**Ocana**	**1.42**	**349**	*eP*	**Pn**	**00 25 56.3**	**-0.2**
OCAC				*eS*	**Sn**	**00 26 18.3**	**-1.1**
OCAC				*i*		00 26 22.8	
	comp=Z,3μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*eP*	**Pn**	**00 26 00.4**	**-1.1**
ZARC				*eS*	**Sn**	**00 26 26.4**	**-1.8**
ZARC				*i*		00 26 32.9	
	comp=Z,3μm,0.4s						
SMLC	**San Martn de**	**2.20**	**333**	*eP*	**Pn**	**00 26 04.3**	**-0.6**
SMLC				*eS*	**Sn**	**00 26 32.7**	**-1.6**
NORC	**Norcasia**	**2.20**	**235**	*eP*	**Pn**	**00 26 03.8**	**-1.2**
NORC				*eS*	**Sn**	**00 26 33.0**	**-1.3**
NORC				*i*		00 26 35.8	
	comp=Z,1μm,0.4s						
CHIC	**Chingaza**	**2.29**	**197**	*eP*	**Pn**	**00 26 06.3**	**-0.1**
CHIC				*eS*	**Sn**	**00 26 36.4**	**-0.5**
CHIC				*i*		00 26 43.2	
	comp=Z,649nm,0.4s						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**00 26 08.0**	**+1.0**
	comp=Z,286nm,0.3s,baz=0.0,slow=12,SNR=310						
ROSC				S	**Sn**	**00 26 37.1**	**-0.9**
	comp=Z,316nm,0.3s,baz=94,slow=19,SNR=12						
ROSC	**El Rosal**	**2.35**	**212**	Pn	**Pn**	**00 26 07.6**	**+0.5**
ROSC				Sn	**Sn**	**00 26 37.1**	**-0.9**
ROSC	**El Rosal**	**2.35**	**212**	*eP*	**Pn**	**00 26 07.9**	**+0.8**
ROSC				*eS*	**Sn**	**00 26 39.0**	**+1.0**
ROSC				*i*		00 26 45.5	
	comp=Z,2μm,0.5s						
HELC	**Santa Helena**	**2.54**	**256**	*eP*	**Pn**	**00 26 08.2**	**-1.2**
HELC				*eS*	**Sn**	**00 26 40.7**	**-1.3**
HELC				*i*		00 26 47.0	
	comp=Z,910nm,0.3s						
UREC	**San Jos de Ur**	**2.62**	**291**	*eP*	**Pn**	**00 26 07.8**	**-2.1**
UREC				*eS*	**Sn**	**00 26 39.3**	**-4.0**
UREC				*i*		00 26 50.2	
	comp=Z,690nm,0.3s						
LL2C	**La Loma 2 Cana**	**2.73**	**352**	*eP*	**Pn**	**00 26 11.3**	**0.0**
LL2C				*eS*	**Sn**	**00 26 46.0**	**+0.2**
LL2C				*i*		00 27 02.5	
	comp=Z,726nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.77**	**161**	*iP*	**Pn**	**00 26 11.1**	**-0.8**
PTGC				*eS*	**Sn**	**00 26 44.2**	**-2.5**
PTGC				*i*		00 26 46.4	
	comp=Z,438nm,0.3s						
VILC	**Villavicencio,**	**2.78**	**193**	*eP*	**Pn**	**00 26 11.2**	**-0.8**
VILC				*eS*	**Sn**	**00 26 45.4**	**-1.6**
VILC				*i*		00 26 56.4	
	comp=Z,607nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.80**	**235**	*eP*	**Pn**	**00 26 11.9**	**-0.7**
GUY2C				*eS*	**Sn**	**00 26 47.3**	**-0.6**
GUY2C				*i*		00 27 08.6	
	comp=Z,492nm,0.6s						
RREF	**El Recreo**	**2.98**	**230**	*eP*	**Pn**	**00 26 14.3**	**-0.7**
RREF				*eS*	**Sn**	**00 26 53.3**	**+1.1**
RREF				*i*		00 27 00.5	
	comp=Z,430nm,0.4s						
CMAN1	**Manizales, Cal**	**3.02**	**235**	*eS*	**Sn**	**00 26 57.3**	**+4.8**
CBOC	**Ciudad Bolivar**	**3.09**	**252**	*eP*	**Pn**	**00 26 15.4**	**-0.6**
CBOC				*eS*	**Sn**	**00 26 52.2**	**-1.8**
CBOC				*i*		00 27 12.3	
	comp=Z,386nm,0.6s						
DBBC	**Dabeiba**	**3.14**	**274**	*eP*	**Pn**	**00 26 15.6**	**-0.9**
DBBC				*eS*	**Sn**	**00 26 51.7**	**-3.1**
SDV	**Santo Domingo**	**3.15**	**49**	P	**Pn**	**00 26 17.1**	**+0.4**
	comp=Z,168nm,0.3s,baz=230,slow=10,SNR=65						
SDV				S	**Sn**	**00 26 54.2**	**-1.2**
	comp=Z,110nm,0.3s,baz=46,slow=20,SNR=20						
SDV	**Santo Domingo**	**3.15**	**49**	Pn	**Pn**	**00 26 17.4**	**+0.7**
SDV				Sn	**Sn**	**00 26 54.4**	**-0.9**
SDV	**Santo Domingo**	**3.15**	**49**	*eP*	**Pn**	**00 26 17.4**	**+0.7**
SDV				*eS*	**Sn**	**00 26 54.4**	**-0.9**
SDV				*i*		00 26 56.8	
	comp=Z,271nm,0.3s						
SDV	**Santo Domingo**	**3.15**	**49**	*eP*	**Pn**	**00 26 17.5**	**+0.8**
TOLC	**Tolima**	**3.17**	**225**	*eP*	**Pn**	**00 26 16.5**	**-0.7**
TOLC				*eS*	**Sn**	**00 26 55.9**	**-0.2**
CIBA1	**Ibague, SGC**	**3.21**	**223**	*eS*	**Sn**	**00 26 55.3**	**-1.5**
ARGC	**Ariguani, Magd**	**3.23**	**339**	*eP*	**Pn**	**00 26 17.9**	**+0.3**
ARGC				*eS*	**Sn**	**00 26 56.9**	**0.0**
MOTC	**Monteria, Cord**	**3.23**	**307**	*eP*	**Pn**	**00 26 15.2**	**-2.3**
MOTC				*eS*	**Sn**	**00 26 54.3**	**-2.5**
MOTC				*i*		00 27 09.4	
	comp=Z,379nm,0.5s						
ANIL	**Santa Ana**	**3.30**	**225**	*eP*	**Pn**	**00 26 18.1**	**-0.6**
ANIL				*eS*	**Sn**	**00 26 58.8**	**-0.1**
PRAC	**Prado**	**3.60**	**211**	*eP*	**Pn**	**00 26 20.5**	**-1.7**
PRAC				*eS*	**Sn**	**00 27 04.2**	**-1.1**
PRAC				*i*		00 27 12.4	
	comp=Z,683nm,0.4s						
ORTC	**Ortega, Tolima**	**3.63**	**217**	*eP*	**Pn**	**00 26 22.3**	**-0.4**
ORTC				*eS*	**Sn**	**00 27 05.6**	**-0.6**
ORTC				*i*		00 27 10.9	
	comp=Z,657nm,0.4s						
CVALL	**Valledupar, Ce**	**3.66**	**357**	*eP*	**Pn**	**00 26 21.8**	**-1.2**
CVALL				*eS*	**Sn**	**00 27 03.8**	**-2.9**
CVALL				*i*		00 27 10.9	
	comp=Z,191nm,0.4s						
SJCC	**San Jacinto, C**	**3.70**	**326**	Pn	**Pn**	**00 26 22.0**	**-1.6**
SJCC				Sn	**Sn**	**00 27 03.5**	**-4.2**
SJCC	**San Jacinto, C**	**3.70**	**326**	*eP*	**Pn**	**00 26 22.0**	**-1.6**
SJCC				*eS*	**Sn**	**00 27 03.6**	**-4.1**
SJCC				*i*		00 27 07.7	
	comp=Z,201nm,0.5s						
PLMC	**San Jos del P**	**3.74**	**239**	*eP*	**Pn**	**00 26 23.3**	**-0.9**
PLMC				*eS*	**Sn**	**00 27 06.2**	**-2.5**
PLMC				*i*		00 27 17.0	
	comp=Z,324nm,0.3s						
GUVC	**San Jose del G**	**4.28**	**174**	*eP*	**Pn**	**00 26 29.8**	**-1.4**
GUVC				*eS*	**Sn**	**00 27 19.0**	**-2.3**
YOTC	**Yotoco, Valle**	**4.33**	**229**	*eP*	**Pn**	**00 26 30.2**	**-1.6**
YOTC				*eS*	**Sn**	**00 27 21.2**	**-1.2**
SMRC	**Santa Marta, M**	**4.46**	**345**	*eP*	**Pn**	**00 26 33.2**	**-0.1**
SMRC				*eS*	**Sn**	**00 27 21.2**	**-4.1**
SMRC				*i*		00 27 23.9	
	comp=Z,136nm,0.4s						
MACC	**Macarena, Meta**	**4.72**	**190**	*eP*	**Pn**	**00 26 34.8**	**-2.1**
MACC				*eS*	**Sn**	**00 27 26.5**	**-5.1**
MACC				*i*		00 27 30.7	
	comp=Z,133nm,0.4s						
MARP	**Paez Belalcaza**	**4.91**	**216**	*eP*	**Pn**	**00 26 38.8**	**-0.7**
MARP				*eS*	**Sn**	**00 27 28.6**	**-7.6**
URIC	**Uribia, Colomb**	**4.95**	**12**	Pn	**Pn**	**00 26 38.6**	**-1.2**
URIC	**Uribia, Colomb**	**4.95**	**12**	*eP*	**Pn**	**00 26 38.6**	**-1.2**
URIC				*eS*	**Sn**	**00 27 32.4**	**-4.5**
URIC				*i*		00 27 59.5	
	comp=Z,56nm,0.4s						
GARC	**Garzon, Huila**	**5.22**	**208**	*eP*	**Pn**	**00 26 42.1**	**-1.5**
GARC				*eS*	**Sn**	**00 27 36.6**	**-7.0**
GARC				*i*		00 27 40.4	
	comp=Z,140nm,0.3s						
PCON	**Cinco Dias**	**5.58**	**217**	*eP*	**Pn**	**00 26 48.9**	**+0.2**
PCON				*eS*	Sn	00 27 44.0	-8.7
PCON				*i*		00 28 30.3	
	comp=Z,50nm,0.6s						
POPC	**Popayan, Colom**	**5.59**	**220**	*eP*	Pn	00 26 41.8	-6.7
POPC				*eS*	Sn	00 27 42.5	-10
POPC				*i*		00 27 51.0	
	comp=Z,31nm,0.4s						
FLOC	**Florencia**	**5.82**	**207**		**Pn**	**00 26 50.0**	**-1.4**
FLOC	**Florencia**	**5.82**	**207**	*eP*	**Pn**	**00 26 50.2**	**-1.2**
FLOC				*eS*	**Sn**	**00 27 55.8**	**-1.9**
FLOC				*i*		00 28 23.3	
	comp=Z,47nm,0.4s						
BBAC	**Balboa, Cauca**	**6.35**	**221**	*eP*	**Pn**	**00 26 58.6**	**0.0**
BBAC				*eS*	**Sn**	**00 28 07.5**	**-3.0**
BBAC				*i*		00 28 15.8	
	comp=Z,50nm,0.4s						
CRUC	**La Cruz**	**6.51**	**217**	*eP*	**Pn**	**00 27 01.4**	**+0.5**
OTAV	**Otavalo**	**8.48**	**220**		**Pn**	**00 27 26.3**	**-0.9**
OTAV	**Otavalo**	**8.48**	**220**	*eP*	**Pn**	**00 27 25.7**	**-1.5**
PCRV	**Puerto La Cruz**	**8.96**	**68**	P	**Pn**	**00 27 32.5**	**-0.7**
	comp=Z,3.2nm,0.3s,baz=236,slow=7.3,SNR=14						
PEZE	**Perez Zeledon,**	**10.82**	**284**	Pn	**Pn**	**00 27 59.1**	**+1.4**
RIMA	**Rio Macho**	**11.09**	**286**		**Pn**	**00 28 01.7**	**+0.4**
MTDJ	**Mount Denham**	**12.14**	**339**	Pn	**Pn**	**00 28 17.7**	**+2.8**
SDDR	**Presa de Saban**	**12.20**	**8**	Pn	**Pn**	**00 28 19.0**	**+3.4**
JTS	**Las Juntas de**	**12.26**	**287**	P	**Pn**	**00 28 18.5**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=38,slow=20,SNR=1.7						
SJG	**San Juan**	**13.08**	**30**	P	**Pn**	**00 28 25.6**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=209,slow=14,SNR=5.6						
SJG	**San Juan**	**13.08**	**30**	Pn	**Pn**	**00 28 25.4**	**-1.4**
GTBY	**Guantanamo Bay**	**13.17**	**351**		**P**	**00 28 31.9**	**-0.3**
EMPR	**Esperanza - Ma**	**13.20**	**28**	Pn	**Pn**	**00 28 27.4**	**-1.0**
BOAV	**Boa Vista**	**13.24**	**109**	*eP*	**Pn**	**00 28 27.6**	**-1.5**
HUMP	**Col San Antoni**	**13.26**	**31**	Pn	**Pn**	**00 28 29.1**	**0.0**
SVB	**Belmont**	**13.26**	**60**	Pn	**Pn**	**00 28 29.6**	**+0.4**
GCPR	**Guaynabo City**	**13.28**	**30**	Pn	**Pn**	**00 28 29.2**	**-0.2**
CBYP	**Canovanas**	**13.36**	**31**	Pn	**Pn**	**00 28 28.9**	**-1.5**
STVI	**Saint Thomas**	**13.91**	**34**	Pn	**Pn**	**00 28 36.5**	**-0.9**
CBCY	**The Bluff, Cay**	**14.38**	**334**	Pn	**Pn**	**00 28 43.9**	**+0.6**
PTGA	**Pitinga**	**15.07**	**119**	P	**Pn**	**00 28 51.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=300,slow=22,SNR=1.8						
ETMB	**Extrema**	**17.89**	**158**	*eP*	**P**	**00 29 24.0**	**-0.4**
MDP	**Montagnes des**	**20.38**	**94**	P	**P**	**00 29 51.0**	**-0.4**
	comp=Z,15nm,1.1s,baz=285,slow=12,SNR=2.0						
ITTB	**Itaituba**	**20.56**	**122**	*eP*	**P**	**00 29 53.7**	**+0.3**
MCPB	**Macapa, AP**	**22.14**	**108**	*eP*	**P**	**00 30 10.2**	**+0.2**
NPGB	**Novo Progresso**	**22.40**	**128**	*eP*	**P**	**00 30 12.6**	**+0.1**
VILB	**Vilhena**	**23.44**	**147**	*eP*	**P**	**00 30 22.4**	**+0.3**
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**00 30 22.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=325,slow=9.7,SNR=2.2						
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**00 30 22.5**	**-0.6**
LPAZ	**La Paz**	**23.48**	**168**	*eP*	**P**	**00 30 21.9**	**-1.2**
CLDB	**Colider**	**24.59**	**136**	*eP*	**P**	**00 30 32.9**	**+0.4**
PB11	**IPOC Station P**	**26.64**	**173**	P	**P**	**00 30 51.5**	**+0.4**
HODGE	**Hodges**	**28.56**	**344**	P	**P**	**00 31 08.8**	**+1.0**
Y52A	**Lilburn**	**28.76**	**341**	P	**P**	**00 31 11.4**	**+1.7**
Y52A				IAmb	IAmb	00 31 12.0	
	comp=Z,3.1nm,0.6s						
Y49A	**Blount Mountai**	**29.60**	**337**	P	**P**	**00 31 18.9**	**+1.8**
Y49A				IAmb	IAmb	00 31 19.5	
	comp=Z,3.9nm,0.7s						
SMTB	**Santa Maria do**	**29.79**	**121**	*eP*	**P**	**00 31 19.4**	**+0.3**
FPAL	**Fort Paine**	**29.91**	**339**	P	**P**	**00 31 21.2**	**+1.4**
T59A	**Double "B" Far**	**30.28**	**353**	P	**P**	**00 31 24.1**	**+1.1**
T59A				IAmb	IAmb	00 31 42.0	
	comp=Z,8.3nm,1.1s						
CPCT	**Cooper Cave**	**30.37**	**341**	P	**P**	**00 31 24.8**	**+0.9**
CPCT				IAmb	IAmb	00 31 27.0	
	comp=Z,5.4nm,1.1s						
X48A	**Hartselle**	**30.37**	**337**	P	**P**	**00 31 25.7**	**+1.9**
X48A				IAmb	IAmb	00 31 25.9	
	comp=Z,3.8nm,0.8s						
W50A	**Signal Mountai**	**30.40**	**340**	P	**P**	**00 31 26.0**	**+1.8**
W50A				IAmb	IAmb	00 31 26.6	
	comp=Z,4.1nm,0.6s						
T57A	**Hurt**	**30.55**	**350**	P	**P**	**00 31 27.2**	**+1.8**
T57A				IAmb	IAmb	00 31 27.5	
	comp=Z,4.4nm,0.8s						
U54A	**Nelsons Funny**	**30.62**	**346**	P	**P**	**00 31 27.1**	**+1.0**
V51A	**Loudon**	**30.64**	**342**	P	**P**	**00 31 27.9**	**+1.6**
V51A				IAmb	IAmb	00 31 29.4	
	comp=Z,9.8nm,1.1s						
ARAG	**Araguaiana, MT**	**30.73**	**137**	*eP*	**P**	**00 31 26.6**	**-0.6**
PLAL	**Pickwick Lake**	**31.24**	**336**	P	**P**	**00 31 33.2**	**+1.7**
PLAL				IAmb	IAmb	00 31 33.9	
	comp=Z,6.1nm,0.8s						
V48A	**Smith Brothers**	**31.42**	**338**	P	**P**	**00 31 35.0**	**+1.9**
CLTN	**Cedars of Leba**	**31.56**	**339**	P	**P**	**00 31 36.0**	**+1.7**
CLTN				IAmb	IAmb	00 31 36.3	
	comp=Z,3.3nm,0.6s						
U49A	**Red Boiling Sp**	**31.75**	**340**	P	**P**	**00 31 34.5**	**-1.4**
U49A				IAmb	IAmb	00 31 38.2	
	comp=Z,3.6nm,1.1s						
WVT	**Waverly**	**32.15**	**337**	P	**P**	**00 31 40.6**	**+1.2**
WVT				IAmb	IAmb	00 31 41.3	
	comp=Z,7.6nm,1.0s						
T47A	**Sharon Grove**	**32.64**	**339**	P	**P**	**00 31 44.9**	**+1.2**
T47A				IAmb	IAmb	00 31 45.8	
	comp=Z,7.3nm,0.8s						
X40A	**Basin Creek Fa**	**33.02**	**329**	P	**P**	**00 31 47.7**	**+0.6**
Q51A	**Peebles**	**33.37**	**345**	P	**P**	**00 31 51.5**	**+1.5**
Q51A				IAmb	IAmb	00 31 52.8	
	comp=Z,5.0nm,0.7s						
BDFB	**Brasilia**	**33.38**	**132**	P	**P**	**00 31 49.6**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=331,slow=11,SNR=3.4						
WHAR	**Wooly Hollow**	**33.39**	**331**	P	**P**	**00 31 51.3**	**+1.0**
WHAR				IAmb	IAmb	00 31 51.7	
	comp=Z,5.3nm,0.9s						
LCAR	**Lake Charles**	**33.49**	**333**	P	**P**	**00 31 52.8**	**+1.7**
LCAR				IAmb	IAmb	00 31 52.9	
	comp=Z,3.4nm,0.7s						
O56A	**Blue Knob Stat**	**33.66**	**352**	P	**P**	**00 31 54.2**	**+1.6**
O56A				IAmb	IAmb	00 31 59.7	
	comp=Z,5.7nm,1.0s						
P52A	**Corning**	**33.66**	**347**	P	**P**	**00 31 53.0**	**+0.4**
**F

comp=Z,5.4nm,0.7s
LMN Caledonia Moun 39.52 9 P **P** 00 32 43.3 +1.2
LMN IAmb IAmb 00 32 44.2
comp=Z,7.1nm,0.8s
TIJ01 Guaruva-PR 39.61 145 *e*P **P** **00 32 44.3 +1.0**
H43A Windswept, Lux 39.63 343 P **P** **00 32 42.7 -0.3**
H43A IAmb IAmb 00 32 44.3
comp=Z,8.4nm,0.8s
E63A Oxbow 39.64 5 P **P** **00 32 44.5 +1.5**
E63A IAmb IAmb 00 33 02.3
comp=Z,8.8nm,1.1s
E62A Clayton Lake 39.76 4 P **P** **00 32 45.3 +1.3**
PQI Presque Isle 39.93 5 P **P** **00 32 46.5 +1.1**
NBAN Anadia - AL 40.14 114 *e*P **P** **00 32 49.1 +1.4**
D62A Allapoint, All 40.25 4 P **P** **00 32 50.1 +2.1**
D62A IAmb IAmb 00 32 50.7
comp=Z,7.3nm,0.8s
E46A Sault Ste Mari 40.56 348 P **P** **00 32 52.2 +1.5**
BATG Bathurst New B 40.74 7 P **P** **00 32 53.4 +1.3**
E43A Lone Tree Farm 41.19 345 P **P** **00 32 56.2 +0.4**
VLDQ Val d'Or 41.30 356 P **P** **00 32 58.5 +1.9**
COWI Conover 41.51 343 P **P** **00 32 58.9 +0.4**
COWI IAmb IAmb 00 32 60.0
comp=Z,5.3nm,0.9s
ECSD EROS Data Cent 42.16 334 P **P** **00 33 03.5 -0.3**
SDCO Great Sand Dun 42.58 321 P **P** **00 33 09.3 +1.7**
PLTB Pedras Altas 42.64 155 P **P** **00 33 07.2 -0.5**
F36A Milaca 42.72 339 P **P** **00 33 09.3 +1.0**
EYMN Ely 43.88 342 P **P** **00 33 17.7 +0.2**
DRLN Deer Lake 44.27 15 P **P** **00 33 20.8 +0.2**
DRLN IAmb IAmb 00 33 22.1
comp=Z,5.8nm,0.8s
PV13 Radium Mtn., P 44.94 319 P **P** **00 33 27.8 +1.4**
PV13 IAmb IAmb 00 33 28.4
comp=Z,3.8nm,0.7s
B35A Bob, Littlefor 44.95 341 IAmb IAmb 00 33 26.3
comp=Z,5.4nm,0.5s
PV05 Paradox Valley 45.07 319 P **P** **00 33 28.2 +0.8**
AGMN Agassiz Nation 45.64 339 P **P** **00 33 31.8 +0.4**
AGMN IAmb IAmb 00 33 32.2
comp=Z,4.0nm,0.7s
MDND Maddock 46.71 336 P **P** **00 33 40.1 +0.3**
ULM Lac du Bonnet 47.30 340 P **P** **00 33 43.9 -0.4**
comp=Z,4.8nm,0.4s,baz=141,slow=6.9,SNR=11
ULM Lac du Bonnet 47.30 340 IAmb IAmb 00 33 45.1
comp=Z,6.6nm,0.8s
PD31 Pinedale Array 48.11 324 P **P** **00 33 51.8 +0.8**
PDAR Pinedale Array 48.11 324 P **P** **00 33 51.5 +0.5**
comp=Z,0.8nm,0.5s,baz=128,slow=9.6,SNR=8.8
PDAR Pinedale Array 48.11 324 P **P** **00 33 51.7 +0.8**
SCHQ Schefferville 48.12 5 P **P** **00 33 50.9 +0.3**
comp=Z,5.9nm,0.5s,baz=189,slow=6.9,SNR=20
SCHQ Schefferville 48.12 5 P **P** **00 33 51.2 +0.6**
DUG Dugway, Tooele 48.65 319 P **P** **00 33 56.0 +1.0**
REDW Red Top Meadow 49.22 324 IAmb IAmb 00 34 00.9
comp=Z,3.6nm,0.6s
LOHW Long Hollow 49.23 324 P **P** **00 34 00.5 +1.0**
TPAW Teton Pass 49.35 324 P **P** **00 34 01.6 +1.0**
MCMT McKenzie Canyo 51.25 324 P **P** **00 34 15.7 +1.1**
HLID Hailey 51.47 322 P **P** **00 34 17.4 +1.1**
NVAR Mina Array Bea 51.52 315 P **P** **00 34 16.9 +0.1**
comp=Z,0.1nm,0.4s,baz=119,slow=7.3,SNR=2.2
PAGB Antelope Grade 51.85 311 P **P** **00 34 18.9 -0.2**
FFC Flin Flon 53.10 339 P **P** **00 34 27.9 +0.1**
FFC IAmb IAmb 00 34 28.1
comp=Z,2.8nm,0.5s
BMO Blue Mountains 53.91 322 P **P** **00 34 35.8 +1.7**
FCC Fort Churchill 54.27 347 P **P** **00 34 36.5 +0.2**
I07A Izee 54.90 320 P **P** **00 34 41.9 +0.6**
G08A Pilot Rock 55.15 322 IAmb IAmb 00 34 44.3
comp=Z,2.6nm,0.7s
PINE Pine Mountain 55.68 319 P **P** **00 34 48.5 +1.5**
PINE IAmb IAmb 00 34 49.0
comp=Z,5.8nm,0.8s
YBH Yreka Blue Hor 55.98 317 P **P** **00 34 48.5 -0.4**
NLWA Neilton Lookou 59.13 322 P **P** **00 35 12.5 +1.6**
YKA Yellowknife Ar 63.27 340 P **P** **00 35 38.5 +0.2**
comp=Z,2.7nm,0.6s,baz=129,slow=7.3,SNR=13
ICESG Greenland Ices 65.93 13 *i* P **P** **00 35 55.7 -0.2**
ICESG IAmb IAmb 00 35 57.5
comp=Z,3.9nm,0.6s
TIC Toumodi 67.51 86 *e*P **P** **00 36 06.9 +0.4**
LIC Lamto 67.54 86 *e*P **P** **00 36 04.7 -2.0**
comp=Z,22nm,0.8s
DBIC Dimbokro 67.67 86 P **P** **00 36 05.9 -1.6**
comp=Z,1.7nm,0.5s,baz=252,slow=4.5,SNR=14
KIC Kosan Boka 67.81 86 *e*P **P** **00 36 06.8 -1.6**
comp=Z,9.4nm,0.6s
SUMG Summit 68.96 11 ⇧ *i* P **P** **00 36 15.2 +0.3**
SUMG IAmb IAmb 00 36 15.9
comp=Z,9.8nm,0.8s
NEEM North Greenlan 71.53 5 *i* P **P** **00 36 30.9 +0.5**
NEEM IAmb IAmb 00 36 31.3
comp=Z,6.4nm,0.6s
PMSA Palmer Station 71.73 176 *e*P **P** **00 36 31.9 +0.6**
TORD Torodi Ar. Bea 73.67 78 P **P** **00 36 41.9 -1.9**
comp=Z,0.4nm,0.3s,baz=281,slow=6.1,SNR=2.1
DBG Daneborg 73.92 13 *i* P **P** **00 36 44.5 +0.4**
DAG Danmarks Havn 75.63 11 *i* P **P** **00 36 53.4 -0.6**
DAG IAmb IAmb 00 36 54.1
comp=Z,2.4nm,0.8s
ILAR Eielson Array 76.98 335 P **P** **00 37 01.8 0.0**
comp=Z,0.4nm,0.5s,baz=122,slow=4.8,SNR=6.6
NOA NORSAR Array B 81.29 29 P **P** **00 37 24.3 -1.0**
comp=Z,0.7nm,0.8s,baz=131,slow=16,SNR=2.9
GERES GERESS Array B 82.77 42 P **P** **00 37 32.2 -1.1**
comp=Z,0.1nm,0.3s,baz=273,slow=5.2,SNR=4.2
ARCES ARCESS Array B 86.64 20 P **P** **00 37 51.5 -0.6**
comp=Z,0.9nm,0.6s,baz=304,slow=2.2,SNR=6.7
ZALV Zalesovo Beam 116.64 14 PKP **PKPdf** **00 43 51.6 -0.5**
comp=Z,0.7nm,0.5s,baz=195,slow=2.9,SNR=3.8
MKAR Makanchi Array 122.29 20 PKP **PKPdf** **00 44 02.5 -0.7**
comp=Z,0.6nm,0.4s,baz=304,slow=2.2,SNR=13
SONM Songino Array 125.57 0 PKP **PKPdf** **00 44 09.2 -0.5**
comp=Z,0.3nm,0.4s,baz=280,slow=0.9,SNR=3.5
ASAR Alice Springs 149.17 234 PKPbc **PKPbc** **00 44 56.3 -1.2**
comp=Z,2.0nm,0.5s,baz=117,slow=3.6,SNR=21
WRA Warramunga Arr 150.40 241 PKPbc **PKPbc** **00 44 59.5 -1.1**
comp=Z,2.2nm,0.4s,baz=109,slow=2.7,SNR=10
CMAR Chiang Mai Arr 153.66 17 PKPbc **PKPbc** **00 45 07.7 -0.2**
comp=Z,1.4nm,0.6s,baz=326,slow=3.5,SNR=4.6

*AEIC **22** 00:40:26±2.2, 52°.9N±0°.2×173°.1W±0°.2, h233km±8km, ML3.2, mb3.8/30(NEIC), Error ellipse: s-maj=30.0km s-min=10.9km az=160.0*
NEIC 22 00:40:24.9±1.9, 52°.6N±0°.2×173°.0W±0°.2, h239km±7km, Error ellipse: s-maj=35.8km s-min=10.6km az=163.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.86**	**241**	Pn	Pn	00 40 57.8	-0.2
ATKA				Sn	S	00 41 23.8	-0.1
GSTR	**Great Sitkin T**	**1.97**	**255**	Pn	Pn	00 41 06.2	0.0
GSTR				Sn	S	00 41 38.0	-0.6
ADK	**Adak**	**2.40**	**253**	Pn	Pn	00 41 10.8	+0.4
ADK					S	00 41 45.4	-0.7
NIKH	**Nikolski High**	**2.52**	**81**	Pn	Pn	00 41 12.3	+0.8
KIWB	**Kanaga Island**	**2.69**	**255**	Pn	Pn	00 41 13.3	0.0
AKUT	**Akutan**	**4.56**	**68**	Pn	Pn	00 41 35.6	+0.7
AMKA	**Amchitka**	**4.94**	**258**		Pn	00 41 39.1	-0.4
SDPT	**Sand Point**	**7.85**	**65**	Pn	Pn	00 42 15.0	-1.1
CNBA	**Chernabura Isl**	**8.23**	**69**	Pn	Pn	00 42 19.7	-1.3
CHIR	**Chirikof Islan**	**10.64**	**66**	Pn	Pn	00 42 49.8	-1.7
SII	**Sitkinak Islan**	**11.57**	**63**	Pn	Pn	00 43 02.1	-1.1
OHAK	**Old Harbor**	**12.20**	**60**	Pn	Pn	00 43 09.9	-1.1
SVW2	**Sparrevohn**	**12.71**	**41**	Pn	Pn	00 43 16.9	-0.4
KDAK	**Kodiak Island**	**12.71**	**58**	Pn	Pn	00 43 16.8	-0.5
RSO	**Redoubt South**	**13.59**	**47**		P	00 43 31.1	+1.4
TTA	**Tatalina**	**13.67**	**34**	Pn	Pn	00 43 28.4	-0.8
CNPM	**China Poot**	**13.92**	**52**	Pn	Pn	00 43 31.2	-0.9
BRLK	**Bradley Lake**	**14.17**	**51**	Pn	Pn	00 43 34.4	-0.8
SKT	**Skwentna**	**14.82**	**42**		P	00 43 43.3	+0.2
SUA	**Susitna One**	**14.91**	**45**		P	00 43 44.0	-0.2
SEW	**Seward**	**14.96**	**51**		P	00 43 43.0	-1.7
O22K	**Cooper Landing**	**14.97**	**49**		P	00 43 43.8	-0.9
RC01	**Rabbit Creek A**	**15.19**	**47**		P	00 43 46.8	-0.4
RC01				IAmb	IAmb	00 43 51.8	
	comp=Z,3.2nm,1.0s						
PMR	**Palmer**	**15.66**	**46**	P	P	00 43 52.6	+0.2
PWL	**Port Wells**	**15.74**	**49**	P	P	00 43 52.3	-1.0
PWL				IAmb	IAmb	00 43 53.6	
	comp=Z,3.4nm,1.1s						
KTH	**Kantishna Hill**	**15.88**	**38**	P	Pn	00 43 55.4	-0.4
KTH				IAmb	IAmb	00 43 57.8	
	comp=Z,5.7nm,1.2s						
SML	**Sawmill**	**16.10**	**46**	P	Pn	00 43 58.0	-0.4
SML				IAmb	IAmb	00 43 58.5	
	comp=Z,2.7nm,1.0s						
BPAW	**Bear Paw Mtn.**	**16.17**	**36**	P	Pn	00 43 59.2	0.0
BPAW				IAmb	IAmb	00 44 01.7	
	comp=Z,1.9nm,0.4s						
MID	**Middleton Isla**	**16.28**	**55**	P	P	00 43 59.5	+0.3
GLI	**Glacier Island**	**16.32**	**49**	P	P	00 43 58.7	-0.9
HIN	**Hinchinbrook I**	**16.45**	**51**	P	P	00 44 00.9	-0.1
SCM	**Sheep Creek Mo**	**16.55**	**46**	P	Pn	00 44 03.1	-0.7
SCM				IAmb	IAmb	00 44 03.5	
	comp=Z,2.2nm,0.7s						
FID	**Port Fidalgo**	**16.57**	**50**	P	P	00 44 01.5	-0.8
FID				IAmb	IAmb	00 44 03.6	
	comp=Z,3.2nm,0.6s						
RND	**Reindeer**	**16.60**	**40**	P	P	00 44 02.4	-0.3
MCK	**McKinley**	**16.73**	**39**	P	P	00 44 04.0	-0.1
MLY	**Manley**	**16.80**	**34**	P	P	00 44 04.9	0.0
KLU	**Klutina**	**17.06**	**48**	P	Pn	00 44 08.7	-1.0
NEA2	**Nenana**	**17.14**	**36**	P	P	00 44 07.9	-0.6
M24K	**Tolsona, Glenn**	**17.16**	**46**	P	Pn	00 44 12.2	+1.3
I23K	**Minto, Yukon-K**	**17.35**	**35**	P	P	00 44 11.1	+0.4
HMT	**Hamilton**	**17.51**	**53**	P	P	00 44 13.7	+1.1
HMT				IAmb	IAmb	00 44 28.0	
	comp=Z,6.1nm,1.1s						
CCB	**Clear Creek Bu**	**17.63**	**37**	P	P	00 44 12.5	-1.3
CCB				IAmb	IAmb	00 44 15.5	
	comp=Z,1.8nm,0.5s						
MDM	**Murphy Dome**	**17.64**	**36**	P	P	00 44 14.2	+0.2
MDM				IAmb	IAmb	00 44 16.6	
	comp=Z,1.9nm,0.6s						
N25K	**Chitina, Valde**	**17.69**	**48**		Pn	00 44 16.3	-0.8
PAX	**Paxson**	**17.79**	**44**	P	P	00 44 16.7	+1.1
PAX				IAmb	IAmb	00 44 19.3	
	comp=Z,1.8nm,0.7s						
HDA	**Harding Lake**	**17.83**	**38**	P	P	00 44 15.8	-0.2
IL31		**18.03**	**37**	P	P	00 44 19.0	+0.9
IL31				IAmb	IAmb	00 44 19.2	
	comp=Z,2.5nm,0.5s						
ILAR	**Eielson Array**	**18.03**	**37**	P	P	00 44 19.0	+0.8
DOT	**Dot Lake**	**18.64**	**42**	P	P	00 44 24.3	-0.4
DOT				IAmb	IAmb	00 44 27.9	
	comp=Z,5.1nm,1.0s						
SCRK	**Sand Creek**	**18.80**	**42**	P	P	00 44 25.9	-0.6
FYU	**Fort Yukon**	**19.55**	**34**	P	P	00 44 33.0	-1.4
FYU				IAmb	IAmb	00 44 35.2	
	comp=Z,2.7nm,0.7s						
K27K	**Chicken**	**19.60**	**42**	P	P	00 44 35.4	+0.4
K27K				IAmb	IAmb	00 44 39.7	
	comp=Z,2.4nm,0.9s						
EGAK	**Eagle**	**20.24**	**41**	P	P	00 44 41.8	0.0
EGAK				IAmb	IAmb	00 44 42.5	
	comp=Z,1.8nm,0.8s						

*IDC **22** 01:10:23.0±1.7, 27°.01N×143°.76E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/42, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=44.6km s-min=23.9km az=86.0*
ISC 22 01:10:28.6±1.3, 27°.1N±0°.1×143°.6E±0°.1, h35km, n7, σ1=03/8, mb3.7/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.27**	**272**	Pn	**Pn**	**01 10 49.9**	**+0.1**
	9.5nm,0.3s,baz=94,slow=24,SNR=1.3						
JCJ				Sn	**Sn**	**01 11 05.5**	**-0.1**
	49nm,0.3s,baz=273,slow=23,SNR=15						
MJAR	**Matsushiro Arr**	**10.51**	**335**	Pn	**Pn**	**01 12 55.6**	**-1.2**
	0.2nm,0.3s,baz=153,slow=11,SNR=5.5						
KLR	**Kul'dur**	**23.96**	**341**	P	**P**	**01 15 40.2**	**+0.6**
	1.1nm,0.5s,baz=159,slow=8.6,SNR=5.3						
WRA	**Warramunga Arr**	**47.58**	**192**	P	**P**	**01 19 00.5**	**-0.6**
	0.3nm,0.5s,baz=12,slow=8.5,SNR=6.0						
MKAR	**Makanchi Array**	**51.47**	**310**	P	**P**	**01 19 31.8**	**+1.2**
	0.3nm,0.6s,baz=85,slow=7.6,SNR=2.3						
FINES	**FINESS Array B**	**78.53**	**334**	P	**P**	**01 22 27.1**	**+1.0**
	0.5nm,0.6s,baz=35,slow=5.1,SNR=2.4						
AKASG	**Malin Array Be**	**83.39**	**324**	P	**P**	**01 22 51.3**	**-0.9**
	0.4nm,0.5s,baz=56,slow=5.3,SNR=1.9						

IDC 22 01:16:21.1±1.7, 7°.45S×127°.57E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.5/39, mbtmp3.7/5, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=101.8km s-min=25.8km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.74**	**190**	Pn	Pn	01 18 56.4	0.0
	0.3nm,0.3s,baz=21,slow=11,SNR=2.3						
FITZ				Sn	Sn	01 20 51.7	-5.8
	0.4nm,0.3s,baz=238,slow=4.8,SNR=4.4						
FITZ				LR	LR	01 22 52.4	
	comp=Z,34nm,18.9s,baz=265,slow=36						
WRA	**Warramunga Arr**	**14.05**	**153**	Pn	Pn	01 19 39.9	-1.7
	0.3nm,0.3s,baz=324,slow=13,SNR=12						
WRA				Sn	Sn	01 22 08.0	-10
	0.2nm,0.3s,baz=334,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**17.23**	**160**	P	P	01 20 24.7	-0.3
	0.3nm,0.3s,baz=338,slow=12,SNR=17						
ASAR				S	Sn	01 23 28.2	-7.6
	0.2nm,0.3s,baz=324,slow=22,SNR=3.7						
MKAR	**Makanchi Array**	**67.31**	**328**	P	P	01 27 18.8	+0.9
	0.6nm,0.8s,baz=126,slow=7.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**70.94**	**335**	P	P	01 27 39.1	-1.1
	0.4nm,0.3s,baz=134,slow=4.3,SNR=3.5						

*DDA **22** 01:20:30.4, 36°.73N×45°.33E, h6km±3km, ML2.5*
*ISN **22** 01:20:37.8±1.9, 36°.61N×45°.31E, h25km, ML2.6*
ISC 22 01:20:29.8±2.1, 36°.92N±0°.05×45°.2E±0°.1, h17km±12km, n9, σ1=78/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**1.33**	**285**	*i* P	**Pn**	**01 20 51.9**	**-1.9**
CUKT				*i* S	**Sn**	**01 21 12.2**	**+1.1**
HAKT	**HAKKARI**	**1.37**	**298**	*i* P	**Pb**	**01 20 55.4**	**+0.4**
HAKT				*i* S	**Sg**	**01 21 17.4**	**+3.3**
HAKT				IAML		01 21 20.0	
	comp=E,68nm,0.5s						
HAKT				IAML		01 21 22.0	
	comp=N,57nm,0.6s						
IKRK	**Kirkuk**	**1.68**	**206**	*e*Pg	**Pg**	**01 21 02.4**	**+0.3**
	baz=33						
IKRK				*e*Sg	**Sg**	**01 21 23.8**	**-0.1**
IKRK				AML	AML	01 21 25.4	
	comp=N,105nm,0.4s						
IKRK				AML	AML	01 21 26.9	
	comp=E,88nm,0.4s						
OZAP	**Van, Ozalp-Mer**	**1.99**	**331**	*i* P	**Pg**	**01 21 07.8**	**-0.3**
TVAN	**Van**	**2.16**	**319**	*i* P	**Pb**	**01 21 09.1**	**+0.5**
TVAN				*i* S	**Sg**	**01 21 40.2**	**+0.9**
TVAN				IAML		01 21 48.0	
	comp=N,35nm,1.0s						
PERV	**Siirt/Pervari-**	**2.37**	**296**	*i* P	**Pb**	**01 21 12.0**	**-0.1**
PERV				*i* S	**Sb**	**01 21 42.8**	**+1.7**
PERV				IAML		01 21 50.0	
	comp=N,38nm,0.6s						
PERV				IAML		01 21 53.0	
	comp=E,42nm,0.5s						
SRTM	**Siirt_Merkez**	**2.84**	**293**	*i* P	**Pg**	**01 21 22.3**	**-1.9**
BLIS	**Bitlis-Merkez**	**2.88**	**302**	*i* P	**Pg**	**01 21 24.3**	**-0.8**
BTMN	**Batman**	**3.29**	**288**	*i* P	**Pb**	**01 21 29.7**	**+1.8**
BTMN				*i* S	**Sg**	**01 22 12.9**	**-2.8**

*IDC **22** 01:26:36.9±1.1, 33°.24N×27°.57E, h0km, mb3.7/7, mb1 3.6/15, mb1mx3.5/41, mbtmp3.6/15, ML3.3/8, Error ellipse: s-maj=24.4km s-min=18.4km az=35.0*
ISC 22 01:26:41.5±0.8, 33°.3N±0°.1×27°.62E±0°.07, h35km, n15, σ1=51/18, mb3.7/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDI	**Anoyia**	**3.01**	**312**	Pn	**Pn**	**01 27 27.2**	**+0.4**
	3.5nm,0.3s,baz=130,slow=16,SNR=38						
IDI				Sn	**Sn**	**01 27 58.0**	**-3.7**
	7.2nm,0.3s,baz=315,slow=16,SNR=12						
MMAI	**Mount Meron Ar**	**6.53**	**90**	Pn	**Pn**	**01 28 16.2**	**+1.0**
	0.4nm,0.3s,baz=275,slow=11,SNR=6.1						
MMAI				Sn	**Sn**	**01 29 26.4**	**-2.1**
	2.3nm,0.3s,baz=279,slow=20,SNR=1.9						
EIL	**Elat**	**7.22**	**118**	Pn	**Pn**	**01 28 25.9**	**+1.2**
	0.2nm,0.3s,baz=223,slow=23,SNR=1.1						
EIL				Sn	**Sn**	**01 29 42.4**	**-3.1**
	0.4nm,0.3s,baz=122,slow=2.9,SNR=5.6						
BRTR	**Keskin Array B**	**8.04**	**35**	Pn	**Pn**	**01 28 36.2**	**+0.3**
	0.2nm,0.3s,baz=226,slow=14,SNR=8.6						
VAE	**Valguarnera**	**11.56**	**295**	Pn	**Pn**	**01 29 24.4**	**+0.3**
	0.2nm,0.3s,baz=160,slow=20,SNR=2.1						
AKASG	**Malin Array Be**	**17.44**	**3**	P	**P**	**01 30 42.6**	**-0.2**
	1.0nm,0.3s,baz=194,slow=12,SNR=5.9						
GERES	**GERESS Array B**	**18.70**	**330**	P	**Pn**	**01 30 57.6**	**+0.2**
	0.2nm,0.3s,baz=142,slow=12,SNR=5.4						
DAVOX	**Davos/Dischmat**	**19.07**	**320**	P	**P**	**01 31 00.5**	**-0.6**
	0.0nm,0.3s,baz=135,slow=13,SNR=1.4						
ESDC	**Sonseca Array**	**26.09**	**293**	P	**P**	**01 32 12.5**	**+0.4**
	0.5nm,0.9s,baz=84,slow=9.0,SNR=2.5						
FINES	**FINESS Array B**	**28.18**	**358**	P	**P**	**01 32 30.6**	**+0.2**
	0.6nm,0.6s,baz=163,slow=9.8,SNR=1.9						
HFS	**Hagfors**	**28.38**	**345**	P	**P**	**01 32 32.7**	**+0.5**
	1.1nm,0.7s,baz=139,slow=9.0,SNR=2.4						
ARCES	**ARCESS Array B**	**36.31**	**359**	P	**P**	**01 33 41.8**	**+0.4**
	0.9nm,0.7s,baz=168,slow=8.9,SNR=2.1						
MKAR	**Makanchi Array**	**43.13**	**55**	P	**P**	**01 34 39.7**	**+1.2**
	0.2nm,0.5s,baz=277,slow=6.0,SNR=2.0						
BOSA	**Boshof**	**61.61**	**182**	P	**P**	**01 36 55.1**	**-0.6**
	0.5nm,0.3s,baz=40,slow=1.2,SNR=3.8						
SCHQ	**Schefferville**	**65.92**	**321**	P	**P**	**01 37 24.4**	**+0.7**
	1.5nm,0.7s,baz=41,slow=9.3,SNR=3.5						

*ISK **22** 01:27:01.9, 37°.12N×28°.83E, h7km, ML3.0/23*
*DDA **22** 01:27:02.2, 37°.11N×28°.81E, h7km±2km, ML2.8*
ISC 22 01:27:02.5±1.0, 37°.12N±0°.02×28°.82E±0°.02, h9km±9km, n48, σ1=93/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.33**	**204**	*i* P	**Pb**	**01 27 09.4**	**-1.0**
DALY				*i* S	**Sb**	**01 27 14.3**	**-1.5**
DALY				IAML		01 27 20.0	
	comp=N,681nm,0.5s						
DALY	**Dalyan (Mula)**	**0.33**	**204**	PG	**Pg**	**01 27 09.0**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.35**	**12**	*i* P	**Pg**	**01 27 09.1**	**-0.4**
TAVA				*i* S	**Sg**	**01 27 14.2**	**0.0**
TAVA				IAML		01 27 16.0	
	comp=E,1μm,0.4s						
TAVA				IAML		01 27 19.0	
	comp=N,976nm,0.6s						
CAEL	**Denizli, Camel**	**0.40**	**89**	*i* P	**Pg**	**01 27 10.4**	**0.0**
CAEL				*i* S	**Sb**	**01 27 16.8**	**-1.3**
CAEL				IAML		01 27 20.0	
	comp=E,922nm,0.6s						
CAEL				IAML		01 27 21.0	
	comp=N,713nm,0.6s						
MULA	**Mugla, Merkez-**	**0.42**	**289**	*i* P	**Pg**	**01 27 11.1**	**+0.3**
MULA				*i* S	**Sb**	**01 27 17.4**	**-1.2**
CAME	**Cameli-Denizli**	**0.42**	**114**	PG	**Pg**	**01 27 10.6**	**-0.2**
YER	**Yerkesik**	**0.43**	**272**	PG	**Pg**	**01 27 10.9**	**0.0**
YER				SG	**Sb**	**01 27 17.5**	**-1.2**
FETY	**Fethiye**	**0.53**	**156**	PG	**Pg**	**01 27 12.2**	**+0.5**
FETY				SG	**Sb**	**01 27 20.2**	**-1.4**
TURN	**Turunc**	**0.57**	**233**	*i* P	**Pg**	**01 27 13.3**	**-0.3**
TURN	**Turunc**	**0.57**	**233**	PG	**Pg**	**01 27 13.5**	**-0.1**
GOLH	**Golhisar**	**0.60**	**79**	*i* P	**Pg**	**01 27 13.0**	**-1.2**
GOLH				*i* S	**Sb**	**01 27 23.1**	**-0.8**
GOLH				IAML		01 27 28.0	
	comp=N,466nm,0.4s						
MRSB	**Marmaris-Mugla**	**0.64**	**231**	PG	**Pg**	**01 27 14.8**	**-0.1**
MLSB	**Milas**	**0.85**	**282**	PG	**Pb**	**01 27 18.9**	**-0.5**
AYDN	**Tasoluk**	**0.92**	**306**	*i* P	**Pb**	**01 27 20.4**	**-0.3**
AYDN				*i* S	**Sb**	**01 27 33.0**	**0.0**
ELL	**Elmali**	**0.95**	**113**	PG	**Pg**	**01 27 20.4**	**-0.3**
ARG	**Arkhangelos**	**1.06**	**212**	PG	**Pb**	**01 27 22.9**	**0.0**
DAT	**Datca**	**1.07**	**249**	PG	**Pb**	**01 27 23.0**	**-0.2**
AKAS	**Kas**	**1.09**	**144**	*i* P	**Pg**	**01 27 22.6**	**-0.8**
AKAS				*i* S	**Sn**	**01 27 42.0**	**+2.8**
AKAS				IAML		01 27 46.0	
	comp=E,200nm,0.4s						
AKAS				IAML		01 27 46.0	
	comp=N,255nm,0.4s						
AKAS	**Kas**	**1.09**	**144**	PN	**Pb**	**01 27 23.2**	**-0.3**
BDRM	**Kayabasi**	**1.10**	**268**	*i* P	**Pn**	**01 27 23.7**	**-0.3**
BDRM				*i* S	**Sn**	**01 27 39.0**	**-0.3**
BDRM				IAML		01 27 44.0	
	comp=N,225nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.11**	**319**	PN	**Pg**	**01 27 23.4**	**-0.4**
BRDR	**BURDUR-Merkez**	**1.15**	**59**	*i* P	**Pg**	**01 27 24.1**	**-0.4**
BRDR				*i* S	**Sn**	**01 27 41.8**	**+1.2**
BRDR				IAML		01 27 45.0	
	comp=N,165nm,1.0s						
BRDR				IAML		01 27 47.0	
	comp=E,156nm,0.5s						
BODT	**Bodrum**	**1.21**	**268**	PN	**Pg**	**01 27 25.2**	**-0.5**
KORT	**Korkueli**	**1.23**	**95**	PN	**Pn**	**01 27 26.1**	**+0.2**
DEMR	**Demre-Antalya**	**1.24**	**135**	PN	**Pg**	**01 27 26.0**	**-0.3**
BASM	**Basmaki-Afyon**	**1.26**	**50**	PN	**Pg**	**01 27 26.5**	**-0.3**
DDIM	**Aydin, Didim**	**1.30**	**285**	*i* P	**Pg**	**01 27 28.2**	**+0.8**
DDIM				*i* S	**Sn**	**01 27 45.7**	**+1.5**
DDIM				IAML		01 27 58.0	
	comp=E,158nm,0.5s						
DDIM				IAML		01 28 00.0	
	comp=N,141nm,0.6s						
MANT	**Manisa**	**1.39**	**351**	*i* P	**Pn**	**01 27 27.9**	**-0.3**
MANT				*i* S	**Sb**	**01 27 46.5**	**0.0**
GCAM	**G?zelcaml?**	**1.39**	**295**	*i* P	**Pg**	**01 27 28.6**	**-0.6**
GCAM				*i* S	**Sg**	**01 27 47.5**	**+0.3**
GCAM				IAML		01 27 57.0	
	comp=E,137nm,0.4s						

HRKL				SN	**Sn**	**01 29 58.8**	**+0.6**
IDI	**Anoyia**	**2.97**	**310**	Pn	**Pn**	**01 29 26.9**	**0.0**
	2.6nm,0.3s,baz=136,slow=17,SNR=7.0						
IDI				Sn	**Sn**	**01 29 60.0**	**-1.3**
	12nm,0.3s,baz=326,slow=18,SNR=8.4						
IDI	**Anoyia**	**2.97**	**310**	PN	**Pn**	**01 29 26.9**	**0.0**
OSC1	**CSNet OBS 1**	**3.03**	**87**	P	**Pn**	**01 29 27.8**	**+0.2**
OSC1				S	**Sn**	**01 30 03.7**	**+1.1**
KSL	**Kastellorizon**	**3.17**	**29**	P	**Pn**	**01 29 29.7**	**+0.2**
KSL				S	**Sn**	**01 30 07.1**	**+1.0**
NIS1	**Nisyros Isl.**	**3.22**	**353**	PN	**Pn**	**01 29 29.6**	**-0.7**
AKAS	**Kas**	**3.25**	**29**	PN	**Pn**	**01 29 30.1**	**-0.7**
GVD	**Gavdhos**	**3.29**	**297**	PN	**Pn**	**01 29 31.5**	**+0.2**
GVDS	**Gavdos**	**3.29**	**297**	PN	**Pn**	**01 29 31.7**	**+0.4**
DAT	**Datca**	**3.32**	**359**	PN	**Pn**	**01 29 31.3**	**-0.5**
KOSK	**Kos Island**	**3.39**	**351**	PN	**Pn**	**01 29 32.2**	**-0.4**
TURN	**Turunc**	**3.40**	**8**	PN	**Pn**	**01 29 32.9**	**+0.1**
FETY	**Fethiye**	**3.43**	**19**	PN	**Pn**	**01 29 32.9**	**-0.3**
SANT	**Santorini**	**3.47**	**329**	PN	**Pn**	**01 29 33.4**	**-0.4**
DALY	**Dalyan (Mula)**	**3.51**	**13**	PN	**Pn**	**01 29 34.2**	**0.0**
BODT	**Bodrum**	**3.67**	**356**	PN	**Pn**	**01 29 36.5**	**+0.1**
IMMV	**Iera Moni Meta**	**3.67**	**305**	PN	**Pn**	**01 29 36.9**	**+0.4**
YER	**Yerkesik**	**3.76**	**8**	PN	**Pn**	**01 29 37.7**	**-0.1**
KNDR	**Palaiochora Ch**	**3.76**	**300**	PN	**Pn**	**01 29 38.5**	**+0.8**
CAME	**Cameli-Denizli**	**3.78**	**20**	PN	**Pn**	**01 29 37.9**	**-0.3**
ELL	**Elmali**	**3.82**	**28**	PN	**Pn**	**01 29 38.5**	**-0.1**
ELL	**Elmali**	**3.82**	**28**	P	**Pn**	**01 29 39.8**	**+1.2**
MLSB	**Milas**	**3.89**	**1**	PN	**Pn**	**01 29 39.2**	**-0.3**
APE	**Apeiranthos**	**4.05**	**335**	PN	**Pn**	**01 29 41.3**	**-0.5**
AKMS	**Akamas**	**4.20**	**66**	P	**Pn**	**01 29 44.2**	**+0.4**
AKMS				AML	AML	01 30 29.6	
	0.4nm,0.2s						
AKMS				AML	AML	01 30 30.9	
	0.3nm,0.4s						
KORT	**Korkueli**	**4.21**	**31**	PN	**Pn**	**01 29 44.3**	**+0.2**
ANTB	**Antalya**	**4.27**	**34**	PN	**Pn**	**01 29 45.1**	**+0.5**
NATA	**Nata**	**4.30**	**70**	P	**Pn**	**01 29 46.3**	**+1.1**
GCAM	**G?zelcaml?**	**4.30**	**355**	PN	**Pn**	**01 29 44.9**	**-0.3**
ALFC	**Alefka**	**4.45**	**65**	P	**Pn**	**01 29 47.5**	**+0.3**
ALFC				AML	AML	01 30 35.5	
	0.2nm,0.4s						
ALFC				AML	AML	01 30 35.9	
	0.3nm,0.2s						
HNAT	**Natroun**	**4.53**	**145**	P	**Pn**	**01 29 49.7**	**+1.5**
	baz=145						
SZAC	**Souni**	**4.54**	**71**	P	**Pn**	**01 29 49.1**	**+0.6**
SZAC				AML	AML	01 30 41.4	
	0.3nm,0.3s						
SZAC				AML	AML	01 30 42.4	
	0.2nm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**4.54**	**2**	PN	**Pn**	**01 29 47.7**	**-0.9**
SWA2		**4.55**	**205**	P	**Pn**	**01 29 50.6**	**+2.0**
	baz=206						
SWA2				S	**Sn**	**01 30 40.0**	**-0.2**
	baz=206						
BCK	**Bucak**	**4.71**	**30**	PN	**Pn**	**01 29 51.2**	**+0.4**
KTHA	**Kythira Island**	**4.74**	**308**	PN	**Pn**	**01 29 51.9**	**+0.8**
ASGA	**Asgata**	**4.84**	**72**	P	**Pn**	**01 29 53.4**	**+0.9**
RYAN	**Fayoum**	**4.85**	**152**	P	**Pn**	**01 29 54.4**	**+1.6**
	baz=151						
CSS	**Mathiatis**	**4.95**	**70**	P	**Pn**	**01 29 54.1**	**0.0**
HSAF	**As Saff**	**5.03**	**138**	P	**Pn**	**01 29 55.8**	**+0.6**
	baz=137						
MVOU	**Mavrovouni**	**5.20**	**70**	P	**Pn**	**01 29 58.7**	**+1.1**
HFRF	**Wahat Farafira**	**6.26**	**175**	P	**Pn**	**01 30 13.9**	**+1.9**
	baz=174						
MMAI	**Mount Meron Ar**	**6.50**	**91**	Pn	**Pn**	**01 30 15.8**	**+0.4**
	1.3nm,0.3s,baz=279,slow=12,SNR=4.1						
MMAI				Sn	**Sn**	**01 31 27.1**	**-1.4**
	6.9nm,0.3s,baz=261,slow=22,SNR=9.5						
EIL	**Elat**	**7.25**	**119**	Pn	**Pn**	**01 30 28.0**	**+2.3**
	0.2nm,0.3s,baz=163,slow=11,SNR=1.7						
EIL				Sn	**Sn**	**01 31 43.8**	**-3.0**
	1.4nm,0.3s,baz=169,slow=6.5,SNR=7.4						
BRTR	**Keskin Array B**	**7.94**	**36**	Pn	**Pn**	**01 30 35.6**	**+0.5**
	0.4nm,0.3s,baz=204,slow=15,SNR=12						
BRTR				Sn	**Sn**	**01 31 59.7**	**-4.1**
	0.3nm,0.3s,baz=202,slow=24,SNR=7.9						
VAE	**Valguarnera**	**11.54**	**294**	Pn	**Pn**	**01 31 22.1**	**-2.4**
	0.3nm,0.3s,baz=84,slow=12,SNR=1.6						
VAE				Sn	Sn	01 33 18.2	-14
	0.5nm,0.3s,baz=0.5,slow=23,SNR=2.0						
KOLS	**Kolonicke sedl**	**16.03**	**347**	*e*P	**P**	**01 32 28.9**	**+0.9**
AKASG	**Malin Array Be**	**17.33**	**3**	P	**Pn**	**01 32 41.7**	**+0.6**
	1.1nm,0.3s,baz=194,slow=12,SNR=7.9						
GERES	**GERESS Array B**	**18.62**	**330**	P	**P**	**01 32 57.2**	**+0.5**
	0.1nm,0.3s,baz=138,slow=12,SNR=4.3						
ESDC	**Sonseca Array**	**26.08**	**293**	P	**P**	**01 34 12.2**	**-0.4**
	0.3nm,0.8s,baz=86,slow=8.6,SNR=2.4						
FINES	**FINESS Array B**	**28.08**	**358**	P	**P**	**01 34 30.0**	**-0.1**
	0.6nm,0.5s,baz=172,slow=12,SNR=4.5						
HFS	**Hagfors**	**28.28**	**345**	P	**P**	**01 34 30.9**	**-1.1**
	1.2nm,0.8s,baz=144,slow=11,SNR=2.6						
ARCES	**ARCESS Array B**	**36.21**	**359**	P	**P**	**01 35 40.3**	**-0.9**
	1.0nm,0.8s,baz=165,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**43.05**	**55**	P	**P**	**01 36 40.4**	**+1.9**
	0.4nm,0.5s,baz=279,slow=6.3,SNR=5.8						
SCHQ	**Schefferville**	**65.86**	**321**	P	**P**	**01 39 24.7**	**+0.7**
	1.3nm,0.6s,baz=53,slow=5.1,SNR=4.2						

*BJI **22** 01:44:29.9±0.0, 33°.25N×88°.33E, h7km, ML3.8/1*
*IDC **22** 01:44:33.8±1.0, 32°.87N×88°.40E, h0km, mb3.6/8,*
mb1 3.8/10, mb1mx3.6/35, mbtmp3.6/10, ML4.8/1, MS3.1/3,
Ms1 3.1/3, ms1mx2.7/48, Error ellipse: s-maj=33.0km
s-min=21.9km az=54.0
ISC 22 01:44:38.4±0.6, **33°.13N**±0°.08×**88°.55E**±0°.09, **h35**km, **n24,**
σ1s57/21, mb3.7/6, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.08**	**146**	Pg	Pn	01 45 42.9	+4.2
LSA				SMN			
	200nm,0.9s						
LSA				SME			
	120nm,0.9s						
PKI	**Pulchoki**	**6.17**	**207**	*e*P	**Pn**	**01 46 07.7**	**+0.3**
	33nm,0.3s						
PKIN	**Phulchoki**	**6.17**	**207**	*e*P	**Pn**	**01 46 07.5**	**+0.2**
	23nm,0.4s						
DMN	**Daman**	**6.26**	**209**	*e*P	**Pn**	**01 46 09.4**	**+0.9**
	20nm,0.4s						
RAMN	**Ramite**	**6.39**	**196**	*e*P	**Pn**	**01 46 10.4**	**+0.1**
	112nm,0.4s						
KOLN	**Koldanda**	**6.84**	**220**	*e*P	**Pn**	**01 46 15.5**	**-1.0**
	7.6nm,0.3s						
PYUN	**Piuthan**	**6.94**	**225**	*e*P	**Pn**	**01 46 16.2**	**-1.6**
	24nm,0.3s						
WMQ	**Urumqi**	**10.70**	**357**	*e*P	**Pn**	**01 47 06.1**	**-3.1**
LZH	**Lanzhou**	**12.94**	**73**	*e*P	**Pn**	**01 47 39.8**	**-0.1**
LZH				pP	P	01 47 46.0	-4.1
MKAR	**Makanchi Array**	**14.46**	**343**	Pn	**Pn**	**01 47 59.3**	**-1.2**
	0.0nm,0.3s,baz=163,slow=14,SNR=5.8						
GYA	**Guiyang**	**17.06**	**108**	‖P	**P**	**01 48 35.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.33**	**145**	Pn	**Pn**	**01 48 36.4**	**-1.3**
	1.1nm,0.3s,baz=328,slow=13,SNR=8.8						
CMAR				LR	LR	01 55 39.6	
	comp=Z,58nm,18.4s,baz=325,slow=39						
KURBB	**Kurchatov Arra**	**18.97**	**340**	Pn	**P**	**01 48 54.0**	**-2.6**
	0.0nm,0.3s,baz=168,slow=11,SNR=6.1						
SONM	**Songino Array**	**19.93**	**37**	P	**Pn**	**01 49 11.1**	**+2.0**
	1.5nm,0.8s,baz=228,slow=13,SNR=9.5						
ZALV	**Zalesovo Beam**	**20.98**	**354**	P	**P**	**01 49 21.3**	**+2.9**
	1.9nm,0.9s,baz=172,slow=12,SNR=7.4						
TLY	**Talaya**	**21.55**	**26**	LR	LR	01 58 19.6	
	comp=Z,31nm,19.9s,baz=224,slow=38						
GEYT	**Alibeck**	**25.17**	**290**	LR	LR	02 01 30.3	
	comp=Z,49nm,19.2s,baz=230,slow=40						
BRTR	**Keskin Array B**	**44.09**	**295**	P	**P**	**01 52 44.8**	**+1.5**
	0.3nm,0.7s,baz=98,slow=8.7,SNR=2.0						
FINES	**FINESS Array B**	**48.44**	**325**	P	**P**	**01 53 19.3**	**+2.3**
	0.6nm,0.6s,baz=112,slow=9.1,SNR=4.0						
NOA	**NORSAR Array B**	**55.62**	**325**	P	**P**	**01 54 11.0**	**+0.5**
	1.4nm,0.7s,baz=83,slow=7.3,SNR=7.5						
GERES	**GERESS Array B**	**56.41**	**310**	P	**P**	**01 54 15.9**	**-0.5**
	0.4nm,0.5s,baz=62,slow=6.8,SNR=2.3						
WRA	**Warramunga Arr**	**68.53**	**134**	P	**P**	**01 55 37.1**	**-0.5**
	0.8nm,0.9s,baz=326,slow=6.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**80.34**	**279**	P	**P**	**01 56 47.1**	**+0.7**
	0.4nm,0.6s,baz=55,slow=5.5,SNR=4.4						
CPUP	**Villa Florida**	**149.70**	**274**	PKPbc	**PKiKP**	**02 04 26.1**	**+0.3**
	0.7nm,0.5s,baz=90,slow=6.1,SNR=2.0						

*IDC **22** 02:08:50.1±0.7, 33°.49N×141°.12E, h0km, mb3.8/10,*
mb1 3.9/13, mb1mx3.8/51, mbtmp3.8/13, ML3.7/3, MS2.9/2,
Ms1 2.9/2, ms1mx2.5/38, Error ellipse: s-maj=17.9km
s-min=16.2km az=105.0
*NEIC **22** 02:08:56.9±1.4, 33°.41N±0°.08×141°.04E±0°.08, h41km±6km,*
mb4.5/24, Error ellipse: s-maj=13.6km s-min=6.0km
az=142.0
*JMA **22** 02:08:56.8±0.1, 33°.49N×140°.95E, h58km±4km, M3.9*
*NIED **22** 02:08:56.8, 33°.50N×140°.95E, h58km, MW4.1, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^15Nm;
Mrr0.93; Mθθ0.39; Mϕϕ -1.32; Mrθ -0.72; Mθϕ -0.35; Mϕr0.42;
Fault plane solution: M0 1.48000×10^15 NP1:
ϕs340.00000°, δ62.00000°, λ49.00000°. NP2:
ϕs221.00000°, δ48.00000°, λ141.00000°.
ISC 22 02:08:54.9±1.7, **33°.42N**±0°.04×**141°.10E**±0°.06, **h30**km±12km,
n88, σ1s22/95, mb4.2/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.12**	**255**	P	**Pb**	**02 09 15.2**	**-0.4**
JHJ2				S	**Sn**	**02 09 28.3**	**-0.5**
JHJ2	**Mitsune**	**1.12**	**255**	Pn	**Pb**	**02 09 15.4**	**-0.2**
JHJ2				Sn	**Sn**	**02 09 28.8**	**-0.1**
JHJ	**Hachijo jima 2**	**1.14**	**255**	Pn	**Pn**	**02 09 15.2**	**+0.4**
	3μm,0.3s,baz=130,slow=2.7,SNR=105						
JHJ				Sn	**Sn**	**02 09 29.2**	**-0.3**
	3μm,0.3s,baz=62,slow=22,SNR=30						
JHCJ	**Hachijojimakas**	**1.14**	**253**	P	**Pb**	**02 09 15.8**	**-0.3**
JHCJ				S	**Sn**	**02 09 29.0**	**-0.5**
BSO1	**Boso 1**	**1.24**	**355**	P	**Pb**	**02 09 17.2**	**-0.2**
JMKN	**Mikurajimanish**	**1.35**	**291**	P	**Pn**	**02 09 17.7**	**+0.1**
BSO3	**Boso 3**	**1.47**	**341**	P	**Pn**	**02 09 20.1**	**+1.0**
BSO3				*e*S	**Sn**	**02 09 36.9**	**-0.2**
JAOM	**Aogashimamukai**	**1.47**	**230**	P	**Pn**	**02 09 20.6**	**+1.2**
BSO4	**Boso 4**	**1.69**	**338**	P	**Pn**	**02 09 23.5**	**+1.2**
JKO	**Kozu shima**	**1.81**	**296**	P	**Pn**	**02 09 24.4**	**+0.4**
JIM2	**Oshima 3**	**1.90**	**314**	P	**Pn**	**02 09 25.2**	**-0.1**
JIM2				S	**Sn**	**02 09 46.2**	**-2.0**
JIZS	**Izushimoda**	**2.26**	**306**	P	**Pn**	**02 09 30.8**	**+0.6**
JIZS				*e*S	**Sn**	**02 09 55.6**	**-1.4**
JOD2	**Odawara 2**	**2.48**	**318**	P	**Pn**	**02 09 33.6**	**+0.3**
JOD2				*e*S	**Sn**	**02 10 00.2**	**-2.4**
JFNN	**Fujinakano**	**2.67**	**312**	P	**Pn**	**02 09 36.8**	**+0.9**
JFNN				*e*S	**Sn**	**02 10 06.7**	**-0.6**
JSG	**Sagara**	**2.73**	**298**	Pn	**Pn**	**02 09 38.3**	**+1.7**
TK02	**Tokai 2**	**2.84**	**282**	P	**Pn**	**02 09 39.1**	**+1.1**
TK04	**Tokai 4**	**2.85**	**291**	P	**Pn**	**02 09 39.6**	**+1.4**
SHZ3	**Shizuoka 3**	**2.91**	**305**	P	**Pn**	**02 09 40.8**	**+1.6**
JYN	**Shimob**	**2.96**	**315**	P	**Pn**	**02 09 41.1**	**+1.2**
JYN				*e*S	**Sn**	**02 10 14.3**	**-0.2**
JGF	**Kuroka**	**3.78**	**306**	Pn	**Pn**	**02 09 53.2**	**+2.0**
INU	**Inuyama**	**3.89**	**301**	Pn	**Pn**	**02 09 53.8**	**+1.1**
MJAR	**Matsushiro Arr**	**3.92**	**324**	Pn	**Pn**	**02 09 54.8**	**+1.8**
	2.0nm,0.3s,baz=145,slow=12,SNR=51						
MJAR				Sn	**Sn**	**02 10 37.5**	**-0.6**
	1.6nm,0.3s,baz=142,slow=26,SNR=3.3						
MJAR				LR	LR	02 11 13.4	
	comp=Z,35nm,21.9s,baz=355,slow=37						
MJAR	**Matsushiro Arr**	**3.92**	**324**	Pn	**Pn**	**02 09 54.2**	**+1.2**
MAJO	**Matsushiro**	**3.92**	**324**	Pn	**Pn**	**02 09 54.9**	**+1.8**
MAT	**Matsushiro**	**3.92**	**324**	P	**Pn**	**02 09 54.6**	**+1.5**
MAT				S	**Sn**	**02 10 37.0**	**-1.1**
MJB9	**Matsu-Tunnel**	**3.92**	**324**	Pn	**Pn**	**02 09 54.9**	**+1.7**
JMM	**Marumori**	**4.45**	**357**	Pn	**Pn**	**02 10 00.8**	**+0.5**
JWT	**Wachi**	**5.07**	**293**	Pn	**Pn**	**02 10 09.9**	**+1.0**
JSD	**Sado**	**5.16**	**334**	Pn	**Pn**	**02 10 10.5**	**+0.4**
JCJ	**Chichijima**	**6.37**	**171**	Pn	**Pn**	**02 10 27.9**	**+1.2**
	8.8nm,0.3s,baz=320,slow=19,SNR=1.8						
JCJ				Sn	**Sn**	**02 11 33.1**	**-5.4**
	14nm,0.3s,baz=284,slow=20,SNR=2.1						
JHS	**Saijyo**	**6.80**	**286**	Pn	**Pn**	**02 10 33.9**	**+1.2**
JTU	**Tsushima**	**9.78**	**280**	Pn	**Pn**	**02 11 14.0**	**+0.5**
KSRS	**Korea Array**	**11.48**	**294**	Pn	**Pn**	**02 11 36.8**	**+0.1**
	0.1nm,0.3s,baz=107,slow=13,SNR=1.9						
JOW	**Kunigami**	**12.89**	**243**	LR	LR	02 16 36.9	
	comp=Z,284nm,21.8s,baz=280,slow=36						
KLR	**Kul'dur**	**17.27**	**339**	P	**Pn**	**02 12 51.4**	**-2.3**
	0.2nm,0.3s,baz=71,slow=20,SNR=4.1						
NJ2	**Nanjing**	**18.76**	**272**	*e*P	**Pn**	**02 13 12.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**24.61**	**296**	*e*P	**P**	**02 14 14.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,7.6s						
HHC				L	L		
	comp=N,410nm,11.7s						
HHC				L	L		
	comp=E,2μm,16.6s						
HHC				L	L		
	comp=Z,2μm,16.7s						
H11N2	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	02 43 35.3	
	baz=306,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**26.71**	**114**	T	T	02 43 27.9	
	baz=306,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**26.72**	**114**	T	T	02 43 29.0	
	baz=306,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	**27.29**	**117**	T	T	02 44 13.0	
	baz=308,slow=75,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**27.29**	**117**	T	T	02 44 13.3	
	baz=308,slow=75,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**27.30**	**117**	T	T	02 44 19.8	
	baz=308,slow=75,SNR=3.0						
SONM	**Songino Array**	**29.74**	**309**	P	**P**	**02 14 58.5**	**-0.1**
	0.6nm,0.5s,baz=93,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**29.74**	**309**	P	**P**	**02 14 58.4**	**-0.3**
FAKI	**Fak Fak**	**37.09**	**195**		**P**	**02 16 02.1**	**-0.6**
WMQ	**Urumqi**	**42.34**	**300**	*e*P	**P**	**02 16 48.8**	**+2.6**
ZALV	**Zalesovo Beam**	**44.23**	**315**	P	**P**	**02 17 02.2**	**+1.0**
	0.4nm,0.3s,baz=113,slow=9.6,SNR=2.0						
ZALV				PcP	**PcP**	**02 18 44.2**	**-1.2**
	0.4nm,0.4s,baz=214,slow=4.5,SNR=3.8						
MK31	**Makanchi Array**	**45.90**	**305**	P	**P**	**02 17 16.1**	**+1.5**
MKAR	**Makanchi Array**	**45.90**	**305**	P	**P**	**02 17 14.3**	**-0.4**
	1.2nm,0.7s,baz=89,slow=10,SNR=9.4						
MKAR	**Makanchi Array**	**45.90**	**305**	P	**P**	**02 17 16.7**	**+2.0**
MAKZ	**Makanchi**	**46.12**	**305**	P	**P**	**02 17 17.0**	**+0.6**
MTN	**Manton Dam**	**46.97**	**193**	P	**P**	**02 17 23.0**	**-0.3**
MTN				IAmb	IAmb	02 17 27.8	
	comp=Z,24nm,1.2s						
KNRA	**Kununurra**	**50.22**	**196**	P	**P**	**02 17 48.4**	**+0.3**
IL31		**52.70**	**31**	P	**P**	**02 18 08.2**	**+1.9**
ILAR	**Eielson Array**	**52.70**	**31**	P	**P**	**02 18 06.7**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=252,slow=5.8,SNR=4.4						
ILAR	**Eielson Array**	**52.70**	**31**	P	**P**	**02 18 06.8**	**+0.5**
WB0	**Warramunga Arr**	**53.27**	**188**	P	**P**	**02 18 10.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.31**	**198**	P	**P**	**02 18 11.7**	**+0.5**
FITZ				IAmb	IAmb	02 18 15.7	
	comp=Z,7.6nm,1.4s						
WRAB	**Tennant Creek**	**53.44**	**188**	P	**P**	**02 18 12.0**	**-0.2**
WRAB				IAmb	IAmb	02 18 12.6	
	comp=Z,12nm,0.6s						
WR0	**Warramunga Arr**	**53.44**	**188**	P	**P**	**02 18 11.8**	**-0.4**
WB2	**Warramunga Arr**	**53.45**	**188**	P	**P**	**02 18 12.0**	**-0.2**
WB2				IAmb	IAmb	02 18 12.7	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**53.45**	**188**	P	**P**	**02 18 11.9**	**-0.3**
	comp=Z,16nm,0.6s,baz=5.0,slow=7.5,SNR=240						
WRA	**Warramunga Arr**	**53.45**	**188**	P	**P**	**02 18 10.9**	**-1.3**
AS31	**Alice Springs**	**57.17**	**188**	P	**P**	**02 18 38.7**	**-0.4**
AS31				IAmb	IAmb	02 18 40.1	
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**57.18**	**188**	P	**P**	**02 18 39.0**	**-0.1**
	comp=Z,3.4nm,0.4s,baz=4.0,slow=6.7,SNR=83						
ASAR	**Alice Springs**	**57.18**	**188**	P	**P**	**02 18 38.7**	**-0.4**
PSA00	**Pilbara Seismi**	**58.32**	**203**	P	**P**	**02 18 46.5**	**-0.6**
PSA00				IAmb	IAmb	02 18 48.4	
	comp=Z,3.4nm,1.0s						
ABKAR	**Akbulak array**	**60.11**	**312**	P	**P**	**02 18 58.9**	**-0.4**
ABKAR				IAmb	IAmb	02 19 15.7	
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**64.94**	**180**	P	**P**	**02 19 32.1**	**+0.6**
STKA				IAmb	IAmb	02 19 33.3	
	comp=Z,2.5nm,1.4s						
FORT	**Forrest**	**65.03**	**192**	P	**P**	**02 19 32.4**	**+0.3**
NWAO	**Narrogin (SRO)**	**69.71**	**201**	P	**P**	**02 20 01.4**	**-0.4**
FINES	**FINESS Array B**	**71.90**	**333**	P	**P**	**02 20 13.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=86,slow=7.1,SNR=1.5						
SUMG	**Summit**	**74.30**	**360**	P	**P**	**02 20 30.5**	**+1.1**
SUMG				IAmb	IAmb	02 20 31.2	
	comp=Z,2.4nm,0.8s						
SCO	**Scoresbysund**	**75.68**	**354**	P	**P**	**02 20 38.2**	**+1.4**
SCO				IAmb	IAmb	02 20 39.7	
	comp=Z,6.1nm,1.0s						
AKASG	**Malin Array Be**	**77.01**	**323**	P	**P**	**02 20 43.2**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=50,slow=5.7,SNR=7.4						
AKASG	**Malin Array Be**	**77.01**	**323**	P	**P**	**02 20 44.9**	**+0.2**
AKBB	**Malin Array Si**	**77.01**	**323**	P	**P**	**02 20 47.0**	**+2.3**
AKBB				IAmb	IAmb	02 20 55.4	
	comp=Z,1.7nm,0.7s						
NVAR	**Mina Array Bea**	**77.38**	**52**	P	**P**	**02 20 47.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.1,SNR=5.2						
NVAR	**Mina Array Bea**	**77.38**	**52**	P	**P**	**02 20 48.9**	**+1.6**
NOA	**NORSAR Array B**	**77.42**	**338**	P	**P**	**02 20 45.3**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.5,SNR=3.6						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**02 21 06.9**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=97,slow=3.4,SNR=3.6						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**02 21 07.9**	**+0.6**
BORG	**Borgarnes**	**81.19**	**352**	P	**P**	**02 21 06.2**	**-1.2**
BORG				IAmb	IAmb	02 21 24.0	
	comp=Z,6.6nm,1.0s						
BOSA	**Boshof**	**125.57**	**257**	PKP	**PKPdf**	**02 27 53.5**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=273,slow=19,SNR=1.3						
BOSA	**Boshof**	**125.57**	**257**		**PKPdf**	**02 27 52.8**	**-0.8**
LPAZ	**La Paz**	**148.62**	**64**	PKPbc	**PKPbc**	**02 28 40.7**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=335,slow=4.5,SNR=9.5						
LPAZ	**La Paz**	**148.62**	**64**		**PKiKP**	**02 28 41.1**	**-0.7**

*BJI **22** 02:17:52.3±0.0, 38°.70N×142°.37E, h48km, mB5.0/49,*
mb5.0/76, Ms4.6/68, Ms7 4.4/65
*JMA **22** 02:17:53.9±0.1, 38°.74N×142°.33E, h38km±2km, M5.0*
JMA Felt II J1.
*NIED **22** 02:17:54.0, 38°.74N×142°.33E, h38km, MW5.0, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^16Nm;
Mrr1.75; Mθθ-0.04; Mϕϕ -1.71; Mrθ1.53; Mθϕ -0.77; Mϕr2.04;
Fault plane solution: M0 3.17000×10^16 NP1:ϕs34.00000°,
δ72.00000°, λ99.00000°. NP2:ϕs186.00000°, δ20.00000°,
λ64.00000°.
*MOS **22** 02:17:53.2±1.1, 38°.81N×142°.29E, h39km, mb5.3/61,*
MS4.8/18 Error ellipse: s-maj=5.8km s-min=3.9km
az=111.3
*NEIC **22** 02:17:55.8, 38°.76N×142°.24E, h38km, Moment Tensor*
Solution. Moment tensor: Scale 10^16Nm; Mrr0.93;
Mθθ-0.04; Mϕϕ -0.89; Mrθ0.57; Mθϕ -0.21; Mϕr1.12; Fault
plane solution: M0 1.56000×10^16 NP1:ϕs183.08000°,
δ19.29000°, λ70.11000°. NP2:ϕs24.06000°, δ71.90000°,
λ96.79000°. Principal axes: T 1.5712, Plg63.0000°,
Azm304.0000°; N -0.0212, Plg6.0000°, Azm202.0000°; P
-1.5500, Plg27.0000°, Azm109.0000°;
*NEIC **22** 02:17:55.2±2.5, 38°.79N±0°.06×142°.26E±0°.09, h36km±5km,*
mb5.0/194, Mwr4.7/24 Error ellipse: s-maj=10.4km
s-min=6.9km az=122.0
*IDC **22** 02:17:56.3±1.7, 38°.73N×142°.26E, h53km±15km, mb4.3/32,*
mb1 4.5/40, mb1mx4.4/52, mbtmp4.6/40, ML4.1/7, MS4.1/34,
Ms1 4.1/34, ms1mx4.1/40, Error ellipse: s-maj=12.8km
s-min=9.4km az=121.0
*GCMT **22** 02:17:56.2±0.2, 38°.83N±0°.02×142°.38E±0°.03, h40km±1km,*
MW5.0/106, Moment Tensor Solution. s62, c79;
s106, c153; Duration: 0 Moment tensor: Scale 10^16Nm;
Mrr2.94±.15; Mθθ-0.51±.10; Mϕϕ -2.43±.11; Mrθ1.78±.10;
Mθϕ-1.08±.08; Mϕr2.36±.10; Best double couple:
*Mo4.16000×10^16 NP1:ϕs196.00000°, δ23

GRPR eS Sn 02 20 19.0 -5.5
GRPR pmax pmax
comp=Z,208nm,0.2s
GRPR pmax pmax
comp=N,73nm,0.1s
GRPR MLR MLR
comp=N,2μm,10.0s
GRPR MLR MLR
comp=Z,2μm,10.0s
YUK Yuzh-Kuril'sk 5.93 25 eP Pn 02 19 17.9 -1.6
YUK eS Sn 02 20 20.1 -6.0
YUK pmax pmax
comp=N,83nm,0.2s
YUK pmax pmax
comp=Z,250nm,0.2s
YUK pmax pmax
comp=E,111nm,0.4s
YUK smax smax
comp=N,2μm,1.5s
YUK smax smax
comp=E,2μm,1.1s
YUK MLR MLR
comp=Z,329nm,10.0s
JHJ2 Mitsune 5.96 201 Pn Pn 02 19 19.9 -0.2
JHJ Hachijo jima 2 5.97 201 P Pn 02 19 20.1 -0.1
comp=Z,56nm,0.3s,baz=51,slow=21,SNR=3.0
JHJ S Sn 02 20 23.2 -4.0
comp=Z,111nm,0.3s,baz=277,slow=23,SNR=4.1
KUR Kuril'sk 7.69 31 eP Pn 02 19 42.5 -1.2
KUR eS Sn 02 21 02.9 -6.6
KUR pmax pmax
comp=Z,79nm,0.8s
KUR pmax pmax
comp=E,49nm,0.3s
KUR pmax pmax
comp=N,25nm,0.5s
KUR pmax pmax
comp=Z,185nm,1.2s
KUR smax smax
comp=E,381nm,1.0s
KUR MLR MLR
comp=E,1μm,16.0s
KUR MLR MLR
comp=Z,795nm,16.0s
KUR MLR MLR
comp=N,740nm,19.0s
YSS Yuzh-Sakhalins 8.23 2 *α*eP Pn 02 19 52.2 +1.1
YSS eS Sn 02 21 22.8 +0.1
YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=Z,200nm,3.2s
YSS MLR MLR
comp=N,900nm,20.0s
YSS MLR MLR
comp=Z,1μm,20.0s
YSS MLR MLR
comp=E,600nm,19.0s
YSS Yuzh-Sakhalins 8.23 2 Pn Pn 02 19 52.3 +1.3
JHS Saijyo 8.28 246 Pn Pn 02 19 54.7 +2.8
JMN Monobe 8.46 236 Pn Pn 02 19 56.0 +1.6
VLA Vladivostok 9.05 302 *i* P Pn 02 20 02.6 +0.3
VLA pmax pmax
comp=Z,277nm,1.1s
MSHR Mys Shultsa 9.33 298 *ce*P Pn 02 20 07.3 +1.1
MSHR pmax pmax
comp=Z,103nm,0.8s
USA0B Ussuriysk Arra 9.50 308 P Pn 02 20 11.0 +2.5
USA0B Ussuriysk Arra 9.50 308 Pn Pn 02 20 11.0 +2.5
USRK Ussuriysk Ar. 9.50 308 P Pn 02 20 11.3 +2.8
baz=110,slow=15,SNR=68
USRK LR LR 02 23 39.5
comp=Z,3μm,19.2s,baz=110,slow=36
USRK Ussuriysk Ar. 9.50 308 Pn Pn 02 20 10.6 +2.1
UJN ULJIN 10.37 264 P Pn 02 20 26.5 +6.0
SNR=5.5
UJN ULJIN 10.37 264 P Pn 02 20 26.5 +6.0
SNR=5.5
UJN ULJIN 10.37 264 P Pn 02 20 26.5 +6.0
SNR=5.5
KSULJ Uljin 10.45 263 P Pn 02 20 27.0 +5.5
SNR=9.9
KSULJ Uljin 10.45 263 P Pn 02 20 27.0 +5.5
SNR=9.9
KSULJ Uljin 10.45 263 P Pn 02 20 27.0 +5.5
SNR=9.9
OKEB Okgye-meyeon 10.58 268 P Pn 02 20 28.0 +4.6
SNR=6.2
OKEB Okgye-meyeon 10.58 268 P Pn 02 20 28.0 +4.6
SNR=6.2
OKEB Okgye-meyeon 10.58 268 P Pn 02 20 28.0 +4.6
SNR=6.2
KSTBA Taebaek 10.70 266 P Pn 02 20 29.3 +4.3
SNR=18
KSTBA Taebaek 10.70 266 P Pn 02 20 31.8 +6.7
SNR=7.9
KSTBA Taebaek 10.70 266 P Pn 02 20 29.3 +4.3
SNR=18
KSTBA Taebaek 10.70 266 P Pn 02 20 31.8 +6.7
SNR=7.9
KSTBA Taebaek 10.70 266 P Pn 02 20 29.3 +4.3
SNR=18
KSJMJ Jumunjin 10.71 270 P Pn 02 20 30.8 +5.7
SNR=6.8
KSJMJ Jumunjin 10.71 270 P Pn 02 20 30.8 +5.7
SNR=6.8
KSJMJ Jumunjin 10.71 270 P Pn 02 20 30.8 +5.7
SNR=6.8
KSDGY Daegwallycong 10.81 269 P Pn 02 20 33.0 +6.4
SNR=5.6
KSDGY Daegwallycong 10.81 269 P Pn 02 20 33.0 +6.4
SNR=5.6
KSSKC Sokcho 10.84 272 P Pn 02 20 32.2 +5.3
SNR=7.5
KSSKC Sokcho 10.84 272 P Pn 02 20 32.2 +5.3
SNR=7.5
KSSKC Sokcho 10.84 272 P Pn 02 20 32.2 +5.3
SNR=7.5
JNU Nakatsue 10.84 242 P Pn 02 20 29.0 +2.0
comp=Z,2.5nm,0.3s,baz=65,slow=3.1,SNR=19
JNU Nakatsue 10.84 242 Pn Pn 02 20 28.8 +1.7
KSADO Andong 10.88 262 P Pn 02 20 33.0 +5.5
SNR=9.4
KSADO Andong 10.88 262 P Pn 02 20 33.0 +5.5
SNR=9.4
KSADO Andong 10.88 262 P Pn 02 20 33.0 +5.5
SNR=9.4
KSYOC YEONGCHEON 11.01 260 P Pn 02 20 37.9 +8.7
SNR=5.4
KSYOC YEONGCHEON 11.01 260 P Pn 02 20 37.9 +8.7
SNR=5.4
SEHB SEOHWA 11.05 272 P Pn 02 20 33.9 +4.1
SNR=6.2
SEHB SEOHWA 11.05 272 P Pn 02 20 33.9 +4.1
SNR=6.2
SEHB SEOHWA 11.05 272 P Pn 02 20 33.9 +4.1
SNR=6.2
KSYOW Yeongwol 11.08 266 P Pn 02 20 34.7 +4.5
SNR=16
KSYOW Yeongwol 11.08 266 P Pn 02 20 34.7 +4.5
SNR=16
KSYOW Yeongwol 11.08 266 P Pn 02 20 34.7 +4.5
SNR=16
KSEUS ULSEONG 11.10 262 P Pn 02 20 36.2 +5.8
SNR=11
KSEUS ULSEONG 11.10 262 P Pn 02 20 39.0 +8.5
SNR=5.6
KSEUS ULSEONG 11.10 262 P Pn 02 20 36.2 +5.8
SNR=11
KSEUS ULSEONG 11.10 262 P Pn 02 20 39.0 +8.5
SNR=5.6
KSEUS ULSEONG 11.10 262 P Pn 02 20 36.2 +5.8
SNR=11
KSDAG Daegu 11.12 259 P Pn 02 20 37.0 +6.3
SNR=6.6
KSDAG Daegu 11.12 259 P Pn 02 20 37.0 +6.3
SNR=6.6
KSDAG Daegu 11.12 259 P Pn 02 20 37.0 +6.3
SNR=6.6
MDJ Mudanjiang 11.20 306 P Pn 02 20 37.5 +5.7
MDJ S Sn 02 22 42.8 +7.2
MDJ pmax pmax
comp=Z,120nm,0.9s
MDJ pmax pmax
comp=Z,390nm,3.7s
MDJ L L
comp=Z,1μm,19.2s
MDJ L L
comp=Z,2μm,15.7s
MDJ L L
comp=Z,3μm,19.9s
MDJ Mudanjiang 11.20 306 Pn Pn 02 20 35.8 +4.0
KSIJA INJE 11.20 271 P Pn 02 20 36.0 +4.1
SNR=15
KSIJA INJE 11.20 271 P Pn 02 20 36.0 +4.1
SNR=15
KSIJA INJE 11.20 271 P Pn 02 20 36.0 +4.1
SNR=15
JTU Tsushima 11.21 252 Pn Pn 02 20 34.0 +2.0
KSWJU Wonju 11.35 268 P Pn 02 20 39.0 +5.2
SNR=21
KSWJU Wonju 11.35 268 P Pn 02 20 40.0 +6.1
SNR=15
KSWJU Wonju 11.35 268 P Pn 02 20 39.0 +5.2
SNR=21
KSWJU Wonju 11.35 268 P Pn 02 20 40.0 +6.1
SNR=15
KSWJU Wonju 11.35 268 P Pn 02 20 39.0 +5.2
SNR=21
KSRS Korea Array 11.44 268 P Pn 02 20 38.2 +3.2
comp=Z,1.6nm,0.3s,baz=82,slow=14,SNR=111
KSRS LR LR 02 24 37.3
comp=Z,2μm,20.6s,baz=80,slow=35
KSCHC Chuncheon 11.47 270 P Pn 02 20 41.0 +5.5
SNR=14
KSCHC Chuncheon 11.47 270 P Pn 02 20 42.0 +6.5
SNR=5.1
KSCHC Chuncheon 11.47 270 P Pn 02 20 41.0 +5.5
SNR=14
KSCHC Chuncheon 11.47 270 P Pn 02 20 42.0 +6.5
SNR=5.1
KSCHC Chuncheon 11.47 270 P Pn 02 20 41.0 +5.5
SNR=14
KSAR Wonju Array Be 11.47 268 P Pn 02 20 38.0 +2.5
KSAR Wonju Array Be 11.47 268 Pn Pn 02 20 38.0 +2.5
KS19 Wonju Array Si 11.47 268 Pn 02 20 38.5 +3.0
KSSAJ Sangju 11.49 263 P Pn 02 20 41.2 +5.3
SNR=7.7
KSSAJ Sangju 11.49 263 P Pn 02 20 41.2 +5.3
SNR=7.7
KSSAJ Sangju 11.49 263 P Pn 02 20 41.2 +5.3
SNR=7.7
KSMGY Mungyeong 11.51 264 P Pn 02 20 43.1 +7.1
SNR=12
KSMGY Mungyeong 11.51 264 P Pn 02 20 43.1 +7.1
SNR=12
KSCHJ Chungju 11.52 265 P Pn 02 20 40.2 +4.0
SNR=15
KSCHJ Chungju 11.52 265 P Pn 02 20 40.1 +4.0
SNR=14
KSCHJ Chungju 11.52 265 P Pn 02 20 44.0 +7.8
SNR=10
KSCHJ Chungju 11.52 265 P Pn 02 20 40.2 +4.0
SNR=15
KSCHJ Chungju 11.52 265 P Pn 02 20 40.1 +4.0
SNR=14
KSCHJ Chungju 11.52 265 P Pn 02 20 44.0 +7.8
SNR=10
KSCHJ Chungju 11.52 265 P Pn 02 20 40.2 +4.0
SNR=15
KSCHJ Chungju 11.52 265 P Pn 02 20 40.1 +4.0
SNR=14
JCJ Chichijima 11.60 181 P Pn 02 20 36.0 -1.3
comp=Z,11nm,0.3s,baz=270,slow=20,SNR=1.4
JCJ S Sn 02 22 36.4 -9.1
comp=Z,9.3nm,0.3s,baz=281,slow=23,SNR=2.3
JCJ LR LR 02 26 13.9
comp=Z,209nm,20.7s,baz=298,slow=43
KSCWO Cheorwon 11.65 271 P Pn 02 20 42.0 +4.0
SNR=7.5
KSCWO Cheorwon 11.65 271 P Pn 02 20 44.8 +6.7
SNR=9.8
KSCWO Cheorwon 11.65 271 P Pn 02 20 42.0 +4.0
SNR=7.5
KSCWO Cheorwon 11.65 271 P Pn 02 20 44.8 +6.7
SNR=9.8
KSCWO Cheorwon 11.65 271 P Pn 02 20 42.0 +4.0
SNR=7.5
KSCPR CHUPUNGNYEONG1 1.69 262 P Pn 02 20 43.4 +4.8
SNR=9.5
KSCPR CHUPUNGNYEONG1 1.69 262 P Pn 02 20 46.7 +8.1
SNR=11
KSCPR CHUPUNGNYEONG1 1.69 262 P Pn 02 20 43.4 +4.8
SNR=9.5
KSCPR CHUPUNGNYEONG1 1.69 262 P Pn 02 20 46.7 +8.1
SNR=11
KSCPR CHUPUNGNYEONG1 1.69 262 P Pn 02 20 43.4 +4.8
SNR=9.5
KSBON Boeun 11.75 264 P Pn 02 20 44.2 +4.9
SNR=12
KSBON Boeun 11.75 264 P Pn 02 20 44.2 +4.9
SNR=12
KSBON Boeun 11.75 264 P Pn 02 20 44.2 +4.9
SNR=12
OKCB Cheongsan-myeo 11.79 263 P Pn 02 20 45.0 +5.1
SNR=5.9
OKCB Cheongsan-myeo 11.79 263 P Pn 02 20 45.0 +5.1
SNR=5.9
OKCB Cheongsan-myeo 11.79 263 P Pn 02 20 45.0 +5.1
SNR=5.9
KSICN Icheon 11.86 268 P Pn 02 20 47.3 +6.4
SNR=9.0
HAMB Hamyang 12.09 259 P Pn 02 20 50.0 +6.0
SNR=13
HAMB Hamyang 12.09 259 P Pn 02 20 50.0 +6.0
SNR=13
HAMB Hamyang 12.09 259 P Pn 02 20 50.0 +6.0
SNR=13
KSCEA Cheonan 12.09 266 P Pn 02 20 47.9 +3.9
SNR=11
KSCEA Cheonan 12.09 266 P Pn 02 20 47.9 +3.9
SNR=11
JSU Suzuyama 12.10 237 Pn Pn 02 20 46.2 +2.0
TJN Taejon 12.12 263 *ce*P Pn 02 20 45.4 +1.0
YNCB YEONCHEON 12.12 272 P Pn 02 20 49.1 +4.7
SNR=9.9
YNCB YEONCHEON 12.12 272 P Pn 02 20 49.1 +4.7
SNR=9.9
YNCB YEONCHEON 12.12 272 P Pn 02 20 49.1 +4.7
SNR=9.9
TYV Tymovskoe 12.14 1 eP Pn 02 20 43.9 -0.6
TYV eS Sn 02 22 59.1 +0.7
TYV pmax pmax
comp=Z,100nm,4.2s
TYV pmax pmax
comp=Z,8.0nm,1.1s
TYV smax smax
comp=E,200nm,5.7s
TYV smax smax
comp=N,11nm,1.0s
TYV MLR MLR
comp=Z,2μm,20.0s
KSSEO Seoul 12.22 269 P P 02 20 53.0 -4.4
SNR=5.8
KSSEO Seoul 12.22 269 P P 02 20 51.7 -5.7
SNR=5.8
KSSEO Seoul 12.22 269 P P 02 20 53.0 -4.4
SNR=5.8
KSSWO Suwon 12.22 268 P Pn 02 20 50.1 +4.4
SNR=11
KSSWO Suwon 12.22 268 P Pn 02 20 50.1 +4.4
SNR=11
KOJ2 Gongju-si 12.27 264 P Pn 02 20 52.0 +5.6
SNR=11
KOJ2 Gongju-si 12.27 264 P Pn 02 20 52.0 +5.6
SNR=11
KOJ2 Gongju-si 12.27 264 P Pn 02 20 52.0 +5.6
SNR=11
KSMUS Musan 12.27 271 P Pn 02 20 51.2 +4.7
SNR=10
KSMUS Musan 12.27 271 P Pn 02 20 51.2 +4.7
SNR=10
KSJEO Jeonju 12.30 262 P P 02 20 53.0 -5.4
SNR=10
KSJEO Jeonju 12.30 262 P P 02 20 53.0 -5.4
SNR=10
KSJEO Jeonju 12.30 262 P P 02 20 53.0 -5.4
SNR=10
NAWB Namwon 12.38 259 P P 02 20 54.0 -5.3
SNR=11
NAWB Namwon 12.38 259 P P 02 20 54.0 -5.3
SNR=11
NAWB Namwon 12.38 259 P P 02 20 54.0 -5.3
SNR=11
HAWB Hwaseong-si 12.41 267 P Pn 02 20 53.0 +4.7
SNR=12
HAWB Hwaseong-si 12.41 267 P P 02 20 55.0 -4.6
SNR=7.5
HAWB Hwaseong-si 12.41 267 P Pn 02 20 53.0 +4.7
SNR=12
HAWB Hwaseong-si 12.41 267 P P 02 20 55.0 -4.6
SNR=7.5
HAWB Hwaseong-si 12.41 267 P Pn 02 20 53.0 +4.7
SNR=12
INCN Inchon 12.44 269 P Pn 02 20 51.3 +2.5
INCN Inchon 12.44 269 Pn Pn 02 20 51.3 +2.5
KSSES Seosan 12.73 266 P P 02 20 59.0 -4.1
SNR=6.5
KSSES Seosan 12.73 266 P P 02 20 59.0 -4.1
SNR=6.5
KSDEI Deokjeokdo 12.90 269 P P 02 20 60.0 -5.0
SNR=9.2
KSDEI Deokjeokdo 12.90 269 P P 02 20 60.0 -5.0
SNR=9.2
KLR Kul'dur 12.96 328 P Pn 02 20 56.1 +0.2
comp=Z,0.7nm,0.3s,baz=133,slow=11,SNR=25
KLR LR LR 02 25 51.9
comp=Z,2μm,19.5s,baz=142,slow=37
GOCB Gochang-gun 13.02 260 P P 02 21 02.0 -4.4
SNR=12
GOCB Gochang-gun 13.02 260 P P 02 21 02.0 -4.4
SNR=12
KSGBI Gyogryolbido 13.46 266 P P 02 21 07.0 -4.2
SNR=8.9
KSGBI Gyogryolbido 13.46 266 P P 02 21 09.1 -2.2
SNR=6.6
KSGBI Gyogryolbido 13.46 266 P P 02 21 07.0 -4.2
SNR=8.9
CN2 Changchun 13.68 297 *ce*P P 02 21 10.3 -3.3
CN2 eS Sn 02 23 40.6 +4.5
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,300nm,8.0s
CN2 L L
comp=Z,700nm,14.0s
CN2 L L
comp=Z,1μm,14.0s
CN2 L L
comp=Z,1μm,17.0s
DL2 Dalian 16.15 277 P Pn 02 21 38.4 +0.1
DL2 S Sn 02 24 39.1 +2.8
DL2 pmax pmax
comp=Z,100nm,1.0s
DL2 pmax pmax
comp=Z,440nm,10.4s
DL2 L L
comp=Z,610nm,15.4s
DL2 L L
comp=Z,1μm,14.6s
DL2 L L
comp=Z,2μm,18.7s
PETK Petropavlovsk- 17.86 31 P P 02 22 00.3 +0.5
comp=Z,0.4nm,0.3s,baz=179,slow=10,SNR=2.7
PETK LR LR 02 29 27.1
comp=Z,454nm,18.9s,baz=218,slow=39
PETK Petropavlovsk- 17.86 31 P P 02 22 02.7 +2.8
PETK Petropavlovsk- 17.86 31 Pn P 02 22 02.7 +2.8
PET Petropavlovsk 18.20 33 *ep*P Pn 02 22 05.7 +2.1
PET eS S 02 25 28.6 -1.0
PET pmax pmax
comp=Z,400nm,4.1s
PET pmax pmax
comp=Z,200nm,4.4s
PET pmax pmax
comp=Z,25nm,1.1s
PET MLR MLR
comp=Z,600nm,15.0s
PET MLR MLR
comp=Z,700nm,15.0s
PET Petropavlovsk 18.20 33 P Pn 02 22 04.6 +0.9
ZEA Zeya 18.23 330 eP P 02 22 01.7 -2.2
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.9s
ZEA pmax pmax
comp=Z,90nm,0.9s
ZEA MLR MLR
comp=E,600nm,16.0s
ZEA MLR MLR
comp=N,700nm,19.0s
ZEA MLR MLR
comp=Z,800nm,17.0s
SSE Sheshan 18.92 253 P Pn 02 22 12.8 +0.2
SSE S Sn 02 25 41.4 -2.1
SSE pmax pmax
comp=Z,76nm,0.9s
SSE pmax pmax
comp=Z,150nm,5.0s
SSE L L
comp=Z,250nm,14.7s
SSE L L
comp=Z,290nm,16.3s
HIA Hailar 19.30 310 P P 02 22 13.4 -2.4
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 19.30 310 P P 02 22 13.3 -2.4
TIA Tai'an 20.16 271 P P 02 22 23.4 -1.8
TIA S S 02 26 07.3 -2.0
TIA pmax pmax
comp=Z,28nm,0.9s
TIA pmax pmax
comp=Z,95nm,3.5s
TIA L L
comp=Z,450nm,17.4s
TIA L L
comp=Z,440nm,24.8s
TIA L L
comp=Z,700nm,23.7s
NJ2 Nanjing 20.25 258 ⇓P Pn 02 22 27.8 -0.5
NJ2 pP pP 02 22 35.8 -0.2
NJ2 sP sP 02 22 39.9 -1.1
NJ2 S S 02 26 09.6 -1.5
NJ2 pmax pmax
comp=Z,42nm,0.8s
NJ2 L L
comp=Z,380nm,11.4s
NJ2 L L
comp=Z,1μm,15.2s
NJ2 L L
comp=Z,1μm,16.6s
BJI Beijing 20.25 282 P P 02 22 24.4 -1.7
BJI S S 02 26 00.8 -10
BJI pmax pmax
comp=Z,30nm,1.1s
BJI L L
comp=Z,190nm,14.0s
BJI L L
comp=Z,700nm,14.5s
BJI L L
comp=Z,740nm,14.6s
BJT Baijiatuan 20.26 282 P P 02 22 24.1 -2.1
BJT pmax pmax
comp=Z,27nm,0.9s
BJT Baijiatuan 20.26 282 P P 02 22 24.1 -2.1
MA2 Magadan 21.55 12 P P 02 22 40.6 +0.6
comp=Z,35nm,1.0s,baz=197,slow=10.0,SNR=22
MA2 LR LR 02 31 27.6
comp=Z,195nm,20.0s,baz=192,slow=38
MA2 Magadan 21.55 12 *ce*P P 02 22 40.8 +0.8
MA2 pmax pmax
comp=Z,68nm,1.3s
MA2 Magadan 21.55 12 P P 02 22 40.0 +0.1
MA2 IAmb IAmb 02 22 41.8
comp=Z,54nm,1.0s
YHNB Yeheng 22.61 238 P P 02 22 49.8 -2.0
YHNB IAmb IAmb 02 22 55.4
comp=Z,42nm,1.1s
NACB Ninganchiao 22.81 237 P P 02 22 51.8 -1.9
NACB IAmb IAmb 02 22 54.4
comp=Z,19nm,0.6s
TIY Taiyuan 23.48 277 *ep*P P 02 23 04.5 +4.1
TIY pP sP 02 23 27.6 +12
TIY S S 02 27 01.5 -10
TIY SS SnSn 02 27 51.1 +1.9
TIY pmax pmax
comp=Z,100nm,4.1s
TIY L L
comp=Z,480nm,14.1s
TIY L L
comp=Z,1μm,18.8s

TIY L L
comp=Z,1μm,16.7s
SSLB Suanglung 23.50 237 P **P** **02 22 59.0 -1.7**
SSLB IAmb IAmb 02 23 04.1
comp=Z,37nm,0.8s
YULB Yu-li 23.55 236 P **P** **02 22 59.6 -1.5**
YULB IAmb IAmb 02 23 02.3
comp=Z,26nm,0.9s
HHC Hu-ho-hao-te 23.69 285 *e*P **P** **02 23 00.8 -1.7**
HHC S **S** **02 27 08.8 -5.9**
HHC sS sS 02 27 24.9 -7.3
HHC pmax pmax
comp=Z,29nm,1.2s
HHC pmax pmax
comp=Z,150nm,5.7s
HHC L L
comp=Z,430nm,12.4s
HHC L L
comp=Z,2μm,16.4s
HHC L L
comp=Z,2μm,16.2s
CIT Chita 24.02 313 *e*P **P** **02 23 03.2 -2.1**
CIT *e* 02 23 22.6
CIT *e* 02 23 41.4
CIT *e* 02 23 55.5
CIT pmax pmax
comp=Z,205nm,1.3s
TPUB Ta-pu 24.05 237 P **P** **02 23 05.1 -0.7**
TPUB IAmb IAmb 02 23 16.4
comp=Z,75nm,1.1s
TWG Pinlang 24.11 235 P **P** **02 23 05.3 -1.0**
TWG IAmb IAmb 02 23 19.5
comp=Z,54nm,0.8s
WHN Wuhan 24.37 259 ⇑P **P** **02 23 07.9 -0.7**
YAK Yakutsk 24.60 346 P **P** **02 23 09.2 -1.2**
comp=Z,24nm,0.4s,baz=349,slow=3.6,SNR=9.2
YAK LR LR 02 32 38.3
comp=Z,166nm,18.3s,baz=266,slow=36
YAK Yakutsk 24.60 346 *e*P **P** **02 23 09.0 -1.4**
YAK *e**PP **pP** **02 23 18.4 -2.7**
YAK *e*PPP PPP 02 23 49.7
YAK *e*S **S** **02 27 29.3 +0.7**
YAK *e**SS **sS** **02 27 43.3 -2.9**
YAK *e*SS **SnSn** **02 28 15.9 -0.2**
YAK *e*SSS SSS 02 28 34.5
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=Z,115nm,1.6s
YAK pmax pmax
comp=N,74nm,1.4s
YAK pmax pmax
comp=E,36nm,1.8s
YAK smax smax
comp=N,243nm,3.3s
YAK smax smax
comp=E,95nm,2.3s
YAK MLR MLR
comp=Z,633nm,17.0s
YAK MLR MLR
comp=N,306nm,14.0s
YAK MLR MLR
comp=E,283nm,18.0s
YAK Yakutsk 24.60 346 P **P** **02 23 08.9 -1.4**
YAK IAmb IAmb 02 23 11.0
comp=Z,70nm,1.0s
KNMB Chin-men Tao 24.77 242 P **P** **02 23 11.5 -0.9**
BTO Baotou 24.88 285 *e*P **P** **02 23 13.1 -0.3**
BTO S **S** **02 27 35.3 +1.5**
BTO pmax pmax
comp=Z,110nm,1.2s
BTO L L
comp=Z,2μm,15.4s
BTO L L
comp=Z,5μm,17.7s
BTO L L
comp=Z,7μm,18.7s
SEY Seymchan 24.99 11 P **P** **02 23 15.8 +1.9**
comp=Z,26nm,0.9s,baz=202,slow=7.4,SNR=28
SEY Seymchan 24.99 11 *i* P **P** **02 23 16.0 +2.0**
BOD Bodaibo 26.52 325 *e*P **P** **02 23 26.7 -1.2**
BOD pmax pmax
comp=Z,54nm,1.6s
ULN Ulaanbaatar 27.06 301 *ce*P **P** **02 23 33.7 +0.6**
ULN pmax pmax
comp=Z,33nm,1.7s
ULN Ulaanbaatar 27.06 301 P **P** **02 23 33.3 +0.2**
ULN Ulaanbaatar 27.06 301 P **P** **02 23 33.4 +0.3**
comp=Z,66nm,1.4s
XAN Xi'an 27.22 271 P **P** **02 23 34.4 -0.1**
XAN pmax pmax
comp=Z,22nm,0.6s
SONM Songino Array 27.50 301 P **P** **02 23 37.7 +0.7**
comp=Z,11nm,0.9s,baz=94,slow=8.0,SNR=33
SONM LR LR 02 34 58.6
comp=Z,769nm,18.6s,baz=114,slow=37
SONM Songino Array 27.50 301 P **P** **02 23 36.9 -0.1**
SONM pmax pmax
comp=Z,27nm,1.3s
SONM Songino Array 27.50 301 P **P** **02 23 36.9 -0.1**
ENH Enshi 28.24 263 P **P** **02 23 43.1 -0.6**
H11N2 WAKE ISLAND Hy 28.44 125 T T 02 54 12.0
baz=317,slow=75,SNR=2347
H11N1 WAKE ISLAND Hy 28.45 125 T T 02 54 12.8
baz=317,slow=75,SNR=3557
H11N3 WAKE ISLAND Hy 28.46 125 T T 02 54 13.3
baz=317,slow=75,SNR=2786
H11S1 WAKE ISLAND Hy 29.22 127 T T 02 55 10.7
baz=318,slow=76,SNR=639
H11S3 WAKE ISLAND Hy 29.22 127 T T 02 55 08.1
baz=318,slow=76,SNR=1113
H11S2 WAKE ISLAND Hy 29.24 127 T T 02 55 09.3
baz=318,slow=76,SNR=625
TLY Talaya 29.82 308 P **P** **02 23 58.2 +0.8**
comp=Z,21nm,0.9s,baz=111,slow=5.5,SNR=27
TLY LR LR 02 36 34.9
comp=Z,1μm,18.3s,baz=107,slow=38
TLY Talaya 29.82 308 *e*P **P** **02 23 58.0 +0.6**
TLY pmax pmax
comp=Z,62nm,0.9s
TLY MLR MLR
comp=Z,3μm,16.0s
TLY Talaya 29.82 308 P **P** **02 23 57.2 -0.2**
TLY IAmb IAmb 02 23 59.0
comp=Z,36nm,1.0s
ZAK Zakamensk 29.84 306 *e*P **P** **02 23 57.5 -0.2**
ZAK pmax pmax
comp=Z,45nm,1.1s
LZH Lanzhou 30.55 277 *e*P **P** **02 24 04.0 -0.2**
LZH pP sP 02 24 18.8 -1.0
LZH sP pP 02 24 23.4 +8.3
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,85nm,4.9s
LZH L L
comp=Z,430nm,14.1s
LZH L L
comp=Z,880nm,15.7s
LZH L L
comp=Z,790nm,14.6s
MOY Mondy 31.44 308 *e*P **P** **02 24 12.2 +0.3**
MOY pmax pmax
comp=Z,43nm,1.8s
BILL Bilibino 32.20 17 *d i*P **P** **02 24 18.4 +0.3**
BILL *i* 02 24 39.1
BILL *i* 02 25 24.8
BILL *i* 02 27 03.8
BILL pmax pmax
comp=Z,17nm,1.0s
BILL MLR MLR
comp=Z,137nm,18.0s
BILL Bilibino 32.20 17 P **P** **02 24 18.2 +0.1**
BILL IAmb IAmb 02 24 19.8
comp=Z,20nm,1.2s
GYA Guiyang 32.26 258 ⇑P **P** **02 24 22.0 +2.7**
GYA sP sP 02 24 35.5 +0.6
GYA pmax pmax
comp=Z,7.0nm,0.8s
CD2 Chengdu 32.44 268 P **P** **02 24 20.3 -0.4**
CD2 S **S** **02 29 32.3 -0.4**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 L L
comp=Z,660nm,15.2s
CD2 L L
comp=Z,840nm,16.7s
CD2 L L
comp=Z,1μm,18.1s
GTA Gaotai 32.80 285 ⇓P **P** **02 24 24.1 +0.1**
GTA pP pP 02 24 33.5 -1.4
GTA sP sP 02 24 38.5 -1.1
GTA PcP **PcP** **02 27 09.6 +1.3**
GTA ScP **ScP** **02 30 50.0 +0.9**
GTA pmax pmax
comp=Z,23nm,1.3s
GTA pmax pmax
comp=Z,74nm,4.7s
GTA L L
comp=Z,430nm,17.1s
GTA L L
comp=Z,1μm,17.5s
GTA L L
comp=Z,2μm,18.2s
TIXI Tiksi 33.71 352 P **P** **02 24 30.9 -0.3**
comp=Z,5.3nm,0.7s,baz=140,slow=11,SNR=5.9
TIXI Tiksi 33.71 352 P **P** **02 24 30.3 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 33.71 352 P **P** **02 24 30.3 -0.9**
QIZ Qiongzhong 34.31 244 P **P** **02 24 36.4 -0.7**
QIZ pmax pmax
comp=Z,71nm,2.5s
QIZ L L
comp=Z,990nm,23.0s
DAV Davao City (W) 34.97 210 P P 02 24 50.7 +8.0
comp=Z,208nm,0.4s
KMI Kunming 35.97 260 ⇓P **P** **02 24 52.0 +0.4**
KMI pP pP 02 25 03.1 +0.6
KMI sP sP 02 25 08.0 +0.7
KMI pmax pmax
comp=Z,24nm,0.9s
KMI L L
comp=Z,530nm,18.9s
KMI L L
comp=Z,490nm,19.0s
KMI L L
comp=Z,650nm,19.9s
NIKH Nikolski High 36.12 51 P **P** **02 24 53.5 +1.2**
SLVN Son La 37.20 253 P **P** **02 25 01.6 -0.3**
SLVN IAmb IAmb 02 25 31.0
comp=Z,34nm,1.7s
SGSI Sangihe 38.09 208 P P 02 25 18.1 +8.7
comp=Z,39nm,0.5s
TNA Tin City 39.02 30 P **P** **02 25 17.5 +0.8**
TNA IAmb IAmb 02 26 22.4
comp=Z,22nm,1.1s
NONG Nongkai 39.76 250 P **P** **02 25 24.7 +1.3**
comp=Z,44nm,1.0s
NONG Nongkai 39.76 250 P **P** **02 25 24.8 +1.3**
comp=Z,44nm,1.0s
DGZ Jazzator, Alta 40.02 304 *c i*P **P** **02 25 26.6 +1.2**
DGZ pmax pmax
comp=Z,55nm,0.7s
CRAI Chiangrai 40.51 255 P **P** **02 25 30.7 +1.1**
comp=Z,19μmcomp=Z,237nm,1.9s
CRAI Chiangrai 40.51 255 P **P** **02 25 30.8 +1.1**
comp=Z,18μmcomp=Z,228nm,1.9s
SWI Sorong 40.70 197 P P 02 25 41.6 +11
comp=Z,16nm,0.4s
WMQ Urumqi 40.76 295 *e*P **P** **02 25 33.3 +1.8**
WMQ pP pP 02 25 44.6 +2.1
WMQ sP sP 02 25 49.8 +2.5
WMQ pmax pmax
comp=Z,79nm,1.3s
WMQ pmax pmax
comp=Z,280nm,4.5s
WMQ L L
comp=Z,600nm,19.1s
WMQ L L
comp=Z,750nm,17.9s
ZAA0 Zalesovo Array 41.34 311 P **P** **02 25 35.6 -0.4**
ZAA0 IAmb IAmb 02 25 37.1
comp=Z,35nm,0.8s
ZALV Zalesovo Beam 41.34 311 P **P** **02 25 36.0 0.0**
comp=Z,31nm,0.8s,baz=86,slow=7.9,SNR=103
ZALV LR LR 02 43 29.7
comp=Z,966nm,18.1s,baz=102,slow=37
ZALV Zalesovo Beam 41.34 311 P **P** **02 25 36.0 0.0**
ZALV Zalesovo Beam 41.34 311 P **P** **02 25 35.7 -0.3**
RDOG Red Dog Mine 41.66 28 P **P** **02 25 40.0 +1.5**
UTTA Uttaradit 41.88 252 P **P** **02 25 42.3 +1.5**
comp=Z,25nm,1.1s
UTTA Uttaradit 41.88 252 P **P** **02 25 42.4 +1.5**
comp=Z,6.1nm,1.1s
CHAI Chaiyaphum 42.00 249 P **P** **02 25 42.1 +0.3**
comp=Z,1μmcomp=Z,39nm,1.0s
CHAI Chaiyaphum 42.00 249 P **P** **02 25 42.1 +0.3**
comp=Z,254nmcomp=Z,9.8nm,1.0s
ZSN Zaisan 42.01 301 *i* P **P** **02 25 42.3 +0.7**
comp=Z,34nm,1.0s,baz=301
ZSN Zaisan 42.01 301 *c i*P **P** **02 25 42.3 +0.7**
ZSN pmax pmax
comp=Z,34nm,1.0s
NRIK Noril'sk 42.05 334 P **P** **02 25 41.4 -0.2**
comp=Z,8.4nm,0.7s,baz=116,slow=7.3,SNR=10
NRIK LR LR 02 44 06.3
comp=Z,1μm,19.7s,baz=110,slow=37
NRIK Noril'sk 42.05 334 *ce*P **P** **02 25 41.2 -0.4**
NRIK pmax pmax
comp=Z,30nm,1.4s
NRIK Noril'sk 42.05 334 P **P** **02 25 41.0 -0.6**
NRIK IAmb IAmb 02 25 42.6
comp=Z,40nm,1.4s
PHIT Phitsanulok 42.33 252 P **P** **02 25 46.7 +2.2**
comp=Z,1μmcomp=Z,34nm,0.9s
PHIT Phitsanulok 42.33 252 P **P** **02 25 46.8 +2.2**
comp=Z,313nmcomp=Z,8.6nm,0.9s
MRSI Marisa 42.42 211 P P 02 25 52.4 +7.2
comp=Z,30nm,0.4s
CMMT Chiang Mai 42.43 255 P **P** **02 25 45.2 -0.1**
comp=Z,21nm,0.8s
CMMT Chiang Mai 42.43 255 P **P** **02 25 45.3 -0.1**
comp=Z,21nm,0.8s
CHTO Chiang Mai 42.43 255 P **P** **02 25 44.8 -0.6**
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 42.43 255 P **P** **02 25 46.5 +1.1**
comp=Z,21nm,0.8s
CHTO Chiang Mai 42.43 255 P **P** **02 25 44.8 -0.6**
CHTO IAmb IAmb 02 25 57.6
comp=Z,13nm,0.7s
CHTO Chiang Mai 42.43 255 P **P** **02 25 45.8 +0.4**
comp=Z,12nm,0.8s
FAKI Fak Fak 42.47 195 P P 02 25 57.0 +11
comp=Z,17nm,1.3s
CM09 Chiang Mai Arr 42.62 254 P P 02 25 53.1 +6.2
comp=Z,11nm,0.7s
CM31 Chiang Mai Arr 42.65 254 P **P** **02 25 46.4 -0.7**
CM31 IAmb IAmb 02 25 59.6
comp=Z,10nm,0.6s
CMAR Chiang Mai Arr 42.65 254 P **P** **02 25 47.7 +0.6**
comp=Z,2.2nm,0.6s,baz=46,slow=5.0,SNR=11
CMAR LR LR 02 43 32.2
comp=Z,112nm,19.1s,baz=84,slow=36
CMAR Chiang Mai Arr 42.65 254 P **P** **02 25 47.4 +0.3**
CM04 Chiang Mai Arr 42.66 254 P **P** **02 25 50.6 +3.4**
comp=Z,11nm,0.8s
CM02 Chiang Mai Arr 42.66 254 P P 02 26 01.3 +14
CM15 Chiang Mai Arr 42.67 254 P P 02 25 59.3 +12
CM05 Chiang Mai Arr 42.68 254 P P 02 25 54.0 +6.6
comp=Z,6.8nm,0.8s
CM13 Chiang Mai Arr 42.70 254 P P 02 25 53.6 +6.1
comp=Z,11nm,0.8s
LSA Lhasa 42.81 274 P **P** **02 25 50.1 +1.2**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 42.81 274 P **P** **02 25 50.1 +1.2**
LSA IAmb IAmb 02 25 51.9
comp=Z,19nm,0.9s
SRAK Srakaew 43.20 246 P **P** **02 25 50.0 -1.6**
comp=Z,5μmcomp=Z,192nm,0.8s
MPSI Mapaga 43.40 214 P P 02 25 59.4 +6.3
comp=Z,9.5nm,1.2s
MHMT Maesarieng 43.58 255 P **P** **02 25 55.6 +1.0**
comp=Z,27nm,0.5s
MHMT Maesarieng 43.58 255 P **P** **02 25 55.6 +1.0**
comp=Z,27nm,0.5s
TTA Tatalina 43.62 36 P **P** **02 25 55.6 +1.1**
TTA pmax pmax
comp=Z,20nm,1.6s
TTA Tatalina 43.62 36 P **P** **02 25 55.6 +1.1**
SVW2 Sparrevohn 43.74 38 P **P** **02 25 57.3 +1.9**
SVW2 IAmb IAmb 02 26 12.0
comp=Z,28nm,1.2s
MK31 Makanchi Array 43.87 301 P **P** **02 25 56.5 -0.2**
MK31 pmax pmax
comp=Z,23nm,1.0s
MK31 Makanchi Array 43.87 301 P **P** **02 25 56.5 -0.2**
MK31 IAmb IAmb 02 26 00.6
comp=Z,23nm,1.0s
MKAR Makanchi Array 43.87 301 P **P** **02 25 56.9 +0.2**
comp=Z,16nm,0.7s,baz=85,slow=9.3,SNR=126
MKAR LR LR 02 44 47.8
comp=Z,393nm,20.9s,baz=68,slow=37
MAKZ Makanchi 44.07 301 P **P** **02 25 57.2 -1.1**
MAKZ pmax pmax
comp=Z,33nm,1.1s
MAKZ Makanchi 44.07 301 P **P** **02 25 57.2 -1.1**
MAKZ IAmb IAmb 02 26 03.0
comp=Z,33nm,1.1s
UTHA Uthaitani 44.08 251 P **P** **02 26 00.2 +1.6**
comp=Z,6.0nm,0.9s
UMPA Umpang Tak 44.10 252 P **P** **02 26 01.9 +3.1**
comp=Z,4μmcomp=Z,54nm,1.2s
UMPA Umpang Tak 44.10 252 P **P** **02 26 02.0 +3.1**
comp=Z,1μmcomp=Z,13nm,1.2s
SHL Shillong 44.18 268 P **P** **02 25 58.7 -0.9**
SHL pmax pmax
comp=Z,29nm,0.9s
SHL Shillong 44.18 268 P **P** **02 25 58.7 -0.9**
SHL IAmb IAmb 02 26 03.3
comp=Z,29nm,0.9s
SEM Semipalatinsk 44.52 306 ⇑*e*P **P** **02 26 00.9 -1.2**
comp=Z,27nm,1.0s,baz=306
SEM Semipalatinsk 44.52 306 *ce*P **P** **02 26 00.9 -1.2**
SEM pmax pmax
comp=Z,27nm,1.0s
A21K Barrow 44.62 24 P **P** **02 26 03.4 +1.2**
A21K IAmb IAmb 02 26 05.3
comp=Z,34nm,1.2s
KDAK Kodiak Island 45.36 43 P **P** **02 26 08.9 +0.6**
comp=Z,8.0nm,1.0s,baz=271,slow=5.5,SNR=7.2
KDAK Kodiak Island 45.36 43 P **P** **02 26 09.3 +1.0**
KDAK pmax pmax
comp=Z,7.0nm,0.9s
KDAK Kodiak Island 45.36 43 P **P** **02 26 09.3 +1.0**
SBUM Sibu 45.38 225 P **P** **02 26 10.0 +1.0**
KURBB Kurchatov Arra 45.56 307 P **P** **02 26 09.7 -0.3**
PHET Kaeng Krachan 45.68 248 P **P** **02 26 13.1 +1.7**
comp=Z,57nm,0.7s
PHET Kaeng Krachan 45.68 248 P **P** **02 26 13.2 +1.8**
comp=Z,15nm,0.7s
BPAW Bear Paw Mtn. 45.91 34 P **P** **02 26 14.5 +1.8**
CNPM China Poot 45.93 41 P **P** **02 26 15.0 +2.1**
MLY Manley 46.03 33 IAmb IAmb 02 26 30.1
comp=Z,40nm,1.6s
SUA Susitna One 46.07 38 P **P** **02 26 16.3 +2.2**
SUA IAmb IAmb 02 26 38.1
comp=Z,18nm,1.1s
BRLK Bradley Lake 46.09 40 P **P** **02 26 15.9 +1.7**
BKB Balikpapan 46.17 217 P **P** **02 26 14.3 -0.9**
RC01 Rabbit Creek A 46.57 38 P **P** **02 26 19.5 +1.6**
RC01 IAmb IAmb 02 26 33.0
comp=Z,28nm,1.2s
BWN Browne 46.58 34 P **P** **02 26 21.5 +3.7**
I23K Minto, Yukon-K 46.61 33 IAmb IAmb 02 26 35.4
comp=Z,30nm,1.4s
TOLK Toolik Lake Re 46.63 28 IAmb IAmb 02 26 35.4
comp=Z,19nm,1.2s
PDGK Podgornoye 46.65 297 P **P** **02 26 18.1 -0.8**
SHLS Shalkode 46.72 297 *e*P **P** **02 26 16.3 -3.2**
baz=296
SHLS Shalkode 46.72 297 *e*P **P** **02 26 16.3 -3.2**
MCK McKinley 46.82 35 P **P** **02 26 21.2 +1.4**
MCK pmax pmax
comp=Z,45nm,1.8s
MCK McKinley 46.82 35 P **P** **02 26 21.2 +1.4**
MCK IAmb IAmb 02 26 35.3
comp=Z,45nm,1.8s
PMR Palmer 46.83 38 IAmb IAmb 02 26 34.9
comp=Z,28nm,1.4s
UZB Uzynbulak 47.03 297 *e*P **P** **02 26 21.4 -0.5**
baz=297
UZB Uzynbulak 47.03 297 *e*P **P** **02 26 21.4 -0.5**
MDM Murphy Dome 47.09 33 P **P** **02 26 23.0 +1.0**
KNK Knik Glacier 47.17 38 P **P** **02 26 23.8 +1.3**
SML Sawmill 47.20 37 P **P** **02 26 24.3 +1.5**
KSM Kuching 47.25 226 P **P** **02 26 25.0 +1.3**
PWL Port Wells 47.27 39 P **P** **02 26 25.3 +1.9**
PWL IAmb IAmb 02 26 38.4
comp=Z,34nm,1.4s
CCB Clear Creek Bu 47.29 33 IAmb IAmb 02 26 41.5
comp=Z,20nm,1.7s
SATY Saty 47.49 297 *e*P **P** **02 26 24.8 -0.7**
baz=297
SATY Saty 47.49 297 *e*P **P** **02 26 24.7 -0.7**
SAUI Saumlaki 47.59 195 P P 02 26 37.4 +11
comp=Z,502nm,1.4s
HDA Harding Lake 47.67 34 IAmb IAmb 02 26 41.4
comp=Z,43nm,1.8s
PRZ Przheval'sk 47.67 296 P **P** **02 26 27.8 +0.8**
PRZ pmax pmax
comp=Z,37nm,1.2s
PRZ Przheval'sk 47.67 296 P **P** **02 26 27.8 +0.8**
SCM Sheep Creek Mo 47.67 37 IAmb IAmb 02 26 44.1
comp=Z,20nm,1.1s
IL31 47.67 33 P **P** **02 26 27.8 +1.4**
ILAR Eielson Array 47.67 33 P **P** **02 26 27.6 +1.1**
comp=Z,2.2nm,0.6s,baz=265,slow=5.8,SNR=24
ILAR LR LR 02 46 09.7
comp=Z,64nm,21.8s,baz=300,slow=36
ILAR Eielson Array 47.67 33 P **P** **02 26 27.0 +0.6**
M24K Tolsona, Glenn 48.19 37 P **P** **02 26 33.9 +3.3**
M24K IAmb IAmb 02 26 49.8
comp=Z,22nm,1.1s
CHKK Chushkaly 48.23 298 *e*P **P** **02 26 30.2 -0.9**
baz=298
CHKK Chushkaly 48.23 298 *e*P **P** **02 26 30.2 -0.9**
KAPI Kappang 48.29 211 P P 02 26 39.4 +7.7
comp=Z,20nm,1.8s
TARG Taragay, Kyrgy 48.33 295 IAmb IAmb 02 26 50.7
comp=Z,12nm,0.7s
KLU Klutina 48.37 38 IAmb IAmb 02 26 49.7
comp=Z,12nm,0.9s
MDOK Medeo 48.40 297 *e*P **P** **02 26 31.6 -1.0**
baz=297
MDOK Medeo 48.40 297 *e*P **P** **02 26 31.5 -1.0**
BMAR Burnt Mountain 48.50 30 P **P** **02 26 35.3 +2.5**
KUU Kurty 48.67 298 *e*P **P** **02 26 33.3 -1.2**
comp=Z,35nm,1.5s,baz=298
KUU Kurty 48.67 298 *e*P **P** **02 26 33.2 -1.2**
KUU pmax pmax
comp=Z,35nm,1.5s
MTBS Maitube 48.84 297 *e*P **P** **02 26 35.0 -0.8**
baz=297
MTBS Maitube 48.84 297 *e*P **P** **02 26 35.0 -0.8**
SKLT Songkhla 48.96 241 P **P** **02 26 39.1 +2.1**
comp=Z,39nm,1.2s
SKLT Songkhla 48.96 241 P **P** **02 26 39.0 +2.1**
SURT Suratani 48.97 244 P P 02 26 42.3 +5.3
comp=Z,1.8nm,1.1s
BRZS Berezniki 49.36 307 *e*P **P** **02 26 38.5 -1.2**
comp=Z,14nm,1.0s,baz=307
BRZS Berezniki 49.36 307 *e*P **P** **02 26 38.4 -1.2**
BRZS pmax pmax
comp=Z,14nm,1.0s
GLB Gilahina Butte 49.39 37 P **P** **02 26 41.0 +1.3**
GLB IAmb IAmb 02 26 57.8
comp=Z,20nm,1.5s
BOOM Boomskoye usch 49.39 297 IAmb IAmb 02 26 41.4
comp=Z,10nm,0.8s
TKM2 Tokmak 2 49.49 297 P **P** **02 26 41.9 +0.9**
SNR=19
TKM2 Tokmak 2 49.49 297 P **P** **02 26 41.0 0.0**
K27K Chicken 49.82 34 IAmb IAmb 02 27 01.0
comp=Z,16nm,1.2s
BTLS Baital 49.88 301 *e*P **P** **02 26 42.8 -0.8**
comp=Z,10nm,1.1s,baz=300
BTLS Baital 49.88 301 *e*P **P** **02 26 42.8 -0.8**
BTLS pmax pmax
comp=Z,10.0nm,1.1s
SGDS Sogindy 49.98 298 *e*P **P** **02 26 43.9 -0.7**
baz=298
SGDS Sogindy 49.98 298 *e*P **P** **02 26 43.8 -0.7**

KBK Karagaybulak 50.03 297 P P 02 26 45.8 +0.8
SNR=14
PKDT Phuket 50.04 244 P P 02 26 46.2 +1.1
PKDT Phuket 50.04 244 P P 02 26 46.0 +0.9
BRVK Borovoye 50.05 311 *ce*P P 02 26 45.0 +0.2
BRVK pmax pmax
comp=Z,30nm,1.3s
BRVK Borovoye 50.05 311 P P 02 26 44.6 -0.2
BRVK IAmb IAmb 02 26 46.1
comp=Z,22nm,0.9s
L27K Beaver Creek, 50.07 35 IAmb IAmb 02 27 05.8
comp=Z,13nm,1.1s
BCAR Beaver Creek A 50.09 35 P P 02 26 46.9 +1.9
USP Ospenovka 50.13 298 P P 02 26 46.0 +0.4
SNR=8.9
AAK Ala-Archa 50.35 297 P P 02 26 47.6 +0.2
AAK Ala-Archa 50.35 297 *ce*P P 02 26 47.9 +0.5
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 50.35 297 P P 02 26 46.7 -0.8
KSH Kashi 50.40 293 P P 02 26 52.0 +4.2
KSH pmax pmax
comp=Z,6.0nm,0.5s
KSH pmax pmax
comp=Z,96nm,2.7s
GRNC Granite Creek 50.49 38 P P 02 26 51.3 +3.0
GRNC IAmb IAmb 02 27 03.5
comp=Z,9.2nm,1.0s
EKS2 Erkin-Say 50.84 298 P P 02 26 51.5 +0.4
SNR=6.7
EDFI Ende, Flores 51.00 207 P P 02 27 00.3 +7.9
comp=Z,14nm,1.4s
AML Almayashu 51.08 297 P P 02 26 54.2 +1.0
SNR=12
AML Almayashu 51.08 297 *i* P P 02 26 54.1 +0.8
SNR=12
SOEI Soe 51.09 203 P P 02 27 01.3 +8.2
comp=Z,36nm,1.2s
ARSB Arslanbob 51.87 296 IAmb IAmb 02 27 16.6
comp=Z,21nm,0.8s
DZA Taraz 52.44 299 *e*P P 02 27 01.9 -1.0
baz=299
DZA Taraz 52.44 299 *e*P P 02 27 01.9 -1.0
HYT Haines Junctio 52.51 37 IAmb IAmb 02 27 25.9
comp=Z,26nm,1.0s
INK Inuvik 52.55 28 P P 02 27 04.3 +1.1
comp=Z,5.1nm,0.9s,baz=289,slow=8.0,SNR=6.7
INK Inuvik 52.55 28 IAmb IAmb 02 27 23.3
comp=Z,12nm,1.2s
TWSI Taliwang, Sumb 52.84 212 P P 02 27 12.9 +6.9
comp=Z,12nm,0.9s
KK31 Karatay Array 52.93 299 *i* P P 02 27 06.2 -0.3
KK31 Karatay Array 52.93 299 IAmb IAmb 02 27 07.7
comp=Z,33nm,1.2s
KKAR Karatay Array 52.93 299 P P 02 27 06.3 -0.2
KKAR Karatay Array 52.93 299 P P 02 27 06.3 -0.2
KKAR Karatay Array 52.93 299 IAmb IAmb 02 27 07.7
comp=Z,33nm,1.2s
KHKI Kahang-Kahang 53.04 214 P P 02 27 14.2 +6.7
comp=Z,52nm,0.9s
MTNI Mataram 53.04 213 P P 02 27 18.9 +11
PSI Prapat 53.29 239 P P 02 27 10.3 +0.7
comp=Z,9.3nm,1.0s
RPSI Rantau Prapat 53.37 239 IAmb IAmb 02 27 11.5
comp=Z,15nm,0.8s
DRK Karamyk 53.40 295 P P 02 27 10.5 +0.1
DRK IAmb IAmb 02 27 20.0
comp=Z,12nm,0.6s
BKNI Bangkinang 53.76 235 P P 02 27 13.7 +0.8
BTK Batken 53.87 296 IAmb IAmb 02 27 14.9
comp=Z,31nm,1.6s
SVE Sverdlovsk 54.38 318 *d* *i* P P 02 27 17.5 +0.7
SVE pmax pmax
comp=Z,55nm,1.1s
SVE MLR MLR
comp=Z,1μm,17.0s
GAR Garm 54.65 295 IAmb IAmb 02 27 24.2
comp=Z,24nm,1.0s
NIL Nilore 54.80 288 P P 02 27 20.1 -0.2
NIL pmax pmax
comp=Z,52nm,0.9s
NIL Nilore 54.80 288 P P 02 27 20.1 -0.2
GSI Gunungsitoli 55.30 239 P P 02 27 24.2 +0.1
GSI Gunungsitoli 55.30 239 P P 02 27 25.4 +1.3
comp=Z,59nm,1.1s
C36M Paulatuk 55.59 25 IAmb IAmb 02 27 45.1
comp=Z,33nm,1.6s
ARU Arti 55.59 318 *c* *i* P P 02 27 25.7 +0.1
ARU *PP pP 02 27 35.8 -1.2
ARU 02 28 24.1
ARU PPP PPP 02 30 45.1
ARU S S 02 35 11.0 +2.7
ARU SS SS 02 38 45.1 -8.0
ARU pmax pmax
comp=Z,53nm,1.3s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 55.59 318 P P 02 27 25.5 -0.1
MDSI Maura Dua 55.62 228 P P 02 27 26.4 +0.1
CBJI Citeko 55.69 224 P P 02 27 31.1 +4.3
comp=Z,15μmcomp=Z,206nm,0.4s
AB31 Akbulak array 57.42 310 *i* P P 02 27 38.5 -0.2
ABKAR Akbulak array 57.42 310 P P 02 27 38.7 -0.1
ABKAR Akbulak array 57.42 310 IAmb IAmb 02 27 39.2
comp=Z,17nm,0.7s
KBL Kabul 57.51 290 P P 02 27 39.7 -0.2
KBL pmax pmax
comp=Z,21nm,1.0s
KBL Kabul 57.51 290 P P 02 27 39.7 -0.2
KBL IAmb IAmb 02 27 47.6
comp=Z,21nm,0.9s
KBL Kabul 57.51 290 P P 02 27 40.0 +0.1
WB0 Warramunga Arr 58.66 189 IAmb IAmb 02 28 02.3
comp=Z,14nm,0.8s
WRAB Tennant Creek 58.83 189 *ce*P P 02 27 49.8 +1.0
WRAB pmax pmax
comp=Z,29nm,1.7s
WRAB Tennant Creek 58.83 189 P P 02 27 49.1 +0.3
WRAB IAmb IAmb 02 28 05.5
comp=Z,20nm,1.0s
WR0 Warramunga Arr 58.83 189 P P 02 27 48.4 -0.4
WR0 IAmb IAmb 02 28 03.5
comp=Z,12nm,0.8s
WB2 Warramunga Arr 58.84 189 IAmb IAmb 02 28 03.6
comp=Z,14nm,0.8s
WRA Warramunga Arr 58.84 189 P P 02 27 48.9 0.0
comp=Z,7.8nm,0.9s,baz=6.2,slow=7.1,SNR=24
WRA LR LR 02 53 08.8
comp=Z,55nm,20.6s,baz=280,slow=36
WRA Warramunga Arr 58.84 189 P P 02 27 48.9 0.0
WRA pP pP 02 28 00.0 -0.3
KBS Kingsbay 59.12 350 *ce*P P 02 27 52.3 +2.1
KBS pmax pmax
comp=Z,24nm,2.5s
KIRV Kirov 59.35 323 *ce*P P 02 27 52.6 +0.6
NOR Nord 59.41 356 *i* P P 02 27 52.6 +0.4
NOR IAmb IAmb 02 27 52.9
comp=Z,7.5nm,1.0s
NOR Nord 59.41 356 *i* P P 02 27 52.6 +0.4
NOR pmax pmax
comp=Z,8.0nm,1.0s
PRGR Permogore 59.75 327 *e*P P 02 27 52.7 -2.0
PRGR pmax pmax
comp=Z,70nm,1.0s
YKA Yellowknife Ar 61.98 31 P P 02 28 10.2 +0.3
comp=Z,2.2nm,0.9s,baz=300,slow=6.9,SNR=3.8
YKA LR LR 02 57 45.2
comp=Z,44nm,18.4s,baz=0.0,slow=38
YKA Yellowknife Ar 61.98 31 *i* P P 02 28 11.0 +1.1
YKA pmax pmax
comp=Z,2.0nm,0.9s
HRA Herat 62.52 293 P P 02 28 13.8 -0.5
HRA IAmb IAmb 02 28 16.0
comp=Z,18nm,1.0s
ASAR Alice Springs 62.57 189 P P 02 28 14.4 +0.2
comp=Z,3.1nm,0.9s,baz=9.7,slow=6.2,SNR=18
ASAR LR LR 02 55 55.7
comp=Z,41nm,21.9s,baz=14,slow=36
ARCES ARCESS Array B 62.67 339 P P 02 28 14.6 +0.2
comp=Z,2.6nm,0.6s,baz=53,slow=8.2,SNR=28
ARCES LR LR 02 59 55.6
comp=Z,187nm,18.1s,baz=10.0,slow=40
ARCES ARCESS Array B 62.67 339 P P 02 28 14.7 +0.2
ARCES pmax pmax
comp=Z,53nm,1.9s
ARCES ARCESS Array B 62.67 339 P P 02 28 14.7 +0.2

KLMR Klimovskoe 62.72 328 *e*P P 02 28 12.4 -2.4
KLMR *e* 02 30 29.3
KLMR pmax pmax
comp=Z,37nm,1.5s
KLMR Klimovskoe 62.72 328 *e*P P 02 28 12.5 -2.4
KLMR AMP 02 28 16.1
comp=Z,37nm,1.5s
KLMR *e*PP PP 02 30 29.4 -3.2
KLMR LR LR 02 54 57.8
GEYT Alibeck 63.67 299 P P 02 28 21.9 +0.3
comp=Z,12nm,0.7s,baz=60,slow=3.6,SNR=22
GEYT LR LR 02 57 55.5
comp=Z,288nm,18.1s,baz=210,slow=38
GEYT Alibeck 63.67 299 P P 02 28 21.7 +0.1
GEYT IAmb IAmb 02 28 22.8
comp=Z,18nm,0.9s
GYA0B ALIBECK ARRAY 63.67 299 IAmb IAmb 02 28 22.8
comp=Z,17nm,0.8s
NEEM North Greenlan 63.80 3⇑ *i* P P 02 28 22.6 +0.4
NEEM IAmb IAmb 02 28 22.9
comp=Z,12nm,1.0s
DAG Danmarks Havn 64.15 355⇑ *i* P P 02 28 24.1 -0.1
DAG IAmb IAmb 02 28 25.0
comp=Z,13nm,1.0s
DAG Danmarks Havn 64.15 355⇑ *i* P P 02 28 24.0 -0.1
DAG pmax pmax
comp=Z,13nm,1.0s
DZM Mont Dzumac 64.56 155 LR LR 02 53 04.7
comp=Z,374nm,21.6s,baz=20,slow=33
DZM Mont Dzumac 64.56 155 *e*LR LR 02 47 49.0
comp=Z,626nm,22.1s
COCO West Island 66.09 230 P P 02 28 26.3 -11
MOS Moscow 66.33 323 *e*P P 02 28 35.7 -2.8
MOS *e* 02 29 06.8
MOS *e* 02 31 01.6
MOS *e*S S 02 37 17.8 -7.3
MOS pmax pmax
comp=Z,62nm,1.4s
MOS MLR MLR
comp=Z,600nm,17.0s
DBG Daneborg 66.65 355 *i* P P 02 28 39.9 -0.4
DBG IAmb IAmb 02 28 40.4
comp=Z,7.9nm,1.3s
B08A Colville Reser 67.13 46 P P 02 28 45.9 +2.1
OBN Obninsk 67.18 323⇑ P P 02 28 44.0 +0.1
OBN Obninsk 67.18 323 *c* *i* P P 02 28 43.8 -0.1
OBN *i* 02 28 55.0
OBN *i* 02 31 11.7
OBN pmax pmax
comp=Z,30nm,1.1s
OBN MLR MLR
comp=Z,442nm,16.0s
OBN Obninsk 67.18 323 P P 02 28 43.3 -0.6
LPSR Galich'ya Gora 67.48 320 *e*P P 02 28 45.8 0.0
LPSR pmax pmax
comp=Z,20nm,0.8s
FIA1 FINESS Array S 67.66 332 P P 02 28 46.4 -0.5
FINES FINESS Array B 67.66 332 P P 02 28 46.9 0.0
comp=Z,18nm,0.9s,baz=53,slow=7.6,SNR=62
FINES LR LR 03 00 22.4
comp=Z,374nm,20.2s,baz=46,slow=38
FINES FINESS Array B 67.66 332 P P 02 28 46.1 -0.7
MAK Makhachkala 68.00 308 *e*P P 02 28 47.4 -1.9
MAK *e*S S 02 37 38.9 -6.6
MAK pmax pmax
comp=Z,30nm,0.5s
MAK MLR MLR
comp=Z,262nm,16.0s
VORD Divnogorie 68.22 318 *e*P P 02 28 50.2 -0.4
VORD pmax pmax
comp=Z,10.0nm,0.8s
AKT Akhty 68.66 306 *e*P P 02 28 53.3 -0.4
AKT *e* 02 29 18.3
AKT *e* 02 31 25.0
AKT pmax pmax
comp=Z,27nm,1.0s
PINE Pine Mountain 68.69 51 P P 02 28 55.4 +1.5
PINE IAmb IAmb 02 29 10.2
comp=Z,8.8nm,1.0s
YBH Yreka Blue Hor 68.73 53 P P 02 28 56.2 +2.1
comp=Z,0.5nm,0.4s,baz=349,slow=21,SNR=3.2
YBH Yreka Blue Hor 68.73 53 P P 02 28 55.2 +1.1
YBH pmax pmax
comp=Z,21nm,2.0s
YBH Yreka Blue Hor 68.73 53 P P 02 28 55.2 +1.1
YBH IAmb IAmb 02 30 01.0
comp=Z,21nm,1.9s
E09A Wood Farm, Sta 68.82 47 IAmb IAmb 02 29 22.0
comp=Z,21nm,1.8s
SUMG Summit 68.99 0⇑ *i* P P 02 28 56.5 +1.0
SUMG IAmb IAmb 02 28 57.5
comp=Z,17nm,1.1s
SUMG Summit 68.99 0⇑ *i* P P 02 28 56.5 +1.0
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 68.99 0 P P 02 28 55.8 +0.3
SUMG IAmb IAmb 02 28 57.8
comp=Z,18nm,1.1s
MEF Metsahovi 69.09 332 *e*P P 02 28 55.9 +0.1
K05A Summer Lake 69.31 51 P P 02 29 00.5 +2.7
K05A IAmb IAmb 02 29 28.4
comp=Z,24nm,1.3s
VSU Vasula 69.37 330 *e*P P 02 28 58.2 +0.7
RAF Rauma 69.49 333 *e*P P 02 28 56.5 -1.7
GOF Gofitskoye 69.52 312⇑ *i* P P 02 28 59.4 +0.7
GOF pmax pmax
comp=Z,71nm,1.0s
STKA Stephens Creek 70.25 181 P P 02 29 02.6 -0.5
comp=Z,1.7nm,0.8s,baz=220,slow=14,SNR=1.1
STKA LR LR 02 59 16.8
comp=Z,68nm,21.9s,baz=20,slow=35
ZEI Tsey 70.30 309 *e*P P 02 29 02.7 -1.1
ZEI pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 70.36 311⇑ P P 02 29 05.6 +1.5
KIV Kislovodsk 70.36 311 *i* P P 02 29 04.9 +0.9
SNR=9.3
KIV Kislovodsk 70.36 311 *e*P P 02 29 04.9 +0.9
KIV pmax pmax
comp=Z,230nm,1.1s
KIV MLR MLR
comp=Z,558nm,17.0s
KIV Kislovodsk 70.36 311 P P 02 29 03.8 -0.2
KBZ Khabaz 70.36 311 P P 02 29 04.7 +0.8
comp=Z,22nm,0.9s,baz=60,slow=4.2,SNR=36
KBZ LR LR 03 04 51.9
comp=Z,222nm,18.0s,baz=48,slow=40
KBZ Khabaz 70.36 311 *ce*P P 02 29 04.8 +0.9
ONI Oni 70.68 309 IAmb IAmb 02 29 09.2
comp=Z,20nm,1.0s
AAL Aland 70.70 333 *e*P P 02 29 05.6 -0.1
GNI Garni 71.29 307 P P 02 29 11.1 +1.2
GNI Garni 71.29 307 *ce*P P 02 29 11.9 +2.0
GNI pmax pmax
comp=Z,26nm,1.3s
GNI Garni 71.29 307 P P 02 29 10.6 +0.7
GNI IAmb IAmb 02 29 32.0
comp=Z,24nm,1.2s
BANOM Banah 71.37 289 P P 02 29 11.0 +0.6
BANOM Banah 71.37 289 P P 02 29 10.7 +0.3
SHME Shamm 71.41 289 P P 02 29 10.6 -0.1
SHME Shamm 71.41 289 P P 02 29 10.8 +0.2
SNR=5.5
IDID Didzisalis 71.46 327 *e*P P 02 29 11.4 +1.0
MNK Minsk 71.51 326 *i* P P 02 29 11.0 +0.3
MNK *i* 02 29 30.1
MNK *i* 02 31 49.6
MNK *i* PPP PPP 02 33 33.3
MNK *i* S S 02 38 26.5 +0.2
MNK *i* 02 39 13.2
MNK *i* SS SS 02 43 04.8 +4.0
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=Z,37nm,1.0s
MNK MLR MLR
comp=Z,594nm,17.0s
MNK MLR MLR
comp=E,31nm,17.0s
MNK MLR MLR
comp=N,280nm,17.0s
MNK Minsk 71.51 326 *i* P P 02 29 11.1 +0.4
comp=E,2.0nm,1.0s
MNK *i* P P 02 29 11.1 +0.4
comp=N,11nm,1.0s
MNK *i* P P 02 29 11.1 +0.4
comp=Z,37nm,1.0s,baz=49
MNK *i* PcP PcP 02 29 30.2 +0.2
MNK *i* PP PP 02 31 49.7 +0.6
MNK *i* PPP PPP 02 33 33.4
MNK *i* S S 02 38 26.6 +0.2
MNK *i* ScS ScS 02 39 13.2 +0.9
MNK *i* SS SS 02 43 04.8 +4.1
MNK *i* SSS SSS 02 45 46.4
MNK *i* LQ LQ 02 55 44.7
MNK *i* LR LR 02 58 15.0
MNK *i* LRM MLR 03 02 58.8
comp=Z,594nm,17.4s
MNK *i* LRM MLR 03 03 01.1
comp=E,31nm,17.4s
MNK *i* LRM MLR 03 03 03.0
comp=N,280nm,17.4s
ISAL Salakas 71.55 328 *e*P P 02 29 12.3 +1.4
IIGN Ignalina 71.66 327 *e*P P 02 29 12.8 +1.3
SLIT Slitere, Latvi 71.67 331 *e*P P 02 29 11.9 +0.3
NACGM Naroch 71.72 327 *i* P P 02 29 12.7 +0.7
MDH Madha 71.72 288 P P 02 29 11.8 -0.6
UPP Uppsala 71.76 334 *e*P P 02 29 12.3 +0.3
MSFE Esma-Masafi 71.79 288 P P 02 29 13.4 +0.4
FFC Flin Flon 71.89 33 P P 02 29 13.2 +0.2
FFC pmax pmax
comp=Z,6.0nm,1.1s
FFC Flin Flon 71.89 33 P P 02 29 13.2 +0.2
UOSS Minazif 71.99 288 *i* P P 02 29 14.6 +0.5
SNR=8.3
UOSS Minazif 71.99 288 P P 02 29 14.7 +0.5
UOSS IAmb IAmb 02 29 15.8
comp=Z,27nm,1.1s
UOSS Minazif 71.99 288 P P 02 29 14.2 +0.1
HATD Hatta, Dubai 72.11 288 *i* P P 02 29 15.6 +0.7
SNR=6.4
HATD Hatta, Dubai 72.11 288 P P 02 29 16.0 +1.1
SNR=6.4
SOHO SOHO 72.21 287 *i* P P 02 29 15.6 +0.2
SNR=6.9
SOHO SOHO 72.21 287 P P 02 29 14.8 -0.6
ASHO Ashiyiah 72.25 288 *i* P P 02 29 15.8 +0.1
SNR=6.0
ASHO Ashiyiah 72.25 288 P P 02 29 16.4 +0.7
SNR=6.0
SOC Sochi 72.32 312 *e*P P 02 29 15.2 -0.5
SOC *e* 02 31 54.0
SOC *e*PPP PPP 02 33 36.6
SOC *e*S S 02 38 37.7 +1.7
SOC pmax pmax
comp=Z,18nm,0.7s
SOC MLR MLR
comp=Z,237nm,17.0s
PABE Paberze 72.49 328 *e*P P 02 29 17.4 +0.9
PABE Paberze 72.49 328 P P 02 29 16.8 +0.3
ICESG Greenland Ices 72.49 1⇑ *i* P P 02 29 17.4 +0.6
ICESG IAmb IAmb 02 29 18.4
comp=Z,21nm,1.1s
BSY Bisya 72.50 285 P P 02 29 15.7 -1.6
DLMT Dillon 72.63 46 IAmb IAmb 02 29 45.2
comp=Z,28nm,1.9s
HLID Hailey 72.69 48 P P 02 29 20.2 +2.0
ANN Anapa 72.89 314 *e*P P 02 29 16.9 -2.2
ANN *e* 02 29 32.7
ANN *e* 02 32 07.8
ANN *e* 02 39 19.9
ANN pmax pmax
comp=Z,21nm,0.9s
ANN MLR MLR
comp=N,401nm,20.0s
ANN MLR MLR
comp=Z,214nm,13.0s
NB2 NORSAR Subarra 72.91 337 P P 02 29 18.9 -0.1
baz=38,slow=6.2
NOA NORSAR Array B 72.91 337 P P 02 29 19.2 +0.2
comp=Z,8.3nm,0.9s,baz=38,slow=5.9,SNR=29
NOA LR LR 03 03 57.8
comp=Z,375nm,21.8s,baz=35,slow=38
MHTO MHTO 72.93 283 P P 02 29 20.5 +0.7
SNR=7.6
PBUR Paburge 72.95 330 *e*P P 02 29 20.1 +0.8
NBO00 NORSAR Array S 73.05 338 IAmb IAmb 02 29 41.4
comp=Z,31nm,1.1s
LHV Little Huntoon 73.37 54 IAmb IAmb 02 29 39.1
comp=Z,15nm,1.3s
NVAR Mina Array Bea 73.39 54 P P 02 29 23.9 +1.3
comp=Z,1.5nm,0.9s,baz=267,slow=5.8,SNR=9.8
NVAR LR LR 02 55 42.1
comp=Z,64nm,21.7s,baz=276,slow=31
NVAR Mina Array Bea 73.39 54 P P 02 29 25.3 +2.8
AKASG Malin Array Be 73.41 322 P P 02 29 21.8 -0.3
comp=Z,18nm,0.8s,baz=44,slow=6.2,SNR=60
AKASG LR LR 03 04 32.9
comp=Z,407nm,18.3s,baz=30,slow=38
AKASG Malin Array Be 73.41 322 *i* P P 02 29 22.1 0.0
AKASG pmax pmax
comp=Z,18nm,0.8s
AKASG Malin Array Be 73.41 322 P P 02 29 22.1 0.0
AKASG IAmb IAmb 02 29 23.4
comp=Z,12nm,1.1s
AKASG pP pP 02 29 32.4 -1.5
AKBB Malin Array Si 73.41 322 *ce*P P 02 29 21.9 -0.2
SUW Suwalki 73.86 328 *e*P P 02 29 24.7 0.0
SUW Suwalki 73.86 328 *e*P P 02 29 25.0 +0.4
KOPT Kop Dagi 73.99 309 IAmb IAmb 02 29 28.7
comp=Z,23nm,1.2s
KONO Kongsberg 74.51 337 *ce*P P 02 29 29.4 +1.1
KONO pmax pmax
comp=Z,16nm,2.5s
DY2G Dye2 74.92 4 *i* P P 02 29 31.3 +0.4
DY2G IAmb IAmb 02 29 32.4
comp=Z,14nm,1.0s
MARD Mardin 75.46 306 P P 02 29 34.9 +0.5
SORM Soroca 75.55 321 ⇑P P 02 29 34.4 -0.1
PDAR Pinedale Array 75.96 46 P P 02 29 38.4 +1.1
comp=Z,1.2nm,0.6s,baz=270,slow=2.6,SNR=12
PDAR LR LR 03 07 07.8
comp=Z,22nm,18.9s,baz=326,slow=39
PDAR Pinedale Array 75.96 46 P P 02 29 38.2 +0.8
BSD Bornholm Skovb 76.30 332 *e*P P 02 29 38.8 +0.2
LVV L'vov 76.44 324 *e*P P 02 29 40.4 +0.8
VASR Vaslui 76.84 320 ⇑P P 02 29 42.7 +0.7
P17A Butcher Ranch, 77.39 49 IAmb IAmb 02 30 01.2
comp=Z,9.8nm,1.1s
BUR01 Bucovina Ar. S 77.44 322 ⇑P P 02 29 45.9 +0.5
BURAR Bucovina Array 77.44 322 P P 02 29 46.0 +0.6
BURAR IAmb IAmb 02 29 47.0
comp=Z,12nm,0.8s
BIZ Bicaz 77.48 321 ⇑P P 02 29 46.3 +0.7
TESR Tescani 77.50 320 ⇑P P 02 29 45.9 +0.2
CFR Carcaliu 77.67 319 ⇑P P 02 29 46.7 +0.2
ULM Lac du Bonnet 77.69 34 LR LR 03 07 18.3
comp=Z,58nm,18.5s,baz=316,slow=38
TPGR Topolog 77.74 318 ⇑P P 02 29 47.5 +0.4
LNIZ Loecknitz 77.82 331 *e*P P 02 29 47.9 +0.7
comp=Z,39nm,1.1s,baz=36,slow=5.3
KOLS Kolonicke sedl 77.88 324 *e*P P 02 29 48.9 +1.1
KOLS Kolonicke sedl 77.88 324 *e*P P 02 29 48.9 +1.1
VRI Vrincioaia 77.91 320 ⇑P P 02 29 48.5 +0.5
PLOR Plostina 77.96 320 ⇑P P 02 29 49.2 +0.9
STHS Stebnicka Huta 78.00 325 *e*P P 02 29 49.8 +1.4
STHS Stebnicka Huta 78.00 325 *e*P P 02 29 49.8 +1.4
OJC Ojcow 78.04 326 *e*P P 02 29 49.5 +0.9
UZH Uzhgorod 78.09 324 *e*P P 02 29 51.0 +2.1
UZH *i* 02 29 53.7
HARR Harsova 78.11 318 ⇑P P 02 29 50.2 +1.1
BISRR Bisoca 78.14 320 ⇑P P 02 29 50.6 +1.2
OZUR 78.22 321 ⇑P P 02 29 51.1 +1.4
ARCR ARCALIA 78.23 322 ⇑P P 02 29 51.3 +1.6
CRVS Cervenica-Dubn 78.27 325 *e*P P 02 29 50.8 +0.9
CRVS Cervenica-Dubn 78.27 325 *e*P P 02 29 50.8 +0.9
BR131 Keskin Array S 78.28 312 P P 02 29 49.9 -0.4
BR131 pmax pmax
comp=Z,11nm,1.1s
BR131 Keskin Array S 78.28 312 P P 02 29 49.9 -0.4
BR131 IAmb IAmb 02 29 51.9
comp=Z,11nm,1.1s
BRTR Keskin Array B 78.28 312 P P 02 29 50.6 +0.3
comp=Z,2.8nm,0.6s,baz=107,slow=3.2,SNR=27
BRTR PP PP 02 32 46.3 -0.6
comp=Z,1.9nm,1.1s,baz=64,slow=4.8,SNR=3.6
BRTR LR LR 03 08 49.3

comp=Z,118nm,18.9s,baz=78,slow=39
NIE Niedzica 78.42 326 *e*P P 02 29 52.0 +1.3
DOPR Dopca 78.51 321 ⇑P P 02 29 52.6 +1.3
ISR Istrita 78.52 319 ⇑P P 02 29 52.8 +1.4
ICOR Ion Corvin 78.57 318 ⇑P P 02 29 52.8 +1.2
ANTO Ankara 78.68 312 P P 02 29 52.3 -0.1
ANTO pmax pmax
comp=Z,25nm,1.1s
ANTO Ankara 78.68 312 P P 02 29 52.3 -0.1
ANTO lAmb lAmb 02 29 54.2
comp=Z,25nm,1.1s
RUE Ruedersdorf 78.77 331 *e*P P 02 29 53.2 +0.7
comp=Z,17nm,0.8s,baz=36,slow=5.3
CJR Cluj-Napoca 78.86 322 ⇑P P 02 29 54.4 +1.2
BSEG Bad Segeberg 78.88 333 *e*P P 02 29 53.7 +0.6
comp=Z,28nm,1.1s,baz=36,slow=5.3
LANS Liptovska Anna 78.98 326 *e*P P 02 29 55.2 +1.4
LANS pmax pmax
comp=Z,8.0nm,1.1s
LANS Liptovska Anna 78.98 326 *e*P P 02 29 55.2 +1.4
OKC Ostrava-Krasne 79.04 327 *e*P P 02 29 55.1 +1.0
OKC MLR MLR
comp=Z,400nm,13.6s
OKC Ostrava-Krasne 79.04 327 *e*P P 02 29 55.1 +1.0
OKC AMS AMS 03 07 30.0
comp=Z,400nm,13.6s
KSP Ksiaz 79.05 329 *e*P P 02 29 55.1 +1.0
VOIR 79.05 320 ⇑P P 02 29 55.3 +0.9
DRGR 79.22 323 ⇑P P 02 29 55.7 +0.5
PV11 David Mesa, Pa 79.26 49 lAmb lAmb 02 30 13.2
comp=Z,18nm,1.4s
PV05 Paradox Valley 79.27 50 lAmb lAmb 02 30 11.7
comp=Z,11nm,1.0s
OSTC Ostas 79.30 328 *e*P P 02 29 56.1 +0.6
PV03 Paradox Valley 79.30 49 P P 02 29 57.5 +1.4
CHVC Chvalec 79.34 328 *e*P P 02 29 56.7 +0.9
CHVC AMS AMS 03 07 20.0
comp=Z,400nm,19.2s
MORC Moravsky Berou 79.34 327 ⇑P P 02 29 56.8 +1.0
MORC Moravsky Berou 79.34 327 *e*P P 02 29 56.5 +0.7
MORC Moravsky Berou 79.34 327 lAmb lAmb 02 29 57.8
comp=Z,17nm,1.0s
PV13 Radium Mtn., P 79.38 49 lAmb lAmb 02 30 12.8
comp=Z,14nm,1.3s
DPC Dobruska-Polom 79.41 328 *e*P P 02 29 57.4 +1.2
DPC MLR MLR
comp=Z,400nm,20.7s
DPC Dobruska-Polom 79.41 328 *e*P P 02 29 57.4 +1.2
DPC AMS AMS 03 07 30.0
comp=Z,400nm,20.7s
UPC Upice 79.42 328 *e*P P 02 29 57.0 +0.8
UPC MLR MLR
comp=Z,400nm,17.8s
UPC Upice 79.42 328 *e*P P 02 29 57.0 +0.8
UPC AMS AMS 03 07 20.0
comp=Z,400nm,17.8s
KRLC Kraliky 79.43 328 *e*P P 02 29 57.1 +0.8
KRLC MLR MLR
comp=Z,300nm,19.5s
KRLC Kraliky 79.43 328 *e*P P 02 29 57.1 +0.8
KRLC AMS AMS 03 07 20.0
comp=Z,300nm,19.5s
PSZ Piszkesteto 79.71 325 ⇑P P 02 29 59.0 +1.2
PSZ Piszkesteto 79.71 325 lAmb lAmb 02 30 00.0
comp=Z,23nm,1.1s
HUMR Humele 79.73 320 ⇑P P 02 29 58.5 +0.6
VYHS Vyhne 79.75 326 *e*P P 02 29 58.7 +0.7
VYHS pmax pmax
comp=Z,11nm,1.0s
VYHS Vyhne 79.75 326 *e*P P 02 29 58.7 +0.7
FLTG Flechtingen 79.84 332 *e*P P 02 29 58.3 -0.1
comp=Z,26nm,1.1s,baz=36,slow=5.3
JAVC Velka Javorina 79.98 327 *e*P P 02 30 01.1 +1.8
PVCC Panska Ves 79.99 329 *e*P P 02 30 00.1 +0.9
PVCC MLR MLR
comp=Z,600nm,17.0s
PVCC Panska Ves 79.99 329 *e*P P 02 30 00.1 +0.9
PVCC AMS AMS 03 08 00.0
comp=Z,600nm,17.0s
CLL Collm 79.99 330 ⇑*i*P P 02 29 59.3 +0.1
comp=Z,22nm,0.9s
CLL *e*pP **pP 02 30 12.0 +0.9**
CLL *e*sP **sP 02 30 16.0 +0.4**
CLL Collm 79.99 330 ⇑*i*P P 02 29 59.3 +0.1
CLL *e**PP **pP 02 30 12.0 +0.9**
CLL pmax pmax
comp=Z,22nm,0.9s
CLL MLR MLR
comp=Z,300nm,16.9s
CLL Collm 79.99 330 lAmb lAmb 02 30 00.6
comp=Z,24nm,1.0s
CLL Collm 79.99 330 *e*P P 02 29 59.3 +0.1
comp=Z,22nm,0.9s,baz=36,slow=5.3
VRAC Vranov 80.10 327 ⇑P P 02 30 01.2 +1.3
VRAC Vranov 80.10 327 *e*P P 02 30 00.6 +0.7
SIRR Siria 80.11 323 ⇑P P 02 30 00.7 +0.7
NRDL Niedersach Rie 80.12 333 *e*P P 02 30 00.2 +0.4
comp=Z,9.9nm,0.9s,baz=36,slow=5.3
FBE Freiberg 80.16 330 *e*P P 02 30 00.8 +0.7
comp=Z,22nm,0.9s,baz=36,slow=5.3
GZR Gura Zlata 80.20 322 ⇑P P 02 30 00.9 +0.3
ASSE Asse, Remlinge 80.21 332 *e*P P 02 30 01.3 +1.0
comp=Z,5.7nm,0.9s,baz=36,slow=5.3
X16A Lo Mia Camp, P 80.21 54 P P 02 30 03.0 +2.0
SMOL Smolenice 80.35 326 *e*P P 02 30 02.3 +1.1
SMOL pmax pmax
comp=Z,8.0nm,1.0s
SMOL Smolenice 80.35 326 *e*P P 02 30 02.3 +1.1
KRUC Moravsky 80.37 327 *e*P P 02 30 01.9 +0.6
PRA Prague 80.40 329 AMS AMS 03 08 00.0
comp=Z,500nm,19.9s
PRU Pruhonice 80.42 329 *e*P P 02 30 02.5 +0.9
PRU MLR MLR
comp=Z,500nm,19.5s
PRU Pruhonice 80.42 329 *e*P P 02 30 02.5 +0.9
PRU AMS AMS 03 08 00.0
comp=Z,500nm,19.5s
SRO Srobarova 80.49 326 *e*P P 02 30 03.5 +1.5
SRO pmax pmax
comp=Z,27nm,1.2s
SRO Srobarova 80.49 326 *e*P P 02 30 03.5 +1.5
SRO2 Moca 80.49 325 *e*P P 02 30 02.2 +0.2
SRO2 Moca 80.49 325 *e*P P 02 30 02.2 +0.2
MODS Modra-Piesok 80.52 326 *e*P P 02 30 02.3 +0.1
MODS pmax pmax
comp=Z,19nm,1.1s
MODS Modra-Piesok 80.52 326 *e*P P 02 30 02.2 +0.1
NEUB Neuenburg 80.54 331 *e*P P 02 30 02.5 +0.3
comp=Z,33nm,1.0s,baz=36,slow=5.3
CLZ Clausthal 80.56 332 *e*P P 02 30 03.0 +0.7
comp=Z,26nm,1.1s,baz=36,slow=5.3
TREC Trest 80.57 328 AMS AMS 03 08 00.0
comp=Z,300nm,19.9s
BZS Buzias 80.60 322 ⇑P P 02 30 02.9 +0.3
RAYN Ar Rayn 80.69 293 *i*P P 02 30 03.6 0.0
SNR=7.7
RAYN Ar Rayn 80.69 293 P P 02 30 02.7 -0.9
RAYN pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 80.69 293 P P 02 30 02.7 -0.9
RAYN lAmb lAmb 02 30 04.2
comp=Z,10nm,0.9s
ZST Bratislava 80.73 326 *e*P P 02 30 04.8 +1.5
ZST pmax pmax
comp=Z,33nm,1.1s
ZST Bratislava 80.73 326 *e*P P 02 30 04.8 +1.5
HERR Herculane 80.75 321 ⇑P P 02 30 03.6 +0.2
PBCC Pribram 80.88 329 *e*P P 02 30 04.7 +0.6
TANN Tannenbergstha 80.91 330 *e*P P 02 30 04.7 +0.4
comp=Z,6.6nm,1.1s,baz=36,slow=5.3
GTTG Gottingen 80.94 332 *e*P P 02 30 04.9 +0.5
comp=Z,20nm,1.0s,baz=36,slow=5.3
WERD Werda 80.94 330 *e*P P 02 30 04.8 +0.4
comp=Z,13nm,1.1s,baz=36,slow=5.3
PLN Plauen 80.97 330 *e*P P 02 30 04.9 +0.4
comp=Z,7.1nm,0.9s,baz=36,slow=5.3
GUNZ Gunzen 81.00 330 *e*P P 02 30 05.2 +0.5
comp=Z,12nm,1.1s,baz=36,slow=5.3
WERN Wernitzgruen 81.05 330 *e*P P 02 30 05.5 +0.6
comp=Z,13nm,1.1s,baz=36,slow=5.3
MOX Moxa 81.05 331 *e*P P 02 30 05.3 +0.4
comp=Z,9.8nm,1.0s,baz=36,slow=5.3
NKC Novy Kostel 81.06 330 *e*P P 02 30 05.7 +0.7
NKC MLR MLR
comp=Z,300nm,18.0s
NKC Novy Kostel 81.06 330 *e*P P 02 30 05.7 +0.7
NKC AMS AMS 03 09 10.0
comp=Z,300nm,18.0s
IBBN Ibbenburen 81.11 334 *e*P P 02 30 05.4 +0.2
comp=Z,25nm,1.1s,baz=36,slow=5.3
MDVR Moldovita 81.17 322 ⇑P P 02 30 06.1 +0.4
MANZ Manzenberg 81.39 330 *e*P P 02 30 07.2 +0.4
comp=Z,11nm,1.1s,baz=36,slow=5.3
CONA Conrad Observa 81.47 327 *i*P P 02 30 08.4 +1.0
comp=Z,14nm,1.0s,SNR=11
KHC Kasperske Hory 81.48 329 *e*P P 02 30 07.9 +0.6
KHC *e* 02 30 20.7
KHC MLR MLR
comp=Z,600nm,20.0s
KHC Kasperske Hory 81.48 329 *e*P P 02 30 07.9 +0.6
KHC *e*pP **pP 02 30 20.7 +1.5**
KHC AMS AMS 03 08 40.0
comp=Z,600nm,20.0s
UBBA Unterbreizbach 81.52 332 *e*P P 02 30 07.3 0.0
comp=Z,12nm,1.5s,baz=36,slow=5.3
ROTZ Rotzenmuhle 81.53 330 *e*P P 02 30 08.3 +0.8
comp=Z,25nm,1.5s,baz=36,slow=5.3
MORH Mrgy, Hungar 81.55 324 ⇑P P 02 30 07.6 0.0
GEC2 GERESS Array S 81.66 329 *e*P P 02 30 08.5 +0.2
comp=Z,9.0nm,1.1s,baz=36,slow=5.3
GERES GERESS Array B 81.66 329 P P 02 30 08.6 +0.3
comp=Z,3.5nm,0.8s,baz=52,slow=5.2,SNR=29
GERES GERESS Array B 81.66 329 P P 02 30 08.7 +0.4
WET Wettzell 81.75 329 *e*P P 02 30 09.5 +0.7
comp=Z,14nm,1.2s,baz=36,slow=5.3
KASTN Kahler Asten 81.78 333 *e*P P 02 30 09.2 +0.4
comp=Z,8.7nm,1.1s,baz=36,slow=5.3
FRGS Fruska Gora 81.80 323 ⇑P P 02 30 09.4 +0.4
GRF Grafenberg Arr 81.97 330 *e*P P 02 30 10.7 +0.8
comp=Z,26nm,1.0s,baz=36,slow=5.3
GRF *e*L L 03 09 36.1
comp=Z,306nm,18.3s
GRFO Grafenberg 81.97 330 P P 02 30 10.3 +0.5
GRFO pmax pmax
comp=Z,24nm,0.9s
GRFO Grafenberg 81.97 330 P P 02 30 10.3 +0.5
VTS Vitosha 81.98 319 ⇑P P 02 30 11.4 +1.2
VTS Vitosha 81.98 319 lAmb lAmb 02 30 12.3
comp=Z,20nm,1.0s
BUG Bochum--Univer 81.99 333 *e*P P 02 30 09.9 +0.1
comp=Z,9.4nm,0.8s,baz=36,slow=5.3
ECSD EROS Data Cent 82.14 39 P P 02 30 11.0 +0.2
ARSA Arzberg 82.14 327 *i*P P 02 30 11.6 +0.8
comp=Z,6.5nm,1.0s,SNR=5.1
MOA Molln 82.21 328 *i*P P 02 30 12.1 +0.9
comp=Z,9.4nm,1.1s,SNR=5.7
DIVS Divibare 82.50 322 lAmb lAmb 02 30 14.2
comp=Z,11nm,1.1s
TNS Taunus Mts 82.58 332 *e*P P 02 30 13.3 +0.3
comp=Z,20nm,1.5s,baz=36,slow=5.3
GROS Grobnik 82.76 326 *i*P P 02 30 14.2 +0.1
PERS Pernice 82.79 326 *i*P P 02 30 14.6 +0.4
SOKA Soboth 82.80 326 *i*P P 02 30 14.9 +0.6
comp=Z,24nm,1.0s,SNR=11
AHRW Bad Neuenahr-A 82.81 333 *e*P P 02 30 14.5 +0.3
comp=Z,11nm,0.9s,baz=36,slow=5.3
RJOB Jochberg 82.91 328 *e*P P 02 30 15.5 +0.7
comp=Z,90nm,0.9s,baz=36,slow=5.3
ANMO Albuquerque 82.94 51 P P 02 30 17.2 +1.7
comp=Z,2.1nm,1.0s,baz=306,slow=7.0,SNR=5.4
ANMO Albuquerque 82.94 51 P P 02 30 16.9 +1.5
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 82.94 51 P P 02 30 16.9 +1.5
BTNL Ternell 83.10 334 *d*P P 02 30 14.9 -0.9
comp=Z,9.9nm,1.0s
MEM Memmbach 83.13 334 *d*P P 02 30 15.1 -0.7
OBKA Obir 83.14 327 *e*P P 02 30 15.6 -0.4
comp=Z,7.1nm,0.8s
FUR Furstenfeldbru 83.18 329 *e*P P 02 30 16.7 +0.6
comp=Z,31nm,1.0s,baz=36,slow=5.3
KBA Koelnbreinsper 83.20 328 *i*P P 02 30 17.1 +0.6
comp=Z,15nm,0.9s,SNR=7.0
MYKA Terra Mystica 83.43 327 *i*P P 02 30 17.3 -0.2
comp=Z,9.8nm,0.9s,SNR=6.1
I37A Lemond, Waseca 83.47 37 lAmb lAmb 02 30 20.1
comp=Z,12nm,0.9s
STU Stuttgart 83.49 331 *e*P P 02 30 18.2 +0.5
comp=Z,15nm,0.8s,baz=36,slow=5.3
SCHQ Schefferville 83.51 16 P P 02 30 18.0 +0.3
comp=Z,4.0nm,1.0s,baz=231,slow=4.9,SNR=3.7
SCHQ LR LR 03 11 02.2
comp=Z,56nm,20.0s,baz=52,slow=38
BCLA Clavier 83.53 334 *d*P P 02 30 17.9 0.0
comp=Z,7.4nm,1.0s
BGES Gesves 83.63 334 *d*P P 02 30 18.7 +0.2
WATA Walderalm 83.72 329 *i*P P 02 30 19.7 +0.6
comp=Z,8.0nm,1.0s,SNR=5.9
WTTA Wattenberg 83.76 329 *i*P P 02 30 19.6 +0.3
comp=Z,9.0nm,1.0s,SNR=5.8
ZOU Zoufplan 83.77 328 lAmb lAmb 02 30 19.8
comp=Z,13nm,1.2s
SNF Seneffe 83.80 335 *d*P P 02 30 18.7 -0.6
ABTA Abfaltersbach 83.81 328 *i*P P 02 30 19.4 -0.2
comp=Z,10nm,1.0s,SNR=5.6
BMRD Mamdsous 83.81 334 *d*P P 02 30 19.2 -0.1
comp=Z,12nm,1.2s
JAVS Javornik 83.83 327 *i*P P 02 30 19.0 -0.7
WLF Walferdange 83.87 333 *d*P P 02 30 21.0 +1.3
MOTA Moosalm 83.91 329 *i*P P 02 30 20.7 +0.6
comp=Z,19nm,1.1s,SNR=13
RETA Reutte 83.93 329 *i*P P 02 30 20.7 +0.6
comp=Z,22nm,1.0s,SNR=20
PDG Podgorica 84.11 321 ⇑P P 02 30 20.9 -0.1
STAL STALIGIAL 84.12 328 lAmb lAmb 02 30 20.9
comp=Z,16nm,0.9s
BFO Black Forest 84.18 331 P P 02 30 21.5 +0.2
BFO pmax pmax
comp=Z,19nm,1.0s
BFO Black Forest 84.18 331 P P 02 30 21.5 +0.2
BFO Black Forest 84.18 331 *e*P P 02 30 21.7 +0.4
comp=Z,28nm,1.2s,baz=36,slow=5.3
PMOR Pomariorio Ree 84.19 114 *e*T T 04 02 29.5
comp=Z,18nm,0.2s
FETA Feichten 84.32 329 *i*P P 02 30 22.6 +0.3
comp=Z,17nm,1.1s,SNR=11
DAVA Damuels 84.44 330 *i*P P 02 30 23.3 +0.5
comp=Z,19nm,0.9s,SNR=12
ECH Echery 84.72 332 lAmb lAmb 02 30 25.3
comp=Z,12nm,1.0s
CTI Castel Tesino 84.73 328 lAmb lAmb 02 30 24.4
comp=Z,13nm,1.1s
PPT2 Papeete2 84.76 117 *e*LR LR 02 57 07.9
comp=Z,477nm,24.2s,baz=321
PPT2 Papeete2 84.76 117 *e*T T 04 03 11.2
comp=Z,7.8nm,0.3s
TIAR Tiarei 84.89 117 *e*T T 04 03 21.0
comp=Z,1.7nm,0.3s
TUE Stuetta 85.32 330 lAmb lAmb 02 30 28.7
comp=Z,16nm,1.0s
SENIN Lac Senin/Sane 86.21 331 lAmb lAmb 02 30 48.7
comp=Z,6.5nm,0.8s
MURB Monte Urbino 86.58 326 lAmb lAmb 02 30 35.6
comp=Z,17nm,1.1s
NRCA Norcia 86.67 325 P P 02 30 34.5 +0.6
NRCA lAmb lAmb 02 30 35.4
comp=Z,12nm,1.0s
TXAR Lajitas Array 88.51 53 P P 02 30 43.8 +0.8
comp=Z,0.5nm,0.6s,baz=290,slow=3.2,SNR=6.2
TXAR LR LR 03 05 44.8
comp=Z,44nm,20.5s,baz=0.0,slow=32
TXAR Lajitas Array 88.51 53 P P 02 30 43.5 +0.5
TBI Tubuai 88.77 121 *e*T T 04 08 10.9
comp=Z,79nm,0.4s
MIAR Mont Ida 90.58 43 lAmb lAmb 02 32 40.0
comp=Z,21nm,1.9s
KEST Kesra 94.11 323 LR LR 03 18 20.4
comp=Z,378nm,18.0s,baz=298,slow=38
ESDC Sonseca Array 96.09 334 P P 02 31 17.4 -0.4
comp=Z,1.0nm,0.9s,baz=26,slow=4.3,SNR=5.4
ESDC LR LR 03 19 54.1
comp=Z,243nm,18.9s,baz=10.0,slow=39
ESDC Sonseca Array 96.09 334 lAmb lAmb 02 33 54.0
comp=Z,8.5nm,1.9s
SNAA Sanae 142.58 197 PKPdf **PKPdf 02 37 18.5 -3.3**
SNAA Sanae 142.58 197 *c i*PKIKP **PKPdf 02 37 20.8 -1.1**
SNAA pmax pmax
comp=Z,4.0nm,1.0s
VNA3 Neumayer Olymp 144.39 195 PKPdf **PKPab 02 37 23.6 +0.3**
VNA1 Neumayer--Stat 144.54 196 PKPdf PKPbc 02 37 24.7 +0.8
LPAZ La Paz 145.19 59 PKPbc **PKPdf 02 37 29.4 +0.6**
comp=Z,0.8nm,0.5s,baz=37,slow=5.4,SNR=2.4

*SJA **22** 02:43:15.0±0.5, 22°.76S×66°.19W, h278km±4km, ML4.1, MW3.9*
*IDC **22** 02:43:16.1±1.1, 22°.69S×66°.12W, h248km±13km, mb3.3/6, mb1 3.5/11, mb1mx3.3/29, mbtmp4.0/11, Error ellipse: s-maj=20.7km s-min=14.2km az=113.0*
*NEIC **22** 02:43:16.9±1.9, 22°.74S±0°.07×66°.29W±0°.10, h259km±7km, mb4.0/11, Error ellipse: s-maj=12.9km s-min=10.1km az=97.0*
*VAO **22** 02:43:17.4±0.3, 22°.64S×66°.30W, h285km±4km, mb4.0*
ISC 22 02:43:15.8±0.4, 22°.72S±0°.05×66°.22W±0°.05, h251km, n152, σ1§19/166, mb3.9/9, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YJA	**Yavi**	**0.84**	**51**	***e*P**		**Pn**	**02 43 53.4**	**+2.7**
HJA	**Humahuaca**	**0.89**	**123**	***e*P**		**Pn**	**02 43 53.2**	**+2.4**
AZAP	**Zapla**	**1.84**	**145**	***e*P**		**Pn**	**02 43 58.4**	**+1.2**
ASTB	**Santa Barbara**	**2.04**	**127**	***e*P**		**Pn**	**02 44 00.1**	**+1.3**
SLA	**San Lorenzo**	**2.10**	**162**	***e*P**		**Pn**	**02 44 01.4**	**+2.0**
ALOL	**LOMAS DE OLMED**	**2.33**	**118**	***e*P**		**Pn**	**02 44 02.4**	**+0.9**
LVC	**Limon Verde**	**2.49**	**272**	P		**Pn**	**02 44 05.2**	**+1.9**
	65nm,0.3s,baz=98,slow=5.6,SNR=481							
LVC				S		**S**	**02 44 42.0**	**+1.1**
	13nm,0.3s,baz=222,slow=22,SNR=2.1							
LVC	**Limon Verde**	**2.49**	**272**	***e*P**		**Pn**	**02 44 05.6**	**+2.2**
LVC	**Limon Verde**	**2.49**	**272**	***e*P**		**Pn**	**02 44 05.2**	**+1.9**
PB09	**IPOC Station P**	**2.94**	**288**			**Pn**	**02 44 10.1**	**+2.1**
PB09	**IPOC Station P**	**2.94**	**288**	***e*P**		**Pn**	**02 44 10.2**	**+2.3**
PB09				*e*S		**S**	**02 44 51.5**	**+2.3**
PB09				lAML			02 44 57.3	
	comp=Z,118nm,0.2s							
PB15	**IPOC Station P**	**3.04**	**260**			**Pn**	**02 44 10.4**	**+1.5**
PB15	**IPOC Station P**	**3.04**	**260**	***e*P**		**Pn**	**02 44 10.6**	**+1.6**
PB15				*e*S		**S**	**02 44 51.6**	**+0.7**
PB06	**IPOC Station P**	**3.10**	**270**			**Pn**	**02 44 10.9**	**+1.4**
PB06	**IPOC Station P**	**3.10**	**270**	***e*P**		**Pn**	**02 44 11.0**	**+1.4**
PB06				*e*S		**S**	**02 44 53.1**	**+1.0**
PB06				lAML			02 44 56.6	
	comp=Z,280nm,0.2s							
PB03	**IPOC Station P**	**3.34**	**281**	***e*P**		**Pn**	**02 44 13.6**	**+1.4**
PB03				*e*S		**S**	**02 44 56.8**	**-0.1**
PB03				lAML			02 45 00.8	
	comp=Z,400nm,0.2s							
FSA	**Cafayete**	**3.39**	**176**	***e*P**		**Pn**	**02 44 13.8**	**+1.0**
PB01	**IPOC Station P**	**3.46**	**298**			**Pn**	**02 44 14.7**	**+1.2**
PB01	**IPOC Station P**	**3.46**	**298**	***e*P**		**Pn**	**02 44 14.9**	**+1.4**
PB01				*e*S		**S**	**02 44 59.8**	**+0.5**
PB01				lAML			02 45 00.5	
	comp=Z,180nm,0.2s							
PB07	**IPOC Station P**	**3.54**	**285**	Pn		**Pn**	**02 44 15.8**	**+1.3**
PB07	**IPOC Station P**	**3.54**	**285**	***e*P**		**Pn**	**02 44 15.8**	**+1.3**
PB07				*e*S		**S**	**02 45 00.8**	**-0.2**
PB07				lAML			02 45 02.3	
	comp=Z,243nm,0.1s							
PB04	**IPOC Station P**	**3.65**	**275**			**Pn**	**02 44 16.9**	**+1.1**
PB04	**IPOC Station P**	**3.65**	**275**	***e*P**		**Pn**	**02 44 17.1**	**+1.3**
PB04				lAML			02 45 07.2	
	comp=Z,426nm,0.2s							
PB05	**IPOC Station P**	**3.68**	**267**	***e*P**		**Pn**	**02 44 17.3**	**+1.3**
PB05				lAML			02 45 08.6	
	comp=Z,104nm,0.2s							
PB08	**IPOC Station P**	**3.75**	**313**	Pn		**Pn**	**02 44 19.2**	**+2.1**
PB08	**IPOC Station P**	**3.75**	**313**	***e*P**		**Pn**	**02 44 19.4**	**+2.3**
PB08				*e*S		**S**	**02 45 07.6**	**+1.9**
PB08				lAML			02 45 08.4	
	comp=Z,83nm,0.5s							
GO02	**Mina Guanaco**	**3.93**	**231**	Pn		**Pn**	**02 44 20.2**	**+1.2**
PB10	**IPOC Station P**	**4.07**	**258**	Pn		**Pn**	**02 44 20.9**	**+0.5**
PB10	**IPOC Station P**	**4.07**	**258**	***e*P**		**Pn**	**02 44 21.4**	**+1.0**
PB10				lAML			02 45 14.0	
	comp=Z,161nm,0.7s							
TA01	**Diego Aracena**	**4.26**	**299**	Pn		**Pn**	**02 44 23.1**	**+0.4**
PB14	**IPOC Station P**	**4.28**	**243**	Pn		**Pn**	**02 44 23.7**	**+0.5**
PB14	**IPOC Station P**	**4.28**	**243**	***e*P**		**Pn**	**02 44 24.0**	**+0.8**
PB14				*e*S		**S**	**02 45 15.2**	**-1.6**
PB14				lAML			02 45 17.3	
	comp=Z,227nm,0.6s							
PB11	**IPOC Station P**	**4.35**	**312**	Pn		**Pn**	**02 44 24.5**	**+0.5**
PB11	**IPOC Station P**	**4.35**	**312**	***e*P**		**Pn**	**02 44 24.6**	**+0.7**
PB11				lAML			02 45 21.4	
	comp=Z,120nm,0.3s							
TA02	**Huaiquique**	**4.38**	**303**			**Pn**	**02 44 24.5**	**+0.4**
MNMC	**Minye Minye**	**4.76**	**318**	Pn		**Pn**	**02 44 30.3**	**+1.3**
MNMCX	**Minye Minye**	**4.76**	**318**	***e*P**		**Pn**	**02 44 30.2**	**+1.2**
MNMCX				*e*S		**S**	**02 45 27.2**	**-0.1**
MNMCX				lAML			02 45 31.1	
	comp=Z,220nm,0.2s							
PSGCX	**Pisagua**	**4.79**	**310**	Pn		**Pn**	**02 44 28.9**	**-0.3**
PSGCX	**Pisagua**	**4.79**	**310**	***e*P**		**Pn**	**02 44 29.1**	**0.0**
PSGCX				*e*S		**S**	**02 45 26.0**	**-1.5**
PSGCX				lAML			02 45 29.1	
	comp=Z,86nm,0.3s							
AC02	**Maricunga**	**4.88**	**212**	Pn		**Pn**	**02 44 31.6**	**+1.0**
AC01	**Pan de Azucar**	**5.25**	**229**	Pn		**Pn**	**02 44 34.1**	**-0.5**
PB16	**IPOC Station P**	**5.34**	**324**	Pn		**Pn**	**02 44 38.2**	**+1.9**
CYA	**Choya**	**5.71**	**176**	***e*P**		**Pn**	**02 44 42.2**	**+1.8**
GO03	**Copiap**	**6.07**	**216**			**Pn**	**02 44 44.0**	**-0.8**
GO03	**Copiap**	**6.07**	**216**	***e*P**		**Pn**	**02 44 44.8**	**0.0**
GO03				*e*S		**S**	**02 45 53.2**	**-2.8**
VCA	**Vinchina**	**6.26**	**196**	***e*P**		**Pn**	**02 44 48.8**	**+1.6**
LPAZ	**La Paz**	**6.64**	**344**	P		**Pn**	**02 44 54.2**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=120,slow=5.4,SNR=34							
LPAZ				S		**S**	**02 46 11.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=293,slow=14,SNR=4.2							
LPAZ	**La Paz**	**6.64**	**344**			**Pn**	**02 44 53.4**	**+0.8**
LPAZ	**La Paz**	**6.64**	**344**	***e*P**		**Pn**	**02 44 54.5**	**+1.9**
LPAZ	**La Paz**	**6.64**	**344**	***e*P**		**Pn**	**02 44 54.4**	**+1.8**
AC04	**Llanos de Chal**	**7.01**	**218**	Pn		**Pn**	**02 44 54.8**	**-1.7**
LCO	**Las Campanas**	**7.46**	**212**	Pn		**Pn**	**02 45 02.7**	**+0.3**
SIV	**San Ignacio**	**8.27**	**37**	P		**Pn**	**02 45 12.1**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=236,slow=9.7,SNR=24							
GO04	**Tololo Observa**	**8.48**	**208**	Pn		**Pn**	**02 45 13.4**	**-1.9**
TCA	**Tanti**	**8.71**	**171**	***e*P**		**Pn**	**02 45 17.5**	**-0.6**
CO03	**El Pedregal**	**9.02**	**205**	Pn		**Pn**	**02 45 21.4**	**-0.6**
CO02	**Combarbal**	**9.47**	**206**	Pn		**Pn**	**02 45 26.7**	**-0.9**
PTLB	**Pontes e Lacer**	**9.85**	**44**	***e*P**		**Pn**	**02 45 32.4**	**-0.1**
AQDB	**Aquidauana**	**10.04**	**79**	Pn		**Pn**	**02 45 35.9**	**+1.1**
AQDB	**Aquidauana**	**10.04**	**79**	***e*P**		**Pn**	**02 45 36.2**	**+1.3**
ASAL	**Salagasta**	**10.11**	**193**	***e*P**		**Pn**	**02 45 35.6**	**-0.1**
VA03	**San Esteban**	**10.72**	**200**	Pn		**Pn**	**02 45 44.7**	**+1.3**
ITQB	**Itaqui**	**11.05**	**131**			**P**	**02 45 50.4**	**-1.3**
ITQB	**Itaqui**	**11.05**	**131**	***e*P**		**P**	**02 45 50.8**	**-0.9**
VILB	**Vilhena**	**11.27**	**32**	***e*P**		**Pn**	**02 45 52.0**	**+1.6**
MT05	**Renca**	**11.36**	**200**			**P**	**02 45 57.2**	**+2.1**
MT02	**Curacav**	**11.36**	**201**			**Pn**	**02 45 51.6**	**+0.3**
MT03	**Universidad Ad**	**11.38**	**198**	P		**P**	**02 45 58.2**	**+2.6**
MT09	**Talagante**	**11.79**	**200**	Pn		**Pn**	**02 45 56.4**	**-0.4**
MT09				P		**P**	**02 46 01.2**	**+1.1**
PP1B	**Ponte de Pedra**	**11.80**	**66**	***e*P**		**P**	**02 45 60.0**	**-0.2**
VA05	**Santo Domingo**	**11.89**	**202**			**P**	**02 46 01.7**	**+0.7**
MT01	**Popeta**	**11.96**	**201**			**P**	**02 46 02.9**	**+1.2**
SALV	**Santo Antonio**	**12.03**	**58**	***e*P**		**Pn**	**02 45 59.6**	**-0.1**
RFA	**San Rafael**	**12.17**	**189**	***e*P**		**Pn**	**02 46 01.4**	**0.0**
BO01	**Tunca**	**12.39**	**199**			**P**	**02 46 07.8**	**+1.3**
TRCB	**Terra Rica**	**12.54**	**93**	***e*P**		**P**	**02 46 09.4**	**+1.1**
BO02	**Sierra Bellavi**	**12.68**	**197**			**Pn**	**02 46 08.5**	**+0.8**
ETMB	**Extrema**	**12.83**	**0**	***e*P**		**Pn**	**02 46 09.2**	**-0.4**
PTGB	**Pitanga**	**13.12**	**102**	***e*P**		**P**	**02 46 14.3**	**-0.6**
GO05	**Huala**	**13.23**	**201**			**P**	**02 46 16.2**	**+0.4**
ITAB	**Concordia**	**13.54**	**112**	P		**P**	**02 46 19.7**	**+0.2**
ITAB	**Concordia**	**13.54**	**112**	***e*P**		**P**	**02 46 20.1**	**+0.7**
CPSB	**Cacapava Do Su**	**13.76**	**127**	***e*P**		**P**	**02 46 22.2**	**+0.5**
PCMB	**Pacaembu**	**13.90**	**88**	***e*P**		**P**	**02 46 24.0**	**+0.5**
SAML	**Samuel**	**14.00**	**12**	P		**Pn**	**02 46 24.6**	**+0.7**
PLTB	**Pedras Altas**	**14.38**	**131**

SNDB	**Serra Nova Dou**	**17.79**	**56**	*eP*	**P**		**02 47 06.2**	**0.0**
PLCA	**Paso Flores**	**18.33**	**191**	P	**P**		**02 47 12.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=351,slow=8.1,SNR=3.3							
PLCA	**Paso Flores**	**18.33**	**191**	P	**P**		**02 47 12.0**	**+0.1**
PLCA				IAmb	IAmb		02 47 15.9	
	comp=Z,15nm,1.5s							
PLCA	**Paso Flores**	**18.33**	**191**	*eP*	**P**		**02 47 12.8**	**+0.9**
BDFB	**Brasilia**	**18.57**	**71**	P	**P**		**02 47 15.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=245,slow=11,SNR=10.0							
BDFB	**Brasilia**	**18.57**	**71**	P	**P**		**02 47 14.8**	**+0.1**
NPGB	**Novo Progresso**	**18.77**	**36**	*eP*	**P**		**02 47 15.2**	**-1.5**
PARB	**Paraibuna**	**18.97**	**96**	*eP*	**P**		**02 47 19.2**	**+0.3**
BSCB	**Bom Sucesso**	**19.98**	**89**	*eP*	**P**		**02 47 30.3**	**+0.6**
PEXB	**Peixe**	**20.07**	**61**	*eP*	**P**		**02 47 30.1**	**-0.5**
ITTB	**Itaituba**	**20.87**	**31**	*eP*	**P**		**02 47 37.9**	**-1.3**
VAS01	**Vassouras-RJ**	**21.05**	**93**	*eP*	**P**		**02 47 41.2**	**+0.4**
DIAM	**Diamantina, MG**	**21.57**	**82**	*eP*	**P**		**02 47 45.7**	**-0.3**
MC01	**Montes Claros**	**21.80**	**78**	*eP*	**P**		**02 47 46.8**	**-1.2**
DUB01	**Friburgo-RJ**	**22.05**	**93**	*eP*	**P**		**02 47 49.5**	**-0.8**
JANB	**Januaria**	**22.07**	**74**	*eP*	**P**		**02 47 49.9**	**-0.6**
SMTB	**Santa Maria do**	**22.57**	**55**	*eP*	**P**		**02 47 54.5**	**-0.5**
PTGA	**Pitinga**	**22.68**	**16**	P	**P**		**02 47 55.5**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=185,slow=7.5,SNR=6.8							
PTGA	**Pitinga**	**22.68**	**16**	P	**P**		**02 47 55.9**	**-0.2**
PTGA				IAmb	IAmb		02 47 56.7	
	comp=Z,6.0nm,0.9s							
SDBA	**SAO DESIDERIO**	**22.73**	**67**	*eP*	**P**		**02 47 55.6**	**-1.0**
PRPB	**Parauapebas**	**22.82**	**46**	*eP*	**P**		**02 47 56.8**	**-0.6**
SJMB	**Sao Joao De Ma**	**23.75**	**85**	*eP*	**P**		**02 48 05.2**	**-0.5**
MALB	**Monte Alegre**	**23.77**	**31**	*eP*	**P**		**02 48 04.7**	**-1.2**
BSFB	**Barra de Sao F**	**24.03**	**85**	*eP*	**P**		**02 48 07.4**	**-0.8**
RIB01	**Linhares ES**	**24.33**	**87**	*eP*	**P**		**02 48 10.3**	**-0.7**
NAN01	**Guarapari, ES**	**24.94**	**84**	*eP*	**P**		**02 48 15.7**	**-0.8**
BOAV	**Boa Vista**	**25.57**	**13**	*eP*	**P**		**02 48 21.0**	**-1.2**
GUA01	**Guaratinga, BA**	**25.59**	**81**	*eP*	**P**		**02 48 21.4**	**-1.0**
NBIT	**Itapeh - BA**	**26.48**	**78**	*eP*	**P**		**02 48 29.8**	**-0.5**
GDU01	**Guandu, BA**	**26.81**	**75**	*eP*	**P**		**02 48 32.0**	**-1.2**
NBPN	**Ponto Novo - B**	**27.51**	**69**	*eP*	**P**		**02 48 38.5**	**-1.1**
NBPS	**Pedro II - PI**	**30.10**	**56**	*eP*	**P**		**02 49 01.1**	**-1.4**
NBMA	**Muriti-CE**	**30.51**	**64**	*eP*	**P**		**02 49 05.3**	**-0.7**
ESQI	**Esquipulas**	**43.42**	**326**	P	**P**		**02 50 50.8**	**-3.5**
SNAA	**Sanae**	**60.32**	**161**	P	**P**		**02 52 59.2**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=315,slow=16,SNR=1.5							
SNAA	**Sanae**	**60.32**	**161**	P	**P**		**02 52 57.6**	**-0.4**
SNAA				IAmb	IAmb		02 53 10.2	
	comp=Z,5.2nm,1.4s							
TXAR	**Lajitas Array**	**63.07**	**323**	P	**P**		**02 53 17.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=133,slow=10.0,SNR=2.1							
TX32	**Lajitas Array**	**63.07**	**323**	P	**P**		**02 53 18.2**	**+1.4**
TX32				IAmb	IAmb		02 53 33.2	
	comp=Z,3.4nm,1.5s							
DBIC	**Dimbokro**	**66.72**	**72**	P	**P**		**02 53 39.0**	**-1.5**
	comp=Z,4.1nm,1.0s,baz=202,slow=8.3,SNR=4.0							
DBIC	**Dimbokro**	**66.72**	**72**	P	**P**		**02 53 40.8**	**+0.3**
QSPA	**South Pole Qui**	**67.48**	**180**	P	**P**		**02 53 46.7**	**+2.1**
QSPA				IAmb	IAmb		02 53 49.1	
	comp=Z,2.6nm,1.1s							
TOA0	**Torodi Ar. Sit**	**75.44**	**69**	P	**P**		**02 54 31.9**	**-0.7**
TOA0				IAmb	IAmb		02 54 41.5	
	comp=Z,3.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**75.44**	**69**	P	**P**		**02 54 31.9**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=256,slow=5.5,SNR=10							
TORD	**Torodi Ar. Bea**	**75.44**	**69**	P	**P**		**02 54 31.5**	**-1.2**
ESDC	**Sonseca Array**	**84.97**	**43**	P	**P**		**02 55 23.4**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=205,slow=2.1,SNR=4.3							
ESDC	**Sonseca Array**	**84.97**	**43**	P	**P**		**02 55 23.2**	**+0.2**
ASAR	**Alice Springs**	**129.92**	**204**	PKP	**PKPdf**		**03 01 56.9**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=164,slow=3.0,SNR=2.2							
WRA	**Warramunga Arr**	**133.09**	**207**	PKP	**PKPdf**		**03 02 03.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=153,slow=1.9,SNR=8.3							
WRA	**Warramunga Arr**	**133.09**	**207**		**PKPdf**		**03 01 59.7**	**-2.6**
MKAR	**Makanchi Array**	**145.08**	**39**	PKPbc	**PKPab**		**03 02 24.9**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=325,slow=1.9,SNR=7.3							
MKAR	**Makanchi Array**	**145.08**	**39**		**PKPab**		**03 02 24.3**	**+0.8**

KMA 22 03:02:28.5±2.4,35.85N×125.00E,h0km, Error ellipse: s-maj=28.1km s-min=10.5km az=83.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSGBI	**Gyogryolbido**	**0.89**	**30**	P	Pg	03 02 44.5	-1.1
HUK2	**Heuksan-myeon**	**1.22**	**162**	P	Pg	03 02 52.0	+0.2
	SNR=181						
HUK2	**Heuksan-myeon**	**1.22**	**162**	P	Pg	03 02 52.0	+0.2
	SNR=181						
HUK2				S	Sn	03 03 09.7	-0.2
SMKB	**Mukjeong-gil**	**1.27**	**97**	P	Pg	03 02 52.7	-0.2
	SNR=10						
SMKB	**Mukjeong-gil**	**1.27**	**97**	P	Pg	03 02 52.7	-0.2
	SNR=10						
GOCB	**Gochang-gun**	**1.39**	**111**	P	Pn	03 02 54.1	-1.0
	SNR=13						
GOCB				S	Sb	03 03 13.6	0.0
GOCB	**Gochang-gun**	**1.39**	**111**	P	Pn	03 02 54.1	-1.0
	SNR=13						
GOCB				S	Sb	03 03 13.6	0.0
KSSES	**Seosan**	**1.50**	**51**	P	Pn	03 02 55.7	-0.9
	SNR=16						
KSSES	**Seosan**	**1.50**	**51**	P	Pn	03 02 55.7	-0.9
	SNR=16						
KSJEU	**Jeongeup**	**1.61**	**102**	P	Pn	03 02 57.0	-1.1
	SNR=15						
KSJEU	**Jeongeup**	**1.61**	**102**	P	Pn	03 02 57.0	-1.1
	SNR=15						
KSDEI	**Deokjeokdo**	**1.66**	**32**	P	Pn	03 02 56.3	-2.5
	SNR=8.2						
KSDEI	**Deokjeokdo**	**1.66**	**32**	P	Pn	03 02 56.3	-2.5
	SNR=8.2						
KSKWJ	**Gwangju**	**1.76**	**112**	P	Pn	03 02 59.6	-0.6
	SNR=12						
KSKWJ	**Gwangju**	**1.76**	**112**	P	Pn	03 02 59.6	-0.6
	SNR=12						
HAWB	**Hwaseong-si**	**1.89**	**49**	P	Pn	03 03 00.3	-1.6
	SNR=7.1						
HAWB	**Hwaseong-si**	**1.89**	**49**	P	Pn	03 03 00.3	-1.6
	SNR=7.1						
HAMB	**Hamyang**	**2.26**	**98**	P	Pn	03 03 06.9	-0.1
	SNR=24						

*IDC **22** 03:05:23.8±1.3,0.45N×122.48E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/29,mbtmp3.5/4,Error ellipse: s-maj=160.0km s-min=22.4km az=64.0*
*DJA **22** 03:05:38.5±0.6,0.30N×122.47E×12.2E±,h129km±5km,M3.7/7, mB4.8/1,MLv3.7/7,Mw(mB)4.0/1*
ISC 22 03:05:38.5±0.9,0.30N±0.07×122.47E±0.07,h114km,n11, σ3°04/12,mb3.5/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.55**	**288**	P	Pn	03 05 58.7	+2.6
MRSI				S	**Sn**	**03 06 13.3**	**+3.9**
GTOI	**Gorontalo**	**0.64**	**59**	P	Pn	03 06 00.1	+3.4
GTOI				S	**Sn**	**03 06 16.4**	**+5.9**
LUWI	**Luwuk**	**1.37**	**167**	P	**Pn**	**03 06 05.9**	**+1.9**
LUWI				S	**Sn**	**03 06 26.0**	**+2.6**
APSI	**Ampana**	**1.46**	**214**	P	**Pn**	**03 06 05.8**	**+0.8**
MPSI	**Mapaga**	**2.57**	**271**	P	**Pn**	**03 06 20.0**	**+1.1**
MNI	**Manado**	**2.63**	**64**	P	**Pn**	**03 06 20.9**	**+1.1**
SANI	**Sanana**	**4.22**	**124**	P	**Pn**	**03 06 40.1**	**-0.8**
WRA	**Warramunga Arr**	**23.24**	**151**	P	**P**	**03 10 32.9**	**-3.0**
	1.1nm,0.6s,baz=327,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.29**	**156**	P	**P**	**03 11 03.8**	**+0.3**
	0.2nm,0.4s,baz=340,slow=13,SNR=4.2						
SONM	**Songino Array**	**49.36**	**346**	P	**P**	**03 14 14.5**	**-1.9**
	0.6nm,0.7s,baz=160,slow=9.0,SNR=2.7						
MKAR	**Makanchi Array**	**58.08**	**329**	P	**P**	**03 15 17.6**	**-2.2**
	0.4nm,0.6s,baz=125,slow=8.7,SNR=4.9						

*IDC **22** 03:21:02.6±2.2,24.08S×14.93W,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.6/22,mbtmp3.6/5,MS3.9/14, Ms1 3.9/14,ms1mx3.7/25,Error ellipse: s-maj=87.9km s-min=35.3km az=149.0*
*NEIC **22** 03:21:07.5±2.0,24.0S±0.2×15.00W±0.09,h10km±2km, mb4.4/9,Error ellipse: s-maj=36.3km s-min=12.0km az=190.0*
ISC 22 03:21:02.7±1.9,24.5S±0.4×14.5W±0.3,h10km,n26, σ1°47/15,mb4.0/9,MS3.9/14,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**32.34**	**18**	LR	LR	03 36 54.7	
	comp=Z,130nm,22.0s,baz=128,slow=30						
BDFB	**Brasilia**	**32.63**	**279**	LR	LR	03 39 21.8	
	comp=Z,317nm,20.0s,baz=131,slow=34						
BOSA	**Boshof**	**35.68**	**105**	LR	LR	03 39 25.4	
	comp=Z,262nm,19.1s,baz=246,slow=30						
KOWA	**Kowa**	**40.06**	**16**	P	**P**	**03 28 38.9**	**+0.6**
KOWA				IAmb	IAmb	03 28 52.7	
	comp=Z,12nm,0.8s						
TOA0	**Torodi Ar. Sit**	**40.59**	**25**	P	**P**	**03 28 44.5**	**+1.7**
TORD	**Torodi Ar. Bea**	**40.59**	**25**	P	**P**	**03 28 43.7**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=206,slow=9.1,SNR=4.7						
TORD				LR	LR	03 42 37.1	
	comp=Z,221nm,19.6s,baz=165,slow=32						
TORD	**Torodi Ar. Bea**	**40.59**	**25**	P	**P**	**03 28 44.2**	**+1.5**
SAML	**Samuel**	**48.87**	**280**	P	**P**	**03 29 48.9**	**0.0**
SAML				IAmb	IAmb	03 29 52.2	
	comp=Z,3.8nm,1.1s						
PLCA	**Paso Flores**	**49.13**	**236**	LR	LR	03 49 20.8	
	comp=Z,67nm,18.9s,baz=102,slow=35						
PB14	**IPOC Station P**	**50.55**	**257**	P	**P**	**03 30 04.9**	**+2.8**
LPAZ	**La Paz**	**50.69**	**269**	P	**P**	**03 30 01.8**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=122,slow=5.3,SNR=3.7						
LPAZ				LR	LR	03 50 00.5	
	comp=Z,98nm,21.2s,baz=104,slow=35						
LPAZ	**La Paz**	**50.69**	**269**	P	**P**	**03 30 02.8**	**-0.8**
LPAZ				IAmb	IAmb	03 30 24.3	
	comp=Z,5.9nm,1.5s						
PB07	**IPOC Station P**	**50.75**	**261**	P	**P**	**03 30 05.6**	**+2.1**
PB16	**IPOC Station P**	**51.32**	**266**	P	**P**	**03 30 08.0**	**-0.3**
PB16				IAmb	IAmb	03 30 24.8	
	comp=Z,6.9nm,1.3s						
PSGCX	**Pisagua**	**51.52**	**264**	P	**P**	**03 30 08.2**	**-1.0**
PSGCX				IAmb	IAmb	03 30 20.4	
	comp=Z,4.8nm,1.1s						
KMBO	**Kilima Mbogo**	**55.09**	**73**	LR	LR	03 50 12.0	
	comp=Z,64nm,20.9s,baz=168,slow=32						
KEST	**Kesra**	**63.98**	**21**	LR	LR	03 57 46.9	
	comp=Z,131nm,18.8s,baz=208,slow=35						
ESDC	**Sonseca Array**	**64.56**	**9**	P	**P**	**03 31 40.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=179,slow=7.9,SNR=1.7						
ESDC				LR	LR	03 56 02.8	
	comp=Z,64nm,21.4s,baz=195,slow=33						
ROSC	**El Rosal**	**65.06**	**288**	LR	LR	03 59 41.4	
	comp=Z,374nm,18.9s,baz=119,slow=36						
BRTR	**Keskin Array B**	**78.06**	**36**	P	**P**	**03 33 01.4**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=204,slow=9.2,SNR=3.2						
AKASG	**Malin Array Be**	**84.20**	**26**	P	**P**	**03 33 33.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=222,slow=4.7,SNR=4.7						
NOA	**NORSAR Array B**	**87.72**	**12**	LR	LR	04 13 00.5	
	comp=Z,23nm,18.4s,baz=225,slow=36						
SCHQ	**Schefferville**	**90.80**	**333**	LR	LR	04 08 50.5	
	comp=Z,85nm,19.8s,baz=105,slow=32						
FINES	**FINESS Array B**	**91.64**	**18**	LR	LR	04 13 50.0	
	comp=Z,51nm,20.7s,baz=221,slow=35						
ARCES	**ARCESS Array B**	**98.05**	**13**	LR	LR	04 18 40.5	
	comp=Z,40nm,18.8s,baz=180,slow=35						
KSRS	**Korea Array**	**145.49**	**59**	PKPbc	**PKiKP**	**03 40 44.1**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=275,slow=3.2,SNR=8.8						

*NEIC **22** 03:24:07.0±2.8,6.63S±0.10×155.19E±0.09,h35km±2km, mb4.4/11,Error ellipse: s-maj=20.3km s-min=8.2km az=318.0*
*IDC **22** 03:24:16.2±9.2,6.23S×154.58E,h134km±75km,mb3.3/3, mb1 3.6/4,mb1mx3.2/30,mbtmp3.8/4,Error ellipse: s-maj=125.6km s-min=34.4km az=126.0*
ISC 22 03:24:08.3±1.0,6.6S±0.1×155.2E±0.1,h56km,n16, σ1°53/17,mb4.2/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.80**	**308**	Pn	**Pn**	**03 25 06.0**	**+1.7**
PMG	**Port Moresby**	**8.40**	**250**	P	**Pn**	**03 26 09.7**	**+2.2**
	5.7nm,0.3s,baz=59,slow=7.0,SNR=5.7						
PMG				S	**Sn**	**03 27 39.7**	**-1.3**
	4.6nm,0.3s,baz=237,slow=17,SNR=2.1						
DZM	**Mont Dzumac**	**18.88**	**146**	P	**Pn**	**03 28 26.9**	**+1.5**
DZM				IAmb	IAmb	03 28 44.1	
	comp=Z,19nm,1.1s						
FAKI	**Fak Fak**	**23.11**	**278**	P	**P**	**03 29 10.4**	**+0.7**
ARMA	**Armidale**	**23.96**	**188**	P	**P**	**03 29 18.6**	**+1.0**
ARMA				IAmb	IAmb	03 29 20.7	
	comp=Z,18nm,1.5s						
WR0	**Warramunga Arr**	**24.03**	**234**	P	**P**	**03 29 16.7**	**-1.6**
WR0				IAmb	IAmb	03 29 18.6	
	comp=Z,9.9nm,1.1s						
WB0	**Warramunga Arr**	**24.06**	**235**	P	**P**	**03 29 16.9**	**-1.7**
WB0				IAmb	IAmb	03 29 18.3	
	comp=Z,17nm,1.4s						
WB2	**Warramunga Arr**	**24.18**	**235**	P	**P**	**03 29 18.5**	**-1.2**
WB2				IAmb	IAmb	03 29 19.9	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**24.19**	**235**	P	**P**	**03 29 18.4**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=58,slow=9.3,SNR=23						
WRA	**Warramunga Arr**	**24.19**	**235**	P	**P**	**03 29 18.6**	**-1.2**
MTN	**Manton Dam**	**24.47**	**253**	P	**P**	**03 29 22.6**	**+0.3**
MTN				IAmb	IAmb	03 29 40.4	
	comp=Z,31nm,1.4s						
ASAR	**Alice Springs**	**26.57**	**228**	P	**P**	**03 29 39.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=57,slow=8.4,SNR=5.5						
STKA	**Stephens Creek**	**28.19**	**205**	P	**P**	**03 29 54.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.97**	**246**	P	**P**	**03 30 18.2**	**-2.2**
FITZ				IAmb	IAmb	03 30 25.1	
	comp=Z,14nm,1.5s						
LTZ	**Lake Taylor**	**39.11**	**160**	P	**P**	**03 31 30.4**	**+0.1**
ILAR	**Eielson Array**	**82.92**	**21**	P	**P**	**03 36 25.3**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=242,slow=5.5,SNR=2.4						

*HEL **22** 03:35:38.2,67.80N×20.20E,h0km,ML2.1,Explosion*
*HEL **22** 03:35:38.3±0.0,67.82N×20.21E,h0km,ML2.1, ML2.1(UPP),Explosion*
*NAO **22** 03:35:38.3±0.8,67.78N×20.61E,ML2.4*
*BER **22** 03:35:39.7±3.4,67.78N×20.42E,h0km,ML1.9, ML2.4(NAO),Suspected explosion*
*IDC **22** 03:35:39.7±1.2,67.78N×20.74E,h0km,mb1 2.8/3, mb1mx2.7/44,mbtmp2.7/3,ML1.9/3,Error ellipse: s-maj=19.3km s-min=9.0km az=114.0*
ISC 22 03:35:37.1±0.7,67.76N±0.02×20.32E±0.02,h0km,n46, σ1°53/77,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.20**	**2**	*i* P	**Pg**	**03 35 40.6**	**-0.3**
KUA				*i* S	**Sg**	**03 35 42.6**	**-0.8**
RATU	**Laukkuluspa**	**0.28**	**284**	*i* P	**Pg**	**03 35 42.3**	**-0.2**
RATU				*i* S	**Sg**	**03 35 45.6**	**-0.5**
KOVU	**Salmi**	**0.47**	**353**	*i* P	**Pg**	**03 35 45.3**	**-0.8**
KOVU				*i* S	**Sg**	**03 35 50.8**	**-1.4**
NIKU	**Nikkaluokta**	**0.50**	**283**	*i* P	**Pg**	**03 35 46.2**	**-0.4**
NIKU				*i* S	**Sg**	**03 35 52.5**	**-0.6**
DUNU	**Dundret**	**0.65**	**171**	*i* P	**Pb**	**03 35 51.0**	**-0.2**
DUNU				*i* S	**Sb**	**03 36 00.9**	**+0.1**
LANU	**Lannavaara**	**0.70**	**64**	*eP*	**Pg**	**03 35 50.9**	**+0.5**
LANU				*eS*	**Sg**	**03 36 00.4**	**+1.0**
MASU	**Masugnsbyn**	**0.71**	**114**	*i* P	**Pb**	**03 35 52.4**	**0.0**
KIF	**Kilpisjarvi**	**1.27**	**8**	Pg	**Pg**	**03 36 00.9**	**-0.4**
KIF				Lg	Lg	03 36 17.2	
KIF	**Kilpisjarvi**	**1.27**	**8**	*eP*	**Pg**	**03 36 00.9**	**-0.4**
KIF				*eS*	**Sg**	**03 36 17.3**	**-0.4**
KIF	**Kilpisjarvi**	**1.27**	**8**	*e*PB	**Pg**	**03 36 00.8**	**-0.4**
KIF				MSG		03 36 16.6	
	comp=Z,21nm,0.2s						
KIF				*e*SB	**Sg**	**03 36 17.1**	**-0.6**
PAJU	**Pajala**	**1.31**	**123**	*eP*	**Pn**	**03 36 02.7**	**+0.1**
PAJU				*e*SB	**Sn**	**03 36 21.2**	**+0.5**
HEF	**Hetta**	**1.42**	**61**	Pg	**Pn**	**03 36 03.7**	**-0.4**
HEF				Lg	Lg	03 36 20.7	
HEF	**Hetta**	**1.42**	**61**	*eP*	**Pn**	**03 36 03.9**	**-0.1**
HEF				*eS*	**Sg**	**03 36 22.2**	**-0.3**
HEF	**Hetta**	**1.42**	**61**	*eP*	**Pn**	**03 36 03.6**	**-0.4**
	baz=245						
HEF				MSG		03 36 21.2	
	comp=Z,10nm,0.2s						
KLF	**Kolari**	**1.50**	**109**	*eP*	**Pb**	**03 36 05.9**	**+0.2**
KLF				*e*SN	**Sn**	**03 36 27.2**	**+1.9**
KTK1	**Kautokeino**	**1.66**	**39**	*eP*	**Pn**	**03 36 07.5**	**0.0**
KTK1				*eS*	**Sn**	**03 36 28.6**	**-0.8**
KTK1				IAML		03 36 33.3	
	comp=Z,13nm,0.7s						
JETT	**Jettan, Norway**	**1.81**	**1**	*eP*	**Pn**	**03 36 09.2**	**-0.2**
JETT				*eS*	**Sn**	**03 36 31.8**	**-1.3**
JETT				IAML		03 36 34.6	
	comp=Z,39nm,0.5s						
FAUS	**Fauske**	**1.97**	**261**	*eP*	**Pn**	**03 36 12.9**	**+1.3**
FAUS				*eS*	**Sb**	**03 36 38.6**	**-0.1**
FAUS				IAML		03 36 42.8	
	comp=Z,20nm,0.7s						
TOF	**Tornio**	**2.31**	**135**	*e*PB	**Pb**	**03 36 19.3**	**-0.2**
TOF				MSG		03 36 48.4	
	comp=Z,10nm,0.2s						
TOF				*e*SG	**Sg**	**03 36 51.7**	**+0.6**
SGF	**Sodankyl**	**2.40**	**95**	*eP*	**Pb**	**03 36 19.5**	**-1.6**
SGF				*e*SG	**Sg**	**03 36 53.0**	**-1.1**
RNF	**Rovaniemi**	**2.50**	**115**	*e*PB	**Pb**	**03 36 22.0**	**-0.8**
RNF				*e*SB	**Sg**	**03 36 56.0**	**-1.3**
LOF	**Lofoten**	**2.58**	**281**	*eP*	**Pn**	**03 36 20.5**	**+0.4**
ARA0	**ARCESS Array S**	**2.61**	**44**	Pn	**Pn**	**03 36 21.3**	**+0.9**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**03 36 53.0**	**+0.3**
	baz=214,slow=22						
ARA0				Lg	Lg	03 36 57.5	
	baz=223,slow=28						
ARA0	**ARCESS Array S**	**2.61**	**44**	Pn	**Pn**	**03 36 21.3**	**+0.9**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**03 36 53.0**	**+0.3**
	baz=214,slow=22						
ARA0				Sg	**Sb**	**03 36 57.5**	**+0.4**
	baz=223,slow=28						
ARA0				IAML		03 37 00.6	
	comp=Z,8.6nm,0.8s						
ARA0	**ARCESS Array S**	**2.61**	**44**	*eP*	**Pn**	**03 36 21.5**	**+1.1**
	baz=226						
ARA0				*e*SG	**Sb**	**03 36 58.0**	**+0.9**
ARCES	**ARCESS Array B**	**2.61**	**44**	Pn	**Pn**	**03 36 21.3**	**+0.9**
	baz=227,slow=14,SNR=79						
ARCES				Sn	**Sn**	**03 36 54.0**	**+1.3**
	baz=223,slow=26,SNR=12						
HAMF	**Hammerfest**	**3.14**	**21**	*eP*	**Pn**	**03 36 29.1**	**+1.4**
HAMF				*eS*	**Sn**	**03 37 04.7**	**-1.0**
HAMF				IAML		03 37 16.4	
	comp=Z,10.0nm,0.4s						
KEV	**Kevo**	**3.15**	**47**	*eP*	**Pn**	**03 36 29.2**	**+1.3**
KEV				*eS*	**Sn**	**03 37 07.7**	**+1.5**
KEV				MSG		03 37 11.0	
	comp=Z,6.3nm,0.2s						
VRF	**Varrio**	**3.53**	**86**	*eP*	**Pn**	**03 36 34.9**	**+1.7**
OLKF	**Oulanka, Finla**	**3.84**	**108**	*eP*	**Pn**	**03 36 39.6**	**+2.2**
OUF	**Merijarvi**	**3.85**	**150**	*eP*	**Pb**	**03 36 42.1**	**-3.6**
MSF	**Maaselka**	**3.91**	**114**	*eP*	**Pn**	**03 36 41.1**	**+2.7**
	baz=298						
KU6	**Riekki**	**4.15**	**110**	*eP*	**Pn**	**03 36 43.8**	**+2.1**
	baz=303						
HUSU	**Husum**	**4.46**	**186**	*e*PG	**Pb**	**03 36 58.7**	**+2.6**
	baz=8.0						
APA0	**Apatity Array**	**4.83**	**86**	Pn	**Pn**	**03 36 51.5**	**+0.5**
	baz=285,slow=11						
APA0				Sn	**Sn**	**03 37 45.0**	**-2.5**
	baz=276,slow=22						
APA0				Lg	Lg	03 38 03.9	
	baz=270,slow=22						
APA0	**Apatity Array**	**4.83**	**86**	Pn	**Pn**	**03 36 51.5**	**+0.5**
	baz=285,slow=11						
APA0				Sn	**Sn**	**03 37 45.0**	**-2.5**
	baz=276,slow=22						
FIA0	**FINESS Array S**	**6.80**	**156**	Pn	**Pn**	**03 37 20.3**	**+2.3**
	baz=336,slow=10						
FIA0				Sn	**Sn**	**03 38 34.1**	**-1.9**
FIA0				Lg	Lg	03 39 09.1	
	baz=343,slow=37						
FIA0	**FINESS Array S**	**6.80**	**156**	Pn	**Pn**	**03 37 20.3**	**+2.3**
	baz=336,slow=10						
FIA0				Sn	**Sn**	**03 38 34.1**	**-1.9**
FIA0				Sg	**Sg**	**03 39 09.1**	**-6.2**
	baz=343,slow=37						
FINES	**FINESS Array B**	**6.80**	**156**	Pn	**Pn**	**03 37 20.3**	**+2.3**
	comp=Z,0.0nm,0.3s,baz=336,slow=9.5,SNR=2.6						
FINES				Sn	**Sn**	**03 38 36.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=348,slow=26,SNR=2.2						
FINES				Lg	Lg	03 39 12.7	
	comp=Z,0.4nm,0.3s,baz=346,slow=28,SNR=10.0						
NB2	**NORSAR Subarra**	**7.80**	**215**	Pn	**Pn**	**03 37 33.2**	**+1.5**
NB2	**NORSAR Subarra**	**7.80**	**215**	Pn	**Pn**	**03 37 33.2**	**+1.5**
NOA	**NORSAR Array B**

PMSA IAmb IAmb 03 48 42.7
comp=Z,31nm,1.1s
ILAR Eielson Array 89.52 13 P P 03 49 04.3 -0.7
comp=Z,0.1nm,0.6s,baz=231,slow=5.7,SNR=1.5
ARSB Arslanbob 117.25 306 PKPdf 03 54 49.3 -0.8
ARCES ARCESS Array B 129.78 349 PKP **PKPdf 03 55 12.0 -1.0**
comp=Z,0.5nm,0.5s,baz=49,slow=4.2,SNR=6.5
ARCES ARCESS Array B 129.78 349 PKPdf 03 55 12.2 -0.8
FINES FINESS Array B 136.51 343 PKPdf **PKiKP 03 55 26.9 -0.8**
BRTR Keskin Array B 146.88 311 PKPbc **PKPbc 03 55 47.5 -0.4**
comp=Z,0.5nm,0.6s,baz=104,slow=4.6,SNR=4.0
BRTR Keskin Array B 146.88 311 PKPbc 03 55 47.8 -0.1

*DJA **22** 03:41:11.2±2.7,3°S±3°×12°2E±°, h15km±24km, M3.7/13, mb3.9/2, MLv3.6/13*
ISC 22 03:41:11.5±1.2,2°55S±0°.05×121°.70E±0°.09, h22km, n13, σ0§66/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.61**	**182**	P		**Pb**	**03 41 40.5**	**-0.1**
APSI	**Ampana**	**1.63**	**358**	P		**Pn**	**03 41 38.7**	**-0.2**
APSI				S		**Sb**	**03 42 00.7**	**-0.3**
LUWI	**Luwuk**	**1.84**	**36**	P		**Pn**	**03 41 41.8**	**0.0**
TTSI	**Tana Toraja**	**1.94**	**255**	P		**Pn**	**03 41 43.0**	**-0.2**
BNSI	**Bone**	**2.43**	**221**	P		**Pn**	**03 41 50.4**	**+0.4**
PMSI	**Majene**	**2.94**	**251**	P		**Pn**	**03 41 57.4**	**+0.4**
MRSI	**Marisa**	**3.02**	**5**	P		**Pn**	**03 41 58.6**	**+0.6**
KAPI	**Kappang**	**3.13**	**218**	P		**Pn**	**03 41 59.9**	**+0.4**
BKSI	**Bulukumba**	**3.17**	**210**	P		**Pn**	**03 41 58.8**	**-1.4**
MPSI	**Mapaga**	**3.39**	**328**	P		**Pn**	**03 42 03.3**	**+0.2**
GTOI	**Gorontalo**	**3.42**	**22**	P		**Pn**	**03 42 04.6**	**+1.0**
MKS	**Makassar**	**3.46**	**220**	P		**Pn**	**03 42 05.0**	**+0.9**
EDFI	**Ende, Flores**	**6.16**	**180**	P		**Pn**	**03 42 41.8**	**+0.5**

IDC 22 03:41:21.6±9.1, 29°.92N×70°.80E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/44, mbtmp3.5/4, ML3.3/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/40, Error ellipse: s-maj=296.0km s-min=36.3km az=83.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.07**	**25**	P		P	03 45 45.5	-0.1
	0.1nm,0.3s,baz=212,slow=11,SNR=5.6							
KURBB	**Kurchatov Arra**	**21.48**	**14**	P		P	03 46 10.0	-1.7
	1.7nm,0.8s,baz=206,slow=11,SNR=4.1							
ZALV	**Zalesovo Beam**	**26.08**	**19**	P		P	03 46 58.3	+1.5
	0.4nm,0.3s,baz=195,slow=10,SNR=1.9							
ZALV				LR		LR	03 58 36.7	
	comp=Z,32nm,18.4s,baz=279,slow=40							
WRA	**Warramunga Arr**	**78.72**	**121**	P		P	03 53 26.1	-0.1
	0.3nm,0.7s,baz=310,slow=6.3,SNR=1.5							
ILAR	**Eielson Array**	**81.14**	**15**	LR		LR	04 33 28.0	
	comp=Z,42nm,18.9s,baz=96,slow=38							

*NEIC **22** 03:55:24.8±2.4, 31°.07S±0°.10×178°.8W±0°.2, h100km±9km, mb4.8/17, Error ellipse: s-maj=29.1km s-min=12.0km az=107.0*
*IDC **22** 03:55:27.6±1.5, 30°.74S×178°.65W, h142km±21km, mb3.9/6, mb1 4.0/7, mb1mx3.7/38, mbtmp4.4/7, Error ellipse: s-maj=29.6km s-min=19.3km az=47.0*
ISC 22 03:55:24.7±0.6, 31°.01S±0°.06×178°.9W±0°.1, h100km, n64, σ1§92/79, mb4.7/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GLKZ	**Green Lake**	**1.94**	**27**	P		**Pn**	**03 55 56.0**	**-0.5**
GLKZ				S		**Sn**	**03 56 19.4**	**-1.4**
RAO	**Raoul Island**	**1.95**	**26**	P		**Pn**	**03 55 56.5**	**-0.2**
	122nm,0.3s,baz=108,slow=22,SNR=2.4							
RAO				S		**Sn**	**03 56 21.3**	**+0.2**
	476nm,0.3s,baz=132,slow=22,SNR=8.1							
RIZ	**Raoul Island**	**1.96**	**26**	P		**Pn**	**03 55 57.0**	**+0.3**
RIZ				S		**Sn**	**03 56 21.3**	**+0.2**
MXZ	**Matakaoa Point**	**6.93**	**199**	Pn		**Pn**	**03 57 07.4**	**+3.9**
MXZ	**Matakaoa Point**	**6.93**	**199**	P		**Pn**	**03 57 03.5**	**0.0**
MXZ				S		**Sn**	**03 58 21.7**	**+0.9**
WMGZ	**Waiomatatini S**	**7.14**	**197**	P		**Pn**	**03 57 06.7**	**+0.3**
WMGZ				S		**Sn**	**03 58 29.8**	**+3.8**
HAZ	**Te Kaha**	**7.26**	**201**	P		**Pn**	**03 57 08.2**	**+0.2**
HAZ				S		**Sn**	**03 58 32.8**	**+4.0**
PKGZ	**Pakihiroa**	**7.30**	**199**	P		**Pn**	**03 57 08.0**	**-0.6**
PKGZ				S		**Sn**	**03 58 31.5**	**+1.7**
RUGZ	**Raukumara Rang**	**7.49**	**201**	P		**Pn**	**03 57 11.3**	**+0.1**
RUGZ				S		**Sn**	**03 58 35.3**	**+0.8**
OUZ	**Omahuta**	**7.55**	**234**	Pn		Pn	03 57 19.5	+7.5
CNGZ	**Carnagh Statio**	**7.82**	**197**	P		**Pn**	**03 57 15.3**	**-0.4**
CNGZ				S		**Sn**	**03 58 44.7**	**+2.2**
URZ	**Urewera**	**7.94**	**203**	P		**Pn**	**03 57 16.7**	**-0.5**
	0.7nm,0.3s,baz=301,slow=23,SNR=12							
URZ				S		**Sn**	**03 58 45.5**	**+0.2**
	32nm,0.3s,baz=22,slow=20,SNR=13							
URZ	**Urewera**	**7.94**	**203**	Pn		**Pn**	**03 57 15.8**	**-1.4**
URZ	**Urewera**	**7.94**	**203**	P		**Pn**	**03 57 16.9**	**-0.3**
URZ				S		**Sn**	**03 58 45.9**	**+0.6**
RIGZ	**Rimuhau**	**8.15**	**199**	P		**Pn**	**03 57 20.5**	**+0.3**
RIGZ				S		**Sn**	**03 58 49.7**	**-0.8**
MUGZ	**Murupara**	**8.25**	**204**	P		**Pn**	**03 57 20.1**	**-1.4**
MUGZ				S		**Sn**	**03 58 52.5**	**-0.5**
BKZ	**Black Stump Fm**	**8.96**	**204**	P		**Pn**	**03 57 30.5**	**-0.7**
BKZ				S		**Sn**	**03 59 09.0**	**-1.4**
ETVZ	**East Tongariro**	**9.22**	**207**	P		Pn	03 57 29.8	-5.0
OTVZ	**Oturere**	**9.26**	**207**	P		**Pn**	**03 57 34.5**	**-0.9**
SNVZ	**South Ngauruho**	**9.29**	**207**	P		**Pn**	**03 57 35.9**	**0.0**
PNHZ	**Pukenui**	**9.73**	**203**	P		**Pn**	**03 57 40.9**	**-0.8**
PNHZ				S		**Sn**	**03 59 25.1**	**-4.0**
BFZ	**Birch Farm**	**10.42**	**201**	Pn		**Pn**	**03 57 50.8**	**-0.2**
BFZ	**Birch Farm**	**10.42**	**201**	P		**Pn**	**03 57 47.5**	**-3.5**
BFZ				S		**Sn**	**03 59 39.2**	**-6.5**
KHZ	**Kahutara**	**12.88**	**206**	Pn		**Pn**	**03 58 24.5**	**+0.6**
MSVF	**Nonsavu**	**13.50**	**348**	P		**Pn**	**03 58 32.2**	**-0.1**
	0.4nm,0.3s,baz=127,slow=15,SNR=6.6							
MSVF	**Nonsavu**	**13.50**	**348**	P		**Pn**	**03 58 35.0**	**+2.7**
LTZ	**Lake Taylor**	**13.69**	**208**	Pn		**Pn**	**03 58 31.9**	**-2.6**
OXZ	**Oxford**	**14.24**	**208**	P		**P**	**03 59 43.9**	**-1.9**
MQZ	**McQueen's Vall**	**14.32**	**205**	P		**P**	**03 58 45.1**	**-1.6**
RPZ	**Rata Peaks**	**14.96**	**209**	P		**P**	**03 58 52.4**	**-1.5**
FOZ	**Fox Glacier**	**15.36**	**212**	P		**P**	**03 58 58.4**	**+0.1**
LBZ	**Lake Benmore**	**15.88**	**210**	Pn		**Pn**	**03 59 00.7**	**-1.6**
LBZ				IAmb		IAmb	03 59 09.2	
	comp=Z,123nm,1.7s							
ODZ	**Otahua Downs**	**16.22**	**207**	P		**P**	**03 59 08.2**	**+0.4**
ODZ				IAmb		IAmb	03 59 25.3	
	comp=Z,139nm,1.6s							
STKA	**Stephens Creek**	**33.58**	**258**	P		**P**	**04 01 57.5**	**+2.2**
	comp=Z,13nm,0.7s,baz=108,slow=14,SNR=3.1							
STKA	**Stephens Creek**	**33.58**	**258**	P		**P**	**04 01 57.6**	**+2.4**
BBOO	**Buckleboo**	**38.05**	**255**	P		**P**	**04 02 34.3**	**+0.8**
AS31	**Alice Springs**	**42.29**	**268**	P		**P**	**04 03 08.9**	**+0.2**
ASAR	**Alice Springs**	**42.30**	**268**	P		**P**	**04 03 09.1**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=106,slow=7.1,SNR=28							
ASAR				PcP		**PcP**	**04 04 59.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=111,slow=4.5,SNR=1.8							
ASAR	**Alice Springs**	**42.30**	**268**	P		**P**	**04 03 08.8**	**+0.1**
WR0	**Warramunga Arr**	**43.16**	**273**	P		**P**	**04 03 15.8**	**+0.2**
WR0				IAmb		IAmb	04 04 50.7	
	comp=Z,43nm,1.9s							
WB2	**Warramunga Arr**	**43.33**	**273**	P		**P**	**04 03 17.1**	**+0.1**
WB2				IAmb		IAmb	04 04 05.5	
	comp=Z,16nm,1.4s							
WRAB	**Tennant Creek**	**43.33**	**273**	P		**P**	**04 03 17.0**	**-0.1**
WRAB				IAmb		IAmb	04 03 17.9	
	comp=Z,19nm,1.6s							
WRA	**Warramunga Arr**	**43.34**	**273**	P		**P**	**04 03 17.1**	**0.0**
	comp=Z,1.7nm,0.3s,baz=110,slow=8.0,SNR=73							
WRA	**Warramunga Arr**	**43.34**	**273**	P		**P**	**04 03 16.1**	**-1.0**
WB0	**Warramunga Arr**	**43.37**	**274**	P		**P**	**04 03 17.4**	**+0.1**
WB0				IAmb		IAmb	04 04 40.6	
	comp=Z,38nm,1.9s							
FORT	**Forrest**	**45.13**	**256**	P		**P**	**04 03 31.4**	**+0.2**
SBA	**Scott Base**	**47.37**	**184**	P		**P**	**04 03 51.3**	**+3.2**
VNDA	**Vanda**	**47.41**	**186**	P		**P**	**04 03 49.1**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=5.9,slow=6.1,SNR=11							
VNDA	**Vanda**	**47.41**	**186**	P		**P**	**04 03 49.7**	**+1.2**
VNDA				IAmb		IAmb	04 03 58.9	
	comp=Z,13nm,1.9s							
FITZ	**Fitzroy Crossi**	**51.58**	**271**	P		**P**	**04 04 20.6**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=131,slow=2.6,SNR=1.3							
FITZ	**Fitzroy Crossi**	**51.58**	**271**	P		**P**	**04 04 21.0**	**+0.2**
CASY	**Casey**	**54.23**	**208**	P		**P**	**04 04 38.6**	**-1.1**
CASY				IAmb		IAmb	04 06 16.2	
	comp=Z,17nm,1.6s							
QSPA	**South Pole Qui**	**59.10**	**180**	P		**P**	**04 05 15.1**	**+0.7**
	comp=Z,7.6nm,0.6s,baz=358,slow=4.3,SNR=22							
QSPA	**South Pole Qui**	**59.10**	**180**	P		**P**	**04 05 15.2**	**+0.8**
QSPA				IAmb		IAmb	04 05 19.1	
	comp=Z,8.5nm,0.8s							
SNAA	**Sanae**	**77.57**	**179**	P		**P**	**04 07 11.5**	**+2.2**
VNA3	**Neumayer Olymp**	**77.75**	**176**	P		**P**	**04 07 12.5**	**+2.3**
VNA1	**Neumayer--Stat**	**78.41**	**177**	P		**P**	**04 07 16.4**	**+2.6**
FIA1	**FINESS Array S**	**145.44**	**339**	PKPdf		**PKPdf**	**04 14 46.6**	**-3.6**
FINES	**FINESS Array B**	**145.44**	**339**	PKPbc		**PKPdf**	**04 14 46.7**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=50,slow=4.3,SNR=11							
CLL	**Collm**	**157.88**	**340**	*i* PKPab		**PKPab**	**04 15 46.1**	**+3.6**
GRA1	**Grafenberg Arr**	**159.84**	**341**			**PKPdf**	**04 15 07.8**	**-3.7**
GRFO	**Grafenberg**	**159.84**	**341**			**PKPdf**	**04 15 08.2**	**-3.3**
TORD	**Torodi Ar. Bea**	**162.21**	**182**	PKPab		**PKPab**	**04 16 00.1**	**-2.1**
	comp=Z,1.6nm,0.8s,baz=182,slow=3.0,SNR=5.6							
TORD	**Torodi Ar. Bea**	**162.21**	**182**			**PKPab**	**04 16 00.3**	**-1.9**

*IDC **22** 03:57:26.0±3.4, 20°.34S×175°.26W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/39, mbtmp4.2/4, Error ellipse: s-maj=201.1km s-min=52.1km az=156.0*
*NEIC **22** 03:57:52.3±0.8, 19°.9S±0°.2×176°.0W±0°.2, h190km±14km, mb4.3/10, Error ellipse: s-maj=34.8km s-min=25.7km az=158.0*
ISC 22 03:57:52.2±1.1, 19°.9S±0°.2×176°.0W±0°.1, h200km, n18, σ0§49/19, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RAO	**Raoul Island**	**9.49**	**190**	Pn		**Pn**	**04 00 04.7**	**-0.1**
RAR	**Rarotonga**	**15.24**	**98**			**Pn**	**04 01 17.5**	**0.0**
CTA	**Charters Tower**	**35.44**	**263**	P		**P**	**04 04 29.7**	**+0.1**
	3.5nm,0.6s,baz=79,slow=5.2,SNR=2.1							
CTAO	**Charters Tower**	**35.44**	**263**	P		**P**	**04 04 29.4**	**-0.2**
STKA	**Stephens Creek**	**39.76**	**244**	P		**P**	**04 05 04.6**	**-1.1**
BBOO	**Buckleboo**	**44.51**	**243**	P		**P**	**04 05 45.3**	**+1.2**
BBOO				IAmb		IAmb	04 06 10.0	
	comp=Z,21nm,1.1s							
WR0	**Warramunga Arr**	**46.37**	**261**	P		**P**	**04 05 58.6**	**-0.2**
WR0				IAmb		IAmb	04 06 23.4	
	comp=Z,7.1nm,1.2s							
ASAR	**Alice Springs**	**46.50**	**256**	P		**P**	**04 06 00.6**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=90,slow=8.3,SNR=18							
ASAR				PcP		**PcP**	**04 07 30.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=116,slow=4.2,SNR=2.1							
ASAR	**Alice Springs**	**46.50**	**256**	P		**P**	**04 06 00.2**	**+0.3**
WB0	**Warramunga Arr**	**46.54**	**261**	P		**P**	**04 06 00.4**	**+0.3**
WB0				IAmb		IAmb	04 06 12.0	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**46.55**	**261**	P		**P**	**04 06 00.2**	**0.0**
WB2				IAmb		IAmb	04 06 22.7	
	comp=Z,20nm,1.5s							
WRAB	**Tennant Creek**	**46.55**	**261**	P		**P**	**04 06 00.4**	**+0.2**
WRAB				IAmb		IAmb	04 06 21.2	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**46.56**	**261**	P		**P**	**04 06 00.0**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=97,slow=8.2,SNR=23							
WRA	**Warramunga Arr**	**46.56**	**261**	P		**P**	**04 06 00.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**54.98**	**261**	P		**P**	**04 07 03.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=96,slow=9.2,SNR=1.0							
FITZ	**Fitzroy Crossi**	**54.98**	**261**	P		**P**	**04 07 02.9**	**-0.3**
FITZ				IAmb		IAmb	04 07 12.5	
	comp=Z,9.1nm,1.4s							
AKASG	**Malin Array Be**	**143.36**	**333**	PKP		**PKPdf**	**04 17 02.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=36,slow=4.3,SNR=2.4							
BRTR	**Keskin Array B**	**147.80**	**314**	PKPbc		**PKiKP**	**04 17 15.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=126,slow=5.6,SNR=2.3							

*IASPEI **22** 04:00:34.5±0.9, 35°.76N±0°.02×97°.39W±0°.03, h10km±6km, Error ellipse: s-maj=4.0km s-min=3.2km az=104.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ANF **22** 04:00:34.4±0.6, 35°.77N×97°.39W, h6km±3km, ML4.1/19, Error ellipse: s-maj=2.9km s-min=2.0km az=132.0*
*NEIC **22** 04:00:34.8±1.2, 35°.76N±0°.03×97°.40W±0°.04, h8km±7km, Error ellipse: s-maj=5.7km s-min=1.1km az=134.0*
*TUL **22** 04:00:34.6±1.4, 35°.74N±0°.03×97°.38W±0°.04, h6km±7km, ML3.7, mb_Lg3.4/142(NEIC), Mwr3.2/12(SLM), Error ellipse: s-maj=5.5km s-min=2.0km az=131.0*
*NEIC **22** 04:00:34.6, 35°.75N×97°.38W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.00; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-0.41; $M_{r\theta}$0.29; $M_{r\phi}$0.72; $M_{\theta\phi}$-0.08; Fault plane solution: M_o8.81000×10^{13} NP1:ϕ_s15.0000°, δ70.00000°, λ180.00000°. NP2:ϕ_s105.00000°, δ90.00000°, λ20.00000°. Principal axes: T 0.8810, Plg14.0000°, Azm332.00000°; N 0.0000, Plg70.0000°, Azm105.0000°; P -0.8811, Plg14.0000°, Azm238.0000°;*
ISC 22 04:00:34.6±0.8, 35°.76N±0°.02×97°.39W±0°.02, h9km±5km, n169, σ0§83/166, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
OK029	**Liberty Lake**	**0.06**	**304**			**Pg**	**04 00 36.7**	**+0.2**
OK029					Sg	**Sg**	**04 00 38.3**	**+0.3**
OK009	**Oakdale Elemen**	**0.18**	**188**			**Pg**	**04 00 38.3**	**-0.1**
OK009					Sg	**Sg**	**04 00 41.0**	**+0.1**
OK025	**Westminster Rd**	**0.19**	**166**			**Pg**	**04 00 38.3**	**-0.1**
OK025					Sg	**Sg**	**04 00 41.2**	**+0.1**
OK005	**Luther M Schoo**	**0.20**	**123**			**Pg**	**04 00 38.6**	**0.0**
OK005					Sg	**Sg**	**04 00 41.6**	**+0.2**
BCOK	**Bluff Creek, N**	**0.20**	**239**			**Pg**	**04 00 38.9**	**+0.1**
BCOK					Sg	**Sg**	**04 00 42.1**	**+0.5**
OK001	**Jones High Sch**	**0.22**	**157**		Pg	**Pg**	**04 00 38.9**	**-0.1**
OK001					Sg	**Sg**	**04 00 41.7**	**-0.3**
OKCFA	**Oklahoma City**	**0.35**	**188**			**Pg**	**04 00 41.4**	**-0.1**
OKCFA					Sg	**Sg**	**04 00 46.3**	**+0.2**
OKCFA	**Oklahoma City**	**0.35**	**188**		P	**Pg**	**04 00 41.4**	**-0.1**
	baz=9.5,SNR=98							
OKCFA					S	**Sg**	**04 00 46.3**	**+0.2**
	baz=9.5							
OKCFA	**Oklahoma City**	**0.35**	**188**		P		04 00 41.4	
	baz=9.5,SNR=98							
OKCFA					S		04 00 46.3	
	baz=9.5							
OKCSW	**OKLAHOMA CITY**	**0.36**	**186**			**Pg**	**04 00 41.4**	**-0.2**
OKCSW					Sg	**Sg**	**04 00 46.6**	**+0.3**
OK031	**S. Brethren Rd**	**0.49**	**67**		Pg	**Pg**	**04 00 44.3**	**+0.2**
OK031					Sg	**Sg**	**04 00 51.0**	**+0.5**
FNO	**Franklin**	**0.50**	**181**			**Pg**	**04 00 44.2**	**-0.2**
FNO					Sg	**Sg**	**04 00 51.2**	**+0.2**
OK030	**Cody Creek RV**	**0.52**	**71**			**Pg**	**04 00 44.8**	**+0.1**
OK030					Sg	**Sg**	**04 00 51.9**	**+0.3**
OK011	**Prague**	**0.64**	**115**		Pg	**Pg**	**04 00 46.9**	**0.0**
OK011					Sg	**Sg**	**04 00 55.4**	**+0.1**
QUOK	**Quay**	**0.69**	**54**			**Pg**	**04 00 47.9**	**0.0**
QUOK					Sg	**Sg**	**04 00 57.3**	**+0.4**
CROK	**Carrier**	**0.88**	**327**			**Pg**	**04 00 51.6**	**+0.1**
CROK					IAmb_Lg		04 01 02.4	
	comp=Z,310nm,0.8s							
BLOK	**Blackwell**	**1.01**	**8**			**Pg**	**04 00 53.8**	**-0.1**
X34A	**Smith Ranch, M**	**1.21**	**197**			**Pg**	**04 00 57.4**	**-0.5**
OK032	**Salt Plains WL**	**1.23**	**328**			**Pg**	**04 00 57.7**	**-0.5**
KAN13	**South Haven SW**	**1.25**	**357**			**Pg**	**04 00 58.2**	**-0.3**
KAN14	**Manchester OK**	**1.28**	**339**			**Pn**	**04 00 58.5**	**-0.1**
TUL1	**Leonard**	**1.31**	**83**	P		**Pn**	**04 00 58.0**	**-1.1**
	baz=263							
TUL1					S	**Sb**	**04 01 15.7**	**-0.6**
	baz=263							
TUL1	**Leonard**	**1.31**	**83**	P			04 00 58.1	
	baz=263,SNR=183							
TUL1					S		04 01 15.9	
	baz=263							
TUL1	**Leonard**	**1.31**	**83**	P			04 00 58.0	
	baz=263							
TUL1					S		04 01 15.7	
	baz=263							
KAN17	**Caldwell West**	**1.31**	**347**			**Pn**	**04 00 59.3**	**+0.2**
T35A	**Sooner Cattle**	**1.35**	**31**	Pn		**Pn**	**04 00 59.6**	**-0.1**
T35B	**Sooner Cattle**	**1.35**	**31**	P		**Pn**	**04 00 59.6**	**-0.1**
	baz=211,SNR=156							
T35B					S	**Sn**	**04 01 18.2**	**+0.4**
	baz=211							
T35B	**Sooner Cattle**	**1.35**	**31**	P			04 00 59.6	
	baz=211,SNR=156							
T35B					S		04 01 18.2	
	baz=211							
KAN09	**Caldwell North**	**1.38**	**353**			**Pn**	**04 01 00.5**	**+0.4**
KAN05	**Bluff City Nor**	**1.40**	**344**			**Pn**	**04 01 00.8**	**+0.5**
U32A	**Winter Ranch,**	**1.44**	**296**	Pn		**Pn**	**04 01 01.3**	**+0.4**
U32A	**Winter Ranch,**	**1.44**	**296**	P		**Pn**	**04 01 01.3**	**+0.4**
	baz=116,SNR=24							
U32A					S	**Sg**	**04 01 21.3**	**+0.3**
	baz=116							
U32A	**Winter Ranch,**	**1.44**	**296**	P			04 01 01.3	
	baz=116,SNR=24							
U32A					S		04 01 21.3	
	baz=116							
KS20	**Mayfield South**	**1.47**	**355**	Pn		**Pn**	**04 01 01.9**	**+0.6**
KS20				IAmb_Lg			04 01 25.0	
	comp=Z,286nm,0.9s							
KAN10	**Anthony SW Sta**	**1.47**	**338**			**Pn**	**04 01 02.0**	**+0.7**
WMOK	**Wichita Mounta**	**1.53**	**228**			**Pn**	**04 01 01.9**	**-0.1**
WMOK	**Wichita Mounta**	**1.53**	**228**	P		**Pn**	**04 01 02.0**	**-0.1**
	baz=48,SNR=509							
WMOK					S	**Sn**	**04 01 22.8**	**+0.7**
	baz=48							
WMOK	**Wichita Mounta**	**1.53**	**228**	P			04 01 02.0	
	baz=48							
WMOK					S		04 01 22.3	
	baz=48							
WMOK	**Wichita Mounta**	**1.53**	**228**	P			04 01 02.0	
	baz=48,SNR=509							
WMOK					S		04 01 22.8	
	baz=48							
KAN08	**Anthony NE Sta**	**1.53**	**343**			**Pb**	**04 01 03.0**	**-0.2**
KS21	**Milan North St**	**1.54**	**352**	IAmb_Lg			04 01 26.8	
	comp=Z,271nm,0.8s							
KAN16	**Harper SW Stat**	**1.56**	**340**	Pn		**Pn**	**04 01 03.1**	**+0.6**
KAN12	**Harper NE Stat**	**1.61**	**343**			**Pb**	**04 01 04.2**	**-0.3**
LOOK	**Love County**	**1.77**	**174**			**Pn**	**04 01 06.1**	**+0.6**
LOOK				IAmb_Lg			04 01 33.8	
	comp=Z,237nm,0.8s							
X37A	**Clayton**	**2.03**	**125**			**Pn**	**04 01 09.5**	**+0.6**
X37A				IAmb_Lg			04 01 39.7	
	comp=Z,135nm,0.8s							
X37A	**Clayton**	**2.03**	**125**	P		**Pn**	**04 01 09.4**	**+0.6**
	baz=306,SNR=389							
X37A	**Clayton**	**2.03**	**125**	P			04 01 09.4	
	baz=306,SNR=389							
Z35A	**Perchaven, San**	**2.43**	**177**	Pn		**Pn**	**04 01 15.1**	**+0.7**
Z35A	**Perchaven, San**	**2.43**	**177**	P		**Pn**	**04 01 15.0**	**+0.5**
	baz=358,SNR=44							
Z35A					S	**Sn**	**04 01 46.6**	**+2.3**
	baz=358							
Z35A	**Perchaven, San**	**2.43**	**177**	P			04 01 15.0	
	baz=358,SNR=44							
Z35A					S		04 01 46.6	
	baz=358							
U38A	**Gravette**	**2.53**	**74**	IAmb_Lg			04 02 01.3	
	comp=Z,114nm,1.0s							
U38A	**Gravette**	**2.53**	**74**	P		**Pn**	**04 01 17.0**	**+1.1**
	baz=255,SNR=201							
U38A	**Gravette**	**2.53**	**74**	P			04 01 17.0	
	baz=255,SNR=201							
HHAR	**Hobbs**	**2.85**	**78**			**Pn**	**04 01 21.2**	**+1.0**
HHAR	**Hobbs**	**2.85**	**78**	P		**Pn**	**04 01 20.7**	**+0.4**
	baz=260							
HHAR	**Hobbs**	**2.85**	**79**	P			04 01 20.7	
	baz=260							
W39A	**Magazine**	**3.00**	**100**			**Pn**	**04 01 22.3**	**0.0**
W39A				IAmb_Lg			04 02 15.9	
	comp=Z,172nm,0.8s							
W39A	**Magazine**	**3.00**	**100**	P		**Pn**	**04 01 22.9**	**+0.6**
	baz=282,SNR=29							
W39A	**Magazine**	**3.00**	**100**	P			04 01 22.5	
	baz=282,SNR=12							
W39A					S		04 01 58.5	
	baz=282							
W39A	**Magazine**	**3.00**	**100**	P			04 01 22.9	
	baz=282,SNR=29							
Z38A	**Mt. Pleasant**	**3.19**	**141**	Pn		**Pn**	**04 01 25.1**	**+0.2**
Z38A				IAmb_Lg			04 02 21.5	
	comp=Z,130nm,0.9s							
Z38A	**Mt. Pleasant**	**3.19**	**141**	P		**Pn**	**04 01 25.1**	**+0.2**
	baz=322							
Z38A	**Mt. Pleasant**	**3.19**	**141**	P			04 01 25.1	
	baz=322							
MIAR	**Mount Ida**

W41B	**Gary Mavity, V**	**4.24**	**96**	P		**Pn**	**04 01 39.7**	**+0.4**
	baz=279,SNR=53								
W41B	**Gary Mavity, V**	**4.24**	**96**	P			04 01 39.6		
	baz=279,SNR=11								
W41B				S			04 02 29.2		
	baz=279								
W41B	**Gary Mavity, V**	**4.24**	**96**	P			04 01 39.7		
	baz=279,SNR=53								
FCAR	**Ozark Folk Cen**	**4.28**	**87**			**Pn**	**04 01 40.3**	**+0.4**
FCAR				IAmb_Lg			04 02 59.6		
	comp=Z,114nm,0.9s								
MGMO	**Mountain Grove**	**4.36**	**70**			**Pn**	**04 01 41.9**	**+0.9**
MGMO				IAmb_Lg			04 02 59.1		
	comp=Z,120nm,0.9s								
Z41A	**Richland Creek**	**4.54**	**122**	P		**Pn**	**04 01 43.9**	**+0.5**
	baz=305								
Z41A	**Richland Creek**	**4.54**	**122**	P			04 01 43.3		
	baz=305								
Z41A				S			04 02 35.4		
	baz=305								
Z41A	**Richland Creek**	**4.54**	**122**	P			04 01 43.9		
	baz=305								
Z41A				P			04 01 43.9		
	baz=305								
NATX	**Nacogdoches**	**4.59**	**150**	Pn		**Pn**	**04 01 42.9**	**-1.4**
MSTX	**Muleshoe**	**4.77**	**250**	Pn		**Pn**	**04 01 47.6**	**+0.8**
MSTX				IAmb_Lg			04 03 10.9		
	comp=Z,67nm,1.1s								
MSTX	**Muleshoe**	**4.77**	**250**	P			04 01 47.1		
	baz=67,SNR=9.9								
R40A	**Maddies Statio**	**4.81**	**57**			**Pn**	**04 01 47.8**	**+0.6**
R40A				IAmb_Lg			04 03 20.1		
	comp=Z,58nm,0.9s								
R40A	**Maddies Statio**	**4.81**	**57**	P		**Pn**	**04 01 47.8**	**+0.6**
	baz=240,SNR=14								
R40A	**Maddies Statio**	**4.81**	**57**	P			04 01 47.8		
	baz=240,SNR=14								
P38A	**Dawn**	**4.92**	**37**	Pn		**Pn**	**04 01 50.0**	**+1.2**
P38A				IAmb_Lg			04 03 21.2		
	comp=Z,75nm,0.7s								
P38A	**Dawn**	**4.92**	**37**	P		**Pn**	**04 01 49.8**	**+1.1**
	baz=219,SNR=13								
P38A	**Dawn**	**4.92**	**37**	P			04 01 49.8		
	baz=219,SNR=13								
435B	**Jarrell**	**4.97**	**182**	Pn		**Pn**	**04 01 50.6**	**+1.2**
435B	**Jarrell**	**4.97**	**182**	P			04 01 49.6		
	baz=1.9								
435B				Sb			04 03 06.2		
	baz=1.9								
N33A	**J Bar K, Exete**	**4.97**	**359**	Pn		**Pn**	**04 01 51.6**	**+2.3**
N33A				IAmb_Lg			04 03 20.9		
	comp=Z,81nm,0.8s								
CCAR	**Cane Creek**	**4.98**	**110**	Pn		**Pn**	**04 01 48.1**	**-1.3**
LCAR	**Lake Charles**	**5.07**	**85**			**Pn**	**04 01 50.9**	**+0.1**
LCAR				IAmb_Lg			04 03 17.9		
	comp=Z,65nm,0.9s								
T42A	**Van Buren**	**5.24**	**74**	Pn		**Pn**	**04 01 54.0**	**+0.9**
T42A				IAmb_Lg			04 03 26.9		
	comp=Z,57nm,0.8s								
N35A	**Tabor**	**5.27**	**15**	Pn		**Pn**	**04 01 53.5**	**-0.1**
KSCO	**Kaye Shedlock'**	**5.28**	**309**	Pn		**Pn**	**04 01 53.2**	**-0.5**
KSCO				IAmb_Lg			04 03 33.9		
	comp=Z,55nm,0.8s								
CCM	**Cathedral Cave**	**5.43**	**63**	IAmb_Lg			04 03 36.9		
	comp=Z,54nm,0.8s								
JCT	**Junction City**	**5.64**	**202**			**Pn**	**04 01 58.4**	**-0.3**
JCT	**Junction City**	**5.64**	**202**	P		**Pn**	**04 01 58.8**	**+0.1**
	baz=20,SNR=7.3								
JCT	**Junction City**	**5.64**	**202**	P			04 01 58.6		
	baz=20								
JCT	**Junction City**	**5.64**	**202**	P			04 01 58.8		
	baz=20,SNR=7.3								
P40A	**Paris**	**5.67**	**47**	Pn		**Pn**	**04 02 00.6**	**+1.6**
BGNE	**Belgrade**	**5.67**	**354**	Pn		**Pn**	**04 01 59.8**	**+0.7**
BGNE	**Belgrade**	**5.67**	**354**	P			04 01 59.3		
	baz=174								
BGNE				S			04 03 03.9		
	baz=174								
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg			04 03 34.5		
	comp=Z,106nm,0.7s								
LPAR	**Lepanto**	**5.78**	**90**			**Pn**	**04 02 01.4**	**+0.9**
T25A	**Trinidad**	**5.82**	**286**	Pn		**Pn**	**04 02 02.2**	**+0.9**
T25A				IAmb_Lg			04 03 54.1		
	comp=Z,92nm,0.9s								
T25A	**Trinidad**	**5.82**	**286**	P			04 02 01.6		
	baz=102								
143A	**Socs Landing,**	**5.82**	**120**	Pn		**Pn**	**04 02 01.8**	**+0.7**
143A				IAmb_Lg			04 03 52.1		
	comp=Z,38nm,0.8s								
N38A	**Joes South For**	**5.99**	**32**	Pn		**Pn**	**04 02 03.7**	**+0.3**
342A	**Flagon Creek P**	**6.08**	**135**	Pn		**Pn**	**04 02 04.4**	**-0.3**
OGNE	**Ogallala**	**6.33**	**326**			**Pn**	**04 02 09.5**	**+1.4**
OGNE				IAmb_Lg			04 04 14.3		
	comp=Z,50nm,0.7s								
OGNE	**Ogallala**	**6.33**	**326**	P			04 02 09.1		
	baz=144								
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg			04 03 59.0		
	comp=Z,70nm,0.8s								
OXF	**Oxford**	**6.66**	**98**	Pn		**Pn**	**04 02 11.6**	**-1.0**
OXF				IAmb_Lg			04 04 09.0		
	comp=Z,65nm,0.8s								
OXF	**Oxford**	**6.66**	**98**	P			04 02 12.6		
	baz=283								
OXF				S			04 03 27.2		
	baz=283								
W45A	**Hickory Valley**	**6.72**	**93**	Pn		**Pn**	**04 02 13.0**	**-0.5**
W45A				IAmb_Lg			04 04 21.2		
	comp=Z,74nm,0.7s								
Y45A	**Yeager Farm, C**	**6.73**	**104**	Pn		**Pn**	**04 02 13.1**	**-0.4**
Y45A				IAmb_Lg			04 04 16.1		
	comp=Z,40nm,0.8s								
SDCO	**Great Sand Dun**	**6.80**	**289**	Pn		**Pn**	**04 02 16.0**	**+1.1**
SDCO				IAmb_Lg			04 04 11.7		
	comp=Z,46nm,1.1s								
SDCO	**Great Sand Dun**	**6.80**	**289**	P			04 02 15.6		
	baz=105								
S44A	**Carbondale**	**6.81**	**71**	Pn		**Pn**	**04 02 14.5**	**-0.2**
S44A				IAmb_Lg			04 04 07.2		
	comp=Z,77nm,0.8s								
735A	**Kenedy**	**6.90**	**183**	IAmb_Lg			04 04 28.0		
	comp=Z,65nm,0.9s								
K31A	**O'Neill**	**6.93**	**352**	Pn		**Pn**	**04 02 18.2**	**+1.9**
SCIA	**State Center**	**6.95**	**27**	Pn		**Pn**	**04 02 17.3**	**+0.8**
SCIA	**State Center**	**6.95**	**27**	P			04 02 17.9		
	baz=209								
Q24A	**Divide**	**6.95**	**300**	P			04 02 18.1		
	baz=115								
N41A	**Harden Midland**	**7.13**	**44**	Pn		**Pn**	**04 02 19.8**	**+0.7**
P43A	**Skaggs, Pawnee**	**7.34**	**56**			**Pn**	**04 02 22.5**	**+0.6**
Q44A	**Meyer Farm, Va**	**7.37**	**62**	Pn		**Pn**	**04 02 22.5**	**+0.1**
Q44A				IAmb_Lg			04 04 45.3		
	comp=Z,71nm,1.0s								
PLAL	**Pickwick Lake**	**7.65**	**93**	Pn		**Pn**	**04 02 26.0**	**-0.2**
PLAL				IAmb_Lg			04 04 43.2		
	comp=Z,27nm,0.7s								
ISCO	**Idaho Springs**	**7.66**	**304**			**Pn**	**04 02 27.6**	**+1.1**
ISCO				IAmb_Lg			04 04 55.6		
	comp=Z,25nm,0.8s								
ISCO	**Idaho Springs**	**7.66**	**304**	P			04 02 26.9		
	baz=119								
BNM	**Barren Site**	**7.75**	**261**	Pn		**Pn**	**04 02 28.3**	**+0.5**
K38A	**Parkersburg**	**7.75**	**26**	Pn		**Pn**	**04 02 28.0**	**+0.4**
WVT	**Waverly**	**7.77**	**85**	Pn		**Pn**	**04 02 27.6**	**-0.2**
WVT				IAmb_Lg			04 04 40.9		
	comp=Z,28nm,0.7s								
WVT	**Waverly**	**7.77**	**85**	P			04 02 27.5		
	baz=270								
MNTX	**Cornudas Mount**	**7.79**	**241**			**Pn**	**04 02 27.9**	**-0.3**
MNTX	**Cornudas Mount**	**7.79**	**241**	P			04 02 28.1		
	baz=56								
L40A	**Anamosa**	**7.92**	**36**	Pn		**Pn**	**04 02 29.4**	**-0.4**
L40A				IAmb_Lg			04 04 50.1		
	comp=Z,50nm,0.8s								
HDIL	**Hopedale**	**7.97**	**51**			**Pn**	**04 02 31.2**	**+0.6**
HDIL	**Hopedale**	**7.97**	**51**	P			04 02 30.6		
	baz=235,SNR=15								
OLIL	**Olney**	**7.98**	**65**	IAmb_Lg			04 04 47.6		
	comp=Z,64nm,1.0s								
ECSD	**EROS Data Cent**	**7.98**	**4**	Pn		**Pn**	**04 02 29.9**	**-0.9**
ECSD				IAmb_Lg			04 04 50.8		
	comp=Z,28nm,0.9s								
ECSD	**EROS Data Cent**	**7.98**	**4**	P			04 02 29.6		
	baz=184								
LENM	**Lemitar**	**8.03**	**261**	Pn		**Pn**	**04 02 32.3**	**+0.8**
USIN	**University of**	**8.10**	**71**	IAmb_Lg			04 04 58.5		
	comp=Z,52nm,0.9s								
Z47A	**Carrollton**	**8.11**	**106**	Pn		**Pn**	**04 02 32.7**	**+0.2**
Z47A				IAmb_Lg			04 05 14.2		
	comp=Z,23nm,0.7s								
O44A	**Mansfield**	**8.30**	**55**	Pn		**Pn**	**04 02 34.1**	**-1.0**
TX31	**Lajitas Ar. Si**	**8.31**	**221**	Pn		**Pn**	**04 02 34.3**	**-1.1**
TX32	**Lajitas Array**	**8.31**	**221**			**Pn**	**04 02 35.0**	**-0.4**
TXAR	**Lajitas Array**	**8.31**	**221**	Pn		**Pn**	**04 02 34.6**	**-0.8**
T47A	**Sharon Grove**	**8.39**	**79**	Pn		**Pn**	**04 02 36.5**	**+0.2**
T47A				IAmb_Lg			04 04 59.7		
	comp=Z,36nm,0.8s								
PHWY	**Pilot Hill**	**8.39**	**314**	Pn		**Pn**	**04 02 36.6**	**-0.1**
PHWY				IAmb_Lg			04 05 23.8		
	comp=Z,24nm,0.9s								
N23A	**Red Feather La**	**8.45**	**310**	P			04 02 38.1		
	baz=125								
X48A	**Hartselle**	**8.58**	**96**	IAmb_Lg			04 05 08.0		
	comp=Z,24nm,0.8s								
V48A	**Smith Brothers**	**8.60**	**87**	IAmb_Lg			04 05 18.7		
	comp=Z,34nm,1.0s								
L42A	**Oliver, Polo**	**8.66**	**42**			**Pn**	**04 02 41.0**	**+0.9**
L42A				IAmb_Lg			04 05 20.0		
	comp=Z,56nm,0.9s								
SUSD	**Miller**	**8.75**	**353**	IAmb_Lg			04 05 23.7		
	comp=Z,48nm,1.1s								
I37A	**Lemond, Waseca**	**8.79**	**19**	IAmb_Lg			04 05 23.1		
	comp=Z,43nm,0.8s								
CLTN	**Cedars of Leba**	**8.98**	**85**	Pn		**Pn**	**04 02 43.9**	**-0.5**
CLTN				IAmb_Lg			04 05 20.6		
	comp=Z,27nm,0.9s								
JFWS	**Jewell Farm**	**9.03**	**36**			**Pn**	**04 02 45.4**	**+0.2**
JFWS				IAmb_Lg			04 05 34.0		
	comp=Z,34nm,0.8s								
JFWS	**Jewell Farm**	**9.03**	**36**	P			04 02 45.6		
	baz=220								
121A	**Cookes Peak, D**	**9.20**	**252**	IAmb_Lg			04 05 48.8		
	comp=Z,20nm,1.1s								
WCI	**Wyandotte Cave**	**9.21**	**71**	Pn		**Pn**	**04 02 48.3**	**+0.6**
WCI				IAmb_Lg			04 05 34.8		
	comp=Z,35nm,0.8s								
M44A	**Midewin, Midew**	**9.22**	**50**	Pn		**Pn**	**04 02 47.8**	**+0.1**
Y49A	**Blount Mountai**	**9.23**	**99**	IAmb_Lg			04 05 44.4		
	comp=Z,22nm,0.8s								
BLO	**Bloomington**	**9.29**	**65**	IAmb_Lg			04 05 30.9		
	comp=Z,50nm,0.8s								
SFIN	**Lafayette**	**9.33**	**57**	IAmb_Lg			04 05 45.5		
	comp=Z,27nm,0.7s								
SWET	**Sewanee**	**9.36**	**90**	IAmb_Lg			04 05 40.2		
	comp=Z,24nm,0.7s								
PV12	**Saucer Basin,**	**9.47**	**289**	IAmb_Lg			04 05 48.5		
	comp=Z,25nm,1.2s								
PV11	**David Mesa, Pa**	**9.52**	**289**	IAmb_Lg			04 05 53.5		
	comp=Z,27nm,1.1s								
PV04	**Paradox Valley**	**9.57**	**289**	IAmb_Lg			04 05 44.3		
	comp=Z,19nm,1.1s								
I40A	**Norwalk**	**9.64**	**31**	Pn		**Pn**	**04 02 53.1**	**-0.4**
I40A				IAmb_Lg			04 05 48.6		
	comp=Z,31nm,0.8s								
PV14	**Lion Creek, Pa**	**9.65**	**289**	IAmb_Lg			04 05 48.7		
	comp=Z,18nm,1.0s								
FPAL	**Fort Paine**	**9.72**	**94**	IAmb_Lg			04 06 01.2		
	comp=Z,26nm,0.8s								
RSSD	**Black Hills**	**9.78**	**331**	Pn		**Pn**	**04 02 55.8**	**+0.2**
K43A	**Burlington**	**9.87**	**43**	Pn		**Pn**	**04 02 56.5**	**-0.1**
K22A	**Casper**	**9.87**	**317**	IAmb_Lg			04 06 11.3		
	comp=Z,25nm,1.0s								
250A	**Grady**	**9.99**	**109**	IAmb_Lg			04 06 07.3		
	comp=Z,17nm,0.8s								
F36A	**Milaca**	**10.51**	**15**	Pn		**Pn**	**04 03 05.6**	**+0.3**
L46A	**Eue Claire**	**10.66**	**51**	Pn		**Pn**	**04 03 06.7**	**-0.8**
G40A	**Rib Lake**	**10.96**	**28**	Pn		**Pn**	**04 03 10.4**	**-1.1**
S51A	**Beattyville**	**11.24**	**76**			**Pn**	**04 03 15.7**	**+0.4**
H43A	**Windswept, Lux**	**11.39**	**37**	Pn		**Pn**	**04 03 17.4**	**0.0**
Q51A	**Peebles**	**11.64**	**70**	Pn		**Pn**	**04 03 20.2**	**-0.6**
L48A	**N Adams**	**11.83**	**55**	Pn		**Pn**	**04 03 23.1**	**-0.4**
COWI	**Conover**	**12.06**	**29**	Pn		**Pn**	**04 03 25.9**	**-0.7**
J47A	**Sunmer**	**12.24**	**49**	Pn		**Pn**	**04 03 28.0**	**-1.1**
P52A	**Corning**	**12.69**	**68**	Pn		**Pn**	**04 03 35.5**	**+0.4**
G45A	**Suttons Bay**	**12.87**	**40**	Pn		**Pn**	**04 03 35.9**	**-1.7**
D41A	**Chassel**	**13.08**	**28**	Pn		**Pn**	**04 03 37.6**	**-2.9**
E43A	**Lone Tree Farm**	**13.18**	**33**	Pn		**Pn**	**04 03 39.3**	**-2.5**
P53A	**Whipple**	**13.22**	**69**	Pn		**Pn**	**04 03 42.0**	**-0.5**
GLMI	**Grayling**	**13.29**	**43**	Pn		**Pn**	**04 03 42.2**	**-1.2**
I49A	**Point Hope**	**13.84**	**49**	Pn		**Pn**	**04 03 49.0**	**-1.9**
R55A	**Marlinton**	**14.03**	**75**	Pn		**Pn**	**04 03 52.5**	**-1.1**
E46A	**Sault Ste Mari**	**14.46**	**39**	Pn		**Pn**	**04 03 56.5**	**-2.8**

SKO ***22*** *04:07:20.3, 39°.99N×21°.49E, h0km*
BEO ***22*** *04:07:20.5±1.0, 39°.98N×21°.77E, h0km, ML3.4/9*
THE ***22*** *04:07:22.7, 40°.15N×21°.60E, h0km±2km, ML3.6/8, Error ellipse: s-maj=2.5km s-min=0.6km az=316.0*
ATH ***22*** *04:07:22.5, 40°.13N×21°.63E, h9km±2km, ML3.5/6, Error ellipse: s-maj=3.0km s-min=1.0km az=309.0*
PDG ***22*** *04:07:23.2±0.4, 40°.14N×21°.71E, h10km, ML3.5/13, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
IDC ***22*** *04:07:25.8±3.0, 40°.13N×21°.51E, h35km±28km, mb3.4/7, mb1 3.5/10, mb1mx3.3/37, mbtmp3.5/10, ML3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.1/40, Error ellipse: s-maj=19.9km s-min=16.1km az=57.0*

ISC 22 04:07:22.5±1.0, **40°.12N**±0°.02×**21°.67E**×0°.02, **h6**km±7km, **n131**,σ1°59/169, **mb3.5**/6, **22C-11D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.20**	**22**	P	**Pg**	**04 07 26.5**	**0.0**
KZN				S	**Sg**	**04 07 30.1**	**+0.9**
	24μm,0.4s						
KZN	**Kozani**	**0.20**	**22**	P	**Pg**	**04 07 26.5**	**0.0**
KZN				S	**Sg**	**04 07 30.1**	**+0.9**
KZN				AML	AML	04 07 32.2	
	comp=N,49706μm,0.4s						
KZN				AML	AML	04 07 32.4	
	comp=E,48048μm,0.5s						
KPRO	**Kipourio**	**0.29**	**235**	P	**Pg**	**04 07 27.7**	**-0.5**
KPRO				S	**Sg**	**04 07 32.7**	**+0.6**
	comp=E,15μm,0.5s						
KPRO	**Kipourio**	**0.29**	**235**	P	**Pg**	**04 07 27.7**	**-0.5**
KPRO				S	**Sg**	**04 07 31.7**	**-0.4**
KPRO				AML	AML	04 07 35.9	
	comp=E,30708μm,0.5s						
KPRO				AML	AML	04 07 36.5	
	comp=N,28175μm,0.6s						
PENT	**Pentalofos**	**0.42**	**280**	P	**Pg**	**04 07 29.7**	**-0.9**
PENT				S	**Sg**	**04 07 35.8**	**-0.3**
	comp=N,12μm,0.6s						
PENT	**Pentalofos**	**0.42**	**280**	P	**Pg**	**04 07 29.7**	**-0.9**
PENT				S	**Sg**	**04 07 35.5**	**-0.6**
PENT				AML	AML	04 07 38.9	
	comp=N,24592μm,0.7s						
PENT				AML	AML	04 07 39.4	
	comp=E,21408μm,0.5s						
KTI	**Kastanea**	**0.43**	**51**	P	**Pg**	**04 07 31.2**	**+0.2**
NEST	**Nestorio**	**0.56**	**302**	P	**Pg**	**04 07 32.3**	**-1.0**
NEST	**Nestorio**	**0.56**	**302**	P	**Pg**	**04 07 32.3**	**-1.0**
NEST				AML	AML	04 07 42.3	
	comp=N,8832μm,0.4s						
NEST				AML	AML	04 07 47.4	
	comp=E,17657μm,0.4s						
THL	**Klokotos Trika**	**0.62**	**155**	P	**Pg**	**04 07 34.2**	**-0.2**
THL				S	**Sn**	**04 07 45.5**	**-2.5**
THL	**Klokotos Trika**	**0.62**	**155**	P	**Pg**	**04 07 34.2**	**-0.2**
LIT	**Litokhoron**	**0.63**	**92**	P	**Pg**	**04 07 34.5**	**-0.1**
LIT				S	**Sn**	**04 07 47.0**	**-1.3**
	comp=E,9μm,0.3s						
LIT	**Litokhoron**	**0.63**	**92**	P	**Pg**	**04 07 34.4**	**-0.1**
LIT				AML	AML	04 07 47.5	
	comp=N,20597μm,0.3s						
LIT				AML	AML	04 07 49.1	
	comp=E,14784μm,0.4s						
LIT	**Litokhoron**	**0.63**	**92**	*i* Pg	**Pg**	**04 07 34.5**	**-0.1**
LIT				*i* Sg	**Sb**	**04 07 45.2**	**+0.2**
FNA	**Florina**	**0.70**	**341**	P	**Pg**	**04 07 34.9**	**-1.0**
FNA				S	**Sg**	**04 07 44.2**	**-0.9**
	comp=E,8μm,0.3s						
FNA	**Florina**	**0.70**	**341**	P	**Pg**	**04 07 34.9**	**-1.0**
FNA	**Florina**	**0.70**	**341**	*i* Pg	**Pg**	**04 07 35.0**	**-1.0**
FNA				*i* Sg	**Sg**	**04 07 44.0**	**-1.0**
LRSO	**Larissa Observ**	**0.71**	**129**	P	**Pb**	**04 07 37.2**	**-0.1**
LRSO	**Larissa Observ**	**0.71**	**129**	P	**Pb**	**04 07 37.3**	**-0.1**
LSK	**Leskovik**	**0.82**	**272**	P	**Pg**	**04 07 37.1**	**-1.2**
KBN	**Korca**	**0.84**	**307**	P	**Pg**	**04 07 37.1**	**-1.6**
GRG	**Griva**	**1.00**	**33**	P	**Pg**	**04 07 41.1**	**-0.6**
THE	**Thessaloniki**	**1.11**	**62**	P	**Pn**	**04 07 44.8**	**+0.2**
THE	**Thessaloniki**	**1.11**	**62**	P	**Pn**	**04 07 44.7**	**+0.2**
THE	**Thessaloniki**	**1.11**	**62**	*i* Pg	**Pb**	**04 07 44.6**	**+0.5**
THE				*i* Sg	**Sn**	**04 08 01.1**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.16**	**162**	P	**Pb**	**04 07 44.6**	**-0.4**
MAKR				S	**Sn**	**04 08 03.2**	**+1.7**
	comp=E,6μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.16**	**162**	S	**Sn**	**04 08 00.2**	**-1.4**
MAKR				AML	AML	04 08 06.5	
	comp=E,2773μm,0.3s						
MAKR				AML	AML	04 08 09.7	
	comp=N,5176μm,0.5s						
IGT	**Igoumenitsa**	**1.19**	**241**	P	**Pg**	**04 07 44.6**	**-0.7**
IGT	**Igoumenitsa**	**1.19**	**241**	P	**Pg**	**04 07 44.2**	**-1.1**
HORT	**Hortiatis**	**1.19**	**66**	P	**Pg**	**04 07 45.3**	**0.0**
HORT				S	**Sn**	**04 08 04.9**	**+2.6**
	comp=N,438nm,0.7s						
HORT	**Hortiatis**	**1.19**	**66**	P	**Pg**	**04 07 45.2**	**-0.2**
OHR	**Ohrid**	**1.19**	**326**	*i* Pn	**Pg**	**04 07 43.7**	**-1.7**
OHR				*i* Sn	**Sn**	**04 08 03.4**	**+1.1**
OHR				*e*Lg	Lg	04 08 04.5	
	comp=N,1μm,0.8s						
EVR	**Evrytania**	**1.21**	**175**	P	**Pb**	**04 07 45.3**	**-0.5**
EVR				S	**Sn**	**04 08 04.5**	**+1.7**
AGG	**Agios Georgios**	**1.21**	**155**	P	**Pn**	**04 07 45.9**	**-0.1**
AGG				S	**Sn**	**04 08 05.2**	**+2.5**
	comp=N,2μm,0.9s						
VAY	**Valandovo**	**1.38**	**29**	*e*Pn	**Pn**	**04 07 48.0**	**-0.3**
VAY				*e*Sn	**Sn**	**04 08 09.4**	**+2.6**
VAY	**Valandovo**	**1.38**	**29**	*i* Pn	**Pn**	**04 07 47.8**	**-0.5**
VAY				*i* Sn	**Sn**	**04 08 10.6**	**+3.8**
VAY				*e*Lg	Lg	04 08 16.3	
	comp=N,621nm,1.0s						
PLG	**Polygyros**	**1.38**	**79**	P	**Pn**	**04 07 48.6**	**+0.3**
XOR	**Xorichti**	**1.39**	**122**	P	**Pg**	**04 07 48.9**	**-0.3**
KNT	**Kendrikon**	**1.40**	**42**	P	**Pn**	**04 07 48.5**	**0.0**
NEO	**Neokhori**	**1.45**	**124**	P	**Pg**	**04 07 49.9**	**-0.4**
SOH	**Sokhos**	**1.46**	**61**	P	**Pb**	**04 07 50.5**	**+0.4**
SOH	**Sokhos**	**1.46**	**61**	P	**Pn**	**04 07 50.0**	**+0.5**
PVO	**Paravola**	**1.51**	**184**	P	**Pg**	**04 07 51.2**	**-0.2**
ANX	**Ano Chora**	**1.54**	**173**	P	**Pg**	**04 07 51.8**	**-0.2**
PAIG	**Paliouri**	**1.55**	**97**	P	**Pn**	**04 07 50.8**	**+0.1**
STIP	**Stip**	**1.62**	**14**	*i* Pn	**Pb**	**04 07 53.2**	**+0.4**
SRS	**Serrai**	**1.77**	**55**	P	**Pn**	**04 07 54.0**	**+0.4**
TIR	**Tirane**	**1.84**	**312**	⇑P	**Pb**	**04 07 57.0**	**+0.4**
TIR				⇓S	**Sb**	**04 08 20.8**	**+1.0**
SKO	**Skopje**	**1.86**	**355**	*i* Pn	**Pn**	**04 07 55.8**	**+0.9**
BOSS	**Bosilegrad**	**2.45**	**14**	*e*Pn	**Pn**	**04 08 03.1**	**+0.1**
BOSS				*e*Sn	**Sn**	**04 08 35.1**	**+1.8**
ULC	**Ulcinj**	**2.60**	**316**	⇑*i*Pn	**Pn**	**04 08 06.7**	**+1.6**
ULC				*i* Sn	**Sb**	**04 08 40.6**	**-1.1**
VTS	**Vitosha**	**2.76**	**25**	*e*Pn	**Pn**	**04 08 07.2**	**-0.2**
VTS	**Vitosha**	**2.76**	**25**	⇑P	**Pn**	**04 08 07.9**	**+0.6**
PVY	**Plav**	**2.79**	**333**	⇓*i*Pn	**Pn**	**04 08 09.2**	**+1.4**
PVY				*i* Sn	**Sn**	**04 08 44.2**	**+2.4**
DRME	**Dracevica, Mon**	**2.79**	**318**	*e*Pn	**Pn**	**04 08 09.0**	**+1.3**
DRME	**Dracevica, Mon**	**2.79**	**318**	⇑*i*Pn	**Pn**	**04 08 09.3**	**+1.6**
DRME				*i* Sn	**Sn**	**04 08 44.5**	**+2.9**
PDG	**Podgorica**	**2.94**	**322**	*e*Pn	**Pn**	**04 08 11.6**	**+1.9**
PDG				*e*Sn	**Sn**	**04 08 48.9**	**+3.6**
PDG	**Podgorica**	**2.94**	**322**	⇑P	**Pn**	**04 08 11.0**	**+1.3**
PDG				⇑S	**Sn**	**04 08 47.4**	**+2.1**
PDG	**Podgorica**	**2.94**	**322**	*e*Pn	**Pn**	**04 08 11.9**	**+2.2**
TTG	**Podgorica**	**2.94**	**322**	⇑*i*Pn	**Pn**	**04 08 11.3**	**+1.6**
TTG				*i* Sn	**Sn**	**04 08 48.5**	**+3.2**
BUM	**Brajici-Budva**	**3.02**	**317**	⇓*i*Pn	**Pn**	**04 08 12.5**	**+1.6**
BUM				*i* Sn	**Sn**	**04 08 50.3**	**+2.8**
IVA	**Berane**	**3.06**	**335**	⇓*i*Pn	**Pn**	**04 08 13.1**	**+1.7**
IVA				*i* Sn	**Sn**	**04 08 51.4**	**+3.1**
SELS	**Selova**	**3.12**	**353**	*e*Pn	**Pn**	**04 08 12.1**	**-0.2**
KOME	**Kolasin**	**3.17**	**330**	⇑*i*Pn	**Pn**	**04 08 14.7**	**+1.7**
KOME				*i* Sn	**Sn**	**04 08 54.0**	**+2.8**
CEME	**Cevo**	**3.19**	**320**	⇓*i*Pn	**Pn**	**04 08 14.0**	**+1.4**
CEME				*i* Sn	**Sn**	**04 08 54.7**	**+3.1**
ZAPS	**Zav

EKA **Eskdalemuir Ar** 22.42 321 P **P** 04 12 20.1 -1.6
comp=N,0.6nm,0.5s,baz=117,slow=8.6,SNR=6.6
TORD **Torodi Ar. Bea** 32.10 219 P **P** 04 13 49.8 -0.7
comp=N,1.0nm,0.8s,baz=33,slow=8.7,SNR=3.4
MKAR **Makanchi Array** 43.54 60 P **P** 04 15 26.0 -0.9
comp=N,0.4nm,0.6s,baz=262,slow=10,SNR=3.6
SONM **Songino Array** 58.54 52 P **P** 04 17 19.0 -0.8
comp=N,0.8nm,0.6s,baz=308,slow=7.1,SNR=2.1

LDG ***22*** *04:16:59.1±0.1,51°.49N×16°.26E,h1km,Ml3.9/22,Error ellipse: s-maj=4.0km s-min=2.3km az=4.0,Suspected Mining induced.*
IPEC ***22*** *04:16:59.7±0.4,51°.50N×16°.28E,h0km±2km,ML3.4/3, Error ellipse: s-maj=3.9km s-min=1.8km az=59.0*
IDC ***22*** *04:17:00.9±0.5,51°.43N×16°.14E,h0km, mb3.7/9, mb1 3.9/17,mb1mx3.6/47,mbtmp3.7/17,ML3.4/8,Error ellipse: s-maj=9.2km s-min=5.7km az=107.0*
DNK ***22*** *04:17:01.2±1.7,51°.57N×15°.90E,h0km,ML2.8,Explosion*
BGR ***22*** *04:17:01.4±0.4,51°.43N×16°.17E,h1km,ML3.7/10,Error ellipse: s-maj=6.7km s-min=3.3km az=23.0*
PRU ***22*** *04:17:01.5±0.0,51°.43N×16°.16E,h0km*
VIE ***22*** *04:17:02.6±0.7,51°.30N×16°.20E,h0km,mb3.0/17, ml3.5/16,ms3.7/3,Error ellipse: s-maj=4.8km s-min=4.4km az=92.0 61 km WNW of Wroclaw Suspected Mining induced.*
UPP ***22*** *04:17:05.6±2.9,51°.80N×15°.78E,h0km,ML3.3,Suspected explosion*

ISC 22 04:16:59.0±0.5,51°.49N±0°.02×16°.16E±0°.02,h0km,n150, σ28°07/250,mb3.7/9,10C-16D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	0.66	172	*i* Pg	**Pb**	04 17 12.6	-0.7
KSP				*i* Sg	**Sg**	04 17 20.6	+0.5
KSP	**Ksiaz**	0.66	172	*e*Pg	**Pb**	04 17 12.7	-0.7
KSP				*e*Sg	**Sg**	04 17 20.5	+0.5
CHVC	**Chvalec**	0.91	184	⇓*i*PG	**Pb**	04 17 17.7	0.0
CHVC				*e*SG	**Sg**	04 17 29.0	+0.9
OSTC	**Ostas**	0.94	178	⇓*i*PG	**Pb**	04 17 18.1	-0.1
OSTC				*e*SG	**Sg**	04 17 29.9	+0.8
UPC	**Upice**	0.99	185	⇓*i*PG	**Pb**	04 17 18.8	-0.3
UPC				*e*SG	**Sg**	04 17 31.6	+0.8
	comp=Z,851nm,0.5s						
DPC	**Dobruska-Polom**	1.15	175	⇓*i*PG	**Pb**	04 17 21.4	-0.4
DPC				*e*SG	**Sg**	04 17 35.7	-0.2
	comp=Z,282nm,0.5s						
DPC	**Dobruska-Polom**	1.15	175	*e*Pg	**Pb**	04 17 21.4	-0.4
DPC				*e*Sg	**Sg**	04 17 35.2	-0.6
PVCC	**Panska Ves**	1.39	227	⇓*i*PG	**Pb**	04 17 27.2	+1.3
PVCC				*e*SG	**Sn**	04 17 46.4	+1.6
	comp=Z,1μm,0.4s						
KRLC	**Kraliky**	1.47	164	⇓*e*PG	**Pg**	04 17 27.1	-0.1
KRLC				*e*SG	**Sg**	04 17 45.9	-0.4
PRA	**Prague**	1.79	218	⇓*e*PN	**Pb**	04 17 32.4	-0.4
PRA				*e*PG	**Pg**	04 17 34.7	+1.3
PRA				*e*SG	**Sg**	04 17 57.3	+0.7
	comp=Z,159nm,0.5s						
PRU	**Pruhonice**	1.82	215	⇓*e*PN	**Pn**	04 17 32.3	+0.7
PRU				*e*PG	**Pg**	04 17 34.2	+0.3
PRU				*e*SG	**Sg**	04 17 58.0	+0.5
	comp=Z,324nm,0.6s						
FBE	**Freiberg**	1.85	253	*e*Sg	**Sg**	04 17 59.3	+0.8
GKP	**Gorka Klasztor**	1.90	20	*e*P	**Pg**	04 17 35.9	+0.4
RAC	**Raciborz**	1.91	137	*e*PG	**Pg**	04 17 36.1	+0.4
RAC				*e*SG	**Sg**	04 18 00.8	+0.3
MORC	**Moravsky Berou**	1.93	152	⇓P	**Pn**	04 17 33.3	+0.1
MORC				⇑S	**Sn**	04 17 57.6	-0.5
MORC	**Moravsky Berou**	1.93	152	*e*PN	**Pn**	04 17 33.3	+0.1
MORC				*e*SG	**Sb**	04 17 59.6	-0.2
MORC	**Moravsky Berou**	1.93	152	*e*Pn	**Pn**	04 17 33.2	+0.1
	baz=336						
MORC				*e*Sg	**Sb**	04 17 59.5	-0.2
	187nm,0.6s,baz=336						
MORC	**Moravsky Berou**	1.93	152	*e*Pn	**Pn**	04 17 33.3	+0.1
CLL	**Collm**	1.98	266	*e*Pn	**Pb**	04 17 35.0	-1.0
CLL				*e*Pg	**Pg**	04 17 39.0	+2.0
CLL				*e*Sg	**Sg**	04 18 05.0	+2.3
	comp=Z,176nm,0.6s						
CLL	**Collm**	1.98	266	*e*Pn	**Pn**	04 17 34.5	+0.6
CLL				*e*Sg	**Sg**	04 18 04.1	+1.4
OKC	**Ostrava-Krasne**	2.09	142	⇓*e*PG	**Pg**	04 17 38.8	-0.2
OKC				*e*SG	**Sb**	04 18 04.1	-0.1
	comp=Z,278nm,0.7s						
VRAC	**Vranov**	2.20	173	Pn	**Pn**	04 17 37.9	+1.0
	comp=Z,9.5nm,0.3s,baz=341,slow=14,SNR=33						
VRAC				Lg	Lg	04 18 08.9	
	comp=Z,11nm,0.3s,baz=258,slow=20,SNR=6.2						
VRAC	**Vranov**	2.20	173	⇑P	**Pn**	04 17 37.6	+0.7
VRAC				⇑S	**Sn**	04 18 04.4	-0.4
VRAC	**Vranov**	2.20	173	*e*PN	**Pn**	04 17 37.6	+0.7
VRAC				*e*SG	**Sg**	04 18 08.7	-1.1
VRAC	**Vranov**	2.20	173	*e*Pn	**Pn**	04 17 37.5	+0.7
	baz=355						
VRAC				*e*Sg	**Sb**	04 18 08.6	+1.0
	comp=Z,198nm,0.7s,baz=355						
TREC	**Trest**	2.24	191	⇓*e*PN	**Pn**	04 17 38.2	+0.8
TREC				*e*PG	**Pg**	04 17 41.3	-0.7
PBCC	**Pribram**	2.27	218	⇓*e*PN	**Pn**	04 17 38.5	+0.7
PBCC				*e*PG	**Pg**	04 17 42.8	+0.2
LNIZ	**Loecknitz**	2.33	330	*e*Pn	**Pn**	04 17 39.4	+0.8
KRUC	**Moravsky**	2.44	176	*e*PN	**Pn**	04 17 40.9	+0.8
KRUC				*e*PG	**Pb**	04 17 44.3	+0.6
KRUC				*e*SG	**Sg**	04 18 16.2	-1.1
KRUC	**Moravsky**	2.44	176	*e*Pn	**Pn**	04 17 40.9	+0.8
	baz=358						
KRUC	**Moravsky**	2.44	176	*e*Pg	**Pb**	04 17 44.3	+0.6
	baz=358						
KRUC				*e*Sg	**Sg**	04 18 16.2	-1.1
	comp=Z,176nm,0.8s,baz=358						
OJC	**Ojcow**	2.64	117	*e*Pn	**Pn**	04 17 41.7	-1.1
OJC				*e*Pg	**Pg**	04 17 50.0	+0.5
OJC				*e*Sg	**Sg**	04 18 23.9	+0.2
NKC	**Novy Kostel**	2.67	243	⇓*e*PN	**Pn**	04 17 44.7	+1.5
NKC				*e*PG	**Pg**	04 17 51.5	+1.4
NKC				*e*SG	**Sg**	04 18 26.8	+2.2
	comp=Z,226nm,0.4s						
JAVC	**Velka Javorina**	2.81	159	*e*PN	**Pn**	04 17 46.8	+1.5
KHC	**Kasperske Hory**	2.88	216	⇓*e*PN	**Pn**	04 17 46.9	+0.6
KHC				*e*PG	**Pg**	04 17 53.5	-0.8
KHC				*e*SN	**Sn**	04 18 20.9	-0.7
KHC				*e*SG	**Sg**	04 18 30.2	-1.4
	comp=Z,124nm,0.8s						
MANZ	**Manzenberg**	2.98	241	*e*Pn	**Pn**	04 17 49.2	+1.6
MOX	**Moxa**	2.99	255	*e*Sg	**Sg**	04 18 36.6	+1.7
ROTZ	**Rotzenmuhle**	3.05	237	*e*Pn	**Pn**	04 17 49.7	+1.2
GEC2	**GERESS Array S**	3.08	212	*e*Pn	**Pn**	04 17 50.7	+1.6
GERES	**GERESS Array B**	3.08	212	Pn	**Pn**	04 17 50.0	+1.0
	comp=Z,3.2nm,0.3s,baz=35,slow=13,SNR=74						
GERES				Pg	**Pg**	04 17 56.9	-1.3
	comp=Z,25nm,0.3s,baz=31,slow=17,SNR=77						
GERES				Sn	**Sn**	04 18 20.8	-5.9
	comp=Z,6.4nm,0.3s,baz=34,slow=24,SNR=6.4						
GERES				Lg	Lg	04 18 36.5	
	comp=Z,26nm,0.3s,baz=37,slow=27,SNR=4.1						
SMOL	**Smolenice**	3.09	164	*e*PG	**Pg**	04 17 59.3	+1.0
SMOL				*e*SG	**Sg**	04 18 38.6	+0.3
WET	**Wettzell**	3.15	223	*e*Pn	**Pn**	04 17 50.8	+0.9
WET				*e*Sg	**Sg**	04 18 38.3	-1.9
LANS	**Liptovska Anna**	3.16	137	*e*PN	**Pn**	04 17 50.7	+0.6
LANS				*e*PG	**Pg**	04 18 00.0	+0.4
LANS				*e*SG	**Sg**	04 18 39.5	-1.1
MODS	**Modra-Piesok**	3.21	166	*e*PN	**Pn**	04 17 51.7	+1.0
MODS				*e*PG	**Pg**	04 17 59.8	-0.6
MODS				*e*SG	**Sg**	04 18 40.9	-1.0
ZST	**Bratislava**	3.36	169	*e*PG	**Pg**	04 18 02.4	-0.9
ZST				*e*SG	**Sb**	04 18 43.4	+2.7
NIE	**Niedzica**	3.37	126	*e*Pn	**Pn**	04 17 53.6	+0.7
NIE				*e*Pg	**Pg**	04 18 03.3	-0.2
NIE				*e*Sg	**Sg**	04 18 46.8	-0.3
VYHS	**Vyhne**	3.46	149	*e*PN	**Pn**	04 17 55.1	+0.9
VYHS				*e*PG	**Pg**	04 18 06.0	+0.6
VYHS				*e*SG	**Sg**	04 18 50.4	+0.1
CONA	**Conrad Observa**	3.57	183	*i* Pn	**Pn**	04 17 57.1	+1.3
	comp=Z,3.6nm,0.3s,SNR=7.1						
CONA				*e*Sg	**Sg**	04 18 55.8	+2.1
	comp=Z,107nm,0.4s						
GRF	**Grafenberg Arr**	3.62	242	*e*Pn	**Pn**	04 17 58.1	+1.7
BSD	**Bornholm Skovb**	3.71	349	*e*P	**Pn**	04 17 57.7	+0.2
BSD	**Bornholm Skovb**	3.71	349	*i* S	**Sn**	04 18 41.1	-0.7
BSD				*e*	**Pn**	04 17 56.4	-1.1
	baz=94,slow=16						
BSD				*i* P	**Pn**	04 17 58.2	+0.8
BSD				IAML		04 18 43.0	
	comp=Z,11nm,0.3s						
MOA	**Molln**	3.85	199	*i* Pn	**Pn**	04 18 00.3	+0.8
	comp=Z,6.1nm,0.3s,SNR=20						
MOA				*e*Sg	**Sg**	04 19 03.5	+0.9
	comp=Z,23nm,0.3s						
STHS	**Stebnicka Huta**	3.86	121	*e*PN	**Pn**	04 18 00.4	+0.8
STHS				*e*PG	**Pg**	04 18 13.9	+0.9
STHS				*e*SG	**Sg**	04 19 07.4	+4.5
KECS	**Kecovo**	4.11	135	*e*PN	**Pn**	04 18 02.8	-0.2
KECS				*e*PG	**Pg**	04 18 19.2	+1.5
KECS				*e*SG	**Sg**	04 19 13.6	+2.7
ARSA	**Arzberg**	4.26	186	*e*Pn	**Pn**	04 18 06.4	+1.1
	comp=Z,3.9nm,0.4s						
ARSA				*e*Sg	**Sg**	04 19 17.4	+1.4
	comp=Z,28nm,0.4s						
CRVS	**Cervenica-Dubn**	4.28	125	*e*PN	**Pn**	04 18 06.5	+1.0
CRVS				*e*PG	**Pg**	04 18 21.4	+0.3
CRVS				*e*SG	**Sg**	04 19 19.2	+2.7
PSZ	**Piszkesteto**	4.32	144	⇑P	**Pn**	04 18 05.8	-0.3
LUNU	**Lund**	4.45	340	*i* P	**Pn**	04 18 07.9	+0.1
LUNU				*e*		04 18 58.5	
KOLS	**Kolonicke sedl**	4.69	121	*e*PN	**Pn**	04 18 11.0	0.0
KOLS				*e*PG	**Pg**	04 18 29.4	+0.5
KOLS				*e*SG	**Sg**	04 19 32.1	+2.5
KBA	**Koelnbreinsper**	4.79	204	*i* Pn	**Pn**	04 18 13.8	+1.3
	comp=Z,4.1nm,0.4s,SNR=10						
KBA				*e*Sg	**Sg**	04 19 35.1	+2.4
	comp=Z,95nm,0.8s						
BLEU	**Blekinge**	4.83	358	P	**Pn**	04 18 13.8	+0.9
BLEU				S	**Sn**	04 19 06.4	-3.0
BLEU	**Blekinge**	4.83	358	P	**Pn**	04 18 13.8	+0.9
BLEU				S	**Sn**	04 19 06.4	-3.0
SOKA	**Soboth**	4.87	189	*e*Sg	**Sg**	04 19 34.4	-1.1
	comp=Z,9.9nm,0.7s						
BJUU	**Bjuv**	4.95	339	*i* P	**Pn**	04 18 14.8	+0.2
BJUU				*i* S	**Sn**	04 19 08.8	-3.7
OBKA	**Obir**	5.10	193	*e*Pn	**Pn**	04 18 18.4	+1.6
	comp=Z,2.1nm,0.4s						
OBKA				*e*Sg	**Sg**	04 19 43.2	+0.5
	comp=Z,47nm,0.9s						
WATA	**Walderalm**	5.12	217	*i* Pn	**Pn**	04 18 19.0	+1.9
	comp=Z,6.7nm,0.4s,SNR=5.3						
MYKA	**Terra Mystica**	5.14	200	*e*Sg	**Sg**	04 19 46.1	+2.1
	comp=Z,14nm,0.5s						
WTTA	**Wattenberg**	5.16	217	*e*Pn	**Pn**	04 18 19.9	+2.2
	comp=Z,4.1nm,0.4s						
WTTA				*e*Sg	**Sg**	04 19 51.4	+6.7
	comp=Z,53nm,0.6s						
DEL	**Delary**	5.17	346	*i* S	**Sn**	04 19 14.2	-3.6
DEL				⇓*i* P	**Pn**	04 18 18.1	+0.5
DEL				P	**Pn**	04 18 18.2	+0.6
DEL				IAML		04 19 19.1	
	comp=Z,8.4nm,0.4s						
DEL	**Delary**	5.17	346	P	**Pn**	04 18 18.2	+0.6
MOTA	**Moosalm**	5.30	220	*e*Pn	**Pn**	04 18 21.1	+1.6
	comp=Z,2.3nm,0.3s						
MOTA				*e*Sg	**Sg**	04 19 53.7	+4.5
	comp=Z,24nm,0.5s						
ABTA	**Abfaltersbach**	5.32	208	*e*Pn	**Pn**	04 18 21.8	+2.0
	comp=Z,10nm,0.5s						
ABTA				*e*Sg	**Sg**	04 19 52.3	+2.5
	comp=Z,59nm,1.0s						
RETA	**Reutte**	5.33	223	*e*Pn	**Pn**	04 18 21.1	+1.2
	comp=Z,74nm,0.0s						
RETA				*e*Sg	**Sg**	04 19 54.9	+4.8
	comp=Z,14nm,0.4s						
VXJU	**Vaexsjoe**	5.49	353	P	**Pn**	04 18 22.9	+1.0
VXJU	**Vaexsjoe**	5.49	353	P	**Pn**	04 18 22.9	+1.0
MORH	**Mrgy, Hungar**	5.53	162	⇑P	**Pn**	04 18 22.9	+0.4
FETA	**Feichten**	5.71	221	*e*Pn	**Pn**	04 18 26.8	+1.5
	comp=Z,1.4nm,0.4s						
FETA				*e*Sg	**Sg**	04 20 09.4	+6.9
	comp=Z,27nm,1.0s						
OSKU	**Oskarshamn**	5.71	360	P	**Pn**	04 18 26.3	+1.2
OSKU	**Oskarshamn**	5.71	360	P	**Pn**	04 18 26.3	+1.2
DAVA	**Damuels**	5.87	227	*e*Pn	**Pn**	04 18 28.3	+0.9
	comp=Z,3.0nm,0.4s						
DAVA				*e*Sn	**Sn**	04 19 36.8	+1.3
	comp=Z,9.5nm,0.3s						
FABU	**Falkenberg**	5.88	341	*i* P	**Pn**	04 18 27.2	-0.1
FABU				P	**Pn**	04 18 27.4	+0.2
FABU	**Falkenberg**	5.88	341	P	**Pn**	04 18 27.4	+0.2
BMR	**Baia Mare**	6.11	126	⇓P	**Pn**	04 18 31.3	+0.7
EKSU	**Eksjoe**	6.11	356	P	**Pn**	04 18 31.7	+1.1
EKSU				S	**Sn**	04 19 36.9	-4.3
EKSU	**Eksjoe**	6.11	356	P	**Pn**	04 18 31.7	+1.1
EKSU				S	**Sn**	04 19 36.9	-4.3
PABE	**Paberze**	6.16	46	*e*P	**Pn**	04 18 32.7	+1.6
PABE				IAmb	IAmb	04 19 07.3	
	comp=Z,23nm,0.8s						
VSTU	**Vaestervik**	6.19	2	P	**Pn**	04 18 32.7	+1.2
VSTU				S	**Sn**	04 19 39.9	-3.0
VSTU	**Vaestervik**	6.19	2	P	**Pn**	04 18 32.7	+1.2
VSTU				S	**Sn**	04 19 39.9	-3.0
DAVOX	**Davos/Dischmat**	6.26	224	Pn	**Pn**	04 18 34.2	+1.4
	comp=Z,1.2nm,0.3s,baz=105,slow=16,SNR=9.1						
DAVOX				Sn	**Sn**	04 19 40.6	-4.5
	comp=Z,0.4nm,0.3s,baz=95,slow=21,SNR=3.5						
DAVOX				Lg	Lg	04 20 18.0	
	comp=Z,1.5nm,0.3s,baz=15,slow=6.7,SNR=7.4						
SIRR	**Siria**	6.36	143	⇑P	**Pn**	04 18 34.8	+0.8
DRGR		6.37	135	⇑P	**Pn**	04 18 34.4	+0.2
ONAU	**Onsala**	6.41	339	*e*P	**Pn**	04 18 35.6	+1.0
ONAU				*e*S	**Sn**	04 19 44.4	-4.0
BORU	**Boraas**	6.46	344	*i* P	**Pn**	04 18 36.7	+1.4
BORU				*i*		04 19 48.9	
CDF	**Champ du Feu**	6.50	245	*e*P	**Pn**	04 18 37.9	+1.9
CDF				*e*Sg	**Sg**	04 20 24.2	-3.7
	comp=Z,96nm,1.1s						
FKPU	**Falk**	6.83	349	P	**Pn**	04 18 41.3	+0.9
FKPU				S	**Sn**	04 19 54.0	-4.7
FKPU	**Falk**	6.83	349	P	**Pn**	04 18 41.3	+0.9
FKPU				S	**Sn**	04 19 54.0	-4.7
BZS	**Buzias**	6.91	146	⇑P	**Pn**	04 18 42.0	+0.6
VIKU	**Vikbolandet**	7.03	2	P	**Pn**	04 18 44.1	+1.0
VIKU	**Vikbolandet**	7.03	2	P	**Pn**	04 18 44.1	+1.0
BUR01	**Bucovina Ar. S**	7.06	120	⇑P	**Pn**	04 18 44.5	+0.9
HINF	**Hinteralfeld**	7.07	242	*e*Pn	**Pn**	04 18 42.1	-1.6
HINF				*e*Sg	**Sg**	04 20 42.6	-3.3
	comp=Z,34nm,0.8s						
SLIT	**Slitere, Latvi**	7.11	28	*e*P	**Pn**	04 18 44.9	+0.7
IIGN	**Ignalina**	7.15	53	*e*P	**Pn**	04 18 46.9	+2.2
IIGN				IAML		04 20 27.4	
	comp=Z,5.3nm,0.4s						
ISAL	**Salakas**	7.21	52	*e*P	**Pn**	04 18 46.9	+1.3
ISAL				IAML		04 20 27.2	
	comp=Z,3.4nm,0.6s						
NACGM	**Naroch**	7.24	58	*i* P	**Pn**	04 18 46.1	+0.1
HAU	**Haudompre**	7.25	245	*e*Pn	**Pn**	04 18 44.9	-1.3
HAU				*e*Sg	**Sg**	04 20 46.4	-5.3
	comp=Z,16nm,0.5s						
GIVF	**Givet**	7.32	263	*e*P	**Pn**	04 18 50.4	+3.3
GIVF				*e*Sg	**Sg**	04 20 49.3	-4.6
	comp=Z,27nm,0.5s						
PAGF	**Fort de Pagny**	7.33	250	*e*Pn	**Pn**	04 18 44.6	-2.7
	baz=73						
PAGF				*e*Sg	**Sg**	04 20 51.3	-3.1
	comp=Z,53nm,1.0s						
IDID	**Didziasalis**	7.39	55	*e*P	**Pn**	04 18 49.1	+1.0
IDID				IAML		04 20 33.6	
	comp=Z,3.5nm,0.5s						
GZR	**Gura Zlata**	7.52	142	⇑P	**Pn**	04 18 50.6	+0.6
SAVF	**Savonnieres en**	7.66	252	*e*Sg	**Sg**	04 21 00.5	-4.4
	comp=Z,40nm,0.8s						
MNK	**Minsk**	7.69	62	*i* P	**Pn**	04 18 55.0	+2.8
	comp=E,0.0nm,0.7s						
MNK				*i* P	**Pn**	04 18 55.0	+2.8
	comp=N,4.0nm,0.7s						
MNK				*i* P	**Pn**	04 18 55.0	+2.8
	comp=Z,4.0nm,0.7s,baz=72						
MNK				*i* S	**Sn**	04 20 24.2	+4.3
MNK				*i* LRM	MLR	04 20 59.6	
	comp=E,7.0nm,15.2s						
MNK				*i* LRM	MLR	04 21 14.6	
	comp=N,113nm,16.0s						
MNK				*i* LRM	MLR	04 21 29.1	
	comp=Z,44nm,15.7s						
BAIF	**Baives**	7.71	264	*e*Pn	**Pn**	04 18 51.6	-0.9
BAIF				*e*Sg	**Sg**	04 21 01.3	-5.2
	comp=Z,2.8nm,0.2s						
MEZF	**Maizieres J'vi**	7.75	252	*e*Pn	**Pn**	04 18 52.8	-0.3
	baz=66						
MEZF				*e*Sg	**Sg**	04 21 04.7	-3.2
	comp=Z,21nm,0.7s						
SFTF	**Sexfontaines**	7.90	250	*e*Pn	**Pn**	04 18 53.2	-1.9
SFTF				*e*Sg	**Sg**	04 21 08.0	-4.6
	comp=Z,6.7nm,0.4s						
CABF	**La Chapelle**	8.22	237	*e*Sg	**Sg**	04 21 18.4	-4.4
	comp=Z,90nm,1.1s						
AKASG	**Malin Array Be**	8.27	90	Pn	**Pn**	04 18 59.1	-1.0
	comp=Z,2.7nm,0.3s,baz=280,slow=12,SNR=16						
AKASG				Sn	**Sn**	04 20 29.4	-4.8
	comp=Z,1.5nm,0.3s,baz=286,slow=22,SNR=4.1						
AKASG				Lg	Lg	04 21 26.5	
	baz=275,slow=27,SNR=1.9						
LPL	**La Plagne**	8.65	230	*e*P	**Pn**	04 19 07.7	+2.1
LPL				*e*Sg	**Sg**	04 21 35.2	-1.4
	comp=Z,27nm,1.1s						
LPG	**La Plagne**	8.65	230	*e*P	**Pn**	04 19 08.1	+2.4
LPG				*e*Sg	**Sg**	04 21 31.5	-5.3
	comp=Z,13nm,0.7s						
HFS	**Hagfors**	8.77	352	Pn	**Pn**	04 19 07.6	+0.6
	comp=Z,0.6nm,0.3s,baz=168,slow=15,SNR=20						
HFS				Sn	**Sn**	04 20 45.9	-0.6
	comp=Z,0.8nm,0.3s,baz=175,slow=25,SNR=5.3						
HFS				Lg	Lg	04 21 41.3	
	comp=Z,0.1nm,0.3s,baz=183,slow=27,SNR=3.6						
AAL	**Aland**	8.97	12	*e*P	**Pn**	04 19 09.4	-0.2
LOR	**Lormes**	9.06	247	*e*Pn	**Pn**	04 19 10.8	-0.3
	baz=69						
LOR				*e*Sg	**Sg**	04 21 46.4	+53
	comp=Z,16nm,0.8s						
MBDF	**Montbardon**	9.22	226	*e*Pn	**Pn**	04 19 12.1	-1.3
MBDF	**Montbardon**	9.22	226	*e*P	**Pn**	04 19 17.5	+4.1
MBDF				*e*Sg	**Sg**	04 21 50.0	+52
	comp=Z,8.0nm,0.6s						
VSU	**Vasula**	9.25	37	*e*P	**Pn**	04 19 15.8	+2.2
SSF	**Saint Saulge**	9.38	247	*e*Pn	**Pn**	04 19 14.8	-0.6
SSF				*e*Sg	**Sg**	04 21 54.6	+53
	comp=Z,32nm,1.1s						
SMF	**Signal de Mont**	9.42	244	*e*Pn	**Pn**	04 19 13.9	-2.1
SMF				*e*Sg	**Sg**	04 21 55.6	+53
	comp=Z,3.5nm,0.5s						
ORIF	**Oris-en-Rattie**	9.50	230	*e*P	**Pn**	04 19 21.5	+4.4
ORIF				*e*Sg	**Sg**	04 21 59.5	+55
	comp=Z,34nm,1.3s						
AVF	**Avril sur Loir**	9.62	246	*e*Pn	**Pn**	04 19 14.2	-4.4
AVF				*e*Sg	**Sg**	04 22 01.1	+54
	comp=Z,25nm,1.0s						
SBF	**Sospel**	9.63	221	*e*Pn	**Pn**	04 19 18.0	-0.9
MEF	**Metsahovi**	9.89	25	*e*P	**Pn**	04 19 22.4	+0.1
NOA	**NORSAR Array B**	9.95	346	Pn	**Pn**	04 19 22.4	-0.8
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=9.1						
BGF	**Bois d'Agland**	10.04	246	*e*Pn	**Pn**	04 19 22.1	-2.3
BGF				*e*Sg	**Sn**	04 22 14.2	+57
	comp=Z,16nm,0.7s						
RAF	**Rauma**	10.05	16	*e*P	**Pn**	04 19 22.7	-1.7
VIVF	**Saint-Julien-l**	10.14	234	*e*Pn	**Pn**	04 19 23.3	-2.5
VIVF				*e*Sg	**Sn**	04 22 18.2	+58
	comp=Z,28nm,1.2s						
FRF	**La Foret Royal**	10.21	223	*e*Pn	**Pn**	04 19 25.2	-1.5
SMRF	**Simiane la Rot**	10.35	228	*e*Pn	**Pn**	04 19 27.2	-1.5
LMR	**La Mourre**	10.45	222	*e*Pn	**Pn**	04 19 28.4	-1.6
FINES	**FINESS Array B**	11.37	25	Pn	**Pn**	04 19 41.0	-1.5
	comp=Z,1.0nm,0.3s,baz=204,slow=12,SNR=31						
FINES				Sn	**Sn**	04 21 44.1	-6.0
	comp=Z,0.9nm,0.3s,baz=214,slow=18,SNR=6.6						
EKA	**Eskdalemuir Ar**	12.14	296	Pn	**Pn**	04 19 50.2	-2.8
	baz=102,slow=14,SNR=6.8						
ARCES	**ARCESS Array B**	18.64	10	Pn	**P**	04 21 15.9	-2.0
	baz=194,slow=12,SNR=17						
ARU	**Arti**	25.12	62	P	**P**	04 22 25.9	+0.6
	comp=Z,0.8nm,0.3s,baz=245,slow=8.9,SNR=5.2						
AKTO	**Aktyubinsk**	26.13	76	P	**P**	04 22 35.5	+1.0
	comp=Z,1.4nm,0.6s,baz=291,slow=11,SNR=5.0

TVAN	**Van**	**2.04 154**	*i* P		**Pb**	**04 32 23.3**	**-0.5**
EUZM	**Uzumlu**	**2.09 252**	*i* P		**Pb**	**04 32 23.8**	**-0.9**
AKDM	**Akdamar-Van**	**2.12 165**	PN		**Pb**	**04 32 24.4**	**-0.7**
ERZN	**Erzincan**	**2.12 249**	PN		**Pn**	**04 32 23.5**	**+1.1**
GEVA	**Gevas**	**2.15 163**	*i* P		**Pb**	**04 32 25.4**	**-0.3**
KELT	**Kelkit**	**2.33 265**	*i* P		**Pb**	**04 32 29.0**	**+0.3**
KELT			*i* S		**Sn**	**04 32 53.8**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.38 201**	PN		**Pb**	**04 32 27.8**	**-1.7**
TNCL	**Tunceli-Merkez**	**2.46 240**	*i* P		**Pn**	**04 32 28.6**	**+1.5**
ESPY	**Espiye-Giresun**	**2.76 282**	PN		**Pn**	**04 32 32.5**	**+1.4**

IDC 22 04:34:03.5±7.4, 6°.54S×149°.73E, h69km±55km, **mb3.1**/3, **mb1 3.5**/4, **mb1mx3.2**/33, **mbtmp3.6**/4, **ML2.1**/1, **Error ellipse: s-maj=103.4km s-min=49.4km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.82**	**222**	P	Pn	04 34 60.0	+0.1
	11nm,0.3s,baz=45,slow=4.3,SNR=6.9						
PMG				S	Sn	04 35 44.4	+0.9
	7.9nm,0.3s,baz=71,slow=17,SNR=8.8						
WRA	**Warramunga Arr**	**20.02**	**227**	P	P	04 38 30.4	-0.5
	0.5nm,0.3s,baz=53,slow=11,SNR=22						
ASAR	**Alice Springs**	**22.83**	**220**	P	P	04 39 01.3	+0.3
	0.2nm,0.3s,baz=58,slow=9.5,SNR=5.0						
FITZ	**Fitzroy Crossi**	**26.14**	**242**	P	P	04 39 30.4	-1.0
	2.3nm,0.8s,baz=55,slow=12,SNR=2.2						
TORD	**Torodi Ar. Bea**	**147.85**	**284**	PKPbc	PKPbc	04 53 41.9	+0.2
	0.4nm,0.6s,baz=90,slow=3.1,SNR=1.5						

*NEIC **22** 04:41:26.9±1.9, 5°.6S±0°.2×102°.18W±0°.09, h10km±2km, mb4.5/23, Error ellipse: s-maj=30.5km s-min=5.4km az=153.0*

*IDC **22** 04:41:43.6±19.0, 3°.28S×104°.72W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/31, mbtmp3.8/4, MS3.4/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=617.9km s-min=119.9km az=120.0*

ISC 22 04:41:35.2±7.0, 4°.5S±0°.9×102°.6W±0°.6, **h10**km, **n33, σ0s62/32, mb4.4**/16, **Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**23.05**	**26**	P	**P**	**04 46 40.8**	**-0.3**
CCIG				IAmb	IAmb	04 46 49.0	
	comp=Z,16nm,1.4s						
TXAR	**Lajitas Array**	**33.61**	**358**	P	**P**	**04 48 15.8**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=191,slow=9.2,SNR=4.7						
TXAR	**Lajitas Array**	**33.61**	**358**	P	**P**	**04 48 16.3**	**+0.3**
LPAZ	**La Paz**	**35.80**	**112**	LR	LR	05 01 05.1	
	comp=Z,52nm,19.9s,baz=158,slow=30						
SDCO	**Great Sand Dun**	**42.07**	**357**	P	**P**	**04 49 28.8**	**+1.2**
ISCO	**Idaho Springs**	**44.12**	**357**	P	**P**	**04 49 44.7**	**+0.5**
ISCO				IAmb	IAmb	04 49 45.2	
	comp=Z,7.9nm,1.6s						
P17A	**Butcher Ranch,**	**44.35**	**351**	P	**P**	**04 49 44.8**	**-1.1**
O20A	**White River Ci**	**44.67**	**354**	P	**P**	**04 49 48.8**	**+0.3**
HWUT	**Hardware Ranch**	**46.57**	**351**	P	**P**	**04 50 03.7**	**+0.3**
PAHR	**Pah Rah Range**	**46.59**	**342**	P	**P**	**04 50 04.0**	**+0.4**
PAHR				IAmb	IAmb	04 50 04.9	
	comp=Z,4.1nm,1.0s						
HVU	**Hansel Valley**	**46.94**	**350**	P	**P**	**04 50 06.0**	**-0.4**
ORV	**Oroville**	**47.13**	**340**	P	**P**	**04 50 07.8**	**+0.1**
ORV				IAmb	IAmb	04 50 08.8	
	comp=Z,3.8nm,1.1s						
BW06	**Boulder Array**	**47.42**	**353**	P	**P**	**04 50 09.4**	**-0.7**
PD31	**Pinedale Array**	**47.42**	**353**	P	**P**	**04 50 09.7**	**-0.4**
PDAR	**Pinedale Array**	**47.42**	**353**	P	**P**	**04 50 09.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=167,slow=7.4,SNR=9.6						
PDAR	**Pinedale Array**	**47.42**	**353**	P	**P**	**04 50 09.9**	**-0.3**
LOHW	**Long Hollow**	**48.39**	**352**	P	**P**	**04 50 17.1**	**-0.6**
LOHW				IAmb	IAmb	04 50 30.1	
	comp=Z,12nm,1.7s						
FLWY	**Flagg Ranch**	**48.86**	**352**	P	**P**	**04 50 20.6**	**-0.7**
FLWY				IAmb	IAmb	04 50 22.3	
	comp=Z,8.8nm,1.1s						
HLID	**Hailey**	**48.97**	**349**	P	**P**	**04 50 21.2**	**-0.8**
YHH	**Holmes Hill**	**49.58**	**352**	P	**P**	**04 50 27.5**	**+0.7**
YHH				IAmb	IAmb	04 50 40.7	
	comp=Z,5.5nm,1.3s						
QLMT	**Earthquake Lak**	**49.70**	**352**	P	**P**	**04 50 28.2**	**+0.5**
MCMT	**McKenzie Canyo**	**49.91**	**350**	P	**P**	**04 50 30.1**	**+0.8**
I07A	**Izee**	**50.66**	**344**	P	**P**	**04 50 34.7**	**-0.1**
I07A				IAmb	IAmb	04 50 36.0	
	comp=Z,6.8nm,1.1s						
PINE	**Pine Mountain**	**50.80**	**343**	P	**P**	**04 50 35.5**	**-0.5**
PINE				IAmb	IAmb	04 50 35.9	
	comp=Z,10.0nm,1.4s						
NEW	**Newport**	**54.02**	**348**	P	**P**	**04 50 58.6**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=187,slow=7.8,SNR=5.3						
NEW	**Newport**	**54.02**	**348**	P	**P**	**04 50 58.8**	**-0.8**
NEW				IAmb	IAmb	04 50 59.9	
	comp=Z,4.1nm,1.1s						
WALA	**Waterton Lakes**	**54.20**	**351**	P	**P**	**04 51 01.1**	**+0.1**
WALA				IAmb	IAmb	04 51 02.1	
	comp=Z,7.4nm,1.4s						
K27K	**Chicken**	**74.36**	**343**	P	**P**	**04 53 13.5**	**+0.6**
K27K				IAmb	IAmb	04 53 15.6	
	comp=Z,11nm,1.8s						
RND	**Reindeer**	**76.03**	**340**	P	**P**	**04 53 22.9**	**+0.4**
ILAR	**Eielson Array**	**76.34**	**342**	P	**P**	**04 53 24.1**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=148,slow=4.9,SNR=8.5						
ILAR	**Eielson Array**	**76.34**	**342**	P	**P**	**04 53 23.9**	**-0.4**
WRH	**Wood River Hil**	**76.51**	**341**	P	**P**	**04 53 25.3**	**+0.2**
WRH				IAmb	IAmb	04 53 26.4	
	comp=Z,3.4nm,1.1s						
NEA2	**Nenana**	**76.90**	**341**	P	**P**	**04 53 26.7**	**-0.7**

*IDC **22** 04:54:12.5±1.0, 36°.30N×97°.75W, h0km, mb3.3/1, mb1 3.7/6, mb1mx3.4/49, mbtmp3.4/6, ML3.0/4, Error ellipse: s-maj=13.2km s-min=11.0km az=129.0*

*NEIC **22** 04:54:12.5±2.0, 36°.23N±0°.02×97°.54W±0°.07, h5km±9km, Error ellipse: s-maj=8.1km s-min=2.4km az=71.0*

*ANF **22** 04:54:12.3±0.4, 36°.23N×97°.55W, h4km±3km, ML4.4/19, Error ellipse: s-maj=2.6km s-min=2.2km az=89.0*

*TUL **22** 04:54:12.6±2.1, 36°.21N±0°.02×97°.56W±0°.05, h6km±7km, ML3.9, mb_Lg3.7/141(NEIC), Mwr3.4/12(SLM), Error ellipse: s-maj=6.4km s-min=1.6km az=73.0*

*NEIC **22** 04:54:12.6, 36°.22N×97°.56W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$1.05; $M_{\phi\phi}$-1.05; $M_{r\theta}$0.00; $M_{\theta\phi}$1.26; $M_{\phi r}$0.00; Fault plane solution: M_o1.64000×10^{14} NP1:ϕ_s110.00000°, δ90.00000°, λ0.00000°. NP2:ϕ_s20.00000°, δ90.00000°, λ180.00000°. Principal axes: T 1.6402, Plg0.0000°, Azm335.0000°; N 0.0000, Plg90.0000°, Azm0.0000°; P -1.6402, Plg0.0000°, Azm65.0000°;*

ISC 22 04:54:12.7±1.0, 36°.23N±0°.02×97°.54W±0°.02, **h10**km±8km, **n207, σ1s31/199, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.44**	**171**		**Pg**	**04 54 21.1**	**-0.2**
OK029				Sg	**Sg**	**04 54 27.0**	**0.0**
CROK	**Carrier**	**0.45**	**308**		**Pg**	**04 54 21.5**	**0.0**
CROK				Sg	**Sg**	**04 54 27.8**	**+0.3**
BCOK	**Bluff Creek, N**	**0.57**	**186**		**Pg**	**04 54 23.5**	**-0.3**
BCOK				Sg	**Sg**	**04 54 31.2**	**-0.1**
BLOK	**Blackwell**	**0.59**	**26**		**Pg**	**04 54 24.6**	**+0.3**
BLOK				Sg	**Sb**	**04 54 33.0**	**-0.8**
OK031	**S. Brethren Rd**	**0.63**	**115**		**Pg**	**04 54 25.0**	**+0.1**
OK031				Sg	**Sg**	**04 54 33.7**	**+0.5**
OK005	**Luther M Schoo**	**0.64**	**153**	Pg	**Pg**	**04 54 25.0**	**-0.1**
OK005				Sg	**Sg**	**04 54 33.9**	**+0.5**
OK009	**Oakdale Elemen**	**0.65**	**171**	Pg	**Pg**	**04 54 25.0**	**-0.3**
OK025	**Westminster Rd**	**0.67**	**166**		**Pg**	**04 54 25.3**	**-0.3**
OK025				Sg	**Sg**	**04 54 34.4**	**+0.1**
QUOK	**Quay**	**0.68**	**94**		**Pg**	**04 54 25.9**	**+0.1**
OK030	**Cody Creek RV**	**0.68**	**116**		**Pg**	**04 54 26.0**	**+0.1**
OK001	**Jones High Sch**	**0.70**	**163**	Pg	**Pg**	**04 54 25.8**	**-0.3**
OK001				Sg	**Sg**	**04 54 35.3**	**+0.1**
KAN13	**South Haven SW**	**0.79**	**4**		**Pg**	**04 54 27.9**	**0.0**
OK032	**Salt Plains WL**	**0.79**	**317**	Pg	**Pg**	**04 54 27.4**	**-0.5**
KAN14	**Manchester OK**	**0.80**	**335**		**Pg**	**04 54 28.0**	**-0.2**
OKCFA	**Oklahoma City**	**0.81**	**175**		**Pg**	**04 54 27.8**	**-0.6**
OKCFA	**Oklahoma City**	**0.81**	**175**	P	**Pg**	**04 54 27.8**	**-0.6**
	baz=354,SNR=72						
OKCFA				S	**Sg**	**04 54 38.9**	**-0.1**
	baz=354						
OKCSW	**OKLAHOMA CITY**	**0.82**	**174**		**Pg**	**04 54 28.1**	**-0.5**
KAN17	**Caldwell West**	**0.83**	**348**	Pg	**Pg**	**04 54 28.6**	**-0.1**
KAN09	**Caldwell North**	**0.91**	**356**		**Pg**	**04 54 30.0**	**-0.2**
KAN05	**Bluff City Nor**	**0.92**	**343**		**Pg**	**04 54 30.1**	**-0.3**
FNO	**Franklin**	**0.97**	**173**		**Pg**	**04 54 30.7**	**-0.8**
KAN10	**Anthony SW Sta**	**1.00**	**334**		**Pg**	**04 54 31.2**	**-0.7**
KS20	**Mayfield South**	**1.00**	**359**		**Pg**	**04 54 31.7**	**-0.3**
KAN08	**Anthony NE Sta**	**1.05**	**341**		**Pg**	**04 54 32.7**	**-0.3**
T35A	**Sooner Cattle**	**1.08**	**50**	Pg	**Pg**	**04 54 33.3**	**-0.1**
T35B	**Sooner Cattle**	**1.08**	**50**	P	**Pg**	**04 54 33.2**	**-0.2**
	baz=230,SNR=822						
T35B				S	**Sb**	**04 54 48.3**	**+0.7**
	baz=230						
T35B	**Sooner Cattle**	**1.08**	**50**	P		04 54 33.2	
	baz=230,SNR=822						
T35B				S		04 54 48.3	
	baz=230						
KAN16	**Harper SW Stat**	**1.08**	**337**		**Pg**	**04 54 32.9**	**-0.6**
KAN12	**Harper NE Stat**	**1.13**	**341**		**Pg**	**04 54 33.9**	**-0.5**
U32A	**Winter Ranch,**	**1.19**	**278**		**Pg**	**04 54 34.6**	**-0.9**
U32A				IAmb_Lg		04 54 52.1	
	comp=Z,612nm,0.7s						
U32A	**Winter Ranch,**	**1.19**	**278**	P	**Pg**	**04 54 34.4**	**-1.1**
	baz=98,SNR=52						
U32A	**Winter Ranch,**	**1.19**	**278**	P		04 54 34.4	
	baz=98,SNR=52						
TUL1	**Leonard**	**1.45**	**102**	P	**Pn**	**04 54 39.0**	**-0.1**
	baz=282,SNR=778						
TUL1				S	**Sn**	**04 54 59.1**	**+1.0**
	baz=282						
TUL1	**Leonard**	**1.45**	**102**	P		04 54 39.0	
	baz=282,SNR=189						
TUL1				S		04 54 59.2	
	baz=282						
TUL1	**Leonard**	**1.45**	**102**	P		04 54 39.0	
	baz=282,SNR=778						
TUL1				S		04 54 59.1	
	baz=282						
WMOK	**Wichita Mounta**	**1.80**	**215**		**Pn**	**04 54 44.0**	**+0.1**
WMOK	**Wichita Mounta**	**1.80**	**215**	P	**Pn**	**04 54 44.0**	**+0.1**
	baz=34,SNR=255						
WMOK				S	**Sn**	**04 55 08.1**	**+1.4**
	baz=34						
WMOK	**Wichita Mounta**	**1.80**	**215**	P		04 54 44.0	
	baz=34,SNR=186						
WMOK				S		04 55 07.7	
	baz=34						
WMOK	**Wichita Mounta**	**1.80**	**215**	P		04 54 44.0	
	baz=34,SNR=255						
WMOK				S		04 55 08.1	
	baz=34						
LOOK	**Love County**	**2.25**	**172**	Pn	**Pn**	**04 54 50.8**	**+0.8**
R32A	**Long Quarter,**	**2.38**	**337**	Pn	**Pn**	**04 54 52.5**	**+0.6**
R32A	**Long Quarter,**	**2.38**	**337**	P	**Pn**	**04 54 52.6**	**+0.7**
	baz=157,SNR=95						
R32A	**Long Quarter,**	**2.38**	**337**	P		04 54 52.6	
	baz=157,SNR=95						
X37A	**Clayton**	**2.41**	**132**	Pn	**Pn**	**04 54 53.5**	**+1.3**
X37A				IAmb_Lg		04 55 32.0	
	comp=Z,271nm,0.9s						
X37A	**Clayton**	**2.41**	**132**	P	**Pn**	**04 54 53.2**	**+1.0**
	baz=313,SNR=130						
X37A	**Clayton**	**2.41**	**132**	P		04 54 53.2	
	baz=313,SNR=130						
U38A	**Gravette**	**2.56**	**84**	Pn	**Pn**	**04 54 55.2**	**+1.0**
U38A	**Gravette**	**2.56**	**84**	P	**Pn**	**04 54 55.3**	**+1.0**
	baz=266						
U38A	**Gravette**	**2.56**	**84**	P		04 54 55.3	
	baz=266						
Z35A	**Perchaven, San**	**2.90**	**175**	Pn	**Pn**	**04 55 00.1**	**+1.1**
Z35A	**Perchaven, San**	**2.90**	**175**	P	**Pn**	**04 54 59.8**	**+0.9**
	baz=355,SNR=37						
Z35A				S	**Sn**	**04 55 36.0**	**+2.1**
	baz=355						
Z35A	**Perchaven, San**	**2.90**	**175**	P		04 54 59.8	
	baz=355,SNR=37						
Z35A				S		04 55 36.0	
	baz=355						
HHAR	**Hobbs**	**2.91**	**88**		**Pn**	**04 54 60.0**	**+0.8**
HHAR	**Hobbs**	**2.91**	**88**	P	**Pn**	**04 54 59.9**	**+0.7**
	baz=270						
HHAR	**Hobbs**	**2.91**	**88**	P		04 54 59.9	
	baz=270						
KSU1	**Kansas State U**	**2.96**	**14**	P		04 55 00.8	
	baz=195						
KSU1				Sb		04 55 44.1	
	baz=195						
KSU1	**Kansas State U**	**2.96**	**14**	Pn	**Pn**	**04 55 01.7**	**+1.9**
KSU1	**Kansas State U**	**2.96**	**14**	IAmb_Lg		04 55 49.2	
	comp=Z,198nm,0.8s						
CBKS	**Cedar Bluff**	**3.12**	**327**	Pn	**Pn**	**04 55 03.2**	**+1.2**
CBKS	**Cedar Bluff**	**3.12**	**327**	S	**Sn**	**04 55 41.7**	**+2.4**
	baz=146						
CBKS	**Cedar Bluff**	**3.12**	**327**	P		04 55 01.9	
	baz=146,SNR=41						
CBKS				Sb		04 55 48.3	
	baz=146						
CBKS	**Cedar Bluff**	**3.12**	**327**	S		04 55 41.7	
	baz=146						
W39A	**Magazine**	**3.23**	**107**		**Pn**	**04 55 04.2**	**+0.7**
W39A				IAmb_Lg		04 56 03.8	
	comp=Z,305nm,0.9s						
W39A	**Magazine**	**3.23**	**107**	P	**Pn**	**04 55 04.2**	**+0.7**
	baz=289,SNR=43						
W39A				S	**Sn**	**04 55 44.6**	**+2.6**
	baz=289						
W39A	**Magazine**	**3.23**	**107**	P		04 55 04.2	
	baz=289,SNR=11						
W39A				S		04 55 42.8	
	baz=289						
W39A	**Magazine**	**3.23**	**107**	P		04 55 04.2	
	baz=289,SNR=43						
W39A				S		04 55 44.6	
	baz=289						
AMTX	**Amarillo**	**3.63**	**250**	Pn	**Pn**	**04 55 10.5**	**+1.4**
AMTX	**Amarillo**	**3.63**	**250**	P		04 55 09.7	
	baz=67						
AMTX				Sb		04 56 04.7	
	baz=67						
Z38A	**Mt. Pleasant**	**3.63**	**144**	Pn	**Pn**	**04 55 09.9**	**+0.9**
Z38A	**Mt. Pleasant**	**3.63**	**144**	P	**Pn**	**04 55 09.8**	**+0.8**
	baz=325						
Z38A				S	**Sn**	**04 55 53.7**	**+1.8**
	baz=325						
Z38A	**Mt. Pleasant**	**3.63**	**144**	P		04 55 09.8	
	baz=325						
Z38A				S		04 55 53.7	
	baz=325						
MIAR	**Mount Ida**	**3.65**	**116**	Pn	**Pn**	**04 55 10.7**	**+1.4**
MIAR				IAmb_Lg		04 56 16.1	
	comp=Z,191nm,0.8s						
MIAR	**Mount Ida**	**3.65**	**116**	P	**Pn**	**04 55 10.4**	**+1.2**
	baz=298,SNR=61						
MIAR				S	**Sn**	**04 55 53.5**	**+1.1**
	baz=298						
MIAR	**Mount Ida**	**3.65**	**116**	P		04 55 10.2	
	baz=298,SNR=23						
MIAR				S		04 55 53.2	
	baz=298						
MIAR	**Mount Ida**	**3.65**	**116**	P		04 55 10.4	
	baz=298,SNR=61						
MIAR				S		04 55 53.5	
	baz=298						
S39A	**Bolivar**	**3.68**	**65**		**Pn**	**04 55 10.5**	**+0.8**
S39A				IAmb_Lg		04 56 16.7	
	comp=Z,185nm,0.8s						
S39A	**Bolivar**	**3.68**	**65**	P	**Pn**	**04 55 10.8**	**+1.1**
	baz=248,SNR=45						
S39A	**Bolivar**	**3.68**	**65**	P		04 55 10.8	
	baz=248,SNR=45						
U40A	**Yellville**	**3.79**	**87**	Pn	**Pn**	**04 55 12.5**	**+1.3**
U40A				IAmb_Lg		04 56 22.7	
	comp=Z,203nm,0.7s						
U40A	**Yellville**	**3.79**	**87**	P		04 55 11.3	
	baz=269,SNR=7.1						
U40A				S		04 55 56.7	
	baz=269						
ABTX	**Abilene, Hawle**	**3.99**	**206**	IAmb_Lg		04 56 23.5	
	comp=Z,183nm,0.9s						
ABTX	**Abilene, Hawle**	**3.99**	**206**	P		04 55 14.2	
	baz=25,SNR=20						
ABTX				S		04 56 00.4	
	baz=25						
X40A	**Basin Creek Fa**	**4.22**	**113**	Pn	**Pn**	**04 55 18.5**	**+1.3**
X40A				IAmb_Lg		04 56 31.6	
	comp=Z,246nm,0.7s						
X40A	**Basin Creek Fa**	**4.22**	**113**	P	**Pn**	**04 55 18.4**	**+1.3**
	baz=296,SNR=28						
X40A	**Basin Creek Fa**	**4.22**	**113**	P		04 55 18.3	
	baz=296,SNR=7.9						
X40A				S		04 56 06.9	
	baz=296						
X40A	**Basin Creek Fa**	**4.22**	**113**	P		04 55 18.4	
	baz=296,SNR=28						
X40A				P		04 55 18.4	
	baz=296,SNR=28						
WHTX	**Lake Whitney,**	**4.23**	**179**	Pn	**Pn**	**04 55 17.7**	**+0.5**
WHTX	**Lake Whitney,**	**4.23**	**179**	P		04 55 17.2	
	baz=359,SNR=7.5						
WHTX				S		04 56 06.9	
	baz=359						
MGMO	**Mountain Grove**	**4.34**	**76**		**Pn**	**04 55 19.7**	**+1.0**
MGMO				IAmb_Lg		04 56 32.4	
	comp=Z,233nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**101**	Pn	**Pn**	**04 55 20.6**	**+1.4**
WHAR				IAmb_Lg		04 56 34.7	
	comp=Z,184nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.40**	**93**	Pn	**Pn**	**04 55 20.2**	**+0.6**
FCAR				IAmb_Lg		04 56 33.0	
	comp=Z,162nm,0.7s						
WLAR	**White Oak Lake**	**4.43**	**124**	Pn	**Pn**	**04 55 20.9**	**+0.9**
W41B	**Gary Mavity, V**	**4.43**	**102**	P	**Pn**	**04 55 20.4**	**+0.3**
	baz=285,SNR=28						
W41B				S	**Sn**	**04 56 11.9**	**+0.1**
	baz=285						
W41B	**Gary Mavity, V**	**4.43**	**102**	P		04 55 20.3	
	baz=285						
W41B				S		04 56 11.6	
	baz=285						
W41B	**Gary Mavity, V**	**4.43**	**102**	P		04 55 20.4	
	baz=285,SNR=28						
W41B				S		04 56 11.9	
	baz=285						
237A	**Washetta, Mont**	**4.45**	**161**	Pn	**Pn**	**04 55 20.2**	**-0.1**
237A	**Washetta, Mont**	**4.45**	**161**	P	**Pn**	**04 55 20.3**	**-0.1**
	baz=342,SNR=13						
237A	**Washetta, Mont**	**4.45**	**161**	P		04 55 20.3	
	baz=342,SNR=13						
N33B	**J Bar K, Exete**	**4.50**	**1**	P	**Pn**	**04 55 20.7**	**-0.3**
	baz=181,SNR=6.3						
N33B				S	**Sn**	**04 56 13.6**	**+0.1**
	baz=181						
N33B	**J Bar K, Exete**	**4.50**	**1**	P		04 55 20.7	
	baz=181,SNR=6.3						
N33B				S		04 56 13.6	
	baz=181						
N33A	**J Bar K, Exete**	**4.50**	**1**	Pn	**Pn**	**04 55 21.3**	**+0.3**
N33A				IAmb_Lg		04 56 47.4	
	comp=Z,194nm,0.8s						
P38A	**Dawn**	**4.64**	**42**	Pn	**Pn**	**04 55 24.0**	**+1.1**
P38A				IAmb_Lg		04 56 41.7	
	comp=Z,216nm,0.7s						
R40A	**Maddies Statio**	**4.68**	**62**		**Pn**	**04 55 24.3**	**+0.8**
R40A				IAmb_Lg		04 56 39.3	
	comp=Z,94nm,0.7s						
R40A	**Maddies Statio**	**4.68**	**62**	P	**Pn**	**04 55 24.3**	**+0.8**
	baz=245,SNR=40						
R40A	**Maddies Statio**	**4.68**	**62**	P		04 55 24.3	
	baz=245,SNR=40						
MSTX	**Muleshoe**	**4.84**	**244**	Pn	**Pn**	**04 55 26.0**	**+0.2**
MSTX	**Muleshoe**	**4.84**	**244**	P		04 55 25.8	
	baz=61,SNR=12						
MSTX				Sb		04 56 40.2	
	baz=61						
N35A	**Tabor**	**4.86**	**17**		**Pn**	**04 55 26.9**	**+1.0**
Z41A	**Richland Creek**	**4.90**	**126**	P		04 55 26.6	
	baz=308						
Z41A				S		04 56 22.4	
	baz=308						
KSCO	**Kaye Shedlock'**	**4.90**	**306**	Pn	**Pn**	**04 55 28.6**	**+2.0**
KSCO				IAmb_Lg		04 56 59.6	
	comp=Z,153nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.90**	**306**	P		04 55 26.1	
	baz=123						
NATX	**Nacogdoches**	**5.06**	**151**	Pn	**Pn**	**04 55 29.0**	**+0.4**
NATX	**Nacogdoches**	**5.06**	**151**	P		04 55 28.9	
	baz=332						
LCAR	**Lake Charles**	**5.17**	**90**	Pn	**Pn**	**04 55 30.8**	**+0.7**
LCAR				IAmb_Lg		04 56 59.7	
	comp=Z,95nm,0.7s						
BGNE	**Belgrade**	**5.20**	**355**	Pn	**Pn**	**04 55 30.8**	**+0.2**
BGNE	**Belgrade**	**5.20**	**355**	P	**Pn**	**04 55 30.5**	**-0.1**
	baz=175,SNR=27						
BGNE	**Belgrade**	**5.20**	**355**	P		04 55 30.6	
	baz=175,SNR=9.6						
BGNE				S		04 56 29.6	
	baz=175						
BGNE	**Belgrade**	**5.20**	**355**	P		04 55 30.5	
	baz=175,SNR=27						
T42A	**Van Buren**	**5.25**	**79**	IAmb_Lg		04 57 08.1	
	comp=Z,148nm,1.0s						
CCAR	**Cane Creek**	**5.26**	**114**	Pn	**Pn**	**04 55 32.5**	**+1.1**
CCM	**Cathedral Cave**	**5.35**	**68**	IAmb_Lg		04 57 10.6	
	comp=Z,130nm,0.9s						
435B	**Jarrell**	**5.43**	**180**		**Pn**	**04 55 34.0**	**+0.2**
435B				IAmb_Lg		04 57 07.9	
	comp=Z,140nm,0.7s						
435B	**Jarrell**	**5.43**	**180**	P	**Pn**	**04 55 33.9**	**+0.2**
	baz=0.2,SNR=8.1						
435B	**Jarrell**	**5.43**	**180**	P		04 55 33.9	
	baz=0.2						
435B				S		04 56 35.3	
	baz=0.2						
435B	**Jarrell**	**5.43**	**180**	P		04 55 33.9	
	baz=0.2,SNR=8.1						
P40A	**Paris**	**5.45**	**51**	Pn	**Pn**	**04 55 34.7**	**+0.6**
P40A				IAmb_Lg		04 57 10.4	
	comp=Z,159nm,0.8s						
N38A	**Joes South For**	**5.67**	**35**		**Pn**	**04 55 36.7**	**-0.4**
PBMO	**Poplar Bluff**	**5.75**	**82**	Pn	**Pn**	**04 55 40.0**	**+1.8**
PBMO				IAmb_Lg		04 57 26.2	
	comp=Z,117nm,0.8s						
OGNE	**Ogallala**	**5.88**	**325**	Pn	**Pn**	**04 55 41.3**	**+1.3**
OGNE				IAmb_Lg		04 57 24.8	
	comp=Z,112nm,0.7s						
OGNE	**Ogallala**	**5.88**	**325**	P		04 55 40.7	
	baz=142,SNR=5.4						
JCT	**Junction City**	**6.04**	**199**	Pn	**Pn**	**04 55 42.5**	**+0.4**
JCT	**Junction City**	**6.04**	**199**	P		04 55 41.6	
	baz=18						

P43A	**Skaggs, Pawnee**	**7.20**	**59**	P		**Pn**	**04 55 58.4**	**+0.4**
	baz=244,SNR=11								
P43A	**Skaggs, Pawnee**	**7.20**	**59**	P			04 55 58.4		
	baz=244,SNR=11								
Q44A	**Meyer Farm, Va**	**7.28**	**66**	Pn		**Pn**	**04 55 59.7**	**+0.6**
Q44A				IAmb_Lg			04 58 14.3		
	comp=Z,102nm,0.8s								
ISCO	**Idaho Springs**	**7.30**	**302**	Pn		**Pn**	**04 56 00.4**	**+0.6**
ISCO				IAmb_Lg			04 58 19.5		
	comp=Z,55nm,0.7s								
ISCO	**Idaho Springs**	**7.30**	**302**	P			04 55 59.3		
	baz=117,SNR=6.9								
735A	**Kenedy**	**7.35**	**182**	IAmb_Lg			04 58 25.2		
	comp=Z,60nm,0.8s								
ANMO	**Albuquerque**	**7.38**	**263**	Pn		**Pn**	**04 55 59.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=61,slow=13,SNR=2.2								
ANMO				Pg		**Pb**	**04 56 25.0**	**+4.0**
	comp=Z,1.2nm,0.3s,baz=85,slow=17,SNR=12								
ANMO				Lg	Lg		04 58 01.6		
	comp=Z,8.0nm,0.3s,baz=344,slow=22,SNR=4.5								
ANMO	**Albuquerque**	**7.38**	**263**	Pn		**Pn**	**04 56 00.1**	**-0.6**
ECSD	**EROS Data Cent**	**7.53**	**5**	Pn		**Pn**	**04 56 01.3**	**-1.3**
ECSD				IAmb_Lg			04 58 19.1		
	comp=Z,48nm,0.8s								
ECSD	**EROS Data Cent**	**7.53**	**5**	P			04 56 01.5		
	baz=186,SNR=7.5								
L40A	**Anamosa**	**7.62**	**38**			**Pn**	**04 56 03.2**	**-0.5**
HDIL	**Hopedale**	**7.79**	**54**			**Pn**	**04 56 04.3**	**-1.7**
HDIL	**Hopedale**	**7.79**	**54**	P			04 56 05.1		
	baz=239,SNR=11								
PLAL	**Pickwick Lake**	**7.81**	**96**	Pn		**Pn**	**04 56 05.8**	**-0.6**
PLAL				IAmb_Lg			04 58 22.1		
	comp=Z,56nm,0.9s								
WVT	**Waverly**	**7.86**	**88**	Pn		**Pn**	**04 56 06.6**	**-0.5**
OLIL	**Olney**	**7.91**	**69**	IAmb_Lg			04 58 36.6		
	comp=Z,102nm,0.9s								
MNTX	**Cornudas Mount**	**7.92**	**238**	Pn		**Pn**	**04 56 07.7**	**-0.3**
MNTX	**Cornudas Mount**	**7.92**	**238**	P			04 56 07.6		
	baz=53								
PHWY	**Pilot Hill**	**7.99**	**312**			**Pn**	**04 56 09.4**	**+0.2**
PHWY				IAmb_Lg			04 58 34.5		
	comp=Z,61nm,0.9s								
SMCO	**Snowmass**	**8.04**	**294**	IAmb_Lg			04 58 50.7		
	comp=Z,61nm,0.9s								
N23A	**Red Feather La**	**8.06**	**308**	P			04 56 10.0		
	baz=123,SNR=15								
O44A	**Mansfield**	**8.15**	**59**	Pn		**Pn**	**04 56 11.2**	**+0.2**
O44A				IAmb_Lg			04 58 38.3		
	comp=Z,79nm,0.7s								
SUSD	**Miller**	**8.28**	**353**	Pn		**Pn**	**04 56 13.5**	**+0.7**
SUSD				IAmb_Lg			04 58 44.9		
	comp=Z,84nm,0.8s								
SUSD	**Miller**	**8.28**	**353**	P			04 56 13.0		
	baz=172								
I37A	**Lemond, Waseca**	**8.40**	**21**			**Pn**	**04 56 14.3**	**-0.1**
I37A				IAmb_Lg			04 58 52.6		
	comp=Z,76nm,0.8s								
L42A	**Oliver, Polo**	**8.41**	**44**	Pn		**Pn**	**04 56 14.8**	**+0.2**
L42A				IAmb_Lg			04 58 41.8		
	comp=Z,64nm,0.8s								
T47A	**Sharon Grove**	**8.43**	**82**	Pn		**Pn**	**04 56 14.4**	**-0.5**
TX31	**Lajitas Ar. Si**	**8.59**	**219**			**Pn**	**04 56 16.0**	**-1.3**
TX32	**Lajitas Array**	**8.59**	**219**			**Pn**	**04 56 16.0**	**-1.3**
TXAR	**Lajitas Array**	**8.59**	**219**	Pn		**Pn**	**04 56 16.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=41,slow=11,SNR=27								
TXAR				Lg	Lg		04 58 37.9		
	comp=Z,3.1nm,0.3s,baz=66,slow=18,SNR=8.2								
JFWS	**Jewell Farm**	**8.73**	**38**	Pn		**Pn**	**04 56 18.5**	**-0.5**
JFWS				IAmb_Lg			04 58 56.0		
	comp=Z,68nm,0.8s								
JFWS	**Jewell Farm**	**8.73**	**38**	P			04 56 18.0		
	baz=222,SNR=9.1								
P46A	**Rosedale**	**8.84**	**64**	IAmb_Lg			04 58 56.6		
	comp=Z,69nm,0.8s								
M44A	**Midewin, Midew**	**9.03**	**52**	Pn		**Pn**	**04 56 22.7**	**-0.4**
M44A				IAmb_Lg			04 58 58.4		
	comp=Z,77nm,1.1s								
CLTN	**Cedars of Leba**	**9.07**	**88**	IAmb_Lg			04 58 59.8		
	comp=Z,61nm,1.1s								
PV02	**Paradox Valley**	**9.15**	**286**	IAmb_Lg			04 59 16.3		
	comp=Z,35nm,1.0s								
WCI	**Wyandotte Cave**	**9.19**	**74**	Pn		**Pn**	**04 56 26.2**	**+0.8**
WCI				IAmb_Lg			04 59 04.1		
	comp=Z,56nm,0.8s								
WCI	**Wyandotte Cave**	**9.19**	**74**	P			04 56 25.4		
	baz=261								
SFIN	**Lafayette**	**9.20**	**60**	Pn		**Pn**	**04 56 24.6**	**-0.8**
SFIN				IAmb_Lg			04 59 13.9		
	comp=Z,56nm,0.8s								
SFIN	**Lafayette**	**9.20**	**60**	P			04 56 24.8		
	baz=246,SNR=6.5								
BLO	**Bloomington**	**9.21**	**68**	Pn		**Pn**	**04 56 24.7**	**-1.0**
PV12	**Saucer Basin,**	**9.21**	**286**	IAmb_Lg			04 59 20.9		
	comp=Z,41nm,1.0s								
121A	**Cookes Peak, D**	**9.23**	**249**	IAmb_Lg			04 59 15.6		
	comp=Z,40nm,1.2s								
PV11	**David Mesa, Pa**	**9.27**	**286**	IAmb_Lg			04 59 12.8		
	comp=Z,62nm,1.3s								
RWWY	**Rawlins**	**9.29**	**309**	Pn		**Pn**	**04 56 26.9**	**-0.2**
RWWY				IAmb_Lg			04 59 16.5		
	comp=Z,61nm,1.2s								
PV16	**Nyswonger Mesa**	**9.30**	**286**	IAmb_Lg			04 59 14.0		
	comp=Z,43nm,1.3s								
PV04	**Paradox Valley**	**9.31**	**287**	IAmb_Lg			04 59 18.4		
	comp=Z,38nm,1.0s								
I40A	**Norwalk**	**9.31**	**33**			**Pn**	**04 56 25.6**	**-1.4**
I40A				IAmb_Lg			04 59 06.1		
	comp=Z,52nm,0.9s								
RSSD	**Black Hills**	**9.32**	**330**	Pn		**Pn**	**04 56 28.3**	**+1.0**
RSSD	**Black Hills**	**9.32**	**330**	P			04 56 27.0		
	baz=146								
PV20	**West Nyswonger**	**9.35**	**286**	IAmb_Lg			04 59 14.2		
	comp=Z,42nm,1.2s								
HQIL	**Hanson Quary C**	**9.37**	**51**	IAmb_Lg			04 59 19.3		
	comp=Z,44nm,0.8s								
PV14	**Lion Creek, Pa**	**9.40**	**287**	IAmb_Lg			04 59 15.1		
	comp=Z,39nm,1.2s								
PV05	**Paradox Valley**	**9.41**	**285**	IAmb_Lg			04 59 20.2		
	comp=Z,38nm,1.2s								
Y49A	**Blount Mountai**	**9.43**	**101**	IAmb_Lg			04 59 24.3		
	comp=Z,46nm,0.8s								
K22A	**Casper**	**9.45**	**315**			**Pn**	**04 56 28.0**	**-1.1**
K22A				IAmb_Lg			04 59 28.3		
	comp=Z,79nm,1.0s								
K22A	**Casper**	**9.45**	**315**	P			04 56 28.3		
	baz=130								
U49A	**Red Boiling Sp**	**9.49**	**85**	Pn		**Pn**	**04 56 30.7**	**+1.2**
U49A				IAmb_Lg			04 59 14.8		
	comp=Z,58nm,1.2s								
SWET	**Sewanee**	**9.49**	**93**	IAmb_Lg			04 59 16.4		
	comp=Z,34nm,0.9s								
L44A	**Lake County Fo**	**9.54**	**49**	IAmb_Lg			04 59 20.6		
	comp=Z,81nm,1.0s								
L44A	**Lake County Fo**	**9.54**	**49**	P			04 56 29.5		
	baz=235								
K43A	**Burlington**	**9.62**	**45**	Pn		**Pn**	**04 56 30.9**	**-0.3**
K43A				IAmb_Lg			04 59 30.6		
	comp=Z,62nm,0.8s								
F33A	**5 Mile Ranch,**	**9.65**	**5**	IAmb_Lg			04 59 23.0		
	comp=Z,34nm,0.8s								
SPMN	**Marine on St.**	**9.68**	**20**	Pn		**Pn**	**04 56 31.9**	**-0.1**
SPMN				IAmb_Lg			04 59 32.8		
	comp=Z,70nm,1.0s								
SPMN	**Marine on St.**	**9.68**	**20**	P			04 56 31.3		
	baz=203								
FPAL	**Fort Paine**	**9.89**	**96**	IAmb_Lg			04 59 30.6		
	comp=Z,44nm,0.8s								
R49A	**Shelbyville**	**10.07**	**75**	Pn		**Pn**	**04 56 37.4**	**0.0**
F36A	**Milaca**	**10.09**	**16**	Pn		**Pn**	**04 56 36.0**	**-1.7**
I42A	**Draeger Farm,**	**10.11**	**38**			**Pn**	**04 56 37.2**	**-0.7**
P48A	**Milroy**	**10.11**	**68**	Pn		**Pn**	**04 56 36.6**	**-1.4**
T50A	**Nancy**	**10.24**	**82**	Pn		**Pn**	**04 56 40.5**	**+0.8**
N47A	**Urbana**	**10.37**	**60**	Pn		**Pn**	**04 56 40.6**	**-1.0**
CPCT	**Cooper Cave**	**10.60**	**90**	Pn		**Pn**	**04 56 45.3**	**+0.6**
G40A	**Rib Lake**	**10.61**	**29**			**Pn**	**04 56 43.8**	**-0.9**
P49A	**Miami Univ. Ec**	**10.66**	**68**	Pn		**Pn**	**04 56 43.7**	**-1.8**
R50A	**Paris**	**10.73**	**75**	Pn		**Pn**	**04 56 46.6**	**+0.1**
H43A	**Windswept, Lux**	**11.10**	**39**	Pn		**Pn**	**04 56 50.1**	**-1.4**
TKL	**Tuckaleechee C**	**11.18**	**89**	Pn		**Pn**	**04 56 55.7**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=228,slow=10,SNR=2.8								
TKL				Lg	Lg		04 59 59.6		
	comp=Z,1.1nm,0.3s,baz=355,slow=21,SNR=4.6								
TKL	**Tuckaleechee C**	**11.18**	**89**	Pn		**Pn**	**04 56 53.5**	**+0.9**
S51A	**Beattyville**	**11.25**	**79**	Pn		**Pn**	**04 56 53.1**	**-0.6**
E38A	**The Farm, Brul**	**11.30**	**22**	Pn		**Pn**	**04 56 54.3**	**+0.1**
V52A	**Sevierville**	**11.30**	**88**	Pn		**Pn**	**04 56 55.4**	**+1.2**
BW06	**Boulder Array**	**11.34**	**309**	Pn		**Pn**	**04 56 53.5**	**-1.6**
PD31	**Pinedale Array**	**11.34**	**309**	Pn		**Pn**	**04 56 53.8**	**-1.3**
PDAR	**Pinedale Array**	**11.34**	**309**	Pn		**Pn**	**04 56 53.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=125,slow=15,SNR=9.6								
PDAR				Pg			04 57 38.5		
	comp=Z,0.7nm,0.3s,baz=116,slow=20,SNR=9.8								
PDAR				Lg	Lg		05 00 02.2		
	comp=Z,1.2nm,0.3s,baz=116,slow=18,SNR=4.5								
PDAR	**Pinedale Array**	**11.34**	**309**			**Pn**	**04 56 53.7**	**-1.3**
N49A	**Columbus Grove**	**11.46**	**62**	Pn		**Pn**	**04 56 54.3**	**-2.0**
Q51A	**Peebles**	**11.60**	**72**	Pn		**Pn**	**04 56 57.8**	**-0.6**
L48A	**N Adams**	**11.67**	**57**			**Pn**	**04 56 57.1**	**-2.2**
L48A	**N Adams**	**11.67**	**57**	P		**Pn**	**04 56 58.0**	**-1.3**
	baz=245,SNR=12								
L48A	**N Adams**	**11.67**	**57**	P			04 56 58.0		
	baz=245,SNR=12								
L48A				P			04 56 58.0		
	baz=245,SNR=12								
COWI	**Conover**	**11.71**	**30**			**Pn**	**04 56 58.0**	**-1.8**
JLU	**Jordanelle**	**11.75**	**296**	Pn		**Pn**	**04 57 01.1**	**+0.5**
J47A	**Sunmer**	**12.03**	**51**			**Pn**	**04 57 02.6**	**-1.6**
J47A	**Sunmer**	**12.03**	**51**	P		**Pn**	**04 57 02.6**	**-1.6**
	baz=239,SNR=6.4								
J47A	**Sunmer**	**12.03**	**51**	P			04 57 02.6		
	baz=239,SNR=6.4								
J47A				P			04 57 02.6		
	baz=239,SNR=6.4								
AGMN	**Agassiz Nation**	**12.13**	**5**	Pn		**Pn**	**04 57 04.5**	**-1.0**
Q52A	**Bidwell**	**12.42**	**73**	Pn		**Pn**	**04 57 08.6**	**-1.0**
B35A	**Bob, Littlefor**	**12.45**	**12**			**Pn**	**04 57 06.8**	**-3.0**
EYMN	**Ely**	**12.54**	**19**	Pn		**Pn**	**04 57 07.5**	**-3.6**
G45A	**Suttons Bay**	**12.60**	**42**	Pn		**Pn**	**04 57 09.9**	**-2.1**
P52A	**Corning**	**12.63**	**70**	Pn		**Pn**	**04 57 11.5**	**-1.0**
D41A	**Chassel**	**12.72**	**29**	Pn		**Pn**	**04 57 10.8**	**-2.9**
N51A	**Ashland**	**12.76**	**64**	Pn		**Pn**	**04 57 12.8**	**-1.4**
E43A	**Lone Tree Farm**	**12.86**	**35**	Pn		**Pn**	**04 57 11.6**	**-3.9**
S54A	**Dingess, Beckl**	**13.07**	**78**	Pn		**Pn**	**04 57 17.2**	**-1.3**
P53A	**Whipple**	**13.17**	**71**	Pn		**Pn**	**04 57 17.9**	**-2.0**
O53A	**New Philadelph**	**13.45**	**68**	Pn		**Pn**	**04 57 20.4**	**-3.2**
I49A	**Point Hope**	**13.64**	**51**	Pn		**Pn**	**04 57 23.3**	**-2.9**
M52A	**Chesterland**	**13.67**	**62**	Pn		**Pn**	**04 57 23.1**	**-3.6**
R55A	**Marlinton**	**14.03**	**76**	Pn		**Pn**	**04 57 29.8**	**-1.8**
ULM	**Lac du Bonnet**	**14.07**	**4**	Pn		**Pn**	**04 57 27.8**	**-4.2**
	comp=Z,2.0nm,0.3s,baz=186,slow=13,SNR=1.5								
ULM				Sn	Sn		04 59 55.1	-13	
	comp=Z,0.7nm,0.3s,baz=271,slow=20,SNR=3.1								
ULM				Lg	Lg		05 01 28.8		
	comp=Z,0.4nm,0.3s,baz=85,slow=22,SNR=3.8								
ULM	**Lac du Bonnet**	**14.07**	**4**			**Pn**	**04 57 28.4**	**-3.6**
E46A	**Sault Ste Mari**	**14.18**	**40**	Pn		**Pn**	**04 57 30.0**	**-3.6**
M54A	**Oil Creek Stat**	**14.88**	**64**	Pn		**Pn**	**04 57 40.0**	**-3.2**
SADO	**Sadowa**	**16.36**	**53**	Lg	Lg		05 02 38.2		
	comp=Z,0.3nm,0.3s,baz=349,slow=22,SNR=3.2								
ILAR	**Eielson Array**	**40.77**	**330**	P		**P**	**05 01 54.9**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=93,slow=6.2,SNR=4.1								

*DDA **22** 04:55:01.7, 40°.35N×42°.31E, h12km±5km, MW3.7*
*NSSP **22** 04:55:01.2, 40°.48N×42°.18E, h9km, Ms3.4*
*ISK **22** 04:55:02.4, 40°.37N×42°.26E, h3km, ML3.5/23*
*TIF **22** 04:55:02.2, 40°.36N×42°.28E, h5km±1km*
*IDC **22** 04:55:03.6±1.4, 39°.99N×42°.29E, h0km, mb3.1/1, mb1 3.6/5, mb1mx3.3/43, mbtmp3.3/5, ML3.4/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/31, Error ellipse: s-maj=22.3km s-min=10.7km az=9.0*

ISC 22 04:55:02.7±0.9, 40°.36N±0°.02×42°.28E±0°.02, h8km±7km, n79, σ1§60/108, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.21**	**15**	PG		**Pb**	**04 55 07.7**	**+0.5**
HOMI	**Horasan**	**0.42**	**223**	*i* P		**Pg**	**04 55 10.2**	**-0.8**
HOMI				*i* S		**Sg**	**04 55 16.4**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**0.49**	**222**	PG		**Pb**	**04 55 12.5**	**-1.2**
KOPR				SG		**Sb**	**04 55 20.3**	**-0.8**
KARS	**Kars**	**0.67**	**66**	PG		**Pn**	**04 55 16.3**	**-2.3**
KARS				SG		**Sn**	**04 55 26.5**	**-2.9**
DDEM	**Demirkent**	**0.67**	**323**	*i* P		**Pb**	**04 55 15.9**	**-0.8**
DDEM				*i* S		**Sb**	**04 55 25.6**	**-0.7**
DBAD	**Bademkaya**	**0.80**	**326**	*i* P		**Pb**	**04 55 18.1**	**-0.8**
DBAD				*i* S		**Sg**	**04 55 28.1**	**-0.4**
ERZM	**Erzurum**	**0.83**	**238**	*i* P		**Pg**	**04 55 19.0**	**-0.6**
DIGO	**Kars**	**0.84**	**86**	*i* P		**Pg**	**04 55 17.4**	**-1.5**
DIGO				*i* S		**Sg**	**04 55 28.4**	**-1.4**
KOTA	**Agri, Merkez-K**	**0.90**	**128**	*i* P		**Pn**	**04 55 20.8**	**-1.1**
EJDE	**Erzurum, Palan**	**0.91**	**235**	*i* P		**Pb**	**04 55 20.0**	**-1.0**
EJDE				*i* S		**Sn**	**04 55 33.7**	**-2.0**
AGRB	**Hanur-Agry**	**0.95**	**145**	PG		**Pn**	**04 55 21.2**	**-1.4**
KRIK	**Erzurum-spir**	**1.03**	**269**	*i* P		**Pn**	**04 55 22.9**	**-0.8**
KRIK				*i* S		**Sb**	**04 55 36.0**	**-0.8**
EAK	**Akyaka**	**1.06**	**71**	*i* P		**Pb**	**04 55 22.1**	**-1.4**
EAK				*i* S		**Sn**	**04 55 36.4**	**-2.8**
DBOC	**Borcka**	**1.09**	**335**	*i* P		**Pg**	**04 55 23.1**	**-0.6**
DBOC				*i* S		**Sb**	**04 55 36.3**	**-2.0**
EKAR	**Karacoban**	**1.11**	**189**	*i* P		**Pn**	**04 55 24.3**	**-0.5**
EKAR				*i* S		**Sn**	**04 55 41.5**	**+1.1**
VNNZ	**Vanand**	**1.21**	**102**	*i* P		**Pg**	**04 55 26.3**	**+0.3**
VNNZ				*i* S		**Sn**	**04 55 44.9**	**+2.3**
HOPA	**Hopa-Artvin**	**1.21**	**329**	PN		**Pb**	**04 55 25.0**	**-0.9**
MLAZ	**Malazgirt-MUS**	**1.23**	**170**	PN		**Pg**	**04 55 27.3**	**+0.9**
ECAT	**Cat-ERZURUM**	**1.25**	**234**	*i* P		**Pb**	**04 55 27.0**	**-1.0**
BGD	**Bogdanovka**	**1.35**	**47**	P		**Pg**	**04 55 28.7**	**0.0**
BGD				S		**Sg**	**04 55 47.6**	**+1.4**
VRTB	**Varto-Mus**	**1.35**	**208**	PN		**Pg**	**04 55 29.2**	**+0.5**
DYDN	**Diyadin**	**1.35**	**126**	*i* P		**Pg**	**04 55 27.2**	**-1.5**
DYDN				*i* S		**Sg**	**04 55 47.0**	**+0.7**
CHOM	**Cayeli-Rize**	**1.37**	**303**	PN		**Pg**	**04 55 28.6**	**-0.5**
ARUZ	**Aruch**	**1.39**	**92**	*i* P		**Pg**	**04 55 28.6**	**-0.8**
ARUZ				*i* S		**Sg**	**04 55 49.0**	**+1.7**
CHAY	**Cayeli-Rize**	**1.39**	**302**	PN		**Pg**	**04 55 28.8**	**-0.6**
METS	**Metsamor**	**1.39**	**98**	*i* P		**Pg**	**04 55 29.7**	**+0.2**
METS				*i* S		**Sg**	**04 55 50.9**	**+3.3**
AKH	**Akhalkalaki**	**1.40**	**41**	P		**Pg**	**04 55 29.4**	**-0.2**
AKH				S		**Sg**	**04 55 49.5**	**+1.7**
AKH	**Akhalkalaki**	**1.40**	**41**	PN		**Pg**	**04 55 29.6**	**0.0**
KARO	**Karliova-Bingo**	**1.41**	**223**	PN		**Pg**	**04 55 29.4**	**-0.4**
ABS	**Abastumani**	**1.46**	**16**	P		**Pg**	**04 55 30.3**	**-0.4**
ABS				S		**Sg**	**04 55 50.6**	**+1.0**
IGDI	**IGDIR**	**1.46**	**109**	*i* P		**Pg**	**04 55 31.5**	**+0.7**
IGDI				*i* S		**Sg**	**04 55 49.8**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.55**	**103**	PN		**Pg**	**04 55 31.9**	**-0.5**
BAYB	**BAYBURT**	**1.55**	**267**	*i* P		**Pg**	**04 55 31.9**	**-0.6**
BAYB				*i* S		**Sb**	**04 55 51.3**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.62**	**236**	PN		**Pb**	**04 55 32.4**	**-0.6**
BAYT	**Aydıntepe-Bayb**	**1.63**	**272**	PN		**Pb**	**04 55 32.8**	**-0.4**
BKRG	**Bakuriani**	**1.69**	**33**	P		**Pg**	**04 55 34.8**	**-0.4**
VMUR	**Van-Muradiye**	**1.69**	**143**	*i* P		**Pg**	**04 55 35.7**	**+0.5**
SLHN	**Bingol, Solhan**	**1.70**	**215**	*i* P		**Pg**	**04 55 34.3**	**-1.1**
SLHN				*i* S		**Sg**	**04 55 58.1**	**+0.8**
STE	**Stepanavan**	**1.71**	**67**	*i* P		**Pg**	**04 55 35.6**	**0.0**
STE				S		**Sg**	**04 56 03.8**	**+5.9**
BRNG	**Burnasheti**	**1.73**	**42**	P		**Pg**	**04 55 36.2**	**+0.3**
BRNG				S		**Sg**	**04 55 58.4**	**+0.2**
MUSM	**Mu-Merkez**	**1.73**	**200**	*i* P		**Pg**	**04 55 34.5**	**-1.5**
MUSM				*i* S		**Sg**	**04 55 57.2**	**-1.3**
DMNI	**Dmanisi**	**1.75**	**56**	P		**Pg**	**04 55 35.4**	**-0.8**
DMNI				S		**Sg**	**04 55 58.9**	**0.0**
CLDR	**Caldiran**	**1.75**	**133**	*i* P		**Pb**	**04 55 33.7**	**-1.5**
CLDR	**Caldiran**	**1.75**	**133**	PN		**Pg**	**04 55 34.6**	**-1.7**
GURO	**Guroymak-BITLI**	**1.81**	**186**	PN		**Pg**	**04 55 35.8**	**-1.7**
TRLG	**Trialeti**	**1.82**	**49**	P		**Pg**	**04 55 37.0**	**-0.6**
BNGB	**Bingl**	**1.84**	**223**	PN		**Pb**	**04 55 35.9**	**-0.8**
KAPZ	**Kaputan**	**1.85**	**90**	*i* P		**Pg**	**04 55 36.9**	**-1.3**
KAPZ				*i* S		**Sg**	**04 56 04.0**	**+1.8**
NRKZ	**NAREK**	**1.86**	**100**	*i* P		**Pg**	**04 55 37.0**	**-1.4**
NRKZ				*i* S		**Sg**	**04 56 04.2**	**+1.8**
GNI	**Garni**	**1.90**	**95**	Pn		**Pg**	**04 55 38.5**	**-0.6**
	19nm,0.3s,baz=322,slow=3.8,SNR=29							
GNI				Lg	Lg		04 56 04.5	
	12nm,0.3s,baz=229,slow=23,SNR=6.0							
GNI				LR	LR		04 56 08.2	
	comp=Z,54nm,19.2s,baz=228,slow=34							
GNI	**Garni**	**1.90**	**95**	*i* P		**Pg**	**04 55 38.0**	**-1.0**
GNI				*i* S		**Sg**	**04 56 06.0**	**+2.3**
GNI	**Garni**	**1.90**	**95**	PN		**Pg**	**04 55 36.9**	**-2.2**
KZRT	**Kazreti**	**1.91**	**57**	P		**Pg**	**04 55 38.4**	**-1.0**
KZRT	**Kazreti**	**1.91**	**57**	*i* P		**Pg**	**04 55 38.1**	**-1.3**
BLIS	**Bitlis-Merkez**	**1.94**	**184**	*i* P		**Pg**	**04 55 38.7**	**-1.3**
VANB	**Van**	**1.96**	**154**	PN		**Pg**	**04 55 39.0**	**-1.3**
MACK	**Trabzon**	**2.00**	**288**	*i* P		**Pg**	**04 55 39.7**	**-1.3**
MACK				*i* S		**Sb**	**04 56 05.2**	**+0.8**
KTUT	**Trabzon**	**2.01**	**289**	PN		**Pb**	**04 55 38.1**	**-1.5**
TVAN	**Van**	**2.02**	**154**	*i* P		**Pg**	**04 55 40.9**	**-0.7**
TKB	**Tkibuli**	**2.06**	**15**	P		**Pg**	**04 55 40.6**	**-1.7**
TKB				S		**Sg**	**04 56 08.2**	**-1.0**
EUZM	**Uzumlu**	**2.08**	**253**	*i* P		**Pb**	**04 55 39.4**	**-1.5**
AKDM	**Akdamar-Van**	**2.10**	**165**	PN		**Pb**	**04 55 39.7**	**-1.4**
ERZN	**Erzincan**	**2.11**	**249**	PN		**Pb**	**04 55 39.5**	**-1.8**
KELT	**Kelkit**	**2.32**	**266**	*i* P		**Pb**	**04 55 42.7**	**-2.3**
SVAN	**Silvan-Diyarba**	**2.36**	**201**	PN		**Pb**	**04 55 43.3**	**-2.1**
SEAG	**Tbilisi Sea**	**2.37**	**53**	P		**Pg**	**04 55 48.9**	**+0.7**
ONI	**Oni**	**2.40**	**21**	P		**Pb**	**04 55 46.0**	**-0.2**
ONI				S		**Sg**	**04 56 21.6**	**+1.8**
GUDG	**Gudauri**	**2.68**	**37**	P		**Pn**	**04 55 45.5**	**-0.9**
ESPY	**Espiye-Giresun**	**2.76**	**283**	PN		**Pn**	**04 55 48.7**	**+1.4**
MTEO	**Meteo**	**2.87**	**35**	P		**Pb**	**04 55 52.8**	**-1.7**
PNSH	**Pansheti**	**2.88**	**37**	P		**Pb**	**04 55 53.3**	**-1.1**
DDFL	**Dedoflistskaro**	**3.11**	**68**	P		**Pg**	**04 56 04.0**	**+1.7**
LGD	**Lagodekhi**	**3.34**	**62**	P		**Pb**	**04 55 57.7**	**-4.5**
KBZ	**Khabaz**	**3.40**	**8**	Pn		**Pg**	**04 56 05.2**	**-2.7**
	2.2nm,0.3s,baz=188,slow=15,SNR=9.8							
KBZ				LR	LR		04 57 31.1	
	comp=Z,145nm,19.4s,baz=178,slow=39							
KVAR	**Kislovodsk Arr**	**3.61**	**5**	Pn		**Pg**	**04 56 08.4**	**-3.5**
	baz=267,slow=18,SNR=3.2							
BRTR	**Keskin Array B**	**6.66**	**267**	Pn		Pn	04 56 45.7	+4.7
	0.0nm,0.3s,baz=100,slow=5.3,SNR=2.6							
BRTR				LR	LR		04 59 38.5	
	comp=Z,126nm,20.4s,baz=22,slow=41							
AKASG	**Malin Array Be**	**13.79**	**323**	Pn		**Pn**	**04 58 21.4**	**+3.1**
	0.7nm,0.3s,baz=135,slow=13,SNR=4.9							
KIRV	**Kirov**	**18.81**	**12**	LR		LR	05 07 50.7	
	comp=Z,32nm,18.2s,baz=189,slow=40							
GERES	**GERESS Array B**	**21.95**	**302**	P		**P**	**05 00 00.9**	**+4.2**
	0.4nm,0.5s,baz=98,slow=13,SNR=2.9							

*NEIC **22** 05:04:52.2±1.2, 17°.7N±0°.2×68°.39W±0°.07, h66km±32km, Error ellipse: s-maj=28.3km s-min=7.1km az=192.0*
*RSPR **22** 05:04:53.0, 17°.77N×

mb4.1/12, Error ellipse: s-maj=10.3km s-min=6.3km az=115.0
BJI 22 05:16:20.1±0.0, 36°.79N×70°.84E, h218km, mB4.7/9, mb4.3/16

ISC 22 05:16:20.0±0.5, 36°.55N±0°.05×70°.99E±0°.05, h200km, n125, σ1§43/137, mb4.0/25, 15C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.51**	**348**		**Pn**	**05 17 04.1**	**+0.1**
GAR				Sn	**Sn**	**05 17 35.7**	**-2.9**
KBL	**Kabul**	**2.55**	**219**	PN	**Pn**	**05 17 04.9**	**+0.1**
KBL						05 17 38.2	
KBL	**Kabul**	**2.55**	**219**	Pn	**Pn**	**05 17 04.9**	**+0.1**
KBL				Sn	**Sn**	**05 17 38.2**	**-1.4**
CHGR	**Chuyangaron**	**2.56**	**326**		**Pn**	**05 17 04.5**	**-0.2**
CHGR				Sn	**Sn**	**05 17 36.4**	**-3.2**
CEP	**Cherat**	**2.82**	**164**	⇑P	**Pn**	**05 17 08.8**	**+1.0**
DRK	**Karamyk**	**3.00**	**12**		**Pn**	**05 17 10.4**	**+0.5**
NIL	**Nilore**	**3.44**	**147**	PN	**Pn**	**05 17 16.0**	**+1.0**
NIL	**Nilore**	**3.44**	**147**	Pn	**Pn**	**05 17 16.0**	**+1.0**
BTK	**Batken**	**3.51**	**358**	PN	**Pn**	**05 17 16.7**	**+0.9**
BTK	**Batken**	**3.51**	**358**		**Pn**	**05 17 16.7**	**+0.9**
THW	**Thamme Wali**	**3.79**	**170**	P	**Pn**	**05 17 19.9**	**+0.5**
KSH	**Kashi**	**4.93**	**52**	P	Pn	05 17 29.3	-4.3
KSH				S	Sn	05 18 21.8	-10
KSH				SMN			
	320nm,0.4s						
KSH				SME			
	210nm,0.5s						
ARSB	**Arslanbob**	**5.02**	**17**	PN	**Pn**	**05 17 34.2**	**-0.5**
ARSB	**Arslanbob**	**5.02**	**17**	Pn	**Pn**	**05 17 34.2**	**-0.5**
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**05 17 46.9**	**-0.2**
	SNR=221						
DHRM	**DHARAMSHALA**	**6.13**	**133**	*e*P	**Pn**	**05 17 51.5**	**+2.2**
DHRM				*e*S	**Sn**	**05 18 55.2**	**-4.6**
DHRM				IAML		05 18 57.3	
	comp=E,260nm,0.4s						
DHRM				IAML		05 18 58.9	
	comp=N,414nm,0.2s						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**05 17 53.5**	**0.0**
	SNR=40						
KK31	**Karatay Array**	**6.56**	**357**	P	**Pn**	**05 17 51.7**	**-2.8**
	comp=N,3.8nm,0.3s,baz=185,slow=12,SNR=50						
KK31				⇓S	**Sn**	**05 19 03.4**	**-6.0**
	comp=N,16nm,0.3s,baz=187,slow=24,SNR=10						
KK31	**Karatay Array**	**6.56**	**357**	PN	**Pn**	**05 17 53.9**	**-0.5**
KK31	**Karatay Array**	**6.56**	**357**	Pn	**Pn**	**05 17 53.9**	**-0.5**
KKAR	**Karatay Array**	**6.56**	**357**	PN	**Pn**	**05 17 53.8**	**-0.6**
KKAR	**Karatay Array**	**6.56**	**357**	Pn	**Pn**	**05 17 53.8**	**-0.6**
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**05 17 56.0**	**+0.1**
	SNR=22						
AAK	**Ala-Archa**	**6.66**	**23**	⇓P	**Pn**	**05 17 54.0**	**-1.8**
	comp=N,16nm,0.4s						
AAK				⇑S	**Sn**	**05 19 09.1**	**-2.8**
	comp=N,38nm,0.8s						
AAK	**Ala-Archa**	**6.66**	**23**	*d* iPN	**Pn**	**05 17 55.7**	**-0.1**
AAK	**Ala-Archa**	**6.66**	**23**	Pn	**Pn**	**05 17 55.8**	**-0.1**
KBK	**Karagaybulak**	**6.82**	**25**	P	**Pn**	**05 17 58.4**	**+0.4**
	SNR=29						
FRU1	**Bishkek**	**6.86**	**23**	PN	**Pn**	**05 17 57.8**	**-0.6**
FRU1	**Bishkek**	**6.86**	**23**	Pn	**Pn**	**05 17 57.8**	**-0.6**
ULHL	**Ulahol**	**6.99**	**34**	P	**Pn**	**05 18 00.3**	**0.0**
	SNR=11						
BOOM	**Boomskoye usch**	**7.06**	**31**	PN	**Pn**	**05 18 00.8**	**-0.3**
BOOM	**Boomskoye usch**	**7.06**	**31**	Pn	**Pn**	**05 18 00.8**	**-0.3**
CHMS	**Chumysh**	**7.06**	**23**	P	**Pn**	**05 18 00.9**	**-0.1**
	SNR=7.6						
USP	**Ospenovka**	**7.23**	**21**	P	**Pn**	**05 18 03.0**	**-0.2**
	SNR=21						
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**05 18 04.1**	**-0.1**
	SNR=130						
TKM2	**Tokmak 2**	**7.29**	**28**	⇓P	**Pn**	**05 18 03.9**	**-0.2**
	comp=N,66nm,0.6s						
TKM2				⇓S	**Sn**	**05 19 26.8**	**-0.1**
	comp=N,10nm,0.6s						
KDJ	**Kajisay**	**7.35**	**39**	PN	**Pn**	**05 18 05.0**	**+0.1**
KDJ	**Kajisay**	**7.35**	**39**	Pn	**Pn**	**05 18 05.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**7.40**	**44**	Pn	**Pn**	**05 18 05.2**	**-0.7**
HRA	**Herat**	**7.45**	**256**	Pn	**Pn**	**05 18 06.5**	**+0.2**
SMLA	**Simla**	**7.46**	**135**	*e*P	**Pn**	**05 18 07.3**	**+1.1**
SMLA				*e*S	**Sn**	**05 19 25.9**	**-4.7**
SMLA				IAML		05 19 29.5	
	comp=E,122nm,0.3s						
SMLA				IAML		05 19 30.7	
	comp=N,88nm,0.4s						
MDOK	**Medeo**	**8.08**	**33**	⇓P	**Pn**	**05 18 14.0**	**-0.4**
	comp=N,23nm,0.6s						
PDGK	**Podgornoye**	**9.40**	**41**	⇓P	**Pn**	**05 18 30.2**	**-1.4**
	comp=N,6.3nm,0.8s						
PDGK				⇑S	**Sn**	**05 20 17.9**	**+1.0**
	comp=N,8.9nm,1.1s						
GEYT	**Alibeck**	**10.36**	**282**	P	**Pn**	**05 18 42.5**	**-1.4**
	comp=N,1.0nm,0.3s,baz=110,slow=9.0,SNR=3.4						
GEYT	**Alibeck**	**10.36**	**282**	Pn	**Pn**	**05 18 42.8**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**10.36**	**282**	Pn	**Pn**	**05 18 43.1**	**-0.7**
MAKZ	**Makanchi**	**13.12**	**35**	P	**Pn**	**05 19 18.0**	**-0.9**
MAKZ	**Makanchi**	**13.12**	**35**	Pn	**Pn**	**05 19 17.9**	**-0.9**
MK31	**Makanchi Array**	**13.26**	**36**	*c* iP	**Pn**	**05 19 20.2**	**-0.4**
MK31	**Makanchi Array**	**13.26**	**36**		**Pn**	**05 19 20.8**	**+0.2**
MKAR	**Makanchi Array**	**13.26**	**36**	P	**Pn**	**05 19 20.5**	**-0.1**
	comp=N,0.7nm,0.3s,baz=219,slow=13,SNR=31						
MKAR	**Makanchi Array**	**13.26**	**36**	Pn	**Pn**	**05 19 20.2**	**-0.4**
WMQ	**Urumqi**	**14.68**	**55**	*e*P	**P**	**05 19 39.5**	**+0.2**
WMQ				pmax	pmax		
	comp=N,24nm,0.9s						
WMQ				pmax	pmax		
	comp=N,230nm,4.9s						
AB31	**Akbulak array**	**15.04**	**331**	⇑P	**P**	**05 19 43.5**	**+0.4**
	comp=N,3.7nm,1.0s,baz=141,slow=11,SNR=27						
AB31				⇑S	**S**	**05 22 26.7**	**-2.6**
	comp=N,1.8nm,0.7s,baz=152,slow=22,SNR=4.8						
ABKAR	**Akbulak array**	**15.04**	**331**		**Pn**	**05 19 41.6**	**-0.9**
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**Pn**	**05 19 41.2**	**-1.8**
	comp=N,0.3nm,0.3s,baz=200,slow=10,SNR=13						
KURK	**Kurchatov**	**15.19**	**19**	P	**Pn**	**05 19 41.2**	**-3.1**
KURK	**Kurchatov**	**15.19**	**19**	P	**Pn**	**05 19 41.2**	**-3.1**
BVAR	**Borovoye Array**	**16.48**	**359**	P	**Pn**	**05 20 00.2**	**+0.3**
	comp=N,0.4nm,0.3s,baz=180,slow=24,SNR=3.9						
BRVK	**Borovoye**	**16.52**	**359**	⇑*i*P	**Pn**	**05 20 01.4**	**+1.1**
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**05 20 03.0**	**0.0**
	comp=N,1.3nm,0.3s,baz=137,slow=9.6,SNR=20						
AKTO	**Aktyubinsk**	**16.73**	**330**	⇑P	**Pn**	**05 20 06.7**	**+3.7**
	comp=N,10nm,0.9s						
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**05 20 03.0**	**0.0**
DGZ	**Jazzator, Alta**	**17.75**	**37**	*c* iP	**Pn**	**05 20 14.6**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAA0	**Zalesovo Array**	**19.88**	**25**	P	**P**	**05 20 34.1**	**-1.7**
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**05 20 36.0**	**+0.2**
	comp=Z,5.5nm,0.5s,baz=221,slow=11,SNR=17						
ZALV	**Zalesovo Beam**	**19.88**	**25**	*e*P	**P**	**05 20 36.3**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**05 20 36.3**	**+0.5**
ARU	**Arti**	**21.59**	**341**	*c* iP	**P**	**05 20 54.2**	**+0.4**
ARU				*PP	**pP**	**05 21 25.7**	**-2.6**
ARU				S	**S**	**05 24 41.5**	**+2.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.8s						
BELG	**Belogornoye**	**22.85**	**321**	P	**P**	**05 21 06.7**	**+1.0**
	comp=Z,5.3nm,0.4s,baz=313,slow=2.8,SNR=4.4						
BELG	**Belogornoye**	**22.85**	**321**	⇑*i*P	**P**	**05 21 06.2**	**+0.5**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIRV	**Kirov**	**26.19**	**334**	*d* iP	**P**	**05 21 37.3**	**+1.4**
SONM	**Songino Array**	**28.32**	**55**	P	**P**	**05 21 56.0**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=269,slow=9.3,SNR=2.6						
ASF	**Jabal al Asfar**	**28.39**	**271**	P	**P**	**05 21 57.6**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=127,slow=21,SNR=3.2						
BRTR	**Keskin Array B**	**29.41**	**288**	P	**P**	**05 22 06.1**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=99,slow=11,SNR=2.7						
OBN	**Obninsk**	**29.90**	**319**	⇑*i*P	**P**	**05 22 10.3**	**+1.6**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**31.76**	**70**	*e*P	**P**	**05 22 27.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,41nm,5.7s						
ELL	**Elmali**	**32.78**	**283**	P	**P**	**05 22 35.0**	**+0.6**
ELL				pmax	pmax		
	comp=Z,12nm,0.5s						
ELL	**Elmali**	**32.78**	**283**	P	**P**	**05 22 35.0**	**+0.6**
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**05 22 35.8**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=81,slow=7.0,SNR=4.8						
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**05 22 35.3**	**+0.1**
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**05 22 35.3**	**+0.1**
AKBB	**Malin Array Si**	**32.91**	**309**	*e*P	**P**	**05 22 35.5**	**+0.3**
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.9s						
NRIK	**Noril'sk**	**34.08**	**10**	⇑*i*P	**P**	**05 22 47.1**	**+2.0**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**05 23 14.5**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=115,slow=10,SNR=12						
ARA0	**ARCESS Array S**	**41.10**	**338**	*e*P	**P**	**05 23 45.0**	**+1.2**
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**05 23 44.9**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=115,slow=8.3,SNR=24						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**05 23 45.0**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**05 23 45.0**	**+1.2**
ARCES				IAmb	IAmb	05 24 14.1	
	comp=Z,6.9nm,1.2s						
KTK1	**Kautokeino**	**41.57**	**336**	*e*P	**P**	**05 23 48.1**	**+0.4**
HAMF	**Hammerfest**	**42.18**	**339**	*e*P	**P**	**05 23 53.3**	**+0.7**
JETT	**Jettan, Norway**	**42.71**	**336**	*e*P	**P**	**05 23 57.7**	**+0.8**
TRO	**Tromso**	**43.22**	**336**	*e*P	**P**	**05 24 01.0**	**+0.1**
FAUS	**Fauske**	**43.76**	**332**	*e*P	**P**	**05 24 05.8**	**+0.6**
MOR8	**Moi Rana**	**43.77**	**331**	*e*P	**P**	**05 24 05.1**	**-0.3**
STEI	**Steigen**	**43.93**	**333**	*e*P	**P**	**05 24 06.4**	**-0.2**
NC602	**NORSAR Array S**	**44.15**	**323**	*e*P	**P**	**05 24 08.2**	**-0.2**
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**05 24 09.6**	**-0.4**
	baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**05 24 10.3**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=96,slow=7.9,SNR=7.8						
NOA	**NORSAR Array B**	**44.34**	**323**	*e*P	**P**	**05 24 10.2**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KONS	**Konsvik**	**44.37**	**331**	*e*P	**P**	**05 24 09.9**	**-0.2**
LOF	**Lofoten**	**44.60**	**333**	*e*P	**P**	**05 24 11.5**	**-0.4**
KONO	**Kongsberg**	**45.04**	**321**	*e*P	**P**	**05 24 15.0**	**-0.5**
KLR	**Kul'dur**	**45.12**	**54**	⇑*i*P	**P**	**05 24 16.3**	**0.0**
SKAR	**Skarslia**	**45.73**	**322**	*e*P	**P**	**05 24 20.8**	**-0.2**
TIXI	**Tiksi**	**45.73**	**22**	⇑*i*P	**P**	**05 24 21.9**	**+1.2**
SPA0	**Spitsbergen Ar**	**47.45**	**347**	*e*P	**P**	**05 24 35.2**	**+1.2**
BILL	**Bilibino**	**58.57**	**26**	*i* P	**P**	**05 25 53.6**	**-1.7**
BILL				*i*		05 26 36.9	
BILL				*i* *PP	**PcP**	**05 26 45.1**	**+1.9**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**65.71**	**269**	P	**P**	**05 26 42.0**	**-1.5**
TOA0				IAmb	IAmb	05 26 49.9	
	comp=Z,3.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**05 26 42.0**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=52,slow=5.9,SNR=13						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**05 26 42.2**	**-1.3**
KOWA	**Kowa**	**69.56**	**273**	P	**P**	**05 27 06.6**	**-1.0**
KOWA				IAmb	IAmb	05 27 08.1	
	comp=Z,12nm,1.4s						
TOLK	**Toolik Lake Re**	**70.88**	**15**	P	**P**	**05 27 16.1**	**+1.3**
TOLK				IAmb	IAmb	05 27 16.2	
	comp=Z,2.3nm,0.5s						
BMAR	**Burnt Mountain**	**72.90**	**14**	P	**P**	**05 27 29.3**	**+2.5**
C36M	**Paulatuk**	**73.83**	**6**	P	**P**	**05 27 32.6**	**+0.5**
INK	**Inuvik**	**73.86**	**9**	P	**P**	**05 27 33.7**	**+1.4**
INK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
INK	**Inuvik**	**73.86**	**9**	P	**P**	**05 27 33.6**	**+1.4**
INK				IAmb	IAmb	05 27 41.7	
	comp=Z,4.3nm,1.5s						
ILAR	**Eielson Array**	**74.74**	**16**	P	**P**	**05 27 37.2**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=281,slow=2.7,SNR=5.5						
BOSA	**Boshof**	**77.78**	**220**	P	**P**	**05 27 54.8**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=19,slow=2.9,SNR=4.7						
BOSA	**Boshof**	**77.78**	**220**	P	**P**	**05 27 55.0**	**-0.1**
BOSA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BOSA	**Boshof**	**77.78**	**220**	P	**P**	**05 27 55.0**	**-0.1**
BOSA				IAmb	IAmb	05 28 18.2	
	comp=Z,8.7nm,1.5s						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**05 28 14.3**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=356,slow=5.2,SNR=18						
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**05 28 16.3**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=324,slow=4.8,SNR=25						
WRA	**Warramunga Arr**	**82.02**	**122**	*e*P	**P**	**05 28 15.5**	**-2.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**05 28 28.6**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=310,slow=4.8,SNR=16						

IDC 22 06:01:28.0±2.6, 54°.39N×86°.17E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=20.6km s-min=14.4km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**241**	*i*		06 06 00.0	
	baz=65,slow=313,SNR=1.0						
ZALV	**Zalesovo Beam**	**0.91**	**241**	Pg	Pg	06 01 43.8	-1.6
	1.4nm,0.3s,baz=59,slow=18,SNR=8.3						
ZALV				Lg	Lg	06 01 58.0	
	8.3nm,0.3s,baz=67,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.00**	**234**	Pn	Pn	06 02 58.8	+0.9
	0.2nm,0.3s,baz=52,slow=13,SNR=7.4						
KURBB				Sn	Sn	06 04 09.8	+2.5
	0.0nm,0.3s,baz=32,slow=12,SNR=1.3						
KURBB				Lg	Lg	06 04 41.0	
	0.1nm,0.3s,baz=51,slow=32,SNR=2.7						
MKAR	**Makanchi Array**	**7.99**	**200**	Pn	Pn	06 03 25.9	+0.5
	0.2nm,0.3s,baz=26,slow=14,SNR=16						
MKAR				Sn	Sn	06 04 58.4	+1.9
	0.1nm,0.3s,baz=28,slow=25,SNR=4.1						

NEIC 22 06:12:43.8±1.6, 6°.65N±0°.10×126°.0E±0°.1, h10km±1km, mb4.5/10, Error ellipse: s-maj=23.0km s-min=6.2km az=46.0
MAN 22 06:12:46.3, 6°.64N×126°.26E, h41km, MS3.3
IDC 22 06:12:48.6±2.7, 6°.56N×126°.17E, h47km±25km, mb3.6/6, mb1 3.6/6, mb1mx3.3/53, mbtmp3.8/6, ML4.9/1, Error ellipse: s-maj=67.5km s-min=15.3km az=68.0

ISC 22 06:12:47.8±1.0, 6°.55N±0°.05×126°.18E±0°.07, h42km±10km, n33, σ1§34/32, mb4.2/11, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.40**	**11**	*e*P	**Pn**	**06 12 56.4**	**-1.0**
MATI				*e*S	**Sn**	**06 13 03.2**	**-0.9**
DDMP	**Don Marcelino,**	**0.64**	**226**	*e*P	**Pn**	**06 13 01.9**	**+1.4**
DDMP				*e*S	**Sn**	**06 13 09.7**	**+0.1**
DAV	**Davao City (W)**	**0.79**	**311**	P	**Pn**	**06 13 03.6**	**+1.1**
	564nm,0.3s,baz=198,slow=0.3,SNR=20						
DAV				S	**Sn**	**06 13 15.1**	**+2.0**
	330nm,0.3s,baz=255,slow=24,SNR=12						
DAV	**Davao City (W)**	**0.79**	**311**	Pg	Pn	06 12 54.9	-7.6
DAV				Sg	Sn	06 13 03.9	-9.2
KCP	**Kidapawan**	**1.17**	**293**	⇓*i*P	**Pn**	**06 13 08.0**	**+0.2**
KCP				*i* S	**Sn**	**06 13 22.8**	**+0.2**
SKMP	**Bagumbayan, Su**	**1.63**	**269**	*e*P	**Pn**	**06 13 13.9**	**-0.1**
SKMP				*e*S	**Sn**	**06 13 30.0**	**-3.7**
BUKP	**Musuan**	**1.72**	**320**	⇑*e*P	**Pn**	**06 13 15.0**	**-0.3**
CGP	**Cagayan de Oro**	**2.40**	**322**	⇑*e*P	**Pn**	**06 13 24.0**	**-0.6**
CGP				*e*S	**Sn**	**06 13 52.9**	**+0.1**
PAGZ	**Pagadian**	**3.06**	**295**	*e*P	**Pn**	**06 13 33.0**	**-0.7**
TOLI2	**Tolitoli**	**7.63**	**225**	Pn	**Pn**	**06 14 34.1**	**-2.4**
BATI	**Baumata**	**16.84**	**189**	P	**Pn**	**06 16 42.0**	**+1.3**
	4.7nm,0.3s,baz=27,slow=9.0,SNR=1.6						
KNRA	**Kununurra**	**22.23**	**173**	P	**P**	**06 17 43.7**	**+2.6**
KNRA				IAmb	IAmb	06 17 46.4	
	comp=Z,9.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.50**	**181**	P	**P**	**06 18 04.4**	**+1.0**
FITZ				IAmb	IAmb	06 18 09.6	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**27.38**	**163**	P	**P**	**06 18 29.6**	**+0.2**
WB0				IAmb	IAmb	06 18 42.8	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**27.53**	**163**	P	**P**	**06 18 30.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=341,slow=10,SNR=9.4						
WRA				PcP	**PcP**	**06 21 47.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=348,slow=1.8,SNR=2.9						
WRA	**Warramunga Arr**	**27.53**	**163**	P	**P**	**06 18 30.4**	**-0.4**
WB2	**Warramunga Arr**	**27.53**	**163**	P	**P**	**06 18 33.0**	**+2.2**
WB2				IAmb	IAmb	06 18 34.6	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**27.60**	**163**		**P**	**06 18 32.4**	**+1.0**
WR0				IAmb	IAmb	06 18 35.1	
	comp=Z,18nm,1.4s						
ASAR	**Alice Springs**	**30.97**	**166**	P	**P**	**06 19 02.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=341,slow=6.7,SNR=9.9						
ASAR				PcP	**PcP**	**06 21 56.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=356,slow=2.9,SNR=5.6						
NWAO	**Narrogin (SRO)**	**40.17**	**192**	P	**P**	**06 20 18.7**	**-1.4**
BBOO	**Buckleboo**	**40.26**	**167**	P	**P**	**06 20 21.2**	**+0.4**
STKA	**Stephens Creek**	**40.95**	**160**	P	**P**	**06 20 27.0**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=355,slow=11,SNR=1.6						
STKA	**Stephens Creek**	**40.95**	**160**	IAmb	IAmb	06 20 37.0	
	comp=Z,1.5nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**41.18**	**69**	T	T	07 04 27.1	
	baz=246						
H11S1	**WAKE ISLAND Hy**	**41.20**	**69**	T	T	07 04 30.3	
	baz=246						
H11S2	**WAKE ISLAND Hy**	**41.20**	**69**	T	T	07 04 31.5	
	baz=246						
H11N1	**WAKE ISLAND Hy**	**41.62**	**68**	T	T	07 04 54.4	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**41.63**	**68**	T	T	07 04 52.2	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**41.64**	**68**	T	T	07 04 50.8	
	baz=264						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**06 22 15.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=116,slow=8.1,SNR=5.4						
KURBB	**Kurchatov Arra**	**59.09**	**327**	P	**P**	**06 22 44.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=127,slow=6.5,SNR=3.1						
TIXI	**Tiksi**	**65.05**	**1**	P	**P**	**06 23 23.4**	**0.0**
	comp=Z,2.7nm,0.4s,baz=137,slow=4.8,SNR=4.2						
TIXI	**Tiksi**	**65.05**	**1**	IAmb	IAmb	06 23 24.0	
	comp=Z,3.0nm,0.8s						

IDC 22 06:28:48.4±2.5, 54°.16N×86°.43E, h0km, mb1 3.2/2, mb1mx3.0/48, mbtmp3.2/2, ML2.9/2, 5C-1D, Error ellipse: s-maj=19.1km s-min=12.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**258**	*i*		06 33 58.3	
	baz=79,slow=307,SNR=1.3						
ZALV	**Zalesovo Beam**	**0.97**	**258**	Pg	Pg	06 29 05.8	-1.2
	2.3nm,0.3s,baz=76,slow=17,SNR=6.7						
ZALV				Lg	Lg	06 29 20.7	
	5.9nm,0.3s,baz=74,slow=27,SNR=15						
ZALV				Rg	Rg	06 29 25.4	
	9.0nm,0.5s,baz=64,slow=25,SNR=4.9						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	06 30 19.3	+1.1
	0.2nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Sn	Sn	06 31 27.3	-0.2
	baz=37,slow=23,SNR=1.4						
KURBB				Lg	Lg	06 32 00.8	
	0.1nm,0.3s,baz=55,slow=31,SNR=5.7						
KURBB	**Kurchatov Arra**	**5.99**	**237**	⇓Pn	Pn	06 30 19.4	+1.1
	1.6nm,0.3s						
KURBB				⇑Sn	Sn	06 31 27.7	+0.2
	4.9nm,0.7s						
KURBB				⇑Lg	Lg	06 31 56.9	
	10nm,0.8s						
MK31	**Makanchi Array**	**7.83**	**201**	⇑Pn	Pn	06 30 44.4	+0.9
	0.5nm,0.6s,baz=28,slow=13,SNR=11						
MK31				⇑Sn	Sn	06 32 10.9	-1.9
	0.8nm,0.8s						
MK31				⇑Lg	Lg	06 32 52.5	
	4.1nm,1.1s,baz=24,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	06 30 44.4	+0.9
	0.3nm,0.3s,baz=29,slow=14,SNR=9.5						
MKAR				Sn	Sn	06 32 11.9	-0.9
	0.1nm,0.3s,baz=32,slow=25,SNR=3.0						
MKAR				Lg	Lg	06 32 54.5	
	0.1nm,0.3s,baz=31,slow=34,SNR=4.7						

**IDC 22 06:55:19.2±2.7, 53°.62N×86°.89E, h0km, mb1 2.7/2, mb1mx2.7/41, mbtmp2.7/2, ML2.0/2, Error ellipse: s-maj=23.8km s-min=14.6km az=76.0, Southwestern

az=99.0

ISC 22 07:36:48.5±1.0, 12.7N±0.1×145.0E±0.2, h38km, n29, σ1§02/19, mb3.9/11, MS3.5/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**3.73**	**10**	Pn	**Pn**	**07 37 43.7**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**21.67**	**72**	T	T	08 04 28.4	
	baz=260,slow=75,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**21.68**	**72**	T	T	08 04 15.7	
	baz=260,slow=75,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**21.68**	**72**	T	T	08 04 17.4	
	baz=260,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**22.14**	**69**	T	T	08 05 04.6	
	baz=256,slow=75,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**22.16**	**69**	T	T	08 05 27.5	
	baz=256,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**22.16**	**69**	T	T	08 05 31.8	
	baz=256,slow=75,SNR=8.3						
MJAR	**Matsushiro Arr**	**24.56**	**347**	LR	LR	07 50 30.8	
	comp=Z,28nm,21.0s,baz=290,slow=34						
KSRS	**Korea Array**	**29.04**	**331**	P	**P**	**07 42 44.1**	**-0.9**
	0.8nm,0.5s,baz=144,slow=9.4,SNR=2.0						
WR0	**Warramunga Arr**	**34.01**	**198**	P	**P**	**07 43 28.7**	**-0.2**
WR0				IAmb	IAmb	07 43 46.4	
	comp=Z,3.8nm,1.1s						
WRAB	**Tennant Creek**	**34.04**	**198**	P	**P**	**07 43 29.6**	**+0.4**
WB2	**Warramunga Arr**	**34.05**	**198**	P	**P**	**07 43 28.6**	**-0.7**
WB2				IAmb	IAmb	07 43 33.8	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**34.05**	**198**	P	**P**	**07 43 28.9**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=23,slow=10.0,SNR=5.3						
WRA	**Warramunga Arr**	**34.05**	**198**	IAmb	IAmb	07 43 30.6	
	comp=Z,0.2nm,1.1s						
ASAR	**Alice Springs**	**37.70**	**197**	P	**P**	**07 44 00.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=23,slow=10,SNR=5.1						
KLR	**Kul'dur**	**38.08**	**346**	LR	LR	07 59 41.4	
	comp=Z,55nm,20.3s,baz=237,slow=36						
CMAR	**Chiang Mai Arr**	**44.66**	**283**	P	**P**	**07 44 59.0**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=90,slow=5.7,SNR=1.3						
CMAR				LR	LR	08 04 02.0	
	comp=Z,81nm,19.6s,baz=224,slow=37						
MKAR	**Makanchi Array**	**62.25**	**316**	P	**P**	**07 47 06.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=95,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**62.25**	**316**	P	**P**	**07 47 07.1**	**+0.5**
IL31		**69.35**	**25**	P	**P**	**07 47 51.4**	**-0.6**
IL31				IAmb	IAmb	07 47 57.1	
	comp=Z,2.6nm,1.4s						
ILAR	**Eielson Array**	**69.35**	**25**	P	**P**	**07 47 51.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=249,slow=5.5,SNR=12						
ILAR	**Eielson Array**	**69.35**	**25**	P	**P**	**07 47 51.4**	**-0.6**
BMAR	**Burnt Mountain**	**70.91**	**23**	P	**P**	**07 48 03.5**	**+2.0**
BCAR	**Beaver Creek A**	**71.21**	**27**	P	**P**	**07 48 04.7**	**+1.3**
AKTO	**Aktyubinsk**	**78.46**	**319**	LR	LR	08 26 19.7	
	comp=Z,35nm,18.1s,baz=180,slow=38						
YKA	**Yellowknife Ar**	**83.62**	**27**	P	**P**	**07 49 13.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=285,slow=4.6,SNR=7.0						
FINES	**FINESS Array B**	**92.06**	**335**	P	**P**	**07 49 51.3**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=55,slow=7.2,SNR=4.7						
FINES	**FINESS Array B**	**92.06**	**335**	P	**P**	**07 49 52.3**	**-1.1**
DBIC	**Dimbokro**	**144.42**	**301**	PKP	**PKPab**	**07 56 20.4**	**+0.4**
	comp=Z,9.3nm,1.0s,baz=87,slow=0.5,SNR=7.1						

*IDC **22** 08:01:47.5±0.9, 21.83S×68.38W, h109km±13km, mb3.8/5, mb1 3.9/6, mb1mx3.5/28, mbtmp4.3/6, Error ellipse: s-maj=40.0km s-min=22.7km az=140.0*

*VAO **22** 08:01:48.7±0.5, 21.70S×68.47W, h120km±5km, mb4.2*

*NEIC **22** 08:01:48.6±2.0, 21.89S±0.04×68.50W±0.09, h122km±3km, Error ellipse: s-maj=12.2km s-min=6.0km az=90.0*

*GUC **22** 08:01:49.0±0.7, 21.90S×68.52W, h129km±7km, ML3.9*

ISC 22 08:01:48.3±0.6, 21.86S±0.03×68.44W±0.06, h121km±6km, n97, σ1§48/124, mb4.1/6, 9C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.75**	**275**		**Pn**	**08 02 08.5**	**+0.1**
PB09				Sn	**Sn**	**08 02 23.6**	**+0.1**
LVC	**Limon Verde**	**0.86**	**210**	P	**Pn**	**08 02 09.8**	**+0.2**
	268nm,0.3s,baz=46,slow=10.0,SNR=746						
LVC				S	**Sn**	**08 02 24.2**	**-1.5**
	145nm,0.3s,baz=235,slow=19,SNR=19						
LVC	**Limon Verde**	**0.86**	**210**	⇓*iP*	**Pn**	**08 02 09.8**	**+0.2**
LVC				*i* S	**Sn**	**08 02 24.6**	**-1.1**
LVC	**Limon Verde**	**0.86**	**210**		**Pn**	**08 02 09.7**	**+0.2**
LVC				Sn	**Sn**	**08 02 25.4**	**-0.2**
LVC	**Limon Verde**	**0.86**	**210**	*eP*	**Pn**	**08 02 09.4**	**-0.2**
PB03	**IPOC Station P**	**1.23**	**261**	⇑*iP*	**Pn**	**08 02 13.0**	**-0.1**
PB03				*i* S	**Sn**	**08 02 31.2**	**-0.6**
PB03				IAML		08 02 31.8	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.27**	**310**	⇑*iP*	**Pn**	**08 02 13.7**	**+0.3**
PB01				*i* S	**Sn**	**08 02 32.5**	**+0.1**
PB01				IAML		08 02 34.2	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**1.27**	**310**		**Pn**	**08 02 13.6**	**+0.3**
PB01				Sn	**Sn**	**08 02 32.7**	**+0.3**
PB06	**IPOC Station P**	**1.34**	**231**	⇑*iP*	**Pn**	**08 02 14.4**	**+0.2**
PB06				*i* S	**Sn**	**08 02 33.7**	**-0.3**
PB06				IAML		08 02 34.7	
	comp=N,2μm,0.7s						
PB06	**IPOC Station P**	**1.34**	**231**		**Pn**	**08 02 14.3**	**+0.1**
PB06				Sn	**Sn**	**08 02 33.8**	**-0.1**
PB07	**IPOC Station P**	**1.35**	**275**	⇑*iP*	**Pn**	**08 02 14.4**	**+0.1**
PB07				*i* S	**Sn**	**08 02 33.7**	**-0.4**
PB07				IAML		08 02 35.0	
	comp=N,3μm,0.2s						
PB07	**IPOC Station P**	**1.35**	**275**		**Pn**	**08 02 14.4**	**+0.1**
PB07				Sn	**Sn**	**08 02 33.6**	**-0.4**
PB15	**IPOC Station P**	**1.65**	**215**	⇑*iP*	**Pn**	**08 02 18.0**	**+0.3**
PB15				*i* S	**Sn**	**08 02 40.6**	**+0.5**
PB15	**IPOC Station P**	**1.65**	**215**		**Pn**	**08 02 18.0**	**+0.3**
PB15				Sn	**Sn**	**08 02 41.0**	**+0.8**
PB04	**IPOC Station P**	**1.66**	**253**	⇑*iP*	**Pn**	**08 02 17.6**	**-0.2**
PB04				*i* S	**Sn**	**08 02 39.9**	**-0.4**
PB04				IAML		08 02 45.9	
	comp=N,752nm,0.2s						
PB04	**IPOC Station P**	**1.66**	**253**		**Pn**	**08 02 17.4**	**-0.4**
PB04				Sn	**Sn**	**08 02 40.0**	**-0.4**
PB08	**IPOC Station P**	**1.84**	**339**	⇓*iP*	**Pn**	**08 02 22.0**	**+1.7**
PB08				*i* S	**Sn**	**08 02 46.1**	**+1.5**
PB08				IAML		08 02 47.2	
	comp=E,538nm,0.2s						
PB08	**IPOC Station P**	**1.84**	**339**		**Pn**	**08 02 21.9**	**+1.7**
PB08				Sn	**Sn**	**08 02 46.1**	**+1.5**
PB05	**IPOC Station P**	**1.91**	**239**	⇑*iP*	**Pn**	**08 02 20.4**	**-0.4**
PB05				*i* S	**Sn**	**08 02 44.2**	**-1.4**
PB05				IAML		08 02 51.5	
	comp=E,566nm,0.3s						
TA01	**Diego Aracena**	**2.08**	**308**	*eP*	**Pn**	**08 02 22.7**	**-0.1**
TA01				*i* S	**Sn**	**08 02 48.2**	**-0.9**
TA01	**Diego Aracena**	**2.08**	**308**	Pn	**Pn**	**08 02 22.8**	**+0.1**
TA01				Sn	**Sn**	**08 02 48.3**	**-0.9**
TA02	**Huaiquique**	**2.24**	**315**		**Pn**	**08 02 24.9**	**+0.1**
PB11	**IPOC Station P**	**2.38**	**331**	⇓*iP*	**Pn**	**08 02 27.1**	**+0.3**
PB11				*i* S	**Sn**	**08 02 56.0**	**-0.3**
PB11				IAML		08 02 57.9	
	comp=N,893nm,0.3s						
PB11	**IPOC Station P**	**2.38**	**331**		**Pn**	**08 02 26.5**	**-0.3**
PB10	**IPOC Station P**	**2.55**	**230**	⇓*eP*	**Pn**	**08 02 28.2**	**-0.6**
PB10				*i* S	**Sn**	**08 02 56.2**	**-3.8**
PB10	**IPOC Station P**	**2.55**	**230**	Pn	**Pn**	**08 02 27.8**	**-1.1**
PSGC	**Pisagua**	**2.75**	**325**	⇓*iP*	**Pn**	**08 02 30.5**	**-1.1**
PSGC				*i* S	**Sn**	**08 03 02.7**	**-2.0**
PSGC				IAML		08 03 04.9	
	comp=E,256nm,0.2s						
PSGCX	**Pisagua**	**2.75**	**325**	Pn	**Pn**	**08 02 30.8**	**-0.7**
MNMC	**Minye Minye**	**2.92**	**338**	⇑*iP*	**Pn**	**08 02 34.5**	**+0.5**
MNMC				*i* S	**Sn**	**08 03 09.6**	**+0.5**
MNMC				IAML		08 03 14.0	
	comp=N,580nm,0.1s						
MNMC	**Minye Minye**	**2.92**	**338**	Pn	**Pn**	**08 02 34.4**	**+0.4**
PB14	**IPOC Station P**	**3.29**	**213**	Pn	**Pn**	**08 02 37.9**	**-0.8**
GO02	**Mina Guanaco**	**3.45**	**198**	⇑*iP*	**Pn**	**08 02 40.3**	**-0.6**
GO02				*i* S	**Sn**	**08 03 19.8**	**-1.7**
GO02				IAML		08 03 24.3	
	comp=E,294nm,0.2s						
GO02	**Mina Guanaco**	**3.45**	**198**	Pn	**Pn**	**08 02 40.3**	**-0.6**
PB16	**IPOC Station P**	**3.65**	**344**		**Pn**	**08 02 43.8**	**0.0**
AC01	**Pan de Azucar**	**4.70**	**204**	Pn	**Pn**	**08 02 55.5**	**-1.8**
AC02	**Maricunga**	**4.99**	**187**		**Pn**	**08 03 01.3**	**-0.3**
LPAZ	**La Paz**	**5.55**	**3**	P	**Pn**	**08 03 12.7**	**+3.3**
	comp=E,1.3nm,0.3s,baz=167,slow=5.3,SNR=48						
LPAZ				S	**Sn**	**08 04 13.3**	**+0.9**
	comp=E,0.2nm,0.3s,baz=149,slow=4.5,SNR=1.7						
LPAZ	**La Paz**	**5.55**	**3**		**Pn**	**08 03 12.8**	**+3.5**
LPAZ	**La Paz**	**5.55**	**3**	*eP*	**Pn**	**08 03 08.1**	**-1.2**
GO03	**Copiap**	**5.94**	**196**		**Pn**	**08 03 11.2**	**-2.7**
AC04	**Llanos de Chal**	**6.75**	**200**	Pn	**Pn**	**08 03 22.6**	**-2.3**
LCO	**Las Campanas**	**7.41**	**196**		**Pn**	**08 03 30.4**	**-3.6**
SIV	**San Ignacio**	**9.09**	**51**	P	**Pn**	**08 03 54.4**	**-2.2**
	comp=E,5.0nm,0.3s,baz=244,slow=11,SNR=150						
SIV				S	**Sn**	**08 05 28.7**	**-8.6**
	comp=E,0.2nm,0.3s,baz=297,slow=23,SNR=1.1						
CO03	**El Pedregal**	**9.17**	**192**	Pn	**Pn**	**08 03 54.8**	**-2.8**
CO02	**Combarbal**	**9.58**	**193**	Pn	**Pn**	**08 04 00.9**	**-2.3**
PTLB	**Pontes e Lacer**	**10.88**	**56**	*eP*	**Pn**	**08 04 18.8**	**-1.8**
VA03	**San Esteban**	**11.02**	**189**	Pn	**Pn**	**08 04 18.6**	**-4.0**
VILB	**Vilhena**	**11.84**	**43**	*eP*	**Pn**	**08 04 32.9**	**-0.6**
AQDB	**Aquidauana**	**11.96**	**86**	Pn	**Pn**	**08 04 34.6**	**-0.5**
ETMB	**Extrema**	**12.16**	**10**	*eP*	**Pn**	**08 04 36.1**	**-1.6**
ITQB	**Itaqui**	**13.18**	**129**	*eP*	**Pn**	**08 04 53.6**	**+2.8**
SALV	**Santo Antonio**	**13.44**	**66**	*eP*	**Pn**	**08 04 52.6**	**-1.6**
PP1B	**Ponte de Pedra**	**13.45**	**74**	*eP*	**Pn**	**08 04 55.6**	**+1.2**
TRCB	**Terra Rica**	**14.65**	**97**	*eP*	**P**	**08 05 11.5**	**-1.3**
PTGB	**Pitanga**	**15.31**	**104**	*eP*	**P**	**08 05 21.1**	**+1.0**
ITAB	**Concordia**	**15.77**	**113**		**P**	**08 05 26.1**	**+1.1**
ITAB	**Concordia**	**15.77**	**113**	*eP*	**P**	**08 05 25.5**	**+0.5**
PCMB	**Pacaembu**	**15.96**	**92**	*eP*	**P**	**08 05 27.2**	**0.0**
CLDB	**Colider**	**16.31**	**50**	*eP*	**Pn**	**08 05 30.1**	**+0.1**
PLTB	**Pedras Altas**	**16.49**	**130**		**Pn**	**08 05 32.2**	**-0.3**
PLTB				IAmb	IAmb	08 05 58.5	
	comp=Z,17nm,1.4s						
PLTB	**Pedras Altas**	**16.49**	**130**	*eP*	**P**	**08 05 36.0**	**+3.0**
ARAG	**Araguaiana, MT**	**16.88**	**72**	*eP*	**P**	**08 05 38.3**	**+0.8**
ITRB	**Iturama**	**17.04**	**86**	*eP*	**Pn**	**08 05 40.4**	**+1.0**
TRQA	**Tornquist**	**17.07**	**162**	Pn	**Pn**	**08 05 41.2**	**+1.6**
TRQA				IAmb	IAmb	08 06 04.4	
	comp=Z,10nm,1.2s						
FRTB	**Fartura**	**17.49**	**98**	*eP*	**Pn**	**08 05 45.1**	**+0.3**
TIJ01	**Guaruva-PR**	**18.14**	**105**	*eP*	**Pn**	**08 05 52.8**	**+0.1**
BB19B	**Bebedouro**	**18.55**	**91**	*eP*	**P**	**08 05 56.3**	**+0.5**
SNDB	**Serra Nova Dou**	**19.10**	**62**	*eP*	**P**	**08 06 00.6**	**-1.2**
RCLB	**Rio Claro- Sao**	**19.38**	**96**	*eP*	**P**	**08 06 05.1**	**+0.3**
IPMB	**Ipameri, GO**	**19.40**	**82**	*eP*	**P**	**08 06 05.1**	**0.0**
NPGB	**Novo Progresso**	**19.40**	**43**	*eP*	**P**	**08 06 03.8**	**-1.2**
SPB	**Sao Paulo**	**19.45**	**99**	*eP*	**P**	**08 06 06.5**	**+1.0**
PET01	**Itanhaem-SP**	**19.62**	**101**	*eP*	**P**	**08 06 08.1**	**+0.8**
VAO	**Valinhos**	**19.88**	**97**	*eP*	**P**	**08 06 09.6**	**-0.7**
BDFB	**Brasilia**	**20.30**	**76**	P	**P**	**08 06 15.6**	**+0.8**
	comp=Z,2.4nm,0.4s,baz=232,slow=6.5,SNR=7.4						
BDFB	**Brasilia**	**20.30**	**76**	P	**P**	**08 06 14.7**	**-0.1**
BDFB				IAmb	IAmb	08 06 16.4	
	comp=Z,12nm,1.5s						
ITTB	**Itaituba**	**21.31**	**37**	*eP*	**P**	**08 06 24.6**	**-1.0**
PEXB	**Peixe**	**21.54**	**67**	*eP*	**P**	**08 06 27.3**	**-0.8**
BSCB	**Bom Sucesso**	**22.04**	**92**	*eP*	**P**	**08 06 33.9**	**+0.5**
PTGA	**Pitinga**	**22.57**	**23**	P	**P**	**08 06 37.5**	**-1.1**
	comp=Z,3.0nm,0.3s,baz=316,slow=22,SNR=5.8						
VAS01	**Vassouras-RJ**	**23.16**	**96**	*eP*	**P**	**08 06 44.5**	**+0.2**
DIAM	**Diamantina, MG**	**23.52**	**86**	*eP*	**P**	**08 06 47.1**	**-0.7**
MC01	**Montes Claros**	**23.67**	**82**	*eP*	**P**	**08 06 48.2**	**-0.9**
PRPB	**Parauapebas**	**23.82**	**52**	*eP*	**P**	**08 06 49.6**	**-0.7**
JANB	**Januaria**	**23.85**	**78**	*eP*	**P**	**08 06 50.6**	**0.0**
SMTB	**Santa Maria do**	**23.86**	**60**	*eP*	**P**	**08 06 50.7**	**0.0**
MALB	**Monte Alegre**	**24.20**	**37**	*eP*	**P**	**08 06 54.3**	**+0.6**
BOAV	**Boa Vista**	**25.32**	**19**	*eP*	**P**	**08 07 03.6**	**-0.3**
MCPB	**Macapa, AP**	**26.68**	**39**	*eP*	**P**	**08 07 16.2**	**0.0**
NBMA	**Muriti-CE**	**32.04**	**68**	*eP*	**P**	**08 08 04.1**	**+0.4**
SNAA	**Sanae**	**61.80**	**161**	P	**P**	**08 11 53.7**	**-0.2**
SNAA				IAmb	IAmb	08 12 07.3	
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**68.33**	**180**	P	**P**	**08 12 38.5**	**+2.1**
QSPA				IAmb	IAmb	08 13 06.6	
	comp=Z,5.7nm,1.4s						
DBIC	**Dimbokro**	**68.42**	**73**	P	**P**	**08 12 36.6**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=228,slow=7.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P	**P**	**08 13 29.1**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=261,slow=6.0,SNR=11						
YKA	**Yellowknife Ar**	**91.67**	**340**	P	**P**	**08 14 42.3**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=132,slow=4.8,SNR=5.5						
WRA	**Warramunga Arr**	**132.86**	**210**	PKP	**PKPdf**	**08 20 49.9**	**0.0**
	comp=Z,0.6nm,1.0s,baz=177,slow=4.8,SNR=1.9						
MKAR	**Makanchi Array**	**145.66**	**37**	PKPbc	**PKPdf**	**08 21 12.8**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=72,slow=3.1,SNR=2.4						

WEL 22 08:06:25.8, 43.S±4.×17.E±., h10km±4km, M3.4/27, ML3.5/27, MLv3.4/27, Error ellipse: s-maj=0.0km s-min=0.0km az=100.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.35**	**21**	P	Pb	08 06 33.6	-0.4
INZ				S	Sg	08 06 37.9	+0.7
WVZ	**Waitaha Valley**	**0.40**	**266**	P	Pb	08 06 35.0	+0.1
WVZ				S	Sb	08 06 40.1	-0.9
MHCZ	**Mount Hutt**	**0.53**	**156**	P	Pb	08 06 37.5	+0.4
MHCZ				S	Sb	08 06 44.9	0.0
OXZ	**Oxford**	**0.62**	**117**	P	Pb	08 06 39.3	+0.5
RPZ	**Rata Peaks**	**0.69**	**194**	P	Pb	08 06 40.4	+0.6
GCSZ	**Gaunt Creek Bo**	**0.74**	**249**	P	Pb	08 06 41.2	+0.4
LTZ	**Lake Taylor**	**0.78**	**70**	P	Pn	08 06 42.2	-0.7
LTZ				S	Sb	08 06 52.6	+0.6
ARCZ	**Arundel**	**0.90**	**185**	P	Pn	08 06 44.4	-0.1
RACZ	**Rakaia**	**0.93**	**137**	P	Pn	08 06 45.2	+0.4
RACZ				S	Sn	08 06 59.0	+0.8
WACZ	**Wakanui South**	**0.98**	**156**	P	Pn	08 06 46.3	+0.7
WACZ				S	Sn	08 07 00.8	+1.2
AMCZ	**Amberley**	**1.01**	**98**	P	Pn	08 06 47.2	+1.2
FOZ	**Fox Glacier**	**1.17**	**245**	P	Pg	08 06 49.1	+0.8
MQZ	**McQueen's Vall**	**1.20**	**124**	P	Pg	08 06 49.2	+0.4
GVZ	**Greta Valley S**	**1.29**	**87**	P	Pg	08 06 51.0	+0.4
TMZ	**Timaru**	**1.35**	**188**	P	Pg	08 06 51.9	+0.2
DSZ	**Denniston Nort**	**1.36**	**17**	P	Pg	08 06 51.8	-0.1
DSZ				S	Sg	08 07 10.3	+0.8
AKCZ	**Akaroa Harbour**	**1.45**	**125**	P	Pb	08 06 52.7	-0.1
OKCZ	**Okains Bay**	**1.47**	**118**	P	Pb	08 06 53.3	+0.2
LBZ	**Lake Benmore**	**1.55**	**210**	P	Pb	08 06 55.0	+0.4
THZ	**Tophouse**	**1.76**	**44**	P	Pb	08 06 57.9	-0.3
KHZ	**Kahutara**	**1.78**	**70**	P	Pb	08 06 58.0	-0.5
ODZ	**Otahua Downs**	**2.05**	**193**	P	Pn	08 07 01.2	+0.9
JCZ	**Jackson Bay**	**2.08**	**240**	P	Pb	08 07 02.6	-1.1
BSWZ	**Blackbirch Sta**	**2.34**	**96**	P	Pb	08 07 07.4	-0.6
NNZ	**Nelson**	**2.41**	**41**	P	Pb	08 07 07.5	-1.6
QRZ	**Quartz Range**	**2.41**	**23**	P	Pn	08 07 06.9	+1.6
WKZ	**Wanaka**	**2.41**	**222**	P	Pn	08 07 06.3	+1.0
TUWZ	**Tuamarina**	**2.56**	**52**	P	Pn	08 07 09.4	+2.1
EAZ	**Earnscleugh**	**2.60**	**212**	P	Pn	08 07 08.4	+0.5
TCW	**Tory Channel**	**2.89**	**52**	P	Pb	08 07 15.6	-1.8
MSZ	**Milford Sound**	**2.92**	**235**	P	Pn	08 07 13.6	+1.4
DUWZ	**D'Urville Isla**	**2.99**	**42**	P	Pb	08 07 16.2	-2.9
TUZ	**Tuapeka**	**3.13**	**201**	P	Pn	08 07 18.1	+2.9
CAW	**Cannon Point**	**3.42**	**57**	P	Pn	08 07 19.6	+0.4
KIW	**Kapiti Island**	**3.48**	**52**	P	Pn	08 07 21.3	+1.3
HOWZ	**Holdsworth Sta**	**3.82**	**57**	P	Pb	08 07 33.3	0.0
NMEZ	**Namu Road**	**4.13**	**29**	P	Pn	08 07 32.5	+3.6
NBEZ	**Newall Road No**	**4.25**	**28**	P	Pn	08 07 33.8	+3.3
WAZ	**Wanganui**	**4.31**	**42**	P	Pn	08 07 35.9	+4.5
PKE	**Pukeiti**	**4.36**	**29**	P	Pn	08 07 35.2	+3.0
VRZ	**Vera Road**	**4.72**	**35**	P	Pn	08 07 39.6	+2.6
FWVZ	**Far West T-bar**	**4.98**	**42**	P	Pb	08 07 48.9	-4.2
HIZ	**Hauiti**	**5.28**	**32**	P	Pn	08 07 46.7	+2.0
TLZ	**Tolley Road**	**5.72**	**36**	P	Pn	08 07 53.1	+2.3
TOZ	**Tahuroa Road**	**6.21**	**33**	P	Pn	08 07 59.4	+1.9
MARZ	**Manawahe**	**6.52**	**41**	P	Pn	08 08 00.9	-0.8
RVAZ	**Riverhead Bore**	**6.76**	**23**	P	Pn	08 08 07.8	+2.7
WIAZ	**Waiheke Island**	**6.92**	**27**	P	Pn	08 08 09.8	+2.6
WCZ	**Waipu Caves**	**7.49**	**19**	P	Pn	08 08 16.9	+1.9
OUZ	**Omahuta**	**8.02**	**14**	P	Pn	08 08 24.6	+2.3

*JMA **22** 08:07:58.1±0.1, 23.69N×121.51E, h0km±1km, M3.2*

*IASPEI **22** 08:07:59.6±0.8, 23.72N±0.01×121.43E±0.02, h16km±4km, Error ellipse: s-maj=3.0km s-min=1.6km az=111.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*TAP **22** 08:07:59.4, 23.72N×121.40E, h16km, ML3.6, B*

ISC 22 08:07:59.5±0.7, 23.71N±0.01×121.43E±0.02, h16km±3km, n104, σ0§59/189, 6C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.05**	**188**	⇑*iP*	**Pg**	**08 08 02.4**	**0.0**
	baz=150						
EGFH				*eS*	**Sg**	**08 08 04.3**	**-0.1**
	baz=150						
TEGC	**Jichi Village**	**0.10**	**93**	⇓*iP*	**Pg**	**08 08 03.8**	**+0.9**
	baz=88						
TEGC				S	**Sg**	**08 08 07.1**	**+2.1**
	baz=88						
ESL	**Shilin**	**0.10**	**359**	⇑*iP*	**Pb**	**08 08 02.9**	**-0.1**
	baz=25						
ESL				S	**Sb**	**08 08 04.9**	**-0.2**
	baz=25						
TEYL	**Yanliau Villag**	**0.21**	**44**	P	**Pb**	**08 08 05.7**	**+0.6**
	baz=41						
TEYL				S	**Sb**	**08 08 10.2**	**+1.4**
	baz=41						
HGSD	**Ruisui**	**0.22**	**182**	P	**Pg**	**08 08 04.9**	**+0.3**
	baz=177						
HGSD				*eS*	**Sb**	**08 08 09.8**	**+0.8**
	baz=177						
EHY	**Hungye**	**0.23**	**206**	⇑*iP*	**Pg**	**08 08 04.3**	**-0.5**
	baz=195						
EHY				S	**Sg**	**08 08 07.9**	**-0.4**
	baz=195						
ETM	**Tongmen**	**0.26**	**12**	P	**Pg**	**08 08 05.3**	**+0.1**
	baz=15						
ETM				S	**Sg**	**08 08 08.9**	**-0.1**
	baz=15						
HWA	**Hwalien**	**0.30**	**31**	*eP*	**Pg**	**08 08 06.6**	**+0.6**
	baz=31						
HWA				*eS*	**Sb**	**08 08 11.7**	**+0.3**
	baz=31						
OWD	**Renai**	**0.34**	**315**	P	**Pg**	**08 08 06.5**	**-0.2**
	baz=320						
OWD				S	**Sg**	**08 08 10.6**	**-0.9**
	baz=320						
YULB	**Yu-li**	**0.34**	**201**	P	**Pg**	**08 08 06.1**	**-0.6**
	baz=190						
YULB				S	**Sg**	**08 08 11.0**	**-0.5**
	baz=190						
EYUL	**Yuli**	**0.38**	**196**	*eP*	**Pg**	**08 08 07.1**	**-0.2**
	baz=193						
EYUL				*eS*	**Sg**	**08 08 12.8**	**+0.2**
	baz=193						
TWF1	**Yuli**	**0.38**	**199**	P	**Pg**	**08 08 07.0**	**-0.3**
	baz=195						
TWF1				S	**Sg**	**08 08 12.1**	**-0.6**
	baz=195						
TWD	**Chiawan**	**0.39**	**22**	⇑*iP*	**Pg**	**08 08 07.5**	**-0.1**
	baz=29						
TWD				S	**Sg**	**08 08 12.9**	**-0.1**
	baz=29						
CHGB	**Renai**	**0.42**	**325**	⇓*iP*	**Pg**	**08 08 08.2**	**0.0**
	baz=337						
CHGB				*i* S	**Sg**	**08 08 13.4**	**-0.6**
	baz=337						
SSLB	**Suanglung**	**0.45**	**279**	⇓*iP*	**Pg**	**08 08 08.1**	**-0.4**
	baz=280						
SSLB				S	**Sg**	**08 08 13.4**	**-1.2**
	baz=280						
WHF	**Hehuan Shan**	**0.46**	**340**	⇓*iP*	**Pg**	**08 08 08.6**	**-0.3**
	baz=346						
WHF				*i* S	**Sg**	**08 08 14.5**	**-0.7**
	baz=346						
ETL	**Fush Village**	**0.47**	**21**	*eP*	**

EDH					*e*S	**Sg**	08 08 25.1	+1.1
	baz=185									
WWF	**Wufeng**	**0.75**	**296**		*e*P	**Pn**	08 08 15.3	-0.2
	baz=302									
EWUT	**Wuta**	**0.79**	**23**		*e*P	**Pb**	08 08 13.7	-1.3
	baz=26									
EWUT					*e*S	**Sb**	08 08 25.1	-0.4
	baz=26									
WGK	**Gukeng**	**0.80**	**268**		*e*P	**Pg**	08 08 15.9	+0.8
	baz=268									
WGK					*e*S	**Sn**	08 08 27.1	-0.6
	baz=268									
STYH	**Taoyuan**	**0.81**	**228**	P		**Pb**	08 08 14.8	-0.5
	baz=224									
WDLH	**Douliu**	**0.82**	**268**		*e*P	**Pg**	08 08 16.0	+0.5
	baz=269									
WDLH					*e*S	**Sn**	08 08 27.6	-0.7
	baz=269									
STYT	**Tauyuan**	**0.83**	**229**	P		**Pb**	08 08 15.5	-0.1
	baz=226									
STYT					*e*S	**Sb**	08 08 26.2	-0.3
	baz=226									
TPUB	**Ta-pu**	**0.85**	**241**		*e*P	**Pb**	08 08 16.2	+0.3
	baz=239									
TPUB					*e*S	**Sb**	08 08 26.9	-0.1
	baz=239									
LONT	**Longtian**	**0.85**	**199**		*e*P	**Pb**	08 08 15.7	-0.3
	baz=196									
LONT					*e*S	**Sb**	08 08 26.6	-0.6
	baz=196									
CHN4	**Tsaushan**	**0.85**	**245**	⇓	*i*P	**Pg**	08 08 16.6	+0.5
	baz=244									
CHN4					*i* S	**Sg**	08 08 27.8	+0.4
	baz=244									
TWQ1	**Liyutan**	**0.87**	**316**		*e*P	**Pg**	08 08 17.1	+0.5
	baz=326									
TWQ1					*e*S	**Sn**	08 08 29.7	0.0
	baz=326									
WCHH	**Zhanghua**	**0.88**	**295**		*e*P	**Pn**	08 08 17.4	+0.1
	baz=296									
WCHH					*e*S	**Sn**	08 08 29.8	+0.1
	baz=296									
WTP	**Ta-pu**	**0.89**	**238**	⇓	*i*P	**Pg**	08 08 17.0	+0.2
	baz=236									
WTP					S	**Sb**	08 08 28.4	+0.2
	baz=236									
NDT	**Datong Townshi**	**0.89**	**5**		*e*P	**Pb**	08 08 16.4	-0.2
	baz=16									
NDT					*e*S	**Sb**	08 08 28.7	+0.5
	baz=16									
ENTT	**Nioudou**	**0.93**	**7**		*e*P	**Pb**	08 08 16.5	-0.8
	baz=23									
NSY	**Sanyi**	**0.93**	**319**	P		**Pn**	08 08 18.6	+0.6
	baz=328									
NSY					*e*S	**Sb**	08 08 30.0	+0.5
	baz=328									
TWG	**Pinlang**	**0.95**	**201**		*e*P	**Pb**	08 08 17.1	-0.6
	baz=192									
TWG					*e*S	**Sb**	08 08 30.1	+0.1
	baz=192									
TWGBT	**Beinan**	**0.95**	**200**		*e*P	**Pb**	08 08 16.0	-1.7
	baz=183									
CHY	**Chiayi**	**0.95**	**257**		*e*P	**Pb**	08 08 17.9	+0.2
	baz=257									
CHY					*e*S	**Sg**	08 08 31.1	+0.6
	baz=257									
NDS	**Dongshan**	**0.95**	**16**		*e*P	**Pb**	08 08 17.0	-0.7
	baz=28									
NDS					*e*S	**Sb**	08 08 28.9	-1.2
	baz=28									
YHNB	**Yeheng**	**0.95**	**357**	P		**Pb**	08 08 17.4	-0.4
	baz=360									
YHNB					S	**Sb**	08 08 29.3	-0.8
	baz=360									
WTK	**Tuku**	**0.96**	**269**		*e*P	**Pb**	08 08 18.2	+0.4
	baz=269									
WTK					*e*S	**Sg**	08 08 31.4	+0.7
	baz=269									
NSK	**Sanguang**	**0.96**	**356**		*e*P	**Pb**	08 08 17.6	-0.3
	baz=359									
NSK					S	**Sb**	08 08 29.9	-0.5
	baz=359									
WDJ	**Dajia District**	**0.96**	**311**		*e*P	**Pg**	08 08 19.0	+0.8
	baz=323									
WDJ					*e*S	**Sn**	08 08 33.5	+1.7
	baz=323									
TWC	**Suao**	**0.97**	**23**		*e*P	**Pb**	08 08 17.1	-0.8
	baz=26									
TWC					*e*S	**Sb**	08 08 31.2	+0.7
	baz=26									
TWK	**Hsinying**	**0.98**	**243**	⇓	*i*P	**Pn**	08 08 18.6	-0.1
	baz=241									
TWK					*i* S	**Sn**	08 08 32.0	-0.2
	baz=241									
CHN1	**Nanshi**	**0.98**	**238**	P		**Pg**	08 08 19.0	+0.4
	baz=236									
CHN1					*e*S	**Sn**	08 08 32.4	0.0
	baz=236									
WRL	**Guolierlin Hig**	**0.99**	**281**		*e*P	**Pb**	08 08 18.5	+0.3
	baz=282									
WRL					*e*S	**Sg**	08 08 32.1	+0.5
	baz=282									
NSTT	**Nanjuang**	**0.99**	**337**	⇓	*i*P	**Pb**	08 08 18.9	+0.5
	baz=340									
NSTT					S	**Sb**	08 08 32.1	+0.8
	baz=340									
LIOB	**Emei**	**1.00**	**338**		*e*P	**Pn**	08 08 19.1	+0.1
	baz=340									
LIOB					*e*S	**Sg**	08 08 32.5	+0.3
	baz=340									
SGST	**Jiashian**	**1.00**	**231**		*e*P	**Pb**	08 08 18.1	-0.5
	baz=229									
SGST					*e*S	**Sg**	08 08 32.3	+0.1
	baz=229									
NMLH	**Miaoli**	**1.01**	**324**	P		**Pg**	08 08 19.9	+0.8
	baz=327									
NMLH					S	**Sn**	08 08 33.2	+0.2
	baz=327									
SLGT	**Liugui**	**1.02**	**225**		*e*P	**Pb**	08 08 19.0	+0.2
	baz=210									
TWE	**Neicheng**	**1.02**	**12**		*e*P	**Pn**	08 08 19.6	+0.3
	baz=15									
TWE					*e*S	**Sb**	08 08 32.4	+0.3
	baz=15									
LDUT	**Ludao**	**1.04**	**178**		*e*P	**Pb**	08 08 19.4	+0.2
	baz=172									
NWLT	**Wulai**	**1.06**	**3**		*e*P	**Pb**	08 08 19.9	+0.3
	baz=16									
NWLT					*e*S	**Sb**	08 08 33.1	-0.1
	baz=16									
ICHU	**Yijhu**	**1.12**	**252**		*e*P	**Pb**	08 08 20.9	+0.4
	baz=252									
ICHU					*e*S	**Sg**	08 08 36.1	+0.4
	baz=252									
SBCB	**Hsinchu**	**1.15**	**339**		*e*P	**Pg**	08 08 22.3	+0.6
	baz=343									
CHN8	**Yiju**	**1.18**	**252**		*e*S	**Sg**	08 08 38.5	+0.8
	baz=253									
NTC	**Toucheng**	**1.19**	**18**		*e*P	**Pn**	08 08 21.4	-0.1
	baz=22									
SCST	**Cishan**	**1.20**	**227**		*e*P	**Pg**	08 08 23.1	+0.5
	baz=211									
EGS		**1.21**	**22**		*e*P	**Pn**	08 08 22.0	+0.1
	baz=26									
SSD	**Sandimen**	**1.21**	**218**		*e*P	**Pn**	08 08 21.8	-0.1
	baz=205									
NHDH	**Xindian Distri**	**1.25**	**4**		*e*P	**Pg**	08 08 23.7	+0.1
	baz=14									
NHDH					*e*S	**Sb**	08 08 38.7	+0.2
	baz=14									
TATO	**Taipei**	**1.26**	**2**		*e*P	**Pn**	08 08 22.4	0.0
	baz=13									
TATO					*e*S	**Sb**	08 08 39.2	+0.4
	baz=13									
NCUH	**Zhongli**	**1.27**	**350**		*e*P	**Pb**	08 08 23.5	+0.4
	baz=352									
NCUH					*e*S	**Sg**	08 08 41.5	+0.9
	baz=352									
TWA	**Mucha**	**1.27**	**6**		*e*P	**Pb**	08 08 23.9	+0.8
	baz=24									
TWA					*e*S	**Sg**	08 08 40.7	+0.1
	baz=24									
TIPB	**Shuangxi**	**1.30**	**16**		*e*P	**Pn**	08 08 23.1	0.0
	baz=17									
TIPB					*e*S	**Sn**	08 08 40.3	0.0
	baz=17									
TWS1	**Kuangyinshan**	**1.38**	**359**		*e*P	**Pb**	08 08 25.3	+0.3
	baz=27									
TWB1	**Santiao Chiao**	**1.38**	**21**		*e*P	**Pb**	08 08 25.0	0.0
	baz=26									
NWF	**Wu-fen Shan**	**1.39**	**13**		*e*P	**Pn**	08 08 24.1	-0.3
	baz=24									
NWF					*e*S	**Sg**	08 08 44.2	-0.2
	baz=24									
WFSB	**Wu-fen Shan**	**1.39**	**13**		*e*P	**Pn**	08 08 23.7	-0.6
	baz=24									
WFSB					*e*S	**Sg**	08 08 44.2	-0.1
	baz=24									
EAST	**Anshuo**	**1.43**	**202**		*e*P	**Pn**	08 08 25.5	+0.6
	baz=182									
YM01	**YM01**	**1.43**	**5**		*e*P	**Pb**	08 08 26.1	+0.2
	baz=7.0									
YM01					*e*S	**Sb**	08 08 45.0	+1.1
	baz=7.0									
TNOU	**National Taiwa**	**1.46**	**12**		*e*P	**Pb**	08 08 27.4	+1.0
	baz=26									
ANP	**Anpu**	**1.47**	**3**		*e*P	**Pb**	08 08 27.2	+0.7
	baz=29									
YOJ	**Yonaguni jima**	**1.62**	**62**	P		**Pn**	08 08 27.5	0.0
YOJ				S		**Sn**	08 08 48.0	-0.1
PHUB	**P'eng-hu**	**1.72**	**264**		*e*P	**Pn**	08 08 28.7	-0.1
	baz=264									
IRIF	**Iriomote-Funau**	**2.19**	**73**	P		**Pn**	08 08 35.2	-0.1
IRIF				S		**Sn**	08 09 02.5	+0.5
HATJ	**Hateruma jima**	**2.20**	**81**	*e*S		**Sn**	08 09 01.1	-1.2
JKRS	**Kuro-shima**	**2.41**	**77**	P		**Pn**	08 08 38.6	+0.2
JKRS				*e*S		**Sn**	08 09 08.0	+0.4
JIJ	**Ishigaki jima**	**2.56**	**75**	P		**Pn**	08 08 40.1	-0.3
JIJ				*e*S		**Sn**	08 09 10.6	-0.6
JISG	**Ishigakijimahi**	**2.77**	**71**	P		**Pn**	08 08 42.8	-0.4
JISG				S		**Sn**	08 09 14.7	-1.6

NEIC ***22*** *08:08:31.7±1.9, 17.°34S±0.°06×178.°9W±0.°1, h548km±10km, mb4.2/24, Error ellipse: s-maj=19.7km s-min=8.5km az=104.0*

IDC ***22*** *08:08:32.1±1.1, 17.°63S×178.°92W, h553km±10km, mb3.3/12, mb1 3.5/14, mb1mx3.4/29, mbtmp4.1/14, Error ellipse: s-maj=20.6km s-min=14.8km az=126.0*

ISC 22 08:08:31.2±0.5, 17.°42S±0.°09×178.°87W±0.°09, h539km, n50, σ1°37/51, mb4.1/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.95**	**263**	P		P	**P**	**08 09 46.2**	**+1.0**
	5.2nm,0.3s,baz=317,slow=22,SNR=35								
MSVF				S			**S**	**08 10 49.0**	**+3.7**
	baz=276,slow=22,SNR=1.2								
MSVF	**Nonsavu**	**2.95**	**263**	P		P	**P**	**08 09 46.4**	**+1.3**
AFI	**Afiamalu**	**7.67**	**64**	P		P	**P**	**08 10 23.5**	**-2.0**
NIUE	**Niue**	**8.66**	**102**	P		P	**P**	**08 10 34.7**	**-0.6**
FUNA	**Funafuti**	**9.03**	**348**	P		P	**P**	**08 10 39.2**	**0.0**
PINNC	**Pines Island,**	**13.86**	**246**	P		P	**P**	**08 11 28.1**	**-0.9**
OUENC	**Ouen Island, N**	**14.33**	**247**	P		P	**P**	**08 11 36.0**	**+2.1**
DZM	**Mont Dzumac**	**14.58**	**249**	P		P	**P**	**08 11 35.0**	**-1.6**
	0.4nm,0.3s,baz=56,slow=23,SNR=1.6								
DZM	**Mont Dzumac**	**14.58**	**249**	P		P	**P**	**08 11 37.0**	**+0.3**
OUZ	**Omahuta**	**18.96**	**199**	P		P	**P**	**08 12 20.3**	**+2.0**
URZ	**Urewera**	**21.06**	**189**	P		P	**P**	**08 12 34.1**	**-3.2**
	5.3nm,0.3s,baz=301,slow=24,SNR=13								
EIDS	**Eidsvold**	**29.03**	**249**	P		P	**P**	**08 13 45.7**	**-2.2**
EIDS				IAmb		IAmb	IAmb	08 14 00.3	
	comp=Z,7.1nm,1.1s								
ARMA	**Armidale**	**29.81**	**239**	P		P	**P**	**08 13 55.1**	**+0.3**
ARMA				IAmb		IAmb	IAmb	08 13 55.5	
	comp=Z,9.8nm,0.8s								
CTA	**Charters Tower**	**33.10**	**260**	P		P	**P**	**08 14 21.8**	**-1.1**
	comp=Z,4.2nm,0.9s,baz=122,slow=14,SNR=1.8								
CTAO	**Charters Tower**	**33.10**	**260**	P		P	**P**	**08 14 22.4**	**-0.5**
CAN	**Canberra**	**33.66**	**232**	P		P	**P**	**08 14 27.0**	**-0.5**
CAN				IAmb		IAmb	IAmb	08 14 27.6	
	comp=Z,5.9nm,0.8s								
TOO	**Toolangi**	**37.14**	**230**	P		P	**P**	**08 14 56.6**	**+0.2**
STKA	**Stephens Creek**	**38.48**	**240**	P		P	**P**	**08 15 07.3**	**-0.1**
	comp=Z,5.5nm,0.4s,baz=92,slow=8.2,SNR=32								
STKA	**Stephens Creek**	**38.48**	**240**	P		P		**08 15 07.5**	**+0.1**
BBOO	**Buckleboo**	**43.26**	**240**	P		P		**08 15 45.0**	**-0.4**
WR0	**Warramunga Arr**	**44.10**	**259**	P		P		**08 15 50.7**	**-1.3**
WR0				IAmb		IAmb	IAmb	08 15 52.3	
	comp=Z,12nm,1.3s								
WB0	**Warramunga Arr**	**44.25**	**259**	P		P		**08 15 51.7**	**-1.6**
WB0				IAmb		IAmb	IAmb	08 16 14.8	
	comp=Z,11nm,1.4s								
WB2	**Warramunga Arr**	**44.28**	**259**	P		P		**08 15 52.0**	**-1.4**
WRAB	**Tennant Creek**	**44.28**	**259**	P		P		**08 15 51.8**	**-1.7**
WRAB				IAmb		IAmb	IAmb	08 16 06.4	
	comp=Z,4.6nm,1.1s								
WRA	**Warramunga Arr**	**44.29**	**259**	P		P		**08 15 51.9**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=95,slow=7.8,SNR=52								
WRA				PcP		**PcP**		**08 17 26.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=103,slow=3.1,SNR=1.8								
WRA	**Warramunga Arr**	**44.29**	**259**	P		P		**08 15 51.1**	**-2.4**
AS31	**Alice Springs**	**44.50**	**254**	P		P		**08 15 54.2**	**-0.9**
AS31				IAmb		IAmb	IAmb	08 15 54.8	
	comp=Z,4.2nm,0.6s								
ASAR	**Alice Springs**	**44.50**	**254**	P		P		**08 15 54.2**	**-0.9**
	comp=Z,12nm,0.5s,baz=89,slow=8.0,SNR=203								
ASAR				PcP		**PcP**		**08 17 26.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=97,slow=4.1,SNR=4.4								
ASAR	**Alice Springs**	**44.50**	**254**	P		P		**08 15 53.8**	**-1.3**
FORT	**Forrest**	**49.82**	**244**	P		P		**08 16 34.0**	**-1.0**
KNRA	**Kununurra**	**50.10**	**264**	P		P		**08 16 37.0**	**-0.2**
KNRA				IAmb		IAmb	IAmb	08 16 37.2	
	comp=Z,8.5nm,0.7s								
FITZ	**Fitzroy Crossi**	**52.67**	**260**	P		P		**08 16 55.9**	**0.0**
PSA00	**Pilbara Seismi**	**57.61**	**255**	P		P		**08 17 29.1**	**-1.1**
PSA00				IAmb		IAmb	IAmb	08 17 54.1	
	comp=Z,17nm,1.4s								
MORW	**Morawa**	**60.28**	**246**	P		P		**08 17 47.5**	**-0.5**
SBA	**Scott Base**	**60.88**	**183**	P		P		**08 17 53.1**	**+2.0**
SBA				IAmb		IAmb	IAmb	08 18 19.0	
	comp=Z,7.4nm,1.5s								
VNDA	**Vanda**	**60.90**	**185**	P		P		**08 17 52.4**	**+1.1**
MJAR	**Matsushiro Arr**	**67.25**	**324**	P		P		**08 18 31.9**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=163,slow=5.9,SNR=5.7								
MJAR	**Matsushiro Arr**	**67.25**	**324**	IAmb		IAmb	IAmb	08 18 32.8	
	comp=Z,1.0nm,0.7s								
QSPA	**South Pole Qui**	**72.64**	**180**	P		P	**P**	**08 19 04.5**	**+0.5**
QSPA				IAmb		IAmb	IAmb	08 19 04.7	
	comp=Z,3.4nm,0.7s								
PETK	**Petropavlovsk-**	**73.09**	**345**	P		P	**P**	**08 19 06.7**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=147,slow=8.9,SNR=5.1								
PETK	**Petropavlovsk-**	**73.09**	**345**	P		P	**P**	**08 19 07.3**	**+0.8**
NVAR	**Mina Array Bea**	**79.38**	**44**	P		P	**P**	**08 19 43.1**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=209,slow=7.6,SNR=3.5								
ILAR	**Eielson Array**	**85.51**	**13**	P		P	**P**	**08 20 11.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=223,slow=5.3,SNR=5.2								
TXAR	**Lajitas Array**	**86.11**	**58**	P		P	**P**	**08 20 17.3**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=242,slow=5.0,SNR=3.1								
PDAR	**Pinedale Array**	**87.30**	**44**	P		P	**P**	**08 20 21.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=243,slow=5.0,SNR=2.6								
SNAA	**Sanae**	**91.10**	**179**	P		P	**P**	**08 20 37.6**	**-0.4**
SNAA	**Sanae**	**91.10**	**179**	P		P	**P**	**08 20 36.8**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=203,slow=7.7,SNR=7.9								
SNAA	**Sanae**	**91.10**	**179**	P		P	**P**	**08 20 36.4**	**-1.6**
SNAA				IAmb		IAmb	IAmb	08 20 46.5	
	comp=Z,5.6nm,1.4s								
VNA3	**Neumayer Olymp**	**91.26**	**177**	P		P	**P**	**08 20 38.5**	**-0.3**
VNA1	**Neumayer--Stat**	**91.92**	**177**	P		P	**P**	**08 20 34.0**	**-7.7**

NEIC ***22*** *08:18:59.5±1.4, 56.°0S±0.°1×28.°0W±0.°2, h114km±5km, mb4.6/40, Error ellipse: s-maj=18.9km s-min=11.8km az=206.0*

IDC ***22*** *08:19:00.9±3.1, 55.°95S×27.°85W, h130km±27km, mb4.0/8, mb1 4.2/9, mb1mx4.0/20, mbtmp4.5/9, Error ellipse: s-maj=24.3km s-min=13.6km az=58.0*

ISC 22 08:18:59.9±0.4, 55.°97S±0.°09×27.°97W±0.°09, h121km, n97, σ0°66/91, mb4.5/23, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.17**	**286**	Pn		Pn	**Pn**	**08 20 14.8**	**-0.3**
VNA1	**Neumayer--Stat**	**17.03**	**157**	P		P	**Pn**	**08 22 50.5**	**+0.2**
VNA3	**Neumayer Olymp**	**17.21**	**160**	P		P	**P**	**08 22 51.9**	**-0.2**
SNAA	**Sanae**	**18.99**	**156**	P		P	**P**	**08 23 11.4**	**-0.3**
SNAA	**Sanae**	**18.99**	**156**	P		P	**P**	**08 23 11.4**	**-0.3**
	16nm,0.3s,baz=311,slow=11,SNR=614								
SNAA				PcP		**PcP**		**08 27 31.4**	**+0.1**
	0.2nm,0.3s,baz=207,slow=9.0,SNR=2.5								
SNAA				ScP		**ScP**		**08 30 53.5**	**-2.1**
	0.0nm,0.3s,baz=198,slow=3.0,SNR=5.1								
SNAA	**Sanae**	**18.99**	**156**	P		**P**		**08 23 11.3**	**-0.4**
MG02	**Cerro Sombrero**	**23.98**	**260**	P		**P**		**08 24 02.3**	**-0.5**
GO09	**Cerro Castillo**	**26.38**	**261**	P		**P**		**08 24 23.3**	**-1.2**
TRQA	**Tornquist**	**28.89**	**294**	P		**P**		**08 24 46.9**	**-0.2**
TRQA				IAmb		IAmb	IAmb	08 25 00.3	
	comp=Z,15nm,1.4s								
TRQA	**Tornquist**	**28.89**	**294**	*e*P		**P**		**08 24 47.1**	**0.0**
PLTB	**Pedras Altas**	**30.12**	**313**	P		**P**		**08 24 58.6**	**+0.6**
PLTB				IAmb		IAmb	IAmb	08 24 58.8	
	comp=Z,9.7nm,0.7s								
PLTB	**Pedras Altas**	**30.12**	**313**	*e*P		**P**		**08 24 58.4**	**+0.4**
CPSB	**Cacapava Do Su**	**31.25**	**314**	*e*P		**P**		**08 25 08.6**	**+0.7**
ITQB	**Itaqui**	**33.21**	**310**	P		**P**		**08 25 25.2**	**+0.1**
ITQB				IAmb		IAmb	IAmb	08 25 45.6	
	comp=Z,14nm,1.3s								
ITQB	**Itaqui**	**33.21**	**310**	*e*P		**P**		**08 25 25.1**	**+0.1**
ITAB	**Concordia**	**33.58**	**319**	*e*P		**P**		**08 25 28.8**	**+0.6**
QSPA	**South Pole Qui**	**34.28**	**180**	P		**P**		**08 25 34.8**	**+0.6**
QSPA				IAmb		IAmb	IAmb	08 25 35.7	
	comp=Z,7.9nm,0.7s								
VAO	**Valinhos**	**35.80**	**329**	*e*P		**P**		**08 25 47.8**	**+0.4**
PTGB	**Pitanga**	**35.85**	**321**	*e*P		**P**		**08 25 48.5**	**+0.6**
FRTB	**Fartura**	**36.27**	**325**	*e*P		**P**		**08 25 52.2**	**+0.8**
CPUP	**Villa Florida**	**36.43**	**312**	P		**P**		**08 25 52.2**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=155,slow=7.3,SNR=17								
CPUP	**Villa Florida**	**36.43**	**312**	P		**P**		**08 25 52.1**	**-0.5**
CPUP	**Villa Florida**	**36.43**	**312**	*e*P		**P**		**08 25 52.5**	**-0.2**
MT09	**Talagante**	**36.87**	**289**	P		**P**		**08 25 55.8**	**-0.8**
MT01	**Popeta**	**36.95**	**288**	P		**P**		**08 25 56.1**	**-1.0**
MT02	**Curacav**	**37.35**	**289**	P		**P**		**08 25 59.7**	**-0.7**
MAW	**Mawson**	**40.47**	**144**	P		**P**		**08 26 25.6**	**-0.4**
	comp=Z,6.3nm,0.7s,baz=234,slow=6.3,SNR=10								
MAW	**Mawson**	**40.47**	**144**	IAmb		IAmb	IAmb	08 26 26.6	
	comp=Z,1.1nm,0.7s								
IPMB	**Ipameri, GO**	**40.91**	**330**	*e*P		**P**		**08 26 30.8**	**+0.6**
MC01	**Montes Claros**	**41.04**	**336**	*e*P		**P**		**08 26 31.4**	**+0.1**
AQDB	**Aquidauana**	**41.05**	**318**	*e*P		**P**		**08 26 30.8**	**-0.5**
AC04	**Llanos de Chal**	**41.32**	**294**	P		**P**		**08 26 33.5**	**+0.1**
AC04				IAmb		IAmb	IAmb	08 26 37.7	
	comp=Z,14nm,1.4s								
AC02	**Maricunga**	**41.45**	**297**	P		**P**		**08 26 35.8**	**+0.7**
AC02				IAmb		IAmb	IAmb	08 26 37.1	
	comp=Z,7.4nm,0.8s								
NBIT	**Itapeh - BA**	**41.90**	**343**	*e*P		**P**		**08 26 38.1**	**-0.1**
JANB	**Januaria**	**42.72**	**336**	*e*P		**P**		**08 26 44.0**	**-0.9**
AC01	**Pan de Azucar**	**42.76**	**296**	P		**P**		**08 26 44.7**	**-0.4**
AC01				IAmb		IAmb	IAmb	08 26 49.4	
	comp=Z,17nm,1.2s								
GO02	**Mina Guanaco**	**43.07**	**298**	P		**P**		**08 26 48.4**	**+0.3**
BDFB	**Brasilia**	**43.08**	**331**	P		**P**		**08 26 48.4**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=135,slow=8.6,SNR=3.1								
BDFB	**Brasilia**	**43.08**	**331**	IAmb		IAmb	IAmb	08 27 07.9	
	comp=Z,10nm,1.3s								
PP1B	**Ponte de Pedra**	**43.39**	**321**	*e*P		**P**		**08 26 49.8**	**-0.5**
PB14	**IPOC Station P**	**43.92**	**298**	P		**P**		**08 26 54.1**	**-0.8**
ARAG	**Araguaiana, MT**	**44.13**	**326**	*e*P		**P**		**08 26 56.9**	**+0.7**
LVC	**Limon Verde**	**44.88**	**301**	P		**P**		**08 27 03.3**	**+0.7**
LVC				IAmb		IAmb	IAmb	08 27 05.7	
	comp=Z,13nm,1.2s								
LVC	**Limon Verde**	**44.88**	**301**	*e*P		**P**		**08 27 03.4**	**+0.8**
PB10	**IPOC Station P**	**44.93**	**298**	P		**P**		**08 27 01.7**	**-0.8**
PB10				IAmb		IAmb	IAmb	08 27 02.4	
	comp=Z,9.4nm,0.8s								
PB06	**IPOC Station P**	**45.12**	**300**	P		**P**		**08 27 04.3**	**0.0**
PB06				IAmb		IAmb	IAmb	08 27 15.6	
	comp=Z,11nm,0.9s								
SALV	**Santo Antonio**	**45.25**	**321**	*e*P		**P**		**08 27 05.3**	**+0.3**
SDBA	**SAO DESIDERIO**	**45.41**	**336**	*e*P		**P**		**08 27 06.9**	**+0.4**
PB09	**IPOC Station P**	**45.74**	**301**	P		**P**		**08 27 10.2**	**+1.1**
NBPN	**Ponto Novo - B**	**46.02**	**343**	*e*P		**P**		**08 27 10.8**	**-0.4**
PB07	**IPOC Station P**	**46.11**	**300**	P		**P**		**08 27 12.3**	**+0.4**
PB07				IAmb		IAmb	IAmb	08 27 13.4	
	comp=Z,6.5nm,0.7s								
BOSA	**Boshof**	**46.37**	**77**	P		**P**		**08 27 13.3**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=201,slow=8.8,SNR=2.7								
BOSA	**Boshof**	**46.37**	**77**	P		**P**		**08 27 13.6**	**-0.4**
PB01	**IPOC Station P**	**46.50**	**301**	P		**P**		**08 27 15.4**	**+0.5**
PB01				IAmb		IAmb	IAmb	08 27 15.7	
	comp=Z,7.1nm,0.6s	

*IDC **22** 08:54:12.8±0.9,39°.63N×143°.23E,h0km,mb3.6/9, mb1 3.8/12,mb1mx3.6/35,mbtmp3.7/12,ML3.2/3,MS2.8/2, Ms1 2.8/2,ms1mx2.3/47,Error ellipse: s-maj=27.6km s-min=18.5km az=99.0*

*JMA **22** 08:54:15.2±0.2,39°.74N×143°.29E,h26km±4km,M3.8*

*NIED **22** 08:54:15.3,39°.74N×143°.29E,h26km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr3.02; Mθθ-0.59; Mφφ-2.43; Mrθ1.38; Mθφ-1.60; Mφr1.78; Fault plane solution: M0 3.90000×10^14^ NP1:φs35.00000°, δ63.00000°,λ95.00000°. NP2:φs205.00000°,δ28.00000°, λ81.00000°.*

ISC 22 08:54:14.7±0.9,39°.69N±0°.05×143°.26E±0°.08,h11km,n32, σ1s06/28,mb3.7/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.11**	**284**	P	**Pb**	**08 54 35.3**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.12**	**265**	P	**Pb**	**08 54 35.8**	**-0.3**
JANG	**Nango**	**1.51**	**298**	P	**Pn**	**08 54 40.7**	**-1.0**
JMK	**Ichinoseki**	**1.75**	**246**	P	**Pn**	**08 54 45.4**	**+0.4**
JIO	**Ouri**	**1.93**	**231**	P	**Pn**	**08 54 47.5**	**0.0**
JIO				eS	**Sn**	**08 55 10.9**	**-0.9**
JTM	**Tenmabayashi**	**2.01**	**304**	P	**Pn**	**08 54 48.8**	**+0.2**
JTM				eS	**Sn**	**08 55 13.3**	**-0.4**
JRG	**Rokugo**	**2.05**	**263**	P	**Pn**	**08 54 50.0**	**+0.8**
JAH	**Hinai**	**2.08**	**285**	P	**Pn**	**08 54 50.3**	**+0.7**
JYK	**Kaneyama**	**2.38**	**252**	P	**Pn**	**08 54 54.6**	**+0.9**
JOT	**Ohata**	**2.39**	**316**	P	**Pn**	**08 54 54.0**	**+0.1**
JNBK	**Urakawa-nobuka**	**2.62**	**352**	P	**Pn**	**08 54 57.7**	**+0.7**
JKB	**Kayabe**	**2.78**	**323**	P	**Pn**	**08 55 00.4**	**+1.3**
ASAJ	**Asahikawa** 1.3nm,0.3s,baz=194,slow=8.4,SNR=9.9	**4.46**	**354**	Pn	**Pn**	**08 55 22.4**	**+0.2**
ASAJ				Sn	**Sn**	**08 56 12.1**	**-2.0**
	1.4nm,0.3s,baz=196,slow=31,SNR=1.4						
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=36,slow=13,SNR=12	**5.07**	**233**	Pn	**Pn**	**08 55 31.1**	**+0.4**
JHJ	**Hachijo jima 2** 3.0nm,0.3s,baz=31,slow=5.1,SNR=1.8	**7.13**	**204**	Pn	**Pn**	**08 55 57.8**	**-1.2**
JHJ				Sn	Sn	08 57 10.3	-10
	6.3nm,0.3s,baz=59,slow=16,SNR=1.9						
USRK	**Ussuriysk Ar.** comp=Z,62nm,19.9s,baz=216,slow=37	**9.53**	**302**	LR	LR	09 00 10.2	
KSRS	**Korea Array** 0.3nm,0.3s,baz=82,slow=13,SNR=4.2	**12.21**	**264**	Pn	**Pn**	**08 57 12.1**	**+3.5**
KSRS				LR	LR	09 01 02.3	
	comp=Z,31nm,18.8s,baz=65,slow=34						
SONM	**Songino Array** 0.7nm,0.6s,baz=108,slow=9.3,SNR=2.0	**27.63**	**299**	P	**P**	**09 00 02.2**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=318,slow=75	**28.43**	**128**	T	T	09 30 10.3	
H11N1	**WAKE ISLAND Hy** baz=318,slow=75	**28.44**	**128**	T	T	09 30 08.6	
H11N3	**WAKE ISLAND Hy** baz=318,slow=75,SNR=47	**28.45**	**128**	T	T	09 30 11.4	
H11S1	**WAKE ISLAND Hy** baz=323	**29.25**	**129**	T	T	09 31 15.7	
H11S3	**WAKE ISLAND Hy** baz=323,slow=74	**29.25**	**129**	T	T	09 31 16.7	
H11S2	**WAKE ISLAND Hy** baz=323,slow=74	**29.26**	**129**	T	T	09 31 18.8	
ZALV	**Zalesovo Beam** 0.9nm,0.3s,baz=102,slow=7.6,SNR=1.9	**41.26**	**310**	P	**P**	**09 01 59.3**	**-0.3**
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=86,slow=9.8,SNR=7.1	**44.00**	**300**	P	**P**	**09 02 21.9**	**-0.2**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=264,slow=6.7,SNR=4.8	**46.48**	**34**	P	**P**	**09 02 42.0**	**+0.5**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=10,slow=7.6,SNR=4.7	**59.90**	**190**	P	**P**	**09 04 19.8**	**-0.9**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=7.1,slow=6.0,SNR=4.7	**63.63**	**190**	P	**P**	**09 04 44.6**	**-1.2**
FINES	**FINESS Array B** 0.9nm,0.7s,baz=52,slow=16,SNR=2.2	**67.15**	**332**	P	**P**	**09 05 07.7**	**-0.4**
NOA	**NORSAR Array B** 0.4nm,0.6s,baz=39,slow=5.7,SNR=2.2	**72.30**	**338**	P	**P**	**09 05 40.0**	**0.0**
PDAR	**Pinedale Array** 0.1nm,0.4s,baz=295,slow=8.5,SNR=1.9	**74.78**	**47**	P	**P**	**09 05 56.1**	**+0.9**

*VAO **22** 09:13:21.0±0.3,34°.84S×70°.99W,h10km,mb4.4*

*SJA **22** 09:13:39.4±0.6,33°.83S×70°.40W,h116km±3km,ML4.2, MW4.2*

*NEIC **22** 09:13:40.9±2.0,33°.79S±0°.05×70°.27W±0°.10,h103km±5km, Error ellipse: s-maj=12.0km s-min=7.2km az=91.0*

*GUC **22** 09:13:40.9±0.6,33°.78S×70°.47W,h105km±2km,ML4.9, MW4.7*

*IDC **22** 09:13:41.1±0.8,33°.78S×70°.19W,h109km±7km,mb3.9/8, mb1 3.9/12,mb1mx3.8/24,mbtmp4.1/12,Error ellipse: s-maj=20.3km s-min=14.3km az=87.0*

ISC 22 09:13:40.7±0.5,33°.81S±0°.03×70°.39W±0°.03,h110km±4km, n184,σ1s40/204,mb4.5/24,22C-7D,Fault plane solution: NP1:φs14.60701°,δ73.75779°,λ-99.32158°. NP2: φs225.01387°,δ18.66432°,λ-60.92619°. Principal axes: T Plg28.1735°, Azm112.0724°; N Plg8.9464°, Azm17.2356°; P Plg60.1921°, Azm271.2860°;

Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MT03	**Universidad Ad**	**0.33**	**343**	⇓iP	**Pn**	**09 13 56.7**	**0.0**
MT03				*i* S	**Sn**	**09 14 08.9**	**+0.2**
MT03				IAML		09 14 09.6	
	comp=N,110μm,0.2s						
MT03	**Universidad Ad**	**0.33**	**343**		**Pn**	**09 13 56.7**	**0.0**
MT03	**Universidad Ad**	**0.33**	**343**	*e*P	**Pn**	**09 13 56.8**	**+0.1**
MT03				*e*S	**Sn**	**09 14 09.4**	**+0.7**
MT09	**Talagante**	**0.50**	**274**	⇑iP	**Pn**	**09 13 57.8**	**+0.1**
MT09				*i* S	**Sn**	**09 14 10.7**	**+0.3**
MT09				IAML		09 14 11.4	
	comp=E,102μm,0.3s						
MT09	**Talagante**	**0.50**	**274**		**Pn**	**09 13 57.9**	**+0.3**
MT05	**Renca**	**0.51**	**325**	⇑iP	**Pn**	**09 13 57.8**	**+0.1**
MT05				*i* S	**Sn**	**09 14 10.6**	**+0.2**
MT05				IAML		09 14 12.5	
	comp=E,69μm,0.2s						
MT05	**Renca**	**0.51**	**325**		**Pn**	**09 13 57.9**	**+0.3**
MT01	**Popeta**	**0.72**	**266**	⇑iP	**Pn**	**09 13 59.1**	**0.0**
MT01				*i* S	**Sn**	**09 14 13.0**	**-0.1**
MT01				IAML		09 14 13.5	
	comp=E,30μm,0.3s						
MT01	**Popeta**	**0.72**	**266**		**Pn**	**09 13 59.3**	**+0.2**
BO01	**Tunca**	**0.82**	**225**	⇑iP	**Pn**	**09 14 00.3**	**+0.3**
BO01				*i* S	**Sn**	**09 14 15.1**	**+0.5**
BO01	**Tunca**	**0.82**	**225**		**Pn**	**09 14 00.4**	**+0.4**
MT02	**Curacav**	**0.83**	**311**	⇑iP	**Pn**	**09 14 00.3**	**+0.2**
MT02				*i* S	**Sn**	**09 14 14.8**	**-0.1**
MT02				IAML		09 14 16.3	
	comp=N,28μm,0.2s						
MT02	**Curacav**	**0.83**	**311**		**Pn**	**09 14 00.4**	**+0.2**
ROC1	**El Roble**	**0.98**	**328**	*e*P	**Pn**	**09 14 02.0**	**+0.1**
ROC1				*e*S	**Sn**	**09 14 18.8**	**+0.8**
ROCH	**El Roble**	**0.98**	**328**	⇑iP	**Pn**	**09 14 01.9**	**0.0**
ROCH				*i* S	**Sn**	**09 14 17.8**	**-0.2**
ROCH				IAML		09 14 21.7	
	comp=E,19μm,0.3s						
VA05	**Santo Domingo**	**1.03**	**278**	⇑iP	**Pn**	**09 14 02.0**	**0.0**
VA05				*i* S	**Sn**	**09 14 17.7**	**-0.6**
VA05				IAML		09 14 19.9	
	comp=N,26μm,0.3s						
VA05	**Santo Domingo**	**1.03**	**278**		**Pn**	**09 14 02.1**	**0.0**
BO02	**Sierra Bellavi**	**1.03**	**198**	⇓iP	**Pn**	**09 14 03.2**	**+1.0**
BO02				*i* S	**Sn**	**09 14 20.1**	**+1.5**
BO02				IAML		09 14 22.0	
	comp=N,19μm,0.2s						
BO02	**Sierra Bellavi**	**1.03**	**198**		**Pn**	**09 14 03.4**	**+1.1**
VA03	**San Esteban**	**1.05**	**353**	*e*P	**Pn**	**09 14 03.0**	**+0.5**
VA03				*i* S	**Sn**	**09 14 19.6**	**+0.6**
VA03				IAML		09 14 21.2	
	comp=E,52μm,0.3s						
VA03	**San Esteban**	**1.05**	**353**		**Pn**	**09 14 03.0**	**+0.5**
VA03	**San Esteban**	**1.05**	**353**	*e*P	**Pn**	**09 14 03.0**	**+0.5**
VA03				*e*S	**Sn**	**09 14 20.2**	**+1.2**
VA01	**Torpederas**	**1.31**	**306**	⇑iP	**Pn**	**09 14 05.8**	**+0.6**
VA01				*i* S	**Sn**	**09 14 24.5**	**+0.7**
VA01	**Torpederas**	**1.31**	**306**		**Pn**	**09 14 05.8**	**+0.6**
BO03	**Pichilemu**	**1.47**	**242**	⇑iP	**Pn**	**09 14 07.2**	**+0.1**
BO03				*i* S	**Sn**	**09 14 27.5**	**+0.3**
LAMA	**Las Malvinas**	**1.49**	**139**	*e*P	**Pn**	**09 14 08.2**	**+0.8**
AAGR	**Agrelo**	**1.49**	**61**	*e*P	**Pn**	**09 14 08.0**	**+0.5**
AAGR				IAML		09 14 31.9	
	comp=Z,1μm,2.3s						
ARCO	**CERRO ARCO**	**1.56**	**52**	*e*P	**Pn**	**09 14 08.8**	**+0.5**
ARCO				IAML		09 14 36.3	
	comp=Z,1μm,0.6s						
AVIZ	**Vizcacheras**	**1.60**	**78**	*e*P	**Pn**	**09 14 09.4**	**+0.6**
GO05	**Huala**	**1.75**	**226**	⇑iP	**Pn**	**09 14 10.4**	**-0.1**
GO05				*i* S	**Sn**	**09 14 32.2**	**-0.9**
GO05	**Huala**	**1.75**	**226**	Pn	**Pn**	**09 14 10.6**	**+0.1**
GO05	**Huala**	**1.75**	**226**	*e*P	**Pn**	**09 14 10.3**	**-0.1**
GO05				*e*S	**Sn**	**09 14 33.2**	**0.0**
ASAL	**Salagasta**	**1.78**	**47**	*e*P	**Pn**	**09 14 11.7**	**+0.6**
ASAL				*e*S	**Sn**	**09 14 37.5**	**+3.4**
AUSP	**Uspallata**	**1.79**	**28**	*e*P	**Pn**	**09 14 12.0**	**+0.6**
RFA	**San Rafael**	**1.86**	**122**	*e*P	**Pn**	**09 14 10.2**	**+0.1**
RFA				*e*S	**Sn**	**09 14 35.8**	**0.0**
RTLS	**Leoncito**	**2.21**	**25**	*e*P	**Pn**	**09 14 18.5**	**+1.9**
RTLS				*e*S	**Sn**	**09 14 47.2**	**+3.1**
RTLS				IAML		09 14 47.7	
	comp=Z,1μm,0.6s						
RTCV	**Cerro Valdivia**	**2.49**	**39**	*e*P	**Pn**	**09 14 20.3**	**+0.3**
RTCV				*e*S	**Sn**	**09 14 50.9**	**+0.7**
CO02	**Combarbal**	**2.65**	**349**	⇑iP	**Pn**	**09 14 21.7**	**-0.5**
CO02				*i* S	**Sn**	**09 14 51.7**	**-2.4**
CO02				IAML		09 14 58.4	
	comp=E,6μm,0.2s						
CO02	**Combarbal**	**2.65**	**349**	Pn	**Pn**	**09 14 21.7**	**-0.5**
RTLL	**Cerro Villicun**	**2.96**	**34**	*e*P	**Pn**	**09 14 26.4**	**+0.2**
RTLL				*e*S	**Sn**	**09 15 01.4**	**+0.2**
RTLL				IAML		09 15 10.1	
	comp=Z,471nm,0.4s						
CO03	**El Pedregal**	**2.97**	**355**	⇑iP	**Pn**	**09 14 26.5**	**+0.1**
CO03				*i* S	**Sn**	**09 15 00.7**	**-0.9**
CO03				IAML		09 15 02.1	
	comp=E,5μm,0.5s						
CO03	**El Pedregal**	**2.97**	**355**		**Pn**	**09 14 26.8**	**+0.3**
ACAN	**Cantantal**	**3.10**	**61**	*e*P	**Pn**	**09 14 28.2**	**+0.2**
ACAN				IAML		09 15 06.8	
	comp=Z,219nm,1.0s						
ACCO	**Cerro Coronel**	**3.41**	**20**	*e*P	**Pn**	**09 14 32.9**	**+0.5**
ACCO				*e*S	**Sn**	**09 15 13.7**	**+1.4**
ACCO				IAML		09 15 15.8	
	comp=Z,741nm,0.6s						
GO04	**Tololo Observa**	**3.64**	**354**	⇑iP	**Pn**	**09 14 34.6**	**-0.9**
GO04	**Tololo Observa**	**3.64**	**354**		**Pn**	**09 14 35.2**	**-0.3**
GO04	**Tololo Observa**	**3.64**	**354**	*e*P	**Pn**	**09 14 35.0**	**-0.5**
GO04				*e*S	**Sn**	**09 15 17.9**	**0.0**
AROD	**Rodeo**	**3.72**	**12**	*e*P	**Pn**	**09 14 37.6**	**+1.1**
AROD				*e*S	**Sn**	**09 15 21.3**	**+1.6**
CO05	**La Serena**	**3.95**	**349**	*e*P	**Pn**	**09 14 38.4**	**-1.0**
CO05				*i* S	**Sn**	**09 15 20.3**	**-4.4**
MRA	**San Martin**	**4.16**	**72**	*e*P	**Pn**	**09 14 42.0**	**-0.3**
MRA				IAML		09 15 48.1	
	comp=Z,184nm,0.7s						
AGUA	**GUANDACOL**	**4.61**	**21**	*e*P	**Pn**	**09 14 48.2**	**-0.1**
AGUA				*e*S	Sn	09 15 30.6	-10
AGUA				IAML		09 15 47.4	
	comp=Z,401nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.73**	**45**	*e*P	**Pn**	**09 14 48.8**	**-1.1**
APLL				*e*S	**Sn**	**09 15 42.0**	**-1.7**
LCO	**Las Campanas**	**4.79**	**357**	Pn	**Pn**	**09 14 49.0**	**-2.0**
ACLC	**CERRO LA CRUZ**	**5.26**	**35**	*e*P	**Pn**	**09 14 55.4**	**-1.9**
ACLC				IAML		09 15 58.0	
	comp=Z,144nm,0.4s						
VCA	**Vinchina**	**5.39**	**21**	*e*P	**Pn**	**09 14 58.8**	**-0.2**
VCA				*e*S	**Sn**	**09 16 03.6**	**+3.6**
VCA				IAML		09 16 11.3	
	comp=Z,252nm,0.5s						
AC04	**Llanos de Chal**	**5.62**	**354**	Pn	**Pn**	**09 15 00.6**	**-1.3**
GO03	**Copiap**	**6.20**	**1**		**Pn**	**09 15 08.9**	**-0.9**
GO03	**Copiap**	**6.20**	**1**	*e*P	**Pn**	**09 15 08.8**	**-1.0**
GO03				*e*S	**Sn**	**09 16 15.2**	**-4.2**
CYA	**Choya**	**6.64**	**38**	*e*P	**Pn**	**09 15 12.8**	**-3.0**
CYA				*e*S	**Sn**	**09 16 26.5**	**-3.6**
CYA				IAML		09 17 10.6	
	comp=Z,45nm,1.2s						
PLCA	**Paso Flores**	**6.91**	**181**	P	**Pn**	**09 15 18.3**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=357,slow=11,SNR=16						
PLCA	**Paso Flores**	**6.91**	**181**	Pn	**Pn**	**09 15 18.9**	**-0.5**
PLCA	**Paso Flores**	**6.91**	**181**	*e*P	**Pn**	**09 15 18.8**	**-0.6**
AC02	**Maricunga**	**7.04**	**9**	Pn	**Pn**	**09 15 20.0**	**-1.6**
H03S1	**Juan Fernandez** baz=85,slow=75,SNR=102	**7.09**	**267**	T	T	09 21 40.3	
H03S3	**Juan Fernandez** baz=85,slow=75,SNR=134	**7.09**	**268**	T	T	09 21 38.6	
H03S2	**Juan Fernandez** baz=85,slow=75,SNR=113	**7.10**	**267**	T	T	09 21 39.2	
H03N1	**Juan Fernandez** baz=87,slow=73,SNR=30	**7.12**	**271**	T	T	09 22 26.2	
H03N3	**Juan Fernandez** baz=87,slow=73,SNR=77	**7.12**	**270**	T	T	09 22 24.9	
H03N2	**Juan Fernandez** baz=87,slow=73,SNR=35	**7.13**	**271**	T	T	09 22 22.8	
AC01	**Pan de Azucar**	**7.64**	**359**		**Pn**	**09 15 33.9**	**+4.5**
TRQA	**Tornquist**	**8.03**	**124**	Pn	**Pn**	**09 15 32.9**	**-1.6**
FSA	**Cafayete**	**8.57**	**28**	*e*P	**Pn**	**09 15 39.8**	**-2.3**
GO02	**Mina Guanaco**	**8.65**	**5**	Pn	**Pn**	**09 15 41.4**	**-1.8**
GO07	**Milladeo Hill,**	**9.64**	**194**		**Pn**	**09 15 53.0**	**-3.2**
GO07	**Milladeo Hill,**	**9.64**	**194**	*e*P	**Pn**	**09 15 52.1**	**-4.1**
AZAP	**Zapla**	**10.63**	**27**	*e*P	**Pn**	**09 16 06.5**	**-3.5**
LVC	**Limon Verde** comp=Z,0.3nm,0.3s,baz=257,slow=17,SNR=1.4	**11.23**	**7**	P	**Pn**	**09 16 13.6**	**-4.7**
LVC				S	Sn	09 18 07.2	-15
	comp=Z,0.4nm,0.3s,baz=184,slow=13,SNR=1.4						
CPUP	**Villa Florida** comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=4.0	**13.54**	**60**	P	**Pn**	**09 16 45.5**	**-2.8**
CPUP	**Villa Florida**	**13.54**	**60**	*e*P	**Pn**	**09 16 48.0**	**-0.3**
PLTB	**Pedras Altas**	**14.27**	**86**	Pn	**Pn**	**09 16 56.3**	**-1.4**
PLTB	**Pedras Altas**	**14.27**	**86**	*e*P	Pn	09 16 51.9	-5.8
MNMC	**Minye Minye**	**14.64**	**3**	Pn	**Pn**	**09 17 01.2**	**-1.5**
CPSB	**Cacapava Do Su**	**14.76**	**81**	*e*P	Pn	09 16 58.9	-5.0
PB16	**IPOC Station P**	**15.43**	**3**	P	**Pn**	**09 17 13.6**	**+0.6**
ITAB	**Concordia**	**17.03**	**72**		**Pn**	**09 17 31.8**	**-0.3**
ITAB				IAmb	IAmb	09 17 33.4	
	comp=Z,14nm,0.5s						
ITAB	**Concordia**	**17.03**	**72**	*e*P	**Pn**	**09 17 30.0**	**-2.2**
LPAZ	**La Paz** comp=Z,0.2nm,0.3s,baz=158,slow=9.0,SNR=8.6	**17.57**	**7**	P	**P**	**09 17 37.5**	**-1.3**
LPAZ	**La Paz**	**17.57**	**7**	P	**Pn**	**09 17 40.5**	**+1.2**
LPAZ	**La Paz**	**17.57**	**7**	*e*P	**Pn**	**09 17 39.5**	**+0.2**
PTGB	**Pitanga**	**18.36**	**65**	*e*P	**P**	**09 17 46.5**	**-0.4**
AQDB	**Aquidauana**	**18.61**	**48**		**P**	**09 17 49.4**	**-0.1**
AQDB	**Aquidauana**	**18.61**	**48**	*e*P	**P**	**09 17 50.2**	**+0.6**
TRCB	**Terra Rica**	**19.07**	**59**	P	**P**	**09 17 54.4**	**-0.3**
TRCB				IAmb	IAmb	09 17 54.7	
	comp=Z,25nm,0.8s						
TRCB	**Terra Rica**	**19.07**	**59**	*e*P	**P**	**09 17 54.3**	**-0.3**
SIV	**San Ignacio** comp=Z,0.3nm,0.3s,baz=226,slow=12,SNR=13	**19.63**	**28**	P	**P**	**09 17 59.3**	**-1.5**
EFI	**East Falkland**	**19.97**	**157**	P	**P**	**09 18 03.5**	**-0.5**
TIJ01	**Guaruva-PR**	**20.41**	**71**	*e*P	**P**	**09 18 04.9**	**-4.2**
PCMB	**Pacaembu**	**20.81**	**59**	*e*P	**P**	**09 18 11.7**	**-1.6**
PTLB	**Pontes e Lacer**	**20.92**	**32**	*e*P	**P**	**09 18 15.5**	**+1.0**
FRTB	**Fartura**	**21.02**	**66**	*e*P	**P**	**09 18 14.8**	**-0.8**
PP1B	**Ponte de Pedra**	**21.31**	**45**	*e*P	**P**	**09 18 18.9**	**+0.2**
SALV	**Santo Antonio**	**22.22**	**40**	*e*P	**P**	**09 18 28.9**	**+0.5**
PET01	**Itanhaem-SP**	**22.28**	**71**	*e*P	**P**	**09 18 27.1**	**-1.8**
SPB	**Sao Paulo**	**22.52**	**69**	*e*P	**P**	**09 18 30.8**	**-0.6**
VILB	**Vilhena**	**22.74**	**26**	*e*P	**P**	**09 18 33.6**	**-0.1**
RCLB	**Rio Claro- Sao**	**23.08**	**66**	*e*P	**P**	**09 18 36.1**	**-0.9**
BB19B	**Bebedouro**	**23.13**	**62**	*e*P	**P**	**09 18 35.3**	**-2.2**
PARB	**Paraibuna**	**24.07**	**71**	*e*P	**P**	**09 18 43.4**	**-2.6**
ETMB	**Extrema**	**24.19**	**10**	*e*P	**P**	**09 18 48.4**	**+1.5**
IPMB	**Ipameri, GO**	**25.34**	**57**	*e*P	**P**	**09 18 56.7**	**-0.9**
BSCB	**Bom Sucesso**	**26.00**	**67**	*e*P	**P**	**09 19 02.6**	**-0.9**
CLDB	**Colider**	**26.46**	**34**	*e*P	**P**	**09 19 06.8**	**-0.8**
BDFB	**Brasilia** comp=Z,11nm,0.8s,baz=220,slow=7.6,SNR=14	**27.11**	**54**	P	**P**	**09 19 11.8**	**-1.7**
BDFB	**Brasilia**	**27.11**	**54**	P	**P**	**09 19 12.4**	**-1.1**
BDFB				IAmb	IAmb	09 19 13.7	
	comp=Z,15nm,0.9s						
SNDB	**Serra Nova Dou**	**27.86**	**43**	*e*P	**P**	**09 19 20.8**	**+0.6**
CAM01	**Campos-RJ**	**27.98**	**72**	*e*P	**P**	**09 19 19.4**	**-1.8**
DIAM	**Diamantina, MG**	**28.43**	**64**	*e*P	**P**	**09 19 24.4**	**-1.0**
MC01	**Montes Claros**	**29.23**	**61**	*e*P	**P**	**09 19 31.3**	**-1.1**
PEXB	**Peixe**	**29.55**	**48**	*e*P	**P**	**09 19 34.8**	**-0.3**
NPGB	**Novo Progresso**	**30.05**	**31**	*e*P	**P**	**09 19 40.0**	**+0.5**
JANB	**Januaria**	**30.06**	**58**	*e*P	**P**	**09 19 38.8**	**-0.9**
BSFB	**Barra de Sao F**	**30.26**	**68**	*e*P	**P**	**09 19 40.1**	**-1.2**
NAN01	**Guarapari, ES**	**31.39**	**67**	*e*P	**P**	**09 19 50.3**	**-1.0**
SDBA	**SAO DESIDERIO**	**31.52**	**54**	*e*P	**P**	**09 19 51.5**	**-1.0**
GUA01	**Guaratinga, BA**	**32.39**	**66**	*e*P	**P**	**09 19 59.2**	**-0.9**
CMC01	**Camacan, BA**	**33.36**	**64**	*e*P	**P**	**09 20 07.8**	**-0.7**
NBIT	**Itapeh - BA**	**33.69**	**64**	*e*P	**P**	**09 20 11.1**	**-0.4**
NBPN	**Ponto Novo - B**	**35.85**	**58**	*e*P	**P**	**09 20 29.0**	**-1.0**
BOAV	**Boa Vista**	**37.20**	**16**	*e*P	**P**	**09 20 42.9**	**+1.5**
NBMA	**Muriti-CE**	**39.31**	**55**	*e*P	**P**	**09 20 58.6**	**-0.6**
NBPA	**Parau_RN**	**41.61**	**55**	*e*P	**P**	**09 21 18.7**	**+0.6**
VNA3	**Neumayer Olymp**	**49.02**	**158**	P	**P**	**09 22 17.1**	**+1.2**
VNA1	**Neumayer--Stat**	**49.31**	**157**	P	**P**	**09 22 19.0**	**+1.0**
SNAA	**Sanae**	**51.24**	**158**	P	**P**	**09 22 33.6**	**+0.9**
SNAA	**Sanae** comp=Z,2.2nm,0.3s,baz=302,slow=8.4,SNR=24	**51.24**	**158**	P	**P**	**09 22 33.2**	**+0.5**
SNAA	**Sanae**	**51.24**	**158**	P	**P**	**09 22 33.7**	**+0.9**
SNAA				IAmb	IAmb	09 22 38.5	
	comp=Z,7.8nm,1.2s						
QSPA	**South Pole Qui**	**56.43**	**180**	P	**P**	**09 23 12.3**	**+1.7**
VNDA	**Vanda** comp=Z,0.8nm,0.7s,baz=16,slow=4.4,SNR=9.8	**64.55**	**191**	P	**P**	**09 24 05.8**	**+0.4**
143A	**Socs Landing,**	**69.06**	**341**	P	**P**	**09 24 36.4**	**+1.9**
Y45A	**Yeager Farm, C**	**69.68**	**343**	P	**P**	**09 24 38.8**	**+0.5**
JCT	**Junction City**	**69.72**	**333**	P	**P**	**09 24 40.0**	**+1.3**
JCT				IAmb	IAmb	09 24 40.9	
	comp=Z,8.1nm,0.9s						
SWET	**Sewanee**	**70.19**	**347**	P	**P**	**09 24 42.4**	**+0.9**
SWET				IAmb	IAmb	09 24 42.8	
	comp=Z,9.1nm,0.8s						
TX32	**Lajitas Array**	**70.25**	**329**	P	**P**	**09 24 43.8**	**+1.7**
TXAR	**Lajitas Array** comp=Z,1.5nm,0.7s,baz=156,slow=8.6,SNR=28	**70.25**	**329**	P	**P**	**09 24 43.5**	**+1.4**
TXAR				pP	**pP**	**09 25 10.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=155,slow=8.3,SNR=4.1						
TX31	**Lajitas Ar. Si**	**70.25**	**329**	P	**P**	**09 24 43.6**	**+1.5**
TX31				IAmb	IAmb	09 24 43.6	
	comp=Z,16nm,1.5s						
PLAL	**Pickwick Lake**	**70.41**	**345**	P	**P**	**09 24 43.5**	**+0.7**
PLAL				IAmb	IAmb	09 24 43.9	
	comp=Z,5.8nm,0.9s						
WVT	**Waverly**	**71.46**	**345**	P	**P**	**09 24 49.3**	**+0.2**
W39A	**Magazine**	**72.06**	**340**	P	**P**	**09 24 53.7**	**+1.0**
LCAR	**Lake Charles**	**72.18**	**342**	P	**P**	**09 24 54.2**	**+0.8**
LCAR				IAmb	IAmb	09 24 54.6	
	comp=Z,8.5nm,0.7s						
PBMO	**Poplar Bluff**	**72.67**	**343**	P	**P**	**09 24 56.8**	**+0.5**
PBMO				IAmb	IAmb	09 24 57.5	
	comp=Z,6.8nm,0.7s						
MNTX	**Cornudas Mount**	**73.03**	**329**	P	**P**	**09 24 58.4**	**-0.2**
MNTX				IAmb	IAmb	09 24 59.7	
	comp=Z,3.7nm,0.7s						
MSTX	**Muleshoe**	**73.96**	**332**	P	**P**	**09 25 05.3**	**+1.3**
MSTX				IAmb	IAmb	09 25 05.8	
	comp=Z,6.1nm,0.7s						
CCM	**Cathedral Cave**	**74.08**	**343**	P	**P**	**09 25 05.5**	**+0.9**
CCM				IAmb	IAmb	09 25 05.9	
	comp=Z,9.4nm,1.0s						
S39A	**Bolivar**	**74.27**	**341**	P	**P**	**09 25 06.6**	**+0.9**
S39A				IAmb	IAmb	09 25 07.8	
	comp=Z,4.1nm,0.7s						
319A	**Douglas**	**74.49**	**326**	P	**P**	**09 25 09.8**	**+2.6**
319A				IAmb	IAmb	09 25 10.3	
	comp=Z,5.3nm,0.8s						
R40A	**Maddies Statio**	**74.56**	**342**	P	**P**	**09 25 07.2**	**-0.1**
P40A	**Paris**	**75.68**	**343**	P	**P**	**09 25 13.1**	**-0.6**
ANMO	**Albuquerque**	**76.29**	**330**	P	**P**	**09 25 18.5**	**+1.0**
T25A	**Trinidad**	**77.38**	**333**	P	**P**	**09 25 26.0**	**+2.4**
T25A				IAmb	IAmb	09 25 26.5	
	comp=Z,7.8nm,0.8s						
L40A	**Anamosa**	**77.89**	**344**	P	**P**	**09 25 26.4**	**+0.3**
SDCO	**Great Sand Dun**	**78.33**	**332**	P	**P**

MJAR	**Matsushiro Arr**	**7.18**	**352**	P		**P**		**09 33 05.9**	**-0.9**
	0.9nm,0.3s,baz=168,slow=10,SNR=46								
MJAR				S		**S**		**09 34 30.9**	**-2.2**
	0.2nm,0.3s,baz=236,slow=10,SNR=3.5								
MJAR	**Matsushiro Arr**	**7.18**	**352**			**P**		**09 33 06.1**	**-0.7**
MAJO	**Matsushiro**	**7.18**	**352**			**P**		**09 33 06.0**	**-0.8**
MAJO						**S**		**09 34 31.4**	**-1.7**
MAT	**Matsushiro**	**7.18**	**352**	P		**P**		**09 33 05.9**	**-0.9**
MAT				S		**S**		**09 34 30.3**	**-2.8**
MJB9	**Matsu-Tunnel**	**7.18**	**352**	P		**P**		**09 33 06.1**	**-0.7**
JHS	**Saijyo**	**7.75**	**317**	P		**P**		**09 33 14.1**	**+1.0**
JHS	**Saijyo**	**7.75**	**317**			**P**		**09 33 13.8**	**+0.7**
JMM	**Marumori**	**8.49**	**7**	P		**P**		**09 33 21.3**	**+0.3**
JSD	**Sado**	**8.65**	**354**			**P**		**09 33 21.3**	**-1.6**
JMK	**Ichinoseki**	**9.61**	**8**	P		**P**		**09 33 35.0**	**+1.6**
JMK				*e*S		**S**		**09 35 20.8**	**-2.3**
JOW	**Kunigami**	**10.23**	**258**	P		**P**		**09 33 42.3**	**+1.7**
	1.5nm,0.3s,baz=121,slow=9.2,SNR=3.6								
JTM	**Tenmabayashi**	**11.41**	**6**	P		**P**		**09 33 55.2**	**+1.9**
KSRS	**Korea Array**	**12.54**	**313**	P		**P**		**09 34 05.8**	**+0.1**
	0.2nm,0.3s,baz=121,slow=8.7,SNR=1.8								
JOSM	**Okushiri--Mats**	**12.63**	**360**	P		**P**		**09 34 08.5**	**+1.8**
ERM	**Erimo**	**12.91**	**12**	P		P		09 34 12.2	+2.5
JEW	**Eniwo**	**13.48**	**6**	P		**P**		**09 34 17.2**	**+1.2**
ASAJ	**Asahikawa**	**14.87**	**9**	P		P		09 34 33.4	+2.4
	1.4nm,0.3s,baz=208,slow=15,SNR=8.9								
JTKR	**Abashiri--Toko**	**14.94**	**12**	P		P		09 34 34.3	+2.6
JTKR				*e*S		**S**		**09 37 07.5**	**-2.4**
USA0B	**Ussuriysk Arra**	**15.91**	**340**	P		**P**		**09 34 42.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**15.91**	**340**	P		**P**		**09 34 42.9**	**+0.6**
	baz=158,slow=12,SNR=30								
YULB	**Yu-li**	**17.36**	**254**	P		**P**		**09 34 55.5**	**-2.5**
KLR	**Kul'dur**	**20.64**	**345**	P		**P**		**09 35 30.9**	**+1.2**
	4.3nm,0.6s,baz=156,slow=6.5,SNR=16								
PETK	**Petropavlovsk-**	**27.18**	**24**	P		**P**		**09 36 31.3**	**+3.0**
	1.9nm,0.7s,baz=212,slow=9.9,SNR=2.6								
MA2	**Magadan**	**31.11**	**11**	P		**P**		**09 37 04.4**	**+1.8**
MA2				IAmb		IAmb		09 37 05.1	
	comp=Z,11nm,0.9s								
SONM	**Songino Array**	**31.39**	**315**	P		**P**		**09 37 04.8**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=118,slow=7.4,SNR=5.1								
CRAI	**Chiangrai**	**36.52**	**265**	P		P		09 37 37.4	-12
CHAI	**Chaiyaphum**	**36.96**	**257**	P		**P**		**09 37 52.2**	**-0.7**
	comp=Z,20nm,0.8s								
PAYA	**Payao**	**37.30**	**264**	P		P		09 38 02.7	+7.1
CMMT	**Chiang Mai**	**38.31**	**263**	P		**P**		**09 38 02.7**	**-1.3**
	comp=Z,5.4nm,0.9s								
CHTO	**Chiang Mai**	**38.32**	**263**	P		**P**		**09 38 03.7**	**-0.3**
	comp=Z,8.2nm,1.2s								
CMAR	**Chiang Mai Arr**	**38.46**	**263**	P		**P**		**09 38 04.2**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=49,slow=8.7,SNR=5.3								
ADK	**Adak**	**39.31**	**43**	P		P		09 38 13.4	+1.7
BILL	**Bilibino**	**41.77**	**15**	P		**P**		**09 38 32.4**	**+1.1**
BILL				IAmb		IAmb		09 38 34.3	
	comp=Z,6.5nm,0.8s								
ZALV	**Zalesovo Beam**	**46.18**	**318**	P		**P**		**09 39 05.4**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=95,slow=9.1,SNR=4.6								
ZALV	**Zalesovo Beam**	**46.18**	**318**	P		**P**		**09 39 05.2**	**-0.7**
MK31	**Makanchi Array**	**47.17**	**308**	P		**P**		**09 39 13.1**	**-0.7**
MKAR	**Makanchi Array**	**47.17**	**308**	P		**P**		**09 39 13.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=93,slow=9.0,SNR=22								
MKAR				PcP		**PcP**		**09 40 36.5**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=89,slow=5.1,SNR=4.4								
MKAR				ScP		**ScP**		**09 43 50.0**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=50,slow=2.3,SNR=2.1								
WR0	**Warramunga Arr**	**49.33**	**186**	P		**P**		**09 39 29.8**	**-0.4**
WR0				IAmb		IAmb		09 39 30.6	
	comp=Z,9.9nm,1.4s								
WB2	**Warramunga Arr**	**49.33**	**186**	P		**P**		**09 39 29.8**	**-0.4**
WB2				IAmb		IAmb		09 39 47.9	
	comp=Z,6.8nm,1.1s								
WRA	**Warramunga Arr**	**49.33**	**186**	P		**P**		**09 39 30.0**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=1.8,slow=7.7,SNR=64								
WRA				PcP		**PcP**		**09 40 46.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=358,slow=4.0,SNR=5.0								
WRA				ScP		**ScP**		**09 44 00.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=3.9,slow=2.9,SNR=1.8								
WRA	**Warramunga Arr**	**49.33**	**186**	IAmb		IAmb		09 39 30.8	
	comp=Z,0.7nm,1.4s								
AS31	**Alice Springs**	**53.06**	**186**	P		**P**		**09 39 57.4**	**-0.1**
ASAR	**Alice Springs**	**53.06**	**186**	P		**P**		**09 39 57.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=5.1,slow=7.3,SNR=21								
OHAK	**Old Harbor**	**53.57**	**39**	P		P		09 40 02.1	+1.5
OHAK				IAmb		IAmb		09 40 17.2	
	comp=Z,14nm,1.5s								
KDAK	**Kodiak Island**	**53.96**	**38**	P		P		09 40 05.4	+2.0
KDAK				IAmb		IAmb		09 40 21.5	
	comp=Z,6.7nm,1.2s								
BPAW	**Bear Paw Mtn.**	**55.03**	**30**	P		P		09 40 13.7	+2.7
MLY	**Manley**	**55.21**	**29**	P		P		09 40 14.8	+2.5
COLD	**Coldfoot**	**55.62**	**26**	P		**P**		**09 40 16.4**	**+1.3**
KK31	**Karatay Array**	**55.81**	**304**	P		**P**		**09 40 15.8**	**-1.0**
KK31				IAmb		IAmb		09 40 17.1	
	comp=Z,5.8nm,0.7s								
KKAR	**Karatay Array**	**55.81**	**304**	P		**P**		**09 40 16.2**	**-0.6**
KKAR	**Karatay Array**	**55.81**	**304**	IAmb		IAmb		09 40 17.1	
	comp=Z,5.8nm,0.7s								
NEA2	**Nenana**	**55.89**	**30**	IAmb		IAmb		09 40 20.1	
	comp=Z,3.8nm,0.9s								
ILAR	**Eielson Array**	**56.84**	**29**	P		**P**		**09 40 24.6**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=256,slow=6.5,SNR=9.8								
BMAR	**Burnt Mountain**	**57.81**	**26**	P		P		09 40 33.3	+3.1
SCRK	**Sand Creek**	**58.10**	**30**	P		P		09 40 34.2	+1.7
BCAR	**Beaver Creek A**	**59.15**	**31**	P		P		09 40 41.8	+2.3
FORT	**Forrest**	**60.85**	**191**	P		**P**		**09 40 51.7**	**+0.5**
HYT	**Haines Junctio**	**61.44**	**34**	P		P		09 40 58.0	+3.1
HYT				IAmb		IAmb		09 40 58.6	
	comp=Z,3.1nm,0.9s								
ABKAR	**Akbulak array**	**61.77**	**313**	P		**P**		**09 40 56.4**	**-0.8**
ABKAR				IAmb		IAmb		09 40 57.2	
	comp=Z,2.7nm,0.8s								
INK	**Inuvik**	**61.91**	**25**	P		**P**		**09 40 59.0**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=286,slow=6.7,SNR=9.3								
INK	**Inuvik**	**61.91**	**25**	P		**P**		**09 40 59.3**	**+1.6**
C36M	**Paulatuk**	**65.02**	**23**	P		**P**		**09 41 18.9**	**+1.1**
C36M				IAmb		IAmb		09 41 19.9	
	comp=Z,5.3nm,1.1s								
ARCES	**ARCESS Array B**	**70.56**	**340**	P		**P**		**09 41 51.6**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=67,slow=6.8,SNR=7.9								
ARCES	**ARCESS Array B**	**70.56**	**340**	IAmb		IAmb		09 42 19.5	
	comp=Z,9.1nm,1.4s								
YKA	**Yellowknife Ar**	**71.22**	**28**	P		**P**		**09 41 57.3**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=296,slow=5.3,SNR=10								
KBZ	**Khabaz**	**74.69**	**312**	P		**P**		**09 42 16.7**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=109,slow=4.1,SNR=7.4								
FINES	**FINESS Array B**	**74.81**	**333**	P		**P**		**09 42 16.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=46,slow=5.5,SNR=8.0								
NOA	**NORSAR Array B**	**80.56**	**337**	P		**P**		**09 42 48.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=50,slow=4.9,SNR=3.8								
NVAR	**Mina Array Bea**	**80.93**	**51**	P		P		09 42 52.8	+2.1
	comp=Z,0.7nm,0.7s,baz=270,slow=6.0,SNR=7.4								
RAYN	**Ar Rayn**	**82.05**	**292**	P		**P**		**09 42 56.6**	**0.0**
BRTR	**Keskin Array B**	**82.68**	**312**	P		**P**		**09 42 59.2**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=132,slow=2.1,SNR=6.7								
PDAR	**Pinedale Array**	**84.20**	**44**	P		P		09 43 09.3	+1.9
	comp=Z,0.2nm,0.5s,baz=72,slow=33,SNR=2.5								
DIVS	**Divibare**	**88.31**	**321**	P		**P**		**09 43 26.3**	**-0.5**

KRSC ***22*** *09:44:34.7±0.9, 54.°61N×162.°16E, h44km±11km, ML4.9*
MOS ***22*** *09:44:36.6±1.0, 54.°65N×162.°12E, h45km, mb4.6/21, MS3.3/8, Error ellipse: s-maj=6.3km s-min=3.6km az=80.0*
NEIC ***22*** *09:44:38.6±2.7, 54.°57N±0.°10×162.°1E±0.°1, h47km, 8km, mb4.5/107, Error ellipse: s-maj=14.1km s-min=9.7km az=171.0*
IDC ***22*** *09:44:39.3±1.6, 54.°84N×161.°80E, h49km±17km, mb4.0/30, mb1 4.2/32, mb1mx4.1/52, mbtmp4.3/32, ML3.8/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/37, Error ellipse: s-maj=15.1km s-min=9.2km az=152.0*

ISC 22 09:44:37.5±0.5, 54.°66N±0.°03×162.°09E±0.°03, h38km±1km, n274, σ1§38/291, mb4.4/95, MS3.5/14, 13C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.23**	**244**	PN	**Pn**	**09 44 43.6**	**-2.1**
MKZ	**Mys Kozlova**	**0.23**	**244**	*i* P	**Pn**	**09 44 43.6**	**-2.1**
TUMD	**Tumrok D**	**1.12**	**300**	*i* P	**Pn**	**09 44 56.0**	**-0.6**
TUMD				*e*S	**Sn**	**09 45 09.6**	**-1.1**
KZV	**Kizimen**	**1.13**	**294**	PN	**Pn**	**09 44 56.4**	**-0.5**
KZV	**Kizimen**	**1.13**	**294**	*i* P	**Pn**	**09 44 56.4**	**-0.5**
TUMR	**Tumrok**	**1.28**	**300**	PN	**Pn**	**09 44 56.0**	**-2.9**
TUMR				S	**Sn**	**09 45 09.6**	**-5.3**
TUMR	**Tumrok**	**1.28**	**300**	*i* P	**Pn**	**09 44 58.9**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.51**	**329**	PN	**Pn**	**09 45 02.3**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**1.51**	**329**	*e*P	**Pn**	**09 45 02.3**	**+0.3**
KMNR	**Kamenistaya**	**1.53**	**317**	PN	**Pn**	**09 45 02.7**	**+0.4**
KMNR	**Kamenistaya**	**1.53**	**317**	*i* P	**Pn**	**09 45 02.7**	**+0.4**
ZLN	**Zelenaya**	**1.55**	**332**	PN	**Pn**	**09 45 03.0**	**+0.5**
ZLN	**Zelenaya**	**1.55**	**332**	*e*P	**Pn**	**09 45 03.0**	**+0.5**
BZMR	**Bezymyannaya**	**1.57**	**325**	PN	**Pn**	**09 45 03.3**	**+0.4**
BZMR	**Bezymyannaya**	**1.57**	**325**	*e*P	**Pn**	**09 45 03.3**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.59**	**326**	PN	**Pn**	**09 45 03.5**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.59**	**326**	*e*P	**Pn**	**09 45 03.5**	**+0.3**
KBTR	**Krutoberegovo**	**1.61**	**15**	PN	**Pn**	**09 45 02.5**	**-0.7**
KBTR				S	**Sn**	**09 45 22.4**	**-0.3**
KBTR	**Krutoberegovo**	**1.61**	**15**	*e*P	**Pn**	**09 45 02.5**	**-0.7**
KBTR				*e*S	**Sn**	**09 45 22.4**	**-0.3**
KBG	**Krutoberegovo**	**1.64**	**12**	PN	**Pn**	**09 45 04.6**	**+1.0**
KBG				S	**Sn**	**09 45 24.4**	**+1.0**
KBG	**Krutoberegovo**	**1.64**	**12**	*e*P	**Pn**	**09 45 04.6**	**+1.0**
KBG				*e*S	**Sn**	**09 45 24.4**	**+1.0**
KIRR	**Kirishev**	**1.64**	**323**	PN	**Pn**	**09 45 04.0**	**+0.2**
KIRR	**Kirishev**	**1.64**	**323**	*e*P	**Pn**	**09 45 04.0**	**+0.2**
CIRR	**Tsirk**	**1.65**	**333**	PN	**Pn**	**09 45 04.6**	**+0.7**
CIRR	**Tsirk**	**1.65**	**333**	*e*P	**Pn**	**09 45 04.6**	**+0.7**
KII	**Karymskiy**	**1.67**	**249**	PN	**Pn**	**09 45 04.5**	**+0.3**
KII				S	**Sn**	**09 45 24.9**	**+0.6**
KII	**Karymskiy**	**1.67**	**249**	*e*P	**Pn**	**09 45 04.5**	**+0.3**
KII				*e*S	**Sn**	**09 45 24.9**	**+0.6**
KLY	**Klyuchi**	**1.85**	**334**	PN	**Pn**	**09 45 06.2**	**-0.3**
KLY	**Klyuchi**	**1.85**	**334**	*e*P	**Pn**	**09 45 06.2**	**-0.3**
KOZ	**Kozyrevsk**	**1.89**	**319**	PN	**Pn**	**09 45 07.9**	**+0.8**
KOZ	**Kozyrevsk**	**1.89**	**319**	*e*P	**Pn**	**09 45 07.9**	**+0.8**
SMKR	**Semkarok**	**1.96**	**350**	PN	**Pn**	**09 45 08.5**	**+0.3**
SMKR	**Semkarok**	**1.96**	**350**	*e*P	**Pn**	**09 45 08.5**	**+0.3**
BDR	**Baidarnaya**	**1.98**	**346**	PN	**Pn**	**09 45 09.1**	**+0.7**
BDR	**Baidarnaya**	**1.98**	**346**	*e*P	**Pn**	**09 45 09.1**	**+0.7**
SPN	**Mys Shipunski**	**1.99**	**219**	PN	**Pn**	**09 45 07.0**	**-1.5**
SPN				S	**Sn**	**09 45 29.0**	**-3.1**
SPN	**Mys Shipunski**	**1.99**	**219**	*e*P	**Pn**	**09 45 07.0**	**-1.5**
SPN				*e*S	**Sn**	**09 45 29.0**	**-3.1**
SRKR	**Sorokina**	**2.07**	**346**	PN	**Pn**	**09 45 10.2**	**+0.6**
SRKR	**Sorokina**	**2.07**	**346**	*e*P	**Pn**	**09 45 10.2**	**+0.6**
SRDR	**Sredinnyy**	**2.14**	**322**	PN	**Pn**	**09 45 10.8**	**+0.2**
SRDR	**Sredinnyy**	**2.14**	**322**	*e*P	**Pn**	**09 45 10.8**	**+0.2**
NLC	**Nalytchevo**	**2.21**	**229**	PN	**Pn**	**09 45 10.9**	**-0.5**
NLC				S	**Sn**	**09 45 35.8**	**-1.6**
NLC	**Nalytchevo**	**2.21**	**229**	*e*P	**Pn**	**09 45 10.9**	**-0.5**
NLC				*e*S	**Sn**	**09 45 35.8**	**-1.6**
BKI	**Bering**	**2.31**	**75**	PN	**Pn**	**09 45 12.7**	**-0.1**
BKI				S	**Sn**	**09 45 38.2**	**-1.7**
BKI	**Bering**	**2.31**	**75**	*e*P	**Pn**	**09 45 12.7**	**-0.1**
BKI				*e*S	**Sn**	**09 45 38.2**	**-1.7**
ESO	**Esso**	**2.32**	**305**	PN	**Pn**	**09 45 14.4**	**+1.4**
ESO	**Esso**	**2.32**	**305**	*e*P	**Pn**	**09 45 14.4**	**+1.4**
SDLR	**Sedlovina**	**2.35**	**235**	PN	**Pn**	**09 45 14.3**	**+0.8**
SDLR				S	**Sn**	**09 45 41.0**	**-0.1**
SDLR	**Sedlovina**	**2.35**	**235**	*e*P	**Pn**	**09 45 14.3**	**+0.8**
SDLR				*e*S	**Sn**	**09 45 41.0**	**-0.1**
SMAR	**Somma**	**2.40**	**236**	PN	**Pn**	**09 45 15.0**	**+0.7**
SMAR	**Somma**	**2.40**	**236**	*e*P	**Pn**	**09 45 15.0**	**+0.7**
KRER	**Koryakskii**	**2.40**	**237**	PN	**Pn**	**09 45 15.5**	**+1.2**
KRER				S	**Sn**	**09 45 43.9**	**+1.4**
KRER	**Koryakskii**	**2.40**	**237**	*e*P	**Pn**	**09 45 15.5**	**+1.2**
KRER				*e*S	**Sn**	**09 45 43.9**	**+1.4**
KRX	**Arik**	**2.41**	**239**	PN	**Pn**	**09 45 15.2**	**+0.7**
KRX				S	**Sn**	**09 45 42.8**	**0.0**
KRX	**Arik**	**2.41**	**239**	*e*P	**Pn**	**09 45 15.2**	**+0.7**
KRX				*e*S	**Sn**	**09 45 42.8**	**0.0**
UGLR	**Uglovaya**	**2.42**	**234**	PN	**Pn**	**09 45 15.3**	**+0.8**
UGLR	**Uglovaya**	**2.42**	**234**	*e*P	**Pn**	**09 45 15.3**	**+0.8**
AVH	**Avacha**	**2.42**	**236**	PN	**Pn**	**09 45 15.8**	**+1.2**
AVH				S	**Sn**	**09 45 43.8**	**+0.8**
AVH	**Avacha**	**2.42**	**236**	*e*P	**Pn**	**09 45 15.8**	**+1.2**
AVH				*e*S	**Sn**	**09 45 43.8**	**+0.8**
KOK	**Koryaka**	**2.46**	**237**	PN	**Pn**	**09 45 16.1**	**+1.1**
KOK				S	**Sn**	**09 45 45.1**	**+1.3**
KOK	**Koryaka**	**2.46**	**237**	*e*P	**Pn**	**09 45 16.1**	**+1.1**
KOK				*e*S	**Sn**	**09 45 45.1**	**+1.3**
DALK	**Dalny**	**2.56**	**232**	PN	**Pn**	**09 45 16.7**	**+0.3**
DALK				S	**Sn**	**09 45 46.0**	**-0.3**
DALK	**Dalny**	**2.56**	**232**	*e*P	**Pn**	**09 45 16.7**	**+0.3**
DALK				*e*S	**Sn**	**09 45 46.0**	**-0.3**
PET	**Petropavlovsk**	**2.61**	**233**	*e*PN	**Pn**	**09 45 17.5**	**+0.5**
PET				*e*S	**Sn**	**09 45 47.5**	**-0.1**
PET				pmax	pmax		
	comp=Z,207nm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.6s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET				MLR	MLR		
	comp=Z,900nm,12.0s						
PET				MLR	MLR		
	comp=Z,600nm,12.0s						
PET	**Petropavlovsk**	**2.61**	**233**	*e*P	**Pn**	**09 45 17.6**	**+0.5**
PET				*e*S	**Sn**	**09 45 47.4**	**-0.1**
PET	**Petropavlovsk**	**2.61**	**233**		**Pn**	**09 45 17.6**	**+0.5**
GNL	**Ganaly**	**2.62**	**250**	PN	**Pn**	**09 45 18.5**	**+1.2**
GNL				S	**Sn**	**09 45 48.8**	**+0.9**
GNL	**Ganaly**	**2.62**	**250**	*e*P	**Pn**	**09 45 18.5**	**+1.2**
GNL				*e*S	**Sn**	**09 45 48.8**	**+0.9**
KRMR	**Karymshinskiy**	**2.98**	**234**	PN	**Pn**	**09 45 23.5**	**+1.4**
KRMR				S	**Sn**	**09 45 57.7**	**+1.1**
KRMR	**Karymshinskiy**	**2.98**	**234**	*e*P	**Pn**	**09 45 23.5**	**+1.4**
KRMR				*e*S	**Sn**	**09 45 57.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**3.03**	**241**	*i* PN	**Pn**	**09 45 23.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**3.03**	**241**	Pn	**Pn**	**09 45 23.8**	**+1.0**
PETK	**Petropavlovsk-**	**3.03**	**241**	P	**Pn**	**09 45 23.8**	**+1.0**
	comp=Z,14nm,0.3s,baz=69,slow=17,SNR=80						
PETK				S	**Sn**	**09 45 59.5**	**+1.7**
	comp=Z,38nm,0.3s,baz=56,slow=18,SNR=10.0						
RUS	**Russkaya**	**3.09**	**225**	PN	**Pn**	**09 45 23.7**	**+0.1**
RUS				S	**Sn**	**09 45 58.0**	**-1.2**
RUS	**Russkaya**	**3.09**	**225**	*e*P	**Pn**	**09 45 23.7**	**+0.1**
RUS				*e*S	**Sn**	**09 45 58.0**	**-1.2**
MTVR	**Mutnovka**	**3.19**	**228**	PN	**Pn**	**09 45 26.2**	**+1.0**
MTVR				S	**Sn**	**09 46 01.8**	**-0.2**
MTVR	**Mutnovka**	**3.19**	**228**	*e*P	**Pn**	**09 45 26.2**	**+1.0**
MTVR				*e*S	**Sn**	**09 46 01.8**	**-0.2**
GRL	**Gorelyy**	**3.19**	**230**	PN	**Pn**	**09 45 26.2**	**+1.1**
GRL				S	**Sn**	**09 46 02.0**	**0.0**
GRL	**Gorelyy**	**3.19**	**230**	*e*P	**Pn**	**09 45 26.2**	**+1.1**
GRL				*e*S	**Sn**	**09 46 02.0**	**0.0**
APC	**Apacha**	**3.40**	**241**	PN	**Pn**	**09 45 29.4**	**+1.5**
APC				S	**Sn**	**09 46 10.1**	**+3.2**
APC	**Apacha**	**3.40**	**241**	*e*P	**Pn**	**09 45 29.4**	**+1.5**
APC				*e*S	**Sn**	**09 46 10.1**	**+3.2**
KDTR	**Khodutka, Kamc**	**3.74**	**222**	PN	**Pn**	**09 45 33.3**	**+0.8**
KDTR				S	**Sn**	**09 46 15.4**	**+0.2**
KDTR	**Khodutka, Kamc**	**3.74**	**222**	*e*P	**Pn**	**09 45 33.3**	**+0.8**
KDTR				*e*S	**Sn**	**09 46 15.4**	**+0.2**
MIPR	**Malaya Ipel'ka**	**3.98**	**235**	PN	**Pn**	**09 45 37.3**	**+1.4**
MIPR	**Malaya Ipel'ka**	**3.98**	**235**	*e*P	**Pn**	**09 45 37.3**	**+1.4**
PAU	**Pauzhetka**	**4.51**	**227**	PN	**Pn**	**09 45 45.1**	**+2.0**
PAU	**Pauzhetka**	**4.51**	**227**	*e*P	**Pn**	**09 45 45.1**	**+2.0**
PALN	**Palana**	**4.59**	**346**	PN	**Pn**	**09 45 47.2**	**+3.0**
PALN	**Palana**	**4.59**	**346**	*e*P	**Pn**	**09 45 47.2**	**+3.0**
OSSR	**Ossora**	**4.63**	**6**	PN	**Pn**	**09 45 45.6**	**+0.8**
OSSR	**Ossora**	**4.63**	**6**	*e*P	**Pn**	**09 45 45.6**	**+0.8**
SKR	**Severo-Kuril's**	**5.39**	**225**	*e*PN	**Pn**	**09 45 54.2**	**-1.0**
SKR				pmax	pmax		
	comp=Z,300nm,2.3s						
SKR				pmax	pmax		
	comp=Z,122nm,1.2s						
SKR				MLR	MLR		
	comp=Z,800nm,17.0s						
SKR				MLR	MLR		
	comp=Z,700nm,17.0s						
SKR	**Severo-Kuril's**	**5.39**	**225**	*e*P	**Pn**	**09 45 56.8**	**+1.6**
ALID	**Alaid**	**5.49**	**229**	PN	**Pn**	**09 45 58.9**	**+2.1**
ALID	**Alaid**	**5.49**	**229**	*e*P	**Pn**	**09 45 58.9**	**+2.1**
SMY	**Shemya**	**7.39**	**100**	PN	**Pn**	**09 46 22.6**	**0.0**
SMY	**Shemya**	**7.39**	**100**	Pn	**Pn**	**09 46 22.6**	**0.0**
MA2	**Magadan**	**7.88**	**313**	P	**Pn**	**09 46 33.0**	**+3.7**
	comp=Z,1.6nm,0.3s,baz=109,slow=11,SNR=12						
MA2				LR	LR	09 49 55.4	
	comp=Z,210nm,20.2s,baz=154,slow=41						
MA2	**Magadan**	**7.88**	**313**	*ce*PN	**Pn**	**09 46 32.1**	**+2.7**
MA2				pmax	pmax		
	comp=Z,15nm,0.8s						
MA2				MLR	MLR		
	comp=Z,339nm,13.0s						
MA2	**Magadan**	**7.88**	**313**	Pn	**Pn**	**09 46 32.1**	**+2.7**
KMSK	**Kamenskaya**	**8.12**	**14**	PN	**Pn**	**09 46 34.7**	**+2.2**
KMSK	**Kamenskaya**	**8.12**	**14**	P	**Pn**	**09 46 34.7**	**+2.2**
SEY	**Seymchan**	**9.69**	**333**	LR	LR	09 51 02.5	
	comp=Z,412nm,19.6s,baz=168,slow=40						
SEY	**Seymchan**	**9.69**	**333**	*e*PN	**Pn**	**09 46 56.3**	**+2.2**
ADK	**Adak**	**12.99**	**94**	PN	**Pn**	**09 47 38.5**	**-0.8**
ADK	**Adak**	**12.99**	**94**	Pn	**Pn**	**09 47 38.5**	**-0.8**
BILL	**Bilibino**	**13.57**	**7**	*i* P	**Pn**	**09 47 50.7**	**+3.7**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,154nm,14.0s						
BILL	**Bilibino**	**13.57**	**7**	Pn	**Pn**	**09 47 50.0**	**+3.0**
JKA	**Kamikawa-asahi**	**16.44**	**238**	P	**P**	**09 48 27.1**	**-0.4**
ASAJ	**Asahikawa**	**16.44**	**238**	P	**P**	**09 48 26.2**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=81,slow=12,SNR=9.0						
ASAJ				LR	LR	09 54 13.5	
	comp=Z,67nm,20.1s,baz=20,slow=35						
ASAJ	**Asahikawa**	**16.44**	**238**	P	**P**	**09 48 27.1**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.9s						
ERM	**Erimo**	**17.77**	**232**	P	**Pn**	**09 48 40.2**	**-1.4**
ERM				pmax	pmax		
	comp=Z,43nm,0.5s						
ERM	**Erimo**	**17.77**	**232**		**Pn**	**09 48 40.2**	**-1.4**
JEW	**Eniwo**	**17.95**	**237**		**Pn**	**09 48 42.1**	**-1.7**
JEW				IAmb	IAmb	09 48 51.5	
	comp=Z,64nm,1.4s						
YAK	**Yakutsk**	**18.37**	**307**	*e*P	**P**	**09 48 47.5**	**-1.1**
YAK				*e*S	**Sn**	**09 52 10.1**	**-2.6**
YAK				pmax	pmax		
	comp=Z,55nm,1.4s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				smax	smax		
	comp=E,22nm,1.5s						
YAK				smax	smax		
	comp=N,43nm,2.4s						
KLR	**Kul'dur**	**19.38**	**266**	P	**Pn**	**09 49 02.1**	**+1.1**
	comp=N,0.3nm,0.3

MK31	**Makanchi Array**	**48.54**	**296**	P	**P**	**09 53 13.6**	**-2.9**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**48.54**	**296**	P	**P**	**09 53 13.6**	**-2.9**
MKAR	**Makanchi Array**	**48.54**	**296**	P	**P**	**09 53 14.5**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=56,slow=7.8,SNR=14						
MAKZ	**Makanchi**	**48.70**	**296**	P	**P**	**09 53 15.3**	**-2.4**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MAKZ	**Makanchi**	**48.70**	**296**	P	**P**	**09 53 15.2**	**-2.4**
MAKZ				IAmb	IAmb	09 53 16.4	
	comp=Z,4.4nm,1.4s						
E09A	**Wood Farm, Sta**	**48.70**	**65**	IAmb	IAmb	09 53 19.9	
	comp=Z,6.0nm,0.8s						
DAG	**Danmarks Havn**	**48.84**	**0**⇑	*iP*	**P**	**09 53 17.5**	**-0.8**
DAG				IAmb	IAmb	09 53 18.3	
	comp=Z,3.6nm,0.8s						
DAG	**Danmarks Havn**	**48.84**	**0**⇑	*iP*	**P**	**09 53 17.4**	**-0.8**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
F10A	**Beach Ranch, E**	**49.54**	**65**	IAmb	IAmb	09 53 26.1	
	comp=Z,4.5nm,1.1s						
JTMT	**Jette**	**49.90**	**61**	P	**P**	**09 53 28.0**	**+1.1**
BRVK	**Borovoye**	**50.37**	**308**	*ce*P	**P**	**09 53 29.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MOD	**Modoc Plateau**	**50.61**	**71**	IAmb	IAmb	09 53 35.5	
	comp=Z,4.1nm,0.9s						
MSO	**Missoula**	**50.68**	**62**	IAmb	IAmb	09 53 35.0	
	comp=Z,4.2nm,1.1s						
DBG	**Daneborg**	**51.30**	**1**	*i*P	**P**	**09 53 35.7**	**-1.3**
DBG				IAmb	IAmb	09 53 36.7	
	comp=Z,2.5nm,0.8s						
ARCES	**ARCESS Array B**	**52.16**	**342**	P	**P**	**09 53 42.2**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=46,slow=8.7,SNR=6.6						
ARCES				PcP	**PcP**	**09 54 54.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=15,slow=5.1,SNR=6.6						
ARCES	**ARCESS Array B**	**52.16**	**342**	IAmb	IAmb	09 53 43.0	
	comp=Z,8.1nm,1.1s						
SUMG	**Summit**	**52.25**	**8**	*i*P	**P**	**09 53 44.0**	**-0.6**
SUMG	**Summit**	**52.25**	**8**	P	**P**	**09 53 44.8**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,13nm,1.0s						
SUMG	**Summit**	**52.25**	**8**	P	**P**	**09 53 44.8**	**+0.3**
VCNR	**Virginia City**	**52.76**	**73**	IAmb	IAmb	09 53 52.0	
	comp=Z,2.5nm,0.8s						
ARU	**Arti**	**53.04**	**317**	*d*P	**P**	**09 53 48.6**	**-1.5**
ARU				*PP	**pP**	**09 54 02.9**	**+1.3**
ARU						09 55 46.2	
ARU				S	**S**	**10 01 15.8**	**-1.1**
ARU				SS	**SS**	**10 04 49.7**	**-5.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARU	**Arti**	**53.04**	**317**	P	**P**	**09 53 47.8**	**-2.3**
YERR	**Yerington**	**53.21**	**73**	P	**P**	**09 53 53.7**	**+1.8**
YERR				IAmb	IAmb	09 53 54.8	
	comp=Z,3.3nm,0.9s						
QLMT	**Earthquake Lak**	**53.33**	**62**	P	**P**	**09 53 53.2**	**+0.5**
WAKR	**Walker**	**53.44**	**73**	P	**P**	**09 53 55.9**	**+2.4**
WAKR				IAmb	IAmb	09 53 57.1	
	comp=Z,3.7nm,0.7s						
GCMT	**Greycliff**	**53.56**	**60**	P	**P**	**09 53 56.1**	**+1.8**
YHH	**Holmes Hill**	**53.65**	**62**	P	**P**	**09 53 55.4**	**+0.2**
YHH				IAmb	IAmb	09 53 57.9	
	comp=Z,5.7nm,1.1s						
KVN	**Kaiserville**	**53.79**	**72**	P	**P**	**09 53 58.4**	**+2.3**
KVN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KVN	**Kaiserville**	**53.79**	**72**	P	**P**	**09 53 58.4**	**+2.3**
KVN				IAmb	IAmb	09 53 59.5	
	comp=Z,4.1nm,0.8s						
RYN	**Ryan**	**53.86**	**72**	P	**P**	**09 53 59.0**	**+2.4**
RYN				IAmb	IAmb	09 53 59.9	
	comp=Z,3.6nm,0.8s						
YNE	**Yellowstone No**	**53.93**	**61**	IAmb	IAmb	09 53 59.8	
	comp=Z,5.1nm,0.8s						
H17A	**Grant Village**	**54.07**	**62**	IAmb	IAmb	09 54 02.4	
	comp=Z,6.7nm,1.1s						
NVAR	**Mina Array Bea**	**54.12**	**72**	P	**P**	**09 54 01.3**	**+2.7**
	comp=Z,3.7nm,0.7s,baz=296,slow=7.3,SNR=37						
NVAR	**Mina Array Bea**	**54.12**	**72**	P	**P**	**09 54 00.5**	**+1.9**
NVAR					pP	09 54 01.3	-8.2
LHV	**Little Huntoon**	**54.13**	**73**	P	**P**	**09 54 00.9**	**+2.5**
LHV				IAmb	IAmb	09 54 02.4	
	comp=Z,6.5nm,0.9s						
FLWY	**Flagg Ranch**	**54.22**	**63**	IAmb	IAmb	09 54 02.7	
	comp=Z,4.0nm,0.7s						
RLMT	**Red Lodge**	**54.23**	**61**	P	**P**	**09 53 57.2**	**-2.1**
MDPB	**Devils Postpil**	**54.25**	**74**	P	**P**	**09 53 59.3**	**-0.2**
MDPB				IAmb	IAmb	09 54 03.2	
	comp=Z,5.6nm,1.1s						
TPAW	**Teton Pass**	**54.51**	**63**	IAmb	IAmb	09 54 06.6	
	comp=Z,4.6nm,1.1s						
LOHW	**Long Hollow**	**54.60**	**63**	IAmb	IAmb	09 54 05.2	
	comp=Z,3.2nm,0.9s						
SNOW	**Snow King Moun**	**54.63**	**63**	IAmb	IAmb	09 54 05.7	
	comp=Z,6.3nm,1.2s						
HWUT	**Hardware Ranch**	**55.52**	**65**	IAmb	IAmb	09 54 11.8	
	comp=Z,4.3nm,0.8s						
ICESG	**Greenland Ices**	**55.53**	**9**⇑	*iP*	**P**	**09 54 08.1**	**-0.4**
ICESG				IAmb	IAmb	09 54 08.6	
	comp=Z,9.5nm,0.7s						
BW06	**Boulder Array**	**55.74**	**63**	IAmb	IAmb	09 54 13.0	
	comp=Z,3.5nm,0.8s						
PD31	**Pinedale Array**	**55.74**	**63**	IAmb	IAmb	09 54 13.0	
	comp=Z,3.5nm,0.9s						
PDAR	**Pinedale Array**	**55.74**	**63**	P	**P**	**09 54 12.0**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=326,slow=2.7,SNR=23						
SPR3	**Spring Creek 3**	**55.89**	**69**	P	**P**	**09 54 11.9**	**+0.5**
TPNV	**Topopah Spring**	**56.31**	**72**	IAmb	IAmb	09 54 17.7	
	comp=Z,6.1nm,1.2s						
NLU	**North Lily Min**	**56.42**	**67**	IAmb	IAmb	09 54 18.4	
	comp=Z,4.7nm,0.8s						
MPU	**Maple Canyon**	**56.62**	**67**	IAmb	IAmb	09 54 19.8	
	comp=Z,4.4nm,0.8s						
PRN	**Pahroc Range**	**56.64**	**71**	P	**P**	**09 54 19.0**	**+2.4**
PRN				IAmb	IAmb	09 54 20.0	
	comp=Z,4.5nm,0.9s						
ULM	**Lac du Bonnet**	**56.89**	**49**	P	**P**	**09 54 17.7**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=341,slow=11,SNR=4.2						
ULM	**Lac du Bonnet**	**56.89**	**49**	IAmb	IAmb	09 54 20.5	
	comp=Z,3.8nm,0.8s						
GSC	**Goldstone, Bar**	**57.20**	**74**	IAmb	IAmb	09 54 23.7	
	comp=Z,3.9nm,0.8s						
DY2G	**Dye2**	**57.30**	**13**	*i*P	**P**	**09 54 20.4**	**-0.6**
DY2G				IAmb	IAmb	09 54 21.1	
	comp=Z,16nm,0.9s						
RDMU	**Red Mountain**	**57.31**	**65**	P	**P**	**09 54 21.0**	**-0.4**
CCUT	**Cedar City**	**57.46**	**70**	P	**P**	**09 54 23.4**	**+0.8**
CCUT				IAmb	IAmb	09 54 25.8	
	comp=Z,2.5nm,0.9s						
RSSD	**Black Hills**	**57.56**	**58**	P	**P**	**09 54 25.1**	**+2.0**
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RSSD	**Black Hills**	**57.56**	**58**	P	**P**	**09 54 25.1**	**+2.0**
ABKAR	**Akbulak array**	**57.67**	**311**	P	**P**	**09 54 22.3**	**-1.3**
ABKAR				IAmb	IAmb	09 54 23.6	
	comp=Z,1.9nm,0.6s						
SRU	**San Rafael Swe**	**57.86**	**67**	P	**P**	**09 54 25.1**	**-0.2**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SRU	**San Rafael Swe**	**57.86**	**67**	P	**P**	**09 54 25.1**	**-0.2**
LCMT	**Little Creek M**	**57.92**	**70**	P	**P**	**09 54 27.0**	**+1.3**
FIA1	**FINESS Array S**	**59.14**	**337**	P	**P**	**09 54 32.6**	**-1.0**
FINES	**FINESS Array B**	**59.14**	**337**	P	**P**	**09 54 32.0**	**-1.6**
	comp=Z,8.5nm,0.5s,baz=33,slow=8.4,SNR=58						
FINES	**FINESS Array B**	**59.14**	**337**	*ce*P	**P**	**09 54 33.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PV16	**Nyswonger Mesa**	**59.30**	**66**	IAmb	IAmb	09 54 38.2	
	comp=Z,4.3nm,0.9s						
PV11	**David Mesa, Pa**	**59.34**	**66**	IAmb	IAmb	09 54 38.4	
	comp=Z,4.7nm,0.8s						
PV18	**Skein Mesa, Pa**	**59.35**	**66**	P	**P**	**09 54 36.3**	**+0.6**
PV12	**Saucer Basin,**	**59.36**	**66**	P	**P**	**09 54 37.3**	**+1.6**
PV12				IAmb	IAmb	09 54 38.7	
	comp=Z,5.1nm,1.0s						
PV05	**Paradox Valley**	**59.38**	**66**	P	**P**	**09 54 35.2**	**-0.6**
PV03	**Paradox Valley**	**59.38**	**66**	P	**P**	**09 54 36.1**	**+0.2**
PV03				IAmb	IAmb	09 54 38.7	
	comp=Z,4.1nm,0.9s						
PV13	**Radium Mtn., P**	**59.47**	**66**	P	**P**	**09 54 35.7**	**-0.8**
PV15	**Paradox Valley**	**59.51**	**66**	P	**P**	**09 54 37.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**59.65**	**259**	P	**P**	**09 54 36.9**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=25,slow=7.6,SNR=4.8						
CMAR				LR	LR	10 23 25.9	
	comp=Z,36nm,18.5s,baz=205,slow=39						
CMAR	**Chiang Mai Arr**	**59.65**	**259**	*ce*P	**P**	**09 54 38.4**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SMCO	**Snowmass**	**59.69**	**64**	IAmb	IAmb	09 54 41.0	
	comp=Z,3.6nm,0.9s						
ISCO	**Idaho Springs**	**59.94**	**63**	P	**P**	**09 54 38.5**	**-1.3**
ISCO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ISCO	**Idaho Springs**	**59.94**	**63**	P	**P**	**09 54 38.5**	**-1.3**
ISCO				IAmb	IAmb	09 54 43.2	
	comp=Z,3.3nm,1.0s						
BELG	**Belogornoye**	**60.28**	**320**	*i* P	**P**	**09 54 39.9**	**-1.6**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BELG				MLR	MLR		
	comp=Z,13nm,16.0s						
Y14A	**Wickenburg**	**60.32**	**72**	P	**P**	**09 54 43.2**	**+1.1**
Y14A				IAmb	IAmb	09 54 45.3	
	comp=Z,2.9nm,1.0s						
X16A	**Lo Mia Camp, P**	**60.82**	**71**	P	**P**	**09 54 44.6**	**-1.1**
X16A				IAmb	IAmb	09 54 48.8	
	comp=Z,2.1nm,0.8s						
X18A	**Snowflake**	**61.55**	**70**	P	**P**	**09 54 52.1**	**+1.4**
X18A				IAmb	IAmb	09 54 54.1	
	comp=Z,4.4nm,0.9s						
NOA	**NORSAR Array B**	**62.36**	**344**	P	**P**	**09 54 54.7**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=20,slow=6.9,SNR=11						
NOA				LR	LR	10 23 34.8	
	comp=Z,16nm,20.1s,baz=170,slow=38						
ANMO	**Albuquerque**	**63.13**	**67**⇑	*eP*	**P**	**09 55 03.0**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**63.13**	**67**	P	**P**	**09 55 03.3**	**+2.0**
ANMO				IAmb	IAmb	09 55 04.6	
	comp=Z,2.8nm,1.2s						
SCHQ	**Schefferville**	**63.71**	**29**	P	**P**	**09 55 03.9**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=298,slow=8.1,SNR=4.9						
MNTX	**Cornudas Mount**	**66.19**	**69**	P	**P**	**09 55 23.3**	**+2.3**
MNTX				IAmb	IAmb	09 55 23.9	
	comp=Z,3.7nm,0.9s						
GEYT	**Alibeck**	**67.22**	**304**	P	**P**	**09 55 27.1**	**-0.4**
AKASG	**Malin Array Be**	**67.86**	**330**	P	**P**	**09 55 29.9**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=30,slow=6.4,SNR=13						
AKASG				LR	LR	10 29 01.2	
	comp=Z,62nm,18.1s,baz=135,slow=39						
AKBB	**Malin Array Si**	**67.86**	**330**⇑	*eP*	**P**	**09 55 30.1**	**-1.2**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB				MLR	MLR		
	comp=Z,53nm,17.0s						
TX31	**Lajitas Ar. Si**	**68.95**	**69**	P	**P**	**09 55 39.4**	**+0.8**
TXAR	**Lajitas Array**	**68.95**	**69**	P	**P**	**09 55 40.2**	**+1.6**
	comp=Z,3.1nm,0.6s,baz=300,slow=4.6,SNR=57						
TXAR	**Lajitas Array**	**68.95**	**69**	P	**P**	**09 55 40.1**	**+1.5**
KIV	**Kislovodsk**	**69.09**	**318**	*eP*	**P**	**09 55 38.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KBZ	**Khabaz**	**69.19**	**317**	P	**P**	**09 55 39.5**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=78,slow=4.5,SNR=8.1						
KBZ	**Khabaz**	**69.19**	**317**	*d* iP	**P**	**09 55 39.3**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ				MLR	MLR		
	comp=Z,77nm,19.0s						
SHA1	**Shidzhatmaz**	**69.28**	**318**	*i* P	**P**	**09 55 40.5**	**-0.1**
EKA	**Eskdalemuir Ar**	**69.70**	**351**	P	**P**	**09 55 42.5**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=21,slow=5.4,SNR=11						
CLL	**Collm**	**71.30**	**340**	*i* P	**P**	**09 55 52.0**	**-0.4**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**71.30**	**340**	*i* P	**P**	**09 55 52.0**	**-0.4**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**73.49**	**339**	P	**P**	**09 56 05.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=22,slow=4.3,SNR=12						
BRTR	**Keskin Array B**	**76.15**	**322**	P	**P**	**09 56 21.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=62,slow=6.1,SNR=6.3						
DAVOX	**Davos/Dischmat**	**76.23**	**341**	P	**P**	**09 56 22.0**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=351,slow=10,SNR=5.4						
DAVOX	**Davos/Dischmat**	**76.23**	**341**	P	**P**	**09 56 22.0**	**+0.3**
WRA	**Warramunga Arr**	**78.01**	**207**	P	**P**	**09 56 32.3**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=19,slow=5.9,SNR=19						
ASAR	**Alice Springs**	**81.68**	**206**	P	**P**	**09 56 52.8**	**+1.3**
	comp=Z,4.0nm,0.8s,baz=16,slow=5.4,SNR=45						
PPT	**Papeete**	**82.86**	**134**	LR	LR	10 28 01.6	
	comp=Z,67nm,20.1s,baz=144,slow=31						
ESDC	**Sonseca Array**	**85.28**	**349**	P	**P**	**09 57 09.3**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=5.6,slow=4.2,SNR=14						

*IDC **22** 09:45:34.9±2.6, 10°.28S×161°.16E, h73km±20km, mb3.6/4, mb1 3.9/5, mb1mx3.5/34, mbtmp4.0/5, Error ellipse: s-maj=29.0km s-min=21.0km az=72.0*
*NEIC **22** 09:45:35.4±0.8, 10°.1S±0°.1×161°.2E±0°.1, h74km±9km, mb4.3/10, Error ellipse: s-maj=21.3km s-min=15.8km az=161.0*
ISC 22 09:45:32.7±1.0, 10°.2S±0°.1×161°.3E±0°.1, h50km, n18, σ1°.9/70/19, mb4.3/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.58**	**299**	P		P	**Pn**	**09 45 58.8**	**+0.5**
	105nm,0.3s,baz=153,slow=6.8,SNR=33								
HNR				S			**Sn**	**09 46 17.9**	**+0.4**
	135nm,0.3s,baz=18,slow=21,SNR=6.1								
HNR	**Honiara**	**1.58**	**299**	Pn		**Pn**		**09 45 58.6**	**+0.3**
DZM	**Mont Dzumac**	**12.77**	**158**	P		**Pn**		**09 48 34.4**	**+2.7**
	0.5nm,0.3s,baz=16,slow=11,SNR=13								
DZM				S			**Sn**	**09 50 50.0**	**-2.6**
	0.2nm,0.3s,baz=119,slow=10,SNR=2.5								
CTA	**Charters Tower**	**17.55**	**234**	P		P	**P**	**09 49 37.2**	**+2.7**
	0.4nm,0.3s,baz=63,slow=12,SNR=1.3								
WR0	**Warramunga Arr**	**27.59**	**246**	P		P	**P**	**09 51 14.3**	**-1.2**
WR0				IAmb		IAmb	IAmb	09 51 38.4	
	comp=Z,12nm,1.4s								
WB0	**Warramunga Arr**	**27.67**	**247**	P		P	**P**	**09 51 15.0**	**-1.2**
WRAB	**Tennant Creek**	**27.76**	**246**	P		P	**P**	**09 51 15.6**	**-1.4**
WRAB				IAmb		IAmb	IAmb	09 51 34.6	
	comp=Z,14nm,1.4s								
WB2	**Warramunga Arr**	**27.76**	**246**	P		P	**P**	**09 51 15.6**	**-1.5**
WB2				IAmb		IAmb	IAmb	09 51 30.7	
	comp=Z,15nm,1.4s								
WRA	**Warramunga Arr**	**27.77**	**246**	P		P	**P**	**09 51 15.9**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=77,slow=8.8,SNR=16								
WRA	**Warramunga Arr**	**27.77**	**246**	P		P	**P**	**09 51 14.6**	**-2.6**
ASAR	**Alice Springs**	**29.39**	**239**	P		P	**P**	**09 51 29.2**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=62,slow=10,SNR=8.6								
KNRA	**Kununurra**	**32.19**	**257**	P		P	**P**	**09 51 55.1**	**-1.1**
BBOO	**Buckleboo**	**32.38**	**222**	P		P	**P**	**09 51 57.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**35.44**	**253**	P		P	**P**	**09 52 23.1**	**-1.4**
FITZ				IAmb		IAmb	IAmb	09 52 25.5	
	comp=Z,5.6nm,1.1s								
SONM	**Songino Array**	**75.47**	**325**	P		P	**P**	**09 57 11.2**	**-0.6**
	comp=Z,2.7nm,0.6s,baz=140,slow=5.6,SNR=11								
SONM	**Songino Array**	**75.47**	**325**	IAmb		IAmb	IAmb	09 57 12.6	
	comp=Z,2.5nm,0.6s								
ILAR	**Eielson Array**	**84.15**	**20**	P		P	**P**	**09 57 58.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=227,slow=5.0,SNR=5.3								
MK31	**Makanchi Array**	**89.97**	**318**	P		P	**P**	**09 58 26.4**	**-0.4**
MK31				IAmb		IAmb	IAmb	09 58 29.7	
	comp=Z,1.8nm,0.9s								

*NOU **22** 09:49:04.8, 41°.29S×172°.09E, h4km, MLv3.8, South Island, New Zealand*
WEL 22 09:49:05.2, 41°.3S±4°.×17°.2E±°, h19km±10km, M3.6/32, ML3.8/32, MLv3.6/32, Error ellipse: s-maj=0.0km s-min=0.0km az=96.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.53**	**222**	P		Pg		09 49 16.0	+0.2
DSZ				S		Sb		09 49 23.4	+0.4
QRZ	**Quartz Range**	**0.56**	**20**	P		Pb		09 49 15.9	-0.5
THZ	**Tophouse**	**0.63**	**131**	P		Pg		09 49 17.8	+0.1
THZ				S		Sg		09 49 26.7	+0.5
NNZ	**Nelson**	**0.85**	**81**	P		Pb		09 49 21.2	-0.1
BSWZ	**Blackbirch Sta**	**1.26**	**107**	P		Pg		09 49 29.6	+0.1
BSWZ				S		Sg		09 49 47.3	+1.3
TUWZ	**Tuamarina**	**1.26**	**94**	P		Pb		09 49 28.4	+0.1
DUWZ	**D'Urville Isla**	**1.36**	**67**	P		Pb		09 49 30.2	+0.1
DUWZ				S		Sg		09 49 49.5	+0.2
KHZ	**Kahutara**	**1.42**	**139**	P		Pg		09 49 33.4	+0.8
KHZ				S		Sg		09 49 53.8	+2.6
LTZ	**Lake Taylor**	**1.43**	**180**	P		Pg		09 49 32.4	-0.3
LTZ				S		Sg		09 49 52.4	+1.1
INZ	**Inchbonnie**	**1.50**	**204**	P		Pb		09 49 32.1	-0.3
CMWZ	**Cape Campbell**	**1.51**	**106**	P		Pg		09 49 35.3	+1.0
TCW	**Tory Channel**	**1.52**	**85**	P		Pb		09 49 33.1	+0.4
GVZ	**Greta Valley S**	**1.71**	**161**	P		Pb		09 49 36.4	+0.4
GVZ				S		Sg		09 50 00.3	-0.1
AMCZ	**Amberley**	**1.84**	**171**	P		Pb		09 49 38.8	+0.6
WEL	**Wellington**	**1.88**	**89**	P		Pb		09 49 39.7	+0.8
OXZ	**Oxford**	**1.98**	**185**	P		Pb		09 49 39.4	-1.2
KIW	**Kapiti Island**	**2.05**	**77**	P		Pb		09 49 41.8	0.0
WVZ	**Waitaha Valley**	**2.06**	**213**	P		Pn		09 49 40.4	+1.6
CAW	**Cannon Point**	**2.12**	**84**	P		Pb		09 49 42.7	-0.3
MHCZ	**Mount Hutt**	**2.24**	**193**	P		Pn		09 49 43.1	+1.8
MSWZ	**Moikau Station**	**2.24**	**93**	P		Pb		09 49 43.5	-1.5
OGWZ	**Otaki Gorge**	**2.26**	**77**	P		Pb		09 49 44.7	-0.5
MQZ	**McQueen's Vall**	**2.37**	**173**	P		Pn		09 49 44.0	+1.0
RACZ	**Rakaia**	**2.37**	**182**	P		Pn		09 49 44.7	+1.6
PAWZ	**Paruwai Farm**	**2.38**	**92**	P		Pn		09 49 45.1	+2.0
NBEZ	**Newall Road No**	**2.41**	**31**	P		Pb		09 49 46.0	-2.0
GCSZ	**Gaunt Creek Bo**	**2.43**	**216**	P		Pn		09 49 45.8	+1.9
OKCZ	**Okains Bay**	**2.44**	**166**	P		Pn		09 49 45.9	+1.9
MTW	**Mount Morrison**	**2.44**	**86**	P		Pn		09 49 46.0	+2.0
HOWZ	**Holdsworth Sta**	**2.49**	**81**	P		Pb		09 49 47.1	-2.3
PKE	**Pukeiti**	**2.52**	**32**	P		Pb		09 49 47.6	-2.3
RPZ	**Rata Peaks**	**2.52**	**200**	P		Pn		09 49 47.2	+2.0
MRZ	**Mangatainoka R**	**2.60**	**76**	P		Pb		09 49 49.2	-1.9
WACZ	**Wakanui South**	**2.61**	**187**	P		Pn		09 49 48.3	+2.0
WAZ	**Wanganui**	**2.61**	**53**	P		Pb		09 49 50.1	-1.3
ARCZ	**Arundel**	**2.71**	**197**	P		Pn		09 49 49.4	+1.6
TMWZ	**Te Maipa**	**2.74**	**86**	P		Pn		09 49 49.9	+1.8
TIWZ	**Tintock**	**2.79**	**79**	P		Pn		09 49 50.8	+1.9
FOZ	**Fox Glacier**	**2.84**	**219**	P		Pn		09 49 50.2	+0.8
PRWZ	**Pori Road**	**2.91**	**75**	P		Pb		09 49 56.8	+0.3
VRZ	**Vera Road**	**2.93**	**41**	P		Pn		09 49 52.8	+2.1
BFZ	**Birch Farm**	**3.08**	**79**	P		Pn		09 49 54.7	+1.9
TSZ	**Takapari Road**	**3.09**	**66**	P		Pn		09 49 59.2	-0.3
DVHZ	**Dannevirke**	**3.14**	**72**	P		Pb		09 49 59.8	-0.5
TMZ	**Timaru**	**3.17**	**197**	P		Pn		09 49 55.3	+1.3
MOVZ	**Moawhango**	**3.29**	**55**	P		Pb		09 49 59.4	-3.6
PNHZ	**Pukenui**	**3.32**	**66**	P		Pn		09 50 02.5	-0.9
BHHZ	**Black Hill Sta**	**3.44**	**58**	P		Pn		09 50 00.5	+2.7
HIZ	**Hauiti**	**3.46**	**36**	P		Pn		09 49 59.3	+1.3
KRHZ	**Kereru**	**3.56**	**63**	P		Pb		09 50 08.0	+0.4
JCZ	**Jackson Bay**	**3.74**	**222**	P		Pn		09 50 03.0	+1.1
ODZ	**Otahua Downs**	**3.88**	**197**	P		Pn		09 50 04.6	+0.8
BKZ	**Black Stump Fm**	**3.90**	**57**	P		Pb		09 50 08.8	-4.5
TLZ	**Tolley Road**	**3.93**	**41**	P		Pn		09 50 06.6	+2.1
TOZ	**Tahuroa Road**	**4.40**	**36**	P		Pn		09 50 14.4	+3.5
MSZ	**Milford Sound**	**4.60**	**222**	P		Pn		09 50 14.7	+1.1
AWAZ	**Awhitu Peninsu**	**4.66**	**24**	P		Pn		09 50 16.0	+1.5
WIAZ	**Waiheke Island**	**5.07**	**27**	P		Pn		09 50 22.6	+2.5
WCZ	**Waipu Caves**	**5.64**	**17**	P		Pn		09 50 29.1	+1.1

*IDC **22** 09:50:33.9±3.4, 23°.01S×174°.21E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/24, mbtmp3.9/6, ML5.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/25, Error ellipse: s-maj=108.0km s-min=24.5km az=148.0*
ISC 22 09:50:40.7±2.0, 22.7S±0°.3×174°.0E±0°.1, h35km, n10, σ0°.6/67/8, mb3.9/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.23**	**39**	P		Pn	**Pn**	**09 52 10.3**	**-0.1**
	5.2nm,0.3s,baz=232,slow=19,SNR=46								
M

baz=238,slow=19,SNR=1.3

ASAR	**Alice Springs**	**36.76**	**260**	P	**P**	**11 02 29.1**	**-0.2**
	0.8nm,0.7s,baz=95,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**36.92**	**266**	P	**P**	**11 02 29.1**	**-1.5**
	0.6nm,0.8s,baz=101,slow=8.5,SNR=5.9						
PETK	**Petropavlovsk-**	**76.51**	**350**	P	**P**	**11 07 12.5**	**+1.6**
	0.8nm,0.6s,baz=126,slow=7.5,SNR=4.8						
ILAR	**Eielson Array**	**92.01**	**16**	P	**P**	**11 08 28.9**	**-0.6**
	0.7nm,0.9s,baz=228,slow=6.1,SNR=6.7						

*IDC **22** 11:05:16.6±3.6,5°.98S×151°.32E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/32,mbtmp3.8/3,Error ellipse: s-maj=110.0km s-min=51.8km az=121.0*

*NEIC **22** 11:05:19.7±1.2,5°.9S±0°.1×151°.6E±0°.1,h35km±2km, mb4.2/18,Error ellipse: s-maj=28.1km s-min=8.9km az=123.0*

ISC 22 11:05:20.0±0.8,5°.8S±0°.1×151°.5E±0°.2,h41km,n27, σ0°91/28,mb4.1/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.75**	**22**	Pn	**Pn**	**11 05 48.0**	**+0.1**
PMG	**Port Moresby**	**5.59**	**230**	Pn	**Pn**	**11 06 43.2**	**+2.5**
	1.2nm,0.3s,baz=32,slow=6.7,SNR=4.4						
PMG				Sn	**Sn**	**11 07 42.9**	**-0.9**
	0.8nm,0.3s,baz=4.2,slow=15,SNR=2.3						
PMG	**Port Moresby**	**5.59**	**230**		**Pn**	**11 06 40.1**	**-0.6**
WB0	**Warramunga Arr**	**21.66**	**229**	P	**P**	**11 10 06.6**	**-0.6**
WB0				IAmb	IAmb	11 10 07.7	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**21.67**	**228**	P	**P**	**11 10 06.4**	**-0.9**
WRAB	**Tennant Creek**	**21.79**	**228**	P	**P**	**11 10 08.3**	**-0.4**
WRAB				IAmb	IAmb	11 10 37.4	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**21.80**	**228**	P	**P**	**11 10 08.1**	**-0.6**
WB2				IAmb	IAmb	11 10 25.8	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**11 10 07.5**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=54,slow=11,SNR=15						
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**11 10 07.2**	**-1.6**
KNRA	**Kununurra**	**24.37**	**245**	P	**P**	**11 10 34.2**	**-0.3**
KNRA				IAmb	IAmb	11 10 43.2	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**24.53**	**222**		**P**	**11 10 35.8**	**-0.2**
ASAR	**Alice Springs**	**24.53**	**222**	P	**P**	**11 10 35.9**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=58,slow=8.7,SNR=28						
ASAR	**Alice Springs**	**24.53**	**222**	P	**P**	**11 10 35.2**	**-0.8**
TNTI	**Ternate**	**24.98**	**284**	P	**P**	**11 10 39.3**	**-0.8**
STKA	**Stephens Creek**	**27.53**	**198**	P	**P**	**11 11 02.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	**11 11 07.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=78,slow=8.6,SNR=8.1						
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	**11 11 07.8**	**+0.1**
JNU	**Nakatsue**	**43.40**	**335**	P	**P**	**11 13 19.5**	**+0.7**
ADK	**Adak**	**63.58**	**21**	P	**P**	**11 15 46.8**	**+0.4**
SONM	**Songino Array**	**66.51**	**329**	P	**P**	**11 16 05.6**	**-0.1**
SONM				IAmb	IAmb	11 16 13.0	
	comp=Z,1.7nm,1.2s						
N25K	**Chitina, Valde**	**83.06**	**26**	P	**P**	**11 17 41.9**	**+0.8**
N25K				IAmb	IAmb	11 17 46.0	
	comp=Z,2.4nm,0.8s						
MENT	**Mentasta**	**84.01**	**25**	P	**P**	**11 17 45.3**	**-0.7**
MENT				IAmb	IAmb	11 17 52.7	
	comp=Z,2.7nm,1.2s						
QSPA	**South Pole Qui**	**84.14**	**180**	P	**P**	**11 17 46.7**	**-0.1**
QSPA				IAmb	IAmb	11 17 57.8	
	comp=Z,7.2nm,1.3s						
L27K	**Beaver Creek,**	**84.85**	**25**	P	**P**	**11 17 51.4**	**+1.3**
L27K				IAmb	IAmb	11 18 03.8	
	comp=Z,1.4nm,1.1s						
DAWY	**Dawson**	**86.24**	**24**	P	**P**	**11 17 56.3**	**-0.8**
DAWY				IAmb	IAmb	11 18 15.3	
	comp=Z,4.0nm,1.5s						
MOD	**Modoc Plateau**	**92.50**	**48**	P	**P**	**11 18 26.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.38**	**286**	PKPbc	**PKiKP**	**11 25 07.8**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=83,slow=4.5,SNR=2.9						

*NEIC **22** 11:14:33.1±1.1,15°.58S±0°.07×173°.4W±0°.1,h118km±7km, mb4.5/16,Error ellipse: s-maj=15.0km s-min=9.0km az=114.0*

*IDC **22** 11:14:39.8±4.7,15°.62S×173°.94W,h166km±42km,mb3.4/7, mb1 3.7/9,mb1mx3.4/36,mbtmp3.9/9,Error ellipse: s-maj=31.0km s-min=21.3km az=134.0*

ISC 22 11:14:31.9±0.6,15°.64S±0°.09×173°.50W±0°.10,h100km, n39,σ1°59/32,mb4.4/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.40**	**44**	Pn	**Pn**	**11 15 09.6**	**-0.2**
NIUE	**Niue**	**4.83**	**136**	Pn	**Pn**	**11 15 42.6**	**+0.3**
MSVF	**Nonsavu**	**8.36**	**254**	P	**Pn**	**11 16 34.1**	**+3.6**
	0.1nm,0.3s,baz=12,slow=23,SNR=2.1						
MSVF	**Nonsavu**	**8.36**	**254**		**Pn**	**11 16 33.3**	**+2.8**
DZM	**Mont Dzumac**	**20.02**	**248**	P	**P**	**11 18 55.7**	**-1.4**
	0.3nm,0.3s,baz=311,slow=14,SNR=2.1						
URZ	**Urewera**	**24.00**	**198**	P	**P**	**11 19 36.3**	**-1.0**
	8.5nm,0.8s,baz=301,slow=23,SNR=1.5						
URZ	**Urewera**	**24.00**	**198**	P	**P**	**11 19 37.3**	**0.0**
URZ				IAmb	IAmb	11 19 53.4	
	comp=Z,22nm,1.2s						
BKZ	**Black Stump Fm**	**25.03**	**199**	P	**P**	**11 19 46.6**	**-0.2**
BKZ				IAmb	IAmb	11 20 11.7	
	comp=Z,54nm,1.5s						
QRZ	**Quartz Range**	**27.87**	**203**	P	**P**	**11 20 12.6**	**+0.4**
TUWZ	**Tuamarina**	**27.90**	**200**	P	**P**	**11 20 11.8**	**-0.6**
THZ	**Tophouse**	**28.55**	**202**	P	**P**	**11 20 18.2**	**-0.2**
LTZ	**Lake Taylor**	**29.67**	**201**	P	**P**	**11 20 28.0**	**-0.3**
LTZ				IAmb	IAmb	11 20 39.5	
	comp=Z,26nm,1.1s						
WHZ	**Wether Hill Ro**	**33.94**	**203**	P	**P**	**11 21 05.6**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**39.12**	**329**	T	T	12 02 49.1	
	baz=146,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.13**	**329**	T	T	12 02 49.0	
	baz=146,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.13**	**329**	T	T	12 02 51.4	
	baz=146,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**40.07**	**331**	T	T	12 03 58.6	
	baz=147,slow=76,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**40.08**	**331**	T	T	12 03 59.7	
	baz=147,slow=76,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**40.09**	**331**	T	T	12 04 05.0	
	baz=147,slow=76,SNR=5.3						
BBOO	**Buckleboo**	**48.61**	**240**	P	**P**	**11 23 03.8**	**-1.9**
WR0	**Warramunga Arr**	**49.50**	**257**	P	**P**	**11 23 11.3**	**-1.4**
WR0				IAmb	IAmb	11 23 13.1	
	comp=Z,9.8nm,1.4s						
WB0	**Warramunga Arr**	**49.65**	**257**	P	**P**	**11 23 12.1**	**-1.8**
WB0				IAmb	IAmb	11 23 32.4	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**49.68**	**257**	P	**P**	**11 23 12.3**	**-1.8**
WB2				IAmb	IAmb	11 23 22.0	
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**49.68**	**257**	P	**P**	**11 23 12.3**	**-1.8**
WRAB				IAmb	IAmb	11 23 37.9	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**49.69**	**257**	P	P	11 23 11.4	-2.8
	comp=Z,0.9nm,0.5s,baz=93,slow=6.7,SNR=27						
WRA	**Warramunga Arr**	**49.69**	**257**	P	**P**	**11 23 12.1**	**-2.1**
AS31	**Alice Springs**	**49.94**	**252**	P	**P**	**11 23 14.1**	**-2.0**
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**11 23 14.2**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=90,slow=7.5,SNR=185						
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**11 23 14.0**	**-2.0**
SBA	**Scott Base**	**63.00**	**185**	P	**P**	**11 24 47.5**	**-0.3**
VNDA	**Vanda**	**63.13**	**186**	P	**P**	**11 24 50.5**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=6.3,slow=5.6,SNR=5.2						
VNDA	**Vanda**	**63.13**	**186**	P	**P**	**11 24 48.6**	**0.0**
QSPA	**South Pole Qui**	**74.41**	**180**	P	**P**	**11 25 58.8**	**-0.1**
NVAR	**Mina Array Bea**	**74.57**	**42**	P	**P**	**11 26 01.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=237,slow=10,SNR=3.6						
TXAR	**Lajitas Array**	**80.83**	**56**	P	**P**	**11 26 37.2**	**+2.0**
	comp=Z,0.3nm,0.9s,baz=155,slow=42,SNR=2.8						
ILAR	**Eielson Array**	**82.70**	**11**	P	**P**	**11 26 44.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=216,slow=5.1,SNR=5.6						
ILAR	**Eielson Array**	**82.70**	**11**	P	**P**	**11 26 42.8**	**-1.3**
WMOK	**Wichita Mounta**	**86.73**	**53**	P	**P**	**11 27 03.0**	**-2.0**
WMOK				IAmb	IAmb	11 27 13.6	
	comp=Z,5.3nm,1.5s						
BRTR	**Keskin Array B**	**146.28**	**321**	PKPbc	**PKPdf**	**11 34 01.3**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=164,slow=30,SNR=2.0						

*TAP **22** 11:15:17.2,24°.83N×122°.09E,h108km,ML4.3,B*

*JMA **22** 11:15:17.1±0.2,24°.81N×122°.04E,h107km±2km,M3.5*

*IDC **22** 11:15:21.2±9.1,24°.49N×122°.65E,h112km±106km, mb3.4/2,mb1 3.5/4,mb1mx3.1/40,mbtmp3.8/4,ML3.2/2, Error ellipse: s-maj=75.3km s-min=54.0km az=52.0*

ISC 22 11:15:17.2±0.9,24°.84N±0°.03×122°.07E±0°.02,h111km±4km, n153,σ0°89/257,mb3.6/4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.12**	**274**	P	**Pn**	**11 15 32.5**	**0.0**
	baz=269						
TWB1	**Santiao Chiao**	**0.19**	**337**	P	**Pn**	**11 15 32.6**	**-0.1**
TWB1	baz=328			S	**Sn**	**11 15 43.3**	**-1.1**
	baz=328						
NTC	**Toucheng**	**0.22**	**275**	P	**Pn**	**11 15 32.5**	**-0.3**
NTC	baz=287			eS	**Sn**	**11 15 43.0**	**-1.5**
	baz=287						
TIPB	**Shuangxi**	**0.26**	**302**	eP	**Pn**	**11 15 32.8**	**-0.1**
TIPB	baz=292			eS	**Sn**	**11 15 43.8**	**-1.1**
	baz=292						
ILA	**Ilan**	**0.30**	**257**	P	**Pn**	**11 15 33.1**	**+0.1**
ILA	baz=269			S	**Sn**	**11 15 44.8**	**-0.2**
	baz=269						
TWC	**Suao**	**0.30**	**222**	P	**Pn**	**11 15 32.9**	**-0.2**
TWC	baz=232			S	**Sn**	**11 15 44.0**	**-1.0**
	baz=232						
NWF	**Wu-fen Shan**	**0.35**	**312**	P	**Pn**	**11 15 33.2**	**-0.2**
NWF	baz=304			S	**Sn**	**11 15 44.8**	**-0.9**
	baz=304						
WFSB	**Wu-fen Shan**	**0.35**	**312**	eP	**Pn**	**11 15 33.2**	**-0.1**
WFSB	baz=304			S	**Sn**	**11 15 44.5**	**-0.9**
	baz=304						
NDS	**Dongshan**	**0.38**	**238**	eP	**Pn**	**11 15 33.6**	**+0.1**
NDS	baz=247			eS	**Sn**	**11 15 46.0**	**+0.3**
	baz=247						
TWE	**Neicheng**	**0.38**	**253**	P	**Pn**	**11 15 33.6**	**+0.1**
TWE	baz=258			eS	**Sn**	**11 15 46.7**	**+1.0**
	baz=258						
TNOU	**National Taiwa**	**0.41**	**319**	P	**Pn**	**11 15 33.5**	**-0.2**
TNOU	baz=312			S	**Sn**	**11 15 45.1**	**-0.9**
	baz=312						
TWA	**Mucha**	**0.46**	**288**	P	**Pn**	**11 15 33.7**	**-0.2**
	baz=294						
EWUT	**Wuta**	**0.47**	**214**	eP	**Pn**	**11 15 34.3**	**+0.3**
EWUT	baz=215			S	**Sn**	**11 15 46.5**	**-0.1**
	baz=215						
ENTT	**Nioudou**	**0.50**	**247**	P	**Pn**	**11 15 34.6**	**+0.5**
ENTT	baz=255			S	**Sn**	**11 15 47.4**	**+0.5**
	baz=255						
NHDH	**Xindian Distri**	**0.51**	**285**	P	**Pn**	**11 15 34.0**	**-0.2**
NHDH	baz=289			eS	**Sn**	**11 15 47.1**	**0.0**
	baz=289						
NWLT	**Wulai**	**0.52**	**264**	P	**Pn**	**11 15 34.2**	**-0.1**
NWLT	baz=272			S	**Sn**	**11 15 46.7**	**-0.5**
	baz=272						
TATO	**Taipei**	**0.55**	**285**	eP	**Pn**	**11 15 34.2**	**-0.3**
YM01	baz=291 **YM01**	**0.55**	**304**	P	**Pn**	**11 15 34.3**	**-0.2**
	baz=300						
TAP	**Taipei**	**0.55**	**292**	eP	**Pn**	**11 15 34.3**	**-0.2**
TAP	baz=295			eS	**Sn**	**11 15 48.1**	**+0.6**
	baz=295						
NDT	**Datong Townshi**	**0.56**	**245**	P	**Pn**	**11 15 35.2**	**+0.6**
NDT	baz=259			S	**Sn**	**11 15 47.8**	**+0.2**
	baz=259						
YM08	**YM08**	**0.56**	**309**	eP	**Pn**	**11 15 34.2**	**-0.4**
BACT	baz=304 **New Taipei Cit**	**0.59**	**286**	eP	**Pn**	**11 15 35.1**	**+0.3**
BACT	baz=288			eS	**Sn**	**11 15 49.3**	**+1.2**
	baz=288						
TWY	**Chenhua**	**0.61**	**316**	P	**Pn**	**11 15 34.9**	**0.0**
TWS1	baz=309 **Kuangyinshan**	**0.65**	**294**	P	**Pn**	**11 15 35.4**	**+0.2**
	baz=295						
TWS1				eS	**Sn**	**11 15 50.0**	**+1.2**
	baz=295						
NTST	**Danshui**	**0.65**	**300**	P	**Pn**	**11 15 35.4**	**+0.1**
NTST	baz=300			eS	**Sn**	**11 15 50.1**	**+1.3**
	baz=300						
YHNB	**Yeheng**	**0.65**	**255**	eP	**Pn**	**11 15 35.4**	**0.0**
YHNB	baz=259			S	**Sn**	**11 15 48.1**	**-0.9**
	baz=259						
NSK	**Sanguang**	**0.67**	**256**	eP	**Pn**	**11 15 35.5**	**0.0**
NSK	baz=258			S	**Sn**	**11 15 48.3**	**-0.9**
	baz=258						
NTY	**Taoyuan**	**0.72**	**283**	P	**Pn**	**11 15 36.2**	**+0.4**
NNSH	baz=284 **Datong**	**0.74**	**237**	eP	**Pn**	**11 15 36.6**	**+0.4**
	baz=248						
NNSH				eS	**Sn**	**11 15 50.4**	**-0.1**
	baz=248						
NNSB	**Datong**	**0.74**	**237**	eP	**Pn**	**11 15 36.6**	**+0.4**
NNSB	baz=247			S	**Sn**	**11 15 50.4**	**-0.1**
	baz=247						
NNS	**Nan Shan**	**0.75**	**238**	P	**Pn**	**11 15 36.5**	**+0.3**
NNS	baz=247			S	**Sn**	**11 15 50.5**	**-0.1**
	baz=247						
ETL	**Fush Village**	**0.79**	**211**	P	**Pn**	**11 15 36.3**	**-0.2**
ETL	baz=226			eS	**Sn**	**11 15 50.5**	**-0.5**
	baz=226						
NACB	**Ninganchiao**	**0.79**	**213**	eP	**Pn**	**11 15 36.1**	**-0.4**
NACB	baz=218			S	**Sn**	**11 15 50.2**	**-0.8**
	baz=218						
PCYT	**Pengchaiyu**	**0.79**	**0**	P	**Pn**	**11 15 36.8**	**+0.3**
PCYT	baz=355			eS	**Sn**	**11 15 51.3**	**+0.3**
	baz=355						
NCU	**National Centr**	**0.81**	**280**	P	**Pn**	**11 15 37.1**	**+0.5**
NCU	baz=273			S	**Sn**	**11 15 51.7**	**+0.4**
	baz=273						
NCUH	**Zhongli**	**0.81**	**279**	eP	**Pn**	**11 15 37.0**	**+0.3**
NCUH	baz=273			eS	**Sn**	**11 15 51.4**	**+0.1**
	baz=273						
ETLH	**Xiulin Townshi**	**0.82**	**221**	eP	**Pn**	**11 15 36.8**	**-0.1**
ETLH	baz=233			eS	**Sn**	**11 15 51.1**	**-0.6**
	baz=233						
TWD	**Chiawan**	**0.87**	**210**	P	**Pn**	**11 15 36.9**	**-0.3**
TWD	baz=223			eS	**Sn**	**11 15 51.3**	**-0.9**
	baz=223						
JYNG	**Yonagunijimaku**	**0.89**	**115**	P	**Pn**	**11 15 37.4**	**+0.1**
JYNG				S	**Sn**	**11 15 51.9**	**-0.6**
NJD	**Zhudong**	**0.90**	**264**	eP	**Pn**	**11 15 38.0**	**+0.5**
NJD	baz=260			S	**Sn**	**11 15 52.9**	**+0.1**
	baz=260						
YOJ	**Yonaguni jima**	**0.93**	**113**	P	**Pn**	**11 15 37.9**	**+0.1**
YOJ				S	**Sn**	**11 15 52.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.93**	**113**	eP	**Pn**	**11 15 37.8**	**+0.1**
YOJ	baz=120			eS	**Sn**	**11 15 52.8**	**-0.6**
	baz=120						
FUSS	**Fushou**	**0.95**	**232**	P	**Pn**	**11 15 38.8**	**+0.5**
FUSS	baz=232			eS	**Sn**	**11 15 54.0**	**-0.2**
	baz=232						
HWA	**Hwalien**	**0.95**	**206**	eP	**Pn**	**11 15 38.3**	**+0.3**
HWA	baz=203			S	**Sn**	**11 15 53.7**	**0.0**
	baz=203						
HSN1	**Hsinchu**	**0.96**	**267**	P	**Pn**	**11 15 38.4**	**+0.4**
HSN1	baz=262			eS	**Sn**	**11 15 54.2**	**+0.4**
	baz=262						
SBCB	**Hsinchu**	**0.99**	**268**	P	**Pn**	**11 15 38.6**	**+0.3**
SBCB	baz=263			S	**Sn**	**11 15 54.2**	**-0.1**
	baz=263						
NSTT	**Nanjuang**	**0.99**	**258**	P	**Pn**	**11 15 38.6**	**+0.2**
NSTT	baz=255			eS	**Sn**	**11 15 53.7**	**-0.7**
	baz=255						
TWT	**Tachien**	**1.00**	**235**	P	**Pn**	**11 15 39.5**	**+0.9**
TWT	baz=235			eS	**Sn**	**11 15 55.0**	**+0.2**
	baz=235						
HSN	**Hsinchu**	**1.00**	**268**	P	**Pn**	**11 15 38.4**	**-0.1**
HSN	baz=264			eS	**Sn**	**11 15 53.8**	**-0.8**
	baz=264						
WHF	**Hehuan Shan**	**1.00**	**227**	eP	**Pn**	**11 15 39.4**	**+0.4**
WHF	baz=232			S	**Sn**	**11 15 55.3**	**-0.2**
	baz=232						
TDCB	**Techi**	**1.01**	**235**	eP	**Pn**	**11 15 39.5**	**+0.8**
TDCB	baz=235			eS	**Sn**	**11 15 54.9**	**-0.2**
	baz=235						
ETM	**Tongmen**	**1.01**	**211**	eP	**Pn**	**11 15 38.3**	**-0.4**
ETM	baz=216			eS	**Sn**	**11 15 53.3**	**-1.5**
	baz=216						
TEYL	**Yanliau Villag**	**1.05**	**204**	eP	**Pn**	**11 15 38.8**	**-0.3**
TEYL	baz=203			eS	**Sn**	**11 15 56.0**	**+0.5**
	baz=203						
CHGB	**Renai**	**1.12**	**227**	eP	**Pn**	**11 15 40.7**	**+0.7**
CHGB	baz=232			S	**Sn**	**11 15 57.3**	**0.0**
	baz=232						
WHP	**Taichung City**	**1.16**	**242**	eP	**Pn**	**11 15 40.9**	**+0.6**
WHP	baz=252			eS	**Sn**	**11 15 57.5**	**-0.3**
	baz=252						
ESL	**Shilin**	**1.17**	**210**	P	**Pn**	**11 15 39.5**	**-0.9**
ESL	baz=219			S	**Sn**	**11 15 56.0**	**-1.9**
	baz=219						
OWD	**Renai**	**1.20**	**223**	eP	**Pn**	**11 15 41.2**	**+0.5**
OWD	baz=225			eS	**Sn**	**11 15 58.3**	**-0.3**
	baz=225						
NMLH	**Miaoli**	**1.20**	**256**	eP	**Pn**	**11 15 40.9**	**+0.2**
NMLH	baz=259			eS	**Sn**	**11 15 57.8**	**-0.5**
	baz=259						
TEGC	**Jichi Village**	**1.22**	**203**	P	**Pn**	**11 15 40.6**	**-0.2**
TEGC	baz=208			S	**Sn**	**11 15 58.7**	**0.0**
	baz=208						
NSY	**Sanyi**	**1.26**	**251**	eP	**Pn**	**11 15 41.9**	**+0.6**
NSY	baz=254			eS	**Sn**	**11 16 00.1**	**+0.5**
	baz=254						
EGFH	**Guangfu**	**1.30**	**207**	eP	**Pn**	**11 15 41.4**	**-0.4**
EGFH	baz=218			eS	**Sn**	**11 15 59.1**	**-1.2**
	baz=218						
WPL	**Puli Township**	**1.30**	**231**	eP	**Pn**	**11 15 42.8**	**+1.0**
WPL	baz=243			eS	**Sn**	**11 16 01.6**	**+1.2**
	baz=243						
WCS	**Beigang Elemen**	**1.31**	**234**	eP	**Pn**	**11 15 42.6**	**+0.7**
WCS	baz=244			eS	**Sn**	**11 16 00.6**	**0.0**
	baz=244						
DPDB	**Guoxing**	**1.31**	**233**	eP	**Pn**	**11 15 42.8**	**+0.9**
DPDB	baz=244			eS	**Sn**	**11 16 02.4**	**+1.7**
	baz=244						
WDJ	**Dajia District**	**1.39**	**250**	eP	**Pn**	**11 15 43.2**	**+0.5**
WDJ	baz=249			eS	**Sn**	**11 16 01.9**	**-0.2**
	baz=249						
SMLT	**Sun Moon Lake**	**1.43**	**229**	eP	**Pn**	**11 15 44.2**	**+0.9**
SMLT	baz=240			eS	**Sn**	**11 16 04.2**	**+1.0**
	baz=240						
TYC	**Yuchr**	**1.44**	**230**	eP	**Pn**	**11 15 44.1**	**+0.7**
TYC	baz=242			eS	**Sn**	**11 16 03.7**	**+0.5**
	baz=242						
SSLB	**Suanglung**	**1.46**	**224**	eP	**Pn**	**11 15 44.5**	**+0.8**
SSLB	baz=230			eS	**Sn**	**11 16 04.3**	**+0.6**
	baz=230						
HGSD	**Ruisui**	**1.46**	**204**	eP	**Pn**	**11 15 44.5**	**+0.8**
WWF	baz=206 **Wufeng**	**1.48**	**238**	eP	**Pn**	**11 15 44.5**	**+0.7**
WWF	baz=249			eS	**Sn**	**11 16 04.6**	**+0.6**
	baz=249						
EHY	**Hungye**	**1.49**	**207**	eP	**Pn**	**11 15 43.4**	**-0.6**
WNT1	baz=204 **Nantou City**	**1.57**	**234**	eP	**Pn**	**11 15 45.6**	**+0.7**
WNT1	baz=246			eS	**Sn**	**11 16 06.6**	**+0.6**
	baz=246						
WCHH	**Zhanghua**	**1.57**	**242**	eP	**Pn**	**11 15 45.3**	**+0.4**
WCHH	baz=253			eS	**Sn**	**11 16 05.8**	**-0.1**
	baz=253						
WNT	**Mingjian**	**1.58**	**233**	eP	**Pn**	**11 15 46.0**	**+1.0**
WNT	baz=245			eS	**Sn**	**11 16 07.2**	**+1.0**
	baz=245						
WJS	**Zhushan**	**1.59**	**231**	eP	**Pn**	**11 15 45.9**	**+0.7**
WJS	baz=244			eS	**Sn**	**11 16 06.6**	**+0.2**
	baz=244						
WHYT	**Xinyi Township**	**1.59**	**225**	eP	**Pn**	**11 15 46.4**	**+1.2**
WHYT	baz=230			eS	**Sn**	**11 16 07.7**	**+1.3**
	baz=230						
IRIF	**Iriomote-Funau**	**1.59**	**108**	P	**Pn**	**11 15 45.0**	**-0.1**
IRIF				S	**Sn**	**11 16 05.6**	**-0.8**
YULB	**Yu-li**	**1.60**	**206**	eP	**Pn**	**11 15 44.5**	**-0.8**
	baz=208						
EYUL	**Yuli**	**1.63**	**205**	eP	**Pn**	**11 15 47.4**	**+1.7**
	baz=207						
TWF1	**Yuli**	**1.64**	**206**	eP	**Pn**	**11 15 45.4**	**-0.4**
	baz=207						
YUS	**Yu-Shan**	**1.68**	**218**	eP	**Pn**	**11 15 48.3**	**+1.5**
YUS	baz=215			eS	**Sn**	**11 16 11.0**	**+1.7**
	baz=215						
ALS	**Alishan**	**1.75**	**221**	eP	**Pn**	**11 15 48.4**	**+0.9**
ALS	baz=235			eS	**Sn**	**11 16 12.6**	**+2.1**
	baz=235						
HATJ	**Hateruma jima**	**1.76**	**116**	P	**Pn**	**11 15 47.8**	**+0.6**
HATJ				S	**Sn**	**11 16 09.8**	**-0.3**
CHN5	**Tsauling**	**1.77**	**226**	eP	**Pn**	**11 15 48.2**	**+0.7**
CHN5	baz=231			eS	**Sn**	**11 16 11.3**	**+0.8**
	baz=231						
FULB	**Fuli**	**1.78**	**204**	eP	**Pn**	**11 15 47.5**	**0.0**
	baz=210						
WGK	**Gukeng**	**1.79**	**231**	eP	**Pn**	**11 15 48.6**	**+1.0**
WGK	baz=235			eS	**Sn**	**11 16 12.1**	**+1.4**
	baz=235						
WRL	**Guolierlin Hig**	**1.80**	**239**	eP	**Pn**	**11 15 47.7**	**0.0**
WRL	baz=249			eS	**Sn**	**11 16 10.1**	**-0.9**
	baz=249						
WDLH	**Douliu**	**1.80**	**231**	eP	**Pn**	**11 15 48.5**	**+0.8**
WDLH	baz=245			eS	**Sn**	**11 16 11.1**	**0.0**
	baz=245						
CHKT	**Chengkung**	**1.84**	**201**	eP	**Pn**	**11 15 48.4**	**+0.1**
CHKT	baz=214			eS	**Sn**	**11 16 10.4**	**-1.6**
	baz=214						
JKRS	**Kuro-shima**	**1.86**	**108**	P	**Pn**	**11 15 49.0**	**+0.5**
JKRS				S	**Sn**	**11 16 12.0**	**-0.4**
ECS	**Chishang**	**1.90**	**204**	eP	**Pn**	**11 15 49.2**	**+0.2**
	baz=206						
ELDTW	**Lidau**	**1.90**	**211**	eP	**Pn**	**11 15 49.4**	**+0.2**

baz=207
WTK **Tuku** **1.91 234** *eP* **Pn** 11 15 49.5 +0.4
baz=245
WTK *eS* **Sn** 11 16 13.2 -0.3
baz=245
JIJ **Ishigaki jima** **1.94 104** P **Pn** 11 15 49.6 +0.1
JIJ S **Sn** 11 16 12.9 -1.3
CHN2 **Minshiung** **1.95 229** *eS* **Sn** 11 16 15.9 +1.6
baz=233
EDH **Donghe** **1.98 201** *eP* **Pn** 11 15 49.7 -0.4
EDH *eS* **Sn** 11 16 14.2 -0.9
baz=213
CHN4 **Tsaushan** **2.00 223** *eP* **Pn** 11 15 51.1 +0.8
baz=225
CHY **Chiayi** **2.01 229** *eP* **Pn** 11 15 50.8 +0.4
baz=233
CHY *eS* **Sn** 11 16 15.8 +0.1
baz=233
TPUB **Ta-pu** **2.02 221** *eP* **Pn** 11 15 51.0 +0.5
baz=223
STYH **Taoyuan** **2.04 216** *eP* **Pn** 11 15 51.5 +0.8
baz=214
STYH *eS* **Sn** 11 16 18.1 +1.8
baz=214
STYT **Tauyuan** **2.05 216** *eP* **Pn** 11 15 51.8 +0.8
baz=214
STYT *eS* **Sn** 11 16 18.4 +1.7
baz=214
JISG **Ishigakijimahi** **2.05 96** P **Pn** 11 15 51.3 +0.4
JISG *eS* **Sn** 11 16 15.9 -0.8
WSF **Szhu** **2.06 235** *eS* **Sn** 11 16 17.1 +0.2
baz=239
WTP **Ta-pu** **2.07 220** *eP* **Pn** 11 15 51.7 +0.5
baz=231
LONT **Longtian** **2.10 204** *eP* **Pn** 11 15 51.3 -0.3
baz=204
LONT *eS* **Sn** 11 16 16.3 -1.6
baz=204
TWK **Hsinying** **2.13 223** *eP* **Pn** 11 15 52.4 +0.5
baz=228
TWK *eS* **Sn** 11 16 19.1 +0.7
baz=228
SNST **Tainan City** **2.16 222** *eP* **Pn** 11 15 53.1 +0.8
baz=224
CHN1 **Nanshi** **2.17 221** *eP* **Pn** 11 15 53.0 +0.6
baz=226
CHN1 *eS* **Sn** 11 16 20.5 +1.3
baz=226
ICHU **Yijhu** **2.20 228** *eP* **Pn** 11 15 53.0 +0.3
baz=233
ICHU *eS* **Sn** 11 16 19.5 -0.4
baz=233
TWG **Pinlang** **2.20 205** *eP* **Pn** 11 15 52.2 -0.7
baz=205
TWG *eS* **Sn** 11 16 18.0 -2.2
baz=205
TWGBT **Beinan** **2.20 204** *eP* **Pn** 11 15 52.1 -0.7
baz=202
SGST **Jiashian** **2.21 218** *eP* **Pn** 11 15 52.8 -0.2
baz=231
SGST *eS* **Sn** 11 16 20.0 -0.3
baz=231
LDUT **Ludao** **2.22 194** *eP* **Pn** 11 15 52.1 -0.9
baz=195
LDUT *eS* **Sn** 11 16 18.5 -2.0
baz=195
SLGT **Liugui** **2.25 216** *eP* **Pn** 11 15 54.7 +1.3
baz=214
SLGT *eS* **Sn** 11 16 22.7 +1.5
baz=214
CHN8 **Yiju** **2.25 229** *eP* **Pn** 11 15 53.8 +0.3
baz=234
CHN8 *eS* **Sn** 11 16 21.6 +0.3
baz=234
MATB **Ma-tsu** **2.32 305** *eP* **Pn** 11 15 53.8 -0.5
baz=304
MSUT **Lienchiang** **2.35 305** *eP* **Pn** 11 15 54.2 -0.5
baz=305
SCLT **Jiali** **2.38 226** *eS* **Sn** 11 16 24.8 +0.6
baz=231
VWUC **VWUC** **2.38 274** *eP* **Pn** 11 15 54.7 -0.4
baz=276
VWUC *eS* **Sn** 11 16 22.2 -2.0
baz=276
JTJ **Tarama** **2.40 94** P **Pn** 11 15 56.1 +0.8
JTJ S **Sn** 11 16 24.7 +0.1
SCST **Cishan** **2.42 217** *eP* **Pn** 11 15 56.7 +1.1
baz=228
SSD **Sandimen** **2.46 213** *eP* **Pn** 11 15 57.2 +1.0
baz=225
TSMG **Majia** **2.49 212** *eP* **Pn** 11 15 57.4 +0.9
baz=225
TWM1 **Shoushan** **2.51 217** *eP* **Pn** 11 15 58.5 +1.7
baz=228
MASBT **Mashibuluo** **2.58 211** *eP* **Pn** 11 15 58.5 +0.9
baz=225
PNG **Penghu** **2.62 242** *eP* **Pn** 11 15 57.6 -0.6
baz=245
PNG *eS* **Sn** 11 16 27.4 -2.4
baz=245
PHUB **P'eng-hu** **2.63 241** *eP* **Pn** 11 15 57.7 -0.7
baz=244
PHUB *eS* **Sn** 11 16 27.7 -2.3
baz=244
PTMZ **Houxiangcun** **2.69 275** *eP* **Pn** 11 15 59.0 0.0
baz=276
EAST **Anshuo** **2.69 205** *eP* **Pn** 11 15 59.6 +0.4
baz=207
XPSS **Dashiqiu** **2.69 321** *eP* **Pn** 11 15 58.4 -0.6
baz=321
LYJJ **Jianjiangzhen** **2.69 310** *eP* **Pn** 11 15 58.7 -0.4
baz=309
WDGT **Dungji** **2.70 235** *eP* **Pn** 11 15 58.9 -0.4
baz=238
WDGT *eS* **Sn** 11 16 29.9 -1.8
baz=238
SCZT **Fangliau** **2.79 209** *eP* **Pn** 11 16 01.2 +0.7
baz=220
JIRB **Irabujima** **2.82 90** P **Pn** 11 16 02.1 +1.3
JIRB S **Sn** 11 16 35.2 +0.8
LAY **Lan-yu** **2.83 190** *eP* **Pn** 11 16 00.3 -0.6
baz=196
LAY *eS* **Sn** 11 16 31.4 -3.2
baz=196
SLIU **Shizi** **2.86 204** *eP* **Pn** 11 15 59.5 -1.8
baz=206
JIKM **Ikemajima** **2.89 88** P **Pn** 11 16 03.2 +1.5
JIKM *eS* **Sn** 11 16 36.5 +0.5
VCHM **Qimei** **2.91 237** *eP* **Pn** 11 16 01.4 -0.5
baz=240
VCHM *eS* **Sn** 11 16 34.6 -1.9
baz=240
JMJ **Miyako jima 2** **2.93 90** *eP* **Pn** 11 16 04.8 +2.6
baz=90
JMJ *eS* **Sn** 11 16 38.0 +1.0
baz=90
JMJ2 **Miyako jima3** **2.96 91** P **Pn** 11 16 04.0 +1.3
JMJ2 *eS* **Sn** 11 16 38.4 +0.6
MHZQ **Yeshan** **3.02 295** *eP* **Pn** 11 16 03.3 -0.2
baz=296
JOGS **Gusukube** **3.03 91** P **Pn** 11 16 05.6 +2.0
JOGS *eS* **Sn** 11 16 40.1 +0.6
KNM **Kinmen** **3.33 264** *eP* **Pn** 11 16 09.4 +1.8
baz=266
KNMB **Chin-men Tao** **3.37 264** *eP* **Pn** 11 16 07.8 -0.3
baz=266
AXDP **Jialang** **3.72 272** *eP* **Pn** 11 16 13.3 +0.5
baz=274
ZPLA **Ao Xicun** **4.04 258** *eP* **Pn** 11 16 17.0 0.0
baz=261
JOW **Kunigami** **5.93 69** P **Pn** 11 16 42.0 -0.7
1.5nm,0.3s,baz=300,slow=24,SNR=14
JOW S **Sn** 11 17 45.5 -3.8
1.8nm,0.3s,baz=86,slow=17,SNR=1.6
JOW **Kunigami** **5.93 69** *eP* **Pn** 11 16 42.0 -0.7
baz=70
KSRS **Korea Array** **13.54 20** P **P** 11 18 30.1 +0.4
0.1nm,0.3s,baz=200,slow=11,SNR=6.6
SONM **Songino Array** **26.10 336** pP pP 11 21 06.0 +1.3
1.3nm,1.0s,baz=157,slow=9.6,SNR=3.9
MKAR **Makanchi Array** **38.44 315** pP pP 11 22 54.0 +0.8
0.4nm,0.7s,baz=105,slow=9.2,SNR=4.0
WRA **Warramunga Arr** **46.08 164** P **P** 11 23 30.1 0.0
1.2nm,0.7s,baz=347,slow=8.8,SNR=8.4
ASAR **Alice Springs** **49.56 166** P **P** 11 23 57.2 +0.3
0.7nm,0.6s,baz=351,slow=7.4,SNR=4.7

*JMA **22** 11:28:00.0±0.2,33.59N×137.42E,h368km,M2.8*
*IDC **22** 11:28:01.9±3.9,33.51N×138.36E,h352km±198km, mb2.9/2,mb1 3.1/3,mb1mx2.7/35,mbtmp3.5/3,Error ellipse: s-maj=282.3km s-min=189.7km az=179.0*
ISC 22 11:28:01.7±1.2,33.6N±0.1×137.4E±0.1,h350km,n12, σ1§04/15,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.96**	**323**	P		**Pn**		**11 28 48.1**	**+0.9**
JWY	**Kouya**	**1.62**	**292**	P		**Pn**		**11 28 51.0**	**+0.5**
JYTA	**Yamagatataniai**	**2.04**	**345**	P		**Pn**		**11 28 53.7**	**+0.6**
JOD2	**Odawara 2**	**2.15**	**40**	P		**Pn**		**11 28 55.1**	**+1.1**
JWT	**Wachi**	**2.34**	**316**	P		**Pn**		**11 28 55.5**	**+0.1**
JRY	**Ryogami san**	**2.69**	**27**	P		**Pn**		**11 28 59.5**	**+1.2**
JRY				S		**S**		**11 29 45.0**	**+1.2**
MJAR	**Matsushiro Arr**	**2.99**	**13**	P		**Pn**		**11 29 01.4**	**+0.5**
	0.2nm,0.3s,baz=172,slow=8.7,SNR=14								
MAT	**Matsushiro**	**2.99**	**13**	P		**Pn**		**11 29 01.2**	**+0.4**
BSO1	**Boso 1**	**3.14**	**70**	P		**Pn**		**11 29 01.7**	**+0.1**
BSO1				S		**S**		**11 29 50.4**	**+0.4**
JAG	**Ashikaga**	**3.26**	**30**	P		**Pn**		**11 29 03.3**	**0.0**
JAG				S		**S**		**11 29 50.6**	**-2.5**
WRA	**Warramunga Arr**	**53.34**	**184**	P		**P**		**11 36 45.4**	**-0.8**
	0.4nm,0.3s,baz=360,slow=7.6,SNR=20								
ASAR	**Alice Springs**	**57.07**	**184**	P		**P**		**11 37 12.3**	**-0.2**
	0.4nm,0.6s,baz=356,slow=4.6,SNR=13								

*VAO **22** 11:41:55.5±0.4,21.56S×68.27W,h10km,mb5.2*
*SJA **22** 11:42:05.8±0.5,21.77S×68.36W,h153km±3km,ML5.0, MW4.8*
*MOS **22** 11:42:07.1±1.5,21.67S×68.07W,h128km,mb4.9/42, Error ellipse: s-maj=11.6km s-min=5.5km az=108.7*
*GUC **22** 11:42:07.4±0.7,21.78S×68.42W,h134km±5km,ML5.3*
*NEIC **22** 11:42:07.4±2.2,21.78S±0.04×68.17W±0.07,h122km±4km, mb5.1/390,Mwr5.1(GUC),Error ellipse: s-maj=9.4km s-min=6.3km az=85.0*
*IDC **22** 11:42:08.7±0.5,21.71S×68.14W,h130km±4km,mb4.7/14, mb1 4.8/19,mb1mx4.7/23,mbtmp5.0/19,MS3.9/3, Ms1 3.8/3,ms1mx3.4/21,Error ellipse: s-maj=13.6km s-min=10.5km az=75.0*
*GCMT **22** 11:42:13.0±0.2,21.70S±0.01×68.34W±0.02,h149km±2km, MW5.1/116,Moment Tensor Solution. s55,c61; s116,c159; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.67±.11; Mθθ0.83±.15; Mϕϕ3.84±.17; Mrθ1.19±.10; Mθϕ-2.13±.14; Mϕr-1.28±.14; Best double couple: M₀5.11600×10¹⁶ NP1:ϕs158.00000°,δ36.00000°, λ-81.00000°. NP2:ϕs327.00000°,δ55.00000°, λ-97.00000°. Principal axes: T 5.2300, Plg10.0000°, Azm62.0000°; N -0.2310, Plg5.0000°, Azm331.0000°; P -5.0020, Plg79.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **22** 11:42:15.0±0.0,21.80S×68.70W,h179km,mB5.3/11*
ISC 22 11:42:07.1±0.4,21.78S±0.03×68.22W±0.04,h124km±3km, h124km:pP-P,n697,σ1§48/758,mb5.1/243,99C-122D, Fault plane solution: NP1:ϕs146.30042°,δ26.39011°, λ-108.79217°. **NP2:**ϕs347.10025°,δ65.11573°, λ-80.91863°. **Principal axes:** T Plg19.6259°, Azm70.2952°; N Plg8.2321°, Azm163.2524°; P Plg68.5848°, Azm274.8988°; **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.95**	**269**				**Pn**	**11 42 30.1**	**+0.9**
PB09						Sn	**Sn**	**11 42 46.5**	**+0.7**
LVC	**Limon Verde**	**1.05**	**218**	P		**Pn**		**11 42 31.3**	**+1.0**
	5μm,0.3s,baz=36,slow=7.8								
LVC				S		**Sn**		**11 42 48.6**	**+0.7**
	938nm,0.3s,baz=250,slow=18,SNR=10								
LVC				LR		LR		11 43 06.3	
	comp=Z,5μm,18.5s,baz=196,slow=50								
LVC	**Limon Verde**	**1.05**	**218**	*eP*		**Pn**		**11 42 31.1**	**+0.8**
LVC				*i* S		**Sn**		**11 42 48.9**	**+0.9**
LVC	**Limon Verde**	**1.05**	**218**	*eP*		**Pn**		**11 42 31.1**	**+0.8**
LVC	**Limon Verde**	**1.05**	**218**	Pn		**Pn**		**11 42 31.1**	**+0.8**
LVC				Sn		**Sn**		**11 42 48.8**	**+0.9**
LVC	**Limon Verde**	**1.05**	**218**	*eP*		**Pn**		**11 42 31.1**	**+0.8**
PB01	**IPOC Station P**	**1.39**	**301**	⇑*iP*		**Pn**		**11 42 33.6**	**0.0**
PB01				*i* S		**Sn**		**11 42 53.4**	**-0.4**
PB01				IAML				11 42 55.6	
	comp=E,48μm,0.2s								
PB01	**IPOC Station P**	**1.39**	**301**				**Pn**	**11 42 33.7**	**0.0**
PB01				Sn		**Sn**		**11 42 53.4**	**-0.4**
PB01	**IPOC Station P**	**1.39**	**301**	*eP*		**Pn**		**11 42 34.0**	**+0.4**
PB01				*eS*		**Sn**		**11 42 54.6**	**+0.8**
PB01				IAML				11 42 58.0	
	comp=Z,17μm,0.2s								
PB07	**IPOC Station P**	**1.55**	**272**	⇑*iP*		**Pn**		**11 42 35.4**	**-0.1**
PB07				*i* S		**Sn**		**11 42 56.5**	**-0.6**
PB07				IAML				11 42 58.4	
	comp=E,23μm,0.4s								
PB07	**IPOC Station P**	**1.55**	**272**				**Pn**	**11 42 35.5**	**0.0**
PB07				Sn		**Sn**		**11 42 56.3**	**-0.9**
PB07	**IPOC Station P**	**1.55**	**272**	*eP*		**Pn**		**11 42 35.6**	**0.0**
PB07				*eS*		**Sn**		**11 42 57.7**	**+0.5**
PB07				IAML				11 42 59.7	
	comp=Z,17μm,0.5s								
PB06	**IPOC Station P**	**1.56**	**233**				**Pn**	**11 42 35.0**	**-0.6**
PB08	**IPOC Station P**	**1.85**	**332**	*iP*		**Pn**		**11 42 40.4**	**+1.2**
PB08				*i* S		**Sn**		**11 43 05.0**	**+1.3**
PB08				IAML				11 43 07.3	
	comp=E,21μm,0.1s								
PB08	**IPOC Station P**	**1.85**	**332**				**Pn**	**11 42 40.0**	**+0.7**
PB08				Sn		**Sn**		**11 43 04.7**	**+0.9**
PB08	**IPOC Station P**	**1.85**	**332**	*eP*		**Pn**		**11 42 40.5**	**+1.2**
PB08				*eS*		**Sn**		**11 43 05.1**	**+1.3**
PB08				IAML				11 43 06.1	
	comp=Z,6μm,0.7s								
PB04	**IPOC Station P**	**1.88**	**252**	⇑*iP*		**Pn**		**11 42 39.1**	**-0.2**
PB04				*i* S		**Sn**		**11 43 02.9**	**-1.1**
PB04	**IPOC Station P**	**1.88**	**252**			**Pn**		**11 42 38.9**	**-0.5**
PB04				Sn		**Sn**		**11 43 03.5**	**-0.5**
PB04	**IPOC Station P**	**1.88**	**252**	*eP*		**Pn**		**11 42 39.1**	**-0.2**
PB04				*eS*		**Sn**		**11 43 03.3**	**-0.7**
PB04				IAML				11 43 05.9	
	comp=Z,5μm,0.5s								
PB05	**IPOC Station P**	**2.13**	**239**	⇑*iP*		**Pn**		**11 42 41.8**	**-0.6**
PB05				*i* S		**Sn**		**11 43 08.1**	**-1.4**
PB05	**IPOC Station P**	**2.13**	**239**	*eP*		**Pn**		**11 42 42.2**	**-0.2**
PB05				*eS*		**Sn**		**11 43 09.2**	**-0.3**
PB05				IAML				11 43 15.2	
	comp=Z,3μm,0.6s								
TA01	**Diego Aracena**	**2.19**	**303**	⇑*iP*		**Pn**		**11 42 42.6**	**-0.5**
TA01				*i* S		**Sn**		**11 43 09.1**	**-1.6**
TA01				IAML				11 43 11.4	
	comp=E,32μm,0.4s								
TA01	**Diego Aracena**	**2.19**	**303**	Pn		**Pn**		**11 42 42.3**	**-0.8**
TA02	**Huaiquique**	**2.33**	**310**	⇑*iP*		**Pn**		**11 42 44.0**	**-0.8**
TA02				*eS*		**Sn**		**11 43 12.5**	**-1.4**
TA02				IAML				11 43 15.8	
	comp=N,24μm,0.1s								
TA02	**Huaiquique**	**2.33**	**310**				**Pn**	**11 42 44.1**	**-0.8**
PB11	**IPOC Station P**	**2.42**	**326**	⇑*iP*		**Pn**		**11 42 45.9**	**-0.2**
PB11				*i* S		**Sn**		**11 43 14.9**	**-1.1**
PB11				IAML				11 43 17.2	
	comp=E,21μm,0.2s								
PB11	**IPOC Station P**	**2.42**	**326**				**Pn**	**11 42 45.6**	**-0.5**
PB11	**IPOC Station P**	**2.42**	**326**	*eP*		**Pn**		**11 42 46.0**	**-0.1**
PB11				*eS*		**Sn**		**11 43 15.8**	**-0.3**
PB11				IAML				11 43 16.9	
	comp=Z,8μm,0.2s								
YJA	**Yavi**	**2.54**	**99**	*eP*		**Pn**		**11 42 51.2**	**+3.3**
YJA				*eS*		**Sn**		**11 43 24.9**	**+5.6**
PB10	**IPOC Station P**	**2.77**	**231**	⇑*iP*		**Pn**		**11 42 49.4**	**-1.0**
PB10				*eS*		**Sn**		**11 43 21.3**	**-2.6**
PB10	**IPOC Station P**	**2.77**	**231**	Pn		**Pn**		**11 42 48.9**	**-1.5**
PB10	**IPOC Station P**	**2.77**	**231**	*eP*		**Pn**		**11 42 49.9**	**-0.6**
PB10				*eS*		**Sn**		**11 43 23.2**	**-0.6**
PB10				IAML				11 43 34.7	
	comp=Z,2μm,1.6s								
PSGC	**Pisagua**	**2.81**	**320**	⇑*iP*		**Pn**		**11 42 49.8**	**-1.3**
PSGC				*i* S		**Sn**		**11 43 21.5**	**-3.5**
PSGC				IAML				11 43 28.5	
	comp=E,12μm,0.4s								
PSGCX	**Pisagua**	**2.81**	**320**	Pn		**Pn**		**11 42 49.9**	**-1.2**

PSGCX	**Pisagua**	**2.81**	**320**	*eP*		**Pn**		**11 42 49.8**	**-1.3**
PSGCX				IAML				11 43 27.0	
	comp=Z,10μm,0.5s								
MNMC	**Minye Minye**	**2.93**	**334**	⇑*iP*		**Pn**		**11 42 53.0**	**+0.1**
MNMC				*eS*		**Sn**		**11 43 28.7**	**+0.6**
MNMC				IAML				11 43 36.4	
	comp=N,15μm,0.3s								
MNMC	**Minye Minye**	**2.93**	**334**	Pn		**Pn**		**11 42 52.3**	**-0.6**
MNMCX	**Minye Minye**	**2.93**	**334**	*eP*		**Pn**		**11 42 52.9**	**0.0**
MNMCX				*eP*		**Pn**		**11 42 53.2**	**+0.3**
MNMCX				IAML				11 43 34.6	
	comp=Z,8μm,0.3s								
HJA	**Humahuaca**	**2.96**	**119**	*eP*		**Pn**		**11 42 56.0**	**+2.7**
PB14	**IPOC Station P**	**3.48**	**215**	⇑*iP*		**Pn**		**11 42 59.0**	**-1.1**
PB14				*eS*		Sn		11 43 31.4	-10
PB14	**IPOC Station P**	**3.48**	**215**	Pn		**Pn**		**11 42 58.8**	**-1.3**
PB14	**IPOC Station P**	**3.48**	**215**	*eP*		**Pn**		**11 43 00.0**	**0.0**
PB14				*eS*		**Sn**		**11 43 39.8**	**-1.2**
PB14				IAML				11 43 51.1	
	comp=Z,2μm,1.1s								
GO02	**Mina Guanaco**	**3.60**	**200**	⇑*iP*		**Pn**		**11 43 01.5**	**-0.2**
GO02				*eS*		**Sn**		**11 43 43.5**	**-0.4**
GO02				IAML				11 43 46.0	
	comp=E,2μm,0.5s								
GO02	**Mina Guanaco**	**3.60**	**200**	Pn		**Pn**		**11 43 00.6**	**-1.0**
SLA	**San Lorenzo**	**3.85**	**140**	*eP*		**Pn**		**11 43 08.0**	**+3.2**
SLA				*eS*		**Sn**		**11 43 54.9**	**+5.3**
AP01	**Chacalluta**	**3.93**	**329**	*eP*		**Pn**		**11 43 04.5**	**-1.3**
AP01	**Chacalluta**	**3.93**	**329**			**Pn**		**11 43 04.2**	**-1.7**
ASTB	**Santa Barbara**	**4.09**	**123**	*eP*		**Pn**		**11 43 10.2**	**+2.2**
ALOL	**LOMAS DE OLMED**	**4.40**	**118**	*eP*		**Pn**		**11 43 13.0**	**+0.9**
FSA	**Cafayete**	**4.78**	**155**	*eP*		**Pn**		**11 43 19.7**	**+2.5**
AC01	**Pan de Azucar**	**4.87**	**206**	⇑*eP*		**Pn**		**11 43 15.6**	**-2.6**
AC01	**Pan de Azucar**	**4.87**	**206**	Pn		**Pn**		**11 43 16.4**	**-1.9**
AC02	**Maricunga**	**5.10**	**189**	Pn		**Pn**		**11 43 22.0**	**+0.1**
LPAZ	**La Paz**	**5.46**	**1**	P		**Pn**		**11 43 28.5**	**+1.6**
	comp=E,33nm,0.3s,baz=172,slow=7.0,SNR=252								
LPAZ	**La Paz**	**5.46**	**1**	*eP*		**Pn**		**11 43 27.4**	**+0.5**
LPAZ	**La Paz**	**5.46**	**1**			**Pn**		**11 43 28.4**	**+1.5**
LPAZ	**La Paz**	**5.46**	**1**	*eP*		**Pn**		**11 43 26.2**	**-0.6**
GO03	**Copiap**	**6.08**	**197**			**Pn**		**11 43 31.7**	**-2.9**
AC04	**Llanos de Chal**	**6.90**	**201**			**Pn**		**11 43 41.7**	**-4.0**
CYA	**Choya**	**6.99**	**162**	*eP*		**Pn**		**11 43 47.3**	**+0.4**
ACLC	**CERRO LA CRUZ**	**7.70**	**172**	*eP*		**Pn**		**11 43 56.2**	**-0.5**
AROD	**Rodeo**	**8.43**	**187**	*eP*		**Pn**		**11 44 05.6**	**-1.0**
AROD				*eS*		**Sn**		**11 45 41.1**	**+0.8**
GO04	**Tololo Observa**	**8.68**	**195**			**Pn**		**11 44 05.5**	**-4.3**
APLL	**PUNTA DE LOS L**	**8.72**	**170**	*eP*		**Pn**		**11 44 09.0**	**-1.2**
ACCO	**Cerro Coronel**	**8.81**	**185**	*eP*		**Pn**		**11 44 10.2**	**-1.5**
ACCO				*eS*		**Sn**		**11 45 47.5**	**-1.9**
ACCO				IAML				11 46 36.3	
	comp=E,61nm,1.2s								
SIV	**San Ignacio**	**8.88**	**51**	P		**Pn**		**11 44 10.2**	**-2.3**
	comp=Z,120nm,0.3s,baz=248,slow=12,SNR=1540								
SIV				S		**Sn**		**11 45 42.9**	**-8.0**
	comp=Z,2.3nm,0.3s,baz=135,slow=23,SNR=1.6								
SIV				LR		LR		11 47 59.6	
	comp=Z,864nm,21.2s,baz=300,slow=40								
CO03	**El Pedregal**	**9.29**	**193**			**Pn**		**11 44 13.6**	**-4.4**
CO03	**El Pedregal**	**9.29**	**193**	*eP*		**Pn**		**11 44 14.0**	**-4.0**
CO03				*eS*		**Sn**		**11 45 55.7**	**-5.1**
RTLL	**Cerro Villicun**	**9.52**	**181**	*eP*		**Pn**		**11 44 19.0**	**-2.0**
RTLL				*eS*		**Sn**		**11 45 59.0**	**-7.2**
CO02	**Combarbal**	**9.71**	**194**			Pn		11 44 18.4	-5.3
RTLS	**Leoncito**	**10.03**	**185**	*eP*		**Pn**		**11 44 25.6**	**-2.5**
RTCV	**Cerro Valdivia**	**10.05**	**182**	*eP*		**Pn**		**11 44 25.4**	**-2.8**
AUSP	**Uspallata**	**10.46**	**185**	*eP*		**Pn**		**11 44 31.1**	**-2.8**
ASAL	**Salagasta**	**10.79**	**183**	*eS*		**Sn**		**11 46 31.7**	**-5.3**
MRA	**San Martin**	**10.83**	**169**	*eS*		**Sn**		**11 46 32.0**	**-6.1**
MRA				*eS*		**Sn**		**11 46 32.0**	**-6.1**
CPUP	**Villa Florida**	**10.93**	**117**	P		**Pn**		**11 44 39.0**	**-1.0**
	comp=Z,2.6nm,0.3s,baz=298,slow=12,SNR=68								
CPUP	**Villa Florida**	**10.93**	**117**			**Pn**		**11 44 38.6**	**-1.4**
VA03	**San Esteban**	**11.14**	**190**	Pn		**Pn**		**11 44 44.4**	**+1.6**
AAGR	**Agrelo**	**11.28**	**183**	*eP*		**Pn**		**11 44 43.2**	**-1.5**
ROC1	**El Roble**	**11.43**	**192**	*eP*		Pn		11 44 42.0	-4.8
AQDB	**Aquidauana**	**11.76**	**86**			**Pn**		**11 44 48.1**	**-2.9**
MT09	**Talagante**	**12.20**	**191**			**Pn**		**11 44 56.0**	**-0.8**
NNA	**Nana**	**12.76**	**318**	P		**Pn**		**11 45 05.6**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=194,slow=10,SNR=2.1								
NNA				S		Sn		11 47 14.5	-10
	comp=Z,2.1nm,0.3s,baz=174,slow=3.7,SNR=1.9								
NNA	**Nana**	**12.76**	**318**	Pn		**Pn**		**11 45 02.5**	**-1.7**
BO01	**Tunca**	**12.82**	**191**	Pn		**Pn**		**11 45 04.7**	**-0.1**
ITQB	**Itaqui**	**13.07**	**129**	Pn		**Pn**		**11 45 07.5**	**-0.5**
BO02	**Sierra Bellavi**	**13.16**	**189**	Pn		**Pn**		**11 45 10.0**	**+0.7**
BO02	**Sierra Bellavi**	**13.16**	**189**	*eP*		**Pn**		**11 45 07.7**	**-1.6**
GO05	**Huala**	**13.58**	**193**	Pn		**Pn**		**11 45 14.1**	**-0.6**
SAML	**Samuel**	**13.64**	**22**	P		**Pn**		**11 45 12.8**	**-2.8**
SAML	**Samuel**	**13.64**	**22**	Pn		**Pn**		**11 45 12.8**	**-2.8**
TRCB	**Terra Rica**	**14.46**	**97**			**Pn**		**11 45 25.8**	**-0.2**
PTGB	**Pitanga**	**15.13**	**104**	*eP*		**Pn**		**11 45 33.6**	**-0.9**
ITAB	**Concordia**	**15.61**	**114**			**P**		**11 45 41.4**	**-0.5**
ITAB						IAmb	IAmb	11 45 45.1	
	comp=Z,166nm,1.4s								
CPSB	**Cacapava Do Su**	**15.80**	**126**	*eP*		**Pn**		**11 45 42.0**	**-0.7**
PLTB	**Pedras Altas**	**16.39**	**130**			**Pn**		**11 45 48.8**	**-1.2**
PLTB	**Pedras Altas**	**16.39**	**130**	*eP*		**Pn**		**11 45 48.5**	**-1.4**
TRQA	**Tornquist**	**17.09**	**163**	P		**P**		**11 45 57.5**	**-0.7**
TRQA				pmax		pmax			
	comp=Z,117nm,0.7s								
TRQA	**Tornquist**	**17.09**	**163**	P		**P**		**11 45 57.5**	**-0.7**
TRQA	**Tornquist**	**17.09**	**163**	*eP*		**P**		**11 45 56.2**	**-2.0**
ATAH	**Atahualpa**	**17.56**	**324**	P		**P**		**11 46 03.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=35,slow=11,SNR=1.9								
TBTG	**Tabatinga, AM**	**17.56**	**354**	*eP*		**P**		**11 46 00.4**	**-3.1**
TIJ01	**Guaruva-PR**	**17.96**	**105**	*eP*		**P**		**11 46 07.0**	**-1.0**
BB19B	**Bebedouro**	**18.35**	**91**	*eP*		**P**		**11 46 12.1**	**0.0**
TER01	**Tubaro-SC**	**18.53**	**115**	*eP*		**P**		**11 46 13.4**	**-0.7**
PLCA	**Paso Flores**	**19.00**	**185**	P		**P**		**11 46 20.1**	**+0.9**
	comp=Z,2.7nm,0.3s,baz=7.1,slow=14,SNR=59								
PLCA				PcP		**PcP**		**11 50 40.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=58,slow=0.7,SNR=4.3								
PLCA	**Paso Flores**	**19.00**	**185**	P		**P**		**11 46 19.7**	**+0.5**
PLCA				pmax		pmax			
	comp=Z,90nm,0.9s								
PLCA	**Paso Flores**	**19.00**	**185**			**P**		**11 46 19.7**	**+0.5**
PLCA				IAmb		IAmb		11 46 25.6	
	comp=Z,90nm,0.9s								
PLCA	**Paso Flores**	**19.00**	**185**	*eP*		**P**		**11 46 20.0**	**+0.9**
RCLB	**Rio Claro- Sao**	**19.18**	**96**	*eP*		**P**

COYC IAmb IAmb 11 47 10.9
comp=Z,58nm,0.8s
DUB01 Friburgo-RJ 23.97 96 *eP* **P 11 47 10.2 -0.1**
MALB Monte Alegre 24.01 36 *eP* **P 11 47 10.0 -0.6**
OTAV Otavalo 24.05 334 P **P 11 47 14.0 +2.6**
OTAV pmax pmax
comp=Z,15nm,0.9s
OTAV Otavalo 24.05 334 P **P 11 47 14.0 +2.6**
OTAV Otavalo 24.05 334 *eP* **P 11 47 12.4 +1.0**
SDBA SAO DESIDERIO 24.12 71 *eP* **P 11 47 10.1 -1.6**
FLOC Florencia 24.33 342 P **P 11 47 13.7 +0.2**
FLOC Florencia 24.33 342 *eP* **P 11 47 09.9 -3.5**
GCUF Volcan Galeras 24.54 338 *eP* **P 11 47 17.5 +1.6**
CAM01 Campos-RJ 24.65 95 *eP* **P 11 47 15.5 -0.8**
GARC Garzon, Huila 24.86 342 *eP* **P 11 47 15.2 -3.3**
BOAV Boa Vista 25.18 18 *eP* **P 11 47 20.6 -0.5**
BBAC Balboa, Cauca 25.25 338 *eP* **P 11 47 19.5 -2.5**
VILC Villavicencio, 26.28 348 *eP* **P 11 47 27.6 -3.7**
MCPB Macapa, AP 26.49 39 *eP* **P 11 47 31.7 -1.3**
CHIC Chingaza 26.79 348 *eP* **P 11 47 31.6 -4.6**
YOTC Yotoco, Valle 26.81 342 *eP* **P 11 47 38.1 +2.2**
ROSC El Rosal 27.12 347 LR LR 11 58 55.0
comp=Z,218nm,20.7s,baz=231,slow=37
GUA01 Guaratinga, BA 27.30 84 *eP* **P 11 47 40.2 -0.1**
TMAB Tom-Au,PA,Br 27.48 48 *eP* **P 11 47 41.7 -0.2**
PLMC San Jos del P 27.67 342 *eP* **P 11 47 41.7 -1.9**
RUSC La Rusia 27.91 350 P **P 11 47 45.3 -0.9**
RUSC IAmb IAmb 11 47 55.8
comp=Z,58nm,1.4s
RUSC La Rusia 27.91 350 *eP* **P 11 47 43.4 -2.8**
NBIT Itapeh - BA 28.12 81 *eP* **P 11 47 48.0 +0.4**
CBOC Ciudad Bolivar 28.51 344 *eP* **P 11 47 47.8 -3.5**
BARC Barichara 28.61 350 *eP* **P 11 47 51.8 -0.3**
DBBC Dabeiba 29.67 344 *eP* **P 11 48 01.1 -0.3**
ZARC Zaragoza, Cauc 29.81 347 *eP* P 11 47 57.5 -5.0
ROSB Rosrio 30.01 55 *eP* **P 11 48 05.3 +1.0**
EFI East Falkland 30.87 168 P **P 11 48 11.0 -0.5**
EFI pmax pmax
comp=Z,205nm,1.4s
EFI East Falkland 30.87 168 P **P 11 48 11.0 -0.5**
SMLC San Martn de 30.93 349 *eP* P 11 48 06.3 -6.0
MG02 Cerro Sombrero 30.96 181 P **P 11 48 12.3 +0.1**
NBPS Pedro II - PI 31.18 60 *eP* **P 11 48 13.4 -1.4**
NBMA Muriti-CE 31.82 68 *eP* **P 11 48 19.8 -0.4**
NBPB Pedra_Branca-C 32.07 64 *eP* **P 11 48 21.4 -1.0**
NBAN Anadia - AL 32.94 74 *eP* **P 11 48 29.3 -0.8**
NBMO Morrinhos-CE 32.95 60 *eP* **P 11 48 29.1 -1.0**
TOSP Speyside 33.72 14 P **P 11 48 37.1 +0.4**
NBCL Cascavel-CE 33.86 63 *eP* **P 11 48 37.3 -0.8**
NBPA Parau_RN 34.04 67 *eP* **P 11 48 38.8 -0.9**
SRBA San Rafael, Bu 34.21 333 P **P 11 48 42.7 +1.6**
SRBA IAmb IAmb 11 48 44.5
comp=Z,27nm,1.0s
GRGR Grenville 34.31 11 P **P 11 48 41.0 -0.8**
RIMA Rio Macho 34.91 332 P **P 11 48 49.1 +1.9**
RIMA IAmb IAmb 11 48 50.6
comp=Z,19nm,1.1s
RCBR Riachuelo 35.04 68 P **P 11 48 47.6 -0.7**
RCBR pmax pmax
comp=Z,50nm,1.0s
RCBR Riachuelo 35.04 68 P **P 11 48 47.6 -0.7**
RCBR Riachuelo 35.04 68 *eP* **P 11 48 48.0 -0.3**
NBPV Pedro Velho 35.28 69 *eP* **P 11 48 49.7 -0.6**
FDF Fort de France 36.94 11 P **P 11 49 03.9 -0.4**
FDF pmax pmax
comp=Z,76nm,0.6s
FDF Fort de France 36.94 11 P **P 11 49 03.9 -0.4**
CNGN Cerro Negro 38.59 330 P **P 11 49 16.9 -1.4**
MLPR Magueyes Islan 39.52 2 P **P 11 49 24.9 -0.9**
MLPR IAmb IAmb 11 49 29.0
comp=Z,31nm,0.8s
OBIP Obispado Ponce 39.61 2 P **P 11 49 25.7 -0.8**
OBIP IAmb IAmb 11 49 29.3
comp=Z,21nm,0.7s
PDPR Patillas Dam, 39.61 3 P **P 11 49 25.2 -1.4**
SJG San Juan 39.70 3 P **P 11 49 25.1 -2.2**
SJG pmax pmax
comp=Z,43nm,0.9s
SJG San Juan 39.70 3 P **P 11 49 25.1 -2.2**
SJG IAmb IAmb 11 49 29.7
comp=Z,43nm,0.9s
CBYP Canovanas 39.87 4 P **P 11 49 26.4 -2.4**
CBYP IAmb IAmb 11 49 42.5
comp=Z,31nm,1.2s
TGUH Tegucigalpa,Un 40.22 331 P **P 11 49 32.4 +0.5**
TGUH IAmb IAmb 11 49 34.0
comp=Z,62nm,1.4s
SC01 Santiago de lo 41.02 356 P **P 11 49 38.6 +0.3**
SC01 IAmb IAmb 11 49 57.6
comp=Z,34nm,0.7s
MTO3 Montecristo 41.51 328 P **P 11 49 43.1 +0.6**
PMSA Palmer Station 43.07 177 P **P 11 49 55.7 +1.4**
comp=Z,27nm,0.7s,baz=357,slow=8.2,SNR=9.3
PMSA Palmer Station 43.07 177 P **P 11 49 55.5 +1.2**
PMSA IAmb IAmb 11 49 56.9
comp=Z,31nm,0.8s
PMSA Palmer Station 43.07 177 *eP* **P 11 49 56.7 +2.4**
PETF Flores 43.92 329 P **P 11 50 01.1 -0.6**
CCIG Comitan 44.50 326 P **P 11 50 07.4 +0.8**
CCIG IAmb IAmb 11 50 08.5
comp=Z,39nm,1.3s
SOR Soroa 46.59 341 P **P 11 50 23.0 +0.3**
SOR pmax pmax
comp=Z,34nm,1.1s
SOR Soroa 46.59 341 P **P 11 50 23.0 +0.3**
SOR IAmb IAmb 11 50 24.1
comp=Z,34nm,1.1s
TLIG Tlapa 49.11 320 P **P 11 50 43.5 +1.1**
TLIG IAmb IAmb 11 50 45.3
comp=Z,21nm,0.8s
DWPF Disney Wildern 51.21 345 P 11 50 58.3
baz=164
656A Willston 52.69 344 P **P 11 51 08.6 -0.2**
553A Crawfordville 53.97 343 P **P 11 51 19.4 +1.3**
TIGA Tifton 54.93 344 P 11 51 25.0
baz=163
TIGA Tifton 54.93 344 P **P 11 51 24.9 -0.2**
TIGA IAmb IAmb 11 51 25.9
comp=Z,25nm,0.8s
352A Blakely 55.32 343 P **P 11 51 27.5 -0.4**
ZAIG Zacatecas 55.50 321 P **P 11 51 31.3 +1.6**
ZAIG IAmb IAmb 11 51 32.7
comp=Z,30nm,0.9s
RGRS Roger Stewart 55.57 348 P **P 11 51 29.8 +0.2**
BRAL Brewton 55.66 340 P 11 51 30.2
baz=159
BRAL Brewton 55.66 340 P **P 11 51 30.5 +0.2**
NHSC New Hope 55.76 348 P 11 51 31.8
baz=167
NHSC New Hope 55.76 348 P **P 11 51 31.4 +0.5**
154A Montrose 55.92 345 P **P 11 51 32.0 -0.2**
250A Grady 56.17 342 P **P 11 51 33.8 -0.2**
152A Waverly Hall 56.39 343 **P 11 51 34.9 -0.7**
152A IAmb IAmb 11 51 35.9
comp=Z,20nm,1.0s
Y57A Sumter 56.68 348 P **P 11 51 38.0 +0.5**
GOGA Godfrey 56.77 345 P 11 51 37.6
baz=163
GOGA Godfrey 56.77 345 P **P 11 51 37.4 -0.8**
GOGA pmax pmax
comp=Z,12nm,1.1s
GOGA Godfrey 56.77 345 P **P 11 51 37.4 -0.8**
JSC Jenkinsville 57.11 347 P **P 11 51 40.8 +0.2**
JSC pmax pmax
comp=Z,18nm,0.9s
JSC Jenkinsville 57.11 347 P **P 11 51 40.8 +0.2**
JSC IAmb IAmb 11 51 41.7
comp=Z,18nm,0.9s
Z51A Franklin 57.12 343 P **P 11 51 40.1 -0.6**
Z51A IAmb IAmb 11 51 41.2
comp=Z,22nm,1.1s
344A Westbrook Farm 57.16 337 P **P 11 51 41.1 +0.2**
344A IAmb IAmb 11 51 42.1
comp=Z,20nm,0.8s
HODGE Hodges 57.28 346 P **P 11 51 42.0 +0.2**
BIRD Birdtown, Kers 57.30 348 P **P 11 51 42.2 +0.3**
Y52A Lilburn 57.35 344 P **P 11 51 41.9 -0.4**
Y52A IAmb IAmb 11 51 42.8
comp=Z,15nm,0.9s
146A Union 57.66 339 P **P 11 51 44.4 0.0**
146A IAmb IAmb 11 51 45.3
comp=Z,34nm,1.3s
342A Flagon Creek P 57.68 336 P **P 11 51 45.5 +0.8**

W57A Gilead 57.71 349 P **P 11 51 45.2 +0.5**
W57A IAmb IAmb 11 51 45.9
comp=Z,18nm,1.1s
PAULI Pauline 57.75 347 P **P 11 51 45.1 0.0**
PAULI IAmb IAmb 11 51 46.3
comp=Z,27nm,1.2s
Z47A Carrollton 57.86 340 P **P 11 51 45.4 -0.4**
Z47A IAmb IAmb 11 51 46.2
comp=Z,24nm,0.9s
KMSC Kings Mountain 57.96 347 P 11 51 46.4
baz=166,SNR=8.1
KMSC Kings Mountain 57.96 347 P **P 11 51 46.5 0.0**
Y49A Blount Mountai 57.98 342 P **P 11 51 45.4 -1.3**
Y49A IAmb IAmb 11 51 46.8
comp=Z,13nm,0.8s
BG3 Lake Jocassee 58.16 346 P **P 11 51 49.0 +1.1**
BG3 IAmb IAmb 11 51 49.6
comp=Z,30nm,1.4s
833A Chaparral WMA, 58.20 328 P 11 51 48.8
baz=146,SNR=15
X51A Calhoun 58.22 344 P **P 11 51 48.6 +0.2**
FPAL Fort Paine 58.40 343 P **P 11 51 49.0 -0.7**
FPAL IAmb IAmb 11 51 49.9
comp=Z,12nm,0.9s
W52A Murphy 58.49 345 P **P 11 51 49.4 -0.9**
W52A IAmb IAmb 11 51 51.1
comp=Z,25nm,1.1s
143A Socs Landing, 58.53 337 P **P 11 51 50.3 -0.2**
143A IAmb IAmb 11 51 53.2
comp=Z,19nm,0.8s
V55A Taylorsville 58.62 348 P **P 11 51 51.8 +0.7**
X48A Hartselle 58.72 342 P **P 11 51 51.8 0.0**
X48A pP **pP 11 52 22.0 -1.0**
V53A Saluda 58.78 346 P **P 11 51 52.3 0.0**
V53A IAmb IAmb 11 51 53.2
comp=Z,18nm,0.8s
W50A Signal Mountai 58.94 344 P **P 11 51 53.6 +0.2**
U56A King 58.94 349 P **P 11 51 54.2 +0.9**
Y45A Yeager Farm, C 58.95 339 P **P 11 51 53.2 -0.2**
NATX Nacogdoches 58.95 334 P 11 51 54.2
baz=151
NATX Nacogdoches 58.95 334 P **P 11 51 54.7 +1.2**
CPCT Cooper Cave 58.98 344 P **P 11 51 53.8 +0.2**
CPCT IAmb IAmb 11 51 54.2
comp=Z,28nm,1.0s
TKL Tuckaleechee C 58.99 345 P **P 11 51 53.5 -0.2**
TKL pmax pmax
comp=Z,32nm,0.9s
TKL Tuckaleechee C 58.99 345 P **P 11 51 53.5 -0.2**
SWET Sewanee 59.12 343 P **P 11 51 54.2 -0.5**
V52A Sevierville 59.13 345 P **P 11 51 54.6 0.0**
V51A Loudon 59.27 345 P **P 11 51 54.1 -1.5**
V51A IAmb IAmb 11 51 56.1
comp=Z,21nm,0.8s
T57A Hurt 59.38 350 P **P 11 51 55.7 -0.6**
T57A IAmb IAmb 11 51 57.6
comp=Z,31nm,1.4s
435B Jarrell 59.38 331 P 11 51 56.6
baz=148
435B Jarrell 59.38 331 P **P 11 51 56.2 -0.3**
435B IAmb IAmb 11 51 57.7
comp=Z,19nm,0.8s
U54A Nelsons Funny 59.39 347 P **P 11 51 56.2 -0.3**
OXF Oxford 59.49 340 P 11 51 55.8
baz=157,SNR=6.5
OXF Oxford 59.49 340 P **P 11 51 55.9 -1.2**
OXF pmax pmax
comp=Z,64nm,1.1s
OXF Oxford 59.49 340 P **P 11 51 55.9 -1.2**
PLAL Pickwick Lake 59.51 341 P **P 11 51 56.2 -1.0**
Z41A Richland Creek 59.54 336 P 11 51 58.1
baz=154
VNA3 Neumayer Olymp 59.61 161 P **P 11 51 58.9 +1.4**
VNA3 Neumayer Olymp 59.61 161 PcP **PcP 11 52 44.4 +0.9**
237A Washetta, Mont 59.64 333 P **P 11 51 58.6 +0.4**
CCAR Cane Creek 59.76 337 P **P 11 51 58.5 -0.4**
TZTN Tazewell 59.79 346 P 11 51 59.0
baz=164
BLA Blacksburg 59.79 349 P 11 51 59.8
baz=167
TZTN Tazewell 59.79 346 P **P 11 51 59.2 0.0**
TZTN IAmb IAmb 11 51 59.7
comp=Z,16nm,0.8s
BLA Blacksburg 59.79 349 P **P 11 51 59.6 +0.4**
BLA pmax pmax
comp=Z,59nm,1.5s
BLA Blacksburg 59.79 349 P **P 11 51 59.6 +0.4**
VNA1 Neumayer--Stat 59.81 160 P **P 11 52 00.6 +1.8**
V48A Smith Brothers 59.86 343 P **P 11 51 59.2 -0.4**
W45A Hickory Valley 60.02 340 P **P 11 52 00.1 -0.6**
WLAR White Oak Lake 60.04 336 P **P 11 52 01.3 +0.4**
CLTN Cedars of Leba 60.05 343 P **P 11 52 00.3 -0.6**
S57A Dark Hollow, R 60.08 350 P **P 11 52 00.9 -0.1**
S57A IAmb IAmb 11 52 02.5
comp=Z,30nm,1.3s
JCT Junction City 60.17 329 P 11 52 01.5
baz=146,SNR=18
JCT Junction City 60.17 329 P **P 11 52 02.2 +0.3**
JCT pmax pmax
comp=Z,29nm,0.8s
JCT Junction City 60.17 329 P **P 11 52 02.2 +0.3**
U49A Red Boiling Sp 60.30 344 P **P 11 52 02.0 -0.6**
U49A IAmb IAmb 11 52 02.9
comp=Z,19nm,0.8s
WHTX Lake Whitney, 60.35 331 P 11 52 03.3
baz=149
WHTX Lake Whitney, 60.35 331 P **P 11 52 03.4 +0.4**
WHTX IAmb IAmb 11 52 04.3
comp=Z,22nm,0.8s
Z38A Mt. Pleasant 60.40 334 P **P 11 52 03.3 0.0**
HPIG 60.49 321 P **P 11 52 05.0 +0.6**
HPIG IAmb IAmb 11 52 06.4
comp=Z,11nm,0.8s
WVT Waverly 60.51 342 P 11 52 03.1
baz=159
WVT Waverly 60.51 342 P **P 11 52 03.2 -0.8**
WVT pmax pmax
comp=Z,44nm,0.9s
WVT Waverly 60.51 342 P **P 11 52 03.2 -0.8**
S54A Dingess, Beckl 60.53 348 P **P 11 52 02.9 -1.3**
T50A Nancy 60.55 345 P **P 11 52 03.4 -0.9**
R55A Marlinton 60.78 349 P **P 11 52 06.6 +0.7**
LPAR Lepanto 60.78 339 P **P 11 52 05.3 -0.6**
S51A Beattyville 60.85 346 P **P 11 52 05.3 -1.0**
S51A IAmb IAmb 11 52 06.8
comp=Z,19nm,0.9s
MIAR Mount Ida 60.98 336 P 11 52 06.8
baz=153,SNR=12
MIAR Mount Ida 60.98 336 P **P 11 52 06.6 -0.7**
MIAR *PP **pP 11 52 38.3 -0.4**
MIAR pmax pmax
comp=Z,28nm,1.1s
MIAR Mount Ida 60.98 336 P **P 11 52 06.6 -0.7**
MIAR IAmb IAmb 11 52 08.2
comp=Z,28nm,1.1s
MIAR pP **pP 11 52 38.3 -0.4**
UTMT University of 61.01 341 P **P 11 52 07.1 -0.3**
W41B Gary Mavity, V 61.06 338 P 11 52 06.9
baz=155,SNR=8.2
T47A Sharon Grove 61.10 343 P **P 11 52 07.0 -1.1**
R53A Hurricane 61.16 348 P **P 11 52 08.7 +0.3**
R53A IAmb IAmb 11 52 09.3
comp=Z,25nm,0.9s
WHAR Wooly Hollow 61.18 338 P **P 11 52 08.2 -0.4**
WHAR IAmb IAmb 11 52 09.1
comp=Z,15nm,0.9s
TXAR Lajitas Array 61.22 325 P **P 11 52 09.5 +0.3**
comp=Z,2.8nm,0.6s,baz=151,slow=8.9,SNR=51
TXAR Lajitas Array 61.22 325 P **P 11 52 09.0 -0.2**
TXAR Lajitas Array 61.22 325 P **P 11 52 09.0 -0.2**
TX31 Lajitas Ar. Si 61.23 325 **P 11 52 09.7 +0.5**
TX31 IAmb IAmb 11 52 10.1
comp=Z,13nm,0.8s
TX32 Lajitas Array 61.23 325 P **P 11 52 09.1 -0.1**
HICK Hickman 61.31 341 P **P 11 52 08.9 -0.5**
Q56A Snyder Ridge, 61.36 350 P **P 11 52 10.5 +0.7**
Q56A IAmb IAmb 11 52 11.6
comp=Z,22nm,0.9s
Z35A Perchaven, San 61.40 332 P **P 11 52 10.8 +0.7**
LCAR Lake Charles 61.49 339 P **P 11 52 09.9 -0.7**
LCAR IAmb IAmb 11 52 11.0
comp=Z,14nm,0.9s
T45A Paducah 61.57 341 P **P 11 52 10.5 -0.7**
PARMO Parma 61.58 340 P **P 11 52 10.7 -0.5**

Q54A Coxs Mills 61.59 349 P **P 11 52 11.2 -0.1**
Q54A IAmb IAmb 11 52 12.2
comp=Z,21nm,0.8s
P57A Homestead Farm 61.62 351 P **P 11 52 12.1 +0.6**
P57A IAmb IAmb 11 52 13.3
comp=Z,25nm,1.2s
R50A Paris 61.63 346 P **P 11 52 11.4 -0.2**
R50A IAmb IAmb 11 52 12.0
comp=Z,18nm,0.9s
W39A Magazine 61.63 336 P 11 52 11.8
baz=153,SNR=15
W39A Magazine 61.64 336 P **P 11 52 11.2 -0.4**
W39A IAmb IAmb 11 52 13.2
comp=Z,27nm,0.9s
W39A pP **pP 11 52 43.8 +0.7**
P60A Greenville 61.66 354 P 11 52 11.5
baz=172
FCAR Ozark Folk Cen 61.66 338 P **P 11 52 11.5 -0.3**
FCAR IAmb IAmb 11 52 12.1
comp=Z,19nm,1.1s
X37A Clayton 61.71 335 P **P 11 52 12.4 +0.2**
X37A IAmb IAmb 11 52 13.8
comp=Z,25nm,0.9s
MBO M'Bour 61.80 59 P **P 11 52 13.9 +0.8**
SNAA Sanae 61.81 161 P **P 11 52 13.7 +1.2**
SNAA Sanae 61.81 161 P **P 11 52 12.9 +0.4**
SNAA pmax pmax
comp=Z,63nm,0.9s
SNAA Sanae 61.81 161 P **P 11 52 12.9 +0.4**
R49A Shelbyville 61.84 345 P **P 11 52 12.0 -1.0**
R49A IAmb IAmb 11 52 13.1
comp=Z,14nm,0.8s
Q52A Bidwell 61.84 348 P **P 11 52 12.6 -0.3**
Q52A IAmb IAmb 11 52 13.6
comp=Z,22nm,0.8s
ABTX Abilene, Hawle 61.87 330 P 11 52 13.3
baz=147
ABTX Abilene, Hawle 61.87 330 P **P 11 52 13.8 +0.4**
ABTX IAmb IAmb 11 52 14.6
comp=Z,25nm,1.1s
PBMO Poplar Bluff 61.90 340 P **P 11 52 12.9 -0.5**
PBMO IAmb IAmb 11 52 13.8
comp=Z,23nm,0.8s
LOOK Love County 61.94 333 P **P 11 52 13.8 0.0**
LOOK IAmb IAmb 11 52 15.0
comp=Z,36nm,1.1s
WCI Wyandotte Cave 62.05 344 P 11 52 13.4
baz=161
WCI Wyandotte Cave 62.06 344 P **P 11 52 12.9 -1.5**
WCI pmax pmax
comp=Z,33nm,0.7s
WCI Wyandotte Cave 62.06 344 P **P 11 52 12.9 -1.5**
MCWV Mont Chateau 62.07 350 P 11 52 14.8
baz=168
MCWV Mont Chateau 62.07 350 P **P 11 52 13.8 -0.7**
Q51A Peebles 62.12 347 P **P 11 52 14.7 -0.2**
Q51A IAmb IAmb 11 52 15.3
comp=Z,23nm,1.1s
USIN University of 62.17 343 P **P 11 52 13.5 -1.7**
P53A Whipple 62.18 348 P **P 11 52 15.3 +0.1**
U40A Yellville 62.33 338 P 11 52 15.9
baz=154
U40A Yellville 62.33 338 P **P 11 52 16.0 -0.4**
U40A IAmb IAmb 11 52 17.0
comp=Z,26nm,1.1s
S44A Carbondale 62.38 341 P **P 11 52 16.1 -0.5**
S44A IAmb IAmb 11 52 18.0
comp=Z,23nm,0.8s
SIUC Southern Illin 62.39 341 P **P 11 52 15.7 -0.9**
P52A Corning 62.46 348 P 11 52 16.5
baz=166,SNR=6.7
P52A Corning 62.46 348 P **P 11 52 16.3 -0.8**
P52A IAmb IAmb 11 52 17.6
comp=Z,28nm,0.9s
O56A Blue Knob Stat 62.47 351 P 11 52 17.5
baz=169,SNR=7.5
O56A Blue Knob Stat 62.47 351 P **P 11 52 17.5 +0.3**
O56A IAmb IAmb 11 52 18.8
comp=Z,23nm,1.0s
P51A Williamsport 62.50 347 P **P 11 52 16.6 -0.7**
P51A IAmb IAmb 11 52 17.7
comp=Z,28nm,1.1s
HHAR Hobbs 62.66 337 P **P 11 52 18.4 -0.1**
HHAR IAmb IAmb 11 52 19.3
comp=Z,22nm,1.0s
O54A Avella 62.67 350 P **P 11 52 18.8 +0.3**
O54A IAmb IAmb 11 52 19.4
comp=Z,19nm,0.9s
PAL Palisades 62.68 355 P 11 52 19.1
baz=174
M66A Nantucket 62.74 358 P 11 52 19.6
baz=178
X34A Smith Ranch, M 62.74 333 P **P 11 52 19.5 +0.5**
X34A IAmb IAmb 11 52 20.2
comp=Z,17nm,0.9s
SSPA Standing Stone 62.74 352 P 11 52 19.2
baz=170
SSPA Standing Stone 62.74 352 P **P 11 52 19.5 +0.6**
SSPA IAmb IAmb 11 52 20.3
comp=Z,23nm,1.3s
N59A State Game Lan 62.76 354 P 11 52 19.3
baz=172
N58A Sunbury 62.79 353 P **P 11 52 19.9 +0.6**
N58A IAmb IAmb 11 52 20.6
comp=Z,15nm,1.0s
MGMO Mountain Grove 62.85 339 P **P 11 52 19.6 -0.1**
MGMO IAmb IAmb 11 52 20.4
comp=Z,20nm,1.1s
O52A Adamsville 62.87 348 P **P 11 52 19.3 -0.5**
O52A IAmb IAmb 11 52 20.4
comp=Z,20nm,0.7s
O53A New Philadelph 62.88 349 P 11 52 19.6
baz=167
O53A New Philadelph 62.88 349 P **P 11 52 19.6 -0.3**
O53A IAmb IAmb 11 52 35.8
comp=Z,24nm,0.9s
P49A Miami Univ. Ec 62.91 346 P 11 52 19.0
baz=163,SNR=5.3
P49A Miami Univ. Ec 62.91 346 P **P 11 52 19.4 -0.7**
P49A IAmb IAmb 11 52 20.0
comp=Z,25nm,0.9s
U38A Gravette 62.96 336 P **P 11 52 19.9 -0.6**
BLO Bloomington 63.01 344 P **P 11 52 19.8 -0.9**
BLO pmax pmax
comp=Z,26nm,0.7s
BLO Bloomington 63.01 344 P **P 11 52 19.8 -0.9**
P48A Milroy 63.01 345 P **P 11 52 19.6 -1.2**
P48A IAmb IAmb 11 52 20.3
comp=Z,16nm,1.0s
OLIL Olney 63.01 343 P **P 11 52 19.8 -0.9**
OLIL IAmb IAmb 11 52 20.4
comp=Z,21nm,0.8s
TUL1 Leonard 63.03 335 P 11 52 20.5
baz=151
FNO Franklin 63.12 333 P **P 11 52 20.8 -0.8**
ACSO Alum Creek Sta 63.20 347 P **P 11 52 21.7 -0.3**
WMOK Wichita Mounta 63.26 332 P 11 52 21.7
baz=148
WMOK Wichita Mounta 63.26 332 P **P 11 52 22.4 -0.2**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 63.26 332 P **P 11 52 22.4 -0.2**
CCM Cathedral Cave 63.33 340 P **P 11 52 21.9 -1.0**
CCM pmax pmax
comp=Z,38nm,0.9s
CCM Cathedral Cave 63.33 340 P **P 11 52 21.9 -1.0**
N53A Lisbon 63.36 349 P **P 11 52 23.2 +0.1**
N53A IAmb IAmb 11 52 39.1
comp=Z,16nm,0.8s
N54A Moraine State 63.37 350 P 11 52 23.5
baz=168,SNR=7.7
N54A Moraine State 63.37 350 P **P 11 52 23.2 +0.1**
N54A IAmb IAmb 11 52 24.6
comp=Z,34nm,1.0s
OK025 Westminster Rd 63.37 334 P **P 11 52 23.1 -0.2**
OK025 IAmb IAmb 11 52 23.6
comp=Z,21nm,0.9s
Q44A Meyer Farm, Va 63.43 342 P **P 11 52 22.6 -0.9**
Q44A IAmb IAmb 11 52 23.2
comp=Z,28nm,0.8s
OK030 Cody Creek RV 63.44 334 P **P 11 52 24.0 +0.3**
OK030 IAmb IAmb 11 52 24.4
comp=Z,33nm,1.1s
O49A Covington 63.45 346 P **P 11 52 22.6 -1.0**
O49A IAmb IAmb 11 52 23.8

comp=Z,28nm,1.1s
OK031 S. Brethren Rd 63.49 334 P P 11 52 23.4 -0.6
OK031 lAmb lAmb 11 52 24.8
comp=Z,32nm,0.9s
P46A Rosedale 63.60 344 P P 11 52 23.9 -0.7
P46A lAmb lAmb 11 52 24.3
comp=Z,40nm,1.4s
OK029 Liberty Lake 63.60 334 P P 11 52 24.8 +0.1
OK029 lAmb lAmb 11 52 25.3
comp=Z,19nm,0.9s
QUOK Quay 63.62 334 P P 11 52 25.4 +0.5
S39A Bolivar 63.70 338 P P 11 52 24.7 -0.6
S39A lAmb lAmb 11 52 26.0
comp=Z,28nm,0.8s
N51A Ashland 63.75 348 P P 11 52 25.3 -0.3
N51A lAmb lAmb 11 52 25.9
comp=Z,19nm,0.9s
M54A Oil Creek Stat 63.85 350 P 11 52 26.3
baz=168,SNR=10
M54A Oil Creek Stat 63.85 350 P P 11 52 26.0 -0.3
R40A Maddies Statio 63.88 339 P P 11 52 25.7 -0.7
R40A lAmb lAmb 11 52 26.9
comp=Z,19nm,0.8s
L58A Harry Jones Me 63.89 354 P 11 52 26.7
baz=172
M53A WI Miller and 63.95 350 P 11 52 26.8
baz=167,SNR=6.5
M53A WI Miller and 63.95 350 P P 11 52 27.4 +0.6
M53A lAmb lAmb 11 52 27.8
comp=Z,35nm,1.0s
MNTX Cornudas Mount 63.99 325 P 11 52 27.1
baz=142,SNR=18
MNTX Cornudas Mount 63.99 325 P P 11 52 26.5 -0.9
L61B Northampton 64.03 356 P 11 52 27.2
baz=176
BINY Binghamton 64.06 354 P 11 52 27.3
baz=172,SNR=5.3
BINY Binghamton 64.06 354 P P 11 52 27.9 +0.4
BINY lAmb lAmb 11 52 42.5
comp=Z,28nm,0.8s
ALLY Alegheny Colle 64.06 350 P P 11 52 28.0 +0.4
N49A Columbus Grove 64.12 347 P P 11 52 27.5 -0.5
M52A Chesterland 64.16 349 P P 11 52 28.2 -0.1
M52A lAmb lAmb 11 52 29.0
comp=Z,31nm,0.9s
L56A Greenwood 64.17 352 P P 11 52 28.9 +0.5
L56A lAmb lAmb 11 52 43.4
comp=Z,22nm,0.9s
T35A Sooner Cattle 64.19 335 P P 11 52 28.5 -0.1
T35A lAmb lAmb 11 52 29.8
comp=Z,32nm,1.2s
P43A Skaggs, Pawnee 64.26 342 P P 11 52 28.0 -0.9
P43A lAmb lAmb 11 52 28.8
comp=Z,30nm,0.8s
SFIN Lafayette 64.29 344 P 11 52 27.5
baz=161,SNR=6.0
SFIN Lafayette 64.29 344 P P 11 52 28.0 -1.1
SFIN lAmb lAmb 11 52 28.1
comp=Z,15nm,0.8s
BLOK Blackwell 64.34 334 P P 11 52 29.6 +0.1
BLOK lAmb lAmb 11 52 31.3
comp=Z,29nm,1.0s
M50A Fremont 64.35 348 P P 11 52 29.2 -0.2
M50A lAmb lAmb 11 52 29.9
comp=Z,16nm,0.7s
N47A Urbana 64.42 345 P P 11 52 29.1 -0.9
N47A lAmb lAmb 11 52 29.8
comp=Z,26nm,0.9s
CROK Carrier 64.43 334 P P 11 52 30.0 -0.2
MSTX Muleshoe 64.47 329 P 11 52 30.3
baz=145,SNR=16
MSTX Muleshoe 64.47 329 P P 11 52 31.3 +0.7
ERPA Erie 64.50 350 P 11 52 30.2
baz=168
ERPA Erie 64.50 350 P P 11 52 30.2 -0.3
WVNY West Valley, N 64.58 351 P P 11 52 31.6 +0.6
WVNY lAmb lAmb 11 52 32.3
comp=Z,31nm,0.9s
K57A Scipio Center 64.64 353 P P 11 52 32.2 +0.8
K57A lAmb lAmb 11 52 46.3
comp=Z,30nm,0.9s
AMTX Amarillo 64.69 330 P 11 52 31.7
baz=146
AMTX Amarillo 64.69 330 P P 11 52 32.1 +0.2
K56A Middlesex 64.70 353 P 11 52 31.6
baz=171
OK032 Salt Plains WL 64.78 334 P P 11 52 32.5 +0.1
OK032 lAmb lAmb 11 52 33.4
comp=Z,14nm,0.9s
MMNY Mt. Morris Dam 64.81 352 P P 11 52 32.0 -0.5
MMNY lAmb lAmb 11 52 47.4
comp=Z,14nm,0.9s
P40A Paris 64.93 340 P P 11 52 32.4 -0.9
P40A lAmb lAmb 11 52 33.7
comp=Z,25nm,0.9s
P40A pP pP **11 53 04.5 -0.5**
HDIL Hopedale 65.04 342 P 11 52 33.3
baz=159
HDIL Hopedale 65.04 342 P 11 52 32.9 -1.1
HDIL lAmb lAmb 11 52 33.7
comp=Z,23nm,0.8s
KAN08 Anthony NE Sta 65.04 334 P P 11 52 34.2 +0.1
KAN08 lAmb lAmb 11 52 35.3
comp=Z,35nm,1.2s
KAN16 Harper SW Stat 65.08 334 P P 11 52 34.4 +0.1
L48A N Adams 65.15 347 P P 11 52 34.0 -0.7
L48A lAmb lAmb 11 52 34.6
comp=Z,19nm,0.6s
HSIG 65.17 319 P P 11 52 35.5 +0.4
HSIG lAmb lAmb 11 52 37.7
comp=Z,31nm,1.3s
J57A Williamstown 65.25 354 P 11 52 35.8
baz=172
I58A Old Forge 65.44 355 P 11 52 37.1
baz=173
I59A Olmsteadville 65.45 355 P 11 52 36.8
baz=174
I60A Shoreham 65.46 356 P 11 52 36.9
baz=175
I61A Oroboro, Fairl 65.49 357 P 11 52 37.8
baz=176
P38A Dawn 65.50 339 P P 11 52 36.5 -0.5
P38A lAmb lAmb 11 52 37.6
comp=Z,22nm,1.1s
K50A Casco 65.59 348 P P 11 52 36.8 -0.6
L46A Eue Claire 65.64 345 P P 11 52 36.9 -0.9
N41A Harden Midland 65.64 341 P P 11 52 37.1 -0.7
N41A lAmb lAmb 11 52 37.8
comp=Z,23nm,0.9s
I57A Carthage 65.75 354 P 11 52 38.9
baz=173
LBNH Lisbon 65.78 357 P 11 52 39.2
baz=176
319A Douglas 65.90 322 P P 11 52 41.7 +1.8
121A Cookes Peak, D 65.93 324 P 11 52 41.6
baz=140,SNR=10
121A Cookes Peak, D 65.93 324 P P 11 52 42.1 +1.9
121A lAmb lAmb 11 52 42.9
comp=Z,28nm,1.1s
H58A Gabriels 66.09 355 P 11 52 40.7
baz=174
H63A New Sharon 66.13 359 P 11 52 41.5
baz=178
H60A Morristown 66.14 356 P 11 52 40.5
baz=176
L44A Lake County Fo 66.19 344 P 11 52 40.9
baz=160
L44A Lake County Fo 66.19 344 P P 11 52 40.7 -0.7
L44A lAmb lAmb 11 52 41.7
comp=Z,26nm,1.1s
H57A Richville 66.24 354 P 11 52 41.9
baz=173,SNR=5.3
H59A Cadyville 66.29 356 P 11 52 42.3
baz=175
LONY Lake Ozonia 66.33 355 P 11 52 42.8
baz=174
LONY Lake Ozonia 66.33 355 P P 11 52 42.0 -0.2
LONY lAmb lAmb 11 52 44.5
comp=Z,18nm,1.1s
R32A Long Quarter, 66.37 334 P P 11 52 42.5 -0.1
R32A lAmb lAmb 11 52 43.9
comp=Z,39nm,1.2s
N38A Joes South For 66.46 339 P P 11 52 42.8 -0.3
N38A lAmb lAmb 11 52 43.3
comp=Z,26nm,1.1s
J47A Sunmer 66.47 347 P P 11 52 42.3 -0.9
J47A lAmb lAmb 11 52 43.2
comp=Z,31nm,1.0s
L42A Oliver, Polo 66.49 343 P P 11 52 42.6 -0.7
L42A lAmb lAmb 11 52 43.2
comp=Z,13nm,0.8s
BNM Barren Site 66.55 326 P P 11 52 45.3 +1.2
G63A Kingsbury 66.58 359 P 11 52 44.3
baz=179
G65A Princeton 66.65 1 P 11 52 44.9
baz=181
G60A Masonville 66.66 357 P 11 52 45.4
baz=176
G62A West of Eustis 66.70 358 P 11 52 45.2
baz=178
H53A Bobcaygeon 66.70 352 P 11 52 44.8
baz=170
G64A Maxfield 66.70 360 P 11 52 44.9
baz=180
PKME Peaks-Kenny Pk 66.72 359 P 11 52 45.6
baz=179
I49A Point Hope 66.75 349 P P 11 52 44.0 -0.8
I49A lAmb lAmb 11 52 45.0
comp=Z,28nm,0.8s
K43A Burlington 66.79 344 P P 11 52 44.7 -0.4
G61A St-Isidore-de- 66.80 357 P 11 52 46.6
baz=177
G58A Ormstown 66.81 356 P 11 52 45.7
baz=174
G57A Newington 66.84 355 P 11 52 45.7
baz=173,SNR=6.2
PLVO Plevna 66.98 353 P P 11 52 46.8 +0.4
L40A Anamosa 66.99 342 P P 11 52 45.8 -0.7
L40A lAmb lAmb 11 52 47.2
comp=Z,28nm,0.8s
ANMO Albuquerque 67.08 326 P 11 52 48.4
baz=142
ANMO Albuquerque 67.08 326 *ce* P P 11 52 48.5 +1.1
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 67.08 326 P P 11 52 48.0 +0.6
CBKS Cedar Bluff 67.12 334 P 11 52 47.8
baz=148
CBKS Cedar Bluff 67.12 334 P P 11 52 47.5 +0.1
CBKS pmax pmax
comp=Z,28nm,1.0s
CBKS Cedar Bluff 67.12 334 P P 11 52 47.5 +0.1
CBKS lAmb lAmb 11 52 48.9
comp=Z,28nm,0.9s
F64A Sherman 67.31 360 P 11 52 49.4
baz=180
N35A Tabor 67.33 338 P P 11 52 47.7 -0.9
N35A lAmb lAmb 11 53 16.9
comp=Z,23nm,0.6s
F62A Pittston Farm, 67.37 359 P 11 52 49.9
baz=178
TUC Tucson 67.45 322 P 11 52 51.0
baz=137
TUC Tucson 67.45 322 P P 11 52 50.5 +0.8
TUC pmax pmax
comp=Z,23nm,1.2s
TUC Tucson 67.45 322 P P 11 52 50.5 +0.8
TUC lAmb lAmb 11 52 52.3
comp=Z,22nm,1.2s
G54A Lake Saint Pet 67.45 352 P 11 52 49.9
baz=170
SCIA State Center 67.45 340 P 11 52 48.8
baz=155
SCIA State Center 67.46 340 P P 11 52 48.9 -0.5
SCIA lAmb lAmb 11 52 49.9
comp=Z,30nm,0.8s
F61A St Evariste 67.47 358 P 11 52 49.3
baz=177
JFWS Jewell Farm 67.50 343 P 11 52 48.8
baz=158,SNR=10.0
JFWS Jewell Farm 67.50 343 P P 11 52 49.2 -0.4
JFWS pmax pmax
comp=Z,28nm,0.8s
JFWS Jewell Farm 67.50 343 P P 11 52 49.2 -0.4
JFWS lAmb lAmb 11 52 50.0
comp=Z,28nm,0.8s
F60A Warwick 67.50 357 P 11 52 49.9
baz=176
T25A Trinidad 67.81 329 P 11 52 52.9
baz=144,SNR=5.8
T25A Trinidad 67.81 329 P P 11 52 52.7 +0.7
LIC Lamto 67.85 73 *eP* P 11 52 52.1 -0.4
comp=Z,98nm,0.7s
E64A Bridgewater 67.87 0 P 11 52 52.6
baz=181
E63A Oxow 67.87 360 P 11 52 52.6
baz=180
N33A J Bar K, Exete 67.88 336 P P 11 52 51.8 -0.3
E60A Ste Agathe de 67.88 358 P 11 52 52.8
baz=177
TRQ Mont Tremblant 67.92 355 P P 11 52 52.3 0.0
E58A La Victoria 67.98 356 P 11 52 53.1
baz=175
ALGO Algonquin Park 68.00 353 P 11 52 52.3
baz=170,SNR=5.8
TIC Toumodi 68.04 73 *eP* P 11 52 53.2 -0.5
I42A Draeger Farm, 68.05 344 P P 11 52 52.6 -0.4
I42A lAmb lAmb 11 52 53.5
comp=Z,20nm,0.7s
E62A Clayton Lake 68.08 359 P 11 52 54.0
baz=179
E62A Clayton Lake 68.08 359 P P 11 52 54.1 +0.9
E62A lAmb lAmb 11 52 55.4
comp=Z,26nm,1.0s
KIC Kosan Boka 68.16 73 *eP* P 11 52 54.4 -0.1
comp=Z,167nm,0.6s
DBIC Dimbokro 68.20 73 P P 11 52 54.7 0.0
comp=Z,90nm,0.8s,baz=220,slow=6.7,SNR=106
DBIC Dimbokro 68.20 73 P P 11 52 54.0 -0.7
DBIC pmax pmax
comp=Z,84nm,0.8s
DBIC Dimbokro 68.20 73 P P 11 52 54.0 -0.7
E56A St. Veronique 68.28 355 P 11 52 54.4
baz=173,SNR=9.1
H43A Windswept, Lux 68.31 345 P P 11 52 54.2 -0.4
H43A lAmb lAmb 11 52 54.9
comp=Z,21nm,0.8s
214A Organ Pipe Nat 68.38 320 P 11 52 57.2
baz=136,SNR=19
214A Organ Pipe Nat 68.39 320 P P 11 52 57.4 +1.9
214A lAmb lAmb 11 52 58.5
comp=Z,31nm,0.9s
QSPA South Pole Qui 68.42 180 P P 11 52 56.6 +1.3
D63A Stockholm 68.49 0 P 11 52 56.1
baz=180
I40A Norwalk 68.50 343 P P 11 52 55.0 -0.9
I40A lAmb lAmb 11 52 56.1
comp=Z,14nm,0.7s
KSCO Kaye Shedlock' 68.52 332 P P 11 52 57.3 +1.0
KSCO lAmb lAmb 11 52 59.1
comp=Z,21nm,1.2s
D62A Allapoint, All 68.54 359 P 11 52 56.2
baz=179,SNR=7.4
D62A Allapoint, All 68.54 359 P P 11 52 56.1 +0.1
D62A lAmb lAmb 11 53 09.4
comp=Z,28nm,0.7s
L34A Svendsen Farm, 68.57 338 P P 11 52 56.3 0.0
L34A lAmb lAmb 11 52 56.9
comp=Z,35nm,0.9s
X18A Snowflake 68.62 324 P P 11 52 58.0 +0.9
D58A Chemin du LacG 68.68 357 P 11 52 57.1
baz=176,SNR=11
BGNE Belgrade 68.72 336 P P 11 52 57.5 +0.1
D56A ZEC Mazanza, M 68.75 355 P 11 52 57.4
baz=174,SNR=7.0
D55A Sainte-Anne-du 68.78 355 P 11 52 57.2
baz=173,SNR=13
SDCO Great Sand Dun 68.81 329 P 11 52 59.4
baz=143,SNR=34
SDCO Great Sand Dun 68.81 329 P P 11 52 58.3 -0.1
W18A Petrified Fore 68.94 324 P 11 53 00.3
baz=139
X16A Lo Mia Camp, P 69.37 323 P P 11 53 03.0 +1.3
X16A lAmb lAmb 11 53 04.6
comp=Z,20nm,1.0s
SPX San Pedro Mart 69.37 318 P P 11 53 03.7 +1.7
E46A Sault Ste Mari 69.37 348 P P 11 53 00.8 -0.4
E46A lAmb lAmb 11 53 01.5
comp=Z,19nm,0.9s
I37A Lemond, Waseca 69.42 341 P P 11 53 00.5 -1.1
I37A lAmb lAmb 11 53 01.7
comp=Z,26nm,0.8s
S22A 4UR Ranch, Cre 69.46 328 P 11 53 03.3
baz=142,SNR=6.9
113A Mohawk Valley, 69.53 320 P P 11 53 03.6 +1.1
Q24A Divide 69.62 330 P 11 53 04.1
baz=144,SNR=7.0
MVCO Mesa Verde 69.88 327 P 11 53 06.0
baz=140,SNR=16
MVCO Mesa Verde 69.88 327 P P 11 53 05.9 +1.1
MVCO lAmb lAmb 11 53 07.2
comp=Z,19nm,0.8s
Y14A Wickenburg 69.91 321 P P 11 53 06.3 +1.4
Y14A lAmb lAmb 11 53 07.5
comp=Z,17nm,1.0s
E43A Lone Tree Farm 69.93 346 P P 11 53 04.5 -0.2
K31A O'Neill 70.00 336 P P 11 53 05.3 +0.2
K31A lAmb lAmb 11 53 06.5
comp=Z,38nm,1.2s
VLDQ Val d'Or 70.06 353 P P 11 53 06.0 +0.6
VLDQ lAmb lAmb 11 53 06.6
comp=Z,26nm,0.8s
WUAZ Wupatki 70.13 324 P 11 53 08.0
baz=138,SNR=24
WUAZ Wupatki 70.13 324 P P 11 53 07.8 +1.4
WUAZ lAmb lAmb 11 53 09.4
comp=Z,34nm,0.9s
WUAZ pP pP **11 53 39.9 +1.6**
COWI Conover 70.17 345 P P 11 53 04.9 -1.3
ECSD EROS Data Cent 70.21 339 P P 11 53 06.0 -0.5
ECSD lAmb lAmb 11 53 07.2
comp=Z,24nm,1.4s
SPMN Marine on St. 70.34 342 P 11 53 06.5
baz=156
SPMN Marine on St. 70.34 342 P P 11 53 06.2 -1.0
GLA Glamis 70.36 320 P 11 53 09.3
baz=134
ISCO Idaho Springs 70.50 330 P 11 53 09.4
baz=144,SNR=8.9
ISCO Idaho Springs 70.50 330 P P 11 53 08.5 -0.2
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 70.50 330 P P 11 53 08.5 -0.2
PV01 Paradox Valley 70.62 327 P P 11 53 10.2 +0.9
SMCO Snowmass 70.65 329 P P 11 53 10.2 +0.5
PV15 Paradox Valley 70.74 327 P P 11 53 11.6 +1.5
PV15 lAmb lAmb 11 53 12.8
comp=Z,26nm,1.0s
PDMCI Parker Dam,Lak 70.83 321 P 11 53 11.1
baz=135
IKP In-Ko-Pah, Jac 70.87 319 P 11 53 12.6
baz=133,SNR=6.7
SWSC Sam W. Stewart 70.88 319 P 11 53 12.4
baz=134
D41A Chassel 70.94 345 P P 11 53 10.8 +0.1
D41A lAmb lAmb 11 53 11.7
comp=Z,38nm,0.9s
LSQQ Lebel-sur-Quev 70.94 354 P 11 53 10.8
baz=172
CBX Cerro Bola 70.98 318 P P 11 53 12.8 +1.3
TKX Tecate 71.12 318 P P 11 53 13.3 +1.0
TKX lAmb lAmb 11 53 15.1
comp=Z,28nm,1.0s
F36A Milaca 71.14 342 P P 11 53 11.8 -0.2
F36A lAmb lAmb 11 53 12.3
comp=Z,20nm,0.8s
BC3 Big Chuckawall 71.16 320 P 11 53 13.9
baz=134,SNR=24
MONP2 Monument Peak 71.22 319 P 11 53 14.6
baz=133,SNR=8.4
BAR Barrett 71.24 318 P P 11 53 14.4 +1.5
BAR lAmb lAmb 11 53 15.7
comp=Z,21nm,0.8s
W13A Hualapai Mount 71.25 322 P P 11 53 14.4 +1.3
E38A The Farm, Brul 71.26 343 P P 11 53 12.1 -0.6
U15A North Rim 71.31 324 P P 11 53 15.7 +2.1
U15A lAmb lAmb 11 53 16.8
comp=Z,27nm,1.0s
IRM Iron Mountain 71.32 320 P 11 53 15.0
baz=134,SNR=18
N23A Red Feather La 71.53 331 P 11 53 15.4
baz=143,SNR=7.2
CHGQ Chibougamau 71.57 356 P 11 53 14.3
baz=174,SNR=6.7
PHWY Pilot Hill 71.64 331 P P 11 53 16.1 +0.7
MATQ Matagami 71.70 354 P 11 53 14.4
baz=171,SNR=6.6
BELC Belle Mtn. Jos 71.72 320 P 11 53 17.6
baz=134,SNR=8.1
TPFO Pinon Flats 71.73 319 P 11 53 17.6
baz=133,SNR=9.3
PFO Pinyon Flats O 71.74 319 P 11 53 17.7
baz=133,SNR=8.1
PFO Pinyon Flats O 71.74 319 P P 11 53 16.6 +0.5
PFO pmax pmax
comp=Z,14nm,0.9s
PFO Pinyon Flats O 71.74 319 P P 11 53 16.6 +0.5
F33A 5 Mile Ranch, 71.97 340 P P 11 53 16.3 -0.6
O20A White River Ci 72.01 329 P 11 53 18.7
baz=141,SNR=19
O20A White River Ci 72.01 329 P P 11 53 18.6 +1.0
O20A lAmb lAmb 11 53 20.0
comp=Z,25nm,0.9s
KNB Kanab 72.03 324 P P 11 53 19.6 +1.8
KNB pP pP **11 53 52.2 +2.3**
GMRC Granite Mounta 72.06 320 P 11 53 19.7
baz=134,SNR=29
MURC Murrieta 72.18 319 P 11 53 20.1
baz=133
LCMT Little Creek M 72.26 324 P P 11 53 20.5 +1.4
SRU San Rafael Swe 72.36 327 P P 11 53 20.9 +1.2
SRU pmax pmax
comp=Z,26nm,0.8s
SRU San Rafael Swe 72.36 327 P P 11 53 20.9 +1.2
SRU lAmb lAmb 11 53 21.9
comp=Z,26nm,0.8s
MTPU Mount Pierson 72.43 325 P P 11 53 21.1 +0.7
BBRC Big Bear Solar 72.46 319 P 11 53 22.4
baz=133,SNR=5.1
EYMN Ely 72.48 344 P 11 53 19.2
baz=158,SNR=15
EYMN Ely 72.48 344 P P 11 53 20.0 0.0
EYMN lAmb lAmb 11 53 20.3
comp=Z,18nm,0.8s
HEC Hector,Ludlow 72.50 320 P 11 53 22.4
baz=134,SNR=12
Q16A Castle Valley 72.55 326 P P 11 53 21.1 +0.3
SZCU Shurtz Canyon 72.59 324 P P 11 53 22.7 +1.6
SCI2 San Clemente I 72.61 317 P 11 53 23.0
baz=132
TUQ Turquoise Moun 72.67 321 P 11 53 23.1
baz=134
CCUT Cedar City 72.71 324 P P 11 53 23.6 +1.7
CCUT lAmb lAmb 11 53 25.4
comp=Z,31nm,0.9s
P17A Butcher Ranch, 72.74 327 P P 11 53 23.4 +1.4
P17A lAmb lAmb 11 53 24.4
comp=Z,29nm,0.9s
RWWY Rawlins 72.74 330 P P 11 53 22.7 +0.7
MSU Marysvale 72.77 325 P P 11 53 23.8 +1.6
MSU Marysvale 72.77 325 P P 11 53 23.8 +1.6
CIS Catalina Islan 72.80 318 P 11 53 23.9
baz=132
TMUT Trail Mountain 72.85 326 P P 11 53 24.2 +1.5
BFSC Mount Baldy Ra 72.89 319 P 11 53 24.1
baz=133,SNR=7.8
SHPR Sheep Range 72.97 322 P P 11 53 25.4 +2.0
TCRU Three Creeks R 72.99 325 P P 11 53 25.2 +1.7
RDMU Red Mountain 72.99 328 P P 11 53 24.6 +1.2
RDMU lAmb lAmb 11 53 25.5
comp=Z,16nm,0.8s
GSC Goldstone, Bar 73.10 320 P 11 53 25.7
baz=134,SNR=8.5
GSC Goldstone, Bar 73.10 320 P P 11 53 25.9 +1.9
GSC pmax pmax
comp=Z,11nm,0.9s
GSC Goldstone, Bar 73.10 320 P P 11 53 25.9 +1.9
MWC Mount Wilson 73.13 319 P P 11 53 25.5 +1.1
MWC pmax pmax
comp=Z,21nm,1.0s
MWC Mount Wilson 73.13 319 P P 11 53 25.5 +1.1
MWC lAmb lAmb 11 53 27.1
comp=Z,22nm,1.0s
PASC Pasadena Art C 73.17 318 P P 11 53 25.7 +1.3
PASC lAmb lAmb 11 53 27.3
comp=Z,36nm,1.1s
K22A Casper 73.19 331 P 11 53 25.4

baz=143,SNR=5.4
K22A Casper 73.19 331 P P 11 53 26.0 +1.5
SHOC Shoshone, Teco 73.20 321 P 11 53 25.9
baz=134,SNR=5.4
DECC Green Verdugo 73.32 318 P 11 53 27.0
baz=132
RSSD Black Hills 73.33 334 P 11 53 26.3
baz=146
RSSD Black Hills 73.33 334 P P 11 53 26.1 +0.8
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD Black Hills 73.33 334 P P 11 53 26.1 +0.8
D32A Dogwood Acres, 73.35 340 P P 11 53 24.7 -0.4
D32A IAmb IAmb 11 53 25.8
comp=Z,23nm,0.6s
B35A Bob, Littlefor 73.46 343 P P 11 53 25.6 -0.2
B35A IAmb IAmb 11 53 26.2
comp=Z,23nm,0.7s
EDW2 Edwards Air Fo 73.53 319 P 11 53 27.8
baz=133,SNR=5.2
PRN Pahroc Range 73.55 323 P P 11 53 27.5 +0.8
MPU Maple Canyon 73.60 327 P P 11 53 28.0 +1.0
PSUT Pine Spring 73.69 324 P P 11 53 28.7 +1.1
LRMC Laurel Mtn Rad 73.75 320 P 11 53 29.3
baz=133
NLU North Lily Min 73.78 326 P P 11 53 29.5 +1.4
OSI Osito Audit: C 73.80 318 P 11 53 29.4
baz=132
TPNV Topopah Spring 73.91 322 P 11 53 30.8
baz=134,SNR=14
TPNV Topopah Spring 73.91 322 P P 11 53 30.7 +1.8
TPNV pmax pmax
comp=Z,22nm,1.1s
TPNV Topopah Spring 73.91 322 P P 11 53 30.7 +1.8
TPNV IAmb IAmb 11 53 32.1
comp=Z,22nm,1.1s
FURC Furnace Creek, 73.93 321 P 11 53 30.7
baz=134,SNR=11
JLU Jordanelle 73.95 327 P P 11 53 30.2 +1.1
MPMC Manual Prospec 74.02 320 P 11 53 30.7
baz=133,SNR=8.0
AGMN Agassiz Nation 74.02 341 P 11 53 28.8
baz=154,SNR=7.9
AGMN Agassiz Nation 74.02 341 P P 11 53 29.1 +0.1
E28A Huff 74.10 337 P P 11 53 30.0 +0.4
E28A IAmb IAmb 11 53 30.8
comp=Z,23nm,1.1s
SPR3 Spring Creek 3 74.28 324 P P 11 53 32.2 +1.0
DUG Dugway, Tooele 74.34 326 P 11 53 32.7
baz=138,SNR=11
DUG Dugway, Tooele 74.34 326 P P 11 53 32.5 +1.2
DUG pmax pmax
comp=Z,14nm,1.1s
DUG Dugway, Tooele 74.34 326 P P 11 53 32.5 +1.2
ISA Isabella, Lake 74.34 319 P 11 53 33.0
baz=132,SNR=15
ISA Isabella, Lake 74.35 319 P P 11 53 32.8 +1.5
ISA pmax pmax
comp=Z,19nm,0.9s
ISA Isabella, Lake 74.35 319 P P 11 53 32.8 +1.5
ISA IAmb IAmb 11 53 34.2
comp=Z,19nm,0.8s
R11A Troy Canyon, C 74.51 323 P 11 53 34.1
baz=135,SNR=20
R11A Troy Canyon, C 74.51 323 P P 11 53 33.9 +1.6
GRAC Grapevine Rang 74.59 321 P 11 53 34.3
baz=134,SNR=7.6
CWC Cottonwood Cre 74.63 320 P 11 53 34.6
baz=133
PKM Mcpherson Peak 74.65 318 P 11 53 34.9
baz=131,SNR=6.3
BW06 Boulder Array 74.67 330 P 11 53 33.7
baz=141,SNR=6.8
PD31 Pinedale Array 74.67 330 P P 11 53 33.1 -0.1
PDAR Pinedale Array 74.67 330 P P 11 53 33.3 +0.1
comp=Z,2.3nm,0.7s,baz=149,slow=6.9,SNR=21
PDAR Pinedale Array 74.67 330 P P 11 53 34.2 +1.0
BW06 Boulder Array 74.67 330 P P 11 53 34.2 +1.0
HWUT Hardware Ranch 74.76 328 P P 11 53 34.0 +0.4
MDND Maddock 74.82 339 P 11 53 34.2
baz=150,SNR=8.6
MDND Maddock 74.82 339 P P 11 53 34.4 +0.7
VES Vestal, Richgr 74.83 319 P 11 53 35.5
baz=132,SNR=7.6
SPUT South Promonto 74.98 327 P P 11 53 35.8 +0.8
SPUT IAmb IAmb 11 53 37.2
comp=Z,23nm,1.0s
BGU Big Grassy Mou 74.99 326 P P 11 53 36.7 +1.7
SMMC Simmler 75.05 318 P 11 53 37.4
baz=131
TPH Tonopah 75.25 322 P P 11 53 37.3 +0.7
TPH pmax pmax
comp=Z,79nm,1.2s
TPH Tonopah 75.25 322 P P 11 53 37.3 +0.7
AHID Auburn Hatcher 75.40 329 P P 11 53 38.4 +1.0
AHID IAmb IAmb 11 53 39.4
comp=Z,22nm,0.8s
HVU Hansel Valley 75.49 327 P P 11 53 38.9 +1.1
HVU pmax pmax
comp=Z,14nm,1.0s
HVU Hansel Valley 75.49 327 P P 11 53 38.9 +1.1
SBA Scott Base 75.67 190 P P 11 53 40.7 +2.5
SBA pmax pmax
comp=Z,39nm,1.3s
SBA Scott Base 75.67 190 P P 11 53 40.7 +2.5
SBA IAmb IAmb 11 53 42.4
comp=Z,39nm,1.2s
REDW Red Top Meadow 75.74 329 P P 11 53 41.4 +2.1
ECR Eagle Creek 75.75 329 P P 11 53 40.8 +1.4
SNOW Snow King Moun 75.77 329 P P 11 53 40.2 +0.7
ULM Lac du Bonnet 75.78 342 P P 11 53 38.7 -0.4
comp=Z,7.9nm,0.4s,baz=150,slow=6.4,SNR=15
ULM Lac du Bonnet 75.78 342 P P 11 53 38.9 -0.1
ULM IAmb IAmb 11 53 59.1
comp=Z,14nm,0.7s
LOHW Long Hollow 75.81 330 P P 11 53 40.7 +1.0
MLAC Mammoth, Mammo 75.88 321 P 11 53 41.9
baz=132,SNR=5.1
TPAW Teton Pass 75.88 329 P P 11 53 41.8 +1.6
ELK Elko 76.02 325 P P 11 53 42.3 +1.3
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 76.02 325 P P 11 53 42.3 +1.3
SYO Syowa Base 76.02 159 ǁ *i*P **P 11 53 41.6 +1.3**
SYO Syowa Base 76.02 159 ǁ *e*PcP **PcP 11 53 49.0 -3.0**
MDPB Devils Postpil 76.02 321 P P 11 53 42.6 +1.5
NV11 Mina Array Sit 76.02 322 P P 11 53 42.4 +1.4
LHV Little Huntoon 76.10 321 P P 11 53 42.6 +1.5
NVAR Mina Array Bea 76.11 322 P P 11 53 42.9 +1.4
comp=Z,5.9nm,0.9s,baz=153,slow=6.8,SNR=39
NVAR pP **pP 11 54 16.0 +2.1**
comp=Z,3.3nm,0.9s,baz=147,slow=6.4,SNR=3.6
NVAR Mina Array Bea 76.11 322 P P 11 53 42.6 +1.1
FLWY Flagg Ranch 76.21 330 P P 11 53 43.8 +1.9
FLWY IAmb IAmb 11 53 44.8
comp=Z,24nm,0.9s
SCHQ Schefferville 76.30 1 P P 11 53 41.9 -0.1
comp=Z,10nm,0.8s,baz=196,slow=3.8,SNR=16
SCHQ Schefferville 76.30 1 P P 11 53 41.8 -0.1
LAO LASA Array 76.31 334 P 11 53 43.2
baz=144
LAO LASA Array 76.31 334 P P 11 53 43.1 +0.8
LAO IAmb IAmb 11 53 44.2
comp=Z,26nm,1.4s
RLMT Red Lodge 76.36 331 P 11 53 43.9
baz=141,SNR=10
RLMT Red Lodge 76.36 331 P P 11 53 44.0 +1.2
RYN Ryan 76.37 322 P P 11 53 43.7 +0.8
H17A Grant Village 76.39 330 P 11 53 45.1
baz=140
H17A Grant Village 76.39 330 P P 11 53 44.4 +1.4
KVN Kaiserville 76.41 322 P P 11 53 44.8 +1.6
KVN pmax pmax
comp=Z,17nm,0.9s
KVN Kaiserville 76.41 322 P P 11 53 44.8 +1.6
KVN IAmb IAmb 11 53 45.5
comp=Z,17nm,0.9s
LKWY Lake 76.44 330 P P 11 53 46.0 +2.7
LKWY pmax pmax
comp=Z,21nm,1.2s
LKWY Lake 76.44 330 P P 11 53 46.0 +2.7
YMP Mirror Lake Pl 76.47 331 P P 11 53 45.1 +1.6
YNE Yellowstone No 76.61 331 P P 11 53 45.6 +1.4
YNE IAmb IAmb 11 53 46.6
comp=Z,25nm,0.9s
VNDA Vanda 76.69 190 P P 11 53 46.3 +2.4
comp=Z,10nm,0.9s,baz=130,slow=5.2,SNR=46
VNDA Vanda 76.69 190 P P 11 53 46.8 +2.8
VNDA pmax pmax
comp=Z,20nm,1.2s
VNDA Vanda 76.69 190 P P 11 53 46.8 +2.8
YMR Madison River 76.78 330 P P 11 53 47.0 +1.9
YMR IAmb IAmb 11 53 48.4
comp=Z,46nm,1.3s
WAKR Walker 76.82 321 P P 11 53 47.1 +1.6
YHH Holmes Hill 76.82 330 P P 11 53 47.3 +1.8
YHH IAmb IAmb 11 53 48.6
comp=Z,32nm,1.2s
TOA0 Torodi Ar. Sit 76.84 70 P P 11 53 45.5 -0.3
TORD Torodi Ar. Bea 76.84 70 P P 11 53 45.7 -0.1
comp=Z,58nm,0.6s,baz=254,slow=5.4,SNR=113
TORD Torodi Ar. Bea 76.84 70 P P 11 53 46.1 +0.2
DGMT Dagmar 76.98 336 P 11 53 47.0
baz=146,SNR=6.5
DGMT Dagmar 76.98 336 P P 11 53 47.1 +1.1
DGMT IAmb IAmb 11 53 48.2
comp=Z,28nm,0.9s
YERR Yerington 77.02 322 P P 11 53 48.9 +2.2
YERR IAmb IAmb 11 53 49.7
comp=Z,37nm,1.5s
GCMT Greycliff 77.06 332 P P 11 53 47.5 +0.9
CMB Columbia Colle 77.06 320 P P 11 53 48.3 +1.6
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 77.06 320 P P 11 53 48.2 +1.6
QLMT Earthquake Lak 77.12 330 P P 11 53 48.3 +1.2
PNTR Pine Nut 77.30 321 P P 11 53 50.4 +2.2
PNTR IAmb IAmb 11 53 51.2
comp=Z,19nm,0.9s
VCNR Virginia City 77.47 322 P P 11 53 51.1 +2.0
PAHR Pah Rah Range 77.59 322 P P 11 53 51.0 +1.3
PAHR IAmb IAmb 11 53 52.6
comp=Z,38nm,0.9s
HLID Hailey 77.62 328 P 11 53 51.4
baz=137,SNR=43
HLID Hailey 77.62 328 P P 11 53 51.1 +1.3
HLID IAmb IAmb 11 53 52.8
comp=Z,22nm,0.9s
BCYI Bear Canyon 77.67 329 P P 11 53 51.6 +1.4
MCMT McKenzie Canyo 77.79 329 P P 11 53 52.4 +1.6
AFDM Forest Hills D 78.01 321 P P 11 53 53.3 +1.4
DLMT Dillon 78.07 330 P P 11 53 54.0 +1.8
MFID Camas Ranch 78.23 327 P P 11 53 54.9 +1.8
MFID IAmb IAmb 11 53 56.0
comp=Z,28nm,1.4s
BEKR Beckworth 78.26 322 P P 11 53 55.1 +1.6
ORV Oroville 78.72 321 P P 11 53 56.8 +1.0
ORV IAmb IAmb 11 53 58.6
comp=Z,38nm,1.1s
ORV pP **pP 11 54 30.7 +2.4**
HRY Holter Researc 78.73 331 P P 11 53 57.0 +1.2
WVOR Wild Horse Val 79.02 324 P P 11 53 58.0 +0.5
WVOR pmax pmax
comp=Z,7.0nm,1.2s
WVOR Wild Horse Val 79.02 324 P P 11 53 58.0 +0.5
TSUM Tsumeb 79.34 106 P P 11 54 00.8 +0.9
TSUM IAmb IAmb 11 54 02.0
comp=Z,28nm,1.0s
O03E Paynes Creek 79.37 321 P 11 53 59.5
baz=131,SNR=12
J08A Circle Bar Ran 79.57 325 P P 11 54 02.0 +1.6
MOD Modoc Plateau 79.58 323 P P 11 54 02.0 +1.5
MOD IAmb IAmb 11 54 03.1
comp=Z,17nm,0.9s
MSO Missoula 79.78 330 P P 11 54 02.5 +1.0
O02D Mt. Diablo Mer 79.87 321 P 11 54 02.7
baz=130,SNR=5.1
WDC Whiskeytown Da 79.99 321 P P 11 54 02.1 -0.5
WDC pmax pmax
comp=Z,10.0nm,0.7s
WDC Whiskeytown Da 79.99 321 P P 11 54 02.1 -0.5
BMO Blue Mountains 80.00 327 P P 11 54 03.7 +1.0
BMO pmax pmax
comp=Z,21nm,1.0s
BMO Blue Mountains 80.00 327 P P 11 54 03.7 +1.0
BMO IAmb IAmb 11 54 05.1
comp=Z,21nm,1.0s
N02D Trinity Center 80.33 321 P 11 54 04.5
baz=130,SNR=8.2
M04C Macdoel 80.36 322 P 11 54 05.7
baz=131,SNR=14
K05A Summer Lake 80.45 324 P P 11 54 06.5 +1.2
K05A IAmb IAmb 11 54 08.2
comp=Z,38nm,1.0s
I07A Izee 80.61 325 P P 11 54 07.3 +1.4
JTMT Jette 80.61 330 P P 11 54 07.2 +1.2
M02C Callahan 80.69 322 P 11 54 06.7
baz=130,SNR=5.2
F10A Beach Ranch, E 80.74 328 P P 11 54 07.7 +1.0
YBH Yreka Blue Hor 80.82 322 P P 11 54 07.7 +0.5
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 80.82 322 P P 11 54 07.7 +0.5
K04D Chiloquin, OR 80.86 323 P 11 54 08.3
baz=131
L04D Klamath Falls 80.91 322 P 11 54 08.0
baz=131,SNR=8.7
G08A Pilot Rock 81.14 326 P P 11 54 09.8 +1.0
PINE Pine Mountain 81.18 324 P P 11 54 10.4 +1.3
PINE IAmb IAmb 11 54 12.1
comp=Z,32nm,0.9s
WALA Waterton Lakes 81.42 332 P P 11 54 11.0 +0.8
J04D Umpqua Nationa 81.46 323 P 11 54 11.5
baz=131,SNR=9.5
FFC Flin Flon 81.50 341 P P 11 54 10.5 +0.2
FFC pmax pmax
comp=Z,15nm,1.2s
FFC Flin Flon 81.50 341 P P 11 54 10.5 +0.2
E09A Wood Farm, Sta 81.58 328 P P 11 54 12.5 +1.6
L02E Cave Junction 81.61 322 P 11 54 12.3
baz=130,SNR=9.7
PBDV Barranco-do-Ve 81.64 44 *e*P P 11 54 13.9 +2.4
comp=Z,23nm,1.2s
I05D Terrebonne, OR 81.76 325 P 11 54 13.5
baz=132,SNR=12
PCVE Castro Verde 81.80 44 *e*P P 11 54 13.9 +1.6
comp=Z,15nm,1.4s
PVAQ Vaqueiros 81.87 44 *e*P P 11 54 14.2 +1.5
comp=Z,20nm,1.9s
K02D Willamette Mer 81.98 322 P 11 54 14.3
baz=130,SNR=11
I04A Tendick Farm, 81.98 324 P 11 54 13.3
baz=131,SNR=5.8
E08A Dider Farm, El 82.02 327 P P 11 54 13.7 +0.5
F07A Phinny Hill Vi 82.05 326 P P 11 54 15.2 +1.8
PBEJ Beja 82.14 44 *e*P P 11 54 15.2 +1.2
comp=Z,7.8nm,0.9s
HAWA Hanford 82.19 327 P P 11 54 15.5 +1.4
HAWA IAmb IAmb 11 54 16.6
comp=Z,22nm,1.1s
NEW Newport 82.31 329 P 11 54 14.9
baz=135,SNR=5.5
NEW Newport 82.31 329 P P 11 54 15.0 +0.2
NEW pmax pmax
comp=Z,6.0nm,1.2s
NEW Newport 82.31 329 P P 11 54 15.0 +0.2
D08A Wollman Farm, 82.34 328 P P 11 54 16.0 +1.2
D08A IAmb IAmb 11 54 17.3
comp=Z,25nm,1.3s
G05D Wamic, OR 82.34 325 P 11 54 16.4
baz=132,SNR=6.5
J01E Myrtle Point 82.43 322 P 11 54 16.8
baz=130
H04A Detroit Lake 82.44 324 P P 11 54 16.4 +0.8
I03D Drain, OR 82.44 323 P 11 54 16.6
baz=130
PMTG Montargil 82.51 43 *e*P P 11 54 16.7 +0.7
comp=Z,26nm,1.8s
C09A Chrisman Ranch 82.54 329 P P 11 54 17.1 +1.1
C09A IAmb IAmb 11 54 18.1
comp=Z,26nm,0.8s
H04D Lebanon 82.64 324 P 11 54 17.5
baz=130
BOSA Boshof 82.75 118 P P 11 54 18.3 +0.5
comp=Z,32nm,0.8s,baz=246,slow=4.5,SNR=23
BOSA Boshof 82.75 118 P P 11 54 18.1 +0.3
BOSA pmax pmax
comp=Z,35nm,0.8s
BOSA Boshof 82.75 118 P P 11 54 18.1 +0.3
PBAR Barrancos 82.75 44 *e*P P 11 54 18.0 +0.8
comp=Z,12nm,2.4s
F05D White Salmon 82.84 326 P 11 54 18.7
baz=132
I02D Swisshome 82.98 323 P 11 54 19.7
baz=130
FCC Fort Churchill 83.05 347 P P 11 54 18.8 +0.6
FCC pmax pmax
comp=Z,18nm,0.9s
FCC Fort Churchill 83.05 347 P P 11 54 18.8 +0.6
FCC IAmb IAmb 11 54 19.6
comp=Z,18nm,0.9s
LTY Liberty 83.35 327 P P 11 54 20.4 +0.2
LTY IAmb IAmb 11 54 22.2
comp=Z,19nm,1.2s
PCBR Castelo Branco 83.43 43 *e*P P 11 54 21.4 +0.7
comp=Z,12nm,1.8s
B08A Colville Reser 83.44 328 P P 11 54 21.0 +0.5
MTE Manteigas 83.71 42 *e*P P 11 54 23.3 +1.1
comp=Z,17nm,1.2s
E04D Cinebar 83.86 326 P 11 54 23.2
baz=131
MAW Mawson 83.88 163 P P 11 54 23.8 +1.2
comp=Z,34nm,0.8s,baz=212,slow=5.8,SNR=42
MAW Mawson 83.88 163 P P 11 54 23.9 +1.3
MAW Mawson 83.88 163 P P 11 54 23.9 +1.3
D05A Enumclaw 83.98 326 P P 11 54 24.0 +0.7
D05A IAmb IAmb 11 54 25.0
comp=Z,18nm,0.9s
PVRL Vila Real 84.11 41 *e*P P 11 54 25.2 +1.0
comp=Z,27nm,1.8s
POLO Lamas de Olo 84.12 41 *e*P P 11 54 25.2 +0.9
comp=Z,15nm,2.0s
LBTB Lobatse 84.32 115 P P 11 54 26.3 +0.5
LBTB pmax pmax
comp=Z,45nm,0.8s
LBTB Lobatse 84.32 115 P P 11 54 26.3 +0.5
MVO Moncorvo 84.47 42 *e*P P 11 54 26.8 +0.8
comp=Z,14nm,1.2s
B05A Bryant 84.74 327 P 11 54 27.2
baz=131,SNR=5.5
D03D Eldon 84.77 326 P 11 54 28.2
baz=130
PBRG Braganca 85.02 41 *e*P P 11 54 29.8 +1.1
comp=Z,18nm,1.5s
A05A Maple Falls 85.22 328 P P 11 54 30.2 +0.8
A05A IAmb IAmb 11 54 30.9
comp=Z,27nm,1.2s
PAB San Pablo 85.26 44 P P 11 54 30.8 +0.7
PAB pmax pmax
comp=Z,10.0nm,0.9s
PAB San Pablo 85.26 44 P P 11 54 30.8 +0.7
ESDC Sonseca Array 85.58 44 P P 11 54 31.7 +0.1
comp=Z,4.4nm,0.9s,baz=247,slow=4.7,SNR=23
ESDC pP **pP 11 55 05.5 +0.7**
comp=Z,3.6nm,1.0s,baz=247,slow=4.4,SNR=3.3
ESDC Sonseca Array 85.58 44 P P 11 54 32.4 +0.8
YKA Yellowknife Ar 91.66 340 P P 11 55 00.2 +0.4
comp=Z,21nm,0.7s,baz=132,slow=4.8,SNR=259
KEST Kesra 92.96 53 P P 11 55 07.7 +1.1
comp=Z,2.5nm,0.8s,baz=248,slow=5.4,SNR=4.8
WRAK Wrangell Islan 94.66 330 P 11 55 14.7
baz=123
INK Inuvik 101.42 340 P 11 55 44.7
baz=121
EGAK Eagle 102.50 335 P 11 55 49.3
baz=115
K27K Chicken 102.56 334 P 11 55 49.5
baz=114
ILAR Eielson Array 104.77 334 PP PP 12 00 24.1 +3.8
comp=Z,1.1nm,1.0s,baz=123,slow=4.7,SNR=6.9
COLA College 105.20 334 *i* P **Pdif 11 56 01.3 +0.6**
MNK Minsk 110.93 38 *i* PP **PP 12 01 05.1 -0.4**
MNK *i* PP **PP 12 01 05.1 -0.4**
MNK *i* PP **PP 12 01 05.1 -0.4**
baz=82
MNK *i* PPP PPP 12 03 14.2
MNK *i* SKP 12 03 30.2
MNK *i* PKS PKSdf 12 03 50.0 -12
MNK *i* SKS **SKSac 12 06 51.4 -2.3**
MNK *i* PS **PS 12 10 29.6 -8.2**
MNK *i* SS **SS 12 16 28.9 +2.0**
MNK *i* SSS SSS 12 20 29.2
MNK *i* LRM MLR 12 47 02.0
comp=E,25nm,19.8s
MNK *i* LRM MLR 12 47 03.6
comp=N,301nm,19.5s
MNK *i* LRM MLR 12 47 29.0
comp=Z,70nm,19.8s
AKASG Malin Array Be 111.17 43 PP **PP 12 01 05.0 -2.3**
comp=Z,0.4nm,0.4s,baz=258,slow=7.7,SNR=4.5
AKBB Malin Array Si 111.17 43 *i* PKIKP **PKiKP 12 00 25.8 -0.1**
ARCES ARCESS Array B 111.50 22 PKPbc PKKPbc 12 11 21.6 -1.8
comp=Z,2.0nm,0.8s,baz=49,slow=3.9,SNR=3.7
BRTR Keskin Array B 112.46 55 PP **PP 12 01 14.3 -2.8**
comp=Z,1.2nm,0.9s,baz=240,slow=5.0,SNR=4.6
KLMR Klimovskoe 117.40 32 *e*PKIKP **PKPdf 12 00 37.5 0.0**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 117.40 32 *e*PKPdf **PKPdf 12 00 37.5 0.0**
KLMR AMP 12 00 38.9
comp=Z,10.0nm,1.1s
SOC Sochi 117.48 51 *i* PKIKP **PKiKP 12 00 38.8 +0.6**
SOC *e* 12 01 53.1
SOC *e*PS **PS 12 11 36.7 -1.4**
SOC *e*SS SS 12 17 49.3 -4.4
SOC *e*SSS SSS 12 22 13.2
STKA Stephens Creek 119.49 209 PKP **PKPdf 12 00 42.1 -0.5**
comp=Z,2.2nm,0.7s,baz=52,slow=6.6,SNR=3.5
KIV Kislovodsk 119.65 51 *e*PKIKP **PKiKP 12 00 43.2 +0.6**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 119.79 51 PKP **PKPdf 12 00 42.1 -0.5**
comp=Z,6.6nm,0.8s,baz=200,slow=1.9,SNR=13
KBZ Khabaz 119.79 51 *c i* PKIKP **PKiKP 12 00 43.9 +1.2**
PRGR Permogore 120.23 30 *e*PKIKP **PKPdf 12 00 42.9 0.0**
KIRV Kirov 122.68 33 *i* PKIKP **PKiKP 12 00 48.4 +0.5**
BILL Bilibino 123.01 339 *i* PKIKP **PKiKP 12 00 48.5 +0.2**
BILL *i* 12 02 31.3
BILL pmax pmax
comp=Z,9.0nm,2.5s
AKT Akhty 123.30 54 *e*PKIKP **PKiKP 12 00 50.9 +1.0**
AKT *e* 12 01 23.2
AKT *e* 12 02 31.2
AKT pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 128.01 34 *i* PKIKP **PKiKP 12 00 59.1 +0.5**
ARU 12 03 01.6
ARU 12 07 58.7
ARU SS SS 12 20 00.3 -5.9
TIXI Tiksi 129.14 353 ǁ *i* PKIKP **PKPdf 12 00 59.6 -0.1**
ASAR Alice Springs 129.96 207 PKP **PKiKP 12 01 03.6 -0.1**
comp=Z,14nm,0.8s,baz=149,slow=2.3,SNR=73
ASAR pPKP **pPKPdf 12 01 38.4 +0.6**
comp=Z,1.9nm,1.0s,baz=151,slow=2.1,SNR=2.0
NRIK Noril'sk 130.22 11 PKP **PKiKP 12 01 02.9 +0.3**
comp=Z,1.8nm,0.4s,baz=91,slow=0.4,SNR=4.6
NRIK Noril'sk 130.22 11 *d i* PKIKP **PKiKP 12 01 02.8 +0.1**
SEY Seymchan 130.60 337 *d i* PKIKP **PKiKP 12 01 04.2 +0.6**
GEYT Alibeck 131.40 58 PKP **PKiKP 12 01 06.0 -0.1**
comp=Z,1.6nm,0.4s,baz=231,slow=52,SNR=3.0
WRA Warramunga Arr 133.04 210 PKP **PKPdf 12 01 09.3 +0.5**
comp=Z,13nm,0.7s,baz=152,slow=1.8,SNR=17
WRA SKPbc **SKPbc 12 04 24.9 -0.4**
comp=Z,3.8nm,1.1s,baz=156,slow=3.3,SNR=5.8
WRAB Tennant Creek 133.04 210 ⇑ *i* PKIKP **PKiKP 12 01 09.9 0.0**
WRAB pmax pmax
comp=Z,57nm,2.5s
PEA0B Petropavlovsk- 133.17 324 ⇑ *i* PKIKP **PKiKP 12 01 09.1 0.0**
PETK Petropavlovsk- 133.17 324 PKP **PKiKP 12 01 09.0 -0.1**
comp=Z,10.0nm,1.1s,baz=75,slow=6.3,SNR=12
PETK Petropavlovsk- 133.17 324 PKIKP **PKiKP 12 01 09.0 -0.1**
BRVK Borovoye 135.58 35 ⇑ *i* PKIKP **PKPdf 12 01 12.6 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 141.93 26 PKhKP PKPpre 12 01 19.0
comp=Z,5.4nm,0.9s,baz=308,slow=4.9,SNR=8.2
ZALV PKP **PKPdf 12 01 25.2 +1.2**
comp=Z,14nm,0.7s,baz=290,slow=2.8,SNR=18
ZALV SKPbc **SKPbc 12 04 49.4 -0.7**
comp=Z,6.5nm,0.9s,baz=304,slow=3.4,SNR=10
AAK Ala-Archa 142.62 47 *e*PKIKP **PKPdf 12 01 23.8 -2.0**
YSS Yuzh-Sakhalins 144.55 323 *e*PKIKP PKPbc 12 01 28.1 +0.3
YSS pmax pmax
comp=Z,40nm,0.9s
KSH Kashi 144.77 52 ǁ *i* PKPbc PKPbc 12 01 29.3 +0.4

KSH					PP	**PP**	**12 04 50.3**	**+2.2**	
KSH					PPMZ				
	comp=Z,180nm,4.0s								
KSH					L	L			
	comp=Z,440nm,5.9s								
KSH					L	L			
	comp=Z,390nm,7.6s								
KSH					L	L			
	comp=Z,180nm,4.8s								
GRNR	**Gornyy**	**145.23**	**332**	⇩ *i*	PKIKP	**PKPab**	**12 01 31.2**	**+1.2**	
GRNR					pmax	pmax			
	comp=Z,40nm,1.0s								
MKAR	**Makanchi Array**	**145.47**	**37**		PKPbc	**PKPab**	**12 01 31.4**	**+0.3**	
	comp=Z,12nm,0.7s,baz=328,slow=2.8,SNR=102								
MKAR					pPKPbc	**pPKPdf**	**12 02 05.9**	**+0.5**	
	comp=Z,35nm,1.0s,baz=299,slow=2.9,SNR=11								
MKAR					SKPbc	**SKPbc**	**12 04 59.0**	**+0.1**	
	comp=Z,2.2nm,0.9s,baz=320,slow=3.6,SNR=3.5								
ZEA	**Zeya**	**145.98**	**344**	*e*	PKP2	**PKPab**	**12 01 32.7**	**0.0**	
ZEA					pmax	pmax			
	comp=Z,30nm,1.8s								
HYB	**Hyderabad**	**148.43**	**92**	*i*	PKP	**PKPab**	**12 01 43.0**	**-0.6**	
MOY	**Mondy**	**149.01**	**13**	*e*	PKP2	**PKiKP**	**12 01 42.3**	**+0.6**	
MOY					pmax	pmax			
	comp=Z,62nm,2.1s								
WMQ	**Urumqi**	**150.31**	**37**	*e*	P	PKPdf	12 01 30.0	-8.6	
WMQ					pmax	pmax			
	comp=Z,84nm,5.1s								
ZAK	**Zakamensk**	**150.68**	**11**	*e*	PKIKP	**PKiKP**	**12 01 45.4**	**+0.2**	
ZAK					pmax	pmax			
	comp=Z,16nm,1.1s								
USRK	**Ussuriysk Ar.**	**152.09**	**328**		PKP	**PKPdf**	**12 01 42.9**	**+1.7**	
	comp=Z,2.9nm,0.8s,baz=46,slow=5.5,SNR=6.1								
USRK					PKPbc	**PKiKP**	**12 01 48.9**	**+0.8**	
	comp=Z,23nm,0.9s,baz=4.5,slow=1.4,SNR=30								
MJAR	**Matsushiro Arr**	**152.75**	**308**		PKPbc	**PKiKP**	**12 01 50.4**	**+0.6**	
	comp=Z,13nm,0.9s,baz=90,slow=1.4,SNR=27								
SONM	**Songino Array**	**153.64**	**8**		PKP	**PKPdf**	**12 01 44.8**	**+1.3**	
	comp=Z,5.9nm,0.9s,baz=306,slow=0.7,SNR=24								
SONM					PKPbc	**PKiKP**	**12 01 52.4**	**+1.0**	
	comp=Z,7.1nm,0.9s,baz=340,slow=1.8,SNR=16								
SONM					PKPab	**PKPab**	**12 02 05.5**	**+1.1**	
	comp=Z,4.0nm,0.8s,baz=329,slow=4.3,SNR=6.8								
KSRS	**Korea Array**	**159.05**	**322**		PKP	**PKPdf**	**12 01 51.6**	**+1.0**	
	comp=Z,6.8nm,0.8s,baz=43,slow=1.3,SNR=38								
KSRS					PKPab	**PKPab**	**12 02 27.9**	**+0.1**	
	comp=Z,2.4nm,0.9s,baz=62,slow=4.9,SNR=8.6								
GTA	**Gaotai**	**159.66**	**28**	⇧	PKP	**PKPdf**	**12 01 53.1**	**+1.6**	
GTA	**Gaotai**	**159.66**	**28**	⇧	P	**PKPab**	**12 02 31.3**	**+0.7**	
GTA					PKPab	**pPKPdf**	**12 02 31.4**	**+4.9**	
GTA					pPKP	sPKPdf	12 02 37.3	-2.3	
GTA					pP	sPKPdf	12 02 37.3	-2.3	
GTA					sPKP		12 03 05.6		
GTA					pmax	pmax			
	comp=Z,11nm,1.2s								
HHC	**Hu-ho-hao-te**	**160.99**	**1**	*e*	P	**PKPdf**	**12 01 55.3**	**+2.4**	
BTO	**Baotou**	**161.17**	**4**		PKP	**PKPdf**	**12 01 54.3**	**+1.2**	
BTO					pPKP	**pPKPdf**	**12 02 21.3**	**-6.8**	
BTO					PP	**PP**	**12 06 23.4**	**+4.0**	
BTO					SKS	**SKSdf**	**12 08 47.3**	**+0.4**	
CMAR	**Chiang Mai Arr**	**167.50**	**103**		PKP	**PKPdf**	**12 01 59.0**	**-0.2**	
	comp=Z,2.6nm,0.9s,baz=256,slow=1.4,SNR=14								
CMAR					PKPab	**PKPab**	**12 03 06.5**	**+0.9**	
	comp=Z,1.4nm,0.5s,baz=257,slow=5.3,SNR=6.9								
XAN	**Xi'an**	**167.53**	**11**		P	**PKPdf**	**12 02 00.8**	**+1.9**	
XAN					sP	pPKPdf	12 02 14.9	-19	
XAN					pmax	pmax			
	comp=Z,5μm,0.9s								
CHTO	**Chiang Mai**	**167.60**	**101**		PKP	**PKPdf**	**12 02 00.7**	**+1.4**	
CMMT	**Chiang Mai**	**167.60**	**101**		PKP	**PKPdf**	**12 01 59.7**	**+0.4**	
NJ2	**Nanjing**	**167.98**	**330**	*e*	P	PKPdf	12 01 51.0	-8.2	
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
CD2	**Chengdu**	**168.41**	**37**		PKP	**PKPdf**	**12 01 58.9**	**-0.7**	

JMA ***22*** *12:02:18.0±0.1,23°.22N×122°.13E,h47km,M2.5*
TAP ***22*** *12:02:20.4,23°.28N×121°.97E,h52km±1km,ML3.0,D*
ISC 22 12:02:17.5±1.2,**23°.24N**±0°.03×**122°.11E**±0°.03,**h25**km±13km,
n77,σ0**°75**/113,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.68**	**292**	*i*	P	**Pn**	**12 02 31.4**	**-0.1**
	baz=292							
HGSD					S	**Sn**	**12 02 40.4**	**-1.0**
	baz=292							
CHKT	**Chengkung**	**0.70**	**259**		P	**Pn**	**12 02 32.4**	**+0.6**
	baz=249							
CHKT					S	**Sn**	**12 02 41.0**	**-0.9**
	baz=249							
TEGC	**Jichi Village**	**0.70**	**312**	*e*	P	**Pn**	**12 02 32.5**	**+0.6**
	baz=318							
TEGC					eS	**Sn**	**12 02 41.4**	**-0.5**
	baz=318							
EYUL	**Yuli**	**0.74**	**278**	*i*	P	**Pn**	**12 02 32.6**	**+0.3**
	baz=271							
EYUL					S	**Sb**	**12 02 41.2**	**-0.2**
	baz=271							
FULB	**Fuli**	**0.75**	**267**	*e*	P	**Pn**	**12 02 32.5**	**-0.1**
	baz=257							
FULB					eS	**Sn**	**12 02 42.8**	**-0.4**
	baz=257							
TWF1	**Yuli**	**0.76**	**279**	*e*	P	**Pn**	**12 02 32.9**	**+0.2**
	baz=271							
TWF1					eS	**Sb**	**12 02 41.8**	**-0.3**
	baz=271							
EGFH	**Guangfu**	**0.76**	**304**		P	**Pn**	**12 02 32.6**	**0.0**
	baz=312							
EGFH					eS	**Sb**	**12 02 41.9**	**-0.2**
	baz=312							
YULB	**Yu-li**	**0.76**	**282**	*e*	P	**Pn**	**12 02 33.1**	**+0.4**
	baz=275							
YULB					eS	**Sb**	**12 02 42.0**	**-0.2**
	baz=275							
EHY	**Hungye**	**0.77**	**290**	*e*	P	**Pn**	**12 02 32.9**	**+0.1**
	baz=290							
EHY					eS	**Sb**	**12 02 41.9**	**-0.6**
	baz=290							
TEYL	**Yanliau Villag**	**0.78**	**323**	*e*	P	**Pn**	**12 02 34.4**	**+1.4**
	baz=337							
EDH	**Donghe**	**0.79**	**250**		P	**Pn**	**12 02 33.5**	**+0.4**
	baz=240							
EDH					eS	**Sn**	**12 02 43.5**	**-0.6**
	baz=240							
LDUT	**Ludao**	**0.82**	**227**	*e*	P	**Pn**	**12 02 33.4**	**0.0**
	baz=217							
LDUT					eS	**Sn**	**12 02 44.0**	**-0.7**
	baz=217							
ESL	**Shilin**	**0.84**	**313**	*e*	P	**Pn**	**12 02 33.6**	**-0.3**
	baz=320							
ETM	**Tongmen**	**0.92**	**322**	*e*	P	**Pn**	**12 02 35.3**	**+0.5**
	baz=333							
TWD	**Chiawan**	**0.96**	**331**	*e*	P	**Pn**	**12 02 36.1**	**+0.7**
	baz=345							
TWD					eS	**Sb**	**12 02 47.8**	**-0.1**
	baz=345							
LONT	**Longtian**	**0.96**	**250**		P	**Pn**	**12 02 36.2**	**+0.7**
	baz=244							
LONT					eS	**Sn**	**12 02 47.4**	**-0.9**
	baz=244							
ELDTW	**Lidau**	**1.01**	**267**	*e*	P	**Pn**	**12 02 36.6**	**+0.4**
	baz=263							
TWGBT	**Beinan**	**1.04**	**246**	*e*	P	**Pn**	**12 02 36.5**	**0.0**
	baz=251							
NACB	**Ninganchiao**	**1.04**	**333**		P	**Pn**	**12 02 36.9**	**+0.3**
	baz=343							
NACB					S	**Sb**	**12 02 49.9**	**-0.3**
	baz=343							
TWG	**Pinlang**	**1.04**	**247**	*e*	P	**Pn**	**12 02 36.6**	**0.0**
	baz=251							
TWG					eS	**Sn**	**12 02 50.1**	**-0.3**
	baz=251							
YUS	**Yu-Shan**	**1.09**	**283**	*e*	P	**Pn**	**12 02 39.1**	**+1.4**
	baz=282							
OWD	**Renai**	**1.11**	**310**	*e*	P	**Pb**	**12 02 38.1**	**-0.1**
	baz=312							
ETLH	**Xiulin Townshi**	**1.12**	**329**	*e*	P	**Pb**	**12 02 37.9**	**-0.4**
	baz=342							
ETLH					eS	**Sb**	**12 02 52.2**	**-0.4**
	baz=342							
CHGB	**Renai**	**1.19**	**314**	*e*	P	**Pb**	**12 02 39.6**	**+0.1**
	baz=316							
CHGB				*i*	S	**Sb**	**12 02 53.3**	**-1.3**
	baz=316							
WHF	**Hehuan Shan**	**1.19**	**319**	*e*	P	**Pn**	**12 02 38.3**	**-0.7**
	baz=314							
WHF					eS	**Sb**	**12 02 53.1**	**-1.7**
	baz=314							
SSLB	**Suanglung**	**1.19**	**297**	*e*	P	**Pb**	**12 02 39.4**	**-0.2**
	baz=298							
ALS	**Alishan**	**1.23**	**283**	*e*	P	**Pb**	**12 02 41.4**	**+1.1**
	baz=282							
STYH	**Taoyuan**	**1.23**	**267**	*e*	P	**Pb**	**12 02 40.5**	**+0.4**
	baz=260							
EWUT	**Wuta**	**1.24**	**346**	*e*	P	**Pb**	**12 02 40.8**	**+0.5**
	baz=351							
ECL	**Taimali**	**1.25**	**239**	*e*	P	**Pb**	**12 02 40.4**	**+0.1**
	baz=240							
ECL					eS	**Sn**	**12 02 55.6**	**+0.3**
	baz=240							
STYT	**Tauyuan**	**1.25**	**267**	*e*	P	**Pb**	**12 02 41.6**	**+1.1**
	baz=258							
FUSS	**Fushou**	**1.28**	**322**	*e*	P	**Pb**	**12 02 40.9**	**-0.2**
	baz=318							
FUSS					eS	**Sn**	**12 02 56.1**	**-0.4**
	baz=318							
SMLT	**Sun Moon Lake**	**1.28**	**300**	*e*	P	**Pb**	**12 02 41.2**	**+0.1**
	baz=305							
WPL	**Puli Township**	**1.31**	**306**	*e*	P	**Pb**	**12 02 41.5**	**0.0**
	baz=312							
TYC	**Yuchr**	**1.33**	**300**	*e*	P	**Pb**	**12 02 40.9**	**-0.9**
	baz=305							
TDCB	**Techi**	**1.33**	**319**	*e*	P	**Pb**	**12 02 41.6**	**-0.3**
	baz=327							
DPDB	**Guoxing**	**1.34**	**306**	*e*	P	**Pb**	**12 02 42.3**	**+0.2**
	baz=312							
NNSB	**Datong**	**1.36**	**331**	*e*	P	**Pb**	**12 02 41.7**	**-0.7**
	baz=335							
NNSB					eS	**Sn**	**12 02 58.1**	**-0.2**
	baz=335							
NNSH	**Datong**	**1.36**	**331**	*e*	P	**Pb**	**12 02 42.0**	**-0.4**
	baz=334							
NNSH					eS	**Sn**	**12 02 58.3**	**0.0**
	baz=334							
CHN5	**Tsauling**	**1.36**	**285**	*e*	P	**Pb**	**12 02 43.8**	**+1.4**
	baz=284							
TPUB	**Ta-pu**	**1.36**	**273**	*e*	P	**Pb**	**12 02 43.6**	**+1.2**
	baz=270							
WCS	**Beigang Elemen**	**1.37**	**307**	*e*	P	**Pb**	**12 02 42.3**	**-0.2**
	baz=312							
SLGT	**Liugui**	**1.37**	**260**	*e*	P	**Pb**	**12 02 44.5**	**+2.0**
	baz=254							
NNS	**Nan Shan**	**1.37**	**331**	*e*	P	**Pb**	**12 02 42.5**	**-0.1**
	baz=335							
WTP	**Ta-pu**	**1.38**	**271**	*e*	P	**Pb**	**12 02 43.4**	**+0.7**
	baz=268							
TWC	**Suao**	**1.38**	**350**	*e*	P	**Pb**	**12 02 42.7**	**0.0**
	baz=356							
TWC					eS	**Sb**	**12 02 59.7**	**-0.3**
	baz=356							
WJS	**Zhushan**	**1.40**	**295**	*e*	P	**Pb**	**12 02 44.0**	**+1.0**
	baz=295							
CHN4	**Tsaushan**	**1.40**	**275**	*e*	P	**Pb**	**12 02 44.7**	**+1.7**
	baz=273							
SGST	**Jiashian**	**1.42**	**264**	*e*	P	**Pb**	**12 02 42.9**	**-0.4**
	baz=260							
JYNG	**Yonagunijimaku**	**1.43**	**32**		P	**Pn**	**12 02 42.3**	**+0.5**
JYNG					eS	**Sn**	**12 02 59.0**	**-0.8**
NDS	**Dongshan**	**1.43**	**345**	*e*	P	**Pb**	**12 02 43.2**	**-0.4**
	baz=344							
NDS					eS	**Sn**	**12 03 00.4**	**+0.4**
	baz=344							
SSD	**Sandimen**	**1.45**	**250**	*e*	P	**Pn**	**12 02 41.8**	**-0.3**
	baz=241							
TSMG	**Majia**	**1.45**	**249**	*e*	P	**Pb**	**12 02 46.0**	**+2.1**
	baz=240							
CHN1	**Nanshi**	**1.46**	**268**	*e*	P	**Pb**	**12 02 45.9**	**+1.8**
	baz=265							
NDT	**Datong Townshi**	**1.46**	**338**	*e*	P	**Pb**	**12 02 43.9**	**-0.2**
	baz=342							
NDT					eS	**Sn**	**12 03 01.1**	**+0.4**
	baz=342							
YOJ	**Yonaguni jima**	**1.47**	**34**		P	**Pn**	**12 02 42.7**	**+0.3**
YOJ					S	**Sn**	**12 03 00.2**	**-0.6**
YOJ	**Yonaguni jima**	**1.47**	**34**	*e*	P	**Pb**	**12 02 45.6**	**+1.4**
	baz=39							
ENTT	**Nioudou**	**1.48**	**340**	*e*	S	**Sn**	**12 03 01.6**	**+0.4**
	baz=345							
WHP	**Taichung City**	**1.49**	**314**	*e*	P	**Pb**	**12 02 44.8**	**+0.2**
	baz=321							
TWK	**Hsinying**	**1.49**	**271**	*e*	P	**Pb**	**12 02 45.7**	**+1.1**
	baz=269							
MASBT	**Mashibuluo**	**1.50**	**246**	*e*	P	**Pb**	**12 02 44.3**	**-0.4**
	baz=237							
TWE	**Neicheng**	**1.53**	**345**	*e*	P	**Pb**	**12 02 45.0**	**-0.2**
	baz=343							
SCST	**Cishan**	**1.53**	**257**	*e*	P	**Pb**	**12 02 46.4**	**+1.1**
	baz=253							
YHNB	**Yeheng**	**1.57**	**335**	*e*	P	**Pb**	**12 02 45.8**	**-0.3**
	baz=339							
YHNB					eS	**Sn**	**12 03 04.2**	**+0.6**
	baz=339							
SLIU	**Shizi**	**1.58**	**230**	*e*	P	**Pb**	**12 02 45.4**	**-0.8**
	baz=225							
EGS		**1.61**	**354**	*e*	P	**Pb**	**12 02 46.5**	**-0.1**
	baz=8.0							
SCZT	**Fangliau**	**1.62**	**238**	*e*	P	**Pb**	**12 02 47.0**	**+0.1**
	baz=232							
NWLT	**Wulai**	**1.63**	**340**	*e*	P	**Pb**	**12 02 47.0**	**0.0**
	baz=344							
NWLT					eS	**Sn**	**12 03 06.0**	**+1.1**
	baz=344							
TWQ1	**Liyutan**	**1.65**	**312**	*e*	P	**Pb**	**12 02 48.1**	**+0.9**
	baz=314							
NSTT	**Nanjuang**	**1.72**	**324**	*e*	P	**Pb**	**12 02 47.7**	**-0.8**
	baz=313							
TIPB	**Shuangxi**	**1.74**	**351**	*e*	P	**Pb**	**12 02 48.4**	**-0.5**
	baz=6.0							
TIPB					eS	**Sn**	**12 03 09.2**	**+1.5**
	baz=6.0							
HATJ	**Hateruma jima**	**1.75**	**62**		P	**Pn**	**12 02 46.8**	**+0.5**
HATJ					eS	**Sn**	**12 03 07.2**	**-0.6**
IRIF	**Iriomote-Funau**	**1.84**	**53**		P	**Pn**	**12 02 48.5**	**+1.0**
IRIF					eS	**Sn**	**12 03 10.1**	**+0.1**
JKRS	**Kuro-shima**	**2.00**	**60**		P	**Pn**	**12 02 49.9**	**+0.2**
JKRS					S	**Sn**	**12 03 13.5**	**-0.5**
JIJ	**Ishigaki jima**	**2.17**	**59**		P	**Pn**	**12 02 52.6**	**+0.5**
JIJ					S	**Sn**	**12 03 16.7**	**-1.5**
JISG	**Ishigakijimahi**	**2.42**	**56**		P	**Pn**	**12 02 55.6**	**+0.1**
JISG					eS	**Sn**	**12 03 22.9**	**-1.4**
JTJ	**Tarama**	**2.75**	**59**		P	**Pn**	**12 03 01.0**	**+1.0**
JTJ					eS	**Sn**	**12 03 32.4**	**0.0**

JMA ***22*** *12:04:08.2±0.1,23°.25N×122°.15E,h35km,M2.4*
TAP ***22*** *12:04:10.2,23°.29N×122°.05E,h30km±1km,ML2.8,D*
ISC 22 12:04:08.2±1.1,**23°.23N**±0°.03×**122°.12E**±0°.03,**h32**km±12km,
n72,σ0**°73**/105,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.69**	**292**		P	**Pn**	**12 04 21.1**	**-0.7**
	baz=289							
HGSD					eS	**Sb**	**12 04 30.0**	**-1.1**
	baz=289							
CHKT	**Chengkung**	**0.70**	**259**	*i*	P	**Pn**	**12 04 21.9**	**-0.1**
	baz=246							
CHKT					eS	**Sb**	**12 04 30.8**	**-0.7**
	baz=246							
TEGC	**Jichi Village**	**0.71**	**312**	*e*	P	**Pn**	**12 04 22.0**	**-0.1**
	baz=312							
EYUL	**Yuli**	**0.74**	**279**		P	**Pn**	**12 04 22.5**	**-0.1**
	baz=269							
EYUL					eS	**Sb**	**12 04 31.5**	**-1.1**
	baz=269							
FULB	**Fuli**	**0.76**	**268**	*e*	P	**Pn**	**12 04 22.7**	**0.0**
	baz=263							
FULB					S	**Sn**	**12 04 32.3**	**-0.8**
	baz=263							
TWF1	**Yuli**	**0.76**	**279**	*i*	P	**Pn**	**12 04 22.7**	**-0.1**
	baz=269							
TWF1				*i*	S	**Sn**	**12 04 32.3**	**-1.0**
	baz=269							
EGFH	**Guangfu**	**0.77**	**305**	*e*	P	**Pn**	**12 04 22.5**	**-0.4**
	baz=314							
EGFH					eS	**Sn**	**12 04 31.8**	**-1.6**
	baz=314							
YULB	**Yu-li**	**0.77**	**282**		P	**Pn**	**12 04 23.0**	**+0.1**
	baz=272							
YULB					S	**Sn**	**12 04 32.0**	**-1.4**
	baz=272							
EHY	**Hungye**	**0.78**	**291**	*e*	P	**Pn**	**12 04 23.1**	**0.0**
	baz=288							
EHY					eS	**Sn**	**12 04 32.3**	**-1.4**
	baz=288							
EDH	**Donghe**	**0.79**	**251**		P	**Pn**	**12 04 23.2**	**0.0**
	baz=245							
EDH					eS	**Sn**	**12 04 33.3**	**-0.6**
	baz=245							
TEYL	**Yanliau Villag**	**0.79**	**323**	*e*	P	**Pb**	**12 04 24.6**	**+1.0**
	baz=325							
TEYL					eS	**Sb**	**12 04 34.4**	**+0.3**
	baz=325							
LDUT	**Ludao**	**0.81**	**227**	*e*	P	**Pn**	**12 04 23.2**	**-0.3**
	baz=221							
LDUT					eS	**Sn**	**12 04 33.7**	**-0.8**
	baz=221							
ESL	**Shilin**	**0.85**	**313**		P	**Pn**	**12 04 23.3**	**-0.8**
	baz=312							
ETM	**Tongmen**	**0.93**	**322**	*e*	P	**Pn**	**12 04 25.4**	**+0.3**
	baz=322							
LONT	**Longtian**	**0.96**	**251**	*e*	P	**Pn**	**12 04 26.2**	**+0.6**
	baz=246							
TWD	**Chiawan**	**0.97**	**331**	*e*	P	**Pb**	**12 04 26.6**	**0.0**
	baz=332							
ELDTW	**Lidau**	**1.01**	**268**	*e*	P	**Pn**	**12 04 26.9**	**+0.5**
	baz=264							
TWGBT	**Beinan**	**1.04**	**247**	*e*	P	**Pn**	**12 04 27.4**	**+0.8**
	baz=235							
TWG	**Pinlang**	**1.05**	**247**	*e*	P	**Pn**	**12 04 27.4**	**+0.7**
	baz=235							
TWG					eS	**Sn**	**12 04 40.0**	**-0.3**
	baz=235							
NACB	**Ninganchiao**	**1.05**	**333**	*e*	P	**Pn**	**12 04 26.7**	**-0.2**
	baz=334							
NACB					eS	**Sn**	**12 04 39.8**	**-0.6**
	baz=334							
YUS	**Yu-Shan**	**1.10**	**284**		P	**Pn**	**12 04 28.8**	**+0.9**
	baz=281							
OWD	**Renai**	**1.12**	**310**	*e*	P	**Pn**	**12 04 28.0**	**+0.1**
	baz=309							
ETLH	**Xiulin Townshi**	**1.13**	**329**	*e*	P	**Pn**	**12 04 28.1**	**+0.1**
	baz=329							
ETLH					eS	**Sn**	**12 04 42.3**	**-0.2**
	baz=329							
CHGB	**Renai**	**1.20**	**314**	*e*	P	**Pn**	**12 04 29.4**	**+0.4**
	baz=313							
CHGB					eS	**Sn**	**12 04 43.4**	**-0.8**
	baz=313							
WHF	**Hehuan Shan**	**1.20**	**320**	*e*	P	**Pn**	**12 04 29.4**	**+0.2**
	baz=319							
WHF					eS	**Sn**	**12 04 43.8**	**-0.8**
	baz=319							
SSLB	**Suanglung**	**1.20**	**298**	*e*	P	**Pn**	**12 04 29.4**	**+0.5**
	baz=296							
STYH	**Taoyuan**	**1.24**	**267**	*e*	P	**Pn**	**12 04 30.1**	**+0.9**
	baz=257							
ALS	**Alishan**	**1.24**	**283**	*e*	P	**Pb**	**12 04 31.3**	**+0.1**
	baz=281							
ECL	**Taimali**	**1.24**	**240**		P	**Pn**	**12 04 29.9**	**+0.5**
	baz=247							
ECL					eS	**Sn**	**12 04 45.6**	**+0.5**
	baz=247							
EWUT	**Wuta**	**1.25**	**346**	*e*	P	**Pn**	**12 04 30.2**	**+0.8**
	baz=347							
EWUT					eS	**Sn**	**12 04 45.4**	**+0.2**
	baz=347							
STYT	**Tauyuan**	**1.25**	**267**	*e*	P	**Pb**	**12 04 31.6**	**+0.3**
	baz=256							
FUSS	**Fushou**	**1.29**	**322**	*e*	P	**Pn**	**12 04 30.8**	**+0.5**
	baz=321							
FUSS					eS	**Sn**	**12 04 46.1**	**-0.6**
	baz=321							
SMLT	**Sun Moon Lake**	**1.29**	**300**	*e*	P	**Pn**	**12 04 31.1**	**+0.9**
	baz=299							
TYC	**Yuchr**	**1.34**	**300**	*e*	P	**Pn**	**12 04 31.7**	**+1.0**
	baz=299							
TDCB	**Techi**	**1.34**	**319**	*e*	P	**Pn**	**12 04 31.5**	**+0.6**
	baz=319							
NNSB	**Datong**	**1.37**	**331**		P	**Pn**	**12 04 31.7**	**+0.5**
	baz=331							
NNSB					eS	**Sn**	**12 04 48.4**	**0.0**
	baz=331							
NNSH	**Datong**	**1.37**	**331**	*e*	P	**Pn**	**12 04 32.0**	**+0.8**
	baz=330							
NNSH					eS	**Sn**	**12 04 48.2**	**-0.2**
	baz=330							
TPUB	**Ta-pu**	**1.37**	**273**	*e*	P	**Pb**	**12 04 33.4**	**+0.1**
	baz=271							
CHN5	**Tsauling**	**1.37**	**286**	*e*	P	**Pb**	**12 04 33.6**	**+0.3**
	baz=284							
SLGT	**Liugui**	**1.38**	**260**	*e*	P	**Pb**	**12 04 33.4**	**+0.1**
	baz=250							
WCS	**Beigang Elemen**	**1.38**	**307**	*e*	P	**Pn**	**12 04 32.3**	**+1.0**
	baz=306							
NNS	**Nan Shan**	**1.38**	**331**	*e*	P	**Pb**	**12 04 32.2**	**+0.8**
	baz=331							
WTP	**Ta-pu**	**1.38**	**271**	*e*	P	**Pb**	**12 04 33.5**	**0.0**
	baz=260							
TWC	**Suao**	**1.39**	**350**	*e*	P	**Pn**	**12 04 32.2**	**+0.7**
	baz=351							
TWC					eS	**Sn**	**12 04 49.5**	**+0.7**
	baz=351							
WJS	**Zhushan**	**1.40**	**295**	*e*	P	**Pn**	**12 04 32.9**	**+1.3**
	baz=293							
CHN4	**Tsaushan**	**1.41**	**275**	*e*	P	**Pb**	**12 04 34.5**	**+0.6**
	baz=273							
SGST	**Jiashian**	**1.42**	**264**	*e*	P	**Pb**	**12 04 33.9**	**-0.2**
	baz=261							
JYNG	**Yonagunijimaku**	**1.43**	**32**	*e*	S	**Sn**	**12 04 48.8**	**-0.9**
EAST	**Anshuo**	**1.44**	**234**	*e*	P	**Pn**	**12 04 33.3**	**+1.1**
	baz=240							
NDS	**Dongshan**	**1.44**	**345**	*e*	P	**Pn**	**12 04 33.1**	**+0.9**
	baz=337							
NDS					eS	**Sn**	**12 04 50.3**	**+0.3**
	baz=337							
SSD	**Sandimen**	**1.45**	**251**	*e*	P	**Pb**	**12 04 35.3**	**+0.7**
	baz=248							
TSMG	**Majia**	**1.45**	**249**	*e*	P	**Pb**	**12 04 35.5**	**+0.9**
	baz=246							
CHN1	**Nanshi**	**1.46**	**269**	*e*	P	**Pb**	**12 04 35.5**	**+0.7**
	baz=266							
NDT	**Datong Townshi**	**1.47**	**338**	*e*	P	**Pn**	**12 04 33.7**	**+1.1**
	baz=339							
YOJ	**Yonaguni jima**	**1.47**	**34**		P	**Pn**	**12 04 32.9**	**+0.3**
YOJ					S	**Sn**	**12 04 50.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.47**	**34**	*e*	P	**Pb**	**12 04 34.8**	**-0.2**
	baz=36							
WHP	**Taichung City**	**1.50**	**314**	*e*	P	**Pn**	**12 04 33.8**	**+0.8**
	baz

Region: WESTERN AUSTRALIA
*AUST **22** 12:13:25.9±6.3,33°.11S×119°.03E,h12km±99km,Error ellipse: s-maj=178.0km s-min=31.6km az=121.0*
ISC 22 12:13:21.3±3.0,33°23S±0'.08×119°2E±0'.1,h6km±12km, n20,σ1§49/34,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUKUL	**Kulin High Sch**	**1.02**	**303**	P	**Pg**	**12 13 41.0**	**+0.2**
AUKUL				S	**Sb**	**12 13 55.0**	**+0.1**
AUKUL	**Kulin High Sch**	**1.02**	**303**	P	**Pg**	**12 13 40.1**	**-0.6**
AUKUL				S	**Sg**	**12 13 54.1**	**+0.2**
GNOW	**Gnowangerup**	**1.23**	**238**	P	Pg	12 13 40.0	-4.9
GNOW				S	Sg	12 13 54.0	-6.9
GNOW	**Gnowangerup**	**1.23**	**238**	P	Pg	12 13 39.1	-5.8
GNOW				S	Sg	12 13 53.1	-7.8
WDN1	**Woodanilling**	**1.27**	**260**	P	**Pg**	**12 13 45.0**	**-0.7**
WDN1	**Woodanilling**	**1.27**	**260**	P	**Pg**	**12 13 44.1**	**-1.6**
NWAO	**Narrogin (SRO)** baz=1.5	**1.65**	**280**	P	**Pn**	**12 13 51.8**	**+1.0**
NWAO				S	**Sb**	**12 14 13.8**	**+0.7**
	baz=1.5						
NWAO	**Narrogin (SRO)**	**1.65**	**280**	P	**Pn**	**12 13 51.0**	**+0.2**
NWAO				S	**Sn**	**12 14 13.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**1.65**	**280**	P	**Pn**	**12 13 50.1**	**-0.6**
NWAO				S	**Sn**	**12 14 12.1**	**-0.1**
PING	**Pingelly**	**1.96**	**291**	P	**Pn**	**12 13 57.0**	**+1.9**
PING				S	**Sb**	**12 14 23.0**	**+0.8**
PING	**Pingelly**	**1.96**	**291**	P	**Pn**	**12 13 56.1**	**+1.0**
PING				S	**Sb**	**12 14 22.1**	**0.0**
KLBR	**Kellerberrin** baz=1.9	**2.02**	**324**	P	**Pn**	**12 13 57.2**	**+1.3**
KLBR				S	**Sn**	**12 14 21.7**	**+0.2**
	baz=1.9						
KLBR	**Kellerberrin**	**2.02**	**324**	P	**Pn**	**12 13 57.0**	**+1.1**
KLBR				S	**Sn**	**12 14 21.0**	**-0.5**
KLBR	**Kellerberrin**	**2.02**	**324**	P	**Pn**	**12 13 56.1**	**+0.2**
KLBR				S	**Sn**	**12 14 20.1**	**-1.4**
MUN	**Mundaring** baz=2.6	**2.79**	**296**	P	**Pn**	**12 14 08.8**	**+2.4**
MUN				S	**Sn**	**12 14 40.5**	**0.0**
	baz=2.6						
MUN	**Mundaring**	**2.79**	**296**	P	**Pn**	**12 14 08.0**	**+1.5**
MUN				S	**Sn**	**12 14 40.0**	**-0.5**
MUN	**Mundaring**	**2.79**	**296**	P	**Pn**	**12 14 07.1**	**+0.7**
MUN				S	**Sn**	**12 14 39.1**	**-1.3**
BLDU	**Ballidu** baz=3.2	**3.34**	**321**	P	**Pn**	**12 14 16.4**	**+2.4**
BLDU				S	**Sn**	**12 14 51.7**	**-2.3**
	baz=3.2						
BLDU	**Ballidu**	**3.34**	**321**	P	**Pn**	**12 14 16.0**	**+1.9**
BLDU				S	**Sn**	**12 14 51.0**	**-3.0**
BLDU	**Ballidu**	**3.34**	**321**	P	**Pn**	**12 14 15.1**	**+1.1**
BLDU				S	**Sn**	**12 14 50.1**	**-3.9**

*TIR **22** 12:30:35.3,42°.18N×18°.56E,h5km±2km,Ml3.0*
*RHSSO **22** 12:30:36.9±0.4,42°.35N×18°.58E,h4km±1km,ML3.1/15*
*PDG **22** 12:30:36.9±0.2,42°.40N×18°.62E,h10km±1km,MD3.0/8, ML2.9/12,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*BEO **22** 12:30:37.6±0.3,42°.41N×18°.61E,h4km±2km,ML2.9/17*
ISC 22 12:30:37.5±0.9,42°38N±0'.02×18°59E±0'.02,h6km±6km, n87,σ1§25/162,33C-19D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCY	**Herceg Novi**	**0.10**	**312**	⇓*i*Pg	**Pg**	**12 30 39.5**	**-0.2**
HCY				*e*Sg	**Sg**	**12 30 41.5**	**+0.3**
HCY	**Herceg Novi**	**0.10**	**312**	⇓*i*Pg	**Pg**	**12 30 39.5**	**-0.2**
HCY				*i* Sg	**Sg**	**12 30 41.7**	**+0.5**
BUM	**Brajici-Budva**	**0.24**	**110**	⇑*i*Pg	**Pg**	**12 30 41.4**	**-0.8**
BUM				*i* Sg	**Sg**	**12 30 45.0**	**-0.4**
CEME	**Cevo**	**0.29**	**56**	⇓*i*Pg	**Pg**	**12 30 41.9**	**-1.4**
CEME				*e*Sg	**Sg**	**12 30 46.4**	**-0.7**
TREB	**Trebinje**	**0.38**	**332**	*e*Pg	**Pg**	**12 30 44.5**	**-0.4**
TREB				*e*Sg	**Sg**	**12 30 50.4**	**+0.6**
TREB	**Trebinje**	**0.38**	**332**	⇓*i*Pg	**Pg**	**12 30 44.2**	**-0.7**
TREB				*e*Sg	**Sg**	**12 30 50.5**	**+0.6**
NKME	**Niksic**	**0.47**	**35**	⇑*i*Pg	**Pg**	**12 30 45.0**	**-1.6**
NKME				*i* Sg	**Sg**	**12 30 52.3**	**-0.4**
DRME	**Dracevica, Mon**	**0.48**	**114**	⇑*i*Pg	**Pg**	**12 30 46.2**	**+0.6**
DRME				*e*Sg	**Sg**	**12 30 53.3**	**+0.2**
DRME	**Dracevica, Mon**	**0.48**	**114**	⇓*i*Pg	**Pg**	**12 30 46.0**	**-0.8**
DRME				*i* Sg	**Sg**	**12 30 53.1**	**0.0**
PDG	**Podgorica**	**0.49**	**84**	*e*Pg	**Pg**	**12 30 45.5**	**-1.6**
PDG				*e*Sg	**Sg**	**12 30 52.8**	**-0.7**
PDG	**Podgorica**	**0.49**	**84**	⇑P	**Pg**	**12 30 46.0**	**-1.0**
PDG				⇑S	**Sg**	**12 30 53.4**	**-0.1**
PDG	**Podgorica**	**0.49**	**84**	⇓*i*Pg	**Pg**	**12 30 45.4**	**-1.6**
PDG				*e*Sg	**Sg**	**12 30 53.0**	**-0.5**
TTG	**Podgorica**	**0.49**	**84**	⇑*i*Pg	**Pg**	**12 30 45.5**	**-1.6**
TTG				*i* Sg	**Sg**	**12 30 53.2**	**-0.3**
BRY	**Bratogost**	**0.52**	**356**	⇓*i*Pg	**Pg**	**12 30 46.3**	**-1.3**
BRY				*e*Sg	**Sg**	**12 30 55.1**	**+0.7**
BRY	**Bratogost**	**0.52**	**356**	⇑*i*Pg	**Pg**	**12 30 46.4**	**-1.2**
BRY				*i* Sg	**Sg**	**12 30 54.7**	**+0.3**
NKY	**Niksic**	**0.52**	**35**	⇓*i*Pg	**Pg**	**12 30 46.0**	**-1.6**
NKY				*i* Sg	**Sg**	**12 30 54.4**	**-0.1**
ULC	**Ulcinj**	**0.64**	**131**	⇑*i*Pg	**Pg**	**12 30 48.6**	**-1.2**
ULC				*i* Sg	**Sg**	**12 30 58.4**	**+0.2**
STON	**Ston**	**0.82**	**307**	*e*Pg	**Pg**	**12 30 50.8**	**-2.4**
STON				*e*Sg	**Sg**	**12 31 03.3**	**-0.6**
STON	**Ston**	**0.82**	**307**	*e*Pg	**Pg**	**12 30 50.9**	**-2.3**
STON				*e*Sg	**Sg**	**12 31 03.0**	**-0.9**
KOME	**Kolasin**	**0.83**	**55**	⇑*i*Pg	**Pg**	**12 30 51.5**	**-1.9**
KOME				*i* Sg	**Sg**	**12 31 03.9**	**-0.3**
PUK	**Puka** baz=97	**1.02**	**109**	P	**Pg**	**12 30 55.5**	**-1.7**
PUK				S	**Sb**	**12 31 11.5**	**+0.1**
	baz=97						
PUK				AMP			
	comp=N,1.1nm,0.1s,baz=97						
PVY	**Plav**	**1.03**	**78**	⇓*i*Pg	**Pg**	**12 30 55.6**	**-1.7**
PVY				*i* Sg	**Sb**	**12 31 11.5**	**-0.2**
IVA	**Berane**	**1.08**	**63**	⇑*i*Pg	**Pg**	**12 30 56.4**	**-1.8**
IVA				*i* Sg	**Sb**	**12 31 13.0**	**0.0**
BCI	**Bajram Curri** baz=80	**1.09**	**90**	P	**Pg**	**12 30 57.1**	**-1.4**
BCI				S	**Sn**	**12 31 13.9**	**-0.9**
	baz=80						
BCI				AMP			
	comp=E,1.6nm,0.5s,baz=80						
PLE	**Pljevlja**	**1.11**	**32**	⇓*i*Pg	**Pg**	**12 30 56.9**	**-2.0**
PLE				*i* Sg	**Sn**	**12 31 14.2**	**-1.2**
SJES	**Sjenica**	**1.34**	**49**	*e*Pg	**Pn**	**12 31 01.8**	**-1.1**
SJES				*e*Sg	**Sb**	**12 31 19.5**	**-1.1**
RUDO	**Rudo**	**1.36**	**25**	*e*Pg	**Pn**	**12 31 01.4**	**-1.6**
RUDO				*e*Sg	**Sg**	**12 31 21.2**	**0.0**
TIR	**Tirane**	**1.41**	**137**	*e*Pg	**Pb**	**12 31 04.1**	**0.0**
TIR				*e*Sg	**Sg**	**12 31 22.8**	**+0.1**
TIR	**Tirane**	**1.41**	**137**	⇓P	**Pg**	**12 31 05.3**	**+0.8**
TIR				⇓S	**Sg**	**12 31 26.7**	**+4.1**
PHP	**Peshkopia** baz=108	**1.54**	**116**	P	**Pn**	**12 31 04.7**	**-0.9**
PHP				S	**Sn**	**12 31 25.7**	**-0.2**
	baz=108						
BBLS	**Lazići**	**1.60**	**22**	*e*Pg	**Pn**	**12 31 05.6**	**-0.7**
BBLS				*e*Sn	**Sb**	**12 31 27.9**	**0.0**
BBLS	**Lazići**	**1.60**	**22**	*e*Pn	**Pn**	**12 31 06.0**	**-0.3**
BBLS				*e*Sg	**Sg**	**12 31 29.4**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.72**	**9**	*e*Pn	**Pn**	**12 31 08.0**	**-0.1**
HAPS				*e*Sn	**Sn**	**12 31 30.1**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.72**	**9**	*e*Pn	**Pn**	**12 31 08.0**	**-0.1**
HAPS				*e*Sn	**Sb**	**12 31 30.8**	**-0.7**
NOCI	**Noci** baz=220	**1.96**	**216**	P	**Pn**	**12 31 08.3**	**-2.9**
NOCI				S	**Sn**	**12 31 34.4**	**-1.8**
	baz=220						
DIVS	**Divibare**	**2.00**	**30**	*e*Pn	**Pn**	**12 31 12.1**	**+0.3**
DIVS				*e*Sn	**Sn**	**12 31 37.5**	**+0.3**
DIVS	**Divibare**	**2.00**	**30**	⇓*i*Pn	**Pn**	**12 31 11.9**	**+0.1**
DIVS				*e*Sn	**Sn**	**12 31 37.7**	**+0.5**
SELS	**Selova**	**2.04**	**65**	*e*Pn	**Pn**	**12 31 12.6**	**+0.2**
SELS				*e*Sn	**Sn**	**12 31 37.7**	**-0.4**
OHR	**Ohrid**	**2.08**	**127**	*i* Pn	**Pn**	**12 31 14.1**	**+1.1**
SKO	**Skopje**	**2.16**	**100**	*i* Pn	**Pb**	**12 31 17.4**	**+0.5**
GRUS	**Gruza**	**2.16**	**45**	*e*Pn	**Pn**	**12 31 14.4**	**+0.4**
GRUS				*e*Sn	**Sn**	**12 31 40.6**	**-0.6**
SGRT	**San Giovanni R** baz=260	**2.21**	**254**	P	**Pn**	**12 31 15.5**	**+0.8**
SGRT				S	**Sb**	**12 31 44.9**	**-0.6**
	baz=260						
MATE	**Matera**	**2.24**	**220**	⇑P	**Pg**	**12 31 19.8**	**-0.6**
MATE				⇑S	**Sg**	**12 31 50.6**	**+1.3**
TRUS	**Trudelj**	**2.27**	**35**	*e*Pn	**Pn**	**12 31 16.1**	**+0.6**
TRUS				*e*Sn	**Sn**	**12 31 43.0**	**-0.7**
SCTE	**Santa Cesarea** baz=182	**2.31**	**182**	P	**Pn**	**12 31 15.0**	**-1.1**
MGRS	**Mrkonjic Grad**	**2.31**	**332**	*e*Pn	**Pn**	**12 31 16.2**	**+0.1**
MGRS				*e*Sn	**Sn**	**12 31 45.6**	**+0.8**
BARS	**Barje**	**2.42**	**79**	*e*Pn	**Pn**	**12 31 15.5**	**-2.1**
BARS	**Barje**	**2.42**	**79**	*e*Pn	**Pg**	**12 31 25.1**	**+1.2**
BARS				*e*Sn	**Sn**	**12 31 47.5**	**0.0**
BARS				*e*Sn	**Sg**	**12 32 01.3**	**+6.1**
BLY	**Banja Luka**	**2.58**	**337**	⇓*i*Pn	**Pn**	**12 31 20.3**	**+0.6**
BLY				*e*Sn	**Sn**	**12 31 52.1**	**+0.8**
BOVS	**Bovan**	**2.60**	**60**	*e*Pn	**Pn**	**12 31 20.7**	**+0.6**
BOVS				*e*Sn	**Sn**	**12 31 51.1**	**-0.9**
BOVS	**Bovan**	**2.60**	**60**	⇓P	**Pn**	**12 31 21.3**	**+1.2**
BOVS				⇓S	**Sn**	**12 31 53.5**	**+1.5**
FNA	**Florina** baz=122	**2.63**	**126**	P	**Pn**	**12 31 21.6**	**+1.0**
FNA				S	**Sb**	**12 31 55.4**	**-2.1**
	baz=122						
SRN	**Sarande** baz=154	**2.72**	**156**	S	**Sn**	**12 31 55.6**	**+0.8**
BOSS	**Bosilegrad**	**2.88**	**86**	*e*Pn	**Pn**	**12 31 24.6**	**+0.7**
BOSS				*e*Sn	**Sn**	**12 31 58.1**	**-0.8**
MRAK	**Mrakovica**	**2.90**	**336**	*e*Pn	**Pn**	**12 31 24.8**	**+0.6**
MRAK				*e*Sn	**Sn**	**12 31 59.2**	**-0.2**
FRGS	**Fruska Gora**	**2.91**	**17**	*e*Pn	**Pn**	**12 31 24.5**	**+0.2**
FRGS				*e*Sn	**Sn**	**12 31 58.8**	**-0.8**
FRGS	**Fruska Gora**	**2.91**	**17**	⇑P	**Pn**	**12 31 24.6**	**+0.3**
FRGS				⇑S	**Sn**	**12 32 00.8**	**+1.1**
FRGS	**Fruska Gora**	**2.91**	**17**	*e*Pn	**Pn**	**12 31 24.0**	**-0.3**
FRGS				*e*Sn	**Sn**	**12 31 59.6**	**0.0**
ZAGS	**Zajecar**	**3.03**	**61**	*e*Pn	**Pn**	**12 31 25.5**	**-0.4**
ZAGS				*e*Sn	**Sn**	**12 32 02.4**	**0.0**
ZAPS	**Zavoj**	**3.10**	**72**	*e*Pn	**Pn**	**12 31 27.6**	**+0.6**
ZAPS				*e*Sn	**Sn**	**12 32 04.1**	**-0.3**
IGT	**Igoumenitsa** baz=152	**3.14**	**155**	P	**Pn**	**12 31 27.9**	**+0.5**
IGT				S	**Sn**	**12 32 04.8**	**-0.4**
	baz=152						
BLKB	**Belogradchik**	**3.24**	**66**	⇓S	**Sn**	**12 32 09.7**	**+1.9**
MDVR	**Moldovita**	**3.30**	**42**	⇑P	**Pn**	**12 31 31.0**	**+1.2**
MDVR				⇑S	**Sn**	**12 32 10.5**	**+1.2**
VTS	**Vitosha**	**3.44**	**85**	⇑P	**Pn**	**12 31 33.8**	**+2.0**
VTS				⇓S	**Sn**	**12 32 14.3**	**+1.4**
HERR	**Herculane**	**3.73**	**47**	⇑P	**Pn**	**12 31 37.0**	**+1.4**
HERR				⇑S	**Sn**	**12 32 21.5**	**+1.6**
MORH	**Mrgy, Hungar**	**3.83**	**1**	⇑P	**Pn**	**12 31 37.4**	**+0.5**
MORH				⇑S	**Sn**	**12 32 23.2**	**+0.9**
MORH	**Mrgy, Hungar**	**3.83**	**1**	⇓*i*Pn	**Pn**	**12 31 36.8**	**-0.1**
MORH				*e*Sn	**Sn**	**12 32 21.0**	**-1.2**
BZS	**Buzias**	**3.90**	**33**	⇑P	**Pn**	**12 31 38.2**	**+0.3**
BZS				⇑S	**Sn**	**12 32 24.2**	**+0.2**
BOJS	**Bojanci**	**3.94**	**323**	*i* Pn	**Pn**	**12 31 41.6**	**+3.1**
CRES	**Cresnjev**	**4.12**	**328**	*e*Pn	**Pn**	**12 31 40.9**	**0.0**
CRES				*e*Sn	**Sn**	**12 32 28.2**	**-1.1**
GBRS	**Gornja Briga**	**4.17**	**320**	*i* Pn	**Pn**	**12 31 44.1**	**+2.5**
GZR	**Gura Zlata**	**4.27**	**44**	⇑P	**Pn**	**12 31 44.3**	**+1.3**
GZR				⇓S	**Sn**	**12 32 33.7**	**+0.6**
SIRR	**Siria**	**4.46**	**29**	⇑P	**Pn**	**12 31 46.2**	**+0.6**
SIRR				⇑S	**Sn**	**12 32 37.9**	**0.0**
CEY	**Cerknica**	**4.50**	**320**	*e*Pn	**Pn**	**12 31 46.0**	**-0.2**
CEY				*e*Sn	**Sn**	**12 32 37.2**	**-1.6**
SOKA	**Soboth** comp=E,2.5nm,0.3s	**4.99**	**331**	*i* Pn	**Pn**	**12 31 54.6**	**+1.7**
SOKA				*e*Sn	**Sn**	**12 32 52.5**	**+1.5**
	comp=E,3.4nm,0.4s						
OBKA	**Obir** comp=E,3.9nm,0.3s	**5.04**	**326**	*e*Sn	**Sn**	**12 32 52.8**	**+0.7**
DRGR		**5.30**	**32**	⇑P	**Pn**	**12 31 58.5**	**+1.3**
DRGR				⇑S	**Sn**	**12 32 58.4**	**-0.2**
MYKA	**Terra Mystica** comp=E,6.1nm,0.5s	**5.53**	**322**	*i* Sn	**Sn**	**12 33 05.8**	**+1.7**
VOIR		**5.58**	**55**	⇑P	**Pn**	**12 32 00.8**	**-0.2**
VOIR				⇑S	**Sn**	**12 33 07.1**	**+1.8**
PSZ	**Piszkesteto**	**5.61**	**9**	⇑P	**Pn**	**12 32 01.7**	**+0.2**
PSZ				⇑S	**Sn**	**12 33 06.0**	**-0.3**
KBA	**Koelnbreinsper** comp=E,1.4nm,0.2s	**6.00**	**323**	*i* Pn	**Pn**	**12 32 08.2**	**+1.3**
KBA				*i* Sn	**Sn**	**12 33 17.0**	**+1.1**
	comp=E,3.0nm,0.4s						
MODS	**Modra-Piesok**	**6.06**	**352**	*e*SN	**Sn**	**12 33 16.4**	**-0.9**
VYHS	**Vyhne**	**6.11**	**2**	*e*PN	**Pn**	**12 32 12.0**	**+3.7**
VYHS				*e*SN	**Sn**	**12 33 18.6**	**+0.1**
ABTA	**Abfaltersbach** comp=E,8.9nm,0.6s	**6.15**	**317**	*i* Sn	**Sn**	**12 33 19.3**	**-0.3**
WTTA	**Wattenberg** comp=E,3.0nm,0.5s	**6.95**	**317**	*e*Pn	**Pn**	**12 32 20.4**	**+0.5**
WTTA				*i* Sn	**Sn**	**12 33 40.3**	**+1.0**
	comp=E,7.0nm,0.4s						
WATA	**Walderalm** comp=E,1.4nm,0.2s	**7.02**	**317**	*i* Pn	**Pn**	**12 32 24.0**	**+3.1**
WATA				*e*Sn	**Sn**	**12 33 41.5**	**+0.3**
	comp=E,7.5nm,0.5s						
MOTA	**Moosalm** comp=E,3.9nm,0.3s	**7.27**	**316**	*i* Sn	**Sn**	**12 33 47.9**	**+0.6**

*ISK **22** 12:48:49.8,38°.54N×43°.07E,h4km,ML3.7/20*
*NSSP **22** 12:48:50.4,38°.45N×43°.08E,h7km,Ms3.5*
*DDA **22** 12:48:50.1,38°.47N×43°.09E,h24km±1km,MW3.9*
ISC 22 12:48:51.0±0.8,38°49N±0'.02×43°09E±0'.02,h15km±6km, n55,σ0§99/93,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.17**	**188**	*i* P	**Pg**	**12 48 55.4**	**0.0**
GEVA				*i* S	**Sg**	**12 48 59.3**	**+0.9**
GEVA				IAML		12 49 01.0	
	comp=E,6μm,0.5s						
GEVA				IAML		12 49 02.0	
	comp=N,8μm,0.5s						
AKDM	**Akdamar-Van**	**0.18**	**209**	PG	**Pg**	**12 48 55.5**	**0.0**
TVAN	**Van**	**0.25**	**80**	*i* P	**Pb**	**12 48 56.4**	**-1.0**
TVAN				IAML		12 49 01.0	
	comp=E,13μm,0.4s						
TVAN				*i* S	**Sb**	**12 49 01.4**	**-0.3**
TVAN				IAML		12 49 02.0	
	comp=N,9μm,0.3s						
VANB	**Van**	**0.26**	**65**	PG	**Pg**	**12 48 56.0**	**-0.7**
VANB				SG	**Sg**	**12 49 00.2**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.43**	**318**	*i* P	**Pb**	**12 48 60.0**	**-0.5**
ADCV				*i* S	**Sb**	**12 49 07.1**	**+0.3**
ADCV				IAML		12 49 08.0	
	comp=E,7μm,0.5s						
ADCV				IAML		12 49 08.0	
	comp=N,13μm,0.7s						
VMUR	**Van-Muradiye**	**0.63**	**37**	*i* P	**Pg**	**12 49 03.1**	**-0.3**
VMUR				*i* S	**Sb**	**12 49 12.8**	**+0.3**
VMUR				IAML		12 49 13.0	
	comp=N,5μm,0.7s						
VMUR				IAML		12 49 14.0	
	comp=E,11μm,0.7s						
PERV	**Siirt/Pervari-**	**0.69**	**219**	*i* P	**Pn**	**12 49 05.9**	**-0.5**
PERV				*i* S	**Sn**	**12 49 16.1**	**-0.8**
PERV				IAML		12 49 18.0	
	comp=N,4μm,0.6s						
PERV				IAML		12 49 21.0	
	comp=E,5μm,0.4s						
OZAP	**Van, Ozalp-Mer**	**0.73**	**76**	*i* P	**Pg**	**12 49 04.8**	**-0.5**
OZAP				*i* S	**Sn**	**12 49 17.8**	**-0.1**
OZAP				IAML		12 49 21.0	
	comp=N,793nm,1.0s						
OZAP				IAML		12 49 25.0	
	comp=E,1μm,0.7s						
BLIS	**Bitlis-Merkez**	**0.77**	**265**	*i* P	**Pb**	**12 49 05.4**	**-0.8**
BLIS				*i* S	**Sb**	**12 49 16.0**	**-0.5**
BLIS				IAML		12 49 17.0	
	comp=E,2μm,0.6s						
BLIS				IAML		12 49 18.0	
	comp=N,2μm,0.5s						
MLAZ	**Malazgirt-MUS**	**0.78**	**327**	PG	**Pg**	**12 49 04.7**	**-1.5**
MLAZ				SG	**Sg**	**12 49 15.5**	**-1.0**
GURO	**Guroymak-BITLI**	**0.83**	**275**	PG	**Pg**	**12 49 06.0**	**-1.2**
GURO				SG	**Sg**	**12 49 17.5**	**-0.7**
BASK	**Baskale_VAN**	**0.84**	**121**	*i* P	**Pg**	**12 49 05.4**	**-1.9**
BASK				*i* S	**Sb**	**12 49 19.5**	**+0.9**
BASK				IAML		12 49 21.0	
	comp=E,1μm,0.8s						
BASK				IAML		12 49 24.0	
	comp=N,824nm,0.4s						
CLDR	**Calderan**	**0.92**	**44**	*i* P	**Pg**	**12 49 07.0**	**-1.9**
CLDR				*i* S	**Sg**	**12 49 20.5**	**-0.5**
CLDR				IAML		12 49 24.0	
	comp=E,1μm,0.7s						
CLDR				IAML		12 49 24.0	
	comp=N,864nm,0.4s						
CLDR	**Calderan**	**0.92**	**44**	PG	**Pg**	**12 49 06.9**	**-1.9**
CLDR				SG	**Sg**	**12 49 20.9**	**-0.1**
SRTM	**Siirt_Merkez**	**1.04**	**242**	*i* P	**Pn**	**12 49 11.7**	**+0.5**
SRTM				*i* S	**Sn**	**12 49 27.8**	**+2.2**
SRTM				IAML		12 49 29.0	
	comp=N,2μm,1.2s						
SRTM				IAML		12 49 32.0	
	comp=E,2μm,0.4s						
HAKT	**HAKKARI**	**1.05**	**152**	*i* P	**Pg**	**12 49 09.6**	**-1.6**
HAKT				*i* S	**Sn**	**12 49 27.9**	**+2.1**
HAKT				IAML		12 49 29.0	
	comp=E,375nm,0.6s						
HAKT				IAML		12 49 35.0	
	comp=N,420nm,0.7s						
AGRB	**Hanur-Agry**	**1.09**	**356**	PG	**Pg**	**12 49 10.3**	**-1.8**
SIRT	**Sirnak**	**1.11**	**208**	PN	**Pn**	**12 49 12.6**	**+0.5**
SIRN	**Sirnak**	**1.12**	**209**	*i* P	**Pn**	**12 49 12.4**	**+0.1**
SIRN				*i* S	**Sn**	**12 49 29.2**	**+1.7**
SIRN				IAML		12 49 32.0	
	comp=E,2μm,0.8s						
SIRN				IAML		12 49 33.0	
	comp=N,1μm,0.5s						
DYDN	**Diyadin**	**1.16**	**24**	*i* P	**Pg**	**12 49 12.2**	**-1.1**
DYDN				*i* S	**Sg**	**12 49 27.5**	**-0.9**
DYDN				IAML		12 49 31.0	
	comp=E,1μm,1.5s						
DYDN				IAML		12 49 32.0	
	comp=N,1μm,0.9s						
MUSM	**Mu-Merkez**	**1.26**	**281**	*i* P	**Pb**	**12 49 13.8**	**-0.7**
MUSM				*i* S	**Sn**	**12 49 31.2**	**+0.2**
MUSM				IAML		12 49 33.0	
	comp=N,457nm,0.9s						
MUSM				IAML		12 49 39.0	
	comp=E,275nm,0.7s						
CUKT	**Cukurca**	**1.30**	**162**	*i* P	**Pn**	**12 49 14.1**	**-0.7**
CUKT				*i* S	**Sn**	**12 49 34.0**	**+2.1**
CUKT				IAML		12 49 38.0	
	comp=N,2μm,0.9s						
CUKT				IAML		12 49 39.0	
	comp=E,3μm,0.8s						
CUKT	**Cukurca**	**1.30**	**162**	PN	**Pn**	**12 49 13.8**	**-0.9**
YOVA	**Hakkari_Yksek**	**1.30**	**133**	*i* P	**Pn**	**12 49 14.1**	**-0.7**
YOVA				*i* S	**Sn**	**12 49 33.4**	**+1.2**
YOVA				IAML		12 49 37.0	
	comp=N,580nm,0.8s						
YOVA				IAML		12 49 38.0	
	comp=E,386nm,0.6s						
VRTB	**Varto-Mus**	**1.44**	**298**	*i* P	**Pb**	**12 49 17.2**	**-0.4**
VRTB				*i* S	**Sg**	**12 49 36.6**	**-1.0**
VRTB				IAML		12 49 46.0	
	comp=E,880nm,0.6s						
VRTB				IAML		12 49 46.0	
	comp=N,633nm,0.5s						
VRTB	**Varto-Mus**	**1.44**	**298**	PN	**Pn**	**12 49 16.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.53**	**258**	*i* P	**Pb**	**12 49 18.6**	**-0.4**
SVAN				*i* S	**Sg**	**12 49 39.2**	**-1.0**
SVAN				IAML		12 49 40.0	
	comp=N,417nm,0.6s						
SVAN				IAML		12 49 41.0	
	comp=E,385nm,0.5s						
SVAN	**Silvan-Diyarba**	**1.53**	**258**	PN	**Pb**	**12 49 18.7**	**-0.3**
SVAN				SN	**Sg**	**12 49 39.7**	**-0.5**
BTMN	**Batman**	**1.55**	**248**	*i* P	**Pb**	**12 49 19.2**	**-0.3**
BTMN				*i* S	**Sg**	**12 49 40.5**	**-0.5**
BTMN				IAML		12 49 43.0	
	comp=E,1μm,0.7s						
BTMN				IAML		12 49 45.0	
	comp=N,1μm,0.5s						
IGDI	**IGDIR**	**1.58**	**29**	*i* P	**Pn**	**12 49 19.2**	**+0.7**
SLHN	**Bingol, Solhan**	**1.68**	**287**	*i* P	**Pb**	**12 49 21.3**	**-0.5**
SLHN				*i* S	**Sb**	**12 49 43.5**	**+0.7**
SLHN				IAML		12 49 51.0	
	comp=N,220nm,0.5s						
SLHN				IAML		12 49 55.0	
	comp=E,349nm,0.7s						
VNNZ	**Vanand**	**1.71**	**19**	*i* P	**Pb**	**12 49 22.3**	**+0.1**
VNNZ				*i* S	**Sg**	**12 49 46.8**	**+0.7**
MIDY	**Mardin/Midyat-**	**1.72**	**232**	*i* P	**Pb**	**12 49 21.2**	**-1.1**
MIDY				*i* S	**Sg**	**12 49 45.2**	**-1.1**
MIDY				IAML		12 49 48.0	
	comp=N,673nm,0.7s						
MIDY				IAML		12 49 49.0	
	comp=E,495nm,1.0s						
TASB	**TASBURUN-IGDIR**	**1.74**	**30**	PN	**Pn**	**12 49 21.5**	**+0.8**
KOPR	**Koprukoy-ERZUR**	**1.79**	**

NWAO				S	Sb	12 59 39.5	-0.2
	baz=1.7							
NWAO	**Narrogin (SRO)**	**1.66**	**280**	P	Pn	12 59 16.2	-1.0
NWAO				S	Sn	12 59 38.2	-1.0
QUAI	**Quairading**	**1.94**	**309**	P	Pn	12 59 21.2	+0.2
KLBR	**Kellerberrin**	**2.04**	**323**	P	Pn	12 59 22.3	0.0
	baz=2.0							
KLBR				S	Sb	12 59 49.5	-0.9
	baz=2.0							
KLBR	**Kellerberrin**	**2.04**	**323**	P	Pn	12 59 21.2	-1.1
KLBR				S	Sn	12 59 48.2	-0.2
MUN	**Mundaring**	**2.80**	**296**	P	Pn	12 59 34.3	+1.5
	baz=2.8							
MUN				S	Sn	13 00 08.1	+0.8
	baz=2.8							
MUN	**Mundaring**	**2.80**	**296**	P	Pn	12 59 33.2	+0.3
MUN				S	Sn	13 00 07.2	-0.1
BLDU	**Ballidu**	**3.35**	**321**	P	Pn	12 59 41.6	+1.2
	baz=3.3							
BLDU				S	Sn	13 00 17.2	-3.6
	baz=3.3							
BLDU	**Ballidu**	**3.35**	**321**	P	Pn	12 59 40.2	-0.2
BLDU				S	Sn	13 00 16.2	-4.7
MORW	**Morawa**	**4.95**	**326**	P	Pn	13 00 03.5	+1.1
	baz=4.9							
MORW	**Morawa**	**4.95**	**326**	P	Pn	13 00 02.2	-0.2
MEEK	**Meekatharra**	**6.59**	**356**	P	Pn	13 00 23.7	-1.3
	baz=6.6							
MEEK	**Meekatharra**	**6.59**	**356**	P	Pn	13 00 22.2	-2.8

*GRAL **22** 13:03:05.3±0.3, 33°.40N×34°.47E, h45km±31km, MD3.1*
*GII **22** 13:03:06.2±0.1, 33°.39N×34°.41E, h31km, MD2.2/9, Mm2.5/2*

ISC 22 13:03:04.0±2.4, 33°.40N±0°.06×34°.44E±0°.09, h34km±3km, n20, σ0s56/35, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.69**	**117**	Pg	**Pb**	**13 03 17.5**	**-0.2**
HNTI				Sg	**Sb**	**13 03 26.9**	**-0.1**
MMA0B	**Mount Meron ar**	**0.89**	**115**	Pg	**Pn**	**13 03 20.3**	**+0.1**
MMA0B				Sg	**Sn**	**13 03 32.1**	**+0.1**
OFRI	**`Ofer**	**0.90**	**149**	Pg	**Pn**	**13 03 20.0**	**-0.3**
OFRI				Sg	**Sn**	**13 03 31.6**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.91**	**136**	Pg	**Pn**	**13 03 20.7**	**+0.3**
BLGI				Sg	**Sn**	**13 03 32.3**	**-0.1**
DQRL	**Deir Qamar**	**0.99**	**72**	*e*P	**Pn**	**13 03 21.7**	**+0.1**
DQRL				*e*S	**Sn**	**13 03 34.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**1.04**	**100**	Pg	**Pn**	**13 03 22.7**	**+0.5**
SHBL	**Chebaa**	**1.09**	**92**	*e*P	**Pn**	**13 03 23.3**	**+0.2**
SHBL				*e*S	**Sn**	**13 03 36.7**	**-0.4**
NATI	**Neve Ativ**	**1.09**	**97**	Pg	**Pn**	**13 03 23.3**	**+0.4**
NATI				Sg	**Sn**	**13 03 37.3**	**+0.5**
BHL	**Bhannes**	**1.13**	**63**	*e*P	**Pn**	**13 03 23.9**	**+0.3**
RCY	**Rachaya**	**1.17**	**85**	*e*P	**Pn**	**13 03 24.4**	**+0.3**
SLTI	**Sal'it**	**1.26**	**156**	Pg	**Pn**	**13 03 25.2**	**0.0**
SLTI				Sg	**Sn**	**13 03 39.4**	**-1.6**
MMLI	**Mount Malkishu**	**1.26**	**139**	Pg	**Pn**	**13 03 25.3**	**0.0**
MMLI				Sg	**Sn**	**13 03 41.0**	**-0.1**
HMDT	**Nahal Hemdat**	**1.46**	**141**	Pn	**Pn**	**13 03 28.7**	**+0.7**
HMDT				Sn	**Sn**	**13 03 46.3**	**+0.3**
HWQ	**Hawqa**	**1.53**	**55**	*e*P	**Pn**	**13 03 29.4**	**+0.4**
HWQ				*e*S	**Sn**	**13 03 47.0**	**-0.8**
AMAZ	**Amatzia**	**1.90**	**168**	Pn	**Pn**	**13 03 34.6**	**+0.5**
AMAZ				Sn	**Sn**	**13 03 56.9**	**0.0**
DSI	**Dead Sea**	**1.99**	**156**	Pn	**Pn**	**13 03 36.0**	**+0.8**
DSI				Sn	**Sn**	**13 03 58.6**	**-0.4**
YTIR	**Yattir**	**2.11**	**164**	Pn	**Pn**	**13 03 37.6**	**+0.6**
YTIR				Sn	**Sn**	**13 04 02.0**	**-0.1**
GHAJ	**Ghor Haditha**	**2.29**	**155**	Pn	**Pn**	**13 03 40.6**	**+1.2**
KZIT	**Kziot**	**2.48**	**181**	Pn	**Pn**	**13 03 42.5**	**+0.4**
HRFI	**Mount Harif**	**3.39**	**171**	Pn	**Pn**	**13 03 55.2**	**+0.6**
HRFI				Sn	**Sn**	**13 04 32.8**	**-0.8**

*IDC **22** 13:11:42.9±2.6, 49°.75N×18°.78E, h0km, mb1 3.4/4, mb1mx3.1/44, mbtmp3.3/4, ML2.6/3, Error ellipse: s-maj=40.0km s-min=9.1km az=137.0*
*VIE **22** 13:11:43.6±0.3, 50°.11N×18°.42E, h0km, mb2.4/7, ml2.8/7, Error ellipse: s-maj=3.2km s-min=2.4km az=147.0 33 km NNE of Ostrava Suspected Mining induced.*
*BGR **22** 13:11:44.3±1.0, 50°.12N×18°.39E, h1km, ML3.1/7, Error ellipse: s-maj=14.5km s-min=7.8km az=56.0*
*IPEC **22** 13:11:44.2±0.2, 50°.07N×18°.47E, h1km±2km, ML2.8/3, Error ellipse: s-maj=1.9km s-min=1.1km az=163.0*
*PRU **22** 13:11:45.1±0.0, 50°.07N×18°.38E, h0km*

ISC 22 13:11:42.9±0.7, 50°.11N±0°.03×18°.45E±0°.02, h0km, n57, σ1s26/102, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**261**	*e*Pg	**Pg**	**13 11 48.4**	**+2.4**
RAC				*e*Sg	**Sg**	**13 11 51.8**	**+3.6**
OKC	**Ostrava-Krasne**	**0.34**	**216**	*e*Pg	**Pg**	**13 11 50.3**	**+1.1**
OKC				*e*Sg	**Sg**	**13 11 55.4**	**+1.8**
	comp=Z,413nm,0.6s						
OKC	**Ostrava-Krasne**	**0.34**	**216**	*e*Pg	**Pg**	**13 11 50.4**	**+1.1**
MORC	**Moravsky Berou**	**0.67**	**241**	*e*PG	**Pg**	**13 11 56.7**	**+0.9**
MORC				*e*SG	**Sg**	**13 12 05.1**	**+0.6**
MORC	**Moravsky Berou**	**0.67**	**241**	*e*Pg	**Pg**	**13 11 56.7**	**+0.9**
	baz=63						
MORC				*e*Sg	**Sg**	**13 12 05.0**	**+0.6**
	155nm,0.4s,baz=63						
MORC	**Moravsky Berou**	**0.67**	**241**	*e*Pg	**Pg**	**13 11 56.8**	**+1.0**
MORC				*e*Sg	**Sb**	**13 12 06.3**	**-1.1**
OJC	**Ojcow**	**0.88**	**82**	*e*Pg	**Pb**	**13 12 00.7**	**-0.2**
OJC				*e*Sg	**Sb**	**13 12 13.8**	**+0.6**
KRLC	**Kraliky**	**1.07**	**269**	*e*PG	**Pg**	**13 12 04.1**	**+0.7**
KRLC				*e*SG	**Sg**	**13 12 17.8**	**+0.4**
	comp=Z,203nm,0.5s						
LANS	**Liptovska Anna**	**1.17**	**145**	*e*PG	**Pn**	**13 12 06.8**	**+0.3**
LANS				*e*SG	**Sn**	**13 12 24.0**	**+0.9**
LANS				*e*LG	Lg	13 12 26.8	
JAVC	**Velka Javorina**	**1.35**	**202**	*e*PG	**Pn**	**13 12 09.3**	**+0.3**
JAVC	**Velka Javorina**	**1.35**	**202**	*e*Pg	**Pn**	**13 12 09.3**	**+0.3**
	baz=23						
JAVC	**Velka Javorina**	**1.35**	**202**	*e*Pg	**Pb**	**13 12 09.7**	**+0.6**
JAVC				*e*Sg	**Sn**	**13 12 27.9**	**+0.2**
NIE	**Niedzica**	**1.39**	**119**	*e*Pb	**Pb**	**13 12 09.9**	**+0.3**
NIE				*e*Pg	**Pn**	**13 12 10.8**	**+1.3**
NIE				*e*Sg	**Sn**	**13 12 30.3**	**+1.7**
DPC	**Dobruska-Polom**	**1.39**	**281**	*e*PG	**Pb**	**13 12 10.1**	**+0.4**
DPC				*e*SG	**Sn**	**13 12 28.9**	**+0.3**
	comp=Z,142nm,0.4s						
DPC	**Dobruska-Polom**	**1.39**	**281**	*e*Pg	**Pb**	**13 12 10.2**	**+0.6**
VRAC	**Vranov**	**1.45**	**237**	Pg	**Pg**	**13 12 10.8**	**+0.2**
	10nm,0.3s,baz=71,slow=16,SNR=45						
VRAC				Lg	Lg	13 12 29.3	
	24nm,0.3s,baz=191,slow=17,SNR=24						
VRAC	**Vranov**	**1.45**	**237**	*e*PG	**Pg**	**13 12 10.7**	**+0.2**
VRAC				*e*SG	**Sg**	**13 12 29.2**	**-0.1**
VRAC	**Vranov**	**1.45**	**237**	*e*Pg	**Pn**	**13 12 10.6**	**+0.3**
	baz=57						
VRAC				*e*Sg	**Sg**	**13 12 29.1**	**-0.2**
	114nm,0.5s,baz=57						
VRAC	**Vranov**	**1.45**	**237**	*e*Pg	**Pn**	**13 12 10.7**	**+0.3**
VRAC				*e*Sg	**Sg**	**13 12 29.3**	**0.0**
OSTC	**Ostas**	**1.50**	**288**	*e*PG	**Pg**	**13 12 12.5**	**+0.9**
OSTC				*e*SG	**Sn**	**13 12 32.9**	**+1.6**
	comp=Z,71nm,0.5s						
KSP	**Ksiaz**	**1.56**	**299**	*e*Pb	**Pn**	**13 12 11.6**	**-0.2**
KSP				*e*Pg	**Pg**	**13 12 12.9**	**+0.1**
KSP				*e*Sg	**Sg**	**13 12 34.4**	**+1.5**
CHVC	**Chvalec**	**1.61**	**288**	*e*PG	**Pg**	**13 12 14.0**	**+0.4**
CHVC				*e*SG	**Sg**	**13 12 35.6**	**+1.1**
	comp=Z,48nm,0.4s						
UPC	**Upice**	**1.61**	**285**	*e*PG	**Pg**	**13 12 14.6**	**+0.8**
UPC				*e*SG	**Sg**	**13 12 35.9**	**+1.3**
	comp=Z,73nm,0.6s						
VYHS	**Vyhne**	**1.64**	**171**	*e*PN	**Pn**	**13 12 13.3**	**+0.4**
VYHS				*e*SN	**Sg**	**13 12 35.7**	**+0.3**
VYHS				*e*LG	Lg	13 12 39.0	
KRUC	**Moravsky**	**1.70**	**233**	*e*PN	**Pb**	**13 12 14.7**	**-0.3**
KRUC				*e*SG	**Sb**	**13 12 36.9**	**0.0**
KRUC	**Moravsky**	**1.70**	**233**	*e*Pn	**Pn**	**13 12 14.6**	**+0.8**
	baz=52						
KRUC				*e*Sg	**Sb**	**13 12 36.9**	**0.0**
	87nm,0.6s,baz=52						
KRUC	**Moravsky**	**1.70**	**233**	*e*Pg	**Pn**	**13 12 14.3**	**+0.5**
SMOL	**Smolenice**	**1.73**	**203**	*e*PN	**Pn**	**13 12 14.4**	**+0.2**
SMOL				*e*SN	**Sn**	**13 12 37.0**	**0.0**
SMOL				*e*LG	Lg	13 12 39.9	
MODS	**Modra-Piesok**	**1.90**	**204**	*e*PN	**Pn**	**13 12 16.0**	**-0.5**
MODS				*e*SN	**Sn**	**13 12 41.1**	**-0.1**
MODS				*e*LG	Lg	13 12 49.5	
STHS	**Stebnicka Huta**	**1.94**	**110**	*e*PN	**Pg**	**13 12 20.3**	**+0.3**
STHS				*e*SN	**Sg**	**13 12 47.9**	**+2.7**
TREC	**Trest**	**2.09**	**248**	*e*PG	**Pb**	**13 12 21.8**	**+0.2**
TREC				*e*SG	**Sb**	**13 12 48.2**	**+0.1**
	comp=Z,34nm,0.4s						
KECS	**Kecovo**	**2.10**	**140**	*e*PN	**Pn**	**13 12 19.6**	**+0.3**
KECS				*e*SN	**Sn**	**13 12 44.7**	**-1.5**
ZST	**Bratislava**	**2.11**	**205**	*e*PN	**Pn**	**13 12 19.9**	**+0.5**
ZST				*e*SN	**Sn**	**13 12 45.2**	**-1.1**
ZST				*e*LG	Lg	13 12 46.8	
CRVS	**Cervenica-Dubn**	**2.31**	**120**	*e*PN	**Pb**	**13 12 25.9**	**+0.6**
PRU	**Pruhonice**	**2.52**	**269**	*e*PN	**Pn**	**13 12 24.9**	**-0.2**
PRU				*e*PG	**Pb**	**13 12 30.0**	**+1.0**
PRU				*e*SG	**Sb**	**13 13 01.9**	**+1.4**
	comp=Z,24nm,0.4s						
PRU	**Pruhonice**	**2.52**	**269**	*e*Sg	**Sb**	**13 13 00.9**	**+0.4**
PVCC	**Panska Ves**	**2.52**	**281**	*e*PN	**Pn**	**13 12 26.3**	**+1.2**
PVCC				*e*PG	**Pg**	**13 12 31.8**	**+0.6**
PVCC				*e*SG	**Sg**	**13 13 04.7**	**+0.9**
	comp=Z,68nm,0.3s						
PVCC	**Panska Ves**	**2.52**	**281**	*e*Sg	**Sg**	**13 13 05.0**	**+1.2**
PRA	**Prague**	**2.59**	**271**	*e*PG	**Pg**	**13 12 31.5**	**-0.9**
PRA				*e*SG	**Sg**	**13 13 05.0**	**-0.9**
	comp=Z,36nm,0.6s						
KOLS	**Kolonicke sedl**	**2.76**	**114**	*e*PG	**Pg**	**13 12 37.3**	**+1.6**
CONA	**Conrad Observa**	**2.77**	**219**	*e*Pn	**Pn**	**13 12 29.3**	**+0.7**
	2.8nm,0.3s						
CONA				*e*Sn	**Sn**	**13 13 01.7**	**-1.0**
	12nm,0.3s						
CKRC	**Cesky Krumlov**	**2.99**	**246**	*e*PN	**Pn**	**13 12 33.0**	**+1.4**
CKRC				*e*PG	**Pb**	**13 12 38.1**	**+1.1**
CKRC				*e*SG	**Sg**	**13 13 17.2**	**-1.8**
	comp=Z,20nm,0.5s						
KHC	**Kasperske Hory**	**3.31**	**255**	*e*PN	**Pn**	**13 12 36.8**	**+0.8**
KHC				*e*PG	**Pg**	**13 12 45.5**	**-0.9**
KHC				*e*SG	**Sg**	**13 13 29.2**	**-0.1**
	comp=Z,26nm,0.5s						
KHC	**Kasperske Hory**	**3.31**	**255**	*e*Pn	**Pn**	**13 12 36.4**	**+0.4**
GEC2	**GERESS Array S**	**3.34**	**250**	*e*Pg	**Pg**	**13 12 45.4**	**-1.6**
GERES	**GERESS Array B**	**3.34**	**250**	Pn	**Pn**	**13 12 36.3**	**-0.1**
	0.4nm,0.3s,baz=69,slow=14,SNR=2.6						
GERES				Pg	**Pg**	**13 12 46.0**	**-1.0**
	3.0nm,0.3s,baz=70,slow=17,SNR=21						
GERES				Sn	**Sn**	**13 13 19.9**	**+3.0**
	2.1nm,0.3s,baz=72,slow=30,SNR=5.3						
GERES				Lg	Lg	13 13 28.9	
	6.6nm,0.3s,baz=67,slow=30,SNR=7.9						
ARSA	**Arzberg**	**3.46**	**215**	*i* Pn	**Pn**	**13 12 38.9**	**+1.0**
	2.0nm,0.3s						
MOA	**Molln**	**3.56**	**232**	*e*Pn	**Pn**	**13 12 39.6**	**+0.1**
	4.7nm,0.3s						
MOA				*e*Sn	**Sn**	**13 13 23.8**	**+1.6**
	3.5nm,0.3s						
CLL	**Collm**	**3.66**	**291**	*e*Pg	**Pg**	**13 12 55.0**	**+2.0**
CLL				*e*Sg	**Sg**	**13 13 40.0**	**-0.5**
	comp=Z,23nm,0.7s						
WET	**Wettzell**	**3.75**	**257**	*e*Pg	**Pg**	**13 12 52.7**	**-1.9**
NKC	**Novy Kostel**	**3.86**	**274**	*e*PN	**Pn**	**13 12 44.3**	**+0.8**
NKC				*e*PG	**Pg**	**13 12 55.6**	**-1.2**
NKC				*e*SG	**Sg**	**13 13 46.2**	**-0.6**
	comp=Z,23nm,0.4s						
OBKA	**Obir**	**4.44**	**217**	*i* Pn	**Pn**	**13 12 51.8**	**+0.2**
	comp=Z,3.5nm,0.4s						
KBA	**Koelnbreinsper**	**4.55**	**230**	*i* Sn	**Sn**	**13 13 47.5**	**+0.9**
	comp=Z,0.7nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.60**	**243**	Lg	Lg	13 15 14.7	
	comp=Z,1.0nm,0.3s,baz=190,slow=14,SNR=4.6						
HFS	**Hagfors**	**10.40**	**347**	Pn	**Pn**	**13 14 14.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=158,slow=15,SNR=1.6						
FINES	**FINESS Array B**	**12.13**	**18**	Pn	**Pn**	**13 14 34.8**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=206,slow=9.3,SNR=6.7						
FINES				Sn	**Sn**	**13 16 45.8**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=204,slow=23,SNR=2.6						
ARCES	**ARCESS Array B**	**19.78**	**7**	Pn	**P**	**13 16 14.3**	**0.0**
	comp=Z,1.9nm,0.9s,baz=194,slow=14,SNR=2.5						

SKO 22 13:12:28.3, 41°.64N×22°.33E, h3km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.12**	**297**	*i* Pg	Pg	13 12 30.5	-0.1
STIP				*i* Sg	Sg	13 12 32.7	+0.4
STIP				*e*Lg	Lg	13 12 34.1	
	comp=E,101nm,1.2s						
VAY	**Valandovo**	**0.37**	**150**	*i* Pg	Pg	13 12 34.6	-0.7
VAY				*i* Sg	Sb	13 12 42.0	-1.5
VAY				*e*Lg	Lg	13 12 44.6	
	comp=N,19nm,0.4s						
KNT	**Kendrikon**	**0.64**	**138**	*i* Pg	Pb	13 12 41.4	-0.7
KNT				*i* Sg	Sb	13 12 51.1	-0.4
GRG	**Griva**	**0.69**	**175**	*i* Pg	Pb	13 12 42.3	-0.5
VTS	**Vitosha**	**1.19**	**34**	*i* Pg	Pb	13 12 51.5	-0.1

*INMG **22** 13:35:30.7±1.3, 32°.35N×7°.83W, h15km, ML2.5, Error ellipse: s-maj=11.5km s-min=4.8km az=47.0*

MDD 22 13:35:30.3±3.7, 32°.37N×7°.52W, h0km, mb3.5/5, Error ellipse: s-maj=50.3km s-min=28.5km az=74.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**5.03**	**358**	Pn	Pn	13 36 45.4	-1.5
PVAQ				Sn	Sn	13 37 41.3	-4.4
	4.8nm,0.5s						
PVAQ	**Vaqueiros**	**5.03**	**358**	*e*Pn	Pn	13 36 45.4	-1.5
PVAQ				*e*Sn	Sn	13 37 41.3	-4.4
PVAQ				A	A	13 37 56.5	
	4.8nm,0.5s						
EGRO	**El Granado**	**5.15**	**0**	Pn	Pn	13 36 47.8	-0.9
	0.8nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	13 37 44.2	-4.6
	0.1nm,0.0s,SNR=7.9						
PCVE	**Castro Verde**	**5.27**	**356**	Pn	Pn	13 36 48.6	-1.7
PCVE				Sn	Sn	13 37 46.4	-5.3
	3.6nm,0.6s						
PCVE	**Castro Verde**	**5.27**	**356**	*e*Pn	Pn	13 36 48.6	-1.7
PCVE				*e*Sn	Sn	13 37 46.4	-5.3
PCVE				A	A	13 37 49.1	
	3.6nm,0.6s						
EMIN	**Mina Concepcio**	**5.43**	**7**	Pn	Pn	13 36 50.8	-1.7
	0.7nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	13 37 51.0	-4.7
	4.4nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.50**	**30**	Pn	Pn	13 36 51.8	-1.8
	0.1nm,0.0s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.79**	**352**	Sn	Sn	13 37 59.6	-4.9
PNCL	**Nicolau / Gran**	**5.79**	**352**	*e*Sn	Sn	13 37 59.6	-4.9
PBAR	**Barrancos**	**5.81**	**4**	Pn	Pn	13 36 57.1	-0.6
PBAR				Sn	Sn	13 37 59.8	-5.2
	2.3nm,0.5s						
PBAR	**Barrancos**	**5.81**	**4**	*e*Pn	Pn	13 36 57.1	-0.6
PBAR				*e*Sn	Sn	13 37 59.8	-5.2
PBAR				A	A	13 38 05.5	
	2.3nm,0.5s						
ECAB	**El Cabril**	**5.95**	**16**	Pn	Pn	13 36 59.2	-0.5
	0.0nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	13 38 02.8	-5.7
	4.7nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**6.27**	**22**	Pn	Pn	13 37 03.1	-0.9
	0.5nm,0.1s,SNR=7.9						

IDC 22 14:03:07.5±2.5, 5°.95S×152°.81E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.4/3, Error ellipse: s-maj=189.2km s-min=31.2km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.71**	**231**	P	P	14 08 10.6	-0.5
	0.3nm,0.5s,baz=57,slow=10.0,SNR=2.0						
ASAR	**Alice Springs**	**25.32**	**224**	P	P	14 08 36.4	+0.2
	0.6nm,0.8s,baz=57,slow=9.5,SNR=6.6						
ILAR	**Eielson Array**	**83.21**	**22**	P	P	14 15 35.5	+0.1
	0.6nm,0.9s,baz=236,slow=4.2,SNR=4.5						

*IDC **22** 14:05:14.1±1.1, 0°.71N×97°.28E, h0km, mb4.0/10, mb1 4.0/12, mb1mx3.8/50, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=29.7km s-min=19.2km az=59.0*
*DJA **22** 14:05:17.4±2.0, 1°.N±8°×97°.7E±1°.1, h26km±10km, M3.9/6, MLv3.9/6*
*NEIC **22** 14:05:19.5±1.7, 0°.90N±0°.06×97°.31E±0°.07, h27km±6km, mb4.2/15, Error ellipse: s-maj=11.6km s-min=5.8km az=127.0*

ISC 22 14:05:18.6±0.8, 0°.83N±0°.06×97°.27E±0°.08, h27km, n45, σ0s98/40, mb4.2/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.56**	**32**		**Pn**	**14 05 30.5**	**-0.4**
GSI	**Gunungsitoli**	**0.56**	**32**	P	**Pn**	**14 05 30.6**	**-0.3**
GSI				S	**Sn**	**14 05 41.6**	**+2.3**
MNSI	**Mandailing Nat**	**2.31**	**91**	P	**Pn**	**14 05 54.5**	**-0.3**
TPTI		**2.42**	**358**	P	**Pn**	**14 05 55.9**	**-0.5**
RPSI	**Rantau Prapat**	**2.48**	**42**		**Pn**	**14 05 57.2**	**-0.1**
RPSI	**Rantau Prapat**	**2.48**	**42**		**Pn**	**14 05 57.4**	**+0.1**
RPSI					**Sb**	**14 06 31.0**	**-1.7**
PSI	**Prapat**	**2.56**	**40**	Pn	**Pn**	**14 05 57.4**	**-1.1**
	5.0nm,0.3s,baz=360,slow=4.8,SNR=14						
PSI				Sn	**Sn**	**14 06 31.0**	**+2.1**
	5.9nm,0.3s,baz=0.1,slow=7.7,SNR=2.5						
PSI	**Prapat**	**2.56**	**40**	P	**Pn**	**14 05 57.6**	**-0.9**
PSI				P	Pb	14 05 57.8	-6.2
TSI	**Tuntungan**	**2.96**	**26**	P	**Pn**	**14 06 04.4**	**+0.6**
PDSI	**Padang**	**3.62**	**118**	P	**Pn**	**14 06 13.4**	**+0.4**
BKNI	**Bangkinang**	**3.80**	**97**	Pn	**Pn**	**14 06 16.0**	**+0.6**
LHMI	**Lhok Sumawe**	**4.39**	**356**	Pn	**Pn**	**14 06 22.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**17.60**	**5**	P	**Pn**	**14 09 21.2**	**-0.9**
	0.2nm,0.3s,baz=198,slow=11,SNR=9.5						
H08S2	**Diego Garcia H**	**26.11**	**251**	T	T	14 37 52.5	
	baz=72,slow=76,SNR=520						
H08S3	**Diego Garcia H**	**26.11**	**251**	T	T	14 37 53.1	
	baz=72,slow=76,SNR=494						
H08S1	**Diego Garcia H**	**26.12**	**251**	T	T	14 37 54.2	
	baz=72,slow=76,SNR=438						
FITZ	**Fitzroy Crossi**	**33.65**	**125**	P	**P**	**14 11 55.6**	**-1.7**
H01W3	**Cape Leeuwin H**	**38.87**	**158**	T	T	14 53 58.2	
	baz=334,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**38.88**	**158**	T	T	14 54 00.4	
	baz=334,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**38.89**	**158**	T	T	14 53 55.6	
	baz=334,slow=76,SNR=19						
WB0	**Warramunga Arr**	**41.75**	**121**	P	**P**	**14 13 04.4**	**-1.5**
WB0				IAmb	IAmb	14 13 06.4	
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**14 13 04.5**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=302,slow=8.9,SNR=7.0						
WRAB	**Tennant Creek**	**41.78**	**122**	P	**P**	**14 13 04.8**	**-1.4**
WRAB				IAmb	IAmb	14 13 23.2	
	comp=Z,7.9nm,1.3s						
WB2	**Warramunga Arr**	**41.79**	**122**	P	**P**	**14 13 04.9**	**-1.2**
WB2				IAmb	IAmb	14 13 30.6	
	comp=Z,8.9nm,1.3s						
WR0	**Warramunga Arr**	**41.95**	**122**	P	**P**	**14 13 06.3**	**-1.2**
WR0				IAmb	IAmb	14 13 25.9	
	comp=Z,6.7nm,1.4s						
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**14 13 16.2**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=298,slow=7.8,SNR=24						
AS31	**Alice Springs**	**43.11**	**127**	P	**P**	**14 13 16.3**	**-0.6**
JSU	**Suzuyama**	**43.76**	**43**	P	**P**	**14 13 21.8**	**-0.3**
BOOM	**Boomskoye usch**	**45.69**	**338**	P	**P**	**14 13 37.2**	**-0.2**
BOOM				IAmb	IAmb	14 13 37.3	
	comp=Z,5.5nm,1.2s						
KSRS	**Korea Array**	**46.11**	**34**	P	**P**	**14 13 40.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=215,slow=10,SNR=7.3						
SONM	**Songino Array**	**47.49**	**8**	P	**P**	**14 13 51.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=202,slow=7.4,SNR=3.5						
SONM	**Songino Array**	**47.49**	**8**	IAmb	IAmb	14 14 00.1	
	comp=Z,2.4nm,1.3s						
MK31	**Makanchi Array**	**47.62**	**346**	P	**P**	**14 13 52.5**	**+0.2**
MK31				IAmb	IAmb	14 13 54.0	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**14 13 53.3**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=159,slow=8.3,SNR=28						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**14 13 52.7**	**+0.4**
JHS	**Saijyo**	**47.66**	**41**	P	**P**	**14 13 52.1**	**-0.7**
MAKZ	**Makanchi**	**47.71**	**346**	P	**P**	**14 13 53.5**	**+0.5**
MAKZ				IAmb	IAmb	14 13 55.3	
	comp=Z,1.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.05**	**31**	P	**P**	**14 13 33.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=224,slow=4.0,SNR=3.9						

SSNC ***22*** *14:36:47.7±1.8, 18.80N×81.52W, h14km±10km, MD4.0, ML3.5, MW3.9*

ISC 22 14:36:43.8±0.8, 18.74N±0.07×81.60W±0.05, h14km, n17, σ2.906/22, mb3.6/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSCY	**Frank Sound, G**	**0.69**	**35**	*i* P	**Pb**	**14 36 58.1**	**+0.5**
FSCY				*e*S	**Sg**	**14 37 06.5**	**0.0**
FSCY				IAML		14 37 08.0	
	comp=Z,3μm,0.2s						
MGV	**Manicaragua**	**3.68**	**24**	*i* P	**Pn**	**14 37 39.6**	**-0.7**
MGV				*e*S	**Sn**	**14 38 20.6**	**-2.9**
MGV				IAML		14 38 24.4	
	comp=E,238nm,0.4s						
MGV				IAML		14 38 24.4	
	comp=N,198nm,0.2s						
MTDJ	**Mount Denham**	**3.90**	**97**	*i* P	**Pn**	**14 37 44.2**	**+0.9**
MTDJ				*e*S	**Sn**	**14 38 26.1**	**-2.8**
SOR	**Soroa**	**4.24**	**342**	*e*P	**Pn**	**14 37 49.5**	**+1.6**
SOR				*e*S	**Sn**	**14 38 36.2**	**-1.1**
SOR				IAML		14 38 37.4	
	comp=N,14nm,0.3s						
SOR				IAML		14 38 39.2	
	comp=E,16nm,0.3s						
LMGC	**Las Mercedes**	**4.54**	**72**	*e*P	**Pn**	**14 37 53.4**	**+1.3**
LMGC				*e*S	**Sn**	**14 38 42.0**	**-2.6**
LMGC				IAML		14 38 45.1	
	comp=E,22nm,0.3s						
LMGC				IAML		14 38 45.5	
	comp=N,17nm,0.2s						
RCC	**Rio Carpintero**	**5.71**	**76**	*e*P	**Pn**	**14 38 09.8**	**+1.5**
RCC				*e*S	**Sn**	**14 39 09.3**	**-4.3**
RCC				IAML		14 39 12.3	
	comp=E,2.8nm,0.4s						
RCC				IAML		14 39 12.5	
	comp=N,3.6nm,0.3s						
MASC	**Masc**	**7.10**	**77**	*e*P	**Pn**	**14 38 30.0**	**+2.8**
CMIG	**Matias Romero**	**12.75**	**265**	Pn	**Pn**	**14 39 41.4**	**-3.3**
	comp=N,0.2nm,0.3s,baz=63,slow=16,SNR=1.7						
CMIG				Sn	Sn	14 41 54.5	-12
	comp=N,0.2nm,0.3s,baz=69,slow=23,SNR=1.5						
TKL	**Tuckaleechee C**	**16.96**	**354**	Pn	**Pn**	**14 40 41.7**	**+1.0**
	comp=N,0.2nm,0.3s,baz=184,slow=9.5,SNR=3.1						
TXAR	**Lajitas Array**	**22.70**	**302**	P	**P**	**14 41 46.7**	**+1.4**
	comp=N,0.9nm,0.9s,baz=125,slow=11,SNR=7.0						
LPIG	**La Paz**	**27.22**	**286**	LR	LR	14 54 06.6	
	comp=N,60nm,19.3s,baz=203,slow=38						
PTGA	**Pitinga**	**28.75**	**130**	LR	LR	14 55 51.7	
	comp=N,80nm,18.1s,baz=132,slow=40						
NVAR	**Mina Array Bea**	**37.40**	**309**	P	**P**	**14 43 55.6**	**-1.0**
	comp=N,0.2nm,0.5s,baz=119,slow=9.4,SNR=2.4						
NVAR				PcP	**PcP**	**14 46 16.3**	**+0.9**
	comp=N,0.4nm,0.6s,baz=131,slow=4.9,SNR=5.2						
ESDC	**Sonseca Array**	**68.92**	**54**	P	**P**	**14 47 50.9**	**+2.3**
	comp=N,0.6nm,0.6s,baz=283,slow=5.7,SNR=4.1						
ARCES	**ARCESS Array B**	**78.41**	**20**	P	**P**	**14 48 43.9**	**+0.2**
	comp=N,1.7nm,1.0s,baz=292,slow=4.8,SNR=4.5						
WRA	**Warramunga Arr**	**146.10**	**262**	PKPbc	**PKPdf**	**14 56 24.2**	**+0.9**
	comp=N,0.8nm,0.7s,baz=86,slow=3.8,SNR=7.2						
ASAR	**Alice Springs**	**146.59**	**255**	PKPbc	**PKPbc**	**14 56 25.5**	**-0.1**
	comp=N,0.6nm,0.7s,baz=106,slow=3.8,SNR=11						

IDC ***22*** *14:58:17.0±4.9, 4.75S×153.23E, h16km±29km, mb4.0/11, mb1 4.2/11, mb1mx3.9/31, mbtmp4.1/11, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=27.4km s-min=18.8km az=90.0*

NEIC ***22*** *14:58:21.4±1.9, 4.68S±0.08×153.19E±0.06, h45km±7km, mb4.6/33, Error ellipse: s-maj=13.5km s-min=4.0km az=217.0*

ISC 22 14:58:22.1±0.5, 4.71S±0.06×153.16E±0.07, h55km, n57, σ1.913/61, mb4.3/24, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.11**	**297**		**Pn**	**14 58 41.4**	**-0.2**
RABL	**Rabaul**	**1.11**	**297**	P	**Pn**	**14 58 42.1**	**+0.5**
MANU	**Manus Island**	**6.36**	**294**	Pn	**Pn**	**14 59 53.2**	**-0.1**
PMG	**Port Moresby**	**7.56**	**232**	Pn	**Pn**	**15 00 10.4**	**+0.6**
	2.8nm,0.3s,baz=44,slow=13,SNR=7.0						
PMG				Sn	**Sn**	**15 01 32.3**	**-1.9**
	3.6nm,0.3s,baz=165,slow=22,SNR=2.3						
PMG				LR	LR	15 03 17.5	
	comp=Z,100nm,21.0s,baz=226,slow=40						
PMG	**Port Moresby**	**7.56**	**232**	Pn	**Pn**	**15 00 11.0**	**+1.2**
PMG	**Port Moresby**	**7.56**	**232**	P	**Pn**	**15 00 12.5**	**+2.7**
PMG	**Port Moresby**	**7.56**	**232**	P	**Pn**	**15 00 12.5**	**+2.7**
HNR	**Honiara**	**8.21**	**125**	Pn	**Pn**	**15 00 19.1**	**+0.4**
	13nm,0.3s,baz=27,slow=6.8,SNR=6.6						
HNR				Sn	**Sn**	**15 01 50.4**	**+0.3**
	3.7nm,0.3s,baz=205,slow=22,SNR=1.1						
HNR	**Honiara**	**8.21**	**125**		**Pn**	**15 00 18.5**	**-0.2**
EIDS	**Eidsvold**	**20.64**	**185**	P	**P**	**15 02 55.9**	**-1.4**
FAKI	**Fak Fak**	**20.94**	**274**	P	**P**	**15 02 59.9**	**-0.7**
FAKI				IAmb	IAmb	15 03 17.6	
	comp=Z,20nm,1.2s						
LIFNC	**LIFOU**	**21.04**	**141**	P	**P**	**15 03 00.6**	**-0.9**
DZM	**Mont Dzumac**	**21.53**	**144**	P	**P**	**15 03 05.8**	**-1.2**
	comp=Z,9.2nm,0.5s,baz=254,slow=8.3,SNR=11						
DZM	**Mont Dzumac**	**21.53**	**144**	P	**P**	**15 03 05.7**	**-1.3**
DZM				IAmb	IAmb	15 03 07.2	
	comp=Z,54nm,1.4s						
OUENC	**Ouen Island, N**	**22.03**	**144**	P	**P**	**15 03 11.1**	**-1.1**
OUENC				IAmb	IAmb	15 03 25.5	
	comp=Z,25nm,1.0s						
WR0	**Warramunga Arr**	**23.63**	**229**	P	**P**	**15 03 28.1**	**-0.5**
WR0				IAmb	IAmb	15 03 43.4	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**23.76**	**229**	P	**P**	**15 03 28.7**	**-1.1**
WB2	**Warramunga Arr**	**23.76**	**229**	P	**P**	**15 03 28.9**	**-0.9**
WB2				IAmb	IAmb	15 03 53.2	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**23.77**	**229**	P	**P**	**15 03 29.2**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=52,slow=10.0,SNR=23						
WRA				PcP	**PcP**	**15 07 12.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=64,slow=1.8,SNR=2.8						
WRA	**Warramunga Arr**	**23.77**	**229**	P	**P**	**15 03 28.8**	**-1.1**
ARMA	**Armidale**	**25.61**	**183**	P	**P**	**15 03 47.3**	**+0.7**
KNRA	**Kununurra**	**26.33**	**244**	P	**P**	**15 03 52.4**	**-0.8**
KNRA				IAmb	IAmb	15 03 59.3	
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**26.45**	**223**	P	**P**	**15 03 53.0**	**-1.3**
ASAR	**Alice Springs**	**26.46**	**223**	P	**P**	**15 03 53.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=56,slow=9.1,SNR=35						
ASAR				PcP	**PcP**	**15 07 18.9**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=54,slow=3.5,SNR=4.3						
ASAR				ScP	**ScP**	**15 10 58.3**	**+4.3**
	comp=Z,0.4nm,1.0s,baz=44,slow=3.0,SNR=1.8						
STKA	**Stephens Creek**	**29.12**	**201**	P	**P**	**15 04 17.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.01**	**241**	P	**P**	**15 04 25.2**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=44,slow=7.0,SNR=9.8						
FITZ	**Fitzroy Crossi**	**30.01**	**241**	P	**P**	**15 04 24.9**	**-1.1**
FITZ				IAmb	IAmb	15 04 50.8	
	comp=Z,6.7nm,1.3s						
FORT	**Forrest**	**35.08**	**219**	P	**P**	**15 05 09.2**	**-0.9**
URZ	**Urewera**	**39.89**	**150**	P	**P**	**15 05 50.7**	**0.0**
QRZ	**Quartz Range**	**39.95**	**157**	P	**P**	**15 05 51.1**	**0.0**
BKZ	**Black Stump Fm**	**40.30**	**152**	P	**P**	**15 05 53.2**	**-0.9**
BKZ				IAmb	IAmb	15 05 58.1	
	comp=Z,60nm,1.4s						
TUWZ	**Tuamarina**	**41.02**	**156**	P	**P**	**15 05 59.7**	**-0.3**
GIRL	**Giralia**	**41.62**	**241**	P	**P**	**15 06 06.1**	**+0.9**
RPZ	**Rata Peaks**	**41.94**	**161**	P	**P**	**15 06 07.5**	**-0.1**
RPZ				IAmb	IAmb	15 06 13.4	
	comp=Z,63nm,1.4s						
WKZ	**Wanaka**	**42.31**	**163**	P	**P**	**15 06 10.4**	**-0.2**
MLZ	**Mavora Lakes**	**42.56**	**164**	P	**P**	**15 06 12.4**	**-0.1**
MLZ				IAmb	IAmb	15 06 30.7	
	comp=Z,46nm,1.5s						
JSD	**Sado**	**44.72**	**343**	P	**P**	**15 06 29.7**	**-0.3**
JSD				IAmb	IAmb	15 06 31.0	
	comp=Z,12nm,1.5s						
CISI	**Cisompet, Garu**	**45.16**	**264**	P	**P**	**15 06 32.5**	**-1.4**
CISI				IAmb	IAmb	15 06 49.2	
	comp=Z,22nm,1.1s						
JTM	**Tenmabayashi**	**46.61**	**347**	P	**P**	**15 06 44.9**	**0.0**
JTM				IAmb	IAmb	15 06 47.5	
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**48.08**	**333**	P	**P**	**15 06 57.4**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=143,slow=7.6,SNR=4.1						
PMBI	**Palembang**	**48.30**	**270**	P	**P**	**15 07 00.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**58.16**	**295**	P	**P**	**15 08 12.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=111,slow=4.9,SNR=1.7						
VNDA	**Vanda**	**72.91**	**178**	P	**P**		
	comp=Z,1.8nm,0.6s,baz=334,slow=6.9,SNR=8.6						
VNDA	**Vanda**	**72.91**	**178**	IAmb	IAmb	15 09 45.9	
	comp=Z,2.1nm,0.7s						
SBA	**Scott Base**	**73.45**	**177**	P	**P**	**15 09 49.4**	**+1.2**
SBA				IAmb	IAmb	15 10 12.1	
	comp=Z,4.2nm,1.3s						
CNPM	**China Poot**	**77.48**	**26**	P	**P**	**15 10 11.2**	**-0.4**
CNPM				IAmb	IAmb	15 10 17.0	
	comp=Z,13nm,1.5s						
MK31	**Makanchi Array**	**80.49**	**319**	P	**P**	**15 10 29.0**	**+0.6**
MKAR	**Makanchi Array**	**80.49**	**319**	P	**P**	**15 10 29.1**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=102,slow=7.1,SNR=12						
MAKZ	**Makanchi**	**80.70**	**319**	P	**P**	**15 10 29.7**	**+0.2**
MAKZ				IAmb	IAmb	15 10 31.0	
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**81.27**	**326**	P	**P**	**15 10 33.4**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=131,slow=5.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**81.27**	**326**	P	**P**	**15 10 33.3**	**+1.0**
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**15 10 34.1**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=235,slow=7.6,SNR=2.6						
NRIK	**Noril'sk**	**85.99**	**341**	P	**P**	**15 10 56.2**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=119,slow=5.1,SNR=4.1						
NRIK	**Noril'sk**	**85.99**	**341**	P	**P**	**15 10 56.3**	**+0.1**
NRIK				IAmb	IAmb	15 10 58.0	
	comp=Z,11nm,1.4s						
AKASG	**Malin Array Be**	**114.63**	**325**	PKP	**PKiKP**	**15 16 56.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=72,slow=1.8,SNR=1.5						
GERES	**GERESS Array B**	**124.16**	**329**	PKP	**PKiKP**	**15 17 15.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=58,slow=2.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**150.62**	**288**	PKPbc	**PKPbc**	**15 18 08.5**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=66,slow=2.1,SNR=11						

TRN 22 15:03:58.9, 13.59N×61.08W, h120km, MD3.8, 1C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**0.18**	**49**	⇓*i* P	Pn	15 04 15.9	+0.4
MCLT				*e*S	Sn	15 04 28.5	+0.4
SLB	**Belfond**	**0.24**	**9**	*e*P	Pn	15 04 17.6	+1.8
SLB				*e*S	Sn	15 04 30.3	+1.9
SVB	**Belmont**	**0.36**	**208**	⇓*i* P	Pn	15 04 17.3	+1.1
SVB				*e*S	Sn	15 04 30.4	+1.3
SLCP	**Castries, St.**	**0.43**	**12**	*e*P	Pn	15 04 17.9	+1.4
SLCP				*e*S	Sn	15 04 31.3	+1.6
SLBI	**Saint Lucia, B**	**0.44**	**14**	⇓*i* P	Pn	15 04 17.6	+1.1
SLBI				*e*S	Sn	15 04 30.9	+1.0
SVOC	**Richmond Hill,**	**0.45**	**197**	*e*P	Pn	15 04 17.8	+1.2
SVOC				*e*S	Sn	15 04 31.0	+1.0
MPOM	**Morne Pois Mar**	**0.88**	**14**	*e*P	Pn	15 04 20.5	+0.7
MPOM				*e*S	Sn	15 04 36.0	+0.4
BIM	**Bigot**	**0.92**	**1**	*e*P	Pn	15 04 21.4	+1.1
BIM				*e*S	Sn	15 04 37.5	+1.0
MVM	**Montagne Vaucl**	**0.98**	**11**	*e*P	Pn	15 04 21.6	+0.9
ZAM	**Aeronautique**	**0.98**	**3**	*e*P	Pn	15 04 21.9	+1.1
LPMF	**Morne Lapointe**	**0.99**	**7**	*e*P	Pn	15 04 21.7	+0.8
FDF	**Fort de France**	**1.14**	**357**	*e*P	Pn	15 04 23.6	+1.1
FDF				*e*S	Sn	15 04 41.3	+1.0
GCMP	**Grenada, Carri**	**1.15**	**197**	*e*P	Pn	15 04 23.8	+1.4
GCMP				*e*S	Sn	15 04 41.3	+1.1
PML	**Morne Lenard**	**1.19**	**355**	*e*P	Pn	15 04 24.1	+1.2
ILAM	**Ilet Lapin Mar**	**1.20**	**10**	*e*P	Pn	15 04 23.7	+0.7
ILAM				*e*S	Sn	15 04 41.5	+0.3
GBMF	**Grand Be**	**1.20**	**356**	*e*P	Pn	15 04 24.9	+1.8
CXM	**Morne La Croix**	**1.22**	**356**	*e*P	Pn	15 04 24.4	+1.1
BAMF	**Morne Balai**	**1.22**	**357**	*e*P	Pn	15 04 24.6	+1.3
PCM	**Pelee Case Pet**	**1.23**	**354**	*e*P	Pn	15 04 24.4	+1.0
SVN	**Savane Anatole**	**1.25**	**356**	*e*P	Pn	15 04 24.9	+1.3
BBGH	**Gun Hill**	**1.55**	**106**	*e*P	Pn	15 04 27.9	+1.0
BBGH				*e*S	Sn	15 04 49.8	+1.6
GRGR	**Grenville**	**1.55**	**201**	*e*P	Pn	15 04 28.2	+1.3
GRGR				*e*S	Sn	15 04 49.9	+1.6
BBSP	**Saint Philip**	**1.65**	**107**	*e*P	Pn	15 04 29.3	+1.2
BBSP				*e*S	Sn	15 04 51.9	+1.5
DLPL	**La Plaine**	**1.74**	**355**	*e*P	Pn	15 04 30.7	+1.5
DLPL				*e*S	Sn	15 04 53.8	+1.4
DSLB	**Salisbury**	**1.87**	**350**	*e*P	Pn	15 04 32.2	+1.4
DSLB				*e*S	Sn	15 04 55.9	+0.8
TDBA	**Terre de Bas,**	**2.31**	**347**	*e*P	Pn	15 04 37.3	+1.0
TDBA				*e*S	Sn	15 05 05.1	+0.1
TBG	**Guadaloupe-3**	**2.31**	**346**	*e*P	Pn	15 04 37.2	+0.9
TOSP	**Speyside**	**2.34**	**167**	⇑*i* P	Pn	15 04 37.3	+0.7
TOSP				*e*S	Sn	15 05 06.1	+0.5
MAGL	**Barre de l'ile**	**2.35**	**355**	*e*P	Pn	15 04 37.7	+0.9
MAGL				*e*S	Sn	15 05 06.6	+0.6
TPR	**Prospect**	**2.41**	**173**	*e*P	Pn	15 04 38.6	+1.1
TPR				*e*S	Sn	15 05 06.9	-0.3
CBE	**Ff, Capester**	**2.52**	**348**	*e*P	Pn	15 04 40.9	+1.9
CBE				*e*S	Sn	15 05 10.1	+0.3
ABD	**La Joyeuse, An**	**2.90**	**352**	*e*P	Pn	15 04 44.9	+1.1
TRN	**Trinidad (W)**	**2.94**	**186**	*e*P	Pn	15 04 46.2	+1.7
TRN				*e*S	Sn	15 05 19.0	-0.5
TBH	**Brigand Hill**	**3.09**	**180**	*e*P	Pn	15 04 48.0	+1.6
TBH				*e*S	Sn	15 05 22.4	-0.5
TPP	**Pointe-a-Pierr**	**3.27**	**186**	*e*P	Pn	15 04 49.9	+1.1
ANBD	**Bethesda, Anti**	**3.50**	**349**	*e*P	Pn	15 04 52.6	+0.8
BPA	**Boggy Peak**	**3.52**	**348**	*e*P	Pn	15 04 53.2	+1.1
BPA				*e*S	Sn	15 05 33.7	+0.5
SKI	**Saint Kitts**	**4.05**	**337**	*e*P	Pn	15 04 59.8	+0.7
ANWB	**Willy Bob**	**4.11**	**351**	*e*P	Pn	15 05 00.6	+0.6
BAUV	**El Baul**	**8.24**	**237**	*e*P	Pn	15 05 56.1	+0.5

BJI ***22*** *15:35:14.8±0.0, 41.41N×142.12E, h69km, mB5.0/39, mb4.9/66, Ms4.0/28, Ms7.3/827*

MOS ***22*** *15:35:15.0±0.9, 41.50N×142.08E, h59km, mb5.2/88, Error ellipse: s-maj=5.4km s-min=3.7km az=100.9*

JMA ***22*** *15:35:16.6±0.1, 41.48N×142.09E, h63km±2km, M4.6 Broadband fault plane solution: P waves. NP1: ϕs195.00000°, λ11.00000°, λ80.00000°. NP2:ϕs25.00000°, δ79.00000°, λ92.00000°. Principal axes: T Plg56.0000°, Azm297.0000°; N Plg2.0000°, Azm204.0000°; P Plg34.0000°, Azm113.0000°;*

JMA Felt IV J1.

NIED ***22*** *15:35:16.6, 41.48N×142.09E, h63km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.70; Mθθ-0.11; Mϕϕ-0.59; Mrθ0.41; Mθϕ-0.17; Mϕr0.73; Fault plane solution: M₀1.07000×10¹⁶ NP1:ϕs27.00000°, δ71.00000°, λ95.00000°. NP2:ϕs191.00000°, δ20.00000°, λ75.00000°.*

NEIC ***22*** *15:35:16.9±1.6, 41.52N±0.05×142.09E±0.10, h57km±5km, mb4.9/232 Error ellipse: s-maj=11.2km s-min=7.2km az=112.0*

IDC ***22*** *15:35:17.7±1.5, 41.52N×142.08E, h66km±12km, mb4.5/25, mb1 4.6/31, mb1mx4.6/33, mbtmp4.8/31, MS3.7/21, Ms1 3.8/21, ms1mx3.6/48, Error ellipse: s-maj=13.2km s-min=9.3km az=119.0*

BGR ***22*** *15:35:21.0±0.0, 42.06N×143.08E, h73km, mb5.1*

ISC 22 15:35:16.3±0.4, 41.48N±0.03×142.10E±0.03, h59km±3km, h59km:pP-P, n788, σ1.931/771, mb5.0/243, MS3.9/24, 169C-62D, Fault plane solution: NP1:ϕs157.43549°, δ43.50787°, λ37.51920°. NP2:ϕs38.32148°, δ65.21040°, λ126.97527°. Principal axes: T Plg54.0306°, Azm354.7158°; N Plg33.0962°, Azm200.8020°; P Plg12.4959°, Azm102.4965°; Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.61**	**250**	⇓P	**Pn**	**15 35 30.2**	**+0.9**
JAHD				S	**Sn**	**15 35 40.2**	**+1.4**
JARK	**Aomorirokkasho**	**0.72**	**230**	⇓P	**Pn**	**15 35 31.2**	**+0.5**
JARK				S	**Sn**	**15 35 41.8**	**+0.6**
JOT	**Ohata**	**0.79**	**264**	⇓P	**Pn**	**15 35 32.1**	**+0.5**
JOT				S	**Sn**	**15 35 43.8**	**+1.0**
JKB	**Kayabe**	**0.90**	**298**	⇓P	**Pn**	**15 35 33.1**	**+0.2**
JKB				*e*S	**Sn**	**15 35 45.5**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.94**	**31**	⇓P	**Pn**	**15 35 33.6**	**+0.1**
ERM	**Erimo**	**0.96**	**55**	*c i* P	**Pn**	**15 35 34.2**	**+0.5**
ERM				pmax	pmax		
	comp=Z,2μm,0.8s						
ERM	**Erimo**	**0.96**	**55**		**Pn**	**15 35 34.1**	**+0.4**
JEM	**Erimo**	**0.96**	**55**	⇑P	**Pn**	**15 35 34.1**	**+0.4**
JEM				*e*S	**Sn**	**15 35 46.9**	**+0.3**
JTM	**Tenmabayashi**	**1.04**	**229**	⇓P	**Pn**	**15 35 35.6**	**+0.9**
JTM				S	**Sn**	**15 35 49.4**	**+1.0**
JTM	**Tenmabayashi**	**1.04**	**229**	Pn	**Pn**	**15 35 35.5**	**+0.7**
JIAM	**Iburiatsuma**	**1.15**	**354**	⇓P	**Pn**	**15 35 37.7**	**+1.4**
JANG	**Nango**	**1.19**	**202**	⇓P	**Pn**	**15 35 37.1**	**+0.4**
JANG				S	**Sn**	**15 35 52.0**	**+0.1**
JSR	**Shiriuchi**	**1.26**	**273**	⇓P	**Pn**	**15 35 38.4**	**+0.7**
JSR				*e*S	**Sn**	**15 35 55.0**	**+1.3**
JNB	**Noboribetsu**	**1.27**	**322**	⇓P	**Pn**	**15 35 37.8**	**0.0**
JBT2	**Biratori 2**	**1.32**	**9**	⇓P	**Pn**	**15 35 39.2**	**+0.7**
JYM2	**Yakumo 2**	**1.44**	**297**	⇓P	**Pn**	**15 35 41.2**	**+1.1**
JEW	**Eniwo**	**1.45**	**341**	P	**Pn**	**15 35 41.1**	**+0.9**
JEW				S	**Sn**	**15 35 59.4**	**+1.2**
JEW	**Eniwo**	**1.45**	**341**		**Pn**	**15 35 40.7**	**+0.5**
JCH	**Churui**	**1.48**	**39**	⇓P	**Pn**	**15 35 41.8**	**+1.2**
JCH				*e*S	**Sn**	**15 36 00.2**	**+1.3**
JOMM	**Oshimamatsumae**	**1.57**	**272**	P	**Pn**	**15 35 42.4**	**+0.6**
JOMM				*e*S	**Sn**	**15 36 01.3**	**+0.2**
JFR	**Furan**	**1.73**	**12**	⇓P	**Pn**	**15 35 44.6**	**+0.6**
JOSM	**Okushiri--Mats**	**2.05**	**288**	⇓P	**Pn**	**15 35 48.5**	**+0.1**
JOSM				*e*S	**Sn**	**15 36 12.8**	**-0.1**
JOM	**Ohasama**	**2.09**	**197**	P	**Pn**	**15 35 49.8**	**+0.8**
ASAJ	**Asahikawa**	**2.67**	**8**	P	**Pn**	**15 35 58.3**	**+1.5**
	comp=Z,118nm,0.3s,baz=223,slow=10,SNR=538						
ASAJ				S	**Sn**	**15 36 28.4**	**+0.6**
	comp=Z,61nm,0.3s,baz=360,slow=30,SNR=6.6						
JKA	**Kamikawa-asahi**	**2.67**	**8**	Pn	**Pn**	**15 35 57.9**	**+1.1**
NMR	**Nemuro--Hokkai**	**3.29**	**54**	⇓*i* P	**Pn**	**15 36 03.9**	**-1.3**
NMR				*i* S	**Sn**	**15 36 39.5**	**-3.6**
GLVR	**Golovnino**	**3.39**	**47**	*e*P	**Pn**	**15 36 06.9**	**+0.2**
GLVR				*e*S	**Sn**	**15 36 44.2**	**-1.4**
GLVR				pmax	pmax		
	comp=Z,776nm,0.4s						
GLVR				smax	smax		
	comp=N,4μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
RUSJ	**Misakicho**	**3.50**	**40**	*e*P	**Pn**	**15 36 08.9**	**+0.7**
RUSJ				*e*S	**Sn**	**15 36 51.4**	**+3.0**
GRPR	**Tuman**	**3.70**	**46**	*e*P	**Pn**	**15 36 10.7**	**-0.1**
GRPR				*e*S	**Sn**	**15 36 51.3**	**-1.8**
GRPR				pmax	pmax		
	comp=Z,410nm,0.3s						
GRPR				smax	smax		
	comp=N,3μm,0.4s						
GRPR				smax	smax		
	comp=E,2μm,0.5s						
JMM	**Marumori**	**3.74**	**196**		**Pn**	**15 36 12.1**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**3.77**	**46**	*d i* P	**Pn**	**15 36 11.3**	**-0.6**
YUK				*e*S	**Sn**	**15 36 52.4**	**-2.6**
YUK				pmax	pmax		
	comp=Z,833nm,0.4s						
YUK				smax	smax		
	comp=N,3μm,0.6s						
YUK				smax	smax		
	comp=E,583nm,0.8s						
JSD	**Sado**	**4.53**	**222**	Pn	**Pn**	**15 36 24.2**	**+1.9**
JYT	**Yasato**	**5.45**	**196**	Pn	**Pn**	**15 36 33.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**5.50**	**5**	*αe* P	**Pn**	**15 36 37.3**	**+1.8**
YSS				*e*S	**Sn**	**15 37 39.3**	**+2.0**
YSS				pmax	pmax		
	comp=Z,90nm,0.8s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS	**Yuzh-Sakhalins**	**5.50**	**5**	Pn	**Pn**	**15 36 35.8**	**+0.3**
KUR	**Kuril'sk**	**5.64**	**46**	*e*P	**Pn**	**15 36 37.6**	**+0.2**
KUR				*e*S	**Sn**	**15 37 39.7**	**-1.1**
KUR				pmax	pmax		
	comp=Z,134nm,0.8s						
KUR				pmax	pmax		
	comp=N,31nm,0.3s						
KUR				pmax	pmax		
	comp=E,25nm,0.2s						
KUR				smax	smax		
	comp=N,271nm,0.5s						
KUR				smax	smax		
	comp=E,122nm,0.4s						
KUR				smax	smax		
	comp=E,1μm,1.7s						
KUR				smax	smax		
	comp=N,1μm,2.0s						
MJB9	**Matsu-Tunnel**	**5.78**	**213**		**Pn**	**15 36 41.8**	**+2.4**
MAJO	**Matsushiro**	**5.78**	**213**	*c i* P	**Pn**	**15 36 42.3**	**+2.8**
MAJO	**Matsushiro**	**5.78**	**213**	Pn	**Pn**	**15 36 41.9**	**+2.4**
MAT	**Matsushiro**	**5.78**	**213**	P	**Pn**	**15 36 41.7**	**+2.2**
MAT				*e*S	**Sn**	**15 37 47.6**	**+3.1**
**MJA

SNR=40
OKEB Okgye-meyeon 10.83 253 P Pn 15 37 54.0 +5.4
SNR=9.5
OKEB Okgye-meyeon 10.83 253 P Pn 15 37 54.0 +5.4
SNR=9.5
KSJMJ Jumunjin 10.89 255 P Pn 15 37 54.7 +5.4
SNR=9.3
KSJMJ Jumunjin 10.89 255 P Pn 15 37 54.7 +5.4
SNR=9.3
KSSKC Sokcho 10.90 257 P Pn 15 37 55.1 +5.6
SNR=7.7
KSSKC Sokcho 10.90 257 P Pn 15 37 55.1 +5.6
SNR=7.7
KSULJ Uljin 10.95 248 P Pn 15 37 56.0 +5.8
SNR=20
KSULJ Uljin 10.95 248 P Pn 15 37 56.0 +5.8
SNR=20
KSDGY Daegwallycong 11.03 254 P Pn 15 37 57.0 +5.8
SNR=16
KSDGY Daegwallycong 11.03 254 P Pn 15 37 57.0 +5.8
SNR=16
KSTBA Taebaek 11.07 251 P Pn 15 37 58.2 +6.4
SNR=11
KSTBA Taebaek 11.07 251 P Pn 15 37 58.2 +6.4
SNR=11
SEHB SEOHWA 11.11 258 P Pn 15 37 58.6 +6.3
SNR=26
SEHB SEOHWA 11.11 258 P Pn 15 37 58.6 +6.3
SNR=26
KSGWL Sabuk 11.12 252 P Pn 15 37 58.9 +6.4
SNR=12
KSGWL Sabuk 11.12 252 P Pn 15 37 58.9 +6.4
SNR=12
KSPHA Pohang 11.24 246 P Pn 15 38 01.0 +6.9
SNR=6.0
KSPHA Pohang 11.24 246 P Pn 15 38 01.0 +6.9
SNR=6.0
KSIJA INJE 11.32 257 P Pn 15 38 01.1 +5.9
SNR=38
KSIJA INJE 11.32 257 P Pn 15 38 01.1 +5.9
SNR=38
KSYOW Yeongwol 11.40 252 P Pn 15 38 02.5 +6.2
SNR=11
KSYOW Yeongwol 11.40 252 P Pn 15 38 02.5 +6.2
SNR=11
KSADO Andong 11.41 248 P Pn 15 38 02.0 +5.5
SNR=25
KSADO Andong 11.41 248 P Pn 15 38 02.0 +5.5
SNR=25
KSWJU Wonju 11.59 254 P Pn 15 38 05.2 +6.2
SNR=26
KSWJU Wonju 11.59 254 P Pn 15 38 05.2 +6.2
SNR=26
KSCHC Chuncheon 11.62 256 P Pn 15 38 05.0 +5.7
SNR=27
KSCHC Chuncheon 11.62 256 P Pn 15 38 05.0 +5.7
SNR=27
KSEUS ULSEONG 11.63 248 P Pn 15 38 06.1 +6.7
SNR=17
KSEUS ULSEONG 11.63 248 P Pn 15 38 06.1 +6.7
SNR=17
KSYOC YEONGCHEON 11.64 246 P Pn 15 38 06.0 +6.5
SNR=16
KSYOC YEONGCHEON 11.64 246 P Pn 15 38 06.0 +6.5
SNR=16
KSRS Korea Array 11.67 254 P **Pn 15 38 03.7 +3.8**
comp=Z,4.5nm,0.3s,baz=63,slow=14,SNR=75
KSRS LR LR 15 42 05.4
comp=Z,268nm,21.4s,baz=76,slow=35
KS19 Wonju Array Si 11.69 255 Pn 15 38 01.9 +1.7
KSAR Wonju Array Be 11.70 255 P **Pn 15 38 01.9 +1.5**
KSAR Wonju Array Be 11.70 255 Pn **Pn 15 38 01.9 +1.5**
KSCWO Cheorwon 11.72 258 P Pn 15 38 06.2 +5.5
SNR=15
KSCWO Cheorwon 11.72 258 P Pn 15 38 06.2 +5.5
SNR=15
KSDAG Daegu 11.79 245 P Pn 15 38 08.0 +6.4
SNR=10
KSDAG Daegu 11.79 245 P Pn 15 38 08.2 +6.6
SNR=10
KSCHJ Chungju 11.88 252 P Pn 15 38 09.0 +6.2
SNR=19
KSCHJ Chungju 11.88 252 P Pn 15 38 09.0 +6.2
SNR=17
KSCHJ Chungju 11.88 252 P Pn 15 38 09.0 +6.2
SNR=19
KSCHJ Chungju 11.88 252 P Pn 15 38 09.0 +6.2
SNR=17
KSMGY Mungyeong 11.92 251 P Pn 15 38 10.4 +7.0
SNR=13
KSMGY Mungyeong 11.92 251 P Pn 15 38 10.4 +7.0
SNR=13
KSSAJ Sangju 11.97 250 P Pn 15 38 10.5 +6.4
SNR=9.6
KSICN Icheon 12.10 255 P **P 15 38 12.5 -4.2**
SNR=10
YNCB YEONCHEON 12.17 259 P P 15 38 12.6 -4.8
SNR=9.2
JTU Tsushima 12.18 239 Pn **Pn 15 38 08.7 +1.8**
KSBON Boeun 12.18 251 P **P 15 38 13.0 -4.6**
SNR=29
KSCPR CHUPUNGNYEONG 12.19 249 P **P 15 38 13.1 -4.7**
SNR=10
OKCB Cheongsan-myeo 12.26 250 P **P 15 38 15.0 -3.5**
SNR=15
OKCB Cheongsan-myeo 12.26 250 P **P 15 38 15.0 -3.5**
SNR=15
KSMAS Masan 12.34 244 P **P 15 38 16.5 -2.9**
SNR=10
KSSEO Seoul 12.38 256 P **P 15 38 16.3 -3.5**
SNR=6.3
KSSEO Seoul 12.38 256 P **P 15 38 16.1 -3.7**
SNR=6.3
KSCEA Cheonan 12.42 253 P **P 15 38 16.8 -3.5**
SNR=15
KSSWO Suwon 12.44 255 P **P 15 38 16.7 -3.7**
SNR=12
EURB Uiryeong-eup 12.45 245 P **P 15 38 19.0 -1.5**
SNR=5.8
CN2 Changchun 12.48 286 *e*P **Pn 15 38 12.4 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 L L
comp=Z,200nm,14.0s
CN2 L L
comp=Z,400nm,14.0s
CN2 L L
comp=Z,500nm,18.0s
TJN Taejon 12.55 251 ⇑*i*P **Pn 15 38 16.5 +4.6**
HAWB Hwaseong-si 12.65 255 P **P 15 38 20.0 -2.8**
SNR=7.3
KOJ2 Gongju-si 12.66 252 P **P 15 38 20.0 -2.9**
SNR=7.6
HAMB Hamyang 12.72 247 P **P 15 38 22.0 -1.6**
SNR=8.2
KSSES Seosan 13.01 254 P **P 15 38 25.1 -1.7**
SNR=12
KSDEI Deokjeokdo 13.07 256 P **P 15 38 25.8 -1.7**
SNR=7.1
BOSB Boseong-gun 13.49 245 P **P 15 38 33.0 +0.9**
SNR=11
JSU Suzuyama 13.65 227 Pn **Pn 15 38 27.6 +0.7**
PEA0B Petropavlovsk- 15.69 37 P **Pn 15 38 52.4 -1.0**
PEA0B pmax pmax
comp=Z,31nm,1.5s
PEA0B Petropavlovsk- 15.69 37 Pn **Pn 15 38 52.4 -1.0**
PETK Petropavlovsk- 15.69 37 P **Pn 15 38 51.5 -1.9**
comp=Z,0.2nm,0.3s,baz=211,slow=9.6,SNR=3.6
PETK LR LR 15 45 06.0
comp=Z,130nm,19.1s,baz=219,slow=38
PETK Petropavlovsk- 15.69 37 P **Pn 15 38 52.8 -0.6**
PETK Petropavlovsk- 15.69 37 Pn **Pn 15 38 52.8 -0.6**
ZEA Zeya 15.79 326 *e*P **Pn 15 38 53.9 -0.8**
ZEA pmax pmax
comp=N,40nm,1.0s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,60nm,0.8s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=N,200nm,13.0s
ZEA MLR MLR
comp=Z,200nm,19.0s
PET Petropavlovsk 16.07 38 *e*P **Pn 15 38 59.0 +0.8**
PET *e*S **Sn 15 41 55.3 -0.1**
PET MLR MLR
comp=Z,200nm,18.0s
PET MLR MLR
comp=Z,200nm,17.0s
HIA Hailar 17.49 304 P **Pn 15 39 14.4 -1.6**
HIA pmax pmax
comp=Z,31nm,1.2s
HIA Hailar 17.49 304 Pn **Pn 15 39 14.4 -1.6**
JOW Kunigami 18.52 222 P **Pn 15 39 28.2 -0.4**
comp=Z,2.7nm,0.3s,baz=92,slow=17,SNR=6.5
JOW Kunigami 18.52 222 P **P 15 39 27.9 +0.1**
JOW IAmb IAmb 15 39 39.3
comp=Z,109nm,1.5s
MA2 Magadan 18.91 14 P **P 15 39 30.7 -1.2**
comp=Z,1.1nm,0.3s,baz=193,slow=9.7,SNR=9.1
MA2 Magadan 18.91 14*c i*P **P 15 39 31.3 -0.6**
MA2 pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 18.91 14 P **P 15 39 30.1 -1.8**
BJI Beijing 19.67 274 P **P 15 39 39.6 -0.7**
BJI S **S 15 43 12.3 -6.7**
BJI pmax pmax
comp=Z,52nm,0.8s
BJI L L
comp=Z,83nm,12.7s
BJI L L
comp=Z,190nm,13.4s
BJI L L
comp=Z,130nm,11.6s
BJT Baijiatuau 19.68 274 P **P 15 39 39.0 -1.5**
BJT pmax pmax
comp=Z,40nm,0.8s
BJT Baijiatuau 19.68 274 P **P 15 39 39.0 -1.5**
BJT IAmb IAmb 15 39 42.1
comp=Z,40nm,0.8s
NJ2 Nanjing 20.81 251 *e*P Pn 15 39 54.4 -1.3
NJ2 pmax pmax
comp=Z,29nm,0.7s
YAK Yakutsk 21.90 344 P **P 15 40 01.1 -3.0**
comp=Z,28nm,0.5s,baz=313,slow=0.4,SNR=25
YAK Yakutsk 21.90 344*d i*P **P 15 40 01.1 -3.0**
YAK *e*S **S 15 43 55.0 -7.4**
YAK pmax pmax
comp=Z,64nm,0.9s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,15nm,1.3s
YAK smax smax
comp=N,99nm,2.5s
YAK smax smax
comp=E,60nm,2.2s
YAK Yakutsk 21.90 344 P **P 15 40 00.9 -3.2**
SEY Seymchan 22.34 12 P **P 15 40 06.7 -2.2**
comp=E,6.3nm,0.5s,baz=228,slow=7.5,SNR=11
HHC Hu-ho-hao-te 22.94 279 *e*P **P 15 40 13.6 -2.0**
HHC S **S 15 44 17.3 -3.9**
HHC pmax pmax
comp=E,17nm,1.0s
HHC pmax pmax
comp=E,38nm,5.7s
HHC L L
comp=E,190nm,13.7s
HHC L L
comp=E,220nm,20.0s
HHC L L
comp=E,320nm,23.8s
TATO Taipei 23.74 233 P **P 15 40 22.8 -0.3**
TATO IAmb IAmb 15 40 25.3
comp=Z,63nm,0.9s
YHNB Yeheng 24.04 232 P **P 15 40 24.4 -1.5**
YHNB IAmb IAmb 15 40 32.8
comp=Z,22nm,0.6s
BTO Baotou 24.14 279 *e*P **P 15 40 26.3 -0.5**
BTO S **S 15 44 36.0 -4.6**
BTO L L
comp=Z,420nm,18.2s
BTO L L
comp=Z,680nm,23.5s
BTO L L
comp=Z,1μm,25.9s
BOD Bodaibo 24.20 322 *e*P **P 15 40 27.0 0.0**
BOD pmax pmax
comp=Z,31nm,0.9s
NACB Ninganchiao 24.28 231 P **P 15 40 25.7 -2.3**
NACB IAmb IAmb 15 40 33.1
comp=Z,13nm,0.5s
WHN Wuhan 24.85 253 ⇓P **P 15 40 34.0 +0.8**
WHN pmax pmax
comp=Z,46nm,0.8s
SSLB Suanglung 24.95 232 P **P 15 40 32.1 -2.1**
SSLB IAmb IAmb 15 40 41.0
comp=Z,15nm,0.6s
YULB Yu-li 25.06 230 P **P 15 40 32.4 -2.7**
TPUB Ta-pu 25.52 231 P **P 15 40 38.2 -1.1**
TPUB IAmb IAmb 15 41 01.2
comp=Z,39nm,1.3s
ULN Ulaanbaatar 25.57 296*c e*P **P 15 40 40.2 +0.4**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 25.57 296 P **P 15 40 38.7 -1.0**
ULN IAmb IAmb 15 40 41.9
comp=Z,18nm,0.8s
TWG Pinlang 25.63 230 P **P 15 40 41.0 +0.7**
TWG IAmb IAmb 15 40 54.4
comp=Z,19nm,0.7s
SONM Songino Array 26.01 296 P **P 15 40 43.7 -0.1**
comp=Z,21nm,0.7s,baz=85,slow=8.2,SNR=65
SONM LR LR 15 51 42.6
comp=Z,253nm,18.4s,baz=84,slow=38
SONM Songino Array 26.01 296 P **P 15 40 43.4 -0.4**
SONM pmax pmax
comp=Z,25nm,0.9s
SONM Songino Array 26.01 296 P **P 15 40 43.4 -0.4**
SONM IAmb IAmb 15 40 46.0
comp=Z,25nm,0.9s
KNMB Chin-men Tao 26.01 237 P **P 15 40 45.0 +1.3**
KNMB IAmb IAmb 15 40 49.3
comp=Z,60nm,1.0s
XAN Xi'an 27.14 265 P **P 15 40 52.9 -1.0**
TLY Talaya 28.03 305 P **P 15 41 01.6 -0.1**
comp=Z,11nm,0.7s,baz=97,slow=6.5,SNR=16
TLY LR LR 15 52 46.9
comp=Z,177nm,18.5s,baz=128,slow=38
TLY Talaya 28.03 305 *e*P **P 15 41 02.5 +0.8**
TLY *e*S **S 15 45 41.1 -0.8**
TLY pmax pmax
comp=Z,31nm,0.9s
TLY MLR MLR
comp=Z,389nm,16.0s
TLY Talaya 28.03 305 P **P 15 41 01.5 -0.1**
TLY IAmb IAmb 15 41 03.2
comp=Z,14nm,0.8s
ZAK Zakamensk 28.15 302 *e*P **P 15 41 02.6 -0.3**
ZAK *e* 15 41 19.0
ZAK pmax pmax
comp=Z,13nm,1.3s
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ENH Enshi 28.53 257 P **P 15 41 04.9 -1.5**
ENH IAmb IAmb 15 41 09.6
comp=Z,20nm,0.7s
KIWB Kanaga Island 29.47 55 P **P 15 41 14.3 -0.1**
BILL Bilibino 29.63 18 ⇑*i*P **P 15 41 15.3 -0.4**
BILL *i* 15 42 10.6
BILL *i* 15 44 18.1
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 29.63 18 P **P 15 41 15.3 -0.4**
MOY Mondy 29.67 304 *e*P **P 15 41 16.7 +0.3**
MOY pmax pmax
comp=Z,28nm,1.8s
LZH Lanzhou 30.13 272 ⇓P **P 15 41 20.3 -0.3**
LZH pmax pmax
comp=Z,17nm,1.2s
H11N2 WAKE ISLAND Hy 30.23 128 T T 16 13 54.5
baz=321,slow=75,SNR=1666
H11N1 WAKE ISLAND Hy 30.24 128 T T 16 13 54.7
baz=321,slow=75,SNR=1274
H11N3 WAKE ISLAND Hy 30.25 128 T T 16 13 55.3
baz=321,slow=75,SNR=681
TIXI Tiksi 30.96 352 LR LR 15 55 39.5
comp=Z,68nm,18.4s,baz=186,slow=40
TIXI Tiksi 30.96 352 P **P 15 41 24.5 -2.8**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 30.96 352 P **P 15 41 24.4 -2.8**
H11S1 WAKE ISLAND Hy 31.07 130 T T 16 15 00.0
baz=323,slow=76,SNR=738
H11S3 WAKE ISLAND Hy 31.08 130 T T 16 14 54.5
baz=323,slow=76,SNR=474
H11S2 WAKE ISLAND Hy 31.09 130 T T 16 14 53.0
baz=323,slow=76,SNR=399
GTA Gaotai 32.02 281 ⇑P **P 15 41 37.0 -0.2**
GTA pP pP 15 41 52.6 +1.0
GTA sP sP 15 42 01.3 +2.8
GTA PcP **PcP 15 44 27.3 +1.6**
GTA PcS **PcS 15 48 11.9 +1.3**
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,77nm,4.7s
GTA L L
comp=Z,95nm,17.5s
GTA L L
comp=Z,210nm,17.1s
GTA L L
comp=Z,220nm,17.1s
CD2 Chengdu 32.45 264 P **P 15 41 41.0 0.0**
CD2 pmax pmax
comp=Z,30nm,0.7s
GYA Guiyang 32.73 254 ⇓P **P 15 41 45.3 +1.8**
GYA sP sP 15 42 04.3 -0.4
GYA pmax pmax
comp=Z,4.0nm,1.3s
NIKH Nikolski High 34.58 54 P 15 42 00.7
baz=271
KMI Kunming 36.36 256 ⇓P **P 15 42 15.8 +0.8**
KMI pmax pmax
comp=Z,13nm,0.7s
TNA Tin City 36.77 32 P **P 15 42 18.0 +0.3**
TNA IAmb IAmb 15 42 41.8
comp=Z,17nm,1.0s
ANM Nome 37.58 34 P 15 42 25.2
baz=258
SLVN Son La 37.88 250 P **P 15 42 27.4 -0.4**
SLVN IAmb IAmb 15 42 31.8
comp=Z,16nm,0.7s
SDPT Sand Point 39.41 49 P 15 42 40.7
baz=274
ZAA0 Zalesovo Array 39.44 308 P **P 15 42 40.0 -0.4**
ZAA0 **PcP 15 44 47.4 +0.2**
ZALV Zalesovo Beam 39.44 308 P **P 15 42 41.0 +0.6**
comp=Z,30nm,0.6s,baz=88,slow=7.7,SNR=117
ZALV PcP **PcP 15 44 47.9 +0.7**
comp=Z,7.0nm,0.6s,baz=94,slow=2.6,SNR=7.0
ZALV LR LR 15 59 57.0
comp=Z,150nm,19.5s,baz=88,slow=38
ZALV Zalesovo Beam 39.44 308 P **P 15 42 40.2 -0.2**
ZALV **PcP 15 44 47.5 +0.3**
WMQ Urumqi 39.48 292 *e*P **P 15 42 42.3 +1.4**
WMQ pP pP 15 42 56.4 +0.8
WMQ sP sP 15 43 06.0 +3.7
WMQ pmax pmax
comp=Z,94nm,0.7s
WMQ pmax pmax
comp=Z,180nm,4.3s
WMQ L L
comp=Z,430nm,16.1s
WMQ L L
comp=Z,360nm,17.7s
NRIK Noril'sk 39.51 333 P **P 15 42 40.9 +0.2**
comp=Z,15nm,0.6s,baz=110,slow=8.4,SNR=18
NRIK LR LR 16 00 12.6
comp=Z,242nm,18.9s,baz=94,slow=38
NRIK Noril'sk 39.51 333*ce*P **P 15 42 40.5 -0.2**
NRIK pmax pmax
comp=Z,16nm,0.7s
NRIK Noril'sk 39.51 333 P **P 15 42 40.2 -0.5**
NRIK IAmb IAmb 15 42 41.5
comp=Z,17nm,0.7s
CHNA Chernabura Isl 39.96 50 P 15 42 45.7
baz=275
CNBA Chernabura Isl 39.96 50 P **P 15 42 43.4 -1.2**
CNBA IAmb IAmb 15 42 47.9
comp=Z,34nm,1.1s
ZSN Zaisan 40.48 298 *e*P **P 15 42 48.6 -0.5**
baz=298
ZSN Zaisan 40.48 298 *e*P **P 15 42 48.6 -0.5**
NONG Nongkai 40.60 247 P **P 15 42 51.8 +1.5**
comp=Z,3μmcomp=Z,42nm,0.7s
NONG Nongkai 40.60 247 P **P 15 42 51.0 +0.7**
comp=Z,3μmcomp=Z,42nm,0.7s
CRAI Chiangrai 41.11 252 P P 15 43 05.1 +11
CRAI Chiangrai 41.11 252 P P 15 43 05.2 +11
TTA Tatalina 41.52 37 P **P 15 42 58.7 +1.1**
TTA pmax pmax
comp=Z,12nm,1.0s
TTA Tatalina 41.52 37 P **P 15 42 58.6 +1.1**
TTA Tatalina 41.52 37 P 15 42 57.8
baz=269,SNR=16
N18K Kilae Creek 41.59 41 P 15 42 58.6
baz=272,SNR=7.2
SVW2 Sparrevohn 41.73 40 P **P 15 42 59.7 +0.5**
A21K Barrow 42.19 25 P 15 43 02.4
baz=259
N19K Bonanza Creek 42.28 41 P 15 43 04.9
baz=273
MK31 Makanchi Array 42.35 298 P **P 15 43 04.7 +0.3**
MK31 pmax pmax
comp=Z,27nm,0.9s
MK31 Makanchi Array 42.35 298 P **P 15 43 04.7 +0.3**
MK31 IAmb IAmb 15 43 09.3
comp=Z,27nm,0.8s
MKAR Makanchi Array 42.35 298 P **P 15 43 04.8 +0.4**
comp=Z,27nm,0.8s,baz=84,slow=12,SNR=153
MKAR PcP **PcP 15 44 57.0 +0.2**
comp=Z,1.6nm,0.4s,baz=72,slow=5.1,SNR=6.1
MKAR LR LR 16 01 49.4
comp=Z,111nm,19.1s,baz=118,slow=38
MKAR Makanchi Array 42.35 298 P **P 15 43 04.6 +0.2**
LSA Lhasa 42.51 271 P **P 15 43 06.6 +0.2**
LSA Lhasa 42.51 271 P **P 15 43 08.0 +1.6**
LSA Lhasa 42.51 271 P **P 15 43 06.6 +0.2**
LSA pmax pmax
comp=Z,28nm,1.3s
LSA Lhasa 42.51 271 P **P 15 43 06.6 +0.2**
LSA IAmb IAmb 15 43 09.3
comp=Z,28nm,1.3s
MAKZ Makanchi 42.55 298 P **P 15 43 06.4 +0.3**
MAKZ pmax pmax
comp=Z,35nm,0.8s
MAKZ Makanchi 42.55 298 P **P 15 43 06.4 +0.3**
SII Sitkinak Islan 42.81 47 P 15 43 09.3
baz=278
CM34 Chiang Mai Arr 42.88 251 P **P 15 43 12.0 +3.0**
CHAI Chaiyaphum 42.89 246 P **P 15 43 09.8 +0.7**
comp=Z,509nmcomp=Z,59nm,0.7s
CHAI Chaiyaphum 42.89 246 P **P 15 43 09.0 -0.1**
comp=Z,127nmcomp=Z,15nm,0.7s
H21K Melozitna Rive 42.98 33 P 15 43 10.3
baz=269,SNR=17
CM35 Chiang Mai Arr 42.99 251 P **P 15 43 11.0 +1.1**
CM33 Chiang Mai Arr 43.04 252 P **P 15 43 11.0 +0.7**
CMMT Chiang Mai 43.05 252 P **P 15 43 10.5 +0.2**
comp=Z,21nm,0.7s
CMMT Chiang Mai 43.05 252 P **P 15 43 10.6 +0.2**
comp=Z,21nm,0.7s
CHTO Chiang Mai 43.05 252 P **P 15 43 10.8 +0.5**
CHTO pmax pmax
comp=Z,14nm,0.7s
CHTO Chiang Mai 43.05 252 P **P 15 43 11.6 +1.2**
comp=Z,20nm,0.7s
CHTO Chiang Mai 43.05 252 P **P 15 43 10.8 +0.5**
CHTO IAmb IAmb 15 43 17.8
comp=Z,14nm,0.7s
PHIT Phitsanulok 43.09 249 P **P 15 43 12.1 +1.4**
comp=Z,46nm,0.8s
PHIT Phitsanulok 43.09 249 P **P 15 43 12.0 +1.4**
comp=Z,11nm,0.8s
CM36 Chiang Mai Arr 43.13 251 P **P 15 43 14.0 +2.9**
CHUM Lake Minchumin 43.19 36 P 15 43 12.9
baz=271,SNR=7.4
OHAK Old Harbor 43.21 46 P **P 15 43 11.4 +0.2**
OHAK IAmb IAmb 15 43 33.5
comp=Z,14nm,1.2s
OHAK Old Harbor 43.21 46 P 15 43 12.5
baz=278
CM32 Chiang Mai Arr 43.22 252 P **P 15 43 15.0 +3.2**
CM09 Chiang Mai Arr 43.26 251 P P 15 43 18.3 +6.2
comp=Z,10nm,0.7s
CM09 Chiang Mai Arr 43.26 251 P P 15 43 18.4 +6.3
comp=Z,10nm,0.7s

PPLA Purkeypile 43.27 38 P 15 43 13.4 +1.6
PPLA IAmb IAmb 15 43 16.8
comp=Z,14nm,1.0s
PPLA Purkeypile 43.27 38 P 15 43 13.4
baz=272,SNR=8.3
CM31 Chiang Mai Arr 43.28 251 P **P 15 43 15.8 +3.6**
comp=Z,218nm,0.6s
CM31 Chiang Mai Arr 43.28 251 P **P 15 43 12.9 +0.7**
CMAR Chiang Mai Arr 43.28 251 P **P 15 43 13.2 +0.9**
comp=Z,3.3nm,0.5s,baz=42,slow=7.6,SNR=26
CMAR PcP **PcP 15 45 01.4 +1.1**
comp=Z,2.2nm,0.7s,baz=2.9,slow=1.7,SNR=7.8
CMAR LR LR 16 01 16.7
comp=Z,94nm,18.3s,baz=288,slow=36
CMAR Chiang Mai Arr 43.28 251 P **P 15 43 12.9 +0.7**
CM04 Chiang Mai Arr 43.30 251 P **P 15 43 15.5 +3.1**
comp=Z,11nm,0.9s
CM04 Chiang Mai Arr 43.30 251 P **P 15 43 15.0 +2.6**
comp=Z,11nm,0.9s
CM02 Chiang Mai Arr 43.30 251 P **P 15 43 15.5 +3.1**
comp=Z,9.3nm,0.8s
CM02 Chiang Mai Arr 43.30 251 P **P 15 43 15.0 +2.6**
comp=Z,9.3nm,0.8s
CM15 Chiang Mai Arr 43.30 251 P **P 15 43 15.8 +3.4**
comp=Z,6.2nm,0.8s
CM15 Chiang Mai Arr 43.30 251 P **P 15 43 15.8 +3.4**
comp=Z,6.2nm,0.8s
CM05 Chiang Mai Arr 43.32 251 P **P 15 43 17.3 +4.8**
comp=Z,7.5nm,0.9s
CM05 Chiang Mai Arr 43.32 251 P P 15 43 17.4 +4.9
comp=Z,7.5nm,0.9s
I21K Tanana 43.32 34 P 15 43 12.9
baz=270,SNR=19
CM13 Chiang Mai Arr 43.33 251 P **P 15 43 15.7 +3.0**
comp=Z,82nmcomp=Z,6.9nm,0.9s
CM13 Chiang Mai Arr 43.33 251 P **P 15 43 15.0 +2.3**
comp=Z,82nmcomp=Z,6.9nm,0.9s
SPCR Spurr Chakacha 43.36 40 P 15 43 14.0
baz=274
KDAK Kodiak Island 43.51 45 P 15 43 13.7
baz=277
SKT Skwentna 43.63 39 P **P 15 43 15.1 +0.5**
SKT Skwentna 43.63 39 P 15 43 15.0
baz=274
BPAW Bear Paw Mtn. 43.77 36 P **P 15 43 16.6 +0.9**
BPAW IAmb IAmb 15 43 18.3
comp=Z,12nm,0.9s
BPAW Bear Paw Mtn. 43.77 36 P 15 43 16.6
baz=272,SNR=13
HOM Homer 43.78 42 P 15 43 16.8
baz=276
KURBB Kurchatov Arra 43.80 305 P **P 15 43 16.2 +0.1**
KTH Kantishna Hill 43.82 37 P **P 15 43 17.5 +1.4**
KTH IAmb IAmb 15 43 19.6
comp=Z,33nm,1.0s
MLY Manley 43.85 34 P **P 15 43 17.6 +1.3**
MLY IAmb IAmb 15 43 19.0
comp=Z,17nm,0.9s
MLY Manley 43.85 34 P 15 43 17.8
baz=271,SNR=36
CNPM China Poot 44.00 42 P **P 15 43 18.7 +1.1**
SUA Susitna One 44.04 40 P **P 15 43 20.2 +2.2**
SUA IAmb IAmb 15 43 21.4
comp=Z,10nm,0.8s
SUA Susitna One 44.04 40 P 15 43 18.7
baz=275
COLD Coldfoot 44.05 31 P **P 15 43 18.2 +0.4**
COLD Coldfoot 44.05 31 P 15 43 18.1
baz=270,SNR=12
TRF Thorofare Moun 44.11 37 P 15 43 19.3
baz=273
BRLK Bradley Lake 44.15 42 P 15 43 19.9 +1.2
CUT Chulitna 44.19 38 P 15 43 20.0
baz=274
SRAK Srakaew 44.19 244 P **P 15 43 18.5 -1.0**
comp=Z,198nm,0.9s
BRSE Bradley Lake S 44.22 42 P 15 43 19.9
baz=277
TOLK Toolik Lake Re 44.31 29 P **P 15 43 20.1 +0.1**
TOLK Toolik Lake Re 44.31 29 P 15 43 20.3
baz=269,SNR=5.6
H23K Yukon River 44.33 33 P 15 43 21.8
baz=272,SNR=37
I23K Minto, Yukon-K 44.43 34 P **P 15 43 21.8 +1.0**
I23K IAmb IAmb 15 43 23.5
comp=Z,17nm,1.1s
I23K Minto, Yukon-K 44.43 34 P 15 43 22.2
baz=272,SNR=19
BWN Browne 44.43 36 P **P 15 43 22.7 +1.8**
RC01 Rabbit Creek A 44.56 40 P **P 15 43 22.1 +0.1**
RC01 IAmb IAmb 15 43 23.6
comp=Z,10nm,0.8s
RC01 Rabbit Creek A 44.56 40 P 15 43 22.4
baz=276
NEA2 Nenana 44.58 35 P **P 15 43 23.0 +0.9**
NEA2 IAmb IAmb 15 43 24.5
comp=Z,30nm,0.9s
NEA2 Nenana 44.58 35 P 15 43 23.0
baz=273
MCK McKinley 44.69 36 P **P 15 43 23.2 +0.1**
MCK pmax pmax
comp=Z,16nm,1.1s
MCK McKinley 44.69 36 P **P 15 43 23.2 +0.1**
MCK IAmb IAmb 15 43 28.1
comp=Z,16nm,1.1s
MCK McKinley 44.69 36 P 15 43 23.6
baz=274,SNR=8.7
RND Reindeer 44.76 37 P **P 15 43 22.8 -0.8**
RND pmax pmax
comp=Z,16nm,1.1s
RND Reindeer 44.76 37 P **P 15 43 22.8 -0.8**
RND IAmb IAmb 15 43 26.1
comp=Z,16nm,1.1s
PMR Palmer 44.80 39 P **P 15 43 24.3 +0.5**
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 44.80 39 P **P 15 43 24.3 +0.5**
PMR Palmer 44.80 39 P 15 43 23.9
baz=276
SEW Seward 44.82 41 P **P 15 43 23.6 -0.4**
SEW Seward 44.82 41 P 15 43 25.8
baz=278
MDM Murphy Dome 44.91 34 P **P 15 43 25.6 +0.9**
MDM IAmb IAmb 15 43 27.3
comp=Z,25nm,0.9s
WRH Wood River Hil 45.01 35 P **P 15 43 26.1 +0.6**
WRH IAmb IAmb 15 43 40.2
comp=Z,12nm,0.8s
H24K Noodor Dome 45.01 33 P 15 43 27.3
baz=273,SNR=44
TCOL CIGO, UAF Yank 45.08 35 P **P 15 43 26.6 +0.6**
TCOL CIGO, UAF Yank 45.08 35 P 15 43 27.3
baz=274,SNR=6.6
COLA College 45.08 35 *c iP* **P 15 43 27.5 +1.5**
COLA pmax pmax
comp=Z,42nm,0.9s
COLA College 45.08 35 P **P 15 43 26.6 +0.6**
COLA College 45.08 35 P 15 43 27.4
baz=274
FAKI Fak Fak 45.09 194 P **P 15 43 27.3 +0.7**
FAKI IAmb IAmb 15 43 28.3
comp=Z,21nm,0.7s
CCB Clear Creek Bu 45.12 35 P **P 15 43 26.9 +0.6**
KNK Knik Glacier 45.14 39 P **P 15 43 27.4 +0.8**
KNK IAmb IAmb 15 43 33.5
comp=Z,18nm,1.1s
KNK Knik Glacier 45.14 39 P 15 43 27.0
baz=277
SML Sawmill 45.15 39 P **P 15 43 27.2 +0.5**
SML IAmb IAmb 15 43 29.6
comp=Z,13nm,0.7s
SML Sawmill 45.15 39 P 15 43 27.6
baz=277,SNR=11
POKR Poker Plat Res 45.24 34 P **P 15 43 28.2 +0.9**
POKR Poker Plat Res 45.24 34 P 15 43 29.1
baz=274,SNR=7.6
PWL Port Wells 45.27 40 P **P 15 43 28.5 +0.9**
PWL IAmb IAmb 15 43 50.6
comp=Z,14nm,1.2s
PDGK Podgornoye 45.30 294 P **P 15 43 28.2 -0.1**
WAT6 Susitna Watana 45.34 38 P 15 43 29.0
baz=276,SNR=7.4
SHLS Shalkode 45.38 294⇑ *i* P **P 15 43 26.9 -2.0**
comp=Z,7.8nm,0.4s,baz=294
SHLS Shalkode 45.38 294 *c i* P **P 15 43 26.8 -2.0**
SHLS pmax pmax
comp=Z,8.0nm,0.4s
IL31 45.50 35 P **P 15 43 30.2 +0.8**
IL31 IAmb IAmb 15 43 32.4
comp=Z,25nm,0.9s
ILAR Eielson Array 45.50 35 P **P 15 43 30.5 +1.1**
comp=Z,18nm,0.9s,baz=266,slow=5.8,SNR=93
ILAR Eielson Array 45.50 35 P **P 15 43 29.9 +0.5**
HDA Harding Lake 45.51 35 P **P 15 43 29.5 0.0**
HDA IAmb IAmb 15 43 31.0
comp=Z,26nm,1.2s
HDA Harding Lake 45.51 35 P 15 43 29.7
baz=275
HDA P 15 43 29.7
baz=275
SCM Sheep Creek Mo 45.62 39 P **P 15 43 31.3 +0.8**
SCM pmax pmax
comp=Z,13nm,0.8s
SCM Sheep Creek Mo 45.62 39 P **P 15 43 31.3 +0.8**
SCM IAmb IAmb 15 43 32.6
comp=Z,13nm,0.8s
UZB Uzunbulak 45.68 294⇑ *i* P **P 15 43 31.3 -0.1**
comp=Z,7.7nm,0.9s,baz=294
UZB Uzunbulak 45.68 294 *c i* P **P 15 43 31.2 -0.1**
UZB pmax pmax
comp=Z,8.0nm,0.9s
KPKS Kokpek 45.80 295⇑ *i* P **P 15 43 32.3 0.0**
comp=Z,4.4nm,0.4s,baz=295
KPKS Kokpek 45.80 295 *c i* P **P 15 43 32.2 0.0**
KPKS pmax pmax
comp=Z,4.0nm,0.4s
GLI Glacier Island 45.87 40 P **P 15 43 33.0 +0.6**
GLI IAmb IAmb 15 43 37.8
comp=Z,14nm,0.8s
GLI Glacier Island 45.87 40 P 15 43 32.9
baz=279
PRP Porcupine Dome 46.01 34 P **P 15 43 34.7 +1.1**
PRP Porcupine Dome 46.01 34 P 15 43 35.1
baz=276,SNR=42
FYU Fort Yukon 46.03 32 P **P 15 43 35.2 +1.7**
FYU IAmb IAmb 15 43 36.5
comp=Z,21nm,0.9s
M24K Tolsona, Glenn 46.13 38 P **P 15 43 36.1 +1.7**
M24K IAmb IAmb 15 43 40.5
comp=Z,15nm,0.8s
M24K Tolsona, Glenn 46.13 38 P 15 43 36.1
baz=278,SNR=5.9
SATY Saty 46.13 294⇑ *i* P **P 15 43 35.2 +0.3**
baz=294
SATY Saty 46.13 294 *c i* P **P 15 43 35.1 +0.3**
FID Port Fidalgo 46.19 40 P **P 15 43 35.8 +0.9**
FID IAmb IAmb 15 43 41.3
comp=Z,9.9nm,1.0s
BMAR Burnt Mountain 46.22 31 P **P 15 43 36.7 +1.6**
HIN Hinchinbrook I 46.23 41 P **P 15 43 35.9 +0.6**
HIN IAmb IAmb 15 43 36.9
comp=Z,17nm,1.0s
TAPN Taplejung 46.31 270 *e* P **P 15 43 37.6 +1.0**
comp=Z,54nm,0.7s
PAX Paxson 46.33 37 P **P 15 43 37.2 +1.2**
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 46.33 37 P **P 15 43 37.2 +1.2**
PAX Paxson 46.33 37 P 15 43 37.1
baz=278
KLU Klutina 46.34 39 P **P 15 43 37.1 +1.0**
KLU IAmb IAmb 15 43 42.2
comp=Z,14nm,0.9s
KLU Klutina 46.34 39 P 15 43 37.4
baz=279,SNR=11
HARP HAARP 46.55 38 P 15 43 39.4
baz=279,SNR=8.4
EYAK Cordova Ski Ar 46.58 40 P **P 15 43 38.8 +0.9**
EYAK IAmb IAmb 15 43 40.3
comp=Z,11nm,0.8s
EYAK Cordova Ski Ar 46.58 40 P 15 43 39.2
baz=280
ODAN Odare 46.81 270 *e* P **P 15 43 41.7 +1.2**
comp=Z,61nm,0.6s
SCRK Sand Creek 46.85 36 P **P 15 43 40.3 +0.2**
SCRK IAmb IAmb 15 43 41.8
comp=Z,20nm,1.1s
SCRK Sand Creek 46.85 36 P 15 43 40.5
baz=278,SNR=32
DOT Dot Lake 46.86 36 P **P 15 43 40.3 +0.2**
N25K Chitina, Valde 46.94 39 P **P 15 43 40.9 +0.1**
N25K Chitina, Valde 46.94 39 P 15 43 42.2
baz=280
MDOK Medeo 47.02 295 *i* P **P 15 43 42.5 +0.7**
baz=295
MDOK Medeo 47.02 295 *i* P **P 15 43 42.5 +0.7**
BMRM Bremner River 47.05 40 P **P 15 43 42.2 +0.5**
BMRM IAmb IAmb 15 43 54.1
comp=Z,18nm,1.0s
BMRM Bremner River 47.05 40 P 15 43 43.0
baz=281
MENT Mentasta 47.12 37 P **P 15 43 43.3 +1.1**
MENT IAmb IAmb 15 43 45.0
comp=Z,7.8nm,0.8s
KUU Kurty 47.24 296 *e* P **P 15 43 42.7 -0.7**
baz=296
KUU Kurty 47.24 296 *e* P **P 15 43 42.7 -0.7**
KDJ Kajisay 47.32 294 P **P 15 43 44.4 +0.2**
KDJ pmax pmax
comp=Z,17nm,0.6s
KDJ Kajisay 47.32 294 P **P 15 43 44.4 +0.2**
GLB Gilahina Butte 47.34 39 P **P 15 43 45.0 +1.0**
RAMN Ramite 47.36 270 *e* P **P 15 43 45.6 +0.8**
comp=Z,139nm,0.7s
BRZS Berezniki 47.59 305⇑ *i* P **P 15 43 46.1 +0.1**
comp=Z,11nm,0.4s,baz=305
BRZS Berezniki 47.59 305 *c i* P **P 15 43 46.1 +0.1**
BRZS pmax pmax
comp=Z,11nm,0.4s
MCARA McCarthy VSAT 47.73 39 P 15 43 48.3
baz=281
CRQE Cirque 47.82 40 P 15 43 49.3
baz=282
KKN Kakani 47.90 272 *e* P **P 15 43 49.9 +1.0**
comp=Z,111nm,0.7s
PKI Pulchoki 47.92 272 *e* P **P 15 43 49.5 +0.3**
comp=Z,35nm,0.5s
PKIN Phulchoki 47.93 272 *e* P **P 15 43 50.7 +1.5**
comp=Z,42nm,0.6s
EGAK Eagle 47.93 34 P **P 15 43 48.8 +0.5**
EGAK IAmb IAmb 15 43 51.1
comp=Z,16nm,1.1s
EGAK Eagle 47.94 34 P 15 43 49.1
baz=280,SNR=19
L27K Beaver Creek, 47.95 37 P **P 15 43 50.0 +1.4**
L27K IAmb IAmb 15 43 51.5
comp=Z,12nm,0.8s
L27K Beaver Creek, 47.95 37 P 15 43 50.6
baz=281,SNR=25
BCAR Beaver Creek A 47.97 37 P **P 15 43 50.2 +1.4**
BOOM Boomskoye usch 48.03 295 P **P 15 43 50.4 +0.7**
BOOM Boomskoye usch 48.03 295 P **P 15 43 50.4 +0.7**
TKM2 Tokmak 2 48.10 295 P **P 15 43 51.5 +1.2**
SNR=80
TKM2 Tokmak 2 48.10 295 P **P 15 43 50.8 +0.5**
BRVK Borovoye 48.12 310 *ce* P **P 15 43 50.4 +0.4**
BRVK pmax pmax
comp=Z,24nm,1.3s
BRVK Borovoye 48.12 310 P **P 15 43 50.2 +0.3**
BRVK IAmb IAmb 15 43 55.9
comp=Z,22nm,1.1s
DMN Daman 48.13 272 *e* P **P 15 43 51.1 +0.4**
comp=Z,70nm,0.8s
GKN Gorkha 48.27 273 *e* P **P 15 43 52.1 +0.4**
comp=Z,81nm,0.7s
BTLS Baital 48.36 298⇑ *i* P **P 15 43 51.8 -0.2**
comp=Z,4.4nm,0.5s,baz=298
BTLS Baital 48.36 298 *c i* P **P 15 43 51.7 -0.2**
BTLS pmax pmax
comp=Z,4.0nm,0.5s
GRNC Granite Creek 48.47 40 P **P 15 43 54.1 +1.3**
GRNC IAmb IAmb 15 44 17.4
comp=Z,12nm,1.1s
MESA MESA 48.50 40 P 15 43 54.3
baz=283
SGDS Sogindy 48.56 296 *e* P **P 15 43 53.7 0.0**
baz=296
SGDS Sogindy 48.56 296 *e* P **P 15 43 53.6 0.0**
YAH Yahtse 48.56 40 P **P 15 43 54.9 +1.4**
YAH IAmb IAmb 15 43 56.0
comp=Z,7.2nm,0.8s
CTG Chitna Glacier 48.61 39 P 15 43 55.3
baz=283
CTGM Chitina Glacie 48.62 39 P **P 15 43 55.2 +1.3**
CTGM IAmb IAmb 15 43 56.3
comp=Z,8.3nm,0.8s
KBK Karagaybulak 48.65 295 P **P 15 43 55.4 +1.0**
SNR=40
USP Ospenovka 48.71 296 P **P 15 43 55.4 +0.6**
SNR=12
DANN Dangsing 48.75 274 *e* P **P 15 43 56.5 +1.0**
comp=Z,444nm,0.6s
AAK Ala-Archa 48.96 295 P **P 15 43 57.5 +0.7**
SNR=9.5
AAK Ala-Archa 48.96 295 *i* P **P 15 43 57.3 +0.5**
SNR=9.8
AAK Ala-Archa 48.96 295 *c i* P **P 15 43 57.3 +0.5**
AAK pmax pmax
comp=Z,35nm,1.0s
AAK Ala-Archa 48.96 295 P **P 15 43 57.1 +0.2**
KOLN Koldanda 49.17 273 *e* P **P 15 43 59.4 +0.7**
comp=Z,75nm,0.8s
KSH Kashi 49.20 291 P **P 15 44 03.0 +4.4**
KSH S **S 15 51 02.3 +2.2**
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH pmax pmax
comp=Z,180nm,4.6s
KSH L L
comp=Z,240nm,6.9s
KSH L L
comp=Z,250nm,7.1s
KSH L L
comp=Z,130nm,6.2s
PINM Pinnacle 49.34 40 P 15 44 00.4
baz=285
EKS2 Erkin-Say 49.44 296 P **P 15 44 01.0 +0.6**
SNR=14
PYUN Piuthan 49.46 274 *e* P **P 15 44 01.8 +0.9**
comp=Z,99nm,0.5s
AML Almayashu 49.70 295 P **P 15 44 03.8 +1.1**
SNR=17
AML Almayashu 49.70 295 *i* P **P 15 44 03.9 +1.1**
SNR=17
INK Inuvik 50.22 29 P **P 15 44 06.8 +1.0**
INK pmax pmax
comp=Z,29nm,1.0s
INK Inuvik 50.22 29 P **P 15 44 06.8 +1.0**
INK Inuvik 50.22 29 P 15 44 07.0
baz=283,SNR=35
HYT Haines Junctio 50.46 39 P **P 15 44 10.0 +2.1**
ARSB Arslanbob 50.52 294 P **P 15 44 09.7 +1.0**
ARSB pmax pmax
comp=Z,61nm,0.8s
ARSB Arslanbob 50.52 294 P **P 15 44 09.7 +1.0**
DZA Taraz 50.99 297 *e* P **P 15 44 10.9 -1.2**
baz=297
DZA Taraz 50.99 297 *e* P **P 15 44 10.9 -1.2**
KK31 Karatay Array 51.46 297 P **P 15 44 15.7 +0.2**
KK31 pmax pmax
comp=Z,15nm,0.6s
KK31 Karatay Array 51.46 297 P **P 15 44 15.7 +0.2**
KKAR Karatay Array 51.46 297 P **P 15 44 15.7 +0.2**
KKAR Karatay Array 51.46 297 P **P 15 44 15.7 +0.2**
WHY Whitehorse 51.74 39 P **P 15 44 18.9 +1.4**
WHY Whitehorse 51.74 39 P 15 44 19.2
baz=288
SVE Sverdlovsk 52.23 317⇓ *e* P **P 15 44 22.0 +1.0**
SVE pmax pmax
comp=Z,26nm,0.9s
C36M Paulatuk 53.20 26 P **P 15 44 28.7 +0.8**
C36M Paulatuk 53.20 26 P 15 44 28.8
baz=291
GAR Garm 53.37 293 P **P 15 44 29.8 -0.1**
ARU Arti 53.44 317 *d i* P **P 15 44 30.2 +0.2**
ARU *PP **pP 15 44 46.8 +1.7**
ARU 15 45 36.2
ARU 15 46 28.3
ARU S **S 15 51 59.1 +1.3**
ARU SS **SS 15 55 35.6 -2.3**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU MLR MLR
comp=Z,197nm,17.0s
ARU Arti 53.44 317 P **P 15 44 30.1 +0.2**
ARU IAmb IAmb 15 44 31.4
comp=Z,14nm,0.9s
KIP Kipapa 53.78 93 P **P 15 44 33.3 +0.4**
KIP pmax pmax
comp=Z,158nm,1.5s
KIP Kipapa 53.78 93 P **P 15 44 33.3 +0.4**
NIL Nilore 53.83 286 P **P 15 44 33.4 +0.2**
NIL pmax pmax
comp=Z,35nm,1.0s
NIL Nilore 53.83 286 P **P 15 44 33.4 +0.2**
CHGR Chuyangaron 54.33 293 P **P 15 44 36.5 -0.4**
MTN Manton Dam 54.99 193 P **P 15 44 41.7 +0.1**
AB31 Akbulak array 55.55 308 P **P 15 44 45.3 0.0**
ABKAR Akbulak array 55.55 308 P **P 15 44 45.4 0.0**
HOPEN Hopen 55.87 345 *e* P **P 15 44 47.9 +0.7**
SPA0 Spitsbergen Ar 56.28 348 *e* P **P 15 44 50.5 +0.3**
KBS Kingsbay 56.38 350 *i* P **P 15 44 50.6 -0.2**
KBS IAmb IAmb 15 44 52.6
comp=Z,49nm,0.8s
KBS Kingsbay 56.38 350 *ce* P **P 15 44 51.7 +0.9**
KBS pmax pmax
comp=Z,23nm,0.8s
KBS Kingsbay 56.38 350 *e* P **P 15 44 52.0 +1.2**
KBS Kingsbay 56.38 350 P **P 15 44 51.5 +0.6**
KBL Kabul 56.41 289 P **P 15 44 51.5 -0.5**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 56.41 289 P **P 15 44 51.5 -0.5**
KBL IAmb IAmb 15 44 52.9
comp=Z,16nm,0.8s
GSI Gunungsitoli 56.59 237 P **P 15 44 53.6 +0.4**
NOR Nord 56.66 356⇑ *i* P **P 15 44 52.8 -0.1**
NOR IAmb IAmb 15 44 53.6
comp=Z,16nm,1.0s
NOR Nord 56.66 356⇑ *i* P **P 15 44 52.7 -0.1**
NOR pmax pmax
comp=Z,16nm,1.0s
UGM Wanagama 57.05 218 P **P 15 44 56.0 -0.4**
KIRV Kirov 57.07 321 *c i* P **P 15 44 56.2 +0.3**
HSPB Hornsund (broa 57.22 348 *e* P **P 15 44 57.1 +0.2**
HSPB Hornsund (broa 57.22 348 *e* P **P 15 44 57.6 +0.8**
PRGR Permogore 57.37 326 *e* P **P 15 44 56.6 -1.4**
PRGR pmax pmax
comp=Z,37nm,0.9s
RES Resolute Bay 58.18 15 P **P 15 45 03.6 +0.1**
RES pmax pmax
comp=Z,30nm,0.7s
RES Resolute Bay 58.18 15 P **P 15 45 03.6 +0.1**
KNRA Kununurra 58.19 195 P **P 15 45 04.8 +0.6**
LVZ Lovozero 58.30 335 P **P 15 45 05.0 +0.4**
LVZ pmax pmax
comp=Z,22nm,1.1s
LVZ Lovozero 58.30 335 P **P 15 45 05.0 +0.4**
HYB Hyderabad 58.94 266 *i* P **P 15 45 11.0 +1.3**
KEV Kevo 59.49 339 P **P 15 45 12.5 -0.2**
KEV pmax pmax
comp=Z,12nm,0.9s
KEV Kevo 59.49 339 P **P 15 45 12.5 -0.2**
KEV IAmb IAmb 15 45 13.8
comp=Z,12nm,0.9s
YKA Yellowknife Ar 59.73 32 P **P 15 45 14.8 +0.3**
comp=Z,2.6nm,0.8s,baz=304,slow=6.4,SNR=21
YKA LR LR 16 15 10.8
comp=Z,61nm,18.3s,baz=0.0,slow=40
HAMF Hammerfest 59.81 340 *e* P **P 15 45 15.2 +0.3**
ARA0 ARCESS Array S 60.04 339 *e* P **P 15 45 17.1 +0.6**
ARCES ARCESS Array B 60.04 339 P **P 15 45 16.5 0.0**
comp=Z,4.2nm,0.8s,baz=50,slow=7.9,SNR=21
ARCES LR LR 16 13 44.9
comp=Z,70nm,21.4s,baz=50,slow=38
ARCES ARCESS Array B 60.04 339 P **P 15 45 16.2 -0.3**
ARCES pmax pmax
comp=Z,19nm,1.5s
ARCES ARCESS Array B 60.04 339 P **P 15 45 16.2 -0.3**
ARCES IAmb IAmb 15 45 29.2
comp=Z,19nm,1.5s
KLMR Klimovskoe 60.31 327 *e* P **P 15 45 17.6 -0.9**
KLMR pmax pmax
comp=Z,26nm,1.3s
KLMR Klimovskoe 60.31 327 *e* P **P 15 45 17.7 -0.8**
KLMR AMP 15 45 19.6
comp=Z,26nm,1.3s

TULEG Thule 60.63 8 P P 15 45 19.5 -0.9
BELG Belogornoye 60.95 316 *c* iP P 15 45 23.4 +0.4
BELG pmax pmax
comp=Z,7.0nm,1.1s

KTK1 Kautokeino 61.00 339 *e*P P 15 45 23.4 +0.4
NEEM North Greenlan 61.07 3⇑ *i*P P 15 45 24.1 +0.4
NEEM IAmb IAmb 15 45 25.0
comp=Z,28nm,0.8s

FITZ Fitzroy Crossi 61.20 198 P P 15 45 25.1 +0.2
FITZ IAmb IAmb 15 45 40.8
comp=Z,10.0nm,1.4s

HRA Herat 61.29 292 P P 15 45 26.0 +0.2
HRA IAmb IAmb 15 45 27.5
comp=Z,14nm,0.9s

CTAO Charters Tower 61.37 176 P P 15 45 26.6 +0.5
CTAO pmax pmax
comp=Z,17nm,1.2s

CTAO Charters Tower 61.37 176 P P 15 45 26.6 +0.5
CTAO IAmb IAmb 15 45 47.8
comp=Z,17nm,1.2s

JETT Jettan, Norway 61.38 340 *e*P P 15 45 26.1 +0.4
DAG Danmarks Havn 61.40 355⇑ *i*P P 15 45 25.7 +0.1
DAG IAmb IAmb 15 45 26.5
comp=Z,17nm,0.9s

DAG Danmarks Havn 61.40 355⇑ *i*P P 15 45 25.7 +0.1
DAG pmax pmax
comp=Z,17nm,0.9s

WRAB Tennant Creek 61.52 188⇑ *i*P P 15 45 26.8 -0.3
WRAB pmax pmax
comp=Z,10.0nm,1.0s

WRAB Tennant Creek 61.52 188 P P 15 45 26.7 -0.4
WR0 Warramunga Arr 61.52 188 P P 15 45 26.6 -0.5
WB2 Warramunga Arr 61.53 188 P P 15 45 26.5 -0.6
WRA Warramunga Arr 61.53 188 P P 15 45 26.9 -0.3
comp=Z,4.9nm,0.4s,baz=6.4,slow=6.3,SNR=183

WRA Warramunga Arr 61.53 188 P P 15 45 26.2 -0.9
WRA pmax pmax
comp=Z,3.0nm,1.5s

WRA Warramunga Arr 61.53 188 P P 15 45 26.2 -0.9
TRO Tromso 61.70 341 *e*P P 15 45 28.3 +0.6
GEYT Alibeck 62.21 297 P P 15 45 32.1 +0.4
comp=Z,18nm,0.6s,baz=33,slow=5.7,SNR=24

GEYT LR LR 16 14 33.1
comp=Z,84nm,18.6s,baz=220,slow=38

GEYT Alibeck 62.21 297 P P 15 45 31.4 -0.4
GYA0B ALIBECK ARRAY 62.21 297 P P 15 45 31.3 -0.5
D03D Eldon 63.74 49 P 15 45 43.3
baz=304

STEI Steigen 63.86 340 *e*P P 15 45 42.1 0.0
MOS Moscow 64.03 322 *e*P P 15 45 43.1 -0.3
MOS *e* 15 46 04.9
MOS pmax pmax
comp=Z,36nm,0.7s

LOF Lofoten 64.13 341 *e*P P 15 45 43.5 -0.4
FAUS Fauske 64.26 340 *e*P P 15 45 45.1 +0.4
E04D Cinebar 64.58 50 P 15 45 48.7
baz=304

VRH Novokhopyorsk 64.68 317 *e*P P 15 45 47.5 -0.2
VRH pmax pmax
comp=Z,20nm,0.6s

OBN Obninsk 64.88 322 *c i*P P 15 45 48.9 -0.1
OBN *i* 15 46 04.2
OBN *i* 15 46 21.4
OBN pmax pmax
comp=Z,20nm,0.9s

FIA1 FINESS Array S 65.15 332 P P 15 45 50.4 -0.2
FINES FINESS Array B 65.15 332 P P 15 45 50.7 +0.1
comp=Z,22nm,0.7s,baz=53,slow=7.4,SNR=86

FINES LR LR 16 16 21.6
comp=Z,159nm,20.9s,baz=34,slow=38

FINES FINESS Array B 65.15 332 P P 15 45 50.2 -0.4
FINES FINESS Array B 65.15 332 P P 15 45 50.2 -0.4
AS31 Alice Springs 65.25 188 P P 15 45 51.6 -0.1
ASAR Alice Springs 65.25 188 P P 15 45 52.0 +0.3
comp=Z,4.2nm,0.8s,baz=2.9,slow=7.6,SNR=77

ASAR Alice Springs 65.25 188 P P 15 45 51.5 -0.2
LPSR Galich'ya Gora 65.26 319 *e*P P 15 45 51.5 0.0
LPSR pmax pmax
comp=Z,20nm,0.5s

UPNV Upernavik 65.33 6 *i*P P 15 45 51.9 +0.2
UPNV IAmb IAmb 15 45 52.4
comp=Z,16nm,1.0s

MOR8 Moi Rana 65.39 339 *e*P P 15 45 51.1 -1.1
MBWA Marble Bar 65.68 203 P P 15 45 54.4 0.0
H04A Detroit Lake 65.86 51 P P 15 45 56.0 +0.4
VSR Storozhevoye 65.97 318 *e*P P 15 45 56.2 +0.1
VSR pmax pmax
comp=Z,30nm,0.5s

PSA00 Pilbara Seismi 66.04 203 P P 15 45 57.3 +0.5
VORD Divnogorie 66.06 318 *e*P P 15 45 56.7 +0.1
VORD pmax pmax
comp=Z,30nm,1.0s

K02D Willamette Mer 66.12 54 P 15 45 59.0
baz=305

I04A Tendick Farm, 66.24 52 P 15 45 59.3
baz=305

SUMG Summit 66.25 0 *i*P P 15 45 59.2 +1.2
SUMG IAmb IAmb 15 45 60.0
comp=Z,23nm,0.8s

SUMG Summit 66.25 0 P P 15 45 58.5 +0.5
SUMG pmax pmax
comp=Z,24nm,0.8s

SUMG Summit 66.25 0 P P 15 45 58.5 +0.5
L02E Cave Junction 66.47 54 P 15 46 01.2
baz=305

MEF Metsahovi 66.59 331 *e*P P 15 46 00.3 +0.4
J04D Umpqua Nationa 66.74 52 P 15 46 02.7
baz=306

AKT Akhty 66.90 305 *e*P P 15 46 02.8 +0.4
AKT *e**PP **pP** 15 46 18.6 +0.6
AKT *e**SP **sP** 15 46 25.9 +1.4
AKT *e* 15 46 31.1
AKT pmax pmax
comp=Z,39nm,0.8s

VSU Vasula 66.91 329 *e*P P 15 46 02.6 +0.6
VSU Vasula 66.91 329 *c i*P P 15 46 02.0 0.0
VSU pmax pmax
comp=Z,50nm,0.7s

RAF Rauma 66.95 333 *e*P P 15 46 00.4 -1.8
PINE Pine Mountain 67.11 51 P P 15 46 03.9 +0.1
PINE IAmb IAmb 15 46 25.3
comp=Z,10nm,1.2s

L04D Klamath Falls 67.22 53 P 15 46 05.8
baz=306

NSS Namsos 67.32 339 *e*P P 15 46 04.9 +0.4
M02C Callahan 67.37 54 P 15 46 06.6
baz=306

GOF Gofitskoye 67.56 311⇑ *e*P P 15 46 07.4 +1.0
GOF pmax pmax
comp=Z,80nm,0.9s

N02D Trinity Center 67.70 55 P 15 46 09.1
baz=306

SCO Scoresbysund 67.75 354 *i*P P 15 46 07.1 0.0
SCO IAmb IAmb 15 46 08.2
comp=Z,7.6nm,0.9s

SCO Scoresbysund 67.75 354 P P 15 46 07.4 +0.3
SCO pmax pmax
comp=Z,8.0nm,0.9s

SCO Scoresbysund 67.75 354 P P 15 46 07.4 +0.3
SCO IAmb IAmb 15 46 08.5
comp=Z,7.7nm,0.9s

M04C Macdoel 67.75 53 P 15 46 09.0
baz=306

WDC Whiskeytown Da 68.03 55 P P 15 46 09.2 -0.2
WDC pmax pmax
comp=Z,8.0nm,1.2s

WDC Whiskeytown Da 68.03 55 P P 15 46 09.2 -0.2
WDC IAmb IAmb 15 46 34.7
comp=Z,8.1nm,1.1s

O02D Mt. Diablo Mer 68.12 55 P 15 46 11.9
baz=306

ZEI Tsey 68.42 308 *e*P P 15 46 10.6 -1.5
ZEI pmax pmax
comp=Z,10.0nm,0.6s

KIV Kislovodsk 68.43 310 ⇑P P 15 46 13.4 +1.5
KIV Kislovodsk 68.43 310 *i*P P 15 46 13.4 +1.5
SNR=9.5

KIV Kislovodsk 68.43 310 *e*P P 15 46 13.0 +1.1
KIV pmax pmax
comp=Z,224nm,1.1s

KIV MLR MLR
comp=Z,134nm,17.0s

KIV Kislovodsk 68.43 310 P P 15 46 12.8 +0.9
KBZ Khabaz 68.44 310 P P 15 46 13.0 +1.1
comp=Z,20nm,0.9s,baz=40,slow=4.5,SNR=41

KBZ Khabaz 68.44 310 *c e*P P 15 46 12.9 +1.1
KBZ pmax pmax
comp=Z,29nm,1.0s

BMO Blue Mountains 68.56 49 P P 15 46 12.9 +0.1
BMO pmax pmax
comp=Z,4.0nm,1.2s

BMO Blue Mountains 68.56 49 P P 15 46 12.9 +0.1
O03E Paynes Creek 68.66 55 P 15 46 14.5
baz=307

ONI Oni 68.81 308 P P 15 46 15.6 +1.3
ONI pmax pmax
comp=Z,21nm,1.2s

ONI Oni 68.81 308 P P 15 46 15.6 +1.3
ONI IAmb IAmb 15 46 17.9
comp=Z,21nm,1.2s

IDID Didziasalis 69.06 326 *e*P P 15 46 16.6 +1.1
ISAL Salakas 69.14 327 *e*P P 15 46 17.2 +1.2
SLIT Slitere, Latvi 69.19 330 *e*P P 15 46 16.4 +0.1
MSO Missoula 69.20 45 P 15 46 17.2
baz=309

ILULI Ilulissat 69.20 5 *i*P P 15 46 16.5 +0.4
ILULI Ilulissat 69.20 5 P P 15 46 15.9 -0.2
ILULI pmax pmax
comp=Z,16nm,0.8s

ILULI Ilulissat 69.20 5 P P 15 46 15.9 -0.2
ILULI IAmb IAmb 15 46 17.3
comp=Z,16nm,0.8s

IIGN Ignalina 69.25 327 *e*P P 15 46 17.6 +1.0
ORV Oroville 69.29 55 P P 15 46 16.8 -0.4
ORV pmax pmax
comp=Z,4.0nm,0.9s

ORV Oroville 69.29 55 P P 15 46 16.8 -0.4
AKH Akhalkalaki 69.50 307 ⇓P P 15 46 20.0 +1.3
GNI Garni 69.51 306 ⇑ *i*P P 15 46 20.4 +1.6
GNI pmax pmax
comp=Z,29nm,1.6s

CHVG Ch'k'valeri 69.53 309 ⇑P P 15 46 20.0 +1.3
ICESG Greenland Ices 69.75 1⇑ *i*P P 15 46 20.9 +0.9
ICESG IAmb IAmb 15 46 21.6
comp=Z,36nm,0.6s

BEKR Beckworth 69.80 54 P P 15 46 20.5 -0.1
BEKR IAmb IAmb 15 46 41.5
comp=Z,8.4nm,1.0s

FCC Fort Churchill 69.81 27 P P 15 46 20.1 +0.1
FCC pmax pmax
comp=Z,14nm,1.4s

FCC Fort Churchill 69.81 27 P P 15 46 20.1 +0.1
FCC IAmb IAmb 15 46 21.8
comp=Z,14nm,1.4s

PABE Paberze 70.06 328 *e*P P 15 46 22.4 +0.8
PABE Paberze 70.06 328 P P 15 46 21.3 -0.3
MOL Molde 70.08 339 *e*P P 15 46 21.6 0.0
NC405 NORSAR Array S 70.10 337 P P 15 46 21.8 0.0
DOMB Dombas 70.11 339 *e*P P 15 46 22.1 +0.2
NC303 NORSAR Array S 70.11 337 P P 15 46 21.8 -0.2
NC303 IAmb IAmb 15 46 22.6
comp=Z,16nm,1.1s

NC204 NORSAR Array S 70.25 337 P P 15 46 22.9 +0.1
NB201 NORSAR Array S 70.27 337 P P 15 46 22.8 -0.2
NB2 NORSAR Subarra 70.30 337 P P 15 46 23.0 -0.1
baz=35,slow=6.5

NOA NORSAR Array B 70.30 337 P P 15 46 23.2 +0.1
comp=Z,6.2nm,0.6s,baz=36,slow=6.2,SNR=46

NOA LR LR 16 20 03.5
comp=Z,70nm,21.9s,baz=30,slow=38

BANOM Banah 70.34 288 *i*P P 15 46 24.6 +0.7
SNR=7.2

SOC Sochi 70.35 311 *e*P P 15 46 23.5 -0.2
SOC *e* 15 48 57.9
SOC *e*S **S** 15 55 32.4 +0.9
SOC *e*SS **SS** 16 00 05.6 +3.4
SOC pmax pmax
comp=Z,26nm,0.8s

SOC MLR MLR
comp=Z,46nm,19.0s

SHME Shamm 70.38 288 *i*P P 15 46 24.6 +0.5
SNR=8.2

NBO00 NORSAR Array S 70.44 337 P P 15 46 23.8 -0.1
NC602 NORSAR Array S 70.45 337 *e*P P 15 46 23.6 -0.3
NC602 NORSAR Array S 70.45 337 P P 15 46 23.4 -0.5
NC602 IAmb IAmb 15 46 50.8
comp=Z,19nm,1.3s

PAHR Pah Rah Range 70.49 54 P P 15 46 25.4 +0.6
NAO01 NORSAR Array S 70.56 337 P P 15 46 24.5 -0.1
NAO01 IAmb IAmb 15 46 25.1
comp=Z,24nm,1.1s

EGMT Eagleton 70.62 43 P 15 46 26.0
baz=311

MDH Madha 70.72 287 P P 15 46 26.3 +0.2
MSFE Esma-Masafi 70.78 287 *i*P P 15 46 27.3 +0.7
SNR=6.3

DLMT Dillon 70.85 46 P P 15 46 27.6 +0.7
ANN Anapa 70.86 313 *e*P P 15 46 26.3 -0.4
ANN *e**PP **pP** 15 46 42.7 +0.2
ANN *e*S **S** 15 55 36.6 -0.7
ANN pmax pmax
comp=Z,59nm,0.8s

HLID Hailey 70.99 48 P P 15 46 28.5 +0.7
HLID Hailey 71.00 48 P 15 46 29.2
baz=310

UOSS Minazif 71.00 287 *i*P P 15 46 28.4 +0.4
SNR=8.8

UOSS Minazif 71.00 287 P P 15 46 28.1 +0.2
YERR Yerington 71.02 55 P P 15 46 28.8 +0.7
YERR IAmb IAmb 15 46 30.4
comp=Z,8.6nm,0.9s

MCMT McKenzie Canyo 71.05 47 P P 15 46 28.5 +0.2
BCYI Bear Canyon 71.08 47 P P 15 46 28.4 0.0
HATD Hatta, Dubai 71.12 287 *i*P P 15 46 29.4 +0.7
SNR=13

AKASG Malin Array Be 71.13 322 P P 15 46 28.3 +0.1
comp=Z,17nm,0.5s,baz=44,slow=6.0,SNR=99

AKASG LR LR 16 20 27.2
comp=Z,56nm,19.0s,baz=295,slow=38

AKASG Malin Array Be 71.13 322 P P 15 46 28.1 -0.1
AKASG pmax pmax
comp=Z,17nm,0.7s

AKASG Malin Array Be 71.13 322 P P 15 46 28.1 -0.1
AKASG IAmb IAmb 15 46 29.2
comp=Z,17nm,0.7s

AKBB Malin Array Si 71.13 322 *c i*P P 15 46 28.3 +0.1
AKBB pmax pmax
comp=Z,20nm,0.7s

AKBB Malin Array Si 71.13 322 P P 15 46 27.7 -0.5
WAKR Walker 71.20 55 P P 15 46 29.9 +0.7
SOHO SOHO 71.25 286 *i*P P 15 46 29.9 +0.4
SNR=6.5

ASHO Ashiyiah 71.26 287 *i*P P 15 46 30.0 +0.5
SNR=6.2

OSL Oslo 71.34 336 *e*P P 15 46 29.9 +0.6
SFJD Kangerlussuaq 71.42 5 *i*P P 15 46 29.9 +0.2
SFJD IAmb IAmb 15 46 31.2
comp=Z,6.6nm,0.8s

SFJD Kangerlussuaq 71.42 5 *i*P P 15 46 29.9 +0.2
SFJD pmax pmax
comp=Z,7.0nm,0.8s

SFJD Kangerlussuaq 71.42 5 P P 15 46 29.9 +0.2
SFJD IAmb IAmb 15 46 30.6
comp=Z,11nm,0.7s

SKAR Skarslia 71.43 338 *e*P P 15 46 30.4 +0.4
KVN Kaiserville 71.68 54 P P 15 46 32.9 +0.8
KVN pmax pmax
comp=Z,6.0nm,0.8s

KVN Kaiserville 71.68 54 P P 15 46 32.9 +0.8
ALNE Al Ain 71.87 286 *i*P P 15 46 33.8 +0.6
SNR=8.3

KONO Kongsberg 71.91 337 P P 15 46 32.7 -0.1
KONO pmax pmax
comp=Z,14nm,1.1s

KONO Kongsberg 71.91 337 *e*P P 15 46 33.2 +0.5
KONO Kongsberg 71.91 337 P P 15 46 32.7 -0.1
KONO IAmb IAmb 15 46 34.0
comp=Z,14nm,1.1s

LHV Little Huntoon 71.93 55 P P 15 46 34.8 +1.5
LHV IAmb IAmb 15 46 36.3
comp=Z,8.5nm,0.9s

NVAR Mina Array Bea 71.94 55 P P 15 46 35.0 +1.4
comp=Z,3.0nm,0.7s,baz=295,slow=6.0,SNR=32

NVAR Mina Array Bea 71.94 55 P P 15 46 34.5 +0.8
KTUT Trabzon 71.96 309 P P 15 46 34.7 +1.2
NV11 Mina Array Sit 72.03 54 P P 15 46 35.1 +0.9
GURO Guroymak-BITLI 72.15 306 P P 15 46 35.3 +0.5
GURO IAmb IAmb 15 46 37.4
comp=Z,22nm,0.9s

YHH Holmes Hill 72.16 46 P P 15 46 34.4 -0.6
DY2G Dye2 72.19 4⇑ *i*P P 15 46 35.3 +0.6
DY2G IAmb IAmb 15 46 36.1
comp=Z,47nm,0.7s

ELK Elko 72.31 51 P P 15 46 36.4 +0.5
ELK pmax pmax
comp=Z,1.0nm,0.9s

ELK Elko 72.31 51 P P 15 46 36.4 +0.5
H17A Grant Village 72.57 46 P 15 46 39.4
baz=311

RLMT Red Lodge 72.78 45 P P 15 46 39.1 +0.5
RLMT Red Lodge 72.78 45 P 15 46 39.4
baz=312

STKA Stephens Creek 72.99 180 P P 15 46 40.5 +1.0
comp=Z,4.3nm,0.9s,baz=359,slow=10,SNR=3.5

STKA Stephens Creek 72.99 180 P P 15 46 40.5 +1.0
HVU Hansel Valley 73.06 49 P P 15 46 41.0 +0.8
HVU pmax pmax
comp=Z,5.0nm,0.9s

HVU Hansel Valley 73.06 49 P P 15 46 41.0 +0.8
ISOG Isortoq, Green 73.31 0 *i*P P 15 46 40.9 -0.1
ISOG IAmb IAmb 15 46 41.7
comp=Z,21nm,1.0s

SORM Soroca 73.31 320 ⇑P P 15 46 41.4 +0.1
BORG Borgarnes 73.32 353 P P 15 46 43.2 +2.2
BORG pmax pmax
comp=Z,14nm,0.9s

BORG Borgarnes 73.32 353 P P 15 46 43.2 +2.2
BORG IAmb IAmb 15 46 44.1
comp=Z,14nm,0.9s

GRAC Grapevine Rang 73.42 55 P 15 46 43.5
baz=310

R11A Troy Canyon, C 73.64 53 P P 15 46 44.6 +0.9
R11A Troy Canyon, C 73.64 53 P 15 46 44.4
baz=310

SNOP Sinop 73.90 312 P P 15 46 45.0 +0.1
MPMC Manual Prospec 73.94 56 P 15 46 46.3
baz=310

FURC Furnace Creek, 74.07 55 P 15 46 47.2
baz=310

DUG Dugway, Tooele 74.08 50 P P 15 46 47.0 +0.8
DUG pmax pmax
comp=Z,7.0nm,1.2s

DUG Dugway, Tooele 74.08 50 P P 15 46 47.0 +0.8
DUG Dugway, Tooele 74.08 50 P 15 46 47.0
baz=311

UMR Umm Al-Rimmam 74.11 295 *e*P P 15 46 45.3 -1.0
DIKM Dikmen 74.11 312 ⇓P P 15 46 47.5 +1.4
NUUK Nuuk 74.12 6 *i*P P 15 46 46.8 +1.1
NUUK IAmb IAmb 15 46 47.3
comp=Z,30nm,0.8s

BBOO Buckleboo 74.13 185 P P 15 46 47.1 +1.1
BBOO IAmb IAmb 15 46 59.4
comp=Z,30nm,1.2s

TPNV Topopah Spring 74.14 55 P P 15 46 47.5 +0.9
TPNV pmax pmax
comp=Z,5.0nm,0.9s

TPNV Topopah Spring 74.14 55 P P 15 46 47.5 +0.9
TPNV Topopah Spring 74.14 55 P 15 46 47.8
baz=310

BW06 Boulder Array 74.20 47 P P 15 46 47.2 +0.2
PD31 Pinedale Array 74.20 47 P P 15 46 47.1 +0.1
PDAR Pinedale Array 74.20 47 P P 15 46 47.6 +0.7
comp=Z,3.2nm,0.7s,baz=272,slow=2.7,SNR=23

PDAR Pinedale Array 74.20 47 P P 15 46 46.8 -0.1
BW06 Boulder Array 74.20 47 P 15 46 47.5
baz=312

MIB Mutribah 74.21 296 *e*P P 15 46 46.7 -0.2
EDW2 Edwards Air Fo 74.38 57 P 15 46 49.0
baz=310

QRN Al-Qurain 74.48 295 *e*P P 15 46 48.2 -0.3
PRN Pahroc Range 74.57 54 P P 15 46 50.1 +1.0
BZK Bozkurt 74.61 313 ⇑P P 15 46 50.1 +1.1
BZK Bozkurt 74.61 313 P P 15 46 49.8 +0.8
RDF Al-Radifah 74.62 295 *e*P P 15 46 48.9 -0.4
NLU North Lily Min 74.66 50 P P 15 46 50.0 +0.3
KWP Kalwaria Pacla 74.84 324 *e*P P 15 46 51.5 +1.2
KWP Kalwaria Pacla 74.84 324 P P 15 46 51.1 +0.8
KWP pmax pmax
comp=Z,608nm,1.4s

KWP Kalwaria Pacla 74.84 324 P P 15 46 51.1 +0.8
BFSC Mount Baldy Ra 75.00 58 P 15 46 52.1
baz=310

SHPR Sheep Range 75.09 54 P P 15 46 53.2 +1.1
BUR01 Bucovina Ar. S 75.17 321 ⇑P P 15 46 53.3 +1.1
BURAR Bucovina Array 75.17 321 P P 15 46 52.8 +0.5
BURAR IAmb IAmb 15 46 54.3
comp=Z,14nm,0.8s

BIZ Bicaz 75.23 320 ⇑P P 15 46 53.8 +1.2
TESR Tescani 75.28 320 ⇑P P 15 46 53.5 +0.7
ILGA Ilgaz 75.38 312 P P 15 46 54.9 +1.1
JURR Jurilovca 75.40 317 ⇑P P 15 46 54.7 +1.2
HEC Hector,Ludlow 75.45 56 P 15 46 55.1
baz=311

CFR Carcaliu 75.49 318 ⇑P P 15 46 54.7 +0.7
KOLS Kolonicke sedl 75.55 324 *e*P P 15 46 55.2 +0.9
KOLS Kolonicke sedl 75.55 324 *e*P P 15 46 55.2 +0.9
TPGR Topolog 75.57 318 ⇑P P 15 46 55.5 +0.9
BNN Bunyan 75.64 309 P P 15 46 55.0 -0.2
OJC Ojcow 75.66 326 *e*P P 15 46 55.9 +0.9
OJC Ojcow 75.66 326 P P 15 46 54.9 0.0
OJC pmax pmax
comp=Z,28nm,0.8s

OJC Ojcow 75.66 326 P P 15 46 54.9 0.0
RDMU Red Mountain 75.68 48 P P 15 46 56.1 +0.6
RDMU IAmb IAmb 15 47 20.5
comp=Z,15nm,0.8s

VRI Vrincioaia 75.70 319 ⇑P P 15 46 56.5 +1.3
PLOR Plostina 75.75 319 ⇓P P 15 46 57.1 +1.5
P17A Butcher Ranch, 75.75 50 P P 15 46 56.3 +0.4
UZH Uzhgorod 75.76 324 *e*P P 15 46 56.0 +0.5
TIRR Tirgusor 75.86 317 ⇓P P 15 46 56.7 +0.6
GMRC Granite Mounta 75.91 56 P 15 46 57.5
baz=311

K22A Casper 75.92 45 P 15 46 57.1
baz=314

CRVS Cervenica-Dubn 75.93 324 *e*P P 15 46 57.4 +0.9
CRVS pmax pmax
comp=Z,12nm,0.9s

CRVS Cervenica-Dubn 75.93 324 *e*P P 15 46 57.3 +0.8
HARR Harsova 75.94 318 ⇑P P 15 46 57.6 +1.0
GAZ Gaziantep 75.95 307 P P 15 46 57.3 +0.3
GAZ IAmb IAmb 15 46 58.7
comp=Z,19nm,0.9s

TLBR Topalu 75.98 318 P P 15 46 57.9 +1.1
OZUR 75.99 320 ⇑P P 15 46 58.4 +1.4
PFO Pinyon Flats O 76.17 57 P 15 46 59.1
baz=311

TPFO Pinon Flats 76.17 57 P 15 46 59.1
baz=311

RSSD Black Hills 76.19 43 P 15 46 58.3
baz=315

BELC Belle Mtn. Jos 76.20 57 P 15 46 58.5
baz=311

DOPR Dopca 76.28 320 ⇑P P 15 46 59.6 +1.1
BR131 Keskin Array S 76.32 311 P P 15 46 59.2 +0.1
BR131 pmax pmax
comp=Z,14nm,0.8s

BR131 Keskin Array S 76.32 311 P P 15 46 59.2 +0.1
BR131 IAmb IAmb 15 47 00.8
comp=Z,14nm,0.8s

BRTR Keskin Array B 76.32 311 P P 15 46 59.9 +0.8
comp=Z,7.5nm,0.7s,baz=68,slow=3.9,SNR=27

BRTR PP **PP** 15 49 50.3 -0.2
comp=Z,1.0nm,0.7s,baz=81,slow=9.4,SNR=4.7

BRTR Keskin Array B 76.32 311 P P 15 46 59.1 0.0
BRTR 15 49 50.3
BRTR Keskin Array B 76.32 311 P P 15 46 59.1 0.0
ISR Istrita 76.32 319 ⇑P P 15 47 00.5 +1.6
MLR Muntele Rosu 76.35 319 ⇑P P 15 46 59.7 +0.6
MLR Muntele Rosu 76.35 319 P P 15 46 59.4 +0.3
MLR pmax pmax
comp=Z,13nm,1.2s

MLR Muntele Rosu 76.35 319 P P 15 46 59.4 +0.3
MLR IAmb IAmb 15 47 01.9
comp=Z,12nm,1.2s

LANS Liptovska Anna 76.61 325 *e*P P 15 47 02.1 +1.7
LANS pmax pmax
comp=Z,7.0nm,0.9s

LANS Liptovska Anna 76.61 325 *e*P P 15 47 02.1 +1.7
KSP Ksiaz 76.61 328 *e*P P 15 47 01.3 +1.0
IRM Iron Mountain 76.64 56 P 15 47 01.5
baz=311

ANTO Ankara 76.70 312 P P 15 47 01.4 +0.3

ANTO					pmax	pmax			
	comp=Z,30nm,0.8s								
ANTO	**Ankara**	**76.70**	**312**		P	**P**	**15 47 01.4**	**+0.3**
O20A	**White River Ci**	**76.72**	**48**		P	**P**	**15 47 01.1**	**-0.2**
O20A					IAmb	IAmb	15 47 03.0		
	comp=Z,8.5nm,1.2s								
O20A	**White River Ci**	**76.72**	**48**		P		15 47 01.1		
	baz=314								
BC3	**Big Chuckawall**	**76.77**	**57**		P		15 47 02.0		
	baz=311								
VOIR		**76.82**	**320**	⇓	P	**P**	**15 47 02.9**	**+1.2**
OSTC	**Ostas**	**76.87**	**328**		*e*P	**P**	**15 47 03.1**	**+1.3**
CHVC	**Chvalec**	**76.91**	**328**		*e*P	**P**	**15 47 03.3**	**+1.3**
MORC	**Moravsky Berou**	**76.93**	**327**	⇑	P	**P**	**15 47 03.3**	**+1.1**
MORC	**Moravsky Berou**	**76.93**	**327**		*e*P	**P**	**15 47 03.1**	**+0.9**
MORC	**Moravsky Berou**	**76.93**	**327**		P	**P**	**15 47 01.8**	**-0.5**
MORC					pmax	pmax			
	comp=Z,17nm,0.9s								
MORC	**Moravsky Berou**	**76.93**	**327**		P	**P**	**15 47 01.8**	**-0.5**
MORC					IAmb	IAmb	15 47 04.3		
	comp=Z,17nm,0.9s								
DRGR		**76.94**	**322**	⇑	P	**P**	**15 47 03.3**	**+1.0**
DPC	**Dobruska-Polom**	**76.98**	**328**		*e*P	**P**	**15 47 04.1**	**+1.6**
DPC	**Dobruska-Polom**	**76.98**	**328**		*e*P	**P**	**15 47 04.1**	**+1.6**
KRLC	**Kraliky**	**77.01**	**327**		*e*P	**P**	**15 47 03.9**	**+1.2**
KRLC	**Kraliky**	**77.01**	**327**		*e*P	**P**	**15 47 03.9**	**+1.2**
SWSC	**Sam W. Stewart**	**77.02**	**58**		P		15 47 03.3		
	baz=311								
ARR	**Arges**	**77.08**	**320**	⇑	P	**P**	**15 47 04.1**	**+1.0**
PDMCI	**Parker Dam,Lak**	**77.17**	**56**		P		15 47 04.5		
	baz=312								
PSZ	**Piszkesteto**	**77.36**	**324**	⇑	P	**P**	**15 47 06.1**	**+1.4**
PSZ	**Piszkesteto**	**77.36**	**324**		P	**P**	**15 47 05.5**	**+0.8**
PSZ					pmax	pmax			
	comp=Z,12nm,0.9s								
PSZ	**Piszkesteto**	**77.36**	**324**		P	**P**	**15 47 05.5**	**+0.8**
PSZ					IAmb	IAmb	15 47 06.9		
	comp=Z,12nm,0.9s								
N23A	**Red Feather La**	**77.45**	**46**		P		15 47 05.5		
	baz=315								
PV14	**Lion Creek, Pa**	**77.48**	**50**		P	**P**	**15 47 06.2**	**+0.4**
PV14					IAmb	IAmb	15 47 30.3		
	comp=Z,8.2nm,1.0s								
PV22	**Blue Mesa, Par**	**77.50**	**49**		P	**P**	**15 47 05.6**	**-0.2**
PV22					IAmb	IAmb	15 47 30.8		
	comp=Z,7.4nm,0.9s								
CLL	**Collm**	**77.51**	**330**	*i*	P	**P**	**15 47 05.1**	**-0.3**
	comp=Z,14nm,0.9s								
CLL					*e*pP	**pP**	**15 47 20.0**	**-1.3**
CLL					*i*		15 47 24.7		
CLL					LmV		16 23 00.0		
	comp=Z,100nm,20.4s								
CLL	**Collm**	**77.51**	**330**		P	**P**	**15 47 04.9**	**-0.4**
CLL					pmax	pmax			
	comp=Z,14nm,0.9s								
CLL	**Collm**	**77.51**	**330**		P	**P**	**15 47 04.9**	**-0.4**
CLL					IAmb	IAmb	15 47 06.7		
	comp=Z,14nm,0.9s								
PVCC	**Panska Ves**	**77.54**	**329**		*e*P	**P**	**15 47 06.8**	**+1.3**
PVCC	**Panska Ves**	**77.54**	**329**		*e*P	**P**	**15 47 06.8**	**+1.3**
PV17	**East Wray Mesa**	**77.58**	**50**		P	**P**	**15 47 06.5**	**+0.2**
PV17					IAmb	IAmb	15 47 31.3		
	comp=Z,10nm,0.9s								
JAVC	**Velka Javorina**	**77.59**	**326**		*e*P	**P**	**15 47 07.8**	**+1.9**
VRAC	**Vranov**	**77.69**	**327**	⇑	P	**P**	**15 47 07.6**	**+1.2**
VRAC	**Vranov**	**77.69**	**327**		*e*P	**P**	**15 47 07.3**	**+0.9**
SIRR	**Siria**	**77.81**	**322**	⇓	P	**P**	**15 47 08.3**	**+1.2**
GZR	**Gura Zlata**	**77.94**	**321**	⇑	P	**P**	**15 47 08.9**	**+0.9**
SMOL	**Smolenice**	**77.96**	**326**		*e*P	**P**	**15 47 09.5**	**+1.6**
SMOL					pmax	pmax			
	comp=Z,7.0nm,1.1s								
SMOL	**Smolenice**	**77.96**	**326**		*e*P	**P**	**15 47 09.5**	**+1.6**
KRUC	**Moravsky**	**77.96**	**327**		*e*P	**P**	**15 47 08.8**	**+0.9**
PRU	**Pruhonice**	**77.98**	**328**		*e*P	**P**	**15 47 09.3**	**+1.3**
PRU					*e*		15 47 15.0		
PRU	**Pruhonice**	**77.98**	**328**		*e*P	**P**	**15 47 09.3**	**+1.3**
PRU					*ex*	x	15 47 15.0		
WUAZ	**Wupatki**	**78.04**	**53**		P	**P**	**15 47 08.9**	**+0.1**
WUAZ	**Wupatki**	**78.04**	**53**		P		15 47 08.7		
	baz=313								
SRO	**Srobarova**	**78.12**	**325**		*e*P	**P**	**15 47 10.7**	**+1.9**
SRO					pmax	pmax			
	comp=Z,22nm,0.9s								
SRO	**Srobarova**	**78.12**	**325**		*e*P	**P**	**15 47 10.7**	**+1.9**
SRO2	**Moca**	**78.13**	**325**		*e*P	**P**	**15 47 09.8**	**+1.0**
SRO2					pmax	pmax			
	comp=Z,13nm,0.8s								
SRO2	**Moca**	**78.13**	**325**		*e*P	**P**	**15 47 09.8**	**+1.0**
MODS	**Modra-Piesok**	**78.13**	**326**		*e*P	**P**	**15 47 09.4**	**+0.5**
MODS					pmax	pmax			
	comp=Z,12nm,1.0s								
MODS	**Modra-Piesok**	**78.13**	**326**		*e*P	**P**	**15 47 09.4**	**+0.5**
BZS	**Buzias**	**78.32**	**322**	⇑	P	**P**	**15 47 11.1**	**+1.2**
ISCO	**Idaho Springs**	**78.40**	**47**		P		15 47 11.5		
	baz=315								
HERR	**Herculane**	**78.49**	**321**	⇑	P	**P**	**15 47 11.9**	**+1.0**
X16A	**Lo Mia Camp, P**	**78.74**	**54**		P	**P**	**15 47 13.0**	**+0.3**
MDVR	**Moldovita**	**78.90**	**321**	⇑	P	**P**	**15 47 13.8**	**+0.6**
CKRC	**Cesky Krumlov**	**79.00**	**328**		*e*P	**P**	**15 47 14.7**	**+1.0**
KHC	**Kasperske Hory**	**79.04**	**328**		*e*P	**P**	**15 47 15.0**	**+1.1**
KHC					*e*		15 47 26.6		
KHC	**Kasperske Hory**	**79.04**	**328**		*e*P	**P**	**15 47 15.0**	**+1.1**
KHC					*ex*	x	15 47 26.6		
CONA	**Conrad Observa**	**79.07**	**326**		*i* P	**P**	**15 47 15.5**	**+1.3**
	comp=Z,11nm,1.1s,SNR=6.6								
EYMN	**Ely**	**79.13**	**33**		P	**P**	**15 47 14.1**	**-0.3**
EYMN	**Ely**	**79.13**	**33**		P		15 47 14.1		
	baz=322								
ESK	**Eskdalemuir**	**79.15**	**341**		P	**P**	**15 47 14.4**	**+0.1**
ESK					pmax	pmax			
	comp=Z,28nm,1.4s								
ESK	**Eskdalemuir**	**79.15**	**341**		P	**P**	**15 47 14.4**	**+0.1**
ESK					IAmb	IAmb	15 47 30.8		
	comp=Z,28nm,1.4s								
S22A	**4UR Ranch, Cre**	**79.16**	**49**		P		15 47 16.1		
	baz=315								
MORH	**Mrgy, Hungar**	**79.21**	**324**	⇑	P	**P**	**15 47 15.3**	**+0.5**
GEC2	**GERESS Array S**	**79.22**	**328**		P	**P**	**15 47 14.6**	**-0.4**
GERES	**GERESS Array B**	**79.22**	**328**		P	**P**	**15 47 15.4**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=38,slow=6.8,SNR=10								
GERES	**GERESS Array B**	**79.22**	**328**		P	**P**	**15 47 14.4**	**-0.6**
RAYN	**Ar Rayn**	**79.47**	**292**		*i* P	**P**	**15 47 17.3**	**+0.6**
	SNR=15								
RAYN	**Ar Rayn**	**79.47**	**292**		P	**P**	**15 47 16.8**	**+0.1**
RAYN					pmax	pmax			
	comp=Z,15nm,0.9s								
RAYN	**Ar Rayn**	**79.47**	**292**		P	**P**	**15 47 16.8**	**+0.1**
RAYN					IAmb	IAmb	15 47 18.1		
	comp=Z,16nm,0.8s								
GRA1	**Grafenberg Arr**	**79.49**	**330**		P	**P**	**15 47 16.0**	**-0.3**
GRA1					IAmb	IAmb	15 47 18.4		
	comp=Z,21nm,0.8s								
GRF	**Grafenberg Arr**	**79.49**	**330**		P	**P**	**15 47 16.0**	**-0.3**
GRF					pmax	pmax			
	comp=Z,21nm,0.8s								
GRF	**Grafenberg Arr**	**79.49**	**330**		*e*P	**P**	**15 47 17.2**	**+0.8**
	comp=Z,18nm,1.0s,baz=34,slow=4.6								
GRF					*e*pP	**sP**	**15 47 36.7**	**-2.0**
GRFO	**Grafenberg**	**79.49**	**330**		P	**P**	**15 47 17.1**	**+0.8**
GRFO					pmax	pmax			
	comp=Z,20nm,0.8s								
GRFO	**Grafenberg**	**79.49**	**330**		P	**P**	**15 47 17.1**	**+0.8**
GRFO					IAmb	IAmb	15 47 18.4		
	comp=Z,20nm,0.8s								
FRGS	**Fruska Gora**	**79.50**	**323**	⇑	P	**P**	**15 47 17.3**	**+0.8**
214A	**Organ Pipe Nat**	**79.56**	**57**		P		15 47 18.1		
	baz=313								
ALN	**Alexandroupoli**	**79.62**	**316**		P	**P**	**15 47 17.9**	**+0.7**
ALN					pmax	pmax			
	comp=Z,11nm,0.9s								
ALN	**Alexandroupoli**	**79.62**	**316**		P	**P**	**15 47 17.9**	**+0.7**
ALN					IAmb	IAmb	15 47 19.0		
	comp=Z,11nm,0.9s								
ARSA	**Arzberg**	**79.75**	**326**		*e*P	**P**	**15 47 18.5**	**+0.7**
	comp=Z,4.1nm,0.7s								
CSS	**Mathiatis**	**79.76**	**308**		P	**P**	**15 47 18.2**	**+0.2**
BOVS	**Bovan**	**79.77**	**320**	⇓	P	**P**	**15 47 17.9**	**0.0**
VTS	**Vitosha**	**79.78**	**319**	⇑	P	**P**	**15 47 19.3**	**+1.1**
VTS	**Vitosha**	**79.78**	**319**		P	**P**	**15 47 19.1**	**+0.9**
VTS					pmax	pmax			
	comp=Z,16nm,0.8s								
VTS	**Vitosha**	**79.78**	**319**		P	**P**	**15 47 19.1**	**+0.9**
VTS					IAmb	IAmb	15 47 20.5		
	comp=Z,16nm,0.8s								
MOA	**Molln**	**79.79**	**327**		*e*P	**P**	**15 47 18.9**	**+0.9**
	comp=Z,2.9nm,0.8s								
SDCO	**Great Sand Dun**	**79.91**	**48**		P	**P**	**15 47 19.7**	**+0.5**
SDCO	**Great Sand Dun**	**79.91**	**48**		P		15 47 19.8		
	baz=315								
DIVS	**Divibare**	**80.22**	**322**		P	**P**	**15 47 20.4**	**-0.1**
GROS	**Grobnik**	**80.38**	**326**		*i* P	**P**	**15 47 22.1**	**+0.8**
PERS	**Pernice**	**80.40**	**326**		*i* P	**P**	**15 47 22.1**	**+0.7**
SOKA	**Soboth**	**80.41**	**326**		*e*P	**P**	**15 47 22.2**	**+0.8**
	comp=Z,20nm,1.0s,SNR=14								
TUC	**Tucson**	**80.58**	**55**		P		15 47 23.1		
	baz=314								
OBKA	**Obir**	**80.74**	**326**		*e*P	**P**	**15 47 23.7**	**+0.5**
	comp=Z,8.4nm,0.6s,SNR=5.3								
KBA	**Koelnbreinsper**	**80.78**	**327**		*e*P	**P**	**15 47 24.1**	**+0.6**
	comp=Z,14nm,0.9s,SNR=11								
GHAJ	**Ghor Haditha**	**80.90**	**304**		P	**P**	**15 47 24.2**	**+0.1**
PDKS	**Podkum**	**80.91**	**326**		*i* P	**P**	**15 47 24.5**	**+0.4**
SCHQ	**Schefferville**	**80.93**	**16**		P	**P**	**15 47 24.4**	**+0.5**
	comp=Z,8.1nm,0.8s,baz=349,slow=6.6,SNR=11								
SCHQ	**Schefferville**	**80.93**	**16**		P	**P**	**15 47 23.9**	**-0.1**
SCHQ					IAmb	IAmb	15 47 24.9		
	comp=Z,8.8nm,0.8s								
T25A	**Trinidad**	**80.95**	**48**		P	**P**	**15 47 24.4**	**-0.2**
T25A	**Trinidad**	**80.95**	**48**		P		15 47 24.9		
	baz=316								
MYKA	**Terra Mystica**	**81.02**	**327**		*i* P	**P**	**15 47 25.0**	**+0.4**
	comp=Z,14nm,1.1s								
AKAS	**Kas**	**81.03**	**311**		P	**P**	**15 47 24.2**	**-0.8**
AKAS					IAmb	IAmb	15 47 25.8		
	comp=Z,17nm,0.9s								
BGES	**Gesves**	**81.08**	**334**		κP	**P**	**15 47 24.9**	**+0.1**
BMRD	**Maredsous**	**81.26**	**334**		*d*P	**P**	**15 47 26.0**	**+0.2**
WATA	**Walderalm**	**81.28**	**328**		*e*P	**P**	**15 47 26.8**	**+0.7**
	comp=Z,7.8nm,0.6s,SNR=6.5								
WTTA	**Wattenberg**	**81.31**	**328**		*i* P	**P**	**15 47 26.9**	**+0.5**
	comp=Z,8.4nm,0.7s								
ANMO	**Albuquerque**	**81.34**	**51**		*c i*P	**P**	**15 47 28.2**	**+1.4**
ANMO					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ANMO	**Albuquerque**	**81.34**	**51**		P		15 47 27.9		
	baz=315								
ABTA	**Abfaltersbach**	**81.39**	**328**		*e*P	**P**	**15 47 27.3**	**+0.7**
	comp=Z,3.6nm,0.7s								
MOTA	**Moosalm**	**81.46**	**329**		*i* P	**P**	**15 47 27.9**	**+0.8**
	comp=Z,25nm,1.0s,SNR=9.5								
RETA	**Reutte**	**81.47**	**329**		*e*P	**P**	**15 47 27.8**	**+0.7**
	comp=Z,18nm,0.9s,SNR=6.9								
LENM	**Lemitar**	**81.59**	**52**		P	**P**	**15 47 29.9**	**+1.8**
BFO	**Black Forest**	**81.69**	**331**		P	**P**	**15 47 28.1**	**0.0**
BFO					pmax	pmax			
	comp=Z,9.0nm,0.8s								
BFO	**Black Forest**	**81.69**	**331**		P	**P**	**15 47 28.1**	**0.0**
BFO					IAmb	IAmb	15 47 31.0		
	comp=Z,9.3nm,0.8s								
STAL	**STALIGIAL**	**81.70**	**327**		P	**P**	**15 47 27.2**	**-1.0**
STAL					IAmb	IAmb	15 47 28.4		
	comp=Z,25nm,1.2s								
PDG	**Podgorica**	**81.85**	**321**	⇑	P	**P**	**15 47 29.4**	**+0.4**
PDG	**Podgorica**	**81.85**	**321**		P	**P**	**15 47 29.0**	**0.0**
FETA	**Feichten**	**81.87**	**329**		*i* P	**P**	**15 47 30.0**	**+0.7**
	comp=Z,13nm,0.8s,SNR=9.3								
DAVA	**Damuels**	**81.98**	**329**		*e*P	**P**	**15 47 29.8**	**-0.1**
	comp=Z,20nm,1.0s,SNR=7.3								
ECH	**Echery**	**82.21**	**331**		P	**P**	**15 47 30.6**	**-0.3**
ECH					pmax	pmax			
	comp=Z,7.0nm,0.8s								
ECH	**Echery**	**82.21**	**331**		P	**P**	**15 47 30.6**	**-0.3**
ECH					IAmb	IAmb	15 47 32.1		
	comp=Z,7.3nm,0.8s								
121A	**Cookes Peak, D**	**82.25**	**53**		P		15 47 33.2		
	baz=315								
CTI	**Castel Tesino**	**82.30**	**328**		P	**P**	**15 47 30.7**	**-0.8**
CTI					pmax	pmax			
	comp=Z,16nm,1.1s								
CTI	**Castel Tesino**	**82.30**	**328**		P	**P**	**15 47 30.7**	**-0.8**
CTI					IAmb	IAmb	15 47 31.8		
	comp=Z,16nm,1.1s								
MATQ	**Matagami**	**82.68**	**25**		P		15 47 32.9		
	baz=331								
TUE	**Stuetta**	**82.86**	**329**		P	**P**	**15 47 34.5**	**0.0**
TUE					IAmb	IAmb	15 47 36.1		
	comp=Z,9.5nm,0.7s								
LSQQ	**Lebel-sur-Quev**	**83.50**	**25**		P		15 47 37.2		
	baz=332								
CHGQ	**Chibougamau**	**83.53**	**23**		P		15 47 37.1		
	baz=333								
SENIN	**Lac Senin/Sane**	**83.72**	**330**		P	**P**	**15 47 38.7**	**-0.3**
SGRT	**San Giovanni R**	**84.00**	**323**		P	**P**	**15 47 40.0**	**-0.3**
MSTX	**Muleshoe**	**84.16**	**49**		P		15 47 40.9		
	baz=317								
VLDQ	**Val d'Or**	**84.18**	**25**		P	**P**	**15 47 39.8**	**-1.1**
VLDQ					IAmb	IAmb	15 47 41.1		
	comp=Z,14nm,0.8s								
MURB	**Monte Urbino**	**84.21**	**326**		P	**P**	**15 47 42.1**	**+0.8**
MNTX	**Cornudas Mount**	**84.28**	**52**		P	**P**	**15 47 42.2**	**+0.4**
MNTX	**Cornudas Mount**	**84.28**	**52**		P		15 47 42.5		
	baz=316								
IDI	**Anoyia**	**84.35**	**313**		P	**P**	**15 47 41.9**	**-0.3**
IDI	**Anoyia**	**84.35**	**313**		P	**P**	**15 47 41.2**	**-1.0**
ITM	**Ithomi**	**84.53**	**316**		P	**P**	**15 47 42.5**	**-0.4**
INTR	**Introdacqua**	**84.62**	**324**		P	**P**	**15 47 43.1**	**-0.3**
P38A	**Dawn**	**84.75**	**40**		P	**P**	**15 47 43.9**	**-0.1**
P38A					IAmb	IAmb	15 48 05.1		
	comp=Z,11nm,1.1s								
BNI	**Bardonecchia**	**85.06**	**330**		P	**P**	**15 47 45.8**	**+0.1**
BNI					pmax	pmax			
	comp=Z,10.0nm,0.8s								
BNI	**Bardonecchia**	**85.06**	**330**		P	**P**	**15 47 45.8**	**+0.1**
BNI					IAmb	IAmb	15 47 47.3		
	comp=Z,10nm,0.8s								
PMOR	**Pomariorio Ree**	**85.50**	**114**		*e*T	T	17 22 22.6		
	comp=Z,26nm,0.2s								
P40A	**Paris**	**85.53**	**39**		P	**P**	**15 47 47.3**	**-0.6**
P40A					IAmb	IAmb	15 48 12.0		
	comp=Z,7.5nm,0.9s								
D55A	**Saint-Anne-du**	**85.78**	**25**		P		15 47 48.4		
	baz=333								
WMOK	**Wichita Mounta**	**85.81**	**46**		P		15 47 49.0		
	baz=319								
D56A	**ZEC Mazanza, M**	**85.97**	**24**		P		15 47 49.3		
	baz=333								
PPT	**Papeete**	**86.17**	**117**		LR	LR	16 21 03.8		
	comp=Z,68nm,19.9s,baz=307,slow=32								
PPT2	**Papeete2**	**86.19**	**117**		*e*LR	LR	16 15 14.0		
	comp=Z,137nm,25.0s								
PPT2	**Papeete2**	**86.19**	**117**		*e*T	T	17 23 16.8		
	comp=Z,7.6nm,0.3s								
TIAR	**Tiarei**	**86.32**	**117**		*e*T	T	17 23 24.7		
	comp=Z,2.0nm,0.3s								
E56A	**St. Veronique**	**86.34**	**25**		P		15 47 51.4		
	baz=333								
G54A	**Lake Saint Pet**	**86.35**	**27**		P		15 47 52.0		
	baz=331								
TAOE	**Nuku Hiva Isla**	**86.76**	**105**		*e*LR	LR	16 15 33.5		
	comp=Z,126nm,24.4s								
TXAR	**Lajitas Array**	**87.01**	**53**		P	**P**	**15 47 56.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=294,slow=3.6,SNR=13								
E58A	**La Victoria**	**87.03**	**24**		P		15 47 54.9		
	baz=334								
SFIN	**Lafayette**	**87.10**	**35**		P		15 47 55.2		
	baz=325								
D60A	**Saint Jean D'O**	**87.23**	**22**		P		15 47 55.8		
	baz=336								
E60A	**Ste Agathe de**	**87.57**	**23**		P		15 47 57.0		
	baz=396								
D62A	**Allapoint, All**	**87.58**	**21**		P		15 47 57.6		
	baz=337								
G57A	**Newington**	**87.64**	**25**		P		15 47 57.6		
	baz=333								
G58A	**Ormstown**	**87.89**	**25**		P		15 47 59.2		
	baz=334								
F61A	**St Evariste**	**88.06**	**22**		P		15 47 59.5		
	baz=336								
H57A	**Richville**	**88.08**	**26**		P		15 47 59.4		
	baz=333								
LONY	**Lake Ozonia**	**88.20**	**25**		P		15 48 00.6		
	baz=333								
E63A	**Oxbow**	**88.36**	**21**		P		15 48 01.5		
	baz=338								
F62A	**Pittston Farm,**	**88.42**	**22**		P		15 48 02.0		
	baz=337								
H59A	**Cadyville**	**88.46**	**25**		P		15 48 02.5		
	baz=334								
H58A	**Gabriels**	**88.51**	**25**		P		15 48 02.1		
	baz=334								
G61A	**St-Isidore-de-**	**88.54**	**23**		P		15 48 02.2		
	baz=336								
MIAR	**Mount Ida**	**88.70**	**43**		P		15 48 03.2		
	baz=322								
J58A	**Remsen**	**89.09**	**26**		P		15 48 04.9		
	baz=333								
H61A	**Lyndonville**	**89.10**	**24**		P		15 48 05.1		
	baz=335								
X40A	**Basin Creek Fa**	**89.13**	**43**		P		15 48 06.3		
	baz=322								
M54A	**Oil Creek Stat**	**89.16**	**30**		P		15 48 05.8		
	baz=330								
H62A	**Milan**	**89.29**	**23**		P		15 48 05.8		
	baz=336								
N54A	**Moraine State**	**89.51**	**31**		P		15 48 07.7		
	baz=330								
O53A	**New Philadelph**	**89.65**	**32**		P		15 48 08.2		
	baz=329								
R49A	**Shelbyville**	**89.66**	**35**		P	**P**	**15 48 06.3**	**-1.4**
R49A					IAmb	IAmb	15 48 07.8		
	comp=Z,7.2nm,0.7s								
H64A	**Troy**	**89.79**	**22**		P		15 48 08.6		
	baz=337								
J60A	**Lant Hill Farm**	**89.80**	**25**		P		15 48 08.7		
	baz=334								
I63A	**Otisfield**	**89.94**	**23**		P		15 48 09.4		
	baz=336								
L58A	**Harry Jones Me**	**90.07**	**27**		P		15 48 10.4		
	baz=333								
TBI	**Tubuai**	**90.36**	**121**		*e*T	T	17 28 30.4		
	comp=Z,17nm,0.3s								
K61A	**Williamstown**	**90.37**	**25**		P		15 48 11.8		
	baz=334								
J63A	**Strafford**	**90.50**	**24**		P		15 48 11.5		
	baz=336								
SSPA	**Standing Stone**	**90.58**	**29**		P		15 48 11.8		
	baz=331								
O56A	**Blue Knob Stat**	**90.65**	**30**		P		15 48 11.9		
	baz=331								
K62A	**Royalston**	**90.70**	**25**		P		15 48 12.2		
	baz=335								
U49A	**Red Boiling Sp**	**90.87**	**37**		P	**P**	**15 48 12.9**	**-0.5**
U49A					IAmb	IAmb	15 48 14.8		
	comp=Z,5.8nm,1.0s								
N59A	**State Game Lan**	**91.09**	**28**		P		15 48 14.9		
	baz=333								
KEST	**Kesra**	**91.80**	**323**		P	**P**	**15 48 17.9**	**0.0**
	comp=Z,3.9nm,0.8s,baz=327,slow=6.6,SNR=6.3								
KEST	**Kesra**	**91.80**	**323**		P	**P**	**15 48 17.6**	**-0.3**
KEST					IAmb	IAmb	15 48 18.8		
	comp=Z,8.6nm,1.1s								
ESDC	**Sonseca Array**	**93.53**	**334**		P	**P**	**15 48 25.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=15,slow=4.2,SNR=10								
ESDC					PP	**PP**	**15 52 11.1**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=26,slow=8.3,SNR=6.9								
ESDC					LR	LR	16 37 44.9		
	comp=Z,83nm,18.4s,baz=110,slow=40								
ESDC	**Sonseca Array**	**93.53**	**334**		P	**P**	**15 48 25.2**	**-0.6**
ESDC					IAmb	IAmb	15 48 27.0		
	comp=Z,3.4nm,0.9s								
SNAA	**Sanae**	**145.13**	**199**		PKiKP	**PKPdf**	**15 54 45.7**	**-0.1**
H03N2	**Juan Fernandez**	**146.71**	**90**		T	T	18 39 46.6		
	baz=300,slow=77,SNR=36								
H03N3	**Juan Fernandez**	**146.72**	**90**		T	T	18 39 55.5		
	baz=300,slow=77,SNR=31								
H03N1	**Juan Fernandez**	**146.72**	**90**		T	T	18 39 46.5		
	baz=300,slow=77,SNR=36								
VNA3	**Neumayer Olymp**	**146.98**	**196**		PKiKP	**PKPbc**	**15 54 51.0**	**-0.1**
VNA1	**Neumayer--Stat**	**147.12**	**198**		PKiKP	**PKPbc**	**15 54 51.8**	**+0.4**

NEIC ***22*** *15:50:57.6±1.9,29.51N±0.08×131.32E±0.10,h10km±1km, mb4.0/9 Error ellipse: s-maj=15.8km s-min=11.4km az=125.0*
IDC ***22*** *15:50:58.5±1.2,29.68N×130.80E,h0km,mb3.9/12, mb1 4.0/17,mb1mx3.8/52,mbtmp3.9/17,ML3.7/4,MS3.0/3, Ms1 3.0/3,ms1mx2.6/51,Error ellipse: s-maj=32.9km s-min=18.7km az=99.0*
JMA ***22*** *15:50:59.2±0.1,29.54N×131.44E,h62km±2km,M4.0*
NIED ***22*** *15:50:59.3,29.54N×131.44E,h62km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.13; Mθθ-0.67; Mφφ0.55; Mrθ-0.19; Mθφ1.62; Mφr0.53; Fault plane solution: M₀1.82000×10¹⁵ NP1: φs170.00000°,δ89.00000°,λ-162.00000°. NP2: φs79.00000°,δ72.00000°,λ-1.00000°.*

ISC 22 15:50:58.2±2.7,29.52N±0.04×131.35E±0.06,h13km±17km, n74,σ1s16/82,mb4.0/14,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMTN	**Minamitane**	**0.96**	**336**	P	**Pb**	**15 51 17.2**	**+0.6**
JMTN				S	**Sb**	**15 51 30.5**	**+1.3**
**JYAK

	comp=Z,130nm,7.6s							
KLR	**Kulʾdur**	**19.69**	**1**	P		**P**		**15 55 27.4 +0.5**
	0.2nm,0.3s,baz=186,slow=9.2,SNR=4.6							
ULN	**Ulaanbaatar**	**26.19**	**321**	P		**P**		**15 56 32.0 -0.6**
ULN				IAmb		IAmb		15 56 32.6
	comp=Z,2.9nm,0.8s							
SONM	**Songino Array**	**26.54**	**320**	P		**P**		**15 56 33.9 -1.7**
	comp=Z,1.4nm,0.5s,baz=140,slow=11,SNR=6.0							
SONM	**Songino Array**	**26.54**	**320**	P		**P**		**15 56 35.4 -0.3**
SONM				IAmb		IAmb		15 56 35.4
	comp=Z,1.5nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**33.63**	**99**	T		T		16 34 01.3
	baz=336,slow=74,SNR=3.9							
H11N1	**WAKE ISLAND Hy**	**33.64**	**99**	T		T		16 33 59.8
H11N3	**WAKE ISLAND Hy**	**33.65**	**99**	T		T		16 34 03.6
	baz=298,slow=74,SNR=2.9							
WMQ	**Urumqi**	**37.38**	**305**	*e*P		**P**		**15 58 12.0 +1.4**
MK31	**Makanchi Array**	**41.53**	**308**	P		**P**		**15 58 44.0 -1.3**
MKAR	**Makanchi Array**	**41.53**	**308**	P		**P**		**15 58 44.0 -1.2**
	comp=Z,0.5nm,0.5s,baz=91,slow=10,SNR=9.4							
MKAR	**Makanchi Array**	**41.53**	**308**	P		**P**		**15 58 44.1 -1.1**
TIXI	**Tiksi**	**42.20**	**359**	P		**P**		**15 58 51.3 +1.0**
	comp=Z,0.7nm,0.3s,baz=184,slow=2.7,SNR=3.8							
TIXI	**Tiksi**	**42.20**	**359**	IAmb		IAmb		15 58 52.9
	comp=Z,5.9nm,1.4s							
KURBB	**Kurchatov Arra**	**44.49**	**314**	P		**P**		**15 59 07.7 -1.4**
	comp=Z,0.5nm,0.5s,baz=99,slow=9.4,SNR=7.5							
WRA	**Warramunga Arr**	**49.26**	**176**	P		P		15 59 51.2 +4.6
	comp=Z,0.7nm,1.0s,baz=355,slow=8.1,SNR=1.8							
BRVK	**Borovoye**	**49.81**	**316**	P		**P**		**15 59 49.8 -0.7**
KKAR	**Karatay Array**	**49.85**	**303**	P		**P**		**15 59 50.4 -0.6**
ABKAR	**Akbulak array**	**56.47**	**312**	P		**P**		**16 00 39.6 0.0**
INK	**Inuvik**	**64.78**	**24**	LR		LR		16 29 55.0
	comp=Z,46nm,20.9s,baz=138,slow=36							
ARCES	**ARCESS Array B**	**67.96**	**339**	P		**P**		**16 01 57.1 +0.7**
	comp=Z,1.4nm,0.7s,baz=53,slow=8.0,SNR=1.7							
FIA1	**FINESS Array S**	**71.36**	**331**	P		**P**		**16 02 16.6 -0.8**
FINES	**FINESS Array B**	**71.36**	**331**	P		**P**		**16 02 16.5 -0.9**
	comp=Z,0.9nm,0.4s,baz=61,slow=5.8,SNR=8.8							
FINES	**FINESS Array B**	**71.36**	**331**	P		**P**		**16 02 16.2 -1.2**
AKASG	**Malin Array Be**	**74.82**	**320**	P		**P**		**16 02 38.5 +0.4**
	comp=Z,1.5nm,0.3s,baz=56,slow=6.5,SNR=9.6							
AKASG	**Malin Array Be**	**74.82**	**320**	IAmb		IAmb		16 02 55.1
	comp=Z,1.4nm,1.2s							
AKBB	**Malin Array Si**	**74.82**	**320**	P		**P**		**16 02 38.3 +0.2**
AKBB				IAmb		IAmb		16 02 39.1
	comp=Z,2.9nm,0.8s							
BRTR	**Keskin Array B**	**77.18**	**308**	P		**P**		**16 02 52.6 +0.6**
	comp=Z,1.7nm,0.7s,baz=72,slow=9.2,SNR=7.9							
NOA	**NORSAR Array B**	**77.57**	**334**	P		**P**		**16 02 52.5 -1.1**
	comp=Z,1.1nm,0.8s,baz=50,slow=5.7,SNR=3.5							
GERES	**GERESS Array B**	**84.21**	**324**	P		**P**		**16 03 29.5 +0.1**
	comp=Z,0.4nm,0.4s,baz=11,slow=2.0,SNR=2.8							
NVAR	**Mina Array Bea**	**86.25**	**48**	P		**P**		**16 03 43.5 +3.5**
	comp=Z,0.1nm,0.3s,baz=287,slow=6.3,SNR=1.7							

*IDC **22** 15:54:32.8±3.6, 17°.76S×178°.57W, h574km±15km, mb2.9/6, mb1 3.1/7, mb1mx2.9/38, mbtmp3.9/7, Error ellipse: s-maj=81.0km s-min=23.1km az=127.0*
*NEIC **22** 15:54:32.1±1.7, 17°.7S±0°.2×178°.5W±0°.2, h561km±13km, mb4.1/17, Error ellipse: s-maj=25.4km s-min=19.1km az=133.0*

ISC 22 15:54:31.3±0.8, 17°.8S±0°.1×178°.5W±0°.1, h550km, n29, σ1§58/30, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.33**	**270**	P		**P**	**15 55 50.0**	**+1.4**
	4.7nm,0.3s,baz=85,slow=2.7,SNR=66							
MSVF				S		**S**	**15 56 56.3**	**+4.9**
	baz=237,slow=23,SNR=0.9							
MSVF	**Nonsavu**	**3.33**	**270**	P		**P**	**15 55 49.6**	**+1.0**
AFI	**Afiamalu**	**7.49**	**60**	P		**P**	**15 56 25.6**	**+1.4**
LIFNC	**LIFOU**	**13.83**	**255**	P		**P**	**15 57 30.6**	**+1.9**
DZM	**Mont Dzumac**	**14.82**	**251**	P		**P**	**15 57 37.7**	**-1.4**
HNR	**Honiara**	**22.56**	**289**	P		**P**	**15 58 50.5**	**-0.1**
BFZ	**Birch Farm**	**25.27**	**190**	P		**P**	**15 58 57.7**	**+1.2**
THZ	**Tophouse**	**25.02**	**195**	P		**P**	**15 59 12.8**	**+0.8**
LTZ	**Lake Taylor**	**26.13**	**196**	P		**P**	**15 59 21.7**	**-0.2**
FOZ	**Fox Glacier**	**27.52**	**199**	P		**P**	**15 59 33.8**	**-0.2**
WKZ	**Wanaka**	**28.93**	**199**	P		**P**	**15 59 45.2**	**-1.2**
MLZ	**Mavora Lakes**	**29.70**	**199**	P		**P**	**15 59 53.7**	**+0.7**
TOO	**Toolangi**	**37.21**	**231**	P		**P**	**16 00 55.7**	**-0.6**
TOO				IAmb		IAmb	16 01 12.0	
	comp=Z,20nm,1.4s							
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**	**16 01 07.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=73,slow=9.7,SNR=6.1							
STKA	**Stephens Creek**	**38.65**	**241**	P		**P**	**16 01 07.8**	**-0.3**
STKA				IAmb		IAmb	16 01 09.0	
	comp=Z,2.4nm,1.4s							
BBOO	**Buckleboo**	**43.43**	**241**	P		**P**	**16 01 45.6**	**-0.4**
BBOO				IAmb		IAmb	16 02 01.3	
	comp=Z,29nm,1.3s							
WB0	**Warramunga Arr**	**44.58**	**260**	P		**P**	**16 01 53.2**	**-1.9**
WB0				IAmb		IAmb	16 02 04.1	
	comp=Z,10nm,1.4s							
WB2	**Warramunga Arr**	**44.60**	**259**	P		**P**	**16 01 53.5**	**-1.8**
WB2				IAmb		IAmb	16 02 18.2	
	comp=Z,10nm,1.4s							
WRAB	**Tennant Creek**	**44.60**	**259**	P		**P**	**16 01 53.1**	**-2.2**
WRA	**Warramunga Arr**	**44.61**	**259**	P		**P**	**16 01 53.7**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=97,slow=7.4,SNR=7.8							
WRA	**Warramunga Arr**	**44.61**	**259**	P		**P**	**16 01 53.4**	**-2.0**
AS31	**Alice Springs**	**44.78**	**254**	P		**P**	**16 01 54.9**	**-1.8**
ASAR	**Alice Springs**	**44.78**	**254**	P		**P**	**16 01 55.6**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=88,slow=7.9,SNR=59							
ASAR	**Alice Springs**	**44.78**	**254**	P		**P**	**16 01 55.1**	**-1.5**
MJAR	**Matsushiro Arr**	**67.78**	**323**	P		**P**	**16 04 34.1**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=150,slow=9.9,SNR=4.2							
MJAR	**Matsushiro Arr**	**67.78**	**323**	P		**P**	**16 04 33.8**	**-0.9**
MJAR				IAmb		IAmb	16 04 49.7	
	comp=Z,3.8nm,1.5s							
JSD	**Sado**	**68.82**	**325**	P		**P**	**16 04 40.4**	**-0.5**
JSD				IAmb		IAmb	16 04 56.7	
	comp=Z,4.8nm,1.1s							
PETK	**Petropavlovsk-**	**73.55**	**345**	P		**P**	**16 05 06.4**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=131,slow=16,SNR=3.0							
ILAR	**Eielson Array**	**85.78**	**13**	P		**P**	**16 06 12.4**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=224,slow=3.6,SNR=1.8							

*ATH **22** 16:10:57.5, 35°.87N×28°.95E, h66km±4km, ML3.0/2, Error ellipse: s-maj=7.9km s-min=2.2km az=3.0*
*ISK **22** 16:10:59.6, 35°.92N×28°.90E, h12km, ML3.1/17*
*DDA **22** 16:10:59.7, 35°.93N×28°.94E, h32km±1km, ML2.7*
*NIC **22** 16:11:00.3±0.0, 35°.79N×29°.01E, h33km±44km, Ml3.6/5*
*THE **22** 16:11:01.7, 35°.98N×28°.99E, h50km±7km, ML2.9/2, Error ellipse: s-maj=7.2km s-min=1.1km az=54.0*
*HLW **22** 16:11:13.2, 34°.68N×28°.87E, h31km±29km, Md3.8*

ISC 22 16:10:58.7±1.1, 35°.80N±0°.03×28°.97E±0°.02, h17km±9km, n73, σ1§54/101, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSL	**Kastellorizon**	**0.60**	**55**	P		**Pb**	**16 11 12.6**	**+1.7**
KSL				S		**Sb**	**16 11 21.3**	**+2.2**
	1µm,0.4s							
KSL	**Kastellorizon**	**0.60**	**55**	P		**Pb**	**16 11 12.6**	**+1.7**
KSL				S		**Sb**	**16 11 21.7**	**+2.6**
KSL				AML		AML	16 11 22.1	
	comp=E,2598µm,0.3s							
KSL				AML		AML	16 11 24.8	
	comp=N,2124µm,0.6s							
KSL	**Kastellorizon**	**0.60**	**55**	P		**Pb**	**16 11 12.5**	**+1.7**
KSL				S		**Sb**	**16 11 21.5**	**+2.4**
AKAS	**Kas**	**0.67**	**50**	*i* P		**Pg**	**16 11 12.5**	**+0.5**
AKAS				*i* S		**Sg**	**16 11 21.3**	**+0.4**
AKAS				IAML			16 11 24.0	
	comp=N,1µm,0.3s							
AKAS				IAML			16 11 24.0	
	comp=E,625nm,0.2s							
AKAS	**Kas**	**0.67**	**50**	PG		**Pg**	**16 11 12.7**	**+0.7**
AKAS				SG		**Sg**	**16 11 22.1**	**+1.2**
ARG	**Arkhangelos**	**0.80**	**301**	P		**Pg**	**16 11 14.8**	**+0.4**
ARG				S		**Sg**	**16 11 26.0**	**+1.0**
	comp=E,722nm,0.3s							
ARG	**Arkhangelos**	**0.80**	**301**	P		**Pg**	**16 11 14.8**	**+0.4**
ARG				S		**Sg**	**16 11 26.1**	**+1.0**
ARG				AML		AML	16 11 30.8	
	comp=N,1058µm,0.3s							
ARG				AML		AML	16 11 33.0	
	comp=E,1761µm,0.3s							
ARG	**Arkhangelos**	**0.80**	**301**	PG		**Pg**	**16 11 13.8**	**-0.6**
ARG	**Arkhangelos**	**0.80**	**301**	P		**Pg**	**16 11 14.7**	**+0.4**
ARG				S		**Sb**	**16 11 27.5**	**+2.7**
FETY	**Fethiye**	**0.84**	**6**	P		**Pg**	**16 11 13.7**	**-1.4**
FETY				S		**Sg**	**16 11 24.4**	**-1.8**
FETY	**Fethiye**	**0.84**	**6**	*i* P		**Pg**	**16 11 13.6**	**-1.5**
FETY				*i* S		**Sg**	**16 11 24.8**	**-1.4**
FETY				IAML			16 11 28.0	
	comp=N,213nm,0.2s							
FETY				IAML			16 11 28.0	
	comp=E,230nm,0.2s							
FETY	**Fethiye**	**0.84**	**6**	PG		**Pg**	**16 11 13.7**	**-1.4**
FETY				SG		**Sg**	**16 11 24.7**	**-1.4**
DEMR	**Demre-Antalya**	**0.87**	**60**	PG		**Pg**	**16 11 15.9**	**+0.2**
DALY	**Dalyan (Mula)**	**1.05**	**346**	*i* P		**Pg**	**16 11 17.6**	**-1.4**
DALY				*i* S		**Sg**	**16 11 30.1**	**-2.6**
DALY				IAML			16 11 36.0	
	comp=N,388nm,0.3s							
DALY				IAML			16 11 37.0	
	comp=E,207nm,0.8s							
DALY	**Dalyan (Mula)**	**1.05**	**346**	PG		**Pg**	**16 11 17.6**	**-1.4**
DALY				SG		**Sg**	**16 11 30.8**	**-2.0**
TURN	**Turunc**	**1.14**	**329**	*i* P		**Pg**	**16 11 20.3**	**-0.4**
TURN				*i* S		**Sg**	**16 11 33.0**	**-2.6**
TURN				IAML			16 11 36.0	
	comp=N,230nm,0.3s							
TURN				IAML			16 11 41.0	
	comp=E,174nm,0.4s							
TURN	**Turunc**	**1.14**	**329**	PG		**Pg**	**16 11 19.4**	**-1.3**
TURN				SG		**Sg**	**16 11 33.5**	**-2.1**
CAME	**Cameli-Denizli**	**1.17**	**13**	PG		**Pg**	**16 11 20.3**	**-1.1**
ELL	**Elmali**	**1.21**	**38**	PN		**Pg**	**16 11 21.9**	**-0.3**
AKUM	**Antalya-Kumluc**	**1.23**	**64**	*i* P		**Pg**	**16 11 21.7**	**-0.7**
AKUM				*i* S		**Sg**	**16 11 37.1**	**-1.4**
AKUM				IAML			16 11 39.0	
	comp=E,142nm,0.3s							
AKUM				IAML			16 11 39.0	
	comp=N,110nm,0.4s							
CAEL	**Denizli, Camel**	**1.35**	**12**	*i* P		**Pn**	**16 11 23.1**	**+0.1**
YER	**Yerkesik**	**1.44**	**338**	PN		**Pn**	**16 11 24.4**	**+0.2**
DAT	**Datca**	**1.46**	**310**	P		**Pn**	**16 11 24.6**	**+0.1**
DAT				S		**Sb**	**16 11 41.9**	**-2.0**
DAT	**Datca**	**1.46**	**310**	*i* P		**Pn**	**16 11 24.6**	**+0.1**
DAT				IAML			16 11 43.0	
	comp=N,85nm,0.3s							
DAT	**Datca**	**1.46**	**310**	PN		**Pn**	**16 11 24.5**	**+0.1**
GOLH	**Golhisar**	**1.51**	**18**	*i* P		**Pn**	**16 11 24.8**	**-0.3**
GOLH				*i* S		**Sn**	**16 11 44.5**	**0.0**
GOLH				IAML			16 11 53.0	
	comp=N,152nm,0.5s							
GOLH				IAML			16 11 54.0	
	comp=E,97nm,0.7s							
MULA	**Mugla, Merkez-**	**1.54**	**340**	*i* P		**Pn**	**16 11 25.9**	**+0.3**
MULA				IAML			16 11 45.0	
	comp=N,68nm,0.3s							
MULA				IAML			16 11 47.0	
	comp=E,172nm,0.2s							
KORT	**Korkueli**	**1.63**	**42**	*i* P		**Pn**	**16 11 28.0**	**+1.1**
KORT				*i* S		**Sn**	**16 11 49.4**	**+1.8**
KORT				IAML			16 11 51.0	
	comp=E,146nm,0.3s							
KORT				IAML			16 11 59.0	
	comp=N,148nm,0.4s							
KORT	**Korkueli**	**1.63**	**42**	PN		**Pn**	**16 11 28.0**	**+1.1**
NIS1	**Nisyros Isl.**	**1.66**	**299**	P		**Pn**	**16 11 26.8**	**-0.3**
NIS1				S		**Sn**	**16 11 45.9**	**-2.1**
NIS1	**Nisyros Isl.**	**1.66**	**299**	P		**Pn**	**16 11 26.7**	**-0.4**
NIS1	**Nisyros Isl.**	**1.66**	**299**	PN		**Pn**	**16 11 27.5**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.66**	**358**	*i* P		**Pn**	**16 11 27.0**	**-0.3**
TAVA				IAML			16 11 48.0	
	comp=N,245nm,0.4s							
TAVA				IAML			16 11 48.0	
	comp=E,209nm,0.8s							
MLSB	**Milas**	**1.78**	**327**	PN		**Pn**	**16 11 29.1**	**+0.4**
BODT	**Bodrum**	**1.84**	**314**	P		**Pn**	**16 11 28.4**	**-1.2**
BODT				S		**Sn**	**16 11 49.4**	**-3.1**
BUCA	**Burdur, Bucak-**	**1.99**	**39**	*i* P		**Pn**	**16 11 33.2**	**+1.6**
BUCA				IAML			16 11 59.0	
	comp=N,46nm,0.5s							
BUCA				IAML			16 12 00.0	
	comp=E,67nm,0.4s							
AYDN	**Tasoluk**	**2.05**	**335**	*i* P		**Pn**	**16 11 33.2**	**+0.6**
AYDN				IAML			16 11 57.0	
	comp=N,60nm,0.3s							
AYDN				IAML			16 11 57.0	
	comp=E,68nm,0.3s							
BRDR	**BURDUR-Merkez**	**2.08**	**24**	*i* P		**Pn**	**16 11 33.7**	**+0.7**
BRDR				IAML			16 11 59.0	
	comp=E,51nm,0.4s							
BRDR				IAML			16 12 01.0	
	comp=N,38nm,0.4s							
BCK	**Bucak**	**2.11**	**38**	PN		**Pn**	**16 11 34.9**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**2.31**	**338**	PN		**Pn**	**16 11 36.7**	**+0.5**
ZKR	**Zakros**	**2.35**	**254**	P		**Pn**	**16 11 38.2**	**+1.6**
ZKR	**Zakros**	**2.35**	**254**	P		**Pn**	**16 11 38.3**	**+1.6**
ZKR	**Zakros**	**2.35**	**254**	P		**Pn**	**16 11 38.1**	**+1.6**
ZKR				S		**Sn**	**16 12 05.4**	**+0.3**
ISP	**Isparta**	**2.37**	**31**	P		**Pn**	**16 11 38.6**	**+1.6**
ISP	**Isparta**	**2.37**	**31**	PN		**Pn**	**16 11 38.8**	**+1.8**
KEPZ	**Antalya-Kepez**	**2.39**	**62**	*i* P		**Pn**	**16 11 38.2**	**+1.0**
KEPZ				IAML			16 12 09.0	
	comp=N,72nm,0.4s							
KEPZ				IAML			16 12 10.0	
	comp=E,61nm,0.3s							
STIA	**Sitia Lasithi**	**2.43**	**257**	P		**Pn**	**16 11 39.6**	**+2.0**
STIA				S		**Sn**	**16 12 08.8**	**+1.9**
SMG	**Samos**	**2.56**	**319**	P		**Pn**	**16 11 40.8**	**+1.3**
GAZI	**Gazipasa**	**2.74**	**80**	*i* P		**Pn**	**16 11 41.4**	**-0.6**
GAZI				IAML			16 12 12.0	
	comp=N,64nm,0.5s							
GAZI				IAML			16 12 13.0	
	comp=E,77nm,0.6s							
SEDI	**Konya, Seydise**	**2.78**	**53**	*i* P		**Pn**	**16 11 45.5**	**+2.9**
SEDI				IAML			16 12 19.0	
	comp=E,96nm,0.6s							
SEDI				IAML			16 12 21.0	
	comp=N,87nm,1.0s							
SEYD	**Seydisehir-KON**	**2.81**	**54**	PN		**Pn**	**16 11 45.3**	**+2.3**
AKMS	**Akamas**	**2.85**	**105**	P		**Pn**	**16 11 43.6**	**+0.1**
AKMS				S		**Sn**	**16 12 15.1**	**-2.5**
AKMS				AML		AML	16 12 18.6	
	comp=N,0.5nm,0.3s							
AKMS				AML		AML	16 12 18.6	
	comp=N,0.5nm,0.3s							
AKMS				AML		AML	16 12 20.1	
	comp=N,0.6nm,0.3s							
AKMS				AML		AML	16 12 20.1	
	comp=N,0.6nm,0.3s							
LAST	**Lasithi**	**2.92**	**258**	P		**Pn**	**16 11 46.1**	**+1.6**
OSC1	**CSNet OBS 1**	**2.98**	**140**	P		**Pn**	**16 11 45.3**	**+0.1**
OSC1				S		**Sn**	**16 12 17.8**	**-2.7**
ALFC	**Alefka**	**3.03**	**101**	P		**Pn**	**16 11 45.8**	**-0.1**
ALFC				AML		AML	16 12 20.2	
	comp=N,0.6nm,0.2s							
ALFC				AML		AML	16 12 20.2	
	comp=N,0.6nm,0.2s							
ALFC				S		**Sn**	**16 12 20.5**	**-1.4**
ALFC				AML		AML	16 12 24.2	
	comp=N,0.5nm,0.3s							
ALFC				AML		AML	16 12 24.2	
	comp=N,0.5nm,0.3s							
NATA	**Nata**	**3.11**	**108**	P		**Pn**	**16 11 47.4**	**+0.3**
SZAC	**Souni**	**3.36**	**107**	P		**Pn**	**16 11 50.7**	**+0.1**
SZAC				S		**Sn**	**16 12 26.7**	**-3.4**
SZAC				AML		AML	16 12 30.3	
	comp=N,0.7nm,0.2s							
SZAC				AML		AML	16 12 30.3	
	comp=N,0.7nm,0.2s							
ASGA	**Asgata**	**3.64**	**105**	P		**Pn**	**16 11 54.4**	**+0.1**
ASGA				S		**Sn**	**16 12 31.4**	**-5.5**
ASGA				AML		AML	16 12 37.8	
	comp=N,0.4nm,0.2s							
ASGA				AML		AML	16 12 37.8	
	comp=N,0.4nm,0.2s							
ASGA				AML		AML	16 12 39.7	
	comp=N,0.3nm,0.2s							
ASGA				AML		AML	16 12 39.7	
	comp=N,0.3nm,0.2s							
CSS	**Mathiatis**	**3.66**	**102**	P		**Pn**	**16 11 54.4**	**-0.2**
ATHAL	**Athalassa**	**3.67**	**99**	P		**Pn**	**16 11 56.0**	**+1.3**
MVOU	**Mavrovouni**	**3.88**	**100**	P		**Pn**	**16 11 57.0**	**-0.7**
MVOU				S		**Sn**	**16 12 40.4**	**-2.5**
MVOU				AML		AML	16 12 49.2	
	comp=N,0.1nm,0.3s							
MVOU				AML		AML	16 12 49.2	
	comp=N,0.1nm,0.3s							
IMMV	**Iera Moni Meta**	**4.08**	**267**	P		**Pn**	**16 12 01.6**	**+1.2**
SLUM	**Salum**	**5.32**	**217**	P		**Pn**	**16 12 18.0**	**+0.6**
	baz=225							
SLUM				S		Sn	16 13 05.2	-13
	baz=225							
BHL	**Bhannes**	**5.81**	**107**	*e*P		**Pn**	**16 12 23.0**	**-1.2**
DQRL	**Deir Qamar**	**5.82**	**109**	*e*P		**Pn**	**16 12 24.5**	**+0.1**
HWQ	**Hawqa**	**5.92**	**103**	*e*P		**Pn**	**16 12 25.3**	**-0.5**
RCY	**Rachaya**	**6.11**	**110**	*e*P		**Pn**	**16 12 27.5**	**-0.9**
HNAT	**Natroun**	**6.30**	**167**	P		**Pn**	**16 12 29.6**	**-1.3**
	baz=163							
KOT	**Kottamia**	**6.33**	**157**	P		**Pn**	**16 12 31.8**	**+0.4**
	baz=151							
HSAF	**As Saff**	**6.54**	**160**	P		**Pn**	**16 12 33.5**	**-0.7**
	baz=155							
GLL	**Jalalah**	**6.62**	**159**	P		**Pn**	**16 12 34.6**	**-0.7**
	baz=153							
SUZ	**Suez**	**6.77**	**150**	P		**Pn**	**16 12 37.8**	**+0.4**
	baz=144							
RYAN	**Fayoum**	**6.79**	**170**	P		Pn	16 12 35.7	-1.9
	baz=167							

IDC 22 16:25:23.3±2.3, 14°.51S×178°.37W, h413km±42km, mb3.0/4, mb1 3.3/5, mb1mx3.0/38, mbtmp3.7/5, Error ellipse: s-maj=151.3km s-min=23.1km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.70**	**227**	P		P	16 26 41.8	-1.0
	1.0nm,0.3s,baz=195,slow=20,SNR=5.9							
MSVF				S		S	16 27 49.4	+1.5
	0.1nm,0.3s,baz=72,slow=22,SNR=1.5							
WRA	**Warramunga Arr**	**45.38**	**256**	P		P	16 33 03.1	-0.1
	0.5nm,0.9s,baz=88,slow=8.3,SNR=12							
ASAR	**Alice Springs**	**45.84**	**251**	P		P	16 33 06.4	-0.3
	3.9nm,0.5s,baz=85,slow=8.6,SNR=54							
NVAR	**Mina Array Bea**	**76.97**	**44**	P		P	16 36 31.7	-0.6
	0.3nm,0.6s,baz=220,slow=4.1,SNR=2.3							
ILAR	**Eielson Array**	**82.59**	**13**	P		P	16 37 02.0	+0.9
	0.4nm,0.5s,baz=211,slow=6.3,SNR=4.4							

*IDC **22** 16:33:50.0±2.0, 7°.76S×128°.07E, h162km±25km, mb3.1/2, mb1 3.5/7, mb1mx3.2/42, mbtmp3.9/7, Error ellipse: s-maj=23.8km s-min=20.3km az=114.0*

ISC 22 16:33:48.4±0.8, 7°.84S±0°.06×128°.30E±0°.09, h150km, n8, σ2§49/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.15**	**242**	P		**Pn**	**16 35 04.8**	**+0.9**
	17nm,0.3s,baz=90,slow=1.0,SNR=37							
BATI				S		**Sn**	**16 36 01.1**	**-1.5**
	11nm,0.3s,baz=89,slow=20,SNR=8.5							
BATI	**Baumata**	**5.15**	**242**	P		**Pn**	**16 35 05.9**	**+2.1**
SIJI	**Sorong**	**7.53**	**23**	P		**Pn**	**16 35 36.9**	**+1.3**
	0.8nm,0.3s,baz=201,slow=23,SNR=1.8							
SIJI				S		**Sn**	**16 36 57.2**	**-2.6**
	0.5nm,0.3s,baz=305,slow=23,SNR=1.3							
FITZ	**Fitzroy Crossi**	**10.52**	**194**	P		**Pn**	**16 36 16.1**	**+0.7**
	1.0nm,0.3s,baz=7.4,slow=7.8,SNR=21							
FITZ				S		**Sn**	**16 38 08.1**	**-3.7**
	1.0nm,0.3s,baz=68,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**13.38**	**155**	P		**Pn**	**16 36 55.1**	**+2.5**
	0.3nm,0.3s,baz=321,slow=14,SNR=6.3							
WRA				S		**Sn**	**16 39 19.1**	**-1.6**
	1.6nm,0.3s,baz=319,slow=25,SNR=13							
ASAR	**Alice Springs**	**16.63**	**162**	P		**Pn**	**16 37 37.0**	**+4.1**
	0.6nm,0.3s,baz=337,slow=10,SNR=35							
ASAR				S		**S**	**16 40 35.6**	**-2.2**
	0.5nm,0.3s,baz=317,slow=15,SNR=6.0							
KSRS	**Korea Array**	**45.06**	**360**	P		**P**	**16 41 48.6**	**-0.6**
	0.6nm,0.6s,baz=182,slow=9.6,SNR=4.2							
MKAR	**Makanchi Array**	**68.02**	**328**	P		**P**	**16 44 30.6**	**-1.0**
	0.2nm,0.4s,baz=120,slow=9.3,SNR=5.2							

*DJA **22** 16:37:47.8±0.9, 7°.S±3°×10°.5E±°, h25km±7km, M4.6/17, mB5.3/5, mb4.7/15, MLv4.5/17, Mw(mB)4.7/5*
*NEIC **22** 16:37:50.0±1.6, 7°.0S±0°.1×105°.3E±0°.1, h44km±8km, mb4.9/60, Error ellipse: s-maj=22.5km s-min=10.9km az=212.0*
*IDC **22** 16:37:55.0±2.9, 6°.99S×105°.46E, h89km±23km, mb3.9/19, mb1 4.1/21, mb1mx3.9/45, mbtmp4.3/21, MS3.7/7, Ms1 3.7/7, ms1mx3.4/27, Error ellipse: s-maj=27.7km s-min=13.7km az=52.0*

**ISC 22 16:37:47.5±0.4, 7

comp=Z,3.0nm,0.9s,baz=181,slow=8.9,SNR=15
CMAR PcP **PcP** **16 46 47.9 +1.8**
comp=Z,0.9nm,0.6s,baz=199,slow=3.1,SNR=6.5
CMAR LR LR 16 54 40.7
comp=Z,93nm,19.0s,baz=212,slow=39
CHTO Chiang Mai 26.68 347 P **P** **16 43 22.5 -1.0**
FAKI Fak Fak 27.34 82 P **P** **16 43 29.2 -0.4**
FAKI IAmb IAmb 16 43 31.9
comp=Z,14nm,1.0s
H01W3 Cape Leeuwin H 28.65 164 T T 17 14 07.4
baz=344,slow=76,SNR=54
H01W1 Cape Leeuwin H 28.66 164 T T 17 14 08.4
baz=344,slow=76,SNR=50
H01W2 Cape Leeuwin H 28.66 164 T T 17 14 08.6
baz=344,slow=76,SNR=65
WRA Warramunga Arr 30.95 117 P **P** **16 44 02.1 +0.5**
comp=Z,0.7nm,0.6s,baz=289,slow=12,SNR=3.8
WRA Warramunga Arr 30.95 117 P **P** **16 44 02.6 +1.0**
WRAB Tennant Creek 30.96 117 P **P** **16 44 02.3 +0.6**
WB2 Warramunga Arr 30.96 117 P **P** **16 44 02.1 +0.4**
FORT Forrest 31.70 140 P **P** **16 44 08.4 +0.5**
ASAR Alice Springs 32.02 124 P **P** **16 44 12.2 +1.2**
comp=Z,0.8nm,0.7s,baz=294,slow=8.6,SNR=4.9
AS31 Alice Springs 32.02 124 P **P** **16 44 11.6 +0.6**
H08S2 Diego Garcia H 32.37 267 T T 17 18 31.6
baz=91,slow=76,SNR=119
H08S3 Diego Garcia H 32.38 267 T T 17 18 36.7
baz=91,slow=76,SNR=86
H08S1 Diego Garcia H 32.39 267 T T 17 18 37.2
baz=91,slow=76,SNR=72
CD2 Chengdu 38.04 358 P **P** **16 45 03.6 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BBOO Buckleboo 38.28 136 P **P** **16 45 05.2 +0.4**
LSA Lhasa 39.20 341 P **P** **16 45 09.9 -3.0**
NJ2 Nanjing 41.28 18 *eP* **P** **16 45 30.1 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
PMG Port Moresby 41.60 96 P **P** **16 45 31.3 -1.3**
PMG IAmb IAmb 16 45 58.4
comp=Z,48nm,1.2s
CTAO Charters Tower 41.78 112 P **P** **16 45 33.9 -0.1**
CTAO IAmb IAmb 16 45 47.9
comp=Z,44nm,1.5s
STKA Stephens Creek 41.81 131 P **P** **16 45 35.6 +1.5**
comp=Z,3.5nm,0.8s,baz=302,slow=9.5,SNR=9.0
STKA LR LR 17 03 47.1
comp=Z,152nm,19.6s,baz=216,slow=37
STKA Stephens Creek 41.81 131 P **P** **16 45 35.9 +1.9**
LZH Lanzhou 43.20 358 *eP* **P** **16 45 48.8 +3.4**
LZH pP sP 16 46 02.6 +3.6
LZH sP pwP 16 46 07.3 +10
LZH pmax pmax
comp=Z,14nm,1.1s
JSU Suzuyama 45.57 31 P **P** **16 46 02.6 -1.6**
JSU IAmb IAmb 16 46 04.0
comp=Z,12nm,0.9s
GTA Gaotai 46.76 354 ⇓P **P** **16 46 14.9 +1.3**
GTA pP pP 16 46 20.0 -3.3
GTA sP pwP 16 46 23.4 -3.0
GTA PcP **PcP** **16 47 48.6 +2.0**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,60nm,3.8s
GTA L L
comp=Z,94nm,17.8s
GTA L L
comp=Z,77nm,17.1s
GTA L L
comp=Z,110nm,16.7s
JTU Tsushima 47.52 27 P **P** **16 46 17.5 -2.0**
HHC Hu-ho-hao-te 48.30 7 *eP* **P** **16 46 28.0 +2.5**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,68nm,6.6s
JMN Monobe 49.09 32 P **P** **16 46 29.4 -2.3**
JMN IAmb IAmb 16 46 31.9
comp=Z,13nm,1.1s
ARMA Armidale 49.17 124 P **P** **16 46 33.2 +0.7**
ARMA IAmb IAmb 16 46 34.0
comp=Z,12nm,1.2s
KSRS Korea Array 49.37 24 P **P** **16 46 32.4 -1.3**
comp=Z,1.7nm,0.7s,baz=219,slow=8.4,SNR=9.3
KSRS LR LR 17 07 56.9
comp=Z,30nm,20.3s,baz=237,slow=37
JHS Saijyo 49.69 30 P **P** **16 46 34.6 -1.6**
NIL Nilore 50.75 325 P **P** **16 46 43.8 -0.5**
NIL IAmb IAmb 16 46 45.6
comp=Z,15nm,0.7s
JWT Wachi 51.08 32 P **P** **16 46 44.6 -2.1**
JWT IAmb IAmb 16 46 45.8
comp=Z,7.9nm,0.7s
WMQ Urumqi 53.30 344 *eP* **P** **16 47 04.1 +1.0**
MJAR Matsushiro Arr 53.53 33 P **P** **16 47 01.7 -3.2**
comp=Z,4.3nm,0.8s,baz=208,slow=6.9,SNR=8.0
MJAR Matsushiro Arr 53.53 33 IAmb IAmb 16 47 02.8
comp=Z,2.6nm,1.0s
KSH Kashi 53.86 332 P **P** **16 47 07.0 -0.4**
KSH S **S** **16 54 41.0 +0.7**
KSH sS sS 16 55 03.0 +6.4
KSH pmax pmax
comp=Z,7.0nm,0.4s
KSH pmax pmax
comp=Z,94nm,2.8s
KSH L L
comp=Z,240nm,5.9s
KSH L L
comp=Z,200nm,8.8s
KSH L L
comp=Z,190nm,4.3s
CN2 Changchun 54.11 18 *eP* **P** **16 47 07.6 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
JSD Sado 54.67 32 P **P** **16 47 10.7 -2.4**
JSD IAmb IAmb 16 47 11.7
comp=Z,12nm,0.7s
SONM Songino Array 54.93 1 P **P** **16 47 14.8 -0.2**
comp=Z,1.2nm,0.7s,baz=169,slow=9.1,SNR=3.5
SONM PcP **PcP** **16 48 16.8 +0.1**
comp=Z,1.9nm,0.6s,baz=170,slow=2.8,SNR=4.9
SONM LR LR 17 13 05.8
comp=Z,100nm,18.8s,baz=198,slow=39
SONM Songino Array 54.93 1 IAmb IAmb 16 47 16.5
comp=Z,1.4nm,1.0s
KDJ Kajisay 55.45 335 P **P** **16 47 18.8 -0.2**
KDJ IAmb IAmb 16 47 20.8
comp=Z,13nm,0.8s
DRK Karamyk 55.87 329 P **P** **16 47 21.5 -0.6**
JMM Marumori 55.91 34 P **P** **16 47 19.7 -2.3**
BOOM Boomskoye usch 56.28 334 P **P** **16 47 25.2 +0.4**
BOOM IAmb IAmb 16 47 26.2
comp=Z,4.9nm,0.8s
GAR Garm 56.28 328 P **P** **16 47 24.3 -0.6**
CHGR Chuyangaron 56.66 327 P **P** **16 47 26.4 -1.2**
ARSB Arslanbob 56.69 331 P **P** **16 47 27.9 +0.1**
USA0B Ussuriysk Arra 56.73 23 P **P** **16 47 26.3 -1.5**
USA0B IAmb IAmb 16 47 27.7
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 56.73 23 P **P** **16 47 26.5 -1.3**
comp=Z,7.5nm,0.8s,baz=220,slow=6.6,SNR=24
USRK Ussuriysk Ar. 56.73 23 P **P** **16 47 26.1 -1.6**
TKM2 Tokmak 2 56.77 334 P **P** **16 47 28.9 +0.5**
SNR=14
BTK Batken 56.80 329 P **P** **16 47 28.3 -0.2**
BTK IAmb IAmb 16 47 30.4
comp=Z,12nm,0.8s
KBK Karagaybulak 56.84 334 P **P** **16 47 29.9 +1.0**
SNR=5.6
AML Almayashu 56.99 332 P **P** **16 47 30.9 +0.7**
SNR=12
AAK Ala-Archa 57.03 333 P **P** **16 47 29.6 -0.5**
AAK IAmb IAmb 16 47 31.9
comp=Z,9.9nm,1.4s
FRU1 Bishkek 57.10 334 P **P** **16 47 30.7 +0.1**
FRU1 IAmb IAmb 16 47 32.2
comp=Z,12nm,0.8s
EKS2 Erkin-Say 57.37 333 P **P** **16 47 33.4 +0.9**
SNR=18
USP Ospenovka 57.53 334 P **P** **16 47 34.2 +0.6**
SNR=5.2
MK31 Makanchi Array 57.59 342 P **P** **16 47 33.1 -0.8**
MKAR Makanchi Array 57.59 342 P **P** **16 47 33.8 -0.1**
comp=Z,2.8nm,0.7s,baz=146,slow=7.5,SNR=29
MKAR Makanchi Array 57.59 342 P **P** **16 47 33.0 -0.9**

JTM Tenmabayashi 58.16 32 P **P** **16 47 35.6 -2.3**
KK31 Karatay Array 59.23 331 P **P** **16 47 45.0 -0.4**
KKAR Karatay Array 59.23 331 P **P** **16 47 45.1 -0.3**
JKA Kamikawa-asahi 61.36 30 P **P** **16 47 57.3 -2.6**
GEYT Alibeck 62.80 319 P **P** **16 48 10.9 +1.1**
comp=Z,2.0nm,0.7s,baz=165,slow=7.4,SNR=2.2
ZAA0 Zalesovo Array 63.41 347 P **P** **16 48 12.2 -1.2**
ZAA0 IAmb IAmb 16 48 14.5
comp=Z,7.8nm,0.8s
ZALV Zalesovo Beam 63.41 347 P **P** **16 48 12.8 -0.6**
comp=Z,5.2nm,0.6s,baz=143,slow=4.3,SNR=27
ZALV LR LR 17 18 07.5
comp=Z,113nm,18.8s,baz=151,slow=38
ZALV Zalesovo Beam 63.41 347 P **P** **16 48 12.3 -1.1**
YSS Yuzh-Sakhalins 63.51 28 P **P** **16 48 12.9 -1.3**
BRVK Borovoye 67.03 338 P **P** **16 48 36.4 -0.5**
BRVK IAmb IAmb 16 48 38.2
comp=Z,8.2nm,0.8s
ABKAR Akbulak array 68.76 330 P **P** **16 48 48.0 +0.2**
BKZ Black Stump Fm 70.95 129 P **P** **16 49 03.2 +1.4**
YAK Yakutsk 71.72 12 P **P** **16 49 04.5 -1.1**
ARU Arti 74.13 335 P **P** **16 49 20.4 +0.3**
ARU IAmb IAmb 16 49 23.1
comp=Z,8.0nm,1.1s
SYO Syowa Base 74.57 200 ⇑*eP* P 16 49 28.6 +6.1
PEA0B Petropavlovsk- **74.78 30** P **P** **16 49 21.7 -2.3**
PEA0B IAmb IAmb 16 49 48.0
comp=Z,21nm,1.4s
PETK Petropavlovsk- **74.78 30** P **P** **16 49 22.5 -1.5**
comp=Z,2.3nm,0.9s,baz=197,slow=4.5,SNR=4.7
PETK Petropavlovsk- **74.78 30** P **P** **16 49 22.2 -1.8**
KBZ Khabaz 75.67 319 P **P** **16 49 30.8 +1.6**
comp=Z,2.8nm,0.8s,baz=191,slow=7.5,SNR=7.6
NRIK Noril'sk 77.46 354 P **P** **16 49 38.4 -0.5**
comp=Z,6.7nm,0.7s,baz=147,slow=6.3,SNR=9.7
NRIK Noril'sk 77.46 354 P **P** **16 49 38.1 -0.7**
NRIK IAmb IAmb 16 49 39.9
comp=Z,12nm,1.1s
TIXI Tiksi 80.36 7 P **P** **16 49 53.0 -1.7**
TIXI IAmb IAmb 16 49 54.5
comp=Z,9.8nm,0.9s
BR131 Keskin Array S 80.67 312 P **P** **16 49 57.7 +0.4**
BR131 IAmb IAmb 16 49 59.8
comp=Z,9.1nm,0.8s
BRTR Keskin Array B 80.67 312 P **P** **16 49 59.0 +1.6**
comp=Z,4.3nm,0.8s,baz=134,slow=7.1,SNR=19
BRTR Keskin Array B 80.67 312 P **P** **16 49 58.0 +0.7**
BZK Bozkurt 81.10 314 P **P** **16 50 02.1 +2.8**
KLMR Klimovskoe 84.84 333 *eP* **P** **16 50 18.3 0.0**
KLMR AMP 16 50 19.9
comp=Z,8.0nm,1.2s
TIRR Tirgusor 85.72 316 P **P** **16 50 25.2 +2.2**
SORM Soroca 86.69 319 ⇑P **P** **16 50 29.5 +1.8**
AKASG Malin Array Be 86.81 322 P **P** **16 50 29.0 +0.7**
comp=Z,1.2nm,0.7s,baz=86,slow=4.4,SNR=8.1
AKASG Malin Array Be 86.81 322 IAmb IAmb 16 50 29.8
comp=Z,1.4nm,1.1s
VRI Vrincioaia 87.22 317 ⇓P **P** **16 50 33.5 +3.1**
PLOR Plostina 87.27 317 ⇑P **P** **16 50 33.9 +3.2**
TESR Tescani 87.42 317 ⇑P **P** **16 50 33.8 +2.5**
MLR Muntele Rosu 87.67 316 ⇑P **P** **16 50 35.5 +2.8**
MLR Muntele Rosu 87.67 316 P **P** **16 50 34.0 +1.2**
MLR IAmb IAmb 16 50 36.2
comp=Z,10nm,0.9s
BIZ Bicaz 87.88 318 ⇑P **P** **16 50 35.4 +1.8**
DOPR Dopca 88.15 317 P **P** **16 50 37.8 +2.9**
VOIR 88.27 316 ⇑P **P** **16 50 37.6 +2.1**
BUR01 Bucovina Ar. S 88.62 318 ⇑P **P** **16 50 39.6 +2.4**
BURAR Bucovina Array 88.62 318 P **P** **16 50 38.2 +1.0**
BURAR IAmb IAmb 16 50 41.2
comp=Z,4.2nm,0.8s
VTS Vitosha 88.99 313 ⇑P **P** **16 50 41.3 +2.2**
VTS Vitosha 88.99 313 P **P** **16 50 40.4 +1.3**
VTS IAmb IAmb 16 50 42.2
comp=Z,4.7nm,0.7s
LOT Lotru 89.16 316 ⇓P **P** **16 50 41.9 +2.1**
GZR Gura Zlata 89.83 316 ⇑P **P** **16 50 45.8 +2.9**
HERR Herculane 89.99 315 P **P** **16 50 45.0 +1.5**
DRGR 90.13 317 ⇓P **P** **16 50 47.7 +3.4**
BZS Buzias 90.67 316 P **P** **16 50 49.3 +2.6**
FINES FINESS Array B 91.19 332 P **P** **16 50 50.0 +1.3**
comp=Z,1.5nm,0.8s,baz=108,slow=6.2,SNR=4.7
ARCES ARCESS Array B 93.20 340 P **P** **16 50 58.0 +0.2**
comp=Z,2.1nm,1.0s,baz=53,slow=6.2,SNR=3.6
ARCES ARCESS Array B 93.20 340 IAmb IAmb 16 51 24.7
comp=Z,12nm,1.4s
NOA NORSAR Array B 98.26 331 LR LR 17 42 03.7
comp=Z,21nm,18.5s,baz=85,slow=39
NVAR Mina Array Bea 130.09 45 PKP **PKiKP** **16 56 55.4 0.0**
comp=Z,0.3nm,0.6s,baz=324,slow=4.5,SNR=2.8
TXAR Lajitas Array 145.15 47 PKP **PKPdf** **16 57 23.2 +1.0**
comp=Z,4.9nm,0.7s,baz=279,slow=1.2,SNR=51
TXAR Lajitas Array 145.15 47 PKPdf **PKPdf** **16 57 22.4 +0.2**

*NAO **22** 16:54:42.3±3.3, 70.75N×6.80W, h22km±45km, ML3.9*
*BER **22** 16:54:44.0±2.8, 70.86N×6.73W, h5km, ML3.1,*
ML3.0(DNK), Confirmed Earthquake
*REY **22** 16:54:44.6, 70.83N×8.43W, h10km*
*DNK **22** 16:54:45.6±2.4, 71.06N×7.83W, h6km±145km, ML2.9*
*IDC **22** 16:54:49.0±7.2, 70.75N×4.38W, h0km, mb1 3.6/3,*
mb1mx3.2/32, mbtmp3.5/3, ML2.7/3, Error ellipse:
s-maj=69.3km s-min=44.4km az=111.0
ISC 22 16:54:39.1±0.5, 70.88N±0.04×6.38W±0.03, h9km, n75,
σ3§10/111, 3C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.64**	**281**	⇓	*i*	P	**Pb**	**16 54 53.7**	**+1.2**
JNE					*eS*		**Sg**	**16 55 00.8**	**+1.0**
JNE					IAML			16 55 03.0	
	comp=Z,13μm,0.4s								
JNW	**Jan Mayen West**	**0.69**	**284**		*i*	P	**Pb**	**16 54 54.3**	**+1.0**
JNW					*eS*		**Sg**	**16 55 02.2**	**+0.8**
JNW					IAML			16 55 05.5	
	comp=Z,10μm,0.3s								
JMIC	**Jan Mayen**	**0.71**	**280**		Pg		**Pb**	**16 54 54.4**	**+0.8**
JMIC					Lg		Lg	16 55 02.7	
JMIC	**Jan Mayen**	**0.71**	**280**	⇑	*iP*		**Pb**	**16 54 54.4**	**+0.8**
JMIC					*eS*		**Sg**	**16 55 02.8**	**+0.8**
JMI	**Jan Mayen**	**0.78**	**275**	⇑	*iP*		**Pb**	**16 54 55.8**	**+1.1**
JMI					*eS*		**Sg**	**16 55 05.0**	**+1.0**
DBG	**Daneborg**	**5.39**	**316**		*i*	P	**Pn**	**16 55 59.7**	**+0.2**
DBG					*i*	S	**Sn**	**16 56 54.3**	**-7.2**
DBG					IAML			16 56 59.5	
	comp=Z,4.6nm,0.3s								
DBG	**Daneborg**	**5.39**	**316**		Pn		**Pn**	**16 56 00.1**	**+0.6**
DBG					Sn		**Sn**	**16 56 55.2**	**-6.3**
DBG	**Daneborg**	**5.39**	**316**		*i*	P	**Pn**	**16 55 59.7**	**+0.2**
DBG					*i*	S	**Sn**	**16 56 56.0**	**-5.5**
DBG					IAML			16 56 59.5	
	comp=Z,4.6nm,0.3s								
ILEI	**Leirhofn**	**5.80**	**224**		P		**Pn**	**16 56 05.3**	**0.0**
	baz=218								
ILEI					S		**Sn**	**16 57 09.6**	**-2.2**
	baz=218								
IGIL	**Gilhagi**	**6.05**	**222**		P		**Pn**	**16 56 08.9**	**+0.3**
	baz=215								
IGIL					S		**Sn**	**16 57 16.0**	**-1.9**
	baz=215								
IHED	**Heoinshofoi**	**6.26**	**225**		P		**Pn**	**16 56 12.5**	**+1.0**
	baz=219								
IHED					S		**Sn**	**16 57 21.9**	**-1.2**
	baz=219								
IDIM	**Dimmadalss**	**6.28**	**223**		P		**Pn**	**16 56 12.6**	**+0.8**
	baz=217								
IDIM					S		**Sn**	**16 57 21.0**	**-2.4**
	baz=217								
IGHA	**Grjothals**	**6.32**	**222**		P		**Pn**	**16 56 12.7**	**+0.4**
	baz=215								
IGHA					S		**Sn**	**16 57 23.1**	**-1.4**
	baz=215								
IMEL	**Melhnausar**	**6.55**	**221**		P		**Pn**	**16 56 15.9**	**+0.4**
	baz=214								
IADA	**Aoalbol**	**6.81**	**215**		P		**Pn**	**16 56 20.9**	**+1.7**
	baz=208								
DAG	**Danmarks Havn**	**6.83**	**336**		*e*		**Pn**	**16 56 17.4**	**-1.8**
	baz=147,slow=18								
DAG					*i*	P	**Pn**	**16 56 20.0**	**+0.8**
DAG					*i*	P	**Pn**	**16 56 20.0**	**+0.8**
DAG					*eS*		**Sn**	**16 57 30.9**	**-6.0**
DAG					IAML			16 57 35.6	
	comp=Z,13nm,0.4s								
DAG	**Danmarks Havn**	**6.83**	**336**		*e*		**Pn**	**16 56 17.4**	**-1.8**
	baz=147,slow=18								
DAG					*i*	P	**Pn**	**16 56 20.0**	**+0.8**
DAG					*i*	P	**Pn**	**16 56 20.0**	**+0.8**
DAG					*i*	S	**Sn**	**16 57 30.5**	**-6.3**
DAG					IAML			16 57 35.6	
	comp=Z,13nm,0.4s								
IMKO	**Mokollar**	**7.00**	**217**		P		**Pn**	**16 56 23.2**	**+1.5**
	baz=211								
IVSH	**V-Sauoahnukur**	**7.03**	**215**		P		**Pn**	**16 56 23.6**	**+1.4**
	baz=208								
THOR	**Thorvaldshraun**	**7.11**	**218**		P		**Pn**	**16 56 25.0**	**+1.8**
	baz=212								
IKRE	**Kreppuhraun**	**7.18**	**217**		P		**Pn**	**16 56 25.5**	**+1.3**
	baz=210								
N2RO	**R_st**	**7.38**	**108**		*e*	P	**Pn**	**16 56 29.6**	**+2.8**
N2VA	**Vr_y**	**7.48**	**106**		*e*	P	**Pn**	**16 56 31.4**	**+3.2**
N2VA						*eS*	**Sn**	**16 57 49.5**	**-3.4**
LOF	**Lofoten**	**7.50**	**102**		*e*	P	**Pn**	**16 56 31.6**	**+3.2**
LOF						*eS*	**Sn**	**16 57 51.6**	**-1.8**
N2VI	**Vinje**	**7.62**	**100**		*e*	P	**Pn**	**16 56 32.6**	**+2.6**
STEI	**Steigen**	**8.15**	**101**		*e*	P	**Pn**	**16 56 40.6**	**+3.2**
STEI						*eS*	**Sn**	**16 58 07.4**	**-2.1**
NBB30	**Finnes**	**8.21**	**109**		*e*	P	**Pn**	**16 56 41.3**	**+3.1**
NBB30						*eS*	**Sn**	**16 58 07.7**	**-3.3**
N2NF	**Nordfold**	**8.23**	**102**		*e*	P	**Pn**	**16 56 41.2**	**+2.7**
NBB13	**Alf Garage**	**8.30**	**111**		*e*	P	**Pn**	**16 56 42.9**	**+3.4**
NBB13						*eS*	**Sn**	**16 58 10.5**	**-2.7**
NBB15	**Halsa Church**	**8.30**	**110**		*e*	P	**Pn**	**16 56 42.5**	**+3.0**
N2TV	**TYrnvik**	**8.31**	**103**		*e*	P	**Pn**	**16 56 42.4**	**+2.9**
N2TV						*eS*	**Sn**	**16 58 10.9**	**-2.3**
KONS	**Konsvik**	**8.32**	**112**		*e*	P	**Pn**	**16 56 42.8**	**+3.1**
KONS						*eS*	**Sn**	**16 58 09.2**	**-4.5**
BJO1	**Bjornoya**	**8.34**	**53**		Pn		**Pn**	**16 56 44.1**	**+4.1**
BJO1	**Bjornoya**	**8.34**	**53**		*eP*		**Pn**	**16 56 44.3**	**+4.3**
N2IH	**Innhavet**	**8.36**	**100**		*e*	P	**Pn**	**16 56 43.5**	**+3.3**
N2IH						*eS*	**Sn**	**16 58 11.6**	**-2.9**
STOK	**Stokkvaagen**	**8.40**	**113**		*e*	P	**Pn**	**16 56 44.2**	**+3.4**
STOK						*eS*	**Sn**	**16 58 11.6**	**-4.0**
FAUS	**Fauske**	**8.46**	**104**		*e*	P	**Pn**	**16 56 44.4**	**+2.7**
FAUS						*eS*	**Sn**	**16 58 14.6**	**-2.5**
HSPB	**Hornsund (broa**	**8.57**	**35**		Pn		**Pn**	**16 56 47.5**	**+4.4**
HSPB	**Hornsund (broa**	**8.57**	**35**	⇑	*iP*		**Pn**	**16 56 47.8**	**+4.7**
TRO	**Tromso**	**8.63**	**86**		*eP*		**Pn**	**16 56 45.6**	**+1.7**
TRO						*eS*	**Sn**	**16 58 18.1**	**-3.0**
MOR8	**Moi Rana**	**8.94**	**112**		*eP*		**Pn**	**16 56 51.9**	**+3.6**
MOR8						*eS*	**Sn**	**16 58 27.5**	**-1.4**
BRBA	**Barentsburg A**	**9.01**	**28**		Pn		**Pn**	**16 56 53.5**	**+4.4**
BRBB	**Barentsburg B**	**9.03**	**28**		Pn		**Pn**	**16 56 53.9**	**+4.5**
JETT	**Jettan, Norway**	**9.14**	**85**		Pn		**Pn**	**16 56 53.4**	**+2.4**
JETT					Sn		**Sn**	**16 58 33.6**	**-0.3**
KBS	**Kingsbay**	**9.32**	**22**		*i*	P	**Pn**	**16 56 57.3**	**+4.0**
KBS	**Kingsbay**	**9.32**	**22**		Pn		**Pn**	**16 56 56.7**	**+3.4**
KBS	**Kingsbay**	**9.32**	**22**		*eP*		**Pn**	**16 56 57.3**	**+4.0**
KBS						*eS*	**Sn**	**16 58 34.8**	**-3.4**
NSS	**Namsos**	**9.40**	**124**		*eP*		**Pn**	**16 56 58.0**	**+3.5**
NSS						*eS*	**Sn**	**16 58 35.8**	**-4.3**
SPA0	**Spitsbergen Ar**	**9.42**	**29**		Pn		Pn	16 56 60.0	+5.1
	baz=223,slow=14								
SPA0					Pn		Pn	16 56 60.0	+5.1
	baz=217,slow=14								
SPA0	**Spitsbergen Ar**	**9.42**	**29**		Pn		Pn	16 56 60.0	+5.1
	baz=223,slow=14								
SPA0					Pn		Pn	16 56 60.0	+5.1
	baz=217,slow=14								
KIF	**Kilpisjarvi**	**9.48**	**88**		Pn		**Pn**	**16 56 58.4**	**+2.8**
KIF	**Kilpisjarvi**	**9.48**	**88**		*eP*		**Pn**	**16 56 58.5**	**+2.9**
HAMF	**Hammerfest**	**9.87**	**77**		*eP*		**Pn**	**16 57 01.8**	**+0.9**
AKN	**Aaknes**	**10.20**	**142**		*eP*		**Pn**	**16 57 08.4**	**+2.9**
KTK1	**Kautokeino**	**10.28**	**86**		*eP*		**Pn**	**16 57 09.6**	**+3.0**
HOPEN	**Hopen**	**10.33**	**43**		Pn		Pn	16 57 12.8	+5.5
HOPEN	**Hopen**	**10.33**	**43**		*eP*		Pn	16 57 12.5	+5.3
HEF	**Hetta**	**10.68**	**89**		*eP*		**Pn**	**16 57 14.5**	**+2.5**
ARA0	**ARCESS Array S**	**10.82**	**82**		Pn		**Pn**	**16 57 17.2**	**+3.3**
	baz=288,slow=12								
ARA0					Sn		**Sn**	**16 59 13.5**	**-1.4**
	baz=300,slow=22								
ARA0	**ARCESS Array S**	**10.82**	**82**		Pn		**Pn**	**16 57 17.2**	**+3.3**
	baz=288,slow=12								
ARA0					Sn		**Sn**	**16 59 13.5**	**-1.4**
	baz=300,slow=22								
ARCES	**ARCESS Array B**	**10.82**	**82**		Pn		**Pn**	**16 57 16.6**	**+2.7**
	baz=291,slow=11,SNR=12								
ARCES					Sn		**Sn**	**16 59 09.5**	**-5.4**
	baz=31,slow=28,SNR=1.4								
NOR	**Nord**	**11.03**	**352**		*i*	P	**Pn**	**16 57 18.1**	**+1.4**
NOR					*i*	S	**Sn**	**16 59 15.8**	**-4.1**
NOR					IAML			16 59 20.8	
	comp=Z,2.6nm,0.4s								
NOR	**Nord**	**11.03**	**352**		Pn		**Pn**	**16 57 18.4**	**+1.8**
NOR	**Nord**	**11.03**	**352**		*i*	P	**Pn**	**16 57 19.0**	**+2.3**
NOR					*i*	S	**Sn**	**16 59 15.6**	**-4.3**
NOR					IAML			16 59 20.8	
	comp=Z,2.6nm,0.4s								
NOD	**Norderasen**	**11.05**	**122**		*eP*		**Pn**	**16 57 19.9**	**+2.8**
KEV	**Kevo**	**11.22**	**80**		*eP*		**Pn**	**16 57 22.8**	**+3.3**
NOA	**NORSAR Array B**	**12.13**	**136**		Pn		**Pn**	**16 57 35.5**	**+3.5**
	comp=Z,0.0nm,0.3s,baz=341,slow=3.4,SNR=1.8								
NOA					Sn		**Sn**	**16 59 42.3**	**-4.9**
	comp=Z,0.0nm,0.3s,baz=72,slow=18,SNR=1.0								
NEEM	**North Greenlan**	**13.46**	**319**		*i*	P	**Pn**	**16 57 48.4**	**-1.8**
HFS	**Hagfors**	**13.52**	**133**		Pn		**Pn**	**16 57 54.7**	**+3.9**
	baz=346,slow=11								
HFS	**Hagfors**	**13.52**	**133**		Pn		**Pn**	**16 57 54.7**	**+3.9**
	baz=346,slow=11								
APA0	**Apatity Array**	**14.14**	**84**		Pn		**Pn**	**16 58 00.9**	**+1.6**
APA0	**Apatity Array**	**14.14**	**84**		Pn		**Pn**	**16 58 00.9**	**+1.6**
FIA0	**FINESS Array S**	**15.93**	**110**		P		**P**	**16 58 26.8**	**0.0**
	baz=320,slow=12								
FIA0	**FINESS Array S**	**15.93**	**110**		P		**P**	**16 58 26.8**	**0.0**
	baz=320,slow=12								
FINES	**FINESS Array B**	**15.93**	**110**		Pn		**P**	**16 58 26.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=8.7								
FINES					Sn		**Sn**	**17 01 10.0**	**-9.4**
	comp=Z,0.1nm,0.3s,baz=320,slow=23,SNR=1.7								

IDC 22 16:54:40.8±2.4, 7.58S×128.29E, h0km, mb3.7/1,
mb1 4.2/3, mb1mx3.6/28, mbtmp3.9/3, ML4.2/2, MS3.4/1,
Ms1 3.6/1, ms1mx2.8/22, Error ellipse: s-maj=288.5km
s-min=31.2km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.62**	**155**			Pn	Pn	16 57 54.8	-0.6
	1.8nm,0.3s,baz=334,slow=13,SNR=54								
WRA						Sn	Sn	17 00 14.0	-14
	1.8nm,0.3s,baz=328,slow=22,SNR=13								
ASAR	**Alice Springs**	**16.88**	**162**			Pn	Pn	16 58 39.2	+0.6
	0.5nm,0.3s,baz=333,slow=8.9,SNR=61								
ASAR						Sn	Sn	17 01 36.3	-11
	0.5nm,0.3s,baz=350,slow=27,SNR=5.8								
CMAR	**Chiang Mai Arr**	**38.83**	**312**			LR	LR	17 21 22.4	
	comp=Z,51nm,18.4s,baz=208,slow=41								
MKAR	**Makanchi Array**	**67.79**	**328**			P	P	17 05 40.6	0.0
	0.4nm,0.4s,baz=121,slow=8.0,SNR=9.3								

*DJA **22** 17:01:55.4±0.4, 8.3S×103.8E±*, h10km, M4.1/13, mb4.0/1,*
MLv4.1/13
ISC 22 17:01:53.0±2.5, 8.3S±0.1×107.58E±0.05, h3km±15km, n16,
σ1§13/21, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.81**	**17**			P	**Pg**	**17 02 09.7**	**+1.2**
CISI						S	**Sg**	**17 02 18.7**	**-0.3**
CNJI	**Cibinong**	**1.11**	**336**			P	**Pg**	**17 02 14.5**	**+0.1**
CNJI						S	**Sg**	**17 02 28.1**	**-0.7**
LEM	**Lembang

LWLI	**Liwa**	**4.81 313**	P	**Pn**	**17 03 08.5 +2.1**	
MDSI	**Maura Dua**	**5.10 318**	P	**Pn**	**17 03 12.2 +1.8**	

IDC 22 17:13:28.3±1.9, 1°37'N×126°81'E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/33, mbtmp3.7/4, Error ellipse: s-maj=178.8km s-min=22.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.43**	**161**	P	P	17 18 29.8	+0.8
	0.6nm,0.5s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.82**	**165**	P	P	17 19 02.0	+0.5
	0.1nm,0.4s,baz=348,slow=8.7,SNR=8.5						
STKA	**Stephens Creek**	**35.91**	**158**	P	P	17 20 29.3	-1.2
	0.9nm,0.4s,baz=346,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**59.54**	**326**	P	P	17 23 33.7	0.0
	0.6nm,0.5s,baz=114,slow=7.8,SNR=9.8						

JMA 22 17:29:17.9±0.1, 33°.99N×136°.67E, h367km±2km, M3.3
IDC 22 17:29:18.1±0.6, 33°.98N×136°.64E, h366km±6km, mb3.3/17, mb1 3.4/24, mb1mx3.3/54, mbtmp4.1/24, Error ellipse: s-maj=12.4km s-min=9.6km az=73.0

ISC 22 17:29:18.1±0.7, 34°.02N±0°.07×136°.65E±0°.05, h366km±5km, n58, σ0§76/70, mb3.6/17, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.37**	**7**	P	**Pn**	**17 30 04.2**	**+0.4**
JIE				S	**S**	**17 30 40.2**	**-0.4**
JKN2	**Miekihoku**	**0.38**	**305**	P	**Pn**	**17 30 04.0**	**+0.2**
JKN2				S	**S**	**17 30 39.6**	**-1.0**
TTO1	**TONANKAI O.B.S**	**0.42**	**164**	P	**Pn**	**17 30 04.2**	**+0.5**
TTO2	**TONANKAI O.B.S**	**0.43**	**132**	P	**Pn**	**17 30 04.2**	**+0.6**
JTNC	**Tanabenakahech**	**0.89**	**257**	P	**Pn**	**17 30 05.2**	**+0.1**
JTNC				eS	**S**	**17 30 42.1**	**-0.8**
JWY	**Kouya**	**0.90**	**283**	P	**Pn**	**17 30 05.6**	**+0.4**
JWY				S	**S**	**17 30 42.0**	**-1.1**
TK02	**Tokai 2**	**0.93**	**94**	P	**Pn**	**17 30 05.4**	**+0.5**
JYTA	**Yamagatataniai**	**1.57**	**3**	eS	**S**	**17 30 48.2**	**-0.2**
JWT	**Wachi**	**1.62**	**321**	P	**Pn**	**17 30 08.9**	**+0.5**
JWT				S	**S**	**17 30 48.2**	**-0.7**
JAI	**Aioi**	**1.84**	**263**	P	**Pn**	**17 30 10.0**	**+0.2**
JAI				S	**S**	**17 30 50.6**	**-0.8**
JYN	**Shimob**	**2.15**	**46**	P	**Pn**	**17 30 11.9**	**0.0**
JMN	**Monobe**	**2.32**	**263**	P	**Pn**	**17 30 13.6**	**+0.4**
JMN				eS	**S**	**17 30 58.2**	**+0.7**
JOD2	**Odawara 2**	**2.36**	**58**	P	**Pn**	**17 30 13.4**	**0.0**
JRY	**Ryogami san**	**2.72**	**42**	P	**Pn**	**17 30 16.4**	**+0.2**
JRY				eS	**S**	**17 31 02.6**	**-0.4**
JHJ	**Hachijo jima 2**	**2.77**	**108**	P	**Pn**	**17 30 16.0**	**-0.7**
	25nm,0.3s,baz=78,slow=22,SNR=22						
JHJ				S	**S**	**17 31 07.2**	**+3.3**
	13nm,0.3s,baz=60,slow=23,SNR=1.8						
JHJ2	**Mitsune**	**2.80**	**108**	P	**Pn**	**17 30 16.0**	**-0.9**
MAT	**Matsushiro**	**2.82**	**26**	P	**Pn**	**17 30 17.0**	**0.0**
MAT				S	**S**	**17 31 04.2**	**-0.4**
MAT	**Matsushiro**	**2.82**	**26**	P	**Pn**	**17 30 17.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.82**	**26**	P	**Pn**	**17 30 17.1**	**+0.1**
	0.4nm,0.3s,baz=182,slow=8.7,SNR=24						
MJAR				S	**S**	**17 31 04.3**	**-0.3**
	0.1nm,0.3s,baz=183,slow=14,SNR=8.2						
JHS	**Saijyo**	**3.07**	**289**	P	**Pn**	**17 30 20.0**	**+0.7**
JHS				eS	**S**	**17 31 09.7**	**+1.1**
JNU	**Nakatsue**	**4.90**	**261**	P	**Pn**	**17 30 37.4**	**0.0**
	7.5nm,0.3s,baz=192,slow=0.5,SNR=26						
KSYOW	**Yeongwol**	**7.38**	**298**	P	**P**	**17 31 06.5**	**+0.2**
	SNR=10						
KSCPR	**CHUPUNGNYEONG**	**7.44**	**290**	P	**P**	**17 31 07.4**	**+0.4**
	SNR=10						
KSMGY	**Mungyeong**	**7.49**	**293**	P	**P**	**17 31 07.8**	**+0.2**
	SNR=8.0						
OKCB	**Cheongsan-myeo**	**7.61**	**290**	P	**P**	**17 31 09.1**	**+0.2**
	SNR=8.8						
KSCHJ	**Chungju**	**7.63**	**294**	P	**P**	**17 31 09.7**	**+0.5**
	SNR=12						
KSCHJ	**Chungju**	**7.63**	**294**	P	**P**	**17 31 09.1**	**-0.1**
	SNR=12						
KSBON	**Boeun**	**7.65**	**291**	P	**P**	**17 31 09.9**	**+0.5**
	SNR=9.0						
KSWJU	**Wonju**	**7.76**	**298**	P	**P**	**17 31 11.1**	**+0.4**
	SNR=13						
KSRS	**Korea Array**	**7.88**	**298**	P	**P**	**17 31 12.3**	**+0.4**
	2.6nm,0.3s,baz=113,slow=12,SNR=111						
SEHB	**SEOHWA**	**8.00**	**304**	P	**P**	**17 31 13.9**	**-0.6**
	SNR=12						
KSCHC	**Chuncheon**	**8.09**	**300**	P	**P**	**17 31 15.0**	**-0.5**
	SNR=9.7						
KSJEU	**Jeongeup**	**8.13**	**283**	P	**P**	**17 31 15.5**	**-0.5**
	SNR=8.6						
KSCEA	**Cheonan**	**8.16**	**293**	P	**P**	**17 31 18.1**	**+1.8**
	SNR=8.1						
KSCWO	**Cheorwon**	**8.43**	**301**	P	**P**	**17 31 19.9**	**+0.6**
	SNR=6.8						
KSSWO	**Suwon**	**8.52**	**295**	P	**P**	**17 31 20.1**	**-0.2**
	SNR=9.7						
YNCB	**YEONCHEON**	**8.84**	**300**	P	**P**	**17 31 24.4**	**+0.7**
	SNR=8.5						
KSDEI	**Deokjeokdo**	**9.17**	**294**	P	**P**	**17 31 29.0**	**+1.5**
	SNR=8.0						
USRK	**Ussuriysk Ar.**	**10.79**	**342**	P	**P**	**17 31 45.4**	**0.0**
	baz=164,slow=11,SNR=40						
ASAJ	**Asahikawa**	**11.08**	**23**	P	**Pn**	**17 31 48.2**	**-0.4**
	1.3nm,0.3s,baz=210,slow=15,SNR=25						
KLR	**Kul'dur**	**15.62**	**348**	P	**P**	**17 32 37.8**	**-0.7**
	0.2nm,0.3s,baz=178,slow=6.9,SNR=5.7						
PETK	**Petropavlovsk-**	**24.27**	**32**	P	**P**	**17 34 03.5**	**+0.2**
	1.7nm,0.8s,baz=219,slow=6.6,SNR=3.7						
SONM	**Songino Array**	**26.50**	**310**	P	**P**	**17 34 24.8**	**+1.3**
	2.8nm,0.7s,baz=117,slow=7.8,SNR=10						
TLY	**Talaya**	**29.60**	**317**	P	**P**	**17 34 50.5**	**-0.2**
	5.1nm,0.6s,baz=299,slow=22,SNR=4.7						
CMAR	**Chiang Mai Arr**	**36.97**	**255**	P	**P**	**17 35 53.4**	**-0.7**
	0.5nm,0.4s,baz=49,slow=7.5,SNR=10						
ZALV	**Zalesovo Beam**	**41.18**	**315**	P	**P**	**17 36 27.9**	**-0.2**
	2.1nm,0.4s,baz=89,slow=6.5,SNR=8.3						
MKAR	**Makanchi Array**	**42.51**	**304**	P	**P**	**17 36 39.5**	**+0.6**
	2.7nm,0.5s,baz=85,slow=11,SNR=39						
WRA	**Warramunga Arr**	**53.71**	**183**	P	**P**	**17 38 02.5**	**-1.3**
	0.5nm,0.4s,baz=360,slow=7.3,SNR=18						
ILAR	**Eielson Array**	**54.09**	**31**	P	**P**	**17 38 06.4**	**+0.4**
	0.5nm,0.6s,baz=268,slow=5.6,SNR=5.4						
ASAR	**Alice Springs**	**57.43**	**183**	P	**P**	**17 38 29.1**	**-0.9**
	0.2nm,0.4s,baz=357,slow=5.2,SNR=11						
ARCES	**ARCESS Array B**	**65.42**	**339**	P	**P**	**17 39 22.2**	**-0.1**
	2.7nm,0.9s,baz=57,slow=9.1,SNR=5.4						
FINES	**FINESS Array B**	**69.62**	**331**	P	**P**	**17 39 48.5**	**+0.1**
	1.7nm,0.4s,baz=54,slow=5.7,SNR=31						
KBZ	**Khabaz**	**69.86**	**310**	P	**P**	**17 39 50.8**	**+0.6**
	2.6nm,0.7s,baz=208,slow=1.0,SNR=7.9						
AKASG	**Malin Array Be**	**74.24**	**321**	P	**P**	**17 40 15.0**	**-0.7**
	0.8nm,0.4s,baz=49,slow=5.5,SNR=5.6						
NOA	**NORSAR Array B**	**75.39**	**336**	P	**P**	**17 40 21.5**	**-0.7**
	0.8nm,0.6s,baz=44,slow=5.6,SNR=3.7						
BRTR	**Keskin Array B**	**77.86**	**310**	P	**P**	**17 40 37.1**	**+0.7**
	1.0nm,0.9s,baz=71,slow=8.0,SNR=4.4						
NVAR	**Mina Array Bea**	**79.90**	**50**	P	**P**	**17 40 48.5**	**+1.0**
	0.7nm,0.6s,baz=302,slow=5.1,SNR=8.2						
GERES	**GERESS Array B**	**83.12**	**326**	P	**P**	**17 41 03.8**	**0.0**
	0.2nm,0.3s,baz=30,slow=10,SNR=2.5						

JMA 22 17:49:49.7±0.2, 25°.14N×123°.46E, h161km±3km, M2.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.79**	**211**	P	Pn	17 50 14.2	+0.2
YOJ				eS	Sn	17 50 32.9	+0.4
IRIF	**Iriomote-Funau**	**0.84**	**163**	P	Pn	17 50 14.4	+0.1
IRIF				S	Sn	17 50 33.4	+0.2
JISG	**Ishigakijimahi**	**0.95**	**125**	P	Pn	17 50 15.2	+0.1
JISG				S	Sn	17 50 35.5	+1.0
JIJ	**Ishigaki jima**	**0.99**	**141**	P	Pn	17 50 15.6	+0.1
JIJ				S	Sn	17 50 34.9	-0.3
JKRS	**Kuro-shima**	**1.03**	**151**	P	Pn	17 50 16.3	+0.5
JKRS				S	Sn	17 50 36.2	+0.5
HATJ	**Hateruma jima**	**1.12**	**164**	P	Pn	17 50 16.7	+0.1
JTJ	**Tarama**	**1.23**	**114**	P	Pn	17 50 18.0	+0.5
JTJ				S	Sn	17 50 39.3	+0.5
JIRB	**Irabujima**	**1.58**	**101**	S	Sn	17 50 44.4	-0.6
JIKM	**Ikemajima**	**1.64**	**97**	S	Sn	17 50 46.6	+0.7
JMJ2	**Miyako jima3**	**1.74**	**103**	P	Pn	17 50 23.1	+0.5

TAP 22 17:50:13.1, 24°.28N×121°.86E, h11km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.18**	**337**	*i* P	Pg	17 50 17.2	+0.2
	baz=337						
EWUT				S	Sg	17 50 20.2	+0.5
	baz=337						
ETL	**Fush Village**	**0.24**	**241**	P	Pg	17 50 18.3	+0.3
	baz=244						
ETL				S	Sg	17 50 22.4	+1.0
	baz=244						
NACB	**Ninganchiao**	**0.26**	**247**	P	Pg	17 50 18.7	+0.3
	baz=250						
NACB				S	Sg	17 50 22.8	+0.9
	baz=250						
TWD	**Chiawan**	**0.31**	**231**	*e*P	Pb	17 50 20.0	-0.6
	baz=237						
TWD				S	Sg	17 50 24.0	+0.7
	baz=237						
TWC	**Suao**	**0.33**	**359**	*i* P	Pg	17 50 20.1	+0.3
	baz=360						
TWC				*i* S	Sg	17 50 24.3	+0.2
	baz=360						
ETLH	**Xiulin Townshi**	**0.35**	**259**	*i* P	Pg	17 50 20.5	+0.5
	baz=260						
ETLH				*i* S	Sg	17 50 25.6	+0.9
	baz=260						
NDS	**Dongshan**	**0.38**	**340**	*i* P	Pg	17 50 20.8	+0.2
	baz=339						
NDS				*i* S	Sg	17 50 26.4	+0.8
	baz=339						
ENTT	**Nioudou**	**0.45**	**324**	P	Pb	17 50 22.7	-0.3
	baz=324						
ENTT				S	Sg	17 50 28.6	+0.7
	baz=324						
NDT	**Datong Townshi**	**0.45**	**316**	*i* P	Pb	17 50 22.8	-0.3
	baz=315						
NDT				*i* S	Sb	17 50 29.2	-0.6
	baz=315						
NNSB	**Datong**	**0.46**	**290**	P	Pg	17 50 22.5	+0.4
	baz=290						
NNSB				S	Sg	17 50 28.8	+0.6
	baz=290						
NNSH	**Datong**	**0.46**	**290**	*i* P	Pg	17 50 22.3	+0.3
	baz=290						
NNSH				*i* S	Sg	17 50 29.0	+0.9
	baz=290						
NNS	**Nan Shan**	**0.47**	**290**	*i* P	Pb	17 50 23.0	-0.5
	baz=291						
NNS				*i* S	Sg	17 50 28.9	+0.3
	baz=291						
TWE	**Neicheng**	**0.47**	**339**	P	Pg	17 50 22.8	+0.4
	baz=339						
TWE				S	Sb	17 50 29.7	-0.8
	baz=339						
FUSS	**Fushou**	**0.56**	**267**	*i* P	Pb	17 50 24.7	-0.4
	baz=269						
FUSS				*i* S	Sg	17 50 32.3	+0.9
	baz=269						
YHNB	**Yeheng**	**0.59**	**312**	P	Pb	17 50 25.0	-0.4
	baz=312						
YHNB				S	Sg	17 50 33.0	+0.7
	baz=312						
NWLT	**Wulai**	**0.59**	**327**	P	Pg	17 50 24.6	0.0
	baz=326						
NWLT				S	Sg	17 50 32.8	+0.4
	baz=326						
ESL	**Shilin**	**0.60**	**220**	P	Pb	17 50 25.4	-0.2
	baz=229						
ESL				*e*S	Sb	17 50 33.7	-0.4
	baz=229						
NSK	**Sanguang**	**0.60**	**311**	*i* P	Pb	17 50 25.4	-0.4
	baz=311						
NSK				S	Sg	17 50 33.4	+0.6
	baz=311						
CHGB	**Renai**	**0.66**	**251**	P	Pg	17 50 25.8	0.0
	baz=246						
TIPB	**Shuangxi**	**0.69**	**358**	*i* P	Pb	17 50 26.9	-0.3
	baz=356						
TIPB				*i* S	Sg	17 50 35.7	+0.1
	baz=356						
OWD	**Renai**	**0.70**	**243**	P	Pg	17 50 26.5	-0.1
	baz=245						
WHP	**Taichung City**	**0.83**	**270**	P	Pb	17 50 30.1	+0.5
	baz=271						
WHP				S	Sb	17 50 41.0	+0.2
	baz=271						

WEL 22 17:52:56.0±1.0, 37°.5N×9°.9E×18°.0E±°, h33km, M3.5/16, ML3.8/16, MLv3.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=138.1
IDC 22 17:52:56.7±3.3, 36°.82N×178°.75E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.4/2, Error ellipse: s-maj=72.7km s-min=31.5km az=118.0

ISC 22 17:52:53.2±2.4, 37°.27S±0°.06×179°.56E±0°.10, h6km±11km, n48, σ0§78/57, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.04**	**253**	P	**Pb**	**17 53 13.4**	**-0.2**
MXZ				S	**Sb**	**17 53 27.3**	**-0.3**
WMGZ	**Waiomatatini S**	**1.06**	**239**	P	**Pn**	**17 53 15.3**	**+0.6**
WMGZ				S	**Sn**	**17 53 30.4**	**+0.6**
PUZ	**Puketiti**	**1.31**	**232**	P	**Pg**	**17 53 18.8**	**+0.5**
PUZ				S	**Sn**	**17 53 36.7**	**+0.9**
PKGZ	**Pakihiroa**	**1.33**	**242**	P	**Pg**	**17 53 18.8**	**+0.1**
PKGZ				S	**Sn**	**17 53 37.2**	**+0.8**
HAZ	**Te Kaha**	**1.50**	**251**	P	**Pg**	**17 53 21.2**	**-0.7**
TWGZ	**Tauwhareparae**	**1.55**	**234**	P	**Pb**	**17 53 22.4**	**+0.2**
TWGZ				S	**Sg**	**17 53 43.0**	**+0.1**
CNGZ	**Carnagh Statio**	**1.62**	**221**	P	**Pb**	**17 53 23.7**	**+0.3**
RUGZ	**Raukumara Rang**	**1.65**	**245**	P	**Pb**	**17 53 23.8**	**-0.2**
TKGZ	**Te Karaka**	**1.79**	**229**	P	**Pn**	**17 53 25.3**	**+0.7**
TKGZ				S	**Sn**	**17 53 47.4**	**-0.3**
PRGZ	**Paritu Road**	**2.12**	**218**	P	**Pn**	**17 53 29.5**	**+0.3**
URZ	**Urewera**	**2.18**	**242**	Pn	**Pn**	**17 53 30.5**	**+0.6**
	18nm,0.3s,baz=300,slow=24,SNR=52						
URZ				Sn	**Sn**	**17 53 56.8**	**-0.4**
	9.5nm,0.3s,baz=239,slow=18,SNR=5.6						
URZ	**Urewera**	**2.18**	**242**	P	**Pn**	**17 53 30.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.29**	**214**	P	**Pn**	**17 53 31.9**	**+0.5**
SNGZ	**Shannon Statio**	**2.32**	**229**	P	**Pn**	**17 53 32.7**	**+0.8**
SNGZ				S	**Sn**	**17 53 59.4**	**-1.3**
RTZ	**Ruatahuna**	**2.44**	**236**	P	**Pn**	**17 53 34.6**	**+0.9**
RTZ				S	**Sn**	**17 54 03.9**	**0.0**
OPRZ	**Ohinepanea**	**2.46**	**256**	P	**Pn**	**17 53 33.8**	**0.0**
MUGZ	**Murupara**	**2.52**	**241**	P	**Pn**	**17 53 35.0**	**+0.4**
RAHZ	**Arahi**	**2.55**	**229**	P	**Pn**	**17 53 36.0**	**+0.9**
RAHZ				S	**Sn**	**17 54 07.3**	**+0.8**
MTHZ	**Maungataniwha**	**2.67**	**233**	P	**Pn**	**17 53 36.0**	**-0.7**
MTHZ				S	**Sn**	**17 54 09.0**	**-0.4**
TGRZ	**Tauranga**	**2.67**	**259**	P	**Pn**	**17 53 37.6**	**+1.0**
ARHZ	**Aropaoanui**	**2.84**	**225**	P	**Pn**	**17 53 38.6**	**-0.4**
ARHZ				S	**Sn**	**17 54 13.4**	**-0.1**
BKZ	**Black Stump Fm**	**3.07**	**231**	P	**Pn**	**17 53 42.2**	**-0.1**
KUZ	**Kuaotunu**	**3.12**	**279**	P	**Pn**	**17 53 42.1**	**-0.8**
MCHZ	**McNeill Hill**	**3.13**	**225**	P	**Pn**	**17 53 43.2**	**+0.2**
TOZ	**Tahuroa Road**	**3.26**	**261**	P	**Pn**	**17 53 45.0**	**+0.1**
KRHZ	**Kereru**	**3.45**	**226**	P	**Pn**	**17 53 47.0**	**-0.5**
GRZ	**Great Barrier**	**3.45**	**286**	P	**Pn**	**17 53 47.5**	**+0.1**
BHHZ	**Black Hill Sta**	**3.53**	**230**	P	**Pn**	**17 53 48.2**	**-0.4**
WIAZ	**Waiheke Island**	**3.58**	**276**	P	**Pn**	**17 53 49.5**	**+0.4**
OTVZ	**Oturere**	**3.61**	**237**	P	**Pn**	**17 53 50.0**	**+0.2**
NNVZ	**North Ngauruho**	**3.62**	**238**	P	**Pn**	**17 53 51.6**	**+1.7**
SNVZ	**South Ngauruho**	**3.63**	**237**	P	**Pn**	**17 53 50.5**	**+0.3**
MOVZ	**Moawhango**	**3.68**	**233**	P	**Pn**	**17 53 51.0**	**+0.3**
ETAZ	**East Tamaki Re**	**3.72**	**273**	P	**Pn**	**17 53 52.2**	**+1.1**
PNHZ	**Pukenui**	**3.73**	**224**	P	**Pn**	**17 53 50.7**	**-0.6**
MBAZ	**Motutapu North**	**3.77**	**276**	P	**Pn**	**17 53 52.5**	**+0.8**
HIZ	**Hauiti**	**3.93**	**250**	P	**Pn**	**17 53 55.7**	**+1.7**
TSZ	**Takapari Road**	**3.96**	**224**	P	**Pn**	**17 53 53.6**	**-0.9**
RVAZ	**Riverhead Bore**	**4.02**	**276**	P	**Pn**	**17 53 56.0**	**+0.8**
WAZ	**Wanganui**	**4.36**	**234**	P	**Pn**	**17 54 00.8**	**+0.8**
WCZ	**Waipu Caves**	**4.40**	**286**	P	**Pn**	**17 54 01.0**	**+0.5**
OUZ	**Omahuta**	**5.24**	**291**	P	**Pn**	**17 54 12.8**	**+0.8**
ASAR	**Alice Springs**	**41.24**	**276**	P	**P**	**18 00 38.1**	**-1.0**
	0.3nm,0.5s,baz=117,slow=7.3,SNR=8.9						
WRA	**Warramunga Arr**	**42.86**	**281**	P	**P**	**18 00 50.5**	**-1.8**
	0.4nm,0.6s,baz=122,slow=7.7,SNR=6.9						
H03N3	**Juan Fernandez**	**78.59**	**123**	T	T	19 31 14.7	
	baz=235,slow=72,SNR=5.6						
H03N2	**Juan Fernandez**	**78.60**	**123**	T	T	19 31 15.0	
	baz=235,slow=72,SNR=5.8						
H03N1	**Juan Fernandez**	**78.61**	**123**	T	T	19 31 26.5	
	baz=235,slow=72,SNR=5.1						
FINES	**FINESS Array B**	**150.67**	**334**	PKPbc	**PKiKP**	**18 12 47.8**	**+1.9**
	0.4nm,0.7s,baz=127,slow=29,SNR=3.4						

IDC 22 18:06:40.3±1.6, 43°.65N×105°.43W, h0km, mb4.0/1, mb1 3.8/5, mb1mx3.4/46, mbtmp3.5/5, ML2.9/3, MS3.3/3, Ms1 3.3/3, ms1mx2.6/55, Error ellipse: s-maj=48.3km s-min=8.3km az=152.0
NEIC 22 18:06:41.6±1.7, 43°.70N±0°.01×105°.25W±0°.08, h0km±2km, ML3.6/60, Error ellipse: s-maj=9.8km s-min=3.1km az=78.0

ISC 22 18:06:40.4±0.9, 43°.68N±0°.06×105°.26W±0°.05, h0km, n84, σ1§41/82, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**63**	Pg	**Pb**	**18 07 00.4**	**-0.2**
K22A	**Casper**	**1.39**	**222**	Pn	**Pg**	**18 07 05.6**	**-1.4**
K22A				IAML		18 07 28.2	
	comp=E,692nm,0.3s						
K22A				IAML		18 07 34.5	
	comp=N,663nm,0.3s						
PHWY	**Pilot Hill**	**2.38**	**184**	Pn	**Pn**	**18 07 22.3**	**+1.3**
RWWY	**Rawlins**	**2.46**	**217**	Pn	**Pn**	**18 07 22.5**	**+0.5**
RWWY				IAML		18 07 57.3	
	comp=N,337nm,0.7s						
RWWY				IAML		18 07 58.9	
	comp=N,382nm,1.1s						
LAO	**LASA Array**	**3.08**	**348**		**Pn**	**18 07 31.0**	**+0.5**
LAO				IAML		18 08 28.0	
	comp=N,156nm,2.2s						
LAO				IAML		18 08 31.1	
	comp=N,133nm,1.1s						
RLMT	**Red Lodge**	**3.22**	**298**	Pn	**Pn**	**18 07 32.8**	**+0.3**
BW06	**Boulder Array**	**3.27**	**255**	Pn	**Pn**	**18 07 34.3**	**+1.0**
PD31	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**18 07 33.8**	**+0.5**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**18 07 33.9**	**+0.7**
	comp=N,11nm,0.3s,baz=79,slow=17,SNR=29						
PDAR				Pg	**Pb**	**18 07 40.0**	**+0.4**
	comp=N,11nm,0.3s,baz=67,slow=18,SNR=35						
PDAR				Lg	Lg	18 08 19.1	
	comp=N,26nm,0.3s,baz=76,slow=31,SNR=17						
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**18 07 33.6**	**+0.3**
OGNE	**Ogallala**	**3.63**	**138**	Pn	**Pn**	**18 07 38.4**	**+0.4**
OGNE				IAML		18 08 52.1	
	comp=N,149nm,1.1s						
YNE	**Yellowstone No**	**3.66**	**293**		**Pn**	**18 07 38.5**	**0.0**
YNE				IAML		18 08 37.7	
	comp=N,77nm,0.8s						
YNE				IAML		18 08 41.9	
	comp=E,84nm,0.4s						
YMP	**Mirror Lake PI**	**3.68**	**288**		**Pn**	**18 07 39.9**	**+1.0**
YMP				IAML		18 08 48.3	
	comp=E,140nm,0.8s						
YMP				IAML		18 08 49.1	
	comp=N,118nm,0.8s						
GCMT	**Greycliff**	**3.79**	**305**	Pn	**Pn**	**18 07 41.0**	**+0.9**
LOHW	**Long Hollow**	**3.88**	**271**		**Pn**	**18 07 40.9**	**-0.7**
LOHW				IAML		18 09 11.9	
	comp=N,47nm,1.8s						
ISCO	**Idaho Springs**	**3.89**	**184**	Pn	**Pn**	**18 07 44.8**	**+3.1**
ISCO				IAML		18 08 54.7	
	comp=N,53nm,2.5s						
H17A	**Grant Village**	**3.90**	**282**		**Pn**	**18 07 43.2**	**+1.3**
H17A				IAML		18 08 48.0	
	comp=E,80nm,2.0s						
H17A				IAML		18 08 56.7	
	comp=N,53nm,1.3s						
FLWY	**Flagg Ranch**	**3.96**	**278**		**Pn**	**18 07 43.4**	**+0.8**
FLWY				IAML		18 09 00.3	
	comp=N,100nm,2.2s						
FLWY				IAML		18 09 40.2	
	comp=N,87nm,2.1s						
SNOW	**Snow King Moun**	**4.00**	**269**		**Pn**	**18 07 47.5**	**+4.3**
SNOW				IAML		18 09 21.7	
	comp=N,87nm,1.8s						
SNOW				IAML		18 09 25.5	
	comp=N,92nm,2.0s						
YNR	**Norris Junctio**	**4.04**	**287**	Pn	**Pn**	**18 07 45.4**	**+1.7**
REDW	**Red Top Meadow**	**4.08**	**267**		**Pn**	**18 07 45.8**	**+1.4**
REDW				IAML		18 09 01.4	
	comp=N,109nm,1.9s						
REDW				IAML		18 09 10.2	
	comp=N,77nm,1.7s						
TPAW	**Teton Pass**	**4.14**	**269**	Pn	**Pn**	**18 07 47.4**	**+2.2**
TPAW				IAML		18 09 14.6	
	comp=N,78nm,1.1s						
YHH	**Holmes Hill**	**4.17**	**287**		**Pn**	**18 07 43.1**	**+1.7**
O20A	**White River Ci**	**4.19**	**213**		**Pn**	**18 07 46.1**	**+0.4**
YMR	**Madison River**	**4.22**	**285**	Pn	**Pn**	**18 07 43.1**	**+1.1**
YMR				IAML		18 09 44.7	
	comp=E,83nm,0.2s						
E28A	**Huff**	**4.33**	**47**		**Pn**	**18 07 48.9**	**+1.3**
E28A				IAML		18 09 36.4	
	comp=E,99nm,1.1s						
AHID	**Auburn Hatcher**	**4.37**	**260**	Pn	**Pn**	**18 07 49.0**	**+0.7**
AHID				IAML		18 09 10.3	
	comp=N,52nm,0.9s						
YHB	**Horse Butte**	**4.40**	**286**	Pn	**Pn**	**18 07 49.0**	**+0.3**
RDMU	**Red Mountain**	**4.47**	**227**	Pn	**Pn**	**18 07 51.7**	**+2.1**
RDMU				IAML		18 09 18.9	
	comp=E,54nm,1.0s	

ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**18 08 53.1**	**-0.9**
	comp=N,2.3nm,0.3s,baz=233,slow=13,SNR=9.4						
WUAZ	**Wupatki**	**9.42**	**212**	Pn	**Pn**	**18 08 58.6**	**+1.1**
I56US	**NEWPORT INFRAS**	**9.45**	**303**	*i*		19 01 20.0	
	baz=118,slow=312,SNR=3.0						
R11A	**Troy Canyon, C**	**9.45**	**239**	Pn	**Pn**	**18 08 58.0**	**0.0**
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**18 09 21.5**	**+0.1**
	comp=N,0.1nm,0.3s,baz=65,slow=13,SNR=2.5						
FRB	**Frobisher Bay**	**28.95**	**33**	LR	LR	18 24 04.4	
	comp=N,56nm,21.3s,baz=144,slow=36						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**18 16 58.3**	**0.0**
	comp=N,1.2nm,0.6s,baz=340,slow=6.8,SNR=6.1						
BRTR	**Keskin Array B**	**89.06**	**30**	LR	LR	19 01 49.6	
	comp=N,49nm,19.0s,baz=198,slow=37						

IDC ***22*** *18:16:47.2±6.1,26.71S×176.38W, h0km,mb3.5/2, mb1 3.8/2,mb1mx3.5/22,mbtmp3.5/2,ML5.1/1,Error ellipse: s-maj=116.5km s-min=61.2km az=85.0*

ISC 22 18:16:44.7±1.7,26.9S±0.2×175.3W±0.3,h28km,n21, σ3.902/20,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**11.89**	**205**	P	Pn	18 19 44.4	+12
WMGZ	**Waiomatatini S**	**12.07**	**204**	P	**P**	**18 19 47.0**	**-0.4**
PKGZ	**Pakihiroa**	**12.26**	**205**	P	**P**	**18 19 47.4**	**-2.1**
HAZ	**Te Kaha**	**12.26**	**207**	P	**P**	**18 19 45.5**	**-4.0**
PUZ	**Puketiti**	**12.36**	**204**	P	**P**	**18 19 48.9**	**-1.7**
RUGZ	**Raukumara Rang**	**12.48**	**207**	P	**P**	**18 19 48.4**	**-3.7**
TWGZ	**Tauwhareparae**	**12.55**	**205**	P	**P**	**18 19 49.9**	**-2.9**
CNGZ	**Carnagh Statio**	**12.74**	**204**	P	**P**	**18 19 52.7**	**-2.1**
OPRZ	**Ohinepanea**	**12.86**	**210**	P	**Pn**	**18 19 49.5**	**+3.9**
URZ	**Urewera**	**12.97**	**208**	Pn	**Pn**	**18 19 50.7**	**+3.5**
	11nm,0.3s,baz=123,slow=23,SNR=50						
URZ	**Urewera**	**12.97**	**208**	P	**Pn**	**18 19 50.6**	**+3.5**
KMRZ	**Kaimai**	**13.14**	**212**	P	**Pn**	**18 19 53.7**	**+4.1**
MUGZ	**Murupara**	**13.29**	**208**	P	**Pn**	**18 19 53.5**	**+1.9**
SNGZ	**Shannon Statio**	**13.32**	**206**	P	**P**	**18 19 57.6**	**-3.8**
RAHZ	**Arahi**	**13.54**	**206**	P	**Pn**	**18 19 57.3**	**+2.3**
TLZ	**Tolley Road**	**13.72**	**212**	P	**Pn**	**18 19 59.2**	**+1.7**
ASAR	**Alice Springs**	**45.79**	**262**	P	**P**	**18 25 02.2**	**-2.1**
	0.2nm,0.5s,baz=104,slow=6.5,SNR=6.0						
WRA	**Warramunga Arr**	**46.48**	**267**	P	**P**	**18 25 09.6**	**-0.2**
	0.4nm,0.4s,baz=109,slow=7.0,SNR=13						
SNAA	**Sanae**	**81.52**	**178**	P	**P**	**18 28 57.6**	**-1.7**
VNA3	**Neumayer Olymp**	**81.57**	**175**	P	**P**	**18 28 58.8**	**-0.7**
FINES	**FINESS Array B**	**142.62**	**343**	PKP	**PKiKP**	**18 36 21.5**	**+3.9**
	0.8nm,0.4s,baz=57,slow=5.1,SNR=17						

IDC 22 18:23:31.9±542.0,55.49N×39.66E,h0km,Error ellipse: s-maj=163.6km s-min=32.7km az=142.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**1.84**	**313**	*i*		18 36 00.0	
	baz=129,slow=317,SNR=3.1						
I37NO	**I37NO**	**16.63**	**333**	*i*		20 01 30.0	
	baz=135,slow=324,SNR=1.0						
I26DE	**FREYUNG INFRAS**	**17.18**	**258**	*i*		20 09 30.0	
	baz=62,slow=333,SNR=1.4						

MEX 22 18:46:57.2±0.5,14.91N×93.31W,h17km±999km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.80**	**6**	*eP*	Pb	18 47 10.1	-2.6
PCIG				*eS*	Sb	18 47 19.6	-3.5
CMIG	**Matias Romero**	**2.65**	**325**	*i P*	Pn	18 47 35.4	-3.8

INET ***22*** *18:47:48.9,9.74N×84.03W,h15km,MW2.7*
UPA ***22*** *18:47:53.6±1.2,9.81N×84.07W,h11km±5km,MW4.6*

ISC 22 18:47:51.8±1.2,9.77N±0.05×84.05W±0.05,h13km±11km, n14,σ0.51/26,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HDC	**Heredia**	**0.24**	**344**	*eP*	**Pb**	**18 47 58.4**	**+0.3**
HDC				*eS*	**Sb**	**18 48 02.3**	**0.0**
BATAN	**Batan**	**0.73**	**64**	*eP*	**Pn**	**18 48 07.5**	**-0.4**
BATAN				*eS*	**Sn**	**18 48 18.6**	**-0.3**
DRK0	**Durika**	**0.94**	**123**	*eP*	**Pb**	**18 48 09.4**	**-0.6**
DRK0				*eS*	**Sn**	**18 48 25.4**	**+1.3**
JTS	**Las Juntas de**	**1.03**	**300**	*eP*	**Pg**	**18 48 12.3**	**+0.6**
JTS				*eS*	**Sn**	**18 48 25.7**	**-0.6**
JTS	**Las Juntas de**	**1.03**	**300**	*i*	**Sn**	**18 48 25.7**	**-0.6**
JTS	**Las Juntas de**	**1.03**	**300**	*e*	**Pn**	**18 48 11.9**	**-0.1**
PIRO	**Carate, Puerto**	**1.53**	**153**	*eP*	**Pg**	**18 48 21.1**	**-0.1**
PIRO				*eS*	**Sg**	**18 48 40.5**	**-0.5**
CNI2	**El Empalme, Bo**	**1.59**	**102**	*eP*	**Pb**	**18 48 20.9**	**-0.2**
CNI2				*eS*	**Sb**	**18 48 41.0**	**0.0**
BRU2	**Volcan**	**1.65**	**126**	*eP*	**Pb**	**18 48 22.4**	**+0.2**
BRU2				*eS*	**Sg**	**18 48 44.7**	**-0.3**
CDITO	**Canoas**	**1.66**	**136**	*eP*	**Pb**	**18 48 22.0**	**-0.2**
CDITO				*eS*	**Sb**	**18 48 43.7**	**+0.6**
BC3P	**Paso Ancho**	**1.71**	**124**	*eP*	**Pb**	**18 48 23.5**	**+0.4**
BC3P				*eS*	**Sg**	**18 48 46.6**	**-0.1**
BCO2	**Palmira**	**1.83**	**125**	*eP*	**Pb**	**18 48 25.1**	**0.0**
BCO2				*eS*	**Sg**	**18 48 50.3**	**-0.3**
PSOM3	**Paja de Sombre**	**2.01**	**122**	*eP*	**Pb**	**18 48 27.8**	**-0.5**
PSOM3				*eS*	**Sb**	**18 48 54.0**	**+0.7**
CHGR2	**Aguacate**	**2.05**	**114**	*eP*	**Pb**	**18 48 28.9**	**0.0**
CHGR2				*eS*	**Sb**	**18 48 55.0**	**+0.6**

IDC 22 19:01:24.7±1.5,27.77N×100.56E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.2/48,mbtmp3.3/4,ML3.0/1,Error ellipse: s-maj=48.8km s-min=24.9km az=72.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.39**	**189**	Pn	Pn	19 03 42.2	+0.9
	0.0nm,0.3s,baz=5.9,slow=14,SNR=3.8						
CMAR				Lg	Lg	19 06 21.7	
	0.0nm,0.3s,baz=5.8,slow=28,SNR=2.7						
MKAR	**Makanchi Array**	**23.80**	**328**	P	P	19 06 38.9	-0.3
	0.3nm,0.7s,baz=130,slow=9.9,SNR=3.7						
WRA	**Warramunga Arr**	**57.61**	**142**	P	P	19 11 16.7	0.0
	0.6nm,0.6s,baz=328,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**60.42**	**145**	P	P	19 11 36.1	-0.1
	0.3nm,0.4s,baz=326,slow=6.7,SNR=12						

IDC ***22*** *19:05:20.8±28.0,23.36S×174.26W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.7/35,mbtmp4.1/4,Error ellipse: s-maj=510.4km s-min=149.2km az=78.0*
NEIC ***22*** *19:05:41.4±0.5,23.5S±0.3×176.2W±0.5,h49km±31km, mb4.5/10,Error ellipse: s-maj=75.5km s-min=27.9km az=114.0*

ISC 22 19:05:40.7±4.3,23.6S±0.6×176.0W±0.7,h50km,n16, σ0.996/15,mb4.3/10,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.42**	**24**	Pn	**Pn**	**19 08 07.7**	**0.0**
CTA	**Charters Tower**	**35.11**	**268**	P	**P**	**19 12 30.7**	**+1.1**
	1.0nm,0.3s,baz=80,slow=6.1,SNR=8.9						
STKA	**Stephens Creek**	**38.21**	**248**	P	**P**	**19 12 56.2**	**+0.4**
	2.7nm,1.0s,baz=63,slow=12,SNR=3.7						
AS31	**Alice Springs**	**45.66**	**259**	P	**P**	**19 13 55.9**	**-0.9**
ASAR	**Alice Springs**	**45.66**	**259**	P	**P**	**19 13 56.1**	**-0.7**
	0.3nm,0.4s,baz=96,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**45.66**	**259**	P	**P**	**19 13 56.0**	**-0.8**
WR0	**Warramunga Arr**	**45.86**	**265**	P	**P**	**19 13 57.3**	**-1.0**
WR0				IAmb	IAmb	19 14 19.9	
	comp=Z,6.9nm,1.3s						
WB2	**Warramunga Arr**	**46.04**	**265**	P	**P**	**19 13 58.8**	**-1.0**
WB2				IAmb	IAmb	19 14 01.9	
	comp=Z,1.1nm,1.4s						
WRAB	**Tennant Creek**	**46.04**	**265**	P	**P**	**19 13 58.8**	**-1.0**
WRAB				IAmb	IAmb	19 14 15.7	
	comp=Z,4.7nm,1.2s						
WB0	**Warramunga Arr**	**46.04**	**265**	P	**P**	**19 13 58.1**	**-1.7**
WB0				IAmb	IAmb	19 14 10.6	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**46.05**	**265**	P	**P**	**19 13 58.9**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=105,slow=8.4,SNR=22						
FORT	**Forrest**	**49.82**	**249**	P	**P**	**19 14 28.2**	**-0.6**
MTN	**Manton Dam**	**51.06**	**272**	P	**P**	**19 14 37.9**	**-0.5**
MTN				IAmb	IAmb	19 14 42.1	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**52.32**	**268**	P	**P**	**19 14 47.9**	**0.0**
FITZ	**Fitzroy Crossi**	**54.47**	**264**	P	**P**	**19 15 03.7**	**+0.1**
FITZ				IAmb	IAmb	19 15 25.6	
	comp=Z,9.4nm,1.4s						
SYO	**Syowa Base**	**84.14**	**192**	*eP*	P	19 18 16.4	+10

IDC 22 19:28:14.1±2.5,2.91N×129.21E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.3/42,mbtmp3.3/4,ML2.7/1,Error ellipse: s-maj=171.8km s-min=26.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.28**	**151**	Pn	Pn	19 29 19.3	-1.3
	0.4nm,0.3s,baz=270,slow=23,SNR=8.5						
SIJI				Sn	Sn	19 30 01.1	-10
	0.3nm,0.3s,baz=245,slow=23,SNR=1.4						
WRA	**Warramunga Arr**	**23.26**	**168**	P	P	19 33 24.0	+0.5
	1.0nm,0.9s,baz=348,slow=10,SNR=20						
ASAR	**Alice Springs**	**26.81**	**170**	P	P	19 33 56.2	-0.1
	0.2nm,0.5s,baz=343,slow=7.0,SNR=6.8						
MKAR	**Makanchi Array**	**59.65**	**324**	P	P	19 38 20.2	0.0
	0.1nm,0.4s,baz=130,slow=8.3,SNR=2.0						

NEIC ***22*** *19:28:17.1±0.6,43.73N±0.05×105.25W±0.05,h0km±2km, ML3.5/44,Error ellipse: s-maj=9.9km s-min=5.4km az=336.0*
IDC ***22*** *19:28:18.1±1.5,44.09N×105.83W,h0km,mb1 3.6/4, mb1mx3.4/40,mbtmp3.4/4,ML2.9/3,Error ellipse: s-maj=52.8km s-min=8.9km az=147.0*

ISC 22 19:28:17.4±1.2,43.76N±0.06×105.23W±0.08,h0km,n68, σ0.981/67,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.94**	**67**		**Pn**	**19 28 35.7**	**-2.3**
K22A	**Casper**	**1.45**	**221**		**Pn**	**19 28 42.1**	**-3.0**
K22A				IAML		19 29 08.2	
	comp=E,569nm,0.3s						
PHWY	**Pilot Hill**	**2.46**	**184**		**Pn**	**19 28 58.2**	**-0.8**
RWWY	**Rawlins**	**2.53**	**216**		**Pn**	**19 28 58.9**	**-1.0**
RWWY				IAML		19 29 34.0	
	comp=E,227nm,0.7s						
RWWY				IAML		19 29 34.5	
	comp=E,279nm,1.0s						
LAO	**LASA Array**	**3.01**	**347**		**Pn**	**19 29 05.5**	**-0.9**
LAO				IAML		19 29 56.4	
	comp=E,131nm,0.8s						
RLMT	**Red Lodge**	**3.19**	**297**		**Pn**	**19 29 08.4**	**-0.6**
RLMT				IAML		19 29 59.8	
	comp=E,85nm,0.3s						
RLMT				IAML		19 30 07.7	
	comp=E,76nm,0.7s						
BW06	**Boulder Array**	**3.31**	**254**		**Pn**	**19 29 09.9**	**-0.8**
PD31	**Pinedale Array**	**3.31**	**254**		**Pn**	**19 29 09.8**	**-0.9**
PDAR	**Pinedale Array**	**3.31**	**254**	Pn	**Pn**	**19 29 09.6**	**-1.1**
	comp=E,13nm,0.3s,baz=71,slow=16,SNR=44						
PDAR				Lg	Lg	19 29 51.0	
	comp=E,17nm,0.3s,baz=68,slow=31,SNR=7.3						
PDAR	**Pinedale Array**	**3.31**	**254**		**Pn**	**19 29 09.7**	**-0.9**
YNE	**Yellowstone No**	**3.64**	**292**		**Pn**	**19 29 14.6**	**-0.7**
YNE				IAML		19 30 13.2	
	comp=N,65nm,0.6s						
YNE				IAML		19 30 19.8	
	comp=E,78nm,0.3s						
YMP	**Mirror Lake Pl**	**3.67**	**287**		**Pn**	**19 29 15.4**	**-0.2**
OGNE	**Ogallala**	**3.68**	**139**		**Pn**	**19 29 15.7**	**+0.1**
GCMT	**Greycliff**	**3.75**	**304**		**Pn**	**19 29 16.3**	**-0.3**
LOHW	**Long Hollow**	**3.90**	**270**		**Pn**	**19 29 19.1**	**+0.4**
FLWY	**Flagg Ranch**	**3.96**	**277**		**Pn**	**19 29 20.1**	**+0.6**
FLWY				IAML		19 30 26.5	
	comp=E,53nm,2.3s						
FLWY				IAML		19 30 33.2	
	comp=E,48nm,1.1s						
ISCO	**Idaho Springs**	**3.96**	**184**		**Pn**	**19 29 19.1**	**-0.6**
REDW	**Red Top Meadow**	**4.10**	**266**		**Pn**	**19 29 21.0**	**-0.5**
REDW				IAML		19 30 28.5	
	comp=E,58nm,1.4s						
REDW				IAML		19 30 35.9	
	comp=E,47nm,0.8s						
TPAW	**Teton Pass**	**4.16**	**268**		**Pn**	**19 29 22.2**	**-0.1**
TPAW				IAML		19 30 43.2	
	comp=E,40nm,0.9s						
YHH	**Holmes Hill**	**4.16**	**286**		**Pn**	**19 29 22.6**	**+0.2**
O20A	**White River Ci**	**4.26**	**213**		**Pn**	**19 29 23.7**	**0.0**
O20A				IAML		19 31 09.8	
	comp=E,61nm,1.3s						
O20A				IAML		19 31 09.9	
	comp=N,67nm,2.2s						
AHID	**Auburn Hatcher**	**4.40**	**259**		**Pn**	**19 29 25.7**	**+0.1**
AHID				IAML		19 30 34.6	
	comp=N,48nm,0.7s						
AHID				IAML		19 30 39.3	
	comp=E,58nm,0.9s						
ECR	**Eagle Creek**	**4.53**	**263**		**Pn**	**19 29 28.2**	**+0.9**
RDMU	**Red Mountain**	**4.53**	**227**		**Pn**	**19 29 28.3**	**+0.9**
RDMU				IAML		19 30 39.2	
	comp=N,35nm,0.9s						
RDMU				IAML		19 30 42.4	
	comp=E,47nm,0.8s						
QLMT	**Earthquake Lak**	**4.58**	**286**		**Pn**	**19 29 28.7**	**+0.7**
SMCO	**Snowmass**	**4.76**	**197**		**Pn**	**19 29 30.5**	**-0.2**
SMCO				IAML		19 30 53.5	
	comp=E,34nm,0.7s						
SMCO				IAML		19 30 53.6	
	comp=E,32nm,0.8s						
DGMT	**Dagmar**	**4.77**	**8**		**Pn**	**19 29 31.6**	**+1.1**
HWUT	**Hardware Ranch**	**5.14**	**247**	Pn	**Pn**	**19 29 35.0**	**-0.7**
HWUT				IAML		19 31 36.3	
	comp=E,29nm,1.1s						
EGMT	**Eagleton**	**5.31**	**325**		**Pn**	**19 29 38.0**	**+0.1**
HRY	**Holter Researc**	**5.52**	**305**		**Pn**	**19 29 40.9**	**+0.1**
LRM	**Limekiln Ridge**	**5.54**	**294**		**Pn**	**19 29 41.0**	**-0.2**
SPUT	**South Promonto**	**5.87**	**248**	Pn	**Pn**	**19 29 44.8**	**-0.9**
HVU	**Hansel Valley**	**5.89**	**253**		**Pn**	**19 29 46.2**	**+0.2**
PV07	**Paradox Valley**	**5.91**	**207**		**Pn**	**19 29 46.5**	**+0.2**
BCYI	**Bear Canyon**	**5.92**	**278**	Pn	**Pn**	**19 29 47.8**	**+1.4**
PV15	**Paradox Valley**	**5.94**	**205**	Pn	**Pn**	**19 29 47.5**	**+0.7**
P17A	**Butcher Ranch,**	**5.94**	**226**		**Pn**	**19 29 47.2**	**+0.5**
SDCO	**Great Sand Dun**	**6.01**	**182**	Pn	**Pn**	**19 29 47.4**	**-0.4**
PV04	**Paradox Valley**	**6.03**	**209**		**Pn**	**19 29 47.9**	**-0.1**
MPU	**Maple Canyon**	**6.06**	**234**	Pn	**Pn**	**19 29 48.1**	**-0.3**
PV14	**Lion Creek, Pa**	**6.09**	**209**		**Pn**	**19 29 48.3**	**-0.6**
PV10	**Paradox Valley**	**6.09**	**209**	Pn	**Pn**	**19 29 49.5**	**+0.6**
PV20	**West Nyswonger**	**6.10**	**209**		**Pn**	**19 29 48.5**	**-0.5**
PV11	**David Mesa, Pa**	**6.11**	**208**		**Pn**	**19 29 48.5**	**-0.5**
PV16	**Nyswonger Mesa**	**6.11**	**208**		**Pn**	**19 29 49.2**	**+0.1**
SRU	**San Rafael Swe**	**6.11**	**222**		**Pn**	**19 29 47.8**	**-1.3**
PV19	**Morning Glory**	**6.13**	**209**	Pn	**Pn**	**19 29 49.1**	**-0.4**
PV03	**Paradox Valley**	**6.14**	**208**		**Pn**	**19 29 49.3**	**-0.2**
PV02	**Paradox Valley**	**6.14**	**207**		**Pn**	**19 29 50.0**	**+0.5**
PV01	**Paradox Valley**	**6.16**	**205**	Pn	**Pn**	**19 29 50.3**	**+0.5**
PV18	**Skein Mesa, Pa**	**6.17**	**208**		**Pn**	**19 29 49.4**	**-0.5**
PV13	**Radium Mtn., P**	**6.22**	**207**	Pn	**Pn**	**19 29 50.1**	**-0.5**
ECSD	**EROS Data Cent**	**6.24**	**87**		**Pn**	**19 29 51.8**	**+1.1**
TMUT	**Trail Mountain**	**6.32**	**227**		**Pn**	**19 29 51.9**	**-0.1**
PV05	**Paradox Valley**	**6.38**	**209**	Pn	**Pn**	**19 29 51.6**	**-1.2**
BGU	**Big Grassy Mou**	**6.43**	**247**	Pn	**Pn**	**19 29 53.0**	**-0.5**
Q16A	**Castle Valley**	**6.58**	**225**	Pn	**Pn**	**19 29 55.4**	**-0.2**
DUG	**Dugway, Tooele**	**6.67**	**240**		**Pn**	**19 29 56.7**	**-0.1**
MSU	**Marysvale**	**7.41**	**227**	Pn	**Pn**	**19 30 06.2**	**-0.7**
JTMT	**Jette**	**7.48**	**305**	Pn	**Pn**	**19 30 08.4**	**+0.6**
MTPU	**Mont Pierson**	**7.76**	**225**	Pn	**Pn**	**19 30 11.2**	**-0.7**
ELK	**Elko**	**8.01**	**251**	Pn	**Pn**	**19 30 16.1**	**+1.0**
	comp=E,0.3nm,0.3s,baz=63,slow=14,SNR=3.9						
ELK				Lg	Lg	19 32 20.6	
	comp=E,0.1nm,0.3s,baz=204,slow=20,SNR=2.1						
PSUT	**Pine Spring**	**8.34**	**234**	Pn	**Pn**	**19 30 19.8**	**+0.1**
F36A	**Milaca**	**8.59**	**72**	Pn	**Pn**	**19 30 22.9**	**0.0**
CCUT	**Cedar City**	**8.75**	**228**	Pn	**Pn**	**19 30 25.5**	**+0.2**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**19 30 28.8**	**-1.2**
	comp=E,1.4nm,0.3s,baz=228,slow=14,SNR=5.4						
ULM				Lg	Lg	19 33 01.6	
	comp=E,0.3nm,0.3s,baz=307,slow=18,SNR=1.9						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**19 31 00.3**	**+1.4**
	comp=E,0.1nm,0.3s,baz=55,slow=15,SNR=2.3						
TXAR	**Lajitas Array**	**14.45**	**175**	Lg	Lg	19 35 53.0	
	comp=E,0.0nm,0.3s,baz=11,slow=34,SNR=2.5						

INET ***22*** *19:34:26.5,12.44N×86.54W,h2km,MW1.6*

SNET 22 19:34:55.2±0.5,13.05N×89.22W,h36km±21km,ML3.1,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.59**	**15**	*eP*	Pn	19 35 07.4	0.0
LFRS				*eS*	Sn	19 35 16.8	+1.1
JAYA	**Jayaque - finc**	**0.64**	**339**	*eP*	Pn	19 35 07.8	-0.3
JAYA				*eS*	Sn	19 35 17.0	0.0
JAYA				IAML		19 35 18.2	
	comp=Z,763nm,0.2s						
COEG	**Centro de Oper**	**0.66**	**30**	*eP*	Pn	19 35 08.1	-0.1
COEG				*eS*	Sn	19 35 18.3	+1.0
PMON	**Piamonte**	**0.67**	**352**	*eP*	Pn	19 35 08.6	+0.3
PMON				*eS*	Sn	19 35 18.6	+1.1
TACO	**Tacachico**	**0.93**	**352**	*eP*	Pn	19 35 11.9	+0.2
TACO				*eS*	Sn	19 35 25.0	+1.2

IASPEI ***22*** *19:47:26.6±0.9,35.84N±0.02×97.46W±0.03,h6km±7km, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ANF ***22*** *19:47:26.4±0.6,35.86N×97.45W,h6km±4km,ML3.8/9, Error ellipse: s-maj=3.9km s-min=2.7km az=124.0*
TUL ***22*** *19:47:26.9±1.1,35.82N±0.02×97.45W±0.04,h5km±6km, ML3.4,mb_Lg3.3/119(NEIC),Error ellipse: s-maj=4.9km s-min=1.9km az=77.0*
NEIC ***22*** *19:47:26.7±0.5,35.84N±0.01×97.46W±0.04,h6km±6km, Error ellipse: s-maj=5.1km s-min=1.4km az=72.0*

ISC 22 19:47:26.6±0.8,35.83N±0.02×97.46W±0.02,h6km±6km, n107,σ0.963/82,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Cake**	**0.03**	**176**		**Pg**	**19 47 27.9**	**+0.1**
OK029				Sg	**Sg**	**19 47 28.6**	**-0.2**
BCOK	**Bluff Creek, N**	**0.21**	**216**		**Pg**	**19 47 31.3**	**+0.6**
BCOK				Sg	**Sg**	**19 47 34.1**	**+0.5**
OK009	**Oakdale Elemen**	**0.25**	**173**		**Pg**	**19 47 31.8**	**+0.3**
OK025	**Westminster Rd**	**0.27**	**159**		**Pg**	**19 47 32.2**	**+0.4**
OK025				Sg	**Sg**	**19 47 35.9**	**+0.6**
OK005	**Luther M Schoo**	**0.28**	**129**		**Pg**	**19 47 32.5**	**+0.4**
OK005				Sg	**Sg**	**19 47 36.2**	**+0.5**
OK001	**Jones High Sch**	**0.30**	**153**	Pg	**Pg**	**19 47 32.9**	**+0.4**
OKCFA	**Oklahoma City**	**0.41**	**179**		**Pg**	**19 47 34.9**	**+0.3**
OKCFA				Sg	**Sg**	**19 47 40.4**	**+0.4**
OKCFA	**Oklahoma City**	**0.41**	**179**	P	**Pg**	**19 47 34.9**	**+0.3**
	baz=358,SNR=37						
OKCFA				S	**Sg**	**19 47 40.9**	**+0.9**
	baz=358						
OKCFA	**Oklahoma City**	**0.41**	**179**	P		19 47 34.9	
	baz=358,SNR=37						
OKCFA				S		19 47 40.9	
	baz=358						
OKCSW	**OKLAHOMA CITY**	**0.42**	**178**		**Pg**	**19 47 35.0**	**+0.3**
OKCSW				Sg	**Sg**	**19 47 41.1**	**+0.8**
OK031	**S. Brethren Rd**	**0.52**	**76**		**Pg**	**19 47 37.0**	**+0.5**
OK031				Sg	**Sg**	**19 47 43.6**	**+0.3**
OK030	**Cody Creek RV**	**0.56**	**80**	Pg	**Pg**	**19 47 37.6**	**+0.3**
FNO	**Franklin**	**0.57**	**175**		**Pg**	**19 47 37.8**	**+0.2**
FNO				Sg	**Sg**	**19 47 45.6**	**+0.5**
QUOK	**Quay**	**0.70**	**61**		**Pg**	**19 47 40.3**	**+0.3**
OK011	**Prague**	**0.72**	**118**	Sg	**Sg**	**19 47 49.9**	**+0.3**
CROK	**Carrier**	**0.80**	**328**		**Pg**	**19 47 42.2**	**+0.4**
W35A	**Tecumseh**	**0.83**	**145**		**Pg**	**19 47 42.1**	**-0.3**
W35A				IAmb_Lg		19 47 53.9	
	comp=Z,554nm,0.9s						
BLOK	**Blackwell**	**0.95**	**12**		**Pg**	**19 47 44.9**	**+0.1**
OK032	**Salt Plains WL**	**1.15**	**328**		**Pg**	**19 47 48.5**	**0.0**
KAN13	**South Haven SW**	**1.18**	**359**	Pg	**Pg**	**19 47 49.2**	**0.0**
KAN13				Sg	**Sg**	**19 48 03.6**	**-1.0**
KAN14	**Manchester OK**	**1.20**	**340**		**Pg**	**19 47 49.4**	**-0.1**
KAN17	**Caldwell West**	**1.24**	**349**	Pg	**Pg**	**19 47 50.2**	**0.0**
X34A	**Smith Ranch, M**	**1.26**	**194**		**Pn**	**19 47 50.7**	**-0.1**
KAN09	**Caldwell North**	**1.31**	**354**	Pn	**Pn**	**19 47 51.5**	**+0.1**
KAN05	**Bluff City Nor**	**1.32**	**345**	Pn	**Pn**	**19 47 51.4**	**-0.1**
T35A	**Sooner Cattle**	**1.33**	**35**	Pn	**Pn**	**19 47 51.4**	**-0.2**
T35B	**Sooner Cattle**	**1.33**	**35**	P	**Pn**	**19 47 51.5**	**-0.1**
	baz=216,SNR=68						
T35B				S	**Sb**	**19 48 09.2**	**+0.1**
	baz=216						
T35B	**Sooner Cattle**	**1.33**	**35**	P		19 47 51.5	
	baz=216,SNR=68						
T35B

	baz=293								
CBKS	**Cedar Bluff**	**3.49**	**329**			**Pb**		**19 48 30.7**	**+2.0**
CBKS				IAmb_Lg				19 49 25.6	
	comp=Z,105nm,0.9s								
AMTX	**Amarillo**	**3.58**	**256**			**Pn**		**19 48 22.4**	**-0.2**
AMTX				IAmb_Lg				19 49 23.9	
	comp=Z,65nm,0.8s								
ABTX	**Abilene, Hawle**	**3.67**	**210**	Pg		**Pb**		**19 48 32.1**	**+0.2**
ABTX				IAmb_Lg				19 49 25.9	
	comp=Z,68nm,0.8s								
U40A	**Yellville**	**3.77**	**81**	Pg		**Pb**		**19 48 32.4**	**-1.0**
S39A	**Bolivar**	**3.80**	**60**			**Pn**		**19 48 25.6**	**-0.1**
S39A				Pg		**Pb**		**19 48 34.3**	**+0.3**
S39A				IAmb_Lg				19 49 32.1	
	comp=Z,86nm,0.7s								
WHTX	**Lake Whitney,**	**3.83**	**180**	IAmb_Lg				19 49 30.0	
	comp=Z,43nm,1.1s								
X40A	**Basin Creek Fa**	**4.02**	**108**			**Pn**		**19 48 29.9**	**+1.3**
X40A				IAmb_Lg				19 49 34.3	
	comp=Z,71nm,0.7s								
237A	**Washetta, Mont**	**4.06**	**160**			**Pb**		**19 48 36.0**	**-2.4**
237A				IAmb_Lg				19 49 44.0	
	comp=Z,46nm,0.8s								
WLAR	**White Oak Lake**	**4.17**	**120**	IAmb_Lg				19 49 48.5	
	comp=Z,57nm,0.7s								
WHAR	**Wooly Hollow**	**4.25**	**96**	Pn		**Pn**		**19 48 32.2**	**+0.5**
WHAR				IAmb_Lg				19 49 42.1	
	comp=Z,53nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.33**	**88**			**Pn**		**19 48 33.1**	**+0.2**
FCAR				IAmb_Lg				19 49 46.0	
	comp=Z,62nm,0.8s								
MGMO	**Mountain Grove**	**4.38**	**71**			**Pn**		**19 48 34.0**	**+0.4**
MGMO				IAmb_Lg				19 49 45.1	
	comp=Z,69nm,0.8s								
Z41A	**Richland Creek**	**4.62**	**122**	S		**Sn**		**19 49 30.7**	**-0.1**
	baz=305								
Z41A	**Richland Creek**	**4.62**	**122**	S				19 49 30.7	
	baz=305								
Z41A				S				19 49 30.7	
	baz=305								
NATX	**Nacogdoches**	**4.68**	**149**	IAmb_Lg				19 50 07.8	
	comp=Z,33nm,0.9s								
MSTX	**Muleshoe**	**4.75**	**249**			**Pb**		**19 48 48.6**	**-1.6**
R40A	**Maddies Statio**	**4.82**	**58**			**Pn**		**19 48 39.9**	**+0.2**
R40A				IAmb_Lg				19 50 01.0	
	comp=Z,61nm,0.8s								
P38A	**Dawn**	**4.90**	**38**			**Pn**		**19 48 40.5**	**-0.2**
P38A				IAmb_Lg				19 50 03.7	
	comp=Z,55nm,1.0s								
435B	**Jarrell**	**5.04**	**181**	IAmb_Lg				19 50 12.8	
	comp=Z,94nm,0.9s								
CCAR	**Cane Creek**	**5.05**	**111**	IAmb_Lg				19 50 14.7	
	comp=Z,73nm,0.8s								
LCAR	**Lake Charles**	**5.12**	**85**			**Pn**		**19 48 43.4**	**-0.4**
LCAR				IAmb_Lg				19 50 23.9	
	comp=Z,31nm,0.7s								
KSCO	**Kaye Shedlock'**	**5.20**	**309**	IAmb_Lg				19 50 24.1	
	comp=Z,42nm,0.7s								
N35A	**Tabor**	**5.22**	**15**			**Pn**		**19 48 45.0**	**-0.1**
CCM	**Cathedral Cave**	**5.45**	**64**	Pn		**Pn**		**19 48 48.0**	**-0.2**
CCM				IAmb_Lg				19 50 34.9	
	comp=Z,34nm,0.8s								
BGNE	**Belgrade**	**5.60**	**355**	IAmb_Lg				19 50 30.8	
	comp=Z,63nm,0.7s								
T25A	**Trinidad**	**5.75**	**285**	IAmb_Lg				19 50 40.8	
	comp=Z,61nm,1.0s								
PBMO	**Poplar Bluff**	**5.75**	**78**	IAmb_Lg				19 50 28.0	
	comp=Z,48nm,0.8s								
LPAR	**Lepanto**	**5.83**	**90**	IAmb_Lg				19 50 45.8	
	comp=Z,69nm,0.8s								
143A	**Socs Landing,**	**5.90**	**120**	IAmb_Lg				19 50 41.6	
	comp=Z,38nm,0.8s								
N38A	**Joes South For**	**5.96**	**33**			**Pn**		**19 48 54.7**	**-0.6**
OGNE	**Ogallala**	**6.24**	**326**			**Pn**		**19 48 59.4**	**+0.1**
OXF	**Oxford**	**6.72**	**99**	IAmb_Lg				19 51 14.6	
	comp=Z,52nm,1.0s								
W45A	**Hickory Valley**	**6.78**	**93**	IAmb_Lg				19 51 12.4	
	comp=Z,44nm,0.7s								
Y45A	**Yeager Farm, C**	**6.80**	**104**	IAmb_Lg				19 51 16.9	
	comp=Z,24nm,0.9s								
S44A	**Carbondale**	**6.84**	**72**	IAmb_Lg				19 51 05.3	
	comp=Z,42nm,0.8s								
SIUC	**Southern Illin**	**6.88**	**72**	IAmb_Lg				19 51 12.3	
	comp=Z,50nm,0.8s								
735A	**Kenedy**	**6.96**	**183**	IAmb_Lg				19 51 18.4	
	comp=Z,37nm,0.8s								
ISCO	**Idaho Springs**	**7.57**	**304**	IAmb_Lg				19 51 37.7	
	comp=Z,22nm,0.9s								
PLAL	**Pickwick Lake**	**7.71**	**94**	IAmb_Lg				19 51 35.6	
	comp=Z,20nm,1.2s								
MNTX	**Cornudas Mount**	**7.78**	**240**	Pn		**Pn**		**19 49 20.3**	**+0.1**
L40A	**Anamosa**	**7.89**	**36**	IAmb_Lg				19 51 50.0	
	comp=Z,41nm,0.8s								
ECSD	**EROS Data Cent**	**7.92**	**4**	IAmb_Lg				19 51 40.5	
	comp=Z,21nm,0.9s								
Y22D	**IRIS PASSCAL I**	**7.96**	**260**	IAmb_Lg				19 51 54.3	
	comp=Z,30nm,0.8s								
USIN	**University of**	**8.13**	**72**	IAmb_Lg				19 51 52.8	
	comp=Z,28nm,0.8s								
SMCO	**Snowmass**	**8.27**	**297**	IAmb_Lg				19 51 51.8	
	comp=Z,20nm,1.3s								
PHWY	**Pilot Hill**	**8.31**	**313**	IAmb_Lg				19 51 53.9	
	comp=Z,49nm,1.2s								
SUSD	**Miller**	**8.68**	**353**	IAmb_Lg				19 52 18.9	
	comp=Z,28nm,0.8s								
I37A	**Lemond, Waseca**	**8.75**	**20**	IAmb_Lg				19 52 11.7	
	comp=Z,40nm,0.9s								
WCI	**Wyandotte Cave**	**9.24**	**72**	IAmb_Lg				19 52 23.5	
	comp=Z,21nm,0.7s								
Y49A	**Blount Mountai**	**9.29**	**99**	IAmb_Lg				19 52 33.5	
	comp=Z,18nm,1.0s								
BLO	**Bloomington**	**9.31**	**66**	IAmb_Lg				19 52 29.7	
	comp=Z,38nm,0.8s								
SFIN	**Lafayette**	**9.34**	**58**	IAmb_Lg				19 52 31.1	
	comp=Z,30nm,0.8s								
PV12	**Saucer Basin,**	**9.40**	**289**	IAmb_Lg				19 52 49.6	
	comp=Z,19nm,1.1s								
SWET	**Sewanee**	**9.42**	**90**	IAmb_Lg				19 52 31.6	
	comp=Z,16nm,0.9s								
PV11	**David Mesa, Pa**	**9.45**	**288**	IAmb_Lg				19 52 43.7	
	comp=Z,21nm,1.0s								
PV04	**Paradox Valley**	**9.49**	**289**	IAmb_Lg				19 52 35.8	
	comp=Z,24nm,1.3s								
RWWY	**Rawlins**	**9.60**	**310**	IAmb_Lg				19 52 53.7	
	comp=Z,16nm,1.0s								
I40A	**Norwalk**	**9.61**	**31**	IAmb_Lg				19 52 36.6	
	comp=Z,25nm,0.8s								
K22A	**Casper**	**9.79**	**317**	IAmb_Lg				19 53 00.0	
	comp=Z,23nm,0.9s								
W50A	**Signal Mountai**	**9.92**	**90**	IAmb_Lg				19 52 42.6	
	comp=Z,17nm,0.8s								

*IDC **22** 19:51:48.8±66.0, 38°.75N×20°.53E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.2/28, mbtmp3.4/3, Error ellipse: s-maj=1215.0km s-min=69.2km az=48.0*
*ATH **22** 19:51:50.8, 38°.66N×20°.53E, h12km±1km, ML3.2/20, Error ellipse: s-maj=1.3km s-min=0.6km az=299.0*
*THE **22** 19:51:51.0, 38°.64N×20°.51E, h0km±1km, ML3.2/17, Error ellipse: s-maj=1.1km s-min=0.4km az=301.0*

ISC 22 19:51:51.2±0.8,**38°.65N**±0°.02×**20°.53E**±0°.02,**h9**km±4km, **n63**,σ0**s99**/101,**mb3.3**/3,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
DRAG	**Dragano-Lefkad**	**0.05**	**43**	P		**Pg**	**19**	**51 52.7**	**-0.4**
DRAG				S		**Sg**	**19**	**51 54.0**	**-0.5**
DRAG	**Dragano-Lefkad**	**0.05**	**43**	P		**Pg**	**19**	**51 52.7**	**-0.4**
DRAG				S		**Sg**	**19**	**51 53.9**	**-0.5**
EVGl	**Lefkada island**	**0.10**	**105**	P		**Pg**	**19**	**51 53.6**	**-0.1**
EVGl				S		**Sg**	**19**	**51 55.6**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.15**	**63**	P		**Pg**	**19**	**51 54.2**	**-0.2**
NYDR				S		**Sg**	**19**	**51 56.5**	**-0.1**
	11μm,0.4s								
NYDR	**Nydri-Lefkada**	**0.15**	**63**	P		**Pg**	**19**	**51 54.0**	**-0.4**
NYDR				S		**Sg**	**19**	**51 56.6**	**0.0**
LKD2	**Lefkada island**	**0.17**	**35**	P		**Pg**	**19**	**51 54.8**	**-0.1**
LKD2				S		**Sg**	**19**	**51 57.1**	**-0.3**
	25μm,0.4s								
LKD2	**Lefkada island**	**0.17**	**35**	P		**Pg**	**19**	**51 54.6**	**-0.2**
LKD2				S		**Sg**	**19**	**51 57.2**	**-0.2**
LKD2				AML		AML	19	51 57.9	
	comp=E,54175μm,0.5s								
LKD2				AML		AML	19	51 58.1	
	comp=N,46513μm,0.2s								
FSK	**Fiskardo**	**0.19**	**173**	P		**Pg**	**19**	**51 55.3**	**+0.2**
FSK				S		**Sg**	**19**	**51 58.3**	**+0.5**
	comp=N,10μm,0.3s								
FSK	**Fiskardo**	**0.19**	**173**	P		**Pg**	**19**	**51 55.2**	**+0.1**
FSK				S		**Sg**	**19**	**51 58.5**	**+0.7**
FSK				AML		AML	19	51 59.4	
	comp=N,18340μm,0.4s								
FSK				AML		AML	19	51 59.7	
	comp=E,21929μm,0.3s								
TSLK	**Tsoukalades, L**	**0.20**	**29**	P		**Pg**	**19**	**51 55.4**	**0.0**
TSLK				S		**Sg**	**19**	**51 59.0**	**+0.8**
TSLK	**Tsoukalades, L**	**0.20**	**29**	P		**Pg**	**19**	**51 55.3**	**-0.1**
TSLK				S		**Sg**	**19**	**51 58.1**	**-0.1**
KEF5	**Kardakata, Kep**	**0.37**	**188**	P		**Pg**	**19**	**51 58.3**	**-0.2**
KEF5				S		**Sg**	**19**	**52 04.2**	**+0.8**
KEF5	**Kardakata, Kep**	**0.37**	**188**	P		**Pg**	**19**	**51 58.3**	**-0.2**
KEF5				S		**Sg**	**19**	**52 03.9**	**+0.4**
KEF4	**Livadi, Kephal**	**0.40**	**192**	P		**Pg**	**19**	**51 58.7**	**-0.3**
DMLN	**Damoulianata-K**	**0.43**	**197**	P		**Pg**	**19**	**51 59.2**	**-0.3**
DMLN				S		**Sg**	**19**	**52 04.5**	**-0.7**
	comp=E,5μm,0.6s								
DMLN	**Damoulianata-K**	**0.43**	**197**	P		**Pg**	**19**	**51 59.2**	**-0.3**
DMLN				S		**Sg**	**19**	**52 05.5**	**+0.3**
LXRA	**Lixouri, Kepha**	**0.45**	**189**	P		**Pg**	**19**	**51 59.8**	**-0.3**
LXRA				S		**Sg**	**19**	**52 06.8**	**+0.8**
KEF3	**Kipouria, Keph**	**0.47**	**198**	P		**Pg**	**19**	**51 59.5**	**-0.8**
KEF3				S		**Sg**	**19**	**52 06.2**	**-0.2**
KEF3	**Kipouria, Keph**	**0.47**	**198**	P		**Pg**	**19**	**51 59.4**	**-0.8**
KEF3				S		**Sg**	**19**	**52 06.5**	**+0.1**
ARGA	**Argostoli. Kep**	**0.47**	**185**	P		**Pg**	**19**	**51 59.8**	**-0.5**
ARGA				S		**Sg**	**19**	**52 07.1**	**+0.5**
VLS	**Valsamata**	**0.47**	**174**	P		**Pg**	**19**	**52 00.0**	**-0.4**
VLS				S		**Sg**	**19**	**52 07.2**	**+0.6**
	comp=E,3μm,0.2s								
VLS	**Valsamata**	**0.47**	**174**	P		**Pg**	**19**	**51 59.8**	**-0.6**
VLS				S		**Sg**	**19**	**52 06.8**	**+0.2**
VLS				AML		AML	19	52 08.5	
	comp=N,5228μm,0.2s								
VLS				AML		AML	19	52 10.0	
	comp=E,5288μm,0.2s								
PDO	**Prodromos**	**0.51**	**95**	P		**Pg**	**19**	**52 00.9**	**-0.2**
PDO				S		**Sg**	**19**	**52 08.5**	**+0.6**
	comp=E,4μm,0.3s								
PDO	**Prodromos**	**0.51**	**95**	P		**Pg**	**19**	**52 00.7**	**-0.4**
PDO				S		**Sg**	**19**	**52 08.0**	**+0.1**
PDO				AML		AML	19	52 14.4	
	comp=N,6958μm,0.4s								
PDO				AML		AML	19	52 18.3	
	comp=E,4583μm,0.2s								
PSDA	**Pessada-Kefalo**	**0.53**	**176**	P		**Pg**	**19**	**52 01.0**	**-0.6**
VLMS	**Volimes, Zakyn**	**0.78**	**172**	P		**Pg**	**19**	**52 05.2**	**-0.9**
VLMS	**Volimes, Zakyn**	**0.78**	**172**	P		**Pg**	**19**	**52 05.1**	**-1.1**
VLMS				AML		AML	19	52 29.2	
	comp=E,3279μm,0.3s								
VLMS				AML		AML	19	52 29.6	
	comp=N,5906μm,0.5s								
PVO	**Paravola**	**0.78**	**92**	P		**Pg**	**19**	**52 06.3**	**+0.1**
PVO				S		**Sb**	**19**	**52 18.1**	**+0.6**
	comp=N,4μm,0.4s								
PVO	**Paravola**	**0.78**	**92**	P		**Pg**	**19**	**52 05.7**	**-0.5**
PVO				AML		AML	19	52 19.9	
	comp=N,11324μm,0.4s								
PVO				AML		AML	19	52 21.6	
	comp=E,5731μm,0.3s								
IGT	**Igoumenitsa**	**0.90**	**350**	P		**Pg**	**19**	**52 07.6**	**-0.9**
IGT				S		**Sb**	**19**	**52 21.1**	**+0.1**
	comp=E,2μm,0.6s								
IGT	**Igoumenitsa**	**0.90**	**350**	P		**Pg**	**19**	**52 06.7**	**-1.7**
IGT				AML		AML	19	52 26.0	
IGT				AML		AML	19	52 26.2	
	comp=N,2593μm,0.6s								
	comp=E,3273μm,0.5s								
RLS	**Riolos of Patr**	**0.94**	**128**	P		**Pg**	**19**	**52 08.8**	**-0.5**
RLS				S		**Sb**	**19**	**52 22.4**	**+0.2**
	comp=E,1μm,0.4s								
RLS	**Riolos of Patr**	**0.94**	**128**	P		**Pg**	**19**	**52 08.5**	**-0.8**
RLS				AML		AML	19	52 28.7	
	comp=N,2854μm,0.4s								
RLS				AML		AML	19	52 29.6	
	comp=E,3164μm,0.4s								
LTHK	**Lithakia**	**0.97**	**166**	P		**Pg**	**19**	**52 08.5**	**-1.3**
LTHK				S		**Sb**	**19**	**52 23.3**	**+0.4**
	comp=E,732nm,0.4s								
EVR	**Evrytania**	**1.03**	**75**	P		**Pg**	**19**	**52 10.2**	**-0.9**
EVR				S		**Sb**	**19**	**52 25.8**	**+0.8**
EVR	**Evrytania**	**1.03**	**75**	P		**Pg**	**19**	**52 09.9**	**-1.2**
EVR				AML		AML	19	52 33.4	
	comp=E,935μm,0.7s								
EVR				AML		AML	19	52 35.0	
	comp=N,1028μm,0.6s								
JAN	**Janina**	**1.04**	**14**	P		**Pg**	**19**	**52 10.1**	**-1.0**
JAN				S		**Sb**	**19**	**52 26.4**	**+1.3**
	comp=N,782nm,0.3s								
ANX	**Ano Chora**	**1.09**	**92**	P		**Pg**	**19**	**52 11.3**	**-0.8**
ANX				S		**Sn**	**19**	**52 28.7**	**+0.8**
	comp=N,3μm,0.6s								
ANX	**Ano Chora**	**1.09**	**92**	P		**Pg**	**19**	**52 10.9**	**-1.2**
ANX				AML		AML	19	52 34.6	
ANX				AML		AML	19	52 34.9	
	comp=E,5508μm,0.6s								
	comp=N,4613μm,0.6s								
EFP	**Efpalio**	**1.10**	**101**	P		**Pg**	**19**	**52 11.8**	**-0.5**
EFP				S		**Sb**	**19**	**52 27.6**	**+0.8**
EFP	**Efpalio**	**1.10**	**101**	P		**Pg**	**19**	**52 10.9**	**-1.4**
EFP				AML		AML	19	52 34.4	
	comp=N,6094μm,0.5s								
EFP				AML		AML	19	52 34.6	
	comp=E,6845μm,0.5s								
DRO	**Drossia**	**1.16**	**126**	P		**Pg**	**19**	**52 13.3**	**-0.1**
DRO				S		**Sb**	**19**	**52 29.8**	**+1.3**
	comp=E,2μm,0.4s								
DRO	**Drossia**	**1.16**	**126**	P		**Pg**	**19**	**52 12.5**	**-0.9**
DRO				AML		AML	19	52 36.9	
	comp=N,3352μm,0.3s								
DRO				AML		AML	19	52 38.1	
	comp=E,3469μm,0.4s								
KEK	**Kerkira**	**1.21**	**332**	P		**Pb**	**19**	**52 14.2**	**0.0**
KEK				S		**Sb**	**19**	**52 30.7**	**+0.8**
	comp=E,532nm,0.5s								
KEK	**Kerkira**	**1.21**	**332**	P		**Pg**	**19**	**52 13.2**	**-1.2**
KEK				AML		AML	19	52 40.3	
	comp=E,1306μm,0.4s								
KEK				AML		AML	19	52 41.5	
	comp=N,853μm,0.6s								
LAKA	**Lakka**	**1.21**	**109**	P		**Pg**	**19**	**52 13.0**	**-1.4**
LAKA				AML		AML	19	52 37.7	
LAKA				AML		AML	19	52 39.3	
	comp=N,5427μm,0.6s								
	comp=E,6082μm,0.7s								
SERG	**Sergoula**	**1.22**	**101**	P		**Pg**	**19**	**52 13.5**	**-1.1**
SERG				S		**Sn**	**19**	**52 32.9**	**+1.9**
	comp=E,1μm,0.5s								
SERG	**Sergoula**	**1.22**	**101**	P		**Pg**	**19**	**52 13.0**	**-1.6**
SERG				AML		AML	19	52 38.7	
	comp=N,2320μm,0.4s								
SERG				AML		AML	19	52 39.5	
	comp=E,1797μm,0.5s								
TRIZ	**Trizonia**	**1.24**	**103**	P		**Pg**	**19**	**52 13.2**	**-1.8**
SRN	**Sarande**	**1.30**	**342**	P		**Pn**	**19**	**52 16.0**	**+0.6**
SRN				S		**Sn**	**19**	**52 34.4**	**+1.5**
MAKR	**Makrakomi, Fth**	**1.30**	**73**	P		**Pg**	**19**	**52 15.0**	**-1.2**
MAKR				AML		AML	19	52 43.0	
	comp=E,985μm,0.6s								
MAKR				AML		AML	19	52 43.6	
	comp=N,717μm,0.7s								
KLV	**Kalavryta, Ach**	**1.41**	**115**	P		**Pn**	**19**	**52 15.8**	**-1.2**
KLV				AML		AML	19	52 46.8	
	comp=E,674μm,0.5s								
KLV				AML		AML	19	52 47.3	
	comp=N,734μm,0.5s								
AMT	**Artemida-Makis**	**1.45**	**140**	P		**Pn**	**19**	**52 18.1**	**+0.5**
AMT				S		**Sn**	**19**	**52 38.8**	**+2.1**
AMT	**Artemida-Makis**	**1.45**	**140**	P		**Pn**	**19**	**52 16.9**	**-0.7**
AMT				AML		AML	19	52 51.6	
	comp=N,1288μm,0.8s								
AMT				AML		AML	19	52 55.2	
	comp=E,1057μm,0.5s								
AGG	**Agios Georgios**	**1.45**	**75**	P		**Pn**	**19**	**52 17.9**	**+0.3**
AGG				S		**Sn**	**19**	**52 39.1**	**+2.3**
	comp=E,488nm,0.4s								
AGG	**Agios Georgios**	**1.45**	**75**	P		**Pn**	**19**	**52 17.5**	**-0.1**
AGG				AML		AML	19	52 47.9	
	comp=N,963μm,0.4s								
AGG				AML		AML	19	52 48.2	
	comp=E,1003μm,0.4s								
THL	**Klokotos Trika**	**1.47**	**51**	P		**Pn**	**19**	**52 18.2**	**+0.3**
THL				S		**Sn**	**19**	**52 39.9**	**+2.7**
	comp=E,608nm,0.7s								
THL	**Klokotos Trika**	**1.47**	**51**	P		**Pn**	**19**	**52 17.7**	**-0.1**
THL				AML		AML	19	52 43.2	
	comp=E,1118μm,0.8s								
THL				AML		AML	19	52 43.6	
	comp=N,1349μm,0.7s								
OHR	**Ohrid**	**2.47**	**5**	*i* Pn		**Pn**	**19**	**52 33.6**	**+1.9**
STIP	**Stip**	**3.30**	**22**	*i* Pn		**Pn**	**19**	**52 46.5**	**+3.6**
FINES	**FINESS Array B**	**23.08**	**7**	P		**P**	**19**	**56 54.6**	**-2.1**
	comp=N,0.4nm,0.5s,baz=194,slow=11,SNR=1.7								
MKAR	**Makanchi Array**	**45.05**	**59**	P		**P**		**20 00 05.5**	**-1.6**
	comp=N,0.2nm,0.6s,baz=272,slow=8.0,SNR=4.0								
ZALV	**Zalesovo Beam**	**45.37**	**48**	P		**P**		**20 00 08.2**	**-1.3**
	comp=N,0.8nm,0.5s,baz=279,slow=9.3,SNR=2.2								

*INMG **22** 20:45:50.2±1.1, 36°.94N×13°.00W, h10km, ML2.1, Error ellipse: s-maj=5.8km s-min=4.5km az=81.0*
*MDD **22** 20:45:50.2±1.9, 37°.26N×12°.35W, h0km, mb4.0/2, Error ellipse: s-maj=14.5km s-min=10.7km az=34.0, PRXIMO*
*CNRM **22** 20:45:51.0, 36°.31N×12°.12W, h0km, Hypocentre not reviewed by the ISC*

ISC 22 20:45:50.9±2.9,**37°.31N**±0°.08×**12°.4W**±0°.1,**h10**km,**n51**, σ1**s99**/94,**Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PFVI	**Vila Bisbo**	**2.83**	**93**	P		**Pn**	**20**	**46 36.2**	**+0.2**
	3.2nm,0.1s,SNR=5.9								
PFVI				S		**Sn**	**20**	**47 10.9**	**+0.7**
	6.1nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**2.83**	**93**	*e*Pn		**Pn**	**20**	**46 36.2**	**+0.2**
PFVI				*e*Sn		**Sn**	**20**	**47 11.3**	**+1.1**
PFVI				A		A	20	47 18.6	
	6.7nm,0.7s								
PTEO	**Sao Teotonio**	**2.90**	**84**	P		**Pn**	**20**	**46 37.9**	**+0.8**
PTEO				S		**Sn**	**20**	**47 13.6**	**+1.5**
	2.5nm,0.8s								
PTEO	**Sao Teotonio**	**2.90**	**84**	*e*Pn		**Pn**	**20**	**46 37.9**	**+0.8**
PTEO				*e*Sn		**Sn**	**20**	**47 13.6**	**+1.5**
PTEO				A		A	20	47 19.1	
	5.0nm,0.8s								
PMAFR	**Mafra**	**2.93**	**55**	P		**Pn**	**20**	**46 39.7**	**+2.2**
	3.5nm,0.1s,SNR=7.9								
PMAFR				S		**Sb**	**20**	**47 16.2**	**-2.8**
	8.4nm,0.2s,SNR=7.9								
PMAFR	**Mafra**	**2.93**	**55**	*e*Pn		**Pn**	**20**	**46 39.6**	**+2.2**
PMAFR				*e*Sn		**Sb**	**20**	**47 17.2**	**-1.8**
MORF	**Marmelete**	**2.96**	**89**	P		**Pn**	**20**	**46 36.5**	**-1.4**
MORF	**Marmelete**	**2.96**	**89**	*e*Pn		**Pn**	**20**	**46 36.5**	**-1.4**
PNCL	**Nicolau / Gran**	**3.14**	**74**	P		**Pn**	**20**	**46 41.6**	**+1.2**
PNCL				S		**Sb**	**20**	**47 21.4**	**-3.7**
	2.3nm,0.3s								
PNCL	**Nicolau / Gran**	**3.14**	**74**	*e*Pn		**Pn**	**20**	**46 41.6**	**+1.2**
PNCL				*e*Sn		**Sb**	**20**	**47 21.4**	**-3.7**
PNCL				A		A	20	47 28.3	
	2.3nm,0.3s								
PCVE	**Castro Verde**	**3.45**	**83**	P		**Pn**	**20**	**46 45.4**	**+0.7**
PCVE				S		**Sn**	**20**	**47 28.0**	**+2.4**
	2.4nm,0.6s								
PCVE	**Castro Verde**	**3.45**	**83**	*e*Pn		**Pn**	**20**	**46 45.4**	**+0.7**
PCVE				*e*Sn		**Sn**	**20**	**47 28.0**	**+2.4**
PCVE				A		A	20	47 30.8	
	2.4nm,0.6s								
PBDV	**Barranco-do-Ve**	**3.53**	**90**	P		**Pn**	**20**	**46 47.1**	**+1.3**
PBDV				S		**Sn**	**20**	**47 30.5**	**+2.8**
PBDV	**Barranco-do-Ve**	**3.53**	**90**	*e*Pn		**Pn**	**20**	**46 47.1**	**+1.3**
PBDV				*e*Sn		**Sn**	**20**	**47 30.5**	**+2.8**
PSBE	**So Bento**	**3.56**	**51**	*e*Pn		**Pn**	**20**	**46 49.5**	**+3.3**
EVO	**Evora**	**3.65**	**69**	P		**Pn**	**20**	**46 48.5**	**+1.1**
EVO				S		**Sb**	**20**	**47 35.3**	**-4.3**
EVO	**Evora**	**3.65**	**69**	P		**Pn**	**20**	**46 48.5**	**+1.1**
EVO				S		**Sb**	**20**	**47 35.3**	**-4.3**
EVO	**Evora**	**3.65**	**69**	*e*Pn		**Pn**	**20**	**46 49.5**	**+2.2**
PMTG	**Montargil**	**3.70**	**60**	P		**Pn**	**20**	**46 49.6**	**+1.5**
PMTG				S		**Sn**	**20**	**47 34.6**	**+2.9**
	1.9nm,0.6s								
PMTG	**Montargil**	**3.70**	**60**	*e*Pn		**Pn**	**20**	**46 49.6**	**+1.5**
PMTG				*e*Sn		**Sn**	**20**	**47 34.6**	**+2.9**
PMTG				A		A	20	47 44.2	
	1.9nm,0.6s								
PVAQ	**Vaqueiros**	**3.70**	**87**	P		**Pn**	**20**	**46 49.2**	**+1.1**
PVA

1.0nm,0.1s,SNR=7.9
MVO S **Sn** **20 48 20.2 +0.3**
0.9nm,0.1s,SNR=7.9
MVO Moncorvo 5.65 45 *e*Pn **Pn** **20 47 16.8 +1.8**
MVO *e*Sn **Sn** **20 48 21.8 +1.9**
MVO A A 20 48 25.4
1.8nm,0.3s
EMAZ Mazaricos 6.20 24 P **Pn** **20 47 22.1 -0.3**
0.5nm,0.1s,SNR=7.9
EMAZ S **Sn** **20 48 30.3 -3.0**
1.3nm,0.1s,SNR=7.9
EADA Adamuz 6.23 80 P **Pn** **20 47 23.8 +0.9**
0.4nm,0.1s,SNR=7.9
EADA S **Sn** **20 48 31.6 -2.5**
0.4nm,0.2s,SNR=7.9
ECAL Calabor 6.34 41 P **Pn** **20 47 26.2 +1.7**
1.0nm,0.2s,SNR=7.9
ECAL S **Sn** **20 48 36.9 0.0**
0.2nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.38 30 P **Pn** **20 47 26.3 +1.3**
0.5nm,0.2s,SNR=7.9
EAGO S **Sn** **20 48 35.6 -2.4**
1.2nm,0.1s,SNR=7.9
PAB San Pablo 6.67 68 P **Pn** **20 47 30.5 +1.5**
0.2nm,0.2s,SNR=7.9
TTIG Tnine Tigouga, 7.49 153 P 20 47 29.6
TTIG S 20 48 42.6
MD31 MD31 7.65 123 P 20 47 35.5
MD31 S 20 48 56.6
MDT Midelt 7.78 123 P 20 47 36.8
MDT S 20 48 59.6

IDC 22 20:48:28.8±61.0, 17°.64S×176°.81W, h594km±33km, mb3.0/3, mb1 3.1/4, mb1mx2.8/39, mbtmp3.9/4, Error ellipse: s-maj=1053.0km s-min=125.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.90**	**268**	P	P	20 50 00.6	0.0
	0.7nm,0.3s,baz=138,slow=17,SNR=8.3						
STKA	**Stephens Creek**	**40.09**	**241**	P	P	20 55 14.4	0.0
	6.6nm,1.2s,baz=78,slow=9.3,SNR=4.5						
WRA	**Warramunga Arr**	**46.18**	**259**	P	P	20 56 01.6	-0.2
	0.6nm,0.6s,baz=96,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**46.33**	**254**	P	P	20 56 02.8	-0.1
	0.8nm,0.4s,baz=91,slow=7.8,SNR=16						

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*IDC **22** 20:54:50.5±2.2, 7°.44S×129°.37E, h128km±28km, mb2.9/1, mb1 3.6/6, mb1mx3.3/33, mbtmp3.9/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/9, Error ellipse: s-maj=36.9km s-min=21.0km az=95.0*

ISC 22 20:54:47.8±0.9, 7°.55S±0°.06×129°.52E±0°.10, h79km, n6, σ3.9°02/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.36**	**245**	P	**Pn**	**20 56 22.1**	**+3.1**
	6.0nm,0.3s,baz=101,slow=5.2,SNR=6.3						
BATI				S	**Sn**	**20 57 29.3**	**-0.9**
	14nm,0.3s,baz=68,slow=14,SNR=12						
SIJI	**Sorong**	**6.86**	**15**	P	**Pn**	**20 56 27.4**	**+1.6**
	1.8nm,0.3s,baz=218,slow=19,SNR=36						
SIJI				S	**Sn**	**20 57 40.6**	**-1.9**
	1.0nm,0.3s,baz=235,slow=22,SNR=1.9						
FITZ	**Fitzroy Crossi**	**11.14**	**199**	P	**Pn**	**20 57 25.3**	**+1.0**
	1.7nm,0.3s,baz=32,slow=11,SNR=64						
FITZ				S	**Sn**	**20 59 22.2**	**-4.9**
	0.5nm,0.3s,baz=127,slow=21,SNR=2.7						
FITZ				LR	LR	21 02 19.1	
	comp=Z,66nm,19.4s,baz=212,slow=40						
WRA	**Warramunga Arr**	**13.18**	**160**	P	**Pn**	**20 57 53.8**	**+2.0**
	1.0nm,0.3s,baz=325,slow=14,SNR=40						
WRA				S	**Sn**	**21 00 13.9**	**-2.7**
	2.1nm,0.3s,baz=337,slow=21,SNR=11						
ASAR	**Alice Springs**	**16.57**	**166**	P	**P**	**20 58 38.8**	**+2.2**
	0.3nm,0.3s,baz=337,slow=9.8,SNR=23						
ASAR				S	**Sn**	**21 01 38.7**	**-0.2**
	0.5nm,0.3s,baz=355,slow=27,SNR=6.2						
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**	**21 05 37.4**	**-3.9**
	0.1nm,0.3s,baz=119,slow=7.6,SNR=4.1						

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*IASPEI **22** 21:06:30.0±0.9, 35°.76N±0°.02×97°.40W±0°.03, h9km±6km, Error ellipse: s-maj=3.8km s-min=3.2km az=81.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*NEIC **22** 21:06:30.2±1.3, 35°.78N±0°.01×97°.41W±0°.02, h2km±8km, Error ellipse: s-maj=2.2km s-min=2.0km az=89.0*

*ANF **22** 21:06:30.2±0.6, 35°.77N×97°.41W, h8km±4km, ML4.3/17, Error ellipse: s-maj=3.7km s-min=2.8km az=119.0*

*TUL **22** 21:06:30.1±1.3, 35°.75N±0°.02×97°.40W±0°.02, h6km±7km, ML3.8, mb_Lg3.7/144(NEIC), Mwr3.6/15(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=135.0*

*NEIC **22** 21:06:30.2, 35°.77N×97°.40W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.51; $M_{\theta\theta}$=2.53; $M_{\phi\phi}$=-2.02; $M_{r\theta}$=-1.08; $M_{r\phi}$=-0.96; $M_{\theta\phi}$=0.60; Fault plane solution: M_0=2.80000×10^{14} NP1:ϕ_s=234.78000°, δ=67.02000°, λ=176.99000°. NP2:ϕ_s=325.96000°, δ=87.23000°, λ=23.01000°. Principal axes: T 3.1097, Plg18.0000°, Azm193.0000°; N -0.8012, Plg67.0000°, Azm332.0000°; P -2.3085, Plg14.0000°, Azm98.0000°:*

ISC 22 21:06:30.4±0.8, 35.77N±0°.02×97.41W±0°.02, h7km±5km, n140, σ0.6°75/126, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.05**	**309**		**Pg**	**21 06 32.0**	**0.0**
OK029				Sg	**Sg**	**21 06 33.4**	**+0.2**
OK009	**Oakdale Elemen**	**0.18**	**183**	Pg	**Pg**	**21 06 33.8**	**-0.4**
OK009				Sg	**Sg**	**21 06 36.6**	**-0.1**
OK025	**Westminster Rd**	**0.19**	**162**		**Pg**	**21 06 34.0**	**-0.4**
OK025				Sg	**Sg**	**21 06 36.9**	**-0.2**
BCOK	**Bluff Creek, N**	**0.20**	**236**		**Pg**	**21 06 34.2**	**-0.2**
BCOK				Sg	**Sg**	**21 06 37.3**	**+0.2**
OK005	**Luther M Schoo**	**0.21**	**122**	Pg	**Pg**	**21 06 34.3**	**-0.3**
OK005				Sg	**Sg**	**21 06 37.4**	**-0.1**
OK001	**Jones High Sch**	**0.23**	**154**	Pg	**Pg**	**21 06 34.5**	**-0.5**
OK001				Sg	**Sg**	**21 06 37.9**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**185**		**Pg**	**21 06 36.9**	**-0.4**
OKCFA				Sg	**Sg**	**21 06 42.0**	**0.0**
OKCFA	**Oklahoma City**	**0.35**	**185**	P	**Pg**	**21 06 36.9**	**-0.4**
	baz=7.3,SNR=77						
OKCFA				S	**Sg**	**21 06 42.0**	**0.0**
	baz=7.3						
OKCFA	**Oklahoma City**	**0.35**	**185**	P		21 06 36.9	
	baz=7.3,SNR=77						
OKCFA				S		21 06 42.0	
	baz=7.3						
OKCSW	**OKLAHOMA CITY**	**0.36**	**184**		**Pg**	**21 06 36.9**	**-0.5**
OKCSW				Sg	**Sg**	**21 06 42.3**	**0.0**
OK031	**S. Brethren Rd**	**0.50**	**68**	Pg	**Pg**	**21 06 39.9**	**-0.2**
OK031				Sg	**Sg**	**21 06 46.7**	**+0.1**
FNO	**Franklin**	**0.51**	**179**		**Pg**	**21 06 39.7**	**-0.5**
FNO				Sg	**Sg**	**21 06 46.9**	**0.0**
OK030	**Cody Creek RV**	**0.53**	**72**		**Pg**	**21 06 40.6**	**-0.1**
OK030				IAmb_Lg		21 06 46.4	
	comp=Z,645nm,0.9s						
OK011	**Prague**	**0.65**	**115**	Pg	**Pg**	**21 06 42.6**	**-0.4**
OK011				Sg	**Sg**	**21 06 51.2**	**-0.3**
QUOK	**Quay**	**0.70**	**54**	Pg	**Pg**	**21 06 43.5**	**-0.3**
QUOK				Sg	**Sg**	**21 06 52.9**	**-0.1**
CROK	**Carrier**	**0.87**	**328**		**Pg**	**21 06 46.9**	**-0.2**
CROK				IAmb_Lg		21 06 58.1	
	comp=Z,710nm,0.9s						
CROK				Sg	**Sb**	**21 06 59.0**	**-0.6**
BLOK	**Blackwell**	**1.00**	**9**		**Pg**	**21 06 49.2**	**-0.5**
X34A	**Smith Ranch, M**	**1.21**	**197**		**Pg**	**21 06 52.8**	**-0.9**
X34A				IAmb_Lg		21 07 09.0	
	comp=Z,368nm,1.0s						
OK032	**Salt Plains WL**	**1.22**	**328**		**Pg**	**21 06 53.0**	**-0.8**
OK032				Sg	**Sb**	**21 07 10.1**	**+0.3**
KAN13	**South Haven SW**	**1.25**	**358**		**Pg**	**21 06 53.4**	**-0.9**
KAN14	**Manchester OK**	**1.27**	**340**		**Pn**	**21 06 53.9**	**-0.6**
KAN17	**Caldwell West**	**1.31**	**347**		**Pn**	**21 06 54.6**	**-0.5**
TUL1	**Leonard**	**1.32**	**83**	P	**Pn**	**21 06 53.7**	**-1.6**
	baz=263						
TUL1				S	**Sb**	**21 07 11.5**	**-1.1**
	baz=263						
TUL1	**Leonard**	**1.32**	**83**	P		21 06 53.7	
	baz=263,SNR=198						
TUL1				S		21 07 11.4	
	baz=263						
TUL1	**Leonard**	**1.32**	**83**	P		21 06 53.7	
	baz=263						
TUL1				S		21 07 11.5	
	baz=263						
T35A	**Sooner Cattle**	**1.36**	**32**		**Pn**	**21 06 55.1**	**-0.7**
T35B	**Sooner Cattle**	**1.36**	**32**	P	**Pn**	**21 06 55.1**	**-0.7**
	baz=212						
T35B				S	**Sg**	**21 07 13.7**	**-0.3**
	baz=212						
T35B	**Sooner Cattle**	**1.36**	**32**	P		21 06 55.1	
	baz=212						
T35B				S		21 07 13.7	
	baz=212						
KAN09	**Caldwell North**	**1.38**	**353**	Pn	**Pn**	**21 06 55.9**	**-0.2**
KAN09				IAmb_Lg		21 07 15.4	
	comp=Z,464nm,0.7s						
KAN05	**Bluff City Nor**	**1.39**	**345**	Pn	**Pn**	**21 06 56.0**	**-0.1**
KAN05				IAmb_Lg		21 07 15.6	
	comp=Z,316nm,0.7s						
U32A	**Winter Ranch,**	**1.43**	**296**		**Pn**	**21 06 56.5**	**-0.2**
U32A				IAmb_Lg		21 07 18.5	
	comp=Z,326nm,0.8s						
U32A	**Winter Ranch,**	**1.43**	**296**	P	**Pn**	**21 06 56.6**	**-0.2**
	baz=116,SNR=50						
U32A	**Winter Ranch,**	**1.43**	**296**	P		21 06 56.6	
	baz=116,SNR=50						
KAN10	**Anthony SW Sta**	**1.46**	**338**	Pn	**Pn**	**21 06 57.0**	**-0.1**
KS20	**Mayfield South**	**1.47**	**355**	Pn	**Pn**	**21 06 57.4**	**+0.2**
KS20				IAmb_Lg		21 07 19.2	
	comp=Z,509nm,0.8s						
WMOK	**Wichita Mounta**	**1.52**	**228**	Pn	**Pn**	**21 06 57.5**	**-0.5**
WMOK	**Wichita Mounta**	**1.52**	**228**	P	**Pn**	**21 06 57.5**	**-0.5**
	baz=48,SNR=256						
WMOK				S	**Sn**	**21 07 17.8**	**-0.2**
	baz=48						
WMOK	**Wichita Mounta**	**1.52**	**228**	P		21 06 57.5	
	baz=48						
WMOK				S		21 07 17.6	
	baz=48						
WMOK	**Wichita Mounta**	**1.52**	**228**	P		21 06 57.5	
	baz=48,SNR=256						
WMOK				S		21 07 17.8	
	baz=48						
KAN08	**Anthony NE Sta**	**1.52**	**343**	Pn	**Pn**	**21 06 58.0**	**0.0**
KAN08				IAmb_Lg		21 07 20.3	
	comp=Z,456nm,1.1s						
KS21	**Milan North St**	**1.53**	**352**	IAmb_Lg		21 07 20.0	
	comp=Z,588nm,0.8s						
KAN16	**Harper SW Stat**	**1.55**	**340**		**Pn**	**21 06 58.6**	**+0.2**
KAN12	**Harper NE Stat**	**1.60**	**343**		**Pn**	**21 06 59.5**	**+0.5**
KAN12				IAmb_Lg		21 07 21.9	
	comp=Z,324nm,1.0s						
LOOK	**Love County**	**1.78**	**174**		**Pn**	**21 07 01.8**	**+0.2**
X37A	**Clayton**	**2.04**	**125**		**Pn**	**21 07 05.3**	**+0.2**
X37A				IAmb_Lg		21 07 34.6	
	comp=Z,222nm,0.8s						
X37A	**Clayton**	**2.04**	**125**	P	**Pn**	**21 07 05.1**	**0.0**
	baz=306,SNR=92						
X37A				S	**Sn**	**21 07 31.8**	**+1.0**
	baz=306						
X37A	**Clayton**	**2.04**	**125**	P		21 07 05.1	
	baz=306,SNR=92						
X37A				S		21 07 31.8	
	baz=306						
Z35A	**Perchaven, San**	**2.43**	**177**	Pn	**Pn**	**21 07 10.9**	**+0.5**
Z35A				IAmb_Lg		21 07 48.2	
	comp=Z,332nm,1.2s						
Z35A	**Perchaven, San**	**2.43**	**177**	P	**Pn**	**21 07 11.0**	**+0.5**
	baz=357,SNR=26						
Z35A				S	**Sn**	**21 07 42.5**	**+2.0**
	baz=357						
Z35A	**Perchaven, San**	**2.43**	**177**	P		21 07 11.0	
	baz=357,SNR=26						
Z35A				S		21 07 42.5	
	baz=357						
U38A	**Gravette**	**2.54**	**74**	Pn	**Pn**	**21 07 12.7**	**+0.7**
U38A	**Gravette**	**2.54**	**74**	P	**Pn**	**21 07 12.7**	**+0.7**
	baz=255,SNR=111						
U38A	**Gravette**	**2.54**	**74**	P		21 07 12.7	
	baz=255,SNR=111						
R32A	**Long Quarter,**	**2.85**	**339**	IAmb_Lg		21 08 02.7	
	comp=Z,129nm,0.7s						
HHAR	**Hobbs**	**2.86**	**79**	Pn	**Pn**	**21 07 16.6**	**+0.2**
HHAR				IAmb_Lg		21 08 07.8	
	comp=Z,161nm,0.8s						
W39A	**Magazine**	**3.01**	**100**		**Pn**	**21 07 18.6**	**+0.2**
W39A				IAmb_Lg		21 08 13.0	
	comp=Z,236nm,0.7s						
W39A	**Magazine**	**3.01**	**100**	P	**Pn**	**21 07 18.4**	**-0.1**
	baz=282,SNR=63						
W39A				S	**Sn**	**21 07 55.8**	**+0.9**
	baz=282						
W39A	**Magazine**	**3.01**	**100**	P		21 07 18.5	
	baz=282,SNR=30						
W39A				S		21 07 54.7	
	baz=282						
W39A	**Magazine**	**3.01**	**100**	P		21 07 18.4	
	baz=282,SNR=63						
W39A				S		21 07 55.8	
	baz=282						
Z38A	**Mt. Pleasant**	**3.20**	**141**	Pn	**Pn**	**21 07 20.8**	**-0.3**
Z38A				IAmb_Lg		21 08 19.0	
	comp=Z,304nm,0.7s						
Z38A	**Mt. Pleasant**	**3.20**	**141**	P	**Pn**	**21 07 20.8**	**-0.3**
	baz=322,SNR=6.5						
Z38A	**Mt. Pleasant**	**3.20**	**141**	P		21 07 20.8	
	baz=322,SNR=6.5						
MIAR	**Mount Ida**	**3.37**	**110**		**Pn**	**21 07 24.2**	**+0.8**
MIAR				IAmb_Lg		21 08 23.5	
	comp=Z,201nm,0.8s						
MIAR	**Mount Ida**	**3.37**	**110**	P	**Pn**	**21 07 23.4**	**+0.1**
	baz=292,SNR=44						
MIAR				S	**Sn**	**21 08 04.5**	**+0.9**
	baz=292						
MIAR	**Mount Ida**	**3.37**	**110**	P		21 07 23.5	
	baz=292,SNR=31						
MIAR				S		21 08 04.7	
	baz=292						
MIAR	**Mount Ida**	**3.37**	**110**	P		21 07 23.4	
	baz=292,SNR=44						
MIAR				S		21 08 04.5	
	baz=292						
KSU1	**Kansas State U**	**3.39**	**11**	IAmb_Lg		21 08 23.3	
	comp=Z,380nm,1.0s						
KSU1	**Kansas State U**	**3.39**	**11**	Pb		21 07 31.6	
	baz=191,SNR=10						
KSU1				Sb		21 08 14.9	
	baz=191						
CBKS	**Cedar Bluff**	**3.56**	**329**	Pn	**Pn**	**21 07 27.5**	**+1.4**
CBKS				IAmb_Lg		21 08 32.7	
	comp=Z,258nm,0.8s						
CBKS	**Cedar Bluff**	**3.56**	**329**	P	**Pn**	**21 07 26.6**	**+0.5**
	baz=148,SNR=11						
CBKS	**Cedar Bluff**	**3.56**	**329**	Pb		21 07 34.7	
	baz=148						
CBKS				S		21 08 08.6	
	baz=148						
CBKS	**Cedar Bluff**	**3.56**	**329**	P		21 07 26.6	
	baz=148,SNR=11						
AMTX	**Amarillo**	**3.60**	**257**		**Pn**	**21 07 28.1**	**+1.4**
AMTX				IAmb_Lg		21 08 31.7	
	comp=Z,104nm,0.7s						
AMTX	**Amarillo**	**3.60**	**257**	Pb		21 07 33.6	
	baz=75						
ABTX	**Abilene, Hawle**	**3.64**	**211**	IAmb_Lg		21 08 28.1	
	comp=Z,208nm,1.1s						
ABTX	**Abilene, Hawle**	**3.64**	**211**	Pb		21 07 35.2	
	baz=30						
U40A	**Yellville**	**3.74**	**80**	Pn	**Pn**	**21 07 29.1**	**+0.7**
U40A				IAmb_Lg		21 08 38.5	
	comp=Z,194nm,0.8s						
U40A	**Yellville**	**3.74**	**80**	P	**Pn**	**21 07 28.7**	**+0.3**
	baz=262,SNR=20						
U40A	**Yellville**	**3.74**	**80**	P		21 07 28.2	
	baz=262						
U40A				Sb		21 08 25.5	
	baz=262						
U40A	**Yellville**	**3.74**	**80**	P		21 07 28.7	
	baz=262,SNR=20						
U40A				P		21 07 28.7	
	baz=262,SNR=20						
WHTX	**Lake Whitney,**	**3.77**	**181**	P	**Pn**	**21 07 29.2**	**+0.3**
	baz=0.7,SNR=8.1						
WHTX	**Lake Whitney,**	**3.77**	**181**	P		21 07 28.9	
	baz=0.7,SNR=23						
WHTX				Sb		21 08 25.6	
	baz=0.7						
WHTX	**Lake Whitney,**	**3.77**	**181**	P		21 07 29.2	
	baz=0.7,SNR=8.1						
S39A	**Bolivar**	**3.80**	**58**		**Pn**	**21 07 30.2**	**+0.8**
S39A				IAmb_Lg		21 08 32.2	
	comp=Z,172nm,0.7s						
S39A	**Bolivar**	**3.80**	**58**	P	**Pn**	**21 07 29.6**	**+0.2**
	baz=240,SNR=18						
S39A	**Bolivar**	**3.80**	**58**	P		21 07 29.6	
	baz=240,SNR=18						
X40A	**Basin Creek Fa**	**3.96**	**107**		**Pn**	**21 07 32.3**	**+0.8**
X40A				IAmb_Lg		21 08 39.1	
	comp=Z,308nm,0.8s						
X40A	**Basin Creek Fa**	**3.96**	**107**	P		21 07 31.7	
	baz=290,SNR=12						
X40A				Sb		21 08 32.5	
	baz=290						
237A	**Washetta, Mont**	**3.98**	**160**		**Pn**	**21 07 31.3**	**-0.6**
237A				IAmb_Lg		21 08 34.8	
	comp=Z,99nm,0.8s						
237A	**Washetta, Mont**	**3.98**	**160**	S	**Sn**	**21 08 17.5**	**-1.3**
	baz=341						
237A	**Washetta, Mont**	**3.98**	**160**	S		21 08 17.5	
	baz=341						
WLAR	**White Oak Lake**	**4.10**	**119**	Pn	**Pn**	**21 07 34.3**	**+0.8**
WLAR				IAmb_Lg		21 08 48.7	
	comp=Z,152nm,0.7s						
WHAR	**Wooly Hollow**	**4.20**	**95**		**Pn**	**21 07 35.1**	**+0.2**
WHAR				IAmb_Lg		21 08 43.5	
	comp=Z,150nm,0.8s						
W41B	**Gary Mavity, V**	**4.25**	**96**	P	**Pn**	**21 07 35.6**	**+0.1**
	baz=279,SNR=14						
W41B	**Gary Mavity, V**	**4.25**	**96**	P		21 07 35.6	
	baz=279,SNR=16						
W41B				S		21 08 25.9	
	baz=279						
W41B	**Gary Mavity, V**	**4.25**	**96**	P		21 07 35.6	
	baz=279,SNR=14						
FCAR	**Ozark Folk Cen**	**4.30**	**87**		**Pn**	**21 07 35.9**	**-0.3**
FCAR				IAmb_Lg		21 08 46.8	
	comp=Z,120nm,0.7s						
MGMO	**Mountain Grove**	**4.37**	**70**		**Pn**	**21 07 37.8**	**+0.7**
Z41A	**Richland Creek**	**4.55**	**122**	Pb		21 07 51.8	
	baz=305						
Z41A				S		21 08 31.5	
	baz=305						
NATX	**Nacogdoches**	**4.61**	**149**	Pn	**Pn**	**21 07 42.9**	**+2.5**
MSTX	**Muleshoe**	**4.76**	**249**		**Pn**	**21 07 42.6**	**0.0**
MSTX	**Muleshoe**	**4.76**	**249**	P		21 07 42.5	
	baz=66,SNR=14						
MSTX				S		21 08 38.0	
	baz=66						
R40A	**Maddies Statio**	**4.82**	**57**		**Pn**	**21 07 43.1**	**-0.3**
R40A				IAmb_Lg		21 09 08.4	
	comp=Z,81nm,0.8s						
R40A	**Maddies Statio**	**4.82**	**57**	P	**Pn**	**21 07 43.5**	**+0.1**
	baz=240,SNR=13						
R40A	**Maddies Statio**	**4.82**	**57**	P		21 07 43.5	
	baz=240,SNR=13						
P38A	**Dawn**	**4.93**	**37**	Pn	**Pn**	**21 07 45.8**	**+1.0**
N33A	**J Bar K, Exete**	**4.96**	**360**	IAmb_Lg		21 09 18.0	
	comp=Z,204nm,0.9s						
435B	**Jarrell**	**4.97**	**182**	Pn	**Pn**	**21 07 44.9**	**-0.5**
435B				IAmb_Lg		21 09 09.6	
	comp=Z,167nm,0.8s						
435B	**Jarrell**	**4.97**	**182**	Sb		21 09 02.4	
	baz=1.7						
CCAR	**Cane Creek**	**4.99**	**110**	IAmb_Lg		21 09 16.3	
	comp=Z,248nm,1.0s						
LCAR	**Lake Charles**	**5.09**	**85**		**Pn**	**21 07 45.9**	**-1.1**
LCAR				IAmb_Lg		21 09 14.5	
	comp=Z,86nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.27**	**309**	Pn	**Pn**	**21 07 50.6**	**+1.0**
KSCO				IAmb_Lg		21 09 24.2	
	comp=Z,138nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.27**	**309**	S		21 08 49.3	
	baz=126						
N35A	**Tabor**	**5.27**	**15**	Pn	**Pn**	**21 07 48.3**	**-1.2**
CCM	**Cathedral Cave**	**5.44**	**63**	IAmb_Lg		21 09 25.6	
	comp=Z,176nm,0.9s						
JCT	**Junction City**	**5.64**	**202**	IAmb_Lg		21 09 35.4	
	comp=Z,201nm,0.9s						
BGNE	**Belgrade**	**5.66**	**354**	Pn	**Pn**	**21 07 56.6**	**+1.7**
BGNE				IAmb_Lg		21 09 41.2	
	comp=Z,153nm,0.7s						
BGNE	**Belgrade**	**5.66**	**354**	P		21 07 56.0	
	baz=174						
P40A	**Paris**	**5.67**	**47**	Pn	**Pn**	**21 07 55.6**	**+0.6**
LPAR	**Lepanto**	**5.79**	**90**	IAmb_Lg		21 09 43.0	
	comp=Z,112nm,0.7s						
T25A	**Trinidad**	**5.81**	**286**	Pn	**Pn**	**21 07 57.1**	**0.0**
T25A				IAmb_Lg		21 09 41.2	
	comp=Z,210nm,1.1s						
T25A	**Trinidad**	**5.81**	**286**	P		21 07 56.8	
	baz=102						
143A	**Socs Landing,**	**5.84**	**120**	IAmb_Lg		21 09 48.4	
	comp=Z,67nm,0.8s						
MET	**Memphis--Engin**	**6.14**	**94**	IAmb_Lg		21 09 59.7	
	comp=Z,181nm,0.7s						
OGNE	**Ogallala**	**6.32**	**326**	Pn	**Pn**	**21 08 04.7**	**+0.7**
OGNE				IAmb_Lg		21 09 52.6	
	comp=Z,97nm,0.7s						
OGNE	**Ogallala**	**6.32**	**326**	P		21 08 04.1	
	baz=144						
OXF	**Oxford**	**6.67**	**98**	Pn	**Pn**	**21 08 08.8**	**0.0**
OXF				IAmb_Lg		21 10 19.3	
	comp=Z,87nm,0.8s						
OXF	**Oxford**	**6.67**	**98**	P		21 08 08.5	
	baz=283,SNR=5.3						
OXF				S		21 09 24.5	
	baz=283						
W45A	**Hickory Valley**	**6.74**	**93**	IAmb_Lg		21 10 21.6	
	comp=Z,92nm,0.7s						
Y45A	**Yeager Farm, C**	**6.74**	**104**	IAmb_Lg		21 10 10.9	
	comp=Z,52nm,0.7s						
SDCO	**Great Sand Dun**	**6.79**	**289**	Pn	**Pn**	**21 08 11.6**	**+1.0**
SDCO				IAmb_Lg		21 10 06.3	
	comp=Z,52nm,1.0s						
SDCO	**Great Sand Dun**	**6.79**	**289**	P		21 08 10.7	
	baz=105						
SDCO				S		21 09 27.2	
	baz=105						
S44A	**Carbondale**	**6.83**	**71**	IAmb_Lg		21 10 08.5	
	comp=Z,149nm,0.7s						
SIUC	**Southern Illin**	**6.86**	**71**	Pn	**Pn**	**21 08 11.8**	**+0.5**
735A	**Kenedy**	**6.90**	**183**	IAmb_Lg		21 10 21.8	
	comp=Z,71nm,0.7s						
Q24A	**Divide**	**6.94**	**300**	P		21 08 12.8	
	baz=115						
Q24A				S		21 09 30.4	
	baz=115						
SCIA	**State Center**	**6.95**	**27**	IAmb_Lg		21 10 17.8	
	comp=Z,149nm,0.7s						
SCIA	**State Center**	**6.95**	**27**	P		21 08 12.3	
	baz=209						
P43A	**Skaggs, Pawnee**	**7.35**	**56**		**Pn**	**21 08 17.7**	**-0.4**
Q44A	**Meyer Farm, Va**	**7.38**	**62**	Pn	**Pn**	**21 08 19.8**	**+1.3**
833A	**Chaparral WMA,**	**7.61**	**193**	P		21 08 21.7	
	baz=12						
ISCO	**Idaho Springs**	**7.64**	**304**	Pn	**Pn**	**21 08 22.4**	**0.0**
ISCO				IAmb_Lg		21 10 45.4	
	comp=Z,50nm,0.8s						
ISCO	**Idaho Springs**	**7.64**	**304**	P		21 08 22.1	
	baz=119						
BNM	**Barren Site**	**7.74**	**261**	Pn	**Pn**	**21 08 23.9**	**+0.3**
WVT	**

T47A	**Sharon Grove**	**8.40**	**79**	Pn	**Pn**	**21 08 31.5**	**-1.0**
X48A	**Hartselle**	**8.59**	**96**	IAmb_Lg		21 11 03.4	
	comp=Z,42nm,1.1s						
L42A	**Oliver, Polo**	**8.67**	**42**		**Pn**	**21 08 35.7**	**-0.5**
I37A	**Lemond, Waseca**	**8.79**	**19**	IAmb_Lg		21 11 20.1	
	comp=Z,72nm,0.7s						
CLTN	**Cedars of Leba**	**8.99**	**85**	IAmb_Lg		21 11 21.8	
	comp=Z,35nm,0.9s						
JFWS	**Jewell Farm**	**9.04**	**36**	IAmb_Lg		21 11 39.4	
	comp=Z,105nm,0.7s						
JFWS	**Jewell Farm**	**9.04**	**36**	P		21 08 40.9	
	baz=220						
121A	**Cookes Peak, D**	**9.18**	**252**	IAmb_Lg		21 11 38.9	
	comp=Z,37nm,1.1s						
WCI	**Wyandotte Cave**	**9.23**	**71**	IAmb_Lg		21 11 20.6	
	comp=Z,70nm,0.8s						
WCI	**Wyandotte Cave**	**9.23**	**71**	P		21 08 43.9	
	baz=258						
BLO	**Bloomington**	**9.30**	**65**	Pn	**Pn**	**21 08 45.9**	**+1.1**
BLO				IAmb_Lg		21 11 37.8	
	comp=Z,91nm,0.7s						
SFIN	**Lafayette**	**9.34**	**57**	IAmb_Lg		21 11 33.2	
	comp=Z,100nm,1.0s						
SFIN	**Lafayette**	**9.34**	**57**	P		21 08 45.8	
	baz=244						
SWET	**Sewanee**	**9.38**	**90**	IAmb_Lg		21 11 32.5	
	comp=Z,33nm,0.8s						
U49A	**Red Boiling Sp**	**9.44**	**82**	Pn	**Pn**	**21 08 48.5**	**+1.8**
PV11	**David Mesa, Pa**	**9.51**	**289**	IAmb_Lg		21 11 48.7	
	comp=Z,54nm,1.1s						
PV16	**Nyswonger Mesa**	**9.54**	**289**	IAmb_Lg		21 11 50.8	
	comp=Z,36nm,1.3s						
PV04	**Paradox Valley**	**9.55**	**289**	IAmb_Lg		21 11 40.6	
	comp=Z,32nm,1.1s						
PV17	**East Wray Mesa**	**9.57**	**289**	IAmb_Lg		21 11 30.2	
	comp=Z,35nm,0.8s						
PV05	**Paradox Valley**	**9.64**	**287**	IAmb_Lg		21 11 50.1	
	comp=Z,33nm,1.2s						
I40A	**Norwalk**	**9.65**	**31**	IAmb_Lg		21 11 41.3	
	comp=Z,61nm,0.9s						
RWWY	**Rawlins**	**9.67**	**311**	IAmb_Lg		21 11 48.5	
	comp=Z,33nm,0.9s						
FPAL	**Fort Paine**	**9.74**	**94**	IAmb_Lg		21 11 57.4	
	comp=Z,31nm,0.8s						
RSSD	**Black Hills**	**9.77**	**331**	IAmb_Lg		21 11 46.8	
	comp=Z,37nm,1.1s						
K22A	**Casper**	**9.86**	**317**	IAmb_Lg		21 12 03.6	
	comp=Z,80nm,1.1s						
K22A	**Casper**	**9.86**	**317**	P		21 08 51.9	
	baz=131						
K43A	**Burlington**	**9.87**	**43**	Pn	**Pn**	**21 08 52.7**	**0.0**
W50A	**Signal Mountai**	**9.88**	**90**	IAmb_Lg		21 11 47.9	
	comp=Z,51nm,0.8s						
N47A	**Urbana**	**10.52**	**57**	Pn	**Pn**	**21 09 02.4**	**+0.8**
V51A	**Loudon**	**10.61**	**86**	Pn	**Pn**	**21 09 02.8**	**0.0**
R50A	**Paris**	**10.76**	**73**	Pn	**Pn**	**21 09 05.4**	**+0.7**
TZTN	**Tazewell**	**11.23**	**82**	P		21 09 11.6	
	baz=270						
Q51A	**Peebles**	**11.65**	**70**	Pn	**Pn**	**21 09 16.2**	**-0.9**
GOGA	**Godfrey**	**11.73**	**98**	P		21 09 18.0	
	baz=285						
L48A	**N Adams**	**11.84**	**55**	Pn	**Pn**	**21 09 19.2**	**-0.4**
P52A	**Corning**	**12.70**	**68**	Pn	**Pn**	**21 09 31.3**	**0.0**
P52A	**Corning**	**12.70**	**68**	P		21 09 30.3	
	baz=257						
EYMN	**Ely**	**12.94**	**18**	Pn	**Pn**	**21 09 31.6**	**-3.0**

IASPEI ***22*** *21:09:27.8±0.9, 35.76N±0.02×97.41W±0.03, h9km±6km, Error ellipse: s-maj=3.7km s-min=2.8km az=90.0, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

NEIC ***22*** *21:09:27.9±0.7, 35.765N±0.009×97.42W±0.02, h9km±3km, Error ellipse: s-maj=2.0km s-min=1.1km az=70.0*

ANF ***22*** *21:09:27.2±0.3, 35.79N×97.40W, h5km, ML3.9/8, Error ellipse: s-maj=2.9km s-min=2.3km az=153.0*

TUL ***22*** *21:09:27.9±1.4, 35.75N±0.01×97.40W±0.02, h5km±5km, ML3.5, mb_Lg3.6/64(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=124.0*

ISC 22 21:09:28.1±0.9, 35.77N±0.02×97.41W±0.02, h8km±6km, n68, σ0.54/68, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.05**	**305**	Pg	**Pg**	**21 09 29.6**	**-0.1**
OK029				Sg	**Sg**	**21 09 31.1**	**+0.1**
OK009	**Oakdale Elemen**	**0.19**	**184**	Pg	**Pg**	**21 09 31.6**	**-0.3**
OK009				Sg	**Sg**	**21 09 34.4**	**-0.1**
OK025	**Westminster Rd**	**0.20**	**164**	Pg	**Pg**	**21 09 31.7**	**-0.3**
OK025				Sg	**Sg**	**21 09 34.7**	**0.0**
BCOK	**Bluff Creek, N**	**0.20**	**236**	Pg	**Pg**	**21 09 31.9**	**-0.3**
BCOK				Sg	**Sg**	**21 09 35.0**	**+0.2**
OK005	**Luther M Schoo**	**0.21**	**123**	Pg	**Pg**	**21 09 32.1**	**-0.1**
OK005				Sg	**Sg**	**21 09 35.2**	**+0.1**
OK001	**Jones High Sch**	**0.23**	**155**	Pg	**Pg**	**21 09 32.3**	**-0.4**
OK001				Sg	**Sg**	**21 09 35.7**	**0.0**
OKCFA	**Oklahoma City**	**0.35**	**186**		**Pg**	**21 09 34.6**	**-0.4**
OKCFA				Sg	**Sg**	**21 09 39.7**	**0.0**
OKCFA	**Oklahoma City**	**0.35**	**186**	P	**Pg**	**21 09 34.7**	**-0.4**
	baz=7.0						
OKCFA				S	**Sg**	**21 09 39.7**	**0.0**
	baz=7.0						
OKCFA	**Oklahoma City**	**0.35**	**186**	P		21 09 34.7	
	baz=7.0						
OKCFA				S		21 09 39.7	
	baz=7.0						
OKCSW	**OKLAHOMA CITY**	**0.36**	**184**		**Pg**	**21 09 34.8**	**-0.4**
OKCSW				Sg	**Sg**	**21 09 40.1**	**+0.1**
OK031	**S. Brethren Rd**	**0.49**	**68**		**Pg**	**21 09 37.8**	**+0.1**
OK031				Sg	**Sg**	**21 09 44.5**	**+0.3**
FNO	**Franklin**	**0.51**	**180**	Pg	**Pg**	**21 09 37.5**	**-0.5**
FNO				Sg	**Sg**	**21 09 44.6**	**0.0**
OK030	**Cody Creek RV**	**0.53**	**72**	Pg	**Pg**	**21 09 38.3**	**-0.1**
OK030				Sg	**Sg**	**21 09 45.4**	**+0.2**
OK011	**Prague**	**0.65**	**116**	Pg	**Pg**	**21 09 40.4**	**-0.3**
OK011				Sg	**Sg**	**21 09 49.0**	**-0.1**
QUOK	**Quay**	**0.69**	**54**	Pg	**Pg**	**21 09 41.4**	**-0.1**
QUOK				Sg	**Sg**	**21 09 50.9**	**+0.4**
CROK	**Carrier**	**0.87**	**328**	Pg	**Pg**	**21 09 44.7**	**-0.1**
CROK				IAmb_Lg		21 09 55.4	
	comp=Z,417nm,0.9s						
CROK				Sg	**Sb**	**21 09 57.1**	**-0.3**
BLOK	**Blackwell**	**1.00**	**9**	Pg	**Pg**	**21 09 47.0**	**-0.4**
BLOK				Sg	**Sb**	**21 10 01.8**	**+0.6**
X34A	**Smith Ranch, M**	**1.22**	**197**	Pg	**Pg**	**21 09 50.6**	**-0.8**
X34A				Sg	**Sb**	**21 10 07.3**	**0.0**
OK032	**Salt Plains WL**	**1.22**	**328**	Pg	**Pg**	**21 09 50.7**	**-0.8**
OK032				Sg	**Sg**	**21 10 07.4**	**0.0**
KAN13	**South Haven SW**	**1.24**	**357**	Pg	**Pg**	**21 09 51.4**	**-0.6**
KAN13				Sg	**Sb**	**21 10 08.3**	**+0.2**
KAN14	**Manchester OK**	**1.27**	**339**		**Pg**	**21 09 51.6**	**-0.8**
KAN17	**Caldwell West**	**1.31**	**347**	Pn	**Pn**	**21 09 52.3**	**-0.4**
TUL1	**Leonard**	**1.32**	**83**	P	**Pn**	**21 09 51.6**	**-1.3**
	baz=264						
TUL1				S	**Sg**	**21 10 09.3**	**-1.2**
	baz=264						
TUL1	**Leonard**	**1.32**	**83**	P		21 09 51.6	
	baz=264						
TUL1				S		21 10 09.3	
	baz=264						
T35A	**Sooner Cattle**	**1.35**	**32**	Pn	**Pn**	**21 09 52.8**	**-0.6**
T35B	**Sooner Cattle**	**1.35**	**32**	P	**Pn**	**21 09 52.9**	**-0.5**
	baz=212						
T35B				S	**Sn**	**21 10 11.7**	**+0.1**
	baz=212						
T35B	**Sooner Cattle**	**1.35**	**32**	P		21 09 52.9	
	baz=212						
T35B				S		21 10 11.7	
	baz=212						
KAN09	**Caldwell North**	**1.38**	**353**	Pn	**Pn**	**21 09 53.6**	**-0.1**
KAN09				IAmb_Lg		21 10 13.2	
	comp=Z,471nm,0.7s						
KAN05	**Bluff City Nor**	**1.39**	**344**	Pn	**Pn**	**21 09 54.0**	**+0.1**
KAN05				IAmb_Lg		21 10 14.9	
	comp=Z,268nm,0.9s						
U32A	**Winter Ranch,**	**1.43**	**296**	Pn	**Pn**	**21 09 54.4**	**-0.1**
U32A	**Winter Ranch,**	**1.43**	**296**	P	**Pn**	**21 09 54.3**	**-0.1**
	baz=116						
U32A				S	**Sg**	**21 10 14.1**	**0.0**
	baz=116						
KAN10	**Anthony SW Sta**	**1.46**	**338**	Pn	**Pn**	**21 09 55.0**	**+0.1**
KS20	**Mayfield South**	**1.46**	**355**	Pn	**Pn**	**21 09 55.0**	**+0.1**
KS20				IAmb_Lg		21 10 18.1	
	comp=Z,465nm,0.8s						
KAN08	**Anthony NE Sta**	**1.52**	**343**	Pn	**Pn**	**21 09 56.2**	**+0.4**
WMOK	**Wichita Mounta**	**1.52**	**228**	Pn	**Pn**	**21 09 55.4**	**-0.3**
WMOK	**Wichita Mounta**	**1.52**	**228**	P	**Pn**	**21 09 55.5**	**-0.3**
	baz=48						
WMOK				S	**Sn**	**21 10 15.6**	**-0.2**
	baz=48						
WMOK	**Wichita Mounta**	**1.52**	**228**	P		21 09 55.5	
	baz=48						
WMOK				S		21 10 15.6	
	baz=48						
KAN16	**Harper SW Stat**	**1.55**	**340**	Pn	**Pn**	**21 09 56.3**	**+0.2**
KAN12	**Harper NE Stat**	**1.60**	**343**	Pn	**Pn**	**21 09 57.5**	**+0.7**
KAN12				IAmb_Lg		21 10 19.6	
	comp=Z,279nm,0.9s						
LOOK	**Love County**	**1.78**	**174**	Pn	**Pn**	**21 09 59.3**	**+0.1**
X37A	**Clayton**	**2.04**	**125**	Pn	**Pn**	**21 10 03.1**	**+0.4**
X37A				IAmb_Lg		21 10 34.5	
	comp=Z,207nm,0.8s						
X37A	**Clayton**	**2.04**	**125**	S	**Sb**	**21 10 30.3**	**-0.7**
	baz=306						
X37A	**Clayton**	**2.04**	**125**	S		21 10 30.3	
	baz=306						
Z35A	**Perchaven, San**	**2.44**	**177**	Pn	**Pn**	**21 10 08.8**	**+0.6**
Z35A	**Perchaven, San**	**2.44**	**177**	P	**Pn**	**21 10 08.8**	**+0.6**
	baz=357						
Z35A	**Perchaven, San**	**2.44**	**177**	P		21 10 08.8	
	baz=357						
R32A	**Long Quarter,**	**2.85**	**339**	IAmb_Lg		21 11 06.1	
	comp=Z,194nm,1.0s						
W39A	**Magazine**	**3.01**	**100**	IAmb_Lg		21 11 08.6	
	comp=Z,174nm,0.9s						
Z38A	**Mt. Pleasant**	**3.20**	**141**	IAmb_Lg		21 11 16.9	
	comp=Z,164nm,0.7s						
MIAR	**Mount Ida**	**3.37**	**110**	Pn	**Pn**	**21 10 22.0**	**+0.9**
MIAR				IAmb_Lg		21 11 23.3	
	comp=Z,147nm,1.1s						
MIAR	**Mount Ida**	**3.37**	**110**	S	**Sn**	**21 11 02.1**	**+0.9**
	baz=292						
MIAR	**Mount Ida**	**3.37**	**110**	S		21 11 02.1	
	baz=292						
KSU1	**Kansas State U**	**3.39**	**11**	IAmb_Lg		21 11 22.1	
	comp=Z,164nm,0.8s						
AMTX	**Amarillo**	**3.61**	**257**	S	**Sn**	**21 11 08.1**	**+0.8**
	baz=75						
AMTX	**Amarillo**	**3.61**	**257**	S		21 11 08.1	
	baz=75						
ABTX	**Abilene, Hawle**	**3.64**	**211**	IAmb_Lg		21 11 25.3	
	comp=Z,147nm,1.1s						
U40A	**Yellville**	**3.73**	**80**	IAmb_Lg		21 11 31.7	
	comp=Z,133nm,0.8s						
WHTX	**Lake Whitney,**	**3.77**	**181**	Pn	**Pn**	**21 10 27.8**	**+1.2**
WHTX				IAmb_Lg		21 11 29.3	
	comp=Z,106nm,1.2s						
S39A	**Bolivar**	**3.80**	**58**	IAmb_Lg		21 11 28.1	
	comp=Z,165nm,1.1s						
X40A	**Basin Creek Fa**	**3.96**	**108**	IAmb_Lg		21 11 37.1	
	comp=Z,122nm,0.8s						
WLAR	**White Oak Lake**	**4.10**	**119**	IAmb_Lg		21 11 39.1	
	comp=Z,95nm,0.8s						
WHAR	**Wooly Hollow**	**4.20**	**95**	IAmb_Lg		21 11 46.6	
	comp=Z,117nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.29**	**87**	IAmb_Lg		21 11 52.0	
	comp=Z,80nm,0.9s						
MGMO	**Mountain Grove**	**4.37**	**70**	IAmb_Lg		21 11 44.2	
	comp=Z,179nm,1.0s						
R40A	**Maddies Statio**	**4.82**	**57**	IAmb_Lg		21 12 09.0	
	comp=Z,75nm,1.0s						
P38A	**Dawn**	**4.92**	**37**	IAmb_Lg		21 12 06.3	
	comp=Z,91nm,0.7s						
N33A	**J Bar K, Exete**	**4.96**	**360**	IAmb_Lg		21 12 16.3	
	comp=Z,139nm,0.8s						
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg		21 12 15.1	
	comp=Z,91nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.27**	**309**	IAmb_Lg		21 12 27.6	
	comp=Z,100nm,0.7s						
CCM	**Cathedral Cave**	**5.44**	**63**	IAmb_Lg		21 12 24.1	
	comp=Z,94nm,0.8s						
JCT	**Junction City**	**5.64**	**202**	IAmb_Lg		21 12 42.7	
	comp=Z,109nm,0.9s						
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg		21 12 38.5	
	comp=Z,107nm,0.7s						
OGNE	**Ogallala**	**6.32**	**326**	Pn	**Pn**	**21 11 03.8**	**+2.1**
OGNE				IAmb_Lg		21 12 58.6	
	comp=Z,75nm,0.7s						
S44A	**Carbondale**	**6.82**	**71**	IAmb_Lg		21 13 12.8	
	comp=Z,94nm,0.7s						
SCIA	**State Center**	**6.95**	**27**	IAmb_Lg		21 13 15.3	
	comp=Z,95nm,0.8s						
ISCO	**Idaho Springs**	**7.64**	**304**	IAmb_Lg		21 13 44.0	
	comp=Z,42nm,0.9s						

NEIC ***22*** *21:19:16.2±2.3, 43.93N±0.06×105.44W±0.05, h0km±2km, ML3.0/34, Error ellipse: s-maj=10.3km s-min=5.9km az=352.0*

IDC ***22*** *21:19:17.6±1.8, 44.00N×105.72W, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.3/45, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=55.3km s-min=9.5km az=148.0*

ISC 22 21:19:16.3±0.9, 43.92N±0.06×105.46W±0.04, h0km, n33, σ1§20/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.05**	**78**		**Pg**	**21 19 35.8**	**-0.6**
K22A	**Casper**	**1.48**	**212**		**Pn**	**21 19 42.6**	**-1.8**
K22A				IAML		21 20 05.4	
	comp=E,233nm,0.3s						
K22A				IAML		21 20 07.3	
	comp=N,302nm,0.3s						
RWWY	**Rawlins**	**2.57**	**211**	Pn	**Pn**	**21 19 59.1**	**-0.3**
RWWY				IAML		21 20 34.8	
	comp=N,95nm,0.7s						
RWWY				IAML		21 20 36.8	
	comp=N,90nm,0.7s						
PHWY	**Pilot Hill**	**2.62**	**180**		**Pn**	**21 19 58.8**	**-1.3**
LAO	**LASA Array**	**2.82**	**349**	Pn	**Pn**	**21 20 01.5**	**-1.2**
LAO				IAML		21 20 50.1	
	comp=N,100nm,0.3s						
LAO				IAML		21 20 50.5	
	comp=N,72nm,0.3s						
RLMT	**Red Lodge**	**2.98**	**295**		**Pb**	**21 20 08.3**	**-2.0**
RLMT				IAML		21 21 05.1	
	comp=N,31nm,0.4s						
PDAR	**Pinedale Array**	**3.20**	**250**	Pn	**Pn**	**21 20 09.6**	**+1.5**
	comp=N,7.7nm,0.3s,baz=70,slow=16,SNR=45						
PDAR				Lg	Lg	21 20 54.2	
	comp=N,10.0nm,0.3s,baz=67,slow=36,SNR=19						
PDAR	**Pinedale Array**	**3.20**	**250**	Pn	**Pn**	**21 20 07.8**	**-0.3**
LOHW	**Long Hollow**	**3.74**	**267**		**Pb**	**21 20 24.7**	**+1.4**
FLWY	**Flagg Ranch**	**3.78**	**274**		**Pg**	**21 20 28.0**	**-0.8**
FLWY				IAML		21 21 36.4	
	comp=N,16nm,1.9s						
FLWY				IAML		21 21 39.7	
	comp=N,22nm,1.5s						
YNM	**Yellowstone No**	**3.85**	**284**		**Pn**	**21 20 16.9**	**-0.1**
SNOW	**Snow King Moun**	**3.86**	**265**	Pn	**Pn**	**21 20 15.1**	**-2.1**
SNOW				IAML		21 21 31.1	
	comp=N,19nm,1.2s						
SNOW				IAML		21 21 43.1	
	comp=N,24nm,0.8s						
OGNE	**Ogallala**	**3.91**	**138**	Pn	**Pn**	**21 20 16.7**	**-1.0**
REDW	**Red Top Meadow**	**3.95**	**264**		**Pb**	**21 20 27.6**	**+0.6**
REDW				IAML		21 21 30.0	
	comp=N,26nm,0.7s						
REDW				IAML		21 21 43.0	
	comp=N,21nm,0.8s						
TPAW	**Teton Pass**	**4.00**	**266**	Pn	**Pn**	**21 20 18.1**	**-1.0**
TPAW				IAML		21 21 50.2	
	comp=N,16nm,0.8s						
ISCO	**Idaho Springs**	**4.12**	**182**	Pn	**Pn**	**21 20 20.3**	**-0.5**
E28A	**Huff**	**4.29**	**50**	Pn	**Pn**	**21 20 24.2**	**+1.4**
O20A	**White River Ci**	**4.31**	**210**	Pn	**Pn**	**21 20 22.9**	**-0.4**
O20A				IAML		21 21 44.1	
	comp=N,18nm,0.9s						
O20A				IAML		21 21 47.1	
	comp=E,22nm,1.0s						
QLMT	**Earthquake Lak**	**4.37**	**284**	Pn	**Pn**	**21 20 24.4**	**+0.2**
RDMU	**Red Mountain**	**4.53**	**224**	Pn	**Pn**	**21 20 23.1**	**-3.2**
RDMU				IAML		21 21 47.3	
	comp=E,16nm,0.8s						
RDMU				IAML		21 21 48.4	
	comp=N,14nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.34**	**156**	Pn	**Pn**	**21 20 36.7**	**-0.8**
PV22	**Blue Mesa, Par**	**5.93**	**206**	Pn	**Pn**	**21 20 46.3**	**+0.7**
P17A	**Butcher Ranch,**	**5.94**	**223**	Pn	**Pn**	**21 20 46.0**	**+0.3**
PV07	**Paradox Valley**	**5.98**	**205**	Pn	**Pn**	**21 20 46.5**	**+0.2**
SRU	**San Rafael Swe**	**6.12**	**220**	Pn	**Pn**	**21 20 49.1**	**+0.9**
PV20	**West Nyswonger**	**6.17**	**207**	Pn	**Pn**	**21 20 50.0**	**+1.2**
PV03	**Paradox Valley**	**6.21**	**205**	Pn	**Pn**	**21 20 50.1**	**+0.7**
PV02	**Paradox Valley**	**6.22**	**205**	Pn	**Pn**	**21 20 50.5**	**+1.0**
PV18	**Skein Mesa, Pa**	**6.24**	**206**	Pn	**Pn**	**21 20 50.9**	**+1.1**
PV13	**Radium Mtn., P**	**6.29**	**205**	Pn	**Pn**	**21 20 50.8**	**+0.3**
ULM	**Lac du Bonnet**	**9.10**	**43**	Pn	**Pn**	**21 21 30.1**	**+1.3**
	comp=N,0.8nm,0.3s,baz=225,slow=12,SNR=3.2						
ULM				Lg	Lg	21 23 58.5	
	comp=N,0.3nm,0.3s,baz=144,slow=19,SNR=1.6						
ULM	**Lac du Bonnet**	**9.10**	**43**	Pn	**Pn**	**21 21 29.1**	**+0.2**
MKAR	**Makanchi Array**	**89.41**	**355**	P	**P**	**21 32 15.5**	**+0.7**
	comp=N,0.2nm,0.7s,baz=5.7,slow=2.9,SNR=2.6						

IDC ***22*** *21:19:30.3±1.0, 23.03S×66.51W, h200km±14km, mb3.2/2, mb1 3.5/8, mb1mx3.2/37, mbtmp3.9/8, Error ellipse: s-maj=19.6km s-min=15.4km az=127.0*

GUC ***22*** *21:19:31.9±0.5, 23.05S×66.94W, h248km±8km, ML3.8*

ISC 22 21:19:30.2±0.7, 23.01S±0.05×66.66W±0.06, h222km, n29, σ1§57/47, 12C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.11**	**280**	P	**Pn**	**21 20 12.7**	**+0.8**
	34nm,0.3s,baz=91,slow=6.3,SNR=231						
LVC				S	**S**	**21 20 44.1**	**-0.1**
	13nm,0.3s,baz=273,slow=20,SNR=21						
LVC	**Limon Verde**	**2.11**	**280**	*e*P	**Pn**	**21 20 13.1**	**+1.1**
LVC				*e*S	**S**	**21 20 44.2**	**-0.1**
PB15	**IPOC Station P**	**2.59**	**265**	*e*P	**Pn**	**21 20 17.6**	**+0.8**
PB15				*e*S	**S**	**21 20 52.8**	**-0.2**
PB09	**IPOC Station P**	**2.67**	**296**	⇑*i*P	**Pn**	**21 20 19.4**	**+1.7**
PB09				IAML		21 21 00.9	
	comp=E,127nm,0.3s						
PB06	**IPOC Station P**	**2.70**	**276**	⇑*i*P	**Pn**	**21 20 18.6**	**+0.7**
PB06				*e*S	**S**	**21 20 54.4**	**-0.6**
PB06				IAML		21 20 56.9	
	comp=N,224nm,0.2s						
PB07	**IPOC Station P**	**3.25**	**292**	⇑*i*P	**Pn**	**21 20 25.0**	**+0.9**
PB07				*e*S	**S**	**21 21 04.9**	**-1.2**
PB05	**IPOC Station P**	**3.27**	**272**	⇑*i*P	**Pn**	**21 20 24.8**	**+0.5**
PB05				*e*S	**S**	**21 21 04.6**	**-1.8**
PB01	**IPOC Station P**	**3.27**	**306**	⇑*i*P	**Pn**	**21 20 25.3**	**+1.0**
PB01				*i* S	**S**	**21 21 06.9**	**+0.4**
PB04	**IPOC Station P**	**3.29**	**281**	⇑*i*P	**Pn**	**21 20 25.2**	**+0.6**
PB04				*e*S	**S**	**21 21 05.5**	**-1.6**
GO02	**Mina Guanaco**	**3.43**	**231**	⇑*e*P	**Pn**	**21 20 26.6**	**+0.3**
GO02				*e*S	**S**	**21 21 09.5**	**-0.7**
PB10	**IPOC Station P**	**3.62**	**261**	⇑*i*P	**Pn**	**21 20 28.8**	**+0.6**
PB10				*e*S	**S**	**21 21 10.6**	**-3.1**
PB08	**IPOC Station P**	**3.67**	**320**	⇑*i*P	**Pn**	**21 20 31.4**	**+2.0**
PB08				*e*S	**S**	**21 21 17.1**	**+1.4**
PB14	**IPOC Station P**	**3.79**	**244**	⇑*i*P	**Pn**	**21 20 30.6**	**+0.1**
PB14				*e*S	**S**	**21 21 14.9**	**-3.0**
HMBC	**Humberstone**	**4.05**	**312**	*e*P	**Pn**	**21 20 33.6**	**0.0**
HMBC				*e*S	**S**	**21 21 21.8**	**-1.6**
TA01	**Diego Aracena**	**4.07**	**306**	*e*P	**Pn**	**21 20 33.7**	**-0.1**
PB11	**IPOC Station P**	**4.27**	**319**	*e*P	**Pn**	**21 20 36.6**	**+0.2**
PB11				*e*S	**S**	**21 21 27.0**	**-1.3**
AC02	**Maricunga**	**4.42**	**210**	*e*P	**Pn**	**21 20 38.6**	**+0.2**
PSGC	**Pisagua**	**4.68**	**316**	⇑*i*P	**Pn**	**21 20 40.7**	**-0.7**
PSGC				*e*S	**S**	**21 21 35.0**	**-2.4**
MNMC	**Minye Minye**	**4.73**	**324**	⇑*i*P	**Pn**	**21 20 43.0**	**+0.9**
MNMC				*e*S	**S**	**21 21 37.8**	**-1.0**
AC01	**Pan de Azucar**	**4.76**	**228**	*e*P	**Pn**	**21 20 41.1**	**-1.1**
LPAZ	**La Paz**	**6.83**	**348**	P	**Pn**	**21 21 10.8**	**+1.7**
	comp=N,2.4nm,0.3s,baz=144,slow=7.0,SNR=43						
LPAZ				S	**S**	**21 22 27.5**	**-0.2**
	baz=287,slow=20,SNR=2.0						
SIV	**San Ignacio**	**8.74**	**38**	P	**Pn**	**21 21 32.1**	**-1.1**
	comp=N,2.2nm,0.3s,baz=226,slow=12,SNR=28						
SIV				S	**S**	**21 23 05.6**	**-6.3**
	baz=200,slow=17,SNR=1.0						
CPUP	**Villa Florida**	**9.11**	**113**	P	**Pn**	**21 21 36.2**	**-1.6**
	comp=N,0.1nm,0.3s,baz=279,slow=11,SNR=5.3						
PLCA	**Paso Flores**	**17.98**	**190**	P	**Pn**	**21 23 26.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=12,slow=11,SNR=6.2						
BDFB	**Brasilia**	**19.05**	**71**	P	**P**	**21 23 36.7**	**+0.5**
	comp=N,0.3nm,0.3s,baz=243,slow=12,SNR=4.1						
SNAA	**Sanae**	**60.18**	**161**	P	**P**	**21 29 16.0**	**+1.6**
	comp=N,1.0nm,0.9s,baz=280,slow=8.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**75.92**	**69**	P	**P**	**21 30 53.7**	**+0.7**
	comp=N,0.3nm,0.3s,baz=255,slow=6.0,SNR=1.5						
WRA	**Warramunga Arr**	**132.65**	**207**	PKP	**PKiKP**	**21 38 21.0**	**+0.6**
	comp=N,0.7nm,1.1s,baz=153,slow=1.8,SNR=5.0						
MKAR	**Makanchi Array**	**145.56**	**39**	PKPbc	**PKPab**	**21 38 44.8**	**+1.7**
	comp=N,0.8nm,0.6s,baz=315,slow=3.1,SNR=10						

MEX 22 21:33:27.1±1.3, 13.92N×92.68W, h9km±278km, MD4.1, Off coast of Chiapas

| Code | Station Name | Δ° | AZ

OHH ⇑*i*S **Sb** **21 41 43.7 +0.1**
baz=35
OHH Osh 1.48 34 *e*P **Pn** **21 41 24.0 +0.1**
OHH *e*S **Sb** **21 41 44.0 +0.4**
ANR Andizhan 1.54 19 *e*P **Pg** **21 41 26.0 -0.2**
ANR *e*S **Sg** **21 41 49.0 +2.8**
SFK Sufi-Kurgan 1.56 62⇓*i*P **Pn** **21 41 24.8 -0.3**
baz=63
SFK ⇓*i*S **Sb** **21 41 46.4 +0.2**
baz=63
SFK Sufi-Kurgan 1.56 62 *e*P **Pn** **21 41 25.0 -0.1**
SFK *e*S **Sn** **21 41 45.0 -0.8**
CHGR Chuyangaron 2.08 253⇓*i*P **Pn** **21 41 33.3 +1.2**
baz=53
CHGR ⇓*i*S **Sb** **21 41 59.8 -1.2**
baz=53
CHGR Chuyangaron 2.08 253 **Pb** **21 41 33.9 -1.0**
ARSB Arslanbob 2.25 25⇓*i*P **Pn** **21 41 35.8 +1.3**
baz=26
ARSB ⇓*i*S **Sb** **21 42 04.9 -0.9**
baz=26
ARSB Arslanbob 2.25 25 PN **Pb** **21 41 36.6 -1.1**
ARSB Arslanbob 2.25 25 Pn **Pb** **21 41 36.6 -1.1**
ARSB Arslanbob 2.25 25 *e*P **Pb** **21 41 38.0 +0.3**
ARSB *e*S **Sb** **21 42 07.0 +1.2**
TRKS Terek-Say 2.27 349⇑*i*P **Pn** **21 41 35.1 +0.3**
baz=50
TRKS ⇑*i*S **Sn** **21 42 03.2 +0.1**
baz=50
CHMG Chimgan 2.59 331 *e*P **Pb** **21 41 44.0 +0.4**
CHMG *e*S **Sg** **21 42 21.0 +1.0**
CHRV Charvak 2.69 331 *e*P **Pb** **21 41 45.0 -0.3**
CHRV *e*S **Sg** **21 42 24.0 +0.8**
YNGY Yangiyul 2.73 312 *e*P **Pn** **21 41 43.0 +2.1**
YNGY *e*S **Sb** **21 42 20.0 +0.6**
TAS Tashkent 2.73 318 *e*P **Pb** **21 41 47.0 +1.1**
TAS *e*S **Sg** **21 42 25.0 +0.5**
AML Almayashu 3.21 28⇑*i*P **Pn** **21 41 49.4 +1.5**
baz=28
AML ⇑*i*S **Sn** **21 42 28.4 +1.8**
baz=28
AML Almayashu 3.21 28 P **Pn** **21 41 51.0 +3.1**
SNR=248
MNAS Manas 3.24 11⇑*i*P **Pn** **21 41 49.6 +1.5**
baz=11
MNAS ⇑*i*S **Sn** **21 42 28.7 +1.6**
baz=11
ARLS Aral 3.25 37⇓*i*P **Pn** **21 41 49.7 +1.5**
baz=38
ARLS ⇓*i*S **Sn** **21 42 29.2 +2.0**
baz=38
KSH Kashi 3.32 85⇑*i*Pn **Pn** **21 41 47.8 -1.3**
KSH Sn **Sn** **21 42 30.5 +1.6**
KSH SMN
530nm,0.3s
KSH SME
270nm,0.3s
DZA Taraz 3.60 356 *e*P **Pb** **21 41 57.1 -3.6**
109nm,0.2s
DZA *e*S **Sb** **21 42 42.6 -2.0**
292nm,0.4s
DZA Taraz 3.60 356 *e*PN **Pb** **21 41 57.1 -3.6**
DZA *e*S **Sb** **21 42 42.6 -2.0**
MRKS Merke 3.63 18 *e*P **Pb** **21 41 57.8 -3.5**
129nm,0.6s
MRKS *e*S **Sb** **21 42 43.6 -1.9**
246nm,0.8s
MRKS Merke 3.63 18 *e*PN **Pb** **21 41 57.8 -3.5**
MRKS *e*S **Sb** **21 42 43.6 -1.9**
EKS2 Erkin-Say 3.71 24⇓*i*P **Pn** **21 41 56.1 +1.6**
baz=25
EKS2 ⇓*i*S **Sn** **21 42 39.8 +1.3**
baz=25
EKS2 Erkin-Say 3.71 24 P **Pn** **21 41 58.2 +3.7**
SNR=99
KK31 Karatay Array 3.91 347⇓Pn **Pn** **21 42 00.0 +2.9**
51nm,0.4s,baz=171,slow=13,SNR=748
KK31 ⇑Lg Lg **21 42 58.1**
67nm,0.4s,baz=170,slow=31,SNR=6.9
KK31 Karatay Array 3.91 347 PN **Pn** **21 42 00.2 +3.1**
KK31 Karatay Array 3.91 347 Pn **Pn** **21 42 00.2 +3.1**
KKAR Karatay Array 3.91 347 PN **Pn** **21 42 00.2 +3.1**
KKAR Karatay Array 3.91 347 Pn **Pn** **21 42 00.2 +3.1**
KKAR Karatay Array 3.91 347 **Pn** **21 42 00.2 +3.1**
AAK Ala-Archa 3.95 31 Pn **Pn** **21 42 01.4 +3.6**
34nm,0.3s,baz=223,slow=7.7,SNR=106
AAK Lg Lg **21 43 01.2**
32nm,0.3s,baz=349,slow=21,SNR=8.7
AAK Ala-Archa 3.95 31⇑*i*P **Pn** **21 41 59.6 +1.8**
baz=32
AAK ⇑*i*S **Sn** **21 42 45.8 +1.3**
baz=32
AAK Ala-Archa 3.95 31 P **Pn** **21 42 01.5 +3.6**
SNR=86
AAK Ala-Archa 3.95 31 ⇑Pn **Pn** **21 42 01.5 +3.6**
84nm,0.5s
AAK ⇑Lg Lg **21 42 59.2**
70nm,0.4s
AAK Ala-Archa 3.95 31⇑*i*PN **Pn** **21 42 01.2 +3.4**
AAK pmax pmax
comp=Z,180nm,0.7s
AAK Ala-Archa 3.95 31 Pn **Pn** **21 42 01.7 +3.9**
FRU1 Bishkek 4.15 31⇑*i*P **Pn** **21 42 02.3 +1.8**
baz=31
FRU1 ⇑*i*S **Sn** **21 42 51.2 +1.9**
baz=31
FRU1 Bishkek 4.15 31 PN **Pn** **21 42 05.2 +4.7**
FRU1 Bishkek 4.15 31 **Pn** **21 42 05.2 +4.7**
KBK Karagaybulak 4.16 35⇓*i*P **Pn** **21 42 02.6 +1.9**
baz=36
KBK ⇓*i*S **Sn** **21 42 51.1 +1.4**
baz=36
KBK Karagaybulak 4.16 35 P **Pn** **21 42 04.9 +4.1**
SNR=130
CHMS Chumysh 4.35 31⇑*i*P **Pn** **21 42 04.9 +1.6**
baz=31
CHMS ⇑*i*S **Sn** **21 42 55.5 +1.2**
baz=31
CHMS Chumysh 4.35 31 P **Pn** **21 42 07.4 +4.1**
SNR=223
USP Ospenovka 4.49 27⇑*i*P **Pn** **21 42 07.1 +1.9**
baz=27
USP ⇑*i*S **Sn** **21 42 58.7 +1.0**
baz=27
USP Ospenovka 4.49 27 P **Pn** **21 42 08.7 +3.5**
SNR=214
BOOM Boomskoye usch 4.53 44⇑*i*P **Pn** **21 42 07.7 +1.9**
baz=44
BOOM ⇑*i*S **Sn** **21 43 00.2 +1.5**
baz=44
BOOM Boomskoye usch 4.53 44 PN **Pn** **21 42 08.6 +2.8**
BOOM Boomskoye usch 4.53 44 **Pn** **21 42 08.6 +2.8**
ULHL Ulahol 4.53 48⇑*i*P **Pn** **21 42 07.9 +2.0**
baz=48
ULHL ⇑*i*S **Sn** **21 43 00.6 +1.6**
baz=48
ULHL Ulahol 4.53 48 P **Pn** **21 42 09.0 +3.0**
SNR=61
TKM2 Tokmak 2 4.66 38⇑*i*P **Pn** **21 42 09.4 +1.7**
baz=38
TKM2 ⇑*i*S **Sn** **21 43 03.1 +0.9**
baz=38
TKM2 Tokmak 2 4.66 38 P **Pn** **21 42 11.4 +3.7**
SNR=28
TKM2 Tokmak 2 4.66 38 ⇑Pn **Pn** **21 42 10.9 +3.2**
comp=Z,35nm,0.5s
TKM2 ⇓Pg **Pg** **21 42 23.5 -2.5**
comp=Z,41nm,0.5s
TKM2 ⇓Sn **Sn** **21 43 05.2 +3.1**
comp=Z,53nm,0.9s
TKM2 ⇑Lg Lg **21 43 22.4**
comp=Z,66nm,0.7s
SGDS Sogindy 4.70 27 Pg **Pb** **21 42 19.7 +0.2**
comp=Z,22nm,0.5s
SGDS Lg Lg **21 43 21.7**
comp=Z,95nm,0.7s
KST Kastek 4.93 39 *e*P **Pb** **21 42 25.6 +2.2**
comp=Z,26nm,0.5s
KST *e*S **Sg** **21 43 32.0 -3.1**
comp=Z,97nm,0.4s
KST Kastek 4.93 39 Pg **Pb** **21 42 25.6 +2.2**
comp=Z,26nm,0.5s
KST Lg Lg **21 43 32.0**
comp=Z,97nm,0.4s
KDJ Kajisay 5.03 54 PN **Pn** **21 42 15.8 +3.0**
KDJ Kajisay 5.03 54 Pn **Pn** **21 42 15.8 +3.0**

KBL Kabul 5.21 205 PN **Pn** **21 42 18.1 +2.9**
KBL Kabul 5.21 205 **Pn** **21 42 18.1 +2.9**
TARG Taragay, Kyrgy 5.25 61 **Pn** **21 42 17.6 +1.7**
IZV Izvestkoviy 5.26 43 *e*P **Pb** **21 42 31.8 +2.7**
comp=Z,19nm,0.7s
IZV *e*S **Sg** **21 43 42.4 -3.2**
comp=Z,74nm,0.5s
IZV Izvestkoviy 5.26 43 Pg **Pb** **21 42 31.8 +2.7**
comp=Z,19nm,0.7s
IZV Lg Lg **21 43 42.4**
comp=Z,74nm,0.5s
KRBS Karabastau 5.31 33 *e*P **Pb** **21 42 32.1 +2.3**
comp=Z,25nm,0.6s
KRBS *e*S **Sg** **21 43 42.6 -4.5**
comp=Z,63nm,0.6s
KRBS Karabastau 5.31 33 Pg **Pb** **21 42 32.1 +2.3**
comp=Z,25nm,0.6s
KRBS Lg Lg **21 43 42.6**
comp=Z,63nm,0.6s
CEP Cherat 5.47 178 P **Pn** **21 42 23.0 +4.3**
KNDC Almaty 5.57 44⇓Pn Pn **21 42 25.4 +5.3**
comp=Z,39nm,0.7s
KNDC ⇑Pg **Pb** **21 42 37.5 +3.2**
comp=Z,98nm,0.8s
KNDC ⇓Lg Lg **21 43 52.9**
comp=Z,284nm,0.8s
KNDC Almaty 5.57 44 PN **Pn** **21 42 25.0 +4.9**
ANVS Anan'yevo 5.70 50⇑*i*P **Pn** **21 42 23.7 +1.8**
baz=51
ANVS ⇑*i*S **Sn** **21 43 27.7 +0.1**
baz=51
CHCP Chirah Chowk 5.77 167 P **Pn** **21 42 28.0 +5.2**
NIL Nilore 5.78 167 PN **Pn** **21 42 27.5 +4.7**
NIL Nilore 5.78 167 **Pn** **21 42 27.5 +4.7**
PRZ Przheval'sk 5.99 56 PN **Pn** **21 42 29.3 +3.4**
PRZ Przheval'sk 5.99 56 **Pn** **21 42 29.3 +3.4**
THW Thamme Wali 6.49 180 P **Pn** **21 42 35.8 +3.1**
PDGK Podgornoye 7.11 53⇑Pn **Pn** **21 42 43.3 +2.0**
comp=Z,6.5nm,0.6s
PDGK ⇑Lg Lg **21 44 44.2**
comp=Z,34nm,0.8s
PDGK Podgornoye 7.11 53 PN **Pn** **21 42 42.0 +0.7**
DHRM DHARAMSHALA 7.96 151 *e*P **Pn** **21 42 53.8 +0.7**
DHRM *e*S **Sn** **21 44 22.4 -1.1**
DHRM IAML **21 44 26.1**
comp=N,66nm,0.4s
SMLA Simla 9.29 150 *e*P **Pn** **21 43 11.5 +0.4**
SMLA *e*S **Sn** **21 44 52.6 -3.3**
SMLA IAML **21 44 56.8**
comp=N,80nm,0.5s
DDI Dehra Dun 10.36 148 *e*P **Pn** **21 43 27.3 +1.5**
DDI *e*S **Sn** **21 45 20.3 -2.0**
MAKZ Makanchi 10.62 42 P **Pn** **21 43 31.5 +2.3**
MAKZ Makanchi 10.62 42 Pn **Pn** **21 43 31.5 +2.3**
GEYT Alibeck 10.72 267 Pn **Pn** **21 43 31.0 +0.4**
comp=N,0.2nm,0.3s,baz=96,slow=14,SNR=2.1
GEYT Sn **Sn** **21 45 30.8 -0.1**
comp=N,0.5nm,0.3s,baz=70,slow=42,SNR=4.6
GEYT Alibeck 10.72 267 **Pn** **21 43 28.1 -2.5**
MK31 Makanchi Array 10.77 43⇓Pn **Pn** **21 43 34.1 +2.8**
comp=N,1.9nm,0.6s,baz=228,slow=13,SNR=21
MK31 ⇑Lg Lg **21 46 38.5**
comp=N,4.5nm,0.8s
MK31 Makanchi Array 10.77 43*c*iP **Pn** **21 43 34.3 +3.0**
MK31 Makanchi Array 10.77 43 Pn **Pn** **21 43 33.9 +2.6**
MKAR Makanchi Array 10.77 43 Pn **Pn** **21 43 33.8 +2.5**
comp=N,0.4nm,0.3s,baz=231,slow=14,SNR=26
MKAR Lg Lg **21 46 29.5**
comp=N,0.2nm,0.3s,baz=214,slow=31,SNR=3.9
MKAR Makanchi Array 10.77 43 P **Pn** **21 43 33.5 +2.2**
MKAR Makanchi Array 10.77 43 Pn **Pn** **21 43 33.5 +2.2**
KURBB Kurchatov Arra 12.30 21 Pn **Pn** **21 43 51.0 -1.2**
comp=N,0.1nm,0.3s,baz=215,slow=13,SNR=21
KURBB Lg Lg **21 47 27.1**
comp=N,0.1nm,0.3s,baz=207,slow=26,SNR=5.4
KURBB Kurchatov Arra 12.30 21⇓Pn **Pn** **21 43 53.0 +0.8**
comp=N,3.1nm,0.6s
KURBB ⇑Lg Lg **21 47 26.4**
comp=N,18nm,0.8s
KURK Kurchatov 12.41 21 P **Pn** **21 43 51.0 -2.7**
KURK Kurchatov 12.41 21 **Pn** **21 43 51.0 -2.7**
WMQ Urumqi 12.80 64 *e*P **Pn** **21 44 02.9 +3.8**
WMQ pmax pmax
comp=N,13nm,0.7s
WMQ pmax pmax
comp=N,110nm,5.1s
AB31 Akbulak array 13.02 324⇓Pn **Pn** **21 44 03.9 +1.9**
comp=N,4.0nm,0.6s,baz=134,slow=13,SNR=76
AB31 Sn **Sn** **21 46 25.8 -1.4**
comp=N,28nm,0.9s,baz=155,slow=18,SNR=18
ABKAR Akbulak array 13.02 324 Pn **Pn** **21 44 00.4 -1.6**
BVAR Borovoye Array 13.76 357 Pn **Pn** **21 44 10.1 -1.9**
comp=N,0.5nm,0.3s,baz=157,slow=11,SNR=3.0
BRVK Borovoye 13.80 356⇑*i*P **Pn** **21 44 13.1 +0.5**
AKTO Aktyubinsk 14.74 324 Pn **Pn** **21 44 25.5 0.0**
comp=N,0.4nm,0.3s,baz=127,slow=14,SNR=9.1
AKTO Sn **Sn** **21 47 03.0 -6.0**
comp=N,0.5nm,0.3s,baz=34,slow=11,SNR=2.3
AKTO Aktyubinsk 14.74 324 ⇑Pn **Pn** **21 44 25.5 0.0**
comp=N,6.8nm,0.5s
AKTO ⇑Sn **Sn** **21 47 08.1 -0.9**
comp=N,21nm,1.1s
ZAA0 Zalesovo Array 17.16 27 P **Pn** **21 44 57.3 +0.5**
ZALV Zalesovo Beam 17.16 27 P **Pn** **21 44 56.4 -0.4**
comp=N,3.9nm,0.3s,baz=215,slow=12,SNR=53
ZALV Zalesovo Beam 17.16 27 **Pn** **21 44 57.0 +0.3**
AKT Akhty 18.38 284 *e*P **P** **21 45 15.2 +3.0**
AKT *e*S **Sn** **21 48 38.4 +0.8**
AKT pmax pmax
comp=Z,4.0nm,0.6s
AKT smax smax
comp=E,2.0nm,0.4s
AKT smax smax
comp=N,5.0nm,0.5s
SEKA Sheki 18.79 284 P **Pn** **21 45 18.5 +1.5**
ARU Arti 19.21 337*d*iP **Pn** **21 45 22.4 +0.4**
ARU S **S** **21 49 00.7 +1.9**
ARU pmax pmax
comp=Z,8.0nm,0.9s
GANJ Ganja 19.48 282 P **Pn** **21 45 26.8 +1.4**
NAX Nakhchivan 20.28 278 P Pn **21 45 35.6 +0.7**
GNI Garni 20.73 281 P Pn **21 45 40.3 0.0**
comp=Z,7.1nm,0.7s,baz=12,slow=18,SNR=3.1
GNI Garni 20.73 281⇑*i*P Pn **21 45 40.0 -0.3**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 20.73 281 P Pn **21 45 40.5 +0.2**
BELG Belogornoye 21.15 316 P **P**
comp=Z,21nm,0.8s,baz=130,slow=18,SNR=13
BELG Belogornoye 21.15 316*d*iP **P** **21 45 42.3 +0.2**
BELG pmax pmax
comp=Z,3.0nm,0.8s
ONI Oni 21.55 288 P **P** **21 45 48.3 +1.7**
ONI pmax pmax
comp=Z,14nm,1.1s
ONI Oni 21.55 288 P **P** **21 45 48.3 +1.7**
GTA Gaotai 21.71 81⇓P **P** **21 45 49.3 +0.9**
GTA pP sP **21 45 55.6 +2.9**
GTA sP pP **21 45 58.6 +7.0**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,68nm,5.6s
GTA L L
comp=Z,60nm,14.9s
GTA L L
comp=Z,93nm,15.6s
GTA L L
comp=Z,83nm,15.6s
KARS Kars 21.94 283 P **P** **21 45 53.6 +2.6**
KARS pmax pmax
comp=Z,27nm,0.8s
KARS Kars 21.94 283 P **P** **21 45 53.6 +2.6**
KARS IAmb IAmb **21 45 57.4**
comp=Z,27nm,0.8s
KBZ Khabaz 21.96 291⇓*i*P **P** **21 45 52.8 +1.9**
KBZ pmax pmax
comp=Z,3.0nm,1.4s
KVAR Kislovodsk Arr 22.12 292 P **P** **21 45 53.4 +0.7**
comp=Z,0.9nm,0.4s,baz=72,slow=20,SNR=1.5
KIV Kislovodsk 22.12 292 *e*P **P** **21 45 53.1 +0.3**
KIV *e*S **S** **21 49 57.6 +0.7**
KIV pmax pmax
comp=Z,19nm,1.0s
SHA1 Shidzhatmaz 22.14 291 *e*P **P** **21 45 52.8 -0.3**

SOC Sochi 24.27 291 *e*P **P** **21 46 17.9 +3.5**
SOC *e* **21 46 43.9**
SOC pmax pmax
comp=Z,15nm,0.9s
SOC MLR MLR
comp=Z,71nm,20.0s
ZAK Zakamensk 24.80 53 *e*P **P** **21 46 18.2 -1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
VORD Divnogorie 25.45 308 *e*P **P** **21 46 28.0 +3.0**
VORD pmax pmax
comp=Z,3.0nm,0.9s
VSR Storozhevoye 25.60 308 *e*P **P** **21 46 29.2 +2.9**
VSR pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 26.36 60 P **P** **21 46 31.5 -2.0**
comp=Z,0.8nm,0.5s,baz=297,slow=4.2,SNR=2.5
ULN Ulaanbaatar 26.81 60 *e*P **P** **21 46 37.5 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 29.22 283 P **P** **21 47 02.0 +2.8**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 29.22 283 P **P** **21 47 02.0 +2.8**
BR131 IAmb IAmb **21 47 03.9**
comp=Z,4.3nm,0.8s
BRTR Keskin Array B 29.22 283 P **P** **21 46 59.5 +0.3**
comp=Z,1.5nm,0.8s,baz=113,slow=3.7,SNR=3.4
BRTR Keskin Array B 29.22 283 P **P** **21 47 00.1 +0.9**
HHC Hu-ho-hao-te 30.36 74 *e*P **P** **21 47 09.1 -0.1**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,56nm,6.6s
AKASG Malin Array Be 31.70 305 P **P** **21 47 20.7 -0.1**
comp=Z,0.6nm,0.4s,baz=82,slow=7.7,SNR=2.7
BJI Beijing 33.97 74 P **P** **21 47 40.0 -0.7**
BJI pmax pmax
comp=Z,4.0nm,0.7s
FIA1 FINESS Array S 35.51 324 P **P** **21 47 54.2 +0.4**
FIA1 IAmb IAmb **21 48 05.5**
comp=Z,14nm,1.5s
FINES FINESS Array B 35.51 324 P **P** **21 47 54.0 +0.2**
comp=Z,0.9nm,0.3s,baz=111,slow=7.9,SNR=17
FINES FINESS Array B 35.51 324*ce*P **P** **21 47 54.2 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 35.51 324 P **P** **21 47 54.0 +0.2**
NJ2 Nanjing 38.63 86 *e*P **P** **21 48 20.1 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HFS Hagfors 41.25 320 P **P** **21 48 41.8 -0.2**
comp=Z,1.9nm,0.4s,baz=96,slow=11,SNR=14
YAK Yakutsk 41.39 37 *e*P **P** **21 48 41.7 -1.4**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,1.0nm,0.7s
YAK pmax pmax
comp=E,5.0nm,1.1s
GERES GERESS Array B 41.82 303 P **P** **21 48 47.9 +0.8**
comp=E,0.3nm,0.5s,baz=64,slow=9.0,SNR=2.9
KHC Kasperske Hory 41.86 303 *e*P **P** **21 48 48.2 +0.9**
KHC Kasperske Hory 41.86 303 *e*P **P** **21 48 48.2 +0.9**
NC303 NORSAR Array S 42.45 321 P **P** **21 48 51.9 0.0**
NC303 IAmb IAmb **21 49 05.4**
comp=Z,12nm,1.2s
NOA NORSAR Array B 42.52 321 P **P** **21 48 51.9 -0.5**
comp=Z,1.1nm,0.7s,baz=91,slow=8.0,SNR=4.7
NC204 NORSAR Array S 42.74 322 P **P** **21 48 54.1 -0.2**
NC204 IAmb IAmb **21 48 59.0**
comp=Z,22nm,1.3s
TIXI Tiksi 42.98 23 P **P** **21 48 55.9 -0.1**
comp=Z,6.2nm,0.6s,baz=269,slow=4.5,SNR=24
TIXI Tiksi 42.98 23 P **P** **21 48 55.9 -0.1**
TIXI IAmb IAmb **21 48 56.6**
comp=Z,6.2nm,0.7s
KLR Kul'dur 43.09 56 P **P** **21 48 56.5 -0.8**
comp=Z,0.9nm,0.5s,baz=341,slow=5.8,SNR=5.5
GSI Gunungsitoli 44.58 142 P **P** **21 49 11.1 +1.5**
SPITS Spitsbergen Ar 44.91 346 P **P** **21 49 11.9 +0.5**
comp=Z,2.5nm,0.7s,baz=93,slow=8.8,SNR=5.4
SENIN Lac Senin/Sane 46.59 301 P **P** **21 49 26.2 +0.8**
SENIN IAmb IAmb **21 49 31.7**
comp=Z,4.6nm,0.9s
MJAR Matsushiro Arr 51.46 71 P **P** **21 50 01.2 -1.5**
comp=Z,1.6nm,0.6s,baz=292,slow=8.5,SNR=5.9
MJAR Matsushiro Arr 51.46 71 P **P** **21 50 01.7 -1.0**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR Matsushiro Arr 51.46 71 P **P** **21 50 01.7 -1.0**
DAG Danmarks Havn 52.21 343 *i*P **P** **21 50 07.5 -0.1**
DAG IAmb IAmb **21 50 08.5**
comp=Z,2.4nm,0.5s
DAG Danmarks Havn 52.21 343 *i*P **P** **21 50 07.5 -0.1**
DAG pmax pmax
comp=Z,2.0nm,0.5s
BILL Bilibino 55.86 27 *i*P **P** **21 50 32.2 -2.2**
BILL pmax pmax
comp=Z,1.0nm,0.8s
ESBB Sonseca Array 56.67 297 P **P** **21 50 41.0 +0.3**
ESBB IAmb IAmb **21 50 52.1**
comp=Z,4.2nm,1.1s
ESDC Sonseca Array 56.67 297 P **P** **21 50 40.6 -0.2**
comp=Z,1.1nm,0.6s,baz=57,slow=7.3,SNR=19
ESDC Sonseca Array 56.67 297 P **P** **21 50 41.2 +0.5**
SUMG Summit 58.60 341 *i*P **P** **21 50 55.1 +0.9**
SUMG IAmb IAmb **21 50 55.6**
comp=Z,4.9nm,0.5s
SUMG Summit 58.60 341 P **P** **21 50 55.2 +0.9**
SUMG pmax pmax
comp=Z,5.0nm,0.5s
SUMG Summit 58.60 341 P **P** **21 50 55.2 +1.0**
ANGG Ammassalik, Gr 62.15 334 P **P** **21 51 18.4 +0.4**
TOA0 Torodi Ar. Sit 66.36 268 P **P** **21 51 45.5 -0.9**
TORD Torodi Ar. Bea 66.36 268 P **P** **21 51 45.4 -1.0**
comp=Z,0.1nm,0.5s,baz=49,slow=5.7,SNR=23
TORD Torodi Ar. Bea 66.36 268 P **P** **21 51 45.6 -0.8**
TORD IAmb IAmb **21 51 46.1**
comp=Z,2.8nm,0.6s
BMAR Burnt Mountain 70.09 14 P **P** **21 52 10.2 +1.0**
C36M Paulatuk 71.04 6 P **P** **21 52 14.7 -0.1**
INK Inuvik 71.06 10 P **P** **21 52 15.2 +0.3**
comp=Z,4.5nm,0.6s,baz=358,slow=6.3,SNR=11
INK Inuvik 71.06 10 P **P** **21 52 15.4 +0.5**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 71.06 10 P **P** **21 52 15.4 +0.5**
BPAW Bear Paw Mtn. 71.56 18 P **P** **21 52 18.4 +0.3**
BPAW IAmb IAmb **21 52 18.5**
comp=Z,2.3nm,0.9s
ILAR Eielson Array 71.94 16 P **P** **21 52 19.6 -0.7**
comp=Z,1.3nm,0.9s,baz=325,slow=5.3,SNR=12
SKT Skwentna 73.20 20 P **P** **21 52 27.3 -0.6**
SKT IAmb IAmb **21 52 27.8**
comp=Z,5.5nm,0.8s
BCAR Beaver Creek A 74.52 15 P **P** **21 52 35.9 +0.2**
KDAK Kodiak Island 76.40 23 P **P** **21 52 45.9 -0.5**
KDAK pmax pmax
comp=Z,3.0nm,0.8s
KDAK Kodiak Island 76.40 23 P **P** **21 52 45.9 -0.5**
KDAK IAmb IAmb **21 52 46.8**
comp=Z,2.8nm,0.8s
HYT Haines Junctio 77.41 14 P **P** **21 52 53.0 +0.7**
HYT IAmb IAmb **21 52 54.0**
comp=Z,2.5nm,0.8s
YKA Yellowknife Ar 78.43 3 P **P** **21 52 57.5 -0.2**
comp=Z,2.0nm,0.6s,baz=352,slow=5.5,SNR=9.6
BOSA Boshof 80.24 220 P **P** **21 53 07.2 -0.9**
comp=Z,1.7nm,0.9s,baz=29,slow=10,SNR=1.8
BOSA Boshof 80.24 220 P **P** **21 53 07.3 -0.9**
BOSA pmax pmax
comp=Z,7.0nm,1.3s
BOSA Boshof 80.24 220 P **P** **21 53 07.3 -0.9**
BOSA IAmb IAmb **21 53 16.5**
comp=Z,6.9nm,1.3s
WRA Warramunga Arr 83.02 123 P **P** **21 53 20.9 -1.9**
comp=Z,0.7nm,0.8s,baz=301,slow=7.7,SNR=10
WRA Warramunga Arr 83.02 123 P **P** **21 53 21.2 -1.7**
WRA Warramunga Arr 83.02 123 P **P** **21 53 21.2 -1.7**
WB2 Warramunga Arr 83.02 123 P **P** **21 53 21.4 -1.4**
WR0 Warramunga Arr 83.16 123 P **P** **21 53 21.9 -1.7**
WR0 IAmb IAmb **21 53 28.7**
comp=Z,6.8nm,1.2s
ASAR Alice Springs 85.41 126 P **P** **21 53 33.3 -1.7**

comp=Z,0.3nm,0.5s,baz=312,slow=4.9,SNR=5.6

ASAR	**Alice Springs**	**85.41**	**126**	P	**P**	**21 53 34.1**	**-0.9**
ASAR	**Alice Springs**	**85.41**	**126**	P	**P**	**21 53 34.1**	**-0.9**

IDC ***22*** *21:44:20.4±1.1,60.30N×59.98E,h0km,mb3.5/3, mb1 3.8/14,mb1mx3.5/63,mbtmp3.7/14,ML3.8/9,Error ellipse: s-maj=13.9km s-min=9.4km az=49.0*
MIRAS ***22*** *21:44:20.4±0.0,60.21N×60.07E,h1km,ML3.6/6*
NNC ***22*** *21:44:47.4±22.0,58.87N×63.01E,h0km,mb4.4,mpv4.1, Error ellipse: s-maj=176.8km s-min=89.7km az=163.0*

ISC 22 21:44:18.1±1.5,60.30N±0.06×60.11E±0.05,h5km±8km, n24,σ2≥87/37,mb3.5/3,5C-2D,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVUR	**Severouralsk**	**0.12**	**213**	*i* P	**Pg**	**21 44 20.2**	**-0.4**
	baz=251						
SVUR				*e*S	**Sg**	**21 44 21.6**	**-0.6**
	48μm,3.2s,baz=251						
PR1R	**Pomanovo**	**2.04**	**238**	*i* P	**Pb**	**21 44 55.3**	**-0.3**
	baz=240						
PR1R				*e*S	**Sb**	**21 45 22.0**	**+0.9**
	1μm,0.2s,baz=240						
PR0R	**Verkhnechusovs**	**2.60**	**217**	*i* P	**Pb**	**21 45 04.0**	**-1.1**
	baz=218						
PR0R				*e*S	**Sb**	**21 45 36.0**	**-1.3**
	359nm,0.2s,baz=218						
SVE	**Sverdlovsk**	**3.49**	**175**	*i* P	**Pn**	**21 45 15.1**	**+2.1**
	baz=175						
SVE				*e*S	**Sn**	**21 45 56.6**	**+2.0**
	290nm,0.5s,baz=175						
KAUR	**Kamensk Uralsk**	**3.95**	**169**	*i* P	**Pn**	**21 45 20.4**	**+1.2**
	baz=168						
KAUR				*e*S	**Sn**	**21 46 06.0**	**+0.2**
	752nm,0.7s,baz=168						
ARU	**Arti**	**3.96**	**193**	Pn	**Pn**	**21 45 21.3**	**+1.8**
	0.0nm,0.3s,baz=355,slow=12,SNR=17						
ARU				Sn	**Sn**	**21 46 08.1**	**+1.8**
	0.1nm,0.3s,baz=325,slow=22,SNR=13						
ARU				Lg	Lg	21 46 20.7	
	0.1nm,0.3s,baz=150,slow=20,SNR=4.9						
ARU	**Arti**	**3.96**	**193**	*i* P	**Pn**	**21 45 21.7**	**+2.2**
	baz=192						
ARU				*e*S	**Sn**	**21 46 08.8**	**+2.5**
	272nm,0.5s,baz=192						
KIRV	**Kirov**	**5.72**	**257**	Pn	**Pn**	**21 45 45.7**	**+2.2**
	1.8nm,0.3s,baz=66,slow=20,SNR=2.4						
KIRV				Sn	**Sn**	**21 46 49.9**	**+0.5**
	4.6nm,0.3s,baz=139,slow=24,SNR=5.9						
KIRV				Lg	Lg	21 47 13.5	
	15nm,0.3s,baz=171,slow=23,SNR=9.9						
BRVK	**Borovoye**	**9.16**	**138**	⇑Pn	**Pn**	**21 46 32.9**	**+2.2**
	9.5nm,0.7s						
BRVK				⇑Sn	Sn	21 47 58.1	-16
	3.1nm,0.3s						
BVAR	**Borovoye Array**	**9.22**	**138**	Pn	**Pn**	**21 46 32.7**	**+1.1**
	3.0nm,0.3s,baz=274,slow=21,SNR=46						
BVAR				Sn	**Sn**	**21 48 09.1**	**-6.4**
	3.5nm,0.3s,baz=303,slow=22,SNR=7.9						
AKTO	**Aktyubinsk**	**9.96**	**188**	Pn	**Pn**	**21 46 42.8**	**+1.2**
	0.4nm,0.3s,baz=15,slow=16,SNR=2.3						
AKTO				Sn	**Sn**	**21 48 28.9**	**-4.7**
	0.4nm,0.3s,baz=171,slow=18,SNR=1.4						
AKTO				Lg	Lg	21 49 30.4	
	0.6nm,0.3s,baz=205,slow=19,SNR=2.1						
AKTO	**Aktyubinsk**	**9.96**	**188**	⇑Sn	**Sn**	**21 48 38.7**	**+5.0**
	9.6nm,0.8s						
AKTO				⇑Lg	Lg	21 49 30.5	
	17nm,0.8s						
BELG	**Belogorsk**	**10.51**	**227**	Pn	**Pn**	**21 46 49.9**	**+0.7**
	1.8nm,0.3s,baz=330,slow=3.2,SNR=6.4						
BELG				Sn	**Sn**	**21 48 41.3**	**-5.8**
	1.5nm,0.3s,baz=39,slow=14,SNR=5.6						
BELG				Lg	Lg	21 49 41.0	
	0.9nm,0.3s,baz=71,slow=22,SNR=3.9						
AB31	**Akbulak array**	**11.07**	**181**	⇓Pn	Pn	21 47 06.1	+9.3
	3.0nm,0.5s,baz=20,slow=12,SNR=10						
AB31				⇓Sn	**Sn**	**21 49 02.6**	**+1.7**
	2.0nm,0.5s,baz=23,slow=23,SNR=4.9						
AB31				⇑Lg	Lg	21 49 59.6	
	8.4nm,0.7s,baz=6.1,slow=28,SNR=4.3						
ZALV	**Zalesovo Beam**	**14.79**	**105**	Pn	**P**	**21 47 53.1**	**-0.6**
	0.0nm,0.3s,baz=300,slow=11,SNR=1.2						
ZALV				Sn	**Sn**	**21 50 33.1**	**+1.5**
	0.5nm,0.3s,baz=310,slow=21,SNR=3.5						
FINES	**FINESS Array B**	**16.50**	**289**	Pn	**Pn**	**21 48 08.3**	**-1.7**
	0.4nm,0.3s,baz=88,slow=12,SNR=9.5						
FINES				Sn	Sn	21 50 59.1	-14
	0.3nm,0.3s,baz=72,slow=22,SNR=4.5						
ARCES	**ARCESS Array B**	**17.07**	**317**	Pn	**Pn**	**21 48 15.1**	**-2.0**
	baz=98,slow=13,SNR=15						
ARCES				S	Sn	21 51 16.1	-11
	baz=106,slow=26,SNR=2.0						
ARCES	**ARCESS Array B**	**17.07**	**317**	P	**Pn**	**21 48 15.1**	**-2.0**
MKAR	**Makanchi Array**	**18.75**	**126**	P	**Pn**	**21 48 39.9**	**+2.0**
	0.2nm,0.3s,baz=330,slow=7.0,SNR=3.6						
MKAR				S	**Sn**	**21 51 59.3**	**-8.6**
	0.1nm,0.3s,baz=333,slow=21,SNR=3.5						
KBZ	**Khabaz**	**19.58**	**220**	P	**Pn**	**21 48 48.0**	**+0.1**
	0.5nm,0.3s,baz=25,slow=7.7,SNR=4.1						
AKASG	**Malin Array Be**	**19.77**	**255**	P	**Pn**	**21 48 50.0**	**-0.3**
	0.8nm,0.3s,baz=45,slow=9.8,SNR=5.3						
HFS	**Hagfors**	**22.69**	**290**	P	**P**	**21 49 21.0**	**+0.9**
	1.3nm,0.4s,baz=83,slow=13,SNR=1.9						
NOA	**NORSAR Array B**	**23.52**	**293**	P	**P**	**21 49 30.0**	**+1.3**
	0.5nm,0.6s,baz=65,slow=12,SNR=4.8						
GERES	**GERESS Array B**	**28.61**	**267**	P	**P**	**21 50 18.1**	**+3.0**
	0.5nm,0.7s,baz=38,slow=10.0,SNR=2.3						

JMA ***22*** *21:51:18.3±0.1,24.81N×122.39E,h126km±2km,M2.1*
TAP ***22*** *21:51:18.3,24.85N×122.39E,h127km,ML2.8,D*

ISC 22 21:51:19.4±2.0,24.86N±0.08×122.41E±0.03, h117km±11km,n39,σ0≥86/74,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.41**	**291**	*e*P	**Pn**	**21 51 36.1**	**-0.3**
	baz=282						
TWB1				*e*S	**Sn**	**21 51 49.4**	**+0.1**
	baz=282						
NTC	**Toucheng**	**0.52**	**269**	*e*P	**Pn**	**21 51 36.8**	**-0.3**
	baz=265						
TIPB	**Shuangxi**	**0.54**	**282**	*i* P	**Pn**	**21 51 37.4**	**+0.1**
	baz=283						
TIPB				*i* S	**Sn**	**21 51 51.0**	**+0.3**
	baz=283						
TWC	**Suao**	**0.57**	**244**	*i* P	**Pn**	**21 51 37.2**	**-0.2**
	baz=241						
TWC				*e*S	**Sn**	**21 51 48.3**	**-2.7**
	baz=241						
JYNG	**Yonagunijimaku**	**0.64**	**130**	P	**Pn**	**21 51 37.9**	**0.0**
JYNG				*e*S	**Sn**	**21 51 52.7**	**+0.8**
NDS	**Dongshan**	**0.67**	**250**	*i* P	**Pn**	**21 51 38.4**	**+0.2**
	baz=250						
NDS				*e*S	**Sn**	**21 51 51.2**	**-1.2**
	baz=250						
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pn**	**21 51 38.1**	**-0.1**
YOJ				*e*S	**Sn**	**21 51 53.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.68**	**126**	P	**Pn**	**21 51 38.1**	**-0.1**
	baz=131						
YOJ				S	**Sn**	**21 51 53.5**	**+1.0**
	baz=131						
TWE	**Neicheng**	**0.69**	**258**	*i* P	**Pn**	**21 51 38.5**	**+0.2**
	baz=258						
TWE				S	**Sn**	**21 51 52.5**	**-0.1**
	baz=258						
EWUT	**Wuta**	**0.71**	**234**	P	**Pn**	**21 51 38.9**	**+0.4**
	baz=234						
EWUT				S	**Sn**	**21 51 53.9**	**+1.0**
	baz=234						
ENTT	**Nioudou**	**0.80**	**254**	P	**Pn**	**21 51 39.7**	**+0.4**
	baz=256						
ENTT				*e*S	**Sn**	**21 51 55.9**	**+1.7**
	baz=256						
YM01	**YM01**	**0.81**	**291**	P	**Pn**	**21 51 39.0**	**-0.4**
	baz=285						
YM01				S	**Sn**	**21 51 55.1**	**+0.6**
	baz=285						
NWLT	**Wulai**	**0.83**	**264**	*i* P	**Pn**	**21 51 39.2**	**-0.4**
	baz=268						
NWLT				S	**Sn**	**21 51 55.0**	**+0.3**
	baz=268						
NDT	**Datong Townshi**	**0.85**	**252**	P	**Pn**	**21 51 40.1**	**+0.3**
	baz=253						
NDT				S	**Sn**	**21 51 56.1**	**+0.9**
	baz=253						
YHNB	**Yeheng**	**0.96**	**259**	P	**Pn**	**21 51 40.8**	**0.0**
	baz=259						
YHNB				S	**Sn**	**21 51 56.7**	**-0.3**
	baz=259						
NSK	**Sanguang**	**0.97**	**259**	*e*P	**Pn**	**21 51 39.9**	**-1.0**
	baz=259						
NSK				S	**Sn**	**21 51 56.8**	**-0.4**
	baz=259						
NACB	**Ninganchiao**	**1.01**	**227**	P	**Pn**	**21 51 40.8**	**-0.4**
	baz=223						
NACB				S	**Sn**	**21 51 57.4**	**-0.4**
	baz=223						
NNSH	**Datong**	**1.03**	**245**	P	**Pn**	**21 51 41.7**	**+0.2**
	baz=240						
NNSH				S	**Sn**	**21 51 58.4**	**+0.1**
	baz=240						
NNSB	**Datong**	**1.03**	**245**	P	**Pn**	**21 51 41.7**	**+0.2**
	baz=245						
NNSB				S	**Sn**	**21 51 58.5**	**+0.2**
	baz=245						
NNS	**Nan Shan**	**1.03**	**246**	P	**Pn**	**21 51 41.9**	**+0.3**
	baz=246						
NNS				S	**Sn**	**21 51 58.4**	**0.0**
	baz=246						
ETLH	**Xiulin Townshi**	**1.07**	**232**	P	**Pn**	**21 51 41.6**	**-0.3**
	baz=224						
ETLH				S	**Sn**	**21 51 58.6**	**-0.3**
	baz=224						
FUSS	**Fushou**	**1.22**	**240**	P	**Pn**	**21 51 43.9**	**+0.2**
	baz=240						
FUSS				S	**Sn**	**21 52 02.1**	**-0.1**
	baz=240						
WHF	**Hehuan Shan**	**1.26**	**236**	P	**Pn**	**21 51 44.3**	**0.0**
	baz=231						
WHF				S	**Sn**	**21 52 02.8**	**-0.5**
	baz=231						
TWT	**Tachien**	**1.27**	**242**	*e*P	**Pn**	**21 51 46.6**	**+2.4**
	baz=242						
TWT				S	**Sn**	**21 52 03.7**	**+0.6**
	baz=242						
NSTT	**Nanjuang**	**1.30**	**260**	*e*P	**Pn**	**21 51 43.0**	**-1.3**
	baz=260						
NSTT				S	**Sn**	**21 52 02.5**	**-0.7**
	baz=260						
IRIF	**Iriomote-Funau**	**1.31**	**113**	P	**Pn**	**21 51 44.0**	**-0.5**
CHGB	**Renai**	**1.38**	**235**	P	**Pn**	**21 51 46.0**	**+0.6**
	baz=229						
CHGB				S	**Sn**	**21 52 04.4**	**-0.8**
	baz=229						
OWD	**Renai**	**1.44**	**231**	P	**Pn**	**21 51 45.5**	**-0.6**
	baz=227						
OWD				S	**Sn**	**21 52 05.9**	**-0.5**
	baz=227						
WHP	**Taichung City**	**1.45**	**247**	P	**Pn**	**21 51 46.4**	**+0.2**
	baz=253						
WHP				S	**Sn**	**21 52 06.8**	**+0.3**
	baz=253						
WCS	**Beigang Elemen**	**1.58**	**240**	P	**Pn**	**21 51 48.1**	**+0.5**
	baz=246						
WCS				S	**Sn**	**21 52 09.5**	**+0.5**
	baz=246						
JKRS	**Kuro-shima**	**1.59**	**113**	P	**Pn**	**21 51 47.7**	**+0.1**
JKRS				*e*S	**Sn**	**21 52 10.1**	**+1.0**
JIJ	**Ishigaki jima**	**1.66**	**107**	P	**Pn**	**21 51 48.0**	**-0.4**
JIJ				S	**Sn**	**21 52 10.3**	**-0.3**
SMLT	**Sun Moon Lake**	**1.69**	**235**	P	**Pn**	**21 51 49.7**	**+0.8**
	baz=239						
SMLT				*e*S	**Sn**	**21 52 14.1**	**+2.7**
	baz=239						
SSLB	**Suanglung**	**1.70**	**231**	*e*P	**Pn**	**21 51 49.9**	**+0.8**
	baz=227						
SSLB				S	**Sn**	**21 52 12.6**	**+0.9**
	baz=227						
JISG	**Ishigakijimahi**	**1.75**	**99**	P	**Pn**	**21 51 49.2**	**-0.4**
YULB	**Yu-li**	**1.78**	**215**	P	**Pn**	**21 51 49.1**	**-0.9**
	baz=221						
YULB				S	**Sn**	**21 52 10.2**	**-3.1**
	baz=221						
ALS	**Alishan**	**1.99**	**228**	P	**Pn**	**21 51 52.8**	**0.0**
	baz=221						
ALS				*e*S	**Sn**	**21 52 19.4**	**+1.1**
	baz=221						
CHN5	**Tsauling**	**2.02**	**232**	P	**Pn**	**21 51 52.8**	**-0.2**
	baz=239						
CHN5				S	**Sn**	**21 52 18.9**	**+0.2**
	baz=239						
JTJ	**Tarama**	**2.10**	**96**	P	**Pn**	**21 51 53.7**	**-0.2**

IDC ***22*** *21:54:58.1±1.4,0.93N×122.17E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/30,mbtmp3.5/4,ML3.0/1,MS2.4/1, Ms1 2.4/1,ms1mx2.2/22,Error ellipse: s-maj=133.1km s-min=23.6km az=67.0*
DJA ***22*** *21:55:03.8±0.5,1°N±4'×12°2E±°,h10km,M4.0/7,MLv4.0/7*

ISC 22 21:55:00.6±1.4,1°15N±0.08×122°28E±0.09,h10km,n11, σ1≥65/11,mb3.6/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.75**	**207**	P	**Pg**	**21 55 15.8**	**+0.7**
MRSI				S	**Sg**	**21 55 24.0**	**-0.8**
APSI	**Ampana**	**2.14**	**197**	P	**Pn**	**21 55 37.6**	**+1.2**
APSI				S	**Sn**	**21 56 03.6**	**+0.6**
LUWI	**Luwuk**	**2.23**	**167**	P	**Pn**	**21 55 39.0**	**+1.3**
MPSI	**Mapaga**	**2.51**	**251**	P	**Pn**	**21 55 42.4**	**+0.8**
MPSI				S	**Sn**	**21 56 11.3**	**-1.0**
TTSI	**Tana Toraja**	**4.83**	**211**	P	**Pn**	**21 56 14.9**	**+1.4**
KAPI	**Kappang**	**6.62**	**202**	LR	LR	21 58 56.9	
	comp=Z,31nm,20.1s,baz=220,slow=37						
PTKI	**Pontianak**	**12.94**	**264**	P	Pn	21 57 57.7	-7.0
FITZ	**Fitzroy Crossi**	**19.41**	**170**	P	**P**	**21 59 24.4**	**-2.6**
	0.0nm,0.3s,baz=1.9,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**24.07**	**151**	P	**P**	**22 00 13.9**	**-2.5**
	0.4nm,0.6s,baz=327,slow=10,SNR=7.2						
SONM	**Songino Array**	**48.50**	**346**	P	**P**	**22 03 44.6**	**+0.8**
	0.8nm,0.6s,baz=140,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**57.27**	**328**	P	P	22 04 48.1	-0.4
	0.3nm,0.5s,baz=128,slow=8.4,SNR=5.6						

UPP ***22*** *22:01:53.7±0.0,67.19N×20.67E,h1km,ML1.8,Explosion*

HEL 22 22:01:54.2±0.0,67.18N×20.66E,h0km,ML1.8, ML1.8(UPP),Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**212**	P	Pg	22 01 55.4	-0.1
DUNU	**Dundret**	**0.07**	**212**	*i* P	Pg	22 01 55.4	-0.1
MASU	**Masugnsbyn**	**0.59**	**61**	P	Pg	22 02 04.7	-0.7
MASU				S	Sg	22 02 12.4	-0.6
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	22 02 04.7	-0.7
MASU				*i* S	Sg	22 02 12.4	-0.6
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	22 02 07.8	-1.0
RATU				S	Sg	22 02 18.0	-0.8
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	Pg	22 02 07.8	-1.0
RATU				*i* S	Sg	22 02 18.0	-0.8
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	22 02 08.2	-1.1
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	22 02 08.2	-1.1
NIKU	**Nikkaluokta**	**0.93**	**319**	P	Pg	22 02 10.9	-1.1
NIKU				S	Sg	22 02 23.6	-0.4
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*P	Pg	22 02 10.9	-1.1
NIKU				*e*S	Sg	22 02 23.6	-0.4
PAJU	**Pajala**	**0.97**	**98**	P	Pg	22 02 11.5	-1.3
PAJU				S	Sg	22 02 24.6	-0.7
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	22 02 11.5	-1.2
PAJU				*e*SB	Sg	22 02 24.6	-0.7
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	22 02 12.1	-1.4
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	22 02 12.2	-1.3
LANU				*e*S	Sg	22 02 25.6	-1.0
HARU	**Harads**	**1.03**	**173**	P	Pg	22 02 12.5	-1.4
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	22 02 12.5	-1.4
KLF	**Kolari**	**1.29**	**86**	*e*P	Pg	22 02 17.0	-1.8
KLF				*e*S	Sg	22 02 33.8	-1.7
HEF	**Hetta**	**1.68**	**41**	*e*P	Pn	22 02 24.0	-0.8
HEF	**Hetta**	**1.68**	**41**	*e*P	Pn	22 02 23.7	-1.1
HEF				MSG		22 02 44.4	
	comp=Z,5.1nm,0.2s						
HEF				*e*S	Sn	22 02 45.2	-1.7
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	22 02 24.8	-0.6
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	22 02 24.8	-0.6
TOF	**Tornio**	**1.83**	**125**	*e*P	Pn	22 02 26.5	-0.3
TOF				MSG		22 02 48.0	
	comp=Z,5.4nm,0.2s						
TOF				*e*SN	Sn	22 02 51.0	+0.3
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	22 02 27.1	+0.2
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*PN	Pn	22 02 27.4	+0.5
	baz=183						
KIF				MSG		22 02 49.6	
	comp=Z,6.7nm,0.2s						
KIF				*e*SG	Sg	22 02 53.0	0.0
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	Pn	22 02 32.1	+0.3
RNF				*e*SG	Sb	22 03 01.4	-0.8
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pn	22 02 34.0	+0.9
SGF				*e*SG	Sb	22 03 04.5	-0.6
BURU	**Burvik**	**2.62**	**173**	*e*P	Pn	22 02 38.0	+0.3
KEV	**Kevo**	**3.49**	**39**	*e*S	Sn	22 03 30.9	-0.6
KUJ6	**Riekki**	**3.86**	**103**	*e*S	Sn	22 03 40.9	+0.2
VAF	**Ylistaro**	**4.24**	**168**	*e*SG	Sg	22 04 06.6	-3.7

TUL ***22*** *22:16:20.8±1.2,35.74N×97.39W±0.02,h6km±5km, ML4.1,mb_Lg4.1/156(NEIC),Mwr3.9/45(NEIC),Error ellipse: s-maj=2.7km s-min=2.0km az=123.0*
NEIC ***22*** *22:16:20.7±1.4,35.77N±0.01×97.42W±0.03,h3km±5km, Error ellipse: s-maj=3.8km s-min=1.9km az=103.0*
IDC ***22*** *22:16:20.1±0.7,35.79N×97.45W,h0km,mb3.8/5, mb1 4.0/13,mb1mx3.7/47,mbtmp3.8/13,ML3.6/8,MS3.1/12, Ms1 3.1/12,ms1mx2.9/44,Error ellipse: s-maj=11.3km s-min=8.0km az=153.0*
IASPEI ***22*** *22:16:20.8±1.0,35.76N±0.02×97.39W±0.03,h10km±7km, mb3.8/4,MS3.5/4,Error ellipse: s-maj=4.3km s-min=3.2km az=104.0,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
NEIC ***22*** *22:16:20.8,35.74N×97.39W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=3.25; $M_{\theta\theta}$6.25; $M_{\phi\phi}$-3.00; $M_{r\theta}$-2.39; $M_{\theta\phi}$4.02; $M_{\phi r}$2.70; Fault plane solution: $M_0$7.65000×10^{14} NP1:ϕ_s211.61000°, δ57.03000°,λ-154.06000°. NP2:ϕ_s106.78000°, δ68.47000°,λ-35.81000°. Principal axes: T 7.9224, Plg7.0000°, Azm161.0000°; N -0.5699, Plg49.0000°, Azm260.0000°; P -7.3525, Plg40.0000°, Azm65.0000°;*
ANF ***22*** *22:16:21.3±0.5,35.75N×97.39W,h10km±3km,ML4.9/25 Error ellipse: s-maj=2.4km s-min=2.2km az=132.0*

ISC 22 22:16:21.3±0.8,35.77N±0.02×97.39W±0.02,h10km±5km, n190,σ0≥94/182,mb3.8/4,MS3.5/4,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.06**	**301**		**Pg**	**22 16 22.8**	**-0.7**
OK029				Sg	**Sg**	**22 16 24.4**	**-0.8**
OK009	**Oakdale Elemen**	**0.19**	**188**		**Pg**	**22 16 24.5**	**-0.7**
OK025	**Westminster Rd**	**0.19**	**167**		**Pg**	**22 16 24.5**	**-0.8**
OK025				Sg	**Sg**	**22 16 27.4**	**-0.7**
OK005	**Luther M Schoo**	**0.20**	**124**		**Pg**	**22 16 24.9**	**-0.6**
BCOK	**Bluff Creek, N**	**0.21**	**239**		**Pg**	**22 16 25.0**	**-0.7**
BCOK				Sg	**Sg**	**22 16 28.3**	**-0.3**
OKCFA	**Oklahoma City**	**0.35**	**188**		**Pg**	**22 16 27.5**	**-0.8**
OKCFA				Sg	**Sg**	**22 16 32.5**	**-0.5**
OKCFA	**Oklahoma City**	**0.35**	**188**	P	**Pg**	**22 16 27.5**	**-0.8**
	baz=9.0,SNR=163						
OKCFA				S	**Sg**	**22 16 32.5**	**-0.5**
	baz=9.0						
OKCFA	**Oklahoma City**	**0.35**	**188**	P		22 16 27.5	
	baz=9.0,SNR=163						
OKCFA				S		22 16 32.5	
	baz=9.0						
OKCSW	**OKLAHOMA CITY**	**0.36**	**186**		**Pg**	**22 16 27.7**	**-0.8**
OKCSW				Sg	**Sg**	**22 16 33.0**	**-0.3**
OK031	**S. Brethren Rd**	**0.49**	**67**		**Pg**	**22 16 30.6**	**-0.2**
OK031				Sg	**Sg**	**22 16 37.3**	**+0.1**
FNO	**Franklin**	**0.51**	**181**		**Pg**	**22 16 30.4**	**-0.8**
FNO				Sg	**Sg**	**22 16 37.5**	**-0.4**
OK030	**Cody Creek RV**	**0.52**	**72**		**Pg**	**22 16 31.2**	**-0.2**
OK030				Sg	**Sg**	**22 16 38.1**	**-0.2**
QUOK	**Quay**	**0.69**	**54**		**Pg**	**22 16 34.3**	**-0.3**
QUOK				Sg	**Sg**	**22 16 43.7**	**+0.1**
CROK	**Carrier**	**0.88**	**327**		**Pg**	**22 16 37.9**	**-0.4**
CROK				IAmb_Lg		22 16 50.0	
	comp=Z,2μm,1.0s						
CROK				Sg	**Sb**	**22 16 50.1**	**-0.4**
BLOK	**Blackwell**	**1.00**	**8**		**Pg**	**22 16 40.1**	**-0.5**
X34A	**Smith Ranch, M**	**1.22**	**197**	Pg	**Pg**	**22 16 43.6**	**-1.1**
OK032	**Salt Plains WL**	**1.23**	**328**		**Pg**	**22 16 43.9**	**-1.1**
KAN13	**South Haven SW**	**1.25**	**357**		**Pg**	**22 16 44.6**	**-0.7**
KAN14	**Manchester OK**	**1.27**	**339**		**Pg**	**22 16 44.5**	**-1.3**
TUL1	**Leonard**	**1.31**	**83**	P	**Pn**	**22 16 44.4**	**-1.2**
	baz=263						
TUL1				S	**Sg**	**22 17 02.0**	**-1.4**
	baz=263						
TUL1	**Leonard**	**1.31**	**83**	P		22 16 44.5	
	baz=263,SNR=423						
TUL1				S		22 17 02.1	
	baz=263						
TUL1	**Leonard**	**1.31**	**83**	P		22 16 44.4	
	baz=263						
TUL1				S		22 17 02.0	
	baz=263						
KAN17	**Caldwell West**	**1.31**	**347**	Pn	**Pn**	**22 16 45.6**	**-0.1**
T35A	**Sooner Cattle**	**1.35**	**31**	Pn	**Pn**	**22 16 45.9**	**-0.3**
T35B	**Sooner Cattle**	**1.35**	**31**	P	**Pn**	**22 16 45.9**	**-0.3**
	baz=211,SNR=411						
T35B				S	**Sn**	**22 17 04.6**	**+0.4**
	baz=211						
T35B	**Sooner Cattle**	**1.35**	**31**	P		22 16 45.9	
	baz=211,SNR=411						
T35B				S		22 17 04.6	
	baz=211						
KAN09	**Caldwell North**	**1.38**	**352**	Pn	**Pn**	**22 16 46.0**	**-0.6**
KAN09				IAmb_Lg		22 17 06.3	
	comp=Z,1μm,0.8s						
KAN05	**Bluff City Nor**	**1.40**	**344**		**Pn**	**22 16 46.9**	**+0.1**
KAN05				IAmb_Lg		22 17 06.6	
	comp=Z,840nm,0.8s						
U32A	**Winter Ranch,**	**1.44**	**296**	Pn	**Pn**	**22 16 47.7**	**+0.2**
U32A				IAmb_Lg		22 17 08.6	
	comp=Z,1μm,0.7s						
U32A	**Winter Ranch,**	**1.44**	**296**

Z35A IAmb_Lg 22 17 37.2
comp=Z,993nm,1.2s
Z35A Perchaven, San 2.43 177 P **Pn** **22 17 01.7 +0.7**
baz=357,SNR=40
Z35A S **Sn** **22 17 32.7 +1.9**
baz=357
Z35A Perchaven, San 2.43 177 P 22 17 01.7
baz=357,SNR=40
Z35A S 22 17 32.7
baz=357
U38A Gravette 2.52 74 Pn **Pn** **22 17 03.2 +0.8**
U38A IAmb_Lg 22 17 45.5
comp=Z,476nm,0.7s
U38A Gravette 2.52 74 P **Pn** **22 17 03.3 +1.0**
baz=255,SNR=123
U38A Gravette 2.52 74 P 22 17 03.3
baz=255,SNR=123
HHAR Hobbs 2.84 79 **Pn** **22 17 07.4 +0.6**
HHAR IAmb_Lg 22 17 56.3
comp=Z,390nm,0.8s
R32A Long Quarter, 2.85 339 **Pn** **22 17 07.8 +0.8**
R32A IAmb_Lg 22 17 58.8
comp=Z,571nm,1.0s
R32A Long Quarter, 2.85 339 P **Pn** **22 17 07.7 +0.8**
baz=158,SNR=20
R32A Long Quarter, 2.85 339 P 22 17 07.7
baz=158,SNR=20
W39A Magazine 3.00 100 **Pn** **22 17 09.2 +0.4**
W39A IAmb_Lg 22 18 02.3
comp=Z,625nm,0.8s
W39A Magazine 3.00 100 P **Pn** **22 17 09.2 +0.4**
baz=282,SNR=43
W39A Magazine 3.00 100 P 22 17 09.1
baz=282,SNR=44
W39A S 22 17 45.1
baz=282
W39A Magazine 3.00 100 P 22 17 09.2
baz=282,SNR=43
Z38A Mt. Pleasant 3.19 141 **Pn** **22 17 11.4 -0.2**
Z38A IAmb_Lg 22 18 07.3
comp=Z,517nm,0.8s
Z38A Mt. Pleasant 3.19 141 P **Pn** **22 17 11.3 -0.2**
baz=322,SNR=8.6
Z38A Mt. Pleasant 3.19 141 P 22 17 11.3
baz=322,SNR=8.6
MIAR Mount Ida 3.35 110 Pn **Pn** **22 17 14.3 +0.6**
MIAR IAmb_Lg 22 18 15.3
comp=Z,450nm,0.7s
MIAR Mount Ida 3.35 110 P **Pn** **22 17 14.0 +0.3**
baz=292,SNR=104
MIAR S **Sn** **22 17 54.4 +0.8**
baz=292
MIAR Mount Ida 3.35 110 P 22 17 14.5
baz=292,SNR=62
MIAR S 22 17 54.5
baz=292
MIAR Mount Ida 3.35 110 P 22 17 14.0
baz=292,SNR=104
MIAR S 22 17 54.4
baz=292
KSU1 Kansas State U 3.39 10 Pn **Pn** **22 17 14.2 0.0**
KSU1 IAmb_Lg 22 18 14.7
comp=Z,760nm,0.9s
KSU1 Kansas State U 3.39 10 P **Pn** **22 17 15.0 +0.8**
baz=191,SNR=11
KSU1 Kansas State U 3.39 10 P 22 17 13.5
baz=191
KSU1 Kansas State U 3.39 10 P 22 17 15.0
baz=191,SNR=11
CBKS Cedar Bluff 3.57 329 Pn **Pn** **22 17 17.6 +0.9**
CBKS IAmb_Lg 22 18 16.4
comp=Z,632nm,0.8s
CBKS Cedar Bluff 3.57 329 P **Pn** **22 17 18.3 +1.5**
baz=148,SNR=30
CBKS S **Sn** **22 17 59.8 +0.8**
baz=148
CBKS Cedar Bluff 3.57 329 P 22 17 16.9
baz=148
CBKS Sb 22 18 12.1
baz=148
CBKS Cedar Bluff 3.57 329 P 22 17 18.3
baz=148,SNR=30
CBKS S 22 17 59.8
baz=148
AMTX Amarillo 3.62 257 Pn **Pn** **22 17 17.9 +0.4**
AMTX IAmb_Lg 22 18 24.3
comp=Z,417nm,1.0s
AMTX Amarillo 3.62 257 P **Pn** **22 17 18.7 +1.3**
baz=75
AMTX Amarillo 3.62 257 P 22 17 17.8
baz=75
AMTX Sb 22 18 11.7
baz=75
AMTX Amarillo 3.62 257 P 22 17 18.7
baz=75
ABTX Abilene, Hawle 3.65 211 Pn **Pn** **22 17 17.9 +0.1**
ABTX IAmb_Lg 22 18 18.4
comp=Z,579nm,1.1s
ABTX Abilene, Hawle 3.65 211 P **Pn** **22 17 17.7 -0.1**
baz=30,SNR=9.6
ABTX Abilene, Hawle 3.65 211 P 22 17 17.5
baz=30,SNR=19
ABTX S 22 18 02.2
baz=30
ABTX Abilene, Hawle 3.65 211 P 22 17 17.7
baz=30,SNR=9.6
U40A Yellville 3.72 80 IAmb_Lg 22 18 29.2
comp=Z,373nm,0.8s
U40A Yellville 3.72 80 P **Pn** **22 17 19.1 +0.2**
baz=262,SNR=100
U40A Yellville 3.72 80 P 22 17 18.8
baz=262
U40A Sb 22 18 15.9
baz=262
U40A Yellville 3.72 80 P 22 17 19.1
baz=262,SNR=100
U40A P 22 17 19.1
baz=262,SNR=100
WHTX Lake Whitney, 3.77 181 Pn **Pn** **22 17 19.5 +0.1**
WHTX Lake Whitney, 3.77 181 P **Pn** **22 17 19.3 -0.1**
baz=0.8,SNR=14
WHTX Lake Whitney, 3.77 181 P 22 17 19.4
baz=0.8,SNR=31
WHTX Sb 22 18 15.8
baz=0.8
WHTX Lake Whitney, 3.77 181 P 22 17 19.3
baz=0.8,SNR=14
S39A Bolivar 3.79 58 **Pn** **22 17 20.3 +0.5**
S39A Bolivar 3.79 58 P **Pn** **22 17 20.1 +0.4**
baz=240,SNR=43
S39A Bolivar 3.79 58 P 22 17 20.1
baz=240,SNR=43
X40A Basin Creek Fa 3.95 108 **Pn** **22 17 22.4 +0.5**
X40A IAmb_Lg 22 18 28.4
comp=Z,827nm,0.9s
X40A Basin Creek Fa 3.95 108 P **Pn** **22 17 22.6 +0.7**
baz=290,SNR=34
X40A Basin Creek Fa 3.95 108 P 22 17 22.2
baz=290,SNR=17
X40A S 22 18 08.7
baz=290
X40A Basin Creek Fa 3.95 108 P 22 17 22.6
baz=290,SNR=34
X40A P 22 17 22.6
baz=290,SNR=34
237A Washetta, Mont 3.98 160 Pn **Pn** **22 17 21.6 -0.7**
237A IAmb_Lg 22 18 33.8
comp=Z,295nm,0.9s
237A Washetta, Mont 3.98 160 P **Pn** **22 17 22.0 -0.3**
baz=341,SNR=8.9
237A S **Sn** **22 18 07.9 -1.1**
baz=341
237A Washetta, Mont 3.98 160 P 22 17 22.0
baz=341,SNR=8.9
237A S 22 18 07.9
baz=341
WLAR White Oak Lake 4.09 119 Pn **Pn** **22 17 23.9 0.0**
WLAR IAmb_Lg 22 18 32.2
comp=Z,376nm,0.7s
WHAR Wooly Hollow 4.19 95 Pn **Pn** **22 17 25.3 +0.1**
WHAR IAmb_Lg 22 18 34.9
comp=Z,394nm,0.8s
W41B Gary Mavity, V 4.24 97 P **Pn** **22 17 26.0 +0.1**
baz=279,SNR=70
W41B Gary Mavity, V 4.24 97 P 22 17 25.9
baz=279,SNR=34
W41B S 22 18 15.1
baz=279
W41B Gary Mavity, V 4.24 97 P 22 17 26.0
baz=279,SNR=70
FCAR Ozark Folk Cen 4.28 87 Pn **Pn** **22 17 26.4 -0.1**
FCAR IAmb_Lg 22 18 40.4
comp=Z,470nm,0.7s
MGMO Mountain Grove 4.36 70 **Pn** **22 17 28.6 +1.0**
MGMO IAmb_Lg 22 18 44.8
comp=Z,435nm,0.8s
Z41A Richland Creek 4.54 122 S 22 18 21.2
baz=305
MSTX Muleshoe 4.77 249 Pn **Pn** **22 17 33.3 -0.1**
MSTX Muleshoe 4.77 249 P **Pn** **22 17 33.6 +0.2**
baz=67
MSTX Muleshoe 4.77 249 P 22 17 33.1
baz=67,SNR=8.3
MSTX S 22 18 30.1
baz=67
MSTX Muleshoe 4.77 249 P 22 17 33.6
baz=67
R40A Maddies Statio 4.81 57 **Pn** **22 17 34.0 +0.2**
R40A IAmb_Lg 22 19 00.9
comp=Z,220nm,0.8s
R40A Maddies Statio 4.81 57 P **Pn** **22 17 34.2 +0.4**
baz=240,SNR=32
R40A Maddies Statio 4.81 57 P 22 17 34.2
baz=240,SNR=32
P38A Dawn 4.92 37 Pn **Pn** **22 17 36.1 +0.9**
P38A IAmb_Lg 22 19 05.9
comp=Z,345nm,0.9s
N33A J Bar K, Exete 4.96 359 Pn **Pn** **22 17 36.0 +0.1**
N33A IAmb_Lg 22 19 07.6
comp=Z,506nm,0.9s
435B Jarrell 4.97 182 IAmb_Lg 22 19 02.1
comp=Z,576nm,0.9s
435B Jarrell 4.97 182 P 22 17 36.1
baz=1.9
435B Sb 22 18 52.8
baz=1.9
CCAR Cane Creek 4.98 110 IAmb_Lg 22 19 10.3
comp=Z,484nm,0.7s
LCAR Lake Charles 5.07 85 Pn **Pn** **22 17 37.1 -0.2**
LCAR IAmb_Lg 22 19 05.7
comp=Z,206nm,0.8s
T42A Van Buren 5.24 74 IAmb_Lg 22 19 16.8
comp=Z,317nm,1.1s
T42A Van Buren 5.24 74 P **Pn** **22 17 39.6 +0.1**
baz=258
T42A Van Buren 5.24 74 P 22 17 39.6
baz=258
N35A Tabor 5.27 15 **Pn** **22 17 39.8 -0.3**
N35A Tabor 5.27 15 P **Pn** **22 17 40.0 -0.1**
baz=196,SNR=8.7
N35A Tabor 5.27 15 P 22 17 40.0
baz=196,SNR=8.7
KSCO Kaye Shedlock' 5.28 309 Pn **Pn** **22 17 41.0 +0.6**
KSCO IAmb_Lg 22 19 20.7
comp=Z,284nm,0.7s
KSCO Kaye Shedlock' 5.28 309 S 22 18 39.5
baz=126
CCM Cathedral Cave 5.43 63 IAmb_Lg 22 19 16.2
comp=Z,393nm,1.0s
JCT Junction City 5.65 202 P 22 17 48.8
baz=20,SNR=7.2
P40A Paris 5.66 47 **Pn** **22 17 45.5 0.0**
P40A IAmb_Lg 22 19 23.7
comp=Z,502nm,0.8s
P40A Paris 5.66 47 P **Pn** **22 17 45.5 0.0**
baz=230,SNR=11
P40A Paris 5.66 47 P 22 17 45.5
baz=230,SNR=11
BGNE Belgrade 5.67 354 Pn **Pn** **22 17 45.7 +0.2**
BGNE Belgrade 5.67 354 P 22 17 45.5
baz=174
PBMO Poplar Bluff 5.71 78 IAmb_Lg 22 19 28.6
comp=Z,392nm,0.8s
LPAR Lepanto 5.77 90 IAmb_Lg 22 19 37.1
comp=Z,413nm,0.7s
T25A Trinidad 5.82 286 **Pn** **22 17 48.0 +0.1**
T25A Trinidad 5.82 286 P 22 17 47.8
baz=102,SNR=12
T25A S 22 18 52.7
baz=102
143A Socs Landing, 5.82 120 IAmb_Lg 22 19 32.6
comp=Z,156nm,0.8s
N38A Joes South For 5.99 32 Pn **Pn** **22 17 49.8 -0.1**
OGNE Ogallala 6.33 326 Pn **Pn** **22 17 55.6 +0.9**
OGNE IAmb_Lg 22 19 44.4
comp=Z,269nm,0.8s
OGNE Ogallala 6.33 326 P 22 17 55.1
baz=144
OGNE S 22 19 05.4
baz=144
OXF Oxford 6.66 99 Pn **Pn** **22 17 58.9 -0.2**
OXF IAmb_Lg 22 20 09.6
comp=Z,255nm,0.8s
OXF Oxford 6.66 99 P 22 17 59.0
baz=283,SNR=9.4
OXF S 22 19 13.0
baz=283
W45A Hickory Valley 6.72 93 Pn **Pn** **22 17 59.9 -0.1**
W45A IAmb_Lg 22 20 05.5
comp=Z,295nm,0.7s
Y45A Yeager Farm, C 6.73 104 Pn **Pn** **22 18 00.4 +0.3**
Y45A IAmb_Lg 22 20 03.9
comp=Z,170nm,0.7s
SDCO Great Sand Dun 6.80 289 Pn **Pn** **22 18 01.9 +0.4**
SDCO IAmb_Lg 22 19 57.5
comp=Z,218nm,1.1s
SDCO Great Sand Dun 6.80 289 P 22 18 02.0
baz=105,SNR=73
SDCO S 22 19 17.7
baz=105
S44A Carbondale 6.81 71 **Pn** **22 18 01.6 +0.4**
S44A IAmb_Lg 22 19 58.3
comp=Z,374nm,0.8s
S44A Carbondale 6.81 71 P **Pn** **22 18 01.4 +0.2**
baz=256,SNR=8.5
S44A Carbondale 6.81 71 P 22 18 01.4
baz=256,SNR=8.5
SIUC Southern Illin 6.84 71 **Pn** **22 18 01.5 -0.2**
735A Kenedy 6.90 183 IAmb_Lg 22 20 13.6
comp=Z,217nm,0.9s
SCIA State Center 6.94 27 **Pn** **22 18 02.9 -0.2**
SCIA IAmb_Lg 22 20 03.7
comp=Z,372nm,0.9s
SCIA State Center 6.94 27 P 22 18 03.0
baz=209
Q24A Divide 6.95 300 P 22 18 03.3
baz=115
Q24A S 22 19 21.5
baz=115
N41A Harden Midland 7.13 44 Pn **Pn** **22 18 05.2 -0.4**
P43A Skaggs, Pawnee 7.34 56 Pn **Pn** **22 18 07.5 -1.0**
ANMO Albuquerque 7.45 266 Pn **Pn** **22 18 10.8 +0.6**
comp=Z,0.7nm,0.3s,baz=82,slow=16,SNR=10
ANMO Pg **Pb** **22 18 34.1 +3.3**
comp=Z,1.4nm,0.3s,baz=77,slow=12,SNR=10
ANMO Lg Lg 22 20 14.9
comp=Z,4.1nm,0.3s,baz=148,slow=23,SNR=9.5
ANMO LR LR 22 21 23.8
comp=Z,168nm,18.2s,baz=82,slow=41
ANMO Albuquerque 7.45 266 **Pn** **22 18 10.6 +0.4**
ANMO Albuquerque 7.45 266 P 22 18 09.8
baz=81
833A Chaparral WMA, 7.61 193 P 22 18 12.4
baz=12
PLAL Pickwick Lake 7.65 93 Pn **Pn** **22 18 12.1 -0.7**
ISCO Idaho Springs 7.65 304 **Pn** **22 18 13.3 +0.2**
ISCO IAmb_Lg 22 20 37.8
comp=Z,182nm,1.1s
ISCO Idaho Springs 7.65 304 P 22 18 12.7
baz=119
ISCO S 22 19 38.0
baz=119
K38A Parkersburg 7.75 26 **Pn** **22 18 13.5 -0.6**
BNM Barren Site 7.75 261 Pn **Pn** **22 18 14.1 -0.3**
WVT Waverly 7.76 85 **Pn** **22 18 14.5 +0.2**
WVT IAmb_Lg 22 20 28.5
comp=Z,98nm,0.8s
WVT Waverly 7.76 85 P 22 18 13.4
baz=270
MNTX Cornudas Mount 7.79 241 **Pn** **22 18 14.4 -0.4**
MNTX Cornudas Mount 7.79 241 P 22 18 14.3
baz=56,SNR=28
S22A 4UR Ranch, Cre 7.83 287 P 22 18 15.0
baz=102
L40A Anamosa 7.91 36 **Pn** **22 18 15.2 -1.2**
L40A IAmb_Lg 22 20 38.6
comp=Z,216nm,0.8s
HDIL Hopedale 7.97 51 **Pn** **22 18 17.4 +0.2**
HDIL Hopedale 7.97 51 P 22 18 16.9
baz=236
Y22D IRIS PASSCAL I 8.01 261 IAmb_Lg 22 20 45.4
comp=Z,237nm,0.8s
Z47A Carrollton 8.11 106 IAmb_Lg 22 20 57.7
comp=Z,118nm,1.1s
O44A Mansfield 8.30 55 Pn **Pn** **22 18 21.0 -0.6**
TX31 Lajitas Ar. Si 8.32 221 **Pn** **22 18 21.0 -1.0**
TX31 Lajitas Ar. Si 8.32 221 P **Pn** **22 18 20.7 -1.3**
baz=38,SNR=7.9
TX31 Lajitas Ar. Si 8.32 221 P 22 18 20.7
baz=38,SNR=7.9
TX32 Lajitas Array 8.32 221 **Pn** **22 18 20.7 -1.3**
TXAR Lajitas Array 8.32 221 Pn **Pn** **22 18 20.6 -1.4**
comp=Z,0.8nm,0.3s,baz=42,slow=10,SNR=26
TXAR Pg **Pb** **22 18 49.5 +4.0**
comp=Z,3.1nm,0.3s,baz=43,slow=14,SNR=9.0
TXAR Sn **Sn** **22 19 51.2 -4.9**
comp=Z,1.4nm,0.3s,baz=49,slow=14,SNR=1.4
TXAR Lg Lg 22 20 37.6
comp=Z,9.2nm,0.3s,baz=38,slow=27,SNR=8.1
TXAR LR LR 22 22 06.5
comp=Z,65nm,22.0s,baz=0.0,slow=42
TXAR Lajitas Array 8.32 221 **Pn** **22 18 20.5 -1.5**
T47A Sharon Grove 8.39 79 Pn **Pn** **22 18 22.4 -0.5**
T47A IAmb_Lg 22 21 00.8
comp=Z,235nm,1.1s
PHWY Pilot Hill 8.39 314 Pn **Pn** **22 18 23.6 +0.3**
PHWY IAmb_Lg 22 20 53.3
comp=Z,256nm,1.1s
N23A Red Feather La 8.45 310 P 22 18 24.1
baz=125
V48A Smith Brothers 8.59 87 IAmb_Lg 22 20 58.4
comp=Z,88nm,0.8s
L42A Oliver, Polo 8.66 42 Pn **Pn** **22 18 26.1 -0.5**
L42A IAmb_Lg 22 21 06.0
comp=Z,259nm,0.8s
L42A Oliver, Polo 8.66 42 P **Pn** **22 18 26.6 -0.1**
baz=226,SNR=6.6
L42A Oliver, Polo 8.66 42 P 22 18 26.6
baz=226,SNR=6.6
SUSD Miller 8.75 353 IAmb_Lg 22 21 09.6
comp=Z,240nm,1.1s
P46A Rosedale 8.94 62 Pn **Pn** **22 18 31.1 +0.6**
CLTN Cedars of Leba 8.98 85 IAmb_Lg 22 21 12.0
comp=Z,104nm,0.9s
LRAL Lakeview Retre 9.01 105 Pn **Pn** **22 18 30.5 -1.0**
LRAL Lakeview Retre 9.01 105 P 22 18 31.3
baz=290
JFWS Jewell Farm 9.03 36 Pn **Pn** **22 18 30.5 -1.2**
JFWS IAmb_Lg 22 21 06.7
comp=Z,261nm,0.8s
JFWS Jewell Farm 9.03 36 P 22 18 30.7
baz=220
MVCO Mesa Verde 9.06 282 IAmb_Lg 22 21 16.9
comp=Z,103nm,1.3s
121A Cookes Peak, D 9.20 252 P 22 18 32.8
baz=67
WCI Wyandotte Cave 9.21 71 Pn **Pn** **22 18 34.7 +0.5**
WCI IAmb_Lg 22 21 20.8
comp=Z,159nm,0.8s
WCI Wyandotte Cave 9.21 71 P 22 18 33.9
baz=258
M44A Midewin, Midew 9.22 50 Pn **Pn** **22 18 33.8 -0.5**
Y49A Blount Mountai 9.23 99 Pn **Pn** **22 18 35.2 +0.8**
Y49A IAmb_Lg 22 21 19.5
comp=Z,87nm,0.8s
BLO Bloomington 9.29 65 **Pn** **22 18 36.2 +1.0**
BLO IAmb_Lg 22 21 37.5
comp=Z,218nm,0.7s
SFIN Lafayette 9.33 57 Pn **Pn** **22 18 37.5 +1.7**
SFIN IAmb_Lg 22 21 17.5
comp=Z,279nm,1.1s
SFIN Lafayette 9.33 57 P 22 18 36.0
baz=244
SWET Sewanee 9.36 90 IAmb_Lg 22 21 27.3
comp=Z,89nm,0.8s
PV02 Paradox Valley 9.40 288 IAmb_Lg 22 21 46.6
comp=Z,73nm,1.1s
U49A Red Boiling Sp 9.42 82 Pn **Pn** **22 18 38.2 +1.2**
PV13 Radium Mtn., P 9.45 288 IAmb_Lg 22 21 36.4
comp=Z,83nm,1.2s
PV11 David Mesa, Pa 9.52 289 IAmb_Lg 22 21 40.8
comp=Z,137nm,1.1s
PV18 Skein Mesa, Pa 9.54 288 IAmb_Lg 22 21 40.0
comp=Z,102nm,1.3s
PV16 Nyswonger Mesa 9.56 289 IAmb_Lg 22 21 32.4
comp=Z,131nm,1.3s
PV04 Paradox Valley 9.57 289 IAmb_Lg 22 21 43.6
comp=Z,129nm,1.2s
O20A White River Ci 9.61 300 IAmb_Lg 22 21 50.5
comp=Z,88nm,1.2s
I40A Norwalk 9.64 31 **Pn** **22 18 38.4 -1.6**
I40A IAmb_Lg 22 21 36.4
comp=Z,175nm,0.9s
PV05 Paradox Valley 9.65 287 IAmb_Lg 22 21 34.8
comp=Z,89nm,1.1s
RWWY Rawlins 9.68 311 **Pn** **22 18 41.0 +0.1**
RWWY IAmb_Lg 22 21 33.7
comp=Z,146nm,1.2s
FPAL Fort Paine 9.72 94 IAmb_Lg 22 21 37.7
comp=Z,96nm,0.8s
L44A Lake County Fo 9.77 46 P 22 18 41.1
baz=232
RSSD Black Hills 9.78 331 Pn **Pn** **22 18 42.5 +0.3**
RSSD Black Hills 9.78 331 P 22 18 41.8
baz=146
W50A Signal Mountai 9.87 90 IAmb_Lg 22 21 37.8
comp=Z,210nm,1.1s
K22A Casper 9.87 317 Pn **Pn** **22 18 44.0 +0.7**
K22A IAmb_Lg 22 21 48.0
comp=Z,242nm,1.1s
K22A Casper 9.87 317 P 22 18 43.6
baz=131
SPMN Marine on St. 10.07 19 Pn **Pn** **22 18 45.4 -0.6**
P48A Milroy 10.18 65 Pn **Pn** **22 18 46.7 -0.8**
I42A Draeger Farm, 10.40 36 Pn **Pn** **22 18 49.5 -1.0**
V51A Loudon 10.60 86 Pn **Pn** **22 18 53.5 +0.4**
P49A Miami Univ. Ec 10.73 66 Pn **Pn** **22 18 53.9 -1.1**
TKL Tuckaleechee C 11.07 87 Pn **Pn** **22 18 60.0 +0.3**
comp=Z,0.4nm,0.3s,baz=270,slow=12,SNR=4.1
TKL Sn **Sn** **22 21 00.7 -2.8**
comp=Z,0.9nm,0.3s,baz=306,slow=9.2,SNR=3.7
TKL Lg Lg 22 22 03.9
comp=Z,4.4nm,0.3s,baz=167,slow=16,SNR=8.1
TKL LR LR 22 22 22.5
comp=Z,27nm,20.4s,baz=276,slow=33
TKL Tuckaleechee C 11.07 87 Pn **Pn** **22 18 59.1 -0.6**
O49A Covington 11.21 63 Pn **Pn** **22 19 00.9 -0.6**
TZTN Tazewell 11.22 82 Pn **Pn** **22 19 00.7 -1.0**
S51A Beattyville 11.23 76 Pn **Pn** **22 19 02.0 +0.1**
H43A Windswept, Lux 11.39 37 Pn **Pn** **22 19 02.9 -1.0**
Q51A Peebles 11.64 70 Pn **Pn** **22 19 06.4 -1.0**
GOGA Godfrey 11.71 98 P 22 19 08.3
baz=285
BW06 Boulder Array 11.73 310 P 22 19 06.8
baz=123
PD31 Pinedale Array 11.73 310 **Pn** **22 19 09.5 +0.6**
PDAR Pinedale Array 11.73 310 Pn **Pn** **22 19 08.4 -0.4**
comp=Z,0.5nm,0.3s,baz=129,slow=14,SNR=8.1
PDAR Pg 22 19 54.2
comp=Z,0.6nm,0.3s,baz=114,slow=17,SNR=4.5
PDAR Lg Lg 22 22 26.5
comp=Z,0.7nm,0.3s,baz=113,slow=33,SNR=3.1
PDAR LR LR 22 23 53.8
comp=Z,92nm,19.1s,baz=117,slow=39
L48A N Adams 11.83 55 Pn **Pn** **22 19 09.5 -0.5**
J47A Sunmer 12.24 49 Pn **Pn** **22 19 14.7 -0.9**
AAM Ann Arbor 12.51 54 P 22 19 18.8
baz=243
AGMN Agassiz Nation 12.57 5 P 22 19 16.3
baz=186
P52A Corning 12.69 68 P 22 19 20.1
baz=257
N51A Ashland 12.86 62 **Pn** **22 19 23.7 -0.4**
EYMN Ely 12.93 18 P 22 19 21.2
baz=202
GLMI Grayling 13.29 43 P 22 19 27.0
baz=231
O53A New Philadelph 13.52 66 P 22 19 32.1
baz=256
BLA Blacksburg 13.73 79 P 22 19 34.5
baz=269

M53A	**WI Miller and**	**14.24**	**62**	P			22 19 43.5		
	baz=252								
NHSC	**New Hope**	**14.45**	**96**	P			22 19 43.5		
	baz=285								
ULM	**Lac du Bonnet**	**14.52**	**4**	Pn		Pn	22 19 41.5	-5.2	
	comp=Z,0.8nm,0.3s,baz=168,slow=9.0,SNR=5.3								
ULM				Sn		Sn	22 22 14.1	-14	
	comp=Z,0.8nm,0.3s,baz=281,slow=22,SNR=1.8								
ULM				Lg		Lg	22 23 47.9		
	comp=Z,0.3nm,0.3s,baz=103,slow=19,SNR=1.6								
ULM				LR		LR	22 24 44.3		
	comp=Z,32nm,20.5s,baz=284,slow=35								
ULM	**Lac du Bonnet**	**14.52**	**4**			Pn	22 19 41.4	-5.3	
N54A	**Moraine State**	**14.60**	**64**	P			22 19 45.4		
	baz=255								
ELK	**Elko**	**14.87**	**295**	Pn		**Pn**	**22 19 52.2**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=2.5								
ELK				Lg		Lg	22 24 04.8		
	comp=Z,0.1nm,0.3s,baz=336,slow=17,SNR=1.3								
ELK				LR		LR	22 26 22.7		
	comp=Z,50nm,18.2s,baz=100,slow=41								
SADO	**Sadowa**	**16.55**	**52**	Pn		**Pn**	**22 20 10.6**	**-2.8**	
	comp=Z,0.2nm,0.3s,baz=258,slow=9.8,SNR=1.9								
SADO				Sn		Sn	22 23 03.7	-13	
	comp=Z,0.7nm,0.3s,baz=224,slow=21,SNR=2.1								
SADO				Lg		Lg	22 24 53.2		
	comp=Z,1.4nm,0.3s,baz=171,slow=15,SNR=3.3								
SADO				LR		LR	22 25 37.6		
	comp=Z,20nm,20.8s,baz=32,slow=34								
NVAR	**Mina Array Bea**	**16.89**	**285**	Pn		**Pn**	**22 20 17.5**	**-0.5**	
	comp=Z,0.1nm,0.3s,baz=98,slow=6.7,SNR=2.3								
CMIG	**Matias Romero**	**18.73**	**173**	P		**Pn**	**22 20 44.0**	**+3.4**	
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=1.7								
NEW	**Newport**	**19.19**	**317**	Lg		Lg	22 26 14.9		
	comp=Z,0.1nm,0.3s,baz=97,slow=16,SNR=1.3								
NEW				LR		LR	22 28 49.7		
	comp=Z,89nm,18.1s,baz=102,slow=39								
YBH	**Yreka Blue Hor**	**20.59**	**294**	P		**P**	**22 20 59.4**	**-1.1**	
	comp=Z,2.6nm,1.0s,baz=218,slow=7.7,SNR=2.9								
BBB	**Bella Bella**	**27.26**	**317**	LR		LR	22 34 01.3		
	comp=Z,77nm,18.9s,baz=40,slow=39								
SCHQ	**Schefferville**	**28.38**	**38**	P		**P**	**22 22 15.5**	**0.0**	
	comp=Z,2.0nm,0.9s,baz=232,slow=7.4,SNR=3.6								
SCHQ				Lg		Lg	22 30 58.2		
	comp=Z,4.6nm,0.9s,baz=349,slow=14,SNR=2.1								
YKA	**Yellowknife Ar**	**28.83**	**343**	LR		LR	22 34 19.7		
	comp=Z,88nm,18.8s,baz=0.0,slow=38								
ILAR	**Eielson Array**	**41.23**	**330**	P		**P**	**22 24 06.5**	**+0.5**	
	comp=Z,0.5nm,0.9s,baz=108,slow=8.6,SNR=4.1								
ILAR				LR		LR	22 41 48.1		
	comp=Z,65nm,18.2s,baz=142,slow=37								
ILAR	**Eielson Array**	**41.23**	**330**	P		**P**	**22 24 06.2**	**+0.2**	
ARCES	**ARCESS Array B**	**67.08**	**19**	P		**P**	**22 27 14.3**	**-0.1**	
	comp=Z,3.5nm,1.0s,baz=316,slow=7.5,SNR=2.9								
ARCES				LR		LR	22 55 12.0		
	comp=Z,32nm,20.6s,baz=225,slow=35								
FINES	**FINESS Array B**	**72.85**	**25**	P		**P**	**22 27 50.6**	**+0.7**	
	comp=Z,0.4nm,0.6s,baz=309,slow=7.0,SNR=4.9								
WRA	**Warramunga Arr**	**132.16**	**275**	PKP		**PKPdf**	**22 35 35.7**	**-0.1**	
	comp=Z,1.3nm,1.2s,baz=59,slow=2.4,SNR=2.0								

*SOME **22** 22:28:12.4, 43˚.15N×77˚.93E, h10km*
*NNC **22** 22:28:12.2±0.3, 43˚.15N×77˚.95E, h0km, mb2.4, mpv2.7, Error ellipse: s-maj=4.0km s-min=1.3km az=177.0*
*KRNET **22** 22:28:13.2±0.1, 43˚.13N×77˚.92E, h18km, mb2.3*

ISC 22 22:28:12.5±0.9, 43˚.15N±0˚.03×77˚.94E±0˚.02, h16km±8km, n45, σ0s55/82, 10C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SATY	**Saty**	**0.36**	**104**	*e*P		**Pg**	**22 28 19.9**		**0.0**
	baz=1.0								
SATY				*e*S		**Sg**	**22 28 25.0**		**0.0**
	baz=1.0								
SATY	**Saty**	**0.36**	**104**	*e*P		**Pg**	**22 28 19.9**		**0.0**
	4.0nm,0.1s								
SATY				*e*S		**Sg**	**22 28 25.0**		**0.0**
	29nm,0.1s								
SATY	**Saty**	**0.36**	**104**	P		**Pg**	**22 28 19.9**		**0.0**
	4.0nm,0.1s								
SATY				S		**Sg**	**22 28 25.0**		**0.0**
	29nm,0.1s								
ANVS	**Anan'yevo**	**0.41**	**209**	⇑*i*P		**Pg**	**22 28 20.8**		**-0.1**
	baz=8.0								
ANVS				⇑*i*S		**Sg**	**22 28 26.8**		**+0.2**
	baz=8.0								
KOTS	**Kotyrbulak**	**0.61**	**279**	*e*P		**Pb**	**22 28 25.0**		**+0.2**
	baz=80								
KOTS				*e*S		**Sb**	**22 28 33.7**		**+0.5**
	baz=80								
KOTS	**Kotyrbulak**	**0.61**	**279**	*e*P		**Pb**	**22 28 25.0**		**+0.2**
	4.7nm,0.1s								
KOTS				*e*S		**Sb**	**22 28 33.7**		**+0.5**
	17nm,0.3s								
KOTS	**Kotyrbulak**	**0.61**	**279**	P		**Pb**	**22 28 25.0**		**+0.2**
	4.7nm,0.1s								
KOTS				S		**Sb**	**22 28 33.7**		**+0.5**
	17nm,0.3s								
KPKS	**Kokpek**	**0.63**	**59**	*e*P		**Pg**	**22 28 24.9**		**-0.1**
	21nm,0.2s								
KPKS				*e*S		**Sg**	**22 28 33.3**		**-0.2**
MDOK	**Medeo**	**0.65**	**272**	*e*P		**Pg**	**22 28 25.3**		**0.0**
	baz=73								
MDOK				*e*S		**Sb**	**22 28 34.1**		**-0.3**
	baz=73								
MDOK	**Medeo**	**0.65**	**272**	*e*P		**Pg**	**22 28 25.2**		**0.0**
	1.6nm,0.2s								
MDOK				*e*S		**Sb**	**22 28 34.0**		**-0.3**
	6.8nm,0.2s								
MDOK	**Medeo**	**0.65**	**272**	Pg		**Pg**	**22 28 25.3**		**0.0**
	1.6nm,0.2s								
MDOK				Lg		Lg	22 28 34.0		
	6.8nm,0.2s								
KNDC	**Almaty**	**0.71**	**276**	⇑P		**Pg**	**22 28 26.3**		**-0.1**
	19nm,0.4s								
KNDC				⇑S		**Sb**	**22 28 36.2**		**+0.1**
	39nm,0.5s								
PRZ	**Przheval'sk**	**0.74**	**152**	⇓*i*P		**Pb**	**22 28 27.8**		**+0.6**
	baz=51								
PRZ				⇓*i*S		**Sb**	**22 28 38.2**		**+1.0**
	baz=51								
UZB	**Uzynbulak**	**0.80**	**89**	*e*P		**Pg**	**22 28 27.4**		**-0.6**
	1.9nm,0.1s								
UZB				*e*S		**Sg**	**22 28 37.4**		**-1.2**
	11nm,0.1s								
UZB	**Uzynbulak**	**0.80**	**89**	P		**Pg**	**22 28 27.4**		**-0.6**
	1.9nm,0.1s								
UZB				S		**Sg**	**22 28 37.4**		**-1.2**
	11nm,0.1s								
CHKK	**Chushkaly**	**0.99**	**316**	*e*P		**Pn**	**22 28 31.7**		**0.0**
	baz=17								
CHKK				*e*S		**Sn**	**22 28 45.4**		**0.0**
	baz=17								
CHKK	**Chushkaly**	**0.99**	**316**	*e*P		**Pn**	**22 28 31.7**		**0.0**
	2.0nm,0.1s								
CHKK				*e*S		**Sn**	**22 28 45.4**		**0.0**
	11nm,0.3s								
CHKK	**Chushkaly**	**0.99**	**316**	P		**Pn**	**22 28 31.7**		**0.0**
	2.0nm,0.1s								
CHKK				S		**Sn**	**22 28 45.4**		**0.0**
	11nm,0.3s								
ARXS	**Arharly**	**1.07**	**356**	*e*P		**Pn**	**22 28 32.9**		**0.0**
	3.8nm,0.2s								
ARXS				*e*S		**Sn**	**22 28 47.5**		**0.0**
	12nm,0.2s								
ARXS	**Arharly**	**1.07**	**356**	P		**Pn**	**22 28 32.9**		**0.0**
	3.8nm,0.2s								
ARXS				S		**Sn**	**22 28 47.5**		**0.0**
	12nm,0.2s								
KTBS	**Karatobe**	**1.07**	**302**	*e*P		**Pg**	**22 28 33.3**		**0.0**
	baz=3.0								
KTBS				*e*S		**Sn**	**22 28 47.8**		**+0.2**
	baz=3.0								
KTBS	**Karatobe**	**1.07**	**302**	*e*P		**Pg**	**22 28 33.3**		**0.0**
	0.5nm,0.1s								
KTBS				*e*S		**Sn**	**22 28 47.8**		**+0.2**
	10nm,0.2s								
KTBS	**Karatobe**	**1.07**	**302**	P		**Pg**	**22 28 33.3**		**0.0**
	0.5nm,0.1s								
KTBS				S		**Sn**	**22 28 47.7**		**+0.2**
	10nm,0.2s								
SHLS	**Shalkode**	**1.12**	**89**	*e*P		Pg	22 28 40.0		+5.9
	baz=88								
SHLS				*e*S		Sg	22 28 59.2		+10
	baz=88								
SHLS	**Shalkode**	**1.12**	**89**	*e*P		Pg	22 28 40.0		+5.9
	3.0nm,0.2s								
SHLS				*e*S		Sg	22 28 59.2		+10
	5.9nm,0.3s								
SHLS	**Shalkode**	**1.12**	**89**	P		Pg	22 28 40.0		+5.9
	3.0nm,0.2s								
SHLS				S		Sg	22 28 59.2		+10
	5.9nm,0.3s								
PDGK	**Podgornoye**	**1.15**	**80**	P		**Pn**	**22 28 33.4**		**-0.6**
	1.2nm,0.2s								
PDGK				S		**Sb**	**22 28 48.2**		**-0.6**
	2.3nm,0.2s								
PDGK	**Podgornoye**	**1.15**	**80**	⇓P		**Pn**	**22 28 34.1**		**0.0**
	0.3nm,0.2s								
PDGK				⇓S		**Sb**	**22 28 48.3**		**-0.5**
	2.6nm,0.6s								
KDJ	**Kajisay**	**1.16**	**209**	⇑*i*P		**Pn**	**22 28 34.0**		**-0.2**
	baz=8.0								
KDJ				⇑*i*S		**Sb**	**22 28 49.4**		**+0.4**
	baz=8.0								
KUU	**Kurty**	**1.38**	**303**	*e*P		**Pg**	**22 28 38.5**		**-0.6**
	4.2nm,0.2s								
KUU				*e*S		**Sg**	**22 28 56.7**		**-0.3**
KUU	**Kurty**	**1.38**	**303**	P		**Pg**	**22 28 38.5**		**-0.6**
	4.2nm,0.2s								
KUU				S		**Sg**	**22 28 56.7**		**-0.3**
KST	**Kastek**	**1.45**	**267**	*e*P		**Pg**	**22 28 40.3**		**-0.1**
	baz=67								
KST				*e*S		**Sg**	**22 28 59.8**		**+0.6**
	baz=67								
KST	**Kastek**	**1.45**	**267**	*e*P		**Pg**	**22 28 40.3**		**-0.1**
	1.4nm,0.2s								
KST				*e*S		**Sg**	**22 28 59.8**		**+0.6**
	2.2nm,0.2s								
KST	**Kastek**	**1.45**	**267**	P		**Pg**	**22 28 40.3**		**-0.1**
	1.4nm,0.2s								
KST				S		**Sg**	**22 28 59.8**		**+0.6**
	2.2nm,0.2s								
ULHL	**Ulahol**	**1.54**	**235**	⇓*i*P		**Pb**	**22 28 40.6**		**-0.1**
	baz=35								
ULHL				⇓*i*S		**Sb**	**22 29 00.7**		**+0.7**
	baz=35								
DGS	**Degeres**	**1.58**	**274**	*e*P		**Pg**	**22 28 42.2**		**-0.7**
	baz=75								
DGS				*e*S		**Sg**	**22 29 03.3**		**-0.3**
	baz=75								
DGS	**Degeres**	**1.58**	**274**	*e*P		**Pg**	**22 28 42.2**		**-0.7**
	0.9nm,0.2s								
DGS				*e*S		**Sg**	**22 29 03.3**		**-0.3**
	8.3nm,0.4s								
DGS	**Degeres**	**1.58**	**274**	P		**Pg**	**22 28 42.2**		**-0.7**
	0.9nm,0.2s								
DGS				S		**Sg**	**22 29 03.3**		**-0.3**
	8.3nm,0.4s								
BOOM	**Boomskoye usch**	**1.61**	**247**	⇑*i*P		**Pb**	**22 28 41.8**		**-0.1**
	baz=47								
BOOM				⇑*i*S		**Sg**	**22 29 03.3**		**-1.0**
	baz=47								
TKM2	**Tokmak 2**	**1.73**	**263**	⇑*i*P		**Pb**	**22 28 44.1**		**+0.1**
	baz=64								
TKM2				⇑*i*S		**Sg**	**22 29 07.4**		**-0.8**
	baz=64								
TKM2	**Tokmak 2**	**1.73**	**263**	⇓P		**Pb**	**22 28 43.6**		**-0.3**
	0.8nm,0.7s								
TKM2				⇓S		**Sg**	**22 29 07.4**		**-0.8**
	0.5nm,0.2s								
DJR	**Jarkent**	**1.79**	**48**	*e*P		**Pb**	**22 28 45.1**		**+0.1**
	0.3nm,0.2s								
DJR				*e*S		**Sb**	**22 29 08.6**		**+1.3**
	0.5nm,0.2s								
DJR	**Jarkent**	**1.79**	**48**	P		**Pb**	**22 28 45.1**		**+0.1**
	0.3nm,0.2s								
DJR				S		**Sb**	**22 29 08.6**		**+1.3**
	0.5nm,0.2s								
KAPS	**Kapalarasan**	**2.37**	**25**	*e*P		**Pb**	**22 28 56.1**		**+1.2**
	0.1nm,0.2s								
KAPS				*e*S		**Sg**	**22 29 27.1**		**-1.6**
	0.4nm,0.2s								
KAPS	**Kapalarasan**	**2.37**	**25**	Pg		**Pb**	**22 28 56.1**		**+1.2**
	0.1nm,0.2s								
KAPS				Lg		Lg	22 29 27.1		
	0.4nm,0.2s								

*IDC **22** 23:05:54.6±1.9, 13˚.38N×144˚.26E, h145km±16km, mb4.2/28, mb1 4.2/30, mb1mx4.1/52, mbtmp4.6/30, Error ellipse: s-maj=14.5km s-min=9.1km az=96.0*
*NEIC **22** 23:05:55.7±1.0, 13˚.40N±0˚.08×144˚.3E±0˚.1, h149km±7km, mb4.5/107, Error ellipse: s-maj=14.7km s-min=12.0km az=89.0*

ISC 22 23:05:55.1±0.3, 13˚.36N±0˚.05×144˚.25E±0˚.07, h150km, n165, σ0s82/166, mb4.5/83, 2C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
ANA2	**Anatahan**	**3.29**	**25**			**Pn**	**23 06 45.8**		**-0.4**
SARN	**Sarigan**	**3.64**	**24**	P		**Pn**	**23 06 52.3**		**+1.6**
JCJ	**Chichijima**	**13.81**	**352**	P		**Pn**	**23 09 05.4**		**+0.8**
	3.8nm,0.3s,baz=279,slow=20,SNR=1.3								
JCJ	**Chichijima**	**13.81**	**352**	Pn		**Pn**	**23 09 04.0**		**-0.5**
PATS	**Pohnpei**	**15.28**	**114**			**Pn**	**23 09 24.4**		**+1.3**
SIJI	**Sorong**	**19.12**	**223**	P		**P**	**23 10 07.6**		**+0.8**
	0.7nm,0.3s,baz=323,slow=20,SNR=2.4								
RABL	**Rabaul**	**19.12**	**155**	P		**P**	**23 10 07.2**		**+0.5**
JHJ2	**Mitsune**	**20.08**	**349**	P		**P**	**23 10 17.5**		**+0.6**
FAKI	**Fak Fak**	**20.08**	**217**	P		**P**	**23 10 17.9**		**+0.8**
FAKI					IAmb	IAmb	23 10 20.6		
	comp=Z,32nm,1.1s								
JOW	**Kunigami**	**20.09**	**314**	P		**P**	**23 10 18.4**		**+1.3**
	comp=Z,75nm,0.7s,baz=181,slow=27,SNR=16								
JOW	**Kunigami**	**20.09**	**314**	P		**P**	**23 10 17.8**		**+0.7**
JHJ	**Hachijo jima 2**	**20.09**	**349**	P		**P**	**23 10 18.4**		**+1.3**
	comp=Z,82nm,0.7s,baz=213,slow=17,SNR=2.9								
JMN	**Monobe**	**22.37**	**337**	P		**P**	**23 10 41.2**		**+0.2**
H11N1	**WAKE ISLAND Hy**	**22.59**	**71**	T		T	23 33 54.0		
	baz=252,slow=75								
H11N2	**WAKE ISLAND Hy**	**22.60**	**71**	T		T	23 33 54.6		
	baz=252								
H11N3	**WAKE ISLAND Hy**	**22.61**	**71**	T		T	23 33 54.7		
	baz=252,slow=75								
INU	**Inuyama**	**22.85**	**345**	P		**P**	**23 10 45.5**		**+0.1**
INU					IAmb	IAmb	23 10 48.4		
	comp=Z,11nm,0.7s								
YOJ	**Yonaguni jima**	**22.89**	**302**	P		**P**	**23 10 46.2**		**+0.2**
JGF	**Kuroka**	**23.00**	**346**	P		**P**	**23 10 46.9**		**0.0**
JGF					IAmb	IAmb	23 10 52.3		
	comp=Z,9.1nm,0.7s								
JYT	**Yasato**	**23.07**	**352**	P		**P**	**23 10 48.0**		**+0.6**
JWT	**Wachi**	**23.25**	**341**	P		**P**	**23 10 49.2**		**+0.1**
JWT					IAmb	IAmb	23 10 50.7		
	comp=Z,7.8nm,0.5s								
MJAR	**Matsushiro Arr**	**23.72**	**348**	P		**P**			
	comp=Z,17nm,0.7s,baz=167,slow=9.2,SNR=48								
MJAR	**Matsushiro Arr**	**23.72**	**348**	P		**P**	**23 10 52.9**		**-0.5**
MJAR					IAmb	IAmb	23 10 55.2		
	comp=Z,12nm,0.8s								
MAJO	**Matsushiro**	**23.72**	**348**	P		**P**	**23 10 52.0**		**-1.4**
MAT	**Matsushiro**	**23.72**	**348**	P		**P**	**23 10 52.0**		**-1.4**
MJB9	**Matsu-Tunnel**	**23.72**	**348**	P		**P**	**23 10 52.2**		**-1.2**
JHS	**Saijyo**	**23.79**	**337**	P		**P**	**23 10 53.2**		**-0.9**
JHS					IAmb	IAmb	23 11 00.6		
	comp=Z,11nm,0.9s								
YULB	**Yu-li**	**23.93**	**298**	P		**P**	**23 10 55.5**		**0.0**
TWG	**Pinlang**	**23.93**	**296**	P		**P**	**23 10 54.8**		**-0.6**
NACB	**Ninganchiao**	**23.96**	**300**	P		**P**	**23 10 54.4**		**-1.3**
NACB					IAmb	IAmb	23 10 55.5		
	comp=Z,16nm,1.0s								
YHNB	**Yeheng**	**24.34**	**301**	P		**P**	**23 10 58.9**		**-0.3**
YHNB					IAmb	IAmb	23 11 03.7		
	comp=Z,12nm,0.6s								
SSLB	**Suanglung**	**24.36**	**299**	P		**P**	**23 10 59.3**		**-0.1**
TPUB	**Ta-pu**	**24.47**	**297**	P		**P**	**23 11 00.3**		**-0.1**
JMM	**Marumori**	**24.60**	**353**	P		**P**	**23 11 01.4**		**0.0**
JTU	**Tsushima**	**25.01**	**330**	P		**P**	**23 11 04.9**		**-0.2**
JTU					IAmb	IAmb	23 11 07.9		
	comp=Z,14nm,0.9s								
JSD	**Sado**	**25.15**	**349**	P		**P**	**23 11 06.1**		**-0.3**
LUWI	**Luwuk**	**25.66**	**238**	P		**P**	**23 11 11.9**		**+0.7**
TOLI2	**Tolitoli**	**26.23**	**244**	P		**P**	**23 11 18.5**		**+2.2**
KNMB	**Chin-men Tao**	**26.80**	**298**	P		**P**	**23 11 20.4**		**-0.9**
JTM	**Tenmabayashi**	**27.47**	**355**	P		**P**	**23 11 27.4**		**+0.3**
KSRS	**Korea Array**	**29.08**	**332**	P		**P**	**23 11 32.1**		**-0.5**
	comp=Z,54nm,0.5s,baz=142,slow=9.6,SNR=22								
NJ2	**Nanjing**	**29.79**	**313**	*e*P		**P**	**23 11 49.3**		**+1.5**
NJ2					pmax	pmax			
	comp=Z,7.0nm,0.5s								
ASAJ	**Asahikawa**	**30.69**	**358**	P		**P**	**23 11 55.2**		**-0.4**
	comp=Z,6.7nm,0.6s,baz=204,slow=10,SNR=4.3								
USA0B	**Ussuriysk Arra**	**32.48**	**343**	P		**P**	**23 12 11.3**		**0.0**
USA0B					IAmb	IAmb	23 12 20.1		
	comp=Z,5.0nm,0.9s								
USRK	**Ussuriysk Ar.**	**32.48**	**343**	P		**P**	**23 12 11.7**		**+0.4**
	comp=Z,4.0nm,0.6s,baz=162,slow=9.5,SNR=13								
USRK	**Ussuriysk Ar.**	**32.48**	**343**	P		**P**	**23 12 11.4**		**+0.1**
WRAB	**Tennant Creek**	**34.49**	**197**	P		**P**	**23 12 28.1**		**-0.8**
WRAB					IAmb	IAmb	23 12 29.1		
	comp=Z,17nm,0.8s								
WRA	**Warramunga Arr**	**34.50**	**197**	P		**P**	**23 12 28.4**		**-0.7**
	comp=Z,14nm,0.8s,baz=20,slow=9.7,SNR=100								
WRA				pP		**pP**	**23 12 59.0**		**-1.0**
	comp=Z,2.1nm,0.5s,baz=19,slow=9.3,SNR=2.2								
WRA				PcP		**PcP**	**23 15 01.5**		**+0.7**
	comp=Z,1.1nm,0.6s,baz=11,slow=3.3,SNR=5.7								
WRA				ScP		**ScP**	**23 18 32.4**		**+0.2**
	comp=Z,0.5nm,1.0s,baz=24,slow=4.2,SNR=18								
ENH	**Enshi**	**36.21**	**303**	P		**P**	**23 12 44.1**		**+0.5**
BJT	**Baijiatuan**	**36.25**	**322**	P		**P**	**23 12 43.8**		**+0.1**
FITZ	**Fitzroy Crossi**	**36.25**	**211**	P		**P**	**23 12 43.9**		**-0.1**
FITZ					IAmb	IAmb	23 12 44.4		
	comp=Z,6.2nm,0.9s								
BJI	**Beijing**	**36.26**	**322**	P		**P**	**23 12 43.8**		**0.0**
BJI				pP		**pP**	**23 13 12.8**		**-2.3**
BJI				pmax		pmax			
	comp=Z,28nm,0.8s								
KLR	**Kul'dur**	**37.23**	**346**	P		**P**	**23 12 51.8**		**-0.1**
	comp=Z,8.1nm,0.5s,baz=148,slow=6.6,SNR=36								
KLR				PcP		**PcP**	**23 15 08.7**		**+0.2**
	comp=Z,1.3nm,0.5s,baz=237,slow=4.5,SNR=3.5								
XAN	**Xi'an**	**38.07**	**309**	P		**P**	**23 12 59.3**		**0.0**
XAN				pP		pP	23 13 07.4		-23
XAN				sP		pwP	23 13 15.9		-20
XAN				pmax		pmax			
	comp=Z,24nm,0.8s								
AS31	**Alice Springs**	**38.16**	**195**	P		**P**	**23 13 00.2**		**+0.1**
ASAR	**Alice Springs**	**38.16**	**195**	P		**P**	**23 12 59.7**		**-0.4**
	comp=Z,1.9nm,0.5s,baz=18,slow=13,SNR=35								
ASAR				PP		**PP**	**23 14 29.2**		**-1.5**
	comp=Z,1.3nm,0.9s,baz=20,slow=11,SNR=2.8								
ASAR				PcP		**PcP**	**23 15 12.4**		**+0.5**
	comp=Z,0.7nm,0.8s,baz=13,slow=5.7,SNR=2.1								
ASAR				ScP		**ScP**	**23 18 45.4**		**-0.3**
	comp=Z,0.4nm,0.7s,baz=14,slow=4.2,SNR=5.7								
ASAR	**Alice Springs**	**38.16**	**195**	P		**P**	**23 12 59.5**		**-0.6**
EIDS	**Eidsvold**	**39.06**	**170**	P		**P**	**23 13 07.5**		**-0.1**
EIDS					IAmb	IAmb	23 13 24.6		
	comp=Z,9.1nm,1.1s								
HHC	**Hu-ho-hao-te**	**39.56**	**320**	*e*P		**P**	**23 13 14.1**		**+2.4**
HHC				pmax		pmax			
	comp=Z,13nm,0.7s								
HHC				pmax		pmax			
	comp=Z,94nm,7.6s								
BTO	**Baotou**	**40.41**	**319**	*e*P		**P**	**23 13 20.6**		**+1.9**
BTO				S		**S**	**23 19 19.3**		**+3.5**
BTO				pmax		pmax			
	comp=Z,48nm,0.9s								
BTO				PPMZ					
	comp=Z,260nm,6.0s								
BTO				L		L			
	comp=Z,470nm,16.3s								
BTO				L		L			
	comp=Z,520nm,14.9s								
BTO				L		L			
	comp=Z,490nm,13.2s								
KMI	**Kunming**	**40.75**	**293**	⇑P		**P**	**23 13 22.8**		**+0.9**
KMI				pP		pP	23 13 53.9		+0.2
KMI				pmax		pmax			
	comp=Z,11nm,1.0s								
DZM	**Mont Dzumac**	**41.39**	**148**	P		**P**	**23 13 28.1**		**+1.2**
DZM					IAmb	IAmb	23 13 32.1		
	comp=Z,18nm,1.1s								
PSA00	**Pilbara Seismi**	**42.18**	**215**	P		**P**	**23 13 33.4**		**+0.2**
PSA00	**Pilbara Seismi**	**42.18**	**215**	P		**P**	**23 13 33.4**		**+0.2**
PSA00					IAmb	IAmb	23 13 34.6		
	comp=Z,5.1nm,1.1s								
LZH	**Lanzhou**	**42.70**	**309**	⇓P		**P**	**23 13 38.6**		**+1.1**
LZH				pP		pP	23 14 02.9		-6.7
LZH				sP		pwP	23 14 19.3		+4.8
LZH				pmax		pmax			
	comp=Z,26nm,1.1s								
CMAR	**Chiang Mai Arr**	**43.78**	**283**	P		**P**	**23 13 46.1**		**-0.2**
	comp=Z,3.3nm,0.4s,baz=83,slow=6.6,SNR=11								
CMAR				PcP		**PP**	**23 15 31.4**		**+0.2**
	comp=Z,2.7nm,0.7s,baz=75,slow=0.9,SNR=7.2								
ARMA	**Armidale**	**44.10**	**171**	P		**P**	**23 13 48.9**		**+0.3**
ARMA					IAmb	IAmb	23 13 49.7		
	comp=Z,6.2nm,0.8s								
STKA	**Stephens Creek**

comp=Z,0.8nm,0.4s,baz=110,slow=7.9,SNR=4.6

ZALV	**Zalesovo Beam**	**61.46**	**325**	P	**P**	**23 15 55.0**	**-0.7**
DCZ	**Deep Cove**	**62.10**	**162**	P	**P**	**23 15 60.0**	**0.0**
DCZ				IAmb	IAmb	23 16 09.4	

comp=Z,9.6nm,1.1s

SII	**Sitkinak Islan**	**63.40**	**33**	P	**P**	**23 16 08.7**	**+0.2**
SVW2	**Sparrevohn**	**64.16**	**28**	P	**P**	**23 16 13.4**	**0.0**
KDJ	**Kajisay**	**64.19**	**310**	P	**P**	**23 16 14.1**	**-0.1**
KDJ				IAmb	IAmb	23 16 15.3	

comp=Z,8.0nm,0.8s

KDAK	**Kodiak Island**	**64.58**	**32**	P	**P**	**23 16 15.6**	**-0.6**

comp=Z,2.6nm,0.7s,baz=242,slow=2.6,SNR=8.6

KDAK	**Kodiak Island**	**64.58**	**32**	P	**P**	**23 16 15.9**	**-0.2**
KDAK				IAmb	IAmb	23 16 32.9	

comp=Z,3.7nm,1.0s

TTA	**Tatalina**	**64.63**	**26**	P	**P**	**23 16 16.0**	**-0.5**
NIL	**Nilore**	**66.99**	**301**	P	**P**	**23 16 32.2**	**+0.1**
ARSB	**Arslanbob**	**67.27**	**309**	P	**P**	**23 16 34.0**	**+0.1**
ARSB				IAmb	IAmb	23 16 34.9	

comp=Z,5.2nm,0.8s

SCM	**Sheep Creek Mo**	**68.17**	**28**	P	**P**	**23 16 38.1**	**-0.9**
SCM				IAmb	IAmb	23 16 39.9	

comp=Z,10nm,1.1s

COLD	**Coldfoot**	**68.39**	**22**	P	**P**	**23 16 40.2**	**0.0**
MDM	**Murphy Dome**	**68.52**	**25**	P	**P**	**23 16 40.6**	**-0.5**
BTK	**Batken**	**68.89**	**308**	P	**P**	**23 16 43.4**	**-0.6**
ILAR	**Eielson Array**	**69.03**	**25**	P	**P**	**23 16 42.4**	**-1.9**

comp=Z,2.1nm,0.7s,baz=250,slow=5.9,SNR=17

KKAR	**Karatay Array**	**69.15**	**311**	P	**P**	**23 16 45.7**	**+0.3**
PAX	**Paxson**	**69.25**	**27**	P	**P**	**23 16 44.6**	**-1.2**
PAX				IAmb	IAmb	23 16 45.7	

comp=Z,8.1nm,0.7s

GAR	**Garm**	**69.28**	**307**	P	**P**	**23 16 46.1**	**-0.3**
GLB	**Gilahina Butte**	**69.74**	**29**	P	**P**	**23 16 47.4**	**-1.3**
GLB				IAmb	IAmb	23 16 50.0	

comp=Z,6.5nm,1.2s

KBL	**Kabul**	**70.45**	**302**	P	**P**	**23 16 53.0**	**-0.8**
KBL				IAmb	IAmb	23 16 53.7	

comp=Z,5.0nm,0.8s

BMAR	**Burnt Mountain**	**70.55**	**23**	P	**P**	**23 16 53.6**	**+0.1**
GRNC	**Granite Creek**	**70.62**	**30**	IAmb	IAmb	23 16 55.9	

comp=Z,3.7nm,0.6s

INK	**Inuvik**	**74.81**	**22**	P	**P**	**23 17 16.7**	**-1.8**

comp=Z,1.5nm,0.6s,baz=310,slow=7.9,SNR=2.5

HRA	**Herat**	**76.06**	**302**	P	**P**	**23 17 26.3**	**-0.4**
DLBC	**Dease Lake**	**76.50**	**33**	P	**P**	**23 17 28.8**	**+0.3**

comp=Z,2.9nm,0.7s,baz=329,slow=1.9,SNR=4.9

GEYT	**Alibeck**	**78.91**	**306**	P	**P**	**23 17 41.9**	**-0.4**

comp=Z,2.8nm,0.7s,baz=236,slow=0.5,SNR=4.7

HUMO	**Hull Mountain**	**83.12**	**48**	P	**P**	**23 18 05.0**	**+0.6**
YKA	**Yellowknife Ar**	**83.34**	**27**	P	**P**	**23 18 04.4**	**-0.6**

comp=Z,2.1nm,0.7s,baz=299,slow=7.5,SNR=5.7

YBH	**Yreka Blue Hor**	**83.48**	**49**	P	**P**	**23 18 07.4**	**+1.1**

comp=Z,6.3nm,0.7s,baz=310,slow=3.1,SNR=28

YBH	**Yreka Blue Hor**	**83.48**	**49**	P	**P**	**23 18 06.5**	**+0.2**
YBH				IAmb	IAmb	23 18 08.2	

comp=Z,7.3nm,0.8s

PINE	**Pine Mountain**	**84.31**	**46**	P	**P**	**23 18 10.6**	**-0.1**
PINE				IAmb	IAmb	23 18 12.3	

comp=Z,11nm,0.8s

B08A	**Colville Reser**	**84.35**	**42**	P	**P**	**23 18 10.3**	**-0.2**
B08A				IAmb	IAmb	23 18 11.4	

comp=Z,6.2nm,0.6s

K05A	**Summer Lake**	**84.58**	**48**	P	**P**	**23 18 12.2**	**+0.2**
K05A				IAmb	IAmb	23 18 13.8	

comp=Z,7.7nm,1.0s

G08A	**Pilot Rock**	**85.33**	**45**	P	**P**	**23 18 15.2**	**-0.4**
AFDM	**Forest Hills D**	**85.38**	**51**	P	**P**	**23 18 15.9**	**0.0**
BEKR	**Beckworth**	**85.63**	**50**	P	**P**	**23 18 17.1**	**-0.2**
BEKR				IAmb	IAmb	23 18 18.5	

comp=Z,7.6nm,0.7s

NEW	**Newport**	**85.80**	**41**	P	**P**	**23 18 18.3**	**+0.5**

comp=Z,4.8nm,0.5s,baz=274,slow=3.7,SNR=12

NEW	**Newport**	**85.80**	**41**	P	**P**	**23 18 17.7**	**-0.1**
NEW				IAmb	IAmb	23 18 18.9	

comp=Z,6.7nm,0.8s

PNTR	**Pine Nut**	**86.39**	**51**	P	**P**	**23 18 20.4**	**-0.7**
PNTR				IAmb	IAmb	23 18 22.9	

comp=Z,5.8nm,0.8s

PAHR	**Pah Rah Range**	**86.40**	**50**	P	**P**	**23 18 20.4**	**-0.7**
PAHR				IAmb	IAmb	23 18 22.0	

comp=Z,3.7nm,0.8s

WAKR	**Walker**	**86.65**	**51**	P	**P**	**23 18 22.4**	**+0.1**
ARCES	**ARCESS Array B**	**87.12**	**342**	P	**P**	**23 18 23.6**	**-0.1**

comp=Z,1.6nm,0.8s,baz=78,slow=8.4,SNR=7.7

RYN	**Ryan**	**87.32**	**51**	P	**P**	**23 18 25.5**	**0.0**
RYN				IAmb	IAmb	23 18 27.3	

comp=Z,5.1nm,0.9s

KVN	**Kaiserville**	**87.53**	**51**	IAmb	IAmb	23 18 28.1	

comp=Z,4.9nm,0.9s

NVAR	**Mina Array Bea**	**87.53**	**51**	P	**P**	**23 18 27.4**	**+0.7**

comp=Z,3.7nm,0.6s,baz=268,slow=5.5,SNR=24

MFID	**Camas Ranch**	**87.99**	**46**	P	**P**	**23 18 28.3**	**-0.3**
HLID	**Hailey**	**88.94**	**45**	P	**P**	**23 18 33.0**	**-0.1**
HLID				IAmb	IAmb	23 18 34.8	

comp=Z,7.1nm,1.1s

ELK	**Elko**	**89.18**	**48**	P	**P**	**23 18 35.1**	**+0.8**

comp=Z,6.2nm,0.9s,baz=284,slow=4.7,SNR=20

ELK	**Elko**	**89.18**	**48**	IAmb	IAmb	23 18 36.1	

comp=Z,7.0nm,0.9s

TPNV	**Topopah Spring**	**89.50**	**52**	P	**P**	**23 18 35.9**	**+0.1**
TPNV				IAmb	IAmb	23 18 37.6	

comp=Z,8.8nm,0.8s

GSC	**Goldstone, Bar**	**89.52**	**54**	IAmb	IAmb	23 18 37.7	

comp=Z,7.7nm,1.0s

SHPR	**Sheep Range**	**90.47**	**52**	P	**P**	**23 18 41.1**	**+0.8**
SHPR				IAmb	IAmb	23 18 42.5	

comp=Z,4.5nm,0.9s

HVU	**Hansel Valley**	**90.63**	**47**	P	**P**	**23 18 41.5**	**+0.5**
HVU				IAmb	IAmb	23 18 43.0	

comp=Z,5.6nm,1.0s

DUG	**Dugway, Tooele**	**91.11**	**48**	P	**P**	**23 18 42.7**	**-0.5**
DUG				IAmb	IAmb	23 18 44.8	

comp=Z,6.1nm,1.1s

FINES	**FINESS Array B**	**91.12**	**335**	P	**P**	**23 18 41.1**	**-1.5**

comp=Z,1.0nm,0.4s,baz=72,slow=4.4,SNR=20

CCUT	**Cedar City**	**91.53**	**51**	P	**P**	**23 18 45.6**	**+0.3**
CCUT				IAmb	IAmb	23 18 47.4	

comp=Z,3.5nm,1.0s

HWUT	**Hardware Ranch**	**91.55**	**47**	P	**P**	**23 18 45.6**	**+0.3**
HWUT				IAmb	IAmb	23 18 46.6	

comp=Z,7.0nm,1.1s

CLL	**Collm**	**102.95**	**331**	*e*Pdif	**Pdif**	**23 19 36.0**	**-0.3**
CLL				*e*PP	**PP**	**23 23 50.0**	**-1.7**
TKL	**Tuckaleechee C**	**113.38**	**41**	PKiKP	**PKiKP**	**23 24 16.3**	**+0.6**

comp=Z,1.9nm,0.6s,baz=50,slow=3.1,SNR=4.6

ESDC	**Sonseca Array**	**119.51**	**332**	PKP	**PKPdf**	**23 24 27.4**	**0.0**

comp=Z,0.3nm,0.5s,baz=16,slow=2.6,SNR=2.7

BOSA	**Boshof**	**121.61**	**245**	PKP	**PKPdf**	**23 24 31.7**	**-0.1**

comp=Z,2.7nm,0.8s,baz=306,slow=5.9,SNR=4.5

TORD	**Torodi Ar. Bea**	**134.50**	**304**	PKP	**PKPdf**	**23 24 56.1**	**-0.4**

comp=Z,1.4nm,0.6s,baz=7.9,slow=3.0,SNR=4.8

DBIC	**Dimbokro**	**143.43**	**301**	PKhKP	PKPpre	23 25 09.5		

comp=Z,2.7nm,0.4s,baz=47,slow=2.7,SNR=21

KIC	**Kosan Boka**	**143.50**	**301**	*e*PKP1	PKPab	23 25 09.9	+0.3	

comp=Z,7.7nm,0.3s

TIC	**Toumodi**	**143.58**	**301**	*e*PKP1	PKPab	23 25 10.0	0.0	
LIC	**Lamto**	**143.82**	**301**	*e*PKP1	PKPab	23 25 10.8	0.0	

comp=Z,47nm,0.4s

LPAZ	**La Paz**	**148.58**	**99**	PKPbc	**PKPbc**	**23 25 27.1**	**+1.1**	

comp=Z,3.6nm,0.7s,baz=286,slow=3.4,SNR=17

CPUP	**Villa Florida**	**155.99**	**126**	PKP	**PKPdf**	**23 25 31.9**	**-0.3**	

comp=Z,1.4nm,0.8s,baz=281,slow=4.9,SNR=3.3

IDC 22 23:19:30.9±10.0, **23°42'S×66°65'W, h235**km±72km, **mb3.3**/1, **mb1 3.3**/3, **mb1mx3.1**/31, **mbtmp3.9**/3, **Error ellipse: s-maj=113.8km s-min=30.6km az=24.0, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.24**	**349**	P	Pn	23 21 14.9	-0.2

0.4nm,0.3s,baz=155,slow=7.7,SNR=7.8

LPAZ				S	S	23 22 39.0	+0.6

0.0nm,0.3s,baz=68,slow=18,SNR=1.5

BDFB	**Brasilia**	**19.18**	**70**	P	P	23 23 37.7	+0.2

0.5nm,0.3s,baz=236,slow=9.5,SNR=11

TORD	**Torodi Ar. Bea**	**76.06**	**69**	P	P	23 30 52.1	-0.9

0.9nm,0.8s,baz=261,slow=7.2,SNR=2.5

MKAR	**Makanchi Array**	**145.88**	**39**	PKPbc	PKPbc	23 38 42.3	-0.3

0.3nm,0.6s,baz=294,slow=3.7,SNR=4.1

*IDC **22** 23:26:11.0±0.5, 53°.52N×157°.52E, h0km, mb3.9/22,*

mb1 4.2/22, mb1mx4.0/46, mbtmp3.9/22, MS3.4/9, Ms1 3.4/9, ms1mx3.2/29, Error ellipse: s-maj=14.0km s-min=6.0km az=78.0

*BJI **22** 23:26:12.2±0.0, 53°.87N×157°.85E, h32km, mB4.8/10, mb4.6/13, Ms4.1/4, Ms7 3.9/4*

*MOS **22** 23:26:12.0±0.8, 53°.41N×157°.55E, h22km, mb4.6/7, MS3.4/6, Error ellipse: s-maj=6.8km s-min=3.6km az=80.9*

MOS Felt (IV) at Malka, Sokoch; (III-IV) at Dalniy; (III) at Nachiki, Sosnovka; (II-III) at Vilyuchinsk, Paratunka, Petropavlovsk-Kamchatskiy, Pionerskiy.

*KRSC **22** 23:26:12.2±0.7, 53°.47N×157°.68E, h20km±9km, ML4.8*

*NEIC **22** 23:26:14.3±1.4, 53°.29N±0°.08×157°.74E±0°.08, h29km±7km, mb4.4/47, Error ellipse: s-maj=11.6km s-min=6.8km az=182.0*

ISC 22 23:26:12.8±0.9, **53°.44N**±0°.02×**157°.67E**±0°.02, **h16**km±5km, **n211**, σ1$**20**/234, **mb4.4**/56, **MS3.5**/12, **6C-2D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.30**	**32**	PN	**Pg**	**23 26 19.1**	**-0.2**
GNL	**Ganaly**	**0.30**	**32**	*i* P	**Pg**	**23 26 19.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**0.33**	**177**	*d i* PN	**Pg**	**23 26 19.4**	**-0.3**
PEA0B	**Petropavlovsk-**	**0.33**	**177**	Pg	**Pg**	**23 26 19.4**	**-0.3**
PEA0B				Sg	**Sg**	**23 26 23.8**	**-0.6**
PETK	**Petropavlovsk-**	**0.33**	**177**	Pg	**Pg**	**23 26 19.6**	**-0.1**

3µm,0.3s,baz=2.1,slow=14

PETK				Lg	Lg	23 26 24.7	

5µm,0.3s,baz=41,slow=30,SNR=29

PETK	**Petropavlovsk-**	**0.33**	**177**	PN	**Pg**	**23 26 19.4**	**-0.3**
PETK						23 26 24.2	
PETK	**Petropavlovsk-**	**0.33**	**177**	Pg	**Pg**	**23 26 19.4**	**-0.3**
PETK				Sg	**Sg**	**23 26 24.2**	**-0.2**
KRX	**Arik**	**0.59**	**97**	PN	**Pb**	**23 26 24.9**	**0.0**
KRX	**Arik**	**0.59**	**97**	*i* P	**Pb**	**23 26 24.9**	**0.0**
KOK	**Koryaka**	**0.60**	**104**	PN	**Pb**	**23 26 25.0**	**+0.1**
KOK	**Koryaka**	**0.60**	**104**	*i* P	**Pb**	**23 26 25.0**	**+0.1**
APC	**Apacha**	**0.60**	**211**	PN	**Pg**	**23 26 24.1**	**-0.5**
APC				S	**Sg**	**23 26 32.4**	**-0.2**
APC	**Apacha**	**0.60**	**211**	*i* P	**Pg**	**23 26 24.1**	**-0.5**
APC				*e*S	**Sg**	**23 26 32.4**	**-0.2**
KRER	**Koryakskii**	**0.66**	**101**	PN	**Pb**	**23 26 26.3**	**+0.2**
KRER	**Koryakskii**	**0.66**	**101**	*i* P	**Pb**	**23 26 26.3**	**+0.2**
AVH	**Avacha**	**0.66**	**105**	PN	**Pb**	**23 26 26.2**	**+0.2**
AVH	**Avacha**	**0.66**	**105**	*e*P	**Pb**	**23 26 26.2**	**+0.2**
KRMR	**Karymshinskiy**	**0.67**	**155**	PN	**Pg**	**23 26 25.5**	**-0.4**
KRMR				S	**Sg**	**23 26 35.0**	**+0.2**
KRMR	**Karymshinskiy**	**0.67**	**155**	*i* P	**Pg**	**23 26 25.5**	**-0.4**
KRMR				*e*S	**Sg**	**23 26 35.0**	**+0.2**
SMAR	**Somma**	**0.70**	**104**	PN	**Pb**	**23 26 27.2**	**+0.4**
SMAR	**Somma**	**0.70**	**104**	*e*P	**Pb**	**23 26 27.2**	**+0.4**
PET	**Petropavlovsk**	**0.72**	**125**	↑ *i* PN	**Pg**	**23 26 26.2**	**-0.7**
PET				*e*S	**Sb**	**23 26 36.8**	**+0.2**
PET				pmax	pmax		

comp=Z,14µm,0.6s

PET				smax	smax		

comp=E,22µm,0.5s

PET				smax	smax		

comp=E,29µm,0.5s

PET				smax	smax		

comp=N,10µm,0.5s

PET				smax	smax		

comp=N,11µm,0.5s

PET	**Petropavlovsk**	**0.72**	**125**		**Pg**	**23 26 26.1**	**-0.7**
PET					**Sg**	**23 26 36.2**	**-0.2**
UGLR	**Uglovaya**	**0.73**	**108**	PN	**Pb**	**23 26 27.7**	**+0.5**
UGLR	**Uglovaya**	**0.73**	**108**	*i* P	**Pb**	**23 26 27.7**	**+0.5**
SDLR	**Sedlovina**	**0.74**	**102**	PN	**Pb**	**23 26 27.7**	**+0.2**
SDLR	**Sedlovina**	**0.74**	**102**	*i* P	**Pb**	**23 26 27.7**	**+0.2**
DALK	**Dalny**	**0.77**	**122**	PN	**Pg**	**23 26 27.1**	**-0.7**
DALK				S	**Sg**	**23 26 37.8**	**-0.1**
DALK	**Dalny**	**0.77**	**122**	*i* P	**Pg**	**23 26 27.1**	**-0.7**
DALK				*e*S	**Sg**	**23 26 37.8**	**-0.1**
GRL	**Gorelyy**	**0.92**	**165**	PN	**Pb**	**23 26 30.1**	**-0.4**
GRL	**Gorelyy**	**0.92**	**165**	*i* P	**Pb**	**23 26 30.1**	**-0.4**
MTVR	**Mutnovka**	**1.01**	**162**	PN	**Pb**	**23 26 31.5**	**-0.4**
MTVR				S	**Sb**	**23 26 45.1**	**+0.1**
MTVR	**Mutnovka**	**1.01**	**162**	*i* P	**Pb**	**23 26 31.5**	**-0.4**
MTVR				*e*S	**Sb**	**23 26 45.1**	**+0.1**
NLC	**Nalytchevo**	**1.04**	**104**	PN	**Pb**	**23 26 30.9**	**-1.5**
NLC				S	**Sb**	**23 26 44.3**	**-1.5**
NLC	**Nalytchevo**	**1.04**	**104**	*i* P	**Pb**	**23 26 30.9**	**-1.5**
NLC				*e*S	**Sb**	**23 26 44.3**	**-1.5**
RUS	**Russkaya**	**1.13**	**153**	PN	**Pb**	**23 26 32.6**	**-1.3**
RUS				S	**Sb**	**23 26 47.5**	**-0.8**
RUS	**Russkaya**	**1.13**	**153**	*i* P	**Pb**	**23 26 32.6**	**-1.3**
RUS				*e*S	**Sb**	**23 26 47.5**	**-0.8**
KII	**Karymskiy**	**1.21**	**60**	PN	**Pn**	**23 26 35.2**	**0.0**
KII	**Karymskiy**	**1.21**	**60**	*e*P	**Pn**	**23 26 35.2**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.29**	**206**	PN	**Pn**	**23 26 36.1**	**-0.1**
MIPR	**Malaya Ipel'ka**	**1.29**	**206**	*i* P	**Pn**	**23 26 36.1**	**-0.1**
SPN	**Mys Shipunski**	**1.45**	**103**	PN	**Pn**	**23 26 38.3**	**-0.1**
SPN				S	**Sn**	**23 26 57.2**	**+0.1**
SPN	**Mys Shipunski**	**1.45**	**103**	*i* P	**Pn**	**23 26 38.3**	**-0.1**
SPN				*e*S	**Sn**	**23 26 57.2**	**+0.1**
KDTR	**Khodutka, Kamc**	**1.65**	**171**	PN	**Pn**	**23 26 41.7**	**+0.6**
KDTR				S	**Sb**	**23 27 04.2**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.65**	**171**	*e*P	**Pn**	**23 26 41.7**	**+0.6**
KDTR				*e*S	**Sb**	**23 27 04.2**	**+0.9**
PAU	**Pauzhetka**	**2.04**	**195**	PN	**Pb**	**23 26 48.3**	**-1.2**
PAU				S	**Sb**	**23 27 15.0**	**+0.3**
PAU	**Pauzhetka**	**2.04**	**195**	*e*P	**Pb**	**23 26 48.3**	**-1.2**
PAU				*e*S	**Sb**	**23 27 15.0**	**+0.3**
KZV	**Kizimen**	**2.28**	**41**	PN	**Pn**	**23 26 51.2**	**+1.3**
KZV	**Kizimen**	**2.28**	**41**	*e*P	**Pn**	**23 26 51.2**	**+1.3**
TUMR	**Tumrok**	**2.35**	**37**	PN	**Pb**	**23 26 52.8**	**-2.0**
TUMR	**Tumrok**	**2.35**	**37**	*i* P	**Pb**	**23 26 52.8**	**-2.0**
TUMD	**Tumrok D**	**2.38**	**41**	*e*P	**Pn**	**23 26 52.7**	**+1.5**
ESO	**Esso**	**2.56**	**13**	PN	**Pn**	**23 26 55.4**	**+1.7**
ESO	**Esso**	**2.56**	**13**	*e*P	**Pn**	**23 26 55.4**	**+1.7**
MKZ	**Mys Kozlova**	**2.65**	**63**	PN	**Pn**	**23 26 55.6**	**+0.8**
MKZ	**Mys Kozlova**	**2.65**	**63**	*e*P	**Pn**	**23 26 55.6**	**+0.8**
KMNR	**Kamenistaya**	**2.76**	**32**	PN	**Pn**	**23 26 57.9**	**+1.4**
KMNR	**Kamenistaya**	**2.76**	**32**	*e*P	**Pn**	**23 26 57.9**	**+1.4**
ALID	**Alaid**	**2.89**	**208**	PN	**Pn**	**23 26 58.7**	**+0.5**
ALID	**Alaid**	**2.89**	**208**	*e*P	**Pn**	**23 26 58.7**	**+0.5**
KOZ	**Kozyrevsk**	**2.92**	**25**	PN	**Pn**	**23 26 59.6**	**+1.0**
KOZ	**Kozyrevsk**	**2.92**	**25**	*i* P	**Pn**	**23 26 59.6**	**+1.0**
SKR	**Severo-Kuril's**	**2.92**	**200**	*e*PN	**Pb**	**23 27 03.5**	**-1.0**
SKR				*e*S	**Sb**	**23 27 41.9**	**+2.0**
SKR				pmax	pmax		

comp=Z,200nm,2.2s

SKR				pmax	pmax		

comp=Z,290nm,0.6s

SKR				smax	smax		

comp=N,852nm,0.7s

SKR				smax	smax		

comp=E,492nm,0.5s

SKR				MLR	MLR		

comp=Z,600nm,13.0s

SKR				MLR	MLR		

comp=Z,900nm,11.0s

SKR	**Severo-Kuril's**	**2.92**	**200**	*e*P	**Pn**	**23 27 01.5**	**+2.9**
KIRR	**Kirishev**	**2.96**	**31**	PN	**Pn**	**23 27 00.0**	**+0.8**
KIRR	**Kirishev**	**2.96**	**31**	*e*P	**Pn**	**23 27 00.0**	**+0.8**
BZWR	**Bezymyannyi-We**	**3.02**	**32**	PN	**Pn**	**23 27 01.6**	**+1.6**
BZWR	**Bezymyannyi-We**	**3.02**	**32**	*e*P	**Pn**	**23 27 01.6**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**3.06**	**34**	PN	**Pn**	**23 27 02.7**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**3.06**	**34**	*e*P	**Pn**	**23 27 02.7**	**+2.1**
SRDR	**Sredinnyy**	**3.12**	**21**	PN	**Pn**	**23 27 02.4**	**+1.1**
SRDR	**Sredinnyy**	**3.12**	**21**	*e*P	**Pn**	**23 27 02.4**	**+1.1**
LGNR	**Loginova**	**3.17**	**32**	PN	**Pn**	**23 27 04.4**	**+2.1**
LGNR	**Loginova**	**3.17**	**32**	*e*P	**Pn**	**23 27 04.4**	**+2.1**
CIRR	**Tsirk**	**3.22**	**32**	PN	**Pn**	**23 27 04.5**	**+1.7**
CIRR	**Tsirk**	**3.22**	**32**	*e*P	**Pn**	**23 27 04.5**	**+1.7**
KLY	**Klyuchi**	**3.36**	**30**	PN	**Pn**	**23 27 06.6**	**+2.1**
KLY	**Klyuchi**	**3.36**	**30**	*e*P	**Pn**	**23 27 06.6**	**+2.1**
BDR	**Baidarnaya**	**3.74**	**32**	PN	**Pn**	**23 27 11.8**	**+1.9**
BDR	**Baidarnaya**	**3.74**	**32**	*e*P	**Pn**	**23 27 11.8**	**+1.9**
SRKR	**Sorokina**	**3.80**	**31**	PN	**Pn**	**23 27 12.2**	**+1.5**
SRKR	**Sorokina**	**3.80**	**31**	*e*P	**Pn**	**23 27 12.2**	**+1.5**
SMKR	**Semkarok**	**3.83**	**33**	PN	**Pn**	**23 27 13.8**	**+2.6**
SMKR	**Semkarok**	**3.83**	**33**	*e*P	**Pn**	**23 27 13.8**	**+2.6**
KBG	**Krutoberegovo**	**4.05**	**44**	PN	**Pn**	**23 27 16.1**	**+2.0**
KBG	**Krutoberegovo**	**4.05**	**44**	*e*P	**Pn**	**23 27 16.1**	**+2.0**
KBTR	**Krutoberegovo**	**4.07**	**45**	PN	**Pn**	**23 27 15.8**	**+1.5**
KBTR	**Krutoberegovo**	**4.07**	**45**	*e*P	**Pn**	**23 27 15.8**	**+1.5**
BKI	**Bering**	**5.17**	**67**	PN	**Pn**	**23 27 30.9**	**+1.5**
BKI	**Bering**	**5.17**	**67**	*e*P	**Pn**	**23 27 30.9**	**+1.5**
BKI				*e*S	**Sn**	**23 28 30.6**	**+1.9**
MA2	**Magadan**	**7.24**	**331**	*e*PN	**Pn**	**23 27 59.7**	**+1.9**
MA2				MLR	MLR		

comp=Z,171nm,13.0s

SEY	**Seymchan**	**9.92**	**346**	*i* PN	**Pn**	**23 28 37.0**	**+2.5**
KUR	**Kuril'sk**	**10.40**	**222**	*e*PN	**Pn**	**23 28 39.9**	**-1.3**
ERM	**Erimo**	**15.00**	**226**	*e*P	**Pn**	**23 29 43.0**	**-0.9**
BILL	**Bilibino**	**15.21**	**12**	*i* P	**P**	**23 29 51.3**	**-0.3**
BILL				pmax	pmax		

comp=Z,31nm,1.0s

BILL				MLR	MLR		

comp=Z,310nm,14.0s

BILL	**Bilibino**	**15.21**	**12**	Pn	**P**	**23 29 50.4**	**-1.2**
BILL				IAmb	IAmb	23 29 55.8	

comp=Z,31nm,1.0s

KLR	**Kul'dur**	**16.70**	**266**	↑ *i* P	**Pn**	**23 30 05.9**	**0.0**
KLR				MLR	MLR		

comp=Z,103nm,11.0s

USRK	**Ussuriysk Ar.**	**19.18**	**252**	P	**Pn**	**23 30 38.5**	**+2.1**

baz=61,slow=13,SNR=5.2

USRK				LR	LR	23 37 53.5	

comp=Z,128nm,18.3s,baz=46,slow=37

USRK	**Ussuriysk Ar.**	**19.18**	**252**	P	**P**	**23 30 35.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**19.18**	**252**	P	**P**	**23 30 35.0**	**-0.5**
MDJ	**Mudanjiang**	**20.30**	**256**	P	**P**	**23 30 47.5**	**-0.3**
MD

BRVK						IAmb	IAmb	23 35 07.1			
	comp=Z,3.2nm,0.6s										
LVZ	**Lovozero**	**51.81**	**336**	⇑	*i*P	**P**	**P**	**23 35 18.7**	**-0.6**		
LVZ						pmax	pmax				
	comp=Z,30nm,1.4s										
LVZ						MLR	MLR				
	comp=Z,72nm,18.0s										
ARU	**Arti**	**52.15**	**316**		*d*iP	**P**		**23 35 21.8**	**-0.1**		
ARU								23 37 14.6			
ARU						S	**S**	**23 42 46.7**	**+1.5**		
ARU						SS	**SS**	**23 46 14.1**	**-7.7**		
ARU						pmax	pmax				
	comp=Z,3.0nm,0.8s										
ARCES	**ARCESS Array B**	**52.49**	**341**			LR	LR	00 03 36.5			
	comp=Z,37nm,18.2s,baz=0.0,slow=43										
JTMT	**Jette**	**52.77**	**58**			P	**P**	**23 35 27.5**	**+0.6**		
JTMT						IAmb	IAmb	23 35 28.8			
	comp=Z,3.2nm,0.8s										
BOOM	**Boomskoye usch**	**52.92**	**293**			P	**P**	**23 35 28.9**	**+0.8**		
BOOM						pmax	pmax				
	comp=Z,3.0nm,0.9s										
BOOM	**Boomskoye usch**	**52.92**	**293**			P	**P**	**23 35 28.9**	**+0.8**		
BOOM						IAmb	IAmb	23 35 41.4			
	comp=Z,3.3nm,0.9s										
PRGR	**Permogore**	**53.36**	**327**		*e*P	**P**	**P**	**23 35 29.3**	**-1.5**		
PRGR						pmax	pmax				
	comp=Z,8.0nm,0.8s										
SUMG	**Summit**	**53.78**	**6**			P	**P**	**23 35 34.1**	**-0.1**		
SUMG						pmax	pmax				
	comp=Z,5.0nm,0.8s										
SUMG	**Summit**	**53.78**	**6**			P	**P**	**23 35 34.1**	**-0.1**		
SUMG						IAmb	IAmb	23 35 35.2			
	comp=Z,5.1nm,0.8s										
FCC	**Fort Churchill**	**54.11**	**38**			P	**P**	**23 35 35.8**	**-0.5**		
FCC						pmax	pmax				
	comp=Z,11nm,1.0s										
FCC	**Fort Churchill**	**54.11**	**38**			P	**P**	**23 35 35.8**	**-0.5**		
KIRV	**Kirov**	**54.24**	**322**	⇑	*i*P	**P**	**P**	**23 35 37.8**	**+0.5**		
KLMR	**Klimovskoe**	**55.91**	**329**		*e*P	**P**	**P**	**23 35 48.6**	**-0.7**		
KLMR						pmax	pmax				
	comp=Z,6.0nm,0.7s										
KLMR	**Klimovskoe**	**55.91**	**329**		*e*P	**P**	**P**	**23 35 48.7**	**-0.6**		
KLMR						AMP		23 35 50.2			
	comp=Z,6.0nm,0.7s										
ABKAR	**Akbulak array**	**56.45**	**309**			P	**P**	**23 35 52.9**	**-0.5**		
ABKAR	**Akbulak array**	**56.45**	**309**			P	**P**	**23 35 53.3**	**-0.1**		
ABKAR						IAmb	IAmb	23 36 06.8			
	comp=Z,1.7nm,0.9s										
AKTO	**Aktyubinsk**	**56.51**	**311**			P	**P**	**23 35 53.5**	**-0.2**		
	comp=Z,0.8nm,0.6s,baz=71,slow=7.8,SNR=2.2										
KVN	**Kaiserville**	**56.66**	**68**			P	**P**	**23 35 55.4**	**+0.1**		
KVN						pmax	pmax				
	comp=Z,9.0nm,1.7s										
KVN	**Kaiserville**	**56.66**	**68**			P	**P**	**23 35 55.4**	**+0.1**		
KVN						IAmb	IAmb	23 36 02.2			
	comp=Z,8.7nm,1.7s										
CMAR	**Chiang Mai Arr**	**56.84**	**256**			LR	LR	00 00 34.2			
	comp=Z,36nm,20.2s,baz=220,slow=36										
NVAR	**Mina Array Bea**	**56.98**	**69**			P	**P**	**23 35 59.5**	**+1.8**		
	comp=Z,0.8nm,0.7s,baz=301,slow=6.6,SNR=5.5										
HWUT	**Hardware Ranch**	**58.39**	**62**			P	**P**	**23 36 07.3**	**-0.2**		
R11A	**Troy Canyon, C**	**58.55**	**67**			P	**P**	**23 36 07.5**	**-1.1**		
R11A						IAmb	IAmb	23 36 51.5			
	comp=Z,2.0nm,0.5s										
BW06	**Boulder Array**	**58.61**	**59**			P	**P**	**23 36 08.2**	**-0.9**		
BW06						IAmb	IAmb	23 37 00.3			
	comp=Z,2.5nm,0.8s										
PD31	**Pinedale Array**	**58.61**	**59**			P	**P**	**23 36 08.6**	**-0.4**		
PD31						IAmb	IAmb	23 36 11.2			
	comp=Z,2.7nm,1.1s										
PDAR	**Pinedale Array**	**58.61**	**59**			P	**P**	**23 36 10.5**	**+1.5**		
	comp=Z,1.7nm,0.7s,baz=321,slow=3.8,SNR=12										
PDAR	**Pinedale Array**	**58.61**	**59**			P	**P**	**23 36 09.6**	**+0.5**		
FIA1	**FINESS Array S**	**59.21**	**335**			P	**P**	**23 36 14.2**	**+1.7**		
FINES	**FINESS Array B**	**59.21**	**335**			P	**P**	**23 36 12.2**	**-0.3**		
	comp=Z,2.3nm,0.8s,baz=27,slow=4.7,SNR=7.0										
FINES	**FINESS Array B**	**59.21**	**335**		*ce*	P	**P**	**23 36 12.8**	**+0.3**		
FINES						pmax	pmax				
	comp=Z,2.0nm,0.8s										
FINES	**FINESS Array B**	**59.21**	**335**			P	**P**	**23 36 13.1**	**+0.6**		
ULM	**Lac du Bonnet**	**59.63**	**46**			P	**P**	**23 36 17.2**	**+1.6**		
	comp=Z,1.6nm,0.5s,baz=257,slow=5.7,SNR=3.1										
ULM	**Lac du Bonnet**	**59.63**	**46**			P	**P**	**23 36 16.0**	**+0.4**		
ULM						pmax	pmax				
	comp=Z,22nm,1.7s										
ULM	**Lac du Bonnet**	**59.63**	**46**			P	**P**	**23 36 16.0**	**+0.4**		
OBN	**Obninsk**	**61.43**	**326**		*i*	P	**P**	**23 36 26.6**	**-1.2**		
OBN						pmax	pmax				
	comp=Z,4.0nm,0.7s										
OBN						MLR	MLR				
	comp=Z,50nm,16.0s										
NOA	**NORSAR Array B**	**62.79**	**342**			P	**P**	**23 36 36.7**	**-0.2**		
	comp=Z,0.3nm,0.5s,baz=22,slow=6.8,SNR=1.8										
NOA						LR	LR	00 06 35.9			
	comp=Z,28nm,18.8s,baz=30,slow=39										
WUAZ	**Wupatki**	**62.92**	**66**			P	**P**	**23 36 38.5**	**+0.2**		
214A	**Organ Pipe Nat**	**64.77**	**70**			P	**P**	**23 36 48.1**	**-2.3**		
SCHQ	**Schefferville**	**66.00**	**26**			P	**P**	**23 36 57.5**	**-0.6**		
	comp=Z,2.6nm,0.8s,baz=350,slow=12,SNR=3.1										
AKASG	**Malin Array Be**	**67.55**	**327**			P	**P**	**23 37 06.6**	**-1.3**		
	comp=Z,0.3nm,0.2s,baz=29,slow=6.3,SNR=2.4										
AKASG						LR	LR	00 09 23.5			
	comp=Z,30nm,20.0s,baz=245,slow=38										
TXAR	**Lajitas Array**	**71.83**	**65**			P	**P**	**23 37 35.9**	**+1.1**		
	comp=Z,1.1nm,0.7s,baz=310,slow=4.3,SNR=9.7										
MLR	**Muntele Rosu**	**73.17**	**327**			P	**P**	**23 37 42.5**	**-0.1**		
	comp=Z,0.8nm,0.6s,baz=55,slow=8.7,SNR=4.2										
GERES	**GERESS Array B**	**73.62**	**336**			P	**P**	**23 37 44.8**	**-0.3**		
	comp=Z,0.3nm,0.6s,baz=33,slow=6.2,SNR=2.2										
GERES						LR	LR	00 13 28.5			
	comp=Z,39nm,18.7s,baz=357,slow=39										
WRA	**Warramunga Arr**	**75.81**	**203**			P	**P**	**23 37 57.3**	**-0.6**		
	comp=Z,0.8nm,1.0s,baz=18,slow=6.1,SNR=2.5										
ASAR	**Alice Springs**	**79.50**	**202**			P	**P**	**23 38 19.2**	**+0.8**		
	comp=Z,0.6nm,0.6s,baz=23,slow=5.2,SNR=2.4										
ESDC	**Sonseca Array**	**85.91**	**346**			P	**P**	**23 38 51.7**	**-0.1**		
	comp=Z,1.2nm,0.8s,baz=4.2,slow=5.4,SNR=10										
PLCA	**Paso Flores**	**145.46**	**88**			PKPbc	**PKPab**	**23 45 50.0**	**+0.2**		
	comp=Z,1.5nm,0.7s,baz=305,slow=1.4,SNR=4.0										
PLCA	**Paso Flores**	**145.46**	**88**			PKIKP	**PKPab**	**23 45 50.0**	**+0.2**		

MAN 23 00:02:25.9, 7.67N×125.55E, h1km, MS2.3,1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**0.80**	**215**	⇓*i*P	Pn	00 02 54.0	+10
KCP				*i*S	Sn	00 03 12.6	+16
MATI	**Mati**	**1.00**	**136**	*e*P	Pg	00 02 45.4	+0.3
MATI				*e*S	Sn	00 03 01.9	+0.1
DDMP	**Don Marcelino,**	**1.56**	**174**	*e*P	Pn	00 02 54.0	-0.8
DDMP				*e*S	Sg	00 03 16.7	+0.7
GLSP	**General Luna,**	**2.18**	**15**	*e*P	Pn	00 03 04.0	+0.7
GLSP				*e*S	Sn	00 03 31.9	+0.9

IDC ***23*** *00:43:26.8±1.6,26.34N×101.42E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/55, mbtmp3.4/3, Error ellipse: s-maj=74.1km s-min=27.2km az=65.0*

BJI ***23*** *00:43:28.4±0.0,26.17N×100.88E, h21km, ML3.5/8*

ISC 23 00:43:27.7±1.0, 26.05N±0.09×100.87E±0.07, h10km, n7, σ0.53/9, mb3.2/3, 2D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.93**	**118**	⇓Pg	**Pg**	**00 44 04.8**	**+0.1**
KMI				Sg	**Sg**	**00 44 30.0**	**+0.3**
KMI				SMN			
	380nm,0.5s						
KMI				SME			
	510nm,0.5s						
GYA	**Guiyang**	**5.22**	**84**	⇓Pn	**Pn**	**00 44 45.3**	**-0.7**
GYA				Sn	**Sn**	**00 45 46.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**7.76**	**194**	Pg	**Pg**	**00 45 56.5**	**0.0**
	1.1nm,0.3s,baz=9.3,slow=17,SNR=7.1						
CMAR				Lg	Lg	00 47 40.3	
	1.5nm,0.3s,baz=2.0,slow=29,SNR=12						
WMQ	**Urumqi**	**20.71**	**332**	*e*P	**P**	**00 48 07.8**	**-0.4**
MKAR	**Makanchi Array**	**25.41**	**329**	P	**P**	**00 48 56.1**	**+0.6**
	0.4nm,0.7s,baz=130,slow=11,SNR=3.8						
KURBB	**Kurchatov Arra**	**29.92**	**331**	P	**P**	**00 49 36.2**	**+0.5**
	0.2nm,0.4s,baz=150,slow=7.8,SNR=1.4						
WRA	**Warramunga Arr**	**56.09**	**141**	P	**P**	**00 53 07.2**	**-0.2**
	1.0nm,0.9s,baz=328,slow=8.0,SNR=1.7						

GCMT ***23*** *00:47:39.5±0.3, 10.91S±0.02×163.72E±0.02, h29km±1km, MW5.0/86, Moment Tensor Solution. s27,c29; s86,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.49±.18; Mθθ -2.61±.14; Mφφ 2.11±.13; Mrθ 0.96±.23; Mθφ 1.92±.12; Mφr -1.69±.23; Best double couple: Mo 3.61900×10^16 NP1: φs 245.00000°, δ57.00000°, λ5.00000°. NP2: φs 152.00000°, δ86.00000°, λ147.00000°. Principal axes: T 3.4130, Plg26.0000°, Azm103.0000°; N 0.4030, Plg56.0000°, Azm326.0000°; P -3.8250, Plg20.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***23*** *00:47:41.5±2.5, 11.16S×163.76E, h55km±22km, mb4.1/19, mb1 4.3/23, mb1mx4.2/46, mbtmp4.4/23, ML4.6/4, MS4.0/27, Ms1 4.0/27, ms1mx3.9/35 Error ellipse: s-maj=16.7km s-min=13.6km az=67.0*

NEIC ***23*** *00:47:41.5±1.6, 10.96S±0.08×163.90E±0.09, h45km±7km, mb4.8/115, Error ellipse: s-maj=13.6km s-min=11.4km az=61.0*

ISC 23 00:47:39.2±0.3, 11.05S±0.05×163.93E±0.06, h29km, n195, σ18.37/174, mb4.7/80, MS4.0/26, 2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.23**	**292**	P	**Pn**	**00 48 41.3**	**-0.5**
	187nm,0.3s,baz=33,slow=5.3,SNR=14						
HNR				S	**Sn**	**00 49 29.0**	**-1.3**
	134nm,0.3s,baz=226,slow=17,SNR=5.3						
HNR				LR	LR	00 50 25.0	
	comp=Z,7μm,18.4s,baz=124,slow=40						
HNR	**Honiara**	**4.23**	**292**	Pn	**Pn**	**00 48 42.0**	**+0.2**
HNR	**Honiara**	**4.23**	**292**	P	**Pn**	**00 48 42.5**	**+0.7**
SANVU	**Saraoutou**	**5.41**	**144**	P	**Pn**	**00 48 59.6**	**+1.6**
KOUNC	**Koumac, New Ca**	**9.46**	**178**	P	**Pn**	**00 49 55.3**	**+1.8**
LIFNC	**LIFOU**	**10.19**	**162**	Pn	**Pn**	**00 50 04.6**	**+1.0**
DZM	**Mont Dzumac**	**11.22**	**168**	P	**Pn**	**00 50 19.9**	**+2.0**
	2.4nm,0.3s,baz=28,slow=9.0,SNR=9.5						
DZM				S	**Sn**	**00 52 21.2**	**-1.3**
	1.3nm,0.3s,baz=315,slow=23,SNR=2.3						
DZM				LR	LR	00 53 54.9	
	comp=Z,687nm,20.9s,baz=13,slow=34						
DZM	**Mont Dzumac**	**11.22**	**168**	*e*Pn	**Pn**	**00 50 19.9**	**+2.0**
	11nm,0.3s						
DZM				*e*Sn	**Sn**	**00 52 18.0**	**-4.5**
	10nm,0.3s						
DZM				eLR	LR	00 52 56.7	
	comp=Z,937nm,24.6s						
DZM	**Mont Dzumac**	**11.22**	**168**	Pn	**Pn**	**00 50 20.2**	**+2.3**
ONTNC	**Ouen Toro**	**11.46**	**168**	Pn	**Pn**	**00 50 23.6**	**+2.7**
OUENC	**Ouen Island, N**	**11.65**	**167**	Pn	**Pn**	**00 50 26.9**	**+3.4**
PINNC	**Pines Island,**	**11.98**	**164**	Pn	**Pn**	**00 50 30.6**	**+2.4**
MSVF	**Nonsavu**	**15.21**	**118**	P	**P**	**00 51 15.0**	**-1.8**
	0.1nm,0.3s,baz=210,slow=6.4,SNR=5.2						
MSVF				LR	LR	00 56 03.8	
	comp=Z,833nm,21.1s,baz=298,slow=33						
MSVF	**Nonsavu**	**15.21**	**118**	Pn	**Pn**	**00 51 13.1**	**+1.0**
MSVF				IAmb	IAmb	00 51 24.9	
	comp=Z,54nm,1.1s						
TARA	**Tarawa**	**15.23**	**37**	Pn	**Pn**	**00 51 11.3**	**-1.0**
PMG	**Port Moresby**	**16.58**	**274**	LR	LR	00 57 31.3	
	comp=Z,2μm,20.4s,baz=122,slow=36						
PATS	**Pohnpei**	**18.62**	**342**	P	**P**	**00 51 54.3**	**-0.3**
PATS				IAmb	IAmb	00 51 58.2	
	comp=Z,83nm,1.0s						
EIDS	**Eidsvold**	**18.73**	**219**	P	**Pn**	**00 51 57.0**	**+0.7**
CTA	**Charters Tower**	**19.23**	**240**	P	**P**	**00 52 00.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=81,slow=5.6,SNR=4.4						
CTA				LR	LR	00 59 09.2	
	comp=Z,572nm,19.4s,baz=55,slow=36						
CTAO	**Charters Tower**	**19.23**	**240**	P	**P**	**00 52 01.7**	**+0.4**
ARMA	**Armidale**	**22.41**	**209**	P	**P**	**00 52 36.5**	**+0.8**
RAO	**Raoul Island**	**24.81**	**140**	LR	LR	01 01 45.4	
	comp=Z,289nm,19.4s,baz=326,slow=34						
HIZ	**Hauiti**	**29.05**	**162**	P	**P**	**00 53 37.5**	**+0.5**
STKA	**Stephens Creek**	**29.23**	**221**	P	**P**	**00 53 38.2**	**-0.5**
	comp=Z,6.6nm,0.9s,baz=40,slow=9.2,SNR=5.6						
STKA				LR	LR	01 04 36.5	
	comp=Z,836nm,18.3s,baz=31,slow=35						
STKA	**Stephens Creek**	**29.23**	**221**	P	**P**	**00 53 39.2**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.48**	**5**	T	T	01 24 26.4	
	SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.48**	**5**	T	T	01 24 17.5	
	SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.50**	**5**	T	T	01 24 35.3	
	SNR=14						
URZ	**Urewera**	**29.56**	**159**	LR	LR	01 04 41.2	
	comp=Z,357nm,18.9s,baz=31,slow=34						
URZ	**Urewera**	**29.56**	**159**	P	**P**	**00 53 42.8**	**+1.3**
URZ				IAmb	IAmb	00 53 52.4	
	comp=Z,16nm,1.0s						
WR0	**Warramunga Arr**	**29.63**	**249**	P	**P**	**00 53 40.2**	**-2.2**
WB0	**Warramunga Arr**	**29.72**	**249**	P	**P**	**00 53 41.1**	**-2.1**
WB0				IAmb	IAmb	00 53 47.2	
	comp=Z,27nm,1.1s						
WRAB	**Tennant Creek**	**29.80**	**249**	P	**P**	**00 53 41.7**	**-2.2**
WRAB				IAmb	IAmb	00 53 47.2	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**29.80**	**249**	P	**P**	**00 53 41.5**	**-2.4**
WB2				IAmb	IAmb	00 53 48.7	
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**29.81**	**249**	P	**P**	**00 53 41.5**	**-2.5**
	comp=Z,6.9nm,0.6s,baz=81,slow=9.3,SNR=32						
WRA				LR	LR	01 05 31.9	
	comp=Z,848nm,19.8s,baz=70,slow=36						
WRA	**Warramunga Arr**	**29.81**	**249**	P	**P**	**00 53 41.7**	**-2.3**
BKZ	**Black Stump Fm**	**30.16**	**160**	P	**P**	**00 53 48.8**	**+1.9**
BKZ				IAmb	IAmb	00 54 00.9	
	comp=Z,16nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**30.71**	**5**	T	T	01 25 45.9	
	baz=184,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**30.71**	**6**	T	T	01 25 46.4	
	baz=184,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.72**	**5**	T	T	01 25 50.2	
	baz=184,slow=76,SNR=16						
TOO	**Toolangi**	**31.17**	**209**	P	**P**	**00 53 56.2**	**+0.3**
TOO				IAmb	IAmb	00 53 58.2	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**31.20**	**242**	P	**P**	**00 53 55.0**	**-1.3**
ASAR	**Alice Springs**	**31.20**	**242**	P	**P**	**00 53 53.9**	**-2.4**
	comp=Z,7.6nm,0.9s,baz=63,slow=9.8,SNR=32						
ASAR				LR	LR	01 06 05.5	
	comp=Z,383nm,19.0s,baz=71,slow=36						
ASAR	**Alice Springs**	**31.20**	**242**	P	**P**	**00 53 57.0**	**+0.7**
PLWZ	**Palliser**	**31.99**	**164**	P	**P**	**00 54 04.3**	**+1.3**
FOZ	**Fox Glacier**	**32.77**	**172**	P	**P**	**00 54 07.8**	**-1.8**
MQZ	**McQueen's Vall**	**33.41**	**168**	P	**P**	**00 54 14.2**	**-1.0**
BBOO	**Buckleboo**	**33.54**	**225**	P	**P**	**00 54 15.9**	**-0.7**
ODZ	**Otahua Downs**	**34.37**	**172**	P	**P**	**00 54 22.3**	**-1.3**
ODZ				IAmb	IAmb	00 54 40.5	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**34.49**	**258**	P	**P**	**00 54 22.6**	**-2.5**
WHZ	**Wether Hill Ro**	**34.89**	**175**	P	**P**	**00 54 26.7**	**-1.4**
WHZ				IAmb	IAmb	00 54 29.8	
	comp=Z,13nm,1.1s						
PYZ	**Puysegur Point**	**35.08**	**177**	P	**P**	**00 54 29.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**37.66**	**255**	P	**P**	**00 54 49.1**	**-3.0**
	comp=Z,5.1nm,0.6s,baz=73,slow=9.1,SNR=27						
FITZ	**Fitzroy Crossi**	**37.66**	**255**	P	**P**	**00 54 49.7**	**-2.4**
FITZ				IAmb	IAmb	00 55 00.7	
	comp=Z,9.4nm,1.1s						
FORT	**Forrest**	**38.59**	**234**	P	**P**	**00 55 00.9**	**+1.1**
PSA00	**Pilbara Seismi**	**43.45**	**250**	P	**P**	**00 55 39.0**	**-0.9**
PSA00	**Pilbara Seismi**	**43.45**	**250**	P	**P**	**00 55 38.2**	**-1.8**
PSA00				IAmb	IAmb	00 55 49.7	
	comp=Z,3.0nm,0.7s						
PPT	**Papeete**	**45.43**	**104**	LR	LR	01 12 12.8	
	comp=Z,318nm,18.3s,baz=229,slow=32						
PPT2	**Papeete2**	**45.43**	**104**	*e*S	**S**	**01 02 38.6**	**+2.7**
	comp=Z,76nm,25.2s						
PPT2				*e*LR	LR	01 08 59.8	
	comp=Z,322nm,22.0s,baz=280						
TBI	**Tubuai**	**45.99**	**112**	*e*LR	LR	01 09 11.9	
	comp=Z,541nm,30.2s						
NWAO	**Narrogin (SRO)**	**47.98**	**235**	P	**P**	**00 56 15.5**	**-0.2**
NWAO				IAmb	IAmb	00 56 30.4	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**48.06**	**241**	P	**P**	**00 56 15.2**	**-1.1**
JMN	**Monobe**	**52.92**	**328**	P	**P**	**00 56 52.8**	**-0.2**
MJAR	**Matsushiro Arr**	**53.17**	**334**	P	**P**	**00 56 54.2**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=158,slow=7.3,SNR=8.3						
MJAR				LR	LR	01 18 09.4	
	comp=Z,91nm,21.9s,baz=175,slow=34						
MJAR	**Matsushiro Arr**	**53.17**	**334**	P	**P**	**00 56 54.6**	**-0.1**
MAJO	**Matsushiro**	**53.17**	**334**	P	**P**	**00 56 55.2**	**+0.4**
MAJO				IAmb	IAmb	00 56 59.1	
	comp=Z,6.6nm,1.0s						
MJB9	**Matsu-Tunnel**	**53.18**	**334**	P	**P**	**00 56 55.2**	**+0.4**
MJB9				IAmb	IAmb	00 56 59.0	
	comp=Z,7.4nm,1.0s						
JMM	**Marumori**	**53.26**	**337**	P	**P**	**00 56 55.5**	**+0.1**
JWT	**Wachi**	**53.40**	**331**	P	**P**	**00 56 56.1**	**-0.4**
JWT				IAmb	IAmb	00 57 00.2	
	comp=Z,15nm,1.1s						
NACB	**Ninganchiao**	**54.17**	**311**	P	**P**	**00 57 02.5**	**+0.2**
JHS	**Saijyo**	**54.30**	**329**	P	**P**	**00 57 02.9**	**-0.1**
JSD	**Sado**	**54.42**	**335**	P	**P**	**00 57 03.5**	**-0.3**
JSD				IAmb	IAmb	00 57 05.8	
	comp=Z,9.6nm,1.0s						
TAOE	**Nuku Hiva Isla**	**55.06**	**93**	*e*LR	LR	01 13 34.3	
	comp=Z,257nm,27.5s						
JKA	**Kamikawa-asahi**	**58.22**	**342**	P	**P**	**00 57 30.9**	**+0.1**
ASAJ	**Asahikawa**	**58.23**	**342**	LR	LR	01 20 36.3	
	comp=Z,102nm,20.2s,baz=178,slow=34						
KSRS	**Korea Array**	**58.89**	**327**	P	**P**	**00 57 36.1**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=143,slow=6.5,SNR=14						
KSRS				LR	LR	01 20 21.5	
	comp=Z,76nm,19.6s,baz=132,slow=33						
KSAR	**Wonju Array Be**	**58.90**	**327**	P	**P**	**00 57 36.5**	**+0.8**
MNAI	**Manna**	**60.70**	**271**	P	**P**	**00 57 49.4**	**+0.8**
YSS	**Yuzh-Sakhalins**	**60.76**	**344**	P	**P**	**00 57 47.8**	**-0.5**
NJ2	**Nanjing**	**60.78**	**316**	*e*P	**P**	**00 57 50.1**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**62.16**	**335**	P	**P**	**00 57 58.5**	**+0.7**
USA0B				IAmb	IAmb	00 58 07.2	
	comp=Z,7.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**62.16**	**335**	P	**P**	**00 57 58.1**	**+0.3**
	comp=Z,12nm,1.1s,baz=161,slow=6.1,SNR=13						
USRK	**Ussuriysk Ar.**	**62.16**	**335**	P	**P**	**00 57 58.4**	**+0.6**
MDJ	**Mudanjiang**	**63.53**	**333**	P	**P**	**00 58 07.4**	**+0.5**
MDJ				IAmb	IAmb	00 58 20.9	
	comp=Z,6.0nm,0.5s						
AMKA	**Amchitka**	**63.58**	**11**	P	**P**	**00 58 05.9**	**-1.2**
PETK	**Petropavlovsk-**	**64.12**	**356**	P	**P**	**00 58 10.4**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=123,slow=7.1,SNR=6.3						
PETK				LR	LR	01 20 36.6	
	comp=Z,94nm,20.9s,baz=165,slow=31						
PETK	**Petropavlovsk-**	**64.12**	**356**	P	**P**	**00 58 10.7**	**0.0**
KIWB	**Kanaga Island**	**64.75**	**13**	P	**P**	**00 58 14.5**	**-0.2**
CN2	**Changchun**	**64.84**	**330**	*e*P	**P**	**00 58 15.0**	**-0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ADK	**Adak**	**64.88**	**13**	P	**P**	**00 58 15.0**	**-0.6**
VNDA	**Vanda**	**66.47**	**180**	LR	LR	01 23 14.1	
	comp=Z,66nm,18.2s,baz=298,slow=32						
VNDA	**Vanda**	**66.47**	**180**	P	**P**	**00 58 27.4**	**+1.8**
KMI	**Kunming**	**69.60**	**302**	⇓P	**P**	**00 58 50.8**	**+4.4**
KMI				pmax	pmax		
	comp=Z,11nm,2.0s						
CMAR	**Chiang Mai Arr**	**70.48**	**294**	LR	LR	01 29 20.6	
	comp=Z,32nm,20.0s,baz=188,slow=36						
HHC	**Hu-ho-hao-te**	**70.69**	**320**	*e*P	**P**	**00 58 54.1**	**+1.5**
MA2	**Magadan**	**71.18**	**353**	LR	LR	01 25 14.7	
	comp=Z,50nm,19.2s,baz=118,slow=32						
LZH	**Lanzhou**	**73.44**	**313**	*e*P	**P**	**00 59 13.3**	**+4.0**
LZH				pP	PcP	00 59 25.8	+0.4
LZH				sP	pwP	00 59 35.3	+11
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,6.7s						
ULN	**Ulaanbaatar**	**77.26**	**325**	P	**P**	**00 59 31.3**	**+0.3**
ULN				IAmb	IAmb	00 59 36.1	
	comp=Z,8.2nm,1.1s						
ULN	**Ulaanbaatar**	**77.26**	**325**	P	**

HUMO				IAmb	IAmb	01 00 15.0	
	comp=Z,7.7nm,1.1s						
AFDM	**Forest Hills D**	**85.55**	**49**	P	**P**	**01 00 14.4**	**-0.6**
AFDM				IAmb	IAmb	01 00 15.8	
	comp=Z,9.8nm,1.1s						
CMB	**Columbia Colle**	**85.71**	**50**	P	**P**	**01 00 15.1**	**-0.7**
TIXI	**Tiksi**	**85.76**	**349**	P	**P**	**01 00 16.6**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=121,slow=7.1,SNR=3.5						
TIXI	**Tiksi**	**85.76**	**349**	P	**P**	**01 00 14.3**	**-0.9**
EGAK	**Eagle**	**86.00**	**21**	P	**P**	**01 00 15.9**	**-0.6**
DAWY	**Dawson**	**86.21**	**22**	IAmb	IAmb	01 00 31.7	
	comp=Z,5.0nm,1.1s						
E03A	**Lebam**	**86.22**	**41**	P	**P**	**01 00 17.1**	**-0.9**
BEKR	**Beckworth**	**86.28**	**48**	P	**P**	**01 00 18.0**	**-0.8**
BEKR				IAmb	IAmb	01 00 19.0	
	comp=Z,3.6nm,0.8s						
BMAR	**Burnt Mountain**	**86.54**	**18**	P	**P**	**01 00 19.2**	**0.0**
WAKR	**Walker**	**86.56**	**50**	P	**P**	**01 00 20.1**	**-0.1**
WAKR				IAmb	IAmb	01 00 22.3	
	comp=Z,4.8nm,1.0s						
MDPB	**Devils Postpil**	**86.58**	**51**	P	**P**	**01 00 18.3**	**-2.1**
MDPB				IAmb	IAmb	01 00 21.4	
	comp=Z,6.9nm,1.0s						
K05A	**Summer Lake**	**86.77**	**46**	P	**P**	**01 00 20.5**	**-0.6**
MOD	**Modoc Plateau**	**86.94**	**46**	P	**P**	**01 00 21.2**	**-0.7**
MOD				IAmb	IAmb	01 00 22.2	
	comp=Z,4.8nm,0.9s						
PAHR	**Pah Rah Range**	**86.95**	**49**	P	**P**	**01 00 21.1**	**-0.8**
PAHR				IAmb	IAmb	01 00 23.0	
	comp=Z,6.2nm,1.1s						
PINE	**Pine Mountain**	**87.07**	**44**	P	**P**	**01 00 22.0**	**-0.6**
PINE				IAmb	IAmb	01 00 23.3	
	comp=Z,7.4nm,0.9s						
LHV	**Little Huntoon**	**87.19**	**50**	P	**P**	**01 00 22.6**	**-0.4**
LHV				IAmb	IAmb	01 00 24.4	
	comp=Z,6.0nm,1.0s						
DLBC	**Dease Lake**	**87.27**	**29**	P	**P**	**01 00 23.8**	**+0.8**
DLBC				IAmb	IAmb	01 00 30.4	
	comp=Z,5.1nm,0.8s						
RYN	**Ryan**	**87.28**	**50**	P	**P**	**01 00 22.9**	**-0.7**
RYN				IAmb	IAmb	01 00 24.6	
	comp=Z,4.8nm,1.0s						
NVAR	**Mina Array Bea**	**87.39**	**50**	P	**P**	**01 00 24.2**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=238,slow=7.6,SNR=22						
NVAR				LR	LR	01 32 56.5	
	comp=Z,168nm,19.7s,baz=270,slow=31						
NVAR	**Mina Array Bea**	**87.39**	**50**	P	**P**	**01 00 23.9**	**-0.4**
NV11	**Mina Array Sit**	**87.51**	**50**	IAmb	IAmb	01 00 25.8	
	comp=Z,6.3nm,1.0s						
KVN	**Kaiserville**	**87.72**	**50**	P	**P**	**01 00 24.9**	**-0.9**
KVN				IAmb	IAmb	01 00 26.7	
	comp=Z,4.9nm,1.1s						
WMQ	**Urumqi**	**87.84**	**315**	*e*P	**P**	**01 00 27.1**	**+1.0**
WMQ				pmax	pmax		
	comp=Z,32nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.1s						
I07A	**Izee**	**88.15**	**45**	P	**P**	**01 00 27.1**	**-0.5**
I07A				IAmb	IAmb	01 00 28.2	
	comp=Z,6.2nm,0.9s						
WVOR	**Wild Horse Val**	**88.28**	**46**	P	**P**	**01 00 27.8**	**-0.5**
WVOR				IAmb	IAmb	01 00 29.6	
	comp=Z,8.8nm,1.1s						
J08A	**Circle Bar Ran**	**88.65**	**45**	P	**P**	**01 00 30.1**	**+0.1**
GLA	**Glamis**	**88.73**	**56**	P	**P**	**01 00 30.4**	**-0.1**
G08A	**Pilot Rock**	**88.87**	**43**	P	**P**	**01 00 30.9**	**0.0**
SHPR	**Sheep Range**	**89.31**	**53**	P	**P**	**01 00 33.0**	**-0.2**
PRN	**Pahroc Range**	**89.61**	**52**	P	**P**	**01 00 34.7**	**+0.1**
BMO	**Blue Mountains**	**89.88**	**44**	P	**P**	**01 00 35.0**	**-0.7**
214A	**Organ Pipe Nat**	**90.14**	**58**	P	**P**	**01 00 37.2**	**+0.1**
214A				IAmb	IAmb	01 00 43.5	
	comp=Z,3.3nm,0.9s						
F10A	**Beach Ranch, E**	**90.23**	**43**	IAmb	IAmb	01 00 37.5	
	comp=Z,4.8nm,0.9s						
ELK	**Elko**	**90.28**	**49**	P	**P**	**01 00 37.7**	**-0.1**
ELK				IAmb	IAmb	01 00 39.1	
	comp=Z,6.7nm,1.1s						
MFID	**Camas Ranch**	**90.53**	**46**	P	**P**	**01 00 38.3**	**-0.5**
SPR3	**Spring Creek 3**	**90.54**	**50**	P	**P**	**01 00 38.8**	**-0.4**
PSUT	**Pine Spring**	**90.80**	**51**	P	**P**	**01 00 40.1**	**-0.2**
PSUT				IAmb	IAmb	01 00 41.6	
	comp=Z,4.5nm,1.0s						
NEW	**Newport**	**90.91**	**41**	P	**P**	**01 00 39.9**	**-0.4**
NEW				IAmb	IAmb	01 00 40.4	
	comp=Z,3.5nm,0.8s						
LCMT	**Little Creek M**	**90.92**	**53**	P	**P**	**01 00 39.9**	**-0.9**
LCMT				IAmb	IAmb	01 00 42.2	
	comp=Z,5.3nm,1.1s						
CCUT	**Cedar City**	**90.95**	**52**	P	**P**	**01 00 40.8**	**-0.2**
CCUT				IAmb	IAmb	01 00 42.8	
	comp=Z,5.6nm,1.0s						
KNB	**Kanab**	**91.25**	**53**	P	**P**	**01 00 42.6**	**+0.3**
KNB				IAmb	IAmb	01 00 49.3	
	comp=Z,4.7nm,1.2s						
SYO	**Syowa Base**	**91.26**	**197**	*e*P	**P**	**01 00 40.0**	**-1.5**
U15A	**North Rim**	**91.54**	**53**	P	**P**	**01 00 43.3**	**-0.6**
U15A				IAmb	IAmb	01 00 45.6	
	comp=Z,5.6nm,1.0s						
HLID	**Hailey**	**91.56**	**46**	P	**P**	**01 00 42.8**	**-0.8**
BGU	**Big Grassy Mou**	**91.96**	**49**	P	**P**	**01 00 44.7**	**-0.9**
BGU				IAmb	IAmb	01 00 57.2	
	comp=Z,3.4nm,1.0s						
MTPU	**Mount Pierson**	**91.97**	**52**	P	**P**	**01 00 45.6**	**-0.3**
MTPU				IAmb	IAmb	01 00 53.1	
	comp=Z,5.9nm,1.1s						
MSU	**Marysvale**	**92.07**	**51**	P	**P**	**01 00 45.9**	**-0.3**
MKAR	**Makanchi Array**	**92.30**	**317**	P	**P**	**01 00 45.0**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=91,slow=4.8,SNR=4.3						
MKAR				LR	LR	01 41 44.8	
	comp=Z,44nm,21.7s,baz=98,slow=35						
MKAR	**Makanchi Array**	**92.30**	**317**	P	**P**	**01 00 47.0**	**+0.2**
HVU	**Hansel Valley**	**92.33**	**48**	P	**P**	**01 00 47.1**	**-0.2**
NLU	**North Lily Min**	**92.46**	**50**	P	**P**	**01 00 47.0**	**-1.0**
NLU				IAmb	IAmb	01 00 49.3	
	comp=Z,4.6nm,1.1s						
ZALV	**Zalesovo Beam**	**92.52**	**324**	P	**P**	**01 00 45.2**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=108,slow=3.2,SNR=1.6						
ZALV				LR	LR	01 44 28.3	
	comp=Z,14nm,18.3s,baz=114,slow=37						
ZALV	**Zalesovo Beam**	**92.52**	**324**	P	**P**	**01 00 48.0**	**+0.4**
MAKZ	**Makanchi**	**92.52**	**317**	P	**P**	**01 00 48.1**	**+0.3**
MAKZ				IAmb	IAmb	01 00 57.7	
	comp=Z,5.1nm,1.1s						
MCMT	**McKenzie Canyo**	**92.94**	**45**	P	**P**	**01 00 49.9**	**-0.2**
WALA	**Waterton Lakes**	**93.17**	**41**	P	**P**	**01 00 50.6**	**-0.3**
WALA				IAmb	IAmb	01 00 57.1	
	comp=Z,5.0nm,0.9s						
DLMT	**Dillon**	**93.23**	**45**	P	**P**	**01 00 50.5**	**-0.8**
PDAR	**Pinedale Array**	**94.87**	**48**	P	**P**	**01 00 58.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=253,slow=1.5,SNR=5.6						
PDAR				LR	LR	01 38 01.8	
	comp=Z,73nm,19.6s,baz=278,slow=32						
EGMT	**Eagleton**	**95.67**	**42**	P	**P**	**01 01 01.2**	**-1.2**
YKA	**Yellowknife Ar**	**95.80**	**27**	P	**P**	**01 01 01.1**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=254,slow=4.4,SNR=3.9						
YKA				LR	LR	01 41 52.1	
	comp=Z,130nm,18.0s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**97.40**	**62**	P	**P**	**01 01 10.3**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=224,slow=5.0,SNR=2.0						
TXAR	**Lajitas Array**	**97.40**	**62**	P	**P**	**01 01 09.0**	**-1.7**
ARCES	**ARCESS Array B**	**115.88**	**345**	PKP	**PKiKP**	**01 06 16.3**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=57,slow=3.3,SNR=1.2						
POLO	**Lamas de Olo**	**148.93**	**348**	*e*PKPbc	**PKPbc**	**01 07 24.1**	**-0.6**
ESDC	**Sonseca Array**	**149.53**	**341**	PKPbc	**PKPbc**	**01 07 25.2**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=11,slow=5.0,SNR=2.4						
MTE	**Manteigas**	**149.81**	**347**	*e*PKPbc	**PKPbc**	**01 07 26.3**	**-0.6**
PCBR	**Castelo Branco**	**150.33**	**347**	*e*PKPbc	**PKPbc**	**01 07 27.8**	**-0.3**
PMRV	**Marv??o**	**150.70**	**346**	*e*PKPbc	**PKPbc**	**01 07 28.6**	**-0.4**
PMTG	**Montargil**	**151.23**	**347**	*e*PKPbc	**PKPbc**	**01 07 29.3**	**-0.9**
EVO	**Evora**	**151.70**	**347**	*e*PKPbc	**PKPbc**	**01 07 30.3**	**-1.0**
PBAR	**Barrancos**	**151.80**	**345**	*e*PKPbc	**PKiKP**	**01 07 33.4**	**+1.4**
PBEJ	**Beja**	**152.15**	**346**	*e*PKPbc	**PKiKP**	**01 07 32.6**	**-0.1**

*IDC **23** 01:05:19.1±3.0,32.˚46S×179.˚71E,h375km±29km, mb3.2/3, mb1 3.3/4,mb1mx3.1/26,mbtmp4.0/4, Error ellipse: s-maj=35.1km s-min=32.2km az=39.0*
*WEL **23** 01:05:21.3±0.5,33˚S±9˚×18˚0W±2˚,h364km±7km, M4.4/22,mB4.8/14,ML5.0/17,MLv5.2/22,Mw(mB)4.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=113.7*
ISC 23 01:05:18.4±0.8,**32˚54S**±0.˚07×**179˚6E**±0.˚1,**h350**km,**n59,** σ2ᵖ**20**/84,**mb3.3**/3,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.88**	**33**	P	**Pn**	**01 06 27.7**	**+1.4**
GLKZ				S	**Sn**	**01 07 22.5**	**+1.5**
MXZ	**Matakaoa Point**	**5.13**	**192**	P	**Pn**	**01 06 40.8**	**+1.5**
MXZ				S	**Sn**	**01 07 45.5**	**+0.7**
HAZ	**Te Kaha**	**5.42**	**196**	P	**Pn**	**01 06 46.4**	**+3.9**
HAZ				S	**Sn**	**01 07 55.5**	**+4.8**
PKGZ	**Pakihiroa**	**5.49**	**193**	P	**Pn**	**01 06 47.3**	**+3.9**
PKGZ				S	**Sn**	**01 07 53.7**	**+1.6**
URZ	**Urewera**	**6.07**	**199**	P	**Pn**	**01 06 52.0**	**+2.2**
	39nm,0.3s,baz=56,slow=3.6,SNR=112						
URZ				S	**Sn**	**01 08 05.7**	**+1.7**
	18nm,0.3s,baz=37,slow=23,SNR=12						
HIZ	**Hauiti**	**7.12**	**212**	P	**Pn**	**01 07 05.7**	**+3.7**
OTVZ	**Oturere**	**7.35**	**205**	P	**Pn**	**01 07 08.6**	**+3.7**
OTVZ				S	**Sn**	**01 08 36.3**	**+4.7**
TUVZ	**Tukino**	**7.45**	**205**	P	Pn	01 07 11.2	+5.1
TUVZ				S	**Sn**	**01 08 37.2**	**+3.5**
FWVZ	**Far West T-bar**	**7.47**	**205**	P	**Pn**	**01 07 09.3**	**+2.9**
FWVZ				S	**Sn**	**01 08 38.0**	**+3.6**
BHHZ	**Black Hill Sta**	**7.51**	**202**	P	**Pn**	**01 07 07.9**	**+1.2**
BHHZ				S	**Sn**	**01 08 33.1**	**-1.9**
WNVZ	**Wahianoa**	**7.52**	**205**	P	**Pn**	**01 07 09.1**	**+2.2**
WNVZ				S	**Sn**	**01 08 36.0**	**+0.7**
MOVZ	**Moawhango**	**7.54**	**204**	P	**Pn**	**01 07 09.8**	**+2.8**
MOVZ				S	**Sn**	**01 08 35.8**	**+0.3**
KRHZ	**Kereru**	**7.56**	**199**	P	**Pn**	**01 07 09.7**	**+2.4**
KRHZ				S	**Sn**	**01 08 36.6**	**+0.6**
VRZ	**Vera Road**	**7.67**	**210**	P	Pn	01 07 13.8	+5.4
PNHZ	**Pukenui**	**7.86**	**200**	P	**Pn**	**01 07 09.9**	**-0.9**
PNHZ				S	**S**	**01 08 41.6**	**-0.9**
WPHZ	**Waipukurau**	**7.94**	**198**	P	**P**	**01 07 15.2**	**+3.5**
WPHZ				S	**S**	**01 08 40.3**	**-3.8**
PKE	**Pukeiti**	**8.07**	**213**	P	**P**	**01 07 20.1**	**+3.8**
TSZ	**Takapari Road**	**8.07**	**200**	P	**Pn**	**01 07 14.6**	**+1.4**
TSZ				S	**S**	**01 08 45.8**	**-1.1**
DVHZ	**Dannevirke**	**8.23**	**199**	P	**P**	**01 07 17.9**	**-0.2**
DVHZ				S	**S**	**01 08 50.0**	**-0.5**
ANWZ	**Angora Road**	**8.30**	**197**	P	**P**	**01 07 18.8**	**0.0**
ANWZ				S	**S**	**01 08 49.2**	**-2.8**
POWZ	**Post Office Ro**	**8.43**	**201**	P	**P**	**01 07 20.2**	**-0.1**
POWZ				S	**S**	**01 08 54.0**	**-0.8**
PRWZ	**Pori Road**	**8.52**	**199**	P	**P**	**01 07 22.0**	**+0.7**
PRWZ				S	**S**	**01 08 55.8**	**-1.0**
BFZ	**Birch Farm**	**8.57**	**198**	P	**P**	**01 07 21.3**	**-0.5**
BFZ				S	**S**	**01 08 52.5**	**-5.3**
MRZ	**Mangatainoka R**	**8.73**	**201**	P	**Pn**	**01 07 22.4**	**+1.3**
MRZ				S	**S**	**01 08 58.9**	**-2.5**
TIWZ	**Tintock**	**8.75**	**199**	P	**Pn**	**01 07 23.3**	**+1.9**
TIWZ				S	**S**	**01 09 00.6**	**-1.3**
HOWZ	**Holdsworth Sta**	**8.97**	**200**	P	**Pn**	**01 07 24.6**	**+0.7**
HOWZ				S	**S**	**01 08 59.7**	**-6.9**
OGWZ	**Otaki Gorge**	**9.00**	**202**	P	**Pn**	**01 07 25.2**	**+0.9**
OGWZ				S	**S**	**01 09 05.1**	**-2.2**
TMWZ	**Te Maipa**	**9.06**	**198**	P	**P**	**01 07 28.4**	**+1.1**
KIW	**Kapiti Island**	**9.13**	**203**	P	**Pn**	**01 07 26.7**	**+0.9**
KIW				S	**S**	**01 09 08.8**	**-1.3**
MTW	**Mount Morrison**	**9.22**	**200**	P	**Pn**	**01 07 28.0**	**+1.1**
MTW				S	**S**	**01 09 08.3**	**-3.7**
CAW	**Cannon Point**	**9.30**	**202**	P	**Pn**	**01 07 28.9**	**+1.1**
CAW				S	**S**	**01 09 08.9**	**-5.0**
TRWZ	**Traveller**	**9.39**	**198**	P	**P**	**01 07 31.6**	**+0.7**
DUWZ	**D'Urville Isla**	**9.43**	**207**	P	**Pn**	**01 07 30.6**	**+1.1**
PAWZ	**Paruwai Farm**	**9.44**	**200**	P	**P**	**01 07 31.3**	**-0.3**
MSWZ	**Moikau Station**	**9.53**	**200**	P	**P**	**01 07 32.2**	**-0.2**
TCW	**Tory Channel**	**9.66**	**205**	P	**Pn**	**01 07 33.4**	**+1.3**
PLWZ	**Palliser**	**9.67**	**200**	P	**Pn**	**01 07 33.2**	**+1.0**
TUWZ	**Tuamarina**	**9.97**	**206**	P	**Pn**	**01 07 36.2**	**+0.4**
NNZ	**Nelson**	**10.00**	**208**	P	**Pn**	**01 07 36.3**	**+0.1**
QRZ	**Quartz Range**	**10.04**	**213**	P	**Pn**	**01 07 37.5**	**+0.8**
BSWZ	**Blackbirch Sta**	**10.24**	**205**	P	**Pn**	**01 07 40.2**	**+1.1**
THZ	**Tophouse**	**10.65**	**208**	P	**Pn**	**01 07 44.6**	**+0.6**
KHZ	**Kahutara**	**10.98**	**204**	P	**Pn**	**01 07 48.2**	**+0.4**
DSZ	**Denniston Nort**	**11.11**	**212**	P	**Pn**	**01 07 49.4**	**0.0**
GVZ	**Greta Valley S**	**11.64**	**205**	P	**P**	**01 07 56.8**	**+0.9**
LTZ	**Lake Taylor**	**11.77**	**208**	P	**P**	**01 07 57.7**	**+0.4**
AMCZ	**Amberley**	**11.96**	**205**	P	**P**	**01 07 59.9**	**+0.5**
INZ	**Inchbonnie**	**12.05**	**210**	P	**P**	**01 08 00.7**	**+0.3**
OXZ	**Oxford**	**12.32**	**207**	P	**P**	**01 08 03.5**	**+0.2**
MQZ	**McQueen's Vall**	**12.42**	**204**	P	**P**	**01 08 05.1**	**+0.6**
MSVF	**Nonsavu**	**14.81**	**354**	P	**P**	**01 08 31.2**	**+0.1**
	0.6nm,0.3s,baz=131,slow=9.3,SNR=1.4						
STKA	**Stephens Creek**	**32.08**	**261**	P	**P**	**01 11 14.4**	**+0.4**
	3.1nm,0.7s,baz=90,slow=4.0,SNR=3.3						
ASAR	**Alice Springs**	**41.04**	**270**	P	**P**	**01 12 27.9**	**-1.1**
	0.7nm,0.6s,baz=109,slow=7.8,SNR=9.6						
WRA	**Warramunga Arr**	**42.23**	**276**	P	**P**	**01 12 37.0**	**-1.6**
	1.3nm,0.6s,baz=113,slow=7.8,SNR=31						
SNAA	**Sanae**	**76.07**	**179**	P	**P**	**01 16 27.0**	**-0.7**
VNA3	**Neumayer Olymp**	**76.30**	**177**	P	**P**	**01 16 28.4**	**-0.5**
VNA1	**Neumayer--Stat**	**76.95**	**177**	P	**P**	**01 16 32.3**	**-0.1**
FINES	**FINESS Array B**	**146.39**	**337**	PKPbc	**PKPdf**	**01 24 14.6**	**-1.3**
	0.6nm,0.5s,baz=64,slow=3.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**160.61**	**186**	PKPab	**PKPab**	**01 25 18.8**	**-1.9**
	0.6nm,0.5s,baz=173,slow=3.8,SNR=2.2						

*IDC **23** 01:12:22.9±2.9,17˚.82S×72˚.07W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/20,mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=74.4km s-min=38.5km az=2.0*
*GUC **23** 01:12:29.4±0.7,18˚.40S×71˚.05W,h31km±4km,ML3.6*
ISC 23 01:12:22.0±3.2,**18˚35S**×0˚.08×**71˚34W**±0˚.10,**h4**km±19km, **n26,** σ2ᵖ**38**/25,**6C-2D,Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**0.95**	**92**	*e*P	**Pb**	**01 12 41.9**	**+0.9**
AP01				*i* S	**Sg**	**01 12 50.8**	**-1.8**
AP01				IAML		01 12 52.6	
	comp=N,4μm,0.2s						
PSGC	**Pisagua**	**1.69**	**137**	↑*i* P	**Pn**	**01 12 53.5**	**+1.1**
PSGC				*i* S	**Sn**	**01 13 12.2**	**-2.5**
MNMC	**Minye Minye**	**1.83**	**116**	↑*i* P	**Pn**	**01 12 55.3**	**+0.9**
MNMC				*i* S	**Sn**	**01 13 16.9**	**-1.3**
MNMC				IAML		01 13 23.1	
	comp=E,2μm,0.7s						
PB11	**IPOC Station P**	**2.12**	**132**	↑*i* P	**Pn**	**01 13 00.2**	**+1.8**
PB11				*i* S	**Sn**	**01 13 23.5**	**-1.8**
PB11				IAML		01 13 28.7	
	comp=N,1μm,0.2s						
TA02	**Huaiquique**	**2.23**	**149**	*e*P	**Pn**	**01 13 01.9**	**+2.2**
TA01	**Diego Aracena**	**2.46**	**154**	↑*i* P	**Pn**	**01 13 04.8**	**+1.9**
TA01				*i* S	**Sn**	**01 13 29.9**	**-3.6**
TA01				IAML		01 13 48.0	
	comp=E,246nm,0.7s						
PB08	**IPOC Station P**	**2.73**	**131**	↑*i* P	**Pn**	**01 13 08.9**	**+2.0**
PB08				*i* S	**Sn**	**01 13 39.2**	**-1.3**
PB08				IAML		01 13 45.8	
	comp=E,258nm,0.3s						
PB01	**IPOC Station P**	**3.20**	**147**	↑*i* P	**Pn**	**01 13 14.8**	**+1.6**
PB01				*i* S	**Sn**	**01 13 48.1**	**-3.7**
PB01				IAML		01 13 49.5	
	comp=N,226nm,0.2s						
PB07	**IPOC Station P**	**3.63**	**158**	*e*P	**Pn**	**01 13 20.8**	**+1.7**
PB07				IAML		01 14 04.4	
	comp=E,149nm,0.4s						
LPAZ	**La Paz**	**3.69**	**57**	↓*i* P	**Pb**	**01 13 27.1**	**-1.0**
	comp=E,1.3nm,0.3s,baz=244,slow=6.0,SNR=38						
LPAZ	**La Paz**	**3.69**	**57**	↓*i* P	**Pb**	**01 13 27.5**	**-0.6**
PB09	**IPOC Station P**	**3.96**	**150**	*e*P	**Pn**	**01 13 26.3**	**+2.6**
PB09				*i* S	**Sn**	**01 14 00.0**	**-1.6**
PB04	**IPOC Station P**	**4.12**	**164**	↓*i* P	**Pn**	**01 13 26.9**	**+1.0**
PB04				*i* S	Sn	01 14 08.6	-6.1
H03N1	**Juan Fernandez**	**16.49**	**203**	T	T	01 33 59.9	
	baz=28,slow=73,SNR=104						
H03N2	**Juan Fernandez**	**16.50**	**203**	T	T	01 33 58.2	
	baz=28,slow=73,SNR=95						
H03N3	**Juan Fernandez**	**16.51**	**203**	T	T	01 33 58.7	
	baz=28,slow=73,SNR=92						
PTGA	**Pitinga**	**20.77**	**34**	P	**P**	**01 17 05.2**	**+1.1**
	comp=E,2.9nm,0.3s,baz=188,slow=15,SNR=7.4						
TXAR	**Lajitas Array**	**56.75**	**326**	P	**P**	**01 22 03.1**	**-4.3**
	comp=E,0.3nm,0.8s,baz=139,slow=7.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**78.51**	**72**	P	**P**	**01 24 29.6**	**+4.6**
	comp=E,0.7nm,0.9s,baz=257,slow=5.9,SNR=2.4						
H11S2	**WAKE ISLAND Hyl**	**25.15**	**280**	T	T	03 49 15.4	
	baz=100,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hyl**	**25.16**	**282**	T	T	03 49 16.5	
	baz=99,slow=74,SNR=7.1						
H11S1	**WAKE ISLAND Hyl**	**25.16**	**280**	T	T	03 49 15.9	
	baz=100,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**25.17**	**280**	T	T	03 49 18.1	
	baz=100,slow=74,SNR=20						
H11N2	**WAKE ISLAND Hyl**	**25.17**	**282**	T	T	03 49 21.8	
	baz=99,slow=74,SNR=8.6						
H11N1	**WAKE ISLAND Hyl**	**25.17**	**282**	T	T	03 49 17.9	
	baz=99,slow=74,SNR=4.6						
MKAR	**Makanchi Array**	**144.29**	**32**	PKP	**PKPdf**	**01 31 60.0**	**+0.6**
	comp=E,0.2nm,0.6s,baz=312,slow=3.3,SNR=1.9						

*NEIC **23** 01:14:08.6±2.8,50˚.08N±0˚.08×175˚.25W±0˚.10, h36km±19km,Error ellipse: s-maj=12.1km s-min=8.6km az=191.0*
*IDC **23** 01:14:11.4±7.0,52˚.61N×176˚.40W,h146km±66km,mb3.0/5, mb1 3.3/8,mb1mx3.1/50,mbtmp3.6/8,Error ellipse: s-maj=49.0km s-min=21.1km az=170.0*
*AEIC **23** 01:14:16±0.6,52˚.2N±0˚.5×176˚.0W±0˚.1,h183km±5km, ML3.1,Error ellipse: s-maj=71.4km s-min=8.2km az=171.0*
ISC 23 01:14:14.8±0.7,**52˚4N**±0˚.2×**176˚05W**±0˚.06,**h200**km,**n37,** σ2ᵖ**04**/36,**mb3.1**/5,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**0.29**	**181**	Pn	**Pn**	**01 14 39.8**	**-1.5**
GSTR				Sn	**Sn**	**01 14 58.3**	**-3.5**
GSTD	**Great Sitkin T**	**0.34**	**190**		**Pn**	**01 14 39.9**	**-1.6**
GSMY	**Great Sitkin M**	**0.35**	**180**		**Pn**	**01 14 39.9**	**-1.5**
GSIG	**Igitkin Island**	**0.41**	**169**		**Pn**	**01 14 39.8**	**-1.9**
ADK	**Adak**	**0.64**	**218**	Pn	**Pn**	**01 14 41.0**	**-1.4**
ADK				Sn	**Sn**	**01 15 00.5**	**-3.3**
KINC	**Kanaga Island**	**0.81**	**236**		**Pn**	**01 14 42.3**	**-1.0**
KICM	**Kanaga Island**	**0.85**	**237**		**Pn**	**01 14 42.7**	**-0.8**
KIKV	**Kanaga Island**	**0.86**	**234**		**Pn**	**01 14 42.9**	**-0.7**
KIWB	**Kanaga Island**	**0.86**	**232**	Pn	**Pn**	**01 14 42.3**	**-1.3**
KIWB				Sn	**Sn**	**01 15 02.4**	**-3.5**
KIMD	**Kanaga Island**	**0.96**	**230**		**Pn**	**01 14 43.2**	**-1.1**
KOKL	**Mount Kliuchef**	**1.14**	**93**		**Pn**	**01 14 44.9**	**-0.6**
ATKA	**Atka Island**	**1.16**	**99**		**Pn**	**01 14 44.5**	**-1.1**
KOFP	**Korovin Flat P**	**1.21**	**95**		**Pn**	**01 14 45.4**	**-0.6**
KOSE	**Korovin Southe**	**1.23**	**91**		**Pn**	**01 14 45.6**	**-0.6**
TAFP	**Tanaga Falls P**	**1.29**	**248**		**Pn**	**01 14 45.9**	**-0.8**
TASE	**Tanaga Southea**	**1.34**	**246**		**Pn**	**01 14 46.4**	**-0.8**
GAEA	**Gareloi East**	**1.77**	**251**		**Pn**	**01 14 50.9**	**-0.1**
GALAA	**Gareloi Lava P**	**1.79**	**251**		**Pn**	**01 14 51.0**	**-0.2**
CERAA	**Semis' Rag'd T**	**2.67**	**261**		**Pn**	**01 15 00.7**	**+0.2**
CESW	**Semis' Southwe**	**2.75**	**261**		**Pn**	**01 15 01.3**	**-0.1**
AMKA	**Amchitka**	**3.05**	**252**	Pn	**Pn**	**01 15 04.5**	**-0.5**
AMKA				Sn	**Sn**	**01 15 40.4**	**-3.8**
LSPA	**Little Sitkin**	**3.34**	**265**		**Pn**	**01 15 09.1**	**+0.7**
LSNW	**Little Sitkin**	**3.37**	**265**		**Pn**	**01 15 09.3**	**+0.6**
KDAK	**Kodiak Island**	**14.44**	**59**	P	**Pn**	**01 17 29.4**	**-0.5**
	1.7nm,0.3s,baz=284,slow=4.9,SNR=4.2						
KDAK				S	**S**	**01 20 06.2**	**-4.0**
	0.1nm,0.3s,baz=336,slow=20,SNR=1.2						
PETK	**Petropavlovsk-**	**15.88**	**283**	P	**P**	**01 17 43.6**	**-3.6**
	0.1nm,0.3s,baz=107,slow=14,SNR=2.3						
**ILAR

AKUM					IAML		01 20 18.0	
	comp=N,21nm,0.3s							
AKUM					IAML		01 20 20.0	
	comp=E,26nm,0.6s							
TAVA	**DENIZLI_Tavas**	**3.38**	**29**	*i* P		**Pn**	**01 19 36.9**	**+0.8**
SWA2		**5.39**	**193**	P		**Pn**	**01 20 05.6**	**+2.0**
	baz=193							
SWA2				S		**Sn**	**01 21 04.2**	**-0.5**
	baz=193							
RYAN	**Fayoum**	**6.15**	**151**	P		**Pn**	**01 20 16.6**	**+2.6**
	baz=150							
GLL	**Jalalah**	**6.42**	**139**	P		**Pn**	**01 20 19.5**	**+1.7**
	baz=138							
NBNS	**Bani Suef**	**6.99**	**146**	P		**Pn**	**01 20 28.8**	**+3.2**
	baz=145							
NBNS				AMP			01 21 00.0	
	baz=145							
NBNS				S		**Sn**	**01 21 43.6**	**-0.5**
	baz=145							
HFRF	**Wahat Farafira**	**7.45**	**170**	P		**Pn**	**01 20 34.4**	**+2.5**
	baz=169							
HFRF				S		**Sn**	**01 21 52.5**	**-3.0**
	baz=169							
HKAT	**Jabal Katrina**	**8.53**	**133**	P		**Pn**	**01 20 48.6**	**+1.7**
	baz=132							
HKAT				AMP			01 22 00.0	
	baz=132							
HKAT				S		**Sn**	**01 22 20.1**	**-2.2**
	baz=132							
KBZ	**Khabaz**	**15.46**	**49**	Pn		**P**	**01 22 24.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=217,slow=8.0,SNR=1.8							
AKASG	**Malin Array Be**	**16.27**	**5**	Pn		**Pn**	**01 22 29.5**	**-1.9**
	comp=E,0.5nm,0.3s,baz=197,slow=11,SNR=1.9							
ESDC	**Sonseca Array**	**25.05**	**291**	P		**P**	**01 24 06.2**	**-0.8**
	comp=E,0.3nm,0.6s,baz=78,slow=8.5,SNR=1.5							
TORD	**Tordi Ar. Bea**	**31.18**	**233**	P		**P**	**01 25 02.6**	**+0.7**
	comp=E,0.3nm,0.5s,baz=36,slow=8.3,SNR=1.8							
ARCES	**ARCESS Array B**	**35.08**	**359**	P		**P**	**01 25 33.4**	**-2.0**
	comp=E,1.1nm,0.8s,baz=173,slow=8.2,SNR=1.8							
MKAR	**Makanchi Array**	**42.97**	**56**	P		**P**	**01 26 43.1**	**+1.4**
	comp=E,0.4nm,0.6s,baz=269,slow=7.7,SNR=4.4							

*FUNV **23** 01:40:47.7, 10°.33N×70°.75W, h1km, MW3.2*
ISC 23 01:40:48.0±1.6, 10°.36N±0°.04×70.72W±0°.03, h10km±12km, n21, σ0§85/32, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DABV	**Dabajuro**	**0.56**	**8**	*e*P		**Pb**	**01 40 59.5**	**-0.6**
DABV				*e*S		**Sb**	**01 41 08.6**	**+0.4**
CURV	**Curarigua**	**0.82**	**115**	*e*P		**Pg**	**01 41 03.8**	**-0.1**
CURV				*e*S		**Sb**	**01 41 15.4**	**-0.1**
SIQV	**Siquisique**	**0.94**	**72**	*e*P		**Pb**	**01 41 06.6**	**+0.1**
SIQV				*e*S		**Sn**	**01 41 20.4**	**-0.4**
SDV	**Santo Domingo**	**1.47**	**177**	*e*P		**Pn**	**01 41 13.8**	**-0.9**
SDV				*e*S		**Sn**	**01 41 33.9**	**-0.2**
TEPV	**Terepaima**	**1.55**	**105**	*e*P		**Pg**	**01 41 16.7**	**-0.2**
TEPV				*e*S		**Sg**	**01 41 37.8**	**-0.3**
MONV	**Montecano**	**1.75**	**25**	*e*P		**Pn**	**01 41 18.3**	**-0.1**
MONV				*e*S		**Sb**	**01 41 42.5**	**+0.2**
MCQV	**Machiques**	**1.82**	**260**	*e*P		**Pn**	**01 41 18.3**	**-1.0**
MCQV				*e*S		**Sn**	**01 41 42.3**	**-0.1**
JACV	**Jacura**	**1.99**	**68**	*e*P		**Pn**	**01 41 22.7**	**+0.9**
SOCV	**Socops**	**2.07**	**184**	*e*P		**Pn**	**01 41 24.1**	**+1.3**
SOCV				*e*S		**Sn**	**01 41 48.4**	**-0.3**
CAPV	**Capacho**	**2.94**	**213**	*e*P		**Pn**	**01 41 34.6**	**-0.4**
CAPV				*e*S		**Sn**	**01 42 08.8**	**-1.7**
BAUV	**El Baul**	**2.99**	**118**	*e*P		**Pn**	**01 41 35.5**	**0.0**
BAUV				*e*S		**Sn**	**01 42 11.1**	**-0.3**
BENV	**Beln**	**3.09**	**97**	*e*P		**Pn**	**01 41 37.1**	**+0.1**
BENV				*e*S		**Sn**	**01 42 13.9**	**-0.2**
OCAC	**Ocana**	**3.32**	**231**	*e*P		**Pn**	**01 41 41.0**	**+0.7**
SMLC	**San Martn de**	**3.65**	**245**	*e*P		**Pn**	**01 41 44.7**	**+0.1**
BRRC	**Barranca, Sant**	**4.38**	**223**	*e*P		**Pn**	**01 41 56.6**	**+1.9**
SJCC	**San Jacinto, C**	**4.42**	**264**	*e*P		**Pn**	**01 41 56.6**	**+1.3**
BARC	**Barichara**	**4.47**	**213**	*e*P		**Pn**	**01 41 56.4**	**+0.3**
ZARC	**Zaragoza, Cauc**	**4.99**	**235**	*e*P		**Pn**	**01 42 03.2**	**+0.2**
RUSC	**La Rusia**	**5.02**	**208**	*e*P		**Pn**	**01 42 04.8**	**+1.0**
HELC	**Santa Helena**	**6.31**	**229**	*e*P		**Pn**	**01 42 23.6**	**+2.1**
GUY2C	**Guyana, Caldas**	**6.87**	**222**	*e*P		**Pn**	**01 42 29.5**	**+0.2**

*KRNET **23** 03:25:10.4±0.1, 40°.50N×77°.85E, mb3.1*
*SOME **23** 03:25:11.4, 40°.58N×77°.85E, h5km*
*NNC **23** 03:25:16.7±1.7, 40°.76N×77°.88E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=12.4km s-min=9.0km az=168.0*
ISC 23 03:25:13.1±2.1, 40°.47N±0°.09×77°.86E±0°.05, h10km, n49, σ1§39/78, 27C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.26**	**358**	⇑*i*P		**Pb**	**03 25 33.7**	**-3.5**
	baz=58							
TARG				⇑*i*S		**Sg**	**03 25 51.3**	**-2.5**
	baz=58							
KDJ	**Kajisay**	**1.74**	**343**	⇑*e*P		**Pn**	**03 25 42.6**	**-1.0**
	baz=43							
KDJ				⇑*i*S		**Sn**	**03 26 05.3**	**-0.6**
	baz=43							
PRZ	**Przheval'sk**	**2.06**	**11**	⇑*i*P		**Pn**	**03 25 48.1**	**+0.2**
	baz=12							
PRZ				⇑*i*S		**Sb**	**03 26 16.1**	**-0.2**
	baz=12							
ULHL	**Ulahol**	**2.16**	**326**	⇑*i*P		**Pn**	**03 25 49.3**	**0.0**
	baz=26							
ULHL				⇑*i*S		**Sb**	**03 26 18.0**	**-1.3**
	baz=26							
ANVS	**Anan'yevo**	**2.32**	**356**	⇑*i*P		**Pn**	**03 25 51.9**	**+0.4**
	baz=57							
ANVS				⇑*i*S		**Sn**	**03 26 21.9**	**+1.7**
	baz=57							
BOOM	**Boomskoye usch**	**2.49**	**325**	⇑*i*P		**Pn**	**03 25 53.9**	**+0.1**
	baz=25							
BOOM				⇑*i*S		**Sn**	**03 26 25.5**	**+1.2**
	baz=25							
SATY	**Saty**	**2.62**	**9**	*e*P		**Pb**	**03 25 59.0**	**-1.3**
	21nm,0.5s							
SATY				*e*S		**Sb**	**03 26 33.4**	**+0.8**
	11nm,0.3s							
SATY	**Saty**	**2.62**	**9**	Pg		**Pb**	**03 25 59.0**	**-1.3**
	21nm,0.5s							
SATY				Lg		Lg	03 26 33.4	
	11nm,0.3s							
IZV	**Izvestkoviy**	**2.73**	**340**	*e*P		**Pb**	**03 26 00.8**	**-1.4**
	10nm,0.2s							
IZV				*e*S		**Sb**	**03 26 37.0**	**+1.2**
	34nm,0.5s							
IZV	**Izvestkoviy**	**2.73**	**340**	Pg		**Pb**	**03 26 00.8**	**-1.4**
	10nm,0.2s							
IZV				Lg		Lg	03 26 37.0	
	34nm,0.5s							
MDOK	**Medeo**	**2.76**	**348**	*e*P		**Pb**	**03 26 00.9**	**-1.7**
	10nm,0.5s							
MDOK				*e*S		**Sb**	**03 26 37.1**	**+0.5**
	15nm,0.6s							
MDOK	**Medeo**	**2.76**	**348**	Pg		**Pb**	**03 26 00.9**	**-1.7**
	10nm,0.5s							
MDOK				Lg		Lg	03 26 37.1	
	15nm,0.6s							
UZB	**Uzynbulak**	**2.82**	**18**	*e*P		**Pb**	**03 26 02.0**	**-1.6**
	5.9nm,0.4s							
UZB				*e*S		**Sb**	**03 26 39.0**	**+0.9**
	8.5nm,0.6s							
UZB	**Uzynbulak**	**2.82**	**18**	Pg		**Pb**	**03 26 02.0**	**-1.6**
	5.9nm,0.4s							
UZB				Lg		Lg	03 26 39.0	
	8.5nm,0.6s							
KOTS	**Kotyrbulak**	**2.82**	**349**	*e*P		**Pb**	**03 26 02.5**	**-1.2**
	14nm,0.2s							
KOTS				*e*S		**Sb**	**03 26 39.6**	**+1.2**
	20nm,0.3s							
KOTS	**Kotyrbulak**	**2.82**	**349**	Pg		**Pb**	**03 26 02.5**	**-1.2**
	14nm,0.2s							
KOTS				Lg		Lg	03 26 39.6	
	20nm,0.3s							
KST	**Kastek**	**2.94**	**332**	*e*P		**Pb**	**03 26 04.3**	**-1.4**
	10nm,0.3s							
KST				*e*S		**Sb**	**03 26 42.8**	**+1.1**
	18nm,0.3s							
KST	**Kastek**	**2.94**	**332**	Pg		**Pb**	**03 26 04.3**	**-1.4**
	10nm,0.3s							
KST				Lg		Lg	03 26 42.8	
	18nm,0.3s							
SHLS	**Shalkode**	**2.94**	**23**	*e*P		**Pb**	**03 26 07.1**	**+1.4**
	12nm,0.4s							
SHLS				*e*S		**Sg**	**03 26 47.7**	**+0.1**
	22nm,0.5s							
SHLS	**Shalkode**	**2.94**	**23**	Pg		**Pb**	**03 26 07.1**	**+1.4**
	12nm,0.4s							
SHLS				Lg		Lg	03 26 47.7	
	22nm,0.5s							
TKM2	**Tokmak 2**	**2.98**	**326**	⇑*i*P		**Pn**	**03 26 00.9**	**+0.2**
	baz=26							
TKM2				⇑*i*S		**Sn**	**03 26 37.8**	**+1.2**
	baz=26							
TKM2	**Tokmak 2**	**2.98**	**326**	⇑Pn		**Pb**	**03 26 04.5**	**-1.9**
	2.5nm,0.5s							
TKM2				⇑Lg		Lg	03 26 43.6	
	6.4nm,0.6s							
ARLS	**Aral**	**3.02**	**299**	⇑*e*P		**Pn**	**03 26 01.2**	**+0.2**
	baz=98							
ARLS				⇑*i*S		**Sn**	**03 26 38.5**	**+1.2**
	baz=98							
KURS	**Kuram**	**3.03**	**4**	*e*P		**Pb**	**03 26 05.4**	**-1.7**
	11nm,0.5s							
KURS				*e*S		**Sb**	**03 26 44.5**	**+0.4**
	13nm,0.5s							
KURS	**Kuram**	**3.03**	**4**	Pg		**Pb**	**03 26 05.4**	**-1.7**
	11nm,0.5s							
KURS				Lg		Lg	03 26 44.5	
	13nm,0.5s							
KPKS	**Kokpek**	**3.06**	**11**	*e*P		**Pb**	**03 26 06.7**	**-1.0**
	31nm,0.4s							
KPKS				*e*S		**Sb**	**03 26 47.1**	**+2.0**
	34nm,0.5s							
KBK	**Karagaybulak**	**3.10**	**316**	⇑*e*P		**Pn**	**03 26 02.2**	**0.0**
	baz=16							
KBK				⇑*i*S		**Sn**	**03 26 40.1**	**+0.8**
	baz=16							
PDGK	**Podgornoye**	**3.11**	**22**	Pg		**Pb**	**03 26 06.7**	**-1.8**
	9.1nm,0.3s							
PDGK				Lg		Lg	03 26 47.1	
	5.6nm,0.5s							
PDGK	**Podgornoye**	**3.11**	**22**	⇓Pn		**Pb**	**03 26 06.1**	**-2.4**
	7.9nm,0.3s							
PDGK				⇓Lg		Lg	03 26 46.1	
	10nm,0.5s							
DGS	**Degeres**	**3.18**	**331**	*e*P		**Pb**	**03 26 08.5**	**-1.3**
	9.3nm,0.6s							
DGS				*e*S		**Sb**	**03 26 50.2**	**+1.6**
	16nm,0.5s							
DGS	**Degeres**	**3.18**	**331**	Pg		**Pb**	**03 26 08.5**	**-1.3**
	9.3nm,0.6s							
DGS				Lg		Lg	03 26 50.2	
	16nm,0.5s							
AAK	**Ala-Archa**	**3.33**	**312**	⇑*i*P		**Pn**	**03 26 05.6**	**+0.2**
	baz=11							
AAK				⇑*i*S		**Sn**	**03 26 46.0**	**+0.9**
	baz=11							
AAK	**Ala-Archa**	**3.33**	**312**	⇓Pn		**Pb**	**03 26 10.8**	**-1.5**
	1.4nm,0.3s							
AAK				⇑Lg		Lg	03 26 54.1	
	14nm,0.8s							
KTBS	**Karatobe**	**3.36**	**345**	*e*P		**Pb**	**03 26 11.2**	**-1.5**
	7.8nm,0.3s							
KTBS				*e*S		**Sb**	**03 26 54.9**	**+1.1**
	15nm,0.3s							
KTBS	**Karatobe**	**3.36**	**345**	Pg		**Pb**	**03 26 11.2**	**-1.5**
	7.8nm,0.3s							
KTBS				Lg		Lg	03 26 54.9	
	15nm,0.3s							
CHMS	**Chumysh**	**3.44**	**318**	⇑*i*P		**Pn**	**03 26 07.2**	**+0.4**
	baz=18							
CHMS				⇑*i*S		**Sn**	**03 26 48.7**	**+1.1**
	baz=18							
CHKK	**Chushkaly**	**3.45**	**349**	*e*P		**Pb**	**03 26 13.4**	**-0.9**
	7.0nm,0.5s							
CHKK				*e*S		**Sb**	**03 26 58.4**	**+2.2**
	15nm,0.3s							
CHKK	**Chushkaly**	**3.45**	**349**	Pg		**Pb**	**03 26 13.4**	**-0.9**
	7.0nm,0.5s							
CHKK				Lg		Lg	03 26 58.4	
	15nm,0.3s							
KTMS	**Ketmen**	**3.51**	**31**	*e*P		**Pb**	**03 26 13.7**	**-1.7**
	2.3nm,0.3s							
KTMS				*e*S		**Sb**	**03 26 59.0**	**+1.0**
	6.9nm,0.3s							
KTMS	**Ketmen**	**3.51**	**31**	Pg		**Pb**	**03 26 13.7**	**-1.7**
	2.3nm,0.3s							
KTMS				Lg		Lg	03 26 59.0	
	6.9nm,0.3s							
AML	**Almayashu**	**3.56**	**299**	⇓*i*P		**Pn**	**03 26 09.1**	**+0.4**
	baz=99							
AML				⇓*i*S		**Sn**	**03 26 52.2**	**+1.3**
	baz=99							
KUU	**Kurty**	**3.61**	**342**	*e*P		**Pb**	**03 26 15.8**	**-1.2**
	1.5nm,0.1s							
KUU				*e*S		**Sb**	**03 27 03.0**	**+2.2**
	7.1nm,0.4s							
KUU	**Kurty**	**3.61**	**342**	Pg		**Pb**	**03 26 15.8**	**-1.2**
	1.5nm,0.1s							
KUU				Lg		Lg	03 27 03.0	
	7.1nm,0.4s							
KRBS	**Karabastau**	**3.62**	**334**	*e*P		**Pb**	**03 26 15.8**	**-1.3**
	4.8nm,0.4s							
KRBS				*e*S		**Sb**	**03 27 02.9**	**+1.8**
	5.2nm,0.4s							
KRBS	**Karabastau**	**3.62**	**334**	Pg		**Pb**	**03 26 15.8**	**-1.3**
	4.8nm,0.4s							
KRBS				Lg		Lg	03 27 02.9	
	5.2nm,0.4s							
ARXS	**Arharly**	**3.75**	**360**	*e*P		**Pb**	**03 26 18.8**	**-0.5**
	6.5nm,0.4s							
ARXS				*e*S		**Sb**	**03 27 08.0**	**+3.1**
	35nm,0.5s							
ARXS	**Arharly**	**3.75**	**360**	Pg		**Pb**	**03 26 18.8**	**-0.5**
	6.5nm,0.4s							
ARXS				Lg		Lg	03 27 08.0	
	35nm,0.5s							
USP	**Ospenovka**	**3.76**	**319**	⇑*i*P		**Pn**	**03 26 11.4**	**+0.2**
	baz=19							
USP				⇑*i*S		**Sn**	**03 26 56.4**	**+0.9**
	baz=19							
SGDS	**Sogindy**	**3.84**	**322**	Pg		**Pb**	**03 26 20.1**	**-0.8**
	2.4nm,0.3s							
SGDS				Lg		Lg	03 27 10.2	
	4.7nm,0.4s							

*KRSC **23** 03:36:42.6±2.3, 49°.84N×156°.60E, h49km±24km, ML4.1*
*MOS **23** 03:36:43.9±1.1, 49°.85N×156°.32E, h65km, mb4.4/1, Error ellipse: s-maj=19.9km s-min=5.2km az=74.6*
ISC 23 03:36:44.7±1.3, 49°.91N±0°.10×156°.30E±0°.08, h71km±12km, n51, σ2§24/66, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.78**	**352**	*e*PN		**Pn**	**03 36 58.3**	**-2.3**
SKR				*e*S		**Sn**	**03 37 10.9**	**-1.4**
SKR				pmax		pmax		
	comp=Z,410nm,0.3s							
SKR				smax		smax		
	comp=E,1μm,0.6s							
SKR				smax		smax		
	comp=N,2μm,0.5s							
SKR	**Severo-Kuril's**	**0.78**	**352**	*e*P		**Pn**	**03 36 58.8**	**-1.8**
SKR				*e*S		**Sn**	**03 37 11.6**	**-0.7**
ALID	**Alaid**	**1.07**	**334**	PN		**Pn**	**03 37 03.0**	**-1.3**
ALID				S		**Sn**	**03 37 20.4**	**+1.6**
ALID	**Alaid**	**1.07**	**334**	*e*P		**Pn**	**03 37 03.0**	**-1.3**
ALID				*e*S		**Sn**	**03 37 20.4**	**+1.6**
PAU	**Pauzhetka**	**1.59**	**12**	PN		**Pn**	**03 37 10.6**	**-0.2**
PAU				S		**Sn**	**03 37 32.6**	**+2.0**
PAU	**Pauzhetka**	**1.59**	**12**	*e*P		**Pn**	**03 37 10.6**	**-0.2**
PAU				*e*S		**Sn**	**03 37 32.6**	**+2.0**
KDTR	**Khodutka, Kamc**	**2.21**	**30**	PN		**Pn**	**03 37 19.3**	**+0.2**
KDTR				S		**Sn**	**03 37 46.3**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.21**	**30**	*e*P		**Pn**	**03 37 19.3**	**+0.2**
KDTR				*e*S		**Sn**	**03 37 46.3**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.38**	**7**	PN		**Pn**	**03 37 21.8**	**+0.3**
MIPR	**Malaya Ipel'ka**	**2.38**	**7**	*e*P		**Pn**	**03 37 21.8**	**+0.3**
MTVR	**Mutnovka**	**2.83**	**24**	PN		**Pn**	**03 37 29.1**	**+1.4**
MTVR				S		**Sn**	**03 38 03.8**	**+3.0**
MTVR	**Mutnovka**	**2.83**	**24**	*e*P		**Pn**	**03 37 29.1**	**+1.4**
MTVR				*e*S		**Sn**	**03 38 03.8**	**+3.0**
GRL	**Gorelyy**	**2.87**	**22**	PN		**Pn**	**03 37 29.3**	**+1.1**
GRL	**Gorelyy**	**2.87**	**22**	*e*P		**Pn**	**03 37 29.3**	**+1.1**
RUS	**Russkaya**	**2.88**	**28**	PN		**Pn**	**03 37 28.2**	**-0.1**
RUS				S		**Sn**	**03 38 02.6**	**+0.8**
RUS	**Russkaya**	**2.88**	**28**	*e*P		**Pn**	**03 37 28.2**	**-0.1**
RUS				*e*S		**Sn**	**03 38 02.6**	**+0.8**
KRMR	**Karymshinskiy**	**3.14**	**21**	*e*S		**Sn**	**03 38 10.2**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.32**	**15**	*i* PN		Pn	03 37 29.6	-4.6
PET	**Petropavlovsk**	**3.45**	**24**	*e*PN		**Pn**	**03 37 36.7**	**+0.8**
PET				*e*S		**Sn**	**03 38 19.0**	**+3.5**
PET				smax		smax		
	comp=N,34nm,0.5s							
PET				smax		smax		
	comp=E,38nm,0.6s							
PET	**Petropavlovsk**	**3.45**	**24**	*e*S		**Sn**	**03 38 16.1**	**+0.6**
UGLR	**Uglovaya**	**3.66**	**25**	PN		**Pn**	**03 37 41.3**	**+2.4**
UGLR	**Uglovaya**	**3.66**	**25**	*e*P		**Pn**	**03 37 41.3**	**+2.4**
KOK	**Koryaka**	**3.69**	**22**	PN		**Pn**	**03 37 42.2**	**+2.9**
KOK	**Koryaka**	**3.69**	**22**	*e*P		**Pn**	**03 37 42.2**	**+2.9**
AVH	**Avacha**	**3.69**	**23**	PN		**Pn**	**03 37 42.6**	**+3.3**
AVH	**Avacha**	**3.69**	**23**	*e*P		**Pn**	**03 37 42.6**	**+3.3**
KRER	**Koryakskii**	**3.72**	**23**	PN		**Pn**	**03 37 42.6**	**+2.7**
KRER	**Koryakskii**	**3.72**	**23**	*e*P		**Pn**	**03 37 42.6**	**+2.7**
KRX	**Arik**	**3.75**	**22**	PN		**Pn**	**03 37 43.1**	**+2.9**
KRX	**Arik**	**3.75**	**22**	*e*P		**Pn**	**03 37 43.1**	**+2.9**
NLC	**Nalytchevo**	**3.78**	**29**	*e*S		**Sn**	**03 38 25.0**	**+1.4**
GNL	**Ganaly**	**3.92**	**14**	PN		**Pn**	**03 37 45.4**	**+2.9**
GNL	**Ganaly**	**3.92**	**14**	*e*P		**Pn**	**03 37 45.4**	**+2.9**
SPN	**Mys Shipunski**	**3.95**	**35**	PN		**Pn**	**03 37 43.1**	**+0.3**
SPN				S		**Sn**	**03 38 28.3**	**+0.5**
SPN	**Mys Shipunski**	**3.95**	**35**	*e*P		**Pn**	**03 37 43.1**	**+0.3**
SPN				*e*S		**Sn**	**03 38 28.3**	**+0.5**
MKZ	**Mys Kozlova**	**5.72**	**34**	PN		**Pn**	**03 38 07.3**	**+0.3**
MKZ	**Mys Kozlova**	**5.72**	**34**	*e*P		**Pn**	**03 38 07.3**	**+0.3**
TUMR	**Tumrok**	**5.87**	**22**	PN		**Pn**	**03 38 12.2**	**+3.1**
TUMR	**Tumrok**	**5.87**	**22**	*e*P		**Pn**	**03 38 12.2**	**+3.1**
KMNR	**Kamenistaya**	**6.32**	**21**	PN		**Pn**	**03 38 18.2**	**+3.0**
KMNR	**Kamenistaya**	**6.32**	**21**	*e*P		**Pn**	**03 38 18.2**	**+3.0**
KBTR	**Krutoberegovo**	**7.43**	**29**	PN		**Pn**	**03 38 31.7**	**+1.5**
KBTR	**Krutoberegovo**	**7.43**	**29**	*e*P		**Pn**	**03 38 31.7**	**+1.5**
BKI	**Bering**	**7.92**	**44**	*e*S		**Sn**	**03 40 01.1**	**-3.9**
YSS	**Yuzh-Sakhalins**	**9.48**	**257**	*e*PN		**Pn**	**03 39 02.2**	**+3.9**
ERM	**Erimo**	**12.07**	**234**	*e*PN		**Pn**	**03 39 35.5**	**+1.9**
SEY	**Seymchan**	**13.23**	**352**	*e*PN		**Pn**	**03 39 45.0**	**-4.2**
KLR	**Kul'dur**	**15.92**	**277**	*e*P		**Pn**	**03 40 25.5**	**+1.3**
MAJO	**Matsushiro**	**18.70**	**231**	*i* P		**Pn**	**03 40 58.8**	**+0.4**
BILL	**Bilibino**	**18.84**	**12**	⇑*e*P		**P**	**03 40 53.2**	**-5.4**
BILL				S		**S**	**03 44 25.0**	**-3.6**
COCO	**West Island**	**80.73**	**239**	*i* P		**P**	**03 48 49.2**	**-0.9**

*SOME **23** 03:48:52.7, 40°.50N×79°.33E, h10km*
*KRNET **23** 03:48:52.9±0.1, 40°.34N×78°.98E, mb3.1*
*NNC **23** 03:48:56.0±1.4, 40°.65N×79°.28E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=9.5km s-min=7.8km az=148.0*
ISC 23 03:48:57.8±2.3, 40°.6N±0°.1×79°.22E±0°.05, h10km, n40, σ1§14/62, 18C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.52**	**316**	⇑*i*P		**Pn**	**03 49 23.7**	**-1.7**
	baz=28							
TARG				⇑*i*S		**Sb**	**03 49 46.3**	**+0.5**
	baz=28							
PRZ	**Przheval'sk**	**1.94**	**342**	⇑*i*P		**Pb**	**03 49 32.7**	**-0.6**
	baz=49							
PRZ				⇑*i*S		**Sg**	**03 50 01.6**	**+1.6**
	baz=49							
KDJ	**Kajisay**	**2.13**	**315**	⇑*i*P		**Pn**	**03 49 33.2**	**-0.4**
	baz=24							
KDJ				⇑*i*S		**Sb**	**03 50 02.4**	**-0.8**
	baz=24							
ANVS	**Anan'yevo**	**2.43**	**332**	⇑*i*P		**Pn**	**03 49 38.8**	**+1.1**
	baz=38							
ANVS				⇑*i*S		**Sb**	**03 50 12.1**	**+0.3**
	baz=38							
SATY	**Saty**	**2.49**	**346**	*e*P		**Pb**	**03 49 42.2**	**-0.4**
	11nm,0.8s							
SATY				*e*S		**Sg**	**03 50 18.0**	**+0.3**
	36nm,0.4s							
SATY	**Saty**	**2.49**	**346**	Pg		**Pb**	**03 49 42.3**	**-0.4**
	11nm,0.8s							
SATY				Lg		Lg	03 50 18.0	
	36nm,0.4s							
UZB	**Uzynbulak**	**2.50**	**357**	*e*P		**Pn**	**03 49 40.1**	**+1.4**
	7.2nm,0.5s							
UZB				*e*S		**Sb**	**03 50 14.5**	**+0.6**
	19nm,0.7s							
UZB	**Uzynbulak**	**2.50**	**357**	Pg		**Pn**	**03 49 40.1**	**+1.4**
	7.2nm,0.5s							
UZB				Lg		Lg	03 50 14.5	
	19nm,0.7s							
SHLS	**Shalkode**	**2.52**	**4**	*e*P		**Pb**	**03 49 42.4**	**-0.7**
	12nm,0.5s							
SHLS				*e*S		**Sg**	**03 50 17.9**	**-0.7**
	17nm,0.6s							
SHLS	**Shalkode**	**2.52**	**4**	Pg		**Pb**	**03 49 42.4**	**-0.7**
	12nm,0.5s							
SHLS				Lg		Lg	03 50 17.9	
	17nm,0.6s							
PDGK	**Podgornoye**	**2.69**	**4**	Pg		**Pn**	**03 49 43.2**	**+1.9**
	1.6nm,0.8s							
PDGK				Lg		Lg	03 50 19.3	
	9.7nm,0.8s							
PDGK	**Podgornoye**	**2.69**	**4**	⇓Pn		**Pn**	**03 49 41.8**	**+0.6**
	6.1nm,0.7s							
PDGK				⇑Lg		Lg	03 50 19.3	
	19nm,0.7s							
ULHL	**Ulahol**	**2.75**	**307**	⇑*i*P		**Pn**	**03 49 41.2**	**-0.9**
	baz=14							

TKM2	**Tokmak 2**	**3.54**	**311**	⇑Pn		**Pn**	**03 49 53.7**	**+0.8**
	1.8nm,0.5s							
TKM2				⇑Lg		Lg	03 50 47.5	
	8.5nm,0.6s							
KTBS	**Karatobe**	**3.60**	**329**	*eP*		**Pb**	**03 50 02.6**	**+1.1**
	2.7nm,0.4s							
KTBS				*eS*		**Sg**	**03 50 53.0**	**-0.2**
	15nm,0.8s							
KTBS	**Karatobe**	**3.60**	**329**	Pg		**Pb**	**03 50 02.6**	**+1.1**
	2.7nm,0.4s							
KTBS				Lg		Lg	03 50 53.1	
	15nm,0.8s							
DGS	**Degeres**	**3.65**	**316**	*eP*		**Pb**	**03 50 02.5**	**0.0**
	4.5nm,0.8s							
DGS				*eS*		**Sg**	**03 50 53.0**	**-2.0**
	7.4nm,0.6s							
DGS	**Degeres**	**3.65**	**316**	Pg		**Pb**	**03 50 02.5**	**0.0**
	4.5nm,0.8s							
DGS				Lg		Lg	03 50 53.0	
	7.4nm,0.6s							
ARXS	**Arharly**	**3.71**	**344**	*eP*		**Pb**	**03 50 03.3**	**-0.1**
	4.7nm,0.6s							
ARXS				*eS*		**Sg**	**03 50 54.2**	**-2.7**
	4.1nm,0.6s							
ARXS	**Arharly**	**3.71**	**344**	Pg		**Pb**	**03 50 03.3**	**-0.1**
	4.7nm,0.6s							
ARXS				Lg		Lg	03 50 54.2	
	4.1nm,0.6s							
KUU	**Kurty**	**3.89**	**328**	*eP*		**Pb**	**03 50 06.6**	**+0.2**
	2.9nm,0.6s							
KUU				*eS*		**Sg**	**03 50 59.9**	**-2.6**
	9.6nm,0.8s							
KUU	**Kurty**	**3.89**	**328**	Pg		**Pb**	**03 50 06.6**	**+0.2**
	2.9nm,0.6s							
KUU				Lg		Lg	03 50 59.9	
	9.6nm,0.8s							
KRBS	**Karabastau**	**4.03**	**320**	*eP*		**Pb**	**03 50 09.5**	**+0.7**
	2.5nm,0.8s							
KRBS				*eS*		**Sg**	**03 51 04.8**	**-2.3**
	2.7nm,0.6s							
KRBS	**Karabastau**	**4.03**	**320**	Pg		**Pb**	**03 50 09.5**	**+0.7**
	2.5nm,0.8s							
KRBS				Lg		Lg	03 51 04.8	
	2.7nm,0.6s							
AAK	**Ala-Archa**	**4.06**	**301**	⇓Pn		**Pn**	**03 50 00.2**	**+0.1**
	3.3nm,0.8s							
AAK				⇑Lg		Lg	03 51 00.3	
	5.3nm,0.7s							

NEIC ***23*** *04:05:14.3±1.4,24°.24S±0°.07×67°.39W±0°.08, h203km±14km, Error ellipse: s-maj=11.3km s-min=9.5km az=117.0*
IDC ***23*** *04:05:14.9±2.6,24°.07S×67°.11W,h175km±36km, mb3.2/1, mb1 3.3/5, mb1mx3.1/40, mbtmp3.7/5, Error ellipse: s-maj=42.5km s-min=33.5km az=128.0*
GUC ***23*** *04:05:15.6±0.6,24°.18S×67°.53W,h208km±8km, ML4.1*

ISC 23 04:05:13.9±0.7,24°.19S±0°.05×67°.38W±0°.09, h202km±12km, n46, σ1§01/64, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.11**	**318**	P	**Pn**	**04 05 54.9**	**+0.8**
	4.6nm,0.3s,baz=129,slow=6.5,SNR=41						
LVC				S	**S**	**04 06 24.6**	**-0.3**
	16nm,0.3s,baz=126,slow=2.9,SNR=70						
LVC	**Limon Verde**	**2.11**	**318**	*eP*	**Pn**	**04 05 54.9**	**+0.8**
LVC				*eS*	**S**	**04 06 24.9**	**0.0**
PB15	**IPOC Station P**	**2.15**	**297**	⇑*i* P	**Pn**	**04 05 55.3**	**+0.9**
PB15				*i* S	**S**	**04 06 25.5**	**+0.1**
PB15	**IPOC Station P**	**2.15**	**297**		**Pn**	**04 05 55.6**	**+1.2**
PB15				Sn	**S**	**04 06 25.4**	**+0.1**
GO02	**Mina Guanaco**	**2.23**	**244**	⇑*i* P	**Pn**	**04 05 55.9**	**+0.6**
GO02				*i* S	**S**	**04 06 27.6**	**+0.6**
GO02	**Mina Guanaco**	**2.23**	**244**	Pn	**Pn**	**04 05 56.1**	**+0.8**
GO02				Sn	**S**	**04 06 27.5**	**+0.6**
PB06	**IPOC Station P**	**2.50**	**306**	⇑*i* P	**Pn**	**04 05 59.0**	**+1.0**
PB06				*i* S	**S**	**04 06 31.8**	**-0.2**
PB06				IAML		04 06 33.7	
	comp=N,348nm,0.3s						
PB06	**IPOC Station P**	**2.50**	**306**		**Pn**	**04 05 59.1**	**+1.0**
PB06				Sn	**S**	**04 06 31.9**	**0.0**
PB14	**IPOC Station P**	**2.79**	**260**	Pn	**Pn**	**04 06 01.8**	**+0.2**
PB05	**IPOC Station P**	**2.92**	**297**	⇑*i* P	**Pn**	**04 06 03.7**	**+0.9**
PB05				*eS*	**S**	**04 06 39.5**	**-0.8**
PB10	**IPOC Station P**	**2.98**	**282**	⇓*i* P	**Pn**	**04 06 04.1**	**+0.6**
PB10				*i* S	**S**	**04 06 40.9**	**-0.7**
PB10	**IPOC Station P**	**2.98**	**282**	Pn	**Pn**	**04 06 05.0**	**+1.6**
PB10					**S**	**04 06 42.2**	**+0.6**
PB03	**IPOC Station P**	**3.06**	**314**	⇓*i* P	**Pn**	**04 06 05.4**	**+0.9**
PB03				*i* S	**S**	**04 06 42.7**	**-0.6**
PB03				IAML		04 06 43.9	
	comp=E,248nm,0.2s						
AC02	**Maricunga**	**3.07**	**211**	Pn	**Pn**	**04 06 05.6**	**+0.6**
PB04	**IPOC Station P**	**3.15**	**305**	⇓*i* P	**Pn**	**04 06 06.6**	**+1.0**
PB04				*i* S	**S**	**04 06 44.6**	**-0.8**
PB04				IAML		04 06 47.0	
	comp=N,360nm,0.2s						
PB04	**IPOC Station P**	**3.15**	**305**		**Pn**	**04 06 06.6**	**+1.0**
PB07	**IPOC Station P**	**3.37**	**316**	⇓*i* P	**Pn**	**04 06 09.1**	**+0.8**
PB07				*i* S	**S**	**04 06 48.9**	**-1.3**
PB07				IAML		04 06 51.0	
	comp=E,290nm,0.6s						
PB07	**IPOC Station P**	**3.37**	**316**		**Pn**	**04 06 09.2**	**+1.0**
AC01	**Pan de Azucar**	**3.51**	**236**	⇑*i* P	**Pn**	**04 06 09.4**	**-0.3**
AC01				*i* S	**S**	**04 06 50.9**	**-2.0**
AC01				IAML		04 06 52.5	
	comp=E,122nm,0.4s						
AC01	**Pan de Azucar**	**3.51**	**236**	Pn	**Pn**	**04 06 09.6**	**-0.1**
PB01	**IPOC Station P**	**3.69**	**328**	⇓*i* P	**Pn**	**04 06 12.3**	**+0.2**
PB01				*i* S	**S**	**04 06 55.7**	**-1.4**
PB01				IAML		04 06 58.9	
	comp=E,92nm,0.5s						
PB01	**IPOC Station P**	**3.69**	**328**		**Pn**	**04 06 12.7**	**+0.6**
GO03	**Copiap**	**4.25**	**217**	Pn	**Pn**	**04 06 18.4**	**-0.5**
PB08	**IPOC Station P**	**4.35**	**337**		**Pn**	**04 06 21.6**	**+1.0**
PB08					**S**	**04 07 12.8**	**+0.3**
TA01	**Diego Aracena**	**4.44**	**324**	Pn	**Pn**	**04 06 22.4**	**+1.0**
TA02	**Huaiquique**	**4.66**	**326**	Pn	**Pn**	**04 06 25.1**	**+1.0**
PB11	**IPOC Station P**	**4.89**	**334**	*eP*	**Pn**	**04 06 27.0**	**-0.2**
PB11				*i* S	**S**	**04 07 21.5**	**-2.9**
PB11				IAML		04 07 31.5	
	comp=E,35nm,0.4s						
PB11	**IPOC Station P**	**4.89**	**334**		**Pn**	**04 06 26.9**	**-0.2**
AC04	**Llanos de Chal**	**5.19**	**219**		**Pn**	**04 06 29.1**	**-1.6**
PSGCX	**Pisagua**	**5.24**	**330**		**Pn**	**04 06 30.5**	**-1.0**
MNMC	**Minye Minye**	**5.44**	**337**	Pn	**Pn**	**04 06 34.5**	**+0.2**
PB16	**IPOC Station P**	**6.16**	**341**		**Pn**	**04 06 44.0**	**+0.2**
GO04	**Tololo Observa**	**6.69**	**206**	Pn	**Pn**	**04 06 48.7**	**-1.5**
CO03	**El Pedregal**	**7.24**	**203**	Pn	**Pn**	**04 06 56.7**	**-0.6**
CO02	**Combarbal**	**7.69**	**204**	Pn	**Pn**	**04 07 02.5**	**-0.6**
LPAZ	**La Paz**	**7.90**	**355**	P	**Pn**	**04 07 07.7**	**+1.2**
	comp=E,1.0nm,0.3s,baz=166,slow=8.1,SNR=42						
LPAZ				S	**S**	**04 08 34.5**	**-1.4**
	comp=E,0.1nm,0.3s,baz=344,slow=15,SNR=4.5						
LPAZ	**La Paz**	**7.90**	**355**	Pn	**Pn**	**04 07 06.8**	**+0.4**
CPUP	**Villa Florida**	**9.34**	**105**	Pn	**Pn**	**04 07 25.2**	**+0.7**
SIV	**San Ignacio**	**10.08**	**37**	P	**Pn**	**04 07 31.7**	**-2.6**
	comp=E,0.3nm,0.3s,baz=208,slow=10,SNR=8.2						
ITAB	**Concordia**	**14.07**	**106**		**Pn**	**04 08 24.5**	**-0.2**
TRQA	**Tornquist**	**14.57**	**163**		**Pn**	**04 08 29.6**	**-1.0**
PLCA	**Paso Flores**	**16.71**	**188**	P	Pn	04 09 05.9	+9.4
	comp=E,0.3nm,0.3s,baz=2.9,slow=8.7,SNR=5.1						
BDFB	**Brasilia**	**20.08**	**69**	P	**P**	**04 09 32.3**	**+0.1**
	comp=E,0.5nm,0.3s,baz=262,slow=11,SNR=11						
BDFB	**Brasilia**	**20.08**	**69**	P	**P**	**04 09 32.3**	**+0.1**
BDFB				IAmb	IAmb	04 09 33.2	
	comp=Z,5.5nm,0.7s						
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**04 15 38.8**	**+0.2**
QSPA				IAmb	IAmb	04 15 49.9	
	comp=Z,2.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.96**	**69**	P	**P**	**04 16 46.7**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=258,slow=5.5,SNR=1.8						

ISK ***23*** *04:05:51.2,38°.64N×43°.23E,h5km, ML2.6/7*
DDA ***23*** *04:05:51.8,38°.63N×43°.25E,h7km±4km, ML2.0*

ISC 23 04:05:51.8±0.9,38°.63N±0°.04×43°.26E±0°.03,h16km±7km, n15, σ0§68/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**		**0.11**	**109**	PG	**Pg**	**04 05 55.4**	**-0.1**
VANB					SG	**Sg**	**04 05 58.9**	**+0.9**
TVAN	**Van**		**0.16**	**131**	*i* P	**Pg**	**04 05 55.3**	**-0.8**
TVAN					*i* S	**Sg**	**04 05 59.0**	**0.0**
GEVA	**Gevas**		**0.35**	**206**	*i* P	**Pg**	**04 05 58.8**	**-0.4**
GEVA					IAML		04 06 06.0	
	comp=E,198nm,0.3s							
GEVA					IAML		04 06 07.0	
	comp=N,227nm,0.4s							
AKDM	**Akdamar-Van**		**0.37**	**216**	PG	**Pg**	**04 05 59.3**	**-0.2**
VMUR	**Van-Muradiye**		**0.43**	**35**	*i* P	**Pb**	**04 06 01.1**	**0.0**
VMUR					IAML		04 06 09.0	
	comp=E,545nm,0.6s							
VMUR					*i* S	**Sb**	**04 06 09.0**	**+1.5**
VMUR					IAML		04 06 10.0	
	comp=N,424nm,0.2s							
ADCV	**BITLIS_Adilcev**		**0.45**	**293**	*i* P	**Pg**	**04 06 00.7**	**-0.3**
ADCV					*i* S	**Sb**	**04 06 08.4**	**+0.4**
ADCV					IAML		04 06 09.0	
	comp=E,220nm,0.4s							
ADCV					IAML		04 06 09.0	
	comp=N,189nm,0.5s							
CLDR	**Caldiran**		**0.73**	**45**	*i* P	**Pg**	**04 06 05.1**	**-1.0**
CLDR					*i* S	**Sb**	**04 06 16.5**	**+0.6**
CLDR					IAML		04 06 18.0	
	comp=E,79nm,0.8s							
CLDR					IAML		04 06 19.0	
	comp=N,55nm,0.4s							
CLDR	**Caldiran**		**0.73**	**45**	PG	**Pg**	**04 06 05.3**	**-0.8**
CLDR					SG	**Sb**	**04 06 16.4**	**+0.4**
MLAZ	**Malazgirt-MUS**		**0.75**	**313**	PG	**Pg**	**04 06 06.5**	**0.0**
GURO	**Guroymak-BITLI**		**0.96**	**266**	PG	**Pb**	**04 06 09.1**	**-1.0**
GURO					SG	**Sb**	**04 06 22.7**	**+0.1**
AGRB	**Hanur-Agry**		**0.96**	**348**	PG	**Pb**	**04 06 09.7**	**-0.5**
AGRB					SG	**Sn**	**04 06 24.1**	**-0.2**
KOTA	**Agri, Merkez-K**		**1.17**	**358**	*i* P	**Pn**	**04 06 13.3**	**-0.4**
KOTA					*i* S	**Sg**	**04 06 30.4**	**+0.6**
KOTA					IAML		04 06 35.0	
	comp=N,23nm,0.9s							
KOTA					IAML		04 06 36.0	
	comp=E,21nm,0.6s							
MUSM	**Mu-Merkez**		**1.37**	**274**	*i* P	**Pn**	**04 06 16.1**	**-0.2**
MUSM					*i* S	**Sg**	**04 06 36.2**	**+0.2**
MUSM					IAML		04 06 37.0	
	comp=N,14nm,0.6s							
MUSM					IAML		04 06 38.0	
	comp=E,14nm,0.8s							
CUKT	**Cukurca**		**1.41**	**168**	PN	**Pg**	**04 06 18.7**	**-0.2**
SVAN	**Silvan-Diyarba**		**1.69**	**254**	PN	**Pn**	**04 06 21.8**	**+1.2**

KRSC 23 04:27:54.4±0.8,55°.17N×162°.06E,h91km±14km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.64**	**198**	*i* P	Pn	04 28 12.0	+1.6
MKZ				*eS*	Sn	04 28 24.0	+1.7
TUMD	**Tumrok D**	**0.95**	**273**	*eP*	Pn	04 28 14.9	+1.3
TUMD				*eS*	Sn	04 28 28.9	+0.8
KZV	**Kizimen**	**1.02**	**268**	*i* P	Pn	04 28 15.9	+1.5
KZV				*eS*	Sn	04 28 30.3	+0.8
BZGR	**Bezymyannyi-Gr**	**1.10**	**316**	*i* P	Pn	04 28 16.7	+1.4
BZGR				*eS*	Sn	04 28 32.1	+1.0
TUMR	**Tumrok**	**1.10**	**277**	*eP*	Pn	04 28 17.4	+2.0
TUMR				*eS*	Sn	04 28 32.8	+1.5
KBTR	**Krutoberegovo**	**1.13**	**22**	*eP*	Pn	04 28 17.2	+1.6
KBTR				*eS*	Sn	04 28 32.9	+1.3
KBG	**Krutoberegovo**	**1.15**	**18**	*eP*	Pn	04 28 17.3	+1.5
KBG				*eS*	Sn	04 28 33.4	+1.4
BZMR	**Bezymyannaya**	**1.18**	**311**	*eP*	Pn	04 28 17.9	+1.6
KMNR	**Kamenistaya**	**1.20**	**300**	*eP*	Pn	04 28 18.0	+1.5
KMNR				*eS*	Sn	04 28 34.7	+1.5
BZWR	**Bezymyannyi-We**	**1.20**	**313**	*eP*	Pn	04 28 17.9	+1.3
LGNR	**Loginova**	**1.20**	**320**	*i* P	Pn	04 28 18.7	+1.9
CIRR	**Tsirk**	**1.21**	**322**	*eP*	Pn	04 28 18.3	+1.6
KIRR	**Kirishev**	**1.25**	**310**	*eP*	Pn	04 28 18.8	+1.5
KIRR				*eS*	Sn	04 28 36.3	+1.8
KLY	**Klyuchi**	**1.40**	**326**	*eP*	Pn	04 28 19.4	+0.6
KLY				*eS*	Sn	04 28 37.2	-0.1
SMKR	**Semkarok**	**1.46**	**347**	*eP*	Pn	04 28 21.6	+1.9
SMKR				*eS*	Sn	04 28 41.2	+2.4
BDR	**Baidarnaya**	**1.48**	**341**	*eP*	Pn	04 28 22.0	+2.0
BDR				*eS*	Sn	04 28 42.0	+2.6
KOZ	**Kozyrevsk**	**1.53**	**307**	*eP*	Pn	04 28 22.5	+2.0
KOZ				*eS*	Sn	04 28 42.5	+2.2
SRKR	**Sorokina**	**1.57**	**342**	*eP*	Pn	04 28 22.8	+1.7
SRDR	**Sredinnyy**	**1.76**	**312**	*eP*	Pn	04 28 24.7	+1.2
KII	**Karymskiy**	**1.90**	**234**	*eP*	Pn	04 28 27.7	+2.4
KII				*eS*	Sn	04 28 51.5	+2.7
ESO	**Esso**	**2.06**	**293**	*eP*	Pn	04 28 29.3	+2.0
ESO				*eS*	Sn	04 28 53.2	+0.7
BKI	**Bering**	**2.24**	**87**	*i* P	Pn	04 28 31.6	+1.9
BKI				*eS*	Sn	04 28 57.3	+0.5
SPN	**Mys Shipunski**	**2.39**	**211**	*eP*	Pn	04 28 32.8	+1.1
SPN				*eS*	Sn	04 28 59.8	-0.6
NLC	**Nalytchevo**	**2.56**	**220**	*eP*	Pn	04 28 36.2	+2.3
NLC				*eS*	Sn	04 29 05.4	+1.1
SDLR	**Sedlovina**	**2.66**	**226**	*i* P	Pn	04 28 38.0	+2.6
SDLR				*eS*	Sn	04 29 08.2	+1.3
KRER	**Koryakskii**	**2.69**	**228**	*i* P	Pn	04 28 39.4	+3.5
KRX	**Arik**	**2.70**	**229**	*eP*	Pn	04 28 38.9	+3.0
SMAR	**Somma**	**2.70**	**226**	*eP*	Pn	04 28 38.4	+2.3
AVH	**Avacha**	**2.73**	**227**	*eP*	Pn	04 28 39.5	+3.2
AVH				*eS*	Sn	04 29 11.0	+2.5
UGLR	**Uglovaya**	**2.73**	**225**	*i* P	Pn	04 28 39.2	+2.8
UGLR				*eS*	Sn	04 29 10.4	+1.8
KOK	**Koryaka**	**2.75**	**228**	*i* P	Pn	04 28 39.4	+2.8
GNL	**Ganaly**	**2.82**	**240**	*eP*	Pn	04 28 40.5	+2.9
DALK	**Dalny**	**2.89**	**224**	*eP*	Pn	04 28 41.0	+2.6
DALK				*eS*	Sn	04 29 13.6	+1.3
PET	**Petropavlovsk**	**2.94**	**224**	*eP*	Pn	04 28 41.9	+2.9
PET				*eS*	Sn	04 29 15.4	+2.0
KRMR	**Karymshinskiy**	**3.30**	**226**	*eP*	Pn	04 28 48.1	+4.3
KRMR				*eS*	Sn	04 29 25.5	+3.5
RUS	**Russkaya**	**3.45**	**219**	*i* P	Pn	04 28 47.9	+2.0
RUS				*eS*	Sn	04 29 25.9	+0.1
GRL	**Gorelyy**	**3.53**	**224**	*eP*	Pn	04 28 50.5	+3.5
MTVR	**Mutnovka**	**3.54**	**222**	*eP*	Pn	04 28 50.4	+3.2
MTVR				*eS*	Sn	04 29 29.3	+1.2
KDTR	**Khodutka, Kamc**	**4.12**	**217**	*eP*	Pn	04 28 56.9	+2.0
KDTR				*eS*	Sn	04 29 40.9	-1.0
OSSR	**Ossora**	**4.13**	**7**	*eP*	Pn	04 28 57.0	+2.0
ALID	**Alaid**	**5.83**	**225**	*eP*	Pn	04 29 21.3	+3.0

IDC 23 05:08:20.2±45.0,29°.67S×178°.78E,h650km±439km, mb2.9/3, mb1 3.1/3, mb1mx2.8/25, mbtmp4.1/3, Error ellipse: s-maj=392.0km s-min=141.9km az=117.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.92**	**280**	P	P	05 13 47.8	+0.4
	2.3nm,0.4s,baz=94,slow=10,SNR=1.4						
ASAR	**Alice Springs**	**40.35**	**268**	P	P	05 15 04.3	-0.3
	0.4nm,0.3s,baz=101,slow=7.3,SNR=7.5						
WRA	**Warramunga Arr**	**41.28**	**273**	P	P	05 15 12.1	+0.2
	1.1nm,0.3s,baz=110,slow=8.1,SNR=44						
FINES	**FINESS Array B**	**143.47**	**338**	PKP	PKPab	05 26 41.2	+0.3
	1.9nm,0.4s,baz=63,slow=3.7,SNR=15						

IDC ***23*** *05:19:43.7±2.8,23°.01S×179°.99W,h523km±25km, mb3.5/5, mb1 3.9/5, mb1mx3.3/30, mbtmp4.4/5, Error ellipse: s-maj=108.0km s-min=19.6km az=157.0*
NEIC ***23*** *05:19:44.7±1.4,23°.5S±0°.2×179°.8W±0°.1,h543km±11km, mb4.5/22, Error ellipse: s-maj=24.2km s-min=14.1km az=162.0*

ISC 23 05:19:44.8±0.7,23°.4S±0°.1×179°.8W±0°.1,h550km,n34, σ1§16/36, mb4.5/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.96**	**340**	P	**P**	**05 21 21.4**	**-1.8**
NIUE	**Niue**	**10.14**	**67**	P	**P**	**05 22 03.9**	**-0.4**
PINNC	**Pines Island,**	**11.78**	**271**	P	**P**	**05 22 22.3**	**+1.3**
QRZ	**Quartz Range**	**18.57**	**199**	P	**P**	**05 23 26.9**	**-0.7**
NNZ	**Nelson**	**18.70**	**196**	P	**P**	**05 23 27.0**	**-1.7**
TUWZ	**Tuamarina**	**18.76**	**195**	P	**P**	**05 23 27.4**	**-2.0**
THZ	**Tophouse**	**19.33**	**197**	P	**P**	**05 23 33.0**	**-1.7**
THZ				IAmb	IAmb	05 23 42.5	
	comp=Z,32nm,1.4s						
MLZ	**Mavora Lakes**	**24.05**	**201**	P	**P**	**05 24 17.1**	**+0.1**
MLZ				IAmb	IAmb	05 24 19.4	
	comp=Z,16nm,1.2s						
WHZ	**Wether Hill Ro**	**24.57**	**201**	P	**P**	**05 24 21.2**	**-0.3**
WHZ				IAmb	IAmb	05 24 24.3	
	comp=Z,24nm,1.3s						
ARMA	**Armidale**	**26.39**	**248**	P	**P**	**05 24 38.4**	**+0.5**
ARMA				IAmb	IAmb	05 25 07.0	
	comp=Z,15nm,1.4s						
EIDS	**Eidsvold**	**26.58**	**260**	P	**P**	**05 24 40.1**	**+0.6**
EIDS				IAmb	IAmb	05 24 58.5	
	comp=Z,21nm,1.5s						
CTAO	**Charters Tower**	**31.66**	**269**	P	**P**	**05 25 24.6**	**+0.9**
STKA	**Stephens Creek**	**35.10**	**247**	P	**P**	**05 25 52.6**	**+0.2**
	comp=Z,3.6nm,0.4s,baz=98,slow=12,SNR=11						
STKA	**Stephens Creek**	**35.10**	**247**	P	**P**	**05 25 52.4**	**-0.1**
BBOO	**Buckleboo**	**39.83**	**246**	P	**P**	**05 26 30.2**	**-0.8**
AS31	**Alice Springs**	**42.31**	**260**	P	**P**	**05 26 50.4**	**-0.5**
ASAR	**Alice Springs**	**42.31**	**260**	P	**P**	**05 26 50.7**	**-0.2**
	comp=Z,4.8nm,0.4s,baz=96,slow=7.3,SNR=76						
ASAR				ScP	**ScP**	**05 31 33.0**	**+2.8**
	comp=Z,0.7nm,0.8s,baz=103,slow=4.0,SNR=4.7						
ASAR	**Alice Springs**	**42.31**	**260**	P	**P**	**05 26 50.5**	**-0.3**
WR0	**Warramunga Arr**	**42.44**	**266**	P	**P**	**05 26 51.5**	**-0.5**
WR0				IAmb	IAmb	05 27 10.3	
	comp=Z,14nm,1.3s						
WB2	**Warramunga Arr**	**42.62**	**265**	P	**P**	**05 26 52.9**	**-0.5**
WB2				IAmb	IAmb	05 26 53.4	
	comp=Z,10nm,0.6s						
WB0	**Warramunga Arr**	**42.62**	**266**	P	**P**	**05 26 52.9**	**-0.5**
WB0				IAmb	IAmb	05 26 53.4	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**42.62**	**266**	P	**P**	**05 26 52.9**	**-0.5**
WRAB				IAmb	IAmb	05 26 53.0	
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**	**42.63**	**265**	P	**P**	**05 26 52.8**	**-0.6**
	comp=Z,9.5nm,0.5s,baz=92,slow=8.4,SNR=279						
WRA				ScP	**ScP**	**05 31 34.6**	**+3.0**
	comp=Z,0.6nm,0.8s,baz=98,slow=3.8,SNR=5.0						
WRA	**Warramunga Arr**	**42.63**	**265**	P	**P**	**05 26 52.0**	**-1.4**
FORT	**Forrest**	**46.67**	**249**	P	**P**	**05 27 23.4**	**-0.9**
MTN	**Manton Dam**	**47.60**	**274**	P	**P**	**05 27 30.9**	**-0.6**
MTN				IAmb	IAmb	05 27 31.4	
	comp=Z,5.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.06**	**265**	P	**P**	**05 27 57.6**	**+0.7**
VNDA	**Vanda**	**54.92**	**185**	P	**P**	**05 28 24.0**	**+0.5**
PSA00	**Pilbara Seismi**	**55.45**	**259**	P	**P**	**05 28 26.6**	**-1.4**
PSA00				IAmb	IAmb	05 28 31.4	
	comp=Z,44nm,1.5s						
MORW	**Morawa**	**57.23**	**250**	P	**P**	**05 28 39.8**	**-0.4**
MORW				IAmb	IAmb	05 28 40.4	
	comp=Z,9.8nm,0.7s						
NVAR	**Mina Array Bea**	**84.24**	**44**	P	**P**	**05 31 19.9**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=238,slow=6.9,SNR=4.6						
TXAR	**Lajitas Array**	**89.99**	**58**	P	**P**	**05 31 47.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=220,slow=7.3,SNR=9.9						
ARCES	**ARCESS Array B**	**131.41**	**348**	PKP	**PKiKP**	**05 37 54.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=48,slow=1.3,SNR=4.7						
AKASG	**Malin Array Be**	**144.62**	**328**	PKP	**PKPdf**	**05 38 18.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=44,slow=4.3,SNR=5.3						

IDC 23 05:25:33.2±7.0,13°.85N×92°.49W,h0km,mb3.8/2, mb1 3.9/4, mb1mx3.5/37, mbtmp3.6/4, ML3.2/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/38, Error ellipse: s-maj=188.1km s-min=79.3km az=35.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.96**	**325**	Pn	Pn	05 26 34.1	-1.2
	0.6nm,0.3s,baz=143,slow=15,SNR=3.9						
TXAR	**Lajitas Array**	**18.56**	**328**	P	Pn	05 29 53.0	+1.0
	0.0nm,0.3s,baz=153,slow=11,SNR=4.9						
TXAR				LR	LR	05 38 21.5	
	comp=Z,33nm,21.2s,baz=0.0,slow=41						
PFO	**Pinyon Flats O**	**29.34**	**316**	LR	LR	05 44 51.4	
	comp=Z,31nm,19.6s,baz=183,slow=40						
YKA	**Yellowknife Ar**	**51.06**	**347**	P	P	05 34 37.0	0.0
	1.8nm,0.8s,baz=148,slow=7.9,SNR=10						
ILAR	**Eielson Array**	**62.79**	**337**	P	P	05 35 60.0	-0.2
	0.5nm,0.8s,baz=111,slow=4.9,SNR=5.2						

NOU 23 05:40:24.8,15°.95S×167°.29E,h0km,MLv4.6, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

H11S3	**WAKE ISLAND Hy 28.67 116** baz=310,slow=75,SNR=20	T	T	06 36 22.5		
H11S1	**WAKE ISLAND Hy 28.67 116** baz=310,slow=75,SNR=17	T	T	06 36 22.9		
H11S2	**WAKE ISLAND Hy 28.69 116** baz=310,slow=75,SNR=16	T	T	06 36 23.8		
MKAR	**Makanchi Array 44.49 304** 0.8nm,0.4s,baz=85,slow=10,SNR=14	P	**P**	**06 07 49.1**	**-0.2**	
BATI	**Baumata 46.80 202** comp=Z,85nm,18.9s,baz=199,slow=41	LR	LR	06 31 22.8		
WRA	**Warramunga Arr 54.16 186** 1.0nm,0.5s,baz=1.6,slow=7.6,SNR=29	P	**P**	**06 09 02.0**	**-0.9**	
FINES	**FINESS Array B 70.62 332** 0.9nm,0.4s,baz=57,slow=6.1,SNR=9.2	P	**P**	**06 10 52.1**	**+0.1**	
AKASG	**Malin Array Be 75.64 322** 1.0nm,0.5s,baz=49,slow=6.3,SNR=4.1	P	**P**	**06 11 20.7**	**-1.1**	
NOA	**NORSAR Array B 76.20 337** 0.4nm,0.5s,baz=38,slow=4.6,SNR=2.1	P	**P**	**06 11 24.9**	**0.0**	
RAR	**Rarotonga 79.68 124** comp=Z,60nm,21.7s,baz=301,slow=29	LR	LR	06 38 59.1		
LPAZ	**La Paz 149.23 61** 0.4nm,0.4s,baz=354,slow=0.9,SNR=7.5	PKPbc	**PKiKP**	**06 19 27.2**	**+0.1**	

JMA ***23*** *06:26:10.5±0.1, 24.45N×121.87E, h0km*
TAP ***23*** *06:26:11.8, 24.45N×121.84E, h18km, ML3.5, C*
ISC 23 06:26:11.5±0.9, 24.45N±0.02×121.86E±0.02, h17km±3km, n77, σ0.944/124, 9C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta** baz=263	**0.07**	**264**	⇑*i*P	**Pg**	**06 26 15.4**	**+0.6**
EWUT				*i* S	**Sg**	**06 26 17.5**	**+0.5**
TWC	**Suao** baz=15	**0.16**	**358**	⇓*i*P	**Pb**	**06 26 16.4**	**+0.5**
TWC				*i* S	**Sb**	**06 26 19.2**	**+0.3**
EHP	**Heping Village** baz=208	**0.18**	**216**	P	**Pb**	**06 26 16.4**	**+0.2**
EHP				S	**Sb**	**06 26 19.5**	**+0.1**
NDS	**Dongshan** baz=329	**0.22**	**325**	⇑*i*P	**Pb**	**06 26 17.2**	**+0.2**
NDS				*i* S	**Sb**	**06 26 20.4**	**-0.4**
TWE	**Neicheng** baz=332	**0.32**	**327**	⇑*i*P	**Pb**	**06 26 18.8**	**+0.1**
TWE				*i* S	**Sb**	**06 26 23.2**	**-0.4**
ENTT	**Nioudou** baz=308	**0.32**	**305**	⇑*i*P	**Pb**	**06 26 18.9**	**+0.1**
ENTT				S	**Sb**	**06 26 23.5**	**-0.2**
ILA	**Ilan** baz=343	**0.33**	**343**	P	**Pb**	**06 26 19.3**	**+0.5**
ILA				S	**Sb**	**06 26 24.2**	**+0.4**
NDT	**Datong Townshi** baz=297	**0.34**	**296**	⇑*i*P	**Pb**	**06 26 19.4**	**+0.2**
NDT				*i* S	**Sb**	**06 26 24.2**	**-0.2**
ETL	**Fush Village** baz=213	**0.36**	**216**	⇑*i*P	**Pg**	**06 26 19.1**	**+0.1**
ETL				S	**Sg**	**06 26 24.4**	**+0.2**
NACB	**Ninganchiao** baz=218	**0.36**	**221**	⇓*i*P	**Pg**	**06 26 19.0**	**-0.1**
NACB				*i* S	**Sg**	**06 26 24.3**	**0.0**
EGS	baz=18	**0.40**	**10**	⇓*i*P	**Pb**	**06 26 20.6**	**+0.5**
EGS				S	**Sb**	**06 26 26.1**	**+0.3**
NTC	**Toucheng** baz=359	**0.40**	**357**	P	**Pb**	**06 26 20.4**	**+0.2**
NTC				S	**Sb**	**06 26 25.6**	**-0.3**
ETLH	**Xiulin Townshi** baz=233	**0.42**	**234**	P	**Pg**	**06 26 20.1**	**0.0**
ETLH				S	**Sg**	**06 26 25.6**	**-0.3**
NNSB	**Datong** baz=267	**0.43**	**267**	⇑*i*P	**Pb**	**06 26 20.5**	**-0.2**
NNSB				S	**Sg**	**06 26 26.1**	**-0.2**
NNSH	**Datong** baz=267	**0.43**	**267**	P	**Pb**	**06 26 20.8**	**+0.1**
NNSH				S	**Sg**	**06 26 26.0**	**-0.3**
NNS	**Nan Shan** baz=268	**0.44**	**268**	⇓*i*P	**Pb**	**06 26 20.9**	**0.0**
NNS				S	**Sg**	**06 26 26.4**	**-0.2**
TWD	**Chiawan** baz=213	**0.44**	**213**	⇑*i*P	**Pg**	**06 26 20.5**	**0.0**
TWD				*i* S	**Sg**	**06 26 26.5**	**0.0**
NWLT	**Wulai** baz=314	**0.46**	**315**	P	**Pb**	**06 26 21.1**	**0.0**
NWLT				S	**Sg**	**06 26 26.6**	**-0.3**
YHNB	**Yeheng** baz=297	**0.49**	**296**	⇑*i*P	**Pb**	**06 26 21.7**	**+0.1**
YHNB				S	**Sg**	**06 26 28.1**	**+0.1**
TIPB	**Shuangxi** baz=7.0	**0.52**	**357**	*e*P	**Pb**	**06 26 22.4**	**+0.3**
TIPB				*e*S	**Sb**	**06 26 29.0**	**-0.3**
HWA	**Hwalien** baz=211	**0.53**	**206**	*e*P	**Pb**	**06 26 22.8**	**+0.5**
HWA				*e*S	**Sb**	**06 26 30.3**	**+0.8**
TWB1	**Santiao Chiao** baz=15	**0.57**	**12**	P	**Pb**	**06 26 23.2**	**+0.3**
TWB1				*e*S	**Sb**	**06 26 30.4**	**-0.3**
TWA	**Mucha** baz=327	**0.58**	**335**	*e*P	**Pb**	**06 26 23.7**	**+0.5**
TWA				*e*S	**Sb**	**06 26 31.0**	**-0.1**
ETM	**Tongmen** baz=213	**0.59**	**214**	*e*P	**Pg**	**06 26 23.0**	**-0.1**
NHDH	**Xindian Distri** baz=331	**0.59**	**330**	*e*P	**Pb**	**06 26 24.0**	**+0.6**
NHDH				*e*S	**Sg**	**06 26 30.8**	**-0.3**
FUSS	**Fushou** baz=249	**0.59**	**250**	P	**Pg**	**06 26 23.4**	**+0.1**
FUSS				S	**Sb**	**06 26 31.7**	**0.0**
TATO	**Taipei** baz=329	**0.62**	**327**	*e*P	**Pb**	**06 26 24.1**	**+0.3**
TATO				*e*S	**Sb**	**06 26 32.1**	**-0.1**
NWF	**Wu-fen Shan** baz=348	**0.62**	**354**	*e*P	**Pn**	**06 26 24.9**	**-0.6**
NWF				*e*S	**Sb**	**06 26 32.4**	**+0.1**
WFSB	**Wu-fen Shan** baz=348	**0.62**	**354**	*e*P	**Pb**	**06 26 24.6**	**+0.7**
WFSB				*e*S	**Sb**	**06 26 32.2**	**-0.1**
WHF	**Hehuan Shan** baz=239	**0.62**	**240**	P	**Pg**	**06 26 23.8**	**-0.1**
WHF				S	**Sg**	**06 26 31.9**	**-0.3**
TEYL	**Yanliau Villag** baz=209	**0.63**	**202**	*e*P	**Pb**	**06 26 24.2**	**+0.2**
TWT	**Tachien** baz=247	**0.65**	**252**	*e*P	**Pb**	**06 26 25.0**	**+0.5**
TWT				*e*S	**Sb**	**06 26 34.0**	**+0.7**
BACT	**New Taipei Cit** baz=326	**0.66**	**325**	*e*P	**Pn**	**06 26 25.6**	**-0.5**
TAP	**Taipei** baz=333	**0.66**	**332**	*e*P	**Pn**	**06 26 25.6**	**-0.5**
TDCB	**Techi** baz=248	**0.67**	**253**	*e*P	**Pb**	**06 26 25.1**	**+0.4**
TDCB				*e*S	**Sb**	**06 26 33.8**	**0.0**
TNOU	**National Taiwa** baz=351	**0.70**	**354**	*e*P	**Pn**	**06 26 26.2**	**-0.4**
TNOU				*e*S	**Sb**	**06 26 34.4**	**-0.1**
CHGB	**Renai** baz=237	**0.73**	**238**	*e*P	**Pg**	**06 26 25.9**	**-0.1**
CHGB				*e*S	**Sg**	**06 26 35.2**	**-0.5**
YM01	**YM01** baz=333	**0.74**	**340**	*e*P	**Pn**	**06 26 26.8**	**-0.4**
YM01				*e*S	**Sb**	**06 26 36.4**	**+0.7**
ESL	**Shilin** baz=217	**0.74**	**211**	P	**Pg**	**06 26 25.7**	**-0.4**
YM08	**YM08** baz=343	**0.77**	**342**	*e*P	**Pn**	**06 26 27.0**	**-0.6**
LIOB	**Emei** baz=284	**0.79**	**284**	*e*P	**Pn**	**06 26 27.7**	**-0.1**
ANP	**Anpu** baz=339	**0.79**	**337**	*e*P	**Pn**	**06 26 27.5**	**-0.5**
OWD	**Renai** baz=231	**0.79**	**231**	*e*P	**Pg**	**06 26 26.4**	**-0.6**
OWD				*e*S	**Sg**	**06 26 37.2**	**-0.4**
NCUH	**Zhongli** baz=295	**0.80**	**310**	*e*P	**Pn**	**06 26 28.1**	**+0.1**
NSTT	**Nanjuang** baz=275	**0.80**	**283**	*e*P	**Pn**	**06 26 27.8**	**-0.2**
NSTT				*e*S	**Sg**	**06 26 37.4**	**-0.3**
NTST	**Danshui** baz=344	**0.80**	**333**	*e*P	**Pb**	**06 26 27.4**	**+0.5**
NTST				*e*S	**Sn**	**06 26 39.4**	**-0.1**
WHP	**Taichung City** baz=258	**0.85**	**258**	*e*P	**Pn**	**06 26 28.5**	**-0.2**
WHP				*e*S	**Sg**	**06 26 39.3**	**+0.1**
SBCB	**Hsinchu** baz=294	**0.86**	**293**	*e*P	**Pn**	**06 26 29.8**	**+1.0**
SBCB				*e*S	**Sn**	**06 26 41.4**	**+0.5**
EGFH	**Guangfu** baz=219	**0.87**	**207**	*e*P	**Pb**	**06 26 28.3**	**+0.1**
EGFH				*e*S	**Sn**	**06 26 41.5**	**+0.3**
HSN	**Hsinchu** baz=297	**0.88**	**294**	*e*P	**Pn**	**06 26 29.4**	**+0.3**
HSN				*e*S	**Sn**	**06 26 41.3**	**-0.1**
DPDB	**Guoxing** baz=243	**0.94**	**244**	*e*P	**Pg**	**06 26 29.9**	**0.0**
WCS	**Beigang Elemen** baz=245	**0.95**	**246**	*e*P	**Pn**	**06 26 30.4**	**+0.4**
WCS				*e*S	**Sb**	**06 26 41.7**	**0.0**
NMLH	**Miaoli** baz=275	**0.97**	**275**	*e*P	**Pn**	**06 26 31.2**	**+0.9**
NMLH				*e*S	**Sn**	**06 26 44.2**	**+0.4**
TWQ1	**Liyutan** baz=277	**0.99**	**264**	*e*P	**Pn**	**06 26 31.4**	**+0.8**
NSY	**Sanyi** baz=281	**1.00**	**268**	*e*P	**Pn**	**06 26 32.6**	**+1.9**
HGSD	**Ruisui** baz=218	**1.03**	**202**	*e*P	**Pn**	**06 26 31.4**	**+0.3**
SMLT	**Sun Moon Lake** baz=236	**1.04**	**237**	*e*P	**Pg**	**06 26 31.6**	**-0.1**
YOJ	**Yonaguni jima**	**1.05**	**89**	P	**Pb**	**06 26 31.2**	**0.0**
YOJ				*e*S	**Sb**	**06 26 45.1**	**+0.4**
SSLB	**Suanglung** baz=237	**1.06**	**231**	*e*P	**Pn**	**06 26 31.7**	**+0.2**
SSLB				*e*S	**Sb**	**06 26 44.1**	**-0.8**
EHY	**Hungye** baz=217	**1.06**	**207**	*e*P	**Pb**	**06 26 31.1**	**-0.3**
TYC	**Yuchr** baz=238	**1.06**	**239**	*e*P	**Pb**	**06 26 31.6**	**+0.2**
YULB	**Yu-li** baz=214	**1.17**	**206**	*e*P	**Pn**	**06 26 32.5**	**-0.6**
EYUL	**Yuli** baz=216	**1.21**	**204**	*e*P	**Pg**	**06 26 35.1**	**+0.3**
TWF1	**Yuli** baz=216	**1.21**	**205**	*e*P	**Pn**	**06 26 33.1**	**-0.5**
ALS	**Alishan** baz=212	**1.34**	**226**	*e*P	**Pg**	**06 26 37.1**	**-0.4**
FULB	**Fuli** baz=216	**1.35**	**202**	*e*P	**Pb**	**06 26 37.0**	**+0.6**
CHN5	**Tsauling** baz=232	**1.37**	**232**	*e*P	**Pg**	**06 26 37.6**	**-0.4**
CHN4	**Tsaushan** baz=227	**1.59**	**227**	*e*P	**Pg**	**06 26 41.4**	**-0.7**
STYH	**Taoyuan** baz=218	**1.61**	**218**	*e*P	**Pb**	**06 26 40.3**	**-0.5**
STYT	**Tauyuan** baz=218	**1.63**	**218**	*e*P	**Pb**	**06 26 40.6**	**-0.5**
WTP	**Ta-pu** baz=209	**1.65**	**224**	*e*P	**Pb**	**06 26 41.9**	**+0.4**
IRIF	**Iriomote-Funau**	**1.71**	**94**	P	**Pn**	**06 26 40.8**	**+0.3**
IRIF				*e*S	**Sn**	**06 27 01.8**	**-0.2**
TWK	**Hsinying** baz=227	**1.72**	**227**	*e*P	**Pb**	**06 26 43.2**	**+0.6**
CHN1	**Nanshi** baz=224	**1.75**	**224**	*e*P	**Pb**	**06 26 43.7**	**+0.5**
JKRS	**Kuro-shima**	**1.98**	**96**	P	**Pn**	**06 26 44.7**	**+0.6**
JKRS				*e*S	**Sn**	**06 27 08.8**	**+0.3**
JIJ	**Ishigaki jima**	**2.09**	**92**	*e*S	**Sn**	**06 27 09.9**	**-1.4**
JISG	**Ishigakijimahi**	**2.24**	**86**	S	**Sn**	**06 27 15.1**	**+0.1**

NAO ***23*** *06:29:44.8, 73.32N×6.76E, h11km, ML2.9*
BER ***23*** *06:29:47.2±2.0, 73.35N×7.80E, h10km, ML2.2, Confirmed Earthquake*
IDC ***23*** *06:29:47.8±9.2, 73.20N×7.83E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.3/33, mbtmp3.5/4, ML2.8/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/45, Error ellipse: s-maj=112.3km s-min=42.0km az=145.0*
ISC 23 06:29:44.8±0.9, 73.32N±0.05×7.85E±0.07, h11km, n35, σ2.985/45, MS3.2/3, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya** comp=Z,16nm,0.8s	**3.32**	**64**	*e*P	**Pn**	**06 30 37.2**	**+0.6**
BJO1				IAML		06 31 08.0	
BJO1				*e*S	**Sn**	**06 31 13.5**	**-2.5**
HSPB	**Hornsund (broa**	**4.19**	**24**	Pn	**Pn**	**06 30 49.6**	**+1.1**
HSPB	**Hornsund (broa**	**4.19**	**24**	*e*P	**Pn**	**06 30 49.2**	**+0.7**
TRO	**Tromso**	**5.11**	**131**	*e*P	**Pn**	**06 31 03.2**	**+2.1**
TRO				*e*S	**Sn**	**06 31 57.5**	**-2.4**
TRO	comp=Z,9.6nm,0.6s			IAML		06 32 03.6	
SPA0	**Spitsbergen Ar** baz=184,slow=16	**5.31**	**19**	Pn	**Pn**	**06 31 05.5**	**+1.6**
SPA0	**Spitsbergen Ar**	**5.31**	**19**	*e*P	**Pn**	**06 31 05.1**	**+1.2**
SPA0				*e*S	**Sn**	**06 32 00.5**	**-4.5**
JNE	**Jan Mayen East**	**5.48**	**253**	*e*P	**Pn**	**06 31 06.7**	**+0.5**
HOPEN	**Hopen**	**5.49**	**46**	Pn	**Pn**	**06 31 07.1**	**+0.8**
HOPEN				Sn	**Sn**	**06 32 07.9**	**-1.4**
HOPEN	**Hopen**	**5.49**	**46**	*e*P	**Pn**	**06 31 05.8**	**-0.5**
HOPEN				*e*S	**Sn**	**06 32 06.1**	**-3.2**
HOPEN	comp=Z,3.7nm,0.5s			IAML		06 32 16.5	
JNW	**Jan Mayen West**	**5.49**	**253**	*e*P	**Pn**	**06 31 07.0**	**+0.7**
JETT	**Jettan, Norway**	**5.50**	**127**	*e*P	**Pn**	**06 31 07.5**	**+1.0**
JETT				*e*S	**Sn**	**06 32 04.8**	**-4.9**
JETT	comp=Z,4.0nm,0.7s			IAML		06 32 11.1	
JMIC	**Jan Mayen**	**5.54**	**253**	*e*P	**Pn**	**06 31 07.1**	**+0.2**
LOF	**Lofoten**	**5.54**	**157**	*e*P	**Pn**	**06 31 08.2**	**+1.2**
LOF				*e*S	**Sn**	**06 32 06.2**	**-4.4**
LOF	comp=Z,13nm,0.5s			IAML		06 32 09.9	
KBS	**Kingsbay**	**5.72**	**8**	Pn	**Pn**	**06 31 08.8**	**-0.7**
KBS	**Kingsbay**	**5.72**	**8**	*e*P	**Pn**	**06 31 08.8**	**-0.7**
STEI	**Steigen**	**5.94**	**152**	*e*P	**Pn**	**06 31 14.7**	**+2.1**
STEI				*e*S	**Sn**	**06 32 16.2**	**-4.2**
STEI	comp=Z,5.4nm,0.5s			IAML		06 32 23.7	
KIF	**Kilpisjarvi**	**6.02**	**130**	Pn	**Pn**	**06 31 17.1**	**+3.5**
KIF				Sn	**Sn**	**06 32 23.0**	**+0.7**
FAUS	**Fauske**	**6.46**	**154**	*e*P	**Pn**	**06 31 21.6**	**+1.9**
FAUS				*e*S	**Sn**	**06 32 28.1**	**-5.2**
NBB30	**Finnes**	**6.68**	**160**	*e*P	**Pn**	**06 31 22.9**	**+0.3**
NBB30				*e*S	**Sn**	**06 32 32.9**	**-5.7**
NBB30	comp=Z,6.6nm,0.4s			IAML		06 32 40.9	
ARA0	**ARCESS Array S** baz=328,slow=12	**6.78**	**115**	Pn	**Pn**	**06 31 27.4**	**+3.4**
ARA0				Sn	**Sn**	**06 32 39.6**	**-1.5**
	baz=307,slow=22						
ARA0	**ARCESS Array S**	**6.78**	**115**	*e*P	**Pn**	**06 31 27.2**	**+3.2**
ARCES	**ARCESS Array B** baz=322,slow=12,SNR=15	**6.78**	**115**	Pn	**Pn**	**06 31 27.2**	**+3.2**
NBB13	**Alf Garage**	**6.98**	**162**	*e*P	**Pn**	**06 31 27.1**	**+0.4**
NBB13				*e*S	**Sn**	**06 32 41.8**	**-4.1**
NBB13	comp=Z,4.5nm,0.6s			IAML		06 32 47.4	
KEV	**Kevo**	**7.03**	**111**	*e*P	**Pn**	**06 31 27.1**	**-0.3**
NBB40	**Tonnes**	**7.06**	**163**	*e*P	**Pn**	**06 31 30.6**	**+2.7**
KONS	**Konsvik**	**7.08**	**163**	*e*P	**Pn**	**06 31 30.9**	**+2.7**
KONS				*e*S	**Sn**	**06 32 43.6**	**-5.0**
KONS	comp=Z,5.1nm,0.8s			IAML		06 32 51.5	
DBG	**Daneborg**	**7.86**	**291**	Pn	**Pn**	06 31 34.5	-4.3
DBG	**Daneborg**	**7.86**	**291**	*e*P	**Pn**	**06 31 36.2**	**-2.5**
DBG				*e*S	Sn	06 32 55.6	-12
SCO	**Scoresbysund**	**9.62**	**268**	*i*	**Pn**	**06 32 01.5**	**-1.4**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=354,slow=14,SNR=2.5	**12.40**	**172**	Pn	**Pn**	**06 32 45.5**	**+4.5**
NOA				LR	LR	06 37 02.9	
NOA	comp=Z,49nm,19.2s,baz=355,slow=35			LR	LR	06 37 02.9	
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=343,slow=13,SNR=5.9	**13.73**	**141**	Pn	**Pn**	**06 33 01.6**	**+2.6**
FINES				LR	LR	06 37 52.3	
AKASG	**Malin Array Be** comp=Z,88nm,21.7s,baz=336,slow=36	**24.51**	**146**	P	**P**	**06 35 07.4**	**+3.8**
KBZ	**Khabaz** comp=Z,49nm,19.4s,baz=318,slow=37	**33.81**	**132**	LR	LR	06 50 22.8	
ZALV	**Zalesovo Beam** comp=Z,39nm,19.6s,baz=242,slow=41	**35.84**	**80**	LR	LR	06 54 22.6	
GEYT	**Alibeck** comp=Z,74nm,18.8s,baz=200,slow=38	**42.94**	**117**	LR	LR	06 57 12.6	

NEIC ***23*** *06:48:37.6±2.2, 35.50N±0.04×141.30E±0.07, h36km±9km, mb4.5/6, Error ellipse: s-maj=9.3km s-min=4.8km az=122.0*
IDC ***23*** *06:48:38.7±2.4, 35.45N×141.06E, h46km±22km, mb3.6/8, mb1 3.7/12, mb1mx3.5/49, mbtmp3.9/12, ML2.0/2, MS3.3/12, Ms1 3.3/12, ms1mx3.1/52, Error ellipse: s-maj=32.0km s-min=12.9km az=84.0*
NIED ***23*** *06:48:38.0, 35.55N×141.04E, h36km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.68; Mθθ-0.13; Mφφ-1.55; Mrθ0.07; Mθφ-0.59; Mφr2.03; Fault plane solution: M0 2.67000×10^15 NP1:φs6.00000°, δ70.00000°, λ80.00000°. NP2:φs213.00000°, δ22.00000°, λ115.00000°.*
JMA ***23*** *06:48:38.0±0.1, 35.55N×141.04E, h36km±1km, M3.4*
JMA Felt I J1.
ISC 23 06:48:36.5±1.3, 35.53N±0.04×141.22E±0.07, h29km±8km, n59, σ1.951/49, mb3.9/11, MS3.5/6, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.34**	**300**	⇓P	**Pb**	**06 48 44.9**	**+0.4**
CHOJ				S	**Sb**	**06 48 49.6**	**-0.3**
JSMT	**Sammumatsuo**	**0.64**	**280**	⇓P	**Pb**	**06 48 48.6**	**-0.6**
JIHU	**Itakohorinouch**	**0.71**	**308**	P	**Pb**	**06 48 50.2**	**-0.2**
JIHU				S	**Sb**	**06 48 58.9**	**-1.0**
KTR	**Katsuura**	**0.84**	**243**	P	**Pb**	**06 48 51.6**	**-0.8**
JCN	**Nagara**	**0.84**	**263**	P	**Pb**	**06 48 51.9**	**-0.6**
BSO1	**Boso 1**	**0.90**	**193**	P	**Pb**	**06 48 53.4**	**+0.2**
BSO4	**Boso 4**	**0.90**	**234**	⇓P	**Pn**	**06 48 52.9**	**-0.2**
BSO3	**Boso 3**	**0.93**	**219**	⇓P	**Pn**	**06 48 53.4**	**0.0**
JYT	**Yasato**	**1.09**	**310**	⇓P	**Pn**	**06 48 55.3**	**-0.4**
JYT				S	**Sn**	**06 49 07.9**	**-1.9**
JYT	**Yasato**	**1.09**	**310**		**Pn**	**06 48 55.1**	**-0.6**
JMM	**Marumori**	**2.35**	**352**		**Pn**	**06 49 14.8**	**+1.6**
JSG	**Sagara**	**2.63**	**252**		**Pn**	**06 49 18.2**	**+1.3**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=94,slow=12,SNR=36	**2.64**	**293**	P	**Pn**	**06 49 17.5**	**+0.4**
MJAR				LR	LR	06 50 23.6	
MJAR	comp=Z,513nm,19.5s,baz=130,slow=42			LR	LR	06 50 23.6	
MJAR	**Matsushiro Arr**	**2.64**	**293**	Pn	**Pn**	**06 49 18.2**	**+1.1**
MAJO	**Matsushiro**	**2.64**	**293**	Pn	**Pn**	**06 49 18.5**	**+1.4**
MAT	**Matsushiro**	**2.64**	**293**	P	**Pn**	**06 49 18.4**	**+1.2**
MAT				eS	**Sn**	**06 49 45.6**	**-2.7**
MJB9	**Matsu-Tunnel**	**2.65**	**293**		**Pn**	**06 49 18.7**	**+1.5**
JHJ2	**Mitsune**	**2.68**	**206**	Pn	**Pn**	**06 49 17.8**	**+0.1**
JHJ2					**Sn**	**06 49 51.2**	**+2.1**
JHJ	**Hachijo jima 2** 28nm,0.3s,baz=302,slow=22,SNR=14	**2.69**	**207**	P	**Pn**	**06 49 17.5**	**-0.2**
JHJ				S	**Sn**	**06 49 47.7**	**-1.5**
JHJ	60nm,0.3s,baz=238,slow=23,SNR=12			LR	LR	06 50 34.7	
JHJ	comp=Z,214nm,19.1s,baz=84,slow=46			LR	LR	06 50 34.7	
JGF	**Kuroka**	**3.15**	**272**	Pn	**Pn**	**06 49 25.9**	**+1.7**
INU	**Inuyama**	**3.44**	**268**	Pn	**Pn**	**06 49 28.7**	**+0.7**
JSD	**Sado**	**3.45**	**317**	Pn	**Pn**	**06 49 29.6**	**+1.4**
JWT	**Wachi**	**4.76**	**269**		**Pn**	**06 49 47.7**	**+1.5**
JTM	**Tenmabayashi**	**5.25**	**359**	Pn	**Pn**	**06 49 51.9**	**-1.0**
JHS	**Saijyo**	**6.65**	**268**	Pn	**Pn**	**06 50 16.0**	**+3.7**
JCJ	**Chichijima** 6.7nm,0.3s,baz=337,slow=20,SNR=2.4	**8.45**	**174**	P	**Pn**	**06 50 36.7**	**-0.2**
JCJ	6.4nm,0.3s,baz=329,slow=24,SNR=2.2			S	**Sn**	**06 52 05.8**	**-5.6**
JCJ	**Chichijima**	**8.45**	**174**	Pn	**Pn**	**06 50 36.6**	**-0.3**
ASAJ	**Asahikawa** comp=Z,79nm,18.2s,baz=206,slow=45	**8.64**	**7**	LR	LR	06 55 08.8	
KSRS	**Korea Array** baz=98,slow=15,SNR=4.3	**10.88**	**284**	P	Pn	06 51 15.1	+5.0
KSRS				LR	LR	06 55 20.7	
KSRS	comp=Z,235nm,20.8s,baz=102,slow=37			LR	LR	06 55 20.7	
USRK	**Ussuriysk Ar.** baz=101,slow=15,SNR=2.7	**11.19**	**323**	P	**Pn**	**06 51 16.8**	**+2.5**
USRK				LR	LR	06 55 21.6	
USRK	comp=Z,167nm,18.9s,baz=159,slow=36			LR	LR	06 55 21.6	
JOW	**Kunigami** comp=Z,82nm,21.6s,baz=127,slow=35	**14.06**	**235**	LR	LR	06 56 48.2	
H11N2	**WAKE ISLAND Hy 27.55 118** baz=310,slow=75,SNR=62	**T**		T	T	07 23 23.6	
H11N1	**WAKE ISLAND Hy 27.55 118** baz=310,slow=75,SNR=45	**T**		T	T	07 23 26.1	
H11N3	**WAKE ISLAND Hy 27.56 118** baz=310,slow=75,SNR=52	**T**		T	T	07 23 24.9	
H11S1	**WAKE ISLAND Hy 28.20 120** baz=312,slow=76,SNR=124	**T**		T	T	07 24 21.7	
H11S3	**WAKE ISLAND Hy 28.20 120** baz=312,slow=76,SNR=122	**T**		T	T	07 24 10.8	
H11S2	**WAKE ISLAND Hy 28.22 120** baz=312,slow=76,SNR=109	**T**		T	T	07 24 16.5	
SONM	**Songino Array** comp=Z,74nm,20.9s,baz=70,slow=35	**28.52**	**306**	LR	LR	07 05 18.3	
TLY	**Talaya** comp=Z,30nm,18.0s,baz=114,slow=36	**31.22**	**313**	LR	LR	07 07 37.6	
CMAR	**Chiang Mai Arr** comp=Z,54nm,18.5s,baz=194,slow=41	**40.99**	**257**	LR	LR	07 16 31.4	
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=100,slow=8.3,SNR=4.5	**42.82**	**314**	P	**P**	**06 56 30.1**	**-1.4**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=89,slow=9.4,SNR=9.8	**44.80**	**303**	P	**P**	**06 56 47.5**	**0.0**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=264,slow=5.7,SNR=5.8	**50.85**	**32**	P	**P**	**06 57 35.2**	**+1.1**
WB0	**Warramunga Arr** comp=Z,8.9nm,1.1s	**55.38**	**188**	P	**P**	**06 58 08.9**	**+1.0**
WB0				IAmb	IAmb	06 58 20.3	
WRAB	**Tennant Creek** comp=Z,11nm,1.4s	**55.55**	**188**	P	**P**	**06 58 10.5**	**+1.4**
WRAB				IAmb	IAmb	06 58 13.9	
WR0	**Warramunga Arr** comp=Z,10nm,1.4s	**55.55**	**188**	P	**P**	**06 58 09.9**	**+0.7**
WR0				IAmb	IAmb	06 58 29.5	
WB2	**Warramunga Arr**	**55.55**	**188**	P	**P**	**06 58 10.0**	**+0.9**
WRA	**Warramunga Arr** comp=Z,2.2nm,0.8s,baz=5.6,slow=8.0,SNR=14	**55.55**	**188**	P	**P**	**06 58 09.6**	**+0.4**
ABKAR	**Akbulak array**	**58.80**	**311**	P	**P**	**06 58 32.2**	**+0.3**
ASAR	**Alice Springs** comp=Z,0.6nm,0.8s,baz=15,slow=11,SNR=4.2	**59.28**	**188**	P	**P**	**06 58 34.1**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,41nm,18.7s,baz=75,slow=39	**65.35**	**340**	LR	LR	07 30 55.2	
FINES	**FINESS Array B** comp=Z,0.7nm,0.7s,baz=48,slow=2.1,SNR=1.9	**70.07**	**332**	P	**P**	**06 59 45.4**	**0.0**
FINES				LR	LR	07 31 47.6	
AKASG	**Malin Array Be** comp=Z,0.3nm,0.4s,baz=51,slow=6.3,SNR=4.5	**75.39**	**322**	P	**P**	**07 00 17.2**	**+0.1**
AKASG	**Malin Array Be** comp=Z,1.8nm,1.4s	**75.39**	**322**	IAmb	IAmb	07 00 41.6	
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=56,slow=8.0,SNR=2.5	**75.51**	**337**	P	**P**	**07 00 18.5**	**+0.8**

NOA					LR		LR	07 36 36.4	
	comp=Z,26nm,19.7s,baz=40,slow=38								
CLL	**Collm**	**82.32**	**330**	*eP*			**P**	**07 00 56.0**	**+0.8**
H03N2	**Juan Fernandez**	**146.99**	**98**	T			T	09 52 50.3	
	baz=290,slow=76,SNR=13								
H03N3	**Juan Fernandez**	**147.00**	**98**	T			T	09 52 51.5	
	baz=290,slow=76,SNR=12								
H03N1	**Juan Fernandez**	**147.01**	**98**	T			T	09 52 51.5	
	baz=290,slow=76,SNR=12								

IDC ***23*** *06:55:49.5±2.9, 6°66S×130°38E, h54km±36km, mb3.6/3, mb1 4.0/7, mb1mx3.6/48, mbtmp4.1/7, ML4.2/4, MS3.6/3, Ms1 3.5/3, ms1mx2.8/39, Error ellipse: s-maj=68.2km s-min=23.9km az=91.0*

NEIC ***23*** *06:55:52.2±0.9, 6°65S±0°06×130°8E±0°2, h84km±14km, mb4.1/4, Error ellipse: s-maj=22.7km s-min=8.3km az=92.0*

DJA ***23*** *06:55:52.3±0.3, 7°S±3°×13°1E±°, h139km±6km, M4.3/8, mb4.4/7, mB4.9/4, MLv4.4/8, Mw(mB)4.2/4*

ISC 23 06:55:51.3±0.8, 6°60S±0°05×130°9E±0°1, h100km, n35, σ3°21/34, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SAUI	**Saumlaki**	**1.43**	**165**	Pn			**Pn**	**06 56 16.8**	**+0.1**
SAUI	**Saumlaki**	**1.43**	**165**	P			Pn	06 56 21.5	+4.8
SAUI				S			**Sn**	**06 56 42.1**	**+6.2**
BNDI	**Bandanaira**	**2.30**	**334**	P			**Pn**	**06 56 31.2**	**+3.5**
FAKI	**Fak Fak**	**3.89**	**20**				**Pn**	**06 56 50.5**	**+1.5**
FAKI	**Fak Fak**	**3.89**	**20**	P			Pn	**06 56 50.0**	**+1.0**
KRAI	**Karang Ratu**	**4.12**	**322**	P			Pn	**06 56 52.8**	**+0.7**
NLAI	**Namlea**	**5.06**	**311**	P			**Pn**	**06 57 08.2**	**+3.3**
	0.4nm119nm,1.0s								
SIJI	**Sorong**	**5.70**	**3**	P			**Pn**	**06 57 13.3**	**-0.2**
	5.6nm,0.3s,baz=201,slow=23,SNR=7.4								
SIJI				S			**Sn**	**06 58 13.0**	**-4.7**
	10nm,0.3s,baz=258,slow=23,SNR=12								
SIJI	**Sorong**	**5.70**	**3**	P			**Pn**	**06 57 13.0**	**-0.6**
	0.2nm1µm13nm,0.6s								
MTN	**Manton Dam**	**6.21**	**178**				**Pn**	**06 57 24.0**	**+3.5**
SANI	**Sanana**	**6.68**	**312**	P			**Pn**	**06 57 27.2**	**+0.4**
	0.1nm1µm37nm,0.9s								
SOEI	**Soe**	**7.29**	**244**	Pn			**Pn**	**06 57 32.2**	**-3.1**
SOEI	**Soe**	**7.29**	**244**	P			**Pn**	**06 57 35.9**	**+0.5**
	0.2nm33nm,0.9s								
KNRA	**Kununurra**	**9.27**	**193**				**Pn**	**06 58 01.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.54**	**204**	P			**Pn**	**06 58 42.1**	**-4.0**
	4.4nm,0.3s,baz=39,slow=13,SNR=58								
FITZ				S			Sn	07 00 51.9	-12
	3.5nm,0.3s,baz=52,slow=23,SNR=7.1								
FITZ	**Fitzroy Crossi**	**12.54**	**204**	Pn			**Pn**	**06 58 42.5**	**-3.7**
WB0	**Warramunga Arr**	**13.52**	**166**	Pn			**Pn**	**06 58 58.3**	**-0.7**
WRAB	**Tennant Creek**	**13.67**	**166**	Pn			**Pn**	**06 59 00.7**	**-0.3**
WRA	**Warramunga Arr**	**13.68**	**166**	P			**Pn**	**06 59 00.5**	**-0.6**
	0.6nm,0.3s,baz=347,slow=13,SNR=18								
WRA				S			**Sn**	**07 01 23.4**	**-8.3**
	3.9nm,0.3s,baz=343,slow=22,SNR=20								
WRA	**Warramunga Arr**	**13.68**	**166**	Pn			**Pn**	**06 58 59.9**	**-1.2**
WB2	**Warramunga Arr**	**13.68**	**166**	Pn			**Pn**	**06 59 00.6**	**-0.5**
WR0	**Warramunga Arr**	**13.74**	**166**	Pn			**Pn**	**06 59 02.0**	**+0.1**
AS31	**Alice Springs**	**17.21**	**171**				**P**	**06 59 46.5**	**+0.9**
ASAR	**Alice Springs**	**17.21**	**171**	P			**P**	**06 59 47.3**	**+1.6**
	0.7nm,0.3s,baz=345,slow=10,SNR=25								
ASAR				S			**Sn**	**07 02 48.0**	**-9.1**
	0.5nm,0.3s,baz=348,slow=26,SNR=5.1								
ASAR	**Alice Springs**	**17.21**	**171**				**P**	**06 59 45.5**	**-0.1**
PSA00	**Pilbara Seismi**	**18.34**	**215**				**Pn**	**06 59 58.1**	**-1.0**
STKA	**Stephens Creek**	**27.06**	**160**	LR			LR	07 13 33.6	
	comp=Z,120nm,21.9s,baz=214,slow=39								
HNR	**Honiara**	**28.88**	**98**	LR			LR	07 14 09.8	
	comp=Z,132nm,18.1s,baz=280,slow=37								
SONM	**Songino Array**	**58.36**	**341**	P			**P**	**07 05 38.4**	**+2.3**
	0.6nm,0.6s,baz=162,slow=11,SNR=2.5								
SONM	**Songino Array**	**58.36**	**341**	IAmb			IAmb	07 06 53.0	
	comp=Z,4.3nm,1.7s								
MK31	**Makanchi Array**	**68.39**	**326**	P			**P**	**07 06 44.5**	**+2.2**
MK31				IAmb			IAmb	07 06 45.2	
	comp=Z,2.2nm,1.3s								
MKAR	**Makanchi Array**	**68.39**	**326**	P			**P**	**07 06 44.4**	**+2.1**
	comp=Z,1.2nm,0.4s,baz=112,slow=9.4,SNR=16								
AAK	**Ala-Archa**	**70.83**	**319**	LR			LR	07 43 34.9	
	comp=Z,28nm,18.0s,baz=306,slow=41								
KURBB	**Kurchatov Arra**	**72.65**	**328**	P			**P**	**07 07 09.6**	**+1.6**
	comp=Z,0.3nm,0.2s,baz=120,slow=4.8,SNR=5.9								
KURK	**Kurchatov**	**72.66**	**328**	P			**P**	**07 07 09.6**	**+1.6**

IDC ***23*** *06:58:29.9±1.1, 9°57N×126°19E, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.7/58, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=83.1km s-min=20.0km az=76.0*

MAN ***23*** *06:58:33.4, 9°31N×126°09E, h10km, MS3.7*

ISC 23 06:58:31.8±1.6, 9°41N±0°03×126°08E±0°07, h9km±10km, n26, σ1°35/28, mb4.1/7, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GLSP	**General Luna,**	**0.38**	**7**	*eP*			**Pn**	**06 58 42.1**	**-1.3**
GLSP				*eS*			**Sb**	**06 58 48.8**	**+2.2**
BUTP	**Butuan**	**0.63**	**226**	*eP*			**Pg**	**06 58 44.1**	**0.0**
BUTP				*eS*			**Sb**	**06 58 54.2**	**+0.3**
MSLP	**Maasin**	**1.40**	**301↑**	*eP*			**Pb**	**06 58 57.9**	**-0.3**
CGP	**Cagayan de Oro**	**1.67**	**235↑**	*eP*			**Pn**	**06 59 00.6**	**-0.7**
CGP				*i* S			**Sn**	**06 59 22.2**	**-0.5**
BUKP	**Musuan**	**1.82**	**214**	*eP*			**Pb**	**06 59 04.6**	**-0.8**
BUKP				*eS*			**Sg**	**06 59 29.9**	**-0.7**
BESP	**Borongan**	**2.27**	**344**	*eP*			**Pb**	**06 59 13.0**	**+0.1**
BESP				*eS*			**Sg**	**06 59 45.3**	**+0.5**
LLP	**Lapu-Lapu**	**2.27**	**294↓**	*eP*			**Pb**	**06 59 12.1**	**-0.9**
LLP				*eS*			**Sg**	**06 59 43.7**	**-1.2**
DAV	**Davao City (W)**	**2.38**	**192**	Pn			**Pn**	**06 59 12.5**	**+1.5**
	38nm,0.3s,baz=44,slow=21,SNR=1.4								
DAV	**Davao City (W)**	**2.38**	**192**	P			**Pn**	**06 59 12.6**	**+1.6**
	6µm312nm,0.5s								
KCP	**Kidapawan**	**2.58**	**202**	*i* P			**Pn**	**06 59 15.2**	**+1.3**
KCP				*i* S			**Sn**	**06 59 45.1**	**-0.3**
PAGZ	**Pagadian**	**3.09**	**240**	*eP*			**Pn**	**06 59 22.9**	**+2.2**
DDMP	**Don Marcelino,**	**3.30**	**186**	*eP*			**Pn**	**06 59 24.1**	**+0.4**
DDMP				*eS*			**Sn**	**07 00 03.9**	**+0.7**
RCP	**Roxas**	**3.92**	**303↑**	*eP*			**Pn**	**06 59 35.5**	**+3.3**
ASAR	**Alice Springs**	**33.75**	**167**	P			**P**	**07 05 16.0**	**+2.0**
	0.7nm,0.6s,baz=352,slow=7.2,SNR=1.8								
H11S3	**WAKE ISLAND Hy**	**40.35**	**73**	T			T	07 48 58.0	
	baz=262,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hy**	**40.36**	**73**	T			T	07 48 58.3	
	baz=262,slow=75,SNR=42								
H11S2	**WAKE ISLAND Hy**	**40.37**	**73**	T			T	07 48 59.1	
	baz=262,slow=75,SNR=46								
H11N1	**WAKE ISLAND Hy**	**40.71**	**71**	T			T	07 49 30.6	
	baz=263,slow=75,SNR=24								
H11N2	**WAKE ISLAND Hy**	**40.71**	**71**	T			T	07 49 26.1	
	baz=263,slow=75,SNR=29								
H11N3	**WAKE ISLAND Hy**	**40.73**	**71**	T			T	07 49 27.0	
	baz=263,slow=75,SNR=22								
STKA	**Stephens Creek**	**43.65**	**161**	P			**P**	**07 06 36.7**	**-0.2**
	1.7nm,0.6s,baz=334,slow=9.5,SNR=4.2								
KURBB	**Kurchatov Arra**	**56.67**	**326**	P			**P**	**07 08 14.9**	**-0.5**
	0.8nm,0.5s,baz=124,slow=6.8,SNR=6.4								
SPITS	**Spitsbergen Ar**	**84.82**	**349**	P			**P**	**07 11 05.8**	**-0.5**
	1.6nm,0.8s,baz=60,slow=8.5,SNR=5.4								
ARCES	**ARCESS Array B**	**84.93**	**340**	P			**P**	**07 11 05.6**	**-1.4**
	3.5nm,0.9s,baz=82,slow=6.5,SNR=4.5								
FINES	**FINESS Array B**	**86.56**	**332**	P			**P**	**07 11 13.6**	**-1.6**
	1.2nm,0.8s,baz=88,slow=6.5,SNR=5.2								
VNDA	**Vanda**	**89.11**	**173**	P			**P**	**07 11 26.6**	**-0.3**
	0.7nm,0.7s,baz=319,slow=5.6,SNR=6.6								

IDC 23 07:00:57.5±2.7, 54°15N×86°37E, h0km, mb1 2.8/2, mb1mx2.8/61, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.6km s-min=13.4km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**258**	*i*				07 05 50.0	
	baz=79,slow=313,SNR=3.6								
ZALV	**Zalesovo Beam**	**0.94**	**258**	Pg			Pg	07 01 14.1	-1.3
	0.7nm,0.3s,baz=77,slow=16,SNR=7.5								
ZALV				Lg			Lg	07 01 29.2	
	1.9nm,0.3s,baz=74,slow=27,SNR=13								
ZALV				Rg			Rg	07 01 35.0	
	37nm,1.1s,baz=78,slow=30,SNR=14								
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn			Pn	07 02 27.8	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=4.8								
MKAR	**Makanchi Array**	**7.81**	**201**	Pn			Pn	07 02 53.4	+1.1
	0.1nm,0.3s,baz=18,slow=13,SNR=8.0								

IDC ***23*** *07:16:38.5±0.6, 7°86N×77°88W, h0km, mb4.0/12, mb1 4.3/14, mb1mx4.1/28, mbtmp4.1/14, ML4.2/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/25, Error ellipse: s-maj=25.5km s-min=14.9km az=55.0*

RSNC ***23*** *07:16:38.3±0.9, 7°92N×77°89W, h0km±4km, ML3.5, Mw4.4*

NEIC ***23*** *07:16:40.8±1.4, 7°94N±0°07×77°93W±0°05, h10km±5km, mb4.4/69, Error ellipse: s-maj=9.8km s-min=6.5km az=201.0*

ISC 23 07:16:39.9±0.4, 7°95N±0°03×77°88W±0°03, h10km, n152, σ1°25/172, mb4.4/44, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PTAC	**Punta Ardita,**	**0.80**	**175**	*eP*			**Pg**	**07 16 51.8**	**-3.5**
PTAC				*eS*			**Sg**	**07 17 03.8**	**-1.9**
LCBC	**Los crdobas,**	**1.75**	**59**	*eP*			**Pn**	**07 17 09.2**	**-1.0**
LCBC				*eS*			**Sb**	**07 17 33.2**	**-0.9**
LCBC				*i*				07 18 11.3	
	comp=Z,699nm,0.6s								
SOLC	**Bahia Solano**	**1.77**	**165**	*eP*			**Pn**	**07 17 07.8**	**-2.7**
SOLC				*eS*			**Sb**	**07 17 34.4**	**-0.3**
SOLC				*i*				07 17 47.7	
	comp=Z,836nm,0.5s								
DBBC	**Dabeiba**	**1.89**	**119**	*eP*			**Pn**	**07 17 10.3**	**-2.0**
DBBC				*eS*			**Sb**	**07 17 37.6**	**-0.8**
UPA	**Univ. de Panam**	**1.94**	**302**	*eP*			**Pn**	**07 17 11.4**	**-1.4**
UPA				*eS*			**Sn**	**07 17 36.8**	**-0.5**
BCIP	**Isla Barro Col**	**2.29**	**302**	Pn			**Pn**	**07 17 16.8**	**-0.8**
BCIP				Sn			**Sn**	**07 17 44.0**	**-2.0**
BCIP	**Isla Barro Col**	**2.29**	**302**	*eP*			**Pn**	**07 17 16.6**	**-1.1**
BCIP				*eS*			**Sn**	**07 17 45.2**	**-0.8**
BCIP				*i*				07 18 17.9	
	comp=Z,787nm,0.5s								
UREC	**San Jos de Ur**	**2.33**	**95**	*eP*			**Pn**	**07 17 16.7**	**-1.6**
UREC				*eS*			**Sn**	**07 17 46.7**	**-0.4**
UREC				*i*				07 17 52.7	
	comp=Z,254nm,0.7s								
MOTC	**Monteria, Cord**	**2.34**	**69↓**	*eP*			**Pn**	**07 17 16.6**	**-1.8**
MOTC				*eS*			**Sn**	**07 17 46.4**	**-0.9**
AZU	**Azuero**	**2.38**	**267**	*eP*			**Pn**	**07 17 17.0**	**-1.9**
AZU				*eS*			**Sn**	**07 17 47.4**	**-0.8**
CBOC	**Ciudad Bolivar**	**2.77**	**138**	*eP*			**Pn**	**07 17 21.9**	**-2.6**
CBOC				*eS*			**Sn**	**07 17 58.0**	**-0.3**
CBOC				*i*				07 18 11.0	
	comp=Z,219nm,0.7s								
HELC	**Santa Helena**	**2.91**	**127**	*eP*			**Pn**	**07 17 25.9**	**-0.7**
HELC				*eS*			**Sn**	**07 18 02.3**	**+0.4**
HELC				*i*				07 18 13.0	
	comp=Z,158nm,0.6s								
ZARC	**Zaragoza, Cauc**	**3.03**	**98**	*eP*			**Pn**	**07 17 26.8**	**-1.1**
ZARC				*eS*			**Sn**	**07 18 03.3**	**-0.9**
ZARC				*i*				07 18 21.8	
	comp=Z,246nm,0.7s								
SJCC	**San Jacinto, C**	**3.30**	**54**	Pn			**Pn**	**07 17 32.0**	**+0.4**
SJCC				Sn			**Sn**	**07 18 11.5**	**+0.5**
SJCC	**San Jacinto, C**	**3.30**	**54**	*eP*			**Pn**	**07 17 30.7**	**-0.9**
SJCC				*eS*			**Sn**	**07 18 09.4**	**-1.6**
SJCC				*i*				07 18 46.0	
	comp=Z,51nm,0.6s								
PLMC	**San Jos del P**	**3.41**	**152**	*eP*			**Pn**	**07 17 30.6**	**-2.6**
PLMC				*i*				07 18 55.4	
	comp=Z,56nm,0.5s								
GUY2C	**Guyana, Caldas**	**3.68**	**137**	*eP*			**Pn**	**07 17 34.8**	**-2.5**
GUY2C				*eS*			**Sn**	**07 18 20.6**	**-0.4**
GUY2C				*i*				07 18 53.9	
	comp=Z,84nm,0.6s								
NORC	**Norcasia**	**3.81**	**128**	*eP*			**Pn**	**07 17 39.9**	**+1.2**
NORC				*eS*			**Sn**	**07 18 25.3**	**+1.7**
NORC				*i*				07 18 33.7	
	comp=Z,71nm,0.6s								
SMLC	**San Martn de**	**3.86**	**77**	*eP*			**Pn**	**07 17 38.2**	**-1.1**
SMLC				*eS*			**Sn**	**07 18 20.1**	**-4.8**
SMLC				*i*				07 18 54.6	
	comp=Z,61nm,0.7s								
MALC	**Bahia Malaga**	**3.94**	**172**	*eP*			**Pn**	**07 17 41.4**	**+0.9**
TOLC	**Tolima**	**4.20**	**143**	*eP*			**Pn**	**07 17 45.5**	**+1.3**
TOLC				*i*				07 18 25.1	
	comp=Z,59nm,0.7s								
BRRC	**Barranca, Sant**	**4.21**	**101**	*eP*			**Pn**	**07 17 43.6**	**-0.6**
BRRC				*eS*			**Sn**	**07 18 33.6**	**+0.1**
BRRC				*i*				07 19 09.3	
	comp=Z,74nm,0.6s								
YOTC	**Yotoco, Valle**	**4.22**	**159**	*eP*			**Pn**	**07 17 43.6**	**-0.8**
YOTC				*eS*			**Sn**	**07 18 32.7**	**-1.2**
ANIL	**Santa Ana**	**4.22**	**144**	*eP*			**Pn**	**07 17 45.0**	**+0.4**
ANIL				*i*				07 19 09.6	
	comp=Z,76nm,0.5s								
OCAC	**Ocana**	**4.52**	**86**	*eP*			**Pn**	**07 17 47.6**	**-1.0**
OCAC				*eS*			**Sn**	**07 18 42.9**	**+1.6**
ROSC	**El Rosal**	**4.69**	**131**	Pn			**Pn**	**07 17 53.5**	**+2.4**
	comp=Z,7.9nm,0.3s,baz=118,slow=16,SNR=12								
ROSC	**El Rosal**	**4.69**	**131**	Pn			**Pn**	**07 17 52.6**	**+1.5**
ROSC	**El Rosal**	**4.69**	**131**	*eP*			**Pn**	**07 17 52.2**	**+1.1**
ROSC				*i*				07 19 16.5	
	comp=Z,49nm,0.7s								
ORTC	**Ortega, Tolima**	**4.79**	**147**	*eP*			**Pn**	**07 17 53.0**	**+0.8**
ORTC				*eS*			**Sn**	**07 18 49.9**	**+2.1**
ORTC				*i*				07 19 20.2	
	comp=Z,32nm,0.7s								
BARC	**Barichara**	**4.85**	**106**	*eP*			**Pn**	**07 17 52.8**	**-0.3**
CDITO	**Canoas**	**4.98**	**278**				**Pn**	**07 17 54.3**	**-0.5**
PRAC	**Prado**	**5.15**	**145**	*eP*			**Pn**	**07 17 58.5**	**+1.4**
RUSC	**La Rusia**	**5.18**	**113**	Pn			**Pn**	**07 17 59.3**	**+1.4**
RUSC	**La Rusia**	**5.18**	**113**	*eP*			**Pn**	**07 17 59.2**	**+1.4**
RUSC				*i*				07 19 34.6	
	comp=Z,68nm,0.7s								
CHIC	**Chingaza**	**5.28**	**128**	*eP*			**Pn**	**07 18 01.6**	**+2.4**
DRK0	**Durika**	**5.47**	**284**	Pn			**Pn**	**07 18 01.1**	**-0.5**
POPC	**Popayan, Colom**	**5.50**	**167**	*eP*			Pn	07 17 56.5	-5.6
POPC				*eS*			**Sn**	**07 19 02.6**	**-3.0**
POPC				*i*				07 21 06.0	
	comp=Z,31nm,0.1s								
SRBA	**San Rafael, Bu**	**5.57**	**284**				**Pn**	**07 18 03.9**	**+0.9**
VILC	**Villavicencio,**	**5.64**	**132**	*eP*			**Pn**	**07 18 06.6**	**+2.6**
VILC				*i*				07 20 00.4	
	comp=Z,32nm,0.7s								
BATAN	**Batan**	**5.84**	**292**	Pn			**Pn**	**07 18 05.4**	**-1.2**
PEZE	**Perez Zeledon,**	**5.91**	**284**	Pn			**Pn**	**07 18 07.6**	**0.0**
BBAC	**Balboa, Cauca**	**5.92**	**174**	*eP*			**Pn**	**07 18 08.0**	**+0.2**
BBAC				*i*				07 19 59.9	
	comp=Z,12nm,0.5s								
CVTR	**Volcan Turrial**	**6.17**	**290**				**Pn**	**07 18 11.7**	**+0.3**
RIMA	**Rio Macho**	**6.19**	**287**				**Pn**	**07 18 11.4**	**-0.1**
GARC	**Garzon, Huila**	**6.19**	**157**	*eP*			**Pn**	**07 18 12.9**	**+1.3**
FLOC	**Florencia**	**6.70**	**161**	*eP*			**Pn**	**07 18 19.5**	**+1.1**
FLOC				*eS*			**Sn**	**07 19 41.9**	**+7.0**
FLOC				*i*				07 20 33.0	
	comp=Z,8.7nm,0.8s								
COVE	**Coope Vega, Sa**	**7.00**	**294**	Pn			**Pn**	**07 18 22.7**	**+0.1**
MACC	**Macarena, Meta**	**7.02**	**145**	*eP*			**Pn**	**07 18 23.4**	**+0.5**
MACC				*i*				07 19 57.0	
	comp=Z,13nm,0.6s								
JTS	**Las Juntas de**	**7.37**	**289**	Pn			Pn	07 18 31.8	+4.3
	comp=Z,1.3nm,0.3s,baz=42,slow=22,SNR=5.6								
JTS	**Las Juntas de**	**7.37**	**289**				**Pn**	**07 18 27.7**	**+0.1**
ESPN	**Las Esperanzas**	**7.61**	**304**				**Pn**	**07 18 29.7**	**-1.2**
OTAV	**Otavalo**	**7.68**	**184**				**Pn**	**07 18 32.7**	**+0.4**
PAC1	**Pacto, Paraso**	**7.68**	**187**	*eP*			**Pn**	**07 18 32.1**	**+0.1**
MTDJ	**Mount Denham**	**10.22**	**2**	Pn			**Pn**	**07 19 06.2**	**-0.6**
JAKH	**Jacmel**	**11.48**	**26**	Pn			**Pn**	**07 19 24.0**	**0.0**
LGNH	**Logne**	**11.69**	**25**	Pn			**Pn**	**07 19 27.0**	**+0.2**
SDNR	**Presa de Saban**	**12.70**	**30**				**Pn**	**07 19 42.6**	**+1.9**
PCRV	**Puerto La Cruz**	**13.26**	**79**	Pn			**Pn**	**07 19 47.2**	**-1.2**
	comp=Z,2.3nm,0.3s,baz=233,slow=4.5,SNR=16								
HUEH	**Huehuetenango**	**15.22**	**300**				**Pn**	**07 20 15.4**	**+0.2**
NNA	**Nana**	**19.83**	**177**	LR			LR	07 31 07.8	
	comp=Z,165nm,18.0s,baz=339,slow=44								
PTGA	**Pitinga**	**19.83**	**115**	P			**Pn**	**07 21 12.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=300,slow=16,SNR=4.9								
LPAZ	**La Paz**	**25.94**	**158**	P			**P**	**07 22 12.2**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=90,slow=4.2,SNR=8.5								
LPAZ	**La Paz**	**25.94**	**158**	P			**P**	**07 22 13.2**	**-0.1**
LRAL	**Lakeview Retre**	**26.36**	**343**	P			**P**	**07 22 17.5**	**+1.3**
PB16	**IPOC Station P**	**27.39**	**163**	P			**P**	**07 22 25.9**	**-0.4**
MNMC	**Minye Minye**	**28.12**	**163**	P			**P**	**07 22 32.2**	**-0.3**
MNMC							IAmb	IAmb	07 22 40.0	
	comp=Z,6.8nm,0.9s								
PB11	**IPOC Station P**	**28.70**	**164**	P			**P**	**07 22 38.1**	**+0.5**
SIV	**San Ignacio**	**29.03**	**145**	P			**P**	**07 22 38.6**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=332,slow=10,SNR=7.0								
PBMO	**Poplar Bluff**	**30.89**	**340**	P			**P**	**07 22 56.6**	**-0.1**
PBMO							IAmb	IAmb	07 23 24.3	
	comp=Z,4.6nm,0.8s								
TXAR	**Lajitas Array**	**32.26**	**315**	P			**P**	**07 23 08.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=134,slow=7.7,SNR=5.8								
TXAR	**Lajitas Array**	**32.26**	**315**	P			**P**	**07 23 09.1**	**+0.2**
CCM	**Cathedral Cave**	**32.32**	**340**	P			**P**	**07 23 10.0**	**+0.8**
MNTX	**Cornudas Mount**	**34.85**	**316**	P			**P**	**07 23 31.3**	**-0.1**
ANMO	**Albuquerque**	**37.55**	**320**	P			**P**	**07 23 55.5**	**+0.9**
T25A	**Trinidad**	**37.75**	**324**	P			**P**	**07 23 56.1**	**-0.3**
SDCO	**Great Sand Dun**	**38.79**	**324**	P			**P**	**07 24 06.0**	**+0.8**
ISCO	**Idaho Springs**	**40.27**	**326**	P			**P**	**07 24 18.3**	**+0.7**
PV01	**Paradox Valley**	**40.88**	**322**	P			**P**	**07 24 23.6**	**+1.1**
PV01							IAmb	IAmb	07 24 26.9	
	comp=Z,8.0nm,1.3s								
PV03	**Paradox Valley**	**41.12**	**322**	P			**P**	**07 24 23.9**	**-0.6**
PV03							IAmb	IAmb	07 24 27.9	
	comp=Z,8.1nm,1.2s								
WUAZ	**Wupatki**	**41.13**	**317**	P			**P**	**07 24 24.3**	**-0.2**
WUAZ							IAmb	IAmb	07 24 53.3	
	comp=Z,6.2nm,0.9s								
PV12	**Saucer Basin,**	**41.13**	**322**	P			**P**	**07 24 24.1**	**-0.5**
PV12							IAmb	IAmb	07 24 28.2	
	comp=Z,12nm,1.2s								
PV11	**David Mesa, Pa**	**41.16**	**322**	P			**P**	**07 24 24.2**	**-0.6**
U15A	**North Rim**	**42.25**	**317**	P			**P**	**07 24 33.5**	**-0.4**
SRU	**San Rafael Swe**	**42.68**	**322**	P			**P**	**07 24 36.8**	**-0.4**
SRU							IAmb	IAmb	07 24 40.3	
	comp=Z,7.0nm,1.1s								
KNB	**Kanab**	**42.93**	**318**	P			**P**	**07 24 38.8**	**-0.4**
RDMU	**Red Mountain**	**43.03**	**324**	P			**P**	**07 24 39.0**	**-1.0**
P17A	**Butcher Ranch,**	**43.04**	**322**	P			**P**	**07 24 39.3**	**-0.8**
P17A							IAmb	IAmb	07 25 07.8	
	comp=Z,9.4nm,1.3s								
TMUT	**Trail Mountain**	**43.22**	**321**	P			**P**	**07 24 41.1**	**-0.5**
TMUT							IAmb	IAmb	07 24 45.9	
	comp=Z,8.9nm,1.4s								
MPU	**Maple Canyon**	**43.91**	**322**	P			**P**	**07 24 46.2**	**-0.9**
MPU							IAmb	IAmb	07 24 50.4	
	comp=Z,8.3nm,1.2s								
JLU	**Jordanelle**	**44.16**	**323**	P			**P**	**07 24 48.7**	**-0.5**
JLU							IAmb	IAmb	07 25 16.9	
	comp=Z,6.3nm,1.1s								
SHPR	**Sheep Range**	**44.25**	**316**	P			**P**	**07 24 49.4**	**-0.5**
SHPR							IAmb	IAmb	07 25 17.4	
	comp=Z,9.7nm,1.4s								
PSUT	**Pine Spring**	**44.45**	**319**	P			**P**	**07 24 50.4**	**-1.1**
PSUT							IAmb	IAmb	07 25 19.6	
	comp=Z,4.1nm,1.0s					

GERES	**GERESS Array B**	**85.12**	**42**	P		**P**	**07 29 18.1**	**+1.7**
	comp=Z,2.4nm,1.0s,baz=201,slow=5.2,SNR=4.6							
ARCES	**ARCESS Array B**	**87.25**	**20**	P		**P**	**07 29 27.5**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=280,slow=4.6,SNR=12							
ASAR	**Alice Springs**	**145.78**	**239**	PKPbc		**PKPab**	**07 36 20.7**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=119,slow=3.6,SNR=11							
WRA	**Warramunga Arr**	**146.61**	**246**	PKPbc		**PKPab**	**07 36 23.0**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=104,slow=2.6,SNR=8.3							

IDC ***23*** *07:17:04.2±0.9, 7.°94N×77.°81W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.2/26, mbtmp4.1/10, MS4.0/1, Ms1 4.0/1, ms1mx3.0/26, Error ellipse: s-maj=31.0km s-min=23.1km az=62.0*

ISC 23 07:17:05.4±0.9, 7.°9N±0.°2×77.°9W±0.°2, h10km, n13, σ0.°72/12, mb4.2/10, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**25.22**	**95**	LR		LR	LR	07 32 35.7	
	comp=Z,303nm,19.3s,baz=358,slow=37								
TXAR	**Lajitas Array**	**32.30**	**315**	P			**P**	**07 23 34.8**	**-0.1**
	0.9nm,0.8s,baz=130,slow=12,SNR=6.1								
PDAR	**Pinedale Array**	**44.52**	**327**	P			**P**	**07 25 18.3**	**+0.7**
	0.8nm,0.8s,baz=76,slow=6.3,SNR=4.4								
ULM	**Lac du Bonnet**	**44.82**	**344**	P			**P**	**07 25 19.1**	**-0.5**
	5.3nm,0.8s,baz=154,slow=9.2,SNR=4.1								
NVAR	**Mina Array Bea**	**47.42**	**316**	P			**P**	**07 25 41.5**	**+1.0**
	5.2nm,1.1s,baz=146,slow=6.1,SNR=9.4								
PLCA	**Paso Flores**	**48.84**	**173**	P			**P**	**07 25 50.6**	**-0.6**
	5.7nm,1.1s,baz=334,slow=3.7,SNR=4.5								
YKA	**Yellowknife Ar**	**60.71**	**341**	P			**P**	**07 27 15.6**	**-1.3**
	3.8nm,0.7s,baz=130,slow=7.7,SNR=10.0								
ESDC	**Sonseca Array**	**72.63**	**51**	P			**P**	**07 28 33.8**	**+0.2**
	3.7nm,1.0s,baz=272,slow=6.0,SNR=13								
ILAR	**Eielson Array**	**74.03**	**335**	P			**P**	**07 28 41.0**	**-0.2**
	0.8nm,0.9s,baz=108,slow=4.5,SNR=5.5								
NOA	**NORSAR Array B**	**82.73**	**29**	P			**P**	**07 29 29.5**	**+0.1**
	1.0nm,0.8s,baz=294,slow=7.0,SNR=3.5								
GERES	**GERESS Array B**	**85.17**	**42**	P			**P**	**07 29 42.9**	**+0.6**
	0.5nm,0.5s,baz=194,slow=3.6,SNR=2.2								
ASAR	**Alice Springs**	**145.74**	**239**	PKPbc		**PKPab**		**07 36 46.4**	**+0.4**
	0.8nm,0.6s,baz=122,slow=3.3,SNR=7.0								
WRA	**Warramunga Arr**	**146.59**	**246**	PKPbc		**PKPbc**		**07 36 48.8**	**+0.5**
	0.8nm,0.8s,baz=101,slow=2.6,SNR=5.6								

WEL 23 07:49:33.4±0.6, 35.°S±8.°×17.°9E±1.°3, h288km±9km, M3.9/41, mB4.4/10, ML4.7/34, MLv4.4/41, Mw(mB)3.6/10, Error ellipse: s-maj=0.0km s-min=0.0km az=116.4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.89**	**197**	P		P	Pn	07 50 26.0	-1.1
MXZ				S		S	S	07 51 08.3	-1.6
WMGZ	**Waiomatatini S**	**3.11**	**194**	P		P	Pn	07 50 29.0	-0.3
WMGZ				S		S	S	07 51 15.0	+0.9
HAZ	**Te Kaha**	**3.22**	**203**	P		P	Pn	07 50 30.1	-0.4
HAZ				S		S	S	07 51 16.9	+0.9
PKGZ	**Pakihiroa**	**3.26**	**198**	P		P	Pn	07 50 30.5	-0.4
PKGZ				S		S	S	07 51 16.2	-0.6
PUZ	**Puketiti**	**3.39**	**195**	P		P	Pn	07 50 31.6	-0.7
PUZ				S		S	S	07 51 19.7	+0.4
RUGZ	**Raukumara Rang**	**3.44**	**203**	P		P	Pn	07 50 32.5	-0.4
RUGZ				S		S	S	07 51 18.1	-2.5
KUZ	**Kuaotunu**	**3.55**	**236**	P		P	Pn	07 50 32.2	-1.8
TWGZ	**Tauwhareparae**	**3.55**	**198**	P		P	Pn	07 50 33.9	-0.1
TWGZ				S		S	S	07 51 24.8	+2.3
CNGZ	**Carnagh Statio**	**3.79**	**194**	P		P	Pn	07 50 36.9	+0.3
OPRZ	**Ohinepanea**	**3.80**	**216**	P		P	Pn	07 50 36.8	+0.2
MWZ	**Matawai**	**3.83**	**202**	P		P	Pn	07 50 36.8	-0.3
MWZ				S		S	S	07 51 27.4	-0.5
TKGZ	**Te Karaka**	**3.83**	**198**	P		P	Pn	07 50 36.7	-0.3
TKGZ				S		S	S	07 51 29.3	+1.4
MARZ	**Manawahe**	**3.85**	**214**	P		P	Pn	07 50 38.9	+1.6
URZ	**Urewera**	**3.91**	**207**	P		P	Pn	07 50 37.2	-0.6
URZ				S		S	S	07 51 29.2	-0.2
RAGZ	**Rawiri**	**4.01**	**203**	S		S	S	07 51 32.1	+0.4
RIGZ	**Rimuhau**	**4.11**	**198**	P		P	Pn	07 50 39.9	-0.2
RIGZ				S		S	S	07 51 35.0	+1.5
MUGZ	**Murupara**	**4.23**	**209**	P		P	Pn	07 51 11.1	-0.3
PRGZ	**Paritu Road**	**4.29**	**196**	P		P	Pn	07 50 41.9	-0.2
PRGZ				S		S	S	07 51 39.0	+1.8
SNGZ	**Shannon Statio**	**4.30**	**202**	P		P	Pn	07 50 42.2	-0.1
SNGZ				S		S	S	07 51 38.8	+1.4
KNZ	**Kokohu**	**4.43**	**197**	P		P	Pn	07 50 43.4	-0.2
KNZ				S		S	S	07 51 39.5	-0.6
ALRZ	**Allen Road**	**4.48**	**212**	P		P	Pn	07 50 46.0	+1.7
RAHZ	**Arahi**	**4.50**	**203**	P		P	Pn	07 50 45.3	+0.8
RAHZ				S		S	S	07 51 42.2	+0.6
MHGZ	**Mahia Peninsul**	**4.50**	**195**	P		P	Pn	07 50 45.0	+0.5
MHGZ				S		S	S	07 51 41.9	+0.3
MTHZ	**Maungataniwha**	**4.53**	**206**	P		P	Pn	07 50 45.5	+0.6
MTHZ				S		S	S	07 51 41.9	-0.3
TLZ	**Tolley Road**	**4.69**	**220**	P		P	Pn	07 50 49.5	+2.8
NMHZ	**Naumai**	**4.76**	**205**	P		P	Pn	07 50 48.1	+0.5
NMHZ				S		S	S	07 51 49.5	+2.4
ARHZ	**Aropaoanui**	**4.84**	**202**	P		P	Pn	07 50 49.3	+0.8
ARHZ				S		S	S	07 51 51.3	+2.5
BKZ	**Black Stump Fm**	**4.93**	**207**	P		P	Pn	07 50 49.6	0.0
BKZ				S		S	S	07 51 50.3	-0.4
MCHZ	**McNeill Hill**	**5.11**	**204**	P		P	Pn	07 50 51.9	+0.3
MCHZ				S		S	S	07 51 57.1	+2.7
KWHZ	**Kaweka Forest**	**5.18**	**206**	P		P	Pn	07 50 52.7	+0.1
KWHZ				S		S	S	07 51 57.5	+1.3
HIZ	**Hauiti**	**5.19**	**223**	P		P	Pn	07 50 55.3	+2.7
OTVZ	**Oturere**	**5.27**	**213**	P		P	Pn	07 50 54.1	+0.4
SNVZ	**South Ngauruho**	**5.30**	**213**	P		P	Pn	07 50 54.1	0.0
KAHZ	**Kahuranaki**	**5.37**	**201**	P		P	Pn	07 50 54.8	+0.1
KAHZ				S		S	S	07 52 02.8	+2.7
BHHZ	**Black Hill Sta**	**5.38**	**209**	P		P	Pn	07 50 54.9	+0.1
BHHZ				S		S	S	07 52 00.5	+0.2
KRHZ	**Kereru**	**5.40**	**206**	P		P	Pn	07 50 51.6	-3.5
KRHZ				S		S	S	07 52 00.2	-0.5
MOVZ	**Moawhango**	**5.43**	**211**	P		P	Pn	07 50 55.3	-0.2
MOVZ				S		S	S	07 51 59.9	-1.7
PXZ	**Pawanui**	**5.59**	**200**	P		P	Pn	07 50 57.3	0.0
PXZ				S		S	S	07 52 04.7	-0.1
PNHZ	**Pukenui**	**5.70**	**205**	P		P	Pn	07 50 57.7	-0.9
PNHZ				S		S	S	07 52 06.2	-1.1
WPHZ	**Waipukurau**	**5.75**	**203**	P		P	Pn	07 51 00.2	+0.9
WPHZ				S		S	S	07 52 07.3	-1.1
PRHZ	**Porangahau**	**5.88**	**201**	P		P	Pn	07 51 00.8	+0.1
TSZ	**Takapari Road**	**5.91**	**206**	P		P	Pn	07 51 00.9	-0.3
DVHZ	**Dannevirke**	**6.05**	**204**	P		P	Pn	07 51 03.1	+0.2
DVHZ				S		S	S	07 52 12.4	-2.6
WAZ	**Wanganui**	**6.06**	**214**	P		P	Pn	07 51 03.5	+0.5
ANWZ	**Angora Road**	**6.10**	**201**	P		P	Pn	07 51 04.1	+0.6
POWZ	**Post Office Ro**	**6.27**	**206**	P		P	Pn	07 51 05.8	+0.3
PRWZ	**Pori Road**	**6.35**	**204**	P		P	Pn	07 51 07.3	+0.9
BFZ	**Birch Farm**	**6.37**	**202**	P		P	Pn	07 51 06.6	-0.1
TIWZ	**Tintock**	**6.58**	**204**	P		P	Pn	07 51 09.6	+0.3
MRZ	**Mangatainoka R**	**6.58**	**206**	P		P	Pn	07 51 08.2	-1.1
HOWZ	**Holdsworth Sta**	**6.81**	**206**	P		P	Pn	07 51 11.0	-1.1
OGWZ	**Otaki Gorge**	**6.87**	**208**	P		P	Pn	07 51 11.8	-1.0
KIW	**Kapiti Island**	**7.01**	**209**	P		P	Pn	07 51 13.2	-1.3
CAW	**Cannon Point**	**7.16**	**207**	P		P	Pn	07 51 15.2	-1.2

STR ***23*** *07:54:44.2±1.2, 49.°N±6.°×.°±.°, h7km, MLv5.6/3, MLv3.1/4, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
LDG ***23*** *07:54:44.9±0.2, 48.°69N×4.°54W, h16km, Md3.4/2, Ml3.4/37, Error ellipse: s-maj=2.3km s-min=2.2km az=82.0*
BGS ***23*** *07:54:44.9±0.5, 48.°69N×4.°55W, h10km, ML2.8*

ISC 23 07:54:39.2±1.0, 48.°75N±0.°03×4.°69W±0.°04, h10km, n57, σ2.°50/95, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAMF	**Camaret-sur-Me**	**0.48**	**174**	Pg		**Pn**	**Pn**	**07 54 52.9**	**+0.8**
CAMF				Sg		**Sb**	**Sb**	**07 54 59.2**	**+2.4**
ROSF	**Rostrenen**	**1.02**	**113**	*e*P		**Pn**	**Pn**	**07 55 02.3**	**+2.6**
ROSF					IAML			07 55 15.8	
	comp=E,224nm,0.8s								
ROSF					IAML			07 55 15.9	
	comp=N,282nm,0.6s								
ROSF	**Rostrenen**	**1.02**	**113**	*e*P		**Pn**	**Pn**	**07 55 02.3**	**+2.6**
ROSF					IAML			07 55 15.8	
	comp=E,224nm,0.8s								
ROSF					IAML			07 55 15.9	
	comp=N,282nm,0.6s								
ROSF	**Rostrenen**	**1.02**	**113**	*e*Pg		**Pn**	**Pn**	**07 55 02.3**	**+2.6**
ROSF				*e*Sg		**Sb**	**Sb**	**07 55 13.9**	**+1.3**
	comp=N,578nm,0.5s								
ROSF	**Rostrenen**	**1.02**	**113**	Pg		**Pn**	**Pn**	**07 55 02.7**	**+3.0**
ROSF				Sg		**Sn**	**Sn**	**07 55 15.6**	**+1.5**
QUIF	**Quistinic**	**1.31**	**129**	*e*Pn		**Pb**	**Pb**	**07 55 05.1**	**+1.2**
QUIF	**Quistinic**	**1.31**	**129**	*e*Pg		**Pg**	**Pg**	**07 55 07.2**	**+2.8**
QUIF				*e*Sn		**Sb**	**Sb**	**07 55 20.7**	**-0.1**
QUIF				*e*Sg		**Sg**	**Sg**	**07 55 23.5**	**+2.1**
	comp=N,314nm,0.2s								
CCA1	**Carnmenellis**	**1.49**	**346**	*e*P		**Pn**	**Pn**	**07 55 06.8**	**+0.8**
CCA1				*e*S		**Sb**	**Sb**	**07 55 27.3**	**+1.5**
CCA1					IAML			07 55 36.4	
	comp=N,46nm,0.2s								
CCA1					IAML			07 55 37.5	
	comp=E,60nm,0.4s								
CCA1	**Carnmenellis**	**1.49**	**346**	*e*P		**Pn**	**Pn**	**07 55 06.8**	**+0.8**
CCA1				*e*S		**Sb**	**Sb**	**07 55 27.3**	**+1.5**
CCA1					IAML			07 55 36.4	
	comp=N,46nm,0.2s								
CCA1					IAML			07 55 37.5	
	comp=E,60nm,0.4s								
SGMF	**Saint Gilles**	**1.50**	**108**	*e*Pn		**Pb**	**Pb**	**07 55 07.9**	**+0.8**
SGMF	**Saint Gilles**	**1.50**	**108**	*e*Pg		**Pg**	**Pg**	**07 55 10.4**	**+2.4**
SGMF				*e*Sn		**Sn**	**Sn**	**07 55 24.9**	**-0.9**
SGMF				*e*Sg		**Sg**	**Sg**	**07 55 28.7**	**+1.3**
	comp=E,160nm,0.2s								
JVM	**Valle D.L. Mar**	**1.70**	**73**	*e*P		**Pg**	**Pg**	**07 55 13.8**	**+2.0**
JVM	**Valle D.L. Mar**	**1.70**	**73**	*e*P		**Pg**	**Pg**	**07 55 13.8**	**+2.0**
JSA	**Saint Aubin**	**1.72**	**74**	*e*P		**Pg**	**Pg**	**07 55 13.9**	**+1.7**
JSA				*e*S		**Sg**	**Sg**	**07 55 35.4**	**+1.0**
JSA					IAML			07 55 42.6	
	comp=E,59nm,0.3s								
JSA					IAML			07 55 42.8	
	comp=N,59nm,0.5s								
JSA	**Saint Aubin**	**1.72**	**74**	*e*P		**Pg**	**Pg**	**07 55 13.9**	**+1.7**
JSA				*e*S		**Sg**	**Sg**	**07 55 35.4**	**+1.0**
JSA					IAML			07 55 42.6	
	comp=E,59nm,0.3s								
JSA					IAML			07 55 42.8	
	comp=N,59nm,0.5s								
JRS	**Jersey**	**1.77**	**74**	*e*P		**Pg**	**Pg**	**07 55 15.1**	**+1.9**
JRS					IAML			07 55 45.9	
	comp=N,59nm,0.3s								
JRS					IAML			07 55 46.3	
	comp=E,55nm,0.2s								
JRS	**Jersey**	**1.77**	**74**	*e*P		**Pg**	**Pg**	**07 55 15.1**	**+1.9**
JRS					IAML			07 55 45.9	
	comp=N,59nm,0.3s								
JRS					IAML			07 55 46.3	
	comp=E,55nm,0.2s								
JLP	**Les Platons**	**1.77**	**73**	*e*P		**Pg**	**Pg**	**07 55 15.2**	**+2.0**
JLP	**Les Platons**	**1.77**	**73**	*e*P		**Pg**	**Pg**	**07 55 15.2**	**+2.0**
JDC	**Jersey Dam (Cr**	**1.79**	**75**	*e*P		**Pg**	**Pg**	**07 55 15.6**	**+1.9**
JDC					IAML			07 55 46.5	
	comp=E,234nm,0.2s								
JDC					IAML			07 55 46.7	
	comp=N,555nm,0.2s								
JDC	**Jersey Dam (Cr**	**1.79**	**75**	*e*P		**Pg**	**Pg**	**07 55 15.6**	**+1.9**
JDC					IAML			07 55 46.5	
	comp=E,234nm,0.2s								
JDC					IAML			07 55 46.7	
	comp=N,555nm,0.2s								
JDG	**Jersey Dam (Ga**	**1.80**	**75**	*e*P		**Pg**	**Pg**	**07 55 15.6**	**+1.9**
JDG					IAML			07 55 46.4	
	comp=E,52nm,0.2s								
JDG					IAML			07 55 47.3	
	comp=N,52nm,0.2s								
JDG	**Jersey Dam (Ga**	**1.80**	**75**	*e*P		**Pg**	**Pg**	**07 55 15.6**	**+1.9**
JDG					IAML			07 55 46.4	
	comp=E,52nm,0.2s								
JDG					IAML			07 55 47.3	
	comp=N,52nm,0.2s								
JQE	**Queens East**	**1.80**	**74**	*e*P		**Pg**	**Pg**	**07 55 15.8**	**+2.0**
JQE	**Queens East**	**1.80**	**74**	*e*P		**Pg**	**Pg**	**07 55 15.8**	**+2.0**
RENF	**Rennes**	**2.13**	**106**	Pn		**Pb**	**Pb**	**07 55 18.2**	**+0.4**
HTL	**Hartland**	**2.26**	**3**	*e*P		**Pg**	**Pg**	**07 55 23.1**	**+0.6**
HTL					IAML			07 55 57.8	
	comp=E,71nm,0.6s								
HTL					IAML			07 56 00.5	
	comp=N,69nm,0.4s								
HTL	**Hartland**	**2.26**	**3**	*e*P		**Pg**	**Pg**	**07 55 23.1**	**+0.6**
HTL					IAML			07 55 57.8	
	comp=E,71nm,0.6s								
HTL					IAML			07 56 00.5	
	comp=N,69nm,0.4s								
GRR	**Gorron**	**2.57**	**97**	*e*Pn		**Pn**	**Pn**	**07 55 22.7**	**+1.8**
GRR	**Gorron**	**2.57**	**97**	*e*Pg		**Pg**	**Pg**	**07 55 30.2**	**+1.8**
GRR				*e*Sn		**Sn**	**Sn**	**07 55 50.3**	**-1.8**
	comp=N,13nm,0.2s								
GRR				*e*Sg		**Sg**	**Sg**	**07 56 02.1**	**+0.4**
	comp=N,111nm,0.3s								
FLN	**La Foliniere** baz=268	**2.78**	**88**	*e*Pn		**Pn**	**Pn**	**07 55 25.1**	**+1.3**
FLN	**La Foliniere**	**2.78**	**88**	*e*Pg		**Pg**	**Pg**	**07 55 33.5**	**+1.0**
FLN				*e*Sn		**Sn**	**Sn**	**07 55 55.5**	**-1.9**
	comp=N,12nm,0.2s								
FLN				*e*Sg		**Sg**	**Sg**	**07 56 09.4**	**+0.8**
	comp=N,92nm,0.5s								
LDF	**La Druitiere**	**3.03**	**91**	*e*Pn		**Pn**	**Pn**	**07 55 29.0**	**+1.8**
LDF	**La Druitiere**	**3.03**	**91**	*e*Pg		**Pg**	**Pg**	**07 55 39.1**	**+1.8**
LDF				*e*Sn		**Sn**	**Sn**	**07 56 01.2**	**-2.3**
	comp=N,8.6nm,0.2s								
LDF				*e*Sg		**Sg**	**Sg**	**07 56 15.9**	**-0.6**
	comp=N,38nm,0.3s								
MFF	**Saint Martin d**	**3.74**	**123**	*e*Pn		**Pn**	**Pn**	**07 55 39.1**	**+2.1**
MFF				*e*Sn		**Sn**	**Sn**	**07 56 17.4**	**-3.7**
	comp=N,8.9nm,0.3s								
MFF				*e*Sg		**Sg**	**Sg**	**07 56 38.7**	**-0.7**
	comp=N,30nm,0.3s								
MFF	**Saint Martin d**	**3.74**	**123**	Pn		**Pn**	**Pn**	**07 55 39.2**	**+2.1**
CHIF	**Chize**	**3.91**	**130**	Pn		**Pn**	**Pn**	**07 55 38.7**	**-0.5**
HYF	**Humbligny**	**5.13**	**104**	*e*P			Pn	07 56 02.0	+5.8
HYF				*e*Sn			**Sn**	**07 56 51.3**	**-4.2**
HYF				*e*Sg			**Sg**	**07 57 22.5**	**-1.5**
LFF	**La Frestale**	**5.32**	**134**	*e*Pn			**Pn**	**07 56 00.3**	**+1.6**
LFF				*e*Sg			**Sg**	**07 57 28.8**	**-1.3**
	comp=N,27nm,0.4s								
RJF	**Les Rejaudoux**	**5.46**	**127**	*e*Pn			**Pn**	**07 56 02.3**	**+1.7**
RJF				*e*Sn			**Sn**	**07 56 58.9**	**-4.6**
	comp=N,6.3nm,0.4s								
RJF				*e*Sg			**Sg**	**07 57 32.5**	**-2.0**
	comp=N,24nm,0.3s								
BGF	**Bois d'Agland**	**5.54**	**110**	*e*Pn			**Pn**	**07 56 03.6**	**+1.9**
BGF	**Bois d'Agland**	**5.54**	**110**	*e*P			Pn	07 56 07.7	+6.0
BGF				*e*Sn			**Sn**	**07 57 01.3**	**-4.1**
	comp=N,18nm,0.4s								
BGF				*e*Sg			**Sg**	**07 57 34.8**	**-2.2**
	comp=N,31nm,0.3s								
SSF	**Saint Saulge**	**5.76**	**104**	*e*P			Pn	07 56 10.8	+6.1
SSF				*e*Sn			**Sn**	**07 57 06.6**	**-4.3**
	comp=N,6.7nm,0.3s								
SSF				*e*Sg			**Sg**	**07 57 42.1**	**-2.0**
	comp=N,24nm,0.6s								
AVF	**Avril sur Loir**	**5.76**	**107**	*e*Pn			**Pn**	**07 56 06.4**	**+1.7**
AVF				*e*Sn			**Sn**	**07 57 06.0**	**-4.9**
	comp=N,9.0nm,0.3s								
AVF				*e*Sg			**Sg**	**07 57 41.7**	**-2.4**
	comp=N,13nm,0.6s								
LOR	**Lormes** baz=281	**5.92**	**101**	*e*Pn			**Pn**	**07 56 08.4**	**+1.4**
LOR				*e*Sn			**Sn**	**07 57 09.4**	**-5.5**
	comp=N,13nm,0.4s								
LOR				*e*Sg			**Sg**	**07 57 46.7**	**-2.6**
	comp=N,6.0nm,0.3s								
BAIF	**Baives**	**5.95**	**74**	*e*Sn			**Sn**	**07 57 11.6**	**-4.0**
	comp=N,4.5nm,0.4s								
CAF	**Calviac**	**6.00**	**127**	*e*Pn			**Pn**	**07 56 09.9**	**+1.8**
CAF				*e*Sg			**Sg**	**07 57 50.4**	**-1.5**
	comp=N,30nm,0.6s								
SJPF	**Ste Jean**	**6.13**	**156**	*e*Pn			**Pn**	**07 56 11.1**	**+1.3**
SMF	**Signal de Mont**	**6.13**	**107**	*e*P			Pn	07 56 15.6	+5.8
SMF				*e*Sn			**Sn**	**07 57 14.4**	**-5.5**
	comp=N,2.8nm,0.2s								
SFTF	**Sexfontaines**	**6.49**	**91**	*e*Pn			**Sn**	**07 56 15.6**	**+0.8**
SFTF				*e*Sn			**Sn**	**07 57 22.1**	**-6.7**
	comp=N,4.3nm,0.3s								
ETSF	**Etsaut**	**6.52**	**152**	*e*Pn			**Pn**	**07 56 15.8**	**+0.6**
ETSF				*e*Sn			**Sn**	**07 57 25.6**	**-4.0**
	comp=N,1.5nm,0.2s								
EPF	**Esparros**	**6.70**	**147**	*e*Pn			**Pn**	**07 56 19.4**	**+1.6**
EPF				*e*Sn			**Sn**	**07 57 29.9**	**-4.3**
	comp=N,5.2nm,0.3s								
MTLF	**Montolieu**	**7.23**	**136**	*e*Pn			**Pn**	**07 56 26.0**	**+1.1**
MTLF				*e*Sn			**Sn**	**07 57 42.1**	**-4.9**
	comp=N,3.1nm,0.2s								
HAU	**Haudompre**	**7.39**	**92**	*e*Pn			**Pn**	**07 56 28.3**	**+1.2**
HAU				*e*Sn			Sn	07 57 42.2	-8.7
	comp=N,3.2nm,0.3s								
HAU				*e*Sg			**Sg**	**07 58 32.7**	**-3.5**
VIVF	**Saint-Julien-l**	**7.51**	**118**	*e*Pn			**Pn**	**07 56 30.3**	**+1.5**
VIVF				*e*Sg			**Sg**	**07 58 37.4**	**-2.7**
LASF	**Ste Croix**	**7.53**	**125**	*e*Pn			**Pn**	**07 56 30.5**	**+1.5**
LASF				*e*Sg			**Sg**	**07 58 37.1**	**-3.6**
	comp=N,20nm,0.8s								
CABF	**La Chapelle**	**7.58**	**102**	*e*Pn			**Pn**	**07 56 30.5**	**+0.7**
CABF				*e*Sn			**Sn**	**07 57 50.5**	**-5.3**
	comp=N,1.3nm,0.3s								

NEIC ***23*** *07:58:34.7±2.2, 17.°49S±0.°07×69.°3W±0.°1, h158km±9km, mb4.1/13, Error ellipse: s-maj=15.1km s-min=8.6km az=115.0*
GUC ***23*** *07:58:35.8±0.7, 17.°57S×69.°44W, h167km±6km, ML3.9*
VAO ***23*** *07:58:36.2±0.7, 17.°48S×69.°03W, h157km, mb4.0*
IDC ***23*** *07:58:36.1±1.7, 17.°39S×69.°10W, h164km±11km, mb3.9/6, mb1 3.9/6, mb1mx3.5/29, mbtmp4.3/6, Error ellipse: s-maj=26.9km s-min=23.4km az=76.0*

ISC 23 07:58:34.3±0.7, 17.°59S±0.°04×69.°26W±0.°07, h160km±7km, n72, σ1.°961/83, mb4.1/6, 5C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.78**	**197**				**Pn**	**07 59 00.6**	**+1.6**
AP01	**Chacalluta**	**1.29**	**233**	↑	*i*P		**Pn**	**07 59 02.8**	**+0.3**
AP01					*i* S		**Sn**	**07 59 24.2**	**0.0**
AP01					IAML			07 59 28.0	
	comp=E,2μm,0.2s								
AP01	**Chacalluta**	**1.29**	**233**				**Pn**	**07 59 02.8**	**+0.3**
MNMC	**Minye Minye**	**1.57**	**192**	↑	*i*P		**Pn**	**07 59 07.1**	**+1.5**
MNMC					*i* S		**Sn**	**07 59 31.0**	**+1.3**
MNMC					IAML			07 59 36.1	
	comp=E,869nm,0.4s								
MNMC	**Minye Minye**	**1.57**	**192**				**Pn**	**07 59 06.9**	**+1.3**
LPAZ	**La Paz**	**1.69**	**40**	P			**Pn**	**07 59 07.5**	**+0.3**
	comp=E,86nm,0.3s,baz=241,slow=4.8,SNR=3235								
LPAZ					S		**Sn**	**07 59 30.2**	**-2.2**
	comp=E,20nm,0.3s,baz=93,slow=6.1,SNR=17								
LPAZ	**La Paz**	**1.69**	**40**				**Pn**	**07 59 07.2**	**0.0**
LPAZ	**La Paz**	**1.69**	**40**	*e*P			**Pn**	**07 59 07.6**	**+0.3**
PSGC	**Pisagua**	**2.16**	**202**	*e*P			**Pn**	**07 59 12.4**	**+0.5**
PSGC				*i* S			**Sn**	**07 59 40.4**	**-0.7**
PSGC					IAML			07 59 41.3	
	comp=N,1μm,0.3s								
PSGCX	**Pisagua**	**2.16**	**202**				**Pn**	**07 59 12.6**	**+0.7**
PB11	**IPOC Station P**	**2.19**	**190**	*e*P			**Pn**	**07 59 13.8**	**+1.3**
PB11				*i* S			**Sn**	**07 59 42.3**	**+0.3**
PB11					IAML			07 59 44.7	
	comp=E,343nm,0.3s								
PB11	**IPOC Station P**	**2.19**	**190**				**Pn**	**07 59 13.2**	**+0.8**
PB08	**IPOC Station P**	**2.54**	**178**	*e*P			**Pn**	**07 59 18.6**	**+1.9**
PB08				*i* S			**Sn**	**07 59 51.0**	**+1.3**
PB08	**IPOC Station P**	**2.54**	**178**				**Pn**	**07 59 19.0**	**+2.2**
TA02	**Huaiquique**	**2.79**	**197**

	0.9nm,0.3s,baz=348,slow=11,SNR=5.3							
CMAR				LR	LR	08 19 38.6		
	comp=Z,8.2nm,18.6s,baz=185,slow=41							
KURBB	**Kurchatov Arra**	**22.97**	**326**	P	**P**	**08 14 57.9**	**-0.2**	
	0.8nm,0.7s,baz=133,slow=11,SNR=5.7							
ZALV	**Zalesovo Beam**	**23.14**	**339**	P	**P**	**08 15 00.2**	**+0.4**	
	0.8nm,0.6s,baz=151,slow=9.9,SNR=4.4							
KSRS	**Korea Array**	**24.41**	**71**	P	**P**	**08 15 13.0**	**+0.7**	
	0.9nm,0.7s,baz=267,slow=9.1,SNR=4.6							
WRA	**Warramunga Arr**	**62.77**	**142**	P	**P**	**08 20 18.4**	**-0.9**	
	1.0nm,0.6s,baz=337,slow=6.8,SNR=9.3							
ASAR	**Alice Springs**	**65.66**	**144**	P	**P**	**08 20 37.4**	**-0.8**	
	0.8nm,0.5s,baz=337,slow=8.4,SNR=14							

NEIC ***23*** *08:13:28.4±0.9, 19.2°N±0.1°×65.7°W±0.0°, h127km±13km, Error ellipse: s-maj=19.9km s-min=10.0km az=195.0*
RSPR ***23*** *08:13:29.0, 19.25°N×65.74°W, h123km±9km, MD3.1/4*

ISC 23 08:13:29.0±2.1, 19.4°N±0.1°×65.78°W±0.0°, h100km, n23, σ1§30/26, 2C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.13**	**219**	Pn	**Pn**	**08 13 51.3**	**+0.4**
CUPR	**Culebra, Puert**	**1.15**	**156**	*ıeP*	**Pn**	**08 13 51.2**	**+0.1**
CUPR	**Culebra, Puert**	**1.15**	**156**	*eS*	**Sn**	**08 14 08.6**	**+0.8**
CUPR	**Culebra, Puert**	**1.15**	**156**		**Pn**	**08 13 51.2**	**+0.1**
CUPR					**Sn**	**08 14 08.6**	**+0.8**
HUMP	**Col San Antoni**	**1.22**	**183**	*ıeP*	**Pn**	**08 13 52.0**	**0.0**
HUMP	**Col San Antoni**	**1.22**	**183**	*eS*	**Sn**	**08 14 10.2**	**+1.0**
HUMP	**Col San Antoni**	**1.22**	**183**		**Pn**	**08 13 52.0**	**0.0**
HUMP					**Sn**	**08 14 10.2**	**+1.0**
STVI	**Saint Thomas**	**1.27**	**142**	*ıeP*	**Pn**	**08 13 52.4**	**-0.2**
STVI	**Saint Thomas**	**1.27**	**142**	*eS*	**Sn**	**08 14 11.3**	**+1.0**
STVI	**Saint Thomas**	**1.27**	**142**		**Pn**	**08 13 52.4**	**-0.2**
STVI					**Sn**	**08 14 11.3**	**+1.0**
MTP	**Monte Pirata**	**1.28**	**170**	*ıeP*	**Pn**	**08 13 53.0**	**+0.4**
MTP	**Monte Pirata**	**1.28**	**170**	*eS*	**Sn**	**08 14 10.8**	**+0.4**
MTP	**Monte Pirata**	**1.28**	**170**		**Pn**	**08 13 53.0**	**+0.4**
MTP					**Sn**	**08 14 10.8**	**+0.4**
MTP	**Monte Pirata**	**1.28**	**170**	IAML		08 14 19.6	
	comp=E,25nm,3.0s						
SJG	**San Juan**	**1.29**	**196**	Pn	**Pn**	**08 13 52.4**	**-0.4**
SJG				IAML		08 14 30.2	
	comp=E,22nm,2.3s						
PDPR	**Patillas Dam,**	**1.36**	**190**	Pn	**Pn**	**08 13 52.8**	**-0.8**
IGPR	**InterUniversit**	**1.42**	**193**	Pn	**Pn**	**08 13 54.2**	**-0.2**
SEUS	**St. Eustatius**	**3.24**	**125**	Pn	**Pn**	**08 14 16.0**	**-2.0**
SEUS				IAML		08 15 52.6	
	comp=E,313nm,0.1s						
SDDR	**Presa de Saban**	**5.22**	**267**	Pn	**Pn**	**08 14 44.4**	**-0.3**
SDDR				IAML		08 15 32.4	
	comp=E,27nm,3.2s						
SDDR				IAML		08 18 23.7	
	comp=E,36nm,2.9s						
GRTK	**Grand Turk**	**5.46**	**294**	Pn	**Pn**	**08 14 47.4**	**-0.5**
FDF	**Fort de France**	**6.39**	**135**	Pn	**Pn**	**08 14 59.2**	**-1.4**
LGNH	**Logne**	**6.52**	**264**	Pn	**Pn**	**08 14 58.9**	**-3.5**
MPOM	**Morne Pois Mar**	**6.79**	**135**	Pn	**Pn**	**08 15 02.5**	**-3.6**

AAE ***23*** *08:15:40.4±5.4, 10.48°N×43.23°E, h3km±999km*
IDC ***23*** *08:15:44.9±1.6, 11.08°N×42.12°E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.7/55, mbtmp4.1/8, ML3.5/2, MS3.5/22, Ms1 3.5/22, ms1mx3.3/57, Error ellipse: s-maj=36.2km s-min=28.7km az=169.0*
NEIC ***23*** *08:15:49.3±0.8, 11.2°N±0.1°×42.3°E±0.1°, h16km±5km, mb4.4/17, Error ellipse: s-maj=27.3km s-min=5.8km az=139.0*

ISC 23 08:15:47.1±0.6, 11.24°N±0.07°×42.09°E±0.05°, h10km, n57, σ1§86/46, mb4.3/13, MS3.4/19, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**0.80**	**68**	Pg	Pn	08 16 17.7	+13
	454nm,0.3s,baz=77,slow=4.4,SNR=244						
ATD				Lg	Lg	08 16 30.5	
	3µm,0.3s,baz=265,slow=21,SNR=32						
ATD	**Arta Tunnel**	**0.80**	**68**		**Pg**	**08 16 01.6**	**-0.9**
ATD	**Arta Tunnel**	**0.80**	**68**	*eP*	**Pg**	**08 16 01.8**	**-0.7**
ATD				*i* S	**Sb**	**08 16 14.3**	**+0.3**
TEND	**Ethiopian Broa**	**1.20**	**298**	*eP*	Pn	08 16 06.9	-3.1
TEND				*eS*	**Sb**	**08 16 23.7**	**-1.9**
HARA	**HARA**	**2.26**	**149**	*eP*	Pn	08 16 16.1	-8.8
HARA				*eS*	Sn	08 16 40.1	-13
ANKE	**Ethiopia-Afar**	**2.84**	**235**	*eP*	**Pn**	**08 16 31.7**	**-1.1**
ANKE				*eS*	**Sn**	**08 17 08.0**	**+0.7**
AAE	**Adis Abeba**	**3.94**	**236**	*eP*	**Pn**	**08 16 45.8**	**-2.2**
AAE				*eS*	**Sn**	**08 17 39.9**	**+5.4**
AAE	**Adis Abeba**	**3.94**	**236**	*eP*	**Pn**	**08 16 49.4**	**+1.4**
AAE				*eS*	**Sb**	**08 17 41.1**	**-3.7**
FURI	**Furi**	**4.09**	**236**		**Pn**	**08 16 53.0**	**+3.0**
FURI	**Furi**	**4.09**	**236**	*eP*	**Pn**	**08 16 53.6**	**+3.7**
FURI				*eS*	**Sb**	**08 17 45.8**	**-3.2**
FURI	**Furi**	**4.09**	**236**	*eP*	**Pn**	**08 16 53.7**	**+3.7**
FURI				*eS*	**Sb**	**08 17 47.0**	**-2.0**
DILA	**Dilla**	**6.07**	**219**	*eP*	**Pb**	**08 17 31.9**	**-1.4**
DILA				*eS*	**Sb**	**08 18 49.5**	**+3.3**
LODK	**Lodwar**	**10.24**	**221**	Pn	**Pn**	**08 18 16.8**	**+2.5**
KMBO	**Kilima Mbogo**	**13.19**	**202**	Pn	**Pn**	**08 18 51.9**	**-3.0**
	0.1nm,0.3s,baz=23,slow=14,SNR=8.2						
KMBO				LR	LR	08 23 51.1	
	comp=Z,431nm,19.3s,baz=70,slow=37						
MBAR	**Mbarara**	**16.30**	**225**	LR	LR	08 25 43.5	
	comp=Z,319nm,19.0s,baz=107,slow=37						
UOSS	**Minazif**	**19.10**	**43**	P	**P**	**08 20 10.2**	**0.0**
UOSS				IAmb	IAmb	08 20 20.5	
	comp=Z,15nm,0.8s						
WSAR	**Wadi Sarin**	**19.77**	**51**	P	**P**	**08 20 17.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=252,slow=10,SNR=5.2						
WSAR				LR	LR	08 28 43.2	
	comp=Z,143nm,20.7s,baz=264,slow=39						
GNI	**Garni**	**28.89**	**4**	LR	LR	08 33 38.8	
	comp=Z,81nm,19.6s,baz=158,slow=37						
BRTR	**Keskin Array B**	**29.35**	**347**	LR	LR	08 33 43.1	
	comp=Z,47nm,20.4s,baz=170,slow=36						
LSZ	**Lusaka**	**29.72**	**208**	LR	LR	08 33 46.6	
	comp=Z,203nm,20.2s,baz=48,slow=36						
GEYT	**Alibeck**	**30.21**	**26**	LR	LR	08 36 44.6	
	comp=Z,58nm,21.7s,baz=220,slow=42						
KBZ	**Khabaz**	**32.38**	**1**	LR	LR	08 36 00.8	
	comp=Z,84nm,18.6s,baz=170,slow=37						
CHGR	**Chuyangaron**	**36.44**	**37**	P	**P**	**08 22 52.7**	**+0.4**
GAR	**Garm**	**37.35**	**37**	P	**P**	**08 23 00.5**	**+0.4**
BTK	**Batken**	**38.33**	**36**	P	**P**	**08 23 09.2**	**+0.8**
KEST	**Kesra**	**38.38**	**315**	LR	LR	08 39 23.0	
	comp=Z,110nm,19.9s,baz=302,slow=37						
BURAR	**Bucovina Array**	**38.95**	**342**	P	**P**	**08 23 15.0**	**+1.6**
KK31	**Karatay Array**	**40.20**	**33**	P	**P**	**08 23 24.8**	**+1.0**
KKAR	**Karatay Array**	**40.20**	**33**	P	**P**	**08 23 24.2**	**+0.3**
ARSB	**Arslanbob**	**40.41**	**37**	P	**P**	**08 23 25.4**	**-0.3**
ARSB				IAmb	IAmb	08 23 27.8	
	comp=Z,6.0nm,0.8s						
ABKAR	**Akbulak array**	**40.70**	**18**	P	**P**	**08 23 28.5**	**+0.6**
ABKAR	**Akbulak array**	**40.70**	**18**	P	**P**	**08 23 28.4**	**+0.6**
ABKAR				IAmb	IAmb	08 23 30.1	
	comp=Z,5.4nm,1.1s						
AKASG	**Malin Array Be**	**40.74**	**347**	P	**P**	**08 23 28.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=154,slow=6.7,SNR=5.8						
AKASG				LR	LR	08 40 24.0	
	comp=Z,31nm,19.6s,baz=245,slow=36						
AKASG	**Malin Array Be**	**40.74**	**347**	P	**P**	**08 23 28.6**	**+0.4**
AAK	**Ala-Archa**	**42.11**	**36**	LR	LR	08 42 12.1	
	comp=Z,96nm,19.3s,baz=250,slow=38						
BOSA	**Boshof**	**42.83**	**202**	LR	LR	08 42 43.0	
	comp=Z,82nm,18.9s,baz=130,slow=38						
BOOM	**Boomskoye usch**	**42.87**	**37**	P	**P**	**08 23 45.7**	**-0.2**
BOOM				IAmb	IAmb	08 23 48.7	
	comp=Z,10.0nm,1.4s						
KDJ	**Kajisay**	**43.40**	**38**	P	**P**	**08 23 50.3**	**0.0**
KDJ				IAmb	IAmb	08 23 52.7	
	comp=Z,5.0nm,0.9s						
TARG	**Taragay, Kyrgy**	**43.56**	**39**	P	**P**	**08 23 51.8**	**0.0**
TARG				IAmb	IAmb	08 23 54.2	
	comp=Z,7.0nm,0.9s						
GERES	**GERESS Array B**	**44.32**	**333**	LR	LR	08 43 42.8	
	comp=Z,31nm,19.7s,baz=78,slow=38						
ARU	**Arti**	**46.87**	**12**	LR	LR	08 47 07.8	
	comp=Z,38nm,19.4s,baz=264,slow=40						
KIRV	**Kirov**	**47.58**	**5**	LR	LR	08 46 31.9	
	comp=Z,30nm,19.4s,baz=180,slow=39						
MAKZ	**Makanchi**	**48.87**	**36**	P	**P**	**08 24 32.7**	**-0.3**
MAKZ				IAmb	IAmb	08 24 33.8	
	comp=Z,3.1nm,0.9s						
MK31	**Makanchi Array**	**49.04**	**36**	P	**P**	**08 24 34.3**	**0.0**
MK31				IAmb	IAmb	08 24 35.6	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**49.04**	**36**	P	**P**	**08 24 34.4**	**0.0**
	comp=Z,2.2nm,0.8s,baz=232,slow=6.0,SNR=16						
MKAR				LR	LR	08 47 18.6	
	comp=Z,60nm,18.2s,baz=238,slow=38						
KURBB	**Kurchatov Arra**	**49.31**	**30**	P	**P**	**08 24 37.1**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=232,slow=7.9,SNR=20						
ESDC	**Sonseca Array**	**49.57**	**313**	P	**P**	**08 24 39.0**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=117,slow=8.2,SNR=7.1						
ESDC				LR	LR	08 44 35.0	
	comp=Z,41nm,21.8s,baz=165,slow=35						
FINES	**FINESS Array B**	**51.47**	**350**	LR	LR	08 46 40.2	
	comp=Z,21nm,18.8s,baz=176,slow=36						
ZAA0	**Zalesovo Array**	**54.40**	**30**	P	**P**	**08 25 14.2**	**0.0**
ZALV	**Zalesovo Beam**	**54.40**	**30**	P	**P**	**08 25 13.9**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=234,slow=8.0,SNR=12						
ZALV				LR	LR	08 49 58.9	
	comp=Z,62nm,19.6s,baz=276,slow=38						
ZALV	**Zalesovo Beam**	**54.40**	**30**	P	**P**	**08 25 14.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**55.24**	**75**	P	**P**	**08 25 20.4**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=269,slow=7.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**55.24**	**75**	P	**P**	**08 25 19.2**	**-1.8**
ARCES	**ARCESS Array B**	**59.21**	**353**	LR	LR	08 51 34.9	
	comp=Z,26nm,19.0s,baz=35,slow=36						
TLY	**Talaya**	**63.74**	**38**	LR	LR	08 57 49.6	
	comp=Z,57nm,18.2s,baz=273,slow=40						
MA2	**Magadan**	**89.61**	**29**	LR	LR	09 12 32.1	
	comp=Z,56nm,18.9s,baz=236,slow=38						
AS31	**Alice Springs**	**96.07**	**113**	P	**P**	**08 29 13.6**	**-2.0**
AS31				IAmb	IAmb	08 29 14.1	
	comp=Z,2.2nm,1.4s						

NEIC ***23*** *08:22:56.1±0.6, 18.0°N±0.1°×68.58°W±0.06°, h72km±29km, Error ellipse: s-maj=21.6km s-min=8.5km az=181.0*
RSPR ***23*** *08:22:57.0, 18.01°N×68.55°W, h72km±2km, MD3.2/9*

ISC 23 08:22:55.3±1.7, 18.2°N±0.1°×68.58°W±0.0°, h95km, n45, σ0§77/55, 12C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.41**	**28**	*ıeP*	**Pn**	**08 23 09.3**	**-0.5**
PCDR	**Punta Cana, DR**	**0.41**	**28**	*eS*	**Sn**	**08 23 19.7**	**-1.1**
PCDR	**Punta Cana, DR**	**0.41**	**28**		**Pn**	**08 23 09.3**	**-0.5**
PCDR					**Sn**	**08 23 19.7**	**-1.1**
IDE	**Isla Desecheo**	**1.08**	**77**	*ıeP*	**Pn**	**08 23 16.1**	**0.0**
IDE	**Isla Desecheo**	**1.08**	**77**	*eS*	**Sn**	**08 23 30.6**	**-1.3**
IDE	**Isla Desecheo**	**1.08**	**77**		**Pn**	**08 23 16.1**	**0.0**
IDE					**Sn**	**08 23 30.6**	**-1.3**
AGPR	**Aguadilla, PR**	**1.43**	**77**	*ıeP*	**Pn**	**08 23 20.8**	**+0.4**
AGPR	**Aguadilla, PR**	**1.43**	**77**	*eS*	**Sn**	**08 23 39.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.43**	**77**		**Pn**	**08 23 20.8**	**+0.4**
AGPR					**Sn**	**08 23 39.5**	**+0.1**
MLPR	**Magueyes Islan**	**1.47**	**97**	*ıeP*	**Pn**	**08 23 20.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.47**	**97**	*eS*	**Sn**	**08 23 38.8**	**-1.6**
MLPR	**Magueyes Islan**	**1.47**	**97**		**Pn**	**08 23 20.6**	**-0.3**
MLPR					**Sn**	**08 23 38.8**	**-1.6**
AOPR	**Arecibo Observ**	**1.75**	**83**	*ıeP*	**Pn**	**08 23 24.6**	**+0.2**
AOPR	**Arecibo Observ**	**1.75**	**83**	*eS*	**Sn**	**08 23 46.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.75**	**83**		**Pn**	**08 23 24.6**	**+0.2**
AOPR					**Sn**	**08 23 46.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.75**	**83**	IAML		08 23 53.8	
	comp=E,115nm,0.3s						
CELP	**Cerrillos**	**1.90**	**92**	*ıeP*	**Pn**	**08 23 26.3**	**-0.1**
CELP	**Cerrillos**	**1.90**	**92**	*eS*	**Sn**	**08 23 49.8**	**-0.3**
CELP	**Cerrillos**	**1.90**	**92**		**Pn**	**08 23 26.3**	**-0.1**
CELP					**Sn**	**08 23 49.8**	**-0.3**
EMPR	**Esperanza - Ma**	**1.97**	**80**	*ıeP*	**Pn**	**08 23 27.9**	**+0.6**
EMPR	**Esperanza - Ma**	**1.97**	**80**	*eS*	**Sn**	**08 23 51.4**	**-0.3**
EMPR	**Esperanza - Ma**	**1.97**	**80**		**Pn**	**08 23 27.9**	**+0.6**
EMPR					**Sn**	**08 23 51.4**	**-0.3**
SJG	**San Juan**	**2.31**	**91**	Pn	**Pn**	**08 23 31.8**	**+0.1**
IGPR	**InterUniversit**	**2.36**	**94**	*ıeP*	**Pn**	**08 23 32.8**	**+0.5**
IGPR	**InterUniversit**	**2.36**	**94**	*eS*	**Sn**	**08 24 00.1**	**-0.7**
IGPR	**InterUniversit**	**2.36**	**94**		**Sn**	**08 24 00.1**	**-0.7**
CBYP	**Canovanas**	**2.59**	**87**	*ıeP*	**Pn**	**08 23 35.6**	**+0.1**
CBYP	**Canovanas**	**2.59**	**87**	*eS*	**Sn**	**08 24 06.3**	**-0.1**
CBYP	**Canovanas**	**2.59**	**87**		**Pn**	**08 23 35.6**	**+0.1**
CBYP					**Sn**	**08 24 06.3**	**-0.1**
HUMP	**Col San Antoni**	**2.60**	**90**	*ıeP*	**Pn**	**08 23 35.9**	**+0.3**
HUMP	**Col San Antoni**	**2.60**	**90**		**Pn**	**08 23 35.9**	**+0.3**
SDDR	**Presa de Saban**	**2.70**	**288**	Pn	**Pn**	**08 23 39.8**	**+2.9**
SDDR				IAML		08 24 09.6	
	comp=E,28nm,3.0s						
MTP	**Monte Pirata**	**2.88**	**91**	*ıeP*	**Pn**	**08 23 40.1**	**+0.8**
MTP	**Monte Pirata**	**2.88**	**91**	*eS*	**Sn**	**08 24 13.0**	**-0.2**
MTP	**Monte Pirata**	**2.88**	**91**		**Pn**	**08 23 40.1**	**+0.8**
MTP					**Sn**	**08 24 13.0**	**-0.2**
CUPR	**Culebra, Puert**	**3.14**	**87**	*ıeP*	**Pn**	**08 23 43.4**	**+0.7**
CUPR	**Culebra, Puert**	**3.14**	**87**	*eS*	**Sn**	**08 24 19.8**	**+0.4**
CUPR	**Culebra, Puert**	**3.14**	**87**		**Pn**	**08 23 43.4**	**+0.7**
CUPR					**Sn**	**08 24 19.8**	**+0.4**
STVI	**Saint Thomas**	**3.45**	**86**	*ıeP*	**Pn**	**08 23 47.7**	**+0.7**
STVI	**Saint Thomas**	**3.45**	**86**	*eS*	**Sn**	**08 24 27.5**	**+0.6**
STVI	**Saint Thomas**	**3.45**	**86**		**Pn**	**08 23 47.7**	**+0.7**
STVI					**Sn**	**08 24 27.5**	**+0.6**
LGNH	**Logne**	**3.84**	**276**	Pn	**Pn**	**08 23 51.7**	**-0.5**
LGNH				IAML		08 25 30.4	
	comp=E,66nm,2.5s						
GRTK	**Grand Turk**	**4.12**	**325**	Pn	**Pn**	**08 23 57.6**	**+1.7**
GRTK				IAML		08 26 16.1	
	comp=E,71nm,2.5s						
GRTK				IAML		08 26 26.2	
	comp=E,84nm,2.5s						
SEUS	**St. Eustatius**	**5.37**	**96**	Pn	**Pn**	**08 24 12.9**	**-0.2**
ANWB	**Willy Bob**	**6.49**	**93**	Pn	**Pn**	**08 24 28.8**	**+0.6**

TIR ***23*** *08:32:10.7, 40.16°N×21.69°E, h0km±2km, Md3.5, Ml2.7*
THE ***23*** *08:32:12.5, 40.15°N×21.64°E, h6km±1km, ML2.5/10, Error ellipse: s-maj=1.5km s-min=0.5km az=337.0*
ATH ***23*** *08:32:12.3, 40.13°N×21.63°E, h9km±2km, ML2.6/10, Error ellipse: s-maj=3.0km s-min=0.9km az=336.0*
SKO ***23*** *08:32:12.8, 40.09°N×21.60°E, h0km*

ISC 23 08:32:12.4±1.1, 40.14°N±0.02°×21.64°E±0.02°, h3km±9km, n44, σ0§82/75, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.20**	**30**	P	**Pg**	**08 32 16.4**	**+0.1**
KZN				S	**Sg**	**08 32 19.6**	**+0.7**
	2µm,0.4s						
KZN	**Kozani**	**0.20**	**30**	P	**Pg**	**08 32 16.4**	**+0.1**
KZN				S	**Sg**	**08 32 19.6**	**+0.7**
KZN				AML	AML	08 32 20.0	
	comp=E,4275µm,0.4s						
KZN				AML	AML	08 32 24.2	
	comp=N,3867µm,0.4s						
KPRO	**Kipourio**	**0.28**	**230**	P	**Pg**	**08 32 17.8**	**0.0**
KPRO				S	**Sg**	**08 32 22.4**	**+1.0**
	comp=N,2µm,0.3s						
KPRO	**Kipourio**	**0.28**	**230**	P	**Pg**	**08 32 17.5**	**-0.3**
KPRO				S	**Sg**	**08 32 21.4**	**0.0**
KPRO				AML	AML	08 32 25.2	
	comp=N,4060µm,0.3s						
KPRO				AML	AML	08 32 25.7	
	comp=E,3255µm,0.6s						
PENT	**Pentalofos**	**0.39**	**279**	P	**Pg**	**08 32 19.6**	**-0.3**
PENT				S	**Sg**	**08 32 25.6**	**+0.6**
	comp=E,1µm,0.6s						
PENT	**Pentalofos**	**0.39**	**279**	P	**Pg**	**08 32 19.6**	**-0.3**
PENT				S	**Sg**	**08 32 24.9**	**-0.1**
PENT				AML	AML	08 32 28.8	
	comp=N,2727µm,0.5s						
PENT				AML	AML	08 32 30.5	
	comp=E,1970µm,0.4s						
KTI	**Kastanea**	**0.45**	**54**	P	**Pg**	**08 32 21.2**	**+0.2**
NEST	**Nestorio**	**0.53**	**302**	P	**Pg**	**08 32 22.2**	**-0.4**
NEST				S	**Sb**	**08 32 31.0**	**-1.6**
	comp=E,780nm,0.4s						
NEST	**Nestorio**	**0.53**	**302**	P	**Pg**	**08 32 22.3**	**-0.4**
NEST				S	**Sg**	**08 32 29.2**	**-0.3**
NEST				AML	AML	08 32 34.9	
	comp=E,2202µm,0.5s						
NEST				AML	AML	08 32 37.6	
	comp=N,1741µm,0.6s						
THL	**Klokotos Trika**	**0.64**	**153**	P	**Pg**	**08 32 24.1**	**-0.5**
THL				S	**Sb**	**08 32 34.9**	**-0.6**
	comp=N,328nm,0.5s						
THL	**Klokotos Trika**	**0.64**	**153**	P	**Pg**	**08 32 24.0**	**-0.5**
THL				S	**Sg**	**08 32 33.2**	**+0.4**
THL				AML	AML	08 32 40.4	
	comp=E,811µm,0.6s						
THL				AML	AML	08 32 40.4	
	comp=N,480µm,0.4s						
LIT	**Litokhoron**	**0.65**	**93**	P	**Pg**	**08 32 24.5**	**-0.4**
LIT				S	**Sg**	**08 32 33.6**	**+0.3**
	comp=N,1µm,0.2s						
LIT	**Litokhoron**	**0.65**	**93**	P	**Pg**	**08 32 24.3**	**-0.6**
LIT				AML	AML	08 32 37.4	
	comp=E,2520µm,0.2s						
LIT				AML	AML	08 32 38.4	
	comp=N,3261µm,0.4s						
LIT	**Litokhoron**	**0.65**	**93**	*i* Pg	**Pg**	**08 32 24.4**	**-0.4**
LIT				*i* Sg	**Sb**	**08 32 34.8**	**-1.1**
FNA	**Florina**	**0.68**	**343**	P	**Pg**	**08 32 24.9**	**-0.6**
FNA				S	**Sg**	**08 32 34.1**	**-0.1**
	comp=N,1µm,0.4s						
FNA	**Florina**	**0.68**	**343**	P	**Pg**	**08 32 24.8**	**-0.6**
FNA				S	**Sg**	**08 32 34.1**	**-0.1**
FNA				AML	AML	08 32 34.7	
	comp=E,1983µm,0.4s						
FNA				AML	AML	08 32 38.6	
	comp=N,2100µm,0.4s						
FNA	**Florina**	**0.68**	**343**	P	**Pg**	**08 32 24.9**	**-0.6**
	baz=340						
FNA				S	**Sg**	**08 32 34.3**	**0.0**
	baz=340						
FNA	**Florina**	**0.68**	**343**	*i* Pg	**Pg**	**08 32 24.8**	**-0.6**
FNA				*i* Sg	**Sg**	**08 32 34.2**	**0.0**
LSK	**Leskovik**	**0.80**	**271**	P	**Pg**	**08 32 27.4**	**-0.3**
LSK				S	**Sg**	**08 32 38.8**	**+0.8**
LSK	**Leskovik**	**0.80**	**271**	P	**Pg**	**08 32 27.9**	**+0.2**
	baz=270						
LSK				S	**Sb**	**08 32 41.1**	**+0.9**
	baz=270						
LSK				AMP			
	comp=N,1.0nm,1.0s,baz=270						
KBN	**Korca**	**0.81**	**307**	P	**Pg**	**08 32 27.6**	**-0.4**
	baz=305						
KBN				S	**Sb**	**08 32 40.8**	**+0.1**
	baz=305						
KBN				AMP			
	comp=N,2.0nm,0.5s,baz=305						
GRG	**Griva**	**1.00**	**35**	*i* Pg	**Pg**	**08 32 31.3**	**-0.4**
GRG				*i* Sg	**Sn**	**08 32 48.9**	**+0.7**
OHR	**Ohrid**	**1.17**	**327**	*i* Pg	**Pg**	**08 32 34.0**	**-0.7**
OHR				*i* Sg	**Sn**	**08 32 52.2**	**0.0**
OHR				*e*Lg	Lg	08 32 55.2	
	comp=E,299nm,0.5s						
IGT	**Igoumenitsa**	**1.17**	**240**	P	**Pg**	**08 32 34.8**	**-0.1**
IGT	**Igoumenitsa**	**1.17**	**240**	P	**Pg**	**08 32 34.7**	**-0.2**
IGT	**Igoumenitsa**	**1.17**	**240**	P	**Pb**	**08 32 35.4**	**+0.1**
	baz=240						
IGT				S	**Sn**	**08 32 54.4**	**+2.2**
	baz=240						
MAKR	**Makrakomi, Fth**	**1.18**	**161**	P	**Pg**	**08 32 34.3**	**-0.8**
MAKR				S	**Sn**	**08 32 53.0**	**+0.5**
	comp=E,515nm,0.4s						
MAKR	**Makrakomi, Fth**	**1.18**	**161**	P	**Pg**	**08 32 34.2**	**-0.8**
MAKR				AML	AML	08 32 56.1	
	comp=E,1211µm,0.2s						
MAKR				AML	AML	08 32 58.0	
	comp=N,826µm,0.5s						
HORT	**Hortiatis**	**1.21**	**67**	P	**Pg**	**08 32 35.3**	**-0.2**
HORT	**Hortiatis**	**1.21**	**67**	P	**Pg**	**08 32 35.5**	**0.0**
HORT				AML	AML	08 32 56.1	
	comp=N,117µm,0.6s						
HORT				AML	AML	08 32 59.0	
	comp=E,96µm,0.5s						
EVR	**Evrytania**	**1.22**	**174**	P	**Pg**	**08 32 35.0**	**-0.8**
EVR				S	**Sn**	**08 32 53.2**	**-0.4**
	comp=E,112nm,0.3s						
EVR	**Evrytania**	**1.22**	**174**	P	**Pg**	**08 32 34.9**	**-0.8**
AGG	**Agios Georgios**	**1.23**	**154**	P	**Pg**	**08 32 35.8**	**-0.2**
AGG				S	**Sn**	**08 32 54.0**	**+0.3**
	comp=E,132nm,0.4s						
AGG	**Agios Georgios**	**1.23**	**154**	P	**Pg**	**08 32 35.5**	**-0.5**
AGG				AML	AML	08 32 55.5	
	comp=N,246µm,0.4s						
AGG				AML	AML	08 32 59.7	
	comp=E,285µm,0.4s						
SRN	**Sarande**	**1.29**	**259

n28,σ1⁸30/32,mb3.8/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**257**	P	**Pn**	**08 58 07.5**	**-0.2**
JFK				S	**Sn**	**08 58 14.7**	**-0.9**
JMST	**Minamisoumatoc**	**0.55**	**296**	P	**Pn**	**08 58 07.6**	**-0.5**
JMST				S	**Sn**	**08 58 15.2**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.68**	**236**	P	**Pn**	**08 58 09.7**	**-0.2**
ONAJ				S	**Sn**	**08 58 18.5**	**-1.0**
JMM	**Marumori**	**0.68**	**304**	P	**Pn**	**08 58 09.4**	**-0.5**
JMM				S	**Sn**	**08 58 18.4**	**-1.0**
JFFD	**Fukushimafurud**	**0.85**	**243**	P	**Pn**	**08 58 11.8**	**-0.3**
JFFD				S	**Sn**	**08 58 22.1**	**-1.4**
JFT	**Otama**	**0.93**	**272**	P	**Pn**	**08 58 13.1**	**-0.1**
JFT				S	**Sn**	**08 58 24.6**	**-0.8**
JIO	**Ouri**	**0.98**	**353**	P	**Pn**	**08 58 13.9**	**+0.1**
JIO				S	**Sn**	**08 59 25.8**	**-0.7**
JOU	**Okura**	**1.10**	**323**	P	**Pn**	**08 58 15.0**	**-0.6**
JYS	**Shirataka**	**1.36**	**303**	P	**Pn**	**08 58 18.7**	**-0.4**
JFY	**Yanaizu**	**1.44**	**267**	P	**Pn**	**08 58 19.7**	**-0.4**
JMK	**Ichinoseki**	**1.48**	**351**	P	**Pn**	**08 58 20.9**	**+0.1**
JMK				S	**Sn**	**08 58 38.4**	**-0.5**
JYK	**Kaneyama**	**1.69**	**328**	P	**Pn**	**08 58 23.7**	**0.0**
JYK				*e*S	**Sn**	**08 58 42.7**	**-1.4**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=70,slow=12,SNR=20	**2.80**	**251**	P	**Pn**	**08 58 39.2**	**+0.3**
MAT	**Matsushiro**	**2.80**	**251**	P	**Pn**	**08 58 39.4**	**+0.5**
MAT				*e*S	**Sn**	**08 59 11.6**	**+0.1**
JHJ	**Hachijo jima 2** 5.2nm,0.3s,baz=230,slow=20,SNR=1.6	**4.58**	**198**	P	**Pn**	**08 59 03.0**	**-0.2**
JHJ				S	**Sn**	**08 59 55.3**	**+0.1**
ASAJ	**Asahikawa** comp=Z,35nm,19.8s,baz=154,slow=35	**6.68**	**7**	LR	LR	09 01 54.9	
USRK	**Ussuriysk Ar.** baz=128,slow=13,SNR=5.8	**9.84**	**316**	P	**Pn**	**09 00 19.6**	**+4.1**
KSRS	**Korea Array** 0.1nm,0.3s,baz=93,slow=14,SNR=8.2	**10.80**	**274**	P	**Pn**	**09 00 32.5**	**+4.0**
KSRS				LR	LR	09 04 08.0	
H11N2	**WAKE ISLAND Hy 28.32** baz=315,slow=75,SNR=40	**122**		T	T	09 34 05.1	
H11N1	**WAKE ISLAND Hy 28.33** baz=315,slow=75,SNR=25	**122**		T	T	09 34 02.8	
H11N3	**WAKE ISLAND Hy 28.34** baz=315,slow=75,SNR=23	**122**		T	T	09 34 12.5	
H11S1	**WAKE ISLAND Hy 29.05** baz=316,slow=76,SNR=21	**124**		T	T	09 35 00.9	
H11S3	**WAKE ISLAND Hy 29.05** baz=316,slow=76,SNR=16	**124**		T	T	09 34 51.5	
H11S2	**WAKE ISLAND Hy 29.06** baz=316,slow=76,SNR=18	**124**		T	T	09 34 39.1	
MKAR	**Makanchi Array** 1.6nm,0.8s,baz=92,slow=9.8,SNR=11	**43.94**	**302**	P	**P**	**09 05 58.2**	**-0.9**
KURBB	**Kurchatov Arra** 1.9nm,0.7s,baz=84,slow=8.2,SNR=14	**45.78**	**308**	P	**P**	**09 06 12.5**	**-1.2**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=4.8,slow=7.4,SNR=10	**57.52**	**188**	P	**P**	**09 07 41.0**	**-0.5**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=20,slow=5.9,SNR=2.4	**61.24**	**188**	P	**P**	**09 08 06.9**	**-0.3**

BJI ***23*** *08:59:53.2±0.0, 19°.34S×175°.07W, h121km, mB5.6/40, mb5.7/67*

MOS ***23*** *08:59:53.3±1.0, 19°.51S×175°.09W, h126km, mb5.4/73, Error ellipse: s-maj=6.9km s-min=6.1km az=68.7*

NOU ***23*** *08:59:54.5, 19°.57S×174°.63W, h171km, mb5.7, Tonga Islands*

NEIC ***23*** *08:59:55, 19°.49S×174°.98W, h137km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=2.00; Mθθ=1.18; Mϕϕ=0.82; Mrθ=-0.47; Mθϕ=1.02; Mϕr=-0.84; Fault plane solution: M₀=2.23000×10¹⁷ NP1:ϕ₁=41.28000°, δ=57.69000°, λ=-99.46000°. NP2:ϕ₂=238.60000°, δ=33.52000°, λ=-75.43000°. Principal axes: T 2.2267, Plg12.0000°, Azm138.0000°; N 0.0136, Plg8.0000°, Azm46.0000°; P -2.2403, Plg75.0000°, Azm284.0000°;*

NEIC ***23*** *08:59:55.8±1.6, 19°.57S±0°.08×175°.04W±0°.07, h138km±1km, mb5.5/456, Mwb5.5/14, Mwc5.4(GCMT) Error ellipse: s-maj=12.8km s-min=11.3km az=172.0*

BGR ***23*** *08:59:56.6±0.0, 20°.17S×174°.75W, h149km±4km*

IDC ***23*** *08:59:57.1±0.5, 19°.60S×175°.32W, h143km±4km, mb5.2/33, mb1 5.3/33,mb1mx5.3/33,mbtmp5.6/33,MS4.0/16, Ms1 4.0/16,ms1mx3.8/35,Error ellipse: s-maj=11.1km s-min=9.8km az=166.0*

GCMT ***23*** *08:59:58.8±0.1, 19°.72S±0°.01×174°.94W±0°.01, h150km, MW5.4/148,Moment Tensor Solution. s130,c213; s148,c277; Duration: 1⁸2 Moment tensor: Scale 10¹⁷Nm; Mrr=1.08±.02; Mθθ=0.99±.03; Mϕϕ=0.09±.03; Mrθ=0.29±.02; Mθϕ=0.60±.02; Mϕr=-1.15±.02; Best double couple: M₀1.67300×10¹⁷ NP1:ϕ₁=267.00000°, δ34.00000°, λ=-42.00000°. NP2:ϕ₂=34.00000°, δ=68.00000°, λ=-116.00000°. Principal axes: T 1.5610, Plg19.0000°, Azm143.0000°; N 0.2270, Plg24.0000°, Azm44.0000°; P -1.7850, Plg58.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***23*** *08:59:59, 19°.73S×174°.92W, h152km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.13; Mθθ=0.93; Mϕϕ=0.20; Mrθ=-0.29; Mθϕ=0.61; Mϕr=-1.17; Fault plane solution: M₀1.71000×10¹⁷ NP1:ϕ₁=263.00000°, δ=32.00000°, λ=-44.00000°. NP2:ϕ₂=32.00000°, δ=68.00000°, λ=-114.00000°. Principal axes: T 1.5828, Plg20.0000°, Azm140.0000°; N 0.2300, Plg22.0000°, Azm42.0000°; P -1.8128, Plg59.0000°, Azm268.0000°;*

ISC ***23*** **08:59:55.5±0.3,19°.76S±0°.03×175°.07W±0°.04, h145km±2km,h145km:pP-P,n1568,σ1⁸48/1750,mb5.6/382, 118C-218D,Fault plane solution: NP1:ϕ₁=256.52493°, δ=37.97734°, λ=-57.87639°. NP2:ϕ₂=37.98633°, δ=58.59115°, λ=-112.54374°. Principal axes:** T Plg10.8873°, Azm144.0119°; N Plg19.0996°, Azm50.1930°; P Plg67.8018°, Azm262.1342°;

Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=5.0,SNR=373	**4.90**	**83**	P	**Pn**	**09 01 05.6**	**-1.8**
NIUE	baz=5.0			S	**Sn**	**09 01 56.4**	**-7.1**
NIUE	**Niue**	**4.90**	**83**	Pn	**Pn**	**09 01 05.5**	**-2.0**
AFI	**Afiamalu**	**6.62**	**29**	P	Pn	09 01 25.5	-5.0
AFI	**Afiamalu**	**6.62**	**29**		Pn	09 01 25.5	-5.1
AFI	**Afiamalu**	**6.62**	**29**	P	Pn	09 01 24.2	-6.3
MSVF	**Nonsavu** 19nm,0.3s,baz=121,slow=9.6,SNR=176	**6.83**	**286**	P	**Pn**	**09 01 36.7**	**+3.3**
MSVF	**Nonsavu**	**6.83**	**286**	P	**Pn**	**09 01 32.4**	**-0.9**
MSVF	**Nonsavu**	**6.83**	**286**	Pn	**Pn**	**09 01 32.4**	**-0.9**
MSVF	**Nonsavu**	**6.83**	**286**	P	**Pn**	**09 01 36.7**	**+3.3**
RAO	**Raoul Island**	**9.80**	**195**	P	**Pn**	**09 02 12.2**	**-0.7**
RAO	**Raoul Island**	**9.80**	**195**	Pn	**Pn**	**09 02 12.2**	**-0.7**
GLKZ	**Green Lake**	**9.81**	**195**	P	**Pn**	**09 02 13.8**	**+0.8**
GLKZ				S	**Sn**	**09 03 56.8**	**-4.7**
FUNA	**Funafuti**	**12.47**	**333**	Pn	**Pn**	**09 02 46.1**	**-2.0**
RAR	**Rarotonga** 24nm,0.3s,baz=244,slow=4.8,SNR=15	**14.40**	**98**	P	**Pn**	**09 03 12.5**	**-0.3**
RAR	**Rarotonga**	**14.40**	**98**	P	**Pn**	**09 03 12.8**	**0.0**
RAR	**Rarotonga**	**14.40**	**98**	Pn	**Pn**	**09 03 12.8**	**0.0**
PINNC	**Pines Island,**	**16.55**	**257**	P	**Pn**	**09 03 40.8**	**+1.5**
PINNC	**Pines Island,**	**16.55**	**257**	P	**Pn**	**09 03 42.1**	**+2.8**
LIFNC	**LIFOU**	**16.63**	**263**	P	**Pn**	**09 03 41.5**	**+1.2**
LIFNC	**LIFOU**	**16.63**	**263**	P	**Pn**	**09 03 41.9**	**+1.6**
YATNC	**Mamie plateau,**	**17.01**	**259**	P	**Pn**	**09 03 47.2**	**+2.3**
OUENC	**Ouen Island, N**	**17.09**	**258**		**Pn**	**09 03 46.7**	**+0.9**
OUENC	**Ouen Island, N**	**17.09**	**258**	P	**Pn**	**09 03 48.4**	**+2.6**
DZM	**Mont Dzumac** 31nm,0.3s,baz=83,slow=16,SNR=246	**17.43**	**259**	P	**Pn**	**09 03 51.2**	**+1.2**
DZM	**Mont Dzumac** 4μm,0.9s	**17.43**	**259**	*e*P	**Pn**	**09 03 51.5**	**+1.5**
SANVU	**Saraoutou**	**17.44**	**281**	P	**Pn**	**09 03 51.5**	**+1.5**
ONTNC	**Ouen Toro**	**17.44**	**258**	P	**Pn**	**09 03 51.0**	**+1.1**
ONTNC	**Ouen Toro**	**17.44**	**258**	P	**Pn**	**09 03 51.7**	**+1.7**
NOUC	**Port Laguerre**	**17.56**	**259**	P	**Pn**	**09 03 53.0**	**+1.5**
OUZ	**Omahuta**	**18.37**	**211**	P	**Pn**	**09 04 01.7**	**+0.8**
GRZ	**Great Barrier**	**18.42**	**205**	P	**Pn**	**09 04 01.5**	**+0.1**
WCZ	**Waipu Caves**	**18.62**	**208**	P	**Pn**	**09 04 03.2**	**-0.6**
MXZ	**Matakaoa Point**	**18.66**	**197**	P	**Pn**	**09 04 04.5**	**+0.3**
MXZ				IAmb	IAmb	09 04 07.3	
	comp=Z,103nm,0.5s						
KUZ	**Kuaotunu**	**18.75**	**204**	P	**Pn**	**09 04 05.8**	**+0.5**
TWGZ	**Tauwhareparae**	**19.32**	**197**	P	**Pn**	**09 04 12.2**	**+0.1**
TWGZ				S	S	09 07 26.4	-14
KOUNC	**Koumac, New Ca**	**19.40**	**264**	P	**Pn**	**09 04 12.0**	**-1.1**
CNGZ	**Carnagh Statio**	**19.55**	**196**	P	**Pn**	**09 04 14.3**	**-0.4**
CNGZ				S	**S**	**09 07 37.0**	**-7.8**
MWZ	**Matawai**	**19.59**	**198**	P	**P**	**09 04 13.4**	**+1.0**
MWZ				S	**S**	**09 07 36.1**	**-10**
TKGZ	**Te Karaka**	**19.60**	**197**	P	**P**	**09 04 13.4**	**+1.0**
TKGZ				S	S	09 07 32.7	-13
EDRZ	**Edgecumbe**	**19.62**	**200**	P	**Pn**	**09 04 15.0**	**-0.6**
URZ	**Urewera** comp=Z,51nm,0.3s,baz=121,slow=24,SNR=143	**19.64**	**199**	P	**P**	**09 04 12.1**	**-0.8**
URZ	**Urewera**	**19.64**	**199**	P	**P**	**09 04 13.8**	**+0.8**
URZ				IAmb	IAmb	09 04 15.7	
	comp=Z,230nm,0.6s						
URZ	**Urewera**	**19.64**	**199**	P	**P**	**09 04 12.5**	**-0.4**
URZ				S	**S**	**09 07 37.8**	**-8.9**
KMRZ	**Kaimai**	**19.65**	**202**	P	**Pn**	**09 04 16.0**	**+0.1**
KARZ	**Kaharoa**	**19.70**	**201**	P	**Pn**	**09 04 17.0**	**+0.5**
OMRZ	**Omania**	**19.74**	**200**	P	**Pn**	**09 04 16.5**	**-0.5**
NGRZ	**Ngongotaha**	**19.79**	**201**	P	**Pn**	**09 04 17.8**	**+0.2**
TARZ	**Mount Tarawera**	**19.81**	**200**	P	**Pn**	**09 04 17.9**	**0.0**
UTU	**Utuhina**	**19.86**	**201**	P	**Pn**	**09 04 19.2**	**+0.9**
RIGZ	**Rimuhau**	**19.88**	**197**	P	**Pn**	**09 04 17.5**	**-1.1**
RIGZ				S	S	09 07 40.2	-11
HLRZ	**Highlands Stat**	**19.88**	**200**	P	**Pn**	**09 04 17.4**	**-1.1**
RRRZ	**Republican Roa**	**19.90**	**200**	P	**Pn**	**09 04 17.9**	**-1.0**
RRRZ				S	S	09 07 37.2	-15
MUGZ	**Murupara**	**19.95**	**199**	P	**P**	**09 04 16.8**	**+0.5**
MUGZ				S	**S**	**09 07 45.0**	**-7.7**
HSRZ	**Hossack Road**	**19.96**	**200**	P	**Pn**	**09 04 20.1**	**+0.5**
HRRZ	**Handcock Road**	**20.02**	**200**	P	**P**	**09 04 18.0**	**+0.9**
GRRZ	**Galatos Road**	**20.04**	**201**	P	Pn	09 04 20.3	-0.2
PRGZ	**Paritu Road**	**20.05**	**196**	P	Pn	09 04 20.3	-0.3
PRGZ				S	**S**	**09 07 50.6**	**-4.0**
SNGZ	**Shannon Statio**	**20.06**	**198**	P	Pn	09 04 19.8	-0.9
SNGZ				S	**S**	**09 07 45.9**	**-9.1**
PRRZ	**Plateau Road**	**20.09**	**200**	P	Pn	09 04 19.6	-1.5
ALRZ	**Allen Road**	**20.16**	**200**	P	**P**	**09 04 19.2**	**+0.7**
WPRZ	**Whakapapataran**	**20.18**	**200**	P	Pn	09 04 20.7	-1.4
KNZ	**Kokohu**	**20.20**	**197**	P	Pn	09 04 22.0	-0.3
KNZ				S	**S**	**09 07 48.1**	**-9.4**
TLZ	**Tolley Road**	**20.22**	**202**	P	**P**	**09 04 20.4**	**+1.2**
MHGZ	**Mahia Peninsul**	**20.26**	**196**	P	Pn	09 04 21.8	-1.2
RAHZ	**Arahi**	**20.26**	**198**	P	**P**	**09 04 19.3**	**-0.2**
RAHZ				S	**S**	**09 07 51.8**	**-7.1**
KUTZ	**Kaahu Road**	**20.27**	**201**	P	Pn	09 04 23.0	-0.2
MTHZ	**Maungataniwha**	**20.27**	**198**	P	**P**	**09 04 21.5**	**+1.8**
MTHZ				S	**S**	**09 07 50.6**	**-8.6**
WHHZ	**Waihua**	**20.37**	**197**	P	Pn	09 04 23.5	-0.8
WHHZ				S	**S**	**09 07 55.6**	**-5.4**
MRHZ	**Matea Rd**	**20.39**	**199**	P	**P**	**09 04 21.7**	**+0.7**
MRHZ				S	**S**	**09 07 52.0**	**-9.4**
NMHZ	**Naumai**	**20.51**	**198**	P	**P**	**09 04 23.5**	**+1.2**
NMHZ				S	**S**	**09 07 56.4**	**-7.5**
ARHZ	**Aropaoanui**	**20.61**	**198**	P	Pn	09 04 26.1	-1.0
ARHZ				S	**S**	**09 07 59.1**	**-6.6**
RATZ	**Rangitukua**	**20.62**	**201**	P	**P**	**09 04 24.0**	**+0.6**
HIZ	**Hauiti**	**20.63**	**203**	P	Pn	09 04 26.6	-0.8
HIZ				IAmb	IAmb	09 04 44.8	
	comp=Z,151nm,0.7s						
HIZ	**Hauiti**	**20.63**	**203**	P	Pn	09 04 26.2	-1.2
BKZ	**Black Stump Fm**	**20.67**	**199**	P	**P**	**09 04 23.8**	**-0.1**
BKZ	**Black Stump Fm**	**20.67**	**199**	P	**P**	**09 04 23.0**	**-0.9**
BKZ				S	**S**	**09 08 03.6**	**-3.4**
RITZ	**Rihia Road**	**20.70**	**200**	P	**P**	**09 04 24.2**	**0.0**
MCHZ	**McNeill Hill**	**20.86**	**198**	P	**P**	**09 04 26.0**	**+0.1**
MCHZ				S	**S**	**09 08 03.2**	**-7.4**
WTVZ	**West Tongariro**	**20.91**	**201**	P	**P**	**09 04 26.5**	**-0.2**
KWHZ	**Kaweka Forest**	**20.93**	**199**	P	**P**	**09 04 27.5**	**+0.8**
KWHZ				S	**S**	**09 08 02.9**	**-9.0**
OTVZ	**Oturere**	**20.93**	**201**	P	**P**	**09 04 25.8**	**-1.0**
SNVZ	**South Ngauruho**	**20.96**	**201**	P	**P**	**09 04 26.8**	**-0.4**
TUVZ	**Tukino**	**21.03**	**200**	P	**P**	**09 04 27.6**	**-0.3**
TUVZ				S	**S**	**09 08 08.1**	**-5.8**
FWVZ	**Far West T-bar**	**21.05**	**201**	P	**P**	**09 04 28.1**	**-0.2**
WHVZ	**Whangaehu Hut**	**21.06**	**201**	P	**P**	**09 04 27.9**	**-0.5**
BHHZ	**Black Hill Sta**	**21.10**	**199**	P	**P**	**09 04 26.5**	**-2.0**
BHHZ				S	**S**	**09 08 07.1**	**-8.0**
WNVZ	**Wahianoa**	**21.10**	**200**	P	**P**	**09 04 28.0**	**-0.7**
MOVZ	**Moawhango**	**21.12**	**200**	P	**P**	**09 04 27.9**	**-1.0**
KAHZ	**Kahuranaki**	**21.14**	**197**	P	**P**	**09 04 29.8**	**+0.8**
KRHZ	**Kereru**	**21.14**	**199**	P	**P**	**09 04 29.0**	**0.0**
PKVZ	**Pokaka**	**21.15**	**201**	P	**P**	**09 04 28.6**	**-0.5**
VRZ	**Vera Road**	**21.20**	**202**	P	**P**	**09 04 31.9**	**+2.3**
PXZ	**Pawanui**	**21.36**	**197**	P	**P**	**09 04 32.4**	**+1.1**
PNHZ	**Pukenui**	**21.44**	**199**	P	**P**	**09 04 30.5**	**-1.7**
WPHZ	**Waipukurau**	**21.51**	**198**	P	**P**	**09 04 33.3**	**+0.4**
PKE	**Pukeiti**	**21.55**	**204**	P	**P**	**09 04 36.3**	**+2.9**
NEZ	**North Egmont**	**21.58**	**203**	P	**P**	**09 04 36.6**	**+2.9**
PREZ	**Palmer Road**	**21.61**	**203**	P	**P**	**09 04 37.3**	**+3.2**
LREZ	**Lake Rotokare**	**21.63**	**203**	P	**P**	**09 04 37.6**	**+3.5**
PRHZ	**Porangahau**	**21.64**	**197**	P	**P**	**09 04 36.6**	**+2.2**
TSZ	**Takapari Road**	**21.65**	**199**	P	**P**	**09 04 33.3**	**-1.1**
NBEZ	**Newall Road No**	**21.66**	**204**	P	**P**	**09 04 37.4**	**+2.9**
WAZ	**Wanganui**	**21.69**	**201**	P	**P**	**09 04 34.8**	**0.0**
NMEZ	**Namu Road**	**21.78**	**204**	P	**P**	**09 04 39.7**	**+3.9**
ANWZ	**Angora Road**	**21.87**	**198**	P	**P**	**09 04 38.6**	**+2.0**
POWZ	**Post Office Ro**	**22.01**	**199**	P	**P**	**09 04 37.9**	**-0.2**
PRWZ	**Pori Road**	**22.10**	**198**	P	**P**	**09 04 39.4**	**+0.4**
BFZ	**Birch Farm**	**22.14**	**198**	P	**P**	**09 04 41.9**	**+2.5**
BFZ				IAmb	IAmb	09 04 42.1	
	comp=Z,94nm,0.6s						
BFZ	**Birch Farm**	**22.14**	**198**	P	**P**	**09 04 38.5**	**-0.9**
MRZ	**Mangatainoka R**	**22.32**	**199**	P	**P**	**09 04 39.3**	**-1.9**
HOWZ	**Holdsworth Sta**	**22.55**	**199**	P	**P**	**09 04 43.4**	**-0.1**
OGWZ	**Otaki Gorge**	**22.59**	**200**	P	**P**	**09 04 43.5**	**-0.3**
TMWZ	**Te Maipa**	**22.63**	**198**	P	**P**	**09 04 45.8**	**+1.5**
MTWZ	**Mount Morrison**	**22.80**	**199**	P	**P**	**09 04 47.1**	**+0.3**
PAWZ	**Panuai Farm**	**23.02**	**199**	P	**P**	**09 04 48.5**	**+0.6**
MSWZ	**Moikau Station**	**23.11**	**199**	P	**P**	**09 04 49.8**	**+1.1**
SNZO	**South Karori**	**23.18**	**200**	P	**P**	**09 04 49.4**	**+0.1**
SNZO				IAmb	IAmb	09 04 55.4	
	comp=Z,98nm,0.8s						
BHW	**Baring Head**	**23.22**	**199**	P	**P**	**09 04 50.6**	**+1.0**
PLWZ	**Palliser**	**23.25**	**199**	P	**P**	**09 04 50.8**	**+0.9**
QRZ	**Quartz Range**	**23.52**	**204**	P	**P**	**09 04 54.1**	**+1.7**
TUWZ	**Tuamarina**	**23.54**	**201**	P	**P**	**09 04 52.0**	**-0.5**
NNZ	**Nelson**	**23.55**	**202**	P	**P**	**09 04 51.6**	**-1.0**
NNZ				IAmb	IAmb	09 04 58.0	
	comp=Z,119nm,0.6s						
CMWZ	**Cape Campbell**	**23.74**	**200**	P	**P**	**09 04 55.5**	**+1.2**
BSWZ	**Blackbirch Sta**	**23.82**	**201**	P	**P**	**09 04 56.4**	**+1.4**
TARA	**Tarawa**	**24.07**	**329**	P	**P**	**09 04 56.5**	**-1.1**
TBI	**Tubuai** comp=Z,1μm,1.3s	**24.07**	**103**	*e*P	**P**	**09 04 57.3**	**-0.3**
TBI	**Tubuai** comp=Z,40nm,0.2s	**24.07**	**103**	*e*T	T	09 29 24.8	
THZ	**Tophouse**	**24.20**	**202**	P	**P**	**09 04 59.4**	**+0.9**
THZ				IAmb	IAmb	09 05 05.2	
	comp=Z,145nm,0.5s						
PAE	**Paea** comp=Z,66nm,1.2s	**24.22**	**89**	*e*P	**P**	**09 04 59.7**	**+0.7**
PAE	**Paea** comp=Z,15nm,0.3s	**24.22**	**89**	*e*T	T	09 29 20.0	
PPT2	**Papeete2** comp=Z,306nm,1.4s	**24.24**	**89**	*e*P	**P**	**09 05 00.2**	**+1.0**
PPT2	**Papeete2** comp=Z,11nm,0.2s	**24.24**	**89**	*e*T	T	09 29 23.4	
PPT	**Papeete** comp=Z,212nm,1.0s,baz=90,slow=23,SNR=7.1	**24.24**	**89**	P	**P**	**09 05 01.8**	**+2.6**
PPTF	**Pamatai, Papee**	**24.25**	**89**	P	**P**	**09 05 00.7**	**+1.3**
TIAR	**Tiarei** comp=Z,51nm,1.0s	**24.46**	**89**	*e*P	**P**	**09 05 02.0**	**+0.8**
TIAR	**Tiarei** comp=Z,1.4nm,0.2s	**24.46**	**89**	*e*T	T	09 29 31.7	
KHZ	**Kahutara**	**24.55**	**201**		**P**	**09 05 02.9**	**+1.2**
KHZ				IAmb	IAmb	09 05 07.8	
	comp=Z,120nm,0.8s						
LTZ	**Lake Taylor**	**25.32**	**202**	P	**P**	**09 05 09.1**	**+0.4**
MEH	**Mehetia** comp=Z,117nm,0.2s	**25.62**	**90**	*e*T	T	09 31 17.9	
OXZ	**Oxford**	**25.87**	**202**	P	**P**	**09 05 13.6**	**-0.1**
MQZ	**McQueen's Vall**	**26.00**	**201**	P	**P**	**09 05 15.9**	**+1.2**
MQZ				IAmb	IAmb	09 05 23.3	
	comp=Z,55nm,0.6s						
HNR	**Honiara** comp=Z,392nm,0.9s,baz=200,slow=3.8,SNR=8.3	**26.23**	**289**	P	**P**	**09 05 15.6**	**-1.6**
HNR				LR	LR	09 13 59.8	
	comp=Z,610nm,19.4s,baz=106,slow=32						
HNR	**Honiara**	**26.23**	**289**	P	**P**	**09 05 17.6**	**+0.4**
HNR	comp=Z,66nm,1.0s			pmax	pmax		
HNR	**Honiara**	**26.23**	**289**	P	**P**	**09 05 17.6**	**+0.4**
PMOR	**Pomariorio Ree** comp=Z,325nm,1.3s	**26.34**	**84**	*e*P	**P**	**09 05 20.1**	**+1.9**
VAH	**Vaihoa** comp=Z,94nm,1.1s	**26.54**	**85**	*e*P	**P**	**09 05 21.6**	**+1.7**
RPZ	**Rata Peaks**	**26.57**	**203**	P	**P**	**09 05 20.4**	**+0.4**
FOZ	**Fox Glacier**	**26.88**	**205**	P	**P**	**09 05 23.4**	**+0.7**
LBZ	**Lake Benmore**	**27.46**	**203**	P	**P**	**09 05 27.7**	**-0.2**
ODZ	**Otahua Downs**	**27.86**	**202**	P	**P**	**09 05 33.2**	**+1.8**
WKZ	**Wanaka**	**28.28**	**204**	P	**P**	**09 05 36.2**	**+1.0**
WKZ	comp=Z,68nm,0.5s			IAmb	IAmb	09 05 48.0	
MLZ	**Mavora Lakes**	**29.08**	**205**	P	**P**	**09 05 43.3**	**+1.0**
MLZ	comp=Z,51nm,0.8s			IAmb	IAmb	09 05 43.8	
DCZ	**Deep Cove**	**29.55**	**206**	P	**P**	**09 05 48.1**	**+1.7**
WHZ	**Wether Hill Ro**	**29.59**	**204**	P	**P**	**09 05 47.6**	**+0.9**
WHZ	comp=Z,108nm,0.6s			IAmb	IAmb	09 05 52.1	
PYZ	**Puysegur Point**	**30.31**	**206**	P	**P**	**09 05 55.0**	**+1.9**
PYZ	comp=Z,62nm,1.0s			IAmb	IAmb	09 06 17.2	
EIDS	**Eidsvold** baz=32,SNR=71	**31.70**	**254**	P	**P**	**09 06 05.3**	**-0.3**
EIDS	**Eidsvold**	**31.70**	**254**	P	**P**	**09 06 06.1**	**+0.5**
ARMA	**Armidale** baz=32,SNR=21	**31.87**	**244**	P	**P**	**09 06 06.4**	**-0.7**
ARMA	**Armidale**	**31.87**	**244**	P	**P**	**09 06 07.8**	**+0.6**
MGCD	**Mangrove Creek** baz=33,SNR=12	**32.95**	**239**	P	**P**	**09 06 16.8**	**+0.4**
RMQ	**Roma** baz=34,SNR=32	**33.86**	**252**	P	**P**	**09 06 23.8**	**-0.6**
CAN	**Canberra**	**35.21**	**236**	P	**P**	**09 06 36.3**	**+0.3**
CAN	comp=Z,12nm,1.3s			pmax	pmax		
CAN	**Canberra**	**35.21**	**236**	P	**P**	**09 06 36.3**	**+0.3**
CAN	comp=Z,120nm,1.3s			IAmb	IAmb	09 06 37.2	
RABL	**Rabaul**	**35.49**	**292**	P	**P**	**09 06 37.4**	**-1.1**
MILA	**Mila** baz=36,SNR=9.4	**35.62**	**233**	P	**P**	**09 06 39.1**	**-0.3**
CTA	**Charters Tower** comp=Z,431nm,0.6s,baz=94,slow=12	**36.31**	**263**	P	**P**	**09 06 45.4**	**-0.1**
CTAO	**Charters Tower**	**36.31**	**263**	P	**P**	**09 06 46.0**	**+0.5**
CTAO	comp=Z,53nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**36.31**	**263**	P	**P**	**09 06 46.0**	**+0.5**
CMSA	**Cobar Meteorol** baz=37,SNR=82	**37.08**	**244**	P	**P**	**09 06 51.4**	**-0.5**
PMG	**Port Moresby** comp=Z,540nm,0.9s,baz=92,slow=5.2,SNR=57	**37.90**	**280**	P	**P**	**09 06 58.6**	**-0.2**
PMG	**Port Moresby**	**37.90**	**280⇑**	*e*P	**P**	**09 06 57.1**	**-1.8**
PMG	comp=Z,65nm,1.0s			pmax	pmax		
PMG	**Port Moresby**	**37.90**	**280**	P	**P**	**09 06 59.4**	**+0.5**
PMG	**Port Moresby** comp=Z,4μmcomp=Z,604nm,1.1s	**37.90**	**280**	P	**P**	**09 06 58.8**	**-0.1**
PMG	**Port Moresby**	**37.90**	**280**	P	**P**	**09 06 58.7**	**-0.2**
PMG	**Port Moresby**	**37.90**	**280**	P	**P**	**09 06 58.7**	**-0.2**
QLP	**Quilpie** baz=38,SNR=18	**37.91**	**252**	P	**P**	**09 06 58.6**	**-0.2**
MTSU	**Mount Surprise** baz=38,SNR=164	**38.39**	**265**	P	**P**	**09 07 02.7**	**-0.4**
TOO	**Toolangi** baz=39,SNR=45	**38.56**	**234**	P	**P**	**09 07 03.8**	**-0.4**
TOO	**Toolangi**	**38.56**	**234**	P	**P**	**09 07 05.1**	**+0.8**
TOO	comp=Z,43nm,0.8s			pmax	pmax		
TOO	**Toolangi**	**38.56**	**234**	P	**P**	**09 07 05.1**	**+0.8**
TOO	comp=Z,43nm,0.8s			IAmb	IAmb	09 07 06.8	
TAU	**Tasmania Unive**	**39.09**	**225**	P	**P**	**09 07 10.6**	**+2.1**
TAU	comp=Z,38nm,0.7s			pmax	pmax		
TAU	**Tasmania Unive**	**39.09**	**225**	P	**P**	**09 07 10.6**	**+2.1**
TAU	comp=Z,38nm,0.7s			IAmb	IAmb	09 07 11.2	
STKA	**Stephens Creek** comp=Z,23nm,0.7s,ba

comp=Z,6µmcomp=Z,597nm,1.0s
SAUI Saumlaki 53.17 275 P **P** **09 08 60.0 +0.9**
SAUI Saumlaki 53.17 275 P **P** **09 08 59.6 +0.6**
comp=Z,14µmcomp=Z,1µm,1.2s
MWPI Manokwari, Pap 53.17 284 P **P** **09 08 59.3 +0.3**
comp=Z,3µmcomp=Z,290nm,0.6s
KNRA Kununurra 53.47 265 P **P** **09 09 00.4 -0.8**
baz=53,SNR=125
KNRA Kununurra 53.47 265 P **P** **09 09 01.4 +0.2**
FAKI Fak Fak 54.04 281 P **P** **09 09 05.0 -0.3**
FAKI Fak Fak 54.04 281 P **P** **09 09 04.6 -0.8**
comp=Z,3µmcomp=Z,256nm,1.4s
BNDI Bandanaira 55.63 278 P **P** **09 09 17.0 +0.2**
comp=Z,5µmcomp=Z,35µmcomp=Z,804nm,1.0s
SIJI Sorong 55.74 283 LR LR 09 34 53.2
comp=Z,200nm,18.0s,baz=2.0,slow=38
SIJI Sorong 55.74 283 P **P** **09 09 17.2 -0.4**
comp=Z,4µmcomp=Z,420nm,0.9s
SWI Sorong 55.74 283 P **P** **09 09 17.4 -0.2**
comp=Z,8µmcomp=Z,944nm,0.9s
FITZ Fitzroy Crossi 55.86 261 LR LR 09 30 38.3
comp=Z,302nm,21.7s,baz=94,slow=33
FITZ Fitzroy Crossi 55.86 261 P **P** **09 09 17.9 -0.5**
baz=56,SNR=151
FITZ Fitzroy Crossi 55.86 261 P **P** **09 09 18.3 0.0**
FITZ IAmb IAmb 09 09 20.0
comp=Z,104nm,1.1s
MSAI Masohi 56.96 279 P **P** **09 09 25.9 -0.4**
comp=Z,44nm,0.6s
KRAI Karang Ratu 57.47 279 P **P** **09 09 29.5 -0.3**
comp=Z,3µmcomp=Z,114nm,0.8s
NLAI Namlea 58.70 278 P **P** **09 09 38.1 -0.3**
comp=Z,2µmcomp=Z,154nm,1.2s
SBA Scott Base 58.80 184 P **P** **09 09 42.1 +4.1**
SBA pmax pmax
comp=Z,9.0nm,0.8s
SBA Scott Base 58.80 184 P **P** **09 09 42.1 +4.1**
SBA IAmb IAmb 09 09 44.2
comp=Z,86nm,0.8s
VNDA Vanda 58.90 186 P **P** **09 09 42.9 +4.1**
comp=Z,35nm,0.8s,baz=3.4,slow=7.2,SNR=194
VNDA LR LR 09 30 56.1
comp=Z,72nm,21.7s,baz=338,slow=32
VNDA PKP2bc 09 39 23.8
comp=Z,3.3nm,1.1s,baz=265,slow=6.6,SNR=5.4
VNDA Vanda 58.90 186 P **P** **09 09 42.4 +3.7**
VNDA IAmb IAmb 09 09 44.0
comp=Z,41nm,0.8s
VNDA **P'P'bc** **09 39 23.8 +0.1**
SOEI Soe 59.24 270 P **P** **09 09 42.9 +0.7**
SOEI Soe 59.24 270 P **P** **09 09 43.2 +0.9**
comp=Z,8µmcomp=Z,917nm,1.1s
BATI Baumata 59.68 270 P **P** **09 09 46.2 +1.0**
comp=Z,1µmcomp=Z,159nm,0.8s
TNTI Ternate 59.96 283 P **P** **09 09 46.8 -0.2**
TNTI Ternate 59.96 283 P **P** **09 09 46.6 -0.4**
comp=Z,3µmcomp=Z,438nm,0.9s
GAMI Galela, Maluku 60.00 284 P **P** **09 09 46.0 -1.3**
comp=Z,131nm,0.8s
SANI Sanana 60.17 279 P **P** **09 09 47.7 -0.7**
comp=Z,3µmcomp=Z,444nm,0.9s
PSA00 Pilbara Seismi 60.52 256 P **P** **09 09 50.1 -0.7**
MEEK Meekatharra 60.76 250 P **P** **09 09 51.1 -1.3**
baz=61,SNR=25
KLBR Kellerberrin 60.86 244 P **P** **09 09 52.2 -0.7**
baz=61,SNR=50
NWAO Narrogin (SRO) 61.16 243 P **P** **09 09 54.5 -0.4**
baz=61,SNR=24
NWAO Narrogin (SRO) 61.16 243 P **P** **09 09 57.1 +2.2**
NWAO pmax pmax
comp=Z,3.0nm,0.9s
NWAO Narrogin (SRO) 61.16 243 P **P** **09 09 57.1 +2.2**
MMRI Maumere 61.49 271 P **P** **09 09 56.9 -0.5**
MMRI Maumere 61.49 271 P **P** **09 09 56.9 -0.5**
comp=Z,185nm,1.1s
BLDU Ballidu 61.87 245 P **P** **09 09 58.8 -0.9**
baz=62,SNR=53
EDFI Ende, Flores 61.97 270 P **P** **09 09 59.5 -1.2**
comp=Z,907nmcomp=Z,70nm,1.2s
MUN Mundaring 62.12 244 P **P** **09 10 01.1 -0.3**
baz=62,SNR=21
JCJ Chichijima 62.34 317 P **P** **09 10 02.1 -0.7**
comp=Z,132nm,0.8s,baz=160,slow=8.1,SNR=7.2
JCJ LR LR 09 34 09.7
comp=Z,127nm,19.4s,baz=124,slow=33
JCJ Chichijima 62.34 317 P **P** **09 10 02.0 -0.7**
MNI Manado 62.55 282 P **P** **09 10 03.7 -0.8**
comp=Z,283nm,0.7s
BASI Baing, Sumba 62.58 269 P **P** **09 10 04.9 +0.2**
comp=Z,3µmcomp=Z,194nm,1.3s
MORW Morawa 62.66 247 P **P** **09 10 04.2 -0.8**
baz=63,SNR=21
MORW Morawa 62.66 247 P **P** **09 10 05.1 +0.1**
MORW IAmb IAmb 09 10 06.5
comp=Z,150nm,1.4s
SGSI Sangihe 62.81 285 P **P** **09 10 05.7 -0.5**
comp=Z,207nm,0.9s
KMSI Cibinong 63.01 281 P **P** **09 10 07.6 +0.1**
comp=Z,513nm,0.7s
KKSI Kolaka, Sulawe 63.47 275 P **P** **09 10 09.9 -0.7**
comp=Z,41nm,0.8s
H01W1 Cape Leeuwin H 63.50 240 P **P** **09 10 11.7 +1.6**
baz=120,slow=6.2,SNR=6.6
H01W3 Cape Leeuwin H 63.51 240 P **P** **09 10 11.8 +1.6**
baz=120,slow=6.2,SNR=7.8
H01W2 Cape Leeuwin H 63.51 240 P **P** **09 10 11.8 +1.6**
baz=120,slow=6.2,SNR=6.7
LUWI Luwuk 63.53 279 P **P** **09 10 10.5 -0.4**
LUWI Luwuk 63.53 279 P **P** **09 10 11.3 +0.4**
comp=Z,5µmcomp=Z,452nm,1.2s
WBSI Waikabubak, Su 63.87 269 P **P** **09 10 12.8 -0.4**
DAV Davao City (W) 64.19 288 P **P** **09 10 15.1 -0.1**
comp=Z,321nm,0.4s
APSI Ampana 64.62 279 P **P** **09 10 18.9 +0.9**
comp=Z,3µmcomp=Z,264nm,1.2s
BNSI Bone 64.85 274 P **P** **09 10 19.7 +0.2**
comp=Z,1µmcomp=Z,115nm,1.3s
MRSI Marisa 64.86 280 P **P** **09 10 18.5 -1.1**
comp=Z,3µmcomp=Z,188nm,0.8s
KAPI Kappang 64.98 274 P **P** **09 10 20.6 +0.2**
KAPI pmax pmax
comp=Z,44nm,1.0s
KAPI Kappang 64.98 274 P **P** **09 10 20.6 +0.2**
KAPI IAmb IAmb 09 10 42.7
comp=Z,44nm,0.9s
KAPI Kappang 64.98 274 P **P** **09 10 20.3 -0.1**
comp=Z,47nm,1.4s
GIRL Giralia 65.40 254 P **P** **09 10 23.5 +0.5**
baz=65,SNR=57
GIRL Giralia 65.40 254 P **P** **09 10 24.4 +1.4**
TTSI Tana Toraja 65.58 276 P **P** **09 10 23.7 -0.5**
comp=Z,733nmcomp=Z,45nm,1.5s
PLAI Plampang 65.63 269 P **P** **09 10 23.8 -0.8**
comp=Z,2µmcomp=Z,206nm,1.1s
CASY Casey 65.81 205 P **P** **09 10 26.9 +2.1**
CASY IAmb IAmb 09 10 28.2
comp=Z,104nm,0.9s
TOLI2 Tolitoli 66.17 280 P **P** **09 10 27.8 -0.2**
TOLI2 IAmb IAmb 09 10 29.4
comp=Z,103nm,1.0s
PMSI Majene 66.27 275 P **P** **09 10 29.1 +0.4**
comp=Z,1µmcomp=Z,133nm,0.7s
TWSI Taliwang, Sumb 66.50 269 P **P** **09 10 29.3 -0.9**
comp=Z,1µmcomp=Z,147nm,1.3s
MPSI Mapaga 66.70 279 P **P** **09 10 30.8 -0.6**
comp=Z,2µmcomp=Z,163nm,0.8s
KLNI Mataram 67.34 269 P **P** **09 10 34.2 -1.3**
comp=Z,75nm,1.3s
KHKI Kahang-Kahang 67.82 269 P **P** **09 10 36.6 -1.8**
comp=Z,80nm,0.8s
JHJ2 Mitsune 67.97 320 P **P** **09 10 38.7 -0.3**
JHJ Hachijo jima 2 68.00 320 P **P** **09 10 39.3 +0.2**
comp=Z,456nm,0.4s,baz=176,slow=3.0,SNR=64
SRBI Singaraja 68.27 269 P **P** **09 10 41.6 +0.3**
comp=Z,125nm,1.1s
JAGI Jajag, Banyuwa 69.15 268 P **P** **09 10 46.1 -0.7**
JAGI IAmb IAmb 09 10 47.6
comp=Z,133nm,0.9s
JAGI Jajag, Banyuwa 69.15 268 P **P** **09 10 45.3 -1.5**
comp=Z,2µmcomp=Z,171nm,1.0s
KMMI Kalianget 69.77 270 P **P** **09 10 50.6 +0.1**
comp=Z,97nm,1.2s
JYT Yasato 69.93 323 P **P** **09 10 51.1 +0.1**
JSG Sagara 70.03 320 P **P** **09 10 52.2 +0.6**
BBKI Banjar Baru 70.11 274 P **P** **09 10 53.1 +0.5**
comp=Z,81nm,1.4s
QSPA South Pole Qui 70.31 180 P **P** **09 10 56.3 +3.2**
QSPA IAmb IAmb 09 10 57.7
comp=Z,114nm,0.8s
JMM Marumori 70.76 324 P **P** **09 10 55.7 -0.3**
MTKI Muara Teweh, K 70.92 276 P **P** **09 10 57.4 -0.1**
AMKA Amchitka 71.00 356 P **P** **09 10 56.7 -0.5**
JGF Kuroka 71.16 321 P **P** **09 10 58.5 0.0**
JGF IAmb IAmb 09 10 59.9
comp=Z,148nm,1.3s
INU Inuyama 71.19 320 P **P** **09 10 57.8 -0.9**
INU IAmb IAmb 09 11 00.9
comp=Z,163nm,1.2s
MJAR Matsushiro Arr 71.30 322 P **P** **09 10 59.2 -0.1**
comp=Z,172nm,0.8s,baz=157,slow=5.9,SNR=215
MJAR Matsushiro Arr 71.30 322 P **P** **09 10 59.4 +0.1**
MJAR pmax pmax
comp=Z,190nm,1.0s
MJAR Matsushiro Arr 71.30 322 P **P** **09 10 59.4 +0.1**
MAJO Matsushiro 71.30 322 *d* iP **P** **09 10 58.9 -0.4**
MAJO Matsushiro 71.30 322 P **P** **09 10 59.0 -0.4**
MAT Matsushiro 71.30 322 P **P** **09 10 59.4 +0.1**
MAT *e*S **S** **09 20 03.4 -1.9**
KIWB Kanaga Island 71.33 359 P **P** **09 10 58.8 -0.3**
ADK Adak 71.35 359 P **P** **09 10 58.5 -0.7**
ADK pmax pmax
comp=Z,130nm,0.8s
ADK Adak 71.35 359 P **P** **09 10 58.5 -0.7**
PWJI Pagerwojo 71.50 268 P **P** **09 11 00.5 -0.5**
comp=Z,130nm,1.4s
GSTR Great Sitkin T 71.55 359 P **P** **09 11 00.6 +0.1**
SJI Sawahan 71.63 268 P **P** **09 11 01.8 -0.1**
comp=Z,151nm,1.4s
ATKA Atka Island 71.66 1 P **P** **09 11 00.4 -0.7**
TBJI Tambak Boyo 71.84 269 P **P** **09 11 03.4 +0.4**
comp=Z,3µmcomp=Z,227nm,1.3s
JOW Kunigami 71.84 308 P **P** **09 11 03.5 +0.8**
comp=Z,42nm,1.0s,baz=184,slow=7.7,SNR=5.2
JOW Kunigami 71.84 308 P **P** **09 11 03.4 +0.6**
JOW IAmb IAmb 09 11 04.3
comp=Z,98nm,1.2s
PCJI Pacitan 72.04 268 P **P** **09 11 04.2 0.0**
comp=Z,5µmcomp=Z,406nm,0.7s
JMN Monobe 72.08 317 P **P** **09 11 04.5 +0.4**
JWT Wachi 72.13 319 P **P** **09 11 04.4 +0.1**
JSD Sado 72.30 323 P **P** **09 11 05.6 +0.4**
ERM Erimo 72.59 329 *i* P **P** **09 11 07.1 +0.3**
ERM pmax pmax
comp=Z,79nm,1.6s
ERM Erimo 72.59 329 P **P** **09 11 06.9 +0.1**
NIKH Nikolski High 72.62 4 P 09 11 06.9
baz=186
NIKH Nikolski High 72.63 4 P **P** **09 11 06.2 -0.6**
JTM Tenmabayashi 72.73 327 P **P** **09 11 08.6 +0.9**
JTM IAmb IAmb 09 11 10.3
comp=Z,96nm,0.7s
UGM Wanagama 72.74 268 P **P** **09 11 08.1 -0.4**
UGM Wanagama 72.74 268 P **P** **09 11 08.2 -0.3**
comp=Z,154nm,1.8s
SMY Shemya 72.80 353 P **P** **09 11 07.8 0.0**
SMY pmax pmax
comp=Z,121nm,0.8s
SMY Shemya 72.80 353 P **P** **09 11 07.8 0.0**
SMY IAmb IAmb 09 11 08.9
comp=Z,120nm,0.8s
KUR Kuril'sk 72.95 334 *d* iP **P** **09 11 09.7 +0.8**
KUR *e*S **SKiKP** **09 20 29.5 +2.3**
KUR pmax pmax
comp=Z,281nm,1.7s
KUR pmax pmax
comp=N,56nm,1.5s
KUR pmax pmax
comp=E,77nm,1.3s
KUR pmax pmax
comp=Z,658nm,3.4s
JSU Suzuyama 72.99 313 P **P** **09 11 09.5 0.0**
JSU IAmb IAmb 09 11 10.5
comp=Z,96nm,1.3s
SMRI Semarang 73.09 268 P **P** **09 11 10.6 +0.1**
SMRI Semarang 73.09 268 P **P** **09 11 11.1 +0.6**
comp=Z,247nm,1.3s
JHS Saijyo 73.38 318 P **P** **09 11 12.3 +0.6**
H06S1 SOCORRO T 73.59 63 T T 10 31 49.1
SNR=5.1
H06E1 SOCORRO T-PHAS 73.64 63 T T 10 31 51.4
SNR=14
JNU Nakatsue 73.67 315 P **P** **09 11 13.4 -0.1**
comp=Z,55nm,0.8s,baz=86,slow=4.7,SNR=11
JNU Nakatsue 73.67 315 P **P** **09 11 12.2 -1.3**
JNU IAmb IAmb 09 11 32.5
comp=Z,116nm,0.8s
AKUT Akutan 74.03 6 P **P** **09 11 14.3 -0.6**
AKUT IAmb IAmb 09 11 18.6
comp=Z,83nm,1.0s
JEW Eniwo 74.04 328 P **P** **09 11 15.6 +0.3**
CTJI Waduk Cacaban 74.29 268 P **P** **09 11 16.7 -0.8**
comp=Z,102nm,1.4s
KPJI Karang Pucung 74.42 268 P **P** **09 11 18.2 0.0**
comp=Z,2µmcomp=Z,121nm,0.7s
JKA Kamikawa-asahi 74.44 330 P **P** **09 11 18.0 +0.4**
JKA IAmb IAmb 09 11 23.9
comp=Z,48nm,0.8s
ASAJ Asahikawa 74.44 330 P **P** **09 11 19.3 +1.7**
comp=Z,46nm,0.8s,baz=211,slow=4.6,SNR=56
ASAJ LR LR 09 37 16.2
comp=Z,167nm,21.9s,baz=164,slow=30
ASAJ Asahikawa 74.44 330 P **P** **09 11 18.0 +0.4**
ASAJ pmax pmax
comp=Z,49nm,0.8s
STKI Sintang 74.47 276 P **P** **09 11 19.2 +0.7**
SKR Severo-Kuril's 74.59 341 *e*P **P** **09 11 18.2 -0.1**
SKR *e**PP **pP** **09 11 48.4 -4.9**
SKR *e* 09 14 03.7
SKR *e*S **S** **09 20 41.2 -0.7**
SKR *e**SS **pS** **09 21 29.8 +5.9**
SKR *e*SS **SS** **09 25 35.3 +2.7**
SKR pmax pmax
comp=Z,200nm,2.6s
SKR pmax pmax
comp=Z,94nm,0.9s
SKR pmax pmax
comp=Z,100nm,2.9s
SKR MLR MLR
comp=Z,100nm,17.0s
YOJ Yonaguni jima 74.60 303 P **P** **09 11 18.9 -0.1**
YOJ pmax pmax
comp=Z,469nm,1.4s
YOJ Yonaguni jima 74.60 303 P **P** **09 11 18.9 -0.1**
FALS False Pass 74.98 7 P 09 11 20.0
baz=191
FALS False Pass 74.98 7 P **P** **09 11 19.7 -0.8**
FALS IAmb IAmb 09 11 21.3
comp=Z,56nm,0.6s
SCZ2 Santa Cruz Isl 75.11 45 P 09 11 24.5
baz=233
JCJI Jatiwangi 75.31 268 P **P** **09 11 23.2 -0.1**
comp=Z,338nm,1.1s
TWG Pinlang 75.33 301 P **P** **09 11 22.3 -0.9**
CISI Cisompet, Garu 75.40 267 P **P** **09 11 23.4 -0.5**
CISI IAmb IAmb 09 11 24.9
comp=Z,150nm,1.4s
CISI Cisompet, Garu 75.40 267 P **P** **09 11 23.0 -1.0**
comp=Z,2µmcomp=Z,79nm,1.7s
YULB Yu-li 75.43 302 P **P** **09 11 22.9 -0.9**
YULB IAmb IAmb 09 11 24.5
comp=Z,75nm,0.6s
CHNA Chernabura Isl 75.46 9 P 09 11 23.4
baz=195
JTU Tsushima 75.50 315 P **P** **09 11 24.9 +1.0**
PKM Mcpherson Peak 75.53 44 P 09 11 26.9
baz=233,SNR=9.0
NACB Ninganchiao 75.58 303 P **P** **09 11 23.7 -0.9**
CIS Catalina Islan 75.58 46 P 09 11 26.6
baz=234
SAO San Andreas Ge 75.62 42 P **P** **09 11 23.9 -0.7**
SAO pmax pmax
comp=Z,89nm,1.1s
SAO San Andreas Ge 75.62 42 P **P** **09 11 23.9 -0.7**
SAO IAmb IAmb 09 11 28.4
comp=Z,89nm,1.1s
SMMC Simmler 75.66 44 P 09 11 27.7
baz=233,SNR=7.8
PAGB Antelope Grade 75.75 43 P **P** **09 11 23.4 -1.9**
LEM Lembang 75.82 268 P **P** **09 11 26.8 +0.4**
comp=Z,2µmcomp=Z,153nm,0.8s
SDPT Sand Point 75.83 9 P 09 11 25.4
baz=194,SNR=6.0
SDPT Sand Point 75.83 9 P **P** **09 11 24.1 -1.2**
SDPT IAmb IAmb 09 11 26.4
comp=Z,141nm,0.8s
FMP Fort Macarthur 75.85 46 P 09 11 28.4
baz=234
SSLB Suanglung 75.90 302 P **P** **09 11 25.8 -0.7**
CCX Cicese 75.92 48 P **P** **09 11 25.2 -1.2**
TPUB Ta-pu 75.92 301 P **P** **09 11 25.6 -1.0**
PET Petropavlovsk 75.98 344 *ce* P **P** **09 11 25.4 -0.8**
PET pmax pmax
comp=Z,114nm,1.6s
YHNB Yeheng 75.99 303 P **P** **09 11 26.0 -1.1**
YHNB IAmb IAmb 09 11 27.9
comp=Z,212nm,1.3s
HOPS Hopland Field 76.04 39 P **P** **09 11 25.1 -1.8**
HOPS IAmb IAmb 09 11 30.7
comp=Z,156nm,1.3s
TATO Taipei 76.06 303 P **P** **09 11 26.4 -0.9**
GDXM Geysers 76.08 40 P **P** **09 11 26.7 -0.6**
OSI Osito Audit: C 76.08 45 P 09 11 30.1
baz=234
DECC Green Verdugo 76.13 46 P 09 11 29.8
baz=234
CBX Cerro Bola 76.17 48 P **P** **09 11 27.3 -0.7**
KCPM Cahto Peak 76.18 38 P **P** **09 11 26.0 -1.9**
KCPM IAmb IAmb 09 11 31.8
comp=Z,151nm,1.4s
109C Camp Elliot, M 76.19 47 P 09 11 30.2
baz=235
109C Camp Elliot, M 76.19 47 P **P** **09 11 26.5 -1.4**
PASC Pasadena Art C 76.19 46 P **P** **09 11 27.3 -0.6**
MWC Mount Wilson 76.30 46 P **P** **09 11 29.0 +0.2**
MWC pmax pmax
comp=Z,37nm,0.9s
MWC Mount Wilson 76.30 46 P **P** **09 11 29.0 +0.2**
PEA0B Petropavlovsk- 76.31 344 P **P** **09 11 28.1 0.0**
PEA0B pmax pmax
comp=Z,137nm,0.9s
PEA0B Petropavlovsk- 76.31 344 P **P** **09 11 28.1 0.0**
PEA0B IAmb IAmb 09 11 29.7
comp=Z,137nm,0.8s
PETK Petropavlovsk- 76.31 344 P **P** **09 11 28.5 +0.4**
comp=Z,98nm,0.7s,baz=137,slow=8.6,SNR=227
PETK pP **pwP** **09 12 05.0 -0.9**
comp=Z,37nm,1.0s,baz=120,slow=8.8,SNR=3.4
PETK LR LR 09 42 50.5
comp=Z,65nm,18.6s,baz=166,slow=34
PETK Petropavlovsk- 76.31 344 P **P** **09 11 27.9 -0.2**
SPX San Pedro Mart 76.31 50 P **P** **09 11 29.6 +0.6**
ARVC Arvin 76.32 45 P 09 11 30.9
baz=234,SNR=8.9
BAR Barrett 76.37 48 P **P** **09 11 28.1 -0.9**
KMRM Mail Ridge 76.46 38 P **P** **09 11 28.8 -0.6**
YSS Yuzh-Sakhalins 76.51 332 *k* iP **P** **09 11 30.6 +1.2**
YSS *e* 09 11 37.8
YSS *e**PP **pP** **09 12 03.2 -1.4**
YSS *e**SP **pwP** **09 12 12.8 +5.7**
YSS *e* 09 14 26.1
YSS *e*PPP PPP 09 16 18.6
YSS *e*S **S** **09 21 05.2 +2.1**
YSS *e* 09 21 22.1
YSS *e*SS **SS** **09 25 59.8 -2.0**
YSS *e*SSS SSS 09 29 15.6
YSS pmax pmax
comp=Z,200nm,0.8s
YSS pmax pmax
comp=Z,600nm,3.5s
YSS pmax pmax
comp=N,200nm,3.8s
YSS Yuzh-Sakhalins 76.51 332 P **P** **09 11 29.5 +0.2**
MURC Murrieta 76.53 47 P 09 11 32.0
baz=235,SNR=8.5
VES Vestal, Richgr 76.57 44 P 09 11 31.9
baz=233,SNR=32
BFSC Mount Baldy Ra 76.58 46 P 09 11 32.5
baz=235,SNR=8.4
MONP2 Monument Peak 76.66 48 P 09 11 33.4
baz=236,SNR=12
JCC Jacoby Creek, 76.66 37 P **P** **09 11 30.2 -0.1**
JCC IAmb IAmb 09 11 34.2
comp=Z,99nm,1.3s
VOG Valley Oaks Go 76.67 43 P 09 11 32.6
baz=233
DBJI Dramaga 76.72 268 P **P** **09 11 31.1 -0.3**
comp=Z,54nm,0.4s
EDW2 Edwards Air Fo 76.73 45 P 09 11 33.3
baz=234,SNR=28
IKP In-Ko-Pah, Jac 76.74 48 P 09 11 33.7
baz=236,SNR=9.0
SPIA Saint Paul Isl 76.75 3 P 09 11 31.0
baz=185,SNR=10
SRIG Santa Rosalia 76.75 54 P **P** **09 11 31.1 0.0**
SRIG IAmb IAmb 09 11 35.2
comp=Z,67nm,1.0s
SPIA Saint Paul Isl 76.75 3 P **P** **09 11 30.8 +0.3**
SFX San Felipe 76.75 50 P **P** **09 11 30.5 -0.6**
SLBS Sierra La Lagu 76.76 59 P **P** **09 11 30.7 -0.7**
ISA Isabella, Lake 76.87 44 P **P** **09 11 31.5 -0.3**
ISA pmax pmax
comp=Z,126nm,1.4s
ISA Isabella, Lake 76.87 44 P **P** **09 11 31.5 -0.3**
ISA IAmb IAmb 09 11 35.7
comp=Z,126nm,1.4s
ISA Isabella, Lake 76.87 44 P 09 11 34.3
baz=234,SNR=41
KHMM Horse Mountain 76.87 37 P **P** **09 11 31.2 -0.6**
KHMM IAmb IAmb 09 11 35.7
comp=Z,74nm,1.0s
TNG Tangerang 76.94 268 P PcP 09 11 33.0 -10
comp=Z,14µmcomp=Z,396nm,0.5s
TNG P **P** **09 11 32.6 0.0**
comp=Z,20µmcomp=Z,573nm,0.5s
O02D Mt. Diablo Mer 76.96 38 P 09 11 35.0
baz=230,SNR=44
PFO Pinyon Flats O 77.04 47 P **P** **09 11 32.5 -0.4**
PFO pmax pmax
comp=Z,44nm,1.4s
PFO Pinyon Flats O 77.04 47 P **P** **09 11 32.5 -0.4**
PFO Pinyon Flats O 77.04 47 P 09 11 35.1
baz=236,SNR=9.6
TPFO Pinon Flats 77.04 47 P 09 11 35.2
baz=236,SNR=8.9
CMB Columbia Colle 77.07 41 P **P** **09 11 31.7 -1.1**
CMB pmax pmax
comp=Z,45nm,1.0s
CMB Columbia Colle 77.07 41 P **P** **09 11 31.7 -1.1**
BBRC Big Bear Solar 77.09 46 P 09 11 35.6
baz=235
SWSC Sam W. Stewart 77.12 48 P 09 11 35.7
baz=236
KRMB Red Mountain 77.20 37 P **P** **09 11 32.4 -1.2**
KRMB IAmb IAmb 09 11 37.6
comp=Z,108nm,1.2s
AFDM Forest Hills D 77.27 40 P **P** **09 11 34.1 +0.2**
LRMC Laurel Mtn Rad 77.28 45 P 09 11 36.0
baz=234,SNR=6.7
ORV Oroville 77.33 40 P **P** **09 11 34.5 +0.3**
ORV pmax pmax
comp=Z,48nm,1.2s
ORV Oroville 77.33 40 P **P** **09 11 34.5 +0.3**
WDC Whiskeytown Da 77.37 38 P **P** **09 11 33.6 -0.8**
WDC pmax pmax
comp=Z,93nm,1.2s
WDC Whiskeytown Da 77.37 38 P **P** **09 11 33.6 -0.8**
WDC IAmb IAmb 09 11 38.1
comp=Z,93nm,1.2s
RRX Edison Barstow 77.39 46 P 09 11 37.0
baz=235
KBO Bosley Butte 77.47 36 P **P** **09 11 34.8 -0.3**
KBO IAmb IAmb 09 11 39.2
comp=Z,99nm,1.3s
N02D Trinity Center 77.53 38 P 09 11 38.0
baz=230,SNR=49
BELC Belle Mtn. Jos 77.58 47 P 09 11 38.3
baz=236,SNR=21
CWC Cottonwood Cre 77.58 44 P 09 11 38.4
baz=234
O03E Paynes Creek 77.62 39 P 09 11 37.8
baz=231,SNR=51
MDPB Devils Postpil 77.65 42 P **P** **09 11 35.4 -0.9**
MDPB IAmb IAmb 09 11 39.9
comp=Z,70nm,1.1s
CGJI Cibinong 77.70 267 P **P** **09 11 35.8 -1.0**
comp=Z,2µmcomp=Z,258nm,0.8s
M02C Callahan 77.71 37 P 09 11 39.1

baz=230,SNR=47
MPMC Manual Prospec 77.75 44 P 09 11 39.4
baz=234,SNR=75
BC3 Big Chuckawall 77.76 47 P 09 11 39.5
baz=236,SNR=12
GSC Goldstone, Bar 77.77 45 P 09 11 39.2
baz=235,SNR=25
GSC Goldstone, Bar 77.77 45 P **P** **09 11 36.8 0.0**
GSC pmax pmax
comp=Z,79nm,1.4s
GSC Goldstone, Bar 77.77 45 P **P** **09 11 36.8 0.0**
L02E Cave Junction 77.79 37 P 09 11 39.4
baz=229,SNR=10
MLAC Mammoth, Mammo 77.80 42 P 09 11 39.8
baz=233,SNR=20
HEC Hector,Ludlow 77.81 46 P 09 11 39.3
baz=235,SNR=9.3
RUBR Rubicon Trail 77.84 41 P **P** **09 11 36.4 -0.9**
RUBR IAmb IAmb 09 11 41.0
comp=Z,87nm,1.4s
TIN Tinemaha, Big 77.85 43 P 09 11 39.6
baz=234,SNR=12
KEBM Edson Butte 77.85 36 P **P** **09 11 36.9 -0.2**
KEBM IAmb IAmb 09 11 41.0
comp=Z,116nm,1.3s
GLA Glamis 77.86 48 P 09 11 40.1
baz=237
GLA Glamis 77.87 48 P **P** **09 11 36.9 -0.4**
GLA pmax pmax
comp=Z,52nm,1.1s
GLA Glamis 77.87 48 P **P** **09 11 36.9 -0.4**
TJN Taejon 77.93 316 *ce*P **P** **09 11 39.4 +1.9**
WAKR Walker 77.95 41 P **P** **09 11 37.5 -0.4**
WAKR IAmb IAmb 09 11 41.8
comp=Z,116nm,1.3s
YBH Yreka Blue Hor 78.01 37 P **P** **09 11 37.8 -0.2**
YBH pmax pmax
comp=Z,71nm,1.0s
YBH Yreka Blue Hor 78.01 37 P **P** **09 11 37.8 -0.2**
YBH IAmb IAmb 09 11 41.9
comp=Z,71nm,1.0s
SII Sitkinak Islan 78.03 12 P 09 11 38.6
baz=200,SNR=8.6
SII Sitkinak Islan 78.03 12 P **P** **09 11 37.7 +0.1**
K02D Willamette Mer 78.10 36 P 09 11 40.8
baz=229,SNR=11
KSRS Korea Array 78.20 317 P **P** **09 11 40.5 +1.5**
comp=Z,26nm,0.6s,baz=136,slow=6.1,SNR=188
KSRS pP **pwP** **09 12 16.5 -0.4**
comp=Z,12nm,0.9s,baz=138,slow=5.7,SNR=2.1
KSRS LR LR 09 43 06.4
comp=Z,45nm,18.2s,baz=134,slow=33
PNTR Pine Nut 78.20 41 P **P** **09 11 38.9 -0.4**
PNTR IAmb IAmb 09 11 43.0
comp=Z,146nm,1.2s
KSAR Wonju Array Be 78.21 317 P **P** **09 11 40.2 +1.1**
KSAR Wonju Array Be 78.21 317 P **P** **09 11 40.2 +1.1**
BEKR Beckworth 78.22 40 P **P** **09 11 39.1 -0.2**
BEKR IAmb IAmb 09 11 42.8
comp=Z,113nm,1.4s
GMRC Granite Mounta 78.25 46 P 09 11 42.0
baz=236,SNR=22
IRM Iron Mountain 78.25 47 P 09 11 42.3
baz=236,SNR=28
KS19 Wonju Array Si 78.26 317 P **P** **09 11 39.5 +0.2**
KS19 IAmb IAmb 09 11 41.9
comp=Z,139nm,1.2s
J01E Myrtle Point 78.27 36 P 09 11 41.6
baz=228,SNR=11
VCNR Virginia City 78.30 41 P **P** **09 11 39.6 -0.2**
VCNR IAmb IAmb 09 11 43.5
comp=Z,147nm,1.5s
QZH Quanzhou 78.34 302 P **P** **09 11 40.3 +0.3**
QZH pmax pmax
comp=Z,90nm,0.7s
YERR Yerington 78.36 41 P **P** **09 11 40.2 0.0**
YERR IAmb IAmb 09 11 43.7
comp=Z,115nm,1.2s
GRAC Grapevine Rang 78.37 44 P 09 11 42.8
baz=234,SNR=29
LHV Little Huntoon 78.38 42 P **P** **09 11 40.7 +0.8**
LHV IAmb IAmb 09 11 44.1
comp=Z,116nm,1.1s
FURC Furnace Creek, 78.39 44 P 09 11 42.4
baz=235,SNR=14
UGL Uglegorsk 78.42 333 *e*P **P** **09 11 40.6 +0.7**
UGL pmax pmax
comp=Z,170nm,0.8s
TUQ Turquoise Moun 78.43 46 P 09 11 42.9
baz=236,SNR=5.2
HUMO Hull Mountain 78.44 36 P **P** **09 11 39.7 -0.6**
HUMO IAmb IAmb 09 11 44.4
comp=Z,83nm,1.3s
SHOC Shoshone, Teco 78.46 45 P 09 11 42.8
baz=235,SNR=11
113A Mohawk Valley, 78.46 49 P **P** **09 11 39.8 -0.8**
BLSI Bandar Lampung 78.52 268 P **P** **09 11 40.1 -1.2**
comp=Z,264nm,0.7s
M04C Macdoel 78.55 38 P 09 11 43.1
baz=230,SNR=36
L04D Klamath Falls 78.56 37 P 09 11 43.2
baz=230,SNR=45
HSIG 78.59 54 P **P** **09 11 39.9 -1.4**
RYN Ryan 78.59 42 P **P** **09 11 40.6 -0.8**
NVAR Mina Array Bea 78.61 42 P **P** **09 11 43.9 +2.4**
comp=Z,48nm,0.8s,baz=223,slow=8.8,SNR=380
NVAR pP **pP** **09 12 17.8 +0.8**
comp=Z,16nm,1.0s,baz=225,slow=7.8,SNR=2.6
NVAR PKKPbc **PKKPbc** **09 30 41.2 +3.3**
comp=Z,0.5nm,0.7s,baz=88,slow=3.0,SNR=4.9
NVAR LR LR 09 41 30.1
comp=Z,80nm,18.6s,baz=232,slow=32
NV11 Mina Array Sit 78.71 42 P **P** **09 11 42.1 +0.1**
NV11 IAmb IAmb 09 11 45.7
comp=Z,140nm,1.2s
PAHR Pah Rah Range 78.71 41 P **P** **09 11 41.7 -0.3**
PAHR IAmb IAmb 09 11 45.6
comp=Z,82nm,1.1s
214A Organ Pipe Nat 78.71 50 P 09 11 44.8
baz=238,SNR=19
214A Organ Pipe Nat 78.72 50 P **P** **09 11 41.8 -0.2**
PPBI Pangkal Pinang 78.73 272 P **P** **09 11 43.5 +1.0**
comp=Z,10μmcomp=Z,114nm,1.4s
OHAK Old Harbor 78.83 12 P 09 11 42.9
baz=201,SNR=18
OHAK Old Harbor 78.83 12 P **P** **09 11 41.7 -0.3**
OHAK IAmb IAmb 09 11 44.2
comp=Z,153nm,1.4s
I02D Swisshome 78.94 35 P 09 11 45.3
baz=228,SNR=8.3
I03D Drain, OR 78.94 35 P 09 11 44.9
baz=229,SNR=20
NEE2 Needles Airpor 78.95 47 P 09 11 46.0
baz=237
PDMCI Parker Dam,Lak 79.03 47 P 09 11 46.4
baz=237,SNR=14
INCN Inchon 79.05 316 P **P** **09 11 43.7 0.0**
INCN pmax pmax
comp=Z,186nm,1.3s
INCN Inchon 79.05 316 P **P** **09 11 43.7 0.0**
INCN IAmb IAmb 09 11 46.4
comp=Z,186nm,1.3s
TPNV Topopah Spring 79.08 44 P **P** **09 11 44.6 +0.5**
TPNV pmax pmax
comp=Z,53nm,0.9s
TPNV Topopah Spring 79.08 44 P **P** **09 11 44.6 +0.5**
TPNV IAmb IAmb 09 11 47.8
comp=Z,53nm,0.8s
TPNV Topopah Spring 79.08 44 P 09 11 46.6
baz=235,SNR=72
TPH Tonopah 79.09 43 P **P** **09 11 44.2 0.0**
TPH pmax pmax
comp=Z,672nm,1.4s
TPH Tonopah 79.09 43 P **P** **09 11 44.2 0.0**
KVN Kaiserville 79.11 42 P **P** **09 11 44.1 -0.1**
KVN pmax pmax
comp=Z,105nm,1.3s
KVN Kaiserville 79.11 42 P **P** **09 11 44.1 -0.1**
KVN IAmb IAmb 09 11 47.6
comp=Z,105nm,1.3s
K04D Chiloquin, OR 79.13 37 P 09 11 46.4
baz=230,SNR=7.8
KASI Kota Agung 79.17 268 P **P** **09 11 44.2 -0.7**
comp=Z,152nm,1.0s
VLA Vladivostok 79.30 323 *i*P **P** **09 11 44.5 -0.4**
VLA pmax pmax

comp=Z,61nm,0.9s
J04D Umpqua Nationa 79.33 36 P 09 11 47.5
baz=230,SNR=51
MSHR Mys Shultsa 79.37 323 *ce*P **P** **09 11 46.7 +1.4**
MSHR pmax pmax
comp=Z,206nm,1.3s
KDAK Kodiak Island 79.49 12 P 09 11 46.7
baz=200
KDAK Kodiak Island 79.49 12 P **P** **09 11 45.7 +0.2**
KDAK pmax pmax
comp=Z,60nm,0.8s
KDAK Kodiak Island 79.49 12 P **P** **09 11 45.7 +0.2**
KDAK IAmb IAmb 09 11 47.4
comp=Z,60nm,0.8s
MOD Modoc Plateau 79.51 38 P **P** **09 11 45.6 -0.7**
MOD IAmb IAmb 09 11 49.7
comp=Z,77nm,0.8s
I04A Tendick Farm, 79.52 36 P 09 11 47.8
baz=230,SNR=30
TYV Tymovskoe 79.54 334 *e*P **P** **09 11 46.8 +0.8**
TYV eS **S** **09 21 34.8 -0.6**
TYV pmax pmax
comp=Z,300nm,3.1s
TYV pmax pmax
comp=Z,110nm,0.8s
TYV smax smax
comp=E,400nm,9.9s
SHPR Sheep Range 79.55 45 P **P** **09 11 46.3 -0.4**
COR Corvallis 79.55 35 P **P** **09 11 45.3 -0.9**
COR pmax pmax
comp=Z,105nm,1.4s
COR Corvallis 79.55 35 P **P** **09 11 45.3 -0.9**
COR IAmb IAmb 09 11 50.0
comp=Z,105nm,1.4s
Y14A Wickenburg 79.62 48 P **P** **09 11 46.3 -0.6**
W13A Hualapai Mount 79.64 47 P **P** **09 11 46.0 -1.3**
K05A Summer Lake 79.69 37 P **P** **09 11 46.9 -0.3**
K05A IAmb IAmb 09 11 51.0
comp=Z,158nm,1.0s
LWLI Liwa 79.75 268 P **P** **09 11 47.4 -0.8**
comp=Z,192nm,0.8s
PMBI Palembang 79.76 271 P **P** **09 11 48.1 0.0**
comp=Z,44μmcomp=Z,275nm,0.4s
MDSI Maura Dua 79.81 269 P **P** **09 11 47.1 -1.2**
comp=Z,1μmcomp=Z,42nm,0.9s
H04D Lebanon 79.81 35 P 09 11 49.8
baz=229,SNR=28
USA0B Ussuriysk Arra 79.94 324 P **P** **09 11 48.8 +0.5**
USA0B pmax pmax
comp=Z,49nm,1.1s
USA0B Ussuriysk Arra 79.94 324 P **P** **09 11 48.8 +0.5**
USRK Ussuriysk Ar. 79.94 324 P **P** **09 11 49.4 +1.1**
comp=Z,12nm,0.5s,baz=103,slow=4.1,SNR=40
USRK LR LR 09 44 42.0
comp=Z,90nm,18.0s,baz=144,slow=34
G03D McMinnville, O 79.98 34 P 09 11 50.4
baz=229,SNR=29
PRN Pahroc Range 80.12 44 P **P** **09 11 49.0 -0.7**
PRN IAmb IAmb 09 11 54.0
comp=Z,106nm,1.2s
H04A Detroit Lake 80.22 35 P **P** **09 11 49.8 -0.1**
H04A IAmb IAmb 09 11 52.9
comp=Z,164nm,1.5s
R11A Troy Canyon, C 80.30 43 P 09 11 52.7
baz=235,SNR=14
R11A Troy Canyon, C 80.31 43 P **P** **09 11 49.9 -0.8**
PINE Pine Mountain 80.33 37 P **P** **09 11 50.0 -0.7**
PINE IAmb IAmb 09 11 54.5
comp=Z,134nm,0.9s
TUC Tucson 80.37 51 P **P** **09 11 51.1 +0.1**
TUC pmax pmax
comp=Z,30nm,1.0s
TUC Tucson 80.37 51 P **P** **09 11 51.1 +0.1**
I05D Terrebonne, OR 80.46 36 P 09 11 53.3
baz=230,SNR=45
LHSI Lahat 80.64 269 P **P** **09 11 52.0 -0.8**
F04D Rainier, OR 80.69 34 P 09 11 54.8
baz=229
E03A Lebam 80.71 33 P **P** **09 11 51.5 -0.8**
E03A IAmb IAmb 09 11 55.9
comp=Z,140nm,1.2s
DSRI Dabo 80.76 273 P **P** **09 11 54.2 +0.8**
comp=Z,1μmcomp=Z,46nm,1.5s
WVOR Wild Horse Val 80.81 39 P **P** **09 11 52.6 -0.6**
WVOR pmax pmax
comp=Z,88nm,1.0s
WVOR Wild Horse Val 80.81 39 P **P** **09 11 52.6 -0.6**
WVOR IAmb IAmb 09 11 56.8
comp=Z,88nm,1.0s
X16A Lo Mia Camp, P 80.98 49 P **P** **09 11 53.2 -1.2**
319A Douglas 81.01 52 P **P** **09 11 54.5 0.0**
319A IAmb IAmb 09 11 59.2
comp=Z,60nm,1.0s
G05D Wamic, OR 81.05 35 P 09 11 56.2
baz=230,SNR=26
LCMT Little Creek M 81.11 46 P **P** **09 11 54.0 -0.9**
NLWA Neilton Lookou 81.12 32 P **P** **09 11 54.1 -0.4**
NLWA IAmb IAmb 09 11 58.3
comp=Z,74nm,1.1s
E04D Cinebar 81.23 34 P 09 11 57.6
baz=229,SNR=32
JMBI JAMBI 81.25 271 P **P** **09 11 57.6 +1.5**
comp=Z,158nm,0.4s
CCUT Cedar City 81.32 45 P **P** **09 11 55.0 -1.2**
I07A Izee 81.32 37 P **P** **09 11 55.1 -0.8**
I07A IAmb IAmb 09 11 59.5
comp=Z,67nm,0.9s
CNPM China Poot 81.38 12 P **P** **09 11 54.1 -1.5**
CNPM IAmb IAmb 09 11 57.9
comp=Z,110nm,0.9s
F05D White Salmon 81.38 35 P 09 11 58.0
baz=230,SNR=20
KNB Kanab 81.40 46 P **P** **09 11 56.4 -0.1**
KNB pmax pmax
comp=Z,35nm,0.9s
KNB Kanab 81.40 46 P **P** **09 11 56.4 -0.1**
O19K Port Alsworth 81.44 10 P 09 11 56.6
baz=200
U15A North Rim 81.44 46 P **P** **09 11 56.2 -0.6**
DIB Dawson Inlet, 81.45 24 P **P** **09 11 54.8 -1.3**
H02S1 DAWSON INLET T 81.45 24 P **P** **09 11 57.9 +1.8**
J08A Circle Bar Ran 81.47 38 P **P** **09 11 55.9 -0.8**
J08A IAmb IAmb 09 12 00.2
comp=Z,99nm,1.1s
SPR3 Spring Creek 3 81.48 43 P **P** **09 11 57.2 +0.1**
SZCU Shurtz Canyon 81.53 45 P **P** **09 11 57.8 +0.5**
MDJ Mudanjiang 81.53 324 P **P** **09 11 58.9 +2.1**
MDJ PP **PP** **09 15 04.8 -0.7**
MDJ S **S** **09 22 01.6 +5.1**
MDJ sS sS 09 22 56.1 -1.8
MDJ SS **SS** **09 27 20.1 +2.9**
MDJ pmax pmax
comp=Z,160nm,1.0s
MDJ pmax pmax
comp=Z,750nm,3.7s
MDJ Mudanjiang 81.53 324 P **P** **09 11 56.8 0.0**
MDJ IAmb IAmb 09 12 00.7
comp=Z,109nm,0.8s
D04E Lakebay 81.53 33 P 09 11 59.5
baz=229,SNR=9.0
PSUT Pine Spring 81.53 44 P **P** **09 11 57.1 -0.1**
NJ2 Nanjing 81.56 308 ⇓*i*P **P** **09 11 58.3 +1.1**
NJ2 sP **sP** **09 12 46.9 -0.9**
NJ2 pmax pmax
comp=Z,41nm,0.8s
WUAZ Wupatki 81.60 48 P **P** **09 11 57.3 -0.3**
WUAZ IAmb IAmb 09 12 02.2
comp=Z,88nm,1.4s
WUAZ Wupatki 81.60 48 P 09 12 00.6
baz=239,SNR=24
D03D Eldon 81.61 33 P 09 11 59.4
baz=229,SNR=23
N18K Kilae Creek 81.65 9 P 09 11 57.5
baz=198,SNR=26
BRLK Bradley Lake 81.67 12 P **P** **09 11 56.9 -0.3**
BRLK IAmb IAmb 09 11 59.2
comp=Z,120nm,1.0s
BRSE Bradley Lake S 81.67 12 P 09 11 58.2
baz=203,SNR=50
HPIG 81.70 58 P **P** **09 11 57.6 -0.7**
LON Longmire 81.75 34 P **P** **09 11 57.7 -0.3**
LON pmax pmax
comp=Z,68nm,1.5s
LON Longmire 81.75 34 P **P** **09 11 57.7 -0.3**
ELK Elko 81.89 42 P **P** **09 11 58.1 -1.0**

ELK pmax pmax
comp=Z,44nm,1.1s
ELK Elko 81.89 42 P **P** **09 11 58.1 -1.0**
D05A Enumclaw 81.95 33 P **P** **09 11 58.1 -0.8**
RSO Redoubt South 81.96 11 P **P** **09 11 58.5 -0.4**
N19K Bonanza Creek 82.00 10 P 09 11 59.0
baz=200,SNR=45
SVW2 Sparrevohn 82.09 9 P **P** **09 11 59.6 +0.3**
BTDF Bukit Timah Da 82.14 274 P **P** **09 12 01.2 +0.5**
comp=Z,906nmcomp=Z,96nm,0.8s
GRNR Gornyy 82.15 331 ⇓*i*P **P** **09 12 01.1 +1.2**
GRNR pmax pmax
comp=Z,50nm,1.1s
PGC Sidney 82.17 32 P **P** **09 12 00.5 +0.6**
PGC IAmb IAmb 09 12 03.2
comp=Z,86nm,0.9s
F07A Phinny Hill Vi 82.22 35 P **P** **09 12 00.6 +0.3**
F07A IAmb IAmb 09 12 03.7
comp=Z,101nm,1.3s
SEW Seward 82.27 13 P 09 12 00.8
baz=204,SNR=26
SEW Seward 82.27 13 P **P** **09 11 59.9 -0.3**
SEW IAmb IAmb 09 12 02.0
comp=Z,80nm,1.0s
MTPU Mount Pierson 82.37 45 P **P** **09 12 01.0 -0.8**
MTPU IAmb IAmb 09 12 06.8
comp=Z,68nm,1.1s
G08A Pilot Rock 82.38 36 P **P** **09 12 01.4 +0.1**
G08A IAmb IAmb 09 12 04.8
comp=Z,160nm,1.2s
ZAIG Zacatecas 82.41 63 P **P** **09 12 01.4 -0.8**
BBB Bella Bella 82.47 27 P **P** **09 12 01.5 +0.1**
BBB IAmb IAmb 09 12 04.0
comp=Z,63nm,0.8s
TCRU Three Creeks R 82.50 45 P **P** **09 12 02.7 +0.3**
CAPN Captain Cook N 82.54 12 P 09 12 03.5
baz=203
W18A Petrified Fore 82.54 49 P **P** **09 12 02.3 -0.3**
W18A IAmb IAmb 09 12 07.2
comp=Z,110nm,1.4s
W18A Petrified Fore 82.54 49 P 09 12 05.3
baz=240,SNR=19
O22K Cooper Landing 82.56 12 P 09 12 02.5
baz=204
O22K Cooper Landing 82.56 12 P **P** **09 12 01.6 -0.1**
O22K IAmb IAmb 09 12 10.6
comp=Z,77nm,0.9s
A04D Lummi Island 82.58 32 P 09 12 04.5
baz=229,SNR=11
B05A Bryant 82.59 33 P 09 12 04.2
baz=229,SNR=30
MSU Marysvale 82.63 45 P **P** **09 12 02.7 -0.3**
MSU Marysvale 82.63 45 P **P** **09 12 02.6 -0.3**
E07A Sunnyside 82.67 35 P **P** **09 12 01.9 -0.8**
E07A IAmb IAmb 09 12 06.3
comp=Z,140nm,1.1s
LTY Liberty 82.68 34 P **P** **09 12 01.7 -1.1**
LTY IAmb IAmb 09 12 06.0
comp=Z,58nm,1.1s
121A Cookes Peak, D 82.68 52 P 09 12 06.5
baz=241,SNR=31
HAWA Hanford 82.74 35 P **P** **09 12 04.0 +1.0**
HAWA IAmb IAmb 09 12 06.7
comp=Z,164nm,1.2s
SPCR Spurr Chakacha 82.75 11 P 09 12 02.5
baz=202,SNR=12
SPU Mount Spurr 82.76 11 P **P** **09 12 02.4 -0.4**
CRAG Craig 82.95 23 P 09 12 05.8
baz=219,SNR=16
CRAG Craig 82.96 23 P **P** **09 12 04.3 +0.5**
CRAG IAmb IAmb 09 12 07.3
comp=Z,74nm,1.1s
C06D Leavenworth 82.98 33 P 09 12 05.9
baz=230
BMO Blue Mountains 83.04 37 P **P** **09 12 04.9 +0.1**
BMO pmax pmax
comp=Z,44nm,1.0s
BMO Blue Mountains 83.04 37 P **P** **09 12 04.9 +0.1**
MFID Camas Ranch 83.06 39 P **P** **09 12 05.0 +0.1**
MFID IAmb IAmb 09 12 08.4
comp=Z,85nm,1.1s
E08A Dider Farm, El 83.06 35 P **P** **09 12 05.6 +0.9**
E08A IAmb IAmb 09 12 07.5
comp=Z,58nm,1.0s
B06A Marblemount 83.07 33 P **P** **09 12 05.2 +0.6**
A05A Maple Falls 83.08 32 P **P** **09 12 04.4 -0.3**
A05A IAmb IAmb 09 12 07.7
comp=Z,96nm,1.5s
RC01 Rabbit Creek A 83.11 12 P 09 12 05.2
baz=204,SNR=50
RC01 Rabbit Creek A 83.11 12 P **P** **09 12 04.7 +0.1**
RC01 IAmb IAmb 09 12 06.6
comp=Z,108nm,1.1s
DL2 Dalian 83.11 315 P **P** **09 12 06.3 +1.2**
DL2 pmax pmax
comp=Z,100nm,1.4s
DUG Dugway, Tooele 83.12 43 P 09 12 07.4
baz=237,SNR=30
DUG Dugway, Tooele 83.12 43 P **P** **09 12 05.4 0.0**
DUG pmax pmax
comp=Z,70nm,1.5s
DUG Dugway, Tooele 83.12 43 P **P** **09 12 05.4 0.0**
DUG IAmb IAmb 09 12 08.9
comp=Z,70nm,1.5s
HIN Hinchinbrook I 83.17 14 P **P** **09 12 05.2 +0.2**
HIN IAmb IAmb 09 12 06.9
comp=Z,124nm,1.1s
MAW Mawson 83.17 199 P **P** **09 12 07.5 +2.5**
comp=Z,56nm,0.8s,baz=126,slow=6.1,SNR=45
MAW Mawson 83.17 199 P **P** **09 12 07.5 +2.5**
baz=83,SNR=7.8
MAW Mawson 83.17 199 P **P** **09 12 07.0 +2.0**
MAW pmax pmax
comp=Z,22nm,1.2s
MAW Mawson 83.17 199 P **P** **09 12 07.0 +2.0**
PWL Port Wells 83.19 13 P **P** **09 12 04.4 -0.6**
PWL IAmb IAmb 09 12 06.8
comp=Z,136nm,1.0s
SUA Susitna One 83.26 11 P 09 12 06.0
baz=203,SNR=55
SUA Susitna One 83.26 11 P **P** **09 12 05.3 -0.3**
SUA IAmb IAmb 09 12 07.1
comp=Z,85nm,0.8s
GAMB Gambell 83.30 2 P 09 12 06.6
baz=183,SNR=7.2
GAMB Gambell 83.30 2 P **P** **09 12 05.9 +0.5**
GAMB IAmb IAmb 09 12 07.7
comp=Z,52nm,0.9s
KLR Kul'dur 83.33 328 P **P** **09 12 07.1 +1.1**
comp=Z,15nm,0.8s,baz=108,slow=4.0,SNR=38
KLR PKKPbc **PKKPbc** **09 30 26.6 -0.7**
comp=Z,1.2nm,0.7s,baz=356,slow=7.0,SNR=5.1
KLR LR LR 09 42 23.1
comp=Z,81nm,21.4s,baz=136,slow=31
KLR Kul'dur 83.33 328 *ce*P **P** **09 12 07.0 +1.0**
KLR pmax pmax
comp=Z,24nm,0.9s
BGU Big Grassy Mou 83.38 42 P **P** **09 12 06.0 -0.6**
CN2 Changchun 83.43 321 ⇓*i*P **P** **09 12 07.6 +1.0**
CN2 *e*S **S** **09 22 14.4 -1.4**
CN2 pmax pmax
comp=Z,70nm,0.9s
CN2 pmax pmax
comp=Z,600nm,3.0s
SIT Sitka 83.44 21 P 09 12 07.9
baz=217,SNR=12
SIT Sitka 83.44 21 P **P** **09 12 06.0 -0.3**
SIT pmax pmax
comp=Z,58nm,1.2s
SIT Sitka 83.44 21 P **P** **09 12 06.0 -0.3**
SIT IAmb IAmb 09 12 09.3
comp=Z,58nm,1.2s
SNY Shenyang 83.45 319 ⇑P **P** **09 12 07.5 +0.7**
SNY pmax pmax
comp=Z,50nm,0.8s
NLU North Lily Min 83.47 44 P **P** **09 12 07.0 -0.3**
GLI Glacier Island 83.47 13 P 09 12 07.1
baz=206,SNR=55
GLI Glacier Island 83.47 13 P **P** **09 12 05.9 -0.6**
EYAK Cordova Ski Ar 83.47 14 P 09 12 07.2
baz=208,SNR=32
EYAK Cordova Ski Ar 83.47 14 P **P** **09 12 06.3 -0.1**
EYAK IAmb IAmb 09 12 08.5
comp=Z,80nm,1.1s
D08A Wollman Farm, 83.48 35 P **P** **09 12 07.4 +0.5**
D08A IAmb IAmb 09 12 10.4

comp=Z,159nm,1.2s
FID Port Fidalgo 83.49 14 P P 09 12 05.8 -0.8
FID IAmb IAmb 09 12 08.3
comp=Z,111nm,1.2s
Q16A Castle Valley 83.51 45 P P 09 12 07.4 0.0
SUCK Suckling Hills 83.52 15 P P 09 12 07.0 +0.3
E09A Wood Farm, Sta 83.57 36 P P 09 12 07.0 -0.3
E09A IAmb IAmb 09 12 10.5
comp=Z,167nm,1.5s
SKT Skwentna 83.60 11 P 09 12 06.5
baz=202,SNR=31
SKT Skwentna 83.60 11 P P 09 12 05.7 -1.4
SKT IAmb IAmb 09 12 08.1
comp=Z,64nm,1.2s
HMT Hamilton 83.64 15 P P 09 12 07.0 -0.4
HMT IAmb IAmb 09 12 09.1
comp=Z,45nm,1.0s
KNK Knik Glacier 83.66 13 P 09 12 08.0
baz=205,SNR=26
TMUT Trail Mountain 83.68 44 P P 09 12 09.4 +0.9
TMUT IAmb IAmb 09 12 12.8
comp=Z,123nm,1.0s
BGLC Bering Glacier 83.69 15 P 09 12 09.4
baz=210
PMR Palmer 83.69 12 P 09 12 08.1
baz=204,SNR=68
PMR Palmer 83.69 12 P P 09 12 07.5 0.0
PMR pmax pmax
comp=Z,118nm,1.3s
PMR Palmer 83.69 12 P P 09 12 07.5 0.0
PMR IAmb IAmb 09 12 09.5
comp=Z,118nm,1.3s
TLIG Tlapa 83.75 69 P P 09 12 08.2 -0.8
F10A Beach Ranch, E 83.75 36 P P 09 12 08.3 0.0
TTA Tatalina 83.77 9 P 09 12 09.5
baz=198,SNR=82
TTA Tatalina 83.78 9 P P 09 12 08.5 +0.5
TTA pmax pmax
comp=Z,101nm,1.0s
TTA Tatalina 83.78 9 P P 09 12 08.5 +0.5
TTA IAmb IAmb 09 12 10.7
comp=Z,101nm,1.0s
MPU Maple Canyon 83.78 44 P P 09 12 08.2 -0.7
MA2 Magadan 83.84 343 P P 09 12 08.4 0.0
comp=Z,41nm,0.6s,baz=128,slow=12,SNR=28
MA2 Magadan 83.84 343 *ce* **P P 09 12 08.2 -0.2**
MA2 pmax pmax
comp=Z,122nm,1.7s
MA2 Magadan 83.84 343 P P 09 12 07.9 -0.5
MA2 IAmb IAmb 09 12 09.0
comp=Z,54nm,0.7s
SPUT South Promonto 83.95 42 P P 09 12 09.0 -0.6
SPUT IAmb IAmb 09 12 13.2
comp=Z,102nm,1.2s
WRAK Wrangell Islan 83.97 22 P 09 12 10.9
baz=220,SNR=15
WRAK Wrangell Islan 83.97 22 P P 09 12 08.9 -0.1
WRAK IAmb IAmb 09 12 12.3
comp=Z,85nm,1.2s
HLID Hailey 83.99 40 P 09 12 12.2
baz=236,SNR=180
HLID Hailey 83.99 40 P P 09 12 09.1 -0.6
HLID IAmb IAmb 09 12 13.5
comp=Z,98nm,0.9s
HVU Hansel Valley 84.00 42 P P 09 12 10.5 +0.7
HVU pmax pmax
comp=Z,81nm,1.0s
HVU Hansel Valley 84.00 42 P P 09 12 10.5 +0.7
HVU IAmb IAmb 09 12 13.3
comp=Z,81nm,1.0s
SRU San Rafael Swe 84.04 45 P P 09 12 10.4 +0.2
SRU pmax pmax
comp=Z,128nm,1.1s
SRU San Rafael Swe 84.04 45 P P 09 12 10.3 +0.2
SRU IAmb IAmb 09 12 14.0
comp=Z,128nm,1.1s
SML Sawmill 84.05 12 P 09 12 10.0
baz=205,SNR=22
SML Sawmill 84.05 12 P P 09 12 08.6 -0.8
SML IAmb IAmb 09 12 11.5
comp=Z,91nm,1.4s
Y22D IRIS PASSCAL I 84.05 51 P 09 12 14.0
baz=242
LENM Lemitar 84.06 51 P P 09 12 10.1 -0.2
B08A Colville Reser 84.07 34 P P 09 12 09.7 -0.1
B08A IAmb IAmb 09 12 12.5
comp=Z,73nm,1.1s
MESA MESA 84.08 16 P 09 12 11.5
baz=211,SNR=34
MESA MESA 84.08 16 P P 09 12 09.9 +0.1
P17A Butcher Ranch, 84.09 45 P P 09 12 10.1 -0.2
P17A IAmb IAmb 09 12 14.5
comp=Z,91nm,1.1s
MNTX Cornudas Mount 84.09 53 P 09 12 13.7
baz=243
MNTX Cornudas Mount 84.09 53 P P 09 12 09.4 -0.9
MNTX IAmb IAmb 09 12 14.9
comp=Z,127nm,1.2s
BMRM Bremner River 84.11 14 P 09 12 10.8
baz=209,SNR=38
BMRM Bremner River 84.11 14 P P 09 12 09.4 -0.4
H03S2 Juan Fernandez 84.12 124 T T 10 44 46.3
baz=248,slow=75,SNR=948
H03S1 Juan Fernandez 84.13 124 T T 10 44 47.5
baz=248,slow=75,SNR=1108
H03S3 Juan Fernandez 84.14 124 T T 10 44 46.2
baz=248,slow=75,SNR=1043
JLU Jordanelle 84.22 43 P P 09 12 10.8 -0.3
JLU IAmb IAmb 09 12 14.6
comp=Z,55nm,1.1s
CUT Chulitna 84.22 11 P 09 12 10.5
baz=203,SNR=10
CUT Chulitna 84.22 11 P P 09 12 10.2 0.0
H03N2 Juan Fernandez 84.25 123 T T 10 44 51.4
baz=257,slow=72,SNR=776
H03N3 Juan Fernandez 84.25 123 T T 10 44 53.2
baz=257,slow=72,SNR=551
WHN Wuhan 84.25 305 ǁ **P P 09 12 12.3 +1.2**
WHN pmax pmax
comp=Z,310nm,1.4s
H03N1 Juan Fernandez 84.27 123 T T 10 44 51.5
baz=257,slow=72,SNR=519
KLU Klutina 84.27 14 P 09 12 11.6
baz=207,SNR=32
KLU Klutina 84.28 14 P P 09 12 10.0 -0.6
KLU IAmb IAmb 09 12 12.8
comp=Z,47nm,1.0s
CRQM Cirque 84.28 15 P P 09 12 11.2 +0.4
CRQM IAmb IAmb 09 12 13.2
comp=Z,142nm,1.1s
SCM Sheep Creek Mo 84.28 13 P P 09 12 10.2 -0.4
SCM pmax pmax
comp=Z,135nm,0.8s
SCM Sheep Creek Mo 84.28 13 P P 09 12 10.2 -0.4
CRQE Cirque 84.28 15 P 09 12 11.9
baz=210,SNR=42
C09A Chrisman Ranch 84.29 35 P P 09 12 11.0 +0.1
C09A IAmb IAmb 09 12 14.2
comp=Z,154nm,1.4s
YAH Yahtse 84.29 16 P P 09 12 10.9 0.0
YAH IAmb IAmb 09 12 13.7
comp=Z,122nm,0.9s
BNM Barren Site 84.30 51 P P 09 12 10.5 -1.1
PPLA Purkeypile 84.33 10 P 09 12 10.0
baz=202,SNR=9.6
PPLA Purkeypile 84.34 10 P P 09 12 10.5 -0.5
TX31 Lajitas Ar. Si 84.35 56 P P 09 12 11.7 -0.1
TX32 Lajitas Array 84.35 56 P P 09 12 11.2 -0.6
TX32 IAmb IAmb 09 12 16.5
comp=Z,99nm,1.2s
TXAR Lajitas Array 84.35 56 P P 09 12 15.0 +3.2
comp=Z,38nm,0.9s,baz=216,slow=7.8,SNR=217
TXAR pP **pP 09 12 50.4 +2.4**
comp=Z,34nm,1.1s,baz=214,slow=8.4,SNR=6.2
TXAR PKKPbc **PKKPbc 09 30 20.1 -3.9**
comp=Z,0.4nm,0.7s,baz=90,slow=4.0,SNR=3.5
TXAR PKPPKP **P'P'df 09 38 31.6 +2.3**
comp=Z,1.6nm,1.1s,baz=146,slow=2.4,SNR=6.0
TXAR LR LR 09 44 34.3
comp=Z,59nm,18.6s,baz=0.0,slow=32
TXAR Lajitas Array 84.35 56 P P 09 12 14.9 +3.1
TXAR Lajitas Array 84.35 56 P P 09 12 14.9 +3.1
TGL Tana Glacier 84.35 15 P P 09 12 11.2 +0.2
TGL IAmb IAmb 09 12 13.6
comp=Z,142nm,1.1s
ANM Nome 84.39 4 P 09 12 12.3
baz=189
ANM Nome 84.39 4 P P 09 12 10.6 -0.4
ANM pmax pmax
comp=Z,27nm,0.8s
ANM Nome 84.39 4 P P 09 12 10.6 -0.4
MVCO Mesa Verde 84.45 47 P 09 12 14.8
baz=240,SNR=16
MVCO Mesa Verde 84.45 47 P P 09 12 12.1 -0.3
PCA Pinnacle 84.46 17 P P 09 12 11.4 -0.2
PCA IAmb IAmb 09 12 14.0
comp=Z,65nm,1.1s
PINM Pinnacle 84.46 17 P 09 12 12.7
baz=213,SNR=15
PV05 Paradox Valley 84.47 46 P P 09 12 13.6 +1.2
PV05 IAmb IAmb 09 12 16.8
comp=Z,112nm,1.2s
PDSI Padang 84.49 271 P P 09 12 11.8 -1.0
comp=Z,6µmcomp=Z,26nm,0.8s
BCPM Bancas Point 84.50 17 P P 09 12 12.0 +0.3
BCPM IAmb IAmb 09 12 14.4
comp=Z,85nm,1.0s
TABL Table Mountain 84.51 16 P P 09 12 11.4 -0.6
TABL IAmb IAmb 09 12 14.4
comp=Z,97nm,0.9s
GRNC Granite Creek 84.60 16 P P 09 12 12.5 0.0
GRNC IAmb IAmb 09 12 14.9
comp=Z,119nm,1.1s
VRDI Verde Repeater 84.61 15 P P 09 12 13.0 +0.5
VRDI IAmb IAmb 09 12 14.8
comp=Z,148nm,1.2s
N25K Chitina, Valde 84.67 14 P 09 12 13.9
baz=209,SNR=119
HWUT Hardware Ranch 84.67 42 P P 09 12 14.2 +0.9
N25K Chitina, Valde 84.67 14 P P 09 12 12.9 +0.2
N25K IAmb IAmb 09 12 15.0
comp=Z,101nm,0.8s
GLB Gilahina Butte 84.71 15 P P 09 12 12.6 -0.2
GLB IAmb IAmb 09 12 15.0
comp=Z,107nm,1.1s
JIS Juneau Island 84.72 20 P P 09 12 13.1 +0.3
M24K Tolsona, Glenn 84.77 13 P 09 12 14.5
baz=207,SNR=52
COYC Coyhaique 84.80 137 P P 09 12 14.2 +0.5
COYC IAmb IAmb 09 12 19.3
comp=Z,82nm,1.4s
ANMO Albuquerque 84.80 50 *ce* **P P 09 12 15.2 +1.1**
ANMO pmax pmax
comp=Z,121nm,1.3s
ANMO Albuquerque 84.80 50 P P 09 12 14.3 +0.2
ANMO IAmb IAmb 09 12 18.4
comp=Z,114nm,1.2s
ANMO Albuquerque 84.80 50 P 09 12 17.1
baz=242
BESE Bessie Mountai 84.81 20 P P 09 12 14.6 +1.3
BESE IAmb IAmb 09 12 16.4
comp=Z,101nm,1.2s
MCARA McCarthy VSAT 84.85 15 P 09 12 14.8
baz=210,SNR=18
MCARA McCarthy VSAT 84.85 15 P P 09 12 13.8 +0.3
MCARA IAmb IAmb 09 12 15.9
comp=Z,121nm,1.2s
PV01 Paradox Valley 84.86 47 P P 09 12 14.5 +0.2
PV01 IAmb IAmb 09 12 18.0
comp=Z,57nm,1.1s
WAT6 Susitna Watana 84.87 12 P 09 12 14.5
baz=206,SNR=153
BARN Barnard Glacie 84.91 16 P P 09 12 14.1 +0.1
BARN IAmb IAmb 09 12 16.5
comp=Z,118nm,0.9s
PV22 Blue Mesa, Par 84.92 46 P P 09 12 15.2 +0.6
BCYI Bear Canyon 85.01 39 P P 09 12 15.5 +0.6
GDL2 Guadalupe Moun 85.09 53 P P 09 12 15.5 +0.1
KTH Kantishna Hill 85.16 11 P P 09 12 14.5 -0.6
KTH IAmb IAmb 09 12 16.1
comp=Z,89nm,1.0s
TRF Thorofare Moun 85.18 11 P 09 12 15.4
baz=203,SNR=167
TRF Thorofare Moun 85.18 11 P P 09 12 14.7 -0.5
NEW Newport 85.18 35 P 09 12 17.0
baz=233,SNR=30
NEW Newport 85.18 35 P P 09 12 16.9 +1.5
comp=Z,18nm,0.8s,baz=240,slow=4.7,SNR=51
NEW Newport 85.18 35 P P 09 12 16.0 +0.5
NEW pmax pmax
comp=Z,24nm,0.9s
NEW Newport 85.18 35 P P 09 12 16.0 +0.5
TNA Tin City 85.23 3 P 09 12 16.5
baz=187
TNA Tin City 85.23 3 P P 09 12 14.8 -0.3
TNA IAmb IAmb 09 12 17.6
comp=Z,57nm,0.9s
HARP HAARP 85.25 13 P 09 12 16.4
baz=208,SNR=22
RND Reindeer 85.40 12 P P 09 12 16.0 -0.2
RND pmax pmax
comp=Z,240nm,0.9s
RND Reindeer 85.40 12 P P 09 12 15.9 -0.2
RDMU Red Mountain 85.42 44 P P 09 12 17.6 +0.5
RDMU IAmb IAmb 09 12 20.5
comp=Z,59nm,1.1s
ECR Eagle Creek 85.57 41 P P 09 12 16.9 -0.8
AHID Auburn Hatcher 85.58 42 P P 09 12 17.8 0.0
AHID IAmb IAmb 09 12 21.3
comp=Z,72nm,1.2s
MCMT McKenzie Canyo 85.63 39 P P 09 12 16.8 -1.2
BPAW Bear Paw Mtn. 85.66 10 P 09 12 17.0
baz=203,SNR=27
BPAW Bear Paw Mtn. 85.66 10 P P 09 12 16.2 -1.2
MCK McKinley 85.68 11 P 09 12 18.2
baz=205,SNR=102
MCK McKinley 85.68 11 P P 09 12 17.8 +0.2
MCK pmax pmax
comp=Z,243nm,1.0s
MCK McKinley 85.68 11 P P 09 12 17.8 +0.2
PAX Paxson 85.69 13 P 09 12 18.1
baz=208,SNR=64
PAX Paxson 85.69 13 P P 09 12 17.8 +0.1
PAX pmax pmax
comp=Z,60nm,1.0s
PAX Paxson 85.69 13 P P 09 12 17.8 +0.1
PAX IAmb IAmb 09 12 19.4
comp=Z,60nm,1.0s
HYT Haines Junctio 85.82 17 P P 09 12 17.8 -0.7
HYT IAmb IAmb 09 12 21.5
comp=Z,83nm,1.2s
S22A 4UR Ranch, Cre 85.87 48 P 09 12 22.2
baz=241,SNR=56
LL02 Futaleuf 85.89 134 P P 09 12 20.6 +1.4
MNSI Mandailing Nat 85.89 272 P P 09 12 19.0 -0.7
comp=Z,32nm,0.4s
BWN Browne 85.99 11 P P 09 12 18.8 -0.2
MENT Mentasta 86.04 14 P P 09 12 19.0 -0.4
MENT IAmb IAmb 09 12 22.0
comp=Z,141nm,1.2s
REDW Red Top Meadow 86.05 41 P P 09 12 20.6 +0.5
REDW IAmb IAmb 09 12 23.6
comp=Z,68nm,1.3s
TPAW Teton Pass 86.06 41 P P 09 12 20.7 +0.5
DLMT Dillon 86.07 39 P P 09 12 19.4 -0.6
DLMT IAmb IAmb 09 12 23.7
comp=Z,72nm,1.4s
O20A White River Ci 86.08 45 P 09 12 22.5
baz=240,SNR=26
O20A White River Ci 86.08 45 P P 09 12 19.5 -0.8
MSO Missoula 86.10 37 P 09 12 21.4
baz=236,SNR=27
MSO Missoula 86.11 37 P P 09 12 19.6 -0.6
SNOW Snow King Moun 86.16 41 P P 09 12 19.7 -1.0
SEY Seymchan 86.31 346 P P 09 12 21.2 +0.6
comp=Z,135nm,0.7s,baz=146,slow=5.7,SNR=250
SEY pP **pwP 09 13 00.0 +0.8**
comp=Z,30nm,0.9s,baz=139,slow=5.5,SNR=3.0
SEY Seymchan 86.31 346 *d i* **P P 09 12 20.8 +0.2**
DLBC Dease Lake 86.32 22 P P 09 12 22.7 +1.9
comp=Z,28nm,0.8s,baz=222,slow=5.2,SNR=76
DLBC Dease Lake 86.32 22 P P 09 12 20.5 -0.3
DLBC IAmb IAmb 09 12 24.0
comp=Z,50nm,1.0s
LOHW Long Hollow 86.34 41 P P 09 12 21.2 -0.3
LRM Limekiln Ridge 86.41 38 P P 09 12 22.8 +1.0
JTMT Jette 86.43 36 P P 09 12 21.6 -0.1
NEA2 Nenana 86.44 11 P 09 12 21.2
baz=204,SNR=12
NEA2 Nenana 86.45 11 P P 09 12 21.1 -0.1
NEA2 IAmb IAmb 09 12 22.5
comp=Z,38nm,0.9s
WHY Whitehorse 86.45 19 P 09 12 23.0
baz=218,SNR=29
WHY Whitehorse 86.45 19 P P 09 12 21.8 +0.3
SMCO Snowmass 86.46 46 P P 09 12 21.9 -0.6
SMCO IAmb IAmb 09 12 26.0
comp=Z,53nm,1.2s
QLMT Earthquake Lak 86.48 40 P P 09 12 21.9 -0.3
I21K Tanana 86.50 10 P 09 12 22.2
baz=202,SNR=124
WRH Wood River Hil 86.51 11 P P 09 12 21.4 -0.1
FLWY Flagg Ranch 86.52 41 P P 09 12 22.4 0.0
BW06 Boulder Array 86.55 42 P 09 12 24.1
baz=239
BW06 Boulder Array 86.55 42 P P 09 12 23.1 +0.5
PD31 Pinedale Array 86.55 42 P P 09 12 23.1 +0.5
PDAR Pinedale Array 86.55 42 P P 09 12 24.0 +1.4
comp=Z,5.7nm,0.7s,baz=209,slow=3.6,SNR=53
PDAR pP **pwP 09 13 01.1 +0.2**
comp=Z,8.3nm,0.9s,baz=195,slow=3.1,SNR=6.0
PDAR PKKPbc **PKKPbc 09 30 17.3 -2.3**
comp=Z,2.0nm,0.9s,baz=90,slow=4.4,SNR=8.5
PDAR PKPPKP **P'P'df 09 38 25.3 +1.0**
comp=Z,0.4nm,0.8s,baz=83,slow=6.1,SNR=4.0
PDAR LR LR 09 46 51.6
comp=Z,51nm,18.2s,baz=268,slow=32
PDAR Pinedale Array 86.55 42 P P 09 12 22.7 +0.1
MLY Manley 86.56 10 P 09 12 21.9
baz=203,SNR=76
L27K Beaver Creek, 86.58 14 P 09 12 23.1
baz=211,SNR=80
L27K Beaver Creek, 86.58 14 P P 09 12 22.7 +0.7
L27K IAmb IAmb 09 12 24.6
comp=Z,51nm,1.0s
DOT Dot Lake 86.59 13 P P 09 12 21.8 -0.2
BCAR Beaver Creek A 86.60 14 P P 09 12 22.8 +0.7
YMR Madison River 86.67 40 P P 09 12 23.7 +0.6
YMR IAmb IAmb 09 12 28.3
comp=Z,68nm,1.4s
HDA Harding Lake 86.67 12 P 09 12 23.0
baz=206,SNR=109
HDA P 09 12 23.0
baz=206,SNR=109
HDA Harding Lake 86.67 12 P P 09 12 22.0 -0.3
HDA IAmb IAmb 09 12 24.2
comp=Z,102nm,0.9s
CCB Clear Creek Bu 86.72 11 P P 09 12 22.7 +0.1
H17A Grant Village 86.76 40 P 09 12 26.7
baz=238,SNR=11
SDCO Great Sand Dun 86.80 48 P 09 12 26.2
baz=242,SNR=32
SDCO Great Sand Dun 86.80 48 P P 09 12 24.4 +0.4
YHH Holmes Hill 86.80 40 P P 09 12 23.5 -0.4
H21K Melozitna Rive 86.82 9 P 09 12 24.4
baz=201
SCRK Sand Creek 86.89 13 P 09 12 24.5
baz=209,SNR=100
SCRK Sand Creek 86.89 13 P P 09 12 23.9 +0.4
SCRK IAmb IAmb 09 12 26.0
comp=Z,57nm,0.9s
I23K Minto, Yukon-K 86.90 11 P 09 12 23.6
baz=204,SNR=52
I23K Minto, Yukon-K 86.90 11 P P 09 12 23.1 -0.3
I23K IAmb IAmb 09 12 25.1
comp=Z,92nm,1.4s
TCOL CIGO, UAF Yank 86.92 11 P 09 12 24.0
baz=206,SNR=40
TCOL CIGO, UAF Yank 86.92 11 P P 09 12 23.4 -0.1
COLA College 86.92 11 P 09 12 24.2
baz=206
COLA College 86.92 11 *d i* **P P 09 12 23.4 -0.1**
COLA pmax pmax
comp=Z,160nm,1.0s
COLA College 86.92 11 P P 09 12 23.5 -0.1
MDM Murphy Dome 86.93 11 P P 09 12 23.1 -0.6
LKWY Lake 86.96 40 P P 09 12 24.7 +0.1
LKWY pmax pmax
comp=Z,15nm,1.0s
LKWY Lake 86.96 40 P P 09 12 24.6 +0.1
IL31 87.01 12 P P 09 12 23.7 -0.2
IL31 IAmb IAmb 09 12 25.8
comp=Z,106nm,1.2s
ILAR Eielson Array 87.01 12 P P 09 12 24.3 +0.4
comp=Z,39nm,0.9s,baz=214,slow=4.3,SNR=153
ILAR pP **pP 09 13 00.8 +0.7**
comp=Z,32nm,1.1s,baz=214,slow=6.4,SNR=4.9
ILAR PKKPbc **PKKPbc 09 30 16.8 -2.5**
comp=Z,1.0nm,0.6s,baz=351,slow=2.9,SNR=10
ILAR PKPPKP **P'P'df 09 38 26.9 +5.4**
comp=Z,0.9nm,1.0s,baz=344,slow=3.4,SNR=4.5
MSTX Muleshoe 87.07 52 P 09 12 27.6
baz=244
MSTX Muleshoe 87.07 52 P P 09 12 25.1 0.0
MSTX IAmb IAmb 09 12 28.3
comp=Z,51nm,1.0s
SKLT Songkhla 87.08 279 P P 09 12 27.3 +1.8
comp=Z,1µmcomp=Z,108nm,0.9s
RPSI Rantau Prapat 87.15 274 P P 09 12 25.5 -0.3
RPSI IAmb IAmb 09 12 27.7
comp=Z,33nm,0.8s
PSI Prapat 87.18 274 P P 09 12 25.5 -0.7
PSI pmax pmax
comp=Z,33nm,0.8s
PSI Prapat 87.18 274 P P 09 12 25.1 -1.1
comp=Z,20nm,0.8s
YMP Mirror Lake Pl 87.20 40 P P 09 12 24.9 -0.8
POKR Poker Flat Res 87.22 11 P 09 12 25.3
baz=206,SNR=7.0
POKR Poker Flat Res 87.22 11 P P 09 12 24.9 -0.1
POKR IAmb IAmb 09 12 26.8
comp=Z,95nm,1.3s
HRY Holter Researc 87.25 38 P P 09 12 25.2 -0.5
T25A Trinidad 87.29 49 P 09 12 28.2
baz=243,SNR=10
T25A Trinidad 87.29 49 P P 09 12 25.1 -1.2
833A Chaparral WMA, 87.31 59 P 09 12 28.7
baz=246,SNR=8.6
BJT Baijiatuau 87.32 314 P P 09 12 26.0 -0.1
BJT pmax pmax
comp=Z,185nm,1.5s
BJT Baijiatuau 87.32 314 P P 09 12 26.0 -0.1
BJI Beijing 87.33 314 P P 09 12 27.3 +1.3
BJI pmax pmax
comp=Z,55nm,0.8s
BJI pmax pmax
comp=Z,580nm,4.3s
K27K Chicken 87.36 14 P P 09 12 27.0 +1.3
K27K IAmb IAmb 09 12 28.8
comp=Z,87nm,1.1s
WALA Waterton Lakes 87.38 35 P P 09 12 25.3 -0.9
WALA IAmb IAmb 09 12 29.3
comp=Z,82nm,1.1s
YNE Yellowstone No 87.43 40 P P 09 12 26.7 -0.1
H23K Yukon River 87.49 10 P 09 12 26.2
baz=204,SNR=16
RWWY Rawlins 87.52 44 P P 09 12 27.0 -0.3
RWWY IAmb IAmb 09 12 29.3
comp=Z,39nm,1.1s
Q24A Divide 87.61 47 P 09 12 30.3
baz=242,SNR=11
ISCO Idaho Springs 87.68 46 P 09 12 30.2
baz=242,SNR=14
ISCO Idaho Springs 87.69 46 P P 09 12 27.1 -1.1
ISCO pmax pmax
comp=Z,15nm,1.2s
ISCO Idaho Springs 87.69 46 P P 09 12 27.1 -1.1
PLCA Paso Flores 87.76 133 P P 09 12 32.2 +3.8
comp=Z,6.4nm,1.0s,baz=250,slow=5.9,SNR=9.5
PLCA Paso Flores 87.76 133 P P 09 12 29.2 +0.8
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 87.76 133 P P 09 12 29.2 +0.8
H24K Noodor Dome 87.79 11 P 09 12 26.7
baz=206,SNR=15
JCT Junction City 87.87 57 P 09 12 35.4
baz=246
ENH Enshi 87.93 303 P P 09 12 29.5 +0.3
RLMT Red Lodge 87.94 40 P P 09 12 28.9 -0.2
RLMT Red Lodge 87.94 40 P 09 12 31.4
baz=239,SNR=13
PRP Porcupine Dome 87.94 12 P 09 12 29.3
baz=208
PRP Porcupine Dome 87.94 12 P P 09 12 27.9 -0.7
PRP IAmb IAmb 09 12 30.8
comp=Z,67nm,1.4s
GSI Gunungsitoli 87.95 272 P P 09 12 30.5 +0.9

GSI IAmb IAmb 09 12 31.5
comp=Z,55nm,0.9s
GSI Gunungsitoli 87.95 272 P **P** **09 12 30.7 +1.0**
comp=Z,71nm,0.7s
N23A Red Feather La 87.98 45 P 09 12 31.5
baz=242,SNR=18
RDOG Red Dog Mine 88.01 5 P 09 12 30.2
baz=191
RDOG Red Dog Mine 88.02 5 P **P** **09 12 29.6 +0.9**
DAWY Dawson 88.02 15 P **P** **09 12 30.0 +1.1**
SYO Syowa Base 88.03 192 ⇓*i*P **P** **09 12 30.5 +1.5**
SYO Syowa Base 88.03 192 ⇓*e*PcP **PcP** **09 12 32.0 +1.4**
SYO Syowa Base 88.03 192 ⇑*e*pP pP 09 13 06.8 +1.7
GCMT Greycliff 88.04 40 P **P** **09 12 30.2 +0.7**
EGAK Eagle 88.21 14 P 09 12 31.2
baz=212,SNR=107
EGAK Eagle 88.21 14 P **P** **09 12 30.0 +0.4**
EGAK IAmb IAmb 09 12 32.3
comp=Z,97nm,1.1s
KHON Khomkaen 88.27 288 P **P** **09 12 32.7 +1.6**
comp=Z,107nm,0.6s
AMTX Amarillo 88.28 52 P 09 12 33.2
baz=245
AMTX Amarillo 88.28 52 P **P** **09 12 30.7 -0.2**
AMTX IAmb IAmb 09 12 33.8
comp=Z,29nm,0.8s
ZEA Zeya 88.35 330 *e*P **P** **09 12 31.9 +1.3**
ZEA pmax pmax
comp=N,80nm,0.9s
ZEA pmax pmax
comp=E,30nm,0.9s
ZEA pmax pmax
comp=Z,140nm,0.9s
K22A Casper 88.43 43 P 09 12 33.1
baz=241,SNR=11
K22A Casper 88.44 43 P **P** **09 12 30.6 -0.8**
PHWY Pilot Hill 88.49 45 P **P** **09 12 31.2 -0.8**
BILL Bilibino 88.61 353 *c i*P **P** **09 12 31.9 +0.4**
BILL *i* *PP **pwP** **09 13 09.5 -0.7**
BILL *e*SP **sP** **09 13 18.8 -3.9**
BILL *e*SS **sS** **09 24 08.8 +1.0**
BILL pmax pmax
comp=Z,43nm,1.3s
BILL Bilibino 88.61 353 P **P** **09 12 31.4 0.0**
LASI Langsa, Aceh 88.64 275 P **P** **09 12 34.4 +1.5**
comp=Z,523nm,0.5s
SNAA Sanae 88.65 178 P **P** **09 12 33.8 +1.9**
SNAA Sanae 88.65 178 *ce*P **P** **09 12 33.5 +1.5**
SNAA pmax pmax
comp=Z,46nm,1.0s
SNAA Sanae 88.65 178 P **P** **09 12 33.5 +1.5**
SNAA IAmb IAmb 09 12 35.0
comp=Z,34nm,0.8s
VNA3 Neumayer Olymp 88.67 175 P **P** **09 12 34.1 +2.1**
COLD Coldfoot 88.68 9 P 09 12 33.3
baz=203,SNR=66
COLD Coldfoot 88.68 9 P **P** **09 12 32.2 +0.4**
COLD IAmb IAmb 09 12 34.5
comp=Z,36nm,0.8s
GYA Guiyang 88.70 299 ⇑P **P** **09 12 34.4 +1.4**
PATY Pattaya 88.84 284 P **P** **09 12 36.3 +2.5**
comp=Z,13μmcomp=Z,123nm,0.7s
TIY Taiyuan 88.86 311 *e*P **P** **09 12 33.3 -0.2**
TIY sP **sP** **09 13 22.8 -1.7**
TIY S **S** **09 23 05.4 -3.6**
TIY pmax pmax
comp=Z,41nm,0.5s
TIY L L
comp=Z,190nm,3.9s
TIY L L
comp=Z,130nm,9.2s
CHAI Chaiyaphum 88.87 287 P **P** **09 12 34.8 +0.9**
comp=Z,46nm,0.6s
ABTX Abilene, Hawle 88.87 55 P 09 12 35.5
baz=246,SNR=18
ABTX Abilene, Hawle 88.87 55 P **P** **09 12 33.5 -0.1**
ABTX IAmb IAmb 09 12 38.1
comp=Z,115nm,1.2s
FYU Fort Yukon 88.93 11 P **P** **09 12 33.0 0.0**
TPTI 88.98 274 P **P** **09 12 34.5 0.0**
comp=Z,43nm,0.7s
EGMT Eagleton 89.14 38 P 09 12 36.6
baz=239
EGMT Eagleton 89.14 38 P **P** **09 12 35.0 +0.4**
EGMT IAmb IAmb 09 12 37.9
comp=Z,42nm,1.1s
VNA1 Neumayer--Stat 89.36 176 P **P** **09 12 37.7 +2.5**
KSCO Kaye Shedlock' 89.39 48 P 09 12 38.1
baz=244
KSCO Kaye Shedlock' 89.39 48 P **P** **09 12 35.0 -1.0**
KSCO IAmb IAmb 09 12 40.1
comp=Z,48nm,1.1s
435B Jarrell 89.74 57 P **P** **09 12 37.0 -0.7**
435B IAmb IAmb 09 12 41.6
comp=Z,46nm,1.4s
435B Jarrell 89.74 57 P 09 12 40.2
baz=247
BMAR Burnt Mountain 89.81 11 P **P** **09 12 38.8 +1.6**
XAN Xi'an 89.90 306 P **P** **09 12 39.3 +0.9**
XAN pmax pmax
comp=Z,170nm,1.3s
PHET Kaeng Krachan 89.97 284 P **P** **09 12 41.3 +2.3**
comp=Z,2μmcomp=Z,216nm,0.7s
MT01 Popeta 90.04 126 P **P** **09 12 41.0 +1.8**
MT01 IAmb IAmb 09 12 43.5
comp=Z,41nm,0.8s
MLSI Meulaboh, Aceh 90.04 274 P **P** **09 12 39.7 +0.2**
comp=Z,183nm,0.9s
TOLK Toolik Lake Re 90.07 9 P 09 12 39.5
baz=204,SNR=25
TOLK Toolik Lake Re 90.07 9 P **P** **09 12 37.7 -0.7**
WHTX Lake Whitney, 90.31 56 P 09 12 42.4
baz=247
WMOK Wichita Mounta 90.39 53 P 09 12 42.4
baz=246
WMOK Wichita Mounta 90.39 53 P **P** **09 12 41.2 +0.6**
WMOK pmax pmax
comp=Z,32nm,1.3s
WMOK Wichita Mounta 90.39 53 P **P** **09 12 41.1 +0.6**
LAO LASA Array 90.56 40 P **P** **09 12 41.7 +0.5**
LAO LASA Array 90.56 40 P 09 12 44.0
baz=242,SNR=56
RSSD Black Hills 90.72 43 P 09 12 44.0
baz=243
RSSD Black Hills 90.73 43 P **P** **09 12 41.9 -0.3**
RSSD pmax pmax
comp=Z,65nm,1.2s
RSSD Black Hills 90.73 43 P **P** **09 12 41.9 -0.3**
RSSD IAmb IAmb 09 12 45.2
comp=Z,65nm,1.1s
PHIT Phitsanulok 90.73 288 P **P** **09 12 44.2 +1.7**
comp=Z,1μmcomp=Z,144nm,0.7s
HHC Hu-ho-hao-te 90.83 313 *e*P **P** **09 12 43.5 +0.9**
HHC S **S** **09 23 29.8 +2.7**
HHC pmax pmax
comp=Z,54nm,1.1s
HHC pmax pmax
comp=Z,440nm,4.6s
MTO3 Montecristo 90.84 75 P **P** **09 12 43.0 -0.3**
Z35A Perchaven, San 90.99 55 P **P** **09 12 42.5 -0.9**
Z35A IAmb IAmb 09 12 46.9
comp=Z,55nm,0.9s
X34A Smith Ranch, M 91.05 54 P **P** **09 12 42.4 -1.3**
PETF Flores 91.25 73 P **P** **09 12 44.0 -0.9**
LOOK Love County 91.31 54 P **P** **09 12 44.0 -0.9**
LOOK IAmb IAmb 09 12 48.5
comp=Z,28nm,0.8s
CO02 Combarbal 91.31 124 P **P** **09 12 46.6 +1.3**
CO02 IAmb IAmb 09 13 03.7
comp=Z,29nm,1.2s
CBKS Cedar Bluff 91.34 49 P 09 12 47.0
baz=246
CBKS Cedar Bluff 91.34 49 P **P** **09 12 44.1 -0.9**
CBKS pmax pmax
comp=Z,84nm,1.4s
CBKS Cedar Bluff 91.34 49 P **P** **09 12 44.1 -0.9**
CBKS IAmb IAmb 09 12 48.4
comp=Z,84nm,1.4s
KMI Kunming 91.49 296 ⇓P **P** **09 12 47.8 +1.6**
KMI pmax pmax
comp=Z,52nm,0.8s
237A Washetta, Mont 91.61 57 P **P** **09 12 45.9 -0.4**
BCOK Bluff Creek, N 91.63 53 P **P** **09 12 45.0 -1.3**
FNO Franklin 91.63 53 P **P** **09 12 45.7 -0.7**
OK032 Salt Plains WL 91.64 51 P **P** **09 12 45.5 -0.9**

OKCFA Oklahoma City 91.66 53 P **P** **09 12 46.4 0.0**
CROK Carrier 91.69 52 P **P** **09 12 46.6 0.0**
A21K Barrow 91.74 6 P 09 12 46.9
baz=197
BTO Baotou 91.79 313 ⇓*e*P **P** **09 12 49.3 +2.2**
BTO S **S** **09 23 32.8 -3.0**
BTO pmax pmax
comp=Z,110nm,0.9s
BTO L L
comp=Z,390nm,19.4s
BTO L L
comp=Z,410nm,10.5s
BTO L L
comp=Z,440nm,8.3s
UMPA Umpang Tak 91.79 286 P **P** **09 12 49.5 +2.0**
comp=Z,5μmcomp=Z,70nm,0.8s
OK025 Westminster Rd 91.81 53 P **P** **09 12 47.7 +0.5**
OK025 IAmb IAmb 09 12 50.5
comp=Z,73nm,1.3s
KAN10 Anthony SW Sta 91.85 51 P **P** **09 12 47.3 0.0**
KAN10 IAmb IAmb 09 12 50.8
comp=Z,49nm,1.0s
KAN14 Manchester OK 91.88 51 P **P** **09 12 46.6 -0.9**
KAN14 IAmb IAmb 09 12 50.7
comp=Z,39nm,1.2s
GO04 Tololo Observa 91.89 123 P **P** **09 12 50.0 +1.9**
GO04 IAmb IAmb 09 12 52.4
comp=Z,32nm,1.0s
KAN16 Harper SW Stat 91.91 51 P **P** **09 12 47.2 -0.5**
KAN16 IAmb IAmb 09 12 51.1
comp=Z,67nm,1.2s
R32A Long Quarter, 91.92 50 P **P** **09 12 47.0 -0.7**
PAYA Payao 91.96 290 P **P** **09 12 49.5 +1.2**
comp=Z,7μmcomp=Z,779nm,0.7s
KAN08 Anthony NE Sta 91.98 51 P **P** **09 12 47.3 -0.7**
KAN08 IAmb IAmb 09 12 51.5
comp=Z,76nm,1.2s
KAN12 Harper NE Stat 91.99 51 P **P** **09 12 46.7 -1.3**
KAN12 IAmb IAmb 09 12 51.4
comp=Z,84nm,1.3s
W35A Tecumseh 91.99 53 P **P** **09 12 49.2 +1.2**
KAN05 Bluff City Nor 92.01 51 P **P** **09 12 47.6 -0.4**
KAN05 IAmb IAmb 09 12 51.6
comp=Z,68nm,1.1s
KAN17 Caldwell West 92.06 51 P **P** **09 12 48.3 0.0**
KAN09 Caldwell North 92.20 51 P **P** **09 12 49.4 +0.4**
KAN13 South Haven SW 92.26 51 P **P** **09 12 48.4 -0.9**
KS20 Mayfield South 92.29 51 P **P** **09 12 49.0 -0.3**
OK031 S. Brethren Rd 92.32 53 P **P** **09 12 49.5 0.0**
OK031 IAmb IAmb 09 12 52.9
comp=Z,70nm,1.2s
BLOK Blackwell 92.36 52 P **P** **09 12 49.7 0.0**
OK030 Cody Creek RV 92.36 53 P **P** **09 12 48.8 -0.9**
NATX Nacogdoches 92.42 57 P **P** **09 12 49.9 -0.2**
NATX IAmb IAmb 09 12 53.4
comp=Z,26nm,0.9s
NATX Nacogdoches 92.42 57 P 09 12 52.8
baz=248
CM31 Chiang Mai Arr 92.48 289 P **P** **09 12 51.0 +0.4**
CM31 IAmb IAmb 09 12 54.4
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 92.48 289 P **P** **09 12 52.2 +1.6**
comp=Z,33nm,0.9s,baz=122,slow=2.9,SNR=62
CMAR PKKPbc **PKKPbc** **09 30 06.0 +2.7**
comp=Z,0.7nm,0.3s,baz=296,slow=4.1,SNR=6.2
CMAR LR LR 09 51 41.4
comp=Z,24nm,20.6s,baz=156,slow=34
YAK Yakutsk 92.48 337 P **P** **09 12 49.4 -0.2**
comp=Z,27nm,0.4s,baz=138,slow=1.0,SNR=12
YAK Yakutsk 92.48 337 *e*P **P** **09 12 49.2 -0.4**
YAK *e*S **SKSac** **09 23 12.8 +3.8**
YAK *e* 09 23 42.0
YAK *e*SS **SS** **09 30 00.3 +4.1**
YAK pmax pmax
comp=Z,56nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax smax
comp=E,34nm,2.7s
YAK smax smax
comp=N,24nm,2.3s
YAK Yakutsk 92.48 337 P **P** **09 12 49.0 -0.6**
QUOK Quay 92.50 52 P **P** **09 12 50.4 0.0**
QUOK IAmb IAmb 09 12 53.7
comp=Z,65nm,1.2s
CMMT Chiang Mai 92.60 289 P **P** **09 12 51.3 +0.1**
comp=Z,839nmcomp=Z,54nm,0.7s
CMMT Chiang Mai 92.60 289 P **P** **09 12 51.3 +0.1**
comp=Z,801nmcomp=Z,52nm,0.7s
CHTO Chiang Mai 92.60 289 P **P** **09 12 51.8 +0.6**
CHTO pmax pmax
comp=Z,32nm,0.7s
CHTO Chiang Mai 92.60 289 P **P** **09 12 52.3 +1.1**
comp=Z,790nmcomp=Z,54nm,0.7s
CHTO Chiang Mai 92.60 289 P **P** **09 12 51.8 +0.6**
CHTO IAmb IAmb 09 12 53.4
comp=Z,32nm,0.7s
CHTO Chiang Mai 92.60 289 P **P** **09 12 51.8 +0.6**
comp=Z,446nmcomp=Z,30nm,0.7s
DGMT Dagmar 92.60 39 P 09 12 53.0
baz=243,SNR=41
Z38A Mt. Pleasant 92.72 56 P **P** **09 12 50.6 -0.9**
Z38A IAmb IAmb 09 12 55.5
comp=Z,50nm,0.9s
CD2 Chengdu 92.73 302 *e*P **P** **09 12 52.0 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
INK Inuvik 92.86 14 P 09 12 51.9
baz=219,SNR=5.0
INK Inuvik 92.86 14 P **P** **09 12 51.3 +0.1**
INK pmax pmax
comp=Z,90nm,1.2s
INK Inuvik 92.86 14 P **P** **09 12 51.3 +0.1**
X37A Clayton 92.92 54 P **P** **09 12 51.6 -0.7**
T35A Sooner Cattle 92.94 52 P **P** **09 12 53.2 +0.8**
TUL1 Leonard 93.09 53 P 09 12 55.0
baz=248,SNR=6.3
BGNE Belgrade 93.50 47 P **P** **09 12 55.7 +0.9**
BGNE Belgrade 93.50 47 P 09 12 57.5
baz=247
JTS Las Juntas de 93.53 80 *i* P **P** **09 12 56.8 +1.2**
JTS pmax pmax
comp=Z,31nm,1.3s
K31A O'Neill 93.57 46 P **P** **09 12 56.0 +0.9**
KSU1 Kansas State U 93.69 50 P 09 12 57.9
baz=248
N33A J Bar K, Exete 93.73 48 P **P** **09 12 55.0 -0.9**
E28A Huff 93.92 42 P **P** **09 12 55.9 -0.8**
SUSD Miller 94.16 44 P 09 12 59.4
baz=246
SUSD Miller 94.16 44 P **P** **09 12 57.8 0.0**
SUSD IAmb IAmb 09 13 00.7
comp=Z,40nm,0.9s
MIAR Mount Ida 94.28 55 P **P** **09 12 58.6 0.0**
MIAR pmax pmax
comp=Z,11nm,1.0s
MIAR Mount Ida 94.28 55 P **P** **09 12 58.6 0.0**
MIAR Mount Ida 94.28 55 P 09 13 00.8
baz=249
WLAR White Oak Lake 94.34 56 P **P** **09 12 58.4 -0.4**
WLAR IAmb IAmb 09 13 03.5
comp=Z,30nm,1.1s
U38A Gravette 94.34 53 P **P** **09 12 58.1 -0.7**
U38A IAmb IAmb 09 13 03.0
comp=Z,28nm,1.3s
W39A Magazine 94.35 54 P **P** **09 12 57.4 -1.5**
W39A IAmb IAmb 09 13 02.7
comp=Z,42nm,1.3s
W39A Magazine 94.35 54 P 09 13 01.3
baz=249
LZH Lanzhou 94.53 307 ⇓P **P** **09 13 01.5 +1.6**
LZH pP pP 09 13 34.3 -1.8
LZH sP sP 09 13 49.0 -2.1
LZH pmax pmax
comp=Z,69nm,1.4s
LZH pmax pmax
comp=Z,240nm,6.8s
HHAR Hobbs 94.62 53 P **P** **09 13 00.6 +0.4**
YKA Yellowknife Ar 94.71 24 P **P** **09 13 01.0 +1.2**
comp=Z,11nm,0.8s,baz=235,slow=4.3,SNR=57
YKA pP **pP** **09 13 36.6 +0.3**
comp=Z,11nm,1.1s,baz=230,slow=4.2,SNR=4.1
YKA PP **PP** **09 16 46.4 -4.0**

comp=Z,0.2nm,0.4s,baz=236,slow=7.7,SNR=4.3
L34A Svendsen Farm, 94.94 47 P **P** **09 13 01.2 -0.2**
N35A Tabor 95.04 48 P **P** **09 13 02.4 +0.5**
MDND Maddock 95.11 41 P 09 13 03.7
baz=246
MDND Maddock 95.12 41 P **P** **09 13 01.9 -0.2**
ECSD EROS Data Cent 95.44 46 P 09 13 05.3
baz=248
ECSD EROS Data Cent 95.44 46 P **P** **09 13 03.6 -0.1**
U40A Yellville 95.47 53 P 09 13 05.5
baz=250,SNR=5.9
W41B Gary Mavity, V 95.52 55 P 09 13 06.4
baz=250
WHAR Wooly Hollow 95.53 55 P **P** **09 13 03.9 -0.3**
WHAR IAmb IAmb 09 13 08.8
comp=Z,27nm,1.3s
S39A Bolivar 95.58 52 P **P** **09 13 04.3 -0.2**
S39A IAmb IAmb 09 13 07.5
comp=Z,26nm,1.2s
FCAR Ozark Folk Cen 95.86 54 P **P** **09 13 05.3 -0.4**
C36M Paulatuk 95.96 16 Pdiff 09 13 06.0
baz=227
P38A Dawn 96.11 50 P **P** **09 13 05.5 -1.3**
MGMO Mountain Grove 96.19 53 P **P** **09 13 08.0 +0.8**
MGMO IAmb IAmb 09 13 10.4
comp=Z,34nm,1.1s
F33A 5 Mile Ranch, 96.44 44 P **P** **09 13 08.9 +0.8**
LVC Limon Verde 96.53 117 P **P** **09 13 09.4 -0.2**
LVC Limon Verde 96.53 117 P **P** **09 13 09.4 -0.2**
R40A Maddies Statio 96.57 52 P **P** **09 13 09.0 0.0**
R40A IAmb IAmb 09 13 11.9
comp=Z,29nm,1.1s
FFC Flin Flon 96.59 34 P **P** **09 13 08.2 -0.4**
FFC pmax pmax
comp=Z,10.0nm,1.3s
FFC Flin Flon 96.59 34 P **P** **09 13 08.2 -0.4**
ULN Ulaanbaatar 96.62 318 *ce*P **P** **09 13 09.4 +0.3**
ULN pmax pmax
comp=Z,30nm,1.7s
ULN Ulaanbaatar 96.62 318 P **P** **09 13 09.4 +0.3**
ULN IAmb IAmb 09 13 12.8
comp=Z,13nm,0.9s
ULN Ulaanbaatar 96.62 318 P **P** **09 13 09.7 +0.6**
PB01 IPOC Station P 96.68 115 P **P** **09 13 09.4 -0.6**
SONM Songino Array 97.02 318 P Pdif 09 13 11.1 +0.1
comp=Z,6.2nm,0.7s,baz=122,slow=1.9,SNR=17
SONM PP **PP** **09 17 05.9 -2.9**
comp=Z,1.7nm,0.9s,baz=123,slow=5.5,SNR=4.3
SONM Songino Array 97.02 318 P **P** **09 13 10.8 -0.1**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 97.02 318 P **P** **09 13 10.8 -0.1**
T42A Van Buren 97.03 53 P Pdif 09 13 11.3 +0.3
PB11 IPOC Station P 97.05 114 P Pdif 09 13 12.3 +0.5
PB11 IAmb IAmb 09 13 17.4
comp=Z,15nm,0.7s
SCIA State Center 97.12 48 Pdiff 09 13 13.0
baz=250
P40A Paris 97.15 51 P **P** **09 13 10.7 -0.8**
CCM Cathedral Cave 97.25 52 P Pdif 09 13 13.2 +1.1
CCM pmax pmax
comp=Z,9.0nm,1.0s
CCM Cathedral Cave 97.25 52 P Pdif 09 13 13.2 +1.1
MNMC Minye Minye 97.36 113 P Pdif 09 13 13.5 +0.1
MNMC IAmb IAmb 09 13 19.7
comp=Z,17nm,0.7s
OXF Oxford 97.51 56 Pdiff 09 13 14.9
baz=251
AGMN Agassiz Nation 97.61 41 P 09 13 14.0
baz=249,SNR=6.2
AGMN Agassiz Nation 97.61 41 P **P** **09 13 12.7 -0.7**
AGMN IAmb IAmb 09 13 15.5
comp=Z,28nm,1.4s
K38A Parkersburg 97.68 48 P **P** **09 13 13.2 -0.6**
I37A Lemond, Waseca 97.71 46 P Pdif 09 13 14.0 +0.1
PB16 IPOC Station P 97.75 113 P Pdif 09 13 18.9 +3.4
F36A Milaca 98.26 44 P **P** **09 13 15.8 -0.5**
F36A IAmb IAmb 09 13 19.4
comp=Z,28nm,1.1s
ULM Lac du Bonnet 98.30 40 P Pdif 09 13 17.3 +0.9
comp=Z,3.8nm,0.8s,baz=185,slow=3.0,SNR=3.6
ULM LR LR 09 54 23.9
comp=Z,73nm,18.0s,baz=287,slow=33
ULM Lac du Bonnet 98.30 40 IAmb IAmb 09 13 17.8
comp=Z,5.7nm,0.8s
SPMN Marine on St. 98.52 45 Pdiff 09 13 19.3
baz=251
SPMN Marine on St. 98.52 45 P **P** **09 13 16.6 -0.9**
SPMN IAmb IAmb 09 13 20.7
comp=Z,29nm,1.1s
L40A Anamosa 98.58 48 P Pdif 09 13 18.4 +0.5
GTA Gaotai 98.65 309 ⇑P Pdif 09 13 19.8 +1.4
GTA PP **PP** **09 17 23.0 +1.5**
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,69nm,4.2s
GTA L L
comp=Z,66nm,18.9s
GTA L L
comp=Z,140nm,21.1s
GTA L L
comp=Z,110nm,22.5s
TIXI Tiksi 98.76 345 P **P** **09 13 17.8 -0.2**
comp=Z,12nm,0.9s,baz=124,slow=4.6,SNR=21
TIXI PP **PP** **09 17 18.1 -3.2**
comp=Z,5.5nm,1.0s,baz=122,slow=7.3,SNR=9.4
TIXI Tiksi 98.76 345 P **P** **09 13 17.5 -0.5**
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 98.76 345 P **P** **09 13 17.4 -0.5**
TIXI IAmb IAmb 09 13 18.9
comp=Z,17nm,1.0s
JFWS Jewell Farm 99.53 48 Pdiff 09 13 24.1
baz=252
LPAZ La Paz 99.78 111 P **Pdif** **09 13 29.9 +5.3**
comp=Z,2.1nm,1.0s,baz=211,slow=9.3,SNR=5.1
LPAZ PKKPbc **PKKPbc** **09 29 44.9 +0.7**
comp=Z,1.8nm,1.0s,baz=103,slow=3.8,SNR=5.2
ZAK Zakamensk 99.83 320 *e*P **Pdif** **09 13 22.6 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.7s
TLY Talaya 100.03 321 *i* P **Pdif** **09 13 24.7 +0.6**
TLY pmax pmax
comp=Z,5.0nm,0.8s
EYMN Ely 100.25 43 Pdiff 09 13 26.1
baz=252
NRIK Noril'sk 110.92 338 PKiKP **PKiKP** **09 18 11.4 +0.6**
comp=Z,1.6nm,0.5s,baz=110,slow=1.1,SNR=3.8
NRIK PP **PP** **09 18 47.7 -3.5**
comp=Z,1.8nm,0.6s,baz=105,slow=5.8,SNR=7.1
ZALV Zalesovo Beam 111.65 321 PKiKP **PKiKP** **09 18 12.4 -0.2**
comp=Z,7.2nm,0.6s,baz=152,slow=0.8,SNR=23
ZALV PP **PP** **09 18 53.6 -3.3**
comp=Z,6.7nm,0.9s,baz=89,slow=4.4,SNR=6.9
ZALV PKKPbc **PKKPbc** **09 29 09.2 +0.8**
comp=Z,0.6nm,0.4s,baz=264,slow=4.5,SNR=3.6
G60A Masonville 112.60 48 PKiKP 09 18 16.1
baz=264
MK31 Makanchi Array 112.70 313 *i* PKiKP **PKiKP** **09 18 14.6 -0.3**
MKAR Makanchi Array 112.70 313 Pdiff **Pdif** **09 14 21.6 +1.0**
comp=Z,1.7nm,0.7s,baz=90,slow=5.2,SNR=12
MKAR PKiKP **PKiKP** **09 18 14.8 -0.1**
comp=Z,5.9nm,0.7s,baz=73,slow=1.4,SNR=30
MKAR PKKPbc **PKKPbc** **09 29 06.1 +1.3**
comp=Z,1.2nm,0.6s,baz=273,slow=4.5,SNR=7.7
F60A Warwick 112.95 48 PKiKP 09 18 16.4
baz=265
G61A St-Isidore-de- 113.18 48 PKiKP 09 18 17.2
baz=265
I62A Tamworth 113.19 50 PKiKP 09 18 17.0
baz=265
E60A Ste Agathe de 113.33 47 PKiKP 09 18 16.9
baz=266
H62A Milan 113.38 49 PKiKP 09 18 17.7
baz=265
E61A Lac Etchemin 114.00 47 PKiKP 09 18 18.6
baz=266
F62A Pittston Farm, 114.32 48 PKiKP 09 18 19.3
baz=266
PDGK Podgornoye 114.38 309 PKIKP PKPdf 09 18 18.0 -0.3
G63A Kingsbury 114.52 49 PKiKP 09 18 19.5
baz=266
E62A Clayton Lake 114.67 47 PKiKP 09 18 19.7
baz=267
PKME Peaks-Kenny Pk 114.76 48 PKiKP 09 18 20.2

baz=267
H64A Troy 114.77 49 PKiKP 09 18 19.9
baz=266
F63A Nahmakanta, Br 114.91 48 PKiKP 09 18 20.4
baz=267
D62A Allapoint, All 115.02 46 PKiKP 09 18 20.0
baz=268
G64A Maxfield 115.13 48 PKiKP 09 18 20.9
baz=267
KURK Kurchatov 115.32 318 PKKPab 09 28 57.5 -1.6
KURBB Kurchatov Arra 115.37 317 PKKPbc PKKPbc 09 28 57.5 +1.8
comp=Z,1.7nm,0.8s,baz=272,slow=4.4,SNR=10
KURBB Kurchatov Arra 115.37 317 PKIKP **PKiKP** **09 18 19.4 -0.4**
TARG Taragay, Kyrgy 115.50 308 **PKiKP** **09 18 21.1 +0.2**
E64A Bridgewater 115.83 47 PKiKP 09 18 21.9
baz=268
G65A Princeton 115.97 49 PKiKP 09 18 22.4
baz=268
H66A Whiting 116.13 49 PKiKP 09 18 22.3
baz=268
KULLO Kullorsuaq 116.20 15 *i* P **PKiKP** **09 18 21.0 +0.2**
KULLO IAmb IAmb 09 18 21.6
comp=Z,8.9nm,0.7s
KULLO Kullorsuaq 116.20 15 *i* PKIKP **PKiKP** **09 18 20.9 +0.2**
KULLO pmax pmax
comp=Z,9.0nm,0.7s
NEEM North Greenlan 116.31 12 *i* P **PKiKP** **09 18 22.1 +0.8**
NEEM IAmb IAmb 09 18 22.7
comp=Z,12nm,0.6s
SCHQ Schefferville 116.40 38 PKP **PKiKP** **09 18 22.1 +0.4**
comp=Z,4.3nm,0.8s,baz=359,slow=4.1,SNR=5.3
SCHQ PKKPbc **PKKPbc** **09 28 52.0 -0.3**
comp=Z,3.6nm,0.6s,baz=69,slow=3.0,SNR=7.6
ULHL Ulahol 116.70 308 P **PKiKP** **09 18 23.8 +0.8**
SNR=7.7
KSH Kashi 116.73 305 PKP **PKPdf** **09 18 22.8 -0.2**
KSH sPKP 09 19 06.0
KSH PP PP 09 19 41.6 +8.3
KSH PPMZ
comp=Z,160nm,4.0s
KSH L L
comp=Z,190nm,7.6s
KSH L L
comp=Z,180nm,7.3s
KSH L L
comp=Z,150nm,6.2s
BOOM Boomskoye usch 116.93 308 PKIKP **PKiKP** **09 18 24.1 +0.7**
BOOM Boomskoye usch 116.93 308 PKPdf **PKiKP** **09 18 24.1 +0.7**
UPNV Upernavik 117.16 17 ⇓*i*P **PKiKP** **09 18 23.2 +0.6**
UPNV IAmb IAmb 09 18 23.5
comp=Z,19nm,0.7s
BDFB Brasilia 117.17 120 PKP **PKiKP** **09 18 25.5 +1.0**
comp=Z,2.6nm,0.5s,baz=238,slow=4.1,SNR=5.1
BDFB PKKPbc **PKKPbc** **09 28 48.5 -0.3**
comp=Z,2.8nm,0.6s,baz=220,slow=3.0,SNR=5.5
TKM2 Tokmak 2 117.20 309 P **PKiKP** **09 18 24.1 +0.2**
SNR=12
TKM2 Tokmak 2 117.20 309 PKIKP **PKPdf** **09 18 23.7 -0.2**
NOR Nord 117.46 4 *i* P **PKiKP** **09 18 23.2 0.0**
NOR IAmb IAmb 09 18 23.8
comp=Z,3.7nm,0.8s
NOR Nord 117.46 4 *i* PKIKP **PKiKP** **09 18 23.1 0.0**
NOR pmax pmax
comp=Z,4.0nm,0.8s
KBK Karagaybulak 117.67 308 P **PKiKP** **09 18 25.2 +0.5**
SNR=13
CHMS Chumysh 117.83 309 P **PKiKP** **09 18 25.2 +0.3**
SNR=5.6
AAK Ala-Archa 118.00 308 P **PKiKP** **09 18 25.9 +0.5**
SNR=5.4
AAK Ala-Archa 118.00 308 *c* PKIKP **PKiKP** **09 18 25.6 +0.2**
AAK pmax pmax
comp=Z,29nm,0.7s
AAK Ala-Archa 118.00 308 PKPdf **PKPdf** **09 18 25.3 -0.1**
USP Ospenovka 118.02 309 P **PKiKP** **09 18 25.5 +0.3**
SNR=16
NUUG Nuugaatsiaq 118.49 18 *i* P **PKiKP** **09 18 25.5 +0.2**
NUUG IAmb IAmb 09 18 26.2
comp=Z,19nm,0.8s
AML Almayashu 118.58 308 P **PKiKP** **09 18 27.6 +0.7**
SNR=16
ARSB Arslanbob 119.10 307 PKIKP **PKiKP** **09 18 28.0 +0.5**
ARSB Arslanbob 119.10 307 PKPdf **PKiKP** **09 18 28.0 +0.5**
ILULI Ilulissat 120.12 20 ⇓*i*P **PKiKP** **09 18 28.9 +0.5**
ILULI IAmb IAmb 09 18 29.5
comp=Z,23nm,0.7s
ILULI Ilulissat 120.12 20 ⇓*i* PKIKP **PKiKP** **09 18 28.9 +0.5**
ILULI pmax pmax
comp=Z,23nm,0.7s
BVAR Borovoye Array 120.28 320 PKP **PKPdf** **09 18 28.0 -1.2**
comp=Z,9.8nm,0.7s,baz=190,slow=5.1,SNR=36
BVAR PKKPbc **PKKPbc** **09 28 39.8 +1.6**
comp=Z,0.5nm,0.4s,baz=116,slow=5.4,SNR=4.1
BVAR Borovoye Array 120.28 320 PKIKP **PKPdf** **09 18 28.0 -1.2**
BRVK Borovoye 120.34 321 *i* PKIKP **PKiKP** **09 18 29.6 +0.2**
BRVK Borovoye 120.34 321 PKPdf **PKiKP** **09 18 29.5 +0.1**
KBS Kingsbay 120.70 358 ⇓*i*P **PKiKP** **09 18 30.5 +1.1**
KBS IAmb IAmb 09 18 31.2
comp=Z,59nm,0.8s
KBS Kingsbay 120.70 358 *i* PKIKP **PKiKP** **09 18 30.3 +0.9**
KBS Kingsbay 120.70 358 *e*PKPdf **PKiKP** **09 18 30.4 +1.0**
KBS Kingsbay 120.70 358 **PKiKP** **09 18 30.0 +0.6**
BTK Batken 120.72 305 PKIKP **PKPdf** **09 18 30.5 -0.1**
BTK Batken 120.72 305 **PKPdf** **09 18 30.5 -0.1**
KK31 Karatay Array 120.93 309 PKIKP **PKiKP** **09 18 30.9 0.0**
KK31 Karatay Array 120.93 309 PKPdf **PKiKP** **09 18 30.9 0.0**
KKAR Karatay Array 120.93 309 PKIKP **PKPdf** **09 18 30.8 0.0**
KKAR Karatay Array 120.93 309 PKPdf **PKPdf** **09 18 30.8 0.0**
KKAR Karatay Array 120.93 309 **PKiKP** **09 18 30.9 0.0**
GAR Garm 121.09 304 **PKiKP** **09 18 31.9 +0.4**
SFJD Kangerlussuaq 121.23 22 *i* P **PKPdf** **09 18 30.3 -0.3**
SFJD IAmb IAmb 09 18 31.1
comp=Z,7.9nm,0.7s
SFJD Kangerlussuaq 121.23 22 *i* PKIKP **PKPdf** **09 18 30.3 -0.3**
SFJD pmax pmax
comp=Z,8.0nm,0.7s
SPA0 Spitsbergen Ar 121.28 357 *e*PKPdf **PKiKP** **09 18 31.1 +0.5**
DAG Danmarks Havn 121.72 6 ⇓*i*P **PKPdf** **09 18 31.2 -0.1**
DAG IAmb IAmb 09 18 31.9
comp=Z,12nm,0.7s
DAG Danmarks Havn 121.72 6 ⇓*i*PKIKP **PKPdf** **09 18 31.2 -0.1**
DAG pmax pmax
comp=Z,12nm,0.7s
SUMG Summit 121.78 14 ⇓*i*P **PKiKP** **09 18 33.1 +0.9**
SUMG IAmb IAmb 09 18 34.1
comp=Z,15nm,0.9s
SUMG Summit 121.78 14 ⇓*i* PKIKP **PKiKP** **09 18 33.1 +0.9**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 121.78 14 PKPdf **PKiKP** **09 18 32.4 +0.2**
VOI Vohitsoka 121.79 227 **PKPdf** **09 18 32.5 -0.8**
NUUK Nuuk 121.92 26 *i* P **PKiKP** **09 18 33.0 +0.9**
NUUK IAmb IAmb 09 18 33.7
comp=Z,17nm,1.0s
KBL Kabul 121.95 299 PKIKP **PKiKP** **09 18 33.6 +0.1**
KBL Kabul 121.95 299 PKPdf **PKiKP** **09 18 33.6 +0.1**
CHGR Chuyangaron 121.99 304 PKPdf **PKiKP** **09 18 33.6 +0.4**
HOPEN Hopen 122.30 355 *e*PKPdf **PKiKP** **09 18 33.4 +0.8**
HSPB Hornsund (broa 122.47 357 *e*PKP **PKiKP** **09 18 33.4 +0.5**
HSPB Hornsund (broa 122.47 357 *e*PKPdf **PKiKP** **09 18 33.5 +0.5**
DY2G Dye2 123.01 22 *i* P **PKiKP** **09 18 34.9 +0.4**
DY2G IAmb IAmb 09 18 35.7
comp=Z,44nm,0.7s
ICESG Greenland Ices 123.68 18 ⇓*i*P **PKiKP** **09 18 36.0 +0.1**
ICESG IAmb IAmb 09 18 36.8
comp=Z,41nm,0.9s
DBG Daneborg 123.74 8 ⇓*i*P **PKiKP** **09 18 35.8 +0.3**
DBG IAmb IAmb 09 18 36.5
comp=Z,14nm,0.7s
SVE Sverdlovsk 124.92 326 *e*PKIKP **PKiKP** **09 18 38.6 +0.3**
SVE pmax pmax
comp=Z,42nm,1.0s
NRS Narsarsuaq 125.83 27 *i* P **PKiKP** **09 18 40.0 0.0**
NRS Narsarsuaq 125.83 27 *i* PKIKP **PKiKP** **09 18 39.9 0.0**
SUR Sutherland 125.97 197 PKPdf **PKPdf** **09 18 40.4 -0.7**
ISOG Isortoq, Green 126.02 21 ⇓*i*P **PKiKP** **09 18 40.1 -0.1**
ISOG IAmb IAmb 09 18 40.9
comp=Z,36nm,0.8s
ARU Arti 126.14 326 *i* PKIKP **PKiKP** **09 18 40.9 +0.1**
ARU 09 25 39.9
ARU Arti 126.14 326 PKPdf **PKPdf** **09 18 40.1 -0.2**
ANGG Ammassalik, Gr 126.42 20 ⇓*i*P **PKPdf** **09 18 40.4 -0.2**
ANGG IAmb IAmb 09 18 41.2
comp=Z,15nm,0.7s
ANGG Ammassalik, Gr 126.42 20 **PKPdf** **09 18 39.9 -0.7**

SCO Scoresbysund 126.79 11 ⇓*i*P **PKiKP** **09 18 42.6 +1.0**
SCO IAmb IAmb 09 18 43.4
comp=Z,28nm,0.9s
SCO Scoresbysund 126.79 11 ⇓*i* PKIKP **PKiKP** **09 18 42.6 +1.0**
SCO pmax pmax
comp=Z,29nm,0.9s
SCO Scoresbysund 126.79 11 PKPdf **PKiKP** **09 18 41.9 +0.2**
AB31 Akbulak array 127.43 317 *i* PKIKP **PKPdf** **09 18 42.8 -0.2**
ABKAR Akbulak array 127.43 317 PKPdf **PKPdf** **09 18 42.1 -0.9**
ABKAR pPKPdf **pPKPdf** **09 19 22.6 +1.6**
ABKAR Akbulak array 127.43 317 **PKPdf** **09 18 42.6 -0.4**
HRA Herat 127.56 299 **PKPdf** **09 18 43.0 -1.0**
HAMF Hammerfest 127.90 352 *e*PKPdf **PKPdf** **09 18 43.5 +0.2**
BOSA Boshof 128.05 203 PKP **PKiKP** **09 18 47.4 +1.7**
comp=Z,22nm,1.0s,baz=164,slow=3.1,SNR=17
BOSA Boshof 128.05 203 PKPdf **PKPdf** **09 18 45.4 +0.3**
JMIC Jan Mayen 128.15 6 *e*PKPdf **PKiKP** **09 18 45.5 +1.1**
KEV Kevo 128.23 350 PKIKP **PKiKP** **09 18 44.7 +0.1**
KEV Kevo 128.23 350 PKPdf **PKiKP** **09 18 44.7 +0.1**
AKTO Aktyubinsk 128.33 319 PKIKP **PKPdf** **09 18 44.7 0.0**
LVZ Lovozero 128.36 346 *i* PKIKP **PKiKP** **09 18 45.5 +0.5**
ARA0 ARCESS Array S 128.66 351 *e*PKPdf **PKiKP** **09 18 45.5 0.0**
ARCES ARCESS Array B 128.66 351 PKP **PKiKP** **09 18 45.4 0.0**
comp=Z,27nm,0.7s,baz=15,slow=1.6,SNR=104
ARCES ARCESS Array B 128.66 351 PKPdf **PKiKP** **09 18 45.2 -0.2**
APA Apatity 128.91 346 ⇓*i* PKIKP **PKPdf** **09 18 44.6 -0.7**
APA pmax pmax
comp=Z,19nm,0.8s
JETT Jettan, Norway 129.31 353 *e*PKPdf **PKiKP** **09 18 47.0 +0.2**
TRO Tromso 129.40 354 *e*PKPdf **PKiKP** **09 18 47.0 +0.1**
KTK1 Kautokeino 129.47 352 *e*PKPdf **PKPdf** **09 18 46.7 +0.3**
PRGR Permogore 129.52 336 *e*PKIKP **PKPdf** **09 18 43.0 -3.6**
PRGR pmax pmax
comp=Z,76nm,1.4s
KIRV Kirov 129.66 332 *d* PKIKP **PKiKP** **09 18 47.6 -0.1**
GEYT Alibeck 130.70 303 PKP **PKiKP** **09 18 50.5 -0.1**
comp=Z,36nm,1.0s,baz=222,slow=2.0,SNR=9.7
GEYT PP **PP** **09 21 04.2 -2.8**
comp=Z,8.9nm,1.1s,baz=78,slow=7.7,SNR=4.7
LBTB Lobatse 131.16 205 PKIKP **PKPdf** **09 18 50.1 -1.0**
LBTB Lobatse 131.16 205 PKPdf **PKPdf** **09 18 50.1 -1.0**
LOF Lofoten 131.34 356 *e*PKPdf **PKPdf** **09 18 49.3 -0.5**
STEI Steigen 131.40 355 *e*PKPdf **PKiKP** **09 18 50.8 -0.2**
FAUS Fauske 131.94 355 *e*PKPdf **PKiKP** **09 18 52.4 +0.3**
KLMR Klimovskoe 132.27 338 *e*PKIKP PKPpre 09 18 45.9
KLMR pmax pmax
comp=Z,53nm,1.5s
KLMR Klimovskoe 132.27 338 *e*PKPdf PKPpre 09 18 45.9
KLMR AMP 09 18 54.4
comp=Z,53nm,1.5s
KLMR *e*PP PP 09 21 03.0 -13
KONS Konsvik 132.98 356 *e*PKPdf **PKiKP** **09 18 54.0 -0.2**
MOR8 Moi Rana 133.20 355 *e*PKPdf **PKPdf** **09 18 53.8 +0.3**
BELG Belogornoye 133.62 325 *d* PKIKP **PKPdf** **09 18 54.7 +0.1**
NSS Namsos 135.01 356 *e*PKPdf **PKiKP** **09 18 58.3 -0.1**
FIA1 FINESS Array S 135.79 346 PKPdf **PKPdf** **09 18 58.2 -0.3**
FINES FINESS Array B 135.79 346 PKhKP PKPpre 09 18 50.6
comp=Z,4.6nm,0.7s,baz=45,slow=3.0,SNR=8.8
FINES PKP **PKPdf** **09 18 58.8 +0.3**
comp=Z,22nm,0.8s,baz=94,slow=2.9,SNR=17
FINES FINESS Array B 135.79 346 PKHKP PKPpre 09 18 47.8
FINES 09 18 58.1
FINES FINESS Array B 135.79 346 PKPpre PKPpre 09 18 47.8
FINES **PKPdf** **09 18 58.1 -0.3**
RAF Rauma 137.10 348 *e*P PKPpre 09 18 54.7
MEF Metsahovi 137.27 346 *e*P PKPpre 09 18 56.2
VRH Novokhopyorsk 137.37 326 *e*PKIKP **PKPdf** **09 19 02.2 +0.5**
VRH pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 137.38 334 ⇑*e*PKIKP **PKPdf** **09 19 02.3 +0.8**
OBN *i* 09 19 53.0
OBN *i* 09 21 53.6
OBN PS **PS** **09 32 14.0 -3.2**
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN pmax pmax
comp=Z,42nm,1.0s
MAK Makhachkala 137.51 313 *e*P **Pdif** **09 16 09.9 -1.0**
MAK *e* 09 21 47.4
MAK *e*SSS SSS 09 44 51.3
MAK pmax pmax
comp=Z,33nm,0.3s
AKN Aaknes 137.60 359 *e*PKPdf **PKiKP** **09 19 02.9 -0.9**
DOMB Dombas 137.66 357 *e*PKPdf **PKPdf** **09 18 58.9 -3.1**
AKT Akhty 137.82 311 *e*PKIKP **PKPdf** **09 19 00.9 -2.1**
AKT *e* 09 19 37.1
AKT *e* 09 21 52.0
AKT pmax pmax
comp=Z,29nm,0.9s
LPSR Galich'ya Gora 137.96 329 *e*PKIKP **PKPdf** **09 19 02.9 +0.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
FOO Floro 138.20 360 *e*PKPdf **PKPdf** **09 19 03.5 +0.6**
VSU Vasula 138.21 343 *e*P PKPpre 09 18 57.1
AAL Aland 138.22 349 *e*P PKPpre 09 18 54.9
NC303 NORSAR Array S 138.33 355 **PKPdf** **09 19 03.3 +0.2**
NOA NORSAR Array B 138.52 355 PKhKP PKPpre 09 18 53.4
comp=Z,1.9nm,0.8s,baz=9.9,slow=4.1,SNR=8.1
NOA PKP **PKPdf** **09 19 04.3 +0.8**
comp=Z,0.9nm,0.6s,baz=314,slow=20,SNR=9.0
NOA PP **PP** **09 21 50.8 -4.1**
comp=Z,2.2nm,0.9s,baz=5.9,slow=6.1,SNR=4.0
HYA Hoyanger 138.63 359 *e*PKPdf **PKPdf** **09 19 04.7 +1.0**
VSR Storozhevoye 138.68 328 *e*PKIKP **PKPdf** **09 19 03.5 -0.6**
VSR pmax pmax
comp=Z,20nm,1.1s
NAO01 NORSAR Array S 138.74 356 **PKPdf** **09 19 04.3 +0.4**
VORD Divnogorie 138.76 327 *e*PKIKP **PKPdf** **09 19 03.8 -0.4**
VORD pmax pmax
comp=Z,30nm,1.2s
NC602 NORSAR Array S 138.80 355 **PKPdf** **09 19 04.2 +0.2**
SKAR Skarslia 139.05 357 *e*PKPdf **PKPdf** **09 19 05.6 +1.0**
SKAR *e*SKSdf **SKSdf** **09 26 04.6 +3.2**
GOF Gofitskoye 139.67 317 *c*PKIKP **PKPdf** **09 19 06.8 +0.7**
KONO Kongsberg 140.02 356 PKIKP **PKPdf** **09 19 06.6 +0.4**
KONO Kongsberg 140.02 356 **PKPdf** **09 19 06.6 +0.4**
ZEI Tsey 140.04 314 *i* PKIKP **PKPdf** **09 19 07.6 +0.5**
ZEI pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 140.34 316 PP PP 09 22 02.0 -5.0
comp=Z,5.1nm,0.8s,baz=83,slow=2.0,SNR=5.1
KBZ Khabaz 140.34 316 *i* PKIKP **PKPdf** **09 19 05.0 -2.3**
BLS5 Blasjo 140.37 359 *e*PKPdf **PKPdf** **09 19 08.0 +1.0**
KIV Kislovodsk 140.38 316 *i* PKIKP **PKPdf** **09 19 05.1 -2.5**
KIV pmax pmax
comp=Z,32nm,1.1s
GNI Garni 140.39 310 *i* PKIKP **PKPdf** **09 19 07.8 0.0**
SHA1 Shidzhatmaz 140.49 316 *i* PKIKP **PKPdf** **09 19 07.4 -0.5**
NEY Neytrino 140.65 315 *i* PKIKP **PKPdf** **09 19 06.7 -1.5**
KIBK Kibwezi 140.77 240 PKPdf **PKPdf** **09 19 08.1 -1.0**
AKH Akhalkalaki 140.85 312 ⇑P **PKPdf** **09 19 03.5 -5.1**
MNK Minsk 141.16 339 *i* PKHKP PKPpre 09 19 01.7
MNK *i* 09 26 04.2
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,28nm,1.2s
MNK pmax pmax
comp=Z,34nm,0.8s
MNK Minsk 141.16 339 *i* PKP **PKPdf** **09 19 01.7 -6.7**
comp=E,3.0nm,0.9s,baz=228
MNK *i* PKP **PKPdf** **09 19 01.7 -6.7**
comp=N,28nm,1.2s
MNK *i* PKP **PKPdf** **09 19 01.7 -6.7**
comp=Z,34nm,0.8s
MNK *i* pPKP PKiKP 09 19 26.7 +16
MNK *i* PP PP 09 21 40.6 -31
MNK *i* SKP 09 22 28.3
MNK *i* PKS **PKSdf** **09 22 38.0 -6.2**
MNK *i* SKS **SKSdf** **09 26 04.2 -0.7**
MNK *i* PKKP PKKPdf 09 28 40.9 +11
MNK *i* SP SKKPbc 09 31 57.1 +58
MNK *i* PKKS 09 32 17.5
MNK *i* SKKS SKKSdf 09 35 44.5 +15
MNK *i* PPS PPS 09 37 28.6
MNK *i* SS SS 09 39 37.6 -50
MNK *i* LQ LQ 10 11 57.6
MNK *i* LR LR 10 15 34.8
MNK *i* LRM MLR 10 17 47.6
comp=E,49nm,18.9s
MNK *i* LRM MLR 10 17 55.3
comp=N,126nm,25.8s
MNK *i* LRM MLR 10 18 10.8

comp=Z,77nm,21.3s
NACGM Naroch 141.19 340 *i* PKP **PKPdf** **09 19 03.9 -4.7**
baz=249
PABE Paberze 141.53 343 *e*P PKPdf 09 18 56.5 -13
BORU Boraas 141.74 353 *i* P **PKPdf** **09 19 03.8 -5.6**
ONAU Onsala 142.06 354 *i* P **PKPdf** **09 19 04.8 -5.2**
KMBO Kilima Mbogo 142.11 241 PKhKP PKPpre 09 19 08.8
comp=Z,6.3nm,0.8s,baz=63,slow=7.0,SNR=11
RAYN Ar Rayn 142.19 283 PKIKP **PKPdf** **09 19 11.0 -0.4**
RAYN Ar Rayn 142.19 283 PKPdf **PKPdf** **09 19 11.0 -0.4**
AKDM Akdamar-Van 142.27 308 *e*P **PKPdf** **09 19 09.4 -1.8**
FABU Falkenberg 142.37 353 *i* P **PKPdf** **09 19 06.1 -4.4**
SOC Sochi 142.47 317 *e*PKHKP PKPpre 09 18 58.8
KOPR Koprukoy-ERZUR 142.53 311 *e*P **PKPdf** **09 19 09.9 -1.7**
BLEU Blekinge 142.61 350 *i* P **PKPdf** **09 19 06.7 -4.3**
DEL Delary 142.74 352 *i* P **PKPdf** **09 19 08.0 -3.2**
DEL *i* P **PKPdf** **09 19 08.0 -3.2**
SHEL Horse Pasture 142.98 163 PKIKP **PKPdf** **09 19 12.2 -0.8**
SHEL Horse Pasture 142.98 163 PKPdf **PKPdf** **09 19 12.2 -0.8**
SUW Suwalki 143.06 342 *e*PKP **PKPdf** **09 19 10.8 -1.0**
SUW Suwalki 143.06 342 *e*P PKPbc 09 19 09.2 +0.1
MUD Monsted U'grnd 143.22 356 *i* P PKPbc 09 19 09.9 +0.4
MUD IAmb IAmb 09 19 12.5
comp=Z,31nm,0.9s
MUD Monsted U'grnd 143.22 356 *i* PKIKP PKPbc 09 19 09.8 +0.3
MUD pmax pmax
comp=Z,31nm,0.9s
BJUU Bjuv 143.24 352 *i* P PKPbc 09 19 09.6 +0.1
ANN Anapa 143.28 320 *i* PKHKP PKPpre 09 19 08.4
ANN pmax pmax
comp=Z,43nm,0.9s
PGBU Glenifferbraes 143.31 9 *e*P PKPbc 09 19 09.6 -0.2
EBL Broad Law 143.54 8 *e*P PKPbc 09 19 10.4 0.0
LUNU Lund 143.62 352 *i* P PKPbc 09 19 10.5 -0.1
AKASG Malin Array Be 143.64 334 PKhKP PKPpre 09 19 10.3
comp=Z,40nm,0.5s,baz=41,slow=4.1,SNR=173
SVAN Silvan-Diyarba 143.66 308 *e*P **PKPdf** **09 19 12.9 -0.6**
YEDI Yedisu-Bingol 143.67 310 *e*P **PKPdf** **09 19 12.6 -1.1**
COP Copenhagen 143.69 353 *i* P PKPbc 09 19 11.3 +0.5
COP Copenhagen 143.69 353 *i* PKIKP PKPbc 09 19 11.3 +0.5
BNGB Bingl 143.74 310 *e*P PKPbc 09 19 12.2 +0.5
BSD Bornholm Skovb 143.90 350 *e*P PKPbc 09 19 11.7 +0.2
BSD Bornholm Skovb 143.90 350 ⇑*i*P PKPbc 09 19 12.1 +0.6
BSD IAmb IAmb 09 19 12.4
comp=Z,43nm,0.7s
BSD Bornholm Skovb 143.90 350 ⇑*i* PKIKP PKPbc 09 19 12.0 +0.6
BSD pmax pmax
comp=Z,43nm,0.7s
GAL1 Galloway 144.19 10 *e*P **PKPab** **09 19 11.8 -0.1**
ERZN Erzincan 144.20 311 *e*P PKPbc 09 19 12.9 -0.2
ESPY Espiye-Giresun 144.34 314 *e*P PKPbc 09 19 13.7 +0.4
MAZI Mazidag 144.45 307 *e*P **PKPdf** **09 19 14.7 -0.3**
DYBB Diyarbakir 144.51 308 *e*P **PKPdf** **09 19 15.3 +0.3**
EDMD Edmundbyers 144.60 7 *e*P PKPbc 09 19 13.9 +0.3
RGN Rugen 144.69 352 *e*PKPbc **PKPdf** **09 19 14.5 -0.2**
baz=11,slow=2.7
KESW Keswick, Cumbr 144.69 8 *e*P **PKPdf** **09 19 14.5 -0.3**
IOMK Kirk Michael 144.80 10 *e*P PKPbc 09 19 14.5 +0.2
WIM Isle of Man 144.89 10 *e*P **PKPdf** **09 19 15.1 0.0**
SKMB Sankelmark Bun 144.93 355 *e*PKPbc **PKPdf** **09 19 16.1 +1.0**
baz=11,slow=2.7
GDLE Glaisdale, N Y 145.12 6 *e*P **PKPdf** **09 19 15.5 0.0**
SIM Simferopol' 145.14 323 *d* PKIKP **PKPab** **09 19 16.0 +0.2**
SIM pmax pmax
comp=Z,304nm,0.9s
GKP Gorka Klasztor 145.23 347 *e*PKP **PKPab** **09 19 16.6 +0.8**
GKP Gorka Klasztor 145.23 347 *e*P **PKPab** **09 19 17.0 +1.1**
DSB Dublin 145.45 12 PKPdf **PKPdf** **09 19 16.1 0.0**
HLG Helgoland 145.56 357 *e*PKPbc **PKPab** **09 19 18.2 +1.1**
baz=11,slow=2.7
LNIZ Loecknitz 145.58 350 *e*PKPbc **PKPab** **09 19 17.7 +0.6**
baz=11,slow=2.7
MALT Malatya 145.63 310 *e*P **PKPab** **09 19 18.7 +0.7**
BSEG Bad Segeberg 145.64 354 *e*PKPbc **PKPab** **09 19 18.1 +0.8**
baz=11,slow=2.7
BSEG *e*pPKPbc **pPKPdf** **09 19 57.3 +2.5**
WPS Cemaes, Angles 145.64 10 *e*P **PKPab** **09 19 17.4 0.0**
BEL Belsk 145.66 343 *e*PKP **PKPab** **09 19 18.6 +1.1**
URFA Urfa 145.67 308 *e*P **PKPab** **09 19 18.4 +0.2**
WME Myndd Eilian 145.68 10 *e*P **PKPab** **09 19 17.7 +0.1**
ROSA Rosais 145.69 49 PKPab **PKPdf** **09 19 17.1 +0.2**
WLF1 Llynfaes 145.76 10 *e*P **PKPab** **09 19 17.7 -0.2**
SORM Soroca 145.94 332 ⇑P **PKPdf** **09 19 15.0 -2.0**
SORM Soroca 145.94 332 ⇑PKIKP **PKPdf** **09 19 15.0 -2.0**
YLL Llanberis 145.94 10 *e*P **PKPab** **09 19 18.3 -0.3**
SVSK Karacayir 145.96 313 *e*P **PKPab** **09 19 20.2 +1.1**
LBWR Ladybower, Pea 146.03 7 *e*P **PKPab** **09 19 19.1 +0.2**
KVT Kavak 146.06 316 *e*P **PKPab** **09 19 20.5 +1.0**
TOKT Tokat 146.09 314 *e*P **PKPab** **09 19 20.2 +0.5**
SNOP Sinop 146.12 318 *e*P **PKPbc** **09 19 18.8 0.0**
SNOP Sinop 146.12 318 **PKPdf** **09 19 18.0 +0.5**
LOW Lodwar 146.16 245 **PKPbc** **09 19 19.5 -0.3**
DARE Darende-Malaty 146.20 311 *e*P **PKPbc** **09 19 19.6 +0.3**
STNC Stoke 146.28 8 *e*P **PKPab** **09 19 20.3 +0.5**
DIKM Dikmen 146.28 317 ⇑P **PKPdf** **09 19 17.3 -0.6**
DIKM Dikmen 146.28 317 *e*P **PKPbc** **09 19 19.4 +0.1**
LLW Llanuwychllyn 146.31 9 *e*P **PKPab** **09 19 19.5 -0.4**
FOEL Foel Wylfa 146.34 9 *e*P **PKPbc** **09 19 18.9 -0.1**
LVV L'vov 146.36 338 *e*PKP2 **PKPbc** **09 19 19.6 +0.4**
ASCN Ascension 146.56 144 **PKPdf** **09 19 17.8 -1.4**
KIS Kishinev 146.56 330 *e*P **PKPbc** **09 19 20.0 +0.1**
MILM Milestii Mici 146.62 330 ⇑P **PKPdf** **09 19 15.7 -2.5**
RUE Ruedersdorf 146.62 350 *e*PKPbc **PKPab** **09 19 21.1 -0.1**
baz=11,slow=2.7
RUE *e*pPKPbc pPKPab 09 20 00.1 +2.0
HLM1 Long Mynd 146.74 9 *e*P **PKPbc** **09 19 20.9 +0.6**
BZK Bozkurt 146.91 318 ⇑P **PKPdf** **09 19 17.8 -1.1**
BZK Bozkurt 146.91 318 *e*P **PKPab** **09 19 22.2 -0.5**
BZK Bozkurt 146.91 318 **PKPbc** **09 19 21.6 +0.6**
WACR West Acre 146.93 5 *e*P **PKPbc** **09 19 21.4 +0.7**
GAZ Gaziantep 146.96 309 *e*P **PKPbc** **09 19 21.9 +0.5**
GAZ Gaziantep 146.96 309 **PKPdf** **09 19 19.7 +0.4**
KWP Kalwaria Pacla 146.98 339 *e*PKP **PKPab** **09 19 22.2 -0.6**
KWP Kalwaria Pacla 146.98 339 PKP2 **PKPbc** **09 19 20.1 -0.9**
KWP Kalwaria Pacla 146.98 339 **PKPbc** **09 19 20.1 -0.9**
SARI SarD1z-Kayseri 147.03 311 *e*P **PKPbc** **09 19 22.3 +0.6**
KMRS Kahramanmaras 147.06 309 *e*P **PKPbc** **09 19 21.9 +0.3**
NRDL Niedersach Rie 147.08 354 *e*PKPbc **PKPab** **09 19 22.5 -0.4**
baz=11,slow=2.7
NRDL *e*pPKPbc **pPKPab** **09 20 01.5 +1.7**
FLTG Flechtingen 147.12 353 *e*PKPdf **PKPbc** **09 19 20.6 -0.6**
baz=10.0,slow=1.5
FLTG *e*PKPbc **PKPab** **09 19 22.2 -1.0**
baz=11,slow=2.7
MCH1 Michaelchurch 147.23 9 *e*P **PKPbc** **09 19 22.2 +0.6**
YOZ Yozgat 147.24 314 *e*P **PKPab** **09 19 23.3 -1.0**
BNN Bunyan 147.24 312 *e*P **PKPbc** **09 19 22.6 +0.4**
BNN Bunyan 147.24 312 PKPdf **PKPdf** **09 19 18.6 -1.1**
BNN **PKPbc** **09 19 22.9 +0.7**
VASR Vaslui 147.30 330 ⇑P **PKPdf** **09 19 20.2 +0.8**
ASSE Asse, Remlinge 147.38 353 *e*PKPdf **PKPbc** **09 19 20.8 -1.1**
baz=10.0,slow=1.5
ASSE *e*PKPbc **PKiKP** **09 19 23.1 -0.9**
baz=11,slow=2.7
ASSE *e*pPKPbc **pPKPab** **09 20 01.9 +1.0**
OJC Ojcow 147.39 342 *e*PKP **PKiKP** **09 19 23.3 -0.9**
OJC *e*pPKP **pPKPab** **09 20 02.7 +1.6**
OJC Ojcow 147.39 342 PKIKP **PKPdf** **09 19 18.7 -0.7**
OJC 09 19 23.6
OJC Ojcow 147.39 342 **PKPdf** **09 19 18.7 -0.7**
OJC **PKPbc** **09 19 21.5 -0.6**
OJC **PKiKP** **09 19 23.6 -0.6**
MONM Monmouth 147.42 9 *e*P **PKPbc** **09 19 22.9 +0.8**
CORM Corum 147.44 315 *e*P **PKPbc** **09 19 23.3 +0.6**
IBBN Ibbenburen 147.44 357 *e*PKPdf **PKPbc** **09 19 21.0 -1.1**
baz=10.0,slow=1.5
IBBN *e*PKPbc **PKiKP** **09 19 23.5 -0.7**
baz=11,slow=2.7
STRD Stroud 147.57 8 *e*P **PKPbc** **09 19 23.1 +0.6**
MBAR Mbarara 147.60 234 *c* PKP2 **PKiKP** **09 19 25.2 -0.8**
MBAR Mbarara 147.60 234 PKPdf **PKPdf** **09 19 19.8 -1.4**
MBAR PKPab **PKPab** **09 19 26.4 -0.1**
STHS Stebnicka Huta 147.66 340 *e*PKP2 **PKPbc** **09 19 23.5 +0.6**
STHS Stebnicka Huta 147.66 340 *e*PKP **PKPbc** **09 19 23.5 +0.6**
BURAR Bucovina Array 147.69 334 **PKPdf** **09 19 21.3 +1.2**
BUR01 Bucovina Ar. S 147.69

KSP ePKP **pPKPab** 09 20 02.6 +0.2
KOLS Kolonicke sedl 147.73 338 ePKIKP **PKPbc** 09 19 21.8 -1.3
KOLS e 09 19 24.7
KOLS Kolonicke sedl 147.73 338 ePKP **PKPbc** 09 19 21.8 -1.3
KOLS e 09 19 24.7
KURC Kurucasile-Bar 147.76 319 eP **PKPdf** 09 19 21.5 +1.2
BIZ Bicaz 147.84 332 ⇑P **PKPbc** 09 19 22.0 -1.4
KOZT Kozan 147.84 310 eP **PKPbc** 09 19 24.1 +0.3
TLCR 147.85 327 ⇑P **PKPdf** 09 19 19.8 -0.6
TLCR 147.85 327 ⇑PKIKP **PKPdf** 09 19 19.8 -0.6
CANT Cankiri 147.88 317 eP **PKiKP** 09 19 24.8 -0.8
CLL Collm 147.88 350 ePKPdf **PKPdf** 09 19 21.0 +0.8
CLL ⇓iPKPbc **PKiKP** 09 19 24.7 -0.4
comp=Z,273nm,1.0s
CLL i PKPab **PKPab** 09 19 26.9 +0.7
comp=Z,127nm,0.8s
CLL epPKPab **pPKPab** 09 20 04.0 +0.9
CLL e 09 20 09.0
CLL ePKSdf **PKSdf** 09 22 54.0 -1.1
CLL Collm 147.88 350 ⇓ePKIKP **PKPdf** 09 19 21.0 +0.8
CLL i 09 19 24.7
CLL e 09 20 04.0
CLL pmax pmax
comp=Z,273nm,1.0s
CLL pmax pmax
comp=Z,127nm,0.8s
CLL Collm 147.88 350 PKPdf **PKPdf** 09 19 19.5 -0.7
CLL **PKiKP** 09 19 24.9 -0.2
CLL Collm 147.88 350 ePKPdf **PKPdf** 09 19 21.7 +1.4
baz=10.0,slow=1.5
CLL ePKPbc **PKiKP** 09 19 24.8 -0.4
baz=11,slow=2.7
GHRR 147.91 330 ⇑P **PKPbc** 09 19 22.1 -1.5
NIE Niedzica 147.95 341 ePKP **PKiKP** 09 19 25.6 +0.2
UZH Uzhgorod 147.98 338 ePKP2 **PKPbc** 09 19 23.4 -0.3
OSTC Ostas 147.99 346 ⇑ePKP **PKPbc** 09 19 22.3 -1.4
OSTC ePKPAB **PKiKP** 09 19 25.6 +0.1
CHVC Chvalec 148.00 347 ⇑ePKP **PKPdf** 09 19 22.1 +1.6
CHVC ePKPAB **PKiKP** 09 19 25.2 -0.3
TAHT Tahtakopru-Hat 148.02 308 eP **PKiKP** 09 19 26.1 +0.1
CRVS Cervenica-Dubn 148.03 339 ePKIKP **PKPdf** 09 19 22.1 +1.5
CRVS e 09 19 25.2
CRVS Cervenica-Dubn 148.03 339 ePKP **PKPdf** 09 19 22.1 +1.5
CRVS e 09 19 25.2
CRVS e 09 19 28.4
CMLA Cha da Macela 148.03 49 PKIKP **PKPbc** 09 19 23.0 -1.2
CMLA 09 19 26.0
CMLA Cha da Macela 148.03 49 **PKPbc** 09 19 23.0 -1.2
CMLA PKPab **PKiKP** 09 19 26.0 0.0
GTTG Gottingen 148.03 354 ePKPdf **PKPdf** 09 19 21.8 +1.4
baz=10.0,slow=1.5
GTTG ePKPbc **PKiKP** 09 19 25.2 -0.3
baz=11,slow=2.7
GTTG ePKPab **PKPab** 09 19 27.9 +1.1
baz=8.3,slow=4.0
GTTG epPKPbc **pPKPab** 09 20 03.7 +0.1
UPC Upice 148.09 347 ePKIKP **PKPdf** 09 19 22.0 +1.4
UPC e 09 19 25.2
UPC Upice 148.09 347 ⇑ePKP **PKPdf** 09 19 22.0 +1.4
UPC ePKPAB **PKiKP** 09 19 25.2 -0.4
CEYT Ceyhan 148.09 309 eP **PKiKP** 09 19 25.9 -0.2
JURR Jurilovca 148.11 327 ⇓P **PKPdf** 09 19 21.5 +0.7
BRG Berggiesshubel 148.15 349 ⇓ePKPf 09 19 22.3
BRG Amp 09 19 23.4
comp=Z,54nm,1.6s
BRG ⇑iPKP **PKiKP** 09 19 25.6 -0.2
BRG Amp 09 19 26.3
comp=Z,115nm,0.8s
BRG iPKPab **PKPab** 09 19 28.2 +0.9
BRG Amp 09 19 32.3
comp=Z,88nm,0.9s
BRG ex x 09 19 40.0
BRG Amp 09 19 40.8
comp=Z,41nm,1.0s
BRG pPKP pPKPab 09 20 04.2 +0.1
BRG Amp 09 20 06.6
comp=Z,43nm,1.3s
BRG Berggiesshubel 148.15 349 ePKPdf **PKPdf** 09 19 22.0 +1.3
baz=10.0,slow=1.5
BRG ePKPbc **PKiKP** 09 19 25.5 -0.3
baz=11,slow=2.7
NEUB Neuenburg 148.16 352 ePKPdf **PKPdf** 09 19 22.0 +1.4
baz=10.0,slow=1.5
NEUB ePKPbc **PKiKP** 09 19 25.4 -0.4
baz=11,slow=2.7
DPC Dobruska-Polom 148.16 346 ePKIKP **PKPbc** 09 19 22.7 -1.5
DPC e 09 19 25.6
DPC Dobruska-Polom 148.16 346 ⇑ePKP **PKPbc** 09 19 22.7 -1.5
DPC ePKPAB **PKiKP** 09 19 25.6 -0.3
OKC Ostrava-Krasne 148.19 344 ePKP2 **PKiKP** 09 19 25.5 -0.3
OKC Ostrava-Krasne 148.19 344 ⇑ePKP **PKiKP** 09 19 25.5 -0.3
CFR Carcaliu 148.20 328 ⇑P **PKPdf** 09 19 21.0 +0.1
CFR Carcaliu 148.20 328 ⇑PKIKP **PKPdf** 09 19 21.0 +0.1
FBE Freiberg 148.20 350 ePKPdf **PKPdf** 09 19 22.0 +1.3
baz=10.0,slow=1.5
FBE ePKPbc **PKiKP** 09 19 26.0 +0.1
baz=11,slow=2.7
YAYL Yayladag 148.21 307 eP **PKiKP** 09 19 26.4 -0.1
TPGR Topolog 148.28 327 ⇑P **PKPdf** 09 19 21.6 +0.5
ODBI Odobesti 148.30 330 ⇑P **PKPdf** 09 19 21.1 +0.1
KRLC Kraliky 148.31 345 ePKP2 **PKiKP** 09 19 26.5 +0.3
KRLC Kraliky 148.31 345 ⇑ePKP **PKiKP** 09 19 26.5 +0.3
KRLC ePKPAB **PKPab** 09 19 29.4 +1.3
BR131 Keskin Array S 148.32 315 PKHKP PKPpre 09 19 19.8
BR131 09 19 26.3
BR131 Keskin Array S 148.32 315 PKPdf **PKPdf** 09 19 19.8 -1.7
BR131 PKPbc **PKPbc** 09 19 24.3 -0.8
BR131 PKPab **PKiKP** 09 19 26.3 -0.3
BRTR Keskin Array B 148.32 315 PKP **PKPdf** 09 19 21.5 -0.1
comp=Z,37nm,1.0s,baz=158,slow=1.8,SNR=34
BRTR PKPbc **PKPbc** 09 19 25.6 +0.5
comp=Z,56nm,0.8s,baz=130,slow=2.7,SNR=81
BRTR Keskin Array B 148.32 315 eP **PKiKP** 09 19 25.9 -0.8
BRTR Keskin Array B 148.32 315 PKIKP **PKPdf** 09 19 21.6 +0.1
BRTR 09 19 25.9
BRTR Keskin Array B 148.32 315 PKPdf **PKPdf** 09 19 21.6 +0.1
BRTR PKPbc **PKiKP** 09 19 25.9 -0.8
BUG Bochum--Univer 148.33 357 ePKPdf **PKPdf** 09 19 22.2 +1.3
baz=10.0,slow=1.5
BUG ePKPbc **PKiKP** 09 19 25.6 -0.5
baz=11,slow=2.7
BUG epPKPbc **pPKPab** 09 20 04.9 +0.1
BMR Baia Mare 148.33 336 ⇑P **PKiKP** 09 19 26.1 -0.1
BMR Baia Mare 148.33 336 ⇑PKP2 **PKiKP** 09 19 26.1 -0.1
PVCC Panska Ves 148.36 348 ePKP2 **PKiKP** 09 19 26.0 -0.2
PVCC Panska Ves 148.36 348 ⇑ePKP **PKiKP** 09 19 26.0 -0.2
CMRD Camardi-Nigde 148.37 311 eP **PKiKP** 09 19 26.4 -0.4
VRI Vrincioaia 148.37 330 ⇑P **PKPdf** 09 19 21.0 -0.2
VRI Vrincioaia 148.37 330 eP **PKPbc** 09 19 25.4 +0.5
VRI Vrincioaia 148.37 330 ⇑PKIKP **PKPdf** 09 19 21.0 -0.2
MORC Moravsky Berou 148.40 344 ⇓P **PKPdf** 09 19 22.4 +1.2
MORC Moravsky Berou 148.40 344 ePKP **PKPdf** 09 19 22.8 +1.6
MORC e 09 19 26.2
MORC Moravsky Berou 148.40 344 ⇓PKIKP **PKPdf** 09 19 22.4 +1.2
MORC Moravsky Berou 148.40 344 PKPdf **PKPdf** 09 19 20.0 -1.2
MORC PKPbc **PKPbc** 09 19 23.2 -1.6
PLOR Plostina 148.42 330 ⇑P **PKPdf** 09 19 20.7 -0.7
PLOR Plostina 148.42 330 ⇑PKIKP **PKPdf** 09 19 20.7 -0.7
LANS Liptovska Anna 148.44 342 ePKP2 **PKiKP** 09 19 27.3 +0.8
LANS Liptovska Anna 148.44 342 ePKP **PKiKP** 09 19 27.3 +0.8
ARCR ARCALIA 148.47 334 ⇑P **PKiKP** 09 19 26.7 +0.1
KARA Karaisali 148.49 310 eP **PKiKP** 09 19 26.4 -0.5
KASTN Kahler Asten 148.50 356 ePKPdf **PKPdf** 09 19 22.3 +1.0
baz=10.0,slow=1.5
KASTN ePKPbc **PKiKP** 09 19 26.4 -0.1
baz=11,slow=2.7
ELSH Elham, Standar 148.53 5 eP **PKiKP** 09 19 26.4 -0.1
KRTS Karatas 148.55 309 eP **PKiKP** 09 19 27.4 +0.4
TIRR Tirgusor 148.56 327 ⇑P **PKPdf** 09 19 21.4 -0.1
TIRR Tirgusor 148.56 327 PKIKP **PKPdf** 09 19 23.3 +1.8
TIRR Tirgusor 148.56 327 **PKPdf** 09 19 23.3 +1.8
CCA1 Carnmenellis 148.58 13 eP **PKPbc** 09 19 25.2 0.0
GULA Gulagac 148.59 312 eP **PKPbc** 09 19 25.9 +0.1
YAYX Yaylak 148.60 314 eP **PKPbc** 09 19 26.4 +0.6
GRER 148.62 329 ⇑P **PKPbc** 09 19 23.6 -1.9
BISRR Bisoca 148.62 330 ⇑P **PKPdf** 09 19 22.7 +0.9
OZUR 148.63 332 ⇑P **PKPdf** 09 19 20.8 -0.9
HARR Harsova 148.65 328 ⇑P **PKPdf** 09 19 23.5 +1.9
HARR Harsova 148.65 328 ⇑PKIKP **PKPdf** 09 19 23.5 +1.9
TLBR Topalu 148.69 327 ⇑P **PKPdf** 09 19 22.3 +0.5
MOX Moxa 148.73 352 ePKPdf **PKPdf** 09 19 22.7 +1.0
baz=10.0,slow=1.5
MOX ePKPbc **PKiKP** 09 19 26.7 -0.3
baz=11,slow=2.7
MOX epPKPbc **pPKPab** 09 20 05.3 -1.2
UBBA Unterbreizbach 148.75 354 ePKPdf **PKPdf** 09 19 22.7 +1.2
baz=10.0,slow=1.5
UBBA ePKPbc **PKiKP** 09 19 26.7 -0.1
baz=11,slow=2.7
UBBA ePKPab **PKPab** 09 19 30.3 +0.6
baz=8.3,slow=4.0
UBBA epPKPbc **pPKPab** 09 20 05.7 -0.7
SERE Sereflikochisa 148.76 314 eP **PKiKP** 09 19 27.2 -0.4
ANTO Ankara 148.81 316 eP **PKiKP** 09 19 27.9 +0.3
ANTO Ankara 148.81 316 PKIKP **PKPdf** 09 19 22.3 +0.1
ANTO 09 19 27.6
ANTO Ankara 148.81 316 **PKPdf** 09 19 22.3 +0.1
ANTO **PKiKP** 09 19 27.6 0.0
PLN Plauen 148.81 351 ePKPdf **PKPdf** 09 19 22.9 +1.1
baz=10.0,slow=1.5
PLN ePKPbc **PKiKP** 09 19 27.1 -0.1
baz=11,slow=2.7
LOD Lodumlu 148.82 316 eP **PKPbc** 09 19 26.7 +0.4
PRA Prague 148.82 348 ePKP2 **PKiKP** 09 19 27.4 +0.3
PRA Prague 148.82 348 ⇑ePKP **PKiKP** 09 19 27.4 +0.3
WERD Werda 148.82 351 ePKPdf **PKPdf** 09 19 23.0 +1.2
baz=10.0,slow=1.5
WERD ePKPbc **PKiKP** 09 19 27.1 -0.1
baz=11,slow=2.7
BR231 Keskin MP Arra 148.83 316 PKPdf **PKPdf** 09 19 21.6 -0.7
BR231 **PKiKP** 09 19 27.8 +0.2
TANN Tannenbergstha 148.83 351 ePKPdf **PKPdf** 09 19 23.0 +1.2
baz=10.0,slow=1.5
TANN ePKPbc **PKiKP** 09 19 27.3 0.0
baz=11,slow=2.7
PRU Pruhonice 148.88 348 ePKP2 **PKiKP** 09 19 27.1 -0.2
PRU Pruhonice 148.88 348 ⇑ePKP **PKiKP** 09 19 27.1 -0.2
GUNZ Gunzen 148.90 351 ePKPdf **PKPdf** 09 19 23.2 +1.2
baz=10.0,slow=1.5
GUNZ ePKPbc **PKiKP** 09 19 27.7 +0.3
baz=11,slow=2.7
GUNZ ePKPab **PKPab** 09 19 31.5 +1.0
baz=8.3,slow=4.0
GUNZ epPKPbc **pPKPab** 09 20 06.3 -0.9
NEHR Nehoiu 148.90 330 ⇑P **PKPdf** 09 19 22.2 0.0
DOPR Dopca 148.91 332 ⇑P **PKPdf** 09 19 24.1 +2.0
MANR Mangalia 148.91 326 ⇑P **PKPdf** 09 19 22.6 +0.5
WERN Wernitzgruen 148.97 351 ePKPdf **PKPdf** 09 19 23.6 +1.5
baz=10.0,slow=1.5
WERN ePKPbc **PKiKP** 09 19 28.0 +0.5
baz=11,slow=2.7
WERN ePKPab **PKPab** 09 19 32.0 +1.3
baz=8.3,slow=4.0
ISR Istrita 149.02 330 ⇑P **PKPdf** 09 19 23.6 +1.3
ISR Istrita 149.02 330 ⇑PKIKP **PKPdf** 09 19 23.6 +1.3
MLR Muntele Rosu 149.02 331 PKHKP PKPpre 09 19 20.6
MLR 09 19 27.8
MLR Muntele Rosu 149.02 331 PKPdf **PKPdf** 09 19 20.6 -1.8
MLR **PKiKP** 09 19 27.8 -0.1
BEBN Eben Emael 149.03 359 dPKP **PKiKP** 09 19 27.4 -0.1
UCC Uccle 149.03 1 dPKP **PKiKP** 09 19 27.7 +0.2
UCC dPKPab **PKPab** 09 19 30.5 -0.3
UCC Uccle 149.03 1 PKIKP **PKPbc** 09 19 24.4 -1.9
UCC 09 19 28.1
UCC Uccle 149.03 1 **PKPbc** 09 19 24.4 -1.9
UCC PKPab **PKiKP** 09 19 28.1 +0.6
MERS Mersin 149.05 310 eP **PKiKP** 09 19 27.9 -0.2
CBBR Cluj-Babes-Bol 149.05 335 ⇑P **PKPdf** 09 19 21.3 -1.0
VRAC Vranov 149.07 345 ⇑P **PKPdf** 09 19 22.7 +0.5
VRAC Vranov 149.07 345 ePKP **PKPdf** 09 19 23.7 +1.4
VRAC e 09 19 27.8
VRAC Vranov 149.07 345 ⇑PKIKP **PKPdf** 09 19 22.7 +0.5
CJR Cluj-Napoca 149.08 335 ⇑P **PKPbc** 09 19 24.6 -2.1
CJR Cluj-Napoca 149.08 335 ⇑PKIKP **PKPbc** 09 19 24.6 -2.1
KULU Kulu 149.10 314 eP **PKiKP** 09 19 28.2 0.0
LTVH Liavrtes, Hu 149.17 337 ⇑P **PKPdf** 09 19 22.1 -0.4
YESY Yesilyurt 149.20 312 eP **PKPbc** 09 19 26.4 -0.9
MEM Membach 149.21 359 dPKP **PKiKP** 09 19 28.0 +0.1
MEM dPKPab **PKiKP** 09 19 30.9 -0.7
JAVC Velka Javorina 149.21 343 ePKP **PKPbc** 09 19 25.0 -1.9
JAVC e 09 19 29.1
VYHS Vyhne 149.22 342 ePKIKP **PKPdf** 09 19 23.7 +1.2
VYHS e 09 19 28.4
VYHS Vyhne 149.22 342 ePKP **PKPdf** 09 19 23.7 +1.2
VYHS e 09 19 28.4
BTNL Ternell 149.23 359 dPKP **PKiKP** 09 19 28.1 +0.1
BTNL dPKPab **PKPab** 09 19 31.7 -0.1
YUVA Yuva-Kibriscik 149.24 318 eP **PKiKP** 09 19 28.4 -0.1
AHRW Bad Neuenahr-A 149.24 357 ePKPbc **PKiKP** 09 19 28.3 +0.3
baz=11,slow=2.7
AHRW epPKPbc **pPKPab** 09 20 07.4 -1.1
BSTI Sart Tilman 149.24 359 dPKPdf **PKPdf** 09 19 23.1 +0.7
BSTI dPKP **PKiKP** 09 19 28.3 +0.3
PBCC Pribram 149.28 348 ⇑ePKP **PKiKP** 09 19 28.3 +0.2
PBCC ePKPAB **PKPab** 09 19 32.2 +0.2
MANZ Manzenberg 149.30 351 ePKPdf **PKPdf** 09 19 23.9 +1.3
baz=10.0,slow=1.5
MANZ ePKPbc **PKiKP** 09 19 28.7 +0.5
baz=11,slow=2.7
SECR 149.30 330 ⇓P **PKPdf** 09 19 24.1 +1.4
SNF Seneffe 149.31 1 dPKPbc **PKPbc** 09 19 27.0 0.0
SNF dPKiKP **PKiKP** 09 19 28.3 +0.2
SNF dPKPab **PKPab** 09 19 32.9 +0.9
KRUC Moravsky 149.35 345 ePKP **PKPdf** 09 19 23.8 +1.1
KRUC e 09 19 28.3
DRGR 149.36 336 ⇑P **PKPdf** 09 19 24.1 +1.2
DRGR 149.36 336 ⇑PKHKP PKPpre 09 19 24.1
PSZ Piszkesteto 149.40 340 PKIKP **PKPdf** 09 19 22.5 -0.4
PSZ 09 19 29.2
PSZ Piszkesteto 149.40 340 PKPdf **PKPdf** 09 19 22.4 -0.4
PSZ **PKiKP** 09 19 29.2 +0.7
CHBY Cihanbeyli 149.40 314 eP **PKiKP** 09 19 28.5 -0.4
BCLA Clavier 149.41 360 dPKPdf **PKPdf** 09 19 23.4 +0.7
BCLA dPKP **PKiKP** 09 19 28.3 -0.1
BCLA dPKPab **PKPab** 09 19 32.8 +0.3
BCLA dpPKP **pPKPdf** 09 20 00.8 -0.4
BGES Gesves 149.44 360 dPKP **PKiKP** 09 19 28.3 -0.1
BGES dPKPab **PKPab** 09 19 33.0 +0.4
BGES dpPKP **pPKPdf** 09 19 57.3 -3.9
BHOU Houvegnez 149.46 359 dPKPdf **PKPdf** 09 19 24.0 +1.2
BHOU dPKP **PKPbc** 09 19 27.9 +0.4
VOIR 149.47 332 ⇑P **PKPdf** 09 19 24.8 +1.7
VOIR 149.47 332 ⇑PKHKP PKPpre 09 19 24.8
TNS Taunus Mts 149.48 356 ePKPbc **PKiKP** 09 19 28.8 +0.2
baz=11,slow=2.7
TNS ePKPab **PKPab** 09 19 33.5 +0.7
baz=8.3,slow=4.0
TNS epPKPbc **pPKPab** 09 20 08.2 -1.3
KIZK Mersin 149.49 309 eP **PKiKP** 09 19 28.9 -0.1
ROTZ Rotzenmuhle 149.50 351 ePKPbc **PKiKP** 09 19 29.1 +0.5
baz=11,slow=2.7
ROTZ epPKPbc **pPKPab** 09 20 08.0 -1.7
BMRD Maredsous 149.53 0 dPKPdf **PKPdf** 09 19 24.5 +1.6
BMRD dPKP **PKiKP** 09 19 28.8 +0.2
BMRD dPKPab **PKPab** 09 19 33.4 +0.5
SMOL Smolenice 149.59 343 ePKP2 **PKiKP** 09 19 30.0 +1.2
SMOL Smolenice 149.59 343 ePKP **PKiKP** 09 19 30.0 +1.2
AUMIH MIHALICIK 149.66 317 eP **PKiKP** 09 19 29.8 +0.4
RCHB Rochefort 149.67 360 dPKP **PKiKP** 09 19 29.1 +0.2
SILI Silifke-Mersin 149.70 309 eP **PKiKP** 09 19 30.2 +0.8
ARR Arges 149.71 332 ⇑P **PKPdf** 09 19 25.4 +2.0
GRA1 Grafenberg Arr 149.72 352 **PKPdf** 09 19 21.6 -1.7
GRA1 PKPbc **PKPbc** 09 19 27.3 -0.8
GRA1 PKPab **PKiKP** 09 19 30.1 +1.1
GRF Grafenberg Arr 149.72 352 PKIKP **PKPdf** 09 19 21.6 -1.7
GRF 09 19 30.1
GRF Grafenberg Arr 149.72 352 ePKPbc **PKiKP** 09 19 29.7 +0.7
baz=11,slow=2.7
GRF ePKPab **PKPab** 09 19 34.7 +1.0
baz=8.3,slow=4.0
GRFO Grafenberg 149.72 352 PKIKP **PKPdf** 09 19 22.1 -1.2
GRFO 09 19 30.5
GRFO Grafenberg 149.72 352 PKPdf **PKPdf** 09 19 22.1 -1.2
GRFO **PKPbc** 09 19 27.0 -1.1
GRFO PKPab **PKiKP** 09 19 30.5 +1.5
DOU Dourbes 149.73 0 dPKP **PKiKP** 09 19 29.6 +0.6
DOU dPKPab **PKPab** 09 19 34.1 +0.3
DOU dpPKP **pPKPbc** 09 20 06.2 +0.1
MODS Modra-Piesok 149.76 344 ePKHKP PKPpre 09 19 24.4
MODS Modra-Piesok 149.76 344 ePKP **PKPdf** 09 19 24.4 +1.0
MODS e 09 19 29.1
KEBE Keben-Mersin 149.81 309 eP **PKiKP** 09 19 30.1 +0.4
BSZH Besenyszg 149.82 339 ⇑P **PKPbc** 09 19 27.0 -1.4
AUSIV SIVRIHISAR 149.85 316 eP **PKiKP** 09 19 29.7 -0.1
SVRH Sivrihisar-ESK 149.86 316 eP **PKiKP** 09 19 29.7 -0.1
SAUV Serdivan-Sakar 149.88 320 eP **PKiKP** 09 19 29.8 +0.2
KHC Kasperske Hory 149.89 349 ePKHKP PKPpre 09 19 24.6
KHC Kasperske Hory 149.89 349 ePKPDF **PKPdf** 09 19 24.6 +1.0
KHC ⇑ePKP **PKiKP** 09 19 29.8 +0.4
KHC ex x 09 19 41.0
KHC epPKP **pPKPbc** 09 20 07.5 +1.2
IKL Isikli 149.93 309 eP **PKiKP** 09 19 29.8 -0.1
KIZT Kizilcal 149.93 315 eP **PKiKP** 09 19 30.1 +0.1
GULT Gulveren 149.95 319 eP **PKiKP** 09 19 30.2 +0.3
LADK Ladik-KONYA 149.95 314 eP **PKPbc** 09 19 28.6 -0.6
MMLI Mount Malkishu 149.96 301 eP **PKiKP** 09 19 30.5 +0.4
ZST Bratislava 149.97 344 ePKP2 **PKiKP** 09 19 30.4 +0.8
ZST Bratislava 149.97 344 ePKP **PKiKP** 09 19 30.4 +0.8
SRO Srobarova 149.98 342 ePKP2 **PKiKP** 09 19 30.5 +0.9
SRO Srobarova 149.98 342 ePKP **PKiKP** 09 19 30.5 +0.9
SRO e 09 19 37.0
WET Wettzell 150.00 350 ePKPdf **PKPdf** 09 19 24.9 +1.1
baz=10.0,slow=1.5
WET ePKPbc **PKiKP** 09 19 30.0 +0.3
baz=11,slow=2.7
SRO2 Moca 150.00 342 ePKP2 **PKiKP** 09 19 30.0 +0.4
SRO2 Moca 150.00 342 ePKP **PKiKP** 09 19 30.0 +0.4
SRO2 e 09 19 35.6
TEVE Tevekalti-Mers 150.02 310 eP **PKiKP** 09 19 30.6 +0.4
LOT Lotru 150.02 333 ⇑P **PKPdf** 09 19 25.3 +1.3
LOT Lotru 150.02 333 eP **PKPbc** 09 19 29.5 +0.4
DEV Deva 150.03 334 ⇑P **PKPdf** 09 19 26.0 +2.1
DEV Deva 150.03 334 ⇑PKHKP PKPpre 09 19 26.0
CKRC Cesky Krumlov 150.04 348 ⇑ePKP **PKPdf** 09 19 25.3 +1.5
CKRC ePKPAB **PKiKP** 09 19 30.0 +0.3
SILT Sile 150.05 321 eP **PKiKP** 09 19 30.5 +0.6
JLP Les Platons 150.05 9 eP **PKiKP** 09 19 29.9 +0.3
AKKU Akkuyu-Mersin 150.06 309 eP **PKPbc** 09 19 29.5 +0.2
JSA Saint Aubin 150.09 9 eP **PKiKP** 09 19 29.8 0.0
JQE Queens East 150.10 9 eP **PKiKP** 09 19 30.0 +0.3
SRCK Saricakaya, Es 150.10 318 eP **PKPbc** 09 19 29.5 +0.2
GEC2 GERESS Array S 150.14 348 PKPdf **PKPdf** 09 19 23.4 -0.7
GEC2 **PKPbc** 09 19 28.8 -0.5
GEC2 GERESS Array S 150.14 348 ePKPbc **PKiKP** 09 19 30.5 +0.5
baz=11,slow=2.7
GERES GERESS Array B 150.14 348 PKP **PKPdf** 09 19 25.3 +1.3
comp=Z,2.7nm,0.7s,baz=64,slow=3.1,SNR=13
GERES PKPbc **PKiKP** 09 19 30.5 +0.5
comp=Z,70nm,0.9s,baz=40,slow=2.3,SNR=143
GERES GERESS Array B 150.14 348 PKPdf **PKPdf** 09 19 24.6 +0.6
GERES PKPbc **PKiKP** 09 19 30.3 +0.3
WLF Walferdange 150.15 358 dPKP **PKiKP** 09 19 31.0 +1.1
WLF dPKPab **PKPab** 09 19 35.9 +0.4
WLF Walferdange 150.15 358 PKIKP **PKPdf** 09 19 22.6 -1.3
WLF 09 19 31.5
WLF Walferdange 150.15 358 **PKPdf** 09 19 22.6 -1.3
WLF **PKiKP** 09 19 31.5 +1.6
WLF Walferdange 150.15 358 ePKPbc **PKiKP** 09 19 31.3 +1.4
baz=11,slow=2.7
HUMR Humele 150.19 330 ⇑P **PKPdf** 09 19 26.0 +1.9
SIRR Siria 150.20 336 ⇑P **PKPdf** 09 19 25.4 +1.3
CIFT Cifteler, Eski 150.21 317 eP **PKPbc** 09 19 30.0 +0.3
BERE Bereket-Mersin 150.21 310 eP **PKiKP** 09 19 30.3 -0.4
HRT Hereke 150.23 320 eP **PKiKP** 09 19 30.5 +0.1
BORA Eskisehir 150.31 318 eP **PKiKP** 09 19 30.5 -0.2
KLYT Kilyos 150.34 322 eP **PKPab** 09 19 42.9 +6.3
COPA Copaceanca 150.38 330 ⇑P **PKPbc** 09 19 27.1 -2.7
TEKE Tekeli-Mersin 150.38 309 eP **PKiKP** 09 19 30.7 -0.1
ADVT Abdulvahap 150.43 320 eP **PKiKP** 09 19 30.9 +0.1
LFK Lefkose 150.44 307 eP **PKiKP** 09 19 31.4 +0.4
ISK Istanbul-Kandi 150.45 321 eP **PKiKP** 09 19 30.9 +0.1
KAVV Kandilli-Istan 150.45 321 eP **PKiKP** 09 19 31.0 +0.2
GZR Gura Zlata 150.48 334 ⇑P **PKPdf** 09 19 25.4 +0.7
GZR Gura Zlata 150.48 334 ⇑PKIKP **PKPdf** 09 19 25.4 +0.7
CAVI Cavuskoy 150.50 319 eP **PKPbc** 09 19 30.0 -0.3
CONA Conrad Observa 150.54 345 iP **PKPdf** 09 19 25.7 +1.0
comp=Z,12nm,1.1s,SNR=57
CONA iP **PKiKP** 09 19 31.8 +0.9
comp=Z,112nm,0.8s
AUBOZ BOZOYUK 150.55 318 eP **PKPbc** 09 19 29.7 -0.8
YLV Yalova 150.57 320 eP **PKiKP** 09 19 31.0 -0.2
TRML Termal-Yalova 150.66 320 eP **PKiKP** 09 19 31.8 +0.6
CTKS Kestanelik-??a 150.66 322 eP **PKiKP** 09 19 31.3 +0.1
ZIMR 150.67 329 ⇑P **PKPdf** 09 19 27.6 +2.7
ZIMR 150.67 329 ⇑PKIKP **PKPdf** 09 19 27.6 +2.7
SEYD Seydisehir-KON 150.71 313 eP **PKiKP** 09 19 32.1 +0.5
CSS Mathiatis 150.72 307 eP **PKPbc** 09 19 31.0 0.0
CSS Mathiatis 150.72 307 PKPdf **PKPdf** 09 19 24.7 -0.6
CSS PKPbc **PKPbc** 09 19 30.1 -0.9
GEMT Gemlik 150.76 320 eP **PKiKP** 09 19 32.0 +0.5
BZS Buzias 150.76 336 ⇑P **PKPdf** 09 19 26.2 +1.2
BZS Buzias 150.76 336 ⇑PKIKP **PKPdf** 09 19 26.2 +1.2
SLVT Silivri 150.84 322 eP **PKiKP** 09 19 32.3 +0.7
STU Stuttgart 150.85 354 PKIKP **PKPdf** 09 19 24.2 -0.9
STU Stuttgart 150.85 354 **PKPdf** 09 19 24.2 -0.9
STU PKPbc **PKPbc** 09 19 30.5 -0.3
STU Stuttgart 150.85 354 ePKPdf **PKPdf** 09 19 26.3 +1.3
baz=10.0,slow=1.5
STU ePKPbc **PKiKP** 09 19 32.3 +0.9
baz=11,slow=2.7
ARMT Armutlu 150.88 321 eP **PKPbc** 09 19 31.0 -0.2
SRE Strehaia 150.89 333 ⇓P **PKPbc** 09 19 29.1 -1.9
SRE Strehaia 150.89 333 ⇓PKIKP **PKPbc** 09 19 29.1 -1.9
GAZI Gazipasa 150.92 310 eP **PKPab** 09 19 38.8 -0.4
HRFI Mount Harif 150.92 297 eP **PKiKP** 09 19 32.6 +0.4
MOA Molln 150.97 347 eP **PKPdf** 09 19 26.2 +0.9
comp=Z,6.2nm,1.0s
MOA iP **PKiKP** 09 19 32.3 +0.6
comp=Z,46nm,0.6s,SNR=19
LEF Lefka 150.98 308 ⇑P **PKPdf** 09 19 27.0 +1.3
LEF Lefka 150.98 308 eP **PKiKP** 09 19 32.4 +0.3
SHUT Suhut-Afyon 150.98 316 eP **PKiKP** 09 19 32.6 +0.4
HERR Herculane 151.05 334 ⇑P **PKPbc** 09 19 29.1 -2.3
BANR Banloc 151.15 336 ⇑P **PKPbc** 09 19 29.2 -2.4
TVSB Tavsanli 151.18 318 eP **PKPbc** 09 19 31.8 -0.2
FUR Furstenfeldbru 151.20 351 ePKPbc **PKiKP** 09 19 33.1 +1.0
baz=11,slow=2.7
EDRB Edirne 151.25 325 eP **PKiKP** 09 19 32.8 +0.4
ARSA Arzberg 151.25 345 eP **PKPdf** 09 19 26.7 +0.9
comp=Z,3.8nm,0.6s
ARSA iP **PKiKP** 09 19 32.6 +0.3
comp=Z,35nm,0.7s,SNR=11
MORH Mrgy, Hungar 151.31 340 ⇑P **PKPdf** 09 19 26.9 +1.1
MORH Mrgy, Hungar 151.31 340 ⇓iP **PKiKP** 09 19 32.8 +0.4
KCTX Karacabey (Bur 151.36 321 eP **PKiKP** 09 19 33.2 +0.5
BFO Black Forest 151.37 355 PKIKP **PKPdf** 09 19 24.1 -1.8
BFO 09 19 40.2
BFO Black Forest 151.37 355 PKPdf **PKPdf** 09 19 24.1 -1.8
BFO PKPbc **PKPbc** 09 19 31.6 -0.4
BFO PKPab **PKPab** 09 19 40.2 -0.5
BFO Black Forest 151.37 355 ePKPbc **PKiKP** 09 19 33.2 +0.7
baz=11,slow=2.7
BFO ePKPab **PKPab** 09 19 41.2 +0.5
baz=8.3,slow=4.0
BFO epPKPbc **pPKPbc** 09 20 13.3 +3.5
RJOB Jochberg 151.37 349 ePKPbc **PKiKP** 09 19 33.2 +0.7
baz=11,slow=2.7
ISP Isparta 151.39 314 eP **PKiKP** 09 19 33.1 +0.1
ISP Isparta 151.39 314 PKIKP **PKPdf** 09 19 26.1 -0.3
ISP 09 19 40.2
ISP Isparta 151.39 314 PKPdf **PKPdf** 09 19 26.1 -0.3
ISP PKPbc **PKPbc** 09 19 31.9 -0.7
ISP PKPab **PKPab** 09 19 40.2 -1.1
MDVR Moldovita 151.42 335 ⇑P **PKPdf** 09 19 27.1 +1.0
GEDZ Gediz 151.45 318 eP **PKiKP** 09 19 33.8 +0.8
ECH Echery 151.56 357 PKIKP **PKPdf** 09 19 24.9 -1.3
ECH 09 19 41.1
ECH Echery 151.56 357 PKPdf **PKPdf** 09 19 24.9 -1.3
ECH PKPbc **PKPbc** 09 19 31.5 -1.0
ECH PKPab **PKPab** 09 19 41.1 -0.3
MRMT Marmara Adasi 151.60 322 eP **PKiKP** 09 19 33.1 -0.2
EDC Edincik 151.60 321 eP **PKiKP** 09 19 33.8 +0.6
BEHE Becsehely 151.64 343 eP **PKiKP** 09 19 33.1 0.0
MAR4 Marsite Statio 151.65 323 eP **PKiKP** 09 19 33.6 +0.2
SIMA Simav-Kutahya 151.69 318 eP **PKPab** 09 19 42.9 +0.4
CLF Chambon-Foret 151.72 4 **PKPdf** 09 19 25.5 -0.8
CLF **PKPbc** 09 19 32.1 -0.7
CLF PKPab **PKPab** 09 19 41.1 -0.9
ANTB Antalya 151.78 313 eP **PKPab** 09 19 40.6 -2.1
RKY Sarkoy-Tekirda 151.78 322 eP **

FRGS	**Fruska Gora**	**151.83**	**337**	⇓*i*P		**PKiKP**	**09 19 34.3**	**+0.7**
UBR	**Ueberruh**	**151.83**	**353**	*e*PKPbc		**PKiKP**	**09 19 34.3**	**+0.8**
	baz=11,slow=2.7							
KBA	**Koelnbreinsper**	**151.90**	**348**	*e*P		**PKPdf**	**09 19 27.3**	**+0.4**
	comp=Z,8.6nm,1.2s							
KBA				*i* P		**PKiKP**	**09 19 33.9**	**0.0**
	comp=Z,73nm,0.6s,SNR=19							
SOKA	**Soboth**	**151.91**	**345**	*e*P		**PKPdf**	**09 19 27.5**	**+0.7**
	comp=Z,11nm,1.0s							
SOKA				*i* P		**PKiKP**	**09 19 34.0**	**+0.3**
	comp=Z,84nm,0.9s,SNR=20							
KRBG	**Karabiga-Canak**	**151.91**	**322**	*e*P		**PKiKP**	**09 19 34.4**	**+0.6**
PERS	**Pernice**	**151.92**	**345**	*i* PKPbc		**PKiKP**	**09 19 34.0**	**+0.3**
KORT	**Korkueli**	**151.94**	**313**	*e*P		**PKiKP**	**09 19 34.4**	**+0.2**
RETA	**Reutte**	**151.94**	**352**	*i* P		**PKPdf**	**09 19 27.6**	**+0.7**
	comp=Z,3.7nm,0.7s							
RETA				*i* P		**PKiKP**	**09 19 34.5**	**+0.8**
	comp=Z,59nm,0.9s,SNR=16							
WATA	**Walderalm**	**151.97**	**350**	*i* P		**PKPdf**	**09 19 27.6**	**+0.6**
	comp=Z,6.6nm,0.7s							
WATA				*i* P		**PKiKP**	**09 19 34.5**	**+0.6**
	comp=Z,74nm,0.6s,SNR=16							
WTTA	**Wattenberg**	**152.03**	**350**	*i* P		**PKPdf**	**09 19 28.0**	**+0.9**
	comp=Z,25nm,1.4s							
WTTA				*i* P		**PKiKP**	**09 19 35.0**	**+0.9**
	comp=Z,176nm,0.6s,SNR=31							
MOTA	**Moosalm**	**152.03**	**351**	*i* P		**PKPdf**	**09 19 27.6**	**+0.5**
	comp=Z,19nm,1.0s,SNR=16							
MOTA				*i* P		**PKiKP**	**09 19 34.6**	**+0.6**
	comp=Z,98nm,0.9s							
BALB	**Balikesir**	**152.04**	**320**			**PKPbc**	**09 19 32.8**	**-1.0**
BALB					PKPab	**PKPab**	**09 19 42.8**	**-1.0**
KDZ	**Kurdzhali**	**152.10**	**326**	*e*P		**PKiKP**	**09 19 34.1**	**-0.1**
PLD	**Plovdiv**	**152.14**	**327**	*e*P		**PKiKP**	**09 19 34.7**	**+0.5**
ERIK	**Erikli-Kesan**	**152.17**	**323**	*e*P		**PKiKP**	**09 19 34.7**	**+0.4**
OBKA	**Obir**	**152.18**	**346**	*e*P		**PKPdf**	**09 19 27.9**	**+0.6**
	comp=Z,7.1nm,1.0s							
OBKA				*i* P		**PKiKP**	**09 19 34.5**	**+0.1**
	comp=Z,35nm,0.7s,SNR=6.7							
KULA	**Kula-Manisa**	**152.23**	**317**	*e*P		**PKiKP**	**09 19 34.9**	**+0.2**
LPK	**Lapseki**	**152.23**	**322**	*e*P		**PKPbc**	**09 19 34.1**	**-0.1**
DAVA	**Damuels**	**152.25**	**353**	*i* P		**PKPdf**	**09 19 28.0**	**+0.6**
	comp=Z,5.7nm,0.9s							
DAVA				*i* P		**PKiKP**	**09 19 35.5**	**+0.9**
	comp=Z,122nm,0.9s,SNR=22							
MYKA	**Terra Mystica**	**152.27**	**347**	*e*P		**PKPdf**	**09 19 27.7**	**+0.4**
	comp=Z,9.1nm,1.0s							
MYKA				*i* P		**PKiKP**	**09 19 34.6**	**+0.1**
	comp=Z,70nm,0.6s,SNR=17							
ALN	**Alexandroupoli**	**152.28**	**324**	*e*P		**PKiKP**	**09 19 34.7**	**+0.1**
ALN	**Alexandroupoli**	**152.28**	**324**		PKIKP	**PKPbc**	**09 19 33.6**	**-0.7**
ALN							09 19 44.1	
ALN	**Alexandroupoli**	**152.28**	**324**			**PKPbc**	**09 19 33.6**	**-0.7**
ALN					PKPab	**PKPab**	**09 19 44.0**	**-0.6**
BOVS	**Bovan**	**152.36**	**333**	⇑P		**PKPdf**	**09 19 27.9**	**+0.5**
SACV	**Santiago Islan**	**152.36**	**95**			**PKPbc**	**09 19 33.4**	**-1.8**
ELL	**Elmali**	**152.37**	**313**	*e*P		**PKiKP**	**09 19 35.8**	**+0.7**
ELL	**Elmali**	**152.37**	**313**		PKIKP	**PKPbc**	**09 19 34.0**	**-0.8**
ELL							09 19 44.4	
ELL	**Elmali**	**152.37**	**313**			**PKPbc**	**09 19 34.0**	**-0.8**
ELL					PKPab	**PKPab**	**09 19 44.4**	**-1.0**
ABTA	**Abfaltersbach**	**152.38**	**349**	*i* P		**PKPdf**	**09 19 27.8**	**+0.3**
	comp=Z,35nm,1.3s,SNR=8.5							
ABTA				*i* P		**PKiKP**	**09 19 35.0**	**+0.3**
	comp=Z,132nm,0.6s							
GELI	**Tayfur-Gelibol**	**152.38**	**323**	*e*P		**PKiKP**	**09 19 34.9**	**+0.1**
FETA	**Feichten**	**152.40**	**351**	*i* P		**PKPdf**	**09 19 28.6**	**+0.9**
	comp=Z,20nm,1.0s,SNR=5.6							
FETA				*i* P		**PKiKP**	**09 19 35.8**	**+1.0**
	comp=Z,99nm,0.9s							
TEKS	**Tekeris**	**152.46**	**337**	*e*P		**PKiKP**	**09 19 35.6**	**+0.7**
VTS	**Vitosha**	**152.47**	**330**	⇓P		**PKiKP**	**09 19 36.3**	**+1.1**
VTS	**Vitosha**	**152.47**	**330**		PKIKP	**PKPdf**	**09 19 26.3**	**-1.6**
VTS							09 19 44.5	
VTS	**Vitosha**	**152.47**	**330**			**PKPdf**	**09 19 26.3**	**-1.6**
VTS						**PKPbc**	**09 19 34.5**	**-0.4**
VTS					PKPab	**PKPab**	**09 19 44.5**	**-1.1**
ZOU	**Zoufplan**	**152.47**	**348**		PKPdf	**PKPdf**	**09 19 26.9**	**-0.9**
ZOU					PKPbc	**PKPbc**	**09 19 34.4**	**-0.5**
CRES	**Cresnjev**	**152.59**	**344**	⇓*i*P		**PKiKP**	**09 19 35.6**	**+0.5**
LJU	**Ljubljana**	**152.62**	**345**	*e*PKPdf		**PKPdf**	**09 19 29.2**	**+1.4**
LJU				*i* PKPbc		**PKiKP**	**09 19 35.9**	**+0.8**
DIVS	**Divibare**	**152.67**	**336**	⇓*i*P		**PKiKP**	**09 19 36.1**	**+0.7**
DIVS	**Divibare**	**152.67**	**336**			**PKPdf**	**09 19 26.6**	**-1.5**
DIVS					PKPbc	**PKPbc**	**09 19 34.9**	**-0.3**
DIVS					PKPab	**PKPab**	**09 19 45.9**	**-0.5**
CAME	**Cameli-Denizli**	**152.68**	**314**	*e*P		**PKiKP**	**09 19 36.2**	**+0.5**
STAL	**STALIGIAL**	**152.81**	**348**			**PKPdf**	**09 19 26.3**	**-1.8**
STAL						**PKPbc**	**09 19 34.0**	**-1.4**
EZN	**Ezine**	**152.84**	**322**	*e*P		**PKiKP**	**09 19 35.9**	**+0.2**
AKAS	**Kas**	**152.84**	**312**	*e*P		**PKPbc**	**09 19 35.4**	**-0.5**
MRAK	**Mrakovica**	**152.93**	**341**	*e*P		**PKiKP**	**09 19 37.7**	**+1.8**
CEY	**Cerknica**	**152.93**	**345**	⇓*i*P		**PKiKP**	**09 19 36.5**	**+0.7**
FETY	**Fethiye**	**152.99**	**314**	*e*P		**PKiKP**	**09 19 36.2**	**0.0**
GBGS	**Gornja Briga**	**153.03**	**345**	*i* PKPbc		**PKiKP**	**09 19 35.7**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**153.05**	**317**	*e*P		**PKPab**	**09 19 49.7**	**+1.4**
HAPS	**Han Pijesak,BI**	**153.06**	**337**	⇓*i*P		**PKiKP**	**09 19 36.5**	**+0.2**
BLY	**Banja Luka**	**153.08**	**340**	*e*P		**PKiKP**	**09 19 37.3**	**+1.2**
BBLS	**Lazići**	**153.09**	**336**	⇓*i*P		**PKiKP**	**09 19 37.2**	**+0.9**
TUE	**Stuetta**	**153.11**	**353**			**PKPdf**	**09 19 28.5**	**-0.3**
TUE						**PKPbc**	**09 19 36.0**	**-0.3**
CTI	**Castel Tesino**	**153.21**	**350**		PKIKP	**PKPdf**	**09 19 28.2**	**-0.6**
CTI							09 19 46.4	
CTI	**Castel Tesino**	**153.21**	**350**		PKPdf	**PKPdf**	**09 19 28.2**	**-0.6**
CTI					PKPbc	**PKPbc**	**09 19 36.1**	**-0.3**
CTI					PKPab	**PKPab**	**09 19 46.4**	**-2.2**
YER	**Yerkesik**	**153.26**	**315**	*e*P		**PKPbc**	**09 19 36.7**	**0.0**
RUDO	**Rudo**	**153.31**	**336**	*e*P		**PKiKP**	**09 19 37.2**	**+0.6**
SENIN	**Lac Senin/Sane**	**153.40**	**356**		PKPdf	**PKPdf**	**09 19 28.4**	**-0.8**
SENIN					PKPbc	**PKPbc**	**09 19 36.3**	**-0.6**
SENIN					PKPab	**PKPab**	**09 19 47.5**	**-2.0**
MGRS	**Mrkonjic Grad**	**153.41**	**340**	*e*P		**PKiKP**	**09 19 38.1**	**+1.3**
TURN	**Turunc**	**153.49**	**315**	*e*P		**PKiKP**	**09 19 37.2**	**0.0**
MLSB	**Milas**	**153.50**	**316**	*e*P		**PKiKP**	**09 19 38.3**	**+1.0**
SALO	**Salr**	**153.80**	**351**		PKPdf	**PKPdf**	**09 19 28.2**	**-1.4**
SALO						**PKPbc**	**09 19 36.5**	**-1.0**
SALO					PKPab	**PKPab**	**09 19 49.8**	**-1.2**
ARG	**Arkhangelos**	**153.87**	**314**	*e*P		**PKiKP**	**09 19 38.8**	**+0.8**
CHOS	**Chios island**	**153.93**	**320**	*e*P		**PKiKP**	**09 19 38.5**	**+0.3**
BODT	**Bodrum**	**153.94**	**316**	*e*P		**PKPbc**	**09 19 36.7**	**-1.4**
DAT	**Datca**	**153.96**	**315**	*e*P		**PKiKP**	**09 19 38.3**	**0.0**
KOSK	**Kos Island**	**154.34**	**316**	*e*P		PKPdf	09 19 18.9	-12
PDG	**Podgorica**	**154.36**	**335**		PKPdf	**PKPdf**	**09 19 29.7**	**-0.7**
PDG					PKPbc	**PKPbc**	**09 19 38.2**	**-0.5**
PDG					PKPab	**PKPab**	**09 19 51.7**	**-1.7**
TREB	**Trebinje**	**154.47**	**337**	*e*P		**PKPbc**	**09 19 38.6**	**-0.4**
STON	**Ston**	**154.57**	**338**	*e*P		**PKPbc**	**09 19 36.7**	**-2.5**
BNI	**Bardonecchia**	**154.74**	**357**		PKIKP	**PKPdf**	**09 19 30.3**	**-0.7**
BNI							09 19 53.7	
BNI	**Bardonecchia**	**154.74**	**357**		PKPdf	**PKPdf**	**09 19 30.3**	**-0.7**
BNI					PKPbc	**PKPbc**	**09 19 38.7**	**-1.0**
BNI					PKPab	**PKPab**	**09 19 53.7**	**-1.4**
LIT	**Litokhoron**	**154.74**	**327**		PKIKP	**PKPdf**	**09 19 29.6**	**-1.4**
LIT							09 19 38.4	
LIT							09 19 53.4	
LIT	**Litokhoron**	**154.74**	**327**		PKPdf	**PKPdf**	**09 19 29.6**	**-1.4**
LIT					PKPbc	**PKPbc**	**09 19 38.4**	**-1.3**
LIT					PKPab	**PKPab**	**09 19 53.4**	**-1.8**
FNA	**Florina**	**154.77**	**330**	*e*P		**PKiKP**	**09 19 40.4**	**+0.6**
FNA	**Florina**	**154.77**	**330**		PKIKP	**PKPdf**	**09 19 30.5**	**-0.6**
FNA							09 19 38.6	
FNA							09 19 53.6	
FNA	**Florina**	**154.77**	**330**			**PKPdf**	**09 19 30.5**	**-0.6**
FNA					PKPbc	**PKPbc**	**09 19 38.6**	**-1.2**
FNA					PKPab	**PKPab**	**09 19 53.6**	**-1.8**
PCAB	**Cabril**	**155.50**	**24**	*e*PKPdf		**PKPdf**	**09 19 33.7**	**+1.7**
PCAB	**Cabril**	**155.50**	**24**	*e*PKPab		**PKPab**	**09 20 00.0**	**+1.6**
PCAB				*i* LQ		LQ	09 20 37.3	
AGG	**Agios Georgios**	**155.62**	**326**		PKIKP	**PKPdf**	**09 19 30.8**	**-1.5**
AGG							09 19 57.3	
AGG	**Agios Georgios**	**155.62**	**326**		PKPdf	**PKPdf**	**09 19 30.8**	**-1.5**
AGG					PKPab	**PKPab**	**09 19 57.3**	**-1.7**
MURB	**Monte Urbino**	**155.71**	**346**			**PKPdf**	**09 19 31.3**	**-1.1**
MURB						**PKPab**	**09 19 58.0**	**-1.2**
POLO	**Lamas de Olo**	**155.88**	**24**	*e*PKPdf		**PKPdf**	**09 19 34.4**	**+1.8**
POLO	**Lamas de Olo**	**155.88**	**24**	*e*PKPab		**PKPab**	**09 20 01.8**	**+1.7**
POLO				*i* LQ		LQ	09 20 40.9	
PBRG	**Braganca**	**155.89**	**22**	*e*PKPab		**PKPab**	**09 20 01.1**	**+1.0**
PBRG				*i* LQ		LQ	09 20 41.5	
NRCA	**Norcia**	**155.99**	**345**			**PKPdf**	**09 19 32.5**	**-0.2**
NRCA						**PKPab**	**09 19 58.2**	**-2.3**
PVRL	**Vila Real**	**156.00**	**24**	*e*PKPab		**PKPab**	**09 20 02.0**	**+1.5**
MVO	**Moncorvo**	**156.35**	**23**	*e*PKPdf		**PKPdf**	**09 19 34.8**	**+1.6**
MVO	**Moncorvo**	**156.35**	**23**	*e*PKPab		**PKPab**	**09 20 03.4**	**+1.3**
PVIS	**Viseu**	**156.41**	**25**	*e*PKPdf		**PKPdf**	**09 19 35.6**	**+2.3**
PVIS	**Viseu**	**156.41**	**25**	*e*PKPab		**PKPab**	**09 20 03.5**	**+1.2**
PVIS				*i* LQ		LQ	09 20 43.0	
INTR	**Introdacqua**	**156.55**	**343**		PKPdf	**PKPdf**	**09 19 32.6**	**-0.9**
INTR						**PKPab**	**09 20 00.8**	**-2.1**
IDI	**Anoyia**	**156.57**	**315**		PKPdf	**PKPdf**	**09 19 32.7**	**-0.9**
IDI						**PKPab**	**09 20 01.0**	**-2.3**
SCTE	**Santa Cesarea**	**156.66**	**333**		PKPab	**PKPab**	**09 20 02.5**	**-0.8**
PCAS	**Casmilo, Conde**	**156.72**	**27**	*e*PKPdf		**PKPdf**	**09 19 35.7**	**+2.1**
PCAS	**Casmilo, Conde**	**156.72**	**27**	*i* PKPab		**PKPab**	**09 20 05.5**	**+1.9**
MTE	**Manteigas**	**156.82**	**25**	*e*PKPdf		**PKPdf**	**09 19 34.3**	**+0.5**
MTE	**Manteigas**	**156.82**	**25**	*e*PKPab		**PKPab**	**09 20 05.4**	**+1.3**
MTE	**Manteigas**	**156.82**	**25**		PKPdf	**PKPdf**	**09 19 32.5**	**-1.4**
MTE					PKPab	**PKPab**	**09 20 02.4**	**-1.7**
ITM	**Ithomi**	**157.17**	**323**		PKPdf	**PKPdf**	**09 19 33.9**	**-0.4**
ITM					PKPab	**PKPab**	**09 20 04.6**	**-1.1**
PCBR	**Castelo Branco**	**157.32**	**25**	*e*PKPdf		**PKPdf**	**09 19 36.2**	**+1.8**
PCBR	**Castelo Branco**	**157.32**	**25**	*e*PKPab		**PKPab**	**09 20 06.4**	**+0.2**
PMTG	**Montargil**	**157.65**	**28**	*e*PKPdf		**PKPdf**	**09 19 36.1**	**+1.3**
PMTG	**Montargil**	**157.65**	**28**	*e*PKPab		**PKPab**	**09 20 09.0**	**+1.3**
PMRV	**Marv??o**	**157.70**	**26**	*e*PKPdf		**PKPdf**	**09 19 36.5**	**+1.6**
PMRV	**Marv??o**	**157.70**	**26**	*e*PKPab		**PKPab**	**09 20 08.7**	**+0.8**
PESTR	**Estremoz**	**158.09**	**27**	*e*PKPab		**PKPab**	**09 20 10.0**	**+0.4**
PESTR	**Estremoz**	**158.09**	**27**		PKPdf	**PKPdf**	**09 19 33.0**	**-2.4**
PESTR					PKPab	**PKPab**	**09 20 06.8**	**-2.8**
EVO	**Evora**	**158.19**	**28**	*e*PKPdf		**PKPdf**	**09 19 37.6**	**+2.1**
EVO	**Evora**	**158.19**	**28**	*e*PKPab		**PKPab**	**09 20 10.7**	**+0.7**
EVO				*i* LQ		LQ	09 20 51.4	
PNCL	**Nicolau / Gran**	**158.29**	**30**	*e*PKPdf		**PKPdf**	**09 19 37.3**	**+1.7**
PNCL	**Nicolau / Gran**	**158.29**	**30**	*e*PKPab		**PKPab**	**09 20 11.9**	**+1.4**
PTEO	**Sao Teotonio**	**158.65**	**31**	*e*PKPdf		**PKPdf**	**09 19 28.9**	**-7.2**
PTEO	**Sao Teotonio**	**158.65**	**31**	*i* PKPab		**PKPab**	**09 20 13.5**	**+1.5**
MESJ	**Messejana**	**158.66**	**30**	*e*PKPdf		**PKPdf**	**09 19 37.7**	**+1.6**
PAB	**San Pablo**	**158.72**	**20**	PKIKP		**PKPdf**	**09 19 34.6**	**-1.6**
PAB							09 20 11.2	
PAB	**San Pablo**	**158.72**	**20**		PKPdf	**PKPdf**	**09 19 34.6**	**-1.6**
PAB					PKPab	**PKPab**	**09 20 11.2**	**-1.2**
ESBB	**Sonseca Array**	**158.73**	**19**			**PKPdf**	**09 19 35.9**	**-0.3**
ESBB					PKPab	**PKPab**	**09 20 10.8**	**-1.6**
ESDC	**Sonseca Array**	**158.73**	**19**		PKP	**PKPdf**	**09 19 37.8**	**+1.5**
	comp=Z,4.0nm,1.0s,baz=339,slow=3.0,SNR=19							
ESDC					PKPbc	PKPbc	09 19 49.2	
	comp=Z,2.4nm,0.9s,baz=333,slow=2.5,SNR=8.9							
ESDC					PKPab	**pPKPdf**	**09 20 14.0**	**-0.6**
	comp=Z,18nm,1.0s,baz=330,slow=4.2,SNR=36							
ESDC					pPKPab	**pPKPab**	**09 20 52.0**	**+2.8**
	comp=Z,13nm,1.0s,baz=328,slow=4.1,SNR=6.5							
ESDC					PP	**PP**	**09 23 50.3**	**-2.2**
	comp=Z,2.1nm,1.1s,baz=325,slow=5.9,SNR=4.7							
ESDC	**Sonseca Array**	**158.73**	**19**			**PKPdf**	**09 19 37.3**	**+1.1**
ESDC						**PKPab**	**09 20 11.7**	**-0.7**
MORF	**Marmelete**	**158.88**	**31**	*e*PKPdf		**PKPdf**	**09 19 38.6**	**+2.2**
MORF	**Marmelete**	**158.88**	**31**	*i* PKPab		**PKPab**	**09 20 15.1**	**+2.0**
PBAR	**Barrancos**	**158.91**	**27**	*e*PKPdf		**PKPdf**	**09 19 38.3**	**+1.9**
PBAR	**Barrancos**	**158.91**	**27**	*e*PKPab		**PKPab**	**09 20 14.6**	**+1.5**
PCVE	**Castro Verde**	**158.91**	**30**	*e*PKPdf		**PKPdf**	**09 19 38.6**	**+2.2**
PCVE	**Castro Verde**	**158.91**	**30**	*i* PKPab		**PKPab**	**09 20 15.2**	**+2.0**
PFVI	**Vila Bisbo**	**158.93**	**32**	*e*PKPdf		**PKPdf**	**09 19 38.6**	**+2.2**
PVAQ	**Vaqueiros**	**159.24**	**29**	*i* PKPab		**PKPab**	**09 20 16.7**	**+2.1**
PBDV	**Barranco-do-Ve**	**159.27**	**30**	*e*PKPdf		**PKPdf**	**09 19 39.4**	**+2.5**
LIC	**Lamto**	**163.42**	**143**	*e*PKIKP		**PKPdf**	**09 19 43.0**	**+1.1**
	comp=Z,35nm,0.8s							
LIC	**Lamto**	**163.42**	**143**	*e*PKP2		**PKPab**	**09 20 35.7**	**+2.2**
	comp=Z,43nm,1.0s							
KEST	**Kesra**	**163.62**	**347**	PKP		**PKPdf**	**09 19 43.4**	**+1.8**
	comp=Z,3.9nm,0.8s,baz=339,slow=1.8,SNR=4.3							
KEST					PKPab	**sPKPdf**	**09 20 34.6**	**-0.3**
	comp=Z,22nm,0.9s,baz=321,slow=2.7,SNR=12							
KEST	**Kesra**	**163.62**	**347**	PKPdf		**PKPdf**	**09 19 39.5**	**-2.1**
KEST					PKPab	**PKPab**	**09 20 32.3**	**-1.5**
KIC	**Kosan Boka**	**163.69**	**143**	*e*PKIKP		**PKPdf**	**09 19 43.2**	**+1.1**
	comp=Z,34nm,0.8s							
KIC	**Kosan Boka**	**163.69**	**143**	*e*PKP2		**PKPab**	**09 20 36.8**	**+2.1**
	comp=Z,30nm,1.0s							
TIC	**Toumodi**	**163.77**	**142**	*e*PKIKP		**PKPdf**	**09 19 43.3**	**+1.1**
TIC	**Toumodi**	**163.77**	**142**	*e*PKP2		**PKPab**	**09 20 37.3**	**+2.3**
DBIC	**Dimbokro**	**163.88**	**143**	PKP		**PKPdf**	**09 19 43.1**	**+0.8**
	comp=Z,8.5nm,0.8s,baz=216,slow=1.4,SNR=6.6							
DBIC					PKPab	**sPKPdf**	**09 20 37.9**	**+2.1**
	comp=Z,13nm,0.9s,baz=128,slow=4.6,SNR=5.8							
KOWA	**Kowa**	**169.97**	**120**			**PKPdf**	**09 19 45.0**	**-1.8**
KOWA					PKPab	**PKPab**	**09 21 00.7**	**-1.8**
TOA0	**Torodi Ar. Sit**	**172.73**	**154**			**PKPdf**	**09 19 46.4**	**-1.8**
TOA0					PKPab	**PKPab**	**09 21 13.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**172.73**	**154**		PKP	**PKPdf**	**09 19 48.5**	**+0.3**
	comp=Z,13nm,0.9s,baz=328,slow=1.3,SNR=37							
TORD					pPKP	**pPKPdf**	**09 20 28.0**	**+1.3**
	comp=Z,5.4nm,0.9s,baz=327,slow=2.0,SNR=3.7							
TORD					PKPab	**PKPab**	**09 21 17.2**	**+2.8**
	comp=Z,8.4nm,0.8s,baz=216,slow=3.2,SNR=12							
TORD					pPKPab	**pPKPab**	**09 21 55.0**	**+3.8**
	comp=Z,5.3nm,1.0s,baz=199,slow=4.6,SNR=2.4							
TORD					PP	**PP**	**09 25 12.5**	**+7.6**
	comp=Z,4.6nm,1.0s,baz=171,slow=3.3,SNR=5.0							
TORD	**Torodi Ar. Bea**	**172.73**	**154**			**PKPdf**	**09 19 46.1**	**-2.0**
TORD					PKPab	**PKPab**	**09 21 14.9**	**+0.5**

*IDC **23** 09:24:55.3±6.6, 3.°17N×127.°87E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/60, mbtmp3.9/4, ML3.9/1 Error ellipse: s-maj=114.0km s-min=78.4km az=24.0*
*NEIC **23** 09:25:05.1±2.4, 3.°0N±0.°1×128.°21E±0.°06, h53km±14km, mb4.1/11, Error ellipse: s-maj=16.1km s-min=6.4km az=203.0*

ISC 23 09:25:02.5±1.3, 3.°1N±0.°1×128.°3E±0.°1, h35km, n21, σ1s25/18, mb4.0/9, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
TNTI	**Ternate**	**2.49**	**202**		Pn **Pn**	**09 25 42.2**	**+1.7**
SIJI	**Sorong**	**4.94**	**143**		Pn **Pn**	**09 26 15.1**	**+0.8**
	4.0nm,0.3s,baz=118,slow=14,SNR=14						
LUWI	**Luwuk**	**6.88**	**233**		Pn **Pn**	**09 26 39.9**	**-1.0**
FAKI	**Fak Fak**	**7.17**	**146**		Pn **Pn**	**09 26 46.4**	**+1.4**
TOLI2	**Tolitoli**	**7.75**	**255**		Pn **Pn**	**09 26 53.5**	**+0.5**
KNRA	**Kununurra**	**18.66**	**179**		**P**	**09 29 17.6**	**0.0**
KNRA					IAmb IAmb	09 29 23.7	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.22**	**187**		P **P**	**09 29 45.7**	**+0.2**
FITZ					IAmb IAmb	09 29 48.6	
	comp=Z,8.9nm,1.4s						
CISI	**Cisompet, Garu**	**23.00**	**243**		P **P**	**09 30 04.0**	**-0.7**
WB0	**Warramunga Arr**	**23.50**	**165**		P **P**	**09 30 08.5**	**-1.0**
WB0					IAmb IAmb	09 30 14.9	
	comp=Z,7.4nm,1.2s						
WRAB	**Tennant Creek**	**23.65**	**166**		P **P**	**09 30 10.1**	**-0.8**
WRAB					IAmb IAmb	09 30 30.4	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**23.66**	**166**		P **P**	**09 30 10.0**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=345,slow=11,SNR=35						
WRA	**Warramunga Arr**	**23.66**	**166**		P **P**	**09 30 08.7**	**-2.3**
WB2	**Warramunga Arr**	**23.66**	**166**		P **P**	**09 30 09.0**	**-2.0**
WB2					IAmb IAmb	09 30 10.2	
	comp=Z,5.1nm,1.0s						
WR0	**Warramunga Arr**	**23.72**	**165**		P **P**	**09 30 10.1**	**-1.5**
WR0					IAmb IAmb	09 30 27.9	
	comp=Z,19nm,1.5s						
ASAR	**Alice Springs**	**27.16**	**169**		P **P**	**09 30 41.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=352,slow=8.4,SNR=5.3						
STKA	**Stephens Creek**	**37.01**	**161**		P **P**	**09 32 08.7**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=356,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**37.01**	**161**		P **P**	**09 32 08.4**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**41.14**	**63**		T T	10 16 37.1	
	baz=243,slow=74,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**41.15**	**63**		T T	10 16 42.1	
	baz=243						
H11N3	**WAKE ISLAND Hy**	**41.15**	**63**		T T	10 16 45.3	
	baz=243,slow=74,SNR=4.7						
ZAA0	**Zalesovo Array**	**61.85**	**333**		P **P**	**09 35 19.2**	**+1.1**
ZAA0					IAmb IAmb	09 35 38.0	
	comp=Z,1.7nm,0.5s						

*NEIC **23** 09:32:30.9±0.9, 6.°13N×0.°10×116.°6E±0.°2, h15km±3km, mb4.5/16, Error ellipse: s-maj=23.1km s-min=11.6km az=68.0*
*IDC **23** 09:32:34.2±5.8, 5.°97N×116.°56E, h49km±57km, mb3.7/9, mb1 3.8/9, mb1mx3.5/40, mbtmp3.9/9, Error ellipse: s-maj=38.7km s-min=15.9km az=62.0*

ISC 23 09:32:33.1±0.6, 6.°05N±0.°09×116.°6E±0.°1, h35km, n34, σ0s96/37, mb4.3/18, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
TOLI2	**Tolitoli**	**6.47**	**139**		**Pn**	**09 34 06.1**	**+0.1**
GSI	**Gunungsitoli**	**19.51**	**257**		P **Pn**	**09 36 58.5**	**-0.4**
GSI					IAmb IAmb	09 37 03.2	
	comp=Z,27nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.14**	**307**		P **P**	**09 37 16.6**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=128,slow=8.3,SNR=8.5						
CMAR	**Chiang Mai Arr**	**21.14**	**307**		P **P**	**09 37 15.5**	**+0.3**
KNRA	**Kununurra**	**24.75**	**151**		P **P**	**09 37 51.7**	**+0.2**
KNRA					IAmb IAmb	09 38 06.5	
	comp=Z,16nm,1.4s						
NJ2	**Nanjing**	**25.96**	**4**	*e*P	**P**	**09 38 04.3**	**+1.9**
NJ2					pmax pmax		
	comp=Z,10.0nm,0.6s						
PSA00	**Pilbara Seismi**	**27.64**	**173**		P **P**	**09 38 17.9**	**+0.3**
WB0	**Warramunga Arr**	**31.09**	**146**		P **P**	**09 38 48.6**	**+0.3**
WB0					IAmb IAmb	09 38 57.3	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**31.20**	**146**		P **P**	**09 38 49.5**	**+0.2**
WRAB					IAmb IAmb	09 39 07.8	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**31.20**	**146**		P **P**	**09 38 47.0**	**-2.2**
	com

IDC 23 10:28:12.7±5.4, 53.49N×90.59E, h0km, mb1 3.1/3, mb1mx2.9/57, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=57.3km s-min=27.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.46**	**280**	*i*		10 49 30.0	
	baz=91,slow=306,SNR=5.0						
ZALV	**Zalesovo Beam**	**3.46**	**280**	Pn	Pn	10 29 08.7	+0.9
	0.3nm,0.3s,baz=100,slow=14,SNR=2.8						
ZALV				Lg	Lg	10 30 03.0	
	1.1nm,0.3s,baz=99,slow=27,SNR=5.2						
KURBB	**Kurchatov Arra**	**7.97**	**254**	Pn	Pn	10 30 09.1	-0.5
	0.1nm,0.3s,baz=67,slow=15,SNR=5.8						
MKAR	**Makanchi Array**	**8.55**	**222**	Pn	Pn	10 30 18.8	+1.0
	0.1nm,0.3s,baz=40,slow=13,SNR=5.9						

IDC 23 10:40:45.1±2.7, 15.75N×94.07W, h72km±16km, mb3.5/6, mb1 3.9/8, mb1mx3.6/38, mbtmp3.9/8, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=41.1km s-min=19.1km az=43.0
NEIC 23 10:40:45.8±1.9, 15.83N±0.09×93.98W±0.04, h71km±9km, Error ellipse: s-maj=12.6km s-min=5.3km az=190.0
MEX 23 10:40:46.1±0.8, 15.83N×93.99W, h84km±9km, MD4.2

ISC 23 10:40:45.4±0.9, 15.81N±0.08×94.00W±0.06, h74km±10km, n53, σ1s06/56, mb3.9/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.76**	**98**	*eP*	**Pn**	**10 41 00.7**	**-0.6**
PCIG				*i* S	**Sn**	**10 41 13.5**	**+0.4**
TGIG		**1.28**	**41**	*i* P	**Pn**	**10 41 07.3**	**-0.5**
TGIG				*eS*	**Sn**	**10 41 23.2**	**-1.3**
CMIG	**Matias Romero**	**1.53**	**326**	P	**Pn**	**10 41 10.4**	**-0.5**
	38nm,0.3s,baz=155,slow=14,SNR=800						
CMIG				S	**Sn**	**10 41 30.0**	**-0.2**
	191nm,0.3s,baz=157,slow=15,SNR=14						
CMIG	**Matias Romero**	**1.53**	**326**	*eP*	**Pn**	**10 41 10.4**	**-0.5**
CMIG				*eS*	**Sn**	**10 41 29.7**	**-0.4**
CCIG	**Comitan**	**1.85**	**75**	*eP*	**Pn**	**10 41 15.1**	**-0.4**
CCIG				*eS*	**Sn**	**10 41 40.2**	**+2.1**
CCIG	**Comitan**	**1.85**	**75**		**Pn**	**10 41 14.9**	**-0.4**
THIG		**1.90**	**118**	*eP*	**Pn**	**10 41 15.0**	**-0.8**
THIG				*eS*	**Sn**	**10 41 38.2**	**-0.8**
HUEH	**Huehuetenango**	**2.46**	**101**		**Pn**	**10 41 23.6**	**0.0**
RTAL	**Retalhuleu**	**2.57**	**120**		**Pn**	**10 41 24.4**	**-0.5**
PETF	**Flores**	**4.12**	**74**		**Pn**	**10 41 45.2**	**-0.8**
ESQI	**Esquipulas**	**4.57**	**105**	Pn	**Pn**	**10 41 54.0**	**+0.4**
MTO3	**Montecristo**	**4.70**	**107**		**Pn**	**10 41 53.7**	**-0.4**
TLIG	**Tlapa**	**4.71**	**292**	Pn	**Pn**	**10 41 54.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**6.74**	**104**	Pn	**Pn**	**10 42 22.3**	**+0.4**
ORTG	**Ortega, Santa**	**9.93**	**122**	Pn	**Pn**	**10 43 04.9**	**-0.6**
JTS	**Las Juntas de**	**10.38**	**121**	P	**Pn**	**10 43 12.1**	**+0.5**
	0.9nm,0.3s,baz=4.4,slow=13,SNR=5.7						
JTS	**Las Juntas de**	**10.38**	**121**		**Pn**	**10 43 11.3**	**-0.3**
CAO2	**Cobano, Puntar**	**10.60**	**124**	Pn	**Pn**	**10 43 16.2**	**+1.7**
JACO	**JACO, Garabito**	**10.97**	**123**	Pn	**Pn**	**10 43 19.9**	**+0.3**
CVTR	**Volcan Turrial**	**11.52**	**119**	Pn	**Pn**	**10 43 25.4**	**-2.1**
RIMA	**Rio Macho**	**11.57**	**120**		**Pn**	**10 43 28.4**	**+0.4**
PEZE	**Perez Zeledon,**	**11.93**	**121**	Pn	**Pn**	**10 43 33.1**	**+0.3**
DRK0	**Durika**	**12.35**	**121**	Pn	**Pn**	**10 43 36.8**	**-1.8**
TXAR	**Lajitas Array**	**16.13**	**328**	P	**Pn**	**10 44 29.0**	**+1.2**
	0.1nm,0.3s,baz=146,slow=13,SNR=12						
TXAR	**Lajitas Array**	**16.13**	**328**	P	**Pn**	**10 44 28.7**	**+0.8**
TX31	**Lajitas Ar. Si**	**16.14**	**328**		**Pn**	**10 44 28.6**	**+0.7**
TX32	**Lajitas Array**	**16.14**	**328**	P	**Pn**	**10 44 28.1**	**+0.3**
FCAR	**Ozark Folk Cen**	**20.07**	**4**	P	Pn	10 45 14.7	-0.5
FPAL	**Fort Paine**	**20.12**	**21**	P	**P**	**10 45 14.4**	**+1.0**
FPAL				IAmb	IAmb	10 45 17.9	
	comp=Z,12nm,0.9s						
OK029	**Liberty Lake**	**20.14**	**352**	P	**P**	**10 45 13.3**	**-0.3**
OK029				IAmb	IAmb	10 45 14.3	
	comp=Z,7.3nm,0.8s						
OK030	**Cody Creek RV**	**20.19**	**353**	P	**P**	**10 45 15.5**	**+1.4**
OK030				IAmb	IAmb	10 45 17.3	
	comp=Z,6.6nm,0.9s						
AMTX	**Amarillo**	**20.20**	**341**	P	**P**	**10 45 14.3**	**-0.1**
OK031	**S. Brethren Rd**	**20.22**	**353**	P	**P**	**10 45 14.0**	**-0.4**
OK031				IAmb	IAmb	10 45 39.3	
	comp=Z,9.1nm,0.9s						
W50A	**Signal Mountai**	**20.82**	**20**	P	**P**	**10 45 17.8**	**-3.2**
W50A				IAmb	IAmb	10 45 26.0	
	comp=Z,9.3nm,0.8s						
121A	**Cookes Peak, D**	**20.82**	**326**	P	**P**	**10 45 20.1**	**-1.2**
121A				IAmb	IAmb	10 45 24.3	
	comp=Z,6.6nm,0.8s						
BNM	**Barren Site**	**21.51**	**330**	P	**P**	**10 45 29.9**	**+1.3**
LENM	**Lemitar**	**21.69**	**330**	P	**P**	**10 45 30.6**	**+0.2**
TKL	**Tuckaleechee C**	**21.78**	**23**	P	**P**	**10 45 32.9**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=198,slow=5.7,SNR=3.5						
TKL				LR	LR	10 54 51.4	
	comp=Z,32nm,18.6s,baz=165,slow=39						
TKL	**Tuckaleechee C**	**21.78**	**23**	P	**P**	**10 45 32.5**	**+1.3**
TKL				IAmb	IAmb	10 45 34.7	
	comp=Z,8.0nm,1.1s						
ANMO	**Albuquerque**	**22.09**	**332**	P	**P**	**10 45 35.4**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=152,slow=12,SNR=11						
ANMO	**Albuquerque**	**22.09**	**332**	P	**P**	**10 45 35.4**	**+0.7**
S44A	**Carbondale**	**22.20**	**10**	P	**P**	**10 45 34.7**	**-1.0**
S44A				IAmb	IAmb	10 45 44.0	
	comp=Z,10nm,0.9s						
T25A	**Trinidad**	**23.16**	**338**	P	**P**	**10 45 45.4**	**-0.5**
T25A				IAmb	IAmb	10 45 51.1	
	comp=Z,7.1nm,1.0s						
PV03	**Paradox Valley**	**25.90**	**332**	P	**P**	**10 46 10.8**	**0.0**
PV03				IAmb	IAmb	10 46 17.4	
	comp=Z,4.9nm,1.3s						
PDAR	**Pinedale Array**	**29.99**	**337**	P	**P**	**10 46 48.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=148,slow=8.6,SNR=2.5						
REDW	**Red Top Meadow**	**31.00**	**336**	P	**P**	**10 46 56.9**	**+0.8**
SNOW	**Snow King Moun**	**31.04**	**336**	P	**P**	**10 46 57.2**	**+0.7**
NVAR	**Mina Array Bea**	**31.05**	**321**	P	**P**	**10 46 58.5**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=134,slow=9.1,SNR=6.4						
NVAR	**Mina Array Bea**	**31.05**	**321**	P	**P**	**10 46 58.0**	**+1.3**
YKA	**Yellowknife Ar**	**48.84**	**347**	P	**P**	**10 49 21.6**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=151,slow=7.6,SNR=14						
NOA	**NORSAR Array B**	**83.48**	**28**	LR	LR	11 31 14.2	
	comp=Z,4.4nm,18.2s,baz=185,slow=36						
ARCES	**ARCESS Array B**	**85.02**	**18**	P	**P**	**10 53 11.8**	**-0.7**
	comp=Z,4.2nm,1.1s,baz=318,slow=6.6,SNR=5.1						
ARCES	**ARCESS Array B**	**85.02**	**18**	IAmb	IAmb	10 53 14.8	
	comp=Z,7.6nm,1.3s						

ISK 23 10:45:07.8, 38.05N×42.74E, h5km, ML2.6/8
DDA 23 10:45:08.0, 38.04N×42.72E, h7km±2km, ML2.4

ISC 23 10:45:07.6±1.0, 38.05N±0.03×42.79E±0.03, h11km±8km, n18, σ0s44/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PERV	**Siirt/Pervari-**	**0.22**	**243**	*i* P	**Pg**	**10 45 12.1**	**-0.2**
PERV				*i* S	**Sg**	**10 45 15.4**	**-0.1**
AKDM	**Akdamar-Van**	**0.32**	**28**	PG	**Pb**	**10 45 15.0**	**-0.4**
AKDM				SG	**Sb**	**10 45 20.1**	**-0.6**
GEVA	**Gevas**	**0.34**	**38**	*i* P	**Pg**	**10 45 15.2**	**+0.7**
GEVA				*i* S	**Sb**	**10 45 21.5**	**+0.3**
SIRT	**Sirnak**	**0.61**	**207**	PG	**Pg**	**10 45 19.5**	**0.0**
SIRT				SG	**Sb**	**10 45 28.9**	**-0.1**
SIRN	**Sırnak**	**0.63**	**209**	*i* P	**Pb**	**10 45 20.2**	**-0.3**
SIRN				*i* S	**Sb**	**10 45 28.7**	**-0.7**
SIRN				IAML		10 45 32.0	
	comp=N,181nm,0.3s						
SIRN				IAML		10 45 33.0	
	comp=E,276nm,0.4s						
BLIS	**Bitlis-Merkez**	**0.65**	**305**	*i* P	**Pg**	**10 45 19.9**	**-0.3**
BLIS				*i* S	**Sg**	**10 45 28.7**	**-0.1**
BLIS				IAML		10 45 30.0	
	comp=N,240nm,0.3s						
SRTM	**Siirt_Merkez**	**0.69**	**266**	*i* P	**Pg**	**10 45 20.9**	**0.0**
SRTM				*i* S	**Sb**	**10 45 30.8**	**-0.5**
VANB	**Van**	**0.72**	**40**	PG	**Pg**	**10 45 21.9**	**+0.3**
GURO	**Guroymak-BITLI**	**0.78**	**310**	PG	**Pg**	**10 45 23.1**	**+0.4**
GURO				SG	**Sg**	**10 45 33.1**	**+0.1**
CUKT	**Cukurca**	**1.03**	**141**	PG	**Pn**	**10 45 27.7**	**-0.3**
BTMN	**Batman**	**1.21**	**263**	*i* P	**Pn**	**10 45 30.6**	**0.0**
BTMN				*i* S	**Sn**	**10 45 47.7**	**+0.7**
BTMN				IAML		10 45 49.0	
	comp=N,78nm,0.2s						
MUSM	**Mu-Merkez**	**1.21**	**304**	*i* P	**Pn**	**10 45 30.0**	**-0.6**
MUSM				*i* S	**Sb**	**10 45 46.7**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.26**	**275**	*i* P	**Pn**	**10 45 31.1**	**-0.1**
SVAN				*i* S	**Sn**	**10 45 48.2**	**0.0**
SVAN				IAML		10 45 50.0	
	comp=N,46nm,0.8s						
SVAN	**Silvan-Diyarba**	**1.26**	**275**	PN	**Pb**	**10 45 31.5**	**+0.1**
SVAN				SN	**Sg**	**10 45 49.1**	**+0.9**
MIDY	**Mardin/Midyat-**	**1.28**	**240**	*i* P	**Pg**	**10 45 32.5**	**+0.4**
MIDY				*i* S	**Sg**	**10 45 49.1**	**+0.4**
MIDY				IAML		10 45 51.0	
	comp=E,77nm,0.4s						
MIDY				IAML		10 45 54.0	
	comp=N,78nm,0.4s						
AGRB	**Hanur-Agry**	**1.54**	**6**	PN	**Pg**	**10 45 37.0**	**-0.1**
MARD	**Mardin**	**1.76**	**246**	*i* P	**Pb**	**10 45 40.4**	**+0.5**
MARD				*i* S	**Sb**	**10 46 02.2**	**+0.2**
MARD				IAML		10 46 04.0	
	comp=E,78nm,0.3s						
MARD				IAML		10 46 06.0	
	comp=N,94nm,0.5s						
BNGB	**Bingl**	**1.91**	**300**	PN	**Pb**	**10 45 41.6**	**-0.8**

NNC 23 10:46:02.7±5.6, 37.77N×69.32E, h0km, mb4.3, mpv3.9, 4C-1D, Error ellipse: s-maj=58.8km s-min=36.8km az=75.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.41**	**9**	⇓Pn	Pn	10 47 26.3	+1.7
	0.4nm,0.3s,baz=194,slow=15,SNR=5.4						
KK31				⇑Sn	Sn	10 48 28.2	+0.7
	1.5nm,0.2s,baz=196,slow=27,SNR=5.6						
KK31				⇑Lg	Lg	10 48 56.4	
	9.7nm,0.5s,baz=195,slow=29,SNR=5.9						
AML	**Almayashu**	**5.50**	**36**	P	Pn	10 47 25.4	-0.9
	SNR=20						
EKS2	**Erkin-Say**	**5.96**	**34**	P	Pg	10 47 55.4	-1.4
	SNR=15						
AAK	**Ala-Archa**	**6.27**	**38**	P	Pn	10 47 36.3	-0.3
	SNR=33						
AAK	**Ala-Archa**	**6.27**	**38**	Pn	Pn	10 47 36.2	-0.3
	24nm,0.4s						
AAK				⇑Lg	Lg	10 49 20.4	
	13nm,0.9s						
KBK	**Karagaybulak**	**6.51**	**40**	P	Pn	10 47 39.6	-0.2
	SNR=17						
CHMS	**Chumysh**	**6.67**	**37**	P	Pn	10 47 41.7	-0.2
	SNR=13						
ULHL	**Ulahol**	**6.94**	**48**	P	Pn	10 47 43.7	-2.2
	SNR=9.6						
TKM2	**Tokmak 2**	**7.03**	**41**	P	Pn	10 47 45.4	-1.7
	SNR=25						
TKM2	**Tokmak 2**	**7.03**	**41**	⇑Pn	Pn	10 47 45.6	-1.5
	10nm,0.6s						

NEIC 23 10:52:35.0±1.6, 4.82S±0.08×152.76E±0.1, h53km±7km, mb4.5/31, Error ellipse: s-maj=15.0km s-min=10.8km az=91.0
IDC 23 10:52:36.9±5.0, 4.76S×152.61E, h75km±43km, mb4.1/8, mb1 4.4/9, mb1mx3.8/38, mbtmp4.4/9, ML2.3/1, Error ellipse: s-maj=34.8km s-min=21.0km az=104.0

ISC 23 10:52:34.5±0.7, 4.80S±0.07×152.6E±0.1, h50km, n53, σ1s06/51, mb4.5/26, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.77**	**322**	Pn	**Pn**	**10 52 50.8**	**+1.7**
RABL	**Rabaul**	**0.77**	**322**	P	**Pn**	**10 52 51.3**	**+2.1**
MANU	**Manus Island**	**5.94**	**297**	Pn	**Pn**	**10 53 58.9**	**-1.0**
PMG	**Port Moresby**	**7.11**	**230**	P	**Pn**	**10 54 19.6**	**+3.7**
	3.0nm,0.3s,baz=345,slow=12,SNR=6.7						
PMG				S	**Sn**	**10 55 36.0**	**+0.6**
	9.7nm,0.3s,baz=96,slow=19,SNR=6.8						
PMG	**Port Moresby**	**7.11**	**230**		**Pn**	**10 54 15.3**	**-0.6**
PMG	**Port Moresby**	**7.11**	**230**	P	Pn	10 54 20.5	+4.6
PMG	**Port Moresby**	**7.11**	**230**	P	Pn	10 54 20.4	+4.6
PATS	**Pohnpei**	**12.88**	**26**	Pn	**Pn**	**10 55 35.5**	**+0.6**
CTAO	**Charters Tower**	**16.41**	**202**		**P**	**10 56 22.4**	**-1.3**
MTN	**Manton Dam**	**22.69**	**248**	P	**P**	**10 57 32.6**	**+0.5**
MTN				IAmb	IAmb	10 57 42.7	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**23.18**	**229**	P	**P**	**10 57 36.5**	**-0.5**
WB0				IAmb	IAmb	10 57 38.3	
	comp=Z,33nm,1.4s						
WR0	**Warramunga Arr**	**23.18**	**228**	P	**P**	**10 57 36.3**	**-0.8**
WR0				IAmb	IAmb	10 57 38.4	
	comp=Z,34nm,1.3s						
WRAB	**Tennant Creek**	**23.31**	**228**	P	**P**	**10 57 37.8**	**-0.5**
WB2	**Warramunga Arr**	**23.31**	**228**	P	**P**	**10 57 38.0**	**-0.4**
WB2				IAmb	IAmb	10 57 40.8	
	comp=Z,19nm,0.5s						
WRA	**Warramunga Arr**	**23.32**	**228**	P	**P**	**10 57 38.0**	**-0.5**
	comp=Z,12nm,0.3s,baz=52,slow=9.8,SNR=221						
WRA	**Warramunga Arr**	**23.32**	**228**	P	**P**	**10 57 36.7**	**-1.7**
KNRA	**Kununurra**	**25.83**	**244**	P	**P**	**10 58 00.7**	**-0.7**
TNTI	**Ternate**	**25.85**	**282**	P	**P**	**10 58 03.0**	**+1.4**
TNTI				IAmb	IAmb	10 58 20.9	
	comp=Z,39nm,1.4s						
AS31	**Alice Springs**	**26.04**	**222**	P	**P**	**10 58 03.2**	**0.0**
ASAR	**Alice Springs**	**26.04**	**222**	P	**P**	**10 58 02.9**	**-0.4**
	comp=Z,7.3nm,0.4s,baz=54,slow=9.2,SNR=220						
H11S3	**WAKE ISLAND Hy**	**26.98**	**31**	T	T	11 26 19.1	
	baz=218,slow=71,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**26.98**	**31**	T	T	11 25 55.0	
	baz=218,slow=71,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.00**	**31**	T	T	11 25 59.2	
	baz=218,slow=71,SNR=8.5						
STKA	**Stephens Creek**	**28.86**	**200**	P	**P**	**10 58 29.8**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=31,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**28.86**	**200**	P	**P**	**10 58 27.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.52**	**241**	P	**P**	**10 58 33.2**	**-1.1**
	comp=Z,16nm,0.4s,baz=52,slow=6.9,SNR=149						
BBOO	**Buckleboo**	**31.88**	**207**	P	**P**	**10 58 55.2**	**+0.1**
FORT	**Forrest**	**34.68**	**219**	P	**P**	**10 59 19.4**	**-0.1**
PSA00	**Pilbara Seismi**	**35.89**	**239**	P	**P**	**10 59 28.9**	**-1.1**
MORW	**Morawa**	**42.22**	**231**	P	**P**	**11 00 22.1**	**-0.8**
MORW				IAmb	IAmb	11 00 22.4	
	comp=Z,9.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.73**	**295**	P	**P**	**11 02 21.4**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=112,slow=5.4,SNR=8.0						
CMAR	**Chiang Mai Arr**	**57.73**	**295**	P	**P**	**11 02 21.2**	**+0.4**
PETK	**Petropavlovsk-**	**57.85**	**4**	P	**P**	**11 02 20.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=156,slow=6.4,SNR=2.2						
VNDA	**Vanda**	**72.83**	**178**	P	**P**	**11 03 58.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=343,slow=7.8,SNR=5.2						
CNPM	**China Poot**	**77.79**	**26**	P	**P**	**11 04 26.2**	**0.0**
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**11 04 39.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=96,slow=8.3,SNR=2.3						
RND	**Reindeer**	**80.79**	**23**	P	**P**	**11 04 42.0**	**-0.6**
RND				IAmb	IAmb	11 04 42.6	
	comp=Z,5.1nm,0.6s						
MLY	**Manley**	**80.94**	**21**	P	**P**	**11 04 43.4**	**0.0**
KLU	**Klutina**	**81.05**	**25**	P	**P**	**11 04 44.0**	**0.0**
KLU				IAmb	IAmb	11 04 45.5	
	comp=Z,5.5nm,1.1s						
I23K	**Minto, Yukon-K**	**81.50**	**21**	P	**P**	**11 04 45.8**	**-0.4**
I23K				IAmb	IAmb	11 04 47.0	
	comp=Z,2.8nm,0.5s						
CCB	**Clear Creek Bu**	**81.82**	**22**	P	**P**	**11 04 46.4**	**-1.4**
CCB				IAmb	IAmb	11 04 47.1	
	comp=Z,3.1nm,0.7s						
GLB	**Gilahina Butte**	**81.93**	**26**	P	**P**	**11 04 48.1**	**-0.5**
GLB				IAmb	IAmb	11 04 49.9	
	comp=Z,3.9nm,0.9s						
HDA	**Harding Lake**	**82.02**	**22**	P	**P**	**11 04 47.9**	**-1.1**
HDA				IAmb	IAmb	11 04 48.7	
	comp=Z,2.2nm,0.6s						
IL31		**82.22**	**22**	P	**P**	**11 04 48.2**	**-1.7**
IL31				IAmb	IAmb	11 04 49.2	
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**11 04 48.5**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=246,slow=5.5,SNR=33						
MENT	**Mentasta**	**82.62**	**24**	P	**P**	**11 04 52.2**	**0.0**
DOT	**Dot Lake**	**82.80**	**24**	P	**P**	**11 04 53.2**	**+0.1**
DOT				IAmb	IAmb	11 04 53.5	
	comp=Z,4.2nm,0.7s						
SCRK	**Sand Creek**	**82.97**	**23**	P	**P**	**11 04 53.5**	**-0.6**
SCRK				IAmb	IAmb	11 04 54.9	
	comp=Z,5.7nm,1.3s						
EGAK	**Eagle**	**84.43**	**23**	P	**P**	**11 05 01.3**	**-0.1**
EGAK				IAmb	IAmb	11 05 02.7	
	comp=Z,2.3nm,0.6s						
HYT	**Haines Junctio**	**84.51**	**28**	P	**P**	**11 05 02.4**	**+0.3**
HYT				IAmb	IAmb	11 05 04.3	
	comp=Z,3.8nm,0.7s						
DAWY	**Dawson**	**84.86**	**24**	P	**P**	**11 05 04.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**150.16**	**288**	PKPbc	**PKPbc**	**11 12 19.8**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=72,slow=2.5,SNR=14						
TORD				PKPab	**PKPab**	**11 12 26.2**	**-0.8**
	comp=Z,3.6nm,0.5s,baz=63,slow=3.1,SNR=12						
TORD	**Torodi Ar. Bea**	**150.16**	**288**		**PKPbc**	**11 12 19.6**	**-1.3**
TORD				PKPab	**PKPab**	**11 12 25.9**	**-1.1**

NIED 23 11:06:50.5, 38.71N×142.28E, h38km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.87; Mθθ0.02; Mϕϕ -2.89; Mrθ1.79; Mθϕ -0.32; Mrϕ6.58; Fault plane solution: M0 7.41000×10^14 NP1:ϕs14.00000°, δ79.00000°, λ93.00000°. NP2:ϕs178.00000°, δ12.00000°, λ74.00000°.
JMA 23 11:06:50.5±0.1, 38.71N×142.28E, h38km±2km, M4.0
JMA Felt I J1.
IDC 23 11:06:51.3±2.9, 38.70N×142.38E, h48km±22km, mb3.6/4, mb1 3.8/8, mb1mx3.4/45, mbtmp3.9/8, ML3.2/4, MS3.1/5, Ms1 3.1/5, ms1mx2.7/42, Error ellipse: s-maj=48.4km s-min=21.5km az=87.0
NEIC 23 11:06:51.0±2.6, 38.70N±0.05×142.3E±0.1, h41km±6km, mb4.6/11, Error ellipse: s-maj=13.2km s-min=6.6km az=103.0

ISC 23 11:06:48.9±2.4, 38.73N±0.05×142.45E±0.06, h30km±17km, n65, σ1s82/67, mb4.4/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.70**	**300**	P	**Pn**	**11 07 02.6**	**-0.2**
OFUJ				S	**Sb**	**11 07 11.0**	**-1.1**
JKMT	**Kesennumamotoy**	**0.77**	**277**	P	**Pn**	**11 07 03.0**	**-0.7**
JKMT				S	**Sn**	**11 07 11.5**	**-2.7**
JIKH	**Ishinomakikobu**	**0.88**	**242**	P	**Pn**	**11 07 04.5**	**-0.7**
JIKH				S	**Sn**	**11 07 14.2**	**-2.7**
JIO	**Ouri**	**0.90**	**253**	P	**Pn**	**11 07 04.7**	**-0.9**
JIO				S	**Sn**	**11 07 14.6**	**-3.0**
JMK	**Ichinoseki**	**0.98**	**284**	P	**Pn**	**11 07 06.4**	**-0.3**
JMK				S	**Sn**	**11 07 17.5**	**-2.1**
JOM	**Ohasama**	**1.17**	**310**	P	**Pn**	**11 07 09.7**	**+0.5**
JOM				S	**Sn**	**11 07 23.7**	**-0.5**
JTH	**Tanohata**	**1.29**	**340**	P	**Pn**	**11 07 11.9**	**+0.9**
JTH				*eS*	**Sn**	**11 07 28.0**	**+0.8**
JOU	**Okura**	**1.45**	**256**	P	**Pn**	**11 07 12.8**	**-0.3**
JOU				S	**Sn**	**11 07 29.6**	**-1.4**
JMM	**Marumori**	**1.56**	**237**	P	**Pn**	**11 07 14.0**	**-0.6**
JMM				*eS*	**Sn**	**11 07 32.2**	**-1.6**
JMM	**Marumori**	**1.56**	**237**		**Pn**	**11 07 14.1**	**-0.6**
JRG	**Rokugo**	**1.56**	**296**	P	**Pn**	**11 07 15.1**	**+0.4**
JRG				*eS*	**Sn**	**11 07 35.4**	**+1.5**
JYK	**Kaneyama**	**1.64**	**277**	P	**Pn**	**11 07 15.8**	**0.0**
JYK				*eS*	**Sn**	**11 07 35.4**	**-0.5**
JTM	**Tenmabayashi**	**2.32**	**333**		**Pn**	**11 07 27.1**	**+2.1**
JYT	**Yasato**	**3.07**	**216**	Pn	**Pn**	**11 07 35.8**	**+0.4**
ERM	**Erimo**	**3.33**	**9**		**Pn**	**11 07 41.0**	**+2.1**
JEM	**Erimo**	**3.33**	**9**		**Sn**	**11 08 11.9**	**-5.6**
JSD	**Sado**	**3.36**	**259**		**Pn**	**11 07 39.5**	**+0.1**
MAJO	**Matsushiro**	**4.01**	**238**	Pn	**Pn**	**11 07 49.8**	**+1.5**
MJAR	**Matsushiro Arr**	**4.01**	**238**	P	**Pn**	**11 07 50.0**	**+1.7**
	1.0nm,0.3s,baz=37,slow=13,SNR=55						
MJAR				LR	LR	11 09 40.2	
	comp=Z,114nm,18.3s,baz=65,slow=43						
MJAR	**Matsushiro Arr**	**4.01**	**238**	Pn	**Pn**	**11 07 50.3**	**+1.9**
MAT	**Matsushiro**	**4.01**	**238**	P	**Pn**	**11 07 50.1**	**+1.8**
MAT				*eS*	**Sn**	**11 08 40.2**	**+5.9**
MJB9	**Matsu-Tunnel**	**4.01**	**238**	Pn	**Pn**	**11 07 49.5**	**+1.1**
JEW	**Eniwo**	**4.18**	**350**		**Pn**	**11 07 50.5**	**-0.1**
JGF	**Kuroka**	**5.12**	**234**	Pn	**Pn**	**11 08 03.9**	**+0.2**
JKA	**Kamikawa-asahi**	**5.39**	**1**		**Pn**	**11 08 09.9**	**+2.7**
ASAJ	**Asahikawa**	**5.39**	**1**	P	**Pn**	**11 08 09.8**	**+2.6**
	0.9nm,0.3s,baz=247,slow=4.2,SNR=10						
INU	**Inuyama**	**5.50**	**234**	Pn	**Pn**	**11 08 07.6**	**-1.2**
JHJ2	**Mitsune**	**6.00**	**202**	Pn	**Pn**	**11 08 17.1**	**+1.5**
JHJ	**Hachijo jima 2**	**6.00**	**202**	P	**Pn**	**11 08 16.2**	**+0.6**
	6.0nm,0.3s,baz=333,slow=22,SNR=10						
JWT	**Wachi**	**6.60**	**241

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.52**	**7**	S	**Sn**	**11 21 50.0**	**-4.7**
MXZ	**Matakaoa Point**	**4.59**	**213**	Pn	**Pn**	**11 21 03.0**	**-1.3**
MXZ	**Matakaoa Point**	**4.59**	**213**	P	**Pn**	**11 21 03.0**	**-1.3**
MXZ				S	**Sn**	**11 21 55.2**	**-1.2**
WMGZ	**Waiomatatini S**	**4.75**	**211**	P	**Pn**	**11 21 04.9**	**-1.7**
PKGZ	**Pakihiroa**	**4.96**	**213**	P	**Pn**	**11 21 07.8**	**-1.7**
HAZ	**Te Kaha**	**4.99**	**216**	P	**Pn**	**11 21 09.0**	**-0.9**
HAZ				S	**Sn**	**11 22 07.1**	**+0.8**
PUZ	**Puketiti**	**5.03**	**210**	P	**Pn**	**11 21 08.5**	**-2.0**
PUZ				S	**Sn**	**11 22 06.3**	**-1.0**
RUGZ	**Raukumara Rang**	**5.21**	**215**	P	**Pn**	**11 21 12.1**	**-0.8**
TWGZ	**Tauwhareparae**	**5.24**	**212**	P	**Pn**	**11 21 12.5**	**-0.9**
TWGZ				S	**Sn**	**11 22 09.9**	**-2.6**
CNGZ	**Carnagh Statio**	**5.40**	**208**	P	**Pn**	**11 21 13.5**	**-2.0**
TKGZ	**Te Karaka**	**5.51**	**211**	P	**Pn**	**11 21 15.7**	**-1.4**
MWZ	**Matawai**	**5.57**	**214**	P	**Pn**	**11 21 16.0**	**-1.9**
OPRZ	**Ohinepanea**	**5.71**	**223**	P	**Pn**	**11 21 21.2**	**+1.5**
URZ	**Urewera**	**5.71**	**217**	Pn	**Pn**	**11 21 17.3**	**-2.5**
	7.3nm,0.3s,baz=302,slow=24,SNR=66						
URZ				Sn	**Sn**	**11 22 22.7**	**-1.5**
	9.6nm,0.3s,baz=301,slow=24,SNR=61						
URZ	**Urewera**	**5.71**	**217**		**Pn**	**11 21 17.9**	**-2.0**
URZ	**Urewera**	**5.71**	**217**	P	**Pn**	**11 21 18.1**	**-1.7**
RIGZ	**Rimuhau**	**5.77**	**210**	P	**Pn**	**11 21 18.1**	**-2.6**
RIGZ				S	**Sn**	**11 22 23.7**	**-2.0**
SNGZ	**Shannon Statio**	**6.02**	**213**	P	**Pn**	**11 21 24.1**	**0.0**
SNGZ				S	**Sn**	**11 22 27.5**	**-4.2**
MUGZ	**Murupara**	**6.05**	**218**	P	**Pn**	**11 21 22.7**	**-1.8**
MUGZ				S	**Sn**	**11 22 29.7**	**-2.8**
RAHZ	**Arahi**	**6.25**	**213**	P	**Pn**	**11 21 27.7**	**+0.5**
TOZ	**Tahuroa Road**	**6.27**	**229**	P	**Pn**	**11 21 29.1**	**+1.7**
TOZ				S	**Sn**	**11 22 38.4**	**+0.7**
BKZ	**Black Stump Fm**	**6.72**	**215**	Pn	**Pn**	**11 21 33.0**	**-0.8**
BKZ	**Black Stump Fm**	**6.72**	**215**	P	**Pn**	**11 21 32.1**	**-1.6**
KWHZ	**Kaweka Forest**	**6.96**	**214**	P	**Pn**	**11 21 35.8**	**-1.2**
OTVZ	**Oturere**	**7.14**	**219**	P	**Pn**	**11 21 40.4**	**+0.9**
SNVZ	**South Ngauruho**	**7.17**	**219**	P	**Pn**	**11 21 39.6**	**-0.4**
BHHZ	**Black Hill Sta**	**7.18**	**216**	P	**Pn**	**11 21 38.7**	**-1.3**
MOVZ	**Moawhango**	**7.27**	**218**	P	**Pn**	**11 21 40.6**	**-0.7**
WNVZ	**Wahianoa**	**7.29**	**219**	P	**Pn**	**11 21 40.8**	**-0.9**
PNHZ	**Pukenui**	**7.45**	**213**	P	**Pn**	**11 21 41.9**	**-1.9**
DZM	**Mont Dzumac**	**17.64**	**307**	LR	LR	11 29 16.4	
	comp=Z,188nm,18.6s,baz=194,slow=32						
AS31	**Alice Springs**	**42.60**	**271**	P	**P**	**11 27 51.5**	**+1.1**
ASAR	**Alice Springs**	**42.60**	**271**	P	**P**	**11 27 49.2**	**-1.2**
	2.8nm,0.8s,baz=114,slow=7.2,SNR=25						
ASAR	**Alice Springs**	**42.60**	**271**	P	**P**	**11 27 50.0**	**-0.5**
WR0	**Warramunga Arr**	**43.72**	**276**	P	**P**	**11 27 58.8**	**-0.6**
WR0				IAmb	IAmb	11 28 15.3	
	comp=Z,7.3nm,1.1s						
WB2	**Warramunga Arr**	**43.88**	**276**	P	**P**	**11 28 01.7**	**+0.9**
WB2				IAmb	IAmb	11 28 05.3	
	comp=Z,8.0nm,1.1s						
WRAB	**Tennant Creek**	**43.89**	**276**	P	**P**	**11 28 01.0**	**+0.1**
WRA	**Warramunga Arr**	**43.89**	**276**	P	**P**	**11 28 01.4**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=116,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**43.89**	**276**	P	**P**	**11 28 01.0**	**+0.2**
WB0	**Warramunga Arr**	**43.93**	**276**	P	**P**	**11 28 01.7**	**+0.6**
WB0				IAmb	IAmb	11 28 06.3	
	comp=Z,4.3nm,0.8s						
SBA	**Scott Base**	**44.66**	**184**	P	**P**	**11 28 08.6**	**+2.3**
SBA				IAmb	IAmb	11 28 20.3	
	comp=Z,8.3nm,1.4s						
QSPA	**South Pole Qui**	**56.36**	**180**	P	**P**	**11 29 36.2**	**+1.3**
	comp=Z,9.1nm,0.9s,baz=42,slow=6.6,SNR=27						
QSPA	**South Pole Qui**	**56.36**	**180**	P	**P**	**11 29 36.2**	**+1.3**
SNAA	**Sanae**	**74.81**	**179**	P	**P**	**11 31 33.5**	**-0.3**
VNA3	**Neumayer Olymp**	**74.99**	**176**	P	**P**	**11 31 34.3**	**-0.5**
VNA1	**Neumayer--Stat**	**75.65**	**177**	P	**P**	**11 31 38.7**	**+0.2**
NVAR	**Mina Array Bea**	**91.00**	**43**	P	**P**	**11 32 59.8**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=208,slow=8.5,SNR=4.7						
ARCES	**ARCESS Array B**	**141.76**	**347**	PKP	**PKPdf**	**11 39 25.5**	**+1.2**
	comp=Z,4.5nm,1.0s,baz=48,slow=1.3,SNR=3.7						
FINES	**FINESS Array B**	**148.11**	**338**	PKPbc	**PKPbc**	**11 39 39.1**	**+0.4**
	comp=Z,4.3nm,0.5s,baz=43,slow=3.9,SNR=28						
NOA	**NORSAR Array B**	**151.99**	**350**	PKPbc	**PKPbc**	**11 39 48.5**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=14,slow=4.0,SNR=6.1						
NOA				PKPab	**pPKPbc**	**11 39 57.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=14,slow=4.0,SNR=6.8						
DBIC	**Dimbokro**	**152.41**	**166**	PKPbc	**PKPbc**	**11 39 51.0**	**+0.5**
	comp=Z,5.7nm,1.1s,baz=216,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**159.48**	**181**	PKPab	**PKPab**	**11 40 30.7**	**0.0**
	1.5nm,0.6s,baz=180,slow=2.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**159.48**	**181**	PKPdf	**PKPdf**	**11 39 52.5**	**-0.4**
TORD					**PKPab**	**11 40 30.5**	**-0.2**

*JMA **23** 11:27:15.5±0.1,23.°95N×122.°40E,h23km±3km,M2.7*
*TAP **23** 11:27:15.6,24.°00N×122.°37E,h2km,ML2.8,D*
ISC 23 11:27:15.6±1.1,23.°98N±0.°03×122.°40E±0.°02,h34km±2km, n60,σ0°60/92,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.69**	**46**	P	**Pn**	**11 27 28.9**	**0.0**
JYNG				S	**Sn**	**11 27 38.1**	**-0.3**
EHP	**Heping Village**	**0.69**	**299**	*e*P	**Pn**	**11 27 28.0**	**-1.0**
	baz=298						
EWUT	**Wuta**	**0.73**	**309**	*i* S	**Sn**	**11 27 38.9**	**-0.7**
	baz=309						
YOJ	**Yonaguni jima**	**0.74**	**49**	P	**Pb**	**11 27 29.9**	**-0.2**
YOJ				S	**Sb**	**11 27 39.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.74**	**49**	P	**Pb**	**11 27 30.0**	**-0.2**
	baz=50						
YOJ				S	**Sb**	**11 27 40.5**	**+0.5**
	baz=50						
NACB	**Ninganchiao**	**0.76**	**285**	*e*P	**Pn**	**11 27 30.1**	**+0.1**
	baz=284						
NACB				*e*S	**Sn**	**11 27 39.7**	**-0.6**
	baz=284						
TWC	**Suao**	**0.81**	**321**	*e*P	**Pn**	**11 27 30.2**	**-0.4**
	baz=322						
TWC				*e*S	**Sn**	**11 27 40.2**	**-1.1**
	baz=322						
ETM	**Tongmen**	**0.83**	**269**	*e*P	**Pn**	**11 27 30.9**	**-0.1**
	baz=267						
ETLH	**Xiulin Townshi**	**0.87**	**285**	*i* P	**Pn**	**11 27 31.6**	**+0.1**
	baz=284						
ETLH				*i* S	**Sn**	**11 27 43.4**	**+0.3**
	baz=284						
ESL	**Shilin**	**0.90**	**260**	*e*P	**Pb**	**11 27 33.0**	**+0.2**
	baz=257						
NDS	**Dongshan**	**0.90**	**316**	*i* P	**Pn**	**11 27 32.4**	**+0.4**
	baz=316						
NDS				*e*S	**Sb**	**11 27 44.7**	**0.0**
	baz=316						
EGFH	**Guangfu**	**0.94**	**251**	*e*S	**Sb**	**11 27 46.0**	**+0.2**
	baz=249						
TWE	**Neicheng**	**1.00**	**318**	*e*P	**Pb**	**11 27 34.1**	**-0.4**
	baz=319						
TWE				*e*S	**Sb**	**11 27 47.3**	**0.0**
	baz=319						
ENTT	**Nioudou**	**1.01**	**311**	*e*P	**Pb**	**11 27 34.8**	**+0.1**
	baz=311						
ENTT				*e*S	**Sb**	**11 27 47.8**	**+0.1**
	baz=311						
HGSD	**Ruisui**	**1.02**	**242**	*e*P	**Pb**	**11 27 34.3**	**-0.5**
	baz=239						
NTC	**Toucheng**	**1.02**	**329**	P	**Pb**	**11 27 34.5**	**-0.3**
	baz=330						
NTC				*e*S	**Sb**	**11 27 47.5**	**-0.3**
	baz=330						
NDT	**Datong Townshi**	**1.02**	**308**	*e*P	**Pb**	**11 27 35.2**	**+0.3**
	baz=307						
NDT				*e*S	**Sb**	**11 27 47.8**	**-0.2**
	baz=307						
NNSB	**Datong**	**1.03**	**296**	*e*P	**Pn**	**11 27 34.5**	**+0.7**
	baz=295						
NNSH	**Datong**	**1.03**	**296**	*i* P	**Pb**	**11 27 34.6**	**-0.5**
	baz=295						
NNS	**Nan Shan**	**1.04**	**296**	*e*P	**Pb**	**11 27 36.0**	**+0.6**
	baz=296						
WHF	**Hehuan Shan**	**1.05**	**279**	*i* P	**Pn**	**11 27 34.9**	**+0.5**
	baz=278						
FUSS	**Fushou**	**1.09**	**285**	*e*P	**Pb**	**11 27 35.9**	**-0.3**
	baz=283						
TWB1	**Santiao Chiao**	**1.09**	**340**	*e*P	**Pb**	**11 27 35.8**	**-0.3**
	baz=341						
TWB1				*e*S	**Sb**	**11 27 50.3**	**+0.3**
	baz=341						
EHY	**Hungye**	**1.09**	**245**	*e*P	**Pb**	**11 27 36.0**	**-0.1**
	baz=242						
TIPB	**Shuangxi**	**1.12**	**332**	*e*P	**Pn**	**11 27 35.7**	**+0.7**
	baz=333						
TIPB				*e*S	**Sb**	**11 27 50.5**	**-0.4**
	baz=333						
OWD	**Renai**	**1.12**	**269**	*e*P	**Pn**	**11 27 35.5**	**+0.4**
	baz=267						
OWD				*e*S	**Sn**	**11 27 48.8**	**-0.6**
	baz=267						
CHGB	**Renai**	**1.12**	**274**	*e*P	**Pn**	**11 27 35.7**	**+0.5**
	baz=273						
NWLT	**Wulai**	**1.14**	**314**	*e*P	**Pb**	**11 27 37.2**	**+0.3**
	baz=314						
NWLT				*e*S	**Sb**	**11 27 52.0**	**+0.5**
	baz=314						
YHNB	**Yeheng**	**1.16**	**307**	*e*P	**Pn**	**11 27 36.5**	**+0.9**
	baz=306						
YHNB				*e*S	**Sb**	**11 27 52.3**	**+0.2**
	baz=306						
YULB	**Yu-li**	**1.17**	**240**	*e*P	**Pn**	**11 27 36.2**	**+0.7**
	baz=238						
EYUL	**Yuli**	**1.17**	**238**	*e*P	**Pb**	**11 27 37.5**	**+0.1**
	baz=236						
TWF1	**Yuli**	**1.19**	**239**	*e*P	**Pn**	**11 27 36.7**	**+0.9**
	baz=236						
NWF	**Wu-fen Shan**	**1.23**	**333**	*e*P	**Pb**	**11 27 37.9**	**-0.4**
	baz=333						
WFSB	**Wu-fen Shan**	**1.23**	**333**	*e*P	**Pb**	**11 27 38.1**	**-0.2**
	baz=333						
TWA	**Mucha**	**1.25**	**323**	*e*S	**Sb**	**11 27 55.1**	**+0.7**
	baz=324						
IRIF	**Iriomote-Funau**	**1.27**	**73**	P	**Pb**	**11 27 38.2**	**-0.7**
IRIF				S	**Sb**	**11 27 55.4**	**+0.5**
FULB	**Fuli**	**1.28**	**233**	*e*P	**Pb**	**11 27 39.2**	**0.0**
	baz=231						
FULB				*e*S	**Sb**	**11 27 55.8**	**+0.4**
	baz=231						
TATO	**Taipei**	**1.30**	**320**	*e*P	**Pb**	**11 27 39.1**	**-0.3**
	baz=320						
SSLB	**Suanglung**	**1.34**	**262**	*e*P	**Pb**	**11 27 40.1**	**-0.1**
	baz=260						
WHP	**Taichung City**	**1.36**	**283**	*e*P	**Pb**	**11 27 41.5**	**+0.8**
	baz=282						
WCS	**Beigang Elemen**	**1.36**	**274**	*e*P	**Pb**	**11 27 41.1**	**+0.5**
	baz=272						
SMLT	**Sun Moon Lake**	**1.38**	**266**	*e*P	**Pb**	**11 27 40.6**	**-0.3**
	baz=265						
YM01	**YM01**	**1.39**	**327**	*e*P	**Pb**	**11 27 40.9**	**-0.1**
	baz=327						
YM01				*e*S	**Sb**	**11 27 58.9**	**+0.4**
	baz=327						
LIOB	**Emei**	**1.43**	**298**	*e*P	**Pb**	**11 27 41.3**	**-0.4**
	baz=297						
LIOB				*e*S	**Sb**	**11 28 00.1**	**+0.5**
	baz=297						
JKRS	**Kuro-shima**	**1.49**	**80**	P	**Pb**	**11 27 42.1**	**-0.7**
JKRS				S	**Sb**	**11 28 02.3**	**+0.9**
ALS	**Alishan**	**1.53**	**253**	*e*P	**Pb**	**11 27 42.8**	**-0.9**
	baz=251						
WJS	**Zhushan**	**1.54**	**265**	*e*P	**Pb**	**11 27 43.5**	**-0.1**
	baz=263						
WJS				*e*S	**Sb**	**11 28 03.9**	**+1.2**
	baz=263						
CHN5	**Tsauling**	**1.62**	**257**	*e*P	**Pb**	**11 27 44.6**	**-0.4**
	baz=255						
CHN5				*e*S	**Sb**	**11 28 06.1**	**+0.9**
	baz=255						
JIJ	**Ishigaki jima**	**1.64**	**76**	P	**Pn**	**11 27 43.2**	**+1.2**
JIJ				*e*S	**Sb**	**11 28 03.8**	**-1.7**
STYT	**Tauyuan**	**1.71**	**242**	*e*P	**Pb**	**11 27 46.3**	**-0.3**
	baz=240						
TPUB	**Ta-pu**	**1.76**	**248**	*e*P	**Pb**	**11 27 46.9**	**-0.4**
	baz=246						
TPUB				*e*S	**Sb**	**11 28 09.2**	**+0.1**
	baz=246						
CHN4	**Tsaushan**	**1.77**	**250**	*e*P	**Pb**	**11 27 47.5**	**0.0**
	baz=248						
CHN4				*e*S	**Sb**	**11 28 10.1**	**+0.7**
	baz=248						
WTP	**Ta-pu**	**1.79**	**246**	*e*P	**Pb**	**11 27 47.3**	**-0.6**
	baz=244						
WTP				*e*S	**Sb**	**11 28 10.2**	**+0.2**
	baz=244						
JISG	**Ishigakijimahi**	**1.85**	**70**	P	**Pn**	**11 27 45.8**	**+0.9**
JISG				*e*S	**Sn**	**11 28 07.9**	**+0.9**
SLGT	**Liugui**	**1.89**	**239**	*e*P	**Pb**	**11 27 48.6**	**-0.9**
	baz=237						
SLGT				*e*S	**Sb**	**11 28 12.8**	**+0.2**
	baz=237						
CHN1	**Nanshi**	**1.89**	**246**	*e*P	**Pb**	**11 27 49.5**	**-0.1**
	baz=244						
CHN1				*e*S	**Sb**	**11 28 12.8**	**-0.1**
	baz=244						
SGST	**Jiashian**	**1.89**	**242**	*e*P	**Pb**	**11 27 48.4**	**-1.2**
	baz=240						
SGST				*e*S	**Sb**	**11 28 12.9**	**+0.1**
	baz=240						
TWK	**Hsinying**	**1.89**	**248**	*e*P	**Pb**	**11 27 48.7**	**-0.9**
	baz=246						
TWK				*e*S	**Sb**	**11 28 11.9**	**-1.0**
	baz=246						
SSD	**Sandimen**	**2.04**	**233**	*e*P	**Pb**	**11 27 50.8**	**-1.2**
	baz=231						
TSMG	**Majia**	**2.05**	**232**	*e*P	**Pb**	**11 27 51.3**	**-0.9**
	baz=230						

*IDC **23** 11:32:05.7±1.9,37.°64N×86.°74E,h0km,mb3.7/3, mb1 3.9/7,mb1mx3.6/50,mbtmp3.8/7,ML3.6/4,MS3.1/1, Ms1 3.2/1,ms1mx2.3/45,Error ellipse: s-maj=67.5km s-min=21.4km az=67.0*
*BJI **23** 11:32:08.5±0.0,37.°77N×86.°43E,h5km,mb3.8/1,ML3.9/10*
*NNC **23** 11:32:13.0±1.9,38.°19N×86.°53E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=19.3km s-min=14.5km az=48.0*
ISC 23 11:32:07.1±1.4,37.°7N±0.°1×86.°6E±0.°1,h10km,n13, σ1°74/16,mb3.9/3,2C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**6.13**	**7**	*e*Pn	**Pn**	**11 33 41.8**	**+4.0**
WMQ				SMN			
	70nm,0.7s						
WMQ				SME			
	70nm,0.9s						
PDGK	**Podgornoye**	**7.80**	**318**	⇑Pn	**Pn**	**11 34 02.3**	**+1.5**
	3.0nm,0.4s						
PDGK				⇓Sn	**Sn**	**11 35 28.4**	**-0.7**
	51nm,0.9s						
PDGK				⇑Lg	Lg	11 36 11.4	
	39nm,0.8s						
MK31	**Makanchi Array**	**9.61**	**342**	Pn	**Pn**	**11 34 26.4**	**+1.1**
	2.0nm,0.4s,baz=157,slow=14,SNR=77						
MK31				⇓Sn	**Sn**	**11 36 11.2**	**-2.1**
	6.0nm,0.6s,baz=154,slow=24,SNR=6.7						
MKAR	**Makanchi Array**	**9.61**	**342**	Pn	**Pn**	**11 34 26.6**	**+1.2**
	1.9nm,0.3s,baz=161,slow=14,SNR=64						
MKAR				Sn	**Sn**	**11 36 13.0**	**-0.4**
	1.7nm,0.3s,baz=160,slow=23,SNR=7.1						
MAKZ	**Makanchi**	**9.70**	**341**	⇓Pn	**Pn**	**11 34 28.0**	**+1.4**
	4.7nm,0.3s						
MAKZ				⇓Sn	**Sn**	**11 36 13.4**	**-2.3**
	7.0nm,0.6s						
GTA	**Gaotai**	**10.45**	**77**	*e*P	**Pn**	**11 34 36.0**	**-1.1**
GTA				pP		11 34 39.3	
GTA				sP		11 34 42.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				SMN			
	8.0nm,1.3s						
GTA				SME			
	7.0nm,1.2s						
KURBB	**Kurchatov Arra**	**14.12**	**338**	Pn	**Pn**	**11 35 25.8**	**-1.3**
	0.1nm,0.3s,baz=154,slow=12,SNR=11						
ZALV	**Zalesovo Beam**	**16.26**	**356**	Pn	**Pn**	**11 35 54.6**	**-0.9**
	0.8nm,0.3s,baz=185,slow=14,SNR=5.4						
SONM	**Songino Array**	**17.62**	**49**	P	**Pn**	**11 36 12.5**	**-0.2**
	0.2nm,0.3s,baz=233,slow=14,SNR=4.1						
NOA	**NORSAR Array B**	**50.98**	**323**	LR	LR	12 04 13.5	
	comp=Z,19nm,18.5s,baz=195,slow=38						
ILAR	**Eielson Array**	**69.59**	**22**	P	**P**	**11 43 17.2**	**+1.3**
	0.2nm,0.8s,baz=335,slow=4.0,SNR=2.7						
WRA	**Warramunga Arr**	**72.82**	**133**	P	**P**	**11 43 35.5**	**-0.6**
	1.2nm,1.0s,baz=329,slow=6.1,SNR=1.2						
ASAR	**Alice Springs**	**75.52**	**136**	P	**P**	**11 43 51.3**	**-0.5**
	1.1nm,0.9s,baz=330,slow=5.4,SNR=3.0						

*KRNET **23** 11:42:49.9±0.1,42.°99N×68.°94E,mb3.0*
*SOME **23** 11:42:51.2,43.°63N×69.°62E*
*NNC **23** 11:42:52.3±0.4,43.°59N×69.°62E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=4.4km s-min=2.1km az=47.0, Suspected Mining explosion.*
ISC 23 11:42:52.8±2.5,43.°06N±0.°08×69.°3E±0.°1,h0km,n27, σ2°02/45,31C-5D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**0.85**	**87**	⇓P	**Pg**	**11 43 07.5**	**-1.6**
KK08				⇑S	**Sg**	**11 43 18.9**	**-1.2**
KK07	**Karatay Array**	**0.86**	**88**	⇑P	**Pg**	**11 43 08.7**	**-0.6**
KK07				⇑S	**Sg**	**11 43 20.1**	**-0.3**
KK03	**Karatay Array**	**0.86**	**87**	⇑P	**Pg**	**11 43 07.8**	**-1.5**
KK03				⇑S	**Sg**	**11 43 19.1**	**-1.3**
KK09	**Karatay Array**	**0.86**	**86**	⇓P	**Pg**	**11 43 07.9**	**-1.4**
KK09				⇑S	**Sg**	**11 43 19.2**	**-1.2**
KK01	**Karatay Array**	**0.86**	**87**	⇑P	**Pg**	**11 43 07.9**	**-1.5**
KK01				⇑S	**Sg**	**11 43 19.1**	**-1.4**
KK04	**Karatay Array**	**0.86**	**87**	⇑P	**Pg**	**11 43 08.2**	**-1.2**
KK04				⇑S	**Sg**	**11 43 19.5**	**-1.1**
KK02	**Karatay Array**	**0.87**	**87**	⇑P	**Pg**	**11 43 08.1**	**-1.3**
KK02				⇑S	**Sg**	**11 43 19.4**	**-1.2**
KK31	**Karatay Array**	**0.87**	**87**	⇓P	**Pg**	**11 43 08.0**	**-1.4**
	1.5nm,0.4s,baz=313,slow=18,SNR=58						
KK31				⇑S	**Sg**	**11 43 19.5**	**-1.2**
	129nm,1.1s,baz=316,slow=27,SNR=132						
KK05	**Karatay Array**	**0.88**	**86**	⇓P	**Pg**	**11 43 07.8**	**-1.8**
KK05				⇑S	**Sg**	**11 43 19.2**	**-1.8**
KK06	**Karatay Array**	**0.88**	**88**	⇑P	**Pg**	**11 43 08.6**	**-1.1**
KK06				⇑S	**Sg**	**11 43 19.9**	**-1.1**
TRKS	**Terek-Say**	**2.04**	**138**	⇑*i*P	**Pn**	**11 43 28.9**	**+0.4**
	baz=32						
TRKS				⇑*i*S	**Sb**	**11 43 57.9**	**+1.1**
	baz=32						
MNAS	**Manas**	**2.41**	**103**	⇑*e*P	**Pb**	**11 43 35.3**	**-1.8**
	baz=0.0						
MNAS				⇑*i*S	**Sb**	**11 44 07.7**	**+0.3**
	baz=0.0						
MRKS	**Merke**	**2.88**	**95**	Pg	**Pb**	**11 43 42.9**	**-2.2**
	2.3nm,0.5s						
MRKS				Lg	Lg	11 44 20.4	
	9.7nm,0.3s						
ARSB	**Arslanbob**	**3.22**	**121**	⇑*i*P	**Pn**	**11 43 45.8**	**+1.0**
	baz=18						
ARSB				⇑*i*S	**Sn**	**11 44 25.8**	**+1.8**
	baz=18						
EKS2	**Erkin-Say**	**3.30**	**95**	⇑*i*P	**Pn**	**11 43 47.5**	**+1.7**
	baz=94						
EKS2				⇑*i*S	**Sn**	**11 44 28.9**	**+3.2**
	baz=94						
AML	**Almayashu**	**3.36**	**105**	⇑*i*P	**Pn**	**11 43 48.3**	**+1.5**
	baz=2.0						
AML				⇑*i*S	**Sn**	**11 44 30.4**	**+2.8**
	baz=2.0						
USP	**Ospenovka**	**3.79**	**85**	⇑*i*P	**Pn**	**11 43 54.7**	**+2.2**
	baz=84						
USP				⇑*i*S	**Sn**	**11 44 41.1**	**+3.3**
	baz=84						
AAK	**Ala-Archa**	**3.82**	**95**	⇑*i*P	**Pn**	**11 43 55.5**	**+2.4**
	baz=93						
AAK				⇑*i*S	**Sn**	**11 44 42.6**	**+3.8**
	baz=93						
ARLS	**Aral**	**3.89**	**106**	⇑*i*P	**Pn**	**11 43 55.4**	**+1.5**
	baz=4.0						
ARLS				⇑*i*S	**Sn**	**11 44 43.2**	**+2.8**
	baz=4.0						
SGDS	**Sogindy**	**3.89**	**82**	Pg	**Pb**	**11 43 59.6**	**-2.8**
	2.9nm,0.4s						
SGDS				Lg	Lg	11 44 48.9	
	7.8nm,0.5s						
BTLS	**Baital**	**3.93**	**58**	Pg	**Pn**	**11 43 57.4**	**+3.0**
	12nm,0.5s						
BTLS				Lg	Lg	11 44 45.1	
	3.5nm,0.5s						
KRBS	**Karabastau**	**4.67**	**80**	Pg	**Pb**	**11 44 11.9**	**-3.6**
	2.6nm,0.6s						
KRBS				Lg	Lg	11 45 10.0	
	9.8nm,0.5s						
DGS	**Degeres**	**4.72**	**86**	Pg	**Pb**	**11 44 14.8**	**-1.7**
	1.7nm,0.4s						
DGS				Lg	Lg	11 45 14.8	
	11nm,0.5s						
KST	**Kastek**	**4.86**	**88**	Pg	**Pb**	**11 44 17.2**	**-1.7**
	2.0nm,0.5s						
KST				Lg	Lg	11 45 19.5	
	7.9nm,0.7s						
KUU	**Kurty**	**5.17**	**78**	Pg	**Pb**	**11 44 20.9**	**-3.1**
	2.3nm,0.1s						
KUU				Lg	Lg	11 45 25.2	
	18nm,0.6s						
IZV	**Izvestkoviy**	**5.34**	**88**	Pg	**Pb**	**11 44 26.2**	**-0.9**
	1.8nm,0.1s						
IZV				Lg	Lg	11 45 34.1	
	12nm,0.6s						
KTBS	**Karatobe**	**5.40**	**81**	Pg	**Pb**	**11 44 25.4**	**-2.6**
	1.6nm,1.0s						
KTBS				Lg	Lg	11 45 33.3	
	8.9nm,0.8s						

IDC 23 12:17:53.6±1.0,27.°68N×140.°12E,h478km±14km,mb3.4/5, mb1 3.5/7,mb1mx3.0/57,mbtmp4.4/7,Error ellipse: s-maj=30.7km s-min=14.7km az=85.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.93**	**107**	P	P	12 18 56.3	-0.1
	78nm,0.3s,baz=11,slow=9.9,SNR=148						
JHJ	**Hachijo jima 2**	**5.43**	**357**	P	P	12 19 23.5	+0.2
	9.1nm,0.3s,baz=96,slow=22,SNR=7.5						
JOW	**Kunigami**	**10.57**	**268**	P	P	12 20 17.1	+0.1

JHS	Saijyo	3.75	196	P	P	12 19 38.2	+0.1		
JHS				S	S	12 20 34.9	-0.9		
JHS	Saijyo	3.75	196	Pn	P	12 19 38.0	0.0		
JGF	Kuroka	3.84	141		P	12 19 38.9	0.0		
INU	Inuyama	3.89	146		P	12 19 38.6	-0.7		
IMWB	Imwonan-gil	4.21	252	P	P	12 19 42.5	+0.3		
	SNR=76								
KSULJ	Uljin	4.38	246	P	P	12 19 44.0	+0.2		
	SNR=94								
KSULJ	Uljin	4.38	246	P	P	12 19 44.0	+0.2		
	SNR=94								
JRY	Ryogami san	4.45	124	P	P	12 19 43.0	-1.5		
KSTBA	Taebaek	4.54	253	P	P	12 19 46.1	+0.7		
	SNR=12								
KSTBA	Taebaek	4.54	253	P	P	12 19 46.1	+0.7		
	SNR=12								
KSSKC	Sokcho	4.60	268	P	P	12 19 45.9	0.0		
	SNR=218								
KSSKC	Sokcho	4.60	268	P	P	12 19 46.0	+0.2		
	SNR=22								
JIE	Ise	4.62	155	P	P	12 19 44.1	-2.0		
MSHR	Mys Shultsa	4.66	329	*c i* P	P	12 19 46.6	+0.3		
KSPHA	Pohang	4.66	240	P	P	12 19 46.4	-0.1		
	SNR=24								
SEHB	SEOHWA	4.82	268	P	P	12 19 48.4	+0.4		
	SNR=38								
SEHB	SEOHWA	4.82	268	P	P	12 19 48.4	+0.4		
	SNR=38								
KSADO	Andong	4.84	245	P	P	12 19 48.1	-0.1		
	SNR=70								
VLA	Vladivostok	4.88	338	*c i* P	P	12 19 48.6	+0.2		
JTNC	Tanabenakahech	4.89	168	P	P	12 19 48.0	-0.9		
JMN	Monobe	4.89	185	Pn	P	12 19 49.3	+0.4		
KSYOW	Yeongwol	4.89	255	P	P	12 19 49.3	+0.6		
	SNR=198								
KSYOW	Yeongwol	4.89	255	P	P	12 19 49.4	+0.6		
	SNR=6.0								
KSYOW	Yeongwol	4.89	255	P	P	12 19 49.4	+0.6		
	SNR=6.0								
KSIJA	INJE	4.96	265	P	P	12 19 49.8	+0.4		
	SNR=64								
JSG	Sagara	4.99	141	Pn	P	12 19 49.8	+0.1		
JOD2	Odawara 2	5.04	130	P	P	12 19 49.7	-0.7		
KSEUS	ULSEONG	5.05	245	P	P	12 19 50.5	+0.1		
	SNR=44								
KSEUS	ULSEONG	5.05	245	P	P	12 19 50.5	+0.1		
	SNR=44								
KSYOC	YEONGCHEON	5.06	240	P	P	12 19 50.5	0.0		
	SNR=42								
KSYOC	YEONGCHEON	5.06	240	P	P	12 19 50.5	0.0		
	SNR=42								
KSUSN	Ulsan	5.10	237	P	P	12 19 50.8	-0.1		
	SNR=67								
KSUSN	Ulsan	5.10	237	P	P	12 19 50.8	-0.1		
	SNR=67								
JMM	Marumori	5.11	96		P	12 19 50.2	-0.7		
KSWJU	Wonju	5.13	258	P	P	12 19 52.0	+0.8		
	SNR=199								
JYT	Yasato	5.21	115	Pn	P	12 19 50.1	-1.8		
KSDAG	Daegu	5.21	239	P	P	12 19 52.0	-0.1		
	SNR=60								
KSDAG	Daegu	5.21	239	P	P	12 19 52.0	-0.1		
	SNR=60								
JOSM	Okushiri--Mats	5.21	47	P	P	12 19 52.2	+0.3		
KSRS	Korea Array	5.22	259	P	P	12 19 53.0	+1.0		
	49nm,0.3s,baz=74,slow=10,SNR=2206								
KSRS				S	S	12 21 02.4	+0.9		
	baz=80,slow=16,SNR=5.1								
KSCHC	Chuncheon	5.23	263	P	P	12 19 52.8	+0.6		
	SNR=114								
KS19	Wonju Array Si	5.25	260		P	12 19 53.3	+0.9		
KSAR	Wonju Array Be	5.25	259	P	P	12 19 53.2	+0.8		
KSAR	Wonju Array Be	5.25	259	Pn	P	12 19 53.2	+0.8		
HWCB	Hwacheon	5.28	268	P	P	12 19 54.0	+1.3		
	SNR=5.9								
TTO1	TONANKAI O.B.S	5.35	158	P	P	12 19 53.4	+0.2		
KSCHJ	Chungju	5.36	253	P	P	12 19 54.0	+0.5		
	SNR=174								
KSCHJ	Chungju	5.36	253	P	P	12 19 54.0	+0.5		
	SNR=154								
KSCHJ	Chungju	5.36	253	P	P	12 19 54.0	+0.5		
	SNR=23								
KSCHJ	Chungju	5.36	253	P	P	12 19 54.0	+0.5		
	SNR=23								
JMK	Ichinoseki	5.36	84	P	P	12 19 52.7	-0.7		
KSMGY	Mungyeong	5.38	251	P	P	12 19 54.1	+0.5		
	SNR=53								
KSMGY	Mungyeong	5.38	251	P	P	12 19 54.2	+0.5		
	SNR=13								
KSBUS	Busan	5.39	233	P	P	12 19 53.7	-0.1		
	SNR=37								
KSBUS	Busan	5.39	233	P	P	12 19 54.0	+0.2		
	SNR=37								
KSBUS	Busan	5.39	233	P	P	12 19 54.2	+0.4		
	SNR=6.6								
KSBUS	Busan	5.39	233	P	P	12 19 54.0	+0.2		
	SNR=37								
KSSAJ	Sangju	5.41	248	P	P	12 19 54.2	+0.2		
	SNR=16								
KSSAJ	Sangju	5.41	248	P	P	12 19 54.2	+0.2		
	SNR=16								
KSCWO	Cheorwon	5.42	267	P	P	12 19 54.5	+0.5		
	SNR=79								
MIYA	Miryang-si	5.47	237	P	P	12 19 56.0	+1.3		
	SNR=5.7								
MIYA	Miryang-si	5.47	237	P	P	12 19 56.0	+1.3		
	SNR=5.7								
KSBSA	Busan_acc	5.53	232	P	P	12 19 55.8	+0.5		
	SNR=17								
KSBSA	Busan_acc	5.53	232	P	P	12 19 55.8	+0.5		
	SNR=17								
EMSB	Eumseong	5.59	255	P	P	12 19 56.5	+0.7		
	SNR=32								
EMSB	Eumseong	5.59	255	P	P	12 19 56.5	+0.7		
	SNR=32								
KSGIC	Gimchen	5.60	245	P	P	12 19 56.3	+0.3		
	SNR=8.0								
KSGIC	Gimchen	5.60	245	P	P	12 19 56.3	+0.3		
	SNR=8.0								
JTM	Tenmabayashi	5.60	65	Pn	P	12 19 56.1	+0.2		
KSCPR	CHUPUNGNYEONG	5.63	247	P	P	12 19 56.3	+0.1		
	SNR=25								
KSCPR	CHUPUNGNYEONG	5.63	247	P	P	12 19 57.5	+1.2		
	SNR=13								
KSBON	Boeun	5.63	250	P	P	12 19 56.6	+0.3		
	SNR=16								
KSBON	Boeun	5.63	250	P	P	12 19 56.6	+0.3		
	SNR=16								
KSICN	Icheon	5.65	259	P	P	12 19 57.2	+0.7		
	SNR=42								
OKCB	Cheongsan-myeo	5.70	249	P	P	12 19 57.3	+0.3		
	SNR=44								
OKCB	Cheongsan-myeo	5.70	249	P	P	12 19 59.0	+2.0		
	SNR=7.8								
OKCB	Cheongsan-myeo	5.70	249	P	P	12 19 57.4	+0.3		
	SNR=14								
OKCB	Cheongsan-myeo	5.70	249	P	P	12 19 59.0	+2.0		
	SNR=7.8								
JTU	Tsushima	5.72	226	P	P	12 19 56.8	-0.4		
JTU	Tsushima	5.72	226	Pn	P	12 19 57.1	-0.1		
KSMAS	Masan	5.78	235	P	P	12 19 58.2	+0.3		
	SNR=36								
KSMAS	Masan	5.78	235	P	P	12 19 58.2	+0.3		
	SNR=36								
KSDDC	Dongducheon	5.80	265	P	P	12 19 58.6	+0.6		
	SNR=13								
KSDDC	Dongducheon	5.80	265	P	P	12 19 58.6	+0.6		
	SNR=13								
JOT	Ohata	5.82	60	P	P	12 19 58.0	-0.2		
USA0B	Ussuriysk Arra	5.86	343	P	P	12 19 59.6	+1.1		
USA0B	Ussuriysk Arra	5.86	343	Pn	P	12 19 59.6	+1.1		
USRK	Ussuriysk Ar.	5.86	343	P	P	12 19 59.3	+0.8		
	baz=170,slow=10,SNR=1380								
USRK	Ussuriysk Ar.	5.86	343	Pn	P	12 19 59.5	+1.0		
EURB	Uiryeong-eup	5.88	238	P	P	12 19 59.1	+0.3		
	SNR=60								
EURB	Uiryeong-eup	5.88	238	P	P	12 19 60.0	+1.1		
	SNR=8.7								
JTO	Tosashimizu	5.88	193	P	P	12 19 59.2	+0.2		
YNCB	YEONGCHEON	5.88	267	P	P	12 19 59.5	+0.6		
	SNR=55								
KSCEA	Cheonan	5.92	255	P	P	12 19 59.9	+0.7		
	SNR=159								
KSCEA	Cheonan	5.92	255	P	P	12 19 59.9	+0.7		
	SNR=159								
KSSOD	Songwoldong	5.93	262	P	P	12 20 00.2	+0.8		
	SNR=20								
KSSOD	Songwoldong	5.93	262	P	P	12 20 00.2	+0.8		
	SNR=20								
KUJA	Jangpyeong	5.94	233	P	P	12 19 60.0	+0.4		
	SNR=9.8								
KSKCH	Geochang	5.96	242	P	P	12 20 00.2	+0.3		
	SNR=30								
PYTK	Pyeongtaek	5.98	256	P	P	12 20 00.5	+0.7		
	SNR=19								
PYTK	Pyeongtaek	5.98	256	P	P	12 20 00.5	+0.7		
	SNR=19								
KSSEO	Seoul	5.99	261	P	P	12 20 00.6	+0.6		
	SNR=53								
KSSEO	Seoul	5.99	261	P	P	12 20 00.4	+0.4		
	SNR=53								
KSSEO	Seoul	5.99	261	P	P	12 20 00.6	+0.6		
	SNR=53								
KSSEO	Seoul	5.99	261	P	P	12 20 00.4	+0.4		
	SNR=53								
TJN	Taejon	6.00	250	*d i* P	P	12 19 59.9	-0.3		
KSSWO	Suwon	6.00	259	P	P	12 20 00.7	+0.5		
	SNR=56								
KSMUS	Musan	6.04	265	P	P	12 19 56.9	-3.6		
	SNR=6.9								
KSMUS	Musan	6.04	265	P	P	12 20 01.1	+0.6		
	SNR=123								
JKB	Kayabe	6.05	55	P	P	12 20 00.4	-0.2		
KOJ2	Gongju-si	6.13	252	P	P	12 20 02.3	+0.7		
	SNR=150								
HAMB	Hamyang	6.14	242	P	P	12 20 02.2	+0.6		
	SNR=20								
HAMB	Hamyang	6.14	242	P	P	12 20 02.2	+0.6		
	SNR=20								
JNU	Nakatsue	6.17	208	P	P	12 20 02.2	+0.1		
	12nm,0.3s,baz=339,slow=0.6,SNR=26								
JNU	Nakatsue	6.17	208		P	12 20 02.5	+0.4		
SHHB	Siheung-si	6.19	261	P	P	12 20 03.0	+0.9		
	SNR=66								
SHHB	Siheung-si	6.19	261	P	P	12 20 03.0	+0.9		
	SNR=66								
HAWB	Hwaseong-si	6.20	258	P	P	12 20 03.0	+0.7		
	SNR=58								
HAWB	Hwaseong-si	6.20	258	P	P	12 20 03.0	+0.7		
	SNR=58								
INCN	Inchon	6.21	262	P	P	12 20 03.3	+0.9		
INCN	Inchon	6.21	262	Pn	P	12 20 03.2	+0.9		
KSJEO	Jeonju	6.25	247	P	P	12 20 03.5	+0.7		
	SNR=25								
KSJEO	Jeonju	6.25	247	P	P	12 20 03.5	+0.7		
	SNR=25								
KSGAH	Ganghwa	6.31	264	P	P	12 20 04.4	+1.0		
	SNR=14								
NAWB	Namwon	6.43	242	P	P	12 20 05.1	+0.4		
	SNR=19								
BSO1	Boso 1	6.62	125	P	P	12 20 04.6	-2.2		
KSJEU	Jeongeup	6.72	245	P	P	12 20 08.3	-0.1		
	SNR=60								
JEW	Eniwo	6.83	50	Pn	P	12 20 08.6	-0.9		
KSKWJ	Gwangju	6.85	242	P	P	12 20 09.6	-0.2		
	SNR=22								
BOSB	Boseong-gun	6.92	238	P	P	12 20 10.3	-0.3		
	SNR=66								
BOSB	Boseong-gun	6.92	238	P	P	12 20 10.3	-0.3		
	SNR=66								
KOHB	KOHEUNG	6.96	237	P	P	12 20 11.0	-0.1		
	SNR=71								
MDJ	Mudanjiang	6.98	331	P	P	12 20 11.5	+0.4		
MDJ				S	S	12 21 35.8	+0.1		
MDJ				pmax	pmax				
	comp=Z,270nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,370nm,3.8s								
MDJ	Mudanjiang	6.98	331	Pn	P	12 20 11.2	+0.1		
GOCB	Gochang-gun	7.02	245	P	P	12 20 11.5	-0.2		
	SNR=63								
ERM	Erimo	7.52	60	*d i* P	P	12 20 14.2	-2.8		
ERM	Erimo	7.52	60		P	12 20 15.8	-1.2		
KSBAR	Backryungdo	7.62	268	P	P	12 20 18.8	+0.6		
	SNR=40								
DACB	Daecheong-do R	7.65	267	P	P	12 20 19.0	+0.5		
	SNR=27								
JSU	Suzuyama	7.78	206		P	12 20 19.7	-0.4		
ASAJ	Asahikawa	8.27	46	P	P	12 20 23.9	-1.3		
	81nm,0.3s,baz=232,slow=10,SNR=295								
JKA	Kamikawa-asahi	8.27	46		P	12 20 24.0	-1.1		
CN2	Changchun	8.49	310	⇑ *i* P	P	12 20 28.0	+0.5		
CN2				S	S	12 22 04.5	-2.0		
CN2				pmax	pmax				
	comp=Z,60nm,0.9s								
JWK2	Keihoku	8.73	38	P	P	12 20 30.0	-0.1		
JTKR	Abashiri--Toko	8.95	50	P	P	12 20 31.2	-1.4		
NMR	Nemuro--Hokkai	9.81	57	*e* P	P	12 20 40.4	-1.7		
NMR				*i* S	S	12 22 27.5	-6.0		
NEM2	Nemuro 2	9.82	57	P	P	12 20 40.3	-1.9		
GLVR	Golovnino	9.84	55	*e* P	P	12 20 42.1	-0.3		
GLVR				*i* S	S	12 22 30.5	-3.6		
GLVR				pmax	pmax				
	comp=Z,403nm,0.6s								
GLVR				pmax	pmax				
	comp=N,86nm,0.2s								
GLVR				pmax	pmax				
	comp=E,185nm,0.3s								
RUSJ	Misakicho	9.84	53	*e* P	P	12 20 42.7	+0.3		
RUSJ				*i* S	S	12 22 32.8	-1.4		
DL2	Dalian	9.96	276	P	P	12 20 44.8	+1.0		
DL2				pmax	pmax				
	comp=E,410nm,0.7s								
GRPR	Tuman	10.12	54	*e* P	P	12 20 45.2	-0.3		
GRPR				*i* S	S	12 22 36.9	-2.9		
GRPR				pmax	pmax				
	comp=E,289nm,0.4s								
GRPR				pmax	pmax				
	comp=Z,367nm,0.4s								
GRPR				pmax	pmax				
	comp=N,54nm,0.2s								
YUK	Yuzh-Kuril'sk	10.19	54	*e* P	P	12 20 46.4	+0.1		
YUK				*i* S	S	12 22 37.8	-3.5		
YUK				pmax	pmax				
	comp=Z,818μm,0.5s								
YUK				pmax	pmax				
	comp=N,208μm,0.3s								
YUK				pmax	pmax				
	comp=E,124μm,0.3s								
YSS	Yuzh-Sakhalins	10.36	34	*i* P	P	12 20 48.0	-0.1		
YSS				pmax	pmax				
	comp=Z,59nm,0.9s								
YSS	Yuzh-Sakhalins	10.36	34		P	12 20 47.7	-0.4		
KLR	Kul'dur	10.78	351	P	P	12 20 52.2	-0.4		
	comp=Z,11nm,0.3s,baz=166,slow=10,SNR=76								
KLR	Kul'dur	10.78	351	*c i* P	P	12 20 51.4	-1.3		
UGL	Uglegorsk	11.84	25	*e* P	P	12 21 05.1	+0.8		
UGL				pmax	pmax				
	comp=Z,70nm,0.9s								
KUR	Kuril'sk	12.02	52	*e* P	P	12 21 06.8	+0.4		
KUR				S	S	12 23 15.9	-2.1		
KUR				pmax	pmax				
	comp=Z,181μm,0.5s								
KUR				pmax	pmax				
	comp=N,54μm,0.4s								
KUR				pmax	pmax				
	comp=E,31μm,0.2s								
GRNR	Gornyy	12.24	6	⇑ *i* P	P	12 21 08.2	-0.5		
GRNR				pmax	pmax				
	comp=Z,40nm,1.2s								
TYV	Tymovskoe	13.58	23	*e* P	P	12 21 25.9	+2.6		
TYV				pmax	pmax				
	comp=Z,200nm,1.7s								
TYV				pmax	pmax				
	comp=Z,53nm,0.9s								
TIA	Tai'an	13.92	265	⇓ P	P	12 21 27.1	-0.2		
TIA				pmax	pmax				
	comp=Z,130nm,1.0s								
BJT	Baijiatuan	14.17	281	P	P	12 21 30.2	+0.3		
BJT	Baijiatuan	14.17	281	P	P	12 21 30.2	+0.3		
NJ2	Nanjing	14.25	247	⇓ *i* P	P	12 21 31.1	+0.2		
NJ2				sP		12 23 01.5			
NJ2				ScP	ScP	12 29 14.0	+3.4		
HIA	Hailar	14.95	320	*i* P	P	12 21 37.8	-0.5		
HIA				pmax	pmax				
	comp=Z,24nm,0.7s								
ZEA	Zeya	15.90	344	*e* P	P	12 21 46.9	-1.4		
ZEA				pmax	pmax				
	comp=N,20nm,0.9s								
ZEA				pmax	pmax				
	comp=E,20nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,50nm,0.8s								
WHN	Wuhan	18.32	250	⇑ P	P	12 22 11.3	-3.0		
BTO	Baotou	18.86	284	*e* P	P	12 22 17.1	-2.6		
BTO				pmax	pmax				
	comp=Z,24nm,1.1s								
XAN	Xi'an	20.98	265	P	P	12 22 37.7	-1.6		
XAN	Xi'an	20.98	265	P	P	12 22 37.7	-1.6		
ULN	Ulaanbaatar	21.85	304	*d i* P	P	12 22 46.4	-0.7		
ULN				pmax	pmax				
	comp=Z,19nm,1.0s								
ULN	Ulaanbaatar	21.85	304		P	12 22 46.7	-0.4		
ULN				IAmb	IAmb	12 22 49.2			
	comp=Z,15nm,0.9s								
ENH	Enshi	22.10	255	P	P	12 22 47.9	-1.6		
SONM	Songino Array	22.27	303	P	P	12 22 50.5	-0.4		
	comp=Z,12nm,0.7s,baz=106,slow=8.9,SNR=40								
SONM	Songino Array	22.27	303		P	12 22 50.5	-0.4		
SONM				IAmb	IAmb	12 22 53.9			
	comp=Z,12nm,0.7s								
YAK	Yakutsk	23.62	354	P	P	12 23 02.3	-0.3		
	comp=Z,15nm,0.3s,baz=120,slow=0.6,SNR=2.8								
YAK	Yakutsk	23.62	354	*e* P	P	12 23 01.7	-1.0		
YAK				pmax	pmax				
	comp=Z,34nm,0.9s								
YAK				pmax	pmax				
	comp=E,2.0nm,0.9s								
YAK				pmax	pmax				
	comp=N,12nm,1.0s								
YAK	Yakutsk	23.62	354		P	12 23 02.1	-0.6		
HKC	Hong Kong Obse	23.74	233	⇓ P	P	12 23 06.0	+1.7		
LZH	Lanzhou	24.35	274	⇓ P	P	12 23 08.5	-1.3		
LZH				pmax	pmax				
	comp=N,56nm,1.0s								
ZAK	Zakamensk	24.91	308	*e* P	P	12 23 13.4	-1.2		
ZAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
TLY	Talaya	25.09	311	P	P	12 23 16.0	0.0		
	comp=Z,5.5nm,0.7s,baz=44,slow=9.0,SNR=3.7								
TLY	Talaya	25.09	311	*i* P	P	12 23 14.4	-1.6		
TLY				pmax	pmax				
	comp=Z,8.0nm,0.8s								
SEY	Seymchan	26.68	18	P	P	12 23 30.8	+0.9		
	comp=Z,6.7nm,0.6s,baz=221,slow=11,SNR=11								
SEY	Seymchan	26.68	18	*i* P	P	12 23 29.5	-0.4		
GTA	Gaotai	26.77	283	⇓ P	P	12 23 30.3	-0.9		
GTA				pmax	pmax				
	comp=Z,26nm,0.9s								
QIZ	Qiongzhong	28.88	234	P	P	12 23 50.2	+0.5		
TIXI	Tiksi	33.23	357	P	P	12 24 26.3	-0.5		
	comp=Z,14nm,0.5s,baz=142,slow=7.4,SNR=53								
TIXI	Tiksi	33.23	357	P	P	12 24 26.5	-0.2		
TIXI				pmax	pmax				
	comp=Z,18nm,0.5s								
TIXI	Tiksi	33.23	357	P	P	12 24 26.5	-0.2		
TIXI				IAmb	IAmb	12 24 27.1			
	comp=Z,18nm,0.5s								
AMKA	Amchitka	33.70	53	P	P	12 24 32.5	+1.5		
NONG	Nongkai	34.02	242	P	P	12 24 34.4	+0.2		
	comp=Z,29μmcomp=Z,4μm,1.2s								
BILL	Bilibino	34.31	21	*d i* P	P	12 24 36.8	+0.9		
BILL				*i* *PP	pwP	12 25 54.9	-1.4		
BILL				pmax	pmax				
	comp=Z,15nm,0.7s								
BILL	Bilibino	34.31	21	P	P	12 24 36.9	+0.9		
BILL				IAmb	IAmb	12 24 38.5			
	comp=Z,16nm,0.8s								
WMQ	Urumqi	35.13	294	*e* P	P	12 24 46.3	+3.0		
PAYA	Payao	35.48	247	P	P	12 24 46.8	+0.3		
	comp=Z,13μmcomp=Z,1μm,1.3s								
CHAI	Chaiyaphum	36.31	240	P	P	12 24 53.0	-0.5		
	comp=Z,6μmcomp=Z,730nm,1.1s								
CMMT	Chiang Mai	36.49	247	P	P	12 24 53.7	-1.3		
	comp=Z,9μmcomp=Z,1μm,1.1s								
PHIT	Phitsanulok	36.52	244	P	P	12 24 56.0	+0.8		
	comp=Z,5μmcomp=Z,643nm,0.7s								
LSA	Lhasa	36.58	269	P	P	12 24 55.0	-1.1		
LSA				pmax	pmax				
	comp=Z,9.0nm,0.7s								
LSA	Lhasa	36.58	269	P	P	12 24 55.0	-1.1		
LSA				IAmb	IAmb	12 24 58.0			
	comp=Z,8.7nm,0.7s								
ZAA0	Zalesovo Array	36.70	311	P	P	12 24 55.3	-0.9		
ZALV	Zalesovo Beam	36.70	311	P	P	12 24 55.4	-0.9		
	comp=Z,3.0nm,0.4s,baz=94,slow=7.9,SNR=7.8								
ZALV	Zalesovo Beam	36.70	311	P	P	12 24 55.7	-0.6		
CM31	Chiang Mai Arr	36.73	247	P	P	12 24 56.5	-0.4		
CMAR	Chiang Mai Arr	36.73	247	P	P	12 24 57.0	+0.1		
	comp=Z,11nm,0.5s,baz=44,slow=7.4,SNR=40								
CMAR	Chiang Mai Arr	36.73	247	P	P	12 24 56.8	-0.1		
MHMT	Maesarieng	37.64	248	P	P	12 25 05.3	+0.9		
	comp=Z,16μmcomp=Z,2μm,1.1s								
SHL	Shillong	37.95	263	P	P	12 25 05.8	-1.4		
SHL				pmax	pmax				
	comp=Z,52nm,0.8s								
SHL	Shillong	37.95	263	P	P	12 25 05.8	-1.4		
MK31	Makanchi Array	38.52	300	P	P	12 25 10.7	-0.8		
MK31				pmax	pmax				
	comp=Z,9.0nm,0.8s								
MK31	Makanchi Array	38.52	300	P	P	12 25 10.7	-0.8		
MK31				IAmb	IAmb	12 25 11.4			
	comp=Z,9.4nm,0.8s								
MKAR	Makanchi Array	38.52	300	P	P	12 25 10.6	-0.8		
	comp=Z,8.1nm,0.5s,baz=89,slow=10,SNR=112								
MAKZ	Makanchi	38.73	300	P	P	12 25 12.7	-0.5		
MAKZ				pmax	pmax				
	comp=Z,14nm,0.9s								
MAKZ	Makanchi	38.73	300	P	P	12 25 12.7	-0.5		
MAKZ				IAmb	IAmb	12 25 13.2			
	comp=Z,14nm,0.9s								
NRIK	Noril'sk	39.53	336	*i* P	P	12 25 17.6	-1.6		
NRIK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
NRIK	Noril'sk	39.53	336	P	P	12 25 20.2	+1.0		
PHET	Kaeng Krachan	40.03	240	P	P	12 25 24.0	-0.1		
KURK	Kurchatov	40.53	306	P	P	12 25 27.1	-0.5		
KURBB	Kurchatov Arra	40.60	306	P	P	12 25 27.1	-1.1		
	comp=Z,13nm,0.7s,baz=85,slow=8.5,SNR=116								
FAKI	Fak Fak	41.37	183	P	P	12 25 35.2	+0.4		
PRZ	Przheval'sk	42.05	294	P	P	12 25 40.4	+0.2		
PRZ				pmax	pmax				
	comp=Z,26nm,0.8s								
PRZ	Przheval'sk	42.05	294	P	P	12 25

KK31					IAmb	IAmb	12 26 22.5		
	comp=Z,10nm,0.8s								
KKAR	**Karatay Array**	**47.47**	**297**		P	**P**	**12 26 21.5**	**-0.6**	
KKAR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KKAR	**Karatay Array**	**47.47**	**297**		P	**P**	**12 26 21.4**	**-0.6**	
KKAR	**Karatay Array**	**47.47**	**297**		P	**P**	**12 26 21.7**	**-0.4**	
KKAR					IAmb	IAmb	12 26 22.5		
	comp=Z,10nm,0.8s								
DRK	**Karamyk**	**47.71**	**292**		P	**P**	**12 26 24.0**	**-0.3**	
DRK					IAmb	IAmb	12 26 25.1		
	comp=Z,26nm,0.8s								
BTK	**Batken**	**48.23**	**293**		P	**P**	**12 26 27.6**	**-0.3**	
BTK					pmax	pmax			
	comp=Z,8.0nm,0.6s								
BTK	**Batken**	**48.23**	**293**		P	**P**	**12 26 27.6**	**-0.3**	
BTK					IAmb	IAmb	12 26 29.6		
	comp=Z,8.1nm,0.6s								
NIL	**Nilore**	**48.82**	**284**		P	**P**	**12 26 32.4**	**0.0**	
NIL					pmax	pmax			
	comp=Z,62nm,0.7s								
NIL	**Nilore**	**48.82**	**284**		P	**P**	**12 26 32.4**	**0.0**	
GAR	**Garm**	**48.96**	**292**		P	**P**	**12 26 32.9**	**-0.5**	
PMG	**Port Moresby**	**49.24**	**163**		P	**P**	**12 26 36.1**	**+0.6**	
PMG					pmax	pmax			
	comp=Z,196nm,1.1s								
PMG	**Port Moresby**	**49.24**	**163**		P	**P**	**12 26 36.1**	**+0.6**	
MLY	**Manley**	**49.50**	**33**		P	**P**	**12 26 39.0**	**+2.1**	
COLD	**Coldfoot**	**49.52**	**30**		P	**P**	**12 26 38.1**	**+1.1**	
SKT	**Skwentna**	**49.52**	**37**		P	**P**	**12 26 38.4**	**+1.3**	
KTH	**Kantishna Hill**	**49.59**	**35**		P	**P**	**12 26 39.4**	**+1.7**	
KTH					IAmb	IAmb	12 26 40.5		
	comp=Z,7.4nm,0.8s								
TOLK	**Toolik Lake Re**	**49.65**	**28**		P	**P**	**12 26 39.6**	**+1.6**	
KDAK	**Kodiak Island**	**49.67**	**42**		P	**P**	**12 26 38.9**	**+0.7**	
	comp=Z,1.8nm,0.4s,baz=281,slow=5.8,SNR=15								
KDAK	**Kodiak Island**	**49.67**	**42**		P	**P**	**12 26 39.1**	**+0.9**	
KDAK					pmax	pmax			
	comp=Z,13nm,1.5s								
KDAK	**Kodiak Island**	**49.67**	**42**		P	**P**	**12 26 39.1**	**+0.9**	
KDAK					IAmb	IAmb	12 26 58.3		
	comp=Z,13nm,1.5s								
CHGR	**Chuyangaron**	**49.93**	**292**		P	**P**	**12 26 40.3**	**-0.3**	
I23K	**Minto, Yukon-K**	**50.07**	**32**		P	**P**	**12 26 43.1**	**+2.0**	
RND	**Reindeer**	**50.53**	**35**		P	**P**	**12 26 45.9**	**+1.3**	
RND					pmax	pmax			
	comp=Z,6.0nm,1.0s								
RND	**Reindeer**	**50.53**	**35**		P	**P**	**12 26 45.9**	**+1.3**	
MDM	**Murphy Dome**	**50.57**	**33**		P	**P**	**12 26 46.7**	**+1.9**	
MDM					IAmb	IAmb	12 26 47.5		
	comp=Z,7.0nm,0.8s								
PMR	**Palmer**	**50.70**	**37**		P	**P**	**12 26 46.2**	**+0.4**	
PMR					pmax	pmax			
	comp=Z,6.0nm,1.3s								
PMR	**Palmer**	**50.70**	**37**		P	**P**	**12 26 46.2**	**+0.4**	
TCOL	**CIGO, UAF Yank**	**50.74**	**33**		P	**P**	**12 26 47.9**	**+1.9**	
TCOL					IAmb	IAmb	12 26 48.7		
	comp=Z,6.5nm,0.8s								
CCB	**Clear Creek Bu**	**50.79**	**33**		P	**P**	**12 26 47.6**	**+1.1**	
SEW	**Seward**	**50.83**	**39**		P	**P**	**12 26 47.8**	**+1.1**	
POKR	**Poker Plat Res**	**50.88**	**32**		P	**P**	**12 26 49.2**	**+2.1**	
POKR					IAmb	IAmb	12 26 50.1		
	comp=Z,8.7nm,0.8s								
SML	**Sawmill**	**51.04**	**37**		P	**P**	**12 26 50.2**	**+1.8**	
KNK	**Knik Glacier**	**51.05**	**37**		P	**P**	**12 26 49.6**	**+1.2**	
KNK					IAmb	IAmb	12 26 50.9		
	comp=Z,6.0nm,0.7s								
IL31		**51.16**	**33**		P	**P**	**12 26 50.1**	**+1.0**	
ILAR	**Eielson Array**	**51.16**	**33**		P	**P**	**12 26 49.8**	**+0.6**	
	comp=Z,3.6nm,0.6s,baz=282,slow=8.8,SNR=42								
ILAR	**Eielson Array**	**51.16**	**33**		P	**P**	**12 26 49.6**	**+0.4**	
ILAR	**Eielson Array**	**51.16**	**33**		P	**P**	**12 26 49.6**	**+0.4**	
HDA	**Harding Lake**	**51.20**	**33**		P	**P**	**12 26 49.8**	**+0.4**	
HDA					IAmb	IAmb	12 26 51.0		
	comp=Z,6.8nm,0.7s								
ARU	**Arti**	**51.43**	**316**	*c*	*i*P	**P**	**12 26 50.4**	**-0.8**	
ARU							12 28 51.7		
ARU					S	**S**	**12 33 39.2**	**+1.0**	
ARU					SS	**SS**	**12 37 23.3**	**+3.2**	
ARU					pmax	pmax			
	comp=Z,19nm,0.8s								
ARU	**Arti**	**51.43**	**316**		P	**P**	**12 26 51.1**	**-0.2**	
ARU					IAmb	IAmb	12 26 51.4		
	comp=Z,17nm,0.8s								
SCM	**Sheep Creek Mo**	**51.50**	**36**		P	**P**	**12 26 53.6**	**+1.8**	
SCM					pmax	pmax			
	comp=Z,9.0nm,0.7s								
SCM	**Sheep Creek Mo**	**51.50**	**36**		P	**P**	**12 26 53.6**	**+1.8**	
SCM					IAmb	IAmb	12 26 54.1		
	comp=Z,8.7nm,0.7s								
FYU	**Fort Yukon**	**51.54**	**30**		P	**P**	**12 26 54.2**	**+2.3**	
FYU					IAmb	IAmb	12 26 55.1		
	comp=Z,7.3nm,0.7s								
PRP	**Porcupine Dome**	**51.60**	**32**		P	**P**	**12 26 55.0**	**+2.5**	
KBL	**Kabul**	**51.63**	**287**		P	**P**	**12 26 52.6**	**-0.7**	
KBL					pmax	pmax			
	comp=Z,24nm,1.0s								
KBL	**Kabul**	**51.63**	**287**		P	**P**	**12 26 52.6**	**-0.7**	
KBL					IAmb	IAmb	12 26 53.1		
	comp=Z,24nm,0.9s								
BMAR	**Burnt Mountain**	**51.66**	**29**		P	**P**	**12 26 55.5**	**+2.7**	
PAX	**Paxson**	**52.12**	**35**		P	**P**	**12 26 57.8**	**+1.5**	
PAX					pmax	pmax			
	comp=Z,2.0nm,0.8s								
PAX	**Paxson**	**52.12**	**35**		P	**P**	**12 26 57.8**	**+1.5**	
SCRK	**Sand Creek**	**52.55**	**33**		P	**P**	**12 27 00.4**	**+1.0**	
SCRK					IAmb	IAmb	12 27 01.2		
	comp=Z,8.7nm,0.6s								
DOT	**Dot Lake**	**52.59**	**34**		P	**P**	**12 27 00.3**	**+0.7**	
ABKAR	**Akbulak array**	**52.60**	**307**		P	**P**	**12 26 59.3**	**-0.5**	
ABKAR					IAmb	IAmb	12 26 59.8		
	comp=Z,22nm,0.5s								
HYB	**Hyderabad**	**52.76**	**263**	*i*	P	**P**	**12 27 01.0**	**-0.5**	
N25K	**Chitina, Valde**	**52.82**	**36**		P	**P**	**12 27 03.2**	**+1.9**	
MENT	**Mentasta**	**52.91**	**35**		P	**P**	**12 27 04.0**	**+2.1**	
MENT					IAmb	IAmb	12 27 04.6		
	comp=Z,8.8nm,0.5s								
BMRM	**Bremner River**	**52.97**	**37**		P	**P**	**12 27 05.0**	**+2.6**	
GLB	**Gilahina Butte**	**53.23**	**36**		P	**P**	**12 27 06.2**	**+2.0**	
HMT	**Hamilton**	**53.30**	**38**		P	**P**	**12 27 06.9**	**+2.2**	
HMT					IAmb	IAmb	12 27 07.1		
	comp=Z,6.2nm,0.6s								
K27K	**Chicken**	**53.36**	**33**		P	**P**	**12 27 06.9**	**+1.8**	
AKTO	**Aktyubinsk**	**53.42**	**309**		P	**P**	**12 27 04.4**	**-1.3**	
VRDI	**Verde Repeater**	**53.45**	**37**		P	**P**	**12 27 07.8**	**+1.8**	
EGAK	**Eagle**	**53.56**	**32**		P	**P**	**12 27 07.6**	**+1.1**	
SUCK	**Suckling Hills**	**53.60**	**38**		P	**P**	**12 27 08.4**	**+1.5**	
SUCK					IAmb	IAmb	12 27 16.3		
	comp=Z,9.2nm,1.0s								
MCARA	**McCarthy VSAT**	**53.61**	**36**		P	**P**	**12 27 08.3**	**+1.3**	
MCARA					IAmb	IAmb	12 27 09.4		
	comp=Z,7.4nm,0.6s								
L27K	**Beaver Creek,**	**53.71**	**34**		P	**P**	**12 27 10.2**	**+2.5**	
L27K					IAmb	IAmb	12 27 10.7		
	comp=Z,8.0nm,0.7s								
CRQM	**Cirque**	**53.72**	**37**		P	**P**	**12 27 09.9**	**+2.0**	
CRQM					IAmb	IAmb	12 27 10.4		
	comp=Z,7.8nm,0.7s								
BCAR	**Beaver Creek A**	**53.73**	**34**		P	**P**	**12 27 09.9**	**+2.1**	
BARN	**Barnard Glacie**	**54.33**	**37**		P	**P**	**12 27 13.6**	**+1.2**	
BARN					IAmb	IAmb	12 27 14.7		
	comp=Z,6.2nm,0.7s								
DAWY	**Dawson**	**54.49**	**33**		P	**P**	**12 27 14.8**	**+1.6**	
INK	**Inuvik**	**55.51**	**27**		P	**P**	**12 27 21.3**	**+1.1**	
	comp=Z,2.6nm,0.4s,baz=284,slow=6.5,SNR=12								
INK	**Inuvik**	**55.51**	**27**		IAmb	IAmb	12 27 21.9		
	comp=Z,5.0nm,1.0s								
BCPM	**Bancas Point**	**55.62**	**37**		P	**P**	**12 27 23.5**	**+2.3**	
BCPM					IAmb	IAmb	12 27 40.8		
	comp=Z,12nm,0.9s								
HYT	**Haines Junctio**	**56.33**	**36**		P	**P**	**12 27 28.6**	**+2.3**	
HRA	**Herat**	**56.75**	**290**		P	**P**	**12 27 29.8**	**+0.1**	
HRA					IAmb	IAmb	12 27 30.7		
	comp=Z,17nm,0.8s								
GEYT	**Alibeck**	**58.15**	**295**		P	**P**	**12 27 39.0**	**-0.1**	
	comp=Z,12nm,0.7s,baz=198,slow=1.4,SNR=11								
GEYT	**Alibeck**	**58.15**	**295**		P	**P**	**12 27 38.9**	**-0.2**	
GEYT					IAmb	IAmb	12 27 39.9		
	comp=Z,14nm,0.8s								
GYA0B	**ALIBECK ARRAY**	**58.15**	**295**		P	**P**	**12 27 38.8**	**-0.4**	
GYA0B					IAmb	IAmb	12 27 39.9		
	comp=Z,15nm,0.8s								
CTA	**Charters Tower**	**59.45**	**167**		P	**P**	**12 27 48.1**	**+0.2**	
	comp=Z,61nm,0.9s,baz=345,slow=6.2,SNR=6.5								
CTAO	**Charters Tower**	**59.45**	**167**		P	**P**	**12 27 48.3**	**+0.4**	
CTAO					pmax	pmax			
	comp=Z,155nm,1.1s								
CTAO	**Charters Tower**	**59.45**	**167**		P	**P**	**12 27 48.3**	**+0.4**	
ARCES	**ARCESS Array B**	**60.48**	**338**		P	**P**	**12 27 54.4**	**+0.1**	
	comp=Z,3.3nm,0.7s,baz=63,slow=8.4,SNR=14								
FINES	**FINESS Array B**	**64.73**	**330**		P	**P**	**12 28 22.0**	**0.0**	
	comp=Z,2.6nm,0.5s,baz=90,slow=5.3,SNR=28								
FINES	**FINESS Array B**	**64.73**	**330**	*i*	P	**P**	**12 28 21.3**	**-0.7**	
FINES					pmax	pmax			
	comp=Z,3.0nm,0.5s								
FINES	**FINESS Array B**	**64.73**	**330**		P	**P**	**12 28 22.3**	**+0.3**	
GOF	**Gofitskoye**	**64.81**	**308**	ǁ	*e*P	**P**	**12 28 22.3**	**-0.5**	
GOF					pmax	pmax			
	comp=Z,29nm,0.9s								
WSAR	**Wadi Sarin**	**65.08**	**281**		P	**P**	**12 28 24.7**	**-0.2**	
	comp=Z,5.7nm,0.8s,baz=60,slow=4.9,SNR=4.7								
YKA	**Yellowknife Ar**	**65.17**	**29**		P	**P**	**12 28 25.6**	**+0.8**	
	comp=Z,0.7nm,0.5s,baz=303,slow=6.5,SNR=7.8								
KBZ	**Khabaz**	**65.58**	**307**		P	**P**	**12 28 27.6**	**0.0**	
	comp=Z,4.4nm,0.8s,baz=38,slow=5.8,SNR=8.5								
KIV	**Kislovodsk**	**65.59**	**308**	*e*	P	**P**	**12 28 28.1**	**+0.1**	
KIV					pmax	pmax			
	comp=Z,65nm,1.1s								
KIV	**Kislovodsk**	**65.59**	**308**		P	**P**	**12 28 28.0**	**+0.1**	
KIV					IAmb	IAmb	12 28 29.4		
	comp=Z,16nm,0.8s								
ONI	**Oni**	**65.81**	**306**		P	**P**	**12 28 30.8**	**+1.5**	
ONI					pmax	pmax			
	comp=Z,7.0nm,1.0s								
ONI	**Oni**	**65.81**	**306**		P	**P**	**12 28 30.8**	**+1.5**	
ONI					IAmb	IAmb	12 28 31.4		
	comp=Z,6.9nm,1.0s								
UOSS	**Minazif**	**66.02**	**283**		P	**P**	**12 28 30.9**	**+0.1**	
UOSS					IAmb	IAmb	12 28 31.5		
	comp=Z,16nm,0.9s								
GURO	**Guroymak-BITLI**	**68.86**	**303**		P	**P**	**12 28 49.2**	**+0.9**	
GURO					IAmb	IAmb	12 28 49.6		
	comp=Z,9.8nm,0.8s								
SUMG	**Summit**	**68.99**	**358**		P	**P**	**12 28 49.8**	**+1.0**	
SUMG					pmax	pmax			
	comp=Z,12nm,0.8s								
SUMG	**Summit**	**68.99**	**358**		P	**P**	**12 28 49.8**	**+1.0**	
SUMG					IAmb	IAmb	12 28 50.8		
	comp=Z,12nm,0.8s								
AKASG	**Malin Array Be**	**69.54**	**319**		P	**P**	**12 28 51.2**	**-0.8**	
	comp=Z,7.1nm,0.6s,baz=50,slow=6.6,SNR=15								
AKASG	**Malin Array Be**	**69.54**	**319**		P	**P**	**12 28 51.8**	**-0.2**	
AKASG					IAmb	IAmb	12 28 52.6		
	comp=Z,5.6nm,1.4s								
AKBB	**Malin Array Si**	**69.54**	**319**		P	**P**	**12 28 51.5**	**-0.5**	
AKBB					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AKBB	**Malin Array Si**	**69.54**	**319**		P	**P**	**12 28 51.5**	**-0.5**	
AKBB					IAmb	IAmb	12 28 52.2		
	comp=Z,6.0nm,0.7s								
NOA	**NORSAR Array B**	**70.46**	**334**		P	**P**	**12 28 57.5**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=42,slow=6.1,SNR=5.6								
BNN	**Bunyan**	**72.69**	**306**		P	**P**	**12 29 10.5**	**-0.5**	
BURAR	**Bucovina Array**	**73.52**	**318**		P	**P**	**12 29 16.0**	**+0.3**	
BRTR	**Keskin Array B**	**73.55**	**308**		P	**P**	**12 29 15.8**	**-0.3**	
	comp=Z,2.0nm,0.6s,baz=98,slow=5.4,SNR=9.3								
BRTR	**Keskin Array B**	**73.55**	**308**		P	**P**	**12 29 16.3**	**+0.3**	
MLR	**Muntele Rosu**	**74.48**	**316**		P	**P**	**12 29 22.6**	**+1.4**	
MLR					pmax	pmax			
	comp=Z,8.0nm,1.4s								
MLR	**Muntele Rosu**	**74.48**	**316**		P	**P**	**12 29 22.6**	**+1.4**	
MLR					IAmb	IAmb	12 29 24.1		
	comp=Z,8.2nm,1.4s								
OJC	**Ojcow**	**74.51**	**323**		P	**P**	**12 29 22.1**	**+1.0**	
OJC					pmax	pmax			
	comp=Z,4.0nm,0.6s								
OJC	**Ojcow**	**74.51**	**323**		P	**P**	**12 29 22.1**	**+1.0**	
OJC					IAmb	IAmb	12 29 23.0		
	comp=Z,3.8nm,0.6s								
RAYN	**Ar Rayn**	**74.88**	**288**		P	**P**	**12 29 23.2**	**-0.5**	
RAYN					pmax	pmax			
	comp=Z,7.0nm,0.6s								
RAYN	**Ar Rayn**	**74.88**	**288**		P	**P**	**12 29 23.2**	**-0.5**	
RAYN					IAmb	IAmb	12 29 23.8		
	comp=Z,7.1nm,0.6s								
HRY	**Holter Researc**	**76.50**	**40**		P	**P**	**12 29 34.3**	**+1.8**	
LRM	**Limekiln Ridge**	**76.78**	**41**		P	**P**	**12 29 36.0**	**+1.7**	
CLL	**Collm**	**76.83**	**327**	*i*	P	**P**	**12 29 34.5**	**+0.5**	
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**76.83**	**327**		*e*P	**P**	**12 29 32.0**	**-2.0**	
DLMT	**Dillon**	**77.02**	**42**		P	**P**	**12 29 37.2**	**+1.8**	
GHAJ	**Ghor Haditha**	**77.37**	**300**		P	**P**	**12 29 38.2**	**+0.8**	
VTS	**Vitosha**	**77.83**	**315**		P	**P**	**12 29 41.2**	**+1.2**	
VTS	**Vitosha**	**77.83**	**315**		P	**P**	**12 29 41.1**	**+1.2**	
VTS					IAmb	IAmb	12 29 41.5		
	comp=Z,7.0nm,1.0s								
KVN	**Kaiserville**	**78.10**	**49**		P	**P**	**12 29 43.4**	**+1.9**	
KVN					pmax	pmax			
	comp=Z,106nm,0.7s								
KVN	**Kaiserville**	**78.10**	**49**		P	**P**	**12 29 43.4**	**+1.9**	
GERES	**GERESS Array B**	**78.31**	**325**		P	**P**	**12 29 43.2**	**+0.8**	
	comp=Z,0.6nm,0.5s,baz=108,slow=7.4,SNR=3.7								
NVAR	**Mina Array Bea**	**78.38**	**50**		P	**P**	**12 29 44.6**	**+1.5**	
	comp=Z,1.1nm,0.7s,baz=301,slow=5.1,SNR=12								
H17A	**Grant Village**	**78.72**	**41**		P	**P**	**12 29 48.0**	**+3.1**	
LIT	**Litokhoron**	**79.93**	**314**		P	**P**	**12 29 51.3**	**+0.2**	
LIT	**Litokhoron**	**79.93**	**314**		P	**P**	**12 29 51.3**	**+0.2**	
PDAR	**Pinedale Array**	**80.39**	**42**		P	**P**	**12 29 54.5**	**+0.8**	
	comp=Z,1.1nm,0.6s,baz=355,slow=0.5,SNR=10								
TPNV	**Topopah Spring**	**80.58**	**50**		P	**P**	**12 29 56.0**	**+1.3**	
TPNV					pmax	pmax			
	comp=Z,168nm,0.9s								
TPNV	**Topopah Spring**	**80.58**	**50**		P	**P**	**12 29 56.0**	**+1.3**	
ULM	**Lac du Bonnet**	**81.09**	**30**		P	**P**	**12 29 57.4**	**+0.5**	
	comp=Z,3.4nm,0.5s,baz=286,slow=5.0,SNR=3.4								
ITM	**Ithomi**	**82.24**	**312**		P	**P**	**12 30 02.4**	**-0.7**	
U15A	**North Rim**	**83.27**	**48**		P	**P**	**12 30 10.8**	**+2.1**	
PV20	**West Nyswonger**	**83.83**	**45**		P	**P**	**12 30 13.4**	**+2.1**	
TXAR	**Lajitas Array**	**93.39**	**48**		P	**P**	**12 30 57.7**	**+1.2**	
	comp=Z,0.5nm,0.6s,baz=287,slow=2.7,SNR=7.3								
TSUM	**Tsumeb**	**122.47**	**271**		PKPdf	**PKiKP**	**12 36 35.0**	**+0.7**	

BGR ***23*** *12:18:00.9±0.0,26.97N×140.94E,h240km±6km,mb6.7*

NIED ***23*** *12:18:29.1,27.70N×140.18E,h484km,MW6.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr=4.69; Mθθ=2.12; Mϕϕ=2.57; Mrθ=-1.18; Mθϕ=-3.08; Mϕr=1.60; Fault plane solution: Mo5.47000×10¹⁸ NP1: ϕs338.00000°,δ51.00000°,λ-61.00000°. NP2: ϕs116.00000°,δ47.00000°,λ-121.00000°.*

JMA ***23*** *12:18:29.0±0.2,27.70N×140.18E,h484km±4km,M6.8*

JMA Felt IV J1.

MOS ***23*** *12:18:29.1±0.8,27.59N×139.78E,h475km,mb6.2/104, Error ellipse: s-maj=7.8km s-min=4.4km az=108.4*

IDC ***23*** *12:18:29.8±0.5,27.68N×139.80E,h464km±5km,mb5.3/48, mb1 5.3/54,mb1mx5.3/57,mbtmp6.1/54,Error ellipse: s-maj=7.2km s-min=5.0km az=85.0*

NEIC ***23*** *12:18:30.1,27.68N×139.80E,h459km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=4.95; Mθθ=1.02; Mϕϕ=3.93; Mrθ=-0.46; Mθϕ=-4.27; Mϕr=4.92; Fault plane solution: Mo7.95000×10¹⁸ NP1:ϕs350.68000°, δ66.92000°,λ-61.51000°. NP2:ϕs116.53000°,δ36.05000°, λ-138.22000°. Principal axes: T 8.1436, Plg17.0000°, Azm60.0000°; N -0.4099, Plg26.0000°, Azm159.0000°; P -7.7337, Plg58.0000°, Azm300.0000°;*

BJI ***23*** *12:18:30.4±0.0,27.70N×139.70E,h460km,mB6.3/54, mb6.1/80*

NEIC ***23*** *12:18:30.3±2.0,27.74N±0.07×139.73E±0.09, h460km±1km,mb5.8/575,Mwb6.5/98,Mwc6.5/86,Mww6.5, Mwc6.5(GCMT),Error ellipse: s-maj=13.6km s-min=12.6km az=256.0*

GCMT ***23*** *12:18:33.3±0.1,27.68N±0.01×139.85E±0.01, h458km,MW6.5/166,Moment Tensor Solution. s166,c431; s156,c281; Duration: 4s4 Moment tensor: Scale 10¹⁸Nm; Mrr=4.56±.02; Mθθ=2.20±.04; Mϕϕ=2.36±.04; Mrθ=0.48±.03; Mθϕ=4.06±.03; Mϕr=4.83±.03; Best double couple: Mo7.45400×10¹⁸ NP1:ϕs107.00000°,δ38.00000°, λ-141.00000°. NP2:ϕs345.00000°,δ67.00000°, λ-59.00000°. Principal axes: T 7.2800, Plg17.0000°, Azm53.0000°; N 0.3470, Plg29.0000°, Azm152.0000°; P -7.6270, Plg56.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 23 12:18:30.4±0.2,27.69N±0.02×139.79E±0.03,h472km±1km, h473km:pP-P,n2610,σ1¶46/2608,mb5.8/627,340C-306D, Fault plane solution: NP1:ϕs348.61823°,δ78.14822°, λ-50.13868°. NP2:ϕs92.43693°,δ41.30257°, λ-161.87048°. Principal axes: T Plg22.7044°, Azm49.1937°; N Plg38.8489°, Azm158.8873°; P Plg42.5652°, Azm296.5953°; **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.21**	**105**	P	**P**	**12 19 32.3**	**-1.8**
CBIJ				S	**S**	**12 20 22.5**	**-3.3**
JCJ	**Chichijima**	**2.21**	**105**	P	**P**	**12 19 32.2**	**-1.9**
	13μm,0.3s,baz=14,slow=9.2,SNR=817						
JCJ				S	**S**	**12 20 22.2**	**-3.6**
	22μm,0.3s,baz=298,slow=16,SNR=8.7						
JCJ	**Chichijima**	**2.21**	**105**		**P**	**12 19 32.5**	**-1.6**
JHH2	**Haha-jima-NKT2**	**2.37**	**116**	P	**P**	**12 19 33.6**	**-1.5**
JHH2				*e*S	**S**	**12 20 24.5**	**-3.0**
JAOM	**Aogashimamukai**	**4.76**	**360**	P	**P**	**12 19 54.0**	**+0.4**
JAOM				*e*S	**S**	**12 20 59.6**	**-1.9**
JHCJ	**Hachijojimakas**	**5.37**	**0**	⇓P	**P**	**12 19 59.2**	**0.0**
JHCJ				*e*S	**S**	**12 21 08.9**	**-2.9**
JHJ2	**Mitsune**	**5.41**	**0**	⇓P	**P**	**12 19 59.6**	**0.0**
JHJ2				*e*S	**S**	**12 21 10.1**	**-2.4**
JHJ2	**Mitsune**	**5.41**	**0**		**P**	**12 19 59.4**	**-0.2**
JHJ	**Hachijo jima 2**	**5.41**	**360**	P	**P**	**12 19 59.7**	**+0.1**
	2μm,0.3s,baz=20,slow=7.6,SNR=217						
JHJ				S	**S**	**12 21 09.3**	**-3.3**
	3μm,0.3s,baz=95,slow=21,SNR=12						
JHJ	**Hachijo jima 2**	**5.41**	**360**		**S**	**12 21 09.3**	**-3.3**
TTO1	**TONANKAI O.B.S**	**6.46**	**337**	P	**P**	**12 20 13.3**	**+3.6**
TK02	**Tokai 2**	**6.48**	**345**	P	**P**	**12 20 12.2**	**+2.2**
BSO1	**Boso 1**	**7.02**	**8**	P	**P**	**12 20 15.6**	**+0.5**
JTNC	**Tanabenakahech**	**7.09**	**331**	P	**P**	**12 20 19.0**	**+2.5**
JTNC				*e*S	**S**	**12 21 46.3**	**+2.8**
JSG	**Sagara**	**7.10**	**349**	P	**P**	**12 20 16.9**	**+0.4**
JIE	**Ise**	**7.19**	**339**	P	**P**	**12 20 19.8**	**+2.4**
JIE				*e*S	**S**	**12 21 47.1**	**+1.9**
JOD2	**Odawara 2**	**7.58**	**356**	⇑P	**P**	**12 20 21.4**	**-0.1**
JOD2				*e*S	**S**	**12 21 51.3**	**-1.5**
JKDJ	**Kitadaitoujima**	**7.78**	**259**	⇑P	**P**	**12 20 24.7**	**+0.9**
JMN	**Monobe**	**7.88**	**321**	P	**P**	**12 20 28.2**	**+3.4**
JMN	**Monobe**	**7.88**	**321**	P	**P**	**12 20 27.8**	**+3.0**
JTO	**Tosashimizu**	**7.94**	**312**	P	**P**	**12 20 28.5**	**+3.1**
JTO				S	**S**	**12 22 02.7**	**+2.8**
INU	**Inuyama**	**7.99**	**343**	P	**P**	**12 20 27.3**	**+1.4**
JKU	**Kubokawa**	**8.06**	**316**	P	**P**	**12 20 30.0**	**+3.3**
JGF	**Kuroka**	**8.16**	**346**	P	**P**	**12 20 29.2**	**+1.5**
JNKG	**Nichinankitago**	**8.32**	**300**	⇓P	**P**	**12 20 33.1**	**+3.7**
JRY	**Ryogami san**	**8.34**	**355**	P	**P**	**12 20 29.9**	**+0.3**
JWT	**Wachi**	**8.45**	**335**	P	**P**	**12 20 30.2**	**-0.5**
JTSR	**Tashiro 2**	**8.47**	**296**	⇓P	**P**	**12 20 34.2**	**+3.1**
JTSN	**Tsuno**	**8.50**	**304**	P	**P**	**12 20 34.9**	**+3.6**
JHHC	**Hyugahichiya**	**8.50**	**306**	P	**P**	**12 20 34.7**	**+3.3**
JYT	**Yasato**	**8.52**	**2**	P	**P**	**12 20 30.9**	**-0.5**
MJAR	**Matsushiro Arr**	**8.93**	**352**	P	**P**	**12 20 35.6**	**-0.3**
	6.3nm,0.3s,baz=163,slow=9.4,SNR=19						
MJAR	**Matsushiro Arr**	**8.93**	**352**	P	**P**	**12 20 35.4**	**-0.5**
MAJO	**Matsushiro**	**8.93**	**352**	*i* P	**P**	**12 20 35.3**	**-0.6**
MAJO	**Matsushiro**	**8.93**	**352**	P	**P**	**12 20 35.8**	**-0.1**
MAT	**Matsushiro**	**8.93**	**352**	P	**P**	**12 20 35.7**	**-0.2**
MAT				S	**S**	**12 22 15.2**	**-3.9**
MJB9	**Matsu-Tunnel**	**8.93**	**352**	P	**P**	**12 20 35.9**	**-0.1**
JSU	**Suzuyama**	**8.97**	**297**	⇓P	**P**	**12 20 39.2**	**+2.8**
JSU	**Suzuyama**	**8.97**	**297**	P	**P**	**12 20 39.2**	**+2.8**
JTT	**Ttatey**	**9.13**	**347**	P	**P**	**12 20 39.9**	**+1.9**
JHS	**Saijyo**	**9.25**	**324**	P	**P**

SNR=390
KSADO **Andong** 12.65 316 P P 12 21 19.0 +3.1
SNR=10
KSADO **Andong** 12.65 316 P P 12 21 17.0 +1.2
SNR=231
KOHB **KOHEUNG** 12.74 306 P P 12 21 18.0 +1.1
SNR=607
KOHB **KOHEUNG** 12.74 306 P P 12 21 18.0 +1.1
SNR=607
KOHB **KOHEUNG** 12.74 306 P P 12 21 18.8 +1.9
SNR=189
UJN **ULJIN** 12.76 319 P P 12 21 17.6 +0.6
SNR=56
KSJJU **Jeju** 12.76 300 P P 12 21 18.6 +1.4
SNR=124
KSJJU **Jeju** 12.76 300 P P 12 21 18.6 +1.4
SNR=124
KSEUS **ULSEONG** 12.77 315 P P 12 21 17.9 +0.7
SNR=180
KSEUS **ULSEONG** 12.77 315 P P 12 21 18.1 +0.9
SNR=129
KSKCH **Geochang** 12.82 311 P P 12 21 18.9 +1.1
SNR=74
BOSB **Boseong-gun** 12.86 306 P P 12 21 20.0 +1.8
SNR=233
BOSB **Boseong-gun** 12.86 306 P P 12 21 19.3 +1.1
SNR=657
HAMB **Hamyang** 12.88 310 P P 12 21 20.4 +2.0
SNR=67
HAMB **Hamyang** 12.88 310 P P 12 21 20.0 +1.6
SNR=99
HAMB **Hamyang** 12.88 310 P P 12 21 20.4 +2.0
SNR=67
HAMB **Hamyang** 12.88 310 P P 12 21 20.4 +2.0
SNR=67
HALB **Hallimjungang-** 12.96 299 P P 12 21 21.0 +1.7
SNR=241
HALB **Hallimjungang-** 12.96 299 P P 12 21 21.0 +1.7
SNR=241
IMWB **Imwonan-gil** 12.97 320 P P 12 21 19.3 0.0
SNR=106
GOS1 **Gosan-ri** 12.97 299 P P 12 21 20.7 +1.3
SNR=76
GOS1 **Gosan-ri** 12.97 299 P P 12 21 20.9 +1.5
SNR=156
KSGIC **Gimchen** 12.97 313 P P 12 21 20.1 +0.8
SNR=27
KSSCH **SUNCHEON** 12.99 308 P P 12 21 20.7 +1.1
SNR=166
NAWB **Namwon** 13.07 309 P P 12 21 22.0 +1.6
SNR=77
JTM **Tenmabayashi** 13.11 4 P P 12 21 21.0 +0.3
KSTBA **Taebaek** 13.12 319 P P 12 21 23.4 +2.4
SNR=9.7
KSTBA **Taebaek** 13.12 319 P P 12 21 21.7 +0.8
SNR=37
KSTBA **Taebaek** 13.12 319 P P 12 21 23.4 +2.4
SNR=9.7
KSSAJ **Sangju** 13.14 314 P P 12 21 21.6 +0.5
SNR=50
KSCPR **CHUPUNGNYEONG** 13.14 313 P P 12 21 21.7 +0.5
SNR=17
KSCPR **CHUPUNGNYEONG** 13.14 313 P P 12 21 21.7 +0.5
SNR=17
KSKWJ **Gwangju** 13.22 307 P P 12 21 22.9 +0.9
SNR=66
SUCA **Sunchang** 13.22 309 P P 12 21 23.0 +0.9
SNR=96
JOGS **Gusukube** 13.23 261 P P 12 21 24.6 +2.3
JOGS *eS* S 12 23 49.7 +5.5
KSGWL **Sabuk** 13.25 318 P P 12 21 22.8 +0.6
SNR=79
OKCB **Cheongsan-myeo** 13.33 313 P P 12 21 24.0 +0.8
SNR=56
OKCB **Cheongsan-myeo** 13.33 313 P P 12 21 24.0 +0.8
SNR=56
KSMGY **Mungyeong** 13.35 315 P P 12 21 23.7 +0.3
SNR=34
KSMGY **Mungyeong** 13.35 315 P P 12 21 24.2 +0.8
SNR=36
KSJDO **Jindo** 13.37 304 P P 12 21 25.4 +1.7
SNR=16
KSBON **Boeun** 13.42 314 P P 12 21 24.8 +0.6
SNR=32
KSJEO **Jeonju** 13.43 311 P P 12 21 25.0 +0.8
SNR=36
KSJEU **Jeongeup** 13.43 309 P P 12 21 26.2 +1.9
SNR=29
KSJEU **Jeongeup** 13.43 309 P P 12 21 24.7 +0.4
SNR=48
OKEB **Okgye-meyeon** 13.44 320 P P 12 21 25.0 +0.6
SNR=33
KSYOW **Yeongwol** 13.45 318 P P 12 21 25.3 +0.9
SNR=116
KSCHJ **Chungju** 13.54 315 P P 12 21 26.0 +0.5
SNR=20
KSCHJ **Chungju** 13.54 315 P P 12 21 25.7 +0.2
SNR=22
KSCHJ **Chungju** 13.54 315 P P 12 21 26.0 +0.5
SNR=20
GOCB **Gochang-gun** 13.59 307 P P 12 21 27.0 +1.0
SNR=55
TJN **Taejon** 13.63 313*d* *i*P P 12 21 25.7 -0.7
KSDGY **Daegwallycong** 13.66 320 P P 12 21 28.0 +1.2
SNR=19
JOT **Ohata** 13.70 4 P P 12 21 28.5 +1.5
KSJMJ **Jumunjin** 13.75 320 P P 12 21 29.2 +1.5
SNR=9.0
SMKB **Mukjeong-gil** 13.79 309 P P 12 21 29.0 +0.8
SNR=25
EMSB **Eumseong** 13.83 315 P P 12 21 29.0 +0.5
SNR=16
EMSB **Eumseong** 13.83 315 P P 12 21 29.0 +0.5
SNR=16
KSWJU **Wonju** 13.84 317 P P 12 21 31.0 +2.4
SNR=9.2
KSWJU **Wonju** 13.84 317 P P 12 21 31.0 +2.4
SNR=9.2
KSRS **Korea Array** 13.95 317 P P 12 21 30.0 +0.3
27nm,0.3s,baz=132,slow=10,SNR=90
KSRS PcP **PcP** 12 26 16.1 +1.5
baz=166,slow=0.6,SNR=5.4
KSRS ScP **ScP** 12 29 03.2 +0.1
1.9nm,0.3s,baz=123,slow=1.3,SNR=13
KSRS **Korea Array** 13.95 317 **PcP** 12 26 16.1 +1.5
KSAR **Wonju Array Be** 13.96 317 P P 12 21 30.0 +0.1
KSAR **Wonju Array Be** 13.96 317 P P 12 21 30.0 +0.1
KSCEA **Cheonan** 13.97 314 P P 12 21 29.8 -0.1
SNR=65
KS19 **Wonju Array Si** 14.01 317 P P 12 21 30.2 -0.3
KSICN **Icheon** 14.15 316 P P 12 21 31.8 -0.1
SNR=106
PYTK **Pyeongtaek** 14.16 314 P P 12 21 31.7 -0.3
SNR=41
KSSKC **Sokcho** 14.17 321 P P 12 21 32.5 +0.4
SNR=17
KSSKC **Sokcho** 14.17 321 P P 12 21 32.5 +0.4
SNR=17
KSIJA **INJE** 14.19 319 P P 12 21 32.5 +0.1
SNR=83
JKB **Kayabe** 14.20 4 S S 12 24 02.6 0.0
KSCHC **Chuncheon** 14.23 318 P P 12 21 33.0 +0.3
SNR=35
SEHB **SEOHWA** 14.31 320 P P 12 21 33.6 0.0
SNR=170
SEHB **SEOHWA** 14.31 320 P P 12 21 33.6 0.0
SNR=170
KSSWO **Suwon** 14.42 315 P P 12 21 34.4 -0.3
SNR=124
HAWB **Hwaseong-si** 14.43 314 P P 12 21 34.1 -0.8
SNR=15
JIJ **Ishigaki jima** 14.45 260 P P 12 21 35.7 +0.4
KSSES **Seosan** 14.47 312 P P 12 21 35.0 -0.3
SNR=23
KSSES **Seosan** 14.47 312 P P 12 21 35.0 -0.3
SNR=23
ERM **Erimo** 14.56 10*ce*P P 12 21 37.0 +0.9
ERM pmax pmax
comp=Z,2μm,1.3s
ERM **Erimo** 14.56 10 P P 12 21 36.6 +0.5
KSSEO **Seoul** 14.59 315 P P 12 21 37.0 +0.5
SNR=76
HWCB **Hwacheon** 14.61 319 P P 12 21 38.0 +1.2
SNR=28
KSSOD **Songwoldong** 14.61 316 P P 12 21 37.3 +0.6
SNR=54
INCN **Inchon** 14.76 315 P P 12 21 37.8 -0.7
INCN **Inchon** 14.76 315 P 12 21 37.8 -0.7

KSDEI **Deokjeokdo** 14.96 313 P P 12 21 39.8 -0.8
SNR=20
KSDEI **Deokjeokdo** 14.96 313 P P 12 21 39.8 -0.8
SNR=20
KSGAH **Ganghwa** 15.02 315 P P 12 21 40.5 -0.6
SNR=30
JEW **Eniwo** 15.18 5 P P 12 21 43.0 +0.2
YOJ **Yonaguni jima** 15.41 262 P P 12 21 45.5 0.0
YOJ **Yonaguni jima** 15.41 262 P P 12 21 45.5 0.0
YOJ pmax pmax
comp=Z,1μm,0.8s
YOJ **Yonaguni jima** 15.41 262 P P 12 21 45.5 0.0
NMR **Nemuro--Hokkai** 16.37 16 *e*P P 12 21 55.7 +0.4
NMR *i* S S 12 24 45.5 +1.2
MSHR **Mys Shultsa** 16.43 337*ce*P P 12 21 56.0 0.0
MSHR pmax pmax
comp=Z,5μm,1.0s
ASAJ **Asahikawa** 16.55 7 P P 12 21 56.9 -0.3
comp=Z,29nm,0.3s,baz=224,slow=9.6,SNR=15
ASAJ ScP **ScP** 12 29 08.4 +0.5
comp=Z,3.9nm,0.3s,baz=323,slow=10,SNR=5.3
JKA **Kamikawa-asahi** 16.55 7 **ScP** 12 29 08.4 +0.5
JKA **Kamikawa-asahi** 16.55 7 P P 12 21 56.4 -0.8
SSE **Sheshan** 16.56 286 P P 12 21 55.5 -2.0
SSE S S 12 24 46.1 -2.3
SSE pmax pmax
comp=Z,34nm,0.5s
SSE pmax pmax
comp=Z,3μm,6.9s
TATO **Taipei** 16.63 265 P 12 21 57.5 -0.8
TATO IAmb IAmb 12 22 05.7
comp=Z,524nm,0.9s
GLVR **Golovnino** 16.67 15 *e*P P 12 21 59.2 +0.8
GLVR *i* S S 12 24 52.9 +3.0
GLVR pmax pmax
comp=Z,1μm,0.6s
GLVR pmax pmax
comp=N,396nm,0.4s
GLVR pmax pmax
comp=E,315nm,0.5s
VLA **Vladivostok** 16.68 339*d* *i*P P 12 21 58.8 +0.3
NACB **Ninganchiao** 16.74 262 P P 12 21 57.0 -2.4
NACB IAmb IAmb 12 22 06.1
comp=Z,285nm,0.7s
YHNB **Yeheng** 16.80 264 P P 12 21 58.4 -1.8
RUSJ **Misakicho** 16.96 14 *e*P P 12 22 02.4 +0.9
GRPR **Tuman** 16.97 15 *e*P P 12 22 02.1 +0.5
GRPR pmax pmax
comp=Z,1μm,0.6s
GRPR pmax pmax
comp=N,1μm,0.5s
GRPR pmax pmax
comp=E,1μm,0.5s
YUK **Yuzh-Kuril'sk** 17.03 15*c* *i*P P 12 22 02.2 0.0
YUK *i* S S 12 24 56.8 +0.3
YUK pmax pmax
comp=Z,1767μm,1.1s
YUK pmax pmax
comp=E,587μm,0.6s
YUK pmax pmax
comp=N,679μm,1.1s
YUK pmax pmax
comp=Z,6μm,1.2s
YULB **Yu-li** 17.23 260 P P 12 22 03.2 -1.3
SSLB **Suanglung** 17.41 261 P P 12 22 05.7 -0.7
TWG **Pinlang** 17.61 258 P P 12 22 07.2 -1.2
USA0B **Ussuriysk Arra** 17.63 341 P P 12 22 08.9 +0.6
USA0B pmax pmax
comp=Z,3μm,0.9s
USA0B **Ussuriysk Arra** 17.63 341 P P 12 22 08.9 +0.6
USRK **Ussuriysk Ar.** 17.63 341 P P 12 22 08.6 +0.4
baz=156,slow=10,SNR=171
USRK S S 12 25 08.6 +1.7
baz=157,slow=16,SNR=5.9
USRK ScP **ScP** 12 29 10.2 +0.1
baz=115,slow=0.6,SNR=13
USRK **Ussuriysk Ar.** 17.63 341 P P 12 22 08.7 +0.4
BBP **Basco** 17.79 250 *e*P P 12 23 24.9 +75
TPUB **Ta-pu** 17.84 260 P P 12 22 10.0 -0.6
KUR **Kuril'sk** 18.66 18*c* *i*P P 12 22 18.3 +0.3
KUR *i* S S 12 25 14.2 -10
KUR pmax pmax
comp=Z,2μm,1.0s
KUR pmax pmax
comp=E,334nm,0.6s
KUR pmax pmax
comp=N,384nm,0.8s
KUR pmax pmax
comp=Z,18μm,4.2s
KUR pmax pmax
comp=N,11μm,4.3s
KUR pmax pmax
comp=E,4μm,3.8s
KUR smax smax
comp=N,404nm,1.5s
KUR smax smax
comp=E,115nm,1.3s
KUR smax smax
comp=E,58μm,17.9s
KUR smax smax
comp=N,65μm,10.5s
NJ2 **Nanjing** 18.66 289 ⇓P P 12 22 17.5 -0.8
NJ2 sP **sP** 12 24 15.5 -4.2
NJ2 S S 12 25 24.3 0.0
NJ2 ScP **ScP** 12 29 15.8 +3.2
NJ2 ScS **ScS** 12 32 58.4 +4.0
NJ2 pmax pmax
comp=N,1μm,0.9s
NJ2 pmax pmax
comp=N,9μm,3.5s
MDJ **Mudanjiang** 18.77 337 P P 12 22 20.3 +1.3
MDJ S S 12 25 30.3 +4.7
MDJ ScP **ScP** 12 29 14.1 +1.5
MDJ ScS **ScS** 12 32 56.4 +2.1
MDJ pmax pmax
comp=N,22μm,3.9s
MDJ **Mudanjiang** 18.77 337 P P 12 22 19.9 +0.9
DL2 **Dalian** 18.82 311 ⇓*i*P P 12 22 18.6 -1.0
DL2 sP **sP** 12 24 17.8 -3.5
DL2 S S 12 25 26.1 -0.5
DL2 ScP **ScP** 12 29 13.4 +0.6
DL2 ScS **ScS** 12 32 53.5 -1.1
DL2 pmax pmax
comp=N,1μm,0.6s
DL2 pmax pmax
comp=N,6μm,4.9s
QZH **Quanzhou** 19.20 267 ⇓*i*P P 12 22 22.6 -0.6
QZH sP **sP** 12 24 18.3 -7.6
QZH S S 12 25 31.3 -1.7
CVP **Callao Caves** 19.30 243 *e*P P 12 22 24.2 -0.1
SNY **Shenyang** 19.35 321 S S 12 25 22.6 -13
SNY **Shenyang** 19.35 321 L L
comp=N,22μm,16.5s
SNY **Shenyang** 19.35 321 L L
comp=N,37μm,13.7s
SNY **Shenyang** 19.35 321 L L
comp=N,29μm,13.5s
SNY **Shenyang** 19.35 321 pmax pmax
comp=N,10μm,5.3s
SNY **Shenyang** 19.35 321 pmax pmax
comp=N,4μm,1.1s
SNY **Shenyang** 19.35 321 ⇓P P 12 22 15.8 -8.6
SNY **Shenyang** 19.35 321 sP sP 12 24 23.4 -3.7
YSS **Yuzh-Sakhalins** 19.37 6*ce*P P 12 22 25.2 +0.7
YSS *e*S S 12 25 35.1 -0.2
YSS pmax pmax
comp=Z,5μm,6.1s
YSS pmax pmax
comp=N,3μm,5.6s
YSS pmax pmax
comp=E,8μm,4.4s
YSS pmax pmax
comp=Z,790nm,1.0s
YSS pmax pmax
comp=N,570nm,1.1s
YSS smax smax
comp=N,500nm,1.0s
YSS smax smax
comp=E,530μm,1.1s
YSS **Yuzh-Sakhalins** 19.37 6 P P 12 22 25.3 +0.7
KNMB **Chin-men Tao** 19.49 265 P P 12 22 25.9 0.0
APYP **Conner** 19.68 244 ⇑*i*P P 12 22 26.5 -1.1
APYP *i* S S 12 25 39.6 -1.3
CAUP **Cauayan** 19.74 241 *e*P P 12 22 29.1 +0.9
ABRA **Dolores** 20.22 244 *e*P P 12 22 31.8 -0.7

SAMP **Sagada Mountai** 20.38 243 *e*P P 12 22 33.1 -1.0
SZP **Santa** 20.47 245 P P 12 22 35.2 +0.3
SCSP **San Jose Seism** 20.62 231 *e*P P 12 22 37.5 +1.3
JCNP **Jose Panganiba** 20.76 234 *e*P P 12 22 37.5 0.0
JCNP **Jose Panganiba** 20.76 234 ⇓*i*P P 12 22 38.1 +0.5
JCNP *i* S S 12 24 39.0 -79
TIA **Tai'an** 20.99 300 ⇓P P 12 22 39.8 +0.4
TIA pmax pmax
comp=E,5μm,0.8s
SMPP **San Manuel, Pa** 21.09 241 *e*P P 12 22 38.8 -1.7
PCPH **Palayan** 21.12 239 ⇓*e*P P 12 22 40.6 -0.2
GQP **Guinayangan** 21.20 233 ⇓*e*P P 12 22 40.5 -1.1
UGL **Uglegorsk** 21.43 4 ⇓*i*P P 12 22 45.1 +1.9
UGL *e*S S 12 26 08.9 +0.6
UGL pmax pmax
comp=Z,1μm,1.0s
UGL smax smax
comp=E,23μm,12.0s
BOLP **Bolinao** 21.55 243 *e*P P 12 22 43.4 -1.4
LQP **Lukban** 21.71 235 *e*P P 12 22 45.6 -0.8
QVP **Quezon City--P** 21.78 237 *e*P P 12 22 45.4 -1.3
OCLP **Ormoc** 21.84 224 *e*P P 12 22 49.0 +1.6
BOAC **Boac** 21.93 233 *e*P P 12 22 48.6 +0.5
GLSP **General Luna,** 21.98 218 *e*P P 12 22 46.9 -1.6
TGY **Tagaytay City** 22.16 236 P P 12 22 50.9 +0.5
comp=E,1μm,0.6s,baz=162,slow=1.2,SNR=14
TGY **Tagaytay City** 22.16 236 *e*P P 12 22 51.3 +1.0
MACP **Maragondon, Ca** 22.22 237 *e*P P 12 22 52.8 +2.0
KLR **Kul'dur** 22.39 346 P P 12 22 52.7 +0.8
comp=E,302nm,0.5s,baz=147,slow=9.8,SNR=54
KLR ScP **ScP** 12 29 21.6 +0.3
comp=E,411nm,1.1s,baz=290,slow=2.3,SNR=10
KLR **Kul'dur** 22.39 346*ce*P P 12 22 52.5 +0.7
KLR **Kul'dur** 22.39 346 P P 12 22 52.7 +0.8
WHN **Wuhan** 22.39 283 ⇓P P 12 22 52.9 +0.7
WHN sP **sP** 12 25 02.4 +2.2
WHN S S 12 26 30.8 +6.8
WHN pmax pmax
comp=E,2μm,0.9s
MSLP **Maasin** 22.42 222 ⇑*e*P P 12 22 52.5 -0.1
PGP **Puerto Galera** 22.54 235 ⇓*e*P P 12 22 53.0 -0.7
RCP **Roxas** 22.65 228 ⇓*e*P P 12 22 55.7 +1.0
LLP **Lapu-Lapu** 22.81 224 *e*P P 12 22 55.5 -0.6
LLP *e*S S 12 26 29.5 -1.5
LUBP **Lubang** 22.91 237 ⇑*e*P P 12 22 56.9 0.0
BUTP **Butuan** 22.93 218 *e*P P 12 22 58.5 +1.4
BJT **Baijiatuau** 23.07 308 P P 12 22 57.6 -0.6
BJT pmax pmax
comp=Z,686nm,0.8s
BJT **Baijiatuau** 23.07 308 P P 12 22 57.6 -0.6
BJI **Beijing** 23.08 308 P P 12 22 57.9 -0.3
BJI sP **sP** 12 25 08.1 +0.5
BJI PcP **PcP** 12 22 32.3 +1.7
BJI S S 12 26 36.0 +1.4
BJI ScP **ScP** 12 29 25.3 +1.9
BJI ScS **ScS** 12 33 09.0 -1.0
BJI pmax pmax
comp=Z,390nm,1.2s
SJMP **San Jose** 23.12 233 *e*P P 12 22 58.5 -0.4
TYV **Tymovskoe** 23.25 5 *e*P P 12 23 00.9 +1.4
TYV *e*S S 12 26 40.5 +3.5
TYV pmax pmax
comp=Z,1μm,2.5s
TYV pmax pmax
comp=Z,200nm,1.4s
TYV smax smax
comp=E,18μm,9.0s
TYV smax smax
comp=E,179nm,1.9s
CGP **Cagayan de Oro** 23.86 220 ⇓*e*P P 12 23 05.1 -0.4
CNOP **Candoni, Negro** 24.01 226 ⇓*e*P P 12 23 05.4 -1.5
SNPH **Sibulan** 24.02 224 *e*P P 12 23 06.9 0.0
BUSP **Coron** 24.09 233 *e*P P 12 23 07.7 +0.2
BUKP **Musuan** 24.13 218 *e*P P 12 23 08.6 +0.6
BUKP **Musuan** 24.13 218 ⇓*i*P P 12 23 17.7 +10
MATI **Mati** 24.30 214 *e*P P 12 23 10.9 +1.5
GZH **Guangzhou** 24.31 265 P P 12 23 05.6 -3.8
GZH sP **sP** 12 25 17.8 -3.4
GZH S S 12 26 47.9 -6.5
GZH pmax pmax
comp=E,5μm,11.3s
CUYO **Cuyo Island** 24.32 230 *e*P P 12 23 10.2 +0.6
MCO **Taipa Grande** 24.41 263 P P 12 23 11.0 +0.7
DAV **Davao City (W)** 24.54 216 P P 12 23 12.1 +0.6
comp=E,97nm,0.3s,baz=45,slow=4.4,SNR=5.3
DAV **Davao City (W)** 24.54 216 P P 12 23 12.1 +0.6
DAV **Davao City (W)** 24.54 216 IAmb IAmb 12 23 44.9
comp=Z,449nm,1.1s
DAV **Davao City (W)** 24.54 216 P P 12 23 10.6 -0.9
comp=Z,336nmcomp=Z,350nm,0.5s
KCP **Kidapawan** 24.84 217 ⇑*e*P P 12 23 14.3 -0.1
TIY **Taiyuan** 25.02 300 P P 12 23 16.1 +0.5
TIY sP **sP** 12 25 28.0 -0.6
TIY S S 12 27 09.3 +3.9
TIY pmax pmax
comp=Z,500nm,1.5s
TIY pmax pmax
comp=Z,4μm,4.5s
PAGZ **Pagadian** 25.11 221 ⇑*e*P P 12 23 16.4 -0.2
PAGZ **Pagadian** 25.11 221 *e*P P 12 23 16.6 0.0
ENPP **El Nido** 25.18 233 *e*P P 12 23 18.1 +0.8
DDMP **Don Marcelino,** 25.29 214 *e*P P 12 23 19.4 -1.8
SKMP **Bagumbayan, Su** 25.55 217 *e*P P 12 23 23.0 +2.5
WAKE **Wake Island** 25.98 103 P P 12 23 24.0 -0.2
WAKE IAmb IAmb 12 23 28.7
comp=Z,429nm,0.8s
H11N2 **WAKE ISLAND Hy** 26.01 102 P P 12 23 24.4 0.0
baz=268,slow=9.5,SNR=30
H11N2 T T 12 50 29.9
baz=295,SNR=52
H11N1 **WAKE ISLAND Hy** 26.02 102 P P 12 23 24.4 +0.1
baz=268,slow=9.5,SNR=33
H11N1 T T 12 50 33.8
baz=295,slow=74,SNR=21
H11N3 **WAKE ISLAND Hy** 26.03 102 P P 12 23 24.5 0.0
baz=268,slow=9.5,SNR=32
H11N3 T T 12 51 04.3
baz=295,slow=74,SNR=41
SKR **Severo-Kuril's** 26.10 24 *e*P P 12 23 25.3 +0.4
SKR *e*S S 12 27 20.5 -1.4
SKR pmax pmax
comp=Z,1μm,2.6s
SKR pmax pmax
comp=Z,514nm,1.0s
SKR pmax pmax
comp=Z,300nm,2.1s
H11S3 **WAKE ISLAND Hy** 26.33 105 P P 12 23 27.9 +0.7
baz=253,slow=6.3,SNR=12
H11S3 T T 12 50 46.1
baz=297,slow=74,SNR=61
H11S1 **WAKE ISLAND Hy** 26.34 105 P P 12 23 27.9 +0.6
baz=253,slow=6.3,SNR=9.7
H11S1 T T 12 50 41.7
baz=297,slow=74,SNR=17
H11S2 **WAKE ISLAND Hy** 26.35 105 P P 12 23 28.0 +0.7
baz=253,slow=6.3,SNR=7.5
H11S2 T T 12 50 29.2
baz=297,slow=74,SNR=17
HIA **Hailar** 26.50 330*d* *i*P P 12 23 28.5 0.0
HIA pmax pmax
comp=Z,828nm,0.7s
HIA **Hailar** 26.50 330 P P 12 23 28.8 +0.3
ENH **Enshi** 26.60 283 P P 12 23 29.8 +0.1
HHC **Hu-ho-hao-te** 26.64 307 *e*P P 12 23 30.0 +0.1
HHC sP sP 12 25 42.0 -2.3
HHC S S 12 27 32.5 +1.7
HHC pmax pmax
comp=Z,340nm,1.3s
HHC pmax pmax
comp=Z,5μm,5.0s
XAN **Xi'an** 27.18 291 P P 12 23 34.8 +0.1
XAN S S 12 27 38.8 -0.6
XAN pmax pmax
comp=Z,1μm,0.9s
PATS **Pohnpei** 27.18 136 P P 12 23 34.4 -0.5
PATS IAmb IAmb 12 23 39.2
comp=Z,606nm,1.2s
PATS pP **pwP** 12 24 59.8 -1.3
SGSI **Sangihe** 27.48 212 P P 12 23 36.6 -0.9
comp=Z,4μmcomp=Z,255nm,0.6s
ZEA **Zeya** 27.62 344 *e*P P 12 23 39.0 +0.7
ZEA *e* 12 25 51.2
ZEA *e*S S 12 27 44.8 -0.8
ZEA pmax pmax

comp=E,270nm,1.2s
ZEA pmax pmax
comp=N,920nm,0.9s
ZEA pmax pmax
comp=Z,2µm,0.8s
ZEA smax smax
comp=N,3µm,6.2s
ZEA smax smax
comp=E,6µm,8.1s
ZEA MLR MLR
comp=N,6µm,13.0s
ZEA MLR MLR
comp=Z,6µm,13.0s
BTO Baotou 27.66 305 *e*P **P** **12 23 40.3 +1.3**
BTO S **S** **12 27 49.8 +3.0**
BATP Bataraza 28.00 232 *e*P **P** **12 23 43.5 +1.4**
GAMI Galela, Maluku 28.16 206 P **P** **12 23 43.1 -0.4**
comp=Z,2µmcomp=Z,184nm,1.0s
PEA0B Petropavlovsk- 28.66 23 P **P** **12 23 47.8 +0.4**
PEA0B pmax pmax
comp=Z,248nm,1.1s
PEA0B Petropavlovsk- 28.66 23 P **P** **12 23 47.8 +0.4**
PEA0B IAmb IAmb 12 24 05.4
comp=Z,248nm,1.1s
PETK Petropavlovsk- 28.66 23 P **P** **12 23 48.0 +0.5**
comp=Z,57nm,0.6s,baz=190,slow=4.3,SNR=43
PETK pP **pP** **12 25 05.7 -0.7**
comp=Z,157nm,1.1s,baz=186,slow=3.0,SNR=1.4
PETK ScP **ScP** **12 29 38.8 -0.7**
comp=Z,58nm,0.8s,baz=173,slow=3.8,SNR=8.6
PETK PKiKP **PKiKP** **12 34 16.1 -0.9**
comp=Z,15nm,0.9s,baz=87,slow=5.1,SNR=7.2
PETK Petropavlovsk- 28.66 23 P **P** **12 23 48.0 +0.5**
PETK Petropavlovsk- 28.66 23 P **P** **12 23 47.9 +0.5**
PETK Petropavlovsk- 28.66 23 pP 12 25 05.7 -0.7
QIZ Qiongzhong 28.75 259 P **P** **12 23 48.9 +0.2**
QIZ sP **sP** **12 26 01.8 -1.9**
QIZ S **S** **12 28 05.6 +1.4**
QIZ pmax pmax
comp=Z,200nm,1.6s
QIZ pmax pmax
comp=Z,3µm,14.3s
PET Petropavlovsk 28.93 24 *e*P **P** **12 23 49.4 -0.3**
PET *e**SP **sP** **12 26 01.5 -2.0**
PET *e*S **S** **12 28 06.6 +0.7**
PET *e* 12 33 33.1
PET pmax pmax
comp=Z,831nm,1.3s
PET pmax pmax
comp=Z,4µm,17.2s
PET pmax pmax
comp=Z,3µm,12.5s
PET MLR MLR
comp=Z,9µm,14.0s
PET MLR MLR
comp=Z,9µm,13.0s
PET Petropavlovsk 28.93 24 P **P** **12 23 50.3 +0.6**
BAKI Biak 28.93 188 P **P** **12 23 50.6 +0.3**
comp=Z,2µmcomp=Z,141nm,0.8s
MWPI Manokwari, Pap 28.99 192 P **P** **12 23 51.0 +0.3**
comp=Z,4µmcomp=Z,2µmcomp=Z,156nm,1.5s
TNTI Ternate 29.30 206 P **P** **12 23 53.4 0.0**
TNTI Ternate 29.30 206 P **P** **12 23 53.9 +0.5**
comp=Z,7µmcomp=Z,3µmcomp=Z,199nm,0.9s
GYA Guiyang 29.47 275 ⇑P **P** **12 23 56.0 +0.9**
GYA PcP **PcP** **12 26 50.8 +4.6**
GYA S **S** **12 28 12.3 -3.2**
GYA ScP **ScP** **12 29 48.5 +5.6**
GYA ScS **ScS** **12 33 43.0 +4.1**
GYA pmax pmax
comp=Z,170nm,1.2s
SWI Sorong 29.55 198 P **P** **12 23 55.1 -0.5**
comp=Z,6µmcomp=Z,3µmcomp=Z,310nm,0.8s
SIJI Sorong 29.55 197 P **P** **12 23 55.6 -0.1**
comp=Z,154nm,0.7s,baz=25,slow=12,SNR=19
SIJI PP **pwP** **12 25 19.3 -2.9**
comp=Z,127nm,1.1s,baz=2.9,slow=14,SNR=7.6
SIJI ScP **ScP** **12 29 42.9 -0.2**
comp=Z,209nm,1.0s,baz=49,slow=6.2,SNR=9.8
SIJI Sorong 29.55 197 P **P** **12 23 55.4 -0.3**
comp=Z,1µmcomp=Z,137nm,0.8s
SRPI Serui, Papua 29.59 187 P **P** **12 23 57.3 +1.3**
comp=Z,213nm,0.8s
MNI Manado 29.77 211 pP pP 12 25 19.5 +1.5
comp=Z,5µmcomp=Z,239nm,0.7s
MNI Manado 29.77 211 P **P** **12 23 57.6 0.0**
comp=Z,5µmcomp=Z,239nm,0.7s
GENI Genyem 30.11 179 P **P** **12 24 01.3 +0.8**
comp=Z,9µmcomp=Z,4µmcomp=Z,244nm,1.1s
MANU Manus Island 30.45 165 P **P** **12 24 04.2 +0.8**
KMSI Cibinong 30.93 212 P **P** **12 24 07.6 0.0**
comp=Z,480nmcomp=Z,522nm,0.8s
CIT Chita 31.25 328 *e*P **P** **12 24 10.5 +0.5**
CIT *e* 12 25 40.2
CIT *e* 12 26 52.1
CIT *e*S **S** **12 28 39.6 -2.5**
CIT pmax pmax
comp=Z,2µm,1.9s
FAKI Fak Fak 31.29 195 P **P** **12 24 09.6 -1.1**
FAKI IAmb IAmb 12 25 40.9
comp=Z,636nm,1.4s
FAKI Fak Fak 31.29 195 P **P** **12 24 09.4 -1.3**
comp=Z,9µmcomp=Z,2µmcomp=Z,207nm,0.9s
GTOI Gorontalo 31.34 214 P **P** **12 24 10.7 -0.5**
comp=Z,2µmcomp=Z,146nm,0.9s
CD2 Chengdu 31.50 285 P **P** **12 24 12.6 +0.1**
CD2 pP pP 12 25 35.1 +1.5
CD2 PP **PP** **12 25 43.8 +0.2**
CD2 sP sP 12 26 27.3 -0.4
CD2 S **S** **12 28 45.5 -1.0**
CD2 sS sS 12 31 15.3 -2.6
CD2 pmax pmax
comp=Z,2µm,0.5s
CD2 pmax pmax
comp=Z,4µm,4.1s
LZH Lanzhou 31.51 295 ⇓P **P** **12 24 12.9 +0.3**
LZH pP pwP 12 25 37.3 -2.8
LZH sP sP 12 26 30.3 +2.3
LZH PcP **PcP** **12 26 52.9 +1.3**
LZH S **S** **12 28 43.8 -3.0**
LZH ScP **ScP** **12 29 55.3 +5.7**
LZH sS sS 12 31 18.3 +0.2
LZH SS **SS** **12 31 32.0 -7.7**
LZH ScS **ScS** **12 33 49.4 +0.6**
LZH pmax pmax
comp=Z,2µm,1.3s
LZH pmax pmax
comp=Z,5µm,5.4s
KMPI Kaimana, Papua 31.71 192 P **P** **12 24 12.8 -1.5**
comp=Z,6µmcomp=Z,666nm,0.7s
MRSI Marisa 32.02 215 P **P** **12 24 17.2 +0.2**
comp=Z,9µmcomp=Z,8µmcomp=Z,672nm,1.3s
TOLI2 Tolitoli 32.09 218 P **P** **12 24 17.1 -0.6**
SANI Sanana 32.41 206 P **P** **12 24 17.9 -2.4**
comp=Z,5µmcomp=Z,6µmcomp=Z,650nm,0.7s
ULN Ulaanbaatar 32.44 317 *ce*P **P** **12 24 20.8 +0.5**
ULN pmax pmax
comp=Z,1µm,1.3s
ULN Ulaanbaatar 32.44 317 P **P** **12 24 21.0 +0.7**
ULN Ulaanbaatar 32.44 317 P **P** **12 24 21.0 +0.7**
comp=Z,105µmcomp=Z,58µmcomp=Z,6µm,1.0s
MSAI Masohi 32.58 200 P **P** **12 24 22.6 +0.8**
comp=Z,2µmcomp=Z,211nm,1.1s
KRAI Karang Ratu 32.73 201 P **P** **12 24 24.4 +1.4**
comp=Z,6µmcomp=Z,521nm,1.6s
MA2 Magadan 32.76 10 P **P** **12 24 23.1 +0.4**
comp=Z,165nm,0.8s,baz=191,slow=6.6,SNR=45
MA2 S **S** **12 29 04.9 0.0**
comp=Z,82nm,1.2s,baz=317,slow=11,SNR=1.9
MA2 ScP **ScP** **12 29 53.1 -0.1**
comp=Z,45nm,0.8s,baz=144,slow=5.8,SNR=4.4
MA2 Magadan 32.76 10 *ce*P **P** **12 24 23.3 +0.6**
MA2 pmax pmax
comp=Z,554nm,1.3s
MA2 Magadan 32.76 10 P **P** **12 24 23.1 +0.4**
MA2 IAmb IAmb 12 24 28.7
comp=Z,373nm,0.9s
MA2 Magadan 32.76 10 **S** **12 29 04.9 0.0**
MA2 **ScP** **12 29 53.1 -0.1**
SONM Songino Array 32.82 317 P **P** **12 24 23.8 +0.2**
comp=Z,365nm,0.7s,baz=136,slow=8.6,SNR=162
SONM PcP **PcP** **12 26 55.2 +0.2**
comp=Z,95nm,0.7s,baz=131,slow=3.1,SNR=8.2
SONM ScP **ScP** **12 29 54.0 +0.2**
comp=Z,154nm,0.9s,baz=142,slow=4.0,SNR=12
SONM Songino Array 32.82 317 **PcP** **12 26 55.2 +0.2**
SONM Songino Array 32.82 317 P **P** **12 24 23.8 +0.2**
LUWI Luwuk 32.92 213 P **P** **12 24 23.2 -1.4**
LUWI IAmb IAmb 12 26 01.8
comp=Z,556nm,1.2s
LUWI Luwuk 32.92 213 P **P** **12 24 23.2 -1.4**
comp=Z,7µmcomp=Z,7µmcomp=Z,402nm,0.5s
NLAI Namlea 33.09 204 P **P** **12 24 26.9 +0.8**
comp=Z,3µmcomp=Z,152nm,0.6s
SLVN Son La 33.17 267 P **P** **12 24 28.1 +1.3**
SLVN IAmb IAmb 12 24 33.6
comp=Z,696nm,1.0s
KMI Kunming 33.20 274 ⇓P **P** **12 24 27.9 +0.6**
KMI pP pP 12 25 50.3 +0.7
KMI sP sP 12 26 42.8 -0.6
KMI PcP **PcP** **12 26 57.4 +0.8**
KMI S **S** **12 29 13.5 +0.4**
KMI sS sS 12 31 43.5 -1.7
KMI pmax pmax
comp=Z,700nm,1.2s
KMI pmax pmax
comp=Z,3µm,3.5s
MPSI Mapaga 33.22 218 P **P** **12 24 27.2 0.0**
comp=Z,6µmcomp=Z,2µmcomp=Z,126nm,1.0s
APSI Ampana 33.35 214 P **P** **12 24 27.7 -0.6**
comp=Z,3µmcomp=Z,3µmcomp=Z,234nm,0.6s
BNDI Bandanaira 33.41 198 P **P** **12 24 28.0 -0.8**
comp=Z,6µmcomp=Z,13µmcomp=Z,650nm,0.7s
RABL Rabaul 33.87 157 P **P** **12 24 31.9 -0.8**
NONG Nongkai 34.98 262 P **P** **12 24 43.5 +1.4**
YAK Yakutsk 34.99 352 P **P** **12 24 41.0 -0.5**
comp=Z,139nm,0.4s,baz=164,slow=2.1,SNR=70
YAK S **S** **12 29 38.7 0.0**
comp=Z,95nm,0.9s,baz=228,slow=22,SNR=16
YAK Yakutsk 34.99 352 *d*P **P** **12 24 41.5 0.0**
YAK *e* 12 26 19.2
YAK *e* 12 27 03.8
YAK *e*S **S** **12 29 35.1 -3.6**
YAK *e*SS **SS** **12 32 33.5 -3.9**
YAK *e* 12 34 00.9
YAK pmax pmax
comp=Z,775nm,0.9s
YAK pmax pmax
comp=E,20nm,0.9s
YAK pmax pmax
comp=N,166nm,1.0s
YAK pmax pmax
comp=Z,237nm,0.9s
YAK pmax pmax
comp=E,144nm,1.0s
YAK pmax pmax
comp=N,60nm,0.9s
YAK smax smax
comp=N,2µm,1.6s
YAK smax smax
comp=E,3µm,1.5s
YAK Yakutsk 34.99 352 P **P** **12 24 41.3 -0.2**
GTA Gaotai 35.04 300 ⇓P **P** **12 24 42.6 +0.1**
GTA Gaotai 35.04 300 PP PP 12 26 17.8 +2.2
GTA Gaotai 35.04 300 PcP **PcP** **12 27 03.3 +1.7**
BOD Bodaibo 35.14 336 *e*P **P** **12 24 43.5 +0.7**
BOD pmax pmax
comp=Z,984nm,1.1s
SMY Shemya 35.67 36 P **P** **12 24 49.0 +1.6**
SMY pmax pmax
comp=Z,971nm,1.0s
SMY Shemya 35.67 36 P **P** **12 24 49.0 +1.6**
ZAK Zakamensk 35.77 319 *e*P **P** **12 24 48.3 -0.1**
ZAK *e* 12 34 11.1
ZAK pmax pmax
comp=Z,724nm,1.0s
ZAK pmax pmax
comp=Z,108nm,1.1s
ZAK pmax pmax
comp=Z,120nm,1.2s
IRK Irkutsk 36.07 323 *e*P **P** **12 24 50.8 +0.1**
IRK *e*S **S** **12 29 48.8 -6.4**
IRK pmax pmax
comp=Z,944nm,1.6s
TTSI Tana Toraja 36.11 215 P **P** **12 24 51.2 -0.3**
comp=Z,5µmcomp=Z,1µmcomp=Z,78nm,0.8s
TLY Talaya 36.14 321 P **P** **12 24 52.1 +0.8**
comp=Z,310nm,0.6s,baz=142,slow=5.5,SNR=107
TLY ScP **ScP** **12 30 06.5 +0.9**
comp=Z,47nm,0.9s,baz=93,slow=6.5,SNR=3.7
TLY Talaya 36.14 321 *d*P **P** **12 24 51.9 +0.5**
TLY *e*PPP PPP 12 26 30.2
TLY *e*S **S** **12 29 53.4 -3.0**
TLY *e*SSS SSS 12 32 23.1
TLY pmax pmax
comp=Z,3µm,1.5s
TLY MLR MLR
comp=Z,19µm,16.0s
TLY Talaya 36.14 321 P **P** **12 24 52.2 +0.8**
TLY IAmb IAmb 12 24 57.2
comp=Z,536nm,0.9s
KKSI Kolaka, Sulawe 36.19 212 P **P** **12 24 53.0 +0.9**
comp=Z,4µmcomp=Z,303nm,1.4s
SEY Seymchan 36.20 10 *c*P **P** **12 24 52.2 +0.6**
BKB Balikpapan 36.23 221 P **P** **12 24 52.4 -0.1**
BKB IAmb IAmb 12 24 58.3
comp=Z,399nm,0.8s
BKB Balikpapan 36.23 221 P **P** **12 24 52.0 -0.5**
comp=Z,7µmcomp=Z,7µmcomp=Z,578nm,1.2s
SAUI Saumlaki 36.40 194 P **P** **12 24 53.2 -0.7**
CRAI Chiangrai 36.66 267 P **P** **12 24 56.8 +0.8**
CHAI Chaiyaphum 36.87 259 P **P** **12 24 59.0 +1.2**
PMSI Majene 36.97 216 P **P** **12 25 01.5 +2.9**
comp=Z,2µmcomp=Z,107nm,1.0s
BNSI Bone 37.13 214 P **P** **12 24 59.9 0.0**
comp=Z,5µmcomp=Z,4µmcomp=Z,224nm,1.0s
MTKI Muara Teweh, K 37.18 224 P **P** **12 25 00.3 -0.1**
comp=Z,3µmcomp=Z,9µmcomp=Z,692nm,0.9s
PHRA Phrae 37.39 264 P **P** **12 25 03.6 +1.6**
PAYA Payao 37.40 266 P **P** **12 25 03.1 +0.9**
PBKT Sadao Pong 37.48 261 P **P** **12 25 03.1 +0.2**
comp=Z,10µmcomp=Z,890nm,0.7s
PBKT Sadao Pong 37.48 261 P **P** **12 25 02.9 +0.1**
PBKT Sadao Pong 37.48 261 P **P** **12 25 03.0 +0.2**
comp=Z,10µmcomp=Z,890nm,0.7s
PBKT Sadao Pong 37.48 261 P **P** **12 25 02.9 +0.1**
PBKT Sadao Pong 37.48 261 P **P** **12 25 02.8 0.0**
comp=Z,10µmcomp=Z,850nm,0.7s
PMG Port Moresby 37.56 168 P **P** **12 25 02.5 -1.0**
comp=Z,86nm,0.6s,baz=13,slow=6.2,SNR=25
PMG PcP **PcP** **12 27 12.6 +3.2**
comp=Z,269nm,0.9s,baz=8.3,slow=2.3,SNR=8.2
PMG ScP **ScP** **12 30 12.0 +0.7**
comp=Z,168nm,0.8s,baz=50,slow=4.6,SNR=10
PMG Port Moresby 37.56 168 *i*P **P** **12 25 04.0 +0.6**
PMG pmax pmax
comp=Z,95nm,0.7s
PMG Port Moresby 37.56 168 P **P** **12 25 02.8 -0.6**
PMG Port Moresby 37.56 168 **PcP** **12 27 12.6 +3.2**
PMG Port Moresby 37.56 168 **ScP** **12 30 12.6 +1.3**
PMG Port Moresby 37.56 168 P **P** **12 25 05.0 +1.6**
comp=Z,9µmcomp=Z,142nm,0.8s
PMG Port Moresby 37.56 168 P **P** **12 25 04.3 +0.9**
PMG Port Moresby 37.56 168 P **P** **12 25 04.4 +1.0**
MIDW Midway 37.70 79 P **P** **12 25 04.8 +0.3**
PHIT Phitsanulok 37.72 262 P **P** **12 25 05.6 +0.8**
KAPI Kappang 37.83 214 P **P** **12 25 05.6 -0.1**
comp=Z,87nm,0.8s,baz=41,slow=1.9,SNR=25
KAPI ScP **ScP** **12 30 13.2 +0.7**
comp=Z,248nm,1.0s,baz=218,slow=4.5,SNR=10
KAPI Kappang 37.83 214 P **P** **12 25 05.5 -0.1**
KAPI IAmb IAmb 12 25 12.1
comp=Z,211nm,1.0s
KAPI Kappang 37.83 214 **ScP** **12 30 13.2 +0.7**
KAPI Kappang 37.83 214 P **P** **12 25 05.6 -0.1**
comp=Z,4µmcomp=Z,3µmcomp=Z,227nm,1.0s
AMKA Amchitka 37.91 40 P **P** **12 25 06.6 +0.7**
MKS Makassar 38.15 214 P **P** **12 25 09.0 +0.7**
comp=Z,4µmcomp=Z,354nm,1.1s
CMMT Chiang Mai 38.41 266 P **P** **12 25 09.5 -0.9**
comp=Z,9µmcomp=Z,1µm,1.1s
CMMT Chiang Mai 38.41 266 P **P** **12 25 10.3 -0.1**
CMMT Chiang Mai 38.41 266 P **P** **12 25 09.8 -0.6**
comp=Z,9µmcomp=Z,1µm,1.1s
CHTO Chiang Mai 38.41 266 P **P** **12 25 10.5 0.0**
comp=Z,9µmcomp=Z,1µm,1.1s
CHTO Chiang Mai 38.41 266 P **P** **12 25 10.3 -0.2**
CHTO Chiang Mai 38.41 266 P **P** **12 25 10.9 +0.4**
comp=Z,9µmcomp=Z,5µmcomp=Z,633nm,1.1s
CM31 Chiang Mai Arr 38.54 265 P **P** **12 25 11.9 +0.3**
CM31 IAmb IAmb 12 25 17.8
comp=Z,316nm,0.7s
CM31 Chiang Mai Arr 38.54 265 P **P** **12 25 12.2 +0.6**
SNR=51
CMAR Chiang Mai Arr 38.54 265 P **P** **12 25 11.7 +0.2**
comp=Z,97nm,0.7s,baz=61,slow=6.5,SNR=54
CMAR PcP **PcP** **12 27 14.1 +1.6**
comp=Z,168nm,0.9s,baz=95,slow=0.7,SNR=17
CMAR ScP **ScP** **12 30 16.8 +1.5**
comp=Z,3.9nm,0.7s,baz=304,slow=18,SNR=4.6
CMAR Chiang Mai Arr 38.54 265 *ce*P **P** **12 25 12.0 +0.5**
CMAR pmax pmax
comp=Z,101nm,0.6s
CMAR Chiang Mai Arr 38.54 265 P **P** **12 25 12.1 +0.5**
STKI Sintang 38.63 229 P **P** **12 25 12.4 +0.1**
comp=Z,3µmcomp=Z,11µmcomp=Z,358nm,1.3s
PKKI Palangkaraya 38.77 224 P **P** **12 25 12.6 -0.8**
comp=Z,10µmcomp=Z,9µmcomp=Z,892nm,1.2s
LKP Lekhapani 38.82 280 *e*P **P** **12 25 14.9 +1.2**
TMDB BangkokBB_BH_I 39.04 257 P P 12 25 21.8 +6.2
comp=Z,13µm,1.1s
PATY Pattaya 39.16 256 P **P** **12 25 18.4 +1.8**
comp=Z,753nm,0.7s
PATY Pattaya 39.16 256 P **P** **12 25 18.8 +2.3**
PATY Pattaya 39.16 256 P **P** **12 25 18.0 +1.4**
comp=Z,196nm,0.7s
BBKI Banjar Baru 39.21 222 P **P** **12 25 15.7 -1.3**
comp=Z,105nm,0.8s
UTHA Uthaitani 39.23 261 P **P** **12 25 18.1 +1.0**
UTHA Uthaitani 39.23 261 P **P** **12 25 17.8 +0.7**
UMPA Umpang Tak 39.48 262 P **P** **12 25 21.1 +1.9**
comp=Z,12µmcomp=Z,1µm,1.1s
UMPA Umpang Tak 39.48 262 P **P** **12 25 21.0 +1.8**
MHMT Maesarieng 39.53 265 P **P** **12 25 19.6 0.0**
comp=Z,15µmcomp=Z,2µm,1.1s
MHMT Maesarieng 39.53 265 P **P** **12 25 19.8 +0.2**
DIBR DIBRUGARH 39.61 280 *e*P **P** **12 25 20.9 +0.8**
MMRI Maumere 39.91 208 P **P** **12 25 22.3 -0.3**
MMRI IAmb IAmb 12 25 27.4
comp=Z,508nm,1.0s
MMRI Maumere 39.91 208 P **P** **12 25 21.7 -0.9**
comp=Z,3µmcomp=Z,6µmcomp=Z,522nm,1.2s
KIWB Kanaga Island 40.14 41 P **P** **12 25 24.7 +0.7**
SOEI Soe 40.14 204 P **P** **12 25 24.1 -0.5**
SOEI Soe 40.14 204 P **P** **12 25 23.2 -1.4**
comp=Z,4µmcomp=Z,8µmcomp=Z,887nm,1.1s
MOKO MOKOCHONG 40.19 279 *e*P **P** **12 25 24.9 -0.1**
PTKI Pontianak 40.20 232 P **P** **12 25 25.1 +0.1**
comp=Z,9µmcomp=Z,617nm,1.1s
PHET Kaeng Krachan 40.23 257 P **P** **12 25 24.7 -0.6**
comp=Z,9µmcomp=Z,969nm,1.4s
PHET Kaeng Krachan 40.23 257 P **P** **12 25 24.7 -0.6**
EDFI Ende, Flores 40.24 208 P **P** **12 25 24.0 -1.4**
comp=Z,3µmcomp=Z,289nm,0.7s
KHLT Khaolaem Dam 40.30 260 P **P** **12 25 26.2 +0.4**
comp=Z,7µmcomp=Z,756nm,1.1s
KHLT Khaolaem Dam 40.30 260 P **P** **12 25 26.0 +0.2**
KHLT Khaolaem Dam 40.30 260 P **P** **12 25 26.2 +0.4**
comp=Z,7µmcomp=Z,756nm,1.1s
KHLT Khaolaem Dam 40.30 260 P P 12 25 20.9 -4.9
comp=Z,7µmcomp=Z,756nm,1.1s
JORH JORHAT 40.33 280 IAmb IAmb 12 25 31.4
comp=Z,4µm,1.1s
JORH JORHAT 40.33 280 *e*P **P** **12 25 27.1 +1.2**
ADK Adak 40.43 41 P **P** **12 25 26.4 +0.1**
ADK pmax pmax
comp=Z,857nm,0.8s
ADK Adak 40.43 41 P **P** **12 25 26.4 +0.1**
KOHI KOHIMA 40.68 278 *e*P **P** **12 25 27.8 -1.1**
ITAN ITANAGAR 40.71 280 IAmb IAmb 12 25 41.3
comp=Z,968nm,0.8s
ITAN ITANAGAR 40.71 280 *e*P **P** **12 25 30.1 +1.1**
BATI Baumata 40.78 205 P **P** **12 25 28.4 -1.2**
comp=Z,499nm,0.6s,baz=81,slow=0.7,SNR=46
BATI ScP **ScP** **12 30 25.3 +1.3**
comp=Z,181nm,0.8s,baz=241,slow=1.9,SNR=4.3
BATI S **S** **12 31 02.4 -3.3**
comp=Z,451nm,1.1s,baz=86,slow=22,SNR=11
BATI Baumata 40.78 205 **ScP** **12 30 25.3 +1.3**
BATI Baumata 40.78 205 P **P** **12 25 28.4 -1.2**
comp=Z,2µmcomp=Z,4µmcomp=Z,401nm,0.9s
GSTR Great Sitkin T 40.86 41 P **P** **12 25 30.2 +0.4**
TARA Tarawa 41.13 124 P **P** **12 25 31.9 -0.5**
TARA IAmb IAmb 12 25 36.5
comp=Z,275nm,0.9s
MTN Manton Dam 41.16 193 P **P** **12 25 31.4 -1.2**
MTN IAmb IAmb 12 26 00.9
comp=Z,277nm,0.6s
HNR Honiara 41.75 149 P **P** **12 25 36.9 -0.4**
HNR pmax pmax
comp=Z,361nm,1.1s
HNR Honiara 41.75 149 P **P** **12 25 36.9 -0.4**
HNR IAmb IAmb 12 27 19.6
comp=Z,362nm,1.1s
HNR Honiara 41.75 149 P **P** **12 25 37.2 -0.1**
ATKA Atka Island 41.99 41 P **P** **12 25 38.6 -0.1**
BASI Baing, Sumba 42.03 209 P **P** **12 25 37.4 -2.1**
comp=Z,4µmcomp=Z,328nm,1.3s
WBSI Waikabubak, Su 42.04 211 P **P** **12 25 36.5 -3.2**
comp=Z,2µmcomp=Z,166nm,0.8s
PLAI Plampang 42.09 214 P **P** **12 25 37.8 -2.2**
comp=Z,4µmcomp=Z,7µmcomp=Z,635nm,1.2s
SKLT Songkhla 42.31 249 P **P** **12 25 43.2 +1.4**
comp=Z,7µmcomp=Z,654nm,1.0s
SKLT Songkhla 42.31 249 P **P** **12 25 42.7 +0.9**
SRIT Nakonsritamara 42.39 251 P **P** **12 25 44.3 +1.9**
TWSI Taliwang, Sumb 42.46 215 P **P** **12 25 41.5 -1.5**
comp=Z,2µmcomp=Z,3µmcomp=Z,254nm,0.8s
LSA Lhasa 42.47 285 P **P** **12 25 45.0 +1.5**
LSA S **S** **12 31 25.3 -5.5**
LSA pmax pmax
comp=Z,15µm,14.9s
LSA Lhasa 42.47 285 P **P** **12 25 44.6 +1.2**
LSA Lhasa 42.47 285 P **P** **12 25 44.9 +1.5**
LSA pmax pmax
comp=Z,398nm,0.7s
LSA Lhasa 42.47 285 P **P** **12 25 44.9 +1.4**
LSA IAmb IAmb 12 25 50.3
comp=Z,398nm,0.7s
KLNI Mataram 42.60 216 P **P** **12 25 43.5 -0.5**
comp=Z,8µmcomp=Z,760nm,1.1s
KMMI Kalianget 42.62 220 P **P** **12 25 44.0 -0.2**
comp=Z,5µmcomp=Z,4µmcomp=Z,497nm,1.1s
SHL Shillong 42.67 279 P **P** **12 25 44.7 0.0**
SHL pmax pmax
comp=Z,2µm,0.9s
SHL Shillong 42.67 279 IAmb IAmb 12 25 50.7
comp=Z,971nm,0.8s
SHL Shillong 42.67 279 P **P** **12 25 44.7 0.0**
SHL Shillong 42.67 279 P **P** **12 25 45.7 +1.0**
SNR=139
SHL Shillong 42.67 279 *e*P **P** **12 25 44.8 0.0**
SRBI Singaraja 42.78 217 P **P** **12 25 45.9 +0.4**
comp=Z,7µmcomp=Z,528nm,1.1s
KHKI Kahang-Kahang 42.80 217 P **P** **12 25 45.7 +0.1**
comp=Z,13µmcomp=Z,1µm,1.2s
SURT Suratani 42.88 252 P **P** **12 25 50.2 +3.9**
comp=Z,211nmcomp=Z,30nm,1.1s
SURT Suratani 42.88 252 P **P** **12 25 47.7 +1.4**
KRAB Krabi 42.93 251 P **P** **12 25 49.4 +2.7**
comp=Z,311µmcomp=Z,18µm,0.9s
KRAB Krabi 42.93 251 P **P** **12 25 48.4 +1.7**
ABJI Asem Bagus 43.08 219 P **P** **12 25 47.8 0.0**
comp=Z,6µmcomp=Z,8µmcomp=Z,594nm,1.2s
DNP Denpasar 43.28 217 P **P** **12 25 48.8 -0.6**
comp=Z,23µmcomp=Z,746nm,1.1s
BTDF Bukit Timah Da 43.28 239 P **P** **12 25 49.8 +0.3**
comp=Z,6µmcomp=Z,3µmcomp=Z,220nm,1.2s
TPI Tanjungpandan 43.28 231 P **P** **12 25 49.5 0.0**
comp=Z,2µmcomp=Z,212nm,1.1s
BYJI Banyuwangi 43.35 218 P **P** **12 25 51.9 +1.9**
comp=Z,22µmcomp=Z,2µm,1.3s
BILL Bilibino 43.38 14 *d*P **P** **12 25 49.9 +0.5**
BILL *e**PP **pwP** **12 27 21.3 +0.6**
BILL *e* 12 27 30.2
BILL *e* 12 27 41.1
BILL *e**SP **sP** **12 28 16.3 +6.3**
BILL *i*S **S** **12 31 41.6 -0.2**
BILL *e*SS **ScS** **12 34 54.6 -1.0**
BILL pmax pmax
comp=Z,684nm,0.8s
BILL MLR MLR
comp=Z,3µm,17.0s
BILL Bilibino 43.38 14 P **P** **12 25 50.1 +0.6**
BRDH Bariadhala 43.64 275 P **P** **12 25 53.3 +1.1**
comp=Z,1µm,0.6s,baz=62,slow=13,SNR=26
TBJI Tambak Boyo 43.66 222 P **P** **12 25 52.0 -0.4**

comp=Z,3µmcomp=Z,5µmcomp=Z,389nm,1.2s
JAGI Jajag, Banyuwa 43.68 218 P **P** **12 25 50.6 -2.0**
JAGI Jajag, Banyuwa 43.68 218 P **P** **12 25 51.4 -1.1**
comp=Z,5µmcomp=Z,6µmcomp=Z,767nm,1.1s
PKDT Phuket 43.83 251 P **P** **12 25 54.0 +0.3**
comp=Z,12µmcomp=Z,1µm,1.0s
PKDT Phuket 43.83 251 P **P** **12 25 53.7 0.0**
PPBI Pangkal Pinang 43.92 233 P **P** **12 25 55.3 +0.9**
comp=Z,9µmcomp=Z,296nm,1.4s
KNRA Kununurra 44.41 195 P **P** **12 25 57.2 -0.9**
TIXI Tiksi 44.42 355 P **P** **12 25 57.3 -0.2**
comp=Z,159nm,0.4s,baz=147,slow=7.1,SNR=126
TIXI S **S** **12 31 55.6 -0.9**
comp=Z,130nm,1.1s,baz=257,slow=21,SNR=20
TIXI Tiksi 44.42 355 *ce* P **P** **12 25 56.3 -1.2**
TIXI Tiksi 44.42 355 P **P** **12 25 57.3 -0.2**
TIXI Tiksi 44.42 355 IAmb IAmb 12 26 02.4
comp=Z,504nm,1.0s
SJI Sawahan 44.44 222 P **P** **12 25 57.2 -1.3**
comp=Z,18µmcomp=Z,500nm,1.4s
WMQ Urumqi 44.50 305 ⇑P **P** **12 26 00.1 +1.4**
WMQ pP pP 12 27 27.0 +0.8
WMQ PcP **PcP** **12 27 34.4 +2.3**
WMQ sP sP 12 28 18.9 +0.1
WMQ S **S** **12 31 57.8 -0.9**
WMQ sS sS 12 34 37.9 -0.2
WMQ pmax pmax
comp=Z,3µm,1.1s
WMQ pmax pmax
comp=Z,11µm,4.7s
PWJI Pagerwojo 44.65 221 P **P** **12 25 58.2 -1.8**
comp=Z,3µmcomp=Z,431nm,1.1s
SMRI Semarang 44.70 224 P **P** **12 26 00.9 +0.5**
SMRI IAmb IAmb 12 26 05.8
comp=Z,952nm,1.4s
SMRI Semarang 44.70 224 P **P** **12 26 00.9 +0.5**
comp=Z,8µmcomp=Z,8µmcomp=Z,595nm,1.5s
GTK Tadong 45.13 282 IAmb IAmb 12 26 09.7
comp=Z,408nm,0.6s
GTK Tadong 45.13 282 *ex* x 12 25 32.0
GTK Tadong 45.13 282 *eP* **P** **12 26 04.6 +0.7**
PCJI Pacitan 45.16 222 P **P** **12 26 02.3 -1.7**
comp=Z,4µmcomp=Z,289nm,1.0s
UGM Wanagama 45.32 223 P **P** **12 26 03.9 -1.4**
UGM IAmb IAmb 12 26 09.5
comp=Z,308nm,0.9s
UGM Wanagama 45.32 223 P **P** **12 26 03.9 -1.4**
comp=Z,6µmcomp=Z,6µmcomp=Z,400nm,1.2s
NIKH Nikolski High 45.33 42 P **P** **12 26 03.9 -0.9**
NIKH Nikolski High 45.33 42 P 12 26 04.3
baz=257,SNR=60
NIKH S 12 32 08.6
baz=257
JMBI JAMBI 45.36 236 P **P** **12 26 08.4 +2.8**
comp=Z,9µmcomp=Z,629nm,1.2s
YOGI Yogyakarta 45.39 223 P **P** **12 26 05.2 -0.6**
comp=Z,4µmcomp=Z,6µmcomp=Z,485nm,1.1s
PMBI Palembang 45.42 234 P **P** **12 26 07.8 +1.7**
comp=Z,9µmcomp=Z,451nm,0.5s
CTJI Waduk Cacaban 45.45 225 P **P** **12 26 06.5 +0.3**
comp=Z,3µmcomp=Z,258nm,1.2s
RGRI Rengat 45.48 239 P **P** **12 26 07.7 +1.2**
comp=Z,298nm,0.5s
SPIA Saint Paul Isl 45.71 36 P **P** **12 26 08.4 +0.8**
SPIA IAmb IAmb 12 26 13.4
comp=Z,464nm,0.8s
SPIA Saint Paul Isl 45.71 36 P 12 26 08.2
baz=252,SNR=25
SPIA S 12 32 16.2
baz=252
KPJI Karang Pucung 45.85 225 P **P** **12 26 08.8 -0.5**
comp=Z,8µmcomp=Z,759nm,1.2s
TAPN Taplejung 45.89 282 *eP* **P** **12 26 10.8 +0.9**
comp=Z,558nm,0.5s
DGPR DIGLIPUR 45.95 261 IAmb IAmb 12 26 16.2
comp=Z,2µm,0.5s
DGPR DIGLIPUR 45.95 261 *eP* **P** **12 26 10.5 +0.4**
LASI Langsa, Aceh 46.01 248 P **P** **12 26 12.5 +1.9**
comp=Z,8µmcomp=Z,9µmcomp=Z,769nm,1.1s
BKNI Bangkinang 46.04 240 P **P** **12 26 11.1 +0.3**
BKNI Bangkinang 46.04 240 P **P** **12 26 11.2 +0.4**
comp=Z,11µmcomp=Z,11µmcomp=Z,664nm,1.2s
TSI Tuntungan 46.07 246 P **P** **12 26 11.1 +0.1**
comp=Z,12µmcomp=Z,427nm,0.7s
PSI Prapat 46.19 245 P **P** **12 26 12.3 +0.2**
PSI pmax pmax
comp=Z,497nm,0.8s
PSI Prapat 46.19 245 P **P** **12 26 12.5 +0.4**
comp=Z,5µmcomp=Z,3µmcomp=Z,343nm,1.1s
RPSI Rantau Prapat 46.25 245 P **P** **12 26 12.2 -0.2**
RPSI IAmb IAmb 12 26 18.1
comp=Z,497nm,0.8s
ODAN Odare 46.28 282 *eP* **P** **12 26 13.7 +0.8**
comp=Z,669nm,0.5s
LEM Lembang 46.31 227 P **P** **12 26 13.0 0.0**
comp=Z,5µmcomp=Z,7µmcomp=Z,623nm,1.1s
LHMI Lhok Sumawe 46.42 249 P **P** **12 26 14.6 +0.8**
LHMI Lhok Sumawe 46.42 249 P **P** **12 26 15.7 +2.0**
comp=Z,14µmcomp=Z,11µmcomp=Z,1µm,0.9s
TNG Tangerang 46.46 229 P **P** **12 26 14.3 +0.3**
comp=Z,536nm,0.4s
TNG Tangerang 46.46 229 P **P** **12 26 14.1 +0.1**
comp=Z,788nm,0.4s
CBJI Citeko 46.51 228 P **P** **12 26 14.1 -0.2**
comp=Z,9µmcomp=Z,8µmcomp=Z,518nm,1.1s
DBJI Dramaga 46.67 228 P **P** **12 26 15.6 0.0**
comp=Z,6µmcomp=Z,284nm,1.4s
CISI Cisompet, Garu 46.73 226 P **P** **12 26 13.7 -2.4**
CISI Cisompet, Garu 46.73 226 P **P** **12 26 13.6 -2.5**
comp=Z,3µmcomp=Z,2µmcomp=Z,150nm,0.8s
ZSN Zaisan 46.74 310 *eS* **S** **12 32 30.1 +0.1**
baz=310
ZSN Zaisan 46.74 310 *d* iP **P** **12 26 16.2 +0.5**
ZSN pmax pmax
comp=Z,1µm,1.7s
ZSN Zaisan 46.74 310 ⇓ *i* P **P** **12 26 16.2 +0.5**
comp=Z,1µm,1.7s,baz=310
PBA Port Blair 46.78 260 IAmb IAmb 12 26 25.1
comp=Z,246nm,0.6s
PBA Port Blair 46.78 260 P P 12 26 15.5 -1.0
PBA Port Blair 46.78 260 *eP* **P** **12 26 15.8 -0.6**
BLSI Bandar Lampung 46.82 231 P **P** **12 26 15.6 -1.1**
comp=Z,6µmcomp=Z,677nm,0.8s
MNSI Mandailing Nat 46.88 242 P **P** **12 26 16.7 -0.5**
comp=Z,6µmcomp=Z,605nm,1.2s
MDSI Maura Dua 46.93 233 P **P** **12 26 17.1 -0.5**
comp=Z,5µmcomp=Z,8µmcomp=Z,954nm,1.1s
LHSI Lahat 46.94 234 P **P** **12 26 18.1 +0.5**
comp=Z,14µmcomp=Z,819nm,1.0s
RAMN Ramite 46.95 282 *eP* **P** **12 26 18.6 +0.7**
comp=Z,408nm,0.4s
CNJI Cibinong 46.99 227 P **P** **12 26 14.1 -3.9**
comp=Z,3µmcomp=Z,299nm,0.9s
PDSI Padang 47.27 240 P **P** **12 26 19.0 -1.2**
comp=Z,6µmcomp=Z,2µmcomp=Z,166nm,1.1s
TPTI 47.33 247 P **P** **12 26 18.4 -2.3**
comp=Z,5µmcomp=Z,3µmcomp=Z,230nm,1.1s
GUN Gumba 47.35 284 *eP* **P** **12 26 22.3 +1.2**
comp=Z,514nm,0.3s
AKUT Akutan 47.38 41 P **P** **12 26 20.1 -0.3**
LWLI Liwa 47.39 232 P **P** **12 26 19.8 -1.4**
comp=Z,10µmcomp=Z,1µm,0.9s
CGJI Cibinong 47.42 229 P **P** **12 26 18.3 -2.9**
comp=Z,2µmcomp=Z,153nm,0.9s
KASI Kota Agung 47.45 231 P **P** **12 26 20.0 -1.5**
comp=Z,7µmcomp=Z,4µmcomp=Z,421nm,1.2s
WB0 Warramunga Arr 47.46 187 P **P** **12 26 20.4 -1.1**
WB0 IAmb IAmb 12 26 26.4
comp=Z,361nm,0.6s
KSI Kapahiang 47.49 235 P **P** **12 26 21.5 -0.4**
comp=Z,7µmcomp=Z,486nm,1.3s
FITZ Fitzroy Crossi 47.53 198 P **P** **12 26 21.7 -0.3**
FITZ IAmb IAmb 12 26 27.7
comp=Z,226nm,1.1s
GAMB Gambell 47.54 27 P **P** **12 26 22.5 +1.1**
GAMB Gambell 47.54 27 P 12 26 22.2
baz=244,SNR=9.8
GAMB S 12 32 42.6
baz=244
WRAB Tennant Creek 47.63 187 *ce* P **P** **12 26 21.0 -1.7**
WRAB pmax pmax
comp=Z,172nm,0.7s
WRAB Tennant Creek 47.63 187 P **P** **12 26 21.3 -1.4**
WRAB IAmb IAmb 12 28 19.2
comp=Z,350nm,0.7s
WR0 Warramunga Arr 47.64 187 P **P** **12 26 21.5 -1.3**
WR0 IAmb IAmb 12 26 27.7
comp=Z,299nm,0.6s
WB2 Warramunga Arr 47.64 187 P **P** **12 26 21.6 -1.2**
WB2 IAmb IAmb 12 28 19.2
comp=Z,402nm,0.8s
WRA Warramunga Arr 47.64 187 P **P** **12 26 21.6 -1.2**
comp=Z,166nm,0.7s,baz=2.9,slow=7.5,SNR=413
WRA PcP **PcP** **12 27 44.7 +1.3**
comp=Z,149nm,0.8s,baz=0.8,slow=8.1,SNR=6.1
WRA ScP **ScP** **12 30 52.3 +0.2**
comp=Z,372nm,0.9s,baz=2.1,slow=4.0,SNR=14
WRA S **S** **12 32 41.8 -1.2**
comp=Z,112nm,1.0s,baz=1.9,slow=10,SNR=9.0
WRA PKiKP **PKiKP** **12 34 34.4 +0.8**
comp=Z,6.5nm,0.9s,baz=341,slow=2.0,SNR=5.1
WRA PKPPKP **P'P'df** **12 57 24.9 +1.0**
comp=Z,4.6nm,1.0s,baz=176,slow=3.6,SNR=6.9
WRA P4KPbc 13 03 56.7
comp=Z,7.4nm,0.9s,baz=10,slow=4.9,SNR=15
WRA Warramunga Arr 47.64 187 ScP **ScP** **12 30 52.3 +0.2**
WRA Warramunga Arr 47.64 187 P **P** **12 26 21.5 -1.2**
ZAA0 Zalesovo Array 47.65 319 P **P** **12 26 22.0 -0.4**
ZALV Zalesovo Beam 47.65 319 P **P** **12 26 22.0 -0.5**
comp=Z,304nm,0.6s,baz=108,slow=7.3,SNR=233
ZALV PcP **PcP** **12 27 42.4 -0.6**
comp=Z,172nm,0.6s,baz=124,slow=3.1,SNR=6.9
ZALV P4KPbc 13 03 56.0
comp=Z,7.4nm,0.7s,baz=117,slow=4.0,SNR=15
ZALV Zalesovo Beam 47.65 319 P **P** **12 26 21.9 -0.5**
MNAI Manna 47.72 234 P **P** **12 26 22.4 -1.1**
MNAI Manna 47.72 234 P **P** **12 26 22.7 -0.8**
comp=Z,11µmcomp=Z,13µmcomp=Z,921nm,1.1s
UBSI University, Be 47.80 235 P **P** **12 26 22.7 -1.4**
comp=Z,13µmcomp=Z,900nm,0.7s
PKI Pulchoki 47.83 283 *eP* **P** **12 26 25.1 +0.4**
comp=Z,304nm,0.5s
PKIN Phulchoki 47.84 283 *eP* **P** **12 26 25.0 +0.3**
comp=Z,450nm,0.4s
JOHN Johnston Islan 47.88 92 P **P** **12 26 24.9 +0.1**
KKN Kani 47.90 284 *eP* **P** **12 26 25.7 +0.7**
comp=Z,908nm,0.5s
CTA Charters Tower 47.91 172 P **P** **12 26 23.2 -1.6**
comp=Z,26nm,0.7s,baz=2.0,slow=7.6,SNR=25
CTA ScP **ScP** **12 30 53.5 +0.3**
comp=Z,66nm,0.9s,baz=350,slow=6.3,SNR=6.1
CTA Charters Tower 47.91 172 **ScP** **12 30 53.5 +0.3**
CTAO Charters Tower 47.91 172 P **P** **12 26 24.7 -0.1**
CTAO pmax pmax
comp=Z,203nm,1.2s
CTAO Charters Tower 47.91 172 P **P** **12 26 24.7 -0.1**
DMN Daman 48.09 283 *eP* **P** **12 26 27.1 +0.6**
comp=Z,576nm,0.4s
GSI Gunungsitoli 48.16 244 P **P** **12 26 26.5 -0.4**
GSI Gunungsitoli 48.16 244 P **P** **12 26 26.8 -0.1**
comp=Z,13µmcomp=Z,16µmcomp=Z,2µm,1.1s
BOK Bokaro 48.40 278 IAmb IAmb 12 26 35.6
comp=Z,2µm,1.0s
BOK Bokaro 48.40 278 *eP* **P** **12 26 29.6 +1.1**
GKN Gorkha 48.40 284 *eP* **P** **12 26 29.4 +0.7**
comp=Z,232nm,0.3s
MK31 Makanchi Array 48.45 309 *i* P **P** **12 26 28.4 -0.3**
MK31 Makanchi Array 48.45 309 P **P** **12 26 29.0 +0.3**
MKAR Makanchi Array 48.45 309 P **P** **12 26 28.9 +0.2**
comp=Z,622nm,0.9s,baz=88,slow=7.8,SNR=234
MKAR P4KPbc 13 04 00.6
comp=Z,4.7nm,0.5s,baz=82,slow=5.2,SNR=25
MKAR Makanchi Array 48.45 309 P **P** **12 26 29.2 +0.5**
MAKZ Makanchi 48.67 309 P **P** **12 26 30.7 +0.4**
MAKZ pmax pmax
comp=Z,2µm,1.1s
MAKZ Makanchi 48.67 309 P **P** **12 26 30.7 +0.4**
FALS False Pass 48.86 40 P **P** **12 26 31.0 -0.5**
FALS IAmb IAmb 12 26 38.5
comp=Z,237nm,0.6s
FALS False Pass 48.86 40 P 12 26 30.4
baz=260
FALS S 12 32 55.9
baz=260
EGSI Enggano, Bengk 48.89 234 P **P** **12 26 29.6 -2.7**
comp=Z,5µmcomp=Z,4µmcomp=Z,276nm,0.9s
DANN Dangsing 49.07 285 *eP* **P** **12 26 35.0 +1.1**
comp=Z,370nm,0.3s
KOLN Koldanda 49.35 284 *eP* **P** **12 26 36.6 +0.8**
comp=Z,196nm,0.3s
TNA Tin City 49.76 26 P **P** **12 26 39.0 +1.1**
TNA Tin City 49.76 26 P 12 26 38.8
baz=247,SNR=20
TNA S 12 33 12.7
baz=247
PYUN Piuthan 49.79 285 *eP* **P** **12 26 40.2 +1.1**
comp=Z,680nm,0.3s
SEM Semipalatinsk 49.99 314 *eS* **S** **12 33 12.2 -3.0**
baz=314
SEM Semipalatinsk 49.99 314 *d* iP **P** **12 26 39.7 -0.5**
SEM *eS* **S** **12 33 12.1 -3.0**
SEM pmax pmax
comp=Z,661nm,0.8s
SEM Semipalatinsk 49.99 314 ⇓ *i* P **P** **12 26 39.8 -0.5**
comp=Z,660nm,0.8s,baz=314
XMIS Christmas Isla 50.33 226 P **P** **12 26 41.5 -1.4**
comp=Z,215nm,0.7s
ANM Nome 50.40 27 P **P** **12 26 43.9 +1.2**
ANM pmax pmax
comp=Z,228nm,0.9s
ANM Nome 50.40 27 P **P** **12 26 43.9 +1.2**
ANM Nome 50.40 27 P 12 26 43.8
baz=250,SNR=45
ANM S 12 33 21.7
baz=250
SANVU Saraoutou 50.45 145 P **P** **12 26 43.7 0.0**
PDGK Podgornoye 50.46 305 P **P** **12 26 43.6 -0.1**
SHLS Shalkode 50.49 304 *eS* **S** **12 33 16.4 -5.4**
baz=304
SHLS Shalkode 50.49 304 *d* iP **P** **12 26 41.9 -2.0**
SHLS *eS* **S** **12 33 16.4 -5.4**
SHLS pmax pmax
comp=Z,160nm,0.6s
SHLS Shalkode 50.49 304 ⇓ *i* P **P** **12 26 41.9 -2.0**
comp=Z,160nm,0.6s,baz=304
SDPT Sand Point 50.60 40 P **P** **12 26 43.5 -0.8**
SDPT Sand Point 50.60 40 P 12 26 43.2
baz=262,SNR=69
SDPT S 12 33 19.2
baz=262
UZB Uzynbulak 50.81 305 ⇓ *i* P **P** **12 26 46.4 +0.1**
comp=Z,279nm,0.7s,baz=304
UZB Uzynbulak 50.81 305 *d* iP **P** **12 26 46.4 +0.1**
UZB pmax pmax
comp=Z,279nm,0.7s
KPKS Kokpek 51.04 305 *eS* **S** **12 33 28.3 -1.0**
baz=305
KPKS Kokpek 51.04 305 *d* iP **P** **12 26 48.0 +0.1**
KPKS *eS* **S** **12 33 28.2 -1.0**
KPKS pmax pmax
comp=Z,371nm,0.6s
KPKS Kokpek 51.04 305 ⇓ *i* P **P** **12 26 48.0 +0.1**
comp=Z,371nm,0.6s,baz=305
CNBA Chernabura Isl 51.05 40 P **P** **12 26 47.3 -0.3**
CHNA Chernabura Isl 51.05 40 P 12 26 47.2
baz=264,SNR=80
CHNA S 12 33 27.9
baz=264
KURK Kurchatov 51.05 314 P **P** **12 26 48.1 +0.4**
KURK Kurchatov 51.05 314 P **P** **12 26 48.1 +0.4**
KURBB Kurchatov Arra 51.10 314 P **P** **12 26 48.1 0.0**
comp=Z,1µm,0.8s,baz=92,slow=8.2,SNR=614
KURBB S **S** **12 33 32.7 +3.1**
comp=Z,38nm,0.9s,baz=87,slow=11,SNR=8.4
KURBB PKPPKP P'P'df 12 57 12.3 -11
comp=Z,1.7nm,0.9s,baz=247,slow=3.3,SNR=5.2
KURBB P4KPbc 13 04 10.5
comp=Z,0.8nm,0.7s,baz=96,slow=4.3,SNR=5.9
KURBB Kurchatov Arra 51.10 314 P **P** **12 26 48.0 -0.1**
TDK Taldyqorghan 51.17 307 *eS* **S** **12 33 30.8 0.0**
baz=307
TDK Taldyqorghan 51.17 307 *i* P **P** **12 26 49.2 +0.5**
TDK *eS* **S** **12 33 30.8 0.0**
TDK pmax pmax
comp=Z,2µm,1.4s
TDK Taldyqorghan 51.17 307 *i* P **P** **12 26 49.2 +0.5**
comp=Z,2µm,1.4s,baz=307
SATY Saty 51.26 304 *eS* **S** **12 33 32.9 +0.5**
baz=304
SATY Saty 51.26 304 *d* iP **P** **12 26 50.0 +0.4**
SATY *eS* **S** **12 33 32.9 +0.5**
SATY pmax pmax
comp=Z,445nm,0.9s
SATY Saty 51.26 304 ⇓ *i* P **P** **12 26 50.1 +0.4**
comp=Z,445nm,0.9s,baz=304
PRZ Przheval'sk 51.31 304 P **P** **12 26 51.5 +1.5**
PRZ pmax pmax
comp=Z,3µm,0.8s
PRZ Przheval'sk 51.31 304 P **P** **12 26 51.5 +1.5**
NRIK Noril'sk 51.33 339 P **P** **12 26 49.5 0.0**
comp=Z,1µm,0.9s,baz=110,slow=8.4,SNR=270
NRIK S **S** **12 33 30.9 -1.2**
comp=Z,22nm,0.8s,baz=208,slow=21,SNR=13
NRIK PKPPKP **P'P'df** **12 57 21.0 -2.2**
comp=Z,1.5nm,0.4s,baz=207,slow=1.2,SNR=3.5
NRIK Noril'sk 51.33 339 *ce* P **P** **12 26 49.3 -0.1**
NRIK pmax pmax
comp=Z,1µm,0.9s
NRIK Noril'sk 51.33 339 P **P** **12 26 49.4 0.0**
AS31 Alice Springs 51.37 187 P **P** **12 26 49.2 -1.2**
ASAR Alice Springs 51.37 187 P **P** **12 26 49.1 -1.2**
comp=Z,48nm,0.5s,baz=4.0,slow=6.1,SNR=450
ASAR PcP **PcP** **12 27 58.8 +1.6**
comp=Z,168nm,1.0s,baz=5.3,slow=4.3,SNR=16
ASAR ScP **ScP** **12 31 08.0 0.0**
comp=Z,112nm,1.0s,baz=10,slow=4.1,SNR=9.1
ASAR S **S** **12 33 32.7 -1.2**
comp=Z,25nm,0.9s,baz=16,slow=19,SNR=11
ASAR P3KP 12 56 11.8
comp=Z,0.8nm,0.7s,baz=274,slow=2.2,SNR=6.4
ASAR P4KPbc 13 04 13.2
comp=Z,8.8nm,0.6s,baz=3.7,slow=4.4,SNR=48
ASAR Alice Springs 51.37 187 P **P** **12 26 49.2 -1.2**
ASAR Alice Springs 51.37 187 **ScP** **12 31 08.0 0.0**
ASAR Alice Springs 51.37 187 P3KP 12 56 11.8
TARG Taragay, Kyrgy 51.81 303 P **P** **12 26 55.1 +1.1**
KDJ Kajisay 52.24 303 P **P** **12 26 57.6 +0.8**
KDJ pmax pmax
comp=Z,807nm,1.0s
KDJ Kajisay 52.24 303 P **P** **12 26 57.6 +0.8**
KDJ IAmb IAmb 12 27 04.7
comp=Z,807nm,0.9s
CHKK Chushkaly 52.24 306 ⇓ *i* P **P** **12 26 56.8 +0.3**
baz=306
CHKK Chushkaly 52.24 306 ⇓ *i* P **P** **12 26 56.8 +0.3**
MDOK Medeo 52.25 305 *eS* **S** **12 33 44.8 -0.9**
baz=305
MDOK Medeo 52.25 305 *i* P **P** **12 26 57.7 +0.9**
MDOK *eS* **S** **12 33 44.7 -0.9**
MDOK Medeo 52.25 305 *i* P **P** **12 26 57.7 +0.9**
baz=305
KNDC Almaty 52.30 305 P **P** **12 26 58.6 +1.5**
AAA Alma-Ata 52.34 305 *eS* **S** **12 33 46.0 -0.7**
baz=305
AAA Alma-Ata 52.34 305 *d* iP **P** **12 26 58.5 +1.2**
AAA *eS* **S** **12 33 46.0 -0.7**
AAA pmax pmax
comp=Z,3µm,0.9s
AAA Alma-Ata 52.34 305 ⇓ *i* P **P** **12 26 58.6 +1.2**
comp=Z,3µm,0.9s,baz=305
RDOG Red Dog Mine 52.53 23 P **P** **12 26 59.7 +1.5**
RDOG IAmb IAmb 12 27 05.2
comp=Z,502nm,0.8s
RDOG Red Dog Mine 52.53 23 P 12 26 59.6
baz=250,SNR=115
RDOG S 12 33 50.7
baz=250
PSA00 Pilbara Seismi 52.63 204 P **P** **12 26 58.8 -0.7**
PSA00 IAmb IAmb 12 27 04.2
comp=Z,332nm,1.1s
PSA00 Pilbara Seismi 52.63 204 P **P** **12 26 58.1 -1.4**
PSA00 IAmb IAmb 12 27 04.2
comp=Z,332nm,1.1s
VIS Vishakhapatnam 52.64 272 IAmb IAmb 12 27 05.8
comp=Z,520nm,0.9s
VIS Vishakhapatnam 52.64 272 *eP* **P** **12 27 00.8 +1.0**
KUU Kurty 52.71 306 *eS* **S** **12 33 51.1 -0.4**
baz=306
KUU Kurty 52.71 306 *d* iP **P** **12 27 00.1 +0.2**
KUU *eS* **S** **12 33 51.1 -0.4**
KUU pmax pmax
comp=Z,3µm,0.8s
KUU Kurty 52.71 306 ⇓ *i* P **P** **12 27 00.1 +0.2**
comp=Z,3µm,0.8s,baz=306
ULHL Ulahol 52.92 304 P **P** **12 27 02.5 +0.8**
SNR=59
BOOM Boomskoye usch 53.12 304 P **P** **12 27 03.9 +0.8**
BOOM pmax pmax
comp=Z,1µm,0.7s
BOOM Boomskoye usch 53.12 304 P **P** **12 27 03.9 +0.8**
TKM2 Tokmak 2 53.33 304 P **P** **12 27 05.4 +0.8**
SNR=336
TKM2 Tokmak 2 53.33 304 P **P** **12 27 05.3 +0.7**
CHIR Chirikof Islan 53.39 39 P **P** **12 27 04.9 +0.4**
CHIR Chirikof Islan 53.39 39 P 12 27 04.9
baz=266,SNR=24
CHIR S 12 34 01.5
baz=266
KSH Kashi 53.44 300 ⇓ *i* P **P** **12 27 09.3 +3.9**
KSH sP sP 12 29 33.4 +4.9
KSH S **S** **12 34 07.4 +5.8**
KSH sS sS 12 36 51.8 +4.2
KSH pmax pmax
comp=Z,320nm,1.1s
DDI Dehra Dun 53.47 289 IAmb IAmb 12 27 11.0
comp=Z,1µm,0.8s
DDI Dehra Dun 53.47 289 *eP* **P** **12 27 06.1 +0.5**
KOUNC Koumac, New Ca 53.49 151 P **P** **12 27 05.7 0.0**
N18K Kilae Creek 53.74 33 P 12 27 07.8
baz=262,SNR=182
N18K S 12 34 06.7
baz=262
KBK Karagaybulak 53.83 304 P **P** **12 27 09.1 +0.9**
SNR=341
EIDS Eidsvold 53.86 167 P **P** **12 27 08.1 -0.2**
EIDS IAmb IAmb 12 27 13.3
comp=Z,290nm,0.9s
CHMS Chumysh 53.94 305 P **P** **12 27 09.3 +0.6**
SNR=222
SVW2 Sparrevohn 53.94 33 P **P** **12 27 09.3 +0.9**
SGDS Sogindy 53.98 305 *eS* **S** **12 34 09.3 +0.7**
baz=305
SGDS Sogindy 53.98 305 *d* iP **P** **12 27 09.2 +0.2**
SGDS *eS* **S** **12 34 09.2 +0.7**
SGDS pmax pmax
comp=Z,438nm,1.5s
SGDS Sogindy 53.98 305 ⇓ *i* P **P** **12 27 09.3 +0.2**
comp=Z,438nm,1.5s,baz=305
TTA Tatalina 54.02 31 P **P** **12 27 09.4 +0.4**
TTA pmax pmax
comp=Z,67nm,1.0s
TTA Tatalina 54.02 31 P **P** **12 27 09.4 +0.4**
TTA Tatalina 54.02 31 P 12 27 09.2
baz=261,SNR=57
TTA S 12 34 09.8
baz=261
SMLA Simla 54.02 290 IAmb IAmb 12 27 15.6
comp=Z,2µm,1.2s
SMLA Simla 54.02 290 *eP* **P** **12 27 09.6 +0.2**
FRU1 Bishkek 54.05 304 P **P** **12 27 10.5 +1.0**
FRU1 pmax pmax
comp=Z,1µm,0.9s
FRU1 Bishkek 54.05 304 P **P** **12 27 10.5 +1.0**
USP Ospenovka 54.09 305 P **P** **12 27 10.3 +0.4**
SNR=10
AAK Ala-Archa 54.17 304 P **P** **12 27 11.1 +0.6**
comp=Z,620nm,0.8s,baz=100,slow=6.2,SNR=147
AAK Ala-Archa 54.17 304 P **P** **12 27 11.2 +0.6**
SNR=11
AAK Ala-Archa 54.17 304 *i* P **P** **12 27 10.9 +0.4**
SNR=290
AAK Ala-Archa 54.17 304 P **P** **12 27 11.0 +0.6**
AAK IAmb IAmb 12 27 16.7
comp=Z,532nm,0.7s
SII Sitkinak Islan 54.24 39 P **P** **12 27 10.7 +0.1**
SII IAmb IAmb 12 27 15.9
comp=Z,465nm,0.8s
SII Sitkinak Islan 54.24 39 P 12 27 10.5
baz=267,SNR=27
SII S 12 34 10.6
baz=267
BTLS Baital 54.25 307 *eS* **S** **12 34 10.5 -1.3**
baz=307
BTLS Baital 54.25 307 *d* iP **P** **12 27 10.9 +0.1**
BTLS *eS* **S** **12 34 10.5 -1.3**
BTLS pmax pmax
comp=Z,805nm,0.7s
BTLS Baital 54.25 307 ⇓ *i* P **P** **12 27 11.0 +0.1**
comp=Z,805nm,0.7s,baz=307

N19K	**Bonanza Creek**	**54.44**	**33**	P			12 27 12.8		
	baz=264,SNR=92								
N19K				S			12 34 16.7		
	baz=264								
DHRM	**DHARAMSHALA**	**54.49**	**291**	IAmb	IAmb		12 27 17.8		
	comp=Z,2µm,1.2s								
DHRM	**DHARAMSHALA**	**54.49**	**291**	*e*P	**P**		**12 27 12.1**	**-0.9**	
NDI	**New Delhi**	**54.58**	**287**	*e*S	**S**		**12 34 17.0**	**+0.4**	
NDI	**New Delhi**	**54.58**	**287**	*e*P	**P**		**12 27 14.0**	**+0.6**	
EKS2	**Erkin-Say**	**54.69**	**304**	P	**P**		**12 27 14.9**	**+0.8**	
	SNR=13								
OHAK	**Old Harbor**	**54.77**	**38**	P	**P**		**12 27 13.9**	**-0.3**	
OHAK	**Old Harbor**	**54.77**	**38**	P			12 27 13.9		
	baz=267,SNR=26								
OHAK				S			12 34 17.8		
	baz=267								
AML	**Almayashu**	**54.81**	**304**	P	**P**		**12 27 16.4**	**+1.0**	
	SNR=34								
AML	**Almayashu**	**54.81**	**304**	*i* P	**P**		**12 27 16.6**	**+1.2**	
	SNR=48								
BRZS	**Berezniki**	**54.85**	**313**	*e*S	**S**		**12 34 16.9**	**-2.8**	
	baz=313								
BRZS	**Berezniki**	**54.85**	**313**	*d i*P	**P**		**12 27 14.9**	**-0.1**	
BRZS				*e*S	**S**		**12 34 16.8**	**-2.8**	
BRZS				pmax	pmax				
	comp=Z,561nm,0.9s								
BRZS	**Berezniki**	**54.85**	**313**	⇓ *i*P	**P**		**12 27 15.0**	**-0.1**	
	comp=Z,561nm,0.9s,baz=313								
LIFNC	**LIFOU**	**55.02**	**148**	P	**P**		**12 27 17.4**	**+1.0**	
KDAK	**Kodiak Island**	**55.17**	**37**	P	**P**		**12 27 16.8**	**-0.2**	
	comp=Z,98nm,0.3s,baz=284,slow=4.6,SNR=131								
KDAK				ScP	**ScP**		**12 31 24.2**	**0.0**	
	comp=Z,94nm,0.9s,baz=78,slow=2.7,SNR=4.0								
KDAK				S	**S**		**12 34 22.0**	**-1.5**	
	comp=Z,19nm,0.9s,baz=46,slow=20,SNR=2.6								
KDAK				ScS	**ScS**		**12 36 16.9**	**+0.4**	
	comp=Z,43nm,1.1s,baz=35,slow=22,SNR=6.4								
KDAK	**Kodiak Island**	**55.17**	**37**	P	**P**		**12 27 16.8**	**-0.2**	
KDAK				IAmb	IAmb		12 27 22.2		
	comp=Z,383nm,1.1s								
KDAK	**Kodiak Island**	**55.17**	**37**		**ScP**		**12 31 24.2**	**0.0**	
KDAK					**ScS**		**12 36 16.9**	**+0.4**	
KDAK	**Kodiak Island**	**55.17**	**37**	P			12 27 16.9		
	baz=267								
KDAK				S			12 34 22.2		
	baz=267								
RSO	**Redoubt South**	**55.25**	**34**	P	**P**		**12 27 17.6**	**-0.2**	
SPCR	**Spurr Chakacha**	**55.58**	**33**	P			12 27 20.0		
	baz=265,SNR=29								
SPCR				S			12 34 28.5		
	baz=265								
A21K	**Barrow**	**55.62**	**20**	P	**P**		**12 27 20.9**	**+0.9**	
A21K				IAmb	IAmb		12 27 26.7		
	comp=Z,582nm,1.1s								
A21K	**Barrow**	**55.62**	**20**	P			12 27 20.6		
	baz=254,SNR=37								
A21K				S			12 34 30.0		
	baz=254								
NOUC	**Port Laguerre**	**55.74**	**150**	P	**P**		**12 27 22.0**	**+0.5**	
PPLA	**Purkeypile**	**55.74**	**31**	P	**P**		**12 27 21.9**	**+0.7**	
PPLA	**Purkeypile**	**55.74**	**31**	P			12 27 21.9		
	baz=264,SNR=84								
PPLA				S			12 34 31.6		
	baz=264								
DZM	**Mont Dzumac**	**55.77**	**150**	P	**P**		**12 27 22.3**	**+0.4**	
	comp=Z,166nm,0.8s,baz=353,slow=9.2,SNR=27								
DZM	**Mont Dzumac**	**55.77**	**150**	*e*P	**P**		**12 27 23.3**	**+1.4**	
	comp=Z,638nm,1.1s								
DZM	**Mont Dzumac**	**55.77**	**150**	P	**P**		**12 27 22.6**	**+0.8**	
DZM				IAmb	IAmb		12 27 27.7		
	comp=Z,320nm,1.1s								
DZM	**Mont Dzumac**	**55.77**	**150**	P	**P**		**12 27 23.5**	**+1.6**	
CHUM	**Lake Minchumin**	**55.80**	**30**	P			12 27 22.4		
	baz=263,SNR=80								
CHUM				S			12 34 33.5		
	baz=263								
GIRL	**Giralia**	**55.80**	**209**	P	**P**		**12 27 22.7**	**+0.8**	
GIRL				IAmb	IAmb		12 27 27.9		
	comp=Z,450nm,1.3s								
H21K	**Melozitna Rive**	**55.82**	**28**	P			12 27 22.6		
	baz=262								
H21K				S			12 34 34.5		
	baz=262								
CAST	**Castle Rocks**	**55.85**	**30**	P	**P**		**12 27 22.6**	**+0.9**	
CAST	**Castle Rocks**	**55.85**	**30**	P			12 27 22.6		
	baz=264								
CAST				S			12 34 34.7		
	baz=264								
CNPM	**China Poot**	**55.96**	**35**	P	**P**		**12 27 21.8**	**-0.8**	
CNPM				IAmb	IAmb		12 27 25.3		
	comp=Z,245nm,0.8s								
YATNC	**Mamie plateau,**	**55.96**	**149**	P	**P**		**12 27 25.5**	**+2.4**	
BHPL	**Bhopal**	**55.97**	**280**	IAmb	IAmb		12 27 27.9		
	comp=Z,917nm,0.7s								
BHPL	**Bhopal**	**55.97**	**280**	*e*P	**P**		**12 27 21.9**	**-1.3**	
SKT	**Skwentna**	**55.97**	**32**	P	**P**		**12 27 22.2**	**-0.4**	
SKT	**Skwentna**	**55.97**	**32**	P			12 27 22.2		
	baz=265,SNR=91								
SKT				S			12 34 33.5		
	baz=265								
ONTNC	**Ouen Toro**	**55.98**	**150**	P	**P**		**12 27 23.5**	**+0.3**	
ONTNC	**Ouen Toro**	**55.98**	**150**	P	**P**		**12 27 23.1**	**-0.1**	
CAPN	**Captain Cook N**	**56.06**	**34**	P			12 27 23.8		
	baz=267								
CAPN				S			12 34 35.0		
	baz=267								
I21K	**Tanana**	**56.09**	**28**	P			12 27 24.4		
	baz=263,SNR=437								
I21K				S			12 34 38.3		
	baz=263								
BRLK	**Bradley Lake**	**56.15**	**35**	P	**P**		**12 27 23.0**	**-0.9**	
BRLK				IAmb	IAmb		12 27 28.1		
	comp=Z,272nm,0.8s								
BVAR	**Borovoye Array**	**56.16**	**317**	S	**S**		**12 34 34.1**	**-2.4**	
	comp=Z,17nm,0.8s,baz=138,slow=20,SNR=4.2								
BVAR				P4KPbc			13 04 33.2		
	comp=Z,3.5nm,0.8s,baz=198,slow=19,SNR=9.5								
BRSE	**Bradley Lake S**	**56.22**	**35**	P			12 27 23.4		
	baz=268,SNR=61								
BRSE				S			12 34 34.1		
	baz=268								
BRVK	**Borovoye**	**56.23**	**317**	P	**P**		**12 27 25.0**	**+0.5**	
BRVK				pmax	pmax				
	comp=Z,2µm,0.8s								
BRVK	**Borovoye**	**56.23**	**317**	P	**P**		**12 27 25.0**	**+0.5**	
OUENC	**Ouen Island, N**	**56.26**	**150**	P	**P**		**12 27 25.5**	**+0.4**	
OUENC	**Ouen Island, N**	**56.26**	**150**	P	**P**		**12 27 25.1**	**0.0**	
SUA	**Susitna One**	**56.30**	**33**	P	**P**		**12 27 24.4**	**-0.7**	
SUA				IAmb	IAmb		12 27 31.4		
	comp=Z,197nm,0.7s								
SUA	**Susitna One**	**56.30**	**33**	P			12 27 24.5		
	baz=266,SNR=82								
SUA				S			12 34 36.7		
	baz=266								
KTH	**Kantishna Hill**	**56.38**	**30**	P	**P**		**12 27 25.7**	**+0.2**	
BPAW	**Bear Paw Mtn.**	**56.40**	**30**	P	**P**		**12 27 26.1**	**+0.5**	
BPAW	**Bear Paw Mtn.**	**56.40**	**30**	P			12 27 26.1		
	baz=264,SNR=174								
BPAW				S			12 34 42.0		
	baz=264								
KIP	**Kipapa**	**56.41**	**82**	*ce*P	**P**		**12 27 26.0**	**-0.3**	
KIP				pmax	pmax				
	comp=Z,445nm,1.0s								
KIP	**Kipapa**	**56.41**	**82**	P	**P**		**12 27 27.0**	**+0.7**	
KIP				IAmb	IAmb		12 27 31.2		
	comp=Z,365nm,0.9s								
DZA	**Taraz**	**56.44**	**305**	*e*S	**S**		**12 34 36.8**	**-3.9**	
	baz=305								
DZA	**Taraz**	**56.44**	**305**	*e*P	**P**		**12 27 26.6**	**+0.4**	
DZA				*e*S	**S**		**12 34 36.7**	**-3.9**	
DZA	**Taraz**	**56.44**	**305**	*e*P	**P**		**12 27 26.7**	**+0.4**	
	baz=305								
HON	**Honolulu**	**56.46**	**82**	P	**P**		**12 27 27.0**	**+0.4**	
HON				pmax	pmax				
	comp=Z,374nm,0.9s								
HON	**Honolulu**	**56.46**	**82**	P	**P**		**12 27 27.0**	**+0.4**	
HON				IAmb	IAmb		12 27 31.0		
	comp=Z,374nm,0.9s								
FIS	**Fire Island**	**56.54**	**33**	P	**P**		**12 27 27.2**	**+0.7**	
FIS				IAmb	IAmb		12 27 30.4		
	comp=Z,465nm,0.6s								
CUT	**Chulitna**	**56.59**	**32**	P	**P**		**12 27 26.7**	**-0.1**	
CUT				IAmb	IAmb		12 27 31.7		
	comp=Z,571nm,1.3s								
CUT	**Chulitna**	**56.59**	**32**	P			12 27 26.4		
	baz=266,SNR=33								
CUT				S			12 34 40.6		
	baz=266								
MLY	**Manley**	**56.60**	**28**	P	**P**		**12 27 27.8**	**+0.8**	
MLY	**Manley**	**56.60**	**28**	P			12 27 27.7		
	baz=264,SNR=233								
MLY				S			12 34 43.4		
	baz=264								
DRK	**Karamyk**	**56.64**	**301**	P	**P**		**12 27 28.7**	**+0.7**	
TRF	**Thorofare Moun**	**56.65**	**30**	P			12 27 27.6		
	baz=266,SNR=134								
TRF				S			12 34 42.6		
	baz=266								
NIL	**Nilore**	**56.67**	**294**	P	**P**		**12 27 28.9**	**+0.9**	
NIL				pmax	pmax				
	comp=Z,4µm,1.5s								
NIL	**Nilore**	**56.67**	**294**	P	**P**		**12 27 28.9**	**+0.9**	
PINNC	**Pines Island,**	**56.70**	**149**	P	**P**		**12 27 30.5**	**+2.4**	
PINNC	**Pines Island,**	**56.70**	**149**	P	**P**		**12 27 28.5**	**+0.4**	
O22K	**Cooper Landing**	**56.75**	**34**	P	**P**		**12 27 27.8**	**-0.2**	
O22K	**Cooper Landing**	**56.75**	**34**	P			12 27 27.6		
	baz=268,SNR=79								
O22K				S			12 34 40.9		
	baz=268								
RC01	**Rabbit Creek A**	**56.77**	**33**	P	**P**		**12 27 28.3**	**+0.1**	
RC01				IAmb	IAmb		12 27 33.4		
	comp=Z,200nm,0.8s								
RC01	**Rabbit Creek A**	**56.77**	**33**	P			12 27 27.7		
	baz=268,SNR=71								
RC01				S			12 34 41.4		
	baz=268								
SEW	**Seward**	**56.88**	**34**	P	**P**		**12 27 28.4**	**-0.4**	
SEW				IAmb	IAmb		12 27 35.6		
	comp=Z,342nm,0.9s								
SEW	**Seward**	**56.88**	**34**	P			12 27 28.2		
	baz=268,SNR=144								
SEW				S			12 34 44.1		
	baz=268								
HYB	**Hyderabad**	**56.98**	**274**	*e*S	**S**		**12 34 51.0**	**+2.8**	
HYB	**Hyderabad**	**56.98**	**274**	IAmb	IAmb		12 27 35.6		
	comp=Z,1µm,1.2s								
HYB	**Hyderabad**	**56.98**	**274**	*i* P	**P**		**12 27 31.0**	**+0.6**	
	comp=Z,400nm,1.2s								
HYB	**Hyderabad**	**56.98**	**274**	*e*PcP	**PcP**		**12 28 18.5**	**-0.7**	
HYB	**Hyderabad**	**56.98**	**274**	*e*pP	pP		12 29 01.0	-2.6	
HYB	**Hyderabad**	**56.98**	**274**	*e*PP	PP		12 29 48.0	+4.3	
HYB	**Hyderabad**	**56.98**	**274**	*e*			12 31 21.0		
HYB	**Hyderabad**	**56.98**	**274**	*e*			12 32 09.0		
HYB	**Hyderabad**	**56.98**	**274**	*e*P	**P**		**12 27 29.3**	**-1.1**	
KK31	**Karatay Array**	**57.01**	**305**	P	**P**		**12 27 30.7**	**+0.5**	
KK31				pmax	pmax				
	comp=Z,2µm,0.8s								
KK31	**Karatay Array**	**57.01**	**305**	P	**P**		**12 27 30.7**	**+0.5**	
KKAR	**Karatay Array**	**57.01**	**305**	P	**P**		**12 27 30.6**	**+0.4**	
KKAR	**Karatay Array**	**57.01**	**305**	P	**P**		**12 27 30.6**	**+0.4**	
COLD	**Coldfoot**	**57.06**	**26**	P	**P**		**12 27 31.1**	**+1.0**	
COLD				IAmb	IAmb		12 27 36.9		
	comp=Z,274nm,1.0s								
COLD	**Coldfoot**	**57.06**	**26**	P			12 27 30.9		
	baz=263,SNR=282								
COLD				S			12 34 49.3		
	baz=263								
PMR	**Palmer**	**57.08**	**33**	P	**P**		**12 27 29.7**	**-0.5**	
PMR				pmax	pmax				
	comp=Z,236nm,0.8s								
PMR	**Palmer**	**57.08**	**33**	P	**P**		**12 27 29.7**	**-0.5**	
PMR				IAmb	IAmb		12 27 35.5		
	comp=Z,236nm,0.8s								
PMR	**Palmer**	**57.08**	**33**	P			12 27 29.7		
	baz=268,SNR=196								
PMR				S			12 34 45.9		
	baz=268								
H23K	**Yukon River**	**57.17**	**28**	P			12 27 32.0		
	baz=265,SNR=152								
H23K				S			12 34 51.2		
	baz=265								
I23K	**Minto, Yukon-K**	**57.19**	**28**	P	**P**		**12 27 31.3**	**+0.4**	
I23K	**Minto, Yukon-K**	**57.19**	**28**	P			12 27 31.7		
	baz=265,SNR=152								
I23K				S			12 34 51.3		
	baz=265								
NEA2	**Nenana**	**57.27**	**29**	P	**P**		**12 27 32.4**	**+0.8**	
NEA2				IAmb	IAmb		12 27 38.0		
	comp=Z,340nm,1.0s								
NEA2	**Nenana**	**57.27**	**29**	P			12 27 31.9		
	baz=266,SNR=41								
NEA2				S			12 34 51.5		
	baz=266								
MCK	**McKinley**	**57.28**	**30**	IAmb	IAmb		12 27 37.4		
	comp=Z,473nm,0.9s								
MCK	**McKinley**	**57.28**	**30**	P			12 27 31.6		
	baz=267,SNR=163								
MCK				S			12 34 49.6		
	baz=267								
BTK	**Batken**	**57.28**	**302**	P	**P**		**12 27 32.3**	**+0.2**	
BTK				pmax	pmax				
	comp=Z,904nm,1.2s								
BTK	**Batken**	**57.28**	**302**	P	**P**		**12 27 32.3**	**+0.2**	
BTK				IAmb	IAmb		12 27 37.9		
	comp=Z,904nm,1.2s								
RND	**Reindeer**	**57.29**	**30**	IAmb	IAmb		12 27 36.7		
	comp=Z,218nm,0.8s								
AJM	**Ajmer**	**57.38**	**285**	⇓ *i*P	**P**		**12 27 33.0**	**0.0**	
KNK	**Knik Glacier**	**57.40**	**33**	P	**P**		**12 27 32.5**	**0.0**	
KNK				IAmb	IAmb		12 27 37.6		
	comp=Z,536nm,1.0s								
KNK	**Knik Glacier**	**57.40**	**33**	P			12 27 32.5		
	baz=268,SNR=162								
KNK				S			12 34 53.5		
	baz=268								
PWL	**Port Wells**	**57.45**	**33**	P	**P**		**12 27 32.5**	**-0.3**	
PWL				IAmb	IAmb		12 27 38.2		
	comp=Z,626nm,0.8s								
TOLK	**Toolik Lake Re**	**57.47**	**24**	IAmb	IAmb		12 27 39.8		
	comp=Z,254nm,1.0s								
TOLK	**Toolik Lake Re**	**57.47**	**24**	P			12 27 33.6		
	baz=263,SNR=168								
TOLK				S			12 34 53.2		
	baz=263								
SML	**Sawmill**	**57.47**	**32**	P	**P**		**12 27 32.9**	**-0.1**	
SML				IAmb	IAmb		12 27 38.2		
	comp=Z,473nm,0.8s								
SML	**Sawmill**	**57.47**	**32**	P			12 27 32.9		
	baz=268,SNR=227								
SML				S			12 34 53.6		
	baz=268								
COCO	**West Island**	**57.48**	**232**	P	**P**		**12 27 33.9**	**+0.3**	
COCO				pmax	pmax				
	comp=Z,2µm,1.6s								
COCO	**West Island**	**57.48**	**232**	P	**P**		**12 27 33.9**	**+0.3**	
MDM	**Murphy Dome**	**57.66**	**29**	P	**P**		**12 27 34.4**	**+0.2**	
MDM				IAmb	IAmb		12 27 41.5		
	comp=Z,354nm,1.4s								
WAT6	**Susitna Watana**	**57.77**	**31**	P			12 27 34.9		
	baz=268,SNR=339								
WAT6				S			12 34 57.2		
	baz=268								
TCOL	**CIGO, UAF Yank**	**57.81**	**29**	P	**P**		**12 27 35.5**	**+0.3**	
TCOL	**CIGO, UAF Yank**	**57.81**	**29**	P			12 27 35.3		
	baz=267,SNR=48								
TCOL				S			12 34 57.5		
	baz=267								
COLA	**College**	**57.81**	**29**	*c i*P	**P**		**12 27 34.6**	**-0.6**	
COLA				pmax	pmax				
	comp=Z,150nm,0.9s								
COLA	**College**	**57.81**	**29**	P	**P**		**12 27 35.4**	**+0.2**	
COLA	**College**	**57.81**	**29**	P			12 27 35.3		
	baz=267								
COLA				S			12 34 58.2		
	baz=267								
CCB	**Clear Creek Bu**	**57.82**	**29**	P	**P**		**12 27 35.1**	**-0.2**	
H24K	**Noodor Dome**	**57.86**	**28**	P			12 27 36.4		
	baz=266,SNR=206								
H24K				S			12 35 00.1		
	baz=266								
SCM	**Sheep Creek Mo**	**57.95**	**32**	IAmb	IAmb		12 27 38.0		
	comp=Z,341nm,0.9s								
POKR	**Poker Plat Res**	**58.00**	**28**	P	**P**		**12 27 36.8**	**+0.3**	
POKR				IAmb	IAmb		12 27 43.4		
	comp=Z,237nm,0.8s								
POKR	**Poker Plat Res**	**58.00**	**28**	P			12 27 36.9		
	baz=267,SNR=44								
POKR				S			12 35 00.3		
	baz=267								
GLI	**Glacier Island**	**58.05**	**33**	IAmb	IAmb		12 27 42.0		
	comp=Z,804nm,1.4s								
GLI	**Glacier Island**	**58.05**	**33**	P			12 27 36.8		
	baz=270,SNR=152								
GLI				S			12 35 01.1		
	baz=270								
HDA	**Harding Lake**	**58.18**	**29**	IAmb	IAmb		12 27 38.6		
	comp=Z,240nm,1.0s								
HDA	**Harding Lake**	**58.18**	**29**	P			12 27 37.0		
	baz=268,SNR=112								
HDA				P			12 27 37.0		
	baz=268,SNR=112								
HDA				S			12 34 59.6		
	baz=268								
HDA				S			12 34 59.6		
	baz=268								
HLK	**Haleakala**	**58.19**	**82**	IAmb	IAmb		12 27 43.4		
	comp=Z,674nm,1.2s								
IL31		**58.22**	**29**	P	**P**		**12 27 37.0**	**-1.0**	
ILAR	**Eielson Array**	**58.22**	**29**	P	**P**		**12 27 37.0**	**-1.0**	
	comp=Z,117nm,0.9s,baz=267,slow=5.6,SNR=296								
ILAR	**Eielson Array**	**58.22**	**29**	P	**P**		**12 27 37.0**	**-1.0**	
ILAR	**Eielson Array**	**58.22**	**29**	P	**P**		**12 27 37.0**	**-1.0**	
HIN	**Hinchinbrook I**	**58.35**	**34**	IAmb	IAmb		12 27 44.4		
	comp=Z,286nm,0.8s								
FID	**Port Fidalgo**	**58.36**	**34**	P	**P**		**12 27 38.8**	**-0.2**	
FID				IAmb	IAmb		12 27 44.1		
	comp=Z,277nm,0.8s								
MSVF	**Nonsavu**	**58.42**	**136**	P	**P**		**12 27 41.6**	**+1.5**	
	comp=Z,17nm,0.5s,baz=289,slow=6.9,SNR=33								
MSVF	**Nonsavu**	**58.42**	**136**	P	**P**		**12 27 42.0**	**+1.9**	
MSVF				pmax	pmax				
	comp=Z,362nm,1.6s								
MSVF	**Nonsavu**	**58.42**	**136**	P	**P**		**12 27 42.0**	**+1.9**	
MSVF				IAmb	IAmb		12 29 22.0		
	comp=Z,362nm,1.6s								
MSVF	**Nonsavu**	**58.42**	**136**	P	**P**		**12 27 41.4**	**+1.3**	
MID	**Middleton Isla**	**58.45**	**35**	IAmb	IAmb		12 27 41.6		
	comp=Z,264nm,0.8s								
M24K	**Tolsona, Glenn**	**58.49**	**32**	IAmb	IAmb		12 28 19.9		
	comp=Z,191nm,0.8s								
M24K	**Tolsona, Glenn**	**58.49**	**32**	P			12 27 40.6		
	baz=270,SNR=41								
M24K				S			12 35 08.3		
	baz=270								
KLU	**Klutina**	**58.62**	**33**	IAmb	IAmb		12 27 46.8		
	comp=Z,194nm,0.6s								
KLU	**Klutina**	**58.62**	**33**	P			12 27 41.2		
	baz=271,SNR=144								
KLU				S			12 35 08.4		
	baz=271								
EYAK	**Cordova Ski Ar**	**58.72**	**34**	P	**P**		**12 27 41.7**	**+0.3**	
EYAK				IAmb	IAmb		12 27 47.0		
	comp=Z,168nm,0.7s								
EYAK	**Cordova Ski Ar**	**58.72**	**34**	P			12 27 41.7		
	baz=271,SNR=112								
EYAK				S			12 35 10.2		
	baz=271								
PAX	**Paxson**	**58.82**	**31**	IAmb	IAmb		12 27 47.8		
	comp=Z,262nm,0.9s								
PAX	**Paxson**	**58.82**	**31**	P			12 27 42.4		
	baz=270,SNR=250								
PAX				S			12 35 10.5		
	baz=270								
PRP	**Porcupine Dome**	**58.82**	**28**	P	**P**		**12 27 41.6**	**-0.7**	
PRP	**Porcupine Dome**	**58.82**	**28**	P			12 27 41.6		
	baz=269,SNR=37								
PRP				S			12 35 09.4		
	baz=269								
ARMA	**Armidale**	**58.88**	**168**	IAmb	IAmb		12 27 48.4		
	comp=Z,217nm,0.9s								
KHLU	**Kahalu`u**	**58.91**	**83**	IAmb	IAmb		12 27 45.4		
	comp=Z,374nm,0.8s								
HPAH	**Hawaii Prepara**	**58.93**	**82**	IAmb	IAmb		12 27 45.4		
	comp=Z,349nm,0.8s								
HUH	**Hualalai**	**58.93**	**83**	P	**P**		**12 27 42.7**	**-1.1**	
HUH				IAmb	IAmb		12 27 45.7		
	comp=Z,194nm,0.8s								
FYU	**Fort Yukon**	**58.97**	**27**	P	**P**		**12 27 44.2**	**+1.3**	
FYU				IAmb	IAmb		12 27 50.3		
	comp=Z,407nm,1.2s								
HARP	**HAARP**	**58.97**	**32**	P			12 27 43.7		
	baz=271,SNR=135								
HARP				S			12 35 12.3		
	baz=271								
POHA	**Pohakuloa**	**59.17**	**83**	P	**P**		**12 27 45.8**	**+0.3**	
MWH	**Moku'aweowe**	**59.21**	**83**	P	**P**		**12 27 46.6**	**+0.5**	
MWH				IAmb	IAmb		12 27 50.8		
	comp=Z,434nm,1.0s								
FORT	**Forrest**	**59.21**	**192**	P	**P**		**12 27 44.3**	**-0.7**	
FORT				IAmb	IAmb		12 27 51.2		
	comp=Z,261nm,0.6s								
MLOA	**Mauna Loa Obse**	**59.21**	**83**	P	**P**		**12 27 45.7**	**-0.3**	
MLOA				IAmb	IAmb		12 27 51.0		
	comp=Z,459nm,0.9s								
BMAR	**Burnt Mountain**	**59.25**	**26**	P	**P**		**12 27 46.6**	**+1.6**	
N25K	**Chitina, Valde**	**59.25**	**33**	P	**P**		**12 27 45.7**	**+0.5**	
N25K	**Chitina, Valde**	**59.25**	**33**	P			12 27 45.6		
	baz=272,SNR=106								
N25K				S			12 35 16.1		
	baz=272								
STKA	**Stephens Creek**	**59.26**	**178**	P	**P**		**12 27 44.5**	**-0.9**	
	comp=Z,102nm,0.7s,baz=1.8,slow=7.6,SNR=58								
STKA				S	**S**		**12 35 11.9**	**-4.6**	
	comp=Z,7.3nm,0.9s,baz=53,slow=19,SNR=1.7								
STKA				PKP2bc			12 57 20.8		
	comp=Z,8.4nm,1.1s,baz=30,slow=2.4,SNR=5.1								
STKA	**Stephens Creek**	**59.26**	**178**	P	**P**		**12 27 44.5**	**-0.9**	
STKA				pmax	pmax				
	comp=Z,35nm,0.9s								
STKA	**Stephens Creek**	**59.26**	**178**	P	**P**		**12 27 44.5**	**-0.9**	
HMH	**Humu'ula Sheep**	**59.27**	**83**	P	**P**		**12 27 47.2**	**+1.0**	
HMH				IAmb	IAmb		12 27 55.5		
	comp=Z,390nm,0.9s								
BMRM	**Bremner River**	**59.27**	**33**	P	**P**		**12 27 45.7**	**+0.5**	
BMRM				IAmb	IAmb		12 27 49.4		
	comp=Z,521nm,0.7s								
BMRM	**Bremner River**	**59.27**	**33**	P			12 27 45.6		
	baz=272,SNR=243								
BMRM				S			12 35 17.4		
	baz=272								
PALK	**Pallekele**	**59.33**	**262**	P	**P**		**12 27 46.6**	**+0.2**	
PALK				pmax	pmax				
	comp=Z,357nm,1.0s								
PALK	**Pallekele**	**59.33**	**262**	P	**P**		**12 27 46.6**	**+0.2**	
PAL

KBL pmax pmax
comp=Z,1μm,0.9s
KBL Kabul 59.85 296 P **P** **12 27 50.0 +0.2**
KBL Kabul 59.85 296 P **P** **12 27 50.2 +0.4**
SNR=271
BGLC Bering Glacier 59.97 34 P 12 27 50.9
baz=274,SNR=8.0
BGLC S 12 35 26.4
baz=274
MCARA McCarthy VSAT 60.01 33 P **P** **12 27 50.5 +0.4**
MCARA IAmb IAmb 12 27 56.4
comp=Z,382nm,0.8s
MCARA McCarthy VSAT 60.01 33 P 12 27 50.7
baz=273,SNR=114
MCARA S 12 35 25.1
baz=273
CRQE Cirque 60.02 34 P 12 27 50.4
baz=274,SNR=139
CRQE S 12 35 25.2
baz=274
L27K Beaver Creek, 60.48 31 P 12 27 53.7
baz=273,SNR=122
L27K S 12 35 32.5
baz=273
BCAR Beaver Creek A 60.49 31 P **P** **12 27 54.0 +0.6**
MESA MESA 60.63 34 P **P** **12 27 54.7 +0.2**
MESA MESA 60.63 34 P 12 27 54.5
baz=275,SNR=18
MESA S 12 35 33.9
baz=275
EGAK Eagle 60.67 29 P **P** **12 27 54.1 -0.4**
EGAK Eagle 60.67 29 P 12 27 54.2
baz=273,SNR=94
EGAK S 12 35 32.6
baz=273
BARN Barnard Glacie 60.69 33 P **P** **12 27 55.1 +0.2**
YAH Yahtse 60.71 34 P **P** **12 27 55.4 +0.3**
POO Poona 60.72 277 *eS* **S** **12 35 36.0 +0.3**
POO Poona 60.72 277 ⇑*iP* P 12 27 48.0 -7.6
comp=Z,270nm,1.2s
MORW Morawa 60.85 204 P **P** **12 27 56.0 -0.1**
MORW IAmb IAmb 12 28 00.8
comp=Z,266nm,1.4s
KAD Karad 60.89 275 ⇓*iP* **P** **12 27 56.7 0.0**
SVE Sverdlovsk 61.45 322 *ciP* **P** **12 28 00.0 +0.3**
SVE *e* 12 30 24.2
SVE *eS* **S** **12 35 42.7 -0.8**
SVE *e* 12 36 58.4
SVE pmax pmax
comp=Z,1μm,1.0s
PINM Pinnacle 61.48 34 P 12 28 00.2
baz=276,SNR=66
PINM S 12 35 43.4
baz=276
LHI Lord Howe Isla 61.68 161 IAmb IAmb 12 28 06.5
comp=Z,446nm,1.2s
LHI Lord Howe Isla 61.68 161 P **P** **12 28 02.8 +1.3**
BCPM Bancas Point 61.80 34 IAmb IAmb 12 28 07.9
comp=Z,376nm,1.1s
TRD Trivandrum 62.06 265 IAmb IAmb 12 28 10.4
comp=Z,572nm,0.7s
TRD Trivandrum 62.06 265 *eP* **P** **12 28 04.7 +0.3**
AFI Afiamalu 62.55 125 P **P** **12 28 07.9 +0.3**
AFI pmax pmax
comp=Z,64nm,0.8s
AFI Afiamalu 62.55 125 P **P** **12 28 07.9 +0.3**
ARU Arti 62.65 322 *ciP* **P** **12 28 07.1 -0.4**
ARU 12 28 40.8
ARU *PP **pP** **12 29 43.5 +0.1**
ARU 12 30 31.6
ARU S **S** **12 35 58.1 -0.1**
ARU 12 37 08.6
ARU SS **SS** **12 40 10.1 -2.6**
ARU pmax pmax
comp=Z,2μm,1.1s
ARU Arti 62.65 322 P **P** **12 28 07.4 -0.1**
BHUJ Bhuj 62.70 283 IAmb IAmb 12 28 14.3
comp=Z,1μm,0.8s
BHUJ Bhuj 62.70 283 *eP* **P** **12 28 09.8 +1.3**
HYT Haines Junctio 62.74 33 P **P** **12 28 09.2 +1.0**
HYT IAmb IAmb 12 28 10.8
comp=Z,201nm,0.9s
AB31 Akbulak array 63.15 314 *i* P **P** **12 28 10.5 -0.4**
ABKAR Akbulak array 63.15 314 P **P** **12 28 10.9 0.0**
CAN Canberra 63.27 172 IAmb IAmb 12 28 17.0
comp=Z,335nm,1.0s
INK Inuvik 63.38 25 P **P** **12 28 12.1 +0.1**
comp=Z,96nm,0.8s,baz=294,slow=6.3,SNR=56
INK PKP2bc 12 57 06.6
comp=Z,23nm,1.0s,baz=67,slow=4.3,SNR=11
INK Inuvik 63.38 25 P 12 28 12.2
baz=278,SNR=70
INK S 12 36 05.0
baz=278
NWAO Narrogin (SRO) 63.98 201 P **P** **12 28 14.8 -1.5**
NWAO pmax pmax
comp=Z,2μm,1.3s
NWAO pmax pmax
comp=Z,425nm,1.1s
NWAO Narrogin (SRO) 63.98 201 P **P** **12 28 14.8 -1.5**
NWAO Narrogin (SRO) 63.98 201 P **P** **12 28 15.7 -0.7**
NWAO IAmb IAmb 12 28 21.9
comp=Z,425nm,1.1s
WHY Whitehorse 64.03 33 P **P** **12 28 17.2 +0.6**
WHY IAmb IAmb 12 28 19.0
comp=Z,176nm,0.9s
WHY Whitehorse 64.04 33 P 12 28 17.4
baz=281,SNR=129
BESE Bessie Mountai 64.45 35 IAmb IAmb 12 28 21.5
comp=Z,134nm,0.9s
SIT Sitka 64.51 37 P 12 28 20.0
baz=282,SNR=27
SIT S 12 36 23.1
baz=282
JIS Juneau Island 64.75 36 IAmb IAmb 12 28 27.2
comp=Z,297nm,1.0s
XMAS Kiritimati 65.04 101 P **P** **12 28 24.0 +0.5**
XMAS Kiritimati 65.04 101 P **P** **12 28 24.7 +1.1**
TOO Toolangi 65.14 175 P **P** **12 28 23.8 +0.1**
TOO pmax pmax
comp=Z,422nm,1.1s
TOO Toolangi 65.14 175 P **P** **12 28 23.8 +0.1**
TOO IAmb IAmb 12 28 28.9
comp=Z,422nm,1.1s
HRA Herat 65.29 297 P **P** **12 28 25.8 +0.6**
CRAG Craig 66.07 38 P **P** **12 28 30.3 +1.0**
CRAG Craig 66.07 38 P 12 28 29.9
baz=284,SNR=51
CRAG S 12 36 41.9
baz=284
WRAK Wrangell Islan 66.26 37 P 12 28 31.1
baz=284,SNR=66
WRAK S 12 36 43.0
baz=284
C36M Paulatuk 66.52 23 IAmb IAmb 12 28 37.1
comp=Z,229nm,0.8s
C36M Paulatuk 66.52 23 P 12 28 32.0
baz=286,SNR=33
C36M S 12 36 42.7
baz=286
H01W3 Cape Leeuwin H 66.80 203 P P 12 28 38.7 +5.0
baz=58,slow=5.2,SNR=10
H01W1 Cape Leeuwin H 66.80 203 P P 12 28 38.9 +5.1
baz=58,slow=5.2,SNR=6.3
H01W2 Cape Leeuwin H 66.81 203 P P 12 28 38.8 +5.0
baz=58,slow=5.2,SNR=7.0
DLBC Dease Lake 66.94 35 PKPPKP 12 56 57.2
comp=Z,18nm,1.1s,baz=117,slow=0.8,SNR=5.4
DLBC Dease Lake 66.94 35 P **P** **12 28 35.8 +1.0**
DLBC IAmb IAmb 12 28 37.6
comp=Z,154nm,1.1s
KIRV Kirov 67.00 325 *ceP* **P** **12 28 34.9 -0.1**
DIB Dawson Inlet, 67.03 41 IAmb IAmb 12 28 36.8
comp=Z,206nm,0.9s
H02S1 DAWSON INLET T 67.03 41 P **P** **12 28 35.5 +0.2**
H02S1 DAWSON INLET T 67.03 41 P **P** **12 28 35.5 +0.2**
GEYT Alibeck 67.39 302 P **P** **12 28 38.3 +0.4**
comp=Z,442nm,1.2s,baz=48,slow=2.2,SNR=89
GEYT Alibeck 67.39 302 P **P** **12 28 38.4 +0.4**
GYA0B ALIBECK ARRAY 67.39 302 P **P** **12 28 38.4 +0.5**
PRGR Permogore 67.95 329 *eP* **P** **12 28 40.0 -0.8**
PRGR *eS* **S** **12 36 58.9 -2.5**
PRGR pmax pmax
comp=Z,1μm,1.0s
HOPEN Hopen 68.77 347 *eS* **S** **12 37 12.3 +1.8**
HOPEN Hopen 68.77 347 ⇓*iP* **P** **12 28 46.7 +1.1**
HOPEN Hopen 68.77 347 IVmB_BB 12 28 50.8
comp=Z,7μm,2.6s
SPA0 Spitsbergen Ar 69.42 349 *eS* **S** **12 37 19.2 +1.2**
SPA0 Spitsbergen Ar 69.42 349 *eP* **P** **12 28 50.0 +0.5**
SPA0 Spitsbergen Ar 69.42 349 IVmB_BB 12 28 54.3
comp=Z,6μm,2.4s
EUNU Eureka 69.61 8 IAmb IAmb 12 28 56.8
comp=Z,265nm,0.8s
KBS Kingsbay 69.62 351 *i* P **P** **12 28 50.9 +0.3**
KBS Kingsbay 69.62 351 *ceP* **P** **12 28 51.1 +0.4**
KBS pmax pmax
comp=Z,574nm,1.3s
KBS Kingsbay 69.62 351 *eSS* SS 12 42 02.2 +3.2
KBS Kingsbay 69.62 351 P **P** **12 28 51.0 +0.3**
KBS IAmb IAmb 12 28 56.5
comp=Z,376nm,0.9s
KBS Kingsbay 69.62 351 ⇓*iP* **P** **12 28 51.7 +1.0**
KBS Kingsbay 69.62 351 IVmBBB 12 28 56.3
comp=Z,4μm,0.7s
KBS Kingsbay 69.62 351 *esP* sP 12 31 20.8 +1.0
KBS Kingsbay 69.62 351 *eS* **S** **12 37 21.4 +1.2**
BELG Belogornoye 69.83 319 *diP* **P** **12 28 51.7 -0.7**
BELG pmax pmax
comp=Z,620nm,1.2s
BBB Bella Bella 69.86 41 S **S** **12 37 24.0 +0.2**
comp=Z,12nm,1.1s,baz=92,slow=15,SNR=3.1
LVZ Lovozero 70.11 337 *ceP* **P** **12 28 52.9 -1.0**
LVZ pmax pmax
comp=Z,629nm,1.3s
LVZ Lovozero 70.11 337 P **P** **12 28 53.4 -0.5**
LVZ IAmb IAmb 12 28 59.0
comp=Z,409nm,1.0s
OUZ Omahuta 70.25 151 IAmb IAmb 12 29 01.8
comp=Z,204nm,1.2s
NOR Nord 70.27 356 ⇓*iP* **P** **12 28 54.9 +0.4**
NOR Nord 70.27 356 ⇓*iP* **P** **12 28 54.9 +0.4**
HSPB Hornsund (broa 70.29 349 *eP* **P** **12 28 55.2 +0.5**
HSPB *eS* **S** **12 37 26.6 -1.4**
HSPB *eL* L 13 00 38.2
comp=Z,3μm,20.4s
HSPB Hornsund (broa 70.29 349 IVMs_BB IVMs_BB 13 04 15.2
comp=Z,1μm,14.5s
HSPB Hornsund (broa 70.29 349 ⇓*iP* **P** **12 28 55.2 +0.5**
HSPB Hornsund (broa 70.29 349 IVmB_BB 12 28 59.8
comp=Z,8μm,1.2s
HSPB Hornsund (broa 70.29 349 *eS* **S** **12 37 28.1 +0.1**
TAU Tasmania Unive 70.59 174 P **P** **12 28 57.1 +0.2**
TAU pmax pmax
comp=Z,161nm,1.0s
TAU Tasmania Unive 70.59 174 P **P** **12 28 57.1 +0.2**
TAU IAmb IAmb 12 29 01.3
comp=Z,161nm,0.9s
APA Apatity 70.68 337 ⇓*iP* **P** **12 28 57.0 -0.2**
APA *iS* **S** **12 37 31.0 -1.7**
APA *i* 12 38 01.0
APA *iSS **SS** **12 42 14.0 -1.5**
APA pmax pmax
comp=Z,575nm,1.0s
KLMR Klimovskoe 71.00 329 *diP* **P** **12 28 58.7 -0.4**
KLMR *e* 12 31 41.9
KLMR *eS* **S** **12 37 37.5 +1.1**
KLMR pmax pmax
comp=Z,1μm,1.5s
KLMR Klimovskoe 71.00 329 ⇓*iP* **P** **12 28 58.8 -0.4**
KLMR *iP* **P** **12 28 58.8 -0.4**
KLMR ⇑*iP* **P** **12 28 58.8 -0.4**
KLMR AMP 12 29 04.3
comp=Z,1μm,1.5s
KLMR *ePP **PP** **12 31 42.0 -2.0**
KLMR *eS **S** **12 37 37.6 +1.1**
KLMR *eS **S** **12 37 37.6 +1.1**
KLMR *eSSS SSS 12 46 01.9
KLMR *eSSS SSS 12 46 01.9
BJO1 Bjornoya 71.15 346 *eS* **S** **12 37 34.5 -3.3**
BJO1 Bjornoya 71.15 346 ⇓*iP* **P** **12 28 57.9 -1.9**
BJO1 Bjornoya 71.15 346 IVmB_BB 12 29 01.3
comp=Z,3μm,1.6s
KEV Kevo 71.71 340 P **P** **12 29 03.4 +0.2**
KEV pmax pmax
comp=Z,432nm,0.8s
KEV Kevo 71.71 340 P **P** **12 29 03.4 +0.2**
JLN Jalan Bani Buh 71.90 286 P **P** **12 29 05.3 +0.1**
SNR=36
RES Resolute Bay 71.98 13 P **P** **12 29 05.6 +0.9**
RES pmax pmax
comp=Z,188nm,1.0s
RES Resolute Bay 71.98 13 P **P** **12 29 05.5 +0.9**
RES IAmb IAmb 12 29 11.2
comp=Z,188nm,0.9s
WBK Wadi Bani Khal 72.09 287 P **P** **12 29 06.7 +0.3**
SNR=77
WSAR Wadi Sarin 72.14 287 P **P** **12 29 06.9 +0.3**
comp=Z,221nm,1.1s,baz=86,slow=4.8,SNR=43
WSAR Wadi Sarin 72.14 287 P **P** **12 29 07.2 +0.5**
SNR=39
HAMF Hammerfest 72.20 342 *eS* **S** **12 37 49.0 -0.7**
HAMF Hammerfest 72.20 342 ⇓*iP* **P** **12 29 06.2 +0.1**
HAMF Hammerfest 72.20 342 IVmBBB 12 29 11.0
comp=Z,5μm,1.6s
ARA0 ARCESS Array S 72.28 340 ⇓*iP* **P** **12 29 07.2 +0.6**
ARCES ARCESS Array B 72.28 340 P **P** **12 29 06.7 +0.2**
comp=Z,300nm,0.7s,baz=70,slow=8.2,SNR=541
ARCES PKPPKP P'P'df 12 56 40.2 -10
comp=Z,3.6nm,0.9s,baz=39,slow=23,SNR=4.0
ARCES ARCESS Array B 72.28 340 P **P** **12 29 06.7 +0.2**
BIDO Bidbid 72.45 288 P **P** **12 29 09.1 +0.6**
SNR=139
KUZ Kuaotunu 72.46 150 P **P** **12 29 08.6 +0.6**
YKA Yellowknife Ar 72.63 28 P **P** **12 29 08.4 -0.3**
comp=Z,112nm,0.7s,baz=295,slow=5.3,SNR=209
YKA PKPPKP P'P'df 12 56 39.3 -10
comp=Z,8.0nm,1.2s,baz=110,slow=3.2,SNR=7.4
SMDO Samad 72.70 287 P **P** **12 29 09.9 -0.1**
SNR=70
JMDO Jabal Madar 72.93 287 P **P** **12 29 11.0 -0.2**
SNR=63
BANOM Banah 73.05 291 *iP* **P** **12 29 12.1 +0.2**
SNR=15
BANOM Banah 73.05 291 P **P** **12 29 12.4 +0.5**
SNR=15
HOQ Hoqain 73.12 288 P **P** **12 29 12.3 +0.1**
SNR=188
SHME Shamm 73.13 291 *iP* **P** **12 29 13.0 +0.7**
SNR=207
SHME Shamm 73.13 291 P **P** **12 29 13.2 +0.8**
SNR=16
TOZ Tahuroa Road 73.19 151 P **P** **12 29 12.9 +0.8**
KTK1 Kautokeino 73.24 340 *eS* **S** **12 38 00.3 -1.0**
KTK1 Kautokeino 73.24 340 ⇓*iP* **P** **12 29 12.5 +0.3**
KTK1 Kautokeino 73.24 340 IVmBBB 12 29 17.6
comp=Z,5μm,1.8s
MAK Makhachkala 73.27 310 *eP* **P** **12 29 13.5 +0.8**
MAK *e*PP **pP** **12 30 54.5 +2.0**
MAK *e*SP **sP** **12 31 44.5 +2.9**
MAK *e* 12 32 00.5
MAK *ePPP PPP 12 33 47.6
MAK *eS **S** **12 38 02.9 +0.4**
MAK *eSS **SS** **12 42 56.7 +0.9**
MAK *eSSS SSS 12 46 23.1
MAK pmax pmax
comp=Z,751nm,1.0s
MAK MLR MLR
comp=Z,5μm,15.0s
MDH Madha 73.30 290 *iP* **P** **12 29 12.2 -1.1**
SNR=37
MDH Madha 73.30 290 P **P** **12 29 12.9 -0.3**
SNR=18
MASF Masafi 73.38 290 P **P** **12 29 14.7 +0.9**
SNR=52
MSFE Esma-Masafi 73.39 290 *iP* **P** **12 29 14.3 +0.4**
SNR=173
UOSS Minazif 73.51 290 *iP* **P** **12 29 14.4 -0.2**
SNR=57
UOSS Minazif 73.51 290 P **P** **12 29 14.3 -0.2**
TGRZ Tauranga 73.52 151 P **P** **12 29 15.0 +1.0**
BSY Bisya 73.54 287 P **P** **12 29 15.0 +0.3**
SNR=76
SOHO SOHO 73.56 289 *iP* **P** **12 29 14.6 -0.1**
SNR=452
SOHO SOHO 73.56 289 P **P** **12 29 14.5 -0.2**
HIZ Hauiti 73.58 152 P **P** **12 29 14.5 +0.1**
HIZ IAmb IAmb 12 29 19.8
comp=Z,357nm,0.8s
HIZ Hauiti 73.58 152 P **P** **12 29 15.3 +0.9**
MHTO MHTO 73.59 285 P **P** **12 29 14.7 -0.3**
SNR=137
HATD Hatta, Dubai 73.62 290 *iP* **P** **12 29 15.3 +0.1**
SNR=296
HATD Hatta, Dubai 73.62 290 P **P** **12 29 16.0 +0.9**
SNR=117
AKT Akhty 73.68 309 ⇓*iP* **P** **12 29 15.4 +0.1**
AKT *e* 12 29 26.6
AKT *e*PP **pP** **12 30 54.0 -1.2**
AKT *e*SP **sP** **12 31 47.6 +3.3**
AKT *e* 12 32 06.9
AKT *eS **S** **12 38 05.0 -2.4**
AKT pmax pmax
comp=Z,985nm,0.8s
VRH Novokhopyorsk 73.68 320 *eP* **P** **12 29 14.9 0.0**
VRH *eS **SKiKP** **12 37 59.8 +5.9**
VRH pmax pmax
comp=Z,920nm,0.6s
VRH pmax pmax
comp=Z,1μm,0.6s
VRH smax smax
comp=N,290nm,4.2s
TLZ Tolley Road 73.71 151 P **P** **12 29 16.7 +1.5**
ASHO Ashiyiah 73.74 290 *iP* **P** **12 29 15.9 0.0**
SNR=151
ASHO Ashiyiah 73.74 290 P **P** **12 29 15.6 -0.2**
SNR=13
OPRZ Ohinepanea 73.74 150 P **P** **12 29 16.0 +0.7**
JETT Jettan, Norway 73.75 341 *eS* **S** **12 38 07.4 +0.4**
JETT Jettan, Norway 73.75 341 ⇓*iP* **P** **12 29 15.5 +0.5**
DGAR Diego Garcia 73.76 252 P **P** **12 29 16.7 +0.7**
DGAR pmax pmax
comp=Z,1μm,1.4s
DGAR Diego Garcia 73.76 252 P **P** **12 29 16.7 +0.7**
PKE Pukeiti 73.80 153 P **P** **12 29 15.5 -0.2**
H08S3 Diego Garcia H 73.85 252 P **P** **12 29 17.6 +1.4**
baz=18,slow=8.3,SNR=6.0
H08S2 Diego Garcia H 73.85 252 P **P** **12 29 17.6 +1.4**
baz=18,slow=8.3,SNR=7.6
H08S1 Diego Garcia H 73.86 252 P **P** **12 29 17.7 +1.4**
baz=18,slow=8.3,SNR=4.9
OMRZ Omania 73.88 151 P **P** **12 29 17.2 +1.0**
ARQ Araqi 73.88 288 P **P** **12 29 17.0 +0.4**
SNR=165
KHEZ Kahui Hut 73.89 153 P **P** **12 29 18.0 +1.7**
PGC Sidney 73.94 43 P **P** **12 29 17.3 +0.9**
PGC IAmb IAmb 12 29 20.3
comp=Z,124nm,0.8s
NAZ Nazwa, Dubai 73.95 290 *iP* **P** **12 29 17.1 +0.1**
SNR=138
NAZ Nazwa, Dubai 73.95 290 P **P** **12 29 16.9 -0.1**
SNR=60
KUTZ Kaahu Road 73.96 151 P **P** **12 29 17.8 +1.1**
HSRZ Hossack Road 74.00 151 P **P** **12 29 19.9 +3.0**
MOS Moscow 74.01 325 *eP* **P** **12 29 15.0 -1.7**
MOS *e* 12 32 05.5
MOS *eS **S** **12 38 05.5 -4.7**
MOS *e* 12 38 39.6
MOS pmax pmax
comp=Z,2μm,1.3s
MOS pmax pmax
comp=Z,3μm,1.9s
MOS smax smax
comp=N,4μm,4.2s
MOS smax smax
comp=E,2μm,4.2s
VRZ Vera Road 74.05 152 P **P** **12 29 17.8 +0.7**
LLLB Lillooet 74.07 41 P **P** **12 29 17.7 +0.4**
LLLB IAmb IAmb 12 29 23.3
comp=Z,142nm,0.9s
FAQ Al Faqa, Dubai 74.10 290 *iP* **P** **12 29 18.0 +0.1**
SNR=190
FAQ Al Faqa, Dubai 74.10 290 P **P** **12 29 17.7 -0.1**
SNR=41
TRO Tromso 74.11 342 IVMs_BB IVMs_BB 13 07 25.4
comp=Z,2μm,10.8s
TRO Tromso 74.11 342 IVmBBB 12 29 22.1
comp=Z,4μm,1.4s
TRO Tromso 74.11 342 *eS* **S** **12 38 10.9 0.0**
WPRZ Whakapapatarin 74.13 151 P **P** **12 29 19.1 +1.5**
NLWA Neilton Lookou 74.18 45 P **P** **12 29 19.1 +1.2**
NLWA IAmb IAmb 12 29 20.8
comp=Z,188nm,0.9s
HAZ Te Kaha 74.21 150 P **P** **12 29 16.9 -1.1**
PRRZ Plateau Road 74.22 151 P **P** **12 29 17.9 -0.1**
ALNE Al Ain 74.24 289 *iP* **P** **12 29 19.1 +0.4**
SNR=198
ALNE Al Ain 74.24 289 P **P** **12 29 19.2 +0.5**
SNR=81
ALRZ Allen Road 74.25 151 P **P** **12 29 18.8 +0.6**
RATZ Rangitukua 74.26 152 P **P** **12 29 21.1 +2.8**
MXZ Matakaoa Point 74.29 149 P **P** **12 29 17.6 -0.9**
URZ Urewera 74.33 150 IAmb IAmb 12 29 22.3
comp=Z,152nm,0.9s
A04D Lummi Island 74.36 43 P 12 29 19.6
baz=294,SNR=12
A04D S 12 38 15.1
baz=294
MUGZ Murupara 74.36 151 P **P** **12 29 16.5 -2.4**
ASUD Al Ashush, Dub 74.37 290 *iP* **P** **12 29 19.3 -0.1**
SNR=62
ASUD Al Ashush, Dub 74.37 290 P **P** **12 29 18.9 -0.5**
SNR=39
DQM DQM 74.39 285 P **P** **12 29 19.2 -0.3**
SNR=45
RITZ Rihia Road 74.39 152 P **P** **12 29 20.2 +1.2**
WTVZ West Tongariro 74.39 152 P **P** **12 29 19.5 +0.3**
OTVZ Oturere 74.46 152 P **P** **12 29 20.1 +0.5**
SNVZ South Ngauruho 74.47 152 P **P** **12 29 19.9 +0.2**
FWVZ Far West T-bar 74.49 152 P **P** **12 29 19.7 -0.2**
WHVZ Whangaehu Hut 74.53 152 P **P** **12 29 20.4 +0.3**
WNVZ Wahianoa 74.57 152 P **P** **12 29 20.6 +0.3**
MWZ Matawai 74.57 150 P **P** **12 29 19.0 -1.1**
D03D Eldon 74.61 44 P 12 29 21.7
baz=294,SNR=286
D03D S 12 38 18.1
baz=294
A05A Maple Falls 74.62 43 IAmb IAmb 12 29 26.1
comp=Z,153nm,0.8s
QRZ Quartz Range 74.63 155 IAmb IAmb 12 29 24.8
comp=Z,275nm,0.9s
TWGZ Tauwhareparae 74.65 150 P **P** **12 29 20.2 -0.4**
LPSR Galich'ya Gora 74.67 322 *eP* **P** **12 29 20.8 +0.3**
LPSR *eS **S** **12 38 13.6 -3.9**
LPSR pmax pmax
comp=Z,960nm,1.1s
LPSR pmax pmax
comp=Z,2μm,1.3s
LPSR smax smax
comp=N,2μm,7.7s
PUZ Puketiti 74.69 149 P **P** **12 29 19.7 -1.0**
MTHZ Maungataniwha 74.70 151 P **P** **12 29 20.7 -0.1**
MOVZ Moawhango 74.70 152 P **P** **12 29 20.2 -0.7**
E03A Lebam 74.72 45 IAmb IAmb 12 29 27.7
comp=Z,320nm,0.9s
TKGZ Te Karaka 74.80 150 P **P** **12 29 21.0 -0.3**
BKZ Black Stump Fm 74.81 151 P **P** **12 29 20.7 -0.8**
BKZ IAmb IAmb 12 29 25.9
comp=Z,185nm,0.7s
BKZ Black Stump Fm 74.81 151 P **P** **12 29 20.7 -0.8**
OBN Obninsk 74.82 325 *diP* **P** **12 29 21.2 -0.1**
OBN *e* 12 29 33.8
OBN *SP **sP** **12 31 58.0 +7.3**
OBN *ePPP PPP 12 34 04.4
OBN *iS **S** **12 38 16.0 -3.1**
OBN *e* 12 38 44.0
OBN *eSP SPn 12 39 15.9 +19
OBN pmax pmax
comp=Z,2μm,1.3s
OBN MLR MLR
comp=Z,6μm,16.0s
OBN Obninsk 74.82 325 P **P** **12 29 21.3 0.0**
RAHZ Arahi 74.86 151 P **P** **12 29 21.3 -0.4**
NMHZ Naumai 74.89 151 P **P** **12 29 22.6 +0.6**
NEEM North Greenlan 74.90 2 ⇓*iP* **P** **12 29 22.3 +0.5**
NEEM IAmb IAmb 12 29 23.6
comp=Z,240nm,0.7s
BHHZ Black Hill Sta 74.90 152 P **P** **12 29 21.1 -0.8**
B05A Bryant 74.92 43 P 12 29 22.9
baz=295,SNR=50
B05A S 12 38 20.2
baz=295
DAG Danmarks Havn 74.94 355 ⇓*iP* **P** **12 29 21.6 0.0**
DAG Danmarks Havn 74.94 355 ⇓*iP* **P** **12 29 21.6 0.0**
D04E Lakebay 74.95 44 P 12 29 23.8
baz=294,SNR=35

D04E S 12 38 23.1
baz=294
RIGZ Rimuhau 74.98 150 P **P** **12 29 21.7 -0.7**
CNGZ Carnagh Statio 75.00 150 P **P** **12 29 22.2 -0.3**
KWHZ Kaweka Forest 75.00 151 P **P** **12 29 22.8 +0.3**
MCHZ McNeill Hill 75.13 151 P **P** **12 29 23.8 +0.6**
VSR Storozhevoye 75.14 320 *eP* **P** **12 29 23.8 +0.6**
VSR *eS* **S** **12 38 18.8 -3.9**
VSR pmax pmax
comp=Z,2μm,1.1s
VSR pmax pmax
comp=Z,2μm,1.2s
VSR smax smax
comp=N,510nm,5.4s
KRHZ Kereru 75.16 152 P **P** **12 29 23.1 -0.3**
VORD Divnogorie 75.17 320 *eP* **P** **12 29 23.6 +0.2**
VORD *eS* **S** **12 38 19.3 -3.7**
VORD pmax pmax
comp=Z,770nm,1.0s
VORD pmax pmax
comp=Z,920nm,1.2s
VORD smax smax
comp=N,330nm,4.6s
B06A Marblemount 75.18 43 IAmb IAmb 12 29 25.5
comp=Z,139nm,0.9s
PRGZ Paritu Road 75.22 150 P **P** **12 29 25.9 +2.2**
F04D Rainier, OR 75.26 46 P 12 29 24.9
baz=295
F04D S 12 38 24.1
baz=295
PNHZ Pukenui 75.32 152 P **P** **12 29 23.7 -0.5**
E04D Cinebar 75.34 45 P 12 29 25.5
baz=295,SNR=109
E04D S 12 38 25.7
baz=295
TSZ Takapari Road 75.34 152 P **P** **12 29 23.5 -0.9**
GOF Gofitskoye 75.39 313 *jiP* **P** **12 29 24.6 -0.2**
GOF pmax pmax
comp=Z,536nm,0.9s
MHGZ Mahia Peninsul 75.42 150 P **P** **12 29 24.8 0.0**
D05A Enumclaw 75.43 44 IAmb IAmb 12 29 31.5
comp=Z,157nm,0.8s
G03D McMinnville, O 75.46 46 P 12 29 26.2
baz=295,SNR=59
G03D S 12 38 27.9
baz=295
KAHZ Kahuranaki 75.50 151 P **P** **12 29 25.1 -0.2**
I02D Swisshome 75.54 48 P 12 29 26.3
baz=294,SNR=39
I02D S 12 38 27.6
baz=294
POWZ Post Office Ro 75.54 152 P **P** **12 29 25.0 -0.5**
WPHZ Waipukurau 75.54 152 P **P** **12 29 25.2 -0.3**
PUL Pulkovo 75.57 330 *eP* **P** **12 29 25.1 -0.3**
PUL Pulkovo 75.57 330 *ceP* **P** **12 29 25.5 +0.1**
PUL pmax pmax
comp=Z,2μm,1.3s
THZ Tophouse 75.58 155 IAmb IAmb 12 29 29.0
comp=Z,160nm,0.9s
DVHZ Dannevirke 75.62 152 P **P** **12 29 25.2 -0.7**
OGWZ Otaki Gorge 75.65 153 P **P** **12 29 25.4 -0.7**
NCK Nalchik 75.68 312 *iP* **P** **12 29 26.6 +0.2**
NCK pmax pmax
comp=Z,362nm,1.2s
MRZ Mangatainoka R 75.69 153 P **P** **12 29 25.4 -0.9**
COR Corvallis 75.69 47 P **P** **12 29 27.8 +1.4**
COR pmax pmax
comp=Z,280nm,1.0s
COR Corvallis 75.69 47 P **P** **12 29 27.8 +1.4**
COR IAmb IAmb 12 29 29.5
comp=Z,280nm,1.0s
PXZ Pawanui 75.69 151 P **P** **12 29 26.0 -0.2**
KEBM Edson Butte 75.72 49 P **P** **12 29 27.9 +1.1**
LON Longmire 75.73 45 P **P** **12 29 27.0 +0.3**
LON pmax pmax
comp=Z,95nm,0.9s
LON Longmire 75.73 45 P **P** **12 29 27.0 +0.3**
PRWZ Pori Road 75.76 152 P **P** **12 29 26.3 -0.3**
ZEI Tsey 75.77 311 *eP* **P** **12 29 24.7 -2.5**
ZEI pmax pmax
comp=Z,597nm,1.4s
C06D Leavenworth 75.79 43 P 12 29 27.3
baz=296,SNR=14
C06D S 12 38 29.8
baz=296
HOWZ Holdsworth Sta 75.86 153 P **P** **12 29 26.1 -1.2**
J01E Myrtle Point 75.87 49 P 12 29 28.4
baz=295,SNR=54
J01E S 12 38 31.4
baz=295
SNZO South Karori 75.89 154 P **P** **12 29 26.1 -1.3**
BFZ Birch Farm 75.98 152 P **P** **12 29 27.5 -0.4**
N2IH Innhavet 76.02 341 *jiP* **P** **12 29 27.9 +0.2**
I03D Drain, OR 76.03 48 P 12 29 29.5
baz=295,SNR=119
I03D S 12 38 33.5
baz=295
KBZ Khabaz 76.04 312 *P* **P** **12 29 28.8 +0.4**
comp=Z,862nm,0.9s,baz=72,slow=4.8,SNR=181
KBZ PKPPKP 12 56 37.5
comp=Z,2.0nm,0.6s,baz=242,slow=1.8,SNR=4.1
KBZ Khabaz 76.04 312 *ceP* **P** **12 29 28.6 +0.2**
KBZ pmax pmax
comp=Z,1μm,1.0s
FOZ Fox Glacier 76.05 158 P **P** **12 29 27.9 -0.3**
FOZ IAmb IAmb 12 29 32.3
comp=Z,280nm,0.9s
KBO Bosley Butte 76.07 50 IAmb IAmb 12 29 31.4
comp=Z,214nm,1.0s
KIV Kislovodsk 76.08 312 *⇑P* **P** **12 29 31.3 +2.5**
KIV Kislovodsk 76.08 312 P **P** **12 29 28.8 +0.1**
KIV Kislovodsk 76.08 312 P **P** **12 29 29.5 +0.7**
KIV Kislovodsk 76.08 312 *eP* **P** **12 29 29.7 +0.9**
KIV *e*SP **sP** **12 32 00.9 +2.5**
KIV *eS* **S** **12 38 33.7 +0.3**
KIV pmax pmax
comp=Z,2μm,1.0s
KIV pmax pmax
comp=Z,1μm,4.2s
KIV Kislovodsk 76.08 312 P **P** **12 29 29.0 +0.2**
H04D Lebanon 76.08 47 P 12 29 29.6
baz=295,SNR=56
H04D S 12 38 33.8
baz=295
TMWZ Te Maipa 76.19 153 P **P** **12 29 28.2 -0.9**
SHA1 Shidzhatmaz 76.19 312 *diP* **P** **12 29 29.5 -0.1**
LTZ Lake Taylor 76.24 156 IAmb IAmb 12 29 33.8
comp=Z,140nm,0.9s
STEI Steigen 76.24 341 IVMs_BB IVMs_BB 13 08 45.4
comp=Z,2μm,16.2s
STEI Steigen 76.24 341 *ljiP* **P** **12 29 29.2 +0.2**
STEI Steigen 76.24 341 IVmB_BB 12 29 33.5
comp=Z,8μm,1.3s
STEI Steigen 76.24 341 *eS* **S** **12 38 33.0 -0.9**
STEI Steigen 76.24 341 *eSS* SS 12 43 42.7 +3.6
K02D Willamette Mer 76.25 49 P 12 29 30.3
baz=295,SNR=116
K02D S 12 38 34.7
baz=295
N2VI Vinje 76.27 342 *ljiP* **P** **12 29 29.1 0.0**
GNI Garni 76.29 308 P **P** **12 29 30.7 +0.6**
comp=Z,495nm,1.1s,baz=179,slow=3.2,SNR=58
GNI Garni 76.29 308 P **P** **12 29 30.8 +0.6**
GNI Garni 76.29 308 P **P** **12 29 31.3 +1.2**
GNI Garni 76.29 308 *ceP* **P** **12 29 30.6 +0.6**
GNI pmax pmax
comp=Z,972nm,1.3s
GNI Garni 76.29 308 P **P** **12 29 31.0 +0.9**
F05D White Salmon 76.32 45 P 12 29 31.1
baz=296,SNR=31
F05D S 12 38 35.0
baz=296
PLWZ Palliser 76.33 153 P **P** **12 29 28.9 -0.9**
PLWZ **pwP** **12 31 12.8 -1.2**
N2NF Nordfold 76.35 341 *ljiP* **P** **12 29 29.8 +0.2**
NEY Neytrino 76.36 312 *diP* **P** **12 29 30.6 +0.2**
NEY pmax pmax
comp=Z,161nm,1.3s
H04A Detroit Lake 76.37 47 P **P** **12 29 30.6 +0.3**
H04A IAmb IAmb 12 29 32.4
comp=Z,224nm,0.9s
KHZ Kahutara 76.39 155 P **P** **12 29 28.4 -1.7**
KHZ IAmb IAmb 12 29 32.9
comp=Z,231nm,0.8s
KHZ pP **pP** **12 31 10.1 -1.6**

FIA1 FINESS Array S 76.47 333 P **P** **12 29 29.9 -0.5**
FINES FINESS Array B 76.47 333 P **P** **12 29 29.9 -0.5**
comp=Z,432nm,0.4s,baz=66,slow=5.3,SNR=941
FINES S **S** **12 38 34.6 -2.0**
comp=Z,18nm,0.8s,baz=64,slow=15,SNR=7.0
FINES PKPPKP 12 56 40.0
comp=Z,3.6nm,0.9s,baz=145,slow=7.0,SNR=5.1
FINES FINESS Array B 76.47 333 *i* P **P** **12 29 29.8 -0.5**
FINES pmax pmax
comp=Z,432nm,0.4s
FINES FINESS Array B 76.47 333 P **P** **12 29 29.9 -0.5**
N2TV T*rnvik 76.51 341 *ljiP* **P** **12 29 30.8 +0.3**
L02E Cave Junction 76.52 49 P 12 29 31.9
baz=295,SNR=76
L02E S 12 38 39.3
baz=295
N2ST Straumen 76.52 341 *eP* **P** **12 29 30.8 +0.2**
B08A Colville Reser 76.54 42 IAmb IAmb 12 29 33.1
comp=Z,210nm,0.9s
KRMB Red Mountain 76.58 50 P **P** **12 29 32.6 +1.0**
LOF Lofoten 76.58 342 IVMs_BB IVMs_BB 13 08 57.6
comp=Z,1μm,14.5s
LOF Lofoten 76.58 342 *eP* **P** **12 29 30.6 -0.2**
LOF Lofoten 76.58 342 IVmB_BB 12 29 35.0
comp=Z,4μm,2.2s
LOF Lofoten 76.58 342 *esP* sP 12 32 00.6 -0.8
LOF Lofoten 76.58 342 *eS* **S** **12 38 36.4 -1.2**
LOF Lofoten 76.58 342 *eSS* SS 12 43 44.5 +0.3
FAUS Fauske 76.59 341 *eSS* SS 12 43 44.3 -0.1
FAUS Fauske 76.59 341 *ljiP* **P** **12 29 31.3 +0.3**
FAUS Fauske 76.59 341 IVmB_BB 12 29 35.4
comp=Z,8μm,1.7s
FAUS Fauske 76.59 341 *esP* sP 12 32 02.4 +0.9
FAUS Fauske 76.59 341 *eS* **S** **12 38 36.5 -1.2**
I04A Tendick Farm, 76.61 48 P 12 29 32.1
baz=296,SNR=135
I04A S 12 38 37.4
baz=296
AKH Akhalkalaki 76.62 310 *⇑P* **P** **12 29 33.6 +1.7**
AKH Akhalkalaki 76.62 310 P **P** **12 29 33.4 +1.5**
RPZ Rata Peaks 76.62 157 P **P** **12 29 30.8 -0.6**
RPZ IAmb IAmb 12 29 37.8
comp=Z,393nm,1.0s
OXZ Oxford 76.63 156 IAmb IAmb 12 29 34.6
comp=Z,249nm,0.9s
G05D Wamic, OR 76.69 46 P 12 29 32.8
baz=296,SNR=77
G05D S 12 38 39.8
baz=296
TASB TASBURUN-IGDIR 76.71 308 P **P** **12 29 33.5 +1.2**
HUMO Hull Mountain 76.76 49 P **P** **12 29 33.2 +0.7**
JCC Jacoby Creek, 76.79 51 IAmb IAmb 12 29 35.3
comp=Z,186nm,0.9s
SHAO Shalim 76.82 284 *i* P **P** **12 29 32.8 -0.4**
SNR=14
SHAO Shalim 76.82 284 P **P** **12 29 33.3 +0.1**
SNR=9.9
N2SV S_rvYgen 76.89 342 *ljiP* **P** **12 29 32.3 -0.2**
LBZ Lake Benmore 76.93 158 IAmb IAmb 12 29 37.0
comp=Z,287nm,0.9s
DCZ Deep Cove 76.95 161 P **P** **12 29 33.5 +0.4**
KHMM Horse Mountain 76.97 51 IAmb IAmb 12 29 40.2
comp=Z,276nm,1.0s
CHVG Yr'k'valeri 77.01 311 *⇑P* **P** **12 29 34.9 +1.1**
E07A Sunnyside 77.03 44 IAmb IAmb 12 31 23.6
comp=Z,188nm,1.0s
J04D Umpqua Nationa 77.05 48 P 12 29 35.0
baz=296,SNR=131
J04D S 12 38 43.3
baz=296
I05D Terrebonne, OR 77.07 47 P 12 29 34.7
baz=296,SNR=77
I05D S 12 38 43.1
baz=296
KHOR Al-Khor Airpor 77.12 292 P **P** **12 29 33.5 -1.1**
N2VA Vr_y 77.13 342 *ljiP* **P** **12 29 34.0 +0.1**
MLZ Mavora Lakes 77.15 160 IAmb IAmb 12 29 38.2
comp=Z,148nm,0.9s
MQZ McQueen's Vall 77.18 156 IAmb IAmb 12 29 38.4
comp=Z,183nm,1.0s
F07A Phinny Hill Vi 77.28 45 IAmb IAmb 12 29 41.3
comp=Z,251nm,1.2s
CLDR Caldiran 77.29 308 P **P** **12 29 35.8 +0.1**
YBH Yreka Blue Hor 77.30 50 S **S** **12 38 46.9 +0.4**
comp=Z,6.8nm,1.2s,baz=202,slow=22,SNR=12
YBH Yreka Blue Hor 77.30 50 P **P** **12 29 36.3 +0.8**
YBH pmax pmax
comp=Z,137nm,0.9s
YBH Yreka Blue Hor 77.30 50 P **P** **12 29 36.3 +0.8**
YBH IAmb IAmb 12 29 37.9
comp=Z,137nm,0.9s
NBB30 Finnes 77.31 341 *ljiP* **P** **12 29 35.0 +0.2**
M02C Callahan 77.35 50 P 12 29 36.7
baz=296,SNR=187
M02C S 12 38 47.4
baz=296
L04D Klamath Falls 77.36 49 P 12 29 36.3
baz=296,SNR=85
L04D S 12 38 47.8
baz=296
D08A Wollman Farm, 77.37 43 IAmb IAmb 12 29 41.5
comp=Z,205nm,0.9s
KULLO Kullorsuaq 77.38 5 *ljiP* **P** **12 29 35.6 +0.4**
KULLO IAmb IAmb 12 29 37.0
comp=Z,213nm,0.9s
KULLO Kullorsuaq 77.38 5 *ljiP* **P** **12 29 35.5 +0.4**
KULLO pmax pmax
comp=Z,210nm,0.9s
N2RO R_st 77.39 342 *ljiP* **P** **12 29 35.3 0.0**
DBG Daneborg 77.41 355 *ljiP* **P** **12 29 34.8 -0.5**
DBG IAmb IAmb 12 29 39.5
comp=Z,127nm,1.0s
C09A Chrisman Ranch 77.42 43 P **P** **12 29 36.5 +0.5**
C09A IAmb IAmb 12 31 25.4
comp=Z,222nm,1.1s
PYZ Puysegur Point 77.45 161 IAmb IAmb 12 29 41.6
comp=Z,305nm,1.1s
SHMA Al-Shehemyia 77.47 293 P **P** **12 29 36.1 -0.4**
NBB15 Halsa Church 77.52 341 *ljiP* **P** **12 29 35.8 -0.2**
DMTO DMTO 77.54 284 P **P** **12 29 36.8 -0.2**
SNR=6.9
E08A Dider Farm, El 77.55 44 P **P** **12 29 37.2 +0.6**
K04D Chiloquin, OR 77.55 48 P 12 29 37.7
baz=296,SNR=24
K04D S 12 38 47.6
baz=296
KCPM Cahto Peak 77.58 52 P **P** **12 29 38.3 +1.1**
KCPM IAmb IAmb 12 29 39.5
comp=Z,284nm,0.9s
SLWR Sila 77.62 291 P **P** **12 29 36.3 -1.1**
N02D Trinity Center 77.63 50 P 12 29 38.1
baz=296,SNR=136
N02D S 12 38 50.5
baz=296
MOR8 Moi Rana 77.65 340 IVMs_BB IVMs_BB 13 09 35.3
comp=Z,2μm,16.8s
MOR8 Moi Rana 77.65 340 *ljiP* **P** **12 29 35.8 -1.0**
MOR8 Moi Rana 77.65 340 IVmB_BB 12 29 40.4
comp=Z,7μm,1.1s
MOR8 Moi Rana 77.65 340 *epP* pP 12 31 18.8 -0.1
MOR8 Moi Rana 77.65 340 *ePP* PP 12 32 39.5 0.0
MOR8 Moi Rana 77.65 340 *eS* **S** **12 38 45.4 -3.7**
MOR8 Moi Rana 77.65 340 *eSS* SS 12 43 57.3 -3.1
ODZ Otahua Downs 77.66 158 IAmb IAmb 12 29 41.6
comp=Z,146nm,0.8s
TRNA Turayna 77.74 292 P **P** **12 29 37.6 -0.5**
AGRB Hanur-Agry 77.75 308 P **P** **12 29 38.7 +0.6**
KONS Konsvik 77.82 341 *eSS* SS 12 44 05.4 +2.7
KONS Konsvik 77.82 341 *eP* **P** **12 29 37.9 +0.3**
KONS Konsvik 77.82 341 *eS* **S** **12 38 49.9 -0.9**
VSU Vasula 77.84 330 *eP* **P** **12 29 37.5 -0.4**
VSU Vasula 77.84 330 *diP* **P** **12 29 36.7 -1.2**
VSU pmax pmax
comp=Z,3μm,1.0s
MEF Metsahovi 77.84 333 *eP* **P** **12 29 37.4 -0.5**
DOK Doka 77.86 285 P **P** **12 29 37.6 -1.2**
SNR=31
M04C Macdoel 77.86 49 P 12 29 39.3
baz=296,SNR=180
M04C S 12 38 52.9
baz=296
NEW Newport 77.89 42 S **S** **12 38 51.2 -1.3**
comp=Z,10.0nm,1.1s,baz=74,slow=19,SNR=17
NEW Newport 77.89 42 P **P** **12 29 38.8 +0.2**
NEW pmax pmax
comp=Z,279nm,1.1s
NEW Newport 77.89 42 P **P** **12 29 38.8 +0.2**
NEW IAmb IAmb 12 31 28.1
comp=Z,279nm,1.1s
VANB Van 77.89 307 P **P** **12 29 39.4 +0.6**
NEW Newport 77.90 42 P 12 29 38.9
baz=298,SNR=131
NEW S 12 38 51.4
baz=298
O02D Mt. Diablo Mer 77.92 51 P 12 29 39.9
baz=296,SNR=97
O02D S 12 38 53.6
baz=296
STOK Stokkvaagen 77.96 341 *eS* **S** **12 38 51.1 -1.1**
STOK Stokkvaagen 77.96 341 *eP* **P** **12 29 38.5 +0.1**
K05A Summer Lake 78.07 48 IAmb IAmb 12 29 46.5
comp=Z,325nm,1.1s
E09A Wood Farm, Sta 78.10 44 IAmb IAmb 12 29 46.1
comp=Z,154nm,0.9s
G08A Pilot Rock 78.16 45 P **P** **12 29 41.0 +0.9**
SOC Sochi 78.18 313 *diP* **P** **12 29 39.7 -0.4**
SOC *e*PP **pP** **12 31 22.5 +1.0**
SOC *e* 12 32 42.3
SOC *i* S **S** **12 38 53.1 -2.4**
SOC *eSS* **SS** **12 44 13.0 +3.6**
SOC *eSSS* SSS 12 47 39.8
SOC pmax pmax
comp=Z,560nm,0.9s
MLAZ Malazgirt-MUS 78.25 308 P **P** **12 29 42.1 +1.3**
RBK Rabkut 78.27 284 P **P** **12 29 40.6 -0.5**
SNR=20
AKDM Akdamar-Van 78.30 307 P **P** **12 29 41.9 +0.8**
CUKT Cukurca 78.32 306 P **P** **12 29 40.4 -0.8**
KOPR Koprukoy-ERZUR 78.36 309 P **P** **12 29 42.6 +1.2**
RAF Rauma 78.42 334 *eP* **P** **12 29 38.2 -2.8**
WHFO Wadi Hawf 78.46 284 P **P** **12 29 41.6 -0.6**
SNR=21
UMR Umm Al-Rimmam 78.53 297 *eP* **P** **12 29 41.9 -0.4**
O03E Paynes Creek 78.55 51 P 12 29 42.1
baz=297,SNR=164
O03E S 12 38 57.3
baz=297
CHOM Cayeli-Rize 78.61 310 P **P** **12 29 43.0 +0.5**
QRN Al-Qurain 78.71 296 *eP* **P** **12 29 42.8 -0.5**
MIB Mutribah 78.72 298 *eP* **P** **12 29 43.0 -0.3**
MCCM Marconi Confer 78.75 53 P **P** **12 29 44.0 +0.8**
MCCM IAmb IAmb 12 29 44.9
comp=Z,156nm,0.9s
GURO Guroymak-BITLI 78.87 308 P **P** **12 29 44.8 +0.7**
GURO Guroymak-BITLI 78.87 308 IAmb IAmb 12 29 50.3
comp=Z,374nm,0.8s
RDF Al-Radifah 78.93 297 *eP* **P** **12 29 44.5 +0.1**
VRTB Varto-Mus 79.00 308 P **P** **12 29 46.3 +1.5**
SIRT Sirnak 79.05 307 P **P** **12 29 47.8 +2.8**
SIRT Sirnak 79.05 307 P **P** **12 29 45.5 +0.5**
ANN Anapa 79.08 315 *diP* **P** **12 29 44.3 -0.5**
ANN *e*PP **pwP** **12 31 32.5 +0.5**
ANN *e* 12 32 50.6
ANN *eS* **S** **12 39 02.4 -2.3**
ANN pmax pmax
comp=Z,2μm,1.0s
ANN pmax pmax
comp=N,519nm,1.1s
ANN pmax pmax
comp=E,402nm,1.2s
ANN pmax pmax
comp=Z,2μm,1.1s
ANN pmax pmax
comp=N,636nm,1.2s
ANN pmax pmax
comp=E,476nm,1.2s
JMIC Jan Mayen 79.08 350 *eS* **S** **12 39 06.3 +2.4**
JMIC Jan Mayen 79.08 350 *ljiP* **P** **12 29 45.5 +1.1**
JMIC Jan Mayen 79.08 350 IVmBBB 12 29 49.9
comp=Z,4μm,1.6s
ORV Oroville 79.09 51 IAmb IAmb 12 29 46.5
comp=Z,179nm,0.9s
ABTO Aybut 79.11 284 P **P** **12 29 45.0 -0.6**
SNR=26
RST Umm Al-Ruwaisa 79.12 298 *eP* **P** **12 29 44.8 -0.7**
UPNV Upernavik 79.20 5 *ljiP* **P** **12 29 45.4 +0.4**
UPNV IAmb IAmb 12 29 46.9
comp=Z,139nm,0.8s
KTUT Trabzon 79.33 311 *⇑P* **P** **12 29 47.1 +0.8**
KTUT Trabzon 79.33 311 P **P** **12 29 46.9 +0.6**
J08A Circle Bar Ran 79.36 47 P **P** **12 29 47.4 +0.8**
J08A IAmb IAmb 12 29 48.9
comp=Z,277nm,0.9s
BMO Blue Mountains 79.40 45 P **P** **12 29 47.3 +0.5**
BMO pmax pmax
comp=Z,140nm,0.9s
BMO Blue Mountains 79.40 45 P **P** **12 29 47.2 +0.5**
BMO IAmb IAmb 12 29 48.8
comp=Z,140nm,0.9s
MNK Minsk 79.48 327 *i* P **P** **12 29 47.4 +0.6**
MNK *i* *PP **pwP** **12 31 32.1 -1.9**
MNK *i* 12 32 58.4
MNK *i* PPP PPP 12 34 51.8
MNK *i* S **S** **12 39 11.6 +3.0**
MNK pmax pmax
comp=Z,1μm,1.3s
MNK pmax pmax
comp=E,82nm,1.3s
MNK pmax pmax
comp=N,406nm,1.2s
MNK MLR MLR
comp=E,295nm,18.0s
MNK MLR MLR
comp=Z,2μm,15.0s
MNK MLR MLR
comp=N,3μm,18.0s
MNK Minsk 79.48 327 *i* P **P** **12 29 47.4 +0.6**
comp=E,82nm,1.3s
MNK *i* P **P** **12 29 47.4 +0.6**
comp=N,406nm,1.2s
MNK *i* P **P** **12 29 47.4 +0.6**
comp=Z,1μm,1.3s,baz=238
MNK *i* pP **pwP** **12 31 32.2 -1.8**
MNK *i* PP **PP** **12 32 58.4 +3.7**
MNK *i* PPP PPP 12 34 51.8
MNK *i* S **S** **12 39 11.6 +3.0**
MNK *i* SS SS 12 44 42.9 +15
MNK *i* SSS SSS 12 48 11.8
MNK *i* LR LR 13 03 06.5
MNK *i* LRM MLR 13 08 08.3
comp=E,295nm,18.2s
MNK *i* LRM MLR 13 08 08.3
comp=Z,2μm,15.3s
MNK *i* LRM MLR 13 08 11.9
comp=N,3μm,18.2s
YEDI Yedisu-Bingol 79.51 309 P **P** **12 29 48.5 +1.0**
NSS Namsos 79.53 340 IVMs_BB IVMs_BB 13 09 36.4
comp=Z,2μm,13.9s
NSS Namsos 79.53 340 *ljiP* **P** **12 29 46.6 -0.3**
NSS Namsos 79.53 340 IVmB_BB 12 29 51.0
comp=Z,4μm,0.5s
NSS Namsos 79.53 340 *eS* **S** **12 39 05.6 -3.2**
IDID Didziasalis 79.58 328 *eP* **P** **12 29 47.0 -0.3**
BNGB Bingl 79.62 309 P **P** **12 29 48.9 +0.9**
AAL Aland 79.62 334 *eP* **P** **12 29 46.4 -1.0**
SVAN Silvan-Diyarba 79.64 308 P **P** **12 29 48.8 +0.7**
ISAL Salakas 79.73 328 *eP* **P** **12 29 48.3 +0.2**
NACGM Naroch 79.79 327 *iP* **P** **12 29 48.7 +0.2**
baz=71
IIGN Ignalina 79.81 328 *eP* **P** **12 29 48.3 -0.2**
JTMT Jette 79.81 41 IAmb IAmb 12 31 39.3
comp=Z,228nm,1.0s
SUMG Summit 80.00 359 *iP* **P** **12 29 50.1 +0.4**
SUMG IAmb IAmb 12 29 56.0
comp=Z,332nm,1.0s
SUMG Summit 80.00 359 IAmb IAmb 12 29 56.1
comp=Z,263nm,0.9s
ERZN Erzincan 80.00 309 P **P** **12 29 50.2 +0.1**
ESPY Espiye-Giresun 80.06 311 P **P** **12 29 50.1 -0.1**
RUBR Rubicon Trail 80.24 51 IAmb IAmb 12 29 58.3
comp=Z,254nm,0.7s
SLIT Slitere, Latvi 80.25 331 *eP* **P** **12 29 49.6 -1.1**
PAHR Pah Rah Range 80.47 50 IAmb IAmb 12 29 54.3
comp=Z,156nm,0.9s
DYBB Diyarbakir 80.47 308 P **P** **12 29 53.5 +1.0**
MSO Missoula 80.48 42 P 12 29 52.2
baz=300,SNR=45
MSO S 12 39 16.8
baz=300
MAZI Mazidag 80.48 307 P **P** **12 29 52.9 +0.3**

CMB Columbia Colle 80.55 52 P **P** **12 29 53.1 +0.2**
CMB pmax pmax
comp=Z,122nm,0.9s
CMB Columbia Colle 80.55 52 P **P** **12 29 53.1 +0.2**
PNTR Pine Nut 80.61 51 IAmb IAmb 12 29 55.5
comp=Z,188nm,0.8s
NUUG Nuugaatsiaq 80.63 4 *i* P **P** **12 29 52.5 0.0**
UPP Uppsala 80.75 334 *e*P **P** **12 29 52.3 -1.0**
SOCY Socotra 80.77 279 P **P** **12 29 53.4 -1.0**
SNR=11
PABE Paberze 80.77 329 *e*P **P** **12 29 53.0 -0.6**
ILIC ilic-Erzincan 80.86 310 P **P** **12 29 56.1 +1.6**
AKASG Malin Array Be 80.87 323 P **P** **12 29 53.4 -0.8**
comp=Z,259nm,0.8s,baz=45,slow=5.7,SNR=237
AKASG S **S** **12 39 21.7 -1.3**
comp=Z,22nm,1.0s,baz=52,slow=9.8,SNR=7.9
AKASG PKKPbc **PKKPbc** **12 48 26.5 -2.5**
comp=Z,3.8nm,0.4s,baz=254,slow=2.6,SNR=8.3
AKASG Malin Array Be 80.87 323 P **P** **12 29 53.3 -0.9**
AKASG pmax pmax
comp=Z,918nm,1.2s
AKASG Malin Array Be 80.87 323 P **P** **12 29 53.3 -0.9**
AKBB Malin Array Si 80.87 323 *ce*P **P** **12 29 53.3 -0.9**
AKBB Malin Array Si 80.87 323 P **P** **12 29 53.7 -0.5**
YERR Yerington 80.90 51 IAmb IAmb 12 30 00.5
comp=Z,182nm,1.0s
TBLU Trondheim 80.98 339 *e*S **S** **12 39 18.6 -5.0**
TBLU Trondheim 80.98 339 ⇓*i*P **P** **12 29 52.5 -2.0**
WAKR Walker 81.00 51 P **P** **12 29 55.7 +0.3**
MFID Camas Ranch 81.02 46 IAmb IAmb 12 29 57.5
comp=Z,196nm,0.8s
SIM Simferopol' 81.06 316 *di*P **P** **12 29 54.6 -0.7**
SIM *e**PP **pwP** **12 31 41.0 -2.1**
SIM pmax pmax
comp=Z,1μm,1.0s
ARPR Arapgir-MALATY 81.18 309 P **P** **12 29 57.5 +1.2**
SCO Scoresbysund 81.24 354 ⇓*i*P **P** **12 29 56.6 +0.9**
SCO Scoresbysund 81.24 354 ⇓*i*P **P** **12 29 56.6 +0.9**
SCO Scoresbysund 81.24 354 IAmb IAmb 12 30 01.5
comp=Z,291nm,1.1s
PBUR Paburge 81.38 330 *e*P **P** **12 29 56.2 -0.5**
MALT Malatya 81.49 309 P **P** **12 29 58.2 +0.4**
RYN Ryan 81.57 51 P **P** **12 29 58.8 +0.5**
URFA Urfa 81.63 308 P **P** **12 29 58.3 -0.2**
KVN Kaiserville 81.65 50 IAmb IAmb 12 30 04.4
comp=Z,106nm,0.7s
MDPB Devils Postpil 81.66 52 P **P** **12 29 59.6 +0.7**
SVSK Karacayir 81.70 311 P **P** **12 29 59.6 +0.9**
PAGB Antelope Grade 81.72 54 IAmb IAmb 12 30 01.1
comp=Z,150nm,0.9s
KVT Kavak 81.76 312 P **P** **12 29 59.8 +0.7**
LHV Little Huntoon 81.76 51 P **P** **12 30 00.1 +1.1**
LHV IAmb IAmb 12 30 06.0
comp=Z,403nm,1.7s
TOKT Tokat 81.80 311 P **P** **12 29 59.9 +0.6**
NVAR Mina Array Bea 81.81 51 P **P** **12 30 00.0 +0.4**
comp=Z,75nm,0.8s,baz=287,slow=5.7,SNR=306
NVAR pP **pP** **12 31 43.0 +0.7**
comp=Z,21nm,0.6s,baz=281,slow=5.4,SNR=3.4
NVAR PKKPbc **PKKPbc** **12 48 25.0 -1.7**
comp=Z,1.2nm,0.5s,baz=145,slow=2.2,SNR=9.1
NVAR Mina Array Bea 81.81 51 pP 12 31 43.0 +0.7
NVAR Mina Array Bea 81.81 51 P **P** **12 30 00.0 +0.4**
MLAC Mammoth, Mammo 81.83 52 P 12 30 00.6
baz=299,SNR=19
MLAC S 12 39 31.3
baz=299
HLID Hailey 81.84 45 P **P** **12 29 59.4 -0.2**
HLID Hailey 81.84 45 P 12 30 00.3
baz=300,SNR=199
HLID S 12 39 32.4
baz=300
SNOP Sinop 81.84 313 P **P** **12 29 59.4 0.0**
SNOP Sinop 81.84 313 P **P** **12 29 59.0 -0.4**
PMOR Pomariorio Ree 81.87 112 *e*pP pP 12 31 42.4 -0.8
comp=Z,296nm,1.3s
PMOR Pomariorio Ree 81.87 112 *e*T T 13 56 26.7
comp=Z,34nm,0.2s
PMOR Pomariorio Ree 81.87 112 *e*P **P** **12 30 00.2 +0.3**
comp=Z,80nm,1.0s
NV11 Mina Array Sit 81.91 51 P **P** **12 30 00.3 +0.3**
DIKM Dikmen 81.99 313 ⇑P **P** **12 30 01.0 +0.9**
DIKM Dikmen 81.99 313 P **P** **12 30 00.7 +0.5**
DARE Darende-Malaty 82.02 309 P **P** **12 30 01.8 +1.3**
SUW Suwalki 82.03 328 *e*P **P** **12 29 59.6 -0.5**
SUW *e*S **S** **12 39 30.5 -4.0**
SUW *e*sS **sS** **12 42 39.6 -0.1**
SUW *e*L L 13 11 43.9
comp=Z,4μm,20.0s
SUW Suwalki 82.03 328 *e*P **P** **12 29 59.0 -1.1**
SUW Suwalki 82.03 328 P **P** **12 29 59.3 -0.8**
SUW pmax pmax
comp=Z,2μm,1.2s
SUW Suwalki 82.03 328 P **P** **12 29 59.3 -0.8**
VOG Valley Oaks Go 82.07 53 P 12 30 00.7
baz=298
VOG S 12 39 33.3
baz=298
NC303 NORSAR Array S 82.08 337 P **P** **12 29 59.3 -0.9**
SMMC Simmler 82.11 54 P 12 30 01.5
baz=298,SNR=7.6
SMMC S 12 39 35.8
baz=298
MCMT McKenzie Canyo 82.16 43 P **P** **12 30 01.6 +0.3**
VAH Vaihoa 82.21 112 *e*pP pP 12 31 44.2 -0.9
comp=Z,129nm,1.2s
VAH Vaihoa 82.21 112 *e*P **P** **12 30 01.4 -0.2**
comp=Z,88nm,1.2s
NB201 NORSAR Array S 82.23 337 P **P** **12 29 60.0 -1.0**
DOMB Dombas 82.24 339 IVMs_BB IVMs_BB 13 09 14.3
comp=Z,1μm,13.0s
DOMB Dombas 82.24 339 ⇓*i*P **P** **12 30 00.8 -0.3**
DOMB Dombas 82.24 339 IVmBBB 12 30 05.9
comp=Z,6μm,1.8s
DOMB Dombas 82.24 339 *e*PP PP 12 33 16.7 -0.3
DOMB Dombas 82.24 339 *e*SKSac **SKSac** **12 39 34.5 -1.5**
DOMB Dombas 82.24 339 *e*SS SS 12 45 10.2 +1.8
NC204 NORSAR Array S 82.24 338 P **P** **12 30 00.3 -0.9**
NB2 NORSAR Subarra 82.26 337 P **P** **12 30 00.0 -1.2**
baz=46,slow=5.3
NOA NORSAR Array B 82.26 337 P **P** **12 30 00.0 -1.2**
comp=Z,309nm,0.8s,baz=46,slow=4.9,SNR=359
NOA PP **PP** **12 33 16.3 -0.9**
comp=Z,82nm,0.9s,baz=47,slow=7.9,SNR=10
NOA S **S** **12 39 31.9 -4.8**
comp=Z,11nm,1.0s,baz=47,slow=6.0,SNR=7.3
NOA PKKPbc **PKKPbc** **12 48 25.0 -1.4**
comp=Z,5.6nm,1.0s,baz=232,slow=2.3,SNR=6.6
EGMT Eagleton 82.27 39 P **P** **12 30 02.0 +0.5**
EGMT IAmb IAmb 12 30 07.7
comp=Z,290nm,0.8s
EGMT Eagleton 82.27 39 P 12 30 01.7
baz=303,SNR=136
EGMT S 12 39 35.3
baz=303
MOL Molde 82.32 340 IVMs_BB IVMs_BB 13 15 04.3
comp=Z,1μm,14.4s
MOL Molde 82.32 340 ⇓*i*P **P** **12 30 00.5 -0.9**
MOL Molde 82.32 340 IVmB_BB 12 30 05.3
comp=Z,7μm,0.9s
MOL Molde 82.32 340 *e*sP sP 12 32 33.5 +0.3
MOL Molde 82.32 340 *e*PP PP 12 33 16.0 -1.6
MOL Molde 82.32 340 *e*SKSac **SKSac** **12 39 34.5 -1.9**
MOL Molde 82.32 340 *e*SS SS 12 45 11.6 +2.3
FFC Flin Flon 82.35 31 P **P** **12 30 02.0 +0.3**
FFC pmax pmax
comp=Z,132nm,1.0s
FFC Flin Flon 82.35 31 P **P** **12 30 02.0 +0.3**
NC602 NORSAR Array S 82.37 337 IVMs_BB IVMs_BB 13 11 14.6
comp=Z,1μm,20.0s
NC602 NORSAR Array S 82.37 337 ⇓*i*P **P** **12 30 00.6 -1.1**
NC602 NORSAR Array S 82.37 337 IVmB_BB 12 30 04.1
comp=Z,2μm,1.5s
NC602 NORSAR Array S 82.37 337 *e*SKSac **SKSac** **12 39 33.0 -3.7**
PKM Mcpherson Peak 82.44 55 P 12 30 03.2
baz=298,SNR=25
PKM S 12 39 38.7
baz=298
VES Vestal, Richgr 82.51 54 P 12 30 02.5
baz=299,SNR=24
VES S 12 39 35.1
baz=299
TIN Tinemaha, Big 82.53 52 P 12 30 03.7
baz=299,SNR=44
TIN S 12 39 37.2
baz=299
BZK Bozkurt 82.65 314 ⇓P **P** **12 30 03.9 +0.4**
BZK Bozkurt 82.65 314 P **P** **12 30 04.2 +0.7**
BZK Bozkurt 82.65 314 P **P** **12 30 03.7 +0.3**
SBC Santa Barbara 82.72 55 P 12 30 04.8
baz=299
SBC S 12 39 38.6
baz=299
ELK Elko 82.73 48 P **P** **12 30 04.9 +0.6**
ELK pmax pmax
comp=Z,113nm,0.9s
ELK Elko 82.73 48 P **P** **12 30 04.9 +0.6**
SORM Soroca 82.76 321 ⇑P **P** **12 30 03.8 -0.1**
AKN Aaknes 82.79 340 IVMs_BB IVMs_BB 13 10 17.1
comp=Z,1μm,16.7s
AKN Aaknes 82.79 340 ⇓*i*P **P** **12 30 03.6 -0.2**
AKN Aaknes 82.79 340 *e*pP pP 12 31 48.0 +0.8
AKN Aaknes 82.79 340 *e*PP PP 12 33 21.9 +0.5
AKN Aaknes 82.79 340 *e*SKSac **SKSac** **12 39 39.5 0.0**
AKN Aaknes 82.79 340 *e*SS SS 12 45 17.7 +1.4
GAZ Gaziantep 82.89 308 P **P** **12 30 04.5 -0.4**
CWC Cottonwood Cre 82.93 53 P 12 30 05.1
baz=299
CWC S 12 39 39.6
baz=299
KMRS Kahramanmaras 82.94 309 P **P** **12 30 05.5 +0.4**
RAYN Ar Rayn 82.96 293 *i* P **P** **12 30 06.0 +0.6**
SNR=1804
RAYN Ar Rayn 82.96 293 P **P** **12 30 06.1 +0.6**
RAYN pmax pmax
comp=Z,3μm,0.9s
RAYN Ar Rayn 82.96 293 P **P** **12 30 06.0 +0.6**
YOZ Yozgat 82.96 311 P **P** **12 30 05.4 +0.1**
SCZ2 Santa Cruz Isl 82.99 55 P 12 30 05.1
baz=299
SCZ2 S 12 39 39.9
baz=299
BNN Bunyan 83.00 310 P **P** **12 30 04.7 -0.8**
ISA Isabella, Lake 83.03 53 P 12 30 05.0
baz=299,SNR=50
ISA S 12 39 39.7
baz=299
ARVC Arvin 83.03 54 P 12 30 05.4
baz=299,SNR=12
ARVC S 12 39 40.1
baz=299
KLNR Kaliningrad 83.03 329 *di*P **P** **12 30 03.9 -1.2**
KLNR pmax pmax
comp=Z,703nm,1.4s
ILULI Ilulissat 83.06 4 ⇓*i*P **P** **12 30 05.2 +0.2**
ILULI IAmb IAmb 12 30 07.6
comp=Z,110nm,0.8s
ILULI Ilulissat 83.06 4 ⇓*i*P **P** **12 30 05.1 +0.2**
ILULI pmax pmax
comp=Z,110nm,0.8s
ILULI Ilulissat 83.06 4 IAmb IAmb 12 30 10.0
comp=Z,284nm,1.0s
KIS Kishinev 83.12 320 ⇓*i*P **P** **12 30 04.7 -1.1**
comp=Z,1μm,8.0s
KIS *e*pP **pP** **12 31 48.0 -0.9**
KIS Kishinev 83.12 320 *di*P **P** **12 30 04.7 -1.1**
KIS *e**PP **pP** **12 31 48.0 -0.9**
KIS *e* 12 32 38.0
KIS *e*S **SKSac** **12 39 40.0 -2.2**
KIS pmax pmax
comp=Z,1μm,8.0s
KIS pmax pmax
comp=Z,800nm,13.0s
KIS smax smax
comp=E,2μm,12.5s
KIS smax smax
comp=N,1μm,13.5s
KIS MLR MLR
comp=E,1μm,16.0s
CORM Corum 83.14 312 P **P** **12 30 05.9 -0.3**
GRAC Grapevine Rang 83.16 52 P 12 30 06.6
baz=300,SNR=35
GRAC S 12 39 42.3
baz=300
MILM Milestii Mici 83.17 320 ⇑P **P** **12 30 06.6 +0.6**
OSL Oslo 83.22 337 *e*SS SS 12 45 24.0 +1.3
OSL Oslo 83.22 337 ⇓*i*P **P** **12 30 05.5 -0.5**
OSL Oslo 83.22 337 *e*SKSac **SKSac** **12 39 41.0 -1.3**
OSI Osito Audit: C 83.36 54 P **P** **12 30 08.1 +0.8**
OSI Osito Audit: C 83.36 54 P 12 30 07.4
baz=299
OSI S 12 39 42.5
baz=299
YMR Madison River 83.38 43 P **P** **12 30 08.8 +1.3**
YMR IAmb IAmb 12 30 14.6
comp=Z,268nm,1.0s
SNCC San Nicolas Is 83.43 56 P **P** **12 30 08.4 +0.7**
SNCC IAmb IAmb 12 30 09.3
comp=Z,161nm,0.9s
SNCC San Nicolas Is 83.43 56 P 12 30 08.1
baz=299
SNCC S 12 39 44.1
baz=299
SKAR Skarslia 83.50 338 IVMs_BB IVMs_BB 13 11 48.8
comp=Z,1μm,13.9s
SKAR Skarslia 83.50 338 ⇓*i*P **P** **12 30 07.3 -0.1**
SKAR Skarslia 83.50 338 IVmBBB 12 30 12.2
comp=Z,4μm,1.2s
SKAR Skarslia 83.50 338 *e*SKSac **SKSac** **12 39 43.6 -0.6**
SKAR Skarslia 83.50 338 *e*SS SS 12 45 29.1 +2.3
MCQ Macquarie Isla 83.50 169 IAmb IAmb 12 30 12.5
comp=Z,444nm,1.1s
YNM Yellowstone No 83.51 43 P **P** **12 30 09.9 +1.8**
YNM IAmb IAmb 12 30 15.8
comp=Z,154nm,0.9s
ICESG Greenland Ices 83.51 360 ⇓*i*P **P** **12 30 07.8 +0.1**
ICESG IAmb IAmb 12 30 10.4
comp=Z,233nm,0.7s
KURC Kurucasile-Bar 83.51 314 P **P** **12 30 05.1 -2.7**
YNR Norris Junctio 83.53 43 IAmb IAmb 12 30 15.9
comp=Z,115nm,1.0s
MPMC Manual Prospec 83.53 53 P 12 30 08.3
baz=300
MPMC S 12 39 44.2
baz=300
GCMT Greycliff 83.54 41 P **P** **12 30 08.8 +0.7**
CANT Cankiri 83.59 313 P **P** **12 30 09.0 +0.6**
LRMC Laurel Mtn Rad 83.68 53 P 12 30 09.0
baz=300,SNR=102
KOZT Kozan 83.69 309 P **P** **12 30 08.8 -0.1**
R11A Troy Canyon, C 83.71 50 P **P** **12 30 09.6 +0.4**
STRU Stroemstad 83.71 336 *i* P **P** **12 30 07.4 -1.1**
R11A Troy Canyon, C 83.71 50 P 12 30 09.4
baz=300,SNR=145
IAS Iasi 83.73 321 ⇑P **P** **12 30 08.4 -0.4**
EDW2 Edwards Air Fo 83.75 54 P 12 30 09.6
baz=299,SNR=68
H17A Grant Village 83.76 43 IAmb IAmb 12 30 17.9
comp=Z,214nm,1.1s
H17A Grant Village 83.76 43 P 12 30 11.7
baz=303,SNR=128
YNE Yellowstone No 83.77 42 P **P** **12 30 10.6 +1.2**
FURC Furnace Creek, 83.77 52 P 12 30 09.6
baz=300,SNR=88
LKWY Lake 83.78 43 P **P** **12 30 11.6 +2.1**
LKWY pmax pmax
comp=Z,220nm,0.9s
LKWY Lake 83.78 43 P **P** **12 30 11.6 +2.1**
LKWY IAmb IAmb 12 30 17.9
comp=Z,220nm,0.9s
HVU Hansel Valley 83.80 46 IAmb IAmb 12 30 15.7
comp=Z,152nm,0.8s
HYA Hoyanger 83.81 339 *e*SS SS 12 45 32.8 +1.6
HYA Hoyanger 83.81 339 *e*P **P** **12 30 08.9 0.0**
HYA Hoyanger 83.81 339 IVmB_BB 12 30 12.9
comp=Z,6μm,1.2s
HYA Hoyanger 83.81 339 *e*PP PP 12 33 30.5 +0.9
HYA Hoyanger 83.81 339 *e*SKSac **SKSac** **12 39 44.5 -1.4**
DECC Green Verdugo 83.81 55 P 12 30 09.6
baz=299,SNR=13
DECC S 12 39 49.9
baz=299
KONO Kongsberg 83.82 337 *ce*P **P** **12 30 06.6 -2.4**
KONO pmax pmax
comp=Z,227nm,1.3s
KONO Kongsberg 83.82 337 IVMs_BB IVMs_BB 13 14 09.2
comp=Z,1μm,26.0s
KONO Kongsberg 83.82 337 P **P** **12 30 08.7 -0.3**
KONO IAmb IAmb 12 30 13.3
comp=Z,333nm,1.4s
KONO Kongsberg 83.82 337 ⇓*i*P **P** **12 30 08.2 -0.8**
KONO Kongsberg 83.82 337 IVmB_BB 12 30 12.5
comp=Z,3μm,2.3s
KONO Kongsberg 83.82 337 *e*PP PP 12 33 30.6 +0.8
KONO Kongsberg 83.82 337 *e*SKSac **SKSac** **12 39 45.0 -1.1**
KONO Kongsberg 83.82 337 *e*SS SS 12 45 33.1 +1.6
BLEU Blekinge 83.83 332 *i* P **P** **12 30 07.0 -2.1**
YMP Mirror Lake Pl 83.83 42 P **P** **12 30 11.1 +1.3**
FOO Floro 83.83 340 *e*SS SS 12 45 31.6 +0.2
FOO Floro 83.83 340 ⇓*i*P **P** **12 30 09.0 0.0**
FOO Floro 83.83 340 IVmB_BB 12 30 14.2
comp=Z,4μm,1.8s
FOO Floro 83.83 340 *e*SKSac **SKSac** **12 39 45.6 -0.5**
FLWY Flagg Ranch 83.86 43 IAmb IAmb 12 30 16.8
comp=Z,152nm,0.8s
VASR Vaslui 83.91 320 ⇑P **P** **12 30 09.6 -0.1**
PASC Pasadena Art C 83.96 55 P **P** **12 30 10.7 +0.4**
TPNV Topopah Spring 83.96 51 P 12 30 10.5
baz=300,SNR=122
CEYT Ceyhan 83.98 309 P **P** **12 30 10.8 +0.5**
TAHT Tahtakopru-Hat 84.00 308 P **P** **12 30 10.9 +0.5**
TPAW Teton Pass 84.03 44 IAmb IAmb 12 30 17.6
comp=Z,106nm,0.8s
MWC Mount Wilson 84.03 55 IAmb IAmb 12 30 12.3
comp=Z,132nm,1.0s
BR131 Keskin Array S 84.03 312 P **P** **12 30 09.8 -0.9**
BR131 pmax pmax
comp=Z,238nm,0.7s
BR131 Keskin Array S 84.03 312 P **P** **12 30 09.8 -0.9**
BR131 IAmb IAmb 12 30 15.3
comp=Z,238nm,0.7s
BRTR Keskin Array B 84.03 312 P **P** **12 30 09.9 -0.8**
comp=Z,154nm,0.6s,baz=86,slow=3.0,SNR=97
BRTR PKKPbc **PKKPbc** **12 48 21.9 +0.2**
comp=Z,3.5nm,0.8s,baz=198,slow=3.6,SNR=7.9
BRTR PKPPKP 12 56 27.0
comp=Z,1.9nm,0.9s,baz=193,slow=5.1,SNR=4.4
BRTR Keskin Array B 84.03 312 P **P** **12 30 09.9 -0.8**
BRTR Keskin Array B 84.03 312 P **P** **12 30 09.8 -0.9**
BRTR Keskin Array B 84.03 312 P **P** **12 30 09.8 -0.9**
FMP Fort Macarthur 84.11 55 P 12 30 11.1
baz=299,SNR=7.7
FMP S 12 39 54.0
baz=299
LVV L'vov 84.11 324 *i* P **P** **12 30 10.1 -0.6**
LVV *e* 12 31 53.1
LVV *e* 12 33 41.6
LVV *e* 12 39 38.8
LVV *i* S **SKSac** **12 39 51.2 +2.8**
LVV *e*SS **SS** **12 45 45.6 +9.3**
LVV pmax pmax
comp=Z,500nm,1.2s
LVV MLR MLR
comp=Z,4μm,16.0s
BORU Boraas 84.12 334 *i* P **P** **12 30 08.8 -1.7**
TLCR 84.13 318 ⇑P **P** **12 30 10.1 -0.7**
RLMT Red Lodge 84.14 42 IAmb IAmb 12 30 17.5
comp=Z,138nm,0.9s
RLMT Red Lodge 84.14 42 P 12 30 12.1
baz=304,SNR=110
RLMT S 12 39 53.6
baz=304
SNOW Snow King Moun 84.16 44 P **P** **12 30 12.8 +1.5**
CIS Catalina Islan 84.17 55 P 12 30 11.1
baz=299,SNR=20
CIS S 12 39 54.7
baz=299
BIR Birlad 84.21 320 ⇑P **P** **12 30 11.2 0.0**
SPR3 Spring Creek 3 84.22 49 P **P** **12 30 12.8 +0.9**
TJOU Tjoern 84.27 335 *i* P **P** **12 30 09.9 -1.3**
SCI2 San Clemente I 84.28 56 P 12 30 11.6
baz=299,SNR=5.2
SCI2 S 12 39 57.2
baz=299
VARL Varlezi 84.29 319 ⇑P **P** **12 30 12.0 +0.4**
BFSC Mount Baldy Ra 84.31 54 P 12 30 11.8
baz=300,SNR=37
GIUM Giurgiulesti 84.31 319 ⇑P **P** **12 30 11.9 +0.2**
YAYX Yayladk 84.32 311 P **P** **12 30 11.1 -1.0**
JURR Jurilovca 84.32 318 ⇑P **P** **12 30 11.4 -0.4**
AHID Auburn Hatcher 84.32 44 P **P** **12 30 13.3 +1.1**
AHID IAmb IAmb 12 30 18.6
comp=Z,172nm,1.1s
KARA Karaisali 84.33 309 P **P** **12 30 12.2 +0.1**
SUE Sulen 84.34 340 *e*SS SS 12 45 39.2 +0.4
SUE Sulen 84.34 340 ⇓*i*P **P** **12 30 11.0 -0.5**
SUE Sulen 84.34 340 IVmB_BB 12 30 15.6
comp=Z,5μm,2.3s
SUE Sulen 84.34 340 *e*PP PP 12 33 35.7 +1.9
SUE Sulen 84.34 340 *e*SKSac **SKSac** **12 39 47.9 -1.4**
PRAR RASCA 84.38 321 ⇑P **P** **12 30 11.4 -0.6**
GSC Goldstone, Bar 84.39 53 IAmb IAmb 12 30 18.0
comp=Z,140nm,0.8s
GSC Goldstone, Bar 84.39 53 P 12 30 12.6
baz=300,SNR=121
GHRR 84.45 320 ⇑P **P** **12 30 13.2 +0.8**
RRX Edison Barstow 84.47 54 P 12 30 13.0
baz=300
RRX S 12 39 59.3
baz=300
SHOC Shoshone, Teco 84.47 52 P 12 30 13.0
baz=300,SNR=23
SERE Sereflikochisa 84.48 311 P **P** **12 30 12.7 -0.2**
DEL Delary 84.50 333 *i* P **P** **12 30 10.8 -1.6**
DEL *i* P **P** **12 30 11.0 -1.4**
BEL Belsk 84.51 327 *e*P **P** **12 30 12.7 +0.2**
BEL *e*L L 13 10 29.5
comp=Z,4μm,18.6s
ANTO Ankara 84.51 312 P **P** **12 30 12.9 -0.1**
ANTO Ankara 84.51 312 P **P** **12 30 12.5 -0.5**
ANTO pmax pmax
comp=Z,233nm,1.0s
ANTO Ankara 84.51 312 P **P** **12 30 12.5 -0.5**
ANTO IAmb IAmb 12 30 17.3
comp=Z,233nm,1.0s
LOD Lodumlu 84.52 312 P **P** **12 30 11.8 -1.2**
CFR Carcaliu 84.53 319 ⇑P **P** **12 30 12.2 -0.6**
BR231 Keskin MP Arra 84.54 312 P **P** **12 30 12.9 -0.2**
BR231 IAmb IAmb 12 30 17.5
comp=Z,164nm,0.8s
TPGR Topolog 84.54 318 ⇑P **P** **12 30 12.8 -0.1**
PRN Pahroc Range 84.55 51 IAmb IAmb 12 30 15.8
comp=Z,114nm,1.0s
FABU Falkenberg 84.58 334 *i* P **P** **12 30 11.3 -1.5**
DUG Dugway, Tooele 84.61 47 P 12 30 14.0
baz=302,SNR=76
ONAU Onsala 84.61 335 *i* P **P** **12 30 11.3 -1.6**
ODD1 Odda 84.63 338 *e*SKSac **SKSac** **12 39 52.2 +0.9**
ODD1 Odda 84.63 338 *e*P **P** **12 30 13.2 +0.1**
TESR Tescani 84.63 320 ⇑P **P** **12 30 12.8 -0.4**
ASK Askoy 84.65 339 *e*SKSac **SKSac** **12 39 51.1 -0.2**
ASK Askoy 84.65 339 ⇓*i*P **P** **12 30 12.9 -0.1**
ASK Askoy 84.65 339 *e*PP PP 12 33 37.0 +0.7
HWUT Hardware Ranch 84.66 46 P **P** **12 30 14.4 +0.7**
HWUT IAmb IAmb 12 30 20.4
comp=Z,181nm,0.9s
BER Bergen 84.68 339 IVMs_BB IVMs_BB 13 18 02.9
comp=Z,1μm,19.0s
BER Bergen 84.68 339 ⇓*i*P **P** **12 30 13.0 -0.2**
BER Bergen 84.68 339 IVmB_BB 12 30 15.5
comp=Z,3μm,0.6s
BER Bergen 84.68 339 *e*PP PP 12 33 37.5 +0.9
BER Bergen 84.68 339 *e*SS SS 12 45 45.5 +1.6
BIZ Bicaz 84.69 321 ⇑P **P** **12 30 13.5 -0.1**
PETR Petresti 84.75 319 ⇓P **P** **12 30 14.9 +1.1**
TIRR Tirgusor 84.77 318 ⇑P **P** **12 30 13.5 -0.5**
TIRR Tirgusor 84.77 318 ⇑P **P** **12 30 13.5 -0.5**
TIRR Tirgusor 84.77 318 P **P** **12 30 13.8 -0.2**
TIRR pmax pmax
comp=Z,521nm,1.0s
TIRR Tirgusor 84.77 318 P **P** **12 30 13.8 -0.2**
BUR01 Bucovina Ar. S 84.79 322 ⇓P **P** **12 30 14.4 +0.2**
BURAR Bucovina Array 84.79 322 P **P** **12 30 13.8 -0.4**
BURAR IAmb IAmb 12 30 19.1
comp=Z,187nm,0.8s
KULU Kulu 84.81 312 P **P** **12 30 14.4 -0.1**
ODBI Odobesti 84.83 320 ⇑P **P** **12 30 15.3 +1.0**
BBRC Big Bear Solar 84.83 54 P 12 30 14.8
baz=300,SNR=19
BBRC S 12 40 00.7
baz=300
EFOR EFORIE 84.85 318 ⇑P **P** **12 30 15.4 +1.1**
MERS Mersin 84.90 309 P **P** **12 30 14.4 -0.5**
SULT Sultanhani-AKS 84.90 311 P **P** **12 30 14.6 -0.3**

KWP	**Kalwaria Pacla**	**84.91**	**324**	*e*P		**P**		**12 30 14.8**	**+0.1**
KWP				*e*S		**S**		**12 40 00.3**	**-2.9**
KWP				*es*S		**sS**		**12 43 10.4**	**+1.6**
KWP				*e*L		L		13 13 23.6	
	comp=Z,4µm,18.8s								
MFTR	**Murfatlar**	**84.92**	**318**	⇑P		**P**		**12 30 14.9**	**+0.2**
HARR	**Harsova**	**84.92**	**318**	⇑P		**P**		**12 30 14.6**	**-0.2**
SHPR	**Sheep Range**	**84.94**	**51**	P		**P**		**12 30 16.3**	**+1.1**
TLBR	**Topalu**	**84.94**	**318**	⇑P		**P**		**12 30 14.6**	**-0.2**
TUQ	**Turquoise Moun**	**84.95**	**53**	P				12 30 15.6	
	baz=300,SNR=60								
TUQ				S				12 40 03.6	
	baz=300								
VRI	**Vrincioaia**	**84.95**	**320**	⇓P		**P**		**12 30 15.1**	**+0.2**
VRI				⇓P		**P**		**12 30 15.8**	**+0.9**
VRI	**Vrincioaia**	**84.95**	**320**	P		**P**		**12 30 14.8**	**-0.1**
MURC	**Murrieta**	**84.96**	**55**	P				12 30 15.3	
	baz=300,SNR=44								
MURC				S				12 40 02.1	
	baz=300								
HEC	**Hector,Ludlow**	**84.96**	**53**	P				12 30 15.6	
	baz=300,SNR=72								
HEC				S				12 40 04.0	
	baz=300								
YESY	**Yesilyurt**	**84.96**	**310**	P		**P**		**12 30 14.9**	**-0.4**
LAO	**LASA Array**	**85.00**	**39**	IAmb		IAmb		12 30 21.7	
	comp=Z,184nm,1.1s								
LAO	**LASA Array**	**85.00**	**39**	P				12 30 16.0	
	baz=306,SNR=47								
LAO				S				12 40 01.7	
	baz=306								
BSD	**Bornholm Skovb**	**85.01**	**332**	*e*P		**P**		**12 30 13.4**	**-1.5**
BSD	**Bornholm Skovb**	**85.01**	**332**	*i*P		**P**		**12 30 13.3**	**-1.7**
BSD				IAmb		IAmb		12 30 16.6	
	comp=Z,180nm,0.8s								
BSD	**Bornholm Skovb**	**85.01**	**332**	*i*P		**P**		**12 30 13.2**	**-1.7**
BSD				pmax		pmax			
	comp=Z,180nm,0.8s								
PLOR	**Plostina**	**85.01**	**320**	⇑P		**P**		**12 30 15.8**	**+0.6**
PLOR				⇑P		**P**		**12 30 16.2**	**+1.0**
MANR	**Mangalia**	**85.02**	**317**	⇑P		**P**		**12 30 15.6**	**+0.4**
BLS5	**Blasjo**	**85.06**	**338**	*e*SS		SS		12 45 48.1	-1.4
BLS5	**Blasjo**	**85.06**	**338**	⇓*i*P		**P**		**12 30 15.0**	**-0.2**
BLS5	**Blasjo**	**85.06**	**338**	IVmB_BB				12 30 19.0	
	comp=Z,5µm,1.5s								
BLS5	**Blasjo**	**85.06**	**338**	*e*PP		PP		12 33 39.9	+0.2
DGMT	**Dagmar**	**85.06**	**37**	P		**P**		**12 30 16.1**	**+0.6**
DGMT				IAmb		IAmb		12 30 21.2	
	comp=Z,145nm,0.9s								
DGMT	**Dagmar**	**85.06**	**37**	P				12 30 15.5	
	baz=307,SNR=41								
DGMT				S				12 40 03.5	
	baz=307								
GRER		**85.09**	**319**	⇑P		**P**		**12 30 16.4**	**+0.8**
BJUJ	**Bjuv**	**85.12**	**333**	*i*P		**P**		**12 30 13.9**	**-1.5**
CHBY	**Cihanbeyli**	**85.12**	**311**	*i*P		**P**		**12 30 15.2**	**-0.8**
BISRR	**Bisoca**	**85.15**	**320**	⇓P		**P**		**12 30 16.7**	**+0.8**
HWQ	**Hawqa**	**85.21**	**306**	*e*P		**P**		**12 30 15.9**	**-0.7**
HOMB	**Homborsund**	**85.23**	**337**	*i*P		**P**		**12 30 14.0**	**-1.9**
HOMB				*i*P		**P**		**12 30 14.8**	**-1.1**
HOMB	**Homborsund**	**85.23**	**337**	IVmS_BB		IVmS_BB		13 13 28.0	
	comp=Z,1µm,12.0s								
HOMB	**Homborsund**	**85.23**	**337**	⇓*i*P		**P**		**12 30 15.0**	**-0.9**
HOMB	**Homborsund**	**85.23**	**337**	*e*SKSac		**SKSac**		**12 39 55.5**	**+0.6**
GKP	**Gorka Klasztor**	**85.24**	**329**	*e*P		**P**		**12 30 15.7**	**-0.4**
GKP				*e*PP		**PP**		**12 33 42.6**	**+1.3**
GKP				*e*L		L		13 13 42.3	
	comp=Z,4µm,19.1s								
GKP	**Gorka Klasztor**	**85.24**	**329**	*e*P		**P**		**12 30 15.8**	**-0.4**
LUNU	**Lund**	**85.26**	**333**	*i*P		**P**		**12 30 14.0**	**-2.1**
LUNU				*i*P		**P**		**12 30 15.0**	**-1.2**
JLU	**Jordanelle**	**85.27**	**46**	P		**P**		**12 30 17.4**	**+0.5**
JLU				IAmb		IAmb		12 32 08.6	
	comp=Z,155nm,1.3s								
PD31	**Pinedale Array**	**85.27**	**44**	P		**P**		**12 30 17.4**	**+0.5**
PDAR	**Pinedale Array**	**85.27**	**44**	P		**P**		**12 30 16.6**	**-0.2**
	comp=Z,51nm,1.0s,baz=299,slow=3.1,SNR=117								
PDAR				PKKPbc		**PKKPbc**		**12 48 19.2**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=127,slow=7.0,SNR=14								
PDAR	**Pinedale Array**	**85.27**	**44**	P		**P**		**12 30 16.7**	**-0.2**
BW06	**Boulder Array**	**85.28**	**44**	P				12 30 17.2	
	baz=304,SNR=66								
BW06				S				12 40 05.8	
	baz=304								
SFJD	**Kangerlussuaq**	**85.28**	**4**	*i*P		**P**		**12 30 15.9**	**-0.1**
SFJD	**Kangerlussuaq**	**85.28**	**4**	*i*P		**P**		**12 30 15.9**	**-0.1**
SFJD	**Kangerlussuaq**	**85.28**	**4**	P		**P**		**12 30 15.5**	**-0.5**
AMRR	**Amara**	**85.32**	**319**	⇑P		**P**		**12 30 17.0**	**+0.3**
ICOR	**Ion Corvin**	**85.33**	**318**	⇑P		**P**		**12 30 16.8**	**0.0**
PGOR	**Pogoanele**	**85.36**	**319**	⇑P		**P**		**12 30 17.3**	**+0.5**
KALB	**Balgarevo**	**85.36**	**317**	⇑P		**P**		**12 30 17.3**	**+0.5**
OZUR		**85.36**	**320**	⇑P		**P**		**12 30 17.5**	**+0.6**
KIZK	**Mersin**	**85.36**	**309**	P		**P**		**12 30 16.4**	**-0.7**
AUMIH	**MIHALICIK**	**85.37**	**313**	P		**P**		**12 30 16.2**	**-1.0**
109C	**Camp Elliot, M**	**85.38**	**55**	P				12 30 17.2	
	baz=300,SNR=13								
109C				S				12 40 06.9	
	baz=300								
NEHR	**Nehoiu**	**85.45**	**320**	⇑P		**P**		**12 30 17.4**	**0.0**
GMRC	**Granite Mounta**	**85.46**	**53**	P				12 30 17.9	
	baz=301,SNR=105								
GMRC				S				12 40 08.4	
	baz=301								
MPU	**Maple Canyon**	**85.47**	**47**	IAmb		IAmb		12 32 08.2	
	comp=Z,256nm,1.8s								
PFO	**Pinyon Flats O**	**85.48**	**54**	S		**SKSac**		**12 39 57.6**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=188,slow=23,SNR=1.3								
PFO	**Pinyon Flats O**	**85.48**	**54**	P		**P**		**12 30 18.0**	**+0.1**
PFO				pmax		pmax			
	comp=Z,193nm,0.9s								
PFO	**Pinyon Flats O**	**85.48**	**54**	P		**P**		**12 30 18.0**	**+0.1**
PFO				IAmb		IAmb		12 30 23.3	
	comp=Z,193nm,0.9s								
PFO	**Pinyon Flats O**	**85.48**	**54**	P				12 30 18.0	
	baz=300,SNR=94								
PFO				S				12 40 07.8	
	baz=300								
ISR	**Istrita**	**85.49**	**319**	⇑P		**P**		**12 30 18.1**	**+0.5**
TPFO	**Pinon Flats**	**85.49**	**54**	P				12 30 17.9	
	baz=300,SNR=98								
TPFO				S				12 40 08.2	
	baz=300								
AUSIV	**SIVRIHISAR**	**85.56**	**312**	P		**P**		**12 30 17.6**	**-0.5**
KOLS	**Kolonicke sedl**	**85.57**	**324**	*e*P		**P**		**12 30 17.3**	**-0.5**
KOLS				pmax		pmax			
	comp=Z,1µm,1.1s								
KOLS	**Kolonicke sedl**	**85.57**	**324**	*e*P		**P**		**12 30 17.3**	**-0.5**
SVRH	**Sivrihisar-ESK**	**85.57**	**312**	P		**P**		**12 30 17.4**	**-0.7**
SILI	**Silifke-Mersin**	**85.57**	**309**	P		**P**		**12 30 17.6**	**-0.5**
ARCR	**ARCALIA**	**85.57**	**322**	⇑P		**P**		**12 30 18.7**	**+0.8**
TJX	**Tijuana**	**85.60**	**56**	P		**P**		**12 30 19.0**	**+0.7**
TJX				IAmb		IAmb		12 30 24.4	
	comp=Z,288nm,0.9s								
BHL	**Bhannes**	**85.61**	**306**	*e*P		**P**		**12 30 17.8**	**-0.6**
KMY	**Karmoy**	**85.62**	**338**	*e*SS		SS		12 45 58.4	+0.9
KMY	**Karmoy**	**85.62**	**338**	⇓*i*P		**P**		**12 30 17.5**	**-0.3**
KMY	**Karmoy**	**85.62**	**338**	*e*SKSac		**SKSac**		**12 39 57.2**	**-0.1**
BELC	**Belle Mtn. Jos**	**85.62**	**54**	P				12 30 18.4	
	baz=300,SNR=84								
BELC				S				12 40 08.8	
	baz=300								
MLR	**Muntele Rosu**	**85.62**	**320**	P		**P**		**12 30 17.6**	**-0.7**
	comp=Z,29nm,0.5s,baz=342,slow=9.5,SNR=38								
MLR	**Muntele Rosu**	**85.62**	**320**	⇑P		**P**		**12 30 18.0**	**-0.3**
MLR	**Muntele Rosu**	**85.62**	**320**	IAmb		IAmb		12 30 23.1	
	comp=Z,227nm,1.3s								
COP	**Copenhagen**	**85.63**	**333**	⇓*i*P		**P**		**12 30 17.3**	**-0.6**
COP				IAmb		IAmb		12 30 19.2	
	comp=Z,139nm,0.7s								
COP	**Copenhagen**	**85.63**	**333**	⇓*i*P		**P**		**12 30 17.3**	**-0.6**
COP				pmax		pmax			
	comp=Z,140nm,0.7s								
SNART	**Snartemo**	**85.63**	**337**	*i*P		**P**		**12 30 16.0**	**-1.9**
SNART				*e*P		**P**		**12 30 17.1**	**-0.7**
SNART	**Snartemo**	**85.63**	**337**	*e*SKSac		**SKSac**		**12 39 56.2**	**-1.2**
SNART	**Snartemo**	**85.63**	**337**	*e*P		**P**		**12 30 17.4**	**-0.5**
KIZT	**Kizilcal**	**85.64**	**312**	P		**P**		**12 30 17.5**	**-1.0**
SAUV	**Serdivan-Sakar**	**85.64**	**314**	P		**P**		**12 30 17.1**	**-1.2**
RASA	**Rasa**	**85.66**	**318**	⇑P		**P**		**12 30 18.2**	**-0.1**
DOPR	**Dopca**	**85.66**	**320**	⇑P		**P**		**12 30 18.5**	**+0.2**
LADK	**Ladik-KONYA**	**85.67**	**311**	P		**P**		**12 30 17.0**	**-1.7**
KEBE	**Keben-Mersin**	**85.67**	**309**	P		**P**		**12 30 18.5**	**-0.2**
TCRU	**Three Creeks R**	**85.68**	**48**	P		**P**		**12 30 20.3**	**+1.4**
BMR	**Baia Mare**	**85.69**	**323**	⇑P		**P**		**12 30 18.5**	**+0.1**
RCY	**Rachaya**	**85.69**	**306**	*e*P		**P**		**12 30 18.5**	**-0.4**
GULT	**Gulveren**	**85.69**	**314**	P		**P**		**12 30 18.1**	**-0.6**
LEHL	**Lehliu**	**85.70**	**319**	⇑P		**P**		**12 30 18.1**	**-0.4**
UZH	**Uzhgorod**	**85.74**	**324**	*c i*P		**P**		**12 30 16.0**	**-2.6**
UZH				*e**PP		**pP**		**12 32 04.2**	**+1.7**
UZH				*i*S		**SKSac**		**12 40 04.1**	**+5.5**
DQRL	**Deir Qamar**	**85.77**	**306**	*e*P		**P**		**12 30 18.8**	**-0.4**
BAR	**Barrett**	**85.80**	**55**	P		**P**		**12 30 19.5**	**+0.2**
STHS	**Stebnicka Huta**	**85.80**	**325**	*e*P		**P**		**12 30 18.3**	**-0.6**
STHS	**Stebnicka Huta**	**85.80**	**325**	*e*P		**P**		**12 30 18.3**	**-0.6**
IKL	**Isikli**	**85.80**	**309**	P		**P**		**12 30 17.8**	**-1.4**
KONT	**Konya--Tatoy**	**85.81**	**311**	P		**P**		**12 30 18.2**	**-1.1**
SECR		**85.81**	**319**	⇑P		**P**		**12 30 18.9**	**-0.2**
SHBL	**Chebaa**	**85.83**	**305**	*e*P		**P**		**12 30 19.4**	**-0.2**
SRCK	**Saricakaya, Es**	**85.83**	**313**	P		**P**		**12 30 18.5**	**-0.8**
EREN	**Erenkoy**	**85.83**	**308**	P		**P**		**12 30 18.9**	**-0.4**
SILT	**Sile**	**85.85**	**315**	P		**P**		**12 30 18.7**	**-0.6**
TEVE	**Tevekalti-Mers**	**85.87**	**309**	P		**P**		**12 30 18.4**	**-1.2**
MONP2	**Monument Peak**	**85.87**	**55**	P				12 30 19.8	
	baz=300,SNR=49								
MONP2				S				12 40 12.0	
	baz=300								
GOET	**G??ttrup**	**85.88**	**335**	⇓*i*P		**P**		**12 30 18.7**	**-0.4**
GOET				IAmb		IAmb		12 30 21.0	
	comp=Z,229nm,0.7s								
PLAR	**PLOIESTI**	**85.91**	**319**	⇑P		**P**		**12 30 19.8**	**+0.2**
SULR		**85.91**	**319**	⇑P		**P**		**12 30 19.4**	**-0.1**
CIFT	**Cifteler, Eski**	**85.91**	**313**	P		**P**		**12 30 18.6**	**-1.2**
MSU	**Marysvale**	**85.91**	**48**	P		**P**		**12 30 21.1**	**+1.1**
MSU	**Marysvale**	**85.91**	**48**	P		**P**		**12 30 21.1**	**+1.1**
AKKU	**Akkuyu-Mersin**	**85.94**	**309**	P		**P**		**12 30 18.4**	**-1.4**
LCMT	**Little Creek M**	**85.99**	**50**	P		**P**		**12 30 21.0**	**+0.7**
CRVS	**Cervenica-Dubn**	**86.01**	**324**	*e*P		**P**		**12 30 19.8**	**-0.1**
CRVS				pmax		pmax			
	comp=Z,1µm,1.6s								
CRVS	**Cervenica-Dubn**	**86.01**	**324**	*e*P		**P**		**12 30 19.8**	**-0.1**
CRVS				*e*S		**SKSac**		**12 40 03.7**	**+3.4**
HRT	**Hereke**	**86.02**	**314**	P		**P**		**12 30 19.5**	**-0.7**
OJC	**Ojcow**	**86.02**	**326**	*e*P		**P**		**12 30 19.6**	**-0.4**
OJC				*e*S		**S**		**12 40 09.3**	**-4.5**
OJC				*es*S		**sS**		**12 43 20.0**	**+0.9**
OJC				*e*L		L		13 09 42.3	
	comp=Z,4µm,19.8s								
DY2G	**Dye2**	**86.02**	**2**	*i*P		**P**		**12 30 19.9**	**0.0**
DY2G				IAmb		IAmb		12 30 21.9	
	comp=Z,89nm,0.6s								
BORA	**Eskisehir**	**86.03**	**313**	P		**P**		**12 30 19.5**	**-0.8**
BERE	**Bereket-Mersin**	**86.06**	**309**	P		**P**		**12 30 19.8**	**-0.9**
RGN	**Rugen**	**86.07**	**332**	IAmb		IAmb		12 30 25.5	
	comp=Z,311nm,0.9s								
RGN	**Rugen**	**86.07**	**332**	*e*P		**P**		**12 30 21.0**	**+1.0**
	comp=Z,726nm,1.2s,baz=43,slow=4.6								
MDB	**Medias**	**86.12**	**321**	⇑P		**P**		**12 30 20.5**	**0.0**
IRM	**Iron Mountain**	**86.15**	**53**	P				12 30 21.1	
	baz=301,SNR=68								
IRM				S				12 40 14.8	
	baz=301								
MTPU	**Mount Pierson**	**86.16**	**49**	P		**P**		**12 30 22.6**	**+1.2**
VOIR		**86.16**	**320**	⇑P		**P**		**12 30 20.9**	**0.0**
KLYT	**Kilyos**	**86.17**	**315**	P		**P**		**12 30 20.6**	**-0.2**
ADVT	**Abdulvahap**	**86.18**	**314**	P		**P**		**12 30 20.2**	**-0.7**
BC3	**Big Chuckawall**	**86.19**	**54**	P				12 30 21.6	
	baz=301,SNR=81								
BC3				S				12 40 15.4	
	baz=301								
CBBR	**Cluj-Babes-Bol**	**86.20**	**322**	⇑P		**P**		**12 30 21.6**	**+0.6**
NEE2	**Needles Airpor**	**86.21**	**53**	S				12 40 15.1	
	baz=301								
CJR	**Cluj-Napoca**	**86.21**	**322**	⇑P		**P**		**12 30 21.7**	**+0.7**
IKP	**In-Ko-Pah, Jac**	**86.22**	**55**	P				12 30 21.7	
	baz=301,SNR=33								
IKP				S				12 40 16.0	
	baz=301								
MMAI	**Mount Meron Ar**	**86.24**	**305**	P		**P**		**12 30 20.9**	**-0.6**
	comp=Z,171nm,0.8s,baz=61,slow=6.8,SNR=77								
TEKE	**Tekeli-Mersin**	**86.25**	**309**	P		**P**		**12 30 20.6**	**-0.7**
ISK	**Istanbul-Kandi**	**86.27**	**315**	P		**P**		**12 30 21.2**	**-0.1**
KAVV	**Kandilli-Istan**	**86.27**	**315**	P		**P**		**12 30 20.6**	**-0.7**
KNB	**Kanab**	**86.28**	**50**	P		**P**		**12 30 22.9**	**+1.2**
KNB				pmax		pmax			
	comp=Z,112nm,0.8s								
KNB	**Kanab**	**86.28**	**50**	P		**P**		**12 30 22.9**	**+1.2**
KNB				IAmb		IAmb		12 30 25.1	
	comp=Z,112nm,0.8s								
NIE	**Niedzica**	**86.28**	**325**	*e*P		**P**		**12 30 21.6**	**+0.3**
NIE				*e*S		**S**		**12 40 13.6**	**-2.8**
NIE				*es*S		**sS**		**12 43 25.6**	**+4.0**
NIE				*e*L		L		13 12 45.2	
	comp=Z,2µm,20.7s								
MTUR	**Matau**	**86.28**	**320**	⇑P		**P**		**12 30 20.6**	**-0.9**
AUBOZ	**BOZOYUK**	**86.28**	**313**	P		**P**		**12 30 19.7**	**-1.8**
SWSC	**Sam W. Stewart**	**86.30**	**55**	P				12 30 21.8	
	baz=301,SNR=6.4								
SWSC				S				12 40 16.7	
	baz=301								
MESR	**Meseseni**	**86.30**	**322**	⇑P		**P**		**12 30 20.2**	**-1.1**
MUD	**Monsted U'grnd**	**86.33**	**335**	⇓*i*P		**P**		**12 30 20.5**	**-0.8**
MUD				IAmb		IAmb		12 30 22.8	
	comp=Z,162nm,1.1s								
MUD	**Monsted U'grnd**	**86.33**	**335**	⇓*i*P		**P**		**12 30 20.5**	**-0.8**
MUD				pmax		pmax			
	comp=Z,160nm,1.1s								
P17A	**Butcher Ranch,**	**86.34**	**47**	P		**P**		**12 30 22.7**	**+0.8**
P17A				IAmb		IAmb		12 32 15.6	
	comp=Z,127nm,0.9s								
SGRR	**Singureni**	**86.34**	**319**	⇑P		**P**		**12 30 21.3**	**-0.3**
YLV	**Yalova**	**86.34**	**314**	*e*P		**P**		**12 30 21.2**	**-0.6**
Q16A	**Castle Valley**	**86.36**	**48**	IAmb		IAmb		12 33 07.8	
	comp=Z,157nm,1.3s								
BGKT	**Bogazkoy**	**86.38**	**315**	P		**P**		**12 30 20.6**	**-1.2**
PKCU	**Pink Cliffs**	**86.39**	**49**	IAmb		IAmb		12 32 13.8	
	comp=Z,462nm,1.8s								
LFK	**Lefkose**	**86.41**	**308**	*e*P		**P**		**12 30 21.4**	**-0.8**
LNIZ	**Loecknitz**	**86.42**	**331**	*e*P		**P**		**12 30 21.4**	**-0.3**
	comp=Z,725nm,1.2s,baz=43,slow=4.6								
ARR	**Arges**	**86.44**	**320**	⇓P		**P**		**12 30 22.1**	**0.0**
RDMU	**Red Mountain**	**86.48**	**46**	IAmb		IAmb		12 32 16.0	
	comp=Z,120nm,0.9s								
CTKS	**Kestanelik-??a**	**86.52**	**315**	P		**P**		**12 30 20.9**	**-1.6**
MMLI	**Mount Malkishu**	**86.52**	**305**	*e*P		**P**		**12 30 22.7**	**-0.1**
W13A	**Hualapai Mount**	**86.55**	**52**	P		**P**		**12 30 23.4**	**+0.3**
DRGR		**86.65**	**322**	⇑P		**P**		**12 30 22.7**	**-0.4**
SRU	**San Rafael Swe**	**86.68**	**47**	IAmb		IAmb		12 32 16.9	
	comp=Z,159nm,0.8s								
SHUT	**Suhut-Afyon**	**86.69**	**312**	*e*P		**P**		**12 30 23.0**	**-0.5**
BORG	**Borgarnes**	**86.70**	**352**	P		**P**		**12 30 24.1**	**+1.3**
BORG				pmax		pmax			
	comp=Z,231nm,1.1s								
BORG	**Borgarnes**	**86.70**	**352**	P		**P**		**12 30 24.1**	**+1.3**
BORG				IAmb		IAmb		12 30 28.9	
	comp=Z,231nm,1.1s								
SLVT	**Silivri**	**86.70**	**315**	*e*P		**P**		**12 30 23.3**	**-0.1**
CSS	**Mathiatis**	**86.71**	**308**	*e*P		**P**		**12 30 22.7**	**-0.9**
CSS	**Mathiatis**	**86.71**	**308**	IAmb		IAmb		12 30 30.9	
	comp=Z,302nm,1.0s								
HUMR	**Humele**	**86.74**	**319**	⇑P		**P**		**12 30 22.6**	**-0.9**
GAZI	**Gazipasa**	**86.75**	**309**	*e*P		**P**		**12 30 22.1**	**-1.6**
KECS	**Kecovo**	**86.77**	**324**	*e*P		**P**		**12 30 23.2**	**-0.4**
KECS				pmax		pmax			
	comp=Z,135nm,1.4s								
KECS	**Kecovo**	**86.77**	**324**	*e*P		**P**		**12 30 23.2**	**-0.4**
PDMCI	**Parker Dam,Lak**	**86.78**	**53**	P				12 30 24.3	
	baz=302,SNR=27								
PDMCI				S				12 40 20.2	
	baz=302								
LRW	**Lerwick**	**86.82**	**342**	IAmb		IAmb		12 30 28.2	
	comp=Z,1µm,1.5s								
LRW	**Lerwick**	**86.82**	**342**	*e*P		**P**		**12 30 22.6**	**-0.9**
COPA	**Copaceanca**	**86.83**	**319**	⇑P		**P**		**12 30 23.0**	**-0.9**
LANS	**Liptovska Anna**	**86.86**	**325**	*e*P		**P**		**12 30 24.7**	**+0.6**
LANS				pmax		pmax			
	comp=Z,156nm,1.5s								
LANS	**Liptovska Anna**	**86.86**	**325**	*e*P		**P**		**12 30 24.7**	**+0.6**
LOT	**Lotru**	**86.88**	**321**	⇑P		**P**		**12 30 23.7**	**-0.6**
LOT	**Lotru**	**86.88**	**321**	*e*P		**P**		**12 30 24.6**	**+0.3**
PHSR	**Pinarhisar**	**86.90**	**316**	*e*P		**P**		**12 30 23.8**	**-0.5**
TVSB	**Tavsanli**	**86.90**	**313**	*e*P		**P**		**12 30 22.6**	**-1.9**
LEF	**Lefka**	**86.94**	**308**	⇑P		**P**		**12 30 24.1**	**-0.5**
LEF	**Lefka**	**86.94**	**308**	*e*P		**P**		**12 30 23.9**	**-0.7**
GLA	**Glamis**	**86.94**	**54**	P		**P**		**12 30 25.3**	**+0.5**
GLA				pmax		pmax			
	comp=Z,96nm,0.9s								
GLA	**Glamis**	**86.94**	**54**	P		**P**		**12 30 25.3**	**+0.5**
GLA	**Glamis**	**86.94**	**54**	P				12 30 25.5	
	baz=301,SNR=17								
GLA				S				12 40 22.9	
	baz=301								
ANGG	**Ammassalik, Gr**	**86.98**	**359**	⇓*i*P		**P**		**12 30 23.1**	**-1.1**
ANGG				IAmb		IAmb		12 30 24.6	
	comp=Z,29nm,0.8s								
ZIMR		**87.03**	**319**	⇑P		**P**		**12 30 24.1**	**-0.7**
ISOG	**Isortoq, Green**	**87.06**	**359**	⇓*i*P		**P**		**12 30 23.3**	**-1.2**
ISOG				IAmb		IAmb		12 30 27.7	
	comp=Z,88nm,1.0s								
OKC	**Ostrava-Krasne**	**87.08**	**326**	*e*P		**P**		**12 30 24.7**	**-0.3**
OKC				*e*				12 33 55.5	
OKC				MLR		MLR			
	comp=Z,4µm,18.1s								
OKC	**Ostrava-Krasne**	**87.08**	**326**	AMS		AMS		13 14 30.0	
	comp=Z,4µm,18.1s								
OKC	**Ostrava-Krasne**	**87.08**	**326**	*e*P		**P**		**12 30 24.7**	**-0.3**
OKC	**Ostrava-Krasne**	**87.08**	**326**	*e*PP		PP		12 33 55.5	-0.5
DEV	**Deva**	**87.10**	**321**	⇑P		**P**		**12 30 25.4**	**+0.2**
ISP	**Isparta**	**87.10**	**312**	*e*P		**P**		**12 30 24.3**	**-1.2**
MSEY	**Mahe Island**	**87.12**	**263**	P		**P**		**12 30 26.0**	**+0.2**
MSEY	**Mahe Island**	**87.12**	**263**	P		**P**		**12 30 26.0**	**+0.2**
KCTX	**Karacabey (Bur**	**87.16**	**315**	*e*P		**P**		**12 30 24.4**	**-1.2**
GEDZ	**Gediz**	**87.16**	**313**	*e*P		**P**		**12 30 25.4**	**-0.3**
K22A	**Casper**	**87.18**	**43**	P				12 30 26.0	
	baz=306,SNR=26								
K22A				S				12 40 22.6	
	baz=306								
EDRB	**Edirne**	**87.26**	**317**	P		**P**		**12 30 25.7**	**-0.3**
EDRB	**Edirne**	**87.26**	**317**	*e*P		**P**		**12 30 25.4**	**-0.6**
KSP	**Ksiaz**	**87.30**	**328**	*e*P		**P**		**12 30 25.8**	**-0.2**
KSP				*e*PP		**pP**		**12 32 11.9**	**+1.0**
KSP				*e*PP		**PP**		**12 33 59.5**	**+1.8**
KSP				*e*S		**S**		**12 40 21.7**	**-4.2**
KSP				*e*L		L		13 15 00.8	
	comp=Z,4µm,18.5s								
RUE	**Ruedersdorf**	**87.32**	**330**	*e*P		**P**		**12 30 25.5**	**-0.5**
	comp=Z,2µm,3.0s,baz=43,slow=4.6								
RWWY	**Rawlins**	**87.32**	**44**	P		**P**		**12 30 26.2**	**-0.5**
VLAD	**Vladila**	**87.39**	**319**	⇑P		**P**		**12 30 25.9**	**-0.6**
MORC	**Moravsky Berou**	**87.41**	**327**	⇑P		**P**		**12 30 26.7**	**+0.1**
MORC	**Moravsky Berou**	**87.41**	**327**	⇓*i*P		**P**		**12 30 25.9**	**-0.7**
MORC				*e*S		**SKSac**		**12 40 05.3**	**-3.5**
MORC	**Moravsky Berou**	**87.41**	**327**	IAmb		IAmb		12 30 30.8	
	comp=Z,126nm,0.9s								
SIMA	**Simav-Kutahya**	**87.42**	**313**	*e*P		**P**		**12 30 25.4**	**-1.5**
EDC	**Edincik**	**87.42**	**315**	*e*P		**P**		**12 30 26.6**	**-0.2**
PSZ	**Piszkesteto**	**87.44**	**324**	⇑P		**P**		**12 30 27.1**	**+0.

comp=Z,526nm,0.9s
ELL Elmali 88.10 311 P P 12 30 29.8 -0.4
PV19 Morning Glory 88.12 47 IAmb IAmb 12 32 23.7
comp=Z,151nm,0.8s
PV22 Blue Mesa, Par 88.12 47 P P 12 30 31.2 +0.8
PV04 Paradox Valley 88.13 47 IAmb IAmb 12 32 23.4
comp=Z,108nm,0.9s
PV17 East Wray Mesa 88.16 47 IAmb IAmb 12 32 23.4
comp=Z,250nm,0.9s
PV16 Nyswonger Mesa 88.17 47 IAmb IAmb 12 32 24.9
comp=Z,102nm,0.8s
PV05 Paradox Valley 88.18 47 IAmb IAmb 12 32 23.6
comp=Z,116nm,0.8s
KDZ Kurdzhali 88.18 317 *eP* **P 12 30 30.4 +0.1**
VRAC Vranov 88.18 327 ⇑P **P 12 30 30.1 -0.1**
VRAC Vranov 88.18 327 ⇓*i*P **P 12 30 29.7 -0.5**
VRAC *eS* **SKSac 12 40 07.0 -6.3**
PV11 David Mesa, Pa 88.20 47 IAmb IAmb 12 32 23.6
comp=Z,175nm,0.8s
PV18 Skein Mesa, Pa 88.21 47 IAmb IAmb 12 32 23.6
comp=Z,163nm,1.0s
ALN Alexandroupoli 88.23 316 P P 12 30 28.8 -1.8
PV12 Saucer Basin, 88.24 47 IAmb IAmb 12 32 26.0
comp=Z,140nm,0.8s
PV03 Paradox Valley 88.24 47 IAmb IAmb 12 32 23.7
comp=Z,117nm,0.9s
GELI Tayfur-Gelibol 88.26 315 *eP* **P 12 30 29.5 -1.2**
ENEZ Enez 88.26 316 P **P 12 30 29.6 -1.1**
ENEZ Enez 88.26 316 *eP* **P 12 30 30.2 -0.5**
EIL Elat 88.28 303 P **P 12 30 30.3 -0.8**
comp=Z,104nm,0.9s,baz=128,slow=5.3,SNR=22
SMOL Smolenice 88.30 326 *eP* **P 12 30 31.4 +0.6**
SMOL pmax pmax
comp=Z,246nm,1.1s
SMOL Smolenice 88.30 326 *eP* **P 12 30 31.4 +0.6**
SRO2 Moca 88.31 325 *eP* **P 12 30 29.8 -1.0**
SRO2 pmax pmax
comp=Z,148nm,0.9s
SRO2 Moca 88.31 325 *eP* **P 12 30 29.8 -1.0**
PV13 Radium Mtn., P 88.31 47 IAmb IAmb 12 32 24.1
comp=Z,104nm,0.8s
PVCC Panska Ves 88.31 329 *eP* **P 12 30 30.1 -0.6**
PVCC MLR MLR
comp=Z,4μm,18.6s
PVCC Panska Ves 88.31 329 AMS AMS 13 10 50.0
comp=Z,4μm,18.6s
PVCC Panska Ves 88.31 329 *eP* **P 12 30 30.1 -0.6**
SRO Srobarova 88.32 325 *eP* **P 12 30 30.7 -0.1**
SRO pmax pmax
comp=Z,169nm,1.0s
SRO Srobarova 88.32 325 *eP* **P 12 30 30.7 -0.1**
PLD Plovdiv 88.34 318 *eP* **P 12 30 30.1 -0.9**
BRG Berggiesshubel 88.36 329 *i* P **P 12 30 30.3 -0.7**
BRG Amp 12 30 33.1
comp=Z,130nm,0.6s
BRG Berggiesshubel 88.36 329 Amp 12 31 31.1
comp=Z,31nm,0.7s
BRG Berggiesshubel 88.36 329 pP pP 12 32 17.0 +0.8
BRG Berggiesshubel 88.36 329 sP **sP 12 33 04.0 -0.3**
BRG PP **PP 12 34 06.8 +0.7**
BRG Amp 12 34 13.7
comp=Z,123nm,1.2s
BRG Berggiesshubel 88.36 329 SS SS 12 46 36.0 -1.7
BRG PKKP 12 48 13.9
BRG Amp 12 48 15.3
comp=Z,6.9nm,1.0s
BRG PKPPKP **P'P'df 12 56 19.2 -1.6**
BRG Amp 12 56 24.8
comp=Z,12nm,1.4s
BRG Amp 13 13 54.0
comp=Z,4.8nm,17.4s
BRG Amp 13 14 05.0
comp=N,2.5nm,22.7s
BRG Amp 13 14 07.0
comp=E,2.5nm,18.0s
BRG Berggiesshubel 88.36 329 *eP* **P 12 30 30.4 -0.5**
comp=E,565nm,1.6s,baz=43,slow=4.6
RDO Rodhopi 88.40 316 P **P 12 30 30.2 -1.1**
RDO Rodhopi 88.40 316 *eP* **P 12 30 30.3 -1.1**
MDVR Moldovita 88.44 321 ⇑P **P 12 30 30.7 -0.8**
KRUC Moravsky 88.44 327 ⇓*i*P **P 12 30 30.7 -0.7**
KRUC *eS* **SKSac 12 40 12.4 -2.4**
MODS Modra-Piesok 88.47 326 *eP* **P 12 30 31.1 -0.5**
MODS pmax pmax
comp=Z,465nm,1.3s
MODS Modra-Piesok 88.47 326 *eP* **P 12 30 31.1 -0.5**
MODS *eS* **SKSac 12 40 13.0 -2.1**
CLL Collm 88.48 330 *eP* **P 12 30 30.0 -1.5**
comp=Z,287nm,1.3s
CLL *ep*P **pP 12 32 16.0 -0.8**
CLL *es*P **sP 12 33 06.0 +1.0**
CLL *e* 12 34 00.0
CLL *e*PP **PP 12 34 05.0 -2.0**
CLL *i* PPmax 12 34 10.7
comp=Z,250nm,1.7s
CLL *e*PPP PPP 12 36 05.0
CLL *e*PPPP 12 37 47.0
CLL *e*SKSac **SKSac 12 40 15.0 +0.1**
CLL *e*SKKSac **SKKSac 12 40 28.0 +0.2**
CLL *eS* **S 12 40 35.0 -1.8**
comp=N,3μm,28.0s
CLL *eS* **S 12 40 35.0 -1.8**
comp=E,3μm,26.3s
CLL *e*SP **SPn 12 41 45.0 +1.9**
CLL *ep*SKSac **pS 12 42 47.0 -0.5**
CLL *es*S **sS 12 43 40.0 -3.1**
CLL *es*PS 12 44 41.0
CLL *e*SS **SS 12 46 36.0 -3.3**
CLL *e*PKKPbc **PKKPbc 12 48 13.0 +1.5**
comp=Z,9.0nm,0.8s
CLL *es*SS 12 49 24.0
CLL *e* 12 49 54.0
CLL *e*SSS SSS 12 50 18.0
CLL *e* 12 51 36.0
CLL *e*SSSS 12 53 18.0
CLL *e* 12 55 24.0
CLL LmH 13 10 00.0
comp=N,4μm,18.1s
CLL LmH 13 10 00.0
comp=E,3μm,21.3s
CLL Collm 88.48 330 *eP* **P 12 30 30.0 -1.5**
CLL *e**PP **pP 12 32 16.0 -0.8**
CLL *e**SP **sP 12 33 06.0 +1.0**
CLL *e* 12 40 15.0
CLL *eS* **S 12 40 35.0 -1.8**
CLL pmax pmax
comp=Z,287nm,1.3s
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 88.48 330 P **P 12 30 30.0 -1.5**
CLL Collm 88.48 330 *eP* **P 12 30 30.7 -0.8**
comp=Z,3μm,3.8s,baz=43,slow=4.6
HLG Helgoland 88.52 334 *eP* **P 12 30 30.9 -0.7**
comp=Z,8μm,5.8s,baz=43,slow=4.6
FLTG Flechtingen 88.52 331 *eP* **P 12 30 30.5 -1.2**
comp=Z,190nm,0.9s,baz=43,slow=4.6
N23A Red Feather La 88.56 44 P 12 30 33.5
baz=306,SNR=57
N23A S 12 40 37.3
baz=306
AKAS Kas 88.59 311 *eP* **P 12 30 29.8 -2.7**
FBE Freiberg 88.60 329 *eP* **P 12 30 31.8 -0.3**
comp=Z,4μm,3.5s,baz=43,slow=4.6
PHWY Pilot Hill 88.62 43 P **P 12 30 33.2 +0.5**
ZST Bratislava 88.68 326 *eP* **P 12 30 32.5 0.0**
ZST pmax pmax
comp=Z,864nm,1.4s
ZST Bratislava 88.68 326 *eP* **P 12 30 32.5 0.0**
ZST *eS* **SKSac 12 40 15.3 -0.9**
EZN Ezine 88.69 315 P **P 12 30 32.4 -0.3**
EZN Ezine 88.69 315 *eP* **P 12 30 31.4 -1.3**
PRA Prague 88.69 328 *eP* **P 12 30 31.7 -0.8**
PRA *e* 12 40 20.3
PRA MLR MLR
comp=Z,4μm,16.7s
PRA Prague 88.69 328 AMS AMS 13 14 50.0
comp=Z,4μm,16.7s
PRA Prague 88.69 328 *eP* **P 12 30 31.7 -0.8**
PRA Prague 88.69 328 *eSKS* **SKSac 12 40 20.3 +4.1**
PRU Pruhonice 88.70 328 *eP* **P 12 30 31.8 -0.8**
PRU *e* 12 40 10.9
PRU MLR MLR
comp=Z,3μm,16.1s
PRU Pruhonice 88.70 328 AMS AMS 13 16 30.0
comp=Z,3μm,16.1s
PRU Pruhonice 88.70 328 *eP* **P 12 30 31.8 -0.8**
PRU Pruhonice 88.70 328 *eP*P PP 12 34 00.2 -8.6
PRU Pruhonice 88.70 328 *eSKS* **SKSac 12 40 10.9 -5.4**
FETY Fethiye 88.72 311 P **P 12 30 30.6 -2.4**
FETY Fethiye 88.72 311 *eP* **P 12 30 31.4 -1.6**
TREC Trest 88.73 327 *eP* **P 12 30 32.2 -0.5**
TREC MLR MLR
comp=Z,3μm,14.0s
TREC Trest 88.73 327 AMS AMS 13 15 10.0
comp=Z,3μm,14.0s
TREC Trest 88.73 327 *eP* **P 12 30 32.2 -0.5**
GADA Gvkgeada 88.74 316 P **P 12 30 35.7 +2.8**
GADA Gvkgeada 88.74 316 *eP* **P 12 30 31.7 -1.2**
DKL Dikili 88.75 314 *eP* **P 12 30 32.0 -1.0**
AYDB Zeytinkoy-Aydi 88.76 313 *eP* **P 12 30 32.5 -0.8**
SMTH Samothraki Isl 88.80 316 P **P 12 30 31.0 -2.3**
BOZC Bozcaada 88.85 315 *eP* **P 12 30 32.7 -0.8**
NRDL Niedersach Rie 88.88 332 *eP* **P 12 30 32.6 -0.7**
comp=Z,159nm,1.2s,baz=43,slow=4.6
DALY Dalyan (Mula) 88.90 312 *eP* **P 12 30 32.7 -1.0**
VTS Vitosha 88.90 319 ⇑P **P 12 30 34.4 +0.5**
ASSE Asse, Remlinge 88.91 331 *eP* **P 12 30 32.8 -0.5**
comp=Z,208nm,2.3s,baz=43,slow=4.6
SMCO Snowmass 88.92 46 P **P 12 30 35.0 +0.6**
BIGH Upper Bighouse 88.97 342 IAmb IAmb 12 30 38.1
comp=Z,475nm,1.0s
BIGH Upper Bighouse 88.97 342 *eP* **P 12 30 33.0 -0.6**
YER Yerkesik 88.97 312 P **P 12 30 34.1 -0.1**
YER Yerkesik 88.97 312 *eP* **P 12 30 33.8 -0.4**
214A Organ Pipe Nat 88.97 54 P 12 30 34.7
baz=302,SNR=38
214A S 12 40 42.0
baz=302
MLA1 Latheron 88.97 342 *eP* **P 12 30 33.4 -0.2**
PRK Paraskevi 89.06 315 P **P 12 30 34.7 +0.3**
MVCO Mesa Verde 89.06 48 P **P 12 30 34.9 +0.1**
MVCO Mesa Verde 89.06 48 P 12 30 34.8
baz=305,SNR=20
MVCO S 12 40 42.4
baz=305
NEUB Neuenburg 89.10 330 *eP* **P 12 30 33.8 -0.5**
comp=Z,213nm,0.8s,baz=43,slow=4.6
BOVS Bovan 89.16 320 ⇑P **P 12 30 34.7 -0.1**
PBCC Pribram 89.16 328 *eP* **P 12 30 33.8 -1.0**
MORH Mrgy, Hungar 89.19 324 ⇑P **P 12 30 34.2 -0.7**
MORH Mrgy, Hungar 89.19 324 ⇓*i*P **P 12 30 33.6 -1.3**
TURN Turunc 89.19 312 *eP* **P 12 30 34.2 -0.9**
MLSB Milas 89.21 312 *eP* **P 12 30 34.2 -1.0**
THAS Thassos island 89.22 316 P **P 12 30 34.0 -1.2**
CLZ Clausthal 89.24 331 *eP* **P 12 30 34.7 -0.4**
comp=Z,2μm,3.7s,baz=43,slow=4.6
FRGS Fruska Gora 89.25 322 ⇑P **P 12 30 34.8 -0.5**
FRGS Fruska Gora 89.25 322 ⇓*i*P **P 12 30 34.3 -1.0**
NVR Nevrokopi 89.30 317 P **P 12 30 34.4 -1.2**
GCAM G?zelcaml? 89.33 313 *eP* **P 12 30 33.9 -1.8**
SIGR SIGRI 89.34 315 P **P 12 30 34.8 -0.9**
LIA Limnos Island 89.36 316 P **P 12 30 34.7 -1.1**
TANN Tannenbergstha 89.36 329 *eP* **P 12 30 35.2 -0.5**
comp=Z,347nm,1.6s,baz=43,slow=4.6
TANN *eP*P **PP 12 34 13.6 -0.4**
baz=46,slow=7.3
URLA Izmir 89.36 314 *eP* **P 12 30 33.6 -2.3**
WERD Werda 89.40 330 *eP* **P 12 30 35.3 -0.6**
comp=Z,330nm,1.4s,baz=43,slow=4.6
W18A Petrified Fore 89.40 50 IAmb IAmb 12 32 28.0
comp=Z,159nm,1.9s
W18A Petrified Fore 89.41 50 P 12 30 36.8
baz=304
W18A S 12 40 45.2
baz=304
ISCO Idaho Springs 89.41 44 P **P 12 30 37.0 +0.5**
ISCO pmax pmax
comp=Z,50nm,0.9s
ISCO Idaho Springs 89.41 44 P **P 12 30 37.0 +0.5**
ISCO Idaho Springs 89.41 44 P 12 30 37.3
baz=306,SNR=55
ISCO S 12 40 44.3
baz=306
AGMN Agassiz Nation 89.43 33 P 12 30 35.8
baz=313,SNR=26
AGMN S 12 40 40.0
baz=313
PLN Plauen 89.44 330 *eP* **P 12 30 35.5 -0.5**
comp=Z,348nm,1.5s,baz=43,slow=4.6
GUNZ Gunzen 89.45 329 *eP* **P 12 30 35.7 -0.4**
comp=Z,3μm,3.8s,baz=43,slow=4.6
CONA Conrad Observa 89.47 326 *eP* **PP 12 34 15.9 +0.8**
comp=Z,59nm,1.1s
CONA Conrad Observa 89.47 326 *eP* **PKKPbc 12 48 10.6 +1.5**
comp=Z,5.5nm,1.0s
CONA Conrad Observa 89.47 326 *eP* **P 12 30 35.9 -0.5**
comp=Z,124nm,0.9s,SNR=188
CONA Conrad Observa 89.47 326 *eS* sP 12 33 07.9 -1.4
comp=Z,42nm,1.4s
WERN Wernitzgruen 89.48 329 *eP* **P 12 30 35.9 -0.4**
comp=Z,3μm,3.8s,baz=43,slow=4.6
NKC Novy Kostel 89.49 329 *eP* **P 12 30 36.2 -0.1**
NKC *e* 12 40 16.8
NKC MLR MLR
comp=Z,4μm,14.7s
NKC Novy Kostel 89.49 329 AMS AMS 13 14 30.0
comp=Z,4μm,14.7s
NKC Novy Kostel 89.49 329 *eP* **P 12 30 36.2 -0.1**
NKC Novy Kostel 89.49 329 *eSKS* **SKSac 12 40 16.8 -4.1**
MCD Coleburn Disti 89.56 341 *eP* **P 12 30 35.5 -0.9**
MOX Moxa 89.57 330 *eP* **P 12 30 36.1 -0.5**
comp=Z,319nm,1.4s,baz=43,slow=4.6
MOX *eP*P **PP 12 34 12.9 -2.7**
baz=46,slow=7.3
ARG Arkhangelos 89.59 311 P **P 12 30 35.7 -1.3**
ARG Arkhangelos 89.59 311 *eP* **P 12 30 35.2 -1.8**
SRS Serrai 89.60 317 P **P 12 30 35.5 -1.5**
LINV Loch Inver, As 89.61 342 IAmb IAmb 12 30 41.0
comp=Z,226nm,1.0s
LINV Loch Inver, As 89.61 342 *eP* **P 12 30 35.8 -0.8**
CKRC Cesky Krumlov 89.62 327 *eSKS* **SKSac 12 40 14.0 -7.7**
CKRC Cesky Krumlov 89.62 327 *eP* **P 12 30 36.3 -0.6**
CKRC Cesky Krumlov 89.62 327 *eP*P PP 12 34 08.1 -8.0
GTTG Gottingen 89.63 331 *eP* **P 12 30 36.3 -0.6**
comp=Z,617nm,1.9s,baz=43,slow=4.6
GTTG *eP*P **PP 12 34 15.4 -0.7**
baz=46,slow=7.3
D32A Dogwood Acres, 89.64 35 IAmb IAmb 12 30 42.5
comp=Z,71nm,0.7s
BODT Bodrum 89.65 312 *eP* **P 12 30 37.7 +0.4**
DAT Datca 89.66 312 *eP* **P 12 30 35.8 -1.7**
KHC Kasperske Hory 89.75 328 *eP* **P 12 30 36.3 -1.2**
KHC *e* 12 34 12.8
KHC MLR MLR
comp=Z,3μm,16.1s
KHC Kasperske Hory 89.75 328 AMS AMS 13 15 40.0
comp=Z,3μm,16.1s
KHC Kasperske Hory 89.75 328 *eP* **P 12 30 36.3 -1.2**
KHC Kasperske Hory 89.75 328 *ex* x 12 31 21.0
KHC Kasperske Hory 89.75 328 *eP*P PP 12 34 12.8 -4.3
KHC Kasperske Hory 89.75 328 *eSKS* SKSac 12 40 10.9 -12
TEKS Tekeris 89.79 322 *eP* **P 12 30 37.2 -0.6**
MANZ Manzenberg 89.82 329 *eP* **P 12 30 37.4 -0.4**
comp=Z,383nm,1.5s,baz=43,slow=4.6
DIVS Divibare 89.83 321 ⇓*i*P **P 12 30 36.6 -1.4**
DIVS Divibare 89.83 321 P **P 12 30 36.9 -1.2**
DIVS IAmb IAmb 12 30 42.5
comp=Z,134nm,1.1s
OUR Ouranopolis 89.83 317 P **P 12 30 37.0 -1.0**
S22A 4UR Ranch, Cre 89.84 47 P 12 30 39.7
baz=306,SNR=55
S22A S 12 40 50.2
baz=306
GEC2 GERESS Array S 89.89 328 P **P 12 30 37.4 -0.8**
GEC2 GERESS Array S 89.89 328 *eP* **P 12 30 37.5 -0.8**
comp=Z,429nm,1.3s,baz=43,slow=4.6
GERES GERESS Array B 89.89 328 P **P 12 30 36.9 -1.3**
comp=Z,41nm,0.6s,baz=46,slow=5.8,SNR=112
GERES PKKPbc **PKKPbc 12 48 07.9 -0.3**
comp=Z,8.3nm,1.1s,baz=191,slow=1.4,SNR=11
GERES SKKPbc SKKPbc 12 51 00.5 +2.6
comp=Z,1.2nm,0.7s,baz=287,slow=5.0,SNR=3.5
GERES PKPPKP 12 56 08.9
comp=Z,0.4nm,0.2s,baz=121,slow=2.3,SNR=2.8
GERES GERESS Array B 89.89 328 P **P 12 30 37.1 -1.2**
GERES GERESS Array B 89.89 328 P'P'df 12 56 08.9 -9.2
GERES GERESS Array B 89.89 328 P **P 12 30 37.1 -1.2**
DRUM Mains of Drumt 89.90 340 IAmb IAmb 12 30 42.0
comp=Z,598nm,1.8s
DRUM Mains of Drumt 89.90 340 *eP* **P 12 30 36.5 -1.5**
SOH Sokhos 89.92 317 P **P 12 30 38.0 -0.5**
ROTZ Rotzenmuhle 89.93 329 *eP* **P 12 30 38.2 -0.1**
comp=Z,636nm,1.5s,baz=43,slow=4.6
IBBN Ibbenburen 89.98 333 *eP* **P 12 30 37.6 -0.9**
comp=Z,6μm,3.8s,baz=43,slow=4.6
MDO Dochfour 89.99 342 *eP* **P 12 30 37.5 -0.9**
BEHE Becsehely 89.99 325 ⇓*i*P **P 12 30 38.0 -0.6**
LEWI Lewis, Hebride 90.06 343 IAmb IAmb 12 30 42.9
comp=Z,93nm,0.8s
LEWI Lewis, Hebride 90.06 343 *eP* **P 12 30 37.6 -1.0**
WET Wettzell 90.06 328 *eP* **P 12 30 38.6 -0.3**
comp=Z,346nm,1.6s,baz=43,slow=4.6
STIP Stip 90.08 318 *i* P **P 12 30 37.5 -1.6**
VAY Valandovo 90.08 318 *i* P **P 12 30 38.7 -0.5**
ARSA Arzberg 90.10 326 *eP* **PP 12 34 20.9 +1.0**
comp=Z,53nm,1.9s
ARSA Arzberg 90.10 326 *eP* **PKKPbc 12 48 08.6 +1.1**
comp=Z,6.6nm,1.0s
ARSA Arzberg 90.10 326 *eP* **P 12 30 38.4 -0.8**
comp=Z,167nm,1.1s,SNR=124
ARSA Arzberg 90.10 326 *eS* sP 12 33 11.2 -1.1
comp=Z,20nm,1.1s
PLG Polygyros 90.14 317 P **P 12 30 38.2 -1.3**
UBBA Unterbreizbach 90.15 331 *eP* **P 12 30 40.6 +1.5**
comp=Z,550nm,2.7s,baz=43,slow=4.6
Q24A Divide 90.19 45 P 12 30 40.5
baz=307,SNR=33
Q24A S 12 40 53.0
baz=307
HORT Hortiatis 90.21 317 P **P 12 30 38.6 -1.3**
HORT Hortiatis 90.21 317 *eP* **P 12 30 38.0 -1.9**
TUC Tucson 90.22 53 P **P 12 30 40.7 +0.6**
TUC pmax pmax
comp=Z,41nm,1.0s
TUC Tucson 90.22 53 P **P 12 30 40.6 +0.6**
TUC Tucson 90.22 53 P 12 30 40.7
baz=303
TUC S 12 40 52.9
baz=303
PAIG Paliouri 90.26 316 P **P 12 30 39.8 -0.2**
THE Thessaloniki 90.27 317 P **P 12 30 39.5 -0.5**
KOGS Kog 90.28 325 *i* P **P 12 30 38.9 -1.1**
KOGS *e* 12 30 43.0
KOGS 12 45 00.1
BBLS Lazići 90.30 321 ⇓*i*P **P 12 30 39.2 -1.0**
MOA Molln 90.31 327 *eP* **PP 12 34 22.6 +1.1**
comp=Z,44nm,1.1s
MOA Molln 90.31 327 *eP* **P 12 30 39.3 -0.8**
comp=Z,85nm,0.9s,SNR=98
SKO Skopje 90.34 319 *i* P **P 12 30 40.7 +0.3**
EDU Dundee 90.36 340 *eP* **P 12 30 39.5 -0.6**
SUSD Miller 90.40 38 IAmb IAmb 12 32 32.2
comp=Z,84nm,0.8s
SUSD Miller 90.40 38 P 12 30 40.6
baz=311,SNR=10.0
SUSD S 12 40 55.0
baz=311
HAPS Han Pijesak,Bl 90.41 322 *eP* **P 12 30 39.3 -1.5**
GRG Griva 90.41 318 P **P 12 30 40.1 -0.6**
GRG Griva 90.41 318 *eP* **P 12 30 38.3 -2.4**
B35A Bob, Littlefor 90.42 32 IAmb IAmb 12 30 45.2
comp=Z,145nm,1.3s
GRF Grafenberg Arr 90.43 329 *eP* **P 12 30 40.5 -0.2**
comp=Z,665nm,1.5s,baz=43,slow=4.6
KPL Plockton 90.44 342 IAmb IAmb 12 30 44.8
comp=Z,474nm,1.2s
KPL Plockton 90.44 342 *eP* **P 12 30 40.1 -0.3**
RUDO Rudo 90.48 321 *eP* **P 12 30 39.4 -1.6**
KASTN Kahler Asten 90.54 332 *eP* **P 12 30 40.4 -0.7**
comp=Z,2μm,3.8s,baz=43,slow=4.6
KASTN *eP*P **PP 12 34 22.6 -0.6**
baz=46,slow=7.3
PLE Pljevlja 90.65 321 ⇓*i*P **P 12 30 41.2 -0.7**
IVA Berane 90.66 320 ⇓*i*P **P 12 30 41.4 -0.5**
SDCO Great Sand Dun 90.69 46 P **P 12 30 43.0 +0.6**
SDCO Great Sand Dun 90.69 46 P 12 30 43.0
baz=306,SNR=123
SDCO S 12 40 56.9
baz=306
SOKA Soboth 90.74 326 *eP* **PP 12 34 25.5 +0.5**
comp=Z,95nm,1.3s
SOKA Soboth 90.74 326 *eP* **P 12 30 41.1 -1.1**
comp=Z,326nm,1.1s,SNR=149
SOKA Soboth 90.74 326 *eS* sP 12 33 13.4 -1.9
comp=Z,38nm,1.4s
ATD Arta Tunnel 90.76 283 P **P** 12 31 00.9 +18
comp=Z,44nm,0.8s,baz=344,slow=4.5,SNR=7.4
ATD Arta Tunnel 90.76 283 P **P 12 30 42.9 +0.1**
ATD IAmb IAmb 12 30 49.1
comp=Z,134nm,1.2s
INVG Invergeldie, C 90.77 341 IAmb IAmb 12 30 46.0
comp=Z,125nm,0.7s
INVG Invergeldie, C 90.77 341 *eP* **P 12 30 41.1 -0.9**
ESY Stoneypath 90.78 340 *eP* **P 12 30 41.2 -0.8**
KYMI Kymi, Euboea I 90.78 315 P **P 12 30 42.8 +0.3**
BUG Bochum--Univer 90.84 333 *eP* **P 12 30 41.4 -1.0**
comp=Z,240nm,0.9s,baz=43,slow=4.6
BUG *eP*P **PP 12 34 24.1 -1.3**
baz=46,slow=7.3
LIT Litokhoron 90.88 317 P **P 12 30 41.6 -1.3**
F33A 5 Mile Ranch, 90.88 35 P **P 12 30 43.5 +0.7**
F33A IAmb IAmb 12 30 47.6
comp=Z,91nm,0.9s
OGNE Ogallala 90.89 42 IAmb IAmb 12 30 48.7
comp=Z,122nm,1.1s
OGNE Ogallala 90.89 42 P 12 30 43.1
baz=309,SNR=9.6
OGNE S 12 40 55.8
baz=309
KOME Kolasin 90.89 321 ⇓*i*P **P 12 30 42.2 -0.8**
MRAK Mrakovica 90.90 323 ⇓*i*P **P 12 30 42.1 -0.9**
XOR Xorichti 90.90 316 P **P 12 30 40.8 -2.2**
NEO Neokhori 90.92 316 P **P 12 30 41.6 -1.5**
BLY Banja Luka 90.93 323 ⇓*i*P **P 12 30 41.8 -1.2**
EBL Broad Law 91.03 340 *eP* **P 12 30 42.4 -0.8**
OBKA Obir 91.10 326 *eP* **PP 12 34 28.9 +1.1**
comp=Z,72nm,0.9s
OBKA Obir 91.10 326 *eP* **PKKPbc 12 48 04.8 -0.3**
comp=Z,9.4nm,1.1s
OBKA Obir 91.10 326 *eP* **P 12 30 43.0 -0.9**
comp=Z,113nm,1.0s,SNR=22
OBKA Obir 91.10 326 *eS* sP 12 33 15.5 -1.6
comp=Z,21nm,1.1s
RJOB Jochberg 91.10 327 *eP* **P 12 30 43.5 -0.3**
comp=Z,6μm,2.4s,baz=43,slow=4.6
CRES Cresnjev 91.10 325 ⇓*i*P **P 12 30 42.8 -1.0**
PHP Peshkopia 91.11 319 P **P 12 30 42.6 -1.4**
FNA Florina 91.12 318 P **P 12 30 42.5 -1.6**
FNA Florina 91.12 318 *eP* **P 12 30 42.8 -1.3**
KZN Kozani 91.19 318 P **P 12 30 43.1 -1.3**
MGRS Mrkonjic Grad 91.20 323 *eP* **P 12 30 44.0 -0.3**
NKY Niksic 91.21 321 ⇓*i*P **P 12 30 43.6 -0.9**
SANT Santorini 91.26 313 P **P 12 30 43.2 -1.6**
OHR Ohrid 91.26 319 *i* P **P 12 30 43.4 -1.3**
NKME Niksic 91.26 321 ⇓*i*P **P 12 30 43.8 -0.9**
TNS Taunus Mts 91.26 331 *eP* **P 12 30 43.9 -0.6**
comp=Z,2μm,3.8s,baz=43,slow=4.6
KBA Koelnbreinsper 91.30 327 P **PP 12 34 30.5 +1.1**
comp=Z,63nm,0.9s
KBA Koelnbreinsper 91.30 327 *eP* **P 12 30 43.8 -1.1**
comp=Z,90nm,0.8s,SNR=44
LAWE Loch Awe, Argy 91.30 341 IAmb IAmb 12 30 48.6
comp=Z,138nm,1.0s
LAWE Loch Awe, Argy 91.30 341 *eP* **P 12 30 43.7 -0.7**
PDG Podgorica 91.31 320 ⇑P **P 12 30 44.0 -0.8**
PDG Podgorica 91.31 320 ⇓*i*P **P 12 30 43.9 -0.8**
PDG Podgorica 91.31 320 IAmb IAmb 12 30 48.5
comp=Z,161nm,1.0s
TTG Podgorica 91.31 320 ⇓*i*P **P 12 30 44.0 -0.8**
NRS Narsarsuaq 91.37 3 *i* P **P 12 30 43.7 -0.9**
NRS Narsarsuaq 91.37 3 *i* P **P 12 30 43.7 -0.9**
BRY Bratogost 91.41 321 *eP* **P 12 30 43.3 -2.1**
BRY Bratogost 91.41 321 ⇓*i*P **P 12 30 43.8 -1.6**
ATAL Atalanti 91.42 316 P **P 12 30 43.3 -2.1**
CEME Cevo 91.42 321 ⇓*i*P **P 12 30 44.2 -1.2**
PGBU Glenifferbraes 91.42 341 IAmb IAmb 12 30 49.3
comp=Z,383nm,1.1s
PGBU Glenifferbraes 91.42 341 *eP* **P 12 30 43.8 -1.2**
LJU Ljubljana 91.43 325 *eP* **P 12 30 44.5 -0.8**
LJU *i* 12 30 48.2
LJU *eP*P **PP 12 34 32.2 +2.0**
BOJS Bojanci 91.43 325 *eP* **P 12 30 44.8 -0.5**
LKR Lokris 91.46 316 P **P 12 30 44.1 -1.5**
ESK Eskdalemuir 91.46 340 P **P 12 30 45.2 -0.1**

ESK pmax pmax
comp=Z,95nm,1.0s
ESK Eskdalemuir 91.46 340 P **P 12 30 45.1 -0.1**
ESK lAmb lAmb 12 30 49.5
comp=Z,95nm,0.9s
MYKA Terra Mystica 91.46 326 *e*P **PP 12 34 30.0 -0.6**
comp=Z,120nm,1.1s
MYKA Terra Mystica 91.46 326 *e*P **P 12 30 44.0 -1.6**
comp=Z,78nm,0.7s,SNR=31
MYKA Terra Mystica 91.46 326 *e*S sP 12 33 17.1 -2.0
comp=Z,12nm,0.9s
EDMD Edmundbyers 91.49 339 lAmb lAmb 12 30 49.1
comp=Z,413nm,1.6s
EDMD Edmundbyers 91.49 339 *e*P **P 12 30 44.2 -1.2**
ZKR Zakros 91.49 311 *e*P **P 12 30 46.3 +0.5**
THL Klokotos Trika 91.50 317 P **P 12 30 43.2 -2.5**
DRME Dracevica, Mon 91.50 320 ǁ *i*P **P 12 30 44.5 -1.2**
DRME Dracevica, Mon 91.50 320 ǁ *i*P **P 12 30 45.0 -0.7**
FUR Furstenfeldbru 91.51 328 *e*P **P 12 30 45.4 -0.3**
comp=Z,787nm,1.1s,baz=43,slow=4.6
CRNS Crni Vrh 91.54 325 *i* P **P 12 30 44.6 -1.2**
CRNS *i* 12 30 48.4
CRNS *e*PP **PP 12 34 32.2 +1.0**
CRNS *e* 12 45 14.1
NEST Nestorio 91.55 318 P **P 12 30 44.6 -1.5**
BUM Brajici-Budva 91.60 320 ǁ *i*P **P 12 30 45.2 -1.0**
AHRW Bad Neuenahr-A 91.60 332 *e*P **P 12 30 45.3 -0.6**
comp=Z,184nm,1.2s,baz=43,slow=4.6
ULC Ulcinj 91.61 320 ǁ *i*P **P 12 30 45.2 -1.1**
TREB Trebinje 91.63 321 *e*P **P 12 30 44.5 -1.8**
AGG Agios Georgios 91.64 316 P **P 12 30 44.1 -2.4**
AGG Agios Georgios 91.64 316 *e*P **P 12 30 44.0 -2.4**
KPRO Kipourio 91.65 317 P **P 12 30 44.8 -1.7**
TIR Tirane 91.65 319 ⇑P **P 12 30 46.2 -0.2**
CEY Cerknica 91.69 325 ǁ *i*P **P 12 30 44.7 -1.8**
K31A O'Neill 91.70 39 lAmb lAmb 12 30 52.3
comp=Z,159nm,1.0s
ANMO Albuquerque 91.71 49 PP PP 12 34 32.6 -0.5
comp=Z,12nm,1.0s,baz=290,slow=9.8,SNR=3.3
ANMO S **SKSac 12 40 37.1 +2.6**
comp=Z,2.1nm,0.9s,baz=117,slow=17,SNR=1.4
ANMO PKKPbc **PKKPbc 12 48 06.2 +2.9**
comp=Z,10.0nm,1.0s,baz=157,slow=6.0,SNR=12
ANMO Albuquerque 91.71 49 *ce*P **P 12 30 47.0 -0.1**
ANMO pmax pmax
comp=Z,102nm,0.9s
ANMO Albuquerque 91.71 49 P **P 12 30 48.0 +0.9**
ANMO lAmb lAmb 12 30 49.7
comp=Z,90nm,0.9s
ANMO Albuquerque 91.71 49 P 12 30 47.7
baz=306
ANMO S 12 41 05.1
baz=306
HCY Herceg Novi 91.73 321 *e*P **P 12 30 45.0 -1.7**
HCY Herceg Novi 91.73 321 ǁ *i*P **P 12 30 45.6 -1.1**
KSCO Kaye Shedlock' 91.73 44 P 12 30 47.0
baz=308
KSCO S 12 41 04.3
baz=308
T25A Trinidad 91.75 46 lAmb lAmb 12 30 53.7
comp=Z,70nm,0.8s
T25A Trinidad 91.75 46 P 12 30 47.7
baz=307,SNR=42
T25A S 12 41 06.0
baz=307
EYMN Ely 91.76 32 P **P 12 30 47.3 +0.5**
EYMN lAmb lAmb 12 30 51.3
comp=Z,80nm,1.1s
EYMN Ely 91.76 32 P 12 30 46.6
baz=316,SNR=22
EYMN S 12 41 02.3
baz=316
MAKR Makrakomi, Fth 91.77 316 P **P 12 30 44.9 -2.2**
319A Douglas 91.80 53 P **P 12 30 48.9 +1.4**
319A lAmb lAmb 12 30 50.2
comp=Z,87nm,0.9s
LENM Lemitar 91.82 50 P **P 12 30 48.8 +1.3**
SRIG Santa Rosalia 91.86 58 lAmb lAmb 12 32 38.9
comp=Z,63nm,1.1s
FRMA Ierapetra Chan 91.87 311 P **P 12 30 45.9 -1.6**
STON Ston 91.89 321 *e*P **P 12 30 44.2 -3.2**
HSIG 91.90 56 P **P 12 30 48.3 +0.5**
Y22D IRIS PASSCAL I 91.91 50 lAmb lAmb 12 30 53.0
comp=Z,83nm,0.9s
Y22D IRIS PASSCAL I 91.91 50 P 12 30 49.0
baz=306
Y22D S 12 41 07.6
baz=306
ABTA Abfaltersbach 91.93 327 *e*P **PP 12 34 36.2 +1.9**
comp=Z,49nm,1.2s
ABTA Abfaltersbach 91.93 327 *e*P **P 12 30 45.5 -2.2**
comp=Z,192nm,1.1s,SNR=74
ABTA Abfaltersbach 91.93 327 *e*S sP 12 33 20.8 -0.5
comp=Z,19nm,0.9s
NEWG New Galloway 91.94 340 lAmb lAmb 12 30 50.8
comp=Z,134nm,1.1s
NEWG New Galloway 91.94 340 *e*P **P 12 30 46.6 -0.8**
BTNL Ternell 91.95 333 *d*P **P 12 30 46.3 -1.4**
LAST Lasithi 91.96 312 P **P 12 30 45.7 -2.4**
WATA Walderalm 91.96 328 *e*P **PP 12 34 36.6 +2.0**
comp=Z,77nm,1.0s
WATA Walderalm 91.96 328 *e*P **P 12 30 46.8 -1.1**
comp=Z,111nm,1.3s,SNR=34
BEBN Eben Emael 91.98 333 *d*P **P 12 30 47.4 -0.3**
LSK Leskovik 91.98 318 P **P 12 30 47.4 -0.7**
WTTA Wattenberg 91.99 328 *e*P **PP 12 34 36.2 +1.4**
comp=Z,49nm,0.9s
WTTA Wattenberg 91.99 328 *e*P **PKKPbc 12 48 05.2 +2.1**
comp=Z,19nm,1.1s
WTTA Wattenberg 91.99 328 *e*P **P 12 30 46.8 -1.2**
comp=Z,199nm,1.5s,SNR=41
MEM Membach 91.99 333 κP **P 12 30 46.1 -1.7**
STU Stuttgart 92.01 330 *e*P **P 12 30 47.4 -0.5**
comp=Z,364nm,1.1s,baz=43,slow=4.6
EVR Evrytania 92.03 316 P **P 12 30 46.2 -2.1**
KESW Keswick, Cumbr 92.05 339 lAmb lAmb 12 30 52.2
comp=Z,211nm,1.1s
KESW Keswick, Cumbr 92.05 339 *e*P **P 12 30 46.8 -1.1**
HPK Haverah Park 92.11 338 lAmb lAmb 12 30 52.4
comp=Z,327nm,1.1s
HPK Haverah Park 92.11 338 *e*P **P 12 30 47.0 -1.2**
ECSD EROS Data Cent 92.14 37 P 12 30 48.6
baz=312,SNR=34
ECSD S 12 41 07.2
baz=312
JAN Janina 92.14 317 P **P 12 30 48.7 -0.1**
ANX Ano Chora 92.16 316 P **P 12 30 47.3 -1.6**
MOTA Moosalm 92.18 328 P **PP 12 34 37.2 +1.0**
comp=Z,107nm,1.1s
MOTA Moosalm 92.18 328 *e*P **PKKPbc 12 48 05.0 +2.4**
comp=Z,15nm,1.2s
MOTA Moosalm 92.18 328 *e*P **P 12 30 47.8 -1.1**
comp=Z,129nm,1.2s,SNR=44
BHOU Houvegnez 92.19 332 κP **P 12 30 47.7 -1.0**
BSTI Sart Tilman 92.19 333 *d*P **P 12 30 48.1 -0.6**
comp=Z,27nm,1.1s
SERG Sergoula 92.19 316 P **P 12 30 46.5 -2.5**
121A Cookes Peak, D 92.20 51 lAmb lAmb 12 30 52.4
comp=Z,73nm,0.9s
121A Cookes Peak, D 92.20 51 P 12 30 50.3
baz=305,SNR=46
121A S 12 41 10.5
baz=305
TRIZ Trizonia 92.21 316 P **P 12 30 47.0 -2.0**
RETA Reutte 92.24 328 *e*P **PP 12 34 37.0 +0.4**
comp=Z,50nm,1.2s
RETA Reutte 92.24 328 *e*P **PKKPbc 12 48 05.0 +2.7**
comp=Z,13nm,1.3s
RETA Reutte 92.24 328 *e*P **P 12 30 48.3 -0.8**
comp=Z,141nm,1.5s,SNR=68
F36A Milaca 92.27 34 P **P 12 30 49.3 +0.1**
IDI Anoyia 92.27 312 P **P 12 30 47.4 -2.0**
comp=Z,32nm,0.4s,baz=30,slow=9.9,SNR=17
IDI Anoyia 92.27 312 P **P 12 30 46.8 -2.7**
IDI Anoyia 92.27 312 ⇑P **P 12 30 49.1 -0.4**
IDI Anoyia 92.27 312 *e*P **P 12 30 47.5 -2.0**
IDI Anoyia 92.27 312 lAmb lAmb 12 30 52.0
comp=Z,69nm,0.9s
EFP Efpalio 92.27 316 P **P 12 30 47.6 -1.7**
GAL1 Galloway 92.30 340 lAmb lAmb 12 30 52.9
comp=Z,153nm,1.0s
GAL1 Galloway 92.30 340 *e*P **P 12 30 47.8 -1.2**
LAKA Lakka 92.34 316 P **P 12 30 47.6 -2.1**
KLV Kalavryta, Ach 92.36 316 P **P 12 30 48.0 -1.8**
PVO Paravola 92.39 316 P **P 12 30 48.3 -1.5**

UBR Ueberruh 92.40 329 *e*P **P 12 30 49.0 -0.8**
comp=Z,249nm,1.1s,baz=43,slow=4.6
BCLA Clavier 92.42 333 κP **P 12 30 48.9 -0.9**
comp=Z,92nm,1.3s
UCC Uccle 92.50 334 *d*P **P 12 30 49.1 -0.9**
UCC Uccle 92.50 334 lAmb lAmb 12 30 53.3
comp=Z,55nm,0.8s
SRN Sarande 92.51 318 P **P 12 30 48.9 -1.5**
CLGH Cloghs, Cushen 92.52 341 lAmb lAmb 12 30 53.3
comp=Z,258nm,1.4s
CLGH Cloghs, Cushen 92.52 341 *e*P **P 12 30 49.0 -1.1**
IGT Igoumenitsa 92.53 318 P **P 12 30 48.3 -2.2**
BGES Gesves 92.53 333 *d*P **P 12 30 49.2 -1.1**
comp=Z,111nm,1.6s
FETA Feichten 92.59 328 *e*P **PP 12 34 37.8 -1.6**
comp=Z,63nm,1.1s
FETA Feichten 92.59 328 *e*P **PKKPbc 12 48 03.0 +1.5**
comp=Z,15nm,1.1s
FETA Feichten 92.59 328 *e*P **P 12 30 49.5 -1.3**
comp=Z,142nm,1.0s,SNR=73
FETA Feichten 92.59 328 *e*S sP 12 33 22.3 -2.1
comp=Z,20nm,0.9s
LBWR Ladybower, Pea 92.60 338 lAmb lAmb 12 30 54.6
comp=Z,553nm,1.2s
LBWR Ladybower, Pea 92.60 338 *e*P **P 12 30 49.2 -1.4**
PDO Prodromos 92.61 316 P **P 12 30 49.1 -1.8**
VAM Vamos 92.65 312 P **P 12 30 50.2 -0.9**
WLF Walferdange 92.65 332 *d*P **P 12 30 50.7 -0.1**
comp=Z,225nm,1.6s
WLF Walferdange 92.65 332 *e*P **P 12 30 50.6 -0.3**
comp=Z,414nm,1.2s,baz=43,slow=4.6
RCHB Rochefort 92.66 333 κP **P 12 30 50.0 -0.8**
comp=Z,150nm,1.1s
VLI Veliai 92.67 314 P **P 12 30 48.0 -3.2**
DRO Drossia 92.69 316 P **P 12 30 50.1 -1.2**
E38A The Farm, Brul 92.70 33 P **P 12 30 51.2 +0.1**
E38A lAmb lAmb 12 30 53.5
comp=Z,45nm,0.7s
BFO Black Forest 92.73 330 P **P 12 30 50.0 -1.2**
BFO pmax pmax
comp=Z,338nm,1.2s
BFO Black Forest 92.73 330 P **P 12 30 50.0 -1.2**
BFO Black Forest 92.73 330 *e*P **P 12 30 50.4 -0.8**
comp=Z,311nm,1.1s,baz=43,slow=4.6
BMRD Maredsous 92.73 333 κP **P 12 30 50.2 -0.9**
comp=Z,116nm,1.1s
KEK Kerkira 92.74 318 P **P 12 30 50.2 -1.2**
SNF Seneffe 92.76 333 κP **P 12 30 49.8 -1.5**
comp=Z,121nm,0.7s
IMMV Iera Moni Meta 92.76 313 P **P 12 30 51.5 -0.1**
IMMV Iera Moni Meta 92.76 313 *e*P **P 12 30 50.8 -0.8**
RLS Riolos of Patr 92.77 316 P **P 12 30 50.5 -1.1**
IOMK Kirk Michael 92.78 340 lAmb lAmb 12 30 55.2
comp=Z,179nm,0.9s
IOMK Kirk Michael 92.78 340 *e*P **P 12 30 50.2 -1.1**
DAVA Damuels 92.79 328 *e*P **PP 12 34 38.9 -2.1**
comp=Z,78nm,1.5s
DAVA Damuels 92.79 328 *e*P **PKKPbc 12 48 03.7 +2.7**
comp=Z,17nm,1.1s
DAVA Damuels 92.79 328 *e*P **P 12 30 50.8 -1.0**
comp=Z,236nm,1.1s,SNR=95
LKD2 Lefkada island 92.81 317 P **P 12 30 50.3 -1.5**
NYDR Nydri-Lefkada 92.83 317 P **P 12 30 50.4 -1.5**
BGNE Belgrade 92.84 40 lAmb lAmb 12 32 44.8
comp=Z,143nm,0.8s
BGNE Belgrade 92.84 40 P 12 30 51.6
baz=311
BGNE S 12 41 12.8
baz=311
CTI Castel Tesino 92.85 327 lAmb lAmb 12 30 55.2
comp=Z,198nm,1.4s
KTHA Kythira Island 92.88 314 P **P 12 30 49.9 -2.3**
KTHA Kythira Island 92.88 314 *e*P **P 12 30 49.7 -2.5**
WIM Isle of Man 92.91 340 *e*P **P 12 30 51.1 -0.8**
KTHR Kythira 92.91 314 P **P 12 30 50.3 -2.0**
EVGI Lefkada island 92.92 317 P **P 12 30 51.0 -1.3**
DRAG Dragano-Lefkad 92.92 317 P **P 12 30 50.6 -1.7**
AMT Artemida-Makis 92.95 315 P **P 12 30 50.3 -2.2**
DOU Dourbes 92.96 333 κP **P 12 30 51.3 -0.9**
comp=Z,82nm,1.8s
STNC Stoke 93.02 338 lAmb lAmb 12 30 56.7
comp=Z,164nm,1.0s
STNC Stoke 93.02 338 *e*P **P 12 30 51.4 -1.0**
ITM Ithomi 93.03 315 P **P 12 30 51.0 -1.9**
ITM Ithomi 93.03 315 *e*P **P 12 30 51.4 -1.5**
GVDS Gavdos 93.06 312 P **P 12 30 51.5 -1.5**
GVDS Gavdos 93.06 312 *e*P **P 12 30 51.9 -1.1**
GVD Gavdhos 93.06 312 P **P 12 30 51.6 -1.4**
GVD Gavdhos 93.06 312 *e*P **P 12 30 52.1 -0.9**
FSK Fiskardo 93.07 317 P **P 12 30 51.2 -1.8**
SPMN Marine on St. 93.08 34 lAmb lAmb 12 30 58.5
comp=Z,60nm,0.8s
SPMN Marine on St. 93.08 34 P 12 30 52.8
baz=315,SNR=5.7
SPMN S 12 41 15.8
baz=315
KNDR Palaiochora Ch 93.09 313 *e*P **P 12 30 51.3 -1.8**
DAVOX Davos/Dischmat 93.17 328 P **P 12 30 52.3 -1.2**
comp=Z,118nm,0.8s,baz=29,slow=1.0,SNR=35
DAVOX PP **PP 12 34 43.9 0.0**
comp=Z,38nm,0.9s,baz=36,slow=2.4,SNR=3.9
GMM Mts of Mourne 93.21 341 *e*P **P 12 30 51.9 -1.4**
VLS Valsamata 93.23 316 P **P 12 30 52.3 -1.5**
KEF5 Kardakata, Kep 93.25 317 P **P 12 30 52.2 -1.6**
PSDA Pessada-Kefalo 93.28 316 P **P 12 30 52.6 -1.3**
SCTE Santa Cesarea 93.29 319 P **P 12 30 53.7 -0.2**
PYL PYLOS 93.32 315 P **P 12 30 51.8 -2.4**
DMLN Damoulianata-K 93.33 317 P **P 12 30 52.6 -1.6**
ECH Echery 93.33 330 lAmb lAmb 12 30 58.1
comp=Z,208nm,1.2s
LTHK Lithakia 93.38 316 P **P 12 30 52.6 -1.8**
WME Myndd Eilian 93.44 339 *e*P **P 12 30 53.3 -1.0**
FOEL Foel Wylfa 93.52 339 lAmb lAmb 12 30 57.7
comp=Z,800nm,1.9s
FOEL Foel Wylfa 93.52 339 *e*P **P 12 30 52.9 -1.8**
WLF1 Llynfaes 93.56 339 lAmb lAmb 12 30 58.3
comp=Z,281nm,1.2s
WLF1 Llynfaes 93.56 339 *e*P **P 12 30 53.9 -1.0**
CBKS Cedar Bluff 93.60 42 P **P 12 30 55.6 +0.1**
CBKS pmax pmax
comp=Z,62nm,1.0s
CBKS Cedar Bluff 93.60 42 P **P 12 30 55.5 +0.1**
CBKS lAmb lAmb 12 32 49.4
comp=Z,62nm,1.0s
CBKS Cedar Bluff 93.60 42 P 12 30 54.9
baz=310
CBKS S 12 41 18.7
baz=310
YLL Llanberis 93.61 339 *e*P **P 12 30 54.7 -0.5**
I37A Lemond, Waseca 93.63 35 P **P 12 30 55.9 +0.4**
I37A lAmb lAmb 12 31 00.3
comp=Z,58nm,0.9s
TUE Stuetta 93.64 328 P **P 12 30 55.4 -0.4**
LLW Llanuwychllyn 93.70 339 *e*P **P 12 30 54.4 -1.2**
SALO Salr 93.71 327 P **P 12 30 55.1 -0.7**
HLM1 Long Mynd 93.73 338 lAmb lAmb 12 30 59.0
comp=Z,120nm,1.4s
HLM1 Long Mynd 93.73 338 *e*P **P 12 30 54.3 -1.4**
D41A Chassel 93.76 31 P **P 12 30 57.1 +1.1**
D41A lAmb lAmb 12 31 01.7
comp=Z,43nm,0.8s
MATE Matera 93.92 320 ⇑P **P 12 30 56.3 -0.5**
HMNX Herstmonceux 93.98 336 lAmb lAmb 12 31 00.1
comp=Z,281nm,0.8s
HMNX Herstmonceux 93.98 336 *e*P **P 12 30 55.3 -1.5**
DSB Dun 94.20 340 lAmb lAmb 12 31 01.2
comp=Z,66nm,1.2s
MCH1 Michaelchurch 94.21 338 lAmb lAmb 12 31 02.0
comp=Z,700nm,1.9s
MCH1 Michaelchurch 94.21 338 *e*P **P 12 30 56.6 -1.2**
G40A Rib Lake 94.32 33 lAmb lAmb 12 31 03.4
comp=Z,39nm,0.8s
MNTX Cornudas Mount 94.34 51 P **P 12 30 59.7 +0.7**
MNTX Cornudas Mount 94.34 51 P 12 30 59.5
baz=306,SNR=23
MNTX S 12 41 27.6
baz=306
ZCCA Zocca 94.40 326 lAmb lAmb 12 31 14.7
comp=Z,73nm,0.8s
AQU L'Aquila 94.57 323 ǁ *i*P **P 12 30 59.3 -0.5**
N35A Tabor 94.61 39 lAmb lAmb 12 32 52.6
comp=Z,98nm,0.8s
SENIN Lac Senin/Sane 94.67 329 lAmb lAmb 12 31 04.4
comp=Z,152nm,1.4s
SCHQ Schefferville 94.68 15 P **P 12 30 59.8 -0.3**
comp=Z,7.6nm,0.5s,baz=288,slow=5.0,SNR=15
SCHQ pP **pP 12 32 46.1 +0.6**
comp=Z,16nm,0.8s,baz=333,slow=2.8,SNR=4.9
SCHQ PKKPbc **PKKPbc 12 47 55.3 -1.0**
comp=Z,24nm,1.0s,baz=170,slow=2.9,SNR=7.7
SCHQ PKPPKP **P'P'df 12 56 05.0 -3.7**
comp=Z,14nm,0.9s,baz=171,slow=6.2,SNR=6.6
MSTX Muleshoe 94.73 48 P **P 12 31 02.3 +1.5**
MSTX **pP 12 32 46.7 +0.7**
MSTX lAmb lAmb 12 33 39.9
comp=Z,102nm,1.6s
MSTX Muleshoe 94.73 48 P 12 31 00.1
baz=308
MSTX S 12 41 29.7
baz=308
GDL2 Guadalupe Moun 94.74 50 P **P 12 31 01.6 +0.7**
RSBS Rosebush, Pemb 94.81 339 lAmb lAmb 12 31 05.1
comp=Z,93nm,1.3s
RSBS Rosebush, Pemb 94.81 339 *e*P **P 12 30 59.0 -1.6**
PAOL Paolisi 94.86 322 P **P 12 31 00.9 -0.2**
PAOL lAmb lAmb 12 31 04.9
comp=Z,110nm,1.2s
OSSC Osservatorio P 94.86 325 lAmb lAmb 12 31 13.9
comp=Z,52nm,0.9s
AMTX Amarillo 94.88 46 P **P 12 31 02.2 +0.8**
AMTX **pP 12 32 47.5 +0.9**
AMTX lAmb lAmb 12 32 53.2
comp=Z,102nm,1.1s
AMTX Amarillo 94.88 46 P 12 31 01.5
baz=309
AMTX S 12 41 32.7
baz=309
K38A Parkersburg 94.92 36 P **P 12 31 02.0 +0.7**
K38A lAmb lAmb 12 33 38.8
comp=Z,55nm,1.2s
SCIA State Center 95.21 37 **pP 12 32 45.5 -2.5**
SCIA lAmb lAmb 12 32 55.3
comp=Z,79nm,1.1s
SCIA State Center 95.21 37 P 12 31 02.7
baz=315
SCIA S 12 41 32.4
baz=315
KSU1 Kansas State U 95.25 41 S 12 41 30.8
baz=312
CLF Chambon-Foret 95.54 333 P **P 12 31 03.5 -0.4**
SLBS Sierra La Lagu 95.56 60 P **P 12 31 05.7 +0.9**
SLBS lAmb lAmb 12 33 44.4
comp=Z,104nm,1.7s
OK032 Salt Plains WL 95.82 43 **pP 12 32 49.2 -1.6**
OK032 lAmb lAmb 12 32 58.1
comp=Z,46nm,0.8s
BNI Bardonecchia 95.94 329 P **P 12 31 04.9 -1.2**
BNI pmax pmax
comp=Z,85nm,1.2s
BNI Bardonecchia 95.94 329 P **P 12 31 04.9 -1.2**
BNI lAmb lAmb 12 31 16.7
comp=Z,85nm,1.2s
JFWS Jewell Farm 96.02 34 P 12 31 06.4
baz=317
JFWS S 12 41 38.0
baz=317
MATQ Matagami 96.02 23 P 12 31 05.9
baz=327
MATQ S 12 41 37.1
baz=327
L40A Anamosa 96.14 36 lAmb lAmb 12 31 12.2
comp=Z,34nm,0.9s
CASY Casey 96.30 191 P **P 12 31 07.3 +0.5**
CASY lAmb lAmb 12 31 12.1
comp=Z,70nm,1.1s
P38A Dawn 96.63 39 P **P 12 31 08.6 -0.5**
P38A lAmb lAmb 12 33 01.1
comp=Z,70nm,1.2s
T35A Sooner Cattle 96.77 42 P **P 12 31 09.7 -0.1**
WMOK Wichita Mounta 96.81 45 P **P 12 31 10.0 -0.1**
WMOK **pP 12 32 49.5 -5.9**
WMOK Wichita Mounta 96.81 45 P 12 31 09.9
baz=310
WMOK S 12 41 46.7
baz=310
LSQQ Lebel-sur-Quev 96.84 23 P 12 31 09.9
baz=328
LSQQ S 12 41 45.4
baz=328
HPIG 96.93 55 P **P 12 31 11.6 +0.7**
HPIG lAmb lAmb 12 33 02.8
comp=Z,53nm,1.5s
TX31 Lajitas Ar. Si 96.93 52 P **P 12 31 11.2 +0.3**
TX32 Lajitas Array 96.94 52 P **P 12 31 11.3 +0.5**
TX32 lAmb lAmb 12 33 58.6
comp=Z,34nm,0.9s
TXAR Lajitas Array 96.94 52 P **P 12 31 11.6 +0.7**
comp=Z,24nm,0.9s,baz=300,slow=2.7,SNR=154
TXAR S **SKSac 12 41 02.3 +0.1**
comp=Z,1.0nm,0.9s,baz=81,slow=34,SNR=1.8
TXAR PKKPbc **PKKPbc 12 47 50.2 +0.7**
comp=Z,3.7nm,0.9s,baz=133,slow=4.9,SNR=8.2
TXAR PKPPKP 12 56 02.4
comp=Z,1.4nm,0.9s,baz=74,slow=5.3,SNR=4.5
TXAR Lajitas Array 96.94 52 P **P 12 31 11.2 +0.4**
L42A Oliver, Polo 96.98 35 P **P 12 31 10.9 +0.3**
L42A lAmb lAmb 12 33 50.5
comp=Z,30nm,0.9s
CHGQ Chibougamau 96.99 21 P 12 31 10.3
baz=330
CHGQ S 12 41 46.0
baz=330
N41A Harden Midland 97.31 36 lAmb lAmb 12 34 37.2
comp=Z,60nm,1.3s
VAE Valguarnera 97.38 319 P Pdif 12 31 15.0 +2.4
comp=Z,40nm,0.8s,baz=50,slow=9.5,SNR=8.1
VLDQ Val d'Or 97.47 24 P **P 12 31 11.0 -1.6**
P40A Paris 97.51 38 P Pdif 12 31 13.1 +0.1
ABTX Abilene, Hawle 97.62 47 P **P 12 31 13.8 0.0**
ABTX **pP 12 32 54.9 -4.3**
ABTX lAmb lAmb 12 33 05.5
comp=Z,118nm,1.4s
ABTX Abilene, Hawle 97.62 47 Pdiff 12 31 13.2
baz=310
ABTX S 12 41 54.2
baz=310
L44A Lake County Fo 97.72 34 S 12 41 53.3
baz=319
CORL Corleone 97.73 320 P **P 12 31 14.9 +0.8**
CORL lAmb lAmb 12 31 31.0
comp=Z,42nm,0.9s
CLTB Caltabellotta 98.00 320 P Pdif 12 31 14.5 -0.9
CLTB lAmb lAmb 12 31 44.8
comp=Z,91nm,1.1s
HDIL Hopedale 98.23 36 Pdiff 12 31 15.4
baz=318
JCT Junction City 98.87 49 Pdiff 12 31 18.6
baz=309
ALGO Algonquin Park 99.06 26 Pdiff 12 31 19.5
baz=327
D55A Sainte-Anne-du 99.11 24 Pdiff 12 31 19.8
baz=329
D56A ZEC Mazanza, M 99.34 23 Pdiff 12 31 20.7
baz=329
H53A Bobcaygeon 100.00 27 Pdiff 12 31 23.4
baz=326
MIAR Mount Ida 100.13 42 Pdiff 12 31 24.7
baz=314
OPO Ambohidratompo 100.63 255 P **Pdif 12 31 28.4 +1.0**
comp=Z,33nm,1.0s,baz=48,slow=2.4,SNR=11
D60A Saint Jean D'O 100.73 21 Pdiff 12 31 28.2
baz=333
G57A Newington 100.93 24 Pdiff 12 31 28.1
baz=329
MAHO Mahon 101.04 327 P **Pdif 12 31 24.6 -4.1**
MAHO SKS 12 41 08.4
E60A Ste Agathe de 101.04 21 Pdiff 12 31 27.9
baz=332
F59A Saint Guilaume 101.06 23 Pdiff 12 31 28.1
baz=331
LODK Lodwar 101.14 280 P **Pdif 12 31 29.8 0.0**
SNR=6.7
D62A Allapoint, All 101.15 20 Pdiff 12 31 28.8
baz=334
F60A Warwick 101.23 22 Pdiff 12 31 29.0
baz=332
P49A Miami Univ. Ec 101.31 34 Pdiff 12 31 29.5
baz=321
H57A Richville 101.33 25 Pdiff 12 31 30.0
baz=329
E62A Clayton Lake 101.43 20 Pdiff 12 31 30.3
baz=334

D63A Stockholm 101.47 19 Pdiff 12 31 30.5
baz=335
KIBK Kibwezi 101.48 273 P **Pdif 12 31 31.1 -0.2**
SNR=5.1
KEST Kesra 101.50 321 P **Pdif 12 31 31.3 +0.4**
comp=Z,36nm,1.0s,baz=354,slow=2.3,SNR=13
KEST PP **PP 12 35 48.0 +0.9**
comp=Z,47nm,0.9s,baz=318,slow=6.1,SNR=5.7
KEST PKKP **PKKPdf 12 47 41.0 -0.1**
comp=Z,8.2nm,0.9s,baz=252,slow=3.1,SNR=6.0
KEST Kesra 101.50 321 Pdif **Pdif 12 31 29.5 -1.5**
KEST Kesra 101.50 321 P **Pdif 12 31 31.9 +0.9**
SNR=11
F61A St Evariste 101.54 21 Pdiff 12 31 30.5
baz=332
KMBO Kilima Mbogo 101.62 275 P **Pdif 12 31 32.6 +0.4**
comp=Z,7.0nm,0.8s,baz=35,slow=7.1,SNR=11
KMBO PP **PKiKP 12 35 51.6 -1.4**
comp=Z,16nm,1.0s,baz=41,slow=10,SNR=4.0
KMBO Kilima Mbogo 101.62 275 PKiKP 12 35 51.6 -1.4
H58A Gabriels 101.81 24 Pdiff 12 31 32.0
baz=330
CMAH Djebel Manchou 101.90 323 P **Pdif 12 31 32.1 -0.6**
F62A Pittston Farm, 101.94 21 Pdiff 12 31 33.1
baz=333
G61A St-Isidore-de- 101.98 22 Pdiff 12 31 33.2
baz=332
M54A Oil Creek Stat 102.07 29 Pdiff 12 31 33.3
baz=325
E64A Bridgewater 102.11 19 Pdiff 12 31 33.3
baz=335
I58A Old Forge 102.14 25 Pdiff 12 31 33.4
baz=329
H60A Morristown 102.21 23 Pdiff 12 31 34.1
baz=331
WVT Waverly 102.27 38 Pdiff 12 31 34.3
baz=318
J58A Remsen 102.31 25 Pdiff 12 31 34.2
baz=329
G62A West of Eustis 102.36 21 Pdiff 12 31 34.4
baz=333
N54A Moraine State 102.37 30 Pdiff 12 31 34.6
baz=325
F63A Nahmakanta, Br 102.38 20 Pdiff 12 31 34.5
baz=334
O53A New Philadelph 102.40 31 Pdiff 12 31 34.3
baz=324
CKFL Kef-Lekhel 102.44 323 P **Pdif 12 31 34.4 -0.8**
F64A Sherman 102.46 20 Pdiff 12 31 35.0
baz=335
P52A Corning 102.47 32 Pdiff 12 31 34.6
baz=323
H61A Lyndonville 102.50 23 Pdiff 12 31 34.8
baz=332
I60A Shoreham 102.63 24 Pdiff 12 31 35.6
baz=330
PKME Peaks-Kenny Pk 102.71 21 Pdiff 12 31 36.3
baz=334
H62A Milan 102.73 22 Pdiff 12 31 36.2
baz=332
G63A Kingsbury 102.75 21 Pdiff 12 31 35.7
baz=334
DFRA Djebel Bou Aff 102.78 323 P **Pdif 12 31 37.5 +0.8**
CTEI Djebel Teioual 102.86 323 P **Pdif 12 31 36.8 -0.3**
G64A Maxfield 102.89 20 Pdiff 12 31 36.9
baz=334
BINY Binghamton 103.02 26 Pdiff 12 31 37.6
baz=328
CKHR Kef el Ahmar 103.37 323 P **Pdif 12 31 39.9 +0.5**
I63A Otisfield 103.38 22 Pdiff 12 31 39.1
baz=333
O56A Blue Knob Stat 103.56 29 Pdiff 12 31 39.9
baz=326
UCM Universidad Co 104.12 332 P **Pdif 12 31 42.8 +0.3**
UCM SKS 12 41 35.0
ATAF Djebel Tarf 104.13 324 P **Pdif 12 31 43.2 +0.5**
TZTN Tazewell 104.20 35 Pdiff 12 31 42.5
baz=321
PBRG Braganca 104.25 335 *e*Pdif **Pdif 12 31 40.9 -2.1**
PBRG Braganca 104.25 335 *e*PP **PP 12 36 07.2 +0.2**
ADJB Djebel Djouab 104.34 325 P **Pdif 12 31 44.0 +0.3**
PGAV Gavieira, Arco 104.67 336 *e*Pdif **Pdif 12 31 44.8 -0.2**
PGAV Gavieira, Arco 104.67 336 *e*PP **PP 12 36 10.2 +0.1**
PGAV Gavieira, Arco 104.67 336 *e*PP **PP 12 36 12.3 +2.2**
TKL Tuckaleechee C 104.78 35 PKKPbc PKKPbc 12 47 27.2 -0.4
comp=Z,9.0nm,0.9s,baz=155,slow=10,SNR=5.3
TKL Tuckaleechee C 104.78 35 P **Pdif 12 31 45.8 +0.3**
TKL Tuckaleechee C 104.78 35 Pdif **Pdif 12 31 45.8 +0.3**
PCAB Cabril 104.81 336 *e*PP **PP 12 36 10.7 -0.3**
MVO Moncorvo 104.91 335 *e*Pdif **Pdif 12 31 41.8 -4.2**
MVO Moncorvo 104.91 335 *e*PP **PP 12 36 12.4 +0.6**
ESDC Sonseca Array 104.95 332 Pdiff **Pdif 12 31 45.0 -1.2**
comp=Z,2.7nm,0.8s,baz=19,slow=4.0,SNR=14
ESDC PKiKP **PKiKP 12 35 56.4 -1.8**
comp=Z,12nm,1.0s,baz=30,slow=6.1,SNR=8.3
ESDC PKKPbc **PKKPbc 12 47 27.8 +0.5**
comp=Z,6.4nm,1.1s,baz=242,slow=2.3,SNR=12
ESDC PKPPKP **P'P'df 12 55 44.8 -4.7**
comp=Z,1.2nm,1.0s,baz=196,slow=1.4,SNR=5.2
ESDC Sonseca Array 104.95 332 Pdif 12 31 45.6 -0.6
POLO Lamas de Olo 105.01 335 *e*Pdif **Pdif 12 31 46.7 +0.2**
POLO Lamas de Olo 105.01 335 *e*PP **PP 12 36 15.1 +2.5**
CART Cartagena 105.37 329 P **Pdif 12 31 45.3 -2.8**
CART SKS **SKSac 12 41 36.7 -5.0**
PVIS Viseu 105.62 335 *e*PP **PP 12 36 19.0 +2.0**
MTE Manteigas 105.77 335 *e*Pdif **Pdif 12 31 49.0 -0.9**
MTE Manteigas 105.77 335 *e*PP **PP 12 36 18.0 -0.1**
VNDA Vanda 105.81 175 PKiKP **PKiKP 12 35 58.1 -0.4**
comp=Z,5.1nm,0.8s,baz=343,slow=4.0,SNR=8.3
Q61A Milford 106.10 28 PKiKP 12 36 00.7
baz=328
PCBR Castelo Branco 106.22 334 *e*PP **PP 12 36 21.9 +0.6**
BRAL Brewton 106.38 41 PKiKP 12 36 02.0
baz=318
KMSC Kings Mountain 106.42 34 PKiKP 12 36 01.3
baz=323
PCAS Casmilo, Conde 106.43 335 *e*Pdif **Pdif 12 31 54.9 +2.2**
PCAS Casmilo, Conde 106.43 335 *e*PP **PP 12 36 20.4 -2.4**
PMRV Marv??o 106.55 334 *e*Pdif **Pdif 12 31 52.3 -1.0**
PMRV Marv??o 106.55 334 *e*PP **PP 12 36 25.9 +2.2**
GOGA Godfrey 106.67 37 PKiKP 12 36 01.7
baz=321
PESTR Estremoz 107.11 334 *e*Pdif **Pdif 12 31 55.0 -0.8**
PESTR Estremoz 107.11 334 *e*PP **PP 12 36 26.1 -1.7**
MBAR Mbarara 107.11 279 Pdiff **Pdif 12 31 58.5 +2.1**
comp=Z,8.4nm,0.5s,baz=44,slow=4.3,SNR=15
MBAR PP **PP 12 36 28.6 -1.1**
comp=Z,12nm,0.8s,baz=80,slow=6.6,SNR=5.5
PMTG Montargil 107.18 334 *e*Pdif **Pdif 12 31 53.7 -2.4**
PMTG Montargil 107.18 334 *e*PP **PP 12 36 28.8 +0.5**
PBAR Barrancos 107.49 333 *e*Pdif **Pdif 12 32 00.4 +2.9**
PBAR Barrancos 107.49 333 *e*PP **PP 12 36 30.9 +0.4**
EVO Evora 107.56 334 P **Pdif 12 31 56.8 -1.1**
EVO SKS **SKSac 12 41 48.6 -2.7**
EVO Evora 107.56 334 *e*Pdif **Pdif 12 31 56.7 -1.1**
EMAL Malaga-Limoner 107.59 330 P **Pdif 12 31 54.1 -3.8**
EMAL SKS **SKSac 12 41 47.8 -3.7**
PMAFR Mafra 107.68 335 *e*Pdif **Pdif 12 31 59.0 +0.7**
PMAFR Mafra 107.68 335 *e*PP **PP 12 36 33.8 +1.9**
LIS Lisbon 107.84 335 *e*PP **PP 12 36 34.3 +1.3**
PBEJ Beja 107.94 334 *e*PP **PP 12 36 34.7 +0.9**
PNCL Nicolau / Gran 108.13 334 *e*Pdif **Pdif 12 32 03.6 +3.3**
PNCL Nicolau / Gran 108.13 334 *e*PP **PP 12 36 36.0 +0.9**
MELI Melilla 108.14 329 P **Pdif 12 31 58.9 -1.5**
MESJ Messejana 108.25 334 *e*PP **PP 12 36 37.5 +1.6**
MESJ Messejana 108.25 334 *e*Pdif **Pdif 12 32 01.3 +0.4**
ARNO Arenosillo 108.29 332 P **Pdif 12 32 01.6 +0.5**
PCVE Castro Verde 108.35 334 *e*Pdif **Pdif 12 32 03.1 +1.8**
PCVE Castro Verde 108.35 334 *e*PP **PP 12 36 37.0 +0.2**
PVAQ Vaqueiros 108.42 333 *e*Pdif **Pdif 12 32 02.4 +0.8**
PVAQ Vaqueiros 108.42 333 *e*PP **PP 12 36 34.9 -2.4**
SFS San Fernando 108.61 332 PP **PP 12 36 37.0 -1.6**
SFS SKS **SKSac 12 41 57.5 +1.7**
PBDV Barranco-do-Ve 108.65 333 *e*Pdif **Pdif 12 32 02.0 -0.7**
PBDV Barranco-do-Ve 108.65 333 *e*PP **PP 12 36 38.6 -0.3**
PTEO Sao Teotonio 108.70 334 *e*PP **PP 12 36 39.0 -0.2**
CEU Ceuta 108.73 331 P **Pdif 12 32 03.4 +0.4**
CEU SKS 12 41 15.6
PVLZ Pæan de 108.86 329 PP **PP 12 36 40.0 -0.5**
MORF Marmelete 108.88 334 *e*PP **PP 12 36 41.9 +1.3**
MORF Marmelete 108.88 334 *e*Pdif **Pdif 12 32 04.2 +0.4**
PFVI Vila Bisbo 109.10 334 *e*PP **PP 12 36 42.6 +0.5**
MAW Mawson 110.49 203 PKiKP **PKiKP 12 36 07.8 +0.4**
comp=Z,17nm,0.8s,baz=54,slow=4.1,SNR=16

MAW PKKPbc **PKKPbc 12 47 07.8 -2.6**
comp=Z,9.3nm,0.9s,baz=213,slow=4.1,SNR=3.7
MAW Mawson 110.49 203 PKKPbc 12 47 07.8 -2.6
IFR Ifrane 110.62 329 P **Pdif 12 32 08.9 -2.9**
IFR SKS 12 41 22.8
MDT Midelt 110.97 328 Pdiff **Pdif 12 32 13.1 -0.1**
comp=Z,3.1nm,0.9s,baz=16,slow=9.3,SNR=3.8
MDT PKiKP **PKiKP 12 36 10.9 +1.1**
comp=Z,11nm,0.9s,baz=135,slow=3.7,SNR=6.7
MDT PKKP **PKKPdf 12 47 24.4 +0.7**
comp=Z,7.2nm,0.9s,baz=325,slow=2.9,SNR=7.9
MDT Midelt 110.97 328 Pdif 12 32 13.1 -0.1
AVE Averroes 111.82 331 P **Pdif 12 32 17.8 +1.0**
AVE SKS 12 41 26.8
SOR Soroa 114.99 44 PKiKP PKPdf 12 36 16.2 -1.4
SOR Soroa 114.99 44 PKPdf 12 36 16.2 -1.4
LSZ Lusaka 115.85 266 Pdiff **Pdif 12 32 35.2 +0.1**
comp=Z,1.2nm,0.3s,baz=356,slow=23,SNR=1.4
LSZ PKP **PKiKP 12 36 19.8 +0.4**
comp=Z,50nm,0.6s,baz=44,slow=2.6,SNR=31
LSZ PP **PP 12 37 32.4 +0.8**
comp=Z,14nm,0.7s,baz=57,slow=7.4,SNR=3.2
LSZ Lusaka 115.85 266 PKiKP **PKiKP 12 36 19.6 +0.2**
LSZ Lusaka 115.85 266 PKiKP 12 36 19.6 +0.2
LSZ Lusaka 115.85 266 *i* P **PKiKP 12 36 20.2 +0.8**
LSZ Lusaka 115.85 266 *i* P **PKiKP 12 36 20.2 +0.8**
PMOZ Porto Moniz, M 115.97 339 PKiKP 12 36 20.3 +0.9
BLWY Bulawayo 117.34 260 *i* P **PKiKP 12 36 22.2 0.0**
BLWY Bulawayo 117.34 260 *i* P **PKiKP 12 36 22.2 0.0**
QSPA South Pole Qui 117.46 180 PKP **PKPdf 12 36 20.0 -0.9**
comp=Z,98nm,0.7s,baz=238,slow=0.1,SNR=178
QSPA PP **PP 12 37 40.7 -0.7**
comp=Z,29nm,1.1s,baz=319,slow=2.6,SNR=6.1
QSPA PKKPbc **PKKPbc 12 46 45.3 -2.2**
comp=Z,24nm,1.0s,baz=178,slow=1.7,SNR=7.6
QSPA South Pole Qui 117.46 180 PKPdf 12 36 20.1 -0.9
MATP Matopo 117.54 260 Pdiff **Pdif 12 32 44.5 +2.0**
comp=Z,2.0nm,0.8s,baz=76,slow=7.5,SNR=4.1
MATP PKP **PKPdf 12 36 22.1 -0.5**
comp=Z,44nm,0.4s,baz=38,slow=1.1,SNR=55
TGUH Tegucigalpa,Un 118.34 54 PKPdf 12 36 23.0 -1.3
SYO Syowa Base 119.19 204 *e*X **PKPdf 12 36 23.4 -0.7**
SYO Syowa Base 119.19 204 *e*PKiKP **PKiKP 12 36 28.2 +4.0**
SYO Syowa Base 119.19 204 *e*PP PP 12 37 55.2 +2.1
CBCY The Bluff, Cay 119.27 339 PKPdf **PKPdf 12 36 25.7 -0.2**
MACI Morro de la Ar 119.91 336 PKPdf **PKPdf 12 36 26.9 -0.3**
BOAB BOAOCO BROADB 120.57 54 PKPdf 12 36 28.3 -0.2
ACON Acoyapa 121.25 54 PKPdf 12 36 28.8 -1.0
LBTB Lobatse 121.61 256 *i* P **PKPdf 12 36 29.3 -1.0**
LBTB Lobatse 121.61 256 *i* P **PKPdf 12 36 29.3 -1.0**
ORTG Ortega, Santa 122.12 56 PKPdf **PKPdf 12 36 30.7 -0.8**
DUNO Dulce Nombre, 122.28 56 PKPdf 12 36 30.8 -1.0
JTS Las Juntas de 122.54 55 SKP 12 39 22.0
comp=Z,59nm,0.9s,baz=42,slow=1.3,SNR=9.4
JTS Las Juntas de 122.54 55 PKIKP **PKPdf 12 36 31.3 -1.0**
JTS Las Juntas de 122.54 55 PKPdf **PKPdf 12 36 31.3 -1.0**
TOA0 Torodi Ar. Sit 122.58 309 PKPdf **PKPdf 12 36 31.5 -0.8**
TORD Torodi Ar. Bea 122.58 309 PKP **PKPdf 12 36 31.5 -0.8**
comp=Z,100nm,0.7s,baz=12,slow=2.8,SNR=72
TORD PP **PP 12 38 14.4 -1.9**
comp=Z,29nm,1.0s,baz=53,slow=4.6,SNR=4.3
TORD SKP 12 39 24.8
comp=Z,52nm,1.1s,baz=22,slow=3.3,SNR=4.8
TORD PKKPab **PKKPbc 12 46 28.8 +1.1**
comp=Z,12nm,0.8s,baz=225,slow=3.4,SNR=14
TORD Torodi Ar. Bea 122.58 309 PKPdf 12 36 31.5 -0.8
CAO2 Cobano, Puntar 122.82 56 PKiKP 12 36 33.6 +0.5
BOSA Boshof 122.95 252 PKP **PKPdf 12 36 32.9 +0.1**
comp=Z,72nm,0.8s,baz=90,slow=1.6,SNR=32
BOSA Boshof 122.95 252 PKPdf 12 36 32.9 +0.1
BOSA Boshof 122.95 252 *i* P **PKPdf 12 36 32.3 -0.5**
BOSA Boshof 122.95 252 *i* P **PKPdf 12 36 32.3 -0.5**
JACO JACO, Garabito 123.17 56 PKPdf **PKiKP 12 36 34.5 +0.8**
RIMA Rio Macho 123.68 55 PKPdf 12 36 34.7 0.0
PEZE Perez Zeledon, 124.07 55 PKPdf 12 36 35.0 -0.3
SRBA San Rafael, Bu 124.40 55 PKiKP 12 36 36.4 +0.1
DRK0 Durika 124.47 55 PKiKP 12 36 36.6 +0.1
SDDR Presa de Saban 124.70 36 PKiKP 12 36 37.9 +1.1
KOWA Kowa 125.32 315 PKP **PKPdf 12 36 37.5 -0.1**
comp=Z,120nm,0.5s,baz=43,slow=2.4,SNR=105
KOWA PP **PP 12 38 33.0 -1.2**
comp=Z,54nm,0.7s,baz=42,slow=6.2,SNR=6.1
KOWA Kowa 125.32 315 PKPdf **PKPdf 12 36 37.1 -0.4**
TSUM Tsumeb 126.71 266 PKP **PKPdf 12 36 38.8 -1.4**
comp=Z,17nm,0.6s,baz=98,slow=2.2,SNR=6.8
TSUM Tsumeb 126.71 266 *i* P **PKiKP 12 36 42.1 +1.3**
TSUM Tsumeb 126.71 266 *i* P **PKiKP 12 36 42.1 +1.3**
BCIP Isla Barro Col 126.96 52 PKIKP **PKPdf 12 36 40.5 -0.2**
BCIP Isla Barro Col 126.96 52 PKPdf **PKPdf 12 36 40.5 -0.2**
ARMS Ukamas 127.49 255 *i* P PKPpre 12 36 31.6
SUR Sutherland 127.58 249 PKP **PKPdf 12 36 40.6 -1.0**
comp=Z,7.9nm,0.6s,baz=163,slow=4.1,SNR=8.4
SUR Sutherland 127.58 249 PKPdf **PKPdf 12 36 38.9 -2.7**
MLPR Magueyes Islan 127.69 33 PKPdf **PKiKP 12 36 44.3 +1.6**
SJG San Juan 128.00 32 SKPbc SKPbc 12 39 16.7
comp=Z,24nm,0.2s,baz=329,slow=5.2,SNR=4.1
SJG San Juan 128.00 32 PKIKP **PKPdf 12 36 42.2 -0.4**
SJG San Juan 128.00 32 PKPdf 12 36 42.2 -0.4
ICMP Isla Caja de M 128.01 32 PKPdf **PKPdf 12 36 42.3 -0.4**
HUMP Col San Antoni 128.11 32 PKPdf 12 36 42.2 -0.6
WIN Windhoek 128.25 262 *i* P PKPpre 12 36 32.0
STVI Saint Thomas 128.34 30 PKPdf **PKPdf 12 36 42.6 -0.6**
AUSN Aus 130.14 257 *i* P PKPdf 12 36 37.1 -10
SNAA Sanae 131.41 195 PKPdf **PKPdf 12 36 48.0 +0.5**
SNAA Sanae 131.41 195 PKP **PKPdf 12 36 47.9 +0.4**
comp=Z,110nm,0.9s,baz=200,slow=1.3,SNR=32
SNAA SKPbc **SKPbc 12 39 27.7 -0.5**
comp=Z,418nm,0.9s,baz=134,slow=3.4,SNR=26
SNAA SKKPbc **SKKPbc 12 48 58.9 -4.2**
comp=Z,8.7nm,1.1s,baz=267,slow=2.5,SNR=4.1
SNAA Sanae 131.41 195*c* i PKIKP **PKiKP 12 36 49.4 +0.8**
SNAA pmax pmax
comp=Z,296nm,1.7s
SNAA Sanae 131.41 195 PKPdf 12 36 47.5 0.0
DBIC Dimbokro 131.69 310 PKP **PKiKP 12 36 50.7 0.0**
comp=Z,66nm,0.6s,baz=36,slow=1.8,SNR=18
DBIC SKPbc **SKPbc 12 39 30.7 -0.2**
comp=Z,172nm,0.7s,baz=39,slow=5.7,SNR=9.5
DBIC Dimbokro 131.69 310 PKPdf **PKPdf 12 36 49.5 -0.2**
TIC Toumodi 131.82 310 *e*P PKPpre 12 36 40.4
KIC Kosan Boka 131.83 309 *e*P PKPpre 12 36 39.8
comp=Z,283nm,1.0s
LIC Lamto 132.13 309 *e*P PKPpre 12 36 41.6
comp=Z,549nm,1.0s
SVN Savane Anatole 133.09 28 PKPdf 12 36 51.9 -0.5
VNA3 Neumayer Olymp 133.19 193 PKPdf **PKPdf 12 36 51.4 +0.6**
SDV Santo Domingo 133.21 43 PKP **PKiKP 12 36 53.9 -0.2**
comp=Z,183nm,0.7s,baz=272,slow=0.9,SNR=9.8
SDV SKPbc **SKPbc 12 39 35.6 -0.7**
comp=Z,680nm,0.9s,baz=327,slow=1.3,SNR=13
SDV Santo Domingo 133.21 43 PKPdf **PKiKP 12 36 53.9 -0.2**
SDV Santo Domingo 133.21 43 *e*P **PKPdf 12 36 53.4 +0.6**
VNA1 Neumayer--Stat 133.36 194 PKPdf **PKPdf 12 36 51.5 +0.4**
BIM Bigot 133.42 28 PKPdf 12 36 54.3 0.0
ROSC El Rosal 133.86 51 PKP **PKiKP 12 36 55.8 +0.1**
comp=Z,36nm,0.5s,baz=92,slow=6.5,SNR=15
ROSC SKPbc **SKPbc 12 39 39.9 +1.2**
comp=Z,32nm,0.5s,baz=97,slow=2.1,SNR=7.0
ROSC El Rosal 133.86 51 PKPdf **PKiKP 12 36 55.1 -0.6**
OTAV Otavalo 133.99 59 PKIKP **PKPdf 12 36 54.4 -0.3**
OTAV Otavalo 133.99 59 PKPdf 12 36 54.4 -0.3
OTAV Otavalo 133.99 59 *e*P **PKPdf 12 36 52.1 -2.6**
OTAV Otavalo 133.99 59 *e*P **PKiKP 12 36 55.6 -0.4**
SACV Santiago Islan 134.64 337 PKPdf **PKiKP 12 36 57.1 +0.3**
PCRV Puerto La Cruz 135.54 36 SKPbc **SKPbc 12 39 44.6 +1.1**
comp=Z,57nm,0.9s,baz=336,slow=3.0,SNR=7.2
ATAH Atahualpa 138.48 68 SKPbc **SKPbc 12 39 52.6 +0.1**
comp=Z,60nm,0.9s,baz=291,slow=2.6,SNR=9.8
PMSA Palmer Station 139.93 164 *e*P **PKPdf 12 37 04.5 +1.1**
NNA Nana 142.34 73 SKPbc **SKPbc 12 40 00.8 -1.3**
comp=Z,236nm,0.9s,baz=307,slow=5.6,SNR=8.0
NNA Nana 142.34 73 PKIKP **PKPdf 12 37 07.9 -1.4**
NNA Nana 142.34 73 PKPdf **PKPdf 12 37 07.9 -1.4**
CZSB Cruzeiro do Su 143.42 63 *e*P PKPab 12 37 08.7 -0.5
BOAV Boa Vista 144.26 36 *e*P PKPbc 12 37 02.6 -10
BOAV Boa Vista 144.26 36 *e*P PKPbc 12 37 11.3 -0.9
MDP Montagnes des 145.26 22 PKPbc **PKPbc 12 37 15.1 -0.2**
comp=Z,419nm,1.0s,baz=321,slow=2.7,SNR=84
MDP SKPbc **SKPbc 12 40 08.2 -0.8**
comp=Z,176nm,1.0s,baz=105,slow=23,SNR=10
MG04 Isla Riesco 145.76 146 PKPbc **PKPbc 12 37 16.0 +0.6**
USHA Ushuaia 146.00 151 PKPbc **PKPab 12 37 17.0 -0.8**
comp=Z,558nm,1.0s,baz=244,slow=2.0,SNR=18
SHEL Horse Pasture 146.06 283 PKP2 **PKPbc 12 37 16.8 -0.7**
SHEL Horse Pasture 146.06 283 PKPbc 12 37 16.8 -0.7
MG01 Puerto William 146.28 151 PKPab 12 37 18.1 -0.8
H03N2 Juan Fernandez 146.31 109 PKPbc **PKPab 12 37 18.6 -0.8**
baz=162,slow=16,SNR=13
H03N3 Juan Fernandez 146.31 109 PKPbc **PKPab 12 37 18.6 -0.9**
baz=162,slow=16,SNR=19
H03N1 Juan Fernandez 146.32 109 PKPbc **PKPab 12 37 18.7 -0.8**
baz=162,slow=16,SNR=12
MG02 Cerro Sombrero 146.95 147 PKPbc **PKiKP 12 37 20.8 0.0**
PTGA Pitinga 147.18 39 PKP **PKPdf 12 37 18.1 +0.4**
comp=Z,119nm,0.6s,baz=268,slow=4.4,SNR=46
PTGA PKPbc **PKPbc 12 37 20.6 0.0**
comp=Z,286nm,0.9s,baz=304,slow=2.7,SNR=73
PTGA Pitinga 147.18 39 PKPbc 12 37 20.8 +0.2
ASCN Ascension 148.63 304 PKPbc 12 37 23.6 -0.7
LL05 Los Muermos 149.58 125 PKPbc 12 37 24.6 -1.2
ETMB Extrema 149.74 59 *e*P **PKPdf 12 37 20.8 -0.9**
ETMB Extrema 149.74 59 *e*P **PKPdf 12 37 21.2 -0.5**
LL01 San Ignacio de 150.04 128 PKPbc **PKPbc 12 37 24.6 -2.2**
MCPB Macapa, AP 150.55 25 *e*P **PKPdf 12 37 23.4 +0.3**
MALB Monte Alegre 151.00 30 *e*P **PKPdf 12 37 24.9 +1.2**
SAML Samuel 151.41 54 PKIKP **PKPdf 12 37 22.7 -1.6**
SAML Samuel 151.41 54 PKPdf 12 37 22.7 -1.6
PSGCX Pisagua 151.50 80 PKPbc **PKiKP 12 37 31.2 -0.1**
TA02 Huaiquique 151.73 81 PKPab **PKPab 12 37 43.1 +0.6**
TA02 Huaiquique 151.73 81 PKPbc **PKiKP 12 37 32.0 +0.4**
MNMC Minye Minye 151.78 79 PKPab **PKPab 12 37 41.8 -1.2**
MNMC Minye Minye 151.78 79 PKPbc **PKiKP 12 37 33.0 +0.9**
MNMC Minye Minye 151.78 79 PKPdf **PKPdf 12 37 25.5 +0.5**
LPAZ La Paz 151.80 72 PKP **PKPdf 12 37 26.2 +0.7**
comp=Z,13nm,0.7s,baz=242,slow=2.1,SNR=39
LPAZ PKPbc **PKiKP 12 37 32.9 +0.3**
comp=Z,206nm,0.8s,baz=288,slow=3.2,SNR=53
LPAZ La Paz 151.80 72 PKPbc **PKiKP 12 37 33.4 +0.7**
LPAZ La Paz 151.80 72 *e*P **PKPdf 12 37 27.2 +1.7**
LPAZ La Paz 151.80 72 *e*P **PKPdf 12 37 25.8 +0.3**
PLCA Paso Flores 151.89 125 PKP **PKPdf 12 37 24.8 +0.5**
comp=Z,40nm,1.1s,baz=215,slow=3.1,SNR=9.9
PLCA PKPbc **PKiKP 12 37 31.6 +0.1**
comp=Z,130nm,0.6s,baz=236,slow=3.0,SNR=42
PLCA Paso Flores 151.89 125 PKPbc **PKiKP 12 37 31.4 -0.1**
PLCA Paso Flores 151.89 125 *e*P **PKPdf 12 37 24.8 +0.5**
PB11 IPOC Station P 151.96 80 PKPbc **PKiKP 12 37 33.8 +1.5**
GO05 Huala 152.03 113 PKPbc **PKiKP 12 37 34.5 +2.6**
PB04 IPOC Station P 152.39 86 PKPbc **PKiKP 12 37 35.6 +2.4**
VA05 Santo Domingo 152.41 110 PKPdf **PKPdf 12 37 27.4 +2.3**
VA05 PKPbc **PKiKP 12 37 35.8 +3.1**
VA01 Torpederas 152.42 109 PKPbc **PKiKP 12 37 36.0 +3.3**
PB07 IPOC Station P 152.44 84 PKPbc **PKiKP 12 37 36.9 +3.6**
ITTB Itaituba 152.49 35 *e*P PKPdf 12 37 16.1 -10
ITTB Itaituba 152.49 35 *e*P **PKPdf 12 37 25.9 0.0**
EFI East Falkland 152.53 156 PKIKP **PKPdf 12 37 24.7 0.0**
EFI East Falkland 152.53 156 PKPdf **PKPdf 12 37 24.7 0.0**
EFI PKPbc **PKiKP 12 37 33.7 +1.4**
EFI PKPab **PKPab 12 37 46.1 +1.2**
PB01 IPOC Station P 152.57 83 PKPdf 12 37 25.8 -0.1
PB01 PKPbc **PKiKP 12 37 37.3 +3.9**
MT01 Popeta 152.69 111 PKPbc **PKiKP 12 37 36.4 +3.1**
MT01 PKPab **PKPab 12 37 47.9 +1.7**
PB14 IPOC Station P 152.76 90 PKPdf **PKPdf 12 37 26.8 +0.4**
PB14 PKPbc **PKiKP 12 37 37.2 +3.1**
PB14 PKPab **PKPab 12 37 49.0 +1.8**
AC04 Llanos de Chal 152.76 98 PKPdf **PKPdf 12 37 26.5 +0.6**
AC04 PKPbc **PKiKP 12 37 35.7 +2.1**
AC04 PKPab **PKPab 12 37 45.7 -1.0**
BO01 Tunca 152.78 112 PKPbc **PKiKP 12 37 36.7 +3.3**
CO02 Combarbal 153.00 105 PKPdf **PKPdf 12 37 25.6 -0.7**
CO02 PKPbc **PKiKP 12 37 37.1 +3.0**
PB06 IPOC Station P 153.01 86 PKPdf 12 37 26.4 -0.1
PB09 IPOC Station P 153.03 84 PKPdf 12 37 27.7 +1.1
PB09 PKPbc **PKiKP 12 37 38.8 +4.3**
GO04 Tololo Observa 153.15 103 PKPdf 12 37 26.1 -0.6
GO04 PKPbc **PKiKP 12 37 35.6 +0.9**
MT05 Renca 153.16 110 PKPdf **PKPdf 12 37 26.5 +0.2**
MT05 PKPbc **PKiKP 12 37 37.6 +3.3**
LCO Las Campanas 153.17 100 PKIKP **PKPdf 12 37 28.1 +1.3**
LCO Las Campanas 153.17 100 PKPdf 12 37 28.1 +1.3
PB15 IPOC Station P 153.24 87 PKPdf 12 37 27.7 +0.8
LVC Limon Verde 153.57 85 PKP **PKPdf 12 37 28.6 +1.0**
comp=Z,54nm,1.1s,baz=229,slow=1.8,SNR=12
LVC PKPbc **PKiKP 12 37 36.3 +0.4**
comp=Z,56nm,0.9s,baz=11,slow=1.0,SNR=17
LVC Limon Verde 153.57 85 PKIKP **PKPdf 12 37 27.8 +0.2**
LVC 12 37 49.2
LVC Limon Verde 153.57 85 PKPdf **PKPdf 12 37 27.8 +0.2**
LVC PKPbc **PKiKP 12 37 37.3 +1.4**
LVC PKPab **PKPab 12 37 49.2 -1.5**
LVC Limon Verde 153.57 85 *e*P **PKPdf 12 37 29.2 +1.5**
LVC Limon Verde 153.57 85 *e*P **PKPdf 12 37 28.1 +0.5**
GO02 Mina Guanaco 153.60 91 PKPdf **PKPdf 12 37 27.3 -0.3**
GO02 PKPbc **PKiKP 12 37 36.9 +1.1**
TMAB Tom-Au,PA,Br 153.72 18 *e*P PKPdf 12 37 17.3 -10
TMAB Tom-Au,PA,Br 153.72 18 *e*P **PKPdf 12 37 28.5 +0.8**
AC02 Maricunga 154.30 95 PKPdf **PKPdf 12 37 28.6 -0.2**
AC02 PKPbc **PKPbc 12 37 39.6 +2.2**
NPGB Novo Progresso 154.94 38 *e*P **PKPdf 12 37 23.6 -5.7**
NPGB Novo Progresso 154.94 38 *e*P **PKPdf 12 37 29.0 -0.3**
ZON Zonda 154.99 106 PKPbc 12 37 41.0 +2.8
ROSB Rosrio 155.06 9 *e*P **PKPdf 12 37 29.6 +0.1**
NBMO Morrinhos-CE 155.76 360 *e*P **PKPdf 12 37 30.5 +0.5**
VILB Vilhena 156.26 56 *e*P **PKPdf 12 37 29.4 -1.6**
VILB Vilhena 156.26 56 *e*P **PKPdf 12 37 32.2 +1.2**
NBCL Cascavel-CE 156.59 355 *e*P **PKPdf 12 37 31.8 +0.2**
PRPB Parauapebas 156.74 25 *e*P **PKPdf 12 37 32.5 +0.8**
PRPB Parauapebas 156.74 25 *e*P **PKPdf 12 37 32.0 +0.2**
NBPS Pedro II - PI 156.81 3 *e*P PKPdf 12 37 19.3 -13
NBPS Pedro II - PI 156.81 3 *e*P **PKPdf 12 37 32.0 +0.1**
SIV San Ignacio 157.45 63 PKP **PKPdf 12 37 32.7 +0.2**
comp=Z,27nm,0.9s,baz=293,slow=3.3,SNR=26
SIV PKPab **PKPab 12 38 06.6 -0.4**
comp=Z,53nm,0.8s,baz=315,slow=3.8,SNR=11
CLDB Colider 157.77 44 *e*P **PKPdf 12 37 33.8 +0.8**
CLDB Colider 157.77 44 *e*P **PKPdf 12 37 29.1 -3.9**
CLDB Colider 157.77 44 *e*P **PKPdf 12 37 33.6 +0.7**
RCBR Riachuelo 157.88 349 PKP **PKPdf 12 37 33.5 +0.3**
comp=Z,46nm,1.0s,baz=347,slow=2.7,SNR=9.0
RCBR PKPab **PKPab 12 38 08.3 -0.4**
comp=Z,77nm,0.7s,baz=309,slow=4.8,SNR=13
RCBR Riachuelo 157.88 349 PKPdf 12 37 33.5 +0.3
RCBR Riachuelo 157.88 349 PKPab **PKPab 12 38 08.5 -0.2**
RCBR Riachuelo 157.88 349 *e*P **PKPdf 12 37 33.4 +0.3**
RCBR Riachuelo 157.88 349 *e*P **PKPdf 12 37 33.4 +0.2**
NBPB Pedra_Branca-C 157.97 358 *e*P **PKPdf 12 37 33.9 +0.6**
NBPA Parau_RN 157.98 352 *e*P **PKPdf 12 37 33.6 +0.3**
NBPV Pedro Velho 158.34 347 *e*P **PKPdf 12 37 34.6 +1.0**
NBPV Pedro Velho 158.34 347 *e*P PKPdf 12 37 22.1 -12
NBPV Pedro Velho 158.34 347 *e*P **PKPdf 12 37 34.3 +0.6**
PTLB Pontes e Lacer 158.63 59 *e*P **PKPdf 12 37 34.0 +0.2**
**PTLB Pontes

	comp=Z,56nm,0.9s,baz=320,slow=1.5,SNR=19								
CPUP					PKPab	**PKPab**	**12 38 38.8**	**+0.2**
	comp=Z,28nm,0.9s,baz=298,slow=5.4,SNR=7.4								
CPUP					SKP		12 40 26.6		
	comp=Z,17nm,0.9s,baz=282,slow=5.4,SNR=4.5								
CPUP	**Villa Florida**	**164.68**	**89**			**PKPab**	**12 38 38.8**	**+0.2**
CPUP	**Villa Florida**	**164.68**	**89**		PKIKP	**PKPdf**	**12 38 40.4**	**+0.6**
CPUP							12 38 38.4		
CPUP	**Villa Florida**	**164.68**	**89**		PKPdf	**PKPdf**	**12 37 40.4**	**+0.6**
CPUP	**Villa Florida**	**164.68**	**89**	*eP*		**PKPdf**	**12 37 40.4**	**+0.6**
CPUP	**Villa Florida**	**164.68**	**89**	*eP*		**PKPdf**	**12 37 40.2**	**+0.4**
CPUP	**Villa Florida**	**164.68**	**89**		PKIKP	**PKPdf**	**12 37 40.1**	**+0.4**
CPUP	**Villa Florida**	**164.68**	**89**		PKPab	**PKPab**	**12 38 38.4**	**-0.2**
ITQB	**Itaqui**	**165.46**	**102**			**PKPdf**	**12 37 40.9**	**+0.6**
ITQB	**Itaqui**	**165.46**	**102**	*eP*		**PKPdf**	**12 37 39.6**	**-0.7**
ITQB	**Itaqui**	**165.46**	**102**	*eP*		**PKPdf**	**12 37 41.0**	**+0.6**
BDFB	**Brasilia**	**166.00**	**33**		PKP	**PKPdf**	**12 37 41.8**	**+0.5**
	comp=Z,73nm,1.0s,baz=178,slow=0.7,SNR=21								
BDFB	**Brasilia**	**166.00**	**33**			**PKPdf**	**12 37 41.7**	**+0.5**
GDU01	**Guandu, BA**	**166.09**	**357**	*eP*		**PKPdf**	**12 37 42.0**	**+0.8**
GDU01	**Guandu, BA**	**166.09**	**357**	*eP*		**PKPdf**	**12 37 34.7**	**-6.5**
GDU01	**Guandu, BA**	**166.09**	**357**	*eP*		**PKPdf**	**12 37 41.9**	**+0.6**
JANB	**Januaria**	**166.87**	**18**	*eP*		**PKPdf**	**12 37 42.0**	**+0.1**
JANB	**Januaria**	**166.87**	**18**	*eP*		**PKPdf**	**12 37 36.4**	**-5.4**
JANB	**Januaria**	**166.87**	**18**	*eP*		**PKPdf**	**12 37 41.8**	**-0.1**
NBIT	**Itapeh - BA**	**167.28**	**357**	*eP*		**PKPdf**	**12 37 43.0**	**+0.9**
NBIT	**Itapeh - BA**	**167.28**	**357**	*eP*		**PKPdf**	**12 37 42.9**	**+0.9**
PLTB	**Pedras Altas**	**167.67**	**112**			**PKPdf**	**12 37 41.3**	**-0.7**
PLTB	**Pedras Altas**	**167.67**	**112**	*eP*		**PKPdf**	**12 37 43.1**	**+1.0**
PLTB	**Pedras Altas**	**167.67**	**112**	*eP*		**PKPdf**	**12 37 43.0**	**+1.0**
PLTB	**Pedras Altas**	**167.67**	**112**	*eP*		**PKPdf**	**12 37 42.9**	**+0.9**
CMC01	**Camacan, BA**	**167.72**	**357**	*eP*		**PKPdf**	**12 37 43.3**	**+0.9**
CMC01	**Camacan, BA**	**167.72**	**357**	*eP*		**PKPdf**	**12 37 36.0**	**-6.4**
CMC01	**Camacan, BA**	**167.72**	**357**	*eP*		**PKPab**	**12 38 51.7**	**-0.1**
CMC01	**Camacan, BA**	**167.72**	**357**	*eP*		**PKPdf**	**12 37 42.3**	**-0.1**
TRCB	**Terra Rica**	**167.75**	**69**			**PKPdf**	**12 37 42.8**	**+0.4**
TRCB	**Terra Rica**	**167.75**	**69**	*eP*		**PKPdf**	**12 37 43.2**	**+0.9**
TRCB	**Terra Rica**	**167.75**	**69**	*eP*		**PKPdf**	**12 37 43.9**	**+1.6**
TRCB	**Terra Rica**	**167.75**	**69**	*eP*		**PKPdf**	**12 37 42.9**	**+0.6**
ITRB	**Iturama**	**167.78**	**52**	*eP*		**PKPdf**	**12 37 43.6**	**+1.2**
ITRB	**Iturama**	**167.78**	**52**	*eP*		**PKPdf**	**12 37 42.1**	**-0.3**
ITRB	**Iturama**	**167.78**	**52**	*eP*		**PKPdf**	**12 37 43.5**	**+1.2**
IPMB	**Ipameri, GO**	**167.85**	**39**	*eP*		**PKPdf**	**12 37 43.3**	**+0.8**
IPMB	**Ipameri, GO**	**167.85**	**39**	*eP*		**PKPdf**	**12 37 41.8**	**-0.7**
IPMB	**Ipameri, GO**	**167.85**	**39**	*eP*		**PKPdf**	**12 37 43.3**	**+0.8**
IPMB	**Ipameri, GO**	**167.85**	**39**	*eP*		**PKPdf**	**12 37 42.8**	**+0.3**
CPSB	**Cacapava Do Su**	**168.11**	**106**	*eP*		**PKPdf**	**12 37 43.1**	**+0.8**
CPSB	**Cacapava Do Su**	**168.11**	**106**	*eP*		**PKPdf**	**12 37 43.0**	**+0.7**
PCMB	**Pacaembu**	**168.27**	**61**	*eP*		**PKPdf**	**12 37 43.5**	**+0.8**
PCMB	**Pacaembu**	**168.27**	**61**	*eP*		**PKPdf**	**12 37 43.7**	**+1.1**
PCMB	**Pacaembu**	**168.27**	**61**	*eP*		**PKPdf**	**12 37 43.5**	**+0.8**
MC01	**Montes Claros**	**168.54**	**18**	*eP*		**PKPdf**	**12 37 43.5**	**+0.5**
MC01	**Montes Claros**	**168.54**	**18**	*eP*		**PKPdf**	**12 37 43.4**	**+0.3**
GUA01	**Guaratinga, BA**	**168.94**	**358**	*eP*		**PKPdf**	**12 37 43.9**	**+0.7**
GUA01	**Guaratinga, BA**	**168.94**	**358**	*eP*		**PKPdf**	**12 37 39.1**	**-4.1**
GUA01	**Guaratinga, BA**	**168.94**	**358**	*eP*		**PKPdf**	**12 37 43.6**	**+0.4**
PTGB	**Pitanga**	**168.95**	**77**	*eP*		**PKPdf**	**12 37 43.8**	**+0.7**
ITAB	**Concordia**	**169.40**	**90**	*eP*		**PKPdf**	**12 37 44.4**	**+1.2**
ITAB	**Concordia**	**169.40**	**90**	*eP*		**PKPdf**	**12 37 43.9**	**+0.7**
BB19B	**Bebedouro**	**169.96**	**51**	*eP*		**PKPdf**	**12 37 43.7**	**+0.4**
BB19B	**Bebedouro**	**169.96**	**51**	*eP*		**PKPdf**	**12 37 43.7**	**0.0**
BB19B	**Bebedouro**	**169.96**	**51**	*eP*		**PKPdf**	**12 37 45.1**	**+1.3**
BB19B	**Bebedouro**	**169.96**	**51**	*eP*		**PKPdf**	**12 37 44.0**	**+0.2**
DIAM	**Diamantina, MG**	**170.12**	**20**	*eP*		**PKPdf**	**12 37 44.4**	**+0.4**
DIAM	**Diamantina, MG**	**170.12**	**20**	*eP*		**PKPdf**	**12 37 41.6**	**-2.5**
DIAM	**Diamantina, MG**	**170.12**	**20**	*eP*		**PKPdf**	**12 37 44.5**	**+0.4**
NAN01	**Guarapari, ES**	**170.20**	**360**	*eP*		**PKPdf**	**12 37 44.2**	**+0.3**
NAN01	**Guarapari, ES**	**170.20**	**360**	*eP*		**PKPdf**	**12 37 38.9**	**-5.0**
NAN01	**Guarapari, ES**	**170.20**	**360**	*eP*		**PKPdf**	**12 37 46.4**	**+2.5**
FRTB	**Fartura**	**170.51**	**65**	*eP*		**PKPdf**	**12 37 45.2**	**+1.2**
FRTB	**Fartura**	**170.51**	**65**	*eP*		**PKPdf**	**12 37 45.5**	**+1.4**
FRTB	**Fartura**	**170.51**	**65**	*eP*		**PKPdf**	**12 37 45.4**	**+1.4**
FRTB	**Fartura**	**170.51**	**65**	*eP*		**PKPdf**	**12 37 44.7**	**+0.7**
SJMB	**Sao Joao De Ma**	**171.01**	**6**	*eP*		**PKPdf**	**12 37 45.2**	**+0.9**
SJMB	**Sao Joao De Ma**	**171.01**	**6**	*eP*		**PKPdf**	**12 37 41.6**	**-2.7**
SJMB	**Sao Joao De Ma**	**171.01**	**6**	*eP*		**PKPdf**	**12 37 44.2**	**-0.1**
BSFB	**Barra de Sao F**	**171.16**	**4**	*eP*		**PKPdf**	**12 37 44.7**	**+0.4**
BSFB	**Barra de Sao F**	**171.16**	**4**	*eP*		**PKPdf**	**12 37 42.6**	**-1.8**
BSFB	**Barra de Sao F**	**171.16**	**4**	*eP*		**PKPdf**	**12 37 44.6**	**+0.2**
RCLB	**Rio Claro- Sao**	**171.54**	**53**	*eP*		**PKPdf**	**12 37 46.2**	**+1.7**
RCLB	**Rio Claro- Sao**	**171.54**	**53**	*eP*		**PKPdf**	**12 37 44.9**	**+0.3**
RCLB	**Rio Claro- Sao**	**171.54**	**53**	*eP*		**PKPdf**	**12 37 45.6**	**+1.0**
RIB01	**Linhares ES**	**171.66**	**1**	*eP*		**PKPdf**	**12 37 44.7**	**+0.1**
RIB01	**Linhares ES**	**171.66**	**1**	*eP*		**PKPdf**	**12 37 40.9**	**-3.7**
RIB01	**Linhares ES**	**171.66**	**1**	*eP*		**PKPdf**	**12 37 44.9**	**+0.3**
TIJ01	**Guaruva-PR**	**171.78**	**75**	*eP*		**PKPdf**	**12 37 46.2**	**+1.6**
TIJ01	**Guaruva-PR**	**171.78**	**75**	*eP*		**PKPdf**	**12 37 46.8**	**+2.2**
TIJ01	**Guaruva-PR**	**171.78**	**75**	*eP*		**PKPdf**	**12 37 45.5**	**+0.9**
TER01	**Tubaro-SC**	**172.08**	**98**	*eP*		**PKPdf**	**12 37 48.2**	**+3.6**
TER01	**Tubaro-SC**	**172.08**	**98**	*eP*		**PKPdf**	**12 37 45.7**	**+1.1**
BSCB	**Bom Sucesso**	**172.15**	**33**	*eP*		**PKPdf**	**12 37 45.6**	**+0.7**
BSCB	**Bom Sucesso**	**172.15**	**33**	*eP*		**PKPdf**	**12 37 43.3**	**-1.6**
BSCB	**Bom Sucesso**	**172.15**	**33**	*eP*		**PKPdf**	**12 37 45.0**	**+0.1**
VAO	**Valinhos**	**172.31**	**54**	*eP*		**PKPdf**	**12 37 46.3**	**+1.3**
VAO	**Valinhos**	**172.31**	**54**	*eP*		**PKPdf**	**12 37 45.3**	**+0.9**
VAO	**Valinhos**	**172.31**	**54**	*eP*		**PKPdf**	**12 37 45.7**	**+0.7**
SPB	**Sao Paulo**	**172.31**	**60**			**PKPdf**	**12 37 45.9**	**+1.1**
SPB	**Sao Paulo**	**172.31**	**60**	*eP*		**PKPdf**	**12 37 46.0**	**+1.1**
SPB	**Sao Paulo**	**172.31**	**60**	*eP*		**PKPdf**	**12 37 45.5**	**+0.7**
SPB	**Sao Paulo**	**172.31**	**60**	*eP*		**PKPdf**	**12 37 45.9**	**+1.1**
PET01	**Itanhaem-SP**	**172.80**	**64**	*eP*		**PKPdf**	**12 37 46.7**	**+1.7**
PET01	**Itanhaem-SP**	**172.80**	**64**	*eP*		**PKPdf**	**12 37 46.3**	**+1.3**
PET01	**Itanhaem-SP**	**172.80**	**64**	*eP*		**PKPdf**	**12 37 46.1**	**+1.1**
ALF01	**Guarapari-ES**	**172.94**	**4**	*eP*		**PKPdf**	**12 37 46.0**	**+0.9**
ALF01	**Guarapari-ES**	**172.94**	**4**	*eP*		**PKPdf**	**12 37 42.4**	**-2.7**
ALF01	**Guarapari-ES**	**172.94**	**4**	*eP*		**PKPdf**	**12 37 45.5**	**+0.3**
PARB	**Paraibuna**	**173.47**	**50**	*eP*		**PKPdf**	**12 37 46.2**	**+0.9**
PARB	**Paraibuna**	**173.47**	**50**	*eP*		**PKPdf**	**12 37 45.5**	**+0.1**
PARB	**Paraibuna**	**173.47**	**50**	*eP*		**PKPdf**	**12 37 46.3**	**+0.9**
VAS01	**Vassouras-RJ**	**173.87**	**29**	*eP*		**PKPdf**	**12 37 46.2**	**+0.8**
VAS01	**Vassouras-RJ**	**173.87**	**29**	*eP*		**PKPdf**	**12 37 44.7**	**-0.8**
VAS01	**Vassouras-RJ**	**173.87**	**29**	*eP*		**PKPdf**	**12 37 46.0**	**+0.5**
CAM01	**Campos-RJ**	**174.02**	**13**	*eP*		**PKPdf**	**12 37 47.0**	**+1.5**
CAM01	**Campos-RJ**	**174.02**	**13**	*eP*		**PKPdf**	**12 37 43.0**	**-2.5**
CAM01	**Campos-RJ**	**174.02**	**13**	*eP*		**PKPdf**	**12 37 46.0**	**+0.5**
DUB01	**Friburgo-RJ**	**174.08**	**20**	*eP*		**PKPdf**	**12 37 46.1**	**+0.5**
DUB01	**Friburgo-RJ**	**174.08**	**20**	*eP*		**PKPdf**	**12 37 44.1**	**-1.5**
DUB01	**Friburgo-RJ**	**174.08**	**20**	*eP*		**PKPdf**	**12 37 46.2**	**+0.6**

NEIC ***23*** *12:18:31,27.73N×139.89E,h456km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=4.51; Mθθ=2.03; Mϕϕ=2.48; Mrθ=-0.38; Mrϕ=-4.11; Mθϕ=-4.64; Fault plane solution: M₀7.34000×10¹⁸ NP1:φs108.00000°, δ38.00000°,λ-141.00000°. NP2:φs345.00000°, δ67.00000°,λ-59.00000°. Principal axes: T 7.2912, Plg16.0000°, Azm53.0000°; N 0.0965, Plg29.0000°, Azm152.0000°; P -7.3877, Plg56.0000°, Azm297.0000°;*

NEIC ***23*** *12:18:33,27.67N×139.91E,h460km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=4.38; Mθθ=1.92; Mϕϕ=2.46; Mrθ=-0.38; Mrϕ=-3.83; Mθϕ=-4.89; Fault plane solution: M₀7.29000×10¹⁸ NP1:φs109.00000°, δ36.00000°,λ-141.00000°. NP2:φs346.00000°, δ68.00000°,λ-60.00000°. Principal axes: T 7.1303, Plg18.0000°, Azm55.0000°; N 0.3186, Plg27.0000°, Azm155.0000°; P -7.4489, Plg56.0000°, Azm295.0000°;*

NEIC ***23*** *12:18:47.8,27.71N×139.94E,h471km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=4.55; Mθθ=2.39; Mϕϕ=2.16; Mrθ=0.48; Mrϕ=-4.39; Mθϕ=-5.02; Fault plane solution: M₀7.76000×10¹⁸ NP1:φs104.80000°, δ39.01000°,λ-143.48000°. NP2:φs344.88000°, δ68.00000°,λ-56.94000°. Principal axes: T 7.6063, Plg17.0000°, Azm51.0000°; N 0.2991, Plg30.0000°, Azm151.0000°; P -7.9054, Plg55.0000°, Azm297.0000°;*

NEIC ***23*** *12:19:29.2±2.5,27.71N±0.08×139.8E±0.1,h462km±7km, mb5.5/60 Error ellipse: s-maj=15.2km s-min=10.8km az=111.0*

IDC ***23*** *12:19:32.9±2.0,27.65N×139.72E,h514km±18km, mb4.9/16,mb1 5.0/20,mb1mx4.6/61,mbtmp5.8/20,Error ellipse: s-maj=23.7km s-min=18.3km az=113.0*

ISC 23 12:19:28.7±0.4,27.69N±0.06×139.79E±0.07,h462km, n117,σ1°46/117,mb5.5/43,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**5.40**	**0**	P	**P**	**12 20 57.0**	**-0.3**
JSG	**Sagara**	**7.09**	**349**	P	**P**	**12 21 13.7**	**-0.8**
JMN	**Monobe**	**7.88**	**321**	P	**P**	**12 21 21.8**	**-1.0**
INU	**Inuyama**	**7.99**	**343**	P	**P**	**12 21 23.9**	**0.0**
JWT	**Wachi**	**8.44**	**335**	P	**P**	**12 21 26.5**	**-2.3**
JYT	**Yasato**	**8.52**	**2**	P	**P**	**12 21 27.9**	**-1.7**
MJAR	**Matsushiro Arr**	**8.92**	**352**	P	P	12 21 39.2	+5.2
	10nm,0.3s,baz=183,slow=9.7,SNR=4.6						
MJAR	**Matsushiro Arr**	**8.92**	**352**	P	**P**	**12 21 34.1**	**+0.1**
MAJO	**Matsushiro**	**8.93**	**352**	P	**P**	**12 21 31.0**	**-3.1**
MJB9	**Matsu-Tunnel**	**8.93**	**352**	P	**P**	**12 21 32.1**	**-2.0**
JSU	**Suzuyama**	**8.97**	**297**	P	**P**	**12 21 35.9**	**+1.3**
JHS	**Saijyo**	**9.25**	**324**	P	**P**	**12 21 37.0**	**-0.6**
JNU	**Nakatsue**	**9.40**	**307**	P	**P**	**12 21 42.3**	**+3.0**
	118nm,0.3s,baz=26,slow=1.4,SNR=7.9						
JNU	**Nakatsue**	**9.40**	**307**	P	**P**	**12 21 38.3**	**-1.0**
JOW	**Kunigami**	**10.28**	**268**	P	**P**	**12 21 51.4**	**+2.6**
	384nm,0.3s,baz=108,slow=18,SNR=12						
JOW	**Kunigami**	**10.28**	**268**	P	**P**	**12 21 50.8**	**+1.9**
JSD	**Sado**	**10.39**	**353**	P	**P**	**12 21 48.9**	**-0.9**
JTU	**Tsushima**	**11.20**	**310**	P	**P**	**12 21 59.2**	**+0.5**
GUMO	**Guam**	**14.81**	**160**	P	**P**	**12 22 39.6**	**+1.9**
TATO	**Taipei**	**16.63**	**265**	P	**P**	**12 22 57.4**	**+0.6**
NACB	**Ninganchiao**	**16.73**	**262**	P	**P**	**12 22 59.0**	**+1.0**
NACB					IAmb	IAmb	12 23 00.7	
	comp=Z,129nm,0.6s							
YULB	**Yu-li**	**17.22**	**260**	P	**P**	**12 23 03.5**	**+0.4**
TWG	**Pinlang**	**17.61**	**258**	P	**P**	**12 23 07.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**17.63**	**341**	P	**P**	**12 23 08.9**	**+2.0**
USRK	**Ussuriysk Ar.**	**17.63**	**341**	P	**P**	**12 23 08.7**	**+1.8**
	baz=159,slow=8.1,SNR=5.9						
USRK	**Ussuriysk Ar.**	**17.63**	**341**	P	**P**	**12 23 08.3**	**+1.4**
TPUB	**Ta-pu**	**17.84**	**260**	P	**P**	**12 23 10.4**	**+1.1**
MDJ	**Mudanjiang**	**18.76**	**337**	P	**P**	**12 23 17.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**19.37**	**6**	P	**P**	**12 23 23.0**	**-0.4**
KNMB	**Chin-men Tao**	**19.49**	**265**	P	**P**	**12 23 25.8**	**+1.1**
KLR	**Kul'dur**	**22.38**	**346**	P	**P**	**12 23 53.1**	**+2.4**
	comp=Z,80nm,0.4s,baz=154,slow=9.9,SNR=6.3							
HIA	**Hailar**	**26.50**	**330**	P	**P**	**12 24 27.2**	**-0.2**
HIA					IAmb	IAmb	12 24 29.8	
	comp=Z,433nm,1.6s							
ENH	**Enshi**	**26.59**	**283**	P	**P**	**12 24 28.2**	**-0.3**
TOLI2	**Tolitoli**	**32.10**	**218**	P	**P**	**12 25 17.6**	**+1.0**
MA2	**Magadan**	**32.76**	**10**	P	**P**	**12 25 21.4**	**-0.2**
SONM	**Songino Array**	**32.82**	**317**	P	**P**	**12 25 24.3**	**+1.8**
	comp=Z,44nm,0.5s,baz=124,slow=9.0,SNR=1.2							
SONM					ScP	**ScP**	**12 30 45.6**	**-8.4**
	comp=Z,12nm,0.5s,baz=144,slow=3.6,SNR=1.9							
SONM	**Songino Array**	**32.82**	**317**		IAmb	IAmb	12 27 00.4	
	comp=Z,155nm,1.0s							
LUWI	**Luwuk**	**32.92**	**213**	P	**P**	**12 25 23.5**	**-0.1**
SLVN	**Son La**	**33.17**	**267**	P	**P**	**12 25 27.1**	**+1.3**
SLVN					IAmb	IAmb	12 27 04.3	
	comp=Z,173nm,0.9s							
SMY	**Shemya**	**35.67**	**36**	P	**P**	**12 25 47.2**	**+0.9**
SMY					IAmb	IAmb	12 27 07.5	
	comp=Z,272nm,1.0s							
MIDW	**Midway**	**37.70**	**79**	P	**P**	**12 26 04.0**	**+0.5**
MIDW					IAmb	IAmb	12 26 06.9	
	comp=Z,284nm,1.1s							
AMKA	**Amchitka**	**37.91**	**40**	P	**P**	**12 26 06.0**	**+1.1**
KIWB	**Kanaga Island**	**40.14**	**41**	P	**P**	**12 26 23.5**	**+0.5**
ADK	**Adak**	**40.42**	**41**	P	**P**	**12 26 25.2**	**0.0**
ADK					IAmb	IAmb	12 26 26.6	
	comp=Z,207nm,1.0s							
GSTR	**Great Sitkin T**	**40.86**	**41**	P	**P**	**12 26 29.4**	**+0.6**
ATKA	**Atka Island**	**41.98**	**41**	P	**P**	**12 26 37.2**	**-0.5**
ATKA					IAmb	IAmb	12 26 40.6	
	comp=Z,226nm,1.0s							
LSA	**Lhasa**	**42.46**	**285**	P	**P**	**12 26 44.6**	**+2.1**
LSA					IAmb	IAmb	12 27 32.3	
	comp=Z,401nm,1.4s							
BILL	**Bilibino**	**43.38**	**14**	P	**P**	**12 26 49.0**	**+0.5**
BILL					IAmb	IAmb	12 26 51.5	
	comp=Z,205nm,1.0s							
BRDH	**Bariadhala**	**43.64**	**275**	P	**P**	**12 26 52.6**	**+1.4**
	comp=Z,633nm,0.5s,baz=237,slow=8.0,SNR=5.7							
TIXI	**Tiksi**	**44.42**	**355**	P	**P**	**12 26 57.1**	**+0.6**
NIKH	**Nikolski High**	**45.33**	**42**	P	**P**	**12 27 04.5**	**+0.6**
NIKH					IAmb	IAmb	12 27 06.6	
	comp=Z,322nm,1.1s							
SPIA	**Saint Paul Isl**	**45.70**	**36**	P	**P**	**12 27 07.1**	**+0.5**
SPIA					IAmb	IAmb	12 27 22.9	
	comp=Z,187nm,1.0s							
GAMB	**Gambell**	**47.53**	**27**	P	**P**	**12 27 21.0**	**+0.6**
WRAB	**Tennant Creek**	**47.64**	**187**	P	**P**	**12 27 20.9**	**-0.9**
WR0	**Warramunga Arr**	**47.64**	**187**	P	**P**	**12 27 20.7**	**-1.2**
WR0					IAmb	IAmb	12 27 48.7	
	comp=Z,181nm,0.8s							
ZALV	**Zalesovo Beam**	**47.64**	**319**	P	**P**	**12 27 21.1**	**-0.4**
	comp=Z,47nm,0.3s,baz=115,slow=6.6,SNR=5.9							
ZALV					PcP	**PcP**	**12 28 41.6**	**-0.7**
	comp=Z,40nm,0.4s,baz=118,slow=3.0,SNR=2.2							
WB2	**Warramunga Arr**	**47.65**	**187**	P	**P**	**12 27 19.9**	**-2.0**
MKAR	**Makanchi Array**	**48.45**	**309**	P	**P**	**12 27 28.7**	**+1.0**
	comp=Z,35nm,0.3s,baz=109,slow=8.3,SNR=6.3							
XMIS	**Christmas Isla**	**50.33**	**226**	P	**P**	**12 27 39.6**	**-2.5**
XMIS					IAmb	IAmb	12 27 58.8	
	comp=Z,406nm,1.2s							
ANM	**Nome**	**50.40**	**27**	P	**P**	**12 27 42.4**	**+0.6**
KURBB	**Kurchatov Arra**	**51.10**	**314**	P	**P**	**12 27 47.3**	**+0.1**
	comp=Z,165nm,0.4s,baz=103,slow=7.1,SNR=9.0							
NRIK	**Noril'sk**	**51.32**	**339**	P	**P**	**12 27 48.0**	**-0.5**
NRIK					IAmb	IAmb	12 28 01.5	
	comp=Z,338nm,0.9s							
AS31	**Alice Springs**	**51.37**	**187**	P	**P**	**12 27 49.5**	**0.0**
ASAR	**Alice Springs**	**51.37**	**187**	P	**P**	**12 27 48.6**	**-0.9**
	comp=Z,20nm,0.5s,baz=3.9,slow=6.8,SNR=1.7							
ASAR	**Alice Springs**	**51.37**	**187**	P	**P**	**12 27 48.9**	**-0.7**
RDOG	**Red Dog Mine**	**52.52**	**23**	P	**P**	**12 27 59.0**	**+1.7**
PSA00	**Pilbara Seismi**	**52.63**	**204**	P	**P**	**12 27 57.7**	**-0.9**
CHIR	**Chirikof Islan**	**53.39**	**39**	P	**P**	**12 28 04.0**	**+0.4**
CHIR					IAmb	IAmb	12 28 51.5	
	comp=Z,188nm,1.0s							
EIDS	**Eidsvold**	**53.87**	**167**	P	**P**	**12 28 07.5**	**+0.1**
SVW2	**Sparrevohn**	**53.94**	**33**	P	**P**	**12 28 08.0**	**+0.5**
FRU1	**Bishkek**	**54.04**	**304**	P	**P**	**12 28 08.1**	**-0.6**
FRU1					IAmb	IAmb	12 28 18.9	
	comp=Z,388nm,1.1s							
SII	**Sitkinak Islan**	**54.24**	**39**	P	**P**	**12 28 09.9**	**+0.3**
SII					IAmb	IAmb	12 28 11.4	
	comp=Z,245nm,1.3s							
CAST	**Castle Rocks**	**55.84**	**30**	P	**P**	**12 28 20.4**	**-0.4**
BRVK	**Borovoye**	**56.22**	**317**	P	**P**	**12 28 21.4**	**-2.3**
KK31	**Karatay Array**	**57.00**	**305**	P	**P**	**12 28 27.7**	**-1.6**
KK31					IAmb	IAmb	12 28 31.9	
	comp=Z,375nm,1.2s							
KKAR	**Karatay Array**	**57.00**	**305**	P	**P**	**12 28 28.1**	**-1.2**
PMR	**Palmer**	**57.08**	**33**	P	**P**	**12 28 30.2**	**+0.9**
PWL	**Port Wells**	**57.44**	**33**	P	**P**	**12 28 32.3**	**+0.4**
ILAR	**Eielson Array**	**58.22**	**29**	P	**P**	**12 28 37.4**	**+0.3**
	comp=Z,16nm,0.7s,baz=244,slow=5.8,SNR=1.0							
BMRM	**Bremner River**	**59.27**	**33**	P	**P**	**12 28 44.9**	**+0.5**
BMRM					IAmb	IAmb	12 30 23.6	
	comp=Z,235nm,1.1s							
ARU	**Arti**	**62.64**	**322**	P	**P**	**12 29 06.5**	**-0.2**
ABKAR	**Akbulak array**	**63.15**	**314**	P	**P**	**12 29 09.5**	**-0.5**
ABKAR					IAmb	IAmb	12 29 11.9	
	comp=Z,161nm,0.6s							
BESE	**Bessie Mountai**	**64.45**	**35**	P	**P**	**12 29 19.7**	**+1.4**
BESE					IAmb	IAmb	12 30 56.9	
	comp=Z,182nm,1.4s							
SIT	**Sitka**	**64.51**	**37**	P	**P**	**12 29 21.3**	**+2.7**
SIT					IAmb	IAmb	12 30 52.1	
	comp=Z,180nm,1.5s							
JIS	**Juneau Island**	**64.75**	**36**	P	**P**	**12 29 20.9**	**+0.8**
JIS					IAmb	IAmb	12 30 26.7	
	comp=Z,117nm,1.1s							
CRAG	**Craig**	**66.07**	**38**	P	**P**	**12 29 30.0**	**+1.6**
C36M	**Paulatuk**	**66.51**	**23**	P	**P**	**12 29 32.3**	**+1.3**
C36M					IAmb	IAmb	12 30 18.0	
	comp=Z,138nm,0.9s							
DLBC	**Dease Lake**	**66.94**	**35**	P	**P**	**12 29 35.3**	**+1.3**
DIB	**Dawson Inlet,**	**67.02**	**41**	P	**P**	**12 29 35.0**	**+0.5**
DIB					IAmb	IAmb	12 30 23.0	
	comp=Z,129nm,1.2s							
EUNU	**Eureka**	**69.60**	**8**	P	**P**	**12 29 49.7**	**-0.2**
EUNU					IAmb	IAmb	12 30 40.8	
	comp=Z,67nm,0.8s							
KBS	**Kingsbay**	**69.61**	**351**	P	**P**	**12 29 50.3**	**+0.4**
KBS					IAmb	IAmb	12 29 57.8	
	comp=Z,94nm,1.1s							
RES	**Resolute Bay**	**71.97**	**13**	P	**P**	**12 30 05.0**	**+1.1**
ARCES	**ARCESS Array B**	**72.27**	**340**	P	**P**	**12 30 06.3**	**+0.6**
	comp=Z,47nm,0.5s,baz=65,slow=7.6,SNR=3.5							
ARCES	**ARCESS Array B**	**72.27**	**340**	P	**P**	**12 30 05.8**	**+0.1**
ARCES					IAmb	IAmb	12 30 07.6	
	comp=Z,61nm,0.6s							
YKA	**Yellowknife Ar**	**72.62**	**28**	P	**P**	**12 30 09.0**	**+1.1**
	comp=Z,38nm,0.7s,baz=293,slow=5.3,SNR=4.4							
FINES	**FINESS Array B**	**76.46**	**333**	P	**P**	**12 30 28.6**	**-0.9**
	comp=Z,163nm,0.3s,baz=65,slow=5.1,SNR=17							
AKASG	**Malin Array Be**	**80.87**	**323**	P	**P**	**12 30 52.5**	**-0.9**
	comp=Z,28nm,0.3s,baz=52,slow=5.4,SNR=12							
NOA	**NORSAR Array B**	**82.26**	**337**	P	**P**	**12 30 58.8**	**-1.6**
	comp=Z,49nm,0.7s,baz=46,slow=4.9,SNR=5.0							
BRTR	**Keskin Array B**	**84.03**	**312**	P	**P**	**12 31 08.8**	**-1.1**
	comp=Z,11nm,0.5s,baz=117,slow=2.7,SNR=14							
MMAI	**Mount Meron Ar**	**86.24**	**305**	P	**P**	**12 31 20.6**	**-0.2**
	comp=Z,27nm,0.6s,baz=60,slow=5.6,SNR=5.0							
BRG	**Berggiesshubel**	**88.36**	**329**	*i* (P)	**P**	**12 31 29.6**	**-0.6**
CLL	**Collm**	**88.48**	**330**	*i* P	**P**	**12 31 30.5**	**-0.2**
	comp=Z,34nm,0.6s							
GUNZ	**Gunzen**

TLY	**Talaya**	**36.36**	**321**	P	**P**	**12 28 42.8**	**+0.3**
	comp=Z,86nm,0.6s,baz=153,slow=8.1,SNR=12						
TLY	**Talaya**	**36.36**	**321**	IAmb	IAmb	12 28 43.3	
	comp=Z,89nm,0.6s						
PBKT	**Sadao Pong**	**37.74**	**261**	P	**P**	**12 28 53.2**	**-1.1**
AMKA	**Amchitka**	**37.78**	**40**	P	**P**	**12 28 55.3**	**+1.2**
CHTO	**Chiang Mai**	**38.68**	**266**	P	**P**	**12 29 01.4**	**-0.6**
CHTO				IAmb	IAmb	12 30 21.5	
	comp=Z,191nm,1.2s						
CM31	**Chiang Mai Arr**	**38.81**	**265**	P	**P**	**12 29 02.9**	**-0.2**
CM31				IAmb	IAmb	12 30 22.6	
	comp=Z,356nm,1.4s						
CMAR	**Chiang Mai Arr**	**38.81**	**265**	P	**P**	**12 29 02.5**	**-0.5**
	comp=Z,20nm,0.7s,baz=65,slow=5.9,SNR=7.7						
CMAR				ScP	**ScP**	**12 34 06.6**	**+1.8**
	comp=Z,2.4nm,0.4s,baz=55,slow=2.6,SNR=4.5						
KIWB	**Kanaga Island**	**40.00**	**41**	P	**P**	**12 29 14.3**	**+2.1**
ADK	**Adak**	**40.29**	**41**	P	**P**	**12 29 16.1**	**+1.6**
ADK				IAmb	IAmb	12 30 26.0	
	comp=Z,506nm,1.6s						
GSTR	**Great Sitkin T**	**40.72**	**41**	P	**P**	**12 29 19.8**	**+1.7**
ATKA	**Atka Island**	**41.84**	**41**	P	**P**	**12 29 28.3**	**+1.4**
ATKA				IAmb	IAmb	12 30 31.9	
	comp=Z,343nm,1.0s						
LSA	**Lhasa**	**42.74**	**285**	P	**P**	**12 29 36.2**	**+1.2**
BRDH	**Bariadhala**	**43.92**	**275**	P	**P**	**12 29 44.1**	**+0.4**
	comp=Z,410nm,0.4s,baz=74,slow=6.9,SNR=5.0						
TIXI	**Tiksi**	**44.50**	**355**	P	**P**	**12 29 47.7**	**+0.3**
	comp=Z,31nm,0.5s,baz=131,slow=9.3,SNR=7.9						
TIXI	**Tiksi**	**44.50**	**355**	P	**P**	**12 29 47.9**	**+0.5**
AKUT	**Akutan**	**47.24**	**41**	P	**P**	**12 30 10.1**	**+1.5**
WB0	**Warramunga Arr**	**47.45**	**187**	P	**P**	**12 30 11.0**	**+0.4**
WRAB	**Tennant Creek**	**47.61**	**187**	P	**P**	**12 30 12.6**	**+0.7**
WR0	**Warramunga Arr**	**47.62**	**187**	P	**P**	**12 30 12.1**	**+0.2**
WB2	**Warramunga Arr**	**47.62**	**187**	P	**P**	**12 30 12.2**	**+0.2**
WRA	**Warramunga Arr**	**47.62**	**187**	P	**P**	**12 30 12.1**	**+0.1**
	comp=Z,32nm,0.5s,baz=12,slow=7.9,SNR=5.9						
WRA				ScP	**ScP**	**12 34 41.1**	**+0.6**
	comp=Z,37nm,0.9s,baz=359,slow=4.8,SNR=5.5						
WRA	**Warramunga Arr**	**47.62**	**187**	P	**P**	**12 30 12.5**	**+0.5**
ZAA0	**Zalesovo Array**	**47.87**	**319**	P	**P**	**12 30 13.2**	**-0.2**
ZAA0				IAmb	IAmb	12 30 13.6	
	comp=Z,171nm,0.7s						
ZALV	**Zalesovo Beam**	**47.87**	**319**	P	**P**	**12 30 12.9**	**-0.5**
	comp=Z,157nm,0.4s,baz=112,slow=6.8,SNR=24						
ZALV				PcP	**PcP**	**12 31 32.6**	**-0.3**
	comp=Z,55nm,0.6s,baz=134,slow=4.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**47.87**	**319**	P	**P**	**12 30 13.1**	**-0.3**
MK31	**Makanchi Array**	**48.70**	**309**	P	**P**	**12 30 19.8**	**0.0**
MKAR	**Makanchi Array**	**48.70**	**309**	P	**P**	**12 30 19.8**	**0.0**
	comp=Z,66nm,0.3s,baz=90,slow=10,SNR=30						
MKAR				PcP	**PcP**	**12 31 36.4**	**+0.2**
	comp=Z,24nm,0.6s,baz=73,slow=7.0,SNR=2.1						
MKAR				ScP	**ScP**	**12 34 45.2**	**+0.3**
	comp=Z,9.3nm,0.5s,baz=79,slow=5.2,SNR=4.9						
FALS	**False Pass**	**48.72**	**40**	P	**P**	**12 30 18.6**	**-1.1**
FALS				IAmb	IAmb	12 31 00.8	
	comp=Z,227nm,1.0s						
MAKZ	**Makanchi**	**48.91**	**309**	P	**P**	**12 30 21.4**	**0.0**
MAKZ				IAmb	IAmb	12 30 22.5	
	comp=Z,312nm,1.2s						
SDPT	**Sand Point**	**50.47**	**40**	P	**P**	**12 30 33.4**	**+0.8**
SDPT				IAmb	IAmb	12 31 08.4	
	comp=Z,227nm,0.8s						
CNBA	**Chernabura Isl**	**50.91**	**40**	P	**P**	**12 30 36.7**	**+0.8**
KURBB	**Kurchatov Arra**	**51.34**	**314**	P	**P**	**12 30 38.9**	**-0.2**
	comp=Z,614nm,0.5s,baz=100,slow=7.3,SNR=85						
ASAR	**Alice Springs**	**51.35**	**187**	P	**P**	**12 30 39.5**	**-0.1**
	comp=Z,14nm,0.6s,baz=15,slow=8.5,SNR=1.8						
NRIK	**Noril'sk**	**51.48**	**339**	P	**P**	**12 30 39.9**	**+0.1**
	comp=Z,141nm,0.6s,baz=131,slow=2.0,SNR=6.8						
NRIK	**Noril'sk**	**51.48**	**339**	P	**P**	**12 30 40.2**	**+0.4**
NRIK				IAmb	IAmb	12 30 40.8	
	comp=Z,201nm,0.9s						
PRZ	**Przheval'sk**	**51.56**	**304**	P	**P**	**12 30 42.5**	**+1.3**
TARG	**Taragay, Kyrgy**	**52.07**	**303**	P	**P**	**12 30 45.8**	**+0.7**
KDJ	**Kajisay**	**52.50**	**303**	P	**P**	**12 30 48.3**	**+0.5**
ULHL	**Ulahol**	**53.18**	**304**	P	**P**	**12 30 53.4**	**+0.6**
	SNR=7.8						
BOOM	**Boomskoye usch**	**53.38**	**304**	P	**P**	**12 30 54.3**	**+0.1**
BOOM				IAmb	IAmb	12 30 55.5	
	comp=Z,213nm,0.6s						
TKM2	**Tokmak 2**	**53.59**	**305**	P	**P**	**12 30 56.4**	**+0.7**
	SNR=21						
KBK	**Karagaybulak**	**54.09**	**304**	P	**P**	**12 30 59.8**	**+0.6**
	SNR=16						
FRU1	**Bishkek**	**54.30**	**304**	P	**P**	**12 31 01.1**	**+0.5**
FRU1				IAmb	IAmb	12 31 01.9	
	comp=Z,176nm,0.8s						
USP	**Ospenovka**	**54.35**	**305**	P	**P**	**12 31 01.2**	**+0.3**
	SNR=5.5						
AAK	**Ala-Archa**	**54.42**	**304**	P	**P**	**12 31 01.9**	**+0.3**
	comp=Z,95nm,0.4s,baz=121,slow=4.0,SNR=19						
AAK	**Ala-Archa**	**54.42**	**304**	P	**P**	**12 31 01.9**	**+0.3**
	SNR=15						
AAK	**Ala-Archa**	**54.42**	**304**	P	**P**	**12 31 01.8**	**+0.3**
AAK				IAmb	IAmb	12 31 02.3	
	comp=Z,122nm,0.5s						
EKS2	**Erkin-Say**	**54.95**	**304**	P	**P**	**12 31 05.5**	**+0.3**
	SNR=12						
AML	**Almayashu**	**55.07**	**304**	P	**P**	**12 31 07.4**	**+1.0**
	SNR=7.5						
ARSB	**Arslanbob**	**55.71**	**303**	P	**P**	**12 31 11.5**	**+0.9**
ARSB				IAmb	IAmb	12 31 11.7	
	comp=Z,185nm,0.7s						
BRVK	**Borovoye**	**56.45**	**317**	P	**P**	**12 31 15.6**	**+0.3**
DRK	**Karamyk**	**56.90**	**301**	P	**P**	**12 31 19.7**	**+0.6**
NIL	**Nilore**	**56.94**	**294**	P	**P**	**12 31 19.9**	**+0.7**
NIL				IAmb	IAmb	12 31 21.3	
	comp=Z,179nm,0.7s						
KK31	**Karatay Array**	**57.26**	**305**	P	**P**	**12 31 21.6**	**+0.5**
KKAR	**Karatay Array**	**57.26**	**305**	P	**P**	**12 31 21.4**	**+0.2**
BTK	**Batken**	**57.54**	**302**	P	**P**	**12 31 23.1**	**-0.2**
BTK				IAmb	IAmb	12 31 23.5	
	comp=Z,91nm,0.5s						
GAR	**Garm**	**58.12**	**301**	P	**P**	**12 31 27.5**	**+0.3**
HPAH	**Hawaii Prepara**	**58.66**	**82**	P	**P**	**12 31 30.9**	**-0.2**
HPAH				IAmb	IAmb	12 31 47.0	
	comp=Z,350nm,1.1s						
PAX	**Paxson**	**58.72**	**31**	P	**P**	**12 31 30.1**	**-0.7**
CHGR	**Chuyangaron**	**59.08**	**300**	P	**P**	**12 31 33.9**	**+0.2**
PALK	**Pallekele**	**59.59**	**262**	P	**P**	**12 31 37.7**	**+0.3**
KBL	**Kabul**	**60.12**	**296**	P	**P**	**12 31 40.9**	**+0.1**
KBL				IAmb	IAmb	12 31 42.2	
	comp=Z,116nm,0.8s						
ARU	**Arti**	**62.86**	**322**	P	**P**	**12 31 57.8**	**-0.3**
ABKAR	**Akbulak array**	**63.39**	**314**	P	**P**	**12 32 01.6**	**-0.1**
ABKAR				IAmb	IAmb	12 32 02.2	
	comp=Z,198nm,0.7s						
HRA	**Herat**	**65.56**	**297**	P	**P**	**12 32 16.5**	**+0.4**
HRA				IAmb	IAmb	12 32 17.4	
	comp=Z,110nm,0.8s						
DIB	**Dawson Inlet,**	**66.89**	**41**	P	**P**	**12 32 25.0**	**+1.4**
GEYT	**Alibeck**	**67.65**	**302**	P	**P**	**12 32 29.1**	**+0.3**
	comp=Z,33nm,0.7s,baz=60,slow=3.2,SNR=5.2						
GEYT	**Alibeck**	**67.65**	**302**	P	**P**	**12 32 28.6**	**-0.1**
KBS	**Kingsbay**	**69.71**	**351**	P	**P**	**12 32 41.3**	**+0.8**
KBS				IAmb	IAmb	12 32 42.4	
	comp=Z,80nm,0.8s						
KEV	**Kevo**	**71.86**	**340**	P	**P**	**12 32 53.8**	**+0.5**
KEV				IAmb	IAmb	12 32 54.6	
	comp=Z,216nm,1.5s						
WSAR	**Wadi Sarin**	**72.42**	**287**	P	**P**	**12 32 57.6**	**+0.2**
	comp=Z,31nm,0.7s,baz=118,slow=2.5,SNR=5.5						
ARCES	**ARCESS Array B**	**72.42**	**340**	P	**P**	**12 32 57.1**	**+0.5**
	comp=Z,44nm,0.5s,baz=75,slow=8.4,SNR=9.3						
ARCES	**ARCESS Array B**	**72.42**	**340**	P	**P**	**12 32 57.3**	**+0.8**
ARCES				IAmb	IAmb	12 32 58.0	
	comp=Z,195nm,1.4s						
UOSS	**Minazif**	**73.79**	**290**	P	**P**	**12 33 05.5**	**+0.2**
UOSS				IAmb	IAmb	12 33 06.2	
	comp=Z,184nm,1.2s						
KBZ	**Khabaz**	**76.28**	**312**	P	**P**	**12 33 19.4**	**+0.5**
	comp=Z,81nm,0.7s,baz=316,slow=3.4,SNR=5.1						
FINES	**FINESS Array B**	**76.64**	**333**	P	**P**	**12 33 20.4**	**-0.1**
	comp=Z,160nm,0.4s,baz=72,slow=5.7,SNR=15						
UMR	**Umm Al-Rimmam**	**78.80**	**297**	*eP*	**P**	**12 33 32.0**	**-0.8**
UMR				IAML		12 33 32.9	
	comp=Z,2μm,0.4s						
QRN	**Al-Qurain**	**78.98**	**297**	*eP*	**P**	**12 33 33.6**	**-0.3**
QRN				IAML		12 33 34.0	
	comp=Z,2μm,0.8s						
MIB	**Mutribah**	**78.99**	**298**	*eP*	**P**	**12 33 33.6**	**-0.3**
MIB				IAML		12 33 33.9	
	comp=Z,3μm,0.4s						
RDF	**Al-Radifah**	**79.20**	**297**	*eP*	**P**	**12 33 33.6**	**-1.4**
RDF				IAML		12 33 35.1	
	comp=Z,2μm,0.5s						
RST	**Umm Al-Ruwaisa**	**79.39**	**298**	*eP*	**P**	**12 33 35.1**	**-0.9**
RST				IAML		12 33 35.7	
	comp=Z,3μm,0.4s						
AKASG	**Malin Array Be**	**81.08**	**323**	P	**P**	**12 33 43.9**	**-0.6**
	comp=Z,23nm,0.3s,baz=51,slow=5.5,SNR=15						
NOA	**NORSAR Array B**	**82.41**	**338**	P	**P**	**12 33 50.4**	**-0.8**
	comp=Z,47nm,0.6s,baz=46,slow=4.9,SNR=5.7						
GAZ	**Gaziantep**	**83.13**	**308**	P	**P**	**12 33 55.1**	**-0.2**
GAZ				IAmb	IAmb	12 33 55.9	
	comp=Z,91nm,0.8s						
BRTR	**Keskin Array B**	**84.27**	**312**	P	**P**	**12 34 00.3**	**-0.7**
	comp=Z,28nm,0.7s,baz=111,slow=2.6,SNR=6.6						
PDAR	**Pinedale Array**	**85.12**	**44**	PKKPbc	PKKPbc	12 52 07.0	-1.6
	comp=Z,0.3nm,0.4s,baz=117,slow=3.1,SNR=4.1						
MMAI	**Mount Meron Ar**	**86.50**	**305**	P	**P**	**12 34 11.0**	**-0.9**
	comp=Z,34nm,0.7s,baz=55,slow=7.2,SNR=5.0						
GERES	**GERESS Array B**	**90.08**	**328**	P	**P**	**12 34 27.5**	**-0.8**
	comp=Z,11nm,0.8s,baz=38,slow=6.8,SNR=5.5						
QSPA	**South Pole Qui**	**117.41**	**180**	PKP	**PKiKP**	**12 40 10.1**	**+0.1**
	comp=Z,18nm,0.8s,baz=262,slow=2.6,SNR=7.8						
MATP	**Matopo**	**117.80**	**260**	PKP	**PKPdf**	**12 40 12.1**	**-0.1**
	comp=Z,7.3nm,0.5s,baz=326,slow=1.2,SNR=4.4						
SYO	**Syowa Base**	**119.25**	**204**	*e*PKPdf	**PKiKP**	**12 40 14.0**	**+0.6**
SYO	**Syowa Base**	**119.25**	**204**	*e*X	**PKiKP**	**12 40 18.0**	**+4.6**
TORD	**Torodi Ar. Bea**	**122.82**	**310**	PKP	**PKPdf**	**12 40 21.9**	**0.0**
	comp=Z,14nm,0.6s,baz=17,slow=3.4,SNR=2.9						
BOSA	**Bosaso**	**123.20**	**252**	PKP	**PKiKP**	**12 40 22.9**	**+0.2**
	comp=Z,5.4nm,0.4s,baz=129,slow=12,SNR=1.5						
KOWA	**Kowa**	**125.55**	**316**	PKP	**PKiKP**	**12 40 27.6**	**+0.1**
	comp=Z,22nm,0.5s,baz=28,slow=5.1						
SNAA	**Sanae**	**131.43**	**195**	SKPbc	**SKPbc**	**12 43 17.0**	**+0.2**
	comp=Z,34nm,0.8s,baz=194,slow=4.6,SNR=11						
DBIC	**Dimbokro**	**131.93**	**310**	SKPbc	**SKPab**	**12 43 21.1**	**-0.5**
	comp=Z,20nm,0.6s,baz=27,slow=4.2,SNR=7.9						
MDP	**Montagnes des**	**145.21**	**23**	PKPbc	**PKPab**	**12 41 05.0**	**0.0**
	comp=Z,31nm,0.7s,baz=281,slow=2.9,SNR=2.1						

IDC ***23*** *12:38:55.1±0.7,27.60N×140.37E,h467km±20km,mb3.1/5, mb1 3.2/7,mb1mx2.8/46,mbtmp4.0/7 Error ellipse: s-maj=68.2km s-min=16.7km az=77.0*

ISC 23 12:38:54.9±1.0,27.5N±0.1×139.9E±0.2,h450km,n8, σ1§14/9,mb3.4/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.10**	**100**	P		**P**	**P**	**12 39 57.1**	**+1.1**
	25nm,0.3s,baz=10,slow=12,SNR=46								
JCJ				S			**S**	**12 40 44.5**	**-1.0**
	34nm,0.3s,baz=281,slow=23,SNR=9.4								
JHJ	**Hachijo jima 2**	**5.62**	**359**	P		**P**	**P**	**12 40 26.1**	**+0.8**
	6.3nm,0.3s,baz=38,slow=16,SNR=1.6								
USRK	**Ussuriysk Ar.**	**17.85**	**341**	P		**P**	**P**	**12 42 37.0**	**+1.1**
	baz=155,slow=10,SNR=4.8								
WRA	**Warramunga Arr**	**47.45**	**187**	P		**P**	**P**	**12 46 47.9**	**+0.3**
	0.4nm,0.5s,baz=6.9,slow=7.8,SNR=13								
ZALV	**Zalesovo Beam**	**47.85**	**319**	P		**P**	**P**	**12 46 49.8**	**-0.4**
	1.2nm,0.3s,baz=101,slow=6.8,SNR=2.6								
MKAR	**Makanchi Array**	**48.64**	**309**	P		**P**	**P**	**12 46 56.6**	**+0.2**
	0.4nm,0.3s,baz=88,slow=11,SNR=7.4								
FINES	**FINESS Array B**	**76.68**	**333**	P		**P**	**P**	**12 49 57.2**	**-1.0**
	2.0nm,0.5s,baz=62,slow=5.2,SNR=8.4								
NOA	**NORSAR Array B**	**82.48**	**337**	P		**P**	**P**	**12 50 27.4**	**-1.6**
	0.4nm,0.5s,baz=42,slow=5.3,SNR=1.7								

RSNC 23 12:42:51.8±0.9,6.83N×73.10W,h148km±3km,ML3.7, Mw4.2,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**198**	*i*P		Pn		12 43 11.8	-0.5
BARC				*e*P		Pn		12 43 11.8	-0.5
BARC				*e*S		Sn		12 43 26.8	-1.1
BARC				*i*				12 43 29.1	
	comp=Z,836nm,0.2s								
PAMC	**Pamplona, Colo**	**0.65**	**38**	*i*P		Pn		12 43 14.7	+0.3
PAMC				*e*S		Sn		12 43 31.8	+0.2
PAMC				*i*				12 43 34.1	
	comp=Z,966nm,0.5s								
BRRC	**Barranca, Sant**	**0.66**	**295**	*i*P		Pn		12 43 13.8	-0.1
BRRC				*e*S		Sn		12 43 30.7	0.0
BRRC				*i*				12 43 35.1	
	comp=Z,612nm,0.2s								
RUSC	**La Rusia**	**0.93**	**179**	*e*P		Pn		12 43 15.9	-0.6
RUSC				*e*S		Sn		12 43 34.4	-0.8
RUSC				*i*				12 43 35.4	
	comp=Z,388nm,0.4s								
OCAC	**Ocana**	**1.42**	**351**	*e*P		Pn		12 43 20.2	-0.3
OCAC				*e*S		Sn		12 43 42.1	-0.5
OCAC				*i*				12 43 46.2	
	comp=Z,2μm,0.5s								
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P		Pn		12 43 24.8	-0.4
ZARC				*e*S		Sn		12 43 50.5	-0.4
ZARC				*i*				12 43 56.8	
	comp=Z,815nm,0.3s								
NORC	**Norcasia**	**2.16**	**234**	*e*P		Pn		12 43 28.1	-0.7
NORC				*e*S		Sn		12 43 56.7	-0.5
NORC				*i*				12 43 58.5	
	comp=Z,297nm,0.3s								
SMLC	**San Martn de**	**2.18**	**334**	*e*P		Pn		12 43 28.4	-0.6
SMLC				*e*S		Sn		12 43 56.9	-0.8
SMLC				*i*				12 43 59.2	
	comp=Z,424nm,0.7s								
CHIC	**Chingaza**	**2.27**	**196**	*e*P		Pn		12 43 30.4	-0.2
CHIC				*e*S		Sn		12 43 60.0	-0.3
CHIC				*i*				12 44 02.6	
	comp=Z,130nm,0.3s								
ROSC	**El Rosal**	**2.32**	**212**	*e*P		Pn		12 43 30.7	-0.3
ROSC				*e*S		Sn		12 44 00.9	-0.2
ROSC				*i*				12 44 08.1	
	comp=Z,409nm,0.5s								
HELC	**Santa Helena**	**2.49**	**255**	*e*P		Pn		12 43 32.8	-0.3
HELC				*e*S		Sn		12 44 04.3	-0.5
HELC				*i*				12 44 08.9	
	comp=Z,166nm,0.4s								
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P		Pn		12 43 32.4	-1.5
UREC				*i*				12 44 13.4	
	comp=Z,316nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*e*P		Pn		12 43 37.0	+0.5
GUY2C				*e*S		Sn		12 44 10.1	-0.9
GUY2C				*e*S				12 44 11.2	
GUY2C				*i*				12 44 17.3	
	comp=Z,189nm,0.3s								
VILC	**Villavicencio,**	**2.76**	**192**	*e*P		Pn		12 43 35.6	-0.7
VILC				*e*S		Sn		12 44 09.6	-1.0
VILC				*i*				12 44 18.2	
	comp=Z,226nm,0.3s								
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*e*P		Pn		12 43 35.2	-1.2
PTGC				*e*S		Sn		12 44 08.3	-2.7
PTGC				*i*				12 44 10.0	
	comp=Z,231nm,0.4s								
RREF	**El Recreo**	**2.94**	**229**	*e*P		Pn		12 43 39.6	+0.6
RREF				*e*S		Sn		12 44 15.4	+0.1
RREF				*i*				12 44 22.4	
	comp=Z,66nm,0.4s								
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P		Pn		12 43 39.5	-0.3
CBOC				*e*S		Sn		12 44 16.1	-0.9
CBOC				*i*				12 44 28.2	
	comp=Z,127nm,0.5s								
DBBC	**Dabeiba**	**3.09**	**274**	*e*P		Pn		12 43 40.0	-0.4
DBBC				*e*S		Sn		12 44 16.9	-0.9
TOLC	**Tolima**	**3.14**	**225**	*e*P		Pn		12 43 41.6	+0.4
TOLC				*e*S		Sn		12 44 18.9	-0.4
TOLC				*i*				12 44 27.6	
	comp=Z,152nm,0.6s								
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		Pn		12 43 41.5	-0.2
SDV				*e*S		Sn		12 44 19.1	-1.2
SDV				*i*				12 44 21.8	
	comp=Z,173nm,0.3s								
MOTC	**Monteria, Cord**	**3.19**	**308**	*e*P		Pn		12 43 39.6	-2.0
MOTC				*e*S		Sn		12 44 19.1	-1.0
MOTC				*i*				12 44 35.3	
	comp=Z,143nm,0.7s								
ARGC	**Ariguani, Magd**	**3.21**	**339**	*e*P		Pn		12 43 41.4	-0.5
ARGC				*e*S		Sn		12 44 21.3	+0.6
ARGC				*i*				12 44 31.5	
	comp=Z,138nm,0.4s								
ANIL	**Santa Ana**	**3.26**	**225**	*e*P		Pn		12 43 42.4	-0.3
ANIL				*e*S		Sn		12 44 21.9	-0.3
ANIL				*i*				12 44 30.8	
	comp=Z,324nm,0.3s								
PRAC	**Prado**	**3.57**	**210**	*e*P		Pn		12 43 45.9	-0.6
PRAC				*e*S		Sn		12 44 28.5	-0.4
PRAC				*i*				12 44 33.6	
	comp=Z,193nm,0.3s								
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P		Pn		12 43 47.3	+0.4
ORTC				*e*S		Sn		12 44 29.9	+0.3
ORTC				*i*				12 44 34.8	
	comp=Z,138nm,0.5s								
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P		Pn		12 43 46.4	-1.5
SJCC				*e*S		Sn		12 44 28.2	-3.2
SJCC				*i*				12 44 31.5	
	comp=Z,204nm,0.5s								
PLMC	**San Jos del P**	**3.69**	**239**	*e*P		Pn		12 43 48.4	+0.2
PLMC				*e*S		Sn		12 44 30.1	-1.7
PLMC				*i*				12 44 35.4	
	comp=Z,90nm,0.5s								
GUVC	**San Jose del G**	**4.28**	**174**	*e*P		Pn		12 43 54.8	-1.0
GUVC				*e*S		Sn		12 44 42.9	-2.6
GUVC				*i*				12 44 47.6	
	comp=Z,159nm,0.3s								
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P		Pn		12 43 55.0	-1.0
YOTC				*e*S		Sn		12 44 45.4	-0.5
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P		Pn		12 43 56.8	-1.1
SMRC				*e*S		Sn		12 44 45.9	-3.5
SMRC				*i*				12 44 49.5	
	comp=Z,67nm,0.3s								
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P		Pn		12 43 58.8	-2.6
MACC				*e*S		Sn		12 44 50.7	-5.1
MACC				*i*				12 44 57.5	
	comp=Z,53nm,0.5s								
POPC	**Popayan, Colom**	**5.55**	**220**	*e*P		Pn		12 44 06.1	-6.7
POPC				*e*S		Sn		12 45 07.8	-8.2
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P		Pn		12 44 23.2	+0.3
BBAC				*e*S		Sn		12 45 29.1	-5.1
BBAC				*i*				12 45 38.1	
	comp=Z,23nm,0.5s								

IDC ***23*** *12:51:54.4±0.5,27.65N×139.78E,h449km±6km,mb3.6/26, mb1 3.7/31,mb1mx3.5/67,mbtmp4.4/31,Error ellipse: s-maj=12.8km s-min=8.3km az=78.0*
JMA ***23*** *12:51:55.6±0.2,27.96N×140.70E,h482km±3km,M4.2*
NEIC ***23*** *12:51:56.3±1.9,27.72N±0.10×139.89E±0.05, h463km±6km,mb4.2/65,Error ellipse: s-maj=14.3km s-min=5.5km az=166.0*

ISC 23 12:51:55.3±0.6,27.69N±0.05×139.95E±0.06,h461km±6km, n151,σ1§20/169,mb4.1/53,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.07**	**106**	P		**P**	**P**	**12 52 57.5**	**+0.3**
CBIJ				S			**S**	**12 53 45.9**	**-1.5**
JCJ	**Chichijima**	**2.07**	**106**	P		**P**	**P**	**12 52 57.6**	**+0.4**
	400nm,0.3s,baz=354,slow=0.4,SNR=200								
JCJ				S			**S**	**12 53 45.4**	**-2.0**
	357nm,0.3s,baz=182,slow=23,SNR=11								
JCJ	**Chichijima**	**2.07**	**106**				**P**	**12 52 57.3**	**+0.1**
JHH2	**Haha-jima-NKT2**	**2.25**	**117**	P			**P**	**12 52 59.0**	**+0.8**
JHH2				*e*S			**S**	**12 53 48.6**	**-0.6**
JAOM	**Aogashimamukai**	**4.76**	**358**	P			**P**	**12 53 18.9**	**+1.0**
JAOM				*e*S			**S**	**12 54 24.5**	**-0.8**
JHCJ	**Hachijojimakas**	**5.37**	**359**	S			**S**	**12 54 31.7**	**-4.1**
JHJ2	**Mitsune**	**5.41**	**359**	P			**P**	**12 53 24.7**	**+0.7**
JHJ2	**Mitsune**	**5.41**	**359**				**P**	**12 53 24.6**	**+0.7**
JHJ	**Hachijo jima 2**	**5.42**	**359**	P			**P**	**12 53 24.7**	**+0.7**
	33nm,0.3s,baz=303,slow=13,SNR=40								
JHJ				S			**S**	**12 54 33.2**	**-3.4**
	27nm,0.3s,baz=115,slow=23,SNR=9.7								
JSG	**Sagara**	**7.13**	**348**	P			**P**	**12 53 42.8**	**+1.4**
JIE	**Ise**	**7.24**	**338**	P			**P**	**12 53 45.0**	**+2.4**
JKN2	**Miekihoku**	**7.25**	**335**	P			**P**	**12 53 45.5**	**+2.8**
JKN2				*e*S			**S**	**12 55 12.7**	**+1.8**
BSO4	**Boso 4**	**7.29**	**3**	*e*S			**S**	**12 55 09.7**	**-1.7**

FITZ	**Fitzroy Crossi**	**47.58**	**199**	IAmb	IAmb	12 59 54.0	
	comp=Z,7.1nm,1.2s						
WRAB	**Tennant Creek**	**47.65**	**187**	P	**P**	**12 59 48.5**	**-0.1**
WRAB				IAmb	IAmb	13 00 04.0	
	comp=Z,9.8nm,1.1s						
WR0	**Warrumunga Arr**	**47.65**	**187**	P	**P**	**12 59 47.7**	**-0.9**
WR0				IAmb	IAmb	12 59 49.0	
	comp=Z,6.3nm,0.8s						
WRA	**Warrumunga Arr**	**47.66**	**187**	P	**P**	**12 59 48.2**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=3.2,slow=7.7,SNR=67						
WRA				PcP	**PcP**	**13 01 10.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=359,slow=3.7,SNR=4.6						
WRA	**Warramunga Arr**	**47.66**	**187**	P	**P**	**12 59 48.3**	**-0.5**
ZAA0	**Zalesovo Array**	**47.74**	**319**	P	**P**	**12 59 48.2**	**-0.7**
ZALV	**Zalesovo Beam**	**47.74**	**319**	P	**P**	**12 59 48.0**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=98,slow=7.1,SNR=5.2						
ZALV				PcP	**PcP**	**13 01 08.6**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=127,slow=3.9,SNR=6.5						
GSI	**Gunungsitoli**	**48.29**	**245**	P	**P**	**12 59 53.0**	**-0.6**
GSI				IAmb	IAmb	12 59 54.0	
	comp=Z,23nm,1.1s						
MK31	**Makanchi Array**	**48.56**	**309**	P	**P**	**12 59 54.8**	**-0.5**
MK31				PcP	**PcP**	**13 01 12.5**	**-0.1**
MKAR	**Makanchi Array**	**48.56**	**309**	P	**P**	**12 59 55.0**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=97,slow=9.7,SNR=8.6						
MKAR				PcP	**PcP**	**13 01 12.1**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=81,slow=7.5,SNR=5.4						
MKAR	**Makanchi Array**	**48.56**	**309**	P	**P**	**12 59 54.5**	**-0.7**
MKAR				PcP	**PcP**	**13 01 11.8**	**-0.8**
MAKZ	**Makanchi**	**48.78**	**309**	P	**P**	**12 59 56.4**	**-0.5**
MAKZ				IAmb	IAmb	12 59 58.4	
	comp=Z,8.4nm,1.1s						
KURBB	**Kurchatov Arra**	**51.20**	**314**	P	**P**	**13 00 14.1**	**-0.5**
	comp=Z,8.7nm,0.7s,baz=92,slow=8.0,SNR=55						
KURBB				PcP	**PcP**	**13 01 21.3**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=95,slow=3.9,SNR=5.6						
NRIK	**Noril'sk**	**51.38**	**339**	P	**P**	**13 00 15.6**	**0.0**
	comp=Z,8.4nm,0.8s,baz=110,slow=8.3,SNR=5.6						
NRIK	**Noril'sk**	**51.38**	**339**	P	**P**	**13 00 15.3**	**-0.3**
NRIK				IAmb	IAmb	13 00 16.4	
	comp=Z,9.2nm,0.9s						
AS31	**Alice Springs**	**51.38**	**187**	P	**P**	**13 00 16.2**	**-0.1**
ASAR	**Alice Springs**	**51.39**	**187**	P	**P**	**13 00 16.0**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=358,slow=5.6,SNR=32						
PRZ	**Przheval'sk**	**51.43**	**304**	P	**P**	**13 00 17.7**	**+1.0**
PRZ				IAmb	IAmb	13 00 18.4	
	comp=Z,21nm,0.9s						
BOOM	**Boomskoye usch**	**53.24**	**304**	P	**P**	**13 00 30.4**	**+0.7**
KDAK	**Kodiak Island**	**55.09**	**37**	P	**P**	**13 00 43.5**	**+1.2**
ARSB	**Arslanbob**	**55.57**	**303**	P	**P**	**13 00 47.4**	**+1.2**
ARSB				IAmb	IAmb	13 01 01.5	
	comp=Z,21nm,1.4s						
CNPM	**China Poot**	**55.88**	**35**	P	**P**	**13 00 48.4**	**+0.5**
SKT	**Skwentna**	**55.89**	**32**	P	**P**	**13 00 48.6**	**+0.7**
SKT				IAmb	IAmb	13 01 09.1	
	comp=Z,12nm,1.4s						
SUA	**Susitna One**	**56.23**	**33**	P	**P**	**13 00 50.7**	**+0.4**
SUA				IAmb	IAmb	13 01 09.8	
	comp=Z,8.9nm,1.2s						
BVAR	**Borovoye Array**	**56.26**	**317**	P	**P**	**13 00 48.8**	**-1.8**
	comp=Z,5.9nm,0.5s,baz=190,slow=7.2,SNR=27						
BRVK	**Borovoye**	**56.32**	**317**	P	**P**	**13 00 51.4**	**+0.4**
BRVK				IAmb	IAmb	13 00 51.8	
	comp=Z,18nm,1.1s						
BPAW	**Bear Paw Mtn.**	**56.33**	**30**	P	**P**	**13 00 52.9**	**+2.0**
COLD	**Coldfoot**	**57.00**	**26**	P	**P**	**13 00 56.9**	**+1.4**
I23K	**Minto, Yukon-K**	**57.12**	**28**	P	**P**	**13 00 57.6**	**+1.3**
I23K				IAmb	IAmb	13 00 59.3	
	comp=Z,10nm,1.5s						
KK31	**Karatay Array**	**57.12**	**305**	P	**P**	**13 00 56.9**	**+0.1**
KK31				IAmb	IAmb	13 00 57.6	
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**57.12**	**305**	P	**P**	**13 00 57.0**	**+0.3**
KKAR				IAmb	IAmb	13 00 57.6	
	comp=Z,11nm,0.9s						
RND	**Reindeer**	**57.22**	**30**	P	**P**	**13 00 57.9**	**+0.8**
RND				IAmb	IAmb	13 01 22.9	
	comp=Z,12nm,1.4s						
PWL	**Port Wells**	**57.37**	**33**	P	**P**	**13 00 59.1**	**+1.0**
MDM	**Murphy Dome**	**57.59**	**29**	P	**P**	**13 01 01.4**	**+1.8**
MDM				IAmb	IAmb	13 01 03.5	
	comp=Z,10.0nm,1.4s						
CCB	**Clear Creek Bu**	**57.75**	**29**	P	**P**	**13 01 02.0**	**+1.4**
SCM	**Sheep Creek Mo**	**57.87**	**32**	P	**P**	**13 01 02.6**	**+1.0**
SCM				IAmb	IAmb	13 01 03.0	
	comp=Z,6.8nm,0.8s						
GLI	**Glacier Island**	**57.98**	**33**	P	**P**	**13 01 03.0**	**+0.8**
GLI				IAmb	IAmb	13 01 14.1	
	comp=Z,5.2nm,0.8s						
HDA	**Harding Lake**	**58.11**	**29**	P	**P**	**13 01 03.6**	**+0.5**
ILAR	**Eielson Array**	**58.15**	**29**	P	**P**	**13 01 03.3**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=250,slow=5.3,SNR=5.7						
EYAK	**Cordova Ski Ar**	**58.64**	**34**	P	**P**	**13 01 08.2**	**+1.5**
EYAK				IAmb	IAmb	13 01 22.5	
	comp=Z,9.2nm,1.4s						
CHGR	**Chuyangaron**	**58.94**	**300**	P	**P**	**13 01 09.4**	**+0.1**
BMAR	**Burnt Mountain**	**59.19**	**26**	P	**P**	**13 01 12.8**	**+2.4**
FORT	**Forrest**	**59.24**	**192**	P	**P**	**13 01 11.6**	**+0.5**
DOT	**Dot Lake**	**59.37**	**30**	P	**P**	**13 01 12.4**	**+0.7**
SCRK	**Sand Creek**	**59.40**	**30**	P	**P**	**13 01 12.8**	**+0.8**
MENT	**Mentasta**	**59.55**	**31**	P	**P**	**13 01 14.3**	**+1.4**
KBL	**Kabul**	**59.98**	**296**	P	**P**	**13 01 16.4**	**-0.1**
KBL				IAmb	IAmb	13 01 17.6	
	comp=Z,6.9nm,0.9s						
BCAR	**Beaver Creek A**	**60.42**	**31**	P	**P**	**13 01 20.0**	**+1.3**
ARU	**Arti**	**62.74**	**322**	P	**P**	**13 01 33.5**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=67,slow=5.4,SNR=9.4						
ARU	**Arti**	**62.74**	**322**	P	**P**	**13 01 33.2**	**-0.8**
ARU				IAmb	IAmb	13 01 34.2	
	comp=Z,13nm,0.9s						
ABKAR	**Akbulak array**	**63.26**	**314**	P	**P**	**13 01 36.5**	**-0.9**
ABKAR				IAmb	IAmb	13 01 37.3	
	comp=Z,6.9nm,0.7s						
AKTO	**Aktyubinsk**	**64.22**	**315**	P	**P**	**13 01 42.4**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=73,slow=14,SNR=10						
HRA	**Herat**	**65.42**	**297**	P	**P**	**13 01 51.8**	**0.0**
HRA				IAmb	IAmb	13 01 52.4	
	comp=Z,3.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**69.44**	**349**	P	**P**	**13 02 15.8**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=97,slow=6.8,SNR=12						
BELG	**Belogornoye**	**69.33**	**319**	P	**P**	**13 02 18.6**	**-0.2**
	comp=Z,5.1nm,0.3s,baz=53,slow=21,SNR=8.6						
ARCES	**ARCESS Array B**	**72.33**	**340**	P	**P**	**13 02 32.9**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=64,slow=8.2,SNR=18						
ARCES	**ARCESS Array B**	**72.33**	**340**	IAmb	IAmb	13 02 35.2	
	comp=Z,28nm,1.5s						
YKA	**Yellowknife Ar**	**72.56**	**28**	P	**P**	**13 02 34.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=291,slow=7.6,SNR=6.9						
KBZ	**Khabaz**	**76.15**	**312**	P	**P**	**13 02 55.0**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=80,slow=2.5,SNR=9.8						
FINES	**FINESS Array B**	**76.53**	**333**	P	**P**	**13 02 56.3**	**-0.4**
	comp=Z,9.3nm,0.3s,baz=67,slow=4.9,SNR=109						
FINES	**FINESS Array B**	**76.53**	**333**	P	**P**	**13 02 56.1**	**-0.5**
AKASG	**Malin Array Be**	**80.96**	**323**	P	**P**	**13 03 19.6**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=46,slow=5.7,SNR=9.2						
AKASG	**Malin Array Be**	**80.96**	**323**	P	**P**	**13 03 20.1**	**-0.5**
NVAR	**Mina Array Bea**	**81.70**	**51**	P	**P**	**13 03 26.6**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=297,slow=5.6,SNR=7.3						
NVAR	**Mina Array Bea**	**81.70**	**51**	P	**P**	**13 03 26.1**	**+1.1**
NC405	**NORSAR Array S**	**82.09**	**337**	P	**P**	**13 03 25.4**	**-0.8**
NOA	**NORSAR Array B**	**82.32**	**337**	P	**P**	**13 03 26.3**	**-1.1**
	comp=Z,5.1nm,0.7s,baz=47,slow=4.9,SNR=16						
RAYN	**Ar Rayn**	**83.09**	**293**	P	**P**	**13 03 32.2**	**+0.1**
BRTR	**Keskin Array B**	**84.14**	**312**	P	**P**	**13 03 35.9**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=131,slow=3.8,SNR=4.0						
TXAR	**Lajitas Array**	**96.82**	**52**	P	**P**	**13 04 37.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=302,slow=2.9,SNR=4.5						
TXAR	**Lajitas Array**	**96.82**	**52**	P	**P**	**13 04 37.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**122.69**	**310**	PKP	**PKPdf**	**13 09 57.9**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=20,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**122.69**	**310**		**PKPdf**	**13 09 57.7**	**-0.9**
AP01	**Chacalluta**	**150.69**	**78**		**PKPab**	**13 11 03.3**	**-0.7**
PB16	**IPOC Station P**	**151.40**	**77**		**PKPbc**	**13 10 57.5**	**0.0**
PB16				PKPab	**PKPab**	**13 11 06.1**	**-1.7**
MNMC	**Minye Minye**	**151.64**	**79**		**PKPbc**	**13 10 57.8**	**+0.2**
MNMC				PKPab	**PKPab**	**13 11 07.7**	**-0.7**
LPAZ	**La Paz**	**151.67**	**72**	PKPbc	**PKiKP**	**13 10 59.1**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=29,slow=2.6,SNR=18						
LPAZ	**La Paz**	**151.67**	**72**	PKPdf	**PKPdf**	**13 10 49.3**	**-2.2**
LPAZ					**PKPbc**	**13 10 57.5**	**-0.7**
LPAZ				PKPab	**PKPab**	**13 11 09.8**	**+0.8**
PLCA	**Paso Flores**	**151.77**	**125**	PKPbc	**PKiKP**	**13 10 57.9**	**+0.6**
	comp=Z,2.5nm,0.5s,baz=278,slow=3.6,SNR=8.3						
PLCA	**Paso Flores**	**151.77**	**125**		**PKiKP**	**13 10 57.7**	**+0.4**
PB11	**IPOC Station P**	**151.82**	**80**	PKPdf	**PKPdf**	**13 10 49.8**	**-1.2**
PB11					**PKPbc**	**13 10 58.1**	**+0.2**
PB11				PKPab	**PKPab**	**13 11 08.2**	**-0.8**

*IDC **23** 13:02:42.8±0.6,27.˚74N×140.˚10E,h467km±12km,mb3.0/7, mb1 3.1/10,mb1mx2.8/51,mbtmp4.0/10,Error ellipse: s-maj=34.6km s-min=16.4km az=75.0*

*NEIC **23** 13:02:43.7±1.4,27.˚7N±0.˚1×140.˚2E±0.˚2,h478km±12km, mb4.6/4,Error ellipse: s-maj=29.7km s-min=10.7km az=50.0*

ISC 23 13:02:43.2±0.7,27.˚7N±0.˚1×140.˚3E±0.˚1,h478km,n26, σ0s90/27,mb3.5/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.80**	**110**	P	**P**	**13 03 46.1**	**+0.8**
	26nm,0.3s,baz=300,slow=20,SNR=21						
JCJ				S	**S**	**13 04 34.7**	**-1.0**
	22nm,0.3s,baz=287,slow=19,SNR=9.8						
JHJ2	**Mitsune**	**5.37**	**356**	P	**P**	**13 04 13.1**	**+0.7**
JHJ	**Hachijo jima 2**	**5.38**	**355**	P	**P**	**13 04 12.8**	**+0.4**
	2.5nm,0.3s,baz=90,slow=16,SNR=2.4						
JSG	**Sagara**	**7.14**	**346**	P	**P**	**13 04 29.9**	**-0.1**
INU	**Inuyama**	**8.08**	**341**	P	**P**	**13 04 40.6**	**+0.7**
JMN	**Monobe**	**8.13**	**319**	P	**P**	**13 04 40.8**	**+0.4**
MJAR	**Matsushiro Arr**	**8.95**	**349**	P	**P**	**13 04 47.8**	**-1.2**
	0.1nm,0.3s,baz=206,slow=11,SNR=1.8						
MAJO	**Matsushiro**	**8.95**	**349**	P	**P**	**13 04 47.8**	**-1.3**
JHS	**Saijyo**	**9.48**	**322**	P	**P**	**13 04 55.2**	**+0.5**
JSD	**Sado**	**10.41**	**351**	P	**P**	**13 05 04.8**	**+0.1**
JOW	**Kunigami**	**10.73**	**268**	P	**P**	**13 05 06.9**	**-1.4**
	4.9nm,0.3s,baz=70,slow=12,SNR=13						
KSRS	**Korea Array**	**14.22**	**316**	P	**P**	**13 05 47.1**	**+1.8**
	0.2nm,0.3s,baz=130,slow=6.1,SNR=1.9						
KSAR	**Wonju Array Be**	**14.23**	**316**	P	**P**	**13 05 45.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**17.73**	**340**	P	**P**	**13 06 23.2**	**+1.3**
WRA	**Warramunga Arr**	**47.75**	**188**	P	**P**	**13 10 36.1**	**+0.1**
	0.6nm,1.0s,baz=12,slow=7.1,SNR=2.3						
ZALV	**Zalesovo Beam**	**47.90**	**319**	P	**P**	**13 10 35.6**	**-1.2**
	0.8nm,0.5s,baz=76,slow=6.1,SNR=2.1						
KURBB	**Kurchatov Arra**	**51.39**	**314**	P	**P**	**13 11 01.9**	**-0.7**
	0.9nm,0.5s,baz=91,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**51.48**	**187**	P	**P**	**13 11 03.9**	**+0.3**
	0.3nm,0.9s,baz=355,slow=10,SNR=1.2						
OUENC	**Ouen Island, N**	**56.08**	**150**	P	**P**	**13 11 36.4**	**+0.1**
OUENC				IAmb	IAmb	13 11 46.5	
	comp=Z,69nm,1.5s						
BVAR	**Borovoye Array**	**56.43**	**317**	P	**P**	**13 11 37.1**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=81,slow=6.8,SNR=5.8						
ABKAR	**Akbulak array**	**63.44**	**314**	P	**P**	**13 12 24.4**	**-0.7**
ARCES	**ARCESS Array B**	**72.38**	**340**	P	**P**	**13 13 20.6**	**+1.2**
	comp=Z,2.6nm,1.0s,baz=72,slow=8.6,SNR=3.9						
ARCES	**ARCESS Array B**	**72.38**	**340**	P	**P**	**13 13 20.5**	**+1.0**
ARCES				IAmb	IAmb	13 13 42.5	
	comp=Z,15nm,1.5s						
FIA1	**FINESS Array S**	**76.62**	**333**	P	**P**	**13 13 43.4**	**-0.1**
FINES	**FINESS Array B**	**76.62**	**333**	P	**P**	**13 13 43.7**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=60,slow=4.6,SNR=9.5						
KAN08	**Anthony NE Sta**	**95.35**	**43**	P	**P**	**13 15 15.9**	**+0.1**

*NEIC **23** 13:12:47.2±2.2, 17.˚0S±0.˚2×178.˚7W±0.˚2, h587km±8km, mb4.0/10,Error ellipse: s-maj=29.7km s-min=23.0km az=129.0*

*IDC **23** 13:12:48.7±1.9, 17.˚31S×178.˚77W, h600km±19km, mb3.1/4, mb1 3.4/5,mb1mx2.9/26,mbtmp4.1/5,Error ellipse: s-maj=47.4km s-min=27.3km az=165.0*

ISC 23 13:12:47.1±1.0,16.˚9S±0.˚1×178.˚7W±0.˚2,h600km,n21, σ1s30/21,mb3.9/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.17**	**255**	P	**P**	**13 14 08.2**	**+0.9**
	12nm,0.3s,baz=99,slow=13,SNR=80						
MSVF	**Nonsavu**	**3.17**	**255**	P	**P**	**13 14 08.1**	**+0.8**
FUNA	**Funafuti**	**8.59**	**346**	P	**P**	**13 14 49.5**	**-2.7**
RAO	**Raoul Island**	**12.29**	**177**	P	**P**	**13 15 26.7**	**-1.9**
	208nm,0.3s,baz=331,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**38.84**	**240**	P	**P**	**13 19 21.6**	**-0.7**
	2.1nm,0.5s,baz=4.1,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**38.84**	**240**	IAmb	IAmb	13 19 23.3	
	comp=Z,1.7nm,1.1s						
WR0	**Warramunga Arr**	**44.32**	**259**	P	**P**	**13 20 06.3**	**+0.8**
WR0				IAmb	IAmb	13 20 28.5	
	comp=Z,6.8nm,1.2s						
WB0	**Warramunga Arr**	**44.47**	**259**	P	**P**	**13 20 07.1**	**+0.4**
WB0				IAmb	IAmb	13 20 36.4	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**44.50**	**259**	P	**P**	**13 20 07.4**	**+0.5**
WB2				IAmb	IAmb	13 20 28.8	
	comp=Z,7.9nm,1.4s						
WRAB	**Tennant Creek**	**44.50**	**259**	P	**P**	**13 20 07.3**	**+0.4**
WRAB				IAmb	IAmb	13 20 12.4	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**13 20 07.7**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=90,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**13 20 06.7**	**-0.4**
AS31	**Alice Springs**	**44.76**	**253**	P	**P**	**13 20 09.0**	**+0.1**
AS31				IAmb	IAmb	13 20 10.3	
	comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**44.76**	**253**	P	**P**	**13 20 09.4**	**+0.4**
	comp=Z,6.7nm,0.6s,baz=88,slow=8.5,SNR=81						
ASAR				PcP	**PcP**	**13 21 38.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=99,slow=4.1,SNR=1.9						
ASAR	**Alice Springs**	**44.76**	**253**	P	**P**	**13 20 08.4**	**-0.5**
MTN	**Manton Dam**	**48.52**	**268**	P	**P**	**13 20 39.1**	**+1.9**
KNRA	**Kununurra**	**50.28**	**263**	P	**P**	**13 20 51.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**52.89**	**260**	P	**P**	**13 21 10.3**	**+1.5**
FITZ				IAmb	IAmb	13 21 33.6	
	comp=Z,3.7nm,1.2s						
TXAR	**Lajitas Array**	**85.74**	**58**	P	**P**	**13 24 26.8**	**+2.5**
	comp=Z,0.1nm,0.7s,baz=212,slow=8.4,SNR=3.6						
TXAR	**Lajitas Array**	**85.74**	**58**	P	**P**	**13 24 24.7**	**+0.4**
CLL	**Collm**	**144.44**	**347**	*i* PKPbc	**PKiKP**	**13 31 20.8**	**+1.0**

*IDC **23** 13:17:06.2±8.5,40.˚00S×175.˚38E,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.8/23,mbtmp3.8/4,ML2.9/1,Error ellipse: s-maj=214.7km s-min=24.0km az=149.0*

*WEL **23** 13:17:06.9,41˚S±2˚×17˚E±˚,h27km±2km,M4.2/55, ML4.5/55,MLv4.2/55,Error ellipse: s-maj=0.0km s-min=0.0km az=87.5*

*IASPEI **23** 13:17:07.0±0.9,40.˚60S±0.˚03×175.˚92E±0.˚03,h31km±6km, mb4.2/7,Error ellipse: s-maj=4.7km s-min=3.3km az=125.9,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*NEIC **23** 13:17:07.1±1.3,40.˚66S±0.˚05×175.˚9E±0.˚1,h30km±8km, mb4.3/8,Error ellipse: s-maj=13.4km s-min=7.6km az=97.0*

ISC 23 13:17:07.0±0.8,40.˚61S±0.˚02×175.˚90E±0.˚03,h32km±5km, n170,σ1s25/180,mb4.2/7,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRWZ	**Pori Road**	**0.08**	**42**	P	**Pb**	**13 17 12.1**	**-0.5**
PRWZ				S	**Sb**	**13 17 15.9**	**-0.5**
TIWZ	**Tintock**	**0.17**	**185**	P	**Pn**	**13 17 13.5**	**+0.1**
TIWZ				S	**Sb**	**13 17 18.4**	**+0.8**
POWZ	**Post Office Ro**	**0.24**	**335**	P	**Pn**	**13 17 13.4**	**-1.0**
POWZ				S	**Sb**	**13 17 18.4**	**-0.4**
MRZ	**Mangatainoka R**	**0.25**	**259**	P	**Pn**	**13 17 14.1**	**-0.4**
MRZ				S	**Sb**	**13 17 19.3**	**+0.3**
BFZ	**Birch Farm**	**0.27**	**105**		**Pb**	**13 17 14.1**	**-0.3**
BFZ	**Birch Farm**	**0.27**	**105**	P	**Pb**	**13 17 14.1**	**-0.3**
BFZ				S	**Sb**	**13 17 19.7**	**+0.4**
DVHZ	**Dannevirke**	**0.37**	**33**	P	**Pb**	**13 17 14.7**	**-1.0**
DVHZ				S	**Sb**	**13 17 20.6**	**-1.0**
CPWZ	**Castlepoint**	**0.37**	**143**	P	**Pn**	**13 17 17.0**	**+0.8**
HOWZ	**Holdsworth Sta**	**0.41**	**226**	P	**Pn**	**13 17 16.8**	**+0.1**
HOWZ				S	**Sn**	**13 17 24.2**	**+0.9**
ANWZ	**Angora Road**	**0.46**	**71**	P	**Pb**	**13 17 16.7**	**-0.2**
ANWZ				S	**Sb**	**13 17 24.8**	**+1.0**
TMWZ	**Te Maipa**	**0.49**	**181**	P	**Pn**	**13 17 18.4**	**+0.5**
TSZ	**Takapari Road**	**0.55**	**5**	P	**Pb**	**13 17 17.6**	**-0.8**
TSZ				S	**Sb**	**13 17 25.4**	**-0.9**
OGWZ	**Otaki Gorge**	**0.59**	**250**	P	**Pn**	**13 17 19.6**	**+0.4**
OHWZ	**Ohakea**	**0.60**	**312**	P	**Pn**	**13 17 19.9**	**+0.6**
MTW	**Mount Morrison**	**0.62**	**209**	P	**Pn**	**13 17 20.0**	**+0.4**
PRHZ	**Porangahau**	**0.66**	**59**	P	**Pb**	**13 17 19.5**	**-0.6**
PRHZ				S	**Sb**	**13 17 30.0**	**+0.9**
WPHZ	**Waipukurau**	**0.68**	**37**	P	**Pb**	**13 17 20.2**	**-0.4**
WPHZ				S	**Sn**	**13 17 30.7**	**+0.7**
PNHZ	**Pukenui**	**0.73**	**18**	P	**Pb**	**13 17 20.6**	**-0.8**
KIW	**Kapiti Island**	**0.80**	**251**	P	**Pn**	**13 17 22.8**	**+0.9**
CAW	**Cannon Point**	**0.81**	**232**	P	**Pn**	**13 17 22.8**	**+0.7**
PAWZ	**Paruwai Farm**	**0.85**	**205**	P	**Pn**	**13 17 23.1**	**-0.2**
PXZ	**Pawanui**	**0.94**	**52**	P	**Pn**	**13 17 23.2**	**-0.6**
MSWZ	**Moikau Station**	**0.94**	**211**	Pn	**Pb**	**13 17 23.7**	**-1.3**
MSWZ	**Moikau Station**	**0.94**	**211**	P	**Pb**	**13 17 24.2**	**-0.8**
KRHZ	**Kereru**	**1.03**	**20**	P	**Pn**	**13 17 24.9**	**-0.3**
PLWZ	**Palliser**	**1.07**	**207**	Pn	**Pb**	**13 17 25.7**	**-1.5**
PLWZ	**Palliser**	**1.07**	**207**	P	**Pb**	**13 17 25.8**	**-1.4**
KAHZ	**Kahuranaki**	**1.11**	**43**	P	**Pn**	**13 17 25.9**	**-0.4**
WAZ	**Wanganui**	**1.11**	**320**	P	**Pb**	**13 17 27.9**	**+0.2**
BHW	**Baring Head**	**1.11**	**224**	Pn	**Pb**	**13 17 26.1**	**-1.7**
BHW	**Baring Head**	**1.11**	**224**	P	**Pb**	**13 17 26.5**	**-1.2**
BHHZ	**Black Hill Sta**	**1.13**	**6**	P	**Pn**	**13 17 26.8**	**+0.2**
SNZO	**South Karori**	**1.15**	**232**	Pn	**Pb**	**13 17 27.0**	**-1.3**
MOVZ	**Moawhango**	**1.21**	**354**	P	**Pb**	**13 17 28.3**	**-1.1**
KWHZ	**Kaweka Forest**	**1.25**	**19**	P	**Pn**	**13 17 28.2**	**-0.1**
WNVZ	**Wahianoa**	**1.30**	**350**	P	**Pb**	**13 17 30.1**	**-1.0**
CKHZ	**Cape Kidnapper**	**1.31**	**44**	P	**Pn**	**13 17 28.4**	**-0.6**
MCHZ	**McNeill Hill**	**1.32**	**28**	P	**Pn**	**13 17 28.9**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.35**	**350**	P	**Pb**	**13 17 30.9**	**-0.9**
TUVZ	**Tukino**	**1.36**	**352**	P	**Pb**	**13 17 31.2**	**-0.7**
DRZ	**Dome Shelter**	**1.36**	**349**	P	**Pb**	**13 17 31.5**	**-0.7**
TCW	**Tory Channel**	**1.37**	**244**	P	**Pb**	**13 17 30.2**	**-1.8**
FWVZ	**Far West T-bar**	**1.38**	**349**	P	**Pb**	**13 17 31.3**	**-1.1**
PKVZ	**Pokaka**	**1.39**	**342**	P	**Pb**	**13 17 31.7**	**-0.8**
SNVZ	**South Ngauruho**	**1.44**	**352**	P	**Pb**	**13 17 32.1**	**-1.3**
NGZ	**Ngauruhoe**	**1.45**	**351**	P	**Pb**	**13 17 32.5**	**-1.1**
OTVZ	**Oturere**	**1.46**	**353**	P	**Pb**	**13 17 32.3**	**-1.4**
ETVZ	**East Tongariro**	**1.48**	**354**	P	**Pb**	**13 17 33.0**	**-1.0**
NNVZ	**North Ngauruho**	**1.49**	**351**	P	**Pb**	**13 17 33.4**	**-0.9**
TMVZ	**Te Maari**	**1.50**	**354**	P	**Pb**	**13 17 33.3**	**-1.1**
BKZ	**Black Stump Fm**	**1.51**	**18**		**Pn**	**13 17 31.2**	**-0.7**
BKZ	**Black Stump Fm**	**1.51**	**18**	P	**Pn**	**13 17 31.5**	**-0.4**
WTVZ	**West Tongariro**	**1.51**	**351**	P	**Pb**	**13 17 33.0**	**-1.6**
DUWZ	**D'Urville Isla**	**1.52**	**262**	P	**Pb**	**13 17 32.5**	**-2.1**
NTVZ	**North Tongarir**	**1.52**	**353**	P	**Pb**	**13 17 33.7**	**-1.0**
ARHZ	**Aropaoanui**	**1.59**	**32**	P	**Pn**	**13 17 32.7**	**-0.2**
LREZ	**Lake Rotokare**	**1.63**	**314**	P	**Pb**	**13 17 35.9**	**-0.5**
RITZ	**Rihia Road**	**1.63**	**359**	P	**Pn**	**13 17 34.5**	**+1.0**
**K

	comp=Z,1.3nm,0.7s,baz=127,slow=8.5,SNR=16						
WRA	**Warramunga Arr**	**40.91**	**288**	IAmb	IAmb	13 24 54.5	
	comp=Z,0.6nm,1.4s						
WB0	**Warramunga Arr**	**40.98**	**288**	P	**P**	**13 24 46.1**	**-0.9**
WB0				IAmb	IAmb	13 24 50.9	
	comp=Z,6.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**48.46**	**282**	P	**P**	**13 25 46.3**	**-0.3**
QSPA	**South Pole Qui**	**49.52**	**180**	P	**P**	**13 25 56.1**	**+1.8**
QSPA				IAmb	IAmb	13 26 02.2	
	comp=Z,4.6nm,1.4s						
KSRS	**Korea Array**	**89.26**	**324**	P	**P**	**13 30 00.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=141,slow=4.2,SNR=1.7						

*IDC **23** 13:18:28.9±7.8, 28°.27S×177°.69W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/24, mbtmp3.9/3, Error ellipse: s-maj=143.9km s-min=23.1km az=75.0*
*NEIC **23** 13:18:32.5±0.4, 28°.55S×177°.1W×0°.1, h57km±8km, mb4.4/11, Error ellipse: s-maj=25.4km s-min=12.2km az=145.0*

ISC 23 13:18:30.6±2.1, 28°.4S±0°.1×177°.1W±0°.2, h48km, n17, σ0s 7.1/17, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**218**	Pn	**Pn**	**13 18 50.5**	**+0.7**
	582nm,0.3s,baz=37,slow=19,SNR=16						
RAO				Sn	**Sn**	**13 19 04.0**	**0.0**
	3µm,0.3s,baz=41,slow=19,SNR=30						
BHW	**Baring Head**	**14.55**	**205**	Pn	**Pn**	**13 21 53.3**	**-0.2**
TUWZ	**Tuamarina**	**14.93**	**207**	Pn	**Pn**	**13 21 58.1**	**-0.3**
THZ	**Tophouse**	**15.63**	**209**	Pn	**Pn**	**13 22 07.4**	**-0.3**
THZ				IAmb	IAmb	13 22 20.1	
	comp=Z,74nm,1.5s						
LTZ	**Lake Taylor**	**16.74**	**208**	Pn	**Pn**	**13 22 20.6**	**-1.0**
LTZ				IAmb	IAmb	13 22 40.8	
	comp=Z,17nm,1.3s						
LHI	**Lord Howe Isla**	**20.86**	**256**	P	**P**	**13 23 06.7**	**-1.7**
STKA	**Stephens Creek**	**35.72**	**254**	P	**P**	**13 25 25.4**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=112,slow=11,SNR=2.5						
STKA	**Stephens Creek**	**35.72**	**254**	IAmb	IAmb	13 25 28.3	
	comp=Z,1.7nm,1.1s						
BBOO	**Buckleboo**	**40.29**	**252**	P	**P**	**13 26 03.6**	**+0.5**
ASAR	**Alice Springs**	**44.02**	**264**	P	**P**	**13 26 34.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=96,slow=7.2,SNR=9.5						
WR0	**Warramunga Arr**	**44.65**	**270**	P	**P**	**13 26 38.6**	**-0.1**
WR0				IAmb	IAmb	13 26 49.6	
	comp=Z,5.4nm,1.4s						
WB2	**Warramunga Arr**	**44.82**	**270**	P	**P**	**13 26 40.2**	**+0.1**
WB2				IAmb	IAmb	13 26 47.5	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**44.82**	**270**	P	**P**	**13 26 40.3**	**+0.2**
WRAB				IAmb	IAmb	13 27 01.5	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**44.83**	**270**	P	**P**	**13 26 40.9**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=106,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**44.83**	**270**	P	**P**	**13 26 40.5**	**+0.3**
WB0	**Warramunga Arr**	**44.84**	**270**	P	**P**	**13 26 39.8**	**-0.5**
WB0				IAmb	IAmb	13 26 56.2	
	comp=Z,10nm,1.3s						
SBA	**Scott Base**	**50.10**	**184**	P	**P**	**13 27 20.1**	**-0.2**
SBA				IAmb	IAmb	13 27 29.0	
	comp=Z,2.8nm,0.9s						

JMA 23 13:24:41.2±0.2, 27°.93N×140°.71E, h476km±3km, M3.5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.55**	**122**	P	P	13 25 42.3	+0.3
CBIJ				*e*S	S	13 26 30.5	-0.8
JHH2	**Haha-jima-NKT2**	**1.84**	**134**	P	P	13 25 43.8	+0.5
JHH2				*e*S	S	13 26 33.0	-0.7
JHJ2	**Mitsune**	**5.22**	**352**	P	P	13 26 09.7	+0.9
JIE	**Ise**	**7.30**	**333**	P	P	13 26 31.2	+1.7
JKN2	**Miekihoku**	**7.35**	**330**	P	P	13 26 31.5	+1.4
JYT	**Yasato**	**8.29**	**357**	P	P	13 26 41.5	+1.6
JAG	**Ashikaga**	**8.54**	**353**	P	P	13 26 43.3	+0.7
JHO	**Hitachi**	**8.66**	**359**	P	P	13 26 46.3	+2.5

*IDC **23** 13:34:00.3±1.5, 51°.46N×175°.12W, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.6/53, mbtmp3.7/9, ML1.6/1, MS4.0/1, Ms1 4.0/1, ms1mx3.2/48, Error ellipse: s-maj=40.4km s-min=21.5km az=173.0*
*AEIC **23** 13:34:05±2.0, 51.60N±0°.06×174°.81W±0°.05, h26km±6km, ML3.6/37, mb3.8/30(NEIC), Error ellipse: s-maj=9.1km s-min=3.9km az=159.0*
*NEIC **23** 13:34:06.8±1.9, 51°.61N±0°.07×174°.80W±0°.06, h41km±9km, Error ellipse: s-maj=10.9km s-min=4.2km az=159.0*

ISC 23 13:34:06.8±1.4, 51°.59N±0°.10×174°.87W±0°.04, h42km±14km, n87, σ1s 59/89, mb3.7/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.74**	**34**		**Pn**	**13 34 18.9**	**-1.9**
ATKA					**Sn**	**13 34 28.9**	**-2.0**
KOFP	**Korovin Flat P**	**0.83**	**35**		**Pn**	**13 34 20.9**	**-1.2**
KOKL	**Mount Kliuchef**	**0.84**	**29**		**Pn**	**13 34 21.0**	**-1.3**
KOKL					**Sn**	**13 34 32.4**	**-1.1**
GSMY	**Great Sitkin M**	**0.86**	**302**		**Pn**	**13 34 22.1**	**-0.5**
GSTR	**Great Sitkin T**	**0.89**	**305**		**Pn**	**13 34 23.0**	**0.0**
GSCK	**Great Sitkin C**	**0.91**	**298**		**Pn**	**13 34 23.0**	**-0.1**
GSCK					**Sn**	**13 34 36.1**	**+1.0**
KOSE	**Korovin Southe**	**0.91**	**34**		**Pn**	**13 34 22.4**	**-0.8**
KOSE					**Sn**	**13 34 34.8**	**-0.3**
GSTD	**Great Sitkin T**	**0.92**	**301**		**Pn**	**13 34 23.1**	**-0.3**
GSTD					**Sn**	**13 34 36.0**	**+0.6**
ETKA	**Kagalaska Isla**	**0.99**	**286**		**Pn**	**13 34 23.7**	**-0.6**
ADK	**Adak**	**1.17**	**285**		**Pn**	**13 34 25.5**	**-1.2**
KIWB	**Kanaga Island**	**1.44**	**281**		**Pn**	**13 34 30.3**	**-0.1**
KIKV	**Kanaga Island**	**1.46**	**282**		**Pn**	**13 34 30.6**	**-0.1**
KICM	**Kanaga Island**	**1.48**	**284**		**Pn**	**13 34 31.2**	**+0.2**
KIMD	**Kanaga Island**	**1.48**	**277**		**Pn**	**13 34 30.9**	**-0.1**
KIMD					**Sn**	**13 34 49.7**	**+0.5**
TAFP	**Tanaga Falls P**	**1.96**	**280**		**Pn**	**13 34 38.1**	**+0.5**
TAFP					**Sn**	**13 35 03.0**	**+2.1**
TASE	**Tanaga Southea**	**1.99**	**278**		**Pn**	**13 34 38.5**	**+0.6**
GAEA	**Gareloi East**	**2.42**	**276**		**Pn**	**13 34 45.2**	**+1.3**
GALAA	**Gareloi Lava P**	**2.44**	**276**		**Pn**	**13 34 45.8**	**+1.7**
CESW	**Semis' Southwe**	**3.48**	**277**		**Pn**	**13 34 59.9**	**+1.6**
AMKA	**Amchitka**	**3.65**	**269**		**Pn**	**13 35 00.8**	**+0.1**
NIKH	**Nikolski High**	**3.94**	**67**		**Pn**	**13 35 03.6**	**-1.1**
OKWE	**Okmok W'ng Wal**	**4.46**	**62**		**Pn**	**13 35 13.3**	**+1.4**
OKFG	**Magazine Ridge**	**4.62**	**64**		**Pn**	**13 35 15.3**	**+1.2**
MAPS	**Pakushin South**	**5.31**	**62**		**Pn**	**13 35 24.5**	**+1.1**
MGOD	**Makushin Gods**	**5.34**	**62**		**Pn**	**13 35 24.4**	**+0.5**
MSW	**Makushin Switc**	**5.43**	**61**		**Pn**	**13 35 26.3**	**+1.1**
MNAT	**Makushin Natee**	**5.47**	**62**		**Pn**	**13 35 26.9**	**+1.1**
AKRB	**Akutan Reef Bi**	**5.90**	**61**		**Pn**	**13 35 33.4**	**+1.8**
AKBBA	**Akutan Broad B**	**5.97**	**62**		**Pn**	**13 35 35.0**	**+2.5**
AKUT	**Akutan**	**6.07**	**62**	Pn	**Pn**	**13 35 32.1**	**-1.8**
SPIA	**Saint Paul Isl**	**6.21**	**24**	Pn	**Pn**	**13 35 36.8**	**+0.9**
SMY	**Shemya**	**6.88**	**284**	Pn	**Pn**	**13 35 46.4**	**+1.4**
SDPT	**Sand Point**	**9.37**	**61**	Pn	**Pn**	**13 36 18.8**	**-0.3**
SII	**Sitkinak Islan**	**13.10**	**60**	Pn	**Pn**	**13 37 08.7**	**-1.4**
OHAK	**Old Harbor**	**13.74**	**57**	Pn	**Pn**	**13 37 15.8**	**-3.0**
SVW2	**Sparrevohn**	**14.26**	**41**	Pn	**Pn**	**13 37 26.2**	**+0.4**
KDAK	**Kodiak Island**	**14.26**	**56**	Pn	**P**	**13 37 29.8**	**-2.4**
	2.1nm,0.3s,baz=304,slow=4.5,SNR=36						
KDAK				Sn	**Sn**	**13 40 11.1**	**+8.7**
	0.1nm,0.3s,baz=111,slow=17,SNR=2.1						
KDAK	**Kodiak Island**	**14.26**	**56**	Pn	**Pn**	**13 37 25.1**	**-0.8**
CNPM	**China Poot**	**15.48**	**50**	Pn	**Pn**	**13 37 41.7**	**-0.3**
CNPM				IAmb	IAmb	13 37 50.0	
	comp=Z,4.3nm,0.8s						
SEW	**Seward**	**16.53**	**49**	Pn	**Pn**	**13 37 53.2**	**-2.0**
PETK	**Petropavlovsk-**	**16.79**	**286**	Pn	**Pn**	**13 37 55.1**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=118,slow=15,SNR=2.2						
KTH	**Kantishna Hill**	**17.42**	**37**		**Pn**	**13 38 07.0**	**+0.5**
KTH				IAmb	IAmb	13 38 13.1	
	comp=Z,6.8nm,1.2s						
TRF	**Thorofare Moun**	**17.61**	**38**	Pn	**Pn**	**13 38 07.1**	**-1.8**
BPAW	**Bear Paw Mtn.**	**17.70**	**36**		**P**	**13 38 10.6**	**+0.3**
GLI	**Glacier Island**	**17.88**	**48**		**Pn**	**13 38 12.1**	**0.0**
GLI				IAmb	IAmb	13 38 28.1	
	comp=Z,6.7nm,1.0s						
HIN	**Hinchinbrook I**	**18.02**	**50**		**Pn**	**13 38 13.0**	**-0.7**
HIN				IAmb	IAmb	13 38 28.0	
	comp=Z,15nm,1.2s						
SCM	**Sheep Creek Mo**	**18.11**	**45**		**P**	**13 38 13.0**	**-2.0**
SCM				IAmb	IAmb	13 38 40.1	
	comp=Z,8.5nm,1.4s						
M24K	**Tolsona, Glenn**	**18.72**	**45**	P	**P**	**13 38 21.1**	**-0.4**
M24K				IAmb	IAmb	13 38 38.5	
	comp=Z,13nm,1.3s						
I23K	**Minto, Yukon-K**	**18.86**	**34**	P	**P**	**13 38 23.6**	**+0.6**
I23K				IAmb	IAmb	13 38 28.7	
	comp=Z,5.8nm,1.2s						
BILL	**Bilibino**	**18.88**	**338**		**Pn**	**13 38 24.4**	**+0.4**
BILL				IAmb	IAmb	13 38 28.9	
	comp=Z,7.0nm,1.0s						
MDM	**Murphy Dome**	**19.16**	**36**	P	**Pn**	**13 38 28.5**	**+0.9**
HDA	**Harding Lake**	**19.37**	**38**	P	**P**	**13 38 28.3**	**-0.3**
HDA				IAmb	IAmb	13 38 32.8	
	comp=Z,4.9nm,0.6s						
IL31		**19.57**	**37**	P	**P**	**13 38 30.5**	**-0.2**
IL31				IAmb	IAmb	13 38 35.4	
	comp=Z,2.1nm,0.5s						
ILAR	**Eielson Array**	**19.57**	**37**	P	**P**	**13 38 30.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=229,slow=9.5,SNR=27						
ILAR	**Eielson Array**	**19.57**	**37**	P	**P**	**13 38 30.3**	**-0.4**
COLD	**Coldfoot**	**19.85**	**29**	P	**P**	**13 38 32.8**	**-1.0**
COLD				IAmb	IAmb	13 38 40.8	
	comp=Z,4.1nm,1.1s						
MCARA	**McCarthy VSAT**	**19.92**	**48**	P	**P**	**13 38 33.7**	**-0.9**
MCARA				IAmb	IAmb	13 38 56.6	
	comp=Z,5.1nm,0.6s						
DOT	**Dot Lake**	**20.19**	**41**	P	**P**	**13 38 35.2**	**-2.4**
DOT				IAmb	IAmb	13 38 44.9	
	comp=Z,2.8nm,0.6s						
SCRK	**Sand Creek**	**20.35**	**41**	P	**P**	**13 38 37.1**	**-2.3**
SEY	**Seymchan**	**20.77**	**316**	P	**P**	**13 38 43.1**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=114,slow=13,SNR=4.3						
SEY				LR	LR	13 45 45.6	
	comp=Z,418nm,19.0s,baz=4.0,slow=34						
L27K	**Beaver Creek,**	**20.94**	**44**	P	**P**	**13 38 45.1**	**-0.5**
TOLK	**Toolik Lake Re**	**20.95**	**26**	P	**P**	**13 38 46.1**	**+0.3**
TOLK				IAmb	IAmb	13 38 55.5	
	comp=Z,2.7nm,0.8s						
BCAR	**Beaver Creek A**	**20.96**	**44**	P	**P**	**13 38 45.4**	**-0.5**
FYU	**Fort Yukon**	**21.06**	**33**	P	**P**	**13 38 46.7**	**-0.2**
K27K	**Chicken**	**21.15**	**41**	P	**P**	**13 38 46.9**	**-1.0**
K27K				IAmb	IAmb	13 38 54.8	
	comp=Z,4.3nm,1.0s						
BMAR	**Burnt Mountain**	**21.73**	**32**	P	**P**	**13 38 55.2**	**+1.0**
EGAK	**Eagle**	**21.79**	**40**	P	**P**	**13 38 53.4**	**-1.3**
EGAK				IAmb	IAmb	13 38 58.0	
	comp=Z,4.1nm,0.8s						
DAWY	**Dawson**	**22.28**	**42**	P	**P**	**13 38 59.8**	**-0.3**
HYT	**Haines Junctio**	**22.44**	**51**	P	**P**	**13 39 01.3**	**-0.7**
JEW	**Eniwo**	**30.53**	**271**	P	**P**	**13 40 15.4**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**34.87**	**211**	T	T	14 17 57.0	
	baz=20,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**34.88**	**211**	T	T	14 17 55.3	
	baz=19,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**34.89**	**211**	T	T	14 17 57.0	
	baz=20,slow=76,SNR=19						
HMH	**Humu'ula Sheep**	**35.37**	**147**	P	**P**	**13 40 56.4**	**-2.3**
H11S1	**WAKE ISLAND Hy**	**36.08**	**211**	T	T	14 19 56.9	
	baz=19,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**36.10**	**211**	T	T	14 19 56.3	
	baz=19,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**36.10**	**211**	T	T	14 19 57.8	
	baz=19,slow=76,SNR=24						
PDAR	**Pinedale Array**	**43.89**	**75**	P	**P**	**13 42 09.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=330,slow=5.2,SNR=4.7						
TXAR	**Lajitas Array**	**56.19**	**84**	P	**P**	**13 43 46.5**	**+4.1**
	comp=Z,0.2nm,0.6s,baz=310,slow=7.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**60.73**	**316**	P	**P**	**13 44 12.8**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=43,slow=6.4,SNR=6.4						
MKAR	**Makanchi Array**	**61.80**	**311**	P	**P**	**13 44 20.3**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=54,slow=6.0,SNR=1.9						
BVAR	**Borovoye Array**	**62.28**	**322**	P	**P**	**13 44 23.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=204,slow=3.3,SNR=3.7						
E62A	**Clayton Lake**	**63.10**	**48**	P	**P**	**13 44 29.7**	**0.0**
O56A	**Blue Knob Stat**	**63.20**	**58**	P	**P**	**13 44 30.2**	**-0.3**
LBNH	**Lisbon**	**63.70**	**51**	P	**P**	**13 44 34.9**	**+1.1**
ABKAR	**Akbulak array**	**69.21**	**325**	P	**P**	**13 45 08.4**	**-0.3**
WRA	**Warramunga Arr**	**83.92**	**227**	P	**P**	**13 46 31.4**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=33,slow=6.0,SNR=1.8						

*IDC **23** 13:34:42.5±0.8, 27°.69N×140°.05E, h456km±34km, mb3.0/4, mb1 3.1/7, mb1mx2.7/45, mbtmp3.9/7, Error ellipse: s-maj=101.8km s-min=11.9km az=75.0*
*NEIC **23** 13:34:43.6±2.0, 27°.7N±0°.1×140°.1E±0°.2, h477km±10km, mb4.0/10, Error ellipse: s-maj=22.6km s-min=16.8km az=92.0*
*JMA **23** 13:34:44.2±0.1, 28°.01N×140°.65E, h471km±2km, M3.7*

ISC 23 13:34:43.0±0.6, 27°.78N±0°.07×140°.2E±0°.1, h477km, n48, σ1s 64/55, mb3.9/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.88**	**111**	P	**P**	**13 35 45.2**	**-0.2**
CBIJ				S	**S**	**13 36 33.6**	**-2.4**
JCJ	**Chichijima**	**1.88**	**111**	P	**P**	**13 35 45.5**	**+0.1**
	24nm,0.3s,baz=277,slow=18,SNR=19						
JCJ				S	**S**	**13 36 33.0**	**-3.0**
	74nm,0.3s,baz=287,slow=19,SNR=25						
JCJ	**Chichijima**	**1.88**	**111**	P	**P**	**13 35 45.1**	**-0.3**
JHH2	**Haha-jima-NKT2**	**2.08**	**123**	P	**P**	**13 35 46.9**	**+0.4**
JHH2				S	**S**	**13 36 36.2**	**-1.7**
JHJ2	**Mitsune**	**5.33**	**356**	P	**P**	**13 36 11.6**	**-0.1**
JHJ2				*e*S	**S**	**13 37 21.1**	**-3.1**
JHJ2	**Mitsune**	**5.33**	**356**	P	**P**	**13 36 12.0**	**+0.3**
JHJ	**Hachijo jima 2**	**5.34**	**356**	P	**P**	**13 36 12.3**	**+0.5**
	8.7nm,0.3s,baz=229,slow=20,SNR=10						
JHJ				S	**S**	**13 37 22.0**	**-2.4**
	12nm,0.3s,baz=238,slow=22,SNR=2.1						
BSO3	**Boso 3**	**7.01**	**2**	P	**P**	**13 36 28.1**	**+0.1**
BSO3				*e*S	**S**	**13 37 51.3**	**-3.0**
JIE	**Ise**	**7.25**	**336**	P	**P**	**13 36 33.4**	**+2.6**
JKN2	**Miekihoku**	**7.28**	**333**	P	**P**	**13 36 33.2**	**+2.1**
JOD2	**Odawara 2**	**7.53**	**353**	P	**P**	**13 36 35.1**	**+1.4**
JNY	**Yasuok**	**7.82**	**346**	P	**P**	**13 36 37.9**	**+1.0**
INU	**Inuyama**	**8.03**	**341**	P	**P**	**13 36 38.2**	**-0.8**
JHU	**Hanno**	**8.09**	**355**	P	**P**	**13 36 40.5**	**+0.8**
JHU				*e*S	**S**	**13 38 17.7**	**-3.8**
JRY	**Ryogami san**	**8.29**	**353**	P	**P**	**13 36 42.2**	**+0.4**
JYT	**Yasato**	**8.43**	**360**	P	**P**	**13 36 43.7**	**+0.5**
JYT	**Yasato**	**8.43**	**360**	P	**P**	**13 36 44.1**	**+0.9**
JWT	**Wachi**	**8.54**	**332**	P	**P**	**13 36 46.5**	**+2.2**
JAG	**Ashikaga**	**8.65**	**356**	P	**P**	**13 36 45.5**	**-0.1**
JAG				*e*S	**S**	**13 38 22.6**	**-3.7**
JHO	**Hitachi**	**8.81**	**2**	P	**P**	**13 36 47.3**	**0.0**
MJAR	**Matsushiro Arr**	**8.90**	**349**	P	**P**	**13 36 49.0**	**+0.7**
	0.1nm,0.3s,baz=161,slow=11,SNR=4.5						
MAJO	**Matsushiro**	**8.90**	**349**	P	**P**	**13 36 49.2**	**+0.9**
JHS	**Saijyo**	**9.41**	**322**	P	**P**	**13 36 55.9**	**+2.1**
JMM	**Marumori**	**10.07**	**3**	P	**P**	**13 37 02.7**	**+1.9**
JOW	**Kunigami**	**10.66**	**268**	P	**P**	**13 37 06.7**	**-0.7**
JTM	**Tenmabayashi**	**13.00**	**3**	P	**P**	**13 37 34.4**	**+2.3**
KSRS	**Korea Array**	**14.14**	**316**	P	P	13 37 50.8	+6.4
	0.1nm,0.3s,baz=116,slow=5.5,SNR=2.2						
ERM	**Erimo**	**14.41**	**9**	P	**P**	**13 37 49.2**	**+2.1**
USA0B	**Ussuriysk Arra**	**17.67**	**340**	P	**P**	**13 38 19.6**	**-1.6**
USA0B				IAmb	IAmb	13 38 24.1	
	comp=Z,2.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**17.67**	**340**	P	**P**	**13 38 22.6**	**+1.5**
	baz=151,slow=10,SNR=5.2						
USRK	**Ussuriysk Ar.**	**17.67**	**340**	P	**P**	**13 38 19.5**	**-1.6**
WB0	**Warramunga Arr**	**47.60**	**187**	P	**P**	**13 42 34.7**	**-0.1**
WRAB	**Tennant Creek**	**47.77**	**187**	P	**P**	**13 42 35.7**	**-0.3**
WRAB				IAmb	IAmb	13 42 57.8	
	comp=Z,5.8nm,1.2s						
WR0	**Warramunga Arr**	**47.77**	**187**	P	**P**	**13 42 35.8**	**-0.3**
WR0				IAmb	IAmb	13 42 57.4	
	comp=Z,7.6nm,1.2s						
WB2	**Warramunga Arr**	**47.78**	**187**	P	**P**	**13 42 35.8**	**-0.3**
WB2				IAmb	IAmb	13 42 51.5	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**47.78**	**187**	P	**P**	**13 42 36.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=3.1,slow=7.9,SNR=17						
KURBB	**Kurchatov Arra**	**51.31**	**314**	P	**P**	**13 43 02.5**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=92,slow=7.9,SNR=12						
AS31	**Alice Springs**	**51.50**	**187**	P	**P**	**13 43 02.5**	**-1.1**
ASAR	**Alice Springs**	**51.51**	**187**	P	**P**	**13 43 03.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=1.4,slow=5.3,SNR=5.1						
ASAR	**Alice Springs**	**51.51**	**187**	P	**P**	**13 43 03.0**	**-0.6**
BMAR	**Burnt Mountain**	**59.00**	**26**	P	**P**	**13 43 58.1**	**+2.6**
SUCK	**Suckling Hills**	**59.43**	**34**	P	**P**	**13 44 00.9**	**+2.4**
DAWY	**Dawson**	**61.22**	**30**	P	**P**	**13 44 11.7**	**+1.3**
CAN	**Canberra**	**63.30**	**172**	P	**P**	**13 44 23.7**	**-0.5**
CAN				IAmb	IAmb	13 44 42.7	
	comp=Z,8.0nm,1.2s						
ABKAR	**Akbulak array**	**63.37**	**314**	P	**P**	**13 44 24.0**	**-0.5**
LLLB	**Lillooet**	**73.76**	**41**	P	**P**	**13 45 29.1**	**+1.4**
LLLB				IAmb	IAmb	13 45 52.8	
	comp=Z,2.2nm,0.7s						
FINES	**FINESS Array B**	**76.56**	**333**	P	**P**	**13 45 44.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=87,slow=7.1,SNR=2.1						
FINES	**FINESS Array B**	**76.56**	**333**	P	**P**	**13 45 43.9**	**+0.8**

IDC 23 13:36:56.2±9.2, 22°.95N×141°.67E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.2/51, mbtmp3.6/3, Error ellipse: s-maj=373.7km s-min=34.6km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.22**	**190**	P	P	13 44 59.1	-0.2
	0.2nm,0.7s,baz=9.4,slow=9.2,SNR=1.0						
ZALV	**Zalesovo Beam**	**52.37**	**321**	P	P	13 46 09.0	-0.9
	1.4nm,0.7s,baz=111,slow=7.9,SNR=1.6						
MKAR	**Makanchi Array**	**52.83**	**312**	P	P	13 46 14.0	+0.5
	0.5nm,0.6s,baz=89,slow=6.9,SNR=5.5						

IDC 23 13:37:21.1±4.7, 23°.16S×130°.36E, h0km, mb1 3.3/2, mb1mx3.1/36, mbtmp3.1/2, ML1.5/2, Error ellipse: s-maj=36.1km s-min=26.8km az=74.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.29**	**100**	Pn	Pn	13 38 13.2	-0.8
	0.1nm,0.3s,baz=278,slow=12,SNR=5.1						
ASAR				Pg	Pb	13 38 21.0	+0.6
	0.4nm,0.3s,baz=290,slow=17,SNR=26						
ASAR				Lg	Lg	13 39 03.1	
	1.0nm,0.3s,baz=292,slow=28,SNR=26						
WRA	**Warramunga Arr**	**4.89**	**50**	Pn	Pn	13 38 37.1	+1.2
	0.0nm,0.3s,baz=221,slow=11,SNR=1.3						
WRA				Pg	Pg	13 38 54.5	-0.4
	0.1nm,0.3s,baz=229,slow=15,SNR=6.7						
WRA				Sn	Sn	13 39 37.3	+4.0
	0.1nm,0.3s,baz=234,slow=22,SNR=5.6						
WRA				Lg	Lg	13 39 57.5	
	0.2nm,0.3s,baz=232,slow=26,SNR=5.6						
STKA	**Stephens Creek**	**13.21**	**134**	Pn	Pn	13 40 31.0	+1.0
	0.1nm,0.3s,baz=307,slow=20,SNR=2.2						

*IDC **23** 13:48:20.8±0.7, 27°.61N×66°.03E, h0km, mb4.2/27, mb1 4.3/30, mb1mx4.2/65, mbtmp4.2/30, ML3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx3.1/53, Error ellipse: s-maj=17.1km s-min=12.9km az=11.0*
*MOS **23** 13:48:22.7±1.1, 27°.76N×66°.14E, h18km, mb4.9/20, Error ellipse: s-maj=9.1km s-min=5.1km az=85.9*
*NEIC **23** 13:48:22.7±1.7, 27°.62N±0°.05×66°.07E±0°.07, h10km±1km, mb4.4/28, Error ellipse: s-maj=11.7km s-min=7.5km az=234.0*

ISC 23 13:48:24.3±0.4, 27°.56N±0°.05×66°.06E±0°.04, h25km, n162, σ2s 08/174, mb4.4/51, 12C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.17**	**42**	P	**Pn**	**13 50 06.3**	**-1.3**
KBL	**Kabul**	**7.42**	**19**	P	**Pn**	**13 50 09.9**	**-1.2**
KBL	**Kabul**	**7.42**	**19**	Pn	**Pn**	**13 50 09.9**	**-1.2**
KBL	**Kabul**	**7.42**	**19**	P	**Pn**	**13 50 12.2**	**+1.1**
	SNR=7.3						
KBL				S	**Sn**	**13 51 36.7**	**+2.1**
HRA	**Herat**	**7.55**	**335**		**Pn**	**13 50 12.3**	**-0.7**
AJM	**Ajmer**	**7.73**	**96**	*e*P	**Pn**	**13 50 15.0**	**-0.3**
WSAR	**Wadi Sarin**	**7.97**	**239**	P	**Pn**	**13 50 17.0**	**-1.6**
	1.5nm,0.3s,baz=359,slow=1.5,SNR=22						
WSAR				S	**Sn**	**13 51

comp=Z,17nm,0.8s
KK31 Karatay Array 15.93 12 P **P** 13 52 09.8 -0.3
KK31 IAmb IAmb 13 52 14.0
comp=Z,17nm,0.8s
KKAR Karatay Array 15.93 12 P **P** 13 52 10.1 0.0
KKAR Karatay Array 15.93 12 P **P** 13 52 10.1 0.0
AAK Ala-Archa 16.54 22 Pn **Pn** 13 52 12.3 -2.3
comp=Z,0.6nm,0.3s,baz=228,slow=5.6,SNR=9.0
AAK Sn **Sn** 13 55 09.1 -8.5
comp=Z,0.4nm,0.3s,baz=339,slow=19,SNR=1.7
AAK Ala-Archa 16.54 22*ceP* **Pn** 13 52 12.2 -2.3
AAK pmax pmax
comp=Z,55nm,1.7s
AAK Ala-Archa 16.54 22 Pn **Pn** 13 52 12.4 -2.3
BOOM Boomskoye usch 16.93 26 P **Pn** 13 52 16.3 -3.3
BOOM pmax pmax
comp=Z,10.0nm,0.9s
BOOM Boomskoye usch 16.93 26 Pn **Pn** 13 52 16.3 -3.3
KDJ Kajisay 17.14 29 P **Pn** 13 52 21.4 -0.9
KDJ pmax pmax
comp=Z,10.0nm,0.9s
KDJ Kajisay 17.14 29 Pn **Pn** 13 52 21.4 -0.9
PRZ Przheval'sk 17.96 31 P **Pn** 13 52 31.5 -1.0
PRZ pmax pmax
comp=Z,18nm,0.9s
PRZ Przheval'sk 17.96 31 P **Pn** 13 52 31.5 -1.0
PRZ IAmb IAmb 13 52 43.5
comp=Z,18nm,0.9s
RAYN Ar Rayn 18.98 262 P **P** 13 52 42.6 -1.4
RAYN pmax pmax
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 18.98 262 P **P** 13 52 42.6 -1.4
GTK Tadong 20.01 85 *eP* Pn 13 52 59.0 +1.9
AKT Akhty 20.46 317 *eP* **P** 13 52 59.4 -0.7
AKT *e* 13 53 15.2
AKT pmax pmax
comp=Z,36nm,0.9s
GNI Garni 21.64 311 P **P** 13 53 13.1 +0.2
comp=Z,8.4nm,0.6s,baz=95,slow=12,SNR=1.4
GNI Garni 21.64 311 *i* P **P** 13 53 14.5 +1.6
GNI pmax pmax
comp=Z,42nm,1.2s
LSA Lhasa 22.12 79 P **P** 13 53 21.8 +3.4
LSA pmax pmax
comp=Z,79nm,0.7s
ABKAR Akbulak array 22.17 349 **P** 13 53 17.8 -0.5
SIRT Sirnak 22.20 302 P **P** 13 53 18.4 -0.5
KZRT Kazreti 22.48 313 P **P** 13 53 27.4 +5.6
GURO Guroymak-BITLI 22.86 305 P **P** 13 53 26.8 +0.8
GURO IAmb IAmb 13 53 32.6
comp=Z,17nm,1.1s
MAKZ Makanchi 22.94 29 P **P** 13 53 25.0 -1.5
MAKZ pmax pmax
comp=Z,23nm,0.7s
MAKZ Makanchi 22.94 29 P **P** 13 53 25.0 -1.5
MK31 Makanchi Array 23.07 29 P **P** 13 53 26.4 -1.4
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 23.07 29 P **P** 13 53 26.4 -1.4
MK31 IAmb IAmb 13 53 32.1
comp=Z,9.7nm,0.8s
MKAR Makanchi Array 23.07 29 P **P** 13 53 25.9 -1.9
comp=Z,12nm,0.9s,baz=203,slow=12,SNR=40
MKAR Makanchi Array 23.07 29 P **P** 13 53 26.8 -1.1
ZEI Tsey 23.54 316 *eP* **P** 13 53 31.4 -1.4
ZEI pmax pmax
comp=Z,6.0nm,0.5s
AKTO Aktyubinsk 23.66 347 P **P** 13 53 34.0 +0.5
comp=Z,4.9nm,0.6s,baz=157,slow=9.8,SNR=22
ONI Oni 23.71 315 P **P** 13 53 34.6 +0.3
ONI pmax pmax
comp=Z,17nm,1.4s
ONI Oni 23.71 315 P **P** 13 53 34.6 +0.3
ONI IAmb IAmb 13 53 50.1
comp=Z,17nm,1.4s
WMQ Urumqi 23.81 41 *eP* **P** 13 53 38.4 +3.2
WMQ pP sP 13 53 45.4 -0.9
WMQ pmax pmax
comp=Z,43nm,1.1s
WMQ pmax pmax
comp=Z,270nm,4.7s
NCK Nalchik 24.12 317 *eP* **P** 13 53 37.5 -0.6
NCK pmax pmax
comp=Z,24nm,0.5s
KBZ Khabaz 24.67 317 P **P** 13 53 43.8 +0.8
comp=Z,2.5nm,0.6s,baz=129,slow=4.3,SNR=7.3
KBZ Khabaz 24.67 317*ceP* **P** 13 53 44.2 +1.2
KBZ pmax pmax
comp=Z,6.0nm,0.9s
SHA1 Shidzhatmaz 24.82 317 *i* P **P** 13 53 43.5 -1.2
KURBB Kurchatov Arra 24.91 19 P **P** 13 53 44.5 -0.7
comp=Z,9.0nm,0.7s,baz=213,slow=8.7,SNR=24
KIV Kislovodsk 24.92 317 *eP* **P** 13 53 45.7 +0.2
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 24.92 317 P **P** 13 53 46.7 +1.2
KIV IAmb IAmb 13 53 52.1
comp=Z,7.8nm,0.8s
KURK Kurchatov 25.02 19 P **P** 13 53 44.5 -1.7
KURK Kurchatov 25.02 19 P **P** 13 53 44.5 -1.7
BVAR Borovoye Array 25.64 6 P **P** 13 53 49.7 -2.0
comp=Z,1.1nm,0.6s,baz=197,slow=14,SNR=21
BRVK Borovoye 25.67 6*ceP* **P** 13 53 52.5 +0.5
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 25.67 6 P **P** 13 53 51.5 -0.4
BRVK IAmb IAmb 13 53 57.0
comp=Z,9.4nm,0.8s
BELG Belogornoye 28.38 336 P **P** 13 54 16.0 -0.3
comp=Z,11nm,0.7s,baz=138,slow=2.6,SNR=6.6
BELG Belogornoye 28.38 336 *i* P **P** 13 54 17.3 +1.0
BELG pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 29.35 351 P P 13 54 29.8 +4.8
comp=Z,0.8nm,0.3s,baz=141,slow=7.3,SNR=4.5
ARU Arti 29.35 351*c i* P **P** 13 54 26.1 +1.2
ARU 13 55 17.8
ARU S **S** 13 59 21.3 +4.5
ARU SS **SnSn** 14 00 47.0 +3.1
ARU pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 29.76 23 P **P** 13 54 29.3 +0.7
comp=Z,3.0nm,0.7s,baz=223,slow=10,SNR=9.7
ZALV Zalesovo Beam 29.76 23 P **P** 13 54 28.5 -0.1
ZALV Zalesovo Beam 29.76 23 P **P** 13 54 28.5 -0.1
GTA Gaotai 30.36 58 ⇓P **P** 13 54 38.8 +4.5
GTA pP pP 13 54 43.1 +1.0
GTA sP sP 13 54 46.1 +0.8
GTA pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 31.51 100 P **P** 13 54 45.4 +0.9
comp=Z,0.8nm,0.7s,baz=287,slow=9.3,SNR=4.1
KIRV Kirov 33.12 344*ceP* **P** 13 54 58.5 +0.5
AKASG Malin Array Be 36.19 320 P **P** 13 55 24.3 -0.4
comp=Z,0.9nm,0.4s,baz=121,slow=7.5,SNR=2.1
AKBB Malin Array Si 36.19 320*ceP* **P** 13 55 23.6 -1.2
MLR Muntele Rosu 36.42 310 P **P** 13 55 28.6 +1.6
MLR pmax pmax
comp=Z,16nm,1.3s
MLR Muntele Rosu 36.42 310 P **P** 13 55 28.6 +1.6
MLR IAmb IAmb 13 55 40.0
comp=Z,16nm,1.3s
PRGR Permogore 36.71 344 *eP* **P** 13 55 27.2 -1.8
PRGR pmax pmax
comp=Z,43nm,1.4s
SONM Songino Array 37.25 46 P **P** 13 55 35.5 +1.5
comp=Z,3.9nm,0.8s,baz=251,slow=8.2,SNR=15
SONM LR LR 14 13 59.0
comp=Z,196nm,18.4s,baz=299,slow=41
SONM Songino Array 37.25 46 IAmb IAmb 13 55 38.2
comp=Z,2.5nm,0.8s
BURAR Bucovina Array 37.51 313 P **P** 13 55 35.5 -0.7
BURAR IAmb IAmb 13 55 43.8
comp=Z,3.3nm,0.8s
ULN Ulaanbaatar 37.68 46*ceP* **P** 13 55 39.3 +1.6
ULN pmax pmax
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 37.80 339 *eP* **P** 13 55 36.5 -1.8
KLMR pmax pmax
comp=Z,28nm,1.2s
KLMR Klimovskoe 37.80 339 *eP* **P** 13 55 36.6 -1.8
KLMR AMP 13 55 40.4
comp=Z,28nm,1.2s
ITM Ithomi 38.20 296 P **P** 13 55 42.3 +0.3
HHC Hu-ho-hao-te 39.48 58 *eP* **P** 13 55 50.6 -2.2

CRVS Cervenica-Dubn 40.28 314 *eP* **P** 13 56 02.6 +3.4
CRVS Cervenica-Dubn 40.28 314 *eP* **P** 13 56 02.6 +3.4
BJI Beijing 42.95 60 P **P** 13 56 19.1 -2.1
BJI pmax pmax
comp=Z,6.0nm,0.5s
FIA1 FINESS Array S 43.07 333 P **P** 13 56 22.0 +0.1
FIA1 IAmb IAmb 13 56 28.7
comp=Z,6.3nm,0.8s
FINES FINESS Array B 43.07 333 P **P** 13 56 21.6 -0.3
comp=Z,2.3nm,0.5s,baz=127,slow=8.5,SNR=11
FINES FINESS Array B 43.07 333 P **P** 13 56 21.9 0.0
NRIK Noril'sk 43.66 11 P **P** 13 56 27.0 +0.5
comp=Z,2.6nm,0.7s,baz=201,slow=4.2,SNR=2.1
NRIK Noril'sk 43.66 11*ceP* **P** 13 56 28.2 +1.7
NRIK pmax pmax
comp=Z,6.0nm,1.1s
NRIK Noril'sk 43.66 11 IAmb IAmb 13 56 35.0
comp=Z,5.7nm,1.1s
GERES GERESS Array B 45.28 313 P **P** 13 56 40.2 +0.3
comp=Z,1.3nm,0.6s,baz=90,slow=6.7,SNR=5.3
NJ2 Nanjing 45.66 71 *eP* **P** 13 56 40.8 -2.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
GRA1 Grafenberg Arr 47.00 313 P **P** 13 56 54.0 +0.7
GRF Grafenberg Arr 47.00 313 P **P** 13 56 54.1 +0.7
GRF pmax pmax
comp=Z,11nm,0.5s
GRFO Grafenberg 47.00 313 P **P** 13 56 54.3 +1.0
GRFO pmax pmax
comp=Z,10.0nm,0.5s
GRFO Grafenberg 47.00 313 P **P** 13 56 54.2 +1.0
ARCES ARCESS Array B 48.08 342 P **P** 13 57 01.6 +0.2
comp=Z,3.3nm,0.8s,baz=133,slow=6.8,SNR=12
ARCES ARCESS Array B 48.08 342 P **P** 13 57 01.4 -0.1
ARCES pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 48.08 342 P **P** 13 57 01.4 -0.1
KEST Kesra 48.40 295 P **P** 13 57 06.0 +1.6
comp=Z,2.4nm,0.6s,baz=113,slow=6.0,SNR=3.6
NOA NORSAR Array B 49.40 328 P **P** 13 57 10.8 -0.8
comp=Z,1.0nm,0.7s,baz=108,slow=7.4,SNR=4.8
KSRS Korea Array 52.27 63 P **P** 13 57 34.7 +1.0
comp=Z,3.7nm,0.6s,baz=272,slow=7.5,SNR=25
YAK Yakutsk 53.71 32*ceP* **P** 13 57 45.0 +1.1
YAK pmax pmax
comp=Z,5.0nm,0.6s
KLR Kul'dur 54.05 48 P **P** 13 57 47.6 +1.1
comp=Z,4.7nm,0.7s,baz=273,slow=7.4,SNR=17
KLR Kul'dur 54.05 48*ceP* **P** 13 57 47.1 +0.6
KLR pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 55.60 20 P **P** 13 57 57.6 +0.3
comp=Z,1.0nm,0.5s,baz=345,slow=3.9,SNR=4.3
TIXI Tiksi 55.60 20*ceP* **P** 13 57 58.1 +0.7
TIXI Tiksi 55.60 20 P **P** 13 57 57.6 +0.3
TIXI IAmb IAmb 13 58 01.1
comp=Z,3.5nm,1.1s
ESDC Sonseca Array 58.22 301 P **P** 13 58 15.6 -1.0
comp=Z,1.0nm,0.8s,baz=64,slow=5.8,SNR=8.4
ESDC Sonseca Array 58.22 301 P **P** 13 58 16.0 -0.5
TOA0 Torodi Ar. Sit 61.43 270 P **P** 13 58 38.5 -0.4
TORD Torodi Ar. Bea 61.43 270 P **P** 13 58 39.0 +0.1
comp=Z,3.0nm,0.8s,baz=32,slow=4.0,SNR=12
TORD Torodi Ar. Bea 61.43 270 P **P** 13 58 39.1 +0.1
TORD IAmb IAmb 13 58 43.9
comp=Z,4.9nm,1.1s
ERM Erimo 62.96 55*ceP* **P** 13 58 49.7 +0.9
ERM pmax pmax
comp=Z,22nm,1.7s
SEY Seymchan 64.20 30 P **P** 13 58 55.5 -1.1
comp=Z,2.2nm,0.5s,baz=289,slow=10,SNR=5.9
WRA Warramunga Arr 81.19 118 P **P** 14 00 38.6 +0.4
comp=Z,3.3nm,0.8s,baz=319,slow=4.6,SNR=18
WRA Warramunga Arr 81.19 118 IAmb IAmb 14 00 41.4
comp=Z,0.4nm,1.3s
ASAR Alice Springs 82.92 121 P **P** 14 00 47.7 +0.5
comp=Z,1.8nm,0.7s,baz=309,slow=5.1,SNR=15
INK Inuvik 83.33 7 P **P** 14 00 49.5 +0.9
comp=Z,2.4nm,0.6s,baz=342,slow=6.3,SNR=5.3
INK Inuvik 83.33 7 IAmb IAmb 14 01 17.7
comp=Z,5.2nm,1.0s
ILAR Eielson Array 84.46 14 P **P** 14 00 54.6 +0.1
comp=Z,0.5nm,0.7s,baz=330,slow=4.6,SNR=6.1

*JMA **23** 13:54:03.7±0.3, 27.69N×140.08E, h477km±5km, M4.0*
*IDC **23** 13:54:04.5±0.8, 27.66N×139.88E, h474km±8km, mb3.7/31, mb1 3.8/39, mb1mx3.7/61, mbtmp4.6/39, Error ellipse: s-maj=11.2km s-min=7.6km az=78.0*
*NEIC **23** 13:54:04.8±1.5, 27.65N±0.09×139.9E±0.1, h475km±6km, mb4.4/94, Error ellipse: s-maj=14.5km s-min=12.8km az=92.0*

ISC 23 13:54:04.0±0.5, **27.65N**±0.04×**139.87E**±0.06, **h471**km±5km, **n200, σ1$22/229, mb4.3**/76, **1C-1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.13**	**105**	P	**P**	**13 55 06.8**	**-0.4**
CBIJ				S	**S**	**13 55 55.9**	**-2.5**
JCJ	**Chichijima**	**2.13**	**105**	P	**P**	**13 55 06.8**	**-0.3**
	659nm,0.3s,baz=9.1,slow=5.0,SNR=374						
JCJ				S	**S**	**13 55 55.2**	**-3.2**
	302nm,0.3s,baz=288,slow=19,SNR=11						
JCJ	**Chichijima**	**2.13**	**105**	P	**P**	**13 55 06.5**	**-0.7**
JHH2	**Haha-jima-NKT2**	**2.29**	**116**	P	**P**	**13 55 08.2**	**+0.1**
JHH2				S	**S**	**13 55 58.8**	**-1.3**
JAOM	**Aogashimamukai**	**4.80**	**359**	P	**P**	**13 55 28.6**	**+1.1**
JAOM				*e*S	**S**	**13 56 34.8**	**-0.8**
JHCJ	**Hachijojimakas**	**5.40**	**359**	P	**P**	**13 55 33.4**	**+0.2**
JHCJ				*e*S	**S**	**13 56 42.4**	**-3.6**
JHJ2	**Mitsune**	**5.44**	**360**	P	**P**	**13 55 34.2**	**+0.7**
JHJ2	**Mitsune**	**5.44**	**360**	P	**P**	**13 55 33.8**	**+0.3**
JHJ	**Hachijo jima 2**	**5.45**	**359**	P	**P**	**13 55 33.3**	**-0.3**
	32nm,0.3s,baz=163,slow=14,SNR=14						
JHJ				S	**S**	**13 56 42.6**	**-4.2**
	27nm,0.3s,baz=249,slow=20,SNR=7.3						
BSO1	**Boso 1**	**7.04**	**7**	P	**P**	**13 55 50.1**	**+1.1**
BSO1				S	**S**	**13 57 13.6**	**-1.6**
JIE	**Ise**	**7.25**	**339**	P	**P**	**13 55 54.5**	**+2.8**
JOD2	**Odawara 2**	**7.62**	**355**	P	**P**	**13 55 55.5**	**-0.1**
JOD2				S	**S**	**13 57 25.1**	**-2.1**
JMN	**Monobe**	**7.96**	**321**	P	**P**	**13 56 01.5**	**+2.3**
JTO	**Tosashimizu**	**8.02**	**312**	P	**P**	**13 56 02.8**	**+2.9**
INU	**Inuyama**	**8.05**	**343**	P	**P**	**13 56 01.9**	**+1.7**
JGF	**Kuroka**	**8.21**	**345**	P	**P**	**13 56 02.1**	**+0.2**
JRY	**Ryogami san**	**8.38**	**355**	P	**P**	**13 56 03.9**	**+0.2**
JRY				*e*S	**S**	**13 57 39.8**	**-2.2**
JWT	**Wachi**	**8.51**	**334**	P	**P**	**13 56 06.8**	**+1.7**
JYT	**Yasato**	**8.55**	**2**	P	**P**	**13 56 05.3**	**-0.2**
MJAR	**Matsushiro Arr**	**8.97**	**351**	P	**P**	**13 56 09.6**	**-0.5**
	0.3nm,0.3s,baz=172,slow=11,SNR=19						
MJAR				S	**S**	**13 57 48.0**	**-5.6**
	0.1nm,0.3s,baz=147,slow=11,SNR=3.1						
MJAR	**Matsushiro Arr**	**8.97**	**351**	P	**P**	**13 56 08.7**	**-1.3**
MAJO	**Matsushiro**	**8.98**	**351**	P	**P**	**13 56 09.0**	**-1.0**
MJB9	**Matsu-Tunnel**	**8.98**	**351**	P	**P**	**13 56 09.7**	**-0.3**
JSU	**Suzuyama**	**9.05**	**297**	P	**P**	**13 56 13.1**	**+2.1**
JHS	**Saijyo**	**9.32**	**323**	P	**P**	**13 56 16.4**	**+2.6**
JHS	**Saijyo**	**9.32**	**323**	P	**P**	**13 56 16.1**	**+2.3**
JAMN	**Amaminishikomi**	**9.48**	**276**	P	**P**	**13 56 18.6**	**+3.1**
JNU	**Nakatsue**	**9.49**	**307**	P	**P**	**13 56 17.6**	**+2.0**
	baz=86,slow=4.0,SNR=8.0						
JNU				S	**S**	**13 58 00.5**	**-3.3**
	0.9nm,0.3s,baz=135,slow=1.4,SNR=1.4						
JSJ	**Shimokoshiki**	**9.70**	**297**	P	**P**	**13 56 20.1**	**+2.2**
JMM	**Marumori**	**10.21**	**4**	P	**P**	**13 56 24.1**	**+0.8**
JOW	**Kunigami**	**10.35**	**268**	P	**P**	**13 56 27.4**	**+2.4**
	62nm,0.3s,baz=109,slow=17,SNR=131						
JOW	**Kunigami**	**10.35**	**268**	P	**P**	**13 56 27.4**	**+2.4**
JOW	**Kunigami**	**10.35**	**268**	P	**P**	**13 56 27.1**	**+2.1**
JSD	**Sado**	**10.44**	**353**	P	**P**	**13 56 25.5**	**-0.3**
JTU	**Tsushima**	**11.29**	**310**	P	**P**	**13 56 35.2**	**+0.2**
JMK	**Ichinoseki**	**11.33**	**5**	P	**P**	**13 56 36.8**	**+1.6**
JMK				*e*S	**S**	**13 58 40.2**	**+0.3**
JTM	**Tenmabayashi**	**13.14**	**4**	P	**P**	**13 56 55.7**	**+1.0**
JOT	**Ohata**	**13.73**	**4**	P	**P**	**13 57 02.6**	**+1.6**
KSRS	**Korea Array**	**14.03**	**317**	P	**P**	**13 57 04.4**	**+0.2**
	0.2nm,0.3s,baz=130,slow=10,SNR=17						
KSRS				PcP	**PcP**	**14 01 49.4**	**+0.8**
	0.1nm,0.3s,baz=169,slow=1.3,SNR=4.8						
JKB	**Kayabe**	**14.23**	**4**	P	**P**	**13 57 07.8**	**+1.4**
ERM	**Erimo**	**14.58**	**10**	P	**P**	**13 57 10.6**	**+0.6**
JEW	**Eniwo**	**15.21**	**4**	P	**P**	**13 57 16.9**	**+0.2**
ASAJ	**Asahikawa**	**16.58**	**7**	P	**P**	**13 57 32.0**	**+0.9**

0.8nm,0.3s,baz=206,slow=15,SNR=11
NACB Ninganchiao 16.80 262 P **P** 13 57 33.6 -0.2
NACB IAmb IAmb 13 57 59.4
comp=Z,11nm,0.8s
YHNB Yeheng 16.87 264 P **P** 13 57 34.6 0.0
YHNB IAmb IAmb 13 57 36.9
comp=Z,20nm,1.1s
YULB Yu-li 17.29 260 P **P** 13 57 38.8 -0.1
SSLB Suanglung 17.48 262 P **P** 13 57 40.9 +0.1
USA0B Ussuriysk Arra 17.69 341 P **P** 13 57 43.3 +0.8
USA0B IAmb IAmb 13 57 45.1
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 17.69 341 P **P** 13 57 43.1 +0.6
baz=162,slow=8.7,SNR=32
USRK Ussuriysk Ar. 17.69 341 P **P** 13 57 43.3 +0.7
TPUB Ta-pu 17.90 260 P **P** 13 57 45.6 +0.6
CN2 Changchun 19.87 328 *eP* **P** 13 58 04.8 +2.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 22.44 346 P **P** 13 58 27.0 +0.9
comp=Z,3.2nm,0.5s,baz=161,slow=12,SNR=9.7
KLR S **S** 14 01 58.5 +0.4
comp=Z,1.4nm,0.5s,baz=242,slow=6.3,SNR=3.4
KLR PcP **PcP** 14 02 03.8 +1.0
comp=Z,0.7nm,0.3s,baz=151,slow=2.5,SNR=3.7
KLR ScP **ScP** 14 04 54.2 -1.2
comp=Z,1.1nm,0.6s,baz=204,slow=5.7,SNR=4.6
ENH Enshi 26.68 283 P **P** 13 59 02.5 -1.5
ENH IAmb IAmb 13 59 05.5
comp=Z,24nm,0.9s
HHC Hu-ho-hao-te 26.72 307 *eP* **P** 13 59 04.4 0.0
XAN Xi'an 27.26 291 P **P** 13 59 09.4 +0.2
XAN pmax pmax
comp=Z,17nm,0.8s
PETK Petropavlovsk- 28.66 23 P **P** 13 59 21.9 +0.7
comp=Z,0.5nm,0.5s,baz=195,slow=4.6,SNR=5.6
PETK Petropavlovsk- 28.66 23 P **P** 13 59 22.5 +1.3
PETK Petropavlovsk- 28.66 23 P **P** 13 59 22.5 +1.3
FAKI Fak Fak 31.27 195 P **P** 13 59 44.1 -0.2
FAKI IAmb IAmb 14 00 06.2
comp=Z,28nm,1.1s
LZH Lanzhou 31.59 295 ⇑P **P** 13 59 45.6 -1.4
LZH pmax pmax
comp=Z,32nm,1.0s
TOLI2 Tolitoli 32.11 218 P **P** 13 59 51.0 -0.5
TOLI2 IAmb IAmb 13 59 52.4
comp=Z,5.1nm,0.9s
ULN Ulaanbaatar 32.51 317 P **P** 13 59 55.3 +0.5
ULN IAmb IAmb 13 59 56.2
comp=Z,11nm,1.3s
SONM Songino Array 32.90 317 P **P** 13 59 58.3 +0.3
comp=Z,1.6nm,0.6s,baz=129,slow=8.7,SNR=7.3
SONM PcP **PcP** 14 02 29.4 +0.4
comp=Z,1.0nm,0.4s,baz=153,slow=4.2,SNR=6.3
SONM ScP **ScP** 14 05 28.6 +0.6
comp=Z,0.7nm,0.5s,baz=165,slow=6.0,SNR=2.6
SONM Songino Array 32.90 317 P **P** 13 59 57.6 -0.4
LUWI Luwuk 32.93 213 P **P** 13 59 57.5 -1.0
SLVN Son La 33.25 267 P **P** 14 00 01.7 +0.4
SLVN IAmb IAmb 14 00 02.8
comp=Z,12nm,1.1s
YAK Yakutsk 35.04 352 S **S** 14 05 08.1 -5.1
comp=Z,3.6nm,0.3s,baz=104,slow=2.1,SNR=2.3
GTA Gaotai 35.12 300 ⇓P **P** 14 00 16.9 0.0
GTA pmax pmax
comp=Z,8.0nm,1.0s
CHAI Chaiyaphum 36.93 260 P **P** 14 00 33.1 +1.0
comp=Z,40nm,0.9s
AMKA Amchitka 37.89 40 P **P** 14 00 39.9 +0.4
CMMT Chiang Mai 38.48 266 P **P** 14 00 44.3 -0.5
comp=Z,18nm,1.9s
CHTO Chiang Mai 38.48 266 P **P** 14 00 45.4 +0.6
comp=Z,18nm,1.9s
CHTO Chiang Mai 38.48 266 P **P** 14 00 44.9 +0.1
CHTO IAmb IAmb 14 00 46.0
comp=Z,8.9nm,0.8s
CMAR Chiang Mai Arr 38.61 265 P **P** 14 00 46.6 +0.8
comp=Z,1.7nm,0.5s,baz=76,slow=5.4,SNR=12
CMAR PcP **PcP** 14 02 46.6 0.0
comp=Z,1.0nm,0.6s,baz=143,slow=1.3,SNR=5.9
CMAR Chiang Mai Arr 38.61 265 P **P** 14 00 45.9 +0.1
KIWB Kanaga Island 40.12 41 P **P** 14 00 58.7 +1.1
SOEI Soe 40.14 204 P **P** 14 00 58.1 -0.2
SOEI IAmb IAmb 14 01 16.6
comp=Z,17nm,0.9s
ADK Adak 40.41 41 P **P** 14 01 00.7 +0.8
ADK IAmb IAmb 14 01 01.8
comp=Z,11nm,0.8s
GSTR Great Sitkin T 40.84 41 P **P** 14 01 04.6 +1.2
ATKA Atka Island 41.96 41 P **P** 14 01 13.0 +0.7
ATKA IAmb IAmb 14 01 39.7
comp=Z,36nm,1.4s
KNRA Kununurra 44.40 195 P **P** 14 01 31.9 +0.1
KNRA IAmb IAmb 14 01 33.3
comp=Z,6.7nm,0.5s
TIXI Tiksi 44.46 355 P **P** 14 01 31.5 0.0
comp=Z,1.7nm,0.3s,baz=131,slow=4.9,SNR=8.1
TIXI Tiksi 44.46 355 P **P** 14 01 31.7 +0.1
WMQ Urumqi 44.58 305 *eP* **P** 14 01 35.3 +2.3
AKUT Akutan 47.35 41 P **P** 14 01 54.8 +0.8
WB0 Warramunga Arr 47.44 187 P **P** 14 01 54.7 -0.3
WB0 IAmb IAmb 14 01 55.6
comp=Z,8.8nm,0.6s
FITZ Fitzroy Crossi 47.52 198 P **P** 14 01 56.0 +0.3
FITZ IAmb IAmb 14 02 05.2
comp=Z,8.5nm,1.3s
WRAB Tennant Creek 47.61 187 P **P** 14 01 55.8 -0.5
WRAB IAmb IAmb 14 01 57.0
comp=Z,12nm,1.1s
WR0 Warramunga Arr 47.61 187 P **P** 14 01 56.0 -0.3
WR0 IAmb IAmb 14 01 56.9
comp=Z,9.8nm,0.7s
WB2 Warramunga Arr 47.62 187 P **P** 14 01 55.8 -0.5
WB2 IAmb IAmb 14 01 57.0
comp=Z,7.2nm,0.8s
WRA Warramunga Arr 47.62 187 P **P** 14 01 56.1 -0.3
comp=Z,5.2nm,0.3s,baz=3.7,slow=7.7,SNR=159
WRA PcP **PcP** 14 03 18.2 +1.1
comp=Z,2.2nm,0.6s,baz=360,slow=3.7,SNR=6.3
WRA ScP **ScP** 14 06 25.4 -0.5
comp=Z,1.7nm,0.7s,baz=360,slow=4.9,SNR=7.8
WRA S **S** 14 08 11.7 -4.8
comp=Z,0.7nm,0.9s,baz=358,slow=18,SNR=2.4
WRA Warramunga Arr 47.62 187 P **P** 14 01 55.5 -0.9
ZAA0 Zalesovo Array 47.72 319 P **P** 14 01 56.4 -0.3
ZAA0 IAmb IAmb 14 01 57.4
comp=Z,7.1nm,0.9s
ZALV Zalesovo Beam 47.72 319 P **P** 14 01 56.6 -0.1
comp=Z,4.1nm,0.4s,baz=102,slow=7.2,SNR=16
ZALV PcP **PcP** 14 03 16.8 -0.2
comp=Z,4.2nm,0.4s,baz=130,slow=4.2,SNR=11
ZALV Zalesovo Beam 47.72 319 P **P** 14 01 56.3 -0.5
ZALV **PcP** 14 03 16.4 -0.6
CTA Charters Tower 47.86 172 P **P** 14 01 58.8 +0.6
comp=Z,9.9nm,1.2s,baz=323,slow=5.1,SNR=1.9
GSI Gunungsitoli 48.21 244 P **P** 14 02 00.9 -0.1
GSI IAmb IAmb 14 02 02.0
comp=Z,22nm,1.1s
MK31 Makanchi Array 48.53 309 P **P** 14 02 03.1 +0.1
MK31 IAmb IAmb 14 02 04.4
comp=Z,5.1nm,0.9s
MKAR Makanchi Array 48.53 309 P **P** 14 02 03.4 +0.4
comp=Z,9.7nm,1.0s,baz=90,slow=9.7,SNR=33
MKAR PcP **PcP** 14 03 20.3 +0.1
comp=Z,1.9nm,0.6s,baz=77,slow=6.4,SNR=8.0
MKAR ScP **ScP** 14 06 28.8 -0.8
comp=Z,0.6nm,0.7s,baz=86,slow=5.0,SNR=4.3
MKAR Makanchi Array 48.53 309 P **P** 14 02 02.9 -0.1
MAKZ Makanchi 48.75 309 P **P** 14 02 04.7 +0.1
MAKZ IAmb IAmb 14 02 06.2
comp=Z,14nm,1.3s
SDPT Sand Point 50.58 40 P **P** 14 02 17.6 -0.4
KURK Kurchatov 51.13 314 P **P** 14 02 22.8 +0.7
KURK **PcP** 14 03 29.7 0.0
KURBB Kurchatov Arra 51.18 314 P **P** 14 02 22.8 +0.3
comp=Z,17nm,0.5s,baz=91,slow=7.8,SNR=71
KURBB PcP **PcP** 14 03 29.7 -0.2
comp=Z,2.0nm,0.6s,baz=99,slow=4.1,SNR=6.3
AS31 Alice Springs 51.34 187 P **P** 14 02 22.7 -1.2
ASAR Alice Springs 51.34 187 P **P** 14 02 23.7 -0.3
comp=Z,2.1nm,0.5s,baz=358,slow=5.0,SNR=36
ASAR PcP **PcP** 14 03 32.0 +1.2
comp=Z,1.5nm,0.7s,baz=7.3,slow=3.8,SNR=4.8
ASAR ScP **ScP** 14 06 40.6 -1.2
comp=Z,0.6nm,0.6s,baz=357,slow=4.1,SNR=5.2
ASAR Alice Springs 51.34 187 P **P** 14 02 23.2 -0.8

NRIK	**Noril'sk**	**51.39**	**339**	P	**P**	**14 02 24.0**	**+0.4**
	comp=Z,11nm,0.6s,baz=109,slow=8.3,SNR=8.0						
NRIK	**Noril'sk**	**51.39**	**339**	P	**P**	**14 02 23.7**	**+0.1**
NRIK				IAmb	IAmb	14 02 24.8	
	comp=Z,11nm,0.8s						
PRZ	**Przheval'sk**	**51.39**	**304**	P	**P**	**14 02 25.2**	**+0.8**
KDJ	**Kajisay**	**52.32**	**303**	P	**P**	**14 02 31.7**	**+0.6**
KDJ				IAmb	IAmb	14 02 34.3	
	comp=Z,9.0nm,1.2s						
PSA00	**Pilbara Seismi**	**52.63**	**204**	P	**P**	**14 02 33.0**	**-0.2**
PSA00				IAmb	IAmb	14 02 59.8	
	comp=Z,26nm,1.4s						
PSA00	**Pilbara Seismi**	**52.63**	**204**	P	**P**	**14 02 33.0**	**-0.2**
PSA00				IAmb	IAmb	14 02 35.7	
	comp=Z,2.9nm,0.9s						
BOOM	**Boomskoye usch**	**53.20**	**304**	P	**P**	**14 02 38.1**	**+0.7**
BOOM				IAmb	IAmb	14 02 39.2	
	comp=Z,10nm,0.7s						
AAK	**Ala-Archa**	**54.25**	**304**	P	**P**	**14 02 45.6**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=99,slow=4.9,SNR=6.8						
AAK	**Ala-Archa**	**54.25**	**304**	P	**P**	**14 02 45.5**	**+0.7**
AAK				IAmb	IAmb	14 02 46.0	
	comp=Z,5.3nm,0.6s						
OHAK	**Old Harbor**	**54.75**	**38**	P	**P**	**14 02 48.1**	**+0.2**
OHAK				IAmb	IAmb	14 02 58.7	
	comp=Z,26nm,1.5s						
KDAK	**Kodiak Island**	**55.16**	**37**	P	**P**	**14 02 51.4**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=322,slow=3.8,SNR=22						
KDAK	**Kodiak Island**	**55.16**	**37**	P	**P**	**14 02 51.4**	**+0.7**
ARSB	**Arslanbob**	**55.53**	**303**	P	**P**	**14 02 55.0**	**+1.1**
ARSB				IAmb	IAmb	14 02 55.8	
	comp=Z,14nm,1.1s						
CNPM	**China Poot**	**55.94**	**35**	P	**P**	**14 02 56.4**	**+0.1**
SKT	**Skwentna**	**55.96**	**32**	P	**P**	**14 02 57.0**	**+0.7**
SUA	**Susitna One**	**56.29**	**33**	P	**P**	**14 02 59.1**	**+0.3**
BRVK	**Borovoye**	**56.30**	**317**	P	**P**	**14 02 59.2**	**+0.4**
BRVK				IAmb	IAmb	14 03 00.1	
	comp=Z,20nm,0.8s						
KTH	**Kantishna Hill**	**56.37**	**30**	P	**P**	**14 02 59.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**56.39**	**30**	P	**P**	**14 03 00.3**	**+1.0**
NIL	**Nilore**	**56.75**	**294**	P	**P**	**14 03 02.5**	**+0.2**
NIL				IAmb	IAmb	14 03 05.0	
	comp=Z,11nm,0.7s						
KK31	**Karatay Array**	**57.09**	**305**	P	**P**	**14 03 05.1**	**+0.7**
KK31				IAmb	IAmb	14 03 05.9	
	comp=Z,16nm,0.8s						
KKAR	**Karatay Array**	**57.09**	**305**	P	**P**	**14 03 04.8**	**+0.4**
PWL	**Port Wells**	**57.44**	**33**	P	**P**	**14 03 07.3**	**+0.8**
SML	**Sawmill**	**57.46**	**32**	P	**P**	**14 03 07.5**	**+0.8**
MDM	**Murphy Dome**	**57.65**	**29**	P	**P**	**14 03 09.3**	**+1.4**
CCB	**Clear Creek Bu**	**57.81**	**29**	P	**P**	**14 03 10.2**	**+1.2**
SCM	**Sheep Creek Mo**	**57.94**	**32**	P	**P**	**14 03 10.9**	**+0.9**
GAR	**Garm**	**57.94**	**301**	P	**P**	**14 03 11.0**	**+0.5**
GAR				IAmb	IAmb	14 03 11.8	
	comp=Z,17nm,0.7s						
GLI	**Glacier Island**	**58.04**	**33**	P	**P**	**14 03 11.2**	**+0.5**
ILAR	**Eielson Array**	**58.22**	**29**	P	**P**	**14 03 11.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=248,slow=6.0,SNR=5.0						
HIN	**Hinchinbrook I**	**58.34**	**34**	P	**P**	**14 03 13.6**	**+0.9**
HIN				IAmb	IAmb	14 03 23.4	
	comp=Z,14nm,1.3s						
CHGR	**Chuyangaron**	**58.90**	**300**	P	**P**	**14 03 16.9**	**0.0**
FORT	**Forrest**	**59.19**	**192**	P	**P**	**14 03 18.7**	**0.0**
STKA	**Stephens Creek**	**59.22**	**178**	P	**P**	**14 03 18.6**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=360,slow=7.7,SNR=5.1						
STKA	**Stephens Creek**	**59.22**	**178**	P	**P**	**14 03 19.0**	**+0.1**
BMAR	**Burnt Mountain**	**59.25**	**26**	P	**P**	**14 03 21.0**	**+2.3**
BMRM	**Bremner River**	**59.26**	**33**	P	**P**	**14 03 20.1**	**+1.2**
BMRM				IAmb	IAmb	14 03 26.9	
	comp=Z,12nm,1.2s						
DOT	**Dot Lake**	**59.44**	**30**	P	**P**	**14 03 20.5**	**+0.4**
SCRK	**Sand Creek**	**59.47**	**30**	P	**P**	**14 03 20.5**	**+0.1**
MENT	**Mentasta**	**59.61**	**31**	P	**P**	**14 03 22.5**	**+1.3**
GLB	**Gilahina Butte**	**59.62**	**33**	P	**P**	**14 03 22.4**	**+1.0**
SUCK	**Suckling Hills**	**59.71**	**34**	P	**P**	**14 03 23.3**	**+1.4**
SUCK				IAmb	IAmb	14 03 49.0	
	comp=Z,16nm,1.2s						
KBL	**Kabul**	**59.93**	**296**	P	**P**	**14 03 24.2**	**+0.1**
KBL				IAmb	IAmb	14 03 25.4	
	comp=Z,12nm,1.1s						
BCAR	**Beaver Creek A**	**60.49**	**31**	P	**P**	**14 03 28.3**	**+1.2**
ARU	**Arti**	**62.72**	**322**	P	**P**	**14 03 41.9**	**+0.2**
	comp=Z,7.2nm,0.3s,baz=91,slow=3.8,SNR=24						
ARU	**Arti**	**62.72**	**322**	P	**P**	**14 03 41.6**	**-0.2**
ABKAR	**Akbulak array**	**63.23**	**314**	P	**P**	**14 03 45.0**	**-0.2**
ABKAR	**Akbulak array**	**63.23**	**314**	P	**P**	**14 03 45.0**	**-0.2**
ABKAR				IAmb	IAmb	14 03 46.1	
	comp=Z,12nm,0.7s						
AKTO	**Aktyubinsk**	**64.20**	**315**	P	**P**	**14 03 51.1**	**-0.3**
	comp=Z,8.2nm,0.7s,baz=85,slow=6.6,SNR=22						
HRA	**Herat**	**65.37**	**297**	P	**P**	**14 03 59.9**	**+0.5**
HRA				IAmb	IAmb	14 04 01.1	
	comp=Z,6.5nm,0.9s						
KIRV	**Kirov**	**67.07**	**325**	P	**P**	**14 04 08.8**	**-0.5**
	comp=Z,22nm,0.5s,baz=351,slow=3.8,SNR=6.2						
GEYT	**Alibeck**	**67.47**	**302**	P	**P**	**14 04 11.8**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=43,slow=15,SNR=3.8						
GEYT	**Alibeck**	**67.47**	**302**	IAmb	IAmb	14 04 13.9	
	comp=Z,3.2nm,0.9s						
KBS	**Kingsbay**	**69.66**	**351**	P	**P**	**14 04 25.9**	**+1.2**
KBS				IAmb	IAmb	14 04 27.0	
	comp=Z,7.8nm,1.0s						
BELG	**Belogornoye**	**69.91**	**319**	P	**P**	**14 04 26.6**	**0.0**
	comp=Z,9.1nm,0.3s,baz=342,slow=2.6,SNR=5.8						
TAU	**Tasmania Unive**	**70.55**	**174**	P	**P**	**14 04 31.2**	**+0.8**
TAU				IAmb	IAmb	14 04 56.0	
	comp=Z,20nm,1.0s						
KLMR	**Klimovskoe**	**71.06**	**329**	*e*P	**P**	**14 04 31.9**	**-1.4**
KLMR				AMP		14 04 33.6	
	comp=Z,3.0nm,0.4s						
KEV	**Kevo**	**71.77**	**340**	P	**P**	**14 04 37.8**	**+0.5**
ARCES	**ARCESS Array B**	**72.33**	**340**	P	**P**	**14 04 41.0**	**+0.3**
	comp=Z,4.7nm,0.5s,baz=71,slow=8.1,SNR=45						
ARCES	**ARCESS Array B**	**72.33**	**340**	P	**P**	**14 04 41.2**	**+0.6**
ARCES				IAmb	IAmb	14 04 52.0	
	comp=Z,23nm,1.5s						
YKA	**Yellowknife Ar**	**72.62**	**28**	P	**P**	**14 04 41.7**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=301,slow=5.6,SNR=6.0						
UOSS	**Minazif**	**73.59**	**290**	P	**P**	**14 04 49.1**	**+0.4**
UOSS				IAmb	IAmb	14 05 18.3	
	comp=Z,23nm,1.4s						
URZ	**Urewera**	**74.26**	**150**	P	**P**	**14 04 51.8**	**-0.2**
QRZ	**Quartz Range**	**74.57**	**155**	P	**P**	**14 04 54.1**	**+0.3**
BKZ	**Black Stump Fm**	**74.75**	**151**	P	**P**	**14 04 54.8**	**-0.1**
NNZ	**Nelson**	**75.23**	**154**	P	**P**	**14 04 57.5**	**0.0**
TUWZ	**Tuamarina**	**75.63**	**154**	P	**P**	**14 04 59.1**	**-0.5**
SNZO	**South Karori**	**75.82**	**154**	P	**P**	**14 05 00.5**	**-0.3**
KBZ	**Khabaz**	**76.12**	**312**	P	**P**	**14 05 02.9**	**+0.3**
	comp=Z,6.2nm,0.8s,baz=96,slow=3.2,SNR=13						
LTZ	**Lake Taylor**	**76.17**	**156**	P	**P**	**14 05 03.8**	**+1.1**
LTZ				IAmb	IAmb	14 05 20.5	
	comp=Z,22nm,1.3s						
FIA1	**FINESS Array S**	**76.53**	**333**	P	**P**	**14 05 04.3**	**-0.2**
FINES	**FINESS Array B**	**76.53**	**333**	P	**P**	**14 05 04.5**	**0.0**
	comp=Z,15nm,0.3s,baz=64,slow=5.2,SNR=172						
OXZ	**Oxford**	**76.56**	**156**	P	**P**	**14 05 04.5**	**-0.4**
OXZ				IAmb	IAmb	14 05 21.1	
	comp=Z,24nm,1.3s						
LBZ	**Lake Benmore**	**76.86**	**158**	P	**P**	**14 05 06.9**	**+0.4**
LBZ				IAmb	IAmb	14 05 15.2	
	comp=Z,33nm,1.5s						
PABE	**Paberze**	**80.84**	**329**	P	**P**	**14 05 27.4**	**-0.2**
AKASG	**Malin Array Be**	**80.94**	**323**	P	**P**	**14 05 28.0**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=51,slow=5.6,SNR=11						
AKASG	**Malin Array Be**	**80.94**	**323**	P	**P**	**14 05 27.6**	**-0.7**
NVAR	**Mina Array Bea**	**81.78**	**51**	P	**P**	**14 05 34.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=299,slow=5.7,SNR=4.2						
NC405	**NORSAR Array S**	**82.10**	**337**	P	**P**	**14 05 33.5**	**-0.6**
NC204	**NORSAR Array S**	**82.31**	**338**	P	**P**	**14 05 34.4**	**-0.8**
NOA	**NORSAR Array B**	**82.32**	**337**	P	**P**	**14 05 34.6**	**-0.7**
	comp=Z,6.6nm,0.7s,baz=46,slow=4.9,SNR=22						
RAYN	**Ar Rayn**	**83.04**	**293**	P	**P**	**14 05 40.0**	**+0.3**
BRTR	**Keskin Array B**	**84.11**	**312**	P	**P**	**14 05 44.4**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=97,slow=4.2,SNR=4.5						
MMAI	**Mount Meron Ar**	**86.32**	**305**	P	**P**	**14 05 55.1**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=46,slow=4.8,SNR=5.0						
GERES	**GERESS Array B**	**89.96**	**328**	P	**P**	**14 06 11.1**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=356,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**122.66**	**310**	PKP	**PKPdf**	**14 12 04.9**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=14,slow=2.7,SNR=7.5						
SNAA	**Sanae**	**131.39**	**195**	PKPdf	**PKPdf**	**14 12 21.2**	**-0.1**
VNA3	**Neumayer Olymp**	**133.17**	**193**	PKPdf	**PKiKP**	**14 12 25.9**	**0.0**
LPAZ	**La Paz**	**151.74**	**72**	PKPbc	**PKiKP**	**14 13 06.8**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=316,slow=3.5,SNR=18						
LPAZ	**La Paz**	**151.74**	**72**		**PKiKP**	**14 13 06.3**	**0.0**
PLCA	**Paso Flores**	**151.81**	**125**	PKPbc	**PKiKP**	**14 13 05.3**	**+0.2**
	comp=Z,3.3nm,0.4s,baz=242,slow=3.3,SNR=13						
PB11	**IPOC Station P**	**151.90**	**80**		**PKiKP**	**14 13 06.4**	**+0.4**

IDC 23 13:56:10.3±9.2, 25°.10N×143°.29E, h597km±125km, mb3.0/4, mb1 3.2/5, mb1mx2.6/52, mbtmp3.8/5, Error ellipse: s-maj=63.4km s-min=24.8km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**17.98**	**317**	P	P	13 59 46.3	+0.6
	0.0nm,0.3s,baz=142,slow=14,SNR=7.4						
WRA	**Warramunga Arr**	**45.61**	**192**	P	P	14 03 38.7	0.0
	1.9nm,0.6s,baz=10,slow=8.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**55.15**	**315**	P	P	14 04 47.3	-0.3
	0.4nm,0.4s,baz=90,slow=7.0,SNR=1.6						
NVAR	**Mina Array Bea**	**80.97**	**52**	P	P	14 07 23.4	-0.8
	0.6nm,0.7s,baz=299,slow=6.0,SNR=4.1						
TXAR	**Lajitas Array**	**95.98**	**54**	P	P	14 08 35.9	+0.8
	0.3nm,0.8s,baz=297,slow=2.8,SNR=2.5						

IDC 23 14:17:58.9±1.9, 17°.86S×68°.70W, h0km, mb4.3/2, mb1 3.9/4, mb1mx3.6/32, mbtmp3.9/4, ML3.0/2, Error ellipse: s-maj=44.9km s-min=20.7km az=96.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.66**	**19**	Pn	Pn	14 18 29.8	0.0
	4.6nm,0.3s,baz=192,slow=14,SNR=90						
LPAZ				Sn	Sb	14 18 54.7	+2.3
	0.2nm,0.3s,baz=127,slow=20,SNR=4.9						
LVC	**Limon Verde**	**4.73**	**182**	Pn	Pn	14 19 12.8	+0.9
	0.3nm,0.3s,baz=356,slow=9.0,SNR=6.2						
LVC				Sn	Sn	14 20 09.4	+1.8
	0.8nm,0.3s,baz=323,slow=20,SNR=11						
SIV	**San Ignacio**	**7.53**	**77**	Pn	Pn	14 19 51.2	+1.1
	0.6nm,0.3s,baz=271,slow=14,SNR=4.0						
ROSC	**El Rosal**	**23.23**	**346**	P	P	14 23 08.6	+0.3
	13nm,0.3s,baz=170,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**75.97**	**71**	P	P	14 29 47.4	-1.0
	0.5nm,0.7s,baz=242,slow=3.1,SNR=1.9						

IDC 23 14:21:25.8±0.8, 31°.39N×142°.00E, h0km, mb3.8/11, mb1 3.8/17, mb1mx3.7/56, mbtmp3.7/17, ML3.4/6, Error ellipse: s-maj=23.5km s-min=15.0km az=76.0
JMA 23 14:21:26.9±0.3, 31°.42N×142°.15E, h25km, M4.1
NEIC 23 14:21:28.0±1.1, 31°.36N±0°.07×141°.9E±0°.1, h10km±1km, mb4.4/16, Error ellipse: s-maj=18.2km s-min=10.5km az=75.0

ISC 23 14:21:29.9±0.6, 31°.36N±0°.05×141°.89E±0°.09, h29km, n51, σ1s23/55, mb4.1/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.48**	**315**	Pn	**Pn**	**14 22 07.7**	**-0.6**
JHJ	**Hachijo jima 2**	**2.50**	**315**	Pn	**Pn**	**14 22 06.2**	**-2.5**
	6.3nm,0.3s,baz=55,slow=23,SNR=2.1						
JHJ				Sn	**Sn**	**14 22 35.0**	**-3.2**
	26nm,0.3s,baz=340,slow=23,SNR=5.8						
JMKN	**Mikurajimanish**	**3.18**	**323**	P	**Pn**	**14 22 17.5**	**-0.6**
BSO1	**Boso 1**	**3.37**	**347**	P	**Pn**	**14 22 19.7**	**-0.5**
BSO3	**Boso 3**	**3.62**	**342**	P	**Pn**	**14 22 24.1**	**+0.2**
CBJ	**Chichi jima**	**4.26**	**176**	P	**Pn**	**14 22 32.9**	**+0.1**
JCJ	**Chichijima**	**4.26**	**176**	Pn	**Pn**	**14 22 32.4**	**-0.4**
	17nm,0.3s,baz=287,slow=22,SNR=8.9						
JCJ				Sn	**Sn**	**14 23 21.6**	**+0.1**
	15nm,0.3s,baz=63,slow=23,SNR=2.7						
JHU	**Hanno**	**4.98**	**335**	P	**Pn**	**14 22 43.9**	**+1.1**
JYT	**Yasato**	**5.06**	**344**	*e*S	**Sn**	**14 23 41.5**	**+0.3**
JYT	**Yasato**	**5.06**	**344**		**Pn**	**14 22 43.2**	**-0.6**
JRY	**Ryogami san**	**5.27**	**333**	P	**Pn**	**14 22 49.1**	**+2.3**
JHO	**Hitachi**	**5.35**	**349**	P	**Pn**	**14 22 46.5**	**-1.4**
JAG	**Ashikaga**	**5.44**	**339**	P	**Pn**	**14 22 49.1**	**0.0**
JAG				S	**Sn**	**14 23 49.9**	**-0.9**
MJAR	**Matsushiro Arr**	**6.00**	**330**	Pn	**Pn**	**14 22 57.4**	**+0.5**
	0.3nm,0.3s,baz=154,slow=12,SNR=12						
MJAR				Sn	**Sn**	**14 24 05.9**	**+1.2**
	0.2nm,0.3s,baz=202,slow=19,SNR=4.5						
MAJO	**Matsushiro**	**6.01**	**330**		**Pn**	**14 22 57.4**	**+0.6**
JMM	**Marumori**	**6.55**	**352**		**Pn**	**14 23 02.2**	**-2.1**
JMN	**Monobe**	**7.16**	**291**	Pn	**Pn**	**14 23 10.9**	**-1.9**
JSD	**Sado**	**7.30**	**337**	Pn	**Pn**	**14 23 13.9**	**-0.7**
ERM	**Erimo**	**10.69**	**5**	Pn	**Pn**	**14 23 58.3**	**-2.6**
ASAJ	**Asahikawa**	**12.75**	**2**	Pn	**Pn**	**14 24 25.9**	**-3.3**
	0.3nm,0.3s,baz=198,slow=9.6,SNR=1.7						
ASAJ				Sn	Sn	14 26 37.7	-12
	0.1nm,0.3s,baz=176,slow=7.1,SNR=1.5						
KSRS	**Korea Array**	**13.03**	**302**	Pn	**Pn**	**14 24 31.5**	**-1.5**
	0.1nm,0.3s,baz=114,slow=14,SNR=1.8						
NACB	**Ninganchiao**	**19.32**	**253**	P	**P**	**14 25 52.9**	**+0.1**
NACB				IAmb	IAmb	14 25 57.8	
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**19.42**	**340**	P	**P**	**14 25 53.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=149,slow=6.9,SNR=5.0						
YULB	**Yu-li**	**19.91**	**252**	P	**P**	**14 25 59.4**	**+0.1**
YULB				IAmb	IAmb	14 26 11.4	
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**31.58**	**312**	P	**P**	**14 27 50.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=105,slow=9.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**46.16**	**317**	P	**P**	**14 29 53.2**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=88,slow=9.0,SNR=2.7						
MK31	**Makanchi Array**	**47.65**	**307**	P	**P**	**14 30 03.8**	**+0.3**
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**14 30 04.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=87,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**14 30 03.6**	**+0.1**
KDAK	**Kodiak Island**	**51.16**	**39**	P	**P**	**14 30 30.2**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=285,slow=12,SNR=1.7						
WB0	**Warramunga Arr**	**51.34**	**189**	P	**P**	**14 30 31.7**	**-0.1**
WB0				IAmb	IAmb	14 30 52.2	
	comp=Z,11nm,1.5s						
WR0	**Warramunga Arr**	**51.51**	**189**	P	**P**	**14 30 33.1**	**0.0**
WR0				IAmb	IAmb	14 31 02.1	
	comp=Z,8.9nm,1.2s						
WRAB	**Tennant Creek**	**51.51**	**189**	P	**P**	**14 30 33.3**	**+0.2**
WRAB				IAmb	IAmb	14 30 49.0	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**51.52**	**189**	P	**P**	**14 30 33.5**	**+0.3**
WRA	**Warramunga Arr**	**51.52**	**189**	P	**P**	**14 30 33.3**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=4.7,slow=7.5,SNR=39						
PMR	**Palmer**	**53.02**	**34**	P	**P**	**14 30 46.1**	**+2.3**
ILAR	**Eielson Array**	**54.14**	**30**	P	**P**	**14 30 51.9**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=260,slow=5.0,SNR=7.5						
BMAR	**Burnt Mountain**	**55.16**	**27**	P	**P**	**14 31 01.5**	**+2.0**
AS31	**Alice Springs**	**55.24**	**189**	P	**P**	**14 31 00.6**	**+0.1**
ASAR	**Alice Springs**	**55.24**	**189**	P	**P**	**14 31 01.1**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=3.9,slow=6.1,SNR=15						
ASAR	**Alice Springs**	**55.24**	**189**	P	**P**	**14 31 00.8**	**+0.3**
KK31	**Karatay Array**	**56.45**	**304**	P	**P**	**14 31 09.6**	**+0.5**
KK31				IAmb	IAmb	14 31 10.8	
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**56.45**	**304**	P	**P**	**14 31 09.4**	**+0.4**
KKAR	**Karatay Array**	**56.45**	**304**	P	**P**	**14 31 09.7**	**+0.6**
KKAR				IAmb	IAmb	14 31 10.8	
	comp=Z,2.0nm,0.6s						
BARN	**Barnard Glacie**	**56.64**	**34**	P	**P**	**14 31 11.8**	**+1.4**
ABKAR	**Akbulak array**	**61.98**	**313**	P	**P**	**14 31 47.6**	**+0.4**
ABKAR				IAmb	IAmb	14 31 52.5	
	comp=Z,1.0nm,0.6s						
CAN	**Canberra**	**66.66**	**174**	P	**P**	**14 32 18.2**	**+0.3**
FINES	**FINESS Array B**	**74.03**	**333**	P	**P**	**14 33 03.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=56,slow=7.1,SNR=5.6						
NVAR	**Mina Array Bea**	**78.11**	**52**	P	**P**	**14 33 25.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=288,slow=6.6,SNR=1.9						
AKASG	**Malin Array Be**	**79.05**	**323**	P	**P**	**14 33 32.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=56,slow=4.8,SNR=2.2						
TXAR	**Lajitas Array**	**93.25**	**53**	P	**P**	**14 34 42.7**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=301,slow=5.3,SNR=4.4						

KRSC 23 14:28:01.0±1.5, 48°.19N×156°.51E, h7km±43km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.51**	**354**	*e*P	Pn	14 28 44.1	+1.9
SKR				*e*S	Sb	14 29 15.5	-2.0
ALID	**Alaid**	**2.76**	**347**	*e*P	Pn	14 28 47.2	+1.5
KDTR	**Khodutka, Kamc**	**3.77**	**15**	*e*S	Sn	14 29 48.7	+4.8
MTVR	**Mutnovka**	**4.43**	**13**	P	Pn	14 29 13.1	+4.3
MTVR				*e*S	Sn	14 30 05.6	+4.9
RUS	**Russkaya**	**4.44**	**16**	*e*P	Pn	14 29 13.0	+4.3
RUS				*e*S	Sn	14 30 05.1	+4.5
GRL	**Gorelyy**	**4.48**	**12**	*e*P	Pn	14 29 12.4	+3.0
KOK	**Koryaka**	**5.29**	**14**	*e*P	Pn	14 29 26.2	+5.7
SDLR	**Sedlovina**	**5.32**	**16**	*e*P	Pn	14 29 25.8	+4.9
KRX	**Arik**	**5.35**	**14**	P	Pn	14 29 25.5	+4.1

DJA 23 15:00:28.8±0.6, 1°.1N±7°.1×12°.2E±°, h58km±8km, M3.1/6, MLv3.1/6
IDC 23 15:00:36.1±11.0, 0°.12N×122°.53E, h120km±84km, mb3.0/2, mb1 3.4/4, mb1mx3.0/32, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=105.6km s-min=47.2km az=98.0

ISC 23 15:00:22.6±1.5, 1°.1N±0°.1×121°.64E±0°.09, h35km, n10, σ4s33/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.69**	**154**	P	**Pn**	**15 00 39.9**	**+4.0**
MRSI				S	**Sn**	**15 00 50.5**	**+5.1**
GTOI	**Gorontalo**	**1.45**	**109**	P	**Pn**	**15 00 50.4**	**+4.1**
MPSI	**Mapaga**	**1.90**	**246**	P	**Pn**	**15 00 56.4**	**+3.9**
APSI	**Ampana**	**2.00**	**180**	P	**Pn**	**15 00 54.3**	**+0.4**
LUWI	**Luwuk**	**2.42**	**152**	P	**Pn**	**15 01 01.3**	**+1.7**
SIJI	**Sorong**	**9.83**	**101**	P	**Pn**	**15 02 40.5**	**-1.0**
	1.6nm,0.3s,baz=324,slow=19,SNR=4.2						
FITZ	**Fitzroy Crossi**	**19.48**	**169**	P	**P**	**15 04 42.0**	**-4.7**
	0.1nm,0.3s,baz=355,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**24.34**	**150**	P	P	15 05 31.1	-6.2
	1.6nm,0.6s,baz=326,slow=11,SNR=26						
ASAR	**Alice Springs**	**27.36**	**155**	P	**P**	**15 05 59.1**	**-5.5**
	0.2nm,0.5s,baz=334,slow=11,SNR=5.7						
LPAZ	**La Paz**	**162.10**	**148**	PKP	**PKPdf**	**15 20 22.9**	**+0.7**
	1.8nm,0.4s,baz=237,slow=1.3,SNR=8.0						

RHSSO 23 15:28:38.7±0.8, 41°.84N×19°.67E, h4km±2km, ML2.7/9
TIR 23 15:28:38.0, 41°.91N×19°.57E, h6km±2km, Md2.9, Ml2.9
PDG 23 15:28:39.4±0.2, 41°.91N×19°.63E, h10km±3km, MD2.9/3, ML2.7/12, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0
BEO 23 15:28:40.2±0.3, 41°.93N×19°.68E, h8km±2km, ML2.4/14
SKO 23 15:28:40.3, 41°.92N×19°.58E, h14km

ISC 23 15:28:39.3±1.0, 41°.92N±0°.02×19°.63E±0°.02, h7km±8km, n70, σ0s89/123, 24C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDA	**Shkodra**	**0.17**	**325**	P	**Pg**	**15 28 41.2**	**-1.5**
	baz=339						
PUK	**Puka**	**0.23**	**57**	P	**Pg**	**15 28 44.4**	**+0.4**
	baz=61						
PUK				S	**Sg**	**15 28 48.0**	**+0.8**
	baz=61						
PUK				AMP			
	comp=N,8.0nm,0.2s,baz=61						
ULC	**Ulcinj**	**0.29**	**280**	*i* Pg	**Pg**	**15 28 45.1**	**0.0**
ULC	**Ulcinj**	**0.29**	**280**	⇑*i* Pg	**Pg**	**15 28 45.0**	**0.0**
ULC				*e*Sg	**Sg**	**15 28 50.0**	**+1.1**
DRME	**Dracevica, Mon**	**0.43**	**310**	*e*Pg	**Pg**	**15 28 47.6**	**0.0**
DRME				*e*Sg	**Sb**	**15 28 55.6**	**-0.4

DIVS				*e*Sn	**Sn**	**15 29 45.0**	**+1.0**
LSTV	**Lastovo**	**2.20**	**294**	*e*Pn	**Pn**	**15 29 16.2**	**-0.1**
LSTV				Sn	**Sn**	**15 29 44.1**	**+0.3**
HAPS	**Han Pijesak,Bl**	**2.23**	**347**	*e*Pn	**Pn**	**15 29 17.5**	**+0.7**
HAPS	**Han Pijesak,Bl**	**2.23**	**347**	⇓*i*Pn	**Pn**	**15 29 18.1**	**+1.3**
HAPS				*e*Sn	**Sb**	**15 29 46.6**	**-1.2**
BOVS	**Bovan**	**2.30**	**41**	*e*Pn	**Pn**	**15 29 17.7**	**0.0**
BOVS	**Bovan**	**2.30**	**41**	⇑P	**Pn**	**15 29 17.8**	**0.0**
BOVS				⇓S	**Sn**	**15 29 46.8**	**+0.4**
TRUS	**Trudelj**	**2.38**	**14**	*e*Pn	**Pn**	**15 29 19.0**	**+0.2**
ZAPS	**Zavoj**	**2.60**	**58**	*e*Pn	**Pn**	**15 29 22.4**	**+0.5**
ZAGS	**Zajecar**	**2.69**	**44**	*e*Pn	**Pn**	**15 29 23.0**	**-0.2**
VTS	**Vitosha**	**2.77**	**74**	*e*Pn	**Pn**	**15 29 24.0**	**-0.3**
VTS	**Vitosha**	**2.77**	**74**	⇑P	**Pn**	**15 29 24.2**	**-0.1**
VTS				⇑S	**Sn**	**15 29 59.3**	**+1.2**
KIJV	**Kijevo**	**3.16**	**313**	*e*Pn	**Pn**	**15 29 30.0**	**+0.4**
KIJV				Sn	**Sn**	**15 30 10.5**	**+3.0**
FRGS	**Fruska Gora**	**3.24**	**2**	⇑P	**Pn**	**15 29 31.6**	**+0.9**
FRGS	**Fruska Gora**	**3.24**	**2**	*e*Pn	**Pn**	**15 29 31.0**	**+0.3**
FRGS				*e*Sn	**Sn**	**15 30 10.4**	**+0.7**
MDVR	**Moldovita**	**3.24**	**27**	⇑P	**Pn**	**15 29 31.1**	**+0.4**
MDVR				⇑S	**Sn**	**15 30 10.8**	**+1.1**
BLY	**Banja Luka**	**3.35**	**329**	*e*Sn	**Sn**	**15 30 13.1**	**+1.0**
ZIRJ	**Zirje**	**3.41**	**302**	*e*Pn	**Pn**	**15 29 33.2**	**+0.3**
ZIRJ				Sn	**Sn**	**15 30 14.8**	**+1.1**
MORI	**Morici**	**3.48**	**305**	*e*Pn	**Pn**	**15 29 34.3**	**+0.4**
MORI				Sn	**Sn**	**15 30 16.9**	**+1.5**
DUGI	**Dugi Otok**	**3.94**	**303**	*e*Pn	**Pn**	**15 29 40.4**	**0.0**
DUGI				Sn	**Sn**	**15 30 28.0**	**+1.1**
MORH	**Mrgy, Hungar**	**4.36**	**351**	⇑P	**Pn**	**15 29 47.1**	**+1.1**
MORH				⇑S	**Sn**	**15 30 38.5**	**+1.5**
SIRR	**Siria**	**4.59**	**18**	⇑P	**Pn**	**15 29 49.6**	**+0.4**
SIRR				⇑S	**Sn**	**15 30 42.9**	**+0.1**

IDC ***23*** *15:36:18.2±4.3, 14°.78N×90°.48W, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=158.1km s-min=66.3km az=39.0*
GCG ***23*** *15:36:18.8±2.0, 13°.75N×92°.18W, h10km, MD3.9*
SNET ***23*** *15:36:23.1±1.1, 14°.17N×91°.81W, h82km±15km, ML4.2*
UCR ***23*** *15:36:23.2±1.2, 14°.17N×91°.81W, h82km±17km, ML4.0*
ISC 23 15:36:21.4±3.2, **13°.9N**±0°.2×**92°.0W**±0°.2, **h58**km±27km, **n26, σ0.985/32, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.73**	**26**	*e*P	**Pn**	**15 36 35.5**	**-0.5**
RTAL				*e*S	**Sn**	**15 36 46.7**	**+0.1**
FUG	**Fuego 3**	**1.29**	**63**	*e*P	**Pn**	**15 36 44.0**	**+0.6**
PCG	**Pacaya**	**1.47**	**69**	*e*P	**Pn**	**15 36 46.6**	**+0.7**
NBG	**Las Nubes**	**1.78**	**66**	*e*P	**Pn**	**15 36 52.4**	**+2.3**
RTR	**El Retiro**	**2.31**	**89**	*e*P	**Pn**	**15 36 57.4**	**+0.2**
RTR	**El Retiro**	**2.31**	**89**	*e*P	**Pn**	**15 36 57.4**	**+0.2**
CEVE	**Cerro Verde**	**2.33**	**91**	*e*P	**Pn**	**15 36 58.6**	**+0.9**
CEVE				*e*S	**Sn**	**15 37 26.1**	**+0.8**
CEVE				IAML		15 37 39.5	
	comp=Z,1μm,0.4s						
CEVE	**Cerro Verde**	**2.33**	**91**	*e*P	**Pn**	**15 36 58.6**	**+0.9**
CEVE				*e*S	**Sn**	**15 37 26.1**	**+0.8**
CEVE				IAML		15 37 39.5	
	comp=Z,1μm,0.4s						
SBLS	**San Blas**	**2.33**	**90**	*e*P	**Pn**	**15 36 58.1**	**+0.4**
SBLS	**San Blas**	**2.33**	**90**	*e*P	**Pn**	**15 36 58.1**	**+0.4**
SNJE	**San Jose**	**2.35**	**90**	*e*P	**Pn**	**15 36 58.0**	**+0.2**
SNJE				*e*S	**Sn**	**15 37 25.4**	**-0.3**
SNJE	**San Jose**	**2.35**	**90**	*e*P	**Pn**	**15 36 58.0**	**+0.2**
SNJE				*e*S	**Sn**	**15 37 25.4**	**-0.3**
JAYA	**Jayaque - finc**	**2.51**	**94**	*e*P	**Pn**	**15 37 00.2**	**+0.2**
JAYA				*e*S	**Sn**	**15 37 29.2**	**-0.3**
JAYA				IAML		15 37 31.9	
	comp=Z,952nm,0.2s						
JAYA	**Jayaque - finc**	**2.51**	**94**	*e*P	**Pn**	**15 37 00.2**	**+0.2**
JAYA				*e*S	**Sn**	**15 37 29.2**	**-0.3**
JAYA				IAML		15 37 31.9	
	comp=Z,952nm,0.2s						
TACO	**Tacachico**	**2.59**	**87**	*e*P	**Pn**	**15 37 00.7**	**-0.3**
TACO				*e*S	**Sn**	**15 37 29.5**	**-1.9**
TACO	**Tacachico**	**2.59**	**87**	*e*P	**Pn**	**15 37 00.7**	**-0.3**
TACO				*e*S	**Sn**	**15 37 29.5**	**-1.9**
MTO3	**Montecristo**	**2.64**	**78**	*e*P	**Pn**	**15 37 01.3**	**-0.5**
MTO3	**Montecristo**	**2.64**	**78**	*e*P	**Pn**	**15 37 01.3**	**-0.5**
BOQS	**Boqueron**	**2.67**	**92**	*e*P	**Pn**	**15 37 03.1**	**+0.9**
BOQS	**Boqueron**	**2.67**	**92**	*e*P	**Pn**	**15 37 03.1**	**+0.9**
LFRS	**El Faro**	**2.89**	**94**	*e*P	**Pn**	**15 37 05.2**	**+0.1**
LFRS	**El Faro**	**2.89**	**94**	*e*P	**Pn**	**15 37 05.2**	**+0.1**
TXAR	**Lajitas Array**	**18.80**	**327**	P	Pn	15 40 41.3	+3.9
	comp=Z,0.0nm,0.3s,baz=147,slow=12,SNR=13						
NVAR	**Mina Array Bea**	**33.76**	**321**	P	P	15 43 03.8	+5.8
	comp=Z,1.2nm,0.8s,baz=134,slow=8.9,SNR=8.5						
YKA	**Yellowknife Ar**	**51.15**	**347**	P	P	15 45 18.8	+0.4
	comp=Z,0.4nm,0.7s,baz=136,slow=9.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**146.11**	**341**	PKPbc	**PKiKP**	**15 55 59.2**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=326,slow=3.0,SNR=6.5						

ISU ***23*** *15:59:15, 41°.10N×69°.30E, h5km*
KRNET ***23*** *15:59:16.9±0.1, 41°.10N×69°.62E, mb2.8*
SOME ***23*** *15:59:16.4, 41°.08N×69°.55E, h15km*
NNC ***23*** *15:59:18.9±3.7, 40°.93N×69°.80E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=26.3km s-min=13.9km az=21.0*
ISC 23 15:59:16.8±1.2, **40°.96N**±0°.02×**69°.45E**±0°.06, **h7**km±10km, **n28, σ2.917/49, 10C-9D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBZ	**Yangibazar**	**0.35**	**16**	*e*P	**Pg**	**15 59 24.0**	**+0.3**
CHMG	**Chimgan**	**0.72**	**35**	*e*P	**Pg**	**15 59 28.0**	**-1.7**
CHMG				*e*S	**Sg**	**15 59 38.0**	**-2.1**
CHRV	**Charvak**	**0.77**	**29**	*e*P	**Pg**	**15 59 30.0**	**-1.7**
CHRV				*e*S	**Sg**	**15 59 42.0**	**+0.2**
CHM	**Chimkent**	**1.36**	**5**	*e*P	**Pn**	**15 59 42.0**	**-0.3**
	3.2nm,0.2s						
CHM				*e*S	**Sg**	**16 00 04.3**	**+3.7**
	312nm,0.4s						
BTK	**Batken**	**1.38**	**131**	⇑*i*P	**Pb**	**15 59 43.1**	**0.0**
	baz=38						
BTK				⇑*i*S	**Sg**	**16 00 02.1**	**+1.0**
	baz=38						
BTK	**Batken**	**1.38**	**131**	*i* P	**Pb**	**15 59 43.0**	**0.0**
BTK				*i* S	**Sg**	**16 00 03.0**	**+1.9**
TRKS	**Terek-Say**	**1.39**	**65**	⇓*i*P	**Pn**	**15 59 39.5**	**-3.4**
	baz=72						
TRKS				⇓*i*S	**Sn**	**15 59 56.7**	**-4.9**
	baz=72						
CHMI	**Chimion**	**1.72**	**113**	*e*P	**Pb**	**15 59 49.0**	**+0.2**
CHMI				*e*S	**Sg**	**16 00 12.0**	**-0.1**
GAR	**Garm**	**2.07**	**161**	⇓*i*P	**Pg**	**15 59 55.9**	**-0.6**
	baz=65						
GAR				⇓*i*S	**Sg**	**16 00 24.6**	**+1.3**
	baz=65						
KK31	**Karatay Array**	**2.28**	**20**	Pn	**Pb**	**15 59 57.7**	**-0.6**
	15nm,0.9s,baz=198,slow=15,SNR=25						
KK31				⇓Sn	**Sb**	**16 00 27.2**	**+0.5**
	6.5nm,0.4s,baz=198,slow=27,SNR=18						
CHGR	**Chuyangaron**	**2.31**	**186**	⇑*i*P	**Pg**	**15 59 59.6**	**-1.6**
	baz=88						
CHGR				⇑*i*S	**Sg**	**16 00 30.9**	**-0.3**
	baz=88						
DRK	**Karamyk**	**2.33**	**129**	⇓*i*P	**Pb**	**15 59 58.3**	**-1.0**
	baz=33						
DRK				⇓*i*S	**Sb**	**16 00 28.1**	**-0.3**
	baz=33						
ARSB	**Arslanbob**	**2.69**	**81**	⇓*i*P	**Pn**	**16 00 01.0**	**+0.3**
	baz=84						
ARSB				⇓*i*S	**Sn**	**16 00 33.5**	**-0.1**
	baz=84						
MNAS	**Manas**	**2.74**	**55**	⇑*i*P	**Pn**	**16 00 01.3**	**-0.1**
	baz=56						
MNAS				⇑*i*S	**Sn**	**16 00 34.2**	**-0.8**
	baz=56						
SFK	**Sufi-Kurgan**	**3.23**	**106**	⇑*i*P	**Pn**	**16 00 09.5**	**+1.3**
	baz=9.0						
SFK				⇑*i*S	**Sn**	**16 00 47.3**	**+0.2**
	baz=9.0						
MRKS	**Merke**	**3.33**	**56**	*e*P	**Pb**	**16 00 15.4**	**-1.0**
	4.0nm,0.3s						
MRKS				*e*S	**Sb**	**16 00 57.3**	**+0.2**
	7.0nm,0.2s						
MRKS	**Merke**	**3.33**	**56**	Pg	**Pb**	**16 00 15.4**	**-1.0**
	4.0nm,0.3s						
MRKS				Lg	Lg	16 00 55.2	
	7.0nm,0.2s						
EKS2	**Erkin-Say**	**3.65**	**61**	⇑*e*P	**Pn**	**16 00 14.5**	**+0.6**
	baz=62						
EKS2				⇑*i*S	**Sn**	**16 00 55.5**	**-1.8**
	baz=62						
SGDS	**Sogindy**	**4.58**	**55**	Pg	**Pb**	**16 00 39.0**	**+1.4**
	2.5nm,0.4s						
SGDS				Lg	Lg	16 01 35.5	
	3.8nm,0.3s						
DGS	**Degeres**	**5.22**	**62**	*e*P	**Pb**	**16 00 47.0**	**-1.5**
	2.0nm,0.2s						
DGS				*e*S	**Sb**	**16 01 51.4**	**-0.1**
	3.0nm,0.4s						
DGS	**Degeres**	**5.22**	**62**	Pg	**Pb**	**16 00 50.3**	**+1.8**
	2.0nm,0.2s						
DGS				Lg	Lg	16 01 55.1	
	3.0nm,0.4s						
KST	**Kastek**	**5.28**	**65**	*e*P	**Pb**	**16 00 49.9**	**+0.4**
	3.1nm,0.7s						
KST				*e*S	**Sb**	**16 01 56.7**	**+3.6**
	1.8nm,0.5s						
KST	**Kastek**	**5.28**	**65**	Pg	**Pb**	**16 00 50.3**	**+0.9**
	3.1nm,0.7s						
KST				Lg	Lg	16 01 55.1	
	1.8nm,0.5s						
BTLS	**Baital**	**5.29**	**38**	*e*P	**Pb**	**16 00 52.9**	**+3.4**
	0.5nm,0.0s						
BTLS				*e*S	**Sg**	**16 02 01.9**	**-4.7**
	3.5nm,0.5s						
KRBS	**Karabastau**	**5.36**	**57**	*e*P	**Pb**	**16 00 51.8**	**+1.0**
	1.3nm,0.4s						
KRBS				*e*S	**Sb**	**16 01 59.8**	**+4.4**
	2.4nm,0.3s						
KRBS	**Karabastau**	**5.36**	**57**	Pg	**Pb**	**16 00 53.0**	**+2.1**
	1.3nm,0.4s						
KRBS				Lg	Lg	16 01 59.5	
	2.4nm,0.3s						
KTBS	**Karatobe**	**6.02**	**60**	*e*P	**Pb**	**16 01 04.0**	**+1.9**
	1.6nm,0.8s						
KTBS				*e*S	**Sb**	**16 02 20.6**	**+6.3**
	2.6nm,0.4s						
KTBS	**Karatobe**	**6.02**	**60**	Pg	**Pb**	**16 01 05.2**	**+3.2**
	1.6nm,0.8s						
KTBS				Lg	Lg	16 02 20.6	
	2.6nm,0.4s						

NOU ***23*** *16:21:55.2, 39°.96S×173°.52E, h125km, ML3.8, Off W. Coast of N. Island, N.Z.*
WEL 23 16:21:55.3, 40°.5S×176°.3E±°, h35km±14km, **M3.8**/32, **ML4.1**/32, **MLv3.8**/32, **Error ellipse: s-maj=0.0km s-min=0.0km az=65.6, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.72**	**37**	P	Pn	16 22 08.8	-0.3
NMEZ				S	Sn	16 22 19.7	+0.9
NBEZ	**Newall Road No**	**0.84**	**30**	P	Pn	16 22 10.7	+0.1
NBEZ				S	Sn	16 22 23.2	+1.4
KHEZ	**Kahui Hut**	**0.88**	**38**	P	Pn	16 22 11.5	+0.2
KHEZ				S	Sn	16 22 24.0	+1.1
PREZ	**Palmer Road**	**0.92**	**45**	P	Pn	16 22 12.1	+0.3
PREZ				S	Sn	16 22 25.2	+1.4
DUWZ	**D'Urville Isla**	**0.93**	**150**	P	Pn	16 22 11.3	-0.5
NEZ	**North Egmont**	**0.94**	**40**	P	Pn	16 22 12.1	+0.1
PKE	**Pukeiti**	**0.95**	**33**	P	Pn	16 22 12.5	+0.3
PKE				S	Sn	16 22 26.2	+1.6
LREZ	**Lake Rotokare**	**0.99**	**58**	P	Pn	16 22 13.6	+0.9
QRZ	**Quartz Range**	**1.02**	**216**	P	Pn	16 22 12.9	-0.2
QRZ				S	Sn	16 22 27.4	+1.1
DREZ	**Durham Road**	**1.06**	**40**	P	Pn	16 22 14.2	+0.6
DREZ				S	Sn	16 22 29.7	+2.6
MHEZ	**Mangahewa**	**1.20**	**40**	P	Pn	16 22 16.7	+1.1
MHEZ				S	Sn	16 22 33.5	+2.8
NNZ	**Nelson**	**1.22**	**178**	P	Pn	16 22 16.0	+0.2
WAZ	**Wanganui**	**1.30**	**80**	P	Pn	16 22 17.6	+0.6
TCW	**Tory Channel**	**1.41**	**149**	P	Pn	16 22 19.6	+1.1
TCW				S	Sn	16 22 38.4	+2.6
VRZ	**Vera Road**	**1.41**	**52**	P	Pn	16 22 18.8	+0.3
KIW	**Kapiti Island**	**1.49**	**126**	P	Pn	16 22 20.6	+1.1
KIW				S	Sn	16 22 39.1	+1.4
TUWZ	**Tuamarina**	**1.51**	**162**	P	Pn	16 22 20.9	+1.1
OHWZ	**Ohakea**	**1.54**	**98**	P	Pn	16 22 22.2	+2.0
OGWZ	**Otaki Gorge**	**1.63**	**121**	P	Pn	16 22 22.9	+1.4
WEL	**Wellington**	**1.69**	**140**	P	Pn	16 22 25.1	+2.8
PKVZ	**Pokaka**	**1.72**	**66**	P	Pn	16 22 23.6	+0.9
CAW	**Cannon Point**	**1.73**	**130**	P	Pn	16 22 24.4	+1.5
BSWZ	**Blackbirch Sta**	**1.77**	**166**	P	Pn	16 22 25.1	+1.8
THZ	**Tophouse**	**1.79**	**190**	P	Pn	16 22 24.8	+1.1
BHW	**Baring Head**	**1.84**	**141**	P	Pn	16 22 27.4	+3.1
MRZ	**Mangatainoka R**	**1.85**	**112**	P	Pn	16 22 26.2	+1.7
CMWZ	**Cape Campbell**	**1.88**	**159**	P	Pn	16 22 27.9	+3.0
DRZ	**Dome Shelter**	**1.88**	**68**	P	Pn	16 22 26.6	+1.4
FWVZ	**Far West T-bar**	**1.88**	**67**	P	Pn	16 22 25.8	+0.8
WNWZ	**Wahianoa**	**1.89**	**70**	P	Pn	16 22 26.0	+0.9
WHVZ	**Whangaehu Hut**	**1.89**	**69**	P	Pn	16 22 26.2	+0.9
HOWZ	**Holdsworth Sta**	**1.90**	**119**	P	Pn	16 22 27.1	+1.9
HIZ	**Hauiti**	**1.90**	**39**	P	Pn	16 22 25.4	+0.2
POWZ	**Post Office Ro**	**1.92**	**103**	P	Pn	16 22 27.3	+1.9
NGZ	**Ngauruhoe**	**1.94**	**66**	P	Pn	16 22 26.5	+0.6
TUVZ	**Tukino**	**1.94**	**69**	P	Pn	16 22 27.1	+1.2
WTVZ	**West Tongariro**	**1.96**	**64**	P	Pn	16 22 26.9	+0.7
MOVZ	**Moawhango**	**1.97**	**73**	P	Pn	16 22 26.8	+0.7
SNVZ	**South Ngauruho**	**1.97**	**66**	P	Pn	16 22 27.0	+0.7
NNVZ	**North Ngauruho**	**1.97**	**65**	P	Pn	16 22 28.2	+1.8
OTVZ	**Oturere**	**1.99**	**66**	P	Pn	16 22 27.4	+0.7
MTW	**Mount Morrison**	**2.02**	**126**	P	Pn	16 22 29.1	+2.2
TSZ	**Takapari Road**	**2.03**	**93**	P	Pn	16 22 28.9	+1.9
NTVZ	**North Tongariro**	**2.03**	**65**	P	Pn	16 22 28.3	+1.2
ETVZ	**East Tongariro**	**2.04**	**66**	P	Pn	16 22 30.5	+3.3
MSWZ	**Moikau Station**	**2.04**	**135**	P	Pn	16 22 29.2	+2.1
TMVZ	**Te Maari**	**2.04**	**65**	P	Pn	16 22 29.4	+2.1
DSZ	**Denniston Nort**	**2.09**	**213**	P	Pn	16 22 28.3	+0.5
KATZ	**Kakaramea**	**2.10**	**62**	P	Pn	16 22 29.0	+0.9
PRWZ	**Pori Road**	**2.10**	**106**	P	Pn	16 22 30.8	+2.8
TIWZ	**Tintock**	**2.11**	**112**	P	Pn	16 22 30.8	+2.7
PAWZ	**Paruwai Farm**	**2.12**	**131**	P	Pn	16 22 31.5	+3.3
PLWZ	**Palliser**	**2.15**	**138**	P	Pn	16 22 31.0	+2.3
BHHZ	**Black Hill Sta**	**2.17**	**77**	P	Pn	16 22 30.0	+0.9
DVHZ	**Dannevirke**	**2.20**	**99**	P	Pn	16 22 31.3	+2.0
RATZ	**Rangitukua**	**2.21**	**60**	P	Pn	16 22 30.9	+1.4
RITZ	**Rihia Road**	**2.21**	**63**	P	Pn	16 22 32.2	+2.7
PNHZ	**Pukenui**	**2.21**	**89**	P	Pn	16 22 31.2	+1.7
TMWZ	**Te Maipa**	**2.25**	**120**	P	Pn	16 22 32.8	+2.7
WATZ	**Wairara**	**2.27**	**56**	P	Pn	16 22 31.3	+1.0
BFZ	**Birch Farm**	**2.34**	**108**	P	Pn	16 22 34.1	+2.9
KRHZ	**Kereru**	**2.38**	**82**	P	Pn	16 22 33.9	+2.2
WPHZ	**Waipukurau**	**2.40**	**93**	P	Pn	16 22 35.4	+3.4
TLZ	**Tolley Road**	**2.40**	**47**	P	Pn	16 22 32.5	+0.4
KHZ	**Kahutara**	**2.42**	**176**	P	Pn	16 22 34.5	+2.1
ANWZ	**Angora Road**	**2.46**	**102**	P	Pn	16 22 38.7	+5.9
KUTZ	**Kaahu Road**	**2.46**	**53**	P	Pn	16 22 34.1	+1.2
KWHZ	**Kaweka Forest**	**2.46**	**78**	P	Pn	16 22 36.5	+3.5
BKZ	**Black Stump Fm**	**2.59**	**72**	P	Pn	16 22 35.6	+0.9
MCHZ	**McNeill Hill**	**2.66**	**79**	P	Pn	16 22 38.4	+2.8
PXZ	**Pawanui**	**2.72**	**92**	P	Pn	16 22 43.3	+6.9
KAHZ	**Kahuranaki**	**2.74**	**87**	P	Pn	16 22 42.1	+5.3
TOZ	**Tahuroa Road**	**2.83**	**38**	P	Pn	16 22 38.3	+0.3
NMHZ	**Naumai**	**2.84**	**73**	P	Pn	16 22 41.6	+3.4
LTZ	**Lake Taylor**	**2.89**	**196**	P	Pn	16 22 40.2	+1.4
GVZ	**Greta Valley S**	**2.98**	**184**	P	Pn	16 22 41.4	+1.5
INZ	**Inchbonnie**	**3.07**	**207**	P	Pn	16 22 42.4	+1.1
AWAZ	**Awhitu Peninsu**	**3.11**	**20**	P	Pn	16 22 42.3	+0.5
RAHZ	**Arahi**	**3.11**	**71**	P	Pn	16 22 45.1	+3.3
RTZ	**Ruatahuna**	**3.16**	**65**	P	Pn	16 22 45.3	+2.7
WTAZ	**Waiatarua**	**3.21**	**18**	P	Pn	16 22 44.0	+0.7
TGRZ	**Tauranga**	**3.23**	**46**	P	Pn	16 22 43.6	+0.2
ETAZ	**East Tamaki Re**	**3.29**	**23**	P	Pn	16 22 45.1	+0.8
RVAZ	**Riverhead Bore**	**3.37**	**17**	P	Pn	16 22 45.9	+0.5
URZ	**Urewera**	**3.42**	**61**	P	Pn	16 22 47.9	+1.9
MBAZ	**Motutapu North**	**3.45**	**22**	P	Pn	16 22 47.2	+0.7
OXZ	**Oxford**	**3.46**	**196**	P	Pn	16 22 47.7	+1.0
WIAZ	**Waiheke Island**	**3.50**	**25**	P	Pn	16 22 48.1	+0.9
ABAZ	**Army Bay**	**3.59**	**20**	P	Pn	16 22 49.2	+0.7
WVZ	**Waitaha Valley**	**3.63**	**211**	P	Pn	16 22 51.0	+2.0
MWZ	**Matawai**	**3.67**	**64**	P	Pn	16 22 51.5	+1.9
OKCZ	**Okains Bay**	**3.73**	**183**	P	Pn	16 22 52.1	+1.8
MQZ	**McQueen's Vall**	**3.74**	**187**	P	Pn	16 22 50.0	-0.4
KUZ	**Kuaotunu**	**3.75**	**31**	P	Pn	16 22 51.0	+0.4
MHCZ	**Mount Hutt**	**3.77**	**200**	P	Pn	16 22 51.6	+0.8
RACZ	**Rakaia**	**3.83**	**193**	P	Pn	16 22 52.0	+0.3
RUGZ	**Raukumara Rang**	**3.96**	**61**	P	Pn	16 22 55.2	+1.6
GCSZ	**Gaunt Creek Bo**	**4.00**	**213**	P	Pn	16 22 55.2	+1.1
TWGZ	**Tauwhareparae**	**4.06**	**65**	P	Pn	16 22 57.2	+2.3
RPZ	**Rata Peaks**	**4.08**	**204**	P	Pn	16 22 55.9	+0.7
WCZ	**Waipu Caves**	**4.13**	**12**	P	Pn	16 22 56.1	+0.2
HAZ	**Te Kaha**	**4.14**	**59**	P	Pn	16 22 57.4	+1.5
ARCZ	**Arundel**	**4.26**	**201**	P	Pn	16 22 58.0	+0.4
FOZ	**Fox Glacier**	**4.40**	**215**	P	Pn	16 22 59.8	+0.4
TMZ	**Timaru**	**4.71**	**201**	P	Pn	16 23 03.7	-0.1
OUZ	**Omahuta**	**4.78**	**3**	P	Pn	16 23 05.0	+0.3
JCZ	**Jackson Bay**	**5.29**	**218**	P	Pn	16 23 12.6	+0.7
ODZ	**Otahua Downs**	**5.42**	**201**	P	Pn	16 23 13.4	-0.1

IDC ***23*** *16:32:11.5±0.7, 35°.44N×141°.92E, h0km, mb3.8/17, mb1 3.9/23, mb1mx3.8/53, mbtmp3.8/23, ML3.1/5, MS3.3/4, Ms1 3.4/4, ms1mx2.9/37, Error ellipse: s-maj=17.4km s-min=13.9km az=87.0*
JMA ***23*** *16:32:13.9±0.3, 35°.53N×141°.91E, h36km±3km, M3.7*
NIED ***23*** *16:32:13.9, 35°.53N×141°.91E, h36km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.11; Mθθ0.26; Mϕϕ-1.37; Mrθ0.54; Mrϕ-0.44; Mθϕ0.78; Fault plane solution: M₀1.62000×10¹⁵ NP1:ϕs29.00000°, δ64.00000°, λ106.00000°. NP2:ϕs175.00000°, δ30.00000°, λ60.00000°.*
NEIC ***23*** *16:32:14.2±1.8, 35°.56N±0°.04×141°.98E±0°.07, h16km±5km, mb4.3/16 Error ellipse: s-maj=9.5km s-min=3.5km az=57.0*
ISC 23 16:32:14.6±0.6, **35°.43N**±0°.05×**141°.93E**±0°.06, **h22**km, **n82, σ1.946/79, mb4.0/25, MS3.5/3, 1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.92**	**288**	P	**Pb**	**16 32 29.9**	**-1.9**
BSO1	**Boso 1**	**1.10**	**226**	P	**Pn**	**16 32 34.0**	**-0.1**
JIHU	**Itakohorinouch**	**1.26**	**296**	P	**Pn**	**16 32 35.6**	**-1.3**
BSO3	**Boso 3**	**1.32**	**242**	P	**Pn**	**16 32 37.5**	**+0.1**
KTR	**Katsuura**	**1.35**	**259**	P	**Pn**	**16 32 37.6**	**-0.5**
JYT	**Yasato**	**1.62**	**300**	Pn	**Pn**	**16 32 39.6**	**-2.2**
JFK	**Kawauchi**	**2.12**	**337**	P	**Pn**	**16 32 46.2**	**-2.5**
JIM2	**Oshima 3**	**2.17**	**252**	P	**Pn**	**16 32 48.7**	**-0.7**
JIM2				S	**Sn**	**16 33 14.9**	**-0.7**
JAG	**Ashikaga**	**2.24**	**297**	P	**Pn**	**16 32 48.7**	**-1.7**
JOD2	**Odawara 2**	**2.33**	**267**	P	**Pn**	**16 32 50.8**	**-0.8**
JOD2				S	**Sn**	**16 33 18.2**	**-1.3**
JFT	**Otama**	**2.45**	**329**	P	**Pn**	**16 32 51.7**	**-1.6**
JMM	**Marumori**	**2.60**	**340**	Pn	**Pn**	**16 32 53.4**	**-1.9**
JHJ2	**Mitsune**	**2.90**	**218**	Pn	**Pn**	**16 32 59.2**	**-0.2**
JHJ	**Hachijo jima 2**	**2.91**	**218**	Pn	**Pn**	**16 32 59.3**	**-0.2**
	19nm,0.3s,baz=131,slow=24,SNR=13						
JHJ				Sn	**Sn**	**16 33 32.5**	**-1.2**
	71nm,0.3s,baz=240,slow=23,SNR=11						
JSG	**Sagara**	**3.16**	**257**	Pn	**Pn**	**16 33 05.9**	**+2.9**
MJAR	**Matsushiro Arr**	**3.22**	**291**	Pn	**Pn**	**16 33 03.0**	**-0.8**
	1.0nm,0.3s,baz=93,slow=13,SNR=22						
MJAR				Sn	**Sn**	**16 33 43.7**	**+2.3**
	0.7nm,0.3s,baz=143,slow=7.2,SNR=5.9						
MJAR	**Matsushiro Arr**	**3.22**	**291**	Pn	**Pn**	**16 33 03.5**	**-0.3**
MAJO	**Matsushiro**	**3.22**	**

PSA00					IAmb	IAmb	16 42 39.4	
	comp=Z,5.3nm,1.5s							
PSA00	**Pilbara Seismi**	**60.43**	**204**	P	**P**		**16 42 24.1**	**+1.6**
PSA00					IAmb	IAmb	16 42 51.9	
	comp=Z,30nm,1.5s							
FINES	**FINESS Array B**	**70.43**	**333**	P	**P**		**16 43 26.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=114,slow=19,SNR=1.5							
FINES				LR	LR		17 16 46.1	
	comp=Z,41nm,18.7s,baz=0.5,slow=38							
NVAR	**Mina Array Bea**	**75.62**	**53**	P	**P**		**16 43 58.6**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=292,slow=5.7,SNR=3.1							
AKASG	**Malin Array Be**	**75.83**	**323**	P	**P**		**16 43 58.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=50,slow=7.0,SNR=6.1							
AKASG				LR	LR		17 19 39.8	
	comp=Z,24nm,19.3s,baz=10.0,slow=38							
NOA	**NORSAR Array B**	**75.83**	**338**	P	**P**		**16 43 58.9**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=39,slow=5.8,SNR=3.3							
PDAR	**Pinedale Array**	**78.50**	**45**	P	**P**		**16 44 14.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=294,slow=2.9,SNR=2.0							
CLL	**Collm**	**82.70**	**331**	*e*P	**P**		**16 44 37.0**	**+0.7**
TXAR	**Lajitas Array**	**90.77**	**53**	P	**P**		**16 45 17.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=312,slow=4.5,SNR=2.8							

*IDC **23** 16:39:40.5±0.8, 11°.00S×163°.86E, h0km, mb4.1/13, mb1 4.4/16, mb1mx4.2/36, mbtmp4.2/16, ML4.6/3, MS3.8/12, Ms1 3.8/12, ms1mx3.5/32, Error ellipse: s-maj=22.8km s-min=18.4km az=122.0*

*NEIC **23** 16:39:45.9±2.0, 10°.87S±0°.10×163°.71E±0°.10, h23km±6km, mb4.7/36, Error ellipse: s-maj=14.0km s-min=13.5km az=202.0*

ISC 23 16:39:45.7±0.5, 11°.02S±0°.06×163°.83E±0°.07, h29km, n76, σ1s52/68, mb4.6/33, MS3.8/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**4.13**	**292**	Pn		**Pn**	**16 40 46.2**	**-0.6**
	162nm,0.3s,baz=138,slow=6.3,SNR=59							
HNR				Sn		**Sn**	**16 41 35.2**	**+0.9**
	133nm,0.3s,baz=191,slow=20,SNR=2.2							
HNR				LR	LR	LR	16 42 31.3	
	comp=Z,2μm,18.6s,baz=128,slow=41							
HNR	**Honiara**	**4.13**	**292**	Pn		**Pn**	**16 40 46.5**	**-0.4**
HNR	**Honiara**	**4.13**	**292**	P		**Pn**	**16 40 46.6**	**-0.3**
SANVU	**Saraoutou**	**5.50**	**144**	P		**Pn**	**16 41 06.8**	**+1.1**
LIFNC	**LIFOU**	**10.24**	**162**	Pn		**Pn**	**16 42 12.9**	**+2.1**
DZM	**Mont Dzumac**	**11.27**	**167**	Pn		**Pn**	**16 42 24.1**	**-0.9**
	0.8nm,0.3s,baz=22,slow=9.2,SNR=22							
DZM				Sn		**Sn**	**16 44 27.3**	**-2.9**
	0.2nm,0.3s,baz=78,slow=8.3,SNR=1.1							
DZM	**Mont Dzumac**	**11.27**	**167**	*e*Pn		**Pn**	**16 42 27.7**	**+2.7**
	5.5nm,0.2s							
DZM				*e*Sn		**Sn**	**16 44 26.3**	**-3.9**
	3.3nm,0.3s							
DZM				*e*LR		LR	16 45 03.6	
	comp=Z,331nm,23.9s							
DZM	**Mont Dzumac**	**11.27**	**167**	Pn		**Pn**	**16 42 27.5**	**+2.4**
ONTNC	**Ouen Toro**	**11.50**	**168**	Pn		**Pn**	**16 42 30.7**	**+2.6**
OUENC	**Ouen Island, N**	**11.70**	**166**	Pn		**Pn**	**16 42 33.6**	**+2.9**
TARA	**Tarawa**	**15.26**	**37**	Pn		**Pn**	**16 43 17.3**	**-2.0**
MSVF	**Nonsavu**	**15.31**	**117**	LR		LR	16 48 34.5	
	comp=Z,330nm,20.0s,baz=287,slow=35							
PMG	**Port Moresby**	**16.48**	**274**	LR		LR	16 49 27.3	
	comp=Z,449nm,21.9s,baz=120,slow=36							
EIDS	**Eidsvold**	**18.69**	**219**	P		**Pn**	**16 44 04.9**	**+2.5**
CTA	**Charters Tower**	**19.16**	**240**	P		**Pn**	**16 44 07.7**	**-0.4**
	1.3nm,0.3s,baz=62,slow=12,SNR=17							
CTAO	**Charters Tower**	**19.16**	**240**	P		**Pn**	**16 44 08.9**	**+0.8**
CTAO				IAmb		IAmb	16 44 16.1	
	comp=Z,31nm,0.9s							
ARMA	**Armidale**	**22.39**	**209**	P		**P**	**16 44 44.9**	**+3.0**
ARMA				IAmb		IAmb	16 44 46.2	
	comp=Z,29nm,1.4s							
AFI	**Afiamalu**	**23.99**	**99**	LR		LR	16 52 35.5	
	comp=Z,328nm,18.7s,baz=263,slow=32							
STKA	**Stephens Creek**	**29.19**	**221**	P		**P**	**16 45 43.9**	**-0.9**
	comp=Z,6.5nm,0.9s,baz=61,slow=15,SNR=7.5							
STKA				LR		LR	16 56 33.0	
	comp=Z,228nm,19.5s,baz=28,slow=35							
STKA	**Stephens Creek**	**29.19**	**221**	P		**P**	**16 45 46.0**	**+1.2**
WR0	**Warramunga Arr**	**29.55**	**249**	P		**P**	**16 45 46.6**	**-1.5**
WB0	**Warramunga Arr**	**29.64**	**249**	P		**P**	**16 45 47.6**	**-1.4**
WRAB	**Tennant Creek**	**29.71**	**249**	P		**P**	**16 45 48.1**	**-1.5**
WRAB				IAmb		IAmb	16 45 49.2	
	comp=Z,9.7nm,0.6s							
WB2	**Warramunga Arr**	**29.72**	**249**	P		**P**	**16 45 48.4**	**-1.3**
WB2				IAmb		IAmb	16 45 53.7	
	comp=Z,11nm,0.6s							
WRA	**Warramunga Arr**	**29.73**	**249**	P		**P**	**16 45 48.5**	**-1.3**
	comp=Z,8.0nm,0.6s,baz=79,slow=8.9,SNR=95							
WRA	**Warramunga Arr**	**29.73**	**249**	P		**P**	**16 45 47.3**	**-2.5**
H11N1	**WAKE ISLAND Hy**	**30.69**	**6**	T		T	17 18 30.5	
	baz=188,slow=76,SNR=7.4							
H11N3	**WAKE ISLAND Hy**	**30.69**	**6**	T		T	17 18 24.5	
	baz=188,slow=76,SNR=9.8							
H11N2	**WAKE ISLAND Hy**	**30.70**	**6**	T		T	17 18 36.2	
	baz=188,slow=76,SNR=9.1							
AS31	**Alice Springs**	**31.13**	**242**	P		**P**	**16 45 59.8**	**-2.3**
ASAR	**Alice Springs**	**31.13**	**242**	P		**P**	**16 46 00.8**	**-1.4**
	comp=Z,2.9nm,0.4s,baz=63,slow=10,SNR=86							
ASAR				LR		LR	16 58 10.0	
	comp=Z,129nm,18.8s,baz=67,slow=36							
ASAR	**Alice Springs**	**31.13**	**242**	P		**P**	**16 46 00.5**	**-1.6**
MTN	**Manton Dam**	**32.03**	**263**	P		**P**	**16 46 07.8**	**-2.2**
MTN				IAmb		IAmb	16 46 12.2	
	comp=Z,18nm,1.3s							
BBOO	**Buckleboo**	**33.49**	**225**	P		**P**	**16 46 22.9**	**+0.2**
KNRA	**Kununurra**	**34.40**	**258**	P		**P**	**16 46 29.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**37.57**	**255**	P		**P**	**16 46 56.0**	**-1.9**
FITZ				IAmb		IAmb	16 46 56.9	
	comp=Z,7.8nm,0.6s							
FORT	**Forrest**	**38.53**	**234**	P		**P**	**16 47 07.5**	**+1.6**
PSA00	**Pilbara Seismi**	**43.36**	**250**	P		**P**	**16 47 44.9**	**-0.9**
PSA00	**Pilbara Seismi**	**43.36**	**250**	P		**P**	**16 47 44.6**	**-1.2**
PSA00				IAmb		IAmb	16 47 45.8	
	comp=Z,12nm,0.9s							
PPT	**Papeete**	**45.53**	**104**	LR		LR	17 04 03.0	
	comp=Z,91nm,20.6s,baz=314,slow=32							
PPT2	**Papeete2**	**45.53**	**104**	*e*LR		LR	17 01 03.0	
	comp=Z,121nm,23.5s							
TBI	**Tubuai**	**46.09**	**112**	*e*LR		LR	17 01 13.5	
	comp=Z,161nm,32.8s							
AIN	**Ainahou**	**50.21**	**53**	P		**P**	**16 48 40.7**	**+1.1**
POHA	**Pohakuloa**	**50.37**	**53**	P		**P**	**16 48 42.1**	**+1.2**
KSRS	**Korea Array**	**58.81**	**327**	P		**P**	**16 49 40.9**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=133,slow=6.9,SNR=1.6							
KSRS				LR		LR	17 12 28.0	
	comp=Z,38nm,20.3s,baz=148,slow=33							
NJ2	**Nanjing**	**60.69**	**317**	*e*P		**P**	**16 49 56.3**	**+1.7**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
USA0B	**Ussuriysk Arra**	**62.09**	**335**	P		**P**	**16 50 03.0**	**-0.8**
USA0B				IAmb		IAmb	16 50 09.1	
	comp=Z,6.1nm,1.1s							
USRK	**Ussuriysk Ar.**	**62.09**	**335**	P		**P**	**16 50 03.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=142,slow=8.2,SNR=4.3							
USRK	**Ussuriysk Ar.**	**62.09**	**335**	P		**P**	**16 50 02.7**	**-1.2**
VNDA	**Vanda**	**66.50**	**180**	P		**P**	**16 50 31.9**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=239,slow=18,SNR=1.6							
CMAR	**Chiang Mai Arr**	**70.38**	**294**	P		**P**	**16 50 58.0**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=119,slow=4.3,SNR=6.1							
HHC	**Hu-ho-hao-te**	**70.60**	**321**	*e*P		**P**	**16 51 01.3**	**+2.7**
LZH	**Lanzhou**	**73.35**	**313**	*e*P		**P**	**16 51 14.6**	**-0.7**
LZH				pP		pP	16 51 21.8	-0.7
LZH				sP		sP	16 51 26.3	+1.0
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
ULN	**Ulaanbaatar**	**77.18**	**325**	P		**P**	**16 51 38.2**	**+1.2**
SONM	**Songino Array**	**77.54**	**324**	P		**P**	**16 51 38.6**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=142,slow=7.3,SNR=2.9							
SONM				LR		LR	17 24 54.1	
	comp=Z,35nm,20.2s,baz=108,slow=35							
GTA	**Gaotai**	**77.69**	**315**	*e*P		P	16 51 45.8	+5.8
GTA				pP		sP	16 51 51.0	+0.9
GTA				sP		pwP	16 51 54.1	-1.0
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SVW2	**Sparrevohn**	**78.68**	**19**	P		**P**	**16 51 44.8**	**-0.1**
SVW2				IAmb		IAmb	16 51 51.6	
	comp=Z,7.2nm,1.2s							
BILL	**Bilibino**	**78.87**	**1**	P		**P**	**16 51 45.3**	**-0.4**
BILL				IAmb		IAmb	16 51 56.7	
	comp=Z,11nm,1.2s							
HDA	**Harding Lake**	**83.83**	**19**	P		**P**	**16 52 12.6**	**+0.5**
HDA				IAmb		IAmb	16 52 17.3	
	comp=Z,6.3nm,1.2s							
ILAR	**Eielson Array**	**84.09**	**19**	P		**P**	**16 52 12.6**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=229,slow=5.9,SNR=3.1							
L27K	**Beaver Creek,**	**84.75**	**22**	P		**P**	**16 52 17.4**	**+0.6**
L27K				IAmb		IAmb	16 52 17.9	
	comp=Z,4.3nm,1.3s							
EGAK	**Eagle**	**86.01**	**21**	P		**P**	**16 52 23.6**	**+0.5**
EGAK				IAmb		IAmb	16 52 37.2	
	comp=Z,5.1nm,0.9s							
PINE	**Pine Mountain**	**87.12**	**45**	P		**P**	**16 52 29.6**	**+0.3**
PINE				IAmb		IAmb	16 52 30.4	
	comp=Z,3.2nm,0.9s							
NVAR	**Mina Array Bea**	**87.45**	**50**	P		**P**	**16 52 30.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=236,slow=7.5,SNR=10							
NVAR				LR		LR	17 26 19.3	
	comp=Z,46nm,18.1s,baz=270,slow=32							
WMQ	**Urumqi**	**87.75**	**315**	*e*P		**P**	**16 52 33.0**	**+0.9**
I07A	**Izee**	**88.20**	**45**	P		**P**	**16 52 34.5**	**+0.2**
I07A				IAmb		IAmb	16 52 35.9	
	comp=Z,4.7nm,1.2s							
G08A	**Pilot Rock**	**88.92**	**44**	P		**P**	**16 52 38.1**	**+0.4**
PRN	**Pahroc Range**	**89.67**	**52**	P		**P**	**16 52 42.0**	**+0.6**
PRN				IAmb		IAmb	16 52 48.9	
	comp=Z,6.4nm,1.2s							
ELK	**Elko**	**90.34**	**49**	P		**P**	**16 52 44.6**	**0.0**
HLID	**Hailey**	**91.61**	**46**	P		**P**	**16 52 50.4**	**0.0**
HLID				IAmb		IAmb	16 52 52.1	
	comp=Z,2.7nm,1.0s							
MKAR	**Makanchi Array**	**92.22**	**317**	P		**P**	**16 52 51.7**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=106,slow=3.7,SNR=3.5							
HVU	**Hansel Valley**	**92.39**	**48**	P		**P**	**16 52 54.4**	**+0.4**
HVU				IAmb		IAmb	16 52 55.6	
	comp=Z,2.7nm,0.9s							
ZALV	**Zalesovo Beam**	**92.44**	**324**	P		**P**	**16 52 52.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=4.5,SNR=1.8							
ZALV				LR		LR	17 32 40.5	
	comp=Z,24nm,21.9s,baz=91,slow=34							
DLMT	**Dillon**	**93.28**	**45**	P		**P**	**16 52 57.9**	**-0.1**
PDAR	**Pinedale Array**	**94.92**	**48**	P		**P**	**16 53 04.8**	**-1.0**
	comp=Z,3.0nm,0.5s,baz=289,slow=2.8,SNR=2.8							
YKA	**Yellowknife Ar**	**95.82**	**27**	LR		LR	17 33 40.6	
	comp=Z,44nm,18.1s,baz=0.0,slow=34							

ROM 23 16:48:00.6±0.1, 40°.177N±0°.005×15°.662E±0°.005, h10km, ML1.3/6, 6C, Error ellipse: s-maj=0.5km s-min=0.4km az=156.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGR	**Morigerati**	**0.09**	**245**	P	Pg	16 48 03.6	+0.5
MGR				S	Sg	16 48 05.4	+0.5
MTSN	**Montesano sull**	**0.11**	**38**	↑P	Pg	16 48 04.1	+0.5
MTSN				AML	AML		
	comp=N,406μm,0.3s						
MTSN				AML	AML		
	comp=E,308μm,0.1s						
SIRI	**Monte Sirino -**	**0.16**	**88**	↑P	Pg	16 48 04.6	+0.4
SIRI				AML	AML		
	comp=E,142μm,0.3s						
SIRI				AML	AML		
	comp=N,148μm,0.3s						
SIRI				AML	AML		
	comp=E,152μm,0.3s						
SIRI				AML	AML		
	comp=N,150μm,0.2s						
MCEL	**Monticello**	**0.18**	**36**	P	Pg	16 48 05.2	+0.6
MCEL				AML	AML		
	comp=E,116μm,0.6s						
MCEL				AML	AML		
	comp=N,124μm,0.8s						
AG51	**Grumento Nova**	**0.19**	**52**	P	Pg	16 48 05.2	+0.6
CUC	**Castrocucco**	**0.22**	**147**	↑P	Pg	16 48 05.8	+0.6
CUC				S	Sg	16 48 09.7	+1.4
BULG	**Bulgheria - Ca**	**0.24**	**246**	↑P	Pg	16 48 06.5	+1.0
BULG				AML	AML		
	comp=E,103μm,0.2s						
BULG				AML	AML		
	comp=N,191μm,0.6s						
CMPR	**Campora**	**0.31**	**297**	↑P	Pg	16 48 07.3	+0.4
CMPR				AML	AML		
	comp=N,70μm,0.3s						
CMPR				AML	AML		
	comp=E,57μm,1.5s						
CDRU	**Civita di Ruta**	**0.41**	**319**	↑P	Pg	16 48 09.0	+0.2
CDRU				S	Sb	16 48 15.8	-0.7
CDRU				AML	AML		
	comp=E,84μm,0.5s						
CDRU				AML	AML		
	comp=N,24μm,0.2s						

IDC 23 16:50:47.5±5.7, 5°.16S×132°.91E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.2/27, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=346.7km s-min=33.8km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.76**	**175**	Pn		Pn	16 54 18.2	+0.5
	0.0nm,0.3s,baz=355,slow=20,SNR=1.6							
ASAR	**Alice Springs**	**18.43**	**177**	P		Pn	16 55 04.0	-0.5
	0.0nm,0.3s,baz=353,slow=11,SNR=6.9							
MKAR	**Makanchi Array**	**68.33**	**325**	P		P	17 01 50.7	+0.1
	0.1nm,0.3s,baz=126,slow=7.4,SNR=1.7							

IDC 23 16:54:05.2±21.0, 11°.77S×166°.24E, h220km±199km, mb3.2/5, mb1 3.4/5, mb1mx3.1/22, mbtmp3.7/5, Error ellipse: s-maj=95.9km s-min=65.2km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**30.26**	**225**	P		P	16 59 56.2	+0.5
	2.9nm,1.0s,baz=37,slow=5.1,SNR=2.8							
WRA	**Warramunga Arr**	**31.70**	**251**	P		P	17 00 08.4	-0.2
	0.3nm,0.7s,baz=79,slow=9.1,SNR=1.7							
ASAR	**Alice Springs**	**32.91**	**245**	P		P	17 00 18.6	-0.5
	0.8nm,0.7s,baz=73,slow=9.8,SNR=5.4							
ILAR	**Eielson Array**	**84.04**	**18**	P		P	17 06 10.6	-0.1
	0.5nm,0.7s,baz=236,slow=6.4,SNR=5.6							
MKAR	**Makanchi Array**	**94.38**	**317**	P		P	17 07 00.7	+0.7
	0.2nm,0.6s,baz=91,slow=6.3,SNR=2.9							
ARCES	**ARCESS Array B**	**117.15**	**346**	PKP		PKPdf	17 12 22.8	-0.7
	1.8nm,0.8s,baz=45,slow=2.9,SNR=1.4							

*NOU **23** 17:01:59.4, 40°.46S×174°.64E, h94km, ML3.6, Cook Strait, New Zealand*

*WEL **23** 17:02:00.7, 40°.3S×17°.5E, h54km±9km, M3.2/49, ML3.4/48, MLv3.2/49, Error ellipse: s-maj=0.0km s-min=0.0km az=53.4*

ISC 23 17:02:00.2±1.4, 40°.44S±0°.03×174°.65E±0°.03, h68km±10km, n100, σ1s97/104, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KIW	**Kapiti Island**	**0.47**	**155**	P		**Pn**	**17 02 12.5**	**0.0**
KIW				S		**Sn**	**17 02 21.1**	**-0.5**
OGWZ	**Otaki Gorge**	**0.55**	**134**	P		**Pn**	**17 02 13.4**	**+0.1**
OGWZ				S		**Sn**	**17 02 23.3**	**+0.3**
OHWZ	**Ohakea**	**0.56**	**66**	P		**Pn**	**17 02 13.4**	**0.0**
OHWZ				S		**Sn**	**17 02 23.8**	**+0.7**
DUWZ	**D'Urville Isla**	**0.66**	**237**	P		**Pn**	**17 02 14.3**	**-0.3**
DUWZ				S		**Sn**	**17 02 25.1**	**-0.1**
WAZ	**Wanganui**	**0.73**	**21**	P		**Pn**	**17 02 15.0**	**-0.4**
WAZ				S		**Sn**	**17 02 26.2**	**-0.3**
CAW	**Cannon Point**	**0.74**	**155**	P		**Pn**	**17 02 15.7**	**+0.3**
MRZ	**Mangatainoka R**	**0.74**	**108**	P		**Pn**	**17 02 15.4**	**-0.1**
MRZ				S		**Sn**	**17 02 26.4**	**-0.3**
HOWZ	**Holdsworth Sta**	**0.80**	**125**	P		**Pn**	**17 02 16.0**	**-0.2**
TCW	**Tory Channel**	**0.82**	**200**	P		**Pn**	**17 02 16.9**	**+0.5**
WEL	**Wellington**	**0.85**	**174**	P		**Pn**	**17 02 17.2**	**+0.4**
POWZ	**Post Office Ro**	**0.86**	**87**	P		**Pn**	**17 02 17.7**	**+0.9**
MTW	**Mount Morrison**	**0.97**	**138**	P		**Pn**	**17 02 18.4**	**+0.3**
BHW	**Baring Head**	**0.98**	**170**	P		**Pn**	**17 02 18.9**	**+0.5**
LREZ	**Lake Rotokare**	**1.00**	**349**	P		**Pn**	**17 02 18.5**	**-0.1**
LREZ				S		**Sn**	**17 02 32.8**	**+0.7**
TIWZ	**Tintock**	**1.00**	**110**	P		**Pn**	**17 02 19.7**	**+1.1**
PRWZ	**Pori Road**	**1.01**	**97**	P		**Pn**	**17 02 19.1**	**+0.4**
TSZ	**Takapari Road**	**1.07**	**70**	P		**Pn**	**17 02 19.5**	**-0.1**
MSWZ	**Moikau Station**	**1.08**	**155**	P		**Pn**	**17 02 20.7**	**+1.1**
PAWZ	**Paruwai Farm**	**1.11**	**148**	P		**Pn**	**17 02 20.8**	**+0.7**
TUWZ	**Tuamarina**	**1.12**	**208**	P		**Pn**	**17 02 20.5**	**+0.3**
TMWZ	**Te Maipa**	**1.16**	**126**	P		**Pn**	**17 02 21.2**	**+0.6**
PREZ	**Palmer Road**	**1.16**	**341**	P		**Pn**	**17 02 20.9**	**+0.3**
DVHZ	**Dannevirke**	**1.17**	**84**	P		**Pn**	**17 02 20.2**	**-0.6**
NMEZ	**Namu Road**	**1.18**	**330**	P		**Pn**	**17 02 21.1**	**+0.2**
PLWZ	**Palliser**	**1.22**	**158**	P		**Pn**	**17 02 22.6**	**+1.1**
NNZ	**Nelson**	**1.24**	**231**	P		**Pn**	**17 02 22.0**	**+0.4**
BFZ	**Birch Farm**	**1.24**	**102**	P		**Pn**	**17 02 21.7**	**0.0**
NEZ	**North Egmont**	**1.24**	**340**	P		**Pn**	**17 02 22.2**	**+0.3**
KHEZ	**Kahui Hut**	**1.24**	**337**	P		**Pn**	**17 02 21.8**	**0.0**
PKVZ	**Pokaka**	**1.27**	**25**	P		**Pn**	**17 02 21.5**	**-0.6**
DREZ	**Durham Road**	**1.30**	**344**	P		**Pn**	**17 02 22.8**	**+0.4**
PNHZ	**Pukenui**	**1.30**	**67**	P		**Pn**	**17 02 22.1**	**-0.4**
NBEZ	**Newall Road No**	**1.32**	**333**	P		**Pn**	**17 02 22.7**	**0.0**
VRZ	**Vera Road**	**1.32**	**4**	P		**Pn**	**17 02 22.5**	**-0.2**
WNVZ	**Wahianoa**	**1.33**	**34**	P		**Pn**	**17 02 22.9**	**-0.1**
MOVZ	**Moawhango**	**1.34**	**40**	P		**Pn**	**17 02 22.6**	**-0.4**
PKE	**Pukeiti**	**1.34**	**337**	P		**Pn**	**17 02 23.0**	**-0.1**
CMWZ	**Cape Campbell**	**1.35**	**194**	P		**Pn**	**17 02 24.5**	**+1.4**
DRZ	**Dome Shelter**	**1.36**	**31**	P		**Pn**	**17 02 24.1**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.36**	**32**	P		**Pn**	**17 02 23.9**	**+0.4**
FWVZ	**Far West T-bar**	**1.37**	**31**	P		**Pn**	**17 02 24.0**	**+0.4**
MHEZ	**Mangahewa**	**1.39**	**349**	P		**Pn**	**17 02 24.0**	**+0.4**
ANWZ	**Angora Road**	**1.39**	**91**	P		**Pn**	**17 02 23.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.40**	**204**	P		**Pn**	**17 02 24.5**	**+0.7**
TUVZ	**Tukino**	**1.40**	**34**	P		**Pn**	**17 02 24.4**	**+0.5**
WPHZ	**Waipukurau**	**1.42**	**75**	P		**Pn**	**17 02 25.0**	**+1.0**
BHHZ	**Black Hill Sta**	**1.44**	**49**	P		**Pn**	**17 02 24.4**	**0.0**
NGZ	**Ngauruhoe**	**1.46**	**30**	P		**Pn**	**17 02 25.8**	**+1.1**
SNVZ	**South Ngauruho**	**1.47**	**32**	P		**Pn**	**17 02 25.0**	**+0.2**
OTVZ	**Oturere**	**1.50**	**32**	P		**Pn**	**17 02 25.5**	**+0.3**
NNVZ	**North Ngauruho**	**1.50**	**30**	P		**Pn**	**17 02 26.2**	**+0.9**
WTVZ	**West Tongariro**	**1.51**	**29**	P		**Pn**	**17 02 25.4**	**+0.1**
KRHZ	**Kereru**	**1.54**	**60**	P		**Pn**	**17 02 25.1**	**-0.6**
TMVZ	**Te Maari**	**1.55**	**32**	P		**Pn**	**17 02 27.1**	**+1.1**
QRZ	**Quartz Range**	**1.66**	**256**	P		**Pn**	**17 02 27.1**	**-0.1**
KATZ	**Kakaramea**	**1.67**	**29**	P		**Pn**	**17 02 28.2**	**+0.7**
KWHZ	**Kaweka Forest**	**1.70**	**54**	P		**Pn**	**17 02 29.4**	**+1.6**
RITZ	**Rihia Road**	**1.73**	**33**	P		**Pn**	**17 02 29.6**	**+1.4**
PXZ	**Pawanui**	**1.74**	**77**	P		Pn	17 02 34.3	+6.0
RATZ	**Rangitukua**	**1.79**	**29**	P		**Pn**	**17 02 30.7**	**+1.6**
KAHZ	**Kahuranaki**	**1.83**	**70**	P		**Pn**	**17 02 28.4**	**-1.1**
MCHZ	**McNeill Hill**	**1.86**	**58**	P		Pn	17 02 35.3	+5.3
THZ	**Tophouse**	**1.87**	**224**	P		**Pn**	**17 02 31.2**	**+1.1**
BKZ	**Black Stump Fm**	**1.91**	**49**	P		**Pn**	**17 02 30.1**	**-0.5**
WATZ	**Wairara**	**1.92**	**26**	P		**Pn**	**17 02 32.1**	**+1.3**
HIZ	**Hauiti**	**1.93**	**5**	P		**Pn**	**17 02 30.9**	**0.0**
NMHZ	**Naumai**	**2.14**	**52**	P		**Pn**	**17 02 37.6**	**+3.9**
KHZ	**Kahutara**	**2.14**	**203**	P		**Pn**	**17 02 33.9**	**+0.2**
KUTZ	**Kaahu Road**	**2.15**	**25**	P		**Pn**	**17 02 35.7**	**+1.9**
TLZ	**Tolley Road**	**2.22**	**18**	P		**Pn**	**17 02 34.4**	**-0.4**
MTHZ	**Maungataniwha**	**2.32**	**48**	P		**Pn**	**17 02 38.5**	**+2.3**
RAHZ	**Arahi**	**2.42**	**52**	P		**Pn**	**17 02 40.5**	**+3.0**
DSZ	**Denniston Nort**	**2.52**	**238**	P		**Pn**	**17 02 38.8**	**0.0**
MUGZ	**Murupara**	**2.56**	**41**	P		**Pn**	**17 02 37.8**	**-1.5**
TOZ	**Tahuroa Road**	**2.79**	**14**	P		**Pn**	**17 02 42.3**	**-0.1**
GVZ	**Greta Valley S**	**2.80**	**205**	P		**Pn**	**17 02 42.1**	**-0.6**
URZ	**Urewera**	**2.90**	**42**	P		**Pn**	**17 02 41.8**	**-2.1**
LTZ	**Lake Taylor**	**2.94**	**217**	P		**Pn**	**17 02 44.1**	**-0.5**
MWZ	**Matawai**	**3.06**	**48**	P		**Pn**	**17 02 44.2**	**-2.1**
AWAZ	**Awhitu Peninsu**	**3.37**	**360**	P		**Pn**	**17 02 50.4**	**0.0**
TWGZ	**Tauwhareparae**	**3.43**	**50**	P		**Pn**	**17 02 49.9**	**-

SZAC	**Souni**	**2.73**	**104**	P	**Pn**	**17 05 49.9**	**+2.0**
SZAC				AML	AML	17 06 21.1	
	comp=E,0.8nm,0.5s						
SZAC				AML	AML	17 06 22.1	
	comp=E,0.7nm,0.2s						
KZIL	**AFYON_Kizioren**	**2.84**	**8**	*i* P	**Pn**	**17 05 52.0**	**+2.5**
ERMK	**Ermenek**	**2.90**	**65**	*i* P	**Pb**	**17 05 54.0**	**-2.8**
GCAM	**G?zelcaml?**	**2.99**	**320**	*i* P	**Pb**	**17 05 57.0**	**-1.2**
ASGA	**Asgata**	**3.01**	**101**	P	**Pn**	**17 05 53.4**	**+1.7**
ASGA				S	**Sn**	**17 06 29.0**	**+2.0**
CSS	**Mathiatis**	**3.04**	**98**	P	**Pn**	**17 05 53.9**	**+1.8**
DOGA	**KONYA_Doganhis**	**3.11**	**31**	*i* P	**Pn**	**17 05 56.3**	**+3.1**
DOGA				*i* S	**Sn**	**17 06 30.8**	**+1.1**
DOGA				IAML		17 06 35.0	
	comp=N,82nm,0.3s						
DOGA				IAML		17 06 37.0	
	comp=E,57nm,0.6s						
KKBE	**Karaman, Kazim**	**3.19**	**55**	*i* P	**Pn**	**17 05 57.5**	**+3.3**
KKBE				*i* S	**Sn**	**17 06 33.2**	**+1.7**
GULN	**MERSIN_Gulnar**	**3.24**	**76**	*i* P	**Pn**	**17 05 56.2**	**+1.3**
GULN				*i* S	**Sn**	**17 06 33.0**	**+0.4**
MVOU	**Mavrovouni**	**3.28**	**96**	P	**Pn**	**17 05 56.5**	**+1.2**
MVOU				S	**Sn**	**17 06 35.4**	**+1.9**
KONT	**Konya--Tatoy**	**3.31**	**40**	*i* P	**Pn**	**17 05 58.9**	**+3.0**
USAK	**Uak-Merkez**	**3.31**	**351**	*i* P	**Pn**	**17 05 56.2**	**+0.4**
KDHN	**Kadinhani**	**3.65**	**32**	*i* P	**Pn**	**17 06 03.2**	**+2.6**
KDHN				*i* S	**Sn**	**17 06 43.2**	**+0.4**
KIZK	**Mersin**	**3.78**	**73**	*i* P	**Pn**	**17 06 03.8**	**+1.5**
KIZK				*i* S	**Sn**	**17 06 44.4**	**-1.6**
ALIN	**Konya, Altinte**	**3.85**	**41**	*i* P	**Pn**	**17 06 03.8**	**+0.5**
KERG	**Konya-Eregli**	**4.10**	**60**	*i* P	**Pn**	**17 06 08.5**	**+1.7**
KERG				*i* S	**Sn**	**17 06 54.7**	**+0.6**
KERG				IAML		17 06 57.0	
	comp=E,24nm,0.4s						
KERG				IAML		17 07 01.0	
	comp=N,28nm,0.5s						
GULE	**Gulek**	**4.52**	**64**	*i* P	**Pn**	**17 06 16.2**	**+3.6**
KKUL	**Konya-Kulu**	**4.54**	**34**	*i* P	**Pn**	**17 06 14.7**	**+1.8**
BHL	**Bhannes**	**5.17**	**106**	*e*P	**Pn**	**17 06 21.6**	**+0.1**
DQRL	**Deir Qamar**	**5.17**	**108**	*e*P	**Pn**	**17 06 21.8**	**+0.3**
HWQ	**Hawqa**	**5.29**	**101**	*e*P	**Pn**	**17 06 24.5**	**+1.2**
BRTR	**Keskin Array B**	**5.32**	**35**	Pn	**Pn**	**17 06 25.4**	**+1.8**
	comp=N,1.3nm,0.3s,baz=218,slow=14,SNR=30						
BRTR				Sn	**Sn**	**17 07 24.1**	**0.0**
	comp=N,1.4nm,0.3s,baz=204,slow=25,SNR=7.4						
SLUM	**Salum**	**5.41**	**225**	P	**Pn**	**17 06 25.5**	**+0.8**
	baz=231						
RCY	**Rachaya**	**5.45**	**109**	*e*P	**Pn**	**17 06 26.7**	**+1.3**
KOT	**Kottamia**	**5.79**	**161**	P	**Pn**	**17 06 30.9**	**+1.0**
	baz=172						
KOT				S	**Sn**	**17 07 30.9**	**-4.7**
	baz=172						
HNAT	**Natroun**	**5.84**	**172**	S	**Sn**	**17 07 33.0**	**-3.8**
	baz=183						
HSAF	**As Saff**	**6.02**	**164**	P	**Pn**	**17 06 34.6**	**+1.5**
	baz=174						
GLL	**Jalalah**	**6.09**	**163**	P	**Pn**	**17 06 35.0**	**+0.9**
	baz=173						
SUZ	**Suez**	**6.19**	**154**	P	**Pn**	**17 06 36.5**	**+1.1**
	baz=164						
RYAN	**Fayoum**	**6.36**	**175**	P	**Pn**	**17 06 38.3**	**+0.6**
	baz=185						
TAMRE	**El Minia**	**7.81**	**172**	P	**Pn**	**17 06 58.7**	**+1.1**
	baz=179						
HKAT	**Jabal Katrina**	**7.81**	**151**	S	Sn	17 08 10.6	-15
	baz=159						
HFRF	**Wahat Farafira**	**8.34**	**188**	P	**Pn**	**17 07 05.5**	**+0.5**
	baz=196						
HFRF				AMP		17 08 00.0	
	baz=196						
LSTV	**Lastovo**	**12.32**	**310**	Sg	Sn	17 10 07.2	-8.6
KIJV	**Kijevo**	**13.30**	**314**	Sn	**Sn**	**17 10 35.3**	**-4.6**
KEST	**Kesra**	**16.53**	**277**	Pn	**Pn**	**17 08 56.3**	**+0.5**
	comp=N,0.3nm,0.3s,baz=90,slow=9.1,SNR=2.9						
FINES	**FINESS Array B**	**26.13**	**356**	P	**P**	**17 10 36.2**	**-1.1**
	comp=N,1.0nm,0.8s,baz=165,slow=12,SNR=1.8						
TORD	**Torodi Ar. Bea**	**33.59**	**236**	P	**P**	**17 11 44.6**	**+0.7**
	comp=N,0.5nm,0.6s,baz=37,slow=9.6,SNR=2.4						
MKAR	**Makanchi Array**	**40.54**	**57**	P	**P**	**17 12 42.8**	**+0.1**
	comp=N,0.2nm,0.4s,baz=276,slow=6.3,SNR=3.6						

*IDC **23** 17:07:14.2±0.5,27.°63N×140.°18E,h466^{km}±11^{km}, mb3.0/11,mb1 3.1/15,mb1mx3.0/40,mbtmp3.9/15,Error ellipse: s-maj=31.1km s-min=12.5km az=76.0*

*JMA **23** 17:07:15.5±0.2,27.°88N×140.°57E,h479^{km}±4^{km},M3.7*

ISC 23 17:07:14.5±0.8,27.°71N±0.°08×139.°98E±0.°1,h450^{km},n30, σ1§63/40,mb3.4/11,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**106**	P	**P**	**17 08 17.3**	**+1.4**
CBIJ				*e*S	**S**	**17 09 05.6**	**0.0**
JCJ	**Chichijima**	**2.15**	**106**	P	**P**	**17 08 16.9**	**+1.0**
	39nm,0.3s,baz=324,slow=22,SNR=39						
JCJ				S	**S**	**17 09 05.3**	**-0.3**
	114nm,0.3s,baz=301,slow=23,SNR=24						
JHH2	**Haha-jima-NKT2**	**2.32**	**117**	P	**P**	**17 08 18.6**	**+1.7**
JHH2				*e*S	**S**	**17 09 08.4**	**+0.9**
JHJ2	**Mitsune**	**5.38**	**359**	P	**P**	**17 08 44.5**	**+2.0**
JHJ	**Hachijo jima 2**	**5.39**	**359**	P	**P**	**17 08 44.3**	**+1.8**
	6.3nm,0.3s,baz=72,slow=20,SNR=1.7						
JHJ				S	**S**	**17 09 55.1**	**+0.6**
	8.8nm,0.3s,baz=69,slow=22,SNR=2.0						
BSO1	**Boso 1**	**6.98**	**8**	P	**P**	**17 09 00.4**	**+2.1**
BSO1				*e*S	**S**	**17 10 23.4**	**-0.1**
BSO3	**Boso 3**	**7.09**	**4**	P	**P**	**17 09 01.4**	**+1.7**
BSO3				*e*S	**S**	**17 10 25.2**	**-0.8**
JIE	**Ise**	**7.19**	**339**	P	**P**	**17 09 05.5**	**+4.4**
JKN2	**Miekihoku**	**7.20**	**335**	P	P	17 09 06.2	+5.0
JOD2	**Odawara 2**	**7.56**	**355**	P	**P**	**17 09 06.7**	**+1.7**
JNY	**Yasuok**	**7.81**	**348**	P	**P**	**17 09 09.9**	**+2.0**
JRY	**Ryogami san**	**8.32**	**355**	P	**P**	**17 09 14.7**	**+1.4**
JYT	**Yasato**	**8.49**	**2**	P	**P**	**17 09 16.2**	**+1.1**
JYT				*e*S	**S**	**17 10 51.6**	**-2.6**
JAG	**Ashikaga**	**8.69**	**358**	P	**P**	**17 09 17.6**	**+0.3**
JAG				*e*S	**S**	**17 10 55.5**	**-2.7**
JHO	**Hitachi**	**8.89**	**4**	P	**P**	**17 09 20.9**	**+1.5**
JHO				*e*S	**S**	**17 11 00.0**	**-2.1**
MJAR	**Matsushiro Arr**	**8.91**	**351**	P	**P**	**17 09 20.8**	**+1.1**
	0.1nm,0.3s,baz=175,slow=12,SNR=6.2						
JFK	**Kawauchi**	**9.66**	**5**	P	**P**	**17 09 29.7**	**+1.9**
JFK				*e*S	**S**	**17 11 15.8**	**-1.8**
KSRS	**Korea Array**	**13.98**	**317**	P	**P**	**17 10 16.2**	**+1.6**
	0.0nm,0.3s,baz=128,slow=8.2,SNR=4.9						
USRK	**Ussuriysk Ar.**	**17.63**	**341**	P	**P**	**17 10 54.3**	**+1.1**
	baz=153,slow=9.7,SNR=6.6						
SONM	**Songino Array**	**32.85**	**317**	P	**P**	**17 13 10.0**	**+0.6**
	0.5nm,0.5s,baz=128,slow=9.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**38.62**	**265**	P	**P**	**17 13 58.2**	**+0.3**
	0.2nm,0.4s,baz=66,slow=6.5,SNR=4.7						
WRA	**Warramunga Arr**	**47.68**	**187**	P	**P**	**17 15 06.5**	**-2.4**
	0.3nm,0.5s,baz=3.8,slow=7.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**47.68**	**319**	P	**P**	**17 15 08.3**	**-0.2**
	1.9nm,0.3s,baz=109,slow=7.2,SNR=8.5						
MKAR	**Makanchi Array**	**48.50**	**309**	P	**P**	**17 15 15.3**	**+0.5**
	0.7nm,0.3s,baz=88,slow=10,SNR=19						
MKAR				PcP	**PcP**	**17 16 31.9**	**-0.8**
	0.4nm,0.8s,baz=96,slow=2.9,SNR=2.5						
NRIK	**Noril'sk**	**51.33**	**339**	P	**P**	**17 15 35.2**	**-0.2**
	0.9nm,0.4s,baz=124,slow=3.6,SNR=1.4						
ASAR	**Alice Springs**	**51.40**	**187**	P	**P**	**17 15 34.8**	**-1.7**
	0.1nm,0.5s,baz=0.4,slow=5.4,SNR=6.4						
ARCES	**ARCESS Array B**	**72.28**	**340**	P	**P**	**17 17 51.8**	**-0.8**
	2.7nm,0.9s,baz=350,slow=3.7,SNR=4.9						
KBZ	**Khabaz**	**76.08**	**312**	P	**P**	**17 18 15.0**	**+0.3**
	0.6nm,0.6s,baz=104,slow=5.6,SNR=4.1						
FINES	**FINESS Array B**	**76.48**	**339**	P	**P**	**17 18 15.8**	**-0.8**
	2.1nm,0.3s,baz=64,slow=5.1,SNR=28						
NOA	**NORSAR Array B**	**82.27**	**337**	P	**P**	**17 18 46.0**	**-1.4**
	0.6nm,0.8s,baz=45,slow=4.4,SNR=3.3						

*IDC **23** 17:11:12.1±1.6,21.°60N×143.°11E,h310^{km}±15^{km}, mb3.5/17,mb1 3.6/20,mb1mx3.4/45,mbtmp4.2/20,Error ellipse: s-maj=16.3km s-min=10.0km az=90.0*

*NEIC **23** 17:11:13.4±1.5,21.°54N±0.°08×143.°1E±0.°1,h317^{km}±7^{km}, mb4.1/74,Error ellipse: s-maj=17.4km s-min=11.5km az=88.0*

ISC 23 17:11:12.3±1.4,21.°54N±0.°07×143.°08E±0.°10, h311^{km}±13^{km},n112,σ0§95/117,mb4.1/48,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.59**	**352**	P	**Pn**	**17 12 37.5**	**+0.5**
	14nm,0.3s,baz=308,slow=23,SNR=15						
JCJ				S	**S**	**17 13 43.5**	**-1.9**
	32nm,0.3s,baz=289,slow=22,SNR=10						
JCJ	**Chichijima**	**5.59**	**352**		**S**	**17 13 45.4**	**0.0**
JHJ2	**Mitsune**	**11.88**	**347**	P	**Pn**	**17 13 53.1**	**0.0**
JHJ	**Hachijo jima 2**	**11.90**	**346**	P	**Pn**	**17 13 52.6**	**-0.7**
	11nm,0.3s,baz=327,slow=23,SNR=19						
JHJ				S	**S**	**17 16 03.9**	**-1.9**
	3.7nm,0.3s,baz=118,slow=9.4,SNR=1.3						
JMN	**Monobe**	**14.62**	**328**	P	**Pn**	**17 14 27.3**	**+1.5**
INU	**Inuyama**	**14.75**	**340**	P	**P**	**17 14 24.7**	**-1.3**
JYT	**Yasato**	**14.85**	**351**	P	**Pn**	**17 14 27.9**	**-0.5**
JSU	**Suzuyama**	**15.03**	**314**		**Pn**	**17 14 31.2**	**+0.6**
JWT	**Wachi**	**15.26**	**335**	P	**Pn**	**17 14 32.8**	**-0.4**
JWT				IAmb	IAmb	17 14 34.6	
	comp=Z,9.9nm,0.5s						
MJAR	**Matsushiro Arr**	**15.54**	**345**	P	**P**	**17 14 34.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=159,slow=8.9,SNR=14						
MJAR	**Matsushiro Arr**	**15.54**	**345**	P	**P**	**17 14 34.6**	**0.0**
MAJO	**Matsushiro**	**15.54**	**345**	P	**P**	**17 14 34.8**	**+0.2**
MAJO				IAmb	IAmb	17 14 36.2	
	comp=Z,8.5nm,0.9s						
MJB9	**Matsu-Tunnel**	**15.54**	**345**	P	**P**	**17 14 35.5**	**+0.8**
MJB9				IAmb	IAmb	17 14 36.5	
	comp=Z,8.1nm,0.6s						
JHS	**Saijyo**	**16.01**	**329**	P	**Pn**	**17 14 41.7**	**-0.4**
JHS				IAmb	IAmb	17 14 43.3	
	comp=Z,8.2nm,0.7s						
JMM	**Marumori**	**16.39**	**354**	P	**Pn**	**17 14 45.5**	**-0.9**
JSD	**Sado**	**16.96**	**347**	P	**P**	**17 14 50.2**	**+0.3**
JTM	**Tenmabayashi**	**19.26**	**355**	P	**P**	**17 15 20.9**	**+6.2**
KSRS	**Korea Array**	**20.59**	**324**	P	**P**	**17 15 28.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=145,slow=9.1,SNR=20						
KSAR	**Wonju Array Be**	**20.60**	**324**	P	**P**	**17 15 28.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**24.40**	**340**	P	**P**	**17 16 02.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=151,slow=8.6,SNR=4.1						
RABL	**Rabaul**	**27.08**	**160**	P	**P**	**17 16 26.6**	**-0.6**
KLR	**Kul'dur**	**29.07**	**345**	P	**P**	**17 16 44.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=185,slow=12,SNR=2.3						
TOLI2	**Tolitoli**	**29.75**	**230**	P	**P**	**17 16 51.8**	**+0.9**
TOLI2				IAmb	IAmb	17 17 00.1	
	comp=Z,5.7nm,0.8s						
LUWI	**Luwuk**	**29.96**	**224**	P	**P**	**17 16 52.0**	**-0.7**
MTN	**Manton Dam**	**36.13**	**200**	P	**P**	**17 17 45.5**	**-0.2**
MTN				IAmb	IAmb	17 18 14.5	
	comp=Z,11nm,1.2s						
SOEI	**Soe**	**36.18**	**213**	P	**P**	**17 17 45.0**	**-1.3**
KNRA	**Kununurra**	**39.56**	**202**	P	**P**	**17 18 14.2**	**-0.1**
KNRA				IAmb	IAmb	17 18 47.8	
	comp=Z,23nm,1.4s						
AMKA	**Amchitka**	**40.96**	**34**	P	**P**	**17 18 26.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**41.49**	**274**	P	**P**	**17 18 30.8**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=94,slow=5.8,SNR=4.5						
WB0	**Warramunga Arr**	**41.92**	**192**	P	**P**	**17 18 33.6**	**+0.3**
WR0	**Warramunga Arr**	**42.08**	**192**	P	**P**	**17 18 34.8**	**+0.2**
WR0				IAmb	IAmb	17 18 35.6	
	comp=Z,22nm,1.6s						
WRAB	**Tennant Creek**	**42.10**	**192**	P	**P**	**17 18 34.9**	**+0.2**
WB2	**Warramunga Arr**	**42.10**	**192**	P	**P**	**17 18 35.0**	**+0.3**
WB2				IAmb	IAmb	17 18 49.7	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**42.11**	**192**	P	**P**	**17 18 34.9**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=13,slow=8.1,SNR=75						
WRA	**Warramunga Arr**	**42.11**	**192**	P	**P**	**17 18 34.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**42.94**	**205**	P	**P**	**17 18 41.6**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=19,slow=13,SNR=2.4						
FITZ	**Fitzroy Crossi**	**42.94**	**205**	IAmb	IAmb	17 19 07.3	
	comp=Z,14nm,1.6s						
KIWB	**Kanaga Island**	**43.10**	**35**	P	**P**	**17 18 43.7**	**+1.3**
ADK	**Adak**	**43.37**	**36**	P	**P**	**17 18 45.4**	**+0.9**
ADK				IAmb	IAmb	17 19 00.6	
	comp=Z,16nm,1.3s						
ATKA	**Atka Island**	**44.87**	**36**	P	**P**	**17 18 57.0**	**+0.7**
ATKA				IAmb	IAmb	17 19 33.5	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**45.81**	**192**	P	**P**	**17 19 04.3**	**+0.3**
ASAR	**Alice Springs**	**45.81**	**192**	P	**P**	**17 19 04.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=14,slow=6.8,SNR=16						
GSI	**Gunungsitoli**	**48.66**	**252**	P	**P**	**17 19 26.6**	**+0.6**
GSI				IAmb	IAmb	17 19 29.2	
	comp=Z,8.4nm,1.0s						
BILL	**Bilibino**	**48.69**	**11**	P	**P**	**17 19 25.5**	**+0.1**
BILL				IAmb	IAmb	17 19 26.9	
	comp=Z,12nm,1.6s						
AKUT	**Akutan**	**50.30**	**37**	P	**P**	**17 19 38.0**	**+0.4**
TIXI	**Tiksi**	**50.80**	**354**	P	**P**	**17 19 40.9**	**-0.2**
GIRL	**Giralia**	**52.15**	**214**	P	**P**	**17 19 52.1**	**+0.4**
ZAA0	**Zalesovo Array**	**54.27**	**322**	P	**P**	**17 20 05.5**	**-0.2**
ZAA0				PcP	**PcP**	**17 21 05.4**	**-1.2**
ZALV	**Zalesovo Beam**	**54.27**	**322**	P	**P**	**17 20 05.8**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=110,slow=8.1,SNR=4.9						
ZALV				PcP	**PcP**	**17 21 05.9**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=124,slow=2.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**54.27**	**322**	P	**P**	**17 20 06.4**	**-0.3**
ZALV				PcP	**PcP**	**17 21 05.5**	**-1.0**
MK31	**Makanchi Array**	**54.73**	**313**	P	**P**	**17 20 10.9**	**+0.7**
MK31				PcP	**PcP**	**17 21 08.6**	**0.0**
MKAR	**Makanchi Array**	**54.73**	**313**	P	**P**	**17 20 09.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=91,slow=8.3,SNR=11						
MKAR				PcP	**PcP**	**17 21 08.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=75,slow=4.5,SNR=5.6						
MKAR	**Makanchi Array**	**54.73**	**313**	P	**P**	**17 20 10.6**	**+0.4**
MKAR				PcP	**PcP**	**17 21 08.5**	**-0.1**
MAKZ	**Makanchi**	**54.95**	**313**	P	**P**	**17 20 12.4**	**+0.6**
MORW	**Morawa**	**56.67**	**208**	P	**P**	**17 20 24.2**	**+0.2**
SVW2	**Sparrevohn**	**57.59**	**30**	P	**P**	**17 20 31.1**	**+1.1**
SVW2				IAmb	IAmb	17 21 07.9	
	comp=Z,6.7nm,1.3s						
KDAK	**Kodiak Island**	**58.38**	**35**	P	**P**	**17 20 35.2**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=316,slow=5.8,SNR=5.4						
KDAK	**Kodiak Island**	**58.38**	**35**	IAmb	IAmb	17 20 35.9	
	comp=Z,4.7nm,1.0s						
CNPM	**China Poot**	**59.37**	**33**	P	**P**	**17 20 42.2**	**0.0**
CNPM				IAmb	IAmb	17 20 44.9	
	comp=Z,6.3nm,1.0s						
PPLA	**Purkeypile**	**59.57**	**29**	P	**P**	**17 20 44.2**	**+0.5**
PPLA				IAmb	IAmb	17 21 19.7	
	comp=Z,9.4nm,1.5s						
SKT	**Skwentna**	**59.68**	**30**	P	**P**	**17 20 44.0**	**-0.3**
SUA	**Susitna One**	**59.95**	**30**	P	**P**	**17 20 46.5**	**+0.3**
SUA				IAmb	IAmb	17 20 57.9	
	comp=Z,7.3nm,1.3s						
BPAW	**Bear Paw Mtn.**	**60.35**	**27**	P	**P**	**17 20 49.2**	**+0.5**
BPAW				IAmb	IAmb	17 20 50.1	
	comp=Z,2.8nm,0.6s						
RC01	**Rabbit Creek A**	**60.36**	**31**	P	**P**	**17 20 48.8**	**0.0**
RC01				IAmb	IAmb	17 20 50.3	
	comp=Z,3.9nm,0.6s						
TRF	**Thorofare Moun**	**60.52**	**28**	P	**P**	**17 20 49.8**	**-0.3**
TRF				IAmb	IAmb	17 20 50.6	
	comp=Z,4.1nm,1.0s						
GHO	**Glory Hole Cre**	**60.86**	**30**	P	**P**	**17 20 52.5**	**+0.2**
GHO				IAmb	IAmb	17 21 09.4	
	comp=Z,9.2nm,1.6s						
PWL	**Port Wells**	**61.01**	**31**	P	**P**	**17 20 53.2**	**0.0**
I23K	**Minto, Yukon-K**	**61.25**	**26**	P	**P**	**17 20 55.6**	**+0.9**
I23K				IAmb	IAmb	17 20 56.6	
	comp=Z,2.7nm,0.6s						
GLI	**Glacier Island**	**61.61**	**31**	P	**P**	**17 20 57.2**	**0.0**
GLI				IAmb	IAmb	17 21 29.2	
	comp=Z,8.9nm,1.1s						
SCM	**Sheep Creek Mo**	**61.62**	**30**	P	**P**	**17 20 57.8**	**+0.5**
SCM				IAmb	IAmb	17 21 08.8	
	comp=Z,14nm,1.6s						
MDM	**Murphy Dome**	**61.68**	**27**	P	**P**	**17 20 56.9**	**-0.8**
CCB	**Clear Creek Bu**	**61.81**	**27**	P	**P**	**17 20 58.1**	**-0.4**
FID	**Port Fidalgo**	**61.90**	**32**	P	**P**	**17 20 59.5**	**+0.3**
FID				IAmb	IAmb	17 21 23.1	
	comp=Z,4.6nm,1.0s						
TOLK	**Toolik Lake Re**	**61.90**	**23**	P	**P**	**17 21 00.3**	**+1.3**
TOLK				IAmb	IAmb	17 21 00.5	
	comp=Z,3.1nm,0.5s						
ILAR	**Eielson Array**	**62.22**	**27**	P	**P**	**17 21 00.2**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=256,slow=4.9,SNR=11						
ILAR	**Eielson Array**	**62.22**	**27**	P	**P**	**17 21 00.4**	**-0.8**
KLU	**Klutina**	**62.24**	**31**	P	**P**	**17 21 02.4**	**+0.9**
KLU				IAmb	IAmb	17 21 02.5	
	comp=Z,9.2nm,1.5s						
BRVK	**Borovoye**	**62.79**	**320**	P	**P**	**17 21 05.8**	**+0.6**
BRVK				IAmb	IAmb	17 21 06.2	
	comp=Z,3.1nm,0.5s						

BMRM	**Bremner River**	**62.83**	**31**	P	**P**	**17 21 06.5**	**+1.2**
BMRM				IAmb	IAmb	17 21 20.6	
	comp=Z,3.3nm,0.8s						
N25K	**Chitina, Valde**	**62.88**	**31**	P	**P**	**17 21 06.6**	**+0.9**
N25K				IAmb	IAmb	17 21 07.4	
	comp=Z,6.4nm,1.6s						
HMT	**Hamilton**	**62.95**	**32**	P	**P**	**17 21 06.8**	**+0.7**
HMT				IAmb	IAmb	17 21 28.7	
	comp=Z,12nm,1.4s						
KK31	**Karatay Array**	**63.08**	**308**	P	**P**	**17 21 07.2**	**0.0**
KKAR	**Karatay Array**	**63.08**	**308**	P	**P**	**17 21 07.1**	**-0.2**
FYU	**Fort Yukon**	**63.16**	**25**	P	**P**	**17 21 08.5**	**+1.3**
FYU				IAmb	IAmb	17 21 15.3	
	comp=Z,14nm,1.6s						
SUCK	**Suckling Hills**	**63.18**	**33**	P	**P**	**17 21 08.7**	**+1.1**
DOT	**Dot Lake**	**63.31**	**29**	P	**P**	**17 21 08.4**	**0.0**
SCRK	**Sand Creek**	**63.38**	**28**	P	**P**	**17 21 09.0**	**+0.1**
SCRK				IAmb	IAmb	17 21 10.0	
	comp=Z,6.5nm,1.4s						
BMAR	**Burnt Mountain**	**63.53**	**24**	P	**P**	**17 21 11.3**	**+1.6**
K27K	**Chicken**	**64.22**	**28**	P	**P**	**17 21 15.0**	**+0.8**
L27K	**Beaver Creek,**	**64.27**	**29**	P	**P**	**17 21 14.9**	**+0.2**
BCAR	**Beaver Creek A**	**64.29**	**29**	P	**P**	**17 21 15.8**	**+1.0**
HYT	**Haines Junctio**	**66.30**	**32**	P	**P**	**17 21 29.0**	**+1.3**
URZ	**Urewera**	**67.52**	**152**	P	**P**	**17 21 34.9**	**-0.5**
	comp=Z,11nm,1.1s,baz=115,slow=23,SNR=1.2						
URZ	**Urewera**	**67.52**	**152**		**P**	**17 21 33.3**	**-2.2**
BKZ	**Black Stump Fm**	**68.00**	**153**	P	**P**	**17 21 38.0**	**-0.5**
ABKAR	**Akbulak array**	**69.60**	**316**	P	**P**	**17 21 47.9**	**-0.2**
ABKAR				IAmb	IAmb	17 21 48.8	
	comp=Z,2.5nm,0.8s						
ABKAR	**Akbulak array**	**69.60**	**316**	P	**P**	**17 21 48.3**	**+0.1**
OXZ	**Oxford**	**69.82**	**158**	P	**P**	**17 21 48.1**	**-1.3**
YKA	**Yellowknife Ar**	**76.64**	**28**	P	**P**	**17 22 28.6**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=292,slow=5.2,SNR=7.6						
KEV	**Kevo**	**78.48**	**341**	P	**P**	**17 22 38.9**	**+0.1**
LTY	**Liberty**	**78.56**	**44**	P	**P**	**17 22 40.0**	**+0.1**
LTY				IAmb	IAmb	17 23 05.1	
	comp=Z,4.7nm,1.4s						
KCPM	**Cahto Peak**	**79.02**	**52**	P	**P**	**17 22 43.9**	**+1.3**
ARCES	**ARCESS Array B**	**79.04**	**341**	P	**P**	**17 22 42.1**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=76,slow=8.7,SNR=28						
ARCES	**ARCESS Array B**	**79.04**	**341**	IAmb	IAmb	17 22 47.9	
	comp=Z,25nm,1.6s						
PINE	**Pine Mountain**	**79.54**	**47**	P	**P**	**17 22 45.8**	**+0.4**
PINE				IAmb	IAmb	17 22 47.1	
	comp=Z,3.7nm,0.8s						
KBZ	**Khabaz**	**82.41**	**314**	P	**P**	**17 22 59.2**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=83,slow=4.1,SNR=4.0						
FINES	**FINESS Array B**	**83.28**	**334**	P	**P**	**17 23 03.1**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=65,slow=4.5,SNR=26						
NVAR	**Mina Array Bea**	**83.31**	**51**	P	**P**	**17 23 04.0**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=279,slow=5.6,SNR=10						
NVAR	**Mina Array Bea**	**83.31**	**51**	P	**P**	**17 23 04.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**128.77**	**309**	PKP	**PKPdf**	**17 29 43.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=21,slow=1.6,SNR=2.1						
PLCA	**Paso Flores**	**145.72**	**132**	PKPbc	**PKPbc**	**17 30 15.7**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=210,slow=5.6,SNR=11						
LPAZ	**La Paz**	**150.04**	**85**	PKPbc	**PKPbc**	**

0.2nm,0.6s,baz=72,slow=2.9,SNR=2.3

TUL ***23*** *17:37:55.4±1.1,36°.69N×0°.03×98°.61W×0°.04,h5km±6km, ML3.4,mb_Lg3.0/82(NEIC),Error ellipse: s-maj=5.2km s-min=3.4km az=101.0*
NEIC ***23*** *17:37:56.0±1.2,36°.66N×0°.04×98°.57W×0°.02,h5km±2km, Error ellipse: s-maj=6.5km s-min=3.1km az=16.0*
ANF ***23*** *17:37:56.3±0.4,36°.66N×98°.62W,h7km,ML3.8/10,Error ellipse: s-maj=4.3km s-min=3.3km az=77.0*

ISC 23 17:37:55.8±1.2,36°.67N±0°.02×98°.59W±0°.03,h5km±11km, n98,σ0°72/91,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.33**	**67**	Op		**Pg**	**17 38 02.4**	**+0.1**
OK032				Sg		**Sg**	**17 38 07.5**	**+0.8**
U32A	**Winter Ranch,**	**0.44**	**228**			**Pg**	**17 38 04.3**	**-0.1**
U32A				Sg		**Sg**	**17 38 10.4**	**+0.3**
U32A	**Winter Ranch,** baz=51,SNR=81	**0.44**	**228**	P		**Pg**	**17 38 04.2**	**-0.1**
U32A	**Winter Ranch,** baz=51,SNR=81	**0.44**	**228**	P			17 38 04.2	
CROK	**Carrier**	**0.52**	**109**			**Pg**	**17 38 06.0**	**+0.2**
KAN14	**Manchester OK**	**0.58**	**61**			**Pg**	**17 38 06.9**	**-0.1**
KAN14				Sg		**Sg**	**17 38 15.0**	**+0.5**
KAN10	**Anthony SW Sta**	**0.60**	**42**			**Pg**	**17 38 07.1**	**-0.3**
KAN16	**Harper SW Stat**	**0.69**	**37**			**Pg**	**17 38 08.9**	**-0.3**
KAN05	**Bluff City Nor**	**0.72**	**53**			**Pg**	**17 38 09.5**	**-0.2**
KAN08	**Anthony NE Sta**	**0.74**	**42**			**Pg**	**17 38 09.7**	**-0.5**
KAN17	**Caldwell West**	**0.76**	**61**			**Pg**	**17 38 10.2**	**-0.2**
KAN12	**Harper NE Stat**	**0.78**	**37**			**Pg**	**17 38 10.4**	**-0.5**
KAN09	**Caldwell North**	**0.91**	**59**			**Pg**	**17 38 12.8**	**-0.4**
KAN09				Sg		**Sg**	**17 38 25.0**	**-0.1**
KAN09	comp=Z,195nm,0.7s			lAmb_Lg			17 38 25.0	
KAN13	**South Haven SW**	**0.96**	**69**			**Pg**	**17 38 13.7**	**-0.5**
KS20	**Mayfield South**	**1.00**	**56**			**Pg**	**17 38 14.4**	**-0.6**
BLOK	**Blackwell**	**1.11**	**85**			**Pg**	**17 38 16.5**	**-0.7**
OK029	**Liberty Lake**	**1.27**	**133**			**Pg**	**17 38 19.4**	**-0.8**
OK029						**Sg**	**17 38 36.7**	**+0.1**
BCOK	**Bluff Creek, N**	**1.29**	**142**			**Pn**	**17 38 19.7**	**-0.8**
BCOK				Sn		**Sg**	**17 38 37.2**	**-0.1**
OK025	**Westminster Rd**	**1.49**	**137**			**Pn**	**17 38 23.0**	**-0.2**
OK005	**Luther M Schoo**	**1.52**	**131**	Pn		**Pn**	**17 38 23.9**	**+0.2**
OKCFA	**Oklahoma City**	**1.56**	**143**	Pn		**Pn**	**17 38 24.1**	**-0.1**
OKCFA	**Oklahoma City** baz=324	**1.56**	**143**	S		**Sb**	**17 38 45.6**	**+0.4**
OKCFA	**Oklahoma City** baz=324	**1.56**	**143**	S			17 38 45.6	
OKCSW	**OKLAHOMA CITY**	**1.57**	**143**	Pn		**Pn**	**17 38 24.5**	**+0.1**
OK031	**S. Brethren Rd**	**1.59**	**116**			**Pn**	**17 38 24.6**	**-0.1**
QUOK	**Quay**	**1.60**	**108**			**Pn**	**17 38 24.8**	**0.0**
OK030	**Cody Creek RV**	**1.64**	**116**			**Pn**	**17 38 25.4**	**+0.1**
T35A	**Sooner Cattle**	**1.69**	**81**			**Pn**	**17 38 26.2**	**+0.2**
T35B	**Sooner Cattle** baz=262,SNR=70	**1.69**	**81**	P		**Pn**	**17 38 26.2**	**+0.2**
T35B				S		**Sb**	**17 38 49.1**	**+0.2**
T35B	**Sooner Cattle** baz=262	**1.69**	**81**	P			17 38 26.2	
T35B	**Sooner Cattle** baz=262,SNR=70	**1.69**	**81**	P			17 38 26.2	
T35B				S			17 38 49.1	
FNO	**Franklin** baz=262	**1.71**	**145**			**Pn**	**17 38 26.8**	**+0.4**
R32A	**Long Quarter,** baz=176,SNR=133	**1.75**	**357**	Pn		**Pn**	**17 38 27.1**	**+0.2**
R32A	**Long Quarter,** baz=176,SNR=133	**1.75**	**357**	P		**Pn**	**17 38 27.0**	**+0.2**
R32A				S		**Sn**	**17 38 50.3**	**+0.8**
R32A	**Long Quarter,** baz=176,SNR=133	**1.75**	**357**	P			17 38 27.0	
R32A				S			17 38 50.3	
WMOK	**Wichita Mounta** baz=176	**1.94**	**185**			**Pn**	**17 38 29.4**	**0.0**
WMOK	**Wichita Mounta** baz=5.0,SNR=75	**1.94**	**185**	P		**Pn**	**17 38 29.5**	**+0.1**
WMOK				S		**Sb**	**17 38 55.5**	**-0.6**
WMOK	**Wichita Mounta** baz=5.0,SNR=75	**1.94**	**185**	P			17 38 29.5	
WMOK				S			17 38 55.5	
X34A	**Smith Ranch, M** baz=5.0	**2.16**	**163**			**Pn**	**17 38 33.1**	**+0.6**
X34A				lAmb_Lg			17 39 08.5	
	comp=Z,113nm,0.7s							
CBKS	**Cedar Bluff**	**2.32**	**337**			**Pn**	**17 38 35.1**	**+0.4**
CBKS	**Cedar Bluff** baz=156,SNR=30	**2.32**	**337**	P		**Pn**	**17 38 35.2**	**+0.4**
CBKS				S		**Sb**	**17 39 06.6**	**-0.6**
CBKS	**Cedar Bluff** baz=156	**2.32**	**337**	P			17 38 35.2	
CBKS	**Cedar Bluff** baz=156,SNR=30	**2.32**	**337**	P			17 38 35.2	
CBKS				S			17 39 06.6	
TUL1	**Leonard** baz=289	**2.39**	**108**	S		**Sb**	**17 39 09.3**	**+0.2**
TUL1	**Leonard** baz=289	**2.39**	**108**	S			17 39 09.3	
KSU1	**Kansas State U**	**2.89**	**32**	Pn		**Pn**	**17 38 43.0**	**+0.6**
KSU1				lAmb_Lg			17 39 31.2	
	comp=Z,42nm,0.8s							
KSU1	**Kansas State U** baz=213	**2.89**	**32**	P		**Pn**	**17 38 43.0**	**+0.6**
KSU1	**Kansas State U** baz=213	**2.89**	**32**	P			17 38 43.0	
LOOK	**Love County**	**2.92**	**156**			**Pn**	**17 38 42.9**	**+0.1**
LOOK				lAmb_Lg			17 39 33.7	
	comp=Z,58nm,0.8s							
AMTX	**Amarillo**	**3.08**	**235**			**Pn**	**17 38 46.0**	**+0.8**
AMTX				lAmb_Lg			17 39 36.3	
	comp=Z,47nm,0.7s							
X37A	**Clayton**	**3.35**	**127**			**Pn**	**17 38 49.2**	**+0.4**
X37A	**Clayton** baz=309	**3.35**	**127**	P		**Pn**	**17 38 49.0**	**+0.2**
X37A	**Clayton** baz=309	**3.35**	**127**	P			17 38 49.0	
U38A	**Gravette**	**3.40**	**93**			**Pn**	**17 38 49.9**	**+0.4**
U38A				lAmb_Lg			17 39 50.1	
	comp=Z,36nm,0.9s							
Z35A	**Perchaven, San**	**3.51**	**161**			**Pn**	**17 38 51.0**	**0.0**
HHAR	**Hobbs**	**3.77**	**95**			**Pn**	**17 38 54.5**	**-0.1**
KSCO	**Kaye Shedlock'**	**3.95**	**307**	Pn		**Pn**	**17 38 57.6**	**+0.3**
ABTX	**Abilene, Hawle**	**4.13**	**192**			**Pn**	**17 38 59.2**	**-0.4**
N33A	**J Bar K, Exete**	**4.16**	**12**	Pn		**Pn**	**17 38 58.8**	**-1.1**
N33A				lAmb_Lg			17 40 17.4	
	comp=Z,40nm,0.8s							
W39A	**Magazine**	**4.17**	**109**			**Pn**	**17 39 00.6**	**+0.5**
W39A				lAmb_Lg			17 40 20.7	
	comp=Z,32nm,0.9s							
W39A	**Magazine** baz=292,SNR=8.5	**4.17**	**109**	P		**Pn**	**17 38 60.0**	**-0.1**
W39A	**Magazine** baz=292,SNR=8.5	**4.17**	**109**	P			17 38 60.0	
S39A	**Bolivar**	**4.33**	**75**			**Pn**	**17 39 02.4**	**+0.1**
S39A				lAmb_Lg			17 40 11.6	
	comp=Z,40nm,0.8s							
MSTX	**Muleshoe**	**4.35**	**233**			**Pn**	**17 39 03.8**	**+1.1**
MSTX				lAmb_Lg			17 40 17.3	
	comp=Z,38nm,0.9s							
Z38A	**Mt. Pleasant**	**4.51**	**138**	Pn		**Pn**	**17 39 04.4**	**-0.4**
Z38A				lAmb_Lg			17 40 20.8	
	comp=Z,40nm,0.9s							
MIAR	**Mount Ida**	**4.61**	**116**			**Pn**	**17 39 03.0**	**-3.1**
U40A	**Yellville**	**4.63**	**92**	Pn		**Pn**	**17 39 07.2**	**+0.7**
U40A				lAmb_Lg			17 40 22.3	
	comp=Z,37nm,0.7s							
T25A	**Trinidad**	**4.69**	**277**			**Pn**	**17 39 07.2**	**-0.2**
T25A				lAmb_Lg			17 40 26.2	
	comp=Z,32nm,0.8s							
BGNE	**Belgrade**	**4.74**	**4**	Pn		**Pn**	**17 39 08.0**	**0.0**
WHTX	**Lake Whitney,**	**4.76**	**168**	Pn		**Pn**	**17 39 08.3**	**0.0**
N35A	**Tabor**	**4.77**	**28**	Pn		**Pn**	**17 39 08.1**	**-0.3**
P38A	**Dawn**	**4.96**	**52**			**Pn**	**17 39 11.0**	**0.0**
P38A				lAmb_Lg			17 40 41.0	
	comp=Z,21nm,0.8s							
P38A	**Dawn** baz=235,SNR=11	**4.96**	**52**	P		**Pn**	**17 39 11.1**	**+0.2**
P38A	**Dawn** baz=235,SNR=11	**4.96**	**52**	P			17 39 11.1	
OGNE	**Ogallala**	**5.04**	**329**	Pn		**Pn**	**17 39 10.9**	**-1.2**
OGNE				lAmb_Lg			17 40 38.9	
	comp=Z,40nm,0.7s							
MGMO	**Mountain Grove**	**5.09**	**83**	Pn		**Pn**	**17 39 12.7**	**0.0**
MGMO				lAmb_Lg			17 40 49.6	
	comp=Z,20nm,0.7s							
X40A	**Basin Creek Fa**	**5.18**	**113**	Pn		**Pn**	**17 39 14.1**	**+0.2**
237A	**Washetta, Mont**	**5.20**	**153**	lAmb_Lg			17 40 54.5	
	comp=Z,24nm,0.8s							
R40A	**Maddies Statio**	**5.28**	**70**			**Pn**	**17 39 15.5**	**+0.1**
R40A				lAmb_Lg			17 40 42.6	
	comp=Z,22nm,0.9s							
FCAR	**Ozark Folk Cen**	**5.29**	**97**	Pn		**Pn**	**17 39 16.9**	**+1.5**
WHAR	**Wooly Hollow**	**5.30**	**103**			**Pn**	**17 39 15.6**	**0.0**
WHAR				lAmb_Lg			17 40 57.3	
	comp=Z,23nm,0.8s							
WLAR	**White Oak Lake**	**5.39**	**122**	Pn		**Pn**	**17 39 16.3**	**-0.5**
L34A	**Svendsen Farm,**	**5.56**	**17**			**Pn**	**17 39 19.0**	**-0.1**
SDCO	**Great Sand Dun**	**5.62**	**283**	Pn		**Pn**	**17 39 18.5**	**-1.7**
N38A	**Joes South For**	**5.87**	**44**	Pn		**Pn**	**17 39 22.7**	**-0.7**
P40A	**Paris**	**5.90**	**59**			**Pn**	**17 39 21.8**	**-2.0**
435B	**Jarrell**	**5.94**	**172**	lAmb_Lg			17 41 05.1	
	comp=Z,31nm,0.9s							
CCM	**Cathedral Cave**	**6.01**	**75**	Pn		**Pn**	**17 39 27.1**	**+1.7**
CCM				lAmb_Lg			17 41 06.5	
	comp=Z,25nm,0.9s							
LCAR	**Lake Charles**	**6.03**	**94**	Pn		**Pn**	**17 39 26.4**	**+0.7**
LCAR				lAmb_Lg			17 41 06.2	
	comp=Z,19nm,0.7s							
JCT	**Junction City**	**6.26**	**190**	Pn		**Pn**	**17 39 27.7**	**-1.1**
JCT				lAmb_Lg			17 41 24.2	
	comp=Z,22nm,0.9s							
ISCO	**Idaho Springs**	**6.34**	**302**	Pn		**Pn**	**17 39 29.5**	**-0.7**
PBMO	**Poplar Bluff**	**6.56**	**87**	lAmb_Lg			17 41 36.3	
	comp=Z,31nm,0.8s							
SCIA	**State Center**	**6.69**	**37**	lAmb_Lg			17 41 45.0	
	comp=Z,26nm,0.9s							
PHWY	**Pilot Hill**	**7.07**	**313**	lAmb_Lg			17 41 41.7	
	comp=Z,16nm,0.8s							
ECSD	**EROS Data Cent**	**7.21**	**12**	Pn		**Pn**	**17 39 40.3**	**-1.6**
ECSD				lAmb_Lg			17 41 48.8	
	comp=Z,16nm,1.1s							
N41A	**Harden Midland**	**7.27**	**54**	Pn		**Pn**	**17 39 42.8**	**+0.1**
N41A				lAmb_Lg			17 41 47.2	
	comp=Z,28nm,0.8s							
LENM	**Lemitar**	**7.29**	**252**	Pn		**Pn**	**17 39 42.1**	**-0.9**
MNTX	**Cornudas Mount**	**7.50**	**231**	Pn		**Pn**	**17 39 45.5**	**-0.4**
MNTX				lAmb_Lg			17 42 05.8	
	comp=Z,12nm,0.9s							
S44A	**Carbondale**	**7.52**	**79**	lAmb_Lg			17 41 52.8	
	comp=Z,18nm,0.7s							
SIUC	**Southern Illin**	**7.56**	**79**	lAmb_Lg			17 41 59.9	
	comp=Z,24nm,0.8s							
SUSD	**Miller**	**7.76**	**358**	lAmb_Lg			17 42 12.4	
	comp=Z,15nm,0.8s							
W45A	**Hickory Valley**	**7.78**	**98**	lAmb_Lg			17 41 58.0	
	comp=Z,24nm,0.8s							
L40A	**Anamosa**	**7.84**	**44**	Pn		**Pn**	**17 39 49.2**	**-1.4**
I37A	**Lemond, Waseca**	**8.33**	**27**	lAmb_Lg			17 42 37.7	
	comp=Z,14nm,0.9s							
RWWY	**Rawlins**	**8.36**	**309**	lAmb_Lg			17 42 26.2	
	comp=Z,16nm,1.2s							
PV14	**Lion Creek, Pa**	**8.46**	**285**	lAmb_Lg			17 42 25.4	
	comp=Z,13nm,1.1s							
RSSD	**Black Hills**	**8.52**	**333**	lAmb_Lg			17 42 40.3	
	comp=Z,11nm,0.9s							
K22A	**Casper**	**8.54**	**317**	lAmb_Lg			17 42 34.6	
	comp=Z,14nm,1.1s							
OLIL	**Olney**	**8.57**	**73**	lAmb_Lg			17 42 38.4	
	comp=Z,18nm,0.9s							
T47A	**Sharon Grove**	**9.22**	**85**	lAmb_Lg			17 43 03.7	
	comp=Z,11nm,1.0s							
SFIN	**Lafayette**	**9.74**	**64**	lAmb_Lg			17 43 08.5	
	comp=Z,12nm,0.8s							

MOS ***23*** *17:38:37.6±1.0,36°.42N×71°.39E,h113km,mb4.4/11,Error ellipse: s-maj=8.4km s-min=4.8km az=88.7*
IDC ***23*** *17:38:38.4±0.8,36°.26N×71°.33E,h118km±7km,mb3.7/16, mb1 3.8/19,mb1mx3.6/50,mbtmp4.2/19,Error ellipse: s-maj=16.5km s-min=12.6km az=37.0*
BJI ***23*** *17:38:38.9±0.0,36°.65N×71°.36E,h112km,mB4.3/11, mb4.2/18*
NEIC ***23*** *17:38:39.2±2.2,36°.48N±0°.07×71°.2E±0°.1,h104km±10km, mb4.3/12,Error ellipse: s-maj=11.9km s-min=10.0km az=78.0*
NNC ***23*** *17:38:40.3±7.0,36°.68N×71°.10E,h128km±69km,mb4.0, mpv4.9,Error ellipse: s-maj=56.2km s-min=40.2km az=0.0*

ISC 23 17:38:37.5±0.5,36°.38N±0°.04×71°.38E±0°.04,h104km±4km, h104km;pP-P,n139,c1999/161,mb4.2/23,15C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.59**	**170**	Op		**Pn**	**17 39 19.6**	**+1.6**
KBL	**Kabul**	**2.65**	**227**	PN		**Pn**	**17 39 19.4**	**+0.5**
KBL	**Kabul**	**2.65**	**227**	Pn		**Pn**	**17 39 19.4**	**+0.5**
DRK	**Karamyk**	**3.11**	**6**			**Pn**	**17 39 27.4**	**+2.3**
CHCP	**Chirah Chowk**	**3.12**	**150**	P		**Pn**	**17 39 27.1**	**+2.1**
NIL	**Nilore**	**3.13**	**150**	PN		**Pn**	**17 39 27.2**	**+2.1**
NIL	**Nilore**	**3.13**	**150**	Pn		**Pn**	**17 39 27.2**	**+2.1**
THW	**Thamme Wali**	**3.59**	**175**	P		**Pn**	**17 39 32.3**	**+1.0**
BTK	**Batken**	**3.70**	**353**	PN		**Pn**	**17 39 34.6**	**+1.9**
BTK	**Batken**	**3.70**	**353**			**Pn**	**17 39 34.6**	**+1.9**
SARP	**Sargodha**	**4.57**	**166**	P		**Pn**	**17 39 44.7**	**+0.2**
KSH	**Kashi**	**4.79**	**48**	P		**Pn**	**17 39 44.4**	**-3.1**
KSH				S		Sn	17 40 32.4	-10
KSH	410nm,0.3s			SMN				
KSH	460nm,0.3s			SME				
THN	**Thein Dam**	**5.32**	**136**	*e*P		**Pn**	**17 39 57.0**	**+2.4**
THN				*e*S		**Sn**	**17 40 55.0**	**+0.4**
DHRM	**DHARAMSHALA**	**5.79**	**134**	*e*P		**Pn**	**17 40 01.3**	**+0.1**
DHRM				*e*S		**Sn**	**17 41 02.0**	**-4.4**
DHRM	comp=E,1μm,0.3s			IAML			17 41 06.5	
DHRM	comp=N,1μm,0.3s			IAML			17 41 07.4	
AML	**Almayashu** SNR=387	**6.02**	**17**	P		**Pn**	**17 40 05.5**	**+1.1**
EKS2	**Erkin-Say** SNR=100	**6.54**	**16**	P		**Pn**	**17 40 12.5**	**+1.3**
AAK	**Ala-Archa**	**6.70**	**20**	P		**Pn**	**17 40 14.6**	**+1.2**
AAK	comp=N,41nm,0.3s,baz=201,slow=8.0,SNR=123			S		**Sn**	**17 41 26.8**	**-1.4**
AAK	**Ala-Archa** SNR=85	**6.70**	**20**	P		**Pn**	**17 40 14.9**	**+1.5**
AAK	**Ala-Archa**	**6.70**	**20**	⇑P		**Pn**	**17 40 14.7**	**+1.4**
AAK	comp=N,64nm,0.5s			⇑S		**Sn**	**17 41 27.2**	**-1.0**
AAK	**Ala-Archa**	**6.70**	**20**	Pn		**Pn**	**17 40 14.8**	**+1.5**
KK31	**Karatay Array**	**6.75**	**355**	⇓P		**Pn**	**17 40 14.0**	**0.0**
KK31	comp=N,22nm,0.2s,baz=177,slow=13,SNR=1007			⇑S		**Sn**	**17 41 25.7**	**-3.6**
KK31	**Karatay Array**	**6.75**	**355**	PN		**Pn**	**17 40 13.9**	**0.0**
KK31	**Karatay Array**	**6.75**	**355**	Pn		**Pn**	**17 40 14.1**	**+0.2**
KKAR	**Karatay Array**	**6.75**	**355**	PN		**Pn**	**17 40 14.0**	**+0.1**
KKAR	**Karatay Array**	**6.75**	**355**			**Pn**	**17 40 14.1**	**+0.2**
KKAR	**Karatay Array**	**6.75**	**355**	Pn		**Pn**	**17 40 13.9**	**+0.1**
KBK	**Karagaybulak** SNR=44	**6.85**	**23**	P		**Pn**	**17 40 16.9**	**+1.5**
FRU1	**Bishkek**	**6.89**	**20**	PN		**Pn**	**17 40 17.7**	**+1.8**
FRU1	**Bishkek**	**6.89**	**20**			**Pn**	**17 40 17.7**	**+1.8**
ULHL	**Ulahol** SNR=11	**6.96**	**31**	P		**Pn**	**17 40 18.6**	**+1.6**
BOOM	**Boomskoye usch**	**7.05**	**29**	PN		**Pn**	**17 40 19.2**	**+1.1**
BOOM	**Boomskoye usch**	**7.05**	**29**	Pn		**Pn**	**17 40 19.2**	**+1.1**
CHMS	**Chumysh** SNR=95	**7.10**	**20**	P		**Pn**	**17 40 19.8**	**+1.1**
SMLA	**Simla**	**7.11**	**136**	*e*P		**Pn**	**17 40 19.1**	**+0.2**
SMLA				*e*S		**Sn**	**17 41 34.5**	**-3.7**
SMLA	comp=N,378nm,0.2s			IAML			17 41 38.1	
SMLA	comp=E,280nm,0.3s			IAML			17 41 39.0	
USP	**Ospenovka** SNR=138	**7.28**	**18**	P		**Pn**	**17 40 21.7**	**+0.5**
KDJ	**Kajisay**	**7.29**	**36**	PN		**Pn**	**17 40 22.7**	**+1.2**
KDJ	**Kajisay**	**7.29**	**36**	Pn		**Pn**	**17 40 22.7**	**+1.2**
TKM2	**Tokmak 2** SNR=138	**7.29**	**25**	P		**Pn**	**17 40 22.9**	**+1.4**
TKM2	**Tokmak 2**	**7.29**	**25**	⇑P		**Pn**	**17 40 22.5**	**+0.9**
TKM2	comp=E,56nm,0.6s			⇑S		**Sn**	**17 41 42.5**	**-0.3**
	comp=E,29nm,1.0s							
TKM2	**Tokmak 2**	**7.29**	**25**	PN		**Pn**	**17 40 22.4**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.31**	**41**			**Pn**	**17 40 22.6**	**+0.7**
HRA	**Herat**	**7.72**	**258**			**Pn**	**17 40 29.1**	**+1.7**
MDOK	**Medeo** comp=E,17nm,0.6s	**8.05**	**31**	⇑P		**Pn**	**17 40 33.9**	**+2.0**
MDOK	**Medeo**	**8.05**	**31**	PN		**Pn**	**17 40 33.8**	**+2.0**
PRZ	**Przheval'sk**	**8.16**	**40**	PN		**Pn**	**17 40 34.7**	**+1.4**
PRZ	**Przheval'sk**	**8.16**	**40**	Pn		**Pn**	**17 40 34.7**	**+1.4**
NDI	**New Delhi**	**9.12**	**146**	*e*P		**Pn**	**17 40 48.5**	**+2.3**
NDI				*e*S		**Sn**	**17 42 22.5**	**-4.5**
PDGK	**Podgornoye** comp=E,11nm,0.9s	**9.32**	**39**	⇑P		**Pn**	**17 40 48.3**	**-0.8**
PDGK	comp=E,10nm,0.9s			⇑S		**Sn**	**17 42 29.7**	**-2.3**
PDGK	**Podgornoye**	**9.32**	**39**	P		**Pn**	**17 40 48.2**	**-0.8**
PDGK				S		**Sn**	**17 42 29.7**	**-2.3**
GEYT	**Alibeck** comp=E,1.9nm,0.3s,baz=138,slow=9.9,SNR=18	**10.70**	**282**	P		**Pn**	**17 41 04.4**	**-3.2**
GEYT	comp=E,2.7nm,0.3s,baz=116,slow=13,SNR=6.3			S		Sn	17 42 55.8	-10
GEYT	**Alibeck**	**10.70**	**282**			**Pn**	**17 41 09.2**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**10.70**	**282**	Pn		**Pn**	**17 41 05.6**	**-2.1**
MAKZ	**Makanchi** comp=E,14nm,1.1s	**13.08**	**34**	⇓P		**Pn**	**17 41 38.0**	**-1.2**
MAKZ	**Makanchi**	**13.08**	**34**	P		**Pn**	**17 41 38.4**	**-0.8**
MAKZ	**Makanchi**	**13.08**	**34**	Pn		**Pn**	**17 41 38.4**	**-0.8**
DANN	**Dangsing** comp=E,20nm,0.2s	**13.16**	**124**	*e*P		**Pn**	**17 41 38.1**	**-2.6**
MK31	**Makanchi Array** comp=E,1.6nm,0.4s,baz=220,slow=12,SNR=59	**13.21**	**35**	⇓P		**Pn**	**17 41 40.4**	**-0.5**
MK31	**Makanchi Array**	**13.21**	**35**	P		**Pn**	**17 41 40.6**	**-0.3**
MK31	**Makanchi Array**	**13.21**	**35**			**Pn**	**17 41 40.5**	**-0.3**
MKAR	**Makanchi Array** comp=E,0.2nm,0.3s,baz=228,slow=12,SNR=29	**13.21**	**35**	P		**Pn**	**17 41 39.8**	**-1.1**
MKAR	**Makanchi Array**	**13.21**	**35**	P		**Pn**	**17 41 40.5**	**-0.4**
MKAR	**Makanchi Array**	**13.21**	**35**	Pn		**Pn**	**17 41 40.5**	**-0.4**
KOLN	**Koldanda** comp=E,13nm,0.3s	**13.44**	**126**	*e*P		**Pn**	**17 41 41.9**	**-2.4**
GKN	**Gorkha** comp=E,20nm,0.2s	**13.98**	**123**	*e*P		**Pn**	**17 41 48.9**	**-2.3**
BHPL	**Bhopal**	**14.10**	**157**	*e*P		**P**	**17 41 57.3**	**+0.3**
BHPL				*e*S		Sn	17 44 16.9	-11
DMN	**Daman** comp=E,12nm,0.3s	**14.55**	**123**	*e*P		**Pn**	**17 41 56.4**	**-2.2**
KKN	**Kakani** comp=E,7.0nm,0.2s	**14.55**	**122**	*e*P		**Pn**	**17 41 56.0**	**-2.6**
PKIN	**Phulchoki** comp=E,8.5nm,0.2s	**14.77**	**123**	*e*P		**Pn**	**17 41 59.2**	**-2.2**
PKI	**Pulchoki** comp=E,17nm,0.2s	**14.78**	**123**	*e*P		**Pn**	**17 41 59.7**	**-1.9**
KURBB	**Kurchatov Arra** comp=E,0.5nm,0.3s,baz=213,slow=13,SNR=32	**15.14**	**18**	P		**Pn**	**17 42 03.2**	**-2.4**
KURBB	**Kurchatov Arra** comp=E,9.2nm,0.6s	**15.14**	**18**	⇓P		**Pn**	**17 42 01.7**	**-3.9**
KURK	**Kurchatov**	**15.25**	**18**	P		**Pn**	**17 42 03.2**	**-3.8**
KURK	**Kurchatov**	**15.25**	**18**	P		**Pn**	**17 42 03.2**	**-3.8**
AB31	**Akbulak array** comp=E,1.4nm,0.3s,baz=136,slow=13,SNR=110	**15.34**	**331**	P		**Pn**	**17 42 06.0**	**-2.1**
AB31	**Akbulak array**	**15.34**	**331**	*e*P		**Pn**	**17 42 06.0**	**-2.1**
AB31				*e*S		Sn	17 44 46.5	-11
ABKAR	**Akbulak array**	**15.34**	**331**	Pn		**Pn**	**17 42 05.9**	**-2.3**
ABKAR	**Akbulak array**	**15.34**	**331**	P		**Pn**	**17 42 06.3**	**-1.8**
ABKAR	comp=Z,5.9nm,0.6s			lAmb		lAmb	17 42 45.2	
RAMN	**Ramite** comp=Z,9.5nm,0.2s	**15.99**	**122**	*e*P		**Pn**	**17 42 14.3**	**-2.4**
ODAN	**Odare** comp=Z,20nm,0.5s	**16.59**	**120**	*e*P		**Pn**	**17 42 23.2**	**-0.9**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.3s,baz=40,slow=53,SNR=4.9	**16.66**	**358**	P		**P**	**17 42 25.5**	**+0.4**
BRVK	**Borovoye**	**16.69**	**358**	*i* P		**Pn**	**17 42 23.1**	**-1.8**
AKTO	**Aktyubinsk** comp=Z,1.9nm,0.3s,baz=146,slow=13,SNR=23	**17.04**	**330**	P		**Pn**	**17 42 29.1**	**-0.1**
AKTO	comp=Z,0.2nm,0.3s,baz=51,slow=20,SNR=2.2			S		Sn	17 45 25.5	-13
AKTO	**Aktyubinsk** comp=Z,15nm,0.8s	**17.04**	**330**	⇓P		**P**	**17 42 29.6**	**+0.2**
AKTO	**Aktyubinsk**	**17.04**	**330**	P		**P**	**17 42 29.5**	**+0.2**
AKTO				S		**Sn**	**17 45 28.5**	**-10**
AKT	**Akhty**	**19.07**	**293**	*e*P		**Pn**	**17 42 53.6**	**-0.1**
AKT				*e*S		**S**	**17 46 20.9**	**-1.8**
AKT	comp=Z,8.0nm,0.4s			pmax	pmax			
AKT	comp=N,11nm,0.4s			smax	smax			
AKT	comp=E,5.0nm,0.5s			smax	smax			
ZAA0	**Zalesovo Array** comp=E,2.7nm,0.7s	**19.90**	**24**	⇑P		**P**	**17 43 00.0**	**-0.5**
ZAA0	**Zalesovo Array**	**19.90**	**24**	P		**P**	**17 43 01.0**	**+0.5**
ZAA0	comp=Z,16nm,0.7s			lAmb	lAmb		17 43 02.0	
ZALV	**Zalesovo Beam** comp=Z,16nm,0.3s,baz=202,slow=10,SNR=112	**19.90**	**24**	P		**P**	**17 43 00.8**	**+0.2**
ZALV	**Zalesovo Beam**	**19.90**	**24**	P		**P**	**17 43 00.9**	**+0.4**
ZALV	**Zalesovo Beam**	**19.90**	**24**	P		**P**	**17 43 00.9**	**+0.4**
**G

KLMR			AMP			17 44 53.1	
	comp=Z,9.0nm,1.0s						
AKASG	**Malin Array Be**	**33.26 309**	P		**P**	17 45 05.0	**+0.4**
	comp=Z,1.9nm,0.6s,baz=81,slow=7.0,SNR=11						
AKASG			pP		**pP**	17 45 30.2	**+1.2**
	comp=Z,0.4nm,0.4s,baz=81,slow=9.5,SNR=2.5						
AKASG	**Malin Array Be**	**33.26 309**	*ceP*		**P**	17 45 05.4	**+0.7**
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**33.26 309**	P		**P**	17 45 05.7	**+1.0**
AKBB	**Malin Array Si**	**33.26 309**	*ceP*		**P**	17 45 04.5	**-0.2**
NRIK	**Noril'sk**	**34.19 10**	*ceP*		**P**	17 45 13.5	**+1.0**
NRIK			pmax	pmax			
	comp=Z,8.0nm,2.3s						
MLR	**Muntele Rosu**	**35.11 299**	P		**P**	17 45 21.1	**+0.2**
MLR			pmax	pmax			
	comp=Z,11nm,1.0s						
MLR	**Muntele Rosu**	**35.11 299**	P		**P**	17 45 21.1	**+0.2**
BURAR	**Bucovina Array**	**35.61 303**	P		**P**	17 45 26.1	**+1.0**
BURAR			IAmb	IAmb		17 45 28.3	
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**37.76 326**	P		**P**	17 45 43.8	**+0.8**
	comp=Z,1.5nm,0.3s,baz=117,slow=8.9,SNR=32						
FINES	**FINESS Array B**	**37.76 326**	*i* P		**P**	17 45 44.4	**+1.4**
FINES			pmax	pmax			
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**37.76 326**	P		**P**	17 45 44.1	**+1.1**
ARCES	**ARCESS Array B**	**41.37 338**	P		**P**	17 46 14.1	**+1.2**
	comp=Z,1.5nm,0.5s,baz=116,slow=8.8,SNR=15						
ARCES	**ARCESS Array B**	**41.37 338**	P		**P**	17 46 13.9	**+1.0**
ARCES			pmax	pmax			
	comp=Z,10.0nm,1.3s						
ARCES	**ARCESS Array B**	**41.37 338**	P		**P**	17 46 13.9	**+1.0**
ARCES			IAmb	IAmb		17 46 21.7	
	comp=Z,9.8nm,1.2s						
NC303	**NORSAR Array S**	**44.60 323**	P		**P**	17 46 39.5	**+0.5**
KSRS	**Korea Array**	**44.63 71**	P		**P**	17 46 39.9	**+0.4**
	comp=Z,0.6nm,0.7s,baz=302,slow=5.5,SNR=4.8						
NOA	**NORSAR Array B**	**44.66 323**	P		**P**	17 46 39.6	**+0.1**
	comp=Z,2.9nm,0.5s,baz=96,slow=7.7,SNR=21						
TORD	**Torodi Ar. Bea**	**66.02 269**	P		**P**	17 49 11.2	**-2.1**
	comp=Z,0.6nm,0.3s,baz=51,slow=6.0,SNR=8.9						
BOSA	**Boshof**	**77.86 220**	P		**P**	17 50 22.7	**-1.1**
	comp=Z,3.1nm,0.8s,baz=35,slow=5.5,SNR=5.7						
YKA	**Yellowknife Ar**	**81.35 3**	P		**P**	17 50 42.6	**+0.4**
	comp=Z,1.2nm,0.8s,baz=348,slow=5.6,SNR=4.3						
WRA	**Warramunga Arr**	**81.67 122**	P		**P**	17 50 43.2	**-1.2**
	comp=Z,0.4nm,0.7s,baz=323,slow=4.7,SNR=9.8						
WRA			pP		**pP**	17 51 14.3	**+1.3**
	comp=Z,0.8nm,0.5s,baz=325,slow=4.9,SNR=3.7						
WRA	**Warramunga Arr**	**81.67 122**	P		**P**	17 50 46.6	**+2.2**
WRA			pmax	pmax			
	comp=Z,1.0nm,1.6s						
WRA	**Warramunga Arr**	**81.67 122**	P		**P**	17 50 46.6	**+2.2**
ASAR	**Alice Springs**	**83.93 125**	P		**P**	17 50 55.5	**-0.7**
	comp=Z,0.2nm,0.7s,baz=329,slow=5.1,SNR=1.8						
ASAR			pP		**pP**	17 51 25.4	**+1.1**
	comp=Z,0.8nm,0.9s,baz=330,slow=5.4,SNR=4.5						

*INET **23** 17:51:05.5,8.61N×84.63W,h17km,MW3.1*
*UPA **23** 17:51:05.3±2.3,8.63N×82.37W,h8km±2km,ML4.3,MW4.4*
*UCR **23** 17:51:05.8±1.8,8.65N×82.38W,h8km±9km,MD3.9,MW3.9*

ISC 23 17:51:04.4±0.8,8.67N±0.03×82.31W±0.02,h17km±5km, n46,σ0§91/77,13C-17D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PSOM3	**Paja de Sombre**	**0.03**	**324**	⇓*iP*		**Pg**	**17 51 07.9**	**+0.4**
PSOM3				*iS*		**Sg**	**17 51 09.7**	**+0.1**
GUAL3	**Gualaca, Chiri**	**0.13**	**176**	⇑*iP*		**Pb**	**17 51 08.9**	**+0.4**
GUAL3				*iS*		**Sg**	**17 51 10.8**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.18**	**314**	⇑*iP*		**Pg**	**17 51 09.2**	**+0.1**
LNBQ3				*iS*		**Sg**	**17 51 12.3**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.19**	**279**	⇓*iP*		**Pb**	**17 51 09.5**	**-0.1**
PTAR3				*iS*		**Sg**	**17 51 12.5**	**+0.1**
BCO2	**Palmira**	**0.23**	**284**	*iP*		**Pb**	**17 51 10.1**	**-0.1**
BCO2				AMP			17 51 11.0	
	comp=Z,68μm,0.1s							
BCO2				*iS*		**Sg**	**17 51 13.6**	**+0.2**
LOMA3	**Las Lomas, Chi**	**0.25**	**200**	⇑*iP*		**Pb**	**17 51 10.4**	**-0.1**
LOMA3				*iS*		**Sg**	**17 51 13.3**	**-0.5**
DVD	**David**	**0.27**	**212**	⇓*iP*		**Pb**	**17 51 10.7**	**-0.2**
DVD				*iS*		**Sg**	**17 51 13.3**	**-1.1**
BAGA3	**Bagala, Chiriq**	**0.29**	**228**	⇑*iP*		**Pb**	**17 51 11.2**	**0.0**
BAGA3				*iS*		**Sg**	**17 51 14.8**	**-0.4**
PEDE3	**Pedregal, Chir**	**0.30**	**202**	⇑*iP*		**Pb**	**17 51 11.3**	**-0.1**
CHGR2	**Aguacate**	**0.32**	**31**	⇑*iP*		**Pb**	**17 51 11.9**	**+0.3**
CHGR2				*iS*		**Sb**	**17 51 17.1**	**+0.6**
BC3P	**Paso Ancho**	**0.34**	**297**	⇓*iP*		**Pg**	**17 51 11.6**	**0.0**
BC3P				*iS*		**Sg**	**17 51 16.0**	**-0.5**
MLIR3	**Monte Lirio, C**	**0.53**	**284**	⇓*iP*		**Pb**	**17 51 15.5**	**+0.2**
MLIR3				*eS*		**Sb**	**17 51 23.3**	**+0.6**
CDTO	**Canoas**	**0.57**	**261**	⇓*iP*		**Pg**	**17 51 15.6**	**-0.1**
REME3	**Remedios, Chir**	**0.64**	**133**	⇑*eP*		**Pg**	**17 51 17.8**	**+0.6**
REME3				*iS*		**Sn**	**17 51 27.5**	**-1.1**
NANC3	**Nancito, Chiri**	**0.71**	**127**	⇑*iP*		**Pg**	**17 51 18.5**	**+0.2**
NANC3				*iS*		**Sg**	**17 51 28.8**	**+1.0**
LPLA	**Las Palmas La**	**0.78**	**298**	*iP*		**Pb**	**17 51 19.0**	**-0.7**
LPLA				*iS*		**Sb**	**17 51 29.0**	**-1.1**
PVID3	**Puerto Vidal,**	**0.92**	**131**	⇑*eP*		**Pg**	**17 51 22.2**	**-0.2**
PVID3				*eS*		**Sg**	**17 51 34.3**	**-0.2**
PIRO	**Carate, Puerto**	**1.05**	**256**	⇓*eP*		**Pb**	**17 51 22.9**	**-1.3**
PIRO	**Carate, Puerto**	**1.05**	**256**	⇓*eP*		**Pb**	**17 51 22.9**	**-1.3**
EDBA	**Buenos Aires**	**1.08**	**297**	*eP*		**Pg**	**17 51 25.2**	**-0.2**
EDBA				*eS*		**Sg**	**17 51 40.5**	**+1.0**
DRK0	**Durika**	**1.10**	**303**	⇓*eP*		**Pb**	**17 51 24.6**	**-0.6**
DRK0				*iS*		**Sb**	**17 51 38.8**	**-0.5**
DRK0	**Durika**	**1.10**	**303**	*eP*		**Pb**	**17 51 24.4**	**-0.7**
DRK0				*eS*		**Sb**	**17 51 38.7**	**-0.5**
EDPN	**Palmar Norte**	**1.17**	**285**	*iP*		**Pn**	**17 51 25.6**	**-0.4**
EDPN				*iS*		**Sn**	**17 51 41.9**	**+0.2**
MESA3	**La Mesa, Verag**	**1.22**	**115**	⇑*eP*		**Pb**	**17 51 27.0**	**-0.1**
MESA3				*iS*		**Sg**	**17 51 44.6**	**+0.5**
GMAL	**Guarumal, Vera**	**1.39**	**130**	⇓*eP*		**Pn**	**17 51 28.8**	**-0.3**
GMAL				*iS*		**Sn**	**17 51 46.9**	**-0.2**
STIA3	**Santiago, Vera**	**1.44**	**113**	⇓*eP*		**Pb**	**17 51 30.5**	**-0.3**
STIA3				*eS*		**Sg**	**17 51 50.2**	**-0.7**
EDDO	**Dominical**	**1.65**	**291**	*iP*		**Pb**	**17 51 34.0**	**-0.3**
MARI3	**Mariato, Verag**	**1.65**	**128**	⇓*eP*		**Pb**	**17 51 34.7**	**+0.3**
MARI3				*iS*		**Sb**	**17 51 55.7**	**+0.8**
BATAN	**Batan**	**1.77**	**324**	*eP*		**Pb**	**17 51 36.0**	**-0.5**
CACAO	**El Cacao, Vera**	**1.94**	**132**	⇓*iP*		**Pb**	**17 51 39.1**	**-0.3**
CACAO				*iS*		**Sb**	**17 52 03.8**	**+0.4**
CVTR	**Volcan Turrial**	**1.97**	**313**	⇓*eP*		**Pb**	**17 51 39.6**	**-0.5**
LCR2	**La Lucha 2**	**1.99**	**303**	*eP*		**Pn**	**17 51 38.6**	**+1.1**
LCR2				*eS*		**Sb**	**17 52 04.5**	**-0.4**
CHIT3	**Chitre**	**2.00**	**110**	⇑*iP*		**Pb**	**17 51 39.4**	**-0.9**
CHIT3				*eS*		**Sb**	**17 52 05.8**	**+0.8**
VTON	**El Valle, Cocl**	**2.17**	**91**	⇑*eP*		**Pb**	**17 51 42.7**	**-0.6**
VTON				*eS*		**Sb**	**17 52 10.7**	**+0.7**
AZU	**Azuero**	**2.19**	**113**	⇓*iP*		**Pb**	**17 51 42.3**	**-1.4**
AZU				*iS*		**Sb**	**17 52 10.0**	**-0.5**
HDC	**Heredia**	**2.22**	**307**	⇓*eP*		**Pb**	**17 51 44.2**	**-0.1**
HDC				*iS*		**Sb**	**17 52 11.7**	**+0.1**
ZANG	**Zanguenga, Cho**	**2.43**	**83**	*eP*		**Pb**	**17 51 46.2**	**-1.5**
ACHO3	**Achotines, Los**	**2.45**	**120**	*eP*		**Pb**	**17 51 47.4**	**-0.6**
BCIP	**Isla Barro Col**	**2.49**	**78**	⇓*eP*		**Pb**	**17 51 47.0**	**-1.8**
MLIR	**Monte Lirio**	**2.49**	**77**	*eP*		**Pb**	**17 51 47.5**	**-1.3**
CHOR3	**La Chorrera**	**2.52**	**85**	*eP*		**Pb**	**17 51 47.7**	**-1.6**
FRIJ	**El Hiral**	**2.61**	**78**	⇑*eP*		**Pb**	**17 51 49.1**	**-1.6**
ARRA3	**Arraijan, Pana**	**2.64**	**83**	*eP*		**Pb**	**17 51 49.8**	**-1.4**
UPA	**Univ. de Panam**	**2.76**	**83**	*eP*		**Pn**	**17 51 49.8**	**+1.8**
UPA				*iS*		**Sb**	**17 52 24.5**	**-2.4**
JTS	**Las Juntas de**	**3.07**	**302**	*eP*		**Pn**	**17 51 53.7**	**+1.5**
JTS				*iS*		**Sb**	**17 52 34.2**	**-1.7**
CUI	**Cuipilapa**	**3.44**	**305**	*eP*		**Pn**	**17 52 00.6**	**+3.2**

*NEIC **23** 17:54:38.4±2.5,16.97S±0.10×173.7W±0.1,h43km±10km, mb4.7/17,Error ellipse: s-maj=18.2km s-min=13.6km az=96.0*
*IDC **23** 17:55:09.1±3.3,18.34S×175.30W,h225km±30km,mb3.5/7, mb1 3.8/8,mb1mx3.4/37,mbtmp4.1/8,MS3.6/1,Ms1 3.6/1, ms1mx2.8/35,Error ellipse: s-maj=27.3km s-min=20.4km az=143.0*

ISC 23 17:54:37.8±0.7,16.97S±0.07×173.73W±0.09,h35km,n36, σ1§94/32,mb4.6/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**3.58**	**32**			**Pn**	**17 55 32.2**	**+1.4**
AFI					Sn	**Sn**	**17 56 09.6**	**-2.3**
AFI	**Afiamalu**	**3.58**	**32**	P		**Pn**	**17 55 32.1**	**+1.3**
NIUE	**Niue**	**4.18**	**121**			**Pn**	**17 55 38.8**	**-0.3**
NIUE					Sn	Sn	17 56 19.4	-7.4
MSVF	**Nonsavu**	**7.89**	**263**	P		Pn	17 56 41.2	+11
	0.5nm,0.3s,baz=108,slow=13,SNR=10							
MSVF	**Nonsavu**	**7.89**	**263**			Pn	17 56 41.2	+11
RAO	**Raoul Island**	**12.82**	**197**	Pn		**Pn**	**17 57 39.6**	**+2.1**
RAR	**Rarotonga**	**13.85**	**110**	Pn		**Pn**	**17 57 51.2**	**-0.5**
URZ	**Urewera**	**22.68**	**199**	P		**P**	**17 59 34.4**	**-1.8**
	4.1nm,0.4s,baz=306,slow=24,SNR=1.4							
URZ	**Urewera**	**22.68**	**199**	P		**P**	**17 59 34.4**	**-1.8**
URZ	**Urewera**	**22.68**	**199**	IAmb	IAmb		17 59 41.0	
	comp=Z,16nm,0.9s							
BKZ	**Black Stump Fm**	**23.71**	**199**	P		**P**	**17 59 46.2**	**-0.3**
SNZO	**South Karori**	**26.23**	**200**	P		**P**	**18 00 05.4**	**-4.0**
QRZ	**Quartz Range**	**26.58**	**204**	P		**P**	**18 00 11.9**	**-0.7**
THZ	**Tophouse**	**27.25**	**202**	P		**P**	**18 00 21.2**	**+2.5**
THZ				IAmb	IAmb		18 00 49.5	
	comp=Z,19nm,1.3s							
LTZ	**Lake Taylor**	**28.37**	**202**	P		**P**	**18 00 30.4**	**+1.7**
ARMA	**Armidale**	**34.28**	**241**	P		**P**	**18 01 17.8**	**-3.2**
ARMA				IAmb	IAmb		18 01 20.6	
	comp=Z,16nm,1.3s							
STKA	**Stephens Creek**	**43.00**	**241**	P		**P**	**18 02 30.1**	**-3.8**
	comp=Z,2.6nm,0.6s,baz=93,slow=8.7,SNR=7.2							
STKA	**Stephens Creek**	**43.00**	**241**	P		**P**	**18 02 32.9**	**-1.0**
BBOO	**Buckleboo**	**47.77**	**241**	P		**P**	**18 03 09.9**	**-1.8**
WR0	**Warramunga Arr**	**49.00**	**258**	P		**P**	**18 03 20.4**	**-1.0**
WR0				IAmb	IAmb		18 03 26.1	
	comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**49.16**	**258**	P		**P**	**18 03 21.5**	**-1.2**
WB0				IAmb	IAmb		18 03 26.4	
	comp=Z,16nm,1.8s							
WB2	**Warramunga Arr**	**49.18**	**258**	P		**P**	**18 03 20.5**	**-2.4**
WB2				IAmb	IAmb		18 03 36.0	
	comp=Z,9.6nm,1.5s							
WRA	**Warramunga Arr**	**49.20**	**258**	P		**P**	**18 03 21.3**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=98,slow=6.8,SNR=26							
WRA	**Warramunga Arr**	**49.20**	**258**	P		**P**	**18 03 21.0**	**-1.9**
AS31	**Alice Springs**	**49.34**	**253**	P		**P**	**18 03 23.1**	**-0.9**
ASAR	**Alice Springs**	**49.34**	**253**	P		**P**	**18 03 22.9**	**-1.1**
	comp=Z,5.1nm,0.5s,baz=89,slow=7.9,SNR=164							
ASAR				PcP		**PcP**	**18 04 46.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=102,slow=4.2,SNR=1.4							
ASAR	**Alice Springs**	**49.34**	**253**	P		**P**	**18 03 22.7**	**-1.3**
ASAR				PcP		**PcP**	**18 04 46.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**57.59**	**259**	LR		LR	18 26 36.1	
	comp=Z,52nm,19.0s,baz=200,slow=34							
SBA	**Scott Base**	**61.67**	**185**	P		**P**	**18 04 53.9**	**+2.1**
VNDA	**Vanda**	**61.79**	**186**	P		**P**	**18 04 53.9**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=358,slow=9.8,SNR=3.0							
KAPI	**Kappang**	**66.10**	**272**	P		**P**	**18 05 24.1**	**+2.1**
	comp=Z,29nm,0.3s,baz=129,slow=19,SNR=3.6							
KAPI	**Kappang**	**66.10**	**272**	P		**P**	**18 05 24.1**	**+2.1**
KAPI	**Kappang**	**66.10**	**272**	IAmb	IAmb		18 05 25.1	
	comp=Z,34nm,0.3s							
QSPA	**South Pole Qui**	**73.09**	**180**	P		**P**	**18 06 04.8**	**+0.5**
QSPA				IAmb	IAmb		18 06 12.1	
	comp=Z,23nm,1.8s							
NVAR	**Mina Array Bea**	**75.70**	**42**	P		P	18 06 41.4	+21
	comp=Z,1.0nm,0.9s,baz=234,slow=9.5,SNR=4.8							
PDAR	**Pinedale Array**	**83.64**	**42**	P		P	18 07 23.1	+20
	comp=Z,0.8nm,0.8s,baz=193,slow=5.9,SNR=5.5							

*IDC **23** 18:12:29.4±1.2,36.22N×142.11E,h0km,mb3.4/6, mb1 3.5/11,mb1mx3.4/49,mbtmp3.5/11,ML3.3/5,MS2.6/3, Ms1 2.6/3,ms1mx2.3/35,Error ellipse: s-maj=26.0km s-min=19.6km az=79.0*
*JMA **23** 18:12:36.1±0.2,36.29N×141.61E,h48km±4km,M3.1*

ISC 23 18:12:32.1±0.8,36.24N±0.04×141.96E±0.07,h23km,n29, σ1§95/27,mb3.4/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
CHOJ	**Chosi**	**1.04**	**239**	P		**Pb**	**18 12 51.9**	**+0.5**
JHYU	**Hitachinakayam**	**1.11**	**276**	P		**Pn**	**18 12 51.3**	**-1.0**
JHO	**Hitachi**	**1.18**	**289**	P		**Pn**	**18 12 52.5**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.27**	**313**	P		**Pn**	**18 12 54.2**	**-0.3**
JFK	**Kawauchi**	**1.42**	**323**	P		**Pb**	**18 12 57.2**	**-0.8**
JYT	**Yasato**	**1.43**	**270**	P		**Pb**	**18 12 56.1**	**-0.5**
BSO1	**Boso 1**	**1.77**	**207**	P		**Pb**	**18 13 03.4**	**-0.2**
BSO3	**Boso 3**	**1.86**	**220**	P		**Pb**	**18 13 04.3**	**-0.9**
JMM	**Marumori**	**1.87**	**330**	P		**Pb**	**18 13 03.8**	**-1.8**
JAG	**Ashikaga**	**2.03**	**276**	P		**Pn**	**18 13 04.9**	**0.0**
MJAR	**Matsushiro Arr**	**3.04**	**277**	Pn		**Pn**	**18 13 19.8**	**+0.9**
	1.3nm,0.3s,baz=113,slow=9.4,SNR=72							
MJAR				Sn		**Sb**	**18 13 58.3**	**-3.9**
	0.4nm,0.3s,baz=110,slow=14,SNR=5.0							
MJAR				LR	LR		18 14 33.8	
	comp=Z,74nm,20.1s,baz=105,slow=40							
MAT	**Matsushiro**	**3.04**	**277**	P		**Pn**	**18 13 20.2**	**+1.3**
MAT				*eS*		**Sn**	**18 13 54.6**	**0.0**
JHJ	**Hachijo jima 2**	**3.59**	**211**	Pn		**Pn**	**18 13 27.4**	**+1.0**
	9.9nm,0.3s,baz=352,slow=23,SNR=8.6							
JHJ				Sn		**Sn**	**18 14 07.5**	**-0.5**
	27nm,0.3s,baz=90,slow=22,SNR=6.4							
ASAJ	**Asahikawa**	**7.88**	**3**	Pn		**Pn**	**18 14 25.6**	**+0.3**
	0.3nm,0.3s,baz=254,slow=10,SNR=1.9							
ASAJ				Sn		**Sn**	**18 15 52.2**	**-1.6**
	0.1nm,0.3s,baz=140,slow=30,SNR=1.1							
JCJ	**Chichijima**	**9.12**	**179**	Pn		**Pn**	**18 14 42.5**	**+0.3**
	2.8nm,0.3s,baz=266,slow=14,SNR=2.6							
JCJ				Sn		**Sn**	**18 16 17.5**	**-6.7**
	2.5nm,0.3s,baz=313,slow=23,SNR=2.1							
USRK	**Ussuriysk Ar.**	**11.01**	**319**	LR		LR	18 19 23.0	
	comp=Z,45nm,19.6s,baz=324,slow=37							
KSRS	**Korea Array**	**11.31**	**280**	Pn		**Pn**	**18 15 14.7**	**+2.4**
	0.1nm,0.3s,baz=97,slow=13,SNR=1.6							
KSRS				LR	LR		18 18 43.3	
	comp=Z,24nm,21.9s,baz=185,slow=33							
H11N2	**WAKE ISLAND Hy**	**27.37**	**120**	T		T	18 47 02.3	
	baz=313							
H11N1	**WAKE ISLAND Hy**	**27.37**	**120**	T		T	18 46 55.9	
	baz=313							
H11N3	**WAKE ISLAND Hy**	**27.38**	**120**	T		T	18 47 06.0	
	baz=313							
H11S1	**WAKE ISLAND Hy**	**28.06**	**122**	T		T	18 47 52.8	
	baz=314							
H11S3	**WAKE ISLAND Hy**	**28.06**	**122**	T		T	18 47 59.3	
	baz=314							
H11S2	**WAKE ISLAND Hy**	**28.08**	**122**	T		T	18 47 51.9	
	baz=314							
SONM	**Songino Array**	**28.60**	**305**	P		**P**	**18 18 27.9**	**+1.3**
	0.5nm,0.6s,baz=97,slow=7.6,SNR=3.6							
ZALV	**Zalesovo Beam**	**42.78**	**313**	P		**P**	**18 20 29.9**	**+2.3**
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.0							
MKAR	**Makanchi Array**	**44.92**	**303**	P		**P**	**18 20 46.6**	**+1.6**
	0.4nm,0.6s,baz=98,slow=8.6,SNR=5.2							
ILAR	**Eielson Array**	**49.93**	**32**	P		**P**	**18 21 23.9**	**+0.2**
	0.2nm,0.5s,baz=256,slow=7.3,SNR=2.3							
WRA	**Warramunga Arr**	**56.34**	**189**	P		**P**	**18 22 11.1**	**-0.2**
	0.3nm,0.8s,baz=5.6,slow=7.6,SNR=1.3							
ASAR	**Alice Springs**	**60.06**	**189**	P		**P**	**18 22 38.8**	**+1.4**
	0.2nm,0.9s,baz=14,slow=8.9,SNR=1.5							

*IDC **23** 18:13:07.9±2.0,5.31S×152.38E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/41,mbtmp3.7/7,ML1.2/1,Error ellipse: s-maj=82.8km s-min=21.3km az=125.0*

ISC 23 18:13:13.4±1.9,5.45S±0.4×152.4E±0.4,h40km,n8,σ0§54/9, mb3.6/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**6.55**	**233**	Pn		**Pn**	**18 14 46.6**	**-0.6**
	0.3nm,0.3s,baz=292,slow=4.0,SNR=3.6							
PMG				Sn		**Sn**	**18 16 01.3**	**+0.6**
	1.0nm,0.3s,baz=144,slow=19,SNR=2.7							
WRA	**Warramunga Arr**	**22.75**	**229**	P		**P**	**18 18 13.0**	**+0.5**
	1.0nm,0.9s,baz=54,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**25.44**	**223**	P		**P**	**18 18 38.1**	**+0.4**
	0.6nm,0.6s,baz=55,slow=8.9,SNR=12							
FITZ	**Fitzroy Crossi**	**29.03**	**242**	P		**P**	**18 19 09.7**	**-0.3**
	2.0nm,0.9s,baz=74,slow=9.8,SNR=2.1							
MKAR	**Makanchi Array**	**80.55**	**319**	P		**P**	**18 25 22.3**	**+0.6**
	0.4nm,0.8s,baz=101,slow=5.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**81.46**	**326**	P		**P**	**18 25 26.0**	**-0.3**
	0.4nm,0.4s,baz=108,slow=9.3,SNR=2.5							
ILAR	**Eielson Array**	**82.88**	**22**	P		**P**	**18 25 33.7**	**+0.2**
	0.9nm,0.8s,baz=256,slow=4.1,SNR=6.3							

TORD	**Torodi Ar. Bea**	**150.14**	**287**	PKPbc		**PKPbc**	**18 33 00.9**	**-0.1**
	0.3nm,0.6s,baz=76,slow=1.9,SNR=1.5							

*NEIC **23** 18:18:36.0±1.4,17.78N±0.09×120.83E±0.05,h18km±5km, mb4.3/21,Error ellipse: s-maj=13.2km s-min=5.1km az=157.0*
*MAN **23** 18:18:35.1,17.92N×120.72E,h3km,MS4.1*
*IDC **23** 18:18:40.7±3.2,17.84N×120.95E,h59km±31km,mb3.5/12, mb1 3.7/12,mb1mx3.5/57,mbtmp3.8/12,ML4.8/1,MS3.3/8, Ms1 3.3/8,ms1mx3.0/39,Error ellipse: s-maj=28.7km s-min=13.1km az=76.0*

ISC 23 18:18:35.5±1.2,17.95N±0.04×120.76E±0.03,h11km±8km, n59,σ2§11/66,mb4.0/20,MS3.2/8,4C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SIPP	**Brgy, Tapao**	**0.28**	**266**	⇑*eP*		**Pg**	**18 18 40.1**	**-1.1**
SIPP				*iS*		**Sb**	**18 18 52.6**	**+5.2**
ABRA	**Dolores**	**0.30**	**188**	*eP*		**Pg**	**18 18 40.4**	**-1.1**
APYP	**Conner**	**0.47**	**100**	⇑*eP*		**Pg**	**18 18 45.2**	**+0.5**
APYP				*eS*		**Sb**	**18 18 53.9**	**+1.1**
SZP	**Santa**	**0.48**	**216**			**Pg**	**18 18 44.4**	**-0.6**
SAMP	**Sagada Mountai**	**0.87**	**171**	*eP*		**Pg**	**18 18 50.1**	**-2.2**
SAMP				*eS*		**Sg**	**18 19 02.3**	**-1.4**
CVP	**Callao Caves**	**1.04**	**103**	⇑*eP*		**Pg**	**18 18 55.5**	**-0.1**
CVP				*iS*		**Sn**	**18 19 11.7**	**+1.0**
SGCP	**Mt. Cagua**	**1.26**	**76**	⇓*eP*		**Pg**	**18 18 58.1**	**-1.6**
SGCP				*eS*		**Sn**	**18 19 21.9**	**+5.9**
CAUP	**Cauayan**	**1.42**	**134**	*eP*		**Pb**	**18 19 02.4**	**+0.4**
CAUP				*eS*		**Sn**	**18 19 27.9**	**+7.9**
BOLP	**Bolinao**	**1.75**	**208**	*eP*		**Pn**	**18 19 04.9**	**-0.9**
BOLP				*eS*		**Sg**	**18 19 33.5**	**+1.7**
SMPP	**San Manuel, Pa**	**1.79**	**182**	*eP*		**Pn**	**18 19 04.0**	**-2.3**
SMPP				*eS*		**Sg**	**18 19 33.6**	**+0.6**
PCPH	**Palayan**	**2.39**	**172**	⇓*eP*		**Pn**	**18 19 15.8**	**+1.2**
PCPH				*eS*		**Sg**	**18 19 54.7**	**+2.3**
TGY	**Tagaytay City**	**3.83**	**177**	P		**Pn**	**18 19 37.1**	**+2.7**
	69nm,0.3s,baz=142,slow=4.0,SNR=7.7							
LQP	**Lukban**	**3.88**	**169**	⇑*eP*		**Pn**	**18 19 35.4**	**+0.1**
LQP				*iS*		**Sg**	**18 20 43.4**	**+3.1**
JCNP	**Jose Panganiba**	**4.09**	**153**	*eP*		**Pn**	**18 19 39.9**	**+2.0**
JCNP				*eS*		**Sn**	**18 20 28.2**	**+2.4**
TPUB	**Ta-pu**	**5.33**	**359**	Pn		**Pn**	**18 19 55.7**	**+0.7**
YULB	**Yu-li**	**5.44**	**5**			**Pn**	**18 19 57.9**	**+1.3**
SSLB	**Suanglung**	**5.82**	**2**	Pn		**Pn**	**18 20 02.2**	**+0.5**
NACB	**Ninganchiao**	**6.25**	**7**	Pn		**Pn**	**18 20 08.8**	**+1.2**

RAR					LR	LR	18 46 37.0		
	comp=Z,269nm,18.1s,baz=292,slow=39								
RAR	**Rarotonga**	**14.38**	**82**		**Pn**	**Pn**	**18 40 21.4**	**-1.0**	
DZM	**Mont Dzumac**	**17.14**	**273**	Pn	**Pn**	**Pn**	**18 40 56.5**	**-1.9**	
	0.1nm,0.3s,baz=105,slow=20,SNR=2.0								
DZM					LR	LR	18 45 49.0		
	comp=Z,137nm,19.8s,baz=138,slow=32								
DZM	**Mont Dzumac**	**17.14**	**273**	*e*LR	LR	LR	18 44 50.5		
	comp=Z,184nm,21.9s								
TBI	**Tubuai**	**23.45**	**94**	*e*LR	LR	LR	18 47 58.0		
	comp=Z,163nm,22.5s								
PPT2	**Papeete2**	**24.63**	**80**	*e*LR	LR	LR	18 48 34.5		
	comp=Z,130nm,22.5s								
PPT	**Papeete**	**24.63**	**80**	LR	LR	LR	18 51 11.8		
	comp=Z,110nm,18.0s,baz=111,slow=34								
HNR	**Honiara**	**27.89**	**297**	LR	LR	LR	18 52 41.2		
	comp=Z,173nm,18.1s,baz=154,slow=34								
BBOO	**Buckleboo**	**43.59**	**247**	P		**P**	**18 45 02.8**	**+0.1**	
ASAR	**Alice Springs**	**46.48**	**259**	P		**P**	**18 45 24.7**	**-1.1**	
	1.5nm,0.9s,baz=94,slow=6.7,SNR=15								
ASAR					PcP	**PcP**	**18 47 01.6**	**+1.4**	
	0.6nm,0.8s,baz=104,slow=4.5,SNR=2.2								
WR0	**Warramunga Arr**	**46.73**	**265**	P		**P**	**18 45 26.0**	**-1.7**	
WR0					IAmb	IAmb	18 45 34.1		
	comp=Z,9.1nm,1.3s								
WB2	**Warramunga Arr**	**46.90**	**265**	P		**P**	**18 45 27.2**	**-1.9**	
WB0	**Warramunga Arr**	**46.91**	**265**	P		**P**	**18 45 27.1**	**-2.1**	
WRA	**Warramunga Arr**	**46.91**	**265**	P		**P**	**18 45 27.1**	**-2.1**	
	comp=Z,2.6nm,0.8s,baz=101,slow=8.4,SNR=25								
WRA	**Warramunga Arr**	**46.91**	**265**	P		**P**	**18 45 27.7**	**-1.5**	
MTN	**Manton Dam**	**51.98**	**272**	P		**P**	**18 46 06.5**	**-1.4**	
MTN					IAmb	IAmb	18 46 26.1		
	comp=Z,13nm,1.3s								
KNRA	**Kununurra**	**53.21**	**268**	P		**P**	**18 46 16.1**	**-0.9**	
KNRA					IAmb	IAmb	18 46 17.4		
	comp=Z,12nm,1.1s								
SBA	**Scott Base**	**54.65**	**185**	P		**P**	**18 46 26.4**	**-0.2**	
FITZ	**Fitzroy Crossi**	**55.33**	**264**	P		**P**	**18 46 32.6**	**+0.1**	
FITZ					IAmb	IAmb	18 46 54.3		
	comp=Z,8.8nm,1.4s								
SOEI	**Soe**	**59.36**	**273**	P		**P**	**18 47 01.5**	**+0.4**	
KAPI	**Kappang**	**65.33**	**276**	LR		LR	19 17 49.9		
	comp=Z,44nm,18.9s,baz=115,slow=38								
QSPA	**South Pole Qui**	**66.14**	**180**	P		**P**	**18 47 43.6**	**-2.0**	
YSS	**Yuzh-Sakhalins**	**80.19**	**332**	P		**P**	**18 49 09.1**	**+0.7**	
YSS					IAmb	IAmb	18 49 11.1		
	comp=Z,15nm,0.9s								
PETK	**Petropavlovsk-**	**80.31**	**344**	P		**P**	**18 49 09.6**	**+0.7**	
	comp=Z,3.4nm,0.7s,baz=142,slow=7.5,SNR=5.3								
PETK	**Petropavlovsk-**	**80.31**	**344**	P		**P**	**18 49 09.0**	**0.0**	
KSRS	**Korea Array**	**81.26**	**318**	P		**P**	**18 49 15.1**	**+0.7**	
	comp=Z,0.6nm,0.7s,baz=134,slow=5.4,SNR=4.7								
KSRS					LR	LR	19 20 43.4		
	comp=Z,39nm,19.1s,baz=144,slow=32								
NVAR	**Mina Array Bea**	**81.71**	**42**	P		**P**	**18 49 19.5**	**+2.4**	
	comp=Z,0.4nm,0.6s,baz=233,slow=8.9,SNR=2.4								
USA0B	**Ussuriysk Arra**	**83.34**	**325**	P		**P**	**18 49 23.2**	**-1.9**	
USA0B					IAmb	IAmb	18 49 27.4		
	comp=Z,7.4nm,0.9s								
USRK	**Ussuriysk Ar.**	**83.34**	**325**	P		**P**	**18 49 26.5**	**+1.4**	
	comp=Z,5.9nm,0.9s,baz=133,slow=3.8,SNR=13								
USRK					LR	LR	19 23 17.5		
	comp=Z,27nm,18.4s,baz=89,slow=33								
USRK	**Ussuriysk Ar.**	**83.34**	**325**	P		**P**	**18 49 23.6**	**-1.5**	
SYO	**Syowa Base**	**83.96**	**192**↑	*e*P		**P**	**18 49 27.5**	**-0.5**	
SYO	**Syowa Base**	**83.96**	**192**↑	*e*pP		**P**	**18 49 29.0**	**+1.0**	
TXAR	**Lajitas Array**	**86.66**	**56**	P		**P**	**18 49 45.8**	**+3.5**	
	comp=Z,0.8nm,1.0s,baz=212,slow=4.4,SNR=5.5								
GSI	**Gunungsitoli**	**88.12**	**272**	P		**P**	**18 49 49.0**	**-0.6**	
PDAR	**Pinedale Array**	**89.63**	**42**	P		**P**	**18 49 59.7**	**+3.4**	
	comp=Z,0.2nm,0.5s,baz=232,slow=3.0,SNR=1.9								
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P		**P**	**18 50 18.5**	**+2.5**	
	comp=Z,4.7nm,0.9s,baz=131,slow=3.0,SNR=20								
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P		**P**	**18 50 16.3**	**+0.4**	
CHTO	**Chiang Mai**	**93.95**	**289**	P		**P**	**18 50 16.9**	**+0.3**	
HAL	**Halifax**	**121.44**	**51**			**PKiKP**	**18 55 51.3**	**-0.4**	
AKASG	**Malin Array Be**	**147.34**	**331**	PKPbc		**PKPab**	**18 56 42.5**	**-1.0**	
	comp=Z,0.6nm,0.4s,baz=41,slow=4.0,SNR=6.9								
AKASG	**Malin Array Be**	**147.34**	**331**			**PKPdf**	**18 56 36.7**	**-2.5**	
BRTR	**Keskin Array B**	**151.15**	**310**	PKPbc		**PKiKP**	**18 56 54.0**	**+1.6**	
	comp=Z,0.8nm,0.5s,baz=312,slow=38,SNR=2.5								
GERES	**GERESS Array B**	**154.21**	**347**	PKPbc		**PKiKP**	**18 57 00.0**	**+1.7**	
	comp=Z,0.2nm,0.4s,baz=62,slow=3.2,SNR=4.1								

*ATH **23** 18:50:45.9,41.°82N×19.°47E,h6km±3km,ML2.8/5,Error ellipse: s-maj=3.4km s-min=1.9km az=185.0*
*PDG **23** 18:50:49.7±0.2,41.°70N×19.°72E,h8km,ML2.6/12,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*TIR **23** 18:50:49.5,41.°69N×19.°79E,h8km±1km,Md2.8,Ml2.8*
*THE **23** 18:50:49.0,41.°73N×19.°68E,h0km±3km,ML2.7/2,Error ellipse: s-maj=4.6km s-min=1.2km az=307.0*
*BEO **23** 18:50:50.2±0.3,41.°69N×19.°80E,h7km±3km,ML2.4/14*
*SKO **23** 18:50:50.1,41.°71N×19.°70E,h15km*

ISC 23 18:50:49.8±0.8, 41.°70N±0.°02×19.°71E±0.°02, h10km±6km, n63,σ1°s05/106, 4C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LACI	**Lac**	**0.06**	**181**	P		**Pg**	**18 50 51.9**	**-0.1**
	baz=224							
LACI				S		**Sg**	**18 50 53.5**	**0.0**
	baz=224							
PUK	**Puka**	**0.37**	**22**	P		**Pg**	**18 50 57.0**	**-0.2**
	baz=12							
PUK				AMP				
	comp=N,4.6nm,0.2s,baz=12							
TIR	**Tirane**	**0.37**	**162**	P		**Pg**	**18 50 56.6**	**-0.6**
TIR				S		**Sg**	**18 51 02.8**	**+0.7**
	comp=N,858nm,0.4s							
TIR	**Tirane**	**0.37**	**162**	*e*Pg		**Pg**	**18 50 56.8**	**-0.4**
TIR				*e*Sg		**Sg**	**18 51 03.2**	**+1.1**
TIR	**Tirane**	**0.37**	**162**	P		**Pg**	**18 50 56.6**	**-0.6**
TIR				S		**Sb**	**18 51 04.0**	**-0.3**
TIR				AML		AML	18 51 04.1	
	comp=E,4268μm,0.4s							
TIR				AML		AML	18 51 04.2	
	comp=N,3856μm,0.2s							
TIR	**Tirane**	**0.37**	**162**	P		**Pg**	**18 50 56.8**	**-0.4**
	baz=170							
TIR				S		**Sg**	**18 51 02.2**	**+0.2**
	baz=170							
TIR				AMP				
	comp=E,3.4nm,0.4s,baz=170							
TIR	**Tirane**	**0.37**	**162**	*i* Pg		**Pg**	**18 50 56.8**	**-0.4**
ULC	**Ulcinj**	**0.44**	**307**	*i* Pg		**Pg**	**18 50 58.2**	**-0.2**
ULC	**Ulcinj**	**0.44**	**307**	↓*i* Pg		**Pg**	**18 50 58.0**	**-0.4**
ULC				*i* Sg		**Sb**	**18 51 05.3**	**-1.0**
PHP	**Peshkopia**	**0.55**	**91**	P		**Pg**	**18 50 59.6**	**-0.9**
PHP				S		**Sb**	**18 51 08.5**	**-1.0**
PHP	**Peshkopia**	**0.55**	**91**	P		**Pg**	**18 50 60.0**	**-0.5**
	baz=90							
PHP				S		**Sg**	**18 51 06.9**	**-0.8**
	baz=90							
PHP				AMP				
	comp=N,10.0nm,0.1s,baz=90							
DRME	**Dracevica, Mon**	**0.62**	**321**↑	*i* Pg		**Pg**	**18 51 01.5**	**-0.4**
DRME				*i* Sg		**Sb**	**18 51 11.3**	**-0.4**
KKS	**Kukesi**	**0.64**	**54**	P		**Pg**	**18 51 01.9**	**-0.4**
	baz=50							
BCI	**Bajram Curri**	**0.72**	**22**	P		**Pg**	**18 51 03.1**	**-0.6**
	baz=16							
BCI				S		**Sb**	**18 51 13.5**	**-0.9**
	baz=16							
BCI				AMP				
	comp=E,2.4nm,0.3s,baz=16							
PDG	**Podgorica**	**0.80**	**335**	*e*Pg		**Pg**	**18 51 04.4**	**-0.9**
PDG				*e*Sg		**Sb**	**18 51 17.2**	**+0.4**
PDG	**Podgorica**	**0.80**	**335**	*i* Pg		**Pg**	**18 51 04.7**	**-0.6**
TTG	**Podgorica**	**0.80**	**335**	↓*i* Pg		**Pg**	**18 51 04.6**	**-0.7**
TTG				*i* Sg		**Sb**	**18 51 17.2**	**+0.4**
BUM	**Brajici-Budva**	**0.85**	**315**	↓*i* Pg		**Pg**	**18 51 05.7**	**-0.6**
BUM				*i* Sg		**Sb**	**18 51 19.3**	**+0.9**
PVY	**Plav**	**0.91**	**12**↑	*i* Pg		**Pg**	**18 51 06.4**	**-1.0**
PVY				*e*Sg		**Sb**	**18 51 21.0**	**+0.9**
OHR	**Ohrid**	**1.01**	**125**	*i* Pg		**Pg**	**18 51 07.8**	**-1.4**
OHR				*i* Sg		**Sb**	**18 51 23.0**	**+0.2**
OHR				*e*Lg		Lg	18 51 24.9	
	comp=N,197nm,0.3s							
CEME	**Cevo**	**1.03**	**325**↑	*i* Pg		**Pg**	**18 51 08.8**	**-0.9**
CEME				*i* Sg		**Sn**	**18 51 25.1**	**+0.1**
KOME	**Kolasin**	**1.16**	**353**	↓*i* Pg		**Pg**	**18 51 11.0**	**-1.1**
KOME				*i* Sg		**Sn**	**18 51 29.4**	**+1.3**
HCY	**Herceg Novi**	**1.17**	**310**	↓*i* Pg		**Pg**	**18 51 11.3**	**-1.1**
HCY				*i* Sg		**Sn**	**18 51 30.1**	**+1.7**
BEY	**Berane**	**1.18**	**7**	*i* Pg		**Pg**	**18 51 11.8**	**-0.6**
IVA	**Berane**	**1.18**	**7**	↓*i* Pg		**Pg**	**18 51 11.5**	**-1.0**
IVA				*i* Sg		**Sn**	**18 51 29.7**	**+1.1**
NKME	**Niksic**	**1.21**	**332**	↓*i* Pg		**Pb**	**18 51 11.9**	**-0.9**
NKME				*i* Sg		**Sn**	**18 51 31.2**	**+2.0**
NKY	**Niksic**	**1.23**	**335**	↓*i* Pg		**Pb**	**18 51 12.2**	**-1.1**
NKY				*i* Sg		**Sn**	**18 51 31.9**	**+1.9**
SKO	**Skopje**	**1.32**	**78**	*i* Pg		**Pn**	**18 51 14.0**	**-0.3**
SKO				*i* Sg		**Sn**	**18 51 32.5**	**+0.6**
SKO				*e*Lg		Lg	18 51 35.0	
	comp=N,20nm,0.4s							
KBN	**Korca**	**1.35**	**143**	P		**Pn**	**18 51 14.6**	**-0.2**
	baz=144							
KBN				S		**Sg**	**18 51 34.3**	**+1.1**
	baz=144							
KBN				AMP				
	comp=E,0.8nm,0.6s,baz=144							
TREB	**Trebinje**	**1.43**	**316**	*e*Pg		**Pb**	**18 51 16.9**	**+0.3**
TREB				*e*Sg		**Sg**	**18 51 37.9**	**+2.0**
BRY	**Bratogost**	**1.48**	**324**	↑*i* Pg		**Pn**	**18 51 17.0**	**+0.3**
BRY				*i* Sg		**Sg**	**18 51 40.1**	**+2.6**
FNA	**Florina**	**1.55**	**126**	P		**Pn**	**18 51 17.5**	**-0.1**
FNA				S		**Sg**	**18 51 39.9**	**+0.1**
	comp=E,328nm,0.5s							
FNA	**Florina**	**1.55**	**126**	P		**Pn**	**18 51 17.7**	**+0.1**
FNA				S		**Sg**	**18 51 41.6**	**+1.8**
FNA				AML		AML	18 51 43.1	
	comp=E,791μm,0.5s							
FNA				AML		AML	18 51 45.9	
	comp=N,712μm,0.4s							
FNA	**Florina**	**1.55**	**126**	P		**Pn**	**18 51 17.6**	**-0.1**
	baz=126							
FNA	**Florina**	**1.55**	**126**	*i* Pn		**Pn**	**18 51 17.7**	**+0.1**
FNA				*i* Sn		**Sg**	**18 51 41.0**	**+1.2**
SJES	**Sjenica**	**1.57**	**7**	*e*Pg		**Pb**	**18 51 18.5**	**-0.6**
SJES				*e*Sg		**Sg**	**18 51 40.6**	**+0.2**
NEST	**Nestorio**	**1.64**	**141**	P		**Pn**	**18 51 19.5**	**+0.8**
NEST	**Nestorio**	**1.64**	**141**	P		**Pn**	**18 51 19.4**	**+0.7**
NEST				S		**Sg**	**18 51 43.7**	**+1.3**
NEST				AML		AML	18 51 45.9	
	comp=N,317μm,0.6s							
NEST				AML		AML	18 51 47.5	
	comp=E,266μm,0.4s							
LSK	**Leskovik**	**1.69**	**156**	P		**Pb**	**18 51 20.8**	**-0.2**
	baz=158							
SRN	**Sarande**	**1.83**	**173**	P		**Pb**	**18 51 23.9**	**+0.5**
	baz=174							
SRN				S		**Sg**	**18 51 49.2**	**+0.5**
	baz=174							
SRN				AMP				
	comp=E,0.2nm,0.5s,baz=174							
SELS	**Selova**	**1.84**	**34**	*e*Pn		**Pn**	**18 51 21.9**	**+0.4**
SELS				*e*Sn		**Sn**	**18 51 45.3**	**+0.4**
STIP	**Stip**	**1.85**	**89**	*i* Pn		**Pb**	**18 51 24.3**	**+0.5**
STIP				*i* Sn		**Sg**	**18 51 52.4**	**+3.0**
STIP				*e*Lg		Lg	18 51 56.2	
	comp=N,9.5nm,0.3s							
SCTE	**Santa Cesarea**	**1.88**	**211**	P		**Pn**	**18 51 20.5**	**-1.5**
SCTE				S		**Sn**	**18 51 45.5**	**-0.2**
STON	**Ston**	**1.90**	**309**	*e*Pn		**Pn**	**18 51 21.6**	**-0.6**
STON				Sn		**Sn**	**18 51 47.0**	**+0.9**
BARS	**Barje**	**1.92**	**54**	*e*Pn		**Pn**	**18 51 19.7**	**-2.9**
BARS	**Barje**	**1.92**	**54**	*i* Pn		**Pn**	**18 51 19.8**	**-2.7**
KEK	**Kerkira**	**1.99**	**178**	P		**Pn**	**18 51 23.4**	**0.0**
KEK				S		**Sb**	**18 51 51.2**	**+0.4**
KEK				AML		AML	18 51 58.0	
	comp=E,146μm,0.4s							
KEK				AML		AML	18 52 03.9	
	comp=N,136μm,0.5s							
GRG	**Griva**	**2.16**	**109**	*i* Pn		**Pn**	**18 51 25.9**	**0.0**
BBLS	**Lazik#263;i**	**2.18**	**354**	*e*Pn		**Pb**	**18 51 28.1**	**-1.2**
BBLS				*e*Sn		**Sb**	**18 51 55.1**	**-1.3**
VAY	**Valandovo**	**2.18**	**99**	*e*Pn		**Pn**	**18 51 24.7**	**-1.4**
VAY				*e*Sn		**Sn**	**18 51 53.2**	**0.0**
VAY	**Valandovo**	**2.18**	**99**	*i* Pn		**Pn**	**18 51 25.8**	**-0.3**
VAY				*i* Sn		**Sn**	**18 51 54.6**	**+1.5**
VAY				*e*Lg		Lg	18 52 00.6	
	comp=N,70nm,0.7s							
NOCI	**Noci**	**2.19**	**246**	P		**Pn**	**18 51 23.4**	**-3.0**
BOSS	**Bosilegrad**	**2.21**	**68**	*e*Pn		**Pn**	**18 51 26.5**	**-0.1**
BOSS				*e*Sn		**Sn**	**18 51 52.2**	**-1.7**
IGT	**Igoumenitsa**	**2.22**	**167**	P		**Pn**	**18 51 27.3**	**+0.6**
IGT				AML		AML	18 52 05.0	
	comp=N,98μm,0.5s							
IGT				AML		AML	18 52 08.0	
	comp=E,122μm,0.7s							
IGT	**Igoumenitsa**	**2.22**	**167**	*i* Pn		**Pn**	**18 51 27.3**	**+0.6**
GRUS	**Gruza**	**2.31**	**18**	*e*Pn		**Pn**	**18 51 28.8**	**+0.9**
LSTV	**Lastovo**	**2.35**	**298**	*e*Pn		**Pn**	**18 51 27.9**	**-0.5**
LSTV				Sn		**Sb**	**18 52 00.2**	**-1.1**
DIVS	**Divibare**	**2.41**	**5**	*e*Pn		**Pn**	**18 51 29.5**	**+0.2**
BOVS	**Bovan**	**2.43**	**37**	*e*Pn		**Pn**	**18 51 29.1**	**-0.5**
BOVS				*e*Sn		**Sn**	**18 52 00.2**	**+0.9**
HAPS	**Han Pijesak,Bl**	**2.45**	**347**	*e*Pn		**Pn**	**18 51 30.0**	**+0.1**
ZAPS	**Zavoj**	**2.67**	**53**	*e*Pn		**Pn**	**18 51 34.2**	**+1.2**
VTS	**Vitosha**	**2.78**	**70**	*e*Pn		**Pn**	**18 51 34.6**	**+0.1**
VTS				*e*Sn		**Sn**	**18 52 06.6**	**-1.5**
ZAGS	**Zajecar**	**2.81**	**40**	*e*Pn		**Pn**	**18 51 35.6**	**+0.8**

*IDC **23** 18:56:13.2±6.3,51.°94N×178.°57E,h106km±59km,mb3.2/7, mb1 3.5/9,mb1mx3.3/46,mbtmp3.6/9,MS3.4/1,Ms1 3.4/1, ms1mx2.5/17,Error ellipse: s-maj=44.0km s-min=17.5km az=167.0*
*AEIC **23** 18:56:14.2±2.0,51.°8N±0.°1×178.°4E±0.°1,h106km±4km,Error ellipse: s-maj=18.1km s-min=8.8km az=187.0*
*NEIC **23** 18:56:14.2±1.8,51.°8N±0.°2×178.°5E±0.°1,h110km±6km, mb3.9/31,ML3.2/39(AEIC),Error ellipse: s-maj=21.8km s-min=9.4km az=181.0*

ISC 23 18:56:13.9±0.7, 51.°9N±0.°1×178.°44E±0.°05, h110km±6km, n85,σ1°s26/87, mb3.7/15, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.08**	**36**			**Pn**	**18 56 29.1**	**0.0**
LSSA						**Sn**	**18 56 40.9**	**+0.3**
LSNW	**Little Sitkin**	**0.10**	**30**			**Pn**	**18 56 29.0**	**-0.1**
LSNW						**Sn**	**18 56 40.5**	**0.0**
LSPA	**Little Sitkin**	**0.11**	**49**			**Pn**	**18 56 29.1**	**-0.1**
LSPA						**Sn**	**18 56 41.0**	**+0.4**
CESW	**Semis' Southwe**	**0.70**	**88**			**Pn**	**18 56 32.2**	**0.0**
CESW						**Sn**	**18 56 45.2**	**-0.9**
CEAP	**Semis' Anvil P**	**0.72**	**80**			**Pn**	**18 56 32.8**	**+0.5**
AMKA	**Amchitka**	**0.74**	**133**			**Pn**	**18 56 32.5**	**0.0**
AMKA						**Sn**	**18 56 46.0**	**-0.6**
CERB	**Semis' Cerberu**	**0.74**	**86**			**Pn**	**18 56 32.8**	**+0.2**
CERB						**Sn**	**18 56 47.0**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.77**	**88**			**Pn**	**18 56 33.1**	**+0.2**
GALAA	**Gareloi Lava P**	**1.74**	**93**			**Pn**	**18 56 44.0**	**+0.4**
GAEA	**Gareloi East**	**1.75**	**92**			**Pn**	**18 56 44.0**	**+0.3**
TASE	**Tanaga Southea**	**2.19**	**90**			**Pn**	**18 56 49.5**	**+0.2**
TASE						**Sn**	**18 57 16.1**	**-0.3**
TAFP	**Tanaga Falls P**	**2.22**	**88**			**Pn**	**18 56 49.9**	**+0.2**
KIMD	**Kanaga Island**	**2.69**	**91**			**Pn**	**18 56 55.9**	**+0.2**
KICM	**Kanaga Island**	**2.71**	**88**			**Pn**	**18 56 56.4**	**+0.5**
KIKV	**Kanaga Island**	**2.72**	**88**			**Pn**	**18 56 56.4**	**+0.2**
KIWB	**Kanaga Island**	**2.74**	**89**			**Pn**	**18 56 56.3**	**-0.1**
KIRH	**Kanaga Island**	**2.77**	**88**			**Pn**	**18 56 57.1**	**+0.3**
KIRH						**Sn**	**18 57 30.7**	**+0.9**
SMY	**Shemya**	**2.79**	**289**			**Pn**	**18 56 56.7**	**-0.4**
ADK	**Adak**	**3.02**	**88**			**Pn**	**18 56 59.8**	**-0.3**
ADK						**Sn**	**18 57 35.5**	**-0.3**
GSTD	**Great Sitkin T**	**3.36**	**85**			**Pn**	**18 57 04.2**	**-0.4**
GSMY	**Great Sitkin M**	**3.41**	**85**			**Pn**	**18 57 05.2**	**-0.2**
GSTR	**Great Sitkin T**	**3.41**	**84**			**Pn**	**18 57 05.3**	**0.0**
ATKA	**Atka Island**	**4.56**	**83**			**Pn**	**18 57 21.0**	**+0.4**
KOKL	**Mount Kliuchef**	**4.56**	**82**			**Pn**	**18 57 21.2**	**+0.5**
KOFP	**Korovin Flat P**	**4.62**	**82**			**Pn**	**18 57 22.4**	**+0.8**
NIKH	**Nikolski High**	**7.85**	**77**			**Pn**	**18 58 06.2**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**8.36**	**74**			**Pn**	**18 58 14.6**	**+2.4**
SPIA	**Saint Paul Isl**	**8.45**	**47**	Pn		**Pn**	**18 58 15.9**	**+2.7**
MAPS	**Pakushin South**	**9.06**	**72**			**Pn**	**18 58 23.6**	**+2.0**
MSW	**Makushin Switc**	**9.16**	**71**			**Pn**	**18 58 25.6**	**+2.5**
MNAT	**Makushin Natee**	**9.22**	**72**			**Pn**	**18 58 25.9**	**+2.2**
AKGG	**Akutan Green G**	**9.66**	**70**			**Pn**	**18 58 31.9**	**+2.1**
AKUT	**Akutan**	**9.78**	**70**	Pn		**Pn**	**18 58 34.3**	**+3.0**
PEA0B	**Petropavlovsk-**	**12.69**	**284**	Pn		**Pn**	**18 59 13.9**	**+3.7**
PETK	**Petropavlovsk-**	**12.69**	**284**	P		**Pn**	**18 59 10.2**	**-0.1**
	0.3nm,0.3s,baz=101,slow=15,SNR=2.7							
SDPT	**Sand Point**	**12.98**	**66**	Pn		**Pn**	**18 59 12.7**	**-1.2**
GAMB	**Gambell**	**13.01**	**20**	Pn		**Pn**	**18 59 10.6**	**-3.6**
CNBA	**Chernabura Isl**	**13.44**	**69**	Pn		**Pn**	**18 59 17.8**	**-2.1**
SVW2	**Sparrevohn**	**16.94**	**47**	P		**P**	**19 00 06.7**	**+2.6**
SVW2				IAmb		IAmb	19 00 43.1	
	comp=Z,9.4nm,1.6s							
OHAK	**Old Harbor**	**17.17**	**61**	P		**P**	**19 00 04.6**	**-2.0**
TTA	**Tatalina**	**17.52**	**41**	P		**Pn**	**19 00 11.8**	**+0.8**
KDAK	**Kodiak Island**	**17.62**	**59**	P		**P**	**19 00 09.6**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=213,slow=1.5,SNR=30							
KDAK	**Kodiak Island**	**17.62**	**59**	P		**P**	**19 00 09.7**	**-1.7**
KDAK				IAmb		IAmb	19 00 48.8	
	comp=Z,20nm,1.6s							
RSO	**Redoubt South**	**18.06**	**50**	P		**Pn**	**19 00 18.1**	**+0.5**
CNPM	**China Poot**	**18.59**	**54**	P		**P**	**19 00 22.4**	**+0.3**
CNPM				IAmb		IAmb	19 00 23.8	
	comp=Z,7.6nm,0.7s							
BRLK	**Bradley Lake**	**18.81**	**53**	P		**P**	**19 00 24.8**	**+0.3**
BRLK				IAmb		IAmb	19 00 41.9	
	comp=Z,12nm,1.2s							
SUA	**Susitna One**	**19.27**	**48**	P		**P**	**19 00 31.4**	**+1.7**
SUA				IAmb		IAmb	19 00 38.5	
	comp=Z,5.8nm,1.1s							
KTH	**Kantishna Hill**	**19.87**	**42**	P		**Pn**	**19 00 38.9**	**+0.2**
BPAW	**Bear Paw Mtn.**	**20.05**	**41**	P		**P**	**19 00 38.3**	**+0.3**
GHO	**Glory Hole Cre**	**20.19**	**48**	P		**P**	**19 00 39.2**	**-0.4**
GHO				IAmb		IAmb	19 01 03.7	
	comp=Z,9.6nm,1.4s							
PWL	**Port Wells**	**20.27**	**51**	P		**P**	**19 00 40.5**	**+0.1**
PWL				IAmb		IAmb	19 00 46.0	
	comp=Z,4.2nm,0.8s							
GLI	**Glacier Island**	**20.87**	**51**	P		**P**	**19 00 46.7**	**-0.1**
GLI				IAmb		IAmb	19 01 07.0	
	comp=Z,9.1nm,1.1s							
SCM	**Sheep Creek Mo**	**20.95**	**48**	P		**P**	**19 00 48.1**	**+0.4**
SCM				IAmb		IAmb	19 01 12.1	
	comp=Z,8.2nm,1.3s							
I23K	**Minto, Yukon-K**	**21.11**	**39**	P		**P**	**19 00 50.6**	**+1.3**
I23K				IAmb		IAmb	19 00 51.0	
	comp=Z,6.9nm,1.6s							
FID	**Port Fidalgo**	**21.14**	**52**	P		**P**	**19 00 49.9**	**+0.2**
FID				IAmb		IAmb	19 01 14.2	
	comp=Z,6.9nm,1.1s							
MDM	**Murphy Dome**	**21.48**	**40**	P		**P**	**19 00 54.7**	**+1.4**
MDM				IAmb		IAmb	19 00 56.9	
	comp=Z,6.5nm,1.6s							
KLU	**Klutina**	**21.54**	**50**	P		**P**	**19 00 55.2**	**+1.2**
M24K	**Tolsona, Glenn**	**21.54**	**48**	P		**P**	**19 00 56.1**	**+2.2**
M24K				IAmb		IAmb	19 01 35.9	
	comp=Z,8.0nm,1.1s							
ILAR	**Eielson Array**	**21.96**	**41**	P		**P**	**19 00 57.9**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=248,slow=9.6,SNR=4.3							
HMT	**Hamilton**	**22.18**	**53**	P		**P**	**19 01 00.8**	**+0.1**
N25K	**Chitina, Valde**	**22.18**	**50**	P		**P**	**19 00 60.0**	**-0.8**
SUCK	**Suckling Hills**	**22.39**	**54**	P		**P**	**19 01 03.8**	**+0.9**
DOT	**Dot Lake**	**22.82**	**44**	P		**P**	**19 01 06.4**	**-0.8**
DOT				IAmb		IAmb	19 01 41.9	
	comp=Z,9.1nm,1.4s							
YAH	**Yahtse**	**23.43**	**53**	P

SJTE	**Alcalda de S**	**1.41**	**104**	*e*P	**Pn**	**19 18 59.2**	**-0.3**
SJTE				*e*S	**Sn**	**19 19 18.9**	**0.0**
SJTE				IAML		19 19 23.0	
	comp=Z,348nm,0.2s						
PAVA	**Las Pavas**	**1.46**	**99**	*e*P	**Pn**	**19 19 00.1**	**0.0**
PAVA				IAML		19 19 01.0	
	comp=Z,415nm,0.4s						
PAVA				*e*S	**Sn**	**19 19 20.2**	**+0.2**
COEG	**Centro de Oper**	**1.53**	**102**	*e*P	**Pn**	**19 19 00.5**	**-0.5**
TECO	**Alcaldia de Te**	**1.65**	**104**	*e*P	**Pn**	**19 19 02.0**	**-0.3**
TECA	**Tecapa**	**1.92**	**104**	*e*P	**Pn**	**19 19 01.0**	**+0.2**
LCND	**La Caada**	**2.54**	**104**	*e*P	**Pn**	**19 19 13.4**	**-0.4**

NOU ***23*** *19:20:31.5, 18˚.94S×169˚.43E, h257km, MLv4.9, Vanuatu Islands*
NEIC ***23*** *19:20:31±1.4, 18˚.96S±0˚.08×169˚.48E±0˚.09, h251km±5km, mb4.8/149, Error ellipse: s-maj=13.8km s-min=10.6km az=128.0*
IDC ***23*** *19:20:31.9±1.0, 19˚.04S×169˚.41E, h261km±9km, mb4.1/24, mb1 4.3/27, mb1mx4.3/35, mbtmp4.8/27, Error ellipse: s-maj=11.5km s-min=8.4km az=153.0*
ISC 23 19:20:30.1±0.3, 18˚.98S±0˚.05×169˚.43E±0˚.05, h246km, n241, σ1§06/242, mb4.8/118, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.73**	**229**	Pn	**Pn**	**19 21 20.0**	**+0.6**
LIFNC	**LIFOU**	**2.73**	**229**	P	**Pn**	**19 21 20.6**	**+1.2**
YATNC	**Mamie plateau,**	**3.88**	**217**	P	**Pn**	**19 21 33.3**	**+1.0**
PINNC	**Pines Island,**	**4.06**	**207**		**Pn**	**19 21 35.1**	**+0.7**
PINNC	**Pines Island,**	**4.06**	**207**	P	**Pn**	**19 21 36.3**	**+1.9**
SANVU	**Saraoutou**	**4.11**	**328**	P	**Pn**	**19 21 36.7**	**+1.7**
DZM	**Mont Dzumac**	**4.16**	**222**	P	**Pn**	**19 21 37.2**	**+1.5**
	13nm,0.3s,baz=68,slow=18,SNR=93						
DZM				S	**S**	**19 22 28.5**	**+0.8**
	5.5nm,0.3s,baz=283,slow=10,SNR=5.5						
DZM	**Mont Dzumac**	**4.16**	**222**	*e*Pn	**Pn**	**19 21 37.8**	**+2.1**
	868nm,1.4s						
DZM				*e*Sn	**S**	**19 22 28.5**	**+0.8**
	795nm,1.6s						
DZM	**Mont Dzumac**	**4.16**	**222**	P	**Pn**	**19 21 38.3**	**+2.6**
OUENC	**Ouen Island, N**	**4.19**	**215**	Pn	**Pn**	**19 21 37.5**	**+1.5**
OUENC	**Ouen Island, N**	**4.19**	**215**	P	**Pn**	**19 21 38.2**	**+2.2**
NOUC	**Port Laguerre**	**4.27**	**223**	P	**Pn**	**19 21 39.0**	**+2.1**
ONTNC	**Ouen Toro**	**4.33**	**220**	Pn	**Pn**	**19 21 39.0**	**+1.4**
ONTNC	**Ouen Toro**	**4.33**	**220**	P	**Pn**	**19 21 39.8**	**+2.2**
KOUNC	**Koumac, New Ca**	**5.09**	**251**	P	**Pn**	**19 21 49.9**	**+3.0**
MSVF	**Nonsavu**	**8.28**	**83**	P	**Pn**	**19 22 29.3**	**+2.2**
	5.2nm,0.3s,baz=258,slow=10,SNR=30						
MSVF	**Nonsavu**	**8.28**	**83**	P	**Pn**	**19 22 29.7**	**+2.6**
HNR	**Honiara**	**13.21**	**315**	P	**P**	**19 23 31.3**	**+0.8**
	8.3nm,0.3s,baz=110,slow=0.9,SNR=8.9						
FUNA	**Funafuti**	**14.06**	**44**		**Pn**	**19 23 39.4**	**+0.2**
LHI	**Lord Howe Isla**	**15.60**	**215**	P	**P**	**19 23 57.0**	**+0.2**
OUZ	**Omahuta**	**16.59**	**168**	P	**Pn**	**19 24 08.8**	**-0.5**
EIDS	**Eidsvold**	**18.13**	**246**	P	**Pn**	**19 24 26.3**	**-1.3**
ARMA	**Armidale**	**19.75**	**231**	P	**P**	**19 24 43.3**	**+1.4**
URZ	**Urewera**	**20.34**	**162**	P	**P**	**19 24 48.3**	**+0.3**
	7.1nm,0.5s,baz=120,slow=23,SNR=5.7						
TARA	**Tarawa**	**20.50**	**10**	P	**P**	**19 24 48.5**	**-1.4**
BKZ	**Black Stump Fm**	**21.03**	**165**	P	**P**	**19 24 55.5**	**+0.3**
BKZ				IAmb	IAmb	19 25 22.6	
	comp=Z,22nm,1.1s						
CTA	**Charters Tower**	**21.87**	**263**	P	**P**	**19 25 04.5**	**+1.1**
	comp=Z,25nm,0.5s,baz=90,slow=10,SNR=61						
CTAO	**Charters Tower**	**21.87**	**263**	P	**P**	**19 25 04.3**	**+1.0**
QRZ	**Quartz Range**	**21.94**	**174**	P	**P**	**19 25 05.3**	**+1.6**
QRZ				IAmb	IAmb	19 25 05.9	
	comp=Z,36nm,1.0s						
BFZ	**Birch Farm**	**22.41**	**166**	P	**P**	**19 25 07.7**	**-0.4**
TUWZ	**Tuamarina**	**22.71**	**171**	P	**P**	**19 25 11.2**	**+0.4**
SNZO	**South Karori**	**22.71**	**170**	P	**P**	**19 25 10.6**	**-0.2**
BHW	**Baring Head**	**22.84**	**169**	P	**P**	**19 25 11.9**	**0.0**
MSWZ	**Moikau Station**	**22.91**	**169**	P	**P**	**19 25 12.2**	**-0.5**
PLWZ	**Palliser**	**23.06**	**169**	P	**P**	**19 25 13.5**	**-0.5**
PMG	**Port Moresby**	**23.57**	**291**	P	**P**	**19 25 20.2**	**+1.3**
	comp=Z,52nm,0.7s,baz=79,slow=6.6,SNR=12						
PMG	**Port Moresby**	**23.57**	**291**	P	**P**	**19 25 20.2**	**+1.3**
PMG	**Port Moresby**	**23.57**	**291**	P	**P**	**19 25 20.2**	**+1.3**
	comp=Z,80nm,0.8s						
PMG	**Port Moresby**	**23.57**	**291**	P	**P**	**19 25 21.0**	**+2.1**
PMG	**Port Moresby**	**23.57**	**291**	P	**P**	**19 25 20.8**	**+1.9**
LTZ	**Lake Taylor**	**23.85**	**175**	P	**P**	**19 25 21.2**	**0.0**
LTZ				IAmb	IAmb	19 25 25.3	
	comp=Z,34nm,1.1s						
CAN	**Canberra**	**24.32**	**224**	P	**P**	**19 25 26.8**	**+1.2**
CAN				IAmb	IAmb	19 25 27.8	
	comp=Z,38nm,1.2s						
FOZ	**Fox Glacier**	**24.48**	**179**	P	**P**	**19 25 27.4**	**+0.6**
FOZ				IAmb	IAmb	19 25 28.3	
	comp=Z,42nm,1.0s						
RPZ	**Rata Peaks**	**24.70**	**177**	P	**P**	**19 25 28.3**	**-0.6**
RPZ				IAmb	IAmb	19 25 30.2	
	comp=Z,34nm,1.2s						
LBZ	**Lake Benmore**	**25.34**	**179**	P	**P**	**19 25 35.5**	**+0.9**
DCZ	**Deep Cove**	**26.48**	**184**	P	**P**	**19 25 44.1**	**-0.6**
DCZ				IAmb	IAmb	19 26 09.4	
	comp=Z,42nm,1.4s						
WHZ	**Wether Hill Ro**	**26.87**	**182**	P	**P**	**19 25 48.8**	**+0.6**
WHZ				IAmb	IAmb	19 25 54.7	
	comp=Z,42nm,1.4s						
TOO	**Toolangi**	**27.93**	**223**	P	**P**	**19 25 58.5**	**+0.6**
TOO				IAmb	IAmb	19 25 59.7	
	comp=Z,23nm,1.3s						
STKA	**Stephens Creek**	**28.14**	**237**	P	**P**	**19 26 00.6**	**+0.9**
	comp=Z,44nm,0.7s,baz=64,slow=8.8,SNR=81						
STKA	**Stephens Creek**	**28.14**	**237**	P	**P**	**19 26 00.6**	**+0.9**
TAU	**Tasmania Unive**	**30.30**	**213**	P	**P**	**19 26 19.6**	**+1.1**
BBOO	**Buckleboo**	**32.87**	**239**	P	**P**	**19 26 41.8**	**+0.6**
BBOO				IAmb	IAmb	19 26 42.7	
	comp=Z,26nm,0.8s						
WR0	**Warramunga Arr**	**32.87**	**262**	P	**P**	**19 26 40.5**	**-0.9**
GENI	**Genyem**	**32.94**	**296**	P	**P**	**19 26 37.3**	**-4.7**
	comp=Z,5μmcomp=Z,120nm,1.1s						
WB0	**Warramunga Arr**	**33.03**	**263**	P	**P**	**19 26 41.9**	**-0.8**
WB2	**Warramunga Arr**	**33.05**	**262**	P	**P**	**19 26 41.8**	**-1.1**
WRAB	**Tennant Creek**	**33.05**	**262**	P	**P**	**19 26 41.9**	**-1.0**
WRA	**Warramunga Arr**	**33.06**	**262**	P	**P**	**19 26 42.4**	**-0.6**
	comp=Z,9.8nm,0.4s,baz=83,slow=6.0,SNR=288						
WRA				S	**S**	**19 31 40.4**	**-3.1**
	comp=Z,1.3nm,0.9s,baz=90,slow=14,SNR=3.0						
WRA				ScP	**ScP**	**19 32 41.0**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=86,slow=3.4,SNR=9.0						
WRA	**Warramunga Arr**	**33.06**	**262**	P	**P**	**19 26 41.0**	**-2.1**
AS31	**Alice Springs**	**33.36**	**256**	P	**P**	**19 26 45.5**	**-0.1**
ASAR	**Alice Springs**	**33.36**	**256**	P	**P**	**19 26 45.6**	**0.0**
	comp=Z,140nm,0.5s,baz=83,slow=8.9,SNR=2168						
ASAR				PcP	**PcP**	**19 29 20.6**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=84,slow=3.8,SNR=1.4						
ASAR				S	**S**	**19 31 44.9**	**-3.3**
	comp=Z,0.9nm,0.7s,baz=81,slow=17,SNR=4.6						
ASAR				ScP	**ScP**	**19 32 42.1**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=101,slow=3.4,SNR=12						
ASAR	**Alice Springs**	**33.36**	**256**	P	**P**	**19 26 45.5**	**-0.1**
ASAR	**Alice Springs**	**33.36**	**256**		**ScP**	**19 32 42.2**	**0.0**
MCQ	**Macquarie Isla**	**36.35**	**190**	P	**P**	**19 27 10.4**	**-0.2**
MTN	**Manton Dam**	**37.27**	**274**	P	**P**	**19 27 18.9**	**0.0**
KNRA	**Kununurra**	**38.90**	**268**	P	**P**	**19 27 31.8**	**-0.6**
FORT	**Forrest**	**39.12**	**244**	P	**P**	**19 27 33.6**	**-0.5**
FORT				IAmb	IAmb	19 27 35.0	
	comp=Z,39nm,0.9s						
FAKI	**Fak Fak**	**39.70**	**289**	P	**P**	**19 27 39.2**	**+0.2**
FAKI	**Fak Fak**	**39.70**	**289**	P	**P**	**19 27 39.0**	**-0.1**
	comp=Z,34nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.45**	**264**	P	**P**	**19 27 54.2**	**+1.0**
	comp=Z,56nm,0.8s,baz=95,slow=6.3,SNR=236						
FITZ	**Fitzroy Crossi**	**41.45**	**264**	P	**P**	**19 27 53.9**	**+0.6**
KRAI	**Karang Ratu**	**43.01**	**286**	P	**P**	**19 28 05.7**	**-0.2**
	comp=Z,13nm,1.0s						
SOEI	**Soe**	**44.59**	**275**	P	**P**	**19 28 18.8**	**+0.2**
BATI	**Baumata**	**45.03**	**274**	P	**P**	**19 28 23.8**	**+1.9**
	comp=Z,35nm,1.4s						
PSA00	**Pilbara Seismi**	**46.43**	**258**	P	**P**	**19 28 32.8**	**0.0**
PSA00				IAmb	IAmb	19 28 34.2	
	comp=Z,59nm,1.0s						
PSA00	**Pilbara Seismi**	**46.43**	**258**	P	**P**	**19 28 32.2**	**-0.5**
PSA00				IAmb	IAmb	19 28 34.2	
	comp=Z,25nm,0.9s						
MMRI	**Maumere**	**46.84**	**276**	P	**P**	**19 28 36.5**	**+0.5**
MMRI				IAmb	IAmb	19 28 59.2	
	comp=Z,57nm,1.2s						
EDFI	**Ende, Flores**	**47.32**	**276**	P	**P**	**19 28 39.8**	**0.0**
	comp=Z,3μmcomp=Z,8.7nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.49**	**243**	P	**P**	**19 28 48.3**	**-0.1**
MORW	**Morawa**	**49.44**	**248**	P	**P**	**19 28 54.9**	**-0.7**
MORW				IAmb	IAmb	19 28 56.5	
	comp=Z,27nm,0.8s						
GTOI	**Gorontalo**	**49.55**	**288**	P	**P**	**19 28 58.1**	**+1.4**
	comp=Z,13nm,0.7s						
KAPI	**Kappang**	**50.35**	**279**	P	**P**	**19 29 03.3**	**+0.7**
	comp=Z,5.8nm,0.6s,baz=119,slow=4.4,SNR=5.5						
KAPI	**Kappang**	**50.35**	**279**	IAmb	IAmb	19 29 04.6	
	comp=Z,20nm,0.9s						
MRSI	**Marisa**	**50.45**	**287**	P	**P**	**19 29 04.0**	**+0.6**
	comp=Z,17nm,0.8s						
HMH	**Humu'ula Sheep**	**51.52**	**44**	P	**P**	**19 29 11.4**	**-0.1**
TOLI2	**Tolitoli**	**51.77**	**287**	P	**P**	**19 29 12.7**	**-0.5**
TOLI2				IAmb	IAmb	19 29 14.2	
	comp=Z,20nm,0.8s						
TWSI	**Taliwang, Sumb**	**51.85**	**274**	P	**P**	**19 29 14.7**	**+0.9**
	comp=Z,20nm,1.4s						
MPSI	**Mapaga**	**52.24**	**286**	P	**P**	**19 29 17.1**	**+0.4**
	comp=Z,25nm,1.2s						
KLNI	**Mataram**	**52.69**	**274**	P	**P**	**19 29 19.8**	**-0.2**
	comp=Z,13nm,1.0s						
PCJI	**Pacitan**	**57.41**	**272**	P	**P**	**19 29 54.6**	**+1.0**
	comp=Z,79nm,1.2s						
UGM	**Wanagama**	**58.11**	**272**	P	**P**	**19 29 58.5**	**0.0**
	comp=Z,100nm,1.5s						
VNDA	**Vanda**	**58.70**	**182**	P	**P**	**19 30 01.1**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=1.8,slow=8.3,SNR=16						
SBA	**Scott Base**	**58.92**	**181**	P	**P**	**19 30 03.5**	**+0.4**
SBA				IAmb	IAmb	19 30 05.0	
	comp=Z,26nm,0.9s						
KPJI	**Karang Pucung**	**59.78**	**273**	P	**P**	**19 30 10.7**	**+0.7**
	comp=Z,21nm,0.8s						
LEM	**Lembang**	**61.18**	**273**	P	**P**	**19 30 19.6**	**0.0**
	comp=Z,64nm,0.8s,baz=62,slow=3.5,SNR=15						
LEM	**Lembang**	**61.18**	**273**	P	**P**	**19 30 20.5**	**+0.9**
	comp=Z,48nm,0.9s						
CNJI	**Cibinong**	**61.49**	**272**	P	**P**	**19 30 20.6**	**-0.9**
	comp=Z,3μmcomp=Z,121nm,1.1s						
CBJI	**Citeko**	**62.03**	**273**	P	**P**	**19 30 24.3**	**-0.8**
	comp=Z,99nm,0.9s						
DBJI	**Dramaga**	**62.08**	**273**	P	**P**	**19 30 25.8**	**+0.3**
	comp=Z,2μmcomp=Z,75nm,0.7s						
MJAR	**Matsushiro Arr**	**62.61**	**332**	P	**P**	**19 30 28.5**	**+0.1**
	comp=Z,4.3nm,1.0s,baz=156,slow=6.7,SNR=8.8						
MJAR	**Matsushiro Arr**	**62.61**	**332**	P	**P**	**19 30 28.8**	**+0.4**
MAJO	**Matsushiro**	**62.61**	**332**	P	**P**	**19 30 28.6**	**+0.2**
MAT	**Matsushiro**	**62.61**	**332**	P	**P**	**19 30 28.7**	**+0.3**
CGJI	**Cibinong**	**63.06**	**272**	P	**P**	**19 30 31.8**	**-0.1**
	comp=Z,90nm,0.7s						
KASI	**Kota Agung**	**64.53**	**273**	P	**P**	**19 30 40.2**	**-1.3**
LWLI	**Liwa**	**65.10**	**273**	P	**P**	**19 30 43.5**	**-1.8**
	comp=Z,2μmcomp=Z,59nm,0.7s						
MDSI	**Maura Dua**	**65.16**	**274**	P	**P**	**19 30 44.8**	**-0.7**
KSRS	**Korea Array**	**68.39**	**325**	P	**P**	**19 31 06.8**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=155,slow=6.1,SNR=6.4						
NJ2	**Nanjing**	**70.15**	**316**	*e*P	**P**	**19 31 17.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
QSPA	**South Pole Qui**	**71.07**	**180**	P	**P**	**19 31 20.3**	**-1.1**
QSPA				IAmb	IAmb	19 31 21.9	
	comp=Z,22nm,0.9s						
KIWB	**Kanaga Island**	**71.50**	**9**	P	**P**	**19 31 23.4**	**-0.5**
SMY	**Shemya**	**71.52**	**3**	P	**P**	**19 31 23.9**	**0.0**
USA0B	**Ussuriysk Arra**	**71.59**	**333**	P	**P**	**19 31 24.6**	**0.0**
USRK	**Ussuriysk Ar.**	**71.59**	**333**	P	**P**	**19 31 23.9**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=156,slow=3.5,SNR=5.1						
USRK	**Ussuriysk Ar.**	**71.59**	**333**	P	**P**	**19 31 24.5**	**-0.1**
ADK	**Adak**	**71.60**	**9**	P	**P**	**19 31 24.1**	**-0.3**
ADK				IAmb	IAmb	19 31 25.2	
	comp=Z,15nm,0.9s						
GSTR	**Great Sitkin T**	**71.89**	**9**	P	**P**	**19 31 26.5**	**+0.3**
ATKA	**Atka Island**	**72.30**	**10**	P	**P**	**19 31 27.4**	**-1.2**
PETK	**Petropavlovsk-**	**72.50**	**353**	P	**P**	**19 31 30.2**	**+0.5**
	comp=Z,12nm,0.7s,baz=147,slow=8.8,SNR=22						
RPSI	**Rantau Prapat**	**72.52**	**279**	P	**P**	**19 31 30.1**	**-0.7**
RPSI				IAmb	IAmb	19 31 32.0	
	comp=Z,14nm,1.1s						
PSI	**Prapat**	**72.56**	**279**	P	**P**	**19 31 30.8**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=176,slow=3.2,SNR=3.7						
GSI	**Gunungsitoli**	**73.30**	**277**	P	**P**	**19 31 35.9**	**+0.5**
GSI				IAmb	IAmb	19 31 37.4	
	comp=Z,13nm,0.9s						
NIKH	**Nikolski High**	**74.08**	**13**	P		19 31 38.5	
	baz=201						
NIKH	**Nikolski High**	**74.08**	**13**	P	**P**	**19 31 38.0**	**-1.0**
CN2	**Changchun**	**74.33**	**329**	*e*P	**P**	**19 31 42.0**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**78.56**	**294**	P	**P**	**19 32 06.2**	**+1.3**
	comp=Z,3.2nm,0.8s,baz=133,slow=4.2,SNR=18						
MAW	**Mawson**	**78.74**	**202**	P	**P**	**19 32 05.6**	**+0.6**
	comp=Z,5.9nm,0.8s,baz=116,slow=6.6,SNR=8.2						
MAW	**Mawson**	**78.74**	**202**	IAmb	IAmb	19 32 06.3	
	comp=Z,2.4nm,1.0s						
HHC	**Hu-ho-hao-te**	**80.14**	**319**	*e*P	**P**	**19 32 12.8**	**-0.3**
CHIR	**Chirikof Islan**	**80.16**	**19**	P		19 32 12.8	
	baz=213						
BTO	**Baotou**	**80.96**	**318**	*e*P	**P**	**19 32 18.8**	**+1.4**
BTO				S	**S**	**19 42 07.0**	**+1.5**
SII	**Sitkinak Islan**	**81.22**	**19**	P		19 32 18.9	
	baz=215						
OHAK	**Old Harbor**	**82.05**	**19**	P		19 32 23.0	
	baz=215						
LZH	**Lanzhou**	**82.69**	**312**	||P	**P**	**19 32 25.6**	**-1.0**
LZH				pmax	pmax		
	comp=Z,27nm,1.3s						
KDAK	**Kodiak Island**	**82.73**	**19**	P		19 32 26.1	
	baz=216						
KDAK	**Kodiak Island**	**82.73**	**19**	P	**P**	**19 32 26.3**	**+0.3**
KDAK				IAmb	IAmb	19 32 27.5	
	comp=Z,17nm,1.0s						
GAMB	**Gambell**	**83.79**	**8**	P		19 32 31.6	
	baz=198						
N18K	**Kilae Creek**	**84.17**	**16**	P		19 32 33.5	
	baz=213						
CNPM	**China Poot**	**84.55**	**19**	P	**P**	**19 32 35.8**	**+0.5**
SVW2	**Sparrevohn**	**84.60**	**16**	P	**P**	**19 32 35.7**	**+0.2**
SVW2				IAmb	IAmb	19 32 37.1	
	comp=Z,14nm,1.3s						
N19K	**Bonanza Creek**	**84.66**	**17**	P		19 32 36.4	
	baz=214						
BRLK	**Bradley Lake**	**84.85**	**19**	P	**P**	**19 32 36.1**	**-0.7**
BRLK				IAmb	IAmb	19 32 38.5	
	comp=Z,9.8nm,0.9s						
RSO	**Redoubt South**	**84.86**	**18**	P	**P**	**19 32 36.9**	**-0.1**
BRSE	**Bradley Lake S**	**84.88**	**19**	P		19 32 36.8	
	baz=218						
ANM	**Nome**	**85.51**	**11**	P		19 32 40.3	
	baz=204						
SAO	**San Andreas Ge**	**85.52**	**49**	P	**P**	**19 32 40.0**	**-0.7**
SAO				IAmb	IAmb	19 32 42.4	
	comp=Z,17nm,1.1s						
KHMM	**Horse Mountain**	**85.90**	**44**	P	**P**	**19 32 43.0**	**+0.4**
SMMC	**Simmler**	**85.91**	**51**	P		19 32 42.5	
	baz=243						
KRMB	**Red Mountain**	**86.10**	**44**	P	**P**	**19 32 43.5**	**0.0**
KRMB				IAmb	IAmb	19 32 45.1	
	comp=Z,22nm,1.3s						
O02D	**Mt. Diablo Mer**	**86.19**	**45**	P		19 32 45.0	
	baz=241,SNR=14						
CIS	**Catalina Islan**	**86.25**	**53**	P		19 32 44.2	
	baz=244						
RC01	**Rabbit Creek A**	**86.25**	**19**	P		19 32 44.6	
	baz=218						
PWL	**Port Wells**	**86.50**	**19**	P	**P**	**19 32 43.5**	**-1.4**
PWL				IAmb	IAmb	19 32 47.1	
	comp=Z,14nm,1.2s						
WDC	**Whiskeytown Da**	**86.55**	**45**	P	**P**	**19 32 44.8**	**-0.8**
WDC				IAmb	IAmb	19 32 47.5	
	comp=Z,21nm,1.2s						
L02E	**Cave Junction**	**86.61**	**43**	P		19 32 46.4	
	baz=241						
N02D	**Trinity Center**	**86.63**	**45**	P		19 32 46.9	
	baz=241,SNR=14						
M02C	**Callahan**	**86.73**	**44**	P		19 32 47.6	
	baz=241,SNR=14						
ULN	**Ulaanbaatar**	**86.76**	**323**	P	**P**	**19 32 45.0**	**-1.7**
ORV	**Oroville**	**86.77**	**46**	P	**P**	**19 32 46.1**	**-0.5**
ORV				IAmb	IAmb	19 32 48.2	
	comp=Z,12nm,1.1s						
BILL	**Billibino**	**86.80**	**359**	P	**P**	**19 32 46.1**	**0.0**
K02D	**Willamette Mer**	**86.83**	**43**	P		19 32 47.5	
	baz=241,SNR=5.9						
CMB	**Columbia Colle**	**86.85**	**48**	P	**P**	**19 32 46.2**	**-0.9**
CMB				IAmb	IAmb	19 32 48.5	
	comp=Z,14nm,0.9s						
AFDM	**Forest Hills D**	**86.86**	**47**	P	**P**	**19 32 46.5**	**-0.6**
AFDM				IAmb	IAmb	19 32 48.6	
	comp=Z,19nm,1.0s						
MWC	**Mount Wilson**	**86.87**	**52**	P	**P**	**19 32 47.5**	**0.0**
MWC				IAmb	IAmb	19 32 48.7	
	comp=Z,13nm,0.9s						
MWC					**pwP**	**19 33 50.0**	**+0.8**
J01E	**Myrtle Point**	**86.89**	**42**	P		19 32 47.3	
	baz=240						
O03E	**Paynes Creek**	**86.91**	**46**	P		19 32 47.5	
	baz=242,SNR=10						
YBH	**Yreka Blue Hor**	**86.99**	**44**	P	**P**	**19 32 48.7**	**+1.0**
	baz=196,slow=3.8						
YBH	**Yreka Blue Hor**	**86.99**	**44**	P	**P**	**19 32 47.8**	**0.0**
YBH				IAmb	IAmb	19 32 49.7	
	comp=Z,17nm,1.1s						
GTA	**Gaotai**	**87.08**	**313**	*e*P	**P**	**19 32 50.3**	**+2.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**87.12**	**323**	P	**P**	**19 32 48.7**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=138,slow=5.2,SNR=6.9						
CBX	**Cerro Bola**	**87.13**	**55**	P	**P**	**19 32 49.3**	**+0.6**
BFSC	**Mount Baldy Ra**	**87.17**	**52**	P		19 32 48.5	
	baz=245,SNR=5.8						
ISA	**Isabella, Lake**	**87.18**	**51**	P	**P**	**19 32 48.8**	**0.0**
ISA				IAmb	IAmb	19 32 50.4	
	comp=Z,19nm,1.0s						
ISA	**Isabella, Lake**	**87.18**	**51**	P		19 32 49.0	
	baz=244,SNR=8.8						
EDW2	**Edwards Air Fo**	**87.20**	**52**	P		19 32 49.3	
	baz=245,SNR=8.7						
SML	**Sawmill**	**87.23**	**19**	P		19 32 49.5	
	baz=220						
HUMO	**Hull Mountain**	**87.25**	**43**	P	**P**	**19 32 49.4**	**+0.5**
HUMO				IAmb	IAmb	19 32 51.0	
	comp=Z,16nm,1.0s						
MURC	**Murrieta**	**87.25**	**53**	P		19 32 49.2	
	baz=245						
L04D	**Klamath Falls**	**87.48**	**44**	P		19 32 50.5	
	baz=242,SNR=11						
I03D	**Drain, OR**	**87.52**	**42**	P		19 32 50.8	
	baz=241						
MONP2	**Monument Peak**	**87.55**	**54**	P		19 32 50.8	
	baz=246,SNR=8.8						
M04C	**Macdoel**	**87.58**	**44**	P		19 32 51.3	
	baz=242,SNR=7.7						
LRMC	**Laurel Mtn Rad**	**87.68**	**51**	P		19 32 51.6	
	baz=245,SNR=5.4						
IKP	**In-Ko-Pah, Jac**	**87.69**	**54**	P		19 32 51.6	
	baz=246						
BEKR	**Beckworth**	**87.70**	**46**	P	**P**	**19 32 50.9**	**-0.4**
BEKR				IAmb	IAmb	19 32 52.8	
	comp=Z,26nm,1.4s						
WAKR	**Walker**	**87.73**	**48**	P	**P**	**19 32 51.6**	**+0.1**
WAKR				IAmb	IAmb	19 32 53.5	
	comp=Z,27nm,1.3s						
KLU	**Klutina**	**87.74**	**20**	P		19 32 51.5	
	baz=222						
CHUM	**Lake Minchumin**	**87.76**	**16**	P		19 32 51.3	
	baz=216						
BMRM	**Bremner River**	**87.78**	**21**	P		19 32 52.1	
	baz=223						
CWC	**Cottonwood Cre**	**87.80**	**50**	P		19 32 52.4	
	baz=244						
PFO	**Pinyon Flats O**	**87.82**	**53**	P		19 32 52.1	
	baz=246						
PFO	**Pinyon Flats O**	**87.82**	**53**	P	**P**	**19 32 52.7**	**+0.8**
	comp=Z,8.7nm,1.1s,baz=271,slow=4.5,SNR=6.2						
PFO	**Pinyon Flats O**	**87.82**	**53**	P	**P**	**19 32 51.5**	**-0.4**
PFO				IAmb	IAmb	19 32 53.4	
	comp=Z,13nm,1.1s						
TPFO	**Pinon Flats**	**87.82**	**53**	P		19 32 51.8	
	baz=246						
KTH	**Kantishna Hill**	**87.87**	**17**	P	**P**	**19 32 49.6**	**-1.8**
PNTR	**Pine Nut**	**87.87**	**47**	P	**P**	**19 32 52.1**	**-0.1**
PNTR				IAmb	IAmb	19 32 54.0	
	comp=Z,15nm,1.0s						
TIN	**Tinemaha, Big**	**87.95**	**50**	P		19 32 52.4	
	baz=244						
TRF	**Thorofare Moun**	**87.96**	**17**	P	**P**	**19 32 49.9**	**-2.0**
**WA

TPNV **Topopah Spring** **89.35 50** P 19 32 59.5
baz=246,SNR=16
TPNV **Topopah Spring** **89.35 50** P **P** **19 32 58.9 -0.2**
TPNV IAmb IAmb 19 33 00.7
comp=Z,16nm,0.9s
E04D Cinebar **89.39 40** P 19 32 59.6
baz=241
SNAA Sanae **89.43 182** P **P** **19 32 57.5 -1.3**
SNAA Sanae **89.43 182** pP pP 19 33 58.2 +0.2
SNAA Sanae **89.43 182** P **P** **19 32 56.5 -2.3**
SNAA IAmb IAmb 19 32 57.9
comp=Z,6.4nm,0.9s
WRAK Wrangell Islan **89.53 28** P 19 32 59.6
baz=234
G05D Wamic, OR **89.54 41** P 19 33 00.2
baz=242
113A Mohawk Valley, **89.55 55** P **P** **19 32 59.9 0.0**
113A IAmb IAmb 19 33 01.7
comp=Z,21nm,1.4s
D03D Eldon **89.55 39** P 19 33 00.4
baz=241
D04E Lakebay **89.57 39** P 19 33 00.3
baz=241
MDM Murphy Dome **89.70 17** P **P** **19 32 57.9 -2.0**
F05D White Salmon **89.75 41** P 19 33 00.6
baz=242
BESE Bessie Mountai **89.78 26** P **P** **19 33 00.1 -0.3**
BESE IAmb IAmb 19 33 01.6
comp=Z,11nm,1.0s
PDMCI Parker Dam,Lak **89.86 54** P 19 33 01.8
baz=247,SNR=8.9
DOT Dot Lake **89.92 19** P **P** **19 33 00.1 -0.8**
IL31 **89.93 17** P **P** **19 32 59.1 -1.7**
ILAR Eielson Array **89.93 17** P **P** **19 32 59.6 -1.3**
comp=Z,2.9nm,0.8s,baz=236,slow=5.7,SNR=18
ILAR Eielson Array **89.93 17** P **P** **19 32 58.7 -2.2**
LON Longmire **89.94 40** P **P** **19 33 00.6 -0.9**
LON IAmb IAmb 19 33 06.7
comp=Z,14nm,1.5s
SHPR Sheep Range **89.97 51** P **P** **19 33 01.4 -0.6**
SHPR IAmb IAmb 19 33 03.9
comp=Z,18nm,1.3s
214A Organ Pipe Nat **89.98 56** P **P** **19 33 02.0 0.0**
214A IAmb IAmb 19 33 04.0
comp=Z,18nm,1.1s
214A Organ Pipe Nat **89.98 56** P 19 33 02.9
baz=248
WVOR Wild Horse Val **90.00 45** P **P** **19 33 02.0 0.0**
VNA3 Neumayer Olymp **90.01 180** P **P** **19 33 00.1 -1.4**
VNA3 Neumayer Olymp **90.01 180** pP pP 19 34 01.0 +0.2
H23K Yukon River **90.03 16** P 19 33 02.4
baz=218
POKR Poker Plat Res **90.04 17** P 19 33 01.3
baz=220
I07A Izee **90.16 43** P **P** **19 33 02.5 -0.2**
I07A IAmb IAmb 19 33 04.4
comp=Z,17nm,1.0s
HYT Haines Junctio **90.18 23** P **P** **19 33 01.1 -1.2**
SCRK Sand Creek **90.18 19** P 19 33 03.0
baz=223
L27K Beaver Creek, **90.20 20** P 19 33 02.6
baz=225
A04D Lummi Island **90.35 38** P 19 33 03.6
baz=241
W13A Hualapai Mount **90.36 53** P **P** **19 33 03.6 -0.3**
W13A IAmb IAmb 19 33 05.6
comp=Z,12nm,1.1s
HSIG **90.39 59** IAmb IAmb 19 33 06.2
comp=Z,16nm,1.0s
R11A Troy Canyon, C **90.40 49** P 19 33 03.8
baz=246
R11A Troy Canyon, C **90.40 49** P **P** **19 33 03.8 -0.2**
PRN Pahroc Range **90.41 50** P **P** **19 33 04.5 +0.6**
B05A Bryant **90.49 38** P 19 33 04.3
baz=242
J08A Circle Bar Ran **90.51 44** P **P** **19 33 04.1 -0.2**
J08A IAmb IAmb 19 33 05.8
comp=Z,14nm,1.0s
VNA1 Neumayer--Stat **90.59 181** P **P** **19 33 02.8 -1.3**
VNA1 Neumayer--Stat **90.59 181** pP pP 19 34 04.3 +0.9
LTY Liberty **90.87 40** P **P** **19 33 05.7 0.0**
LTY IAmb IAmb 19 33 07.0
comp=Z,11nm,1.1s
COLD Coldfoot **90.98 15** P 19 33 05.6
baz=218
G08A Pilot Rock **91.05 42** P **P** **19 33 06.1 -0.6**
G08A IAmb IAmb 19 33 08.2
comp=Z,12nm,1.1s
WHY Whitehorse **91.07 24** P 19 33 05.7
baz=231
HAWA Hanford **91.17 41** P **P** **19 33 06.7 -0.4**
HAWA IAmb IAmb 19 33 08.9
comp=Z,18nm,1.1s
E08A Dider Farm, El **91.51 41** P **P** **19 33 09.0 +0.3**
E08A IAmb IAmb 19 33 10.4
comp=Z,10nm,1.0s
LCMT Little Creek M **91.58 51** P **P** **19 33 09.3 -0.1**
LCMT IAmb IAmb 19 33 11.1
comp=Z,13nm,1.1s
EGAK Eagle **91.62 19** P 19 33 08.0
baz=226
EGAK Eagle **91.62 19** P **P** **19 33 08.3 -0.4**
CCUT Cedar City **91.70 51** P **P** **19 33 09.2 -0.9**
CCUT IAmb IAmb 19 33 12.1
comp=Z,12nm,1.2s
TUC Tucson **91.71 56** P 19 33 10.7
baz=249
TUC Tucson **91.71 56** P **P** **19 33 10.2 +0.1**
TUC IAmb IAmb 19 33 12.1
comp=Z,15nm,1.1s
PSUT Pine Spring **91.72 50** P **P** **19 33 08.4 -1.7**
DLBC Dease Lake **91.73 27** P **P** **19 33 08.9 -0.6**
comp=Z,5.0nm,0.8s,baz=158,slow=2.1,SNR=9.6
DLBC Dease Lake **91.73 27** P **P** **19 33 08.6 -0.8**
DLBC IAmb IAmb 19 33 10.8
comp=Z,14nm,1.1s
KNB Kanab **91.89 51** IAmb IAmb 19 33 12.8
comp=Z,18nm,1.3s
SZCU Shurtz Canyon **91.92 51** P **P** **19 33 11.4 +0.3**
SZCU IAmb IAmb 19 33 13.7
comp=Z,16nm,1.4s
X16A Lo Mia Camp, P **91.97 54** IAmb IAmb 19 33 13.9
comp=Z,12nm,1.0s
U15A North Rim **92.07 52** P **P** **19 33 11.8 -0.1**
U15A IAmb IAmb 19 33 15.2
comp=Z,11nm,1.0s
TOLK Toolik Lake Re **92.24 14** P 19 33 11.4
baz=218
WUAZ Wupatki **92.42 53** P 19 33 14.1
baz=248
WUAZ Wupatki **92.42 53** P **P** **19 33 12.8 -0.6**
PKCU Pink Cliffs **92.43 51** IAmb IAmb 19 33 16.1
comp=Z,13nm,1.2s
F10A Beach Ranch, E **92.44 42** P **P** **19 33 12.3 -0.8**
319A Douglas **92.58 58** P **P** **19 33 15.2 +1.1**
HLID Hailey **93.29 45** P 19 33 17.4
baz=247
W18A Petrified Fore **93.53 54** P 19 33 19.0
baz=249
HVU Hansel Valley **93.72 47** P **P** **19 33 19.3 +0.1**
Q16A Castle Valley **93.81 50** P **P** **19 33 19.4 -0.3**
Q16A IAmb IAmb 19 33 21.6
comp=Z,8.0nm,1.1s
TMUT Trail Mountain **93.92 50** IAmb IAmb 19 33 26.8
comp=Z,5.3nm,1.1s
121A Cookes Peak, D **94.17 57** P 19 33 21.5
baz=250
MNTX Cornudas Mount **95.82 59** P **P** **19 33 27.5 -1.4**
MNTX IAmb IAmb 19 33 30.9
comp=Z,5.4nm,1.2s
MNTX Cornudas Mount **95.82 59** P 19 33 28.8
baz=251
ANMO Albuquerque **96.00 55** P 19 33 29.3
baz=251
BW06 Boulder Array **96.31 47** P 19 33 31.1
baz=250
PDAR Pinedale Array **96.31 47** P **P** **19 33 30.2 -0.9**
comp=Z,0.2nm,0.5s,baz=238,slow=2.8,SNR=4.8
TX31 Lajitas Ar. Si **96.48 61** P **P** **19 33 32.1 +0.1**
TX32 Lajitas Array **96.48 61** P **P** **19 33 32.1 +0.1**
TX32 IAmb IAmb 19 33 35.5
comp=Z,7.0nm,1.5s
TXAR Lajitas Array **96.48 61** P **P** **19 33 31.6 -0.4**
comp=Z,0.2nm,0.6s,baz=212,slow=4.4,SNR=6.5
WMQ Urumqi **97.16 314** *eP* Pdif 19 33 35.3 +0.6
SDCO Great Sand Dun **97.62 53** P 19 33 36.8
baz=252
YKA Yellowknife Ar **100.36 27** P **Pdif** **19 33 48.8 +0.4**
comp=Z,1.3nm,0.8s,baz=255,slow=4.4,SNR=2.6
MKAR Makanchi Array **101.68 316** P **Pdif** **19 33 56.0 +1.4**
comp=Z,0.2nm,0.4s,baz=98,slow=3.5,SNR=4.2
ARCES ARCESS Array B **124.86 345** PKP **PKPdf** **19 38 58.9 -1.2**
comp=Z,0.6nm,0.5s,baz=79,slow=1.9,SNR=12
FINES FINESS Array B **130.41 338** PKP **PKPdf** **19 39 09.7 -1.1**
comp=Z,3.6nm,1.2s,baz=210,slow=7.8,SNR=1.9
FINES SKPbc **SKPbc** **19 42 08.8 -2.0**
comp=Z,1.5nm,0.4s,baz=65,slow=4.6,SNR=16
AKASG Malin Array Be **135.38 325** SKPbc **SKPbc** **19 42 26.8 -1.4**
comp=Z,1.4nm,0.5s,baz=44,slow=4.3,SNR=9.8
CKRC Cesky Krumlov **144.09 332** *e*PKP **PKPab** **19 39 34.6 0.0**
KHC Kasperske Hory **144.19 333** *e*PKP **PKPab** **19 39 35.0 0.0**
GERES GERESS Array B **144.35 332** PKP **PKPab** **19 39 35.0 -0.7**
comp=Z,1.6nm,0.6s,baz=32,slow=5.0,SNR=13
GRF Grafenberg Arr **144.73 335** *e*PKP **PKPab** **19 39 37.2 +0.2**
baz=37,slow=2.9
TORD Torodi Ar. Bea **166.87 246** PKP **PKPdf** **19 40 06.5 -0.6**
comp=Z,0.7nm,0.8s,baz=117,slow=0.3,SNR=4.3
TORD pPKP **PKPab** **19 41 11.2 -0.7**
comp=Z,0.8nm,0.7s,baz=104,slow=4.6,SNR=3.1

*JMA **23** 19:21:34.8±0.2, 25.56N×143.41E, h16km, M4.4*
*IDC **23** 19:21:44.1±2.6, 25.62N×142.81E, h62km±19km, mb3.5/11, mb1 3.7/13, mb1mx3.5/38, mbtmp3.7/13, MS3.0/2, Ms1 3.0/2, ms1mx2.5/29, Error ellipse: s-maj=35.0km s-min=17.7km az=83.0*
ISC 23 19:21:40.7±0.9, 25.59N±0.10×143.1E±0.2, h40km, n24, σ1§42/21, **mb3.7**/11, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.33**	**322**	P	**Pn**	**19 22 02.0**	**-0.8**
JHH2				*e*S	**Sn**	**19 22 21.5**	**+2.2**
CBIJ	**Chichi jima**	**1.71**	**331**	P	**Pn**	**19 22 07.2**	**-0.8**
CBIJ				*e*S	**Sn**	**19 22 31.0**	**+2.4**
JCJ	**Chichijima**	**1.71**	**331**	P	**Pn**	**19 22 07.8**	**-0.1**
JCJ	297nm,0.3s,baz=110,slow=23,SNR=256			S	**Sn**	**19 22 29.4**	**+0.8**
	250nm,0.3s,baz=296,slow=23,SNR=14						
JHO	**Hitachi**	**11.20**	**349**	P	**Pn**	**19 24 15.5**	**-2.7**
MJAR	**Matsushiro Arr**	**11.69**	**340**	P	**Pn**	**19 24 27.2**	**+2.3**
	0.1nm,0.3s,baz=140,slow=14,SNR=2.1						
KSRS	**Korea Array**	**17.50**	**316**	P	**P**	**19 25 41.6**	**-0.8**
KSRS	0.1nm,0.3s,baz=129,slow=14,SNR=5.8			LR	LR	19 31 57.9	
	comp=Z,32nm,19.1s,baz=115,slow=35						
H11N2	**WAKE ISLAND Hy**	**22.70**	**100**	T	T	19 50 23.5	
	baz=290,slow=75,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**22.71**	**100**	T	T	19 50 23.6	
	baz=290,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**22.72**	**100**	T	T	19 50 26.1	
	baz=290,slow=75,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**22.95**	**103**	T	T	19 50 41.1	
	baz=289						
H11S1	**WAKE ISLAND Hy**	**22.96**	**103**	T	T	19 50 36.5	
	baz=289						
H11S2	**WAKE ISLAND Hy**	**22.97**	**103**	T	T	19 50 38.9	
	baz=289						
SONM	**Songino Array**	**36.37**	**317**	P	**P**	**19 28 39.3**	**-1.7**
	0.5nm,0.5s,baz=127,slow=8.1,SNR=5.8						
KAPI	**Kappang**	**37.94**	**220**	LR	LR	19 43 46.7	
	comp=Z,30nm,20.1s,baz=130,slow=35						
CMAR	**Chiang Mai Arr**	**41.40**	**269**	P	**P**	**19 29 22.7**	**-0.7**
	0.5nm,0.6s,baz=73,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**46.05**	**191**	P	**P**	**19 30 02.2**	**+1.6**
	1.0nm,0.3s,baz=9.5,slow=8.4,SNR=7.5						
ASAR	**Alice Springs**	**49.77**	**191**	P	**P**	**19 30 30.0**	**+0.6**
	0.5nm,0.6s,baz=12,slow=4.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**51.16**	**320**	P	**P**	**19 30 39.0**	**-0.6**
	0.3nm,0.3s,baz=100,slow=9.7,SNR=2.4						
ZALV				PcP	**PcP**	**19 31 55.4**	**+0.7**
	0.7nm,0.5s,baz=120,slow=3.0,SNR=3.9						
MKAR	**Makanchi Array**	**52.07**	**310**	P	**P**	**19 30 45.5**	**-1.1**
	0.5nm,0.5s,baz=91,slow=9.8,SNR=10						
ILAR	**Eielson Array**	**58.64**	**28**	P	**P**	**19 31 34.9**	**+1.4**
	0.2nm,0.6s,baz=273,slow=5.3,SNR=2.2						
KBZ	**Khabaz**	**79.63**	**314**	P	**P**	**19 33 43.8**	**-0.1**
	2.3nm,0.9s,baz=103,slow=6.0,SNR=4.3						
FINES	**FINESS Array B**	**79.66**	**334**	P	**P**	**19 33 44.6**	**+0.9**
	2.1nm,0.5s,baz=70,slow=5.2,SNR=35						
AKASG	**Malin Array Be**	**84.31**	**324**	P	**P**	**19 34 08.1**	**-0.3**
	0.2nm,0.3s,baz=51,slow=4.9,SNR=2.8						
NOA	**NORSAR Array B**	**85.31**	**339**	P	**P**	**19 34 13.1**	**-0.1**
	0.6nm,0.5s,baz=43,slow=4.7,SNR=4.3						

*JMA **23** 19:30:55.9±0.3, 43.90N×148.41E, h0km, M3.6*
*SKHL **23** 19:30:56.4±0.4, 44.20N×148.70E, h31km±2km, mb4.8/2*
ISC 23 19:30:54.0±2.5, 44.14N±0.07×148.5E±0.1, h10km, n20, σ2§01/31, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.19**	**337**	*i* P	**Pg**	**19 31 16.1**	**-0.7**
KUR				AMB	AMB	19 31 17.0	
	150nm,0.2s						
KUR				*i* S	**Sg**	**19 31 31.4**	**-0.8**
KUR				A	A	19 31 32.3	
	550nm,0.2s						
KUR				A	A	19 31 32.3	
	660nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.92**	**268**	*e*P	**Pb**	**19 31 28.1**	**-0.9**
YUK				AMB	AMB	19 31 33.0	
	110nm,0.2s						
YUK				*e*S	**Sb**	**19 31 52.2**	**-0.8**
YUK				A	A	19 31 55.0	
	290nm,0.2s						
YUK				A	A	19 31 55.0	
	210nm,0.2s						
GRPR	**Tuman**	**1.99**	**267**	*i* S	**Sb**	**19 31 55.5**	**+0.5**
NEM2	**Nemuro 2**	**2.16**	**250**	P	**Pn**	**19 31 31.5**	**+1.5**
NEM2				*e*S	**Sn**	**19 31 58.0**	**+1.3**
NMR	**Nemuro--Hokkai**	**2.17**	**250**	*e*P	**Pb**	**19 31 32.0**	**-1.2**
NMR				*e*S	**Sb**	**19 31 59.1**	**-1.0**
GLVR	**Golovnino**	**2.20**	**260**	*e*P	**Pb**	**19 31 33.0**	**-0.9**
GLVR				*i* S	**Sb**	**19 32 01.0**	**-0.2**
GLVR				A	A	19 32 02.0	
	250nm,0.3s						
GLVR				A	A	19 32 02.0	
	280nm,0.3s						
JRA	**Rausu**	**2.46**	**266**	P	**Pb**	**19 31 37.0**	**-1.2**
JRA				*e*S	**Sb**	**19 32 07.3**	**-1.3**
JNSB	**Nemuroshibetsu**	**2.56**	**263**	P	**Pb**	**19 31 38.6**	**-1.5**
JKHN	**Kushirohamanak**	**2.66**	**248**	P	**Pn**	**19 31 39.0**	**+2.1**
JNK	**Nakash**	**2.80**	**260**	P	**Pn**	**19 31 41.2**	**+2.3**
JNK				*e*S	**Sn**	**19 32 15.0**	**+2.3**
AKK	**Akkeshi**	**2.90**	**248**	*e*P	**Pn**	**19 31 42.0**	**+1.8**
AKK				*e*S	**Sn**	**19 32 16.6**	**+1.5**
JAK	**Akkeshi**	**3.00**	**249**	P	**Pn**	**19 31 43.8**	**+2.2**
JAK				*e*S	**Sn**	**19 32 18.1**	**+0.4**
JTKR	**Abashiri--Toko**	**3.33**	**269**	P	**Pb**	**19 31 50.0**	**-3.1**
JAR	**Ashorobuto**	**3.54**	**258**	P	**Pn**	**19 31 52.4**	**+3.3**
JAR				*e*S	**Sn**	**19 32 33.4**	**+2.4**
JCH	**Churui**	**4.06**	**250**	P	**Pn**	**19 31 59.0**	**+2.9**
JNBK	**Urakawa-nobuka**	**4.61**	**248**	P	**Pn**	**19 32 06.0**	**+2.3**
JNBK				*e*S	**Sn**	**19 32 58.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.93**	**307**	*e*P	**Pn**	**19 32 10.2**	**+2.2**
JKB	**Kayabe**	**5.93**	**250**	*e*S	**Sn**	**19 33 28.8**	**-1.0**
JOT	**Ohata**	**6.15**	**246**	P	**Pn**	**19 32 26.5**	**+1.6**
JANG	**Nango**	**6.42**	**236**	*e*S	**Sn**	**19 33 37.0**	**-4.8**

*IDC **23** 19:39:55.4±1.0, 29.56S×176.53W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/30, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=33.7km s-min=24.3km az=158.0*
ISC 23 19:39:58.8±0.8, 29.64S±0.10×176.64W±0.10, h21km, n14, σ1§15/18, **mb4.0**/7, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.18**	**289**	Pn	**Pb**	**19 40 21.9**	**+1.3**
	191nm,0.3s,baz=244,slow=22,SNR=2.8			Sn			
RAO					**Sn**	**19 40 33.2**	**-2.4**
	453nm,0.3s,baz=279,slow=23,SNR=5.4						
URZ	**Urewera**	**10.04**	**209**	Pn	**Pn**	**19 42 20.7**	**-1.1**
	0.4nm,0.3s,baz=286,slow=20,SNR=0.9			Sn	**Sn**	**19 44 13.4**	**-0.3**
URZ	0.5nm,0.3s,baz=299,slow=24,SNR=1.1						
STKA	**Stephens Creek**	**35.81**	**256**	P	**P**	**19 46 57.6**	**+0.9**
	2.0nm,0.5s,baz=67,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**44.34**	**266**	P	**P**	**19 48 07.6**	**-0.1**
	1.7nm,0.7s,baz=102,slow=7.8,SNR=27						
ASAR				PcP	**PP**	**19 49 52.8**	**+1.6**
	0.5nm,0.8s,baz=129,slow=4.3,SNR=2.7						
WRA	**Warramunga Arr**	**45.26**	**271**	P	**P**	**19 48 14.6**	**-0.5**
	1.7nm,0.8s,baz=110,slow=6.6,SNR=6.5						
WRA				PcP	**PcP**	**19 49 55.8**	**+0.9**
	0.2nm,0.7s,baz=276,slow=11,SNR=1.5						
MJAR	**Matsushiro Arr**	**78.31**	**324**	P	**P**	**19 51 56.3**	**-1.0**
	1.6nm,0.8s,baz=163,slow=5.1,SNR=4.6						
KSRS	**Korea Array**	**84.55**	**319**	P	**P**	**19 52 31.2**	**+1.0**
	0.6nm,0.6s,baz=137,slow=5.7,SNR=4.6						
PETK	**Petropavlovsk-**	**85.39**	**345**	P	**P**	**19 52 34.0**	**-0.1**
	1.9nm,0.9s,baz=144,slow=11,SNR=2.4						
NVAR	**Mina Array Bea**	**86.88**	**42**	P	**P**	**19 52 41.4**	**-0.8**
	0.6nm,0.8s,baz=226,slow=5.6,SNR=4.2						
MKAR	**Makanchi Array**	**118.19**	**310**	PKP	**PKPdf**	**19 58 43.8**	**-0.4**
	0.5nm,0.7s,baz=79,slow=2.6,SNR=4.8						
FINES	**FINESS Array B**	**144.83**	**341**	PKP	**PKPab**	**19 59 31.4**	**-1.0**
	1.4nm,0.6s,baz=52,slow=3.4,SNR=7.0						
KBZ	**Khabaz**	**145.66**	**305**	PKPbc	**PKPab**	**19 59 37.0**	**+0.9**
	0.7nm,0.5s,baz=283,slow=0.9,SNR=3.9						
AKASG	**Malin Array Be**	**151.39**	**325**	PKPbc	**PKPbc**	**19 59 50.0**	**-0.6**
	3.2nm,0.8s,baz=47,slow=2.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**163.51**	**174**	PKPab	**PKPab**	**20 00 53.2**	**+1.4**
	0.7nm,0.7s,baz=207,slow=3.4,SNR=5.0						

IDC 23 19:41:51.4±5.3, 5.03S×132.23E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.2/25, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=347.7km s-min=33.5km az=74.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.97**	**172**	Pn	Pn	19 45 24.1	-0.3
	0.1nm,0.3s,baz=352,slow=13,SNR=1.2			Sn			
WRA					Sn	19 47 50.4	-21
	0.1nm,0.3s,baz=351,slow=20,SNR=1.2						
ASAR	**Alice Springs**	**18.60**	**175**	P	P	19 46 10.3	-0.1
	0.1nm,0.3s,baz=349,slow=9.6,SNR=7.4						
MKAR	**Makanchi Array**	**67.83**	**325**	P	P	19 52 51.6	+0.1
	0.1nm,0.3s,baz=115,slow=7.9,SNR=1.9						

*NEIC **23** 20:09:18.3±2.7, 29.50S±0.05×68.61W±0.08, h90km±4km, mb4.7/108, Mwr4.6/16, Md4.6(SJA), Error ellipse: s-maj=9.8km s-min=7.6km az=83.0*
*SJA **23** 20:09:18.9±0.6, 29.51S×68.68W, h110km±2km, ML4.6, MW4.4*
*NEIC **23** 20:09:18.2, 29.50S×68.58W, h116km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-5.14; $M_{\theta\theta}$-1.65; $M_{\phi\phi}$6.80; $M_{r\theta}$3.33; $M_{\theta\phi}$-5.77; $M_{r\phi}$1.74; Fault plane solution: $M_0$9.22000×10^{15} NP1:$\phi_0$298.88000°, δ58.62000°, λ-142.79000°. NP2:$\phi_0$187.31000°, δ58.92000°, λ-37.45000°. Principal axes: T 9.7212, Plg0.0000°, Azm243.0000°; N -1.0965, Plg43.0000°, Azm333.0000°; P -8.6247, Plg47.0000°, Azm153.0000°;*
*GUC **23** 20:09:19.6±0.7, 29.46S×68.94W, h139km±13km, ML5.2*
*VAO **23** 20:09:19.4±0.3, 29.53S×68.50W, h87km, mb4.5*
*IDC **23** 20:09:20.6±0.6, 29.50S×68.62W, h111km±4km, mb4.3/15, mb1 4.4/16, mb1mx4.3/24, mbtmp4.6/16, MS3.3/3, Ms1 3.3/3, ms1mx3.0/22, Error ellipse: s-maj=17.1km s-min=13.6km az=80.0*
ISC 23 20:09:19.6±0.4, 29.48S±0.03×68.70W±0.03, h107km±4km, n284, σ1§42/290, **mb4.7**/63, **12C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**0.18**	**92**	*e*P	**Pn**	**20 09 35.3**	**+0.6**
AGUA				*e*S	**Sn**	**20 09 46.6**	**+0.6**
ACDV	**Cuesta del Vie**	**0.78**	**208**	*e*P	**Pn**	**20 09 39.1**	**+0.5**
ACDV				*e*S	**Sn**	**20 09 53.6**	**+0.8**
ACDV				IAML		20 09 59.6	
	comp=Z,5μm,0.7s						
VCA	**Vinchina**	**0.86**	**30**	⇑*i*P	**Pn**	**20 09 40.5**	**+1.2**
VCA				*i* S	**Sn**	**20 09 56.1**	**+2.0**
VCA	**Vinchina**	**0.86**	**30**	*e*P	**Pn**	**20 09 40.5**	**+1.2**
VCA				*e*S	**Sn**	**20 09 55.3**	**+1.2**
VCA				IAML		20 09 57.5	
	comp=Z,44μm,0.6s						
AROD	**Rodeo**	**0.96**	**224**	*e*P	**Pn**	**20 09 41.1**	**+0.7**
ACCO	**Cerro Coronel**	**1.15**	**196**	*e*P	**Pn**	**20 09 42.9**	**+0.4**
ACCO				*e*S	**Pn**	**20 09 42.9**	**+0.4**
ACLC	**CERRO LA CRUZ**	**1.53**	**88**	*e*P	**Pn**	**20 09 47.4**	**+0.6**
ACLC				*e*S	**Sn**	**20 10 07.8**	**+0.5**
ACLC				IAML		20 10 08.6	
	comp=Z,8μm,0.3s						
LCO	**Las Campanas**	**1.81**	**285**	*i* S	**Sn**	**20 10 14.5**	**+0.9**
LCO	**Las Campanas**	**1.81**	**285**		**Pn**	**20 09 51.0**	**+0.7**
LCO				Sn	**Sn**	**20 10 14.1**	**+0.5**
RTLL	**Cerro Villicun**	**1.85**	**174**	⇑*i*P	**Pn**	**20 09 51.0**	**+0.3**
RTLL				*i* S	**Sn**	**20 10 14.1**	**-0.2**
RTLL	**Cerro Villicun**	**1.85**	**174**	*e*P	**Pn**	**20 09 51.0**	**+0.3**
RTLL				*e*S	**Sn**	**20 10 14.1**	**-0.2**
RTLL				IAML		20 10 15.3	
	comp=Z,12μm,0.4s						
GO04	**Tololo Observa**	**1.95**	**249**	⇑*i*P	**Pn**	**20 09 52.4**	**+0.4**
GO04				*i* S	**Sn**	**20 10 17.6**	**+0.9**
GO04				IAML		20 10 19.4	
	comp=N,41μm,0.4s						
GO04	**Tololo Observa**	**1.95**	**249**		**Pn**	**20 09 52.5**	**+0.4**
GO04	**Tololo Observa**	**1.95**	**249**	*e*P	**Pn**	**20 09 52.5**	**+0.4**
GO04				*e*S	**Sn**	**20 10 18.2**	**+1.5**
ZON	**Zonda**	**2.06**	**179**	Pn	**Pn**	**20 09 53.4**	**+0.1**
ZON	**Zonda**	**2.06**	**179**	*e*P	**Pn**	**20 09 53.4**	**+0.1**
ZON				*e*S	**Sn**	**20 10 18.7**	**-0.3**
ZON				IAML		20 10 23.9	
	comp=Z,2μm,1.3s						
APLL	**PUNTA DE LOS L**	**2.10**	**116**	*e*P	**Pn**	**20 09 54.1**	**+0.4**
CO03	**El Pedregal**	**2.19**	**231**	⇑*i*P	**Pn**	**20 09 55.6**	**+0.6**
CO03				*i* S	**Sn**	**20 10 23.3**	**+1.3**
CO03				IAML		20 10 25.1	
	comp=E,11μm,0.3s						
CO03	**El Pedregal**	**2.19**	**231**		**Pn**	**20 09 55.6**	**+0.6**
CO03	**El Pedregal**	**2.19**	**231**	*e*P	**Pn**	**20 09 55.6**	**+0.6**
CO03				*e*S	**Sn**	**20 10 22.8**	**+0.8**
CO03				IAML		20 10 28.9	
	comp=Z,6μm,0.5s						
CO05	**La Serena**	**2.25**	**258**	⇑*i*P	**Pn**	**20 09 55.0**	**-0.7**
CO05				*i* S	**Sn**	**20 10 22.0**	**-1.2**
GO03	**Copiap**	**2.31**	**324**	⇓*i*P	**Pn**	**20 09 57.0**	**+0.5**
GO03				*i* S	**Sn**	**20 10 25.6**	**+0.7**
GO03	**Copiap**	**2.31**	**324**		**Pn**	**20 09 57.0**	**+0.5**
GO03	**Copiap**	**2.31**	**324**	*e*P	**Pn**	**20 09 57.1**	**+0.5**
GO03				*e*S	**Sn**	**20 10 25.6**	**+0.7**
RTLS	**Leoncito**	**2.37**	**192**	*e*P	**Pn**	**20 09 58.1**	**+0.6**
RTLS				*e*S	**Sn**	**20 10 27.0**	**+0.6**
RTLS				IAML		20 10 28.4	
	comp=Z,2μm,0.3s						
RTCV	**Cerro Valdivia**	**2.38**	**177**	*e*P	**Pn**	**20 09 58.0**	**+0.6**
RTCV				*e*S	**Sn**	**20 10 26.1**	**-0.2**
AC04	**Llanos de Chal**	**2.44**	**301**	⇑*i*P	**Pn**	**20 09 58.1**	**0.0**
AC04				*i* S	**Sn**	**20 10 26.6**	**-1.1**
AC04	**Llanos de Chal**	**2.44**	**301**		**Pn**	**20 09 57.9**	**-0.2**
CO02	**Combarbal**	**2.63**	**229**		**Pn**	**20 10 00.3**	**-0.4**
AC02	**Maricunga**	**2.66**	**352**	⇑*i*P	**Pn**	**20 10 03.5**	**+2.0**
AC02				*i* S	**Sn**	**20 10 37.2**	**+3.5**
AC02	**Maricunga**	**2.66**	**352**	Pn	**Pn**	**20 10 03.6**	**+2.0**
CYA	**Choya**	**2.74**	**69**	⇑*i*P	**Pn**	**20 10 02.6**	**+0.5**
CYA				*i* S	**Sn**	**20 10 34.7**	**-0.2**
CYA		

VA03 San Esteban 3.64 205 Pn P 20 10 13.9 -0.2
VA03 San Esteban 3.64 205 *eP* Pn P 20 10 13.9 -0.2
VA03 IAML 20 11 31.9
comp=Z,2µm,0.6s
AC01 Pan de Azucar 3.72 333 *i* P Pn P 20 10 15.0 -0.2
AC01 Pan de Azucar 3.72 333 Pn Pn P 20 10 14.9 -0.2
MRA San Martin 3.89 140 *eP* Pn P 20 10 17.5 0.0
MRA IAML 20 11 44.1
comp=Z,569nm,0.6s
ROCH El Roble 4.00 209 ⇑*iP* Pn P 20 10 17.7 -1.4
ROCH *i* S Sn P 20 11 05.5 +0.2
ROCH IAML 20 11 31.1
comp=N,2µm,0.6s
ROC1 El Roble 4.01 209 *eP* Pn P 20 10 18.0 -1.2
FSA Cafayete 4.13 36 *eP* Pn P 20 10 22.1 +1.2
MT05 Renca 4.27 204 Pn P 20 10 21.4 -1.2
MT03 Universidad Ad 4.29 201 Pn P 20 10 22.4 -0.5
MT03 Universidad Ad 4.29 201 *eP* Pn P 20 10 22.3 -0.5
MT03 IAML 20 11 16.7
comp=Z,942nm,0.7s
MT02 Curacav 4.30 208 Pn Pn P 20 10 20.7 -2.3
VA01 Torpederas 4.34 215 Pn Pn P 20 10 20.7 -2.7
GO02 Mina Guanaco 4.37 349 ⇑*iP* Pn P 20 10 24.6 +0.4
GO02 *i* S Sn P 20 11 11.4 -3.0
GO02 IAML 20 11 28.8
comp=N,787nm,0.6s
GO02 Mina Guanaco 4.37 349 Pn Pn P 20 10 24.5 +0.2
MT09 Talagante 4.71 204 Pn P 20 10 26.0 -2.5
VA05 Santo Domingo 4.85 210 Pn Pn P 20 10 27.1 -3.1
MT01 Popeta 4.88 206 Pn P 20 10 28.0 -2.8
PB14 IPOC Station P 5.07 342 Pn Pn P 20 10 32.7 -0.9
PB14 IPOC Station P 5.07 342 *eP* Pn P 20 10 33.5 -0.2
PB14 IAML 20 11 44.5
comp=Z,288nm,0.7s
BO01 Tunca 5.30 202 Pn Pn P 20 10 33.0 -3.4
LAMA Las Malvinas 5.46 184 *eP* Pn P 20 10 37.4 -1.2
SLA San Lorenzo 5.53 32 *eP* Pn P 20 10 40.6 +0.8
SLA IAML 20 12 10.9
comp=Z,116nm,1.1s
BO02 Sierra Bellavi 5.58 198 Pn P 20 10 38.1 -2.2
BO02 Sierra Bellavi 5.58 198 *eP* Pn P 20 10 38.1 -2.2
BO02 IAML 20 12 29.1
comp=Z,255nm,0.6s
COIS El Sosneado 5.66 187 *eP* Pn P 20 10 40.9 -0.5
PUMA Malargue 6.03 186 *eP* Pn P 20 10 45.4 -0.9
GO05 Huala 6.15 206 Pn Pn P 20 10 43.6 -4.4
PB10 IPOC Station P 6.17 344 Pn P 20 10 45.9 -2.4
PB10 IPOC Station P 6.17 344 *eP* Pn P 20 10 46.6 -1.6
PB10 IAML 20 12 14.7
comp=Z,123nm,0.7s
PB15 IPOC Station P 6.29 354 Pn P 20 10 49.1 -0.9
PB05 IPOC Station P 6.74 348 *eP* Pn P 20 10 53.5 -2.6
PB05 IAML 20 12 25.3
comp=Z,112nm,0.8s
PB06 IPOC Station P 6.79 353 Pn P 20 10 55.1 -1.8
LVC Limon Verde 6.84 358 P Pn P 20 10 57.1 -0.7
comp=Z,23nm,0.3s,baz=180,slow=9.2,SNR=146
LVC S Sn P 20 12 09.1 -5.3
comp=Z,16nm,0.3s,baz=59,slow=22,SNR=7.2
LVC Limon Verde 6.84 358 Pn Pn P 20 10 56.5 -1.3
LVC Limon Verde 6.84 358 *eP* Pn P 20 10 56.7 -1.1
LVC Limon Verde 6.84 358 *eP* Pn P 20 10 56.8 -1.1
LVC IAML 20 12 53.0
comp=Z,61nm,0.6s
HJA Humahuaca 6.91 26 *eP* Pn P 20 10 59.6 +0.9
PB04 IPOC Station P 7.24 349 Pn Pn P 20 10 59.9 -3.1
PB04 IPOC Station P 7.24 349 IAML 20 12 43.9
comp=Z,137nm,1.4s
PB09 IPOC Station P 7.67 356 Pn P 20 11 07.6 -1.2
PB09 IPOC Station P 7.67 356 *eP* Pn P 20 11 07.8 -1.0
PB07 IPOC Station P 7.79 352 Pn P 20 11 07.4 -3.1
PB01 IPOC Station P 8.43 355 Pn P 20 11 15.9 -3.1
TA01 Diego Aracena 8.98 351 Pn Pn P 20 11 24.2 -2.2
PB08 IPOC Station P 9.31 357 Pn P 20 11 28.1 -3.1
PB11 IPOC Station P 9.72 355 Pn P 20 11 32.1 -4.5
TRQA Tornquist 10.22 149 Pn P 20 11 40.5 -2.7
TRQA Tornquist 10.22 149 *eP* Pn P 20 11 41.8 -1.4
MNMC Minye Minye 10.34 355 Pn Pn P 20 11 42.0 -3.2
ITQB Itaqui 10.52 94 Pn P 20 11 43.6 -3.7
ITQB Itaqui 10.52 94 *eP* Pn P 20 11 44.0 -3.3
CPUP Villa Florida 10.54 75 P Pn P 20 11 44.3 -3.2
comp=Z,2.0nm,0.3s,baz=260,slow=13,SNR=29
CPUP S Sn P 20 13 37.0 -6.6
comp=Z,0.6nm,0.3s,baz=237,slow=18,SNR=1.1
CPUP LR LR 20 16 10.3
comp=Z,113nm,20.1s,baz=240,slow=39
CPUP Villa Florida 10.54 75 Pn Pn P 20 11 43.5 -4.1
CPUP Villa Florida 10.54 75 *eP* Pn P 20 11 45.4 -2.2
PB16 IPOC Station P 11.12 355 Pn P 20 11 53.7 -2.3
PLCA Paso Flores 11.33 187 P Pn P 20 11 55.6 -2.6
comp=Z,1.1nm,0.3s,baz=13,slow=14,SNR=15
PLCA Paso Flores 11.33 187 Pn P 20 11 54.2 -4.0
PLCA Paso Flores 11.33 187 *eP* Pn P 20 11 55.5 -2.7
LPAZ La Paz 13.14 2 P Pn P 20 12 21.1 -1.6
comp=Z,0.7nm,0.3s,baz=112,slow=6.1,SNR=7.7
LPAZ La Paz 13.14 2 Pn P 20 12 20.8 -2.0
LPAZ La Paz 13.14 2 *eP* Pn P 20 12 25.5 +2.7
PLTB Pedras Altas 13.20 104 Pn Pn P 20 12 16.9 -6.0
PLTB Pedras Altas 13.20 104 *eP* Pn P 20 12 21.4 -1.5
CPSB Cacapava Do Su 13.27 98 *eP* Pn P 20 12 21.8 -2.0
GO07 Milladeo Hill, 14.18 195 P Pn P 20 12 34.8 -0.6
ITAB Concordia 14.76 85 *eP* Pn P 20 12 42.8 -0.2
AQDB Aquidauana 14.80 56 Pn Pn P 20 12 40.5 -3.1
AQDB Aquidauana 14.80 56 *eP* Pn P 20 12 41.6 -1.9
SIV San Ignacio 15.15 29 P Pn P 20 12 45.7 -2.3
comp=Z,1.0nm,0.3s,baz=242,slow=12,SNR=5.1
PTGB Pitanga 15.55 76 *eP* Pn P 20 12 52.5 -0.6
TER01 Tubaro-SC 17.15 92 *eP* P P 20 13 11.6 -1.1
PP1B Ponte de Pedra 17.31 50 *eP* P P 20 13 14.5 -0.1
PCMB Pacaembu 17.57 68 *eP* Pn P 20 13 17.5 -0.3
TIJ01 Guaruva-PR 17.97 81 *eP* Pn P 20 13 22.1 -0.7
SALV Santo Antonio 18.05 44 *eP* Pn P 20 13 23.7 0.0
VILB Vilhena 18.24 27 *eP* P P 20 13 25.4 +0.7
NNA Nana 18.98 335 LR LR 20 19 27.5
comp=Z,49nm,20.5s,baz=190,slow=32
ITRB Iturama 19.29 64 *eP* P P 20 13 36.1 -0.1
ETMB Extrema 19.70 7 *eP* Pn P 20 13 42.5 -0.6
BB19B Bebedouro 20.06 70 *eP* P P 20 13 43.7 -0.9
RCLB Rio Claro- Sao 20.28 75 *eP* P P 20 13 46.5 -0.4
VAO Valinhos 20.52 77 *eP* P P 20 13 49.8 +0.2
ARAG Araguaiana, MT 20.73 52 *eP* P P 20 13 51.1 -0.6
SAML Samuel 21.07 15 P P IAmb IAmb 20 13 55.7 +0.3
SAML IAmb IAmb 20 13 58.8
comp=Z,11nm,0.5s
IPMB Ipameri, GO 21.93 63 *eP* P P 20 14 03.8 -0.8
CZSB Cruzeiro do Su 21.96 349 *eP* P P 20 14 06.8 +2.0
BSCB Bom Sucesso 23.20 74 *eP* P P 20 14 17.0 -0.4
BDFB Brasilia 23.50 59 P P P 20 14 19.6 -0.6
comp=Z,9.8nm,0.5s,baz=217,slow=6.5,SNR=11
BDFB Brasilia 23.50 59 P P P 20 14 18.8 -1.4
BDFB IAmb IAmb 20 14 20.4
comp=Z,24nm,1.2s
SNDB Serra Nova Dou 23.79 47 *eP* P P 20 14 21.9 -0.7
VAS01 Vassouras-RJ 23.80 78 *eP* P P 20 14 22.9 +0.1
DIAM Diamantina, MG 25.39 70 *eP* P P 20 14 37.6 +0.2
NPGB Novo Progresso 25.61 32 *eP* P P 20 14 38.8 -0.4
PEXB Peixe 25.67 52 *eP* P P 20 14 40.3 +0.6
MC01 Montes Claros 26.02 66 *eP* P P 20 14 42.5 -0.4
JANB Januaria 26.67 63 *eP* P P 20 14 48.6 -0.2
SJMB Sao Joao De Ma 27.25 73 *eP* P P 20 14 53.8 -0.1
BSFB Barra de Sao F 27.47 74 *eP* P P 20 14 55.4 -0.5
ITTB Itaituba 27.84 29 *eP* P P 20 15 01.3 +2.2
SDBA SAO DESIDERIO 27.88 57 *eP* P P 20 15 00.4 +0.8
SMTB Santa Maria do 28.51 48 *eP* P P 20 15 05.9 +0.7
GUA01 Guaratinga, BA 29.44 71 *eP* P P 20 15 14.0 +0.7
PTGA Pitinga 29.78 18 P P P 20 15 17.4 +1.0
comp=Z,5.2nm,0.4s,baz=187,slow=7.7,SNR=8.1
PTGA pP pP 20 15 42.5 +1.9
comp=Z,4.0nm,0.4s,baz=206,slow=12,SNR=2.8
PTGA Pitinga 29.78 18 P P P 20 15 15.4 -0.9
PTGA IAmb IAmb 20 15 55.0
comp=Z,6.4nm,0.6s
CMC01 Camacan, BA 30.31 69 *eP* P P 20 15 22.3 +1.2
NBIT Itapeh - BA 30.61 68 *eP* P P 20 15 23.8 0.0
GDU01 Guandu, BA 31.17 66 *eP* P P 20 15 28.2 -0.5
NBPN Ponto Novo - B 32.41 61 *eP* P P 20 15 39.1 -0.5
BOAV Boa Vista 32.65 15 *eP* P P 20 15 42.1 +0.5
MCPB Macapa, AP 33.02 32 *eP* P P 20 15 46.4 +1.5
ORTC Ortega, Tolima 33.79 348 *eP* P P 20 15 40.4 -11
TOLC Tolima 34.46 348 *eP* P P 20 15 58.9 +1.2
RREF El Recreo 34.77 348 *eP* P P 20 15 52.1 -8.6
GUY2C Guyana, Caldas 35.09 348 *eP* P P 20 15 50.8 -12

ROSB Rosrio 35.26 46 *eP* P P 20 16 05.1 +0.8
NORC Norcasia 35.34 349 *eP* P P 20 15 53.6 -11
RUSC La Rusia 35.42 352 P P P 20 16 06.4 +0.3
PMSA Palmer Station 35.43 177 *eP* P P 20 16 08.1 +3.1
NBMA Muriti-CE 35.73 58 *eP* P P 20 16 08.6 +0.3
NBPS Pedro II - PI 35.89 51 *eP* P P 20 16 09.8 +0.1
HELC Santa Helena 36.07 348 *eP* P P 20 16 11.9 +0.4
NBAN Anadia - AL 36.16 64 *eP* P P 20 16 11.8 -0.1
DBBC Dabeiba 37.00 348 *iP* P P 20 16 18.9 -0.1
ZARC Zaragoza, Cauc 37.23 350 *eP* P P 20 16 19.0 -2.0
SOCV Socops 37.60 357 *eP* P P 20 16 23.2 -0.9
MDP Montagnes des 37.69 27 P P P 20 16 25.1 +0.4
comp=Z,14nm,0.6s,baz=209,slow=7.9,SNR=13
SMLC San Martin de 38.41 351 *eP* P P 20 16 29.4 -1.4
SJCC San Jacinto, C 39.64 350 P P P 20 16 41.0 -0.1
SJCC San Jacinto, C 39.64 350 *eP* P P 20 16 40.5 -0.7
CBYP Canovanas 47.55 4 P P P 20 17 43.0 -1.5
VNA3 Neumayer Olymp 52.52 160 P P P 20 18 21.8 +0.3
VNA1 Neumayer--Stat 52.77 159 P P P 20 18 23.5 +0.3
SNAA Sanae 54.74 159 P P P 20 18 37.9 +0.2
SNAA Sanae 54.74 159 P P P 20 18 37.7 0.0
SNAA IAmb IAmb 20 18 38.9
comp=Z,7.3nm,0.9s
QSPA South Pole Qui 60.74 180 P P P 20 19 20.3 +0.4
QSPA IAmb IAmb 20 19 21.5
comp=Z,7.5nm,0.7s
X51A Calhoun 65.50 345 P P P 20 19 50.7 -0.7
X48A Hartselle 65.91 343 P P P 20 19 53.8 -0.2
X48A IAmb IAmb 20 19 55.0
comp=Z,10nm,1.0s
PLAL Pickwick Lake 66.67 343 P P P 20 19 58.4 -0.5
PLAL IAmb IAmb 20 20 45.3
comp=Z,5.6nm,0.9s
V48A Smith Brothers 67.08 344 P P P 20 20 00.9 -0.5
TXAR Lajitas Array 67.34 327 P P P 20 20 04.5 +1.2
comp=Z,2.6nm,0.7s,baz=155,slow=9.1,SNR=20
TXAR Lajitas Array 67.34 327 P P P 20 20 03.8 +0.4
TX31 Lajitas Ar. Si 67.34 327 IAmb IAmb 20 20 05.0
comp=Z,8.4nm,0.8s
TX32 Lajitas Array 67.34 327 P P P 20 20 03.2 -0.1
WVT Waverly 67.70 343 P P P 20 20 04.8 -0.5
MIAR Mount Ida 67.88 338 P P P 20 20 05.7 -0.8
MIAR IAmb IAmb 20 20 08.0
comp=Z,10.0nm,1.2s
WHAR Wooly Hollow 68.16 339 IAmb IAmb 20 20 09.5
comp=Z,10nm,1.0s
X37A Clayton 68.52 337 P P P 20 20 10.3 -0.2
X37A IAmb IAmb 20 20 12.9
comp=Z,5.7nm,0.8s
LCAR Lake Charles 68.54 341 P P P 20 20 11.0 +0.5
W39A Magazine 68.54 338 P P P 20 20 11.3 +0.7
W39A IAmb IAmb 20 20 12.7
comp=Z,10nm,0.8s
VNDA Vanda 69.06 190 P P P 20 20 14.7 +1.3
comp=Z,0.9nm,0.9s,baz=103,slow=3.9,SNR=3.9
P57A Homestead Farm 69.16 352 P P P 20 20 15.2 +0.9
HHAR Hobbs 69.59 338 IAmb IAmb 20 20 18.4
comp=Z,9.8nm,0.9s
MGMO Mountain Grove 69.87 340 IAmb IAmb 20 20 20.2
comp=Z,13nm,1.1s
MNTX Coudas Mount 70.12 327 P P P 20 20 20.2 -0.2
N58A Sunbury 70.36 354 IAmb IAmb 20 20 59.0
comp=Z,14nm,1.0s
CCM Cathedral Cave 70.42 341 P P P 20 20 22.1 0.0
LIC Lamto 70.63 71 *eP* P P 20 20 23.8 -0.2
comp=Z,44nm,1.0s
MSTX Muleshoe 70.86 330 IAmb IAmb 20 20 26.5
comp=Z,15nm,0.8s
TIC Toumodi 70.87 70 *eP* P P 20 20 25.1 -0.3
KIC Kosan Boka 70.94 71 *eP* P P 20 20 26.1 +0.2
comp=Z,31nm,0.9s
DBIC Dimbokro 71.02 71 P P P 20 20 26.9 +0.6
comp=Z,11nm,0.6s,baz=204,slow=5.7,SNR=16
DBIC Dimbokro 71.02 71 P P P 20 20 26.1 -0.2
319A Douglas 71.78 324 IAmb IAmb 20 20 33.4
comp=Z,9.6nm,0.8s
121A Cookes Peak, D 71.96 326 IAmb IAmb 20 20 34.7
comp=Z,9.5nm,0.9s
P40A Paris 72.02 341 P P P 20 20 31.6 -0.1
P38A Dawn 72.53 340 IAmb IAmb 20 20 35.4
comp=Z,8.5nm,0.6s
K50A Canton 73.03 349 P P P 20 20 37.5 -0.1
214A Organ Pipe Nat 74.08 322 IAmb IAmb 20 20 47.0
comp=Z,8.7nm,0.9s
L40A Anamosa 74.16 343 P P P 20 20 44.2 -0.1
T25A Trinidad 74.25 331 IAmb IAmb 20 20 47.9
comp=Z,8.2nm,1.0s
W18A Petrified Fore 75.00 326 P P P 20 20 50.3 +0.7
W18A IAmb IAmb 20 20 52.3
comp=Z,11nm,1.1s
X16A Lo Nila Camp, P 75.29 325 IAmb IAmb 20 20 54.1
comp=Z,4.9nm,0.8s
MVCO Mesa Verde 76.11 328 IAmb IAmb 20 20 58.0
comp=Z,5.0nm,0.7s
WUAZ Wupatki 76.12 325 P P P 20 20 57.8 +1.8
WUAZ IAmb IAmb 20 20 58.9
comp=Z,7.7nm,0.9s
KOWA Kowa 76.15 64 P P P 20 20 56.9 +0.6
KOWA IAmb IAmb 20 20 57.4
comp=Z,9.3nm,0.8s
I37A Lemond, Waseca 76.56 342 P P P 20 20 57.9 0.0
MAW Mawson 76.67 163 P P P 20 20 59.0 +0.6
comp=Z,5.0nm,0.5s,baz=218,slow=6.4,SNR=14
MAW Mawson 76.67 163 P P P 20 20 58.6 +0.2
ISCO Idaho Springs 77.00 332 P P P 20 21 02.1 +1.2
PV13 Radium Mtn., P 77.03 329 IAmb IAmb 20 21 03.5
comp=Z,6.1nm,0.8s
SMCO Snowmass 77.06 330 IAmb IAmb 20 21 04.3
comp=Z,6.1nm,0.8s
W13A Hualapai Mount 77.08 323 P P P 20 21 02.4 +1.1
ECSD EROS Data Cent 77.22 340 P P P 20 21 01.8 +0.1
ECSD IAmb IAmb 20 21 03.0
comp=Z,15nm,1.0s
U15A North Rim 77.30 325 P P P 20 21 04.4 +1.7
PFO Pinyon Flats O 77.33 321 LR LR 20 50 21.4
comp=Z,53nm,18.5s,baz=212,slow=32
TSUM Tsumeb 77.67 105 P P P 20 21 05.2 +0.1
TSUM IAmb IAmb 20 21 06.8
comp=Z,12nm,0.8s
KNB Kanab 78.03 325 IAmb IAmb 20 21 09.6
comp=Z,11nm,1.1s
F36A Milaca 78.30 343 IAmb IAmb 20 21 08.3
comp=Z,9.9nm,0.7s
O20A White River Ci 78.40 330 P P P 20 21 10.1 +1.6
O20A IAmb IAmb 20 21 11.2
comp=Z,9.7nm,0.9s
CCUT Cedar City 78.71 325 IAmb IAmb 20 21 13.5
comp=Z,5.1nm,0.8s
RWWY Rawlins 79.25 332 IAmb IAmb 20 21 14.6
comp=Z,12nm,0.9s
PRN Pahroc Range 79.45 324 IAmb IAmb 20 21 17.2
comp=Z,7.3nm,1.1s
BOSA Boshof 79.61 117 P P P 20 21 15.7 +0.1
comp=Z,12nm,0.5s,baz=256,slow=3.6,SNR=48
BOSA Boshof 79.61 117 P P P 20 21 15.2 -0.3
K22A Casper 79.77 333 IAmb IAmb 20 21 18.4
comp=Z,11nm,1.1s
TOA0 Torodi Ar. Sit 79.96 69 P P P 20 21 17.3 -0.1
TORD Torodi Ar. Bea 79.96 69 P P P 20 21 17.6 +0.2
comp=Z,15nm,0.7s,baz=278,slow=6.0,SNR=92
TORD pP pP 20 21 45.6 +0.5
comp=Z,4.3nm,0.6s,baz=273,slow=5.5,SNR=6.2
RSSD Black Hills 80.06 335 P P P 20 21 18.3 +0.8
RSSD IAmb IAmb 20 21 19.3
comp=Z,7.4nm,0.6s
HWUT Hardware Ranch 81.06 329 P P P 20 21 23.7 +0.8
PDAR Pinedale Array 81.12 331 P P P 20 21 23.9 +0.7
comp=Z,1.3nm,0.5s,baz=132,slow=5.4,SNR=17
PDAR pP pP 20 21 53.0 +1.3
comp=Z,1.2nm,0.7s,baz=130,slow=7.3,SNR=3.8
AGMN Agassiz Nation 81.17 342 IAmb IAmb 20 21 24.1
comp=Z,11nm,0.7s
LBTB Lobatse 81.57 114 P P P 20 21 25.8 -0.2
NVAR Mina Array Bea 81.91 323 P P P 20 21 28.4 +0.9
comp=Z,0.7nm,0.6s,baz=143,slow=8.2,SNR=8.1
FLWY Flagg Ranch 82.67 331 IAmb IAmb 20 21 33.6
comp=Z,9.7nm,1.2s
RLMT Red Lodge 82.93 332 P P P 20 21 33.2 +0.5
RLMT IAmb IAmb 20 21 34.5
comp=Z,7.1nm,1.0s
ULM Lac du Bonnet 82.96 343 P P P 20 21 32.9 +0.5
comp=Z,8.5nm,0.8s,baz=127,slow=3.3,SNR=7.3
ULM Lac du Bonnet 82.96 343 P P P 20 21 31.6 -0.7
ULM IAmb IAmb 20 21 33.3
comp=Z,10nm,0.8s

YHH Holmes Hill 83.31 331 IAmb IAmb 20 21 37.1
comp=Z,6.9nm,0.9s
SCHQ Schefferville 83.98 1 P P P 20 21 37.9 +0.3
comp=Z,3.6nm,0.6s,baz=169,slow=5.6,SNR=4.0
J08A Circle Bar Ran 85.66 326 P P P 20 21 47.3 +0.9
J08A IAmb IAmb 20 21 48.5
comp=Z,13nm,1.2s
K05A Summer Lake 86.39 324 IAmb IAmb 20 21 52.6
comp=Z,7.2nm,0.9s
JTMT Jette 87.10 331 IAmb IAmb 20 21 54.7
comp=Z,6.5nm,0.5s
PINE Pine Mountain 87.19 325 P P P 20 21 54.8 +0.8
PINE IAmb IAmb 20 21 56.3
comp=Z,7.1nm,0.8s
WALA Waterton Lakes 87.98 332 P P P 20 21 58.0 +0.5
WALA IAmb IAmb 20 21 59.1
comp=Z,9.5nm,0.9s
LSZ Lusaka 88.44 107 P P P 20 22 01.3 +0.8
LSZ IAmb IAmb 20 22 03.0
comp=Z,6.7nm,1.0s
H04A Detroit Lake 88.45 325 IAmb IAmb 20 22 01.7
comp=Z,7.4nm,1.0s
ESDC Sonseca Array 91.39 44 P P P 20 22 13.9 +0.4
comp=Z,0.3nm,0.5s,baz=244,slow=4.7,SNR=4.9
ESDC Sonseca Array 91.39 44 IAmb IAmb 20 22 57.0
comp=Z,4.2nm,1.7s
YKA Yellowknife Ar 98.74 340 P Pdif 20 22 46.7 +0.3
comp=Z,1.4nm,0.8s,baz=138,slow=4.3,SNR=5.1
AKASG Malin Array Be 117.02 45 PKP PKiKP 20 27 51.1 -0.4
comp=Z,0.4nm,0.4s,baz=260,slow=2.6,SNR=7.3
ASAR Alice Springs 122.86 205 PKP PKPdf 20 28 03.1 -0.7
comp=Z,1.6nm,0.8s,baz=139,slow=1.9,SNR=16
ASAR pPKP pPKPdf 20 28 32.9 -1.0
comp=Z,0.7nm,0.7s,baz=150,slow=1.7,SNR=2.9
ASAR PKKPbc PKKPbc 20 37 55.8 -0.4
comp=Z,0.4nm,0.5s,baz=343,slow=4.0,SNR=4.7
KBZ Khabaz 124.75 55 PKP PKiKP 20 28 07.2 +0.3
comp=Z,1.7nm,0.7s,baz=285,slow=1.8,SNR=5.1
WRA Warramunga Arr 126.07 207 PKP PKiKP 20 28 09.7 -0.7
comp=Z,3.2nm,0.5s,baz=161,slow=1.8,SNR=59
WRA pPKP pPKPdf 20 28 39.6 -0.5
comp=Z,1.3nm,0.5s,baz=138,slow=1.9,SNR=4.7
WRA Warramunga Arr 126.07 207 PKPdf PKPdf 20 28 09.6 -0.4
BELG Belogornoye 128.60 45 PKP PKiKP 20 28 13.8 -0.6
comp=Z,5.2nm,0.6s,baz=40,slow=3.1,SNR=5.7
ARU Arti 134.46 38 PKP PKiKP 20 28 25.3 -0.8
comp=Z,0.8nm,0.5s,baz=359,slow=5.8,SNR=6.3
AKTO Aktyubinsk 135.22 47 PKP PKiKP 20 28 26.9 -0.9
comp=Z,1.4nm,0.7s,baz=315,slow=2.0,SNR=4.6
BVAR Borovoye Array 142.02 40 PKP PKPdf 20 28 39.1 +0.4
comp=Z,0.7nm,0.7s,baz=147,slow=6.7,SNR=4.1
LEM Lembang 143.73 174 PKP PKPdf 20 28 42.0 -1.1
comp=Z,22nm,0.6s,baz=76,slow=5.1,SNR=5.9
KAPI Kappang 144.75 195 PKP PKPdf 20 28 44.7 0.0
comp=Z,24nm,0.9s,baz=144,slow=4.4,SNR=10
KAPI Kappang 144.75 195 PKPdf PKPdf 20 28 44.4 -0.3
KURBB Kurchatov Arra 147.62 40 PKPbc PKPbc 20 28 49.7 -1.5
comp=Z,11nm,0.6s,baz=304,slow=3.1,SNR=65
KURBB pPKPbc pPKPbc 20 29 21.2 +0.7
comp=Z,2.7nm,0.5s,baz=302,slow=3.4,SNR=4.1
KURK Kurchatov 147.62 40 PKPbc 20 28 49.7 -1.5
ZALV Zalesovo Beam 148.90 31 PKP PKPdf 20 28 50.8 +0.5
comp=Z,25nm,0.6s,baz=294,slow=1.8,SNR=16
ZALV PKPbc PKiKP 20 28 54.7 -1.0
comp=Z,25nm,0.6s,baz=303,slow=3.5,SNR=52
ZALV pPKPbc pPKPbc 20 29 24.2 +0.3
comp=Z,5.9nm,0.5s,baz=297,slow=3.6,SNR=3.9
ZALV Zalesovo Beam 148.90 31 PKPdf PKPdf 20 28 50.0 -0.4
ZALV PKPbc PKiKP 20 28 54.9 -0.8
ZALV PKPab PKPab 20 28 59.7 +1.0
KSH Kashi 149.38 61 PKPbc PKiKP 20 28 56.8 -0.6
KSH sPKP 20 29 26.5
KSH PP PP 20 32 35.9 +6.1
KSH L L
comp=Z,140nm,6.4s
KSH L L
comp=Z,140nm,9.2s
KSH L L
comp=Z,150nm,5.4s
MKAR Makanchi Array 151.60 44 PKPbc PKiKP 20 29 01.3 -0.3
comp=Z,11nm,0.7s,baz=292,slow=2.1,SNR=50
MKAR PKPab PKPab 20 29 10.7 +0.5
comp=Z,6.6nm,0.6s,baz=81,slow=3.8,SNR=3.9
MKAR pPKPbc pPKPbc 20 29 31.6 +0.8
comp=Z,4.7nm,0.7s,baz=321,slow=2.1,SNR=4.7
MKAR Makanchi Array 151.60 44 PKPdf PKPdf 20 28 53.4 -1.5
MJAR Matsushiro Arr 156.41 294 PKPab PKPab 20 29 31.6 +0.6
comp=Z,0.6nm,0.5s,baz=190,slow=1.6,SNR=5.6
SONM Songino Array 161.28 10 PKP PKPdf 20 29 08.0 +0.5
comp=Z,0.6nm,0.8s,baz=252,slow=0.9,SNR=5.1
SONM PKPab PKPab 20 29 52.6 +0.8
comp=Z,1.2nm,0.8s,baz=323,slow=3.5,SNR=5.5
KSRS Korea Array 164.02 304 PKP PKPdf 20 29 10.4 +0.1
comp=Z,0.5nm,0.4s,baz=98,slow=0.8,SNR=8.4
CMAR Chiang Mai Arr 164.27 131 PKP PKPdf 20 29 11.1 -0.1
comp=Z,0.3nm,0.5s,baz=352,slow=0.7,SNR=4.3
CMAR PKPab PKPab 20 30 05.2 -0.4
comp=Z,0.4nm,0.8s,baz=246,slow=3.2,SNR=4.3
GTA Gaotai 166.31 41 ⇑PKP PKPdf 20 29 13.6 +1.2
GTA pPKP pPKPdf 20 29 43.6 +1.5
GTA PKPab PKPab 20 30 15.5 +1.3
LZH Lanzhou 170.91 42 PKP PKPdf 20 29 25.6 +10

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*KRNET **23** 20:16:20.7±0.1,39°.89N×76°.87E,mb3.8*
*IDC **23** 20:16:21.4±2.2,40°.00N×76°.32E,h0km,mb3.7/3,*
mb1 3.7/5,mb1mx3.4/48,mbtmp3.6/5,ML2.8/2,MS3.0/2,
Ms1 3.0/2,ms1mx2.5/37, Error ellipse: s-maj=49.5km
s-min=21.5km az=140.0
*SOME **23** 20:16:24.2,40°.15N×76°.52E,h10km*
*NNC **23** 20:16:24.9±1.1,40°.20N×76°.55E,h0km,mb4.3,mpv4.0,*
Error ellipse: s-maj=7.2km s-min=5.2km az=174.0
*NEIC **23** 20:16:29.9±2.2,40°.09N±0°.07×76°.54E±0°.08,h49km±13km,*
mb4.1/2, Error ellipse: s-maj=13.1km s-min=3.2km
az=138.0

ISC 23 20:16:24.6±0.9,**39°.95N**±0°.05×**76.71E**±0°.03,**h10**km,**n104,**
σ1°.89/152,**mb3.7/3,34C-17D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
TARG	**Taragay, Kyrgy**	**1.97**	**25**		**Pn**	**20 16 57.3**	**-1.0**
TARG				Sn	**Sb**	**20 17 24.4**	**-1.1**
KDJ	**Kajisay**	**2.21**	**9**	⇑*iP*	**Pn**	**20 17 01.5**	**-0.1**
KDJ	baz=6.0			⇑*iS*	**Sb**	**20 17 31.2**	**-1.1**
KDJ	**Kajisay**	**2.21**	**9**	Pn	**Pn**	**20 17 01.7**	**+0.2**
KDJ				Sn	**Sn**	**20 17 30.0**	**+0.9**
ULHL	**Ulahol**	**2.33**	**351**	⇑*eP*	**Pn**	**20 17 03.7**	**+0.6**
ULHL	baz=49			⇑*iS*	**Sb**	**20 17 35.1**	**-0.5**
ULHL	**Ulahol** SNR=43	**2.33**	**351**	P	**Pn**	**20 17 03.5**	**+0.3**
SFK	**Sufi-Kurgan**	**2.46**	**273**	⇓*iP*	**Pn**	**20 17 06.0**	**+0.9**
SFK	baz=74			⇓*iS*	**Sb**	**20 17 39.4**	**-0.2**
BOOM	**Boomskoye usch**	**2.61**	**347**	⇑*iP*	**Pn**	**20 17 07.8**	**+0.8**
BOOM	baz=45			⇑*iS*	**Sn**	**20 17 41.9**	**+3.1**
BOOM	**Boomskoye usch**	**2.61**	**347**	Pn	**Pn**	**20 17 08.1**	**+1.1**
BOOM				Sn	**Sn**	**20 17 39.3**	**+0.5**
ARLS	**Aral**	**2.63**	**317**	⇓*iP*	**Pn**	**20 17 07.8**	**+0.5**
ARLS	baz=16			⇓*iS*	**Sn**	**20 17 43.1**	**+3.7**
PRZ	**Przheval'sk**	**2.84**	**26**	⇓*iP*	**Pn**	**20 17 09.9**	**-0.3**
PRZ	baz=23			⇓*iS*	**Sn**	**20 17 45.4**	**+0.9**
PRZ	**Przheval'sk**	**2.84**	**26**		**Pn**	**20 17 10.7**	**+0.5**
PRZ				Sn	**Sb**	**20 17 49.6**	**-0.8**
ANVS	**Anan'yevo**	**2.93**	**14**	⇑*iP*	**Pn**	**20 17 11.6**	**+0.2**
ANVS	baz=11			⇑*iS*	**Sn**	**20 17 48.2**	**+1.5**
KBK	**Karagaybulak**	**3.02**	**334**	⇑*iP*	**Pn**	**20 17 13.8**	**+1.2**
KBK	baz=33			⇑*iS*	**Sn**	**20 17 52.4**	**+3.5**
KBK	**Karagaybulak** SNR=21	**3.02**	**334**	P	**Pn**	**20 17 14.4**	**+1.8**
OHH	**Osh**	**3.06**	**282**	⇑*iP*	**Pn**	**20 17 13.8**	**+0.7**

	baz=83							
OHH				⇑*i*S		Sn	20 17 53.1	+3.3
	baz=83							
TKM2	**Tokmak 2**	**3.09**	**345**	⇑*i*P		**Pn**	**20 17 14.5**	**+0.9**
	baz=43							
TKM2				⇑*i*S		Sn	20 17 53.9	+3.2
	baz=43							
TKM2	**Tokmak 2**	**3.09**	**345**	P		**Pn**	**20 17 15.0**	**+1.4**
	SNR=66							
TKM2	**Tokmak 2**	**3.09**	**345**	⇑Pg		**Pn**	**20 17 14.7**	**+1.1**
	25nm,0.3s							
TKM2				⇓Lg		Lg	20 17 53.9	
	81nm,0.6s							
IZV	**Izvestkoviy**	**3.09**	**359**	*e*P		**Pb**	**20 17 18.3**	**-1.5**
	31nm,0.6s							
IZV				*e*S		**Sb**	**20 17 56.9**	**-0.6**
	119nm,0.8s							
IZV	**Izvestkoviy**	**3.09**	**359**	Pg		**Pb**	**20 17 17.7**	**-2.1**
	31nm,0.6s							
IZV				Lg		Lg	20 17 55.8	
	119nm,0.8s							
KST	**Kastek**	**3.15**	**350**	*e*P		**Pb**	**20 17 19.3**	**-1.4**
	50nm,0.3s							
KST				*e*S		**Sb**	**20 17 58.6**	**-0.5**
	62nm,0.6s							
KST	**Kastek**	**3.15**	**350**	Pg		**Pb**	**20 17 18.7**	**-2.0**
	50nm,0.3s							
KST				Lg		Lg	20 17 57.8	
	62nm,0.6s							
ARSB	**Arslanbob**	**3.15**	**297**	⇓*i*P		**Pn**	**20 17 15.9**	**+1.4**
	baz=97							
ARSB				⇓*i*S		**Sn**	**20 17 56.3**	**+4.1**
	baz=97							
ARSB	**Arslanbob**	**3.15**	**297**	Pn		**Pn**	**20 17 14.6**	**+0.2**
AML	**Almayashu**	**3.16**	**315**	⇑*i*P		**Pn**	**20 17 16.2**	**+1.5**
	baz=14							
AML				⇑*i*S		**Sn**	**20 17 56.7**	**+4.0**
	baz=14							
AML	**Almayashu**	**3.16**	**315**	P		**Pn**	**20 17 15.6**	**+0.8**
	SNR=13							
AAK	**Ala-Archa**	**3.17**	**329**	⇓*i*P		**Pn**	**20 17 16.0**	**+1.4**
	baz=28							
AAK				⇓*i*S		**Sn**	**20 17 56.1**	**+3.5**
	baz=28							
AAK	**Ala-Archa**	**3.17**	**329**	P		**Pn**	**20 17 15.8**	**+1.2**
	SNR=32							
AAK	**Ala-Archa**	**3.17**	**329**	⇓Pg		**Pn**	**20 17 15.9**	**+1.2**
	55nm,0.6s							
AAK				⇑Lg		Lg	20 17 57.6	
	126nm,0.5s							
AAK	**Ala-Archa**	**3.17**	**329**	Pn		**Pn**	**20 17 15.6**	**+0.9**
MDOK	**Medeo**	**3.23**	**4**	*e*P		**Pb**	**20 17 20.1**	**-2.0**
	44nm,0.4s							
MDOK				*e*S		**Sb**	**20 17 59.9**	**-1.6**
	133nm,0.6s							
MDOK	**Medeo**	**3.23**	**4**	Pg		**Pn**	**20 17 17.0**	**+1.5**
	33nm,0.5s							
MDOK				Lg		Lg	20 17 59.1	
	193nm,1.1s							
MDOK	**Medeo**	**3.23**	**4**	Pg		**Pb**	**20 17 19.6**	**-2.5**
	44nm,0.4s							
MDOK				Lg		Lg	20 17 59.4	
	133nm,0.6s							
FRU1	**Bishkek**	**3.26**	**332**	⇓*i*P		**Pn**	**20 17 17.5**	**+1.6**
	baz=31							
FRU1				⇓*i*S		**Sn**	**20 17 58.9**	**+4.1**
	baz=31							
FRU1	**Bishkek**	**3.26**	**332**			**Pn**	**20 17 17.6**	**+1.6**
AAA	**Alma-Ata**	**3.27**	**3**	*e*P		**Pb**	**20 17 21.8**	**-0.9**
	48nm,0.2s							
AAA				*e*S		**Sb**	**20 18 02.8**	**+0.2**
	228nm,0.8s							
AAA	**Alma-Ata**	**3.27**	**3**	Pg		**Pb**	**20 17 21.4**	**-1.2**
	48nm,0.2s							
AAA				Lg		Lg	20 18 02.2	
	228nm,0.8s							
KNDC	**Almaty**	**3.28**	**3**	⇑Pg		**Pb**	**20 17 19.9**	**-2.9**
	76nm,0.6s							
KNDC				⇑Lg		Lg	20 18 01.5	
	299nm,0.8s							
KOTS	**Kotyrbulak**	**3.30**	**5**	*e*P		**Pb**	**20 17 22.7**	**-0.6**
	107nm,0.5s							
KOTS				*e*S		**Sb**	**20 18 04.3**	**+0.7**
	141nm,0.7s							
KOTS	**Kotyrbulak**	**3.30**	**5**	Pg		**Pb**	**20 17 22.6**	**-0.8**
	107nm,0.5s							
KOTS				Lg		Lg	20 18 04.2	
	141nm,0.7s							
SATY	**Saty**	**3.36**	**22**	*e*P		**Pb**	**20 17 23.6**	**-0.8**
	50nm,0.7s							
SATY				*e*S		**Sb**	**20 18 06.0**	**+0.6**
	92nm,0.5s							
SATY	**Saty**	**3.36**	**22**	Pg		**Pb**	**20 17 23.5**	**-0.8**
	50nm,0.7s							
SATY				Lg		Lg	20 18 06.3	
	92nm,0.5s							
DGS	**Degeres**	**3.37**	**348**	*e*P		**Pb**	**20 17 23.8**	**-0.7**
	77nm,0.5s							
DGS				*e*S		**Sb**	**20 18 06.1**	**+0.6**
	134nm,0.4s							
DGS	**Degeres**	**3.37**	**348**	Pg		**Pb**	**20 17 22.8**	**-1.7**
	77nm,0.5s							
DGS				Lg		Lg	20 18 04.6	
	134nm,0.4s							
CHMS	**Chumysh**	**3.39**	**335**	⇑*i*P		**Pn**	**20 17 18.5**	**+0.9**
	baz=34							
CHMS				⇑*i*S		**Sn**	**20 18 00.8**	**+3.0**
	baz=34							
CHMS	**Chumysh**	**3.39**	**335**	P		**Pn**	**20 17 19.0**	**+1.5**
	SNR=22							
EKS2	**Erkin-Say**	**3.50**	**322**	⇑*i*P		**Pn**	**20 17 20.6**	**+1.4**
	baz=21							
EKS2				⇑*i*S		**Sn**	**20 18 04.1**	**+3.4**
	baz=21							
EKS2	**Erkin-Say**	**3.50**	**322**	P		**Pn**	**20 17 20.8**	**+1.6**
	SNR=63							
UZB	**Uzynbulak**	**3.64**	**28**	*e*P		**Pb**	**20 17 29.4**	**+0.3**
	14nm,0.5s							
UZB				*e*S		**Sb**	**20 18 15.8**	**+2.4**
	61nm,0.7s							
UZB	**Uzynbulak**	**3.64**	**28**	Pg		**Pb**	**20 17 28.3**	**-0.8**
	14nm,0.5s							
UZB				Lg		Lg	20 18 14.7	
	61nm,0.7s							
KURS	**Kuram**	**3.71**	**17**	*e*P		**Pb**	**20 17 29.7**	**-0.5**
	10nm,0.5s							
KURS				*e*S		**Sb**	**20 18 16.3**	**+1.2**
	80nm,1.1s							
KURS	**Kuram**	**3.71**	**17**	Pg		**Pb**	**20 17 29.2**	**-0.9**
	10nm,0.5s							
KURS				Lg		Lg	20 18 16.5	
	80nm,1.1s							
USP	**Ospenovka**	**3.71**	**334**	⇑*i*P		**Pn**	**20 17 23.3**	**+1.3**
	baz=33							
USP				⇑*i*S		**Sn**	**20 18 08.7**	**+2.9**
	baz=33							
USP	**Ospenovka**	**3.71**	**334**	P		**Pn**	**20 17 23.4**	**+1.3**
	SNR=9.8							
KTBS	**Karatobe**	**3.77**	**360**	*e*P		**Pb**	**20 17 30.4**	**-0.8**
	24nm,0.8s							
KTBS				*e*S		**Sb**	**20 18 17.2**	**+0.3**
	92nm,0.6s							
KTBS	**Karatobe**	**3.77**	**360**	Pg		**Pb**	**20 17 29.1**	**-2.1**
	24nm,0.8s							
KTBS				Lg		Lg	20 18 15.7	
	92nm,0.6s							
DRK	**Karamyk**	**3.81**	**265**	⇑*i*P		**Pn**	**20 17 24.5**	**+0.8**
	baz=66							
DRK				⇑*i*S		**Sn**	**20 18 12.7**	**+4.0**
	baz=66							
KPKS	**Kokpek**	**3.82**	**22**	*e*P		**Pb**	**20 17 32.0**	**-0.1**
	66nm,0.4s							
KPKS				*e*S		**Sb**	**20 18 20.1**	**+1.7**
	154nm,0.8s							
SHLS	**Shalkode**	**3.82**	**32**	*e*P		**Pg**	**20 17 36.5**	**-1.2**
	27nm,0.7s							
SHLS				*e*S		**Sg**	**20 18 28.1**	**+1.0**
	122nm,0.9s							
SHLS	**Shalkode**	**3.82**	**32**	Pg		**Pg**	**20 17 35.7**	**-2.0**
	27nm,0.7s							
SHLS				Lg		Lg	20 18 27.4	
	122nm,0.9s							
KRBS	**Karabastau**	**3.83**	**349**	*e*P		**Pb**	**20 17 30.8**	**-1.5**
	74nm,0.5s							
KRBS				*e*S		**Sb**	**20 18 18.1**	**-0.6**
	55nm,0.6s							
KRBS	**Karabastau**	**3.83**	**349**	Pg		**Pb**	**20 17 30.1**	**-2.2**
	74nm,0.5s							
KRBS				Lg		Lg	20 18 17.3	
	55nm,0.6s							
MRKS	**Merke**	**3.83**	**318**	*e*P		**Pb**	**20 17 30.9**	**-1.5**
	27nm,0.5s							
MRKS				*e*S		**Sb**	**20 18 18.6**	**-0.3**
	76nm,0.4s							
MRKS	**Merke**	**3.83**	**318**	Pg		**Pb**	**20 17 30.6**	**-1.8**
	27nm,0.5s							
MRKS				Lg		Lg	20 18 17.8	
	76nm,0.4s							
CHKK	**Chushkaly**	**3.91**	**3**	*e*P		**Pb**	**20 17 32.5**	**-1.2**
	11nm,0.5s							
CHKK				*e*S		**Sb**	**20 18 21.4**	**+0.3**
	49nm,0.5s							
CHKK	**Chushkaly**	**3.91**	**3**	Pg		**Pb**	**20 17 32.1**	**-1.6**
	14nm,0.5s							
CHKK				Lg		Lg	20 18 21.0	
	49nm,0.5s							
KUU	**Kurty**	**3.96**	**356**	*e*P		**Pb**	**20 17 33.1**	**-1.3**
	13nm,0.3s							
KUU				*e*S		**Sb**	**20 18 22.3**	**0.0**
	69nm,0.6s							
KUU	**Kurty**	**3.96**	**356**	Pg		**Pb**	**20 17 32.4**	**-2.0**
	13nm,0.3s							
KUU				Lg		Lg	20 18 21.0	
	69nm,0.6s							
PDGK	**Podgornoye**	**3.97**	**31**	Pg		**Pb**	**20 17 34.7**	**-0.1**
	10.0nm,0.5s							
PDGK				Lg		Lg	20 18 25.8	
	45nm,0.9s							
PDGK	**Podgornoye**	**3.97**	**31**	⇓Pg		**Pb**	**20 17 32.9**	**-1.8**
	16nm,0.6s							
PDGK				⇑Lg		Lg	20 18 25.2	
	110nm,0.8s							
MNAS	**Manas**	**4.06**	**310**	⇓*i*P		**Pn**	**20 17 28.4**	**+1.4**
	baz=10.0							
MNAS				⇓*i*S		**Sn**	**20 18 18.0**	**+3.3**
	baz=10.0							
ARXS	**Arharly**	**4.35**	**11**	*e*P		**Pb**	**20 17 40.7**	**-0.4**
	52nm,0.6s							
ARXS				*e*S		**Sb**	**20 18 35.3**	**+1.7**
	65nm,0.6s							
ARXS	**Arharly**	**4.35**	**11**	Pg		**Pb**	**20 17 40.7**	**-0.4**
	52nm,0.6s							
ARXS				Lg		Lg	20 18 35.2	
	65nm,0.6s							
KTMS	**Ketmen**	**4.43**	**37**	*e*P		**Pb**	**20 17 43.5**	**+0.9**
	5.4nm,0.7s							
KTMS				*e*S		**Sb**	**20 18 39.9**	**+3.6**
	44nm,0.8s							
KTMS	**Ketmen**	**4.43**	**37**	Pg		**Pb**	**20 17 43.3**	**+0.6**
	5.4nm,0.7s							
KTMS				Lg		Lg	20 18 39.8	
	44nm,0.8s							
TRKS	**Terek-Say**	**4.52**	**292**	⇑*i*P		**Pn**	**20 17 34.5**	**+1.3**
	baz=92							
TRKS				⇑*i*S		**Sn**	**20 18 28.3**	**+2.4**
	baz=92							
BTK	**Batken**	**4.53**	**273**	⇑*i*P		**Pn**	**20 17 34.9**	**+1.6**
	baz=74							
BTK				⇑*i*S		**Sn**	**20 18 29.1**	**+3.1**
	baz=74							
BTK	**Batken**	**4.53**	**273**			**Pn**	**20 17 34.3**	**+1.0**
DJR	**Jarkent**	**4.95**	**27**	*e*P		**Pb**	**20 17 53.4**	**+2.1**
	0.6nm,0.5s							
DJR				*e*S		**Sb**	**20 18 56.5**	**+5.7**
	3.5nm,0.8s							
DJR	**Jarkent**	**4.95**	**27**	Pg		**Pb**	**20 17 52.6**	**+1.3**
	0.6nm,0.5s							
DJR				Lg		Lg	20 18 55.7	
	3.5nm,0.8s							
GAR	**Garm**	**5.04**	**261**			**Pn**	**20 17 40.7**	**+0.4**
TDK	**Taldyqorghan**	**5.21**	**13**	*e*P		**Pb**	**20 17 57.0**	**+1.3**
	24nm,0.4s							
TDK				*e*S		**Sb**	**20 19 03.1**	**+4.7**
	115nm,0.8s							
BTLS	**Baital**	**5.46**	**340**	*e*P		**Pb**	**20 18 00.4**	**+0.3**
	6.9nm,1.1s							
BTLS				*e*S		**Sb**	**20 19 08.8**	**+3.2**
	40nm,0.7s							
BTLS	**Baital**	**5.46**	**340**	Pg		**Pb**	**20 17 59.3**	**-0.7**
	6.9nm,1.1s							
BTLS				Lg		Lg	20 19 07.1	
	40nm,0.7s							
KK31	**Karatay Array**	**5.62**	**306**	Pg		**Pb**	**20 18 02.8**	**0.0**
	3.7nm,0.6s,baz=126,slow=15,SNR=19							
KK31				⇑Lg		Lg	20 19 13.5	
	7.2nm,0.6s,baz=122,slow=24,SNR=5.0							
KK31	**Karatay Array**	**5.62**	**306**			**Pn**	**20 17 48.6**	**+0.3**
KKAR	**Karatay Array**	**5.62**	**306**			**Pn**	**20 17 48.1**	**-0.1**
KAPS	**Kapalarasan**	**5.68**	**19**	*e*P		**Pb**	**20 18 05.3**	**+1.5**
	0.8nm,0.4s							
KAPS				*e*S		**Sb**	**20 19 18.0**	**+5.9**
	2.7nm,1.1s							
KAPS	**Kapalarasan**	**5.68**	**19**	Pg		**Pb**	**20 18 05.4**	**+1.5**
	0.8nm,0.4s							
KAPS				Lg		Lg	20 19 17.6	
	2.7nm,1.1s							
CHGR	**Chuyangaron**	**6.00**	**260**	Pn		**Pn**	**20 17 53.5**	**0.0**
NIL	**Nilore**	**6.87**	**205**			**Pn**	**20 18 09.2**	**+3.9**
MK31	**Makanchi Array**	**7.96**	**29**	Pn		**Pn**	**20 18 21.6**	**+1.2**
MKAR	**Makanchi Array**	**7.96**	**29**	Pn		**Pn**	**20 18 20.4**	**+0.1**
	0.1nm,0.3s,baz=212,slow=14,SNR=2.4							
MKAR				Sn		**Sn**	**20 19 50.3**	**-0.1**
	0.1nm,0.3s,baz=220,slow=28,SNR=3.1							
MKAR				Lg		Lg	20 20 37.0	
	0.2nm,0.3s,baz=217,slow=30,SNR=2.6							
MKAR				LR		LR	20 21 16.7	
	comp=Z,24nm,20.4s,baz=208,slow=37							
MKAR	**Makanchi Array**	**7.96**	**29**	Pn		**Pn**	**20 18 23.1**	**+2.8**
KBL	**Kabul**	**8.15**	**231**	Pn		**Pn**	**20 18 25.5**	**+2.3**
ZAA0	**Zalesovo Array**	**15.05**	**19**	Pn		**Pn**	**20 19 57.1**	**-0.1**
ZALV	**Zalesovo Beam**	**15.05**	**19**	Pn		**Pn**	**20 19 55.1**	**-2.0**
	0.3nm,0.3s,baz=216,slow=15,SNR=6.8							
ZALV				Lg		Lg	20 24 12.5	
	0.1nm,0.3s,baz=208,slow=27,SNR=1.5							
ZALV	**Zalesovo Beam**	**15.05**	**19**			**Pn**	**20 19 57.1**	**0.0**
ABKAR	**Akbulak array**	**15.11**	**314**	Pn		**Pn**	**20 19 57.2**	**-0.8**
ARU	**Arti**	**20.35**	**330**	P		**P**	**20 21 01.8**	**+0.9**
ARU				IAmb		IAmb	20 21 04.0	
	comp=Z,2.7nm,0.6s							
SONM	**Songino Array**	**22.70**	**60**	P		**P**	**20 21 26.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=262,slow=10,SNR=6.4							
ARCES	**ARCESS Array B**	**39.82**	**335**	P		**P**	**20 23 54.9**	**-2.7**
	comp=Z,2.6nm,0.7s,baz=110,slow=9.7,SNR=3.2							
ARCES				LR		LR	20 41 24.4	
	comp=Z,73nm,18.1s,baz=335,slow=38							
ARCES	**ARCESS Array B**	**39.82**	**335**	P		**P**	**20 23 56.0**	**-1.6**
ARCES				IAmb		IAmb	20 24 28.3	
	comp=Z,8.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**70.23**	**271**	P		**P**	**20 27 34.4**	**-3.7**
	comp=Z,0.3nm,0.5s,baz=55,slow=5.0,SNR=1.3							

*IDC **23** 20:33:06.9±8.2, 19°32.2N×80°48.4E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/43, mbtmp3.4/5, ML2.4/1, Error ellipse: s-maj=191.6km s-min=43.5km az=117.0*
*NDI **23** 20:33:26.2±2.6, 30°45.5N×77°39.2E, h10km, ML4.0*

ISC 23 20:33:22.3±1.1, 30°55.5N±0.05×78°27.2E±0.10, h10km, n14, σ2.5 27/17, mb3.6/3, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**0.29**	**219**	*e*P	**Pg**	**20 33 29.0**	**+0.8**
DDI				*e*S	**Sg**	**20 33 33.3**	**+1.2**
SMLA	**Simla**	**1.11**	**302**	*e*P	**Pg**	**20 33 42.6**	**-1.0**
SMLA				*e*S	**Sb**	**20 33 56.9**	**-1.2**
SMLA				IAML		20 33 57.9	
	comp=E,10μm,0.4s						
SMLA				IAML		20 33 59.5	
	comp=N,13μm,0.2s						
NDI	**New Delhi**	**2.07**	**206**	*e*P	**Pn**	**20 33 59.0**	**+1.9**
DHRM	**DHARAMSHALA**	**2.39**	**316**	*e*P	**Pn**	**20 34 03.3**	**+1.6**
DHRM				*e*S	**Sn**	**20 34 32.7**	**+1.5**
DHRM				IAML		20 34 42.9	
	comp=N,313nm,0.2s						
THN	**Thein Dam**	**2.88**	**311**	*e*P	**Pb**	**20 34 13.0**	**-0.7**
CHCP	**Chirah Chowk**	**5.26**	**307**	P	**Pn**	**20 34 42.3**	**+1.3**
THW	**Thamme Wali**	**6.00**	**294**	P	**Pn**	**20 34 51.3**	**+0.2**
CEP	**Cherat**	**6.30**	**303**	P	**Pn**	**20 34 55.7**	**+0.3**
BHPL	**Bhopal**	**7.32**	**186**	*e*S	**Sn**	**20 36 27.3**	**-5.1**
MKAR	**Makanchi Array**	**16.52**	**10**	P	**Pn**	**20 37 13.1**	**-0.9**
	comp=N,0.0nm,0.3s,baz=194,slow=11,SNR=1.0						
KURBB	**Kurchatov Arra**	**20.05**	**0**	P	**P**	**20 37 54.8**	**-0.7**
	comp=N,0.3nm,0.4s,baz=190,slow=10.0,SNR=7.8						
AKTO	**Aktyubinsk**	**24.99**	**328**	P	**P**	**20 38 51.2**	**+5.2**
	comp=N,0.7nm,0.5s,baz=112,slow=5.4,SNR=3.8						
ARCES	**ARCESS Array B**	**48.93**	**338**	P	**P**	**20 42 08.1**	**0.0**
	comp=N,0.8nm,0.6s,baz=107,slow=9.0,SNR=1.1						
TORD	**Torodi Ar. Bea**	**71.97**	**275**	P	**P**	**20 44 44.9**	**-1.6**
	comp=N,0.2nm,0.5s,baz=59,slow=4.1,SNR=1.5						

*THE **23** 21:13:49.4, 41°.92N×19°.56E, h0km±4km, ML2.2/1, Error ellipse: s-maj=5.2km s-min=1.1km az=316.0*
*SKO **23** 21:13:49.2, 41°.84N×19°.38E, h22km*
*TIR **23** 21:13:49.0, 41°.91N×19°.62E, h9km±2km, Md2.4, Ml2.3*
*PDG **23** 21:13:49.9±0.3, 41°.91N×19°.63E, h5km±1km, MD2.7/2, ML2.5/12, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*ATH **23** 21:13:50.9, 41°.77N×19°.44E, h15km±4km, ML2.4/2, Error ellipse: s-maj=7.5km s-min=2.5km az=177.0*
*BEO **23** 21:13:50.3±0.3, 41°.93N×19°.75E, h8km±3km, ML2.2/8*

ISC 23 21:13:49.8±0.9, 41°.91N±0.02×19°.64E±0.02, h10km±7km, n50, σ0.89/82, 7C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.23**	**55**	P	**Pg**	**21 13 54.8**	**+0.2**
	baz=56						
PUK				S	**Sg**	**21 13 58.2**	**+0.3**
	baz=56						
PUK				AMP			
	comp=E,1.9nm,0.4s,baz=56						
LACI	**Lac**	**0.28**	**168**	P	**Pg**	**21 13 55.1**	**-0.3**
	baz=164						
LACI				S	**Sg**	**21 13 58.8**	**-0.3**
	baz=164						
ULC	**Ulcinj**	**0.30**	**281**	*i* Pg	**Pg**	**21 13 55.5**	**-0.2**
ULC	**Ulcinj**	**0.30**	**281**	⇑*i*Pg	**Pg**	**21 13 55.4**	**-0.4**
ULC				*i* Sg	**Sg**	**21 14 00.1**	**+0.4**
DRME	**Dracevica, Mon**	**0.43**	**310**	⇑*i*Pg	**Pg**	**21 13 58.1**	**-0.2**
DRME				*i* Sg	**Sg**	**21 14 05.0**	**+0.9**
BCI	**Bajram Curri**	**0.56**	**35**	P	**Pg**	**21 14 00.5**	**-0.2**
	baz=35						
BCI				S	**Sg**	**21 14 08.5**	**+0.5**
	baz=35						
BCI				AMP			
	comp=N,0.9nm,0.5s,baz=35						
TIR	**Tirane**	**0.59**	**163**	P	**Pg**	**21 14 01.0**	**-0.2**
TIR				S	**Sb**	**21 14 10.1**	**-0.5**
	comp=N,285nm,0.3s						
TIR	**Tirane**	**0.59**	**163**	*e*Pg	**Pg**	**21 14 00.7**	**-0.5**
TIR				*e*Sg	**Sb**	**21 14 10.7**	**+0.1**
TIR	**Tirane**	**0.59**	**163**	P	**Pg**	**21 14 01.0**	**-0.2**
TIR				S	**Sg**	**21 14 08.6**	**-0.3**
TIR				AML	AML	21 14 12.5	
	comp=E,1832μm,0.4s						
TIR				AML	AML	21 14 14.3	
	comp=N,1314μm,0.3s						
TIR	**Tirane**	**0.59**	**163**	P	**Pg**	**21 14 00.7**	**-0.5**
	baz=161						
TIR				S	**Sg**	**21 14 09.7**	**+0.8**
	baz=161						
TIR				AMP			
	comp=N,1.0nm,0.3s,baz=161						
TIR	**Tirane**	**0.59**	**163**	*i* Pg	**Pg**	**21 14 01.1**	**-0.2**
PDG	**Podgorica**	**0.59**	**332**	*e*Pg	**Pg**	**21 14 00.9**	**-0.4**
PDG				*e*Sg	**Sb**	**21 14 10.1**	**-0.6**
PDG	**Podgorica**	**0.59**	**332**	*i* Pg	**Pg**	**21 14 00.8**	**-0.4**
PDG				*i* Sg	**Sb**	**21 14 10.5**	**-0.2**
TTG	**Podgorica**	**0.59**	**332**	⇑*i*Pg	**Pg**	**21 14 00.6**	**-0.7**
TTG				*e*Sg	**Sb**	**21 14 10.2**	**-0.5**
PHP	**Peshkopia**	**0.64**	**110**	P	**Pg**	**21 14 02.4**	**+0.1**
PHP				S	**Sb**	**21 14 12.8**	**+0.5**
PHP	**Peshkopia**	**0.64**	**110**	P	**Pg**	**21 14 02.2**	**0.0**
	baz=109						
PHP				S	**Sb**	**21 14 12.1**	**-0.2**
	baz=109						
PHP				AMP			
	comp=N,0.7nm,0.1s,baz=109						
BUM	**Brajici-Budva**	**0.68**	**306**	⇑*i*Pg	**Pg**	**21 14 02.5**	**-0.4**
BUM				*i* Sg	**Sb**	**21 14 13.0**	**-0.2**
PVY	**Plav**	**0.73**	**19**	⇑*i*Pg	**Pg**	**21 14 03.4**	**-0.4**
PVY				*i* Sg	**Sb**	**21 14 15.1**	**+0.4**
CEME	**Cevo**	**0.83**	**320**	⇓*i*Pg	**Pg**	**21 14 05.3**	**-0.5**
CEME				*i* Sg	**Sb**	**21 14 17.9**	**+0.2**
KOME	**Kolasin**	**0.94**	**355**	⇓*i*Pg	**Pg**	**21 14 07.6**	**-0.4**
KOME				*i* Sg	**Sn**	**21 14 22.4**	**-0.5**
BEY	**Berane**	**0.98**	**11**	*i* Pg	**Pg**	**21 14 08.2**	**-0.5**
IVA	**Berane**	**0.98**	**11**	⇑*i*Pg	**Pg**	**21 14 08.0**	**-0.7**
IVA				*i* Sg	**Sn**	**21 14 23.6**	**-0.2**
NKME	**Niksic**	**0.99**	**330**	⇓*i*Pg	**Pg**	**21 14 08.2**	**-0.8**
NKME				*i* Sg	**Sn**	**21 14 24.1**	**0.0**
HCY	**Herceg Novi**	**1.00**	**303**	⇓*i*Pg	**Pg**	**21 14 07.8**	**-1.3**
HCY				*i* Sg	**Sn**	**21 14 24.1**	**-0.1**
NKY	**Niksic**	**1.02**	**332**	⇑*i*Pg	**Pg**	**21 14 08.6**	**-0.8**
NKY				*i* Sg	**Sn**	**21 14 25.0**	**+0.2**
OHR	**Ohrid**	**1.18**	**132**	*i* Pg	**Pb**	**21 14 11.8**	**-0.6**
OHR				*i* Sg	**Sn**	**21 14 30.8**	**+2.1**
OHR				*e*Lg	Lg	21 14 32.8	
	comp=N,53nm,0.5s						
TREB	**Trebinje**	**1.25**	**311**	*e*Pg	**Pn**	**21 14 12.2**	**-1.2**
TREB				*e*Sg	**Sn**	**21 14 31.3**	**+1.0**
BRY	**Bratogost**	**1.28**	**321**	⇓*i*Pg	**Pn**	**21 14 13.4**	**-0.6**
BRY				*i* Sg	**Sn**	**21 14 33.8**	**+2.5**
SJES	**Sjenica**	**1.37**	**10**	*e*Pg	**Pn**	**21 14 15.1**	**-0.1**
SJES				*e*Sg	**Sb**	**21 14 33.4**	**0.0**
SELS	**Selova**	**1.71**	**39**	*e*Pn	**Pn**	**21 14 20.1**	**+0.4**
SELS				*e*Sn	**Sn**	**21 14 41.2**	**-0.5**
STON	**Ston**	**1.73**	**304**	*e*Pn	**Pn**	**21 14 19.1**	**-0.8**
STON				Sn	**Sg**	**21 14 44.2**	**-1.1**
FNA	**Florina**	**1.73**	**130**	P	**Pb**	**21 14 21.1**	**-0.6**
FNA	**Florina**	**1.73**	**130**	P	**Pb**	**21 14 21.9**	**+0.2**
FNA				AML	AML	21 14 53.4	
	comp=E,104μm,0.3s						
FNA				AML	A

BBLS	**Lazići**	**1.96**	**355**	*e*Pn	**Pn**	**21 14 24.4**	**+1.1**
BBLS				*e*Sn	**Sn**	**21 14 48.9**	**+0.9**
SCTE	**Santa Cesarea**	**2.04**	**206**	P	**Pn**	**21 14 23.1**	**-1.1**
GRUS	**Gruza**	**2.13**	**22**	*e*Pn	**Pn**	**21 14 26.7**	**+1.2**
KEK	**Kerkira**	**2.20**	**177**	P	**Pn**	**21 14 26.2**	**-0.2**
KEK	**Kerkira**	**2.20**	**177**	P	**Pn**	**21 14 27.0**	**+0.6**
DIVS	**Divibare**	**2.20**	**7**	*e*Pn	**Pn**	**21 14 27.5**	**+0.9**
HAPS	**Han Pijesak,BI**	**2.23**	**347**	*e*Pn	**Pn**	**21 14 27.9**	**+0.9**
NOCI	**Noci**	**2.24**	**241**	P	**Pn**	**21 14 27.5**	**+0.6**
KPRO	**Kipourio**	**2.35**	**146**	P	**Pb**	**21 14 31.7**	**-0.7**
KIJV	**Kijevo**	**3.16**	**313**	*e*Pn	**Pn**	**21 14 40.0**	**+0.3**
KIJV				Sn	**Sn**	**21 15 19.8**	**+2.2**
ZIRJ	**Zirje**	**3.42**	**302**	Sn	**Sn**	**21 15 24.6**	**+1.0**
MORI	**Morici**	**3.49**	**305**	*e*Pn	**Pn**	**21 14 44.8**	**+0.7**
MORI				Sn	**Sn**	**21 15 26.5**	**+1.1**

*TEH **23** 21:23:34.2,32˚.84N×55˚.12E,h9km,ML3.5*
*THR **23** 21:23:36.2±0.5,32˚.90N×54˚.97E,h14km±7km,ML3.4*
ISC 23 21:23:35.4±1.0,32˚.83N±0˚.04×55˚.13E±0˚.03,h10km,n42,
σ1§10/44,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YZKH	**Yazd**	**0.63**	**226**	*e*Pg	**Pg**	**21 23 47.9**	**+0.3**
YZKH	**Yazd**	**0.63**	**226**	*e*Pg	**Pg**	**21 23 47.9**	**+0.3**
ICHK	**Chekchek**	**0.84**	**226**	*e*Pg	**Pg**	**21 23 51.3**	**-0.3**
ICHK				*e*Sg	**Sg**	**21 24 02.5**	**-0.2**
ICHK				*e*		21 24 03.8	
	comp=Z,21μm,0.1s						
ANAR	**Anarak**	**1.23**	**287**	*e*Pg	**Pn**	**21 23 57.3**	**-1.4**
IBAF	**Bafgh**	**1.29**	**163**	*e*Pg	**Pn**	**21 23 59.8**	**+0.2**
IBAF				*e*		21 24 20.5	
	comp=Z,19μm,0.2s						
TPRV	**Parvadeh(Tabas**	**1.33**	**81**	*e*Pg	**Pn**	**21 24 00.1**	**0.0**
TPRV				*e*		21 24 22.0	
	comp=Z,8μm,0.2s						
IMEH	**Mehriz**	**1.50**	**197**	*e*Pg	**Pn**	**21 24 03.4**	**+0.8**
ISAD	**Sadrabad**	**1.52**	**234**	*e*		21 24 27.2	
	comp=Z,9μm,0.2s						
ISAD				*e*Pg	**Pn**	**21 24 03.5**	**+0.6**
TNSJ	**Nastanj**	**1.68**	**47**	*e*		21 24 30.6	
	comp=Z,5μm,0.5s						
TNSJ				*e*Pn	**Pn**	**21 24 04.8**	**-0.1**
TKDS	**Koohdasht(Taba**	**1.85**	**64**	*e*		21 24 38.6	
	comp=Z,3μm,0.2s						
TKDS				*e*Pn	**Pn**	**21 24 07.7**	**+0.5**
TABS	**Tabas**	**1.86**	**63**	*e*Pn	**Pg**	**21 24 10.8**	**-0.3**
TABS	**Tabas**	**1.86**	**63**	*e*Pn	**Pg**	**21 24 10.8**	**-0.3**
NASN	**Na'in**	**1.95**	**270**	*e*Pn	**Pn**	**21 24 09.5**	**+0.6**
NASN				*e*Sg	**Sn**	**21 24 34.2**	**+0.6**
NASN	**Na'in**	**1.95**	**270**	*e*Pn	**Pn**	**21 24 09.5**	**+0.6**
IZEF	**Zefreh**	**2.35**	**272**	*e*Pn	**Pn**	**21 24 14.8**	**+0.4**
IZEF				*e*		21 24 47.4	
	comp=Z,2μm,0.2s						
IRAM	**Ramesheh**	**2.54**	**247**	*e*Pn	**Pn**	**21 24 19.0**	**+2.2**
IGAR	**Gharneh**	**2.64**	**262**	*e*Pn	**Pn**	**21 24 18.8**	**+0.6**
IGAR				*e*		21 24 56.9	
	comp=Z,1μm,0.4s						
KHGB	**Koh Gabri**	**2.71**	**154**	*e*Pn	**Pn**	**21 24 20.8**	**+1.6**
ISFB	**Sefidab**	**2.85**	**303**	*e*Pn	**Pn**	**21 24 20.6**	**-0.4**
IKLH	**Kolahrood**	**3.02**	**280**	*e*Pn	**Pn**	**21 24 23.9**	**+0.4**
ITEG	**Tejag**	**3.05**	**88**	*e*Pn	**Pn**	**21 24 23.9**	**0.0**
ILAS	**Lasjerd**	**3.12**	**325**	*e*Pn	**Pn**	**21 24 26.1**	**+1.3**
KRBR	**Kerman**	**3.17**	**153**	*e*Pn	**Pb**	**21 24 29.9**	**-2.0**
KRBR				IAML		21 25 21.7	
	comp=N,74nm,0.5s						
SHRO	**Shahrood**	**3.24**	**13**	*e*Pn	**Pn**	**21 24 28.5**	**+2.1**
SHRO	**Shahrood**	**3.24**	**13**	*e*Pn	**Pn**	**21 24 28.5**	**+2.1**
IKOO	**Kooshah**	**3.30**	**96**	*e*Pn	**Pn**	**21 24 27.8**	**+0.5**
IKOO				*e*		21 25 32.8	
	comp=Z,740nm,0.3s						
AFRZ	**Afriz**	**3.32**	**79**	*e*Pn	**Pn**	**21 24 29.6**	**+2.1**
ISHM	**Shahmirzad**	**3.33**	**333**	*e*Pn	**Pn**	**21 24 28.9**	**+1.0**
NGRK	**Negar Kerman**	**3.46**	**156**	*e*Pn	**Pn**	**21 24 30.8**	**+1.1**
IVRN	**Varamin**	**3.56**	**308**	*e*Pn	**Pn**	**21 24 31.4**	**+0.7**
CHMN	**Cheshme madani**	**3.61**	**144**	*e*Pn	**Pn**	**21 24 33.4**	**+1.7**
IGLO	**Ghaloghah**	**3.82**	**344**	*e*Pn	**Pn**	**21 24 35.4**	**+1.0**
IMON	**Monand**	**3.83**	**83**	*e*Pn	**Pn**	**21 24 36.3**	**+1.6**
IMON				*e*		21 24 54.9	
	comp=Z,467nm,0.3s						
IQOM	**Qom**	**3.93**	**302**	*e*Pn	**Pn**	**21 24 36.7**	**+0.7**
SBZV	**Sabzevar**	**4.10**	**29**	*e*Pn	**Pn**	**21 24 38.0**	**-0.3**
IPRN	**Peran**	**4.11**	**327**	*e*Pn	**Pn**	**21 24 39.5**	**+1.2**
NHDN	**Nehbandan**	**4.42**	**108**	*e*Pn	**Pn**	**21 24 43.2**	**+0.6**
IPAY	**Payeh**	**4.82**	**40**	*e*Pn	**Pn**	**21 24 49.4**	**+1.2**
IRAZ	**Razeghan**	**5.02**	**302**	*e*Pn	**Pn**	**21 24 51.7**	**+0.8**
QALM	**Alamut, Qazvin**	**5.15**	**315**	*e*Pn	**Pn**	**21 24 54.0**	**+1.2**
JRKH	**Jarkhoshk**	**5.30**	**53**	*e*Pn	**Pn**	**21 24 55.7**	**+1.0**
IMYA	**Miami**	**5.39**	**48**	*e*Pn	**Pn**	**21 24 57.1**	**+1.0**

*JMA **23** 21:29:19.7±0.2,22˚.83N×122˚.62E,h46km,M2.8*
*TAP **23** 21:29:20.4,22˚.84N×122˚.52E,h82km±1km,ML3.1,D*
ISC 23 21:29:15.3±1.2,22˚.77N±0˚.04×122˚.65E±0˚.03,h17km±9km,
n79,σ0§80/137,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**1.10**	**265**	*e*P	**Pg**	**21 29 38.7**	**+2.1**
LDUT				S	**Sg**	**21 29 51.4**	**+0.4**
	baz=260						
CHKT	**Chengkung**	**1.23**	**286**	*i* P	**Pg**	**21 29 39.7**	**+0.5**
	baz=285						
CHKT				S	**Sg**	**21 29 56.9**	**+1.6**
	baz=285						
EDH	**Donghe**	**1.26**	**279**	P	**Pg**	**21 29 40.8**	**+1.1**
	baz=274						
EDH				S	**Sn**	**21 29 55.0**	**+0.3**
	baz=274						
FULB	**Fuli**	**1.32**	**289**	*i* P	**Pg**	**21 29 41.1**	**+0.2**
	baz=293						
FULB				S	**Sb**	**21 29 56.2**	**-0.2**
	baz=293						
HGSD	**Ruisui**	**1.34**	**303**	P	**Pg**	**21 29 40.9**	**-0.3**
	baz=302						
EYUL	**Yuli**	**1.36**	**295**	P	**Pg**	**21 29 42.1**	**+0.6**
	baz=294						
EYUL				S	**Sn**	**21 29 56.8**	**-0.4**
	baz=294						
ECS	**Chishang**	**1.36**	**284**	P	**Pg**	**21 29 43.3**	**+1.6**
	baz=278						
ECS				S	**Sg**	**21 30 00.1**	**+0.8**
	baz=278						
TWF1	**Yuli**	**1.38**	**295**	P	**Pg**	**21 29 42.1**	**+0.2**
	baz=294						
TWF1				S	**Sg**	**21 29 58.9**	**-1.0**
	baz=294						
YULB	**Yu-li**	**1.40**	**297**	P	**Pg**	**21 29 42.3**	**0.0**
	baz=292						
YULB				*e*S	**Sg**	**21 30 00.3**	**-0.1**
	baz=292						
LONT	**Longtian**	**1.41**	**276**	P	**Pg**	**21 29 44.0**	**+1.4**
	baz=270						
LONT				S	**Sg**	**21 30 01.0**	**0.0**
	baz=270						
EHY	**Hungye**	**1.43**	**301**	*i* P	**Pg**	**21 29 42.6**	**-0.3**
	baz=300						
EHY				*i* S	**Sb**	**21 30 00.1**	**+0.6**
	baz=300						
EGFH	**Guangfu**	**1.44**	**309**	*e*P	**Pg**	**21 29 43.6**	**+0.5**
	baz=309						
EGFH				*e*S	**Sb**	**21 29 59.3**	**-0.5**
	baz=309						
TWGBT	**Beinan**	**1.45**	**272**	P	**Pg**	**21 29 44.3**	**+0.9**
	baz=270						
TWGBT				S	**Sg**	**21 30 00.9**	**-1.4**
	baz=270						
TWG	**Pinlang**	**1.46**	**272**	P	**Pg**	**21 29 44.0**	**+0.5**
	baz=270						
TWG				S	**Sb**	**21 29 60.0**	**-0.4**
	baz=270						
ESL	**Shilin**	**1.53**	**313**	P	**Pb**	**21 29 43.2**	**0.0**
	baz=318						
ELDTW	**Lidau**	**1.56**	**286**	*i* P	**Pg**	**21 29 44.9**	**-0.6**
	baz=291						
ELDTW				S	**Sn**	**21 30 02.1**	**-0.3**
	baz=291						
ECL	**Taimali**	**1.58**	**264**	P	**Pg**	**21 29 45.4**	**-0.4**
	baz=260						
ECL				S	**Sb**	**21 30 03.7**	**-0.1**
	baz=260						
ETM	**Tongmen**	**1.60**	**318**	P	**Pb**	**21 29 44.7**	**+0.2**
	baz=323						
ETM				S	**Sn**	**21 30 03.5**	**+0.4**
	baz=323						
TWD	**Chiawan**	**1.63**	**324**	P	**Pb**	**21 29 45.2**	**+0.3**
	baz=331						
TWD				S	**Sn**	**21 30 03.9**	**+0.1**
	baz=331						
HATJ	**Hateruma jima**	**1.66**	**39**	P	**Pb**	**21 29 46.7**	**+1.2**
HATJ				S	**Sn**	**21 30 05.7**	**+1.1**
ETL	**Fush Village**	**1.68**	**326**	*e*P	**Pb**	**21 29 45.9**	**+0.1**
	baz=327						
ETL				*e*S	**Sn**	**21 30 04.4**	**-0.7**
	baz=327						
JYNG	**Yonagunijimaku**	**1.70**	**9**	P	**Pb**	**21 29 47.3**	**+1.2**
NACB	**Ninganchiao**	**1.70**	**325**	*e*P	**Pb**	**21 29 46.3**	**+0.1**
	baz=330						
NACB				*e*S	**Sn**	**21 30 04.6**	**-1.1**
	baz=330						
EAST	**Anshuo**	**1.71**	**257**	*e*P	**Pg**	**21 29 48.2**	**-0.1**
	baz=259						
EAST				*e*S	**Sb**	**21 30 06.8**	**-0.9**
	baz=259						
YOJ	**Yonaguni jima**	**1.72**	**11**	P	**Pg**	**21 29 48.0**	**-0.4**
YOJ				*e*S	**Sb**	**21 30 07.8**	**+0.1**
YUS	**Yu-Shan**	**1.72**	**295**	*i* P	**Pg**	**21 29 48.0**	**-0.6**
	baz=294						
YUS				S	**Sb**	**21 30 07.6**	**-0.8**
	baz=294						
STYH	**Taoyuan**	**1.78**	**283**	P	**Pg**	**21 29 49.1**	**-0.4**
	baz=281						
STYH				S	**Sb**	**21 30 09.5**	**+0.1**
	baz=281						
ETLH	**Xiulin Townshi**	**1.79**	**323**	P	**Pb**	**21 29 48.0**	**+0.2**
	baz=328						
ETLH				*e*S	**Sn**	**21 30 08.1**	**+0.1**
	baz=328						
STYT	**Tauyuan**	**1.79**	**283**	P	**Pg**	**21 29 49.1**	**-0.7**
	baz=281						
STYT				S	**Sb**	**21 30 09.8**	**-0.1**
	baz=281						
OWD	**Renai**	**1.80**	**311**	*e*P	**Pb**	**21 29 48.0**	**+0.1**
	baz=311						
SLIU	**Shizi**	**1.80**	**253**	*e*S	**Sg**	**21 30 11.6**	**-1.8**
	baz=239						
IRIF	**Iriomote-Funau**	**1.84**	**32**	P	**Pb**	**21 29 49.2**	**+0.6**
IRIF				S	**Sn**	**21 30 10.6**	**+1.5**
EWUT	**Wuta**	**1.85**	**334**	*e*P	**Pb**	**21 29 49.4**	**+0.7**
	baz=332						
EWUT				*e*S	**Sn**	**21 30 10.0**	**+0.7**
	baz=332						
ALS	**Alishan**	**1.85**	**294**	*i* P	**Pg**	**21 29 50.3**	**-0.8**
	baz=297						
ALS				S	**Sb**	**21 30 10.6**	**-1.5**
	baz=297						
TSMG	**Majia**	**1.86**	**268**	*e*P	**Pb**	**21 29 49.4**	**+0.6**
	baz=264						
SSLB	**Suanglung**	**1.86**	**303**	P	**Pb**	**21 29 49.1**	**+0.1**
	baz=307						
SLGT	**Liugui**	**1.86**	**277**	*e*P	**Pg**	**21 29 50.6**	**-0.5**
	baz=273						
SSD	**Sandimen**	**1.87**	**270**	P	**Pg**	**21 29 50.6**	**-0.6**
	baz=266						
SSD				S	**Sb**	**21 30 11.2**	**-0.8**
	baz=266						
CHGB	**Renai**	**1.87**	**314**	P	**Pb**	**21 29 49.6**	**+0.4**
	baz=320						
CHGB				*e*S	**Sn**	**21 30 10.6**	**+0.4**
	baz=320						
WHF	**Hehuan Shan**	**1.87**	**317**	P	**Pb**	**21 29 49.1**	**-0.3**
	baz=324						
WHF				S	**Sn**	**21 30 10.2**	**-0.2**
	baz=324						
MASBT	**Mashibuluo**	**1.87**	**266**	P	**Pg**	**21 29 50.5**	**-0.9**
	baz=261						
JKRS	**Kuro-shima**	**1.92**	**40**	P	**Pb**	**21 29 50.5**	**+0.6**
JKRS				*e*S	**Sn**	**21 30 12.1**	**+1.1**
SCZT	**Fangliau**	**1.92**	**259**	*e*P	**Pg**	**21 29 52.2**	**0.0**
	baz=256						
SCZT				*e*S	**Sb**	**21 30 13.0**	**-0.6**
	baz=256						
HEN	**Hengchun**	**1.93**	**247**	*e*S	**Sb**	**21 30 12.7**	**-1.2**
	baz=237						
SGST	**Jiashian**	**1.94**	**280**	*e*P	**Pb**	**21 29 51.2**	**+1.0**
	baz=284						
SGST				*e*S	**Sb**	**21 30 13.0**	**-1.0**
	baz=284						
TPUB	**Ta-pu**	**1.94**	**286**	P	**Pg**	**21 29 51.9**	**-0.7**
	baz=284						
TPUB				*e*S	**Sb**	**21 30 13.1**	**-1.0**
	baz=284						
WTP	**Ta-pu**	**1.94**	**285**	P	**Pg**	**21 29 52.0**	**-0.5**
	baz=285						
SMLT	**Sun Moon Lake**	**1.96**	**305**	P	**Pb**	**21 29 51.5**	**+0.9**
	baz=304						
SMLT				S	**Sb**	**21 30 14.1**	**-0.7**
	baz=304						
FUSS	**Fushou**	**1.96**	**319**	*e*P	**Pb**	**21 29 50.8**	**+0.1**
	baz=326						
FUSS				*e*S	**Sn**	**21 30 12.8**	**+0.5**
	baz=326						
TWC	**Suao**	**1.98**	**338**	*e*P	**Pb**	**21 29 51.2**	**+0.3**
	baz=346						
TWC				*e*S	**Sb**	**21 30 14.1**	**-1.1**
	baz=346						
CHN4	**Tsaushan**	**1.98**	**287**	P	**Pg**	**21 29 53.1**	**-0.4**
	baz=285						
CHN5	**Tsauling**	**2.00**	**295**	*i* P	**Pg**	**21 29 53.3**	**-0.4**
	baz=293						
TYC	**Yuchr**	**2.00**	**305**	P	**Pg**	**21 29 53.3**	**-0.5**
	baz=308						
CHN1	**Nanshi**	**2.00**	**282**	P	**Pg**	**21 29 53.7**	**-0.1**
	baz=280						
NNSB	**Datong**	**2.02**	**325**	P	**Pb**	**21 29 51.7**	**0.0**
	baz=326						
NNSB				*e*S	**Sn**	**21 30 14.1**	**+0.4**
	baz=326						
NNSH	**Datong**	**2.02**	**325**	*e*P	**Pb**	**21 29 51.7**	**0.0**
	baz=326						
NNSH				*e*S	**Sn**	**21 30 13.7**	**0.0**
	baz=326						
DPDB	**Guoxing**	**2.03**	**309**	*e*P	**Pb**	**21 29 52.0**	**+0.3**
	baz=312						
DPDB				*e*S	**Sn**	**21 30 14.4**	**+0.7**
	baz=312						
NNS	**Nan Shan**	**2.04**	**325**	*e*P	**Pb**	**21 29 52.0**	**+0.1**
	baz=326						
NNS				*e*S	**Sn**	**21 30 14.9**	**+0.9**
	baz=326						
SNST	**Tainan City**	**2.04**	**283**	*e*P	**Pg**	**21 29 54.3**	**-0.1**
	baz=287						
NDS	**Dongshan**	**2.04**	**335**	*e*P	**Pb**	**21 29 52.6**	**+0.5**
	baz=331						
NDS				*e*S	**Sb**	**21 30 15.7**	**-1.6**
	baz=331						
WCS	**Beigang Elemen**	**2.05**	**309**	*e*P	**Pb**	**21 29 52.4**	**+0.3**
	baz=312						
WCS				*e*S	**Sn**	**21 30 14.9**	**+0.7**
	baz=312						
TWK	**Hsinying**	**2.06**	**284**	P	**Pg**	**21 29 54.5**	**-0.3**
	baz=288						
JIJ	**Ishigaki jima**	**2.09**	**40**	P	**Pb**	**21 29 52.4**	**-0.5**
JIJ				S	**Sn**	**21 30 15.6**	**+0.3**
NDT	**Datong Townshi**	**2.10**	**330**	*e*P	**Pb**	**21 29 53.5**	**+0.4**
	baz=331						
NDT				*e*S	**Sn**	**21 30 14.9**	**-0.6**
	baz=331						
ENTT	**Nioudou**	**2.11**	**332**	*e*S	**Sn**	**21 30 17.1**	**+1.3**
	baz=333						
TWE	**Neicheng**	**2.14**	**335**	*e*P	**Pb**	**21 29 53.3**	**-0.4**
	baz=337						
TWE				*e*S	**Sn**	**21 30 17.8**	**+1.3**
	baz=337						
WHP	**Taichung City**	**2.17**	**314**	*e*P	**Pb**	**21 29 55.0**	**+0.8**
	baz=318						
YHNB	**Yeheng**	**2.23**	**328**	*e*P	**Pb**	**21 29 55.0**	**-0.1**
	baz=329						
YHNB				*e*S	**Sn**	**21 30 19.2**	**+0.5**
	baz=329						
NWLT	**Wulai**	**2.26**	**332**	*e*P	**Pb**	**21 29 55.8**	**0.0**
	baz=326						
NWLT				*e*S	**Sn**	**21 30 20.9**	**+1.5**
	baz=326						
TWB1	**Santiao Chiao**	**2.31**	**345**	*e*S	**Sn**	**21 30 21.5**	**+0.8**
	baz=356						
TIPB	**Shuangxi**	**2.32**	**341**	*e*P	**Pb**	**21 29 56.8**	**+0.1**
	baz=349						
TIPB				*e*S	**Sn**	**21 30 21.3**	**+0.3**
	baz=349						
JISG	**Ishigakijimahi**	**2.36**	**40**	P	**Pb**	**21 29 56.1**	**-1.3**
JISG				*e*S	**Sn**	**21 30 22.6**	**+0.7**
NSTT	**Nanjuang**	**2.39**	**321**	*e*P	**Pb**	**21 29 58.8**	**+0.8**
	baz=326						
NSTT				*e*S	**Sn**	**21 30 24.6**	**+1.9**
	baz=326						
LIOB	**Emei**	**2.40**	**322**	*e*P	**Pb**	**21 29 58.8**	**+0.7**
	baz=310						
LIOB				*e*S	**Sn**	**21 30 23.9**	**+1.1**
	baz=310						
TWA	**Mucha**	**2.41**	**336**	*e*P	**Pb**	**21 29 57.9**	**-0.4**
	baz=338						
TWA				*e*S	**Sn**	**21 30 24.1**	**+1.0**
	baz=338						
NWF	**Wu-fen Shan**	**2.43**	**341**	*e*P	**Pb**	**21 29 57.9**	**-0.7**
	baz=352						
NWF				*e*S	**Sn**	**21 30 25.4**	**+1.7**
	baz=352						
YM01	**YM01**	**2.57**	**337**	*e*P	**Pb**	**21 30 01.0**	**+0.1**
	baz=339						
YM01				*e*S	**Sn**	**21 30 28.5**	**+1.5**
	baz=339						
JTJ	**Tarama**	**2.65**	**45**	P	**Pb**	**21 30 00.5**	**-1.8**
JTJ				*e*S	**Sn**	**21 30 30.1**	**+1.2**
JIRB	**Irabujima**	**3.09**	**48**	*e*S	**Sn**	**21 30 40.6**	**+0.8**

*FUNV **23** 21:30:31.7, 10˚.72N×62˚.26W, h88km, MW3.2*
*TRN **23** 21:30:32.1, 10˚.93N×62˚.28W, h14km, MD3.5*
ISC 23 21:30:29.6±1.3,10˚.72N±0˚.04×62˚.34W±0˚.04,
h103km±11km,n17,σ1§67/33,1C-1D,Near coast of
Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.89**	**267**	*e*P	**Pn**	**21 30 49.7**	**+0.6**
CRUV				*e*S	**Sn**	**21 31 03.1**	**-0.6**
TRN	**Trinidad (W)**	**0.92**	**94**	*i* P	**Pn**	**21 30 49.9**	**+0.4**
TRN				*e*S	**Sn**	**21 31 02.6**	**-1.7**
TRN	**Trinidad (W)**	**0.92**	**94**	*e*P	**Pn**	**21 30 49.8**	**+0.4**
TRN				*e*S	**Sn**	**21 31 02.5**	**-1.8**
TPP	**Pointe-a-Pierr**	**0.96**	**114**	*e*P	**Pn**	**21 30 52.3**	**+2.5**
TBH	**Brigand Hill**	**1.27**	**100**	*e*P	**Pn**	**21 30 55.5**	**+2.2**
TBH				*e*S	**Sn**	**21 31 13.2**	**+2.0**
GRGR	**Grenville**	**1.56**	**25**	*e*P	**Pn**	**21 30 56.6**	**-0.2**
GRGR				*e*S	**Sn**	**21 31 15.7**	**-1.7**
GRGR	**Grenville**	**1.56**	**25**	*e*P	**Pn**	**21 30 56.6**	**-0.2**
GRGR				*e*S	**Sn**	**21 31 16.1**	**-1.3**
TPR	**Prospect**	**1.60**	**73**	*e*P	**Pn**	**21 30 58.7**	**+1.4**
TPR				*e*S	**Sn**	**21 31 17.5**	**-0.8**
GCMP	**Grenada, Carri**	**1.97**	**27**	*e*P	**Pn**	**21 31 01.8**	**-0.1**
GCMP				*e*S	**Sn**	**21 31 24.8**	**-1.8**
PCRV	**Puerto La Cruz**	**2.33**	**257**	*e*P	**Pn**	**21 31 08.2**	**+1.6**
PCRV				*e*S	**Sn**	**21 31 33.8**	**-1.1**
RIOV	**Rio Grande**	**2.68**	**169**	*e*P	**Pn**	**21 31 12.9**	**+1.6**
RIOV				*e*S	**Sn**	**21 31 41.6**	**-1.7**
SLBI	**Saint Lucia, B**	**3.54**	**22**	*e*P	**Pn**	**21 31 24.4**	**+1.7**
SLBI				*e*S	**Sn**	**21 32 02.8**	**-1.0**
BIRV	**Birongo**	**3.88**	**267**	*e*P	**Pn**	**21 31 29.8**	**+2.6**
BIRV				*e*S	**Sn**	**21 32 11.6**	**-0.2**
MPOM	**Morne Pois Mar**	**3.98**	**21**	*e*P	**Pn**	**21 31 30.3**	**+1.8**
MPOM				*e*S	**Sn**	**21 32 13.6**	**-0.6**
MERV	**Las Mercedes**	**4.17**	**250**	*e*P	**Pn**	**21 31 32.3**	**+1.2**
MERV				*e*S	**Sn**	**21 32 18.4**	**-0.5**
LUEV	**Luepa**	**4.92**	**170**	*e*P	**Pn**	**21 31 41.7**	**+0.3**
LUEV				*e*S	**Sn**	**21 32 33.5**	**-3.9**
BAUV	**El Baul**	**5.89**	**253**	*e*P	**Pn**	**21 31 55.1**	**+0.6**
BAUV				*e*S	**Sn**	**21 32 58.0**	**-2.7**

IDC 23 21:32:10.7±2.3,16˚.74S×175˚.97W,h394km±26km,
mb3.4/3,mb1 3.5/5,mb1mx3.1/25,mbtmp4.2/5,Error
ellipse: s-maj=129.6km s-min=31.6km az=157.0,Tonga
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.93**	**56**	P	Pn	21 33 31.7	0.0
	7.8nm,0.3s,baz=194,slow=8.3,SNR=5.3						
MSVF	**Nonsavu**	**5.80**	**259**	P	Pn	21 33 41.0	0.0
	0.8nm,0.3s,baz=96,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**41.23**	**241**	P	P	21 39 19.0	-0.2
	0.8nm,0.5s,baz=101,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**47.14**	**258**	P	P	21 40 05.1	-0.6
	0.6nm,0.4s,baz=92,slow=7.4,SNR=22						
ASAR	**Alice Springs**	**47.35**	**253**	P	P	21 40 07.6	+0.3
	4.8nm,0.4s,baz=90,slow=7.8,SNR=80						

*IDC **23** 21:35:10.2±2.2,21˚.68S×178˚.32W,h579km±23km,mb3.0/9,*
mb1 3.3/10,mb1mx3.2/22,mbtmp4.0/10,Error ellipse:
s-maj=30.7km s-min=17.8km az=141.0
ISC 23 21:35:07.5±0.8,21˚.8S±0˚.2×178˚.2W±0˚.2,h550km,n14,
σ1§35/14,mb3.5/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.41**	**318**	P	**P**	**21 36 43.5**	**+2.5**
	7.6nm,0.3s,baz=159,slow=4.2,SNR=23						
ASAR	**Alice Springs**	**44.08**	**258**	P	**P**	**21 42 27.9**	**+0.6**
	1.6nm,0.5s,baz=97,slow=7.6,SNR=14						
ASAR				PcP	**PcP**	**21 44 00.8**	**+0.2**
	0.5nm,0.7s,baz=101,slow=4.1,SNR=6.2						
WRA	**Warramunga Arr**	**44.28**	**263**	P	**P**	**21 42 28.4**	**-0.5**
	0.6nm,0.3s,baz=97,slow=7.7,SNR=19						
VNDA	**Vanda**	**56.58**	**185**	P	**P**	**21 43 57.6**	**0.0**
	0.3nm,0.4s,baz=354,slow=2.3,SNR=2.1						
PETK	**Petropavlovsk-**	**77.51**	**345**	P	**P**	**21 46 04.5**	**-1.8**
	1.3nm,0.6s,baz=82,slow=3.1,SNR=2.4						
USRK	**Ussuriysk Ar.**	**79.97**	**326**	P	**P**	**21 46 18.5**	**-1.1**
	1.7nm,0.8s,baz=108,slow=6.2,SNR=4.1						
NVAR	**Mina Array Bea**	**82.09**	**43**	P	**P**	**21 46 31.1**	**+0.1**
	0.5nm,0.5s,baz=229,slow=8.0,SNR=3.7						
TXAR	**Lajitas Array**	**87.90**	**57**	P	**P**	**21 47 01.3**	**+2.1**
	0.5nm,0.8s,baz=216,slow=7.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.79**	**206**	P	**P**	**22 07 15.1**	**-2.4**
MSVF	**Nonsavu**	**7.92**	**114**	P	**P**	**22 07 27.2**	**-0.5**
	3.1nm,0.3s,baz=270,slow=12,SNR=9.8						
MSVF	**Nonsavu**	**7.92**	**114**	P	**P**	**22 07 26.8**	**-0.9**
DZM	**Mont Dzumac**	**8.27**	**207**	P	**P**	**22 07 30.7**	**-0.1**
	1.3nm,0.3s,baz=4.3,slow=19,SNR=2.3						
PINNC	**Pines Island,**	**8.38**	**199**	P	**P**	**22 07 31.3**	**-0.5**
OUENC	**Ouen Island, N**	**8.42**	**203**	P	**P**	**22 07 31.9**	**-0.2**
ONTNC	**Ouen Toro**	**8.48**	**206**	P	**P**	**22 07 31.8**	**-0.9**
ARMA	**Armidale**	**23.33**	**225**	P	**P**	**22 09 49.0**	**+0.5**
ARMA				IAmb	IAmb	22 09 50.1	
	comp=Z,9.6nm,1.2s						
CTA	**Charters Tower**	**23.69**	**253**	P	**P**	**22 09 51.1**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=79,slow=10,SNR=1.3						
CTAO	**Charters Tower**	**23.69**	**253**	P	**P**	**22 09 51.4**	**-0.3**
CTAO				IAmb	IAmb	22 10 11.3	
	comp=Z,26nm,1.5s						
LTZ	**Lake Taylor**	**28.05**	**177**	P	**P**	**22 10 29.2**	**-0.3**
STKA	**Stephens Creek**	**31.40**	**232**	P	**P**	**22 10 59.2**	**+0.9**
	comp=Z,8.4nm,0.4s,baz=63,slow=9.0,SNR=38						
STKA	**Stephens Creek**	**31.40**	**232**	P	**P**	**22 10 59.2**	**+0.9**
STKA				IAmb	IAmb	22 10 59.5	
	comp=Z,1.9nm,0.4s						
TOO	**Toolangi**	**31.78**	**220**	P	**P**	**22 11 02.4**	**+0.9**
TOO				IAmb	IAmb	22 11 03.1	
	comp=Z,9.8nm,0.6s						
WR0	**Warramunga Arr**	**34.62**	**256**	P	**P**	**22 11 24.2**	**-1.3**
WRA	**Warramunga Arr**	**34.81**	**256**	P	**P**	**22 11 26.1**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=84,slow=7.8,SNR=25						
WRA				ScP	**ScP**	**22 16 29.8**	**+3.7**
	comp=Z,0.6nm,0.7s,baz=89,slow=3.7,SNR=5.3						
WRA	**Warramunga Arr**	**34.81**	**256**	P	**P**	**22 11 25.7**	**-1.4**
AS31	**Alice Springs**	**35.56**	**250**	P	**P**	**22 11 32.7**	**-0.4**
AS31				IAmb	IAmb	22 11 33.2	
	comp=Z,3.3nm,0.4s						
ASAR	**Alice Springs**	**35.56**	**250**	P	**P**	**22 11 32.9**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=75,slow=9.8,SNR=73						
ASAR				PcP	**PcP**	**22 13 43.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=73,slow=3.2,SNR=2.7						
ASAR				ScP	**ScP**	**22 16 32.5**	**+3.7**
	comp=Z,1.2nm,0.7s,baz=83,slow=3.9,SNR=9.0						
ASAR	**Alice Springs**	**35.56**	**250**	P	**P**	**22 11 32.0**	**-1.2**
BBOO	**Buckleboo**	**36.06**	**234**	P	**P**	**22 11 37.5**	**+0.4**
MTN	**Manton Dam**	**38.19**	**268**	P	**P**	**22 11 54.3**	**-0.3**
MTN				IAmb	IAmb	22 12 02.0	
	comp=Z,13nm,1.2s						
FAKI	**Fak Fak**	**39.43**	**284**	P	**P**	**22 12 04.3**	**-0.2**
KNRA	**Kununurra**	**40.19**	**263**	P	**P**	**22 12 10.0**	**-0.5**
KNRA				IAmb	IAmb	22 12 10.7	
	comp=Z,10nm,1.1s						
FORT	**Forrest**	**41.97**	**240**	P	**P**	**22 12 24.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**43.04**	**259**	P	**P**	**22 12 33.0**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=99,slow=10,SNR=14						
FITZ	**Fitzroy Crossi**	**43.04**	**259**	P	**P**	**22 12 32.8**	**+0.1**
PSA00	**Pilbara Seismi**	**48.40**	**254**	P	**P**	**22 13 12.6**	**-0.5**
PSA00				IAmb	IAmb	22 13 18.1	
	comp=Z,15nm,1.4s						
PSA00	**Pilbara Seismi**	**48.40**	**254**	P	**P**	**22 13 13.3**	**+0.2**
PSA00				IAmb	IAmb	22 13 18.1	
	comp=Z,33nm,1.4s						
NWAO	**Narrogin (SRO)**	**51.41**	**240**	P	**P**	**22 13 34.2**	**-0.6**
NWAO				IAmb	IAmb	22 13 35.2	
	comp=Z,11nm,0.8s						
UGM	**Wanagama**	**59.00**	**270**	P	**P**	**22 14 27.3**	**-0.2**
VNDA	**Vanda**	**63.00**	**182**	P	**P**	**22 14 53.1**	**+0.8**
USA0B	**Ussuriysk Arra**	**68.27**	**331**	P	**P**	**22 15 25.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**68.27**	**331**	P	**P**	**22 15 25.0**	**-0.4**
QSPA	**South Pole Qui**	**75.35**	**180**	P	**P**	**22 16 06.5**	**+0.4**
ARCES	**ARCESS Array B**	**120.95**	**346**	PKP	**PKiKP**	**22 23 07.1**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=80,slow=1.0,SNR=4.0						

*NSSP **23** 22:35:18.1,38.67N×43.17E,h5km,Ms4.3*
*IDC **23** 22:35:20.0±0.6,38.59N×43.19E,h0km,mb4.0/30, mb1 4.1/39,mb1mx4.1/50,mbtmp4.0/39,ML3.4/9,MS3.7/26, Ms1 3.7/26,ms1mx3.5/46,Error ellipse: s-maj=12.6km s-min=8.0km az=159.0*
*DDA **23** 22:35:20.3,38.68N×43.18E,h30km±1km,MW4.5*
*ISK **23** 22:35:20.5,38.67N×43.17E,h5km,ML4.5/31*
*GCMT **23** 22:35:21.1±0.4,38.58N±0.02×43.15E±0.04,h22km, MW4.8/78,Moment Tensor Solution. s21,c22; s78,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.14±.13; Mθθ-1.91±.08; Mφφ-0.22±.07; Mrθ-0.11±.12; Mθφ0.08±.05; Mrφ0.24±.12; Best double couple: M◎2.04200×10^16 NP1:φ◎87.00000°,δ44.00000°,λ82.00000°. NP2: φ◎278.00000°,δ47.00000°,λ98.00000°. Principal axes: T 2.1670, Plg84.0000°, Azm256.0000°; N -0.2470, Plg6.0000°, Azm93.0000°; P -1.9170, Plg2.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*TEH **23** 22:35:21.3,38.67N×43.16E,h14km,ML4.4*
*NEIC **23** 22:35:22.3±1.6,38.63N±0.05×43.18E±0.06,h10km±1km, Error ellipse: s-maj=9.2km s-min=6.9km az=330.0*
*NEIC **23** 22:35:22.8,38.61N×43.16E,h14km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr6.84; Mθθ-6.60; Mφφ-0.24; Mrθ0.60; Mθφ0.83; Mrφ3.17; Fault plane solution: M◎7.51000×10^15 NP1:φ◎297.20000°, δ47.97000°,λ119.37000°. NP2:φ◎77.15000°,δ49.66000°, λ61.45000°. Principal axes: T 8.1043, Plg69.0000°, Azm279.0000°; N -1.3930, Plg21.0000°, Azm97.0000°; P -6.7112, Plg1.0000°, Azm187.0000°;*
*CFUSG **23** 22:35:22.8,38.60N×43.47E,h5km,mb2.9/1,Eastern Turkey Magtype MSH 3.5 from 1 stations*
*MOS **23** 22:35:22.7±1.3,38.61N×43.16E,h29km,mb4.5/10,Error ellipse: s-maj=5.7km s-min=3.5km az=106.2*
ISC 23 22:35:22.3±0.5,38.68N±0.01×43.18E±0.01,h12km±3km, n464,σ1§45/505,mb4.4/84,MS3.8/32,32C-37D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**119**	PG	**Pg**	**22 35 26.6**	**+0.2**
VANB				SG	**Sg**	**22 35 30.9**	**+1.6**
VANB	**Van**	**0.18**	**119**	Pg	**Pg**	**22 35 26.6**	**+0.2**
VANB	**Van**	**0.18**	**119**	*e*Pg	**Pg**	**22 35 26.5**	**+0.2**
TVAN	**Van**	**0.23**	**131**	↓*i*P	**Pg**	**22 35 26.6**	**-0.7**
TVAN				*i* S	**Sg**	**22 35 29.8**	**-0.9**
TVAN	**Van**	**0.23**	**131**	*e*Pg	**Pg**	**22 35 26.4**	**-0.9**
ERCV	**ERCIS-VAN**	**0.36**	**20**	PG	**Pg**	**22 35 28.4**	**-1.1**
ERCV				SG	**Sb**	**22 35 35.6**	**-0.8**
ERCV	**ERCIS-VAN**	**0.36**	**20**	Pg	**Pg**	**22 35 28.4**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.38**	**289**	↓*i*P	**Pg**	**22 35 29.2**	**-0.7**
ADCV				*i* S	**Sb**	**22 35 36.1**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.38**	**289**	*e*Pg	**Pg**	**22 35 29.2**	**-0.7**
GEVA	**Gevas**	**0.38**	**195**	↓*i*P	**Pg**	**22 35 28.9**	**-1.1**
GEVA				*i* S	**Sb**	**22 35 36.8**	**-0.4**
GEVA	**Gevas**	**0.38**	**195**	*e*Pg	**Pg**	**22 35 28.8**	**-1.1**
AKDM	**Akdamar-Van**	**0.39**	**204**	PG	**Pg**	**22 35 29.1**	**-1.0**
AKDM	**Akdamar-Van**	**0.39**	**204**	Pg	**Pg**	**22 35 28.6**	**-1.5**
AKDM	**Akdamar-Van**	**0.39**	**204**	*e*Pg	**Pg**	**22 35 28.6**	**-1.5**
VMUR	**Van-Muradiye**	**0.43**	**45**	↓*i*P	**Pg**	**22 35 30.0**	**-0.8**
VMUR				*i* S	**Sb**	**22 35 37.9**	**-0.6**
VMUR	**Van-Muradiye**	**0.43**	**45**	*e*Pg	**Pg**	**22 35 30.0**	**-0.7**
OZAP	**Van, Ozalp-Mer**	**0.63**	**92**	↓*i*P	**Pg**	**22 35 34.0**	**-0.7**
OZAP				*i* S	**Sn**	**22 35 48.1**	**+0.6**
MLAZ	**Malazgirt-MUS**	**0.67**	**313**	PG	**Pg**	**22 35 34.0**	**-1.4**
MLAZ	**Malazgirt-MUS**	**0.67**	**313**	Pg	**Pg**	**22 35 34.0**	**-1.4**
MLAZ	**Malazgirt-MUS**	**0.67**	**313**	*e*Pg	**Pg**	**22 35 33.9**	**-1.4**
CLDR	**Caldiran**	**0.73**	**51**	↓*i*P	**Pg**	**22 35 33.8**	**-2.8**
CLDR				*i* S	**Sg**	**22 35 45.9**	**-0.3**
CLDR	**Caldiran**	**0.73**	**51**	PG	**Pg**	**22 35 34.2**	**-2.3**
CLDR				SG	**Sb**	**22 35 47.8**	**+0.5**
CLDR	**Caldiran**	**0.73**	**51**	Pg	**Pg**	**22 35 34.4**	**-2.1**
BLIS	**Bitlis-Merkez**	**0.88**	**253**	↓*i*P	**Pg**	**22 35 37.7**	**-1.6**
BLIS				*i* S	**Sg**	**22 35 49.0**	**-1.8**
BLIS	**Bitlis-Merkez**	**0.88**	**253**	*e*Pg	**Pg**	**22 35 37.6**	**-1.6**
PERV	**Siirt/Pervari-**	**0.89**	**215**	↓*i*P	**Pg**	**22 35 37.1**	**-2.4**
PERV				*i* S	**Sb**	**22 35 52.5**	**+0.8**
BASK	**Baskale_VAN**	**0.90**	**134**	↓*i*P	**Pg**	**22 35 38.0**	**-1.7**
BASK				*i* S	**Sg**	**22 35 51.4**	**-0.1**
BASK				IAML		22 43 42.0	
	comp=N,703nm,0.6s						
BASK				IAML		22 43 44.0	
	comp=E,593nm,0.5s						
AGRB	**Hanur-Agry**	**0.90**	**351**	PG	**Pg**	**22 35 37.9**	**-1.8**
AGRB	**Hanur-Agry**	**0.90**	**351**	Pg	**Pg**	**22 35 38.4**	**-1.4**
GURO	**Guroymak-BITLI**	**0.91**	**262**	PG	**Pg**	**22 35 38.4**	**-1.5**
GURO				SG	**Sg**	**22 35 51.4**	**-0.4**
GURO	**Guroymak-BITLI**	**0.91**	**262**		**Pg**	**22 35 38.0**	**-1.9**
GURO				Sn	**Sg**	**22 35 51.3**	**-0.4**
DYDN	**Diyadin**	**0.94**	**24**	↓*i*P	**Pg**	**22 35 38.4**	**-2.2**
EKAR	**Karacoban**	**1.04**	**304**	*i* P	**Pg**	**22 35 40.5**	**-1.9**
KOTA	**Agri, Merkez-K**	**1.12**	**1**	↓*i*P	**Pb**	**22 35 41.6**	**-2.1**
KOTA				*i* S	**Sn**	**22 36 00.3**	**+0.9**
HAKT	**HAKKARI**	**1.20**	**160**	↓*e*P	**Pb**	**22 35 42.9**	**-2.2**
HAKT				*i* S	**Sn**	**22 36 03.3**	**+1.9**
HAKT	**HAKKARI**	**1.20**	**160**	*e*Pg	**Pb**	**22 35 43.9**	**-1.2**
SRTM	**Siirt_Merkez**	**1.21**	**236**	↓*i*P	**Pn**	**22 35 43.5**	**-1.7**
SRTM				*i* S	**Sn**	**22 36 02.9**	**+1.3**
SRTM	**Siirt_Merkez**	**1.21**	**236**	*e*Pg	**Pn**	**22 35 43.9**	**-1.3**
MUSM	**Mu-Merkez**	**1.31**	**272**	↑*i*P	**Pn**	**22 35 44.1**	**-2.5**
MUSM				*i* S	**Sb**	**22 36 02.5**	**-1.3**
SIRT	**Sirnak**	**1.32**	**207**	PN	**Pn**	**22 35 46.3**	**-0.4**
SIRT				SN	**Sg**	**22 36 05.6**	**+0.9**
SIRT	**Sirnak**	**1.32**	**207**	Pn	**Pn**	**22 35 45.6**	**-1.1**
SIRT				Sn	**Sb**	**22 36 02.5**	**-1.4**
SIRT	**Sirnak**	**1.32**	**207**	*e*Pg	**Pn**	**22 35 46.0**	**-0.7**
SIRN	**Sirnak**	**1.33**	**207**	↓*i*P	**Pn**	**22 35 45.2**	**-1.7**
SIRN				*i* S	**Sg**	**22 36 06.3**	**+1.1**
SIRN	**Sirnak**	**1.33**	**207**	*e*Pg	**Pn**	**22 35 45.4**	**-1.4**
IGDI	**IGDIR**	**1.37**	**30**	↓*i*P	**Pn**	**22 35 46.3**	**-1.1**
IGDI				*i* S	**Sg**	**22 36 06.2**	**-0.3**
YOVA	**Hakkari_Yksek**	**1.40**	**141**	↓*i*P	**Pn**	**22 35 46.7**	**-1.2**
YOVA				*i* S	**Sg**	**22 36 08.5**	**+1.2**
YOVA				IAML		22 43 59.0	
	comp=N,133nm,0.9s						
YOVA				IAML		22 44 01.0	
	comp=E,172nm,1.1s						
YOVA	**Hakkari_Yksek**	**1.40**	**141**	*e*Pg	**Pn**	**22 35 46.7**	**-1.2**
VRTB	**Varto-Mus**	**1.43**	**290**	*e*P	**Pn**	**22 35 47.7**	**-0.6**
VRTB	**Varto-Mus**	**1.43**	**290**	PN	**Pn**	**22 35 48.5**	**+0.3**
VRTB	**Varto-Mus**	**1.43**	**290**	*e*Pg	**Pn**	**22 35 48.1**	**-0.1**
CUKT	**Cukurca**	**1.47**	**167**	↓*i*P	**Pn**	**22 35 47.1**	**-1.7**
CUKT				*i* S	**Sg**	**22 36 12.0**	**+2.3**
CUKT	**Cukurca**	**1.47**	**167**	PN	**Pn**	**22 35 48.2**	**-0.6**
CUKT	**Cukurca**	**1.47**	**167**	*e*Pn	**Pn**	**22 35 47.8**	**-1.0**
VNNZ	**Vanand**	**1.50**	**19**	*i* P	**Pn**	**22 35 49.1**	**-0.1**
VNNZ				*i* S	**Sg**	**22 36 10.9**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.54**	**32**	PN	**Pb**	**22 35 50.4**	**-0.3**
METS	**Metsamor**	**1.62**	**25**	*i* P	**Pn**	**22 35 51.3**	**+0.5**
METS				*i* S	**Sg**	**22 36 15.2**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	↑*i*P	**Pn**	**22 35 51.4**	**+0.2**
SVAN				*i* S	**Sb**	**22 36 14.0**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	PN	**Pn**	**22 35 51.8**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**252**	*e*Pn	**Pn**	**22 35 51.3**	**+0.2**
HYR	**Heyderabad**	**1.66**	**51**	*e*Pn	**Pg**	**22 35 53.9**	**-0.2**
KOPR	**Koprukoy-ERZUR**	**1.66**	**322**	PN	**Pn**	**22 35 51.8**	**+0.3**
HOMI	**Horasan**	**1.68**	**324**	↓*i*P	**Pn**	**22 35 51.0**	**-0.8**
HOMI				*i* S	**Sb**	**22 36 15.4**	**+0.8**
BTMN	**Batman**	**1.70**	**243**	↑*i*P	**Pn**	**22 35 52.0**	**+0.1**
BTMN				*i* S	**Sb**	**22 36 15.4**	**+0.5**
SLHN	**Bingol, Solhan**	**1.71**	**280**	↑*i*P	**Pn**	**22 35 51.5**	**-0.5**
DIGO	**Kars**	**1.73**	**5**	↓*e*P	**Pn**	**22 35 51.9**	**-0.7**
NRKZ	**NAREK**	**1.74**	**41**	*i* P	**Pn**	**22 35 52.9**	**+0.4**
NRKZ				*i* S	**Sg**	**22 36 17.6**	**-0.8**
ARUZ	**Aruch**	**1.75**	**23**	*i* P	**Pn**	**22 35 52.9**	**+0.3**
ARUZ				*i* S	**Sb**	**22 36 17.2**	**+0.9**
EJDE	**Erzurum, Palan**	**1.86**	**309**	↑*e*P	**Pn**	**22 35 53.9**	**-0.4**
ERZM	**Erzurum**	**1.86**	**311**	*i* P	**Pn**	**22 35 55.1**	**+0.8**
NAX	**Nakhchivan**	**1.87**	**74**	*e*Pn	**Pb**	**22 35 56.4**	**0.0**
GNI	**Garni**	**1.90**	**39**	Pn	**Pb**	**22 35 56.0**	**-1.0**
	comp=E,62nm,0.3s,baz=249,slow=2.9,SNR=392						
GNI				Lg	Lg	22 36 23.5	
	comp=E,119nm,0.3s,baz=5.3,slow=20,SNR=5.9						
GNI	**Garni**	**1.90**	**39**	*i* P	**Pn**	**22 35 55.1**	**+0.4**
GNI				*i* S	**Sb**	**22 36 21.0**	**+0.3**
GNI	**Garni**	**1.90**	**39**	*ce*P	**Pn**	**22 35 54.9**	**+0.3**
GNI				pmax	pmax		
	comp=Z,630nm,0.7s						
GNI	**Garni**	**1.90**	**39**	PN	**Pn**	**22 35 55.2**	**+0.4**
GNI	**Garni**	**1.90**	**39**	Pn	**Pn**	**22 35 55.0**	**+0.4**
GNI	**Garni**	**1.90**	**39**	*e*Pn	**Pn**	**22 35 55.0**	**+0.3**
MIDY	**Mardin/Midyat-**	**1.90**	**228**	*e*P	**Pn**	**22 35 55.0**	**+0.3**
MIDY				*i* S	**Sb**	**22 36 21.9**	**+1.2**
KARS	**Kars**	**1.94**	**358**	P	**Pn**	**22 35 55.6**	**+0.3**
KARS	**Kars**	**1.94**	**358**	PN	**Pn**	**22 35 56.2**	**+0.9**
KARS	**Kars**	**1.94**	**358**	Pn	**Pn**	**22 35 55.6**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.95**	**299**	↑*i*P	**Pn**	**22 35 55.6**	**+0.2**
ECAT				*i* S	**Sg**	**22 36 28.2**	**+3.2**
IMRD	**Marand**	**1.97**	**88**	*e*Pn	**Pn**	**22 35 55.5**	**-0.2**
IMRD				*e*		22 36 04.0	
	comp=Z,31μm,0.7s						
SBZ	**Shahbuz**	**1.98**	**68**	*e*Pn	**Pb**	**22 35 58.0**	**-0.3**
BNGB	**Bingl**	**1.98**	**280**	PN	**Pn**	**22 35 55.8**	**+1.0**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	PN	**Pn**	**22 35 57.1**	**+1.2**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	*e*Pn	**Pn**	**22 35 55.9**	**0.0**
KAPZ	**Kaputan**	**2.01**	**35**	*i* P	**Pn**	**22 35 56.6**	**+0.3**
KAPZ				*i* S	**Sb**	**22 36 24.1**	**0.0**
EAK	**Akyaka**	**2.03**	**9**	↓*e*P	**Pn**	**22 35 56.2**	**-0.2**
EMRE	**Erzurum,Aziziy**	**2.18**	**309**	*e*P	**Pn**	**22 35 59.4**	**+0.9**
YEDI	**Yedisu-Bingol**	**2.19**	**291**	PN	**Pn**	**22 35 59.8**	**+1.1**
HANI	**Diyarbakir_Han**	**2.20**	**264**	↑*i*P	**Pn**	**22 35 58.3**	**-0.5**
HANI				*i* S	**Sb**	**22 36 30.4**	**+1.1**
MARD	**Mardin**	**2.34**	**235**	↑*e*P	**Pn**	**22 36 00.7**	**-0.1**
MARD				*i* S	**Sb**	**22 36 32.6**	**-0.8**
DDEM	**Demirkent**	**2.47**	**334**	*e*P	**Pn**	**22 36 02.9**	**+0.4**
KOPT	**Kop Dagi**	**2.47**	**303**	↑*e*P	**Pn**	**22 36 03.4**	**+0.7**
MAZI	**Mazidag**	**2.48**	**241**	PN	**Pn**	**22 36 02.9**	**+0.2**
DYBB	**Diyarbakir**	**2.50**	**254**	PN	**Pn**	**22 36 03.9**	**+1.0**
DIYA	**Diyarbakir**	**2.53**	**253**	*e*P	**Pn**	**22 36 04.3**	**+1.1**
DBAD	**Bademkaya**	**2.60**	**334**	↓*e*P	**Pb**	**22 36 07.9**	**-1.0**
KOVA	**Elazig, Kovanc**	**2.64**	**272**	*e*P	**Pn**	**22 36 01.6**	**-3.2**
AKH	**Akhalkalaki**	**2.73**	**5**	PN	**Pn**	**22 36 07.6**	**+1.4**
BAYB	**BAYBURT**	**2.76**	**306**	*e*P	**Pn**	**22 36 07.3**	**+0.8**
MAHB	**Mahabad**	**2.77**	**133**	*e*Pn	**Pn**	**22 36 08.3**	**+1.7**
EPOS	**Posof**	**2.84**	**353**	*e*P	**Pn**	**22 36 06.1**	**+1.5**
ERZN	**Erzincan**	**2.84**	**290**	PN	**Pn**	**22 36 09.2**	**+1.6**
TNCL	**Tunceli-Merkez**	**2.87**	**280**	*e*P	**Pn**	**22 36 08.2**	**+0.2**
EUZM	**Uzumlu**	**2.90**	**292**	*e*P	**Pn**	**22 36 13.2**	**-0.7**
DBOC	**Borcka**	**2.90**	**337**	*e*P	**Pb**	**22 36 13.3**	**-0.7**
BAYT	**Aydıntepe-Bayb**	**2.91**	**307**	PN	**Pn**	**22 36 10.0**	**+1.4**
HOPA	**Hopa-Artvin**	**3.01**	**334**	PN	**Pn**	**22 36 11.7**	**+1.9**
CHOM	**Cayeli-Rize**	**3.05**	**323**	PN	**Pn**	**22 36 11.7**	**+1.4**
IHRS	**Heris**	**3.05**	**96**	*e*Pn	**Pn**	**22 36 11.1**	**+0.5**
IHRS				*e*		22 36 25.5	
	comp=Z,7μm,0.5s						
CHAY	**Cayeli-Rize**	**3.06**	**323**	PN	**Pn**	**22 36 12.5**	**+2.1**
ELZG	**Elazig**	**3.30**	**268**	*e*P	**Pn**	**22 36 14.5**	**+0.6**
KELT	**Kelkit**	**3.38**	**297**	*e*P	**Pn**	**22 36 17.1**	**+2.0**
MACK	**Trabzon**	**3.46**	**312**	*e*P	**Pb**	**22 36 24.5**	**+0.8**
KTUT	**Trabzon**	**3.49**	**312**	PN	**Pn**	**22 36 18.3**	**+1.8**
IHSH	**Hashtrud**	**3.50**	**112**	*e*Pn	**Pn**	**22 36 18.4**	**+1.5**
SANL	**SANLIURFA_Merk**	**3.64**	**247**	*e*P	**Pn**	**22 36 19.0**	**+0.5**
URFA	**Urfa**	**3.66**	**252**	PN	**Pn**	**22 36 20.5**	**+1.7**
ILIC	**ilic-Erzincan**	**3.67**	**283**	PN	**Pn**	**22 36 20.8**	**+1.7**
KEMA	**Kemaliye**	**3.70**	**281**	*e*P	**Pn**	**22 36 20.1**	**+0.6**
MALT	**Malatya**	**3.75**	**266**	PN	**Pn**	**22 36 22.2**	**+2.1**
ALUC	**Giresun/Alucra**	**3.79**	**297**	*i* P	**Pn**	**22 36 24.5**	**+3.8**
ARPR	**Arapgir-MALATY**	**3.81**	**278**	PN	**Pn**	**22 36 22.5**	**+1.6**
ONI	**Oni**	**3.91**	**3**	P	**Pn**	**22 36 22.3**	**+0.1**
ONI	**Oni**	**3.91**	**3**	Pn	**Pn**	**22 36 22.3**	**+0.1**
ESPY	**Espiye-Giresun**	**4.09**	**304**	PN	**Pn**	**22 36 26.9**	**+2.2**
ZEI	**Tsey**	**4.14**	**7**	*e*P	**Pn**	**22 36 26.5**	**+1.0**
ZEI				pmax	pmax		
	comp=Z,80nm,0.9s						
SUSE	**Susehri**	**4.15**	**293**	*e*P	**Pb**	**22 36 35.1**	**-0.2**
CUZAR	**Zara_SIVAS**	**4.37**	**288**	*e*P	**Pb**	**22 36 41.9**	**+2.8**
DARE	**Darende-Malaty**	**4.46**	**270**	PN	**Pn**	**22 36 32.1**	**+2.2**
CUKAN	**kangal_SIVAS**	**4.50**	**280**	*e*P	**Pb**	**22 36 41.6**	**+0.3**
NEY	**Neytrino**	**4.57**	**356**	*i* P	**Pn**	**22 36 32.7**	**+1.2**
IDHR	**Dehrash**	**4.74**	**146**	*e*Pn	**Pn**	**22 36 35.8**	**+2.0**
IDHR				*e*		22 36 57.4	
	comp=Z,3μm,0.6s						
NCK	**Nalchik**	**4.82**	**4**	*i* P	**Pn**	**22 36 37.6**	**+2.9**
ILIN	**Lien**	**4.83**	**140**	*e*Pn	**Pn**	**22 36 37.1**	**+2.0**
GROC	**Groznyy**	**4.93**	**23**	*e*P	**Pb**	**22 36 47.3**	**-1.2**
GROC				*e*		22 37 33.5	
GROC				pmax	pmax		
	comp=Z,11nm,0.6s						
GROC				pmax	pmax		
	comp=Z,46nm,0.7s						
GROC				smax	smax		
	comp=E,43nm,0.7s						
GROC				smax	smax		
	comp=E,48nm,0.8s						
GROC				smax	smax		
	comp=E,92nm,1.3s						
GROC				MLR	MLR		
	comp=Z,83nm,2.0s						
GAZ	**Gaziantep**	**4.96**	**254**	Pn	**Pn**	**22 36 37.2**	**+0.6**
KBZ	**Khabaz**	**5.04**	**358**	Pn	**Pn**	**22 36 39.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=174,slow=7.3,SNR=3.8						
KBZ				LR	LR	22 38 27.2	
	comp=Z,325nm,20.5s,baz=147,slow=36						
SHA1	**Shidzhatmaz**	**5.07**	**356**	*i* P	**Pn**	**22 36 40.7**	**+2.4**
IGHG	**Ghaleghazi**	**5.13**	**147**	*e*Pn	**Pn**	**22 36 41.0**	**+1.8**
IGHG				*e*		22 37 45.3	
	comp=Z,4μm,0.9s						
KIV	**Kislovodsk**	**5.28**	**356**	*e*P	**Pn**	**22 36 42.0**	**+0.9**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,945nm,10.0s						
KIV	**Kislovodsk**	**5.28**	**356**	Pn	**Pn**	**22 36 42.2**	**+1.1**
KVAR	**Kislovodsk Arr**	**5.28**	**356**	Pn	**Pn**	**22 36 44.7**	**+3.6**
	baz=293,slow=15,SNR=4.6						
KVAR				LR	LR	22 38 23.0	
	comp=Z,571nm,18.6s,baz=66,slow=34						
KER	**Kermanshah**	**5.34**	**142**	*e*Pn	**Pn**	**22 36 42.2**	**+0.2**
MAK	**Makhachkala**	**5.38**	**36**	*e*P	**Pn**	**22 36 41.5**	**-0.9**
MAK				*e*S	**Sn**	**22 37 44.5**	**+0.2**
MAK				pmax	pmax		
	comp=Z,103nm,1.0s						
MAK				MLR	MLR		
	comp=Z,2μm,10.0s						
KCHF	**Cheshme Sefid,**	**5.39**	**144**	*e*Pn	**Pn**	**22 36 43.2**	**+0.5**
IALM	**Almabolaq**	**5.53**	**132**	*e*Pn	**Pn**	**22 36 47.2**	**+2.5**
SOC	**Sochi**	**5.55**	**333**	*e*P	**Pn**	**22 36 46.0**	**+1.3**
SOC				*e*		22 37 53.4	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,991nm,11.0s						
IBZA	**Bozab**	**5.64**	**137**	*e*Pn	**Pn**	**22 36 48.3**	**+2.0**
BNN	**Bunyan**	**5.74**	**274**	Pn	**Pn**	**22 36 47.5**	**0.0**
IGZV	**Ghazvin**	**6.04**	**110**	*e*Pn	**Pn**	**22 36 53.9**	**+2.2**
HAGD	**Aghdareh**	**6.14**	**127**	*e*Pn	**Pn**	**22 36 55.7**	**+2.6**
HSAM	**Samen**	**6.24**	**134**	*e*Pn	**Pn**	**22 36 57.1**	**+2.6**
IDOB	**Doab**	**6.34**	**

AKBB IAmb IAmb 22 39 14.5
comp=Z,14nm,0.8s
VTS Vitosha 15.64 291 P **Pn** **22 39 02.9 +0.3**
VTS pmax pmax
comp=Z,15nm,1.0s
VTS Vitosha 15.64 291 **Pn** **22 39 02.9 +0.3**
AKTO Aktyubinsk 15.77 37 Pn **Pn** **22 39 01.7 -2.4**
comp=Z,0.2nm,0.3s,baz=232,slow=9.7,SNR=10
AKTO LR LR 22 46 47.2
comp=Z,558nm,18.7s,baz=226,slow=43
BUR01 Bucovina Ar. S 15.83 310 ⇓P **Pn** **22 39 06.0 +1.0**
BURAR Bucovina Array 15.83 310 **Pn** **22 39 06.5 +1.4**
LOT Lotru 15.90 301 ⇑P **Pn** **22 39 07.0 +1.0**
HRA Herat 15.91 100 P **P** **22 39 08.2 -1.7**
ABKAR Akbulak array 16.00 43 P **Pn** **22 39 07.7 +0.6**
ABKAR Akbulak array 16.00 43 P **Pn** **22 39 07.5 +0.4**
AGG Agios Georgios 16.25 278 P **Pn** **22 39 11.4 +1.0**
AGG pmax pmax
comp=Z,12nm,1.0s
AGG Agios Georgios 16.25 278 P **Pn** **22 39 11.4 +1.0**
STIP Stip 16.32 287 *i* P **P** **22 39 15.3 +1.1**
GZR Gura Zlata 16.55 300 ⇑P **P** **22 39 15.7 -1.1**
HERR Herculane 16.66 298 ⇓P **P** **22 39 20.8 +2.9**
ITM Ithomi 16.84 272 **Pn** **22 39 18.6 +0.7**
BOVS Bovan 16.90 294 ⇑P **P** **22 39 20.4 -0.2**
FNA Florina 16.90 284 P **Pn** **22 39 19.1 +0.4**
FNA pmax pmax
comp=Z,8.0nm,1.0s
FNA Florina 16.90 284 P **Pn** **22 39 19.1 +0.4**
OBN Obninsk 17.03 347 P **P** **22 39 21.7 -0.2**
comp=Z,0.8nm,0.3s,baz=129,slow=13,SNR=5.6
OBN LR LR 22 46 25.7
comp=Z,92nm,18.4s,baz=176,slow=39
OBN Obninsk 17.03 347 *de*P **P** **22 39 22.2 +0.3**
OBN *i* S **Sn** **22 42 28.7 -0.6**
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,369nm,15.0s
OBN Obninsk 17.03 347 **Pn** **22 39 21.1 +0.9**
OBN IAmb IAmb 22 39 28.6
comp=Z,33nm,1.1s
DRGR 17.05 305 ⇓P **Pn** **22 39 20.7 +0.2**
DRGR 17.05 305 ⇓P **Pn** **22 39 20.7 +0.2**
MDVR Moldovita 17.12 298 ⇑P **P** **22 39 22.9 -0.3**
BZS Buzias 17.40 300 ⇑P **P** **22 39 26.3 +0.2**
BZS Buzias 17.40 300 ⇑P **P** **22 39 26.3 +0.2**
MOS Moscow 17.46 349 *e*P **Pn** **22 39 25.8 +0.3**
MOS *e*S **S** **22 42 44.5 -3.5**
MOS pmax pmax
comp=Z,50nm,1.0s
UOSS Minazif 17.58 137 **Pn** **22 39 27.1 -0.1**
UOSS IAmb IAmb 22 39 54.0
comp=Z,59nm,1.5s
LVV L'vov 17.61 315 *e*P **P** **22 39 28.2 -0.2**
UZH Uzhgorod 18.04 310 *e*P **P** **22 39 34.4 +1.3**
UZH *e*S **Sn** **22 42 53.3 -0.5**
KOLS Kolonicke sedl 18.18 311 *e*P **P** **22 39 34.9 +0.1**
KOLS Kolonicke sedl 18.18 311 *e*PN **P** **22 39 34.9 +0.1**
KOLS Kolonicke sedl 18.18 311 *e*P **P** **22 39 41.9 +7.1**
DIVS Divibare 18.20 295 **Pn** **22 39 34.9 0.0**
KWP Kalwaria Pacla 18.26 313 *e*P **P** **22 39 35.8 +0.3**
KWP Kalwaria Pacla 18.26 313 P **Pn** **22 39 35.5 +0.1**
KWP pmax pmax
comp=Z,163nm,0.9s
KWP Kalwaria Pacla 18.26 313 P **Pn** **22 39 35.5 +0.1**
MNK Minsk 18.93 332 *i* P **P** **22 39 41.9 -1.0**
MNK *i* S **Sn** **22 43 15.1 -0.1**
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.7s
MNK MLR MLR
comp=N,231nm,19.0s
MNK MLR MLR
comp=Z,260nm,15.0s
MNK MLR MLR
comp=E,23nm,19.0s
MNK Minsk 18.93 332 *i* P **P** **22 39 42.0 -0.9**
comp=E,3.0nm,1.6s
MNK *i* P **P** **22 39 42.0 -0.9**
comp=N,11nm,0.9s
MNK *i* P **P** **22 39 42.0 -0.9**
comp=Z,10.0nm,0.8s,baz=142
MNK *i* PP **PnPn** **22 39 55.2 -0.6**
MNK *i* S **Sn** **22 43 15.1 -0.1**
MNK *i* SS **SnSn** **22 43 34.2 +5.1**
MNK *i* PcP **PcP** **22 44 06.5 -1.9**
MNK *i* LQ LQ 22 45 24.5
MNK *i* LR LR 22 46 51.5
MNK *i* LRM MLR 22 48 14.7
comp=E,23nm,19.1s
MNK *i* LRM MLR 22 48 14.7
comp=N,231nm,19.4s
MNK *i* LRM MLR 22 48 14.7
comp=Z,260nm,14.9s
PSZ Piszkesteto 19.24 306 P **P** **22 39 46.1 -0.3**
PSZ pmax pmax
comp=Z,18nm,1.3s
PSZ Piszkesteto 19.24 306 P **P** **22 39 46.1 -0.3**
NACGM Naroch 19.65 331 *i* P **P** **22 39 50.2 -0.5**
IDID Didziasalis 19.98 332 IAmb IAmb 22 40 06.9
comp=Z,7.1nm,0.9s
VYHS Vyhne 20.10 307 *e*P Pn 22 39 59.8 +2.2
VYHS Vyhne 20.10 307 *e*P Pn 22 39 59.8 +2.2
SRO2 Moca 20.14 305 *e*P Pn 22 40 02.0 +3.9
SRO2 Moca 20.14 305 *e*P Pn 22 40 02.0 +3.9
IIGN Ignalina 20.20 331 *e*P **P** **22 39 55.2 -1.5**
OJC Ojcow 20.20 312 P Pn 22 39 58.1 -0.6
OJC pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 20.20 312 P Pn 22 39 58.1 -0.6
CHGR Chuyangaron 20.27 82 P **P** **22 39 57.7 0.0**
CHGR IAmb IAmb 22 40 14.4
comp=Z,17nm,0.9s
KIRV Kirov 20.32 9 P Pn 22 39 59.5 -0.5
comp=Z,5.4nm,0.5s,baz=215,slow=8.4,SNR=3.8
KIRV LR LR 22 49 51.4
comp=Z,81nm,21.3s,baz=202,slow=43
KIRV Kirov 20.32 9 *ce*P **P** **22 39 58.0 0.0**
ISAL Salakas 20.40 331 *e*P **P** **22 39 57.2 -1.7**
ISAL IAmb IAmb 22 40 07.6
comp=Z,5.0nm,0.7s
ARU Arti 20.48 25 P **P** **22 40 00.6 +0.8**
comp=Z,3.3nm,0.6s,baz=219,slow=7.7,SNR=19
ARU Arti 20.48 25 *di*P **P** **22 39 59.9 +0.1**
ARU PPP PPP 22 40 26.2
ARU S Sn 22 43 51.7 -0.8
ARU SS **SnSn** **22 44 10.9 +3.8**
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU MLR MLR
comp=Z,375nm,16.0s
ARU Arti 20.48 25 P **P** **22 40 00.2 +0.4**
ARU IAmb IAmb 22 40 06.4
comp=Z,21nm,0.9s
SUW Suwalki 20.52 325 *e*P **P** **22 39 58.8 -1.5**
SUW Suwalki 20.52 325 P **P** **22 40 00.8 +0.6**
SUW pmax pmax
comp=Z,47nm,1.0s
SUW Suwalki 20.52 325 P **P** **22 40 00.8 +0.6**
JAVC Velka Javorina 20.95 307 *e*P **P** **22 40 05.4 +0.4**
SMOL Smolenice 20.99 306 *e*P Pn 22 40 07.4 -0.6
SMOL Smolenice 20.99 306 *e*P Pn 22 40 07.4 -0.6
OKC Ostrava-Krasne 21.01 310 *e*S **S** **22 43 57.4 -1.9**
OKC AMS AMS 22 50 40.0
comp=Z,300nm,12.7s
MODS Modra-Piesok 21.04 306 *e*P P 22 40 14.9 +8.9
MODS Modra-Piesok 21.04 306 *e*P P 22 40 14.9 +8.9
KK31 Karatay Array 21.08 69 P **P** **22 40 07.2 +0.7**
KK31 pmax pmax
comp=Z,24nm,1.3s
KK31 Karatay Array 21.08 69 P **P** **22 40 07.2 +0.7**
KK31 IAmb IAmb 22 40 14.8
comp=Z,24nm,1.2s
KKAR Karatay Array 21.08 69 P **P** **22 40 07.1 +0.6**
KKAR pmax pmax
comp=Z,24nm,1.3s
KKAR Karatay Array 21.08 69 P **P** **22 40 07.3 +0.8**
KKAR IAmb IAmb 22 40 14.8
comp=Z,24nm,1.2s
KKAR Karatay Array 21.08 69 P **P** **22 40 07.1 +0.6**

ZST Bratislava 21.10 305 *e*P P 22 40 14.0 +7.4
ZST Bratislava 21.10 305 *e*P P 22 40 14.0 +7.4
GAR Garm 21.11 81 P **P** **22 40 07.2 +0.3**
GAR IAmb IAmb 22 40 30.0
comp=Z,32nm,1.0s
KBL Kabul 21.14 93 P **P** **22 40 07.9 +0.6**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 21.14 93 P **P** **22 40 07.9 +0.6**
MORC Moravsky Berou 21.35 310 *e*P **P** **22 40 08.7 -0.6**
MORC Moravsky Berou 21.35 310 P **P** **22 40 08.5 -0.9**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 21.35 310 P **P** **22 40 08.5 -0.9**
BTK Batken 21.38 78 P **P** **22 40 08.0 -1.8**
BTK pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 21.38 78 P **P** **22 40 08.0 -1.8**
VRAC Vranov 21.77 308 P **P** **22 40 14.8 +1.0**
comp=Z,9.3nm,0.9s,baz=79,slow=9.2,SNR=4.2
VRAC Vranov 21.77 308 *e*P **P** **22 40 07.6 -6.2**
KRUC Moravsky 21.81 307 *e*P **P** **22 40 08.5 -5.7**
CONA Conrad Observa 21.83 304 *e*P **P** **22 40 15.5 +1.0**
comp=Z,2.8nm,0.6s,SNR=5.3
ARSA Arzberg 21.89 302 *e*P **P** **22 40 18.5 +3.4**
comp=Z,0.9nm,0.3s
KRLC Kraliky 21.92 310 *e*P **P** **22 40 20.5 +5.1**
KRLC MLR MLR
comp=Z,200nm,14.4s
KRLC Kraliky 21.92 310 *e*P **P** **22 40 20.5 +5.1**
KRLC AMS AMS 22 51 20.0
comp=Z,200nm,14.4s
DPC Dobruska-Polom 22.29 310 *e*P **P** **22 40 22.5 +3.1**
DPC *e*S **S** **22 44 25.0 +0.6**
DPC MLR MLR
comp=Z,300nm,13.7s
DPC Dobruska-Polom 22.29 310 *e*P **P** **22 40 22.5 +3.1**
DPC *e*S **S** **22 44 25.0 +0.6**
DPC AMS AMS 22 51 30.0
comp=Z,300nm,13.7s
KLMR Klimovskoe 22.31 355 *e*P **P** **22 40 18.4 -1.0**
KLMR pmax pmax
comp=Z,39nm,1.1s
KLMR Klimovskoe 22.31 355 *e*P **P** **22 40 18.5 -1.0**
KLMR AMP 22 40 29.3
comp=Z,39nm,1.1s
KLMR LQ LQ 22 46 14.1
KLMR LQ LQ 22 46 14.1
KLMR LR LR 22 48 03.5
OSTC Ostas 22.43 311 *e*P **P** **22 40 27.1 +6.2**
OSTC *e*S Sn 22 44 34.8 -4.8
OSTC AMS AMS 22 53 10.0
comp=Z,200nm,11.7s
TREC Trest 22.45 307 AMS AMS 22 51 50.0
comp=Z,200nm,9.5s
VSU Vasula 22.47 337 *e*P **P** **22 40 19.7 -1.5**
VSU Vasula 22.47 337 *i* P **P** **22 40 21.4 +0.3**
VSU pmax pmax
comp=Z,112nm,1.0s
KSP Ksiaz 22.49 311 *e*P **P** **22 40 23.4 +1.9**
UPC Upice 22.54 310 AMS AMS 22 51 40.0
comp=Z,200nm,13.9s
CHVC Chvalec 22.54 311 *e*P **P** **22 40 22.7 +0.7**
VAE Valguarnera 22.64 276 P **P** **22 40 24.4 +1.0**
comp=Z,2.2nm,0.5s,baz=77,slow=17,SNR=1.4
MOA Molln 22.85 303 *i* P **P** **22 40 25.7 +0.3**
comp=Z,1.0nm,0.4s
ARSB Arslanbob 22.93 74 P **P** **22 40 26.8 +0.4**
ARSB pmax pmax
comp=Z,17nm,1.1s
ARSB Arslanbob 22.93 74 P **P** **22 40 26.8 +0.4**
ARSB IAmb IAmb 22 40 36.8
comp=Z,17nm,1.1s
PRGR Permogore 23.03 3 *e*P **P** **22 40 24.2 -2.8**
PRGR pmax pmax
comp=Z,5.0nm,0.6s
CKRC Cesky Krumlov 23.06 305 *e*P **P** **22 40 27.9 +0.4**
CKRC *e*S **S** **22 44 40.6 +2.4**
PRU Pruhonice 23.25 308 *e*P **P** **22 40 33.4 +4.0**
PRU *e*S **S** **22 44 43.5 +2.2**
PRU MLR MLR
comp=Z,200nm,15.2s
PRU Pruhonice 23.25 308 *e*P **P** **22 40 33.4 +4.0**
PRU *e*S **S** **22 44 43.5 +2.2**
PRU AMS AMS 22 52 00.0
comp=Z,200nm,15.2s
PRA Prague 23.34 309 AMS AMS 22 51 50.0
comp=Z,300nm,15.4s
PVCC Panska Ves 23.41 310 AMS AMS 22 52 20.0
comp=Z,300nm,15.3s
GERES GERESS Array B 23.45 305 P **P** **22 40 31.8 +0.2**
comp=Z,1.0nm,0.7s,baz=108,slow=8.6,SNR=8.5
GERES LR LR 22 50 59.8
comp=Z,62nm,20.2s,baz=110,slow=40
GERES GERESS Array B 23.45 305 P **P** **22 40 31.9 +0.3**
GERES GERESS Array B 23.45 305 P **P** **22 40 31.9 +0.3**
BRVK Borovoye 23.53 44 *ce*P **P** **22 40 33.6 +1.4**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 23.53 44 P **P** **22 40 33.6 +1.4**
BRVK IAmb IAmb 22 40 55.0
comp=Z,9.2nm,1.1s
BVAR Borovoye Array 23.58 44 P **P** **22 40 32.6 -0.1**
comp=Z,2.9nm,0.9s,baz=238,slow=22,SNR=10
KHC Kasperske Hory 23.61 306 *e*P **P** **22 40 31.1 -1.9**
KHC *e*S **S** **22 44 47.8 +0.6**
KHC MLR MLR
comp=Z,200nm,12.8s
KHC Kasperske Hory 23.61 306 *e*P **P** **22 40 31.1 -1.9**
KHC *e*S **S** **22 44 47.8 +0.6**
KHC AMS AMS 22 51 50.0
comp=Z,200nm,12.8s
BRG Berggiesshubel 23.90 310 *e*P **P** **22 40 37.6 +1.9**
BRG Amp 22 40 38.9
comp=Z,1.0nm,0.5s
BRG *ex* x 22 40 44.4
BRG Amp 22 40 48.2
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 23.90 310 S **S** **22 44 58.0 +6.3**
AAK Ala-Archa 24.00 71 P **P** **22 40 37.3 +0.2**
comp=Z,1.2nm,0.3s,baz=256,slow=10,SNR=6.2
AAK LR LR 22 51 41.8
comp=Z,139nm,21.2s,baz=274,slow=41
AAK Ala-Archa 24.00 71 *ce*P **P** **22 40 38.3 +1.3**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 24.00 71 P **P** **22 40 37.5 +0.5**
FRU1 Bishkek 24.10 70 P **P** **22 40 38.7 +0.8**
FRU1 pmax pmax
comp=Z,18nm,1.1s
FRU1 Bishkek 24.10 70 P **P** **22 40 38.7 +0.8**
FRU1 IAmb IAmb 22 41 06.8
comp=Z,18nm,1.1s
WTTA Wattenberg 24.49 301 *e*P **P** **22 40 42.0 +0.5**
comp=Z,6.6nm,0.9s
WATA Walderalm 24.54 301 *e*P **P** **22 40 42.1 +0.2**
comp=Z,1.9nm,0.6s
MEF Metsahovi 24.60 337 *e*P **P** **22 40 40.5 -1.6**
CLL Collm 24.60 311 *e*P **P** **22 40 42.0 -0.2**
CLL *i* 22 40 48.5
comp=Z,9.0nm,1.0s
CLL *e*S **S** **22 45 02.0 -1.0**
comp=N,100nm,17.7s
CLL *e*S **S** **22 45 02.0 -1.0**
comp=E,100nm,21.5s
CLL *e*S **S** **22 45 02.0 -1.0**
comp=Z,100nm,21.0s
CLL *e*SSS SSS 22 46 06.0
CLL Collm 24.60 311 *e*P **P** **22 40 42.0 -0.2**
CLL *i* 22 40 48.5
CLL *e*S **S** **22 45 02.0 -1.0**
NKC Novy Kostel 24.61 308 *e*P **P** **22 40 42.0 -0.4**
NKC MLR MLR
comp=Z,300nm,12.8s
NKC Novy Kostel 24.61 308 *e*P **P** **22 40 42.0 -0.4**
NKC *ex* x 22 45 22.1
NKC AMS AMS 22 53 10.0
comp=Z,300nm,12.8s
NIL Nilore 24.73 92 P **P** **22 40 44.4 +0.8**
NIL pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 24.73 92 P **P** **22 40 44.4 +0.8**
NIL IAmb IAmb 22 40 46.1
comp=Z,10nm,0.8s
MOTA Moosalm 24.86 301 *e*P **P** **22 40 45.0 +0.2**
comp=Z,12nm,0.7s
FETA Feichten 25.07 300 *e*P **P** **22 40 48.3 +1.7**
comp=Z,1.5nm,0.5s
BOOM Boomskoye usch 25.08 71 P **P** **22 40 47.6 +0.8**
BOOM pmax pmax
comp=Z,8.0nm,1.0s
BOOM Boomskoye usch 25.08 71 P **P** **22 40 47.6 +0.8**
BOOM IAmb IAmb 22 40 58.5
comp=Z,7.6nm,0.9s
FIA1 FINESS Array S 25.13 341 P **P** **22 40 46.7 -0.2**
FINES FINESS Array B 25.13 341 P **P** **22 40 47.1 +0.3**
comp=Z,2.0nm,0.8s,baz=146,slow=13,SNR=8.8
FINES FINESS Array B 25.13 341 P **P** **22 40 47.0 +0.1**
FINES FINESS Array B 25.13 341 P **P** **22 40 47.0 +0.1**
GRA1 Grafenberg Arr 25.24 306 P **P** **22 40 49.3 +1.3**
GRF Grafenberg Arr 25.24 306 P **P** **22 40 49.3 +1.3**
GRF pmax pmax
comp=Z,34nm,0.9s
GRF Grafenberg Arr 25.24 306 *e*P **P** **22 40 50.3 +2.3**
comp=Z,21nm,1.0s,baz=104,slow=9.8
GRFO Grafenberg 25.24 306 P **P** **22 40 49.1 +1.1**
GRFO pmax pmax
comp=Z,36nm,1.0s
GRFO Grafenberg 25.24 306 P **P** **22 40 49.1 +1.1**
DAVOX Davos/Dischmat 25.62 299 P **P** **22 40 51.6 -0.1**
comp=Z,4.7nm,0.7s,baz=137,slow=12,SNR=13
KDJ Kajisay 26.02 71 P **P** **22 40 56.4 +1.0**
KDJ pmax pmax
comp=Z,6.0nm,0.9s
KDJ Kajisay 26.02 71 P **P** **22 40 56.4 +1.0**
KDJ IAmb IAmb 22 41 05.8
comp=Z,5.6nm,0.9s
RAF Rauma 26.04 336 *e*P **P** **22 40 53.9 -1.3**
TARG Taragay, Kyrgy 26.51 72 P **P** **22 41 00.1 0.0**
KEST Kesra 27.02 274 P **P** **22 41 04.0 -0.3**
comp=Z,4.8nm,0.9s,baz=313,slow=7.4,SNR=3.9
KURBB Kurchatov Arra 27.57 53 P **P** **22 41 09.3 +0.3**
comp=Z,2.9nm,0.7s,baz=263,slow=9.0,SNR=25
KURK Kurchatov 27.64 53 P **P** **22 41 09.3 -0.4**
KURK Kurchatov 27.64 53 P **P** **22 41 09.3 -0.4**
BNI Bardonecchia 27.75 295 P **P** **22 41 11.6 +0.7**
BNI pmax pmax
comp=Z,22nm,1.2s
BNI Bardonecchia 27.75 295 P **P** **22 41 11.6 +0.7**
HFS Hagfors 28.38 329 P **P** **22 41 15.9 -0.3**
comp=Z,5.1nm,0.8s,baz=116,slow=10,SNR=6.8
HFS LR LR 22 54 41.1
comp=Z,138nm,18.1s,baz=124,slow=41
MAKZ Makanchi 29.38 61 P **P** **22 41 25.4 +0.1**
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
MAKZ Makanchi 29.38 61 P **P** **22 41 25.4 +0.1**
MK31 Makanchi Array 29.59 61 P **P** **22 41 27.5 +0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 29.59 61 P **P** **22 41 27.5 +0.3**
MKAR Makanchi Array 29.59 61 P **P** **22 41 27.5 +0.3**
comp=Z,1.9nm,0.8s,baz=262,slow=8.1,SNR=18
MKAR Makanchi Array 29.59 61 *ce*P **P** **22 41 27.7 +0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 29.90 329 P **P** **22 41 28.7 -1.0**
comp=Z,0.3nm,0.6s,baz=126,slow=11,SNR=2.6
NOA LR LR 22 55 17.1
comp=Z,87nm,18.7s,baz=125,slow=40
ZALV Zalesovo Beam 32.02 48 P **P** **22 41 48.1 -0.4**
comp=Z,1.0nm,0.6s,baz=258,slow=8.3,SNR=2.5
ZALV LR LR 22 56 26.4
comp=Z,118nm,19.2s,baz=244,slow=40
ZALV Zalesovo Beam 32.02 48 P **P** **22 41 48.9 +0.4**
ARCES ARCESS Array B 32.33 348 P **P** **22 41 50.4 -0.7**
comp=Z,2.3nm,0.7s,baz=153,slow=11,SNR=5.4
ARCES LR LR 22 55 47.5
comp=Z,202nm,21.6s,baz=145,slow=38
ARCES ARCESS Array B 32.33 348 P **P** **22 41 50.3 -0.7**
ARCES pmax pmax
comp=Z,35nm,1.8s
ARCES ARCESS Array B 32.33 348 P **P** **22 41 50.3 -0.7**
WMQ Urumqi 33.54 67 *e*P **P** **22 42 05.6 +3.6**
WMQ L L
comp=Z,390nm,20.3s
WMQ L L
comp=Z,280nm,19.7s
EKA Eskdalemuir Ar 34.96 314 P **P** **22 42 13.3 -0.7**
comp=Z,9.6nm,0.8s,baz=106,slow=8.6,SNR=24
ESK Eskdalemuir 34.98 314 P **P** **22 42 13.6 -0.6**
ESK pmax pmax
comp=Z,23nm,0.9s
ESK Eskdalemuir 34.98 314 P **P** **22 42 13.6 -0.6**
ESBB Sonseca Array 36.23 287 P **P** **22 42 24.1 -1.1**
ESBB IAmb IAmb 22 42 30.7
comp=Z,14nm,1.3s
ESDC Sonseca Array 36.23 287 P **P** **22 42 24.0 -1.2**
comp=Z,2.4nm,0.8s,baz=68,slow=9.0,SNR=21
ESDC Sonseca Array 36.23 287 P **P** **22 42 24.1 -1.1**
ESDC IAmb IAmb 22 42 30.6
comp=Z,7.1nm,1.2s
PBRG Braganca 37.81 291 *e*P **P** **22 42 35.0 -3.6**
comp=Z,12nm,1.5s
PBRG *ep*P **pP** **22 42 42.5 -0.1**
PVRL Vila Real 38.64 290 *e*P **P** **22 42 44.6 -1.0**
comp=Z,16nm,1.5s
PVRL *ep*P **pP** **22 42 50.0 +0.3**
POLO Lamas de Olo 38.67 291 *e*P **P** **22 42 45.7 -0.2**
comp=Z,6.3nm,1.2s
POLO *ep*P **pP** **22 42 50.0 0.0**
NRIK Noril'sk 38.69 23 P **P** **22 42 46.6 +1.0**
comp=Z,1.9nm,0.5s,baz=252,slow=7.8,SNR=1.7
NRIK LR LR 23 02 51.6
comp=Z,335nm,18.6s,baz=214,slow=43
NRIK Noril'sk 38.69 23 *i* P **P** **22 42 47.1 +1.5**
NRIK pmax pmax
comp=Z,10.0nm,1.2s
NRIK Noril'sk 38.69 23 P **P** **22 42 46.5 +0.9**
NRIK IAmb IAmb 22 42 52.6
comp=Z,8.3nm,1.1s
MTE Manteigas 38.72 289 *e*P **P** **22 42 44.8 -1.5**
comp=Z,20nm,1.2s
MTE *ep*P **sP** **22 42 51.1 -0.9**
MTE Manteigas 38.72 289 P **P** **22 42 45.3 -1.0**
MTE IAmb IAmb 22 42 52.2
comp=Z,23nm,1.2s
PCAB Cabril 38.77 291 *ep*P **P** **22 42 46.5 -0.1**
PCBR Castelo Branco 38.81 288 *e*P **P** **22 42 46.6 -0.4**
comp=Z,18nm,1.3s
PCBR *ep*P **pP** **22 42 51.5 +0.4**
PMRV Marv??o 38.86 288 *e*P **P** **22 42 47.1 -0.3**
comp=Z,8.9nm,1.2s
PMRV *ep*P **pP** **22 42 51.5 0.0**
MDT Midelt 38.88 276 P **P** **22 42 47.5 -0.2**
comp=Z,4.3nm,1.0s,baz=83,slow=9.3,SNR=4.5
PGAV Gavieira, Arco 38.88 292 *ep*P **P** **22 42 47.2 -0.5**
PVIS Viseu 38.90 290 *e*P **P** **22 42 47.4 -0.4**
comp=Z,13nm,1.2s
PVIS *ep*P **pP** **22 42 52.5 +0.6**
PESTR Estremoz 39.16 287 *e*P **P** **22 42 48.8 -1.1**
comp=Z,17nm,1.1s
PESTR *ep*P **pP** **22 42 53.8 -0.2**
PMTG Montargil 39.58 287 *e*P **P** **22 42 51.7 -1.7**
comp=Z,9.1nm,1.1s
PMTG *ep*P **pP** **22 42 57.8 +0.3**
KMBO Kilima Mbogo 39.99 189 LR LR 23 00 00.9
comp=Z,110nm,18.4s,baz=262,slow=37
TLY Talaya 43.34 52 LR LR 23 02 37.1
comp=Z,61nm,19.9s,baz=276,slow=38
GTA Gaotai 43.36 70 *e*P **P** **22 43 25.5 +0.9**
GTA pP sP 22 43 30.4 0.0
GTA sP pP 22 43 33.6 +4.9
GTA SS SS 22 52 59.4 -6.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,43nm,4.9s
GTA L L
comp=Z,95nm,18.2s
GTA L L
comp=Z,85nm,17.1s
GTA L L
comp=Z,110nm,17.5s
TOA0 Torodi Ar. Sit 44.62 247 P **P** **22 43 34.7 -0.1**
TOA0 IAmb IAmb 22 43 39.1
comp=Z,13nm,1.5s
TORD Torodi Ar. Bea 44.62 247 P **P** **22 43 33.5 -1.2**
comp=Z,2.3nm,0.9s,baz=70,slow=8.7,SNR=5.3
TORD LR LR 23 07 10.3
comp=Z,67nm,19.4s,baz=65,slow=43

TORD	**Torodi Ar. Bea**	**44.62**	**247**	P	**P**		**22 43 33.6**	**-1.2**
TORD				IAmb	IAmb		22 43 39.1	
	comp=Z,5.0nm,1.2s							
SONM	**Songino Array**	**45.76**	**57**	P	**P**		**22 43 43.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=243,slow=6.0,SNR=1.5							
SONM				LR	LR		23 04 58.5	
	comp=Z,212nm,18.4s,baz=277,slow=39							
ULN	**Ulaanbaatar**	**46.19**	**57**	*ceP*	**P**		**22 43 48.5**	**+1.4**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ULN	**Ulaanbaatar**	**46.19**	**57**	P	**P**		**22 43 47.3**	**+0.2**
ULN				IAmb	IAmb		22 43 56.4	
	comp=Z,3.1nm,1.0s							
LZH	**Lanzhou**	**47.49**	**73**	*eP*	**P**		**22 43 59.1**	**+1.7**
LZH				sP	sP		22 44 06.5	+3.2
LZH				pmax	pmax			
	comp=Z,23nm,1.1s							
BTO	**Baotou**	**50.36**	**65**	*eP*	**P**		**22 44 18.8**	**-0.5**
BTO				S	**S**		**22 51 30.1**	**-2.1**
BTO				L	L			
	comp=Z,510nm,24.0s							
BTO				L	L			
	comp=Z,330nm,13.4s							
BTO				L	L			
	comp=Z,350nm,10.1s							
SUMG	**Summit**	**51.11**	**337**	P	**P**		**22 44 24.6**	**-0.2**
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SUMG	**Summit**	**51.11**	**337**	P	**P**		**22 44 24.6**	**-0.2**
SUMG				IAmb	IAmb		22 44 31.2	
	comp=Z,6.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**51.37**	**65**	*eP*	**P**		**22 44 25.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**52.13**	**96**	P	**P**		**22 44 31.9**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=297,slow=8.1,SNR=11							
CMAR				LR	LR		23 10 09.9	
	comp=Z,53nm,20.1s,baz=322,slow=40							
CMAR	**Chiang Mai Arr**	**52.13**	**96**	*i* P	**P**		**22 44 31.7**	**-1.0**
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**52.13**	**96**	P	**P**		**22 44 31.7**	**-1.0**
XAN	**Xi'an**	**52.13**	**74**	P	**P**		**22 44 33.5**	**+0.9**
XAN				pP	sP		22 44 44.5	+6.1
XAN				sP	pP		22 44 48.8	+12
XAN				pmax	pmax			
	comp=Z,8.0nm,2.3s							
TIXI	**Tiksi**	**52.48**	**23**	*i* P	**P**		**22 44 35.4**	**+0.9**
DBIC	**Dimbokro**	**53.73**	**246**	P	**P**		**22 44 44.2**	**-0.3**
	comp=Z,4.3nm,1.0s,baz=27,slow=11,SNR=2.0							
DBIC	**Dimbokro**	**53.73**	**246**	P	**P**		**22 44 43.0**	**-1.5**
DBIC				pmax	pmax			
	comp=Z,44nm,1.7s							
DBIC	**Dimbokro**	**53.73**	**246**	P	**P**		**22 44 43.0**	**-1.5**
USRK	**Ussuriysk Ar.**	**63.63**	**53**	P	**P**		**22 45 52.3**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=272,slow=2.8,SNR=6.3							
USRK	**Ussuriysk Ar.**	**63.63**	**53**	P	**P**		**22 45 52.7**	**-0.4**
SEY	**Seymchan**	**64.17**	**29**	*i* P	**P**		**22 45 58.0**	**+1.7**
KSAR	**Wonju Array Be**	**64.26**	**62**	P	**P**		**22 45 56.6**	**-0.8**
KSAR	**Wonju Array Be**	**64.26**	**62**	P	**P**		**22 45 56.6**	**-0.8**
KSRS	**Korea Array**	**64.28**	**62**	P	**P**		**22 45 56.8**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=287,slow=6.6,SNR=19							
KSRS				LR	LR		23 16 54.7	
	comp=Z,45nm,19.4s,baz=295,slow=39							
BILL	**Bilibino**	**65.42**	**20**	*eP*	**P**		**22 46 07.7**	**+3.3**
BILL				*e*			22 46 18.6	
BILL							22 46 37.0	
BILL				pmax	pmax			
	comp=Z,14nm,2.5s							
BILL				MLR	MLR			
	comp=Z,79nm,20.0s							
LBTB	**Lobatse**	**65.47**	**198**	P	**P**		**22 46 05.2**	**-0.1**
LBTB				pmax	pmax			
	comp=Z,37nm,1.7s							
LBTB	**Lobatse**	**65.47**	**198**	P	**P**		**22 46 05.2**	**-0.1**
BOSA	**Boshof**	**69.01**	**197**	P	**P**		**22 46 27.2**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=8.7,slow=4.9,SNR=4.9							
BOSA				LR	LR		23 18 43.0	
	comp=Z,115nm,18.6s,baz=18,slow=38							
BOSA	**Boshof**	**69.01**	**197**	P	**P**		**22 46 27.2**	**-0.6**
MJAR	**Matsushiro Arr**	**71.71**	**58**	P	**P**		**22 46 44.6**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=316,slow=3.3,SNR=2.6							
MJAR	**Matsushiro Arr**	**71.71**	**58**	P	**P**		**22 46 44.8**	**+0.5**
MJAR				pmax	pmax			
	comp=Z,10.0nm,1.8s							
MJAR	**Matsushiro Arr**	**71.71**	**58**	P	**P**		**22 46 44.8**	**+0.5**
MJAR				IAmb	IAmb		22 46 49.6	
	comp=Z,9.6nm,1.8s							
PETK	**Petropavlovsk-**	**72.49**	**35**	LR	LR		23 22 31.4	
	comp=Z,88nm,18.7s,baz=304,slow=39							
TOLK	**Toolik Lake Re**	**72.57**	**5**	P	**P**		**22 46 49.6**	**+0.6**
BMAR	**Burnt Mountain**	**74.05**	**3**	P	**P**		**22 46 58.3**	**+0.7**
MLY	**Manley**	**76.05**	**6**	P	**P**		**22 47 09.6**	**+0.3**
MLY				IAmb	IAmb		22 47 15.7	
	comp=Z,3.7nm,0.9s							
POKR	**Poker Plat Res**	**76.20**	**5**	P	**P**		**22 47 11.1**	**+1.1**
POKR				IAmb	IAmb		22 47 16.7	
	comp=Z,7.0nm,0.9s							
MDM	**Murphy Dome**	**76.31**	**5**	P	**P**		**22 47 11.1**	**+0.5**
MDM				IAmb	IAmb		22 47 17.2	
	comp=Z,11nm,1.4s							
ILAR	**Eielson Array**	**76.58**	**4**	P	**P**		**22 47 13.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=317,slow=3.7,SNR=3.7							
CCB	**Clear Creek Bu**	**76.64**	**5**	P	**P**		**22 47 12.2**	**-0.4**
CCB				IAmb	IAmb		22 47 18.2	
	comp=Z,9.9nm,1.4s							
BWN	**Browne**	**77.00**	**6**	P	**P**		**22 47 15.4**	**+0.8**
KTH	**Kantishna Hill**	**77.48**	**6**	P	**P**		**22 47 16.9**	**-0.5**
SCRK	**Sand Creek**	**77.52**	**3**	P	**P**		**22 47 18.4**	**+0.7**
SCRK				IAmb	IAmb		22 47 24.2	
	comp=Z,8.9nm,1.2s							
K27K	**Chicken**	**77.54**	**2**	P	**P**		**22 47 17.9**	**+0.3**
K27K				IAmb	IAmb		22 47 24.7	
	comp=Z,8.2nm,1.1s							
DAWY	**Dawson**	**77.57**	**1**	P	**P**		**22 47 18.7**	**+0.9**
DAWY				IAmb	IAmb		22 47 23.9	
	comp=Z,4.8nm,0.8s							
YKA	**Yellowknife Ar**	**77.59**	**350**	P	**P**		**22 47 17.4**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=20,slow=6.3,SNR=2.0							
DOT	**Dot Lake**	**77.84**	**3**	P	**P**		**22 47 19.7**	**+0.4**
BCAR	**Beaver Creek A**	**78.52**	**2**	P	**P**		**22 47 23.6**	**+0.5**
L27K	**Beaver Creek,**	**78.52**	**2**	P	**P**		**22 47 23.6**	**+0.4**
L27K				IAmb	IAmb		22 47 29.2	
	comp=Z,4.9nm,1.1s							
SCM	**Sheep Creek Mo**	**79.47**	**5**	P	**P**		**22 47 28.7**	**+0.3**
SCM	**Sheep Creek Mo**	**79.47**	**5**	P	**P**		**22 47 28.6**	**+0.3**
SCM				IAmb	IAmb		22 47 34.6	
	comp=Z,7.4nm,0.8s							
KLU	**Klutina**	**79.90**	**4**	P	**P**		**22 47 31.0**	**+0.3**
HYT	**Haines Junctio**	**80.84**	**0**		**P**		**22 47 36.4**	**+0.5**
KDAK	**Kodiak Island**	**82.98**	**8**	P	**P**		**22 47 47.3**	**+0.3**
KDAK				pmax	pmax			
	comp=Z,11nm,0.7s							
KDAK	**Kodiak Island**	**82.98**	**8**	P	**P**		**22 47 47.3**	**+0.3**
PDAR	**Pinedale Array**	**95.23**	**340**	LR	LR		23 32 12.5	
	comp=Z,42nm,18.2s,baz=42,slow=36							

*UPP **23** 22:36:08.8±0.0,67.19N×20.67E,h0km,ML2.1,Explosion*
HEL 23 22:36:09.3±0.1**,67.18N×20.67E,h0km,ML1.7,**
ML2.1(UPP)**,Suspected explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**214**	P	Pg	22 36 10.5	-0.1
DUNU	**Dundret**	**0.07**	**214**	*i* P	Pg	22 36 10.5	-0.1
MASU	**Masugnsbyn**	**0.59**	**61**	P	Pg	22 36 19.8	-0.7
MASU				S	Sg	22 36 27.5	-0.6
MASU	**Masugnsbyn**	**0.59**	**61**	*i* P	Pg	22 36 19.8	-0.7
MASU				*i* S	Sg	22 36 27.5	-0.6
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	22 36 23.1	-0.9
RATU	**Laukkuluspa**	**0.77**	**328**	*i* P	Pg	22 36 23.1	-0.9
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	22 36 23.2	-1.2
KUA				S	Sg	22 36 34.1	-0.6
KUA	**Kurravaara**	**0.79**	**351**	*i* P	Pg	22 36 23.2	-1.2
KUA				*i* S	Sg	22 36 34.1	-0.6
NIKU	**Nikkaluokta**	**0.94**	**319**	P	Pg	22 36 26.1	-1.1
NIKU	**Nikkaluokta**	**0.94**	**319**	*eP*	Pg	22 36 26.1	-1.1
PAJU	**Pajala**	**0.97**	**98**	P	Pg	22 36 26.7	-1.2
PAJU				S	Sg	22 36 39.6	-0.7
PAJU	**Pajala**	**0.97**	**98**	*eP*	Pg	22 36 26.6	-1.3
	baz=283						
PAJU				*eS*	Sg	22 36 39.9	-0.4
LANU	**Lannavaara**	**1.01**	**29**	P	Pg	22 36 27.3	-1.4
LANU	**Lannavaara**	**1.01**	**29**	*eP*	Pg	22 36 27.4	-1.3
HARU	**Harads**	**1.03**	**173**	P	Pg	22 36 27.5	-1.4
HARU	**Harads**	**1.03**	**173**	*eP*	Pg	22 36 27.5	-1.4
KOVU	**Salmi**	**1.07**	**350**	P	Pg	22 36 28.4	-1.3
KOVU				S	Sg	22 36 42.7	-0.9
KOVU	**Salmi**	**1.07**	**350**	*eP*	Pg	22 36 28.4	-1.3
KOVU				*eS*	Sg	22 36 42.7	-0.9
KLF	**Kolari**	**1.29**	**86**	*eP*	Pg	22 36 32.0	-1.9
KLF				*eSB*	Sg	22 36 49.5	-1.0
HEF	**Hetta**	**1.68**	**41**	*eP*	Pn	22 36 39.1	-0.8
HEF	**Hetta**	**1.68**	**41**	*ePG*	Pn	22 36 39.5	-0.4
	baz=226						
HEF				MSG		22 36 59.8	
	comp=Z,5.1nm,0.2s						
HEF				*eS*	Sn	22 37 00.5	-1.6
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	22 36 39.8	-0.6
SJUU	**Sjulsmark**	**1.72**	**167**	*eP*	Pn	22 36 39.8	-0.6
TOF	**Tornio**	**1.83**	**125**	*ePN*	Pn	22 36 41.9	0.0
TOF				MSG		22 37 03.4	
	comp=Z,4.4nm,0.2s						
TOF				*eSN*	Sn	22 37 06.2	+0.5
KIF	**Kilpisjarvi**	**1.84**	**2**	*eP*	Pn	22 36 42.8	+0.7
KIF	**Kilpisjarvi**	**1.84**	**2**	*ePN*	Pn	22 36 42.4	+0.4
	baz=182						
KIF				MSG		22 37 05.0	
	comp=Z,6.0nm,0.2s						
KIF				*eSG*	Sb	22 37 07.7	+0.5
RNF	**Rovaniemi**	**2.19**	**103**	*ePB*	Pn	22 36 47.4	+0.5
RNF				*eSG*	Sb	22 37 16.4	-0.8
SGF	**Sodankyl**	**2.29**	**81**	*ePB*	Pn	22 36 49.0	+0.7
	baz=264						
SGF				*eSB*	Sb	22 37 18.8	-1.4
BURU	**Burvik**	**2.62**	**173**	*eP*	Pn	22 36 53.3	+0.5
	baz=354						
ARA0	**ARCESS Array S**	**2.97**	**35**	*eP*	Pn	22 36 57.5	-0.1
	baz=220						
UMAU	**Umeaa**	**3.31**	**180**	*eP*	Pn	22 37 02.8	+0.6
KEV	**Kevo**	**3.49**	**39**	*eS*	Sn	22 37 46.0	-0.6
VRF	**Varrio**	**3.49**	**76**	*eSB*	Sb	22 37 54.0	-0.8
OLKF	**Oulanka, Finla**	**3.57**	**100**	*ePG*	Pb	22 37 14.3	+1.1
VAF	**Ylistaro**	**4.24**	**168**	*eSG*	Sg	22 38 21.3	-4.0

*ISK **23** 22:43:09.6,38.69N×43.20E,h5km,ML3.2/16*
*DDA **23** 22:43:10.1,38.68N×43.20E,h23km±1km,ML3.2*
ISC 23 22:43:10.4±0.7**,38.69N**±0.02×**43.19E**±0.02**,h15km,n41,**
σ1s38/63,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**121**	PG	**Pb**	**22 43 15.9**	**+0.3**
VANB				SG	**Sb**	**22 43 20.4**	**+1.5**
TVAN	**Van**	**0.23**	**134**	*i* P	**Pb**	**22 43 15.8**	**-0.7**
TVAN				IAML		22 43 20.0	
	comp=N,10μm,0.3s						
TVAN				*i* S	**Sb**	**22 43 20.2**	**-0.3**
ERCV	**ERCIS-VAN**	**0.35**	**19**	PG	**Pb**	**22 43 17.9**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.39**	**288**	*i* P	**Pb**	**22 43 18.7**	**-0.4**
ADCV				IAML		22 43 25.0	
	comp=N,2μm,0.6s						
ADCV				*i* S	**Sb**	**22 43 25.3**	**+0.4**
ADCV				IAML		22 43 27.0	
	comp=E,2μm,0.5s						
GEVA	**Gevas**	**0.39**	**196**	*i* P	**Pb**	**22 43 18.3**	**-0.9**
GEVA				*i* S	**Sb**	**22 43 25.4**	**+0.3**
GEVA				IAML		22 43 30.0	
	comp=E,2μm,0.8s						
AKDM	**Akdamar-Van**	**0.40**	**205**	PG	**Pb**	**22 43 18.2**	**-1.1**
VMUR	**Van-Muradiye**	**0.42**	**44**	*i* P	**Pb**	**22 43 19.4**	**-0.3**
VMUR				*i* S	**Sb**	**22 43 26.5**	**+0.5**
VMUR				IAML		22 43 28.0	
	comp=N,3μm,0.4s						
VMUR				IAML		22 43 28.0	
	comp=E,3μm,0.3s						
OZAP	**Van, Ozalp-Mer**	**0.63**	**92**	*i* P	**Pn**	**22 43 23.2**	**-1.8**
OZAP				*i* S	**Sn**	**22 43 35.5**	**+0.6**
MLAZ	**Malazgirt-MUS**	**0.68**	**312**	PG	**Pb**	**22 43 23.8**	**-0.2**
CLDR	**Caldiran**	**0.72**	**51**	*i* P	**Pg**	**22 43 23.1**	**-1.5**
CLDR				*i* S	**Sb**	**22 43 34.8**	**+0.1**
CLDR				IAML		22 43 35.0	
	comp=N,716nm,0.3s						
CLDR				IAML		22 43 35.0	
	comp=E,666nm,0.7s						
CLDR	**Caldiran**	**0.72**	**51**	PG	**Pb**	**22 43 23.8**	**-1.1**
CLDR				SG	**Sb**	**22 43 34.9**	**+0.1**
BLIS	**Bitlis-Merkez**	**0.89**	**252**	*i* P	**Pn**	**22 43 27.5**	**-1.1**
BLIS				*i* S	**Sg**	**22 43 38.6**	**-0.7**
BLIS				IAML		22 43 40.0	
	comp=N,2μm,0.5s						
BLIS				IAML		22 43 40.0	
	comp=E,1μm,0.6s						
AGRB	**Hanur-Agry**	**0.90**	**350**	PG	**Pn**	**22 43 27.6**	**-1.2**
PERV	**Siirt/Pervari-**	**0.90**	**215**	*i* P	**Pn**	**22 43 28.0**	**-0.7**
PERV				IAML		22 43 46.0	
	comp=N,717nm,0.4s						
PERV				IAML		22 43 50.0	
	comp=E,910nm,0.4s						
GURO	**Guroymak-BITLI**	**0.92**	**262**	PG	**Pn**	**22 43 27.8**	**-1.2**
DYDN	**Diyadin**	**0.94**	**24**	*i* P	**Pg**	**22 43 27.9**	**-0.7**
DYDN				*i* S	**Sn**	**22 43 47.0**	**+4.4**
DYDN				IAML		22 43 48.0	
	comp=N,419nm,0.6s						
KOTA	**Agri, Merkez-K**	**1.11**	**1**	*i* P	**Pg**	**22 43 31.0**	**-0.9**
KOTA				*i* S	**Sn**	**22 43 49.4**	**+2.6**
KOTA				IAML		22 43 52.0	
	comp=N,320nm,1.0s						
HAKT	**HAKKARI**	**1.20**	**160**	*i* P	**Pg**	**22 43 32.4**	**-1.2**
HAKT				*i* S	**Sg**	**22 43 52.4**	**+3.1**
SRTM	**Siirt_Merkez**	**1.22**	**236**	*i* P	**Pg**	**22 43 34.6**	**+0.7**
SRTM				*i* S	**Sg**	**22 43 51.6**	**+1.8**
SRTM				IAML		22 43 54.0	
	comp=N,357nm,0.9s						
SRTM				IAML		22 43 57.0	
	comp=E,489nm,0.7s						
MUSM	**Mu-Merkez**	**1.32**	**272**	*i* P	**Pb**	**22 43 34.0**	**-0.9**
MUSM				*i* S	**Sg**	**22 43 52.5**	**-0.5**
SIRT	**Sirnak**	**1.33**	**207**	PN	**Pg**	**22 43 36.1**	**+0.1**
SIRN	**Sirnak**	**1.34**	**208**	*i* P	**Pg**	**22 43 36.9**	**+0.6**
SIRN				*i* S	**Sg**	**22 43 56.2**	**+2.5**
SIRN				IAML		22 43 58.0	
	comp=E,360nm,0.6s						
SIRN				IAML		22 43 59.0	
	comp=N,335nm,0.6s						
IGDI	**IGDIR**	**1.36**	**30**	*i* P	**Pg**	**22 43 35.5**	**-1.2**
IGDI				*i* S	**Sg**	**22 43 56.0**	**+1.5**
YOVA	**Hakkari_Yksek**	**1.40**	**141**	*i* P	**Pg**	**22 43 36.1**	**-1.3**
YOVA				*i* S	**Sg**	**22 43 57.7**	**+2.0**
VRTB	**Varto-Mus**	**1.43**	**290**	*i* P	**Pg**	**22 43 37.3**	**-0.8**
VRTB				*i* S	**Sg**	**22 43 59.9**	**+3.2**
VRTB				IAML		22 44 05.0	
	comp=E,322nm,0.7s						
VRTB				IAML		22 44 10.0	
	comp=N,272nm,0.6s						
VRTB	**Varto-Mus**	**1.43**	**290**	PN	**Pg**	**22 43 38.3**	**+0.2**
CUKT	**Cukurca**	**1.48**	**167**	*i* P	**Pb**	**22 43 36.7**	**-0.9**
CUKT				*i* S	**Sg**	**22 43 58.8**	**+0.7**
CUKT				IAML		22 44 03.0	
	comp=N,458nm,1.0s						
CUKT				IAML		22 44 04.0	
	comp=E,351nm,0.7s						
CUKT	**Cukurca**	**1.48**	**167**	PN	**Pg**	**22 43 37.2**	**-1.6**
TASB	**TASBURUN-IGDIR**	**1.53**	**32**	PN	**Pg**	**22 43 39.2**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	*i* P	**Pg**	**22 43 41.1**	**-1.2**
SVAN				*i* S	**Sg**	**22 44 04.8**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.66**	**252**	PN	**Pg**	**22 43 41.4**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**1.67**	**322**	PN	**Pg**	**22 43 40.8**	**-1.7**
HOMI	**Horasan**	**1.68**	**324**	*i* P	**Pg**	**22 43 41.4**	**-1.4**
HOMI				IAML		22 44 08.0	
	comp=N,249nm,0.9s						
HOMI				IAML		22 44 18.0	
	comp=E,211nm,0.6s						
BTMN	**Batman**	**1.71**	**243**	*i* P	**Pg**	**22 43 42.2**	**-1.1**
BTMN				*i* S	**Sg**	**22 44 05.6**	**0.0**
BTMN				IAML		22 44 08.0	
	comp=N,451nm,0.9s						
SLHN	**Bingol, Solhan**	**1.71**	**280**	*i* P	**Pg**	**22 43 41.8**	**-1.6**
DIGO	**Kars**	**1.73**	**5**	*i* P	**Pg**	**22 43 42.5**	**-1.2**
GNI	**Garni**	**1.89**	**39**	PN	**Pg**	**22 43 44.7**	**-2.0**
MIDY	**Mardin/Midyat-**	**1.91**	**228**	*i* P	**Pg**	**22 43 45.2**	**-1.9**
MIDY				*i* S	**Sg**	**22 44 11.2**	**-0.7**
MIDY				IAML		22 44 15.0	
	comp=E,184nm,0.4s						
MIDY				IAML		22 44 18.0	
	comp=N,132nm,0.3s						
KARS	**Kars**	**1.94**	**357**	PN	**Pb**	**22 43 45.2**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.98**	**341**	PN	**Pb**	**22 43 46.2**	**-0.1**
BNGB	**Bingl**	**1.99**	**280**	PN	**Pb**	**22 43 45.8**	**-0.6**

*INET **23** 22:53:24.9,9.06N×83.77W,h15km,MW2.9*
UPA 23 22:53:26.0±0.8**,8.94N×84.03W,h0**km±3km**,MW4.4,4C,**
Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.82**	**119**	*eS*	Sn	22 53 56.6	-1.1
DRK0	**Durika**	**0.83**	**67**	*eP*	Pb	22 53 43.1	-0.4
DRK0				*eS*	Sb	22 53 56.7	+1.4
PIRO	**Carate, Puerto**	**0.87**	**128**	*eP*	Pb	22 53 43.4	-0.6
PIRO				*eS*	Sb	22 53 56.5	+0.4
HDC	**Heredia**	**1.06**	**355**	*eP*	Pb	22 53 47.5	+0.2
HDC				*eS*	Sn	22 54 03.1	-0.6
CDITO	**Canoas**	**1.20**	**108**	*eP*	Pg	22 53 48.7	-0.3
CDITO				*eS*	Sn	22 54 06.6	-0.4
BATAN	**Batan**	**1.32**	**29**	*eP*	Pn	22 53 52.1	+0.4
BATAN				*eS*	Sb	22 54 09.3	+0.3
BC3P	**Paso Ancho**	**1.40**	**95**	*eP*	Pg	22 53 52.3	-0.7
BC3P				*eS*	Sn	22 54 12.5	0.0
BCO2	**Palmira**	**1.50**	**98**	*iP*	Pn	22 53 53.8	-0.5
BCO2				*eS*	Sn	22 54 14.7	+0.1
PTAR3	**Potrerillos Ar**	**1.53**	**99**	*eP*	Pn	22 53 54.5	-0.2

*IDC **23** 22:55:44.8±4.3,35.83N×71.57E,h0km,mb3.8/5,*
mb1 3.8/7,mb1mx3.4/40,mbtmp3.7/7,ML3.0/2,Error
ellipse: s-maj=90.4km s-min=28.7km az=140.0
ISC 23 22:55:57.8±2.4**,36.3N**±0.2×**71.8E**±0.3**,h100km,n7,**
σ1s47/8,mb3.7/4,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.72**	**18**	Pn	**Pn**	**22 57 34.5**	**+0.6**
	0.4nm,0.3s,baz=190,slow=6.1,SNR=1.7						
AAK				Sn	**Sn**	**22 58 47.1**	**-1.9**
	baz=342,slow=21,SNR=1.5						
MKAR	**Makanchi Array**	**13.15**	**34**	Pn	**Pn**	**22 59 00.5**	**0.0**
	0.1nm,0.3s,baz=219,slow=16,SNR=1.8						
ZALV	**Zalesovo Beam**	**19.89**	**23**	P	**P**	**23 00 22.1**	**+1.0**
	0.6nm,0.3s,baz=214,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**38.02**	**326**	P	**P**	**23 03 07.2**	**+1.3**
	0.6nm,0.7s,baz=125,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**41.60**	**338**	P	**P**	**23 03 36.8**	**+1.4**
	2.0nm,0.8s,baz=110,slow=7.8,SNR=5.8						
NOA	**NORSAR Array B**	**44.94**	**323**	P	**P**	**23 04 02.4**	**-0.1**
	1.4nm,1.0s,baz=95,slow=7.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.32**	**269**	P	**P**	**23 06 34.5**	**-1.5**
	0.3nm,0.3s,baz=45,slow=5.7,SNR=2.8						

*IDC **24** 00:18:45.7±2.6,34.18N×139.88E,h105km±12km,mb3.0/3,*
mb1 3.1/5,mb1mx2.9/39,mbtmp3.3/5,Error ellipse:
s-maj=84.1km s-min=17.5km az=77.0
*JMA **24** 00:18:45.4±0.2,34.23N×140.09E,h86km±2km,M2.9*
ISC 24 00:18:44.4±1.0**,34.23N**±0.05×**140.09E**±0.07**,h96km**±7km,**
n23,σ0s84/27,mb3.3/3,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.54**	**231**	P	**Pn**	**00 19 00.2**	**+0.1**
JMKN				*eS*	**Sn**	**00 19 11.7**	**0.0**
BSO3	**Boso 3**	**0.67**	**31**	P	**Pn**	**00 19 01.6**	**+0.7**
JTHY	**Toshimahigashi**	**0.73**	**294**	P	**Pn**	**00 19 02.2**	**+0.5**
JIM2	**Oshima 3**	**0.73**	**312**	P	**Pn**	**00 19 01.9**	**+0.1**
JIM2				S	**Sn**	**00 19 14.6**	**-0.2**
JSKK	**Shikinejimakit**	**0.74**	**278**	P	**Pn**	**00 19 02.0**	**+0.2**
BSO4	**Boso 4**	**0.79**	**15**	P	**Pn**	**00 19 03.2**	**+1.0**
JKO	**Kozu shima**	**0.79**	**267**	P	**Pn**	**00 19 02.6**	**+0.2**
JKO				S	**Sn**	**00 19 15.7**	**-0.1**
BSO1	**Boso 1**	**0.84**	**60**	P	**Pn**	**00 19 02.9**	**+0.6**
JIZS	**Izushimoda**	**1.12**	**296**	P	**Pn**	**00 19 06.4**	**+0.6**
JIZS				S	**Sn**	**00 19 22.1**	**+0.1**
JHJ	**Hachijo jima 2**	**1.14**	**193**	P	**Pn**	**00 19 07.0**	**+0.9**
	46nm,0.3s,baz=335,slow=20,SNR=83						
JHJ				S	**Sn**	**00 19 23.6**	**+1.2**
	50nm,0.3s,baz=244,slow=21,SNR=6.4						
JHJ2	**Mitsune**	**1.14**	**192**	P	**Pn**	**00 19 06.5**	**+0.4**
JOD2	**Odawara 2**	**1.32**	**322**	P	**Pn**	**00 19 08.7**	**+0.4**
JOD2				*eS*	**Sn**	**00 19 26.4**	**0.0**
JYN	**Shimob**	**1.80**	**315**	P	**Pn**	**00 19 15.5**	**+1.2**
TK04	**Tokai 4**	**1.84**	**275**	P	**Pn**	**00 19 16.3**	**+1.6**
MJAR	**Matsushiro Arr**	**2.77**	**327**	P	**Pn**	**00 19 28.0**	**+1.0**
	1.0nm,0.3s,baz=155,slow=12,SNR=32						
MAT	**Matsushiro**	**2

HEF				Sg	Sb	00 37 01.4	+3.0	
KTK1	**Kautokeino**	**4.14**	**294**	Pn	Pn	**00 36 08.6**	**+2.3**	
KTK1				Sn	Sn	**00 36 54.3**	**-0.4**	
KTK1				Lg	Lg	00 37 08.2		
KTK1	**Kautokeino**	**4.14**	**294**	*e*P	Pn	**00 36 08.5**	**+2.3**	
KTK1				*e*S	Sn	**00 36 53.6**	**-1.1**	
KTK1				IAML		00 37 23.3		
	comp=Z,35nm,0.6s							
KIF	**Kilpisjarvi**	**5.00**	**292**	Pn	Pn	**00 36 18.4**	**+0.5**	
KIF				Sn	Sn	**00 37 14.3**	**-1.4**	
KIF				Lg	Lg	00 37 32.9		
KIF	**Kilpisjarvi**	**5.00**	**292**	Pn	Pn	**00 36 18.4**	**+0.5**	
KIF				Sn	Sn	**00 37 14.3**	**-1.4**	
JETT	**Jettan, Norway**	**5.26**	**298**	Pn	Pn	**00 36 22.5**	**+1.0**	
JETT				Sn	Sn	**00 37 20.4**	**-1.7**	
FIA0	**FINESS Array S**	**7.05**	**212**	Pn	Pn	**00 36 47.1**	**+1.1**	
	baz=24,slow=14							
FIA0				Sn	Sn	**00 38 04.8**	**-1.3**	
	baz=30,slow=22							
FIA0				Lg	Lg	00 38 35.3		
	baz=15,slow=22							
FIA0	**FINESS Array S**	**7.05**	**212**	Pn	Pn	**00 36 47.1**	**+1.1**	
	baz=24,slow=14							
FIA0				Sn	Sn	**00 38 04.8**	**-1.3**	
	baz=30,slow=22							
FINES	**FINESS Array B**	**7.05**	**212**	Pn	Pn	**00 36 46.8**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=26,slow=15,SNR=5.0							
FINES				Sn	Sn	**00 38 06.4**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=22,slow=23,SNR=3.9							
FINES				Lg	Lg	00 38 39.5		
	comp=Z,0.5nm,0.3s,baz=24,slow=25,SNR=6.9							
HFS	**Hagfors**	**11.56**	**239**	Pn	Pn	**00 37 47.7**	**-0.2**	
	comp=Z,0.2nm,0.3s,baz=21,slow=13,SNR=4.0							
HFS				Lg	Lg	00 41 00.9		
	comp=Z,0.3nm,0.3s,baz=53,slow=29,SNR=3.6							
HFS	**Hagfors**	**11.56**	**239**	Pn	Pn	**00 37 46.5**	**-1.4**	
	baz=34,slow=16							
HFS				Sn	Sn	00 39 47.9	-8.9	
	baz=49,slow=18							
HFS				Lg	Lg	00 40 58.2		
	baz=56,slow=28							
HFS	**Hagfors**	**11.56**	**239**	Pn	Pn	**00 37 46.5**	**-1.4**	
	baz=34,slow=16							
HFS				Sn	Sn	00 39 47.9	-8.9	
	baz=49,slow=18							
SPA0	**Spitsbergen Ar**	**11.67**	**342**	Pn	Pn	**00 37 47.1**	**-2.2**	
	baz=140,slow=22							
SPA0	**Spitsbergen Ar**	**11.67**	**342**	Pn	Pn	**00 37 47.1**	**-2.2**	
	baz=140,slow=22							
SPITS	**Spitsbergen Ar**	**11.67**	**342**	Pn	Pn	**00 37 47.0**	**-2.3**	
	baz=135,slow=14,SNR=7.9							
NB2	**NORSAR Subarra**	**11.74**	**247**	Pn	Pn	**00 37 49.6**	**-0.8**	
NB2	**NORSAR Subarra**	**11.74**	**247**	Pn	Pn	**00 37 49.6**	**-0.8**	
NOA	**NORSAR Array B**	**11.74**	**247**	Pn	Pn	**00 37 50.5**	**+0.1**	
	comp=Z,0.0nm,0.3s,baz=54,slow=9.7,SNR=2.1							
NOA				Lg	Lg	00 41 09.8		
	comp=Z,0.0nm,0.3s,baz=48,slow=12,SNR=4.0							
ARU	**Arti**	**16.02**	**122**	Pn	Pn	**00 38 44.7**	**-3.4**	
	comp=Z,0.0nm,0.3s,baz=336,slow=14,SNR=6.3							
AKASG	**Malin Array Be**	**17.14**	**190**	Pn	Pn	**00 38 58.3**	**-4.1**	
	comp=Z,0.4nm,0.3s,baz=9.8,slow=12,SNR=5.0							
AKTO	**Aktyubinsk**	**21.03**	**133**	P	P	**00 39 47.8**	**+1.2**	
	comp=Z,2.0nm,0.7s,baz=332,slow=10,SNR=7.5							
GERES	**GERESS Array B**	**21.41**	**218**	P	P	**00 39 53.5**	**+2.8**	
	comp=Z,0.2nm,0.5s,baz=21,slow=14,SNR=2.2							
BVAR	**Borovoye Array**	**22.81**	**112**	P	P	**00 40 07.5**	**+1.9**	
	comp=Z,0.7nm,0.6s,baz=272,slow=13,SNR=7.1							
KURBB	**Kurchatov Arra**	**27.71**	**105**	P	P	**00 40 51.8**	**+0.8**	
	comp=Z,0.2nm,0.6s,baz=318,slow=8.2,SNR=4.7							
GNI	**Garni**	**28.20**	**162**	P	P	**00 40 57.6**	**+1.9**	
	comp=Z,2.6nm,0.5s,baz=331,slow=13,SNR=2.3							
MKAR	**Makanchi Array**	**32.28**	**105**	P	P	**00 41 32.9**	**+1.4**	
	comp=Z,0.3nm,0.7s,baz=342,slow=7.6,SNR=3.9							

UPA ***24*** *00:42:07.7±1.9, 9.°10N×77.°90W, h69km±17km, MW4.4*
RSNC ***24*** *00:42:08.4±0.9, 8.°97N×77.°93W, h81km±8km, ML2.2*

ISC 24 00:42:07.4±1.3**, 9.°06N**±0.°08**×77.°94W**±0.°03**, h79**km±12km**, n18**, σ1°**33**/31**, Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
UPD2	**Meteti**	**0.51**	**189**	*i* P		**Pn**	**00 42 21.5**	**+0.4**
UPD2				*i* S		**Sn**	**00 42 30.5**	**-0.8**
UPD2	**Meteti**	**0.51**	**189**	*e*P		**Pn**	**00 42 21.5**	**+0.4**
UPD2				*e*S		**Sn**	**00 42 31.6**	**+0.3**
UPD2				*i*			00 42 33.1	
	comp=Z,90nm,0.2s							
CNTA3	**Canitas, Panam**	**0.96**	**280**	*e*P		**Pn**	**00 42 26.4**	**+0.6**
CHPO	**Chepo, Panama**	**1.17**	**276**	*e*P		**Pn**	**00 42 29.2**	**+0.8**
CHPO				*i* S		**Sn**	**00 42 44.2**	**-0.1**
UPA	**Univ. de Panam**	**1.58**	**267**	*e*P		**Pn**	**00 42 33.3**	**-0.4**
UPA				*i* S		**Sn**	**00 42 53.7**	**+0.1**
TABO3	**Taboga, Panama**	**1.62**	**261**	*e*P		**Pn**	**00 42 35.3**	**+1.1**
BCIP	**Isla Barro Col**	**1.88**	**273**	*e*P		**Pn**	**00 42 37.1**	**-0.6**
BCIP				*e*S		**Sn**	**00 43 00.9**	**+0.1**
BCIP	**Isla Barro Col**	**1.88**	**273**	*e*P		**Pn**	**00 42 39.0**	**+1.3**
BCIP				*e*S		**Sn**	**00 43 01.3**	**+0.6**
BCIP				*i*			00 43 06.3	
	comp=Z,11nm,0.5s							
ZANG	**Zanguenga, Cho**	**1.91**	**267**	*e*P		**Pn**	**00 42 38.2**	**+0.1**
ZANG				*e*S		**Sn**	**00 42 56.6**	**-4.8**
MOTC	**Monteria, Cord**	**2.26**	**97**	*e*P		**Pn**	**00 42 43.6**	**+0.9**
MOTC				*e*S		**Sn**	**00 43 09.4**	**-0.3**
MOTC				*i*			00 43 10.6	
	comp=Z,6.5nm,0.2s							
MONA	**Monteria**	**2.27**	**97**	*e*P		**Pn**	**00 42 43.7**	**+0.9**
MONA				*e*S		**Sn**	**00 43 07.7**	**-2.2**
AZU	**Azuero**	**2.63**	**242**	*e*P		**Pn**	**00 42 48.7**	**+0.9**
AZU				*e*S		**Sn**	**00 43 19.3**	**+0.5**
AZU	**Azuero**	**2.63**	**242**	*e*P		**Pn**	**00 42 47.9**	**+0.1**
AZU				*i*			00 43 14.2	
	comp=Z,21nm,0.8s							
AZU				*e*S		**Sn**	**00 43 18.1**	**-0.6**
SJCC	**San Jacinto, C**	**2.84**	**73**	*i* P		**Pn**	**00 42 51.2**	**+0.5**
SJCC				*e*S		**Sn**	**00 43 21.6**	**-2.3**
SJCC	**San Jacinto, C**	**2.84**	**73**	*e*P		**Pn**	**00 42 52.0**	**+1.4**
SJCC				*e*S		**Sn**	**00 43 24.7**	**+0.8**
SJCC				*i*			00 43 28.0	
	comp=Z,8.8nm,0.6s							
CACAO	**El Cacao, Vera**	**3.36**	**240**	*e*P		**Pn**	**00 42 58.6**	**+1.0**
ZARC	**Zaragoza, Cauc**	**3.42**	**117**	*e*P		**Pn**	**00 42 58.9**	**+0.5**
ZARC				*e*S		**Sn**	**00 43 36.9**	**-1.0**
ZARC				*i*			00 43 38.2	
	comp=Z,8.4nm,0.5s							
HELC	**Santa Helena**	**3.71**	**140**	*e*P		Pn	00 42 54.0	-8.8

IDC ***24*** *01:08:11.9±6.8, 21.°60S×170.°50E, h93km±48km, mb3.4/2, mb1 3.8/3, mb1mx3.4/21, mbtmp3.9/3, MS3.3/3, Ms1 3.2/3, ms1mx2.8/17, Error ellipse: s-maj=92.1km s-min=45.5km az=158.0*
NEIC ***24*** *01:08:13.8±2.3, 21.°93S±0.°09×170.°45E±0.°07, h95km±8km, mb4.5/7, Error ellipse: s-maj=15.7km s-min=3.6km az=213.0*

ISC 24 01:08:12.9±0.7**, 21.°96S**±0.°08×**170.°45E**±0.°07**, h100**km**, n37**, σ1°22/41, mb4.5/7, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PINNC	**Pines Island,**	**2.85**	**256**			**Pn**	**01 08 57.1**	**+0.4**
PINNC				Sn		**Sn**	**01 09 30.6**	**+0.2**
LIFNC	**LIFOU**	**3.21**	**291**			**Pn**	**01 09 00.8**	**-0.7**
LIFNC				Sn		**Sn**	**01 09 37.2**	**-1.7**
OUENC	**Ouen Island, N**	**3.37**	**262**			**Pn**	**01 09 04.1**	**+0.4**
OUENC				Sn		**Sn**	**01 09 43.6**	**+0.8**
DZM	**Mont Dzumac**	**3.72**	**268**	P		**Pn**	**01 09 09.2**	**+0.9**
	29nm,0.3s,baz=93,slow=17,SNR=807							
DZM				S		**Sn**	**01 09 52.0**	**+0.7**
	92nm,0.3s,baz=55,slow=20,SNR=17							
ONTNC	**Ouen Toro**	**3.72**	**264**			**Pn**	**01 09 08.8**	**+0.6**
SANVU	**Saraoutou**	**7.17**	**334**	Pn		**Pn**	**01 09 57.5**	**+2.4**
RAO	**Raoul Island**	**12.76**	**127**	Pn		**Pn**	**01 11 11.4**	**+0.8**
OUZ	**Omahuta**	**13.50**	**169**	Pn		**Pn**	**01 11 21.9**	**+1.6**
PMG	**Port Moresby**	**25.61**	**296**	LR		LR	01 22 35.7	
	comp=Z,73nm,20.3s,baz=118,slow=34							
STKA	**Stephens Creek**	**27.48**	**243**	LR		LR	01 25 26.0	
	comp=Z,22nm,19.8s,baz=202,slow=37							
RAR	**Rarotonga**	**27.68**	**94**	LR		LR	01 23 06.1	
	comp=Z,143nm,18.5s,baz=106,slow=32							
WR0	**Warramunga Arr**	**33.54**	**267**	P		**P**	**01 14 44.5**	**+1.1**
WR0				IAmb		IAmb	01 15 01.7	
	comp=Z,1.9nm,1.0s							
ASAR	**Alice Springs**	**33.67**	**260**	P		**P**	**01 14 46.1**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=83,slow=8.4,SNR=9.2							
ASAR				PcP		**PcP**	**01 17 21.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=98,slow=3.8,SNR=3.5							
ASAR	**Alice Springs**	**33.67**	**260**	P		**P**	**01 14 45.9**	**+1.4**
WB0	**Warramunga Arr**	**33.71**	**267**	P		**P**	**01 14 46.7**	**+1.8**
WB0				IAmb		IAmb	01 14 58.7	
	comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**33.72**	**267**	P		**P**	**01 14 44.5**	**-0.5**
WB2				IAmb		IAmb	01 15 00.6	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**33.73**	**267**	P		**P**	**01 14 45.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=97,slow=8.3,SNR=5.1							
WRA	**Warramunga Arr**	**33.73**	**267**	P		**P**	**01 14 44.9**	**-0.2**
FORT	**Forrest**	**38.79**	**248**	P		**P**	**01 15 29.8**	**+1.8**
QSPA	**South Pole Qui**	**68.11**	**180**	P		**P**	**01 19 01.5**	**-0.4**
QSPA				IAmb		IAmb	01 19 02.8	
	comp=Z,11nm,1.2s							
SNAA	**Sanae**	**86.50**	**182**	P		**P**	**01 20 42.6**	**-1.8**
SNAA	**Sanae**	**86.50**	**182**	P		**P**	**01 20 42.8**	**-1.5**
SNAA				IAmb		IAmb	01 20 43.9	
	comp=Z,4.1nm,0.9s							
VNA3	**Neumayer Olymp**	**87.05**	**180**	P		**P**	**01 20 45.1**	**-1.9**
VNA2	**Neumayer--Watz**	**87.36**	**181**	P		**P**	**01 20 45.1**	**-3.2**
VNA1	**Neumayer--Stat**	**87.64**	**180**	P		**P**	**01 20 48.2**	**-1.5**
ARCES	**ARCESS Array B**	**127.97**	**345**	PKP		**PKPdf**	**01 27 04.8**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=22,slow=3.9,SNR=5.1							
OSTC	**Ostas**	**145.04**	**331**	*e*PKP		**PKPdf**	**01 27 38.2**	**-0.2**
CHVC	**Chvalec**	**145.09**	**331**	*e*PKP		**PKPab**	**01 27 38.0**	**-0.2**
DPC	**Dobruska-Polom**	**145.14**	**331**	*e*PKP		**PKPab**	**01 27 38.2**	**-0.3**
JAVC	**Velka Javorina**	**145.52**	**328**	*e*PKP		**PKPab**	**01 27 40.8**	**+0.9**
KRUC	**Moravsky**	**146.00**	**329**	*e*PKP		**PKPbc**	**01 27 40.9**	**-0.1**
CKRC	**Cesky Krumlov**	**147.15**	**330**	*e*PKP		**PKPbc**	**01 27 44.6**	**+0.3**
KHC	**Kasperske Hory**	**147.25**	**332**	*e*PKP		**PKPbc**	**01 27 44.9**	**+0.3**
GERES	**GERESS Array B**	**147.41**	**331**	PKPbc		**PKPbc**	**01 27 44.1**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=25,slow=3.5,SNR=7.6							
GERES	**GERESS Array B**	**147.41**	**331**			**PKPbc**	**01 27 44.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**166.16**	**233**	PKP		**PKPdf**	**01 28 06.1**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=62,slow=1.2,SNR=3.6							
TORD				PKPab		**PKPab**	**01 29 08.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=126,slow=2.5,SNR=1.6							
TORD	**Torodi Ar. Bea**	**166.16**	**233**			**PKPdf**	**01 28 06.8**	**-0.3**
TORD						**PKPab**	**01 29 08.5**	**+0.3**

NEIC ***24*** *01:42:46.7±2.2, 10.°30S±0.°08×161.°99E±0.°09, h56km±5km, mb4.6/37, Error ellipse: s-maj=13.0km s-min=11.3km az=71.0*
IDC ***24*** *01:42:48.0±2.5, 10.°37S×161.°95E, h76km±20km, mb4.1/15, mb1 4.2/17, mb1mx4.0/40, mbtmp4.4/17, MS3.4/5, Ms1 3.4/5, ms1mx3.1/34, Error ellipse: s-maj=20.3km s-min=14.2km az=89.0*

ISC 24 01:42:45.7±0.5**, 10.°34S**±0.°06×**162.°06E**±0.°07**, h54**km**, n80, σ1°33/76, mb4.5/31, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.27**	**293**	P		**Pn**	**01 43 21.0**	**+0.2**
	167nm,0.3s,baz=156,slow=4.9,SNR=21							
HNR				S		**Sn**	**01 43 49.5**	**+1.8**
	438nm,0.3s,baz=230,slow=23,SNR=11							
HNR				LR		LR	01 44 30.3	
	comp=Z,806nm,19.1s,baz=134,slow=47							
HNR	**Honiara**	**2.27**	**293**			**Pn**	**01 43 21.1**	**+0.2**
HNR				Sn		**Sn**	**01 43 49.1**	**+1.4**
SANVU	**Saraoutou**	**7.13**	**136**	P		**Pn**	**01 44 26.9**	**-0.6**
DZM	**Mont Dzumac**	**12.40**	**161**	P		**Pn**	**01 45 40.5**	**+0.9**
	1.0nm,0.3s,baz=25,slow=6.6,SNR=14							
DZM				S		**Sn**	**01 47 52.2**	**-4.1**
	0.3nm,0.3s,baz=187,slow=22,SNR=1.0							
DZM				LR		LR	01 49 13.7	
	comp=Z,204nm,19.0s,baz=102,slow=31							
DZM	**Mont Dzumac**	**12.40**	**161**	*e*Pn		**Pn**	**01 45 40.2**	**+0.6**
	2.4nm,0.2s							
DZM				*e*LR		LR	01 48 35.5	
	comp=Z,235nm,23.6s							
DZM	**Mont Dzumac**	**12.40**	**161**	Pn		**Pn**	**01 45 40.4**	**+0.8**
OUENC	**Ouen Island, N**	**12.85**	**160**	Pn		**Pn**	**01 45 47.4**	**+1.6**
PMG	**Port Moresby**	**14.71**	**272**	LR		LR	01 52 01.5	
	comp=Z,128nm,18.1s,baz=89,slow=38							
PATS	**Pohnpei**	**17.47**	**348**			**Pn**	**01 46 45.2**	**-0.6**
PATS				IAmb		IAmb	01 47 11.9	
	comp=Z,155nm,1.3s							
CTA	**Charters Tower**	**18.06**	**236**	P		**Pn**	**01 46 55.2**	**+2.3**
	comp=Z,1.6nm,0.3s,baz=62,slow=12,SNR=14							
CTAO	**Charters Tower**	**18.06**	**236**	P		**Pn**	**01 46 55.2**	**+2.3**
CTAO				IAmb		IAmb	01 46 57.9	
	comp=Z,42nm,1.4s							
EIDS	**Eidsvold**	**18.22**	**213**	P		**Pn**	**01 46 58.0**	**+3.2**
ARMA	**Armidale**	**22.21**	**204**	P		**P**	**01 47 38.3**	**+0.4**
WR0	**Warramunga Arr**	**28.19**	**247**	P		**P**	**01 48 32.4**	**-1.1**
WR0				IAmb		IAmb	01 48 32.8	
	comp=Z,9.1nm,0.5s							
WB0	**Warramunga Arr**	**28.27**	**247**	P		**P**	**01 48 33.4**	**-0.9**
WB2	**Warramunga Arr**	**28.36**	**247**	P		**P**	**01 48 33.8**	**-1.2**
WB2				IAmb		IAmb	01 48 34.8	
	comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**28.37**	**247**	P		**P**	**01 48 33.8**	**-1.3**
	comp=Z,11nm,0.5s,baz=77,slow=9.1,SNR=54							
WRA	**Warramunga Arr**	**28.37**	**247**	P		**P**	**01 48 31.7**	**-3.5**
STKA	**Stephens Creek**	**28.59**	**218**	P		**P**	**01 48 37.2**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=21,slow=12,SNR=3.7							
STKA				LR		LR	01 59 32.9	
	comp=Z,294nm,18.6s,baz=27,slow=35							
STKA	**Stephens Creek**	**28.59**	**218**	P		**P**	**01 48 37.0**	**0.0**
H11S2	**WAKE ISLAND Hy**	**29.01**	**9**	T		T	02 19 20.7	
	baz=189,slow=76,SNR=117							
H11S3	**WAKE ISLAND Hy**	**29.02**	**9**	T		T	02 19 20.4	
	baz=189,slow=76,SNR=82							
H11S1	**WAKE ISLAND Hy**	**29.03**	**9**	T		T	02 19 21.0	
	baz=189,slow=76,SNR=18							
AS31	**Alice Springs**	**29.93**	**240**	P		**P**	**01 48 47.5**	**-1.4**
ASAR	**Alice Springs**	**29.93**	**240**	P		**P**	**01 48 47.3**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=64,slow=9.7,SNR=24							
ASAR	**Alice Springs**	**29.93**	**240**	P		**P**	**01 48 47.7**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**30.24**	**9**	T		T	02 20 56.4	
	baz=188,slow=76,SNR=40							
H11N3	**WAKE ISLAND Hy**	**30.25**	**9**	T		T	02 20 51.9	
	baz=188,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**30.26**	**9**	T		T	02 20 51.8	
	baz=188,slow=76,SNR=48							
MTN	**Manton Dam**	**30.39**	**262**	P		**P**	**01 48 52.9**	**-0.1**
MTN				IAmb		IAmb	01 48 57.9	
	comp=Z,9.8nm,0.9s							
BKZ	**Black Stump Fm**	**31.46**	**158**	P		**P**	**01 49 03.6**	**+1.3**
TUWZ	**Tuamarina**	**32.69**	**163**	P		**P**	**01 49 13.7**	**+0.8**
THZ	**Tophouse**	**32.72**	**165**	P		**P**	**01 49 14.2**	**+1.0**
BBOO	**Buckleboo**	**32.76**	**223**	P		**P**	**01 49 13.4**	**-0.3**
KNRA	**Kununurra**	**32.85**	**257**	P		**P**	**01 49 13.2**	**-1.5**
KNRA				IAmb		IAmb	01 49 18.2	
	comp=Z,22nm,1.1s							
LTZ	**Lake Taylor**	**33.52**	**166**	P		**P**	**01 49 20.9**	**+0.7**
LTZ				IAmb		IAmb	01 49 37.8	
	comp=Z,27nm,1.5s							
FITZ	**Fitzroy Crossi**	**36.09**	**253**	P		**P**	**01 49 41.1**	**-1.6**
	comp=Z,7.3nm,0.6s,baz=98,slow=6.3,SNR=6.7							
FITZ	**Fitzroy Crossi**	**36.09**	**253**	P		**P**	**01 49 41.0**	**-1.6**
FITZ				IAmb		IAmb	01 49 41.6	
	comp=Z,7.9nm,0.6s							
FORT	**Forrest**	**37.55**	**232**	P		**P**	**01 49 54.9**	**0.0**
BATI	**Baumata**	**37.77**	**267**	P		**P**	**01 49 55.8**	**-1.2**
	comp=Z,29nm,0.6s,baz=186,slow=4.0,SNR=5.2							
PSA00	**Pilbara Seismi**	**41.97**	**249**	P		**P**	**01 50 30.0**	**-1.8**
PSA00				IAmb		IAmb	01 50 40.2	
	comp=Z,8.9nm,1.2s							
MORW	**Morawa**	**46.82**	**240**	P		**P**	**01 51 09.8**	**-0.6**
MORW				IAmb		IAmb	01 51 11.1	
	comp=Z,15nm,1.1s							
NWAO	**Narrogin (SRO)**	**46.89**	**234**	P		**P**	**01 51 12.1**	**+1.1**
NWAO				IAmb		IAmb	01 51 29.9	
	comp=Z,8.8nm,1.1s							
UGM	**Wanagama**	**50.90**	**268**	P		**P**	**01 51 39.9**	**-2.1**
YULB	**Yu-li**	**52.10**	**311**	P		**P**	**01 51 49.3**	**-1.4**
NACB	**Ninganchiao**	**52.33**	**312**	P		**P**	**01 51 51.9**	**-0.6**
SSLB	**Suanglung**	**52.58**	**311**	P		**P**	**01 51 53.0**	**-1.4**
KSRS	**Korea Array**	**57.31**	**328**	P		**P**	**01 52 27.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=133,slow=7.7,SNR=5.1							
KSRS				LR		LR	02 15 27.4	
	comp=Z,10nm,19.6s,baz=140,slow=34							
USRK	**Ussuriysk Ar.**	**60.76**	**336**	P		**P**	**01 52 51.8**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=134,slow=6.7,SNR=9.6							
PETK	**Petropavlovsk-**	**63.31**	**357**	P		**P**	**01 53 08.3**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=129,slow=5.9,SNR=4.3							
KIWB	**Kanaga Island**	**64.49**	**14**	P		**P**	**01 53 17.7**	**+1.1**
KLR	**Kul'dur**	**65.03**	**339**	P		**P**	**01 53 18.8**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=157,slow=7.7,SNR=4.4							
VNDA	**Vanda**	**67.16**	**180**	P		**P**	**01 53 34.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=350,slow=6.1,SNR=4.7							
VNDA	**Vanda**	**67.16**	**180**	P		**P**	**01 53 35.4**	**+1.9**
SONM	**Songino Array**	**75.99**	**325**	P		**P**	**01 54 27.2**	**0.0**
	comp=Z,3.0nm,0.7s,baz=139,slow=5.6,SNR=13							
SONM	**Songino Array**	**75.99**	**325**	P		**P**	**01 54 27.2**	**0.0**
KDAK	**Kodiak Island**	**77.30**	**23**	P		**P**	**01 54 35.9**	**+1.7**
KDAK				IAmb		IAmb	01 54 52.9	
	comp=Z,24nm,1.5s							
SVW2	**Sparrevohn**	**78.62**	**20**	P		**P**	**01 54 42.7**	**+1.2**
SVW2				IAmb		IAmb	01 54 43.0	
	comp=Z,3.9nm,0.8s							
QSPA	**South Pole Qui**	**79.66**	**180**	P		**P**	**01 54 47.1**	**-0.3**
QSPA				IAmb		IAmb	01 54 47.5	
	comp=Z,8.1nm,1.5s							
SCM	**Sheep Creek Mo**	**81.99**	**22**	P		**P**	**01 55 02.4**	**+2.7**
SCM				IAmb		IAmb	01 55 02.4	
	comp=Z,11nm,1.4s							
WRH	**Wood River Hil**	**83.44**	**19**	P		**P**	**01 55 06.8**	**-0.3**
CCB	**Clear Creek Bu**	**83.65**	**19**	P		**P**	**01 55 07.4**	**-0.8**
IL31		**84.03**	**20**	P		**P**	**01 55 09.7**	**-0.4**
IL31				IAmb		IAmb	01 55 11.2	
	comp=Z,3.0nm,1.0s							
ILAR	**Eielson Array**	**84.03**	**20**	P		**P**	**01 55 09.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=248,slow=5.2,SNR=15							
ILAR	**Eielson Array**	**84.03**	**20**	P		**P**	**01 55 10.0**	**-0.1**
SCRK	**Sand Creek**	**84.53**	**21**	P		**P**	**01 55 13.1**	**+0.3**
SCRK				IAmb		IAmb	01 55 14.6	
	comp=Z,2.2nm,0.7s							
TIXI	**Tiksi**	**84.74**	**350**	P		**P**	**01 55 14.6**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=23,slow=2.8,SNR=3.3							
EGAK	**Eagle**	**86.00**	**21**	P		**P**	**01 55 20.1**	**+0.2**
EGAK				IAmb		IAmb	01 55 22.0	
	comp=Z,4.1nm,1.0s							
NVAR	**Mina Array Bea**	**88.36**	**51**	P		**P**	**01 55 33.3**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=234,slow=9.3,SNR=6.9							
MKAR	**Makanchi Array**	**90.55**	**317**	P		**P**	**01 55 41.0**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=89,slow=7.7,SNR=7.8							
PRN	**Pahroc Range**	**90.62**	**52**	P		**P**	**01 55 44.4**	**+1.6**
PRN				IAmb		IAmb	01 55 45.1	
	comp=Z,4.3nm,1.1s							
ARCES	**ARCESS Array B**	**114.72**	**345**	PKP		**PKiKP**	**02 01 18.9**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=77,slow=2.1,SNR=11							
ARCES	**ARCESS Array B**	**114.72**	**345**			**PKiKP**	**02 01 19.0**	**-0.7**
D62A	**Allapoint, All**	**123.53**	**40**			**PKPdf**	**02 01 36.8**	**-0.4**
NOA	**NORSAR Array B**	**125.03**	**343**	PKP		**PKPdf**	**02 01 39.1**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=39,slow=1.7,SNR=2.9							
ESBB	**Sonseca Array**	**148.25**	**339**	PKPbc		**PKPbc**	**02 02 26.7**	**+0.5**
ESDC	**Sonseca Array**	**148.25**	**339**	PKPbc		**PKPbc**	**02 02 26.3**	**0.0**
	comp=Z,1.3nm,0.8s,baz=17,slow=3.2,SNR=9.7							
ESDC	**Sonseca Array**	**148.25**	**339**			**PKP

NEM2				eS		Sn	03 42 26.1	-0.1	
JAK	**Akkeshi**	**0.50**	**240**	⇓P		Pn	03 42 18.5	0.0	
JAK				eS		Sn	03 42 28.7	+0.4	
GLVR	**Golovnino**	**0.52**	**19**	eP		Pn	03 42 19.0	+0.3	
GLVR				AMB	AMB		03 42 19.0		
	230nm,0.2s								
GLVR				*i* S		Sn	03 42 29.3	+0.7	
GLVR				A	A		03 42 30.0		
	3μm,0.4s								
GLVR				A	A		03 42 30.0		
	2μm,0.4s								
JNK	**Nakash**	**0.53**	**309**	⇑P		Pn	03 42 18.3	-0.6	
JNK				eS		Sn	03 42 28.3	-0.6	
JNSB	**Nemuroshibetsu**	**0.56**	**339**	⇑P		Pn	03 42 19.0	-0.2	
JNSB				eS		Sn	03 42 29.3	-0.1	
JRA	**Rausu**	**0.70**	**350**	⇑P		Pn	03 42 20.6	+0.1	
JRA				eS		Sn	03 42 32.0	+0.2	
GRPR	**Tuman**	**0.82**	**25**	eP		Pn	03 42 21.9	0.0	
GRPR				AMB	AMB		03 42 23.0		
	160nm,0.3s								
GRPR				*i* S		Sn	03 42 34.2	-0.1	
GRPR				A	A		03 42 35.0		
	1μm,0.3s								
GRPR				A	A		03 42 35.0		
	780nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**0.89**	**28**	*i* P		Pn	03 42 22.3	-0.4	
YUK				AMB	AMB		03 42 24.0		
	220nm,0.3s								
YUK				*i* S		Sn	03 42 35.0	-0.6	
YUK				A	A		03 42 36.0		
	1μm,0.4s								
YUK				A	A		03 42 36.0		
	990nm,0.4s								
JAR	**Ashorobuto**	**1.11**	**273**	⇑P		Pn	03 42 25.5	+0.1	
JAR				eS		Sn	03 42 40.3	-0.1	
JOB	**Onbets**	**1.12**	**253**	P		Pn	03 42 25.7	+0.2	
JOB				eS		Sn	03 42 40.8	+0.2	
JTKR	**Abashiri--Toko**	**1.23**	**306**	⇑P		Pn	03 42 27.2	+0.3	
JTKR				eS		Sn	03 42 43.4	+0.2	
JCH	**Churui**	**1.55**	**246**	⇓P		Pn	03 42 30.9	-0.1	
JCH				eS		Sn	03 42 49.6	-0.9	
JMP	**Maruseppu**	**1.59**	**299**	⇑P		Pn	03 42 31.9	+0.3	
KUR	**Kuril'sk**	**2.71**	**42**	*i* S		Sn	03 43 18.7	+0.3	
KUR				A	A		03 43 22.4		
	40nm,0.2s								
KUR				A	A		03 43 22.4		
	20nm,0.2s								

NEIC ***24*** *04:02:31.6±1.6,34°.27S±0°.09×179°.5E±0°.1,h285km±10km, mb4.3/14,Error ellipse: s-maj=14.5km s-min=13.0km az=109.0*

WEL ***24*** *04:02:33.0±0.5,34°S±4°×17°9E±°,h197km±11km,M4.5/47, mB5.0/25,ML5.2/45,MLv5.0/47,Mw(mB)4.4/25,Error ellipse: s-maj=0.0km s-min=0.0km az=111.8*

IDC ***24*** *04:02:36.4±2.3,33°.83S×179°.04E,h303km±22km,mb3.7/8, mb1 3.8/9,mb1mx3.7/23,mbtmp4.4/9,Error ellipse: s-maj=21.7km s-min=13.4km az=45.0*

ISC 24 04:02:34.2±0.6,**34°26S**±0°.06×**179°24E**±0°.07,**h300**km, **n145,**σ1§**99**/167,**mb4.1**/14,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.38**	**193**	Pn	**Pn**	**04 03 34.0**	**+0.2**
MXZ				Sn	**S**	**04 04 18.3**	**-3.0**
MXZ	**Matakaoa Point**	**3.38**	**193**	P	**Pn**	**04 03 33.9**	**+0.2**
MXZ				S	**S**	**04 04 19.5**	**-1.8**
WMGZ	**Waiomatatini S**	**3.61**	**190**	P	**Pn**	**04 03 35.3**	**-0.9**
HAZ	**Te Kaha**	**3.68**	**198**	P	**Pn**	**04 03 37.2**	**+0.4**
HAZ				S	**S**	**04 04 23.0**	**-4.1**
PKGZ	**Pakihiroa**	**3.74**	**194**	P	**Pn**	**04 03 38.1**	**+0.5**
PKGZ				S	**S**	**04 04 23.2**	**-5.1**
KUZ	**Kuaotunu**	**3.79**	**228**	P	**Pn**	**04 03 37.7**	**-0.4**
PUZ	**Puketiti**	**3.89**	**192**	P	**Pn**	**04 03 39.0**	**-0.1**
PUZ				S	**S**	**04 04 29.1**	**-2.0**
RUGZ	**Raukumara Rang**	**3.91**	**198**	P	**Pn**	**04 03 39.4**	**0.0**
RUGZ				S	**S**	**04 04 28.3**	**-3.4**
TWGZ	**Tauwhareparae**	**4.04**	**194**	P	**Pn**	**04 03 42.7**	**+1.9**
TWGZ				S	**S**	**04 04 34.8**	**+0.6**
WIAZ	**Waiheke Island**	**4.20**	**232**	P	**Pn**	**04 03 42.9**	**+0.4**
MWZ	**Matawai**	**4.29**	**198**	P	**Pn**	**04 03 42.7**	**-0.9**
MWZ				S	**S**	**04 04 36.6**	**-2.7**
CNGZ	**Carnagh Statio**	**4.30**	**191**	P	**Pn**	**04 03 42.7**	**-0.9**
URZ	**Urewera**	**4.35**	**203**	P	**Pn**	**04 03 44.1**	**0.0**
	40nm,0.3s,baz=319,slow=20,SNR=63						
URZ				S	**S**	**04 04 38.2**	**-2.1**
	38nm,0.3s,baz=42,slow=24,SNR=14						
URZ	**Urewera**	**4.35**	**203**		**Pn**	**04 03 42.5**	**-1.6**
URZ				Sn	**S**	**04 04 38.2**	**-2.1**
URZ	**Urewera**	**4.35**	**203**	P	**Pn**	**04 03 43.6**	**-0.5**
URZ				S	**S**	**04 04 37.3**	**-3.0**
WCZ	**Waipu Caves**	**4.35**	**246**	P	**Pn**	**04 03 44.3**	**0.0**
WCZ				S	**S**	**04 04 35.3**	**-5.1**
RIGZ	**Rimuhau**	**4.59**	**195**	P	**Pn**	**04 03 48.0**	**+1.0**
RIGZ				S	**S**	**04 04 43.2**	**-2.2**
TOZ	**Tahuroa Road**	**4.60**	**220**	P	**Pn**	**04 03 46.7**	**-0.4**
MUGZ	**Murupara**	**4.66**	**205**	P	**Pn**	**04 03 45.9**	**-1.8**
RTZ	**Ruatahuna**	**4.71**	**202**	P	**Pn**	**04 03 48.6**	**+0.1**
OUZ	**Omahuta**	**4.75**	**257**	Pn	**Pn**	**04 03 47.2**	**-1.5**
OUZ				Sn	**S**	**04 04 49.4**	**+0.7**
HRRZ	**Handcock Road**	**4.76**	**209**	P	**Pn**	**04 03 49.8**	**+0.9**
SNGZ	**Shannon Statio**	**4.76**	**198**	P	**Pn**	**04 03 49.7**	**+0.7**
SNGZ				S	**S**	**04 04 47.3**	**-1.7**
PRGZ	**Paritu Road**	**4.78**	**193**	P	**Pn**	**04 03 48.5**	**-0.6**
ALRZ	**Allen Road**	**4.89**	**208**	P	**Pn**	**04 03 51.3**	**+1.0**
KNZ	**Kokohu**	**4.92**	**194**	P	**Pn**	**04 03 48.7**	**-2.0**
WPRZ	**Whakapapatarin**	**4.92**	**209**	P	**Pn**	**04 03 52.3**	**+1.6**
RAHZ	**Arahi**	**4.96**	**200**	P	**Pn**	**04 03 49.6**	**-1.6**
RAHZ				S	**S**	**04 04 50.1**	**-2.9**
MTHZ	**Maungataniwha**	**4.97**	**202**	P	**Pn**	**04 03 52.0**	**+0.6**
MTHZ				S	**S**	**04 04 49.6**	**-3.8**
MHGZ	**Mahia Peninsul**	**5.00**	**192**	P	**Pn**	**04 03 52.6**	**+1.0**
MHGZ				S	**S**	**04 04 50.9**	**-3.0**
KUTZ	**Kaahu Road**	**5.04**	**212**	P	**Pn**	**04 03 54.2**	**+2.1**
TLZ	**Tolley Road**	**5.04**	**215**	P	**Pn**	**04 03 54.5**	**+2.3**
WHHZ	**Waihua**	**5.07**	**198**	P	**Pn**	**04 03 53.4**	**+1.0**
WHHZ				S	**S**	**04 04 53.9**	**-1.4**
MRHZ	**Matea Rd**	**5.10**	**206**	P	**Pn**	**04 03 53.2**	**+0.4**
MRHZ				S	**S**	**04 04 54.1**	**-1.9**
NMHZ	**Naumai**	**5.21**	**201**	P	**Pn**	**04 03 55.2**	**+1.0**
HATZ	**Hinemaiaia**	**5.27**	**208**	P	**Pn**	**04 03 55.2**	**+0.4**
ARHZ	**Aropaoanui**	**5.31**	**199**	P	**Pn**	**04 03 55.4**	**+0.2**
ARHZ				S	**S**	**04 04 58.5**	**-1.9**
BKZ	**Black Stump Fm**	**5.37**	**203**		**Pn**	**04 03 54.6**	**-1.5**
BKZ				Sn	**S**	**04 04 59.8**	**-2.0**
BKZ	**Black Stump Fm**	**5.37**	**203**	P	**Pn**	**04 03 54.7**	**-1.3**
BKZ				S	**S**	**04 04 59.8**	**-2.0**
RATZ	**Rangitukua**	**5.38**	**210**	P	**Pn**	**04 03 57.4**	**+1.3**
HIZ	**Hauiti**	**5.53**	**219**	Pn	**Pn**	**04 03 57.5**	**-0.3**
HIZ	**Hauiti**	**5.53**	**219**	P	**Pn**	**04 03 59.3**	**+1.5**
GLKZ	**Green Lake**	**5.54**	**27**	P	Pn	04 03 46.9	-11
GLKZ				S	S	04 04 47.6	-18
CKHZ	**Cape Kidnapper**	**5.66**	**197**	P	**Pn**	**04 03 59.5**	**+0.2**
CKHZ				S	**S**	**04 05 05.9**	**-2.0**
NNVZ	**North Ngauruho**	**5.67**	**210**	P	**Pn**	**04 04 00.9**	**+1.3**
OTVZ	**Oturere**	**5.67**	**209**	P	**Pn**	**04 04 00.2**	**+0.5**
NGZ	**Ngauruhoe**	**5.71**	**210**	P	**Pn**	**04 04 01.0**	**+0.8**
TUVZ	**Tukino**	**5.77**	**209**	P	**Pn**	**04 04 00.8**	**0.0**
WHVZ	**Whangaehu Hut**	**5.81**	**209**	P	**Pn**	**04 04 01.3**	**0.0**
BHHZ	**Black Hill Sta**	**5.81**	**205**	P	**Pn**	**04 04 00.5**	**-0.7**
WNVZ	**Wahianoa**	**5.84**	**209**	P	**Pn**	**04 04 01.4**	**-0.3**
KRHZ	**Kereru**	**5.84**	**202**	P	**Pn**	**04 03 59.4**	**-2.2**
MOVZ	**Moawhango**	**5.85**	**208**	P	**Pn**	**04 04 00.8**	**-0.9**
PKVZ	**Pokaka**	**5.91**	**211**	P	**Pn**	**04 04 03.0**	**+0.6**
VRZ	**Vera Road**	**6.04**	**215**	P	**Pn**	**04 04 05.5**	**+1.6**
PXZ	**Pawanui**	**6.07**	**198**	P	**Pn**	**04 04 03.5**	**-0.6**
PNHZ	**Pukenui**	**6.14**	**202**	P	**Pn**	**04 04 02.8**	**-2.4**
PRHZ	**Porangahau**	**6.34**	**198**	P	**Pn**	**04 04 07.1**	**-0.5**
TSZ	**Takapari Road**	**6.35**	**203**	P	**Pn**	**04 04 06.7**	**-1.0**
WAZ	**Wanganui**	**6.46**	**211**	P	**Pn**	**04 04 08.6**	**-0.3**
PKE	**Pukeiti**	**6.48**	**219**	P	**Pn**	**04 04 11.7**	**+2.4**
NEZ	**North Egmont**	**6.49**	**218**	P	**Pn**	**04 04 11.4**	**+2.1**
DVHZ	**Dannevirke**	**6.51**	**201**	P	**Pn**	**04 04 07.9**	**-1.6**
KHEZ	**Kahui Hut**	**6.54**	**218**	P	**Pn**	**04 04 12.2**	**+2.2**
ANWZ	**Angora Road**	**6.57**	**199**	P	**Pn**	**04 04 10.1**	**-0.1**
NBEZ	**Newall Road No**	**6.60**	**219**	P	**Pn**	**04 04 13.6**	**+2.9**
NMEZ	**Namu Road**	**6.70**	**218**	P	**Pn**	**04 04 13.2**	**+1.3**
POWZ	**Post Office Ro**	**6.72**	**203**	P	**Pn**	**04 04 11.1**	**-1.0**
PRWZ	**Pori Road**	**6.80**	**202**	P	**Pn**	**04 04 12.5**	**-0.6**
BFZ	**Birch Farm**	**6.84**	**200**		**Pn**	**04 04 11.4**	**-2.1**
BFZ	**Birch Farm**	**6.84**	**200**	P	**Pn**	**04 04 12.1**	**-1.4**
MRZ	**Mangatainoka R**	**7.02**	**203**	P	**Pn**	**04 04 13.0**	**-2.8**
TIWZ	**Tintock**	**7.03**	**201**	P	**Pn**	**04 04 13.7**	**-2.2**
CPWZ	**Castlepoint**	**7.06**	**199**	P	**Pn**	**04 04 16.1**	**-0.1**
HOWZ	**Holdsworth Sta**	**7.25**	**203**	P	**Pn**	**04 04 16.4**	**-2.2**
OGWZ	**Otaki Gorge**	**7.30**	**205**	P	**Pn**	**04 04 16.0**	**-3.1**
TMWZ	**Te Maipa**	**7.33**	**200**	P	**Pn**	**04 04 17.9**	**-1.6**
KIW	**Kapiti Island**	**7.43**	**206**	P	**Pn**	**04 04 17.9**	**-2.8**
MTW	**Mount Morrison**	**7.50**	**202**	P	**Pn**	**04 04 19.3**	**-2.2**
CAW	**Cannon Point**	**7.59**	**205**	P	**Pn**	**04 04 19.3**	**-3.4**
TRWZ	**Traveller**	**7.66**	**200**	P	**Pn**	**04 04 22.2**	**-1.3**
PAWZ	**Paruwai Farm**	**7.72**	**202**	P	**Pn**	**04 04 22.7**	**-1.6**
DUWZ	**D'Urville Isla**	**7.78**	**211**	P	**Pn**	**04 04 22.6**	**-2.4**
MSWZ	**Moikau Station**	**7.81**	**203**		**Pn**	**04 04 22.4**	**-3.0**
MSWZ	**Moikau Station**	**7.81**	**203**	P	**Pn**	**04 04 22.7**	**-2.6**
WEL	**Wellington**	**7.86**	**205**	P	**Pn**	**04 04 23.7**	**-2.1**
SNZO	**South Karori**	**7.90**	**206**	Pn	**Pn**	**04 04 24.1**	**-2.3**
BHW	**Baring Head**	**7.93**	**205**		**Pn**	**04 04 23.0**	**-3.7**
BHW	**Baring Head**	**7.93**	**205**	P	**Pn**	**04 04 23.2**	**-3.6**
PLWZ	**Palliser**	**7.95**	**202**		**Pn**	**04 04 25.0**	**-2.1**
PLWZ	**Palliser**	**7.95**	**202**	P	**Pn**	**04 04 24.6**	**-2.5**
TCW	**Tory Channel**	**7.97**	**208**	P	**Pn**	**04 04 24.5**	**-2.8**
TUWZ	**Tuamarina**	**8.29**	**209**		**Pn**	**04 04 28.8**	**-2.4**
TUWZ	**Tuamarina**	**8.29**	**209**	P	**Pn**	**04 04 28.6**	**-2.6**
NNZ	**Nelson**	**8.35**	**212**		**Pn**	**04 04 29.2**	**-2.8**
NNZ	**Nelson**	**8.35**	**212**	P	**Pn**	**04 04 29.3**	**-2.8**
QRZ	**Quartz Range**	**8.45**	**217**	Pn	**Pn**	**04 04 31.2**	**-2.0**
CMWZ	**Cape Campbell**	**8.46**	**206**	Pn	**Pn**	**04 04 31.5**	**-1.9**
CMWZ	**Cape Campbell**	**8.46**	**206**	P	**Pn**	**04 04 31.9**	**-1.4**
BSWZ	**Blackbirch Sta**	**8.56**	**208**		**Pn**	**04 04 32.6**	**-1.9**
BSWZ	**Blackbirch Sta**	**8.56**	**208**	P	**Pn**	**04 04 32.2**	**-2.4**
THZ	**Tophouse**	**9.00**	**212**		**Pn**	**04 04 38.2**	**-1.8**
THZ	**Tophouse**	**9.00**	**212**	P	**Pn**	**04 04 38.1**	**-1.9**
KHZ	**Kahutara**	**9.29**	**207**		**Pn**	**04 04 41.7**	**-1.8**
KHZ	**Kahutara**	**9.29**	**207**	P	**Pn**	**04 04 41.0**	**-2.5**
LTZ	**Lake Taylor**	**10.11**	**211**		**Pn**	**04 04 51.5**	**-2.0**
AMCZ	**Amberley**	**10.28**	**208**	P	**Pn**	**04 04 54.1**	**-1.5**
OXZ	**Oxford**	**10.65**	**210**		**Pn**	**04 04 57.3**	**-2.9**
MQZ	**McQueen's Vall**	**10.73**	**207**		**Pn**	**04 04 58.7**	**-2.4**
RPZ	**Rata Peaks**	**11.38**	**212**		**Pn**	**04 05 06.3**	**-2.9**
LBZ	**Lake Benmore**	**12.30**	**212**	Pn	**Pn**	**04 05 17.5**	**-2.7**
ODZ	**Otahua Downs**	**12.63**	**209**		**Pn**	**04 05 21.9**	**-2.4**
WHZ	**Wether Hill Ro**	**14.46**	**213**		**P**	**04 05 43.6**	**-1.7**
MSVF	**Nonsavu**	**16.49**	**356**	P	**P**	**04 06 04.8**	**-3.0**
	2.6nm,0.3s,baz=245,slow=9.2,SNR=12						
MSVF	**Nonsavu**	**16.49**	**356**	P	**P**	**04 06 05.0**	**-2.8**
DZM	**Mont Dzumac**	**16.56**	**314**	P	**P**	**04 06 07.3**	**-1.2**
	0.6nm,0.3s,baz=192,slow=10.0,SNR=5.9						
DZM	**Mont Dzumac**	**16.56**	**314**	P	**P**	**04 06 07.6**	**-0.9**
DZM				IAmb	IAmb	04 06 14.5	
	comp=Z,31nm,1.4s						
AFI	**Afiamalu**	**21.83**	**24**	P	**P**	**04 07 01.9**	**-1.1**
EIDS	**Eidsvold**	**25.93**	**282**	P	**P**	**04 07 39.6**	**-0.2**
EIDS				IAmb	IAmb	04 07 41.1	
	comp=Z,6.9nm,0.8s						
TAU	**Tasmania Unive**	**26.28**	**241**	P	**P**	**04 07 45.9**	**+3.2**
TAU				IAmb	IAmb	04 07 47.6	
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**32.41**	**287**	P	**P**	**04 08 37.2**	**+0.5**
	comp=Z,7.0nm,0.6s,baz=118,slow=11,SNR=11						
CTAO	**Charters Tower**	**32.41**	**287**	P	**P**	**04 08 36.3**	**-0.5**
CTAO				IAmb	IAmb	04 08 37.7	
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**40.76**	**273**	P	**P**	**04 09 46.4**	**-0.5**
ASAR	**Alice Springs**	**40.76**	**273**	P	**P**	**04 09 46.7**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=112,slow=7.5,SNR=37						
ASAR				S	**S**	**04 15 34.9**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=121,slow=15,SNR=4.5						
ASAR	**Alice Springs**	**40.76**	**273**	P	**P**	**04 09 46.3**	**-0.6**
WR0	**Warramunga Arr**	**41.94**	**278**	P	**P**	**04 09 55.6**	**-0.8**
WB2	**Warramunga Arr**	**42.10**	**278**	P	**P**	**04 09 57.0**	**-0.7**
WB2				IAmb	IAmb	04 09 57.6	
	comp=Z,5.6nm,0.5s						
WRA	**Warramunga Arr**	**42.11**	**278**	P	**P**	**04 09 57.0**	**-0.7**
	comp=Z,3.2nm,0.4s,baz=116,slow=8.2,SNR=58						
WRA				ScP	**ScP**	**04 15 08.1**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=119,slow=3.6,SNR=1.3						
WRA	**Warramunga Arr**	**42.11**	**278**	P	**P**	**04 09 55.8**	**-2.0**
WB0	**Warramunga Arr**	**42.15**	**278**	P	**P**	**04 09 57.5**	**-0.6**
WB0				IAmb	IAmb	04 09 58.0	
	comp=Z,5.3nm,0.5s						
VNDA	**Vanda**	**44.04**	**185**	P	P	04 10 17.4	+5.2
	comp=Z,0.6nm,0.7s,baz=359,slow=6.7,SNR=4.5						
FITZ	**Fitzroy Crossi**	**50.17**	**275**	P	**P**	**04 11 00.0**	**-0.2**
FITZ				IAmb	IAmb	04 11 16.6	
	comp=Z,6.5nm,1.3s						
CASY	**Casey**	**50.64**	**209**	P	**P**	**04 11 05.2**	**+2.2**
CASY				IAmb	IAmb	04 11 15.9	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Sui**	**55.86**	**180**	P	P	04 11 46.2	+5.3
	comp=Z,13nm,0.7s,baz=312,slow=0.3,SNR=114						
HMH	**Humu'ula Sheep**	**58.72**	**28**	P	**P**	**04 11 59.3**	**-2.2**
MAW	**Mawson**	**67.88**	**202**	P	**P**	**04 13 04.2**	**+4.0**
	comp=Z,1.1nm,0.4s,baz=132,slow=7.8,SNR=2.6						
SNAA	**Sanae**	**74.35**	**179**	P	**P**	**04 13 42.0**	**+3.2**
VNA3	**Neumayer Olymp**	**74.60**	**177**	P	**P**	**04 13 43.6**	**+3.4**
VNA2	**Neumayer--Watz**	**75.00**	**178**	P	**P**	**04 13 46.4**	**+3.8**
	baz=191,slow=5.4						
VNA1	**Neumayer--Stat**	**75.25**	**177**	P	**P**	**04 13 47.7**	**+3.8**
PLCA	**Paso Flores**	**81.56**	**134**	P	P	04 14 23.8	+4.9
	comp=Z,1.7nm,0.5s,baz=267,slow=6.5,SNR=4.6						
PETK	**Petropavlovsk-**	**89.00**	**347**	P	**P**	**04 14 56.1**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=111,slow=7.9,SNR=3.2						
FINES	**FINESS Array B**	**147.84**	**336**	PKPbc	**PKPbc**	**04 21 42.6**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=11,slow=3.9,SNR=8.7						
AKASG	**Malin Array Be**	**152.71**	**316**	PKPbc	**PKPbc**	**04 21 53.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=64,slow=2.5,SNR=1.8						
TORD	**Torodi Ar. Bea**	**158.86**	**187**	PKPab	**PKPab**	**04 22 36.1**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=174,slow=3.2,SNR=1.9						

IDC ***24*** *04:30:44.9±2.0,0°.24N×126°.33E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/24,mbtmp3.6/3,Error ellipse: s-maj=184.5km s-min=25.3km az=65.0*

DJA ***24*** *04:30:48.0±0.5,0°N±4°×12°7E±°,h50km±21km,M3.3/7, MLv3.3/7*

ISC 24 04:30:49.5±1.1,**0°46N**±0°.06×**126°60E**±0°.05,**h47**km,**n10,** σ1§**33**/12,**mb3.5/3,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.83**	**68**	P	**Pn**	**04 31 05.0**	**+0.1**
TNTI				S	**Sn**	**04 31 15.7**	**-0.4**
LBMI	**Labuha**	**1.41**	**140**	P	**Pn**	**04 31 12.0**	**-0.8**
LBMI				S	**Sn**	**04 31 29.4**	**-0.9**
GAMI	**Galela, Maluku**	**1.82**	**41**	P	**Pn**	**04 31 16.4**	**-2.0**
MNI	**Manado**	**2.01**	**299**	P	**Pn**	**04 31 19.4**	**-1.6**
SANI	**Sanana**	**2.56**	**194**	P	**Pn**	**04 31 27.6**	**-0.9**
KMSI	**Cibinong**	**2.62**	**273**	P	**Pn**	**04 31 29.1**	**-0.2**
GTOI	**Gorontalo**	**3.59**	**273**	P	**Pn**	**04 31 41.3**	**-1.3**
WRA	**Warramunga Arr**	**21.65**	**160**	P	**P**	**04 35 35.7**	**-0.4**
	0.6nm,0.3s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.01**	**164**	P	**P**	**04 36 09.6**	**+0.4**
	0.9nm,0.8s,baz=336,slow=9.3,SNR=6.9						
MKAR	**Makanchi Array**	**60.17**	**326**	P	**P**	**04 40 54.8**	**+2.2**
	0.3nm,0.4s,baz=116,slow=7.7,SNR=7.4						

IDC ***24*** *04:44:28.2±1.5,35°.25N×26°.60E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.5/26,mbtmp3.6/4,Error ellipse: s-maj=67.4km s-min=24.4km az=152.0*

ISK ***24*** *04:44:31.7,35°.21N×26°.76E,h4km,ML3.4/11*

ATH ***24*** *04:44:32.1,35°.16N×26°.78E,h14km±4km,ML3.4/6,Error ellipse: s-maj=8.1km s-min=2.3km az=150.0*

THE ***24*** *04:44:33.2,35°.21N×26°.65E,h2km±1km,ML3.5/3,Error ellipse: s-maj=3.6km s-min=0.6km az=158.0*

DDA ***24*** *04:44:33.0,35°.29N×26°.64E,h8km±30km,MW3.8*

ISC 24 04:44:30.5±1.4,**35°13N**±0°.05×**26°72E**±0°.03,**h9**km±9km, **n64,**σ1§**49**/78,**mb3.5**/4,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.41**	**268**	P	**Pb**	**04 44 40.7**	**+0.7**
ZKR	**Zakros**	**0.41**	**268**	P	**Pb**	**04 44 40.6**	**+0.6**
ZKR				S	**Sb**	**04 44 48.5**	**+2.1**
ZKR				AML	AML	04 44 49.9	
	comp=N,9148μm,0.3s						
ZKR				AML	AML	04 44 51.0	
	comp=E,15074μm,0.3s						
ZKR	**Zakros**	**0.41**	**268**	PG	**Pb**	**04 44 41.1**	**+1.1**
ZKR				SG	**Sb**	**04 44 48.1**	**+1.7**
STIA	**Sitia Lasithi**	**0.52**	**278**	P	**Pb**	**04 44 42.1**	**+0.3**
STIA				S	**Sb**	**04 44 49.9**	**+0.4**
FRMA	**Ierapetra Phan**	**0.82**	**262**	P	**Pg**	**04 44 45.7**	**-0.6**
FRMA				S	**Sg**	**04 44 57.3**	**+0.4**
NPS	**Neapolis**	**0.92**	**279**	P	**Pn**	**04 44 50.2**	**+0.6**
NPS				S	**Sn**	**04 45 02.8**	**-0.1**
	comp=E,4μm,0.5s						
NPS	**Neapolis**	**0.92**	**279**	P	**Pn**	**04 44 50.2**	**+0.6**
NPS				AML	AML	04 45 09.1	
	comp=E,7775μm,0.5s						
NPS				AML	AML	04 45 11.8	
	comp=N,6289μm,0.4s						
LAST	**Lasithi**	**1.02**	**272**	P	**Pb**	**04 44 51.7**	**+1.3**
LAST				S	**Sn**	**04 45 06.0**	**+0.5**
LAST	**Lasithi**	**1.02**	**272**	P	**Pb**	**04 44 51.3**	**+0.9**
LAST				AML	AML	04 45 15.7	
	comp=E,2820μm,0.9s						
LAST				AML	AML	04 45 18.6	
	comp=N,2666μm,0.7s						
HRKL	**Herakleio**	**1.34**	**278**	PN	**Pn**	**04 44 57.9**	**+2.5**
HRKL				SN	**Sn**	**04 45 17.2**	**+3.9**
IACM	**Heraklion**	**1.36**	**278**	P	**Pb**	**04 44 58.3**	**+2.1**
KSTL	**Kastelli Herak**	**1.36**	**278**	P	**Pn**	**04 44 54.0**	**-1.7**
KSTL				S	**Sg**	**04 45 09.1**	**-5.2**
IDI	**Anoyia**	**1.51**	**276**	P	**Pg**	**04 45 00.0**	**+0.6**
IDI				AML	AML	04 45 29.2	
	comp=N,1517μm,0.5s						
IDI				AML	AML	04 45 32.6	
	comp=E,1121μm,0.5s						
IDI	**Anoyia**	**1.51**	**276**	PN	**Pg**	**04 45 00.9**	**+1.4**
NIS1	**Nisyros Isl.**	**1.51**	**14**	P	**Pn**	**04 44 59.1**	**+1.3**
NIS1				S	**Sn**	**04 45 18.6**	**+0.9**
	comp=E,1μm,0.4s						
NIS1	**Nisyros Isl.**	**1.51**	**14**	P	**Pn**	**04 44 58.8**	**+1.0**
NIS1	**Nisyros Isl.**	**1.51**	**14**	PN	**Pn**	**04 44 58.8**	**+1.0**
NIS1				SN	**Sg**	**04 45 19.1**	**-0.1**
SIVA	**Sivas**	**1.57**	**266**	P	**Pg**	**04 45 01.4**	**+0.8**
ARG	**Arkhangelos**	**1.57**	**46**	P	**Pn**	**04 45 01.0**	**+2.3**
ARG				S	**Sb**	**04 45 21.6**	**+1.7**
	comp=E,990nm,0.4s						
ARG	**Arkhangelos**	**1.57**	**46**	P	**Pn**	**04 45 00.2**	**+1.6**
ARG				AML	AML	04 45 22.4	
	comp=N,1774μm,0.4s						
ARG				AML	AML	04 45 22.8	
	comp=E,1904μm,0.6s						
ARG	**Arkhangelos**	**1.57**	**46**	PN	**Pn**	**04 45 00.6**	**+1.9**
SANT	**Santorini**	**1.61**	**321**	P	**Pb**	**04 45 00.5**	**+0.1**
SANT				AML	AML	04 45 27.9	
	comp=E,2478μm,0.7s						
SANT				AML	AML	04 45 28.8	
	comp=N,712μm,0.4s						
SANT	**Santorini**	**1.61**	**321**	*i* P	**Pn**	**04 45 00.2**	**+1.1**
SANT				*i* S	**Sn**	**04 45 19.9**	**-0.1**
SANT	**Santorini**	**1.61**	**321**	PN	**Pb**	**04 45 00.8**	**+0.4**
SANT				SN	**Sg**	**04 45 22.3**	**+0.1**
KOSK	**Kos Island**	**1.63**	**7**	PN	**Pb**	**04

KCHF	Cheshme Sefid,	1.89	322	*e*Pg		Pb	05 22 30.4	+0.2
KER	Kermanshah	1.94	326	*e*Pn		Pn	05 22 29.6	+1.5
IALM	Almabolaq	2.09	354	*e*Pn		Pn	05 22 31.7	+1.4
IALM				*e*			05 22 36.7	
	comp=Z,3µm,0.2s							
HAGD	Aghdareh	2.12	16	*e*Pn		Pn	05 22 32.2	+1.5
HAGD				*e*			05 23 09.4	
	comp=Z,3µm,0.4s							
IGHG	Ghaleghazi	2.20	315	*e*Pn		Pn	05 22 34.0	+2.2
IGHG				*e*			05 23 18.8	
	comp=Z,2µm,0.6s							
ILIN	Lien	2.46	330	*e*Pn		Pn	05 22 36.4	+0.9
ILIN				*e*			05 23 21.2	
	comp=Z,1µm,0.9s							
SNGE	Sanandaj	2.48	339	*e*Pn		Pn	05 22 34.8	-0.9
SNGE				*e*Sg		Sb	05 23 09.0	-1.4
SNGE	Sanandaj	2.48	339	*e*Pn		Pn	05 22 34.8	-0.9
IDHR	Dehrash	2.57	319	*e*Pn		Pn	05 22 39.1	+2.2
IDHR				*e*			05 23 24.5	
	comp=Z,2µm,0.4s							
QAMS	Qamsar	2.66	68	*e*Pn		Pn	05 22 39.9	+1.8
IKLH	Kolahrood	2.69	78	*e*Pn		Pn	05 22 39.7	+1.1
IKLH				*e*			05 23 16.6	
	comp=Z,790nm,0.2s							
IRAZ	Razeghan	2.90	25	*e*Pn		Pn	05 22 43.6	+2.2
GHVR	GHOM	2.92	54	*e*Pn		Pn	05 22 43.0	+1.3
GHVR				*e*Sg		Sb	05 23 26.2	+3.1
GHVR	GHOM	2.92	54	*e*Pn		Pn	05 22 43.0	+1.3
IQOM	Qom	3.01	46	*e*Pn		Pn	05 22 44.3	+1.3
QABG	Abgarm-Qazvin	3.07	18	*e*Pn		Pn	05 22 43.5	-0.3
MIB	Mutribah	3.11	198	*e*P		Pn	05 22 44.8	+0.6
KLNJ	Kolanjah	3.21	123	*e*Pn		Pn	05 22 46.4	+0.5
KLNJ				*e*			05 23 37.6	
	comp=Z,949nm,0.4s							
UMR	Umm Al-Rimmam	3.28	191	*e*P		Pn	05 22 46.5	+0.1
IZEF	Zefreh	3.28	87	*e*Pn		Pn	05 22 47.9	+1.2
KRSH	Karshahi	3.31	68	*e*Pn		Pn	05 22 48.5	+1.4
KRSH				*e*			05 23 45.8	
	comp=Z,588nm,0.6s							
IMHD	Mahdasht	3.44	32	*e*Pn		Pn	05 22 49.7	+1.0
IRAM	Ramesheh	3.48	105	*e*Pn		Pn	05 22 49.7	+0.3
RST	Umm Al-Ruwaisa	3.50	201	*e*P		Pn	05 22 50.1	+0.6
ISFB	Sefidab	3.54	63	*e*Pn		Pn	05 22 51.3	+1.1
QSDN	Sirdan	3.76	9	*e*Pn		Pn	05 22 54.8	+1.4
ZNJK	Zanjan	3.89	3	*e*Pn		Pn	05 22 55.0	0.0
ZNJK	Zanjan	3.89	3	*e*Pn		Pn	05 22 55.1	0.0
RDF	Al-Radifah	3.92	191	*e*P		Pn	05 22 55.8	+0.6
QRN	Al-Qurain	4.05	186	*e*P		Pn	05 22 57.3	+0.2
ISHM	Shahmirzad	5.03	52	*e*Pn		Pn	05 23 13.0	+2.3
YZKH	Yazd	5.21	93	*e*Pn		Pn	05 23 16.1	+3.0
YZKH				*e*Sg		Sg	05 24 38.6	-4.8
YZKH	Yazd	5.21	93	*e*Pn		Pn	05 23 16.1	+3.0
IMEH	Mehriz	5.42	103	*e*Pn		Pn	05 23 16.4	+0.2

IDC 24 05:46:43.2±2.3, 4°.15S×151°.14E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/27, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=174.2km s-min=31.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.68	225	P	P	05 51 45.2	-1.3
	1.1nm,0.7s,baz=50,slow=9.8,SNR=6.5						
ASAR	Alice Springs	25.56	219	P	P	05 52 15.0	+1.1
	0.5nm,0.6s,baz=56,slow=8.4,SNR=6.2						
MJAR	Matsushiro Arr	42.25	344	LR	LR	06 11 06.1	
	comp=Z,32nm,21.1s,baz=290,slow=35						
ILAR	Eielson Array	82.19	22	P	P	05 59 05.8	-0.1
	0.5nm,1.0s,baz=243,slow=6.0,SNR=2.5						

IDC 24 05:51:02.1±2.6, 3°.80S×150°.72E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/26, mbtmp3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/18, Error ellipse: s-maj=250.3km s-min=32.2km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.59	212	LR	LR	05 55 30.4	
	comp=Z,176nm,18.7s,baz=168,slow=41						
WRA	Warramunga Arr	22.64	224	P	P	05 56 04.5	-0.5
	1.2nm,1.0s,baz=50,slow=9.9,SNR=4.6						
ASAR	Alice Springs	25.57	218	P	P	05 56 33.5	+0.4
	0.2nm,0.5s,baz=41,slow=8.6,SNR=1.8						
STKA	Stephens Creek	29.22	196	LR	LR	06 07 57.2	
	comp=Z,58nm,18.7s,baz=15,slow=35						
ILAR	Eielson Array	82.03	23	P	P	06 03 23.9	0.0
	0.3nm,0.6s,baz=260,slow=5.4,SNR=3.3						

IDC 24 06:17:30.7±0.7, 17°.08N×119°.99E, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.9/47, mbtmp3.9/14, MS3.4/6, Ms1 3.4/6, ms1mx2.9/45, Error ellipse: s-maj=34.8km s-min=11.4km az=74.0
MAN 24 06:17:35.7, 17°.17N×120°.16E, h2km, MS3.5
ISC 24 06:17:33.8±1.6, 17°.14N±0°.03×119°.99E±0°.06, h16km±10km, n31, σ1°86/41, mb3.9/14, MS3.4/6, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	Bolinao	0.76	185	*e*P		Pn	06 17 51.2	+1.5
BOLP				*e*S		Sn	06 18 06.8	+5.9
ABRA	Dolores	0.86	54	*e*P		Pb	06 17 49.9	-0.4
ABRA				*e*S		Sn	06 18 02.7	-0.8
SAMP	Sagada Mountai	0.88	94	*e*P		Pb	06 17 50.3	-0.4
SAMP				*e*S		Sn	06 18 03.5	-0.4
SIPP	Brgy, Tapao	0.90	30	⇓*e*P		Pb	06 17 50.5	-0.6
SIPP				*e*S		Sn	06 18 10.8	+6.3
SMPP	San Manuel, Pa	1.19	146	*e*P		Pg	06 17 56.9	+0.1
SMPP				*e*S		Sn	06 18 13.8	+2.3
APYP	Conner	1.40	59	⇓*i*P		Pb	06 17 59.2	-0.3
APYP				*i*S		Sb	06 18 17.4	+0.2
CAUP	Cauayan	1.77	96	*e*P		Pg	06 18 08.4	+0.6
CAUP				*e*S		Sb	06 18 27.9	+0.1
CVP	Callao Caves	1.84	72	⇓*e*P		Pb	06 18 06.8	-0.4
PCPH	Palayan	1.89	146	⇑*e*P		Pg	06 18 09.3	-1.0
PCPH				*e*S		Sg	06 18 36.5	+1.6
MACP	Maragondon, Ca	2.94	166	*e*P		Pb	06 18 24.2	-1.7
MACP				*e*S		Sb	06 19 04.3	+2.7
TGY	Tagaytay City	3.15	163	Pg		Pb	06 18 29.1	-0.4
	92nm,0.3s,baz=283,slow=3.1,SNR=6.7							
TGY				Lg		Lg	06 19 09.5	
	182nm,0.3s,baz=119,slow=18,SNR=2.9							
LQP	Lukban	3.36	153	⇑*e*P		Pb	06 18 31.4	-1.7
LQP				*e*S		Sn	06 19 08.9	+3.5
LUBP	Lubang	3.39	176	*e*P		Pb	06 18 31.2	-2.3
LUBP				*e*S		Sb	06 19 14.3	-0.3
CMAR	Chiang Mai Arr	20.08	277	LR	LR	06 29 53.6	
	comp=Z,84nm,18.6s,baz=147,slow=37							
KSRS	Korea Array	21.41	18	P	P	06 22 20.8	-0.2
	2.6nm,0.7s,baz=204,slow=12,SNR=15							
KSRS				LR	LR	06 30 08.3	
	comp=Z,51nm,20.4s,baz=188,slow=35							
MJAR	Matsushiro Arr	25.18	36	P	P	06 22 58.2	-0.3
	1.2nm,0.6s,baz=217,slow=7.7,SNR=3.2							
SONM	Songino Array	32.59	343	P	P	06 24 04.7	+0.2
	0.5nm,0.5s,baz=140,slow=7.5,SNR=2.1							
KLR	Kul'dur	33.41	14	P	P	06 24 11.4	-0.1
	2.2nm,0.8s,baz=227,slow=5.8,SNR=5.0							
KLR				LR	LR	06 38 48.7	
	comp=Z,42nm,19.4s,baz=193,slow=38							
WRA	Warramunga Arr	39.45	158	P	P	06 25 01.7	-1.8
	0.8nm,0.3s,baz=341,slow=8.8,SNR=21							
WRA				PcP	PcP	06 27 11.4	0.0
	0.9nm,0.9s,baz=334,slow=3.0,SNR=3.2							
ASAR	Alice Springs	42.77	161	P	P	06 25 29.2	-1.6
	1.9nm,0.7s,baz=338,slow=6.9,SNR=19							
MKAR	Makanchi Array	42.90	322	PcP	PcP	06 27 21.9	-0.4
	0.8nm,0.7s,baz=116,slow=2.6,SNR=5.6							
CTA	Charters Tower	45.10	144	P	P	06 25 48.8	-0.7
	2.6nm,0.7s,baz=315,slow=2.9,SNR=1.5							
KURBB	Kurchatov Arra	46.98	325	P	P	06 26 04.9	+0.9
	0.4nm,0.3s,baz=121,slow=8.9,SNR=8.3							
STKA	Stephens Creek	52.96	157	P	P	06 26 48.2	-1.3
	1.5nm,0.5s,baz=354,slow=9.2,SNR=2.9							
STKA				LR	LR	06 51 07.0	
	comp=Z,52nm,18.2s,baz=208,slow=38							
AKTO	Aktyubinsk	59.17	319	LR	LR	06 54 50.9	
	comp=Z,41nm,19.4s,baz=107,slow=38							
ARCES	ARCESS Array B	75.65	339	P	P	06 29 17.8	0.0
	2.9nm,0.9s,baz=90,slow=5.7,SNR=2.4							
ILAR	Eielson Array	75.98	26	P	P	06 29 20.1	+0.3
	0.2nm,0.8s,baz=280,slow=5.4,SNR=2.2							
FINES	FINESS Array B	76.97	331	P	P	06 29 25.3	-0.1
	1.7nm,0.8s,baz=69,slow=7.6,SNR=5.0							
AKASG	Malin Array Be	77.41	319	P	P	06 29 27.4	-0.7
	0.3nm,0.4s,baz=64,slow=5.1,SNR=2.6							
NOA	NORSAR Array B	83.91	332	P	P	06 30 01.9	-0.9
	1.0nm,0.6s,baz=64,slow=4.8,SNR=7.8							
NOA				LR	LR	07 10 03.8		
	comp=Z,22nm,18.3s,baz=215,slow=38							
TXAR	Lajitas Array	117.47	43	PKP	PKPdf	06 36 19.4	-0.2
	0.3nm,0.5s,baz=221,slow=0.7,SNR=6.5							

IDC 24 06:30:41.9±2.5, 54°.18N×86°.38E, h0km, mb1 3.1/2, mb1mx3.0/37, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=20.6km s-min=13.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.95	257	*i*		06 36 40.0	
	baz=77,slow=305,SNR=1.2						
ZALV	Zalesovo Beam	0.95	257	Pg	Pg	06 30 58.4	-1.6
	2.1nm,0.3s,baz=74,slow=16,SNR=24						
ZALV				Lg	Lg	06 31 14.1	
	2.8nm,0.3s,baz=75,slow=28,SNR=5.8						
ZALV				Rg	Rg	06 31 17.6	
	22nm,1.0s,baz=73,slow=34,SNR=9.2						
KURBB	Kurchatov Arra	5.98	237	Pn	Pn	06 32 12.7	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=7.6						
KURBB				Lg	Lg	06 33 50.8	
	0.0nm,0.3s,baz=49,slow=28,SNR=2.4						
MKAR	Makanchi Array	7.84	201	Pn	Pn	06 32 38.1	+1.0
	0.3nm,0.3s,baz=25,slow=13,SNR=17						
MKAR				Lg	Lg	06 34 50.5	
	0.0nm,0.3s,baz=18,slow=30,SNR=6.3						

IDC 24 06:48:01.7±3.0, 53°.76N×88°.21E, h0km, mb1 3.2/3, mb1mx3.1/41, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=27.6km s-min=19.5km az=80.0
NNC 24 06:48:03.0±2.9, 53°.69N×87°.99E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=21.8km s-min=11.0km az=62.0, Suspected Mining explosion.
ISC 24 06:48:04.1±3.7, 53°.7N±0°.1×87°.9E±0°.2, h0km, n8, σ0°76/12, 6C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.85	278	*i*		07 00 30.0	
	baz=93,slow=303,SNR=6.0						
ZAA0	Zalesovo Array	1.85	278	⇓Pg	Pn	06 48 37.1	+0.1
	3.8nm,0.8s						
ZAA0				⇓Lg	Lg	06 49 04.6	
	5.5nm,0.6s						
ZALV	Zalesovo Beam	1.85	278	Pn	Pn	06 48 36.9	-0.2
	3.1nm,0.3s,baz=90,slow=12,SNR=41						
ZALV				Sn	Sg	06 49 03.8	+0.4
	8.1nm,0.3s,baz=96,slow=21,SNR=24						
KURBB	Kurchatov Arra	6.56	245	Pn	Pn	06 49 42.3	+0.5
	0.3nm,0.3s,baz=61,slow=14,SNR=11						
KURBB				Sn	Sn	06 50 57.7	+0.4
	0.1nm,0.3s,baz=61,slow=29,SNR=2.1						
KURBB				Lg	Lg	06 51 34.6	
	0.1nm,0.3s,baz=53,slow=33,SNR=11						
KURBB	Kurchatov Arra	6.56	245	⇑Pn	Pn	06 49 41.2	-0.6
	1.4nm,0.3s						
KURBB				⇑Sn	Sn	06 50 56.4	-0.9
	4.5nm,0.6s						
KURBB				⇓Lg	Lg	06 51 31.2	
	13nm,0.8s						
MK31	Makanchi Array	7.83	210	⇓Pn	Pn	06 49 59.4	+0.2
	0.8nm,0.8s,baz=27,slow=13,SNR=11						
MK31				⇑Sn	Sn	06 51 29.1	+0.6
	1.1nm,0.8s,baz=35,slow=25,SNR=5.4						
MK31				⇑Lg	Lg	06 52 12.2	
	2.6nm,0.9s,baz=36,slow=28,SNR=3.7						
MKAR	Makanchi Array	7.83	210	Pn	Pn	06 49 59.2	0.0
	0.2nm,0.3s,baz=30,slow=13,SNR=11						
MKAR				Sn	Sn	06 51 29.3	+0.8
	0.2nm,0.3s,baz=33,slow=24,SNR=6.0						
MKAR				Lg	Lg	06 52 10.8	
	0.1nm,0.3s,baz=33,slow=29,SNR=2.8						
MAKZ	Makanchi	7.91	211	⇑Sn	Sn	06 51 28.9	-1.6
	1.7nm,0.6s						
MAKZ				⇑Lg	Lg	06 52 12.9	
	3.0nm,0.9s						

IDC 24 06:53:13.6±7.4, 19°.98S×169°.00E, h74km±78km, mb3.5/2, mb1 3.7/3, mb1mx3.3/26, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=158.7km s-min=49.8km az=148.0
NOU 24 06:53:20.0, 20°.46S×168°.57E, h0km, ML3.7, Loyalty Islands
ISC 24 06:53:15.4±2.3, 20°.2S±0°.2×169°.1E±0°.2, h100km, n11, σ0°93/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	LIFOU	1.81	251	P	Pn	06 53 43.8	-1.8
YATNC	Mamie plateau,	2.76	227	P	Pn	06 53 57.7	-0.3
OUENC	Ouen Island, N	3.04	223	P	Pn	06 54 02.2	+0.5
DZM	Mont Dzumac	3.09	232	P	Pn	06 54 01.9	-0.5
	1.6nm,0.3s,baz=26,slow=10,SNR=25						
DZM				S	Sn	06 54 38.1	-0.5
	22nm,0.3s,baz=178,slow=22,SNR=14						
DZM	Mont Dzumac	3.09	232	P	Pn	06 54 02.1	-0.3
NOUC	Port Laguerre	3.21	233	P	Pn	06 54 04.5	+0.5
ONTNC	Ouen Toro	3.23	229	P	Pn	06 54 04.9	+0.7
KOUNC	Koumac, New Ca	4.50	265	P	Pn	06 54 22.6	+1.2
WRA	Warramunga Arr	32.59	264	P	P	06 59 37.8	+0.1
	0.6nm,1.0s,baz=91,slow=8.4,SNR=7.0						
ASAR	Alice Springs	32.76	257	P	P	06 59 40.0	+0.9
	1.3nm,0.5s,baz=83,slow=9.1,SNR=20						
GERES	GERESS Array B	145.25	331	PKPbc	PKPab	07 12 40.8	-0.7
	0.4nm,0.5s,baz=57,slow=3.6,SNR=4.5						

IDC 24 07:00:39.0±3.2, 22°.44S×68°.88W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.6/20, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=74.3km s-min=54.3km az=57.0
VAO 24 07:00:56.0±0.4, 21°.03S×68°.73W, h98km, mb4.1
GUC 24 07:00:57.3±0.6, 21°.22S×68°.73W, h119km±3km, ML3.6
ISC 24 07:00:56.5±0.7, 21°.21S±0°.03×68°.77W±0°.08, h122km±8km, n54, σ0°88/61, 7C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	0.69	284	*e*P	Pn	07 01 15.9	-0.2
PB01				*i*S	Sn	07 01 30.8	0.0
PB01				IAML		07 01 31.8	
	comp=E,4µm,0.1s						
PB08	IPOC Station P	1.12	341	⇓*i*P	Pn	07 01 21.0	+0.7
PB08				*i*S	Sn	07 01 38.9	+0.6
PB08				IAML		07 01 40.7	
	comp=E,771nm,0.2s						
PB07	IPOC Station P	1.16	243	⇑*i*P	Pn	07 01 20.8	+0.3
PB07				*i*S	Sn	07 01 38.6	-0.2
PB07				IAML		07 01 39.7	
	comp=E,2µm,0.1s						
PB03	IPOC Station P	1.24	227	⇑*i*P	Pn	07 01 21.6	+0.3
PB03				*i*S	Sn	07 01 40.0	-0.2
PB03				IAML		07 01 40.9	
	comp=E,2µm,0.3s						
LVC	Limon Verde	1.40	185	*e*P	Pn	07 01 24.1	+0.7
LVC				*e*S	Sn	07 01 44.1	+0.4
LVC	Limon Verde	1.40	185	*e*P	Pn	07 01 24.0	+0.7
TA01	Diego Aracena	1.47	296	⇑*i*P	Pn	07 01 23.9	+0.3
TA01				*i*S	Sn	07 01 44.4	+0.1
TA02	Huaiquique	1.58	306	*e*P	Pn	07 01 25.1	+0.1
TA02				*i*S	Sn	07 01 46.7	0.0
PB11	IPOC Station P	1.66	330	⇓*i*P	Pn	07 01 26.3	+0.1
PB11				*i*S	Sn	07 01 48.9	+0.2
PB11				IAML		07 01 51.1	
	comp=E,1µm,0.3s						
PB06	IPOC Station P	1.67	206	⇑*i*P	Pn	07 01 26.7	+0.5
PB06				*i*S	Sn	07 01 49.1	+0.2
PB06				IAML		07 01 50.6	
	comp=E,768nm,0.4s						
PB04	IPOC Station P	1.71	229	⇑*i*P	Pn	07 01 26.7	+0.1
PB04				*i*S	Sn	07 01 49.6	0.0
PB04				IAML		07 01 55.3	
	comp=N,809nm,0.2s						
PSGC	Pisagua	2.04	321	⇓*i*P	Pn	07 01 30.4	-0.4
PSGC				*i*S	Sn	07 01 56.2	-0.7
PSGC				IAML		07 01 57.9	
	comp=E,390nm,0.2s						
PB15	IPOC Station P	2.10	198	*e*P	Pn	07 01 31.6	+0.1
PB15				*i*S	Sn	07 01 58.9	+0.7
PB05	IPOC Station P	2.11	219	⇑*i*P	Pn	07 01 31.6	0.0
PB05				IAML		07 02 04.8	
	comp=E,238nm,0.2s						
MNMC	Minye Minye	2.21	339	*e*P	Pn	07 01 33.3	+0.4
MNMC				*i*S	Sn	07 02 01.8	+1.0
MNMC				IAML		07 02 04.2	
	comp=N,501nm,0.1s						
PB10	IPOC Station P	2.83	215	⇑*i*P	Pn	07 01 40.8	+0.2
PB10				IAML		07 02 28.2	
	comp=E,87nm,0.4s						
PB14	IPOC Station P	3.72	204	*e*P	Pn	07 01 52.8	+0.1
PB14				IAML		07 02 37.6	
	comp=E,27nm,0.5s						
GO02	Mina Guanaco	4.01	191	*e*P	Pn	07 01 56.5	0.0
GO02				*i*S	Sn	07 02 42.0	-0.9
LPAZ	La Paz	4.93	7	Pn	Pn	07 02 11.7	+2.5
	comp=E,0.7nm,0.3s,baz=195,slow=5.6,SNR=21						
PTLB	Pontes e Lacer	10.79	60	*e*P	Pn	07 03 25.9	-1.7
VILB	Vilhena	11.59	46	*e*P	Pn	07 03 36.0	-2.4
AQDB	Aquidauana	12.24	89	*e*P	Pn	07 03 46.9	0.0
SALV	Santo Antonio	13.47	69	*e*P	Pn	07 04 02.4	-0.5
ARAG	Araguaiana, MT	16.99	74	*e*P	P	07 04 46.9	+0.1
FRTB	Fartura	17.90	100	*e*P	Pn	07 04 57.8	-0.1
TIJ01	Guaruva-PR	18.61	106	*e*P	P	07 05 04.5	-0.1
BB19B	Bebedouro	18.88	93	*e*P	P	07 05 07.5	-0.1
SNDB	Serra Nova Dou	19.08	64	*e*P	P	07 05 09.3	-0.5
NPGB	Novo Progresso	19.14	45	*e*P	P	07 05 09.6	-0.8
PLCA	Paso Flores	19.52	184	*e*P	Pn	07 05 17.3	+0.4
IPMB	Ipameri, GO	19.63	84	*e*P	P	07 05 15.3	-0.4
RCLB	Rio Claro- Sao	19.75	97	*e*P	Pn	07 05 18.4	-1.4
VAO	Valinhos	20.28	99	*e*P	Pn	07 05 24.4	-1.5
BDFB	Brasilia	20.45	78	P	P	07 05 23.6	-1.0
	comp=E,1.3nm,0.4s,baz=240,slow=8.1,SNR=3.5						
ITTB	Itatiuba	20.99	39	*e*P	P	07 05 29.1	-1.2
PEXB	Peixe	21.57	68	*e*P	P	07 05 36.3	-0.4
VAS01	Vassouras-RJ	23.54	97	*e*P	P	07 05 58.2	+2.2
PRPB	Parauapebas	23.67	54	*e*P	P	07 05 57.1	-0.1
SMTB	Santa Maria do	23.81	62	*e*P	P	07 05 58.6	+0.1
MALB	Monte Alegre	23.87	38	*e*P	P	07 05 58.7	-0.2
MC01	Montes Claros	23.89	83	*e*P	P	07 05 59.3	+0.1
JANB	Januaria	24.02	79	*e*P	P	07 06 00.2	-0.2
SDBA	SAO DESIDERIO	24.44	73	*e*P	P	07 06 04.2	+0.1
CAM01	Campos-RJ	25.22	96	*e*P	P	07 06 13.0	+1.9
SJMB	Sao Joao De Ma	26.03	89	*e*P	P	07 06 20.4	+1.8
ALF01	Guarapari-ES	26.19	94	*e*P	P	07 06 21.8	+1.8
TORD	Torodi Ar. Bea	77.13	70	P	P	07 12 36.9	-0.3
	comp=E,0.2nm,0.3s,baz=254,slow=4.5,SNR=4.5						
H11S2	WAKE ISLAND Hyl	27.97	277	T	T	09 39 56.2	
	baz=102,slow=74						
H11S1	WAKE ISLAND Hyl	27.98	277	T	T	09 39 58.3	
	baz=102						
H11S3	WAKE ISLAND Hyl	27.99	277	T	T	09 39 56.3	
	baz=102,slow=74						
H11N3	WAKE ISLAND Hyl	28.04	279	T	T	09 40 04.4	
	baz=104						
H11N2	WAKE ISLAND Hyl	28.06	279	T	T	09 40 00.9	
	baz=104						
H11N1	WAKE ISLAND Hyl	28.06	279	T	T	09 39 59.5	
	baz=104						
MKAR	Makanchi Array	145.32	36	PKPbc	PKPab	07 20 21.8	+1.5
	comp=E,1.0nm,0.6s,baz=315,slow=1.4,SNR=11						

IDC 24 07:03:05.2±2.6, 54°.06N×86°.47E, h0km, mb1 3.0/2, mb1mx2.9/52, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.2km s-min=12.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.98	264	*i*		07 09 40.0	
	baz=83,slow=314,SNR=0.9						
ZALV	Zalesovo Beam	0.98	264	Pg	Pg	07 03 22.4	-1.6
	1.1nm,0.3s,baz=84,slow=16,SNR=7.6						
ZALV				Lg	Lg	07 03 37.9	
	3.1nm,0.3s,baz=86,slow=28,SNR=9.8						
ZALV				Rg	Rg	07 03 41.7	
	4.3nm,0.4s,baz=82,slow=37,SNR=10						
KURBB	Kurchatov Arra	5.96	238	Pn	Pn	07 04 35.7	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=12						
MKAR	Makanchi Array	7.75	202	Pn	Pn	07 05 00.0	+0.8
	0.2nm,0.3s,baz=25,slow=13,SNR=8.5						
MKAR				Sn	Sn	07 06 28.0	+0.3
	0.1nm,0.3s,baz=21,slow=27,SNR=4.0						

NNC 24 07:05:37.0±0.4, 50°.02N×78°.69E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=9.7km s-min=2.1km az=77.0, Suspected Mining explosion.
ISC 24 07:05:38.9±0.8, 50°.12N±0°.04×78°.76E±0°.06, h0km, n21, σ1°33/34, 17C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	Kurchatov Arra	0.49	342	⇑P	Pg	07 05 48.2	-0.1
KUR07				⇑S	Sb	07 05 57.0	-1.1
KUR14	Kurchatov

ISC 24 07:28:44.1±3.9, 53.9N±0.1×87.1E±0.2, h0km, n7, σ1§24/10, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**273**	*i*			07 36 45.3	
	baz=100,slow=304,SNR=2.2							
ZAA0	**Zalesovo Array**	**1.35**	**273**	⇑P		**Pn**	**07 29 10.9**	**+0.8**
	0.3nm,0.3s							
ZAA0				⇓S		**Sb**	**07 29 27.7**	**-0.2**
	4.0nm,0.8s							
ZALV	**Zalesovo Beam**	**1.35**	**273**	Pg		**Pg**	**07 29 08.7**	**-1.2**
	1.7nm,0.3s,baz=96,slow=16,SNR=19							
ZALV				Lg		Lg	07 29 26.5	
	1.6nm,0.3s,baz=100,slow=25,SNR=10							
KURBB	**Kurchatov Arra**	**6.20**	**241**	Pn		**Pn**	**07 30 16.9**	**+0.1**
	0.1nm,0.3s,baz=57,slow=13,SNR=6.6							
KURBB				Lg		Lg	07 31 57.2	
	0.0nm,0.3s,baz=59,slow=35,SNR=5.0							
KURBB	**Kurchatov Arra**	**6.20**	**241**	⇑Pn		**Pn**	**07 30 17.1**	**+0.3**
	0.7nm,0.4s,baz=62,slow=13							
KURBB				⇓Sn		**Sn**	**07 31 30.5**	**+2.2**
	2.2nm,0.7s							
KURBB				⇓Lg		Lg	07 32 00.7	
	3.1nm,0.7s,baz=62,slow=32							
MK31	**Makanchi Array**	**7.75**	**205**	⇑Pn		**Pn**	**07 30 39.3**	**+1.2**
	0.3nm,0.5s,baz=26,slow=13,SNR=14							
MK31				⇑Sn		**Sn**	**07 32 06.2**	**-0.4**
	0.3nm,0.5s,baz=221,slow=25,SNR=4.1							
MKAR	**Makanchi Array**	**7.75**	**205**	Pn		**Pn**	**07 30 38.8**	**+0.6**
	0.3nm,0.3s,baz=26,slow=14,SNR=11							
MKAR				Sn		**Sn**	**07 32 05.2**	**-1.4**
	0.1nm,0.3s,baz=25,slow=26,SNR=4.0							
MKAR				Lg		Lg	07 32 44.7	
	baz=18,slow=32,SNR=2.6							

*IDC **24** 08:15:18.7±2.7, 53.5Nx87.6E, h0km, mb1 3.4/2, mb1mx3.2/37, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=22.8km s-min=13.7km az=61.0*

*NNC **24** 08:15:18.6±2.6, 53.4Nx87.6E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=22.1km s-min=10.6km az=55.0, Suspected Mining explosion.*

ISC 24 08:15:18.3±3.2, 53.6N±0.1×87.6E±0.2, h0km, n7, σ1§14/11, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**284**	*i*			08 26 30.0	
	baz=100,slow=307,SNR=2.5							
ZAA0	**Zalesovo Array**	**1.70**	**284**	⇓P		**Pb**	**08 15 49.6**	**-0.8**
	0.9nm,0.3s							
ZAA0				⇑S		**Sg**	**08 16 14.2**	**+1.4**
	14nm,0.9s							
ZALV	**Zalesovo Beam**	**1.70**	**284**	Pg		**Pn**	**08 15 49.1**	**0.0**
	6.1nm,0.3s,baz=102,slow=14,SNR=39							
ZALV				Lg		Lg	08 16 12.7	
	5.6nm,0.3s,baz=105,slow=30,SNR=13							
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn		**Pn**	**08 16 54.0**	**+1.2**
	0.2nm,0.3s,baz=62,slow=14,SNR=12							
KURBB				Sn		**Sn**	**08 18 05.2**	**-0.6**
	0.0nm,0.3s,baz=54,slow=22,SNR=2.5							
KURBB				Lg		Lg	08 18 40.2	
	0.1nm,0.3s,baz=62,slow=32,SNR=9.5							
KURBB	**Kurchatov Arra**	**6.33**	**246**	⇓Pn		**Pn**	**08 16 53.5**	**+0.8**
	2.8nm,0.4s							
KURBB				⇑Sn		**Sn**	**08 18 04.4**	**-1.4**
	5.7nm,1.0s							
KURBB				⇓Lg		Lg	08 18 39.4	
	22nm,1.1s							
MK31	**Makanchi Array**	**7.61**	**209**	⇑Pn		**Pn**	**08 17 11.0**	**+0.7**
	0.2nm,0.3s,baz=29,slow=13,SNR=18							
MK31				⇓Sn		**Sn**	**08 18 36.2**	**-0.9**
	3.5nm,1.1s,baz=30,slow=24,SNR=4.6							
MK31				⇓Lg		Lg	08 19 14.9	
	8.9nm,1.1s							
MKAR	**Makanchi Array**	**7.61**	**209**	Pn		**Pn**	**08 17 11.3**	**+1.0**
	0.5nm,0.3s,baz=29,slow=14,SNR=19							
MKAR				Sn		**Sn**	**08 18 36.1**	**-1.0**
	0.1nm,0.3s,baz=30,slow=23,SNR=9.9							
MKAR				Lg		Lg	08 19 15.0	
	0.1nm,0.3s,baz=31,slow=34,SNR=7.6							

*FUNV **24** 08:22:39.0, 10.95Nx71.26W, h19km, MW3.3*

ISC 24 08:22:38.8±1.2, 11.02N±0.04×71.23W±0.03, h34km±3km, n20, σ1§12/36, 5C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DABV	**Dabajuro**	**0.59**	**100**	⇑*i*P		**Pb**	**08 22 50.4**	**-0.5**
DABV				*e*S		**Sn**	**08 22 59.5**	**+0.3**
DABV	**Dabajuro**	**0.59**	**100**	⇑*i*P		**Pb**	**08 22 50.3**	**-0.5**
DABV				*e*S		**Sn**	**08 22 59.7**	**+0.6**
URIC	**Uribia, Colomb**	**1.01**	**312**	*e*P		**Pn**	**08 22 57.0**	**+0.4**
URIC				*e*S		**Sb**	**08 23 11.0**	**0.0**
URIC				*i*			08 23 12.3	
	comp=Z,491nm,0.4s							
SIQV	**Siquisique**	**1.44**	**105**	*e*P		**Pn**	**08 23 03.6**	**+1.1**
SIQV				*e*S		**Sb**	**08 23 23.5**	**+0.3**
MONV	**Montecano**	**1.54**	**53**	*e*P		**Pb**	**08 23 06.0**	**-0.8**
MONV				*e*S		**Sb**	**08 23 26.2**	**+0.2**
CURV	**Curarigua**	**1.60**	**129**	⇓*e*P		**Pn**	**08 23 04.8**	**+0.1**
CURV				*e*S		**Sn**	**08 23 24.6**	**+0.3**
MCQV	**Machiques**	**1.61**	**233**	*e*P		**Pn**	**08 23 04.6**	**-0.3**
MCQV				*e*S		**Sn**	**08 23 25.1**	**+0.6**
SDV	**Santo Domingo**	**2.20**	**165**	*e*P		**Pb**	**08 23 19.6**	**+1.5**
SDV				*e*S		**Sb**	**08 23 42.1**	**-3.1**
SDV				*i*			08 23 44.5	
	comp=Z,172nm,0.3s							
SDV	**Santo Domingo**	**2.20**	**165**	*e*P		**Pn**	**08 23 13.6**	**+0.4**
SDV				*e*S		**Sn**	**08 23 38.7**	**-0.6**
TEPV	**Terepaima**	**2.26**	**118**	⇑*i*P		**Pn**	**08 23 14.3**	**+0.5**
TEPV				*e*S		**Sn**	**08 23 42.0**	**+1.4**
SOCV	**Socops**	**2.75**	**172**	*e*P		**Pn**	**08 23 20.8**	**+0.2**
SOCV				*e*S		**Sn**	**08 23 51.2**	**-1.4**
MAPV	**Macapo**	**2.97**	**113**	*e*P		**Pn**	**08 23 24.7**	**+1.1**
MAPV				*e*S		**Sn**	**08 23 58.4**	**+0.3**
TURV	**Turiamo**	**3.38**	**99**	*e*P		**Pn**	**08 23 29.3**	**+0.2**
TURV				*e*S		**Sn**	**08 24 06.9**	**-1.1**
OCAC	**Ocana**	**3.45**	**217**	*e*P		**Pn**	**08 23 29.6**	**-0.7**
SMLC	**San Martn de**	**3.57**	**232**	*e*P		**Pn**	**08 23 30.1**	**-1.7**
SMLC				*e*S		**Sb**	**08 24 24.8**	**+0.5**
SMLC				*i*			08 24 37.7	
	comp=Z,27nm,0.5s							
BENV	**Beln**	**3.72**	**106**	*e*P		**Pn**	**08 23 35.0**	**+1.1**
BENV				*e*S		**Sn**	**08 24 15.1**	**-1.5**
BAUV	**El Baul**	**3.76**	**123**	⇑*i*P		**Sn**	**08 23 35.2**	**+0.8**
BAUV				*e*S		**Sn**	**08 24 15.3**	**-2.2**
TACV	**Tcata**	**4.22**	**102**	*e*P		**Pn**	**08 23 41.6**	**+0.7**
TACV				*e*S		**Sn**	**08 24 27.9**	**-1.1**
BARC	**Barichara**	**4.81**	**204**	*e*P		**Pb**	**08 24 04.4**	**+1.8**
CACV	**CAICARA DEL OR**	**5.76**	**126**	⇑*e*P		Pn	08 24 07.8	+5.9

NNC 24 08:36:54.8±7.3, 38.27Nx71.99E, h0km, mb3.8, mpv3.4, 1C-6D, Error ellipse: s-maj=55.8km s-min=39.5km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.76**	**23**	⇓Pn		Pn	08 38 08.2	+0.3
	2.5nm,0.3s							
AAK				⇓Sn		Sn	08 39 04.5	+0.6
	16nm,0.7s							
KK31	**Karatay Array**	**4.95**	**347**	⇑Pn		Pn	08 38 11.6	+1.1
	4.6nm,0.5s,baz=178,slow=13,SNR=43							
KK31				⇓Sn		Sn	08 39 10.4	+1.9
	4.7nm,0.4s,baz=171,slow=22,SNR=11							
TKM2	**Tokmak 2**	**5.39**	**29**	⇓Pn		Pn	08 38 16.2	-0.5
	1.9nm,0.8s							
TKM2				⇓Sn		Sn	08 39 19.6	+0.1
	3.4nm,0.7s							
TKM2				⇓Lg		Lg	08 39 44.5	
	3.8nm,0.7s							

*ATH **24** 08:37:12.1, 36.61Nx26.98E, h133km±9km, ML4.7/7, Error ellipse: s-maj=9.8km s-min=2.6km az=22.0*

*NIC **24** 08:37:12.7±0.0, 36.61Nx27.24E, h157km±1km, Ml5.1/4*

*PDG **24** 08:37:14.8±0.5, 36.70Nx27.15E, h137km±1km, ML4.6/11, Error ellipse: s-maj=0.5km s-min=0.4km az=90.0*

*ISK **24** 08:37:15.2, 36.71Nx27.11E, h137km±1km, ML4.4/28*

*NEIC **24** 08:37:15.2±1.9, 36.64N±0.07×27.13E±0.07, h147km±7km, mb4.8/59, ML4.7(ATH), Error ellipse: s-maj=11.0km s-min=7.9km az=164.0*

*HLW **24** 08:37:15.5, 36.46Nx27.35E, h23km±19km, Md4.7*

*IDC **24** 08:37:15.4±0.7, 36.79Nx27.03E, h145km±5km, mb4.1/22, mb1 4.1/31, mb1mx4.0/43, mbtmp4.5/31, MS2.7/1, Ms1 2.8/1, ms1mx2.2/46, Error ellipse: s-maj=13.6km s-min=8.0km az=150.0*

*MED_RC **24** 08:37:16.0±0.8, 36.39Nx27.05E, h154km±6km, MW4.5/16, Moment Tensor Solution. Mantle waves: s16,c19; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr 0.14±.45; Mθθ -4.88±.37; Mϕϕ 4.74±.43; Mrθ 2.59±.48; Mθϕ 1.32±.69; Mϕr 2.28±.42; Best double couple: M≈6.06000×10^15 NP1:ϕs322.00000°, δ55.00000°, λ178.00000°. NP2:ϕs53.00000°, δ88.00000°, λ35.00000°. Principal axes: T 6.1400, Plg25.0000°, Azm283.0000°; N -0.1500, Plg55.0000°, Azm56.0000°; P -5.9900, Plg22.0000°, Azm182.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*DDA **24** 08:37:16.0, 36.75Nx27.18E, h133km±4km, MW4.1*

*TIR **24** 08:37:17.7, 37.18Nx26.28E, h1km±20km, Ml4.5*

*THE **24** 08:37:19.3, 36.66Nx27.04E, h119km±2km, ML4.5/5, Error ellipse: s-maj=2.8km s-min=1.2km az=65.0*

ISC 24 08:37:14.2±0.4, 36.64N±0.03×27.12E±0.03, h142km±3km, h142km:pP-P, n455, σ1§41/563, mb4.7/70, 103C-111D, Fault plane solution: NP1:ϕs44.31334°, δ61.01469°, λ9.94045°. NP2:ϕs309.45908°, δ81.31499°, λ150.64586°. Principal axes: T Plg26.7070°, Azm263.0830°; N Plg59.4981°, Azm114.4303°; P Plg13.6434°, Azm0.0973°;

Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.03**	**169**	P		**Pn**	**08 37 32.4**	**-0.8**
NIS1	**Nisyros Isl.**	**0.06**	**130**	P		**Pn**	**08 37 34.1**	**+0.8**
NIS1	**Nisyros Isl.**	**0.06**	**130**	PG		**Pn**	**08 37 34.2**	**+0.9**
KOSK	**Kos Island**	**0.16**	**314**	P		**Pn**	**08 37 34.0**	**+0.7**
KOSK				S		**Sn**	**08 37 47.2**	**-0.8**
KOSK	**Kos Island**	**0.16**	**314**	PG		**Pn**	**08 37 34.1**	**+0.7**
KOSK				SG		**Sn**	**08 37 47.9**	**-0.1**
DAT	**Datca**	**0.38**	**76**	P		**Pn**	**08 37 35.1**	**+0.9**
DAT				S		**Sn**	**08 37 47.4**	**-2.0**
DAT	**Datca**	**0.38**	**76**	⇑*i*P		**Pn**	**08 37 35.0**	**+0.9**
DAT				*i* S		**Sn**	**08 37 49.4**	**0.0**
DAT	**Datca**	**0.38**	**76**	PG		**Pn**	**08 37 35.1**	**+0.9**
DAT				SG		**Sn**	**08 37 49.4**	**0.0**
BODT	**Bodrum**	**0.45**	**20**	P		**Pn**	**08 37 34.0**	**-0.3**
BODT				S		**Sn**	**08 37 48.1**	**-1.7**
BODT	**Bodrum**	**0.45**	**20**	PG		**Pn**	**08 37 34.1**	**-0.3**
BODT				SG		**Sn**	**08 37 48.7**	**-1.1**
BDRM	**Kayabasi**	**0.50**	**31**	⇑*i*P		**Pn**	**08 37 35.4**	**+0.7**
BDRM				S		**Sn**	**08 37 50.0**	**-0.2**
DDIM	**Aydin, Didim**	**0.82**	**7**	⇓*i*P		**Pn**	**08 37 37.8**	**+1.1**
DDIM				*i* S		**Sn**	**08 37 53.2**	**-0.7**
DDIM				IAML			08 37 54.0	
	comp=E,4μm,1.5s							
DDIM				IAML			08 37 54.0	
	comp=N,5μm,0.6s							
MLSB	**Milas**	**0.84**	**39**	PG		**Pn**	**08 37 37.3**	**+0.4**
MLSB				SG		**Sn**	**08 37 53.8**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.87**	**85**	PG		**Pn**	**08 37 37.5**	**+0.4**
TURN	**Turunc**	**0.91**	**81**	⇑*i*P		**Pn**	**08 37 38.2**	**+0.9**
TURN				*i* S		**Sn**	**08 37 54.6**	**-0.5**
TURN	**Turunc**	**0.91**	**81**	PG		**Pn**	**08 37 38.3**	**+0.9**
TURN				SG		**Sn**	**08 37 54.8**	**-0.3**
ARG	**Arkhangelos**	**0.91**	**117**	P		**Pn**	**08 37 39.0**	**+1.5**
ARG				S		**Sn**	**08 37 55.0**	**-0.1**
	comp=N,22μm,0.3s							
ARG	**Arkhangelos**	**0.91**	**117**	P		**Pn**	**08 37 39.0**	**+1.5**
ARG				AML	AML		08 37 56.2	
	comp=N,30594μm,0.3s							
ARG				AML	AML		08 37 57.3	
	comp=E,57410μm,0.3s							
ARG	**Arkhangelos**	**0.91**	**117**	PG		**Pn**	**08 37 38.9**	**+1.5**
ARG				SG		**Sn**	**08 37 55.9**	**+0.7**
ARG	**Arkhangelos**	**0.91**	**117**	P		**Pn**	**08 37 38.7**	**+1.3**
ARG				S		**Sn**	**08 37 55.9**	**+0.7**
YER	**Yerkesik**	**1.05**	**62**	P		**Pn**	**08 37 40.0**	**+1.3**
YER				S		**Sn**	**08 37 57.2**	**-0.3**
YER	**Yerkesik**	**1.05**	**62**	PG		**Pn**	**08 37 40.1**	**+1.3**
YER				SG		**Sn**	**08 37 57.4**	**-0.1**
GCAM	**G?zelcaml?**	**1.06**	**5**	⇓*i*P		**Pn**	**08 37 39.4**	**+0.7**
GCAM				*i* S		**Sn**	**08 37 55.5**	**-2.0**
GCAM	**G?zelcaml?**	**1.06**	**5**	PG		**Pn**	**08 37 39.5**	**+0.8**
GCAM				SG		**Sn**	**08 37 56.9**	**-0.6**
SMG	**Samos**	**1.09**	**348**	P		**Pn**	**08 37 39.4**	**+0.4**
SMG				S		**Sn**	**08 37 56.5**	**-1.5**
	comp=E,4μm,0.8s							
SMG	**Samos**	**1.09**	**348**	P		**Pn**	**08 37 39.3**	**+0.4**
MULA	**Mugla, Merkez-**	**1.14**	**57**	⇑*i*P		**Pn**	**08 37 40.7**	**+1.2**
MULA				*i* S		**Sn**	**08 37 58.7**	**-0.3**
MULA				IAML			08 37 59.0	
	comp=N,3μm,0.8s							
MULA				IAML			08 38 05.0	
	comp=E,3μm,0.7s							
AYDN	**Tasoluk**	**1.19**	**30**	⇓*i*P		**Pn**	**08 37 41.0**	**+1.1**
AYDN				*i* S		**Sn**	**08 37 59.1**	**-0.5**
DALY	**Dalyan (Mula)**	**1.24**	**81**	⇑*i*P		**Pn**	**08 37 42.0**	**+1.6**
DALY				*i* S		**Sn**	**08 38 01.1**	**+0.7**
DALY				IAML			08 38 03.0	
	comp=N,6μm,0.2s							
DALY				IAML			08 38 04.0	
	comp=E,6μm,0.7s							
DALY	**Dalyan (Mula)**	**1.24**	**81**	PN		**Pn**	**08 37 42.2**	**+1.8**
DALY				SN		**Sn**	**08 38 00.9**	**+0.4**
THR8	**Santorini-Mono**	**1.34**	**261**	P		**Pn**	**08 37 42.7**	**+1.3**
APE	**Apeiranthos**	**1.35**	**289**	P		**Pn**	**08 37 42.6**	**+1.1**
APE				S		**Sn**	**08 38 01.1**	**-1.3**
APE	**Apeiranthos**	**1.35**	**289**	P		**Pn**	**08 37 42.7**	**+1.1**
APE				AML	AML		08 38 04.1	
	comp=E,3337μm,0.9s							
APE				AML	AML		08 38 06.0	
	comp=N,1121μm,0.7s							
APE	**Apeiranthos**	**1.35**	**289**	PN		**Pn**	**08 37 42.8**	**+1.3**
APE				SN		**Sn**	**08 38 02.2**	**-0.2**
APE	**Apeiranthos**	**1.35**	**289**	P		**Pn**	**08 37 42.6**	**+1.1**
SANT	**Santorini**	**1.37**	**259**	P		**Pn**	**08 37 43.0**	**+1.3**
SANT	**Santorini**	**1.37**	**259**	P		**Pn**	**08 37 42.9**	**+1.1**
SANT				S		**Sn**	**08 38 02.7**	**-0.1**
SANT	**Santorini**	**1.37**	**259**	PN		**Pn**	**08 37 43.1**	**+1.3**
SANT				SN		**Sn**	**08 38 03.3**	**+0.5**
SANT	**Santorini**	**1.37**	**259**				**08 37 42.9**	**+1.1**
SNT1	**Gialos, Santor**	**1.38**	**261**	P		**Pn**	**08 37 43.1**	**+1.3**
THT2	**Imerovigli**	**1.38**	**262**	PN		**Pn**	**08 37 42.9**	**+1.0**
THT2				SN		**Sn**	**08 38 03.5**	**+0.4**
THR3	**Thira Island,**	**1.41**	**261**	P		**Pn**	**08 37 43.5**	**+1.4**
SNT5	**Nea Kammeni, S**	**1.41**	**261**	P		**Pn**	**08 37 43.5**	**+1.4**
THR6	**Thira Island,**	**1.42**	**259**	P		**Pn**	**08 37 43.7**	**+1.5**
DGB	**zmir**	**1.42**	**352**	⇓*i*P		**Pn**	**08 37 42.6**	**+0.4**
DGB				*i* S		**Sn**	**08 38 02.6**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**25**	PN		**Pn**	**08 37 43.5**	**+0.9**
AYDB				SN		**Sn**	**08 38 03.5**	**-0.9**
FETY	**Fethiye**	**1.58**	**90**	⇑*i*P		**Pn**	**08 37 43.8**	**-0.2**
FETY				*i* S		**Sn**	**08 38 05.9**	**-0.9**
FETY	**Fethiye**	**1.58**	**90**	PN		**Pn**	**08 37 43.9**	**-0.1**
TAVA	**DENİZLİ_Tavas**	**1.65**	**60**	⇑*i*P		**Pn**	**08 37 45.8**	**+0.9**
TAVA				*i* S		**Sn**	**08 38 08.0**	**-0.5**
TAVA				IAML			08 38 08.0	
	comp=E,2μm,0.3s							
TAVA				IAML			08 38 08.0	
	comp=N,2μm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**1.67**	**343**	⇓*i*P		**Pn**	**08 37 45.3**	**+0.4**
ZEYE				*i* S		**Sn**	**08 38 07.8**	**-0.8**
ZEYE				IAML			08 38 08.0	
	comp=N,791nm,0.7s							
ZKR	**Zakros**	**1.69**	**206**	P		**Pn**	**08 37 47.4**	**+2.1**
ZKR				S		**Sn**	**08 38 09.3**	**+0.3**
	comp=N,14μm,0.4s							
ZKR	**Zakros**	**1.69**	**206**	P		**Pn**	**08 37 47.1**	**+1.8**
ZKR				AML	AML		08 38 12.3	
	comp=E,45443μm,0.3s							
ZKR				AML	AML		08 38 14.3	
	comp=N,11266μm,0.4s							
ZKR	**Zakros**	**1.69**	**206**	PN		**Pn**	**08 37 47.3**	**+2.0**
ZKR				SN		**Sn**	**08 38 10.7**	**+1.7**
ZKR	**Zakros**	**1.69**	**206**	P		**Pn**	**08 37 47.1**	**+1.8**
ZKR				S		**Sn**	**08 38 11.4**	**+2.3**
URLA	**Izmir**	**1.77**	**346**	⇓*i*P		**Pn**	**08 37 45.4**	**-0.6**
URLA				*i* S		**Sn**	**08 38 09.0**	**-1.6**
URLA	**Izmir**	**1.77**	**346**	PN		**Pn**	**08 37 45.5**	**-0.6**
URLA				SN		**Sn**	**08 38 09.4**	**-1.3**
CAME	**Cameli-Denizli**	**1.78**	**80**	PN		**Pn**	**08 37 47.5**	**+1.2**
CAME				SN		**Sn**	**08 38 11.2**	**+0.2**
CAEL	**Denizli, Camel**	**1.83**	**74**	⇑*i*P		**Pn**	**08 37 48.1**	**+1.2**
CAEL				*i* S		**Sn**	**08 38 12.3**	**+0.3**
CAEL				IAML			08 38 25.0	
	comp=E,6μm,0.7s							
NPS	**Neapolis**	**1.84**	**222**	P		**Pn**	**08 37 48.0**	**+1.0**
NPS				S		**Sn**	**08 38 11.5**	**-0.6**
	comp=E,13μm,0.2s							
NPS	**Neapolis**	**1.84**	**222**	P		**Pn**	**08 37 47.9**	**+0.9**
NPS				AML	AML		08 38 13.3	
	comp=N,23986μm,0.2s							
NPS				AML	AML		08 38 13.6	
	comp=E,28284μm,0.2s							
CHOS	**Chios island**	**1.94**	**334**	P		**Pn**	**08 37 48.8**	**+0.7**
CHOS	**Chios island**	**1.94**	**334**	PN		**Pn**	**08 37 48.9**	**+0.8**
FRMA	**Ierapetra Chan**	**1.98**	**215**	P		**Pn**	**08 37 49.8**	**+1.3**
FRMA				S		**Sn**	**08 38 14.7**	**-0.1**
	comp=E,4μm,0.3s							
LAST	**Lasithi**	**1.99**	**223**	P		**Pn**	**08 37 49.6**	**+0.8**
LAST				AML	AML		08 38 15.4	
	comp=N,20470μm,0.4s							
LAST				AML	AML		08 38 15.4	
	comp=E,12013μm,0.5s							
GOLH	**Golhisar**	**2.04**	**72**	⇑*i*P		**Pn**	**08 37 50.0**	**+0.6**
GOLH				*i* S		**Sn**	**08 38 16.1**	**-0.3**
AKAS	**Kas**	**2.04**	**101**	⇑*i*P		**Pn**	**08 37 49.1**	**-0.3**
AKAS				*i* S		**Sn**	**08 38 15.1**	**-1.4**
AKAS	**Kas**	**2.04**	**101**	PN		**Pn**	**08 37 50.6**	**+1.1**
KSL	**Kastellorizon**	**2.05**	**103**	P		**Pn**	**08 37 49.9**	**+0.6**
KSL				S		**Sn**	**08 38 16.5**	**+0.2**
FOCM	**Foa**	**2.09**	**352**	PN		**Pn**	**08 37 50.3**	**+0.4**
HRKL	**Herakleio**	**2.11**	**232**	PN		**Pn**	**08 37 51.7**	**+1.6**
IACM	**Heraklion**	**2.13**	**232**	P		**Pn**	**08 37 51.5**	**+1.1**
GOMA	**Golmarmara-Man**	**2.16**	**17**	PN		**Pn**	**08 37 51.3**	**+0.6**
MANT	**Manisa**	**2.17**	**31**	*i* P		**Pn**	**08 37 51.7**	**+0.6**
MANT				*i* S		**Sn**	**08 38 17.7**	**-1.7**
MANT				IAML			08 38 19.0	
	comp=N,720nm,1.0s							
MANT				IAML			08 38 20.0	
	comp=E,652nm,0.8s							
KULA	**Kula-Manisa**	**2.23**	**33**	PN		**Pn**	**08 37 52.8**	**+1.1**
ELL	**Elmali**	**2.24**	**86**	PN		**Pn**	**08 37 53.6**	**+1.8**
ELL	**Elmali**	**2.24**	**86**	Pn		**Pn**	**08 37 53.4**	**+1.6**
IDI	**Anoyia**	**2.26**	**234**	P		**Pn**	**08 37 52.7**	**+0.7**
	comp=E,386nm,0.3s,baz=44,slow=8.1,SNR=2235							
IDI				S		**Sn**	**08 38 19.1**	**-2.0**
	comp=E,185nm,0.3s,baz=36,slow=12,SNR=7.9							
IDI	**Anoyia**	**2.26**	**234**	P		**Pn**	**08 37 52.7**	**+0.7**
IDI				AML	AML		08 38 20.5	
	comp=N,17101μm,0.3s							
IDI				AML	AML		08 38 21.1	
	comp=E,22976μm,0.5s							
IDI	**Anoyia**	**2.26**	**234**	PN		**Pn**	**08 37 52.7**	**+0.7**
DEMR	**Demre-Antalya**	**2.28**	**99**	PN		**Pn**	**08 37 53.2**	**+1.0**
ZEDA	**zmir-Bergama**	**2.32**	**359**	⇓*i*P		**Pn**	**08 37 53.3**	**+0.7**
ZEDA				*i* S		**Sn**	**08 38 20.5**	**-1.8**
CAND	**Candarli**	**2.32**	**354**	PN		**Pn**	**08 37 52.8**	**+0.1**
DKL	**Dikili**	**2.43**	**356**	PN		**Pn**	**08 37 54.9**	**+0.9**
SIVA	**Sivas**	**2.48**	**230**	P		**Pn**	**08 37 56.2**	**+1.6**
SIVA				AML	AML		08 38 30.3	
	comp=E,34558μm,0.5s							
SIVA				AML	AML		08 38 31.2	
	comp=N,21984μm,0.4s							
PASA	**Karahalli, USA**	**2.54**	**47**	⇑*i*P		**Pn**	**08 37 56.5**	**+1.0**
PASA				*i* S		**Sn**	**08 38 26.0**	**-1.3**
BRDR	**BURDUR-Merkez**	**2.57**	**65**	⇑*i*P		**Pn**	**08 37 57.1**	**+1.2**
BRDR				*i* S		**Sn**	**08 38 28.7**	**+0.7**
AKUM	**Antalya-Kumluc**	**2.62**	**96**	⇑*i*P		**Pn**	**08 37 57.4**	**+1.1**
AKUM				*i* S		**Sn**	**08 38 28.8**	**0.0**
KORT	**Korkueli**	**2.62**	**81**	⇑*i*P		**Pn**	**08 37 58.4**	**+1.9**
KORT				*i* S		**Sn**	**08 38 29.8**	**+0.8**
KORT	**Korkueli**	**2.62**	**81**	PN		**Pn**	**08 37 58.4**	**+1.9**
DEMI	**Demirci**	**2.71**	**27**	⇓*i*P		**Pn**	**08 37 58.3**	**+0.7**
DEMI				*i* S		**Sn**	**08 38 29.5**	**-1.7**
SIGR	**SIGRI**	**2.75**	**339**	PN		**Pn**	**08 37 58.7**	**+0.7**
KEMT	**Kemer-ANTALYA**	**2.76**	**90**	PN		**Pn**	**08 37 59.5**	**+1.4**
BUCA	**Burdur, Bucak-**	**2.84**	**75**	⇑*i*P		**Pn**	**08 38 00.6**	**+1.5**
BUCA				*i* S		**Sn**	**08 38 34.3**	**+0.4**
ANTB	**Antalya**	**2.85**	**84**	PN		**Pn**	**08 38 02.0**	**+2.8**
SIMA	**Simav-Kutahya**	**2.

SZAC AML AML 08 39 24.8
comp=N,6.6nm,0.3s
SZAC S Sn **08 39 25.5 -0.3**
THE Thessaloniki 5.14 322 P Pn **08 38 29.8 +0.5**
baz=325
ATHAL Athalassa 5.31 105 P Pn **08 38 30.8 -0.8**
ASGA Asgata 5.32 109 P Pn **08 38 31.2 -0.5**
ASGA AML AML 08 39 30.4
comp=N,3.1nm,0.3s
ASGA AML AML 08 39 30.9
comp=N,2.3nm,0.5s
CSS Mathiatis 5.32 107 Pn Pn **08 38 31.0 -0.6**
CSS Mathiatis 5.32 107 P Pn **08 38 31.1 -0.6**
SLUM Salum 5.38 198 P Pn **08 38 33.1 +0.7**
baz=201
SLUM S Sn **08 39 29.6 -3.9**
baz=201
BR231 Keskin MP Arra 5.48 53 Pn **08 38 35.9 +2.1**
ANTO Ankara 5.50 52 Pn Pn **08 38 36.1 +1.9**
MVOU Mavrovouni 5.53 105 P Pn **08 38 33.4 -1.1**
LKD2 Lefkada island 5.55 295 P Pn **08 38 36.1 +1.3**
baz=292
LKD2 S Sn **08 39 35.2 -2.6**
baz=292
VAY Valandovo 5.87 324 *e*Pn Pn 08 38 48.8 +10
BR131 Keskin Array S 5.99 57 Pn Pn **08 38 42.4 +1.7**
BRTR Keskin Array B 5.99 57 P Pn **08 38 42.5 +1.7**
comp=N,7.5nm,0.3s,baz=218,slow=15,SNR=93
BRTR S Sn **08 39 50.6 +2.3**
comp=N,3.1nm,0.3s,baz=224,slow=25,SNR=7.2
IGT Igoumenitsa 6.08 300 P Pn **08 38 43.1 +1.3**
baz=299
IGT S Sn **08 39 48.1 -2.3**
baz=299
FNA Florina 6.11 314 Pn **08 38 43.7 +1.5**
FNA Florina 6.11 314 P Pn **08 38 44.0 +1.8**
baz=315
LSK Leskovik 6.21 306 P Pn **08 38 46.2 +2.7**
baz=306
LSK S Sn **08 39 55.0 +1.5**
baz=306
LSK AMP
comp=N,0.8nm,1.0s,baz=306
STIP Stip 6.34 324 *i* Pn Pn **08 38 45.6 +0.4**
KBN Korca 6.36 311 P Pn **08 38 47.6 +2.0**
baz=311
SRN Sarande 6.47 302 P Pn **08 38 47.7 +0.8**
baz=301
OHR Ohrid 6.65 314 *i* Pn Pn **08 38 51.9 +2.4**
KALB Balgarevo 6.83 8 ⇑P Pn **08 38 52.4 +0.7**
BNN Bunyan 7.26 70 Pn **08 38 57.9 +0.2**
TIR Tirane 7.35 312 ⇑P Pn **08 38 57.8 -0.9**
TIR Tirane 7.35 312 Pn **08 38 59.4 +0.6**
HMYD Mayadein 7.49 155 P Pn **08 39 01.0 +0.3**
baz=155
BHL Bhannes 7.49 109 *e*P Pn **08 38 58.8 -2.1**
SWA2 7.51 191 P Pn **08 39 00.6 -0.4**
baz=193
DQRL Deir Qamar 7.51 110 *e*P Pn **08 38 59.3 -1.8**
HNAT Natroun 7.58 156 P Pn **08 39 01.9 0.0**
baz=157
HWQ Hawqa 7.58 106 *e*P Pn **08 39 01.3 -0.7**
SCTE Santa Cesarea 7.61 299 Pn Pn **08 39 02.3 0.0**
QRWL Qaraoun 7.66 111 *e*P Pn **08 39 02.6 -0.5**
MMAI Mount Meron Ar 7.71 116 P Pn **08 39 03.1 -0.7**
comp=N,531nm,0.3s,baz=308,slow=12,SNR=802
MMAI S Sn **08 40 25.6 -4.1**
comp=N,124nm,0.3s,baz=313,slow=27,SNR=12
KOT Kottamia 7.77 148 P Pn **08 39 04.5 0.0**
baz=148
KOT S Sn **08 40 23.8 -7.2**
baz=148
RCY Rachaya 7.80 111 *e*P Pn **08 39 04.3 -0.7**
TIRR Tirgusor 7.87 7 ⇑P Pn **08 39 05.2 -0.6**
TIRR ⇑P Pn **08 39 05.2 -0.6**
TIRR Tirgusor 7.87 7 Pn Pn **08 39 04.3 -1.4**
HSAF As Saff 7.93 151 P Pn **08 39 06.8 +0.2**
baz=151
RYAN Fayoum 7.99 160 P Pn **08 39 07.2 -0.3**
baz=160
GLL Jalalah 8.03 150 P Pn **08 39 08.0 0.0**
baz=150
HARR Harsova 8.06 4 ⇑P Pn **08 39 08.3 0.0**
ULC Ulcinj 8.09 313 ⇑*i* Pn Pn **08 39 09.2 +0.4**
GAZ Gaziantep 8.10 83 Pn Pn **08 39 08.3 -0.6**
PVY Plav 8.12 319 ⇓*i* Pn Pn **08 39 11.7 +2.4**
PVY *i* Sn Sn **08 40 37.7 -1.8**
BOVS Bovan 8.12 331 ⇑P Pn **08 39 09.1 0.0**
TPGR Topolog 8.27 6 ⇑P Pn **08 39 10.3 -0.7**
DRME Dracevica, Mon 8.27 314 ⇓*i* Pn Pn **08 39 13.1 +2.0**
DRME *i* Sn Sn **08 40 41.4 -1.6**
SUZ Suez 8.30 143 P Pn **08 39 12.1 +0.5**
baz=143
IVA Berane 8.35 320 ⇓*i* Pn Pn 08 39 17.0 +4.8
IVA *i* Sn Sn **08 40 43.6 -1.4**
PDG Podgorica 8.39 316 ⇑P Pn **08 39 12.6 -0.1**
PDG Podgorica 8.39 316 Pn Pn **08 39 12.3 -0.3**
TTG Podgorica 8.39 316 ⇓*i* Pn Pn **08 39 12.8 +0.2**
TTG *i* Sn Sn **08 40 44.5 -1.2**
ISR Istrita 8.48 357 ⇑P Pn **08 39 14.8 +0.8**
BUM Brajici-Budva 8.51 314 ⇓*i* Pn Pn **08 39 14.6 +0.3**
BUM *i* Sn Sn **08 40 47.4 -1.4**
KOME Kolasin 8.53 319 ⇑*i* Pn Pn **08 39 16.7 +2.1**
KOME *i* Sn Sn **08 40 47.7 -1.6**
CFR Carcaliu 8.56 5 ⇑P Pn **08 39 15.2 +0.3**
ZAF Zafarana 8.64 147 P Pn **08 39 16.5 +0.4**
baz=147
CEME Cevo 8.65 315 ⇑*i* Pn Pn **08 39 16.7 +0.4**
CEME *i* Sn Sn **08 40 50.3 -2.0**
ZNM Zenema 8.71 145 P Pn **08 39 17.6 +0.5**
baz=145
NBNS Bani Suef 8.73 155 P Pn **08 39 17.1 -0.4**
baz=155
NKME Niksic 8.78 317 ⇓*i* Pn Pn **08 39 18.4 +0.5**
NKME *i* Sn Sn **08 40 53.6 -1.6**
NKY Niksic 8.78 317 ⇓*i* Pn Pn **08 39 20.7 +2.6**
NKY *i* Sn Sn **08 40 53.9 -1.6**
GHAJ Ghor Haditha 8.80 125 Pn Pn **08 39 19.5 +1.2**
HCY Herceg Novi 8.83 314 ⇑*i* Pn Pn **08 39 19.6 +1.0**
HCY *i* Sn Sn **08 40 55.0 -1.5**
MLR Muntele Rosu 8.89 355 P Pn **08 39 20.2 +0.8**
comp=N,1.1nm,0.3s,baz=187,slow=6.1,SNR=48
MLR Muntele Rosu 8.89 355 ⇓P Pn **08 39 20.2 +0.8**
BISRR Bisoca 8.90 358 ⇓P Pn **08 39 20.0 +0.4**
VOIR 8.93 351 ⇑P Pn **08 39 20.2 +0.2**
MATE Matera 9.08 299 ⇑P Pn **08 39 20.6 -1.3**
BRY Bratogost 9.09 316 ⇓*i* Pn Pn **08 39 22.1 -0.1**
BRY *i* Sn Sn **08 41 00.8 -2.2**
MDVR Moldovita 9.11 335 ⇑P Pn **08 39 22.6 +0.3**
PLOR Plostina 9.21 358 ⇑P Pn **08 39 24.0 +0.4**
DIVS Divibare 9.22 326 Pn **08 39 24.1 +0.3**
VRI Vrincioaia 9.22 358 ⇑P Pn **08 39 23.8 0.0**
GZR Gura Zlata 9.34 341 ⇑P Pn **08 39 24.8 -0.6**
DOPR Dopca 9.41 353 ⇑P Pn **08 39 26.6 +0.3**
STON Ston 9.55 314 *e*Pn Pn **08 39 26.8 -1.4**
STON Sn Sn **08 41 08.1 -5.8**
EIL Elat 9.56 134 P Pn **08 39 28.2 -0.2**
comp=N,11nm,0.3s,baz=274,slow=3.5,SNR=64
EIL S Sn **08 41 05.9 -8.3**
comp=N,23nm,0.3s,baz=246,slow=20,SNR=4.5
GRB Gharib 9.62 149 P Pn **08 39 29.4 +0.2**
baz=149
NUB Nuweibaa 9.88 138 P Pn **08 39 30.5 -2.2**
baz=138
TR2 Tor 2 9.94 144 P Pn **08 39 33.6 +0.2**
baz=144
HKAT Jabal Katrina 9.95 142 P Pn **08 39 33.9 +0.1**
baz=142
LSTV Lastovo 9.97 311 *e*Pn Pn **08 39 32.6 -1.2**
LSTV Sn Sn **08 41 16.6 -7.5**
HDHB Dhahab 10.11 139 P Pn **08 39 35.9 +0.2**
baz=139
VAE Valguarnera 10.19 279 P Pn **08 39 36.8 -0.1**
comp=N,11nm,0.3s,baz=141,slow=1.0,SNR=7.8
VAE S Sn **08 41 24.1 -5.5**
comp=N,16nm,0.3s,baz=72,slow=13,SNR=7.2
SGRT San Giovanni R 10.20 304 Pn Pn **08 39 36.8 -0.1**
WDD Wied Dalam 10.21 269 Pn **08 39 34.7 -2.3**
RAFF Raffo Rosso 10.23 277 Pn Pn **08 39 35.9 -1.4**
BIZ Bicaz 10.32 356 ⇑P Pn **08 39 38.9 +0.5**
DRGR 10.66 343 ⇑P Pn **08 39 43.6 +0.6**
KIJV Kijevo 10.99 315 *e*Pn Pn **08 39 46.3 -1.1**
KIJV Sn Sn **08 41 44.5 -4.2**
BUR01 Bucovina Ar. S 11.06 353 ⇑P Pn **08 39 48.5 +0.2**

BURAR Bucovina Array 11.06 353 Pn Pn **08 39 48.3 0.0**
CLTB Caltabellotta 11.15 279 Pn **08 39 50.1 +0.6**
ZIRJ Zirje 11.23 312 *i* Pn Pn **08 39 49.4 -1.1**
ZIRJ Sn Sn **08 41 49.1 -5.2**
MORI Morici 11.31 313 *e*Pn Pn **08 39 51.0 -0.5**
MORI Sn Sn **08 41 50.6 -5.7**
MORH Mrgy, Hungar 11.48 329 ⇑P Pn **08 39 54.9 +1.2**
INTR Introdacqua 11.55 302 Pn **08 39 56.1 +1.4**
UDBI Udbina 11.68 316 *e*Pn Pn **08 39 56.9 +0.5**
DUGI Dugi Otok 11.77 312 *e*Pn Pn **08 39 56.3 -1.3**
MOSL Moslavina 11.88 322 *e*Pn Pn **08 40 00.4 +1.4**
MURB Monte Urbino 13.00 305 Pn **08 40 13.1 -0.5**
VYHS Vyhne 13.32 335 *e*P P **08 40 23.1 +1.1**
SOKA Soboth 13.48 322 *e*P Pn **08 40 20.6 +0.9**
comp=N,10nm,1.2s
OBKA Obir 13.61 320 *e*P P **08 40 25.5 0.0**
comp=N,20nm,1.6s
ARSA Arzberg 13.65 325 *e*P P **08 40 26.5 +0.7**
comp=N,5.4nm,0.5s
MODS Modra-Piesok 13.78 331 *e*P P **08 40 29.2 +2.0**
CASP Castiglione de 13.93 301 Pn **08 40 25.8 +0.4**
KIV Kislovodsk 13.93 54 P P **08 40 30.1 +1.0**
KBZ Khabaz 13.97 55 P P **08 40 32.2 +2.9**
comp=N,0.8nm,0.3s,baz=249,slow=9.3,SNR=74
CONA Conrad Observa 14.01 327 *e*P P **08 40 31.2 +1.5**
comp=N,1.4nm,0.4s
JAVC Velka Javorina 14.03 333 *e*P P **08 40 32.0 +2.0**
AKASG Malin Array Be 14.14 5 P Pn **08 40 26.9 -1.0**
comp=N,12nm,0.3s,baz=195,slow=12,SNR=22
AKASG ScP ScP **08 48 54.9 -1.5**
comp=N,0.7nm,0.3s,baz=197,slow=1.1,SNR=5.0
AKASG Malin Array Be 14.14 5 ScP **08 48 55.4 -0.9**
AKBB Malin Array Si 14.14 5 Pn Pn **08 40 28.3 +0.5**
MYKA Terra Mystica 14.16 319 *e*P P **08 40 32.0 +0.4**
comp=N,13nm,0.8s,SNR=5.1
VSL Villasalto 14.27 287 Pn **08 40 28.9 -0.8**
KEST Kesra 14.39 272 P Pn **08 40 32.3 +1.0**
comp=N,1.1nm,0.3s,baz=353,slow=3.0,SNR=15
KEST S Sn **08 43 03.0 -7.6**
comp=N,1.0nm,0.3s,baz=75,slow=22,SNR=6.9
KEST Kesra 14.39 272 Pn **08 40 32.7 +1.4**
STAL STALIGIAL 14.44 316 Pn **08 40 32.3 +0.5**
ZOU Zoufplan 14.48 318 P P **08 40 34.6 -0.5**
ZCCA Zocca 14.48 307 P P **08 40 35.6 +0.5**
OJC Ojcow 14.57 341 P P **08 40 37.4 +1.5**
KBA Koelnbreinsper 14.61 320 *e*P Pn **08 40 34.4 +0.3**
comp=N,47nm,0.9s,SNR=8.3
KRUC Moravsky 14.68 331 *e*P P **08 40 37.9 +0.8**
VLC Villacollemand 14.78 306 P Pn **08 40 36.0 -0.1**
VRAC Vranov 14.80 332 P Pn **08 40 37.2 +0.9**
comp=N,1.3nm,0.3s,baz=138,slow=11,SNR=8.1
VRAC Vranov 14.80 332 *e*P P **08 40 39.7 +1.2**
ABTA Abfaltersbach 14.85 317 *e*P P **08 40 38.2 -0.9**
comp=N,12nm,0.5s,SNR=9.0
MORC Moravsky Berou 14.85 335 *e*P P **08 40 40.7 +1.6**
MORC Moravsky Berou 14.85 335 P P **08 40 40.4 +1.3**
CKRC Cesky Krumlov 15.36 326 *e*P P **08 40 46.2 +1.5**
KRLC Kraliky 15.37 334 *e*P P **08 40 44.5 -0.3**
MSSA Maissana 15.42 305 IAmb IAmb 08 40 46.3
comp=Z,49nm,0.7s
WTTA Wattenberg 15.63 318 *e*P P **08 40 49.8 +1.9**
GERES GERESS Array B 15.65 325 P P **08 40 47.9 -0.2**
comp=Z,0.9nm,0.3s,baz=138,slow=13,SNR=26
GERES ScP ScP **08 48 57.5 -1.7**
comp=Z,0.2nm,0.3s,baz=160,slow=3.1,SNR=3.5
WATA Walderalm 15.71 318 *e*P P **08 40 51.1 +2.4**
comp=Z,9.7nm,0.5s,SNR=6.4
DPC Dobruska-Polom 15.76 334 *e*P P **08 40 50.0 +0.8**
KHC Kasperske Hory 15.92 326 *e*P P **08 40 51.7 +0.8**
KHC *e*S Sn **08 43 45.4 -1.7**
OSTC Ostas 15.97 334 *e*P P **08 40 53.0 +1.5**
MOTA Mooosalm 15.97 317 *e*P P **08 40 52.6 +0.9**
comp=Z,18nm,0.9s
FETA Feichten 15.99 316 *e*P P **08 40 53.4 +1.4**
comp=Z,29nm,0.7s,SNR=16
CHVC Chvalec 16.05 334 *e*P P **08 40 53.2 +0.8**
PRU Pruhonice 16.15 330 *e*P P **08 40 54.9 +1.5**
RETA Reutte 16.25 317 *e*P P **08 40 55.4 +0.8**
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 16.35 314 P P **08 40 57.7 +1.8**
comp=Z,1.3nm,0.3s,baz=143,slow=12,SNR=22
TUE Stuetta 16.50 312 P **08 40 58.3 +0.7**
TUE IAmb IAmb 08 41 06.8
comp=Z,30nm,0.9s
DAVA Damuels 16.62 315 *e*P Pn **08 40 59.6 +0.7**
comp=Z,21nm,0.5s,SNR=11
BRG Berggiesshubel 17.08 331 *e*P Pn **08 41 04.1 -0.1**
BRG Amp 08 41 09.4
comp=Z,6.5nm,0.8s
GRF Grafenberg Arr 17.41 324 *e*P Pn **08 41 08.0 -0.2**
comp=Z,14nm,0.9s,baz=133,slow=12
BNI Bardonecchia 17.57 305 Pn **08 41 10.4 +0.1**
BNI IAmb IAmb 08 41 18.4
comp=Z,42nm,1.5s
CLL Collm 17.79 330 *i* P P **08 41 12.0 +0.6**
comp=Z,13nm,0.6s
BFO Black Forest 18.07 316 P **08 41 15.4 +0.8**
BFO IAmb IAmb 08 41 18.3
comp=Z,17nm,0.5s
NACGM Naroch 18.27 359 *i* P P **08 41 17.1 +0.5**
IIGN Ignalina 18.72 358 *e*P P **08 41 22.0 +0.4**
ISAL Salakas 18.95 358 *e*P P **08 41 24.2 +0.2**
PABE Paberze 18.99 354 *e*P P **08 41 24.7 +0.2**
PABE Paberze 18.99 354 P P **08 41 23.9 -0.6**
OBN Obninsk 19.58 16 P P **08 41 30.8 0.0**
comp=Z,1.6nm,0.3s,baz=258,slow=15,SNR=7.2
WLF Walferdange 20.00 317 *d*P P **08 41 37.1 +1.6**
WLF Walferdange 20.00 317 P P **08 41 35.2 -0.2**
WLF IAmb IAmb 08 41 38.1
comp=Z,16nm,0.7s
BSD Bornholm Skovb 20.28 339 *e*P P **08 41 38.0 -0.4**
BHOU Houvegnez 20.46 319 *d*P P **08 41 41.2 +0.8**
BTNL Ternell 20.53 319 *d*P Pn 08 41 43.9 -0.9
MEM Membach 20.60 319 *d*P P **08 41 42.5 +0.6**
BCLA Clavier 20.87 318 *d*P P **08 41 45.1 +0.4**
BGES Gesves 20.97 318 *b*P P **08 41 46.2 +0.4**
comp=Z,14nm,1.1s
DOU Dourbes 21.09 317 *d*P P **08 41 47.0 0.0**
comp=Z,13nm,0.5s
BMRD Maredsous 21.10 317 *d*P P **08 41 47.4 +0.2**
BLEU Blekinge 21.10 342 *i* P P **08 41 46.3 -0.8**
LUNU Lund 21.16 338 *i* P P **08 41 47.1 -0.7**
BELG Belogornoye 21.37 36 P P **08 41 50.4 +0.3**
comp=Z,44nm,0.6s,baz=226,slow=1.3,SNR=33
DEL Delary 21.75 340 *i* P P **08 41 52.5 -1.6**
FABU Falkenberg 22.54 339 *i* P P **08 42 01.6 -0.3**
BORU Boraas 23.07 340 *i* P P **08 42 06.7 -0.1**
ESBB Sonseca Array 24.57 287 P P **08 42 21.1 +0.3**
ESBB IAmb IAmb 08 42 22.6
comp=Z,31nm,0.7s
ESDC Sonseca Array 24.57 287 P P **08 42 21.7 +0.9**
comp=Z,31nm,0.6s,baz=80,slow=9.4,SNR=156
ESDC Sonseca Array 24.57 287 IAmb IAmb 08 42 22.6
comp=Z,30nm,0.7s
FINES FINESS Array B 24.83 359 P P **08 42 22.1 -0.8**
comp=Z,3.7nm,0.6s,baz=159,slow=12,SNR=14
FINES PcP PcP **08 45 55.1 +0.1**
comp=Z,1.2nm,0.5s,baz=130,slow=3.0,SNR=8.2
FINES ScP ScP **08 49 19.4 -1.2**
comp=Z,1.5nm,0.7s,baz=128,slow=2.3,SNR=5.6
PAB San Pablo 24.87 286 P P **08 42 24.4 +0.8**
PAB IAmb IAmb 08 42 26.5
comp=Z,20nm,0.7s
HFS Hagfors 25.04 344 P P **08 42 24.6 -0.2**
comp=Z,5.8nm,0.4s,baz=150,slow=12,SNR=53
KLMR Klimovskoe 25.48 14 *e*P P **08 42 25.6 -3.2**
KLMR AMP 08 42 32.6
comp=Z,11nm,1.2s
KLMR *e*PP PnPn **08 43 08.1 -5.5**
KONO Kongsberg 25.66 339 *e*P P **08 42 29.8 -0.6**
NC602 NORSAR Array S 26.08 343 *e*P P **08 42 35.1 +0.9**
AKTO Aktyubinsk 26.08 48 P P **08 42 34.8 +0.5**
comp=Z,2.9nm,0.4s,baz=257,slow=10,SNR=7.6
MDT Midelt 26.29 271 P P **08 42 38.0 +1.5**
comp=Z,7.7nm,0.8s,baz=82,slow=9.8,SNR=12
NAO01 NORSAR Array S 26.33 342 *e*P P **08 42 36.7 +0.3**
NAO01 NORSAR Array S 26.33 342 P P **08 42 36.7 +0.3**
NAO01 IAmb IAmb 08 42 37.4
comp=Z,29nm,0.9s
NB2 NORSAR Subarra 26.42 343 P P **08 42 36.5 -0.8**
baz=150,slow=9.3
NOA NORSAR Array B 26.42 343 P P **08 42 36.4 -0.8**
comp=Z,1.0nm,0.5s,baz=148,slow=10,SNR=11
NOA PcP PcP **08 45 59.2 +0.5**
comp=Z,0.7nm,0.8s,baz=144,slow=3.1,SNR=3.3
NOA ScP ScP **08 49 23.9 -1.4**
comp=Z,1.3nm,0.8s,baz=130,slow=4.7,SNR=3.6
NOA LR LR 08 55 02.8
comp=Z,14nm,18.6s,baz=345,slow=41
BLS5 Blasjo 26.44 336 *e*P P **08 42 36.8 -0.6**
PBRG Braganca 26.63 292 *e*P P **08 42 39.8 +0.4**
comp=Z,24nm,0.8s
MVO Moncorvo 26.85 290 *e*P P **08 42 42.0 +0.6**
comp=Z,30nm,0.9s
SKAR Skarslia 26.88 339 *e*P P **08 42 42.5 +1.1**
ABKAR Akbulak array 26.91 52 P P **08 42 41.9 +0.2**
ABKAR Akbulak array 26.91 52 P P **08 42 41.7 0.0**
PBAR Barrancos 27.09 284 *e*P P **08 42 44.1 +0.6**
comp=Z,19nm,1.4s
PMRV Marv??o 27.23 286 *e*P P **08 42 45.0 +0.2**
comp=Z,16nm,0.9s
PCBR Castelo Branco 27.26 287 *e*P P **08 42 45.4 +0.4**
comp=Z,21nm,1.1s
MTE Manteigas 27.27 289 *e*P P **08 42 46.1 +0.9**
comp=Z,28nm,0.9s
MTE Manteigas 27.27 289 IAmb IAmb 08 42 46.6
comp=Z,20nm,0.8s
PVRL Vila Real 27.37 290 *e*P P **08 42 46.2 +0.2**
POLO Lamas de Olo 27.42 291 *e*P P **08 42 47.3 +0.8**
comp=Z,10nm,1.4s
PESTR Estremoz 27.44 285 *e*P P **08 42 46.9 +0.3**
comp=Z,21nm,1.0s
PESTR Estremoz 27.44 285 P P **08 42 46.1 -0.5**
PVIS Viseu 27.52 289 *e*P P **08 42 48.5 +1.1**
comp=Z,25nm,0.8s
PCAB Cabril 27.59 291 *e*P P **08 42 48.4 +0.4**
comp=Z,16nm,1.6s
PVAQ Vaqueiros 27.73 282 *e*P P **08 42 50.0 +0.8**
PBEJ Beja 27.76 284 *e*P P **08 42 50.0 +0.5**
comp=Z,14nm,1.3s
PGAV Gavieira, Arco 27.77 292 *e*P P **08 42 50.8 +1.2**
comp=Z,31nm,1.7s
EKA Eskdalemuir Ar 27.81 322 P P **08 42 47.7 -1.9**
comp=Z,1.2nm,0.5s,baz=120,slow=10,SNR=6.6
EKA PcP PcP **08 46 02.6 +0.6**
comp=Z,1.2nm,0.5s,baz=113,slow=2.1,SNR=8.7
DOMB Dombas 27.81 342 *e*P P **08 42 50.4 +0.7**
PMTG Montargil 27.91 286 *e*P P **08 42 51.4 +0.6**
comp=Z,14nm,1.5s
PBDV Barranco-do-Ve 27.93 282 *e*P P **08 42 51.7 +0.7**
PCVE Castro Verde 27.95 283 *e*P P **08 42 51.5 +0.3**
comp=Z,22nm,1.6s
PCAS Casmilo, Conde 28.03 288 *e*P P **08 42 52.6 +0.8**
comp=Z,18nm,1.6s
PNCL Nicolau / Gran 28.27 284 *e*P P **08 42 54.7 +0.8**
comp=Z,17nm,1.8s
PTEO Sao Teotonio 28.50 283 *e*P P **08 42 56.6 +0.5**
comp=Z,38nm,1.4s
PFVI Vila Bisbo 28.65 282 *e*P P **08 42 57.9 +0.5**
comp=Z,38nm,1.5s
ARU Arti 28.92 37 P P **08 42 59.8 +0.3**
comp=Z,1.8nm,0.3s,baz=232,slow=13,SNR=5.2
NSS Namsos 29.37 347 *e*P P **08 43 03.3 -0.1**
MOR8 Moi Rana 30.48 350 *e*P P **08 43 14.0 +0.8**
KONS Konsvik 30.99 349 *e*P P **08 43 18.1 +0.5**
NBB13 Alf Garage 31.07 349 *e*P P **08 43 19.1 +0.7**
NBB30 Finnes 31.34 350 *e*P P **08 43 21.7 +1.0**
FAUS Fauske 31.52 351 *e*P P **08 43 23.2 +0.9**
N2TV TYrnvik 31.72 351 *e*P P **08 43 25.2 +1.2**
N2NF Nordfold 31.89 351 *e*P P **08 43 26.4 +0.9**
N2IH Innhavet 32.00 352 *e*P P **08 43 27.5 +1.0**
STEI Steigen 32.05 352 *e*P P **08 43 27.7 +0.8**
N2SV S rvYgen 32.30 350 *e*P P **08 43 29.1 0.0**
LOF Lofoten 32.45 351 *e*P P **08 43 33.1 +2.7**
KTK1 Kautokeino 32.50 357 *e*P P **08 43 32.0 +1.2**
TOA0 Torodi Ar. Sit 32.66 231 P P **08 43 34.2 +1.4**
TORD Torodi Ar. Bea 32.66 231 P P **08 43 34.5 +1.7**
comp=Z,31nm,0.5s,baz=33,slow=8.9,SNR=144
TORD Torodi Ar. Bea 32.66 231 P P **08 43 33.6 +0.8**
TORD IAmb IAmb 08 43 35.2
comp=Z,13nm,0.6s
ARCES ARCESS Array B 32.96 359 P P **08 43 34.0 -0.8**
comp=Z,2.6nm,0.8s,baz=174,slow=9.8,SNR=12
ARCES PcP PcP **08 46 15.1 -0.3**
comp=Z,3.5nm,1.0s,baz=177,slow=3.4,SNR=2.1
ARCES ScP ScP **08 49 45.9 -0.3**
comp=Z,1.1nm,0.8s,baz=211,slow=1.1,SNR=3.6
KKAR Karatay Array 33.63 65 P P **08 43 41.2 +0.2**
PMPST Porto Santo, M 35.61 277 *e*P P **08 43 59.6 +1.5**
comp=Z,62nm,1.1s
PMPS Porto Santo 35.62 277 *e*P P **08 43 59.7 +1.5**
PMAR Madeira 36.19 277 *e*P P **08 44 05.5 +2.2**
comp=Z,60nm,0.9s
KDJ Kajisay 38.63 66 P P **08 44 24.2 +0.5**
MAKZ Makanchi 41.42 58 P P **08 44 47.9 +1.4**
MAKZ IAmb IAmb 08 44 48.6
comp=Z,8.1nm,0.5s
MK31 Makanchi Array 41.64 58 IAmb IAmb 08 44 50.4
comp=Z,14nm,0.6s
MKAR Makanchi Array 41.64 58 P P **08 44 49.8 +1.6**
comp=Z,16nm,0.5s,baz=269,slow=8.7,SNR=270
MKAR pP pP **08 45 19.6 -0.5**
comp=Z,2.0nm,0.6s,baz=292,slow=6.4,SNR=2.6
MKAR ScP ScP **08 50 19.1 -0.1**
comp=Z,1.0nm,0.5s,baz=263,slow=4.0,SNR=11
DBIC Dimbokro 41.73 232 P P **08 44 50.5 +1.2**
comp=Z,7.6nm,0.4s,baz=22,slow=9.3,SNR=16
TIC Tourndi 41.86 232 *e*P P **08 44 51.3 +1.0**
SPA0 Spitsbergen Ar 41.89 357 *e*P P **08 44 50.6 +0.7**
KIC Kosan Boka 41.90 232 *e*P P **08 44 51.7 +1.0**
comp=Z,14nm,0.4s
LIC Lamto 42.18 232 *e*P P **08 44 54.1 +1.1**
comp=Z,24nm,0.5s
SCO Scoresbysund 42.55 338 P P **08 44 56.8 +1.5**
ZAA0 Zalesovo Array 42.83 47 P P **08 44 58.5 +0.8**
ZAA0 IAmb IAmb 08 44 59.1
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 42.83 47 P P **08 44 58.4 +0.6**
comp=Z,13nm,0.5s,baz=270,slow=8.3,SNR=42
ZALV pP pP **08 45 29.8 +0.1**
comp=Z,2.7nm,0.7s,baz=273,slow=9.2,SNR=2.8
KBS Kingsbay 42.86 356 *e*P P **08 44 59.6 +1.9**
DAG Danmarks Havn 44.97 346 ⇑*i* P P **08 45 14.4 -0.1**
DAG IAmb IAmb 08 45 15.0
comp=Z,4.4nm,0.6s
DAG *i* 08 45 27.9
WMQ Urumqi 45.89 61 *e*P P **08 45 25.4 +3.1**
NOR Nord 47.69 352 *i* P P **08 45 35.5 -0.2**
NOR IAmb IAmb 08 45 36.1
comp=Z,4.5nm,0.7s
ICESG Greenland Ices 48.05 334 *i* P P **08 45 38.2 -0.8**
ICESG IAmb IAmb 08 45 39.7
comp=Z,6.9nm,0.8s
SUMG Summit 48.18 338 *i* P P **08 45 40.1 0.0**
SUMG IAmb IAmb 08 45 41.2
comp=Z,6.7nm,0.8s
SUMG Summit 48.18 338 P P **08 45 39.7 -0.3**
DY2G Dye2 50.47 330 *i* P P **08 45 56.8 -0.4**
DY2G IAmb IAmb 08 45 57.8
comp=Z,12nm,0.7s
GTA Gaotai 55.87 63 *e*P P **08 46 38.0 +0.9**
GTA pP pP **08 47 11.3 +1.1**
GTA sP sP **08 47 24.5 -1.4**
SONM Songino Array 57.32 52 P P **08 46 48.7 +1.5**
comp=Z,1.8nm,0.4s,baz=293,slow=7.5,SNR=9.6
SONM pP pP **08 47 21.7 +0.9**
comp=Z,2.0nm,0.8s,baz=287,slow=9.0,SNR=5.5
DRLN Deer Lake 60.12 311 P P **08 47 06.5 +0.2**
SCHQ Schefferville 63.09 320 P P **08 47 25.6 -0.6**
comp=Z,4.1nm,0.4s,baz=61,slow=5.9,SNR=15
SCHQ Schefferville 63.09 320 P P **08 47 25.9 -0.2**
SCHQ IAmb IAmb 08 47 36.6
comp=Z,9.9nm,1.2s
HHC Hu-ho-hao-te 63.50 58 *e*P P **08 47 28.9 -0.3**
GBN Guysborough 64.20 309 P P **08 47 34.2 +0.7**
HAL Halifax 65.86 309 P P **08 47 44.6 +0.3**
LMN Caledonia Moun 66.04 310 P P **08 47 46.0 +0.5**
BATG Bathurst New B 66.12 312 P P **08 47 46.5 +0.6**
PQI Presque Isle 67.59 312 P P **08 47 55.9 +0.7**
PQI IAmb IAmb 08 47 57.2
comp=Z,28nm,1.3s
E63A Oxbow 67.95 312 P P **08 47 58.6 +1.1**
D62A Allapoint, All 67.99 313 P P **08 47 58.6 +0.8**
F64A Sherman 68.19 311 P P **08 47 59.3 +0.3**
F64A IAmb IAmb 08 48 20.1
comp=Z,32nm,1.4s
EMMW East Machias 68.23 310 P P **08 48 00.1 +0.8**
E62A Clayton Lake 68.51 313 P P **08 48 01.8 +0.8**
E62A IAmb IAmb 08 48 24.5

comp=Z,23nm,1.2s
F63A Nahmakanta, Br 68.73 312 P P 08 48 03.2 +0.8
I63A Otisfield 70.49 311 P P 08 48 14.6 +1.5
H62A Milan 70.56 311 P P 08 48 15.1 +1.4
H62A IAmb IAmb 08 48 16.0
comp=Z,22nm,1.1s
CN2 Changchun 71.00 49 eP P 08 48 17.6 +1.3
I62A Tamworth 71.04 311 P P 08 48 18.4 +1.8
LONY Lake Ozonia 72.58 313 P P 08 48 27.1 +1.3
LONY IAmb IAmb 08 48 27.7
comp=Z,11nm,0.9s
NJ2 Nanjing 72.95 63 eP P 08 48 29.3 +1.2
N62A Caumsett State 73.99 309 P P 08 48 34.1 +0.1
N62A IAmb IAmb 08 48 57.3
comp=Z,17nm,1.0s
USRK Ussuriysk Ar. 74.67 46 P P 08 48 38.2 +0.3
comp=Z,1.4nm,0.6s,baz=316,slow=1.2,SNR=5.2
KSRS Korea Array 76.12 54 P P 08 48 46.9 +0.6
comp=Z,1.0nm,0.7s,baz=297,slow=5.6,SNR=4.7
KSRS pP pP 08 49 22.0 +0.6
comp=Z,0.8nm,0.5s,baz=310,slow=5.1,SNR=2.8
YKA Yellowknife Ar 76.52 343 P P 08 48 46.8 -1.2
comp=Z,0.6nm,0.6s,baz=41,slow=5.9,SNR=3.3
MDM Murphy Dome 78.67 358 P P 08 48 59.2 -0.8
ILAR Eielson Array 78.81 357 P P 08 49 00.8 0.0
comp=Z,0.2nm,0.6s,baz=331,slow=2.3,SNR=4.2
DAWY Dawson 79.06 354 P P 08 49 02.6 +0.4
K27K Chicken 79.30 355 P P 08 49 04.0 +0.6
MJB9 Matsu-Tunnel 83.15 49 P P 08 49 22.0 -2.3
MJAR Matsushiro Arr 83.15 49 pP pP 08 50 02.7 +2.7
comp=Z,1.9nm,0.8s,baz=314,slow=5.3,SNR=4.1
T50A Nancy 83.37 312 P P 08 48 29.6 +0.6
T50A IAmb IAmb 08 49 27.1
comp=Z,7.2nm,0.7s
L40A Anamosa 83.55 319 P P 08 49 24.9 -1.4
L40A IAmb IAmb 08 49 27.1
comp=Z,13nm,1.0s
FPAL Fort Paine 85.48 310 P P 08 49 36.7 +0.6
FPAL IAmb IAmb 08 49 37.8
comp=Z,8.7nm,1.0s
N38A Joes South For 85.52 319 P P 08 49 35.3 -0.9
N38A IAmb IAmb 08 49 37.6
comp=Z,12nm,0.9s
152A Waverly Hall 86.17 308 P P 08 49 39.2 -0.2
152A IAmb IAmb 08 49 41.1
comp=Z,11nm,0.8s
CCM Cathedral Cave 86.38 316 P P 08 49 40.4 -0.1
CCM IAmb IAmb 08 49 41.6
comp=Z,8.5nm,0.7s
T42A Van Buren 87.02 315 P P 08 48 49 42.0 -1.5
T42A IAmb IAmb 08 49 44.9
comp=Z,9.1nm,0.8s
BDFB Brasilia 87.73 249 P P 08 49 49.6 +2.3
comp=Z,3.5nm,0.6s,baz=58,slow=3.0,SNR=5.1
GCMT Greycliff 89.18 331 P P 08 49 53.9 +0.1
SNOW Snow King Moun 91.55 331 P P 08 50 05.1 0.0
PDAR Pinedale Array 91.66 330 P P 08 50 04.7 -0.8
comp=Z,0.3nm,0.8s,baz=42,slow=5.5,SNR=2.6
WRA Warramunga Arr 115.18 97 PKP PKiKP 08 55 39.0 +0.1
comp=Z,0.6nm,1.0s,baz=319,slow=2.4,SNR=2.3
ASAR Alice Springs 116.75 101 PKP PKiKP 08 55 42.0 +0.1
comp=Z,0.3nm,0.4s,baz=318,slow=1.7,SNR=6.0
VNDA Vanda 134.68 167 PKP PKPdf 08 56 14.2 -0.2
comp=Z,0.5nm,0.6s,baz=243,slow=2.3,SNR=2.2

IDC 24 08:59:27.2N3.9,**55.54**N×**86.16**E,**h0**km,**mb1 2.7**/2,
mb1mx2.7/52,**mbtmp2.7**/2,**ML2.3**/2 **Error ellipse: s-maj=33.6km s-min=24.9km az=40.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**207**	*i*		09 10 50.2	
	baz=22,slow=315,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.78**	**207**	Pn	Pn	08 59 58.0	-1.1
	2.0nm,0.3s,baz=24,slow=17,SNR=21						
ZALV				Sn	Sg	09 00 23.9	-0.3
	3.9nm,0.3s,baz=28,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.74**	**226**	Pn	Pn	09 01 07.4	+0.1
	0.0nm,0.3s,baz=44,slow=14,SNR=4.6						
KURBB				Lg	Lg	09 03 03.0	
	0.0nm,0.3s,baz=46,slow=30,SNR=7.4						
MKAR	**Makanchi Array**	**9.09**	**197**	Pn	Pn	09 01 40.0	+0.4
	0.1nm,0.3s,baz=16,slow=14,SNR=3.1						
MKAR				Sn	Sn	09 03 20.5	-2.1
	0.0nm,0.3s,baz=20,slow=26,SNR=3.4						
MKAR				Lg	Lg	09 04 13.3	
	0.1nm,0.3s,baz=19,slow=27,SNR=5.1						

*NOU **24** 09:00:35.2,32.69S×176.80W,h19km,MLv5.7,South of Kermadec Islands*
*IDC **24** 09:00:38.5±0.5,32.28S±0.07×178.17W±0.1,h10km±1km, mb4.6/12, mb1 4.8/18,mb1mx4.7/28,mbtmp4.7/18,ML4.6/5,MS4.2/22, Ms1 4.2/22,ms1mx4.1/33,Error ellipse: s-maj=19.3km s-min=15.8km az=121.0*
*NEIC **24** 09:00:41.1±1.5,32.28S±0.07×178.17W±0.1,h10km±1km, mb5.0/86,Error ellipse: s-maj=18.4km s-min=11.6km az=105.0*
*MOS **24** 09:00:42.5±1.1,32.17S×178.16W,h27km,mb5.2/28, Error ellipse: s-maj=10.8km s-min=8.9km az=78.4*
ISC 24 09:00:41.5±0.3,**32.30S**±0.04×**177.95W**±0.06,**h20**km, **n338,**σ**16**/**76**/347,**mb5.0**/80,**MS4.2**/24,**10C-15D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.02**	**1**	P	**Pn**	**09 01 25.5**	**-2.7**
GLKZ				S	**Sn**	**09 01 60.0**	**-3.8**
RAO	**Raoul Island**	**3.04**	**1**	Pn	**Pn**	**09 01 26.5**	**-1.8**
	136nm,0.3s,baz=235,slow=22,SNR=2.4						
RAO				Sn	**Sn**	**09 01 59.7**	**-4.4**
	324nm,0.3s,baz=269,slow=20,SNR=7.4						
RAO	**Raoul Island**	**3.04**	**1**		**Pn**	**09 01 27.9**	**-0.5**
MXZ	**Matakaoa Point**	**6.08**	**209**	Pn	**Pn**	**09 02 07.6**	**-2.7**
MXZ	**Matakaoa Point**	**6.08**	**209**	S	**Sn**	**09 03 17.4**	**-1.9**
WMGZ	**Waiomatatini S**	**6.26**	**207**	P	**Pn**	**09 02 10.1**	**-2.5**
WMGZ				S	**Sn**	**09 03 21.6**	**-2.1**
PKGZ	**Pakihiroa**	**6.46**	**209**	S	**Sn**	**09 03 27.1**	**-1.5**
HAZ	**Te Kaha**	**6.47**	**212**	P	**Pn**	**09 02 13.7**	**-1.9**
HAZ				S	**Sn**	**09 03 28.3**	**-0.5**
PUZ	**Puketiti**	**6.54**	**207**	P	**Pn**	**09 02 12.4**	**-4.2**
PUZ				S	**Sn**	**09 03 28.0**	**-2.6**
RUGZ	**Raukumara Rang**	**6.69**	**211**	P	**Pn**	**09 02 16.8**	**-2.0**
RUGZ				S	**Sn**	**09 03 33.9**	**-0.6**
CNGZ	**Carnagh Statio**	**6.92**	**206**	P	**Pn**	**09 02 17.3**	**-4.4**
CNGZ				S	**Sn**	**09 03 34.7**	**-5.2**
TKGZ	**Te Karaka**	**7.02**	**208**	P	**Pn**	**09 02 21.4**	**-1.7**
TKGZ				S	**Sn**	**09 03 39.5**	**-2.9**
MWZ	**Matawai**	**7.07**	**210**	P	**Pn**	**09 02 20.9**	**-2.8**
MWZ				S	**Sn**	**09 03 42.2**	**-1.3**
URZ	**Urewera**	**7.19**	**213**	Pn	**Pn**	**09 02 23.3**	**-2.1**
	5.0nm,0.3s,baz=122,slow=23,SNR=24						
URZ				Sn	**Sn**	**09 03 43.7**	**-2.8**
	63nm,0.3s,baz=34,slow=23,SNR=15						
URZ	**Urewera**	**7.19**	**213**	Pn	**Pn**	**09 02 24.0**	**-1.4**
URZ	**Urewera**	**7.19**	**213**	P	**Pn**	**09 02 23.5**	**-1.9**
URZ				S	**Sn**	**09 03 45.9**	**-0.6**
WIAZ	**Waiheke Island**	**7.25**	**230**	P	**Pn**	**09 02 28.9**	**+2.5**
RIGZ	**Rimuhau**	**7.29**	**207**	P	**Pn**	**09 02 25.0**	**-1.8**
RIGZ				S	**Sn**	**09 03 45.8**	**-3.1**
MUGZ	**Murupara**	**7.52**	**213**	P	**Pn**	**09 02 27.8**	**-2.2**
MUGZ				S	**Sn**	**09 03 50.9**	**-3.8**
SNGZ	**Shannon Statio**	**7.52**	**209**	P	**Pn**	**09 02 29.5**	**-0.5**
SNGZ				S	**Sn**	**09 03 52.9**	**-1.8**
RAHZ	**Arahi**	**7.74**	**210**	P	**Pn**	**09 02 32.3**	**-0.7**
RAHZ				S	**Sn**	**09 03 56.9**	**-3.2**
MTHZ	**Maungataniwha**	**7.79**	**211**	P	**Pn**	**09 02 32.0**	**-1.8**
NMHZ	**Naumai**	**8.01**	**211**	P	**Pn**	**09 02 36.0**	**-0.8**
NMHZ				S	**Sn**	**09 04 04.3**	**-2.5**
MCHZ	**McNeill Hill**	**8.35**	**210**	P	**Pn**	**09 02 39.3**	**-2.1**
HIZ	**Hauiti**	**8.54**	**221**	P	**Pn**	**09 02 45.0**	**+1.1**
BHHZ	**Black Hill Sta**	**8.66**	**212**	P	**Pn**	**09 02 44.4**	**-1.3**
WNVZ	**Wahianoa**	**8.75**	**215**	P	**Pn**	**09 02 44.9**	**-2.1**
PNHZ	**Pukenui**	**8.95**	**210**	P	**Pn**	**09 02 47.5**	**-2.1**
VRZ	**Vera Road**	**9.03**	**219**	P	**Pn**	**09 02 52.1**	**+1.5**
TSZ	**Takapari Road**	**9.17**	**211**	P	**Pn**	**09 02 49.3**	**-3.4**
BFZ	**Birch Farm**	**9.58**	**207**	P	Pn	09 02 52.3	-5.9
MRZ	**Mangatainoka R**	**9.84**	**210**	P	Pn	09 02 56.4	-5.3
TMWZ	**Te Maipa**	**10.08**	**208**	P	**Pn**	**09 03 00.8**	**-4.3**
BHW	**Baring Head**	**10.75**	**210**	P	**Pn**	**09 03 12.2**	**-2.1**
NNZ	**Nelson**	**11.29**	**216**	P	**Pn**	**09 03 17.4**	**-4.2**
THZ	**Tophouse**	**11.93**	**215**	P	**Pn**	**09 03 26.8**	**-3.7**
KHZ	**Kahutara**	**12.15**	**211**	P	**Pn**	**09 03 30.1**	**-3.3**
GVZ	**Greta Valley S**	**12.81**	**211**	P	**Pn**	**09 03 40.8**	**-1.6**
LTZ	**Lake Taylor**	**13.02**	**214**	P	**Pn**	**09 03 40.9**	**-4.4**
INZ	**Inchbonnie**	**13.37**	**216**	P	**Pn**	**09 03 47.2**	**-2.8**
OXZ	**Oxford**	**13.54**	**213**	P	Pn	09 03 47.5	-4.9
RPZ	**Rata Peaks**	**14.30**	**214**	P	**Pn**	**09 03 58.5**	**-4.3**
GCSZ	**Gaunt Creek Bo**	**14.36**	**217**	P	**Pn**	**09 04 01.4**	**-2.2**
ARCZ	**Arundel**	**14.42**	**213**	P	**Pn**	**09 04 00.7**	**-3.8**
TMZ	**Timaru**	**14.84**	**212**	P	Pn	09 04 03.5	-6.6
MSVF	**Nonsavu**	**14.94**	**345**	Pn	**Pn**	**09 04 10.8**	**-0.8**
	0.3nm,0.3s,baz=135,slow=14,SNR=6.4						
MSVF				LR	LR	09 09 25.8	
	comp=Z,739nm,18.5s,baz=180,slow=35						
DZM	**Mont Dzumac**	**17.20**	**302**	P	**P**	**09 04 41.7**	**-0.5**
	0.3nm,0.3s,baz=139,slow=15,SNR=3.5						
DZM				LR	LR	09 10 18.2	
	comp=Z,1μm,18.8s,baz=139,slow=34						
DZM	**Mont Dzumac**	**17.20**	**302**	*e*Pn	**P**	**09 04 44.4**	**+2.2**
	175nm,1.2s						
DZM				*e*LR	LR	09 08 43.3	
	comp=Z,1μm,24.7s						
DZM	**Mont Dzumac**	**17.20**	**302**	P	**P**	**09 04 47.9**	**+5.7**
NOUC	**Port Laguerre**	**17.28**	**302**	P	**P**	**09 04 47.6**	**+4.7**
AFI	**Afiamalu**	**19.16**	**19**	P	**P**	**09 05 03.1**	**-0.6**
	2.4nm,0.3s,baz=214,slow=7.3,SNR=4.2						
AFI	**Afiamalu**	**19.16**	**19**	P	**P**	**09 04 58.2**	**-5.5**
AFI				pmax	pmax		
	comp=Z,78nm,1.1s						
AFI	**Afiamalu**	**19.16**	**19**		**P**	**09 04 58.2**	**-5.5**
AFI				IAmb	IAmb	09 05 18.1	
	comp=Z,78nm,1.1s						
RAR	**Rarotonga**	**19.60**	**60**	P	**P**	**09 05 07.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=232,slow=12,SNR=3.1						
RAR				LR	LR	09 13 09.1	
	comp=Z,619nm,18.5s,baz=248,slow=38						
RAR	**Rarotonga**	**19.60**	**60**	P	**Pn**	**09 05 10.0**	**0.0**
RAR				pmax	pmax		
	comp=Z,48nm,1.1s						
RAR	**Rarotonga**	**19.60**	**60**	P	**Pn**	**09 05 09.9**	**0.0**
MGCD	**Mangrove Creek**	**25.99**	**260**	P	**P**	**09 06 11.7**	**-1.2**
	baz=26,SNR=5.0						
ARMA	**Armidale**	**26.00**	**266**	P	**P**	**09 06 13.2**	**-0.1**
	baz=26,SNR=5.1						
ARMA	**Armidale**	**26.00**	**266**	P	**P**	**09 06 13.3**	**+0.1**
ARMA				IAmb	IAmb	09 06 20.7	
	comp=Z,35nm,1.2s						
TBI	**Tubuai**	**26.67**	**78**	*e*S	**S**	**09 10 49.3**	**-4.1**
	comp=Z,429nm,25.5s						
TBI				*e*LR	LR	09 13 20.2	
	comp=Z,507nm,21.2s						
TBI	**Tubuai**	**26.67**	**78**	*e*T	T	09 33 44.8	
	comp=Z,6.4nm,0.4s						
CAN	**Canberra**	**27.55**	**255**	P	**P**	**09 06 28.6**	**+1.5**
CAN				pmax	pmax		
	comp=Z,44nm,1.5s						
CAN	**Canberra**	**27.55**	**255**	P	**P**	**09 06 28.6**	**+1.5**
CAN				IAmb	IAmb	09 06 43.6	
	comp=Z,44nm,1.5s						
EIDS	**Eidsvold**	**27.92**	**276**	P	**P**	**09 06 32.3**	**+1.9**
	baz=28,SNR=6.0						
EIDS	**Eidsvold**	**27.92**	**276**	P	**P**	**09 06 31.1**	**+0.6**
EIDS				IAmb	IAmb	09 06 46.2	
	comp=Z,24nm,1.1s						
TAU	**Tasmania Unive**	**29.29**	**239**	P	**P**	**09 06 42.9**	**+0.5**
TAU				pmax	pmax		
	comp=Z,53nm,1.3s						
TAU	**Tasmania Unive**	**29.29**	**239**	P	**P**	**09 06 42.9**	**+0.5**
TAU				IAmb	IAmb	09 07 07.0	
	comp=Z,53nm,1.3s						
PAE	**Paea**	**29.45**	**67**	*e*T	T	09 37 11.6	
	comp=Z,1.4nm,0.3s						
PPT2	**Papeete2**	**29.49**	**67**	*e*LR	LR	09 14 33.4	
	comp=Z,448nm,20.5s,baz=230						
PPT2	**Papeete2**	**29.49**	**67**	*e*T	T	09 37 14.2	
	comp=Z,1.7nm,0.3s						
RMQ	**Roma**	**29.50**	**273**	P	**P**	**09 06 47.5**	**+3.0**
	baz=30,SNR=10						
PPT	**Papeete**	**29.50**	**67**	LR	LR	09 16 51.7	
	comp=Z,591nm,18.6s,baz=260,slow=33						
TOO	**Toolangi**	**30.30**	**250**	P	**P**	**09 06 53.1**	**+1.7**
	baz=30,SNR=5.0						
TOO	**Toolangi**	**30.30**	**250**	P	**P**	**09 06 52.3**	**+0.9**
TOO				pmax	pmax		
	comp=Z,26nm,1.4s						
TOO	**Toolangi**	**30.30**	**250**	P	**P**	**09 06 52.3**	**+0.9**
TOO				IAmb	IAmb	09 06 53.4	
	comp=Z,26nm,1.4s						
CMSA	**Cobar Meteorol**	**30.78**	**262**	P	**P**	**09 06 57.2**	**+1.6**
	baz=31,SNR=79						
ARPS	**Mount Arapiles**	**33.25**	**251**	P	**P**	**09 07 18.6**	**+1.3**
	baz=33,SNR=12						
STKA	**Stephens Creek**	**34.13**	**260**	P	**P**	**09 07 25.6**	**+0.6**
	comp=Z,9.3nm,0.8s,baz=86,slow=9.6,SNR=16						
STKA				PcP	**PcP**	**09 10 01.9**	**-0.2**
	comp=Z,4.8nm,1.1s,baz=63,slow=6.8,SNR=3.0						
STKA				LR	LR	09 21 20.5	
	comp=Z,650nm,18.1s,baz=60,slow=36						
STKA	**Stephens Creek**	**34.13**	**260**	P	**P**	**09 07 26.2**	**+1.1**
	baz=34,SNR=14						
STKA	**Stephens Creek**	**34.13**	**260**	P	**P**	**09 07 25.7**	**+0.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**34.13**	**260**	P	**P**	**09 07 25.7**	**+0.6**
CTAO	**Charters Tower**	**34.18**	**282**	P	**P**	**09 07 25.5**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,37nm,0.9s						
CTAO	**Charters Tower**	**34.18**	**282**	P	**P**	**09 07 25.5**	**-0.2**
HTT	**Hallett**	**36.05**	**256**	P	**P**	**09 07 42.3**	**+0.7**
	baz=36,SNR=5.7						
MTSU	**Mount Surprise**	**36.73**	**283**	P	**P**	**09 07 49.6**	**+2.0**
	baz=37,SNR=17						
BBOO	**Buckleboo**	**38.53**	**256**	P	**P**	**09 08 02.3**	**-0.3**
	baz=38,SNR=16						
BBOO	**Buckleboo**	**38.53**	**256**	P	**P**	**09 08 02.6**	**-0.1**
BBOO				IAmb	IAmb	09 08 11.3	
	comp=Z,72nm,1.5s						
PMG	**Port Moresby**	**39.48**	**297**	P	**P**	**09 08 10.2**	**-0.6**
PMG				pmax	pmax		
	comp=Z,32nm,1.2s						
PMG	**Port Moresby**	**39.48**	**297**	P	**P**	**09 08 10.2**	**-0.6**
PMG				IAmb	IAmb	09 08 22.6	
	comp=Z,32nm,1.1s						
QIS	**Mount Isa**	**39.53**	**277**	P	**P**	**09 08 11.8**	**+0.6**
	baz=40,SNR=6.7						
TAOE	**Nuku Hiva Isla**	**42.05**	**65**	*e*LR	LR	09 20 27.0	
	comp=Z,245nm,21.5s						
AS31	**Alice Springs**	**43.08**	**269**	P	**P**	**09 08 39.9**	**-0.5**
ASAR	**Alice Springs**	**43.08**	**269**	P	**P**	**09 08 40.0**	**-0.3**
	comp=Z,14nm,0.7s,baz=105,slow=7.6,SNR=239						
ASAR				PcP	**PcP**	**09 10 30.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=116,slow=3.7,SNR=1.2						
ASAR				ScP	**ScP**	**09 14 23.3**	**+3.0**
	comp=Z,0.5nm,1.1s,baz=116,slow=3.2,SNR=3.1						
ASAR				S	**S**	**09 15 02.8**	**-2.7**
	comp=Z,0.7nm,1.0s,baz=107,slow=17,SNR=4.8						
ASAR				LR	LR	09 27 08.4	
	comp=Z,390nm,18.1s,baz=107,slow=37						
ASAR	**Alice Springs**	**43.08**	**269**	P	**P**	**09 08 40.4**	**+0.1**
WR0	**Warramunga Arr**	**44.06**	**274**	P	**P**	**09 08 48.0**	**-0.3**
WR0				IAmb	IAmb	09 09 03.6	
	comp=Z,20nm,0.9s						
WB2	**Warramunga Arr**	**44.23**	**274**	P	**P**	**09 08 49.2**	**-0.4**
WRAB	**Tennant Creek**	**44.23**	**274**	P	**P**	**09 08 49.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,26nm,0.7s						
WRAB	**Tennant Creek**	**44.23**	**274**	P	**P**	**09 08 49.3**	**-0.3**
WRAB				IAmb	IAmb	09 08 50.9	
	comp=Z,26nm,0.7s						
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**09 08 49.2**	**-0.5**
	comp=Z,18nm,0.6s,baz=113,slow=7.7,SNR=332						
WRA				PcP	**PcP**	**09 10 34.4**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=127,slow=3.1,SNR=0.9						
WRA				ScP	**ScP**	**09 14 27.4**	**+2.4**
	comp=Z,4.5nm,1.2s,baz=108,slow=4.5,SNR=5.6						
WRA				S	**S**	**09 15 19.5**	**-2.9**
	comp=Z,0.8nm,0.9s,baz=148,slow=15,SNR=2.3						
WRA				LR	LR	09 26 26.3	
	comp=Z,206nm,18.2s,baz=105,slow=35						
WRA	**Warramunga Arr**	**44.24**	**274**	P	**P**	**09 08 48.9**	**-0.8**
WB0	**Warramunga Arr**	**44.27**	**274**	P	**P**	**09 08 49.0**	**-0.9**
WB0				IAmb	IAmb	09 09 05.2	
	comp=Z,29nm,0.9s						
FORT	**Forrest**	**45.63**	**257**	P	**P**	**09 08 59.9**	**-0.7**
	baz=46,SNR=76						
FORT	**Forrest**	**45.63**	**257**	P	**P**	**09 08 59.9**	**-0.7**
SBA	**Scott Base**	**46.16**	**184**	P	**P**	**09 09 06.3**	**+2.2**
SBA				pmax	pmax		
	comp=Z,11nm,1.1s						
SBA	**Scott Base**	**46.16**	**184**	P	**P**	**09 09 06.3**	**+2.2**
VNDA	**Vanda**	**46.22**	**186**	P	**P**	**09 09 06.5**	**+1.9**
	comp=Z,2.7nm,1.3s,baz=321,slow=6.5,SNR=3.8						
VNDA				LR	LR	09 25 04.3	
	comp=Z,254nm,20.8s,baz=2.0,slow=32						
VNDA	**Vanda**	**46.22**	**186**	P	**P**	**09 09 06.9**	**+2.3**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VNDA	**Vanda**	**46.22**	**186**	P	**P**	**09 09 06.9**	**+2.3**
WRKA	**Warakurna**	**47.31**	**264**	P	**P**	**09 09 12.6**	**-1.3**
	baz=47,SNR=55						
KDU	**Kakadu**	**49.31**	**282**	P	**P**	**09 09 28.9**	**-0.5**
	baz=50,SNR=5.3						
JOHN	**Johnston Islan**	**49.41**	**11**	P	**P**	**09 09 28.3**	**-1.7**
MTN	**Manton Dam**	**50.34**	**280**	P	**P**	**09 09 36.4**	**-0.9**
MTN				IAmb	IAmb	09 09 53.9	
	comp=Z,24nm,1.1s						
KNRA	**Kununurra**	**50.91**	**276**	P	**P**	**09 09 41.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.42**	**271**	P	**P**	**09 09 52.4**	**-0.3**
	baz=52,SNR=9.1						
FITZ	**Fitzroy Crossi**	**52.42**	**271**	P	**P**	**09 09 51.6**	**-1.1**
SAUI	**Saumlaki**	**52.83**	**286**	P	**P**	**09 09 55.1**	**-0.8**
CASY	**Casey**	**53.49**	**209**	P	**P**	**09 10 00.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**53.79**	**251**	P	**P**	**09 10 02.2**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,19nm,1.2s						
NWAO	**Narrogin (SRO)**	**53.79**	**251**	P	**P**	**09 10 02.2**	**-0.5**
NWAO				IAmb	IAmb	09 10 07.7	
	comp=Z,19nm,1.1s						
KLBR	**Kellerberrin**	**53.79**	**252**	P	**P**	**09 10 01.4**	**-1.4**
	baz=54,SNR=12						
FAKI	**Fak Fak**	**55.05**	**291**	P	**P**	**09 10 11.6**	**-0.5**
PSA00	**Pilbara Seismi**	**55.80**	**265**	P	**P**	**09 10 16.8**	**-0.7**
MORW	**Morawa**	**56.05**	**255**	P	**P**	**09 10 17.6**	**-1.6**
	baz=56,SNR=3.8						
MORW	**Morawa**	**56.05**	**255**	P	**P**	**09 10 17.7**	**-1.4**
MORW				IAmb	IAmb	09 10 23.6	
	comp=Z,25nm,1.3s						
SOEI	**Soe**	**57.68**	**279**	P	**P**	**09 10 31.4**	**+0.4**
QSPA	**South Pole Qui**	**57.82**	**180**	P	**P**	**09 10 32.6**	**+1.3**
GIRL	**Giralia**	**60.06**	**261**	P	**P**	**09 10 47.5**	**+0.1**
EDFI	**Ende, Flores**	**60.37**	**279**	P	**P**	**09 10 48.4**	**-1.2**
	comp=Z,4μmcomp=Z,423nmcomp=Z,11nm,1.2s						
LUWI	**Luwuk**	**63.75**	**287**	P	**P**	**09 11 12.7**	**+0.4**
APSI	**Ampana**	**64.74**	**286**	P	**P**	**09 11 16.8**	**-1.9**
	comp=Z,14nm,1.5s						
TOLI2	**Tolitoli**	**66.62**	**287**	P	**P**	**09 11 29.0**	**-1.9**
TOLI2				IAmb	IAmb	09 11 43.1	
	comp=Z,8.9nm,1.0s						
MPSI	**Mapaga**	**66.89**	**286**	P	**P**	**09 11 30.8**	**-1.8**
	comp=Z,17μmcomp=Z,94nm,0.6s						
MAW	**Mawson**	**70.55**	**201**	P	**P**	**09 11 54.4**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=102,slow=8.3,SNR=6.9						
MAW				LR	LR	09 40 59.8	
	comp=Z,307nm,20.9s,baz=91,slow=34						
MAW	**Mawson**	**70.55**	**201**	P	**P**	**09 11 54.8**	**+0.2**
MAW	**Mawson**	**70.55**	**201**	P	**P**	**09 11 54.8**	**+0.2**
LEM	**Lembang**	**73.23**	**272**	LR	LR	09 43 06.3	
	comp=Z,92nm,18.9s,baz=112,slow=35						
SYO	**Syowa Base**	**75.28**	**193**	*e*P	**P**	**09 12 22.6**	**0.0**
SYO	**Syowa Base**	**75.28**	**193**	*e*pP	**P**	**09 12 24.0**	**+1.4**
SYO	**Syowa Base**	**75.28**	**193**	*e*sP	sP	09 12 27.3	-1.7
SNAA	**Sanae**	**76.27**	**178**	P	**P**	**09 12 29.0**	**+0.7**
SNAA	**Sanae**	**76.27**	**178**	sP	sP	09 12 40.4	+5.7
SNAA	**Sanae**	**76.27**	**178**	*d*P	**P**	**09 12 29.4**	**+1.1**
SNAA				pmax	pmax		
	comp=Z,27nm,1.3s						
SNAA	**Sanae**	**76.27**	**178**	P	**P**	**09 12 28.7**	**+0.4**
SNAA				IAmb	IAmb	09 12 41.3	
	comp=Z,25nm,1.1s						
VNA3	**Neumayer Olymp**	**76.42**	**176**	P	**P**	**09 12 29.5**	**+0.4**
VNA3	**Neumayer Olymp**	**76.42**	**176**	sP	sP	09 12 41.7	+6.2
VNA2	**Neumayer--Watz**	**76.85**	**177**	P	**P**	**09 12 32.4**	**+0.9**
	baz=208,slow=4.1						
VNA2	**Neumayer--Watz**	**76.85**	**177**	sP	sP	09 12 44.3	+6.3
VNA1	**Neumayer--Stat**	**77.08**	**176**	P	**P**	**09 12 33.9**	**+1.1**
VNA1	**Neumayer--Stat**	**77.08**	**176**	sP	sP	09 12 45.8	+6.6
JYT	**Yasato**	**78.63**	**327**	P	**P**	**09 12 41.5**	**-0.3**
JYT				IAmb	IAmb	09 12 43.0	
	comp=Z,19nm,0.9s						
LL02	**Futaleuf**	**79.00**	**134**	P	**P**	**09 12 45.1**	**+1.1**
MJAR	**Matsushiro Arr**	**79.82**	**325**	P	**P**	**09 12 47.0**	**-1.3**
	comp=Z,4.8nm,1.1s,baz=157,slow=6.1,SNR=9.5						
MJAR	**Matsushiro Arr**	**79.82**	**325**	P	**P**	**09 12 47.3**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MJAR	**Matsushiro Arr**	**79.82**	**325**	P	**P**	**09 12 47.3**	**-1.0**
MAJO	**Matsushiro**	**79.82**	**325**	*ce*P	**P**	**09 12 48.0**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAJO	**Matsushiro**	**79.82**	**325**	P	**P**	**09 12 47.7**	**-0.6**
MAJO				IAmb	IAmb	09 13 04.8	
	comp=

PETK	**Petropavlovsk-** comp=Z,5.9nm,1.0s,baz=131,slow=6.7,SNR=6.6	**87.65**	**346**	P		**P**		**09 13 28.6**	**+0.7**
LRMC	**Laurel Mtn Rad** baz=227	**87.96**	**45**	P				09 13 32.5	
VLA	**Vladivostok**	**87.99**	**326**	*de*P		**P**		**09 13 30.9**	**+1.1**
VLA	comp=Z,27nm,0.6s				pmax	pmax			
BELC	**Belle Mtn. Jos** baz=228	**88.00**	**47**	P				09 13 32.8	
BC3	**Big Chuckawall** baz=229	**88.12**	**48**	P				09 13 33.4	
GLA	**Glamis**	**88.12**	**49**	P		**P**		**09 13 31.5**	**+0.7**
GLA	comp=Z,20nm,1.4s				pmax	pmax			
GLA	**Glamis**	**88.12**	**49**	P		**P**		**09 13 31.5**	**+0.7**
O02D	**Mt. Diablo Mer** baz=224	**88.34**	**39**	P				09 13 33.2	
HEC	**Hector,Ludlow** baz=228	**88.35**	**46**	P				09 13 34.0	
GSC	**Goldstone, Bar** baz=228	**88.37**	**46**	P				09 13 33.7	
GSC	**Goldstone, Bar**	**88.38**	**46**	P		**P**		**09 13 33.1**	**+1.1**
GSC	comp=Z,11nm,1.2s				pmax	pmax			
GSC	**Goldstone, Bar**	**88.38**	**46**	P		**P**		**09 13 33.1**	**+1.1**
GSC	comp=Z,11nm,1.1s				IAmb	IAmb		09 13 35.5	
CWC	**Cottonwood Cre** baz=227	**88.38**	**44**	P				09 13 34.7	
AFDM	**Forest Hills D**	**88.45**	**41**	P		**P**		**09 13 33.0**	**+0.8**
MPMC	**Manual Prospec** baz=227	**88.47**	**45**	P				09 13 34.2	
ORV	**Oroville**	**88.59**	**40**	P		**P**		**09 13 33.9**	**+1.1**
ORV	comp=Z,10.0nm,1.4s				pmax	pmax			
ORV	**Oroville**	**88.59**	**40**	P		**P**		**09 13 33.9**	**+1.1**
ORV	comp=Z,10nm,1.4s				IAmb	IAmb		09 13 55.0	
113A	**Mohawk Valley,**	**88.61**	**49**	P		**P**		**09 13 34.5**	**+1.5**
IRM	**Iron Mountain** baz=229	**88.64**	**48**	P				09 13 35.7	
GMRC	**Granite Mounta** baz=228	**88.73**	**47**	P				09 13 35.5	
USRK	**Ussuriysk Ar.** comp=Z,11nm,1.2s,baz=144,slow=3.5,SNR=16	**88.76**	**327**	P		**P**		**09 13 34.5**	**+1.0**
USRK	comp=Z,64nm,19.2s,baz=125,slow=33				LR	LR		09 49 33.0	
USRK	**Ussuriysk Ar.**	**88.76**	**327**	P		**P**		**09 13 34.1**	**+0.7**
USRK	**Ussuriysk Ar.**	**88.76**	**327**	P		**P**		**09 13 34.1**	**+0.7**
USA0B	**Ussuriysk Arra**	**88.76**	**327**	P		**P**		**09 13 34.1**	**+0.7**
USA0B	comp=Z,29nm,1.5s				pmax	pmax			
USA0B	**Ussuriysk Arra**	**88.76**	**327**	P		**P**		**09 13 34.1**	**+0.7**
WDC	**Whiskeytown Da**	**88.76**	**39**	P		**P**		**09 13 34.7**	**+1.1**
WDC	comp=Z,6.0nm,1.0s				pmax	pmax			
WDC	**Whiskeytown Da**	**88.76**	**39**	P		**P**		**09 13 34.7**	**+1.1**
WDC	comp=Z,6.3nm,1.0s				IAmb	IAmb		09 13 47.4	
O03E	**Paynes Creek** baz=225	**88.95**	**39**	P				09 13 35.1	
N02D	**Trinity Center** baz=224	**88.96**	**38**	P				09 13 35.3	
TUQ	**Turquoise Moun** baz=228	**89.00**	**46**	P				09 13 36.4	
WAKR	**Walker**	**89.01**	**42**	P		**P**		**09 13 37.7**	**+2.6**
WAKR	comp=Z,18nm,1.4s				IAmb	IAmb		09 13 49.8	
SHOC	**Shoshone, Teco** baz=228	**89.09**	**46**	P				09 13 37.0	
PNTR	**Pine Nut**	**89.32**	**41**	P		**P**		**09 13 37.5**	**+1.0**
PNTR	comp=Z,7.2nm,1.0s				IAmb	IAmb		09 13 50.8	
PDMCI	**Parker Dam,Lak** baz=229	**89.36**	**48**	P				09 13 38.4	
YBH	**Yreka Blue Hor**	**89.50**	**38**	P		**P**		**09 13 39.1**	**+2.0**
YBH	comp=Z,8.0nm,1.3s				pmax	pmax			
YBH	**Yreka Blue Hor**	**89.50**	**38**	P		**P**		**09 13 39.1**	**+2.0**
YBH	comp=Z,8.2nm,1.3s				IAmb	IAmb		09 13 51.7	
NVAR	**Mina Array Bea** comp=Z,3.4nm,1.0s,baz=220,slow=8.4,SNR=7.2	**89.60**	**43**	P		**P**		**09 13 38.2**	**+0.4**
NVAR	**Mina Array Bea**	**89.60**	**43**	P		**P**		**09 13 38.8**	**+0.9**
RYN	**Ryan**	**89.61**	**42**	P		**P**		**09 13 39.4**	**+1.6**
NV11	**Mina Array Sit**	**89.69**	**43**	P		**P**		**09 13 39.4**	**+1.2**
NV11	comp=Z,9.6nm,1.4s				IAmb	IAmb		09 13 51.8	
TYV	**Tymovskoe**	**89.80**	**336**	*eP*		**P**		**09 13 39.6**	**+1.5**
TYV				*eS*		**S**		**09 24 30.0**	**+1.3**
TYV	comp=Z,19nm,1.4s				pmax	pmax			
TYV	comp=Z,100nm,4.3s				pmax	pmax			
TYV	comp=E,200nm,8.4s				smax	smax			
Y14A	**Wickenburg**	**89.85**	**49**	P		**P**		**09 13 40.3**	**+1.4**
PAHR	**Pah Rah Range**	**89.87**	**41**	P		**P**		**09 13 39.9**	**+0.9**
TPH	**Tonopah**	**89.99**	**44**	P		**P**		**09 13 41.0**	**+1.4**
TPH	comp=Z,41nm,1.2s				pmax	pmax			
TPH	**Tonopah**	**89.99**	**44**	P		**P**		**09 13 41.0**	**+1.4**
W13A	**Hualapai Mount**	**90.04**	**48**	P		**P**		**09 13 41.5**	**+1.5**
W13A	comp=Z,7.5nm,1.2s				IAmb	IAmb		09 13 43.7	
KVN	**Kaiserville**	**90.14**	**42**	P		**P**		**09 13 41.6**	**+1.3**
KVN	comp=Z,7.0nm,1.3s				pmax	pmax			
KVN	**Kaiserville**	**90.14**	**42**	P		**P**		**09 13 41.6**	**+1.3**
SHPR	**Sheep Range**	**90.17**	**46**	P		**P**		**09 13 42.6**	**+2.1**
MDJ	**Mudanjiang**	**90.21**	**326**	P		**P**		**09 13 41.3**	**+1.1**
MDJ				sP		pwP		09 13 52.8	+0.5
MDJ	comp=Z,12nm,1.3s				pmax	pmax			
MDJ	comp=Z,91nm,8.6s				pmax	pmax			
TUC	**Tucson**	**90.26**	**51**	P		**P**		**09 13 43.1**	**+2.2**
TUC	comp=Z,7.0nm,1.2s				pmax	pmax			
TUC	**Tucson**	**90.26**	**51**	P		**P**		**09 13 43.1**	**+2.2**
MOD	**Modoc Plateau**	**90.89**	**39**	P		**P**		**09 13 44.4**	**+0.7**
MOD	comp=Z,8.5nm,1.4s				IAmb	IAmb		09 13 57.1	
K05A	**Summer Lake**	**91.15**	**38**	P		**P**		**09 13 46.5**	**+1.6**
K05A	comp=Z,15nm,1.2s				IAmb	IAmb		09 13 48.9	
X16A	**Lo Mia Camp, P**	**91.15**	**49**	P		**P**		**09 13 46.7**	**+1.5**
X16A	comp=Z,7.8nm,1.1s				IAmb	IAmb		09 13 49.0	
LCMT	**Little Creek M**	**91.67**	**46**	P		**P**		**09 13 49.2**	**+1.8**
CN2	**Changchun**	**91.67**	**323**	*eP*		**P**		**09 13 47.3**	**+0.3**
CN2	comp=Z,10.0nm,1.1s				pmax	pmax			
PINE	**Pine Mountain**	**91.88**	**37**	P		**P**		**09 13 49.2**	**+0.9**
PINE	comp=Z,11nm,1.2s				IAmb	IAmb		09 14 02.1	
U15A	**North Rim**	**91.89**	**47**	P		**P**		**09 13 50.2**	**+1.6**
U15A	comp=Z,4.6nm,1.0s				IAmb	IAmb		09 14 03.0	
WUAZ	**Wupatki**	**91.89**	**49**	P		**P**		**09 13 49.3**	**+0.8**
WUAZ	comp=Z,12nm,1.5s				IAmb	IAmb		09 14 03.4	
KNB	**Kanab**	**91.93**	**47**	P		**P**		**09 13 50.1**	**+1.4**
KNB	comp=Z,4.0nm,1.0s				pmax	pmax			
KNB	**Kanab**	**91.93**	**47**	P		**P**		**09 13 50.1**	**+1.4**
CCUT	**Cedar City**	**91.94**	**46**	P		**P**		**09 13 50.4**	**+1.6**
CCUT	comp=Z,6.8nm,1.4s				IAmb	IAmb		09 14 04.0	
WVOR	**Wild Horse Val**	**92.15**	**40**	P		**P**		**09 13 50.9**	**+1.4**
WVOR	comp=Z,6.0nm,1.3s				pmax	pmax			
WVOR	**Wild Horse Val**	**92.15**	**40**	P		**P**		**09 13 50.9**	**+1.4**
WVOR	comp=Z,6.2nm,1.2s				IAmb	IAmb		09 14 03.0	
KLR	**Kul'dur**	**92.69**	**330**	*d*	*i*P	**P**		**09 13 52.5**	**+0.9**
KLR	comp=Z,12nm,1.5s				pmax	pmax			
I07A	**Izee**	**92.82**	**38**	P		**P**		**09 13 53.2**	**+0.6**
I07A	comp=Z,8.4nm,1.4s				IAmb	IAmb		09 14 06.2	
J08A	**Circle Bar Ran**	**92.87**	**39**	P		**P**		**09 13 53.9**	**+1.2**
J08A	comp=Z,7.8nm,1.2s				IAmb	IAmb		09 14 06.8	
ELK	**Elko**	**92.91**	**43**	P		**P**		**09 13 53.8**	**+0.6**
ELK	comp=Z,5.0nm,1.3s				pmax	pmax			
ELK	**Elko**	**92.91**	**43**	P		**P**		**09 13 53.8**	**+0.6**
MTPU	**Mount Pierson**	**92.97**	**46**	P		**P**		**09 13 55.6**	**+1.9**
MTPU	comp=Z,6.7nm,1.3s				IAmb	IAmb		09 14 08.6	
CMIG	**Matias Romero** comp=Z,137nm,18.1s,baz=210,slow=30	**93.30**	**72**	LR		LR		09 47 31.3	
TX31	**Lajitas Ar. Si**	**93.38**	**57**	P		**P**		**09 13 56.5**	**+1.1**
TX31	comp=Z,12nm,1.3s				IAmb	IAmb		09 13 58.4	
TXAR	**Lajitas Array** comp=Z,1.3nm,1.0s,baz=212,slow=4.4,SNR=8.4	**93.38**	**57**	P		**P**		**09 13 56.1**	**+0.6**
TXAR	**Lajitas Array**	**93.38**	**57**	P		**P**		**09 13 56.3**	**+0.8**
TXAR	**Lajitas Array**	**93.38**	**57**	P		**P**		**09 13 56.2**	**+0.8**
G08A	**Pilot Rock**	**93.94**	**37**	P		**P**		**09 13 58.5**	**+0.9**
G08A	comp=Z,6.9nm,1.2s				IAmb	IAmb		09 14 11.1	
CMAR	**Chiang Mai Arr** comp=Z,25nm,19.3s,baz=180,slow=38	**94.06**	**289**	LR		LR		09 59 26.8	
MFID	**Camas Ranch**	**94.34**	**40**	P		**P**		**09 13 59.9**	**+0.3**
KMI	**Kunming**	**94.71**	**297**	⇑	P	**P**		**09 14 03.8**	**+2.0**
KMI					sP	pwP		09 14 16.3	+2.3
KMI	comp=Z,30nm,0.5s				pmax	pmax			
ANMO	**Albuquerque**	**94.73**	**51**	‖	*i*P	**P**		**09 14 03.9**	**+2.3**
ANMO	comp=Z,3.0nm,1.5s				pmax	pmax			
BBB	**Bella Bella** comp=Z,85nm,20.4s,baz=234,slow=31	**94.75**	**28**	LR		LR		09 49 48.2	
F10A	**Beach Ranch, E**	**95.29**	**38**	P		**P**		**09 14 05.0**	**+1.2**
F10A	comp=Z,5.7nm,1.2s				IAmb	IAmb		09 14 16.3	
NEW	**Newport** comp=Z,186nm,21.2s,baz=222,slow=31	**96.88**	**36**	LR		LR		09 50 04.6	
SMCO	**Snowmass**	**96.89**	**48**	P		**P**		**09 14 11.6**	**0.0**
CD2	**Chengdu**	**97.12**	**302**	P		Pdif		09 14 14.0	+1.4
CD2	comp=Z,10.0nm,0.5s				pmax	pmax			
LPAZ	**La Paz** comp=Z,51nm,18.3s,baz=219,slow=33	**97.33**	**114**	LR		LR		09 54 22.8	
HHC	**Hu-ho-hao-te**	**97.57**	**314**	*eP*		Pdif		09 14 17.1	+2.7
HHC					sP	pwP		09 14 32.5	+6.0
HHC					SKS	**SKSac**		**09 24 55.3**	**+4.7**
HHC					S	**S**		**09 25 30.1**	**-8.2**
HHC	comp=Z,10.0nm,0.7s				pmax	pmax			
HHC	comp=Z,110nm,5.3s				pmax	pmax			
JTS	**Las Juntas de** comp=Z,104nm,18.2s,baz=294,slow=31	**97.93**	**83**	LR		LR		09 51 17.5	
BTO	**Baotou**	**98.38**	**313**	*eP*		Pdif		09 14 21.1	+3.1
BTO					S	**S**		**09 25 45.3**	**+0.2**
CPUP	**Villa Florida** comp=Z,66nm,18.6s,baz=218,slow=34	**98.78**	**129**	LR		LR		09 56 11.6	
LZH	**Lanzhou**	**99.88**	**306**	*eP*		**Pdif**		**09 14 26.9**	**+2.1**
LZH					pP	pwP		09 14 36.8	-0.2
LZH					sP	sP		09 14 42.1	+11
LZH	comp=Z,25nm,1.3s				pmax	pmax			
BILL	**Bilibino**	**100.73**	**354**	*eP*		**Pdif**		**09 14 29.2**	**+1.6**
BILL	comp=Z,1.0nm,1.1s				pmax	pmax			
WMQ	**Urumqi**	**114.42**	**308**	*e*PKP		**PKiKP**		**09 19 21.0**	**+1.3**
MK31	**Makanchi Array**	**119.01**	**309**	*d*	*i*PKIKP	**PKPdf**		**09 19 27.7**	**-0.7**
MK31	**Makanchi Array**	**119.01**	**309**		PKPdf	**PKPdf**		**09 19 27.5**	**-0.9**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=69,slow=4.0,SNR=7.2	**119.01**	**309**		PKP	**PKPdf**		**09 19 27.4**	**-1.0**
MKAR	**Makanchi Array**	**119.01**	**309**		PKIKP	**PKPdf**		**09 19 28.0**	**-0.4**
MKAR	**Makanchi Array**	**119.01**	**309**			**PKPdf**		**09 19 28.0**	**-0.4**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.4s,baz=59,slow=5.9,SNR=2.3	**119.46**	**318**		PKIKP	**PKPdf**		**09 19 28.1**	**-0.9**
ZALV	**Zalesovo Beam**	**119.46**	**318**			**PKPdf**		**09 19 28.4**	**-0.6**
ZALV	**Zalesovo Beam**	**119.46**	**318**			**PKPdf**		**09 19 28.4**	**-0.6**
NRIK	**Noril'sk**	**121.38**	**336**	⇑	*i*PKIKP	**PKiKP**		**09 19 34.5**	**+2.1**
KKAR	**Karatay Array**	**126.14**	**302**		PKIKP	**PKiKP**		**09 19 42.7**	**0.0**
KKAR	**Karatay Array**	**126.14**	**302**		PKPdf	**PKiKP**		**09 19 42.6**	**0.0**
BRVK	**Borovoye**	**127.84**	**315**	⇑	*i*PKIKP	**PKiKP**		**09 19 46.2**	**+0.5**
ARU	**Arti** comp=Z,0.8nm,0.3s,baz=117,slow=6.8,SNR=3.7	**134.56**	**319**		PKP	**PKPdf**		**09 19 58.0**	**+0.3**
ARU	comp=Z,0.8nm,0.3s,baz=55,slow=9.1,SNR=5.2				SKPbc	**SKPab**		**09 23 29.5**	**-0.4**
ARU	**Arti**	**134.56**	**319**	*i*	PKIKP	**PKiKP**		**09 19 58.5**	**-0.6**
ARU								09 22 31.2	
ARU	**Arti**	**134.56**	**319**			**PKiKP**		**09 19 58.5**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.5s,baz=144,slow=8.2,SNR=2.2	**135.39**	**311**		PKP	**PKPdf**		**09 19 59.2**	**-0.3**
AKTO	comp=Z,1.8nm,0.9s,baz=54,slow=8.7,SNR=5.7				SKPbc	**SKPab**		**09 23 32.4**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,0.9nm,0.7s,baz=42,slow=5.6,SNR=1.0	**140.44**	**347**		PKiKP	PKPpre		09 20 04.2	
BELG	**Belogornoye** comp=Z,12nm,0.9s,baz=110,slow=7.6,SNR=3.8	**141.58**	**315**		PKP	**PKPdf**		**09 20 10.3**	**-0.4**
BELG	**Belogornoye**	**141.58**	**315**	‖	*e*PKIKP	**PKPdf**		**09 20 10.4**	**-0.3**
KLMR	**Klimovskoe**	**142.44**	**331**		*e*PKHKP	PKPpre		09 20 05.3	
KLMR	comp=Z,13nm,1.1s				pmax	pmax			
KLMR	**Klimovskoe**	**142.44**	**331**		*e*PKPdf	**PKPdf**		**09 20 05.3**	**-6.7**
KLMR	comp=Z,13nm,1.1s				AMP			09 20 20.4	
AKT	**Akhty**	**142.70**	**297**		*e*PKIKP	**PKiKP**		**09 20 15.2**	**-1.2**
AKT					*e*			09 23 23.7	
AKT	comp=Z,11nm,1.0s				pmax	pmax			
BORG	**Borgarnes**	**144.47**	**17**		*i*PKIKP	**PKiKP**		**09 20 22.3**	**+3.2**
GNI	**Garni** comp=Z,7.9nm,0.6s,baz=98,slow=7.1,SNR=4.0	**144.95**	**295**		PKP	PKPbc		09 20 16.9	+0.3
GNI	**Garni**	**144.95**	**295**	*ce*	PKIKP	PKPbc		09 20 16.6	0.0
VRH	**Novokhopyorsk**	**145.43**	**315**		*e*PKP2	**PKPbc**		**09 20 15.5**	**-2.0**
VRH	comp=Z,30nm,1.2s				pmax	pmax			
ZEI	**Tsey**	**145.51**	**300**		*i*PKIKP	**PKPbc**		**09 20 18.3**	**-0.1**
ZEI	comp=Z,38nm,1.4s				pmax	pmax			
NCK	**Nalchik**	**145.68**	**301**	‖	*e*PKP2	**PKPdf**		**09 20 17.0**	**-1.3**
ONI	**Oni**	**145.85**	**300**		PKP2	**PKiKP**		**09 20 21.5**	**-1.3**
ONI	**Oni**	**145.85**	**300**			**PKiKP**		**09 20 21.5**	**-1.3**
MOS	**Moscow**	**145.90**	**324**		*e*PKIKP	**PKPdf**		**09 20 16.2**	**-2.0**
MOS	comp=Z,90nm,1.3s				pmax	pmax			
GOF	**Gofitskoye**	**145.91**	**304**	⇑	*i*PKP2	**PKPbc**		**09 20 19.4**	**+0.1**
GOF	comp=Z,57nm,0.8s				pmax	pmax			
KBZ	**Khabaz** comp=Z,22nm,1.0s,baz=150,slow=3.0,SNR=30	**146.17**	**302**		PKPbc	**PKPab**		**09 20 20.4**	**-0.4**
KBZ	**Khabaz**	**146.17**	**302**	*c*	*i*PKP2	**PKPbc**		**09 20 20.1**	**0.0**
KVAR	**Kislovodsk Arr** comp=Z,3.0nm,0.4s,baz=41,slow=9.3,SNR=2.4	**146.29**	**302**		PKPbc	**PKPab**		**09 20 21.1**	**-0.3**
KIV	**Kislovodsk**	**146.29**	**302**	*i*	PKP2	**PKPbc**		**09 20 20.1**	**-0.5**
KIV	comp=Z,51nm,1.1s				pmax	pmax			
KIV	comp=Z,131nm,25.0s				MLR	MLR			
NEY	**Neytrino**	**146.34**	**301**	*d*	*i*PKP2	**PKPab**		**09 20 21.8**	**+0.1**
LPSR	**Galich'ya Gora**	**146.57**	**318**		*e*PKP2	**PKPbc**		**09 20 20.9**	**-0.1**
LPSR	comp=Z,50nm,0.8s				pmax	pmax			
OBN	**Obninsk**	**146.73**	**324**	*d*	*i*PKP2	**PKPbc**		**09 20 21.3**	**0.0**
OBN					*e*			09 23 45.9	
OBN					*e*PPP	PPP		09 27 00.0	
OBN	comp=Z,25nm,1.1s				pmax	pmax			
FIA1	**FINESS Array S**	**146.93**	**339**		PKPdf	**PKPbc**		**09 20 20.9**	**-0.8**
FINES	**FINESS Array B** comp=Z,12nm,0.7s,baz=90,slow=2.5,SNR=29	**146.93**	**339**		PKPbc	**PKPbc**		**09 20 21.4**	**-0.3**
FINES	**FINESS Array B**	**146.93**	**339**		PKPdf	**PKPbc**		**09 20 20.9**	**-0.8**
VSR	**Storozhevoye**	**146.94**	**316**		*e*PKP2	**PKPbc**		**09 20 21.8**	**-0.3**
VSR	comp=Z,50nm,0.7s				pmax	pmax			
VORD	**Divnogorie**	**146.95**	**315**		*e*PKP2	**PKPbc**		**09 20 21.8**	**-0.3**
VORD	comp=Z,40nm,0.7s				pmax	pmax			
MEF	**Metsahovi**	**148.41**	**339**		*e*P	**PKPbc**		**09 20 24.9**	**-0.8**
SOC	**Sochi**	**148.48**	**302**		*e*PKIKP	**PKPdf**		**09 20 24.1**	**+1.2**
SOC					*e*			09 23 57.1	
SOC	comp=Z,25nm,0.9s				pmax	pmax			
RAF	**Rauma**	**148.50**	**342**		*e*P	**PKPdf**		**09 20 22.9**	**+0.6**
VSU	**Vasula**	**148.96**	**335**		*e*P	**PKPbc**		**09 20 27.1**	**-0.1**
VSU	**Vasula**	**148.96**	**335**	⇑	*e*PKP2	**PKPbc**		**09 20 26.5**	**-0.7**
ANN	**Anapa**	**149.88**	**305**		*i*PKP2	**PKPbc**		**09 20 29.9**	**0.0**
ANN					*e*SSS	SSS		09 48 57.8	
ANN	comp=Z,46nm,0.9s				pmax	pmax			
NOA	**NORSAR Array B** comp=Z,5.8nm,1.1s,baz=13,slow=4.1,SNR=8.5	**150.62**	**351**		PKPbc	**PKPbc**		**09 20 30.7**	**-0.6**
GAZ	**Gaziantep**	**150.80**	**289**			**PKPbc**		**09 20 32.3**	**-0.2**
IDID	**Didziasalis**	**151.18**	**330**	*e*	P	**PKiKP**		**09 20 34.9**	**+1.7**
MNK	**Minsk**	**151.22**	**328**	*i*	PKIKP	**PKPdf**		**09 20 28.8**	**+1.9**
MNK				*i*				09 24 14.2	
MNK				*i*				09 27 33.8	
MNK				*i*	PPP	PPP		09 27 38.0	
MNK				*i*	SS	SS		09 43 36.4	+3.2
MNK				*i*	SSS	SSS		09 49 20.5	
MNK	comp=E,3.0nm,0.8s				pmax	pmax			
MNK	comp=N,16nm,1.3s				pmax	pmax			
MNK	comp=Z,11nm,0.8s				pmax	pmax			
MNK	**Minsk** comp=E,3.0nm,0.8s	**151.22**	**328**	*i*	PKP	**PKPdf**		**09 20 28.8**	**+1.9**
MNK	comp=N,16nm,1.3s			*i*	PKP	**PKPdf**		**09 20 28.8**	**+1.9**
MNK	comp=Z,11nm,0.8s,baz=230			*i*	PKP	**PKPdf**		**09 20 28.8**	**+1.9**
MNK				*i*	SKP			09 23 59.6	
MNK				*i*	PKS	**PKSdf**		**09 24 03.5**	**+2.3**
MNK				*i*	PP	**PP**		**09 24 14.2**	**+2.9**
MNK				*i*	SKS	**SKSdf**		**09 27 33.8**	**+0.7**
MNK				*i*	PPP	PPP		09 27 38.0	
MNK				*i*	SKKS	**SKKSdf**		**09 36 22.7**	**-0.7**
MNK				*i*	SS	**SS**		**09 43 36.4**	**+3.2**
MNK				*i*	SSS	SSS		09 49 20.5	
MNK				*i*	LQ	LQ		10 20 50.8	
MNK				*i*	LR	LR		10 32 21.7	
IIGN	**Ignalina**	**151.37**	**331**	*e*	P	**PKiKP**		**09 20 34.3**	**+0.6**
NACGM	**Naroch**	**151.44**	**330**	*i*	PKP	**PKiKP**		**09 20 33.7**	**-0.1**
EIL	**Elat** baz=174,slow=3.9	**151.73**	**273**		PKPbc	**PKiKP**		**09 20 35.5**	**+0.3**
MMAI	**Mount Meron Ar** comp=Z,14nm,0.9s,baz=98,slow=4.3,SNR=11	**151.97**	**281**		PKPbc	**PKiKP**		**09 20 36.1**	**+0.3**
PABE	**Paberze**	**152.16**	**333**	*e*	P	**PKiKP**		**09 20 35.4**	**+0.1**
PABE	**Paberze**	**152.16**	**333**			**PKiKP**		**09 20 35.3**	**+0.1**
PABE					PKPab	**PKPab**		**09 20 44.7**	**+0.1**
AKASG	**Malin Array Be** comp=Z,4.5nm,0.6s,baz=56,slow=2.7,SNR=12	**152.81**	**321**		PKPbc	**PKiKP**		**09 20 36.6**	**-0.1**
AKBB	**Malin Array Si**	**152.81**	**321**	‖	*i*PKIKP	**PKiKP**		**09 20 38.1**	**+1.4**
AKBB	**Malin Array Si**	**152.81**	**321**			**PKPbc**		**09 20 36.5**	**0.0**
LIC	**Lamto** comp=Z,52nm,1.3s	**153.23**	**164**	*e*	P	**PKPab**		**09 20 51.7**	**+1.5**
KIC	**Kosan Boka** comp=Z,43nm,1.1s	**153.43**	**165**	*e*	P	**PKPab**		**09 20 51.5**	**+0.4**
BRTR	**Keskin Array B** comp=Z,1.7nm,0.8s,baz=123,slow=4.6,SNR=6.3	**153.49**	**295**		PKPbc	**PKiKP**		**09 20 38.8**	**0.0**
BRTR	comp=Z,5.8nm,0.8s,baz=126,slow=3.7,SNR=12				PKPab	**PKPab**		**09 20 51.0**	**-0.1**
BRTR	**Keskin Array B**	**153.49**	**295**		PKIKP	**PKPdf**		**09 20 30.9**	**-0.1**
BRTR								09 20 39.4	
BRTR								09 20 51.1	
BRTR	**Keskin Array B**	**153.49**	**295**		PKPdf	**PKPdf**		**09 20 30.9**	**-0.1**
BRTR					PKPbc	**PKiKP**		**09 20 39.4**	**+0.6**
BRTR						**PKPab**		**09 20 51.1**	**+0.1**
TIC	**Toumodi**	**153.64**	**164**	*e*	P	**PKPab**		**09 20 53.4**	**+1.4**
UZH	**Uzhgorod**	**157.67**	**323**	*e*	PKP2	PKPab		09 20 59.9	-8.5
CRVS	**Cervenica-Dubn**	**157.91**	**324**	*e*	PKP2	**PKPab**		**09 21 10.0**	**+0.6**
CLL	**Collm**	**159.37**	**340**	‖	*i*PKPab	**PKPab**		**09 21 15.3**	**-0.3**
CLL	**Collm**	**159.37**	**340**	‖	*i*PKP2	**PKPab**		**09 21 15.3**	**-0.3**
VYHS	**Vyhne**	**159.45**	**327**	*e*	PKP2	**PKPab**		**09 21 16.0**	**-0.1**
MODS	**Modra-Piesok**	**160.24**	**329**	*e*	PKP2	**PKPab**		**09 21 19.6**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,7.1nm,1.1s,baz=184,slow=3.1,SNR=9.6	**160.94**	**179**		PKPab	**PKPab**		**09 21 23.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**160.94**	**179**		PKPab	**PKPab**		**09 21 24.2**	**+0.9**
GERES	**GERESS Array B** comp=Z,0.9nm,0.7s,baz=40,slow=2.3,SNR=7.5	**161.28**	**335**		PKPab	**PKPab**		**09 21 23.4**	**-0.8**
GERES	**GERESS Array B**	**161.28**	**335**			**PKPab**		**09 21 24.0**	**-0.2**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.4s,baz=267,slow=7.7,SNR=1.4	**171.18**	**32**		PKPab	**PKPab**		**09 22 07.6**	**-0.4**

IDC 24 09:09:46.0±2.2, 15°91S×172°26W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/35, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=70.6km s-min=22.9km az=128.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 3.1nm,0.3s,baz=196,slow=15,SNR=11	**2.04**	**13**	Pn		Pn		09 10 21.7	+0.1
AFI				Sn		Sn		09 10 48.1	+0.3
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=99,slow=7.4,SNR=1.9	**50.80**	**257**	P		P		09 18 48.5	-0.1
ASAR	**Alice Springs** 0.8nm,0.8s,baz=87,slow=7.6,SNR=7.7	**51.00**	**252**	P		P		09 18 50.0	-0.2
NVAR	**Mina Array Bea** 0.1nm,0.5s,baz=225,slow=8.7,SNR=2.3	**73.97**	**41**	P		P		09 21 23.8	+0.1

IDC 24 09:14:03.5±3.9, 28°06N×85°89E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/42, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=119.5km s-min=35.7km az=75.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=171,slow=11,SNR=7.4

	comp=Z,303nm,28.2s						
TBI	**Tubuai**	**34.20**	**348**	*e*T	T	10 22 24.7	
	30nm,0.3s						
RPN	**Rapa Nui**	**38.03**	**52**	LR	LR	09 58 19.7	
	comp=Z,44nm,20.5s,baz=234,slow=28						
RAR	**Rarotonga**	**38.16**	**333**	LR	LR	10 00 07.0	
	comp=Z,58nm,19.8s,baz=131,slow=31						
MEH	**Mehetia**	**39.48**	**351**	*e*T	T	10 28 59.4	
	18nm,0.3s						
PAE	**Paea**	**39.83**	**349**	*e*T	T	10 29 15.9	
	1.3nm,0.3s						
PPT2	**Papeete2**	**39.90**	**349**	*e*LR	LR	09 58 21.5	
	comp=Z,344nm,26.5s						
PPT2	**Papeete2**	**39.90**	**349**	*e*T	T	10 29 25.2	
	2.4nm,0.3s						
PPT	**Papeete**	**39.92**	**349**	LR	LR	09 59 25.2	
	comp=Z,81nm,21.9s,baz=136,slow=29						
VAH	**Vaihoa**	**42.06**	**352**	*e*T	T	10 32 11.9	
	34nm,0.3s						
PMOR	**Pomariorio Ree**	**42.31**	**352**	*e*T	T	10 32 31.3	
	2.7nm,0.3s						
H03S2	**Juan Fernandez**	**48.07**	**89**	T	T	10 40 35.3	
	baz=219,slow=74,SNR=5.1						
H03S1	**Juan Fernandez**	**48.08**	**89**	T	T	10 40 40.7	
	baz=219,slow=74,SNR=5.9						
H03S3	**Juan Fernandez**	**48.09**	**89**	T	T	10 40 34.8	
	baz=219,slow=74,SNR=4.9						
TAOE	**Nuku Hiva Isla**	**48.24**	**3**	*e*LR	LR	10 02 20.0	
	comp=Z,185nm,28.1s						
H03N3	**Juan Fernandez**	**48.36**	**89**	T	T	10 41 04.7	
	baz=222,slow=72,SNR=9.9						
H03N2	**Juan Fernandez**	**48.37**	**89**	T	T	10 41 03.8	
	baz=222,slow=72,SNR=9.0						
H03N1	**Juan Fernandez**	**48.38**	**89**	T	T	10 41 02.2	
	baz=222,slow=72,SNR=9.1						
AFI	**Afiamalu**	**48.66**	**320**	LR	LR	10 03 58.3	
	comp=Z,60nm,21.0s,baz=138,slow=29						
DZM	**Mont Dzumac**	**51.00**	**291**	*e*LR	LR	10 04 18.3	
	comp=Z,138nm,26.0s						
MAW	**Mawson**	**54.14**	**192**	LR	LR	10 10 40.4	
	comp=Z,98nm,19.0s,baz=68,slow=34						
STKA	**Stephens Creek**	**56.51**	**262**	LR	LR	10 11 18.6	
	comp=Z,51nm,18.7s,baz=201,slow=33						
ASAR	**Alice Springs**	**67.14**	**262**	P	P	09 51 16.1	+0.1
	0.5nm,0.7s,baz=142,slow=6.9,SNR=3.4						
H01W1	**Cape Leeuwin H**	**68.12**	**239**	T	T	11 06 40.0	
	baz=144,slow=76,SNR=57						
H01W2	**Cape Leeuwin H**	**68.13**	**239**	T	T	11 06 42.3	
	baz=144,slow=76,SNR=55						
H01W3	**Cape Leeuwin H**	**68.14**	**239**	T	T	11 06 41.1	
	baz=144,slow=76,SNR=44						
WRA	**Warramunga Arr**	**69.92**	**264**	P	P	09 51 33.4	-0.1
	0.8nm,1.0s,baz=148,slow=5.9,SNR=2.6						
BOSA	**Boshof**	**93.89**	**169**	LR	LR	10 29 19.8	
	comp=Z,77nm,19.6s,baz=180,slow=31						
ESDC	**Sonseca Array**	**147.91**	**105**	PKPbc	PKPbc	10 00 06.1	-0.8
	0.2nm,0.3s,baz=238,slow=4.0,SNR=1.2						
MKAR	**Makanchi Array**	**151.16**	**268**	PKPbc	PKPbc	10 00 14.5	-0.2
	0.2nm,0.5s,baz=126,slow=3.7,SNR=2.0						

*TAP **24** 09:54:59.2,25°.27N×122°.79E,h218km±1km,ML3.6,D*
*JMA **24** 09:55:00.7±0.2,25°.21N×122°.81E,h200km±4km,M3.4*

ISC 24 09:55:00.0±1.9,**25°.25N**±0°.07×**122°.81E**±0°.03,
h205km±11km,**n70,**σ0**s57**/118,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.77**	**299**	*e*P	**Pn**	**09 55 29.0**	**+0.1**
	baz=299						
TWB1	**Santiao Chiao**	**0.78**	**252**	P	**Pn**	**09 55 29.2**	**+0.2**
	baz=250						
JYNG	**Yonagunijimaku**	**0.81**	**171**	P	**Pn**	**09 55 29.2**	**0.0**
JYNG				S	**S**	**09 55 51.4**	**-0.4**
YOJ	**Yonaguni jima**	**0.81**	**167**	P	**Pn**	**09 55 29.2**	**0.0**
YOJ				S	**S**	**09 55 51.7**	**-0.1**
YOJ	**Yonaguni jima**	**0.81**	**167**	*e*P	**Pn**	**09 55 29.6**	**+0.4**
	baz=166						
YOJ				S	**S**	**09 55 52.0**	**+0.2**
	baz=166						
TIPB	**Shuangxi**	**0.94**	**253**	*e*P	**Pn**	**09 55 30.2**	**+0.2**
	baz=251						
TIPB				*e*S	**S**	**09 55 53.5**	**+0.5**
	baz=251						
NWF	**Wu-fen Shan**	**0.95**	**259**	*e*P	**Pn**	**09 55 30.4**	**+0.3**
	baz=257						
NWF				*e*S	**S**	**09 55 53.4**	**+0.1**
	baz=257						
WFSB	**Wu-fen Shan**	**0.95**	**259**	*e*P	**Pn**	**09 55 30.4**	**+0.4**
	baz=257						
TWC	**Suao**	**1.08**	**234**	*e*P	**Pn**	**09 55 31.2**	**+0.3**
	baz=232						
TWC				S	**S**	**09 55 54.7**	**0.0**
	baz=232						
YM01	**YM01**	**1.13**	**265**	*e*P	**Pn**	**09 55 31.7**	**+0.4**
	baz=263						
TWA	**Mucha**	**1.15**	**256**	*e*P	**Pn**	**09 55 31.7**	**+0.4**
	baz=255						
TWE	**Neicheng**	**1.17**	**243**	*e*P	**Pn**	**09 55 31.7**	**+0.2**
	baz=241						
TWE				*e*S	**S**	**09 55 56.0**	**+0.4**
	baz=241						
NDS	**Dongshan**	**1.17**	**238**	*e*P	**Pn**	**09 55 31.7**	**+0.2**
	baz=237						
NDS				*e*S	**S**	**09 55 55.6**	**-0.2**
	baz=237						
EWUT	**Wuta**	**1.24**	**230**	*e*P	**Pn**	**09 55 32.5**	**+0.5**
	baz=228						
EWUT				*e*S	**S**	**09 55 56.4**	**-0.2**
	baz=228						
IRIF	**Iriomote-Funau**	**1.24**	**137**	P	**Pn**	**09 55 31.9**	**-0.2**
IRIF				S	**S**	**09 55 56.7**	**0.0**
NWLT	**Wulai**	**1.28**	**248**	*e*P	**Pn**	**09 55 32.4**	**0.0**
	baz=247						
NWLT				*e*S	**S**	**09 55 56.8**	**-0.4**
	baz=247						
ENTT	**Nioudou**	**1.28**	**242**	*e*P	**Pn**	**09 55 32.6**	**+0.2**
	baz=240						
ENTT				*e*S	**S**	**09 55 58.2**	**+0.9**
	baz=240						
NDT	**Datong Townshi**	**1.34**	**241**	*e*P	**Pn**	**09 55 33.5**	**+0.6**
	baz=240						
NDT				*e*S	**S**	**09 55 59.5**	**+1.3**
	baz=240						
YHNB	**Yeheng**	**1.43**	**246**	P	**Pn**	**09 55 33.6**	**-0.1**
	baz=245						
YHNB				*e*S	**S**	**09 55 59.4**	**0.0**
	baz=245						
JKRS	**Kuro-shima**	**1.49**	**133**	P	**Pn**	**09 55 34.4**	**+0.3**
JKRS				S	**S**	**09 55 59.6**	**-0.6**
HATJ	**Hateruma jima**	**1.50**	**143**	P	**Pn**	**09 55 34.8**	**+0.6**
HATJ				S	**S**	**09 56 00.4**	**0.0**
JIJ	**Ishigaki jima**	**1.50**	**126**	P	**Pn**	**09 55 34.1**	**-0.1**
JIJ				S	**S**	**09 55 58.9**	**-1.5**
JISG	**Ishigakijimahi**	**1.52**	**116**	P	**Pn**	**09 55 34.0**	**-0.3**
JISG				S	**S**	**09 55 59.7**	**-0.9**
ETL	**Fush Village**	**1.54**	**225**	*e*P	**Pn**	**09 55 34.5**	**0.0**
	baz=223						
ETL				*e*S	**S**	**09 56 00.8**	**-0.2**
	baz=223						
NNSB	**Datong**	**1.54**	**238**	*e*P	**Pn**	**09 55 35.1**	**+0.4**
	baz=236						
NNSB				S	**S**	**09 56 01.0**	**-0.2**
	baz=236						
NNSH	**Datong**	**1.54**	**238**	*e*P	**Pn**	**09 55 35.0**	**+0.4**
	baz=236						
NNSH				S	**S**	**09 56 00.9**	**-0.3**
	baz=236						
NNS	**Nan Shan**	**1.54**	**238**	*e*P	**Pn**	**09 55 34.9**	**+0.2**
	baz=237						
NNS				*e*S	**S**	**09 56 00.7**	**-0.5**
	baz=237						
NACB	**Ninganchiao**	**1.54**	**226**	*e*P	**Pn**	**09 55 34.6**	**0.0**
	baz=224						
NACB				*e*S	**S**	**09 56 00.2**	**-0.9**
	baz=224						
ETLH	**Xiulin Townshi**	**1.60**	**229**	*e*P	**Pn**	**09 55 35.3**	**+0.2**
	baz=228						
ETLH				*e*S	**S**	**09 56 01.1**	**-1.0**
	baz=228						
TWD	**Chiawan**	**1.61**	**224**	*e*P	**Pn**	**09 55 35.1**	**-0.1**
	baz=222						
TWD				*e*S	**S**	**09 56 01.5**	**-0.6**
	baz=222						
LIOB	**Emei**	**1.74**	**250**	*e*P	**Pn**	**09 55 36.7**	**+0.3**
	baz=248						
LIOB				*e*S	**S**	**09 56 03.9**	**-0.3**
	baz=248						
FUSS	**Fushou**	**1.74**	**235**	*e*P	**Pn**	**09 55 37.3**	**+0.6**
	baz=234						
FUSS				*e*S	**S**	**09 56 04.5**	**-0.2**
	baz=234						
ETM	**Tongmen**	**1.76**	**223**	*e*P	**Pn**	**09 55 36.3**	**-0.3**
	baz=222						
ETM				*e*S	**S**	**09 56 03.7**	**-0.8**
	baz=222						
NSTT	**Nanjuang**	**1.76**	**250**	*e*P	**Pn**	**09 55 36.6**	**+0.1**
	baz=248						
NSTT				*e*S	**S**	**09 56 03.9**	**-0.6**
	baz=248						
TEYL	**Yanliau Villag**	**1.77**	**219**	*e*P	**Pn**	**09 55 36.8**	**+0.1**
	baz=218						
TEYL				*e*S	**S**	**09 56 04.6**	**-0.1**
	baz=218						
WHF	**Hehuan Shan**	**1.79**	**232**	*e*P	**Pn**	**09 55 37.9**	**+0.6**
	baz=230						
WHF				*e*S	**S**	**09 56 05.5**	**-0.3**
	baz=230						
TDCB	**Techi**	**1.80**	**237**	*e*P	**Pn**	**09 55 37.9**	**+0.8**
	baz=235						
TDCB				*e*S	**S**	**09 56 05.6**	**0.0**
	baz=235						
JTJ	**Tarama**	**1.82**	**109**	P	**Pn**	**09 55 37.6**	**+0.4**
JTJ				S	**S**	**09 56 05.1**	**-0.5**
CHGB	**Renai**	**1.91**	**232**	*e*P	**Pn**	**09 55 39.2**	**+1.0**
	baz=230						
CHGB				*e*S	**S**	**09 56 08.4**	**+0.9**
	baz=230						
ESL	**Shilin**	**1.91**	**221**	*e*P	**Pn**	**09 55 37.6**	**-0.4**
	baz=220						
TEGC	**Jichi Village**	**1.93**	**217**	*e*P	**Pn**	**09 55 38.4**	**+0.2**
	baz=216						
TEGC				*e*S	**S**	**09 56 07.4**	**-0.1**
	baz=216						
OWD	**Renai**	**1.97**	**229**	*e*P	**Pn**	**09 55 39.5**	**+0.6**
	baz=228						
OWD				*e*S	**S**	**09 56 08.2**	**-0.3**
	baz=228						
EGFH	**Guangfu**	**2.02**	**219**	*e*P	**Pn**	**09 55 39.3**	**+0.1**
	baz=217						
EGFH				*e*S	**S**	**09 56 08.5**	**-0.7**
	baz=217						
WPL	**Puli Township**	**2.09**	**234**	*e*P	**Pn**	**09 55 40.0**	**+0.1**
	baz=233						
WCS	**Beigang Elemen**	**2.10**	**236**	*e*P	**Pn**	**09 55 40.7**	**+0.7**
	baz=234						
WCS				*e*S	**S**	**09 56 10.1**	**-0.5**
	baz=234						
HGSD	**Ruisui**	**2.16**	**216**	*e*P	**Pn**	**09 55 40.6**	**0.0**
	baz=215						
JIRB	**Irabujima**	**2.18**	**101**	P	**Pn**	**09 55 41.1**	**+0.3**
JIRB				S	**S**	**09 56 10.8**	**-1.3**
EHY	**Hungye**	**2.21**	**218**	*e*P	**Pn**	**09 55 41.2**	**+0.1**
	baz=217						
EHY				*e*S	**S**	**09 56 11.8**	**-0.8**
	baz=217						
SMLT	**Sun Moon Lake**	**2.21**	**232**	*e*P	**Pn**	**09 55 41.8**	**+0.5**
	baz=231						
TYC	**Yuchr**	**2.23**	**233**	*e*P	**Pn**	**09 55 42.1**	**+0.8**
	baz=232						
TYC				*e*S	**S**	**09 56 13.5**	**+0.6**
	baz=232						
JIKM	**Ikemajima**	**2.23**	**98**	P	**Pn**	**09 55 42.2**	**+0.9**
JIKM				S	**S**	**09 56 12.5**	**-0.5**
SSLB	**Suanglung**	**2.23**	**230**	*e*P	**Pn**	**09 55 42.3**	**+0.9**
	baz=228						
SSLB				*e*S	**S**	**09 56 13.2**	**0.0**
	baz=228						
JMJ	**Miyako jima 2**	**2.29**	**100**	*e*P	**Pn**	**09 55 42.9**	**+0.9**
	baz=101						
JMJ				*e*S	**S**	**09 56 14.6**	**+0.5**
	baz=101						
YULB	**Yu-li**	**2.31**	**217**	*e*P	**Pn**	**09 55 41.9**	**-0.3**
	baz=216						
YULB				*e*S	**S**	**09 56 13.8**	**-0.9**
	baz=216						
EYUL	**Yuli**	**2.34**	**216**	*e*P	**Pn**	**09 55 42.5**	**+0.1**
	baz=215						
JMJ2	**Miyako jima3**	**2.34**	**102**	P	**Pn**	**09 55 43.1**	**+0.6**
JMJ2				S	**S**	**09 56 14.6**	**-0.4**
TWF1	**Yuli**	**2.34**	**216**	*e*P	**Pn**	**09 55 42.7**	**+0.1**
	baz=215						
JOGS	**Gusukube**	**2.41**	**101**	P	**Pn**	**09 55 44.3**	**+1.1**
JOGS				S	**S**	**09 56 16.1**	**-0.2**
YUS	**Yu-Shan**	**2.44**	**224**	*e*P	**Pn**	**09 55 45.6**	**+1.4**
	baz=223						
FULB	**Fuli**	**2.47**	**214**	*e*P	**Pn**	**09 55 44.9**	**+0.9**
	baz=213						
ALS	**Alishan**	**2.52**	**227**	*e*P	**Pn**	**09 55 45.7**	**+0.9**
	baz=225						
CHN5	**Tsauling**	**2.55**	**230**	*e*P	**Pn**	**09 55 45.7**	**+0.8**
	baz=229						
ELDTW	**Lidau**	**2.63**	**219**	*e*P	**Pn**	**09 55 46.2**	**+0.4**
	baz=217						
EDH	**Donghe**	**2.66**	**212**	*e*P	**Pn**	**09 55 46.1**	**+0.1**
	baz=210						
CHN4	**Tsaushan**	**2.77**	**227**	*e*P	**Pn**	**09 55 47.9**	**+0.5**
	baz=226						
TPUB	**Ta-pu**	**2.78**	**226**	*e*P	**Pn**	**09 55 48.0**	**+0.5**
	baz=225						
TWK	**Hsinying**	**2.90**	**227**	*e*P	**Pn**	**09 55 49.5**	**+0.6**
	baz=226						
CHN1	**Nanshi**	**2.93**	**226**	*e*P	**Pn**	**09 55 50.2**	**+1.0**
	baz=224						
LYJJ	**Jianjiangzhen**	**3.04**	**296**	*e*P	**Pn**	**09 55 49.6**	**-0.7**
	baz=295						
PHUB	**P'eng-hu**	**3.42**	**240**	*e*P	**Pn**	**09 55 55.0**	**0.0**
	baz=239						
PHUB				*e*S	**S**	**09 56 35.9**	**-1.6**
	baz=239						

IDC 24 09:55:18.1±1.9,**15°.74S**×**167°.54E**,**h0**km,**mb3.6**/3,
mb1 3.9/4,**mb1mx3.6**/32,**mbtmp3.6**/4,**ML3.8**/1,**Error ellipse: s-maj=50.9km s-min=29.5km az=114.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.38**	**189**	Pn	Pn	09 56 53.8	+0.2
	1.9nm,0.3s,baz=350,slow=20,SNR=12						
DZM				Sn	Sn	09 58 07.5	+0.3
	1.0nm,0.3s,baz=76,slow=23,SNR=3.7						
WRA	**Warramunga Arr**	**31.84**	**257**	P	P	10 01 44.3	-0.7
	1.5nm,1.2s,baz=89,slow=9.0,SNR=2.3						
ASAR	**Alice Springs**	**32.57**	**251**	P	P	10 01 52.0	+0.5
	0.6nm,0.8s,baz=83,slow=8.6,SNR=5.3						
ILAR	**Eielson Array**	**87.40**	**18**	P	P	10 08 06.8	0.0
	0.6nm,0.8s,baz=229,slow=5.8,SNR=6.7						

IDC 24 10:01:38.0±3.4,**0°.82N**×**97°.51E**,**h0**km,**mb3.6**/3,**mb1 3.7**/3,
mb1mx3.3/55,**mbtmp3.6**/3,**MS3.2**/1,**Ms1 3.2**/1,
ms1mx2.5/50,**Error ellipse: s-maj=100.7km s-min=35.5km az=57.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.33**	**251**	T	T	10 34 30.1	
	baz=72,slow=76,SNR=118						
H08S3	**Diego Garcia H**	**26.34**	**251**	T	T	10 34 47.9	
	baz=72,slow=76,SNR=126						
H08S1	**Diego Garcia H**	**26.35**	**251**	T	T	10 34 48.9	
	baz=72,slow=76,SNR=102						
FITZ	**Fitzroy Crossi**	**33.45**	**126**	LR	LR	10 21 33.2	
	comp=Z,45nm,20.4s,baz=136,slow=36						
H01W3	**Cape Leeuwin H**	**38.78**	**158**	T	T	10 50 14.7	
	baz=334						
H01W2	**Cape Leeuwin H**	**38.79**	**158**	T	T	10 50 20.0	
	baz=334						
H01W1	**Cape Leeuwin H**	**38.80**	**158**	T	T	10 50 16.8	
	baz=334						
WRA	**Warramunga Arr**	**41.57**	**122**	P	P	10 09 27.7	-0.2
	0.5nm,0.8s,baz=300,slow=9.0,SNR=2.2						
KSRS	**Korea Array**	**45.98**	**34**	P	P	10 10 03.0	-0.2
	0.4nm,0.6s,baz=224,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**47.68**	**346**	P	P	10 10 16.1	-0.2
	0.8nm,0.7s,baz=162,slow=8.5,SNR=6.2						

IDC 24 10:04:14.9±2.9,**53°.57N**×**87°.64E**,**h0**km,**mb1 2.9**/2,
mb1mx2.8/61,**mbtmp2.9**/2,**ML2.6**/2,**Error ellipse: s-maj=25.8km s-min=15.5km az=65.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**284**	*i*		10 15 13.2	
	baz=102,slow=311,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.72**	**284**	Pn	Pn	10 04 46.2	+0.2
	0.8nm,0.3s,baz=105,slow=12,SNR=8.0						
ZALV				Lg	Lg	10 05 09.4	
	1.4nm,0.3s,baz=102,slow=28,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.34**	**246**	Pn	Pn	10 05 49.6	+0.1
	0.1nm,0.3s,baz=63,slow=13,SNR=3.5						
KURBB				Lg	Lg	10 07 35.9	
	0.0nm,0.3s,baz=58,slow=33,SNR=5.8						
MKAR	**Makanchi Array**	**7.60**	**209**	Pn	Pn	10 06 08.1	+1.2
	0.2nm,0.3s,baz=30,slow=14,SNR=9.0						
MKAR				Sn	Sn	10 07 34.6	+0.9
	0.1nm,0.3s,baz=21,slow=21,SNR=3.3						
MKAR				Lg	Lg	10 08 14.5	
	0.1nm,0.3s,baz=27,slow=30,SNR=6.1						

NNC 24 10:09:04.8±1.0,**51°.69N**×**75°.79E**,**h0**km,**mb3.6**,**mpv3.1**,
5C-2D,**Error ellipse: s-maj=23.4km s-min=6.2km az=28.0**,**Suspected Mining explosion.**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.03**	**121**	⇑Pn	Pn	10 09 40.8	+0.5
	5.3nm,0.3s,baz=300,slow=17						
KURBB				⇓Sn	Sn	10 10 07.4	+1.0
	29nm,0.5s,baz=308,slow=27						
BRVK	**Borovoye**	**3.64**	**294**	⇑Sn	Sn	10 10 46.9	+0.9
	1.0nm,0.4s						
BRVK				⇑Lg	Lg	10 11 00.4	
	1.9nm,0.4s						
MAKZ	**Makanchi**	**6.35**	**138**	⇓Lg	Lg	10 12 24.5	
	2.7nm,0.8s						
MK31	**Makanchi Array**	**6.49**	**137**	⇑Sn	Sn	10 11 56.0	-0.3
	0.2nm,0.3s						
MK31				⇑Lg	Lg	10 12 30.1	
	1.3nm,0.6s,baz=339,slow=27,SNR=7.1						

IDC 24 10:12:14.4±28.0,**5°.19N**×**127°.40E**,**h0**km,**mb3.9**/4,
mb1 4.1/4,**mb1mx3.6**/38,**mbtmp3.9**/4,**MS3.9**/2,**Ms1 3.9**/2,
ms1mx2.7/47,**Error ellipse: s-maj=475.0km s-min=93.3km az=155.0,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.21**	**184**	P	P	10 17 24.2	+1.0
	1.1nm,0.6s,baz=358,slow=10,SNR=9.4						
WRA	**Warramunga Arr**	**25.89**	**165**	P	P	10 17 47.5	-0.8
	1.4nm,0.3s,baz=344,slow=10,SNR=88						
ASAR	**Alice Springs**	**29.38**	**168**	P	P	10 18 19.1	-0.4
	0.4nm,0.4s,baz=358,slow=8.3,SNR=8.8						
STKA	**Stephens Creek**	**39.27**	**161**	P	P	10 19 45.3	+0.3
	1.3nm,0.3s,baz=341,slow=8.8,SNR=11						
ASAJ	**Asahikawa**	**41.01**	**17**	LR	LR	10 36 42.8	
	comp=Z,393nm,20.3s,baz=344,slow=36						
PALK	**Pallekele**	**46.45**	**275**	LR	LR	10 43 13.2	
	comp=Z,61nm,19.5s,baz=270,slow=40						

*IDC **24** 10:15:04.1±2.3,5°.75N×123°.91E,h501km±22km,mb2.9/5,*
mb1 3.0/5,mb1mx2.7/41,mbtmp3.8/5,Error ellipse:
s-maj=103.7km s-min=14.1km az=68.0

ISC 24 10:15:03.7±0.9,**5°.9N**±0°.2×**124°.2E**±0°.5,**h500**km,**n6,**
σ0**s62**/9,**mb3.5**/5,**1C**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.44**	**37**⇑	*e*P	**P**	**10 16 06.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.84**	**177**	P	**P**	**10 19 36.5**	**-0.5**
	1.3nm,0.8s,baz=18,slow=6.4,SNR=1.6						
WRA	**Warramunga Arr**	**27.50**	**159**	P	**P**	**10 20 08.8**	**-0.7**
	0.5nm,0.8s,baz=336,slow=9.3,SNR=2.3						
WRA				ScP	**ScP**	**10 26 04.6**	**-0.3**
	0.4nm,0.5s,baz=337,slow=2.8,SNR=10						
ASAR	**Alice Springs**	**30.83**	**162**	P	**P**	**10 20 39.2**	**+0.9**
	1.0nm,0.5s,baz=339,slow=7.5,SNR=21						
ASAR				PcP	**PcP**	**10 23 19.9**	**-0.5**
	0.6nm,0.6s,baz=338,slow=2.2,SNR=5.4						
ASAR				ScP	**ScP**	**10 26 15.7**	**0.0**
	0.5nm,0.5s,baz=335,slow=2.8,SNR=5.1						
SONM	**Songino Array**	**44.52**	**343**	P	**P**	**10 22 30.7**	**+0.5**
	0.4nm,0.5s,baz=152,slow=6.5,SNR=1.5						
MKAR	**Makanchi Array**	**54.39**	**326**	P	**P**	**10 23 42.7**	**-0.3**
	1.4nm,0.6s,baz=124,slow=7.2,SNR=15						

ISC 24 10:19:54.3±1.3,**49°.04N**±0°.07×**18°.13E**±0°.06,**h10**km,**n6,**
σ0**s47**/9,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.35**	**240**	*e*PG	**Pg**	**10 20 01.0**	**-0.4**
JAVC				*e*SG	**Sg**	**10 20 06.7**	**+0.7**
KOLL	**Kolacno**	**0.49**	**159**	*e*PG	**Pg**	**10 20 03.8**	**-0.1**
KOLL				*e*SG	**Sg**	**10 20 10.8**	**+0.4**
VYHS	**Vyhne**	**0.71**	**139**	*e*PG	**Pg**	**10 20 08.0**	**-0.1**
VYHS				*e*SG	**Sb**	**10 20 18.2**	**-0.6**
MORC	**Moravsky Berou**	**0.84**	**333**	*e*PG	**Pb**	**10 20 11.3**	**+0.3**
MODS	**Modra-Pìesok**	**0.87**	**221**	*e*PG	**Pn**	**10 20 12.6**	**-0.1**
VRAC	**Vranov**	**1.05**	**286**	*e*PG	**Pg**	**10 20 14.1**	**-0.3**

*IDC **24** 10:32:48.1±0.5,9°.25S×125°.04E,h0km,mb4.6/22,*
mb1 4.7/23,mb1mx4.5/48,mbtmp4.6/23,ML4.6/1,MS3.7/13,
Ms1 3.7/13,ms1mx3.4/36,Error ellipse: s-maj=16.3km
s-min=11.9km az=85.0
*NEIC **24** 10:32:52.8±1.7,9°.44S±0°.06×125°.20E±0°.05,h40km±6km,*
mb4.8/49,Error ellipse: s-maj=8.9km s-min=7.8km
az=171.0
*DJA **24** 10:32:54.2±0.2,10°.5±2°.×12°.5E±°,h51km±3km,M4.7/45,*
mB5.2/15,mb4.9/45,MLv4.9/12,Mw(mB)4.5/15

ISC 24 10:32:52.3±0.3,**9°.51S**±0°.04×**125°.12E**±0°.04,**h33**km,**n189,**
σ1**s73**/196,**mb4.8**/59,**MS3.8**/12,**2C-1D**,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.88**	**254**	Pn	**Pb**	**10 33 10.2**	**+1.1**
SOEI				Sn	**Sb**	**10 33 24.5**	**+3.9**
SOEI	**Soe**	**0.88**	**254**	P	**Pb**	**10 33 10.1**	**+1.0**
SOEI				S	**Sn**	**10 33 20.4**	**+0.4**
BATI	**Baumata**	**1.59**	**244**	Pn	**Pb**	**10 33 20.4**	**-0.7**
	190nm,0.3s,baz=100,slow=1.1,SNR=133						
BATI				Sn	**Sb**	**10 33 43.0**	**+2.0**
	388nm,0.3s,baz=315,slow=8.2,SNR=7.7						
BATI	**Baumata**	**1.59**	**244**	P	**Pb**	**10 33 20.0**	**-1.2**
BATI				S	**Sn**	**10 33 38.7**	**+1.0**
MMRI	**Maumere**	**2.97**	**287**	Pn	**Pn**	**10 33 38.6**	**+1.4**
MMRI	**Maumere**	**2.97**	**287**	P	**Pn**	**10 33 38.3**	**+1.1**

FITZ	**Fitzroy Crossi**	**8.55**	**177**	Pn		**Pn**	**10 34 53.4**	**-0.5**
	13nm,0.3s,baz=3.0,slow=11,SNR=137							
FITZ				Sn		**Sn**	**10 36 23.6**	**-5.7**
	39nm,0.3s,baz=163,slow=6.3,SNR=15							
FITZ				LR		LR	10 38 50.2	
	comp=Z,418nm,18.7s,baz=359,slow=41							
FITZ	**Fitzroy Crossi**	**8.55**	**177**	Pn		**Pn**	**10 34 54.7**	**+0.8**
LUWI	**Luwuk**	**8.73**	**344**	Pn		**Pn**	**10 34 55.5**	**-0.7**
LUWI	**Luwuk**	**8.73**	**344**	P		**Pn**	**10 34 58.0**	**+1.7**
	3µm336nm,0.9s							
KLNI	**Mataram**	**8.98**	**276**	P		**Pn**	**10 34 59.0**	**-0.7**
	34nm,0.7s							
APSI	**Ampana**	**9.21**	**338**	P		**Pn**	**10 35 05.3**	**+2.4**
	699nm80nm,0.9s							
KHKI	**Kahang-Kahang**	**9.46**	**276**	P		**Pn**	**10 35 06.9**	**+0.5**
	65nm,1.0s							
FAKI	**Fak Fak**	**9.65**	**48**	Pn		**Pn**	**10 35 08.5**	**-0.4**
GTOI	**Gorontalo**	**10.29**	**348**	P		**Pn**	**10 35 22.2**	**+4.5**
	16nm,0.7s							
MRSI	**Marisa**	**10.41**	**342**	P		**Pn**	**10 35 21.6**	**+2.2**
	646nm47nm,0.9s							
TNTI	**Ternate**	**10.45**	**12**	P		**Pn**	**10 35 22.6**	**+2.6**
	30nm,1.0s							
SIJI	**Sorong**	**10.54**	**36**	Pn		**Pn**	**10 35 24.0**	**+2.9**
	2.0nm,0.3s,baz=287,slow=24,SNR=2.2							
BYJI	**Banyuwangi**	**10.71**	**276**	P		**Pn**	**10 35 24.1**	**+0.6**
	490nm,0.8s							
JAGI	**Jajag, Banyuwa**	**10.88**	**275**	P		**Pn**	**10 35 25.8**	**0.0**
	126nm,0.7s							
MPSI	**Mapaga**	**11.07**	**332**	P		**Pn**	**10 35 31.0**	**+2.5**
	632nm33nm,1.2s							
TOLI2	**Tolitoli**	**11.40**	**338**	Pn		Pn	10 35 38.5	+5.6
BBKI	**Banjar Baru**	**11.84**	**300**	P		**Pn**	**10 35 39.7**	**+0.7**
	25nm,1.3s							
PSA00	**Pilbara Seismi**	**13.02**	**202**			**Pn**	**10 35 54.0**	**-1.1**
PSA00	**Pilbara Seismi**	**13.02**	**202**			**Pn**	**10 35 54.2**	**-0.9**
PWJI	**Pagerwojo**	**13.24**	**275**	P		**Pn**	**10 35 56.5**	**-1.6**
	50nm,0.7s							
MTKI	**Muara Teweh, K**	**13.26**	**309**	P		**Pn**	**10 35 59.9**	**+1.5**
	6µm20nm,0.5s							
SJI	**Sawahan**	**13.32**	**277**	P		**Pn**	**10 35 58.5**	**-0.7**
	49nm,0.8s							
WB0	**Warramunga Arr**	**13.58**	**140**			**Pn**	**10 35 59.9**	**-2.8**
WRA	**Warramunga Arr**	**13.67**	**140**	Pn		**Pn**	**10 36 01.3**	**-2.7**
	4.9nm,0.3s,baz=318,slow=13,SNR=214							
WRA				Sn		Sn	10 38 23.7	-11
	4.7nm,0.3s,baz=305,slow=24,SNR=18							
WRA	**Warramunga Arr**	**13.67**	**140**			**Pn**	**10 36 00.8**	**-3.2**
WRAB	**Tennant Creek**	**13.67**	**140**			**Pn**	**10 36 01.8**	**-2.2**
WB2	**Warramunga Arr**	**13.68**	**140**			**Pn**	**10 36 01.3**	**-2.8**
WR0	**Warramunga Arr**	**13.81**	**140**	Pn		**Pn**	**10 36 03.1**	**-2.8**
PCJI	**Pacitan**	**13.84**	**274**	P		**Pn**	**10 36 05.0**	**-1.2**
SMRI	**Semarang**	**14.73**	**278**	P		**Pn**	**10 36 16.5**	**-1.9**
	97nm,0.9s							
CTJI	**Waduk Cacaban**	**15.96**	**278**	P		**Pn**	**10 36 32.5**	**-2.1**
	23nm,0.6s							
KPJI	**Karang Pucung**	**16.16**	**276**	P		**Pn**	**10 36 34.8**	**-2.3**
	82nm,0.8s							
AS31	**Alice Springs**	**16.39**	**150**	P		**Pn**	**10 36 38.7**	**-1.4**
ASAR	**Alice Springs**	**16.39**	**150**	Pn		**Pn**	**10 36 37.8**	**-2.3**
	4.0nm,0.3s,baz=319,slow=11,SNR=240							
ASAR				Sn		Sn	10 39 28.9	-12
	1.0nm,0.3s,baz=314,slow=21,SNR=10							
ASAR				LR		LR	10 43 49.6	
	comp=Z,337nm,20.2s,baz=323,slow=40							
ASAR	**Alice Springs**	**16.39**	**150**	P		**Pn**	**10 36 38.5**	**-1.5**
STKI	**Sintang**	**16.58**	**304**	P		**Pn**	**10 36 43.2**	**+0.8**
CISI	**Cisompet, Garu**	**17.22**	**275**	P		**Pn**	**10 36 50.7**	**+0.2**
CISI				IAmb		IAmb	10 36 53.4	
	comp=Z,63nm,0.9s							
CISI	**Cisompet, Garu**	**17.22**	**275**	P		**Pn**	**10 36 50.3**	**-0.2**
	comp=Z,67nm,0.7s							
LEM	**Lembang**	**17.53**	**277**	P		**Pn**	**10 36 54.1**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=16,slow=22,SNR=3.6							
CBJI	**Citeko**	**18.35**	**278**	P		**P**	**10 37 01.3**	**-2.9**
	comp=Z,10µmcomp=Z,230nm,0.8s							
XMIS	**Christmas Isla**	**19.20**	**265**	P		**P**	**10 37 13.5**	**0.0**
XMIS				IAmb		IAmb	10 37 16.1	
	comp=Z,81nm,0.9s							
CGJI	**Cibinong**	**19.45**	**277**	P		**P**	**10 37 14.1**	**-2.2**
	comp=Z,99nm,0.8s							
KASI	**Kota Agung**	**20.82**	**279**	P		**P**	**10 37 30.5**	**-0.7**
	comp=Z,61nm,0.7s							
MORW	**Morawa**	**21.24**	**202**	P		**P**	**10 37 36.5**	**+0.8**
FORT	**Forrest**	**21.34**	**173**	P		**P**	**10 37 38.8**	**+2.1**
MDSI	**Maura Dua**	**21.37**	**282**	P		**P**	**10 37 37.3**	**+0.2**
	comp=Z,8.8nm,0.8s							
PMG	**Port Moresby**	**21.74**	**92**	LR		LR	10 47 54.9	
	comp=Z,335nm,19.2s,baz=254,slow=42							
PMG	**Port Moresby**	**21.74**	**92**	P		**P**	**10 37 42.7**	**+1.6**
	comp=Z,50nm,1.0s							
CTA	**Charters Tower**	**22.95**	**120**	P		**P**	**10 37 57.3**	**+3.2**
	comp=Z,19nm,0.9s,baz=296,slow=11,SNR=14							
CTAO	**Charters Tower**	**22.95**	**120**	P		**P**	**10 37 52.6**	**-1.4**
CTAO				IAmb		IAmb	10 37 58.7	
	comp=Z,29nm,1.0s							
NWAO	**Narrogin (SRO)**	**24.42**	**196**	P		**P**	**10 38 09.2**	**+1.3**
	comp=Z,9.5nm,0.8s,baz=28,slow=7.3,SNR=2.6							
BBOO	**Buckleboo**	**25.30**	**158**	P		**P**	**10 38 15.6**	**-0.3**
BBOO				IAmb		IAmb	10 38 40.6	
	comp=Z,27nm,0.9s							
STKA	**Stephens Creek**	**27.00**	**148**	P		**P**	**10 38 33.6**	**+2.3**
	comp=Z,6.8nm,0.6s,baz=324,slow=9.1,SNR=17							
STKA				LR		LR	10 50 35.3	
	comp=Z,230nm,19.4s,baz=308,slow=39							
STKA	**Stephens Creek**	**27.00**	**148**	P		**P**	**10 38 30.9**	**-0.3**
TPUB	**Ta-pu**	**32.90**	**352**	P		**P**	**10 39 21.9**	**-1.7**
UTTA	**Uttaradit**	**36.36**	**318**	P		**P**	**10 39 54.6**	**+1.0**
	comp=Z,20nm,0.8s							
CM31	**Chiang Mai Arr**	**37.94**	**317**	P		**P**	**10 40 06.6**	**-0.4**
CM31				IAmb		IAmb	10 40 14.4	
	comp=Z,11nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.94**	**317**	P		**P**	**10 40 06.7**	**-0.3**
	comp=Z,7.6nm,0.8s,baz=144,slow=6.6,SNR=23							
CMAR				PcP		**PcP**	**10 42 24.4**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=160,slow=3.0,SNR=5.7							
CMAR				LR		LR	10 59 28.5	
	comp=Z,78nm,18.5s,baz=185,slow=42							
CMAR	**Chiang Mai Arr**	**37.94**	**317**	P		**P**	**10 40 05.8**	**-1.2**
CMMT	**Chiang Mai**	**38.19**	**317**	P		**P**	**10 40 07.9**	**-1.2**
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**38.19**	**317**	P		**P**	**10 40 08.9**	**-0.2**
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**38.19**	**317**	P		**P**	**10 40 08.5**	**-0.7**
CHTO				IAmb		IAmb	10 40 09.6	
	comp=Z,14nm,1.0s							
CHTO	**Chiang Mai**	**38.19**	**317**	P		**P**	**10 40 08.4**	**-0.7**
	comp=Z,9.0nm,0.9s							
LHI	**Lord Howe Isla**	**38.35**	**130**	P		**P**	**10 40 08.4**	**-1.9**
GYA	**Guiyang**	**39.99**	**334**	⇓P		**P**	**10 40 24.1**	**-0.1**
GYA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KMI	**Kunming**	**40.75**	**328**	⇑P		**P**	**10 40 33.5**	**+2.9**
KMI				pP		pP	10 40 40.9	+0.4
KMI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
JSU	**Suzuyama**	**41.10**	**7**	P		**P**	**10 40 33.3**	**+0.1**
NJ2	**Nanjing**	**41.76**	**352**	*eP*		**P**	**10 40 40.3**	**+1.8**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
JMN	**Monobe**	**43.80**	**11**	P		**P**	**10 40 55.1**	**0.0**
JMN				IAmb		IAmb	10 40 57.9	
	comp=Z,14nm,0.9s							
JHS	**Saijyo**	**44.91**	**9**	P		**P**	**10 41 04.4**	**+0.5**
JHS				IAmb		IAmb	10 41 12.2	
	comp=Z,24nm,1.2s							
JWT	**Wachi**	**45.59**	**12**	P		**P**	**10 41 08.9**	**-0.5**
JWT				IAmb		IAmb	10 41 10.4	
	comp=Z,12nm,0.8s							
XAN	**Xi'an**	**45.96**	**341**	P		**P**	**10 41 10.4**	**-1.9**
XAN				pP		pP	10 41 18.0	-4.3
XAN				sP		sP	10 41 24.3	-1.5
XAN				pmax		pmax		
	comp=Z,8.0nm,1.3s							
XAN	**Xi'an**	**45.96**	**341**	P		**P**	**10 41 11.3**	**-1.0**
KSAR	**Wonju Array Be**	**46.77**	**3**	P		**P**	**10 41 17.5**	**-1.1**
KSRS	**Korea Array**	**46.79**	**3**	P		**P**	**10 41 17.8**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=178,slow=9.3,SNR=19							
KSRS				PcP		**PcP**	**10 42 52.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=194,slow=3.6,SNR=2.1							
KSRS				LR		LR	11 03 21.3	
	comp=Z,18nm,19.4s,baz=320,slow=39							
MJAR	**Matsushiro Arr**	**47.43**	**14**	P		**P**	**10 41 21.7**	**-2.1**
	comp=Z,6.6nm,0.7s,baz=188,slow=8.7,SNR=15							
MJAR				LR		LR	11 00 44.2	
	comp=Z,30nm,20.2s,baz=180,slow=36							

MJAR	**Matsushiro Arr**	**47.43**	**14**	P		**P**	**10 41 22.0**	**-1.8**
MAJO	**Matsushiro**	**47.43**	**14**	P		**P**	**10 41 21.9**	**-1.9**
MAJO				IAmb		IAmb	10 41 23.4	
	comp=Z,7.7nm,0.8s							
MAT	**Matsushiro**	**47.43**	**14**	P		**P**	**10 41 21.8**	**-2.0**
MAT				*eS*		**S**	**10 48 21.2**	**+5.2**
MJB9	**Matsu-Tunnel**	**47.43**	**14**	P		**P**	**10 41 22.1**	**-1.7**
SHL	**Shillong**	**47.56**	**318**	P		**P**	**10 41 23.1**	**-2.1**
SHL				IAmb		IAmb	10 41 24.1	
	comp=Z,14nm,0.9s							
LZH	**Lanzhou**	**49.58**	**337**	*eP*		**P**	**10 41 39.6**	**-0.9**
LZH				pP		pP	10 41 50.9	+0.3
LZH				sP		sP	10 41 56.9	+2.8
LZH				pmax		pmax		
	comp=Z,24nm,1.3s							
BJT	**Baijiatuan**	**49.97**	**351**	P		**P**	**10 41 40.6**	**-2.6**
BJT				IAmb		IAmb	10 41 44.2	
	comp=Z,5.8nm,0.6s							
LSA	**Lhasa**	**50.88**	**321**	P		**P**	**10 41 50.0**	**-0.9**
ODAN	**Odare**	**51.45**	**316**	*eP*		**P**	**10 41 53.5**	**-1.4**
	comp=Z,31nm,0.7s							
TAPN	**Taplejung**	**51.54**	**316**	*eP*		**P**	**10 41 53.7**	**-2.0**
	comp=Z,26nm,0.9s							
HHC	**Hu-ho-hao-te**	**51.64**	**347**	*eP*		**P**	**10 41 58.9**	**+3.0**
HHC				pmax		pmax		
	comp=Z,11nm,0.7s							
HHC				pmax		pmax		
	comp=Z,120nm,5.9s							
RAMN	**Ramite**	**52.05**	**315**	*eP*		**P**	**10 41 58.3**	**-1.1**
	comp=Z,44nm,0.6s							
GUN	**Gumba**	**53.15**	**316**	*eP*		**P**	**10 42 06.2**	**-1.5**
	comp=Z,44nm,0.7s							
PKI	**Pulchoki**	**53.27**	**315**	*eP*		**P**	**10 42 06.6**	**-1.9**
PKIN	**Phulchoki**	**53.28**	**315**	*eP*		**P**	**10 42 07.0**	**-1.5**
	comp=Z,14nm,0.4s							
USA0B	**Ussuriysk Arra**	**53.81**	**6**	P		**P**	**10 42 09.9**	**-1.8**
USA0B				IAmb		IAmb	10 42 11.4	
	comp=Z,7.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**53.81**	**6**	P		**P**	**10 42 10.7**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=191,slow=7.6,SNR=26							
USRK	**Ussuriysk Ar.**	**53.81**	**6**	P		**P**	**10 42 10.5**	**-1.3**
MDJ	**Mudanjiang**	**54.02**	**4**	P		**P**	**10 42 12.6**	**-0.7**
MDJ				sP		sP	10 42 29.0	+2.2
MDJ				pmax		pmax		
	comp=Z,12nm,0.8s							
MDJ	**Mudanjiang**	**54.02**	**4**	P		**P**	**10 42 12.0**	**-1.3**
MDJ				IAmb		IAmb	10 42 13.7	
	comp=Z,8.8nm,0.8s							
GTA	**Gaotai**	**54.05**	**336**	⇑P		**P**	**10 42 13.6**	**-0.2**
GTA				pP		pP	10 42 24.9	+1.0
GTA				sP		sP	10 42 33.3	+5.9
GTA				pmax		pmax		
	comp=Z,7.0nm,1.4s							
GTA				pmax		pmax		
	comp=Z,89nm,6.0s							
GTA				L		L		
	comp=Z,91nm,16.7s							
GTA				L		L		
	comp=Z,73nm,16.7s							
GTA				L		L		
	comp=Z,100nm,15.3s							
KOLN	**Koldanda**	**54.66**	**314**	*eP*		**P**	**10 42 16.8**	**-1.7**
DANN	**Dangsing**	**54.90**	**315**	*eP*		**P**	**10 42 18.8**	**-1.5**
	comp=Z,35nm,0.6s							
ASAJ	**Asahikawa**	**55.68**	**15**	P		**P**	**10 42 24.5**	**-0.7**
	comp=Z,8.0nm,0.7s,baz=210,slow=9.4,SNR=11							
JKA	**Kamikawa-asahi**	**55.68**	**15**	P		**P**	**10 42 23.9**	**-1.4**
JKA				IAmb		IAmb	10 42 25.9	
	comp=Z,9.1nm,0.7s							
KLR	**Kul'dur**	**58.77**	**5**	P		**P**	**10 42 45.9**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=248,slow=3.4,SNR=6.4							
ULN	**Ulaanbaatar**	**59.33**	**346**	P		**P**	**10 42 49.9**	**-1.3**
ULN				IAmb		IAmb	10 42 57.6	
	comp=Z,9.4nm,1.1s							
SONM	**Songino Array**	**59.46**	**345**	P		**P**	**10 42 50.8**	**-1.3**
	comp=Z,3.6nm,0.7s,baz=163,slow=8.6,SNR=15							
SONM				PcP		**PcP**	**10 43 40.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=152,slow=4.9,SNR=1.0							
SONM	**Songino Array**	**59.46**	**345**	P		**P**	**10 42 51.0**	**-1.0**
WMQ	**Urumqi**	**63.01**	**330**	*eP*		**P**	**10 43 17.8**	**+1.7**
TLY	**Talaya**	**63.70**	**345**	P		**P**	**10 43 19.7**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=165,slow=3.9,SNR=4.4							
TLY				LR		LR	11 11 29.7	
	comp=Z,31nm,21.0s,baz=168,slow=37							
TLY	**Talaya**	**63.70**	**345**	P		**P**	**10 43 19.8**	**-0.6**
TLY				IAmb		IAmb	10 43 21.3	
	comp=Z,4.7nm,0.6s							
NIL	**Nilore**	**65.32**	**314**	P		**P**	**10 43 29.9**	**-1.6**
KSH	**Kashi**	**66.72**	**320**	P		**P**	**10 43 39.8**	**-0.7**
KSH				pP		sP	10 43 55.3	+1.1
KSH				S		**S**	**10 52 32.8**	**+2.4**
KSH				sS		sS	10 52 49.8	+3.2
KSH				pmax		pmax		
	comp=Z,6.0nm,0.3s							
KSH				pmax		pmax		
	comp=Z,50nm,2.8s							
KSH				L		L		
	comp=Z,650nm,11.6s							
KSH				L		L		
	comp=Z,340nm,8.8s							
KSH				L		L		
	comp=Z,120nm,5.7s							
TARG	**Taragay, Kyrgy**	**66.93**	**323**	P		**P**	**10 43 41.6**	**-0.5**
KDJ	**Kajisay**	**67.55**	**323**	P		**P**	**10 43 44.6**	**-1.1**
KDJ				IAmb		IAmb	10 43 46.0	
	comp=Z,5.5nm,0.9s							
MK31	**Makanchi Array**	**67.80**	**330**	P		**P**	**10 43 45.9**	**-1.1**
MKAR	**Makanchi Array**	**67.80**	**330**	P		**P**	**10 43 46.5**	**-0.5**
	comp=Z,8.6nm,0.5s,baz=132,slow=7.6,SNR=111							
MKAR	**Makanchi Array**	**67.80**	**330**	P		**P**	**10 43 46.0**	**-1.0**
MAKZ	**Makanchi**	**67.97**	**330**	P		**P**	**10 43 46.8**	**-1.2**
MAKZ				IAmb		IAmb	10 43 47.6	
	comp=Z,8.5nm,0.8s							
PETK	**Petropavlovsk-**	**68.27**	**20**	P		**P**	**10 43 49.7**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=181,slow=5.9,SNR=4.6							
BOOM	**Boomskoye usch**	**68.50**	**323**	P		**P**	**10 43 50.9**	**-0.8**
BOOM				IAmb		IAmb	10 43 52.3	
	comp=Z,10nm,1.1s							
KBL	**Kabul**	**68.79**	**313**	P		**P**	**10 43 51.8**	**-1.9**
KBL				IAmb		IAmb	10 43 54.4	
	comp=Z,8.3nm,0.8s							
TKM2	**Tokmak 2**	**68.96**	**323**	P		**P**	**10 43 54.4**	**-0.1**
	SNR=5.8							
AAK	**Ala-Archa**	**69.45**	**322**	P		**P**	**10 43 57.7**	**+0.2**
	comp=Z,5.7nm,0.7s,baz=145,slow=7.0,SNR=11							
AAK	**Ala-Archa**	**69.45**	**322**	P		**P**	**10 43 57.8**	**+0.2**
	SNR=5.0							
AAK	**Ala-Archa**	**69.45**	**322**	P		**P**	**10 43 56.5**	**-1.1**
AAK				IAmb		IAmb	10 43 58.4	
	comp=Z,9.6nm,0.9s							
ARSB	**Arslanbob**	**69.63**	**321**	P		**P**	**10 43 58.4**	**-0.3**
AML	**Almayashu**	**69.64**	**322**	P		**P**	**10 43 59.0**	**0.0**
	SNR=14							
USP	**Ospenovka**	**69.81**	**323**	P		**P**	**10 43 59.4**	**-0.2**
	SNR=5.2							
EKS2	**Erkin-Say**	**69.89**	**322**	P		**P**	**10 44 00.5**	**+0.3**
	SNR=7.8							
BTK	**Batken**	**70.33**	**319**	P		**P**	**10 44 01.1**	**-1.8**
VNDA	**Vanda**	**70.60**	**172**	P		**P**	**10 44 05.5**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=310,slow=7.7,SNR=6.9							
VNDA				LR		LR	11 15 09.5	
	comp=Z,160nm,18.1s,baz=302,slow=36							
VNDA	**Vanda**	**70.60**	**172**	P		**P**	**10 44 05.4**	**+1.6**
MAW	**Mawson**	**70.88**	**201**	P		**P**	**10 44 07.4**	**+1.8**
	comp=Z,3.1nm,0.8s,baz=62,slow=8.3,SNR=5.6							
MAW	**Mawson**	**70.88**	**201**	P		**P**	**10 44 08.0**	**+2.3**
YAK	**Yakutsk**	**71.41**	**2**	LR		LR	11 17 06.7	
	comp=Z,17nm,20.3s,baz=102,slow=37							
YAK	**Yakutsk**	**71.41**	**2**	P		**P**	**10 44 07.6**	**-1.2**
ZAA0	**Zalesovo Array**	**71.80**	**336**	P		**P**	**10 44 09.5**	**-1.9**
ZAA0				IAmb		IAmb	10 44 10.2	
	comp=Z,13nm,0.8s							
ZALV	**Zalesovo Beam**	**71.80**	**336**	P		**P**	**10 44 09.4**	**-2.0**
	comp=Z,12nm,0.8s,baz=136,slow=4.4,SNR=39							
ZALV	**Zalesovo Beam**	**71.80**	**336**	P		**P**	**10 44 09.1**	**-2.2**
KK31	**Karatay Array**	**72.14**	**321**	P		**P**	**10 44 12.7**	**-1.1**
KKAR	**Karatay Array**	**72.14**	**321**	P		**P**	**10 44 13.1**	**-0.6**
KURBB	**Kurchatov Arra**	**72.22**	**331**	P		**P**	**10 44 12.1**	**-1.9**
	comp=Z,2.4nm,0.5s,baz=136,slow=5.3,SNR=21							
KURK	**Kurchatov**	**72.24**	**331**	P		**P**	**10 44 12.1**	**-2.0**
WSAR	**Wadi Sarin**	**72.69**	**298**	P		**P**	**10 44 16.0**	**-1.4**
	comp=Z,5.7nm,0.6s,baz=137,slow=4.7,SNR=6.9							
BRVK	**Borovoye**	**77.76**	**330**	P		**P**	**10 44 44.5**	**-1.4**
GEYT	**Alibeck**	**78.21**	**312**	P		**P**	**10 44 47.8**	**-1.0**
	comp=Z,6.0nm,0.6s,baz=86,slow=7.4,SNR=1.1							

TIXI	**Tiksi**	**81.02**	**1**	P		**P**	**10 45 01.3**	**-1.9**
TIXI				IAmb		IAmb	10 45 03.1	
	comp=Z,7.5nm,0.7s							
ABKAR	**Akbulak array**	**81.53**	**323**	P		**P**	**10 45 04.5**	**-1.9**
ABKAR	**Akbulak array**	**81.53**	**323**	P		**P**	**10 45 04.7**	**-1.8**
PPT	**Papeete**	**82.75**	**107**	LR		LR	11 20 21.4	
	comp=Z,58nm,19.4s,baz=52,slow=34							
RAYN	**Ar Rayn**	**84.37**	**295**	P		**P**	**10 45 21.6**	**-0.3**
BELG	**Belogornoye**	**89.93**	**323**	P		**P**	**10 45 47.1**	**-1.0**
	comp=Z,5.5nm,0.7s,baz=27,slow=6.8,SNR=4.7							
KBZ	**Khabaz**	**90.93**	**314**	P		**P**	**10 45 51.6**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=114,slow=4.5,SNR=8.3							
SNAA	**Sanae**	**92.08**	**194**	P		**P**	**10 45 60.0**	**+2.1**
SNAA	**Sanae**	**92.08**	**194**	P		**P**	**10 46 00.7**	**+2.8**
VNA2	**Neumayer--Watz**	**93.68**	**194**	P		**P**	**10 46 05.8**	**+0.6**
BOSA	**Boshof**	**94.03**	**240**	LR		LR	11 23 29.5	
	comp=Z,56nm,19.4s,baz=158,slow=32							
YKA	**Yellowknife Ar**	**112.10**	**26**	PKiKP		**PKiKP**	**10 51 25.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=289,slow=3.8,SNR=3.9							
NVAR	**Mina Array Bea**	**116.63**	**52**	PKP		**PKiKP**	**10 51 36.2**	**+2.4**
	comp=Z,1.5nm,0.8s,baz=250,slow=2.4,SNR=11							
NVAR	**Mina Array Bea**	**116.63**	**52**	PKPdf		**PKiKP**	**10 51 36.9**	**+3.2**
PDAR	**Pinedale Array**	**122.08**	**45**	PKP		**PKiKP**	**10 51 45.8**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=189,slow=0.3,SNR=19							
TORD	**Torodi Ar. Bea**	**124.50**	**279**	PKP		**PKiKP**	**10 51 50.9**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=72,slow=1.9,SNR=15							
TORD	**Torodi Ar. Bea**	**124.50**	**279**	PKPdf		**PKiKP**	**10 51 51.1**	**+1.6**
ESDC	**Sonseca Array**	**125.75**	**312**	PKP		**PKiKP**	**10 51 52.5**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=24,slow=2.8,SNR=8.6							
ULM	**Lac du Bonnet**	**127.14**	**32**	PKP		**PKPdf**	**10 51 53.3**	**0.0**
	comp=Z,2.1nm,0.6s,baz=338,slow=5.4,SNR=3.2							
TXAR	**Lajitas Array**	**130.35**	**60**	PKP		**PKiKP**	**10 52 02.0**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=248,slow=1.8,SNR=13							
TXAR				SKPbc		**SKPbc**	**10 55 25.5**	**+4.4**
	comp=Z,0.6nm,1.0s,baz=274,slow=1.9,SNR=4.6							
CPUP	**Villa Florida**	**144.30**	**176**	PKP		**PKPdf**	**10 52 26.1**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=153,slow=2.3,SNR=7.5							
LPAZ	**La Paz**	**151.21**	**153**	PKPbc		**PKiKP**	**10 52 44.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=182,slow=5.5,SNR=7.5							

IDC ***24*** *10:44:01.8±1.3, 18°.35S×178°.31W, h577km±15km, mb3.0/8, mb1 3.3/11,mb1mx3.1/27,mbtmp4.0/11, Error ellipse: s-maj=28.6km s-min=14.2km az=146.0*
NEIC ***24*** *10:44:03.7±1.0, 18°.0S±0°.2×178°.5W±0°.1, h593km±11km, mb4.0/15, Error ellipse: s-maj=28.5km s-min=13.4km az=161.0*

ISC 24 10:44:02.3±0.6, 18°.2S±0°.2×178°.3W±0°.1, h579km, n29, σ1§14/31, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.46**	**276**	P		**P**	**10 45 23.6**	**+0.9**
	6.7nm,0.3s,baz=130,slow=4.4,SNR=37							
MSVF	**Nonsavu**	**3.46**	**276**	P		**P**	**10 45 23.8**	**+1.1**
AFI	**Afiamalu**	**7.58**	**57**	P		**P**	**10 45 55.3**	**-1.8**
	2.9nm,0.3s,baz=211,slow=5.6,SNR=4.7							
DZM	**Mont Dzumac**	**14.82**	**252**	P		**P**	**10 47 09.9**	**+0.4**
	0.2nm,0.3s,baz=316,slow=10,SNR=1.7							
OUZ	**Omahuta**	**18.45**	**201**	P		**P**

baz=21
MNAS Manas 2.06 119 ⇑*i*P Pn 11 57 35.9 +0.7
baz=18
MNAS ⇑*i*S Sg 11 58 06.2 +0.8
baz=18
TRKS Terek-Say 2.14 158 ⇑*i*P Pn 11 57 37.2 +0.9
baz=53
TRKS ⇑*i*S Sg 11 58 08.4 +0.5
baz=53
MRKS Merke 2.43 108 Pg Pg 11 57 45.5 -0.3
4.3nm,0.2s
MRKS Lg Lg 11 58 19.4
6.5nm,0.5s
ARSB Arslanbob 3.07 135 ⇑*i*P Pn 11 57 49.6 +0.4
baz=32
ARSB ⇑*i*S Sb 11 58 30.7 -2.3
baz=32
BTLS Baital 3.23 61 Pg Pg 11 58 00.4 -0.7
1.2nm,0.3s
BTLS Lg Lg 11 58 45.3
2.8nm,0.6s
AAK Ala-Archa 3.36 104 ⇑Lg Lg 11 58 48.8
1.9nm,0.4s
KRBS Karabastau 4.07 86 Pg Pg 11 58 16.7 -0.6
1.7nm,0.4s
KRBS Lg Lg 11 59 12.3
5.4nm,0.7s
TKM2 Tokmak 2 4.08 97 ⇓Lg Lg 11 59 13.8
6.5nm,0.7s
KST Kastek 4.33 94 Pg Pg 11 58 21.0 -1.1
1.8nm,0.3s
KST Lg Lg 11 59 20.0
3.6nm,0.6s
KUU Kurty 4.56 83 Pg Pg 11 58 24.0 -2.5
1.2nm,0.2s
KUU Lg Lg 11 59 25.1
4.2nm,0.6s
KTBS Karatobe 4.80 85 Pg Pg 11 58 29.4 -1.9
1.5nm,0.5s
KTBS Lg Lg 11 59 34.1
7.2nm,0.6s

*SJA **24** 12:35:20.6±0.6,32°.72S×72°.00W,h15km,ML3.9,MW4.0*
*IDC **24** 12:35:20.5±1.1,32°.67S×71°.76W,h0km,mb3.5/4,*
mb1 3.9/8,mb1mx3.8/26,mbtmp3.6/8,ML3.9/4,MS3.2/6,
Ms1 3.3/6,ms1mx3.1/19,Error ellipse: s-maj=36.2km
s-min=29.5km az=92.0
*NEIC **24** 12:35:23.2±2.0,32°.71S±0°.03×71°.75W±0°.05,h24km±5km,*
Error ellipse: s-maj=7.2km s-min=3.5km az=63.0
*GUC **24** 12:35:23.5±0.7,32°.72S×71°.78W,h26km±3km,ML3.9*
ISC 24 12:35:20.7±1.3,**32°.69S**±0°.02×**71°.85W**±0°.04,**h8**km±8km,
n106,σ1**s50**/116,**mb3.8**/5,**MS3.4**/3,**6C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.37**	**152**	⇑*i*P	**Pb**	**12 35 30.5**	**+1.0**
VA01				*i*S	**Sb**	**12 35 35.3**	**-0.2**
VA01				IAML		12 35 36.1	
	comp=E,15μm,0.1s						
VA01	**Torpederas**	**0.37**	**152**	Pg	**Pb**	**12 35 30.5**	**+1.0**
ROC1	**El Roble**	**0.76**	**112**	*e*P	**Pn**	**12 35 36.9**	**-1.1**
ROC1				*e*S	**Sn**	**12 35 46.8**	**-2.9**
ROCH	**El Roble**	**0.76**	**112**	⇓*i*P	**Pb**	**12 35 36.7**	**+0.4**
ROCH				*i*S	**Sb**	**12 35 46.3**	**-0.6**
ROCH				IAML		12 35 48.0	
	comp=E,9μm,0.7s						
MT02	**Curacav**	**0.82**	**133**	⇓*i*P	**Pb**	**12 35 37.4**	**+0.1**
MT02				*i*S	**Sb**	**12 35 47.7**	**-0.8**
MT02	**Curacav**	**0.82**	**133**		**Pb**	**12 35 37.5**	**+0.1**
MT02				Sg	**Sb**	**12 35 47.2**	**-1.4**
VA05	**Santo Domingo**	**0.98**	**168**	⇑*e*P	**Pg**	**12 35 40.5**	**+0.9**
VA05				*i*S	**Sg**	**12 35 53.2**	**+0.9**
VA05				IAML		12 35 58.1	
	comp=E,5μm,0.3s						
VA05	**Santo Domingo**	**0.98**	**168**		**Pg**	**12 35 40.4**	**+0.9**
VA05					**Sb**	**12 35 52.6**	**-0.5**
VA03	**San Esteban**	**1.10**	**94**	⇓*i*P	**Pg**	**12 35 41.9**	**+0.1**
VA03				*i*S	**Sg**	**12 35 55.8**	**-0.3**
VA03				IAML		12 36 00.1	
	comp=E,8μm,0.2s						
VA03	**San Esteban**	**1.10**	**94**		**Pg**	**12 35 41.9**	**+0.1**
VA03					**Sb**	**12 35 55.1**	**-1.5**
VA03	**San Esteban**	**1.10**	**94**	*e*P	**Pg**	**12 35 41.8**	**0.0**
VA03				*e*P	**Pg**	**12 35 42.0**	**+0.1**
VA03				IAML		12 36 01.9	
	comp=Z,3μm,0.5s						
MT05	**Renca**	**1.17**	**127**	⇓*i*P	**Pn**	**12 35 43.2**	**-0.3**
MT05				*i*S	**Sn**	**12 35 57.9**	**-1.6**
MT05				IAML		12 36 04.7	
	comp=E,7μm,0.2s						
MT05	**Renca**	**1.17**	**127**		**Pn**	**12 35 43.1**	**-0.3**
MT01	**Popeta**	**1.27**	**157**	*e*P	**Pb**	**12 35 45.0**	**+0.1**
MT01				*i*S	**Sb**	**12 36 00.7**	**-0.8**
MT01	**Popeta**	**1.27**	**157**		**Pn**	**12 35 44.3**	**-0.4**
MT09	**Talagante**	**1.30**	**146**	*e*P	**Pn**	**12 35 45.2**	**-0.2**
MT09				*i*S	**Sb**	**12 36 01.1**	**-1.3**
MT09				IAML		12 36 06.9	
	comp=N,4μm,0.2s						
MT09	**Talagante**	**1.30**	**146**		**Pn**	**12 35 45.1**	**-0.2**
MT09				Sn	**Sb**	**12 36 01.4**	**-1.0**
MT03	**Universidad Ad**	**1.38**	**126**	⇓*i*P	**Pb**	**12 35 46.6**	**-0.2**
MT03				*i*S	**Sg**	**12 36 04.0**	**-1.1**
MT03				IAML		12 36 10.6	
	comp=N,8μm,0.3s						
MT03	**Universidad Ad**	**1.38**	**126**		**Pb**	**12 35 46.6**	**-0.2**
MT03	**Universidad Ad**	**1.38**	**126**	*e*P	**Pb**	**12 35 46.8**	**0.0**
MT03				*e*S	**Sg**	**12 36 05.3**	**+0.2**
MT03				IAML		12 36 10.9	
	comp=Z,3μm,0.3s						
CO02	**Combarbal**	**1.65**	**26**	⇑*i*P	**Pb**	**12 35 51.5**	**0.0**
CO02				*i*S	**Sb**	**12 36 13.6**	**+1.1**
CO02	**Combarbal**	**1.65**	**26**		**Pn**	**12 35 51.2**	**+1.1**
LMEL	**Las Melosas**	**1.80**	**130**	⇑*i*P	**Pb**	**12 35 53.5**	**-0.5**
LMEL				*i*S	**Sb**	**12 36 16.0**	**-0.8**
LMEL				IAML		12 36 20.9	
	comp=N,3μm,0.2s						
BO03	**Pichilemu**	**1.80**	**183**	*e*P	**Pn**	**12 35 52.2**	**+0.2**
BO03				*i*S	**Sn**	**12 36 13.4**	**-1.7**
BO01	**Tunca**	**1.81**	**159**	⇑*i*P	**Pn**	**12 35 53.1**	**+0.9**
BO01				*i*S	**Sb**	**12 36 16.8**	**-0.2**
BO01				IAML		12 36 25.1	
	comp=E,612nm,0.6s						
BO01	**Tunca**	**1.81**	**159**		**Pn**	**12 35 53.1**	**+0.9**
CO03	**El Pedregal**	**2.10**	**28**	*e*P	**Pn**	**12 35 58.0**	**+1.8**
CO03				*i*S	**Sb**	**12 36 25.5**	**+0.2**
CO03				IAML		12 36 32.9	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**2.10**	**28**		**Pn**	**12 35 57.9**	**+1.7**
AUSP	**Uspallata**	**2.13**	**78**	*e*P	**Pb**	**12 36 00.3**	**+0.5**
BO02	**Sierra Bellavi**	**2.27**	**157**	⇑*i*P	**Pn**	**12 36 00.3**	**+1.6**
BO02				*i*S	**Sb**	**12 36 28.9**	**-1.5**
BO02				IAML		12 36 35.7	
	comp=E,2μm,0.1s						
BO02	**Sierra Bellavi**	**2.27**	**157**	Pn	**Pn**	**12 35 59.8**	**+1.1**
BO02	**Sierra Bellavi**	**2.27**	**157**	*e*P	**Pb**	**12 36 00.6**	**-1.5**
BO02				IAML		12 36 39.7	
	comp=Z,858nm,0.6s						
GO05	**Huala**	**2.31**	**182**	*e*P	**Pn**	**12 35 59.1**	**0.0**
GO05				*i*S	**Sb**	**12 36 30.3**	**-1.1**
GO05	**Huala**	**2.31**	**182**		**Pn**	**12 35 59.2**	**0.0**
GO05	**Huala**	**2.31**	**182**	*e*P	**Pn**	**12 35 59.7**	**+0.6**
RTLS	**Leoncito**	**2.34**	**68**	*e*P	**Pb**	**12 36 03.6**	**+0.3**
RTLS				*e*S	**Sg**	**12 36 35.0**	**-1.0**
RTLS				IAML		12 36 40.5	
	comp=Z,790nm,1.1s						
ARCO	**CERRO ARCO**	**2.46**	**94**	*e*P	**Pb**	**12 36 05.7**	**+0.3**
ARCO				IAML		12 36 48.6	
	comp=Z,480nm,0.7s						
ASAL	**Salagasta**	**2.55**	**89**	*e*P	**Pb**	**12 36 07.0**	**+0.3**
ASAL				*e*S	**Sg**	**12 36 43.6**	**+1.1**
ASAL				IAML		12 36 49.1	
	comp=Z,408nm,1.0s						
AAGR	**Agrelo**	**2.57**	**100**	*e*P	**Pb**	**12 36 07.0**	**-0.2**
AAGR				IAML		12 36 51.4	
	comp=Z,396nm,0.9s						
GO04	**Tololo Observa**	**2.67**	**20**	Pn	**Pn**	**12 36 05.4**	**+1.2**
GO04	**Tololo Observa**	**2.67**	**20**	*e*P	**Pn**	**12 36 06.2**	**+2.0**
GO04				*e*S	**Sg**	**12 36 46.0**	**-0.5**
AVIZ	**Vizcacheras**	**2.91**	**106**	*e*P	**Pb**	**12 36 13.6**	**+0.8**
RTCV	**Cerro Valdivia**	**2.92**	**74**	*e*P	**Pb**	**12 36 12.0**	**-1.1**
ZON	**Zonda**	**2.92**	**68**	Pn	**Pb**	**12 36 11.2**	**-2.0**
ZON	**Zonda**	**2.92**	**68**	*e*P	**Pb**	**12 36 10.5**	**-2.7**
ZON				IAML		12 37 04.7	
	comp=Z,316nm,1.0s						
COIS	**El Sosneado**	**3.05**	**143**	*e*P	**Pb**	**12 36 14.0**	**-1.3**
LAMA	**Las Malvinas**	**3.13**	**136**	*e*P	**Pb**	**12 36 14.6**	**-2.1**
ACCO	**Cerro Coronel**	**3.17**	**49**	*e*P	**Pb**	**12 36 15.4**	**-2.1**
ACCO				IAML		12 37 04.9	
	comp=Z,269nm,4.1s						
RTLL	**Cerro Villicun**	**3.17**	**66**	*e*P	**Pb**	**12 36 14.8**	**-2.6**
RTLL				IAML		12 37 06.4	
	comp=Z,206nm,0.4s						
AROD	**Rodeo**	**3.24**	**40**	*e*P	**Pb**	**12 36 16.1**	**-2.5**
ACDV	**Cuesta del Vie**	**3.43**	**44**	*e*P	**Pb**	**12 36 19.0**	**-2.9**
ACDV				IAML		12 37 14.0	
	comp=Z,224nm,0.6s						
RFA	**San Rafael**	**3.50**	**127**	*e*P	**Pb**	**12 36 19.0**	**-4.0**
RFA				*e*P	**Pn**	**12 36 19.2**	**+3.7**
LCO	**Las Campanas**	**3.80**	**15**	Pn	**Pn**	**12 36 21.0**	**+1.2**
ACAN	**Cantantal**	**3.96**	**85**	*e*P	**Pn**	**12 36 25.3**	**+3.4**
ACAN				IAML		12 37 31.8	
	comp=Z,78nm,0.6s						
AC04	**Llanos de Chal**	**4.53**	**9**	Pn	**Pn**	**12 36 30.1**	**+0.6**
VCA	**Vinchina**	**5.04**	**39**	*e*P	**Pn**	**12 36 40.6**	**+3.8**
VCA				IAML		12 38 14.0	
	comp=Z,127nm,1.0s						
APLL	**PUNTA DE LOS L**	**5.09**	**65**	*e*P	**Pn**	**12 36 42.0**	**+4.6**
MRA	**San Martin**	**5.19**	**89**	*e*P	**Pn**	**12 36 40.6**	**+1.9**
MRA				*e*P	Pb	12 36 41.4	-10
MRA				*e*P		12 36 41.8	
MRA				IAML		12 38 20.8	
	comp=Z,64nm,0.5s						
CANA	**Caviahue**	**5.22**	**173**	*e*P	**Pn**	**12 36 42.3**	**+3.0**
GO03	**Copiap**	**5.27**	**16**		**Pn**	**12 36 40.8**	**+0.9**
GO03	**Copiap**	**5.27**	**16**	*e*P	**Pn**	**12 36 41.4**	**+1.5**
ACLC	**CERRO LA CRUZ**	**5.32**	**54**	*e*P	**Pn**	**12 36 43.8**	**+3.2**
ACLC				IAML		12 38 14.7	
	comp=Z,112nm,1.0s						
H03N1	**Juan Fernandez**	**5.97**	**261**	T	T	12 43 20.8	
	baz=89,slow=74,SNR=371						
H03N3	**Juan Fernandez**	**5.99**	**261**	T	T	12 43 19.8	
	baz=89,slow=74,SNR=559						
H03N2	**Juan Fernandez**	**5.99**	**261**	T	T	12 43 13.5	
	baz=89,slow=74,SNR=416						
H03S1	**Juan Fernandez**	**6.02**	**257**	T	T	12 43 12.8	
	baz=80,slow=75,SNR=137						
H03S3	**Juan Fernandez**	**6.02**	**257**	T	T	12 43 14.1	
	baz=80,slow=75,SNR=137						
H03S2	**Juan Fernandez**	**6.04**	**257**	T	T	12 43 12.4	
	baz=80,slow=75,SNR=320						
AC02	**Maricunga**	**6.30**	**23**	Pn	**Pn**	**12 36 54.5**	**+0.1**
AC01	**Pan de Azucar**	**6.61**	**10**	Pn	**Pn**	**12 36 56.2**	**-2.1**
CYA	**Choya**	**6.72**	**52**	*e*P	Pn	12 37 05.0	+5.2
CYA				IAML		12 39 02.6	
	comp=Z,30nm,0.9s						
GO02	**Mina Guanaco**	**7.76**	**15**	Pn	**Pn**	**12 37 12.6**	**-1.7**
PLCA	**Paso Flores**	**8.09**	**173**	Pn	**Pn**	**12 37 20.3**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=332,slow=11,SNR=8.2						
PLCA	**Paso Flores**	**8.09**	**173**		**Pn**	**12 37 18.5**	**-0.1**
PLCA	**Paso Flores**	**8.09**	**173**	*e*P	**Pn**	**12 37 20.4**	**+1.8**
PB14	**IPOC Station P**	**8.14**	**9**	Pn	**Pn**	**12 37 17.5**	**-1.9**
PB14	**IPOC Station P**	**8.14**	**9**	*e*P	**Pn**	**12 37 16.8**	**-2.7**
TRQA	**Tornquist**	**9.67**	**126**	Pn	**Pn**	**12 37 41.1**	**+1.0**
LVC	**Limon Verde**	**10.38**	**15**	LR	LR	12 41 44.0	
	comp=Z,73nm,21.0s,baz=192,slow=37						
CPUP	**Villa Florida**	**14.14**	**67**	Pn	**Pn**	**12 38 41.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=247,slow=15,SNR=2.3						
CPUP				LR	LR	12 44 21.8	
	comp=Z,99nm,19.2s,baz=227,slow=38						
CPUP	**Villa Florida**	**14.14**	**67**	Pn	**Pn**	**12 38 39.4**	**-1.9**
LPAZ	**La Paz**	**16.68**	**13**	Pn	**Pn**	**12 39 16.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=165,slow=5.7,SNR=4.2						
LPAZ				LR	LR	12 47 01.2	
	comp=Z,48nm,18.4s,baz=230,slow=42						
LPAZ	**La Paz**	**16.68**	**13**		**Pn**	**12 39 16.7**	**+1.3**
LPAZ				IAmb	IAmb	12 39 35.1	
	comp=Z,2.3nm,0.8s						
SIV	**San Ignacio**	**19.29**	**33**	P	**P**	**12 39 46.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=228,slow=8.1,SNR=3.7						
NNA	**Nana**	**21.11**	**346**	LR	LR	12 45 21.4	
	comp=Z,23nm,20.2s,baz=197,slow=28						
ROSC	**El Rosal**	**37.40**	**356**	LR	LR	12 56 23.1	
	comp=Z,58nm,21.2s,baz=238,slow=34						
SNAA	**Sanae**	**52.73**	**158**	P	**P**	**12 44 35.2**	**-0.4**
SNAA				IAmb	IAmb	12 44 54.4	
	comp=Z,9.3nm,1.6s						
TXAR	**Lajitas Array**	**68.68**	**330**	P	**P**	**12 46 25.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=150,slow=8.7,SNR=3.6						
MAW	**Mawson**	**74.39**	**164**	LR	LR	13 19 58.9	
	comp=Z,111nm,18.0s,baz=66,slow=36						
PDAR	**Pinedale Array**	**82.67**	**333**	P	**P**	**12 47 47.0**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=150,slow=7.8,SNR=2.0						
PDAR	**Pinedale Array**	**82.67**	**333**	P	**P**	**12 47 44.6**	**-0.2**
NVAR	**Mina Array Bea**	**82.91**	**325**	P	**P**	**12 47 47.7**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=157,slow=4.9,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**83.62**	**70**	P	**P**	**12 47 49.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P	**P**	**12 47 50.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=251,slow=4.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P	**P**	**12 47 48.4**	**-1.6**
SCHQ	**Scheferville**	**87.28**	**3**	P	**P**	**12 48 08.2**	**+0.8**
WRA	**Warramunga Arr**	**121.97**	**209**	PKP	**PKPdf**	**12 54 16.5**	**+0.2**
	comp=Z,0.5nm,1.1s,baz=160,slow=1.6,SNR=1.6						
H11S2	**WAKE ISLAND Hyl**	**25.94**	**270**	T	T	15 13 19.5	
	baz=118,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hyl**	**25.95**	**270**	T	T	15 13 20.4	
	baz=118,slow=75,SNR=174						
H11S3	**WAKE ISLAND Hyl**	**25.95**	**270**	T	T	15 13 20.7	
	baz=118,slow=75,SNR=152						
H11N3	**WAKE ISLAND Hyl**	**26.32**	**271**	T	T	15 13 48.3	
	baz=118,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hyl**	**26.33**	**271**	T	T	15 13 50.4	
	baz=118,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hyl**	**26.33**	**271**	T	T	15 13 49.6	
	baz=118,slow=75,SNR=126						
MKAR	**Makanchi Array**	**155.78**	**47**	PKPab	**PKPab**	**12 55 41.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=286,slow=2.8,SNR=6.2						
MKAR	**Makanchi Array**	**155.78**	**47**	PKPab	**PKPab**	**12 55 41.6**	**0.0**
JWT	**Wachi**	**157.28**	**284**	PKPab	**PKPab**	**12 55 48.9**	**+0.5**

*MAN **24** 12:54:28.4,5°.14N×127°.24E,h47km,mb4.4,ML3.2,MS3.0*
IDC 24 12:54:43.8±2.1,**4°.68N**×**127°.50E,h286**km±24km,**mb3.2**/6,
mb1 3.4/7,**mb1mx3.0**/47,**mbtmp3.9**/7,**Error ellipse:**
s-maj=44.5km s-min=13.8km az=78.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.05**	**321**	P	Pn	12 55 39.1	0.0
	32nm,0.3s,baz=107,slow=17,SNR=1.7						
FITZ	**Fitzroy Crossi**	**22.71**	**185**	P	P	12 59 21.9	+0.4
	3.0nm,0.8s,baz=20,slow=10,SNR=8.0						
WRA	**Warramunga Arr**	**25.38**	**165**	P	P	12 59 45.2	-0.5
	1.3nm,0.4s,baz=344,slow=10,SNR=41						
ASAR	**Alice Springs**	**28.86**	**168**	P	P	13 00 16.1	-0.4
	0.6nm,0.6s,baz=356,slow=8.2,SNR=19						
STKA	**Stephens Creek**	**38.76**	**161**	P	P	13 01 41.9	+0.8
	2.1nm,0.6s,baz=346,slow=7.6,SNR=3.5						
PETK	**Petropavlovsk-**	**54.26**	**22**	P	P	13 03 40.5	-0.1
	0.5nm,0.5s,baz=220,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**57.22**	**325**	P	P	13 04 01.5	-0.1
	0.3nm,0.3s,baz=124,slow=8.1,SNR=6.4						

*UPP **24** 13:10:29.0±0.0,67°.65N×20°.98E,h1km,ML1.9,Explosion*
HEL 24 13:10:29.6±0.1,**67°.65N**×**20°.99E,h0**km,**ML1.7,**
ML1.9(UPP),**Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.39**	**322**	P	Pg	13 10 36.5	-0.7
KUA				S	Sg	13 10 42.1	-0.1
KUA	**Kurravaara**	**0.39**	**322**	*i*P	Pg	13 10 36.5	-0.7
KUA				*i*S	Sg	13 10 42.1	-0.1
MASU	**Masugnsbyn**	**0.43**	**116**	P	Pg	13 10 37.4	-0.5
MASU	**Masugnsbyn**	**0.43**	**116**	*i*P	Pg	13 10 37.4	-0.5
DUNU	**Dundret**	**0.55**	**197**	P	Pg	13 10 39.4	-0.7
DUNU	**Dundret**	**0.55**	**197**	*i*P	Pg	13 10 39.4	-0.7
LANU	**Lannavaara**	**0.55**	**43**	P	Pg	13 10 39.2	-0.9
LANU	**Lannavaara**	**0.55**	**43**	*e*P	Pg	13 10 39.2	-1.0
LANU				*e*S	Sg	13 10 47.5	+0.1
RATU	**Laukkuluspa**	**0.56**	**289**	P	Pg	13 10 39.5	-0.8
RATU	**Laukkuluspa**	**0.56**	**289**	*i*P	Pg	13 10 39.5	-0.8
KOVU	**Salmi**	**0.66**	**332**	P	Pg	13 10 41.2	-0.9
KOVU				S	Sg	13 10 50.4	-0.3
KOVU	**Salmi**	**0.66**	**332**	*i*P	Pg	13 10 41.2	-0.9
KOVU				*i*S	Sg	13 10 50.4	-0.3
NIKU	**Nikkaluokta**	**0.77**	**287**	P	Pg	13 10 43.3	-1.1
NIKU	**Nikkaluokta**	**0.77**	**287**	*i*P	Pg	13 10 43.3	-1.1
SALU	**Saltoluokta**	**0.99**	**255**	P	Pg	13 10 47.2	-1.3
SALU	**Saltoluokta**	**0.99**	**255**	*e*P	Pg	13 10 47.2	-1.3
PAJU	**Pajala**	**1.04**	**126**	P	Pg	13 10 48.0	-1.4
PAJU	**Pajala**	**1.04**	**126**	*e*P	Pg	13 10 47.8	-1.6
PAJU				*e*SB	Sg	13 11 02.5	-0.3
KLF	**Kolari**	**1.22**	**108**	*e*P	Pg	13 10 51.5	-1.5
HEF	**Hetta**	**1.26**	**52**	*e*P	Pg	13 10 52.1	-1.6
HEF	**Hetta**	**1.26**	**52**	*e*P	Pg	13 10 51.9	-1.9
	baz=231						
HEF				MSG		13 11 08.0	
	comp=Z,4.8nm,0.2s						
HEF				*e*SB	Sg	13 11 09.1	-1.1
KIF	**Kilpisjarvi**	**1.36**	**357**	*e*P	Pg	13 10 55.1	-0.6
KIF	**Kilpisjarvi**	**1.36**	**357**	*e*P	Pg	13 10 54.2	-1.5
KIF				MSG		13 11 11.3	
	comp=Z,8.6nm,0.2s						
KIF				*e*S	Sg	13 11 12.6	-0.8
HARU	**Harads**	**1.49**	**180**	P	Pn	13 10 56.3	-1.3
HARU	**Harads**	**1.49**	**180**	*e*P	Pn	13 10 56.3	-1.3
TOF	**Tornio**	**2.05**	**139**	*e*PG	Pn	13 11 06.2	+0.9
TOF				MSG		13 11 30.2	
	comp=Z,7.1nm,0.2s						
TOF				*e*SG	Sn	13 11 32.6	+1.1
SGF	**Sodankyl**	**2.14**	**93**	*e*PB	Pn	13 11 06.9	+0.4
	baz=273						
SGF				*e*SB	Sn	13 11 34.7	+1.0
RNF	**Rovaniemi**	**2.23**	**116**	*e*PB	Pn	13 11 08.4	+0.7
RNF				*e*SG	Sb	13 11 38.1	-0.5
KEV	**Kevo**	**3.05**	**43**	*e*P	Pn	13 11 20.1	+1.1
KEV				*e*S	Sn	13 11 56.5	+0.4
KEV				MSG		13 11 59.2	
	comp=Z,1.8nm,0.2s						
BURU	**Burvik**	**3.08**	**177**	*e*P	Pn	13 11 20.2	+0.8
VRF	**Varrio**	**3.29**	**84**	*e*PG	Pb	13 11 28.0	-0.8
OLKF	**Oulanka, Finla**	**3.56**	**108**	*e*P	Pn	13 11 26.9	+0.9
MSF	**Maaselka**	**3.64**	**115**	*e*P	Pn	13 11 28.0	+1.0
UMAU	**Umeaa**	**3.78**	**182**	*e*P	Pn	13 11 30.0	+1.0
	baz=5.0						
KU6	**Riekki**	**3.88**	**111**	*e*P	Pn	13 11 32.9	+2.5

*NEIC **24** 13:40:55.0±1.3,59°.58S±0°.05×25°.1W±0°.2,h10km±1km,*
mb4.7/35,Error ellipse: s-maj=21.0km s-min=7.9km
az=85.0
*IDC **24** 13:40:57.2±2.0,58°.77S×25°.72W,h0km,mb4.3/3,*
mb1 4.5/3,mb1mx3.9/17,mbtmp4.3/3,MS3.1/1,Ms1 3.1/1,
ms1mx2.8/16,Error ellipse: s-maj=83.8km s-min=35.3km
az=0.0
ISC 24 13:40:58.0±0.7,**59°.68S**±0°.10×**25°.2W**±0°.1,**h35**km,**n47,**
σ1**s34**/44,**mb4.7**/21,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.21**	**306**	Pn	**Pn**	**13 42 54.0**	**-0.5**
VNA1	**Neumayer--Stat**	**13.03**	**155**	P	**Pn**	**13 43 58.0**	**-2.3**
VNA3	**Neumayer Olymp**	**13.20**	**158**	P	**Pn**	**13 43 59.9**	**-2.8**
VNA2	**Neumayer--Watz**	**13.42**	**154**	P	**Pn**	**13 44 02.4**	**-3.3**
SNAA	**Sanae**	**14.99**	**152**	P	**Pn**	**13 44 23.9**	**-3.1**
SNAA	**Sanae**	**14.99**	**152**	Pn	**Pn**	**13 44 24.0**	**-3.0**
PMSA	**Palmer Station**	**18.58**	**238**	P	**P**	**13 45 10.4**	**-1.3**
EFI	**East Falkland**	**20.02**	**279**	P	Pn	13 45 29.9	+0.5
GO09	**Cerro Castillo**	**27.48**	**267**	P	**P**	**13 46 40.2**	**-0.4**
QSPA	**South Pole Qui**	**30.56**	**180**	P	**P**	**13 47 08.8**	**+0.9**
QSPA				IAmb	IAmb	13 47 10.3	
	comp=Z,11nm,1.4s						
TRQA	**Tornquist**	**31.83**	**296**	P	**P**	**13 47 20.3**	**+1.1**
LL02	**Futaleuf**	**32.62**	**279**	P	**P**	**13 47 26.3**	**+0.2**
PLTB	**Pedras Altas**	**33.75**	**313**	P	**P**	**13 47 35.4**	**-0.7**
PLTB				IAmb	IAmb	13 47 44.5	
	comp=Z,15nm,1.3s						
PLCA	**Paso Flores**	**33.81**	**284**	P	**P**	**13 47 36.4**	**-0.1**
	comp=Z,4.3nm,0.7s,baz=144,slow=7.7,SNR=7.6						
PLCA	**Paso Flores**	**33.81**	**284**	IAmb	IAmb	13 47 37.7	
	comp=Z,6.6nm,0.8s						
GO05	**Huala**	**38.97**	**288**	P	**P**	**13 48 19.8**	**-0.8**
GO05				IAmb	IAmb	13 48 24.3	
	comp=Z,26nm,1.3s						
BO01	**Tunca**	**39.07**	**290**	P	**P**	**13 48 21.4**	**+0.1**
BO01				IAmb	IAmb	13 48 22.6	
	comp=Z,6.5nm,0.8s						
MT09	**Talagante**	**39.52**	**290**	P	**P**	**13 48 25.4**	**+0.1**
MT09				IAmb	IAmb	13 48 26.4	
	comp=Z,13nm,0.7s						
MT01	**Popeta**	**39.58**	**290**	P	**P**	**13 48 25.5**	**-0.1**
MT01				IAmb	IAmb	13 48 26.6	
	comp=Z,15nm,0.6s						
MT02	**Curacav**	**40.02**	**290**	P	**P**	**13 48 29.4**	**+0.1**
MT02				IAmb	IAmb	13 48 30.7	
	comp=Z,10.0nm,0.7s				

	comp=N,2852μm,0.3s						
ZKR				AML	AML	13 59 38.2	
	comp=E,4221μm,0.4s						
ZKR	**Zakros**	**0.45**	**279**	PG	**Pg**	**13 59 24.5**	**+0.3**
ZKR				SG	**Sb**	**13 59 32.0**	**+0.2**
NPS	**Neapolis**	**0.97**	**283**	P	**Pg**	**13 59 34.1**	**+0.1**
NPS				S	**Sn**	**13 59 48.2**	**+0.1**
	comp=E,978nm,0.5s						
NPS	**Neapolis**	**0.97**	**283**	P	**Pg**	**13 59 34.1**	**+0.1**
NPS				S	**Sg**	**13 59 46.7**	**0.0**
NPS				AML	AML	13 59 55.3	
	comp=E,2203μm,0.6s						
NPS				AML	AML	13 59 55.6	
	comp=N,1710μm,0.5s						
LAST	**Lasithi**	**1.06**	**277**	P	**Pb**	**13 59 35.4**	**0.0**
LAST				S	**Sn**	**13 59 51.3**	**+0.8**
	comp=N,392nm,0.8s						
LAST	**Lasithi**	**1.06**	**277**	P	**Pb**	**13 59 35.5**	**0.0**
LAST				S	**Sg**	**13 59 49.5**	**-0.1**
LAST				AML	AML	13 59 59.1	
	comp=E,778μm,0.8s						
LAST				AML	AML	14 00 02.4	
	comp=N,795μm,0.8s						
IDI	**Anoyia**	**1.56**	**279**	P	**Pb**	**13 59 43.9**	**0.0**
IDI				S	**Sb**	**14 00 03.4**	**0.0**
IDI				AML	AML	14 00 13.0	
	comp=N,479μm,0.4s						
IDI				AML	AML	14 00 16.4	
	comp=E,293μm,0.5s						
NIS1	**Nisyros Isl.**	**1.59**	**12**	P	**Pn**	**13 59 41.8**	**-1.3**
NIS1	**Nisyros Isl.**	**1.59**	**12**	PN	**Pn**	**13 59 42.9**	**-0.2**
SIVA	**Sivas**	**1.60**	**270**	P	**Pg**	**13 59 45.9**	**-0.2**
SIVA				AML	AML	14 00 23.5	
	comp=E,619μm,0.5s						
SIVA				AML	AML	14 00 28.6	
	comp=N,749μm,0.6s						
ARG	**Arkhangelos**	**1.61**	**43**	P	**Pn**	**13 59 44.7**	**+1.4**
ARG				S	**Sn**	**14 00 05.6**	**+1.7**
	comp=N,325nm,0.5s						
ARG	**Arkhangelos**	**1.61**	**43**	P	**Pn**	**13 59 44.2**	**+0.8**
ARG				S	**Sn**	**14 00 04.1**	**+0.2**
ARG				AML	AML	14 00 13.5	
	comp=E,780μm,0.4s						
ARG				AML	AML	14 00 15.5	
	comp=N,594μm,0.5s						
ARG	**Arkhangelos**	**1.61**	**43**	PN	**Pn**	**13 59 42.8**	**-0.5**
ARG				SN	**Sn**	**14 00 03.8**	**-0.1**
SANT	**Santorini**	**1.70**	**322**	P	**Pn**	**13 59 44.4**	**-0.2**
SANT	**Santorini**	**1.70**	**322**	PN	**Pn**	**13 59 43.6**	**-1.0**
THR8	**Santorini-Mono**	**1.71**	**323**	P	**Pn**	**13 59 44.7**	**-0.1**
THR6	**Thira Island,**	**1.72**	**320**	P	**Pn**	**13 59 45.2**	**+0.4**
SNT5	**Nea Kammeni, S**	**1.75**	**321**	P	**Pn**	**13 59 45.7**	**+0.4**
THR3	**Thira Island,**	**1.76**	**321**	P	**Pn**	**13 59 45.1**	**-0.2**
DAT	**Datca**	**1.81**	**21**	PN	**Pn**	**13 59 45.8**	**-0.3**
DAT				SN	**Sn**	**14 00 08.9**	**0.0**
BODT	**Bodrum**	**2.06**	**12**	PN	**Pn**	**13 59 49.3**	**-0.2**
TURN	**Turunc**	**2.10**	**34**	PN	**Pn**	**13 59 49.9**	**-0.2**
TURN				SN	**Sn**	**14 00 16.1**	**0.0**
VAM	**Vamos**	**2.13**	**280**	P	**Pb**	**13 59 53.7**	**0.0**
VAM				AML	AML	14 00 31.0	
	comp=N,504μm,1.0s						
VAM				AML	AML	14 00 33.2	
	comp=E,255μm,0.6s						
APE	**Apeiranthos**	**2.25**	**334**	PN	**Pn**	**13 59 51.8**	**-0.4**
APE				SN	**Sn**	**14 00 19.2**	**-0.7**
IMMV	**Iera Moni Meta**	**2.31**	**281**	P	**Pb**	**13 59 55.7**	**-1.1**
DALY	**Dalyan (Mula)**	**2.34**	**40**	PN	**Pn**	**13 59 53.3**	**0.0**
YER	**Yerkesik**	**2.42**	**30**	PN	**Pn**	**13 59 54.7**	**+0.2**
FETY	**Fethiye**	**2.46**	**49**	PN	**Pn**	**13 59 54.9**	**-0.2**
AKAS	**Kas**	**2.60**	**62**	PN	**Pn**	**13 59 55.6**	**-1.5**
CAME	**Cameli-Denizli**	**2.80**	**47**	PN	**Pn**	**13 59 59.8**	**0.0**
URLA	**Izmir**	**3.31**	**358**	PN	**Pn**	**14 00 07.2**	**+0.4**
CHOS	**Chios island**	**3.38**	**351**	PN	**Pn**	**14 00 07.9**	**+0.1**

*NEIC **24** 14:12:11.5±1.9,4°.20S±0°.10×127°.3E±0°.1,h279km±9km, mb4.3/15,Error ellipse: s-maj=17.5km s-min=11.5km az=53.0*
*IDC **24** 14:12:14.0±2.8,4°.27S×127°.30E,h312km±30km,mb3.4/6, mb1 3.6/7,mb1mx3.3/24,mbtmp4.2/7,Error ellipse: s-maj=43.3km s-min=9.8km az=66.0*
ISC 24 14:12:12.8±0.6,**4°.26S**±0°.10×**127°.2E**±0°.2,**h300km,n32,** σ1°**02**/33,**mb3.9**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.25**	**75**	Pn	Pn	14 13 29.6	-3.7
LUWI	**Luwuk**	**5.42**	**306**	Pn	**Pn**	**14 13 33.6**	**-1.8**
TOLI2	**Tolitoli**	**8.31**	**310**	Pn	**Pn**	**14 14 09.7**	**-0.6**
MTN	**Manton Dam**	**9.39**	**156**		**Pn**	**14 14 21.8**	**-1.7**
KNRA	**Kununurra**	**11.45**	**172**		**Pn**	**14 14 40.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**13.83**	**186**	P	**Pn**	**14 15 18.0**	**+0.6**
WB0	**Warramunga Arr**	**16.95**	**156**	P	**P**	**14 15 50.6**	**-0.7**
WB0				IAmb	IAmb	14 15 51.9	
	comp=Z,8.3nm,0.7s						
WRAB	**Tennant Creek**	**17.08**	**156**	P	**P**	**14 15 52.5**	**-0.2**
WRA	**Warramunga Arr**	**17.09**	**156**	P	**P**	**14 15 52.2**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=337,slow=11,SNR=214						
WRA				S	**S**	**14 18 58.5**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=339,slow=17,SNR=9.8						
WRA	**Warramunga Arr**	**17.09**	**156**	P	**P**	**14 15 51.3**	**-1.4**
WB2	**Warramunga Arr**	**17.09**	**156**	P	**P**	**14 15 52.1**	**-0.7**
WR0	**Warramunga Arr**	**17.18**	**156**	P	**P**	**14 15 53.5**	**-0.2**
AS31	**Alice Springs**	**20.36**	**162**	P	**P**	**14 16 27.1**	**-0.5**
AS31				IAmb	IAmb	14 16 28.8	
	comp=Z,4.4nm,0.3s						
ASAR	**Alice Springs**	**20.36**	**162**	P	**P**	**14 16 26.9**	**-0.7**
	comp=Z,4.9nm,0.4s,baz=344,slow=11,SNR=181						
ASAR				S	**S**	**14 19 56.5**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=342,slow=21,SNR=11						
ASAR	**Alice Springs**	**20.36**	**162**	P	**P**	**14 16 26.6**	**-0.9**
BBOO	**Buckleboo**	**29.60**	**165**	P	**P**	**14 17 50.9**	**+0.1**
BBOO				IAmb	IAmb	14 18 02.5	
	comp=Z,32nm,1.5s						
STKA	**Stephens Creek**	**30.63**	**155**	P	**P**	**14 18 00.4**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=338,slow=9.5,SNR=8.7						
STKA	**Stephens Creek**	**30.63**	**155**	P	**P**	**14 18 00.2**	**+0.4**
STKA				IAmb	IAmb	14 18 18.5	
	comp=Z,3.7nm,1.5s						
CMAR	**Chiang Mai Arr**	**35.82**	**310**	P	**P**	**14 18 46.0**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=132,slow=7.1,SNR=9.6						
CHTO	**Chiang Mai**	**36.03**	**310**	P	**P**	**14 18 47.5**	**+1.1**
CHTO				IAmb	IAmb	14 18 48.5	
	comp=Z,3.8nm,0.7s						
CAN	**Canberra**	**36.92**	**150**	P	**P**	**14 18 55.1**	**+1.4**
CAN				IAmb	IAmb	14 19 03.7	
	comp=Z,22nm,1.5s						
SONM	**Songino Array**	**54.99**	**343**	P	**P**	**14 21 14.5**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=168,slow=7.4,SNR=1.9						
BKZ	**Black Stump Fm**	**56.52**	**135**	P	**P**	**14 21 24.3**	**-0.3**
BKZ				IAmb	IAmb	14 21 43.3	
	comp=Z,41nm,1.3s						
PEA0B	**Petropavlovsk-**	**62.68**	**20**	P	**P**	**14 22 06.8**	**+0.7**
PEA0B				IAmb	IAmb	14 22 08.0	
	comp=Z,17nm,1.2s						
PETK	**Petropavlovsk-**	**62.68**	**20**	P	**P**	**14 22 05.6**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=196,slow=8.1,SNR=1.8						
PETK	**Petropavlovsk-**	**62.68**	**20**	P	**P**	**14 22 07.2**	**+1.2**
MK31	**Makanchi Array**	**64.41**	**327**	P	**P**	**14 22 17.2**	**-0.2**
MKAR	**Makanchi Array**	**64.41**	**327**	P	**P**	**14 22 17.6**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=113,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**64.41**	**327**	P	**P**	**14 22 17.3**	**-0.2**
MAKZ	**Makanchi**	**64.58**	**327**	P	**P**	**14 22 18.5**	**-0.1**
MAKZ				IAmb	IAmb	14 22 19.0	
	comp=Z,1.3nm,0.5s						
TIXI	**Tiksi**	**75.78**	**1**	P	**P**	**14 23 25.1**	**-0.4**
ABKAR	**Akbulak array**	**78.62**	**322**	P	**P**	**14 23 41.3**	**-0.5**

ISC 24 14:38:24.1±1.4,**50°.11N**±0°.07×**19°.10E**±0°.04,**h0km,n5,** σ0°**55**/9,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.46**	**77**	*e*Pg	**Pg**	**14 38 33.2**	**+0.3**
OJC				*e*Sg	**Sg**	**14 38 38.9**	**0.0**
LANS	**Liptovska Anna**	**0.99**	**166**	*e*PG	**Pg**	**14 38 43.3**	**+0.2**
LANS				*e*SG	**Sg**	**14 38 56.7**	**+0.7**
LANS				*e*LG	Lg	14 38 57.6	
MORC	**Moravsky Berou**	**1.06**	**252**	*e*PG	**Pg**	**14 38 44.6**	**+0.2**
MORC				*e*SG	**Sg**	**14 38 58.8**	**+0.6**
STHS	**Stebnicka Huta**	**1.56**	**116**	*e*PN	**Pg**	**14 38 54.2**	**+0.3**
VYHS	**Vyhne**	**1.63**	**186**	*e*PN	**Pn**	**14 38 53.5**	**-0.6**
VYHS				*e*SN	**Sn**	**14 39 15.2**	**-0.6**

IDC 24 14:46:03.5±3.2,**3°.43S**×**151°.54E**,**h0km,mb3.7**/3, **mb1 3.9**/3,**mb1mx3.4**/28,**mbtmp3.7**/3,**Error ellipse: s-maj=112.8km s-min=45.4km az=121.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.47**	**224**	P	P	14 51 14.2	-0.8
	0.8nm,0.4s,baz=52,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.36**	**219**	P	P	14 51 42.5	+0.9
	0.2nm,0.4s,baz=50,slow=8.4,SNR=17						
FITZ	**Fitzroy Crossi**	**29.25**	**238**	P	P	14 52 08.7	+1.2
	1.3nm,0.6s,baz=49,slow=9.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.67**	**290**	PKPbc	PKPdf	15 05 51.5	+1.4
	0.4nm,1.0s,baz=102,slow=1.5,SNR=1.5						

*MAN **24** 14:57:04.7, 18°.90N×122°.39E,h20km,MS3.2*
*IDC **24** 14:57:04.1±1.1, 18°.69N×122°.43E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.5/40,mbtmp3.6/7,ML3.4/1,MS3.0/4, Ms1 3.1/4,ms1mx2.6/37,Error ellipse: s-maj=33.9km s-min=20.4km az=72.0*
ISC 24 14:57:09.3±0.9,**18°.70N**±0°.08×**122°.3E**±0°.1,**h35km,n21,** σ2°**17**/15,**mb3.6/6,MS3.1**/3,**4C-1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.50**	**203**	*i*P	**Pn**	**14 57 19.2**	**-0.7**
SGCP				*i* S	**Sn**	**14 57 22.1**	**-5.2**
CVP	**Callao Caves**	**1.07**	**202**	*e*P	**Pn**	**14 57 28.0**	**+0.2**
CVP				*i* S	**Sn**	**14 57 42.3**	**+0.8**
APYP	**Conner**	**1.27**	**229**	*i*P	**Pn**	**14 57 29.9**	**-0.6**
APYP				*i* S	**Sn**	**14 57 47.2**	**+0.8**
PCPH	**Palayan**	**3.31**	**200**	*e*P	**Pn**	**14 58 02.1**	**+3.5**
LQP	**Lukban**	**4.61**	**189**	*e*P	**Pn**	**14 58 19.6**	**+2.9**
KSRS	**Korea Array**	**19.33**	**14**	P	**P**	**15 01 32.0**	**+0.5**
	0.1nm,0.3s,baz=202,slow=13,SNR=7.0						
KSRS				LR	LR	15 09 01.5	
	comp=Z,22nm,20.0s,baz=226,slow=37						
JHJ	**Hachijo jima 2**	**21.28**	**44**	LR	LR	15 07 58.9	
	comp=Z,31nm,21.1s,baz=282,slow=31						
CMAR	**Chiang Mai Arr**	**22.09**	**273**	P	**P**	**15 02 02.6**	**+1.0**
	1.0nm,1.0s,baz=59,slow=8.7,SNR=1.8						
SONM	**Songino Array**	**31.81**	**340**	LR	LR	15 17 36.8	
	comp=Z,42nm,18.5s,baz=166,slow=39						
WRA	**Warramunga Arr**	**40.19**	**162**	P	**P**	**15 04 41.3**	**-1.2**
	0.6nm,0.9s,baz=342,slow=9.3,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**42.03**	**83**	T	T	15 50 01.1	
	baz=278,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**42.04**	**83**	T	T	15 50 01.7	
	baz=278,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**42.05**	**83**	T	T	15 50 02.2	
	baz=278,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**42.08**	**81**	T	T	15 50 05.5	
	baz=277,slow=75,SNR=46						
H11N2	**WAKE ISLAND Hy**	**42.08**	**81**	T	T	15 50 10.0	
	baz=277,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**42.09**	**81**	T	T	15 50 09.9	
	baz=277,slow=75,SNR=24						
MKAR	**Makanchi Array**	**43.05**	**320**	P	**P**	**15 05 06.8**	**+1.1**
	0.8nm,0.5s,baz=112,slow=9.3,SNR=14						
ASAR	**Alice Springs**	**43.62**	**164**	P	**P**	**15 05 10.4**	**-0.1**
	0.5nm,0.6s,baz=347,slow=7.4,SNR=10						
PETK	**Petropavlovsk-**	**43.96**	**30**	P	**P**	**15 05 11.1**	**-1.8**
	1.5nm,0.9s,baz=258,slow=10,SNR=1.8						
ZALV	**Zalesovo Beam**	**45.42**	**330**	P	**P**	**15 05 24.9**	**+0.5**
	0.6nm,0.4s,baz=122,slow=14,SNR=2.5						
NOA	**NORSAR Array B**	**83.52**	**333**	LR	LR	15 50 20.4	
	comp=Z,18nm,18.1s,baz=265,slow=38						

IDC 24 15:20:16.3±1.4,**12°.56N**×**48°.44E**,**h0km,mb3.7**/5, **mb1 4.0**/5,**mb1mx3.6**/33,**mbtmp3.7**/5,**MS3.3**/3,**Ms1 3.3**/3, **ms1mx2.8**/33,**Error ellipse: s-maj=56.0km s-min=32.8km az=177.0,Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**26.70**	**17**	LR	LR	15 38 28.8	
	comp=Z,52nm,19.0s,baz=350,slow=41						
BRTR	**Keskin Array B**	**30.05**	**337**	LR	LR	15 38 18.8	
	comp=Z,31nm,19.3s,baz=149,slow=36						
MKAR	**Makanchi Array**	**44.43**	**33**	P	P	15 28 28.8	-0.1
	0.3nm,0.8s,baz=212,slow=7.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**45.53**	**276**	P	P	15 28 38.0	-0.1
	0.6nm,0.7s,baz=96,slow=8.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**48.89**	**76**	P	P	15 29 04.4	0.0
	1.4nm,1.0s,baz=282,slow=8.8,SNR=4.5						
WRA	**Warramunga Arr**	**90.43**	**110**	P	P	15 33 20.2	-0.2
	1.3nm,0.8s,baz=298,slow=3.8,SNR=8.2						
ASAR	**Alice Springs**	**90.88**	**114**	P	P	15 33 22.5	0.0
	0.4nm,0.9s,baz=284,slow=5.5,SNR=3.1						
PETK	**Petropavlovsk-**	**91.25**	**35**	LR	LR	16 18 27.4	
	comp=Z,25nm,19.3s,baz=165,slow=38						

*IDC **24** 15:33:47.4±2.1,7°.36S×129°.24E,h147km±29km,mb2.9/1, mb1 3.6/6,mb1mx3.3/35,mbtmp4.0/6,Error ellipse: s-maj=34.9km s-min=20.8km az=97.0*
ISC 24 15:33:46.3±0.9,**7°.38S**±0°.07×**129°.3E**±0°.1,**h150km,n6,** σ3°**01**/9,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.22**	**243**	P	**Pn**	**15 35 17.9**	**+1.9**
	5.4nm,0.3s,baz=92,slow=2.5,SNR=7.7						
BATI				S	**Sn**	**15 36 22.8**	**-3.5**
	8.0nm,0.3s,baz=88,slow=4.9,SNR=5.3						
SIJI	**Sorong**	**6.76**	**17**	P	**Pn**	**15 35 24.2**	**+0.9**
	1.1nm,0.3s,baz=31,slow=22,SNR=7.2						
SIJI				S	**Sn**	**15 36 35.7**	**-3.6**
	1.4nm,0.3s,baz=188,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.23**	**198**	P	**Pn**	**15 36 22.9**	**+0.4**
	1.2nm,0.3s,baz=21,slow=12,SNR=43						
FITZ				S	Sn	15 38 18.4	-8.3
	0.4nm,0.3s,baz=82,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**13.41**	**159**	P	**Pn**	**15 36 51.4**	**+0.5**
	1.4nm,0.3s,baz=335,slow=14,SNR=44						
WRA				S	Sn	15 39 11.3	-8.1
	1.1nm,0.3s,baz=332,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**16.79**	**165**	P	**Pn**	**15 37 35.7**	**+3.0**
	0.6nm,0.3s,baz=337,slow=9.5,SNR=86						
ASAR				S	**S**	**15 40 35.6**	**-3.8**
	0.2nm,0.3s,baz=345,slow=25,SNR=3.3						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**15 44 31.2**	**+0.9**
	0.2nm,0.5s,baz=122,slow=5.4,SNR=2.4						

IDC 24 15:38:41.4±2.6,**15°.63S**×**179°.61E**,**h0km,mb3.8**/3, **mb1 4.1**/4,**mb1mx3.7**/37,**mbtmp3.8**/4,**ML5.1**/1,**MS3.3**/7, **Ms1 3.3**/7,**ms1mx3.0**/33,**Error ellipse: s-maj=91.3km s-min=26.4km az=126.0,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.57**	**215**	Pn	Pn	15 39 24.4	0.0
	18nm,0.3s,baz=69,slow=22,SNR=65						
MSVF				Sn	Sb	15 39 59.3	-1.4
	12nm,0.3s,baz=107,slow=22,SNR=5.6						
MSVF				LR	LR	15 40 32.4	
	comp=Z,366nm,21.4s,baz=183,slow=43						
AFI	**Afiamalu**	**8.50**	**80**	LR	LR	15 42 55.1	
	comp=Z,96nm,20.4s,baz=246,slow=30						
DZM	**Mont Dzumac**	**14.01**	**241**	LR	LR	15 46 35.6	
	comp=Z,107nm,18.8s,baz=70,slow=34						
DZM	**Mont Dzumac**	**14.01**	**241**	*e*LR	LR	15 45 51.9	
	comp=Z,103nm,25.1s						
HNR	**Honiara**	**20.15**	**285**	LR	LR	15 50 09.0	
	comp=Z,163nm,18.4s,baz=103,slow=34						
RAR	**Rarotonga**	**20.32**	**109**	LR	LR	15 49 56.6	
	comp=Z,110nm,18.1s,baz=257,slow=33						
URZ	**Urewera**	**22.65**	**185**	LR	LR	15 50 13.4	
	comp=Z,99nm,20.0s,baz=26,slow=31						
PPT	**Papeete**	**29.57**	**98**	LR	LR	15 54 40.2	
	comp=Z,40nm,18.8s,baz=85,slow=32						
PPT2	**Papeete2**	**29.57**	**98**	*e*LR	LR	15 51 59.0	
	comp=Z,132nm,32.2s						
TBI	**Tubuai**	**30.10**	**110**	*e*LR	LR	15 52 25.6	
	comp=Z,84nm,28.0s						
TAOE	**Nuku Hiva Isla**	**39.85**	**85**	*e*LR	LR	15 56 38.2	
	comp=Z,119nm,28.9s						
WRA	**Warramunga Arr**	**43.23**	**257**	P	P	15 46 45.3	+0.5
	0.8nm,1.0s,baz=94,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**43.63**	**252**	P	P	15 46 47.2	-0.8
	1.5nm,0.7s,baz=84,slow=8.6,SNR=19						
ILAR	**Eielson Array**	**84.12**	**14**	P	P	15 51 14.0	+0.2
	1.0nm,0.9s,baz=226,slow=6.1,SNR=5.8						

*IDC **24** 15:40:34.7±5.0,36°.58N×139°.66E,h121km±44km,mb3.0/2, mb1 3.3/2,mb1mx2.8/45,mbtmp3.3/2,Error ellipse: s-maj=95.6km s-min=25.9km az=90.0*
*JMA **24** 15:40:36.1±0.1,36°.11N×139°.69E,h85km±1km,M2.5*
ISC 24 15:40:35.1±1.4,**36°.11N**±0°.06×**139°.7E**±0°.1,**h92km**±9km, **n11,**σ0°**64**/18,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.37**	**329**	P	**Pn**	**15 40 49.3**	**+0.1**
JAG				S	**Sn**	**15 40 59.2**	**-0.5**
JRY	**Ryogami san**	**0.64**	**262**	P	**Pn**	**15 40 51.7**	**+0.4**
JRY				S	**Sn**	**15 41 03.5**	**+0.1**
JKT	**Katashina**	**0.75**	**332**	P	**Pn**	**15 40 52.8**	**+0.4**
JKT				S	**Sn**	**15 41 05.5**	**+0.2**
JOD2	**Odawara 2**	**0.97**	**210**	P	**Pn**	**15 40 54.8**	**+0.1**
JOD2				S	**Sn**	**15 41 08.6**	**-0.7**
JYN	**Shimob**	**1.11**	**237**	P	**Pn**	**15 40 56.7**	**+0.4**
JYN				S	**Sn**	**15 41 12.4**	**+0.2**
JFNN	**Fujinakano**	**1.22**	**222**	S	**Sn**	**15 41 14.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.27**	**290**	P	**Pn**	**15 40 57.8**	**-0.4**
	1.7nm,0.3s,baz=87,slow=26,SNR=117						
MJAR				S	**Sn**	**15 41 16.3**	**+0.8**
	0.7nm,0.3s,baz=163,slow=17,SNR=7.4						
MAT	**Matsushiro**	**1.27**	**290**	P	**Pn**	**15 40 58.5**	**+0.4**
MAT				S	**Sn**	**15 41 13.8**	**-1.8**
MAT	**Matsushiro**	**1.27**	**290**	P	**Pn**	**15 40 58.6**	**+0.4**
WRA	**Warramunga Arr**	**55.97**	**186**	P	**P**	**15 50 03.6**	**-0.3**
	0.5nm,1.0s,baz=1.1,slow=7.3,SNR=5.3						
ASAR	**Alice Springs**	**59.70**	**186**	P	**P**	**15 50 30.1**	**+0.2**
	0.3nm,0.8s,baz=6.8,slow=9.3,SNR=2.0						

*NOU **24** 16:00:46.4, 17°.73S×178°.38W,h595km,MLv5.3,Fiji Islands Region*
*NEIC **24** 16:00:46.6±2.4, 18°.0S±0°.1×178°.4W±0°.1,h570km±7km, mb4.5/78,Error ellipse: s-maj=17.2km s-min=13.5km az=129.0*
*IDC **24** 16:00:49.1±0.9, 17°.87S×178°.63W,h599km±9km,mb3.6/14, mb1 3.8/16,mb1mx3.6/34,mbtmp4.5/16,Error ellipse: s-maj=16.8km s-min=12.5km az=124.0*
ISC 24 16:00:46.4±0.4,**17°.99S**±0°.06×**178°.39W**±0°.06,**h579km,** **n176,**σ1°**32**/179,**mb4.3**/58,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.40**	**274**	P	**P**	**16 02 07.7**	**+1.3**
	33nm,0.3s,baz=124,slow=3.1,SNR=182						
MSVF				S	**S**	**16 03 15.8**	**+4.2**
	1.0nm,0.3s,baz=103,slow=23,SNR=8.4						
MSVF	**Nonsavu**	**3.40**	**274**	P	**P**	**16 02 07.3**	**+0.9**
MSVF	**Nonsavu**	**3.40**	**274**	P	**P**	**16 02 07.5**	**+1.1**
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**16 02 39.4**	**-1.4**
	30nm,0.3s,baz=222,slow=2.3,SNR=35						
AFI				S	**S**	**16 04 09.7**	**-4.7**
	4.5nm,0.3s,baz=20,slow=22,SNR=1.9						
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**16 02 39.0**	**-1.8**
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**16 02 39.4**	**-1.4**
NIUE	**Niue**	**8.10**	**99**	P	**P**	**16 02 47.1**	**+1.2**
	baz=8.2,SNR=6.4						
NIUE	**Niue**	**8.10**	**99**	P	**P**	**16 02 47.0**	**+1.0**
NIUE	**Niue**	**8.10**	**99**	P	**P**	**16 02 47.5**	**+1.5**
RAO	**Raoul Island**	**11.22**	**178**	P	**P**	**16 03 13.8**	**-3.2**
	92nm,0.3s,baz=139,slow=20,SNR=2.1						
RAO	**Raoul Island**	**11.22**	**178**	P	**P**	**16 03 13.6**	**-3.4**
LIFNC	**LIFOU**	**13.85**	**256**	P	**P**	**16 03 42.0**	**-2.0**
SANVU	**Saraoutou**	**14.04**	**278**	P	**P**	**16 03 47.4**	**+1.4**
PINNC	**Pines Island,**	**14.06**	**249**	P	**P**	**16 03 45.1**	**-1.0**
PINNC	**Pines Island,**	**14.06**	**249**	P	**P**	**16 03 45.3**	**-0.9**
YATNC	**Mamie plateau,**	**14.42**	**251**	P	**P**	**16 03 51.3**	**+1.6**
OUENC	**Ouen Island, N**	**14.55**	**250**	P	**P**	**16 03 50.8**	**-0.1**
OUENC	**Ouen Island, N**	**14.55**	**250**	P	**P**	**16 03 51.3**	**+0.4**
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**16 03 53.6**	**-0.1**
	2.8nm,0.3s,baz=84,slow=16,SNR=26						
DZM	**Mont Dzumac**	**14.82**	**252**	*e*P	**P**	**16 03 52.9**	**-0.8**
	2.3nm,0.3s						
DZM				*e*LR	LR	16 06 22.4	
	comp=Z,185nm,24.9s						
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**16 03 53.4**	**-0.2**
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**16 03 53.7**

WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**16 08 07.2**	**-1.5**
WRAB	**Tennant Creek**	**44.63**	**260**	P	**P**	**16 08 07.2**	**-1.5**
WRAB				IAmb	IAmb	16 08 08.2	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**16 08 07.2**	**-1.5**
	comp=Z,17nm,0.7s,baz=95,slow=7.0,SNR=165						
WRA				PcP	**PcP**	**16 09 39.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=94,slow=3.2,SNR=5.2						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**16 08 06.6**	**-2.1**
AS31	**Alice Springs**	**44.79**	**254**	P	**P**	**16 08 09.2**	**-0.7**
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**16 08 09.2**	**-0.7**
	comp=Z,144nm,0.7s,baz=88,slow=8.4,SNR=2114						
ASAR				PcP	**PcP**	**16 09 39.2**	**0.0**
	comp=Z,3.9nm,0.8s,baz=100,slow=4.4,SNR=4.5						
ASAR				ScP	**ScP**	**16 12 36.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=78,slow=5.1,SNR=4.1						
KDU	**Kakadu**	**47.58**	**269**	P	**P**	**16 08 30.1**	**-0.9**
	baz=48,SNR=8.7						
MTN	**Manton Dam**	**48.82**	**268**	P	**P**	**16 08 38.9**	**-1.2**
	baz=49,SNR=13						
MTN	**Manton Dam**	**48.82**	**268**	P	**P**	**16 08 38.8**	**-1.4**
MTN				IAmb	IAmb	16 08 39.7	
	comp=Z,25nm,0.7s						
WRKA	**Warakurna**	**49.84**	**252**	P	**P**	**16 08 47.1**	**-0.6**
	baz=50,SNR=56						
FORT	**Forrest**	**49.99**	**245**	P	**P**	**16 08 47.7**	**-0.9**
	baz=50,SNR=40						
FORT	**Forrest**	**49.99**	**245**	P	**P**	**16 08 47.5**	**-1.1**
KNRA	**Kununurra**	**50.50**	**264**	P	**P**	**16 08 51.5**	**-1.0**
	baz=50,SNR=17						
KNRA	**Kununurra**	**50.50**	**264**	P	**P**	**16 08 51.3**	**-1.2**
SIJI	**Sorong**	**52.27**	**283**	P	**P**	**16 09 04.6**	**-0.7**
	comp=Z,37nm,1.1s						
SWI	**Sorong**	**52.28**	**283**	P	**P**	**16 09 04.6**	**-0.8**
	comp=Z,84nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**16 09 10.4**	**-0.3**
	baz=53,SNR=6.2						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**16 09 10.4**	**-0.3**
FITZ				IAmb	IAmb	16 09 10.7	
	comp=Z,9.8nm,0.9s						
SOEI	**Soe**	**56.09**	**270**	P	**P**	**16 09 32.8**	**+0.5**
SOEI	**Soe**	**56.09**	**270**	P	**P**	**16 09 33.0**	**+0.7**
	comp=Z,79nm,1.1s						
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**16 09 43.1**	**-1.3**
PSA00				IAmb	IAmb	16 09 44.4	
	comp=Z,14nm,0.8s						
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**16 09 43.2**	**-1.2**
PSA00				IAmb	IAmb	16 09 44.3	
	comp=Z,30nm,0.7s						
MMRI	**Maumere**	**58.32**	**271**	P	**P**	**16 09 46.2**	**-1.1**
MMRI				IAmb	IAmb	16 09 47.0	
	comp=Z,41nm,1.1s						
MEEK	**Meekatharra**	**58.43**	**249**	P	**P**	**16 09 46.8**	**-1.1**
	baz=58,SNR=13						
EDFI	**Ende, Flores**	**58.81**	**271**	P	**P**	**16 09 47.3**	**-3.4**
	comp=Z,15nm,1.0s						
KLBR	**Kellerberrin**	**58.81**	**244**	P	**P**	**16 09 49.5**	**-0.9**
	baz=59,SNR=21						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**16 09 52.4**	**-0.5**
	baz=59,SNR=6.2						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**16 09 52.2**	**-0.7**
NWAO				IAmb	IAmb	16 09 59.1	
	comp=Z,43nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**16 09 52.2**	**-0.7**
NWAO				IAmb	IAmb	16 09 59.1	
	comp=Z,35nm,1.4s						
BLDU	**Ballidu**	**59.77**	**245**	P	**P**	**16 09 55.7**	**-1.0**
	baz=60,SNR=13						
MUN	**Mundaring**	**60.11**	**243**	P	**P**	**16 09 58.9**	**0.0**
	baz=60,SNR=3.4						
SBA	**Scott Base**	**60.34**	**184**	P	**P**	**16 10 02.1**	**+2.4**
VNDA	**Vanda**	**60.37**	**185**	P	**P**	**16 10 01.9**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=349,slow=7.0,SNR=9.6						
VNDA	**Vanda**	**60.37**	**185**	P	**P**	**16 10 58.4**	**-0.9**
MORW	**Morawa**	**60.47**	**246**	P	**P**	**16 10 00.6**	**-0.8**
	baz=60,SNR=8.4						
MORW	**Morawa**	**60.47**	**246**	P	**P**	**16 10 00.3**	**-1.1**
MORW				IAmb	IAmb	16 10 01.0	
	comp=Z,9.4nm,0.8s						
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**16 10 17.9**	**+0.6**
	baz=63,SNR=5.1						
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**16 10 17.9**	**+0.6**
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**16 10 47.5**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=327,slow=9.0,SNR=5.4						
UGM	**Wanagama**	**69.67**	**268**	P	**P**	**16 10 58.4**	**-0.9**
ATKA	**Atka Island**	**69.98**	**3**	P	**P**	**16 10 58.7**	**-1.5**
ATKA				IAmb	IAmb	16 11 00.1	
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**16 11 13.7**	**+1.2**
	baz=42,slow=1.6						
TPUB	**Ta-pu**	**72.32**	**302**	P	**P**	**16 11 13.2**	**-1.3**
TPUB				IAmb	IAmb	16 11 17.0	
	comp=Z,30nm,1.1s						
PET	**Petropavlovsk**	**73.45**	**346**	P	**P**	**16 11 19.8**	**-0.5**
PET				IAmb	IAmb	16 11 42.2	
	comp=Z,24nm,1.2s						
PEA0B	**Petropavlovsk-**	**73.76**	**345**	P	**P**	**16 11 22.5**	**+0.4**
PEA0B				IAmb	IAmb	16 11 23.2	
	comp=Z,13nm,1.2s						
PETK	**Petropavlovsk-**	**73.76**	**345**	P	**P**	**16 11 22.3**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=151,slow=9.8,SNR=5.6						
PETK	**Petropavlovsk-**	**73.76**	**345**	P	**P**	**16 11 21.6**	**-0.5**
KSRS	**Korea Array**	**74.77**	**318**	P	**P**	**16 11 27.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=121,slow=5.8,SNR=5.1						
KSAR	**Wonju Array Be**	**74.79**	**318**	P	**P**	**16 11 31.2**	**+2.9**
MDPB	**Devils Postpil**	**78.52**	**44**	P	**P**	**16 11 50.8**	**+1.8**
YBH	**Yreka Blue Hor**	**78.57**	**39**	P	**P**	**16 11 50.5**	**+1.5**
WAKR	**Walker**	**78.76**	**43**	P	**P**	**16 11 51.9**	**+1.8**
BEKR	**Beckworth**	**78.93**	**42**	P	**P**	**16 11 52.6**	**+1.6**
PNTR	**Pine Nut**	**78.98**	**43**	P	**P**	**16 11 53.1**	**+1.8**
PNTR				IAmb	IAmb	16 11 53.8	
	comp=Z,9.4nm,0.8s						
LHV	**Little Huntoon**	**79.23**	**44**	P	**P**	**16 11 54.8**	**+2.4**
LHV				IAmb	IAmb	16 11 58.7	
	comp=Z,9.4nm,1.2s						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**16 11 55.5**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=225,slow=8.7,SNR=22						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**16 11 55.8**	**+1.9**
PAHR	**Pah Rah Range**	**79.46**	**42**	P	**P**	**16 11 55.1**	**+1.3**
KVN	**Kaiserville**	**79.94**	**43**	P	**P**	**16 11 57.6**	**+1.3**
TPNV	**Topopah Spring**	**80.06**	**46**	P	**P**	**16 11 58.6**	**+1.6**
MOD	**Modoc Plateau**	**80.13**	**40**	P	**P**	**16 11 58.9**	**+1.7**
MOD				IAmb	IAmb	16 11 59.4	
	comp=Z,5.8nm,0.8s						
K05A	**Summer Lake**	**80.25**	**39**	P	**P**	**16 11 60.0**	**+2.1**
K05A				IAmb	IAmb	16 12 00.4	
	comp=Z,9.7nm,1.0s						
CNPM	**China Poot**	**80.35**	**14**	P	**P**	**16 11 58.5**	**+0.7**
CNPM				IAmb	IAmb	16 12 13.6	
	comp=Z,13nm,1.2s						
PINE	**Pine Mountain**	**80.84**	**38**	P	**P**	**16 12 02.7**	**+1.8**
PINE				IAmb	IAmb	16 12 03.4	
	comp=Z,11nm,1.0s						
PRN	**Pahroc Range**	**81.11**	**46**	P	**P**	**16 12 04.7**	**+2.3**
PRN				IAmb	IAmb	16 12 05.2	
	comp=Z,7.2nm,0.9s						
I07A	**Izee**	**81.85**	**39**	P	**P**	**16 12 07.5**	**+1.5**
I07A				IAmb	IAmb	16 12 08.3	
	comp=Z,6.8nm,0.9s						
PSUT	**Pine Spring**	**82.50**	**46**	P	**P**	**16 12 10.7**	**+1.2**
GLI	**Glacier Island**	**82.52**	**15**	P	**P**	**16 12 08.8**	**0.0**
GLI				IAmb	IAmb	16 12 35.1	
	comp=Z,11nm,0.9s						
TTA	**Tatalina**	**82.55**	**10**	P	**P**	**16 12 09.7**	**+0.7**
G08A	**Pilot Rock**	**82.86**	**38**	P	**P**	**16 12 12.4**	**+1.4**
GHO	**Glory Hole Cre**	**82.88**	**14**	P	**P**	**16 12 10.8**	**+0.2**
GHO				IAmb	IAmb	16 12 11.2	
	comp=Z,7.5nm,0.7s						
BMRM	**Bremner River**	**83.22**	**16**	P	**P**	**16 12 13.1**	**+0.7**
SCM	**Sheep Creek Mo**	**83.30**	**14**	P	**P**	**16 12 13.0**	**+0.2**
SCM				IAmb	IAmb	16 12 13.4	
	comp=Z,8.4nm,0.7s						
N25K	**Chitina, Valde**	**83.77**	**16**	P	**P**	**16 12 15.1**	**0.0**
N25K				IAmb	IAmb	16 12 16.0	
	comp=Z,6.0nm,0.7s						
MAW	**Mawson**	**83.80**	**200**	P	**P**	**16 12 15.9**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=139,slow=6.0,SNR=10.0						
MAW	**Mawson**	**83.80**	**200**	P	**P**	**16 12 16.3**	**+1.2**
GLB	**Gilahina Butte**	**83.83**	**16**	P	**P**	**16 12 15.9**	**+0.5**
GLB				IAmb	IAmb	16 12 16.1	
	comp=Z,3.9nm,0.7s						
SEY	**Seymchan**	**83.86**	**347**	P	**P**	**16 12 14.3**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=123,slow=4.6,SNR=5.3						
KTH	**Kantishna Hill**	**84.05**	**12**	P	**P**	**16 12 15.1**	**-1.3**
KTH				IAmb	IAmb	16 12 16.8	
	comp=Z,4.5nm,0.9s						
TRF	**Thorofare Moun**	**84.08**	**12**	P	**P**	**16 12 15.7**	**-1.0**
TRF				IAmb	IAmb	16 12 17.1	
	comp=Z,6.5nm,0.7s						
WRH	**Wood River Hil**	**85.44**	**13**	P	**P**	**16 12 23.4**	**+0.4**
WRH				IAmb	IAmb	16 12 24.1	
	comp=Z,5.4nm,1.0s						
DOT	**Dot Lake**	**85.63**	**15**	P	**P**	**16 12 24.5**	**+0.4**
CCB	**Clear Creek Bu**	**85.65**	**13**	P	**P**	**16 12 23.6**	**-0.4**
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**16 12 24.8**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=235,slow=5.6,SNR=9.0						
TX31	**Lajitas Ar. Si**	**86.02**	**58**	P	**P**	**16 12 29.0**	**+2.3**
TX31				IAmb	IAmb	16 12 30.2	
	comp=Z,18nm,1.0s						
TX32	**Lajitas Array**	**86.02**	**58**	P	**P**	**16 12 29.5**	**+2.7**
TX32				IAmb	IAmb	16 12 30.2	
	comp=Z,6.0nm,1.0s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**16 12 29.1**	**+2.3**
	comp=Z,3.1nm,0.8s,baz=217,slow=6.1,SNR=32						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**16 12 29.5**	**+2.7**
XAN	**Xi'an**	**86.32**	**307**	P	**P**	**16 12 28.8**	**+0.7**
XAN				pP	PcP	16 12 38.6	+8.9
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
HHC	**Hu-ho-hao-te**	**87.34**	**314**	*e*P	**P**	**16 12 36.6**	**+3.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,62nm,5.5s						
BW06	**Boulder Array**	**87.39**	**43**	P	**P**	**16 12 34.2**	**+1.0**
PD31	**Pinedale Array**	**87.39**	**43**	P	**P**	**16 12 34.3**	**+1.2**
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**16 12 34.0**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=215,slow=2.7,SNR=17						
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**16 12 34.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.93**	**290**	P	**P**	**16 12 41.6**	**+1.1**
	comp=Z,2.6nm,0.9s,baz=94,slow=2.6,SNR=11						
CMAR	**Chiang Mai Arr**	**88.93**	**290**	P	**P**	**16 12 41.4**	**+0.9**
SNAA	**Sanae**	**90.52**	**179**	P	**P**	**16 12 46.9**	**0.0**
VNA3	**Neumayer Olymp**	**90.66**	**176**	P	**P**	**16 12 48.0**	**+0.4**
VNA2	**Neumayer--Watz**	**91.10**	**177**	P	**P**	**16 12 50.3**	**+0.8**
VNA1	**Neumayer--Stat**	**91.33**	**177**	P	**P**	**16 12 51.7**	**+1.1**
MKAR	**Makanchi Array**	**109.20**	**314**	PKiKP	**PKiKP**	**16 18 10.1**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=101,slow=2.5,SNR=5.1						
LODK	**Lodwar**	**143.92**	**250**	PKPdf	PKPbc	16 19 17.0	0.0
BRTR	**Keskin Array B**	**144.85**	**315**	PKP	PKPbc	16 19 19.1	-0.2
	comp=Z,3.3nm,0.9s,baz=132,slow=3.7,SNR=7.5						
BRTR	**Keskin Array B**	**144.85**	**315**	PKPdf	**PKPdf**	**16 19 18.8**	**+0.2**
CRVS	**Cervenica-Dubn**	**145.22**	**337**	*e*PKP	**PKPbc**	**16 19 19.4**	**-0.4**
CLL	**Collm**	**145.54**	**347**	*i* PKPbc	**PKPbc**	**16 19 20.8**	**+0.2**
	comp=Z,4.0nm,1.0s						
LANS	**Liptovska Anna**	**145.72**	**339**	*e*PKP	**PKPab**	**16 19 23.1**	**+0.1**
MBAR	**Mbarara**	**145.91**	**240**		**PKPbc**	**16 19 23.6**	**+0.5**
MODS	**Modra-Piesok**	**147.11**	**341**	*e*PKP	**PKPbc**	**16 19 25.1**	**0.0**
GERES	**GERESS Array B**	**147.69**	**345**	PKPbc	**PKPbc**	**16 19 26.7**	**0.0**
	comp=Z,1.6nm,0.7s,baz=29,slow=3.8,SNR=6.8						
GERES	**GERESS Array B**	**147.69**	**345**		**PKPbc**	**16 19 26.5**	**-0.1**
FNA	**Florina**	**151.62**	**327**		**PKPbc**	**16 19 35.6**	**-0.6**

*IDC **24** 16:15:18.9±3.5, 35°.33N×141°.66E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.2/33, mbtmp3.2/4, ML2.5/2, Error ellipse: s-maj=73.0km s-min=31.7km az=67.0*
*JMA **24** 16:15:22.9±0.1, 35°.20N×141°.22E, h34km±3km, M2.6*
ISC 24 16:15:23.3±1.6, 35°.13N±0°.05×141°.3E±0°.1, h27km, n16, σ1s47/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.53**	**207**	P	**Pn**	**16 15 34.3**	**-0.3**
CHOJ	**Chosi**	**0.66**	**330**	P	**Pb**	**16 15 34.6**	**-1.7**
CHOJ				*e*S	**Sb**	**16 15 43.3**	**-1.9**
BSO3	**Boso 3**	**0.70**	**243**	P	**Pb**	**16 15 36.4**	**-0.4**
JKUC	**kamogawauchiur**	**0.87**	**272**	P	**Pn**	**16 15 38.5**	**-1.3**
JCN	**Nagara**	**0.92**	**289**	P	**Pn**	**16 15 39.5**	**-0.9**
JHJ	**Hachijo jima 2**	**2.35**	**212**	Pn	**Pb**	**16 16 03.5**	**-1.5**
	4.7nm,0.3s,baz=97,slow=21,SNR=7.3						
JHJ				Sn	**Sn**	**16 16 27.9**	**-0.2**
	6.4nm,0.3s,baz=239,slow=21,SNR=1.6						
MJAR	**Matsushiro Arr**	**2.86**	**300**	Pn	**Pn**	**16 16 08.4**	**+1.3**
	0.2nm,0.3s,baz=137,slow=5.1,SNR=15						
MAT	**Matsushiro**	**2.86**	**300**	P	**Pn**	**16 16 08.7**	**+1.6**
MAT				*e*S	**Sn**	**16 16 42.7**	**+2.0**
H11N2	**WAKE ISLAND Hy**	**27.33**	**117**	T	T	16 50 10.5	
	baz=310,slow=75,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**27.33**	**117**	T	T	16 50 08.3	
	baz=310,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.34**	**117**	T	T	16 50 05.1	
	baz=310,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.97**	**120**	T	T	16 50 56.9	
	baz=312,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hy**	**27.97**	**120**	T	T	16 51 00.4	
	baz=312,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**27.99**	**120**	T	T	16 50 57.2	
	baz=312,slow=75,SNR=49						
MKAR	**Makanchi Array**	**45.05**	**304**	P	**P**	**16 23 37.4**	**+0.7**
	0.3nm,0.7s,baz=98,slow=6.0,SNR=1.9						
WRA	**Warramunga Arr**	**55.16**	**188**	P	**P**	**16 24 54.7**	**+1.2**
	0.2nm,0.5s,baz=2.4,slow=7.1,SNR=2.3						

*IDC **24** 16:26:23.2±0.8, 25°.49N×142°.14E, h0km, mb3.8/15, mb1 3.9/18, mb1mx3.8/38, mbtmp3.7/18, ML3.0/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/41, Error ellipse: s-maj=29.7km s-min=13.5km az=88.0*
*NEIC **24** 16:26:29.2±1.3, 25°.60N±0°.09×142°.4E±0°.1, h39km±7km, mb4.3/14, Error ellipse: s-maj=16.4km s-min=12.1km az=112.0*
ISC 24 16:26:28.6±0.7, 25°.51N±0°.07×142°.2E±0°.2, h35km, n42, σ0s79/40, mb4.1/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.58**	**0**	Pn	**Pn**	**16 26 53.2**	**-0.9**
	147nm,0.3s,baz=318,slow=22,SNR=160						
JCJ				Sn	**Sn**	**16 27 15.0**	**+1.6**
	203nm,0.3s,baz=121,slow=24,SNR=15						
JCJ	**Chichijima**	**1.58**	**0**		**Pn**	**16 26 53.0**	**-1.2**
JHJ	**Hachijo jima 2**	**7.87**	**345**	LR	LR	16 31 21.0	
	comp=Z,42nm,20.3s,baz=28,slow=38						
MJAR	**Matsushiro Arr**	**11.51**	**344**	Pn	**Pn**	**16 29 10.5**	**0.0**
	0.0nm,0.3s,baz=174,slow=13,SNR=1.6						
JTM	**Tenmabayashi**	**15.27**	**357**	Pn	**Pn**	**16 30 01.1**	**-0.3**
JTM				IAmb	IAmb	16 30 06.3	
	comp=Z,51nm,1.5s						
KSRS	**Korea Array**	**17.00**	**318**	P	**Pn**	**16 30 23.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=1.9						
ASAJ	**Asahikawa**	**18.57**	**1**	P	**Pn**	**16 30 43.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=249,slow=14,SNR=1.7						
USRK	**Ussuriysk Ar.**	**20.41**	**339**	P	Pn	16 31 03.5	-1.2
	comp=Z,0.7nm,0.6s,baz=120,slow=14,SNR=3.2						
USRK	**Ussuriysk Ar.**	**20.41**	**339**	P	Pn	16 31 03.9	-0.9
KLR	**Kul'dur**	**25.04**	**344**	P	**P**	**16 31 48.9**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=131,slow=6.6,SNR=6.7						
SONM	**Songino Array**	**35.87**	**318**	P	**P**	**16 33 24.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=122,slow=9.9,SNR=4.3						
SONM	**Songino Array**	**35.87**	**318**	P	**P**	**16 33 25.9**	**+0.8**
SONM				IAmb	IAmb	16 33 27.4	
	comp=Z,1.9nm,1.4s						
MTN	**Manton Dam**	**39.61**	**197**	P	**P**	**16 33 57.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**40.56**	**269**	P	**P**	**16 34 04.0**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=77,slow=5.3,SNR=2.3						
WB0	**Warramunga Arr**	**45.63**	**190**	P	**P**	**16 34 45.2**	**-0.5**
WB0				IAmb	IAmb	16 34 58.4	
	comp=Z,3.4nm,1.0s						
WR0	**Warramunga Arr**	**45.80**	**190**	P	**P**	**16 34 47.2**	**+0.2**
WR0				IAmb	IAmb	16 35 02.0	
	comp=Z,9.5nm,1.4s						
WB2	**Warramunga Arr**	**45.81**	**190**	P	**P**	**16 34 47.2**	**0.0**
WB2				IAmb	IAmb	16 35 07.2	
	comp=Z,5.4nm,1.0s						
WRA	**Warramunga Arr**	**45.81**	**190**	P	**P**	**16 34 47.5**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=8.8,slow=8.5,SNR=41						
WRA	**Warramunga Arr**	**45.81**	**190**	P	**P**	**16 34 47.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**46.23**	**202**	P	**P**	**16 34 52.4**	**+1.9**
FITZ				IAmb	IAmb	16 35 00.8	
	comp=Z,5.0nm,0.9s						
AS31	**Alice Springs**	**49.53**	**190**	P	**P**	**16 35 14.8**	**-1.3**
ASAR	**Alice Springs**	**49.53**	**190**	P	**P**	**16 35 15.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=7.3,slow=5.8,SNR=12						
ASAR	**Alice Springs**	**49.53**	**190**	P	**P**	**16 35 15.0**	**-1.1**
ZALV	**Zalesovo Beam**	**50.69**	**320**	P	**P**	**16 35 24.6**	**+0.1**
MKAR	**Makanchi Array**	**51.49**	**311**	P	**P**	**16 35 30.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=94,slow=9.4,SNR=6.5						
MKAR	**Makanchi Array**	**51.49**	**311**	P	**P**	**16 35 30.9**	**+0.2**
NRIK	**Noril'sk**	**54.12**	**339**	P	**P**	**16 35 49.2**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=74,slow=7.9,SNR=3.8						
STKA	**Stephens Creek**	**57.06**	**181**	P	**P**	**16 36 10.1**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=28,slow=2.8,SNR=3.3						
STKA	**Stephens Creek**	**57.06**	**181**	P	**P**	**16 36 10.8**	**-0.4**
FORT	**Forrest**	**57.58**	**194**	P	**P**	**16 36 15.4**	**+0.6**
ILAR	**Eielson Array**	**59.11**	**28**	P	**P**	**16 36 24.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=260,slow=5.4,SNR=3.2						
ILAR	**Eielson Array**	**59.11**	**28**	P	**P**	**16 36 24.9**	**-0.3**
KKAR	**Karatay Array**	**60.02**	**307**	P	**P**	**16 36 32.9**	**+1.1**
ARU	**Arti**	**65.67**	**323**	P	**P**	**16 37 09.6**	**+0.3**
ARU				IAmb	IAmb	16 37 17.2	
	comp=Z,2.2nm,0.8s						
ABKAR	**Akbulak array**	**66.20**	**315**	P	**P**	**16 37 13.0**	**+0.2**
ABKAR				IAmb	IAmb	16 37 26.4	
	comp=Z,4.3nm,1.5s						
ARCES	**ARCESS Array B**	**75.03**	**341**	P	**P**	**16 38 06.3**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=76,slow=11,SNR=1.1						
KBZ	**Khabaz**	**79.08**	**313**	P	**P**	**16 38 30.4**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=136,slow=4.2,SNR=3.8						
FIA1	**FINESS Array S**	**79.36**	**334**	P	**P**	**16 38 30.2**	**-0.4**
FINES	**FINESS Array B**	**79.36**	**334**	P	**P**	**16 38 29.8**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=61,slow=5.7,SNR=18						
FINES	**FINESS Array B**	**79.36**	**334**	P	**P**	**16 38 30.2**	**-0.4**
NVAR	**Mina Array Bea**	**81.51**	**52**	P	**P**	**16 38 43.9**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=246,slow=3.8,SNR=2.0						
NOA	**NORSAR Array B**	**85.08**	**338**	P	**P**	**16 38 59.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=45,slow=4.8,SNR=1.9						

*IDC **24** 16:51:43.3±1.2, 50°.29N×130°.20W, h0km, mb3.7/5, mb1 3.9/11, mb1mx3.7/49, mbtmp3.7/11, ML3.4/6, MS3.4/17, Ms1 3.4/17, ms1mx3.2/44, Error ellipse: s-maj=19.1km s-min=12.0km az=75.0*
*PGC **24** 16:51:43.0±0.1, 50°.24N×130°.21W, h10km, MLSn3.0/22, Mw3.6/22, 204km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
ISC 24 16:51:42.8±2.9, 50°.24N±0°.06×130°.11W±0°.06, h4km±18km, n62, σ1s87/57, mb3.6/5, MS3.3/6, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**72**	P	**Pn**	**16 52 06.3**	**-1.7**
HOLB				S	**Sg**	**16 52 23.5**	**-1.8**
PACB	**Port Alice, BC**	**1.69**	**82**	Pn	**Pn**	**16 52 10.9**	**-2.0**
PACB				Sn	**Sn**	**16 52 31.2**	**-3.8**
PHC	**Port Hardy**	**1.77**	**74**	Pn	Pn	16 52 12.1	-2.1
PHC				Sn	**Sn**	**16 52 34.0**	**-3.1**
MAYB	**Maynard**	**1.89**	**84**	Pn	**Pn**	**16 52 14.0**	**-1.9**
EDB	**Eliza Dome**	**1.96**	**100**	Pn	**Pn**	**16 52 14.8**	**-1.9**
EDB				Sn	Sn	16 52 35.6	-6.1
TLCB	**Telegraph Cove**	**2.12**	**80**	Pn	**Pn**	**16 52 17.9**	**-0.9**
TLCB				Sn	**Sn**	**16 52 43.2**	**-2.4**
HG4B	**Hotspring**	**2.17**	**342**	Pn	Pn	16 52 16.5	-3.1
WOSB	**Woss**	**2.27**	**91**	Pn	**Pn**	**16 52 19.9**	**-1.3**
BBB	**Bella Bella**	**2.31**	**32**	Pn	**Pn**	**16 52 20.9**	**-0.8**
	19nm,0.3s,baz=225,slow=5.9,SNR=222						
BBB				Sn	**Sn**	**16 52 48.8**	**-1.7**
	14nm,0.3s,baz=322,slow=17,SNR=8.7						
BBB				LR	LR	16 53 19.6	
	comp=Z,378nm,18.9s,baz=276,slow=42						
BBB	**Bella Bella**	**2.31**	**32**	Pn	**Pn**

0.4nm,0.7s,baz=0.8,slow=3.8,SNR=5.0
MKAR LR LR 17 42 13.4
comp=Z,23nm,18.4s,baz=359,slow=38

*TUL **24** 16:56:17.4±0.8, 36°.278N±0°.004×97°.51W±0°.02, h7km±7km, ML2.9, mb_Lg2.7/38(NEIC), Error ellipse: s-maj=2.2km s-min=0.4km az=77.0*

NEIC 24 16:56:17.5±0.8, 36°.280N±0°.004×97°.50W±0°.02, h1km±8km, Error ellipse: s-maj=2.3km s-min=0.4km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**300**	Pg	Pg	16 56 26.2	+0.1
CROK				Sg	Sg	16 56 32.5	+0.6
OK029	**Liberty Lake**	**0.48**	**175**	Pg	Pg	16 56 26.8	0.0
OK029				Sg	Sg	16 56 33.4	+0.3
BLOK	**Blackwell**	**0.53**	**26**	Pg	Pg	16 56 27.9	+0.2
BLOK				Sg	Sg	16 56 35.3	+0.6
BCOK	**Bluff Creek, N**	**0.63**	**188**	Pg	Pg	16 56 29.4	-0.1
BCOK				Sg	Sg	16 56 38.0	+0.3
OK031	**S. Brethren Rd**	**0.63**	**121**	Pg	Pg	16 56 29.4	-0.2
OK031				Sg	Sg	16 56 38.1	+0.4
QUOK	**Quay**	**0.65**	**99**	Pg	Pg	16 56 30.0	0.0
QUOK				Sg	Sg	16 56 38.9	+0.4
OK030	**Cody Creek RV**	**0.68**	**121**	Pg	Pg	16 56 30.6	+0.1
OK030				Sg	Sg	16 56 39.8	+0.4
OK025	**Westminster Rd**	**0.71**	**169**	Pg	Pg	16 56 31.1	-0.1
KAN14	**Manchester OK**	**0.77**	**331**	Pg	Pg	16 56 32.0	-0.3
KAN14				Sg	Sg	16 56 42.4	+0.1
OK032	**Salt Plains WL**	**0.77**	**313**	Pg	Pg	16 56 31.9	-0.4
OK032				Sg	Sg	16 56 42.5	+0.2
KAN17	**Caldwell West**	**0.79**	**345**	Pg	Pg	16 56 32.4	-0.3
KAN09	**Caldwell North**	**0.86**	**354**	Pg	Pg	16 56 33.6	-0.4
KAN09				Sg	Sg	16 56 45.4	+0.2
OKCFA	**Oklahoma City**	**0.86**	**177**	Pg	Pg	16 56 33.6	-0.4
OKCSW	**OKLAHOMA CITY**	**0.87**	**177**	Pg	Pg	16 56 34.0	-0.2
KS20	**Mayfield South**	**0.95**	**358**	Pg	Pg	16 56 35.5	-0.2
KS20				Sg	Sg	16 56 48.1	+0.1
KAN10	**Anthony SW Sta**	**0.97**	**331**	Pg	Pg	16 56 35.5	-0.5
KAN10				Sg	Sg	16 56 48.5	-0.1
KAN10				IAmb_Lg		16 56 48.6	
	comp=Z,50nm,0.9s						
KAN08	**Anthony NE Sta**	**1.02**	**338**	Pg	Pg	16 56 36.3	-0.7
KAN08				Sg	Sg	16 56 50.4	+0.2
T35A	**Sooner Cattle**	**1.02**	**51**	Pg	Pg	16 56 36.7	-0.4
T35A				Sg	Sg	16 56 50.2	-0.1
FNO	**Franklin**	**1.02**	**175**	Pg	Pg	16 56 36.6	-0.5
FNO				IAmb_Lg		16 56 50.3	
	comp=Z,90nm,0.9s						
KAN16	**Harper SW Stat**	**1.05**	**335**	Pg	Pg	16 56 37.2	-0.4
KAN16				Sg	Sg	16 56 51.4	+0.2
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	16 56 40.0	-0.8
X37A	**Clayton**	**2.42**	**133**	Pn	Pn	16 56 58.6	+0.3
X37A				IAmb_Lg		16 57 35.0	
	comp=Z,22nm,0.7s						
W39A	**Magazine**	**3.21**	**109**	IAmb_Lg		16 58 01.2	
	comp=Z,25nm,0.9s						
S39A	**Bolivar**	**3.63**	**66**	Pn	Pn	16 57 14.9	0.0
MIAR	**Mount Ida**	**3.64**	**117**	Pn	Pn	16 57 15.5	+0.5
Z38A	**Mt. Pleasant**	**3.66**	**145**	IAmb_Lg		16 58 19.5	
	comp=Z,25nm,0.8s						
AMTX	**Amarillo**	**3.68**	**249**	Pn	Pn	16 57 15.5	-0.1
AMTX				IAmb_Lg		16 58 24.1	
	comp=Z,15nm,0.7s						
U40A	**Yellville**	**3.76**	**87**	IAmb_Lg		16 58 18.6	
	comp=Z,23nm,0.9s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	IAmb_Lg		16 58 28.3	
	comp=Z,13nm,0.9s						
X40A	**Basin Creek Fa**	**4.21**	**114**	IAmb_Lg		16 58 33.0	
	comp=Z,17nm,0.7s						
WHAR	**Wooly Hollow**	**4.35**	**102**	IAmb_Lg		16 58 43.9	
	comp=Z,10nm,0.9s						
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		16 58 52.2	
	comp=Z,17nm,1.1s						
R40A	**Maddies Statio**	**4.63**	**63**	Pn	Pn	16 57 27.5	-1.1
LCAR	**Lake Charles**	**5.14**	**90**	IAmb_Lg		16 59 03.6	
	comp=Z,9.6nm,0.9s						
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		16 59 12.0	
	comp=Z,9.8nm,0.8s						
P40A	**Paris**	**5.40**	**51**	IAmb_Lg		16 59 14.4	
	comp=Z,10.0nm,0.8s						
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		16 59 13.3	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		16 59 20.1	
	comp=Z,12nm,0.8s						
SCIA	**State Center**	**6.53**	**29**	IAmb_Lg		16 59 51.4	
	comp=Z,14nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.14**	**60**	IAmb_Lg		17 00 12.6	
	comp=Z,12nm,0.8s						
PHWY	**Pilot Hill**	**7.98**	**311**	IAmb_Lg		17 00 41.2	
	comp=Z,5.7nm,0.9s						
K22A	**Casper**	**9.44**	**315**	IAmb_Lg		17 01 33.1	
	comp=Z,8.0nm,1.1s						

ASRS 24 16:58:24.9±0.2, 51°N±2°×98°.4E±1°.0, h10km, MLh3.6/9, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.78**	**224**	Pg	Pb	16 58 40.5	-0.1
KNGR				Sg	Sb	16 58 51.4	0.0
MOY	**Mondy**	**1.72**	**72**	Pg	Pg	16 58 57.4	-0.4
MOY				Sg	Sg	16 59 19.8	-0.3
ERNS	**Erzin**	**2.23**	**247**	Pg	Pb	16 59 05.8	+0.4
ERNS				Sg	Sg	16 59 35.9	-0.8
KZLR	**Kyzyl**	**2.51**	**284**	Pg	Pb	16 59 10.9	+0.9
KZLR				Sg	Sg	16 59 44.6	-0.7
ZAK	**Zakamensk**	**3.22**	**102**	Pg	Pb	16 59 23.3	+1.2
ZAK				Sg	Sg	17 00 05.5	-2.7
TLY	**Talaya**	**3.34**	**79**	Pg	Pg	16 59 26.6	-2.3
TLY				Sg	Sg	17 00 09.5	-2.7
ARDR	**Aradan**	**3.37**	**297**	Pg	Pb	16 59 26.7	+2.0
ARDR				Sg	Sg	17 00 12.2	-0.8
DJO	**Djoy, Khakassi**	**4.70**	**293**	Sg	Sg	17 00 56.0	+0.2
TBTR	**Tabat**	**5.04**	**293**	Pg	Pb	16 59 51.9	-1.2
TBTR				Sg	Sb	17 00 57.9	+4.3
TEL	**Teeli**	**5.15**	**271**	Pn	Pn	16 59 46.5	+4.4
TEL				Sg	Sg	17 01 06.2	-3.9
TRG	**Tyrgan**	**5.19**	**69**	Pg	Pg	17 00 00.8	-3.4
TRG				Sg	Sg	17 01 06.2	-5.1
GZLN	**Zheleznogorsk**	**5.89**	**334**	Sg	Sg	17 01 32.5	-1.2
SHTK	**Zheleznogorsk-**	**5.89**	**333**	Pn	Pb	17 00 00.4	-7.2
SHTK				Sg	Sb	17 01 19.9	+1.8
SHRR	**Shira**	**5.98**	**307**	Sg	Sg	17 01 29.2	-7.6
CUR	**Chagan-Uzun**	**6.46**	**264**	Sg	Sg	17 01 48.1	-4.1
ULN	**Ulaanbaatar**	**6.55**	**117**	Sg	Sg	17 01 52.3	-2.7
ULGR	**Ulagan, Altay**	**6.61**	**269**	Sg	Sg	17 01 52.3	-4.5

*IDC **24** 17:02:09.8±1.2, 18°.72N×121°.21E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/50, mbtmp3.3/5, ML3.4/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/25, Error ellipse: s-maj=67.7km s-min=21.4km az=69.0*

*MAN **24** 17:02:14.7, 19°.00N×121°.07E, h21km, MS3.5*

ISC 24 17:02:10.9±1.1, 18°.65N±0°.09×121°.2E±0°.3, h10km, n14, o0s84/7, mb3.3/4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**3.07**	**181**	⇑*eP*	**Pg**	**17 03 09.5**	**-0.3**
LQP	**Lukban**	**4.53**	**175**	⇓*eP*	**Pb**	**17 03 30.2**	**-0.4**
KSRS	**Korea Array**	**19.65**	**16**	P	**P**	**17 06 39.1**	**-0.7**
	0.1nm,0.3s,baz=200,slow=12,SNR=2.3						
KSRS				LR	LR	17 14 45.8	
	comp=Z,24nm,18.2s,baz=190,slow=39						
KAPI	**Kappang**	**23.55**	**184**	LR	LR	17 17 12.2	
	comp=Z,24nm,21.4s,baz=54,slow=38						
WRA	**Warramunga Arr**	**40.47**	**161**	P	**P**	**17 09 50.5**	**+0.6**
	0.5nm,0.6s,baz=341,slow=9.3,SNR=9.3						
MKAR	**Makanchi Array**	**42.43**	**320**	P	**P**	**17 10 05.3**	**-0.5**
	0.2nm,0.7s,baz=108,slow=9.3,SNR=2.0						
H11S3	**WAKE ISLAND Hy**	**43.07**	**83**	T	T	17 55 41.2	
	baz=276,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**43.08**	**83**	T	T	17 55 41.6	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**43.08**	**83**	T	T	17 55 47.2	
	baz=276						
H11N1	**WAKE ISLAND Hy**	**43.11**	**81**	T	T	17 56 13.1	
	baz=277,slow=75,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**43.11**	**81**	T	T	17 56 13.7	
	baz=277,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**43.12**	**81**	T	T	17 56 15.1	
	baz=277,slow=75,SNR=5.7						
ASAR	**Alice Springs**	**43.86**	**163**	P	**P**	**17 10 18.4**	**+0.9**
	0.3nm,0.7s,baz=345,slow=6.9,SNR=9.2						
KURBB	**Kurchatov Arra**	**46.42**	**323**	P	**P**	**17 10 38.4**	**+0.8**
	0.2nm,0.4s,baz=125,slow=7.4,SNR=3.0						

DJA 24 17:02:27.8±1.1, 0°N±7°×12°2E±°, h74km±18km, M2.5/6, MLv2.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.28**	**312**	P	Pn	17 02 40.4	+1.1
MRSI	**Marisa**	**0.28**	**312**	P	Pn	17 02 41.6	+2.3
MRSI				S	Sn	17 03 00.4	+13
GTOI	**Gorontalo**	**0.93**	**68**	P	Pn	17 02 46.1	+0.5
GTOI	**Gorontalo**	**0.93**	**68**	P	Pn	17 02 45.6	0.0
GTOI				S	Sn	17 03 05.1	+6.2
APSI	**Ampana**	**1.29**	**203**	P	Pn	17 02 51.4	+1.2
APSI	**Ampana**	**1.29**	**203**	P	Pn	17 02 50.0	-0.2
LUWI	**Luwuk**	**1.46**	**155**	P	Pn	17 02 51.4	-1.0
LUWI	**Luwuk**	**1.46**	**155**	P	Pn	17 02 50.1	-2.3
LUWI				S	Sn	17 03 12.4	+1.4
MPSI	**Mapaga**	**2.25**	**271**	P	Pn	17 03 02.7	-0.2
MPSI				S	Sn	17 03 30.3	+0.5
MPSI	**Mapaga**	**2.25**	**271**	P	Pn	17 03 01.9	-1.0

*NNC **24** 17:09:56.6±3.3, 38°.45N×73°.09E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=29.3km s-min=18.0km az=156.0*

*BJI **24** 17:09:59.6±0.0, 38°.41N×73°.57E, h118km, mB4.6/19, mb4.4/26*

*IDC **24** 17:09:59.7±2.0, 38°.37N×73°.46E, h110km±17km, mb4.0/24, mb1 4.1/32, mb1mx4.0/56, mbtmp4.4/32, MS3.3/6, Ms1 3.3/6, ms1mx2.9/47, Error ellipse: s-maj=13.5km s-min=9.8km az=2.0*

*MOS **24** 17:10:00.5±1.0, 38°.45N×73°.49E, h125km, mb4.5/21, Error ellipse: s-maj=5.3km s-min=3.7km az=94.9*

*NEIC **24** 17:10:01.6±1.1, 38°.43N±0°.06×73°.50E±0°.07, h122km±6km, mb4.5/67, Error ellipse: s-maj=9.1km s-min=6.6km az=139.0*

*GCMT **24** 17:10:03.6±0.3, 38°.47N±0°.02×73°.30E±0°.03, h132km±5km, MW4.8/79, Moment Tensor Solution. s12,c12; s79,c113; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.16±.08; Mθθ=0.96±.11; Mϕϕ 1.12±.10; Mrθ=0.83±.06; Mθϕ=1.45±.09; Mϕr=0.65±.06; Best double couple: Mo2.05600×10^16 NP1:ϕs111.00000°, δ67.00000°, λ-165.00000°. NP2: ϕs15.00000°, δ76.00000°, λ-24.00000°. Principal axes: T 1.8860, Plg6.0000°, Azm65.0000°; N 0.3420, Plg62.0000°, Azm167.0000°; P -2.2260, Plg27.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 17:09:59.5±0.4, 38°.26N±0°.04×73°.40E±0°.03, h113km±3km, h114km:pP-P, n343, o2s04/383, mb4.5/76, 36C-27D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.75**	**315**	Pn	**Pn**	**17 10 31.6**	**+1.8**
KSH	**Kashi**	**2.37**	**57**	⇑*iP*	**Pn**	**17 10 33.6**	**-3.9**
KSH				S	**Sn**	**17 10 58.4**	**-8.3**
KSH				SMN			
	38μm,0.3s						
KSH				SME			
	27μm,0.2s						
BTK	**Batken**	**2.69**	**313**	PN	**Pn**	**17 10 43.5**	**+1.9**
BTK	**Batken**	**2.69**	**313**	Pn	**Pn**	**17 10 43.5**	**+1.9**
ARSB	**Arslanbob**	**3.08**	**354**	PN	**Pn**	**17 10 47.0**	**+0.2**
ARSB	**Arslanbob**	**3.08**	**354**		**Pn**	**17 10 47.0**	**+0.2**
AML	**Almayashu**	**3.88**	**3**	P	**Pn**	**17 10 58.0**	**+0.4**
	SNR=738						
EKS2	**Erkin-Say**	**4.41**	**4**	P	**Pn**	**17 11 05.4**	**+0.9**
	SNR=316						
AAK	**Ala-Arcba**	**4.46**	**10**	P	**Pn**	**17 11 05.5**	**+0.3**
	9.1nm,0.3s,baz=171,slow=6.9,SNR=53						
AAK				S	**Sn**	**17 11 53.5**	**-2.6**
	36nm,0.3s,baz=319,slow=19,SNR=13						
AAK	**Ala-Arcba**	**4.46**	**10**	P	**Pn**	**17 11 05.8**	**+0.6**
	SNR=47						
AAK	**Ala-Arcba**	**4.46**	**10**	⇓Pn	**Pn**	**17 11 05.8**	**+0.6**
	69nm,0.4s						
AAK				⇑Sn	**Sn**	**17 11 54.4**	**-1.8**
	598nm,1.1s						
AAK	**Ala-Arcba**	**4.46**	**10**	*ce*PN	**Pn**	**17 11 05.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,167nm,0.6s						
AAK	**Ala-Arcba**	**4.46**	**10**		**Pn**	**17 11 05.3**	**+0.1**
ULHL	**Ulahol**	**4.54**	**28**	P	**Pn**	**17 11 06.3**	**0.0**
	SNR=57						
KBK	**Karagaybulak**	**4.55**	**15**	P	**Pn**	**17 11 07.2**	**+0.7**
	SNR=27						
CEP	**Cherat**	**4.58**	**196**	P	**Pn**	**17 11 11.2**	**+4.3**
CHCP	**Chirah Chowk**	**4.59**	**181**	P	**Pn**	**17 11 11.6**	**+4.7**
NIL	**Nilore**	**4.60**	**181**	PN	**Pn**	**17 11 11.6**	**+4.6**
NIL	**Nilore**	**4.60**	**181**	Pn	**Pn**	**17 11 11.6**	**+4.6**
FRU1	**Bishkek**	**4.65**	**11**	PN	**Pn**	**17 11 06.9**	**-0.7**
FRU1	**Bishkek**	**4.65**	**11**		**Pn**	**17 11 06.9**	**-0.7**
BOOM	**Boomskoye usch**	**4.65**	**24**	PN	**Pn**	**17 11 08.3**	**+0.4**
BOOM	**Boomskoye usch**	**4.65**	**24**	Pn	**Pn**	**17 11 08.2**	**+0.4**
KDJ	**Kajisay**	**4.83**	**36**	PN	**Pn**	**17 11 09.8**	**-0.5**
KDJ	**Kajisay**	**4.83**	**36**	Pn	**Pn**	**17 11 09.8**	**-0.5**
TARG	**Taragay, Kyrgy**	**4.85**	**43**		**Pn**	**17 11 10.6**	**0.0**
CHMS	**Chumysh**	**4.85**	**12**	P	**Pn**	**17 11 10.9**	**+0.6**
	SNR=21						
TKM2	**Tokmak 2**	**4.95**	**19**	P	**Pn**	**17 11 12.2**	**+0.4**
	SNR=43						
TKM2	**Tokmak 2**	**4.95**	**19**	⇑Pn	**Pn**	**17 11 12.1**	**+0.1**
	comp=Z,48nm,0.5s						
TKM2				⇑Sn	**Sn**	**17 12 10.8**	**+2.6**
	comp=Z,226nm,0.6s						
TKM2	**Tokmak 2**	**4.95**	**19**	PN	**Pn**	**17 11 12.0**	**+0.1**
USP	**Ospenovka**	**5.08**	**9**	P	**Pn**	**17 11 14.3**	**+0.9**
	SNR=29						
KBL	**Kabul**	**5.11**	**225**	PN	**Pn**	**17 11 18.4**	**+4.4**
KBL	**Kabul**	**5.11**	**225**	Pn	**Pn**	**17 11 18.4**	**+4.4**
SGDS	**Sogindy**	**5.28**	**10**	PN	**Pn**	**17 11 15.9**	**-0.2**
KK31	**Karatay Array**	**5.32**	**337**	Pn	**Pn**	**17 11 15.3**	**-1.3**
	comp=Z,60nm,0.3s,baz=143,slow=12,SNR=2192						
KK31				⇑Sn	**Sn**	**17 12 12.6**	**-4.0**
	comp=Z,220nm,0.6s,baz=146,slow=27,SNR=12						
KK31	**Karatay Array**	**5.32**	**337**	*e*PN	**Pn**	**17 11 16.9**	**+0.3**
KK31	**Karatay Array**	**5.32**	**337**		**Pn**	**17 11 16.9**	**+0.3**
KKAR	**Karatay Array**	**5.32**	**337**	PN	**Pn**	**17 11 16.9**	**+0.3**
KKAR	**Karatay Array**	**5.32**	**337**		**Pn**	**17 11 16.9**	**+0.3**
KKAR	**Karatay Array**	**5.32**	**337**		**Pn**	**17 11 16.9**	**+0.3**
THW	**Thamme Wali**	**5.61**	**194**	P	**Pn**	**17 11 23.6**	**+2.9**
AAA	**Alma-Ata**	**5.62**	**27**	*e*PN	**Pn**	**17 11 19.6**	**-1.2**
MDOK	**Medeo**	**5.63**	**28**	⇑Pn	**Pn**	**17 11 20.6**	**-0.4**
	comp=Z,59nm,0.7s						
MDOK				⇑Sn	**Sn**	**17 12 28.8**	**+4.3**
	comp=Z,273nm,0.7s						
MDOK	**Medeo**	**5.63**	**28**	PN	**Pn**	**17 11 20.3**	**-0.7**
KNDC	**Almaty**	**5.65**	**28**	⇑Pn	**Pn**	**17 11 22.4**	**+1.3**
	comp=Z,92nm,0.6s						
KNDC				⇓Sn	**Sn**	**17 12 29.5**	**+4.7**
	comp=Z,2μm,1.2s						
KNDC	**Almaty**	**5.65**	**28**	PN	**Pn**	**17 11 22.4**	**+1.3**
PRZ	**Przheval'sk**	**5.70**	**41**	PN	**Pn**	**17 11 22.2**	**+0.3**
PRZ	**Przheval'sk**	**5.70**	**41**	Pn	**Pn**	**17 11 22.1**	**+0.3**
THN	**Thein Dam**	**6.11**	**161**	*e*P	**Pn**	**17 11 30.0**	**+2.6**
THN				*e*S	**Sn**	**17 12 34.0**	**-1.9**
SARP	**Sargodha**	**6.35**	**186**	P	**Pn**	**17 11 33.0**	**+2.4**
DHRM	**DHARAMSHALA**	**6.45**	**158**	*e*P	**Pn**	**17 11 33.1**	**+0.9**
DHRM				*e*S	**Sn**	**17 12 41.8**	**-2.6**
DHRM				IAML		17 12 47.1	
	comp=E,2μm,0.4s						
SHLS	**Shalkode**	**6.72**	**41**	*e*PN	**Pn**	**17 11 37.8**	**+2.1**
PDGK	**Podgornoye**	**6.86**	**40**	⇑Pn	**Pn**	**17 11 36.6**	**-1.0**
	comp=E,68nm,0.6s						
PDGK	**Podgornoye**	**6.86**	**40**	PN	**Pn**	**17 11 36.6**	**-1.0**
SMLA	**Simla**	**7.76**	**155**	*e*P	**Pn**	**17 11 50.0**	**+0.3**
SMLA				*e*S	**Sn**	**17 13 09.2**	**-6.8**
SMLA				IAML		17 13 18.7	
	comp=E,1μm,0.3s						
DDI	**Dehra Dun**	**8.80**	**153**	*e*P	**Pn**	**17 12 04.7**	**+0.7**
DDI				*e*S	**Sn**	**17 13 35.4**	**-6.0**
DDI				IAML		17 13 43.4	
	comp=N,1μm,0.4s						
DDI				IAML		17 13 43.8	
	comp=E,864nm,0.3s						
HRA	**Herat**	**9.79**	**250**	Pn	**Pn**	**17 12 19.1**	**+1.7**
NDI	**New Delhi**	**10.06**	**160**	*e*P	**Pn**	**17 12 22.0**	**+1.0**
MAKZ	**Makanchi**	**10.63**	**34**	⇑P	**Pn**	**17 12 27.0**	**-1.5**
	comp=E,11nm,0.7s						
MAKZ	**Makanchi**	**10.63**	**34**	P	**Pn**	**17 12 26.8**	**-1.7**
MAKZ	**Makanchi**	**10.63**	**34**	Pn	**Pn**	**17 12 26.8**	**-1.7**
MK31	**Makanchi Array**	**10.76**	**35**	P	**Pn**	**17 12 29.0**	**-1.3**
	comp=E,14nm,0.7s,baz=210,slow=13,SNR=125						
MK31	**Makanchi Array**	**10.76**	**35**	*c iP*	**Pn**	**17 12 28.9**	**-1.3**
MK31	**Makanchi Array**	**10.76**	**35**	Pn	**Pn**	**17 12 29.2**	**-1.1**
MKAR	**Makanchi Array**	**10.76**	**35**	P	**Pn**	**17 12 29.4**	**-0.9**
	comp=E,1.9nm,0.3s,baz=211,slow=13,SNR=128						
MKAR				LR	LR	17 16 56.4	
	comp=E,136nm,18.9s,baz=215,slow=39						
MKAR	**Makanchi Array**	**10.76**	**35**	*i P*	**Pn**	**17 12 29.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**10.76**	**35**	Pn	**Pn**	**17 12 28.5**	**-1.7**
BRZS	**Berezniki**	**11.73**	**358**	*e*P	**Pn**	**17 12 41.7**	**-1.5**
AJM	**Ajmer**	**11.79**	**175**	*e*P	**Pn**	**17 12 44.0**	**-0.2**
AJM				*i* S	**Sn**	**17 14 47.0**	**-6.9**
GEYT	**Alibeck**	**12.04**	**273**	P	**Pn**	**17 12 46.3**	**-1.1**
	comp=Z,5.6nm,0.3s,baz=129,slow=8.4,SNR=35						
GEYT				S	**Sn**	**17 14 52.6**	**-7.3**
	comp=Z,5.7nm,0.3s,baz=128,slow=16,SNR=9.0						
GEYT				LR	LR	17 17 43.4	
	comp=Z,70nm,21.6s,baz=55,slow=38						
GEYT	**Alibeck**	**12.04**	**273**	Pn	**Pn**	**17 12 45.8**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**12.04**	**273**	⇑Pn	**Pn**	**17 12 45.7**	**-1.7**
GYA0B				⇑Sn	**Sn**	**17 14 57.9**	**-2.1**
GYA0B	**ALIBECK ARRAY**	**12.04**	**273**	Pn	**Pn**	**17 12 45.8**	**-1.7**
WMQ	**Urumqi**	**12.14**	**58**	*e*P	**Pn**	**17 12 46.3**	**-2.4**
WMQ				S	**Sn**	**17 15 02.8**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,57nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,240nm,5.1s						
KURBB	**Kurchatov Arra**	**12.89**	**15**	P	**Pn**	**17 12 55.6**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=33						
KURBB	**Kurchatov Arra**	**12.89**	**15**	⇑P	**Pn**	**17 12 58.1**	**-0.3**
	comp=Z,32nm,0.8s						
KURBB	**Kurchatov Arra**	**12.89**	**15**	P	**Pn**	**17 12 55.4**	**-3.0**
KURK	**Kurchatov**	**13.00**	**15**	P	**Pn**	**17 12 55.6**	**-4.1**
KURK	**Kurchatov**	**13.00**	**15**		**Pn**	**17 12 55.6**	**-4.1**
DANN	**Dangsing**	**13.13**	**136**	*e*P	**Pn**	**17 12 58.7**	**-3.3**
	comp=Z,277nm,0.3s						
GKN	**Gorkha**	**13.89**	**134**	*e*P	**Pn**	**17 13 08.9**	**-2.8**
	comp=Z,235nm,0.3s						
GKN	**Gorkha**	**13.89**	**134**	*e*P	**Pn**	**17 13 08.9**	**-2.8**
	comp=Z,235nm,0.3s						
KKN	**Kakani**	**14.42**	**133**	*e*P	**Pn**	**17 13 15.1**	**-3.4**
	comp=Z,143nm,0.4s						
KKN	**Kakani**	**14.42**	**133**	*e*P	**Pn**	**17 13 15.4**	**-3.1**
	comp=Z,143nm,0.4s						
DMN	**Daman**	**14.46**	**134**	*e*P	**Pn**	**17 13 16.2**	**-2.8**
	comp=Z,105nm,0.5s						
DMN				*e*S	Sn	17 15 46.4	-12
DMN	**Daman**	**14.46**	**134**	*e*P	**Pn**	**17 13 16.3**	**-2.8**
	comp=Z,89nm,0.4s						
PKIN	**Phulchoki**	**14.65**	**133**	*e*P	**Pn**	**17 13 18.0**	**-3.4**
	comp=Z,141nm,0.4s						
PKIN	**Phulchoki**	**14.65**	**133**	*e*P	**Pn**	**17 13 18.4**	**-3.0**
	comp=Z,141nm,0.4s						
AB31	**Akbulak array**	**14.65**	**323**	⇑P	**Pn**	**17 13 20.2**	**-0.8**
	comp=Z,19nm,0.6s						
AB31				⇓S	**Sn**	**17 16 00.6**	**-2.1**
	comp=Z,7.0nm,0.5s,baz=130,slow=24,SNR=7.8						
AB31	**Akbulak array**	**14.65**	**323**	P	**Pn**	**17 13 19.3**	**-1.7**
ABKAR	**Akbulak array**	**14.65**	**323**	Pn	**Pn**	**17 13 18.4**	**-2.6**
ABKAR	**Akbulak array**	**14.65**	**323**		**Pn**	**17 13 18.5**	**-2.6**
PKI	**Pulchoki**	**14.66**	**133**	*e*P	**Pn**	**17 13 18.6**	**-3.0**
	comp=Z,77nm,0.3s						
PKI	**Pulchoki**	**14.66**	**133**	*e*P	**Pn**	**17 13 18.6**	**-3.0**
	comp=Z,77nm,0.3s						
BVAR	**Borovoye Array**	**14.92**	**353**	P	**Pn**	**17 13 21.9**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=208,slow=25,SNR=40						
BRVK	**Borovoye**	**14.96**	**353**	⇓P	**Pn**	**17 13 24.8**	**-0.1**
	comp=Z,58nm,1.0s						
BRVK	**Borovoye**	**14.96**	**353**	P	**Pn**	**17 13 22.5**	**-2.4**
BRVK	**Borovoye**	**14.96**	**353**	Pn	**Pn**	**17 13 22.5**	**-2.4**

comp=Z,110nm,10.5s
GTA L L
comp=Z,130nm,8.7s
GTA L L
comp=Z,67nm,11.3s
ARU Arti 20.69 336 P **P 17 14 30.1 -0.3**
comp=Z,8.0nm,0.6s,baz=143,slow=8.2,SNR=21
ARU Arti 20.69 336*d iP* **P 17 14 30.3 0.0**
ARU 17 15 03.1
ARU S **S 17 18 14.6 -0.4**
ARU pmax pmax
comp=Z,42nm,1.0s
ARU Arti 20.69 336 P **P 17 14 29.5 -0.8**
ZKTA Zakatala 20.77 288 P Pn 17 14 34.6 -0.3
GANJ Ganja 21.01 285 P **P 17 14 36.7 +2.7**
HYB Hyderabad 21.25 166 *i* P **P 17 14 40.0 +3.3**
HYB *e*S **S 17 18 32.0 +5.6**
MOKO MOKOCHONG 21.40 118 *eP* **P 17 14 39.5 +1.1**
MOKO IAmb IAmb 17 14 41.5
comp=Z,43nm,0.6s
MOKO *e*S **S 17 18 25.9 -3.6**
GROC Groznyy 21.44 292 *eP* **P 17 14 38.2 -0.3**
GROC *e**SP **sP 17 15 13.3 -2.4**
GROC *e*S **S 17 18 32.1 +2.4**
GROC *e**SS **sS 17 19 05.0 -2.5**
GROC pmax pmax
comp=Z,28nm,0.6s
KOHI KOHIMA 21.50 119 *eP* **P 17 14 41.3 +1.9**
KOHI IAmb IAmb 17 14 45.4
comp=Z,64nm,0.7s
NAX Nakhchivan 21.76 281 P **P 17 14 44.1 +2.1**
GNI Garni 22.25 284 P **P 17 14 46.4 -0.8**
comp=Z,3.8nm,0.5s,baz=352,slow=22,SNR=1.5
GNI Garni 22.25 284 P **P 17 14 46.3 -0.9**
GNI pmax pmax
comp=Z,29nm,1.0s
GNI Garni 22.25 284 P **P 17 14 46.2 -0.9**
GNI IAmb IAmb 17 14 57.5
comp=Z,29nm,0.9s
ZEI Tsey 22.81 291 *eP* **P 17 14 57.8 +4.9**
ZEI pmax pmax
comp=Z,7.0nm,0.5s
BELG Belogornoye 22.82 317 P **P 17 14 52.1 -0.5**
comp=Z,23nm,0.7s,baz=21,slow=0.9,SNR=10
BELG Belogornoye 22.82 317*c iP* **P 17 14 54.2 +1.6**
BELG pmax pmax
comp=Z,3.0nm,0.7s
NCK Nalchik 23.06 293⇑ *eP* **P 17 14 56.3 +1.2**
NCK pmax pmax
comp=Z,19nm,0.8s
ONI Oni 23.14 290 P **P 17 14 58.9 +3.1**
ONI pmax pmax
comp=Z,13nm,1.0s
ONI Oni 23.14 290 P **P 17 14 58.9 +3.1**
ONI IAmb IAmb 17 15 09.8
comp=Z,12nm,1.0s
KARS Kars 23.48 285 P **P 17 14 57.5 -1.6**
KARS pmax pmax
comp=Z,38nm,0.9s
KARS Kars 23.48 285 P **P 17 14 57.5 -1.6**
MOY Mondy 23.52 46 *eP* **P 17 15 01.3 +2.0**
MOY *e* 17 15 40.8
MOY pmax pmax
comp=Z,9.0nm,2.0s
KBZ Khabaz 23.58 293 P **P 17 14 58.9 -0.8**
comp=Z,2.1nm,0.7s,baz=114,slow=11,SNR=4.1
KBZ Khabaz 23.58 293⇓ *eP* **P 17 15 02.6 +2.8**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 23.75 294 *eP* **P 17 15 03.8 +2.4**
KIV *e*S **S 17 19 10.3 +2.0**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 23.75 294 P **P 17 15 00.9 -0.5**
KIV IAmb IAmb 17 15 23.1
comp=Z,13nm,0.7s
ZAK Zakamensk 24.40 51 *eP* **P 17 15 07.3 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 25.05 48 *eP* **P 17 15 14.1 +1.1**
TLY *e*S S 17 19 16.3 -13
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,98nm,8.0s
KIRV Kirov 25.57 330 P **P 17 15 16.4 -1.2**
comp=Z,12nm,0.6s,baz=61,slow=2.0,SNR=4.3
KIRV Kirov 25.57 330⇑ *eP* **P 17 15 18.4 +0.8**
SONM Songino Array 25.78 58 P **P 17 15 20.3 +0.5**
comp=Z,3.7nm,0.7s,baz=258,slow=10,SNR=21
SONM Songino Array 25.78 58 P **P 17 15 19.7 -0.1**
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 25.78 58 P **P 17 15 19.7 -0.1**
SOC Sochi 25.89 293 *eP* **P 17 15 21.1 +0.5**
SOC *e* 17 16 04.5
SOC *e*S **S 17 19 40.0 -2.1**
ULN Ulaanbaatar 26.22 58⇑ *eP* **P 17 15 24.1 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 26.22 58 P **P 17 15 20.7 -3.1**
VSR Storozhevoye 27.28 309 *eP* **P 17 15 32.6 -0.5**
VSR pmax pmax
comp=Z,5.0nm,0.5s
ANN Anapa 27.54 295 *eP* **P 17 15 32.6 -2.9**
ANN *e**PP **pP 17 15 58.9 -2.8**
ANN *e* 17 16 26.6
ANN *e*S **S 17 20 03.5 -4.7**
ANN *e**SS **sS 17 20 52.3 -1.4**
ANN pmax pmax
comp=Z,25nm,0.9s
LPSR Galich'ya Gora 27.81 312 *eP* **P 17 15 38.9 +1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
RAYN Ar Rayn 27.95 246 P **P 17 15 41.4 +2.0**
RAYN pmax pmax
comp=Z,3.0nm,0.8s
RAYN Ar Rayn 27.95 246 P **P 17 15 41.4 +2.0**
XAN Xi'an 28.88 87 P **P 17 15 50.3 +2.7**
PRGR Permogore 29.02 333 *eP* **P 17 15 46.3 -2.1**
PRGR pmax pmax
comp=Z,28nm,0.9s
CM31 Chiang Mai Arr 29.74 124 P **P 17 15 52.2 -3.0**
CM31 IAmb IAmb 17 16 13.4
comp=Z,17nm,1.5s
CMAR Chiang Mai Arr 29.74 124 P **P 17 15 56.5 +1.3**
comp=Z,0.7nm,0.7s,baz=314,slow=9.6,SNR=4.3
CMAR Chiang Mai Arr 29.74 124 *i* P **P 17 15 59.7 +4.4**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 29.74 124 P **P 17 15 50.9 -4.3**
OBN Obninsk 29.92 316 *eP* **P 17 15 56.8 +0.4**
OBN *e* 17 16 38.5
OBN *e* 17 17 00.3
OBN pmax pmax
comp=Z,5.0nm,0.3s
BR131 Keskin Array S 30.76 285 P **P 17 16 06.2 +1.9**
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BR131 Keskin Array S 30.76 285 P **P 17 16 06.2 +1.9**
BR131 IAmb IAmb 17 16 08.3
comp=Z,8.6nm,0.9s
BRTR Keskin Array B 30.76 285 P **P 17 16 06.4 +2.1**
comp=Z,3.6nm,0.8s,baz=90,slow=7.4,SNR=8.5
BRTR Keskin Array B 30.76 285 P **P 17 16 05.5 +1.2**
KLMR Klimovskoe 30.95 328 *eP* **P 17 16 02.6 -2.8**
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 30.95 328 *eP* **P 17 16 02.7 -2.7**
KLMR *es*P **sP 17 16 49.9 +4.4**
KLMR AMP 17 16 59.1
comp=Z,16nm,1.5s
ANTO Ankara 31.38 286 P **P 17 16 10.8 +1.2**
ANTO pmax pmax
comp=Z,7.0nm,0.7s
ANTO Ankara 31.38 286 P **P 17 16 10.8 +1.2**
ANTO IAmb IAmb 17 16 33.1
comp=Z,7.2nm,0.7s
BR231 Keskin MP Arra 31.40 286 P **P 17 16 11.8 +2.0**
BR231 IAmb IAmb 17 16 12.8
comp=Z,8.0nm,0.8s
NRIK Noril'sk 32.07 9 P **P 17 16 14.9 -0.3**
comp=Z,3.0nm,0.4s,baz=200,slow=6.6,SNR=10
NRIK Noril'sk 32.07 9⇑ *iP* **P 17 16 15.7 +0.5**
NRIK pmax pmax
comp=Z,13nm,1.4s
NRIK Noril'sk 32.07 9 P **P 17 16 14.3 -0.9**
NRIK IAmb IAmb 17 16 17.7
comp=Z,14nm,1.3s
AKASG Malin Array Be 33.39 306 P **P 17 16 27.3 +0.5**
comp=Z,3.6nm,0.4s,baz=78,slow=7.6,SNR=16
AKASG Malin Array Be 33.39 306 *i* P **P 17 16 27.2 +0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 33.39 306 P **P 17 16 27.5 +0.6**
AKBB Malin Array Si 33.39 306*d iP* **P 17 16 27.3 +0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 33.39 306 P **P 17 16 26.9 0.0**
AKBB IAmb IAmb 17 16 29.0
comp=Z,6.3nm,0.6s
TPGR Topolog 33.95 296⇓ *iP* **P 17 16 33.8 +2.0**
MNK Minsk 34.65 313 *i* P **P 17 16 37.0 -0.7**
MNK *i* 17 17 57.2
MNK *i* 17 19 08.4
MNK *i* S **S 17 21 56.8 -2.0**
MNK *i* SS **SnSn 17 24 25.1 +1.7**
MNK *i* 17 26 44.7
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK MLR MLR
comp=E,36nm,15.0s
MNK MLR MLR
comp=Z,55nm,11.0s
MNK MLR MLR
comp=N,42nm,21.0s
MNK Minsk 34.65 313 *i* P **P 17 16 37.1 -0.7**
comp=E,2.0nm,0.8s
MNK *i* P **P 17 16 37.1 -0.7**
comp=N,10.0nm,0.9s
MNK *i* P **P 17 16 37.1 -0.7**
comp=Z,8.0nm,0.8s,baz=99
MNK *i* PP **PnPn 17 17 57.3 0.0**
MNK *i* PcP **PcP 17 19 08.5 -0.8**
MNK *i* S **S 17 21 56.8 -2.0**
MNK *i* SS **SnSn 17 24 25.1 +1.7**
MNK *i* ScS **ScS 17 26 44.8 -2.4**
MNK *i* LRM MLR 17 33 37.8
comp=E,36nm,14.7s
MNK *i* LRM MLR 17 33 43.5
comp=Z,55nm,11.1s
MNK *i* LRM MLR 17 33 48.0
comp=N,42nm,21.0s
VRI Vrincioaia 35.05 298⇓ *iP* **P 17 16 44.5 +3.1**
VRI Vrincioaia 35.05 298⇓ *iP* **P 17 16 44.5 +3.1**
PLOR Plostina 35.11 298⇑ *iP* **P 17 16 44.8 +2.9**
PLOR Plostina 35.11 298⇑ *iP* **P 17 16 44.8 +2.9**
BIZ Bicaz 35.41 300⇑ *iP* **P 17 16 46.5 +2.0**
MLR Muntele Rosu 35.63 297⇑ *iP* **P 17 16 49.8 +3.3**
MLR Muntele Rosu 35.63 297 P **P 17 16 49.0 +2.5**
MLR pmax pmax
comp=Z,9.0nm,0.9s
MLR Muntele Rosu 35.63 297 P **P 17 16 49.0 +2.5**
MLR IAmb IAmb 17 16 53.0
comp=Z,8.8nm,0.9s
BURAR Bucovina Array 35.98 301 P **P 17 16 50.3 +0.9**
VSU Vasula 36.04 319⇓ *eP* **P 17 16 50.8 +1.2**
VSU pmax pmax
comp=Z,66nm,1.1s
VOIR 36.27 297⇓ *iP* **P 17 16 53.6 +1.8**
VOIR 36.27 297⇓ *iP* **P 17 16 53.6 +1.8**
ARR Arges 36.56 297⇓ *iP* **P 17 16 56.6 +2.2**
LVZ Lovozero 36.57 337*c eP* **P 17 16 54.3 +0.2**
LVZ pmax pmax
comp=Z,25nm,1.3s
LVZ Lovozero 36.57 337 P **P 17 16 54.2 +0.2**
FIA1 FINESS Array S 37.13 324 P **P 17 16 59.2 +0.4**
FINES FINESS Array B 37.13 324 P **P 17 16 59.3 +0.5**
comp=Z,5.3nm,0.4s,baz=109,slow=9.8,SNR=43
FINES LR LR 17 32 26.0
comp=Z,53nm,21.5s,baz=80,slow=36
KWP Kalwaria Pacla 37.55 304 P **P 17 17 03.8 +1.2**
KWP pmax pmax
comp=Z,191nm,1.5s
KWP Kalwaria Pacla 37.55 304 P **P 17 17 03.8 +1.2**
DRGR 37.74 300⇓ *iP* **P 17 17 06.4 +2.1**
DRGR 37.74 300⇓ *iP* **P 17 17 06.4 +2.1**
GZR Gura Zlata 37.86 297⇓ *iP* **P 17 17 07.1 +1.8**
KOLS Kolonicke sedl 37.87 303 *eP* **P 17 17 06.6 +1.4**
KOLS Kolonicke sedl 37.87 303 *eP* **P 17 17 06.6 +1.4**
BZS Buzias 38.64 298⇓ *iP* **P 17 17 14.0 +2.3**
BZS Buzias 38.64 298⇓ *iP* **P 17 17 14.0 +2.3**
ZEA Zeya 39.48 49 *eP* **P 17 17 19.5 +0.9**
KEV Kevo 39.91 337 P **P 17 17 22.3 +0.4**
KEV pmax pmax
comp=Z,13nm,1.0s
KEV Kevo 39.91 337 P **P 17 17 22.3 +0.4**
KEV IAmb IAmb 17 17 23.9
comp=Z,13nm,1.0s
DIVS Divibare 40.02 296 P **P 17 17 25.2 +1.9**
DIVS IAmb IAmb 17 17 27.0
comp=Z,5.4nm,0.9s
ARA0 ARCESS Array S 40.28 336⇓ *iP* **P 17 17 25.5 +0.5**
ARCES ARCESS Array B 40.28 336 P **P 17 17 25.5 +0.5**
comp=Z,8.8nm,0.4s,baz=110,slow=8.0,SNR=129
ARCES LR LR 17 33 39.5
comp=Z,45nm,20.1s,baz=275,slow=35
ARCES ARCESS Array B 40.28 336 P **P 17 17 25.5 +0.5**
ARCES IAmb IAmb 17 17 26.3
comp=Z,14nm,1.1s
KTK1 Kautokeino 40.81 335⇓ *iP* **P 17 17 29.3 0.0**
MORC Moravsky Berou 40.89 305 P **P 17 17 30.9 +0.5**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 40.89 305 P **P 17 17 30.9 +0.5**
MODS Modra-Piesok 41.22 303 *eP* **P 17 17 32.1 -0.9**
MODS Modra-Piesok 41.22 303 *eP* **P 17 17 32.1 -0.9**
HAMF Hammerfest 41.32 337⇓ *iP* **P 17 17 34.1 +0.7**
YAK Yakutsk 41.43 36*c eP* **P 17 17 34.5 0.0**
YAK pmax pmax
comp=Z,13nm,0.6s
YAK Yakutsk 41.43 36 P **P 17 17 34.4 -0.1**
DPC Dobruska-Polom 41.62 306 *eP* **P 17 17 37.8 +1.5**
DPC Dobruska-Polom 41.62 306 *eP* **P 17 17 37.8 +1.5**
JETT Jettan, Norway 41.94 335 *eP* **P 17 17 39.1 +0.5**
TRO Tromso 42.46 335 *eP* **P 17 17 43.2 +0.5**
KSRS Korea Array 42.53 74 P **P 17 17 43.0 -0.7**
comp=Z,0.6nm,0.4s,baz=283,slow=7.2,SNR=7.7
KLR Kul'dur 42.57 56⇑ *eP* **P 17 17 44.1 +0.1**
KLR pmax pmax
comp=Z,4.0nm,1.4s
N2ST Straumen 43.03 331 *eP* **P 17 17 48.0 +0.6**
N2IH Innhavet 43.05 332 *eP* **P 17 17 48.1 +0.6**
BRG Berggiesshubel 43.06 307 *eP* **P 17 17 49.2 +1.3**
BRG Amp 17 17 50.4
comp=Z,4.9nm,0.8s
FAUS Fauske 43.16 331 *eP* **P 17 17 48.9 +0.5**
MOR8 Moi Rana 43.25 329⇓ *iP* **P 17 17 48.8 -0.4**
N2TV TVrnvik 43.26 332 *eP* **P 17 17 49.6 +0.5**
N2NF Nordfold 43.26 332⇓ *iP* **P 17 17 49.7 +0.5**
STEI Steigen 43.29 332 *eP* **P 17 17 49.9 +0.5**
NBB08 Skaug oppvekst 43.40 331 *eP* **P 17 17 50.8 +0.4**
TIXI Tiksi 43.43 22⇓ *eP* **P 17 17 49.9 -0.6**
TIXI Tiksi 43.43 22 P **P 17 17 49.9 -0.6**
TIXI IAmb IAmb 17 17 51.5
comp=Z,7.5nm,0.7s
GEC2 GERESS Array S 43.50 304 P **P 17 17 49.5 -2.1**
GERES GERESS Array B 43.50 304 P **P 17 17 52.7 +1.1**
comp=Z,1.0nm,0.6s,baz=90,slow=1.3,SNR=6.8
GERES GERESS Array B 43.50 304 P **P 17 17 49.2 -2.4**
KHC Kasperske Hory 43.54 304 *eP* **P 17 17 53.6 +1.8**
KHC Kasperske Hory 43.54 304 *eP* **P 17 17 53.6 +1.8**
NBB17 Glomfjord BΨr 43.55 330 *eP* **P 17 17 52.3 +0.7**
NBB05 Inndyr 43.57 331 *eP* **P 17 17 52.3 +0.6**
CLL Collm 43.60 308 *iP* **P 17 17 53.0 +0.8**
comp=Z,7.0nm,1.2s
CLL *es*P **sP 17 18 36.0 +2.9**
CLL *e*PP **PP 17 19 36.0 +0.4**
CLL *e*PPP PPP 17 20 24.0
CLL *e*SS SS 17 27 42.0 +10
CLL *es*SS 17 28 18.0
CLL Collm 43.60 308 P **P 17 17 52.8 +0.6**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 43.60 308 P **P 17 17 52.8 +0.6**
CLL IAmb IAmb 17 17 54.0
comp=Z,4.2nm,0.8s
NBB30 Finnes 43.67 331 *eP* **P 17 17 53.1 +0.6**
NBB15 Halsa Church 43.69 330 *eP* **P 17 17 53.4 +0.7**
N2VI Vinje 43.76 333 *eP* **P 17 17 53.5 +0.3**
NBB13 Alf Garage 43.77 330 *eP* **P 17 17 54.0 +0.7**
HOPEN Hopen 43.77 345 *eP* **P 17 17 54.3 +1.1**
KONS Konsvik 43.83 330 *eP* **P 17 17 54.4 +0.6**
STOK Stokkvaagen 43.84 330 *eP* **P 17 17 54.6 +0.7**
NBB40 Tonnes 43.88 330 *eP* **P 17 17 54.9 +0.7**
NC405 NORSAR Array S 43.91 322 P **P 17 17 54.9 +0.3**
LOF Lofoten 43.96 332 *eP* **P 17 17 54.8 0.0**
NC602 NORSAR Array S 43.98 321 *eP* **P 17 17 55.5 +0.3**
NC602 NORSAR Array S 43.98 321 P **P 17 17 55.3 +0.2**
NSS Namsos 44.05 327 *eP* **P 17 17 55.3 -0.3**
NC303 NORSAR Array S 44.09 322 P **P 17 17 56.6 +0.6**
NB201 NORSAR Array S 44.12 322 P **P 17 17 56.4 +0.2**
NB2 NORSAR Subarra 44.15 322 P **P 17 17 56.3 -0.3**
baz=92,slow=7.9
NOA NORSAR Array B 44.15 322 P **P 17 17 56.4 -0.1**
comp=Z,12nm,0.8s,baz=90,slow=7.8,SNR=39
NOA LR LR 17 37 08.3
comp=Z,37nm,19.6s,baz=70,slow=37
BJO1 Bjornoya 44.18 342 *eP* **P 17 17 55.4 -1.1**
N2VA Vr.y 44.19 331 *eP* **P 17 17 56.2 -0.4**
NAO01 NORSAR Array S 44.31 322 P **P 17 17 57.6 -0.1**
NBO00 NORSAR Array S 44.37 322 P **P 17 17 58.2 0.0**
NC204 NORSAR Array S 44.38 322 P **P 17 17 58.7 +0.3**
N2RO R.st 44.38 331 *eP* **P 17 17 58.2 0.0**
MOX Moxa 44.56 307 *eP* **P 17 18 01.7 +1.8**
TBLU Trondheim 44.70 325 *eP* **P 17 18 00.2 -0.6**
KONO Kongsberg 44.95 320 *eP* **P 17 18 03.4 +0.6**
DOMB Dombas 45.21 323 *eP* **P 17 18 05.5 +0.6**
SKAR Skarslia 45.58 321 *eP* **P 17 18 09.3 +1.4**
MOL Molde 45.92 324 *eP* **P 17 18 11.0 +0.6**
SPA0 Spitsbergen Ar 46.23 346⇓ *iP* **P 17 18 13.4 +0.7**
KBS Kingsbay 47.34 347 P **P 17 18 22.0 +0.8**
KBS pmax pmax
comp=Z,8.0nm,0.9s
KBS Kingsbay 47.34 347 *eP* **P 17 18 21.8 +0.5**
KBS Kingsbay 47.34 347 P **P 17 18 22.0 +0.8**
KBS IAmb IAmb 17 18 23.2
comp=Z,8.4nm,0.8s
SENIN Lac Senin/Sane 48.26 302 P **P 17 18 29.9 +0.8**
SENIN IAmb IAmb 17 18 30.6
comp=Z,3.5nm,0.7s
KEST Kesra 50.30 288 P **P 17 18 46.5 +2.0**
comp=Z,1.8nm,0.5s,baz=160,slow=2.6,SNR=5.7
KEST Kesra 50.30 288 P **P 17 18 46.4 +1.8**
KEST IAmb IAmb 17 19 09.1
comp=Z,7.7nm,1.2s
MAJO Matsushiro 50.55 71⇓ *eP* **P 17 18 47.6 +1.2**
MAJO pmax pmax
comp=Z,13nm,2.1s
MJAR Matsushiro Arr 50.55 71 P **P 17 18 46.9 +0.4**
comp=Z,1.3nm,0.7s,baz=299,slow=7.6,SNR=2.4
SEY Seymchan 51.90 35⇑ *eP* **P 17 18 56.0 0.0**
BILL Bilibino 56.19 27 *eP* **P 17 19 27.4 +0.3**
BILL *e**PP **pP 17 19 59.8 +3.9**
BILL *e* 17 20 27.8
BILL pmax pmax
comp=Z,11nm,3.0s
ESDC Sonseca Array 58.33 298 P **P 17 19 42.6 0.0**
comp=Z,2.4nm,0.8s,baz=60,slow=7.1,SNR=14
ESDC Sonseca Array 58.33 298 P **P 17 19 43.5 +0.8**
EUNU Eureka 61.40 356 P **P 17 20 04.7 +1.6**
EUNU IAmb IAmb 17 20 19.6
comp=Z,8.4nm,1.2s
TOA0 Torodi Ar. Sit 67.66 269 P **P 17 20 45.0 +0.4**
TOA0 IAmb IAmb 17 20 45.2
comp=Z,4.4nm,0.5s
TORD Torodi Ar. Bea 67.66 269 P **P 17 20 45.0 +0.4**
comp=Z,3.7nm,0.4s,baz=47,slow=5.7,SNR=40
TORD Torodi Ar. Bea 67.66 269 P **P 17 20 45.1 +0.4**
TORD IAmb IAmb 17 20 45.7
comp=Z,6.4nm,1.1s
TOLK Toolik Lake Re 68.73 16 P **P 17 20 50.5 -0.1**
COLD Coldfoot 69.76 17 P **P 17 20 57.1 +0.2**
COLD IAmb IAmb 17 20 58.5
comp=Z,5.0nm,0.9s
I23K Minto, Yukon-K 71.67 18 P **P 17 21 08.5 +0.1**
INK Inuvik 71.86 10 P **P 17 21 08.9 -0.6**
comp=Z,5.0nm,0.6s,baz=342,slow=4.0,SNR=7.7
INK Inuvik 71.86 10 P **P 17 21 09.6 +0.1**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 71.86 10 P **P 17 21 09.6 +0.1**
INK IAmb IAmb 17 21 10.2
comp=Z,3.9nm,0.6s
C36M Paulatuk 71.94 6 P **P 17 21 09.8 -0.2**
MDM Murphy Dome 72.09 17 P **P 17 21 10.3 -0.7**
MDM IAmb IAmb 17 21 18.0
comp=Z,6.5nm,1.4s
BPAW Bear Paw Mtn. 72.13 19 P **P 17 21 10.5 -0.8**
NEA2 Nenana 72.20 18 P **P 17 21 11.6 0.0**
COLA College 72.25 17*c eP* **P 17 21 12.7 +0.8**
COLA pmax pmax
comp=Z,7.0nm,0.8s
ILAR Eielson Array 72.56 17 P **P 17 21 13.2 -0.6**
comp=Z,2.0nm,0.8s,baz=321,slow=5.2,SNR=15
ILAR Eielson Array 72.56 17 P **P 17 21 12.9 -0.9**
SKT Skwentna 73.72 20 P **P 17 21 19.9 -0.8**
SKT IAmb IAmb 17 21 21.9
comp=Z,5.6nm,0.9s
SCRK Sand Creek 73.89 16 P **P 17 21 21.8 0.0**
K27K Chicken 74.26 15 P **P 17 21 24.0 +0.2**
K27K IAmb IAmb 17 21 27.6
comp=Z,5.3nm,1.4s
KNRA Kununurra 74.61 125 P **P 17 21 27.5 +1.1**
KNRA IAmb IAmb 17 21 35.0
comp=Z,18nm,1.3s
SML Sawmill 74.72 19 P **P 17 21 27.2 +0.7**
SML IAmb IAmb 17 21 27.6
comp=Z,7.0nm,0.8s
DAWY Dawson 74.77 14 P **P 17 21 26.8 0.0**
SCM Sheep Creek Mo 74.95 19 P **P 17 21 27.5 -0.4**
SCM pmax pmax
comp=Z,5.0nm,0.7s
SCM Sheep Creek Mo 74.95 19 P **P 17 21 27.5 -0.4**
SCM IAmb IAmb 17 21 29.0
comp=Z,4.8nm,0.7s
L27K Beaver Creek, 75.17 16 P **P 17 21 29.6 +0.6**
BCAR Beaver Creek A 75.17 16 P **P 17 21 29.6 +0.5**
N25K Chitina, Valde 75.82 18 P **P 17 21 34.3 +1.4**
N25K IAmb IAmb 17 21 38.0
comp=Z,5.0nm,1.2s
FID Port Fidalgo 76.09 19 P **P 17 21 34.7 +0.4**
FID IAmb IAmb 17 21 57.2
comp=Z,5.9nm,1.1s
HYT Haines Junctio 78.08 15 P **P 17 21 46.4 +0.7**
HYT IAmb IAmb 17 21 47.8
comp=Z,7.9nm,0.8s
YKA Yellowknife Ar 79.39 4 P **P 17 21 52.6 +0.1**
comp=Z,2.7nm,0.6s,baz=354,slow=5.4,SNR=15
WRA Warramunga Arr 81.34 124 P **P 17 22 04.0 +0.4**
comp=Z,0.9nm,0.4s,baz=323,slow=4.8,SNR=22
WRA Warramunga Arr 81.34 124 *i* P **P 17 22 04.5 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 81.34 124 P **P 17 22 03.8 +0.2**
ASAR Alice Springs 83.73 127 P **P 17 22 15.9 -0.1**
comp=Z,0.3nm,0.5s,baz=320,slow=5.2,SNR=13
ASAR Alice Springs 83.73 127 P **P 17 22 16.1 +0.1**
ASAR Alice Springs 83.73 127 P **P 17 22 16.1 +0.1**
PLCA Paso Flores 152.19 253 PKPbc **PKiKP 17 29 42.8 +0.9**
comp=Z,1.3nm,0.6s,baz=67,slow=3.9,SNR=4.4

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*KRSC **24** 17:49:16.0±2.0,52.39N×173.03E,h42km±21km,ML4.3*
*AEIC **24** 17:49:16.3±3.5,52.9N±0.1×173.15E±0.08,h52km±6km,*
Error ellipse: s-maj=19.3km s-min=7.3km az=184.0
*MOS **24** 17:49:16.4±0.9,52.28N×173.28E,h34km,mb4.1/2, Error*
ellipse: s-maj=12.7km s-min=6.7km az=29.8
*NEIC **24** 17:49:20.2±1.2,52.61N±0.08×173.34E±0.08,h37km±8km,*
mb4.1/22,ML3.7/14(AEIC), Error ellipse: s-maj=12.8km
s-min=5.7km az=158.0
*IDC **24** 17:49:21.7±4.2,52.56N×173.20E,h53km±37km,mb3.6/16,*
mb1 3.7/17,mb1mx3.6/40,mbtmp3.9/17,ML3.0/1,MS2.8/6,
Ms1 2.8/6,ms1mx2.6/44, Error ellipse: s-maj=29.6km
s-min=15.4km az=175.0
ISC 24 17:49:19.2±0.6,52.44N±0.10×173.16E±0.04,h35km,n107,

σ1§88/114, **mb4.0**/26, **MS2.8**/5, **Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.64**	**63**	P	**Pn**	**17 49 29.0**	**-2.8**
SMY				S	**Sn**	**17 49 37.5**	**-3.2**
SMY	**Shemya**	**0.64**	**63**	*eP*	**Pn**	**17 49 29.0**	**-2.8**
SMY				*eS*	**Sn**	**17 49 37.5**	**-3.2**
SMY	**Shemya**	**0.64**	**63**		**Pn**	**17 49 29.0**	**-2.8**
SMY					**Sn**	**17 49 37.9**	**-2.8**
LSNW	**Little Sitkin**	**3.33**	**96**		**Pn**	**17 50 08.2**	**-0.4**
LSSA	**Little Sitkin**	**3.33**	**96**		**Pn**	**17 50 08.4**	**-0.3**
LSPA	**Little Sitkin**	**3.37**	**96**		**Pn**	**17 50 08.5**	**-0.7**
LSPA					**Sn**	**17 50 50.0**	**+2.2**
AMKA	**Amchitka**	**3.95**	**103**		**Pn**	**17 50 16.8**	**-0.4**
AMKA					**Sn**	**17 51 04.2**	**+2.0**
BKI	**Bering**	**5.08**	**306**	*eS*	**Sn**	**17 51 28.8**	**-1.2**
TASE	**Tanaga Southea**	**5.46**	**93**		**Pn**	**17 50 37.8**	**-0.1**
KIMD	**Kanaga Island**	**5.96**	**93**		**Pn**	**17 50 43.8**	**-0.9**
KIWB	**Kanaga Island**	**6.00**	**92**		**Pn**	**17 50 44.7**	**-0.5**
ADK	**Adak**	**6.28**	**91**	P	**Pn**	**17 50 48.0**	**-1.1**
ADK	**Adak**	**6.28**	**91**		**Pn**	**17 50 48.0**	**-1.1**
GSTR	**Great Sitkin T**	**6.63**	**89**	Pn	**Pn**	**17 50 54.1**	**+0.1**
MKZ	**Mys Kozlova**	**7.14**	**292**	P	**Pn**	**17 51 02.5**	**+1.5**
MKZ				S	**Sn**	**17 52 18.5**	**-2.3**
MKZ	**Mys Kozlova**	**7.14**	**292**	*eP*	**Pn**	**17 51 02.5**	**+1.5**
MKZ				*eS*	**Sn**	**17 52 18.5**	**-2.3**
ATKA	**Atka Island**	**7.75**	**87**		**Pn**	**17 51 07.9**	**-1.5**
SPN	**Mys Shipunski**	**8.00**	**280**	*eS*	**Sn**	**17 52 38.1**	**-3.8**
KZV	**Kizimen**	**8.08**	**294**	P	**Pn**	**17 51 16.3**	**+2.3**
KZV				S	**Sn**	**17 52 42.6**	**-1.5**
KZV	**Kizimen**	**8.08**	**294**	*eP*	**Pn**	**17 51 16.3**	**+2.3**
KZV				*eS*	**Sn**	**17 52 42.6**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**8.11**	**301**	P	**Pn**	**17 51 17.3**	**+3.0**
BZGR				S	**Sn**	**17 52 43.7**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**8.11**	**301**	*eP*	**Pn**	**17 51 17.3**	**+3.0**
BZGR				*eS*	**Sn**	**17 52 43.7**	**-1.0**
TUMR	**Tumrok**	**8.20**	**295**	P	**Pn**	**17 51 18.5**	**+2.8**
TUMR	**Tumrok**	**8.20**	**295**	*eP*	**Pn**	**17 51 18.5**	**+2.8**
BZWR	**Bezymyannyi-We**	**8.22**	**300**	P	**Pn**	**17 51 19.1**	**+3.2**
BZWR	**Bezymyannyi-We**	**8.22**	**300**	*eP*	**Pn**	**17 51 19.1**	**+3.2**
KMNR	**Kamenistaya**	**8.29**	**299**	P	**Pn**	**17 51 19.0**	**+2.2**
KMNR	**Kamenistaya**	**8.29**	**299**	*eP*	**Pn**	**17 51 19.0**	**+2.2**
KIRR	**Kirishev**	**8.30**	**300**	P	**Pn**	**17 51 19.8**	**+2.8**
KIRR	**Kirishev**	**8.30**	**300**	*eP*	**Pn**	**17 51 19.8**	**+2.8**
KOZ	**Kozyrevsk**	**8.58**	**300**	P	**Pn**	**17 51 24.1**	**+3.4**
KOZ	**Kozyrevsk**	**8.58**	**300**	*eP*	**Pn**	**17 51 24.1**	**+3.4**
SDLR	**Sedlovina**	**8.68**	**281**	P	**Pn**	**17 51 23.4**	**+1.2**
SDLR	**Sedlovina**	**8.68**	**281**	*eP*	**Pn**	**17 51 23.4**	**+1.2**
UGLR	**Uglovaya**	**8.72**	**281**	P	**Pn**	**17 51 23.7**	**+1.0**
UGLR	**Uglovaya**	**8.72**	**281**	*eP*	**Pn**	**17 51 23.7**	**+1.0**
KRER	**Koryakskii**	**8.76**	**281**	P	**Pn**	**17 51 25.1**	**+1.7**
KRER	**Koryakskii**	**8.76**	**281**	*eP*	**Pn**	**17 51 25.1**	**+1.7**
DALK	**Dalny**	**8.77**	**280**	P	**Pn**	**17 51 24.6**	**+1.4**
DALK	**Dalny**	**8.77**	**280**	*eP*	**Pn**	**17 51 24.6**	**+1.4**
AVH	**Avacha**	**8.77**	**281**	P	**Pn**	**17 51 24.9**	**+1.5**
AVH				S	**Sn**	**17 52 58.9**	**-2.0**
AVH	**Avacha**	**8.77**	**281**	*eP*	**Pn**	**17 51 24.9**	**+1.5**
AVH				*eS*	**Sn**	**17 52 58.9**	**-2.0**
KRX	**Arik**	**8.82**	**282**	P	**Pn**	**17 51 25.4**	**+1.2**
KRX	**Arik**	**8.82**	**282**	*eP*	**Pn**	**17 51 25.4**	**+1.2**
KOK	**Koryaka**	**8.83**	**281**	P	**Pn**	**17 51 25.5**	**+1.2**
KOK	**Koryaka**	**8.83**	**281**	*eP*	**Pn**	**17 51 25.5**	**+1.2**
RUS	**Russkaya**	**8.95**	**276**	P	**Pn**	**17 51 26.7**	**+0.9**
RUS	**Russkaya**	**8.95**	**276**	*eP*	**Pn**	**17 51 26.7**	**+0.9**
MTVR	**Mutnovka**	**9.15**	**276**	P	**Pn**	**17 51 29.8**	**+1.2**
MTVR	**Mutnovka**	**9.15**	**276**	*eP*	**Pn**	**17 51 29.8**	**+1.2**
KDTR	**Khodutka, Kamc**	**9.30**	**272**	P	**Pn**	**17 51 31.3**	**+0.7**
KDTR				S	**Sn**	**17 53 07.6**	**-6.3**
KDTR	**Khodutka, Kamc**	**9.30**	**272**	*eP*	**Pn**	**17 51 31.3**	**+0.7**
KDTR				*eS*	**Sn**	**17 53 07.6**	**-6.3**
PEA0B	**Petropavlovsk-**	**9.40**	**280**	P	**Pn**	**17 51 33.9**	**+1.9**
PEA0B	**Petropavlovsk-**	**9.40**	**280**	Pn	**Pn**	**17 51 33.9**	**+1.9**
PETK	**Petropavlovsk-**	**9.40**	**280**	P	**Pn**	**17 51 34.1**	**+2.2**
	0.8nm,0.3s,baz=93,slow=18,SNR=40						
PETK				S	**Sn**	**17 53 14.6**	**-1.7**
	0.8nm,0.3s,baz=317,slow=28,SNR=7.0						
PETK				LR	LR	17 55 00.3	
	comp=Z,49nm,21.2s,baz=78,slow=36						
ALID	**Alaid**	**11.05**	**269**	P	**Pn**	**17 51 56.1**	**+1.4**
ALID	**Alaid**	**11.05**	**269**	*eP*	**Pn**	**17 51 56.1**	**+1.4**
MAPS	**Pakushin South**	**12.03**	**76**		**Pn**	**17 52 07.0**	**-0.9**
MSW	**Makushin Switc**	**12.12**	**75**		**Pn**	**17 52 08.4**	**-0.8**
SEY	**Seymchan**	**15.21**	**322**	P	**P**	**17 52 55.7**	**+0.1**
	0.2nm,0.3s,baz=166,slow=21,SNR=4.1						
OHAK	**Old Harbor**	**19.78**	**63**	P	**P**	**17 53 44.7**	**-1.2**
KDAK	**Kodiak Island**	**20.16**	**61**	P	Pn	17 53 51.2	-0.9
	3.2nm,0.3s,baz=269,slow=4.2,SNR=2.5						
KDAK	**Kodiak Island**	**20.16**	**61**	P	**P**	**17 53 50.3**	**+0.2**
KDAK	**Kodiak Island**	**20.16**	**61**		**P**	**17 53 50.3**	**+0.2**
CNPM	**China Poot**	**20.93**	**56**	Pn	**P**	**17 53 59.0**	**+0.4**
KTH	**Kantishna Hill**	**21.72**	**45**	P	**P**	**17 54 05.5**	**-1.4**
KTH				IAmb	IAmb	17 54 12.2	
	comp=Z,21nm,1.9s						
TRF	**Thorofare Moun**	**21.97**	**46**	P	**P**	**17 54 08.4**	**-1.3**
TRF				IAmb	IAmb	17 54 26.1	
	comp=Z,12nm,1.6s						
PWL	**Port Wells**	**22.48**	**53**	P	**P**	**17 54 13.2**	**-1.9**
PWL				IAmb	IAmb	17 54 58.8	
	comp=Z,4.2nm,0.9s						
SML	**Sawmill**	**22.58**	**50**	P	**P**	**17 54 15.1**	**-1.1**
SML				IAmb	IAmb	17 54 24.0	
	comp=Z,6.1nm,0.9s						
SCM	**Sheep Creek Mo**	**23.05**	**50**	P	**P**	**17 54 19.6**	**-1.5**
SCM				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SCM	**Sheep Creek Mo**	**23.05**	**50**	P	**P**	**17 54 19.6**	**-1.5**
SCM				IAmb	IAmb	17 54 46.5	
	comp=Z,10.0nm,1.2s						
GLI	**Glacier Island**	**23.09**	**53**	P	**P**	**17 54 19.5**	**-1.9**
GLI				IAmb	IAmb	17 55 10.2	
	comp=Z,5.3nm,0.9s						
WRH	**Wood River Hil**	**23.15**	**44**	P	**P**	**17 54 21.3**	**-0.6**
FID	**Port Fidalgo**	**23.38**	**53**	P	**P**	**17 54 22.8**	**-1.6**
FID				IAmb	IAmb	17 55 08.7	
	comp=Z,14nm,1.5s						
ILAR	**Eielson Array**	**23.72**	**43**	P	**P**	**17 54 28.8**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=253,slow=8.3,SNR=5.5						
N25K	**Chitina, Valde**	**24.33**	**51**	P	**P**	**17 54 32.0**	**-1.3**
N25K				IAmb	IAmb	17 54 52.6	
	comp=Z,3.5nm,1.0s						
GLB	**Gilahina Butte**	**24.70**	**52**	P	**P**	**17 54 35.8**	**-0.9**
GLB				IAmb	IAmb	17 54 46.6	
	comp=Z,9.7nm,1.6s						
DOT	**Dot Lake**	**24.75**	**46**	P	**P**	**17 54 35.8**	**-1.2**
SCRK	**Sand Creek**	**24.82**	**46**	P	**P**	**17 54 37.1**	**-0.7**
SCRK				IAmb	IAmb	17 55 14.7	
	comp=Z,15nm,2.0s						
YAK	**Yakutsk**	**24.94**	**310**	P	**P**	**17 54 38.4**	**-0.3**
	comp=Z,6.2nm,0.5s,baz=63,slow=0.7,SNR=6.6						
YAK				LR	LR	18 03 36.0	
	comp=Z,23nm,19.5s,baz=74,slow=34						
K27K	**Chicken**	**25.67**	**46**	P	**P**	**17 54 44.9**	**-0.3**
L27K	**Beaver Creek,**	**25.70**	**48**	P	**P**	**17 54 44.5**	**-1.2**
KLR	**Kul'dur**	**26.09**	**280**	P	**P**	**17 54 49.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=107,slow=10.0,SNR=4.2						
KLR				LR	LR	18 05 18.4	
	comp=Z,33nm,19.1s,baz=358,slow=37						
EGAK	**Eagle**	**26.14**	**44**	P	**P**	**17 54 48.5**	**-1.0**
EGAK				IAmb	IAmb	17 55 13.5	
	comp=Z,13nm,1.9s						
TIXI	**Tiksi**	**27.28**	**331**	P	**P**	**17 54 59.6**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=122,slow=14,SNR=3.2						
TIXI				LR	LR	18 06 58.1	
	comp=Z,23nm,18.3s,baz=183,slow=39						
TIXI	**Tiksi**	**27.28**	**331**	P	**P**	**17 55 00.0**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**27.28**	**331**	P	**P**	**17 55 00.0**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**33.01**	**191**	T	T	18 30 39.3	
	baz=6.9,slow=76,SNR=772						
H11N3	**WAKE ISLAND Hy**	**33.02**	**191**	T	T	18 30 40.1	
	baz=6.9,slow=76,SNR=1037						
H11N1	**WAKE ISLAND Hy**	**33.03**	**191**	T	T	18 30 40.6	
	baz=6.9,slow=76,SNR=1222						
H11S1	**WAKE ISLAND Hy**	**34.24**	**191**	T	T	18 32 15.5	
	baz=6.6,slow=76,SNR=690						
H11S3	**WAKE ISLAND Hy**	**34.25**	**191**	T	T	18 32 13.5	
	baz=6.6,slow=76,SNR=883						
H11S2	**WAKE ISLAND Hy**	**34.26**	**191**	T	T	18 32 12.8	
	baz=6.6,slow=76,SNR=811						
KSRS	**Korea Array**	**34.73**	**263**	LR	LR	18 08 21.0	
	comp=Z,5.3nm,21.9s,baz=205,slow=33						
SONM	**Songino Array**	**41.67**	**291**	P	**P**	**17 57 05.5**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=59,slow=8.6,SNR=3.6						
SONM	**Songino Array**	**41.67**	**291**	IAmb	IAmb	17 57 11.8	
	comp=Z,5.8nm,1.8s						
WALA	**Waterton Lakes**	**44.46**	**64**	P	**P**	**17 57 26.7**	**+0.1**
PDAR	**Pinedale Array**	**50.64**	**68**	P	**P**	**17 58 13.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=291,slow=4.1,SNR=3.8						
MKAR	**Makanchi Array**	**55.38**	**303**	P	**P**	**17 58 49.2**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=53,slow=6.5,SNR=20						
ARCES	**ARCESS Array B**	**56.06**	**347**	P	**P**	**17 58 53.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=35,slow=8.0,SNR=2.0						
TXAR	**Lajitas Array**	**63.32**	**76**	P	**P**	**17 59 44.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=302,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**63.48**	**343**	P	**P**	**17 59 44.6**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=356,slow=12,SNR=3.8						
NOA	**NORSAR Array B**	**65.95**	**350**	P	**P**	**18 00 01.1**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=10,slow=6.4,SNR=3.4						
NOA				LR	LR	18 32 07.4	
	comp=Z,7.0nm,18.1s,baz=145,slow=39						
CMAR	**Chiang Mai Arr**	**65.99**	**269**	P	**P**	**18 00 03.0**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.6,SNR=4.8						
AKASG	**Malin Array Be**	**72.81**	**337**	P	**P**	**18 00 43.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=25,slow=6.2,SNR=4.3						
BRTR	**Keskin Array B**	**81.71**	**330**	P	**P**	**18 01 34.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=33,slow=3.4,SNR=2.0						
ASAR	**Alice Springs**	**83.17**	**216**	P	**P**	**18 01 42.8**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=21,slow=4.7,SNR=2.5						

WEL 24 18:04:28.9, 41°S±2°×17°6E±°, h27km±3km, M3.2/18, **ML3.5**/18, **MLv3.2**/18, **Error ellipse: s-maj=0.0km s-min=0.0km az=89.6, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.04**	**75**	P	Pb	18 04 33.9	+0.4
PRWZ				S	Sb	18 04 38.2	+1.4
POWZ	**Post Office Ro**	**0.21**	**327**	P	Pb	18 04 35.2	+0.4
TIWZ	**Tintock**	**0.21**	**186**	P	Pb	18 04 35.3	+0.4
TIWZ				S	Sb	18 04 40.3	+1.3
MRZ	**Mangatainoka R**	**0.27**	**250**	P	Pb	18 04 36.0	+0.4
MRZ				S	Sb	18 04 41.2	+1.0
BFZ	**Birch Farm**	**0.28**	**115**	P	Pb	18 04 35.9	+0.2
BFZ				S	Sn	18 04 41.6	-0.9
DVHZ	**Dannevirke**	**0.33**	**36**	P	Pb	18 04 36.5	0.0
DVHZ				S	Sb	18 04 42.1	+0.5
CPWZ	**Castlepoint**	**0.41**	**148**	P	Pn	18 04 38.8	-0.2
ANWZ	**Angora Road**	**0.44**	**76**	P	Pb	18 04 38.6	+0.5
HOWZ	**Holdsworth Sta**	**0.45**	**222**	P	Pb	18 04 38.7	+0.3
HOWZ				S	Sn	18 04 46.0	-0.8
TSZ	**Takapari Road**	**0.51**	**4**	P	Pb	18 04 39.5	+0.1
TSZ				S	Sb	18 04 47.2	+0.8
TMWZ	**Te Maipa**	**0.54**	**182**	P	Pb	18 04 40.2	+0.4
TMWZ				S	Sn	18 04 49.4	+0.3
OHWZ	**Ohakea**	**0.58**	**308**	P	Pn	18 04 41.8	+0.4
OGWZ	**Otaki Gorge**	**0.62**	**246**	P	Pn	18 04 41.5	-0.3
OGWZ				S	Sb	18 04 50.1	+0.7
PRHZ	**Porangahau**	**0.63**	**62**	P	Pb	18 04 41.6	+0.3
WPHZ	**Waipukurau**	**0.64**	**39**	P	Pn	18 04 42.0	-0.3
MTW	**Mount Morrison**	**0.67**	**208**	P	Pb	18 04 41.9	-0.1
PNHZ	**Pukenui**	**0.69**	**19**	P	Pb	18 04 42.5	+0.2
KIW	**Kapiti Island**	**0.82**	**249**	P	Pn	18 04 44.9	+0.2
CAW	**Cannon Point**	**0.84**	**230**	P	Pb	18 04 44.7	-0.1
TRWZ	**Traveller**	**0.85**	**192**	P	Pb	18 04 44.3	-0.7
PAWZ	**Paruwai Farm**	**0.89**	**204**	P	Pn	18 04 45.0	-0.8
PXZ	**Pawanui**	**0.90**	**54**	P	Pn	18 04 45.2	-0.6
KRHZ	**Kereru**	**0.99**	**21**	P	Pn	18 04 46.8	-0.2
MSWZ	**Moikau Station**	**0.99**	**210**	P	Pn	18 04 46.0	-1.0
KAHZ	**Kahuranaki**	**1.07**	**44**	P	Pn	18 04 47.8	-0.3
WAZ	**Wanganui**	**1.08**	**318**	P	Pb	18 04 49.9	+1.0
BHHZ	**Black Hill Sta**	**1.08**	**6**	P	Pn	18 04 48.6	+0.3
PLWZ	**Palliser**	**1.12**	**206**	P	Pn	18 04 47.6	-1.2
WEL	**Wellington**	**1.13**	**230**	P	Pn	18 04 48.6	-0.3
BHW	**Baring Head**	**1.15**	**223**	P	Pn	18 04 48.4	-0.8
MOVZ	**Moawhango**	**1.17**	**354**	P	Pb	18 04 50.3	-0.1
KWHZ	**Kaweka Forest**	**1.21**	**19**	P	Pn	18 04 50.0	0.0
MTVZ	**Mangateitei**	**1.23**	**344**	P	Pb	18 04 51.7	+0.3
WNVZ	**Wahianoa**	**1.26**	**349**	P	Pb	18 04 52.1	0.0
MCHZ	**McNeill Hill**	**1.27**	**28**	P	Pn	18 04 50.8	0.0
TRVZ	**Turoa**	**1.30**	**347**	P	Pb	18 04 52.7	0.0
WHVZ	**Whangaehu Hut**	**1.31**	**349**	P	Pb	18 04 53.0	+0.1
FWVZ	**Far West T-bar**	**1.34**	**348**	P	Pb	18 04 53.4	-0.1
PKVZ	**Pokaka**	**1.35**	**341**	P	Pb	18 04 53.5	0.0
SNVZ	**South Ngauruho**	**1.40**	**351**	P	Pb	18 04 53.9	-0.4
TCW	**Tory Channel**	**1.40**	**242**	P	Pn	18 04 52.2	-0.4
NGZ	**Ngauruhoe**	**1.41**	**350**	P	Pb	18 04 54.2	-0.4
OTVZ	**Oturere**	**1.42**	**352**	P	Pb	18 04 54.2	-0.5
ETVZ	**East Tongariro**	**1.44**	**354**	P	Pb	18 04 55.2	+0.2
NNVZ	**North Ngauruho**	**1.45**	**351**	P	Pb	18 04 54.7	-0.6
TMVZ	**Te Maari**	**1.46**	**354**	P	Pb	18 04 54.9	-0.5
BKZ	**Black Stump Fm**	**1.47**	**18**	P	Pn	18 04 53.3	-0.3
WTVZ	**West Tongariro**	**1.47**	**350**	P	Pb	18 04 55.1	-0.6
NTVZ	**North Tongarir**	**1.48**	**353**	P	Pb	18 04 55.0	-0.7
KRVZ	**Karewarewa**	**1.48**	**352**	P	Pb	18 04 55.4	-0.4
DUWZ	**D'Urville Isla**	**1.53**	**261**	P	Pn	18 04 54.6	+0.1
RITZ	**Rihia Road**	**1.59**	**358**	P	Pb	18 04 56.6	-1.0
KATZ	**Kakaramea**	**1.60**	**354**	P	Pb	18 04 57.5	-0.3
LREZ	**Lake Rotokare**	**1.60**	**313**	P	Pb	18 04 58.3	+0.6
NMHZ	**Naumai**	**1.62**	**25**	P	Pn	18 04 56.1	+0.3
VRZ	**Vera Road**	**1.69**	**328**	P	Pb	18 05 00.0	+0.7
RATZ	**Rangitukua**	**1.70**	**356**	P	Pn	18 04 57.7	+0.9
TUWZ	**Tuamarina**	**1.72**	**239**	P	Pn	18 04 56.0	-1.1
MRHZ	**Matea Rd**	**1.77**	**13**	P	Pn	18 04 57.7	-0.2
MTHZ	**Maungataniwha**	**1.85**	**23**	P	Pn	18 04 58.6	-0.4
NEZ	**North Egmont**	**1.91**	**312**	P	Pb	18 05 02.5	-0.5
BSWZ	**Blackbirch Sta**	**1.92**	**233**	P	Pn	18 04 58.7	-1.1
KHEZ	**Kahui Hut**	**1.94**	**310**	P	Pb	18 05 03.2	-0.3
NMEZ	**Namu Road**	**1.94**	**306**	P	Pb	18 05 03.5	0.0
PKE	**Pukeiti**	**2.02**	**312**	P	Pb	18 05 04.5	-0.4
NNZ	**Nelson**	**2.03**	**250**	P	Pn	18 05 01.1	-0.1
NBEZ	**Newall Road No**	**2.04**	**309**	P	Pb	18 05 05.6	+0.3
SNGZ	**Shannon Statio**	**2.10**	**32**	P	Pn	18 05 01.3	-0.9
HIZ	**Hauiti**	**2.21**	**338**	P	Pb	18 05 07.9	-0.2
TLZ	**Tolley Road**	**2.25**	**352**	P	Pb	18 05 09.0	+0.1
HSRZ	**Hossack Road**	**2.27**	**7**	P	Pn	18 05 04.5	-0.1
TARZ	**Mount Tarawera**	**2.37**	**11**	P	Pn	18 05 05.7	-0.4
MWZ	**Matawai**	**2.56**	**30**	P	Pn	18 05 06.7	-1.8
QRZ	**Quartz Range**	**2.59**	**263**	P	Pn	18 05 08.6	-0.3
GVZ	**Greta Valley S**	**3.22**	**221**	P	Pn	18 05 17.0	-0.7
LTZ	**Lake Taylor**	**3.51**	**230**	P	Pn	18 05 19.6	-2.1
OKCZ	**Okains Bay**	**3.80**	**213**	P	Pn	18 05 23.0	-2.7
MQZ	**McQueen's Vall**	**3.96**	**217**	P	Pn	18 05 26.2	-1.7
TMZ	**Timaru**	**5.26**	**222**	P	Pn	18 05 43.1	-2.7

JMA ***24*** *18:14:53.1±0.4, 44°.15N×148°.24E, h0km, M3.8*
SKHL ***24*** *18:14:54.4±0.4, 44°.50N×148°.40E, h33km±2km, mb4.4/4*

ISC 24 18:14:50.1±3.5, 44°.37N±0°.07×148°.5E±0°.2, h14km±27km, n21, σ2§07/34, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.97**	**333**	*i* P	**Pb**	**18 15 08.0**	**-0.8**
KUR				AMB	AMB	18 15 08.0	
	210nm,0.3s						
KUR				*eS*	**Sb**	**18 15 18.5**	**-3.0**
KUR				A	A	18 15 20.0	
	2μm,0.3s						
KUR				A	A	18 15 20.0	
	830nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.93**	**261**	*eP*	**Pb**	**18 15 24.0**	**-1.0**
YUK				AMB	AMB	18 15 24.6	
	110nm,0.2s						
YUK				*eS*	**Sn**	**18 15 45.9**	**-0.6**
YUK				A	A	18 15 53.3	
	400nm,0.3s						
YUK				A	A	18 15 53.3	
	270nm,0.3s						
GRPR	**Tuman**	**2.00**	**260**	*eP*	**Pb**	**18 15 25.1**	**-1.1**
GRPR				AMB	AMB	18 15 29.0	
	100nm,0.3s						
GRPR				*eS*	**Sn**	**18 15 47.9**	**-0.4**
GRPR				A	A	18 15 54.0	
	290nm,0.3s						
GRPR				A	A	18 15 54.0	
	320nm,0.3s						
NEM2	**Nemuro 2**	**2.23**	**244**	P	**Pn**	**18 15 28.1**	**+1.4**
NEM2				*eS*	**Sn**	**18 15 53.8**	**-0.2**
GLVR	**Golovnino**	**2.24**	**255**	*eP*	**Pb**	**18 15 29.8**	**-0.5**
GLVR				AMB	AMB	18 15 30.0	
	30nm,0.3s						
GLVR				*eS*	**Sn**	**18 15 54.8**	**+0.6**
GLVR				A	A	18 15 58.0	
	410nm,0.4s						
GLVR				A	A	18 15 58.0	
	310nm,0.4s						
NMR	**Nemuro--Hokkai**	**2.24**	**244**	*i* P	**Pn**	**18 15 28.2**	**+1.4**
NMR				*eS*	**Sn**	**18 15 53.8**	**-0.4**
JRA	**Rausu**	**2.47**	**261**	P	**Pb**	**18 15 32.4**	**-1.8**
JNSB	**Nemuroshibetsu**	**2.59**	**258**	P	**Pn**	**18 15 34.0**	**+2.4**
JKHN	**Kushirohamanak**	**2.74**	**243**	P	**Pn**	**18 15 35.5**	**+1.8**
JNK	**Nakash**	**2.84**	**255**	P	**Pn**	**18 15 37.4**	**+2.4**
JNK				*eS*	**Sn**	**18 16 09.3**	**+0.3**
AKK	**Akkeshi**	**2.98**	**244**	*eP*	**Pn**	**18 15 39.2**	**+2.3**
JAK	**Akkeshi**	**3.08**	**245**	P	**Pn**	**18 15 40.2**	**+1.9**
JAK				*eS*	**Sn**	**18 16 14.9**	**-0.1**
JTKR	**Abashiri--Toko**	**3.33**	**265**	P	**Pn**	**18 15 44.3**	**+2.6**
JAR	**Ashorobuto**	**3.59**	**254**	P	**Pn**	**18 15 48.4**	**+3.1**
JAR				*eS*	**Sn**	**18 16 28.8**	**+1.3**
JCH	**Churui**	**4.13**	**247**	P	**Pn**	**18 15 55.8**	**+3.0**
JCH				*eS*	**Sn**	**18 16 41.7**	**+0.9**
JKK2	**Kamakawa 2**	**4.17**	**265**	P	**Pn**	**18 15 56.5**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.68**	**246**	P	**Pn**	**18 16 02.9**	**+2.5**
JRBN	**Rebuntou**	**5.39**	**284**	P	**Pn**	**18 16 12.9**	**+2.9**
JKB	**Kayabe**	**6.00**	**248**	P	**Pn**	**18 16 21.0**	**+2.6**
JKB				*eS*	**Sn**	**18 17 26.4**	**-0.5**
JOT	**Ohata**	**6.24**	**244**	P	**Pn**	**18 16 23.5**	**+1.8**
JOT				*eS*	**Sn**	**18 17 30.6**	**-2.1**
JANG	**Nango**	**6.53**	**235**	P	**Pn**	**18 16 27.0**	**+1.2**
JANG				*eS*	**Sn**	**18 17 36.2**	**-3.9**

NEIC ***24*** *18:26:15.7±0.9, 47°.57N±0°.03×92°.63W±0°.03, h0km±2km, mb_Lg2.8/28, Error ellipse: s-maj=5.8km s-min=3.7km az=14.0*
IDC ***24*** *18:26:33.4±4.4, 48°.00N×93°.13W, h0km, mb1 2.5/1, mb1mx2.4/38, mbtmp2.5/1, ML0.9/1, Error ellipse: s-maj=60.4km s-min=25.9km az=53.0*

ISC 24 18:26:13.8±1.0, 47°.58N±0°.05×92°.51W±0°.05, h0km, n24, σ1§49/16, **Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.78**	**62**		**Pn**	**18 26 32.1**	**+0.1**
B35A	**Bob, Littlefor**	**1.13**	**314**		**Pn**	**18 26 36.4**	**-0.5**
E38A	**The Farm, Brul**	**1.18**	**146**		**Pn**	**18 26 38.6**	**+1.1**
F36A	**Milaca**	**1.86**	**202**		**Pb**	**18 26 48.6**	**+0.1**
AGMN	**Agassiz Nation**	**2.36**	**289**		**Pn**	**18 26 54.3**	**+0.5**
AGMN				IAmb_Lg		18 27 28.6	
	comp=Z,28nm,0.8s						
SPMN	**Marine on St.**	**2.37**	**185**	Pn	**Pb**	**18 26 56.5**	**-0.8**
SPMN				IAmb_Lg		18 27 28.7	
	comp=

MHCZ	**Mount Hutt**	**3.78**	**64**	P	Pn	18 56 34.4 +0.8
RACZ	**Rakaia**	**4.06**	**69**	P	Pn	18 56 38.2 +0.9
INZ	**Inchbonnie**	**4.16**	**54**	P	Pn	18 56 37.2 -1.5
OXZ	**Oxford**	**4.18**	**64**	P	Pn	18 56 39.3 +0.3
MQZ	**McQueen's Vall**	**4.41**	**71**	P	Pn	18 56 42.5 +0.3
AKCZ	**Akaroa Harbour**	**4.52**	**74**	P	Pn	18 56 44.2 +0.5
LTZ	**Lake Taylor**	**4.61**	**59**	P	Pn	18 56 44.9 -0.1
OKCZ	**Okains Bay**	**4.68**	**73**	P	Pn	18 56 47.6 +1.7
GVZ	**Greta Valley S**	**4.99**	**65**	P	Pn	18 56 50.5 +0.4
DSZ	**Denniston Nort**	**5.02**	**47**	P	Pn	18 56 48.8 -1.8
THZ	**Tophouse**	**5.61**	**53**	P	Pn	18 56 57.9 -0.8
QRZ	**Quartz Range**	**6.07**	**45**	P	Pn	18 57 02.6 -2.4
NNZ	**Nelson**	**6.24**	**52**	P	Pn	18 57 07.5 +0.3
TCW	**Tory Channel**	**6.75**	**56**	P	Pn	18 57 15.6 +1.3

*BJI **24** 19:12:52.1±0.0,41˚.72N×88˚.39E,h15km,mB5.1/54, mb4.8/69,ML5.4/11,Ms5.1/78,Ms7 5.0/73*

*MOS **24** 19:12:53.0±1.2,41˚.79N×88˚.36E,h36km,mb5.3/50, MS4.7/23,Error ellipse: s-maj=4.3km s-min=3.1km az=44.2*

*NEIC **24** 19:12:54.6,41˚.81N×88˚.41E,h33km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.56; Mθθ-2.72; Mφφ-1.84; Mrθ-0.26; Mφ1.74; Mφr-0.42; Fault plane solution: M₀4.36000×10¹⁶ NP1:φs133.44000°, δ45.59000°,λ97.74000°. NP2:φs302.45000°,δ44.94000°, λ82.17000°. Principal axes: T 4.6059, Plg84.0000°, Azm125.0000°; N -0.5369, Plg6.0000°, Azm308.0000°; P -4.0691, Plg0.0000°, Azm218.0000°;*

*IDC **24** 19:12:54.2±0.5,41˚.81N×88˚.52E,h30km±3km, mb4.8/54, mb1 4.9/59,mb1mx4.8/63,mbtmp5.0/59,ML4.4/4,MS4.5/40, Ms1 4.5/40,ms1mx4.5/43 Error ellipse: s-maj=9.2km s-min=6.6km az=15.0*

*GCMT **24** 19:12:54.1±0.2,41˚.79N±0˚.02×88˚.31E±0˚.01,h40km, MW5.1/102,Moment Tensor Solution. s83,c106; s102,c160; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.54±.13; Mθθ-1.31±.10; Mφφ-3.22±.09; Mrθ1.29±.10; Mθφ2.78±.07; Mθr-1.09±.09; Best double couple: M₀5.16000×10¹⁶ NP1:φs330.00000°,δ36.00000°, λ99.00000°. NP2:φs139.00000°,δ55.00000°,λ83.00000°. Principal axes: T 4.8480, Plg79.0000°, Azm23.0000°; N 0.6350, Plg5.0000°, Azm143.0000°; P -5.4730, Plg9.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 19:12:55.1±1.2,41˚.83N±0˚.07×88˚.48E±0˚.09,h34km±3km, mb5.4/326,Mwb5.0/21 Error ellipse: s-maj=10.6km s-min=9.8km az=204.0*

*NNC **24** 19:12:56.1±1.2,42˚.05N×87˚.95E,h0km,mb5.6,mpv5.7, Error ellipse: s-maj=9.4km s-min=7.4km az=133.0*

*BGR **24** 19:12:58.2±0.0,42˚.01N×88˚.26E,h33km,mb5.1,Ms4.6*

ISC 24 19:12:53.9±0.3,**41˚.82N**±0˚.03×**88˚.36E**±0˚.02,**h29**km±2km, **h29**km:**pP-P,n1119,σ1s36/**1248,**mb5.3**/407,**MS4.6**/80, **60C-82D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.06**	**347**	Pg		**Pb**	**19 13 30.4**	**-0.2**
WMQ				Sg		**Sb**	**19 13 57.9**	**+2.1**
WMQ				SMN				
	86μm,0.7s							
WMQ				SME				
	60μm,0.7s							
ZSN	**Zaisan**	**6.15**	**337**	⇑*i* P		**Pn**	**19 14 25.5**	**+2.6**
	baz=338							
ZSN				*e*S		**Sn**	**19 15 35.5**	**+3.4**
	baz=338							
ZSN	**Zaisan**	**6.15**	**337**	*c i*P		**Pn**	**19 14 25.4**	**+2.6**
ZSN				*e*S		**Sn**	**19 15 35.5**	**+3.4**
MK31	**Makanchi Array**	**6.61**	**321**	⇑Pn		**Pn**	**19 14 30.8**	**+1.8**
	148nm,0.3s,baz=134,slow=14							
MK31				⇓Sn		**Sn**	**19 15 43.8**	**+0.6**
	432nm,0.7s,baz=148,slow=20,SNR=4.4							
MK31				⇓Lg		Lg	19 16 14.8	
	860nm,0.7s,baz=132,slow=27,SNR=4.4							
MK31	**Makanchi Array**	**6.61**	**321**	P		**Pn**	**19 14 31.1**	**+2.1**
MK31							19 15 43.6	
MK31	**Makanchi Array**	**6.61**	**321**	Pn		**Pn**	**19 14 31.0**	**+2.1**
MKAR	**Makanchi Array**	**6.61**	**321**	Pn		**Pn**	**19 14 30.8**	**+1.7**
	263nm,0.3s,baz=135,slow=14,SNR=1045							
MKAR				Sn		**Sn**	**19 15 44.9**	**+1.6**
	62nm,0.3s,baz=140,slow=21,SNR=4.3							
MKAR				Lg		Lg	19 16 23.5	
	119nm,0.3s,baz=132,slow=26,SNR=6.2							
MKAR				LR		LR	19 17 43.0	
	comp=Z,2μm,20.8s,baz=150,slow=43							
MKAR	**Makanchi Array**	**6.61**	**321**	*i* P		**Pn**	**19 14 30.7**	**+1.7**
MKAR				pmax		pmax		
	comp=Z,456nm,0.3s							
MKAR	**Makanchi Array**	**6.61**	**321**	Pn		**Pn**	**19 14 31.0**	**+2.0**
SHLS	**Shalkode**	**6.71**	**284**	*e*P		**Pn**	**19 14 28.1**	**-2.4**
	baz=284							
SHLS				*e*S		**Sn**	**19 15 41.8**	**-4.3**
	baz=284							
SHLS	**Shalkode**	**6.71**	**284**	*e*P		**Pn**	**19 14 28.1**	**-2.4**
SHLS				*e*S		**Sn**	**19 15 41.7**	**-4.3**
PDGK	**Podgornoye**	**6.72**	**286**	⇓Pn		**Pn**	**19 14 31.7**	**+1.1**
	comp=Z,245nm,0.6s							
PDGK				⇓Sn		**Sn**	**19 15 45.0**	**-1.2**
	comp=Z,954nm,0.5s							
PDGK				⇑Lg		Lg	19 16 18.7	
	comp=Z,5μm,0.8s							
PDGK	**Podgornoye**	**6.72**	**286**	P		**Pn**	**19 14 31.9**	**+1.2**
PDGK							19 15 45.0	
MAKZ	**Makanchi**	**6.76**	**320**	⇑Pn		**Pn**	**19 14 32.9**	**+1.7**
	comp=Z,273nm,0.4s							
MAKZ				⇑Sn		**Sn**	**19 15 45.7**	**-1.5**
	comp=Z,470nm,0.8s							
MAKZ				⇓Lg		Lg	19 16 20.0	
	comp=Z,2μm,1.1s							
MAKZ	**Makanchi**	**6.76**	**320**	P		**Pn**	**19 14 33.1**	**+1.9**
MAKZ							19 15 45.7	
MAKZ	**Makanchi**	**6.76**	**320**			**Pn**	**19 14 32.8**	**+1.7**
UZB	**Uzynbulak**	**7.03**	**284**	*e*P		**Pn**	**19 14 35.8**	**+0.9**
	baz=284							
UZB				*e*S		**Sn**	**19 15 53.1**	**-0.8**
	baz=284							
UZB	**Uzynbulak**	**7.03**	**284**	*e*P		**Pn**	**19 14 35.8**	**+0.9**
UZB				*e*S		**Sn**	**19 15 53.9**	**0.0**
KPKS	**Kokpek**	**7.32**	**286**	*e*P		**Pn**	**19 14 39.6**	**+0.7**
	baz=286							
KPKS				*e*S		**Sn**	**19 16 01.7**	**+0.7**
	baz=286							
KPKS	**Kokpek**	**7.32**	**286**	*e*P		**Pn**	**19 14 39.6**	**+0.7**
KPKS				*e*S		**Sn**	**19 16 01.7**	**+0.7**
PRZ	**Przheval'sk**	**7.43**	**278**	P		**Pn**	**19 14 42.0**	**+1.5**
PRZ	**Przheval'sk**	**7.43**	**278**	Pn		**Pn**	**19 14 42.0**	**+1.5**
SATY	**Saty**	**7.46**	**283**	*e*P		**Pn**	**19 14 41.8**	**+0.8**
	baz=282							
SATY				*e*S		**Sn**	**19 16 05.4**	**+0.8**
	baz=282							
SATY	**Saty**	**7.46**	**283**	*e*P		**Pn**	**19 14 41.7**	**+0.8**
SATY				*e*S		**Sn**	**19 16 05.4**	**+0.8**
TARG	**Taragay, Kyrgy**	**7.89**	**273**			**Pn**	**19 14 47.6**	**+0.6**
DGZ	**Jazzator, Alta**	**7.91**	**356**	*c i*P		**Pn**	**19 14 50.0**	**+3.0**
TDK	**Taldyqorghan**	**7.91**	**297**	*e*P		**Pn**	**19 14 48.2**	**+1.2**
	baz=297							
TDK				*e*S		**Sn**	**19 16 15.4**	**0.0**
	baz=297							
TDK	**Taldyqorghan**	**7.91**	**297**	*e*P		**Pn**	**19 14 48.1**	**+1.2**
TDK				*e*S		**Sn**	**19 16 15.3**	**-0.1**
KDJ	**Kajisay**	**8.33**	**276**	P		**Pn**	**19 14 53.6**	**+0.7**
KDJ	**Kajisay**	**8.33**	**276**			**Pn**	**19 14 53.6**	**+0.7**
MDOK	**Medeo**	**8.46**	**283**	*e*P		**Pn**	**19 14 55.0**	**+0.3**
	baz=283							
MDOK				*e*S		**Sn**	**19 16 29.7**	**+0.4**
	baz=283							
MDOK	**Medeo**	**8.46**	**283**	⇓Pn		**Pn**	**19 14 55.0**	**+0.3**
	comp=Z,168nm,0.6s							
MDOK				⇓Sn		**Sn**	**19 16 30.2**	**+0.9**
	comp=Z,1μm,0.9s							
MDOK				⇓Lg		Lg	19 17 14.5	
	comp=Z,1μm,0.9s							
MDOK	**Medeo**	**8.46**	**283**	*e*P		**Pn**	**19 14 55.0**	**+0.3**
MDOK				*e*S		**Sn**	**19 16 29.6**	**+0.4**
KNDC	**Almaty**	**8.53**	**283**	⇑Pn		**Pn**	**19 14 57.2**	**+1.7**
	comp=Z,306nm,0.6s							
KNDC				⇑Sn		**Sn**	**19 16 31.7**	**+1.0**
	comp=Z,3μm,0.9s							
KNDC				⇑Lg		Lg	19 17 15.9	
	comp=Z,3μm,1.0s							
KNDC	**Almaty**	**8.53**	**283**	P		**Pn**	**19 14 57.1**	**+1.7**
KNDC							19 16 31.6	
AAA	**Alma-Ata**	**8.57**	**283**	*e*P		**Pn**	**19 14 57.0**	**+1.1**
	baz=283							
AAA				*e*S		**Sn**	**19 16 32.3**	**+0.6**
	baz=283							
AAA	**Alma-Ata**	**8.57**	**283**	*e*P		**Pn**	**19 14 57.0**	**+1.1**
AAA				*e*S		**Sn**	**19 16 32.2**	**+0.6**
CHKK	**Chushkaly**	**8.60**	**287**	*e*P		**Pn**	**19 14 56.6**	**+0.2**
	baz=287							
CHKK				*e*S		**Sn**	**19 16 31.3**	**-1.0**
	baz=287							
CHKK	**Chushkaly**	**8.60**	**287**	*e*P		**Pn**	**19 14 56.5**	**+0.2**
CHKK				*e*S		**Sn**	**19 16 31.3**	**-1.0**
ULHL	**Ulahol**	**9.03**	**277**	P		**Pn**	**19 15 03.5**	**+1.1**
	SNR=34							
GTA	**Gaotai**	**9.04**	**102**	⇑P		**Pn**	**19 15 01.3**	**-1.2**
GTA				pP			19 15 10.0	
GTA				sP			19 15 13.3	
GTA				S		**Sn**	**19 16 40.0**	**-3.4**
GTA				sS			19 16 52.8	
GTA				pmax	pmax			
	comp=Z,17nm,0.9s							
GTA				pmax	pmax			
	comp=Z,68nm,4.4s							
GTA				SMN				
	comp=Z,2μm,0.8s							
GTA				SME				
	comp=Z,2μm,1.1s							
GTA				L	L			
	comp=Z,7μm,10.5s							
GTA				L	L			
	comp=Z,7μm,12.7s							
GTA				L	L			
	comp=Z,7μm,14.2s							
KUU	**Kurty**	**9.07**	**287**	*e*P		**Pn**	**19 15 02.6**	**-0.3**
	baz=287							
KUU				*e*S		**Sn**	**19 16 43.1**	**-0.8**
	baz=287							
KUU	**Kurty**	**9.07**	**287**	*e*P		**Pn**	**19 15 02.5**	**-0.3**
KUU				*e*S		**Sn**	**19 16 43.0**	**-0.8**
BOOM	**Boomskoye usch**	**9.25**	**278**	P		**Pn**	**19 15 05.3**	**-0.1**
BOOM	**Boomskoye usch**	**9.25**	**278**			**Pn**	**19 15 05.3**	**-0.1**
TKM2	**Tokmak 2**	**9.51**	**281**	P		**Pn**	**19 15 09.5**	**+0.5**
	SNR=231							
TKM2	**Tokmak 2**	**9.51**	**281**	⇓Pn		**Pn**	**19 15 09.7**	**+0.7**
	comp=Z,224nm,0.7s							
TKM2				⇑Sn		**Sn**	**19 16 54.0**	**-1.0**
	comp=Z,648nm,0.7s							
TKM2				⇑Lg		Lg	19 17 50.0	
	comp=Z,1μm,1.0s							
TKM2	**Tokmak 2**	**9.51**	**281**	P		**Pn**	**19 15 09.9**	**+0.9**
TKM2							19 16 54.1	
KSH	**Kashi**	**9.69**	**260**	P		Pn	19 15 18.0	+6.6
KSH				sP			19 15 27.8	
KSH				S		Sn	19 17 14.3	+15
KSH				sS			19 17 22.0	
KSH				pmax	pmax			
	comp=Z,48nm,0.5s							
KSH				L	L			
	comp=Z,3μm,4.0s							
KBK	**Karagaybulak**	**9.98**	**279**	P		**Pn**	**19 15 16.1**	**+0.7**
	SNR=147							
CHMS	**Chumysh**	**10.13**	**281**	P		**Pn**	**19 15 17.8**	**+0.4**
	SNR=18							
FRU1	**Bishkek**	**10.22**	**280**	P		**Pn**	**19 15 18.3**	**-0.3**
FRU1	**Bishkek**	**10.22**	**280**			**Pn**	**19 15 18.3**	**-0.3**
SGDS	**Sogindy**	**10.25**	**284**	*e*P		**Pn**	**19 15 18.3**	**-0.8**
	comp=Z,6.5nm,0.5s,baz=284							
SGDS				*e*S		**Sn**	**19 17 12.8**	**-0.1**
	baz=284							
SGDS	**Sogindy**	**10.25**	**284**	*e*P		**Pn**	**19 15 18.2**	**-0.8**
SGDS				*e*S		**Sn**	**19 17 12.7**	**-0.1**
SGDS				pmax	pmax			
	comp=Z,7.0nm,0.5s							
SEM	**Semipalatinsk**	**10.26**	**330**	*e*P		**Pn**	**19 15 19.0**	**-0.3**
	comp=Z,12nm,0.3s,baz=330							
SEM				*e*S		**Sn**	**19 17 11.6**	**-1.8**
	baz=330							
SEM	**Semipalatinsk**	**10.26**	**330**	*e*P		**Pn**	**19 15 19.0**	**-0.3**
SEM				*e*S		**Sn**	**19 17 11.5**	**-1.8**
SEM				pmax	pmax			
	comp=Z,12nm,0.3s							
AAK	**Ala-Archa**	**10.32**	**279**	Pn		**Pn**	**19 15 20.8**	**+0.8**
	comp=Z,5.2nm,0.3s,baz=97,slow=13,SNR=43							
AAK				Sn		**Sn**	**19 17 13.5**	**-1.2**
	comp=Z,9.1nm,0.3s,baz=95,slow=18,SNR=2.0							
AAK				Lg	Lg		19 18 20.8	
	comp=Z,8.2nm,0.3s,baz=254,slow=16,SNR=3.9							
AAK				LR	LR		19 19 41.4	
	comp=Z,4μm,20.8s,baz=85,slow=39							
AAK	**Ala-Archa**	**10.32**	**279**	P		**Pn**	**19 15 21.0**	**+1.0**
	SNR=23							
AAK	**Ala-Archa**	**10.32**	**279**	*i* Pn		**Pn**	**19 15 21.7**	**+1.6**
	SNR=11							
AAK	**Ala-Archa**	**10.32**	**279**	⇑Pn		**Pn**	**19 15 20.7**	**+0.6**
	comp=Z,115nm,1.2s							
AAK				⇓Sn		**Sn**	**19 17 14.0**	**-0.8**
	comp=Z,135nm,0.6s							
AAK				⇓Lg		Lg	19 18 15.0	
	comp=Z,546nm,0.9s							
AAK	**Ala-Archa**	**10.32**	**279**	*c i*P		**Pn**	**19 15 20.9**	**+0.9**
AAK				pmax	pmax			
	comp=Z,34nm,0.7s							
AAK	**Ala-Archa**	**10.32**	**279**	Pn		**Pn**	**19 15 19.8**	**-0.2**
USP	**Ospenovka**	**10.33**	**283**	P		**Pn**	**19 15 20.1**	**0.0**
	SNR=44							
EKS2	**Erkin-Say**	**10.85**	**279**	P		**Pn**	**19 15 28.1**	**+0.8**
	SNR=26							
BTLS	**Baital**	**10.89**	**292**	*e*P		**Pn**	**19 15 27.9**	**+0.1**
	comp=Z,12nm,0.4s,baz=292							
BTLS				*e*S		**Sn**	**19 17 25.2**	**-3.4**
	baz=292							
BTLS	**Baital**	**10.89**	**292**	*e*P		**Pn**	**19 15 27.9**	**+0.1**
BTLS				*e*S		**Sn**	**19 17 25.2**	**-3.4**
BTLS				pmax	pmax			
	comp=Z,12nm,0.4s							
AML	**Almayashu**	**10.93**	**277**	P		**Pn**	**19 15 31.0**	**+2.5**
	SNR=20							
AML	**Almayashu**	**10.93**	**277**	*i* Pn		**Pn**	**19 15 30.8**	**+2.2**
	SNR=11							
KURBB	**Kurchatov Arra**	**11.12**	**326**	Pn		**Pn**	**19 15 30.2**	**-0.6**
	comp=Z,5.6nm,0.3s,baz=135,slow=12,SNR=850							
KURBB				Sn		**Sn**	**19 17 31.9**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=149,slow=17,SNR=6.6							
KURBB				Lg	Lg		19 18 44.1	
	comp=Z,1.2nm,0.3s,baz=148,slow=32,SNR=2.3							
KURBB	**Kurchatov Arra**	**11.12**	**326**	⇑Pn		**Pn**	**19 15 30.2**	**-0.6**
	comp=Z,79nm,0.6s							
KURBB				⇑Sn		**Sn**	**19 17 31.9**	**-2.1**
	comp=Z,258nm,0.7s							
KURBB				⇑Lg	Lg		19 18 37.3	
	comp=Z,1μm,0.9s							
KURBB	**Kurchatov Arra**	**11.12**	**326**	P		**Pn**	**19 15 30.3**	**-0.5**
KURK	**Kurchatov**	**11.15**	**326**	P		**Pn**	**19 15 30.2**	**-1.0**
KURK							19 17 31.9	
KURK	**Kurchatov**	**11.15**	**326**			**Pn**	**19 15 30.2**	**-1.0**
ARSB	**Arslanbob**	**11.53**	**273**	P		**Pn**	**19 15 36.5**	**-0.2**
ARSB	**Arslanbob**	**11.53**	**273**			**Pn**	**19 15 36.5**	**-0.2**
LSA	**Lhasa**	**12.31**	**169**	P		**Pn**	**19 15 50.5**	**+2.9**
LSA				S		**Sn**	**19 18 10.4**	**+6.5**
LSA				pmax	pmax			
	comp=Z,42nm,1.4s							
LSA				L	L			
	comp=Z,10μm,14.2s							
LSA				L	L			
	comp=Z,7μm,9.3s							
LSA				L	L			
	comp=Z,9μm,14.9s							
LSA	**Lhasa**	**12.31**	**169**	Pn		**Pn**	**19 15 49.5**	**+1.9**
LSA	**Lhasa**	**12.31**	**169**	P		**Pn**	**19 15 46.5**	**-1.1**
LSA	**Lhasa**	**12.31**	**169**			**Pn**	**19 15 46.5**	**-1.1**
ZAA0	**Zalesovo Array**	**12.36**	**350**	⇑Pn		**Pn**	**19 15 49.2**	**+1.4**
	comp=Z,11nm,0.8s							
ZAA0				⇑Sn		**Sn**	**19 18 05.1**	**+0.7**
	comp=Z,21nm,0.9s							
ZAA0	**Zalesovo Array**	**12.36**	**350**	Pn		**Pn**	**19 15 46.8**	**-1.0**
ZALV	**Zalesovo Beam**	**12.36**	**350**	Pn		**Pn**	**19 15 47.3**	**-0.5**
	comp=Z,10nm,0.3s,baz=169,slow=12,SNR=96							
ZALV				Sn		**Sn**	**19 17 57.0**	**-7.4**
	comp=Z,3.6nm,0.3s,baz=171,slow=20,SNR=3.0							
ZALV				Lg	Lg		19 19 27.0	
	baz=159,slow=25,SNR=1.4							
ZALV				LR	LR		19 21 07.9	
	comp=Z,4μm,18.3s,baz=168,slow=40							
ZALV	**Zalesovo Beam**	**12.36**	**350**	*i* P		**Pn**	**19 15 47.2**	**-0.5**
ZALV				pmax	pmax			
	comp=Z,39nm,0.4s							
ZALV	**Zalesovo Beam**	**12.36**	**350**			**Pn**	**19 15 46.7**	**-1.0**
DZA	**Taraz**	**12.64**	**281**	*e*P		**Pn**	**19 15 53.1**	**+1.4**
	baz=280							
DZA	**Taraz**	**12.64**	**281**	*e*P		**Pn**	**19 15 53.1**	**+1.4**
DRK	**Karamyk**	**12.79**	**265**			**Pn**	**19 15 52.8**	**-1.3**
MOY	**Mondy**	**13.10**	**37**	*e*P		**Pn**	**19 16 00.6**	**+2.7**
KK31	**Karatay Array**	**13.24**	**282**	⇑Pn		**Pn**	**19 15 59.4**	**-0.5**
	comp=Z,13nm,0.6s							
KK31				⇓Lg	Lg		19 19 44.9	
	comp=Z,174nm,0.9s,baz=74,slow=27,SNR=5.5							
KK31	**Karatay Array**	**13.24**	**282**	P		**Pn**	**19 15 58.7**	**-1.2**
KK31	**Karatay Array**	**13.24**	**282**	Pn		**Pn**	**19 15 58.7**	**-1.2**
KKAR	**Karatay Array**	**13.24**	**282**	P		**Pn**	**19 15 59.1**	**-0.8**
KKAR	**Karatay Array**	**13.24**	**282**	Pn		**Pn**	**19 15 59.0**	**-0.8**
KKAR	**Karatay Array**	**13.24**	**282**			**Pn**	**19 15 59.1**	**-0.8**
LZH	**Lanzhou**	**13.34**	**110**	*e*P		**Pn**	**19 16 00.1**	**-1.3**
LZH				pP	P		19 16 06.4	-4.3
LZH				sP			19 16 10.0	
LZH				S		**Sn**	**19 18 28.3**	**-0.4**
LZH				sS	S		19 18 37.8	-14
LZH				SS		**SnSn**	**19 18 45.0**	**+4.3**
LZH				pmax	pmax			
	comp=Z,53nm,1.0s							
LZH				pmax	pmax			
	comp=Z,320nm,4.7s							
LZH				L	L			
	comp=Z,8μm,11.5s							
LZH				L	L			
	comp=Z,5μm,12.0s							
LZH				L	L			
	comp=Z,6μm,13.7s							
BTK	**Batken**	**13.38**	**268**	P		**Pn**	**19 16 01.2**	**-0.6**
BTK	**Batken**	**13.38**	**268**			**Pn**	**19 16 01.2**	**-0.6**
ZAK	**Zakamensk**	**13.41**	**45**	*e*P		**Pn**	**19 16 03.2**	**+0.9**
ZAK				pmax	pmax			
	comp=Z,63nm,1.2s							
BRZS	**Berezniki**	**13.61**	**312**	⇑*i* P		**Pn**	**19 16 04.0**	**-0.9**
	comp=Z,40nm,0.8s,baz=312							
BRZS				*e*S		**Sn**	**19 18 30.4**	**-4.6**
	baz=312							
BRZS	**Berezniki**	**13.61**	**312**	*c i*P		**Pn**	**19 16 03.9**	**-0.9**
BRZS				*e*S		**Sn**	**19 18 30.3**	**-4.7**
BRZS				pmax	pmax			
	comp=Z,40nm,0.8s							
THN	**Thein Dam**	**13.75**	**231**	*e*P		**Pn**	**19 16 05.0**	**-1.8**
THN				*e*S		**Sn**	**19 18 31.5**	**-7.0**
DANN	**Dangsing**	**13.96**	**197**	*e*P		**Pn**	**19 16 09.2**	**-0.7**
	comp=Z,55nm,0.6s							
GAR	**Garm**	**14.03**	**264**			**Pn**	**19 16 08.4**	**-2.4**
GKN	**Gorkha**	**14.12**	**194**	*e*P		**Pn**	**19 16 12.2**	**+0.2**
	comp=Z,99nm,0.5s							
SONM	**Songino Array**	**14.13**	**59**	Pn		**Pn**	**19 16 11.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=242,slow=14,SNR=18							
SONM				Lg		Lg	19 20 21.1	
	comp=Z,4.6nm,0.3s,baz=254,slow=32,SNR=6.8							
SONM				LR		LR	19 21 52.5	
	comp=Z,7μm,18.9s,baz=252,slow=38							
SONM	**Songino Array**	**14.13**	**59**	P		**Pn**	**19 16 11.0**	**-1.1**
SONM	**Songino Array**	**14.13**	**59**			**Pn**	**19 16 11.0**	**-1.1**
KKN	**Kakani**	**14.22**	**191**	*e*P		**Pn**	**19 16 13.4**	**-0.1**
	comp=Z,37nm,0.5s							
TLY	**Talaya**	**14.36**	**41**	Pn		**Pn**	**19 16 14.8**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=239,slow=12,SNR=3.8							
TLY				Lg		Lg	19 20 27.1	
	comp=Z,0.0nm,0.3s,baz=19,slow=17,SNR=4.5							
TLY				LR		LR	19 22 03.3	
	comp=Z,5μm,20.6s,baz=232,slow=38							
TLY	**Talaya**	**14.36**	**41**	*e*P		Pn	19 16 08.4	-6.7
TLY				*e*S		**Sn**	**19 18 50.1**	**-3.1**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,13μm,12.0s							
PYUN	**Piuthan**	**14.38**	**199**	*e*P		**Pn**	**19 16 13.6**	**-2.0**
	comp=Z,65nm,0.4s							
PKIN	**Phulchoki**	**14.42**	**191**	*e*P		**Pn**	**19 16 15.5**	**-0.7**
	comp=Z,53nm,0.5s							
PKI	**Pulchoki**	**14.42**	**191**	*e*P		**Pn**	**19 16 15.2**	**-1.1**
	comp=Z,135nm,0.9s							
DMN	**Daman**	**14.43**	**192**	*e*P		**Pn**	**19 16 15.6**	**-0.8**
CHCP	**Chirah Chowk**	**14.44**	**241**	P		**Pn**	**19 16 13.6**	**-2.7**
TAPN	**Taplejung**	**14.45**	**182**	*e*P		**Pn**	**19 16 16.4**	**-0.3**
	comp=Z,130nm,0.5s							
NIL	**Nilore**	**14.46**	**241**	P		**Pn**	**19 16 13.7**	**-2.8**
NIL	**Nilore**	**14.46**	**241**			**Pn**	**19 16 13.7**	**-2.8**
NIL	**Nilore**	**14.46**	**241**	P		**Pn**	**19 16 14.6**	**-1.9**
NIL				P		**Pn**	**19 16 14.6**	**-1.9**
KOLN	**Koldanda**	**14.55**	**197**	*e*P		**Pn**	**19 16 17.4**	**-0.6**
ULN	**Ulaanbaatar**	**14.56**	**59**	*ce*P		**Pn**	**19 16 17.8**	**-0.1**
ULN				pmax	pmax			
	comp=Z,16nm,2.5s							
ULN	**Ulaanbaatar**	**14.56**	**59**	Pn		**Pn**	**19 16 16.1**	**-1.9**
ULN	**Ulaanbaatar**	**14.56**	**59**	P		**P**	**19 16 25.1**	**+0.9**
ULN				P		**P**	**19 16 25.1**	**+0.9**
ULN	**Ulaanbaatar**	**14.56**	**59**	P		**Pn**	**19 16 19.2**	**+1.3**
	comp=Z,8μmcomp=Z,3μmcomp=Z,146nm,1.0s							
RAMN	**Ramite**	**14.91**	**186**	*e*P		**Pn**	**19 16 22.7**	**-0.1**
	comp=Z,44nm,0.5s							
**

					HHC			pmax	pmax	
						comp=Z,420nm,6.0s				
					HHC			L	L	
						comp=Z,2µm,9.4s				
					HHC			L	L	
						comp=Z,2µm,8.9s				
					HHC			L	L	
						comp=Z,3µm,8.1s				
XAN	**Xi'an**	**17.96**	**109**		P	**Pn**	**19 16 59.3**	**-2.1**		
XAN					pP	pP	19 17 06.8	-3.1		
XAN					sP	sP	19 17 13.3	-0.5		
XAN					S	**S**	**19 20 25.6**	**-0.9**		
XAN					sS	Sn	19 20 28.6	+7.7		
XAN					pmax	pmax				
						comp=Z,59nm,1.4s				
XAN					pmax	pmax				
						comp=Z,530nm,4.6s				
XAN					L	L				
						comp=Z,5µm,10.8s				
XAN					L	L				
						comp=Z,4µm,15.5s				
XAN					L	L				
						comp=Z,5µm,14.6s				
TIY	**Taiyuan**	**18.94**	**95**	*e*P		**Pn**	**19 17 13.3**	**0.0**		
TIY				pP		**pP**	**19 17 21.8**	**+1.1**		
TIY				S		**Sn**	**19 20 37.5**	**-7.0**		
TIY				SS		**SnSn**	**19 21 08.8**	**+10**		
TIY				pmax		pmax				
						comp=Z,28nm,0.7s				
TIY				pmax		pmax				
						comp=Z,330nm,3.9s				
TIY				L		L				
						comp=Z,1µm,9.7s				
TIY				L		L				
						comp=Z,2µm,6.3s				
TIY				L		L				
						comp=Z,3µm,13.1s				
BRDH	**Bariadhala**	**19.29**	**171**	LR		LR	19 26 11.2			
	comp=Z,1µm,18.9s,baz=355,slow=41									
CIT	**Chita**	**19.91**	**51**	*e*P		**P**	**19 17 22.4**	**-0.6**		
CIT				*e*			19 20 58.9			
CIT				pmax		pmax				
						comp=Z,88nm,2.0s				
KMI	**Kunming**	**20.48**	**140**	⇑P		**P**	**19 17 29.3**	**-0.3**		
KMI				pP		Pn	19 17 34.0	+2.2		
KMI				sP		pP	19 17 38.6	+0.8		
KMI				S		**S**	**19 21 10.3**	**-7.1**		
KMI				SS		**SnSn**	**19 21 40.1**	**+3.4**		
KMI				pmax		pmax				
						comp=Z,49nm,1.0s				
KMI				pmax		pmax				
						comp=Z,340nm,3.9s				
KMI				L		L				
						comp=Z,990nm,14.4s				
KMI				L		L				
						comp=Z,1µm,14.1s				
KMI				L		L				
						comp=Z,1µm,18.9s				
ENH	**Enshi**	**20.55**	**117**	P		**P**	**19 17 29.7**	**-0.4**		
BJI	**Beijing**	**21.06**	**86**	P		**P**	**19 17 35.9**	**+0.4**		
BJI				sP		**sP**	**19 17 47.5**	**0.0**		
BJI				S		**S**	**19 21 28.4**	**+0.1**		
BJI				sS		**sS**	**19 21 40.3**	**-1.3**		
BJI				pmax		pmax				
						comp=Z,67nm,0.6s				
BJT	**Baijiatuau**	**21.06**	**86**	P		**P**	**19 17 35.5**	**0.0**		
BJT				pmax		pmax				
						comp=Z,46nm,0.8s				
BJT	**Baijiatuau**	**21.06**	**86**	P		**P**	**19 17 35.5**	**0.0**		
AB31	**Akbulak array**	**21.16**	**300**	Pn		**P**	**19 17 40.8**	**+4.3**		
	comp=Z,45nm,0.7s,baz=99,slow=12,SNR=312									
AB31	**Akbulak array**	**21.16**	**300**	*i* P		**P**	**19 17 36.6**	**+0.1**		
ABKAR	**Akbulak array**	**21.16**	**300**	P		**P**	**19 17 36.4**	**0.0**		
GYA	**Guiyang**	**21.48**	**130**	⇑P		**P**	**19 17 39.8**	**-0.5**		
GYA				pP		pP	19 17 48.9	+0.3		
GYA				sP		sP	19 17 52.9	+0.4		
GYA				S		**S**	**19 21 35.8**	**-1.3**		
GYA				PcP		**PcP**	**19 21 43.3**	**+0.8**		
GYA				ScS		**ScS**	**19 29 00.4**	**-1.3**		
GYA				pmax		pmax				
						comp=Z,10.0nm,1.1s				
GYA				pmax		pmax				
						comp=Z,72nm,5.1s				
HRA	**Herat**	**21.80**	**259**	P		**P**	**19 17 44.6**	**+0.9**		
HRA				IAmb		IAmb	19 17 46.7			
	comp=Z,105nm,1.0s									
AKTO	**Aktyubinsk**	**22.59**	**303**	P		**P**	**19 17 51.8**	**-0.2**		
	comp=Z,33nm,0.7s,baz=95,slow=10.0,SNR=70									
AKTO				S		**S**	**19 21 56.7**	**-0.8**		
	comp=Z,14nm,0.9s,baz=42,slow=22,SNR=2.0									
AKTO				Lg		Lg	19 24 50.4			
	comp=Z,8.2nm,0.9s,baz=255,slow=23,SNR=1.7									
AKTO				LR		LR	19 27 27.1			
	comp=Z,2µm,19.5s,baz=100,slow=38									
AKTO	**Aktyubinsk**	**22.59**	**303**	P		**P**	**19 17 51.5**	**-0.4**		
BOD	**Bodaibo**	**22.81**	**37**	*e*P		**P**	**19 17 54.4**	**+0.3**		
BOD				pmax		pmax				
						comp=Z,77nm,1.1s				
TIA	**Tai'an**	**22.98**	**95**	*e*P		**P**	**19 17 55.8**	**-0.3**		
TIA				S		**S**	**19 22 03.9**	**-0.7**		
TIA				pmax		pmax				
						comp=Z,33nm,1.5s				
TIA				pmax		pmax				
						comp=Z,380nm,6.9s				
TIA				L		L				
						comp=Z,1µm,13.2s				
TIA				L		L				
						comp=Z,2µm,18.6s				
TIA				L		L				
						comp=Z,3µm,18.6s				
HIA	**Hailar**	**23.08**	**60**	P		**P**	**19 17 57.7**	**+0.6**		
HIA				pmax		pmax				
						comp=Z,25nm,1.0s				
HIA	**Hailar**	**23.08**	**60**	P		**P**	**19 17 57.7**	**+0.6**		
GEYT	**Alibeck**	**23.47**	**271**	P		**P**	**19 18 02.0**	**+1.0**		
	comp=Z,31nm,0.8s,baz=122,slow=3.9,SNR=54									
GEYT				LR		LR	19 28 39.9			
	comp=Z,3µm,19.4s,baz=70,slow=40									
GYA0	**ALIBECK ARRAY**	**23.47**	**271**	P		**P**	**19 18 01.8**	**+0.8**		
GYA0B	**ALIBECK ARRAY**	**23.47**	**271**	P		**P**	**19 18 01.5**	**+0.5**		
WHN	**Wuhan**	**23.72**	**110**	⇑*i*P		**P**	**19 18 03.3**	**0.0**		
WHN				S		**S**	**19 22 22.4**	**+5.8**		
WHN				pmax		pmax				
						comp=Z,110nm,0.7s				
WHN				pmax		pmax				
						comp=Z,1µm,2.8s				
WHN				L		L				
						comp=Z,5µm,11.8s				
WHN				L		L				
						comp=Z,5µm,11.5s				
WHN				L		L				
						comp=Z,6µm,13.4s				
CRAI	**Chiangrai**	**23.81**	**151**	P		**P**	**19 18 06.1**	**+1.8**		
	comp=Z,22nm,1.0s									
CRAI	**Chiangrai**	**23.81**	**151**	P		**P**	**19 18 06.2**	**+1.8**		
	comp=Z,22nm,1.0s									
ARU	**Arti**	**24.11**	**317**	P		**P**	**19 18 07.5**	**+0.6**		
	comp=Z,26nm,0.6s,baz=131,slow=5.1,SNR=153									
ARU				Lg		Lg	19 25 37.3			
	comp=Z,6.6nm,0.9s,baz=14,slow=22,SNR=2.1									
ARU				LR		LR	19 28 17.8			
	comp=Z,893nm,21.3s,baz=106,slow=38									
ARU	**Arti**	**24.11**	**317**	*c i*P		**P**	**19 18 07.4**	**+0.6**		
ARU							19 18 36.8			
ARU				PPP		PPP	19 18 47.9			
ARU				S		**S**	**19 22 24.6**	**+2.1**		
ARU				SS		**SnSn**	**19 23 08.4**	**+3.6**		
ARU				SSS		SSS	19 23 24.7			
ARU				pmax		pmax				
						comp=Z,324nm,1.9s				
ARU				MLR		MLR				
						comp=Z,1µm,21.0s				
ARU	**Arti**	**24.11**	**317**	P		**P**	**19 18 07.0**	**+0.1**		
ARU				IAmb		IAmb	19 18 09.9			
	comp=Z,136nm,1.0s									
CM33	**Chiang Mai Arr**	**24.64**	**155**	P		**P**	**19 18 12.0**	**0.0**		
CHTO	**Chiang Mai**	**24.65**	**155**	P		**P**	**19 18 10.9**	**-1.1**		
CHTO				pmax		pmax				
						comp=Z,35nm,0.9s				
CHTO	**Chiang Mai**	**24.65**	**155**	P		**P**	**19 18 12.5**	**+0.4**		
	comp=Z,654nmcomp=Z,50nm,1.0s									
CHTO	**Chiang Mai**	**24.65**	**155**	P		**P**	**19 18 10.9**	**-1.1**		
CHTO	**Chiang Mai**	**24.65**	**155**	P		**P**	**19 18 12.4**	**+0.4**		
	comp=Z,367nmcomp=Z,28nm,1.0s									
CMMT	**Chiang Mai**	**24.65**	**155**	P		**P**	**19 18 11.5**	**-0.5**		
	comp=Z,820nmcomp=Z,50nm,1.0s									
CMMT	**Chiang Mai**	**24.65**	**155**	P		**P**	**19 18 11.5**	**-0.5**		
	comp=Z,820nmcomp=Z,50nm,1.0s									
CM34	**Chiang Mai Arr**	**24.68**	**155**	P		**P**	**19 18 13.0**	**+0.7**		
CM32	**Chiang Mai Arr**	**24.77**	**156**	P		**P**	**19 18 14.0**	**+0.9**		
CM35	**Chiang Mai Arr**	**24.84**	**155**	P		**P**	**19 18 14.0**	**+0.3**		
MHMT	**Maesarieng**	**24.95**	**158**	P		**P**	**19 18 15.8**	**+1.1**		
	comp=Z,1µmcomp=Z,77nm,0.8s									
MHMT	**Maesarieng**	**24.95**	**158**	P		**P**	**19 18 15.0**	**+0.3**		
	comp=Z,1µmcomp=Z,77nm,0.8s									
CM36	**Chiang Mai Arr**	**24.97**	**155**	P		**P**	**19 18 16.0**	**+1.1**		
CM15	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 16.0**	**+1.0**		
	comp=Z,384nmcomp=Z,55nm,0.8s									
CM15	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 16.0**	**+1.0**		
	comp=Z,384nmcomp=Z,55nm,0.8s									
CM31	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 16.1**	**+1.0**		
	comp=Z,12µmcomp=Z,2µm,0.8s									
CM31	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 14.7**	**-0.3**		
CM31	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 16.0**	**+1.0**		
	SNR=10									
CM31				P		**P**	**19 18 16.0**	**+1.0**		
	SNR=10									
CMAR	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 15.4**	**+0.4**		
	comp=Z,15nm,0.8s,baz=335,slow=8.9,SNR=75									
CMAR				pP		**pP**	**19 18 25.1**	**+1.2**		
	comp=Z,41nm,0.8s,baz=331,slow=9.4,SNR=32									
CMAR				PcP		**PcP**	**19 21 49.6**	**-0.1**		
	comp=Z,3.4nm,0.6s,baz=328,slow=3.3,SNR=8.7									
CMAR				ScP		**ScP**	**19 25 25.3**	**-1.2**		
	comp=Z,0.8nm,0.6s,baz=309,slow=3.6,SNR=4.3									
CMAR				LR		LR	19 29 05.4			
	comp=Z,828nm,19.5s,baz=18,slow=39									
CMAR	**Chiang Mai Arr**	**24.98**	**156**	P		**P**	**19 18 14.4**	**-0.6**		
CM02	**Chiang Mai Arr**	**25.00**	**156**	P		**P**	**19 18 16.2**	**+1.0**		
	comp=Z,553nmcomp=Z,80nm,0.9s									
CM02	**Chiang Mai Arr**	**25.00**	**156**	P		**P**	**19 18 16.2**	**+1.0**		
	comp=Z,553nmcomp=Z,80nm,0.9s									
CM13	**Chiang Mai Arr**	**25.00**	**156**	P		**P**	**19 18 15.9**	**+0.7**		
	comp=Z,479nmcomp=Z,63nm,0.8s									
CM13	**Chiang Mai Arr**	**25.00**	**156**	P		**P**	**19 18 15.9**	**+0.7**		
	comp=Z,479nmcomp=Z,63nm,0.8s									
CM09	**Chiang Mai Arr**	**25.01**	**156**	P		**P**	**19 18 16.8**	**+1.5**		
	comp=Z,474nmcomp=Z,63nm,0.8s									
CM09	**Chiang Mai Arr**	**25.01**	**156**	P		**P**	**19 18 16.9**	**+1.6**		
	comp=Z,474nmcomp=Z,63nm,0.8s									
CM01	**Chiang Mai Arr**	**25.02**	**156**	P		**P**	**19 18 16.7**	**+1.3**		
	comp=Z,515nmcomp=Z,76nm,0.8s									
CM01	**Chiang Mai Arr**	**25.02**	**156**	P		**P**	**19 18 16.0**	**+0.6**		
	comp=Z,515nmcomp=Z,76nm,0.8s									
CM05	**Chiang Mai Arr**	**25.03**	**156**	P		**P**	**19 18 16.4**	**+0.9**		
	comp=Z,384nmcomp=Z,48nm,0.8s									
CM05	**Chiang Mai Arr**	**25.03**	**156**	P		**P**	**19 18 16.5**	**+0.9**		
	comp=Z,384nmcomp=Z,48nm,0.8s									
CM04	**Chiang Mai Arr**	**25.05**	**156**	P		**P**	**19 18 16.9**	**+1.3**		
	comp=Z,488nmcomp=Z,69nm,0.8s									
CM04	**Chiang Mai Arr**	**25.05**	**156**	P		**P**	**19 18 17.0**	**+1.3**		
	comp=Z,488nmcomp=Z,69nm,0.8s									
DL2	**Dalian**	**25.43**	**85**	P		**P**	**19 18 18.1**	**-0.8**		
DL2				S		**S**	**19 22 44.8**	**+0.9**		
DL2				pmax		pmax				
	comp=Z,110nm,1.1s									
DL2				pmax		pmax				
	comp=Z,290nm,9.3s									
DL2				L		L				
	comp=Z,2µm,16.5s									
DL2				L		L				
	comp=Z,2µm,18.2s									
DL2				L		L				
	comp=Z,3µm,18.0s									
HYB	**Hyderabad**	**25.73**	**202**	*i* P		**P**	**19 18 21.0**	**-0.9**		
NJ2	**Nanjing**	**26.14**	**102**	*e*P		**P**	**19 18 24.4**	**-1.0**		
NJ2				pP		**pP**	**19 18 31.3**	**-3.0**		
NJ2				sP		**sP**	**19 18 37.0**	**-1.0**		
NJ2				S		**S**	**19 23 01.4**	**+6.2**		
NJ2				pmax		pmax				
	comp=Z,17nm,0.5s									
NJ2				pmax		pmax				
	comp=Z,190nm,3.7s									
NJ2				L		L				
	comp=Z,2µm,11.4s									
NJ2				L		L				
	comp=Z,2µm,16.3s									
NJ2				L		L				
	comp=Z,3µm,16.7s									
SNY	**Shenyang**	**26.14**	**78**	⇑P		**P**	**19 18 24.8**	**-0.5**		
SNY				S		**S**	**19 22 58.9**	**+3.9**		
SNY				pmax		pmax				
	comp=Z,29nm,1.0s									
SNY				pmax		pmax				
	comp=Z,150nm,4.6s									
SNY				L		L				
	comp=Z,1µm,12.8s									
SNY				L		L				
	comp=Z,4µm,16.6s									
SNY				L		L				
	comp=Z,5µm,17.0s									
UTTA	**Uttaradit**	**26.17**	**153**	P		**P**	**19 18 27.0**	**+1.3**		
	comp=Z,407nmcomp=Z,48nm,0.9s									
UTTA	**Uttaradit**	**26.17**	**153**	P		**P**	**19 18 27.1**	**+1.3**		
	comp=Z,102nmcomp=Z,12nm,0.9s									
LOEI	**Loei**	**26.64**	**152**	P		**P**	**19 18 32.4**	**+2.4**		
	comp=Z,40nm,1.0s									
LOEI	**Loei**	**26.64**	**152**	P		**P**	**19 18 32.0**	**+2.0**		
	comp=Z,38nm,1.0s									
PHIT	**Phitsanulok**	**26.64**	**154**	P		**P**	**19 18 33.9**	**+3.9**		
	comp=Z,1µmcomp=Z,184nm,0.9s									
PHIT	**Phitsanulok**	**26.64**	**154**	P		**P**	**19 18 34.0**	**+3.9**		
	comp=Z,368nmcomp=Z,46nm,0.9s									
NONG	**Nongkai**	**26.84**	**147**	P		**P**	**19 18 33.0**	**+1.2**		
	comp=Z,77nm,0.8s									
NONG	**Nongkai**	**26.84**	**147**	P		**P**	**19 18 33.1**	**+1.2**		
	comp=Z,76nm,0.8s									
CN2	**Changchun**	**27.14**	**73**	*e*P		**P**	**19 18 33.8**	**-0.6**		
CN2				PcP		**PcP**	**19 21 54.9**	**+0.6**		
CN2				S		**S**	**19 23 08.4**	**-2.4**		
CN2				pmax		pmax				
	comp=Z,10.0nm,1.0s									
CN2				pmax		pmax				
	comp=Z,200nm,3.0s									
CN2				L		L				
	comp=Z,1µm,10.0s									
CN2				L		L				
	comp=Z,2µm,10.0s									
CN2				L		L				
	comp=Z,2µm,11.0s									
NRIK	**Noril'sk**	**27.58**	**359**	P		**P**	**19 18 38.8**	**+0.7**		
	comp=Z,25nm,0.4s,baz=171,slow=6.6,SNR=30									
NRIK				LR		LR	19 30 26.7			
	comp=Z,4µm,18.7s,baz=181,slow=38									
NRIK	**Noril'sk**	**27.58**	**359**	P		**P**	**19 18 38.4**	**+0.3**		
NRIK				pmax		pmax				
	comp=Z,37nm,0.7s									
NRIK	**Noril'sk**	**27.58**	**359**	P		**P**	**19 18 38.4**	**+0.3**		
UTHA	**Uthaitani**	**27.87**	**157**	P		**P**	**19 18 42.8**	**+1.7**		
	comp=Z,152nmcomp=Z,15nm,0.8s									
SSE	**Sheshan**	**28.33**	**102**	P		**P**	**19 18 42.8**	**-2.3**		
SSE				S		**S**	**19 23 29.3**	**-0.5**		
SSE				pmax		pmax				
	comp=Z,16nm,0.8s									
SSE				pmax		pmax				
	comp=Z,71nm,4.1s									
ZEA	**Zeya**	**28.36**	**52**	*e*P		**P**	**19 18 45.9**	**+0.7**		
ZEA				pmax		pmax				
	comp=Z,10.0nm,0.7s									
ZEA				MLR		MLR				
	comp=E,1µm,13.0s									
ZEA				MLR		MLR				
	comp=Z,1µm,13.0s									
CHAI	**Chaiyaphum**	**28.38**	**152**	P		P	19 18 55.6	+10		
CHAI	**Chaiyaphum**	**28.38**	**152**	P		P	19 18 55.7	+10		
QIZ	**Qiongzhong**	**29.16**	**135**	P		**P**	**19 18 53.3**	**+0.7**		
QIZ				S		**S**	**19 23 47.8**	**+4.8**		
QIZ				L		L				
	comp=Z,610nm,14.7s									
QIZ				L		L				
	comp=Z,720nm,20.6s									
QIZ				L		L				
	comp=Z,580nm,14.7s									
BELG	**Belogornoye**	**29.30**	**305**	P		**P**	**19 18 54.0**	**+0.5**		
	comp=Z,83nm,1.0s,baz=53,slow=0.3,SNR=18									
BELG				LR		LR	19 31 05.6			
	comp=Z,794nm,20.2s,baz=116,slow=37									
BELG	**Belogornoye**	**29.30**	**305**	*c i*P		**P**	**19 18 53.8**	**+0.3**		
BELG				pmax		pmax				
	comp=Z,12nm,0.9s									
KIRV	**Kirov**	**29.49**	**318**	P		**P**	**19 18 56.2**	**+1.1**		
	comp=Z,56nm,0.7s,baz=110,slow=5.5,SNR=25									
KIRV				LR		LR	19 31 44.2			
	comp=Z,426nm,20.6s,baz=110,slow=38									
KIRV	**Kirov**	**29.49**	**318**	*c i*P		**P**	**19 18 55.7**	**+0.6**		
INCN	**Inchon**	**29.62**	**86**	P		**P**	**19 18 56.0**	**-0.5**		
INCN				pmax		pmax				
	comp=Z,27nm,0.9s									
INCN	**Inchon**	**29.62**	**86**	P		**P**	**19 18 56.0**	**-0.5**		
MDJ	**Mudanjiang**	**29.95**	**71**	P		**P**	**19 19 00.3**	**+0.9**		
MDJ				pP		pP	19 19 09.4	+1.1		
MDJ				sP		sP	19 19 14.0	+2.0		
MDJ				PcP		**PcP**	**19 22 01.6**	**+0.3**		
MDJ				S		**S**	**19 23 54.8**	**-0.3**		
MDJ				sS		sS	19 24 09.8	+0.2		
MDJ				pmax		pmax				
	comp=Z,17nm,1.7s									
MDJ				pmax		pmax				
	comp=Z,100nm,5.7s									
MDJ				L		L				
	comp=Z,900nm,7.2s									
MDJ				L		L				
	comp=Z,2µm,17.0s									
MDJ				L		L				
	comp=Z,3µm,18.4s									
MAK	**Makhachkala**	**29.99**	**286**	*e*P		**P**	**19 18 58.0**	**-1.7**		
MAK				*e*S		**S**	**19 23 56.1**	**+0.5**		
MAK				*e*SS		**SnSn**	**19 25 28.3**	**0.0**		
MAK				pmax		pmax				
	comp=Z,114nm,1.5s									
MAK				MLR		MLR				
	comp=Z,634nm,12.0s									
AKT	**Akhty**	**30.16**	**283**	*e*P		**P**	**19 19 02.3**	**+0.9**		
AKT				*e*			19 19 57.7			
AKT				pmax		pmax				
	comp=Z,29nm,0.8s									
KS19	**Wonju Array Si**	**30.53**	**85**	P		**P**	**19 19 04.5**	**-0.1**		
KSAR	**Wonju Array Be**	**30.57**	**85**	P		**P**	**19 19 02.7**	**-2.2**		
KSAR	**Wonju Array Be**	**30.57**	**85**	P		**P**	**19 19 02.7**	**-2.2**		
TJN	**Taejon**	**30.57**	**87**	*de*P		**P**	**19 19 04.4**	**-0.5**		
KSRS	**Korea Array**	**30.59**	**85**	P		**P**	**19 19 04.4**	**-0.7**		
	comp=Z,11nm,0.5s,baz=287,slow=8.4,SNR=69									
KSRS				pP		**pP**	**19 19 13.8**	**-0.1**		
	comp=Z,8.5nm,0.6s,baz=290,slow=8.6,SNR=12									
KSRS				PcP		**PcP**	**19 22 02.3**	**-0.8**		
	comp=Z,1.8nm,0.6s,baz=299,slow=3.2,SNR=4.8									
KSRS				LR		LR	19 32 33.7			
	comp=Z,2µm,19.2s,baz=282,slow=39									
SHME	**Shamm**	**30.79**	**250**	P		**P**	**19 19 08.1**	**+1.1**		
KLR	**Kul'dur**	**30.94**	**61**	P		**P**	**19 19 07.9**	**-0.2**		
	comp=Z,8.7nm,0.7s,baz=275,slow=9.7,SNR=36									
KLR				PcP		**PcP**	**19 22 03.0**	**-0.9**		
	comp=Z,5.8nm,0.5s,baz=269,slow=3.5,SNR=7.1									
KLR	**Kul'dur**	**30.94**	**61**	*c i*P		**P**	**19 19 07.6**	**-0.5**		
KLR				pmax		pmax				
	comp=Z,17nm,0.9s									
WSAR	**Wadi Sarin**	**30.94**	**243**	P		**P**	**19 19 10.8**	**+2.4**		
	comp=Z,7.0nm,0.6s,baz=106,slow=3.7,SNR=9.5									
GROC	**Groznyy**	**31.16**	**287**	*e*P		**P**	**19 19 09.1**	**-1.0**		
GROC				*e*			19 20 12.2			
GROC				*e*			19 22 03.6			
GROC				pmax		pmax				
	comp=Z,54nm,0.8s									
MSHR	**Mys Shultsa**	**31.47**	**74**	*de*P		**P**	**19 19 13.9**	**+1.1**		
MSHR				pmax		pmax				
	comp=Z,13nm,0.9s									
USRK	**Ussuriysk Ar.**	**31.72**	**71**	P		**P**	**19 19 14.8**	**-0.1**		
	comp=Z,2.5nm,0.7s,baz=306,slow=6.6,SNR=7.7									
USRK				PcP		**PcP**	**19 22 04.4**	**-1.6**		
	comp=Z,1.3nm,0.6s,baz=280,slow=4.2,SNR=2.5									
USRK				LR		LR	19 32 55.2			
	comp=Z,2µm,18.6s,baz=272,slow=38									
USRK	**Ussuriysk Ar.**	**31.72**	**71**	P		**P**	**19 19 14.7**	**-0.3**		
ASHO	**Ashiyiah**	**31.72**	**248**	P		**P**	**19 19 17.7**	**+2.5**		
YAK	**Yakutsk**	**31.73**	**36**	P		**P**	**19 19 14.2**	**-0.7**		
	comp=Z,35nm,0.5s,baz=223,slow=1.6,SNR=52									
YAK	**Yakutsk**	**31.73**	**36**	*c i*P		**P**	**19 19 14.0**	**-0.9**		
YAK				*e**PP		**pP**	**19 19 20.0**	**-3.8**		
YAK				*e*S		**S**	**19 24 19.8**	**-2.7**		
YAK				*e**SS		**pS**	**19 24 33.7**	**+1.5**		
YAK				pmax		pmax				
	comp=N,5.0nm,0.8s									
YAK				pmax		pmax				
	comp=Z,61nm,0.8s									
YAK				pmax		pmax				
	comp=E,15nm,0.8s									
YAK				pmax		pmax				
	comp=Z,65nm,2.0s									
YAK				pmax		pmax				
	comp=N,42nm,2.1s									
YAK				pmax		pmax				
	comp=E,32nm,2.0s									
YAK				smax		smax				
	comp=E,28nm,1.4s									
YAK				smax		smax				
	comp=N,74nm,1.6s									
YAK				MLR		MLR				
	comp=Z,2µm,17.0s									
YAK				MLR		MLR				
	comp=N,653nm,18.0s									
YAK				MLR		MLR				
	comp=E,1µm,17.0s									
YAK	**Yakutsk**	**31.73**	**36**	P		**P**	**19 19 13.8**	**-1.1**		
VLA	**Vladivostok**	**31.87**	**73**	*ce*P		**P**	**19 19 16.4**	**+0.1**		
VLA				pmax		pmax				
	comp=Z,13nm,0.9s									
YHNB	**Yeheng**	**32.23**	**112**	P		**P**	**19 19 19.9**	**+0.1**		
YHNB				IAmb		IAmb	19 19 21.9			
	comp=Z,30nm,0.7s									
PRGR	**Permogore**	**32.23**	**323**	*e*P		**P**	**19 19 18.1**	**-1.2**		
PRGR				pmax		pmax				
	comp=Z,132nm,1.5s									
SSLB	**Suanglung**	**32.51**	**113**	P		**P**	**19 19 21.8**	**-0.4**		
SSLB

GRNR pmax pmax
comp=E,8.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,2µm,12.0s
GRNR MLR MLR
comp=N,320nm,11.0s
GRNR MLR MLR
comp=Z,3µm,12.0s
VORD Divnogorie 34.48 302 *e*P **P 19 19 39.3 +0.3**
VORD *e**PP **pP 19 19 48.3 +0.3**
VORD pmax pmax
comp=Z,30nm,0.6s
VSR Storozhevoye 34.54 303 *e*P **P 19 19 39.9 +0.4**
VSR *e**PP **pP 19 19 48.7 +0.1**
VSR pmax pmax
comp=Z,110nm,1.1s
VSR MLR MLR
comp=Z,480nm,12.0s
JNU Nakatsue 34.55 90 P **P 19 19 38.9 -1.0**
comp=Z,12nm,0.5s,baz=284,slow=1.4,SNR=3.7
LPSR Galich'ya Gora 34.62 305 *e*P **P 19 19 40.8 +0.7**
LPSR *e**PP **pP 19 19 50.0 +0.8**
LPSR pmax pmax
comp=Z,110nm,0.8s
LPSR MLR MLR
comp=Z,390nm,13.0s
UMR Umm Al-Rimmam 34.90 263 *e*P **P 19 19 44.1 +1.3**
KLMR Klimovskoe 34.90 320 *e*P **P 19 19 40.9 -1.6**
KLMR *e* 19 21 00.1
KLMR pmax pmax
comp=Z,71nm,1.2s
KLMR MLR MLR
comp=Z,770nm,13.0s
KLMR Klimovskoe 34.90 320 *e*P **P 19 19 40.9 -1.6**
KLMR AMP 19 19 44.4
comp=Z,71nm,1.2s
KLMR *e*PP **PP 19 21 00.1 -1.6**
KLMR LQ LQ 19 29 03.9
KLMR LQ LQ 19 29 03.9
KLMR LR LR 19 33 05.6
KLMR AMP 19 35 23.2
comp=Z,770nm,13.4s
PKDT Phuket 34.93 163 P P 19 19 53.8 +11
JSU Suzuyama 35.00 93 P **P 19 19 42.8 -0.9**
JSU IAmb IAmb 19 19 44.3
comp=Z,24nm,0.7s
MIB Mutribah 35.05 263 *e*P **P 19 19 45.0 +0.9**
QRN Al-Qurain 35.18 261 *e*P **P 19 19 45.7 +0.4**
GURO Guroymak-BITLI 35.21 280 P **P 19 19 47.0 +1.3**
RDF Al-Radifah 35.35 262 *e*P **P 19 19 47.2 +0.5**
MOS Moscow 35.37 311 *e*P **P 19 19 44.8 -1.8**
MOS *e* 19 19 58.3
MOS *e* 19 21 19.6
MOS *e*S **S 19 25 17.6 -1.4**
MOS pmax pmax
comp=Z,134nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.2s
MOS MLR MLR
comp=Z,1µm,18.0s
SOC Sochi 35.38 290 *e*P **P 19 19 42.7 -4.2**
SOC *e* 19 21 03.3
SOC *e*S **S 19 25 13.9 -5.6**
SOC *e*SS **SnSn 19 27 38.3 -1.1**
SOC *e*SSS SSS 19 27 59.9
SOC pmax pmax
comp=Z,26nm,0.9s
SOC MLR MLR
comp=Z,1µm,12.0s
RST Umm Al-Ruwaisa 35.46 263 *e*P **P 19 19 48.2 +0.6**
JOW Kunigami 35.85 102 P **P 19 19 50.2 -0.9**
comp=Z,22nm,0.6s,baz=315,slow=4.3,SNR=3.8
JOW Kunigami 35.85 102 P **P 19 19 50.2 -0.9**
JOW IAmb IAmb 19 20 15.9
comp=Z,60nm,1.2s
TIXI Tiksi 35.89 21 P **P 19 19 50.7 -0.2**
comp=Z,36nm,0.5s,baz=232,slow=4.5,SNR=104
TIXI LR LR 19 34 54.0
comp=Z,2µm,18.0s,baz=244,slow=37
TIXI Tiksi 35.89 21 P **P 19 19 49.5 -1.4**
TIXI pmax pmax
comp=Z,52nm,0.9s
TIXI Tiksi 35.89 21 P **P 19 19 49.5 -1.4**
TIXI IAmb IAmb 19 19 52.7
comp=Z,52nm,0.9s
OBN Obninsk 35.97 310 P **P 19 19 52.5 +0.8**
comp=Z,4.2nm,0.4s,baz=62,slow=4.7,SNR=18
OBN LR LR 19 35 14.9
comp=Z,275nm,20.7s,baz=82,slow=37
OBN Obninsk 35.97 310*c i*P **P 19 19 52.2 +0.5**
OBN *e**PP **pP 19 20 00.4 -0.4**
OBN *i* 19 21 14.3
OBN *e*PPP PPP 19 21 28.3
OBN *i* 19 22 17.9
OBN pmax pmax
comp=Z,102nm,1.7s
OBN MLR MLR
comp=Z,1µm,19.0s
OBN Obninsk 35.97 310 P **P 19 19 51.5 -0.1**
OBN IAmb IAmb 19 19 54.1
comp=Z,50nm,1.1s
SKLT Songkhla 36.19 159 P **P 19 19 55.3 +1.4**
comp=Z,41nm,1.3s
SKLT Songkhla 36.19 159 P **P 19 19 55.4 +1.4**
ANN Anapa 36.68 292 *e*P **P 19 19 55.9 -2.1**
ANN *e**PP **pP 19 20 06.2 -0.8**
ANN *e* 19 21 19.3
ANN *e*S **S 19 25 38.0 -1.3**
ANN *e*SS **SnSn 19 28 10.3 -0.4**
ANN pmax pmax
comp=Z,41nm,0.8s
ANN MLR MLR
comp=E,1µm,18.0s
ANN MLR MLR
comp=N,746nm,21.0s
ANN MLR MLR
comp=Z,1µm,18.0s
JWT Wachi 36.99 84 P **P 19 19 59.8 -0.9**
LHMI Lhok Sumawe 37.23 166 P **P 19 20 03.0 +0.2**
LHMI Lhok Sumawe 37.23 166 P **P 19 20 03.3 +0.4**
comp=Z,111nm,1.1s
UGL Uglegorsk 37.68 60 *e*P **P 19 20 07.6 +1.2**
UGL *e*S **S 19 25 57.0 +2.6**
UGL pmax pmax
comp=Z,70nm,0.9s
UGL MLR MLR
comp=E,3µm,22.0s
UGL MLR MLR
comp=N,2µm,21.0s
UGL MLR MLR
comp=Z,2µm,18.0s
TYV Tymovskoe 37.78 57 *e*P **P 19 20 08.4 +1.2**
TYV *e*S **S 19 25 59.5 +3.6**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,30nm,0.9s
TYV smax smax
comp=E,9.0nm,1.2s
TYV smax smax
comp=N,300nm,8.7s
TYV MLR MLR
comp=N,2µm,17.0s
TYV MLR MLR
comp=Z,4µm,17.0s
JSD Sado 38.02 79 P **P 19 20 07.0 -2.4**
LVZ Lovozero 38.52 331*i*P **P 19 20 14.0 +0.7**
LVZ pmax pmax
comp=Z,38nm,1.1s
LVZ Lovozero 38.52 331 P **P 19 20 12.8 -0.5**
YSS Yuzh-Sakhalins 38.55 63*ce*P **P 19 20 13.3 -0.4**
YSS *e**SP **sP 19 20 30.0 +3.6**
YSS *e* 19 21 42.1
YSS *e*S **S 19 26 07.7 +0.1**
YSS pmax pmax
comp=Z,200nm,3.7s
YSS pmax pmax
comp=Z,20nm,1.4s
YSS MLR MLR
comp=E,2µm,15.0s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS Yuzh-Sakhalins 38.55 63 P **P 19 20 11.7 -2.0**

MAJO Matsushiro 38.56 81⇓*e*P **P 19 20 12.3 -1.7**
MAJO pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 38.56 81 P **P 19 20 10.9 -3.1**
MAT Matsushiro 38.56 81 P **P 19 20 11.6 -2.4**
MAT S **S 19 26 07.4 -0.7**
MJAR Matsushiro Arr 38.56 81 P **P 19 20 12.2 -1.7**
comp=Z,5.1nm,0.8s,baz=292,slow=9.7,SNR=13
MJAR PcP **PcP 19 22 24.8 -1.4**
comp=Z,4.4nm,0.8s,baz=286,slow=3.2,SNR=7.2
MJAR LR LR 19 36 35.4
comp=Z,352nm,19.9s,baz=295,slow=37
IPM Ipoh 38.87 160 P **P 19 20 16.0 -0.7**
APA Apatity 38.91 330⇓*i*P **P 19 20 15.6 -0.8**
APA *i*S **S 19 26 12.0 -0.5**
APA *i*SS **SnSn 19 29 02.0 -1.7**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,1µm,13.0s
ASAJ Asahikawa 39.15 68 P **P 19 20 17.8 -1.0**
comp=Z,5.9nm,0.5s,baz=267,slow=7.2,SNR=12
ASAJ PcP **PcP 19 22 27.4 -0.4**
comp=Z,4.4nm,0.4s,baz=242,slow=9.6,SNR=9.0
JKA Kamikawa-asahi 39.16 68 PcP 19 22 27.4 -0.4
GAZ Gaziantep 39.27 281 P **P 19 20 21.2 +1.3**
PUL Pulkovo 39.35 317⇑*e*P **P 19 20 22.3 +2.0**
PUL pmax pmax
comp=Z,43nm,0.7s
BNN Bunyan 39.62 284 P **P 19 20 23.9 +0.9**
BNN IAmb IAmb 19 20 25.3
comp=Z,87nm,1.5s
JMM Marumori 39.94 78 P **P 19 20 25.4 -0.1**
JMM IAmb IAmb 19 20 36.7
comp=Z,41nm,0.8s
RAYN Ar Rayn 39.95 256 *i* P **P 19 20 27.2 +1.5**
SNR=16
RAYN Ar Rayn 39.95 256 P **P 19 20 25.5 -0.2**
RAYN pmax pmax
comp=Z,23nm,1.0s
RAYN Ar Rayn 39.95 256 P **P 19 20 25.5 -0.2**
PSI Prapat 39.99 163 P **P 19 20 25.4 -0.8**
comp=Z,5.4nm,0.8s
ERM Erimo 40.17 71⇓*e*P **P 19 20 27.3 0.0**
ERM pmax pmax
comp=Z,63nm,1.6s
ERM Erimo 40.17 71 P **P 19 20 27.2 -0.2**
AKASG Malin Array Be 40.84 303 P **P 19 20 33.1 +0.4**
comp=Z,3.8nm,0.4s,baz=67,slow=8.5,SNR=38
AKASG LR LR 19 38 34.3
comp=Z,531nm,20.4s,baz=70,slow=38
AKASG Malin Array Be 40.84 303 P **P 19 20 33.3 +0.6**
AKBB Malin Array Si 40.84 303*c i*P **P 19 20 32.9 +0.2**
AKBB pmax pmax
comp=Z,22nm,1.0s
AKBB Malin Array Si 40.84 303 P **P 19 20 33.1 +0.4**
BR131 Keskin Array S 40.90 286 P **P 19 20 34.8 +1.2**
BR131 pmax pmax
comp=Z,22nm,1.1s
BR131 Keskin Array S 40.90 286 P **P 19 20 34.8 +1.2**
BR131 Keskin Array S 40.90 286 P **P 19 20 35.3 +1.8**
SNR=7.8
BRTR Keskin Array B 40.90 286 P **P 19 20 35.2 +1.6**
comp=Z,12nm,1.0s,baz=99,slow=8.0,SNR=19
BRTR LR LR 19 40 57.4
comp=Z,488nm,18.7s,baz=69,slow=41
BRTR Keskin Array B 40.90 286 P **P 19 20 33.3 -0.3**
BRTR Keskin Array B 40.90 286 P **P 19 20 33.3 -0.3**
MNK Minsk 41.02 309 *i* P **P 19 20 32.9 -1.3**
MNK *i* 19 22 08.2
MNK *i* PPP PPP 19 22 35.8
MNK *i* S **S 19 26 44.3 -0.1**
MNK *i* SS **SS 19 29 48.6 +1.9**
MNK *i* SSS SSS 19 30 16.1
MNK *i* 19 30 34.7
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK pmax pmax
comp=Z,36nm,1.1s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK MLR MLR
comp=N,184nm,11.0s
MNK MLR MLR
comp=Z,1µm,20.0s
MNK MLR MLR
comp=E,113nm,19.0s
MNK Minsk 41.02 309 *i* P **P 19 20 33.0 -1.2**
comp=E,5.0nm,1.1s
MNK *i* P **P 19 20 33.0 -1.2**
comp=N,6.0nm,0.8s
MNK *i* P **P 19 20 33.0 -1.2**
comp=Z,36nm,1.1s,baz=82
MNK *i* PP **PP 19 22 08.2 -0.6**
MNK *i* PcP **PcP 19 22 32.0 -1.6**
MNK *i* PPP PPP 19 22 35.9
MNK *i* S **S 19 26 44.4 -0.1**
MNK *i* SS **SS 19 29 48.7 +1.9**
MNK *i* SSS SSS 19 30 16.1
MNK *i* ScS **ScS 19 30 34.7 -1.5**
MNK *i* LQ LQ 19 33 47.0
MNK *i* LR LR 19 36 06.3
MNK *i* LRM MLR 19 37 33.2
comp=N,184nm,10.9s
MNK *i* LRM MLR 19 37 58.8
comp=Z,1µm,19.8s
MNK *i* LRM MLR 19 38 00.7
comp=E,113nm,18.5s
GSI Gunungsitoli 41.18 166 P **P 19 20 34.8 -1.1**
GSI IAmb IAmb 19 20 47.0
comp=Z,82nm,0.8s
GSI Gunungsitoli 41.18 166 P **P 19 20 36.3 +0.4**
comp=Z,131nm,1.0s
VSU Vasula 41.25 315 *e*P **P 19 20 37.0 +1.1**
VSU Vasula 41.25 315*c i*P **P 19 20 36.3 +0.4**
VSU pmax pmax
comp=Z,188nm,1.0s
YUK Yuzh-Kuril'sk 41.43 67⇓*e*P **P 19 20 36.4 -1.2**
FINES FINESS Array B 41.44 320 P **P 19 20 38.5 +1.0**
comp=Z,6.0nm,0.5s,baz=90,slow=8.3,SNR=55
FINES PcP **PcP 19 22 34.1 -0.7**
comp=Z,7.1nm,0.7s,baz=107,slow=12,SNR=3.9
FINES LR LR 19 38 44.4
comp=Z,563nm,19.2s,baz=83,slow=37
IDID Didziasalis 41.57 311 *e*P **P 19 20 39.9 +1.3**
NACGM Naroch 41.60 310 *i* P **P 19 20 39.6 +0.7**
baz=63
KEV Kevo 41.62 333 P **P 19 20 38.7 -0.2**
KEV pmax pmax
comp=Z,29nm,0.8s
KEV Kevo 41.62 333 P **P 19 20 38.7 -0.2**
IIGN Ignalina 41.85 311 *e*P **P 19 20 42.3 +1.3**
ISAL Salakas 41.88 311 *e*P **P 19 20 42.4 +1.3**
SORM Soroca 41.97 300⇓P **P 19 20 42.8 +0.8**
MILM Milestii Mici 41.98 298⇓P **P 19 20 43.1 +1.0**
MNSI Mandailing Nat 42.08 163 P **P 19 20 42.4 -0.8**
comp=Z,23nm,0.7s
ARA0 ARCESS Array S 42.11 332 *e*P **P 19 20 44.4 +1.4**
ARCES ARCESS Array B 42.11 332 P **P 19 20 44.2 +1.3**
comp=Z,22nm,0.6s,baz=80,slow=7.3,SNR=140
ARCES PcP **PcP 19 22 37.4 +0.4**
comp=Z,19nm,0.5s,baz=98,slow=4.0,SNR=22
ARCES LR LR 19 40 33.0
comp=Z,882nm,20.8s,baz=85,slow=39
ARCES ARCESS Array B 42.11 332 P **P 19 20 43.4 +0.4**
MYKOM Kota Tinggi 42.22 157 P P 19 20 55.0 +11
SEY Seymchan 42.23 38 P **P 19 20 43.6 -0.3**
comp=Z,12nm,0.7s,baz=268,slow=10,SNR=20
SEY PcP **PcP 19 22 37.4 -0.1**
comp=Z,2.6nm,0.6s,baz=280,slow=3.6,SNR=4.1
MEF Metsahovi 42.32 318 *e*P **P 19 20 44.9 +0.3**
KUR Kuril'sk 42.43 64 *e*P **P 19 20 44.0 -1.8**
KUR *e* 19 22 37.6
KUR S **S 19 27 05.1 -0.4**
KUR pmax pmax
comp=Z,53nm,1.6s
KUR smax smax
comp=Z,900nm,13.0s
KUR smax smax
comp=N,900nm,14.0s
KUR smax smax
comp=E,1µm,14.0s
TPGR Topolog 42.84 295⇓P **P 19 20 50.7 +1.6**
KTK1 Kautokeino 42.86 331 *e*P **P 19 20 50.1 +1.1**
BKNI Bangkinang 42.87 161 P **P 19 20 49.9 +0.3**

comp=E,122nm,1.0s
HAMF Hammerfest 42.87 334 *e*P **P 19 20 50.4 +1.4**
CFR Carcaliu 42.93 296⇓P **P 19 20 51.3 +1.4**
PABE Paberze 43.10 311 *e*P **P 19 20 51.5 +0.4**
PABE Paberze 43.10 311 P **P 19 20 52.5 +1.4**
PABE IAmb IAmb 19 20 53.4
comp=Z,148nm,1.3s
HARR Harsova 43.22 295⇓P **P 19 20 53.9 +1.6**
TESR Tescani 43.52 298⇓P **P 19 20 56.1 +1.4**
PRAR RASCA 43.55 299⇓P **P 19 20 56.5 +1.6**
HOPEN Hopen 43.57 342 *e*P **P 19 20 56.5 +1.9**
VRI Vrincioaia 43.66 297⇓P **P 19 20 57.8 +1.9**
SLIT Slitere, Latvi 43.69 315 *e*P **P 19 20 56.6 +0.8**
PLOR Plostina 43.72 297⇓P **P 19 20 58.5 +2.2**
BIZ Bicaz 43.76 299⇓P **P 19 20 58.4 +1.9**
BISRR Bisoca 43.77 297⇓P **P 19 20 59.5 +2.8**
SUW Suwalki 43.82 309 *e*P **P 19 20 57.4 +0.5**
SUW Suwalki 43.82 309 *e*P **P 19 20 58.0 +1.0**
SUW Suwalki 43.82 309 P **P 19 20 57.7 +0.7**
SUW pmax pmax
comp=Z,87nm,1.1s
SUW Suwalki 43.82 309 P **P 19 20 57.7 +0.7**
SUW IAmb IAmb 19 20 59.4
comp=Z,87nm,1.1s
ISP Isparta 43.88 285 P **P 19 20 58.8 +1.0**
ISP pmax pmax
comp=Z,69nm,1.1s
ISP Isparta 43.88 285 P **P 19 20 58.8 +1.0**
ISP IAmb IAmb 19 21 00.3
comp=Z,69nm,1.1s
JETT Jettan, Norway 43.90 332 *e*P **P 19 20 59.0 +1.5**
PDSI Padang 43.93 162 P **P 19 20 57.3 -0.9**
comp=Z,32nm,1.0s
ISR Istrita 44.02 296⇓P **P 19 21 01.6 +2.9**
NEHR Nehoiu 44.09 297⇓P **P 19 21 02.0 +2.7**
BUR01 Bucovina Ar. S 44.14 300⇓P **P 19 21 01.3 +1.5**
BURAR Bucovina Array 44.14 300 P **P 19 21 00.5 +0.8**
OZUR 44.22 298⇓P **P 19 21 02.1 +1.8**
LVV L'vov 44.28 303 *e*P **P 19 21 01.6 +0.9**
LVV *e* 19 22 47.9
LVV *e*S **S 19 27 32.8 +0.2**
LVV *e*SS SS 19 30 38.9 -12
LVV pmax pmax
comp=Z,150nm,1.4s
LVV MLR MLR
comp=Z,400nm,16.0s
MLR Muntele Rosu 44.30 297 P **P 19 21 02.7 +1.6**
comp=Z,6.9nm,0.6s,baz=354,slow=4.8,SNR=20
MLR Muntele Rosu 44.30 297⇑P **P 19 21 02.8 +1.6**
MLR Muntele Rosu 44.30 297 P **P 19 21 02.0 +0.9**
MLR pmax pmax
comp=Z,29nm,1.3s
MLR Muntele Rosu 44.30 297 P **P 19 21 02.0 +0.9**
EIL Elat 44.36 272 P **P 19 21 03.8 +2.2**
comp=Z,63nm,0.9s,baz=91,slow=4.0,SNR=46
TRO Tromso 44.42 332 *e*P **P 19 21 02.4 +0.9**
DOPR Dopca 44.52 298⇓P **P 19 21 05.2 +2.5**
SPMM Sapulut 44.66 138 P **P 19 21 05.0 +0.9**
SBUM Sibu 44.67 145 P **P 19 21 05.0 +0.9**
BJO1 Bjornoya 44.71 339 *e*P **P 19 21 03.6 -0.1**
KSM Kuching 44.77 148 P **P 19 21 06.0 +1.1**
ELL Elmali 44.77 284 P **P 19 21 05.5 +0.5**
ELL pmax pmax
comp=Z,95nm,0.9s
ELL Elmali 44.77 284 P **P 19 21 05.5 +0.5**
VOIR 44.91 297⇑P **P 19 21 07.1 +1.2**
KWP Kalwaria Pacla 45.16 303 *e*P **P 19 21 09.3 +1.6**
KWP Kalwaria Pacla 45.16 303 P **P 19 21 09.6 +1.8**
KWP pmax pmax
comp=Z,803nm,1.1s
KWP Kalwaria Pacla 45.16 303 P **P 19 21 09.6 +1.8**
ARR Arges 45.22 297⇓P **P 19 21 10.5 +2.2**
KLNR Kaliningrad 45.40 311*ce*P **P 19 21 10.4 +0.9**
KLNR pmax pmax
comp=Z,276nm,1.3s
JMBI JAMBI 45.42 158 P **P 19 21 10.8 +0.7**
comp=Z,74nm,0.4s
N2IH Innhavet 45.54 330 *e*P **P 19 21 11.4 +1.0**
KOLS Kolonicke sedl 45.63 303 *e*P **P 19 21 12.8 +1.3**
KOLS pmax pmax
comp=Z,76nm,1.1s
KOLS Kolonicke sedl 45.63 303 *e*P **P 19 21 12.8 +1.3**
UZH Uzhgorod 45.71 302 *e*P **P 19 21 12.7 +0.6**
UZH *e* 19 21 25.5
UZH *e* 19 23 02.7
UZH *e*S **S 19 27 52.7 -0.5**
UZH *e*SS **ScS 19 31 00.3 -5.5**
UZH *e*SSS SSS 19 32 07.9
UZH MLR MLR
comp=N,120nm,18.0s
UZH MLR MLR
comp=E,160nm,18.0s
UZH MLR MLR
comp=Z,90nm,18.0s
UPP Uppsala 45.73 318 *e*P **P 19 21 13.4 +1.4**
SPA0 Spitsbergen Ar 45.76 344 *e*P **P 19 21 13.1 +1.0**
SPITS Spitsbergen Ar 45.76 344 P **P 19 21 14.1 +2.0**
comp=Z,8.2nm,0.6s,baz=95,slow=9.3,SNR=47
SPITS PcP **PcP 19 22 48.9 -0.4**
comp=Z,5.5nm,0.5s,baz=45,slow=4.3,SNR=2.8
LOT Lotru 45.76 297⇓P **P 19 21 14.6 +1.9**
STEI Steigen 45.80 330 *e*P **P 19 21 13.2 +0.7**
N2NF Nordfold 45.82 329 *e*P **P 19 21 13.6 +0.9**
FAUS Fauske 45.83 329 *e*P **P 19 21 13.7 +1.0**
ALN Alexandroupoli 45.85 291 P **P 19 21 14.3 +1.0**
ALN pmax pmax
comp=Z,35nm,1.3s
ALN Alexandroupoli 45.85 291 P **P 19 21 14.3 +1.0**
N2TV T¥rnvik 45.88 329 *e*P **P 19 21 14.0 +0.9**
DRGR 46.02 300⇓P **P 19 21 16.6 +2.0**
CRVS Cervenica-Dubn 46.16 303 *e*P **P 19 21 16.4 +0.8**
CRVS Cervenica-Dubn 46.16 303 *e*P **P 19 21 16.4 +0.8**
N2VI Vinje 46.16 330 *e*P **P 19 21 16.1 +0.7**
MOR8 Moi Rana 46.28 327 *e*P **P 19 21 16.1 +0.3**
NBB17 Glomfjord B¥r 46.40 328 *e*P **P 19 21 18.2 +0.9**
LOF Lofoten 46.43 330 *e*P **P 19 21 17.7 +0.2**
GZR Gura Zlata 46.44 298⇓P **P 19 21 19.7 +1.8**
PEA0B Petropavlovsk- 46.45 51 P **P 19 21 17.0 -0.8**
PEA0B pmax pmax
comp=Z,24nm,0.8s
PEA0B Petropavlovsk- 46.45 51 P **P 19 21 17.0 -0.8**
PEA0B IAmb IAmb 19 21 19.8
comp=Z,24nm,0.8s
PETK Petropavlovsk- 46.45 51 P **P 19 21 17.4 -0.4**
comp=Z,10nm,0.6s,baz=307,slow=4.8,SNR=29
PETK LR LR 19 41 55.2
comp=Z,888nm,19.9s,baz=284,slow=38
PETK Petropavlovsk- 46.45 51 P **P 19 21 16.7 -1.2**
PETK Petropavlovsk- 46.45 51 P **P 19 21 16.7 -1.2**
NBB30 Finnes 46.47 328 *e*P **P 19 21 18.5 +0.8**
STKI Sintang 46.52 147 P **P 19 21 19.3 +0.6**
comp=Z,5µmcomp=Z,70nm,1.0s
NBB15 Halsa Church 46.56 328 *e*P **P 19 21 19.0 +0.5**
N2SV S rv¥gen 46.65 330 *e*P **P 19 21 19.3 +0.1**
NBB13 Alf Garage 46.67 328 *e*P **P 19 21 20.4 +1.0**
KBS Kingsbay 46.71 345⇑*i*P **P 19 21 20.9 +1.4**
KBS IAmb IAmb 19 21 21.7
comp=Z,89nm,1.1s
KBS Kingsbay 46.71 345 P **P 19 21 20.3 +0.8**
KBS pmax pmax
comp=Z,27nm,1.0s
KBS Kingsbay 46.71 345 *e*P **P 19 21 20.3 +0.8**
KBS Kingsbay 46.71 345 P **P 19 21 20.3 +0.8**
KBS IAmb IAmb 19 21 22.0
comp=Z,27nm,0.9s
NIE Niedzica 46.73 304 *e*P **P 19 21 22.4 +2.3**
KONS Konsvik 46.77 328 *e*P **P 19 21 20.8 +0.7**
OJC Ojcow 46.79 305 *e*P **P 19 21 21.6 +1.0**
OJC Ojcow 46.79 305 P **P 19 21 20.5 -0.1**
OJC pmax pmax
comp=Z,51nm,1.2s
OJC Ojcow 46.79 305 P **P 19 21 20.5 -0.1**
OJC IAmb IAmb 19 21 22.9
comp=Z,51nm,1.2s
N2VA Vr¸y 46.79 329 *e*P **P 19 21 20.2 -0.1**
STOK Stokkvaagen 46.83 328 *e*P **P 19 21 21.5 +0.9**
HERR Herculane 46.86 297⇓P **P 19 21 22.4 +1.3**
SIRR Siria 46.87 299⇓P **P 19 21 23.5 +2.2**
PET Petropavlovsk 47.03 51 *e*P **P 19 21 21.3 -1.0**
PET *e* 19 23 13.9
PET *e*S **S 19 28 08.7 -3.2**
PET pmax pmax
comp=Z,35nm,1.4s

PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,700nm,16.3s
BZS Buzias 47.13 298 ⇓P **P 19 21 25.0 +1.7**
VTS Vitosha 47.13 294 ⇓P **P 19 21 25.9 +2.4**
VTS Vitosha 47.13 294 P **P 19 21 25.1 +1.6**
VTS Vitosha 47.13 294 P **P 19 21 25.1 +1.6**
VTS IAmb IAmb 19 21 26.9
comp=Z,55nm,1.5s
LANS Liptovska Anna 47.33 304 *e*P **P 19 21 26.6 +1.8**
LANS Liptovska Anna 47.33 304 *e*P **P 19 21 26.6 +1.8**
MDVR Moldovita 47.36 297 ⇓P **P 19 21 27.1 +1.9**
GKP Gorka Klasztor 47.44 310 *e*P **P 19 21 27.0 +1.5**
GKP Gorka Klasztor 47.44 310 *e*P **P 19 21 26.4 +0.8**
PSZ Piszkesteto 47.46 302 ⇓P **P 19 21 27.7 +1.8**
PSZ Piszkesteto 47.46 302 P **P 19 21 26.6 +0.7**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 47.46 302 P **P 19 21 26.6 +0.7**
NSS Namsos 47.54 325 *e*P **P 19 21 26.9 +0.8**
BILL Bilibino 47.59 30*d* *i*P **P 19 21 27.0 +0.5**
BILL *e* 19 22 56.1
BILL *e*PPP PPP 19 24 05.4
BILL pmax pmax
comp=Z,22nm,1.1s
BILL MLR MLR
comp=Z,539nm,14.0s
BILL Bilibino 47.59 30 P **P 19 21 26.7 +0.1**
BILL **PcP 19 22 56.1 +0.2**
HFS Hagfors 47.62 319 P **P 19 21 27.6 +0.8**
comp=Z,22nm,0.5s,baz=90,slow=7.4,SNR=115
TPI Tanjungpandan 47.71 153 P **P 19 21 28.6 +0.6**
comp=Z,43nm,1.0s
BOVS Bovan 47.79 296 ⇑P **P 19 21 29.2 +0.8**
APE Apeiranthos 47.80 286 ⇓P **P 19 21 29.1 +0.5**
OKC Ostrava-Krasne 47.92 305 ⇓AMS AMS 19 42 50.0
comp=Z,400nm,14.6s
VYHS Vyhne 47.93 303 *e*P **P 19 21 31.0 +1.5**
VYHS pmax pmax
comp=Z,47nm,1.6s
VYHS Vyhne 47.93 303 *e*P **P 19 21 31.0 +1.5**
VAY Valandovo 48.10 293 ⇑*i*P **P 19 21 32.2 +1.4**
VAY Valandovo 48.10 293 *i*P **P 19 21 32.4 +1.6**
STIP Stip 48.21 293 ⇑*i*P **P 19 21 31.8 +0.1**
STIP Stip 48.21 293 *i*P **P 19 21 31.9 +0.2**
MDSI Maura Dua 48.29 159 P **P 19 21 30.7 -1.8**
comp=Z,999nmcomp=Z,12nm,0.7s
MORC Moravsky Berou 48.31 305 ⇓P **P 19 21 34.0 +1.6**
MORC Moravsky Berou 48.31 305 *e*P **P 19 21 33.4 +0.9**
MORC Moravsky Berou 48.31 305 P **P 19 21 33.2 +0.8**
MORC pmax pmax
comp=Z,31nm,1.3s
MORC Moravsky Berou 48.31 305 P **P 19 21 33.2 +0.8**
MORC IAmb IAmb 19 21 35.2
comp=Z,30nm,1.3s
NC405 NORSAR Array S 48.35 321 P **P 19 21 32.7 +0.2**
SRO2 Moca 48.46 302 *e*P **P 19 21 34.7 +1.2**
SRO2 pmax pmax
comp=Z,17nm,1.2s
SRO2 Moca 48.46 302 *e*P **P 19 21 34.7 +1.2**
FRGS Fruska Gora 48.48 298 ⇓P **P 19 21 35.6 +1.8**
NC303 NORSAR Array S 48.48 321 P **P 19 21 33.8 +0.2**
NC303 IAmb IAmb 19 21 35.2
comp=Z,22nm,0.8s
SRO Srobarova 48.49 302 *e*P **P 19 21 35.9 +2.1**
SRO pmax pmax
comp=Z,33nm,1.4s
SRO Srobarova 48.49 302 *e*P **P 19 21 35.9 +2.1**
NC602 NORSAR Array S 48.52 320 *e*P **P 19 21 34.4 +0.6**
NC602 NORSAR Array S 48.52 320 P **P 19 21 33.8 0.0**
JAVC Velka Javorina 48.54 304 *e*P **P 19 21 36.6 +2.4**
NB201 NORSAR Array S 48.56 321 P **P 19 21 34.5 +0.3**
NB2 NORSAR Subarra 48.60 321 P **P 19 21 34.7 +0.2**
baz=75,slow=7.9
NOA NORSAR Array B 48.60 321 P **P 19 21 34.5 +0.1**
comp=Z,20nm,0.5s,baz=76,slow=7.7,SNR=121
NOA LR LR 19 42 47.3
comp=Z,565nm,18.0s,baz=85,slow=37
SKO Skopje 48.61 294 *i*P **P 19 21 36.4 +1.6**
LIT Litokhoron 48.65 291 P **P 19 21 35.9 +0.7**
LIT pmax pmax
comp=Z,21nm,0.9s
LIT Litokhoron 48.65 291 P **P 19 21 35.9 +0.7**
KRLC Kraliky 48.68 306 *e*P **P 19 21 36.9 +1.6**
KRLC *e* 19 21 44.0
KRLC MLR MLR
comp=Z,400nm,25.1s
KRLC Kraliky 48.68 306⇓*e*P **P 19 21 36.9 +1.6**
KRLC *ep*P **pP 19 21 44.0 -0.6**
KRLC AMS AMS 19 42 40.0
comp=Z,400nm,25.1s
BORU Boraas 48.69 316 *i*P **P 19 21 36.0 +0.8**
KSP Ksiaz 48.72 307 *e*P **P 19 21 36.8 +1.2**
DIVS Divibare 48.76 297 P **P 19 21 37.1 +1.1**
NC204 NORSAR Array S 48.76 321 P **P 19 21 36.2 +0.5**
LWLI Liwa 48.77 156 P **P 19 21 35.6 -0.7**
comp=Z,2µmcomp=Z,131nm,0.8s
NAO01 NORSAR Array S 48.80 321 P **P 19 21 35.8 -0.2**
SMOL Smolenice 48.81 303 *e*P **P 19 21 38.0 +1.8**
SMOL pmax pmax
comp=Z,23nm,1.8s
SMOL Smolenice 48.81 303 *e*P **P 19 21 38.0 +1.8**
NBO00 NORSAR Array S 48.81 321 P **P 19 21 36.1 0.0**
NBO00 IAmb IAmb 19 21 37.4
comp=Z,43nm,0.8s
MORH Mrgy, Hungar 48.85 300 ⇓P **P 19 21 37.9 +1.3**
OSTC Ostas 48.86 306⇓*e*P **P 19 21 39.5 +2.9**
OSTC AMS AMS 19 42 30.0
comp=Z,700nm,17.1s
DPC Dobruska-Polom 48.87 306⇓*i*P **P 19 21 38.7 +2.0**
DPC MLR MLR
comp=Z,500nm,20.9s
DPC Dobruska-Polom 48.87 306⇓*i*P **P 19 21 38.7 +2.0**
DPC AMS AMS 19 42 20.0
comp=Z,500nm,20.9s
LUNU Lund 48.89 313 *i*P **P 19 21 37.9 +1.2**
FABU Falkenberg 48.89 315 *i*P **P 19 21 37.3 +0.7**
CHVC Chvalec 48.95 306 *e*P **P 19 21 39.1 +1.8**
MODS Modra-Piesok 48.95 303 *e*P **P 19 21 38.2 +0.9**
MODS pmax pmax
comp=Z,31nm,1.4s
MODS Modra-Piesok 48.95 303 *e*P **P 19 21 38.2 +0.9**
BJUU Bjuv 48.99 314 *i*P **P 19 21 38.4 +1.0**
UPC Upice 49.00 306 ⇓AMS AMS 19 42 40.0
comp=Z,700nm,16.4s
VRAC Vranov 49.05 305 P **P 19 21 40.0 +1.9**
comp=Z,3.8nm,0.7s,baz=72,slow=8.3,SNR=12
VRAC Vranov 49.05 305 *e*P **P 19 21 39.4 +1.3**
IDI Anoyia 49.06 284 ⇓P **P 19 21 39.1 +0.7**
IDI Anoyia 49.06 284 P **P 19 21 38.4 0.0**
LNIZ Loecknitz 49.10 311 *e*P **P 19 21 39.5 +1.1**
comp=Z,47nm,1.0s,baz=67,slow=7.5
OSL Oslo 49.11 319 *e*P **P 19 21 39.5 +1.2**
ZST Bratislava 49.12 303 *e*P **P 19 21 40.6 +2.0**
ZST pmax pmax
comp=Z,138nm,1.9s
ZST Bratislava 49.12 303 *e*P **P 19 21 40.6 +2.0**
FNA Florina 49.14 292 P **P 19 21 39.4 +0.5**
FNA pmax pmax
comp=Z,15nm,1.1s
FNA Florina 49.14 292 P **P 19 21 39.4 +0.5**
TJOU Tjoern 49.17 317 *i*P **P 19 21 39.3 +0.5**
ONAU Onsala 49.20 316 *i*P **P 19 21 39.5 +0.5**
AGG Agios Georgios 49.22 290 P **P 19 21 39.6 +0.1**
AGG pmax pmax
comp=Z,55nm,1.2s
AGG Agios Georgios 49.22 290 P **P 19 21 39.6 +0.1**
AGG IAmb IAmb 19 21 41.1
comp=Z,55nm,1.2s
KRUC Moravsky 49.26 304 *e*P **P 19 21 40.9 +1.2**
RGN Rugen 49.28 312 *e*P **P 19 21 40.0 +0.3**
comp=Z,76nm,0.9s,baz=67,slow=7.5
DOMB Dombas 49.35 322 *e*P **P 19 21 40.8 +0.6**
KASI Kota Agung 49.37 159 P P 19 21 50.3 +10
OHR Ohrid 49.40 293 *i*P P 19 21 33.9 -7.1
PKKI Palangkaraya 49.63 145 P **P 19 21 43.9 +1.1**
comp=Z,129nm,1.0s
RUE Ruedersdorf 49.67 309 *e*P **P 19 21 43.7 +1.0**
comp=Z,29nm,0.8s,baz=67,slow=7.5
TREC Trest 49.74 305 ⇓AMS AMS 19 43 30.0
comp=Z,600nm,15.9s
KONO Kongsberg 49.74 319 P **P 19 21 44.0 +0.9**
KONO pmax pmax
comp=Z,31nm,0.7s
KONO Kongsberg 49.74 319 *e*P **P 19 21 44.0 +0.9**
KONO Kongsberg 49.74 319 P **P 19 21 44.0 +0.9**
KONO IAmb IAmb 19 21 44.8
comp=Z,32nm,0.7s
PVCC Panska Ves 49.86 307 *e*P **P 19 21 46.1 +1.9**
PVCC MLR MLR
comp=Z,700nm,19.2s
PVCC Panska Ves 49.86 307⇓*e*P **P 19 21 46.1 +1.9**
PVCC AMS AMS 19 43 10.0
comp=Z,700nm,19.2s
MOL Molde 49.90 323 *e*P **P 19 21 44.8 +0.5**
PDG Podgorica 49.91 295 P **P 19 21 45.9 +1.2**
PDG IAmb IAmb 19 22 09.8
comp=Z,52nm,1.5s
CONA Conrad Observa 50.00 303 *i* P **P 19 21 46.9 +1.5**
comp=Z,37nm,1.6s,SNR=15
PRU Pruhonice 50.07 306 *e*P **P 19 21 47.3 +1.5**
PRU *e*S **S 19 28 56.3 +1.4**
PRU MLR MLR
comp=Z,700nm,22.8s
PRU Pruhonice 50.07 306⇓*e*P **P 19 21 47.3 +1.5**
PRU *e*S **S 19 28 56.3 +1.4**
PRU AMS AMS 19 43 30.0
comp=Z,700nm,22.8s
SKAR Skarslia 50.07 321 *e*P **P 19 21 46.8 +1.0**
PRA Prague 50.10 306 ⇓AMS AMS 19 43 30.0
comp=Z,600nm,20.8s
BRG Berggiesshubel 50.12 307 *e*P **P 19 21 47.5 +1.4**
BRG Amp 19 21 48.7
comp=Z,25nm,1.3s
BRG *ex* x 19 21 59.4
BRG Amp 19 22 02.2
comp=Z,8.2nm,1.0s
BRG Berggiesshubel 50.12 307 *e*P **P 19 21 47.4 +1.2**
comp=Z,24nm,1.3s,baz=67,slow=7.5
AKN Aaknes 50.26 323 *e*P **P 19 21 48.4 +1.3**
ITM Ithomi 50.32 288 P **P 19 21 47.7 -0.2**
ITM IAmb IAmb 19 21 49.4
comp=Z,24nm,1.0s
FBE Freiberg 50.45 308 *e*P **P 19 21 50.1 +1.4**
comp=Z,60nm,1.6s,baz=67,slow=7.5
ARSA Arzberg 50.46 302 *i* P **P 19 21 49.9 +1.1**
comp=Z,13nm,1.5s,SNR=5.0
CLL Collm 50.52 308 *e*P **P 19 21 50.0 +0.8**
comp=Z,30nm,1.2s
CLL *e*(pP) **pP 19 21 57.0 -1.6**
CLL *e*PP **PP 19 23 44.0 -0.8**
CLL *e*S **S 19 29 03.0 +1.8**
CLL *e*SS **SS 19 32 36.0 +1.1**
CLL *e*SSS SSS 19 34 06.0
CLL Lm MLR 19 43 00.0
comp=N,400nm,18.5s
CLL Lm MLR 19 43 00.0
comp=E,400nm,19.4s
CLL Lm MLR 19 43 00.0
comp=Z,600nm,18.9s
CLL Collm 50.52 308 *e*P **P 19 21 50.0 +0.8**
CLL *e**PP **pP 19 21 57.0 -1.6**
CLL *e*S **S 19 29 03.0 +1.8**
CLL pmax pmax
comp=Z,30nm,1.2s
CLL MLR MLR
comp=Z,600nm,18.9s
CLL Collm 50.52 308 P **P 19 21 50.0 +0.8**
CLL IAmb IAmb 19 21 51.3
comp=Z,29nm,1.1s
CLL Collm 50.52 308 *e*P **P 19 21 50.0 +0.8**
comp=Z,30nm,1.2s,baz=67,slow=7.5
CKRC Cesky Krumlov 50.63 305⇓*i*P **P 19 21 52.1 +2.0**
CKRC *e*S **S 19 29 02.1 -0.7**
CKRC AMS AMS 19 47 00.0
comp=Z,500nm,17.6s
HOMB Homborsund 50.69 318 *i* P **P 19 21 49.0 -1.3**
HOMB *i* P pP 19 21 51.0 -8.7
HOMB Homborsund 50.69 318 *e*P **P 19 21 50.9 +0.6**
GROS Grobnik 50.78 301 *i* P **P 19 21 52.1 +0.8**
HYA Hoyanger 50.92 322 *e*P **P 19 21 52.9 +0.9**
PERS Pernice 50.95 302 *e*P **P 19 21 53.6 +1.0**
KHC Kasperske Hory 50.96 305⇓*i*P **P 19 21 54.1 +1.5**
KHC *e* 19 22 01.3
KHC *e*S **S 19 29 09.2 +1.7**
KHC MLR MLR
comp=Z,600nm,18.9s
KHC Kasperske Hory 50.96 305⇓*i*P **P 19 21 54.1 +1.5**
KHC *ep*P **pP 19 22 01.3 -0.7**
KHC *e*S **S 19 29 09.2 +1.7**
KHC AMS AMS 19 44 00.0
comp=Z,600nm,18.9s
SOKA Soboth 50.99 302 *i* P **P 19 21 54.3 +1.3**
comp=Z,20nm,1.0s,SNR=9.7
GEC2 GERESS Array S 50.99 305 P **P 19 21 54.1 +1.2**
GEC2 GERESS Array S 50.99 305 *e*P **P 19 21 54.4 +1.4**
comp=Z,28nm,1.5s,baz=67,slow=7.5
GERES GERESS Array B 50.99 305 P **P 19 21 54.5 +1.6**
comp=Z,2.6nm,0.8s,baz=69,slow=7.3,SNR=23
GERES LR LR 19 44 59.2
comp=Z,429nm,20.3s,baz=71,slow=38
GERES GERESS Array B 50.99 305 P **P 19 21 53.9 +1.0**
GERES GERESS Array B 50.99 305 P **P 19 21 53.9 +1.0**
MOA Molln 51.02 304 *i* P **P 19 21 54.6 +1.5**
comp=Z,9.4nm,1.0s,SNR=7.6
NOR Nord 51.05 349⇑*i*P **P 19 21 54.0 +1.2**
NOR IAmb IAmb 19 21 55.0
comp=Z,22nm,0.8s
NOR Nord 51.05 349⇑*i*P **P 19 21 54.0 +1.2**
NOR pmax pmax
comp=Z,22nm,0.8s
BBKI Banjar Baru 51.10 145 P **P 19 21 54.7 +0.8**
comp=Z,49nm,0.9s
BSEG Bad Segeberg 51.15 312 *e*P **P 19 21 55.5 +1.6**
comp=Z,33nm,1.1s,baz=67,slow=7.5
TANN Tannenbergstha 51.16 307 *e*P **P 19 21 55.4 +1.2**
comp=Z,22nm,1.2s,baz=67,slow=7.5
FLTG Flechtingen 51.19 310 *e*P **P 19 21 54.6 +0.4**
comp=Z,16nm,0.8s,baz=67,slow=7.5
NKC Novy Kostel 51.24 307 ⇓AMS AMS 19 44 10.0
comp=Z,800nm,22.1s
WERD Werda 51.24 307 *e*P **P 19 21 55.9 +1.2**
comp=Z,12nm,1.0s,baz=67,slow=7.5
GUNZ Gunzen 51.26 307 *e*P **P 19 21 56.1 +1.3**
comp=Z,20nm,1.1s,baz=67,slow=7.5
WERN Wernitzgruen 51.26 307 *e*P **P 19 21 56.2 +1.4**
comp=Z,68nm,2.1s,baz=67,slow=7.5
NEUB Neuenburg 51.28 308 *e*P **P 19 21 55.9 +1.0**
comp=Z,34nm,0.9s,baz=67,slow=7.5
FOO Floro 51.31 323 *e*P **P 19 21 55.6 +0.6**
SNART Snartemo 51.31 318 *i* P **P 19 21 56.4 +1.3**
SNART Snartemo 51.31 318 *e*P **P 19 21 56.3 +1.3**
BOJS Bojanci 51.31 300 *e*P **P 19 21 56.6 +1.4**
PLN Plauen 51.32 307 *e*P **P 19 21 56.5 +1.2**
comp=Z,17nm,1.3s,baz=67,slow=7.5
BLS5 Blasjo 51.33 320 *e*P **P 19 21 56.7 +1.5**
OBKA Obir 51.36 302 *e*P **P 19 21 56.9 +1.2**
comp=Z,24nm,1.6s
WET Wettzell 51.38 306 *e*P **P 19 21 57.3 +1.5**
comp=Z,18nm,1.3s,baz=67,slow=7.5
MANZ Manzenberg 51.53 307 *e*P **P 19 21 58.3 +1.4**
comp=Z,16nm,1.4s,baz=67,slow=7.5
ROTZ Rotzenmuhle 51.55 307 *e*P **P 19 21 58.6 +1.5**
comp=Z,21nm,1.4s,baz=67,slow=7.5
BER Bergen 51.56 321 *e*P **P 19 21 58.2 +1.4**
MOX Moxa 51.58 308 *e*P **P 19 21 58.4 +1.2**
comp=Z,24nm,1.2s,baz=67,slow=7.5
ASK Askoy 51.59 321 *e*P **P 19 21 58.3 +1.2**
NRDL Niedersach Rie 51.77 310 *e*P **P 19 22 00.2 +1.7**
comp=Z,51nm,1.3s,baz=67,slow=7.5
CLZ Clausthal 51.86 310 *e*P **P 19 22 00.5 +1.2**
comp=Z,17nm,1.0s,baz=67,slow=7.5
MYKA Terra Mystica 51.89 302 *e*P **P 19 22 00.4 +0.8**
comp=Z,16nm,1.5s
KBA Koelnbreinsper 51.90 303 *e*P **P 19 22 01.2 +1.4**
comp=Z,6.5nm,0.7s
RJOB Jochberg 51.98 304 *e*P **P 19 22 02.0 +1.7**
comp=Z,73nm,1.1s,baz=67,slow=7.5
KMY Karmoy 51.99 320 *e*P **P 19 22 01.0 +1.0**
GRA1 Grafenberg Arr 52.17 307 P **P 19 22 03.1 +1.5**
GRA1 IAmb IAmb 19 22 04.6
comp=Z,40nm,1.1s
GRF Grafenberg Arr 52.17 307 P **P 19 22 03.1 +1.5**
GRF pmax pmax
comp=Z,40nm,1.1s
GRF Grafenberg Arr 52.17 307 *e*P **P 19 22 03.4 +1.7**
comp=Z,30nm,1.0s,baz=67,slow=7.5
GRF *e*L L 19 45 04.9
comp=Z,590nm,20.0s
GRFO Grafenberg 52.18 307 P **P 19 22 02.4 +0.7**
GRFO pmax pmax
comp=Z,34nm,1.0s
GRFO Grafenberg 52.18 307 P **P 19 22 02.4 +0.7**
GRFO IAmb IAmb 19 22 04.6
comp=Z,34nm,1.0s
CTJI Waduk Cacaban 52.20 153 P **P 19 22 02.5 +0.4**
comp=Z,55nm,0.9s
GTTG Gottingen 52.21 309 *e*P **P 19 22 03.3 +1.5**
comp=Z,56nm,1.0s,baz=67,slow=7.5
UBBA Unterbreizbach 52.46 308 *e*P **P 19 22 04.9 +1.3**
comp=Z,50nm,1.9s,baz=67,slow=7.5
ABTA Abfaltersbach 52.55 303 *e*P **P 19 22 04.6 0.0**
comp=Z,14nm,1.4s
FUR Furstenfeldbru 52.74 305 *e*P **P 19 22 07.7 +1.8**
comp=Z,93nm,1.5s,baz=67,slow=7.5
WTTA Wattenberg 52.89 304 *i* P **P 19 22 08.6 +1.4**
comp=Z,31nm,0.7s,SNR=16
WATA Walderalm 52.90 304 *i* P **P 19 22 08.5 +1.3**
comp=Z,57nm,1.8s,SNR=18
SQTA Sankt Quirin 53.17 304 *i* P **P 19 22 10.5 +1.3**
comp=Z,40nm,1.2s,SNR=9.5
IBBN Ibbenburen 53.18 311 *e*P **P 19 22 10.0 +1.0**
comp=Z,32nm,0.8s,baz=67,slow=7.5
MOTA Moosalm 53.19 304 *i* P **P 19 22 10.6 +1.3**
comp=Z,17nm,0.8s,SNR=11
KASTN Kahler Asten 53.24 309 *e*P **P 19 22 10.6 +1.1**
comp=Z,12nm,1.2s,baz=67,slow=7.5
GAMI Galela, Maluku 53.26 128 P **P 19 22 09.6 -0.4**
RETA Reutte 53.34 304 *i* P **P 19 22 11.8 +1.4**
comp=Z,18nm,1.1s,SNR=7.7
CTI Castel Tesino 53.39 302 P **P 19 22 10.5 -0.3**
CTI pmax pmax
comp=Z,23nm,1.5s
CTI Castel Tesino 53.39 302 P **P 19 22 10.5 -0.3**
DAG Danmarks Havn 53.41 344 *i* P **P 19 22 10.7 +0.3**
DAG IAmb IAmb 19 22 11.8
comp=Z,28nm,1.0s
DAG Danmarks Havn 53.41 344 *i* P **P 19 22 10.6 +0.3**
DAG pmax pmax
comp=Z,28nm,1.0s
FETA Feichten 53.55 304 *i* P **P 19 22 13.1 +1.1**
comp=Z,38nm,1.7s,SNR=15
TNS Taunus Mts 53.61 308 *e*P **P 19 22 13.4 +1.1**
comp=Z,12nm,0.8s,baz=67,slow=7.5
UBR Ueberruh 53.66 305 *e*P **P 19 22 13.9 +1.2**
comp=Z,27nm,0.8s,baz=67,slow=7.5
TEOL Teolo 53.67 302 P **P 19 22 13.2 +0.5**
TEOL IAmb IAmb 19 22 15.7
comp=Z,27nm,0.8s
INTR Introdacqua 53.68 297 P **P 19 22 13.7 +0.8**
INTR IAmb IAmb 19 22 18.9
comp=Z,39nm,1.1s
STU Stuttgart 53.76 306 *e*P **P 19 22 14.4 +1.1**
comp=Z,18nm,0.7s,baz=67,slow=7.5
SJI Sawahan 53.78 151 P **P 19 22 13.7 -0.1**
comp=Z,46nm,0.8s
BUG Bochum-Univer 53.80 310 *e*P **P 19 22 14.8 +1.2**
comp=Z,24nm,1.0s,baz=67,slow=7.5
NRCA Norcia 53.84 298 P **P 19 22 15.1 +1.0**
NRCA IAmb IAmb 19 22 16.6
comp=Z,30nm,1.1s
DAVA Damuels 53.97 304 *i* P **P 19 22 15.3 +0.2**
comp=Z,18nm,1.2s,SNR=7.6
MURB Monte Urbino 54.03 299 P **P 19 22 16.0 +0.5**
PWJI Pagerwojo 54.06 151 P **P 19 22 16.2 +0.5**
comp=Z,48nm,1.3s
CEL Celeste 54.06 292 P **P 19 22 16.8 +1.1**
AHRW Bad Neuenahr-A 54.28 309 *e*P **P 19 22 18.4 +1.3**
comp=Z,22nm,1.2s,baz=67,slow=7.5
SALO Salr 54.28 302 P **P 19 22 18.1 +0.9**
COCO West Island 54.31 170 *i* P **P 19 22 18.2 +0.7**
BFO Black Forest 54.47 306 P **P 19 22 19.3 +0.8**
BFO pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 54.47 306 P **P 19 22 19.3 +0.8**
BFO Black Forest 54.47 306 *e*P **P 19 22 19.4 +0.9**
comp=Z,15nm,1.1s,baz=67,slow=7.5
ZCCA Zocca 54.55 301 P **P 19 22 19.8 +0.6**
ZCCA IAmb IAmb 19 22 32.4
comp=Z,43nm,1.1s
TUE Stuetta 54.65 304 P **P 19 22 20.8 +0.7**
OSSC Osservatorio P 54.75 300 P **P 19 22 21.4 +0.8**
OSSC IAmb IAmb 19 22 23.5
comp=Z,27nm,1.1s
BTNL Ternell 54.81 309 *dP* **P 19 22 22.3 +1.3**
MEM Membach 54.87 309 *dP* **P 19 22 22.1 +0.7**
DBG Daneborg 54.94 342 *i* P **P 19 22 21.8 +0.3**
DBG IAmb IAmb 19 22 23.5
comp=Z,13nm,0.9s
BHOU Houvegnez 54.98 309 *dP* **P 19 22 22.7 +0.5**
VLC Villacollemand 55.02 301 P **P 19 22 23.3 +0.8**
VLC IAmb IAmb 19 22 25.7
comp=Z,45nm,1.3s
BSTI Sart Tilman 55.14 310 *dP* **P 19 22 24.9 +1.7**
WLF Walferdange 55.19 308 *dP* **P 19 22 24.7 +1.0**
WLF Walferdange 55.19 308 P **P 19 22 25.3 +1.6**
WLF pmax pmax
comp=Z,20nm,1.2s
WLF Walferdange 55.19 308 P **P 19 22 25.3 +1.6**
WLF Walferdange 55.19 308 *e*P **P 19 22 25.3 +1.6**
comp=Z,23nm,1.2s,baz=67,slow=7.5
ECH Echery 55.22 306 P **P 19 22 24.8 +0.8**
ECH pmax pmax
comp=Z,13nm,0.9s
ECH Echery 55.22 306 P **P 19 22 24.8 +0.8**
BCLA Clavier 55.36 309 *dP* **P 19 22 26.3 +1.4**
BGES Gesves 55.50 310 *bP* **P 19 22 26.9 +1.0**
RAFF Raffo Rosso 55.62 292 P **P 19 22 28.4 +1.4**
BMRD Maredsous 55.72 310 *dP* **P 19 22 28.2 +0.8**
SMY Shemya 55.87 47 P **P 19 22 28.0 -0.5**
SMY pmax pmax
comp=Z,69nm,1.2s
SMY Shemya 55.87 47 P **P 19 22 28.0 -0.5**
SMY IAmb IAmb 19 22 29.4
comp=Z,69nm,1.2s
DOU Dourbes 55.91 309 *dP* **P 19 22 29.0 +0.1**
DOU *dp*P **pP 19 22 39.1 +0.8**
DOU *dP*cP **PcP 19 23 28.7 +1.5**
SENIN Lac Senin/Sane 55.96 304 P **P 19 22 30.3 +0.8**
MLA1 Latheron 56.47 321 *e*P **P 19 22 33.6 +0.9**
BIGH Upper Bighouse 56.65 321 *e*P **P 19 22 34.9 +1.0**
BIGH IAmb IAmb 19 22 35.6
comp=Z,55nm,0.9s
BNI Bardonecchia 56.96 303 P **P 19 22 37.7 +1.1**
BNI pmax pmax
comp=Z,60nm,1.4s
BNI Bardonecchia 56.96 303 P **P 19 22 37.7 +1.1**
BNI IAmb IAmb 19 22 39.5
comp=Z,60nm,1.4s
EDU Dundee 57.10 319 *e*P **P 19 22 38.1 +0.9**
LMK Market Rasen 57.13 315 *e*P **P 19 22 38.5 +1.1**
LMK IAmb IAmb 19 22 39.1
comp=Z,81nm,0.9s
ESY Stoneypath 57.19 318 *e*P **P 19 22 38.4 +0.5**
LINV Loch Inver, As 57.41 321 *e*P **P 19 22 40.2 +0.9**
SCO Scoresbysund 57.42 338 P **P 19 22 41.2 +2.0**
SCO pmax pmax
comp=Z,12nm,0.8s
SCO Scoresbysund 57.42 338 P **P 19 22 41.2 +2.0**
GAMB Gambell 57.46 31 P 19 22 39.5
baz=299
EBL Broad Law 57.47 318 *e*P **P 19 22 40.5 +0.6**
HPK Haverah Park 57.58 316 *e*P **P 19 22 41.4 +0.8**
INVG Invergeldie, C 57.66 319 *e*P **P 19 22 41.6 +0.5**
INVG IAmb IAmb 19 22 41.9
comp=Z,20nm,1.0s
ESK Eskdalemuir 57.76 318 *e*P **P 19 22 42.4 +0.5**
ESK IAmb IAmb 19 22 43.2
comp=Z,19nm,0.8s
ESK Eskdalemuir 57.76 318 P **P 19 22 42.7 +0.8**
ESK pmax pmax
comp=Z,19nm,0.8s
ESK Eskdalemuir 57.76 318 P **P 19 22 42.7 +0.8**
ESK IAmb IAmb 19 22 43.4
comp=Z,19nm,0.8s
TNA Tin City 57.97 28 P 19 22 43.6
baz=301
KPL Plockton 58.01 320 *eP* **P 19 22 44.0 +0.5**
LEWI Lewis, Hebride 58.19 322 *eP* **P 19 22 45.8 +0.9**
A21K Barrow 58.20 20 P 19 22 44.8
baz=307
CLF Chambon-Foret 58.23 308 P **P 19 22 46.3 +1.1**
CLF IAmb IAmb 19 22 47.2

comp=Z,56nm,1.0s
RDOG Red Dog Mine 58.31 25 P **P** 19 22 45.8 +0.3
RDOG Red Dog Mine 58.31 25 P 19 22 46.3
baz=304
EUNU Eureka 58.34 359 P **P** 19 22 46.5 +0.8
NEWG New Galloway 58.37 318 *e*P **P** 19 22 46.9 +0.7
NEWG IAmb IAmb 19 22 47.7
comp=Z,14nm,0.8s
NEEM North Greenlan 58.40 350⇑ *i*P **P** 19 22 47.3 +0.9
NEEM IAmb IAmb 19 22 48.4
comp=Z,118nm,0.7s
LAWE Loch Awe, Argy 58.40 319 *e*P **P** 19 22 47.1 +0.8
FOEL Foel Wylfa 58.92 315 *e*P **P** 19 22 50.0 -0.1
FOEL IAmb IAmb 19 22 50.7
comp=Z,43nm,0.8s
HLM1 Long Mynd 58.94 315 *e*P **P** 19 22 51.0 +0.9
HLM1 IAmb IAmb 19 22 51.7
comp=Z,24nm,0.8s
LLW Llanuwchllyn 59.19 315 *e*P **P** 19 22 52.7 +0.8
MONM Monmouth 59.23 314 *e*P **P** 19 22 52.3 +0.2
MONM IAmb IAmb 19 22 53.6
comp=Z,48nm,0.9s
MCH1 Michaelchurch 59.26 314 *e*P **P** 19 22 53.1 +0.7
MCH1 IAmb IAmb 19 22 53.8
comp=Z,36nm,0.9s
AMKA Amchitka 59.34 47 P **P** 19 22 51.9 -1.1
ANM Nome 59.42 29 P **P** 19 22 54.3 +1.0
ANM pmax pmax
comp=Z,78nm,1.4s
ANM Nome 59.42 29 P **P** 19 22 54.2 +1.0
ANM Nome 59.42 29 P 19 22 53.8
baz=304
KEST Kesra 59.86 293 P **P** 19 22 57.8 +0.9
comp=Z,14nm,0.8s,baz=343,slow=1.4,SNR=20
KEST LR LR 19 53 01.7
comp=Z,178nm,19.3s,baz=346,slow=40
KEST Kesra 59.86 293 P **P** 19 22 58.3 +1.4
KEST IAmb IAmb 19 22 59.2
comp=Z,35nm,1.1s
KEST Kesra 59.86 293 P **P** 19 22 58.4 +1.5
SNR=10
KEST P **P** 19 22 58.4 +1.5
SNR=10
SUMG Summit 60.10 344 *i*P **P** 19 22 59.0 +0.7
SUMG IAmb IAmb 19 23 00.5
comp=Z,60nm,1.2s
SUMG Summit 60.10 344 P **P** 19 22 59.8 +1.5
SUMG pmax pmax
comp=Z,59nm,1.2s
SUMG Summit 60.10 344 P **P** 19 22 59.8 +1.5
SUMG IAmb IAmb 19 23 00.7
comp=Z,59nm,1.2s
JSA Saint Aubin 60.21 311 *e*P **P** 19 22 59.2 +0.3
RSBS Rosebush, Pemb 60.21 315 *e*P **P** 19 22 59.4 +0.5
RSBS IAmb IAmb 19 23 00.1
comp=Z,24nm,1.1s
DYA Yadsworthy 60.55 313 *e*P **P** 19 23 01.6 +0.3
DYA IAmb IAmb 19 23 02.3
comp=Z,37nm,1.1s
LODK Lodwar 60.76 246 P **P** 19 23 04.4 +1.2
LODK Lodwar 60.76 246 P **P** 19 23 05.1 +1.8
SNR=6.1
SOEI Soe 60.99 139 P **P** 19 23 04.1 -0.6
SOEI IAmb IAmb 19 23 14.8
comp=Z,39nm,1.0s
SPIA Saint Paul Isl 61.53 37 P 19 23 08.2
baz=304
TOLK Toolik Lake Re 61.79 21 P **P** 19 23 09.8 +0.3
TOLK Toolik Lake Re 61.79 21 P 19 23 09.7
baz=314,SNR=34
COLD Coldfoot 62.60 22 P **P** 19 23 15.4 +0.5
COLD Coldfoot 62.60 22 P 19 23 15.3
baz=314,SNR=68
KMBO Kilima Mbogo 62.85 241 P **P** 19 23 18.2 +0.7
comp=Z,6.7nm,0.8s,baz=30,slow=10,SNR=10
KMBO LR LR 19 51 58.8
comp=Z,494nm,21.4s,baz=91,slow=37
KMBO Kilima Mbogo 62.85 241 *i*P **P** 19 23 19.2 +1.7
KMBO pmax pmax
comp=Z,7.0nm,0.9s
ICESG Greenland Ices 62.95 341⇑ *i*P **P** 19 23 19.0 +1.5
ICESG IAmb IAmb 19 23 19.6
comp=Z,75nm,1.1s
I21K Tanana 63.51 24 P 19 23 21.5
baz=313,SNR=22
TTA Tatalina 63.72 27 P **P** 19 23 22.8 +0.4
TTA pmax pmax
comp=Z,27nm,1.3s
TTA Tatalina 63.72 27 P **P** 19 23 22.8 +0.4
TTA IAmb IAmb 19 23 25.5
comp=Z,27nm,1.3s
TTA Tatalina 63.72 27 P 19 23 23.0
baz=311,SNR=17
H23K Yukon River 63.78 23 P 19 23 23.6
baz=315
BMAR Burnt Mountain 63.96 20 P **P** 19 23 24.4 +0.5
MLY Manley 63.99 24 P **P** 19 23 24.6 +0.5
MLY IAmb IAmb 19 23 26.2
comp=Z,35nm,0.8s
MLY Manley 63.99 24 P 19 23 24.6
baz=314
H24K Noodor Dome 64.25 22 P 19 23 26.5
baz=316,SNR=37
I23K Minto, Yukon-K 64.32 23 P **P** 19 23 26.8 +0.6
I23K IAmb IAmb 19 23 28.4
comp=Z,37nm,0.9s
I23K Minto, Yukon-K 64.32 23 P 19 23 26.8
baz=315,SNR=43
FYU Fort Yukon 64.44 21 P **P** 19 23 27.8 +0.9
FYU IAmb IAmb 19 23 29.4
comp=Z,58nm,1.4s
BPAW Bear Paw Mtn. 64.57 25 P **P** 19 23 28.2 +0.3
BPAW IAmb IAmb 19 23 29.7
comp=Z,32nm,0.9s
BPAW Bear Paw Mtn. 64.57 25 P 19 23 28.0
baz=315,SNR=46
MDM Murphy Dome 64.79 23 P **P** 19 23 29.6 +0.2
MDM IAmb IAmb 19 23 32.1
comp=Z,30nm,0.6s
NEA2 Nenana 64.80 24 P **P** 19 23 29.6 +0.2
NEA2 IAmb IAmb 19 23 31.1
comp=Z,34nm,0.9s
NEA2 Nenana 64.80 24 P 19 23 29.6
baz=316,SNR=13
POKR Poker Plat Res 64.90 23 P **P** 19 23 31.1 +1.0
POKR IAmb IAmb 19 23 32.2
comp=Z,40nm,0.8s
POKR Poker Plat Res 64.90 23 P 19 23 30.4
baz=317,SNR=7.4
TCOL CIGO, UAF Yank 64.96 23 P **P** 19 23 31.1 +0.7
TCOL CIGO, UAF Yank 64.96 23 P 19 23 30.6
baz=317,SNR=7.2
COLA College 64.96 23 *de*P **P** 19 23 30.2 -0.2
COLA pmax pmax
comp=Z,63nm,0.8s
COLA College 64.96 23 P **P** 19 23 31.0 +0.6
COLA College 64.96 23 P 19 23 30.5
baz=317
KTH Kantishna Hill 64.97 25 P **P** 19 23 31.1 +0.5
BWN Browne 64.99 24 P **P** 19 23 31.5 +0.9
PPLA Purkeypile 65.03 26 P **P** 19 23 31.5 +0.4
PPLA Purkeypile 65.03 26 P 19 23 31.6
baz=314
ANGG Ammassalik, Gr 65.04 338 *i*P **P** 19 23 31.9 +1.0
ANGG IAmb IAmb 19 23 32.6
comp=Z,26nm,0.7s
ANGG Ammassalik, Gr 65.04 338 P **P** 19 23 31.7 +0.8
ANGG IAmb IAmb 19 23 32.9
comp=Z,27nm,0.7s
SVW2 Sparrevohn 65.09 29 P **P** 19 23 32.4 +1.0
SVW2 IAmb IAmb 19 23 34.2
comp=Z,35nm,1.1s
CCB Clear Creek Bu 65.14 23 P **P** 19 23 31.6 +0.1
CCB IAmb IAmb 19 23 32.9
comp=Z,29nm,0.8s
PRP Porcupine Dome 65.15 22 P **P** 19 23 32.5 +0.7
PRP IAmb IAmb 19 23 33.9
comp=Z,20nm,0.7s
WRH Wood River Hil 65.18 23 P **P** 19 23 31.5 -0.4
WRH IAmb IAmb 19 23 33.0
comp=Z,20nm,0.7s
TRF Thorofare Moun 65.25 25 P **P** 19 23 32.7 +0.2
TRF IAmb IAmb 19 23 34.8
comp=Z,21nm,1.0s
TRF Thorofare Moun 65.25 25 P 19 23 32.3
baz=315,SNR=15

N18K Kilae Creek 65.26 29 P 19 23 33.6
baz=312,SNR=18
ILULI Ilulissat 65.31 345 *i*P **P** 19 23 32.5 -0.1
ILULI IAmb IAmb 19 23 34.0
comp=Z,66nm,0.8s
ILULI Ilulissat 65.31 345 P **P** 19 23 32.9 +0.3
ILULI pmax pmax
comp=Z,68nm,0.8s
ILULI Ilulissat 65.31 345 P **P** 19 23 32.9 +0.3
IL31 Ilulissat 65.32 23 P **P** 19 23 32.2 -0.5
IL31 IAmb IAmb 19 23 33.7
comp=Z,32nm,0.7s
ILAR Eielson Array 65.32 23 P **P** 19 23 32.2 -0.5
comp=Z,24nm,0.6s,baz=314,slow=5.0,SNR=171
ILAR pP **pP** 19 23 41.0 -1.3
comp=Z,6.0nm,0.7s,baz=317,slow=5.7,SNR=5.8
ILAR LR LR 19 56 22.0
comp=Z,382nm,18.0s,baz=335,slow=40
ISOG Isortoq, Green 65.46 339 *i*P **P** 19 23 34.3 +0.7
MCK McKinley 65.47 24 P **P** 19 23 33.8 +0.1
MCK pmax pmax
comp=Z,15nm,0.5s
MCK McKinley 65.47 24 P **P** 19 23 33.8 +0.1
MCK IAmb IAmb 19 23 35.5
comp=Z,15nm,0.5s
MCK McKinley 65.47 24 P 19 23 33.3
baz=316,SNR=6.5
HDA Harding Lake 65.57 23 P **P** 19 23 34.3 0.0
HDA IAmb IAmb 19 23 34.9
comp=Z,17nm,0.8s
HDA Harding Lake 65.57 23 P 19 23 33.2
baz=318,SNR=14
HDA P 19 23 33.2
baz=318,SNR=14
RND Reindeer 65.73 25 P **P** 19 23 34.9 -0.6
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 65.73 25 P **P** 19 23 34.9 -0.6
CART Cartagena 65.78 299 P **P** 19 23 37.1 +1.0
CART IAmb IAmb 19 23 38.1
comp=Z,48nm,0.9s
INK Inuvik 65.81 16 P **P** 19 23 36.9 +1.1
comp=Z,22nm,0.8s,baz=334,slow=8.6,SNR=30
INK Inuvik 65.81 16 P **P** 19 23 36.1 +0.3
INK pmax pmax
comp=Z,60nm,1.3s
INK Inuvik 65.81 16 P **P** 19 23 36.1 +0.3
INK IAmb IAmb 19 23 37.6
comp=Z,60nm,1.2s
INK Inuvik 65.81 16 P 19 23 36.0
baz=327,SNR=18
SKT Skwentna 65.89 27 P **P** 19 23 37.0 +0.5
SKT IAmb IAmb 19 23 38.6
comp=Z,66nm,1.4s
SKT Skwentna 65.89 27 P 19 23 36.2
baz=315,SNR=26
FALS False Pass 65.99 37 P 19 23 36.4
baz=309
CUT Chulitna 66.00 26 P **P** 19 23 37.5 +0.3
CUT Chulitna 66.00 26 P 19 23 36.5
baz=316
SPCR Spurr Chakacha 66.21 27 P 19 23 39.0
baz=315
ESBB Sonseca Array 66.48 303 P **P** 19 23 41.1 +0.4
ESBB IAmb IAmb 19 23 42.7
comp=Z,43nm,1.1s
ESDC Sonseca Array 66.48 303 P **P** 19 23 41.4 +0.6
comp=Z,14nm,0.6s,baz=50,slow=6.3,SNR=124
ESDC LR LR 19 54 46.1
comp=Z,314nm,21.4s,baz=75,slow=38
ESDC Sonseca Array 66.48 303 P **P** 19 23 41.1 +0.4
ESDC IAmb IAmb 19 23 42.7
comp=Z,32nm,1.1s
SUA Susitna One 66.52 27 P **P** 19 23 40.8 +0.1
SUA IAmb IAmb 19 23 42.1
comp=Z,24nm,0.7s
SUA Susitna One 66.52 27 P 19 23 40.6
baz=316,SNR=20
RSO Redoubt South 66.54 28 P **P** 19 23 41.5 +0.6
DY2G Dye2 66.56 342 *i*P **P** 19 23 42.2 +1.2
DY2G IAmb IAmb 19 23 43.3
comp=Z,78nm,0.7s
C36M Paulatuk 66.59 12 P **P** 19 23 40.7 -0.1
C36M Paulatuk 66.59 12 P 19 23 40.6
baz=334,SNR=35
WAT6 Susitna Watana 66.68 25 P 19 23 40.7
baz=318,SNR=24
EPYK Eagle Plains 66.72 18 P **P** 19 23 41.5 -0.2
EPYK IAmb IAmb 19 23 42.9
comp=Z,26nm,0.8s
SCRK Sand Creek 66.75 22 P **P** 19 23 41.7 -0.4
SCRK IAmb IAmb 19 23 43.3
comp=Z,34nm,0.7s
PAB San Pablo 66.80 303 P **P** 19 23 43.2 +0.4
PAB pmax pmax
comp=Z,27nm,1.0s
PAB San Pablo 66.80 303 P **P** 19 23 43.1 +0.4
PAB IAmb IAmb 19 23 44.8
comp=Z,27nm,0.9s
PAB San Pablo 66.80 303 P 19 23 44.1
MBAR Mbarara 66.84 247 P **P** 19 23 42.8 -0.6
MBAR pmax pmax
comp=Z,22nm,0.9s
MBAR Mbarara 66.84 247 P **P** 19 23 42.8 -0.6
MBAR IAmb IAmb 19 23 55.0
comp=Z,22nm,0.8s
CAPN Captain Cook N 66.88 27 P 19 23 43.1
baz=316
GHO Glory Hole Cre 66.90 26 P **P** 19 23 43.0 -0.1
GHO IAmb IAmb 19 23 44.5
comp=Z,21nm,0.9s
EGAK Eagle 66.90 21 P **P** 19 23 42.8 -0.1
EGAK IAmb IAmb 19 23 44.3
comp=Z,37nm,1.2s
EGAK Eagle 66.90 21 P 19 23 42.7
baz=322,SNR=21
PBRG Braganca 66.95 306 *e*P **P** 19 23 44.8 +1.1
comp=Z,26nm,1.5s
PMR Palmer 66.96 26 P 19 23 43.0
baz=317
DOT Dot Lake 66.98 23 P **P** 19 23 43.2 -0.2
DOT IAmb IAmb 19 23 45.2
comp=Z,30nm,0.8s
SML Sawmill 67.06 26 P **P** 19 23 43.8 -0.3
SML Sawmill 67.07 26 P 19 23 43.9
baz=317,SNR=26
PAX Paxson 67.08 24 P **P** 19 23 43.5 -0.7
PAX pmax pmax
comp=Z,17nm,0.7s
PAX Paxson 67.08 24 P **P** 19 23 43.5 -0.7
PAX IAmb IAmb 19 23 46.1
comp=Z,17nm,0.7s
PAX Paxson 67.08 24 P 19 23 43.5
baz=319,SNR=21
SFJD Kangerlussuaq 67.09 344⇑ *i*P **P** 19 23 44.0 0.0
SFJD IAmb IAmb 19 23 45.4
comp=Z,42nm,0.8s
SFJD Kangerlussuaq 67.09 344⇑ *i*P **P** 19 23 44.0 0.0
SFJD pmax pmax
comp=Z,43nm,0.8s
SFJD Kangerlussuaq 67.09 344 P **P** 19 23 44.2 +0.1
RC01 Rabbit Creek A 67.13 27 P **P** 19 23 43.6 -0.8
RC01 IAmb IAmb 19 23 45.8
comp=Z,32nm,0.8s
RC01 Rabbit Creek A 67.13 27 P 19 23 44.2
baz=316,SNR=14
K27K Chicken 67.24 22 P **P** 19 23 45.5 +0.4
K27K IAmb IAmb 19 23 47.1
comp=Z,34nm,0.9s
KNK Knik Glacier 67.31 26 P **P** 19 23 45.9 +0.3
KNK IAmb IAmb 19 23 47.3
comp=Z,31nm,0.7s
KNK Knik Glacier 67.31 26 P 19 23 45.7
baz=317,SNR=13
SCM Sheep Creek Mo 67.37 25 P **P** 19 23 45.9 -0.1
SCM pmax pmax
comp=Z,52nm,0.8s
SCM Sheep Creek Mo 67.37 25 P **P** 19 23 45.9 -0.1
MVO Moncorvo 67.50 306 *e*P **P** 19 23 48.0 +0.8
comp=Z,36nm,1.0s
MVO Moncorvo 67.50 306 *e*LQ LQ 19 47 24.7
MVO *e*LR LR 19 50 45.5
comp=Z,180nm,20.0s
M24K Tolsona, Glenn 67.52 24 P **P** 19 23 47.3 +0.3
M24K Tolsona, Glenn 67.52 24 P 19 23 47.3
baz=319,SNR=26

O22K Cooper Landing 67.58 27 P **P** 19 23 47.4 +0.2
O22K Cooper Landing 67.58 27 P 19 23 47.0
baz=317,SNR=5.3
HARP HAARP 67.61 24 P 19 23 48.0
baz=319,SNR=6.4
MENT Mentasta 67.62 23 P **P** 19 23 47.9 +0.3
BRLK Bradley Lake 67.69 28 P **P** 19 23 48.4 +0.3
BRLK IAmb IAmb 19 23 49.6
comp=Z,29nm,0.9s
CNPM China Poot 67.74 28 P **P** 19 23 48.8 +0.5
BRSE Bradley Lake S 67.76 28 P 19 23 47.9
baz=316,SNR=12
PWL Port Wells 67.76 26 P **P** 19 23 48.5 0.0
PWL IAmb IAmb 19 23 49.8
comp=Z,23nm,0.8s
PGAV Gavieira, Arco 67.78 307 *e*P **P** 19 23 50.5 +1.6
comp=Z,34nm,1.5s
PGAV Gavieira, Arco 67.78 307 *e*LQ LQ 19 47 30.8
PGAV *e*LR LR 19 54 18.7
comp=Z,324nm,18.0s
PCAB Cabril 67.78 307 *e*P **P** 19 23 50.5 +1.6
comp=Z,53nm,1.3s
POLO Lamas de Olo 67.84 306 *e*P **P** 19 23 49.8 +0.4
comp=Z,10nm,1.9s
PVRL Vila Real 67.85 306 *e*P **P** 19 23 50.4 +1.0
comp=Z,19nm,1.6s
DAWY Dawson 67.93 21 P **P** 19 23 49.5 0.0
DAWY IAmb IAmb 19 23 50.7
comp=Z,20nm,0.8s
SEW Seward 67.94 27 P **P** 19 23 49.4 -0.1
SEW Seward 67.95 27 P 19 23 49.4
baz=317,SNR=15
KLU Klutina 68.07 25 P **P** 19 23 50.3 -0.1
KLU Klutina 68.07 25 P 19 23 50.5
baz=319,SNR=8.5
L27K Beaver Creek, 68.07 22 P **P** 19 23 51.0 +0.6
L27K IAmb IAmb 19 23 52.6
comp=Z,34nm,0.8s
L27K Beaver Creek, 68.07 22 P 19 23 51.0
baz=322,SNR=50
BCAR Beaver Creek A 68.08 22 P **P** 19 23 51.0 +0.5
GLI Glacier Island 68.16 26 P **P** 19 23 51.1 +0.2
GLI IAmb IAmb 19 23 52.1
comp=Z,16nm,0.7s
GLI Glacier Island 68.16 26 P 19 23 50.7
baz=318,SNR=5.8
MTE Manteigas 68.27 305 *e*P **P** 19 23 53.0 +0.9
comp=Z,32nm,1.1s
MTE Manteigas 68.27 305 *e*LQ LQ 19 48 19.5
MTE *e*LR LR 19 50 41.3
comp=Z,179nm,20.0s
MTE Manteigas 68.27 305 P **P** 19 23 53.5 +1.4
MTE IAmb IAmb 19 23 54.5
comp=Z,23nm,0.9s
KNRA Kununurra 68.29 138 P **P** 19 23 51.8 -0.4
KNRA IAmb IAmb 19 23 53.4
comp=Z,21nm,0.8s
PVIS Viseu 68.30 306 *e*P **P** 19 23 53.5 +1.3
comp=Z,25nm,1.4s
TAF Taforalt 68.33 298 P 19 23 54.0
N25K Chitina, Valde 68.39 24 P **P** 19 23 53.2 +0.7
N25K IAmb IAmb 19 23 54.5
comp=Z,42nm,1.0s
N25K Chitina, Valde 68.39 24 P 19 23 53.0
baz=320,SNR=27
FID Port Fidalgo 68.45 26 P **P** 19 23 53.0 +0.3
KDAK Kodiak Island 68.50 30 P **P** 19 23 52.8 -0.3
comp=Z,32nm,0.7s,baz=324,slow=3.9
KDAK Kodiak Island 68.50 30 P **P** 19 23 52.8 -0.3
KDAK IAmb IAmb 19 23 54.2
comp=Z,28nm,0.8s
KDAK Kodiak Island 68.50 30 P 19 23 52.8
baz=315
PCBR Castelo Branco 68.57 305 *e*P **P** 19 23 55.1 +1.3
comp=Z,21nm,1.6s
OHAK Old Harbor 68.63 31 P 19 23 53.7
baz=315
HIN Hinchinbrook I 68.71 26 P **P** 19 23 54.9 +0.5
HIN IAmb IAmb 19 23 56.9
comp=Z,26nm,0.8s
JBK JBK 68.72 297 P 19 23 57.0
SII Sitkinak Islan 68.75 32 P 19 23 53.9
baz=315
GLB Gilahina Butte 68.76 24 P **P** 19 23 55.0 +0.3
PMRV Marv??o 68.76 304 *e*P **P** 19 23 56.5 +1.4
comp=Z,42nm,1.2s
PMRV Marv??o 68.76 304 *e*LR LR 19 53 30.9
comp=Z,152nm,24.0s
EYAK Cordova Ski Ar 68.84 25 P **P** 19 23 55.8 +0.7
EYAK IAmb IAmb 19 23 57.1
comp=Z,22nm,0.8s
EYAK Cordova Ski Ar 68.84 25 P 19 23 55.6
baz=320,SNR=9.3
FITZ Fitzroy Crossi 68.87 142 P **P** 19 23 55.3 -0.4
BMRM Bremner River 68.88 25 P **P** 19 23 55.7 +0.2
BMRM IAmb IAmb 19 23 57.2
comp=Z,28nm,1.1s
BMRM Bremner River 68.88 25 P 19 23 55.6
baz=320,SNR=11
COI Coimbra 68.92 305 P **P** 19 23 57.0 +1.0
COI pmax pmax
comp=Z,59nm,0.8s
COI Coimbra 68.92 305 *e*P **P** 19 23 57.9 +1.9
comp=Z,82nm,0.9s
COI Coimbra 68.92 305 P **P** 19 23 57.0 +1.0
LIJA Lijar 69.03 301 P **P** 19 23 57.0 +0.2
VRDI Verde Repeater 69.03 24 P **P** 19 23 56.9 +0.3
VRDI IAmb IAmb 19 23 58.3
comp=Z,21nm,0.8s
MCARA McCarthy VSAT 69.04 24 P **P** 19 23 57.0 +0.5
MCARA IAmb IAmb 19 23 59.0
comp=Z,42nm,0.8s
MCARA McCarthy VSAT 69.04 24 P 19 23 56.8
baz=321,SNR=10
PCAS Casmilo, Conde 69.06 305 *e*P **P** 19 23 57.8 +0.9
comp=Z,43nm,1.6s
PALE Palemas 69.09 299 P 19 23 58.1
TDRA Tendrara 69.13 296 P 19 23 60.0
FIGM Figuig 69.15 295 P 19 23 59.0
PESTR Estremoz 69.22 304 *e*P **P** 19 23 59.0 +1.1
comp=Z,26nm,1.6s
PESTR Estremoz 69.22 304 *e*LR LR 19 52 43.3
PESTR Estremoz 69.22 304 P **P** 19 23 58.6 +0.7
PBAR Barrancos 69.30 303 *e*P **P** 19 23 59.3 +0.9
comp=Z,40nm,1.4s
HMT Hamilton 69.48 25 P **P** 19 23 59.6 +0.4
PSA00 Pilbara Seismi 69.49 149 P **P** 19 23 59.3 -0.3
PSA00 Pilbara Seismi 69.49 149 P **P** 19 23 59.2 -0.3
PSA00 IAmb IAmb 19 24 10.3
comp=Z,44nm,1.3s
PMTG Montargil 69.49 304 *e*P **P** 19 24 00.4 +0.8
comp=Z,26nm,1.6s
CRQM Cirque 69.50 24 P **P** 19 23 59.9 +0.5
CRQM IAmb IAmb 19 24 01.3
comp=Z,29nm,1.1s
MID Middleton Isla 69.50 26 P **P** 19 24 00.3 +1.1
MID pmax pmax
comp=Z,118nm,0.7s
MID Middleton Isla 69.50 26 P **P** 19 24 00.3 +1.1
CRQE Cirque 69.52 24 P 19 23 59.6
baz=321,SNR=6.2
TGL Tana Glacier 69.59 24 P **P** 19 24 00.5 +0.5
TGL IAmb IAmb 19 24 01.8
comp=Z,35nm,0.9s
EVO Evora 69.69 304 *e*P **P** 19 24 01.8 +1.0
comp=Z,34nm,1.5s
BARN Barnard Glacie 69.70 23 P **P** 19 24 01.4 +0.6
BARN IAmb IAmb 19 24 03.0
comp=Z,43nm,0.9s
NUUK Nuuk 69.75 343 *i*P **P** 19 24 00.6 0.0
NUUK IAmb IAmb 19 24 01.9
comp=Z,64nm,1.1s
SMIR Smir Dam 69.75 300 P 19 24 02.0
WAX Waxell Ridge 69.83 24 P **P** 19 24 02.0 +0.7
WAX IAmb IAmb 19 24 03.5
comp=Z,36nm,0.8s
PBEJ Beja 69.91 303 *e*P **P** 19 24 03.3 +1.2
comp=Z,22nm,1.8s
GRNC Granite Creek 69.94 24 P **P** 19 24 02.9 +0.7
GRNC IAmb IAmb 19 24 04.2
comp=Z,20nm,0.8s
BGLC Bering Glacier 69.95 25 P 19 24 03.2
baz=321
CHEFC Chefchaouen 70.07 300 P 19 24 04.2
PVAQ Vaqueiros 70.19 303 *e*P **P** 19 24 04.8 +0.9
comp=Z,35nm,1.2s

PVAQ **Vaqueiros** 70.19 303 *e*LQ LQ 19 44 34.5
PVAQ *e*LR LR 19 53 10.4
comp=Z,220nm,20.0s
PVAQ Vaqueiros 70.19 303 P **P** **19 24 04.5 +0.6**
PVAQ IAmb IAmb 19 24 06.2
comp=Z,31nm,1.2s
YAH Yahtse 70.23 24 P **P** **19 24 04.8 +0.8**
YAH IAmb IAmb 19 24 06.2
comp=Z,33nm,0.6s
MESJ Messejana 70.24 303 *e*P **P** **19 24 04.5 +0.3**
MESJ IAMs_20 IAMs_20 20 00 07.1
comp=Z,282nm,17.0s
MESJ Messejana 70.24 303 *e*P **P** **19 24 04.5 +0.3**
MESJ Messejana 70.24 303 *e*P **P** **19 24 05.5 +1.3**
comp=Z,32nm,1.1s
PCVE Castro Verde 70.26 303 *e*P **P** **19 24 05.5 +1.2**
comp=Z,28nm,1.7s
PNCL Nicolau / Gran 70.27 304 *e*P **P** **19 24 05.5 +1.2**
comp=Z,47nm,1.3s
MESA MESA 70.32 24 P **P** **19 24 05.5 +0.9**
MESA MESA 70.32 24 P 19 24 05.1
baz=322,SNR=11
TABL Table Mountain 70.35 24 P **P** **19 24 05.8 +1.1**
PBDV Barranco-do-Ve 70.43 303 *e*P **P** **19 24 04.9 -0.5**
comp=Z,68nm,1.3s
RSA Sarsar 70.52 300 P 19 24 07.0
NRS Narsarsuaq 70.71 338 P **P** **19 24 06.9 +0.3**
NRS pmax pmax
comp=Z,48nm,0.9s
NRS Narsarsuaq 70.71 338 P **P** **19 24 06.9 +0.3**
NRS IAmb IAmb 19 24 08.1
comp=Z,48nm,0.9s
MORF Marmelete 70.84 303 *e*P **P** **19 24 08.1 +0.2**
MORF IAMs_20 IAMs_20 20 06 05.2
comp=Z,2µm,48.7s
MORF Marmelete 70.84 303 *e*P **P** **19 24 08.1 +0.2**
PCA Pinnacle 70.89 23 P **P** **19 24 07.6 -0.3**
PCA IAmb IAmb 19 24 09.9
comp=Z,23nm,0.8s
PINM Pinnacle 70.90 23 P 19 24 08.2
baz=324,SNR=6.2
PFVI Vila Bisbo 71.06 303 *e*P **P** **19 24 11.0 +1.8**
comp=Z,80nm,1.7s
HYT Haines Junctio 71.09 22 P **P** **19 24 09.4 +0.3**
HYT IAmb IAmb 19 24 11.0
comp=Z,26nm,0.8s
WHY Whitehorse 71.94 21 P **P** **19 24 14.7 +0.4**
WHY Whitehorse 71.94 21 P 19 24 13.7
baz=327
SKAG Skagway 72.83 22 P **P** **19 24 20.8 +1.4**
SKAG IAmb IAmb 19 24 21.7
comp=Z,50nm,1.4s
SKAG Skagway 72.83 22 P 19 24 20.3
baz=327
TZRR Tazzarine 72.89 296 P 19 24 22.0
BESE Bessie Mountai 73.71 22 P **P** **19 24 25.4 +0.7**
OUK Oukaimeden 74.15 298 P 19 24 30.0
VOI Vohitsoka 74.16 220 P **P** **19 24 28.2 +0.4**
VOI IAmb IAmb 19 24 38.8
comp=Z,27nm,0.8s
YKA Yellowknife Ar 74.40 11 P **P** **19 24 28.5 -0.1**
comp=Z,17nm,0.8s,baz=341,slow=5.2,SNR=46
YKA LR LR 19 59 00.6
comp=Z,343nm,20.5s,baz=0.0,slow=37
WB0 Warramunga Arr 74.61 135 P **P** **19 24 29.9 -0.5**
WRAB Tennant Creek 74.73 135 *de*P **P** **19 24 30.9 -0.1**
WRAB pmax pmax
comp=Z,36nm,0.7s
WRAB Tennant Creek 74.73 135 P **P** **19 24 30.7 -0.3**
WRAB IAmb IAmb 19 24 32.0
comp=Z,36nm,0.7s
WRA Warramunga Arr 74.73 135 P **P** **19 24 30.5 -0.5**
comp=Z,22nm,0.7s,baz=332,slow=5.7,SNR=147
WRA pP **pP** **19 24 40.5 -0.2**
comp=Z,16nm,0.7s,baz=331,slow=5.5,SNR=16
WRA Warramunga Arr 74.73 135 P **P** **19 24 30.5 -0.5**
WB2 Warramunga Arr 74.74 135 P **P** **19 24 30.6 -0.5**
WB2 IAmb IAmb 19 24 32.0
comp=Z,37nm,0.7s
WR0 Warramunga Arr 74.85 135 P **P** **19 24 30.8 -0.9**
WR0 IAmb IAmb 19 24 32.6
comp=Z,25nm,0.8s
SIT Sitka 74.87 23 P 19 24 31.8
baz=328
TTIG Tnine Tigouga, 74.95 297 P 19 24 34.0
MORW Morawa 75.03 155 P **P** **19 24 32.4 -0.1**
DLBC Dease Lake 75.12 20 P **P** **19 24 33.4 +0.5**
WRAK Wrangell Islan 76.27 22 P 19 24 40.0
baz=330
CRAG Craig 76.87 23 P 19 24 43.4
baz=329
AS31 Alice Springs 77.60 138 P **P** **19 24 46.9 -0.4**
ASAR Alice Springs 77.60 138 P **P** **19 24 46.9 -0.4**
comp=Z,7.4nm,0.5s,baz=322,slow=5.0,SNR=178
ASAR PKiKP **PKiKP** **19 30 25.4 -1.5**
comp=Z,0.4nm,0.5s,baz=344,slow=0.9,SNR=7.8
ASAR PKKPbc **PKKPbc** **19 43 49.9 -0.6**
comp=Z,0.4nm,0.6s,baz=122,slow=1.8,SNR=8.0
ASAR Alice Springs 77.60 138 P **P** **19 24 46.7 -0.6**
TOA0 Torodi Ar. Sit 78.90 278 P **P** **19 24 54.8 0.0**
TOA0 IAmb IAmb 19 24 55.9
comp=Z,28nm,0.8s
TORD Torodi Ar. Bea 78.90 278 P **P** **19 24 55.1 +0.3**
comp=Z,35nm,0.9s,baz=43,slow=4.9,SNR=93
TORD pP **PcP** **19 25 03.7 +0.4**
comp=Z,20nm,0.6s,baz=44,slow=5.0,SNR=18
TORD LR LR 20 05 50.7
comp=Z,227nm,18.9s,baz=320,slow=40
TORD Torodi Ar. Bea 78.90 278 P **P** **19 24 54.6 -0.2**
TORD IAmb IAmb 19 24 55.8
comp=Z,25nm,0.8s
PMAR Madeira 78.96 304 *e*LQ LQ 19 23 07.3
NWAO Narrogin (SRO) 78.99 156 P **P** **19 24 54.9 +0.2**
NWAO pmax pmax
comp=Z,20nm,0.9s
NWAO Narrogin (SRO) 78.99 156 P **P** **19 24 54.9 +0.2**
PMOZ Porto Moniz, M 79.07 304 *e*LQ LQ 19 23 07.3
PMOZ A A 20 01 57.4
comp=Z,76nm,20.0s
LSZ Lusaka 79.34 238 P **P** **19 24 57.7 +0.5**
LSZ pmax pmax
comp=Z,9.0nm,0.8s
LSZ Lusaka 79.34 238 P **P** **19 24 57.7 +0.5**
FCC Fort Churchill 79.76 1 P **P** **19 24 58.8 +0.1**
FCC pmax pmax
comp=Z,35nm,1.1s
FCC Fort Churchill 79.76 1 P **P** **19 24 58.8 +0.1**
FCC IAmb IAmb 19 24 59.6
comp=Z,35nm,1.1s
FORT Forrest 80.99 146 P **P** **19 25 05.2 -0.3**
FORT IAmb IAmb 19 25 06.4
comp=Z,32nm,0.7s
SCHQ Schefferville 81.41 346 P **P** **19 25 06.9 -0.8**
comp=Z,11nm,0.7s,baz=5.2,slow=6.0,SNR=11
SCHQ LR LR 20 04 48.1
comp=Z,499nm,19.8s,baz=60,slow=38
SCHQ Schefferville 81.41 346 P **P** **19 25 07.5 -0.2**
CTAO Charters Tower 81.57 126 P **P** **19 25 08.8 -0.1**
CTAO pmax pmax
comp=Z,26nm,1.0s
CTAO Charters Tower 81.57 126 P **P** **19 25 08.8 -0.1**
CTAO IAmb IAmb 19 25 10.1
comp=Z,26nm,1.0s
KOWA Kowa 82.23 282 P **P** **19 25 12.4 -0.2**
KOWA IAmb IAmb 19 25 14.1
comp=Z,35nm,0.7s
FFC Flin Flon 83.42 6 P **P** **19 25 17.6 -0.5**
FFC pmax pmax
comp=Z,67nm,0.8s
FFC Flin Flon 83.42 6 P **P** **19 25 17.6 -0.5**
PGC Sidney 85.64 21 P **P** **19 25 29.8 +0.3**
A04D Lummi Island 85.77 20 P 19 25 31.0
baz=337
B05A Bryant 86.35 20 P 19 25 33.2
baz=338,SNR=5.8
NLWA Neilton Lookou 86.68 21 P **P** **19 25 35.3 +0.5**
NLWA IAmb IAmb 19 25 37.4
comp=Z,34nm,1.3s
D03D Eldon 86.76 21 P 19 25 36.2
baz=337,SNR=9.8
B08A Colville Reser 86.93 18 P **P** **19 25 36.1 +0.2**
B08A IAmb IAmb 19 25 37.7
comp=Z,39nm,1.2s
C06D Leavenworth 86.96 19 P 19 25 36.4
baz=338

D04E Lakebay 87.18 21 P 19 25 38.4
baz=337
D05A Enumclaw 87.37 20 P **P** **19 25 38.6 +0.6**
D05A IAmb IAmb 19 25 40.5
comp=Z,28nm,0.8s
WALA Waterton Lakes 87.40 14 P **P** **19 25 38.5 +0.3**
CHGQ Chibougamau 87.40 349 P 19 25 38.0
baz=13
NEW Newport 87.51 17 P **P** **19 25 38.7 -0.1**
comp=Z,13nm,0.7s,baz=331,slow=5.0,SNR=19
NEW Newport 87.51 17 P **P** **19 25 39.2 +0.4**
NEW pmax pmax
comp=Z,20nm,0.9s
NEW Newport 87.51 17 P **P** **19 25 39.2 +0.4**
NEW IAmb IAmb 19 25 40.4
comp=Z,20nm,0.9s
NEW Newport 87.51 17 P 19 25 39.0
baz=341,SNR=11
LTY Liberty 87.64 19 P **P** **19 25 39.2 -0.2**
LTY IAmb IAmb 19 25 40.8
comp=Z,12nm,0.8s
C09A Chrisman Ranch 87.70 18 P **P** **19 25 40.0 +0.4**
E04D Cinebar 87.80 21 P 19 25 40.8
baz=337,SNR=8.0
LON Longmire 87.82 20 P **P** **19 25 40.8 +0.5**
LON pmax pmax
comp=Z,11nm,0.8s
LON Longmire 87.82 20 P **P** **19 25 40.8 +0.5**
LON IAmb IAmb 19 25 42.2
comp=Z,11nm,0.8s
MATQ Matagami 87.97 351 P 19 25 40.6
baz=10
DBIC Dimbokro 87.99 277 P **P** **19 25 41.8 +0.3**
comp=Z,22nm,0.7s,baz=24,slow=6.3,SNR=26
DBIC LR LR 20 10 40.2
comp=Z,324nm,18.4s,baz=38,slow=39
DBIC Dimbokro 87.99 277 P **P** **19 25 41.5 0.0**
DBIC pmax pmax
comp=Z,30nm,0.8s
DBIC Dimbokro 87.99 277 P **P** **19 25 41.5 0.0**
KIC Kan Boka 88.11 277 *e*P **P** **19 25 42.2 +0.1**
comp=Z,47nm,0.7s
F04D Rainier, OR 88.12 21 P 19 25 42.6
baz=337
TIC Toumodi 88.13 277 *e*P **P** **19 25 42.1 -0.1**
STKA Stephens Creek 88.20 137 P **P** **19 25 41.3 -0.7**
comp=Z,12nm,0.7s,baz=323,slow=7.4,SNR=20
STKA LR LR 20 12 00.6
comp=Z,79nm,18.1s,baz=267,slow=40
STKA Stephens Creek 88.20 137 P **P** **19 25 41.5 -0.5**
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 88.20 137 P **P** **19 25 41.5 -0.5**
ULM Lac du Bonnet 88.23 3 P **P** **19 25 41.0 -1.0**
comp=Z,30nm,0.8s,baz=355,slow=4.8,SNR=36
ULM LR LR 20 08 48.2
comp=Z,178nm,18.6s,baz=1.0,slow=38
ULM Lac du Bonnet 88.23 3 P **P** **19 25 40.9 -1.2**
ULM pmax pmax
comp=Z,28nm,0.8s
ULM Lac du Bonnet 88.23 3 P **P** **19 25 40.9 -1.2**
D08A Wollman Farm, 88.25 18 P **P** **19 25 42.5 +0.3**
D08A IAmb IAmb 19 25 44.0
comp=Z,19nm,1.1s
LIC Lamto 88.41 277 *e*P **P** **19 25 43.5 0.0**
comp=Z,27nm,0.6s
EIDS Eidsvold 88.46 126 P **P** **19 25 42.9 -0.4**
EIDS IAmb IAmb 19 25 54.1
comp=Z,11nm,0.8s
E07A Sunnyside 88.49 19 P **P** **19 25 44.4 +0.9**
E07A IAmb IAmb 19 25 46.0
comp=Z,18nm,0.9s
LSQQ Lebel-sur-Quev 88.58 350 P 19 25 43.3
baz=11
JTMT Jette 88.59 15 P **P** **19 25 44.1 +0.2**
F05D White Salmon 88.72 20 P 19 25 44.8
baz=338
E08A Dider Farm, El 88.75 19 P **P** **19 25 45.4 +0.9**
E08A IAmb IAmb 19 25 46.7
comp=Z,29nm,1.0s
G03D McMinnville, O 88.86 22 P 19 25 46.1
baz=337
E09A Wood Farm, Sta 88.94 18 P **P** **19 25 46.0 +0.5**
E09A IAmb IAmb 19 25 47.3
comp=Z,26nm,1.0s
D63A Stockholm 89.09 344 P 19 25 46.1
baz=17
F07A Phinny Hill Vi 89.09 19 P **P** **19 25 46.8 +0.6**
F07A IAmb IAmb 19 25 48.6
comp=Z,22nm,1.0s
EGMT Eagleton 89.11 12 P **P** **19 25 46.1 -0.3**
EGMT Eagleton 89.11 12 P 19 25 45.5
baz=345,SNR=9.5
D62A Allapoint, All 89.23 345 P 19 25 46.9
baz=17
D61A St Aubert, Com 89.34 346 P 19 25 47.3
baz=16
G05D Wamic, OR 89.35 20 P 19 25 46.8
baz=338
MSO Missoula 89.53 15 P **P** **19 25 47.6 -0.8**
MSO IAmb IAmb 19 25 49.6
comp=Z,36nm,1.4s
MSO Missoula 89.53 15 P 19 25 48.1
baz=344
VLDQ Val d'Or 89.57 351 P **P** **19 25 49.0 +0.7**
VLDQ IAmb IAmb 19 25 49.6
comp=Z,14nm,0.9s
E64A Bridgewater 89.62 344 P 19 25 48.6
baz=18
H04D Lebanon 89.63 22 P 19 25 49.2
baz=337
H04A Detroit Lake 89.64 21 P **P** **19 25 48.8 0.0**
H04A IAmb IAmb 19 25 50.7
comp=Z,20nm,1.0s
F10A Beach Ranch, E 89.66 18 P **P** **19 25 49.5 +0.5**
F10A IAmb IAmb 19 25 51.0
comp=Z,31nm,0.9s
I02D Swisshome 89.71 23 P 19 25 48.5
baz=336
E63A Oxbow 89.74 344 P 19 25 49.1
baz=17
D60A Saint Jean D'O 89.75 346 P 19 25 49.0
baz=15
E62A Clayton Lake 89.77 345 P 19 25 49.2
baz=16
G08A Pilot Rock 89.90 19 P **P** **19 25 50.7 +0.6**
D58A Chemin du LacG 89.91 347 P 19 25 49.7
baz=14,SNR=6.3
HRY Holter Researc 90.04 14 P **P** **19 25 51.2 +0.4**
E61A Lac Etchemin 90.14 346 P 19 25 51.1
baz=16
B35A Bob, Littlefor 90.18 1 P **P** **19 25 50.9 -0.4**
I05D Terrebonne, OR 90.18 21 P 19 25 52.1
baz=338
AGMN Agassiz Nation 90.19 3 P **P** **19 25 50.3 -1.0**
AGMN IAmb IAmb 19 25 51.8
comp=Z,27nm,0.9s
AGMN Agassiz Nation 90.19 3 P 19 25 50.4
baz=357
I03D Drain, OR 90.22 22 P 19 25 52.1
baz=337
D56A ZEC Mazanza, M 90.25 349 P 19 25 51.8
baz=12
F64A Sherman 90.26 344 P 19 25 51.7
baz=17
E60A Ste Agathe de 90.37 346 P 19 25 52.6
baz=15
D55A Sainte-Anne-du 90.38 349 P 19 25 52.2
baz=12
MDND Maddock 90.44 5 P 19 25 52.4
baz=354
J01E Myrtle Point 90.55 23 P 19 25 52.6
baz=336
F62A Pittston Farm, 90.55 345 P 19 25 52.2
baz=16
F63A Nahmakanta, Br 90.57 344 P 19 25 52.2
baz=17
EYMN Ely 90.61 360 P **P** **19 25 52.9 -0.4**
EYMN IAmb IAmb 19 25 54.3
comp=Z,23nm,0.9s
EYMN Ely 90.62 360 P 19 25 52.5
baz=0.1
F61A St Evariste 90.67 346 P 19 25 53.7
baz=15,SNR=5.8
E58A La Victoria 90.68 347 P 19 25 53.8
baz=14
BMO Blue Mountains 90.70 18 P **P** **19 25 54.1 +0.2**

BMO pmax pmax
comp=Z,13nm,1.0s
BMO Blue Mountains 90.70 18 P **P** **19 25 54.1 +0.2**
BMO IAmb IAmb 19 25 55.6
comp=Z,13nm,1.0s
G65A Princeton 90.73 343 P 19 25 53.9
baz=18
E56A St. Veronique 90.78 349 P 19 25 53.4
baz=12
LRM Limekiln Ridge 90.78 14 P **P** **19 25 54.2 -0.2**
PINE Pine Mountain 90.80 21 P **P** **19 25 55.2 +0.7**
PINE IAmb IAmb 19 25 57.3
comp=Z,25nm,1.1s
F60A Warwick 90.85 346 P 19 25 53.8
baz=14
I07A Izee 90.90 20 P **P** **19 25 55.6 +0.8**
I07A IAmb IAmb 19 25 57.5
comp=Z,19nm,1.0s
LAO LASA Array 90.92 10 P **P** **19 25 55.4 +0.6**
LAO IAmb IAmb 19 25 57.5
comp=Z,26nm,0.9s
LAO LASA Array 90.92 10 P 19 25 54.7
baz=349,SNR=7.2
G64A Maxfield 90.93 344 P 19 25 54.8
baz=17
J04D Umpqua Nationa 90.99 22 P 19 25 55.1
baz=338
PKME Peaks-Kenny Pk 91.02 344 P 19 25 55.4
baz=16,SNR=5.2
K02D Willamette Mer 91.05 23 P 19 25 55.9
baz=337
H66A Whiting 91.06 343 P 19 25 55.5
baz=18
BOSA Boshof 91.10 232 P **P** **19 25 54.9 -0.9**
comp=Z,4.1nm,1.0s,baz=91,slow=6.5,SNR=4.4
BOSA LR LR 20 09 03.8
comp=Z,108nm,19.1s,baz=46,slow=37
F59A Saint Guilaume 91.10 347 P 19 25 54.9
baz=14
BOZ Bozeman (W) 91.15 14 P **P** **19 25 55.9 -0.1**
BOZ pmax pmax
comp=Z,23nm,1.0s
BOZ Bozeman (W) 91.15 14 P **P** **19 25 55.9 -0.1**
BOZ IAmb IAmb 19 25 57.5
comp=Z,23nm,0.9s
J05D Fort Rock, OR 91.19 21 P 19 25 55.5
baz=338
DLMT Dillon 91.20 15 P **P** **19 25 56.9 +0.6**
DLMT IAmb IAmb 19 25 58.5
comp=Z,14nm,0.8s
G63A Kingsbury 91.23 345 P 19 25 56.6
baz=16
GCMT Greycliff 91.30 13 P **P** **19 25 57.1 +0.4**
G62A West of Eustis 91.31 345 P **P** **19 25 57.6 +1.0**
G62A IAmb IAmb 19 25 58.5
comp=Z,27nm,1.1s
G62A West of Eustis 91.31 345 P 19 25 56.3
baz=16
HUMO Hull Mountain 91.34 23 P **P** **19 25 57.4 +0.6**
HUMO IAmb IAmb 19 25 59.4
comp=Z,16nm,1.1s
H65A Eastbrook 91.35 344 P 19 25 56.5
baz=17
G61A St-Isidore-de- 91.43 346 P 19 25 57.7
baz=15,SNR=5.9
MOQ Mont Orford 91.53 346 P **P** **19 25 58.5 +0.8**
L02E Cave Junction 91.56 23 P 19 25 58.5
baz=337
H64A Troy 91.61 344 P 19 25 58.3
baz=16
E28A Huff 91.62 6 P **P** **19 25 58.5 +0.5**
MCMT McKenzie Canyo 91.67 15 P **P** **19 25 58.9 +0.3**
G60A Masonville 91.76 346 P 19 25 59.0
baz=14
ALGO Algonquin Park 91.77 351 P 19 25 58.8
baz=10.0
K05A Summer Lake 91.80 21 P **P** **19 26 00.7 +1.6**
K05A IAmb IAmb 19 26 01.8
comp=Z,26nm,1.3s
J08A Circle Bar Ran 91.83 19 P **P** **19 26 00.4 +1.3**
J08A IAmb IAmb 19 26 01.3
comp=Z,26nm,1.4s
L04D Klamath Falls 91.88 22 P 19 25 59.4
baz=338
QLMT Earthquake Lak 91.93 14 P **P** **19 26 00.1 +0.4**
E46A Sault Ste Mari 91.95 355 P **P** **19 25 59.8 +0.3**
E46A IAmb IAmb 19 26 00.2
comp=Z,21nm,1.0s
E38A The Farm, Brul 91.95 360 P **P** **19 25 59.1 -0.4**
G58A Ormstown 92.00 348 P 19 25 59.7
baz=13
YNE Yellowstone No 92.00 13 P **P** **19 26 00.2 +0.1**
YNE IAmb IAmb 19 26 01.5
comp=Z,10nm,1.0s
RLMT Red Lodge 92.01 12 P **P** **19 26 00.3 +0.2**
RLMT IAmb IAmb 19 26 01.5
comp=Z,13nm,0.8s
RLMT Red Lodge 92.02 12 P 19 25 59.8
baz=347,SNR=12
H62A Milan 92.05 346 P 19 26 00.5
baz=15
BCYI Bear Canyon 92.06 15 P **P** **19 26 00.5 +0.2**
YHH Holmes Hill 92.07 14 P **P** **19 26 00.8 +0.3**
YHH IAmb IAmb 19 26 02.1
comp=Z,13nm,1.1s
G57A Newington 92.19 348 P 19 26 00.8
baz=12
YBH Yreka Blue Hor 92.21 23 P **P** **19 26 01.0 +0.1**
comp=Z,0.6nm,0.3s,baz=110,slow=4.2,SNR=4.3
YBH Yreka Blue Hor 92.21 23 P **P** **19 26 01.5 +0.6**
YBH pmax pmax
comp=Z,8.0nm,1.5s
YBH Yreka Blue Hor 92.21 23 P **P** **19 26 01.5 +0.6**
H61A Lyndonville 92.23 346 P 19 26 01.3
baz=14
H60A Morristown 92.34 347 P 19 26 01.7
baz=14
LKWY Lake 92.37 13 P **P** **19 26 03.5 +1.7**
LKWY pmax pmax
comp=Z,41nm,0.6s
LKWY Lake 92.37 13 P **P** **19 26 03.5 +1.7**
MFID Camas Ranch 92.40 17 P **P** **19 26 02.0 +0.2**
M04C Macdoel 92.42 22 P 19 26 01.9
baz=338
H59A Cadyville 92.43 347 P 19 26 02.1
baz=13
COWI Conover 92.43 358 P **P** **19 26 01.1 -0.7**
COWI IAmb IAmb 19 26 02.3
comp=Z,17nm,1.2s
I63A Otisfield 92.44 345 P 19 26 02.2
baz=16
M02C Callahan 92.49 23 P 19 26 02.8
baz=337
LBNH Lisbon 92.52 346 P 19 26 02.8
baz=14
PLVO Plevna 92.54 350 P **P** **19 26 02.8 +0.6**
HLID Hailey 92.57 16 P **P** **19 26 02.6 0.0**
HLID IAmb IAmb 19 26 04.4
comp=Z,8.6nm,0.9s
HLID Hailey 92.57 16 P 19 26 02.6
baz=343,SNR=10.0
LONY Lake Ozonia 92.59 348 P **P** **19 26 02.6 +0.1**
LONY Lake Ozonia 92.59 348 P 19 26 02.8
baz=13,SNR=7.5
F33A 5 Mile Ranch, 92.62 3 P **P** **19 26 02.3 -0.3**
F33A IAmb IAmb 19 26 03.7
comp=Z,19nm,0.8s
F36A Milaca 92.68 1 P **P** **19 26 02.4 -0.5**
MOD Modoc Plateau 92.73 21 P **P** **19 26 03.7 +0.3**
H58A Gabriels 92.73 348 P 19 26 03.3
baz=13
I62A Tamworth 92.76 345 P 19 26 04.2
baz=15
FLWY Flagg Ranch 92.78 14 P **P** **19 26 04.6 +0.9**
H57A Richville 92.87 348 P 19 26 04.2
baz=12
N02D Trinity Center 92.92 23 P 19 26 04.1
baz=337
SADO Sadowa 93.07 351 P **P** **19 26 05.1 +0.4**
comp=Z,14nm,0.8s,baz=315,slow=5.7,SNR=8.1
SADO Sadowa 93.07 351 P **P** **19 26 05.1 +0.4**
SADO IAmb IAmb 19 26 05.8
comp=Z,26nm,1.1s
DELO Deloro Mine 93.13 350 P **P** **19 26 05.3 +0.3**
I60A Shoreham 93.14 347 P 19 26 04.8
baz=14

NCB	**Newcomb**	**93.17**	**347**	P	**P**	**19 26 05.8**	**+0.6**
NCB				IAmb	IAmb	19 26 07.6	
	comp=Z,20nm,1.4s						
H53A	**Bobcaygeon**	**93.20**	**351**	P		19 26 05.4	
	baz=9.7						
LOHW	**Long Hollow**	**93.26**	**14**	P	**P**	**19 26 06.3**	**+0.4**
LOHW				IAmb	IAmb	19 26 07.8	
	comp=Z,8.0nm,0.7s						
G40A	**Rib Lake**	**93.28**	**359**	P	**P**	**19 26 05.5**	**-0.2**
G40A				IAmb	IAmb	19 26 06.7	
	comp=Z,19nm,0.9s						
I59A	**Olmsteadville**	**93.28**	**347**	P		19 26 05.5	
	baz=13						
J63A	**Strafford**	**93.28**	**345**	P		19 26 06.3	
	baz=15						
TPAW	**Teton Pass**	**93.31**	**14**	P	**P**	**19 26 06.5**	**+0.3**
SPMN	**Marine on St.**	**93.33**	**1**	P	**P**	**19 26 05.7**	**-0.2**
SPMN	**Marine on St.**	**93.33**	**1**	P		19 26 04.8	
	baz=359,SNR=5.3						
I57A	**Carthage**	**93.43**	**349**	P		19 26 07.1	
	baz=12						
REDW	**Red Top Meadow**	**93.45**	**14**	P	**P**	**19 26 07.1**	**+0.3**
REDW				IAmb	IAmb	19 26 09.5	
	comp=Z,15nm,1.4s						
J62A	**Henniker**	**93.47**	**346**	P		19 26 07.1	
	baz=15						
J61A	**Chester**	**93.49**	**346**	P		19 26 06.7	
	baz=14,SNR=5.2						
I58A	**Old Forge**	**93.56**	**348**	P		19 26 07.4	
	baz=12,SNR=5.4						
PECO	**Prince Edward**	**93.62**	**349**	P	**P**	**19 26 07.8**	**+0.6**
O02D	**Mt. Diablo Mer**	**93.63**	**23**	P		19 26 07.8	
	baz=337						
ACCN	**Adirondack Com**	**93.65**	**347**	P	**P**	**19 26 08.4**	**+1.0**
ACCN				IAmb	IAmb	19 26 09.0	
	comp=Z,21nm,1.0s						
RSSD	**Black Hills**	**93.72**	**9**	P	**P**	**19 26 08.2**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,35nm,0.6s						
RSSD	**Black Hills**	**93.72**	**9**	P	**P**	**19 26 08.2**	**+0.2**
RSSD	**Black Hills**	**93.72**	**9**	P		19 26 07.8	
	baz=351						
J60A	**Lant Hill Farm**	**93.74**	**347**	P		19 26 07.9	
	baz=13						
O03E	**Paynes Creek**	**93.81**	**23**	P		19 26 07.5	
	baz=338						
SUSD	**Miller**	**93.87**	**5**	P	**P**	**19 26 08.6**	**+0.2**
SUSD	**Miller**	**93.87**	**5**	P		19 26 08.1	
	baz=354,SNR=6.2						
J58A	**Remsen**	**93.93**	**348**	P		19 26 08.9	
	baz=12						
K63A	**Dunstable**	**93.94**	**345**	P		19 26 08.5	
	baz=15						
K62A	**Royalston**	**94.09**	**346**	P		19 26 10.0	
	baz=14						
HRV	**Adam Dziewonsk**	**94.12**	**345**	P		19 26 08.7	
	baz=15						
BW06	**Boulder Array**	**94.26**	**13**	P	**P**	**19 26 10.1**	**-0.5**
PD31	**Pinedale Array**	**94.26**	**13**	P	**P**	**19 26 10.0**	**-0.5**
PDAR	**Pinedale Array**	**94.26**	**13**	P	**P**	**19 26 10.1**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=30,slow=3.1,SNR=20						
PDAR				LR	LR	20 12 35.4	
	comp=Z,165nm,19.7s,baz=3.5,slow=38						
PDAR	**Pinedale Array**	**94.26**	**13**	P	**P**	**19 26 10.0**	**-0.5**
BW06	**Boulder Array**	**94.26**	**13**	P		19 26 09.6	
	baz=347,SNR=6.1						
J55A	**Hilton**	**94.39**	**350**	P	**P**	**19 26 10.9**	**+0.2**
I37A	**Lemond, Waseca**	**94.53**	**1**	P	**P**	**19 26 11.9**	**+0.5**
ORV	**Oroville**	**94.58**	**23**	P	**P**	**19 26 12.3**	**+0.6**
ORV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ORV	**Oroville**	**94.58**	**23**	P	**P**	**19 26 12.3**	**+0.6**
HVU	**Hansel Valley**	**94.61**	**16**	P	**P**	**19 26 12.6**	**+0.5**
HVU				pmax	pmax		
	comp=Z,13nm,1.4s						
HVU	**Hansel Valley**	**94.61**	**16**	P	**P**	**19 26 12.6**	**+0.5**
I42A	**Draeger Farm,**	**94.64**	**358**	P	**P**	**19 26 11.7**	**-0.2**
I40A	**Norwalk**	**94.66**	**359**	P	**P**	**19 26 12.1**	**0.0**
ECSD	**EROS Data Cent**	**94.71**	**4**	P	**P**	**19 26 12.2**	**-0.1**
ECSD	**EROS Data Cent**	**94.71**	**4**	P		19 26 11.8	
	baz=356,SNR=36						
K22A	**Casper**	**94.85**	**11**	P		19 26 12.1	
	baz=349						
K56A	**Middlesex**	**94.88**	**349**	P		19 26 13.1	
	baz=11						
MMNY	**Mt. Morris Dam**	**94.92**	**350**	P	**P**	**19 26 13.3**	**+0.1**
HWUT	**Hardware Ranch**	**95.02**	**15**	P	**P**	**19 26 14.2**	**+0.2**
HWUT				IAmb	IAmb	19 26 15.9	
	comp=Z,18nm,0.9s						
ELK	**Elko**	**95.08**	**18**	P	**P**	**19 26 15.3**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=347,slow=4.1,SNR=9.1						
ELK	**Elko**	**95.08**	**18**	P	**P**	**19 26 14.7**	**+0.4**
ELK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ELK	**Elko**	**95.08**	**18**	P	**P**	**19 26 14.7**	**+0.4**
BINY	**Binghamton**	**95.18**	**348**	P		19 26 14.8	
	baz=12						
L58A	**Harry Jones Me**	**95.31**	**348**	P		19 26 15.3	
	baz=12						
WVNY	**West Valley, N**	**95.33**	**350**	P	**P**	**19 26 15.2**	**0.0**
JFWS	**Jewell Farm**	**95.64**	**359**	P	**P**	**19 26 15.9**	**-0.6**
JFWS				pmax	pmax		
	comp=Z,40nm,0.7s						
JFWS	**Jewell Farm**	**95.64**	**359**	P	**P**	**19 26 15.9**	**-0.6**
JFWS	**Jewell Farm**	**95.64**	**359**	P		19 26 16.0	
	baz=1.0,SNR=7.9						
K43A	**Burlington**	**95.80**	**358**	P	**P**	**19 26 17.3**	**0.0**
K38A	**Parkersburg**	**95.91**	**1**	P	**P**	**19 26 17.8**	**+0.1**
K38A				IAmb	IAmb	19 26 18.4	
	comp=Z,17nm,0.8s						
KVN	**Kaiserville**	**95.98**	**20**	P	**P**	**19 26 18.3**	**-0.1**
KVN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KVN	**Kaiserville**	**95.98**	**20**	P	**P**	**19 26 18.3**	**-0.1**
DUG	**Dugway, Tooele**	**96.13**	**16**	P		19 26 19.2	
	baz=344						
ALLY	**Allegheny Colle**	**96.26**	**351**	P	**P**	**19 26 20.1**	**+0.7**
M54A	**Oil Creek Stat**	**96.35**	**351**	P	**P**	**19 26 19.7**	**-0.1**
M54A	**Oil Creek Stat**	**96.35**	**351**	P		19 26 19.1	
	baz=8.9,SNR=9.6						
RDMU	**Red Mountain**	**96.39**	**14**	P	**P**	**19 26 20.9**	**+0.6**
RDMU				IAmb	IAmb	19 26 22.7	
	comp=Z,14nm,1.0s						
N59A	**State Game Lan**	**96.40**	**348**	P		19 26 20.0	
	baz=12						
L34A	**Syendsen Farm,**	**96.48**	**4**	P	**P**	**19 26 19.8**	**-0.6**
M52A	**Chesterland**	**96.50**	**352**	P	**P**	**19 26 20.4**	**-0.1**
NVAR	**Mina Array Bea**	**96.51**	**21**	P	**P**	**19 26 21.5**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=294,slow=2.1,SNR=8.2						
NVAR				LR	LR	20 15 16.9	
	comp=Z,212nm,18.1s,baz=325,slow=39						
NVAR	**Mina Array Bea**	**96.51**	**21**	P	**P**	**19 26 21.8**	**+0.9**
M53A	**WI Miller and**	**96.53**	**352**	P	**P**	**19 26 20.1**	**-0.5**
M53A	**WI Miller and**	**96.53**	**352**	P		19 26 20.2	
	baz=8.2						
L42A	**Oliver, Polo**	**96.54**	**359**	P	**P**	**19 26 19.9**	**-0.8**
N54A	**Moraine State**	**96.92**	**351**	P		19 26 22.2	
	baz=8.7						
SSPA	**Standing Stone**	**96.98**	**349**	P	**P**	**19 26 22.2**	**-0.4**
SSPA				IAmb	IAmb	19 26 23.8	
	comp=Z,16nm,1.1s						
SSPA	**Standing Stone**	**96.98**	**349**	P		19 26 22.3	
	baz=10						
M44A	**Midewin, Midew**	**97.11**	**357**	P	**P**	**19 26 23.0**	**-0.2**
R11A	**Troy Canyon, C**	**97.28**	**19**	P	**P**	**19 26 24.2**	**-0.1**
R11A	**Troy Canyon, C**	**97.28**	**19**	P		19 26 24.4	
	baz=342						
N49A	**Columbus Grove**	**97.36**	**354**	P	Pdif	19 26 24.5	+0.1
O56A	**Blue Knob Stat**	**97.43**	**350**	P	Pdif	19 26 25.5	+0.7
O56A	**Blue Knob Stat**	**97.43**	**350**	P		19 26 24.5	
	baz=9.7,SNR=5.7						
P60A	**Greenville**	**97.46**	**348**	P		19 26 23.9	
	baz=12						
N47A	**Urbana**	**97.50**	**355**	P	**P**	**19 26 24.6**	**-0.3**
ISCO	**Idaho Springs**	**97.77**	**11**	P		19 26 26.3	
	baz=350						
N41A	**Harden Midland**	**97.85**	**359**	P	**P**	**19 26 25.9**	**-0.6**
HDIL	**Hopedale**	**97.98**	**358**	P		19 26 26.7	
	baz=1.7						
SFIN	**Lafayette**	**98.08**	**356**	P	Pdif	19 26 27.7	+0.1
SFIN	**Lafayette**	**98.08**	**356**	P		19 26 26.5	
	baz=3.4						
O49A	**Covington**	**98.10**	**354**	P	**P**	**19 26 27.4**	**-0.4**
P52A	**Corning**	**98.47**	**353**	P		19 26 27.9	
	baz=7.1						
PV22	**Blue Mesa, Par**	**98.51**	**14**	P	**P**	**19 26 29.8**	**0.0**
P53A	**Whipple**	**98.53**	**352**	P	Pdif	19 26 30.6	+0.9
PV07	**Paradox Valley**	**98.63**	**13**	P	**P**	**19 26 29.9**	**-0.4**
P51A	**Williamsport**	**98.70**	**353**	P	Pdif	19 26 31.5	+1.1
P46A	**Rosedale**	**98.84**	**357**		Pdif	19 26 31.6	+0.6
P43A	**Skaggs, Pawnee**	**98.89**	**358**	P	**P**	**19 26 31.2**	**0.0**
P48A	**Milroy**	**98.90**	**355**	P	**P**	**19 26 30.8**	**-0.5**
P48A				IAmb	IAmb	19 26 31.8	
	comp=Z,12nm,0.7s						
P38A	**Dawn**	**98.92**	**1**		**P**	**19 26 31.4**	**0.0**
P38A				IAmb	IAmb	19 26 32.9	
	comp=Z,23nm,1.3s						
P40A	**Paris**	**99.03**	**0**		**Pdif**	**19 26 32.1**	**+0.2**
P40A				IAmb	IAmb	19 26 32.8	
	comp=Z,12nm,0.7s						
SDCO	**Great Sand Dun**	**99.81**	**11**	P		19 26 34.7	
	baz=350						
MVCO	**Mesa Verde**	**99.85**	**14**	P		19 26 35.2	
	baz=347						
BFSC	**Mount Baldy Ra**	**100.63**	**22**	P		19 26 38.9	
	baz=340						
GMRC	**Granite Mounta**	**100.64**	**20**	P		19 26 39.2	
	baz=342						
IRM	**Iron Mountain**	**101.37**	**20**	P		19 26 42.6	
	baz=342						
W18A	**Petrified Fore**	**101.66**	**15**	P		19 26 43.8	
	baz=346						
WVT	**Waverly**	**102.34**	**357**	P		19 26 47.1	
	baz=2.9						
ANMO	**Albuquerque**	**102.40**	**12**	P	**Pdif**	**19 26 49.4**	**+2.2**
	comp=Z,0.6nm,0.4s,baz=342,slow=6.9,SNR=3.7						
ANMO	**Albuquerque**	**102.41**	**12**	P		19 26 48.3	
	baz=349						
TXAR	**Lajitas Array**	**108.33**	**11**	Pdiff	**Pdif**	**19 27 18.4**	**+4.8**
	comp=Z,0.3nm,0.5s,baz=31,slow=3.5,SNR=5.4						
TXAR				PP	**PP**	**19 31 41.4**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=325,slow=1.5,SNR=4.4						
MAW	**Mawson**	**110.80**	**190**	PKiKP	**PKiKP**	**19 31 22.0**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=86,slow=2.5,SNR=4.7						
SYO	**Syowa Base**	**116.24**	**198**	*e*Pdiff	**Pdif**	**19 27 49.8**	**+2.4**
NBMO	**Mbuinhos-CE**	**120.11**	**295**	*e*P	**PKiKP**	**19 31 42.6**	**+0.2**
NBRF	**Rio Formoso -**	**120.48**	**287**	*e*P	**PKPdf**	**19 31 42.1**	**-0.8**
ROSB	**Rosrio**	**122.51**	**299**	*e*P	**PKPdf**	**19 31 46.5**	**-0.4**
MCPB	**Macapa, AP**	**125.46**	**309**	*e*P	**PKPdf**	**19 31 52.6**	**0.0**
NBPN	**Ponto Novo - B**	**125.58**	**289**	*e*P	**PKPdf**	**19 31 52.9**	**+0.2**
VNDA	**Vanda**	**127.03**	**165**	PKP	**PKPdf**	**19 31 53.6**	**0.0**
	comp=Z,3.0nm,0.9s,baz=285,slow=4.7,SNR=14						
BOAV	**Boa Vista**	**127.72**	**319**	*e*P	**PKPdf**	**19 31 57.0**	**+0.1**
NBIT	**Itapeh - BA**	**127.80**	**285**	*e*P	**PKPdf**	**19 31 56.4**	**-0.5**
MALB	**Monte Alegre**	**127.95**	**310**	*e*P	**PKPdf**	**19 31 56.7**	**-0.6**
SBA	**Scott Base**	**128.13**	**165**	PKiKP	**PKiKP**	**19 31 56.6**	**+0.3**
SBA	**Scott Base**	**128.13**	**165**	PKPdf	**PKiKP**	**19 31 56.6**	**+0.3**
PRPB	**Parauapebas**	**128.66**	**302**	*e*P	**PKiKP**	**19 31 59.1**	**-0.3**
SMTB	**Santa Maria do**	**129.24**	**297**	*e*P	**PKPdf**	**19 31 59.7**	**0.0**
SNAA	**Sanae**	**129.43**	**204**	PKPdf	**PKiKP**	**19 31 59.2**	**+0.1**
SNAA	**Sanae**	**129.43**	**204**	pPKiKP	PKiKP	19 32 12.0	+13
RUSC	**La Rusia**	**129.58**	**336**	PKPdf	**PKPdf**	**19 32 00.8**	**-0.3**
SDBA	**SAO DESIDERIO**	**129.96**	**292**	*e*P	**PKPdf**	**19 32 00.3**	**-0.8**
VNA2	**Neumayer--Watz**	**130.69**	**206**	PKPdf	**PKiKP**	**19 32 02.0**	**+0.3**
VNA2	**Neumayer--Watz**	**130.69**	**206**	pPKiKP	PKiKP	19 32 15.0	+13
ITTB	**Itaituba**	**130.84**	**309**	*e*P	**PKPdf**	**19 32 02.7**	**-0.1**
VNA1	**Neumayer--Stat**	**130.92**	**206**	PKPdf	**PKiKP**	**19 32 02.2**	**+0.1**
VNA3	**Neumayer Olymp**	**131.48**	**205**	PKPdf	**PKiKP**	**19 32 03.2**	**0.0**
VNA3	**Neumayer Olymp**	**131.48**	**205**	pPKiKP	PKiKP	19 32 16.0	+13
QSPA	**South Pole Qui**	**131.59**	**180**		**PKPdf**	**19 32 02.1**	**-0.6**
NPGB	**Novo Progresso**	**132.76**	**307**	*e*P	**PKPdf**	**19 32 06.6**	**+0.1**
DIAM	**Diamantina, MG**	**133.06**	**285**	*e*P	**PKPdf**	**19 32 07.3**	**+0.3**
CAM01	**Campos-RJ**	**133.80**	**280**	*e*P	**PKPdf**	**19 32 07.4**	**-0.7**
OTAV	**Otavalo**	**136.47**	**341**	*e*P	**PKPdf**	**19 32 14.3**	**+0.3**
ARAG	**Araguaiana, MT**	**137.02**	**295**	*e*P	**PKPdf**	**19 32 14.6**	**+0.3**
SAML	**Samuel**	**138.75**	**314**	PKiKP	**PKPdf**	**19 32 17.3**	**-0.3**
SAML	**Samuel**	**138.75**	**314**		**PKPdf**	**19 32 17.3**	**-0.3**
PET01	**Itanhaem-SP**	**139.41**	**281**	*e*P	**PKPdf**	**19 32 17.1**	**+0.6**
SALV	**Santo Antonio**	**139.74**	**299**	*e*P	**PKPdf**	**19 32 19.5**	**-0.2**
PP1B	**Ponte de Pedra**	**140.42**	**296**	*e*P	**PKPdf**	**19 32 21.4**	**+0.9**
FRTB	**Fartura**	**140.50**	**284**	*e*P	**PKPdf**	**19 32 21.5**	**+1.0**
ETMB	**Extrema**	**141.06**	**318**	*e*P	**PKPdf**	**19 32 22.1**	**+0.4**
ATAH	**Atahualpa**	**143.51**	**338**	PKP	PKPbc	19 32 24.1	+0.2
	comp=Z,15nm,0.6s,baz=98,slow=3.4,SNR=9.6						
ITAB	**Concordia**	**144.67**	**282**	PKPdf	**PKPdf**	**19 32 27.5**	**-0.2**
ITAB	**Concordia**	**144.67**	**282**	*e*P	**PKPab**	**19 32 26.2**	**-0.2**
LPAZ	**La Paz**	**147.50**	**315**	PKPbc	**PKPdf**	**19 32 34.1**	**+0.5**
	comp=Z,10nm,0.9s,baz=44,slow=2.2,SNR=29						
LPAZ	**La Paz**	**147.50**	**315**	PKPdf	**PKPdf**	**19 32 33.3**	**-0.3**
LPAZ	**La Paz**	**147.50**	**315**	*e*P	**PKPdf**	**19 32 33.1**	**-0.5**
NNA	**Nana**	**147.58**	**332**	PKiKP	**PKPdf**	**19 32 33.1**	**0.0**
NNA	**Nana**	**147.58**	**332**	PKPdf	**PKPdf**	**19 32 33.1**	**0.0**
CPUP	**Villa Florida**	**147.90**	**288**	PKPbc	**PKPbc**	**19 32 35.3**	**-0.9**
	comp=Z,18nm,0.6s,baz=43,slow=3.0,SNR=41						
CPUP	**Villa Florida**	**147.90**	**288**		**PKPdf**	**19 32 33.9**	**+0.7**
CPUP	**Villa Florida**	**147.90**	**288**	*e*P	**PKPdf**	**19 32 34.5**	**+1.3**
PLTB	**Pedras Altas**	**148.15**	**276**		**PKPbc**	**19 32 37.1**	**+0.3**
PLTB	**Pedras Altas**	**148.15**	**276**	*e*P	**PKPdf**	**19 32 34.2**	**+0.7**
ITQB	**Itaqui**	**149.31**	**282**		**PKPbc**	**19 32 40.0**	**+0.2**
PB11	**IPOC Station P**	**151.17**	**313**	PKPdf	**PKPdf**	**19 32 38.5**	**-0.3**
PB11				PKPbc	**PKPbc**	**19 32 44.7**	**0.0**
PB01	**IPOC Station P**	**152.10**	**311**		**PKPbc**	**19 32 46.5**	**-0.3**
PB07	**IPOC Station P**	**152.87**	**311**		**PKPbc**	**19 32 47.8**	**-0.8**
PB07					**PKPab**	**19 32 59.4**	**-0.2**
LVC	**Limon Verde**	**153.00**	**308**	PKIKP	**PKPbc**	**19 32 49.1**	**+0.1**
LVC	**Limon Verde**	**153.00**	**308**		**PKPbc**	**19 32 49.1**	**+0.1**

*MEX **24** 19:18:28.9±2.2, 16°.36N×99°.57W, h16km±24km, MD4.3*
*IDC **24** 19:18:29.0±5.6, 16°.75N×99°.38W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/53, mbtmp3.6/5, ML2.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=110.2km s-min=19.5km az=14.0*
*NEIC **24** 19:18:37.6±1.7, 16°.97N±0°.10×98°.97W±0°.09, h48km±15km, mb4.0/14, Error ellipse: s-maj=14.7km s-min=11.8km az=202.0*

ISC 24 19:18:26.3±1.5, 16°.35N±0°.06×99°.54W±0°.04, h12km±8km, n54, σ2°.42/70, mb4.0/10, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIG	**Cruz Grande**	**0.55**	**46**	↓*e*P	**Pg**	**19 18 37.4**	**+0.4**
	baz=222,slow=22						
CRIG				*e*S	**Sg**	19 18 44.4	+0.2
ACP2	**Acapulco**	**0.61**	**327**	*e*P	**Pg**	19 18 38.4	+0.1
ACP2				*i* S	**Sg**	19 18 45.7	-0.6
DAIG	**Los Arroyos**	**0.67**	**351**	*e*P	**Pg**	19 18 38.9	-0.5
DAIG				*e*S	**Sg**	19 18 47.2	-1.0
CAIG	**El Cayaco**	**0.98**	**315**	*e*P	**Pb**	19 18 43.7	-1.5
CAIG				*e*S	**Sb**	19 18 54.7	-3.4
TLIG	**Tlapa**	**1.52**	**38**	*e*P	**Pn**	19 18 52.3	-1.1
TLIG				*e*S	**Sn**	19 19 10.6	-2.6
TLIG	**Tlapa**	**1.52**	**38**		**Pn**	19 18 51.6	-1.9
MEIG	**Mezcala**	**1.56**	**357**	*i* P	**Pn**	19 18 53.0	-1.0
MEIG				*i* S	**Sn**	19 19 10.5	-3.8
HMTT	**Tlapaneco**	**1.72**	**33**	*e*P	**Pn**	19 18 55.4	-0.7
HMTT				*e*S	**Sn**	19 19 14.8	-3.2
YOIG	**Yosondua**	**1.98**	**75**	*e*P	**Pn**	19 18 59.2	-0.7
YOIG				*e*S	**Sn**	19 19 23.0	-1.7
PLIG	**Platanillo**	**2.03**	**1**	*e*P	**Pn**	19 18 59.6	-0.8
PLIG				*e*S	**Sn**	19 19 22.7	-3.0
FTIG	**Fresnillo de T**	**2.05**	**41**	*e*P	**Pn**	19 19 00.0	-0.7
FTIG				*e*S	**Sn**	19 19 23.7	-2.6
HLIG	**Huajuapan de L**	**2.22**	**48**	*e*P	**Pn**	19 19 02.1	-1.0
HLIG				*i* S	**Sn**	19 19 28.7	-1.9
PEIG	**Puerto Escondi**	**2.33**	**98**	*e*P	**Pn**	19 19 04.1	-0.3
PEIG				*e*S	**Sn**	19 19 31.6	-1.5
YAIG	**Yautepec**	**2.54**	**10**	*e*P	**Pn**	19 19 07.3	-0.1
YAIG				*e*S	**Sn**	19 19 36.0	-2.4
MAVM	**Malinalco, Edo**	**2.59**	**1**	*e*P	**Pn**	19 19 09.2	+1.0
MAVM				*e*S	**Sn**	19 19 40.4	+0.7
VHO	**Vista Hermosa**	**2.79**	**75**	*e*P	**Pn**	19 19 08.6	-2.3
VHO				*e*S	**Sn**	19 19 42.2	-2.4
OXBJ	**Oaxaca**	**2.79**	**75**	*e*P	**Pn**	19 19 11.0	+0.1
OXBJ				*e*S	**Sb**	19 19 51.2	+0.7
MZVM		**2.83**	**6**	*e*P	**Pn**	19 19 13.8	+2.5
MZVM				*e*S	**Sn**	19 19 49.5	+4.0
AMVM	**AMECAMECA**	**2.85**	**15**	*i* P	**Pn**	19 19 14.6	+2.7
AMVM				*i* S	**Sn**	19 19 47.2	+0.7
TPIG	**Tehuac#an**	**2.92**	**45**	*e*P	Pn	19 19 10.2	-2.5
TPIG				*e*S	**Sn**	19 19 48.3	+0.3
TOIG	**Toxpalan**	**2.93**	**53**	*e*P	Pn	19 19 08.6	-4.3
TOIG				*e*S	**Sn**	19 19 46.7	-1.4
PBVM	**Pinon**	**3.10**	**8**	*i* P	Pn	19 19 10.3	-4.7
PBVM				*i* S	**Sn**	19 19 49.1	-3.0
PTVM	**Pico Tres Padr**	**3.25**	**7**	*e*P	**Pb**	**19 19 24.6**	**+0.5**
PTVM				*e*S	**Sb**	19 20 02.4	-1.3
HUIG	**Huatulco**	**3.35**	**100**	*e*P	**Pn**	**19 19 16.6**	**-1.9**
HUIG				*e*S	**Sn**	19 19 52.9	-5.4
ZUVM	**ZUMPANGO**	**3.48**	**7**	*e*P	**Pn**	**19 19 20.7**	**+0.2**
ZUVM				*e*S	**Sn**	19 19 59.0	-2.8
MOIG	**Morelia**	**3.66**	**335**		Pn	19 19 28.9	+6.0
CMIG	**Matias Romero**	**4.52**	**80**	Pn	**Pn**	**19 19 34.0**	**-0.6**
	1.1nm,0.3s,baz=247,slow=14,SNR=3.1						
CMIG				Pg	**Pb**	**19 19 48.3**	**+2.6**
	1.6nm,0.3s,baz=321,slow=9.8,SNR=5.1						
CMIG				Lg	Lg	19 20 48.1	
	6.6nm,0.3s,baz=206,slow=23,SNR=4.6						
ZAIG	**Zacatecas**	**6.99**	**336**	Pn	**Pn**	**19 20 11.0**	**+2.3**
H06E1	**SOCORRO T-PHAS**	**11.12**	**284**	T	T	19 32 25.4	
	SNR=26						
TXAR	**Lajitas Array**	**13.46**	**344**	Pn	**Pn**	**19 21 37.9**	**+0.6**
	0.0nm,0.3s,baz=142,slow=12,SNR=1.8						
TXAR				Lg	Lg	19 25 30.1	
	0.0nm,0.3s,baz=158,slow=32,SNR=4.3						
Y49A	**Blount Mountai**	**21.06**	**32**	P	**P**	**19 23 05.6**	**-4.7**
Y49A				IAmb	IAmb	19 23 14.8	
	comp=Z,5.3nm,0.7s						
WUAZ	**Wupatki**	**21.81**	**333**	P	**P**	**19 23 22.6**	**+4.0**
WUAZ				IAmb	IAmb	19 23 25.0	
	comp=Z,7.2nm,1.0s						
FPAL	**Fort Paine**	**22.00**	**32**	P	**P**	**19 23 17.7**	**-2.8**
FPAL				IAmb	IAmb	19 23 24.1	
	comp=Z,11nm,0.9s						
PFO	**Pinyon Flats O**	**22.97**	**322**	LR	LR	19 33 42.1	
	comp=Z,56nm,18.5s,baz=309,slow=40						
CPCT	**Cooper Cave**	**23.27**	**32**	P	**P**	**19 23 30.4**	**-3.4**
CPCT				IAmb	IAmb	19 23 35.2	
	comp=Z,6.5nm,0.9s						
MTPU	**Mount Pierson**	**24.30**	**335**	P	**P**	**19 23 47.5**	**+3.4**
MTPU				IAmb	IAmb	19 23 49.0	
	comp=Z,6.3nm,0.9s						
TMUT	**Trail Mountain**	**25.03**	**338**	P	**P**	**19 23 54.2**	**+3.6**
PRN	**Pahroc Range**	**25.05**	**330**	P	**P**	**19 23 55.1**	**+4.4**
TPNV	**Topopah Spring**	**25.30**	**327**	P	**P**	**19 23 57.1**	**+4.2**
TPNV				IAmb	IAmb	19 24 00.3	
	comp=Z,3.0nm,0.8s						
R11A	**Troy Canyon, C**	**26.06**	**330**	P	**P**	**19 24 05.1**	**+5.3**
P49A	**Miami Univ. Ec**	**26.47**	**26**	P	**P**	**19 24 03.4**	**0.0**
NVAR	**Mina Array Bea**	**27.48**	**327**	P	**P**	**19 24 16.2**	**+3.5**
	comp=Z,1.2nm,0.8s,baz=146,slow=11,SNR=8.2						
BW06	**Boulder Array**	**27.68**	**344**	P	**P**	**19 24 16.0**	**+1.5**
BW06				IAmb	IAmb	19 24 23.5	
	comp=Z,3.2nm,1.1s						
PD31	**Pinedale Array**	**27.68**	**344**	P	**P**	**19 24 16.4**	**+1.9**
PD31				IAmb	IAmb	19 24 17.0	
	comp=Z,3.0nm,1.1s						
PDAR	**Pinedale Array**	**27.68**	**344**	P	**P**	**19 24 16.2**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=145,slow=11,SNR=11						
PDAR	**Pinedale Array**	**27.68**	**344**	P	**P**	**19 24 16.4**	**+1.9**
S57A	**Dark Hollow, R**	**28.00**	**36**	P	**P**	**19 24 16.3**	**-0.8**
BCYI	**Bear Canyon**	**30.24**	**340**	P	**P**	**19 24 40.4**	**+3.2**
SSPA	**Standing Stone**	**30.62**	**33**	P	**P**	**19 24 41.2**	**+0.9**
LRM	**Limekiln Ridge**	**31.30**	**343**	P	**P**	**19 24 49.4**	**+2.8**
YKA	**Yellowknife Ar**	**47.29**	**351**	P	**P**	**19 27 00.0**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=158,slow=6.7,SNR=2.9						
H03N2	**Juan Fernandez**	**53.28**	**158**	T	T	20 25 24.0	

NEIC ***24*** *19:40:04.8±2.0,23.°7S±0.°1×179.°8W±0.°1,h521km±8km, mb4.6/41, Error ellipse: s-maj=18.4km s-min=16.6km az=75.0*

IDC ***24*** *19:40:05.1±1.5,23.°65S×179.°98W,h522km±14km, mb3.4/10, mb1 3.7/12, mb1mx3.5/21, mbtmp4.3/12, Error ellipse: s-maj=24.1km s-min=15.4km az=143.0*

ISC 24 19:40:05.1±0.5,**23.°65S**±0.°06×**179.°85W**±0.°09,**h532km, n86,** σ1**§40/94, mb4.4/28, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.83**	**163**	S	**S**	**19 42 56.1**	**-3.8**
GLKZ	**Green Lake**	**5.85**	**163**	P	**P**	19 41 34.0	-7.3
GLKZ				S	**S**	**19 43 02.0**	**+1.8**
MSVF	**Nonsavu**	**6.21**	**341**	P	**P**	**19 41 44.9**	**-0.1**
	3.0nm,0.3s,baz=247,slow=22,SNR=12						
PINNC	**Pines Island,**	**11.73**	**273**	P	**P**	**19 42 42.2**	**+1.4**
LIFNC	**LIFOU**	**12.29**	**281**	P	**P**	**19 42 46.8**	**0.0**
TWGZ	**Tauwhareparae**	**14.60**	**187**	P	**P**	**19 43 12.0**	**+1.5**
TWGZ				S	**S**	**19 45 44.2**	**+0.7**
URZ	**Urewera**	**14.79**	**189**	P	**P**	**19 43 11.6**	**-0.9**
	2.6nm,0.3s,baz=30,slow=16,SNR=8.7						
URZ	**Urewera**	**14.79**	**189**	P	**P**	**19 43 11.7**	**-0.9**
MWZ	**Matawai**	**14.81**	**188**	P	**P**	**19 43 13.7**	**+1.0**
MWZ				S	**S**	**19 45 49.3**	**+1.9**
MUGZ	**Murupara**	**15.06**	**190**	P	**P**	**19 43 14.9**	**-0.4**
MTHZ	**Maungataniwha**	**15.42**	**190**	P	**P**	**19 43 18.9**	**-0.2**
MTHZ				S	**S**	**19 45 59.1**	**+0.6**
HIZ	**Hauiti**	**15.49**	**196**	P	**P**	**19 43 24.0**	**+4.3**
BKZ	**Black Stump Fm**	**15.78**	**191**	P	**P**	**19 43 21.0**	**-1.8**
WTVZ	**West Tongariro**	**15.90**	**193**	P	**P**	**19 43 24.8**	**+0.7**
OTVZ	**Oturere**	**15.93**	**193**	P	**P**	**19 43 24.0**	**-0.4**
VRZ	**Vera Road**	**16.09**	**195**	P	**P**	**19 43 28.2**	**+2.4**
WNVZ	**Wahianoa**	**16.10**	**193**	P	**P**	**19 43 25.7**	**-0.4**
MOVZ	**Moawhango**	**16.15**	**192**	P	**P**	**19 43 25.6**	**-0.9**
BHHZ	**Black Hill Sta**	**16.17**	**191**	P	**P**	**19 43 24.6**	**-2.1**
BHHZ				S	**S**	**19 46 08.6**	**-3.0**
KRHZ	**Kereru**	**16.26**	**190**	P	**P**	**19 43 26.4**	**-1.2**
KRHZ				S	**S**	**19 46 13.0**	**-0.3**
PNHZ	**Pukenui**	**16.56**	**191**	P	**P**	**19 43 29.3**	**-1.1**
TSZ	**Takapari Road**	**16.74**	**191**	P	**P**	**19 43 31.2**	**-0.9**
BFZ	**Birch Farm**	**17.30**	**190**	P	**P**	**19 43 32.2**	**-5.1**
BFZ				S	**S**	**19 46 28.1**	**-2.2**
QRZ	**Quartz Range**	**18.29**	**199**	P	**P**	**19 43 47.1**	**+0.9**
PLWZ	**Palliser**	**18.33**	**192**	P	**P**	**19 43 46.6**	**-0.1**
NNZ	**Nelson**	**18.41**	**196**	P	**P**	**19 43 47.4**	**0.0**
TUWZ	**Tuamarina**	**18.48**	**195**	P	**P**	**19 43 46.7**	**-1.3**
THZ	**Tophouse**	**19.05**	**197**	P	**P**	**19 43 52.4**	**-0.9**
THZ				IAmb	IAmb	19 43 59.5	
	comp=Z,24nm,1.2s						
KHZ	**Kahutara**	**19.51**	**195**	P	**P**	**19 43 56.1**	**-1.3**
KHZ				IAmb	IAmb	19 44 16.4	
	comp=Z,40nm,1.3s						
LTZ	**Lake Taylor**	**20.17**	**197**	P	**P**	**19 44 02.0**	**-1.4**
LTZ				IAmb	IAmb	19 44 25.8	
	comp=Z,36nm,1.4s						
FOZ	**Fox Glacier**	**21.59**	**201**	P	**P**	**19 44 16.1**	**-0.1**
FOZ				IAmb	IAmb	19 44 36.7	
	comp=Z,43nm,1.3s						
MLZ	**Mavora Lakes**	**23.77**	**201**	P	**P**	**19 44 36.1**	**+0.4**
MLZ				IAmb	IAmb	19 44 52.2	
	comp=Z,21nm,1.1s						
DCZ	**Deep Cove**	**24.19**	**203**	P	**P**	**19 44 39.6**	**+0.2**
WHZ	**Wether Hill Ro**	**24.29**	**201**	P	**P**	**19 44 41.4**	**+1.1**
WHZ				IAmb	IAmb	19 44 44.5	
	comp=Z,43nm,1.4s						
ARMA	**Armidale**	**26.24**	**249**	P	**P**	**19 44 59.4**	**+1.5**
ARMA				IAmb	IAmb	19 45 06.0	
	comp=Z,14nm,1.4s						
EIDS	**Eidsvold**	**26.48**	**260**	P	**P**	**19 45 00.1**	**+0.2**
EIDS				IAmb	IAmb	19 45 01.1	
	comp=Z,15nm,0.5s						
CTAO	**Charters Tower**	**31.61**	**270**	P	**P**	**19 45 44.9**	**+0.4**
TOO	**Toolangi**	**32.70**	**237**	P	**P**	**19 45 54.4**	**+0.8**
TOO				IAmb	IAmb	19 46 07.8	
	comp=Z,10nm,1.1s						
PMG	**Port Moresby**	**34.54**	**289**	P	**P**	**19 46 09.2**	**-0.2**
STKA	**Stephens Creek**	**34.94**	**248**	P	**P**	**19 46 12.8**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=94,slow=11,SNR=14						
STKA	**Stephens Creek**	**34.94**	**248**	P	**P**	**19 46 12.9**	**+0.4**
BBOO	**Buckleboo**	**39.67**	**247**	P	**P**	**19 46 50.8**	**-0.5**
BBOO				IAmb	IAmb	19 46 51.4	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**42.21**	**260**	P	**P**	**19 47 11.0**	**-0.6**
AS31				IAmb	IAmb	19 47 12.4	
	comp=Z,4.7nm,0.5s						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**19 47 11.3**	**-0.3**
	comp=Z,13nm,0.7s,baz=96,slow=7.4,SNR=155						
ASAR				ScP	**ScP**	**19 51 55.4**	**+1.9**
	comp=Z,2.3nm,0.8s,baz=100,slow=4.0,SNR=12						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**19 47 10.7**	**-1.0**
WR0	**Warramunga Arr**	**42.37**	**266**	P	**P**	**19 47 12.1**	**-0.8**
WR0				IAmb	IAmb	19 47 12.6	
	comp=Z,11nm,0.9s						
WB2	**Warramunga Arr**	**42.55**	**266**	P	**P**	**19 47 13.5**	**-0.8**
WB2				IAmb	IAmb	19 47 14.1	
	comp=Z,19nm,0.8s						
WB0	**Warramunga Arr**	**42.55**	**266**	P	**P**	**19 47 13.3**	**-1.0**
WB0				IAmb	IAmb	19 47 14.1	
	comp=Z,23nm,0.7s						
WRAB	**Tennant Creek**	**42.55**	**266**	P	**P**	**19 47 13.4**	**-0.9**
WRAB				IAmb	IAmb	19 47 14.1	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**19 47 13.1**	**-1.3**
	comp=Z,14nm,0.4s,baz=92,slow=8.4,SNR=376						
WRA				ScP	**ScP**	**19 51 57.1**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=102,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**19 47 12.6**	**-1.8**
FORT	**Forrest**	**46.52**	**249**	P	**P**	**19 47 44.1**	**-0.7**
MTN	**Manton Dam**	**47.57**	**274**	P	**P**	**19 47 52.2**	**-0.6**
MTN				IAmb	IAmb	19 47 53.2	
	comp=Z,10.0nm,0.8s						
KNRA	**Kununurra**	**48.82**	**270**	P	**P**	**19 48 01.9**	**-0.2**
KNRA				IAmb	IAmb	19 48 03.0	
	comp=Z,18nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.98**	**265**	P	**P**	**19 48 17.8**	**-0.2**
FITZ				IAmb	IAmb	19 48 18.8	
	comp=Z,7.3nm,0.7s						
VNDA	**Vanda**	**54.64**	**185**	P	**P**	**19 48 44.9**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=15,slow=3.6,SNR=2.7						
VNDA	**Vanda**	**54.64**	**185**	IAmb	IAmb	19 48 49.7	
	comp=Z,2.4nm,1.4s						
PSA00	**Pilbara Seismi**	**55.34**	**259**	P	**P**	**19 48 47.6**	**-1.4**
PSA00	**Pilbara Seismi**	**55.34**	**259**	P	**P**	**19 48 48.2**	**-0.7**
PSA00				IAmb	IAmb	19 49 06.3	
	comp=Z,29nm,1.3s						
MORW	**Morawa**	**57.09**	**250**	P	**P**	**19 49 00.5**	**-0.5**
GIRL	**Giralia**	**60.10**	**257**	P	**P**	**19 49 22.1**	**+0.8**
TOLI2	**Tolitoli**	**62.65**	**284**	P	**P**	**19 49 36.7**	**-1.4**
TOLI2				IAmb	IAmb	19 49 39.2	
	comp=Z,9.6nm,0.7s						
QSPA	**South Pole Qui**	**66.43**	**180**	P	**P**	**19 50 02.5**	**+1.2**
MJAR	**Matsushiro Arr**	**71.77**	**325**	P	**P**	**19 50 32.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=176,slow=2.9,SNR=2.8						
MJAR	**Matsushiro Arr**	**71.77**	**325**	IAmb	IAmb	19 50 33.9	
	comp=Z,1.0nm,0.9s						
AKUT	**Akutan**	**78.41**	**8**	P	**P**	**19 51 08.8**	**-1.5**
PETK	**Petropavlovsk-**	**78.89**	**346**	P	**P**	**19 51 12.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=141,slow=9.3,SNR=2.9						
NVAR	**Mina Array Bea**	**84.48**	**44**	P	**P**	**19 51 43.2**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=223,slow=8.9,SNR=5.4						
SNAA	**Sanae**	**84.91**	**179**	P	**P**	**19 51 42.5**	**-1.1**
VNA3	**Neumayer Olymp**	**85.12**	**177**	P	**P**	**19 51 43.6**	**-0.8**
VNA2	**Neumayer--Watz**	**85.54**	**178**	P	**P**	**19 51 43.1**	**-3.4**
PINE	**Pine Mountain**	**86.11**	**38**	P	**P**	**19 51 51.1**	**+1.2**
G08A	**Pilot Rock**	**88.15**	**38**	P	**P**	**19 52 00.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**19 52 07.5**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=144,slow=3.2,SNR=5.7						
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**19 52 06.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**90.18**	**58**	P	**P**	**19 52 10.2**	**+1.1**
TX31				IAmb	IAmb	19 52 10.5	
	comp=Z,5.2nm,0.9s						
TX32	**Lajitas Array**	**90.18**	**58**	P	**P**	**19 52 10.2**	**+1.1**
TXAR	**Lajitas Array**	**90.18**	**58**	P	**P**	**19 52 10.3**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=213,slow=6.3,SNR=16						
TXAR	**Lajitas Array**	**90.18**	**58**	P	**P**	**19 52 10.1**	**+1.0**
O20A	**White River Ci**	**91.97**	**47**	P	**P**	**19 52 18.4**	**+1.2**
PDAR	**Pinedale Array**	**92.42**	**44**	P	**P**	**19 52 19.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=225,slow=3.6,SNR=5.2						
PDAR	**Pinedale Array**	**92.42**	**44**	P	**P**	**19 52 18.9**	**-0.4**
FINES	**FINESS Array B**	**138.25**	**342**	SKPbc	**SKPbc**	**20 01 13.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=64,slow=4.4,SNR=7.6						
AKASG	**Malin Array Be**	**144.83**	**328**	PKP	**PKPdf**	**19 58 40.3**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=43,slow=4.4,SNR=10						
AKASG				SKPbc	**SKPbc**	**20 01 30.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=50,slow=2.7,SNR=5.5						
BRTR	**Keskin Array B**	**147.53**	**308**	PKPbc	**PKPbc**	**19 58 51.5**	**+1.7**
	comp=Z,1.9nm,0.6s,baz=84,slow=4.9,SNR=4.5						
BRTR	**Keskin Array B**	**147.53**	**308**		**PKPbc**	**19 58 50.1**	**+0.3**
BRTR				PKPab	**PKPab**	**19 58 54.4**	**+0.6**

IDC ***24*** *20:00:52.9±1.7,5.°90N×126.°96E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/44,mbtmp3.6/5, Error ellipse: s-maj=112.8km s-min=20.5km az=71.0*

MAN ***24*** *20:01:02.6,5.°97N×127.°12E,h114km,mb4.3,ML3.1, MS2.9*

ISC 24 20:01:04.4±1.6,**5.°9N**±0.°2×**127.°2E**±0.°2,**h100km, n7,** σ0§**89/8, mb3.5**/5,**1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.00**	**306**	Sn	**Sn**	**20 02 03.1**	**+1.3**
	44nm,0.3s,baz=245,slow=22,SNR=6.3						
KCP	**Kidapawan**	**2.38**	**298**	||/ P	**Pn**	**20 01 42.0**	**+0.1**
KCP				/ S	**Sn**	**20 02 09.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**23.89**	**184**	P	**P**	**20 06 09.0**	**0.0**
	1.4nm,0.7s,baz=353,slow=9.2,SNR=8.3						
WRA	**Warramunga Arr**	**26.62**	**165**	P	**P**	**20 06 32.8**	**-0.9**
	0.2nm,0.4s,baz=344,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**30.10**	**168**	P	**P**	**20 07 05.0**	**+0.4**
	0.2nm,0.4s,baz=342,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**56.08**	**324**	P	**P**	**20 10 32.6**	**-0.5**
	0.7nm,0.5s,baz=124,slow=7.9,SNR=10						
ZALV	**Zalesovo Beam**	**58.90**	**332**	P	**P**	**20 10 52.8**	**0.0**
	0.4nm,0.4s,baz=111,slow=7.9,SNR=2.3						

IDC ***24*** *20:14:09.3±1.8,1.°75N×126.°26E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/41,mbtmp3.3/4, Error ellipse: s-maj=175.5km s-min=23.1km az=66.0*

DJA ***24*** *20:14:15.4±2.0,2.°N±7.°×12.°7E±.°,h30km±21km,M3.1/5, MLv3.1/5*

ISC 24 20:14:15.8±1.0,**1.°65N**±0.°08×**126.°62E**±0.°05,**h47km, n9,** σ1§**47/11, mb3.4/4, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.15**	**139**	P	**Pn**	**20 14 35.3**	**-0.2**
GAMI	**Galela, Maluku**	**1.18**	**81**	P	**Pn**	**20 14 35.9**	**0.0**
GAMI				S	**Sn**	**20 14 51.9**	**+1.0**
MNI	**Manado**	**1.79**	**263**	P	**Pn**	**20 14 43.4**	**-0.9**
MNI				S	**Sn**	**20 15 06.4**	**+0.5**
SGSI	**Sangihe**	**2.30**	**332**	P	**Pn**	**20 14 52.3**	**+1.0**
GTOI	**Gorontalo**	**3.75**	**254**	P	**Pn**	**20 15 12.5**	**+1.4**
WRA	**Warramunga Arr**	**22.75**	**161**	P	**P**	**20 19 14.2**	**0.0**
	1.3nm,0.8s,baz=338,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.14**	**165**	P	**P**	**20 19 48.2**	**+2.5**
	0.4nm,0.7s,baz=353,slow=15,SNR=4.9						
MKAR	**Makanchi Array**	**59.20**	**326**	P	**P**	**20 24 10.5**	**-1.7**
	0.1nm,0.3s,baz=115,slow=8.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**63.43**	**328**	P	**P**	**20 24 38.8**	**-1.9**
	0.2nm,0.6s,baz=125,slow=7.0,SNR=1.8						

DJA ***24*** *20:22:27.5±0.8,8.°S±4.°×10.°8E±.°,h12km±6km,M4.7/20, mb4.7/8,mB5.4/4,MLv4.7/20,Mw(mB)4.8/4*

NEIC ***24*** *20:22:29.3±1.6,8.°08S±0.°05×108.°12E±0.°07,h73km±5km, mb4.4/29, Error ellipse: s-maj=10.6km s-min=5.6km az=60.0*

IDC ***24*** *20:22:33.4±0.9,7.°84S×108.°36E,h99km±7km,mb3.9/18, mb1 4.0/19,mb1mx3.9/38,mbtmp4.2/19,MS3.1/5, Ms1 3.2/5,ms1mx2.8/41, Error ellipse: s-maj=20.7km s-min=10.1km az=57.0*

ISC 24 20:22:29.2±0.4,**8.°14S**±0.°05×**108.°18E**±0.°05,**h70km, n100,** σ1§**65/95, mb4.3/29, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.68**	**328**		**Pn**	**20 22 44.0**	**+0.1**
CISI	**Cisompet, Garu**	**0.68**	**328**	P	**Pn**	**20 22 43.8**	**-0.1**
CISI				S	**Sn**	**20 22 54.4**	**-0.4**
KPJI	**Karang Pucung**	**1.09**	**43**	P	**Pn**	**20 22 49.1**	**+0.2**
CNJI	**Cibinong**	**1.32**	**308**	P	**Pn**	**20 22 52.8**	**+1.0**
LEM	**Lembang**	**1.41**	**337**	P	**Pn**	**20 22 55.2**	**+2.0**
	777nm,0.3s,baz=139,slow=5.6,SNR=387						
LEM				S	**Sn**	**20 23 14.9**	**+3.7**
	250nm,0.3s,baz=171,slow=23,SNR=6.4						
LEM	**Lembang**	**1.41**	**337**	P	**Pn**	**20 22 55.1**	**+1.9**
CTJI	**Waduk Cacaban**	**1.50**	**42**	P	**Pn**	**20 22 54.7**	**+0.5**
DBJI	**Dramaga**	**2.11**	**318**	P	**Pn**	**20 23 04.9**	**+2.5**
YOGI	**Yogyakarta**	**2.12**	**82**	P	**Pn**	**20 23 02.0**	**-0.5**
UGM	**Wanagama**	**2.33**	**85**		**Pn**	**20 23 04.9**	**-0.5**
UGM	**Wanagama**	**2.33**	**85**	P	**Pn**	**20 23 05.0**	**-0.5**
TNG	**Tangerang**	**2.47**	**322**	P	**Pn**	**20 23 09.3**	**+2.1**
TNG				P	**Pn**	**20 23 09.4**	**+2.2**
SMRI	**Semarang**	**2.49**	**64**	Pn	**Pn**	**20 23 08.6**	**+1.0**
SMRI	**Semarang**	**2.49**	**64**	P	**Pn**	**20 23 08.4**	**+0.9**
CGJI	**Cibinong**	**2.89**	**301**	P	**Pn**	**20 23 14.3**	**+1.4**
PCJI	**Pacitan**	**2.97**	**91**	P	**Pn**	**20 23 13.8**	**-0.2**
XMIS	**Christmas Isla**	**3.41**	**227**		**Pn**	**20 23 19.5**	**-0.5**
SJI	**Sawahan**	**3.58**	**84**	P	**Pn**	**20 23 22.9**	**+0.5**
PWJI	**Pagerwojo**	**3.59**	**88**	P	**Pn**	**20 23 22.4**	**-0.1**
TBJI	**Tambak Boyo**	**3.87**	**70**	P	**Pn**	**20 23 26.6**	**+0.3**
BLSI	**Bandar Lampung**	**4.00**	**313**	P	**Pn**	**20 23 31.0**	**+2.9**
KASI	**Kota Agung**	**4.48**	**305**	P	**Pn**	**20 23 37.3**	**+2.7**
LWLI	**Liwa**	**5.13**	**307**	P	**Pn**	**20 23 46.5**	**+2.9**
	0.9nm121nm,0.9s						
TPI	**Tanjungpandan**	**5.37**	**354**	P	**Pn**	**20 23 48.2**	**+1.4**
	0.2nm39nm,0.8s						
MDSI	**Maura Dua**	**5.38**	**312**	P	**Pn**	**20 23 49.9**	**+3.0**
	0.1nm494nm44nm,1.0s						
JAGI	**Jajag, Banyuwa**	**5.92**	**94**	Pn	**Pn**	**20 23 54.4**	**0.0**
PPBI	**Pangkal Pinang**	**6.27**	**341**	P	**Pn**	**20 24 01.9**	**+2.7**
	0.6nm6µm45nm,0.6s						
LHSI	**Lahat**	**6.30**	**313**	P	Pn	20 24 12.2	+13
MNAI	**Manna**	**6.40**	**306**	Pn	**Pn**	**20 24 01.8**	**+0.9**
EGSI	**Enggano, Bengk**	**6.48**	**295**	P	**Pn**	**20 24 04.2**	**+2.2**
	0.6nm4µm118nm,0.8s						
KSI	**Kapahiang**	**7.12**	**308**	P	**Pn**	**20 24 13.7**	**+2.9**
TWSI	**Taliwang, Sumb**	**8.63**	**95**	P	**Pn**	**20 24 31.8**	**+0.3**
	21nm,0.7s						
STKI	**Sintang**	**8.79**	**22**	P	**Pn**	**20 24 35.6**	**+2.0**
	13nm,0.7s						
PLAI	**Plampang**	**9.52**	**95**	P	**Pn**	**20 24 44.4**	**+0.8**
KAPI	**Kappang**	**11.91**	**76**	LR	LR	20 31 17.0	
	comp=Z,54nm,18.9s,baz=260,slow=45						
MMRI	**Maumere**	**13.92**	**93**	Pn	**Pn**	**20 25 42.2**	**-1.1**
MMRI				P	**P**	**20 25 49.3**	**+0.1**
GSI	**Gunungsitoli**	**14.13**	**311**	Pn	**Pn**	**20 25 41.6**	**-4.5**
PSI	**Prapat**	**14.25**	**319**	LR	LR	20 31 03.4	
	comp=Z,91nm,19.9s,baz=226,slow=36						
BATI	**Baumata**	**15.43**	**99**	P	**Pn**	**20 25 59.7**	**-3.2**
	2.5nm,0.3s,baz=304,slow=3.6,SNR=2.2						
GIRL	**Giralia**	**15.56**	**159**	Pn	**Pn**	**20 26 02.5**	**-1.9**
TOLI2	**Tolitoli**	**15.57**	**54**	P	**P**	**20 26 09.2**	**+1.7**
SOEI	**Soe**	**15.98**	**97**	Pn	**Pn**	**20 26 08.1**	**-1.9**
SOEI				IAmb	IAmb	20 26 27.5	
	comp=Z,32nm,0.8s						
MRSI	**Marisa**	**16.17**	**59**	P	**P**	**20 26 18.1**	**+3.9**
PSA00	**Pilbara Seismi**	**17.47**	**141**		**Pn**	**20 26 28.2**	**-0.1**
PSA00				IAmb	IAmb	20 26 29.3	
	comp=Z,17nm,1.2s						
PSA00	**Pilbara Seismi**	**17.47**	**141**		**P**	**20 26 28.5**	**-0.1**
PSA00				IAmb	IAmb	20 26 42.5	
	comp=Z,6.6nm,1.3s						
FITZ	**Fitzroy Crossi**	**19.66**	**122**	P	**Pn**	**20 26 54.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=312,slow=11,SNR=2.9						
FITZ	**Fitzroy Crossi**	**19.66**	**122**	IAmb	IAmb	20 27 01.8	
	comp=Z,5.3nm,0.8s						
TNTI	**Ternate**	**21.08**	**66**	P	**P**	**20 27 07.7**	**-0.3**
TNTI				IAmb	IAmb	20 27 15.7	
	comp=Z,24nm,0.8s						
KNRA	**Kununurra**	**21.48**	**112**	P	**P**	**20 27 13.5**	**+1.3**
KNRA				IAmb	IAmb	20 27 22.1	
	comp=Z,28nm,1.1s						
GAMI	**Galela, Maluku**	**21.92**	**64**	P	**P**	**20 27 19.7**	**+2.7**
MTN	**Manton Dam**	**23.05**	**104**	P	**P**	**20 27 28.6**	**-0.3**
H01W3	**Cape Leeuwin H**	**27.18**	**169**	T	T	20 58 15.1	
	baz=348,slow=76,SNR=5.3						
H01W1	**Cape Leeuwin H**	**27.19**	**169**	T	T	20 58 14.9	
	baz=348,slow=76,SNR=3.9						
H01W2	**Cape Leeuwin H**	**27.19**	**169**	T	T	20 58 15.7	
	baz=348,slow=76,SNR=4.2						
WB0	**Warramunga Arr**	**27.90**	**117**	P	**P**	**20 28 13.8**	**+0.9**
WB0				IAmb	IAmb	20 28 30.7	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**27.91**	**118**	P	**P**	**20 28 13.9**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=297,slow=11,SNR=18						
WRA	**Warramunga Arr**	**27.91**	**118**	P	**P**	**20 28 13.2**	**+0.2**
WB2	**Warramunga Arr**	**27.92**	**118**	P	**P**	**20 28 14.4**	**+1.3**
WB2				IAmb	IAmb	20 28 39.0	
	comp=Z,5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.95**	**341**	P	**P**	**20 28 12.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=174,slow=8.4,SNR=7.5						
CMAR				LR	LR	20 41 16.0	
	comp=Z,17nm,18.5s,baz=199,slow=40						
WR0	**Warramunga Arr**	**28.10**	**118**	P	**P**	**20 28 15.6**	**+0.9**
WR0				IAmb	IAmb	20 28 21.0	
	comp=Z,4.8nm,0.9s						
ASAR	**Alice Springs**	**29.09**	**125**	P	**P**	**20 28 25.1**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=297,slow=7.8,SNR=17						
ASAR				PcP	**PcP**	**20 31 31.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=301,slow=2.2,SNR=9.3						
SSLB	**Suanglung**	**34.10**	**21**	P	**P**	**20 29 05.4**	**-1.9**
H08S2	**Diego Garcia H**	**35.34**	**268**	T	T	21 06 39.4	
	baz=93,slow=76,SNR=59						
H08S3	**Diego Garcia H**	**35.35**	**268**	T	T	21 06 33.4	
	baz=93,slow=76,SNR=112						
H08S1	**Diego Carcia H**	**35.36**	**268**	T	T	21 06 36.8	
	baz=93,slow=76,SNR=114						
CTAO	**Charters Tower**	**38.69**	**112**	P	**P**	**20 29 45.6**	**-1.0**
CTAO				IAmb	IAmb	20 29 48.6	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**39.02**	**132**	P	**P**	**20 29 50.7**	**+1.6**
	comp=Z,4.0nm,0.5s,baz=318,slow=7.4,SNR=12						
STKA				PcP	**PcP**	**20 31 59.5**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=340,slow=1.6,SNR=4.8						
STKA	**Stephens Creek**	**39.02**	**132**	P	**P**	**20 29 50.2**	**+1.0**
JHS	**Saijyo**	**48.95**	**27**	P	**P**	**20 31 07.7**	**-0.9**
KSRS	**Korea Array**	**48.97**	**21**	P	**P**	**20 31 08.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=201,slow=9.8,SNR=2.3						
KSRS				PcP	**PcP**	**20 32 32.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=199,slow=2.7,SNR=4.4						
MJAR	**Matsushiro Arr**	**52.63**	**30**	P	**P**	**20 31 33.7**	**-2.6**
	comp=Z,3.3nm,0.7s,baz=206,slow=7.3,SNR=7.0						
MJAR	**Matsushiro Arr**	**52.63**	**30**	IAmb	IAmb	20 31 34.2	
	comp=Z,1.3nm,0.8s						
NIL	**Nilore**	**53.16**	**323**	P	**P**	**20 31 39.1**	**-1.1**
SONM	**Songino Array**	**55.75**	**359**	P	**P**	**20 31 58.1**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=178,slow=7.9,SNR=16						
SONM				PcP	**PcP**	**20 32 57.7**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=178,slow=3.4,SNR=7.3						
SONM				ScP	**ScP**	**20 36 48.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=166,slow=3.0,SNR=2.4						
SONM				LR	LR	20 56 33.0	
	comp=Z,42nm,19.8s,baz=182,slow=37						
SONM	**Songino Array**	**55.75**	**359**	IAmb	IAmb	20 31 58.7	
	comp=Z,1.4nm,0.6s						
KDJ	**Kajisay**	**57.50**	**333**	P	**P**	**20 32 11.7**	**+0.3**
KDJ				IAmb	IAmb	20 32 12.9	
	comp=Z,3.1nm,0.7s						
GAR	**Garm**	**58.60**	**326**	P	**P**	**20 32 17.9**	**-1.3**
GAR				IAmb	IAmb	20 32 19.5	
	comp=Z,5.8nm,0.9s						
MK31	**Makanchi Array**	**59.35**	**340**	P	**P**	**20 32 22.8**	**-1.2**

VNA1	**Neumayer--Stat**	**51.21 190**	P	**P**	**20 31 36.6**	**-0.3**
KAPI	**Kappang**	**56.64 326**	LR	LR	20 53 36.3	
	comp=Z,58nm,21.1s,baz=167,slow=33					
LEM	**Lembang**	**59.29 312**	LR	LR	20 55 25.4	
	comp=Z,44nm,18.1s,baz=170,slow=33					
H08S2	**Diego Garcia H**	**75.69 278**	T	T	21 57 20.2	
	baz=147,slow=76,SNR=89					
H08S1	**Diego Garcia H**	**75.70 278**	T	T	21 57 19.3	
	baz=147,slow=76,SNR=110					
H08S3	**Diego Garcia H**	**75.72 278**	T	T	21 57 27.6	
	baz=147,slow=76,SNR=95					
H03S2	**Juan Fernandez**	**81.02 142**	T	T	22 04 42.9	
	baz=201,slow=74,SNR=50					
H03S1	**Juan Fernandez**	**81.02 142**	T	T	22 04 44.8	
	baz=201,slow=74,SNR=41					
H03S3	**Juan Fernandez**	**81.04 142**	T	T	22 04 44.4	
	baz=201,slow=74,SNR=46					
H03N3	**Juan Fernandez**	**81.37 142**	T	T	22 05 11.4	
	baz=190					
H03N2	**Juan Fernandez**	**81.38 142**	T	T	22 05 11.3	
	baz=190,SNR=6.0					
H03N1	**Juan Fernandez**	**81.39 142**	T	T	22 05 08.3	
	baz=190					
CMAR	**Chiang Mai Arr**	**85.73 314**	LR	LR	21 12 53.0	
	comp=Z,32nm,19.2s,baz=220,slow=35					
KSRS	**Korea Array**	**95.88 344**	LR	LR	21 18 41.0	
	comp=Z,8.4nm,19.4s,baz=210,slow=35					
KEST	**Kesra**	**144.99 250**	PKPbc	**PKPdf**	**20 42 11.3**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=229,slow=3.6,SNR=4.9					
FINES	**FINESS Array B**	**150.91 303**	PKPbc	**PKiKP**	**20 42 26.9**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=96,slow=3.8,SNR=9.0					
GERES	**GERESS Array B**	**151.67 273**	PKPbc	**PKiKP**	**20 42 28.7**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=134,slow=3.9,SNR=5.4					

IDC 24 20:34:15.9±6.2, 30.55S×178.95W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/29, mbtmp3.8/2, Error ellipse: s-maj=244.1km s-min=57.6km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.28**	**268**	P	P	20 42 10.8	-0.6
	0.6nm,0.7s,baz=106,slow=7.4,SNR=8.7						
WRA	**Warramunga Arr**	**43.28**	**273**	P	P	20 42 19.9	+0.3
	0.9nm,0.3s,baz=112,slow=7.8,SNR=20						
H03S2	**Juan Fernandez**	**81.08**	**124**	T	T	22 15 02.9	
	baz=237,slow=74,SNR=4.8						
H03S1	**Juan Fernandez**	**81.08**	**124**	T	T	22 15 06.3	
	baz=237						
H03S3	**Juan Fernandez**	**81.08**	**124**	T	T	22 15 02.6	
	baz=237,slow=74,SNR=4.5						
H03N3	**Juan Fernandez**	**81.26**	**124**	T	T	22 15 12.5	
	baz=241,slow=72,SNR=3.9						
H03N2	**Juan Fernandez**	**81.26**	**124**	T	T	22 15 14.3	
	baz=241,slow=72,SNR=3.9						
H03N1	**Juan Fernandez**	**81.28**	**124**	T	T	22 15 05.8	
	baz=241,slow=72,SNR=7.0						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	20 53 53.0	-0.8
	2.5nm,0.9s,baz=44,slow=4.4,SNR=5.7						

IDC 24 20:40:29.2±3.5, 9.41S×112.94E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/32, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=183.3km s-min=26.3km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.05**	**126**	Pn	Pn	20 44 02.0	-1.4
	0.1nm,0.3s,baz=303,slow=12,SNR=1.6						
FITZ				Sn	Sn	20 46 36.1	-15
	0.1nm,0.3s,baz=235,slow=8.9,SNR=2.1						
ASAR	**Alice Springs**	**24.54**	**128**	P	P	20 45 51.2	+0.3
	0.6nm,0.7s,baz=304,slow=8.9,SNR=7.3						
SONM	**Songino Array**	**57.28**	**355**	P	P	20 50 18.8	-0.1
	0.6nm,0.7s,baz=169,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**62.27**	**337**	P	P	20 50 53.0	-0.1
	0.4nm,0.4s,baz=155,slow=7.3,SNR=7.2						

*JMA **24** 20:58:26.5±0.1,24.42N×122.50E,h62km±2km,M1.9*
*TAP **24** 20:58:26.9,24.45N×122.48E,h47km,ML2.8,B*
ISC 24 20:58:27.2±1.2, 24.45N±0.03×122.51E±0.02, h53km±10km, n90, σ0=69/161, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.40**	**89**	P	**Pn**	**20 58 37.7**	**+0.2**
JYNG				S	**Sn**	**20 58 45.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.46**	**88**	P	**Pn**	**20 58 38.3**	**+0.1**
YOJ				S	**Sn**	**20 58 46.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.46**	**88**	P	**Pn**	**20 58 38.2**	**+0.1**
	baz=87						
YOJ				S	**Sn**	**20 58 46.4**	**+0.3**
	baz=87						
TWC	**Suao**	**0.62**	**285**	*i* P	**Pn**	**20 58 39.8**	**-0.2**
	baz=285						
TWC				*i* S	**Sn**	**20 58 48.8**	**-0.5**
	baz=285						
EGS		**0.66**	**307**	*e*P	**Pn**	**20 58 38.4**	**-2.1**
	baz=308						
EGS				*e*S	**Sn**	**20 58 49.3**	**-0.9**
	baz=308						
EWUT	**Wuta**	**0.66**	**270**	*i* P	**Pn**	**20 58 41.2**	**+0.7**
	baz=269						
EWUT				S	**Sn**	**20 58 51.6**	**+1.3**
	baz=269						
NTC	**Toucheng**	**0.74**	**304**	*e*P	**Pn**	**20 58 40.1**	**-1.4**
	baz=304						
NTC				*e*S	**Sn**	**20 58 51.5**	**-0.5**
	baz=304						
NDS	**Dongshan**	**0.74**	**285**	P	**Pn**	**20 58 41.7**	**+0.1**
	baz=284						
NDS				S	**Sn**	**20 58 51.8**	**-0.3**
	baz=284						
TIPB	**Shuangxi**	**0.81**	**310**	*i* P	**Pn**	**20 58 42.0**	**-0.6**
	baz=311						
TIPB				S	**Sn**	**20 58 52.5**	**-1.2**
	baz=311						
TWE	**Neicheng**	**0.81**	**290**	*i* P	**Pn**	**20 58 42.4**	**-0.1**
	baz=290						
TWE				*i* S	**Sn**	**20 58 53.4**	**-0.2**
	baz=290						
ETL	**Fush Village**	**0.85**	**251**	P	**Pn**	**20 58 43.1**	**0.0**
	baz=249						
ETL				S	**Sn**	**20 58 55.5**	**+0.7**
	baz=249						
NACB	**Ninganchiao**	**0.88**	**252**	P	**Pn**	**20 58 43.3**	**-0.1**
	baz=251						
NACB				S	**Sn**	**20 58 55.0**	**-0.1**
	baz=251						
ENTT	**Nioudou**	**0.88**	**283**	P	**Pn**	**20 58 44.0**	**+0.6**
	baz=282						
ENTT				S	**Sn**	**20 58 56.0**	**+0.8**
	baz=282						
NWF	**Wu-fen Shan**	**0.91**	**313**	P	**Pn**	**20 58 45.4**	**+1.5**
	baz=314						
NWF				S	**Sn**	**20 58 56.8**	**+0.7**
	baz=314						
WFSB	**Wu-fen Shan**	**0.91**	**313**	P	**Pn**	**20 58 43.1**	**-0.7**
	baz=314						
WFSB				S	**Sn**	**20 58 55.3**	**-0.6**
	baz=314						
TWD	**Chiawan**	**0.91**	**246**	P	**Pn**	**20 58 43.2**	**-0.5**
	baz=245						
TWD				*i* S	**Sn**	**20 58 55.7**	**-0.2**
	baz=245						
NDT	**Datong Townshi**	**0.92**	**280**	*i* P	**Pn**	**20 58 44.5**	**+0.6**
	baz=279						
NDT				*i* S	**Sn**	**20 58 57.1**	**+0.9**
	baz=279						
ETLH	**Xiulin Townshi**	**0.96**	**256**	*e*P	**Pn**	**20 58 44.6**	**0.0**
	baz=255						
ETLH				S	**Sn**	**20 58 57.3**	**-0.1**
	baz=255						
TNOU	**National Taiwa**	**0.97**	**317**	*e*P	**Pn**	**20 58 45.7**	**+1.1**
	baz=317						
TNOU				*e*S	**Sn**	**20 58 57.9**	**+0.6**
	baz=317						
NWLT	**Wulai**	**0.97**	**290**	*e*P	**Pn**	**20 58 44.9**	**+0.3**
	baz=290						
NWLT				*e*S	**Sn**	**20 58 57.5**	**0.0**
	baz=290						
TWA	**Mucha**	**0.99**	**303**	S	**Sn**	**20 58 58.5**	**+0.5**
	baz=303						
TEYL	**Yanliau Villag**	**1.01**	**235**	*e*P	**Pn**	**20 58 45.4**	**+0.2**
	baz=236						
TEYL				*e*S	**Sn**	**20 58 58.5**	**+0.2**
	baz=236						
NNSB	**Datong**	**1.02**	**269**	P	**Pn**	**20 58 45.0**	**-0.4**
	baz=268						
NNSB				S	**Sn**	**20 58 58.9**	**0.0**
	baz=268						
NNSH	**Datong**	**1.02**	**269**	*e*P	**Pn**	**20 58 44.9**	**-0.6**
	baz=268						
NNSH				*e*S	**Sn**	**20 58 59.0**	**+0.1**
	baz=268						
NNS	**Nan Shan**	**1.03**	**270**	S	**Sn**	**20 58 59.4**	**+0.3**
	baz=269						
ETM	**Tongmen**	**1.04**	**243**	P	**Pn**	**20 58 45.9**	**+0.3**
	baz=242						
ETM				S	**Sn**	**20 58 58.5**	**-0.6**
	baz=242						
YHNB	**Yeheng**	**1.05**	**282**	P	**Pn**	**20 58 46.0**	**+0.2**
	baz=282						
YHNB				*e*S	**Sn**	**20 59 00.1**	**+0.6**
	baz=282						
TATO	**Taipei**	**1.06**	**300**	P	**Pn**	**20 58 45.5**	**-0.4**
	baz=300						
TATO				S	**Sn**	**20 58 59.3**	**-0.4**
	baz=300						
NSK	**Sanguang**	**1.07**	**283**	P	**Pn**	**20 58 46.1**	**+0.1**
	baz=282						
NSK				*i* S	**Sn**	**20 58 59.9**	**0.0**
	baz=282						
YM01	**YM01**	**1.10**	**310**	P	**Pn**	**20 58 45.9**	**-0.5**
	baz=309						
YM01				S	**Sn**	**20 58 58.9**	**-1.7**
	baz=309						
YM08	**YM08**	**1.11**	**312**	P	**Pn**	**20 58 47.0**	**+0.5**
	baz=312						
YM08				*e*S	**Sn**	**20 58 59.8**	**-1.0**
	baz=312						
IRIF	**Iriomote-Funau**	**1.12**	**95**	P	**Pn**	**20 58 46.2**	**-0.4**
IRIF				S	**Sn**	**20 59 00.9**	**-0.1**
TEGC	**Jichi Village**	**1.15**	**230**	P	**Pn**	**20 58 47.0**	**0.0**
	baz=229						
TEGC				S	**Sn**	**20 59 01.9**	**+0.3**
	baz=229						
ESL	**Shilin**	**1.17**	**237**	P	**Pn**	**20 58 46.0**	**-1.2**
	baz=236						
ESL				S	**Sn**	**20 59 01.1**	**-1.0**
	baz=236						
TWY	**Chenhua**	**1.17**	**315**	*e*S	**Sn**	**20 59 02.1**	**0.0**
	baz=315						
FUSS	**Fushou**	**1.17**	**260**	*e*P	**Pn**	**20 58 47.3**	**-0.2**
	baz=260						
FUSS				*e*S	**Sn**	**20 59 02.3**	**-0.3**
	baz=260						
WHF	**Hehuan Shan**	**1.17**	**255**	*e*P	**Pn**	**20 58 47.3**	**-0.4**
	baz=254						
WHF				*e*S	**Sn**	**20 59 02.1**	**-0.8**
	baz=254						
TWS1	**Kuangyinshan**	**1.18**	**304**	*e*P	**Pn**	**20 58 47.4**	**0.0**
	baz=304						
TWS1				*e*S	**Sn**	**20 59 02.6**	**+0.1**
	baz=304						
NTST	**Danshui**	**1.20**	**307**	*e*P	**Pn**	**20 58 47.3**	**-0.3**
	baz=307						
NTST				*e*S	**Sn**	**20 59 03.4**	**+0.6**
	baz=307						
TWT	**Tachien**	**1.23**	**261**	*e*P	**Pn**	**20 58 48.6**	**+0.4**
	baz=260						
TWT				*e*S	**Sn**	**20 59 04.7**	**+0.8**
	baz=260						
TDCB	**Techi**	**1.24**	**261**	*e*P	**Pn**	**20 58 49.3**	**+0.8**
	baz=260						
TDCB				*e*S	**Sn**	**20 59 04.5**	**+0.3**
	baz=260						
HATJ	**Hateruma jima**	**1.25**	**108**	P	**Pn**	**20 58 49.0**	**+0.7**
HATJ				*e*S	**Sn**	**20 59 04.2**	**+0.1**
EGFH	**Guangfu**	**1.25**	**232**	*e*P	**Pn**	**20 58 48.1**	**-0.3**
	baz=231						
EGFH				*e*S	**Sn**	**20 59 04.4**	**+0.2**
	baz=231						
CHGB	**Renai**	**1.27**	**253**	P	**Pn**	**20 58 49.3**	**+0.4**
	baz=252						
CHGB				S	**Sn**	**20 59 04.7**	**-0.4**
	baz=252						
NCU	**National Centr**	**1.31**	**294**	*e*P	**Pn**	**20 58 48.5**	**-0.7**
	baz=293						
NCU				*e*S	**Sn**	**20 59 05.4**	**-0.2**
	baz=293						
OWD	**Renai**	**1.31**	**248**	*e*P	**Pn**	**20 58 49.6**	**+0.3**
	baz=247						
OWD				*e*S	**Sn**	**20 59 05.5**	**-0.3**
	baz=247						
NJD	**Zhudong**	**1.32**	**283**	*e*P	**Pn**	**20 58 49.1**	**-0.2**
	baz=282						
LIOB	**Emei**	**1.37**	**279**	P	**Pn**	**20 58 50.7**	**+0.7**
	baz=278						
LIOB				S	**Sn**	**20 59 08.4**	**+1.3**
	baz=278						
HGSD	**Ruisui**	**1.37**	**226**	*e*P	**Pn**	**20 58 49.1**	**-0.9**
	baz=225						
HGSD				S	**Sn**	**20 59 06.8**	**-0.3**
	baz=225						
NSTT	**Nanjuang**	**1.38**	**278**	P	**Pn**	**20 58 50.7**	**+0.6**
	baz=277						
NSTT				*e*S	**Sn**	**20 59 07.2**	**-0.2**
	baz=277						
JKRS	**Kuro-shima**	**1.39**	**98**	P	**Pn**	**20 58 50.2**	**0.0**
JKRS				S	**Sn**	**20 59 07.9**	**+0.5**
HSN1	**Hsinchu**	**1.39**	**284**	*e*P	**Pn**	**20 58 51.0**	**+0.8**
	baz=283						
HSN1				*e*S	**Sn**	**20 59 07.5**	**-0.1**
	baz=283						
EHY	**Hungye**	**1.43**	**229**	*e*P	**Pn**	**20 58 50.2**	**-0.6**
	baz=228						
EHY				*e*S	**Sn**	**20 59 08.6**	**0.0**
	baz=228						
WPL	**Puli Township**	**1.48**	**253**	*e*P	**Pn**	**20 58 52.0**	**+0.6**
	baz=252						
WPL				*e*S	**Sn**	**20 59 11.1**	**+1.3**
	baz=252						
JIJ	**Ishigaki jima**	**1.50**	**93**	P	**Pn**	**20 58 51.1**	**-0.6**
JIJ				S	**Sn**	**20 59 09.1**	**-1.0**
DPDB	**Guoxing**	**1.50**	**254**	*e*P	**Pn**	**20 58 52.2**	**+0.4**
	baz=253						
DPDB				*e*S	**Sn**	**20 59 10.9**	**+0.6**
	baz=253						
WCS	**Beigang Elemen**	**1.51**	**255**	*e*P	**Pn**	**20 58 53.5**	**+1.7**
	baz=254						
WCS				*e*S	**Sn**	**20 59 11.7**	**+1.4**
	baz=254						
YULB	**Yu-li**	**1.52**	**227**	P	**Pn**	**20 58 51.5**	**-0.6**
	baz=225						
YULB				S	**Sn**	**20 59 10.1**	**-0.8**
	baz=225						
EYUL	**Yuli**	**1.54**	**225**	*e*P	**Pn**	**20 58 52.8**	**+0.5**
	baz=224						
EYUL				*e*S	**Sn**	**20 59 11.5**	**+0.3**
	baz=224						
TWF1	**Yuli**	**1.55**	**226**	*e*P	**Pn**	**20 58 51.7**	**-0.8**
	baz=224						
SSLB	**Suanglung**	**1.56**	**245**	*e*P	**Pn**	**20 58 52.7**	**0.0**
	baz=244						
SSLB				*e*S	**Sn**	**20 59 11.7**	**-0.1**
	baz=244						
SMLT	**Sun Moon Lake**	**1.57**	**249**	P	**Pn**	**20 58 53.3**	**+0.5**
	baz=248						
SMLT				*e*S	**Sn**	**20 59 11.4**	**-0.7**
	baz=248						
TWQ1	**Liyutan**	**1.58**	**267**	*e*P	**Pn**	**20 58 51.9**	**-1.0**
	baz=266						
TYC	**Yuchr**	**1.60**	**251**	P	**Pn**	**20 58 54.6**	**+1.5**
	baz=249						
TYC				S	**Sn**	**20 59 13.7**	**+1.0**
	baz=249						
JISG	**Ishigakijimahi**	**1.65**	**85**	P	**Pn**	**20 58 53.1**	**-0.7**
JISG				S	**Sn**	**20 59 13.4**	**-0.5**
FULB	**Fuli**	**1.67**	**222**	*e*P	**Pn**	**20 58 53.3**	**-0.7**
	baz=221						
FULB				S	**Sn**	**20 59 13.7**	**-0.7**
	baz=221						
WWF	**Wufeng**	**1.70**	**257**	*e*P	**Pn**	**20 58 55.0**	**+0.5**
	baz=256						
WDJ	**Dajia District**	**1.70**	**267**	*e*P	**Pn**	**20 58 54.8**	**+0.3**
	baz=266						
WDJ				*e*S	**Sn**	**20 59 15.1**	**-0.1**
	baz=266						
WJS	**Zhushan**	**1.74**	**249**	*e*S	**Sn**	**20 59 15.9**	**-0.1**
	baz=248						
WNT1	**Nantou City**	**1.75**	**253**	*e*P	**Pn**	**20 58 55.1**	**-0.1**
	baz=251						
ECS	**Chishang**	**1.79**	**221**	*e*S	**Sn**	**20 59 17.4**	**+0.1**
	baz=220						
ALS	**Alishan**	**1.81**	**239**	*e*P	**Pn**	**20 58 57.2**	**+0.9**
	baz=238						
ALS				S	**Sn**	**20 59 17.6**	**-0.8**
	baz=238						
WCHH	**Zhanghua**	**1.81**	**259**	*e*P	**Pn**	**20 58 56.6**	**+0.6**
	baz=258						
EDH	**Donghe**	**1.83**	**217**	*e*P	**Pn**	**20 58 55.3**	**-1.0**
	baz=216						
EDH				S	**Sn**	**20 59 16.6**	**-1.8**
	baz=216						
ELDTW	**Lidau**	**1.85**	**228**	*e*P	**Pn**	**20 58 56.4**	**-0.2**
	baz=226						
ELDTW				S	**Sn**	**20 59 18.2**	**-0.8**
	baz=226						
CHN5	**Tsauling**	**1.87**	**244**	*e*P	**Pn**	**20 58 57.1**	**+0.1**
	baz=242						
CHN5				*e*S	**Sn**	**20 59 19.3**	**-0.1**
	baz=242						
LDUT	**Ludao**	**2.00**	**209**	*e*S	**Sn**	**20 59 22.4**	**-0.1**
	baz=207						
JTJ	**Tarama**	**2.01**	**84**	P	**Pn**	**20 58 58.7**	**0.0**
JTJ				*e*S	**Sn**	**20 59 23.6**	**+1.0**
WRL	**Guolierlin Hig**	**2.02**	**255**	*e*P	**Pn**	**20 58 59.7**	**+0.9**
	baz=254						
STYH	**Taoyuan**	**2.03**	**232**	*e*P	**Pn**	**20 59 00.0**	**+1.0**
	baz=230						
STYH				*e*S	**Sn**	**20 59 22.9**	**-0.3**
	baz=230						
STYT	**Tauyuan**	**2.05**	**232**	*e*P	**Pn**	**20 59 00.2**	**+0.9**
	baz=230						
STYT				*e*S	**Sn**	**20 59 22.4**	**-1.3**
	baz=230						
TPUB	**Ta-pu**	**2.06**	**237**	*e*P	**Pn**	**20 59 00.3**	**+0.9**
	baz=236						
CHN4	**Tsaushan**	**2.06**	**238**	*e*P	**Pn**	**20 59 00.0**	**+0.6**
	baz=237						
WTK	**Tuku**	**2.08**	**249**	*e*P	**Pn**	**20 59 00.3**	**+0.7**
	baz=248						
TWGBT	**Beinan**	**2.08**	**219**	*e*P	**Pn**	**20 59 00.5**	**+0.8**
	baz=218						
TWGBT				*e*S	**Sn**	**20 59 24.9**	**+0.4**
	baz=218						
TTN	**Taitung**	**2.10**	**217**	*e*P	**Pn**	**20 59 00.3**	**+0.4**
	baz=215						
TTN				*e*S	**Sn**	**20 59 24.7**	**-0.1**
	baz=215						
WTP	**Ta-pu**	**2.10**	**236**	*e*P	**Pn**	**20 59 00.3**	**+0.3**
	baz=234						
CHY	**Chiayi**	**2.13**	**244**	*e*P	**Pn**	**20 59 01.6**	**+1.3**
	baz=243						
TWK	**Hsinying**	**2.19**	**238**	*e*P	**Pn**	**20 59 00.7**	**-0.6**
	baz=237						
TWK				*e*S	**Sn**	**20 59 26.7**	**-0.5**
	baz=237						
CHN1	**Nanshi**	**2.20**	**236**	*e*P	**Pn**	**20 59 01.1**	**-0.3**
	baz=234						

*NNC **24** 20:59:04.9±1.6,41.75N×72.61E,h0km,mb2.7,mpv2.4,*
Error ellipse: s-maj=14.0km s-min=7.4km az=160.0
*SOME **24** 20:59:04.7,41.80N×72.57E,h5km*
*KRNET **24** 20:59:05.2±0.1,41.79N×72.55E,h12km,mb1.8*
ISC 24 20:59:05.0±1.2, 41.79N±0.03×72.57E±0.03, h3km±14km, n16, σ0=89/27, 9C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.56**	**146**	⇑*i*P	**Pg**	**20 59 16.0**	**+0.2**
	baz=45						
ARSB				⇑*i*S	**Sg**	**20 59 23.8**	**+0.7**
	baz=45						
MNAS	**Manas**	**0.69**	**356**	⇑*e*P	**Pg**	**20 59 18.7**	**+0.3**
	baz=57						
MNAS				⇑*i*S	**Sg**	**20 59 28.5**	**+1.1**
	baz=57						
AML	**Almayashu**	**0.91**	**68**	⇓*i*P	**Pb**	**20 59 22.9**	**-0.7**
	baz=68						
AML				⇓*i*S	**Sb**	**20 59 35.2**	**-1.0**
	baz=68						
MRKS	**Merke**	**1.07**	**27**	*e*P	**Pg**	**20 59 25.4**	**-0.1**
	1.4nm,0.2s						
MRKS				*e*S	**Sb**	**20 59 40.7**	**+0.1**
	3.6nm,0.2s						
MRKS	**Merke**	**1.07**	**27**	P	**Pg**	**20 59 25.5**	**-0.1**
	1.5nm,0.2s						
MRKS				S	**Sb**	**20 59 40.8**	**+0.1**
	4.7nm,0.4s						
TRKS	**Terek-Say**	**1.10**	**257**	⇑*i*P	**Pg**	**20 59 25.5**	**-0.6**
	baz=53						
TRKS				⇑*i*S	**Sg**	**20 59 40.6**	**+0.2**
	baz=53						
EKS2	**Erkin-Say**	**1.25**	**46**	⇑*i*P	**Pg**	**20 59 28.5**	**-0.5**
	baz=46						
EKS2				⇑*i*S	**Sb**	**20 59 45.6**	**-0.3**
	baz=46						
ARLS	**Aral**	**1.31**	**86**	⇓*i*P	**Pb**	**20 59 30.5**	**+0.1**
	baz=87						
ARLS				⇓*i*S	**Sn**	**20 59 48.5**	**0.0**
	baz=87						
KK31	**Karatay Array**	**2.01**	**311**	⇑Pn	**Pb**	**20 59 41.7**	**-0.5**
	0.3nm,0.3s,baz=138,slow=15,SNR=2.8						
KK31				⇓Lg	Lg	21 00 08.6	
	0.7nm,0.3s,baz=131,slow=28,SNR=6.2						
SGDS	**Sogindy**	**2.25**	**42**	Pg	**Pb**	**20 59 46.1**	**-0.2**
	0.5nm,0.4s						
SGDS				Lg	Lg	21 00 16.3	
	1.8nm,0.4s						
DGS	**Degeres**	**2.78**	**58**	*e*P	**Pb**	**20 59 55.9**	**+0.5**
	1.0nm,0.5s						
DGS				*e*S	**Sg**	**21 00 32.9**	**-1.3**
	0.7nm,0.4s						
DGS	**Degeres**	**2.78**	**58**	Pg	**Pb**	**20 59 55.9**	**+0.5**
	1.4nm,0.4s						
DGS				Lg	Lg	21 00 32.8	
	3.9nm,0.5s						
KST	**Kastek**	**2.81**	**62**	*e*P	**Pb**	**20 59 55.4**	**-0.5**
	0.8nm,0.1s						
KST				*e*S	**Sb**	**21 00 32.0**	**+1.3**
	2.7nm,0.5s						
KST	**Kastek**	**2.81**	**62**	Pg	**Pb**	**20 59 55.4**	**-0.5**
	0.9nm,0.2s						
KST				Lg	Lg	21 00 31.9	
	2.8nm,0.5s						
KUU	**Kurty**	**3.48**	**52**	*e*P	**Pb**	**21 00 09.2**	**+2.0**
	0.6nm,0.2s						
KUU				*e*S	**Sg**	**21 00 55.5**	**-1.2**
	1.7nm,0.4s						
KUU	**Kurty**	**3.48**	**52**	Pg	**Pb**	**21 00 09.2**	**+2.0**
	0.7nm,0.4s						
KUU				Lg	Lg	21 00 55.1	
	1.4nm,0.5s						

*IDC **24** 21:03:16.2±9.4,30.49S×179.66W,h340km±96km,mb2.8/2,*
mb1 3.2/3,mb1mx3.0/20,mbtmp3.8/3,Error ellipse:
s-maj=97.8km s-min=38.8km az=11.0
ISC 24 21:03:17.5±0.9, 30.65S±0.09×179.8W±0.2, h350km, n42, σ1=76/64, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.11**	**49**	P	**Pn**	**21 04 10.5**	**+0.9**
GLKZ				S	**Sn**	**21 04 49.7**	**-1.7**
RIZ	**Raoul Island**	**2.11**	**49**	P	Pn	21 04 18.7	+9.1
RIZ				S	**S**	**21 04 52.8**	**+1.3**
MXZ	**Matakaoa Point**	**7.08**	**193**	P	Pn	21 05 05.6	+4.9
MXZ				S	**S**	**21 06 25.3**	**+0.8**
WMGZ	**Waiomatatini S**	**7.31**	**191**	P	**Pn**	**21 05 07.3**	**+4.0**
WMGZ				S	**S**	**21 06 31.2**	**+1.6**
HAZ	**Te Kaha**	**7.38**	**195**	P	**Pn**	**21 05 05.0**	**+0.9**
HAZ				S	**S**	**21 06 31.3**	**+0.3**
PKGZ	**Pakihiroa**	**7.44**	**193**	P	**Pn**	**21 05 02.2**	**-2.7**
PKGZ				S	**S**	**21 06 31.9**	**-0.5**
URZ	**Urewera**	**8.02**	**198**	P	**P**	**21 05 13.4**	**-1.3**
	3.3nm,0.3s,baz=272,slow=5.5,SNR=12						
URZ				S	**S**	**21 06 45.7**	**+0.8**
	3.6nm,0.3s,baz=122,slow=23,SNR=3.4						
SNGZ	**Shannon Statio**	**8.46**	**196**

MRHZ	**Matea Rd**	**8.75**	**200**	P	**P**	**21 05 24.3 +1.4**
MRHZ				S	**S**	**21 07 07.0 +6.0**
ARHZ	**Aropaoanui**	**9.00**	**196**	P	**P**	**21 05 26.6 +1.0**
ARHZ				S	**S**	**21 07 06.0 -0.2**
HIZ	**Hauiti**	**9.01**	**208**	P	**P**	**21 05 30.1 +4.3**
BKZ	**Black Stump Fm**	**9.04**	**199**	P	**P**	**21 05 26.1 0.0**
BKZ				S	**S**	**21 07 06.6 -0.7**
MCHZ	**McNeill Hill**	**9.24**	**197**	P	**S**	**21 05 29.4 +1.0**
MCHZ				S	**S**	**21 07 12.2 +0.5**
KWHZ	**Kaweka Forest**	**9.30**	**199**	P	**P**	**21 05 28.3 -0.7**
KWHZ				S	**S**	**21 07 13.5 +0.5**
FWVZ	**Far West T-bar**	**9.41**	**203**	P	**P**	**21 05 30.8 +0.4**
FWVZ				S	**S**	**21 07 18.0 +2.3**
WNVZ	**Wahianoa**	**9.46**	**202**	P	**P**	**21 05 30.8 -0.2**
WNVZ				S	**S**	**21 07 18.8 +2.1**
MOVZ	**Moawhango**	**9.48**	**202**	P	**P**	**21 05 30.6 -0.5**
MOVZ				S	**S**	**21 07 16.2 -0.8**
KRHZ	**Kereru**	**9.52**	**198**	P	**P**	**21 05 31.2 -0.2**
KRHZ				S	**S**	**21 07 16.4 -1.3**
KAHZ	**Kahuranaki**	**9.53**	**196**	P	**P**	**21 05 32.9 +1.3**
KAHZ				S	**S**	**21 07 18.7 +0.7**
PXZ	**Pawanui**	**9.76**	**196**	P	**P**	**21 05 34.3 +0.3**
PXZ				S	**S**	**21 07 20.0 -3.0**
PNHZ	**Pukenui**	**9.81**	**199**	P	**P**	**21 05 34.0 -0.8**
PNHZ				S	**S**	**21 07 20.3 -4.0**
TSZ	**Takapari Road**	**10.02**	**199**	P	**P**	**21 05 37.4 +0.4**
TSZ				S	**S**	**21 07 26.1 -2.7**
BFZ	**Birch Farm**	**10.52**	**197**	P	**Pn**	**21 05 41.1 -0.5**
BFZ				S	**S**	**21 07 36.4 -3.4**
MRZ	**Mangatainoka R**	**10.68**	**200**	P	**Pn**	**21 05 43.1 -0.3**
MRZ				S	**S**	**21 07 39.3 -4.1**
HOWZ	**Holdsworth Sta**	**10.92**	**199**	P	**Pn**	**21 05 46.4 +0.1**
OGWZ	**Otaki Gorge**	**10.95**	**201**	P	**Pn**	**21 05 46.1 -0.4**
TMWZ	**Te Maipa**	**11.01**	**197**	P	**P**	**21 05 49.7 +1.6**
KIW	**Kapiti Island**	**11.07**	**202**	P	**P**	**21 05 48.3 -0.4**
CAW	**Cannon Point**	**11.25**	**200**	P	**P**	**21 05 50.9 +0.3**
DUWZ	**D'Urville Isla**	**11.36**	**205**	P	**Pn**	**21 05 51.1 -0.4**
TUWZ	**Tuamarina**	**11.90**	**204**	P	**P**	**21 05 56.8 -1.0**
NNZ	**Nelson**	**11.92**	**206**	P	**P**	**21 05 57.7 -0.3**
QRZ	**Quartz Range**	**11.93**	**210**	P	**Pn**	**21 05 58.5 +0.3**
THZ	**Tophouse**	**12.57**	**206**	P	**Pn**	**21 06 05.6 -0.3**
KHZ	**Kahutara**	**12.92**	**203**	P	**P**	**21 06 08.0 -1.0**
ASAR	**Alice Springs**	**41.59**	**268**	P	**P**	**21 10 33.0 +0.5**
	0.3nm,0.7s,baz=104,slow=7.6,SNR=4.1					
WRA	**Warramunga Arr**	**42.60**	**273**	P	**P**	**21 10 40.5 -0.2**
	0.6nm,0.4s,baz=111,slow=8.0,SNR=14					
FINES	**FINESS Array B**	**144.84**	**339**	PKP	**PKPdf**	**21 22 11.3 -1.0**
	4.1nm,0.7s,baz=46,slow=4.0,SNR=22					
NOA	**NORSAR Array B**	**148.75**	**350**	PKPbc	**PKPbc**	**21 22 21.9 -1.4**
	0.5nm,0.6s,baz=18,slow=4.2,SNR=1.9					

*IDC **24** 21:05:24.6±0.8, 17°.63N×40°.35E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/36, mbtmp4.0/16, ML3.2/1, MS3.9/24, Ms1 3.9/24, ms1mx3.7/45, Error ellipse: s-maj=17.9km s-min=16.6km az=112.0*

*NEIC **24** 21:05:25.5±1.0, 17°.37N±0°.08×40°.38E±0°.06, h10km±1km, mb4.4/41, Error ellipse: s-maj=12.9km s-min=9.1km az=179.0*

ISC 24 21:05:25.4±0.5, 17°.47N±0°.08×40°.35E±0°.08, h10km, n102, σ1s19/91, mb4.3/42, MS4.1/22, 2D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**6.38**	**157**	Pn		**Pn**	**21 07 03.7**	**+4.1**
	0.5nm,0.3s,baz=102,slow=17,SNR=2.3							
ATD				Lg		Lg	21 08 47.5	
	comp=Z,56nm,19.0s,baz=3.5,slow=31							
ATD				Lg		Lg	21 08 54.3	
	0.3nm,0.3s,baz=228,slow=22,SNR=1.0							
ATD	**Arta Tunnel**	**6.38**	**157**			**Pn**	**21 06 55.7**	**-3.8**
RAYN	**Ar Rayn**	**7.72**	**38**	Pn		**Pn**	**21 07 17.1**	**-1.0**
FURI	**Furi**	**8.67**	**191**	Pn		**Pn**	**21 07 30.1**	**-1.3**
EIL	**Elat**	**13.12**	**339**	LR		LR	21 12 51.6	
	comp=Z,341nm,19.3s,baz=118,slow=34							
MMAI	**Mount Meron Ar**	**16.11**	**345**	LR		LR	21 15 02.7	
	comp=Z,256nm,18.5s,baz=120,slow=36							
UOSS	**Minazif**	**16.54**	**61**	Pn		**Pn**	**21 09 15.8**	**-1.8**
UOSS				IAmb		IAmb	21 09 24.3	
	comp=Z,49nm,1.2s							
WSAR	**Wadi Sarin**	**18.07**	**68**	Pn		**P**	**21 09 39.3**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=232,slow=11,SNR=2.8							
WSAR				LR		LR	21 17 41.0	
	comp=Z,1µm,19.8s,baz=276,slow=41							
KMBO	**Kilima Mbogo**	**18.73**	**190**	LR		LR	21 16 51.2	
	comp=Z,623nm,19.4s,baz=354,slow=36							
MBAR	**Mbarara**	**20.30**	**209**	P		**P**	**21 10 02.6**	**+0.8**
	comp=Z,1.1nm,0.2s,baz=70,slow=23,SNR=1.7							
MBAR				LR		LR	21 16 30.8	
	comp=Z,127nm,22.0s,baz=12,slow=33							
MBAR	**Mbarara**	**20.30**	**209**	P		**P**	**21 10 00.2**	**-1.5**
GURO	**Guroymak-BITLI**	**21.06**	**4**	P		**P**	**21 10 10.9**	**+1.1**
BNN	**Bunyan**	**21.67**	**350**	P		**P**	**21 10 16.1**	**-0.3**
GNI	**Garni**	**22.92**	**9**	LR		LR	21 20 13.0	
	comp=Z,141nm,18.4s,baz=194,slow=39							
BR131	**Keskin Array S**	**22.93**	**347**	P		**P**	**21 10 29.8**	**-0.1**
BR131				IAmb		IAmb	21 10 55.8	
	comp=Z,19nm,1.2s							
BRTR	**Keskin Array B**	**22.93**	**347**	P		**P**	**21 10 29.8**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=165,slow=10,SNR=5.6							
BRTR				LR		LR	21 18 55.8	
	comp=Z,209nm,20.4s,baz=162,slow=36							
BRTR	**Keskin Array B**	**22.93**	**347**	P		**P**	**21 10 30.5**	**+0.6**
ANTO	**Ankara**	**23.27**	**345**	P		**P**	**21 10 33.9**	**+0.6**
ONI	**Oni**	**25.18**	**5**	P		**P**	**21 10 51.4**	**+0.3**
ONI				IAmb		IAmb	21 11 16.7	
	comp=Z,11nm,1.2s							
GEYT	**Alibeck**	**25.66**	**34**	LR		LR	21 22 05.1	
	comp=Z,688nm,19.2s,baz=70,slow=39							
GYA0B	**ALIBECK ARRAY**	**25.66**	**34**	P		**P**	**21 10 56.0**	**+0.5**
GYA0B				IAmb		IAmb	21 11 12.5	
	comp=Z,9.2nm,1.2s							
HRA	**Herat**	**25.82**	**45**	P		**P**	**21 10 57.4**	**+0.1**
HRA				IAmb		IAmb	21 11 00.8	
	comp=Z,6.7nm,1.1s							
KBZ	**Khabaz**	**26.27**	**4**	LR		LR	21 22 18.4	
	comp=Z,220nm,18.9s,baz=188,slow=39							
BURAR	**Bucovina Array**	**32.54**	**341**	P		**P**	**21 11 57.0**	**+0.3**
KEST	**Kesra**	**32.96**	**310**	P		**P**	**21 12 00.3**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=172,slow=20,SNR=1.5							
GAR	**Garm**	**33.77**	**44**	P		**P**	**21 12 07.5**	**-0.1**
AKASG	**Malin Array Be**	**34.33**	**347**	P		**P**	**21 12 11.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=166,slow=8.1,SNR=5.3							
AKASG				LR		LR	21 27 23.9	
	comp=Z,40nm,18.5s,baz=115,slow=39							
AKBB	**Malin Array Si**	**34.33**	**347**	P		**P**	**21 12 12.8**	**+0.7**
AKBB				IAmb		IAmb	21 12 15.9	
	comp=Z,3.1nm,0.6s							
BTK	**Batken**	**34.65**	**43**	P		**P**	**21 12 14.9**	**-0.2**
DRK	**Karamyk**	**35.01**	**45**	P		**P**	**21 12 18.9**	**+0.4**
ABKAR	**Akbulak array**	**35.46**	**22**	P		**P**	**21 12 21.8**	**-0.1**
ABKAR				IAmb		IAmb	21 12 50.9	
	comp=Z,7.5nm,1.6s							
ABKAR	**Akbulak array**	**35.46**	**22**	P		**P**	**21 12 21.4**	**-0.5**
SOKA	**Soboth**	**35.87**	**330**	*eP*		**P**	**21 12 28.7**	**+3.2**
	comp=Z,4.6nm,1.3s							
ARSA	**Arzberg**	**36.05**	**331**	*eP*		**P**	**21 12 28.4**	**+1.4**
	comp=Z,4.3nm,0.9s							
KK31	**Karatay Array**	**36.15**	**39**	P		**P**	**21 12 28.2**	**+0.3**
KKAR	**Karatay Array**	**36.15**	**39**	P		**P**	**21 12 28.2**	**+0.2**
KKAR	**Karatay Array**	**36.15**	**39**	P		**P**	**21 12 28.1**	**+0.2**
ARSB	**Arslanbob**	**36.71**	**43**	P		**P**	**21 12 32.5**	**-0.5**
ARSB				IAmb		IAmb	21 12 55.5	
	comp=Z,8.1nm,1.1s							
ZOU	**Zoufplan**	**36.80**	**328**	P		**P**	**21 12 34.5**	**+0.9**
ZOU				IAmb		IAmb	21 12 46.4	
	comp=Z,8.2nm,1.1s							
ABTA	**Abfaltersbach**	**37.16**	**328**	*eP*		**P**	**21 12 38.2**	**+1.6**
	comp=Z,5.2nm,1.1s							
TOA0	**Torodi Ar. Sit**	**37.49**	**269**	P		**P**	**21 12 39.2**	**-0.5**
TOA0				IAmb		IAmb	21 12 42.7	
	comp=Z,7.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**37.49**	**269**	P		**P**	**21 12 39.4**	**-0.3**
	comp=Z,5.4nm,0.8s,baz=84,slow=8.6,SNR=15							
TORD				PcP		**PcP**	**21 14 57.4**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=35,slow=3.5,SNR=2.0							
TORD				LR		LR	21 28 40.5	
	comp=Z,250nm,20.2s,baz=85,slow=37							
TORD	**Torodi Ar. Bea**	**37.49**	**269**	P		**P**	**21 12 39.2**	**-0.5**
TORD				IAmb		IAmb	21 12 42.7	
	comp=Z,5.8nm,0.9s							
KRLC	**Kraliky**	**37.65**	**335**	*eP*		**P**	**21 12 41.4**	**+0.8**
CKRC	**Cesky Krumlov**	**37.75**	**332**	*eP*		**P**	**21 12 42.1**	**+0.6**
WATA	**Walderalm**	**38.03**	**328**	*eP*		**P**	**21 12 48.1**	**+4.1**
	comp=Z,3.1nm,0.9s							
DPC	**Dobruska-Polom**	**38.05**	**335**	*eP*		**P**	**21 12 44.8**	**+0.8**
GEC2	**GERESS Array S**	**38.05**	**331**	P		**P**	**21 12 44.6**	**+0.5**
GERES	**GERESS Array B**	**38.05**	**331**	P		**P**	**21 12 44.2**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=126,slow=6.9,SNR=24							
GERES	**GERESS Array B**	**38.05**	**331**	P		**P**	**21 12 44.3**	**+0.2**
FETA	**Feichten**	**38.26**	**327**	*eP*		**P**	**21 12 47.1**	**+1.2**
	comp=Z,3.7nm,0.9s							
MOTA	**Moosalm**	**38.27**	**328**	*eP*		**P**	**21 12 46.6**	**+0.5**
	comp=Z,4.7nm,0.9s							
KHC	**Kasperske Hory**	**38.31**	**331**	*eP*		**P**	**21 12 46.0**	**-0.2**
AAK	**Ala-Archa**	**38.35**	**42**	P		**P**	**21 12 46.3**	**-0.5**
FRU1	**Bishkek**	**38.52**	**42**	P		**P**	**21 12 47.7**	**-0.5**
FRU1				IAmb		IAmb	21 12 51.1	
	comp=Z,10nm,1.1s							
RETA	**Reutte**	**38.54**	**327**	P		**P**	**21 12 51.4**	**+3.1**
	comp=Z,2.3nm,0.6s							
DAVA	**Damuels**	**38.87**	**327**	*eP*		**P**	**21 12 51.2**	**+0.1**
	comp=Z,5.6nm,0.7s							
BOOM	**Boomskoye usch**	**39.21**	**43**	P		**P**	**21 12 54.1**	**0.0**
BOOM				IAmb		IAmb	21 13 17.4	
	comp=Z,8.4nm,1.1s							
BNI	**Bardonecchia**	**39.33**	**322**	P		**P**	**21 12 55.5**	**+0.5**
BNI				IAmb		IAmb	21 13 21.3	
	comp=Z,20nm,1.7s							
BRG	**Berggiesshubel**	**39.43**	**334**	*e*(P)		**P**	**21 12 55.6**	**+0.1**
BRG				Amp			21 12 56.9	
	comp=Z,10nm,1.7s							
SENIN	**Lac Senin/Sane**	**39.72**	**324**	P		**P**	**21 12 58.0**	**-0.3**
SENIN				IAmb		IAmb	21 13 09.9	
	comp=Z,15nm,1.6s							
KDJ	**Kajisay**	**39.86**	**44**	P		**P**	**21 12 59.5**	**+0.1**
CLL	**Collm**	**40.15**	**333**	*eP*		**P**	**21 13 04.0**	**+2.5**
BFO	**Black Forest**	**40.34**	**327**	P		**P**	**21 13 02.9**	**-0.3**
PRZ	**Przheval'sk**	**40.82**	**44**	P		**P**	**21 13 07.6**	**+0.1**
PRZ				IAmb		IAmb	21 13 31.1	
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**41.26**	**15**	P		**P**	**21 13 10.5**	**-0.1**
ARU				IAmb		IAmb	21 13 13.1	
	comp=Z,7.9nm,1.1s							
BRVK	**Borovoye**	**42.52**	**26**	P		**P**	**21 13 20.9**	**0.0**
BRVK				IAmb		IAmb	21 13 44.2	
	comp=Z,12nm,1.5s							
BGES	**Gesves**	**43.27**	**327**	*dP*		**P**	**21 13 27.5**	**+0.3**
KLMR	**Klimovskoe**	**43.34**	**359**	*eP*		**P**	**21 13 26.5**	**-1.0**
KLMR				AMP			21 13 41.8	
	comp=Z,10.0nm,1.2s							
DOU	**Dourbes**	**43.36**	**327**	*dP*		**P**	**21 13 27.8**	**0.0**
ESBB	**Sonseca Array**	**44.21**	**309**	P		**P**	**21 13 35.1**	**+0.2**
ESDC	**Sonseca Array**	**44.21**	**309**	P		**P**	**21 13 35.2**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=103,slow=7.1,SNR=17							
ESDC	**Sonseca Array**	**44.21**	**309**	P		**P**	**21 13 34.9**	**-0.1**
MAKZ	**Makanchi**	**45.02**	**40**	P		**P**	**21 13 40.5**	**-0.7**
MAKZ				IAmb		IAmb	21 14 03.4	
	comp=Z,6.6nm,1.1s							
FINES	**FINESS Array B**	**45.08**	**350**	P		**P**	**21 13 41.2**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=158,slow=15,SNR=1.5							
FINES	**FINESS Array B**	**45.08**	**350**	P		**P**	**21 13 41.3**	**-0.1**
MK31	**Makanchi Array**	**45.21**	**40**	P		**P**	**21 13 42.2**	**-0.5**
MKAR	**Makanchi Array**	**45.21**	**40**	P		**P**	**21 13 42.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=232,slow=6.0,SNR=15							
MKAR				PcP		**PcP**	**21 15 22.2**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=232,slow=2.3,SNR=2.9							
MKAR				LR		LR	21 35 04.7	
	comp=Z,269nm,19.4s,baz=234,slow=40							
MKAR	**Makanchi Array**	**45.21**	**40**	P		**P**	**21 13 42.4**	**-0.4**
DBIC	**Dimbokro**	**45.38**	**262**	P		**P**	**21 13 46.8**	**+2.3**
	comp=Z,8.4nm,1.1s,baz=47,slow=4.1,SNR=3.3							
DBIC				LR		LR	21 33 03.8	
	comp=Z,389nm,18.4s,baz=64,slow=36							
WMQ	**Urumqi**	**47.63**	**46**	*eP*		**P**	**21 14 03.8**	**+1.9**
BOSA	**Boshof**	**48.08**	**198**	LR		LR	21 35 07.6	
	comp=Z,260nm,19.0s,baz=28,slow=37							
NOA	**NORSAR Array B**	**48.22**	**341**	P		**P**	**21 14 05.1**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=139,slow=8.8,SNR=4.7							
NOA				LR		LR	21 34 50.5	
	comp=Z,30nm,20.8s,baz=135,slow=37							
ZAA0	**Zalesovo Array**	**49.97**	**33**	P		**P**	**21 14 18.8**	**-0.8**
ZALV	**Zalesovo Beam**	**49.97**	**33**	P		**P**	**21 14 18.9**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=251,slow=8.8,SNR=17							
ZALV				LR		LR	21 38 02.0	
	comp=Z,136nm,22.0s,baz=244,slow=39							
ZALV	**Zalesovo Beam**	**49.97**	**33**	P		**P**	**21 14 18.5**	**-1.0**
ARCES	**ARCESS Array B**	**52.86**	**354**	LR		LR	21 36 53.6	
	comp=Z,47nm,19.7s,baz=230,slow=36							
CMAR	**Chiang Mai Arr**	**55.53**	**79**	LR		LR	21 42 04.5	
	comp=Z,26nm,18.3s,baz=330,slow=40							
GTA	**Gaotai**	**55.65**	**54**	*eP*		**P**	**21 15 03.5**	**+1.5**
GTA				pP		sP	21 15 08.3	+2.4
GTA				sP		pP	21 15 10.8	+6.0
GTA				pmax		pmax		
	comp=Z,2.0nm,1.1s							
GTA				pmax		pmax		
	comp=Z,67nm,5.1s							
GTA				L		L		
	comp=Z,110nm,17.8s							
GTA				L		L		
	comp=Z,130nm,17.5s							
GTA				L		L		
	comp=Z,160nm,18.5s							
LZH	**Lanzhou**	**58.67**	**58**	*eP*		**P**	**21 15 24.1**	**+0.6**
LZH				pP		sP	21 15 27.8	+0.4
LZH				sP		pP	21 15 29.8	+3.5
LZH				pmax		pmax		
	comp=Z,19nm,1.0s							
LZH				pmax		pmax		
	comp=Z,85nm,7.6s							
LZH				L		L		
	comp=Z,170nm,15.2s							
LZH				L		L		
	comp=Z,200nm,15.2s							
LZH				L		L		
	comp=Z,160nm,17.9s							
NRIK	**Noril'sk**	**59.40**	**18**	P		**P**	**21 15 27.1**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=234,slow=4.3,SNR=4.6							
NRIK	**Noril'sk**	**59.40**	**18**	P		**P**	**21 15 28.5**	**+0.7**
SONM	**Songino Array**	**61.21**	**45**	P		**P**	**21 15 40.6**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=242,slow=3.2,SNR=8.7							
SONM				LR		LR	21 45 58.1	
	comp=Z,221nm,18.2s,baz=270,slow=40							
SONM	**Songino Array**	**61.21**	**45**	P		**P**	**21 15 39.8**	**-0.9**
SONM				IAmb		IAmb	21 16 02.9	
	comp=Z,5.0nm,1.3s							
HHC	**Hu-ho-hao-te**	**64.69**	**53**	*eP*		**P**	**21 16 04.3**	**+0.3**
HHC				pmax		pmax		
	comp=Z,21nm,0.6s							
HHC				pmax		pmax		
	comp=Z,96nm,5.8s							
TIXI	**Tiksi**	**73.10**	**19**	LR		LR	21 54 11.4	
	comp=Z,151nm,18.1s,baz=354,slow=40							
TIXI	**Tiksi**	**73.10**	**19**	P		**P**	**21 16 54.5**	**-1.1**
TIXI				IAmb		IAmb	21 16 55.3	
	comp=Z,2.2nm,0.8s							
KSRS	**Korea Array**	**77.71**	**54**	P		**P**	**21 17 23.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=270,slow=10,SNR=2.4							
KSRS				LR		LR	21 57 20.7	
	comp=Z,92nm,18.8s,baz=185,slow=40							
USRK	**Ussuriysk Ar.**	**79.19**	**47**	LR		LR	21 57 05.9	
	comp=Z,162nm,19.3s,baz=260,slow=39							
MJAR	**Matsushiro Arr**	**85.89**	**53**	LR		LR	22 00 14.1	
	comp=Z,77nm,21.1s,baz=245,slow=38							
PETK	**Petropavlovsk-**	**91.51**	**32**	LR		LR	22 03 54.5	
	comp=Z,95nm,18.4s,baz=270,slow=38							
NVAR	**Mina Array Bea**	**120.90**	**341**	PKP		**PKPdf**	**21 24 18.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=11,slow=1.5,SNR=4.1							

*IDC **24** 21:30:26.5±0.7, 18°.94S×67°.72W, h203km±7km, mb3.6/4, mb1 3.8/10, mb1mx3.5/35, mbtmp4.2/10, Error ellipse: s-maj=16.3km s-min=8.2km az=95.0*

*GUC **24** 21:30:27.6±0.6, 18°.98S×67°.99W, h233km±6km, ML4.2*

*VAO **24** 21:30:27.4±0.4, 18°.91S×67°.67W, h203km, mb4.1*

*NEIC **24** 21:30:27.1±2.3, 18°.91S±0°.06×67°.76W±0°.09, h204km±6km, mb4.2/15, Error ellipse: s-maj=11.7km s-min=8.9km az=91.0*

*SCB **24** 21:30:31.3±3.0, 19°.01S×67°.83W, h170km±29km, ML4.0/7, Error ellipse: s-maj=18.4km s-min=14.3km az=1.0*

ISC 24 21:30:26.7±0.6, 18°.96S±0°.04×67°.80W±0°.06, h208km±6km, n125, σ1s34/149, mb4.0/8, 4C-1D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**1.71**	**264**	*i*P		**Pn**	**21 31 04.2**	**+1.0**
MNMC				*i* S		**S**	**21 31 32.8**	**+1.5**
MNMC				IAML			21 31 39.4	
	comp=E,1µm,0.3s							
MNMC	**Minye Minye**	**1.71**	**264**			**Pn**	**21 31 04.2**	**+1.0**
MNMC				Sn		**S**	**21 31 32.6**	**+1.3**
MNMC	**Minye Minye**	**1.71**	**264**	P		**Pn**	**21 31 04.4**	**+1.1**
MNMC				S		**S**	**21 31 29.1**	**-2.2**
MNMC				IAML			21 31 35.3	
	comp=E,983nm,0.5s							
PB16	**IPOC Station P**	**1.73**	**291**			**Pn**	**21 31 05.0**	**+1.2**
PB16				Sn		**S**	**21 31 34.3**	**+2.1**
PB08	**IPOC Station P**	**1.74**	**227**	*i*P		**Pn**	**21 31 05.0**	**+1.3**
PB08				*i* S		**S**	**21 31 33.9**	**+1.8**
PB08	**IPOC Station P**	**1.74**	**227**			**Pn**	**21 31 04.4**	**+0.8**
PB08				Sn		**S**	**21 31 34.0**	**+1.8**
PB08	**IPOC Station P**	**1.74**	**227**	P		**Pn**	**21 31 04.8**	**+1.2**
PB08				S		**S**	**21 31 29.1**	**-3.0**
PB08				IAML			21 31 34.6	
	comp=E,178nm,0.8s							
PB11	**IPOC Station P**	**1.93**	**245**	*i*P		**Pn**	**21 31 05.8**	**+0.5**
PB11				*i* S		**S**	**21 31 35.3**	**+0.5**
PB11				IAML			21 31 36.0	
	comp=N,1µm,0.2s							
PB11	**IPOC Station P**	**1.93**	**245**	Pn		**Pn**	**21 31 05.7**	**+0.5**
PB11	**IPOC Station P**	**1.93**	**245**	P		**Pn**	**21 31 05.9**	**+0.7**
PB11				S		**S**	**21 31 32.3**	**-2.5**
PB11				IAML			21 31 36.1	
	comp=N,978nm,0.4s							
BBOE	**La Paz, Chanca**	**2.14**	**355**	P		**Pn**	**21 31 09.5**	**+1.7**
PSGC	**Pisagua**	**2.29**	**253**	*e*P		**Pn**	**21 31 08.7**	**-0.2**
PSGC				*i* S		**S**	**21 31 40.4**	**-0.9**
PSGC				IAML			21 31 42.3	
	comp=N,572nm,0.3s							
PSGC	**Pisagua**	**2.29**	**253**	P		**Pn**	**21 31 09.1**	**+0.3**
PSGC				S		**S**	**21 31 37.2**	**-4.0**
PSGC				IAML			21 31 41.4	
	comp=N,393nm,0.5s							
PSGCX	**Pisagua**	**2.29**	**253**	Pn		**Pn**	**21 31 08.8**	**-0.1**
HMBC	**Humberstone**	**2.37**	**236**	*i*P		**Pn**	**21 31 09.6**	**-0.2**
HMBC				*i* S		**S**	**21 31 42.5**	**-0.4**
HMBC				IAML			21 31 44.1	
	comp=N,888nm,0.3s							
HMBC	**Humberstone**	**2.37**	**236**	P		**Pn**	**21 31 09.9**	**+0.2**
HMBC				S		**S**	**21 31 39.2**	**-3.7**
HMBC				IAML			21 31 44.0	
	comp=N,742nm,0.4s							
AP01	**Chacalluta**	**2.48**	**283**	*e*P		**Pn**	**21 31 11.2**	**+0.4**
AP01				*i* S		**S**	**21 31 44.3**	**-0.4**
AP01	**Chacalluta**	**2.48**	**283**			**Pn**	**21 31 11.3**	**+0.4**
TA02	**Huaiquique**	**2.56**	**239**	*i* S		**S**	**21 31 45.4**	**-1.0**
TA02	**Huaiquique**	**2.56**	**239**			**Pn**	**21 31 11.6**	**0.0**
PB01	**IPOC Station P**	**2.62**	**217**	*e*P		**Pn**	**21 31 13.2**	**+0.7**
PB01				*i* S		**S**	**21 31 47.6**	**-0.1**
PB01				IAML			21 31 49.7	
	comp=E,429nm,0.2s							
PB01	**IPOC Station P**	**2.62**	**217**			**Pn**	**21 31 13.3**	**+0.9**
LPAZ	**La Paz**	**2.67**	**353**	P		**Pn**	**21 31 14.5**	**+0.9**
	comp=E,51nm,0.3s,baz=156,slow=6.4,SNR=1192							
LPAZ				S		**S**	**21 31 49.9**	**+0.1**
	comp=E,14nm,0.3s,baz=266,slow=22,SNR=14							
LPAZ	**La Paz**	**2.67**	**353**	P		**Pn**	**21 31 14.5**	**+0.9**
LPAZ				S		**S**	**21 31 47.0**	**-2.8**
LPAZ				IAML			21 31 50.5	
	comp=E,217nm,0.6s							
LPAZ	**La Paz**	**2.67**	**353**	*e*P		**Pn**	**21 31 14.6**	**+0.9**
TA01	**Diego Aracena**	**2.76**	**234**	*e*P		**Pn**	**21 31 14.1**	**+0.2**
TA01				*i* S		**S**	**21 31 48.8**	**-1.6**
TA01				IAML			21 31 50.1	
	comp=E,328nm,0.3s							
TA01	**Diego Aracena**	**2.76**	**234**	Pn		**Pn**	**21 31 13.8**	**-0.1**
BBOB	**La Paz, Bander**	**2.82**	**353**	P		**Pn**	**21 31 16.0**	**+0.8**
MOCB	**Mochara**	**3.06**	**139**	P		**Pn**	**21 31 19.4**	**+1.6**
PB09	**IPOC Station P**	**3.13**	**205**	*e*P		**Pn**	**21 31 20.9**	**+2.4**
PB09				⇓*i*

JANB	**Januaria**	**22.78**	**84**	*e*P		**P**	**21 35 11.2**	**-0.5**
MC01	**Montes Claros**	**22.82**	**88**	*e*P		**P**	**21 35 11.9**	**0.0**
DIAM	**Diamantina, MG**	**22.87**	**92**	*e*P		**P**	**21 35 12.2**	**-0.3**
SDBA	**SAO DESIDERIO**	**22.97**	**77**	*e*P		**P**	**21 35 13.5**	**+0.1**
DUB01	**Friburgo-RJ**	**24.00**	**102**	*e*P		**P**	**21 35 23.0**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**25.37**	**52**	*e*P		**P**	**21 35 35.4**	**+0.3**
BSFB	**Barra de Sao F**	**25.49**	**94**	*e*P		**P**	**21 35 36.1**	**0.0**
RIB01	**Linhares ES**	**25.88**	**95**	*e*P		**P**	**21 35 39.1**	**-0.5**
NAN01	**Guarapari, ES**	**26.27**	**92**	*e*P		**P**	**21 35 42.6**	**-0.5**
GDU01	**Guandu, BA**	**27.56**	**83**	*e*P		**P**	**21 35 54.1**	**-0.5**
NBPN	**Ponto Novo - B**	**27.83**	**77**	*e*P		**P**	**21 35 57.0**	**-0.1**
SNAA	**Sanae**	**64.34**	**161**	P		**P**	**21 40 40.9**	**+1.0**
SNAA				IAmb		IAmb	21 41 03.9	
	comp=Z,8.8nm,1.5s							
SDCO	**Great Sand Dun**	**66.62**	**328**	P		**P**	**21 40 55.6**	**+0.4**
KOWA	**Kowa**	**71.05**	**67**	P		**P**	**21 41 21.8**	**-0.8**
KOWA				IAmb		IAmb	21 41 23.8	
	comp=Z,3.2nm,0.9s							
QSPA	**South Pole Qui**	**71.22**	**180**	P		**P**	**21 41 24.8**	**+1.8**
QSPA				IAmb		IAmb	21 41 48.5	
	comp=Z,5.0nm,1.4s							
PDAR	**Pinedale Array**	**72.46**	**329**	P		**P**	**21 41 30.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=138,slow=9.1,SNR=4.7							
ULM	**Lac du Bonnet**	**73.23**	**342**	P		**P**	**21 41 33.3**	**-1.5**
	comp=Z,3.6nm,0.6s,baz=129,slow=2.0,SNR=4.2							
ULM	**Lac du Bonnet**	**73.23**	**342**	P		**P**	**21 41 34.1**	**-0.7**
ULM				IAmb		IAmb	21 41 35.2	
	comp=Z,3.9nm,0.6s							
TOA0	**Torodi Ar. Sit**	**75.52**	**70**	P		**P**	**21 41 47.8**	**-0.9**
TOA0				IAmb		IAmb	21 41 50.4	
	comp=Z,2.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**75.52**	**70**	P		**P**	**21 41 47.8**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=256,slow=5.4,SNR=37							
TORD	**Torodi Ar. Bea**	**75.52**	**70**	P		**P**	**21 41 47.9**	**-0.9**
TORD				IAmb		IAmb	21 41 50.3	
	comp=Z,1.6nm,0.6s							
BOSA	**Boshof**	**83.71**	**118**	P		**P**	**21 42 33.1**	**+0.2**
ASAR	**Alice Springs**	**132.64**	**207**	PKP		**PKPdf**	**21 49 18.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=158,slow=2.1,SNR=4.4							
ASAR	**Alice Springs**	**132.64**	**207**	PKPdf		**PKiKP**	**21 49 18.9**	**+0.3**
WRA	**Warramunga Arr**	**135.67**	**210**	PKP		**PKPdf**	**21 49 24.2**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=150,slow=1.7,SNR=8.6							
WRA	**Warramunga Arr**	**135.67**	**210**			**PKPdf**	**21 49 24.6**	**+1.4**
USRK	**Ussuriysk Ar.**	**149.87**	**331**	PKPbc		**PKPbc**	**21 49 52.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=356,slow=2.5,SNR=4.2							
USRK	**Ussuriysk Ar.**	**149.87**	**331**			**PKPbc**	**21 49 52.9**	**+0.6**
SONM	**Songino Array**	**150.81**	**8**	PKPbc		**PKiKP**	**21 49 55.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=235,slow=1.0,SNR=5.2							
SONM	**Songino Array**	**150.81**	**8**			**PKPbc**	**21 49 55.4**	**+0.8**

TAP ***24*** *21:34:10.5,25.˚41N×122.˚98E,h179km,ML3.2,D*
JMA ***24*** *21:34:12.4±0.3,25.˚20N×122.˚81E,h178km±4km,M2.6*
ISC 24 21:34:11.9±2.0,25.˚31N±0.˙07×122.˚87E±0.˙03,
h178km±11km,n82,σ0s77/139,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCYT	**Pengchaiyu**	**0.79**	**294**	*e*P		**Pn**	**21 34 37.2**	**-0.7**
	baz=285							
PCYT				S		**Sn**	**21 34 57.1**	**-1.0**
	baz=285							
TWB1	**Santiao Chiao**	**0.85**	**250**	P		**Pn**	**21 34 39.0**	**+0.6**
	baz=253							
TWB1				*e*S		**Sn**	**21 34 59.2**	**+0.4**
	baz=253							
YOJ	**Yonaguni jima**	**0.85**	**171**	P		**Pn**	**21 34 38.4**	**0.0**
YOJ				S		**Sn**	**21 34 57.1**	**-1.8**
YOJ	**Yonaguni jima**	**0.85**	**171**	P		**Pn**	**21 34 38.5**	**+0.1**
	baz=179							
YOJ				S		**Sn**	**21 34 57.6**	**-1.3**
	baz=179							
EGS		**0.97**	**242**	*e*P		**Pn**	**21 34 38.7**	**-0.5**
	baz=246							
EGS				*e*S		**Sn**	**21 35 00.5**	**+0.3**
	baz=246							
TIPB	**Shuangxi**	**1.00**	**251**	*i* P		**Pn**	**21 34 39.8**	**+0.3**
	baz=252							
TIPB				S		**Sn**	**21 35 00.8**	**+0.1**
	baz=252							
TNOU	**National Taiwa**	**1.01**	**261**	P		**Pn**	**21 34 40.0**	**+0.6**
	baz=257							
TNOU				*e*S		**Sn**	**21 35 01.0**	**+0.3**
	baz=257							
WFSB	**Wu-fen Shan**	**1.01**	**257**	*e*P		**Pn**	**21 34 38.9**	**-0.7**
	baz=251							
WFSB				*e*S		**Sn**	**21 35 00.0**	**-0.8**
	baz=251							
TWY	**Chenhua**	**1.15**	**269**	*e*P		**Pn**	**21 34 41.0**	**+0.4**
	baz=264							
TWY				*e*S		**Sn**	**21 35 02.9**	**+0.2**
	baz=264							
TWC	**Suao**	**1.16**	**233**	*e*P		**Pn**	**21 34 40.6**	**0.0**
	baz=228							
YM01	**YM01**	**1.19**	**262**	*e*P		**Pn**	**21 34 41.5**	**+0.5**
	baz=263							
TWA	**Mucha**	**1.21**	**255**	*e*P		**Pn**	**21 34 41.0**	**-0.1**
	baz=252							
TWA				*e*S		**Sn**	**21 35 03.6**	**-0.1**
	baz=252							
TWE	**Neicheng**	**1.24**	**242**	P		**Pn**	**21 34 41.5**	**+0.1**
	baz=245							
TWE				S		**Sn**	**21 35 04.1**	**0.0**
	baz=245							
NDS	**Dongshan**	**1.25**	**238**	*e*P		**Pn**	**21 34 41.6**	**+0.2**
	baz=228							
NDS				*e*S		**Sn**	**21 35 04.0**	**-0.1**
	baz=228							
IRIF	**Iriomote-Funau**	**1.25**	**141**	*e*S		**Sn**	**21 35 04.5**	**+0.3**
TAP	**Taipei**	**1.27**	**258**	*e*P		**Pn**	**21 34 42.1**	**+0.6**
	baz=255							
NHDH	**Xindian Distri**	**1.27**	**254**	*e*S		**Sn**	**21 35 04.2**	**-0.2**
	baz=252							
TATO	**Taipei**	**1.30**	**255**	*e*P		**Pn**	**21 34 42.0**	**+0.2**
	baz=253							
EWUT	**Wuta**	**1.31**	**229**	*e*P		**Pn**	**21 34 42.6**	**+0.6**
	baz=222							
EWUT				*e*S		**Sn**	**21 35 05.4**	**+0.2**
	baz=222							
TWS1	**Kuangyinshan**	**1.33**	**261**	*e*S		**Sn**	**21 35 05.4**	**-0.1**
	baz=260							
NWLT	**Wulai**	**1.35**	**247**	*e*P		**Pn**	**21 34 42.4**	**+0.1**
	baz=248							
NWLT				*e*S		**Sn**	**21 35 05.7**	**-0.1**
	baz=248							
NDT	**Datong Townshi**	**1.42**	**241**	P		**Pn**	**21 34 42.0**	**-1.0**
	baz=239							
NDT				S		**Sn**	**21 35 07.2**	**+0.2**
	baz=239							
EHP	**Heping Village**	**1.43**	**226**	*e*P		**Pn**	**21 34 43.4**	**+0.3**
	baz=219							
JKRS	**Kuro-shima**	**1.49**	**136**	P		**Pn**	**21 34 44.1**	**+0.5**
JKRS				S		**Sn**	**21 35 09.1**	**+1.0**
JIJ	**Ishigaki jima**	**1.49**	**129**	P		**Pn**	**21 34 43.8**	**+0.2**
JIJ				S		**Sn**	**21 35 08.2**	**+0.1**
JISG	**Ishigakijimahi**	**1.49**	**119**	P		**Pn**	**21 34 44.3**	**+0.7**
JISG				S		**Sn**	**21 35 08.9**	**+0.8**
YHNB	**Yeheng**	**1.50**	**245**	P		**Pn**	**21 34 43.6**	**-0.2**
	baz=245							
YHNB				S		**Sn**	**21 35 08.4**	**+0.1**
	baz=245							
HATJ	**Hateruma jima**	**1.51**	**146**	P		**Pn**	**21 34 44.4**	**+0.6**
HATJ				*e*S		**Sn**	**21 35 08.5**	**0.0**
NCU	**National Centr**	**1.56**	**258**	*e*P		**Pn**	**21 34 44.2**	**-0.1**
	baz=255							
NNSB	**Datong**	**1.61**	**237**	P		**Pn**	**21 34 45.2**	**+0.3**
	baz=236							
NNSB				S		**Sn**	**21 35 10.9**	**+0.4**
	baz=236							
NNSH	**Datong**	**1.61**	**237**	*e*P		**Pn**	**21 34 44.7**	**-0.2**
	baz=237							
NNSH				*e*S		**Sn**	**21 35 11.4**	**+0.9**
	baz=237							
ETL	**Fush Village**	**1.61**	**225**	*e*P		**Pn**	**21 34 44.7**	**-0.1**
	baz=220							
ETL				S		**Sn**	**21 35 10.6**	**+0.2**
	baz=220							
NNS	**Nan Shan**	**1.61**	**238**	*i* P		**Pn**	**21 34 45.5**	**+0.6**
	baz=237							
NNS				*i* S		**Sn**	**21 35 11.4**	**+0.9**
	baz=237							
NACB	**Ninganchiao**	**1.62**	**226**	P		**Pn**	**21 34 44.4**	**-0.5**
	baz=221							
NACB				S		**Sn**	**21 35 10.1**	**-0.3**
	baz=221							
ETLH	**Xiulin Townshi**	**1.67**	**229**	P		**Pn**	**21 34 45.4**	**-0.2**
	baz=229							
ETLH				S		**Sn**	**21 35 11.9**	**+0.3**
	baz=229							
TWD	**Chiawan**	**1.69**	**224**	P		**Pn**	**21 34 45.0**	**-0.5**
	baz=220							
TWD				S		**Sn**	**21 35 11.4**	**-0.2**
	baz=220							
HWA	**Hwalien**	**1.76**	**221**	*e*P		**Pn**	**21 34 47.3**	**+1.1**
	baz=217							
HSN1	**Hsinchu**	**1.76**	**253**	*e*P		**Pn**	**21 34 46.5**	**+0.2**
	baz=251							
SBCB	**Hsinchu**	**1.79**	**254**	*e*P		**Pn**	**21 34 45.7**	**-0.9**
	baz=243							
JTJ	**Tarama**	**1.79**	**111**	P		**Pn**	**21 34 47.8**	**+1.2**
JTJ				S		**Sn**	**21 35 14.3**	**+0.9**
LIOB	**Emei**	**1.81**	**249**	*e*P		**Pn**	**21 34 46.7**	**-0.1**
	baz=239							
LIOB				*e*S		**Sn**	**21 35 14.3**	**+0.5**
	baz=239							
FUSS	**Fushou**	**1.82**	**235**	*e*P		**Pn**	**21 34 47.5**	**+0.3**
	baz=229							
FUSS				*e*S		**Sn**	**21 35 14.3**	**-0.1**
	baz=229							
NSTT	**Nanjuang**	**1.83**	**249**	P		**Pn**	**21 34 46.5**	**-0.5**
	baz=239							
NSTT				S		**Sn**	**21 35 13.7**	**-0.5**
	baz=239							
ETM	**Tongmen**	**1.83**	**223**	P		**Pn**	**21 34 46.0**	**-1.1**
	baz=224							
ETM				S		**Sn**	**21 35 13.7**	**-0.7**
	baz=224							
TEYL	**Yanliau Villag**	**1.84**	**219**	*e*P		**Pn**	**21 34 46.3**	**-0.8**
	baz=217							
TEYL				*e*S		**Sn**	**21 35 14.8**	**+0.3**
	baz=217							
WHF	**Hehuan Shan**	**1.86**	**232**	*i* P		**Pn**	**21 34 47.8**	**-0.1**
	baz=228							
WHF				S		**Sn**	**21 35 16.4**	**+0.8**
	baz=228							
TWT	**Tachien**	**1.86**	**236**	*e*P		**Pn**	**21 34 48.3**	**+0.7**
	baz=235							
TWT				*e*S		**Sn**	**21 35 16.7**	**+1.5**
	baz=235							
TDCB	**Techi**	**1.88**	**236**	P		**Pn**	**21 34 48.5**	**+0.8**
	baz=235							
TDCB				S		**Sn**	**21 35 16.6**	**+1.2**
	baz=235							
CHGB	**Renai**	**1.98**	**231**	P		**Pn**	**21 34 49.1**	**+0.2**
	baz=231							
CHGB				*e*S		**Sn**	**21 35 17.6**	**0.0**
	baz=231							
ESL	**Shilin**	**1.98**	**222**	P		**Pn**	**21 34 48.8**	**+0.1**
	baz=228							
TEGC	**Jichi Village**	**2.00**	**218**	P		**Pn**	**21 34 48.6**	**-0.2**
	baz=214							
TEGC				*e*S		**Sn**	**21 35 18.5**	**+1.0**
	baz=214							
OWD	**Renai**	**2.05**	**229**	*e*P		**Pn**	**21 34 49.4**	**-0.1**
	baz=224							
OWD				*e*S		**Sn**	**21 35 18.9**	**+0.2**
	baz=224							
EGFH	**Guangfu**	**2.10**	**219**	*e*P		**Pn**	**21 34 49.4**	**-0.5**
	baz=215							
EGFH				*e*S		**Sn**	**21 35 17.6**	**-1.9**
	baz=215							
TWQ1	**Liyutan**	**2.13**	**244**	*e*P		**Pn**	**21 34 51.0**	**+0.7**
	baz=236							
TWQ1				*e*S		**Sn**	**21 35 20.2**	**+0.1**
	baz=236							
JIRB	**Irabujima**	**2.14**	**102**	S		**Sn**	**21 35 20.0**	**-0.2**
WPL	**Puli Township**	**2.17**	**234**	*e*P		**Pn**	**21 34 51.7**	**+1.0**
	baz=239							
WCS	**Beigang Elemen**	**2.17**	**235**	*e*P		**Pn**	**21 34 50.7**	**0.0**
	baz=240							
WCS				*e*S		**Sn**	**21 35 20.6**	**-0.3**
	baz=240							
JIKM	**Ikemajima**	**2.19**	**100**	*e*S		**Sn**	**21 35 21.5**	**+0.3**
HGSD	**Ruisui**	**2.24**	**216**	*e*P		**Pn**	**21 34 50.7**	**-0.8**
	baz=215							
HGSD				S		**Sn**	**21 35 21.5**	**-0.8**
	baz=215							
JMJ	**Miyako jima 2**	**2.25**	**102**	*e*P		**Pn**	**21 34 50.2**	**-1.4**
	baz=105							
JMJ				*e*S		**Sn**	**21 35 18.4**	**-4.1**
	baz=105							
EHY	**Hungye**	**2.28**	**218**	*e*P		**Pn**	**21 34 51.7**	**-0.3**
	baz=225							
EHY				*e*S		**Sn**	**21 35 21.1**	**-2.1**
	baz=225							
SMLT	**Sun Moon Lake**	**2.29**	**232**	*e*P		**Pn**	**21 34 52.7**	**+0.5**
	baz=231							
JMJ2	**Miyako jima3**	**2.30**	**104**	P		**Pn**	**21 34 52.7**	**+0.5**
JMJ2				S		**Sn**	**21 35 23.7**	**+0.3**
TCU	**Taichung**	**2.31**	**240**	*e*S		**Sn**	**21 35 22.8**	**-0.8**
	baz=239							
TYC	**Yuchr**	**2.31**	**233**	*i* P		**Pn**	**21 34 52.4**	**+0.1**
	baz=238							
TYC				S		**Sn**	**21 35 24.7**	**+1.2**
	baz=238							
SSLB	**Suanglung**	**2.31**	**229**	*e*P		**Pn**	**21 34 52.0**	**-0.3**
	baz=232							
SSLB				*e*S		**Sn**	**21 35 23.7**	**0.0**
	baz=232							
JOGS	**Gusukube**	**2.37**	**103**	P		**Pn**	**21 34 53.9**	**+1.0**
YULB	**Yu-li**	**2.39**	**217**	*e*P		**Pn**	**21 34 51.4**	**-1.9**
	baz=224							
YULB				*e*S		**Sn**	**21 35 25.0**	**-0.3**
	baz=224							
EYUL	**Yuli**	**2.41**	**216**	*e*P		**Pn**	**21 34 53.6**	**+0.2**
	baz=223							
TWF1	**Yuli**	**2.42**	**217**	*e*P		**Pn**	**21 34 52.8**	**-0.8**
	baz=223							
YUS	**Yu-Shan**	**2.52**	**224**	*e*P		**Pn**	**21 34 55.3**	**+0.1**
	baz=218							
FULB	**Fuli**	**2.55**	**215**	*e*P		**Pn**	**21 34 54.8**	**-0.3**
	baz=212							
FULB				*e*S		**Sn**	**21 35 30.6**	**+1.9**
	baz=212							
ALS	**Alishan**	**2.60**	**227**	*e*P		**Pn**	**21 34 55.6**	**-0.4**
	baz=221							
ALS				S		**Sn**	**21 35 30.2**	**+0.1**
	baz=221							
CHN5	**Tsauling**	**2.63**	**230**	*e*P		**Pn**	**21 34 55.1**	**-1.0**
	baz=236							
CHN5				S		**Sn**	**21 35 31.1**	**+0.6**
	baz=236							
ELDTW	**Lidau**	**2.71**	**219**	*e*P		**Pn**	**21 34 56.1**	**-1.0**
	baz=219							
ELDTW				*e*S		**Sn**	**21 35 32.2**	**0.0**
	baz=219							
EDH	**Donghe**	**2.73**	**212**	*e*P		**Pn**	**21 34 56.8**	**-0.5**
	baz=209							
EDH				*e*S		**Sn**	**21 35 31.9**	**-0.7**
	baz=209							
CHN4	**Tsaushan**	**2.85**	**227**	*e*P		**Pn**	**21 34 58.0**	**-0.6**
	baz=233							
TPUB	**Ta-pu**	**2.86**	**226**	*e*P		**Pn**	**21 34 58.9**	**+0.1**
	baz=219							
TPUB				*e*S		**Sn**	**21 35 35.1**	**-0.2**
	baz=219							
STYH	**Taoyuan**	**2.86**	**222**	*e*P		**Pn**	**21 34 59.7**	**+0.9**
	baz=222							
STYH				*e*S		**Sn**	**21 35 35.1**	**-0.2**
	baz=222							
STYT	**Tauyuan**	**2.88**	**223**	*e*P		**Pn**	**21 34 59.4**	**+0.3**
	baz=218							
WTP	**Ta-pu**	**2.91**	**226**	*e*P		**Pn**	**21 35 00.8**	**+1.4**
	baz=233							
TTN	**Taitung**	**2.99**	**212**	*e*P		**Pn**	**21 35 00.5**	**+0.1**
	baz=218							
TTN				*e*S		**Sn**	**21 35 37.6**	**-0.6**
	baz=218							

IDC ***24*** *21:53:23.6±0.4,1.˚50N×126.˚34E,h0km,mb4.5/25,*
mb1 4.6/28,mb1mx4.5/34,mbtmp4.5/28,ML4.0/3,MS3.3/5,
Ms1 3.3/5,ms1mx3.0/49,Error ellipse: s-maj=19.7km
s-min=9.7km az=75.0
NEIC ***24*** *21:53:25.7±1.6,1.˚62N±0.˚06×126.˚44E±0.˚06,h10km±1km,*
mb4.7/81,Error ellipse: s-maj=11.7km s-min=8.9km
az=44.0
DJA ***24*** *21:53:29.6±0.3,2.˚N±.3˚×12.˚6E±.˚,h51km±3km,M4.6/18,*
mb4.6/18,mB5.1/7,MLv4.6/12,Mw(mB)4.5/7,MwMwp4.5/2,
Mwp4.9/2
KLM ***24*** *21:53:32,1.˚40N×126.˚62E,h69km,mb4.7*
ISC 24 21:53:30.2±0.3,1.˚52N±0.˚04×126.˚41E±0.˚05,h47km,n176,
σ1s23/178,mb4.7/72,MS3.3/7,3D,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.21**	**128**	Pn		**Pn**	**21 53 49.7**	**-1.1**
TNTI	**Ternate**	**1.21**	**128**	P		**Pn**	**21 53 49.4**	**-1.4**
GAMI	**Galela, Maluku**	**1.42**	**77**	P		**Pn**	**21 53 51.9**	**-1.7**
MNI	**Manado**	**1.57**	**267**	P		**Pn**	**21 53 55.2**	**-0.4**
MNI				S		**Sn**	**21 54 14.6**	**-0.2**
SGSI	**Sangihe**	**2.33**	**338**	P		**Pn**	**21 54 05.3**	**-0.7**
GTOI	**Gorontalo**	**3.50**	**256**	P		**Pn**	**21 54 24.6**	**+2.4**
SANI	**Sanana**	**3.57**	**187**	P		**Pn**	**21 54 23.2**	**+0.1**
LUWI	**Luwuk**	**4.43**	**235**	Pn		**Pn**	**21 54 36.5**	**+1.4**
LUWI	**Luwuk**	**4.43**	**235**	P		**Pn**	**21 54 36.4**	**+1.4**
MRSI	**Marisa**	**4.58**	**257**	P		**Pn**	**21 54 37.6**	**+0.6**
NLAI	**Namlea**	**4.78**	**172**	P		**Pn**	**21 54 40.4**	**+0.7**
KRAI	**Karang Ratu**	**5.20**	**158**	P		**Pn**	**21 54 46.4**	**+0.9**
	0.4nm4µm50nm,0.7s							
APSI	**Ampana**	**5.33**	**243**	P		**Pn**	**21 54 47.9**	**+0.6**
	1.3nm3µm271nm,1.2s							
SIJI	**Sorong**	**5.41**	**116**	Pn		**Pn**	**21 54 46.3**	**-2.1**
	1.8nm,0.3s,baz=152,slow=23,SNR=1.8							
SIJI				LR		LR	21 57 20.1	
	comp=Z,659nm,19.2s,baz=112,slow=43							
DAV	**Davao City (W)**	**5.58**	**352**	LR		LR	21 57 11.8	
	comp=Z,7.5nm,21.6s,baz=281,slow=41							
DAV	**Davao City (W)**	**5.58**	**352**	Pn		**Pn**	**21 54 47.2**	**-3.5**
KCP	**Kidapawan**	**5.61**	**347**	*e*P		**Pn**	**21 54 52.3**	**+1.1**
KCP				*i* S		**Sn**	**21 55 59.6**	**+5.2**
TOLI2	**Tolitoli**	**5.64**	**266**	Pn		**Pn**	**21 54 50.3**	**-1.2**
MPSI	**Mapaga**	**6.61**	**260**	P		**Pn**	**21 55 05.5**	**+0.6**
	0.4nm2µm670nm85nm,1.0s							
PAGZ	**Pagadian**	**6.97**	**335**	*e*P		**Pn**	**21 55 09.8**	**0.0**
FAKI	**Fak Fak**	**7.32**	**127**	Pn		**Pn**	**21 55 14.3**	**-0.2**
FAKI	**Fak Fak**	**7.32**	**127**	P		**Pn**	**21 55 14.6**	**0.0**
	0.3nm82nm,0.9s							
KKSI	**Kolaka, Sulawe**	**7.38**	**220**	P		**Pn**	**21 55 16.4**	**+0.9**
	0.2nm1µm68nm,0.8s							
TTSI	**Tana Toraja**	**7.99**	**235**	P		**Pn**	**21 55 24.7**	**+0.9**
	83nm,0.6s							
KAPI	**Kappang**	**9.29**	**226**	Pn		**Pn**	**21 55 39.2**	**-2.4**
	1.3nm,0.3s,baz=119,slow=16,SNR=1.7							
KAPI	**Kappang**	**9.29**	**226**	Pn		**Pn**	**21 55 42.8**	**+1.2**
KAPI	**Kappang**	**9.29**	**226**	P		**Pn**	**21 55 41.8**	**+0.2**
	557nm51nm,1.1s							
MKS	**Makassar**	**9.63**	**226**	P		**Pn**	**21 55 47.2**	**+0.9**
	62nm,0.6s							
SPMM	**Sapulut**	**10.42**	**288**	P		**Pn**	**21 55 59.0**	**+1.9**
SOEI	**Soe**	**11.40**	**191**	P		**Pn**	**21 56 11.4**	**+0.8**
	83nm,1.0s							
BATI	**Baumata**	**11.96**	**193**	Pn		**Pn**	**21 56 20.3**	**+2.1**
	0.9nm,0.3s,baz=93,slow=22,SNR=1.1							
PLAI	**Plampang**	**13.40**	**220**	P		**Pn**	**21 56 38.8**	**+0.9**
	106nm,0.9s							
TWSI	**Taliwang, Sumb**	**13.92**	**223**	P		**Pn**	**21 56 45.9**	**+0.9**
	765nm98nm,0.8s							
SBUM	**Sibu**	**14.21**	**274**	P		**P**	**21 56 58.0**	**+2.9**
STKI	**Sintang**	**15.00**	**265**	P		**Pn**	**21 56 59.6**	**+0.3**
MTN	**Manton Dam**	**15.02**	**162**	Pn		**Pn**	**21 56 58.7**	**-0.8**
MTN				IAmb		IAmb	21 57 18.2	
	comp=Z,40nm,1.2s							
KSM	**Kuching**	**16.09**	**270**	P		**P**	**21 57 19.0**	**+2.9**
KNRA	**Kununurra**	**17.24**	**172**	P		**Pn**	**21 57 28.1**	**+0.3**
KNRA				IAmb		IAmb	21 57 28.8	
	comp=Z,45nm,1.0s							
UGM	**Wanagama**	**18.40**	**239**	P		**P**	**21 57 40.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**19.51**	**182**	P		**P**	**21 57 52.9**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=24,slow=6.6,SNR=10.0							
FITZ	**Fitzroy Crossi**	**19.51**	**182**			**P**	**21 57 53.0**	**-0.6**
KPJI	**Karang Pucung**	**19.53**	**243**	P		**P**	**21 57 54.1**	**+0.2**
	comp=Z,42nm,0.8s							
LEM	**Lembang**	**20.50**	**246**	LR		LR	22 07 40.0	
	comp=Z,132nm,21.0s,baz=140,slow=42							
TWG	**Pinlang**	**21.80**	**347**	P		**P**	**21 58 15.9**	**-2.5**
TWG				IAmb		IAmb	21 58 34.9	
	comp=Z,22nm,0.6s							
YULB	**Yu-li**	**22.30**	**348**	P		**P**	**21 58 20.3**	**-3.5**
YULB				IAmb		IAmb	21 58 28.0	
	comp=Z,16nm,0.9s							
WB0	**Warramunga Arr**	**22.56**	**160**	P		**P**	**21 58 25.5**	**-1.1**
WRA	**Warramunga Arr**	**22.70**	**160**	P		**P**	**21 58 26.9**	**-1.2**
	comp=Z,3.6nm,0.5s,baz=340,slow=11,SNR=152							
WRA	**Warramunga Arr**	**22.70**	**160**	P		**P**	**21 58 26.2**	**-1.9**
SSLB	**Suanglung**	**22.76**	**347**	P		**P**	**21 58 26.3**	**-2.4**
SSLB				IAmb		IAmb	21 58 40.5	
	comp=Z,16nm,0.7s							
WR0	**Warramunga Arr**	**22.79**	**160**	P		**P**	**21 58 28.0**	**-1.0**
WR0				IAmb		IAmb	21 58 31.4	
	comp=Z,27nm,0.8s							
LWLI	**Liwa**	**23.25**	**254**	P		**P**	**21 58 34.2**	**+0.3**
	comp=Z,69nm,0.7s							
YHNB	**Yeheng**	**23.52**	**348**	P		**P**	**21 58 34.7**	**-1.6**
YHNB				IAmb		IAmb	21 58 40.5	
	comp=Z,21nm,0.9s							
QIZ	**Qiongzhong**	**23.80**	**318**	P		**P**	**21 58 39.2**	**+0.4**
QIZ				IAmb		IAmb	21 59 04.7	
	comp=Z,28nm,1.3s							
PSA00	**Pilbara Seismi**	**23.83**	**195**	P		**P**	**21 58 38.3**	**-0.8**
PSA00	**Pilbara Seismi**	**23.83**	**195**	P		**P**	**21 58 38.4**	**-0.7**
PSA00				IAmb		IAmb	21 58 39.2

XAN				pP	pP	22 00 37.4	-3.7		
XAN				sP	pwP	22 00 41.0	-2.2		
XAN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
MJAR	**Matsushiro Arr**	**36.52**	**16**	P	**P**	**22 00 30.4**	**-0.9**		
	comp=Z,3.0nm,0.9s,baz=184,slow=9.1,SNR=7.9								
MJAR				LR	LR	22 14 46.0			
	comp=Z,32nm,21.7s,baz=215,slow=35								
MAJO	**Matsushiro**	**36.52**	**16**	P	**P**	**22 00 30.4**	**-0.9**		
MAT	**Matsushiro**	**36.52**	**16**	P	**P**	**22 00 30.6**	**-0.7**		
JSD	**Sado**	**37.94**	**15**	P	**P**	**22 00 41.8**	**-1.5**		
JSD				IAmb	IAmb	22 01 00.3			
	comp=Z,14nm,1.0s								
BJT	**Baijiatuau**	**39.44**	**348**	P	**P**	**22 00 55.6**	**-0.2**		
BJI	**Beijing**	**39.46**	**348**	P	**P**	**22 00 57.9**	**+2.0**		
BJI				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ARMA	**Armidale**	**39.83**	**145**	P	**P**	**22 00 60.0**	**+0.7**		
LZH	**Lanzhou**	**40.26**	**331**	*eP*	**P**	**22 01 03.4**	**+0.6**		
LZH				pP	pP	22 01 06.3	-8.7		
LZH				sP	pwP	22 01 07.9	-9.2		
LZH				PP	**PP**	**22 02 37.3**	**+1.1**		
LZH				pmax	pmax				
	comp=Z,23nm,1.1s								
LZH				pmax	pmax				
	comp=Z,110nm,6.0s								
LZH				L	L				
	comp=Z,160nm,15.7s								
LZH				L	L				
	comp=Z,210nm,15.7s								
LZH				L	L				
	comp=Z,150nm,16.3s								
SHL	**Shillong**	**40.96**	**309**	P	**P**	**22 01 07.6**	**-1.2**		
SHL				IAmb	IAmb	22 01 11.1			
	comp=Z,11nm,0.7s								
HHC	**Hu-ho-hao-te**	**41.39**	**343**	*eP*	**P**	**22 01 12.0**	**-0.1**		
HHC				pmax	pmax				
	comp=Z,16nm,0.6s								
HHC				pmax	pmax				
	comp=Z,90nm,6.3s								
HHC				L	L				
	comp=Z,100nm,8.9s								
HHC				L	L				
	comp=Z,120nm,8.9s								
HHC				L	L				
	comp=Z,94nm,9.3s								
CAN	**Canberra**	**42.30**	**152**	P	**P**	**22 01 20.4**	**+0.9**		
CAN				IAmb	IAmb	22 01 45.5			
	comp=Z,30nm,1.3s								
TOO	**Toolangi**	**42.72**	**157**	P	**P**	**22 01 22.4**	**-0.4**		
USRK	**Ussuriysk Ar.**	**42.79**	**6**	P	**P**	**22 01 23.9**	**+0.7**		
	comp=Z,2.7nm,0.7s,baz=198,slow=9.3,SNR=8.0								
USRK	**Ussuriysk Ar.**	**42.79**	**6**	P	**P**	**22 01 22.3**	**-1.0**		
MDJ	**Mudanjiang**	**43.01**	**3**	P	**P**	**22 01 26.1**	**+1.1**		
MDJ				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,88nm,3.7s								
MDJ	**Mudanjiang**	**43.01**	**3**	P	**P**	**22 01 24.1**	**-0.9**		
MDJ				IAmb	IAmb	22 01 28.3			
	comp=Z,6.9nm,0.7s								
LSA	**Lhasa**	**43.68**	**313**	P	**P**	**22 01 30.9**	**-0.3**		
GTA	**Gaotai**	**44.83**	**331**	*eP*	**P**	**22 01 41.8**	**+1.9**		
GTA				pP	pP	22 01 47.4	-4.8		
GTA				sP	pwP	22 01 50.4	-4.0		
GTA				PcP	**PcP**	**22 03 22.9**	**+1.7**		
GTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,61nm,5.1s								
GTA				L	L				
	comp=Z,52nm,16.7s								
GTA				L	L				
	comp=Z,61nm,16.4s								
GTA				L	L				
	comp=Z,86nm,16.0s								
HIA	**Hailar**	**47.91**	**354**	P	**P**	**22 02 04.0**	**+0.2**		
HIA				IAmb	IAmb	22 02 15.7			
	comp=Z,6.8nm,0.6s								
ULN	**Ulaanbaatar**	**49.12**	**343**	P	**P**	**22 02 12.9**	**-0.3**		
ULN	**Ulaanbaatar**	**49.12**	**343**	P	**P**	**22 02 12.0**	**-1.3**		
SONM	**Songino Array**	**49.28**	**342**	P	**P**	**22 02 13.9**	**-0.6**		
	comp=Z,1.4nm,0.6s,baz=161,slow=9.0,SNR=9.6								
SONM				PcP	**PcP**	**22 03 37.3**	**+0.5**		
	comp=Z,0.9nm,0.7s,baz=154,slow=3.0,SNR=3.7								
SONM	**Songino Array**	**49.28**	**342**	P	**P**	**22 02 14.1**	**-0.5**		
WMQ	**Urumqi**	**54.35**	**326**	*eP*	**P**	**22 02 52.6**	**+0.3**		
WMQ				pmax	pmax				
	comp=Z,43nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,130nm,4.7s								
PEA0B	**Petropavlovsk-**	**57.59**	**22**	P	**P**	**22 03 15.8**	**+0.6**		
PETK	**Petropavlovsk-**	**57.59**	**22**	P	**P**	**22 03 16.5**	**+1.4**		
	comp=Z,5.0nm,0.6s,baz=168,slow=3.5,SNR=17								
PETK	**Petropavlovsk-**	**57.59**	**22**	P	**P**	**22 03 16.3**	**+1.2**		
PRZ	**Przheval'sk**	**59.17**	**322**	P	**P**	**22 03 26.9**	**+0.2**		
TARG	**Taragay, Kyrgy**	**59.19**	**319**	P	**P**	**22 03 28.1**	**+1.1**		
TARG				IAmb	IAmb	22 03 30.1			
	comp=Z,3.1nm,0.7s								
MK31	**Makanchi Array**	**59.19**	**326**	P	**P**	**22 03 25.9**	**-0.6**		
MK31				IAmb	IAmb	22 03 30.8			
	comp=Z,4.7nm,1.1s								
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**22 03 26.1**	**-0.4**		
	comp=Z,3.8nm,0.5s,baz=120,slow=8.1,SNR=38								
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**22 03 25.8**	**-0.7**		
MAKZ	**Makanchi**	**59.37**	**326**	P	**P**	**22 03 26.9**	**-0.9**		
MAKZ				IAmb	IAmb	22 03 31.5			
	comp=Z,6.3nm,0.7s								
KDJ	**Kajisay**	**59.79**	**319**	P	**P**	**22 03 31.4**	**+0.5**		
KDJ				IAmb	IAmb	22 03 32.9			
	comp=Z,4.9nm,0.8s								
LBZ	**Lake Benmore**	**60.05**	**145**	P	**P**	**22 03 32.5**	**0.0**		
YAK	**Yakutsk**	**60.41**	**2**	P	**P**	**22 03 34.8**	**+0.3**		
BKZ	**Black Stump Fm**	**61.18**	**137**	P	**P**	**22 03 39.9**	**-0.4**		
ARSB	**Arslanbob**	**62.23**	**317**	P	**P**	**22 03 47.1**	**-0.4**		
ARSB				IAmb	IAmb	22 03 51.4			
	comp=Z,5.9nm,1.1s								
DRK	**Karamyk**	**62.30**	**315**	P	**P**	**22 03 47.3**	**-0.9**		
ZAA0	**Zalesovo Array**	**62.41**	**334**	P	**P**	**22 03 47.2**	**-0.9**		
ZALV	**Zalesovo Beam**	**62.41**	**334**	P	**P**	**22 03 47.1**	**-1.0**		
	comp=Z,1.9nm,0.6s,baz=110,slow=6.8,SNR=4.4								
KBL	**Kabul**	**62.62**	**308**	P	**P**	**22 03 48.8**	**-1.5**		
KBL				IAmb	IAmb	22 03 53.2			
	comp=Z,5.6nm,0.7s								
GAR	**Garm**	**63.19**	**314**	P	**P**	**22 03 52.7**	**-1.2**		
BTK	**Batken**	**63.23**	**315**	P	**P**	**22 03 53.6**	**-0.4**		
BTK				IAmb	IAmb	22 03 59.9			
	comp=Z,5.4nm,0.7s								
KK31	**Karatay Array**	**64.63**	**318**	P	**P**	**22 04 02.5**	**-0.7**		
KK31				IAmb	IAmb	22 04 08.5			
	comp=Z,3.2nm,0.8s								
KKAR	**Karatay Array**	**64.63**	**318**	P	**P**	**22 04 02.7**	**-0.4**		
KKAR	**Karatay Array**	**64.63**	**318**	P	**P**	**22 04 02.5**	**-0.7**		
KKAR				IAmb	IAmb	22 04 08.4			
	comp=Z,3.2nm,0.8s								
CASY	**Casey**	**68.60**	**187**	P	**P**	**22 04 27.9**	**0.0**		
BRVK	**Borovoye**	**69.06**	**328**	P	**P**	**22 04 31.1**	**-0.1**		
BRVK				IAmb	IAmb	22 04 55.1			
	comp=Z,5.8nm,0.8s								
TIXI	**Tiksi**	**70.04**	**1**	P	**P**	**22 04 36.5**	**-0.3**		
TIXI				IAmb	IAmb	22 04 37.5			
	comp=Z,4.0nm,0.7s								
GEYT	**Alibeck**	**72.03**	**309**	P	**P**	**22 04 49.7**	**+0.1**		
	comp=Z,42nm,0.9s,baz=216,slow=8.0,SNR=3.0								
NRIK	**Noril'sk**	**72.49**	**346**	P	**P**	**22 04 52.0**	**+0.4**		
	comp=Z,11nm,0.6s,baz=134,slow=6.3,SNR=17								
NRIK	**Noril'sk**	**72.49**	**346**	P	**P**	**22 04 51.8**	**+0.2**		
SOCY	**Socotra**	**72.50**	**282**	P	**P**	**22 04 52.1**	**-0.7**		
ABKAR	**Akbulak array**	**73.65**	**321**	P	**P**	**22 04 58.3**	**-0.6**		
ABKAR				IAmb	IAmb	22 05 22.8			
	comp=Z,4.6nm,1.0s								
ABKAR	**Akbulak array**	**73.65**	**321**	P	**P**	**22 04 58.5**	**-0.4**		
ARU	**Arti**	**76.63**	**328**	P	**P**	**22 05 14.8**	**-1.0**		
ARU				IAmb	IAmb	22 05 16.1			
	comp=Z,6.4nm,0.7s								
VOI	**Vohitsoka**	**80.93**	**248**	P	**P**	**22 05 40.4**	**0.0**		
RAYN	**Ar Rayn**	**81.05**	**293**	P	**P**	**22 05 40.2**	**-0.7**		
RAYN				IAmb	IAmb	22 05 42.9			
	comp=Z,10nm,0.9s								
VNDA	**Vanda**	**81.29**	**173**	P	**P**	**22 05 39.7**	**-1.3**		
	comp=Z,1.9nm,0.7s,baz=308,slow=5.1,SNR=5.0								
VNDA	**Vanda**	**81.29**	**173**	P	**P**	**22 05 41.4**	**+0.5**		
MAW	**Mawson**	**81.58**	**200**	P	**P**	**22 05 43.1**	**+0.6**		
	comp=Z,2.3nm,0.8s,baz=71,slow=13,SNR=3.6								
MAW	**Mawson**	**81.58**	**200**	P	**P**	**22 05 43.2**	**+0.6**		

SBA	**Scott Base**	**82.20**	**172**	P	**P**	**22 05 46.8**	**+1.0**		
KDAK	**Kodiak Island**	**83.92**	**32**	LR	LR	22 35 42.6			
	comp=Z,4μm,21.7s,baz=296,slow=30								
KARS	**Kars**	**83.94**	**311**	P	**P**	**22 05 56.2**	**+0.4**		
KBZ	**Khabaz**	**84.26**	**314**	P	**P**	**22 05 56.8**	**-0.2**		
	comp=Z,3.9nm,0.9s,baz=139,slow=7.4,SNR=6.4								
KIV	**Kislovodsk**	**84.42**	**314**	P	**P**	**22 05 58.9**	**+0.8**		
KIV				IAmb	IAmb	22 06 02.0			
	comp=Z,4.8nm,0.7s								
GURO	**Guroymak-BITLI**	**84.65**	**308**	P	**P**	**22 06 00.1**	**+0.7**		
SKT	**Skwentna**	**84.93**	**28**	P	**P**	**22 06 00.6**	**+0.5**		
SKT				IAmb	IAmb	22 06 22.2			
	comp=Z,5.5nm,1.1s								
SUA	**Susitna One**	**85.25**	**29**	P	**P**	**22 06 02.0**	**+0.2**		
SUA				IAmb	IAmb	22 06 03.6			
	comp=Z,8.0nm,1.0s								
MLY	**Manley**	**85.61**	**25**	P	**P**	**22 06 04.0**	**+0.5**		
I23K	**Minto, Yukon-K**	**86.20**	**25**	P	**P**	**22 06 07.0**	**+0.7**		
WRH	**Wood River Hil**	**86.69**	**26**	P	**P**	**22 06 09.0**	**+0.2**		
KLMR	**Klimovskoe**	**87.16**	**331**	*eP*	**P**	**22 06 08.7**	**-2.4**		
KLMR				AMP		22 06 16.2			
	comp=Z,11nm,1.0s								
ILAR	**Eielson Array**	**87.23**	**25**	P	**P**	**22 06 10.8**	**-0.6**		
	comp=Z,0.4nm,0.6s,baz=243,slow=5.9,SNR=3.2								
BMAR	**Burnt Mountain**	**88.23**	**23**	P	**P**	**22 06 17.6**	**+1.4**		
OBN	**Obninsk**	**88.67**	**325**	P	**P**	**22 06 17.2**	**-1.2**		
KMBO	**Kilima Mbogo**	**89.18**	**269**	P	**P**	**22 06 23.8**	**+1.8**		
	comp=Z,2.2nm,0.8s,baz=61,slow=3.0,SNR=5.9								
K27K	**Chicken**	**89.31**	**26**	P	**P**	**22 06 22.0**	**+0.7**		
K27K				IAmb	IAmb	22 06 23.8			
	comp=Z,4.1nm,1.0s								
L27K	**Beaver Creek,**	**89.46**	**27**	P	**P**	**22 06 22.8**	**+0.7**		
BCAR	**Beaver Creek A**	**89.48**	**27**	P	**P**	**22 06 23.1**	**+1.0**		
BRTR	**Keskin Array B**	**91.17**	**310**	P	**P**	**22 06 29.9**	**-0.7**		
	comp=Z,1.0nm,0.8s,baz=127,slow=3.8,SNR=2.5								
ARCES	**ARCESS Array B**	**92.40**	**340**	P	**P**	**22 06 34.6**	**-0.9**		
	comp=Z,5.6nm,0.8s,baz=82,slow=6.6,SNR=12								
AKASG	**Malin Array Be**	**93.39**	**321**	P	**P**	**22 06 39.2**	**-1.3**		
	comp=Z,1.1nm,0.5s,baz=69,slow=4.5,SNR=5.4								
FINES	**FINESS Array B**	**93.61**	**332**	P	**P**	**22 06 39.5**	**-1.7**		
	comp=Z,2.5nm,0.9s,baz=46,slow=8.2,SNR=8.2								
BURAR	**Bucovina Array**	**96.42**	**318**	P	**P**	**22 06 54.6**	**0.0**		
BURAR				IAmb	IAmb	22 06 59.2			
	comp=Z,3.8nm,0.8s								
KOLS	**Kolonicke sedl**	**98.12**	**320**	*e*PDIFF	Pdif	22 07 05.5	+3.4		
CRVS	**Cervenica-Dubn**	**98.65**	**320**	*e*PDIFF	Pdif	22 07 05.3	+0.8		
TXAR	**Lajitas Array**	**123.19**	**53**	PKP	**PKiKP**	**22 12 23.3**	**+0.4**		
	comp=Z,0.5nm,0.6s,baz=23,slow=0.6,SNR=6.4								
TORD	**Torodi Ar. Bea**	**123.27**	**287**	PKP	**PKPdf**	**22 12 22.8**	**-0.2**		
	comp=Z,1.7nm,0.8s,baz=42,slow=2.6,SNR=5.9								
TORD	**Torodi Ar. Bea**	**123.27**	**287**		**PKPdf**	**22 12 22.7**	**-0.3**		
LPAZ	**La Paz**	**159.49**	**137**	PKP	**PKPdf**	**22 13 26.8**	**+1.3**		
	comp=Z,0.6nm,0.4s,baz=272,slow=3.2,SNR=4.0								

NOU ***24*** *22:06:24.5, 35.˚40S×178.˚32W, h3km, MLv5.3, East of North Island, N.Z.*

BJI ***24*** *22:06:27.3±0.0, 35.˚19S×178.˚69W, h12km, mB5.7/7, mb5.2/10, Ms5.6/3, Ms7 5.3/3*

WEL ***24*** *22:06:29.6±0.7, 35˚S±6˚×17˚9W±1˚0, h33km, M5.0/49, mB5.4/25, ML5.5/48, MLv5.2/49, Mw(mB)4.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9*

IDC ***24*** *22:06:29.8±0.4, 34˚99S×179.˚38W, h0km, mb4.7/21, mb1 4.7/23, mb1mx4.7/36, mbtmp4.6/23, ML5.4/2, MS4.5/12, Ms1 4.5/12, ms1mx4.2/35, Error ellipse: s-maj=15.1km s-min=13.1km az=166.0*

MOS ***24*** *22:06:31.1±1.1, 34˚97S×179.˚42W, h13km, mb5.1/4, Error ellipse: s-maj=13.8km s-min=11.0km az=111.6*

NEIC ***24*** *22:06:31.8±2.1, 35˚10S±0˚05×179˚3W±0˚1, h10km±1km, mb5.0/44, Error ellipse: s-maj=14.8km s-min=8.2km az=71.0*

GCMT ***24*** *22:06:33.8±0.2, 35˚06S±0˚02×179˚02W±0˚01, h12km, MW5.2/111, Moment Tensor Solution. s74,c120; s111,c183; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr0.80±.02; Mθθ-0.09±.02; Mϕϕ-0.70±.01; Mrθ0.01±.05; Mθϕ-0.27±.01; Mϕr0.47±.04; Best double couple: M0.92900×1017 NP1:ϕ±210.00000°, δ31.00000°, λ106.00000°. NP2:ϕ±11.00000°, δ60.00000°, λ81.00000°. Principal axes: T 0.9360, Plg73.0000°, Azm257.0000°; N -0.0140, Plg8.0000°, Azm16.0000°; P -0.9210, Plg15.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 22:06:35.3±0.3, 35˚13S±0˚05×179˚16W±0˚05, h42km, n312, σ1§62/312, mb4.9/44, MS4.7/14, 8C-12D, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.17**	**219**		**Pn**	**22 07 20.1**	**-2.6**
MXZ	**Matakaoa Point**	**3.17**	**219**	P	**Pn**	**22 07 19.5**	**-3.2**
MXZ				S	**Sn**	**22 08 00.7**	**+1.4**
WMGZ	**Waiomatatini S**	**3.32**	**215**	P	**Pn**	**22 07 23.0**	**-1.7**
PKGZ	**Pakihiroa**	**3.54**	**218**	P	**Pn**	**22 07 25.8**	**-2.0**
PKGZ				S	**Sn**	**22 08 09.8**	**+1.4**
PUZ	**Puketiti**	**3.59**	**215**	P	**Pn**	**22 07 26.3**	**-2.3**
HAZ	**Te Kaha**	**3.59**	**222**	P	**Pn**	**22 07 26.5**	**-2.0**
RUGZ	**Raukumara Rang**	**3.80**	**221**	P	**Pn**	**22 07 29.8**	**-1.7**
RUGZ				S	**Sn**	**22 08 17.8**	**+2.7**
TWGZ	**Tauwhareparae**	**3.81**	**216**	P	**Pn**	**22 07 29.6**	**-1.9**
TWGZ				S	**Sn**	**22 08 16.6**	**+1.5**
CNGZ	**Carnagh Station**	**3.96**	**211**	P	**Pn**	**22 07 31.5**	**-2.0**
TKGZ	**Te Karaka**	**4.08**	**215**	P	**Pn**	**22 07 33.0**	**-2.1**
TKGZ				S	**Sn**	**22 08 21.6**	**0.0**
WHRZ	**Whale Island**	**4.13**	**228**	P	**Pn**	**22 07 36.0**	**+0.1**
WHRZ				S	**Sn**	**22 08 26.2**	**+3.2**
MWZ	**Matawai**	**4.16**	**219**	P	**Pn**	**22 07 34.1**	**-2.2**
MWZ				S	**Sn**	**22 08 23.4**	**-0.2**
URZ	**Urewera**	**4.33**	**223**	Pn	**Pn**	**22 07 36.7**	**-1.9**
	63nm,0.3s,baz=250,slow=2.2,SNR=211						
URZ				Sn	**Sn**	**22 08 28.3**	**+0.6**
	56nm,0.3s,baz=201,slow=18,SNR=5.6						
URZ	**Urewera**	**4.33**	**223**	Pn	**Pn**	**22 07 35.8**	**-2.7**
URZ	**Urewera**	**4.33**	**223**	P	**Pn**	**22 07 36.1**	**-2.4**
RIGZ	**Rimuhau**	**4.33**	**214**	P	**Pn**	**22 07 36.2**	**-2.5**
RIGZ				S	**Sn**	**22 08 28.0**	**0.0**
RAGZ	**Rawiri**	**4.34**	**218**	P	**Pn**	**22 07 36.8**	**-2.0**
RAGZ				S	**Sn**	**22 08 28.6**	**+0.5**
OPRZ	**Ohinepanea**	**4.38**	**231**	P	**Pn**	**22 07 37.5**	**-1.9**
MARZ	**Manawahe**	**4.40**	**228**	P	**Pn**	**22 07 38.6**	**-0.9**
EDRZ	**Edgecumbe**	**4.44**	**227**	P	**Pn**	**22 07 39.6**	**-0.6**
KUZ	**Kuaotunu**	**4.45**	**247**	P	**Pn**	**22 07 38.9**	**-1.4**
PRGZ	**Paritu Road**	**4.46**	**211**	P	**Pn**	**22 07 37.6**	**-2.9**
SNGZ	**Shannon Statio**	**4.59**	**217**	P	**Pn**	**22 07 40.0**	**-2.2**
SNGZ				S	**Sn**	**22 08 37.6**	**+3.2**
KNZ	**Kokohu**	**4.63**	**212**	P	**Pn**	**22 07 39.3**	**-3.5**
RTZ	**Ruatahuna**	**4.65**	**221**	P	**Pn**	**22 07 41.2**	**-2.0**
OMRZ	**Omania**	**4.66**	**229**	P	**Pn**	**22 07 41.4**	**-1.8**
TARZ	**Mount Tarawera**	**4.66**	**227**	P	**Pn**	**22 07 43.1**	**-0.2**
MUGZ	**Murupara**	**4.67**	**223**	P	**Pn**	**22 07 41.1**	**-2.2**
KARZ	**Kaharoa**	**4.69**	**231**	P	**Pn**	**22 07 42.1**	**-1.4**
RRRZ	**Republican Roa**	**4.72**	**226**	P	**Pn**	**22 07 42.3**	**-1.7**
KMRZ	**Kaimai**	**4.78**	**234**	P	**Pn**	**22 07 44.3**	**-0.6**
RAHZ	**Arahi**	**4.82**	**217**	P	**Pn**	**22 07 42.7**	**-2.7**
HSRZ	**Hossack Road**	**4.87**	**228**	P	**Pn**	**22 07 45.1**	**-0.9**
WHHZ	**Waihua**	**4.88**	**215**	P	**Pn**	**22 07 44.3**	**-1.9**
HRRZ	**Handcock Road**	**4.89**	**227**	P	**Pn**	**22 07 47.4**	**+1.0**
PRRZ	**Plateau Road**	**4.90**	**225**	P	**Pn**	**22 07 44.7**	**-1.8**
MTHZ	**Maungataniwha**	**4.90**	**220**	P	**Pn**	**22 07 44.6**	**-1.9**
MRHZ	**Matea Rd**	**5.12**	**222**	P	**Pn**	**22 07 46.9**	**-2.5**
ARHZ	**Aropaoanui**	**5.14**	**216**	P	**Pn**	**22 07 46.9**	**-2.8**
BKZ	**Black Stump Fm**	**5.32**	**219**		**Pn**	**22 07 49.3**	**-2.9**
BKZ	**Black Stump Fm**	**5.32**	**219**	P	**Pn**	**22 07 49.5**	**-2.7**
TLZ	**Tolley Road**	**5.32**	**232**	P	**Pn**	**22 07 51.4**	**-0.8**
WTAZ	**Waiatarua**	**5.38**	**249**	P	**Pn**	**22 07 55.9**	**+2.8**
MCHZ	**McNeill Hill**	**5.42**	**216**	P	**Pn**	**22 07 50.4**	**-3.2**
RATZ	**Rangitukua**	**5.51**	**226**	P	**Pn**	**22 07 53.1**	**-1.7**
RITZ	**Rihia Road**	**5.53**	**225**	P	**Pn**	**22 07 53.6**	**-1.5**
KWHZ	**Kaweka Forest**	**5.54**	**218**	P	**Pn**	**22 07 52.3**	**-3.0**
KAHZ	**Kahuranaki**	**5.62**	**213**	P	**Pn**	**22 07 52.0**	**-4.4**
KATZ	**Kakaramea**	**5.62**	**225**	P	**Pn**	**22 07 55.2**	**-1.3**
TMVZ	**Te Maari**	**5.71**	**224**	P	**Pn**	**22 07 55.6**	**-2.1**
KRVZ	**Karewarewa**	**5.73**	**225**	P	**Pn**	**22 07 55.9**	**-2.1**
KRHZ	**Kereru**	**5.74**	**217**	P	**Pn**	**22 07 54.5**	**-3.4**
OTVZ	**Oturere**	**5.77**	**224**	P	**Pn**	**22 07 56.3**	**-2.2**
NNVZ	**North Ngauruho**	**5.77**	**225**	P	**Pn**	**22 07 56.7**	**-1.9**
WTVZ	**West Tongariro**	**5.78**	**225**	P	**Pn**	**22 07 56.7**	**-1.9**
BHHZ	**Black Hill Sta**	**5.78**	**220**	P	**Pn**	**22 07 56.2**	**-2.3**
BHHZ				S	**Sn**	**22 09 01.5**	**-2.1**

SNVZ	**South Ngauruho**	**5.80**	**224**	P	**Pn**	**22 07 56.1**	**-2.8**		
NGZ	**Ngauruhoe**	**5.81**	**224**	P	**Pn**	**22 07 57.0**	**-2.1**		
PXZ	**Pawanui**	**5.82**	**212**	P	Pn	22 07 53.7	-5.3		
PXZ				S	**Sn**	**22 09 01.8**	**-2.7**		
HIZ	**Hauiti**	**5.87**	**233**		**Pn**	**22 07 58.0**	**-1.7**		
MOVZ	**Moawhango**	**5.88**	**222**	P	**Pn**	**22 07 57.0**	**-3.0**		
MOVZ				S	**Sn**	**22 09 03.2**	**-3.0**		
WHVZ	**Whangaehu Hut**	**5.89**	**224**	P	**Pn**	**22 07 57.7**	**-2.6**		
WNVZ	**Wahianoa**	**5.92**	**223**	P	**Pn**	**22 07 57.5**	**-3.1**		
WNVZ				S	**Sn**	**22 09 06.0**	**-1.2**		
TRVZ	**Turoa**	**5.92**	**224**	P	**Pn**	**22 07 58.3**	**-2.4**		
OUZ	**Omahuta**	**5.93**	**267**	Pn	**Pn**	**22 07 59.9**	**-0.8**		
GLKZ	**Green Lake**	**5.95**	**11**	P	Pn	22 07 55.1	-5.7		
GLKZ				S	**Sn**	**22 09 03.6**	**-4.1**		
RAO	**Raoul Island**	**5.96**	**11**	LR	LR	22 10 11.1			
	comp=Z,3μm,18.5s,baz=258,slow=38								
PNHZ	**Pukenui**	**6.03**	**216**	P	**Pn**	**22 07 57.4**	**-4.6**		
PNHZ				S	**Sn**	**22 09 05.5**	**-4.2**		
WPHZ	**Waipukurau**	**6.03**	**214**	P	**Pn**	**22 07 57.6**	**-4.4**		
WPHZ				S	**Sn**	**22 09 08.9**	**-0.9**		
NNZ	**Nelson**	**8.45**	**222**	Pn	**Pn**	**22 08 30.6**	**-4.5**		
LTZ	**Lake Taylor**	**10.13**	**219**		Pn	22 08 53.0	-5.3		
FOZ	**Fox Glacier**	**11.96**	**222**	Pn	**Pn**	**22 09 18.3**	**-4.8**		
WHZ	**Wether Hill Ro**	**14.53**	**218**	Pn	Pn	22 09 52.9	-5.2		
PINNC	**Pines Island,**	**17.10**	**313**		**P**	**22 10 32.5**	**0.0**		
PINNC				IAmb	IAmb	22 10 46.9			
	comp=Z,88nm,1.2s								
MSVF	**Nonsavu**	**17.51**	**351**	Pn	**Pn**	**22 10 33.7**	**-2.7**		
	comp=Z,1.1nm,0.3s,baz=146,slow=7.4,SNR=6.9								
MSVF				LR	LR	22 16 07.0			
	comp=Z,2μm,19.2s,baz=180,slow=33								
MSVF	**Nonsavu**	**17.51**	**351**		**Pn**	**22 10 33.8**	**-2.6**		
MSVF	**Nonsavu**	**17.51**	**351**	P	**Pn**	**22 10 35.2**	**-1.2**		
OUENC	**Ouen Island, N**	**17.61**	**312**		**Pn**	**22 10 37.5**	**-0.1**		
DZM	**Mont Dzumac**	**18.11**	**312**	Pn	**Pn**	**22 10 44.6**	**+0.7**		
	comp=Z,0.9nm,0.3s,baz=137,slow=12,SNR=9.0								
DZM				LR	LR	22 16 15.6			
	comp=Z,4μm,20.2s,baz=132,slow=33								
DZM	**Mont Dzumac**	**18.11**	**312**	*eP*	**Pn**	**22 10 45.3**	**+1.4**		
	comp=Z,27nm,0.8s								
DZM				*e*S	**S**	**22 14 08.5**	**-0.8**		
	comp=Z,2μm,28.3s								
DZM				*e*LR	LR	22 15 08.2			
	comp=Z,8μm,28.2s								
DZM	**Mont Dzumac**	**18.11**	**312**	P	**Pn**	**22 10 44.2**	**+0.3**		
DZM	**Mont Dzumac**	**18.11**	**312**	P	**Pn**	**22 10 45.7**	**+1.8**		
KOUNC	**Koumac, New Ca**	**20.58**	**311**	P	**P**	**22 11 11.5**	**+0.8**		
RAR	**Rarotonga**	**21.96**	**56**	P	**P**	**22 11 26.7**	**+1.3**		
	comp=Z,18nm,0.8s,baz=181,slow=8.0,SNR=3.6								
RAR				LR	LR	22 20 03.6			
	comp=Z,516nm,18.8s,baz=242,slow=37								

NWAO	**Narrogin (SRO)**	**51.95**	**253**	P	**P**	**22 15 38.7**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,38nm,1.2s						
NWAO	**Narrogin (SRO)**	**51.95**	**253**		**P**	**22 15 38.7**	**-1.5**
NWAO	**Narrogin (SRO)**	**51.95**	**253**	P	**P**	**22 15 38.6**	**-1.5**
NWAO				IAmb	IAmb	22 15 56.6	
	comp=Z,30nm,1.2s						
KLBR	**Kellerberrin**	**52.03**	**255**	P	**P**	**22 15 40.7**	**-0.1**
	baz=49,SNR=5.9						
MUN	**Mundaring**	**53.10**	**254**	P	**P**	**22 15 50.4**	**+1.7**
	baz=50,SNR=3.6						
MORW	**Morawa**	**54.38**	**257**	P	**P**	**22 15 56.5**	**-1.6**
MORW				IAmb	IAmb	22 16 07.4	
	comp=Z,30nm,1.4s						
PSA00	**Pilbara Seismi**	**54.59**	**267**	P	**P**	**22 15 57.5**	**-2.3**
QSPA	**South Pole Qui**	**54.99**	**180**	P	**P**	**22 16 03.9**	**+1.7**
	comp=Z,22nm,0.9s,baz=29,slow=3.4,SNR=31						
QSPA	**South Pole Qui**	**54.99**	**180**	P	**P**	**22 16 03.8**	**+1.7**
GIRL	**Giralia**	**58.67**	**263**	P	**P**	**22 16 27.8**	**-0.8**
MAW	**Mawson**	**67.55**	**201**	P	**P**	**22 17 28.9**	**+2.1**
	comp=Z,2.1nm,0.8s,baz=70,slow=5.5,SNR=2.5						
MAW				LR	LR	22 45 49.9	
	comp=Z,346nm,19.1s,baz=113,slow=35						
MAW	**Mawson**	**67.55**	**201**	P	**P**	**22 17 28.9**	**+2.1**
SYO	**Syowa Base**	**72.30**	**194**	*e*PcP	**PcP**	**22 18 13.6**	**-0.2**
GO09	**Cerro Castillo**	**72.74**	**141**	P	**P**	**22 18 00.3**	**+1.4**
SNAA	**Sanae**	**73.46**	**179**	P	**P**	**22 18 03.8**	**+0.9**
SNAA	**Sanae**	**73.46**	**179**	PcP	**PcP**	**22 18 17.0**	**-1.9**
SNAA	**Sanae**	**73.46**	**179**	*e*P	**P**	**22 18 02.8**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,20nm,1.7s						
SNAA	**Sanae**	**73.46**	**179**	P	**P**	**22 18 03.8**	**+0.9**
SNAA				IAmb	IAmb	22 18 18.4	
	comp=Z,24nm,1.2s						
VNA3	**Neumayer Olymp**	**73.66**	**176**	P	**P**	**22 18 04.4**	**+0.3**
VNA3	**Neumayer Olymp**	**73.66**	**176**	PcP	**PcP**	**22 18 17.3**	**-2.4**
VNA2	**Neumayer--Watz**	**74.08**	**177**	P	**P**	**22 18 05.9**	**-0.6**
	baz=194,slow=3.6						
VNA2	**Neumayer--Watz**	**74.08**	**177**	PcP	**PcP**	**22 18 18.2**	**-3.3**
VNA1	**Neumayer--Stat**	**74.31**	**177**	P	**P**	**22 18 08.1**	**+0.3**
VNA1	**Neumayer--Stat**	**74.31**	**177**	PcP	**PcP**	**22 18 19.1**	**-3.4**
LL02	**Futaleuf**	**77.74**	**134**	P	**P**	**22 18 28.9**	**+1.0**
LL02				IAmb	IAmb	22 18 31.9	
	comp=Z,9.2nm,1.1s						
H03S2	**Juan Fernandez**	**78.68**	**123**	T	T	23 45 17.2	
	baz=233,slow=74,SNR=6.5						
H03S1	**Juan Fernandez**	**78.69**	**123**	T	T	23 45 14.7	
	baz=233,slow=74,SNR=5.6						
H03S3	**Juan Fernandez**	**78.70**	**123**	T	T	23 45 20.3	
	baz=233,slow=74,SNR=6.6						
H03N3	**Juan Fernandez**	**78.90**	**123**	T	T	23 45 30.8	
	baz=238,slow=72,SNR=16						
H03N2	**Juan Fernandez**	**78.90**	**123**	T	T	23 45 36.8	
	baz=238,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**78.91**	**123**	T	T	23 45 30.1	
	baz=238,slow=72,SNR=12						
PLCA	**Paso Flores**	**80.00**	**133**	P	**P**	**22 18 42.0**	**+1.6**
	comp=Z,6.2nm,1.0s,baz=213,slow=5.5,SNR=5.0						
PLCA				LR	LR	22 51 22.6	
	comp=Z,125nm,18.2s,baz=250,slow=34						
PLCA	**Paso Flores**	**80.00**	**133**	P	**P**	**22 18 41.8**	**+1.4**
PLCA				pmax	pmax		
	comp=Z,13nm,1.3s						
PLCA	**Paso Flores**	**80.00**	**133**	P	**P**	**22 18 41.8**	**+1.4**
PLCA				IAmb	IAmb	22 18 47.4	
	comp=Z,13nm,1.2s						
MJAR	**Matsushiro Ar**	**81.60**	**327**	P	**P**	**22 18 46.4**	**-2.2**
	comp=Z,2.1nm,0.8s,baz=152,slow=6.0,SNR=3.0						
BO02	**Sierra Bellavi**	**83.53**	**128**	P	**P**	**22 18 60.0**	**+0.9**
MT01	**Popeta**	**83.80**	**127**	P	**P**	**22 19 00.9**	**+0.5**
GSI	**Gunungsitoli**	**85.23**	**275**	P	**P**	**22 19 06.7**	**-1.1**
JKA	**Kamikawa-asahi**	**86.20**	**333**	P	**P**	**22 19 11.9**	**+0.1**
JKA				IAmb	IAmb	22 19 18.5	
	comp=Z,24nm,1.5s						
ASAJ	**Asahikawa**	**86.20**	**333**	P	**P**	**22 19 11.9**	**0.0**
	comp=Z,2.8nm,0.2s,baz=143,slow=13,SNR=3.7						
KIWB	**Kanaga Island**	**86.64**	**1**	P	**P**	**22 19 15.0**	**+1.2**
ADK	**Adak**	**86.67**	**2**	P	**P**	**22 19 14.4**	**+0.4**
ADK				pmax	pmax		
	comp=Z,71nm,1.5s						
ADK	**Adak**	**86.67**	**2**	P	**P**	**22 19 14.4**	**+0.4**
KSRS	**Korea Array**	**87.34**	**321**	P	**P**	**22 19 17.4**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=140,slow=5.4,SNR=8.8						
KSAR	**Wonju Array Be**	**87.35**	**321**	P	**P**	**22 19 17.7**	**0.0**
KSAR	**Wonju Array Be**	**87.35**	**321**	P	**P**	**22 19 17.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**88.59**	**335**	*e*P	**P**	**22 19 22.6**	**-0.7**
YSS				pmax	pmax		
	comp=Z,300nm,5.4s						
YSS	**Yuzh-Sakhalins**	**88.59**	**335**	P	**P**	**22 19 24.6**	**+1.3**
YSS				IAmb	IAmb	22 19 28.1	
	comp=Z,11nm,1.0s						
NJ2	**Nanjing**	**88.60**	**311**	*e*P	**P**	**22 19 24.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MONP2	**Monument Peak**	**89.64**	**48**	P		22 19 32.1	
	baz=227						
IKP	**In-Ko-Pah, Jac**	**89.67**	**49**	P		22 19 32.2	
	baz=227						
VLA	**Vladivostok**	**89.78**	**326**	*e*P	**P**	**22 19 29.1**	**+0.1**
VLA				pmax	pmax		
	comp=Z,20nm,0.6s						
BFSC	**Mount Baldy Ra**	**89.82**	**47**	P		22 19 31.9	
	baz=226						
PET	**Petropavlovsk**	**89.89**	**347**	*e*P	**P**	**22 19 30.9**	**+1.7**
PET				pmax	pmax		
	comp=Z,61nm,2.5s						
EDW2	**Edwards Air Fo**	**90.07**	**46**	P		22 19 33.5	
	baz=226						
TPFO	**Pinon Flats**	**90.11**	**48**	P		22 19 34.4	
	baz=227						
PEA0B	**Petropavlovsk-**	**90.15**	**346**	P	**P**	**22 19 31.6**	**+1.1**
PEA0B				pmax	pmax		
	comp=Z,57nm,1.2s						
PEA0B	**Petropavlovsk-**	**90.15**	**346**	P	**P**	**22 19 31.6**	**+1.1**
PETK	**Petropavlovsk-**	**90.15**	**346**	P	**P**	**22 19 31.5**	**+1.0**
	comp=Z,20nm,0.8s,baz=134,slow=6.2,SNR=32						
ISA	**Isabella, Lake**	**90.33**	**45**	P		22 19 34.7	
	baz=226						
USRK	**Ussuriysk Ar.**	**90.58**	**327**	P	**P**	**22 19 32.4**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=126,slow=3.9,SNR=7.6						
BELC	**Belle Mtn. Jos**	**90.66**	**48**	P		22 19 36.0	
	baz=227						
LRMC	**Laurel Mtn Rad**	**90.67**	**46**	P		22 19 36.6	
	baz=226						
GLA	**Glamis**	**90.73**	**49**	P		22 19 36.5	
	baz=228						
BC3	**Big Chuckawall**	**90.75**	**48**	P		22 19 36.9	
	baz=227						
GSC	**Goldstone, Bar**	**91.06**	**46**	P		22 19 37.9	
	baz=226						
GSC	**Goldstone, Bar**	**91.06**	**46**	P	**P**	**22 19 36.3**	**+1.0**
GSC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GSC	**Goldstone, Bar**	**91.06**	**46**	P	**P**	**22 19 36.3**	**+1.0**
GSC				IAmb	IAmb	22 19 40.3	
	comp=Z,6.3nm,1.1s						
CWC	**Cottonwood Cre**	**91.10**	**45**	P		22 19 38.1	
	baz=226						
O02D	**Mt. Diablo Mer**	**91.17**	**40**	P		22 19 39.5	
	baz=223						
CHNA	**Chernabura Isl**	**91.17**	**11**	P		22 19 40.9	
	baz=196						
MPMC	**Manual Prospec**	**91.18**	**46**	P		22 19 40.1	
	baz=226						
214A	**Organ Pipe Nat**	**91.28**	**51**	P		22 19 39.5	
	baz=229						
IRM	**Iron Mountain**	**91.28**	**48**	P		22 19 40.4	
	baz=227						
GMRC	**Granite Mounta**	**91.39**	**47**	P		22 19 41.0	
	baz=227						
NVAR	**Mina Array Bea**	**92.36**	**43**	P	**P**	**22 19 43.1**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=220,slow=8.4,SNR=6.4						
NVAR	**Mina Array Bea**	**92.36**	**43**	P	**P**	**22 19 42.6**	**+1.2**
Y14A	**Wickenburg**	**92.46**	**50**	P	**P**	**22 19 43.5**	**+1.8**
Y14A				IAmb	IAmb	22 19 46.3	
	comp=Z,4.3nm,0.9s						
LVC	**Limon Verde**	**92.47**	**120**	P	**P**	**22 19 45.7**	**+3.0**
	comp=Z,7.7nm,0.9s,baz=239,slow=4.3,SNR=5.9						
CN2	**Changchun**	**93.33**	**323**	*e*P	**P**	**22 19 44.8**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**94.05**	**290**	P	**P**	**22 19 49.1**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=142,slow=3.3,SNR=1.6						
CMAR	**Chiang Mai Arr**	**94.05**	**290**	P	**P**	**22 19 48.7**	**-0.7**
BJI	**Beijing**	**95.61**	**316**	P	**P**	**22 19 56.8**	**+0.8**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TXAR	**Lajitas Array**	**95.74**	**58**	P	**P**	**22 19 59.1**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=198,slow=5.7,SNR=3.1						
LPAZ	**La Paz**	**97.06**	**115**	P	Pdif	22 20 05.9	+1.8
	comp=Z,1.5nm,0.8s,baz=164,slow=3.3,SNR=6.7						
LPAZ	**La Paz**	**97.06**	**115**	P	Pdif	22 20 05.2	+1.1
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ	**La Paz**	**97.06**	**115**	P	Pdif	22 20 05.2	+1.1
LPAZ				IAmb	IAmb	22 20 18.9	
	comp=Z,2.6nm,1.0s						
CD2	**Chengdu**	**97.78**	**302**	*e*P	**P**	**22 20 05.5**	**-0.7**
HHC	**Hu-ho-hao-te**	**98.81**	**314**	*e*P	Pdif	22 20 12.0	+1.4
ILAR	**Eielson Array**	**102.74**	**14**	PP	**PP**	**22 24 37.8**	**-4.2**
	comp=Z,1.0nm,1.0s,baz=208,slow=7.6,SNR=4.3						
TIXI	**Tiksi**	**112.55**	**344**	*i* PKIKP	**PKiKP**	**22 25 07.0**	**+1.2**
WMQ	**Urumqi**	**115.33**	**307**	*e*PKP	**PKPdf**	**22 25 11.6**	**-0.5**
WMQ				L	L		
	comp=Z,620nm,15.1s						
WMQ				L	L		
	comp=Z,710nm,19.9s						
WMQ				L	L		
	comp=Z,500nm,15.7s						
DGZ	**Jazzator, Alta**	**117.86**	**313**	*i* PKIKP	**PKPdf**	**22 25 16.8**	**-0.1**
MK31	**Makanchi Array**	**120.00**	**308**	*i* PKIKP	**PKPdf**	**22 25 19.9**	**-1.0**
MK31	**Makanchi Array**	**120.00**	**308**	PKPdf	**PKPdf**	**22 25 20.2**	**-0.7**
MKAR	**Makanchi Array**	**120.00**	**308**	PKP	**PKPdf**	**22 25 20.1**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=95,slow=1.4,SNR=14						
ZAA0	**Zalesovo Array**	**120.86**	**317**	PKPdf	**PKiKP**	**22 25 22.4**	**0.0**
ZALV	**Zalesovo Beam**	**120.86**	**317**	PKP	**PKPdf**	**22 25 21.9**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=128,slow=2.1,SNR=8.2						
TARG	**Taragay, Kyrgy**	**121.21**	**301**		**PKiKP**	**22 25 24.9**	**+0.8**
BOOM	**Boomskoye usch**	**122.78**	**302**	PKIKP	**PKiKP**	**22 25 26.9**	**0.0**
BOOM	**Boomskoye usch**	**122.78**	**302**	PKPdf	**PKiKP**	**22 25 26.9**	**0.0**
NRIK	**Noril'sk**	**123.52**	**335**	PKP	**PKPdf**	**22 25 25.3**	**-1.7**
	comp=Z,3.6nm,0.7s,baz=90,slow=2.4,SNR=5.8						
NRIK	**Noril'sk**	**123.52**	**335**	*i* PKIKP	**PKiKP**	**22 25 27.1**	**-0.1**
AAK	**Ala-Archa**	**123.84**	**302**	*i* PKIKP	**PKiKP**	**22 25 30.1**	**+1.2**
BTK	**Batken**	**125.63**	**297**	PKIKP	**PKiKP**	**22 25 33.3**	**+0.9**
BTK	**Batken**	**125.63**	**297**		**PKiKP**	**22 25 33.3**	**+0.9**
GAR	**Garm**	**125.66**	**296**	PKPdf	**PKiKP**	**22 25 33.2**	**+0.6**
KK31	**Karatay Array**	**126.77**	**301**	PKIKP	**PKPdf**	**22 25 33.8**	**-0.3**
KK31	**Karatay Array**	**126.77**	**301**	PKPdf	**PKPdf**	**22 25 33.8**	**-0.3**
KKAR	**Karatay Array**	**126.77**	**301**	PKIKP	**PKPdf**	**22 25 34.0**	**0.0**
KKAR	**Karatay Array**	**126.77**	**301**	PKPdf	**PKPdf**	**22 25 34.0**	**0.0**
KKAR	**Karatay Array**	**126.77**	**301**		**PKPdf**	**22 25 33.4**	**-0.6**
BRVK	**Borovoye**	**129.08**	**313**	*i* PKIKP	**PKPdf**	**22 25 37.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,12nm,1.7s						
BRVK	**Borovoye**	**129.08**	**313**	PKPdf	**PKPdf**	**22 25 37.2**	**-0.9**
ARU	**Arti**	**136.01**	**317**	*i* PKIKP	**PKiKP**	**22 25 53.4**	**+0.7**
ARU						22 28 33.8	
ARU	**Arti**	**136.01**	**317**	PKPdf	**PKPdf**	**22 25 51.4**	**+0.3**
SPA0	**Spitsbergen Ar**	**136.34**	**355**	*e*pPKPdf	**PKiKP**	**22 25 53.8**	**+1.0**
PRGR	**Permogore**	**141.36**	**327**	*e*PKIKP	**PKPdf**	**22 25 59.7**	**-1.0**
HAMF	**Hammerfest**	**142.37**	**348**	*e*pPKPdf	**PKiKP**	**22 26 04.6**	**-0.6**
BELG	**Belogornoye**	**142.81**	**312**	*i* PKIKP	**PKPdf**	**22 26 03.2**	**-0.3**
ARA0	**ARCESS Array S**	**142.96**	**346**	*e*PKPdf	**PKPdf**	**22 26 01.9**	**-1.5**
ARCES	**ARCESS Array B**	**142.96**	**346**	PKhKP	PKPpre	22 25 59.6	
	comp=Z,5.8nm,0.9s,baz=32,slow=5.3,SNR=9.6						
AKT	**Akhty**	**143.02**	**294**	*e*PKIKP	**PKPdf**	**22 26 04.0**	**-0.5**
AKT				*e*		22 29 16.7	
AKT				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KTK1	**Kautokeino**	**143.84**	**347**	*e*PKPdf	PKPbc	22 26 03.7	+1.0
TRO	**Tromso**	**144.04**	**349**	*e*PKPdf	PKPbc	22 26 03.9	+0.7
GROC	**Groznyy**	**144.58**	**297**	*e*PKIKP	**PKPab**	**22 26 04.7**	**-0.9**
GROC				*e*		22 29 19.0	
GROC				pmax	pmax		
	comp=Z,11nm,0.6s						
GNI	**Garni**	**145.14**	**292**	*e*PKIKP	**PKPbc**	**22 26 06.8**	**-1.1**
ZEI	**Tsey**	**145.95**	**296**	*i* PKP2	**PKPbc**	**22 26 10.4**	**0.0**
ZEI				pmax	pmax		
	comp=Z,31nm,1.4s						
NCK	**Nalchik**	**146.19**	**297**	*i* PKP2	**PKPbc**	**22 26 10.4**	**-0.5**
ONI	**Oni**	**146.28**	**296**	PKP2	**PKPab**	**22 26 11.8**	**-0.3**
ONI	**Oni**	**146.28**	**296**	PKPdf	**PKPab**	**22 26 11.8**	**-0.3**
KARS	**Kars**	**146.45**	**292**	PKP2	**PKPbc**	**22 26 11.5**	**-0.4**
KARS	**Kars**	**146.45**	**292**		**PKPbc**	**22 26 11.4**	**-0.4**
GOF	**Gofitskoye**	**146.56**	**300**	*e*PKP2	**PKPbc**	**22 26 11.5**	**-0.4**
GOF				pmax	pmax		
	comp=Z,36nm,0.8s						
VRH	**Novokhopyorsk**	**146.63**	**312**	*e*PKIKP	**PKPdf**	**22 26 10.5**	**+0.3**
VRH				pmax	pmax		
	comp=Z,110nm,1.0s						
FAUS	**Fauske**	**146.65**	**350**	*e*PKPab	**PKPbc**	**22 26 11.8**	**+0.4**
KBZ	**Khabaz**	**146.69**	**298**	PKPbc	**PKPdf**	**22 26 11.2**	**+0.7**
	comp=Z,9.7nm,0.9s,baz=154,slow=5.3,SNR=15						
KBZ	**Khabaz**	**146.69**	**298**	*c i* PKP2	**PKPbc**	**22 26 11.4**	**-0.9**
NEY	**Neytrino**	**146.82**	**297**	*i* PKP2	**PKPab**	**22 26 14.3**	**0.0**
KIV	**Kislovodsk**	**146.84**	**298**	*e*PKIKP	**PKPdf**	**22 26 10.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,35nm,1.0s						
KIV	**Kislovodsk**	**146.84**	**298**		**PKPbc**	**22 26 12.2**	**-0.6**
GURO	**Guroymak-BITLI**	**147.05**	**288**		**PKPbc**	**22 26 12.7**	**-1.0**
MOS	**Moscow**	**147.53**	**321**	*e*PKIKP	**PKPdf**	**22 26 11.1**	**-0.4**
MOS				pmax	pmax		
	comp=Z,98nm,1.8s						
MOS				pmax	pmax		
	comp=Z,300nm,2.2s						
MOS				MLR	MLR		
	comp=Z,300nm,19.0s						
KONS	**Konsvik**	**147.78**	**351**	*e*PKPab	**PKPbc**	**22 26 15.3**	**+0.8**
MOR8	**Moi Rana**	**147.90**	**350**	*e*PKPab	**PKiKP**	**22 26 16.2**	**-0.6**
LPSR	**Galich'ya Gora**	**147.94**	**315**	*e*PKP2	**PKPbc**	**22 26 14.7**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
STOK	**Stokkvaagen**	**147.95**	**351**	*e*PKPab	**PKiKP**	**22 26 16.9**	**+0.1**
VORD	**Divnogorie**	**148.18**	**312**	*e*PKP2	**PKPbc**	**22 26 15.4**	**-0.7**
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
VSR	**Storozhevoye**	**148.19**	**312**	*e*PKP2	**PKPbc**	**22 26 15.7**	**-0.4**
VSR				pmax	pmax		
	comp=Z,50nm,1.0s						
OBN	**Obninsk**	**148.34**	**320**	*c i* PKP2	**PKPbc**	**22 26 15.8**	**-0.6**
OBN				*e*		22 29 44.6	
OBN				*e*PPP	PPP	22 33 03.1	
OBN				pmax	pmax		
	comp=Z,33nm,1.1s						
SOC	**Sochi**	**149.01**	**298**	*e*PKIKP	**PKPdf**	**22 26 15.0**	**+0.6**
SOC				*e*		22 29 52.3	
SOC				*e*PPP	PPP	22 33 11.3	
FINES	**FINESS Array B**	**149.17**	**336**	PKPbc	**PKPbc**	**22 26 18.5**	**+0.2**
	comp=Z,44nm,0.8s,baz=47,slow=2.8,SNR=70						
FINES	**FINESS Array B**	**149.17**	**336**		**PKPbc**	**22 26 17.7**	**-0.6**
NSS	**Namsos**	**149.80**	**350**	*e*PKPab	**PKPab**	**22 26 24.8**	**-0.6**
MEF	**Metsahovi**	**150.63**	**336**	*e*P	**PKiKP**	**22 26 22.6**	**+0.1**
LIC	**Lamto**	**150.73**	**168**	*e*PKP1	**PKiKP**	**22 26 24.9**	**+0.7**
	comp=Z,221nm,1.9s						
RAF	**Rauma**	**150.83**	**339**	*e*P	**PKPbc**	**22 26 20.6**	**-1.7**
KIC	**Kosan Boka**	**150.91**	**169**	*e*PKP1	**PKiKP**	**22 26 25.4**	**+0.8**
	comp=Z,69nm,1.2s						
VSU	**Vasula**	**151.03**	**332**	*e*P	**PKPbc**	**22 26 22.4**	**-0.5**
VSU	**Vasula**	**151.03**	**332**	*c* PKIKP	**PKPbc**	**22 26 22.6**	**-0.3**
TIC	**Toumodi**	**151.14**	**168**	*e*PKP1	**PKiKP**	**22 26 25.9**	**+0.8**
DBIC	**Dimbokro**	**151.19**	**168**	PKPbc	**PKiKP**	**22 26 25.0**	**-0.2**
	comp=Z,17nm,0.9s,baz=122,slow=4.3,SNR=10						
DBIC	**Dimbokro**	**151.19**	**168**		**PKPbc**	**22 26 24.5**	**-0.1**
DOMB	**Dombas**	**152.57**	**352**	*e*PKPbc	**PKPbc**	**22 26 25.0**	**-1.3**
UPP	**Uppsala**	**152.95**	**341**	*e*P	**PKPbc**	**22 26 26.6**	**-0.5**
IDID	**Didziasalis**	**153.07**	**327**	*e*P	**PKiKP**	**22 26 29.0**	**+1.2**
ISAL	**Salakas**	**153.18**	**327**	*e*P	**PKiKP**	**22 26 29.0**	**+1.0**
NB2	**NORSAR Subarra**	**153.23**	**349**	PKP	**PKPbc**	**22 26 27.6**	**-0.3**
	baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.23**	**349**	PKPbc	**PKPbc**	**22 26 27.3**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=19,slow=4.7,SNR=24						
IIGN	**Ignalina**	**153.28**	**327**	*e*P	**PKiKP**	**22 26 29.5**	**+1.3**
NACGM	**Naroch**	**153.30**	**326**	*i* PKP	**PKiKP**	**22 26 29.4**	**+1.2**
	baz=280						
NC602	**NORSAR Array S**	**153.47**	**348**	*e*pPKPdf	**PKPdf**	**22 26 22.6**	**+1.9**
NC602				*e*pPKPbc	**pPKPdf**	**22 26 30.9**	**-1.1**
BR131	**Keskin Array S**	**153.64**	**290**	PKIKP	**PKPbc**	**22 26 28.9**	**-0.7**
BR131	**Keskin Array S**	**153.64**	**290**		**PKPbc**	**22 26 28.9**	**-0.7**
BRTR	**Keskin Array B**	**153.64**	**290**	PKPbc	**PKPbc**	**22 26 28.9**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=130,slow=5.0,SNR=11						
BRTR	**Keskin Array B**	**153.64**	**290**	PKIKP	**PKPbc**	**22 26 28.6**	**-1.0**
BRTR	**Keskin Array B**	**153.64**	**290**		**PKPbc**	**22 26 28.6**	**-1.0**
SKAR	**Skarslia**	**153.99**	**352**	*e*PKPbc	**PKiKP**	**22 26 29.8**	**+0.2**
PABE	**Paberze**	**154.15**	**329**	*e*P	**PKiKP**	**22 26 30.7**	**+0.7**
PABE	**Paberze**	**154.15**	**329**		**PKiKP**	**22 26 30.6**	**+0.7**
AKASG	**Malin Array Be**	**154.25**	**316**	PKPbc	**PKPbc**	**22 26 29.7**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=56,slow=2.2,SNR=6.1						
AKBB	**Malin Array Si**	**154.25**	**316**	*i* PKIKP	**PKPbc**	**22 26 29.8**	**-0.5**
KONO	**Kongsberg**	**154.81**	**350**	*e*PKPdf	**PKPdf**	**22 26 20.6**	**-1.9**
SUW	**Suwalki**	**155.49**	**327**	PKIKP	PKPdf	22 26 32.7	+9.1
SUW	**Suwalki**	**155.49**	**327**		PKPdf	22 26 32.7	+9.0
TORD	**Torodi Ar. Bea**	**158.10**	**182**	PKP	**PKPdf**	**22 26 29.5**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=195,slow=0.9,SNR=6.6						
TORD				PKPab	**PKPab**	**22 27 00.8**	**-0.9**
	comp=Z,6.0nm,0.9s,baz=183,slow=2.2,SNR=9.4						
TORD	**Torodi Ar. Bea**	**158.10**	**182**	PKPdf	**PKPdf**	**22 26 28.8**	**+0.5**
CRVS	**Cervenica-Dubn**	**159.50**	**318**	*e*PKP2	**PKPab**	**22 27 06.8**	**-0.3**
DPC	**Dobruska-Polom**	**161.07**	**328**	*e*PKP2	**PKPab**	**22 27 14.0**	**+0.1**
DPC	**Dobruska-Polom**	**161.07**	**328**	*e*PKPAB	**PKPab**	**22 27 14.0**	**+0.1**
CLL	**Collm**	**161.60**	**335**	*e*PKPdf	**PKPdf**	**22 26 31.0**	**-0.1**
CLL				*e*PKPab	**PKPdf**	**22 27 15.0**	**-1.1**
CLL	**Collm**	**161.60**	**335**	*e*PKIKP	**PKPdf**	**22 26 31.0**	**-0.1**
CLL				*e*		22 27 15.0	
KHC	**Kasperske Hory**	**163.15**	**330**	*e*PKP2	**PKPab**	**22 27 22.0**	**-1.1**
KHC	**Kasperske Hory**	**163.15**	**330**	*e*PKP	PKPab	22 27 02.5	-21
KHC	**Kasperske Hory**	**163.15**	**330**	*e*PKPAB	**PKPab**	**22 27 22.0**	**-1.1**
GERES	**GERESS Array B**	**163.32**	**329**	PKP	**PKPdf**	**22 26 34.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=172,slow=2.0,SNR=3.7						
GERES				PKPab	**PKPab**	**22 27 23.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=55,slow=5.1,SNR=1.8						
GRF	**Grafenberg Arr**	**163.58**	**336**	*e*PKP	**PKPab**	**22 27 24.4**	**-0.4**
	baz=31,slow=3.8						
ESDC	**Sonseca Array**	**174.07**	**39**	PKP	**PKPdf**	**22 26 42.6**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=5.1,slow=1.7,SNR=8.5						
ESDC				PKPab	**PKPab**	**22 28 12.9**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=322,slow=2.3,SNR=3.1						
ESDC	**Sonseca Array**	**174.07**	**39**		**PKPdf**	**22 26 42.1**	**+1.9**

UPP ***24*** *22:09:18.6±0.0, 67.19N×20.67E, h0km, ML1.6, Explosion*
HEL 24 22:09:19.1±0.1, 67.17N×20.68E, h0km, ML1.7, ML1.6(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**224**	P		Pg	22 09 20.3	0.0
DUNU	**Dundret**	**0.07**	**224**	*i* P		Pg	22 09 20.3	0.0
MASU	**Masugnsbyn**	**0.59**	**60**	P		Pg	22 09 29.8	-0.6
MASU	**Masugnsbyn**	**0.59**	**60**	*i* P		Pg	22 09 29.8	-0.6
RATU	**Laukkuluspa**	**0.78**	**328**	P		Pg	22 09 33.0	-1.1
RATU				S		Sg	22 09 43.4	-0.7
RATU	**Laukkuluspa**	**0.78**	**328**	*i* P		Pg	22 09 33.0	-1.1
RATU				*i* S		Sg	22 09 43.4	-0.7
KUA	**Kurravaara**	**0.80**	**351**	P		Pg	22 09

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.45**	**28**	‖ *iP*	**Pn**	**22 18 34.1**	**+2.2**
CO05				*i* S	**Sn**	**22 18 42.6**	**+3.1**
GO04	**Tololo Observa**	**0.61**	**76**	⇑ *iP*	**Pn**	**22 18 35.0**	**+1.0**
GO04				*i* S	**Sn**	**22 18 44.0**	**+0.8**
GO04				IAML		22 18 45.5	
	comp=E,49μm,0.4s						
GO04	**Tololo Observa**	**0.61**	**76**	Pn	**Pn**	**22 18 34.9**	**+0.8**
GO04				Sn	**Sn**	**22 18 44.2**	**+0.9**
GO04	**Tololo Observa**	**0.61**	**76**	*eP*	**Pn**	**22 18 35.0**	**+1.0**
GO04				*eS*	**Sn**	**22 18 44.5**	**+1.2**
CO03	**El Pedregal**	**0.86**	**127**	‖ *iP*	**Pn**	**22 18 37.8**	**+0.6**
CO03				*i* S	**Sn**	**22 18 49.1**	**+0.3**
CO03				IAML		22 18 49.6	
	comp=E,49μm,0.1s						
CO03	**El Pedregal**	**0.86**	**127**		**Pn**	**22 18 37.7**	**+0.6**
CO03				Sn	**Sn**	**22 18 48.9**	**+0.1**
CO03	**El Pedregal**	**0.86**	**127**	*eP*	**Pn**	**22 18 37.8**	**+0.6**
CO03				*eS*	**Sn**	**22 18 49.5**	**+0.6**
CO02	**Combarbal**	**0.97**	**155**	⇑ *iP*	**Pn**	**22 18 40.0**	**+1.2**
CO02				*i* S	**Sn**	**22 18 53.0**	**+1.4**
CO02				IAML		22 18 54.7	
	comp=N,24μm,0.3s						
CO02	**Combarbal**	**0.97**	**155**		**Pn**	**22 18 39.9**	**+1.1**
LCO	**Las Campanas**	**1.47**	**28**		**Pn**	**22 18 46.8**	**+1.2**
AROD	**Rodeo**	**1.75**	**86**	*eP*	**Pn**	**22 18 51.4**	**+2.0**
AROD				*eS*	**Sn**	**22 19 13.2**	**+2.5**
ACDV	**Cuesta del Vie**	**2.05**	**86**	*eP*	**Pn**	**22 18 55.6**	**+2.1**
ACDV				IAML		22 19 25.8	
	comp=Z,486nm,0.6s						
ACCO	**Cerro Coronel**	**2.10**	**98**	*eP*	**Pn**	**22 18 56.8**	**+2.5**
ACCO				IAML		22 19 27.7	
	comp=Z,711nm,2.4s						
AC04	**Llanos de Chal**	**2.14**	**10**	⇑ *iP*	**Pn**	**22 18 55.9**	**+1.4**
AC04	**Llanos de Chal**	**2.14**	**10**		**Pn**	**22 18 55.9**	**+1.4**
RTLS	**Leoncito**	**2.39**	**129**	*eP*	**Pn**	**22 19 00.8**	**+2.6**
RTLS				*eS*	**Sn**	**22 19 31.1**	**+4.7**
RTLS				IAML		22 19 34.0	
	comp=Z,888nm,0.3s						
VA03	**San Esteban**	**2.56**	**162**	*eP*	**Pn**	**22 19 02.4**	**+2.0**
VA03				*i* S	**Sn**	**22 19 33.4**	**+2.9**
VA03				IAML		22 19 37.0	
	comp=E,2μm,0.2s						
VA03	**San Esteban**	**2.56**	**162**	Pn	**Pn**	**22 19 02.2**	**+1.8**
VA03	**San Esteban**	**2.56**	**162**	*eP*	**Pn**	**22 19 02.6**	**+2.1**
VA03				*eS*	**Sn**	**22 19 35.2**	**+4.7**
VA03				IAML		22 19 39.0	
	comp=Z,647nm,0.2s						
AUSP	**Uspallata**	**2.61**	**137**	*eP*	**Pn**	**22 19 04.3**	**+3.0**
AUSP				*eS*	Sn	22 19 22.6	-9.3
ROCH	**El Roble**	**2.67**	**171**	*eP*	**Pn**	**22 19 05.4**	**+3.3**
ROCH				*eS*	**Sn**	**22 19 37.7**	**+4.3**
ROC1	**El Roble**	**2.68**	**172**	*eP*	**Pn**	**22 19 04.3**	**+2.1**
VA01	**Torpederas**	**2.70**	**183**		**Pn**	**22 19 02.8**	**+0.6**
ZON	**Zonda**	**2.70**	**118**		**Pn**	**22 19 04.0**	**+1.7**
ZON	**Zonda**	**2.70**	**118**	*eP*	**Pn**	**22 19 04.6**	**+2.3**
ZON				*eS*	**Sn**	**22 19 36.8**	**+3.0**
ZON				IAML		22 19 38.9	
	comp=Z,288nm,0.2s						
AGUA	**GUANDACOL**	**2.73**	**73**	*eP*	**Pn**	**22 19 06.1**	**+3.4**
AGUA				*eS*	**Sn**	**22 19 27.1**	**-7.4**
AGUA				IAML		22 19 41.5	
	comp=Z,609nm,1.0s						
RTLL	**Cerro Villicun**	**2.78**	**112**	*eP*	**Pn**	**22 19 05.0**	**+1.7**
RTLL				*eS*	Sn	22 19 25.6	-10
RTLL				IAML		22 19 26.6	
	comp=Z,332nm,0.9s						
GO03	**Copiap**	**2.93**	**22**	*eP*	**Pn**	**22 19 06.4**	**+1.0**
GO03	**Copiap**	**2.93**	**22**		**Pn**	**22 19 06.7**	**+1.3**
GO03	**Copiap**	**2.93**	**22**	*eP*	**Pn**	**22 19 07.5**	**+2.0**
GO03				*eS*	**Sn**	**22 19 45.0**	**+5.6**
MT02	**Curacav**	**2.95**	**174**		**Pn**	**22 19 06.7**	**+1.1**
RTCV	**Cerro Valdivia**	**2.96**	**122**	*eP*	**Pn**	**22 19 08.2**	**+2.5**
MT05	**Renca**	**3.13**	**169**	*eP*	**Pn**	**22 19 10.7**	**+2.5**
MT05				*i* S	**Sn**	**22 19 47.4**	**+3.1**
MT05				IAML		22 20 04.9	
	comp=E,1μm,0.1s						
MT05	**Renca**	**3.13**	**169**		**Pn**	**22 19 10.1**	**+2.0**
ASAL	**Salagasta**	**3.20**	**136**	*eP*	**Pn**	**22 19 12.3**	**+3.1**
ASAL				*eS*	Sn	22 19 32.8	-13
ASAL				IAML		22 20 11.7	
	comp=Z,234nm,0.4s						
VCA	**Vinchina**	**3.26**	**62**	*eP*	**Pn**	**22 19 13.5**	**+3.4**
VCA				*eS*	**Sn**	**22 19 52.0**	**+4.3**
VCA				IAML		22 19 52.8	
	comp=Z,919nm,0.3s						
MT03	**Universidad Ad**	**3.27**	**166**	*eP*	**Pn**	**22 19 12.8**	**+2.6**
MT03				*i* S	**Sn**	**22 19 50.9**	**+3.0**
MT03				IAML		22 20 02.3	
	comp=E,1μm,0.3s						
MT03	**Universidad Ad**	**3.27**	**166**		**Pn**	**22 19 12.4**	**+2.2**
MT03	**Universidad Ad**	**3.27**	**166**	*eP*	**Pn**	**22 19 12.7**	**+2.6**
MT03				*eS*	**Sn**	**22 19 51.7**	**+3.8**
MT03				IAML		22 20 04.0	
	comp=Z,538nm,0.3s						
ARCO	**CERRO ARCO**	**3.33**	**140**	*eP*	**Pn**	**22 19 14.5**	**+3.5**
ARCO				*eS*	Sn	22 19 36.9	-12
ARCO				IAML		22 19 58.0	
	comp=Z,341nm,0.6s						
VA05	**Santo Domingo**	**3.33**	**182**	*eP*	**Pn**	**22 19 11.8**	**+1.0**
VA05				*eS*	**Sn**	**22 19 53.2**	**+4.1**
VA05				IAML		22 20 10.8	
	comp=E,829nm,0.4s						
VA05	**Santo Domingo**	**3.33**	**182**		**Pn**	**22 19 11.4**	**+0.6**
MT09	**Talagante**	**3.47**	**173**	*eP*	**Pn**	**22 19 14.8**	**+1.9**
MT09				IAML		22 19 56.0	
	comp=E,627nm,0.3s						
MT09	**Talagante**	**3.47**	**173**	Pn	**Pn**	**22 19 14.5**	**+1.5**
MT01	**Popeta**	**3.54**	**177**	*eP*	**Pn**	**22 19 15.0**	**+1.3**
MT01				IAML		22 20 09.9	
	comp=E,436nm,0.6s						
MT01	**Popeta**	**3.54**	**177**	Pn	**Pn**	**22 19 14.8**	**+1.1**
AAGR	**Agrelo**	**3.57**	**141**	*eP*	**Pn**	**22 19 18.1**	**+3.9**
AAGR				*eS*	Sn	22 19 39.9	-15
AAGR				IAML		22 20 05.5	
	comp=Z,246nm,0.7s						
LMEL	**Las Melosas**	**3.68**	**163**	*eP*	**Pn**	**22 19 18.7**	**+2.9**
LMEL				*i* S	**Sn**	**22 20 01.4**	**+3.3**
ACLC	**CERRO LA CRUZ**	**4.03**	**78**	*eP*	**Pn**	**22 19 22.2**	**+1.5**
ACLC				*eS*	**Sn**	**22 20 08.0**	**+1.2**
ACLC				IAML		22 20 09.0	
	comp=Z,721nm,0.4s						
AC02	**Maricunga**	**4.04**	**31**	Pn	**Pn**	**22 19 22.1**	**+1.0**
BO01	**Tunca**	**4.08**	**175**		**Pn**	**22 19 23.1**	**+2.0**
AC01	**Pan de Azucar**	**4.23**	**11**	Pn	**Pn**	**22 19 22.4**	**-0.8**
APLL	**PUNTA DE LOS L**	**4.28**	**92**	*eP*	**Pn**	**22 19 25.2**	**+1.2**
APLL				IAML		22 20 37.1	
	comp=Z,229nm,3.0s						
BO02	**Sierra Bellavi**	**4.50**	**173**		**Pn**	**22 19 29.5**	**+2.6**
BO02	**Sierra Bellavi**	**4.50**	**173**	*eP*	**Pn**	**22 19 29.9**	**+2.9**
BO02				*eS*	**Sn**	**22 20 20.3**	**+2.2**
BO02				IAML		22 20 21.1	
	comp=Z,233nm,0.2s						
GO05	**Huala**	**4.69**	**184**	Pn	**Pn**	**22 19 29.4**	**-0.2**
GO05	**Huala**	**4.69**	**184**	*eP*	**Pn**	**22 19 29.9**	**+0.3**
GO05				*eP*	**Pn**	**22 19 30.0**	**+0.4**
LAMA	**Las Malvinas**	**4.99**	**158**	*eP*	**Pn**	**22 19 36.3**	**+2.7**
COIS	**El Sosneado**	**5.03**	**162**	*eP*	**Pn**	**22 19 37.4**	**+3.1**
RFA	**San Rafael**	**5.12**	**151**	*eP*	**Pn**	**22 19 36.8**	**+1.3**
CYA	**Choya**	**5.30**	**71**	*eP*	**Pn**	**22 19 38.8**	**+0.8**
CYA				*eS*	**Sn**	**22 20 35.2**	**-2.5**
CYA				IAML		22 21 03.6	
	comp=Z,55nm,0.8s						
MRA	**San Martin**	**5.36**	**114**	*eP*	**Pn**	**22 19 39.4**	**+0.6**
MRA				*eS*	**Sn**	**22 20 37.2**	**-2.0**
MRA				IAML		22 20 42.3	
	comp=Z,110nm,0.5s						
GO02	**Mina Guanaco**	**5.40**	**19**		**Pn**	**22 19 39.0**	**-0.6**
PB14	**IPOC Station P**	**5.75**	**10**	Pn	**Pn**	**22 19 43.8**	**-0.6**
TCA	**Tanti**	**6.01**	**101**	*eP*	**Pn**	**22 19 47.6**	**-0.1**
TCA				*eS*	**Sn**	**22 20 51.8**	**-3.5**
TCA				IAML		22 21 33.9	
	comp=Z,24nm,0.6s						
H03N1	**Juan Fernandez**	**7.04**	**242**	Pn	**Pn**	**22 20 03.7**	**+2.2**
	baz=28,slow=71,SNR=72						
H03N1				Sn	**Sn**	**22 21 16.1**	**-4.0**
H03N1				T	T	22 26 58.9	
	baz=71,slow=72,SNR=406						
H03N2	**Juan Fernandez**	**7.06**	**242**	Pn	**Pn**	**22 20 03.9**	**+2.1**
	baz=28,slow=71,SNR=62						
H03N2				Sn	**Sn**	**22 21 16.1**	**-4.3**
	baz=71,slow=72,SNR=332						
H03N3	**Juan Fernandez**	**7.06**	**242**	Pn	**Pn**	**22 20 03.6**	**+1.8**
	baz=28,slow=71,SNR=49						
H03N3				Sn	**Sn**	**22 21 15.9**	**-4.7**
H03N3				T	T	22 27 05.0	
	baz=71,slow=72,SNR=250						
H03S3	**Juan Fernandez**	**7.21**	**239**	Pn	**Pn**	**22 20 04.6**	**+0.8**
H03S3				Sn	**Sn**	**22 21 20.3**	**-3.9**
H03S1	**Juan Fernandez**	**7.21**	**239**	Pn	**Pn**	**22 20 04.8**	**+0.9**
H03S1				Sn	**Sn**	**22 21 20.0**	**-4.2**
H03S2	**Juan Fernandez**	**7.22**	**239**	Pn	**Pn**	**22 20 05.0**	**+0.9**
H03S2				Sn	**Sn**	**22 21 20.2**	**-4.3**
PB15	**IPOC Station P**	**7.31**	**15**	Pn	**Pn**	**22 20 07.0**	**+1.3**
LVC	**Limon Verde**	**8.02**	**17**	Pn	Pn	22 20 09.1	-6.4
	comp=Z,0.3nm,0.3s,baz=219,slow=14,SNR=1.8						
LVC				Sn	**Sn**	**22 21 40.8**	**-4.2**
	comp=Z,0.9nm,0.3s,baz=323,slow=20,SNR=1.7						
TRQA	**Tornquist**	**11.02**	**137**	Pn	**Pn**	**22 20 55.7**	**-0.5**
CPUP	**Villa Florida**	**13.08**	**76**	Pn	**Pn**	**22 21 21.7**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=92,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**13.08**	**76**		**Pn**	**22 21 23.1**	**-1.3**
LPAZ	**La Paz**	**14.30**	**13**	Pn	**Pn**	**22 21 42.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=224,slow=8.8,SNR=2.0						
LPAZ	**La Paz**	**14.30**	**13**	Pn	**Pn**	**22 21 43.5**	**+2.0**
SIV	**San Ignacio**	**17.16**	**36**	P	**Pn**	**22 22 17.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=211,slow=13,SNR=10						
ITAB	**Concordia**	**17.24**	**85**		**P**	**22 22 19.4**	**-0.2**
ITAB				IAmb	IAmb	22 22 43.1	
	comp=Z,42nm,1.4s						
MG02	**Cerro Sombrero**	**22.50**	**176**	P	**P**	**22 23 17.3**	**+0.7**
BDFB	**Brasilia**	**26.01**	**61**	P	**P**	**22 23 47.5**	**-2.4**
	comp=Z,1.4nm,0.5s,baz=219,slow=12,SNR=5.6						
BDFB	**Brasilia**	**26.01**	**61**	P	**P**	**22 23 48.1**	**-1.8**
SNAA	**Sanae**	**54.82**	**159**	P	**P**	**22 27 45.5**	**-0.6**
SNAA				IAmb	IAmb	22 28 11.1	
	comp=Z,7.0nm,1.5s						
QSPA	**South Pole Qui**	**59.91**	**180**	P	**P**	**22 28 22.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=144,slow=8.7,SNR=14						
QSPA	**South Pole Qui**	**59.91**	**180**	P	**P**	**22 28 22.1**	**0.0**
QSPA				IAmb	IAmb	22 28 50.1	
	comp=Z,7.7nm,1.5s						
V48A	**Smith Brothers**	**67.28**	**347**	P	**P**	**22 29 11.6**	**+0.9**
BOSA	**Boshof**	**81.37**	**118**	P	**P**	**22 30 32.7**	**-0.5**
BOSA				IAmb	IAmb	22 30 34.0	
	comp=Z,12nm,1.4s						
TOA0	**Torodi Ar. Sit**	**82.52**	**70**	P	**P**	**22 30 38.2**	**-1.0**
TOA0				IAmb	IAmb	22 30 45.7	
	comp=Z,7.0nm,1.4s						
TORD	**Torodi Ar. Bea**	**82.52**	**70**	P	**P**	**22 30 38.2**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=246,slow=4.0,SNR=12						
H11S2	**WAKE ISLAND Hyl**	**26.22**	**272**	T	T	00 56 12.7	
	baz=115,slow=75,SNR=43						
H11S1	**WAKE ISLAND Hyl**	**26.23**	**272**	T	T	00 56 11.2	
	baz=115,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hyl**	**26.24**	**272**	T	T	00 56 13.6	
	baz=115,slow=75,SNR=41						
KURBB	**Kurchatov Arra**	**149.80**	**39**	PKPbc	**PKPbc**	**22 38 05.0**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=304,slow=3.2,SNR=8.4						
AAK	**Ala-Archa**	**150.21**	**56**	PKPbc	**PKPbc**	**22 38 07.1**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=287,slow=2.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**150.83**	**29**	PKPbc	**PKPbc**	**22 38 07.4**	**-0.4**
	comp=Z,3.7nm,0.5s,baz=305,slow=3.7,SNR=17						
ZALV	**Zalesovo Beam**	**150.83**	**29**		**PKPbc**	**22 38 07.0**	**-0.8**
MKAR	**Makanchi Array**	**153.88**	**44**	PKPbc	**PKPbc**	**22 38 14.3**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=263,slow=1.2,SNR=3.7						

IDC 24 22:21:33.1±3.1**, 35.01S**×**179.41W**, **h0**km, **mb3.7**/2, mb1 4.0/3, mb1mx3.6**/36, **mbtmp3.7**/3, **ML3.6**/1, **Error ellipse: s-maj=73.2km s-min=36.2km az=123.0, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.29**	**220**	Pn	Pn	22 22 39.4	-0.1
	3.7nm,0.3s,baz=301,slow=23,SNR=20						
URZ				Sn	Sn	22 23 30.0	-0.2
	2.5nm,0.3s,baz=300,slow=24,SNR=1.7						
ASAR	**Alice Springs**	**41.91**	**273**	P	P	22 29 25.8	+0.3
	1.0nm,0.5s,baz=113,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**43.31**	**278**	P	P	22 29 36.5	-0.4
	0.3nm,0.4s,baz=118,slow=5.5,SNR=6.9						
FINES	**FINESS Array B**	**148.97**	**336**	PKPbc	PKPbc	22 41 21.5	-0.6
	1.3nm,0.7s,baz=41,slow=4.4,SNR=6.3						

*IDC **24** 22:21:32.7±5.6, 28.58N×130.60E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.4/50, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=128.9km s-min=85.5km az=100.0*
*JMA **24** 22:21:39.5±0.2, 29.09N×130.66E, h75km±5km, M3.2*
ISC 24 22:21:40.1±1.3**, 29.02N**±0.04×**130.78E**±0.07**, h40**km±15**km, n19, σ0.973/26, mb3.8/4, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.99**	**226**	P	Pn	**22 21 58.2**	**+0.6**
JNN	**Nakanoshima**	**1.14**	**316**	P	Pn	22 21 58.4	-1.2
JNN				*eS*	**Sn**	**22 22 14.9**	**+0.9**
JAM	**Amami Oshima**	**1.19**	**240**	P	Pn	**22 22 00.0**	**-0.3**
JAM				*eS*	**Sn**	**22 22 16.3**	**+1.0**
JYAK	**Yakushimahirau**	**1.24**	**349**	P	Pn	**22 22 00.2**	**-0.8**
JYAK				*eS*	**Sn**	**22 22 16.2**	**-0.3**
JMTN	**Minamitane**	**1.38**	**4**	P	Pn	**22 22 02.5**	**-0.4**
JMTN				*eS*	**Sn**	**22 22 19.9**	**-0.1**
JTAJ	**Takarajima**	**1.39**	**276**	P	Pn	**22 22 02.0**	**-0.9**
JKC	**Kuchinoerabu**	**1.53**	**341**	P	Pn	**22 22 04.2**	**-0.7**
JAMN	**Amaminishikomi**	**1.61**	**242**	P	Pn	**22 22 06.0**	**+0.1**
JTN	**Tanegashima 3**	**1.64**	**6**	P	Pn	**22 22 06.1**	**-0.4**
JTN				*eS*	**Sn**	**22 22 26.2**	**-0.2**
JTK	**Tokunoshima**	**2.02**	**233**	P	Pn	**22 22 12.5**	**+0.8**
JTSR	**Tashiro 2**	**2.15**	**3**	P	Pn	**22 22 13.6**	**+0.2**
JTSR				*eS*	**Sn**	**22 22 38.8**	**-0.1**
JOKE	**Okinoerabujima**	**2.55**	**230**	P	Pn	**22 22 19.5**	**+0.5**
JYRO	**Yoronjima**	**2.86**	**227**	*eS*	**Sn**	**22 22 56.1**	**-0.2**
JKDJ	**Kitadaitoujima**	**3.09**	**171**	P	Pn	**22 22 26.6**	**+0.3**
JKDJ				*eS*	**Sn**	**22 23 01.9**	**-0.1**
KSRS	**Korea Array**	**8.75**	**345**	Pn	Pn	**22 23 45.9**	**+1.9**
	0.2nm,0.3s,baz=163,slow=14,SNR=1.6						
MKAR	**Makanchi Array**	**41.46**	**309**	P	**P**	**22 29 22.4**	**-0.6**
	0.3nm,0.5s,baz=97,slow=9.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**44.48**	**314**	P	**P**	**22 29 46.7**	**-0.6**
	1.1nm,0.7s,baz=100,slow=9.1,SNR=3.2						
FINES	**FINESS Array B**	**71.56**	**331**	P	**P**	**22 32 56.9**	**+0.2**
	0.6nm,0.4s,baz=43,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**74.88**	**320**	P	**P**	**22 33 16.9**	**+0.4**
	0.5nm,0.4s,baz=58,slow=5.4,SNR=4.2						

*IDC **24** 22:29:13.6±3.3, 24.59N×95.03E, h114km±37km, mb3.3/4, mb1 3.5/6, mb1mx3.1/49, mbtmp3.7/6, Error ellipse: s-maj=33.6km s-min=17.7km az=53.0*
*NDI **24** 22:29:13.0±0.5, 24.74N×94.94E, h106km±7km, ML3.7*
ISC 24 22:29:12.2±1.1**, 24.74N**±0.06×**95.02E**±0.09**, h100**km**, n9, σ1.912/13, mb3.7/4, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**1.28**	**320**	*eP*	**Pn**	**22 29 36.8**	**+0.8**
KOHI				*eS*	**Sn**	**22 29 53.7**	**-0.2**
KOHI				IAML		22 29 57.8	
	comp=E,439nm,0.4s						
ITAN	**ITANAGAR**	**2.66**	**334**	*eP*	**Pn**	**22 29 53.9**	**+0.4**
ITAN				*eS*	**Sn**	**22 30 23.9**	**-1.3**
ITAN				IAML		22 30 26.8	
	comp=N,1μm,0.3s						
SHL	**Shillong**	**2.96**	**287**	*eP*	**Pn**	**22 29 57.7**	**+0.1**
SHL				*eS*	**Sn**	**22 30 30.7**	**-1.9**
SHL				IAML		22 30 31.6	
	comp=N,445nm,0.1s						
BRDH	**Bariadhala**	**3.71**	**237**	P	**Pn**	**22 30 08.0**	**+0.4**
	comp=N,41nm,0.3s,baz=266,slow=18,SNR=2.0						
BRDH				S	**Sn**	**22 30 51.1**	**+0.7**
	comp=N,38nm,0.3s,baz=264,slow=15,SNR=1.7						
CMAR	**Chiang Mai Arr**	**7.24**	**149**	P	**Pn**	**22 30 55.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=328,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**24.25**	**338**	P	**P**	**22 34 21.3**	**+1.5**
	comp=N,1.6nm,0.5s,baz=150,slow=9.4,SNR=26						
KURBB	**Kurchatov Arra**	**28.81**	**338**	P	**P**	**22 35 01.9**	**+1.1**
	comp=N,0.2nm,0.3s,baz=148,slow=9.9,SNR=1.9						
WRA	**Warramunga Arr**	**58.62**	**136**	P	**P**	**22 38 57.8**	**-1.3**
	comp=N,0.4nm,0.5s,baz=322,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**61.13**	**139**	P	**P**	**22 39 15.4**	**-0.8**
	comp=N,0.6nm,0.7s,baz=322,slow=6.9,SNR=5.6						

*BJI **24** 22:32:17.3±0.0, 61.66N×152.36W, h114km, mB6.0/66, mb5.9/88*
*MOS **24** 22:32:19.0±0.8, 61.75N×152.18W, h118km, mb6.0/75, MS4.6/12, Error ellipse: s-maj=7.8km s-min=3.3km az=94.7*
*BGR **24** 22:32:19.3±0.0, 61.85N×151.49W, h112km, mb6.1*
*NEIC **24** 22:32:20.6, 61.65N×152.14W, h114km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr5.26; Mθθ-4.88; Mθφ-0.38; Mrθ-1.53; Mφφ0.95; Mφr2.67; Fault plane solution: Mo6.02000×10^17^ NP1:φs301.45000°, δ59.00000°, λ110.72000°. NP2:φs85.15000°, δ36.71000°, λ59.51000°. Principal axes: T 6.4283, Plg69.0000°, Azm255.0000°; N -0.9301, Plg18.0000°, Azm110.0000°; P -5.4982, Plg12.0000°, Azm17.0000°;*
*NEIC **24** 22:32:20.5±2.3, 61.68N±0.04×152.02W±0.08, h119km Error ellipse: s-maj=5.9km s-min=4.9km az=106.0*
*NEIC **24** 22:32:20, 61.66N×151.98W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr5.74; Mθθ-5.57; Mφφ-0.17; Mrθ-1.15; Mφθ1.57; Mφr2.43; Fault plane solution: Mo6.46000×10^17^ NP1:φs88.44000°, δ39.25000°, λ62.39000°. NP2:φs302.48000°, δ55.90000°, λ110.74000°. Principal axes: T 6.6427, Plg71.0000°, Azm262.0000°; N -0.3806, Plg17.0000°, Azm110.0000°; P -6.2621, Plg9.0000°, Azm18.0000°;*
*IDC **24** 22:32:21.3±0.5, 61.75N×152.24W, h125km±3km, mb5.4/49, mb1 5.5/53, mb1mx5.5/54, mbtmp5.8/53, MS4.6/24, Ms1 4.6/24, ms1mx4.5/34 Error ellipse: s-maj=8.4km s-min=5.9km az=17.0*
*NEIC **24** 22:32:21, 61.93N×151.99W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr4.90; Mθθ-5.20; Mφφ0.31; Mrθ-0.28; Mφθ1.00; Mφr2.28; Fault plane solution: Mo5.64000×10^17^ NP1:φs79.00000°, δ45.00000°, λ58.00000°. NP2:φs301.00000°, δ53.00000°, λ118.00000°. Principal axes: T 5.8352, Plg67.0000°, Azm272.0000°; N -0.4088, Plg22.0000°, Azm103.0000°; P -5.4264, Plg4.0000°, Azm11.0000°;*
*AEIC **24** 22:32:21±2.4, 61.66N±0.03×151.96W±0.08, h114km±2km, ML5.8/192, mb5.8/362(NEIC), ML6.1/105(NEIC), Mwb5.8/77(NEIC), Mwc5.8/30(NEIC), Mwc5.8(GCMT), Mwr5.8/79(NEIC), Mww5.8(NEIC) Error ellipse: s-maj=5.8km s-min=4.7km az=108.0*
*NEIC **24** 22:32:22, 61.83N×152.01W, h126km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr5.50; Mθθ-6.11; Mφφ0.60; Mrθ-1.27; Mφθ1.73; Mφr3.17; Fault plane solution: Mo6.97000×10^17^ NP1:φs81.00000°, δ41.00000°, λ52.00000°. NP2:φs307.00000°, δ59.00000°, λ118.00000°. Principal axes: T 7.0706, Plg64.0000°, Azm266.0000°; N -0.1988, Plg24.0000°, Azm111.0000°; P -6.8718, Plg10.0000°, Azm17.0000°;*
*GCMT **24** 22:32:22.0±0.1, 61.85N±0.01×152.01W±0.01, h126km, MW5.8/165, Moment Tensor Solution. s156,c336; s165,c479; Duration: 2s0 Moment tensor: Scale 10^17^Nm; Mrr5.66±.04; Mθθ-6.19±.06; Mθφ0.53±.06; Mrθ-0.95±.04; Mφφ1.57±.05; Mφr2.85±.04; Best double couple: Mo6.84000×10^17^ NP1:φs81.00000°, δ42.00000°, λ55.00000°. NP2:φs304.00000°, δ56.00000°, λ117.00000°. Principal axes: T 6.9340, Plg66.0000°, Azm267.0000°; N -0.1840, Plg22.0000°, Azm108.0000°; P -6.7450, Plg8.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 22:32:33.9, 62.25N×151.64W, h106km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr5.67; Mθθ-6.52; Mφφ0.85; Mrθ-0.73; Mφθ0.51; Mφr2.84; Fault plane solution: Mo6.81000×10^17^ NP1:φs296.71000°, δ54.24000°, λ120.39000°. NP2:φs71.62000°, δ45.57000°, λ54.92000°. Principal axes: T 6.9980, Plg65.0000°, Azm265.0000°; N -0.3711, Plg24.0000°, Azm98.0000°; P -6.6270, Plg5.0000°, Azm6.0000°;*
ISC 24 22:32:20.3±0.2**, 61.68N**±0.02×**152.11W**±0.02**, h121**km±1km**, h121**km**:pP-P, n1807, σ1.963/2339, mb5.8**/498**, 807C-189D, Fault plane solution: NP1:**φs96.23281°, δ48.61417°, λ77.97708°. **NP2:**φs294.08859°, δ42.79266°, λ103.30006°. **Principal axes:** T Plg80.5307°, Azm302.6875°; N Plg8.9913°, Azm104.2476°; P Plg2.9463°, Azm194.7142°; **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.23**	**144**		**Pn**	**22 32 36.3**	**-0.9**
CGLM	**Capps Glacier**	**0.38**	**172**		**Pn**	**22 32 37.0**	**-0.9**
SPCG	**Spurr Capps Gl**	**0.40**	**174**		**Pn**	**22 32 37.1**	**-0.8**
SPCG					**Sn**	**22 32 50.2**	**-1.0**
SKT	**Skwentna**	**0.41**	**43**		**

	comp=N,254µm,0.9s									
O22K	**Cooper Landing**	1.67	135			Pn		22 32 48.8	-1.0	
O22K	**Cooper Landing**	1.67	135			Sn		22 33 10.1	-2.2	
O22K	**Cooper Landing**	1.67	135	P				22 32 48.9		
	baz=318,SNR=1000									
IVE	**Iliamna Volcan**	1.73	195			Pn		22 32 49.9	-0.7	
HUR	**Hurricane**	1.74	41			Pn		22 32 49.8	-0.8	
CAST	**Castle Rocks**	1.74	0			Pn		22 32 50.3	-0.3	
CAST	**Castle Rocks**	1.74	0	P				22 32 49.8		
	baz=178,SNR=1000									
KNK	**Knik Glacier**	1.77	97			Pn		22 32 49.4	-1.6	
KNK				IAML				22 33 15.2		
	comp=E,182µm,0.6s									
KNK	**Knik Glacier**	1.77	97			Sn		22 33 12.9	-1.5	
KNK	**Knik Glacier**	1.77	97	P				22 32 49.3		
	baz=280,SNR=1000									
KNK				S				22 33 13.0		
	baz=280									
ILS	**Iliamna Low So**	1.79	196			Pn		22 32 50.9	-0.5	
SML	**Sawmill**	1.80	84	Pn		Pn		22 32 49.7	-1.7	
SML				IAML				22 33 15.5		
	comp=N,154µm,0.3s									
SML	**Sawmill**	1.80	84	P				22 32 49.8		
	baz=267,SNR=1000									
O19K	**Port Alsworth**	1.84	217			Pn		22 32 51.8	+0.1	
WAT7	**Susitna Watana**	1.91	52			Pn		22 32 51.9	-0.9	
WAT7						Sn		22 33 16.4	-1.2	
KTH	**Kantishna Hill**	1.96	16			Pn		22 32 52.9	-0.3	
KTH				IAML				22 33 20.7		
	comp=N,168µm,0.8s									
KTH				IAML				22 33 22.0		
	comp=E,155µm,0.8s									
KTH	**Kantishna Hill**	1.96	16			Sn		22 33 17.3	-1.1	
TRF	**Thorofare Moun**	1.96	25			Pn		22 32 53.4	-0.1	
TRF	**Thorofare Moun**	1.96	25	P				22 32 53.1		
	baz=204,SNR=1000									
PWL	**Port Wells**	2.00	113	Pn		Pn		22 32 51.9	-2.0	
PWL				IAML				22 33 18.4		
	comp=N,168µm,0.9s									
PWL				IAML				22 33 18.9		
	comp=E,158µm,1.0s									
BRLK	**Bradley Lake**	2.02	162			Pn		22 32 52.5	-1.5	
WAT1	**Susitna Watana**	2.02	54			Pn		22 32 53.0	-1.0	
SEW	**Seward**	2.05	139			Pn		22 32 52.7	-1.7	
SEW	**Seward**	2.05	139	P				22 32 52.7		
	baz=323,SNR=1000									
BRSE	**Bradley Lake S**	2.06	160			Pn		22 32 52.9	-1.7	
BRSE	**Bradley Lake S**	2.06	160	P				22 32 53.0		
	baz=343,SNR=1000									
BRSE				S				22 33 19.3		
	baz=343									
N18K	**Kilae Creek**	2.09	243			Pn		22 32 55.0	+0.1	
N18K	**Kilae Creek**	2.09	243	P				22 32 55.2		
	baz=61,SNR=1000									
N18K				S				22 33 20.6		
	baz=61									
OPT	**Oil Point**	2.11	196			Pn		22 32 55.1	-0.1	
TT01	**Tatalina**	2.20	306			Pn		22 32 55.9	-0.4	
CNPM	**China Poot**	2.21	168			Pn		22 32 54.9	-1.5	
CHUM	**Lake Minchumin**	2.21	358			Pn		22 32 56.5	+0.2	
CHUM	**Lake Minchumin**	2.21	358	P				22 32 56.2		
	baz=176,SNR=1000									
CHUM				S				22 33 23.2		
	baz=176									
TTA	**Tatalina**	2.21	306	P		Pn		22 32 56.8	+0.4	
TTA	**Tatalina**	2.21	306			Pn		22 32 56.8	+0.4	
TTA	**Tatalina**	2.21	306	P				22 32 56.8		
	baz=122									
WAT6	**Susitna Watana**	2.24	64			Pn		22 32 55.6	-1.3	
WAT6	**Susitna Watana**	2.24	64	P				22 32 55.9		
	baz=247									
WAT6				S				22 33 22.2		
	baz=247									
SCM	**Sheep Creek Mo**	2.28	84	P		Pn		22 32 55.7	-1.6	
SCM	**Sheep Creek Mo**	2.28	84			Pn		22 32 55.7	-1.6	
RND	**Reindeer**	2.29	40	P		Pn		22 32 56.9	-0.6	
RND	**Reindeer**	2.29	40			Pn		22 32 56.9	-0.6	
RND				IAML				22 33 26.0		
	comp=E,107µm,0.4s									
RND				IAML				22 33 26.2		
	comp=N,89µm,0.9s									
AUL	**Augustine Lava**	2.40	196			Pn		22 32 58.7	-0.1	
AU22	**Augustine Moun**	2.40	195			Pn		22 32 58.5	-0.3	
AU2	**Augustine Isla**	2.40	196			Pn		22 32 58.7	-0.1	
AUW	**Augustine West**	2.42	197			Pn		22 32 59.0	+0.1	
AUCH	**Augustine Cone**	2.42	196			Pn		22 32 59.0	-0.1	
AUQ	**Augustine Qik'**	2.42	196			Pn		22 32 59.0	-0.1	
BPAW	**Bear Paw Mtn.**	2.48	12	Pn		Pn		22 32 59.1	-0.7	
BPAW				IAML				22 33 30.2		
	comp=E,65µm,1.1s									
BPAW	**Bear Paw Mtn.**	2.48	12	P				22 32 59.1		
	baz=191,SNR=1000									
MCK	**McKinley**	2.52	34	P		Pn		22 33 00.0	-0.3	
MCK	**McKinley**	2.52	34			Pn		22 33 00.0	-0.3	
MCK				IAML				22 33 32.2		
	comp=E,70µm,0.7s									
MCK				IAML				22 33 32.0		
	comp=N,82µm,1.4s									
MCK	**McKinley**	2.52	34	P				22 32 60.0		
	baz=215,SNR=1000									
GLI	**Glacier Island**	2.55	106			Pn		22 32 58.1	-2.6	
GLI	**Glacier Island**	2.55	106	P				22 32 58.4		
	baz=291,SNR=1000									
GLI				S				22 33 29.1		
	baz=291									
JPK	**Jack Peak**	2.73	101			Pn		22 33 01.2	-1.9	
BWN	**Browne**	2.77	25	Pn		Pn		22 33 03.2	-0.3	
VMT	**TAPS TI Valdez**	2.83	100			Pn		22 33 02.4	-1.9	
M24K	**Tolsona, Glenn**	2.84	79			Pn		22 33 04.0	-0.6	
M24K	**Tolsona, Glenn**	2.84	79	P				22 33 03.8		
	baz=263,SNR=1000									
FID	**Port Fidalgo**	2.88	106			Pn		22 33 02.2	-2.8	
FID				IAML				22 33 38.6		
	comp=E,77µm,0.8s									
FID				IAML				22 33 39.1		
	comp=N,79µm,0.9s									
KLU	**Klutina**	2.97	91			Pn		22 33 04.6	-1.6	
KLU				IAML				22 33 40.9		
	comp=E,48µm,1.0s									
KLU				IAML				22 33 41.7		
	comp=N,66µm,0.3s									
KLU	**Klutina**	2.97	91	P				22 33 04.3		
	baz=276,SNR=1000									
KLU				S				22 33 38.9		
	baz=276									
HIN	**Hinchinbrook I**	3.02	113	Pn		Pn		22 33 04.3	-2.5	
HIN				IAML				22 33 42.6		
	comp=E,60µm,1.1s									
DIV	**Divide**	3.10	98			Pn		22 33 05.7	-2.2	
PS11	**TAPS Pump St11**	3.17	80			Pn		22 33 08.4	-0.4	
NEA2	**Nenana**	3.23	24			Pn		22 33 08.3	-1.2	
NEA2				IAML				22 33 46.3		
	comp=N,37µm,0.9s									
NEA2	**Nenana**	3.23	24	P				22 33 08.2		
	baz=206,SNR=1000									
EYAK	**Cordova Ski Ar**	3.29	107	P				22 33 08.0		
	baz=293,SNR=399									
PS12	**TAPS Pump St12**	3.34	91			Pn		22 33 09.4	-1.6	
WRH	**Wood River Hil**	3.34	31			Pn		22 33 10.1	-0.9	
HARP	**HAARP**	3.35	75			Pn		22 33 10.8	-0.4	
HARP	**HAARP**	3.35	75	P				22 33 10.8		
	baz=260,SNR=1000									
PAX	**Paxson**	3.36	64	P				22 33 10.5		
	baz=250,SNR=1000									
MLY	**Manley**	3.42	10	Pn		Pn		22 33 11.5	-0.5	
MLY	**Manley**	3.42	10	P				22 33 11.5		
	baz=190,SNR=1000									
I21K	**Tanana**	3.51	1			Pn		22 33 13.0	-0.2	
I21K	**Tanana**	3.51	1	P				22 33 13.0		
	baz=180,SNR=1000									
CCB	**Clear Creek Bu**	3.56	31	Pn		Pn		22 33 12.6	-1.2	
CCB				IAML				22 34 09.1		
	comp=E,26µm,1.2s									
N25K	**Chitina, Valde**	3.59	88	Pn		Pn		22 33 12.8	-1.5	
N25K				IAML				22 33 56.3		
	comp=N,28µm,0.5s									
N25K				IAML				22 33 57.3		
	comp=E,25µm,0.5s									
N25K	**Chitina, Valde**	3.59	88	P				22 33 12.6		
	baz=274,SNR=1000									
HDA	**Harding Lake**	3.61	38			Pn		22 33 13.7	-0.8	
HDA	**Harding Lake**	3.61	38	P				22 33 13.6		
	baz=222,SNR=1000									
HDA				P				22 33 13.6		
	baz=222,SNR=1000									

BMRM	**Bremner River**	3.69	98			Pn		22 33 13.1	-2.6	
BMRM				IAML				22 34 18.7		
	comp=N,23µm,0.8s									
BMRM				IAML				22 34 28.9		
	comp=E,21µm,1.0s									
BMRM	**Bremner River**	3.69	98	P				22 33 12.8		
	baz=284,SNR=672									
I23K	**Minto, Yukon-K**	3.69	18			Pn		22 33 14.9	-0.7	
I23K				IAML				22 34 18.4		
	comp=N,20µm,0.7s									
I23K	**Minto, Yukon-K**	3.69	18	P				22 33 15.0		
	baz=200,SNR=1000									
MDM	**Murphy Dome**	3.72	26			Pn		22 33 15.3	-0.8	
TCOL	**CIGO, UAF Yank**	3.73	29	P				22 33 15.5		
	baz=212,SNR=1000									
I53US	**FAIRBANKS INFR**	3.73	29	P		Pn		22 33 15.0	-1.2	
	baz=212,slow=22,SNR=0.3									
I53US				*i*				22 51 20.0		
	baz=214,slow=294,SNR=1.4									
COLA	**College**	3.74	29	*d*	P	Pn		22 33 15.3	-0.9	
COLA	**College**	3.74	29		IAML			22 34 00.2		
	comp=N,28µm,0.9s									
COLA					IAML			22 34 03.4		
	comp=N,26µm,0.8s									
COLA	**College**	3.74	29	Pn		Pn		22 33 15.5	-0.7	
COLA	**College**	3.74	29	P				22 33 15.5		
	baz=212									
PS08	**TAPS Pump Stn8**	3.74	38			Pn		22 33 15.5	-0.8	
KABU	**Katmai Buttres**	3.78	206			Pn		22 33 17.1	+0.2	
KABR	**Katmai Barrier**	3.84	203			Pn		22 33 19.2	+1.5	
ANCK	**Angle Creek**	3.89	207			Pn		22 33 19.7	+1.4	
IL31		3.90	35	Pn		Pn		22 33 17.3	-1.0	
ILAR	**Eielson Array**	3.90	35	P		Pn		22 33 17.4	-0.9	
	comp=N,834nm,0.3s,baz=219,slow=13,SNR=2890									
ILAR				S		Sn		22 34 00.4	-3.0	
	comp=N,2µm,0.3s,baz=217,slow=24,SNR=9.2									
ILAR				ScP		ScP		22 43 54.3	-0.4	
	comp=N,0.2nm,0.3s,baz=278,slow=1.9,SNR=3.6									
ILAR	**Eielson Array**	3.90	35	Pn		Pn		22 33 17.3	-1.1	
KDAK	**Kodiak Island**	3.92	184	P		Pn		22 33 16.1	-2.6	
	comp=N,134nm,0.3s,baz=57,slow=14,SNR=943									
KDAK				S		Sn		22 34 02.2	-1.8	
	comp=N,654nm,0.3s,baz=318,slow=20,SNR=11									
KDAK	**Kodiak Island**	3.92	184	P		Pn		22 33 16.3	-2.4	
KDAK	**Kodiak Island**	3.92	184	Pn		Pn		22 33 16.2	-2.4	
KDAK	**Kodiak Island**	3.92	184	P				22 33 16.0		
	baz=4.2									
GLB	**Gilahina Butte**	3.98	90	Pn		Pn		22 33 17.6	-1.9	
GLB				IAML				22 34 05.0		
	comp=N,22µm,0.8s									
CAHL	**Cahill**	3.98	205			Pn		22 33 20.9	+1.4	
H21K	**Melozitna Rive**	4.00	356			Pn		22 33 19.9	+0.1	
PS07	**TAPS Pump Stn7**	4.03	24			Pn		22 33 19.5	-0.5	
POKR	**Poker Plat Res**	4.04	29			Pn		22 33 19.7	-0.6	
POKR				IAML				22 34 07.3		
	comp=N,30µm,0.8s									
POKR				IAML				22 34 07.3		
	comp=E,17µm,0.9s									
POKR	**Poker Plat Res**	4.04	29	P				22 33 19.6		
	baz=213,SNR=1000									
HMT	**Hamilton**	4.05	106	Pn		Pn		22 33 17.9	-2.6	
VRDI	**Verde Repeater**	4.18	92			Pn		22 33 20.0	-2.3	
VRDI				IAML				22 34 13.2		
	comp=N,15µm,1.0s									
NICHA	**Nichawak Mount**	4.23	106			Pn		22 33 21.1	-1.7	
H23K	**Yukon River**	4.31	14			Pn		22 33 23.6	-0.3	
H23K	**Yukon River**	4.31	14	P				22 33 23.6		
	baz=196,SNR=1000									
PS06	**TAPS Pump Stn6**	4.32	13			Pn		22 33 23.7	-0.2	
MCARA	**McCarthy VSAT**	4.36	90	P				22 33 23.0		
	baz=278,SNR=632									
SCRK	**Sand Creek**	4.38	55	Pn		Pn		22 33 24.0	-0.9	
SCRK				IAML				22 34 13.9		
	comp=E,24µm,0.6s									
SCRK				IAML				22 34 30.5		
	comp=N,24µm,0.8s									
SCRK	**Sand Creek**	4.38	55	P				22 33 23.9		
	baz=241,SNR=1000									
SUCK	**Suckling Hills**	4.38	108	Pn		Pn		22 33 23.8	-1.1	
CRQM	**Cirque**	4.44	98			Pn		22 33 24.0	-1.7	
CRQM				IAML				22 34 20.0		
	comp=E,19µm,1.0s									
CRQM				IAML				22 34 37.7		
	comp=N,25µm,0.9s									
CRQE	**Cirque**	4.46	98	P				22 33 24.0		
	baz=286,SNR=759									
KHIT	**Khitrov Hills**	4.48	102			Pn		22 33 24.5	-1.8	
GRIN	**Grindle Hills**	4.51	104			Pn		22 33 24.6	-2.0	
PLK1	**Peulik 1**	4.51	212			Pn		22 33 28.3	+1.8	
OHAK	**Old Harbor**	4.52	188	P				22 33 23.7		
	baz=8.0,SNR=401									
PLK3	**Peulik 3**	4.53	210			Pn		22 33 28.5	+1.7	
H24K	**Noodor Dome**	4.57	22			Pn		22 33 26.5	-0.9	
H24K	**Noodor Dome**	4.57	22	P				22 33 26.6		
	baz=205,SNR=1000									
TGL	**Tana Glacier**	4.58	98			Pn		22 33 26.5	-1.1	
TGL	**Tana Glacier**	4.58	98	IAML				22 34 46.7		
	comp=E,14µm,0.8s									
BGLC	**Bering Glacier**	4.59	106			Pn		22 33 26.3	-1.2	
BGLC	**Bering Glacier**	4.59	106	P				22 33 25.6		
	baz=294,SNR=47									
PTPK	**Patty Peak**	4.66	92			Pn		22 33 27.5	-1.3	
WAX	**Waxell Ridge**	4.67	101			Pn		22 33 27.5	-1.2	
WAX	**Waxell Ridge**	4.67	101	IAML				22 35 00.4		
	comp=E,17µm,0.9s									
BALM	**Baldy**	4.75	94			Pn		22 33 28.5	-1.3	
KIAG	**Kiagna River**	4.76	95			Pn		22 33 28.1	-2.1	
KULT	**Kultieth River**	4.80	103			Pn		22 33 28.6	-1.8	
PRP	**Porcupine Dome**	4.84	35			Pn		22 33 30.2	-0.9	
PRP	**Porcupine Dome**	4.84	35	IAML				22 34 32.8		
	comp=E,13µm,0.7s									
PRP				IAML				22 34 39.1		
	comp=N,14µm,0.8s									
PRP	**Porcupine Dome**	4.84	35	P				22 33 30.2		
	baz=220,SNR=1000									
CYK	**Cape Yakataga**	4.97	105			Pn		22 33 31.7	-1.0	
L27K	**Beaver Creek,**	4.98	69			Pn		22 33 32.0	-1.0	
L27K	**Beaver Creek,**	4.98	69	P				22 33 32.0		
	baz=258,SNR=1000									
BC03		5.00	69			Pn		22 33 32.1	-1.0	
BCAR	**Beaver Creek A**	5.00	69	Pn		Pn		22 33 32.2	-1.0	
BARN	**Barnard Glacie**	5.07	92			Pn		22 33 33.3	-0.9	
BARN	**Barnard Glacie**	5.07	92	IAML				22 34 33.6		
	comp=E,11µm,0.4s									
BARN				IAML				22 34 40.6		
	comp=N,9µm,1.1s									
GRNC	**Granite Creek**	5.10	96			Pn		22 33 33.5	-1.2	
GRNC	**Granite Creek**	5.10	96	IAML				22 34 34.0		
	comp=E,8µm,0.8s									
K27K	**Chicken**	5.16	59			Pn		22 33 34.5	-0.8	
K27K	**Chicken**	5.16	59	IAML				22 34 41.5		
	comp=E,10µm,0.6s									
K27K				IAML				22 34 45.2		
	comp=N,11µm,1.2s									
MESA	**MESA**	5.18	102			Pn		22 33 34.5	-1.2	
MESA	**MESA**	5.18	102	P				22 33 33.7		
	baz=291,SNR=355									
PS05	**TAPS Pump Stn5**	5.19	6			Pn		22 33 35.8	+0.2	
YAH	**Yahtse**	5.21	100			Pn		22 33 35.2	-1.0	
YAH	**Yahtse**	5.21	100	IAML				22 34 37.4		
	comp=N,10µm,1.1s									
YAH				IAML				22 34 37.8		
	comp=E,8µm,1.0s									
SII	**Sitkinak Islan**	5.25	193	Pn		Pn		22 33 34.3	-2.2	
SII				IAML				22 34 46.7		
	comp=E,9µm,0.7s									
SII	**Sitkinak Islan**	5.25	193	P				22 33 34.5		
	baz=12,SNR=257									
BVCY	**Beaver Creek**	5.34	77			Pn		22 33 37.9	+0.1	
YUK2	**White River**	5.36	84			Pn		22 33 37.1	-0.9	
RKAV	**Rock Avalanche**	5.42	100			Pn		22 33 38.3	-0.6	
TABL	**Table Mountain**	5.47	98			Pn		22 33 38.4	-1.3	
YUK3	**Moose Creek**	5.54	84			Pn		22 33 39.8	-0.9	
CHX	**Chaix Hills**	5.61	102			Pn		22 33 40.6	-0.8	
COLD	**Coldfoot**	5.63	8			Pn		22 33 41.1	-0.4	
COLD	**Coldfoot**	5.63	8	P				22 33 41.3		
	baz=189,SNR=1000									
COLD				S				22 34 41.7		
	baz=189									
SAMH	**Samovar Hills**	5.75	101			Pn		22 33 43.1	-0.1	
FYU	**Fort Yukon**	5.75	29	Pn		Pn		22 33 42.4	-0.7	
EGAK	**Eagle**	5.84	53			Pn		22 33 43.0	-1.4	
EGAK	**Eagle**	5.84	53	P				22 33 43.2		
	baz=242,SNR=1000									
EGAK				S				22 34 47.2		

	baz=242									
PCA	**Pinnacle**	6.00	100			Pn		22 33 45.7	-1.0	
PINM	**Pinnacle**	6.00	100	P				22 33 45.3		
	baz=290,SNR=1000									
CHIR	**Chirikof Islan**	6.16	199			Pn		22 33 46.6	-2.1	
CHIR	**Chirikof Islan**	6.16	199	P				22 33 46.2		
	baz=16,SNR=55									
DAWY	**Dawson**	6.29	62			Pn		22 33 49.8	-0.7	
BCPM	**Bancas Point**	6.35	100			Pn		22 33 50.4	-0.9	
YUK4	**Talbot Arm**	6.45	87			Pn		22 33 52.5	-0.4	
YKU2	**Yakutat**	6.50	104			Pn		22 33 52.0	-1.3	
PNL	**Peninsula**	6.56	102			Pn		22 33 53.7	-0.5	
VNHG	**Veniaminof 1**	6.58	217			Pn		22 33 55.5	+1.0	
BMAR	**Burnt Mountain**	6.61	26	Pn		Pn		22 33 54.0	-0.8	
VNFG	**Fog Glacier, M**	6.64	219			Pn		22 33 56.6	+1.3	
VNSG	**Veniaminof 6**	6.64	216			Pn		22 33 55.2	-0.1	
YUK6	**Outpost Mounta**	6.66	90			Pn		22 33 54.9	-0.9	
ANM	**Nome**	6.67	301	P		Pn		22 33 56.9	+1.4	
ANM	**Nome**	6.67	301			Pn		22 33 56.9	+1.4	
ANM	**Nome**	6.67	301	P				22 33 56.9		
	baz=110,SNR=83									
ANM				S				22 35 07.8		
	baz=110									
YUK5	**Granite Creek**	6.87	88			Pn		22 33 57.4	-1.0	
PS04	**TAPS Pump Stn4**	6.87	9			Pn		22 33 59.1	+0.9	
YUK7	**Dusty Glacier**	6.87	94			Pn		22 33 57.9	-0.6	
TOLK	**Toolik Lake Re**	7.07	8			Pn		22 34 01.8	+0.8	
TOLK	**Toolik Lake Re**	7.07	8	P				22 34 02.0		
	baz=189,SNR=1000									
HYT	**Haines Junctio**	7.10	91			Pn		22 34 00.5	-1.0	
SDPT	**Sand Point**	7.71	218			Pn		22 34 10.0	+0.4	
SDPT	**Sand Point**	7.71	218	P				22 34 09.5		
	baz=32,SNR=303									
RDOG	**Red Dog Mine**	7.86	329			Pn		22 34 13.0	+1.4	
RDOG	**Red Dog Mine**	7.86	329	P				22 34 13.3		
	baz=139,SNR=358									
CHNA	**Chernabura Isl**	7.92	213	P				22 34 10.0		
	baz=27,SNR=93									
CNBA	**Chernabura Isl**	7.93	213			Pn		22 34 10.1	-2.5	
TNA	**Tin City**	8.03	306			Pn		22 34 15.4	+1.5	
TNA	**Tin City**	8.03	306	P				22 34 15.4		
	baz=112,SNR=45									
HAG	**Hague Volcano**	8.18	223	P		Pn		22 34 17.4	+1.4	
HAG	**Hague Volcano**	8.18	223			Pn		22 34 17.4	+1.4	
EPYK	**Eagle Plains**	8.22	48			Pn		22 34 16.0	-0.5	
EPYK	**Eagle Plains**	8.22	48	P				22 34 14.7		
	baz=242,SNR=1000									
WHY	**Whitehorse**	8.39	89			Pn		22 34 17.5	-1.5	
WHY	**Whitehorse**	8.39	89	P				22 34 17.2		
	baz=284,SNR=214									
DT1	**Dutton Round H**	8.48	223			Pn		22 34 20.7	+0.7	
PS01	**TAPS Pump Stn**	8.73	8			Pn		22 34 23.6	+0.3	
FALS	**False Pass**	9.06	226			Pn		22 34 27.9	+0.1	
FALS	**False Pass**	9.06	226	P				22 34 28.8		
	baz=37,SNR=29									
BESE	**Bessie Mountai**	9.15	102			Pn		22 34 28.2	-0.9	
GAMB	**Gambell**	9.22	292	Pn		Pn		22 34 31.2	+1.2	
GAMB	**Gambell**	9.23	292	P				22 34 31.6		
	baz=94,SNR=28									
BRPK	**Brown Peak**	9.34	226			Pn		22 34 32.4	+0.7	
SSBA	**Shishaldin**	9.38	228			Pn		22 34 33.2	+1.0	
SSLS	**Shishaldin Sou**	9.38	227			Pn		22 34 33.4	+1.2	
JIS	**Juneau Island**	9.51	103			Pn		22 34 32.5	-1.4	
SIT	**Sitka**	9.73	111	P		Pn		22 34 35.2	-1.6	
SIT	**Sitka**	9.73	111			Pn		22 34 35.2	-1.6	
SIT	**Sitka**	9.73	111	P				22 34 35.2		
	baz=306,SNR=25									
WECS	**Westdahl Cape**	9.80	229			Pn		22 34 38.6	+0.8	
A21K	**Barrow**	9.84	351	Pn		Pn		22 34 36.2	-2.0	
A21K	**Barrow**	9.84	351	P				22 34 36.5		
	baz=167,SNR=31									
INK	**Inuvik**	10.26	42	P		Pn		22 34 42.8	-1.1	
	comp=E,38nm,0.3s,baz=224,slow=17,SNR=324									
INK				S		Sn		22 36 31.6	-5.1	
	comp=E,21nm,0.3s,baz=182,slow=17,SNR=2.5									
INK				LR		LR		22 39 00.7		
	comp=E,4µm,20.1s,baz=186,slow=39									
INK	**Inuvik**	10.26	42	Pn		Pn		22 34 41.8	-2.1	
INK	**Inuvik**	10.26	42

J11D S **S** **22 41 32.1 +6.5**
F05D White Salmon 23.72 118 P **22 37 23.0**
baz=323
NEW Newport 23.80 108 P **P** **22 37 23.3 +1.7**
comp=Z,46nm,0.9s,baz=316,slow=8.4,SNR=20
NEW Newport 23.80 108 P **P** **22 37 22.5 +0.9**
NEW Newport 23.80 108 P **22 37 23.1**
baz=317,SNR=24
COR Corvallis 24.01 122 P **P** **22 37 25.4 +1.9**
COR pmax pmax
comp=Z,201nm,1.1s
COR Corvallis 24.01 122 P **P** **22 37 25.4 +1.9**
G37D G37D 24.14 131 P P 22 37 33.7 +9.5
G37D S **S** **22 41 42.7 +10**
H04D Lebanon 24.29 121 P **22 37 28.6**
baz=326
G05D Wamic, OR 24.29 118 P **22 37 28.4**
baz=324
H04A Detroit Lake 24.39 120 P **P** **22 37 28.4 +1.5**
H04A IAmb IAmb 22 37 34.0
comp=Z,295nm,1.4s
G29D G29D 24.39 132 P P 22 37 36.3 +10
G29D S **S** **22 41 45.3 +8.6**
G36D G36D 24.43 130 P P 22 37 35.4 +8.7
G36D S **S** **22 41 45.3 +8.1**
G35D G35D 24.53 129 S **S** **22 41 48.0 +9.0**
G35D P P 22 37 38.2 +10
E09A Wood Farm, Sta 24.66 112 P **P** **22 37 30.0 +0.7**
WALA Waterton Lakes 24.70 103 P **P** **22 37 30.7 +0.8**
I03D Drain, OR 24.73 123 P **22 37 33.0**
baz=327
G22D G22D 24.94 133 P P 22 37 39.9 +8.5
G22D S **S** **22 41 54.2 +8.8**
J01E Myrtle Point 24.95 125 P **22 37 35.2**
baz=328
I05D Terrebonne, OR 25.02 120 P **22 37 35.2**
baz=325
I04A Tendick Farm, 25.03 122 P **22 37 35.1**
baz=326
KEBM Edson Butte 25.04 126 P **P** **22 37 35.2 +2.3**
KEBM IAmb IAmb 22 38 06.0
comp=Z,163nm,0.8s
KEBM **PcP** **22 41 05.5 +1.3**
SEY Seymchan 25.15 297 P **P** **22 37 34.0 +0.3**
comp=Z,224nm,0.9s,baz=87,slow=6.7,SNR=97
SEY LR LR 22 48 06.3
comp=Z,1μm,20.4s,baz=81,slow=38
SEY PKiKP **PKiKP** **22 48 42.9 -1.3**
comp=Z,4.4nm,0.7s,baz=26,slow=2.5,SNR=5.4
SEY P3KPbc 23 10 31.7
comp=Z,1.0nm,0.4s,baz=302,slow=7.4,SNR=4.5
G20D G20D 25.33 131 P P 22 37 43.4 +8.4
G20D S **S** **22 42 00.4 +8.8**
G21D G21D 25.41 133 P **P** **22 37 39.6 +3.9**
G21D S **S** **22 42 01.3 +8.4**
K02D Willamette Mer 25.45 125 P **22 37 39.7**
baz=328
JTMT Jette 25.47 106 P **P** **22 37 37.1 +0.3**
F10A Beach Ranch, E 25.48 112 P **P** **22 37 36.6 -0.3**
G13D G13D 25.57 134 P P 22 37 47.8 +11
G13D S **S** **22 42 04.8 +9.4**
J04D Umpqua Nationa 25.61 122 P **22 37 41.1**
baz=327
PINE Pine Mountain 25.63 120 P **P** **22 37 40.2 +1.8**
PINE IAmb IAmb 22 37 46.1
comp=Z,200nm,1.1s
PINE PcP **PcP** **22 41 06.9 +1.2**
HUMO Hull Mountain 25.80 124 P **P** **22 37 41.8 +2.0**
HUMO PcP **PcP** **22 41 06.8 +1.0**
EUNU Eureka 25.88 21 P **P** **22 37 41.3 +1.2**
EUNU IAmb IAmb 22 37 47.0
comp=Z,176nm,0.9s
J05D Fort Rock, OR 25.93 121 P **22 37 44.0**
baz=326
L02E Cave Junction 25.93 126 P **22 37 43.7**
baz=329
I07A Izee 25.99 118 P **P** **22 37 43.4 +1.8**
G05D7 G05D7 26.15 134 S **S** **22 42 13.7 +9.4**
K04D Chiloquin, OR 26.27 123 P **22 37 46.7**
baz=327
MSO Missoula 26.31 107 P **P** **22 37 44.6 +0.2**
MSO Missoula 26.31 107 P **22 37 44.1**
baz=318,SNR=18
KRMB Red Mountain 26.36 127 P **P** **22 37 47.2 +2.4**
KRMB **PcP** **22 41 08.8 +1.5**
G10D G10D 26.38 130 P P 22 37 54.9 +10
G10D S **S** **22 42 15.5 +7.2**
L04D Klamath Falls 26.39 124 P **22 37 47.9**
baz=328
G04D G04D 26.50 133 S **S** **22 42 19.9 +10**
G04D P P 22 37 53.4 +8.1
YBH Yreka Blue Hor 26.64 125 P **P** **22 37 50.5 +3.1**
comp=Z,36nm,0.8s,baz=325,slow=3.0,SNR=63
YBH Yreka Blue Hor 26.64 125 P **P** **22 37 49.5 +2.1**
FFC Flin Flon 26.71 82 P **P** **22 37 48.6 +0.8**
FFC pmax pmax
comp=Z,88nm,1.1s
FFC Flin Flon 26.71 82 P **P** **22 37 48.6 +0.8**
G03D7 G03D7 26.81 132 P P 22 37 58.5 +10
G03D7 S **S** **22 42 23.5 +8.8**
M02C Callahan 26.88 126 P **22 37 52.9**
baz=329
FS16D FS16D 26.90 129 S **S** **22 42 25.2 +8.4**
M04C Macdoel 26.94 124 P **22 37 52.8**
baz=328
FS09D FS09D 26.96 129 S **S** **22 42 20.8 +3.1**
KHMM Horse Mountain 26.98 127 P **P** **22 37 52.4 +1.9**
KHMM PcP **PcP** **22 41 10.1 +1.3**
FS10D FS10D 27.01 129 S **S** **22 42 27.0 +8.4**
FS06D FS06D 27.02 130 S **S** **22 42 15.5 -3.1**
N02D Trinity Center 27.29 126 P **22 37 56.7**
baz=329
PET Petropavlovsk 27.30 274⇑ *i*P **P** **22 37 53.0 -0.1**
PET *e**SP **sP** **22 38 36.3 +2.3**
PET *e*S **S** **22 42 19.3 -4.0**
PET pmax pmax
comp=Z,2μm,10.6s
PET pmax pmax
comp=Z,2μm,13.1s
PET pmax pmax
comp=Z,147nm,0.6s
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 27.30 274 P **P** **22 37 53.3 +0.2**
HRY Holter Researc 27.36 105 P **P** **22 37 54.9 +1.1**
EGMT Eagleton 27.37 100 P **P** **22 37 54.5 +0.7**
EGMT IAmb IAmb 22 37 57.6
comp=Z,257nm,1.1s
EGMT Eagleton 27.37 100 P **22 37 54.9**
baz=316,SNR=31
WDC Whiskeytown Da 27.69 126 P **P** **22 37 58.3 +1.6**
WDC pmax pmax
comp=Z,68nm,1.1s
WDC Whiskeytown Da 27.69 126 P **P** **22 37 58.3 +1.6**
WVOR Wild Horse Val 27.70 119 P **P** **22 37 58.4 +1.5**
WVOR pmax pmax
comp=Z,78nm,0.9s
WVOR Wild Horse Val 27.70 119 P **P** **22 37 58.4 +1.5**
PEA0B Petropavlovsk- 27.71 275 P **P** **22 37 56.3 -0.4**
PEA0B pmax pmax
comp=Z,260nm,1.2s
PEA0B Petropavlovsk- 27.71 275 P **P** **22 37 56.3 -0.4**
PEA0B IAmb IAmb 22 38 12.1
comp=Z,260nm,1.1s
PETK Petropavlovsk- 27.71 275 P **P** **22 37 56.8 +0.1**
comp=Z,43nm,0.5s,baz=72,slow=12,SNR=115
PETK PcP **PcP** **22 41 11.0 +0.8**
comp=Z,46nm,1.0s,baz=72,slow=5.3,SNR=6.9
PETK ScP **ScP** **22 44 37.9 -1.3**
comp=Z,5.6nm,0.9s,baz=91,slow=8.6,SNR=4.4
PETK PKiKP **PKiKP** **22 48 44.7 -1.3**
comp=Z,3.7nm,0.8s,baz=64,slow=4.9,SNR=6.1
PETK LR LR 22 49 23.6
comp=Z,793nm,21.7s,baz=31,slow=37
PETK Petropavlovsk- 27.71 275 P **P** **22 37 56.6 -0.1**
PETK PcP **PcP** **22 41 10.4 +0.3**
O02D Mt. Diablo Mer 27.95 127 P **22 38 01.9**
baz=330
MFID Camas Ranch 28.11 114 P **P** **22 38 01.7 +1.2**
MFID PcP **PcP** **22 41 11.7 +0.2**
FCC Fort Churchill 28.14 70 P **P** **22 38 00.9 +0.5**
FCC pmax pmax
comp=Z,246nm,0.8s
FCC Fort Churchill 28.14 70 P **P** **22 38 00.9 +0.5**
FCC IAmb IAmb 22 38 03.6
comp=Z,246nm,0.8s
O03E Paynes Creek 28.23 125 P **22 38 03.5**
baz=330
BOZ Bozeman (W) 28.29 106 P **P** **22 38 02.7 +0.5**
BOZ **22 41 12.8**
BOZ pmax pmax
comp=Z,29nm,0.8s
BOZ Bozeman (W) 28.29 106 P **P** **22 38 02.7 +0.5**
BOZ **PcP** **22 41 12.8 +0.9**
HLID Hailey 28.61 112 P **P** **22 38 06.4 +1.3**
HLID PcP **PcP** **22 41 14.0 +1.2**
HLID Hailey 28.61 112 P **22 38 06.5**
baz=323,SNR=50
ORV Oroville 28.98 126 P **P** **22 38 09.1 +1.0**
ORV PcP **PcP** **22 41 13.8 +0.3**
ORV ScP **ScP** **22 44 44.0 +0.5**
GCMT Greycliff 29.05 103 P **P** **22 38 10.6 +1.7**
GCMT PcP **PcP** **22 41 14.9 +1.1**
GCMT ScP **ScP** **22 44 45.5 +1.7**
BEKR Beckworth 29.16 124 P **P** **22 38 11.4 +1.5**
BEKR PcP **PcP** **22 41 15.4 +1.2**
BEKR ScP **ScP** **22 44 45.4 +1.2**
YMR Madison River 29.30 106 P **P** **22 38 13.0 +1.8**
YMR PcP **PcP** **22 41 16.4 +1.8**
YMR ScP **ScP** **22 44 46.9 +2.3**
DGMT Dagmar 29.69 94 P **P** **22 38 15.6 +1.3**
DGMT IAmb IAmb 22 39 06.3
comp=Z,106nm,0.9s
AFDM Forest Hills D 29.71 126 ScP **ScP** **22 44 47.5 +1.7**
RLMT Red Lodge 29.74 104 P **P** **22 38 17.3 +2.3**
RLMT IAmb IAmb 22 38 46.1
comp=Z,154nm,0.9s
RLMT ScP **ScP** **22 44 48.9 +2.9**
RLMT Red Lodge 29.74 104 P **22 38 17.4**
baz=319,SNR=26
LAO LASA Array 30.00 99 P **P** **22 38 18.9 +1.8**
LAO IAmb IAmb 22 38 21.2
comp=Z,252nm,1.1s
LAO PcP **PcP** **22 41 18.0 +1.9**
LAO ScP **ScP** **22 44 49.0 +2.3**
LAO LASA Array 30.00 99 P **22 38 19.1**
baz=317,SNR=44
SKR Severo-Kuril's 30.01 273 *e*P P 22 38 12.0 -5.1
SKR *e**PP pP 22 38 35.3 -8.7
SKR *e* **22 38 55.5**
SKR *e*S **S** **22 42 58.4 -7.5**
SKR *e**SS sS 22 43 47.2 -5.1
SKR pmax pmax
comp=Z,300nm,9.7s
SKR pmax pmax
comp=Z,142nm,0.9s
SKR pmax pmax
comp=Z,600nm,4.7s
SKR MLR MLR
comp=Z,300nm,15.0s
SKR MLR MLR
comp=Z,400nm,14.0s
ECR Eagle Creek 30.38 109 P **P** **22 38 22.9 +2.2**
ECR PcP **PcP** **22 41 18.5 +1.2**
ECR ScP **ScP** **22 44 50.8 +2.7**
TIXI Tiksi 30.40 322 P3KPbc 23 10 08.4
comp=Z,7.5nm,0.9s,baz=298,slow=2.9,SNR=18
TIXI Tiksi 30.40 322 *c i*P **P** **22 38 20.5 +0.2**
TIXI Tiksi 30.40 322 P **P** **22 38 20.4 +0.2**
TIXI IAmb IAmb 22 38 22.7
comp=Z,205nm,1.3s
TIXI PcP **PcP** **22 41 16.0 -0.6**
TIXI ScP **ScP** **22 44 45.1 -2.3**
ELK Elko 30.54 116 P3KPbc 23 10 08.9
comp=Z,2.4nm,0.9s,baz=143,slow=4.8,SNR=5.7
ELK Elko 30.54 116 P **P** **22 38 24.3 +2.2**
ELK PcP **PcP** **22 41 18.5 +0.6**
ELK ScP **ScP** **22 44 51.4 +2.7**
CMB Columbia Colle 30.73 126 P **P** **22 38 25.4 +1.8**
CMB PcP **PcP** **22 41 18.6 +0.5**
CMB ScP **ScP** **22 44 50.2 +1.0**
HVU Hansel Valley 30.76 112 P **P** **22 38 26.3 +2.3**
HVU **22 41 19.0**
HVU pmax pmax
comp=Z,82nm,0.9s
HVU Hansel Valley 30.76 112 P **P** **22 38 26.3 +2.3**
HVU PcP **PcP** **22 41 19.0 +0.7**
HVU ScP **ScP** **22 44 51.4 +2.0**
NVAR Mina Array Bea 31.21 123 P **P** **22 38 30.6 +2.5**
comp=Z,57nm,0.7s,baz=318,slow=9.1,SNR=229
NVAR PcP **PcP** **22 41 21.1 +1.4**
comp=Z,37nm,0.8s,baz=282,slow=2.4,SNR=12
NVAR ScP **ScP** **22 44 52.5 +1.5**
comp=Z,7.9nm,0.7s,baz=320,slow=2.6,SNR=9.5
NVAR PKiKP **PKiKP** **22 48 49.1 +0.2**
comp=Z,1.8nm,0.8s,baz=335,slow=0.6,SNR=5.4
NVAR P3KPbc 23 10 07.1
comp=Z,0.2nm,0.3s,baz=191,slow=15,SNR=7.5
NVAR Mina Array Bea 31.21 123 P **P** **22 38 30.7 +2.7**
NVAR PcP **PcP** **22 41 21.3 +1.6**
NVAR ScP **ScP** **22 44 52.8 +1.8**
NV11 Mina Array Sit 31.27 122 P **P** **22 38 30.9 +2.4**
NV11 PcP **PcP** **22 41 20.9 +1.2**
NV11 ScP **ScP** **22 44 53.1 +2.0**
BW06 Boulder Array 31.42 107 P **22 38 31.8**
baz=322
PD31 Pinedale Array 31.42 107 P **P** **22 38 31.7 +1.8**
PD31 PcP **PcP** **22 41 20.4 +0.2**
PD31 ScP **ScP** **22 44 52.3 +0.7**
PDAR Pinedale Array 31.42 107 P **P** **22 38 31.9 +2.0**
comp=Z,20nm,0.5s,baz=326,slow=4.0,SNR=140
PDAR pP **pP** **22 38 59.2 +2.9**
comp=Z,19nm,0.7s,baz=326,slow=5.3,SNR=4.4
PDAR PcP **PcP** **22 41 20.4 +0.2**
comp=Z,15nm,0.5s,baz=132,slow=1.4,SNR=14
PDAR ScP **ScP** **22 44 52.4 +0.7**
comp=Z,3.8nm,0.6s,baz=5.7,slow=1.5,SNR=8.2
PDAR PKiKP **PKiKP** **22 48 47.6 -1.3**
comp=Z,1.4nm,0.8s,baz=232,slow=1.7,SNR=3.8
PDAR LR LR 22 51 39.3
comp=Z,2μm,21.4s,baz=348,slow=37
PDAR P3KPbc 23 10 03.8
comp=Z,0.7nm,0.6s,baz=121,slow=7.1,SNR=7.0
PDAR Pinedale Array 31.42 107 P **P** **22 38 31.6 +1.6**
PDAR PcP **PcP** **22 41 20.4 +0.2**
PDAR ScP **ScP** **22 44 52.4 +0.7**
HWUT Hardware Ranch 31.44 111 P **P** **22 38 32.0 +2.0**
HWUT PcP **PcP** **22 41 21.1 +0.9**
HWUT ScP **ScP** **22 44 53.8 +2.1**
SAO San Andreas Ge 31.44 128 P **P** **22 38 31.6 +1.8**
SAO pmax pmax
comp=Z,26nm,0.9s
SAO San Andreas Ge 31.44 128 P **P** **22 38 31.6 +1.8**
SAO ScP **ScP** **22 44 52.9 +1.4**
MLAC Mammoth, Mammo 31.69 124 P **22 38 35.7**
baz=330
TPH Tonopah 31.95 121 P **P** **22 38 36.6 +2.0**
TPH **22 41 22.5**
TPH pmax pmax
comp=Z,667nm,1.3s
TPH Tonopah 31.95 121 P **P** **22 38 36.6 +2.0**
TPH PcP **PcP** **22 41 22.5 +0.8**
TPH ScP **ScP** **22 44 55.8 +2.3**
DUG Dugway, Tooele 32.04 114 P **P** **22 38 37.1 +1.9**
DUG **22 41 23.0**
DUG pmax pmax
comp=Z,69nm,1.0s
DUG Dugway, Tooele 32.04 114 P **P** **22 38 37.1 +1.9**
DUG PcP **PcP** **22 41 23.0 +1.2**
DUG ScP **ScP** **22 44 55.6 +2.0**
DUG Dugway, Tooele 32.04 114 P **22 38 37.1**
baz=325,SNR=72
MDND Maddock 32.31 91 P **P** **22 38 38.8 +1.4**
MDND IAmb IAmb 22 38 41.1
comp=Z,297nm,1.1s
MDND PcP **PcP** **22 41 23.4 +1.2**
MDND ScP **ScP** **22 44 55.9 +1.6**
MDND Maddock 32.31 91 P **22 38 39.1**
baz=315
R11A Troy Canyon, C 32.39 119 P **22 38 40.6**
baz=328
TIN Tinemaha, Big 32.43 124 P **22 38 41.3**
baz=330,SNR=9.8
ULM Lac du Bonnet 32.43 84 P **P** **22 38 39.7 +1.4**
comp=Z,159nm,0.8s,baz=309,slow=8.7,SNR=108
ULM PcP **PcP** **22 41 22.8 +0.3**
comp=Z,54nm,0.7s,baz=305,slow=3.6,SNR=8.3
ULM ScP **ScP** **22 44 55.5 +0.9**
comp=Z,14nm,0.8s,baz=308,slow=7.0,SNR=3.9
ULM LR LR 22 52 11.5
comp=Z,1μm,19.5s,baz=320,slow=37
ULM P3KPbc 23 09 59.5
comp=Z,6.3nm,0.8s,baz=107,slow=2.3,SNR=7.3
ULM Lac du Bonnet 32.43 84 P **P** **22 38 39.4 +1.1**
ULM IAmb IAmb 22 38 41.4
comp=Z,196nm,1.0s
ULM PcP **PcP** **22 41 22.3 -0.1**
ULM **ScP** **22 44 55.7 +1.1**
VOG Valley Oaks Go 32.62 126 P **22 38 41.8**
baz=332
GRAC Grapevine Rang 32.82 123 P **22 38 45.1**
baz=330
K22A Casper 32.91 104 P **P** **22 38 44.0 +1.2**
K22A PcP **PcP** **22 41 24.9 +0.8**
K22A ScP **ScP** **22 45 00.3 +3.7**
K22A Casper 32.91 104 P **22 38 44.4**
baz=321
RSSD Black Hills 32.94 100 P **P** **22 38 44.8 +1.7**
RSSD **22 41 24.6**
RSSD pmax pmax
comp=Z,278nm,1.4s
RSSD Black Hills 32.94 100 P **P** **22 38 44.8 +1.7**
RSSD IAmb IAmb 22 38 47.0
comp=Z,278nm,1.4s
RSSD PcP **PcP** **22 41 24.6 +0.3**
RSSD ScP **ScP** **22 44 58.1 +1.3**
RSSD Black Hills 32.94 100 P **22 38 44.9**
baz=319
NEEM North Greenlan 33.10 23⇓ *i*P **P** **22 38 44.9 +0.6**
NEEM IAmb IAmb 22 38 47.6
comp=Z,286nm,0.7s
VES Vestal, Richgr 33.15 126 P **22 38 46.7**
baz=332,SNR=18
SMMC Simmler 33.27 128 P **22 38 48.7**
baz=333,SNR=10
KULLO Kullorsuaq 33.27 29⇓ *i*P **P** **22 38 46.7 +1.3**
KULLO IAmb IAmb 22 38 48.3
comp=Z,116nm,0.7s
KULLO Kullorsuaq 33.27 29⇓ *i*P **P** **22 38 46.7 +1.3**
KULLO pmax pmax
comp=Z,120nm,0.7s
TPNV Topopah Spring 33.31 121 P **P** **22 38 48.0 +1.6**
TPNV pmax pmax
comp=Z,69nm,0.9s
TPNV Topopah Spring 33.31 121 P **P** **22 38 48.0 +1.6**
TPNV Topopah Spring 33.31 121 P **22 38 48.7**
baz=330,SNR=53
FURC Furnace Creek, 33.48 123 P **22 38 50.5**
baz=330,SNR=59
ISA Isabella, Lake 33.55 125 P **P** **22 38 49.7 +1.4**
ISA **22 41 26.6**
ISA pmax pmax
comp=Z,46nm,0.8s
ISA Isabella, Lake 33.55 125 P **P** **22 38 49.7 +1.4**
ISA PcP **PcP** **22 41 26.6 +0.7**
ISA ScP **ScP** **22 44 59.8 +1.0**
ISA Isabella, Lake 33.55 125 P **22 38 50.3**
baz=332,SNR=30
MPMC Manual Prospec 33.59 124 P **22 38 51.4**
baz=331,SNR=90
PKM Mcpherson Peak 33.71 128 P **22 38 52.7**
baz=333,SNR=30
AGMN Agassiz Nation 33.78 87 P **P** **22 38 51.0 +0.9**
AGMN IAmb IAmb 22 39 20.1
comp=Z,106nm,0.8s
AGMN Agassiz Nation 33.78 87 P **22 38 51.2**
baz=315,SNR=64
ARVC Arvin 33.88 126 P **22 38 52.6**
baz=332
LRMC Laurel Mtn Rad 34.02 124 P **22 38 54.3**
baz=331,SNR=26
O20A White River Ci 34.12 109 P **22 38 55.0**
baz=324
SBC Santa Barbara 34.15 128 P **22 38 56.1**
baz=333
SHOC Shoshone, Teco 34.21 122 P **22 38 56.4**
baz=330
OSI Osito Audit: C 34.37 126 P **22 38 57.5**
baz=332
EDW2 Edwards Air Fo 34.42 125 P **22 38 57.6**
baz=332,SNR=12
PHWY Pilot Hill 34.46 104 P **P** **22 38 57.4 +1.0**
PHWY PcP **PcP** **22 41 29.4 +0.6**
PHWY ScP **ScP** **22 45 04.5 +2.2**
UPNV Upernavik 34.48 32⇓ *i*P **P** **22 38 57.0 +1.2**
UPNV IAmb IAmb 22 38 58.3
comp=Z,136nm,0.9s
LCMT Little Creek M 34.51 118 P **P** **22 38 58.4 +1.7**
LCMT PcP **PcP** **22 41 30.2 +1.4**
LCMT ScP **ScP** **22 45 05.6 +3.3**
GSC Goldstone, Bar 34.52 123 P **22 38 59.2**
baz=331,SNR=77
N23A Red Feather La 34.56 105 P **22 38 58.7**
baz=323
SCZ2 Santa Cruz Isl 34.57 128 P **22 38 59.5**
baz=333
TUQ Turquoise Moun 34.75 122 P **22 39 01.4**
baz=330,SNR=17
YAK Yakutsk 34.80 306 P **P** **22 38 59.1 +0.3**
comp=Z,263nm,0.6s,baz=171,slow=0.3,SNR=167
YAK Yakutsk 34.80 306 *c i*P **P** **22 38 59.0 +0.3**
YAK *e* **22 40 20.9**
YAK *e*S **S** **22 44 17.5 -2.4**
YAK *e**SS **sS** **22 45 07.7 +0.9**
YAK pmax pmax
comp=Z,1μm,1.0s
YAK pmax pmax
comp=N,233nm,0.9s
YAK pmax pmax
comp=E,516nm,1.1s
YAK pmax pmax
comp=Z,260nm,1.6s
YAK pmax pmax
comp=E,164nm,1.3s
YAK pmax pmax
comp=N,120nm,1.5s
YAK smax smax
comp=E,146nm,1.6s
YAK smax smax
comp=N,213nm,2.0s
YAK Yakutsk 34.80 306 P **P** **22 38 59.0 +0.3**
RRX Edison Barstow 34.81 124 P **22 39 01.9**
baz=331,SNR=14
DECC Green Verdugo 34.84 126 P **22 39 01.9**
baz=332
NOR Nord 34.97 10⇓ *i*P **P** **22 39 00.3 +0.3**
NOR IAmb IAmb 22 39 01.7
comp=Z,41nm,0.8s
NOR Nord 34.97 10⇓ *i*P **P** **22 39 00.2 +0.3**
NOR pmax pmax
comp=Z,41nm,0.8s
SUSD Miller 35.10 94 P **P** **22 39 02.8 +1.3**
SUSD IAmb IAmb 22 39 07.2
comp=Z,219nm,1.0s
SUSD PcP **PcP** **22 41 30.9 +0.7**
SUSD ScP **ScP** **22 45 05.6 +1.4**
SUSD Miller 35.10 94 P **22 39 03.0**
baz=318
BFSC Mount Baldy Ra 35.11 125 P **22 39 04.6**
baz=332,SNR=30
HEC Hector,Ludlow 35.12 123 P **22 39 04.3**
baz=331,SNR=29
PV14 Lion Creek, Pa 35.20 111 P **P** **22 39 04.7 +2.0**
PV14 IAmb IAmb 22 39 06.7
comp=Z,102nm,0.8s
PV14 PcP **PcP** **22 41 32.3 +1.4**
PV14 ScP **ScP** **22 45 09.3 +4.3**
SNCC San Nicolas Is 35.28 129 P **22 39 05.8**
baz=334
F33A 5 Mile Ranch, 35.33 90 P **P** **22 39 04.4 +1.0**
F33A IAmb IAmb 22 39 06.7
comp=Z,112nm,1.0s
FMP Fort Macarthur 35.33 127 P **22 39 05.6**
baz=333
BBRC Big Bear Solar 35.38 124 P **22 39 06.3**
baz=332
U15A North Rim 35.41 117 P **P** **22 39 06.5 +2.0**
U15A PcP **PcP** **22 41 33.4 +1.8**
U15A ScP **ScP** **22 45 08.5 +2.7**
GMRC Granite Mounta 35.43 122 P **22 39 07.1**
baz=331,SNR=71
CIS Catalina Islan 35.56 127 P **22 39 07.4**

baz=333
ISCO Idaho Springs 35.58 106 P P 22 39 07.8 +1.8
ISCO PcP PcP 22 41 32.8 +0.7
ISCO ScP ScP 22 45 09.2 +2.8
ISCO Idaho Springs 35.58 106 P 22 39 07.9
baz=324,SNR=23
MURC Murrieta 35.86 125 P 22 39 09.7
baz=332
NEE2 Needles Airpor 35.86 121 P 22 39 10.4
baz=330,SNR=8.6
W13A Hualapai Mount 35.88 120 P P 22 39 10.8 +2.4
W13A PcP PcP 22 41 34.4 +1.5
W13A ScP ScP 22 45 10.3 +2.9
SCI2 San Clemente I 35.89 128 P 22 39 10.4
baz=333
NUUG Nuugaatsiaq 35.94 32⇓ iP P 22 39 09.5 +1.2
NUUG IAmb IAmb 22 39 10.8
comp=Z,82nm,0.9s
NUUG i 22 40 33.6
BELC Belle Mtn. Jos 35.98 124 P 22 39 11.4
baz=332,SNR=29
EYMN Ely 36.10 84 P P 22 39 11.4 +1.4
EYMN Ely 36.10 84 P 22 39 11.3
baz=315,SNR=155
PFO Pinyon Flats O 36.13 124 P P 22 39 12.4 +1.8
PFO 22 41 34.9
PFO pmax pmax
comp=Z,60nm,0.9s
PFO Pinyon Flats O 36.13 124 P P 22 39 12.4 +1.8
PFO PcP PcP 22 41 34.9 +1.3
PFO ScP ScP 22 45 11.5 +3.2
PFO Pinyon Flats O 36.13 124 P 22 39 12.3
baz=332,SNR=25
TPFO Pinon Flats 36.14 124 P 22 39 12.5
baz=332
IRM Iron Mountain 36.18 122 P 22 39 13.4
baz=331,SNR=75
TYV Tymovskoe 36.24 283 eP P 22 39 12.2 +1.1
TYV eS S 22 44 45.2 +3.1
TYV pmax pmax
comp=Z,219nm,1.1s
TYV pmax pmax
comp=Z,1μm,3.1s
TYV smax smax
comp=E,700nm,9.0s
OGNE Ogallala 36.33 101 P P 22 39 13.8 +1.7
OGNE IAmb IAmb 22 39 15.9
comp=Z,122nm,1.1s
OGNE ScP ScP 22 45 10.4 +1.6
OGNE Ogallala 36.33 101 P 22 39 13.8
baz=322,SNR=9.9
MVCO Mesa Verde 36.40 112 P P 22 39 14.0 +1.0
MVCO Mesa Verde 36.40 112 P 22 39 14.7
baz=326,SNR=47
PDMCI Parker Dam,Lak 36.46 121 P 22 39 15.3
baz=331,SNR=40
Q24A Divide 36.47 107 P 22 39 15.7
baz=324
BC3 Big Chuckawall 36.49 123 P 22 39 15.7
baz=332,SNR=21
109C Camp Elliot, M 36.52 126 P 22 39 16.2
baz=333
WUAZ Wupatki 36.57 117 P P 22 39 16.4 +2.0
WUAZ IAmb IAmb 22 39 46.9
comp=Z,196nm,1.0s
WUAZ ScP ScP 22 45 12.8 +2.9
WUAZ Wupatki 36.57 117 P 22 39 16.8
baz=329,SNR=100
S22A 4UR Ranch, Cre 36.70 110 P 22 39 18.1
baz=326
ECSD EROS Data Cent 36.74 93 P P 22 39 16.1 +0.5
ECSD IAmb IAmb 22 39 18.4
comp=Z,220nm,1.2s
ECSD EROS Data Cent 36.75 93 P 22 39 16.4
baz=319,SNR=112
MONP2 Monument Peak 36.78 125 P 22 39 18.5
baz=332,SNR=32
BAR Barrett 36.87 125 P P 22 39 18.7 +2.0
BAR PcP PcP 22 41 36.3 +0.6
BAR ScP ScP 22 45 14.4 +3.5
SWSC Sam W. Stewart 36.98 124 P 22 39 19.7
baz=332,SNR=21
E38A The Farm, Brul 37.03 85 P P 22 39 18.8 +0.9
E38A IAmb IAmb 22 39 20.7
comp=Z,196nm,1.1s
IKP In-Ko-Pah, Jac 37.12 125 P 22 39 21.3
baz=332,SNR=25
CBX Cerro Bola 37.20 126 P P 22 39 21.9 +2.2
CBX PcP PcP 22 41 38.1 +1.3
CBX ScP ScP 22 45 15.1 +2.8
Y14A Wickenburg 37.24 120 P P 22 39 21.9 +2.0
Y14A PcP PcP 22 41 37.9 +1.1
Y14A ScP ScP 22 45 15.9 +3.6
GLA Glamis 37.27 123 P 22 39 22.5
baz=332,SNR=21
SDCO Great Sand Dun 37.30 108 P P 22 39 22.8 +2.1
SDCO PcP PcP 22 41 38.1 +0.8
SDCO Great Sand Dun 37.30 108 P 22 39 23.1
baz=325,SNR=60
SPMN Marine on St. 37.45 88 P P 22 39 22.4 +1.0
SPMN IAmb IAmb 22 39 25.0
comp=Z,165nm,0.8s
SPMN Marine on St. 37.45 88 P 22 39 22.9
baz=318
KSCO Kaye Shedlock' 37.59 104 P P 22 39 24.3 +1.4
KSCO IAmb IAmb 22 39 27.0
comp=Z,115nm,0.7s
KSCO Kaye Shedlock' 37.59 104 P 22 39 24.8
baz=324
W18A Petrified Fore 37.61 115 P 22 39 25.6
baz=328
UGL Uglegorsk 37.75 282 eP P 22 39 24.0 +0.1
UGL e 22 40 56.0
UGL eS S 22 45 06.3 +1.3
UGL e 22 48 19.7
UGL pmax pmax
comp=Z,190nm,1.0s
UGL pmax pmax
comp=Z,2μm,6.0s
UGL pmax pmax
comp=Z,120nm,1.0s
UGL smax smax
comp=E,860nm,7.0s
UGL MLR MLR
comp=N,800nm,17.0s
UGL MLR MLR
comp=E,950nm,17.0s
UGL MLR MLR
comp=Z,2μm,16.0s
KUR Kuril'sk 37.78 273 c iP P 22 39 23.9 -0.3
KUR e 22 40 50.3
KUR e 22 41 36.6
KUR eS S 22 45 08.4 +2.8
KUR e*SS sS 22 45 53.6 +0.7
KUR pmax pmax
comp=Z,379nm,1.0s
KUR pmax pmax
comp=Z,2μm,4.2s
KUR MLR MLR
comp=Z,560nm,16.0s
BGNE Belgrade 37.80 97 P 22 39 26.0
baz=321
ILULI Ilulissat 37.95 35 P P 22 39 26.6 +1.3
ILULI pmax pmax
comp=Z,28nm,0.6s
ILULI Ilulissat 37.95 35 P P 22 39 26.6 +1.3
I37A Lemond, Waseca 38.07 90 P P 22 39 28.2 +1.6
T25A Trinidad 38.29 107 P P 22 39 30.8 +1.9
T25A PcP PcP 22 41 40.7 +0.4
T25A Trinidad 38.29 107 P 22 39 31.1
baz=325
COWI Conover 38.55 84 P P 22 39 31.4 +0.7
COWI IAmb IAmb 22 39 33.7
comp=Z,151nm,1.2s
SUMG Summit 38.69 26⇓ iP P 22 39 33.0 +1.0
SUMG IAmb IAmb 22 39 34.9
comp=Z,88nm,0.7s
SUMG Summit 38.69 26 P P 22 39 32.6 +0.6
SUMG pmax pmax
comp=Z,86nm,0.7s
SUMG Summit 38.69 26 P P 22 39 32.6 +0.6
SUMG IAmb IAmb 22 39 34.7
comp=Z,86nm,0.7s
DAG Danmarks Havn 38.75 15⇓ iP P 22 39 32.2 +0.2
DAG IAmb IAmb 22 39 33.7
comp=Z,303nm,0.8s
DAG i 22 39 57.9
DAG Danmarks Havn 38.75 15⇓ iP P 22 39 32.1 +0.2
DAG i 22 39 57.9
DAG pmax pmax
comp=Z,300nm,0.8s
YSS Yuzh-Sakhalins 38.95 279 αeP P 22 39 34.7 +0.8
YSS e*SP pP 22 40 06.2 +4.7
YSS e 22 41 08.1
YSS eS S 22 45 24.6 +1.5
YSS e*SS sS 22 46 07.8 -2.7
YSS pmax pmax
comp=Z,2μm,3.9s
YSS pmax pmax
comp=E,500nm,4.1s
YSS pmax pmax
comp=Z,260nm,1.0s
YSS smax smax
comp=E,500nm,6.3s
YSS MLR MLR
comp=Z,900nm,15.0s
YSS Yuzh-Sakhalins 38.95 279 P P 22 39 34.2 +0.3
214A Organ Pipe Nat 39.05 121 P 22 39 37.7
baz=332
CBKS Cedar Bluff 39.09 101 P P 22 39 37.1 +1.8
CBKS pmax pmax
comp=Z,450nm,1.3s
CBKS Cedar Bluff 39.09 101 P P 22 39 37.1 +1.8
CBKS Cedar Bluff 39.09 101 P 22 39 37.3
baz=323,SNR=14
GRNR Gornyy 39.17 288⇑ iP P 22 39 36.5 +0.7
GRNR e 22 41 10.3
GRNR eS S 22 45 28.7 +2.3
GRNR eSS SS 22 48 20.5 -3.1
GRNR pmax pmax
comp=N,80nm,0.9s
GRNR pmax pmax
comp=E,70nm,0.9s
GRNR pmax pmax
comp=Z,240nm,1.0s
GRNR smax smax
comp=N,20nm,1.0s
ANMO Albuquerque 39.19 112 c iP P 22 39 38.6 +2.2
ANMO pmax pmax
comp=Z,72nm,1.2s
ANMO Albuquerque 39.19 112 P P 22 39 38.1 +1.8
ANMO PcP PcP 22 41 44.9 +1.8
ANMO Albuquerque 39.20 112 P 22 39 38.7
baz=328
KBS Kingsbay 39.30 5⇓ iP P 22 39 38.1 +1.5
KBS IAmb IAmb 22 39 42.5
comp=Z,169nm,0.7s
KBS Kingsbay 39.30 5 d iP P 22 39 37.9 +1.3
KBS pmax pmax
comp=Z,76nm,0.7s
KBS Kingsbay 39.30 5 eP P 22 39 37.8 +1.2
KBS Kingsbay 39.30 5 P P 22 39 37.8 +1.3
KBS IAmb IAmb 22 39 42.7
comp=Z,77nm,0.7s
KBS PcP PcP 22 41 43.7 +1.2
SFJD Kangerlussuaq 39.56 37⇓ iP P 22 39 40.5 +1.8
SFJD i 22 40 05.4
SFJD Kangerlussuaq 39.56 37 P P 22 39 40.2 +1.4
SFJD pmax pmax
comp=Z,290nm,1.2s
SFJD Kangerlussuaq 39.56 37 P P 22 39 40.2 +1.4
SFJD IAmb IAmb 22 39 42.5
comp=Z,290nm,1.2s
TUC Tucson 39.58 119 P P 22 39 41.8 +2.4
TUC PcP PcP 22 41 46.0 +1.7
TUC Tucson 39.58 119 P 22 39 41.9
baz=330
TUC S 22 45 36.4
baz=330
YUK Yuzh-Kuril'sk 39.63 273 ceP P 22 39 38.8 -0.8
Y22D IRIS PASSCAL I 39.73 113 P 22 39 43.5
baz=328
Y22D S 22 45 39.6
baz=328
SCIA State Center 39.76 92 P P 22 39 42.0 +1.3
SCIA IAmb IAmb 22 39 44.0
comp=Z,294nm,1.1s
SCIA State Center 39.76 92 P 22 39 42.1
baz=320,SNR=13
SCIA S 22 45 36.4
baz=320
SPA0 Spitsbergen Ar 40.20 4 eP P 22 39 44.0 0.0
SPITS Spitsbergen Ar 40.20 4 LR LR 22 56 52.9
comp=Z,708nm,18.6s,baz=320,slow=37
KSU1 Kansas State U 40.34 98 P P 22 39 46.6 +1.0
KSU1 Kansas State U 40.34 98 P 22 39 46.9
baz=323,SNR=7.7
KSU1 S 22 45 42.9
baz=323
JFWS Jewell Farm 40.40 88 P P 22 39 46.9 +0.9
JFWS Jewell Farm 40.40 88 P P 22 39 46.9 +0.9
JFWS IAmb IAmb 22 39 48.6
comp=Z,143nm,0.7s
JFWS Jewell Farm 40.40 88 P 22 39 46.9
baz=320,SNR=36
JFWS S 22 45 44.5
baz=320
KIP Kipapa 40.44 188⇑ iP P 22 39 47.5 +1.0
KIP pmax pmax
comp=Z,337nm,0.8s
KIP Kipapa 40.44 188 P P 22 39 47.0 +0.5
KIP PcP PcP 22 41 48.2 +1.3
WMR Waimanalo Ridg 40.52 188 P P 22 39 48.3 +1.2
HON Honolulu 40.54 188 P P 22 39 49.2 +1.9
HON 22 41 49.0
HON pmax pmax
comp=Z,539nm,0.8s
HON Honolulu 40.54 188 P P 22 39 49.2 +1.9
HON PcP 22 41 49.0 +1.7
DHH Diamond Head 40.58 188 P P 22 39 49.3 +1.6
DHH Diamond Head 40.58 188 P P 22 39 49.3 +1.6
DBG Daneborg 40.61 18⇓ iP P 22 39 47.4 0.0
DBG IAmb IAmb 22 39 48.8
comp=Z,145nm,0.6s
DBG i 22 41 22.6
121A Cookes Peak, D 40.66 115 P 22 39 51.3
baz=329
121A S 22 45 53.4
baz=329
ICESG Greenland Ices 40.97 30⇓ iP P 22 39 51.6 +0.8
ICESG IAmb IAmb 22 39 53.4
comp=Z,241nm,0.7s
ICESG i 22 41 27.3
HLK Haleakala 40.99 186 P P 22 39 52.4 +1.1
JKA Kamikawa-asahi 41.12 276 P P 22 39 51.7 -0.2
JKA IAmb IAmb 22 39 54.0
comp=Z,147nm,1.4s
ASAJ Asahikawa 41.12 276 P P 22 39 51.6 -0.3
comp=Z,32nm,0.6s,baz=326,slow=5.1,SNR=26
ASAJ Asahikawa 41.12 276 P P 22 39 51.7 -0.2
ASAJ pmax pmax
comp=Z,147nm,1.4s
ZEA Zeya 41.13 297 ceP P 22 39 52.1 +0.2
ZEA e 22 41 30.8
ZEA eS S 22 45 57.5 +2.0
ZEA e 22 46 42.2
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=E,60nm,1.0s
ZEA pmax pmax
comp=Z,220nm,1.0s
ZEA pmax pmax
comp=E,300nm,6.9s
ZEA pmax pmax
comp=N,200nm,8.7s
ZEA pmax pmax
comp=Z,500nm,6.8s
ZEA pmax pmax
comp=Z,300nm,11.7s
ZEA smax smax
comp=E,300nm,10.3s
KAN16 Harper SW Stat 41.15 101 P P 22 39 53.3 +1.0
DY2G Dye2 41.17 36 i P P 22 39 52.9 +0.6
DY2G IAmb IAmb 22 39 54.6
comp=Z,53nm,0.6s
DY2G i 22 41 24.5
NUUK Nuuk 41.18 41⇓ iP P 22 39 54.2 +2.1
NUUK IAmb IAmb 22 39 56.0
comp=Z,389nm,1.4s
MATQ Matagami 41.25 71 P 22 39 53.2
baz=316,SNR=31
MATQ S 22 45 56.9
baz=316
AMTX Amarillo 41.40 107 P 22 39 56.0
baz=326
AMTX S 22 46 02.8
baz=326
K43A Burlington 41.47 87 P P 22 39 55.4 +0.6
K43A IAmb IAmb 22 39 57.6
comp=Z,209nm,0.9s
GLMI Grayling 41.63 82 P P 22 39 57.5 +1.4
GLMI IAmb IAmb 22 39 59.3
comp=Z,291nm,1.2s
GLMI Grayling 41.63 82 P 22 39 57.3
baz=318,SNR=8.1
GLMI S 22 46 03.8
baz=318
MSTX Muleshoe 41.66 108 P P 22 39 58.0 +1.4
MSTX Muleshoe 41.66 108 P 22 39 58.6
baz=327
MSTX S 22 46 08.1
baz=327
HPAH Hawaii Prepara 41.69 185 P P 22 39 57.6 +0.7
POHA Pohakuloa 41.96 185 P P 22 40 00.1 +0.9
POHA PcP PcP 22 41 53.3 +1.1
HOPEN Hopen 42.04 1 eP P 22 39 59.7 +0.7
LSQQ Lebel-sur-Quev 42.05 72 P 22 40 00.0
baz=317
LSQQ S 22 46 08.1
baz=317
L44A Lake County Fo 42.08 87 P 22 40 00.6
baz=320
L44A S 22 46 10.5
baz=320
HMH Humu'ula Sheep 42.11 185 P P 22 40 01.7 +1.2
HMH PcP PcP 22 41 54.1 +1.2
KHLU Kahalu`u 42.14 185 P P 22 40 01.1 +0.6
MLOA Mauna Loa Obse 42.18 185 P P 22 40 02.9 +1.7
MLH Mauna Loa 42.21 185 P P 22 40 02.6 +1.3
MWH Moku'aweowe 42.23 185 P P 22 40 03.0 +1.2
SBLHI Steaming Bluff 42.27 184 P P 22 40 02.7 +1.1
UWB Uwekahuna B 42.28 184 P P 22 40 02.5 +0.8
HATHI Halema'uma'u T 42.28 184 P P 22 40 02.6 +1.0
UWE Uwekahuna 42.28 184 P P 22 40 02.9 +1.1
OBL Observatory Le 42.28 184 P P 22 40 02.7 +1.0
BYL Byron's Ledge 42.29 184 P P 22 40 02.6 +0.8
SCHQ Schefferville 42.30 59 P P 22 40 02.1 +0.7
comp=Z,134nm,1.1s,baz=321,slow=8.6,SNR=45
SCHQ Schefferville 42.30 59 P P 22 40 02.0 +0.6
SCHQ IAmb IAmb 22 40 03.8
comp=Z,223nm,1.1s
PUH Pauahi 42.33 184 P P 22 40 02.9 +0.8
KLR Kul'dur 42.38 289 P P 22 40 02.4 +0.3
comp=Z,114nm,0.8s,baz=25,slow=9.7,SNR=164
42.39 121 P P 22 40 03.9 +1.5
HSIG IAmb IAmb 22 40 07.4
comp=Z,88nm,0.9s
HQIL Hanson Quary C 42.39 87 P P 22 40 03.3 +1.0
HQIL IAmb IAmb 22 40 05.3
comp=Z,312nm,1.2s
MNTX Cornudas Mount 42.42 113 P P 22 40 04.7 +2.0
MNTX Cornudas Mount 42.42 113 P 22 40 05.0
baz=329,SNR=103
MNTX S 22 46 20.4
baz=329
ERM Erimo 42.45 273 c iP P 22 40 02.7 0.0
ERM pmax pmax
comp=Z,354nm,1.3s
ERM Erimo 42.45 273 P P 22 40 03.2 +0.5
ERM IAmb IAmb 22 40 07.8
comp=Z,205nm,0.7s
KHU Kahuku 42.47 185 P P 22 40 04.5 +1.2
KHU pmax pmax
comp=Z,820nm,0.8s
KHU Kahuku 42.47 185 P P 22 40 04.5 +1.2
VLDQ Val d'Or 42.53 73 P P 22 40 02.7 -0.5
VLDQ IAmb IAmb 22 40 04.3
comp=Z,206nm,1.1s
NRIK Noril'sk 42.58 333 P P 22 40 04.3 +0.8
comp=Z,262nm,0.5s,baz=52,slow=6.4,SNR=216
NRIK Noril'sk 42.58 333 c iP P 22 40 04.2 +0.8
NRIK pmax pmax
comp=Z,331nm,0.8s
NRIK Noril'sk 42.58 333 P P 22 40 04.3 +0.8
OK029 Liberty Lake 42.60 102 P P 22 40 04.8 +0.7
OK029 IAmb IAmb 22 40 07.7
comp=Z,273nm,1.0s
CHGQ Chibougamau 42.60 69 P 22 40 03.9
baz=316,SNR=42
CHGQ S 22 46 15.2
baz=316
JEW Eniwo 42.63 275 P P 22 40 04.7 +0.5
HDIL Hopedale 42.67 90 P P 22 40 05.6 +1.1
HDIL Hopedale 42.67 90 P 22 40 05.2
baz=321,SNR=70
HDIL S 22 46 17.4
baz=321
WMOK Wichita Mounta 42.85 104 P P 22 40 07.2 +1.0
WMOK IAmb IAmb 22 40 10.2
comp=Z,159nm,0.9s
WMOK ScP ScP 22 45 34.6 +0.4
WMOK Wichita Mounta 42.85 104 P 22 40 07.8
baz=326,SNR=173
WMOK S 22 46 23.9
baz=326
TUL1 Leonard 43.29 100 P 22 40 10.4
baz=325
TUL1 S 22 46 28.4
baz=325
SRIG Santa Rosalia 43.38 124 P P 22 40 12.2 +1.9
SRIG IAmb IAmb 22 40 15.2
comp=Z,116nm,0.7s
BOD Bodaibo 43.51 309 eP P 22 40 11.0 -0.1
BOD pmax pmax
comp=Z,437nm,1.1s
SCO Scoresbysund 43.57 22 i P P 22 40 11.6 +0.2
SCO IAmb IAmb 22 40 13.7
comp=Z,23nm,0.7s
SCO Scoresbysund 43.57 22 P P 22 40 12.3 +0.9
SCO pmax pmax
comp=Z,120nm,1.7s
SCO Scoresbysund 43.57 22 P P 22 40 12.3 +0.9
CCM Cathedral Cave 43.71 94 P P 22 40 13.1 +0.2
CCM pmax pmax
comp=Z,137nm,1.1s
CCM Cathedral Cave 43.71 94 P P 22 40 13.1 +0.2
CCM IAmb IAmb 22 40 15.6
comp=Z,136nm,1.1s
ISOG Isortoq, Green 43.84 34⇓ iP P 22 40 13.8 +0.3
ISOG IAmb IAmb 22 40 16.6
comp=Z,138nm,0.7s
ALGO Algonquin Park 43.85 76 P 22 40 14.2
baz=319,SNR=29
ALGO S 22 46 36.5
baz=319
SFIN Lafayette 43.86 88 P 22 40 15.2
baz=322
SFIN S 22 46 36.2
baz=322
HHAR Hobbs 43.86 98 P P 22 40 14.0 -0.1
HHAR IAmb IAmb 22 40 16.1
comp=Z,266nm,1.4s
BJO1 Bjornoya 43.95 3 eP P 22 40 13.2 -1.1
AAM Ann Arbor 44.00 83 P P 22 40 16.6 +1.4
AAM pmax pmax
comp=Z,163nm,1.2s
AAM Ann Arbor 44.00 83 P P 22 40 16.6 +1.4
AAM IAmb IAmb 22 40 18.1
comp=Z,163nm,1.2s
AAM Ann Arbor 44.00 83 P 22 40 16.4
baz=320,SNR=8.8
AAM S 22 46 37.7
baz=320
N47A Urbana 44.13 86 P P 22 40 16.6 +0.3
ANGG Ammassalik, Gr 44.14 33⇓ iP P 22 40 16.1 +0.1
ANGG IAmb IAmb 22 40 17.8
comp=Z,278nm,0.7s
ANGG Ammassalik, Gr 44.14 33 P P 22 40 16.3 +0.3
ANGG ScP ScP 22 45 39.0 +0.2
ABTX Abilene, Hawle 44.21 106 P P 22 40 18.1 +1.0
ABTX Abilene, Hawle 44.21 106 P 22 40 18.3
baz=327
ABTX S 22 46 43.1
baz=327

D55A Sainte-Anne-du 44.24 73 P 22 40 17.8
baz=318
D55A S 22 46 42.2
baz=318
SADO Sadowa 44.24 77 P **P** **22 40 17.2 +0.2**
SADO IAmb IAmb 22 40 48.8
comp=Z,343nm,1.8s
U40A Yellville 44.31 97 P 22 40 17.7
baz=324
U40A S 22 46 40.6
baz=324
E55A Montcerf-Lytto 44.40 74 P 22 40 18.7
baz=319
E55A S 22 46 44.5
baz=319
JTM Tenmabayashi 44.40 274 P **P** **22 40 18.2 -0.1**
D56A ZEC Mazanza, M 44.54 72 P 22 40 19.9
baz=318
D56A S 22 46 46.0
baz=318
E56A St. Veronique 44.80 73 P 22 40 21.9
baz=319
E56A S 22 46 49.7
baz=319
W39A Magazine 44.81 99 P 22 40 22.3
baz=325
W39A S 22 46 50.8
baz=325
PLVO Plevna 44.99 76 P **P** **22 40 23.6 +0.5**
PBMO Poplar Bluff 45.12 94 P **P** **22 40 24.6 +0.5**
LATQ La Tuque 45.18 70 P **P** **22 40 24.7 +0.2**
LATQ IAmb IAmb 22 40 26.6
comp=Z,136nm,1.1s
LATQ La Tuque 45.18 70 P 22 40 24.8
baz=319,SNR=24
LATQ S 22 46 53.4
baz=319
JMIC Jan Mayen 45.20 16 *e*P **P** **22 40 24.9 +0.6**
TX32 Lajitas Array 45.20 113 P **P** **22 40 26.6 +1.7**
TX32 IAmb IAmb 22 40 30.0
comp=Z,126nm,1.2s
TXAR Lajitas Array 45.20 113 P **P** **22 40 27.2 +2.2**
comp=Z,26nm,0.6s,baz=315,slow=5.2,SNR=215
TXAR PcP **PcP** **22 42 04.1 +1.1**
comp=Z,26nm,0.7s,baz=60,slow=1.0,SNR=11
TXAR ScP **ScP** **22 45 45.1 +1.2**
comp=Z,4.1nm,0.8s,baz=28,slow=4.2,SNR=3.9
TXAR PKiKP **PKiKP** **22 48 59.9 -0.7**
comp=Z,0.6nm,0.4s,baz=195,slow=2.0,SNR=9.4
TXAR LR LR 23 01 05.6
comp=Z,1μm,20.6s,baz=0.0,slow=38
TXAR Lajitas Array 45.20 113 P **P** **22 40 27.0 +2.0**
D58A Chemin du LacG 45.35 71 P 22 40 25.8
baz=319
D58A S 22 46 57.1
baz=319
NRS Narsarsuaq 45.38 41 ⇑*i*P **P** **22 40 27.0 +1.1**
NRS IAmb IAmb 22 40 28.4
comp=Z,154nm,0.8s
NRS Narsarsuaq 45.38 41 ⇑*i*P **P** **22 40 27.0 +1.1**
NRS pmax pmax
comp=Z,150nm,0.8s
NRS Narsarsuaq 45.38 41 P **P** **22 40 26.5 +0.6**
NRS IAmb IAmb 22 40 28.6
comp=Z,170nm,0.9s
MIAR Mount Ida 45.44 99 P 22 40 27.5
baz=325,SNR=124
MIAR S 22 46 59.2
baz=325
WHAR Wooly Hollow 45.44 97 P **P** **22 40 26.7 0.0**
F57A Harrington 45.50 73 P 22 40 27.0
baz=319
F57A S 22 46 59.9
baz=319
W41B Gary Mavity, V 45.56 97 P 22 40 27.6
baz=325
W41B S 22 46 59.7
baz=325
P49A Miami Univ. Ec 45.65 87 P **P** **22 40 27.9 -0.4**
P49A Miami Univ. Ec 45.65 87 P 22 40 28.2
baz=322
P49A S 22 47 00.1
baz=322
E58A La Victoria 45.72 72 P 22 40 28.5
baz=319
E58A S 22 47 02.5
baz=319
WHTX Lake Whitney, 45.75 105 P **P** **22 40 30.1 +0.9**
WHTX IAmb IAmb 22 40 32.6
comp=Z,294nm,1.4s
WHTX Lake Whitney, 45.75 105 P 22 40 30.5
baz=327
WHTX S 22 47 04.9
baz=327
Z38A Mt. Pleasant 45.84 101 P **P** **22 40 31.2 +1.4**
Z38A IAmb IAmb 22 40 33.1
comp=Z,256nm,1.4s
X40A Basin Creek Fa 45.84 98 P 22 40 30.3
baz=325
X40A S 22 47 04.6
baz=325
F58A St-Lin Laurent 45.86 72 P 22 40 29.5
baz=319
F58A S 22 47 04.1
baz=319
ERPA Erie 45.88 81 P **P** **22 40 31.1 +1.1**
ERPA IAmb IAmb 22 41 01.7
comp=Z,137nm,0.6s
ERPA Erie 45.88 81 P 22 40 31.2
baz=321,SNR=16
ERPA S 22 47 04.8
baz=321
HICK Hickman 45.88 93 P **P** **22 40 30.6 +0.5**
D59A Saint-Raymond 45.89 70 P 22 40 30.1
baz=319
D59A S 22 47 05.6
baz=319
G57A Newington 45.91 74 P 22 40 30.4
baz=320
G57A S 22 47 04.6
baz=320
ACSO Alum Creek Sta 45.93 85 P **P** **22 40 31.0 +0.5**
ACSO IAmb IAmb 22 40 33.1
comp=Z,151nm,0.9s
WCI Wyandotte Cave 45.93 89 P **P** **22 40 31.1 +0.6**
WCI pmax pmax
comp=Z,192nm,1.0s
WCI Wyandotte Cave 45.93 89 P **P** **22 40 31.1 +0.6**
WCI IAmb IAmb 22 40 32.9
comp=Z,192nm,1.0s
WCI Wyandotte Cave 45.93 89 P 22 40 31.2
baz=323
WCI S 22 47 05.5
baz=323
JCT Junction City 45.95 108 P **P** **22 40 32.6 +1.8**
JCT pmax pmax
comp=Z,952nm,1.4s
JCT Junction City 45.95 108 P **P** **22 40 32.5 +1.8**
JCT Junction City 45.95 108 P 22 40 32.6
baz=328,SNR=127
JCT S 22 47 09.1
baz=328
E59A St. Maurice 45.99 71 P 22 40 31.0
baz=319
E59A S 22 47 05.6
baz=319
J55A Hilton 46.01 78 P **P** **22 40 31.6 +0.6**
J55A IAmb IAmb 22 41 03.2
comp=Z,82nm,0.8s
USA0B Ussuriysk Arra 46.03 284 P **P** **22 40 30.6 -0.6**
USA0B pmax pmax
comp=Z,71nm,1.1s
USA0B Ussuriysk Arra 46.03 284 P **P** **22 40 30.6 -0.6**
USRK Ussuriysk Ar. 46.03 284 P **P** **22 40 30.8 -0.5**
comp=Z,32nm,0.8s,baz=48,slow=8.2,SNR=129
USRK PcP **PcP** **22 42 06.2 +0.6**
comp=Z,33nm,1.0s,baz=39,slow=2.8,SNR=7.4
USRK ScP **ScP** **22 45 46.3 -0.8**
comp=Z,2.1nm,0.7s,baz=350,slow=3.2,SNR=2.9
M53A WI Miller and 46.08 82 P **P** **22 40 32.7 +1.1**
M53A WI Miller and 46.08 82 P 22 40 33.0
baz=321
M53A S 22 47 09.6
baz=321
H57A Richville 46.21 75 P 22 40 32.8
baz=320
H57A S 22 47 09.1
baz=320
G58A Ormstown 46.30 73 P 22 40 33.1
baz=320
G58A S 22 47 10.2
baz=320
WVNY West Valley, N 46.30 79 P **P** **22 40 33.9 +0.5**
WVNY IAmb IAmb 22 41 04.9
comp=Z,166nm,0.7s
F59A Saint Guilaume 46.34 72 P 22 40 33.4
baz=320
F59A S 22 47 11.1
baz=320
D60A Saint Jean D'O 46.37 69 P 22 40 34.1
baz=319
D60A S 22 47 12.5
baz=319
MMNY Mt. Morris Dam 46.38 78 P **P** **22 40 34.5 +0.6**
LONY Lake Ozonia 46.46 74 P **P** **22 40 34.4 -0.2**
LONY Lake Ozonia 46.46 74 P 22 40 34.4
baz=320,SNR=16
LONY S 22 47 12.7
baz=320
D61A St Aubert, Com 46.48 69 P 22 40 35.3
baz=319
D61A S 22 47 14.0
baz=319
I57A Carthage 46.49 76 P 22 40 35.1
baz=320
I57A S 22 47 13.0
baz=320
M54A Oil Creek Stat 46.50 81 P 22 40 35.9
baz=321
M54A S 22 47 15.2
baz=321
E60A Ste Agathe de 46.55 70 P 22 40 35.4
baz=320
E60A S 22 47 13.5
baz=320
F60A Warwick 46.63 71 P 22 40 35.8
baz=320
F60A S 22 47 16.4
baz=320
K56A Middlesex 46.67 78 P 22 40 37.1
baz=321
K56A S 22 47 16.8
baz=321
435B Jarrell 46.70 106 P 22 40 38.2
baz=328
435B S 22 47 20.2
baz=328
O53A New Philadelph 46.76 83 P 22 40 37.3
baz=322
O53A S 22 47 17.1
baz=322
N54A Moraine State 46.77 82 P 22 40 38.1
baz=322
N54A S 22 47 17.7
baz=322
H58A Gabriels 46.80 74 P 22 40 37.1
baz=320
H58A S 22 47 17.2
baz=320
P52A Corning 46.80 84 P 22 40 37.4
baz=322
P52A S 22 47 18.0
baz=322
CCAR Cane Creek 46.81 98 P **P** **22 40 38.6 +1.2**
MDJ Mudanjiang 46.81 286 P **P** **22 40 37.5 +0.2**
MDJ PcP **PcP** **22 42 09.5 +1.2**
MDJ PP **PP** **22 42 31.9 +3.4**
MDJ S **S** **22 47 19.1 +1.0**
MDJ sS sS 22 48 07.3 +0.5
MDJ pmax pmax
comp=Z,140nm,1.0s
MDJ pmax pmax
comp=Z,950nm,10.1s
MDJ L L
comp=Z,700nm,17.1s
MDJ L L
comp=Z,1μm,18.8s
MDJ L L
comp=Z,1μm,16.2s
MDJ Mudanjiang 46.81 286 P **P** **22 40 37.3 0.0**
MDJ IAmb IAmb 22 40 39.2
comp=Z,152nm,1.1s
JMM Marumori 46.83 272 P **P** **22 40 37.8 +0.3**
JMM IAmb IAmb 22 40 38.9
comp=Z,230nm,1.0s
H59A Cadyville 46.85 73 P 22 40 37.5
baz=320
H59A S 22 47 18.4
baz=320
Z41A Richland Creek 46.87 99 P 22 40 39.3
baz=326
Z41A S 22 47 21.6
baz=326
WVT Waverly 46.88 92 P **P** **22 40 38.7 +0.7**
WVT pmax pmax
comp=Z,381nm,1.4s
WVT Waverly 46.88 92 P **P** **22 40 38.7 +0.7**
WVT IAmb IAmb 22 40 40.8
comp=Z,381nm,1.4s
WVT Waverly 46.88 92 P 22 40 39.1
baz=324
WVT S 22 47 19.7
baz=324
VLA Vladivostok 46.91 283 *ce*P **P** **22 40 37.9 -0.2**
VLA pmax pmax
comp=Z,210nm,1.3s
E61A Lac Etchemin 46.93 70 P 22 40 38.8
baz=320
E61A S 22 47 19.4
baz=320
MOQ Mont Orford 46.99 72 P **P** **22 40 38.7 -0.1**
I58A Old Forge 47.00 75 P 22 40 38.9
baz=321
I58A S 22 47 20.7
baz=321
F61A St Evariste 47.05 70 P 22 40 39.8
baz=320
F61A S 22 47 21.0
baz=320
D62A Allapoint, All 47.07 68 P **P** **22 40 39.7 +0.4**
D62A IAmb IAmb 22 40 41.8
comp=Z,117nm,1.0s
D62A Allapoint, All 47.07 68 P 22 40 40.0
baz=320
D62A S 22 47 20.9
baz=320
J58A Remsen 47.11 76 P 22 40 40.0
baz=321
J58A S 22 47 22.8
baz=321
G60A Masonville 47.12 72 P 22 40 39.9
baz=320
G60A S 22 47 22.6
baz=320
E62A Clayton Lake 47.22 69 P **P** **22 40 40.8 +0.4**
E62A IAmb IAmb 22 40 42.7
comp=Z,118nm,0.9s
E62A Clayton Lake 47.22 69 P 22 40 41.0
baz=320
E62A S 22 47 23.2
baz=320
NATX Nacogdoches 47.24 102 P 22 40 42.2
baz=327,SNR=9.3
G61A St-Isidore-de- 47.34 71 P 22 40 41.7
baz=320
G61A S 22 47 25.6
baz=320
H60A Morristown 47.37 73 P 22 40 41.5
baz=320
H60A S 22 47 26.3
baz=320
I59A Olmsteadville 47.42 74 P 22 40 42.2
baz=321
I59A S 22 47 26.6
baz=321
D63A Stockholm 47.52 67 P 22 40 43.3
baz=320
D63A S 22 47 28.8
baz=320
F62A Pittston Farm, 47.57 70 P **P** **22 40 43.8 +0.6**
F62A IAmb IAmb 22 41 14.2
comp=Z,541nm,1.9s
F62A Pittston Farm, 47.57 70 P 22 40 43.6
baz=320
F62A S 22 47 28.3
baz=320
HIA Hailar 47.60 298 P **P** **22 40 44.0 +0.6**
HIA pmax pmax
comp=Z,166nm,0.9s
HIA Hailar 47.60 298 P **P** **22 40 44.0 +0.6**
HIA IAmb IAmb 22 40 46.2
comp=Z,166nm,0.9s
I60A Shoreham 47.65 74 P 22 40 43.8
baz=321
I60A S 22 47 29.9
baz=321
MSHR Mys Shultsa 47.67 283 *ci*P **P** **22 40 44.0 +0.1**
MSHR pmax pmax
comp=Z,343nm,1.2s
BINY Binghamton 47.69 77 P 22 40 44.7
baz=321,SNR=22
BINY S 22 47 30.9
baz=321
H61A Lyndonville 47.74 72 P 22 40 44.9
baz=321
H61A S 22 47 32.3
baz=321
G62A West of Eustis 47.84 71 P 22 40 45.8
baz=320
G62A S 22 47 33.0
baz=320
PQI Presque Isle 47.84 68 P **P** **22 40 45.4 +0.1**
PQI IAmb IAmb 22 41 15.8
comp=Z,152nm,1.4s
E63A Oxbow 47.86 68 P **P** **22 40 45.3 -0.1**
E63A IAmb IAmb 22 40 47.1
comp=Z,129nm,0.9s
E63A Oxbow 47.86 68 P 22 40 45.4
baz=320
E63A S 22 47 32.6
baz=320
MCWV Mont Chateau 47.87 83 P 22 40 46.3
baz=322,SNR=27
MCWV S 22 47 32.8
baz=322
L58A Harry Jones Me 47.87 77 P 22 40 46.3
baz=321
L58A S 22 47 34.2
baz=321
JSD Sado 47.90 274 P **P** **22 40 46.1 +0.3**
JSD IAmb IAmb 22 40 47.3
comp=Z,153nm,0.9s
HAMF Hammerfest 47.92 2 *e*P **P** **22 40 44.9 -0.6**
LBNH Lisbon 47.97 72 P 22 40 46.8
baz=321,SNR=8.5
LBNH S 22 47 36.0
baz=321
833A Chaparral WMA, 47.97 109 P 22 40 48.4
baz=329
833A S 22 47 39.7
baz=329
O56A Blue Knob Stat 47.99 81 P 22 40 47.4
baz=322
SSPA Standing Stone 48.02 80 P 22 40 47.6
baz=322
SSPA S 22 47 35.5
baz=322
CIT Chita 48.02 304 *e*P **P** **22 40 48.2 +1.6**
CIT *e* 22 41 15.4
CIT *e* 22 42 42.1
CIT pmax pmax
comp=Z,459nm,2.2s
J60A Lant Hill Farm 48.06 74 P 22 40 47.2
baz=321
J60A S 22 47 36.5
baz=321
H62A Milan 48.06 72 P 22 40 47.5
baz=321
H62A S 22 47 35.8
baz=321
F63A Nahmakanta, Br 48.11 69 P 22 40 47.7
baz=321
F63A S 22 47 36.6
baz=321
E64A Bridgewater 48.12 68 P 22 40 47.5
baz=320
E64A S 22 47 36.2
baz=320
BATG Bathurst New B 48.23 66 P **P** **22 40 49.0 +0.7**
BATG IAmb IAmb 22 40 50.7
comp=Z,102nm,1.0s
F64A Sherman 48.32 68 P 22 40 49.2
baz=321
F64A S 22 47 37.7
baz=321
G63A Kingsbury 48.33 70 P 22 40 49.5
baz=321
G63A S 22 47 39.4
baz=321
PKME Peaks-Kenny Pk 48.36 70 P 22 40 49.7
baz=321,SNR=15
PKME S 22 47 40.7
baz=321
J61A Chester 48.38 74 P 22 40 49.9
baz=321
J61A S 22 47 40.2
baz=321
JYT Yasato 48.43 271 P **P** **22 40 50.2 +0.3**
JYT IAmb IAmb 22 40 51.2
comp=Z,159nm,1.0s
H63A New Sharon 48.50 71 P 22 40 50.7
baz=321
H63A S 22 47 43.1
baz=321
I62A Tamworth 48.52 72 P 22 40 50.7
baz=321
I62A S 22 47 44.1
baz=321
K61A Williamstown 48.58 75 P 22 40 51.4
baz=321
K61A S 22 47 44.4
baz=321
TZTN Tazewell 48.59 88 P 22 40 52.4
baz=324,SNR=82
TZTN S 22 47 43.8
baz=324
G64A Maxfield 48.61 69 P 22 40 51.7
baz=321
G64A S 22 47 43.3
baz=321
BORG Borgarnes 48.67 26 LR LR 23 04 42.5
comp=Z,435nm,19.5s,baz=340,slow=40
BORG Borgarnes 48.67 26 P **P** **22 40 52.8 +1.5**
BORG pmax pmax
comp=Z,197nm,1.5s
BORG Borgarnes 48.67 26 P **P** **22 40 52.8 +1.5**
BORG IAmb IAmb 22 40 54.9
comp=Z,197nm,1.4s
I63A Otisfield 48.73 72 P 22 40 52.8
baz=321
I63A S 22 47 46.9
baz=321
N59A State Game Lan 48.79 78 P 22 40 53.2
baz=322
N59A S 22 47 46.4
baz=322
VBMS Vicksburg 48.80 98 P 22 40 54.3
baz=326,SNR=15
VBMS S 22 47 47.7
baz=326
J62A Henniker 48.81 73 P 22 40 53.1
baz=321
J62A S 22 47 46.9
baz=321
TRO Tromso 48.82 4 *e*P **P** **22 40 53.2 +0.9**
KEV Kevo 48.85 0 P **P** **22 40 52.6 0.0**
KEV pmax pmax
comp=Z,99nm,1.0s
KEV Kevo 48.85 0 P **P** **22 40 52.6 0.0**
KEV IAmb IAmb 22 40 54.3
comp=Z,99nm,1.0s
H64A Troy 48.88 70 P 22 40 53.5
baz=321
H64A S 22 47 48.3
baz=321
JETT Jettan, Norway 48.94 3 *e*P **P** **22 40 53.9 +0.5**
L61B Northampton 49.02 75 P 22 40 54.5
baz=322
L61B S 22 47 49.8
baz=322
K62A Royalston 49.05 74 P 22 40 54.9

baz=322
K62A S 22 47 50.1

baz=322
ARA0 ARCESS Array S 49.06 1 *e*P **P** **22 40 54.1 -0.2**
ARCES ARCESS Array B 49.06 1 P **P** **22 40 54.0 -0.2**
comp=Z,54nm,0.6s,baz=0.7,slow=7.7,SNR=191
ARCES PcP **PcP** **22 42 16.2 +0.2**
comp=Z,78nm,0.7s,baz=356,slow=4.0,SNR=16
ARCES PP **PP** **22 42 47.6 -0.8**
comp=Z,13nm,0.5s,baz=0.0,slow=2.7,SNR=4.4
ARCES ScP **ScP** **22 45 58.7 -0.7**
comp=Z,7.0nm,0.8s,baz=353,slow=6.1,SNR=3.6
ARCES PKiKP **PKiKP** **22 49 01.5 -1.8**
comp=Z,7.8nm,1.2s,baz=321,slow=1.6,SNR=3.7
ARCES P4KPbc 23 18 26.8
comp=Z,1.5nm,0.6s,baz=335,slow=5.5,SNR=7.7
ARCES ARCESS Array B 49.06 1 P **P** **22 40 54.0 -0.2**
ARCES PcP **PcP** **22 42 16.1 +0.1**
ARCES IAmb IAmb 22 42 17.3
comp=Z,104nm,0.8s
J63A Strafford 49.10 73 P 22 40 55.5
baz=322
J63A S 22 47 51.2
baz=322
MJB9 Matsu-Tunnel 49.12 273 P **P** **22 40 55.5 +0.3**
MJB9 IAmb IAmb 22 40 58.8
comp=Z,160nm,1.0s
MAJO Matsushiro 49.12 273 *c iP* **P** **22 40 55.5 +0.3**
MAJO pmax pmax
comp=Z,192nm,1.1s
MAJO Matsushiro 49.12 273 P **P** **22 40 55.5 +0.3**
MAJO IAmb IAmb 22 40 58.8
comp=Z,145nm,1.0s
MAJO PcP **PcP** **22 42 17.0 +0.2**
MAT Matsushiro 49.12 273 P **P** **22 40 55.4 +0.2**
MAT S **S** **22 47 54.8 +3.9**
MJAR Matsushiro Arr 49.12 273 P **P** **22 40 55.6 +0.4**
comp=Z,74nm,1.0s,baz=16,slow=6.6,SNR=117
MJAR PcP **PcP** **22 42 16.7 -0.1**
comp=Z,52nm,1.0s,baz=32,slow=2.1,SNR=11
MJAR Matsushiro Arr 49.12 273 P **P** **22 40 55.4 +0.2**
MJAR IAmb IAmb 22 40 58.9
comp=Z,209nm,1.4s
G65A Princeton 49.18 68 P 22 40 55.9
baz=321
G65A S 22 47 51.4
baz=321
TKL Tuckaleechee C 49.20 89 LR LR 23 03 16.8
comp=Z,1µm,19.4s,baz=336,slow=38
I64A Boothbay 49.26 71 P 22 40 56.3
baz=321
I64A S 22 47 52.0
baz=321
H65A Eastbrook 49.27 69 P 22 40 56.6
baz=321
H65A S 22 47 54.1
baz=321
CN2 Changchun 49.33 289⇑ *i*P **P** **22 40 56.9 +0.2**
CN2 pP pP 22 41 19.4 -5.8
CN2 PP **PP** **22 42 52.3 +0.9**
CN2 S **S** **22 47 53.1 -0.4**
CN2 SS **SS** **22 51 19.4 -6.6**
CN2 pmax pmax
comp=Z,550nm,0.9s
CN2 pmax pmax
comp=Z,1µm,3.0s
K63A Dunstable 49.36 73 P 22 40 57.4
baz=322
K63A S 22 47 54.1
baz=322
HRV Adam Dziewonsk 49.49 74 P **P** **22 40 58.1 +0.2**
HRV 22 42 18.5
HRV Adam Dziewonsk 49.49 74 P **P** **22 40 58.1 +0.2**
HRV PcP **PcP** **22 42 18.5 +0.5**
HRV Adam Dziewonsk 49.49 74 P 22 40 58.2
baz=322
HRV S 22 47 56.0
baz=322
BLA Blacksburg 49.54 85 P **P** **22 40 59.3 +0.9**
BLA pmax pmax
comp=Z,205nm,1.1s
BLA Blacksburg 49.54 85 P **P** **22 40 59.3 +0.9**
BLA IAmb IAmb 22 41 00.5
comp=Z,206nm,1.1s
BLA Blacksburg 49.54 85 P 22 40 59.2
baz=324,SNR=38
BLA S 22 47 57.0
baz=324
KTK1 Kautokeino 49.55 2 *e*P **P** **22 40 57.7 -0.3**
GGN Saint George 49.56 68 P **P** **22 40 58.8 +0.4**
GGN IAmb IAmb 22 41 00.5
comp=Z,146nm,0.9s
PAL Palisades 49.59 77 P 22 40 58.9
baz=322
PAL S 22 47 56.2
baz=322
H66A Whiting 49.62 69 P 22 40 59.1
baz=322
H66A S 22 47 57.8
baz=322
P60A Greenville 49.73 79 P 22 41 00.1
baz=323
P60A S 22 47 60.0
baz=323
LRAL Lakeview Retre 49.80 94 P 22 41 00.8
baz=326,SNR=68
LRAL S 22 48 00.5
baz=326
LMN Caledonia Moun 49.88 66 P **P** **22 41 01.4 +0.5**
LMN IAmb IAmb 22 41 31.6
comp=Z,116nm,0.7s
N2VI Vinje 49.91 7 *e*P **P** **22 41 00.8 +0.1**
L63A North Scituate 49.97 74 P 22 41 01.6
baz=322
L63A S 22 48 02.5
baz=322
LOF Lofoten 50.06 7 *e*P **P** **22 41 01.7 -0.1**
CBN Corbin Frederi 50.19 82 P 22 41 04.3
baz=323,SNR=15
CBN S 22 48 05.8
baz=323
L64A Middleborough 50.27 74 P 22 41 03.7
baz=322
N2SV S rv¥gen 50.27 7 *e*P **P** **22 41 03.6 +0.2**
DRLN Deer Lake 50.29 58 P **P** **22 41 04.7 +0.9**
JGF Kuroka 50.29 273 P **P** **22 41 04.6 +0.6**
JGF IAmb IAmb 22 41 07.0
comp=Z,149nm,0.8s
N2IH Innhavet 50.35 6 *e*P **P** **22 41 04.5 +0.4**
STEI Steigen 50.36 6 *e*P **P** **22 41 04.2 +0.1**
M64A Tiverton 50.40 74 P 22 41 04.9
baz=322
M64A S 22 48 08.1
baz=322
N2VA Vr,y 50.48 7 *e*P **P** **22 41 04.6 -0.3**
N2NF Nordfold 50.52 6 *e*P **P** **22 41 05.3 0.0**
N2RO R,st 50.59 8 *e*P **P** **22 41 05.7 -0.1**
Q61A Milford 50.61 79 P 22 41 06.0
baz=323
Q61A S 22 48 14.7
baz=323
LVZ Lovozero 50.62 357 *ce*P **P** **22 41 05.7 -0.4**
LVZ pmax pmax
comp=Z,265nm,1.5s
LVZ Lovozero 50.62 357 P **P** **22 41 06.3 +0.1**
LVZ IAmb IAmb 22 41 08.4
comp=Z,248nm,1.3s
M65A Busby, Falmout 50.65 74 P 22 41 06.1
baz=322
M65A S 22 48 12.0
baz=322
INU Inuyama 50.65 273 P **P** **22 41 06.7 -0.1**
INU IAmb IAmb 22 41 09.8
comp=Z,90nm,1.0s
INU PcP **PcP** **22 42 22.2 -0.1**
N2TV T¥rnvik 50.71 6 *e*P **P** **22 41 06.7 0.0**
KMSC Kings Mountain 50.78 87 P 22 41 08.7
baz=325
KMSC S 22 48 14.4
baz=325
NBB08 Skaug oppvekst 50.87 7 *e*P **P** **22 41 07.9 0.0**
FAUS Fauske 50.91 6 *e*P **P** **22 41 08.3 +0.1**
N2ST Straumen 50.95 6 *e*P **P** **22 41 08.8 +0.2**
APA Apatity 50.98 357⇑ *i*P **P** **22 41 07.8 -1.0**
APA *i* 22 43 03.0
APA *i* S **S** **22 48 12.0 -3.8**

APA *i* SS **ScS** **22 50 39.0 -7.2**
APA pmax pmax
comp=Z,70nm,0.8s
HODGE Hodges 51.08 89 P **P** **22 41 10.8 +0.9**
M66A Nantucket 51.12 74 P 22 41 11.4
baz=323
M66A S 22 48 17.4
baz=323
JHJ Hachijo jima 2 51.15 269 P **P** **22 41 11.8 +1.3**
comp=Z,138nm,0.6s,baz=23,slow=2.5,SNR=10
GOGA Godfrey 51.17 90 P 22 41 11.4
baz=325,SNR=51
GOGA S 22 48 19.5
baz=325
NBB05 Inndyr 51.18 7 *e*P **P** **22 41 10.1 -0.2**
NBB30 Finnes 51.23 7 *e*P **P** **22 41 10.6 0.0**
BRAL Brewton 51.32 95 P 22 41 13.0
baz=326
BRAL S 22 48 23.4
baz=326
HAL Halifax 51.37 66 P **P** **22 41 12.5 +0.5**
HAL pmax pmax
comp=Z,123nm,1.0s
HAL Halifax 51.37 66 P **P** **22 41 12.5 +0.5**
HAL IAmb IAmb 22 41 14.0
comp=Z,123nm,1.0s
IRK Irkutsk 51.38 310 *e*P **P** **22 41 11.7 -0.3**
IRK *e* 22 41 34.7
IRK pmax pmax
comp=Z,392nm,2.2s
NBB17 Glomfjord B¥r 51.40 7 *e*P **P** **22 41 12.4 +0.6**
NBB15 Halsa Church 51.44 7 *e*P **P** **22 41 12.6 +0.4**
JWT Wachi 51.48 274 P **P** **22 41 13.2 +0.3**
JWT IAmb IAmb 22 41 14.5
comp=Z,122nm,0.9s
NBB13 Alf Garage 51.54 7 *e*P **P** **22 41 13.1 +0.1**
NBB40 Tonnes 51.64 8 *e*P **P** **22 41 13.7 +0.1**
GBN Guysborough 51.66 64 P **P** **22 41 14.9 +0.8**
GBN IAmb IAmb 22 41 44.8
comp=Z,187nm,1.0s
KONS Konsvik 51.66 7 *e*P **P** **22 41 13.7 -0.1**
SNY Shenyang 51.73 289⇑ *i*P **P** **22 41 15.0 +0.3**
SNY pP **pP** **22 41 44.3 +0.8**
SNY S **S** **22 48 28.5 +1.8**
SNY pmax pmax
comp=Z,130nm,0.7s
SNY pmax pmax
comp=Z,1µm,3.6s
SNY L L
comp=Z,540nm,12.9s
SNY L L
comp=Z,600nm,10.4s
SNY L L
comp=Z,650nm,18.6s
STOK Stokkvaagen 51.82 8 *e*P **P** **22 41 15.0 0.0**
TLY Talaya 52.06 310 P **P** **22 41 18.5 +1.5**
comp=Z,65nm,0.7s,baz=20,slow=7.9,SNR=53
TLY Talaya 52.06 310 *e*P **P** **22 41 15.1 -2.0**
TLY *e* 22 43 17.0
TLY *e*S **S** **22 48 34.4 +3.3**
TLY pmax pmax
comp=Z,745nm,1.8s
TLY MLR MLR
comp=Z,2µm,14.0s
TLY Talaya 52.06 310 P **P** **22 41 18.3 +1.2**
TLY Talaya 52.06 310 P **P** **22 41 18.7 +1.6**
MOR8 Moi Rana 52.06 7 *e*P **P** **22 41 16.5 -0.4**
CNNC Cliffs of the 52.34 84 P **P** **22 41 20.1 +0.9**
CNNC Cliffs of the 52.34 84 P 22 41 20.1
baz=325,SNR=10
CNNC S 22 48 36.7
baz=325
TIGA Tifton 52.74 92 P 22 41 22.4
baz=326
TIGA S 22 48 40.7
baz=326
JHS Saijyo 52.79 276 P **P** **22 41 22.8 +0.1**
JHS IAmb IAmb 22 41 24.3
comp=Z,109nm,0.8s
NHSC New Hope 52.99 88 P 22 41 25.5
baz=326,SNR=38
NHSC S 22 48 46.3
baz=326
MOY Mondy 53.03 312 *e*P **P** **22 41 26.3 +2.0**
MOY pmax pmax
comp=Z,670nm,1.7s
KS19 Wonju Array Si 53.23 282 P **P** **22 41 27.3 +1.4**
KSRS Korea Array 53.24 282 P **P** **22 41 27.2 +1.3**
comp=Z,139nm,0.8s,baz=33,slow=6.9,SNR=421
KSRS pP **pP** **22 41 56.5 +1.7**
comp=Z,33nm,0.9s,baz=29,slow=7.0,SNR=2.6
KSRS PcP **PcP** **22 42 32.7 +0.7**
comp=Z,36nm,0.8s,baz=42,slow=4.1,SNR=8.2
KSRS ScP **ScP** **22 46 17.8 -0.1**
comp=Z,6.3nm,1.1s,baz=37,slow=4.2,SNR=5.0
KSRS LR LR 23 03 07.9
comp=Z,336nm,21.9s,baz=7.5,slow=35
KSRS P4KPbc 23 18 48.5
comp=Z,3.1nm,0.9s,baz=35,slow=4.1,SNR=9.5
ZAK Zakamensk 53.25 309 *e*P **P** **22 41 26.7 +0.7**
ZAK pmax pmax
comp=Z,77nm,1.1s
KSAR Wonju Array Be 53.27 282 P **P** **22 41 27.1 +1.0**
KSAR Wonju Array Be 53.27 282 P **P** **22 41 27.1 +1.0**
JMN Monobe 53.47 274 P **P** **22 41 28.3 +0.7**
JMN IAmb IAmb 22 41 31.1
comp=Z,249nm,1.4s
JMN PcP **PcP** **22 42 33.7 +0.7**
NSS Namsos 53.53 8 *e*P **P** **22 41 27.5 -0.1**
INCN Inchon 53.82 283 P **P** **22 41 30.4 +0.3**
INCN IAmb IAmb 22 41 31.8
comp=Z,149nm,1.0s
INCN PcP **PcP** **22 42 33.8 -0.5**
ULN Ulaanbaatar 53.88 305 *c iP* **P** **22 41 31.7 +1.1**
ULN pmax pmax
comp=Z,393nm,1.1s
ULN Ulaanbaatar 53.88 305 P **P** **22 41 31.9 +1.3**
ULN Ulaanbaatar 53.88 305 P **P** **22 41 32.0 +1.3**
ULN Ulaanbaatar 53.88 305 P **P** **22 41 31.3 +0.7**
comp=Z,12µmcomp=Z,1µm,1.0s
ULN pP **pP** **22 41 53.4 -6.2**
comp=Z,12µmcomp=Z,1µm,1.0s
SONM Songino Array 54.16 305 P **P** **22 41 34.3 +1.7**
comp=Z,349nm,1.0s,baz=39,slow=6.2,SNR=740
SONM ScP **ScP** **22 46 21.2 -0.8**
comp=Z,5.3nm,1.0s,baz=38,slow=7.3,SNR=2.7
SONM LR LR 23 05 52.1
comp=Z,931nm,18.4s,baz=32,slow=37
SONM PKPPKP P'P'df 23 11 30.3 -18
comp=Z,2.0nm,1.0s,baz=176,slow=2.7,SNR=6.1
SONM Songino Array 54.16 305 P **P** **22 41 34.5 +1.8**
SONM **ScP** **22 46 21.5 -0.5**
TJN Taejon 54.38 282 *c iP* **P** **22 41 35.0 +0.8**
JTU Tsushima 54.94 279 P **P** **22 41 39.0 +0.8**
656A Willston 54.96 92 P **P** **22 41 38.5 +0.1**
656A PcP **PcP** **22 42 39.9 +1.2**
DL2 Dalian 54.97 288 P **P** **22 41 38.9 +0.6**
DL2 pP **pP** **22 42 07.4 0.0**
DL2 PP **PP** **22 43 42.3 +0.1**
DL2 S **S** **22 49 13.3 +2.8**
DL2 sS **sS** **22 49 58.3 -1.8**
DL2 pmax pmax
comp=Z,220nm,1.0s
DL2 pmax pmax
comp=Z,1µm,3.5s
JCJ Chichijima 55.03 263 P **P** **22 41 38.9 -0.1**
comp=Z,450nm,0.8s,baz=293,slow=22,SNR=22
JCJ Chichijima 55.03 263 P **P** **22 41 38.6 -0.3**
MOL Molde 55.11 11 *e*P **P** **22 41 39.5 +0.5**
JNU Nakatsue 55.39 277 P **P** **22 41 41.4 -0.2**
comp=Z,39nm,0.9s,baz=302,slow=0.7,SNR=18
JNU Nakatsue 55.39 277 P **P** **22 41 41.7 +0.1**
JNU IAmb IAmb 22 41 44.3
comp=Z,84nm,1.2s
AKN Aaknes 55.44 12 *e*P **P** **22 41 42.0 +0.6**
DOMB Dombas 55.77 11 *e*P **P** **22 41 43.9 +0.1**
FOO Floro 55.81 13 *e*P **P** **22 41 44.1 +0.1**
PRGR Permogore 56.26 350 *e*P **P** **22 41 47.3 +0.1**
PRGR *e* 22 42 41.7
PRGR *e*S **S** **22 49 26.0 -1.1**
PRGR pmax pmax
comp=Z,777nm,1.0s
ZAA0 Zalesovo Array 56.27 323 P **P** **22 41 47.7 +0.2**
ZAA0 IAmb IAmb 22 41 51.7
comp=Z,103nm,0.7s

ZALV Zalesovo Beam 56.27 323 P **P** **22 41 47.7 +0.2**
comp=Z,98nm,0.4s,baz=33,slow=7.1,SNR=251
ZALV pP **pP** **22 42 16.7 0.0**
comp=Z,35nm,0.5s,baz=44,slow=7.0,SNR=2.5
ZALV ScP **ScP** **22 46 31.3 +0.3**
comp=Z,5.4nm,0.9s,baz=54,slow=7.4,SNR=2.6
ZALV S **S** **22 49 26.7 -0.8**
comp=Z,9.9nm,1.2s,baz=26,slow=14,SNR=4.4
ZALV LR LR 23 09 13.6
comp=Z,1µm,18.5s,baz=32,slow=39
ZALV PKP2bc 23 12 02.8
comp=Z,1.2nm,0.7s,baz=183,slow=5.1,SNR=2.7
SUE Sulen 56.31 13 *e*P **P** **22 41 47.7 +0.1**
HYA Hoyanger 56.35 12 *e*P **P** **22 41 48.8 +0.9**
LRW Lerwick 56.47 17 *e*P **P** **22 41 48.1 -0.7**
LRW IAmb IAmb 22 41 50.6
comp=Z,81nm,1.2s
BJI Beijing 56.47 293 P **P** **22 41 50.0 +0.9**
BJI S **S** **22 49 31.5 +1.0**
BJI ScS **ScS** **22 51 25.3 -0.6**
BJI pmax pmax
comp=Z,93nm,0.9s
BJT Baijiatuan 56.49 293 P **P** **22 41 49.7 +0.4**
BJT pmax pmax
comp=Z,80nm,0.9s
BJT Baijiatuan 56.49 293 P **P** **22 41 49.6 +0.4**
BJT IAmb IAmb 22 41 51.0
comp=Z,80nm,0.9s
DWPF Disney Wildern 56.54 92 P **P** **22 41 50.0 +0.3**
DWPF IAmb IAmb 22 41 52.2
comp=Z,135nm,1.0s
DWPF Disney Wildern 56.54 92 P 22 41 50.0
baz=328
DWPF S 22 49 32.3
baz=328
NC303 NORSAR Array S 56.77 9 P **P** **22 41 50.6 -0.3**
NC303 IAmb IAmb 22 41 52.7
comp=Z,237nm,1.6s
ASK Askoy 56.92 13 *e*P **P** **22 41 51.8 -0.1**
JSU Suzuyama 56.92 276 P **P** **22 41 52.4 0.0**
JSU IAmb IAmb 22 41 54.8
comp=Z,111nm,0.9s
NB2 NORSAR Subarra 56.94 10 P **P** **22 41 51.7 -0.5**
baz=351,slow=7.4
NOA NORSAR Array B 56.94 10 P **P** **22 41 51.6 -0.5**
comp=Z,52nm,0.7s,baz=351,slow=7.0,SNR=259
NOA ScP **ScP** **22 46 33.6 -0.2**
comp=Z,8.2nm,0.9s,baz=352,slow=5.1,SNR=4.5
NOA PKPPKP **P'P'df** **23 11 44.2 -0.2**
comp=Z,6.8nm,0.9s,baz=151,slow=2.4,SNR=6.7
NOA P4KPbc 23 19 03.2
comp=Z,1.2nm,0.7s,baz=352,slow=5.3,SNR=4.1
BER Bergen 57.03 13 *e*P **P** **22 41 52.7 0.0**
SKAR Skarslia 57.04 11 *e*P **P** **22 41 53.3 +0.4**
NAO01 NORSAR Array S 57.10 10 P **P** **22 41 53.1 -0.2**
NAO01 IAmb IAmb 22 41 55.0
comp=Z,110nm,0.8s
NAO01 PcP **PcP** **22 42 47.0 +0.4**
FIA1 FINESS Array S 57.19 1 P **P** **22 41 53.7 -0.1**
FIA1 ScP **ScP** **22 46 35.1 +0.2**
FINES FINESS Array B 57.19 1 P **P** **22 41 53.6 -0.2**
comp=Z,85nm,0.7s,baz=7.2,slow=6.8,SNR=187
FINES PcP **PcP** **22 42 47.0 +0.1**
comp=Z,36nm,0.7s,baz=13,slow=4.8,SNR=4.4
FINES ScP **ScP** **22 46 34.6 -0.3**
comp=Z,18nm,0.8s,baz=20,slow=6.1,SNR=7.4
FINES PKPPKP **P'P'df** **23 11 44.3 +0.3**
comp=Z,10nm,0.9s,baz=93,slow=3.8,SNR=6.7
FINES P4KPbc 23 19 03.3
comp=Z,1.5nm,0.8s,baz=20,slow=6.1,SNR=4.5
FINES FINESS Array B 57.19 1 P **P** **22 41 53.5 -0.3**
FINES **PcP** **22 42 47.2 +0.3**
FINES ScP **ScP** **22 46 34.8 -0.1**
NC602 NORSAR Array S 57.26 9 *e*P **P** **22 41 54.2 -0.2**
KLMR Klimovskoe 57.46 353 *c iP* **P** **22 41 56.3 +0.6**
KLMR *e*S **S** **22 49 44.6 +1.7**
KLMR pmax pmax
comp=Z,188nm,0.6s
KLMR Klimovskoe 57.46 353⇑ *i*P **P** **22 41 56.3 +0.6**
KLMR ⇓ *i*P **P** **22 41 56.3 +0.6**
KLMR *i* P **P** **22 41 56.3 +0.6**
KLMR AMP 22 41 58.0
comp=Z,188nm,0.6s
KLMR *e*S **S** **22 49 44.7 +1.8**
KLMR *e*S **S** **22 49 44.7 +1.8**
LEWI Lewis, Hebride 57.49 21 *e*P **P** **22 41 55.5 -0.5**
LEWI IAmb IAmb 22 41 57.7
comp=Z,129nm,1.4s
RAF Rauma 57.53 4 *e*P **P** **22 41 54.0 -2.2**
ODD1 Odda 57.63 12 *e*P **P** **22 41 57.7 +0.6**
BIGH Upper Bighouse 57.64 19 *e*P **P** **22 41 56.8 -0.2**
LINV Loch Inver, As 57.77 20 *e*P **P** **22 41 57.8 -0.1**
LINV IAmb IAmb 22 41 59.9
comp=Z,74nm,1.2s
HHC Hu-ho-hao-te 57.80 297 *e*P **P** **22 41 59.4 +0.8**
HHC pP pP 22 42 28.3 +0.5
HHC sP sP 22 42 40.8 -0.5
HHC S **S** **22 49 45.4 -2.7**
HHC sS sS 22 50 34.9 -3.2
HHC SS **SS** **22 53 37.8 -2.0**
HHC pmax pmax
comp=Z,170nm,1.2s
HHC pmax pmax
comp=Z,1µm,6.1s
HHC L L
comp=Z,1µm,14.5s
HHC L L
comp=Z,1µm,14.5s
HHC L L
comp=Z,1µm,14.5s
MLA1 Latheron 57.91 19 *e*P **P** **22 41 58.6 -0.3**
OSL Oslo 57.99 10 *e*P **P** **22 42 00.0 +0.6**
BLS5 Blasjo 58.09 13 *e*P **P** **22 42 00.4 +0.2**
KONO Kongsberg 58.17 11 *de*P **P** **22 42 01.0 +0.2**
KONO pmax pmax
comp=Z,78nm,0.9s
KONO Kongsberg 58.17 11 *e*P **P** **22 42 00.9 +0.1**
KONO Kongsberg 58.17 11 P **P** **22 42 00.8 +0.1**
KONO IAmb IAmb 22 42 02.9
comp=Z,68nm,0.8s
AAL Aland 58.31 5 *e*P **P** **22 42 02.1 +0.4**
MEF Metsahovi 58.40 2 *e*P **P** **22 42 03.0 +0.7**
KPL Plockton 58.46 21 *e*P **P** **22 42 02.7 0.0**
KPL IAmb IAmb 22 42 08.0
comp=Z,36nm,0.6s
UPP Uppsala 58.53 6 *e*P **P** **22 42 03.6 +0.5**
MCD Coleburn Disti 58.62 19 *e*P **P** **22 42 03.8 0.0**
BTO Baotou 58.65 298 *e*P **P** **22 42 04.0 -0.5**
BTO S **S** **22 49 56.3 -2.9**
BTO pmax pmax
comp=Z,140nm,1.4s
BTO pmax pmax
comp=Z,3µm,6.8s
BTO L L
comp=Z,5µm,18.5s
BTO L L
comp=Z,4µm,18.7s
BTO L L
comp=Z,4µm,30.7s
PUL Pulkovo 58.86 359 *e*P **P** **22 42 06.3 +0.9**
PUL Pulkovo 58.86 359⇓ *e*P **P** **22 42 06.1 +0.6**
PUL pmax pmax
comp=Z,257nm,0.8s
KIRV Kirov 58.91 347 *c iP* **P** **22 42 05.9 +0.1**
TIA Tai'an 59.21 290⇑ *i*P **P** **22 42 08.1 -0.2**
TIA pP **pP** **22 42 38.1 +0.4**
TIA S **S** **22 50 10.0 +3.7**
TIA pmax pmax
comp=Z,750nm,11.0s
TIA L L
comp=Z,650nm,19.0s
TIA L L
comp=Z,700nm,15.5s
TIA L L
comp=Z,790nm,21.6s
DGZ Jazzator, Alta 59.23 319 *c iP* **P** **22 42 09.7 +1.3**
DGZ pmax pmax
comp=Z,289nm,1.5s
SNART Snartemo 59.24 13 *i* P **P** **22 42 08.0 -0.1**
SNART *i* P **P** **22 42 08.4 +0.3**
SNART Snartemo 59.24 13 *e*P **P** **22 42 08.4 +0.3**
DRUM Mains of Drumt 59.38 19 *e*P **P** **22 42 09.0 -0.1**
DRUM IAmb IAmb 22 42 10.8
comp=Z,155nm,0.8s
HOMB Homborsund 59.43 12 *i* P **P** **22 42 08.0 -1.4**

HOMB *i* P **P** **22 42 09.6 +0.1**
HOMB Homborsund 59.43 12 *e*P **P** **22 42 09.7 +0.3**
LAWE Loch Awe, Argy 59.53 21 *e*P **P** **22 42 10.0 -0.2**
LAWE IAmb IAmb 22 42 11.6
comp=Z,45nm,0.5s
INVG Invergeldie, C 59.60 20 *e*P **P** **22 42 09.9 -0.7**
INVG IAmb IAmb 22 42 12.2
comp=Z,47nm,1.0s
XMAS Kiritimati 59.63 186 P **P** **22 42 11.7 +0.4**
XMAS IAmb IAmb 22 42 12.9
comp=Z,148nm,1.0s
EDU Dundee 59.65 19 *e*P **P** **22 42 11.1 +0.1**
ARU Arti 59.80 341 *c i*P **P** **22 42 11.8 -0.2**
ARU *PP **pP** **22 42 40.8 -0.7**
ARU 22 42 55.8
ARU S **S** **22 50 12.8 -0.5**
ARU 22 51 47.0
ARU SS **SS** **22 54 05.0 -5.1**
ARU SSS SSS 22 56 43.4
ARU pmax pmax
comp=Z,335nm,1.1s
ARU MLR MLR
comp=Z,904nm,19.0s
ARU Arti 59.80 341 P **P** **22 42 11.5 -0.5**
TIY Taiyuan 60.03 294 *e*P **P** **22 42 13.3 -0.7**
TIY pP **pP** **22 42 45.0 +1.6**
TIY sP **sP** **22 42 57.8 +0.9**
TIY S **S** **22 50 18.0 +1.0**
TIY sS **sS** **22 51 08.3 +0.9**
TIY pmax pmax
comp=Z,52nm,0.8s
TIY L L
comp=Z,620nm,12.2s
TIY L L
comp=Z,530nm,9.9s
TIY L L
comp=Z,800nm,13.3s
PGBU Glenifferbraes 60.12 20 *e*P **P** **22 42 13.7 -0.5**
PGBU IAmb IAmb 22 42 15.8
comp=Z,102nm,1.2s
VSU Vasula 60.18 1 *e*P **P** **22 42 14.9 +0.3**
VSU Vasula 60.18 1 *c i*P **P** **22 42 14.8 +0.2**
EDI Edinburgh 60.22 20 *e*P **P** **22 42 14.7 -0.2**
EBL Broad Law 60.39 20 *e*P **P** **22 42 16.1 0.0**
BORU Boraas 60.43 9 *i*P **P** **22 42 16.4 +0.1**
ONAU Onsala 60.60 10 *i*P **P** **22 42 17.2 -0.2**
SEM Semipalatinsk 60.71 324⇑ *i*P **P** **22 42 17.6 -1.1**
SEM comp=Z,50nm,1.1s,baz=324 *e*S **S** **22 50 21.8 -3.9**
baz=324
SEM Semipalatinsk 60.71 324 *c i*P **P** **22 42 17.5 -1.1**
SEM *e*S **S** **22 50 21.7 -3.9**
SEM pmax pmax
comp=Z,50nm,1.1s
BRVK Borovoye 60.77 332 *c i*P **P** **22 42 18.5 -0.1**
BRVK pmax pmax
comp=Z,168nm,1.0s
BRVK Borovoye 60.77 332 P **P** **22 42 18.6 -0.1**
BRVK IAmb IAmb 22 42 22.2
comp=Z,152nm,0.9s
BRVK Borovoye 60.77 332 P **P** **22 42 18.7 0.0**
ESK Eskdalemuir 60.80 20 *e*P **P** **22 42 18.8 0.0**
ESK IAmb IAmb 22 42 20.6
comp=Z,99nm,1.1s
ESK Eskdalemuir 60.80 20 P **P** **22 42 18.6 -0.2**
ESK pmax pmax
comp=Z,107nm,1.2s
ESK Eskdalemuir 60.80 20 P **P** **22 42 18.6 -0.2**
ESK IAmb IAmb 22 42 21.0
comp=Z,107nm,1.1s
NEWG New Galloway 60.83 20 *e*P **P** **22 42 18.5 -0.4**
NEWG IAmb IAmb 22 42 20.7
comp=Z,64nm,1.2s
KURK Kurchatov 60.88 326 P **P** **22 42 20.1 +0.7**
SLIT Slitere, Latvi 60.94 3 *e*P **P** **22 42 19.8 +0.1**
GAL1 Galloway 60.98 21 *e*P **P** **22 42 20.0 -0.1**
GAL1 IAmb IAmb 22 42 21.4
comp=Z,80nm,0.6s
KURBB Kurchatov Arra 60.99 326 P **P** **22 42 20.1 -0.1**
comp=Z,70nm,0.5s,baz=27,slow=6.5,SNR=301
FABU Falkenberg 61.06 9 *i*P **P** **22 42 20.6 +0.1**
MUD Monsted U'grnd 61.29 12 *e*P **P** **22 42 22.7 +0.6**
MUD IAmb IAmb 22 42 24.5
comp=Z,93nm,1.1s
MUD Monsted U'grnd 61.29 12 *e*P **P** **22 42 22.6 +0.6**
MUD pmax pmax
comp=Z,93nm,1.1s
EDMD Edmundbyers 61.47 19 *e*P **P** **22 42 23.0 -0.3**
KESW Keswick, Cumbr 61.52 20 *e*P **P** **22 42 23.4 -0.3**
SSE Sheshan 61.62 283 P **P** **22 42 25.3 +0.6**
SSE S **S** **22 50 39.5 +2.4**
SSE sS **sS** **22 51 27.9 +0.3**
SSE pmax pmax
comp=Z,33nm,1.0s
SSE pmax pmax
comp=Z,640nm,4.7s
SSE L L
comp=Z,360nm,21.0s
WIM Isle of Man 61.68 21 *e*P **P** **22 42 25.4 +0.6**
JOW Kunigami 61.87 275 P **P** **22 42 27.3 +0.8**
comp=Z,317nm,0.8s,baz=17,slow=4.1,SNR=36
JOW Kunigami 61.87 275 P **P** **22 42 27.2 +0.8**
NJ2 Nanjing 61.90 286⇑ *i*P **P** **22 42 26.8 +0.3**
NJ2 pP **pP** **22 42 56.8 +0.6**
NJ2 sP **sP** **22 43 11.5 +2.0**
NJ2 PP **PP** **22 44 44.8 +1.1**
NJ2 S **S** **22 50 41.5 +1.0**
NJ2 sS **sS** **22 51 30.5 -0.6**
NJ2 pmax pmax
comp=Z,140nm,0.9s
NJ2 pmax pmax
comp=Z,510nm,4.7s
NJ2 L L
comp=Z,720nm,16.6s
NJ2 L L
comp=Z,490nm,14.2s
NJ2 L L
comp=Z,1μm,22.4s
BLEU Blekinge 61.97 8 *i*P **P** **22 42 26.4 -0.2**
BJUU Bjuv 62.00 9 *i*P **P** **22 42 27.0 +0.2**
ZSN Zaisan 62.02 320⇑ *i*P **P** **22 42 28.0 +0.8**
ZSN comp=Z,185nm,1.6s,baz=320 *e*S **S** **22 50 41.6 -0.2**
baz=320
ZSN Zaisan 62.02 320 *c i*P **P** **22 42 28.0 +0.8**
ZSN *e*S **S** **22 50 41.5 -0.2**
ZSN pmax pmax
comp=Z,185nm,1.6s
PETF Flores 62.18 107 P **P** **22 42 28.9 +0.4**
PETF IAmb IAmb 22 43 01.4
comp=Z,79nm,1.0s
COP Copenhagen 62.34 10 *i*P **P** **22 42 29.3 +0.1**
COP *i*P **P** **22 42 29.3 +0.1**
COP IAmb IAmb 22 42 31.2
comp=Z,105nm,0.6s
COP Copenhagen 62.34 10 *i*P **P** **22 42 29.2 +0.1**
COP pmax pmax
comp=Z,110nm,0.6s
HPK Haverah Park 62.36 19 *e*P **P** **22 42 29.2 -0.1**
HPK IAmb IAmb 22 42 31.2
comp=Z,65nm,1.1s
WPS Cemaes, Angles 62.43 21 *e*P **P** **22 42 29.9 +0.2**
WME Myndd Eilian 62.46 21 *e*P **P** **22 42 30.0 0.0**
LUNU Lund 62.47 9 *i*P **P** **22 42 30.0 0.0**
LUNU *i*P **P** **22 42 30.0 0.0**
PBUR Paburge 62.54 4 *e*P **P** **22 42 31.3 +0.9**
WLF1 Llynfaes 62.55 21 *e*P **P** **22 42 30.9 +0.4**
WLF1 IAmb IAmb 22 42 32.2
comp=Z,56nm,1.0s
ANA2 Anatahan 62.65 253 P **P** **22 42 30.3 -1.4**
MOS Moscow 62.67 354 *e*P **P** **22 42 29.7 -1.6**
MOS *e*PP **pP** **22 42 58.6 -2.2**
MOS *e* 22 43 10.4
MOS *e* 22 44 50.3
MOS *e*PPP PPP 22 46 21.7
MOS *e*S **S** **22 50 46.8 -2.7**
MOS *e* 22 52 07.0
MOS pmax pmax
comp=Z,125nm,0.6s
MOS pmax pmax
comp=Z,100nm,0.6s
MOS smax smax
comp=N,3μm,4.4s
MOS smax smax

comp=E,1μm,4.6s
LBWR Ladybower, Pea 62.88 19 *e*P **P** **22 42 32.5 -0.3**
LBWR IAmb IAmb 22 42 34.6
comp=Z,69nm,1.1s
SKMB Sankelmark Bun 63.03 12 *e*P **P** **22 42 34.7 +1.0**
comp=Z,193nm,1.3s,baz=352,slow=6.4
BRZS Berezniki 63.07 329⇑ *i*P **P** **22 42 33.6 -0.5**
BRZS comp=Z,71nm,1.1s,baz=329 *i*S **S** **22 50 52.1 -2.7**
baz=329
BRZS Berezniki 63.07 329 *c i*P **P** **22 42 33.6 -0.5**
BRZS *i*S **S** **22 50 52.1 -2.7**
BRZS pmax pmax
comp=Z,71nm,1.1s
ISAL Salakas 63.08 1 *e*P **P** **22 42 34.7 +0.6**
BSD Bornholm Skovb 63.10 8 *e*P **P** **22 42 34.9 +0.8**
BSD Bornholm Skovb 63.10 8 *i*P **P** **22 42 34.3 +0.1**
BSD IAmb IAmb 22 42 36.1
comp=Z,89nm,0.9s
BSD Bornholm Skovb 63.10 8 *i*P **P** **22 42 34.2 +0.1**
BSD pmax pmax
comp=Z,89nm,0.9s
LLW Llanuwychllyn 63.10 21 *e*P **P** **22 42 33.8 -0.4**
PABE Paberze 63.11 2 *e*P **P** **22 42 34.8 +0.6**
PABE Paberze 63.11 2 P **P** **22 42 34.6 +0.4**
FOEL Foel Wylfa 63.14 21 *e*P **P** **22 42 33.5 -1.0**
FOEL IAmb IAmb 22 42 35.3
comp=Z,274nm,1.8s
IIGN Ignalina 63.30 1 *e*P **P** **22 42 36.2 +0.7**
IDID Didziasalis 63.34 1 *e*P **P** **22 42 36.3 +0.6**
OBN Obninsk 63.34 354 *c i*P **P** **22 42 36.0 +0.2**
OBN *e* 22 43 11.3
OBN *e* 22 44 56.6
OBN *e*PPP PPP 22 46 27.2
OBN *i*S **S** **22 50 58.5 +0.6**
OBN *e*SS **SS** **22 55 08.8 +3.4**
OBN pmax pmax
comp=Z,123nm,0.5s
OBN MLR MLR
comp=Z,376nm,17.0s
OBN Obninsk 63.34 354 P **P** **22 42 35.9 +0.2**
MK31 Makanchi Array 63.38 321 *c i*P **P** **22 42 35.8 -0.5**
MK31 Makanchi Array 63.38 321 P **P** **22 42 35.6 -0.6**
MKAR Makanchi Array 63.38 321 P **P** **22 42 35.9 -0.3**
comp=Z,51nm,0.6s,baz=46,slow=5.2,SNR=231
MKAR PP **PP** **22 44 51.4 -5.1**
comp=Z,42nm,0.9s,baz=44,slow=8.3,SNR=3.3
MKAR S **S** **22 50 57.6 -1.3**
comp=Z,7.0nm,1.0s,baz=19,slow=9.2,SNR=7.2
MKAR PKPPKP **P'P'df** **23 11 27.3 -6.9**
comp=Z,5.8nm,1.1s,baz=170,slow=3.5,SNR=10
MKAR LR LR 23 14 11.5
comp=Z,737nm,18.9s,baz=7.5,slow=40
HLG Helgoland 63.40 13 *e*PcP **PcP** **22 43 11.9 -0.1**
baz=354,slow=4.3
HLG *e*S **S** **22 50 57.9 -0.7**
baz=352,slow=12
MAKZ Makanchi 63.47 322 P **P** **22 42 36.5 -0.3**
MAKZ pmax pmax
comp=Z,241nm,1.5s
MAKZ Makanchi 63.47 322 P **P** **22 42 36.5 -0.3**
MAKZ IAmb IAmb 22 42 38.7
comp=Z,241nm,1.5s
RGN Rugen 63.54 9 *e*P **P** **22 42 38.0 +1.0**
comp=Z,293nm,1.0s,baz=352,slow=6.4
RGN *e*S **S** **22 51 01.1 +0.7**
baz=352,slow=12
HLM1 Long Mynd 63.55 20 *e*P **P** **22 42 37.0 -0.2**
HLM1 IAmb IAmb 22 42 39.2
comp=Z,68nm,1.3s
CWF Charnwood Fore 63.59 19 *e*P **P** **22 42 36.4 -1.1**
NACGM Naroch 63.75 1 *i*P **P'P'df** **23 11 30.4 -3.2**
baz=269
NACGM Naroch 63.75 1 *i*P **P** **22 42 38.9 +0.5**
baz=289
RSBS Rosebush, Pemb 63.77 22 *e*P **P** **22 42 38.5 -0.2**
RSBS IAmb IAmb 22 42 40.5
comp=Z,82nm,1.1s
GTA Gaotai 63.82 305⇑ P **P** **22 42 40.3 +0.9**
GTA pP PcP 22 43 12.3 -1.8
GTA sP sP 22 43 23.4 +1.0
GTA S **S** **22 51 05.4 +0.8**
GTA sS sS 22 51 53.8 -1.6
GTA ScS **SKSac** **22 52 20.4 -0.7**
GTA SS **SS** **22 55 13.3 -0.7**
GTA pmax pmax
comp=Z,400nm,1.1s
GTA pmax pmax
comp=Z,1μm,4.0s
GTA L L
comp=Z,530nm,18.5s
GTA L L
comp=Z,840nm,17.5s
GTA L L
comp=Z,740nm,18.9s
BSEG Bad Segeberg 63.89 11 *e*P **P** **22 42 40.0 +0.7**
comp=Z,133nm,1.3s,baz=352,slow=6.4
BSEG *e*S **S** **22 51 02.5 -2.2**
baz=352,slow=12
BSEG *e*ScS **SKSac** **22 52 17.4 -3.4**
baz=353,slow=8.0
KLNR Kaliningrad 63.90 5 *c i*P **P** **22 42 39.7 +0.3**
KLNR pmax pmax
comp=Z,552nm,0.6s
WACR West Acre 63.90 18 *e*P **P** **22 42 38.8 -0.6**
WACR IAmb IAmb 22 42 46.2
comp=Z,212nm,1.1s
MCH1 Michaelchurch 64.03 21 *e*P **P** **22 42 40.2 -0.1**
MCH1 IAmb IAmb 22 42 42.2
comp=Z,86nm,1.3s
MNK Minsk 64.16 0 *i*P **P** **22 42 41.8 +0.7**
MNK *i *PP **pP** **22 43 11.0 +0.2**
MNK *i* 22 43 15.7
MNK *i* 22 45 04.1
MNK *i*PPP PPP 22 46 36.2
MNK *i*S **S** **22 51 09.5 +1.4**
MNK *i* 22 52 23.9
MNK *i*SS **SS** **22 55 20.7 +2.5**
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,178nm,1.4s
MNK pmax pmax
comp=Z,185nm,0.9s
MNK MLR MLR
comp=E,25nm,21.0s
MNK Minsk 64.16 0 *i*P **P** **22 42 41.8 +0.7**
comp=E,1.0nm,0.7s
MNK *i*P **P** **22 42 41.8 +0.7**
comp=N,178nm,1.4s
MNK *i*P **P** **22 42 41.8 +0.7**
comp=Z,185nm,0.9s,baz=180
MNK *i*pP **pP** **22 43 11.1 +0.3**
MNK *i*PcP **PcP** **22 43 15.7 +0.7**
MNK *i*PP **PP** **22 45 04.1 +1.2**
MNK *i*PPP PPP 22 46 36.2
MNK *i*S **S** **22 51 09.5 +1.5**
MNK *i*sS **sS** **22 52 00.6 +1.7**
MNK *i*ScS **ScS** **22 52 24.0 +1.1**
MNK *i*SS **SS** **22 55 20.8 +2.6**
MNK *i*SSS SSS 22 58 23.0
MNK *i*LRM MLR 23 15 57.0
comp=E,25nm,21.3s
MNK *i*LRM MLR 23 16 17.6
comp=N,289nm,17.4s
MNK *i*LRM MLR 23 16 20.2
comp=Z,362nm,16.8s
MONM Monmouth 64.22 21 *e*P **P** **22 42 41.0 -0.6**
MONM IAmb IAmb 22 42 43.7
comp=Z,67nm,1.2s
WMQ Urumqi 64.35 316 P **P** **22 42 43.8 +1.1**
WMQ pP PcP 22 43 14.9 -1.3
WMQ S **S** **22 51 13.4 +2.5**
WMQ sS sS 22 51 57.3 -4.5
WMQ SS **SS** **22 55 27.1 +5.3**
WMQ pmax pmax
comp=Z,150nm,1.1s
WMQ pmax pmax
comp=Z,1μm,3.9s
WMQ L L
comp=Z,1μm,15.7s
WMQ L L
comp=Z,1μm,17.9s
WMQ L L
comp=Z,2μm,21.1s

WMQ Urumqi 64.35 316 P **P** **22 42 44.4 +1.8**
WMQ pmax pmax
comp=Z,105nm,1.0s
WMQ Urumqi 64.35 316 P **P** **22 42 44.4 +1.8**
WMQ IAmb IAmb 22 42 48.1
comp=Z,106nm,1.0s
OLDB Oldbury-Upon-S 64.43 20 *e*P **P** **22 42 43.0 0.0**
OLDB IAmb IAmb 22 42 44.8
comp=Z,123nm,1.5s
SUW Suwalki 64.59 3 *e*P **P** **22 42 43.8 -0.2**
SUW *e*S **S** **22 51 12.4 -1.0**
SUW *e*L L 23 04 31.1
comp=Z,1μm,46.5s
SUW Suwalki 64.59 3 *e*P **P** **22 42 43.6 -0.3**
SUW Suwalki 64.59 3 P **P** **22 42 43.6 -0.3**
SUW pmax pmax
comp=Z,399nm,1.1s
SUW Suwalki 64.59 3 P **P** **22 42 43.6 -0.3**
XAN Xi'an 64.66 295 P **P** **22 42 44.6 -0.2**
XAN S **S** **22 51 14.0 -0.9**
XAN pmax pmax
comp=Z,66nm,1.0s
XAN pmax pmax
comp=Z,1μm,6.9s
XAN L L
comp=Z,830nm,19.0s
XAN L L
comp=Z,1μm,18.4s
XAN L L
comp=Z,960nm,17.3s
XAN Xi'an 64.66 295 P **P** **22 42 44.5 -0.2**
XAN pmax pmax
comp=Z,114nm,1.1s
XAN Xi'an 64.66 295 P **P** **22 42 44.5 -0.2**
XAN IAmb IAmb 22 42 47.0
comp=Z,114nm,1.1s
LNIZ Loecknitz 64.66 9 *e*P **P** **22 42 45.2 +0.8**
comp=Z,162nm,0.8s,baz=352,slow=6.4
LNIZ *e*S **S** **22 51 15.3 +1.2**
baz=352,slow=12
HTL Hartland 64.74 22 *e*P **P** **22 42 45.1 +0.2**
HTL IAmb IAmb 22 42 47.2
comp=Z,46nm,0.9s
LZH Lanzhou 65.06 300⇑ P **P** **22 42 48.3 +0.8**
LZH pP pP 22 43 17.5 +0.1
LZH sP sP 22 43 31.1 +0.4
LZH PP **PP** **22 45 13.4 +1.9**
LZH S **S** **22 51 18.1 -1.9**
LZH sS sS 22 52 12.8 +1.9
LZH SS **SS** **22 55 37.4 +4.0**
LZH pmax pmax
comp=Z,440nm,1.3s
LZH pmax pmax
comp=Z,1μm,7.2s
LZH L L
comp=Z,940nm,15.2s
LZH L L
comp=Z,1μm,15.0s
LZH L L
comp=Z,960nm,18.5s
GKP Gorka Klasztor 65.08 7 *e*P **P** **22 42 47.8 +0.6**
GKP *e*S **S** **22 51 19.9 +0.5**
GKP *e*L L 23 04 18.0
comp=Z,2μm,44.6s
GKP Gorka Klasztor 65.08 7 *e*P **P** **22 42 47.9 +0.8**
BELG Belogornoye 65.19 347 *c i*P **P** **22 42 47.7 -0.1**
BELG pmax pmax
comp=Z,124nm,0.9s
WHN Wuhan 65.22 288⇑ *i*P **P** **22 42 48.8 +0.4**
WHN S **S** **22 51 23.9 +2.1**
WHN pmax pmax
comp=Z,120nm,0.7s
WHN pmax pmax
comp=Z,2μm,4.1s
WHN L L
comp=Z,1μm,23.5s
IBBN Ibbenburen 65.23 13 *e*P **P** **22 42 48.8 +0.7**
comp=Z,208nm,1.4s,baz=352,slow=6.4
IBBN *e*PcP **PcP** **22 43 20.7 +1.2**
baz=354,slow=4.3
IBBN *e*S **S** **22 51 19.1 -2.2**
baz=352,slow=12
NRDL Niedersach Rie 65.29 12 *e*P **P** **22 42 49.1 +0.6**
comp=Z,177nm,1.2s,baz=352,slow=6.4
NRDL *e*S **S** **22 51 17.7 -4.2**
baz=352,slow=12
DYA Yadsworthy 65.37 22 *e*P **P** **22 42 48.5 -0.6**
DYA IAmb IAmb 22 42 50.9
comp=Z,195nm,1.5s
CCA1 Carnmenellis 65.38 23 *e*P **P** **22 42 49.2 +0.1**
CCA1 IAmb IAmb 22 42 51.1
comp=Z,179nm,1.5s
FLTG Flechtingen 65.56 11 *e*P **P** **22 42 50.2 -0.1**
comp=Z,152nm,1.4s,baz=352,slow=6.4
FLTG *e*PcP **PcP** **22 43 20.5 -0.4**
baz=354,slow=4.3
FLTG *e*S **S** **22 51 23.2 -2.2**
baz=352,slow=12
FLTG *e*ScS **SKSac** **22 52 30.0 -3.6**
baz=353,slow=8.0
RUE Ruedersdorf 65.63 9 *e*P **P** **22 42 51.4 +0.8**
comp=Z,348nm,1.0s,baz=352,slow=6.4
RUE *e*S **S** **22 51 24.4 -1.7**
baz=352,slow=12
RUE *e*ScS **SKSac** **22 52 32.3 -1.7**
baz=353,slow=8.0
ASSE Asse, Remlinge 65.71 12 *e*P **P** **22 42 51.7 +0.6**
comp=Z,46nm,1.1s,baz=352,slow=6.4
ASSE *e*S **S** **22 51 26.4 -0.6**
baz=352,slow=12
LPSR Galich'ya Gora 65.72 353 *e*P **P** **22 42 51.0 -0.3**
LPSR *e*S **S** **22 51 22.1 -5.2**
LPSR pmax pmax
comp=Z,230nm,0.8s
LPSR pmax pmax
comp=Z,180nm,0.7s
LPSR smax smax
comp=N,1μm,10.3s
TGUH Tegucigalpa,Un 65.87 106⇑ *e*P **P** **22 42 53.2 +0.3**
CLZ Clausthal 65.97 12 *e*P **P** **22 42 53.8 +0.9**
comp=N,422nm,1.5s,baz=352,slow=6.4
CLZ *e*S **S** **22 51 29.2 -1.2**
baz=352,slow=12
CLZ *e*ScS **SKSac** **22 52 33.5 -3.3**
baz=353,slow=8.0
KNTN Kanton 66.02 202 P **P** **22 42 53.5 -0.2**
BUG Bochum--Univer 66.03 14 *e*P **P** **22 42 53.5 +0.2**
comp=N,221nm,1.5s,baz=352,slow=6.4
BUG *e*S **S** **22 51 30.0 -1.0**
baz=352,slow=12
BUG *e*ScS **SKSac** **22 52 35.0 -2.2**
baz=353,slow=8.0
TDK Taldyqorghan 66.15 323 *i*P **P** **22 42 54.6 +0.4**
comp=N,161nm,0.8s,baz=323
TDK *e*S **S** **22 51 32.0 -0.8**
baz=323
TDK Taldyqorghan 66.15 323 *i*P **P** **22 42 54.5 +0.4**
TDK *e*S **S** **22 51 31.9 -0.8**
TDK pmax pmax
comp=Z,161nm,0.8s
GTTG Gottingen 66.22 12 *e*P **P** **22 42 55.4 +0.9**
comp=Z,280nm,1.0s,baz=352,slow=6.4
GTTG *e*S **S** **22 51 32.6 -0.7**
baz=352,slow=12
GTTG *e*ScS **SKSac** **22 52 37.0 -1.6**
baz=353,slow=8.0
UCC Uccle 66.30 16 *d*P **P** **22 42 55.0 0.0**
UCC *d*pP **PcP** **22 43 24.1 +0.1**
UCC Uccle 66.30 16 P **P** **22 42 54.8 -0.2**
UCC pmax pmax
comp=Z,52nm,1.0s
UCC Uccle 66.30 16 P **P** **22 42 54.8 -0.2**
KASTN Kahler Asten 66.39 13 *e*P **P** **22 42 56.2 +0.5**
comp=Z,104nm,1.5s,baz=352,slow=6.4
KASTN *e*S **S** **22 51 34.2 -1.3**
baz=352,slow=12
KASTN *e*ScS **SKSac** **22 52 39.4 -0.7**
baz=353,slow=8.0
ABKAR Akbulak array 66.47 338 P **P** **22 42 55.9 -0.3**
ABKAR Akbulak array 66.47 338 P **P** **22 42 56.0 -0.1**
ABKAR IAmb IAmb 22 42 58.2
comp=Z,292nm,1.4s
BEBN Eben Emael 66.47 15 *d*P **P** **22 42 56.3 +0.2**
comp=Z,53nm,1.1s
BEBN *d*pP **PcP** **22 43 24.8 +0.1**
GTBY Guantanamo Bay 66.50 92⇑ *e*P **P** **22 42 56.5 -0.2**

SNF **Seneffe** 66.58 16 *d*P **P** 22 42 56.9 +0.2
comp=Z,32nm,0.9s
SNF *d*pP **PcP** 22 43 25.1 0.0
VORR **Voronezh** 66.63 352 *e*P **P** 22 42 55.0 -2.1
VORR pmax pmax
comp=Z,250nm,1.2s
BSTI **Sart Tilman** 66.67 15 *d*P **P** 22 42 57.8 +0.5
comp=Z,20nm,0.9s
BSTI *d*pP **PcP** 22 43 25.6 +0.1
BEL **Belsk** 66.69 5 *e*P **P** 22 42 58.3 +0.8
BEL *e*S **S** 22 51 41.3 +2.3
BEL *e*L L 23 06 14.4
comp=Z,1µm,31.5s
MEM **Membach** 66.70 15 *d*P **P** 22 42 58.0 +0.4
comp=Z,62nm,1.1s
NEUB **Neuenburg** 66.72 11 *e*P **P** 22 42 58.2 +0.5
comp=Z,262nm,1.1s,baz=352,slow=6.4
NEUB *e*S **S** 22 51 36.2 -3.2
baz=352,slow=12
NEUB *e*ScS **SKSac** 22 52 41.1 -1.3
baz=353,slow=8.0
CLL **Collm** 66.73 10⇑ *i*P **P** 22 42 58.0 +0.2
comp=Z,177nm,1.3s
CLL *i* pP **PcP** 22 43 26.0 +0.2
CLL *e* 22 43 34.0
CLL *e*sPP 22 46 06.0
CLL *e*S **S** 22 51 40.0 +0.5
CLL *e*sS **sS** 22 52 35.0 +4.1
CLL *e*SS **SS** 22 55 55.0 -3.2
CLL *e* 22 57 12.0
CLL *e*SSS SSS 22 59 20.0
CLL *e*SSSS 23 00 30.0
CLL *e*PKPPKPd **P'P'df** 23 11 26.0 -2.6
CLL *e*pPKPPKPd 23 11 57.0
CLL *e*sPKPPKPd 23 12 12.0
CLL **Collm** 66.73 10⇑ *i*P **P** 22 42 58.0 +0.2
CLL *i* *PP **PcP** 22 43 26.0 +0.2
CLL *e*S **S** 22 51 40.0 +0.5
CLL *e**SS **sS** 22 52 35.0 +4.1
CLL pmax pmax
comp=Z,177nm,1.3s
CLL **Collm** 66.73 10 P **P** 22 42 57.9 +0.1
CLL lAmb lAmb 22 43 00.1
comp=Z,97nm,0.8s
CLL **Collm** 66.73 10 *e*P **P** 22 42 57.9 +0.2
comp=Z,177nm,1.3s,baz=352,slow=6.4
CLL *e*PcP **PcP** 22 43 26.2 +0.4
baz=354,slow=4.3
CLL *e*S **S** 22 51 36.2 -3.3
baz=352,slow=12
CLL *e*ScS **SKSac** 22 52 38.5 -4.0
baz=353,slow=8.0
BTNL **Ternell** 66.74 15 *d*P **P** 22 42 58.1 +0.2
comp=Z,68nm,1.3s
BCLA **Clavier** 66.80 16 *b*P **P** 22 42 58.0 -0.2
comp=Z,40nm,1.0s
BCLA *d*pP **PcP** 22 43 24.9 -1.2
BGES **Gesves** 66.80 16 *d*P **P** 22 42 58.2 0.0
comp=Z,28nm,1.1s
BGES *d*pP **PcP** 22 43 25.7 -0.5
MTDJ **Mount Denham** 66.81 95⇑ *e*P **P** 22 42 59.4 +0.6
BMRD **Maredsous** 66.84 16 *d*P **P** 22 42 58.5 +0.1
comp=Z,67nm,1.3s
BMRD *d*pP **PcP** 22 43 26.0 -0.3
BMRD *d*sP **sP** 22 43 39.3 -2.1
JSA **Saint Aubin** 66.88 21 *e*P **P** 22 42 58.3 -0.4
JSA lAmb lAmb 22 43 00.6
comp=Z,154nm,1.5s
AHRW **Bad Neuenahr-A** 66.89 14 *e*P **P** 22 42 59.4 +0.7
comp=Z,73nm,1.2s,baz=352,slow=6.4
AHRW *e*S **S** 22 51 38.9 -2.6
baz=352,slow=12
AHRW *e*ScS **SKSac** 22 52 41.5 -2.3
baz=353,slow=8.0
VRH **Novokhopyorsk** 66.92 351 *e*P **P** 22 42 58.0 -0.9
VRH *e*S **S** 22 51 33.6 -8.2
VRH pmax pmax
comp=Z,100nm,0.6s
VRH pmax pmax
comp=Z,30nm,0.6s
VRH smax smax
comp=N,1µm,12.1s
UBBA **Unterbreizbach** 66.94 12 *e*P **P** 22 42 59.5 +0.5
comp=N,47nm,0.8s,baz=352,slow=6.4
UBBA *e*S **S** 22 51 41.1 -0.8
baz=352,slow=12
UBBA *e*ScS **SKSac** 22 52 40.9 -3.0
baz=353,slow=8.0
BHOU **Houvegnez** 66.95 15 *d*P **P** 22 42 59.6 +0.4
BHOU *d*PcP **PcP** 22 43 27.3 +0.5
BHOU *d*pP **pP** 22 43 28.4 -0.6
YHNB **Yeheng** 66.97 279 P **P** 22 42 59.7 -0.1
DOU **Dourbes** 67.02 16 *d*P **P** 22 42 59.1 -0.5
comp=Z,53nm,1.3s
DOU *d*pP **pP** 22 43 28.2 -1.1
DOU *d*sP **sP** 22 43 40.1 -2.4
RCHB **Rochefort** 67.05 16 *d*P **P** 22 42 59.6 -0.2
comp=Z,60nm,1.2s
RCHB *d*pP **pP** 22 43 29.0 -0.5
VSR **Storozhevoye** 67.09 352 *e*P **P** 22 42 59.7 -0.3
VSR *e*S **S** 22 51 38.3 -5.5
VSR pmax pmax
comp=Z,130nm,0.5s
VSR pmax pmax
comp=Z,150nm,0.4s
VSR smax smax
comp=N,970nm,10.7s
FBE **Freiberg** 67.14 10 *e*P **P** 22 43 01.1 +0.8
comp=N,155nm,1.1s,baz=352,slow=6.4
FBE *e*PcP **PcP** 22 43 28.2 +0.7
baz=354,slow=4.3
BRG **Berggiesshubel** 67.24 10⇑ *i*P **P** 22 43 01.4 +0.5
BRG Amp 22 43 03.7
comp=Z,112nm,0.9s
BRG pP **PcP** 22 43 28.4 +0.5
BRG Amp 22 43 30.4
comp=Z,72nm,1.3s
BRG **Berggiesshubel** 67.24 10 S **S** 22 51 44.0 -1.6
BRG Amp 23 05 07.0
comp=N,0.6nm,26.3s
BRG Amp 23 05 19.0
comp=Z,0.8nm,23.3s
BRG Amp 23 05 27.0
comp=E,0.4nm,15.9s
BRG PKPPKP 23 11 24.9
BRG Amp 23 11 27.5
comp=Z,26nm,1.1s
BRG **Berggiesshubel** 67.24 10 *e*P **P** 22 43 01.5 +0.5
comp=Z,247nm,1.5s,baz=352,slow=6.4
BRG *e*S **S** 22 51 41.7 -4.0
baz=352,slow=12
BRG *e*ScS **SKSac** 22 52 42.0 -4.4
baz=353,slow=8.0
MOX **Moxa** 67.27 11 *e*P **P** 22 43 01.7 +0.6
comp=Z,255nm,1.2s,baz=352,slow=6.4
MOX *e*S **S** 22 51 45.1 -0.9
baz=352,slow=12
MOX *e*ScS **SKSac** 22 52 44.1 -2.6
baz=353,slow=8.0
NACB **Ninganchiao** 67.29 279 P **P** 22 43 01.7 +0.1
BTLS **Baital** 67.31 326⇑ *i*P **P** 22 43 01.5 -0.1
comp=Z,36nm,0.4s,baz=326
BTLS *e*S **S** 22 51 44.9 -1.8
baz=326
BTLS **Baital** 67.31 326 *c* *i*P **P** 22 43 01.4 -0.1
BTLS *e*S **S** 22 51 44.9 -1.8
BTLS pmax pmax
comp=Z,36nm,0.4s
VORD **Divnogorie** 67.33 352 *e*P **P** 22 43 01.2 -0.3
VORD pmax pmax
comp=Z,100nm,0.6s
TNS **Taunus Mts** 67.36 13 *e*P **P** 22 43 02.3 +0.5
comp=Z,270nm,1.6s,baz=352,slow=6.4
TNS *e*S **S** 22 51 46.7 -0.6
baz=352,slow=12
TNS *e*ScS **SKSac** 22 52 45.5 -2.0
baz=353,slow=8.0
KSP **Ksiaz** 67.44 8 *e*P **P** 22 43 03.0 +0.7
KSP *e*S **S** 22 51 48.2 +0.1
KSP *e*L L 23 05 25.8
comp=Z,3µm,51.3s
KPKS **Kokpek** 67.47 322⇑ *i*P **P** 22 43 03.0 +0.3
comp=Z,67nm,0.6s,baz=322
KPKS *e*S **S** 22 51 46.6 -2.3
baz=322
KPKS **Kokpek** 67.47 322 *c* *i*P **P** 22 43 03.0 +0.3
KPKS *e*S **S** 22 51 46.5 -2.3
KPKS pmax pmax
comp=Z,67nm,0.6s
PLN **Plauen** 67.47 11 *e*P **P** 22 43 03.0 +0.5
comp=Z,134nm,1.0s,baz=352,slow=6.4
PLN *e*S **S** 22 51 46.1 -2.4
baz=352,slow=12
PLN *e*ScS **SKiKP** 22 52 45.8 -1.8
baz=353,slow=8.0
ROSF **Rostrenen** 67.51 22 *e*P **P** 22 43 02.8 +0.1
WERD **Werda** 67.53 11 *e*P **P** 22 43 03.4 +0.6
comp=Z,146nm,1.4s,baz=352,slow=6.4
SHLS **Shalkode** 67.53 322⇓ *i*P **P** 22 43 02.9 -0.2
comp=Z,101nm,0.8s,baz=321
SHLS *i* S **S** 22 51 48.1 -1.5
baz=321
SHLS **Shalkode** 67.53 322 *d* *i*P **P** 22 43 02.9 -0.2
SHLS *i* S **S** 22 51 48.1 -1.5
SHLS pmax pmax
comp=Z,101nm,0.8s
TANN **Tannenbergstha** 67.57 11 *e*P **P** 22 43 03.8 +0.7
comp=Z,130nm,1.0s,baz=352,slow=6.4
TANN *e*S **S** 22 51 49.3 -0.5
baz=352,slow=12
TANN *e*ScS **SKiKP** 22 52 45.8 -2.0
baz=353,slow=8.0
CHKK **Chushkaly** 67.60 324⇑ *i*P **P** 22 43 02.9 -0.6
baz=324
CHKK **Chushkaly** 67.60 324⇑ *i*P **P** 22 43 02.8 -0.6
GUNZ **Gunzen** 67.61 11 *e*P **P** 22 43 04.1 +0.7
comp=Z,97nm,1.0s,baz=352,slow=6.4
GUNZ *e*PcP **PcP** 22 43 30.1 +0.5
baz=354,slow=4.3
ENH **Enshi** 67.63 292 P **P** 22 43 03.6 -0.2
PVCC **Panska Ves** 67.63 9⇑ *i*P **P** 22 43 04.2 +0.8
PVCC *e**PP **PcP** 22 43 30.0 +0.4
PVCC **Panska Ves** 67.63 9⇑ *i*P **P** 22 43 04.2 +0.8
PVCC *e*pP **PcP** 22 43 30.0 +0.4
WLF **Walferdange** 67.64 15 *d*P **P** 22 43 04.3 +0.8
comp=Z,88nm,1.2s
WLF **Walferdange** 67.64 15 P **P** 22 43 04.2 +0.6
WLF pmax pmax
comp=Z,152nm,1.2s
WLF **Walferdange** 67.64 15 P **P** 22 43 04.2 +0.6
WLF lAmb lAmb 22 43 06.6
comp=Z,152nm,1.2s
WLF **Walferdange** 67.64 15 *e*P **P** 22 43 04.4 +0.8
comp=Z,183nm,1.3s,baz=352,slow=6.4
WLF *e*S **S** 22 51 49.9 -0.6
baz=352,slow=12
WLF *e*ScS **SKiKP** 22 52 48.5 +0.6
baz=353,slow=8.0
UZB **Uzynbulak** 67.67 322⇑ *i*P **P** 22 43 04.0 0.0
comp=Z,31nm,1.0s,baz=322
UZB *e*S **S** 22 51 49.7 -1.7
baz=322
UZB **Uzynbulak** 67.67 322 *c* *i*P **P** 22 43 04.0 0.0
UZB *e*S **S** 22 51 49.6 -1.7
UZB pmax pmax
comp=Z,31nm,1.0s
CHVC **Chvalec** 67.68 8⇑ *i*P **P** 22 43 04.4 +0.6
CHVC *e*pP **pP** 22 43 32.8 -0.9
CHVC *e*S **S** 22 51 51.4 +0.4
WERN **Wernitzgruen** 67.69 11 *e*P **P** 22 43 04.7 +0.8
comp=Z,188nm,1.3s,baz=352,slow=6.4
OSTC **Ostas** 67.72 8⇑ *i*P **P** 22 43 04.7 +0.7
OSTC *e*pP **PcP** 22 43 31.0 +1.0
OSTC *e*S **S** 22 51 51.9 +0.4
KUU **Kurty** 67.75 324⇑ *i*P **P** 22 43 03.6 -0.8
comp=Z,226nm,2.2s,baz=324
KUU *e*S **S** 22 51 50.7 -1.4
baz=324
KUU **Kurty** 67.75 324 *c* *i*P **P** 22 43 03.5 -0.8
KUU *e*S **S** 22 51 50.6 -1.4
KUU pmax pmax
comp=Z,226nm,2.2s
NKC **Novy Kostel** 67.75 11⇑ *i*P **P** 22 43 05.0 +0.8
NKC *e**PP **PcP** 22 43 31.8 +1.7
NKC *e*S **S** 22 51 49.9 -1.9
NKC **Novy Kostel** 67.75 11⇑ *i*P **P** 22 43 05.0 +0.8
NKC *e*pP **PcP** 22 43 31.8 +1.7
NKC *e*S **S** 22 51 49.9 -1.9
UPC **Upice** 67.76 8 *e*P **P** 22 43 05.0 +0.8
UPC *e**PP **PcP** 22 43 31.1 +1.0
UPC *e*S **S** 22 51 52.0 +0.2
UPC **Upice** 67.76 8⇑ *e*P **P** 22 43 05.0 +0.8
UPC *e*pP **PcP** 22 43 31.1 +1.0
UPC *e*S **S** 22 51 52.0 +0.2
SSLB **Suanglung** 67.92 279 P **P** 22 43 05.4 -0.2
SSLB lAmb lAmb 22 43 11.2
comp=Z,96nm,0.9s
SATY **Saty** 67.93 322⇑ *i*P **P** 22 43 05.9 +0.3
comp=Z,56nm,1.4s,baz=322
SATY *e*S **S** 22 51 52.6 -1.8
baz=322
SATY **Saty** 67.93 322 *c* *i*P **P** 22 43 05.9 +0.3
SATY *e*S **S** 22 51 52.6 -1.8
SATY pmax pmax
comp=Z,56nm,1.4s
DPC **Dobruska-Polom** 67.93 8⇑ *i*P **P** 22 43 06.5 +1.1
DPC *e**PP **pP** 22 43 33.6 -1.8
DPC *e*S **S** 22 51 54.1 0.0
DPC **Dobruska-Polom** 67.93 8⇑ *i*P **P** 22 43 06.5 +1.1
DPC *e*pP **pP** 22 43 33.6 -1.8
DPC *e*S **S** 22 51 54.1 0.0
AKASG **Malin Array Be** 67.96 359 P **P** 22 43 05.3 -0.2
comp=Z,74nm,0.4s,baz=4.8,slow=6.6,SNR=96
AKASG pP **pP** 22 43 34.7 -0.8
comp=Z,22nm,0.4s,baz=2.5,slow=6.1,SNR=3.9
AKASG S **S** 22 51 49.9 -4.3
comp=Z,1.7nm,0.6s,baz=8.6,slow=11,SNR=8.3
AKASG PKPPKP P'P'df 23 11 15.2 -11
comp=Z,3.2nm,0.7s,baz=162,slow=3.8,SNR=9.5
AKASG LR LR 23 12 08.1
comp=Z,417nm,21.4s,baz=10.0,slow=35
AKASG **Malin Array Be** 67.96 359 P **P** 22 43 05.3 -0.2
AKASG lAmb lAmb 22 43 10.7
comp=Z,150nm,0.8s
AKBB **Malin Array Si** 67.96 359 *c* *i*P **P** 22 43 05.3 -0.2
AKBB pmax pmax
comp=Z,116nm,0.6s
AKBB **Malin Array Si** 67.96 359 P **P** 22 43 05.2 -0.2
MANZ **Manzenberg** 67.97 11 *e*P **P** 22 43 06.1 +0.5
comp=Z,106nm,1.2s,baz=352,slow=6.4
MANZ *e*PcP **PcP** 22 43 31.4 +0.3
baz=354,slow=4.3
MANZ *e*S **S** 22 51 51.9 -2.5
baz=352,slow=12
MANZ *e*ScS **SKSac** 22 52 51.1 -0.9
baz=353,slow=8.0
QZH **Quanzhou** 68.04 282⇑ *i*P **P** 22 43 06.8 +0.5
QZH pP **pP** 22 43 35.4 -1.1
QZH S **S** 22 51 59.8 +4.0
QZH pmax pmax
comp=Z,69nm,1.4s
QZH pmax pmax
comp=Z,930nm,3.5s
QZH L L
comp=Z,890nm,38.4s
PRA **Prague** 68.08 9⇑ *i*P **P** 22 43 07.1 +0.9
PRA *e**PP **pP** 22 43 34.8 -1.4
PRA *e*S **S** 22 51 56.8 +1.2
PRA **Prague** 68.08 9⇑ *i*P **P** 22 43 07.1 +0.9
PRA *e*pP **pP** 22 43 34.8 -1.4
PRA *e*S **S** 22 51 56.8 +1.2
PRU **Pruhonice** 68.17 9⇑ *i*P **P** 22 43 07.5 +0.7
PRU *e**PP **pP** 22 43 35.1 -1.7
PRU *e*S **S** 22 51 56.7 0.0
PRU MLR MLR
comp=Z,800nm,19.1s
PRU **Pruhonice** 68.17 9⇑ *i*P **P** 22 43 07.5 +0.7
PRU *e*pP **pP** 22 43 35.1 -1.7
PRU *e*S **S** 22 51 56.7 0.0
PRU AMS AMS 22 59 40.0
comp=Z,800nm,19.1s
GRA1 **Grafenberg Arr** 68.17 12 P **P** 22 43 07.3 +0.4
GRA1 lAmb lAmb 22 43 09.9
comp=Z,99nm,0.9s
GRF **Grafenberg Arr** 68.17 12 P **P** 22 43 07.3 +0.4
GRF pmax pmax
comp=Z,99nm,0.9s
GRF **Grafenberg Arr** 68.17 12 *e*P **P** 22 43 07.7 +0.8
comp=Z,111nm,1.0s,baz=352,slow=6.4
GRF *e*pP **pP** 22 43 35.5 -1.3
GRF *e*S **S** 22 51 54.5 -2.3
baz=352,slow=12
GRF *e*ScS **SKSac** 22 52 52.9 -0.7
baz=353,slow=8.0
GRF *e*PKPPKP **P'P'df** 23 11 20.0 -6.2
baz=168,slow=3.6
GRFO **Grafenberg** 68.17 12 P **P** 22 43 07.4 +0.5
GRFO **Grafenberg** 68.17 12 P **P** 22 43 07.3 +0.5
GRFO lAmb lAmb 22 43 09.8
comp=Z,91nm,0.9s
ROTZ **Rotzenmuhle** 68.19 11 *e*P **P** 22 43 07.7 +0.7
comp=Z,130nm,1.0s,baz=352,slow=6.4
ROTZ *e*S **S** 22 51 55.3 -1.7
baz=352,slow=12
ROTZ *e*ScS **SKKSac** 22 52 53.7 0.0
baz=353,slow=8.0
AAA **Alma-Ata** 68.22 324⇑ *i*P **P** 22 43 07.5 +0.2
comp=Z,74nm,0.6s,baz=323
AAA *e*S **S** 22 51 58.0 +0.2
baz=323
AAA **Alma-Ata** 68.22 324 *c* *i*P **P** 22 43 07.5 +0.2
AAA *e*S **S** 22 51 57.9 +0.2
AAA pmax pmax
comp=Z,74nm,0.6s
MDOK **Medeo** 68.22 323 *i* P **P** 22 43 07.3 -0.2
baz=323
MDOK *i* S **S** 22 51 55.3 -2.7
baz=323
MDOK **Medeo** 68.22 323 *i* P **P** 22 43 07.3 -0.2
MDOK *i* S **S** 22 51 55.2 -2.7
KRLC **Kraliky** 68.24 8⇑ *i*P **P** 22 43 08.2 +0.9
KRLC *e**PP **PcP** 22 43 34.7 +2.5
KRLC *e*S **S** 22 51 57.5 -0.2
KRLC **Kraliky** 68.24 8⇑ *i*P **P** 22 43 08.2 +0.9
KRLC *e*pP **PcP** 22 43 34.7 +2.5
KRLC *e*S **S** 22 51 57.5 -0.2
OJC **Ojcow** 68.26 6 *e*P **P** 22 43 07.8 +0.4
OJC *e*S **S** 22 51 57.5 -0.3
OJC *e*L L 23 07 04.7
comp=Z,1µm,30.2s
OJC **Ojcow** 68.26 6 P **P** 22 43 07.5 +0.1
OJC pmax pmax
comp=Z,68nm,0.7s
OJC **Ojcow** 68.26 6 P **P** 22 43 07.5 +0.1
OJC lAmb lAmb 22 43 10.0
comp=Z,68nm,0.7s
PBCC **Pribram** 68.42 10⇑ *i*P **P** 22 43 09.0 +0.6
PRZ **Przheval'sk** 68.46 322 P **P** 22 43 09.8 +0.8
PRZ pmax pmax
comp=Z,174nm,1.2s
PRZ **Przheval'sk** 68.46 322 P **P** 22 43 09.8 +0.8
PRZ lAmb lAmb 22 43 12.4
comp=Z,174nm,1.2s
OKC **Ostrava-Krasne** 68.56 7⇑ *i*P **P** 22 43 09.9 +0.7
OKC *e**PP **PcP** 22 43 35.1 +1.6
OKC **Ostrava-Krasne** 68.56 7⇑ *i*P **P** 22 43 09.9 +0.7
OKC *e*pP **PcP** 22 43 35.1 +1.6
MORC **Moravsky Berou** 68.58 7 ⇑P **P** 22 43 10.3 +0.9
MORC **Moravsky Berou** 68.58 7⇑ *i*P **P** 22 43 09.9 +0.4
MORC *e*S **S** 22 52 02.6 +0.8
MORC *e*PKPPKP **P'P'df** 23 11 19.8 -5.8
MORC **Moravsky Berou** 68.58 7 P **P** 22 43 09.9 +0.4
MORC pmax pmax
comp=Z,121nm,0.6s
MORC **Moravsky Berou** 68.58 7 P **P** 22 43 09.9 +0.4
MORC lAmb lAmb 22 43 12.2
comp=Z,121nm,0.6s
SGDS **Sogindy** 68.63 325⇑ *i*P **P** 22 43 10.1 +0.2
comp=Z,59nm,1.4s,baz=325
SGDS **Sogindy** 68.63 325 *c* *i*P **P** 22 43 10.1 +0.2
SGDS pmax pmax
comp=Z,59nm,1.4s
ACON **Acoyapa** 68.66 105 P **P** 22 43 10.1 -0.2
CLF **Chambon-Foret** 68.72 18 P **P** 22 43 10.6 +0.3
LVV **L'vov** 68.81 3 *e*P **P** 22 43 10.9 +0.1
LVV *e* 22 47 31.9
LVV *e*S **S** 22 52 04.2 -0.1
LVV *e* 22 52 30.3
LVV *e* 22 52 44.3
LVV *e*SS **SS** 22 56 40.4 +10
LVV pmax pmax
comp=Z,410nm,1.2s
LVV smax smax
comp=N,130nm,2.8s
LVV MLR MLR
comp=Z,500nm,20.0s
USP **Ospenovka** 68.83 325 P **P** 22 43 12.2 +1.0
SNR=9.5
TKM2 **Tokmak 2** 68.85 324 P **P** 22 43 12.0 +0.5
SNR=108
TKM2 **Tokmak 2** 68.85 324 *i* P **P** 22 43 11.7 +0.2
TKM2 pmax pmax
comp=Z,85nm,0.8s
WET **Wettzell** 68.87 11 *e*P **P** 22 43 12.2 +1.0
comp=Z,105nm,1.1s,baz=352,slow=6.4
WET *e*S **S** 22 52 05.2 0.0
baz=352,slow=12
STU **Stuttgart** 68.88 13 P **P** 22 43 11.8 +0.5
STU pmax pmax
comp=Z,131nm,1.3s
STU **Stuttgart** 68.88 13 P **P** 22 43 11.8 +0.5
STU lAmb lAmb 22 43 14.0
comp=Z,131nm,1.3s
STU **Stuttgart** 68.88 13 *e*P **P** 22 43 11.7 +0.5
comp=Z,98nm,1.2s,baz=352,slow=6.4
STU *e*S **S** 22 52 03.0 -2.2
baz=352,slow=12
STU *e*ScS **SKSac** 22 52 57.3 -1.6
baz=353,slow=8.0
TREC **Trest** 68.93 9 *e*P **P** 22 43 12.2 +0.6
TREC **Trest** 68.93 9⇑ *e*P **P** 22 43 12.2 +0.6
KHC **Kasperske Hory** 68.94 10⇑ *i*P **P** 22 43 12.7 +1.0
KHC *e**PP **pP** 22 43 40.7 -1.1
KHC *e*S **S** 22 52 04.9 -1.1
KHC MLR MLR
comp=Z,600nm,22.5s
KHC **Kasperske Hory** 68.94 10⇑ *i*P **P** 22 43 12.7 +1.0
KHC *e*pP **pP** 22 43 40.7 -1.1
KHC *e*S **S** 22 52 04.9 -1.1
KHC AMS AMS 22 59 50.0
comp=Z,600nm,22.5s
KWP **Kalwaria Pacla** 68.96 4 *e*P **P** 22 43 12.6 +0.8
KWP *e*S **S** 22 52 06.9 +0.8
KWP *e*L L 23 07 13.4
comp=Z,1µm,39.9s
KWP **Kalwaria Pacla** 68.96 4 P **P** 22 43 12.1 +0.3
KWP pmax pmax
comp=Z,4µm,1.3s
KWP **Kalwaria Pacla** 68.96 4 P **P** 22 43 12.1 +0.3
VRAC **Vranov** 68.99 8⇑ P **P** 22 43 12.9 +0.9
VRAC **Vranov** 68.99 8⇑ *i*P **P** 22 43 12.7 +0.8
VRAC *e*S **S** 22 52 07.7 +1.2
VRAC *e*PKPPKP P'P'df 23 11 16.6 -8.3
CHMS **Chumysh** 69.01 325 P **P** 22 43 12.9 +0.7
SNR=120
NIE **Niedzica** 69.08 5 *e*P **P** 22 43 13.4 +0.8
NIE *e*S **S** 22 52 09.1 +1.5
NIE *e*L L 23 07 35.5
comp=Z,725nm,31.5s
STHS **Stebnicka Huta** 69.12 5 *e*P **P** 22 43 13.1 +0.3
STHS **Stebnicka Huta** 69.12 5 *e*P **P** 22 43 13.1 +0.3
KDJ **Kajisay** 69.14 323 P **P** 22 43 13.5 +0.3
KDJ pmax pmax
comp=Z,81nm,0.6s
KDJ **Kajisay** 69.14 323 P **P** 22 43 13.5 +0.3
KDJ lAmb lAmb 22 43 15.4
comp=Z,81nm,0.6s
SDDR **Presa de Saban** 69.14 89⇑ *e*P **P** 22 43 13.5 +0.2
BOOM **Boomskoye usch** 69.16 324 P **P** 22 43 13.5 +0.2
BOOM pmax pmax
comp=Z,78nm,0.7s
BOOM **Boomskoye usch** 69.16 324 P **P** 22 43 13.5 +0.2
BOOM lAmb lAmb 22 43 15.9
comp=Z,78nm,0.7s
ECH **Echery** 69.19 15 P **P** 22 43 13.3 0.0
ECH pmax pmax
comp=Z,104nm,1.1s
ECH **Echery** 69.19 15 P **P** 22 43 13.3 0.0
ECH lAmb lAmb 22 43 15.9
comp=Z,104nm,1.1s
PRVC **Isla de Provid** 69.20 101⇑ *e*P **P** 22 43 14.1 +0.4
BFO **Black Forest** 69.22 14 P **P** 22 43 13.3 -0.1
BFO pmax pmax
comp=Z,124nm,1.3s
BFO **Black Forest** 69.22 14 P **P** 22 43 13.3 -0.1

BFO IAmb IAmb 22 43 16.0
comp=Z,124nm,1.3s
BFO Black Forest 69.22 14 *e*P **P** **22 43 13.8 +0.4**
comp=Z,119nm,1.3s,baz=352,slow=6.4
BFO *e*S **S** **22 52 08.8 -0.4**
baz=352,slow=12
BFO *e*ScS **SKSac** **22 53 01.4 -0.2**
baz=353,slow=8.0
KRUC Moravsky 69.22 8⇑ *i*P **P** **22 43 13.9 +0.5**
KRUC *e*S **S** **22 52 10.7 +1.5**
KRUC *e*PKPPKP **P'P'df** **23 11 17.0 -7.4**
FRU1 Bishkek 69.22 325 P **P** **22 43 14.3 +0.7**
FRU1 pmax pmax
comp=Z,193nm,0.8s
FRU1 Bishkek 69.22 325 P **P** **22 43 14.3 +0.7**
FRU1 IAmb IAmb 22 43 18.1
comp=Z,193nm,0.8s
GEC2 GERESS Array S 69.23 10 P **P** **22 43 14.1 +0.5**
GEC2 IAmb IAmb 22 43 16.4
comp=Z,115nm,1.1s
GEC2 GERESS Array S 69.23 10 *e*P **P** **22 43 14.3 +0.7**
comp=Z,121nm,1.1s,baz=352,slow=6.4
GEC2 *e*S **S** **22 52 08.6 -1.0**
baz=352,slow=12
GERES GERESS Array B 69.23 10 P **P** **22 43 14.1 +0.5**
comp=Z,44nm,0.7s,baz=0.0,slow=5.6,SNR=186
GERES PKPPKP **P'P'df** **23 11 17.7 -6.8**
comp=Z,12nm,1.0s,baz=151,slow=3.0,SNR=30
GERES LR LR 23 15 20.8
comp=Z,206nm,18.4s,baz=352,slow=37
GERES GERESS Array B 69.23 10 P **P** **22 43 13.9 +0.3**
GERES GERESS Array B 69.23 10 P **P** **22 43 13.9 +0.3**
KBK Karagaybulak 69.28 325 P **P** **22 43 14.8 +0.7**
SNR=101
ULHL Ulahol 69.30 324 P **P** **22 43 14.6 +0.4**
SNR=27
CKRC Cesky Krumlov 69.31 10⇑ *i*P **P** **22 43 14.5 +0.6**
CKRC *e*pP **pP** **22 43 42.9 -1.1**
CKRC *e*S **S** **22 52 10.6 +0.3**
CKRC AMS AMS 23 00 00.0
comp=Z,600nm,21.3s
LANS Liptovska Anna 69.31 6 *e*P **P** **22 43 15.4 +1.4**
LANS pmax pmax
comp=Z,133nm,0.7s
LANS Liptovska Anna 69.31 6 *e*P **P** **22 43 15.4 +1.4**
TARG Taragay, Kyrgy 69.32 322 P **P** **22 43 15.1 +0.5**
TARG IAmb IAmb 22 43 19.3
comp=Z,139nm,1.4s
AAK Ala-Archa 69.42 325 P **P** **22 43 15.5 +0.6**
comp=Z,80nm,0.7s,baz=123,slow=2.3,SNR=69
AAK Ala-Archa 69.42 325 P **P** **22 43 15.4 +0.6**
SNR=60
AAK Ala-Archa 69.42 325 *i*P **P** **22 43 15.5 +0.6**
SNR=67
AAK Ala-Archa 69.42 325*c i*P **P** **22 43 15.0 +0.1**
AAK pmax pmax
comp=Z,255nm,0.7s
AAK Ala-Archa 69.42 325 P **P** **22 43 15.4 +0.5**
AAK IAmb IAmb 22 43 17.7
comp=Z,89nm,0.7s
AAK Ala-Archa 69.42 325 P **P** **22 43 15.6 +0.7**
JAVC Velka Javorina 69.50 7⇑ *i*P **P** **22 43 16.8 +1.6**
JAVC *e*S **S** **22 52 16.0 +3.3**
JAVC *e*PKPPKP P'P'df 23 11 15.4 -8.6
CD2 Chengdu 69.56 297 P **P** **22 43 15.4 -0.4**
CD2 pP pP 22 43 46.3 +0.3
CD2 sP sP 22 43 58.5 -0.9
CD2 PP **PP** **22 45 52.8 +2.2**
CD2 S **S** **22 52 08.9 -4.9**
CD2 sS SKSac 22 53 01.3 -3.4
CD2 SS **SS** **22 56 48.9 +6.0**
CD2 pmax pmax
comp=Z,300nm,1.1s
CD2 pmax pmax
comp=Z,1μm,6.8s
CD2 L L
comp=Z,1μm,18.7s
CD2 L L
comp=Z,1μm,15.1s
CD2 L L
comp=Z,980nm,17.2s
EKS2 Erkin-Say 69.59 326 P **P** **22 43 16.8 +0.9**
SNR=19
KOLS Kolonicke sedl 69.64 4 *e*P **P** **22 43 16.9 +0.9**
KOLS pmax pmax
comp=Z,1μm,0.7s
KOLS Kolonicke sedl 69.64 4 *e*P **P** **22 43 16.9 +0.9**
KOLS *e*S **S** **22 52 13.7 -0.5**
CRVS Cervenica-Dubn 69.64 5 *e*P **P** **22 43 16.8 +0.8**
CRVS pmax pmax
comp=Z,312nm,1.8s
CRVS Cervenica-Dubn 69.64 5 *e*P **P** **22 43 16.8 +0.8**
CRVS *e*S **S** **22 52 16.4 +2.2**
FUR Furstenfeldbru 69.69 12 *e*P **P** **22 43 16.9 +0.6**
comp=Z,208nm,0.9s,baz=352,slow=6.4
FUR *e*PcP **PcP** **22 43 38.8 +0.4**
baz=354,slow=4.3
FUR *e*S **S** **22 52 14.4 -0.4**
baz=352,slow=12
FUR *e*ScS **SKSac** **22 53 02.2 -2.9**
baz=353,slow=8.0
SMOL Smolenice 69.83 7 *e*P **P** **22 43 18.3 +1.2**
SMOL pmax pmax
comp=Z,57nm,0.6s
SMOL Smolenice 69.83 7 *e*P **P** **22 43 18.3 +1.2**
VYHS Vyhne 69.93 6 *e*P **P** **22 43 18.6 +0.8**
VYHS pmax pmax
comp=Z,139nm,0.9s
VYHS Vyhne 69.93 6 *e*P **P** **22 43 18.6 +0.8**
VYHS *e*S **S** **22 52 15.5 -2.1**
UZH Uzhgorod 69.94 4 *e*P **P** **22 43 18.4 +0.6**
UZH *e**PP **PcP** **22 43 43.0 +3.7**
UZH *e* 22 45 59.2
UZH *i*S **S** **22 52 16.4 -1.2**
UZH *e*PS **PnS** **22 53 00.4 -0.5**
UZH *e*SS **SS** **22 56 55.6 +7.9**
UZH MLR MLR
comp=N,50nm,18.0s
UZH MLR MLR
comp=E,130nm,18.0s
UZH MLR MLR
comp=Z,70nm,18.0s
MODS Modra-Piesok 69.96 8 *e*P **P** **22 43 18.0 0.0**
MODS pmax pmax
comp=Z,341nm,1.5s
MODS Modra-Piesok 69.96 8 *e*P **P** **22 43 18.0 0.0**
MODS *e*S **S** **22 52 13.7 -4.3**
DZA Taraz 70.02 327 *e*P **P** **22 43 18.0 -0.4**
baz=327
DZA *e*S **S** **22 52 16.8 -2.1**
baz=327
DZA Taraz 70.02 327 *e*P **P** **22 43 18.0 -0.4**
DZA *e*S **S** **22 52 16.7 -2.1**
KECS Kecovo 70.02 5 *e*P **P** **22 43 19.1 +0.8**
KECS pmax pmax
comp=Z,83nm,0.8s
KECS Kecovo 70.02 5 *e*P **P** **22 43 19.1 +0.8**
KK31 Karatay Array 70.03 328 P **P** **22 43 18.2 -0.2**
KK31 pmax pmax
comp=Z,82nm,0.7s
KK31 Karatay Array 70.03 328 P **P** **22 43 18.2 -0.2**
KK31 IAmb IAmb 22 43 22.1
comp=Z,82nm,0.7s
KKAR Karatay Array 70.03 328 P **P** **22 43 18.2 -0.3**
KKAR Karatay Array 70.03 328 P **P** **22 43 18.2 -0.3**
UBR Ueberruh 70.05 13 *e*P **P** **22 43 19.3 +0.7**
comp=Z,110nm,0.9s,baz=352,slow=6.4
UBR *e*S **S** **22 52 19.2 +0.1**
baz=352,slow=12
UBR *e*ScS **SKSac** **22 53 04.3 -3.7**
baz=353,slow=8.0
AML Almayashu 70.11 325 P **P** **22 43 20.3 +0.9**
SNR=22
AML Almayashu 70.11 325 *i*P **P** **22 43 20.3 +0.9**
SNR=46
AML Almayashu 70.11 325 P **P** **22 43 20.6 +1.1**
ZST Bratislava 70.13 8 *e*P **P** **22 43 20.0 +1.1**
ZST pmax pmax
comp=Z,356nm,0.8s
ZST Bratislava 70.13 8 *e*P **P** **22 43 20.0 +1.1**
ZST *e*S **S** **22 52 21.5 +1.7**
RJOB Jochberg 70.26 11 *e*P **P** **22 43 20.5 +0.7**
comp=Z,604nm,0.7s,baz=352,slow=6.4
RJOB *e*S **S** **22 52 20.9 -0.6**
baz=352,slow=12

RJOB *e*ScS **SKKSac** **22 53 10.2 +0.6**
baz=353,slow=8.0
MOA Molln 70.27 10 *i*P **P** **22 43 20.3 +0.5**
comp=Z,25nm,0.7s,SNR=72
MOA Molln 70.27 10 *i*P **P'P'ab** **23 11 15.6 -5.5**
comp=Z,30nm,1.0s,SNR=16
RETA Reutte 70.31 12 *e*P **P** **22 43 20.8 +0.6**
comp=Z,25nm,0.8s,SNR=33
RETA Reutte 70.31 12 *e*P P'P'ab 23 11 10.3 -11
comp=Z,4.8nm,1.2s
RETA *i*P **P'P'ab** **23 11 15.2 -5.8**
comp=Z,10nm,1.2s
CONA Conrad Observa 70.31 9 *i*P **P** **22 43 21.1 +0.9**
comp=Z,118nm,0.6s,SNR=126
CONA Conrad Observa 70.31 9 *e*P P'P'ab 23 11 09.6 -11
comp=Z,2.4nm,1.1s
CONA *i*P **P'P'ab** **23 11 15.0 -6.1**
comp=Z,12nm,1.1s,SNR=8.2
DAVA Damuels 70.42 13 *i*P **P** **22 43 21.3 +0.4**
comp=Z,24nm,0.7s,SNR=30
DAVA Damuels 70.42 13 *e*P P'P'ab 23 11 12.1 -8.6
comp=Z,3.3nm,1.0s
DAVA *i*P **P'P'ab** **23 11 15.8 -4.9**
comp=Z,15nm,1.1s,SNR=5.5
MOTA Moosalm 70.49 12 *i*P **P** **22 43 21.7 +0.4**
comp=Z,69nm,1.0s,SNR=86
MOTA Moosalm 70.49 12 *i*P **P'P'ab** **23 11 14.6 -5.9**
comp=Z,22nm,1.5s
WATA Walderalm 70.54 12 *i*P **P** **22 43 22.3 +0.7**
comp=Z,96nm,1.0s,SNR=96
WATA Walderalm 70.54 12 *e*P **P'P'ab** **23 11 14.8 -5.5**
comp=Z,15nm,1.4s
PSZ Piszkesteto 70.56 6⇑ P **P** **22 43 23.1 +1.4**
PSZ Piszkesteto 70.56 6 P **P** **22 43 22.5 +0.8**
PSZ pmax pmax
comp=Z,195nm,1.0s
PSZ Piszkesteto 70.56 6 P **P** **22 43 22.5 +0.8**
PSZ IAmb IAmb 22 43 25.0
comp=Z,195nm,1.0s
SRO Srobarova 70.58 7 *e*P **P** **22 43 23.1 +1.4**
SRO pmax pmax
comp=Z,94nm,0.9s
SRO Srobarova 70.58 7 *e*P **P** **22 43 23.1 +1.4**
WTTA Wattenberg 70.62 12 *i*P **P** **22 43 23.0 +0.8**
comp=Z,131nm,0.6s,SNR=112
WTTA Wattenberg 70.62 12 *e*P P'P'ab 23 11 11.6 -8.5
comp=Z,5.0nm,1.1s
WTTA *i*P **P'P'ab** **23 11 15.6 -4.4**
comp=Z,18nm,1.1s
SQTA Sankt Quirin 70.62 12 *i*P **P** **22 43 23.0 +0.9**
comp=Z,126nm,0.8s,SNR=119
SQTA Sankt Quirin 70.62 12 *i*P **P'P'ab** **23 11 16.0 -4.0**
comp=Z,14nm,1.2s
SRO2 Moca 70.64 7 *e*P **P** **22 43 22.1 +0.1**
SRO2 pmax pmax
comp=Z,142nm,0.7s
SRO2 Moca 70.64 7 *e*P **P** **22 43 22.1 +0.1**
FETA Feichten 70.77 12 *i*P **P** **22 43 23.9 +0.8**
comp=Z,62nm,0.8s,SNR=99
FETA Feichten 70.77 12 *i*P **P'P'ab** **23 11 13.5 -6.0**
comp=Z,12nm,1.2s
BMR Baia Mare 70.94 3⇑ P **P** **22 43 24.9 +1.0**
TAOE Nuku Hiva Isla 70.94 167 *e*P **P** **22 43 22.7 -1.6**
comp=Z,348nm,1.0s
KBA Koelnbreinsper 70.96 10 *i*P **P** **22 43 25.3 +1.1**
comp=Z,185nm,0.6s,SNR=174
ARSA Arzberg 70.96 9 *i*P **P** **22 43 25.0 +0.9**
comp=Z,33nm,0.5s,SNR=55
ARSA Arzberg 70.96 9 *e*P **P'P'ab** **23 11 13.7 -4.9**
comp=Z,11nm,1.1s
BUR01 Bucovina Ar. S 71.03 2⇑ P **P** **22 43 25.4 +0.8**
BURAR Bucovina Array 71.03 2 P **P** **22 43 25.2 +0.7**
SENIN Lac Senin/Sane 71.03 15 P **P** **22 43 25.2 +0.5**
ARSB Arslanbob 71.05 326 P **P** **22 43 25.0 +0.1**
ARSB pmax pmax
comp=Z,177nm,1.3s
ARSB Arslanbob 71.05 326 P **P** **22 43 25.0 +0.1**
ARSB IAmb IAmb 22 43 28.9
comp=Z,177nm,1.2s
TUE Stuetta 71.17 13 P **P** **22 43 26.5 +1.0**
TUE IAmb IAmb 22 43 28.8
comp=Z,161nm,0.8s
LTVH Ltavrtes, Hu 71.18 4⇑ P **P** **22 43 26.9 +1.6**
BSZH Besenyszg 71.20 5⇑ P **P** **22 43 27.0 +1.6**
ABTA Abfaltersbach 71.21 11 *i*P **P** **22 43 25.9 +0.3**
comp=Z,31nm,0.6s,SNR=39
PRAR RASCA 71.30 1⇑ P **P** **22 43 26.1 +0.1**
MYKA Terra Mystica 71.43 10 *i*P **P** **22 43 27.3 +0.3**
comp=Z,58nm,0.6s,SNR=51
MYKA Terra Mystica 71.43 10 *i*P **P'P'ab** **23 11 16.2 -0.7**
comp=Z,2.3nm,0.6s
ZOU Zoufplan 71.44 11 P **P** **22 43 26.9 -0.2**
ZOU IAmb IAmb 22 43 30.1
comp=Z,138nm,0.6s
MESR Meseseni 71.45 4⇓ P **P** **22 43 28.5 +1.6**
IAS Iasi 71.47 0⇑ P **P** **22 43 27.0 -0.1**
SOKA Soboth 71.50 9 *i*P **P** **22 43 27.7 +0.4**
comp=Z,43nm,0.5s,SNR=101
SOKA Soboth 71.50 9 *e*P **P'P'ab** **23 11 15.7 -0.9**
comp=Z,7.8nm,1.2s
PERS Pernice 71.54 9 *i*P **P** **22 43 28.0 +0.4**
PERS *e*pP **pP** **22 43 56.4 -1.4**
PERS *e*S **S** **22 52 37.0 +0.6**
PERS *e* 22 52 51.6
PERS *e* 22 53 18.1
ARCR ARCALIA 71.55 3⇑ P **P** **22 43 28.8 +1.2**
OBKA Obir 71.62 10 *i*P **P** **22 43 28.9 +0.7**
comp=Z,309nm,0.6s,SNR=203
OBKA Obir 71.62 10 *e*P **P'P'ab** **23 11 12.0 -4.2**
comp=Z,7.7nm,1.3s
KIS Kishinev 71.67 359 *e*P **P** **22 43 27.6 -0.6**
KIS Kishinev 71.67 359 *e*PcP PcP 22 43 56.4 +10
KIS *e*S **S** **22 52 30.0 -7.6**
comp=Z,300nm,16.0s
KIS Kishinev 71.67 359 *e*P **P** **22 43 27.6 -0.6**
KIS *e* 22 43 56.4
KIS *e*S **S** **22 52 30.0 -7.6**
KIS smax smax
comp=Z,300nm,16.0s
STAL STALIGIAL 71.71 11 P **P** **22 43 28.2 -0.4**
BIZ Bicaz 71.72 1⇑ P **P** **22 43 29.5 +1.0**
DRGR 71.80 4⇑ P **P** **22 43 29.7 +0.6**
KOGS Kog 71.81 8 *i*P **P** **22 43 29.6 +0.5**
KOGS *i* 22 43 30.9
KOGS *e*pP **pP** **22 43 58.4 -1.0**
CTI Castel Tesino 71.82 12 P **P** **22 43 29.0 -0.4**
CTI pmax pmax
comp=Z,52nm,0.7s
CTI Castel Tesino 71.82 12 P **P** **22 43 28.9 -0.4**
BEHE Becsehely 71.83 8⇑ *i*P **P** **22 43 29.9 +0.7**
CADS Cadrg 71.84 10 *i*P **P** **22 43 29.1 -0.3**
CADS *i* 22 43 30.1
AOPR Arecibo Observ 71.84 85 P **P** **22 43 29.2 -0.4**
AOPR IAmb IAmb 22 43 31.4
comp=Z,107nm,0.7s
KSH Kashi 71.90 323⇑ *i*P **P** **22 43 33.3 +3.4**
KSH pP pP 22 44 00.1 -0.2
KSH PP **PP** **22 46 14.0 +3.6**
KSH S **S** **22 52 44.3 +3.5**
KSH SS **SS** **22 57 26.1 +7.7**
KSH pmax pmax
comp=Z,120nm,0.7s
KSH pmax pmax
comp=Z,340nm,3.8s
KSH L L
comp=Z,1μm,11.4s
KSH L L
comp=Z,810nm,13.0s
KSH L L
comp=Z,630nm,6.8s
CJR Cluj-Napoca 71.90 3⇑ P **P** **22 43 30.7 +0.9**
BART Pico Bartolome 71.99 42 *e*P **P** **22 43 31.3 +0.8**
comp=Z,300nm,1.2s
VASR Vaslui 72.03 0⇑ P **P** **22 43 30.5 +0.1**
VNDS Vrh nad Dolski 72.04 10 *i*P **P** **22 43 30.5 0.0**
VNDS *i*S **S** **22 52 41.8 -0.3**
LJU Ljubljana 72.08 10 *i*P **P** **22 43 30.7 -0.1**
LJU *i* 22 43 31.9
LJU *e*pP **pP** **22 43 59.2 -1.9**
LJU *e*S **S** **22 52 42.1 -0.4**
SALO Salr 72.14 13 P **P** **22 43 30.9 -0.3**
SALO IAmb IAmb 22 43 33.2
comp=Z,147nm,0.8s
TESR Tescani 72.15 1⇑ P **P** **22 43 31.2 0.0**
AMBH Ambrzfalva 72.16 5⇓ P **P** **22 43 32.7 +1.6**

MORH Mrgy, Hungar 72.20 7⇑ P **P** **22 43 31.8 +0.4**
MORH Mrgy, Hungar 72.20 7⇑ *i*P **P** **22 43 31.5 +0.1**
BNI Bardonecchia 72.25 16 P **P** **22 43 32.9 +1.0**
BNI pmax pmax
comp=Z,114nm,1.1s
BNI Bardonecchia 72.25 16 P **P** **22 43 32.9 +1.0**
BNI IAmb IAmb 22 43 35.7
comp=Z,114nm,1.1s
SIRR Siria 72.28 5⇑ P **P** **22 43 32.7 +0.7**
SJG San Juan 72.33 85 P **P** **22 43 32.2 -0.4**
SJG pmax pmax
comp=Z,67nm,0.7s
SJG San Juan 72.33 85 P **P** **22 43 32.1 -0.4**
SJG IAmb IAmb 22 43 35.0
comp=Z,67nm,0.7s
SJG San Juan 72.33 85⇑ *e*P **P** **22 43 31.9 -0.7**
TRI Trieste 72.35 10 P **P** **22 43 32.0 -0.3**
TRI pmax pmax
comp=Z,63nm,0.9s
TRI Trieste 72.35 10 P **P** **22 43 32.0 -0.3**
CRES Cresnjev 72.37 9⇑ *i*P **P** **22 43 32.1 -0.4**
CEY Cerknica 72.38 10⇑ *i*P **P** **22 43 31.7 -0.9**
BIR Birlad 72.40 0⇓ P **P** **22 43 33.7 +1.0**
MDB Medias 72.49 3⇑ P **P** **22 43 34.7 +1.5**
TEOL Teolo 72.51 12 P **P** **22 43 33.0 -0.2**
OZUR 72.56 2⇑ P **P** **22 43 34.5 +0.9**
GHRR 72.61 0⇓ P **P** **22 43 35.0 +1.2**
PGAV Gavieira, Arco 72.63 27 *e*P **P** **22 43 33.5 -0.7**
comp=Z,111nm,1.5s
PGAV *e*pP **pP** **22 44 03.4 -1.0**
DOPR Dopca 72.68 2⇑ P **P** **22 43 35.4 +1.0**
DEV Deva 72.71 4⇑ P **P** **22 43 34.9 +0.5**
PSMA Santa Maria 72.72 42 *e*P **P** **22 43 34.5 -0.2**
comp=Z,146nm,1.3s
PSMN Pico do Norte, 72.73 42 *e*P **P** **22 43 34.8 0.0**
comp=Z,127nm,1.3s
TIM Timisoara 72.80 5⇑ P **P** **22 43 36.2 +1.2**
VRI Vrincioaia 72.80 1⇓ P **P** **22 43 36.0 +1.0**
BTK Batken 72.81 327 P **P** **22 43 35.4 +0.1**
BTK pmax pmax
comp=Z,129nm,0.9s
BTK Batken 72.81 327 P **P** **22 43 35.4 +0.1**
BTK IAmb IAmb 22 43 37.8
comp=Z,129nm,0.9s
PLOR Plostina 72.81 1⇑ P **P** **22 43 35.9 +0.8**
GOF Gofitskoye 72.91 349⇑ *i*P **P** **22 43 35.9 +0.2**
GOF *e*S **S** **22 52 50.0 -1.9**
GOF pmax pmax
comp=Z,409nm,1.3s
GOF smax smax
comp=N,216nm,2.5s
PCAB Cabril 72.93 27 *e*P **P** **22 43 36.4 +0.5**
comp=N,75nm,1.8s
BZS Buzias 72.93 5⇑ P **P** **22 43 36.4 +0.6**
PRMA PARMA 72.96 13 P **P** **22 43 36.8 +0.9**
PRMA IAmb IAmb 22 43 40.6
comp=Z,430nm,1.6s
DRK Karamyk 73.09 326 P **P** **22 43 37.6 +0.3**
BISRR Bisoca 73.12 1⇓ P **P** **22 43 38.1 +1.1**
PBRG Braganca 73.12 26 *e*P **P** **22 43 37.8 +0.8**
comp=Z,58nm,2.0s
PBRG *e*pP **pP** **22 44 04.8 -2.4**
BANR Banloc 73.15 5⇓ P **P** **22 43 38.3 +1.3**
MLR Muntele Rosu 73.17 1⇓ P **P** **22 43 38.2 +0.9**
MLR Muntele Rosu 73.17 1 P **P** **22 43 37.6 +0.3**
MLR pmax pmax
comp=Z,231nm,1.5s
MLR Muntele Rosu 73.17 1 P **P** **22 43 37.6 +0.3**
MLR IAmb IAmb 22 43 40.6
comp=Z,231nm,1.5s
LOT Lotru 73.17 3⇑ P **P** **22 43 37.2 -0.2**
GZR Gura Zlata 73.20 4⇑ P **P** **22 43 38.0 +0.5**
VOIR 73.21 2⇑ P **P** **22 43 38.1 +0.6**
NEHR Nehoiu 73.23 1⇑ P **P** **22 43 38.4 +0.8**
ARR Arges 73.27 2⇑ P **P** **22 43 38.7 +0.8**
GRER 73.29 1⇓ P **P** **22 43 39.0 +1.2**
POLO Lamas de Olo 73.30 27 *e*P **P** **22 43 36.3 -1.9**
comp=Z,37nm,1.2s
POLO *e*pP **pP** **22 44 07.6 -0.8**
PRIJ Prijedor 73.31 8 *e*P **P** **22 43 38.7 +0.7**
FRGS Fruska Gora 73.31 6⇑ P **P** **22 43 38.4 +0.4**
FRGS Fruska Gora 73.31 6⇑ *i*P **P** **22 43 38.1 0.0**
PVRL Vila Real 73.41 27 *e*P **P** **22 43 39.9 +1.1**
comp=Z,93nm,1.4s
PVRL *e*pP **pP** **22 44 06.7 -2.3**
TLCR 73.48 359⇑ P **P** **22 43 39.5 +0.5**
CFR Carcaliu 73.49 360⇑ P **P** **22 43 39.4 +0.3**
SZP Santa 73.51 276 P **P** **22 43 40.4 +0.9**
ISR Istrita 73.55 1⇓ P **P** **22 43 39.9 +0.4**
BLY Banja Luka 73.57 8⇑ *i*P **P** **22 43 39.6 +0.1**
ANN Anapa 73.59 353 *e*P **P** **22 43 38.7 -0.9**
ANN *e* 22 43 53.7
ANN *e**PP **pP** **22 44 08.9 -1.1**
ANN *e* 22 46 21.3
ANN *e*S **S** **22 52 58.6 -0.9**
ANN *e**SS **sS** **22 53 52.8 +1.1**
ANN pmax pmax
comp=Z,71nm,1.4s
SECR 73.62 1⇑ P **P** **22 43 40.3 +0.4**
MVO Moncorvo 73.67 27 *e*P **P** **22 43 40.8 +0.5**
comp=Z,82nm,1.7s
MVO *e*pP **pP** **22 44 09.1 -1.4**
HERR Herculane 73.70 4⇑ P **P** **22 43 40.4 +0.2**
MDVR Moldovita 73.77 5⇑ P **P** **22 43 41.0 +0.2**
STFAR Stefanesti-Arg 73.78 2⇓ P **P** **22 43 41.9 +1.1**
TPGR Topolog 73.81 360⇑ P **P** **22 43 41.6 +0.6**
MGRS Mrkonjic Grad 73.89 8⇑ *i*P **P** **22 43 42.3 +0.8**
JURR Jurilovca 73.90 359⇓ P **P** **22 43 41.6 +0.2**
PVIS Viseu 73.91 28 *e*P **P** **22 43 42.1 +0.4**
comp=Z,60nm,1.6s
PVIS *e*pP **pP** **22 44 10.5 -1.4**
GAR Garm 73.94 327 P **P** **22 43 41.8 -0.1**
SRE Strehaia 73.94 3⇓ P **P** **22 43 42.5 +0.8**
HARR Harsova 73.98 360⇑ P **P** **22 43 42.2 +0.3**
SULR 73.98 1⇑ P **P** **22 43 41.8 -0.1**
KIV Kislovodsk 74.03 349⇓ P **P** **22 43 43.1 +0.7**
KIV Kislovodsk 74.03 349 *i*P **P** **22 43 42.9 +0.5**
SNR=26
KIV Kislovodsk 74.03 349 *e*P **P** **22 43 42.0 -0.4**
KIV *e**PP **pP** **22 44 12.2 -0.7**
KIV *e* 22 46 28.6
KIV *e*S **S** **22 53 04.6 -0.2**
KIV *e*SS **SS** **22 57 52.7 +2.2**
KIV pmax pmax
comp=Z,536nm,1.1s
KIV pmax pmax
comp=Z,377nm,3.7s
KIV Kislovodsk 74.03 349 P **P** **22 43 42.5 +0.1**
KIV IAmb IAmb 22 43 47.9
comp=Z,146nm,0.9s
KIV Kislovodsk 74.03 349 P **P** **22 43 42.7 +0.3**
AMRR Amara 74.06 0⇓ P **P** **22 43 42.8 +0.4**
HUMR Humele 74.11 2⇓ P **P** **22 43 42.8 0.0**
TLBR Topalu 74.12 360⇓ P **P** **22 43 43.5 +0.7**
LEHL Lehliu 74.19 1⇓ P **P** **22 43 43.6 +0.5**
TIRR Tirgusor 74.21 360⇑ P **P** **22 43 43.8 +0.6**
TIRR Tirgusor 74.21 360⇑ P **P** **22 43 43.8 +0.6**
TIRR Tirgusor 74.21 360 P **P** **22 43 43.2 0.0**
TIRR pmax pmax
comp=Z,225nm,0.8s
TIRR Tirgusor 74.21 360 P **P** **22 43 43.2 0.0**
KBZ Khabaz 74.24 349 P **P** **22 43 44.0 +0.6**
comp=Z,78nm,1.0s,baz=343,slow=4.5,SNR=48
KBZ pP **pP** **22 44 16.3 +2.4**
comp=Z,36nm,0.9s,baz=320,slow=5.8,SNR=3.1
KBZ LR LR 23 20 49.6
comp=Z,332nm,18.4s,baz=0.0,slow=39
KBZ Khabaz 74.24 349*c i*P **P** **22 43 43.6 +0.2**
KBZ pmax pmax
comp=Z,99nm,1.0s
COI Coimbra 74.28 28 P **P** **22 43 44.3 +0.6**
COI pmax pmax
comp=Z,91nm,1.2s
COI Coimbra 74.28 28 *e*P **P** **22 43 44.5 +0.8**
comp=Z,129nm,1.6s
COI Coimbra 74.28 28 P **P** **22 43 44.3 +0.6**
MTE Manteigas 74.29 27 *e*P **P** **22 43 44.7 +0.8**
comp=Z,99nm,1.3s
MTE *e*pP **pP** **22 44 13.1 -1.1**
MTE Manteigas 74.29 27 P **P** **22 43 44.4 +0.5**
MTE IAmb IAmb 22 43 52.4
comp=Z,132nm,1.3s
HAPS Han Pijesak,Bl 74.33 7⇑ *i*P **P** **22 43 43.7 -0.5**

DIVS	Divibare	74.38	6⇑	*i*P		P		22 43 44.5	+0.1
DIVS	Divibare	74.38	6	P		P		22 43 44.4	+0.1
DIVS				IAmb		IAmb		22 43 46.6	
	comp=Z,89nm,0.9s								
NCK	Nalchik	74.40	348	*c* *i*P		P		22 43 45.2	+0.8
NCK				pmax		pmax			
	comp=Z,178nm,0.6s								
PCAS	Casmilo, Conde	74.41	28	*e*P		P		22 43 43.4	-1.1
	comp=Z,122nm,1.4s								
PCAS				*e*pP		pP		22 44 13.3	-1.5
SGRR	Singureni	74.44	1	⇓P		P		22 43 44.2	-0.4
RASA	Rasa	74.45	1	⇑P		P		22 43 45.8	+1.1
GROC	Groznyy	74.46	347	*e*P		P		22 43 45.3	+0.5
GROC				*e**PP		pP		22 44 18.5	+3.2
GROC				*e**SP		sP		22 44 31.2	+2.7
GROC				*e*				22 46 31.2	
GROC				*e*S		S		22 53 07.7	-1.7
GROC				*e**SS		sS		22 54 06.5	+4.8
GROC				pmax		pmax			
	comp=Z,41nm,0.6s								
MFTR	Murfatlar	74.49	360	⇑P		P		22 43 45.6	+0.7
SMRC	Santa Marta, M	74.50	95⇑	*e*P		P		22 43 45.8	+0.5
MAK	Makhachkala	74.50	345	*e*P		P		22 43 44.5	-0.5
MAK				*e**PP		pP		22 44 13.4	-2.1
MAK				*e**SP		sP		22 44 27.6	-1.1
MAK				*e*				22 46 37.5	
MAK				*e*S		S		22 53 07.2	-2.6
MAK				*e**SS		sS		22 54 00.9	-1.2
MAK				*e*SS		SS		22 57 58.1	+0.7
MAK				pmax		pmax			
	comp=Z,297nm,1.4s								
MAK				MLR		MLR			
	comp=Z,615nm,19.0s								
COPA	Copaceanca	74.51	2	⇑P		P		22 43 44.4	-0.6
ICOR	Ion Corvin	74.55	0	⇑P		P		22 43 46.1	+0.9
CHGR	Chuyangaron	74.56	328	P		P		22 43 45.4	-0.1
BBLS	Lazići	74.58	6	⇑P		P		22 43 46.3	+0.8
EFOR	EFORIE	74.59	355	⇑P		P		22 43 46.3	+0.8
AZU	Azuero	74.59	102	⇓P		P		22 43 45.4	-0.5
VLAD	Vladila	74.63	3	⇓P		P		22 43 46.7	+1.0
SOC	Sochi	74.65	351	*c* *i*P		P		22 43 45.1	-0.7
SOC				*e**PP		pP		22 44 14.8	-1.6
SOC				*e**SP		sP		22 44 27.4	-2.1
SOC				*e*				22 46 33.4	
SOC				*e*PPP		PPP		22 48 19.8	
SOC				*e*S		S		22 53 11.9	+0.5
SOC				*e**SS		sS		22 54 00.7	-3.1
SOC				pmax		pmax			
	comp=Z,45nm,0.7s								
MURB	Monte Urbino	74.67	12	P		P		22 43 46.7	+0.7
NEY	Neytrino	74.73	349	*de*P		P		22 43 47.7	+1.2
NEY				pmax		pmax			
	comp=Z,12nm,0.8s								
RUDO	Rudo	74.83	6	⇑*i*P		P		22 43 46.7	-0.2
PCBR	Castelo Branco	74.84	27	*e*P		P		22 43 47.5	+0.5
	comp=Z,77nm,1.5s								
PCBR				*e*pP		pP		22 44 16.7	-0.6
MANR	Mangalia	74.85	359	⇑P		P		22 43 47.9	+1.0
PSBE	So Bento	74.86	29	*e*P		P		22 43 47.1	0.0
	comp=Z,83nm,1.2s								
PSBE				*e*pP		pP		22 44 16.4	-1.0
BOVS	Bovan	74.92	5	⇑P		P		22 43 47.3	-0.1
CASP	Castiglione de	74.97	13	P		P		22 43 47.9	+0.2
CASP				IAmb		IAmb		22 43 49.9	
	comp=Z,428nm,1.7s								
KMI	Kunming	75.04	295	⇑P		P		22 43 48.4	-0.2
KMI				PcP		PcP		22 44 03.8	+2.0
KMI				sP		sP		22 44 31.9	-0.6
KMI				PP		PP		22 46 38.8	+1.2
KMI				S		S		22 53 15.1	-1.6
KMI				ScS		SKKSac		22 53 47.0	+0.2
KMI				pmax		pmax			
	comp=Z,65nm,1.1s								
KMI				pmax		pmax			
	comp=Z,890nm,3.9s								
KMI				L		L			
	comp=Z,670nm,14.9s								
KMI				L		L			
	comp=Z,570nm,16.4s								
KMI				L		L			
	comp=Z,730nm,23.9s								
KMI	Kunming	75.04	295	P		P		22 43 48.9	+0.3
KMI				pmax		pmax			
	comp=Z,172nm,1.5s								
KMI	Kunming	75.04	295	P		P		22 43 48.9	+0.3
KMI				IAmb		IAmb		22 43 50.8	
	comp=Z,172nm,1.5s								
ZEI	Tsey	75.08	348	*e*P		P		22 43 48.2	-0.4
ZEI				pmax		pmax			
	comp=Z,83nm,1.0s								
URIC	Uribia, Colomb	75.09	93⇑	*e*P		P		22 43 49.5	+0.7
PLE	Pljevlja	75.11	6⇑	*i*P		P		22 43 49.4	+0.7
SJCC	San Jacinto, C	75.15	97⇑	*e*P		P		22 43 49.7	+0.6
PMRV	Marv??o	75.25	28	*e*P		P		22 43 49.4	0.0
	comp=Z,58nm,1.7s								
PMRV				*e*pP		pP		22 44 17.5	-2.2
UCM	Universidad Co	75.27	24	P		P		22 43 51.5	+2.0
UCM				S		S		22 53 20.6	+2.1
PMAFR	Mafra	75.28	29	*e*P		P		22 43 49.2	-0.3
	comp=Z,242nm,1.7s								
PMAFR				*e*pP		pP		22 44 18.8	-1.1
ONI	Oni	75.31	348	P		P		22 43 50.9	+1.2
ONI				pmax		pmax			
	comp=Z,93nm,1.4s								
ONI	Oni	75.31	348	P		P		22 43 50.9	+1.2
CHVG	Ch'k'valeri	75.32	349	⇑P		P		22 43 50.9	+1.2
PMTG	Montargil	75.41	28	*e*P		P		22 43 50.1	-0.2
	comp=Z,64nm,1.3s								
PMTG				*e*pP		pP		22 44 18.8	-1.8
STON	Ston	75.47	8	⇑*i*P		P		22 43 48.9	-1.6
BRY	Bratogost	75.49	7	⇑*i*P		P		22 43 50.7	-0.1
BRY	Bratogost	75.49	7	⇑*i*P		P		22 43 50.8	-0.1
PMST	Lisbon--Monsan	75.51	29	*e*P		P		22 43 52.1	+1.3
	comp=Z,163nm,1.3s								
LIS	Lisbon	75.53	29	*e*P		P		22 43 51.3	+0.3
LIS				IAmb		IAmb		22 43 56.6	
	comp=Z,92nm,0.8s								
LIS				*e*pP		pP		22 44 18.9	-2.4
LIS				*e*S		S		22 53 23.0	+1.7
LIS	Lisbon	75.53	29	*e*P		P		22 43 51.3	+0.3
LIS				*e**PP		pP		22 44 18.9	-2.4
LIS				*e*S		S		22 53 23.0	+1.7
IVA	Berane	75.60	6	⇑*i*P		P		22 43 51.5	+0.1
KOME	Kolasin	75.60	6	⇑*i*P		P		22 43 51.4	0.0
ARGC	Ariguani, Magd	75.62	96	*e*P		P		22 43 52.5	+0.7
NKME	Niksic	75.65	7	⇑*i*P		P		22 43 51.5	-0.1
AQJ	L'Aquila	75.65	11	⇑*i*P		P		22 43 52.0	+0.3
TREB	Trebinje	75.67	7	*e*P		P		22 43 51.2	+0.5
LSA	Lhasa	75.72	307	P		P		22 43 54.6	+1.8
LSA				pmax		pmax			
	comp=Z,640nm,0.9s								
LSA	Lhasa	75.72	307	P		P		22 43 54.2	+1.4
LSA	Lhasa	75.72	307	P		P		22 43 54.3	+1.5
LSA				pmax		pmax			
	comp=Z,177nm,0.6s								
LSA	Lhasa	75.72	307	P		P		22 43 54.3	+1.5
LSA	Lhasa	75.72	307	P		P		22 43 54.8	+2.0
ESBB	Sonseca Array	75.74	25	P		P		22 43 52.6	+0.4
ESDC	Sonseca Array	75.74	25	P		P		22 43 52.8	+0.6
	comp=Z,44nm,1.0s,baz=341,slow=5.1,SNR=101								
ESDC				pP		pP		22 44 24.3	+1.7
	comp=Z,27nm,0.7s,baz=341,slow=6.3,SNR=5.9								
ESDC				PKKPbc		PKKPbc		23 03 05.9	+0.6
	comp=Z,0.6nm,1.0s,baz=204,slow=2.2,SNR=6.4								
ESDC				PKPPKP		P'P'df		23 11 06.8	-6.3
	comp=Z,4.8nm,1.0s,baz=186,slow=1.0,SNR=12								
ESDC				LR		LR		23 23 13.9	
	comp=Z,132nm,18.5s,baz=0.0,slow=40								
ESDC	Sonseca Array	75.74	25	P		P		22 43 52.4	+0.2
PESTR	Estremoz	75.75	28	*e*P		P		22 43 52.7	+0.5
	comp=Z,70nm,1.4s								
PESTR				*e*pP		pP		22 44 21.1	-1.5
PESTR	Estremoz	75.75	28	P		P		22 43 52.4	+0.2
PESTR	Estremoz	75.75	28	P				22 43 52.6	
PAB	San Pablo	75.78	25	P		P		22 43 53.1	+0.6
PAB				pmax		pmax			
	comp=Z,84nm,1.3s								
PAB	San Pablo	75.78	25	P		P		22 43 53.1	+0.6
PAB	San Pablo	75.78	25	P				22 43 53.1	
CEME	Cevo	75.87	7	⇑*i*P		P		22 43 52.6	-0.3
MOTC	Monteria, Cord	75.89	98⇓	*e*P		P		22 43 53.7	+0.4
AKT	Akhty	75.94	345	⇑*i*P		P		22 43 53.6	+0.2
AKT				*e*				22 44 04.7	
AKT				*e**PP		pP		22 44 23.4	-0.6
AKT				*e**SP		sP		22 44 36.3	-0.8
AKT				*e*				22 46 46.6	
AKT				*e*S		S		22 53 23.6	-2.3
AKT				pmax		pmax			
	comp=Z,264nm,1.1s								
HCY	Herceg Novi	75.94	7	⇑*i*P		P		22 43 52.7	-0.5
HCY	Herceg Novi	75.94	7	⇑*i*P		P		22 43 52.8	-0.5
EVO	Evora	75.97	28	P		P		22 43 53.0	-0.5
EVO				S		S		22 53 28.1	+1.9
EVO	Evora	75.97	28	*e*P		P		22 43 53.9	+0.4
	comp=Z,69nm,1.5s								
EVO				*i* LQ		LQ		22 43 59.3	
EVO				*e*pP		pP		22 44 21.6	-2.3
VTS	Vitosha	75.98	4	⇑P		P		22 43 53.7	0.0
VTS	Vitosha	75.98	4	P		P		22 43 53.4	-0.3
VTS				pmax		pmax			
	comp=Z,81nm,0.7s								
VTS	Vitosha	75.98	4	P		P		22 43 53.4	-0.3
VTS				IAmb		IAmb		22 43 55.7	
	comp=Z,81nm,0.7s								
PDG	Podgorica	76.00	7	⇑P		P		22 43 53.6	0.0
PDG	Podgorica	76.00	7	⇑*i*P		P		22 43 53.5	0.0
PDG	Podgorica	76.00	7	P		P		22 43 53.6	0.0
PDG				IAmb		IAmb		22 43 55.6	
	comp=Z,186nm,0.7s								
TTG	Podgorica	76.00	7	⇑*i*P		P		22 43 53.5	0.0
INTR	Introdacqua	76.04	11	P		P		22 43 53.9	0.0
INTR				IAmb		IAmb		22 43 57.1	
	comp=Z,131nm,1.2s								
BUM	Brajici-Budva	76.11	7	⇑*i*P		P		22 43 53.9	-0.4
LL1C	La Loma 1 Cana	76.23	96⇓	*e*P		P		22 43 55.2	+0.1
DRME	Dracevica, Mon	76.24	7	⇑*i*P		P		22 43 54.9	0.0
DRME	Dracevica, Mon	76.24	7	⇑*i*P		P		22 43 55.0	0.0
PNCL	Nicolau / Gran	76.25	29	*e*P		P		22 43 55.2	+0.1
	comp=Z,136nm,1.6s								
PNCL				*e*pP		pP		22 44 24.5	-1.0
TGY	Tagaytay City	76.27	274	P		P		22 43 56.2	+0.7
	comp=Z,298nm,0.4s,baz=241,slow=1.8,SNR=15								
LL2C	La Loma 2 Cana	76.27	95⇓	*e*P		P		22 43 56.5	+1.1
DABV	Dabajuro	76.42	92⇓	*e*P		P		22 43 57.3	+1.0
ULC	Ulcinj	76.47	7	⇑*i*P		P		22 43 56.0	-0.3
PBEJ	Beja	76.49	28	*e*P		P		22 43 56.8	+0.4
PBEJ				*e*pP		pP		22 44 26.1	-0.7
PMOR	Pomariorio Ree	76.50	176	*e*P		P		22 43 57.0	+0.5
	comp=Z,327nm,1.1s								
PMOR	Pomariorio Ree	76.50	176	*e*T		T		00 01 40.7	
	comp=Z,16nm,0.2s								
PBAR	Barrancos	76.53	28	*e*P		P		22 43 57.2	+0.6
	comp=Z,117nm,1.4s								
PBAR				*e*pP		pP		22 44 25.3	-1.8
SKO	Skopje	76.56	5	*i* P		P		22 43 57.4	+0.7
SKO	Skopje	76.56	5	⇑*i*P		P		22 43 57.5	+0.7
MESJ	Messejana	76.59	29	*e*P		P		22 43 57.3	+0.3
MESJ				IAmb		IAmb		22 43 59.8	
	comp=Z,23nm,1.2s								
MESJ				*e*pP		pP		22 44 25.0	-2.4
MESJ				*e*S		S		22 53 34.4	+1.5
MESJ	Messejana	76.59	29	*e*P		P		22 43 57.3	+0.3
MESJ				*e**PP		pP		22 44 25.0	-2.4
MESJ				*e*S		S		22 53 34.4	+1.5
MESJ	Messejana	76.59	29	*e*P		P		22 43 57.2	+0.3
	comp=Z,34nm,1.2s								
MESJ				*e*pP		pP		22 44 26.1	-1.3
SMLC	San Martn de	76.63	96⇓	*e*P		P		22 43 57.4	-0.1
VAH	Vaihoa	76.75	176	*e*P		P		22 43 58.2	+0.3
	comp=Z,408nm,0.9s								
PTEO	Sao Teotonio	76.75	29	*e*P		P		22 43 58.3	+0.4
	comp=Z,94nm,1.5s								
PHP	Peshkopia	76.81	6	P		P		22 43 58.3	+0.1
EDRB	Edirne	76.82	1	P		P		22 43 58.8	+0.6
PCVE	Castro Verde	76.83	29	*e*P		P		22 43 58.7	+0.4
	comp=Z,46nm,1.5s								
PCVE				*e*pP		pP		22 44 27.3	-1.4
DIKM	Dikmen	76.84	354	⇓P		P		22 43 59.6	+1.3
DIKM	Dikmen	76.84	354	*e*P		P		22 43 58.2	-0.1
UREC	San Jos de Ur	76.85	98⇑	*e*P		P		22 43 57.8	-1.0
STIP	Stip	76.87	4	*i* P		P		22 43 58.2	-0.3
STIP	Stip	76.87	4	⇑*i*P		P		22 43 58.2	-0.3
AFI	Afiamalu	76.94	200	P		P		22 43 59.7	+0.6
AFI				pmax		pmax			
	comp=Z,66nm,0.9s								
AFI	Afiamalu	76.94	200	P		P		22 43 59.7	+0.6
MAHO	Mahon	76.97	18	P		P		22 43 48.9	-10
MAHO				S		S		22 53 36.4	-0.6
MORF	Marmelete	77.00	29	*e*P		P		22 43 59.5	+0.2
MORF				IAmb		IAmb		22 44 00.7	
	comp=Z,49nm,0.9s								
MORF				*e*pP		pP		22 44 27.3	-2.5
MORF				*e*S		S		22 53 39.3	+1.8
MORF	Marmelete	77.00	29	*e*P		P		22 43 59.5	+0.2
MORF				*e**PP		pP		22 44 27.3	-2.5
MORF				*e*S		S		22 53 39.3	+1.8
MORF	Marmelete	77.00	29	*e*P		P		22 43 59.6	+0.3
	comp=Z,102nm,1.4s								
MORF				*e*pP		pP		22 44 28.1	-1.7
ITAN	ITANAGAR	77.00	303	*e*P		P		22 44 00.3	+0.9
ITAN				IAmb		IAmb		22 44 02.3	
	comp=Z,124nm,0.8s								
CHOM	Cayeli-Rize	77.04	350	*e*P		P		22 43 59.8	+0.3
TIR	Tirane	77.11	6	⇑P		P		22 44 00.4	+0.6
TIR	Tirane	77.11	6	P		P		22 44 00.1	+0.3
TIR				pmax		pmax			
	comp=Z,120nm,0.6s								
TIR	Tirane	77.11	6	P		P		22 44 00.1	+0.3
TIR				IAmb		IAmb		22 44 02.1	
	comp=Z,120nm,0.6s								
PVAQ	Vaqueiros	77.12	28	*e*P		P		22 44 00.6	+0.7
PVAQ				*e*pP		pP		22 44 29.3	-1.1
PVAQ	Vaqueiros	77.12	28	P		P		22 44 00.1	+0.1
PVAQ	Vaqueiros	77.12	28	P				22 44 00.7	
PFVI	Vila Bisbo	77.12	29	*e*P		P		22 44 00.7	+0.7
	comp=Z,89nm,1.5s								
PFVI				*e*pP		pP		22 44 29.3	-1.1
PFVI	Vila Bisbo	77.12	29	P		P		22 44 00.4	+0.4
PFVI				IAmb		IAmb		22 44 33.6	
	comp=Z,106nm,1.2s								
JORH	JORHAT	77.14	303	*e*P		P		22 44 00.7	+0.4
DBBC	Dabeiba	77.18	99⇑	*e*P		P		22 44 00.6	-0.1
QIZ	Qiongzhong	77.19	286	P		P		22 44 01.1	+0.5
QIZ				pP		pP		22 44 30.6	-0.9
QIZ				PP		PP		22 46 54.9	-0.7
QIZ				S		S		22 53 44.8	+4.9
QIZ				sS		sS		22 54 33.3	+0.7
QIZ				SS		SS		22 58 36.3	-3.1
QIZ				pmax		pmax			
	comp=Z,100nm,1.0s								
QIZ				pmax		pmax			
	comp=Z,680nm,5.8s								
QIZ				L		L			
	comp=Z,510nm,17.8s								
QIZ				L		L			
	comp=Z,470nm,21.6s								
QIZ				L		L			
	comp=Z,420nm,30.4s								
QIZ	Qiongzhong	77.19	286	P		P		22 44 01.4	+0.9
QIZ				IAmb		IAmb		22 44 02.4	
	comp=Z,112nm,1.0s								
PBDV	Barranco-do-Ve	77.22	29	*e*P		P		22 44 01.3	+0.7
	comp=Z,108nm,1.2s								
PBDV				*e*pP		pP		22 44 29.5	-1.5
VAY	Valandovo	77.26	4	*i* P		P		22 44 01.3	+0.6
VAY	Valandovo	77.26	4	⇑*i*P		P		22 44 01.3	+0.6
NVR	Nevrokopi	77.27	3	P		P		22 44 01.8	+1.0
KARS	Kars	77.30	348	*e*P		P		22 44 02.5	+1.4
KARS	Kars	77.30	348	P		P		22 44 02.0	+0.9
KARS				pmax		pmax			
	comp=Z,812nm,1.5s								
KARS	Kars	77.30	348	P		P		22 44 02.0	+0.9
SOLC	Bahia Solano	77.31	101	*e*P		P		22 44 02.0	+0.8
KVT	Kavak	77.37	354	P		P		22 44 02.6	+1.2
OHR	Ohrid	77.39	5	*i* P		P		22 44 01.6	+0.2
OHR	Ohrid	77.39	5	⇑*i*P		P		22 44 01.7	+0.2
ZARC	Zaragoza, Cauc	77.40	98⇑	*e*P		P		22 44 01.4	-0.3
KLYT	Kilyos	77.41	359	*e*P		P		22 44 01.6	+0.1
KNT	Kendrikon	77.43	4	P		P		22 44 02.5	+0.9
CTKS	Kestanelik-??a	77.43	360	*e*P		P		22 44 01.9	+0.3
SENK	Senkaya-Erzuru	77.43	349	P		P		22 44 02.9	+1.0
SLVT	Silivri	77.44	360	*e*P		P		22 44 03.0	+1.4
OCAC	Ocana	77.47	96⇑	*e*P		P		22 44 02.5	+0.1
BGKT	Bogazkoy	77.48	359	*e*P		P		22 44 03.0	+1.1
SRS	Serrai	77.49	3	P		P		22 44 02.4	+0.4
RDO	Rodhopi	77.50	2	P		P		22 44 02.7	+0.7
SILT	Sile	77.50	359	*e*P		P		22 44 02.4	+0.4
PAYG	Puerto Ayora	77.59	116⇑	*e*P		P		22 44 03.8	+0.9
GNI	Garni	77.60	347	P		P		22 44 03.5	+0.7
GNI	Garni	77.60	347	*c* *i*P		P		22 44 03.8	+1.0
GNI				pmax		pmax			
	comp=Z,210nm,1.6s								
GNI	Garni	77.60	347	P		P		22 44 03.7	+1.0
GNI				IAmb		IAmb		22 44 08.8	
	comp=Z,367nm,1.7s								
GNI	Garni	77.60	347	P		P		22 44 04.1	+1.3
ISK	Istanbul-Kandi	77.60	359	P		P		22 44 02.6	+0.1
ISK	Istanbul-Kandi	77.60	359	*i* P		P		22 44 02.8	+0.3
KAVV	Kandilli-Istan	77.60	359	*e*P		P		22 44 03.2	+0.7
GRG	Griva	77.61	4	P		P		22 44 03.9	+1.2
MATE	Matera	77.61	9	⇓P		P		22 44 03.0	+0.4
ARNO	Arenosillo	77.63	28	P		P		22 44 03.0	+0.2
ARNO				S		S		22 53 47.5	+3.3
KAVA	Kavala	77.63	3	P		P		22 44 03.5	+0.8
ASHT	Ashkhabad	77.68	336	P		P		22 44 04.2	+1.2
ASHT				pmax		pmax			
	comp=Z,153nm,0.7s								
ASHT	Ashkhabad	77.68	336	P		P		22 44 04.2	+1.2
ASHT				IAmb		IAmb		22 44 08.5	
	comp=Z,153nm,0.7s								
GEYT	Alibeck	77.74	336	P		P		22 44 04.1	+0.6
	comp=Z,132nm,0.7s,baz=319,slow=4.3,SNR=46								
GEYT				LR		LR		23 26 30.9	
	comp=Z,353nm,18.1s,baz=245,slow=42								
GYA0B	ALIBECK ARRAY	77.74	336	P		P		22 44 04.0	+0.5
GYA0B				IAmb		IAmb		22 44 08.2	
	comp=Z,113nm,1.0s								
FNA	Florina	77.75	5	P		P		22 44 03.6	+0.1
FNA	Florina	77.75	5	P		P		22 44 03.6	+0.1
FNA				pmax		pmax			
	comp=Z,429nm,0.5s								
FNA	Florina	77.75	5	P		P		22 44 03.6	+0.1
ALN	Alexandroupoli	77.76	1	P		P		22 44 04.0	+0.6
ALN	Alexandroupoli	77.76	1	P		P		22 44 03.8	+0.4
ALN				pmax		pmax			
	comp=Z,220nm,0.8s								
ALN	Alexandroupoli	77.76	1	P		P		22 44 03.8	+0.4
ALN				IAmb		IAmb		22 44 06.2	
	comp=Z,220nm,0.8s								
SOH	Sokhos	77.78	4	P		P		22 44 04.4	+0.8
TASB	TASBURUN-IGDIR	77.82	347	*e*P		P		22 44 05.2	+1.3
HRT	Hereke	77.83	359	*e*P		P		22 44 04.4	+0.5
SLVN	Son La	77.85	292	P		P		22 44 05.0	+0.7
SLVN				IAmb		IAmb		22 44 06.2	
	comp=Z,239nm,0.9s								
KBN	Korca	77.88	6	P		P		22 44 04.4	+0.2
SAUV	Serdivan-Sakar	77.91	358	*e*P		P		22 44 04.6	+0.3
ENEZ	Enez	77.92	1	P		P		22 44 04.8	+0.5
ENEZ	Enez	77.92	1	*i* P		P		22 44 04.9	+0.6
CANT	Cankiri	77.95	356	*e*P		P		22 44 06.2	+1.6
RKY	Sarkoy-Tekirda	77.98	1	*i* P		P		22 44 05.5	+0.8
RSDY	Resadiye-TOKAT	77.98	353	*e*P		P		22 44 06.1	+1.4
ERIK	Erikli-Kesan	77.99	1	*i* P		P		22 44 05.5	+0.8
HORT	Hortiatis	78.00	4	P		P		22 44 05.1	+0.2
THAS	Thassos island	78.03	2	P		P		22 44 05.4	+0.5
KOPR	Koprukoy-ERZUR	78.04	349	*i* P		P		22 44 06.4	+1.1
VSL	Villasalto	78.05	15	P		P		22 44 05.4	+0.3
VSL				IAmb		IAmb		22 44 07.7	
	comp=Z,106nm,0.9s								
MRMT	Marmara Adasi	78.06	0	*e*P		P		22 44 05.3	+0.1
YLV	Yalova	78.09	359	*e*P		P		22 44 05.7	+0.3
ARMT	Armutlu	78.10	359	*e*P		P		22 44 05.5	+0.1
NEST	Nestorio	78.10	5	P		P		22 44 05.8	+0.3
TOKT	Tokat	78.10	353	*e*P		P		22 44 06.8	+1.4
LIJA	Lijar	78.11	27	P		P		22 44 07.5	+1.9
KOHI	KÖHIMA	78.11	302	*e*P		P		22 44 06.0	+0.1
NIL	Nilore	78.15	323	P		P		22 44 05.9	+0.1
NIL				pmax		pmax			
	comp=Z,148nm,0.6s								
NIL	Nilore	78.15	323	P		P		22 44 05.9	+0.1
NIL				IAmb		IAmb		22 44 09.4	
	comp=Z,148nm,0.6s								
NIL	Nilore	78.15	323	P		P		22 44 06.2	+0.4
KTI	Kastanea	78.17	4	P		P		22 44 06.2	+0.3
SDV	Santo Domingo	78.19	93	P		P		22 44 06.8	+0.4
SDV				IAmb		IAmb		22 44 10.5	
	comp=Z,233nm,1.4s								
SDV	Santo Domingo	78.19	93⇑	*e*P		P		22 44 05.7	-0.7
SDV	Santo Domingo	78.19	93	*e*P		P		22 44 07.7	+1.3
GULT	Gulveren	78.21	358	P		P		22 44 06.6	+0.5
HELC	Santa Helena	78.22	99⇑	*e*P		P		22 44 06.7	0.0
ADVT	Abdulvahap	78.22	359	P		P		22 44 06.4

IGT Igoumenitsa 78.95 6 P P 22 44 10.3 +0.3
BARC Barichara 78.98 97⇑ eP P 22 44 10.9 +0.2
THL Klokotos Trika 78.99 5 P P 22 44 10.3 +0.1
PLMC San Jos del P 78.99 100⇑ eP P 22 44 09.6 -1.1
TIAR Tiarei 79.00 177 eP P 22 44 10.8 +0.4
comp=Z,112nm,1.0s
PMOZ Porto Moniz, M 79.00 37 eP P 22 44 10.6 0.0
comp=Z,84nm,1.4s
PMOZ ePP pP 22 44 39.8 -1.4
PMOZ Porto Moniz, M 79.00 37 P P 22 44 10.5 0.0
PMOZ Porto Moniz, M 79.00 37 P 22 44 11.0
PPT Papeete 79.01 178 P P 22 44 11.7 +1.3
comp=Z,237nm,1.0s,baz=326,slow=4.1,SNR=20
PPT LR LR 23 14 37.2
comp=Z,670nm,18.7s,baz=0.5,slow=32
PMPST Porto Santo, M 79.01 37 eP P 22 44 11.0 +0.5
comp=Z,106nm,1.4s
PMPST ePP pP 22 44 39.8 -1.3
BALB Balikesir 79.03 0 i P P 22 44 10.3 -0.1
BALB Balikesir 79.03 0 P P 22 44 10.6 +0.1
PPT2 Papeete2 79.03 178 eP P 22 44 10.1 -0.5
comp=Z,239nm,1.1s
PPT2 eS S 22 53 55.0 -4.4
comp=Z,1µm,30.0s
PPT2 Papeete2 79.03 178 eLR LR 23 08 40.2
comp=Z,3µm,34.2s
PPTF Pamatai, Papee 79.03 178 P P 22 44 10.8 +0.2
NORC Norcasia 79.08 99⇑ eP P 22 44 11.1 0.0
CEU Ceuta 79.08 27 P P 22 44 11.8 +1.0
CEU S S 22 54 02.5 +2.7
PAE Paea 79.10 178 eP P 22 44 11.2 +0.3
comp=Z,71nm,1.1s
TAPN Taplejung 79.13 308 eP P 22 44 12.6 +1.0
comp=Z,623nm,0.5s
BNGB Bingl 79.14 350 P P 22 44 12.4 +1.2
SHL Shillong 79.14 304 P P 22 44 11.0 -0.5
SHL pmax pmax
comp=Z,104nm,0.9s
SHL Shillong 79.14 304 eP P 22 44 09.7 -1.7
SHL Shillong 79.14 304 P P 22 44 11.0 -0.5
SHL IAmb IAmb 22 44 12.2
comp=Z,104nm,0.9s
SHL Shillong 79.14 304 P P 22 44 11.2 -0.2
SVRH Sivrihisar-ESK 79.18 357 P P 22 44 05.9 -5.5
PMAR Madeira 79.18 37 eP P 22 44 11.9 +0.3
PMAR ePP pP 22 44 41.0 -1.2
TVSB Tavsanli 79.21 359 i P P 22 44 10.9 -0.7
XOR Xorichti 79.23 4 P P 22 44 11.5 -0.1
CIFT Cifteler, Eski 79.27 357 eP P 22 44 12.0 +0.1
VANB Van 79.28 348 eP P 22 44 13.7 +1.7
SMLA Simla 79.31 319 eP P 22 44 11.8 -0.3
MEH Mehetia 79.35 176 eP P 22 44 12.1 -0.2
comp=Z,55nm,1.2s
SIGR SIGRI 79.44 2 P P 22 44 12.6 -0.1
GURO Guroymak-BITLI 79.45 349 eP P 22 44 14.3 +1.3
GURO Guroymak-BITLI 79.45 349 P P 22 44 13.7 +0.7
KULU Kulu 79.54 356 eP P 22 44 14.6 +1.2
AGG Agios Georgios 79.54 4 P P 22 44 12.9 -0.3
AGG Agios Georgios 79.54 4 P P 22 44 13.0 -0.3
AGG pmax pmax
comp=Z,145nm,0.6s
AGG Agios Georgios 79.54 4 P P 22 44 13.0 -0.3
AGG IAmb IAmb 22 44 15.6
comp=Z,145nm,0.6s
AKDM Akdamar-Van 79.58 348 eP P 22 44 14.9 +1.2
DKL Dikili 79.59 1 eP P 22 44 13.6 +0.1
BNN Bunyan 79.60 354 i P P 22 44 13.7 -0.1
BNN Bunyan 79.60 354 P P 22 44 13.5 -0.3
BNN IAmb IAmb 22 44 49.8
comp=Z,211nm,0.9s
SERE Sereflikochisa 79.61 356 eP P 22 44 15.6 +1.8
EVR Evrytania 79.63 5 P P 22 44 14.8 +1.0
KKN Kakani 79.63 311 eP P 22 44 14.9 +0.7
comp=Z,163nm,0.6s
RUSC La Rusia 79.64 97⇑ eP P 22 44 14.6 0.0
DANN Dangsing 79.66 312 eP P 22 44 15.4 +1.0
comp=Z,2µm,1.0s
GKN Gorkha 79.67 311 eP P 22 44 15.1 +0.8
comp=Z,375nm,0.6s
TSLK Tsoukalades, L 79.67 6 P P 22 44 14.1 +0.2
ODAN Odare 79.70 309 eP P 22 44 15.4 +0.8
comp=Z,420nm,0.9s
LKD2 Lefkada island 79.70 6 P P 22 44 14.2 0.0
TOLC Tolima 79.72 99⇑ eP P 22 44 15.2 +0.3
KIZT Kizilcal 79.73 357 eP P 22 44 14.6 +0.2
ANIL Santa Ana 79.77 100⇑ eP P 22 44 14.8 -0.3
YOTC Yotoco, Valle 79.77 101⇑ eP P 22 44 14.3 -0.7
DDI Dehra Dun 79.78 318 eP P 22 44 14.9 +0.2
DDI IAmb IAmb 22 44 18.1
comp=Z,264nm,0.9s
PKIN Phulchoki 79.78 310 eP P 22 44 15.5 +0.4
comp=Z,209nm,0.8s
NYDR Nydri-Lefkada 79.78 6 P P 22 44 14.6 +0.1
PKI Pulchoki 79.78 310 eP P 22 44 15.6 +0.5
comp=Z,413nm,1.1s
DARE Darende-Malaty 79.79 352 eP P 22 44 16.2 +1.5
DRAG Dragano-Lefkad 79.80 6 P P 22 44 14.7 0.0
CHEFC Chefchaouen 79.85 27 P 22 44 17.0
DMN Daman 79.86 311 eP P 22 44 16.3 +0.8
comp=Z,254nm,0.8s
EVGI Lefkada island 79.87 6 P P 22 44 15.2 +0.2
RAMN Ramite 79.91 309 eP P 22 44 16.2 +0.5
comp=Z,408nm,0.9s
PVO Paravola 79.91 5 P P 22 44 16.0 +0.7
PDO Prodromos 79.92 5 P P 22 44 15.7 +0.4
SVAN Silvan-Diyarba 79.93 349 eP P 22 44 16.7 +1.3
LKR Lokris 79.94 4 P P 22 44 15.3 -0.1
ANX Ano Chora 79.95 5 P P 22 44 16.2 +0.6
RSA Sarsar 79.96 28 P 22 44 17.0
ROSC El Rosal 79.97 98 P P 22 44 17.6 +1.2
comp=Z,46nm,0.7s,baz=155,slow=5.1,SNR=19
ROSC LR LR 23 23 05.6
comp=Z,293nm,18.9s,baz=4.5,slow=38
ROSC El Rosal 79.97 98 P P 22 44 16.5 +0.1
ROSC pmax pmax
comp=Z,126nm,1.3s
ROSC El Rosal 79.97 98 P P 22 44 16.5 +0.1
ROSC IAmb IAmb 22 44 50.0
comp=Z,126nm,1.2s
ROSC El Rosal 79.97 98⇑ eP P 22 44 16.9 +0.5
MALT Malatya 79.98 352 i P P 22 44 16.3 +0.5
PVLZ Peæn de 80.01 26 P P 22 44 14.1 -1.7
PVLZ S S 22 54 08.0 -1.6
FSK Fiskardo 80.03 6 P P 22 44 15.8 -0.1
CORL Corleone 80.06 12 P P 22 44 16.3 +0.2
CORL IAmb IAmb 22 44 18.6
comp=Z,170nm,1.0s
SHUT Suhut-Afyon 80.09 358 i P P 22 44 14.0 -2.4
EFP Efpalio 80.12 5 P P 22 44 17.4 +1.1
SERG Sergoula 80.14 5 P P 22 44 16.7 +0.2
KULA Kula-Manisa 80.15 359 P P 22 44 18.0 +1.4
KULA Kula-Manisa 80.15 359 i P P 22 44 16.9 +0.3
PYUN Piuthan 80.16 313 eP P 22 44 17.6 +0.6
comp=Z,1µm,1.0s
DAV Davao City (W) 80.17 267 P P 22 44 17.5 +0.6
comp=Z,114nm,0.4s,baz=44,slow=2.7,SNR=9.8
DAV Davao City (W) 80.17 267 P P 22 44 16.9 0.0
MELI Melilla 80.17 25 P P 22 44 14.8 -1.8
MELI S S 22 54 04.0 -7.2
KEF5 Kardakata, Kep 80.20 6 P P 22 44 16.9 +0.1
DYBB Diyarbakir 80.21 350 eP P 22 44 17.8 +0.8
DMLN Damoulianata-K 80.24 6 P P 22 44 17.3 +0.3
KOLN Koldanda 80.25 312 eP P 22 44 18.1 +0.6
comp=Z,743nm,1.1s
UPR University Cam 80.26 5 P P 22 44 18.3 +1.2
CHOS Chios island 80.27 1 P P 22 44 17.4 +0.1
KEF3 Kipouria, Keph 80.27 6 P P 22 44 17.2 0.0
BLCB Balcova 80.28 1 P P 22 44 17.2 0.0
HRA Herat 80.29 332 P P 22 44 17.8 +0.1
URLA Izmir 80.30 1 i P P 22 44 16.4 -1.0
ORTC Ortega, Tolima 80.35 100⇑ eP P 22 44 17.2 -0.8
SULT Sultanhani-AKS 80.36 356 eP P 22 44 18.5 +0.7
CLTB Caltabellotta 80.37 12 P P 22 44 17.4 -0.4
CLTB IAmb IAmb 22 44 19.9
comp=Z,190nm,0.8s
PSDA Pessada-Kefalo 80.37 6 P P 22 44 17.8 +0.1
ELOV Elorza 80.38 93⇑ eP P 22 44 18.9 +0.8
LADK Ladik-KONYA 80.40 356 i P P 22 44 17.3 -0.7
CHIC Chingaza 80.43 98⇑ eP P 22 44 18.4 -0.4
SIRT Sirnak 80.46 348 P P 22 44 18.9 +0.6
RLS Riolos of Patr 80.47 5 P P 22 44 19.1 +0.9
DFRA Djebel Bou Aff 80.49 18 P P 22 44 19.4 +0.8
KLV Kalavryta, Ach 80.51 5 P P 22 44 18.8 +0.2

DION Dionisos Attik 80.53 3 P P 22 44 18.6 0.0
LTK Loutraki 80.56 4 P P 22 44 18.0 -0.8
PTL Penteli 80.56 3 P P 22 44 18.4 -0.4
DRO Drossia 80.58 5 P P 22 44 19.5 +0.6
CUKT Cukurca 80.59 347 eP P 22 44 18.2 -0.9
ATH Athens Observa 80.63 3 P P 22 44 19.9 +0.8
KONT Konya--Tatoy 80.65 356 i P P 22 44 19.7 +0.4
MAZI Mazidag 80.68 350 eP P 22 44 20.3 +0.8
PRAC Prado 80.69 100⇑ eP P 22 44 18.7 -1.0
AYDB Zeytinkoy-Aydi 80.72 360 i P P 22 44 19.8 +0.1
TAF Taforalt 80.75 25 P 22 44 21.0
VLY Voula,Athens 80.75 3 P P 22 44 19.0 -0.8
CKFL Kef-Lekhel 80.76 17 P P 22 44 20.2 +0.2
SET Setif 80.76 16 P P 22 44 19.0 -1.0
LTHK Lithakia 80.79 6 P P 22 44 20.1 +0.2
ISP Isparta 80.82 358 P P 22 44 19.9 -0.3
ISP Isparta 80.82 358 P P 22 44 19.9 -0.3
ISP IAmb IAmb 22 44 22.4
comp=Z,171nm,1.1s
URFA Urfa 80.82 351 eP P 22 44 20.9 +0.6
CASM Ain Smara 80.86 17 P P 22 44 22.5 +2.1
POPC Popayan, Colom 80.88 102⇑ eP P 22 44 14.4 -6.6
KMRS Kahramanmaras 80.89 353 eP P 22 44 21.5 +1.0
VILC Villavicencio, 80.90 98 eP P 22 44 20.2 -0.8
MARP Paez Belalcaza 80.95 101⇑ eP P 22 44 21.2 -0.2
CKHR Kef el Ahmar 80.96 18 P P 22 44 22.7 +1.6
GCAM G?zelcami? 80.96 1 eP P 22 44 20.7 -0.1
KOZT Kozan 80.97 354 i P P 22 44 21.7 +0.7
ABSA Djebel Ababsia 80.99 17 P P 22 44 21.1 -0.1
AMT Artemida-Makis 81.00 5 P P 22 44 20.9 -0.2
CTEI Djebel Teioual 81.04 17 P P 22 44 22.7 +1.2
NONG Nongkai 81.06 291 P P 22 44 21.2 -0.4
comp=Z,7µmcomp=Z,171nm,1.1s
BBAC Balboa, Cauca 81.07 102⇑ eP P 22 44 21.9 -0.1
AVE Averroes 81.12 29 P P 22 44 21.8 +0.1
AVE S S 22 54 21.9 +0.7
ZHG ZHG 81.16 29 P 22 44 23.0
JBK JBK 81.18 25 P 22 44 24.0
VLX Vlachokerasia 81.19 4 P P 22 44 22.2 0.0
GAZ Gaziantep 81.20 352 P P 22 44 22.4 +0.2
GAZ Gaziantep 81.20 352 P P 22 44 21.9 -0.3
PCON Cinco Dias 81.20 102⇑ eP P 22 44 23.1 0.0
KRND KRANIDI 81.20 4 P P 22 44 21.4 -0.7
KARA Karaisali 81.23 354 eP P 22 44 22.9 +0.6
SOTA Rioblanco 81.27 102⇑ eP P 22 44 23.7 +0.3
BETC Betania 81.33 101 eP P 22 44 23.5 +0.3
ITM Ithomi 81.36 5 P P 22 44 22.9 -0.1
ITM Ithomi 81.36 5 P P 22 44 22.9 -0.1
IFR Ifrane 81.43 27 P P 22 44 24.1 +0.5
IFR S S 22 54 26.2 +1.5
CEYT Ceyhan 81.44 354 P P 22 44 24.9 +1.5
YER Yerkesik 81.53 360 P P 22 44 24.4 +0.5
NDI New Delhi 81.56 318 eP P 22 44 25.0 +0.8
PTGC Puerto Gaitan, 81.56 97⇑ eP P 22 44 23.6 -0.8
APE Apeiranthos 81.57 2 ⇑P P 22 44 23.3 -0.9
BODT Bodrum 81.60 0 eP P 22 44 22.7 -1.6
CRUC La Cruz 81.61 102 eP P 22 44 25.8 +0.8
PYL PYLOS 81.64 5 P P 22 44 24.0 -0.5
KORT Korkueli 81.64 358 eP P 22 44 24.5 -0.1
MERS Mersin 81.65 355 eP P 22 44 25.4 +0.8
GCUF Volcan Galeras 81.72 103⇑ eP P 22 44 25.4 -0.3
KEST Kesra 81.76 15 P P 22 44 25.8 +0.6
comp=Z,152nm,0.9s,baz=187,slow=0.5,SNR=113
KEST PKPPKP P'P'df 23 10 58.4 -3.9
comp=Z,6.4nm,0.9s,baz=221,slow=6.6,SNR=6.2
KEST LR LR 23 23 40.5
comp=Z,308nm,21.2s,baz=314,slow=38
KEST Kesra 81.76 15 P P 22 44 25.9 +0.6
KEST IAmb IAmb 22 44 28.6
comp=Z,189nm,0.9s
KEST Kesra 81.76 15 P P 22 44 25.9 +0.6
SRHM Skhour des Reh 81.80 30 P 22 44 27.0
DALY Dalyan (Mula) 81.84 359 eP P 22 44 24.3 -1.2
VLI Velial 81.86 4 P P 22 44 25.4 -0.2
TURN Turunc 81.89 360 eP P 22 44 27.3 +1.6
GENI Genyem 81.89 249 P P 22 44 23.9 -2.1
comp=Z,4µmcomp=Z,171nm,1.0s
ELL Elmali 81.90 358 P P 22 44 26.1 +0.1
ELL Elmali 81.90 358 P P 22 44 25.9 -0.1
ELL pmax pmax
comp=Z,191nm,1.3s
ELL Elmali 81.90 358 P P 22 44 25.9 -0.1
ELL IAmb IAmb 22 44 28.9
comp=Z,191nm,1.3s
PAC1 Pacto, Paraso 81.90 105⇑ eP P 22 44 26.7 +0.4
CZD Col de Zad 81.91 27 P 22 44 28.0
MHLO Agia Marina, M 81.93 3 P P 22 44 24.4 -1.6
DAT Datca 81.93 0 eP P 22 44 25.1 -1.0
FETY Fethiye 82.02 359 P P 22 44 23.0 -3.5
KIZK Mersin 82.05 355 eP P 22 44 26.2 -0.4
OTAV Otavalo 82.08 104 P P 22 44 27.4 -0.2
OTAV pmax pmax
comp=Z,146nm,1.8s
OTAV Otavalo 82.08 104 P P 22 44 27.4 -0.2
OTAV Otavalo 82.08 104⇑ eP P 22 44 28.2 +0.6
OTAV Otavalo 82.08 104 eP P 22 44 28.6 +1.0
KEBE Keben-Mersin 82.10 355 eP P 22 44 27.0 0.0
TEVE Tevekalti-Mers 82.12 355 i P P 22 44 27.3 +0.2
FLOC Florencia 82.20 101⇑ eP P 22 44 28.0 +0.3
BERE Bereket-Mersin 82.22 356 eP P 22 44 27.5 -0.2
MDT Midelt 82.22 27 P 22 44 28.7
CMMT Chiang Mai 82.23 295 P P 22 44 26.2 -1.6
CHTO Chiang Mai 82.23 295 P P 22 44 27.4 -0.4
CHTO pmax pmax
comp=Z,83nm,1.0s
CHTO Chiang Mai 82.23 295 P P 22 44 27.2 -0.6
comp=Z,1µmcomp=Z,93nm,1.0s
CHTO Chiang Mai 82.23 295 P P 22 44 27.4 -0.4
CHTO IAmb IAmb 22 44 28.5
comp=Z,83nm,0.9s
CHTO Chiang Mai 82.23 295 P P 22 44 27.4 -0.4
CM35 Chiang Mai Arr 82.26 295 P P 22 44 27.0 -1.0
KTHR Kythira 82.32 4 P P 22 44 28.2 +0.2
KTHA Kythira Island 82.33 4 P P 22 44 27.7 -0.4
AKAS Kas 82.42 359 eP P 22 44 27.6 -1.1
CM36 Chiang Mai Arr 82.43 295 P P 22 44 28.0 -0.8
CM09 Chiang Mai Arr 82.54 295 P P 22 44 29.4 0.0
comp=Z,1µmcomp=Z,152nm,1.1s
CM09 Chiang Mai Arr 82.54 295 P P 22 44 29.4 0.0
comp=Z,1µmcomp=Z,152nm,1.1s
TDRA Tendrara 82.54 25 P 22 44 31.0
CM31 Chiang Mai Arr 82.55 295 P P 22 44 29.4 0.0
comp=Z,30µmcomp=Z,5µm,0.9s
CM31 Chiang Mai Arr 82.55 295 P P 22 44 29.4 0.0
CM31 IAmb IAmb 22 44 30.7
comp=Z,175nm,0.9s
CM31 Chiang Mai Arr 82.55 295 P P 22 44 29.9 +0.4
CMAR Chiang Mai Arr 82.55 295 P P 22 44 29.4 0.0
comp=Z,136nm,0.9s,baz=8.0,slow=5.7,SNR=305
CMAR PKKPbc PKKPbc 23 02 52.9 +2.4
comp=Z,3.8nm,0.8s,baz=219,slow=4.4,SNR=8.8
CMAR LR LR 23 25 58.4
comp=Z,227nm,19.6s,baz=74,slow=39
MACC Macarena, Meta 82.55 99⇑ eP P 22 44 27.7 -1.8
CM15 Chiang Mai Arr 82.56 295 P P 22 44 29.0 -0.5
comp=Z,1µmcomp=Z,199nm,1.0s
CM02 Chiang Mai Arr 82.57 295 P P 22 44 29.0 -0.6
comp=Z,2µmcomp=Z,245nm,1.0s
MSVF Nonsavu 82.64 209 P P 22 44 30.8 +1.0
MSVF pmax pmax
comp=Z,76nm,1.1s
MSVF Nonsavu 82.64 209 P P 22 44 30.8 +1.0
GUVC San Jose del G 82.78 98 eP P 22 44 29.5 -1.1
RAR Rarotonga 82.83 187 P P 22 44 31.2 +0.6
RAR pmax pmax
comp=Z,155nm,1.0s
RAR Rarotonga 82.83 187 P P 22 44 31.2 +0.6
RAR IAmb IAmb 22 44 32.4
comp=Z,155nm,0.9s
OUK Oukaimeden 83.01 30 P 22 44 33.0
SRPI Serui, Papua 83.02 253 P P 22 44 29.8 -2.1
comp=Z,160nm,0.8s
PHIT Phitsanulok 83.03 293 P P 22 44 32.1 +0.2
comp=Z,3µmcomp=Z,386nm,0.9s
BOK Bokaro 83.04 309 eP P 22 44 32.0 0.0
BOK IAmb IAmb 22 44 34.0
comp=Z,91nm,1.1s
SGSI Sangihe 83.14 265 P P 22 44 28.5 -4.0
comp=Z,260nm,1.1s
MWPI Manokwari, Pap 83.20 255 P P 22 44 30.8 -2.0
comp=Z,11µmcomp=Z,131nm,0.5s
MHMT Maesarieng 83.23 296 P P 22 44 32.0 -1.0

MHMT Maesarieng 83.23 296 P P 22 44 32.0 -1.0
comp=Z,69nm,1.3s
PBKT Sadao Pong 83.33 293 P P 22 44 32.6 -0.9
TIO Tiouine 83.42 30 P P 22 44 33.8 -0.2
TIO S S 22 54 43.5 -1.5
LEF Lefka 83.45 356 ⇑P P 22 44 34.7 +0.8
LEF Lefka 83.45 356 eP P 22 44 33.9 0.0
TTIG Tnine Tigouga, 83.50 31 P 22 44 34.0
FIGM Figuig 83.57 25 P 22 44 36.0
CSS Mathiatis 83.59 356 P P 22 44 34.1 -0.5
GAMI Galela, Maluku 83.69 262 P P 22 44 32.9 -2.4
comp=Z,6µmcomp=Z,529nm,1.2s
PTLC Puerto Leguiza 83.84 101⇑ eP P 22 44 37.9 +1.7
TZRR Tazzarine 83.96 28 P 22 44 38.0
SWI Sorong 84.43 258 P P 22 44 37.1 -1.9
comp=Z,3µmcomp=Z,181nm,1.2s
SIJI Sorong 84.43 258 P P 22 44 38.4 -0.7
comp=Z,158nm,1.1s,baz=20,slow=6.4,SNR=18
SIJI Sorong 84.43 258 P P 22 44 37.4 -1.7
comp=Z,2µmcomp=Z,91nm,1.2s
UMPA Umpang Tak 84.58 294 P P 22 44 41.0 +1.2
comp=Z,434nmcomp=Z,58nm,0.8s
TBI Tubuai 84.76 178 eP P 22 44 40.3 0.0
comp=Z,253nm,1.3s
TBI Tubuai 84.76 178 eS S 22 54 54.5 -3.2
comp=Z,563nm,32.2s
TBI Tubuai 84.76 178 eLR LR 23 11 28.7
comp=Z,2µm,36.0s
TNTI Ternate 84.82 262 P P 22 44 40.5 -0.5
TNTI IAmb IAmb 22 44 41.6
comp=Z,75nm,1.0s
TNTI Ternate 84.82 262 P P 22 44 39.0 -2.0
comp=Z,78nm,1.1s
UTHA Uthaitani 84.90 293 P P 22 44 41.6 +0.2
comp=Z,420nmcomp=Z,58nm,0.9s
PMG Port Moresby 84.99 240 P P 22 44 40.8 -1.0
comp=Z,111nm,1.1s,baz=290,slow=5.5,SNR=9.1
PMG Port Moresby 84.99 240 P P 22 44 39.8 -2.0
PMG IAmb IAmb 22 44 43.0
comp=Z,136nm,1.2s
MMAI Mount Meron Ar 85.44 354 PKKPbc PKKPbc 23 02 45.7 +1.9
comp=Z,1.3nm,0.5s,baz=96,slow=2.9,SNR=4.5
FAKI Fak Fak 85.78 256 P P 22 44 44.4 -1.3
FAKI Fak Fak 85.78 256 P P 22 44 44.1 -1.7
comp=Z,3µmcomp=Z,221nm,1.3s
KHLT Khaolaem Dam 85.95 294 P P 22 44 46.4 -0.2
KHLT Khaolaem Dam 85.95 294 P P 22 44 46.4 -0.2
comp=Z,642nmcomp=Z,71nm,0.9s
SRDT SRDT 86.11 293 P P 22 44 46.7 -0.8
comp=Z,11µmcomp=Z,136nm,1.2s
BHPL Bhopal 86.54 315 eP P 22 44 47.2 -2.4
BHPL IAmb IAmb 22 44 50.6
comp=Z,113nm,1.1s
SPMM Sapulut 86.57 273 P P 22 44 51.0 +1.3
PATY Pattaya 86.60 291 P P 22 44 50.4 +0.6
PATY Pattaya 86.60 291 P P 22 44 50.5 +0.6
GTOI Gorontalo 87.00 266 P P 22 44 49.4 -2.4
comp=Z,278nmcomp=Z,15nm,1.0s
GHAJ Ghor Haditha 87.13 353 P P 22 44 52.5 +0.3
GHAJ IAmb IAmb 22 44 55.0
comp=Z,90nm,1.2s
PHET Kaeng Krachan 87.16 292 P P 22 44 52.9 +0.3
MIB Mutribah 87.48 343 eP P 22 44 54.1 +0.2
TOLI2 Tolitoli 87.65 268 P P 22 44 52.9 -2.0
UMR Umm Al-Rimmam 87.68 343 eP P 22 44 54.3 -0.5
RST Umm Al-Ruwaisa 87.83 343 eP P 22 44 55.2 -0.3
SANI Sanana 87.94 262 P P 22 44 54.1 -2.1
comp=Z,1µmcomp=Z,91nm,1.0s
RDF Al-Radifah 88.32 343 eP P 22 44 57.8 -0.1
QRN Al-Qurain 88.44 342 eP P 22 44 57.8 -0.7
LUWI Luwuk 88.58 265 P P 22 44 56.7 -2.5
LUWI IAmb IAmb 22 44 58.9
comp=Z,107nm,0.9s
LUWI Luwuk 88.58 265 P P 22 44 56.8 -2.5
BOAV Boa Vista 88.67 87 eP P 22 44 59.8 +0.1
SHME Shamm 89.65 335 i P P 22 45 03.8 -0.4
SNR=7.7
SHME Shamm 89.65 335 P P 22 45 03.8 -0.4
BANOM Banah 89.74 335 P P 22 45 04.4 -0.3
BANOM Banah 89.74 335 P P 22 45 04.5 -0.1
DGPR DIGLIPUR 89.82 298 eP P 22 45 05.7 +0.6
DZM Mont Dzumac 89.82 218 eLR LR 23 13 40.8
comp=Z,1µm,25.9s
DZM Mont Dzumac 89.82 218 P P 22 45 04.7 -0.2
DZM IAmb IAmb 22 46 06.1
comp=Z,134nm,2.0s
TBTG Tabatinga, AM 89.96 99⇑ eP P 22 45 04.5 -1.2
MASF Masafi 90.31 335 P P 22 45 07.0 -0.4
MSFE Esma-Masafi 90.32 335 P P 22 45 06.8 -0.6
SBUM Sibu 90.56 276 P P 22 45 09.0 +0.5
UOSS Minazif 90.71 334 P P 22 45 08.3 -0.8
UOSS Minazif 90.71 334 P P 22 45 08.4 -0.8
NAZ Nazwa, Dubai 90.78 335 P P 22 45 08.9 -0.6
NAZ Nazwa, Dubai 90.78 335 P P 22 45 08.7 -0.8
SHMA Al-Shehemyia 90.80 339 P P 22 45 09.3 -0.2
HATD Hatta, Dubai 90.84 335 P P 22 45 08.8 -1.0
ASHO Ashiyiah 90.99 335 P P 22 45 09.7 -0.8
ASHO Ashiyiah 90.99 335 P P 22 45 09.8 -0.8
FAQ Al Faqa, Dubai 91.03 335 P P 22 45 09.5 -1.1
FAQ Al Faqa, Dubai 91.03 335 P P 22 45 10.0 -0.7
SNR=5.5
SURT Suratani 91.04 291 P P 22 45 12.3 +1.5
SURT Suratani 91.04 291 P P 22 45 12.3 +1.5
ASUD Al Ashush, Dub 91.20 335 i P P 22 45 11.0 -0.4
SNR=35
ASUD Al Ashush, Dub 91.20 335 P P 22 45 11.2 -0.2
SNR=6.6
PBA Port Blair 91.26 297 eP P 22 45 11.1 -0.7
PBA Port Blair 91.26 297 P P 22 45 11.2 -0.5
SOHO SOHO 91.43 334 P P 22 45 11.6 -0.8
SOHO SOHO 91.43 334 P P 22 45 11.6 -0.8
SOHO P P 22 45 11.8 -0.7
KRAB Krabi 91.51 290 P P 22 45 13.4 +0.4
KRAB Krabi 91.51 290 P P 22 45 13.0 0.0
HYB Hyderabad 91.55 312 i P P 22 45 12.0 -1.2
HYB e 22 45 40.0
PTGA Pitinga 91.66 88 P P 22 45 13.6 -0.1
PTGA IAmb IAmb 22 45 15.1
comp=Z,69nm,0.8s
CZSB Cruzeiro do Su 91.75 103 eP P 22 45 14.2 +0.2
SKLT Songkhla 91.80 289 P P 22 45 14.6 +0.3
SKLT Songkhla 91.80 289 P P 22 45 14.7 +0.3
WSAR Wadi Sarin 91.84 332 P P 22 45 14.3 -0.1
POO Poona 92.11 317 eP P 22 45 16.3 +0.5
SMDO Samad 92.14 332 P P 22 45 15.6 -0.3
PKDT Phuket 92.19 291 P P 22 45 16.0 -0.1
PKDT Phuket 92.19 291 P P 22 45 16.1 -0.1
ARQ Araqi 92.20 334 P P 22 45 15.5 -0.6
KSM Kuching 92.32 277 P P 22 45 17.0 +0.3
WBK Wadi Bani Khal 92.37 331 P P 22 45 17.2 +0.3
WBK P PcP 22 45 17.6 +0.1
JLN Jalan Bani Buh 92.71 331 P P 22 45 18.3 -0.2
JMDO Jabal Madar 92.80 332 P P 22 45 18.4 -0.4
KAPI Kappang 93.49 266 P P 22 45 20.8 -1.2
comp=Z,28nm,1.0s,baz=20,slow=4.6,SNR=5.4
KAPI Kappang 93.49 266 P P 22 45 21.3 -0.7
KAPI pmax pmax
comp=Z,38nm,1.1s
KAPI Kappang 93.49 266 P P 22 45 21.3 -0.7
KAPI IAmb IAmb 22 45 24.1
comp=Z,38nm,1.1s
NNA Nana 93.60 109 P P 22 45 22.4 -0.1
comp=Z,16nm,0.5s,baz=291,slow=4.1,SNR=6.2
RAYN Ar Rayn 93.92 344 i P P 22 45 24.3 +0.3
SNR=64
RAYN Ar Rayn 93.92 344 P P 22 45 23.8 -0.2
RAYN pmax pmax
comp=Z,80nm,1.2s
RAYN Ar Rayn 93.92 344 P P 22 45 23.8 -0.2
RAYN IAmb IAmb 22 45 25.9
comp=Z,80nm,1.2s
IPM Ipoh 94.00 287 P P 22 45 24.0 -0.4
MHTO MHTO 94.16 332 P P 22 45 24.5 -0.6
CTA Charters Tower 95.00 236 P P 22 45 28.0 -0.7
comp=Z,44nm,0.9s,baz=26,slow=6.3,SNR=30
CTAO Charters Tower 95.00 236 P P 22 45 28.1 -0.7
CTAO pmax pmax
comp=Z,56nm,0.9s
CTAO Charters Tower 95.00 236 P P 22 45 28.1 -0.7
CTAO IAmb IAmb 22 45 29.2
comp=Z,56nm,0.9s
MTN Manton Dam 95.03 252 P P 22 45 27.1 -1.9
MCPB Macapa, AP 95.09 81 eP P 22 45 29.1 -0.4
MALB Monte Alegre 95.35 84 eP P 22 45 30.1 -0.4

BATI	**Baumata**	**96.17**	**260**	P		**P**	**22 45 32.7**	**-1.6**
	comp=Z,76nm,1.1s,baz=97,slow=4.6,SNR=4.4							
PSI	**Prapat**	**96.44**	**288**	P		**P**	**22 45 34.4**	**-1.3**
PSI				pmax	pmax			
	comp=Z,79nm,0.9s							
RPSI	**Rantau Prapat**	**96.53**	**288**	P		**P**	**22 45 34.4**	**-1.6**
ETMB	**Extrema**	**96.62**	**98**	*eP*		**P**	**22 45 34.8**	**-1.4**
ITTB	**Itaituba**	**96.85**	**86**	*eP*		**P**	**22 45 36.9**	**-0.5**
DOK	**Doka**	**97.27**	**335**	P		**P**	**22 45 38.7**	**-0.6**
SAML	**Samuel**	**97.30**	**95**	P		**P**	**22 45 38.0**	**-1.4**
SAML				pmax	pmax			
	comp=Z,18nm,0.9s							
SAML	**Samuel**	**97.30**	**95**	P		**P**	**22 45 38.0**	**-1.4**
SAML				IAmb	IAmb		22 45 41.9	
	comp=Z,18nm,0.8s							
WHFO	**Wadi Hawf**	**98.03**	**335**	P		**P**	**22 45 41.9**	**-0.9**
GSI	**Gunungsitoli**	**98.37**	**289**	P		**P**	**22 45 43.4**	**-0.8**
KNRA	**Kununurra**	**98.59**	**253**			**P**	**22 45 43.9**	**-1.2**
KNRA				IAmb	IAmb		22 45 44.5	
	comp=Z,28nm,0.9s							
ABTO	**Aybut**	**98.67**	**336**	P		**P**	**22 45 44.7**	**-0.9**
TMAB	**Tom-Au,PA,Br**	**98.71**	**79**	*eP*		Pdif	22 45 46.4	+0.7
NPGB	**Novo Progresso**	**99.37**	**87**	*eP*		**Pdif**	**22 45 48.5**	**-0.2**
WRAB	**Tennant Creek**	**99.83**	**246**	*i* P		**Pdif**	**22 45 48.8**	**-1.7**
WRAB				pmax	pmax			
	comp=Z,18nm,1.0s							
WRA	**Warramunga Arr**	**99.85**	**246**	P		**Pdif**	**22 45 49.0**	**-1.5**
	comp=Z,15nm,0.9s,baz=39,slow=5.3,SNR=53							
WRA				LR	LR		23 27 02.4	
	comp=Z,170nm,21.6s,baz=275,slow=33							
WRA	**Warramunga Arr**	**99.85**	**246**	Pdif		**Pdif**	**22 45 49.1**	**-1.5**
LPAZ	**La Paz**	**101.36**	**103**	P		**Pdif**	**22 45 57.0**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=286,slow=1.3,SNR=15							
LPAZ				pP		**pPdif**	**22 46 29.6**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=338,slow=7.5,SNR=4.0							
LPAZ				PP		**PP**	**22 50 10.8**	**+1.7**
	comp=Z,13nm,1.2s,baz=17,slow=3.6,SNR=10							
LPAZ				PKKPbc		**PKKPdf**	**23 02 07.6**	**-2.4**
	comp=Z,1.9nm,0.8s,baz=171,slow=3.6,SNR=5.5							
LPAZ	**La Paz**	**101.36**	**103**	P		**Pdif**	**22 45 57.0**	**-1.1**
LPAZ	**La Paz**	**101.36**	**103**	Pdif		**Pdif**	**22 45 57.3**	**-0.9**
LPAZ	**La Paz**	**101.36**	**103**	*eP*		**Pdif**	**22 45 56.4**	**-1.8**
LPAZ	**La Paz**	**101.36**	**103**	*eP*		**Pdif**	**22 45 57.1**	**-1.1**
ARMA	**Armidale**	**102.36**	**227**	Pdif		**Pdif**	**22 46 02.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**102.60**	**26**	P		**Pdif**	**22 46 02.0**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=341,slow=5.0,SNR=29							
TORD				PKiKP		**PKiKP**	**22 50 25.8**	**+2.3**
	comp=Z,2.3nm,0.7s,baz=342,slow=2.3,SNR=8.1							
TORD				PKKPbc		**PKKPbc**	**23 02 00.5**	**+1.4**
	comp=Z,8.0nm,0.8s,baz=162,slow=1.2,SNR=20							
ASAR	**Alice Springs**	**103.31**	**245**	Pdiff		**Pdif**	**22 46 05.0**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=30,slow=4.2,SNR=14							
ASAR				PKiKP		**PKiKP**	**22 50 25.2**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=64,slow=2.0,SNR=6.2							
ASAR				PKKPbc		**PKKPbc**	**23 01 57.6**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=198,slow=2.4,SNR=5.3							
ASAR	**Alice Springs**	**103.31**	**245**	P		**Pdif**	**22 46 04.7**	**-1.3**
ASAR	**Alice Springs**	**103.31**	**245**	Pdif		**Pdif**	**22 46 04.7**	**-1.3**
STKA	**Stephens Creek**	**107.39**	**235**	PKiKP		**PKiKP**	**22 50 32.0**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=350,slow=2.8,SNR=6.8							
BDFB	**Brasilia**	**110.33**	**85**	PKiKP		**PKiKP**	**22 50 37.0**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=298,slow=1.2,SNR=3.3							
BDFB				PP		**PP**	**22 51 15.7**	**+1.2**
	comp=Z,11nm,1.1s,baz=349,slow=11,SNR=5.9							
LODK	**Lodwar**	**114.82**	**352**	P		PKPdf	22 50 46.6	+0.1
CPUP	**Villa Florida**	**115.05**	**99**	PKP		**PKPdf**	**22 50 46.2**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=342,slow=6.4,SNR=11							
CPUP				PKKPbc		**PKKPbc**	**23 01 21.7**	**+1.7**
	comp=Z,44nm,1.4s,baz=113,slow=3.6,SNR=9.3							
BO01	**Tunca**	**115.64**	**115**			**PKPdf**	**22 50 47.0**	**-0.3**
BO02	**Sierra Bellavi**	**116.11**	**115**			**PKPdf**	**22 50 47.9**	**-0.4**
ITQB	**Itaqui**	**118.20**	**101**	PKPdf		**PKPdf**	**22 50 52.3**	**0.0**
MBAR	**Mbarara**	**119.04**	**357**	PKP		**PKPdf**	**22 50 54.3**	**-0.4**
	comp=Z,6.9nm,0.7s,baz=316,slow=23,SNR=4.4							
MBAR				PP		**PP**	**22 52 16.0**	**+0.9**
	comp=Z,7.9nm,0.7s,baz=309,slow=7.9,SNR=6.1							
MBAR				PKKPbc		**PKKPbc**	**23 01 07.4**	**+1.3**
	comp=Z,2.7nm,0.2s,baz=153,slow=6.1,SNR=5.1							
MBAR	**Mbarara**	**119.04**	**357**	PKPdf		**PKPdf**	**22 50 54.1**	**-0.6**
MBAR	**Mbarara**	**119.04**	**357**	P		**PKiKP**	**22 50 54.9**	**+0.1**
KMBO	**Kilima Mbogo**	**119.18**	**349**	PKP		**PKiKP**	**22 50 55.8**	**+0.7**
	comp=Z,18nm,0.5s,baz=24,slow=4.2,SNR=68							
KMBO				PKKPbc		**PKKPab**	**23 01 10.0**	**-2.8**
	comp=Z,3.0nm,0.9s,baz=62,slow=3.4,SNR=7.3							
KIBK	**Kibwezi**	**120.31**	**348**	PKPdf		**PKiKP**	**22 50 57.1**	**0.0**
KIBK	**Kibwezi**	**120.31**	**348**	P		**PKiKP**	**22 50 57.4**	**+0.3**
	SNR=9.2							
CPSB	**Cacapava Do Su**	**120.32**	**98**	*eP*		**PKPdf**	**22 50 56.3**	**0.0**
PLCA	**Paso Flores**	**121.21**	**118**	PKP		**PKiKP**	**22 50 58.0**	**0.0**
	comp=Z,23nm,0.8s,baz=302,slow=1.8,SNR=45							
PLCA				SKP			22 54 22.2	
	comp=Z,7.9nm,1.0s,baz=291,slow=1.6,SNR=5.1							
PLCA				PKKPbc		**PKKPab**	**23 01 00.1**	**+0.9**
	comp=Z,5.9nm,1.0s,baz=126,slow=4.1,SNR=5.3							
PLCA	**Paso Flores**	**121.21**	**118**	*eP*		**PKPdf**	**22 50 57.9**	**0.0**
PLTB	**Pedras Altas**	**121.37**	**99**	PKPdf		**PKiKP**	**22 50 58.5**	**0.0**
PLTB	**Pedras Altas**	**121.37**	**99**	*eP*		**PKiKP**	**22 50 58.8**	**+0.3**
GO07	**Milladeo Hill,**	**121.92**	**122**			**PKiKP**	**22 50 59.8**	**+0.6**
TRQA	**Tornquist**	**122.72**	**110**	PKIKP		**PKPdf**	**22 51 00.3**	**-0.5**
TRQA	**Tornquist**	**122.72**	**110**	PKPdf		**PKPdf**	**22 51 00.3**	**-0.5**
TRQA	**Tornquist**	**122.72**	**110**	*eP*		**PKPdf**	**22 51 00.9**	**+0.1**
LL02	**Futaleuf**	**122.72**	**121**	PKPdf		**PKPdf**	**22 51 00.3**	**-0.3**
GO10	**Punta Arenas**	**131.08**	**128**	PKPdf		**PKiKP**	**22 51 17.5**	**+0.3**
LSZ	**Lusaka**	**133.66**	**360**	PKhKP		PKPpre	22 51 04.3	
	comp=Z,1.2nm,0.5s,baz=287,slow=14,SNR=2.7							
LSZ				PKP		**PKPdf**	**22 51 22.6**	**+0.2**
	comp=Z,14nm,0.5s,baz=42,slow=2.1,SNR=27							
LSZ				PP		**PP**	**22 53 52.2**	**+0.4**
	comp=Z,9.1nm,1.0s,baz=33,slow=3.7,SNR=3.1							
LSZ				SKPbc		**SKPbc**	**22 54 39.7**	**+0.1**
	comp=Z,26nm,0.9s,baz=16,slow=5.9,SNR=10							
LSZ	**Lusaka**	**133.66**	**360**	*i* P		**PKPdf**	**22 51 21.9**	**-0.5**
LSZ	**Lusaka**	**133.66**	**360**	*i* P		**PKPdf**	**22 51 21.9**	**-0.5**
OPO	**Ambohidratompo**	**134.84**	**334**	PKP		**PKPdf**	**22 51 24.4**	**-0.2**
	comp=Z,16nm,0.8s,baz=48,slow=1.6,SNR=13							
EFI	**East Falkland**	**135.13**	**118**	PKIKP		**PKPdf**	**22 51 24.3**	**+0.4**
EFI	**East Falkland**	**135.13**	**118**	PKPdf		**PKPdf**	**22 51 24.3**	**+0.4**
ABPO	**Ambohimpanom**	**135.26**	**334**	PKIKP		**PKPdf**	**22 51 25.2**	**-0.2**
ABPO	**Ambohimpanom**	**135.26**	**334**	PKPdf		**PKPdf**	**22 51 25.2**	**-0.2**
TSUM	**Tsumeb**	**136.95**	**14**	PKhKP		PKPpre	22 51 16.3	
	comp=Z,4.8nm,0.7s,baz=343,slow=7.3,SNR=6.9							
TSUM				PKP		**PKPdf**	**22 51 28.3**	**-0.2**
	comp=Z,66nm,0.7s,baz=9.9,slow=2.2,SNR=31							
TSUM				SKPbc		**SKPbc**	**22 54 49.5**	**-0.4**
	comp=Z,23nm,0.8s,baz=350,slow=4.6,SNR=15							
TSUM	**Tsumeb**	**136.95**	**14**			**PKPdf**	**22 51 28.4**	**0.0**
TSUM	**Tsumeb**	**136.95**	**14**	*i* P		**PKPdf**	**22 51 27.5**	**-1.0**
TSUM	**Tsumeb**	**136.95**	**14**	*i* P		**PKPdf**	**22 51 27.5**	**-1.0**
BLWY	**Bulawayo**	**138.49**	**359**	*i* P		**PKPdf**	**22 51 30.1**	**-1.3**
BLWY	**Bulawayo**	**138.49**	**359**	*i* P		**PKPdf**	**22 51 30.1**	**-1.3**
MATP	**Matopo**	**138.78**	**359**	PKhKP		PKPpre	22 51 22.2	
	comp=Z,4.4nm,0.6s,baz=113,slow=3.0,SNR=5.0							
MATP				PKP		**PKPdf**	**22 51 31.4**	**-0.4**
	comp=Z,6.9nm,0.4s,baz=350,slow=4.0,SNR=9.8							
MATP				PP		**PP**	**22 54 22.2**	**-1.7**
	comp=Z,22nm,1.2s,baz=0.2,slow=14,SNR=4.3							
MATP				SKPbc		**SKPbc**	**22 54 54.4**	**-0.7**
	comp=Z,15nm,1.1s,baz=1.2,slow=5.8,SNR=5.3							
WIN	**Windhoek**	**140.21**	**16**	*i* P		PKPpre	22 51 27.4	
SBA	**Scott Base**	**141.53**	**193**	PKIKP		**PKiKP**	**22 51 37.2**	**-0.5**
SBA	**Scott Base**	**141.53**	**193**	PKPdf		**PKiKP**	**22 51 37.2**	**-0.5**
VNDA	**Vanda**	**141.81**	**195**	PKhKP		PKPpre	22 51 30.6	
	comp=Z,14nm,0.9s,baz=347,slow=3.1,SNR=46							
PMSA	**Palmer Station**	**141.93**	**136**	*eP*		**PKiKP**	**22 51 37.4**	**-1.5**
LBTB	**Lobatse**	**143.31**	**3**	*i* P		PKPbc	22 51 38.0	+0.7
LBTB	**Lobatse**	**143.31**	**3**	*i* P		PKPbc	22 51 38.0	+0.7
AUSN	**Aus**	**144.13**	**18**	*i* P		PKPbc	22 51 40.2	+0.5
ARMS	**Ukamas**	**145.92**	**13**	*i* P		**PKPab**	**22 51 45.5**	**-0.2**
CASY	**Casey**	**145.95**	**226**	PKPdf		**PKPdf**	**22 51 43.1**	**+0.2**
HOPE	**Hope Point**	**146.40**	**107**	PKP2		**PKPbc**	**22 51 45.5**	**0.0**
HOPE	**Hope Point**	**146.40**	**107**			**PKPbc**	**22 51 45.5**	**0.0**
BOSA	**Boshof**	**146.88**	**4**	PKPbc		**PKPbc**	**22 51 47.0**	**-0.9**
	comp=Z,289nm,1.0s,baz=6.9,slow=2.5,SNR=48							
BOSA	**Boshof**	**146.88**	**4**	PKIKP		**PKPdf**	**22 51 45.8**	**-0.1**
BOSA	**Boshof**	**146.88**	**4**	PKPdf		**PKPdf**	**22 51 45.8**	**-0.1**
BOSA	**Boshof**	**146.88**	**4**	*i* P		**PKPbc**	**22 51 47.1**	**-0.9**
BOSA	**Boshof**	**146.88**	**4**	*i* P		**PKPbc**	**22 51 47.1**	**-0.9**
SUR	**Sutherland**	**150.33**	**12**	PKPbc		**PKiKP**	**22 51 57.1**	**-0.4**
	comp=Z,116nm,0.7s,baz=41,slow=0.9,SNR=52							
SUR	**Sutherland**	**150.33**	**12**	PKPdf		**PKPdf**	**22 51 51.8**	**+0.4**
SUR						**PKiKP**	**22 51 57.5**	**+0.1**
QSPA	**South Pole Qui**	**151.49**	**180**	PKPbc		**PKPbc**	**22 51 58.0**	**-0.2**
	comp=Z,408nm,0.7s,baz=20,slow=0.1,SNR=15							
VNA3	**Neumayer Olymp**	**162.56**	**139**	PKPab		**PKPab**	**22 52 54.6**	**-0.2**
VNA3	**Neumayer Olymp**	**162.56**	**139**	PKPdf		**PKPdf**	**22 52 01.0**	**-4.7**
VNA1	**Neumayer--Stat**	**163.15**	**137**	PKPab		**PKPab**	**22 52 57.1**	**-0.2**
VNA1	**Neumayer--Stat**	**163.15**	**137**	PKPdf		**PKPdf**	**22 52 01.8**	**-4.4**
VNA2	**Neumayer--Watz**	**163.36**	**138**	PKPab		**PKPab**	**22 52 58.1**	**-0.2**
VNA2	**Neumayer--Watz**	**163.36**	**138**	PKPdf		**PKPdf**	**22 52 02.2**	**-4.3**
MAW	**Mawson**	**164.07**	**233**	PKP		**PKPdf**	**22 52 08.2**	**+1.0**
	comp=Z,9.0nm,0.9s,baz=311,slow=1.2,SNR=15							
MAW				PKPab		**PKPab**	**22 53 00.8**	**-0.7**
	comp=Z,30nm,0.8s,baz=69,slow=5.7,SNR=18							
SNAA	**Sanae**	**164.48**	**143**	PKPab		**PKPab**	**22 53 02.9**	**-0.4**
SNAA	**Sanae**	**164.48**	**143**	PKPdf		**PKPdf**	**22 52 02.5**	**-5.1**
SNAA	**Sanae**	**164.48**	**143**	PKP		**PKPdf**	**22 52 03.4**	**-4.2**
	comp=Z,13nm,1.0s,baz=204,slow=2.9,SNR=15							
SNAA				PKPab		**PKPab**	**22 53 02.8**	**-0.4**
	comp=Z,14nm,0.5s,baz=224,slow=6.3,SNR=20							
SYO	**Syowa Base**	**171.19**	**208**	*e* PKPdf		**PKPdf**	**22 52 12.4**	**+0.3**

*IDC **24** 22:34:41.3±2.2, 38°.22N×142°.27E, h0km, mb3.6/1, mb1 3.8/6, mb1mx3.7/49, mbtmp3.8/6, ML3.5/5 Error ellipse: s-maj=37.5km s-min=26.3km az=97.0*
*JMA **24** 22:34:47.3, 38°.26N×141°.87E, h63km±1km, M3.8*
JMA Felt I J1.
*NIED **24** 22:34:47.4, 38°.26N×141°.87E, h63km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.35; $M_{\theta\theta}$5.94; $M_{\phi\phi}$-4.59; $M_{r\theta}$0.03; $M_{\theta\phi}$-1.80; $M_{\phi r}$-4.56; Fault plane solution: $M_0$7.15000×10^{14} NP1: ϕ_s320.00000°, δ72.00000°, λ-31.00000°. NP2:ϕ_s61.00000°, δ61.00000°, λ-159.00000°.*
ISC 24 22:34:46.5±1.7, 38°.22N±0°.04×142°.04E±0°.09, h33km±4km, n27, σ1°68/36, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.46**	**281**	P		**Pn**	**22 34 58.0**	**+1.2**
JIKH				S		**Sn**	**22 35 05.5**	**+1.8**
JIO	**Ouri**	**0.59**	**293**	P		**Pn**	**22 34 59.2**	**+0.7**
JIO				*e*S		**Sb**	**22 35 07.6**	**+0.8**
JKMT	**Kesennumamotoy**	**0.73**	**323**	P		**Pn**	**22 35 01.2**	**+0.7**
JKMT				S		**Sb**	**22 35 11.0**	**+0.2**
OFUJ	**Ofunato**	**0.90**	**342**	P		**Pb**	**22 35 03.5**	**-0.3**
OFUJ				*e*S		**Sn**	**22 35 15.3**	**+0.5**
JMK	**Ichinoseki**	**0.97**	**319**	P		**Pb**	**22 35 04.1**	**-0.8**
JMK				*e*S		**Sn**	**22 35 16.2**	**-0.2**
JMM	**Marumori**	**1.04**	**250**	P		**Pn**	**22 35 04.3**	**-0.5**
JMM				S		**Sn**	**22 35 16.9**	**-1.3**
JOU	**Okura**	**1.09**	**278**	P		**Pn**	**22 35 05.1**	**-0.4**
JOU				S		**Sn**	**22 35 18.1**	**-1.3**
JFK	**Kawauchi**	**1.26**	**227**	P		**Pn**	**22 35 07.6**	**-0.2**
JFK				*e*S		**Sn**	**22 35 23.6**	**+0.1**
JOM	**Ohasama**	**1.38**	**335**	P		**Pn**	**22 35 09.6**	**+0.2**
JOM				S		**Sn**	**22 35 26.3**	**-0.2**
JYK	**Kaneyama**	**1.49**	**298**	P		**Pn**	**22 35 11.4**	**-0.5**
JFT	**Otama**	**1.52**	**243**	P		**Pn**	**22 35 11.4**	**+0.1**
JFT				*e*S		**Sn**	**22 35 28.7**	**-1.3**
JYS	**Shirataka**	**1.55**	**271**	P		**Pn**	**22 35 11.4**	**-0.4**
JYS				S		**Sn**	**22 35 29.7**	**-1.1**
JRG	**Rokugo**	**1.60**	**317**	P		**Pn**	**22 35 12.4**	**-0.1**
JYA	**Atsumi**	**1.86**	**282**	P		**Pn**	**22 35 15.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.48**	**242**	Pn		**Pn**	**22 35 39.3**	**+1.0**
	0.5nm,0.3s,baz=40,slow=12,SNR=22							
MJAR				Sn		**Sn**	**22 36 23.3**	**+4.9**
	0.8nm,0.3s,baz=337,slow=22,SNR=6.8							
MAT	**Matsushiro**	**3.48**	**242**	P		**Pn**	**22 35 39.1**	**+0.8**
MAT				S		**Sn**	**22 36 18.8**	**+0.4**
JHJ	**Hachijo jima 2**	**5.41**	**200**	Pn		**Pn**	**22 36 03.6**	**-1.2**
	16nm,0.3s,baz=319,slow=23,SNR=22							
JHJ				Sn		**Sn**	**22 37 01.6**	**-4.4**
	54nm,0.3s,baz=279,slow=20,SNR=13							
ASAJ	**Asahikawa**	**5.90**	**4**	Pn		**Pn**	**22 36 10.0**	**-1.6**
	3.2nm,0.3s,baz=237,slow=12,SNR=8.5							
ASAJ				Sn		**Sn**	**22 37 13.2**	**-4.9**
	1.9nm,0.3s,baz=24,slow=30,SNR=2.2							
USRK	**Ussuriysk Ar.**	**9.64**	**311**	Pn		**Pn**	**22 37 02.9**	**0.0**
	baz=122,slow=14,SNR=12							
KSRS	**Korea Array**	**11.19**	**270**	Pn		**Pn**	**22 37 25.4**	**+1.3**
	0.3nm,0.3s,baz=77,slow=14,SNR=4.7							
H11N2	**WAKE ISLAND Hy 28.36 124**			T		T	23 10 54.4	
	baz=316,slow=75,SNR=117							
H11N1	**WAKE ISLAND Hy 28.37 124**			T		T	23 10 54.5	
	baz=316,slow=75,SNR=130							
H11N3	**WAKE ISLAND Hy 28.38 124**			T		T	23 10 55.2	
	baz=316,slow=75,SNR=104							
H11S1	**WAKE ISLAND Hy 29.12 126**			T		T	23 11 50.9	
	baz=318,slow=76,SNR=50							
H11S3	**WAKE ISLAND Hy 29.12 126**			T		T	23 11 51.1	
	baz=318,slow=76,SNR=70							
H11S2	**WAKE ISLAND Hy 29.13 126**			T		T	23 11 50.7	
	baz=318,slow=76,SNR=40							
WRA	**Warramunga Arr**	**58.31**	**189**	P		**P**	**22 44 38.1**	**0.0**
	0.4nm,0.6s,baz=4.4,slow=7.3,SNR=1.8							

IDC 24 22:41:40.1±5.6, 34°.01S×179°.74W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/32, mbtmp4.0/2, Error ellipse: s-maj=257.5km s-min=55.9km az=163.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**41.59**	**272**	P		P	22 49 29.9	-0.1
	2.2nm,0.5s,baz=115,slow=7.7,SNR=28							
WRA	**Warramunga Arr**	**42.91**	**277**	P		P	22 49 40.6	-0.2
	0.7nm,0.4s,baz=117,slow=7.6,SNR=1.5							
FINES	**FINESS Array B**	**147.94**	**337**	PKPbc		PKPbc	23 01 25.8	-0.7
	2.4nm,0.8s,baz=42,slow=4.3,SNR=9.9							

*IDC **24** 22:51:03.2±2.8, 35°.10S×179°.16W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.9/36, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=64.4km s-min=35.1km az=128.0*
*WEL **24** 22:51:06.8±1.0, 35°.8S×17°.9W±1°.0, h33km, M4.4/19, mB4.4/2, ML4.6/19, MLv4.4/19, Mw(mB)3.6/2, Error ellipse: s-maj=0.0km s-min=0.0km az=121.9*
ISC 24 22:51:08.5±1.7, 35°.13S±0°.09×179°.1W±0°.1, h42km, n31, σ1°49/45, mb4.1/3, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.21**	**220**	P		**Pn**	**22 51 55.4**	**-1.0**
MXZ				S		**Sn**	**22 52 34.7**	**+1.4**
WMGZ	**Waiomatatini S**	**3.35**	**216**	P		**Pn**	**22 51 57.8**	**-0.5**
WMGZ				S		**Sn**	**22 52 40.6**	**+3.8**
PKGZ	**Pakihiroa**	**3.57**	**219**	P		**Pn**	**22 52 00.3**	**-1.2**
PKGZ				S		**Sn**	**22 52 45.2**	**+2.8**
PUZ	**Puketiti**	**3.63**	**215**	P		**Pn**	**22 52 01.0**	**-1.2**
HAZ	**Te Kaha**	**3.63**	**223**	P		**Pn**	**22 52 02.0**	**-0.2**
HAZ				S		**Sn**	**22 52 46.1**	**+2.4**
RUGZ	**Raukumara Rang**	**3.84**	**222**	P		**Pn**	**22 52 05.0**	**-0.2**
TWGZ	**Tauwhareparae**	**3.84**	**217**	P		**Pn**	**22 52 05.0**	**-0.1**
CNGZ	**Carnagh Statio**	**3.98**	**212**	P		**Pn**	**22 52 06.2**	**-0.8**
TKGZ	**Te Karaka**	**4.11**	**216**	P		**Pn**	**22 52 08.0**	**-0.8**
TKGZ				S		**Sn**	**22 52 53.0**	**-2.6**
MWZ	**Matawai**	**4.19**	**219**	P		**Pn**	**22 52 08.7**	**-1.2**
MWZ				S		**Sn**	**22 52 57.6**	**-0.1**
URZ	**Urewera**	**4.36**	**223**	Pn		**Pn**	**22 52 11.1**	**-1.2**
	9.1nm,0.3s,baz=122,slow=23,SNR=30							
URZ				Sn		**Sn**	**22 53 02.5**	**+0.7**
	7.4nm,0.3s,baz=16,slow=11,SNR=2.1							
URZ	**Urewera**	**4.36**	**223**	P		**Pn**	**22 52 11.0**	**-1.3**
URZ				S		**Sn**	**22 53 02.1**	**+0.3**
RIGZ	**Rimuhau**	**4.37**	**214**	P		**Pn**	**22 52 11.4**	**-0.9**
RIGZ				S		**Sn**	**22 53 01.6**	**-0.3**
OPRZ	**Ohinepanea**	**4.43**	**231**	P		**Pn**	**22 52 12.7**	**-0.4**
PRGZ	**Paritu Road**	**4.49**	**212**	P		**Pn**	**22 52 16.8**	**+2.8**
KUZ	**Kuaotunu**	**4.50**	**248**	P		**Pn**	**22 52 13.7**	**-0.5**
SNGZ	**Shannon Statio**	**4.63**	**217**	P		**Pn**	**22 52 14.8**	**-1.1**
SNGZ				S		**Sn**	**22 53 09.0**	**+0.6**
RTZ	**Ruatahuna**	**4.69**	**221**	P		**Pn**	**22 52 16.3**	**-0.5**
RAHZ	**Arahi**	**4.86**	**218**	P		**Pn**	**22 52 18.4**	**-0.6**
RAHZ				S		**Sn**	**22 53 14.3**	**+0.3**
MTHZ	**Maungataniwha**	**4.94**	**220**	P		**Pn**	**22 52 20.3**	**+0.2**
MTHZ				S		**Sn**	**22 53 17.6**	**+1.5**
WIAZ	**Waiheke Island**	**4.96**	**249**	P		**Pn**	**22 52 20.9**	**+0.4**
MKAZ	**Moumakai**	**5.05**	**245**	P		**Pn**	**22 52 21.8**	**+0.1**
MKAZ				S		**Sn**	**22 53 17.7**	**-1.0**
TOZ	**Tahuroa Road**	**5.07**	**238**	P		**Pn**	**22 52 20.9**	**-1.0**
BKZ	**Black Stump Fm**	**5.35**	**220**	P		**Pn**	**22 52 24.3**	**-1.6**
BKZ				S		**Sn**	**22 53 24.1**	**-2.1**
TLZ	**Tolley Road**	**5.36**	**232**	P		**Pn**	**22 52 23.9**	**-2.1**
NTVZ	**North Tongarir**	**5.75**	**225**	P		**Pn**	**22 52 28.4**	**-3.0**
MOVZ	**Moawhango**	**5.92**	**222**	P		**Pn**	**22 52 31.4**	**-2.3**
CTA	**Charters Tower**	**33.96**	**287**	P		**P**	**22 57 49.9**	**+1.8**
	1.8nm,0.4s,baz=120,slow=8.1,SNR=1.9							
ASAR	**Alice Springs**	**42.16**	**273**	P		**P**	**22 58 56.7**	**-0.5**
	2.2nm,0.5s,baz=117,slow=7.6,SNR=29							
WRA	**Warramunga Arr**	**43.58**	**278**	P		**P**	**22 59 07.8**	**-0.9**
	1.4nm,0.5s,baz=118,slow=7.6,SNR=11							
FINES	**FINESS Array B**	**149.18**	**336**	PKPbc		**PKiKP**	**23 10 52.2**	**-0.5**
	2.3nm,0.6s,baz=31,slow=2.5,SNR=13							

*IDC **24** 22:53:25.9±2.1, 35°.05S×179°.23W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.0/35, mbtmp4.4/5, ML4.1/1, MS3.9/2, Ms1 4.0/2, ms1mx3.4/21, Error ellipse: s-maj=57.7km s-min=29.6km az=135.0*
*WEL **24** 22:53:29.2±0.9, 36°.S±13°×17°.9W±1°.4, h33km, M4.5/19, mB4.6/1, ML4.7/19, MLv4.5/19, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=132.8*
ISC 24 22:53:28.7±1.4, 35°.4S±0°.1×178°.7W±0°.2, h35km, n32, σ2°.90/49, mb4.3/4, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.29**	**227**	P		**Pn**	**22 54 18.3**	**+0.7**
MXZ				S		**Sn**	**22 54 57.0**	**+1.5**
WMGZ	**Waiomatatini S**	**3.40**	**223**	P		**Pn**	**22 54 20.6**	**+1.4**
WMGZ				S		**Sn**	**22 54 59.7**	**+1.4**
PKGZ	**Pakih

ACAN IAML 23 08 22.2
comp=Z,23nm,3.5s
ACCO Cerro Coronel 6.38 38 *eP* **Pn 23 06 02.6 +2.3**
ACCO IAML 23 07 55.4
comp=Z,41nm,1.7s
MRA San Martin 7.31 65 *eP* **Pn 23 06 14.0 +1.1**
AGUA GUANDACOL 7.57 36 *eP* **Pn 23 06 18.0 +1.6**
VCA Vinchina 8.33 35 *eP* **Pn 23 06 29.6 +2.6**
VCA *eS* **Sn 23 08 02.9 +1.8**
VCA IAML 23 09 12.4
comp=Z,35nm,1.7s
ACLC CERRO LA CRUZ 8.42 43 *eP* **Pn 23 06 29.0 +0.9**
GO03 Copiap 8.61 20 *eP* **Pn 23 06 31.9 +1.2**

IDC ***24*** *23:51:34.9±7.6, 14°.94S×167°.26E, h119km±71km, mb3.8/4, mb1 4.0/5, mb1mx3.5/30, mbtmp4.2/5, MS3.6/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=59.8km s-min=40.0km az=159.0*
ISC 24 23:51:35.3±2.5, 15°.0S±0°.1×167°.3E±0°.3, h129km, n8, σ0s82/6, mb4.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.13**	**187**	P	**Pn**	**23 53 17.1**	**+0.1**
	4.8nm,0.3s,baz=170,slow=15,SNR=24						
DZM				S	**Sn**	**23 54 36.3**	**-0.4**
	5.0nm,0.3s,baz=140,slow=23,SNR=10						
URZ	**Urewera**	**24.77**	**161**	LR	LR	00 03 54.0	
	comp=Z,134nm,20.8s,baz=30,slow=30						
STKA	**Stephens Creek**	**28.90**	**230**	P	**P**	**23 57 23.1**	**+1.0**
	2.1nm,0.5s,baz=49,slow=10,SNR=9.5						
WRA	**Warramunga Arr**	**31.83**	**256**	P	**P**	**23 57 47.4**	**-0.7**
	0.5nm,0.4s,baz=87,slow=8.9,SNR=7.8						
ASAR	**Alice Springs**	**32.65**	**249**	P	**P**	**23 57 54.9**	**-0.4**
	2.3nm,0.6s,baz=79,slow=9.3,SNR=24						
BRDH	**Bariadhala**	**82.98**	**296**	LR	LR	00 44 36.1	
	comp=Z,40nm,18.5s,baz=102,slow=38						
MKAR	**Makanchi Array**	**97.41**	**316**	P	Pdif	00 04 55.5	+1.2
	0.4nm,0.7s,baz=104,slow=5.0,SNR=5.6						
ARCES	**ARCESS Array B**	**120.49**	**345**	PKP	**PKPdf**	**00 10 10.8**	**-0.2**
	1.1nm,0.8s,baz=70,slow=1.1,SNR=6.4						

RSNC ***25*** *00:13:25.4±0.9, 7°.90N×77°.92W, h1km±3km, ML3.8, Mw4.7*
IDC ***25*** *00:13:26.4±0.5, 7°.94N×77°.83W, h0km, mb4.4/20, mb1 4.5/26, mb1mx4.5/32, mbtmp4.4/26, ML3.7/6, MS3.7/16, Ms1 3.7/16, ms1mx3.5/42, Error ellipse: s-maj=18.0km s-min=11.3km az=53.0*
UPA ***25*** *00:13:27.4±1.4, 8°.04N×77°.77W, h18km±13km, MW4.9*
NEIC ***25*** *00:13:28.3±1.5, 7°.97N±0°.06×77°.81W±0°.05, h10km±1km, mb4.6/97, Error ellipse: s-maj=9.7km s-min=7.7km az=188.0*
VAO ***25*** *00:13:30.2±0.3, 7°.80N×77°.58W, h10km, mb4.5*
ISC 25 00:13:25.9±0.8, 7°.89N±0°.01×77°.70W±0°.02, h2km±5km, n273, σ1s66/203, mb4.5/69, MS3.6/13, 4C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPD2	**Meteti**	**0.72**	**334**	*iP*	Pg	00 13 37.5	-2.4
UPD2				*eS*	Sg	00 13 47.9	-1.4
UPD2	**Meteti**	**0.72**	**334**	*eP*	Pg	00 13 37.5	-2.4
UPD2				*eS*	Sg	00 13 46.7	-2.6
PTAC	**Punta Ardita,**	**0.75**	**188**	*eP*	Pg	00 13 38.6	-1.6
PTAC				*eS*	**Sg**	**00 13 50.4**	**+0.4**
PTAC				*i*		00 13 53.7	
	comp=Z,6μm,0.7s						
LCBC	**Los crdobas,**	**1.63**	**54**	*eP*	**Pn**	**00 13 56.1**	**+0.4**
LCBC				*eS*	**Sg**	**00 14 20.9**	**+2.5**
SOLC	**Bahia Solano**	**1.68**	**170**	*eP*	**Pn**	**00 13 55.5**	**-0.9**
SOLC				*eS*	**Sn**	**00 14 18.9**	**+0.3**
SOLC				*i*		00 14 30.7	
	comp=Z,1μm,0.6s						
DBBC	**Dabeiba**	**1.71**	**120**	*eP*	**Pn**	**00 13 57.7**	**+0.8**
CNTA3	**Canitas, Panam**	**1.77**	**318**	*eP*	Pn	00 13 53.6	-4.0
CNTA3				*eS*	Sn	00 14 14.6	-6.2
CHPO	**Chepo, Panama**	**1.89**	**312**	*eP*	Pn	00 13 55.7	-3.6
CHPO				*eS*	Sn	00 14 17.4	-6.4
TABO3	**Taboga, Panama**	**2.04**	**296**	*eP*	Pn	00 13 57.5	-3.9
TABO3				*eS*	Sn	00 14 21.1	-6.5
FLAM	**Flamenco Islan**	**2.08**	**299**	*eP*	Pn	00 13 59.9	-2.0
FLAM				*eS*	Sn	00 14 22.6	-5.9
UPA	**Univ. de Panam**	**2.11**	**301**	*eP*	Pn	00 13 57.6	-4.8
UPA				*eS*	Sn	00 14 20.8	-8.5
UPA	**Univ. de Panam**	**2.11**	**301**	*eP*	Pn	00 13 58.4	-4.0
UPA				*eS*	Sn	00 14 22.4	-6.9
UPA				*i*		00 14 30.7	
	comp=Z,447nm,0.7s						
UREC	**San Jos de Ur**	**2.15**	**94**	*eP*	**Pn**	**00 14 03.6**	**+0.6**
UREC				*eS*	**Sb**	**00 14 33.8**	**+0.9**
UREC				*i*		00 14 43.3	
	comp=Z,683nm,0.8s						
MOTC	**Monteria, Cord**	**2.20**	**66**	*eP*	**Pn**	**00 14 03.4**	**-0.2**
MOTC				*eS*	**Sb**	**00 14 35.0**	**+0.8**
MOTC				*i*		00 14 41.2	
	comp=Z,367nm,0.6s						
MONA	**Monteria**	**2.20**	**66**	*eP*	**Pn**	**00 14 02.4**	**-1.3**
MONA				*eS*	**Sn**	**00 14 28.0**	**-3.5**
ARRA3	**Arraijan, Pana**	**2.21**	**299**	*eP*	Pn	00 14 01.3	-2.5
ARRA3				*eS*	**Sn**	**00 14 30.0**	**-1.7**
CHOR3	**La Chorrera**	**2.28**	**296**	*eP*	Pn	00 14 02.4	-2.2
CHOR3				*eS*	Sn	00 14 29.5	-3.8
MIRA3	**Miramar, Colon**	**2.33**	**316**	*eP*	Pn	00 14 02.4	-2.9
MIRA3				*eS*	Sn	00 14 29.5	-5.0
ZANG	**Zanguenga, Cho**	**2.39**	**296**	*eP*	Pn	00 14 05.4	-0.8
ZANG				*eS*	**Sn**	**00 14 33.5**	**-2.7**
BCIP	**Isla Barro Col**	**2.47**	**301**	*eP*	Pn	00 14 02.9	-4.3
BCIP				*eS*	Sn	00 14 28.4	-10
BCIP	**Isla Barro Col**	**2.47**	**301**	Pn	Pn	00 14 03.1	-4.2
BCIP				Sn	**Sn**	**00 14 35.3**	**-2.7**
BCIP	**Isla Barro Col**	**2.47**	**301**	*eP*	Pn	00 14 03.2	-4.0
BCIP				*eS*	Sn	00 14 32.4	-5.6
BCIP				*i*		00 14 48.6	
	comp=Z,736nm,0.7s						
VTON	**El Valle, Cocl**	**2.49**	**287**	*eP*	Pn	00 14 05.7	-2.0
VTON				*eS*	Sn	00 14 35.8	-3.0
MLIR	**Monte Lirio**	**2.52**	**302**	*eP*	Pn	00 14 04.6	-3.4
AZU	**Azuero**	**2.55**	**268**	*eP*	Pn	00 14 04.5	-3.9
AZU				*eS*	Sn	00 14 33.8	-6.4
AZU				*i*		00 14 43.7	
	comp=Z,963nm,0.5s						
CBOC	**Ciudad Bolivar**	**2.62**	**140**	*eP*	**Pn**	**00 14 09.9**	**+0.4**
CBOC				*eS*	**Sb**	**00 14 47.1**	**+0.6**
CBOC				*i*		00 14 57.3	
	comp=Z,476nm,0.7s						
CHIT3	**Chitre**	**2.69**	**272**	*iP*	Pn	00 14 09.4	-1.0
CHIT3				*eS*	Sn	00 14 39.1	-4.5
HELC	**Santa Helena**	**2.74**	**128**	*eP*	Pn	00 14 13.3	+2.0
HELC				*eS*	**Sb**	**00 14 47.5**	**-2.6**
HELC	**Santa Helena**	**2.74**	**128**	*eP*	Pn	00 14 13.5	+2.2
HELC				*eS*	**Sb**	**00 14 48.5**	**-1.6**
ZARC	**Zaragoza, Cauc**	**2.84**	**98**	*eP*	Pn	00 14 13.7	+1.3
ZARC				*eS*	**Sb**	**00 14 51.9**	**-0.9**
ZARC				*i*		00 15 04.2	
	comp=Z,592nm,0.6s						
PIZC	**Pizarro, Choco**	**2.93**	**173**	*eP*	**Pg**	**00 14 23.4**	**+1.3**
PIZC				*eS*	Sg	00 15 13.4	+13
PIZC				*i*		00 15 52.1	
	comp=Z,158nm,0.6s						
OCU3	**Ocu, Herrera**	**3.05**	**271**	*eS*	**Sn**	**00 14 50.5**	**-1.9**
SJCC	**San Jacinto, C**	**3.19**	**51**	Pn	**Pn**	**00 14 16.6**	**-0.7**
SJCC				Sn	**Sn**	**00 14 55.2**	**-0.7**
SJCC	**San Jacinto, C**	**3.19**	**51**	*eP*	**Pn**	**00 14 16.8**	**-0.5**
SJCC				*eS*	**Sn**	**00 14 53.6**	**-2.4**
SJCC				*i*		00 15 02.2	
	comp=Z,106nm,0.6s						
PLMC	**San Jos del P**	**3.28**	**155**	*eP*	**Pn**	**00 14 17.7**	**-0.9**
PLMC				*eS*	**Sn**	**00 14 58.2**	**-0.1**
PLMC				*i*		00 15 43.4	
	comp=Z,127nm,0.7s						
GUY2C	**Guyana, Caldas**	**3.52**	**139**	*eP*	Pn	00 14 24.3	+2.1
GUY2C				*eS*	**Sb**	**00 15 07.9**	**-4.9**
GUY2C				*i*		00 15 15.3	
	comp=Z,294nm,0.2s						
NORC	**Norcasia**	**3.64**	**129**	*eP*	Pn	00 14 27.8	+4.4
NORC				*eS*	**Sb**	**00 15 16.3**	**+0.5**
NORC				*i*		00 15 25.4	
	comp=Z,94nm,0.6s						
SMLC	**San Martn de**	**3.70**	**76**	*eP*	**Pn**	**00 14 25.1**	**+0.8**
SMLC				*eS*	**Sn**	**00 15 12.0**	**+3.5**
SMLC				*i*		00 15 23.3	
	comp=Z,133nm,0.7s						
BRRC	**Barranca, Sant**	**4.03**	**101**	*eP*	Pn	00 14 30.6	+1.8
BRRC				*eS*	**Sb**	**00 15 21.7**	**-5.3**
BRRC				*i*		00 15 30.4	
	comp=Z,139nm,0.5s						
TOLC	**Tolima**	**4.05**	**144**	*eP*	Pn	00 14 32.3	+3.0
TOLC				*eS*	**Sb**	**00 15 22.4**	**-5.4**
TOLC				*i*		00 15 38.9	
	comp=Z,75nm,0.6s						
ANIL	**Santa Ana**	**4.08**	**146**	*eP*	Pn	00 14 32.9	+3.3
ANIL				*eS*	**Sb**	**00 15 24.3**	**-4.3**
ANIL				*i*		00 15 43.1	
	comp=Z,118nm,0.5s						
YOTC	**Yotoco, Valle**	**4.11**	**161**	*eP*	**Pn**	**00 14 30.1**	**+0.1**
YOTC				*eS*	**Sn**	**00 15 19.0**	**+0.2**
YOTC				*i*		00 15 25.0	
	comp=Z,53nm,0.6s						
OCAC	**Ocana**	**4.35**	**85**	*eP*	**Pn**	**00 14 34.0**	**+0.7**
OCAC				*eS*	**Sn**	**00 15 26.0**	**+1.2**
ROSC	**El Rosal**	**4.52**	**132**	Pn	Pn	00 14 40.3	+4.4
	comp=Z,21nm,0.3s,baz=222,slow=16,SNR=16						
ROSC				Lg	Lg	00 15 46.9	
	comp=Z,6.5nm,0.3s,baz=79,slow=22,SNR=1.5						
ROSC	**El Rosal**	**4.52**	**132**	Pn	Pn	00 14 39.3	+3.4
ROSC	**El Rosal**	**4.52**	**132**	*eP*	**Pb**	**00 14 43.0**	**-3.4**
ROSC				*eS*	**Sb**	**00 15 43.2**	**+1.6**
ROSC				*i*		00 16 09.6	
	comp=Z,97nm,0.6s						
LL2C	**La Loma 2 Cana**	**4.53**	**68**	*eP*	Pn	00 14 37.2	+1.7
LL2C				*eS*	**Sn**	**00 15 25.9**	**-2.9**
LL2C				*i*		00 16 05.9	
	comp=Z,175nm,0.5s						
ORTC	**Ortega, Tolima**	**4.65**	**148**	*eP*	Pn	00 14 39.7	+2.4
ORTC				*eS*	**Sn**	**00 15 36.5**	**+4.5**
ORTC				*i*		00 16 27.0	
	comp=Z,41nm,0.7s						
BARC	**Barichara**	**4.66**	**106**	*eP*	Pn	00 14 39.8	+2.1
BARC				*i*		00 15 47.8	
	comp=Z,259nm,0.1s						
PAMC	**Pamplona, Colo**	**4.99**	**96**	*eP*	Pn	00 14 45.4	+3.0
PAMC				*eS*	**Sn**	**00 15 44.5**	**+3.5**
PAMC				*i*		00 15 55.8	
	comp=Z,214nm,0.7s						
RUSC	**La Rusia**	**4.99**	**113**	Pn	Pn	00 14 44.6	+2.1
RUSC	**La Rusia**	**4.99**	**113**	*eP*	Pn	00 14 46.1	+3.7
RUSC				*eS*	**Sb**	**00 15 48.7**	**-6.5**
RUSC				*i*		00 16 06.6	
	comp=Z,128nm,0.6s						
PRAC	**Prado**	**5.00**	**146**	*eP*	Pn	00 14 46.6	+4.4
PRAC				*eS*	**Sn**	**00 15 44.4**	**+3.6**
PRAC				*i*		00 16 03.9	
	comp=Z,69nm,0.6s						
CHIC	**Chingaza**	**5.10**	**129**	*eP*	Pn	00 14 48.4	+4.5
CHIC				*eS*	**Sg**	**00 16 06.7**	**-3.4**
CHIC				*i*		00 16 16.0	
	comp=Z,94nm,0.7s						
CDITO	**Canoas**	**5.17**	**278**	Pn	Pn	00 14 43.0	-1.4
MARP	**Paez Belalcaza**	**5.31**	**161**	*eP*	Pn	00 14 50.8	+4.2
MARP				*eS*	**Sn**	**00 15 52.3**	**+3.8**
POPC	**Popayan, Colom**	**5.41**	**169**	*eP*	Pn	00 14 43.6	-4.4
POPC				*eS*	**Sn**	**00 15 47.2**	**-3.9**
VILC	**Villavicencio,**	**5.47**	**133**	*eP*	Pn	00 14 54.0	+5.2
VILC				*eS*	**Sg**	**00 16 14.9**	**-7.0**
VILC				*i*		00 16 24.3	
	comp=Z,74nm,0.7s						
DRK0	**Durika**	**5.65**	**284**		Pn	00 14 49.8	-1.5
PCON	**Cinco Dias**	**5.68**	**167**	*eP*	Pn	00 14 55.8	+3.9
PCON				*i*		00 18 13.6	
	comp=Z,28nm,0.5s						
SBAC	**San Rafael, Bu**	**5.75**	**284**		Pn	00 14 51.9	-0.7
BBAC	**Balboa, Cauca**	**5.85**	**176**	*eP*	**Pn**	**00 14 55.3**	**+1.3**
BBAC				*eS*	**Sn**	**00 15 57.6**	**-4.2**
BBAC				*i*		00 16 41.9	
	comp=Z,15nm,0.7s						
GARC	**Garzon, Huila**	**6.08**	**159**	*eP*	Pn	00 14 59.8	+2.6
GARC				*eS*	**Sn**	**00 16 11.0**	**+3.5**
GARC				*i*		00 16 22.1	
	comp=Z,15nm,0.4s						
PEZE	**Perez Zeledon,**	**6.09**	**285**		Pn	00 14 56.3	-0.9
CVTR	**Volcan Turrial**	**6.35**	**290**		Pn	00 14 58.8	-2.3
RIMA	**Rio Macho**	**6.37**	**287**		Pn	00 14 58.8	-2.4
PTGC	**Puerto Gaitan,**	**6.64**	**123**	*eP*	Pn	00 15 07.5	+2.8
URIC	**Uribia, Colomb**	**6.78**	**56**		Pn	00 15 09.6	+3.0
MACC	**Macarena, Meta**	**6.88**	**146**	*eP*	Pn	00 15 10.3	+2.4
MACC				*eS*	**Sb**	**00 16 47.5**	**-1.5**
MACC				*i*		00 17 09.0	
	comp=Z,28nm,0.7s						
SDV	**Santo Domingo**	**7.06**	**81**	Pn	Pn	00 15 12.9	+2.3
	comp=Z,12nm,0.3s,baz=244,slow=9.3,SNR=22						
SDV				Sn	**Sn**	**00 16 33.1**	**+1.4**
	comp=Z,16nm,0.3s,baz=293,slow=21,SNR=2.3						
SDV				LR	LR	00 18 38.5	
	comp=Z,1μm,18.6s,baz=267,slow=44						
SDV	**Santo Domingo**	**7.06**	**81**	Pn	**Pn**	**00 15 11.2**	**+0.5**
SDV	**Santo Domingo**	**7.06**	**81**	*eP*	Pn	00 15 13.2	+2.5
SDV				*eS*	**Sn**	**00 16 32.7**	**+1.1**
SDV				*i*		00 16 42.1	
	comp=Z,73nm,0.7s						
SDV	**Santo Domingo**	**7.06**	**81**	*eP*	Pn	00 15 13.3	+2.7
COVE	**Coope Vega, Sa**	**7.19**	**294**		Pn	00 15 12.1	-0.1
JTS	**Las Juntas de**	**7.55**	**289**	Pn	**Pn**	**00 15 17.8**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=158,slow=12,SNR=5.3						
JTS				Lg	Lg	00 17 16.9	
	comp=Z,0.6nm,0.3s,baz=346,slow=17,SNR=2.1						
JTS				LR	LR	00 18 19.7	
	comp=Z,2μm,18.6s,baz=170,slow=40						
JTS	**Las Juntas de**	**7.55**	**289**	Pn	Pn	00 15 15.9	-1.3
OTAV	**Otavalo**	**7.64**	**186**		**Pn**	**00 15 19.3**	**+0.5**
OTAV	**Otavalo**	**7.64**	**186**	*eP*	**Pn**	**00 15 19.9**	**+1.1**
ESPN	**Las Esperanzas**	**7.78**	**304**		Pn	00 15 18.3	-2.1
PTLC	**Puerto Leguiza**	**8.20**	**159**	*eP*	**Pn**	**00 15 23.4**	**-2.6**
PTLC				*eS*	Sb	00 17 26.6	-0.3
PTLC				*i*		00 19 40.7	
	comp=Z,3.9nm,0.3s						
MTDJ	**Mount Denham**	**10.28**	**1**	Pn	Pn	00 15 54.0	-0.6
TGUH	**Tegucigalpa,Un**	**11.22**	**304**	Pn	Pn	00 16 06.2	-1.4
LGNH	**Logne**	**11.66**	**25**	Pn	**Pn**	**00 16 14.1**	**+0.6**
GTBY	**Guantanamo Bay**	**12.23**	**12**	Pn	**Pn**	**00 16 20.9**	**-0.3**
SDDR	**Presa de Saban**	**12.66**	**29**	Pn	Pn	00 16 29.0	+1.7
PCRV	**Puerto La Cruz**	**13.10**	**79**	Pn	**Pn**	**00 16 33.7**	**+0.4**
	comp=Z,3.8nm,0.3s,baz=229,slow=5.0,SNR=20						
PCRV				Sn	**Sn**	**00 18 56.7**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=357,slow=19,SNR=1.5						
ATAH	**Atahualpa**	**14.94**	**183**	Pn	Pn	00 17 01.6	+2.8
	comp=Z,0.2nm,0.3s,baz=39,slow=10,SNR=3.8						
GCPR	**Guaynabo City**	**15.33**	**46**	Pn	**Pn**	**00 17 02.0**	**-1.5**
GCPR				IAmb	IAmb	00 17 15.4	
	comp=Z,24nm,1.0s						
CUPR	**Culebra, Puert**	**15.91**	**48**	Pn	**Pn**	**00 17 10.3**	**-0.9**
CUPR				IAmb	IAmb	00 17 22.5	
	comp=Z,29nm,0.8s						
BOAV	**Boa Vista**	**17.95**	**107**	*eP*	**Pn**	**00 17 37.7**	**+0.7**
PTGA	**Pitinga**	**19.65**	**115**	P	**P**	**00 17 57.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=294,slow=12,SNR=13						
PTGA				LR	LR	00 26 36.1	
	comp=Z,270nm,18.1s,baz=296,slow=40						
PTGA	**Pitinga**	**19.65**	**115**	P	**P**	**00 17 56.2**	**0.0**
NNA	**Nana**	**19.77**	**178**	P	**Pn**	**00 18 00.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=5.2,slow=20,SNR=1.9						
ETMB	**Extrema**	**20.98**	**147**	*eP*	**P**	**00 18 12.1**	**+1.3**
SAML	**Samuel**	**22.11**	**139**	P	**P**	**00 18 23.1**	**+0.1**
TLIG	**Tlapa**	**22.49**	**297**	P	**P**	**00 18 24.6**	**-2.5**
TLIG				IAmb	IAmb	00 18 31.7	
	comp=Z,20nm,1.2s						
TIGA	**Tifton**	**24.07**	**348**	P		00 18 43.8	
	baz=166						
BRAL	**Brewton**	**24.75**	**341**	P		00 18 49.8	
	baz=158						
MDP	**Montagnes des**	**25.05**	**95**	P	**P**	**00 18 55.5**	**+3.5**
	comp=Z,9.4nm,0.8s,baz=245,slow=9.5,SNR=2.6						
MDP				LR	LR	00 29 22.0	
	comp=Z,634nm,18.8s,baz=268,slow=38						
ITTB	**Itaituba**	**25.07**	**118**	*eP*	**P**	**00 18 53.5**	**+1.4**
MALB	**Monte Alegre**	**25.30**	**112**	*eP*	**P**	**00 18 56.1**	**+1.9**
LPAZ	**La Paz**	**25.82**	**158**	P	**P**	**00 18 59.9**	**+0.3**
	comp=Z,9.6nm,1.0s,baz=358,slow=9.4,SNR=20						
LPAZ				LR	LR	00 29 53.1	
	comp=Z,170nm,21.9s,baz=316,slow=38						
LPAZ	**La Paz**	**25.82**	**158**	P	**P**	**00 18 59.9**	**+0.3**
LPAZ				IAmb	IAmb	00 19 14.8	
	comp=Z,11nm,1.0s						
LPAZ	**La Paz**	**25.82**	**158**	*eP*	**P**	**00 19 01.4**	**+1.8**
GOGA	**Godfrey**	**25.95**	**349**	P		00 19 00.9	
	baz=167						
344A	**Westbrook Farm**	**26.41**	**334**	P	**P**	**00 19 03.2**	**-0.9**
LRAL	**Lakeview Retre**	**26.46**	**342**	P		00 19 05.8	
	baz=159						
LRAL	**Lakeview Retre**	**26.46**	**342**	P	**P**	**00 19 03.3**	**-1.2**
NPGB	**Novo Progresso**	**26.77**	**123**	*eP*	**P**	**00 19 09.0**	**+1.4**
MCPB	**Macapa, AP**	**26.85**	**107**	*eP*	**P**	**00 19 10.3**	**+2.0**
Z47A	**Carrollton**	**26.95**	**341**	P	**P**	**00 19 09.0**	**0.0**
Z47A				IAmb	IAmb	00 19 13.3	
	comp=Z,15nm,0.9s						
VILB	**Vilhena**	**27.04**	**140**	*eP*	**P**	**00 19 12.1**	**+2.1**
PB16	**IPOC Station P**	**27.28**	**163**	P	**P**	**00 19 13.7**	**+0.9**
MNMC	**Minye Minye**	**28.01**	**164**	P	**P**	**00 19 19.4**	**+0.5**
TKL	**Tuckaleechee C**	**28.19**	**349**	P	**P**	**00 19 21.0**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=160,slow=12,SNR=2.7						
TKL				LR	LR	00 31 04.0	
	comp=Z,205nm,19.4s,baz=166,slow=38						
PSGCX	**Pisagua**	**28.32**	**165**	P	**P**	**00 19 22.4**	**+1.0**
PB11	**IPOC Station P**	**28.60**	**164**	P	**P**	**00 19 24.5**	**+0.5**
CLDB	**Colider**	**28.68**	**130**	*eP*	P	00 19 27.7	+3.1
833A	**Chaparral WMA,**	**28.85**	**318**	P		00 19 25.8	
	baz=131						
SIV	**San Ignacio**	**28.88**	**145**	P	**P**	**00 19 25.5**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=331,slow=9.3,SNR=12						
TZTN	**Tazewell**	**29.02**	**350**	P		00 19 29.6	
	baz=168						
PB08	**IPOC Station P**	**29.10**	**163**	P	**P**	**00 19 29.2**	**+0.5**
WVT	**Waverly**	**29.59**	**343**	P	**P**	**00 19 32.1**	**-0.4**
WVT	**Waverly**	**29.59**	**343**	P		00 19 33.8	
	baz=160						
PTLB	**Pontes e Lacer**	**29.60**	**142**	*eP*	**P**	**00 19 33.6**	**+0.9**
PB01	**IPOC Station P**	**29.86**	**164**	P	**P**	**00 19 36.1**	**+0.9**
PB01				IAmb	IAmb	00 19 41.0	
	comp=Z,13nm,1.1s						
X40A	**Basin Creek Fa**	**29.91**	**334**	P		00 19 36.1	
	baz=149						
W41B	**Gary Mavity, V**	**30.26**	**336**	P		00 19 39.1	
	baz=151						
MIAR	**Mount Ida**	**30.29**	**333**	P		00 19 39.7	
	baz=148						
LCAR	**Lake Charles**	**30.62**	**338**	P	P	00 19 40.3	-1.3
LCAR				IAmb	IAmb	00 20 01.2	
	comp=Z,7.5nm,1.2s						
W39A	**Magazine**	**30.93**	**334**	P		00 19 44.9	
	baz=148						
Q61A	**Milford**	**30.93**	**4**	P		00 19 45.7	
	baz=185						
PBMO	**Poplar Bluff**	**31.00**	**340**	P	**P**	**00 19 44.8**	**-0.2**
PBMO				IAmb	IAmb	00 19 47.7	
	comp=Z,6.9nm,0.7s						
PRPB	**Parauapebas**	**31.12**	**116**	*eP*	**P**	**00 19 47.1**	**+0.7**
WCI	**Wyandotte Cave**	**31.19**	**347**	P		00 19 47.9	
	baz=164						
USIN	**University of**	**31.27**	**345**		**P**	**00 19 47.9**	**+0.5**
SDMD	**Soldier's Deli**	**31.39**	**1**	P	P	00 19 47.3	-1.1
T42A	**Van Buren**	**31.46**	**339**	P	**P**	**00 19 48.5**	**-0.5**
T42A				IAmb	IAmb	00 20 04.0	
	comp=Z,5.4nm,0.9s						
SIUC	**Southern Illin**	**31.47**	**342**	P	**P**	**00 19 48.9**	**-0.3**
SIUC				IAmb	IAmb	00 19 50.8	
	comp=Z,5.6nm,0.8s						
LVC	**Limon Verde**	**31.51**	**164**	P	P	00 19 52.6	+2.5
	comp=Z,6.4nm,1.0s,baz=43,slow=4.0,SNR=5.8						
LVC	**Limon Verde**	**31.51**	**164**	P	**P**	**00 19 50.9**	**+0.9**
LVC	**Limon Verde**	**31.51**	**164**	*eP*	**P**	**00 19 51.2**	**+1.2**
U40A	**Yellville**	**31.53**	**336**	P	P	00 19 48.1	-1.5
P60A	**Greenville**	**31.84**	**3**	P		00 19 53.9	
	baz=184						
ABTX	**Abilene, Hawle**	**31.94**	**323**	P		00 19 53.3	
	baz=136						
ABTX	**Abilene, Hawle**	**31.94**	**323**	P	P	00 19 51.9	-1.5
ABTX				IAmb	IAmb	00 19 55.1	
	comp=Z,5.9nm,0.8s						
P49A	**Miami Univ. Ec**	**32.13**	**350**	P		00 19 56.2	
	baz=167						
SALV	**Santo Antonio**	**32.15**	**137**	*eP*	**P**	**00 19 55.7**	**+0.3**
TXAR	**Lajitas Array**	**32.42**	**315**	P	**P**	**00 19 58.0**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=134,slow=10,SNR=13						
TXAR				PcP	**PcP**	**00 22 47.0**	**+1.7**
	comp=Z,1.0nm,1.0s,baz=126,slow=4.6,SNR=3.5						
TXAR				LR	LR	00 35 23.3	
	comp=Z,90nm,18.5s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**32.42**	**315**	P	P	00 19 56.6	-1.1
TX31	**Lajitas Ar. Si**	**32.42**	**315**	P	**P**	**00 19 57.4**	**-0.3**
TX31				IAmb	IAmb	00 20 00.9	
	comp=Z,12nm,1.1s						
TUL1	**Leonard**	**32.42**	**332**	P		00 19 57.6	
	baz=145						

ECSD	EROS Data Cent	39.35	338	P		P		00 20 55.7	-1.1
OGNE	Ogallala	39.39	331	P				00 20 58.2	
	baz=140								
D61A	St Aubert, Com	39.70	8	P				00 21 01.5	
	baz=192								
S22A	4UR Ranch, Cre	39.73	323	P				00 21 00.8	
	baz=131,SNR=7.5								
X18A	Snowflake	39.77	316	P		P		00 21 00.2	-0.4
W18A	Petrified Fore	39.95	317	P				00 21 03.1	
	baz=125								
JANB	Januaria	40.19	125	*e*P		P		00 21 04.6	+0.4
F36A	Milaca	40.22	343	P		P		00 21 03.4	-0.6
F36A				IAmb		IAmb		00 21 04.9	
	comp=Z,17nm,1.4s								
ISCO	Idaho Springs	40.42	326	P				00 21 06.6	
	baz=134,SNR=6.9								
ISCO	Idaho Springs	40.42	326	P		P		00 21 05.7	-0.4
214A	Organ Pipe Nat	40.47	311	P				00 21 07.0	
	baz=119								
BB19B	Bebedouro	40.61	136	*e*P		P		00 21 09.7	+2.0
VA03	San Esteban	41.00	171	P		P		00 21 12.1	+1.4
VA03				IAmb		IAmb		00 21 30.8	
	comp=Z,22nm,1.3s								
PV15	Paradox Valley	41.10	322	P		P		00 21 11.3	-0.5
NBCL	Cascavel-CE	41.12	106	*e*P		P		00 21 13.9	+2.0
WUAZ	Wupatki	41.29	317	P		P		00 21 13.1	-0.1
WUAZ				IAmb		IAmb		00 21 16.3	
	comp=Z,15nm,1.1s								
WUAZ	Wupatki	41.29	317	P				00 21 13.7	
	baz=124,SNR=8.0								
N23A	Red Feather La	41.36	327	P				00 21 14.5	
	baz=135								
MC01	Montes Claros	41.38	126	*e*P		P		00 21 15.7	+1.6
EYMN	Ely	41.60	346	P				00 21 16.4	
	baz=159								
NBMA	Muriti-CE	41.67	110	*e*P		P		00 21 17.5	+1.0
NBPN	Ponto Novo - B	41.70	116	*e*P		P		00 21 18.4	+1.7
MATQ	Matagami	41.73	0	P				00 21 18.0	
	baz=180								
CHGQ	Chibougamau	41.98	3	P				00 21 19.4	
	baz=185								
O20A	White River Ci	42.12	324	P				00 21 20.6	
	baz=132								
RCLB	Rio Claro- Sao	42.20	136	*e*P		P		00 21 22.8	+2.1
U15A	North Rim	42.41	317	P		P		00 21 22.3	-0.3
DIAM	Diamantina, MG	42.48	128	*e*P		P		00 21 24.2	+1.0
ITQB	Itaqui	42.49	152	*e*P		P		00 21 25.8	+2.9
RSSD	Black Hills	42.77	332	P				00 21 26.0	
	baz=140								
W13A	Hualapai Mount	42.80	315	P		P		00 21 25.8	+0.1
SRU	San Rafael Swe	42.83	322	P		P		00 21 25.3	-0.6
SRU				IAmb		IAmb		00 21 29.7	
	comp=Z,13nm,1.0s								
VAO	Valinhos	42.98	136	*e*P		P		00 21 29.3	+2.2
SPB	Sao Paulo	43.06	137	*e*P		P		00 21 29.6	+2.1
AGMN	Agassiz Nation	43.11	342	P				00 21 28.1	
	baz=153								
P17A	Butcher Ranch,	43.19	322	P		P		00 21 28.3	-0.4
P17A				IAmb		IAmb		00 21 32.6	
	comp=Z,16nm,1.1s								
IRM	Iron Mountain	43.24	313	P				00 21 29.0	
	baz=119								
BELC	Belle Mtn. Jos	43.80	312	P				00 21 33.9	
	baz=118								
GMRC	Granite Mounta	43.92	313	P				00 21 34.9	
	baz=119								
TPFO	Pinon Flats	43.96	311	P				00 21 35.6	
	baz=117								
PFO	Pinyon Flats O	43.96	311	P				00 21 35.1	
	baz=117								
TUQ	Turquoise Moun	44.42	314	P				00 21 38.7	
	baz=119								
HEC	Hector,Ludlow	44.43	313	P				00 21 38.9	
	baz=118								
MURC	Murrieta	44.51	311	P				00 21 39.7	
	baz=116								
BW06	Boulder Array	44.61	326	P		P		00 21 39.9	-0.3
BW06				IAmb		IAmb		00 21 43.5	
	comp=Z,6.9nm,0.9s								
BW06	Boulder Array	44.61	326	P				00 21 40.6	
	baz=132								
PD31	Pinedale Array	44.61	326	P		P		00 21 39.9	-0.3
PD31				IAmb		IAmb		00 21 43.5	
	comp=Z,5.4nm,0.9s								
PDAR	Pinedale Array	44.61	326	P		P		00 21 41.0	+0.8
	comp=Z,3.4nm,0.9s,baz=127,slow=9.8,SNR=25								
PDAR				PcP		PcP		00 23 22.7	-0.5
	comp=Z,0.8nm,1.0s,baz=128,slow=4.0,SNR=1.9								
PDAR				LR		LR		00 43 02.8	
	comp=Z,38nm,19.6s,baz=132,slow=40								
PDAR	Pinedale Array	44.61	326	P		P		00 21 40.2	0.0
ULM	Lac du Bonnet	44.86	344	P		P		00 21 41.2	-0.5
	comp=Z,10.0nm,1.1s,baz=157,slow=5.3,SNR=7.0								
ULM				LR		LR		00 41 20.4	
	comp=Z,94nm,18.4s,baz=150,slow=37								
ULM	Lac du Bonnet	44.86	344	P		P		00 21 41.3	-0.5
ULM				IAmb		IAmb		00 21 43.2	
	comp=Z,13nm,1.2s								
DUG	Dugway, Tooele	44.90	321	P		P		00 21 43.2	+0.8
DUG				IAmb		IAmb		00 21 46.5	
	comp=Z,13nm,0.9s								
DUG	Dugway, Tooele	44.90	321	P				00 21 42.5	
	baz=126,SNR=18								
GSC	Goldstone, Bar	44.99	313	P		P		00 21 42.6	-0.5
GSC				IAmb		IAmb		00 21 45.1	
	comp=Z,5.0nm,0.9s								
GSC	Goldstone, Bar	44.99	313	P				00 21 43.7	
	baz=118								
HWUT	Hardware Ranch	45.00	324	P		P		00 21 42.9	-0.4
HWUT				IAmb		IAmb		00 21 52.0	
	comp=Z,6.6nm,0.9s								
SPR3	Spring Creek 3	45.17	319	P		P		00 21 44.5	-0.3
SPR3				IAmb		IAmb		00 21 48.7	
	comp=Z,11nm,1.1s								
TPNV	Topopah Spring	45.39	315	P		P		00 21 46.8	+0.5
TPNV				IAmb		IAmb		00 21 50.1	
	comp=Z,7.4nm,1.1s								
TPNV	Topopah Spring	45.39	315	P				00 21 46.7	
	baz=120,SNR=6.9								
FURC	Furnace Creek,	45.58	315	P				00 21 49.0	
	baz=119								
R11A	Troy Canyon, C	45.65	318	P				00 21 48.5	
	baz=122,SNR=7.2								
EDW2	Edwards Air Fo	45.66	312	P				00 21 48.9	
	baz=116								
DUB01	Friburgo-RJ	45.68	131	*e*P		P		00 21 49.6	+1.0
LRMC	Laurel Mtn Rad	45.71	313	P				00 21 48.9	
	baz=117								
REDW	Red Top Meadow	45.72	326	P		P		00 21 49.1	+0.2
MPMC	Manual Prospec	45.83	314	P				00 21 50.1	
	baz=118								
RLMT	Red Lodge	46.06	329	P				00 21 51.9	
	baz=134,SNR=5.9								
RLMT	Red Lodge	46.06	329	P		P		00 21 51.2	-0.4
RLMT				IAmb		IAmb		00 21 52.8	
	comp=Z,7.5nm,1.1s								
DGMT	Dagmar	46.23	336	P				00 21 53.4	
	baz=142								
TPH	Tonopah	46.62	316	P		P		00 21 55.9	-0.2
ELK	Elko	46.73	321	P		P		00 21 56.6	-0.3
GCMT	Greycliff	46.73	329	P		P		00 21 56.5	-0.2
VES	Vestal, Richgr	46.89	313	P				00 21 58.6	
	baz=116								
PKM	Mcpherson Peak	47.02	311	P				00 21 59.3	
	baz=115								
NV11	Mina Array Sit	47.44	316	P		P		00 22 01.8	-0.6
NVAR	Mina Array Bea	47.53	316	P		P		00 22 02.4	-0.8
	comp=Z,7.7nm,1.0s,baz=129,slow=6.6,SNR=28								
NVAR				PcP		PcP		00 23 34.5	+1.0
	comp=Z,0.7nm,0.6s,baz=133,slow=4.0,SNR=3.6								
NVAR				LR		LR		00 43 34.2	
	comp=Z,72nm,20.0s,baz=132,slow=38								
NVAR	Mina Array Bea	47.53	316	P		P		00 22 03.4	+0.1
BOZ	Bozeman (W)	47.61	328	P		P		00 22 04.0	+0.3
BOZ	Bozeman (W)	47.61	328	P				00 22 03.8	
	baz=132,SNR=14								
SCHQ	Schefferville	47.62	8	LR		LR		00 40 15.5	
	comp=Z,62nm,21.8s,baz=96,slow=34								
BCYI	Bear Canyon	47.74	326	P		P		00 22 05.5	+0.7
HLID	Hailey	47.86	324	P		P		00 22 05.9	+0.2
HLID				IAmb		IAmb		00 22 07.7	
	comp=Z,4.3nm,0.8s								
HLID	Hailey	47.86	324	P				00 22 05.7	
	baz=127,SNR=11								
DLMT	Dillon	47.97	327	P		P		00 22 06.0	-0.5
DLMT				IAmb		IAmb		00 22 10.4	
	comp=Z,8.7nm,1.1s								
TRQA	Tornquist	48.01	163	*e*P		P		00 22 08.1	+1.5
PLCA	Paso Flores	48.83	173	P		P		00 22 13.5	+0.5
	comp=Z,4.9nm,1.0s,baz=4.7,slow=7.3,SNR=4.7								
PLCA	Paso Flores	48.83	173	P		P		00 22 13.4	+0.4
PLCA				IAmb		IAmb		00 22 18.8	
	comp=Z,8.0nm,1.1s								
PLCA	Paso Flores	48.83	173	*e*P		P		00 22 15.3	+2.4
MSO	Missoula	49.63	328	P				00 22 19.4	
	baz=130,SNR=6.0								
MSO	Missoula	49.63	328	P		P		00 22 18.4	-0.7
MSO				IAmb		IAmb		00 22 20.6	
	comp=Z,5.8nm,1.0s								
WVOR	Wild Horse Val	49.78	321	P		P		00 22 20.0	-0.4
ORV	Oroville	50.26	316	P		P		00 22 23.2	-0.8
ORV				IAmb		IAmb		00 22 27.4	
	comp=Z,8.3nm,1.1s								
BMO	Blue Mountains	50.30	324	P		P		00 22 23.5	-0.8
FFC	Flin Flon	50.59	342	P		P		00 22 25.6	-0.5
O03E	Paynes Creek	50.80	317	P				00 22 27.5	
	baz=117								
M04C	Macdoel	51.52	318	P				00 22 33.4	
	baz=118								
N02D	Trinity Center	51.73	317	P				00 22 34.7	
	baz=117								
J05D	Fort Rock, OR	51.86	320	P				00 22 36.3	
	baz=120								
PINE	Pine Mountain	51.93	321	P		P		00 22 37.1	+0.4
L04D	Klamath Falls	52.03	319	P				00 22 37.0	
	baz=118,SNR=6.2								
YBH	Yreka Blue Hor	52.07	318	P		P		00 22 36.7	-0.9
YBH				IAmb		IAmb		00 22 41.6	
	comp=Z,6.1nm,1.1s								
NEW	Newport	52.21	328	P		P		00 22 38.1	-0.4
NEW				IAmb		IAmb		00 22 43.6	
	comp=Z,5.9nm,1.1s								
NEW	Newport	52.21	328	P				00 22 38.7	
	baz=127								
J04D	Umpqua Nationa	52.39	320	P				00 22 40.0	
	baz=119								
I05D	Yeoonne, OR	52.45	321	P				00 22 40.8	
	baz=120								
I04A	Tendick Farm,	52.85	320	P				00 22 43.3	
	baz=119								
L02E	Cave Junction	52.86	318	P				00 22 43.8	
	baz=117								
G05D	Wamic, OR	52.90	322	P				00 22 44.6	
	baz=121								
K02D	Willamette Mer	53.15	319	P				00 22 45.8	
	baz=117								
F05D	White Salmon	53.32	323	P				00 22 47.3	
	baz=121								
I03D	Drain, OR	53.40	320	P				00 22 47.8	
	baz=118								
H04D	Lebanon	53.41	321	P				00 22 47.8	
	baz=119								
J01E	Myrtle Point	53.53	319	P				00 22 48.2	
	baz=117								
I02D	Swisshome	53.91	320	P				00 22 50.9	
	baz=118								
E04D	Cinebar	54.32	323	P				00 22 54.4	
	baz=121								
B05A	Bryant	54.94	325	P				00 22 57.9	
	baz=122								
D03D	Eldon	55.13	324	P				00 22 59.9	
	baz=121								
YKA	Yellowknife Ar	60.75	341	P		P		00 23 38.6	-0.4
	comp=Z,6.5nm,0.8s,baz=131,slow=7.9,SNR=28								
ICESG	Greenland Ices	65.96	14	*i* P		P		00 24 15.2	+1.3
ICESG				IAmb		IAmb		00 24 15.9	
	comp=Z,6.5nm,0.8s								
SUMG	Summit	68.83	12	*i* P		P		00 24 30.8	-1.3
SUMG				IAmb		IAmb		00 24 34.0	
	comp=Z,6.7nm,0.9s								
SUMG	Summit	68.83	12	P		P		00 24 31.3	-0.8
PESTR	Estremoz	69.61	52	P		P		00 24 39.2	+2.1
PESTR				IAmb		IAmb		00 24 41.8	
	comp=Z,11nm,1.5s								
INK	Inuvik	70.52	341	P				00 24 43.1	
	baz=120								
EPYK	Eagle Plains	70.71	339	P				00 24 44.1	
	baz=116								
NEEM	North Greenlan	70.92	6	*i* P		P		00 24 45.4	+0.6
NEEM				IAmb		IAmb		00 24 49.9	
	comp=Z,15nm,0.9s								
BCAR	Beaver Creek A	71.42	334	P		P		00 24 48.0	+0.3
L27K	Beaver Creek,	71.44	334	P		P		00 24 48.2	+0.4
L27K				IAmb		IAmb		00 24 52.1	
	comp=Z,6.1nm,1.1s								
L27K	Beaver Creek,	71.44	334	P				00 24 48.7	
	baz=110								
EGAK	Eagle	71.77	336	P				00 24 50.4	
	baz=111								
K27K	Chicken	71.88	335	P				00 24 51.6	
	baz=110								
DBIC	Dimbokro	72.18	86	P		P		00 24 54.4	+1.3
	comp=Z,3.2nm,0.7s,baz=250,slow=8.1,SNR=3.6								
DBIC	Dimbokro	72.18	86	P		P		00 24 54.3	+1.2
N25K	Chitina, Valde	72.21	332	P				00 24 53.8	
	baz=107								
KOWA	Kowa	72.33	77	P		P		00 24 54.3	+0.3
KOWA				IAmb		IAmb		00 24 57.0	
	comp=Z,8.3nm,1.0s								
ESDC	Sonseca Array	72.49	51	P		P		00 24 55.4	+0.8
	comp=Z,3.0nm,0.9s,baz=275,slow=5.7,SNR=18								
ESDC				LR		LR		00 56 08.2	
	comp=Z,20nm,18.4s,baz=185,slow=35								
ESDC	Sonseca Array	72.49	51	P		P		00 24 55.3	+0.7
ESDC				IAmb		IAmb		00 24 58.1	
	comp=Z,5.2nm,1.1s								
ESBB	Sonseca Array	72.49	51	P		P		00 24 55.5	+0.9
ESBB				IAmb		IAmb		00 24 59.5	
	comp=Z,7.3nm,1.1s								
SCRK	Sand Creek	72.66	335	P		P		00 24 55.7	+0.5
SCRK	Sand Creek	72.66	335	P				00 24 56.3	
	baz=108								
PMSA	Palmer Station	73.18	174	*e*P		P		00 25 00.8	+2.9
WAT6	Susitna Watana	73.89	333	P				00 25 03.3	
	baz=104								
BMAR	Burnt Mountain	73.98	338	P		P		00 25 03.0	+0.2
HDA	Harding Lake	74.02	335	P		P		00 25 03.2	+0.2
HDA				IAmb		IAmb		00 25 28.2	
	comp=Z,8.6nm,1.4s								
HDA	Harding Lake	74.02	335	P				00 25 03.4	
	baz=106								
HDA				P				00 25 03.4	
	baz=106								
ILAR	Eielson Array	74.09	335	P		P		00 25 02.5	-1.0
	comp=Z,1.1nm,0.8s,baz=116,slow=4.4,SNR=8.6								
ILAR				LR		LR		01 01 00.2	
	comp=Z,80nm,18.0s,baz=118,slow=39								
ILAR	Eielson Array	74.09	335	P		P		00 25 02.9	-0.6
H24K	Noodor Dome	74.78	336	P				00 25 08.4	
	baz=105								
NEA2	Nenana	74.96	335	P				00 25 09.1	
	baz=104								
I23K	Minto, Yukon-K	75.21	335	P				00 25 10.4	
	baz=104								
TRF	Thorofare Moun	75.22	334	P				00 25 11.0	
	baz=102								
H23K	Yukon River	75.44	336	P				00 25 11.5	
	baz=104								
SKT	Skwentna	75.49	332	P				00 25 12.2	
	baz=101								
DAG	Danmarks Havn	75.52	12	*i* P		P		00 25 11.0	-0.5
DAG				IAmb		IAmb		00 25 12.1	
	comp=Z,1.5nm,0.8s								
BPAW	Bear Paw Mtn.	75.66	334	P				00 25 12.9	
	baz=102								
MLY	Manley	75.75	335	P		P		00 25 13.5	+0.4
MLY	Manley	75.75	335	P				00 25 13.5	
	baz=102								
PPLA	Purkeypile	75.96	333	P				00 25 14.9	
	baz=100								
COLD	Coldfoot	76.02	338	P				00 25 15.2	
	baz=103								
I21K	Tanana	76.30	335	P				00 25 16.8	
	baz=101								
H21K	Melozitna Rive	76.72	336	P				00 25 19.2	
	baz=100								
CLF	Chambon-Foret	77.47	43	P		P		00 25 24.2	+1.1
TOA0	Torodi Ar. Sit	77.97	78	P		P		00 25 26.5	-0.1
TOA0				IAmb		IAmb		00 25 39.8	
	comp=Z,4.4nm,1.1s								
TORD	Torodi Ar. Bea	77.97	78	P		P		00 25 26.9	+0.4
	comp=Z,0.8nm,0.5s,baz=287,slow=6.3,SNR=9.5								
TORD				LR		LR		00 59 15.0	
	comp=Z,38nm,21.2s,baz=310,slow=35								
TORD	Torodi Ar. Bea	77.97	78	P		P		00 25 26.6	+0.1
NOR	Nord	78.14	8	*i* P		P		00 25 25.9	-0.4
ECH	Echery	80.75	42	P		P		00 25 41.8	+0.7
ECH				IAmb		IAmb		00 25 44.1	
	comp=Z,8.0nm,1.1s								
TUE	Stuetta	82.31	44	P		P		00 25 50.3	+0.6
TUE				IAmb		IAmb		00 25 54.6	
	comp=Z,6.1nm,1.0s								
DAVA	Damuels	82.62	43	*e*P		P		00 25 54.2	+2.9
	comp=Z,2.7nm,0.6s								
NOA	NORSAR Array B	82.63	29	P		P		00 25 51.9	+1.0
	comp=Z,2.5nm,1.0s,baz=275,slow=5.3,SNR=4.9								
NOA				LR		LR		01 00 44.9	
	comp=Z,18nm,18.9s,baz=160,slow=34								
KEST	Kesra	83.06	55	P		P		00 25 55.7	+2.0
	comp=Z,3.5nm,0.9s,baz=328,slow=6.0,SNR=4.3								
KEST	Kesra	83.06	55	P		P		00 25 55.0	+1.4
SPITS	Spitsbergen Ar	83.17	12	LR		LR		01 03 09.2	
	comp=Z,55nm,20.0s,baz=80,slow=36								
FETA	Feichten	83.22	44	*e*P		P		00 25 56.0	+1.7
GRF	Grafenberg Arr	83.35	41	*e*P		P		00 25 56.9	+2.2
	comp=Z,5.1nm,1.3s,baz=274,slow=5.4								
NKC	Novy Kostel	84.09	40	*e*P		P		00 25 59.4	+0.8
KHC	Kasperske Hory	84.93	41	*e*P		P		00 26 04.0	+1.1
GEC2	GERESS Array S	85.04	42	P		P		00 26 04.3	+0.8
GEC2				IAmb		IAmb		00 26 06.6	
	comp=Z,4.8nm,1.1s								
GERES	GERESS Array B	85.04	42	P		P		00 26 04.5	+1.0
	comp=Z,1.8nm,0.8s,baz=270,slow=2.7,SNR=12								
GERES	GERESS Array B	85.04	42	P		P		00 26 03.9	+0.4
MYKA	Terra Mystica	85.25	44	*e*P		P		00 26 06.1	+1.5
	comp=Z,1.4nm,0.3s								
CKRC	Cesky Krumlov	85.45	42	*e*P		P		00 26 05.8	+0.4
PRU	Pruhonice	85.46	40	*e*P		P		00 26 08.8	+3.4
MOA	Molln	85.53	42	*e*P		P		00 26 07.3	+1.4
	comp=Z,1.6nm,0.6s								
SOKA	Soboth	86.19	44	*e*P		P		00 26 11.2	+2.0
	comp=Z,1.0nm,0.5s								
CONA	Conrad Observa	86.59	42	*e*P		P		00 26 13.0	+1.8
	comp=Z,2.2nm,0.6s								
ARCES	ARCESS Array B	87.25	20	P		P		00 26 14.2	+0.4
	comp=Z,2.5nm,0.5s,baz=284,slow=3.6,SNR=22								
ARCES	ARCESS Array B	87.25	20	P		P		00 26 13.6	-0.3
FINES	FINESS Array B	89.64	28	P		P		00 26 26.8	+1.5
	comp=Z,2.2nm,0.7s,baz=224,slow=5.3,SNR=6.3								
FIA1	FINESS Array S	89.64	28	P		P		00 26 26.3	+1.0
SNAA	Sanae	92.72	162	P		P		00 26 40.6	+1.1
ASAR	Alice Springs	145.90	239	PKPbc		PKPdf		00 33 06.7	-0.8
	comp=Z,3.9nm,0.8s,baz=118,slow=3.5,SNR=22								
ASAR	Alice Springs	145.90	239			PKPdf			
WRA	Warramunga Arr	146.75	246	PKPbc		PKPdf		00 33 08.4	-0.5
	comp=Z,3.1nm,0.9s,baz=99,slow=3.4,SNR=8.5								
WRA	Warramunga Arr	146.75	246	PKPdf		PKPdf		00 33 08.0	-0.9

ISK ***25*** *00:47:01.7,35.05N×27.66E,h18km,ML2.8/9*
THE ***25*** *00:47:06.3,35.43N×27.80E,h0km±1km,ML2.3/2,Error ellipse: s-maj=7.2km s-min=0.5km az=132.0*
ATH ***25*** *00:47:08.5,35.67N×27.54E,h45km±10km,ML2.3/2,Error ellipse: s-maj=11.5km s-min=1.4km az=126.0*
DDA ***25*** *00:47:16.7,36.00N×27.65E,h19km±3km,ML2.1*

ISC 25 00:47:08.4±1.3,35.51N±0.06×27.64E±0.05,h33km±6km, n26,σ1.9 87/39,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.81	29	P		Pb		00 47 23.0	-1.1
ARG				S		Sn		00 47 36.0	+1.6
	242nm,0.5s								
ARG	Arkhangelos	0.81	29	P		Pb		00 47 22.9	-1.1
ARG				S		Sb		00 47 33.5	-1.2
ARG				AML		AML		00 47 39.4	
	comp=E,545μm,0.5s								
ARG				AML		AML		00 47 40.3	
	comp=N,426μm,0.6s								
DAT	Datca	1.22	358	*i* P		Pb		00 47 31.1	+0.2
DAT				*i* S		Sb		00 47 47.0	+0.6
DAT	Datca	1.22	358	PN		Pb		00 47 31.1	+0.2
DAT				SN		Sb		00 47 52.4	+6.0
ZKR	Zakros	1.23	252	P		Pb		00 47 30.4	-0.6
ZKR				S		Sb		00 47 49.7	+3.2
	comp=N,120nm,0.7s								
ZKR	Zakros	1.23	252	P		Pb		00 47 30.7	-0.3
ZKR				S		Sb		00 47 47.1	+0.6
ZKR				AML		AML		00 47 59.5	
	comp=E,335μm,0.8s								
ZKR				AML		AML		00 47 59.9	
	comp=N,151μm,0.5s								
DALY	Dalyan (Mula)	1.54	32	*i* P		Pn		00 47 33.9	+0.4
DALY				*i* S		Sb		00 47 54.4	-1.1
DALY				IAML				00 48 06.0	
	comp=N,38nm,0.8s								
DALY				IAML				00 48 12.0	
	comp=E,33nm,0.8s								
DALY	Dalyan (Mula)	1.54	32	PN		Pb		00 47 34.8	-1.5
BDRM	Kayabasi	1.56	354	*i* P		Pb		00 47 35.5	-1.2
BDRM				*i* S		Sn		00 47 53.2	+0.3
BDRM				IAML				00 48 05.0	
	comp=N,43nm,0.5s								
BDRM				IAML				00 48 05.0	
	comp=E,36nm,0.7s								
BODT	Bodrum	1.57	350	PN		Pb		00 47 35.9	-0.9
FETY	Fethiye	1.62	46	*i* P		Pn		00 47 35.1	+0.3
FETY				*i* S		Sb		00 48 00.1	+2.2
FETY	Fethiye	1.62	46	PN		Pn		00 47 35.0	+0.3
FETY				SN		Sb		00 47 59.4	+1.5
NPS	Neapolis	1.67	262	P		Pb		00 47 38.3	-0.3
YER	Yerkesik	1.70	18	PN		Pb		00 47 37.6	-1.5
AKAS	Kas	1.75	65	PN		Pn		00 47 35.3	-1.3
MLSB	Milas	1.79	4	PN		Pb		00 47 39.0	-1.5
LAST	Lasithi	1.80	259	P		Pb		00 47 39.0	-1.7
LAST	Lasithi	1.80	259	P		Pb		00 47 40.2	-0.5
AYDN	Tasoluk	2.16	5	*i* P		Pb		00 47 47.3	+0.5
AYDN				*i* S	

BUCK						Sg		01 01 02.4	-0.8
I03D	**Drain, OR**	**0.44**	**205**			Pg		01 01 05.0	-0.5
I03D	**Drain, OR**	**0.44**	**205**	P				01 01 04.9	
	baz=25,SNR=40								
I03D				S				01 01 12.0	
	baz=25								
BROR	**Big Rock Looko**	**0.49**	**70**			Pg		01 01 05.6	-0.7
H04D	**Lebanon**	**0.49**	**31**			Pg		01 01 05.6	-0.8
H04D						Sb		01 01 14.4	+1.0
H04D	**Lebanon**	**0.49**	**31**	P				01 01 05.5	
	baz=210,SNR=16								
H04D				S				01 01 12.4	
	baz=210								
RNO	**Roman Nose**	**0.51**	**249**			Pg		01 01 06.4	-0.2
COR	**Corvallis**	**0.51**	**343**			Pg		01 01 06.0	-0.7
COR						Sb		01 01 14.8	+0.9
MPOR	**Mary's Peak**	**0.52**	**321**			Pg		01 01 06.4	-0.6
I02D	**Swisshome**	**0.55**	**271**			Pg		01 01 07.2	-0.2
I02D	**Swisshome**	**0.55**	**271**	P				01 01 07.1	
	baz=91,SNR=80								
I02D				S				01 01 14.4	
	baz=91								
HSO	**Harness Mounta**	**0.57**	**180**			Pg		01 01 07.4	-0.5
I04A	**Tendick Farm,**	**0.58**	**122**			Pb		01 01 07.4	-0.5
I04A						Sb		01 01 16.6	+0.8
I04A	**Tendick Farm,**	**0.58**	**122**	P				01 01 07.3	
	baz=302,SNR=35								
I04A				S				01 01 15.7	
	baz=302								
PRLK	**Prince Lake**	**0.82**	**82**			Pb		01 01 11.9	-0.3
H04A	**Detroit Lake**	**0.87**	**48**			Pb		01 01 12.0	-1.0
H04A	**Detroit Lake**	**0.87**	**48**	IAML				01 01 25.3	
	comp=N,82nm,0.4s								
WIFE	**Three Sisters-**	**0.92**	**92**			Pb		01 01 13.6	-0.3
DBO	**Dodson Butte**	**0.99**	**187**			Pb		01 01 14.3	-0.7
MOON	**Moon Mountain**	**1.02**	**92**			Pb		01 01 15.7	+0.1
J04D	**Umpqua Nationa**	**1.11**	**140**			Pg		01 01 18.3	+0.3
J04D	**Umpqua Nationa**	**1.11**	**140**	P				01 01 17.1	
	baz=321,SNR=8.4								
G03D	**McMinnville, O**	**1.12**	**354**	P				01 01 16.2	
	baz=174,SNR=6.2								
G03D				S				01 01 32.3	
	baz=174								
J01E	**Myrtle Point**	**1.12**	**213**	P				01 01 17.0	
	baz=33,SNR=14								
J01E				S				01 01 33.8	
	baz=33								
ASBU	**Astronaut Butt**	**1.27**	**102**			Pb		01 01 20.4	+0.5
I05D	**Terrebonne, OR**	**1.28**	**79**			Pb		01 01 20.1	+0.1
I05D	**Terrebonne, OR**	**1.28**	**79**	P				01 01 19.7	
	baz=260,SNR=5.8								
I05D				S				01 01 37.8	
	baz=260								
KWBU	**Kawak Butte, N**	**1.33**	**105**			Pb		01 01 21.4	+0.5
PGO	**Gresham**	**1.44**	**18**			Pn		01 01 18.8	-2.8
K02D	**Willamette Mer**	**1.47**	**197**	P				01 01 22.4	
	baz=16,SNR=6.1								
K02D				Sb				01 01 44.8	
	baz=16								
HUMO	**Hull Mountain**	**1.50**	**176**	Pn		Pb		01 01 23.2	-0.4
TDH	**Tom, Dick, Har**	**1.51**	**37**			Pn		01 01 23.2	+0.5
KMOR	**Kings Mountain**	**1.56**	**350**			Pn		01 01 23.4	+0.1
J05D	**Fort Rock, OR**	**1.57**	**121**			Pb		01 01 25.1	+0.1
J05D	**Fort Rock, OR**	**1.57**	**121**	Pb				01 01 25.0	
	baz=302,SNR=23								
J05D				Sb				01 01 47.5	
	baz=302								
PINE	**Pine Mountain**	**1.58**	**100**			Pb		01 01 24.6	-0.6
PINE				IAML				01 01 48.9	
	comp=E,27nm,0.4s								
PINE				IAML				01 02 00.4	
	comp=N,20nm,0.6s								
G05D	**Wamic, OR**	**1.70**	**47**	Pb				01 01 27.0	
	baz=228,SNR=18								
G05D				Sb				01 01 50.6	
	baz=228								
K04D	**Chiloquin, OR**	**1.77**	**146**	Pb				01 01 28.8	
	baz=327								
L04D	**Klamath Falls**	**1.97**	**163**	Pb				01 01 31.6	
	baz=343								
L04D				Sb				01 01 58.6	
	baz=343								
K05A	**Summer Lake**	**2.11**	**130**	Pn		Pn		01 01 31.9	+0.9
K05A				IAML				01 02 21.0	
	comp=N,8.7nm,2.1s								
K05A				IAML				01 02 21.1	
	comp=E,11nm,3.3s								
F05D	**White Salmon**	**2.13**	**32**	Sg				01 02 07.2	
	baz=213								
M02C	**Callahan**	**2.71**	**176**	Pb				01 01 44.5	
	baz=356								
LON	**Longmire**	**2.80**	**18**			Pn		01 01 42.1	+1.8
LON				IAML				01 02 36.3	
	comp=E,4.3nm,3.3s								
WPW	**White Pass**	**2.82**	**22**			Pn		01 01 41.0	+0.4
FMW	**Mount Fremont**	**3.00**	**19**			Pb		01 01 50.8	+1.4
G08A	**Pilot Rock**	**3.18**	**67**	Pn		Pn		01 01 46.5	+0.9
G08A				IAML				01 02 50.6	
	comp=N,4.7nm,1.5s								
G08A				IAML				01 03 05.3	
	comp=E,4.2nm,4.3s								
OBC	**Olympics--Boni**	**4.00**	**350**			Pb		01 02 03.8	-2.5
GPW	**Glacier Peak**	**4.24**	**18**			Pb		01 02 13.2	+2.6

*KRNET **25** 01:06:12.6±0.1, 40.20N×76.28E, mb2.7*
*SOME **25** 01:06:17.2, 40.45N×76.18E, h5km*
*NNC **25** 01:06:25.3±4.4, 40.66N×76.07E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=30.8km s-min=18.6km az=176.0*

ISC 25 01:06:16.9±1.9, 40.15N±0.08×76.29E±0.04, h24km±15km, n33, σ1§10/38, 23C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.95**	**36**	⇑*i*P		**Pn**	**01 06 47.6**	**-1.4**
	baz=37							
TARG				⇑*i*S		**Sn**	**01 07 13.3**	**+0.4**
	baz=37							
KDJ	**Kajisay**	**2.09**	**19**	⇑*i*P		**Pn**	**01 06 49.6**	**-1.1**
	baz=20							
KDJ				⇑*i*S		**Sn**	**01 07 16.6**	**+0.6**
	baz=20							
ULHL	**Ulahol**	**2.10**	**359**	⇑*i*P		**Pn**	**01 06 49.4**	**-1.3**
	baz=59							
ULHL				⇑*i*S		**Sn**	**01 07 16.0**	**-0.2**
	baz=59							
SFK	**Sufi-Kurgan**	**2.14**	**267**	⇑*i*P		**Pn**	**01 06 50.7**	**-0.7**
	baz=66							
SFK				⇑*i*S		**Sn**	**01 07 18.5**	**+1.2**
	baz=66							
ARLS	**Aral**	**2.27**	**320**	⇑*i*P		**Pn**	**01 06 52.0**	**-1.0**
	baz=19							
ARLS				⇑*i*S		**Sn**	**01 07 20.3**	**0.0**
	baz=19							
BOOM	**Boomskoye usch**	**2.35**	**354**	⇑*i*P		**Pn**	**01 06 53.1**	**-1.2**
	baz=54							
BOOM				⇑*i*S		**Sn**	**01 07 22.4**	**-0.1**
	baz=54							
AML	**Almayashu**	**2.78**	**316**	⇑*e*P		**Pn**	**01 06 59.4**	**-1.0**
	baz=16							
AML				⇑*i*S		**Sn**	**01 07 33.5**	**+0.1**
	baz=16							
TKM2	**Tokmak 2**	**2.82**	**350**	⇑Pg		**Pn**	**01 07 03.2**	**+2.6**
	5.8nm,0.7s							
TKM2				⇑Lg		Lg	01 07 37.9	
	8.7nm,0.5s							
PRZ	**Przheval'sk**	**2.82**	**34**	⇓*e*P		**Pn**	**01 06 59.8**	**-0.9**
	baz=34							
PRZ				⇓*i*S		**Sn**	**01 07 34.7**	**+0.6**
	baz=34							
AAK	**Ala-Archa**	**2.83**	**332**	⇑Pg		**Pn**	**01 07 03.6**	**+2.9**
	4.7nm,0.6s							
AAK				⇑Lg		Lg	01 07 39.1	
	6.8nm,0.7s							
ANVS	**Anan'yevo**	**2.83**	**21**	⇑*i*P		**Pn**	**01 06 59.6**	**-1.2**
	baz=22							
ANVS				⇑*i*S		**Sn**	**01 07 34.2**	**0.0**
	baz=22							
MDOK	**Medeo**	**3.06**	**10**	*e*P		**Pb**	**01 07 11.8**	**+0.9**
	2.3nm,0.3s							
MDOK				*e*S		**Sb**	**01 07 46.6**	**-1.3**
	11nm,0.3s							
MDOK	**Medeo**	**3.06**	**10**	Pg		**Pb**	**01 07 13.0**	**+2.1**
	4.3nm,0.4s							
MDOK				Lg		Lg	01 07 46.4	
	18nm,0.5s							
MDOK	**Medeo**	**3.06**	**10**	Pg		Pb	01 07 16.0	+5.1
	8.2nm,0.3s							
MDOK				Lg		Lg	01 07 46.7	
	11nm,0.3s							
DGS	**Degeres**	**3.11**	**353**	*e*P		**Pb**	**01 07 10.8**	**-0.9**
	3.4nm,0.6s							
DGS				*e*S		**Sb**	**01 07 48.8**	**-0.5**
	9.2nm,0.5s							
DGS	**Degeres**	**3.11**	**353**	Pg		Pb	01 07 18.1	+6.4
	11nm,0.5s							
DGS				Lg		Lg	01 07 48.8	
	9.2nm,0.5s							
MRKS	**Merke**	**3.47**	**319**	*e*P		**Pb**	**01 07 17.6**	**-0.1**
	1.9nm,0.3s							
MRKS				*e*S		**Sb**	**01 07 59.5**	**+0.1**
	9.0nm,0.5s							
MRKS	**Merke**	**3.47**	**319**	Pg		Pb	01 07 23.9	+6.2
	3.7nm,0.3s							
MRKS				Lg		Lg	01 07 59.7	
	9.0nm,0.5s							
SGDS	**Sogindy**	**3.52**	**340**	Pg		Pb	01 07 23.9	+5.2
	1.1nm,0.1s							
SGDS				Lg		Lg	01 08 00.7	
	3.8nm,0.5s							
KTBS	**Karatobe**	**3.57**	**5**	*e*P		**Pb**	**01 07 18.5**	**-0.9**
	0.7nm,0.5s							
KTBS				*e*S		**Sb**	**01 08 02.6**	**+0.2**
	7.3nm,0.3s							
KTBS	**Karatobe**	**3.57**	**5**	Pg		Pb	01 07 25.6	+6.2
	3.6nm,0.3s							
KTBS				Lg		Lg	01 08 02.6	
	7.3nm,0.3s							
KRBS	**Karabastau**	**3.57**	**353**	*e*P		**Pb**	**01 07 18.8**	**-0.6**
	2.4nm,0.5s							
KRBS				*e*S		**Sb**	**01 08 02.6**	**+0.2**
	4.0nm,0.5s							
KRBS	**Karabastau**	**3.57**	**353**	Pg		Pb	01 07 25.5	+6.0
	4.9nm,0.4s							
KRBS				Lg		Lg	01 08 02.6	
	4.0nm,0.5s							
UZB	**Uzynbulak**	**3.63**	**33**	*e*P		**Pb**	**01 07 20.1**	**-0.4**
	2.0nm,0.3s							
UZB				*e*S		**Sb**	**01 08 04.8**	**+0.7**
	6.0nm,0.5s							
UZB	**Uzynbulak**	**3.63**	**33**	Pg		Pb	01 07 26.6	+6.1
	2.1nm,0.2s							
UZB				Lg		Lg	01 08 05.1	
	6.0nm,0.5s							
KPKS	**Kokpek**	**3.77**	**28**	*e*P		**Pb**	**01 07 23.4**	**+0.6**
	3.2nm,0.3s							
KPKS				*e*S		**Sb**	**01 08 08.5**	**+0.4**
	22nm,0.2s							
SHLS	**Shalkode**	**3.83**	**37**	*e*P		Pb	01 07 28.5	+4.6
	2.5nm,0.3s							
SHLS				*e*S		Sb	01 08 18.9	+8.9
	11nm,0.5s							
SHLS	**Shalkode**	**3.83**	**37**	Pg		Pb	01 07 35.1	+11
	5.5nm,0.3s							
SHLS				Lg		Lg	01 08 18.9	
	11nm,0.5s							
PDGK	**Podgornoye**	**3.98**	**36**	Pg		Pb	01 07 32.6	+6.2
	0.7nm,0.2s							
PDGK				Lg		Lg	01 08 14.9	
	2.1nm,0.5s							
PDGK	**Podgornoye**	**3.98**	**36**	⇓Pg		Pb	01 07 31.1	+4.6
	3.0nm,1.0s							
PDGK				⇑Lg		Lg	01 08 19.3	
	4.3nm,0.6s							
KTMS	**Ketmen**	**4.48**	**41**	*e*P		**Pb**	**01 07 35.2**	**+0.2**
	1.3nm,0.3s							
KTMS				*e*S		**Sb**	**01 08 30.2**	**+1.5**
	3.9nm,0.4s							
KTMS	**Ketmen**	**4.48**	**41**	Pg		Pb	01 07 41.7	+6.7
	1.1nm,0.2s							
KTMS				Lg		Lg	01 08 30.2	
	3.9nm,0.4s							
KK31	**Karatay Array**	**5.24**	**306**	⇑Pg		**Pb**	**01 07 47.6**	**-0.2**
	0.2nm,0.4s,baz=119,slow=17							
KK31				⇑Lg		Lg	01 08 55.0	
	0.7nm,0.6s,baz=126,slow=28,SNR=3.7							

*IDC **25** 01:21:22.4±0.6, 17.46N×40.49E, h0km, mb4.1/29, mb1 4.2/31, mb1mx4.1/55, mbtmp4.1/31, ML3.5/2, MS4.4/33, Ms1 4.4/33, ms1mx4.3/37, Error ellipse: s-maj=16.1km s-min=12.5km az=126.0*
*GCMT **25** 01:21:23.2±0.2, 17.23N±0.01×40.57E±0.01, h12km, MW5.1/130, Moment Tensor Solution. s39,c51; s130,c205; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.81±.08; Mθθ2.19±.08; Mϕϕ2.63±.10; Mrθ-1.81±.32; Mθϕ-2.43±.07; Mϕr-1.57±.31; Best double couple: M○5.32700×10^16^ NP1:ϕs338.00000°, δ49.00000°, λ-59.00000°. NP2:ϕs117.00000°, δ50.00000°, λ-120.00000°. Principal axes: T 4.8500, Plg0.0000°, Azm227.0000°; N 0.9640, Plg23.0000°, Azm137.0000°; P -5.8040, Plg67.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 01:21:25.2±1.8, 17.46N±0.06×40.50E±0.09, h12km±3km, mb4.7/55 Error ellipse: s-maj=13.1km s-min=8.6km az=110.0*

ISC 25 01:21:23.6±1.9, 17.49N±0.05×40.50E±0.06, h6km±11km, n177, σ1§22/176, mb4.5/76, MS4.4/37, 1C-4D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**6.35**	**159**	Lg		Lg	01 24 35.3	
	baz=251,slow=21,SNR=0.9							
ATD	**Arta Tunnel**	**6.35**	**159**			**Pn**	**01 22 56.1**	**-1.8**
ATD					Sn	Sn	01 24 19.0	+8.2
ATD	**Arta Tunnel**	**6.35**	**159**	*e*P		**Pn**	**01 22 55.4**	**-2.5**
ATD				*e*S		**Sn**	**01 24 16.6**	**+5.8**
RAYN	**Ar Rayn**	**7.61**	**37**	Pn		**Pn**	**01 23 15.5**	**+0.3**
RAYN					Sn	**Sn**	**01 24 38.6**	**-3.2**
AAE	**Adis Abeba**	**8.58**	**192**	*e*P		**Pn**	**01 23 26.6**	**-2.2**
AAE				*e*S		Sn	01 25 30.6	+24
FURI	**Furi**	**8.73**	**192**	Pn		**Pn**	**01 23 29.2**	**-1.6**
FURI					Sn	**Sn**	**01 25 11.9**	**+2.1**
FURI	**Furi**	**8.73**	**192**	*e*P		Pg	01 23 59.9	-11
FURI				*e*S		Sg	01 25 38.8	-25
EIL	**Elat**	**13.14**	**338**	LR		LR	01 28 42.3	
	comp=Z,2μm,20.0s,baz=180,slow=33							
MMAI	**Mount Meron Ar**	**16.12**	**344**	Pn		**P**	**01 25 15.3**	**+0.9**
	0.2nm,0.3s,baz=158,slow=16,SNR=4.7							
MMAI				LR		LR	01 30 53.3	
	comp=Z,1μm,18.8s,baz=175,slow=35							
UOSS	**Minazif**	**16.40**	**60**	P		**P**	**01 25 17.7**	**+0.2**
UOSS				IAmb		IAmb	01 25 29.0	
	comp=Z,54nm,1.1s							
WSAR	**Wadi Sarin**	**17.93**	**68**	P		**P**	**01 25 35.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=296,slow=4.8,SNR=4.0							
CSS	**Mathiatis**	**18.54**	**341**	P		**Pn**	**01 25 42.0**	**+0.8**
KMBO	**Kilima Mbogo**	**18.78**	**190**	P		**Pn**	**01 25 44.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=34,slow=12,SNR=3.4							
KMBO				LR		LR	01 32 41.7	
	comp=Z,3μm,19.8s,baz=0.0,slow=36							
MBAR	**Mbarara**	**20.39**	**209**	P		**P**	**01 26 00.9**	**-0.7**
	comp=Z,6.0nm,0.8s,baz=52,slow=9.2,SNR=6.6							
MBAR				LR		LR	01 33 54.1	
	comp=Z,1μm,19.8s,baz=14,slow=37							
MBAR	**Mbarara**	**20.39**	**209**	P		**P**	**01 26 00.7**	**-0.9**
GURO	**Guroymak-BITLI**	**21.02**	**3**	P		**P**	**01 26 08.6**	**+0.3**
ELL	**Elmali**	**21.34**	**336**	P		**P**	**01 26 12.8**	**+1.1**
BNN	**Bunyan**	**21.66**	**350**	P		**P**	**01 26 16.4**	**+1.3**
BNN				IAmb		IAmb	01 26 34.9	
	comp=Z,54nm,1.3s							
GNI	**Garni**	**22.87**	**8**	P		**P**	**01 26 26.5**	**-1.5**
	comp=Z,5.6nm,0.9s,baz=230,slow=19,SNR=2.7							
GNI				LR		LR	01 35 29.0	
	comp=Z,729nm,21.7s,baz=196,slow=37							
GNI	**Garni**	**22.87**	**8**	P		**P**	**01 26 29.3**	**+1.3**
GNI				IAmb		IAmb	01 26 41.7	
	comp=Z,18nm,1.1s							
BRTR	**Keskin Array B**	**22.94**	**346**	P		**P**	**01 26 30.2**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=172,slow=12,SNR=8.6							
BRTR				LR		LR	01 34 55.0	
	comp=Z,988nm,19.4s,baz=156,slow=35							
BRTR	**Keskin Array B**	**22.94**	**346**	P		**P**	**01 26 30.3**	**+1.5**
BRTR				PcP		**PcP**	**01 30 18.6**	**-0.6**
BR131	**Keskin Array S**	**22.94**	**346**	P		**P**	**01 26 30.0**	**+1.2**
KARS	**Kars**	**23.16**	**5**	P		**P**	**01 26 30.5**	**-0.5**
BR231	**Keskin MP Arra**	**23.26**	**345**	P		**P**	**01 26 33.4**	**+1.4**
ANTO	**Ankara**	**23.28**	**345**	P		**P**	**01 26 32.5**	**+0.3**
ANTO				IAmb		IAmb	01 26 51.0	
	comp=Z,53nm,1.7s							
BALB	**Balikesir**	**24.64**	**336**	P		**P**	**01 26 45.8**	**+0.7**
ONI	**Oni**	**25.14**	**5**	P		**P**	**01 26 51.1**	**+1.5**
GEYT	**Alibeck**	**25.56**	**34**	LR		LR	01 38 05.0	
	comp=Z,4μm,18.5s,baz=225,slow=39							
GYA0B	**ALIBECK ARRAY**	**25.56**	**34**	P		**P**	**01 26 53.1**	**-0.3**
GYA0B				IAmb		IAmb	01 27 00.7	
	comp=Z,25nm,1.9s							
HRA	**Herat**	**25.70**	**45**	P		**P**	**01 26 55.9**	**+1.0**
HRA				IAmb		IAmb	01 27 12.3	
	comp=Z,23nm,1.4s							
KBZ	**Khabaz**	**26.23**	**4**	P		**P**	**01 27 01.1**	**+1.8**
	comp=Z,1.5nm,0.9s,baz=143,slow=10.0,SNR=1.9							
KBZ				LR		LR	01 38 08.8	
	comp=Z,770nm,19.3s,baz=190,slow=38							
KVAR	**Kislovodsk Arr**	**26.44**	**4**	LR		LR	01 38 20.7	
	comp=Z,961nm,19.3s,baz=85,slow=38							
AGG	**Agios Georgios**	**26.66**	**327**	P		**P**	**01 27 04.0**	**+0.6**
AGG				IAmb		IAmb	01 27 06.8	
	comp=Z,9.3nm,0.8s							
VTS	**Vitosha**	**29.05**	**333**	P		**P**	**01 27 24.6**	**-0.2**
VAE	**Valguarnera**	**30.36**	**316**	LR		LR	01 39 47.7	
	comp=Z,232nm,18.7s,baz=153,slow=36							
MLR	**Muntele Rosu**	**30.45**	**340**	P		**P**	**01 27 37.8**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=68,slow=18,SNR=3.1							
MLR				PcP		**PcP**	**01 30 36.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=180,slow=4.0,SNR=5.9							
MLR				LR		LR	01 40 41.0	
	comp=Z,127nm,20.2s,baz=166,slow=38							
MLR	**Muntele Rosu**	**30.45**	**340**	P		**P**	**01 27 37.9**	**+0.7**
BURAR	**Bucovina Array**	**32.56**	**341**	P		**P**	**01 27 55.5**	**-0.3**
CHGR	**Chuyangaron**	**32.70**	**44**	P		**P**	**01 27 53.9**	**-3.2**
CHGR				IAmb		IAmb	01 28 08.1	
	comp=Z,13nm,1.0s							
KEST	**Kesra**	**33.05**	**309**	P		**P**	**01 28 01.5**	**+1.3**
	comp=Z,7.3nm,0.9s,baz=140,slow=7.9,SNR=6.9							
KEST				LR		LR	01 43 23.9	
	comp=Z,335nm,18.0s,baz=15,slow=40							
KEST	**Kesra**	**33.05**	**309**	P		**P**	**01 28 01.7**	**+1.5**
KEST				IAmb		IAmb	01 28 04.8	
	comp=Z,12nm,1.1s							
GAR	**Garm**	**33.65**	**44**	P		**P**	**01 28 04.7**	**-0.7**
AKASG	**Malin Array Be**	**34.34**	**347**	P		**P**	**01 28 10.6**	**-0.5**
	comp=Z,0.2nm,0.2s,baz=166,slow=8.2,SNR=8.3							
AKASG				PcP		**PcP**	**01 30 45.9**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=169,slow=2.4,SNR=4.9							
AKASG				LR		LR	01 43 23.6	
	comp=Z,184nm,19.1s,baz=130,slow=38							
BTK	**Batken**	**34.53**	**43**	P		**P**	**01 28 13.9**	**+0.9**
BTK				IAmb		IAmb	01 28 19.5	
	comp=Z,21nm,1.6s							
KOLS	**Kolonicke sedl**	**34.68**	**339**	*e*P		**P**	**01 28 15.8**	**+1.7**
DRK	**Karamyk**	**34.88**	**45**	P		**P**	**01 28 16.9**	**+0.6**
DRK				IAmb		IAmb	01 28 31.7	
	comp=Z,9.8nm,0.9s							
CRVS	**Cervenica-Dubn**	**34.94**	**338**	*e*P		**P**	**01 28 17.3**	**+1.0**
ABKAR	**Akbulak array**	**35.38**	**22**	P		**P**	**01 28 21.1**	**+1.0**
ABKAR	**Akbulak array**	**35.38**	**22**	P		**P**	**01 28 21.4**	**+1.3**
ABKAR				IAmb		IAmb	01 28 33.0	
	comp=Z,8.4nm,1.6s							
VYHS	**Vyhne**	**35.61**	**335**	*e*P		**P**	**01 28 22.7**	**+0.6**
KK31	**Karatay Array**	**36.03**	**39**	P		**P**	**01 28 27.2**	**+1.4**
KK31				IAmb		IAmb	01 28 44.7	
	comp=Z,5.4nm,0.8s							
KKAR	**Karatay Array**	**36.03**	**39**	P		**P**	**01 28 26.9**	**+1.1**
KKAR	**Karatay Array**	**36.03**	**39**	P		**P**	**01 28 26.5**	**+0.7**
KKAR				IAmb		IAmb	01 28 44.7	
	comp=Z,5.4nm,0.8s							
ZST	**Bratislava**	**36.09**	**333**	*e*P		**P**	**01 28 27.2**	**+1.0**
ARSA	**Arzberg**	**36.10**	**331**	*e*P		**P**	**01 28 27.6**	**+1.3**
	comp=Z,5.0nm,0.9s							
MODS	**Modra-Piesok**	**36.16**	**334**	*e*P		**P**	**01 28 26.5**	**-0.3**
JAVC	**Velka Javorina**	**36.37**	**334**	*e*P		**P**	**01 28 29.6**	**+1.0**
CONA	**Conrad Observa**	**36.44**	**332**	*e*P		**P**	**01 28 29.7**	**+0.4**
	comp=Z,8.7nm,1.7s							
ARSB	**Arslanbob**	**36.59**	**43**	P		**P**	**01 28 30.8**	**0.0**
ARSB				IAmb		IAmb	01 28 36.6	
	comp=Z,32nm,1.9s							
STAL	**STALIGIAL**	**36.78**	**327**	P		**P**	**01 28 33.8**	**+1.6**
STAL				IAmb		IAmb	01 28 38.5	
	comp=Z,9.7nm,1.0s							
ZOU	**Zoufplan**	**36.85**	**328**	P		**P**	**01 28 33.2**	**+0.3**
KBA	**Koelnbreinsper**	**37.02**	**329**	*e*P		**P**	**01 28 35.8**	**+1.4**
	comp=Z,5.2nm,1.0s							
KRUC	**Moravsky**	**37.06**	**334**	*e*P		**P**	**01 28 34.1**	**-0.4**
MOA	**Molln**	**37.12**	**330**	*e*P		**P**	**01 28 35.2**	**+0.2**
	comp=Z,6.6nm,0.9s							
MORC	**Moravsky Berou**	**37.14**	**335**	*e*P		**P**	**01 28 35.4**	**+0.2**
MORC	**Moravsky Berou**	**37.14**	**335**	P		**P**	**01 28 35.7**	**+0.5**
VRAC	**Vranov**	**37.16**	**334**	*e*P		**P**	**01 28 34.8**	**-0.6**
ABTA	**Abfaltersbach**	**37.21**	**328**	*e*P		**P**	**01 28 37.9**	**+2.0**
	comp=Z,6.6nm,1.2s							
TOA0	**Torodi Ar. Sit**	**37.63**	**269**	P		**P**	**01 28 38.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**37.63**	**269**	P		**P**	**01 28 38.4**	**-1.4**
	comp=Z,4.6nm,0.5s,baz=81,slow=7.7,SNR=28							
TORD				PcP		**PcP**	**01 30 56.1**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=54,slow=2.2,SNR=2.7							
TORD				LR		LR	01 44 40.8	
	comp=Z,1μm,19.1s,baz=80,slow=37							
TORD	**Torodi Ar. Bea**	**37.63**	**269**	P		**P**	**01 28 38.5**	**-1.2**
KRLC	**Kraliky**	**37.68**	**335**	*e*P		**P**	**01 28 39.3**	**-0.5**
CKRC	**Cesky Krumlov**	**37.80**	**332**	*e*P		**P**	**01 28 40.9**	**+0.2**
WTTA	**Wattenberg**	**38.00**	**328**	*e*P		**P**	**01 28 43.1**	**+

MATP Matopo 39.48 198 P P 01 28 56.2 +0.9
comp=Z,3.8nm,1.2s,baz=27,slow=11,SNR=2.4
MATP PcP **PcP** **01 31 02.5 -0.7**
comp=Z,1.3nm,0.7s,baz=342,slow=3.2,SNR=2.0
NKC Novy Kostel 39.66 332 *eP* **P 01 28 56.1 -0.2**
SENIN Lac Senin/Sane 39.78 324 P **P 01 28 57.1 -0.6**
GRF Grafenberg Arr 39.85 330 *eP* **P 01 28 56.7 -1.2**
comp=Z,4.2nm,0.9s,baz=125,slow=8.2
CLL Collm 40.19 333 *i* P **P 01 28 58.8 -1.9**
comp=Z,7.0nm,1.5s
CLL *e*PP **PnPn** **01 30 42.0 +5.4**
CLL *e*S **S** **01 35 09.0 +1.2**
CLL *e*SSS SSS 01 38 30.0
CLL Lm MLR 01 47 00.0
comp=Z,100nm,21.9s
BFO Black Forest 40.40 327 P **P 01 29 02.8 +0.2**
ARU Arti 41.19 15 P **P 01 29 09.0 0.0**
comp=Z,1.9nm,0.8s,baz=198,slow=5.8,SNR=7.6
ARU Arti 41.19 15 P **P 01 29 09.1 +0.2**
BVAR Borovoye Array 42.45 26 P **P 01 29 19.6 +0.3**
comp=Z,1.6nm,0.6s,baz=161,slow=14,SNR=3.7
KOWA Kowa 42.83 273 P **P 01 29 22.8 0.0**
comp=Z,1.9nm,0.7s,baz=82,slow=8.1,SNR=4.2
BCLA Clavier 43.24 327 *d*P **P 01 29 25.8 +0.1**
BCLA *d*x x 01 29 32.3
KLMR Klimovskoe 43.31 359 *e*P **P 01 29 24.0 -2.1**
KLMR AMP 01 29 28.6
comp=Z,10.0nm,0.9s
KLMR LR LR 01 52 39.7
BGES Gesves 43.33 327 *d*P **P 01 29 26.2 -0.2**
DOU Dourbes 43.42 327 *d*P **P 01 29 26.7 -0.4**
CLF Chambon-Foret 43.57 323 P **P 01 29 27.9 -0.4**
CLF IAmb IAmb 01 29 31.4
comp=Z,8.9nm,0.7s
ESBB Sonseca Array 44.30 309 P **P 01 29 34.4 -0.1**
ESBB IAmb IAmb 01 29 50.1
comp=Z,21nm,1.5s
ESDC Sonseca Array 44.31 309 P **P 01 29 34.3 -0.3**
comp=Z,3.5nm,0.8s,baz=103,slow=7.2,SNR=28
ESDC LR LR 01 48 13.3
comp=Z,216nm,20.5s,baz=125,slow=36
ESDC Sonseca Array 44.31 309 P **P 01 29 34.4 -0.1**
ESDC IAmb IAmb 01 29 50.0
comp=Z,23nm,1.7s
PAB San Pablo 44.55 309 P **P 01 29 35.9 -0.7**
KURBB Kurchatov Arra 44.83 34 P **P 01 29 39.4 +0.9**
comp=Z,2.5nm,0.8s,baz=237,slow=8.1,SNR=22
KURBB PcP **PcP** **01 31 20.1 -0.2**
comp=Z,0.5nm,0.6s,baz=247,slow=3.1,SNR=3.6
MAKZ Makanchi 44.90 40 P **P 01 29 39.7 +0.6**
MAKZ IAmb IAmb 01 29 44.9
comp=Z,26nm,1.9s
KURK Kurchatov 44.93 34 P **P 01 29 39.4 +0.1**
FINES FINESS Array B 45.08 350 P **P 01 29 41.2 +1.0**
comp=Z,1.4nm,0.7s,baz=191,slow=8.9,SNR=5.0
MK31 Makanchi Array 45.09 40 P **P 01 29 41.6 +1.0**
MK31 IAmb IAmb 01 29 45.2
comp=Z,16nm,1.8s
MKAR Makanchi Array 45.09 40 P **P 01 29 41.2 +0.5**
comp=Z,0.8nm,0.5s,baz=232,slow=8.0,SNR=14
MKAR LR LR 01 51 04.2
comp=Z,1μm,18.3s,baz=235,slow=40
MKAR Makanchi Array 45.09 40 P **P 01 29 41.0 +0.3**
DBIC Dimbokro 45.53 262 LR LR 01 48 43.1
comp=Z,1μm,19.6s,baz=56,slow=36
PBAR Barrancos 46.24 306 *e*P **P 01 29 49.0 -0.9**
comp=Z,12nm,1.9s
PBAR Barrancos 46.24 306 *e*LR LR 01 45 07.8
comp=Z,154nm,22.1s
PVAQ Vaqueiros 46.60 305 *e*P **P 01 29 52.2 -0.5**
PVAQ Vaqueiros 46.60 305 *e*LR LR 01 44 32.9
comp=Z,172nm,18.0s
PMRV Marv??o 46.80 308 *e*P **P 01 29 53.5 -0.7**
comp=Z,19nm,1.5s
PMRV Marv??o 46.80 308 *e*LR LR 01 44 58.7
comp=Z,164nm,18.0s
PBEJ Beja 46.85 306 *e*P **P 01 29 55.7 +1.1**
comp=Z,13nm,1.2s
PBRG Braganca 46.94 311 *e*P **P 01 29 55.1 -0.2**
comp=Z,8.5nm,1.6s
PCBR Castelo Branco 46.96 308 *e*P **P 01 29 55.1 -0.4**
comp=Z,12nm,1.7s
MVO Moncorvo 46.97 310 *e*P **P 01 29 55.1 -0.5**
comp=Z,12nm,1.2s
MVO Moncorvo 46.97 310 *e*LR LR 01 45 03.7
comp=Z,151nm,20.0s
EVO Evora 47.07 307 *e*P **P 01 29 56.0 -0.3**
comp=Z,23nm,1.3s
MESJ Messejana 47.08 306 *e*P **P 01 29 57.1 +0.6**
comp=Z,15nm,1.2s
MTE Manteigas 47.15 309 *e*P **P 01 29 58.7 +1.7**
MTE Manteigas 47.15 309 *e*LR LR 01 44 59.6
comp=Z,99nm,20.0s
PMTG Montargil 47.35 307 *e*P **P 01 29 57.6 -0.9**
comp=Z,15nm,1.5s
PVIS Viseu 47.49 310 *e*P **P 01 29 59.1 -0.5**
comp=Z,13nm,1.4s
WMQ Urumqi 47.50 46 *e*P **P 01 30 02.9 +3.2**
WMQ L L
comp=Z,620nm,13.5s
WMQ L L
comp=Z,490nm,14.9s
WMQ L L
comp=Z,1μm,21.5s
POLO Lamas de Olo 47.58 310 *e*P **P 01 30 00.6 +0.2**
comp=Z,8.3nm,1.4s
PGAV Gavieira, Arco 48.08 311 *e*P **P 01 30 04.3 0.0**
comp=Z,25nm,1.2s
PGAV A A 01 50 46.9
comp=Z,166nm,20.0s
BOSA Boshof 48.15 198 LR LR 01 50 38.5
comp=Z,1μm,19.6s,baz=30,slow=36
NOA NORSAR Array B 48.23 341 P **P 01 30 04.1 -1.0**
comp=Z,1.4nm,0.7s,baz=138,slow=8.7,SNR=6.3
NOA LR LR 01 50 18.1
comp=Z,95nm,21.4s,baz=140,slow=36
ZAA0 Zalesovo Array 49.86 33 P **P 01 30 17.9 +0.3**
ZAA0 IAmb IAmb 01 30 23.9
comp=Z,15nm,1.3s
ZALV Zalesovo Beam 49.86 33 P **P 01 30 17.3 -0.3**
comp=Z,4.1nm,0.7s,baz=246,slow=7.4,SNR=15
ZALV LR LR 01 53 34.8
comp=Z,445nm,18.5s,baz=266,slow=39
ZALV Zalesovo Beam 49.86 33 P **P 01 30 17.9 +0.3**
ARCES ARCESS Array B 52.85 353 P **P 01 30 39.1 -0.7**
comp=Z,2.3nm,1.0s,baz=142,slow=4.6,SNR=5.5
ARCES LR LR 01 55 56.3
comp=Z,169nm,18.8s,baz=150,slow=39
PMOZ Porto Moniz, M 53.80 298 *e*LR LR 01 48 41.8
comp=Z,380nm,18.0s
CMAR Chiang Mai Arr 55.38 79 LR LR 01 56 31.3
comp=Z,86nm,19.4s,baz=324,slow=38
GTA Gaotai 55.51 54 *e*P **P 01 31 02.9 +3.0**
GTA pP sP 01 31 09.1 +6.9
GTA sP pP 01 31 12.8 +11
GTA pmax pmax
comp=Z,6.0nm,1.9s
GTA pmax pmax
comp=Z,81nm,4.7s
GTA L L
comp=Z,500nm,17.4s
GTA L L
comp=Z,430nm,18.2s
GTA L L
comp=Z,620nm,17.8s
LZH Lanzhou 58.53 58 *e*P **P 01 31 25.1 +3.7**
LZH sP sP 01 31 31.3 +7.5
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,91nm,7.2s
LZH L L
comp=Z,490nm,16.3s
LZH L L
comp=Z,770nm,15.7s
LZH L L
comp=Z,550nm,17.9s
NRIK Noril'sk 59.33 18 P **P 01 31 25.4 -0.7**
comp=Z,1.3nm,0.4s,baz=219,slow=6.4,SNR=4.2
NRIK LR LR 02 01 48.6
comp=Z,446nm,18.6s,baz=228,slow=41
NRIK Noril'sk 59.33 18 P **P 01 31 25.7 -0.4**
NRIK IAmb IAmb 01 31 39.3
comp=Z,8.7nm,1.2s
SONM Songino Array 61.09 45 P **P 01 31 39.1 +0.3**
comp=Z,1.2nm,0.6s,baz=261,slow=8.1,SNR=7.7
SONM LR LR 02 01 38.5
comp=Z,952nm,19.7s,baz=272,slow=40
SONM Songino Array 61.09 45 P **P 01 31 38.2 -0.6**
SONM IAmb IAmb 01 31 53.9
comp=Z,6.9nm,1.4s
HHC Hu-ho-hao-te 64.56 53 *e*P **P 01 32 02.8 +0.8**
QIZ Qiongzhong 65.46 77 P **P 01 32 06.6 -1.4**
QIZ S **S** **01 40 53.0 -0.6**
QIZ L L
comp=Z,350nm,24.7s
QIZ L L
comp=Z,290nm,22.3s
QIZ L L
comp=Z,180nm,23.5s
WHN Wuhan 67.66 64 ⇑P **P 01 32 21.4 -0.5**
HIA Hailar 69.97 43 P **P 01 32 35.7 -0.4**
HIA IAmb IAmb 01 32 51.7
comp=Z,5.2nm,0.7s
NJ2 Nanjing 71.25 61 *e*P **P 01 32 44.0 -0.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
TIXI Tiksi 73.02 19 P **P 01 32 52.8 -1.2**
comp=Z,1.6nm,0.4s,baz=302,slow=5.5,SNR=5.9
TIXI Tiksi 73.02 19 P **P 01 32 52.6 -1.4**
TIXI IAmb IAmb 01 33 05.4
comp=Z,4.7nm,1.1s
KSRS Korea Array 77.58 54 LR LR 02 12 59.4
comp=Z,378nm,19.2s,baz=270,slow=40
KLR Kul'dur 77.76 42 P **P 01 33 20.6 -1.0**
comp=Z,1.5nm,0.7s,baz=299,slow=6.9,SNR=7.2
USRK Usurisk Ar. 79.06 47 P **P 01 33 27.7 -1.2**
comp=Z,0.7nm,0.7s,baz=270,slow=4.3,SNR=1.4
USRK LR LR 02 12 45.2
comp=Z,573nm,20.3s,baz=281,slow=39
MJAR Matsushiro Arr 85.75 53 P **P 01 34 04.0 -0.2**
comp=Z,0.8nm,0.2s,baz=278,slow=7.2,SNR=4.1
MJAR LR LR 02 16 13.7
comp=Z,356nm,20.7s,baz=320,slow=38
MJAR Matsushiro Ar 85.75 53 P **P 01 34 04.2 +0.1**
MJAR IAmb IAmb 01 34 07.2
comp=Z,12nm,1.7s
MAW Mawson 86.43 172 P **P 01 34 06.1 -0.4**
comp=Z,2.6nm,0.8s,baz=332,slow=7.1,SNR=4.7
MAW LR LR 02 09 18.4
comp=Z,148nm,20.2s,baz=26,slow=33
F63A Nahmakanta, Br 90.65 319 P **P 01 34 27.3 0.0**
PETK Petropavlovsk- 91.41 32 LR LR 02 19 44.2
comp=Z,407nm,18.4s,baz=273,slow=38
BDFB Brasilia 93.23 255 LR LR 02 11 58.2
comp=Z,197nm,21.7s,baz=97,slow=33
ILAR Eilson Array 97.80 3 LR LR 02 24 25.6
comp=Z,62nm,20.0s,baz=345,slow=39
ASAR Alice Springs 99.86 112 LR LR 02 13 42.2
comp=Z,154nm,18.9s,baz=241,slow=31
NVAR Mina Array Bea 120.92 341 PKP **PKiKP** **01 40 17.8 -0.1**
comp=Z,0.4nm,0.6s,baz=11,slow=1.9,SNR=4.8
TXAR Lajitas Array 122.00 323 PKP **PKPdf** **01 40 18.4 -1.5**
comp=Z,0.3nm,0.6s,baz=168,slow=1.2,SNR=6.2
TXAR Lajitas Array 122.00 323 PKPdf **PKPdf** **01 40 18.9 -1.0**
DZM Mont Dzumac 129.14 104 *e*LR LR 02 21 17.3
comp=Z,179nm,25.8s
TBI Tubuai 168.99 124 *e*LR LR 02 39 45.0
comp=Z,200nm,24.2s
PPT2 Papeete2 170.38 92 *e*LR LR 02 40 25.3
comp=Z,229nm,25.2s

NEIC ***25*** *01:53:55.3±0.6,20.7S±0.1×178.8W±0.1,h610km±10km, mb4.0/15, Error ellipse: s-maj=21.3km s-min=13.0km az=60.0*
IDC ***25*** *01:53:55.3±1.8,20.43S×178.89W,h624km±18km,mb2.9/5, mb1 3.2/7,mb1mx3.0/21,mbtmp3.9/7, Error ellipse: s-maj=33.8km s-min=16.7km az=153.0*

ISC 25 01:53:53.4±0.7, 20.6S±0.1×178.8W±0.1, h600km, n31, σ1°19/35, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MSVF	**Nonsavu**	**4.12**	**313**	P	**P**	**01 55 21.9**	**+2.0**
	1.9nm,0.3s,baz=191,slow=22,SNR=6.5						
MSVF	**Nonsavu**	**4.12**	**313**	P	**P**	**01 55 22.3**	**+2.4**
DZM	**Mont Dzumac**	**13.84**	**261**	P	**P**	**01 56 51.1**	**+0.2**
	1.0nm,0.3s,baz=107,slow=17,SNR=6.9						
DZM	**Mont Dzumac**	**13.84**	**261**	P	**P**	**01 56 51.3**	**+0.4**
THZ	**Tophouse**	**22.25**	**197**	P	**P**	**01 58 08.0**	**+0.8**
CTAO	**Charters Tower**	**32.75**	**265**	P	**P**	**01 59 39.6**	**+0.9**
CTAO				IAmb	IAmb	01 59 51.0	
	comp=Z,4.5nm,1.0s						
BBOO	**Buckleboo**	**41.85**	**244**	P	**P**	**02 00 52.6**	**+0.1**
BBOO				IAmb	IAmb	02 00 52.9	
	comp=Z,3.3nm,0.5s						
WR0	**Warramunga Arr**	**43.67**	**262**	P	**P**	**02 01 07.0**	**+0.2**
WR0				IAmb	IAmb	02 01 16.7	
	comp=Z,5.5nm,1.1s						
AS31	**Alice Springs**	**43.78**	**257**	P	**P**	**02 01 08.0**	**+0.3**
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**02 01 08.0**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=97,slow=7.6,SNR=33						
ASAR				PcP	**PcP**	**02 02 40.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=99,slow=4.0,SNR=9.4						
ASAR				S	**S**	**02 06 54.5**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=93,slow=14,SNR=5.5						
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**02 01 07.7**	**-0.1**
ASAR					**PcP**	**02 02 40.3**	**-0.4**
WB0	**Warramunga Arr**	**43.84**	**263**	P	**P**	**02 01 08.0**	**-0.2**
WB0				IAmb	IAmb	02 01 17.6	
	comp=Z,7.9nm,1.1s						
WB2	**Warramunga Arr**	**43.84**	**262**	P	**P**	**02 01 07.6**	**-0.6**
WB2				IAmb	IAmb	02 01 26.3	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**43.86**	**262**	P	**P**	**02 01 08.0**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=97,slow=7.5,SNR=15						
WRA				PcP	**PcP**	**02 02 40.1**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=102,slow=3.3,SNR=1.6						
WRA	**Warramunga Arr**	**43.86**	**262**	P	**P**	**02 01 08.3**	**0.0**
HATHI	**Halema'uma'u T**	**45.96**	**32**	P	**P**	**02 01 25.8**	**+1.4**
FORT	**Forrest**	**48.58**	**247**	P	**P**	**02 01 43.5**	**-0.3**
FORT				IAmb	IAmb	02 01 58.6	
	comp=Z,9.1nm,0.9s						
KNRA	**Kununurra**	**49.92**	**267**	P	**P**	**02 01 53.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.28**	**263**	P	**P**	**02 02 11.4**	**+0.6**
FITZ				IAmb	IAmb	02 02 28.8	
	comp=Z,3.9nm,1.1s						
VNDA	**Vanda**	**57.76**	**185**	P	**P**	**02 02 48.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=42,slow=4.0,SNR=2.6						
VNDA	**Vanda**	**57.76**	**185**	P	**P**	**02 02 48.7**	**+0.9**
CASY	**Casey**	**63.57**	**205**	P	**P**	**02 03 25.9**	**-0.1**
CASY				IAmb	IAmb	02 03 42.6	
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	**69.48**	**180**	P	**P**	**02 04 02.7**	**+0.1**
QSPA				IAmb	IAmb	02 04 03.2	
	comp=Z,2.8nm,0.6s						
TXAR	**Lajitas Array**	**87.73**	**58**	P	**P**	**02 05 41.0**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=224,slow=3.8,SNR=3.5						
ILAR	**Eielson Array**	**88.56**	**13**	P	**P**	**02 05 41.5**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=220,slow=5.4,SNR=5.2						
ARCES	**ARCESS Array B**	**128.87**	**349**	PKP	**PKPdf**	**02 11 50.5**	**-2.5**
	comp=Z,1.6nm,0.7s,baz=29,slow=2.8,SNR=7.5						
FINES	**FINESS Array B**	**135.65**	**343**	PKP	**PKPdf**	**02 12 04.7**	**-1.2**
	comp=Z,2.4nm,1.0s,baz=119,slow=2.4,SNR=4.0						
AKASG	**Malin Array Be**	**142.73**	**330**	PKP	**PKPdf**	**02 12 15.5**	**-3.7**
	comp=Z,2.0nm,0.3s,baz=41,slow=4.4,SNR=20						
BRTR	**Keskin Array B**	**146.35**	**312**	PKPbc	**PKPbc**	**02 12 27.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=108,slow=4.7,SNR=5.6						
CLL	**Collm**	**147.97**	**346**	*i* PKPbc	**PKPbc**	**02 12 31.6**	**-0.4**
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**150.08**	**343**	PKPbc	**PKPbc**	**02 12 36.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=23,slow=4.4,SNR=5.9						

RSNC 25 02:22:57.9±0.9, 7.38N×73.75W, h93km±6km, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.28**	**172**	*e*P	Pn	02 23 11.1	-0.5
BRRC				*e*S	Sn	02 23 21.4	-0.3
BRRC				*i*		02 23 21.5	
	comp=Z,64nm,0.1s						
BRRC	**Barranca, Sant**	**0.28**	**172**	*e*P	Pn	02 23 11.1	-0.5
BRRC				*e*S	Sn	02 23 21.4	-0.3
BRRC				*i*		02 23 21.5	
	comp=Z,64nm,0.1s						
OCAC	**Ocana**	**0.95**	**27**	*e*P	Pn	02 23 16.9	-0.5
OCAC				*e*S	Sn	02 23 32.2	+0.2
OCAC				*i*		02 23 34.4	
	comp=Z,24nm,0.2s						
OCAC	**Ocana**	**0.95**	**27**	*e*P	Pn	02 23 16.9	-0.5
OCAC				*e*S	Sn	02 23 32.2	+0.2
OCAC				*i*		02 23 34.4	
	comp=Z,24nm,0.2s						
BARC	**Barichara**	**0.97**	**144**	*e*P	Pn	02 23 17.3	-0.4
BARC				*e*S	Sn	02 23 31.9	-0.6
BARC				*i*		02 23 33.7	
	comp=Z,9.2nm,0.2s						
BARC	**Barichara**	**0.97**	**144**	*e*P	Pn	02 23 17.3	-0.4
BARC				*e*S	Sn	02 23 31.9	-0.6
BARC				*i*		02 23 33.7	
	comp=Z,9.2nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.10**	**276**	*e*P	Pn	02 23 18.2	-0.8
ZARC				*e*S	Sn	02 23 34.8	-0.2
ZARC				*i*		02 23 39.4	
	comp=Z,14nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.10**	**276**	*e*P	Pn	02 23 18.2	-0.8
ZARC				*e*S	Sn	02 23 34.8	-0.2
ZARC				*i*		02 23 39.4	
	comp=Z,14nm,0.1s						
RUSC	**La Rusia**	**1.62**	**156**	*e*P	Pn	02 23 25.2	-0.6
RUSC				*e*S	Sn	02 23 47.3	+0.4
RUSC				*i*		02 23 51.3	
	comp=Z,3.2nm,0.2s						
RUSC	**La Rusia**	**1.62**	**156**	*e*P	Pn	02 23 25.2	-0.6
RUSC				*e*S	Sn	02 23 47.3	+0.4
RUSC				*i*		02 23 51.3	
	comp=Z,3.2nm,0.2s						
UREC	**San Jos de Ur**	**1.81**	**282**	*e*P	Pn	02 23 27.8	0.0
UREC				*e*S	Sn	02 23 49.0	-1.4
UREC				*i*		02 23 51.1	
	comp=Z,8.3nm,0.3s						
UREC	**San Jos de Ur**	**1.81**	**282**	*e*P	Pn	02 23 27.8	0.0
UREC				*e*S	Sn	02 23 49.0	-1.4
UREC				*i*		02 23 51.1	
	comp=Z,8.3nm,0.3s						
HELC	**Santa Helena**	**2.13**	**236**	*e*S	Sn	02 23 58.8	+0.4
HELC				*i*		02 24 02.7	
	comp=Z,5.9nm,0.2s						
HELC	**Santa Helena**	**2.13**	**236**	*e*S	Sn	02 23 58.8	+0.4
HELC				*i*		02 24 02.7	
	comp=Z,5.9nm,0.2s						
MOTC	**Monteria, Cord**	**2.35**	**306**	*e*P	Pn	02 23 30.4	-4.5
MOTC				*e*S	Sn	02 24 01.9	-1.3
MOTC				*i*		02 24 12.2	
	comp=Z,2.0nm,0.4s						
SJCC	**San Jacinto, C**	**2.87**	**331**	*e*P	Pn	02 23 39.6	-2.3
SJCC				*e*S	Sn	02 24 13.0	-2.6
SJCC	**San Jacinto, C**	**2.87**	**331**	*e*P	Pn	02 23 39.6	-2.3
SJCC				*e*S	Sn	02 24 13.0	-2.6

NEIC ***25*** *02:23:50.9±0.9,43.71N±0.05×105.29W±0.01,h0km±2km, ML3.3/62, Error ellipse: s-maj=8.0km s-min=3.0km az=0.0*
IDC ***25*** *02:23:50.8±0.9,44.04N×105.76W,h0km,mb3.8/2, mb1 3.7/7,mb1mx3.5/41,mbtmp3.5/7,ML3.3/5, Error ellipse: s-maj=25.0km s-min=7.8km az=146.0*

ISC 25 02:23:49.6±0.7, 43.72N±0.05×105.28W±0.05, h0km, n68, σ0°92/62, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**65**	Pg	**Pb**	**02 24 09.6**	**-0.1**
RSSD				Sg	**Sb**	**02 24 23.0**	**0.0**
K22A	**Casper**	**1.41**	**221**	Pn	**Pg**	**02 24 15.3**	**-1.3**
K22A				IAML		02 24 37.8	
	comp=E,615nm,0.6s						
K22A				IAML		02 24 41.3	
	comp=N,494nm,0.3s						
PHWY	**Pilot Hill**	**2.42**	**183**		**Pn**	**02 24 31.7**	**+1.0**
RWWY	**Rawlins**	**2.48**	**216**	Pn	**Pn**	**02 24 32.2**	**+0.7**
RWWY				IAML		02 25 09.6	
	comp=N,230nm,0.7s						
LAO	**LASA Array**	**3.04**	**348**		**Pn**	**02 24 40.7**	**+1.6**
LAO				IAML		02 25 25.1	
	comp=N,133nm,0.7s						
RLMT	**Red Lodge**	**3.18**	**298**	Pn	**Pn**	**02 24 41.9**	**+0.7**
RLMT				IAML		02 25 41.0	
	comp=N,58nm,0.6s						
RLMT				IAML		02 25 41.3	
	comp=N,63nm,0.5s						
PD31	**Pinedale Array**	**3.27**	**255**		**Pn**	**02 24 43.1**	**+0.7**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**02 24 43.0**	**+0.7**
	comp=N,4.3nm,0.3s,baz=72,slow=15,SNR=43						
PDAR				Lg	Lg	02 25 26.6	
	comp=N,15nm,0.3s,baz=60,slow=32,SNR=13						
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**02 24 42.5**	**+0.2**
BW06	**Boulder Array**	**3.27**	**255**		**Pn**	**02 24 42.6**	**+0.2**
BW06				Sn	**Sn**	**02 25 22.9**	**+0.8**
BW06				IAML		02 25 30.4	
	comp=N,66nm,0.6s						
BW06				IAML		02 25 45.2	
	comp=N,47nm,0.8s						
YNE	**Yellowstone No**	**3.63**	**292**		**Pn**	**02 24 47.7**	**+0.4**
YNE				IAML		02 25 45.9	
	comp=E,62nm,0.4s						
YNE				IAML		02 25 57.5	
	comp=N,58nm,0.7s						
YMP	**Mirror Lake Pl**	**3.65**	**288**		**Pn**	**02 24 48.5**	**+0.8**
OGNE	**Ogallala**	**3.67**	**138**		**Pn**	**02 24 49.0**	**+1.3**
OGNE				IAML		02 26 03.2	
	comp=N,94nm,0.8s						
GCMT	**Greycliff**	**3.75**	**305**		**Pn**	**02 24 50.0**	**+1.1**
LKWY	**Lake**	**3.78**	**285**	Pn	**Pn**	**02 24 50.5**	**+1.1**
LKWY				IAML		02 25 57.5	
	comp=N,48nm,0.6s						
H17A	**Grant Village**	**3.88**	**282**	IAML		02 25 53.2	
	comp=N,24nm,0.7s						
H17A				IAML		02 25 53.6	
	comp=E,28nm,0.7s						
ISCO	**Idaho Springs**	**3.92**	**184**	Pn	**Pn**	**02 24 52.5**	**+1.0**
FLWY	**Flagg Ranch**	**3.94**	**277**		**Pn**	**02 24 52.5**	**+1.0**
FLWY				IAML		02 25 59.2	
	comp=E,30nm,0.9s						
SNOW	**Snow King Moun**	**3.99**	**268**	IAML		02 26 18.7	
	comp=E,33nm,0.8s						
SNOW				IAML		02 26 19.1	
	comp=E,39nm,0.8s						
REDW	**Red Top Meadow**	**4.07**	**267**	Pn	**Pn**	**02 24 54.3**	**+1.0**
REDW				IAML		02 26 04.6	
	comp=E,54nm,0.8s						
REDW				IAML		02 26 09.5	
	comp=E,63nm,0.8s						
TPAW	**Teton Pass**	**4.13**	**269**		**Pn**	**02 24 55.5**	**+1.4**
TPAW				IAML		02 26 22.0	
	comp=E,20nm,1.1s						
TPAW				IAML		02 26 23.8	
	comp=E,38nm,0.7s						
YHH	**Holmes Hill**	**4.14**	**287**		**Pn**	**02 24 54.8**	**+0.3**
YMR	**Madison River**	**4.20**	**285**	IAML		02 26 10.5	
	comp=N,53nm,0.9s						
YMR				IAML		02 26 29.0	
	comp=E,27nm,0.9s						
O20A	**White River Ci**	**4.21**	**213**	IAML		02 26 05.2	
	comp=N,38nm,0.8s						
O20A				IAML		02 26 08.8	
	comp=E,46nm,0.7s						
E28A	**Huff**	**4.32**	**47**		**Pn**	**02 24 58.0**	**+1.4**
AHID	**Auburn Hatcher**	**4.36**	**259**	IAML		02 26 11.6	
	comp=E,38nm,0.7s						
QLMT	**Earthquake Lak**	**4.56**	**286**	Pn	**Pn**	**02 25 01.3**	**+1.3**
SMCO	**Snowmass**	**4.71**	**196**	IAML		02 26 20.6	
	comp=E,32nm,0.4s						
SMCO				IAML		02 26 27.9	
	comp=E,22nm,0.7s						
DGMT	**Dagmar**	**4.81**	**9**		**Pn**	**02 25 04.8**	**+1.4**
K31A	**O'Neill**	**4.89**	**101**	Pn	**Pn**	**02 25 05.9**	**+1.4**
BOZ	**Bozeman (W)**	**4.91**	**295**	IAML		02 26 22.7	
	comp=E,12nm,0.7s						
BOZ				IAML		02 26 27.6	
	comp=E,12nm,0.6s						
HWUT	**Hardware Ranch**	**5.09**	**248**	Pn	**Pn**	**02 25 07.7**	**+0.3**
HWUT				IAML		02 26 46.9	
	comp=E,24nm,0.8s						
HWUT				IAML		02 26 48.0	
	comp=E,22nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.11**	**156**	Pn	**Pn**	**02 25 08.0**	**+0.4**
EGMT	**Eagleton**	**5.32**	**326**		**Pn**	**02 25 11.7**	**+1.3**
MCMT	**McKenzie Canyo**	**5.55**	**284**	Pn	**Pn**	**02 25 13.2**	**-0.5**
BGNE	**Belgrade**	**5.75**	**111**	Pn	**Pn**	**02 25 17.2**	**+1.0**
PV22	**Blue Mesa, Par**	**5.82**	**208**		**Pn**	**02 25 18.2**	**+0.8**
SPUT	**South Promonto**	**5.82**	**248**	Pn	**Pn**	**02 25 18.3**	**+0.9**
HVU	**Hansel Valley**	**5.85**	**253**	Pn	**Pn**	**02 25 18.4**	**+0.6**
PV07	**Paradox Valley**	**5.86**	**207**		**Pn**	**02 25 18.8**	**+0.9**
BCYI	**Bear Canyon**	**5.89**	**279**		**Pn**	**02 25 19.9**	**+1.5**

P17A	**Butcher Ranch,**	**5.90**	**226**	Pn		**Pn**	**02 25 19.9**	**+1.5**
SDCO	**Great Sand Dun**	**5.97**	**182**	Pn		**Pn**	**02 25 19.5**	**-0.1**
PV04	**Paradox Valley**	**5.99**	**208**			**Pn**	**02 25 20.2**	**+0.5**
PV12	**Saucer Basin,**	**6.02**	**207**			**Pn**	**02 25 20.6**	**+0.5**
PV14	**Lion Creek, Pa**	**6.04**	**209**			**Pn**	**02 25 21.5**	**+1.0**
PV11	**David Mesa, Pa**	**6.06**	**208**			**Pn**	**02 25 21.2**	**+0.5**
SRU	**San Rafael Swe**	**6.06**	**222**			**Pn**	**02 25 21.4**	**+0.7**
PV16	**Nyswonger Mesa**	**6.06**	**208**			**Pn**	**02 25 21.6**	**+0.9**
PV03	**Paradox Valley**	**6.09**	**208**			**Pn**	**02 25 21.4**	**+0.2**
PV02	**Paradox Valley**	**6.10**	**207**			**Pn**	**02 25 21.7**	**+0.4**
PV18	**Skein Mesa, Pa**	**6.12**	**208**	Pn		**Pn**	**02 25 22.3**	**+0.8**
TMUT	**Trail Mountain**	**6.27**	**227**			**Pn**	**02 25 24.9**	**+1.2**
ECSD	**EROS Data Cent**	**6.28**	**87**	Pn		**Pn**	**02 25 24.8**	**+1.3**
PV05	**Paradox Valley**	**6.33**	**208**			**Pn**	**02 25 23.7**	**-0.8**
Q16A	**Castle Valley**	**6.53**	**225**	Pn		**Pn**	**02 25 27.8**	**+0.7**
DUG	**Dugway, Tooele**	**6.63**	**240**			**Pn**	**02 25 29.6**	**+1.1**
MVCO	**Mesa Verde**	**6.95**	**202**	Pn		**Pn**	**02 25 33.9**	**+1.0**
MSU	**Marysvale**	**7.36**	**227**	Pn		**Pn**	**02 25 39.3**	**+0.7**
ELK	**Elko**	**7.97**	**252**	Pn		**Pn**	**02 25 47.7**	**+0.8**
	comp=E,0.1nm,0.3s,baz=68,slow=19,SNR=4.2							
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn		**Pn**	**02 26 02.1**	**-0.9**
	comp=E,1.6nm,0.3s,baz=231,slow=12,SNR=10							
ULM				Lg		Lg	02 28 35.5	
	comp=E,0.4nm,0.3s,baz=156,slow=22,SNR=2.2							
ULM	**Lac du Bonnet**	**9.16**	**41**			**Pn**	**02 26 02.4**	**-0.5**
I56US	**NEWPORT INFRAS**	**9.41**	**303**	*i*			03 15 40.0	
	baz=117,slow=314,SNR=1.3							
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn		**Pn**	**02 26 31.5**	**+0.9**
	comp=E,0.1nm,0.3s,baz=54,slow=11,SNR=3.1							
TXAR	**Lajitas Array**	**14.41**	**174**	Pn		**P**	**02 27 22.6**	**+0.4**
	comp=E,0.0nm,0.3s,baz=354,slow=10,SNR=3.7							
TXAR				Pg			02 28 19.3	
	comp=E,0.1nm,0.3s,baz=0.0,slow=14,SNR=5.7							
TXAR				Lg		Lg	02 31 24.2	
	comp=E,0.0nm,0.3s,baz=355,slow=31,SNR=2.7							
ARCES	**ARCESS Array B**	**61.44**	**18**	P		**P**	**02 34 06.8**	**-0.4**
	comp=E,0.7nm,0.5s,baz=332,slow=7.4,SNR=8.3							
ARCES	**ARCESS Array B**	**61.44**	**18**	P		**P**	**02 34 06.7**	**-0.6**
MKAR	**Makanchi Array**	**89.62**	**355**	P		**P**	**02 36 48.2**	**-0.9**
	comp=E,0.1nm,0.4s,baz=0.0,slow=5.8,SNR=1.9							

*SJA **25** 02:44:52.6±0.7,37.26S×75.18W,h10km,ML4.9,MW4.5*
*IDC **25** 02:45:06.2±0.8,37.16S×73.63W,h0km,mb4.1/11, mb1 4.2/14,mb1mx4.1/32,mbtmp4.1/14,ML3.6/3,MS3.7/4, Ms1 3.6/4,ms1mx3.4/20,Error ellipse: s-maj=25.7km s-min=14.8km az=79.0*
*VAO **25** 02:45:08.9±0.3,37.09S×73.62W,h10km,mb4.7*
*NEIC **25** 02:45:09.6±2.2,36.98S±0.05×73.98W±0.06,h35km±2km, Error ellipse: s-maj=10.9km s-min=5.5km az=41.0*
*NEIC **25** 02:45:09.6,36.98S×73.98W,h23km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr2.97; Mθθ-1.99; Mϕϕ-0.98; Mrθ0.14; Mrϕ-3.09; Mθϕ~4.64; Fault plane solution: M0 6.16000×10^15^ NP1:ϕs79.63000°, δ35.12000°, λ149.99000°. NP2:ϕs194.92000°, δ73.28000°, λ58.66000°. Principal axes: T 6.4561, Plg51.0000°, Azm69.0000°; N -0.6472, Plg30.0000°, Azm205.0000°; P -5.8089, Plg22.0000°, Azm308.0000°;*
*GUC **25** 02:45:09.5±0.5,36.90S×73.99W,h34km±13km, ML4.7*
ISC 25 02:45:06.0±1.9,37.06S±0.04×73.99W±0.06,h5km±11km, n149,σ1§59/168,mb4.2/13,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.73**	**74**	*eP*		**Pg**	**02 45 21.9**	**+1.8**
CCSP				*eS*		**Sn**	**02 45 32.3**	**-2.2**
CCSP				IAML			02 45 35.1	
	comp=N,72μm,0.4s							
CANA	**Caviahue**	**2.47**	**111**	*eP*		**Pn**	**02 45 48.1**	**+1.1**
CANA				*eS*		**Sg**	**02 46 24.3**	**-1.1**
CANA				IAML			02 46 33.6	
	comp=Z,3μm,1.0s							
GO05	**Huala**	**2.63**	**40**	*iP*		**Pn**	**02 45 49.0**	**-0.1**
GO05				*i* S		**Sn**	**02 46 18.9**	**-2.6**
GO05				IAML			02 46 45.5	
	comp=E,3μm,0.6s							
GO05	**Huala**	**2.63**	**40**	Pn		**Pn**	**02 45 47.8**	**-1.4**
GO05						**Sn**	**02 46 21.5**	**0.0**
GO05	**Huala**	**2.63**	**40**	*eP*		**Pn**	**02 45 49.7**	**+0.5**
GO05				*eS*		**Sg**	**02 46 32.1**	**+1.4**
BO03	**Pichilemu**	**3.04**	**33**	*iP*		**Pn**	**02 45 54.5**	**-0.1**
BO03				*i* S		**Sn**	**02 46 28.0**	**-3.4**
BO03				IAML			02 47 00.3	
	comp=N,2μm,0.5s							
BO02	**Sierra Bellavi**	**3.44**	**50**	*eP*		**Pn**	**02 46 00.7**	**+0.4**
BO02				*eS*		**Sn**	**02 46 38.9**	**-2.7**
BO02				IAML			02 47 00.8	
	comp=E,2μm,0.4s							
BO02	**Sierra Bellavi**	**3.44**	**50**	Pn		**Pn**	**02 45 59.9**	**-0.4**
BO02				Sn		**Sn**	**02 46 42.0**	**+0.4**
BO02	**Sierra Bellavi**	**3.44**	**50**	*eP*		**Pn**	**02 46 01.5**	**+1.1**
BO02				*eS*		**Sb**	**02 46 52.7**	**+3.0**
BO02				IAML			02 47 00.9	
	comp=Z,1μm,0.8s							
BO01	**Tunca**	**3.55**	**42**	*eP*		**Pn**	**02 46 02.0**	**+0.2**
BO01				*i* S		**Sn**	**02 46 38.2**	**-5.9**
BO01				IAML			02 47 07.8	
	comp=N,727nm,0.7s							
BO01	**Tunca**	**3.55**	**42**	Pn		**Pn**	**02 46 01.7**	**-0.1**
MT01	**Popeta**	**3.89**	**36**	*iP*		**Pn**	**02 46 06.0**	**-0.4**
MT01	**Popeta**	**3.89**	**36**	Pn		**Pn**	**02 46 05.0**	**-1.4**
VA05	**Santo Domingo**	**3.91**	**30**	*iP*		**Pn**	**02 46 06.0**	**-0.6**
VA05	**Santo Domingo**	**3.91**	**30**			**Pn**	**02 46 05.2**	**-1.4**
EDS3	**Malargue**	**3.92**	**72**	*eP*		**Pn**	**02 46 09.8**	**+2.9**
EDS3				*eS*		**Sg**	**02 47 09.2**	**-2.6**
PUMA	**Malargue**	**3.98**	**68**	*eP*		**Pn**	**02 46 10.3**	**+2.7**
PUMA				*eS*		**Sb**	**02 47 08.0**	**+2.9**
COIS	**El Sosneado**	**4.05**	**63**	*eP*		**Pn**	**02 46 11.3**	**+2.6**
COIS				*eS*		**Sb**	**02 47 04.9**	**-2.3**
MT09	**Talagante**	**4.09**	**38**	*eP*		**Pn**	**02 46 09.0**	**-0.2**
MT09				*i* S		**Sn**	**02 46 56.5**	**-1.0**
MT09	**Talagante**	**4.09**	**38**			**Pn**	**02 46 08.2**	**-1.1**
LL05	**Los Muermos**	**4.36**	**175**			**Pn**	**02 46 11.1**	**-1.8**
LAMA	**Las Malvinas**	**4.41**	**63**	*eP*		**Pn**	**02 46 16.0**	**+2.4**
LMEL	**Las Melosas**	**4.45**	**45**	*eP*		**Pn**	**02 46 14.8**	**+0.6**
MT02	**Curacav**	**4.45**	**32**	*eP*		**Pn**	**02 46 13.5**	**-0.6**
MT02	**Curacav**	**4.45**	**32**			**Pn**	**02 46 12.8**	**-1.3**
VA01	**Torpederas**	**4.46**	**26**	Pn		**Pn**	**02 46 12.9**	**-1.3**
MT05	**Renca**	**4.52**	**37**	*iP*		**Pn**	**02 46 14.8**	**-0.3**
MT05				*eS*		**Sb**	**02 47 24.4**	**+3.8**
MT05	**Renca**	**4.52**	**37**			**Pn**	**02 46 14.4**	**-0.8**
PLCA	**Paso Flores**	**4.54**	**145**	Pn		**Pn**	**02 46 14.6**	**-0.9**
	comp=N,0.5nm,0.3s,baz=319,slow=13,SNR=13							
PLCA				Lg		Lg	02 47 23.0	
	comp=N,3.4nm,0.3s,baz=334,slow=13,SNR=1.3							
PLCA				LR		LR	02 47 51.1	
	comp=N,404nm,21.7s,baz=322,slow=38							
PLCA	**Paso Flores**	**4.54**	**145**	Pn		**Pn**	**02 46 15.1**	**-0.5**
PLCA	**Paso Flores**	**4.54**	**145**	*eP*		**Pn**	**02 46 14.9**	**-0.6**
PLCA	**Paso Flores**	**4.54**	**145**	*eP*		**Pn**	**02 46 15.0**	**-0.5**
PLCA				*eS*		**Sg**	**02 47 28.6**	**-3.3**
MT03	**Universidad Ad**	**4.55**	**40**	*iP*		**Pn**	**02 46 15.8**	**+0.2**
MT03				*i* S		**Sn**	**02 47 07.7**	**-1.2**
MT03	**Universidad Ad**	**4.55**	**40**			**Pn**	**02 46 15.2**	**-0.4**
MT03	**Universidad Ad**	**4.55**	**40**	*eP*		**Pn**	**02 46 16.5**	**+0.9**
MT03				*eS*		**Sb**	**02 47 18.7**	**-2.9**
MT03				IAML			02 47 39.1	
	comp=Z,1μm,0.9s							
ROC1	**El Roble**	**4.74**	**32**	*eP*		**Pn**	**02 46 19.2**	**+0.8**
RFA	**San Rafael**	**5.03**	**65**	*eP*		**Pn**	**02 46 24.2**	**+2.1**
RFA				IAML			02 47 48.8	
	comp=Z,319nm,0.8s							
VA03	**San Esteban**	**5.13**	**34**			**Pn**	**02 46 23.2**	**-0.4**
H03S1	**Juan Fernandez**	**5.14**	**307**	T		T	02 51 45.7	
	baz=128,slow=74,SNR=1889							
H03S3	**Juan Fernandez**	**5.15**	**307**	T		T	02 51 53.6	
	baz=128,slow=74,SNR=1639							
H03S2	**Juan Fernandez**	**5.16**	**307**	T		T	02 51 44.7	
	baz=128,slow=74,SNR=1986							
AAGR	**Agrelo**	**5.79**	**48**	*eP*		**Pn**	**02 46 34.7**	**+2.0**
AAGR				IAML			02 48 42.3	
	comp=Z,149nm,1.4s							
ARCO	**CERRO ARCO**	**5.91**	**46**	*eP*		**Pn**	**02 46 36.4**	**+2.1**
ARCO				IAML			02 48 29.7	
	comp=Z,149nm,1.1s							
GO07	**Milladeo Hill,**	**6.06**	**178**	*eP*		**Pn**	**02 46 34.1**	**-2.0**
ASAL	**Salagasta**	**6.14**	**45**	*eP*		**Pn**	**02 46 39.0**	**+1.5**
CO02	**Combarbal**	**6.34**	**24**			**Pn**	**02 46 39.1**	**-1.1**
LL02	**Futaleuf**	**6.34**	**166**			**Pn**	**02 46 39.9**	**-0.2**
RTLS	**Leoncito**	**6.52**	**38**	*eP*		**Pn**	**02 46 44.0**	**+1.1**
RTLS				IAML			02 48 32.9	
	comp=Z,241nm,0.8s							
CO03	**El Pedregal**	**6.78**	**25**			**Pn**	**02 46 45.1**	**-1.1**
CO03	**El Pedregal**	**6.78**	**25**	*eP*		**Pn**	**02 46 46.3**	**+0.1**
CO03				*eS*		**Sn**	**02 48 02.8**	**-1.0**
CO03				IAML			02 49 05.8	
	comp=Z,98nm,1.0s							
RTCV	**Cerro Valdivia**	**6.86**	**43**	*eP*		**Pn**	**02 46 47.6**	**+0.3**
ZON	**Zonda**	**7.03**	**40**	Pn		**Pn**	**02 46 49.0**	**-0.6**
GO04	**Tololo Observa**	**7.36**	**22**	Pn		**Pn**	**02 46 51.5**	**-2.8**
GO04	**Tololo Observa**	**7.36**	**22**	*eP*		**Pn**	**02 46 53.9**	**-0.4**
GO04				*eS*		**Sn**	**02 48 16.0**	**-2.3**
ACCO	**Cerro Coronel**	**7.64**	**34**	*eP*		**Pn**	**02 46 58.6**	**+0.3**
ACCO				IAML			02 49 04.5	
	comp=Z,99nm,0.8s							
ACDV	**Cuesta del Vie**	**7.97**	**32**	*eP*		**Pn**	**02 47 03.8**	**+1.1**
ACDV				IAML			02 49 08.7	
	comp=Z,84nm,1.4s							
MRA	**San Martin**	**8.23**	**58**	*eP*		**Pn**	**02 47 07.8**	**+1.7**
TRQA	**Tornquist**	**9.59**	**100**	Pn		**Pn**	**02 47 25.0**	**+0.4**
TRQA	**Tornquist**	**9.59**	**100**	*eP*		**Pn**	**02 47 21.7**	**-2.9**
VCA	**Vinchina**	**9.61**	**32**	*eP*		**Pn**	**02 47 28.8**	**+2.7**
ACLC	**CERRO LA CRUZ**	**9.62**	**40**	*eP*		**Pn**	**02 47 23.7**	**-1.6**
AC02	**Maricunga**	**10.99**	**23**			**Pn**	**02 47 41.8**	**-2.5**
CYA	**Choya**	**11.01**	**41**	*eP*		**Pn**	**02 47 41.3**	**-2.8**
GO02	**Mina Guanaco**	**12.44**	**19**	Pn		**Pn**	**02 48 01.6**	**-2.4**
PB15	**IPOC Station P**	**14.34**	**17**	Pn		**Pn**	**02 48 27.2**	**-2.7**
PB04	**IPOC Station P**	**15.04**	**14**	Pn		**Pn**	**02 48 38.1**	**-1.3**
LVC	**Limon Verde**	**15.05**	**18**	Pn		**Pn**	**02 48 41.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=183,slow=11,SNR=1.6							
LVC	**Limon Verde**	**15.05**	**18**	Pn		**Pn**	**02 48 36.9**	**-2.8**
LVC	**Limon Verde**	**15.05**	**18**	*eP*		**Pn**	**02 48 41.8**	**+2.1**
PB09	**IPOC Station P**	**15.75**	**16**	Pn		**Pn**	**02 48 47.2**	**-1.6**
PB09				IAmb		IAmb	02 48 57.5	
	comp=Z,27nm,1.0s							
ITQB	**Itaqui**	**16.25**	**68**	*eP*		**Pn**	**02 48 53.0**	**-2.1**
PB01	**IPOC Station P**	**16.43**	**15**	P		**Pn**	**02 48 54.9**	**-2.5**
PB01				IAmb		IAmb	02 49 04.0	
	comp=Z,43nm,1.0s							
PB08	**IPOC Station P**	**17.37**	**15**	P		**Pn**	**02 49 06.5**	**-3.1**
PB11	**IPOC Station P**	**17.64**	**14**			**Pn**	**02 49 10.6**	**-2.1**
PB11				IAmb		IAmb	02 49 24.2	
	comp=Z,46nm,0.9s							
CPUP	**Villa Florida**	**17.73**	**58**	P		**Pn**	**02 49 13.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=249,slow=8.8,SNR=4.2							
CPUP				LR		LR	02 55 42.3	
	comp=Z,148nm,19.8s,baz=234,slow=36							
CPUP	**Villa Florida**	**17.73**	**58**			**Pn**	**02 49 12.6**	**-1.0**
CPUP	**Villa Florida**	**17.73**	**58**	*eP*		**Pn**	**02 49 14.0**	**+0.4**
MNMC	**Mine Minye**	**18.27**	**13**			**Pn**	**02 49 17.7**	**-2.9**
CPSB	**Cacapava Do Su**	**18.32**	**75**	*eP*		**Pn**	**02 49 20.6**	**-0.2**
PB16	**IPOC Station P**	**19.06**	**13**	P		**P**	**02 49 26.8**	**-3.0**
PB16				IAmb		IAmb	02 49 40.8	
	comp=Z,24nm,1.0s							
ITAB	**Concordia**	**20.89**	**68**	P		**P**	**02 49 48.1**	**-1.0**
ITAB	**Concordia**	**20.89**	**68**	*eP*		**P**	**02 49 48.8**	**-0.3**
LPAZ	**La Paz**	**21.33**	**16**	P		**P**	**02 49 56.9**	**+2.4**
	comp=Z,8.3nm,0.8s,baz=186,slow=6.1,SNR=26							
LPAZ	**La Paz**	**21.33**	**16**	P		**P**	**02 49 52.1**	**-2.3**
LPAZ				IAmb		IAmb	02 50 04.2	
	comp=Z,12nm,0.8s							
LPAZ	**La Paz**	**21.33**	**16**	*eP*		**P**	**02 49 56.5**	**+2.0**
PTGB	**Pitanga**	**22.41**	**63**	*eP*		**P**	**02 50 06.3**	**+0.7**
TER01	**Tubaro-SC**	**22.51**	**75**	*eP*		**P**	**02 50 06.3**	**-0.2**
AQDB	**Aquidauana**	**22.95**	**49**	P		**P**	**02 50 10.2**	**-1.0**
AQDB				IAmb		IAmb	02 50 19.0	
	comp=Z,20nm,1.1s							
AQDB	**Aquidauana**	**22.95**	**49**	*eP*		**P**	**02 50 11.1**	**-0.1**
TRCB	**Terra Rica**	**23.26**	**58**	P		**P**	**02 50 13.4**	**-1.0**
TRCB	**Terra Rica**	**23.26**	**58**	*eP*		**P**	**02 50 13.8**	**-0.6**
SIV	**San Ignacio**	**23.90**	**32**	P		**P**	**02 50 20.6**	**-0.2**
	comp=Z,8.9nm,1.0s,baz=228,slow=9.0,SNR=27							
SIV				LR		LR	03 01 35.8	
	comp=Z,376nm,18.5s,baz=220,slow=42							
TIJ01	**Guaruva-PR**	**24.29**	**68**	*eP*		**P**	**02 50 24.0**	**-0.4**
PCMB	**Pacaembu**	**25.00**	**58**	*eP*		**P**	**02 50 30.2**	**-0.5**
FRTB	**Fartura**	**25.05**	**64**	*eP*		**P**	**02 50 31.2**	**-0.1**
PTLB	**Pontes e Lacer**	**25.24**	**35**	*eP*		**P**	**02 50 33.1**	**+0.2**
PP1B	**Ponte de Pedra**	**25.67**	**46**	*eP*		**P**	**02 50 36.9**	**0.0**
SPB	**Sao Paulo**	**26.45**	**67**	*eP*		**P**	**02 50 43.5**	**-0.4**
SALV	**Santo Antonio**	**26.59**	**42**	*eP*		**P**	**02 50 45.5**	**+0.3**
ITRB	**Iturama**	**26.92**	**57**	*eP*		**P**	**02 50 48.6**	**+0.4**
VILB	**Vilhena**	**26.99**	**31**	*eP*		**P**	**02 50 50.1**	**+1.3**
RCLB	**Rio Claro- Sao**	**27.09**	**65**	*eP*		**P**	**02 50 49.8**	**0.0**
VAO	**Valinhos**	**27.15**	**67**	*eP*		**P**	**02 50 51.7**	**+1.3**
BB19B	**Bebedouro**	**27.25**	**61**	*eP*		**P**	**02 50 52.5**	**+1.3**
ETMB	**Extrema**	**28.02**	**16**	*eP*		**P**	**02 50 59.6**	**+1.6**
CZSB	**Cruzeiro do Su**	**29.21**	**3**	*eP*		**P**	**02 51 10.4**	**+1.7**
SAML	**Samuel**	**29.65**	**22**	P		**P**	**02 51 10.5**	**-2.0**
BDFB	**Brasilia**	**31.39**	**54**	P		**P**	**02 51 26.6**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=186,slow=7.9,SNR=4.4							
BDFB	**Brasilia**	**31.39**	**54**	P		**P**	**02 51 26.7**	**-1.3**
BDFB				IAmb		IAmb	02 51 31.5	
	comp=Z,9.6nm,1.1s							
RPN	**Rapa Nui**	**31.39**	**278**	LR		LR	03 00 32.2	
	comp=Z,187nm,20.9s,baz=84,slow=29							
SNDB	**Serra Nova Dou**	**32.23**	**45**	*eP*		**P**	**02 51 35.2**	**-0.2**
PEXB	**Peixe**	**33.89**	**49**	*eP*		**P**	**02 51 49.9**	**0.0**
BSFB	**Barra de Sao F**	**34.21**	**67**	*eP*		**P**	**02 51 52.7**	**+0.1**
RIB01	**Linhares ES**	**34.25**	**68**	*eP*		**P**	**02 51 53.0**	**+0.1**
JANB	**Januaria**	**34.27**	**58**	*eP*		**P**	**02 51 52.6**	**-0.6**
NPGB	**Novo Progresso**	**34.38**	**34**	*eP*		**P**	**02 51 53.7**	**-0.2**
NAN01	**Guarapari, ES**	**35.36**	**66**	*eP*		**P**	**02 52 02.8**	**+0.2**
SDBA	**SAO FESIDERIO**	**35.80**	**54**	*eP*		**P**	**02 52 06.4**	**0.0**
ITTB	**Itaituba**	**36.59**	**32**	*eP*		**P**	**02 52 12.9**	**-0.1**
SMTB	**Santa Maria do**	**36.87**	**47**	*eP*		**P**	**02 52 15.9**	**+0.4**
CMC01	**Camacan, BA**	**37.42**	**64**	*eP*		**P**	**02 52 20.4**	**+0.3**
NBPN	**Ponto Novo - B**	**40.06**	**58**	*eP*		**P**	**02 52 42.2**	**-0.2**
BOAV	**Boa Vista**	**41.20**	**21**	*eP*		**P**	**02 52 52.2**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**41.95**	**41**	*eP*		**P**	**02 52 59.0**	**+1.2**
RUSC	**La Rusia**	**42.73**	**1**	P		**P**	**02 53 03.6**	**-1.2**
RUSC				IAmb		IAmb	02 53 19.3	
	comp=Z,14nm,0.8s							
NBMA	**Muriti-CE**	**43.56**	**56**	*eP*		**P**	**02 53 11.6**	**+0.6**
NBPA	**Parau_RN**	**45.85**	**56**	*eP*		**P**	**02 53 30.1**	**+0.9**
VNA3	**Neumayer Olymp**	**47.16**	**157**	P		**P**	**02 53 38.8**	**-0.1**
VNA1	**Neumayer--Stat**	**47.52**	**156**	P		**P**	**02 53 42.6**	**+1.0**
CVTR	**Volcan Turrial**	**47.72**	**347**	P		**P**	**02 53 45.3**	**+1.1**
VNA2	**Neumayer--Watz**	**47.84**	**156**	P		**P**	**02 53 44.7**	**+0.5**
	baz=296,slow=5.8							
SNAA	**Sanae**	**49.38**	**157**	P		**P**	**02 53 55.8**	**-0.4**
SNAA	**Sanae**	**49.38**	**157**	P		**P**	**02 53 55.7**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=283,slow=6.7,SNR=18							
SNAA	**Sanae**	**49.38**	**157**	P		**P**	**02 53 56.0**	**-0.1**
SNAA				IAmb		IAmb	02 53 57.5	
	comp=Z,7.9nm,1.0s							
QSPA	**South Pole Qui**	**53.19**	**180**	P		**P**	**02 54 25.1**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=157,slow=4.5,SNR=9.4							
TXAR	**Lajitas Array**	**71.67**	**333**	P		**P**	**02 56 30.7**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=155,slow=9.1,SNR=11							
TXAR	**Lajitas Array**	**71.67**	**333**	P		**P**	**02 56 28.1**	**-0.7**
DBIC	**Dimbokro**	**77.65**	**72**	P		**P**	**02 57 04.0**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=220,slow=6.9,SNR=2.2							
DBIC	**Dimbokro**	**77.65**	**72**	P		**P**	**02 57 03.5**	**-0.3**
BOSA	**Boshof**	**80.04**	**118**	P		**P**	**02 57 15.8**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=141,slow=9.0,SNR=3.2							
NVAR	**Mina Array Bea**	**85.52**	**327**	P		**P**	**02 57 48.9**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=155,slow=5.0,SNR=1.6							
PDAR	**Pinedale Array**	**85.80**	**335**	P		**P**	**02 57 49.3**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=184,slow=6.2,SNR=2.4							
TORD	**Torodi Ar. Bea**	**86.72**	**71**	P		**P**	**02 57 50.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=218,slow=5.5,SNR=7.0							
TORD	**Torodi Ar. Bea**	**86.72**	**71**	P		**P**	**02 57 50.9**	**-0.4**
WRA	**Warramunga Arr**	**117.33**	**210**	PKP		**PKPdf**	**03 03 52.2**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.5,SNR=1.7							
ZALV	**Zalesovo Beam**	**157.65**	**34**	PKP		**PKPdf**	**03 05 02.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=270,slow=2.9,SNR=1.9							
ZALV	**Zalesovo Beam**	**157.65**	**34**			**PKPdf**	**03 05 02.8**	**0.0**
MKAR	**Makanchi Array**	**159.91**	**54**	PKP		**PKPdf**	**03 05 06.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=308,slow=3.5,SNR=4.3							
MKAR				PKPab		**PKPab**	**03 05 45.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=305,slow=4.3,SNR=7.7							
MKAR				PP		**PP**	**03 09 27.8**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=293,slow=4.1,SNR=4.1							
MKAR	**Makanchi Array**	**159.91**	**54**	PKPdf		**PKPdf**	**03 05 05.9**	**+0.2**
MKAR						**PP**	**03 09 26.5**	**-0.9**

*INET **25** 02:53:04.6,8.03N×82.85W,h26km,ML5.0*
*UPA **25** 02:53:10.8±1.8,8.21N×82.75W,h4km±4km,MW5.3*
*IDC **25** 02:53:10.4±0.5,8.24N×82.74W,h0km,mb4.6/23, mb1 4.8/26,mb1mx4.7/33,mbtmp4.6/26,ML4.1/3,MS4.1/19, Ms1 4.0/19,ms1mx3.9/29,Error ellipse: s-maj=21.8km s-min=9.8km az=55.0*
*MOS **25** 02:53:10.8±0.7,8.32N×82.83W,h9km,mb5.3/35,Error ellipse: s-maj=12.8km s-min=5.7km az=121.4*
*NEIC **25** 02:53:13.1±0.8,8.30N±0.05×82.87W±0.06,h8km±3km, mb5.1/426,Mwr4.7/50,Error ellipse: s-maj=9.4km s-min=4.4km az=53.0*
*NEIC **25** 02:53:14.1,8.33N×82.87W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr1.17; Mθθ-0.07; Mϕϕ-1.09; Mrθ-1.07; Mrϕ-0.24; Mθϕ-0.07; Fault plane solution: M0 1.58000×10^16^ NP1:ϕs352.36000°, δ41.27000°, λ45.74000°. NP2:ϕs224.72000°, δ61.81000°, λ121.49000°. Principal axes: T 1.7820, Plg60.0000°, Azm182.0000°; N -0.5736, Plg27.0000°, Azm29.0000°; P -1.2084, Plg11.0000°, Azm293.0000°;*
*BJI **25** 02:53:14.0±0.0,8.30N×82.80W,h20km,mB5.5/3,Ms5.1/5, Ms7 4.7/5*
*GCMT **25** 02:53:16.1±0.3,8.34N±0.03×82.77W±0.01,h13km±1km, MW4.8/99,Moment Tensor Solution. s30,c31; s99,c134; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.35±.15; Mθθ-0.26±.07; Mϕϕ-2.09±. 10; Mrθ-0.48±.31; Mθϕ0.23±.05; Mrϕ0.03±.19; Best double couple: M0 2.27800×10^16^ NP1:ϕs183.00000°, δ45.00000°, λ104.00000°. NP2: ϕs343.00000°, δ47.00000°, λ76.00000°. Principal axes: T 2.4350, Plg80.0000°, Azm179.0000°; N -0.3110, Plg10.0000°, Azm352.0000°; P -2.1210, Plg1.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 02:53:11.7±1.0,8.23N±0.03×82.79W±0.02,h8km±6km, n534,σ1§22/424,mb5.0/241,MS4.1/20,7C-11D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAGA3	**Bagala, Chiriq**	**0.35**	**48**	*eP*		**Pg**	**02 53 19.3**	**+0.8**
BAGA3				*eS*		**Sb**	**02 53 24.9**	**-0.8**
CDITO	**Canoas**	**0.35**	**346**	*iP*		**Pg**	**02 53 18.6**	**0.0**
CDITO	**Canoas**	**0.35**	**346**			**Pg**	**02 53 18.8**

SDV **Santo Domingo** **12.04 86** LR LR 03 01 17.2
comp=Z,2µm,19.6s,baz=246,slow=41
SDV **Santo Domingo** **12.04 86** *e*P **Pn** **02 56 04.0 +0.2**
SOR **Soroa** **14.48 359** P **Pn** **02 56 35.9 -1.1**
SOR **Soroa** **14.48 359** Pn **Pn** **02 56 35.9 -1.1**
CMIG **Matias Romero** **14.72 308** Pn **Pn** **02 56 40.7 +0.4**
0.4nm,0.3s,baz=134,slow=8.5,SNR=5.2
BANI **BANI** **15.74 49** Pn **Pn** **02 56 55.3 +1.3**
ATAH **Atahualpa** **15.88 164** Pn **Pn** **02 56 56.3 +0.2**
0.2nm,0.3s,baz=344,slow=15,SNR=3.0
ATAH LR LR 03 02 28.6
comp=Z,426nm,20.1s,baz=357,slow=35
TLIG **Tlapa** **17.95 303** Pn **Pn** **02 57 19.9 -2.1**
PCRV **Puerto La Cruz** **18.02 82** P **P** **02 57 25.6 +2.3**
1.2nm,0.3s,baz=300,slow=3.6,SNR=6.3
PLCV **Puerto La Cruz** **18.07 83** P **P** **02 57 25.6 +1.9**
MLPR **Magueyes Islan** **18.12 56** **P** **02 57 25.1 +0.9**
MLPR IAmb IAmb 02 57 31.3
comp=Z,152nm,1.4s
OBIP **Obispado Ponce** **18.51 57** IAmb IAmb 02 57 34.3
comp=Z,194nm,1.3s
CZSB **Cruzeiro do Su** **18.77 147** *e*P **Pn** **02 57 31.8 -0.1**
SJG **San Juan** **18.93 57** P **Pn** **02 57 35.2 +1.5**
comp=Z,0.8nm,0.3s,baz=254,slow=8.9,SNR=6.1
SJG LR LR 03 04 27.8
comp=Z,584nm,18.5s,baz=251,slow=36
GCPR **Guaynabo City** **19.08 57** IAmb IAmb 02 57 42.0
comp=Z,206nm,1.4s
CUPR **Culebra, Puert** **19.74 58** P **Pn** **02 57 43.4 -0.2**
CUPR IAmb IAmb 02 58 03.0
comp=Z,194nm,1.3s
DWPF **Disney Wildern** **19.81 4** P 02 57 43.9
baz=184
CDVI **St. Croix** **19.93 60** P **Pn** **02 57 45.4 -0.4**
STVI **Saint Thomas** **20.04 58** P **P** **02 57 46.0 +0.7**
STVI IAmb IAmb 02 57 51.4
comp=Z,69nm,1.1s
NNA **Nana** **20.94 164** P **P** **02 57 55.7 +0.6**
comp=Z,24nm,0.8s,baz=0.1,slow=14,SNR=7.4
NNA LR LR 03 05 26.6
comp=Z,158nm,20.3s,baz=336,slow=35
NNA **Nana** **20.94 164***ce*P Pn 02 57 57.0 -0.7
NNA pmax pmax
comp=Z,121nm,1.7s
NNA **Nana** **20.94 164** **P** **02 57 56.2 +1.0**
BOAV **Boa Vista** **22.91 103** *e*P **P** **02 58 16.8 +0.6**
TIGA **Tifton** **23.10 358** P 02 58 18.9
baz=178
BRAL **Brewton** **23.16 351** P 02 58 20.2
baz=169,SNR=20
352A **Blakely** **23.21 355** IAmb IAmb 02 58 23.5
comp=Z,81nm,1.1s
ZAIG **Zacatecas** **23.87 309** IAmb IAmb 02 58 33.1
comp=Z,62nm,1.3s
ETMB **Extrema** **24.37 137** *e*P **P** **02 58 30.5 0.0**
152A **Waverly Hall** **24.38 356** IAmb IAmb 02 58 34.4
comp=Z,84nm,1.4s
PTGA **Pitinga** **24.43 110** P **P** **02 58 31.4 +0.3**
comp=Z,17nm,0.8s,baz=295,slow=11,SNR=16
PTGA LR LR 03 08 45.2
comp=Z,414nm,19.9s,baz=282,slow=38
PTGA **Pitinga** **24.43 110** P **P** **02 58 31.2 +0.1**
PTGA IAmb IAmb 02 58 37.3
comp=Z,81nm,1.3s
NHSC **New Hope** **24.87 5** P 02 58 35.1
baz=186
VBMS **Vicksburg** **24.92 344** P 02 58 36.5
baz=162
LRAL **Lakeview Retre** **24.99 352** P 02 58 36.9
baz=170,SNR=53
Z51A **Franklin** **25.06 355** IAmb IAmb 02 58 39.6
comp=Z,44nm,1.1s
GOGA **Godfrey** **25.06 359** IAmb IAmb 02 58 43.5
comp=Z,47nm,1.0s
GOGA **Godfrey** **25.06 359** P 02 58 37.1
baz=179,SNR=23
833A **Chaparral WMA,** **25.39 324** P 02 58 39.8
baz=139
Y52A **Lilburn** **25.53 358** IAmb IAmb 02 58 48.6
comp=Z,47nm,1.0s
143A **Socs Landing,** **25.63 343** IAmb IAmb 02 58 46.3
comp=Z,55nm,1.1s
Y49A **Blount Mountai** **25.72 353** IAmb IAmb 02 58 49.5
comp=Z,48nm,1.2s
HODGE **Hodges** **25.88 1** IAmb IAmb 02 58 49.6
comp=Z,34nm,1.0s
NATX **Nacogdoches** **25.89 336** P 02 58 44.0
baz=152
X51A **Calhoun** **26.28 356** IAmb IAmb 02 58 52.0
comp=Z,37nm,1.1s
FPAL **Fort Paine** **26.31 355** IAmb IAmb 02 58 50.4
comp=Z,60nm,1.4s
435B **Jarrell** **26.36 330** P 02 58 47.7
baz=146
BIRD **Birdtown, Kers** **26.37 4** IAmb IAmb 02 58 53.0
comp=Z,40nm,1.5s
X48A **Hartselle** **26.39 352** IAmb IAmb 02 58 53.4
comp=Z,45nm,1.2s
PAULI **Pauline** **26.48 2** IAmb IAmb 02 58 57.2
comp=Z,52nm,1.4s
237A **Washetta, Mont** **26.57 335** IAmb IAmb 02 58 54.8
comp=Z,86nm,1.3s
Z41A **Richland Creek** **26.57 341** P 02 58 49.6
baz=158,SNR=9.0
BG3 **Lake Jocassee** **26.63 360** IAmb IAmb 02 58 58.7
comp=Z,39nm,1.3s
W52A **Murphy** **26.75 358** IAmb IAmb 02 58 56.9
comp=Z,39nm,1.4s
OXF **Oxford** **26.85 348** P 02 58 52.2
baz=166
SWET **Sewanee** **27.01 354** IAmb IAmb 02 58 55.9
comp=Z,32nm,1.0s
PLAL **Pickwick Lake** **27.06 350** IAmb IAmb 02 59 00.8
comp=Z,43nm,1.2s
CPCT **Cooper Cave** **27.14 357** IAmb IAmb 02 59 03.9
comp=Z,46nm,1.3s
CNNC **Cliffs of the** **27.25 9** P 02 58 56.7
baz=191
JCT **Junction City** **27.26 327** P 02 58 55.9
baz=141,SNR=8.3
WHTX **Lake Whitney,** **27.29 332** P 02 58 56.1
baz=147
TKL **Tuckaleechee C** **27.31 358** P **P** **02 58 57.4 +0.5**
comp=Z,18nm,1.1s,baz=174,slow=9.8,SNR=7.0
TKL **Tuckaleechee C** **27.31 358** IAmb IAmb 02 59 01.8
comp=Z,29nm,1.2s
Z38A **Mt. Pleasant** **27.34 337** IAmb IAmb 02 59 03.9
comp=Z,70nm,1.3s
V51A **Loudon** **27.48 357** IAmb IAmb 02 59 03.2
comp=Z,43nm,1.2s
V52A **Sevierville** **27.49 359** IAmb IAmb 02 59 03.3
comp=Z,34nm,1.4s
V48A **Smith Brothers** **27.63 353** IAmb IAmb 02 59 01.5
comp=Z,41nm,0.9s
X40A **Basin Creek Fa** **27.71 342** P 02 59 00.1
baz=158,SNR=7.3
CLTN **Cedars of Leba** **27.92 354** IAmb IAmb 02 59 04.1
comp=Z,31nm,1.0s
MIAR **Mount Ida** **28.00 341** P 02 59 02.6
baz=157,SNR=20
MIAR **Mount Ida** **28.00 341** IAmb IAmb 02 59 04.8
comp=Z,49nm,1.4s
WVT **Waverly** **28.15 351** P 02 59 04.0
baz=170
WVT **Waverly** **28.15 351** P **P** **02 59 04.1 -0.3**
WVT pmax pmax
comp=Z,20nm,0.9s
WVT **Waverly** **28.15 351** P **P** **02 59 04.1 -0.3**
WVT IAmb IAmb 02 59 05.2
comp=Z,20nm,0.8s
W41B **Gary Mavity, V** **28.18 343** P 02 59 04.3
baz=160,SNR=34
TZTN **Tazewell** **28.19 359** IAmb IAmb 02 59 09.6
comp=Z,29nm,1.2s
TZTN **Tazewell** **28.19 359** P 02 59 04.7
baz=179
U49A **Red Boiling Sp** **28.28 355** IAmb IAmb 02 59 07.4
comp=Z,30nm,0.9s
Z35A **Perchaven, San** **28.33 334** IAmb IAmb 02 59 11.2
comp=Z,51nm,1.4s
LPAZ **La Paz** **28.36 149** P **P** **02 59 07.6 +0.5**
comp=Z,3.6nm,1.0s,baz=350,slow=11,SNR=9.6
LPAZ **La Paz** **28.36 149** *e*P **P** **02 59 08.0 +0.8**
W39A **Magazine** **28.67 341** P 02 59 09.2
baz=157,SNR=15
W39A **Magazine** **28.67 341** IAmb IAmb 02 59 09.9
comp=Z,24nm,0.8s

X37A **Clayton** **28.67 338** IAmb IAmb 02 59 16.6
comp=Z,28nm,1.2s
T50A **Nancy** **28.72 357** IAmb IAmb 02 59 11.8
comp=Z,21nm,1.1s
TXAR **Lajitas Array** **28.73 320** P **P** **02 59 10.2 +0.4**
comp=Z,2.0nm,1.1s,baz=140,slow=9.9,SNR=9.8
TXAR PcP **PcP** **03 02 21.6 +1.3**
comp=Z,2.4nm,0.9s,baz=149,slow=5.5,SNR=8.3
TXAR LR LR 03 11 32.0
comp=Z,154nm,19.8s,baz=0.0,slow=38
TXAR **Lajitas Array** **28.73 320** P **P** **02 59 09.6 -0.3**
TXAR 03 02 21.5
TXAR **Lajitas Array** **28.73 320** P **P** **02 59 09.6 -0.3**
TXAR **PcP** **03 02 21.4 +1.2**
TX31 **Lajitas Ar. Si** **28.73 320** P **P** **02 59 09.6 -0.3**
FCAR **Ozark Folk Cen** **28.82 344** IAmb IAmb 02 59 11.1
comp=Z,40nm,1.0s
LOOK **Love County** **28.86 335** IAmb IAmb 02 59 15.4
comp=Z,40nm,1.1s
ABTX **Abilene, Hawle** **28.87 330** P 02 59 11.4
baz=144
T47A **Sharon Grove** **28.89 353** IAmb IAmb 02 59 12.9
comp=Z,48nm,1.1s
BLA **Blacksburg** **28.93 4** P 02 59 12.0
baz=185
PBMO **Poplar Bluff** **29.25 347** IAmb IAmb 02 59 15.3
comp=Z,40nm,1.4s
S51A **Beattyville** **29.28 359** IAmb IAmb 02 59 18.9
comp=Z,32nm,1.0s
U40A **Yellville** **29.46 343** P 02 59 15.8
baz=160
U40A **Yellville** **29.46 343** IAmb IAmb 02 59 19.3
comp=Z,30nm,0.8s
PB16 **IPOC Station P** **29.47 154** IAmb IAmb 02 59 21.7
comp=Z,25nm,0.8s
T42A **Van Buren** **29.64 346** IAmb IAmb 02 59 18.4
comp=Z,39nm,0.8s
X34A **Smith Ranch, M** **29.66 334** IAmb IAmb 02 59 24.5
comp=Z,42nm,1.3s
ITTB **Itaituba** **29.75 114** *e*P **P** **02 59 20.1 +1.2**
R50A **Paris** **29.95 358** IAmb IAmb 02 59 24.7
comp=Z,42nm,1.1s
R53A **Hurricane** **29.97 1** IAmb IAmb 02 59 28.6
comp=Z,22nm,1.1s
TUL1 **Leonard** **30.00 339** P 02 59 19.8
baz=154,SNR=5.2
WCI **Wyandotte Cave** **30.03 354** P **P** **02 59 21.7 +0.6**
WCI pmax pmax
comp=Z,73nm,1.1s
WCI **Wyandotte Cave** **30.03 354** P **P** **02 59 21.7 +0.6**
WCI **Wyandotte Cave** **30.03 354** P 02 59 21.0
baz=173
MDP **Montagnes des** **30.10 94** P **P** **02 59 22.9 +0.9**
comp=Z,23nm,1.1s,baz=285,slow=12,SNR=4.4
MALB **Monte Alegre** **30.15 108** *e*P **P** **02 59 23.8 +1.3**
WMOK **Wichita Mounta** **30.19 333** P 02 59 20.8
baz=147
CBN **Corbin Frederi** **30.24 8** P 02 59 21.3
baz=191
OK030 **Cody Creek RV** **30.39 337** IAmb IAmb 02 59 23.4
comp=Z,16nm,0.8s
OK031 **S. Brethren Rd** **30.43 337** IAmb IAmb 02 59 24.3
comp=Z,23nm,0.7s
QUOK **Quay** **30.57 337** IAmb IAmb 02 59 25.7
comp=Z,18nm,0.7s
Q52A **Bidwell** **30.60 1** IAmb IAmb 02 59 30.7
comp=Z,39nm,1.0s
CCM **Cathedral Cave** **30.66 347** P **P** **02 59 26.3 -0.4**
CCM pmax pmax
comp=Z,55nm,1.0s
CCM **Cathedral Cave** **30.66 347** P **P** **02 59 26.3 -0.4**
Q54A **Coxs Mills** **30.67 3** IAmb IAmb 02 59 32.2
comp=Z,24nm,1.2s
VILB **Vilhena** **30.77 133** *e*P **P** **02 59 29.1 +1.1**
R40A **Maddies Statio** **31.12 345** IAmb IAmb 02 59 31.5
comp=Z,38nm,1.4s
P53A **Whipple** **31.14 2** P **P** **02 59 31.7 +0.7**
T35A **Sooner Cattle** **31.16 338** IAmb IAmb 02 59 36.4
comp=Z,27nm,1.0s
P49A **Miami Univ. Ec** **31.21 357** IAmb IAmb 02 59 33.1
comp=Z,48nm,1.2s
P49A **Miami Univ. Ec** **31.21 357** P 02 59 31.1
baz=176,SNR=5.2
PB08 **IPOC Station P** **31.23 155** IAmb IAmb 02 59 39.6
comp=Z,24nm,1.3s
P52A **Corning** **31.27 1** P 02 59 32.1
baz=181
P52A **Corning** **31.27 1** IAmb IAmb 02 59 39.1
comp=Z,45nm,1.4s
NPGB **Novo Progresso** **31.28 118** *e*P **P** **02 59 32.5 +0.1**
MCWV **Mont Chateau** **31.40 4** P 02 59 34.5
baz=186
MNTX **Cornudas Mount** **31.42 321** P 02 59 33.0
baz=133,SNR=12
MSTX **Muleshoe** **31.55 327** P 02 59 33.6
baz=140
OK032 **Salt Plains WL** **31.71 336** IAmb IAmb 02 59 38.5
comp=Z,15nm,0.7s
O52A **Adamsville** **31.76 1** IAmb IAmb 02 59 41.3
comp=Z,23nm,1.1s
MCPB **Macapa, AP** **31.80 104** *e*P **P** **02 59 37.7 +0.6**
O54A **Avella** **31.89 3** IAmb IAmb 02 59 44.6
comp=Z,38nm,1.5s
PB01 **IPOC Station P** **31.89 156** IAmb IAmb 02 59 41.8
comp=Z,18nm,1.1s
O53A **New Philadelph** **31.91 2** IAmb IAmb 02 59 45.7
comp=Z,28nm,1.1s
O53A **New Philadelph** **31.91 2** P 02 59 37.5
baz=183
P60A **Greenville** **32.09 10** P 02 59 39.3
baz=194
O56A **Blue Knob Stat** **32.12 6** P 02 59 40.3
baz=188
SFIN **Lafayette** **32.24 354** P 02 59 39.7
baz=172,SNR=20
SIV **San Ignacio** **32.27 138** P **P** **02 59 40.4 -0.8**
comp=Z,8.5nm,0.9s,baz=321,slow=11,SNR=18
PB07 **IPOC Station P** **32.35 157** IAmb IAmb 02 59 46.0
comp=Z,23nm,1.0s
N51A **Ashland** **32.55 1** IAmb IAmb 02 59 47.2
comp=Z,34nm,1.0s
SSPA **Standing Stone** **32.56 7** P 02 59 42.8
baz=189
N49A **Columbus Grove** **32.58 358** IAmb IAmb 02 59 45.2
comp=Z,26nm,1.0s
PB09 **IPOC Station P** **32.67 156** IAmb IAmb 02 59 49.2
comp=Z,24nm,1.1s
N54A **Moraine State** **32.69 4** P 02 59 44.7
baz=185
HDIL **Hopedale** **32.70 351** P 02 59 43.4
baz=168,SNR=18
P38A **Dawn** **32.71 345** IAmb IAmb 02 59 45.8
comp=Z,20nm,0.8s
M50A **Fremont** **33.03 360** IAmb IAmb 02 59 51.2
comp=Z,40nm,1.2s
M53A **WI Miller and** **33.12 3** IAmb IAmb 02 59 55.4
comp=Z,39nm,1.5s
M53A **WI Miller and** **33.12 3** P 02 59 48.2
baz=184
N59A **State Game Lan** **33.14 10** P 02 59 49.5
baz=193
PTLB **Pontes e Lacer** **33.21 135** *e*P **P** **02 59 49.1 -0.2**
M54A **Oil Creek Stat** **33.25 4** P 02 59 50.5
baz=186
M55A **Ridgway** **33.29 6** P **P** **02 59 50.5 +0.6**
M55A IAmb IAmb 02 59 54.0
comp=Z,19nm,1.1s
R32A **Long Quarter,** **33.31 337** IAmb IAmb 02 59 54.1
comp=Z,32nm,1.0s
M57A **Sunshine Farm,** **33.35 8** IAmb IAmb 02 59 55.9
comp=Z,29nm,1.1s
121A **Cookes Peak, D** **33.49 320** IAmb IAmb 02 59 56.4
comp=Z,34nm,1.2s
121A **Cookes Peak, D** **33.49 320** P 02 59 51.9
baz=131,SNR=14
LVC **Limon Verde** **33.53 156** P **P** **02 59 53.0 +0.6**
comp=Z,13nm,1.1s,baz=29,slow=1.2,SNR=6.9
LVC **Limon Verde** **33.53 156** P **P** **02 59 54.6 +2.1**
LVC pmax pmax
comp=Z,17nm,1.1s
LVC **Limon Verde** **33.53 156** P **P** **02 59 54.6 +2.1**
LVC IAmb IAmb 02 59 57.2
comp=Z,17nm,1.1s
LVC **Limon Verde** **33.53 156** P **P** **02 59 54.4 +1.9**
PAL **Palisades** **33.58 12** P 02 59 52.2
baz=196
L48A **N Adams** **33.60 358** IAmb IAmb 02 59 53.7
comp=Z,27nm,1.1s
KSPA **Keystone Colle** **33.77 9** IAmb IAmb 02 59 59.1
comp=Z,26nm,1.2s
L46A **Eue Claire** **33.78 355** IAmb IAmb 02 59 53.7
comp=Z,30nm,0.9s
ERPA **Erie** **33.84 4** P 02 59 55.1
baz=185
AAM **Ann Arbor** **33.94 359** P 02 59 54.2
baz=179
CBKS **Cedar Bluff** **34.05 336** P 02 59 55.3
baz=149
L44A **Lake County Fo** **34.11 353** IAmb IAmb 02 59 56.5
comp=Z,39nm,1.1s
L44A **Lake County Fo** **34.11 353** P 02 59 55.2
baz=171
L58A **Harry Jones Me** **34.23 9** P 02 59 59.4
baz=192
WVNY **West Valley, N** **34.23 6** IAmb IAmb 03 00 05.3
comp=Z,32nm,1.3s
ANMO **Albuquerque** **34.33 324**‖ *e*P **P** **03 00 00.1 +1.0**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO **Albuquerque** **34.33 324** P **P** **02 59 59.0 -0.1**
ANMO **Albuquerque** **34.33 324** P 02 59 58.9
baz=135
BINY **Binghamton** **34.36 9** P 02 59 58.9
baz=192
MMNY **Mt. Morris Dam** **34.63 6** IAmb IAmb 03 00 05.3
comp=Z,15nm,1.0s
K56A **Middlesex** **34.66 7** P 03 00 01.6
baz=190
K43A **Burlington** **34.68 353** IAmb IAmb 03 00 02.0
comp=Z,40nm,1.1s
SCIA **State Center** **34.78 346** P 03 00 00.9
baz=162,SNR=5.9
K57A **Scipio Center** **34.80 8** IAmb IAmb 03 00 07.1
comp=Z,35nm,1.2s
T25A **Trinidad** **34.83 329** P 03 00 03.5
baz=140
J47A **Sunmer** **34.91 357** IAmb IAmb 03 00 05.8
comp=Z,20nm,1.1s
JFWS **Jewell Farm** **35.16 350** P 03 00 04.2
baz=167,SNR=9.7
TUC **Tucson** **35.34 317** P **P** **03 00 07.9 +0.1**
TUC pmax pmax
comp=Z,27nm,1.2s
TUC **Tucson** **35.34 317** P **P** **03 00 07.9 +0.1**
TUC IAmb IAmb 03 00 11.1
comp=Z,27nm,1.2s
TUC **Tucson** **35.34 317** P 03 00 06.9
baz=127
KSCO **Kaye Shedlock'** **35.45 333** P 03 00 08.5
baz=145
K62A **Royalston** **35.53 13** P 03 00 09.7
baz=198
GO02 **Mina Guanaco** **35.60 159** P **P** **03 00 12.3 +2.1**
J58A **Remsen** **35.60 9** P 03 00 09.9
baz=193
J58A **Remsen** **35.60 9** IAmb IAmb 03 00 14.8
comp=Z,21nm,1.1s
K63A **Dunstable** **35.72 14** P 03 00 11.5
baz=199
BGNE **Belgrade** **35.74 340** P 03 00 10.4
baz=154
J60A **Lant Hill Farm** **35.83 12** P 03 00 12.8
baz=196
SDCO **Great Sand Dun** **35.85 328** P 03 00 12.2
baz=139,SNR=9.2
PRPB **Parauapebas** **35.86 113** *e*P **P** **03 00 12.3 -0.1**
I58A **Old Forge** **35.97 10** P 03 00 14.0
baz=193
SALV **Santo Antonio** **35.98 132** *e*P **P** **03 00 13.3 -0.1**
I57A **Carthage** **36.11 9** P 03 00 14.5
baz=192
X18A **Snowflake** **36.16 320** IAmb IAmb 03 00 20.9
comp=Z,21nm,1.2s
TMAB **Tom-Au,PA,Br** **36.16 105** *e*P **P** **03 00 16.7 +1.7**
I40A **Norwalk** **36.17 350** IAmb IAmb 03 00 15.2
comp=Z,42nm,1.1s
I59A **Olmsteadville** **36.27 11** P 03 00 16.7
baz=195
W18A **Petrified Fore** **36.41 321** P 03 00 16.7
baz=131,SNR=8.8
W18A **Petrified Fore** **36.41 321** IAmb IAmb 03 00 21.5
comp=Z,52nm,1.1s
I60A **Shoreham** **36.43 12** P 03 00 17.5
baz=196
GLMI **Grayling** **36.49 358** P 03 00 17.4
baz=177
GLMI **Grayling** **36.49 358** IAmb IAmb 03 00 18.1
comp=Z,30nm,0.9s
SADO **Sadowa** **36.53 4** P **P** **03 00 18.2 +0.5**
SADO IAmb IAmb 03 00 24.0
comp=Z,29nm,1.4s
214A **Organ Pipe Nat** **36.54 314** P **P** **03 00 18.2 +0.2**
214A **Organ Pipe Nat** **36.54 314** P 03 00 19.1
baz=124,SNR=27
S22A **4UR Ranch, Cre** **36.55 327** P 03 00 17.1
baz=138,SNR=6.2
Q24A **Divide** **36.61 330** P 03 00 18.8
baz=141,SNR=8.1
H57A **Richville** **36.66 9** P 03 00 19.0
baz=192
I61A **Oroboro, Fairl** **36.74 13** P 03 00 20.7
baz=198
G45A **Suttons Bay** **36.75 357** IAmb IAmb 03 00 20.1
comp=Z,68nm,1.3s
OGNE **Ogallala** **36.80 335** P 03 00 19.7
baz=147
OGNE **Ogallala** **36.80 335** P **P** **03 00 20.1 -0.1**
H58A **Gabriels** **36.82 10** P 03 00 20.7
baz=194
I62A **Tamworth** **36.88 14** P 03 00 21.8
baz=199
LONY **Lake Ozonia** **36.94 10** P 03 00 21.9
baz=194
K31A **O'Neill** **37.02 340** P **P** **03 00 21.8 -0.2**
X16A **Lo Mia Camp, P** **37.05 319** P **P** **03 00 22.3 -0.2**
MVCO **Mesa Verde** **37.09 325** P 03 00 23.4
baz=135,SNR=7.7
SNDB **Serra Nova Dou** **37.20 122** *e*P **P** **03 00 23.6 -0.1**
AC02 **Maricunga** **37.29 160** P **P** **03 00 26.9 +1.9**
ECSD **EROS Data Cent** **37.37 343** P 03 00 23.3
baz=157,SNR=24
G40A **Rib Lake** **37.45 351** IAmb IAmb 03 00 26.0
comp=Z,47nm,1.2s
ISCO **Idaho Springs** **37.48 331** P 03 00 26.0
baz=141,SNR=5.6
113A **Mohawk Valley,** **37.66 315** P **P** **03 00 28.2 +0.7**
113A IAmb IAmb 03 00 31.0
comp=Z,64nm,1.4s
PP1B **Ponte de Pedra** **37.67 133** *e*P **P** **03 00 28.9 +1.1**
WUAZ **Wupatki** **37.69 320** P **P** **03 00 27.5 -0.4**
WUAZ **Wupatki** **37.69 320** P 03 00 26.9
baz=129
Y14A **Wickenburg** **37.80 317** IAmb IAmb 03 00 33.5
comp=Z,27nm,1.2s
ALGO **Algonquin Park** **37.80 5** P 03 00 28.2
baz=188
SPMN **Marine on St.** **37.86 348** P 03 00 27.5
baz=164,SNR=17
PV15 **Paradox Valley** **37.88 326** P **P** **03 00 29.4 -0.2**
PV02 **Paradox Valley** **37.93 326** P **P** **03 00 29.9 -0.1**
PV13 **Radium Mtn., P** **37.94 326** IAmb IAmb 03 00 34.0
comp=Z,26nm,1.2s
SPX **San Pedro Mart** **37.99 311** P **P** **03 00 30.4 -0.3**
PV05 **Paradox Valley** **38.04 325** IAmb IAmb 03 00 38.3
comp=Z,25nm,1.2s
PV07 **Paradox Valley** **38.04 326** P **P** **03 00 30.9 0.0**
PV12 **Saucer Basin,** **38.04 326** IAmb IAmb 03 00 39.5
comp=Z,45nm,1.2s
PV11 **David Mesa, Pa** **38.07 326** P **P** **03 00 30.9 -0.2**
PV11 IAmb IAmb 03 00 35.0
comp=Z,30nm,1.2s
PV16 **Nyswonger Mesa** **38.10 326** IAmb IAmb 03 00 39.7
comp=Z,34nm,1.4s
PV17 **East Wray Mesa** **38.10 326** P **P** **03 00 31.0 -0.4**
PV17 IAmb IAmb 03 00 39.6
comp=Z,38nm,1.4s
H64A **Troy** **38.14 16** P 03 00 33.4
baz=202
PV19 **Morning Glory** **38.14 326** P **P** **03 00 31.7 0.0**
PV20 **West Nyswonger** **38.15 326** P **P** **03 00 31.9 +0.1**
PV04 **Paradox Valley** **38.15 326** P **P** **03 00 31.4 -0.5**
G61A **St-Isidore-de-** **38.17 13** P 03 00 33.5
baz=198
E43A **Lone Tree Farm** **38.18 355** IAmb IAmb 03 00 32.3

PV10 **Paradox Valley** 38.22 326 IAmb IAmb 03 00 40.0
comp=Z,30nm,1.4s
G62A **West of Eustis** 38.34 14 P 03 00 33.8
baz=200
N23A **Red Feather La** 38.49 331 P 03 00 35.1
baz=141,SNR=10
GLA **Glamis** 38.56 314 P 03 00 37.1
baz=123,SNR=18
GLA **Glamis** 38.56 314 P P 03 00 35.0 -0.2
GLA pmax pmax
comp=Z,68nm,1.1s
GLA **Glamis** 38.56 314 P P 03 00 35.0 -0.2
PKME **Peaks-Kenny Pk** 38.70 15 P 03 00 37.1
baz=202
SUSD **Miller** 38.72 341 IAmb IAmb 03 00 36.0
comp=Z,69nm,1.1s
SUSD **Miller** 38.72 341 P 03 00 35.3
baz=154
F60A **Warwick** 38.74 12 P 03 00 37.7
baz=197
PDMCI **Parker Dam,Lak** 38.78 317 P 03 00 37.4
baz=125,SNR=19
ARAG **Araguaiana, MT** 38.82 128 eP P 03 00 36.9 -0.6
U15A **North Rim** 38.84 321 P P 03 00 37.7 -0.1
SMTB **Santa Maria do** 38.96 115 eP P 03 00 38.6 -0.1
D41A **Chassel** 39.00 354 IAmb IAmb 03 00 38.8
comp=Z,39nm,0.9s
AQDB **Aquidauana** 39.03 137 eP P 03 00 38.8 -0.4
O20A **White River Ci** 39.05 328 P 03 00 39.6
baz=138
W13A **Hualapai Mount** 39.07 318 P P 03 00 39.9 +0.3
D55A **Sainte-Anne-du** 39.15 8 P 03 00 39.6
baz=192
SWSC **Sam W. Stewart** 39.20 314 P 03 00 41.6
baz=122,SNR=5.3
E60A **Ste Agathe de** 39.23 12 P 03 00 41.9
baz=198
IKP **In-Ko-Pah, Jac** 39.27 313 P 03 00 42.8
baz=121,SNR=6.0
D56A **ZEC Mazanza, M** 39.28 9 P 03 00 41.4
baz=193
BC3 **Big Chuckawall** 39.33 315 P 03 00 43.6
baz=123,SNR=14
IRM **Iron Mountain** 39.39 316 P 03 00 43.6
baz=124,SNR=12
PKCU **Pink Cliffs** 39.50 322 P P 03 00 43.1 -0.2
PKCU IAmb IAmb 03 00 48.0
comp=Z,36nm,1.2s
SRU **San Rafael Swe** 39.56 325 P P 03 00 43.7 +0.1
SRU pmax pmax
comp=Z,22nm,1.1s
SRU **San Rafael Swe** 39.56 325 P P 03 00 43.7 +0.1
MONP2 **Monument Peak** 39.62 313 P 03 00 46.2
baz=121,SNR=6.3
PEXB **Peixe** 39.80 120 eP P 03 00 44.8 -0.8
MTPU **Mount Pierson** 39.81 323 P P 03 00 45.5 -0.4
D60A **Saint Jean D'O** 39.86 13 P 03 00 47.9
baz=199
BELC **Belle Mtn. Jos** 39.90 315 P 03 00 48.4
baz=122,SNR=15
E62A **Clayton Lake** 39.90 14 P 03 00 48.5
baz=201
P17A **Butcher Ranch,** 39.93 326 P P 03 00 46.1 -0.6
TPFO **Pinon Flats** 40.01 314 P 03 00 49.4
baz=122,SNR=7.3
PFO **Pinyon Flats O** 40.02 314 P 03 00 49.7
baz=122,SNR=10
PFO **Pinyon Flats O** 40.02 314 P P 03 00 47.6 +0.1
PFO pmax pmax
comp=Z,24nm,1.2s
PFO **Pinyon Flats O** 40.02 314 P P 03 00 47.6 +0.1
GMRC **Granite Mounta** 40.09 316 P 03 00 50.0
baz=124,SNR=15
MSU **Marysvale** 40.11 323 P P 03 00 48.1 -0.1
MSU 03 02 53.4
MSU **Marysvale** 40.11 323 P P 03 00 48.1 -0.1
MSU PcP PcP 03 02 53.4 +0.6
ROSB **Rosrio** 40.11 104 eP P 03 00 48.6 +0.3
109C **Camp Elliot, M** 40.12 313 IAmb IAmb 03 00 52.2
comp=Z,40nm,1.1s
109C **Camp Elliot, M** 40.12 313 P 03 00 49.3
baz=120
K22A **Casper** 40.13 333 P 03 00 48.3
baz=142,SNR=12
CCUT **Cedar City** 40.21 321 P P 03 00 49.0 -0.1
CCUT PcP PcP 03 02 53.7 +0.5
EYMN **Ely** 40.26 351 IAmb IAmb 03 00 48.4
comp=Z,43nm,1.5s
EYMN **Ely** 40.26 351 P 03 00 46.9
baz=167,SNR=9.1
RSSD **Black Hills** 40.26 336 P 03 00 49.9
baz=146
RSSD **Black Hills** 40.26 336 P P 03 00 49.3 -0.1
RSSD pmax pmax
comp=Z,20nm,1.1s
RSSD **Black Hills** 40.26 336 P P 03 00 49.3 -0.1
D62A **Allapoint, All** 40.45 14 P 03 00 53.5
baz=201
MURC **Murrieta** 40.54 313 P 03 00 53.1
baz=121,SNR=6.5
CO03 **El Pedregal** 40.55 164 P P 03 00 52.8 +1.1
CO03 IAmb IAmb 03 00 58.8
comp=Z,35nm,1.4s
HEC **Hector,Ludlow** 40.58 316 P 03 00 54.4
baz=123,SNR=32
TUQ **Turquoise Moun** 40.63 317 P 03 00 54.0
baz=124,SNR=26
D63A **Stockholm** 40.65 15 P 03 00 54.4
baz=203
BBRC **Big Bear Solar** 40.69 315 P 03 00 55.0
baz=122
MPU **Maple Canyon** 40.80 325 P P 03 00 53.6 -0.3
MPU PcP 03 02 55.2 +0.1
CO02 **Combarbal** 40.81 164 IAmb IAmb 03 00 57.8
comp=Z,28nm,0.8s
NLU **North Lily Min** 41.01 325 P P 03 00 55.7 +0.1
NLU PcP PcP 03 02 56.2 +0.5
JLU **Jordanelle** 41.10 326 P P 03 00 56.2 -0.3
SHOC **Shoshone, Teco** 41.12 317 P 03 00 58.0
baz=124,SNR=6.8
GSC **Goldstone, Bar** 41.16 316 P P 03 00 56.8 0.0
GSC pmax pmax
comp=Z,55nm,1.3s
GSC **Goldstone, Bar** 41.16 316 P P 03 00 56.8 0.0
GSC IAmb IAmb 03 01 00.4
comp=Z,55nm,1.3s
GSC **Goldstone, Bar** 41.16 316 P 03 00 58.3
baz=123,SNR=23
E28A **Huff** 41.17 341 IAmb IAmb 03 01 02.2
comp=Z,49nm,1.1s
BFSC **Mount Baldy Ra** 41.20 314 P 03 00 58.6
baz=121
AGMN **Agassiz Nation** 41.43 347 P 03 00 56.9
baz=160,SNR=17
MWC **Mount Wilson** 41.47 314 IAmb IAmb 03 01 11.1
comp=Z,43nm,1.4s
DUG **Dugway, Tooele** 41.59 325 P P 03 01 00.0 -0.3
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG **Dugway, Tooele** 41.59 325 P P 03 01 00.0 -0.3
DUG **Dugway, Tooele** 41.59 325 P 03 01 01.3
baz=132,SNR=10
H03N2 **Juan Fernandez** 41.60 175 T T 03 45 11.2
baz=357,slow=76,SNR=14
H03N1 **Juan Fernandez** 41.61 175 T T 03 45 12.3
baz=357,slow=76,SNR=16
MATQ **Matagami** 41.61 5 P 03 01 00.9
baz=188
H03N3 **Juan Fernandez** 41.62 175 T T 03 45 11.7
baz=357,slow=76,SNR=16
BW06 **Boulder Array** 41.67 330 P 03 01 00.6
baz=138,SNR=16
PD31 **Pinedale Array** 41.67 330 P P 03 01 00.6 -0.4
PDAR **Pinedale Array** 41.67 330 P P 03 01 00.8 -0.2
comp=Z,3.0nm,0.7s,baz=139,slow=9.9,SNR=31
PDAR PcP PcP 03 02 57.6 -0.2
comp=Z,2.8nm,1.0s,baz=113,slow=3.9,SNR=5.2
PDAR LR LR 03 21 05.9
comp=Z,119nm,19.0s,baz=146,slow=40
PDAR **Pinedale Array** 41.67 330 P P 03 01 01.0 0.0
BW06 **Boulder Array** 41.67 330 P P 03 01 00.9 -0.2
TPNV **Topopah Spring** 41.70 318 P P 03 01 01.5 +0.2
TPNV pmax pmax
comp=Z,43nm,1.4s
TPNV **Topopah Spring** 41.70 318 P P 03 01 01.5 +0.2
TPNV IAmb IAmb 03 01 09.0
comp=Z,43nm,1.4s
TPNV **Topopah Spring** 41.70 318 P 03 01 03.6
baz=125,SNR=20
SPR3 **Spring Creek 3** 41.71 322 P P 03 01 01.9 +0.4
SPR3 PcP PcP 03 02 59.0 +0.8
EDW2 **Edwards Air Fo** 41.76 315 P 03 01 03.5
baz=121,SNR=12
ZON **Zonda** 41.80 162 P P 03 01 03.5 +1.5
ZON pmax pmax
comp=Z,32nm,1.3s
ZON **Zonda** 41.80 162 P P 03 01 03.5 +1.5
ZON IAmb IAmb 03 01 06.0
comp=Z,32nm,1.3s
BDFB **Brasilia** 41.82 125 P P 03 01 01.6 -0.9
comp=Z,4.3nm,0.8s,baz=279,slow=10,SNR=5.3
BDFB LR LR 03 19 07.9
comp=Z,328nm,18.5s,baz=316,slow=37
BDFB **Brasilia** 41.82 125 P P 03 01 03.6 +1.1
BDFB pmax pmax
comp=Z,4.0nm,1.0s
BDFB **Brasilia** 41.82 125 P P 03 01 03.6 +1.1
FURC **Furnace Creek,** 41.83 317 P 03 01 03.8
baz=124,SNR=34
LRMC **Laurel Mtn Rad** 41.86 316 P 03 01 04.4
baz=122,SNR=9.8
HWUT **Hardware Ranch** 41.86 327 IAmb IAmb 03 01 04.1
comp=Z,34nm,1.1s
MDND **Maddock** 41.98 343 P 03 01 02.4
baz=155,SNR=28
MPMC **Manual Prospec** 42.03 316 P 03 01 05.4
baz=123,SNR=23
R11A **Troy Canyon, C** 42.09 321 P 03 01 05.7
baz=127,SNR=11
CPUP **Villa Florida** 42.33 145 P P 03 01 04.4 -1.9
comp=Z,3.5nm,0.9s,baz=338,slow=9.6,SNR=5.1
CPUP LR LR 03 20 24.9
comp=Z,151nm,18.1s,baz=326,slow=39
CPUP **Villa Florida** 42.33 145 eP P 03 01 07.1 +0.8
VA01 **Torpederas** 42.38 166 IAmb IAmb 03 01 17.5
comp=Z,51nm,1.3s
VA03 **San Esteban** 42.40 165 P P 03 01 07.8 +0.9
VA03 IAmb IAmb 03 01 09.1
comp=Z,27nm,1.0s
GRAC **Grapevine Rang** 42.46 318 P 03 01 09.2
baz=124,SNR=12
ARVC **Arvin** 42.48 314 P 03 01 08.7
baz=120
ISA **Isabella, Lake** 42.50 315 P P 03 01 08.0 +0.2
ISA pmax pmax
comp=Z,39nm,1.4s
ISA **Isabella, Lake** 42.50 315 P P 03 01 08.0 +0.2
ISA IAmb IAmb 03 01 11.3
comp=Z,39nm,1.4s
ISA **Isabella, Lake** 42.50 315 P 03 01 10.0
baz=121,SNR=11
CWC **Cottonwood Cre** 42.64 317 P 03 01 11.1
baz=122
REDW **Red Top Meadow** 42.75 330 P P 03 01 09.4 -0.5
REDW IAmb IAmb 03 01 11.3
comp=Z,41nm,1.1s
SNOW **Snow King Moun** 42.77 330 P P 03 01 09.8 -0.3
SNOW IAmb IAmb 03 01 16.6
comp=Z,36nm,1.1s
ECR **Eagle Creek** 42.79 329 P P 03 01 09.9 -0.3
PCMB **Pacaembu** 42.85 134 eP P 03 01 11.5 +0.8
IPMB **Ipameri, GO** 42.94 128 eP P 03 01 10.7 -0.8
MT05 **Renca** 42.95 165 P P 03 01 12.6 +1.2
MT05 IAmb IAmb 03 01 15.0
comp=Z,38nm,0.9s
VES **Vestal, Richgr** 43.02 315 P 03 01 13.4
baz=121,SNR=8.7
PKM **Mcpherson Peak** 43.06 314 P 03 01 14.2
baz=119
TIN **Tinemaha, Big** 43.07 317 P 03 01 14.6
baz=123,SNR=6.3
MT03 **Universidad Ad** 43.11 165 P P 03 01 13.6 +1.0
MT03 IAmb IAmb 03 01 16.5
comp=Z,60nm,1.4s
FLWY **Flagg Ranch** 43.20 330 IAmb IAmb 03 01 15.0
comp=Z,21nm,0.8s
LAO **LASA Array** 43.25 336 IAmb IAmb 03 01 16.3
comp=Z,34nm,0.9s
LAO **LASA Array** 43.25 336 P 03 01 13.2
baz=145,SNR=14
MT09 **Talagante** 43.26 166 P P 03 01 14.9 +1.0
MT09 IAmb IAmb 03 01 23.0
comp=Z,26nm,1.0s
ULM **Lac du Bonnet** 43.28 348 P P 03 01 12.0 -1.7
comp=Z,43nm,1.0s,baz=164,slow=7.6,SNR=39
ULM **Lac du Bonnet** 43.28 348 IAmb IAmb 03 01 13.1
comp=Z,64nm,1.1s
RLMT **Red Lodge** 43.30 333 P 03 01 13.9
baz=140,SNR=29
RLMT **Red Lodge** 43.30 333 P P 03 01 14.1 -0.2
RLMT IAmb IAmb 03 01 17.5
comp=Z,26nm,0.8s
ELK **Elko** 43.35 324 P P 03 01 14.8 0.0
ELK PcP PcP 03 03 04.1 +0.6
H17A **Grant Village** 43.37 331 P 03 01 16.9
baz=138
SMMC **Simmler** 43.40 314 P 03 01 16.6
baz=120
YMR **Madison River** 43.76 331 P P 03 01 17.8 -0.2
YMR IAmb IAmb 03 01 19.9
comp=Z,20nm,0.9s
NV11 **Mina Array Sit** 43.78 319 P P 03 01 18.3 +0.1
NV11 IAmb IAmb 03 01 25.6
comp=Z,51nm,1.4s
PAGB **Antelope Grade** 43.78 314 IAmb IAmb 03 01 22.2
comp=Z,62nm,1.4s
MLAC **Mammoth, Mammo** 43.79 318 P 03 01 19.9
baz=123
BO01 **Tunca** 43.82 166 IAmb IAmb 03 01 21.7
comp=Z,33nm,1.3s
NVAR **Mina Array Bea** 43.88 319 P P 03 01 20.9 +1.9
comp=Z,29nm,1.1s,baz=135,slow=6.5,SNR=47
NVAR PcP PcP 03 03 06.4 +1.1
comp=Z,1.7nm,0.8s,baz=141,slow=4.6,SNR=3.3
NVAR LR LR 03 20 39.3
comp=Z,210nm,19.3s,baz=120,slow=38
NVAR **Mina Array Bea** 43.88 319 P P 03 01 19.3 +0.3
LHV **Little Huntoon** 43.91 318 P P 03 01 19.2 +0.2
LHV IAmb IAmb 03 01 29.9
comp=Z,50nm,1.2s
MDPB **Devils Postpil** 43.95 317 P P 03 01 19.2 -0.5
MDPB IAmb IAmb 03 01 24.7
comp=Z,36nm,1.1s
DGMT **Dagmar** 43.99 340 P P 03 01 19.8 +0.2
DGMT IAmb IAmb 03 01 20.6
comp=Z,40nm,0.8s
DGMT **Dagmar** 43.99 340 P 03 01 19.3
baz=149,SNR=9.8
GCMT **Greycliff** 44.00 333 P P 03 01 19.7 -0.1
KVN **Kaiserville** 44.09 320 P P 03 01 20.4 -0.3
KVN pmax pmax
comp=Z,19nm,1.4s
KVN **Kaiserville** 44.09 320 P P 03 01 20.4 -0.3
QLMT **Earthquake Lak** 44.10 331 P P 03 01 20.5 -0.2
RYN **Ryan** 44.13 319 IAmb IAmb 03 01 24.0
comp=Z,22nm,1.2s
BO02 **Sierra Bellavi** 44.27 166 IAmb IAmb 03 01 29.9
comp=Z,20nm,1.1s
WAKR **Walker** 44.66 318 P P 03 01 25.4 +0.1
WAKR IAmb IAmb 03 01 30.4
comp=Z,35nm,1.0s
BCYI **Bear Canyon** 44.72 329 P P 03 01 26.1 +0.4
HLID **Hailey** 44.73 327 P P 03 01 25.8 +0.1
HLID IAmb IAmb 03 01 30.4
comp=Z,15nm,0.9s
HLID PcP PP 03 03 09.5 -0.8
HLID **Hailey** 44.73 327 P 03 01 26.3
baz=133,SNR=27
BOZ **Bozeman (W)** 44.76 331 P P 03 01 25.8 -0.1
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ **Bozeman (W)** 44.76 331 P P 03 01 25.8 -0.1
BOZ IAmb IAmb 03 01 27.5
comp=Z,24nm,1.0s
BOZ **Bozeman (W)** 44.76 331 P 03 01 26.1
baz=137,SNR=39
YERR **Yerington** 44.79 319 P P 03 01 25.7 -0.6
YERR IAmb IAmb 03 01 29.3
comp=Z,34nm,1.3s
MCMT **McKenzie Canyo** 44.80 330 P P 03 01 26.1 -0.3
DLMT **Dillon** 45.06 330 P P 03 01 27.5 -0.8
DLMT IAmb IAmb 03 01 31.4
comp=Z,28nm,1.1s
PNTR **Pine Nut** 45.09 319 IAmb IAmb 03 01 34.8
comp=Z,16nm,1.0s
VCNR **Virginia City** 45.23 319 IAmb IAmb 03 01 32.9
comp=Z,24nm,1.3s
PAHR **Pah Rah Range** 45.29 320 P P 03 01 30.4 +0.2
PAHR IAmb IAmb 03 01 33.0
comp=Z,29nm,1.4s
ITQB **Itaqui** 45.32 147 P P 03 01 30.5 +0.1
ITQB **Itaqui** 45.32 147 eP P 03 01 30.8 +0.5
MFID **Camas Ranch** 45.41 326 IAmb IAmb 03 01 37.2
comp=Z,20nm,1.1s
EGMT **Eagleton** 45.76 335 IAmb IAmb 03 01 34.9
comp=Z,19nm,0.8s
EGMT **Eagleton** 45.76 335 P 03 01 33.6
baz=141,SNR=12
AFDM **Forest Hills D** 45.91 318 P P 03 01 35.0 -0.1
BEKR **Beckworth** 46.00 319 P P 03 01 35.8 -0.1
BEKR IAmb IAmb 03 01 38.5
comp=Z,17nm,1.1s
ITAB **Concordia** 46.10 141 eP P 03 01 36.9 +0.3
WVOR **Wild Horse Val** 46.40 323 P P 03 01 38.7 -0.3
WVOR pmax pmax
comp=Z,25nm,0.8s
WVOR **Wild Horse Val** 46.40 323 P P 03 01 38.6 -0.3
WVOR IAmb IAmb 03 01 43.2
comp=Z,25nm,0.8s
NBPN **Ponto Novo - B** 46.42 113 eP P 03 01 39.9 +0.6
ORV **Oroville** 46.58 318 P P 03 01 40.4 +0.2
ORV pmax pmax
comp=Z,58nm,1.2s
ORV **Oroville** 46.58 318 P P 03 01 40.4 +0.2
MSO **Missoula** 46.76 331 IAmb IAmb 03 01 42.7
comp=Z,13nm,0.9s
MSO **Missoula** 46.76 331 P 03 01 41.1
baz=136,SNR=23
J08A **Circle Bar Ran** 46.87 324 P P 03 01 42.2 -0.4
BMO **Blue Mountains** 47.15 327 IAmb IAmb 03 01 45.0
comp=Z,9.8nm,0.9s
O03E **Paynes Creek** 47.16 319 P 03 01 45.2
baz=122,SNR=8.9
JTMT **Jette** 47.58 331 P P 03 01 48.4 +0.3
JTMT IAmb IAmb 03 01 49.1
comp=Z,11nm,0.9s
JTMT PcP PcP 03 03 18.9 +1.0
CPSB **Cacapava Do Su** 47.64 145 eP P 03 01 49.3 +0.7
O02D **Mt. Diablo Mer** 47.75 318 P 03 01 49.5
baz=121
F10A **Beach Ranch, E** 47.84 328 P P 03 01 50.1 +0.1
F10A IAmb IAmb 03 01 52.4
comp=Z,16nm,0.9s
I07A **Izee** 47.90 324 P P 03 01 50.5 -0.1
I07A IAmb IAmb 03 01 54.0
comp=Z,9.0nm,0.8s
K05A **Summer Lake** 47.92 322 IAmb IAmb 03 01 58.0
comp=Z,13nm,1.2s
M04C **Macdoel** 47.98 321 P 03 01 51.3
baz=123,SNR=8.7
N02D **Trinity Center** 48.11 319 P 03 01 51.8
baz=122
SCHQ **Schefferville** 48.19 12 P P 03 01 52.0 -0.5
comp=Z,5.5nm,0.9s,baz=204,slow=7.4,SNR=3.7
SCHQ LR LR 03 24 03.0
comp=Z,110nm,18.2s,baz=212,slow=38
G08A **Pilot Rock** 48.33 326 P P 03 01 54.3 +0.4
WALA **Waterton Lakes** 48.35 333 P P 03 01 54.1 +0.1
WALA IAmb IAmb 03 01 55.2
comp=Z,17nm,1.1s
K04D **Chiloquin, OR** 48.39 322 P 03 01 54.5
baz=124
M02C **Callahan** 48.42 320 P 03 01 54.5
baz=122
J05D **Fort Rock, OR** 48.45 323 P 03 01 55.1
baz=125,SNR=5.1
YBH **Yreka Blue Hor** 48.51 320 IAmb IAmb 03 01 57.9
comp=Z,9.7nm,0.9s
L04D **Klamath Falls** 48.51 321 P 03 01 55.1
baz=123,SNR=17
PINE **Pine Mountain** 48.56 323 P P 03 01 55.6 -0.3
PINE IAmb IAmb 03 02 01.1
comp=Z,12nm,0.8s
PLTB **Pedras Altas** 48.58 146 eP P 03 01 57.3 +1.4
E09A **Wood Farm, Sta** 48.67 328 P P 03 01 56.5 +0.1
E09A IAmb IAmb 03 01 59.1
comp=Z,28nm,1.1s
KHMM **Horse Mountain** 48.72 319 P P 03 01 57.1 +0.1
FFC **Flin Flon** 48.84 345 P P 03 01 57.7 +0.2
FFC pmax pmax
comp=Z,38nm,1.5s
FFC **Flin Flon** 48.84 345 P P 03 01 57.7 +0.2
FFC IAmb IAmb 03 01 58.4
comp=Z,38nm,1.4s
J04D **Umpqua Nationa** 48.95 322 P 03 01 58.7
baz=124,SNR=6.0
I05D **Terrebonne, OR** 49.12 324 P 03 02 00.4
baz=125,SNR=7.0
E08A **Dider Farm, El** 49.14 327 IAmb IAmb 03 02 02.5
comp=Z,15nm,1.0s
KRMB **Red Mountain** 49.17 319 P P 03 02 00.2 -0.2
KRMB IAmb IAmb 03 02 04.5
comp=Z,37nm,1.2s
F07A **Phinny Hill Vi** 49.24 326 P P 03 02 01.0 +0.3
F07A IAmb IAmb 03 02 03.9
comp=Z,25nm,1.1s
NEW **Newport** 49.31 330 P P 03 02 00.7 -0.6
NEW pmax pmax
comp=Z,12nm,1.0s
NEW **Newport** 49.31 330 P P 03 02 00.7 -0.6
NEW IAmb IAmb 03 02 04.3
comp=Z,12nm,1.0s
NEW **Newport** 49.31 330 P 03 02 00.2
baz=133,SNR=15
HAWA **Hanford** 49.33 327 P P 03 02 01.3 -0.2
HAWA IAmb IAmb 03 02 03.5
comp=Z,17nm,1.1s
I04A **Tendick Farm,** 49.44 323 P 03 02 02.2
baz=124,SNR=8.1
C09A **Chrisman Ranch** 49.58 329 P P 03 02 03.4 +0.1
E07A **Sunnyside** 49.61 327 IAmb IAmb 03 02 04.8
comp=Z,12nm,0.7s
K02D **Willamette Mer** 49.62 321 P 03 02 04.0
baz=122
G05D **Wamic, OR** 49.63 325 P 03 02 05.2
baz=126,SNR=8.4
KBO **Bosley Butte** 49.72 320 P P 03 02 04.8 +0.2
H04A **Detroit Lake** 49.81 324 P P 03 02 05.5 +0.3
H04A IAmb IAmb 03 02 09.2
comp=Z,16nm,0.7s
I03D **Drain, OR** 49.96 322 P 03 02 06.4
baz=123,SNR=8.1
PLCA **Paso Flores** 50.01 168 P P 03 02 05.7 -1.0
comp=Z,8.2nm,1.0s,baz=352,slow=8.3,SNR=8.7
PLCA **Paso Flores** 50.01 168 eP P 03 02 07.9 +1.2
J01E **Myrtle Point** 50.03 321 P 03 02 07.4
baz=122
H04D **Lebanon** 50.04 323 P 03 02 07.0
baz=124
F05D **White Salmon** 50.09 325 P 03 02 07.8
baz=126
KEBM **Edson Butte** 50.13 321 P P 03 02 08.0 +0.3
I02D **Swisshome** 50.48 322 P 03 02 11.0
baz=123,SNR=5.8
LTY **Liberty** 50.48 327 P P 03 02 10.6 +0.3
G03D **McMinnville, O** 50.74 324 P 03 02 12.7
baz=124
LON **Longmire** 50.80 326 P P 03 02 12.7 +0.1
LON pmax pmax
comp=Z,8.0nm,0.8s
LON **Longmire** 50.80 326 P P 03 02 12.7 +0.1
C06D **Leavenworth** 51.01 328 P 03 02 15.5
baz=128
F04D **Rainier, OR** 51.08 325 P 03 02 15.5
baz=125
E04D **Cinebar** 51.10 325 P 03 02 15.9
baz=126
FCC **Fort Churchill** 51.15 352 IAmb IAmb 03 02 15.1
comp=Z,37nm,0.9s
D05A **Enumclaw** 51.16 326 IAmb IAmb 03 02 16.5
comp=Z,13nm,0.8s
D04E **Lakebay** 51.58 326 P 03 02 18.9
baz=126
E03A **Lebam** 51.66 325 P P 03 02 19.0 0.0
B05A **Bryant** 51.86 327 P 03 02 20.3
baz=127
D03D **Eldon** 51.97 326 P 03 02 20.7

baz=126,SNR=11
NLWA Neilton Lookou 52.31 326 P P 03 02 24.3 +0.3
NLWA IAmb IAmb 03 02 26.0
comp=Z,20nm,1.1s
A04D Lummi Island 52.46 328 P 03 02 24.8
baz=127
YKA Yellowknife Ar 58.90 343 P P **03 03 10.1 -0.9**
comp=Z,14nm,1.1s,baz=134,slow=7.9,SNR=41
YKA PcP PcP **03 04 00.5 +0.3**
comp=Z,1.4nm,0.8s,baz=140,slow=4.0,SNR=3.9
TAOE Nuku Hiva Isla 59.61 255 *e*LR LR 03 19 49.0
comp=Z,262nm,26.9s
DLBC Dease Lake 61.67 334 P P **03 03 30.6 +0.5**
DLBC IAmb IAmb 03 03 34.0
comp=Z,8.8nm,0.9s
WHY Whitehorse 64.96 335 P 03 03 51.6
baz=120
RES Resolute Bay 66.78 357 IAmb IAmb 03 04 05.2
comp=Z,15nm,0.8s
ICESG Greenland Ices 66.92 15 *i* P P **03 04 02.6 -2.0**
ICESG IAmb IAmb 03 04 04.9
comp=Z,10nm,0.9s
DAWY Dawson 68.45 337 P P **03 04 14.7 +0.6**
DAWY IAmb IAmb 03 04 15.4
comp=Z,10nm,1.1s
EPYK Eagle Plains 68.59 340 P 03 04 15.2
baz=121,SNR=13
INK Inuvik 68.59 342 P 03 04 15.3
baz=125,SNR=40
CRQE Cirque 68.61 333 P 03 04 15.6
baz=113
MCARA McCarthy VSAT 68.82 333 P 03 04 17.7
baz=113
L27K Beaver Creek, 68.99 335 P 03 04 18.3
baz=115,SNR=31
HMT Hamilton 68.99 332 IAmb IAmb 03 04 21.7
comp=Z,14nm,0.9s
GLB Gilahina Butte 69.19 333 IAmb IAmb 03 04 22.7
comp=Z,14nm,1.1s
BMRM Bremner River 69.38 333 IAmb IAmb 03 04 22.4
comp=Z,17nm,1.0s
BMRM Bremner River 69.38 333 P 03 04 20.9
baz=111
EGAK Eagle 69.45 337 P P **03 04 20.2 0.0**
EGAK IAmb IAmb 03 04 23.6
comp=Z,19nm,1.1s
EGAK Eagle 69.45 337 P 03 04 21.0
baz=116,SNR=11
K27K Chicken 69.49 336 IAmb IAmb 03 04 22.3
comp=Z,12nm,1.1s
K27K Chicken 69.49 336 P 03 04 21.1
baz=115
SUMG Summit 69.58 13 *i* P P **03 04 20.1 -1.2**
SUMG IAmb IAmb 03 04 24.0
comp=Z,29nm,1.1s
SUMG Summit 69.58 13 P P **03 04 20.6 -0.7**
SUMG pmax pmax
comp=Z,28nm,1.1s
SUMG Summit 69.58 13 P P **03 04 20.6 -0.7**
N25K Chitina, Valde 69.61 333 P 03 04 22.6
baz=112,SNR=7.0
N25K Chitina, Valde 69.61 333 P P **03 04 21.8 +0.4**
N25K IAmb IAmb 03 04 23.9
comp=Z,17nm,1.2s
EYAK Cordova Ski Ar 69.75 332 P 03 04 22.8
baz=110
HIN Hinchinbrook I 70.05 332 IAmb IAmb 03 04 26.9
comp=Z,28nm,1.2s
HARP HAARP 70.14 334 P 03 04 24.6
baz=111
KLU Klutina 70.16 333 P P **03 04 25.3 +0.6**
KLU IAmb IAmb 03 04 26.8
comp=Z,18nm,1.2s
KLU Klutina 70.16 333 P 03 04 25.3
baz=110
SCRK Sand Creek 70.24 336 IAmb IAmb 03 04 26.8
comp=Z,11nm,1.1s
SCRK Sand Creek 70.24 336 P 03 04 26.1
baz=113,SNR=13
PAX Paxson 70.48 334 P P **03 04 26.2 -0.5**
PAX pmax pmax
comp=Z,10.0nm,1.2s
PAX Paxson 70.48 334 P P **03 04 26.2 -0.5**
PAX Paxson 70.48 334 P 03 04 25.9
baz=111,SNR=8.0
M24K Tolsona, Glenn 70.48 334 P 03 04 27.4
baz=110
GLI Glacier Island 70.49 332 P 03 04 26.9
baz=109
PPT Papeete 70.76 248 LR LR 03 28 09.2
comp=Z,180nm,18.3s,baz=52,slow=30
PPT2 Papeete2 70.77 248 *e*LR LR 03 24 58.4
comp=Z,234nm,25.5s
SCM Sheep Creek Mo 70.91 333 P P **03 04 29.9 +0.6**
SCM pmax pmax
comp=Z,27nm,1.2s
SCM Sheep Creek Mo 70.91 333 P P **03 04 29.9 +0.6**
SCM IAmb IAmb 03 04 31.1
comp=Z,27nm,1.2s
PWL Port Wells 71.06 332 IAmb IAmb 03 04 34.7
comp=Z,12nm,1.2s
NEEM North Greenlan 71.15 7 *i* P P **03 04 29.6 -1.2**
NEEM IAmb IAmb 03 04 30.6
comp=Z,24nm,1.0s
KNK Knik Glacier 71.28 332 P 03 04 32.1
baz=108
WAT6 Susitna Watana 71.33 334 P 03 04 32.2
baz=109,SNR=11
SML Sawmill 71.35 333 P 03 04 32.3
baz=108
SEW Seward 71.36 331 P 03 04 31.8
baz=106
PRP Porcupine Dome 71.44 337 IAmb IAmb 03 04 34.2
comp=Z,23nm,1.4s
PRP Porcupine Dome 71.44 337 P 03 04 32.6
baz=112,SNR=8.2
HDA Harding Lake 71.61 336 P 03 04 33.5
baz=110,SNR=25
HDA P 03 04 33.5
baz=110,SNR=25
PMR Palmer 71.65 333 P 03 04 34.1
baz=107
ILAR Eielson Array 71.71 336 P P **03 04 34.1 +0.1**
comp=Z,10nm,1.0s,baz=110,slow=4.2,SNR=68
PP PP **03 07 12.1 -0.9**
ILAR comp=Z,3.3nm,1.1s,baz=115,slow=5.3,SNR=7.1
ILAR LR LR 03 37 52.8
comp=Z,68nm,21.2s,baz=120,slow=37
ILAR Eielson Array 71.71 336 P P **03 04 34.3 +0.3**
ILAR Eielson Array 71.71 336 P P **03 04 34.3 +0.3**
RC01 Rabbit Creek A 71.78 332 P 03 04 34.5
baz=106
BMAR Burnt Mountain 71.83 339 P P **03 04 35.6 +0.8**
BRSE Bradley Lake S 71.89 330 P 03 04 35.1
baz=105
BRLK Bradley Lake 71.97 330 P P **03 04 36.4 +0.7**
POKR Poker Plat Res 72.05 336 IAmb IAmb 03 04 39.2
comp=Z,13nm,1.1s
POKR Poker Plat Res 72.05 336 P 03 04 36.2
baz=110,SNR=7.0
RND Reindeer 72.08 334 P P **03 04 37.0 +0.7**
RND pmax pmax
comp=Z,50nm,1.2s
RND Reindeer 72.08 334 P P **03 04 37.0 +0.7**
COLA College 72.13 336 *e*P P **03 04 36.8 +0.3**
COLA pmax pmax
comp=Z,14nm,1.2s
COLA College 72.13 336 P 03 04 36.5
baz=110
TCOL CIGO, UAF Yank 72.14 336 P 03 04 36.7
baz=110
MCK McKinley 72.21 335 P P **03 04 37.6 +0.5**
MCK pmax pmax
comp=Z,36nm,1.3s
MCK McKinley 72.21 335 P P **03 04 37.6 +0.5**
MCK McKinley 72.21 335 P 03 04 37.5
baz=108
TBI Tubuai 72.29 242 *e*LR LR 03 25 45.3
comp=Z,195nm,26.2s,baz=67
MDM Murphy Dome 72.31 336 P P **03 04 38.1 +0.4**
MDM IAmb IAmb 03 04 39.1
comp=Z,18nm,1.2s
KDAK Kodiak Island 72.35 328 P 03 04 38.3
baz=103
SUA Susitna One 72.35 332 IAmb IAmb 03 04 39.9
comp=Z,36nm,1.4s
SUA Susitna One 72.35 332 P 03 04 37.9
baz=106,SNR=7.1
CUT Chulitna 72.40 333 P 03 04 38.0
baz=106
H24K Noodor Dome 72.47 337 P 03 04 39.0
baz=110,SNR=19
NEA2 Nenana 72.54 336 IAmb IAmb 03 04 40.4
comp=Z,22nm,1.2s
NEA2 Nenana 72.54 336 P 03 04 38.8
baz=108,SNR=7.5
OHAK Old Harbor 72.60 327 P 03 04 40.2
baz=102
TRF Thorofare Moun 72.70 334 IAmb IAmb 03 04 46.0
comp=Z,27nm,1.3s
TRF Thorofare Moun 72.70 334 P 03 04 40.3
baz=107,SNR=9.7
I23K Minto, Yukon-K 72.83 336 P P **03 04 41.0 +0.4**
I23K Minto, Yukon-K 72.83 336 P 03 04 41.2
baz=108,SNR=30
SKT Skwentna 72.85 333 P P **03 04 41.2 +0.3**
SKT IAmb IAmb 03 04 42.5
comp=Z,28nm,1.3s
SKT Skwentna 72.85 333 P 03 04 40.8
baz=105,SNR=13
KTH Kantishna Hill 73.01 334 IAmb IAmb 03 04 43.2
comp=Z,17nm,1.1s
H23K Yukon River 73.11 337 P 03 04 42.9
baz=108,SNR=14
BPAW Bear Paw Mtn. 73.19 335 P P **03 04 41.9 -1.0**
BPAW IAmb IAmb 03 04 44.3
comp=Z,31nm,1.2s
BPAW Bear Paw Mtn. 73.19 335 P 03 04 43.0
baz=106,SNR=24
MLY Manley 73.35 336 P P **03 04 43.5 -0.3**
MLY IAmb IAmb 03 04 45.4
comp=Z,26nm,1.2s
MLY Manley 73.35 336 P 03 04 43.9
baz=107,SNR=31
PPLA Purkeypile 73.38 333 P P **03 04 43.5 -0.7**
PPLA IAmb IAmb 03 04 45.6
comp=Z,31nm,1.3s
PPLA Purkeypile 73.38 333 P 03 04 44.2
baz=105,SNR=9.2
CHUM Lake Minchumin 73.69 334 P 03 04 45.5
baz=105
COLD Coldfoot 73.80 338 P P **03 04 46.9 +0.5**
COLD IAmb IAmb 03 04 49.0
comp=Z,38nm,1.3s
COLD Coldfoot 73.80 338 P 03 04 47.5
baz=108,SNR=29
I21K Tanana 73.90 336 P 03 04 47.1
baz=106,SNR=15
N19K Bonanza Creek 73.96 331 P 03 04 47.5
baz=102,SNR=8.8
TOLK Toolik Lake Re 74.02 340 P P **03 04 47.5 -0.2**
TOLK IAmb IAmb 03 04 51.0
comp=Z,16nm,1.0s
TOLK Toolik Lake Re 74.02 339 P 03 04 47.9
baz=109,SNR=10.0
H21K Melozitna Rive 74.36 336 P 03 04 49.6
baz=105
SVW2 Sparrevohn 74.54 331 P P **03 04 50.0 -0.8**
SVW2 IAmb IAmb 03 04 51.6
comp=Z,19nm,1.2s
N18K Kilae Creek 74.61 331 P 03 04 51.1
baz=101,SNR=13
TTA Tatalina 75.10 333 P P **03 04 53.3 -0.8**
TTA pmax pmax
comp=Z,17nm,1.2s
TTA Tatalina 75.10 333 P P **03 04 53.3 -0.8**
TTA IAmb IAmb 03 04 55.0
comp=Z,17nm,1.2s
TTA Tatalina 75.10 333 P 03 04 53.7
baz=101,SNR=9.5
ESDC Sonseca Array 76.20 51 P P **03 05 01.1 +0.3**
comp=Z,5.6nm,1.1s,baz=278,slow=6.0,SNR=14
DBIC LR LR 03 36 42.5
comp=Z,104nm,21.1s,baz=256,slow=34
DBIC Dimbokro 77.17 85 P P **03 05 07.8 +1.0**
DBIC pmax pmax
comp=Z,55nm,1.4s
DBIC Dimbokro 77.17 85 P P **03 05 07.8 +1.0**
KIC Kosan Boka 77.32 85 *e*PKP2 P **03 05 07.9 +0.3**
comp=Z,84nm,1.4s
RDOG Red Dog Mine 78.72 338 P P **03 05 13.6 -0.8**
RDOG IAmb IAmb 03 05 18.2
comp=Z,24nm,1.0s
RDOG Red Dog Mine 78.72 338 P 03 05 14.7
baz=96,SNR=10.0
ANM Nome 79.43 334 P 03 05 18.8
baz=93
TOA0 Torodi Ar. Sit 82.83 78 P P **03 05 37.8 +0.4**
TORD Torodi Ar. Bea 82.83 78 P P **03 05 37.0 -0.3**
comp=Z,9.3nm,1.1s,baz=297,slow=5.3,SNR=22
TORD LR LR 03 41 44.2
comp=Z,128nm,21.0s,baz=155,slow=35
TORD Torodi Ar. Bea 82.83 78 P P **03 05 37.8 +0.5**
TORD IAmb IAmb 03 05 39.5
comp=Z,27nm,1.4s
NOA NORSAR Array B 84.80 29 P P **03 05 47.2 +0.7**
comp=Z,1.2nm,0.9s,baz=279,slow=4.6,SNR=3.4
ADK Adak 85.99 322 P P **03 05 53.5 +0.9**
ADK pmax pmax
comp=Z,72nm,1.5s
ADK Adak 85.99 322 P P **03 05 53.5 +0.9**
CLL Collm 87.24 39 *e*P P **03 06 00.0 +1.2**
CLL Lm MLR 03 42 00.0
comp=Z,100nm,21.0s
CLL Collm 87.24 39 *e*P P **03 06 00.0 +1.2**
GERES GERESS Array B 88.11 41 P P **03 06 02.9 -0.3**
comp=Z,1.3nm,1.0s,baz=270,slow=3.7,SNR=5.7
GERES LR LR 03 40 45.5
comp=Z,160nm,20.3s,baz=287,slow=32
AMKA Amchitka 88.54 322 P P **03 06 04.7 -0.3**
ARCES ARCESS Array B 88.63 20 P P **03 06 06.8 +1.7**
comp=Z,1.8nm,0.9s,baz=359,slow=7.4,SNR=3.6
ARCES ARCESS Array B 88.63 20 P P **03 06 05.8 +0.7**
ARCES pmax pmax
comp=Z,15nm,1.5s
ARCES ARCESS Array B 88.63 20 P P **03 06 05.8 +0.7**
ARCES IAmb IAmb 03 06 18.1
comp=Z,15nm,1.5s
BILL Bilibino 90.07 339 *d* P P **03 06 11.9 0.0**
BILL *e* 03 09 43.8
BILL *e*PPP PPP 03 11 42.3
BILL pmax pmax
comp=Z,50nm,2.5s
BILL Bilibino 90.07 339 P P **03 06 11.9 0.0**
VNA3 Neumayer Olymp 92.39 162 P P **03 06 22.1 -0.4**
VNA1 Neumayer--Stat 92.64 161 P P **03 06 22.6 -1.0**
VNA2 Neumayer--Watz 93.00 161 P P **03 06 25.3 0.0**
baz=277,slow=2.6
SNAA Sanae 94.61 162 P P **03 06 32.2 -0.6**
SNAA Sanae 94.61 162 *j* P P **03 06 32.4 -0.3**
SNAA pmax pmax
comp=Z,9.0nm,1.3s
MNK Minsk 95.06 33 *i* P P **03 06 35.7 +0.5**
MNK *i* 03 10 24.5
MNK *i* PPP PPP 03 12 26.9
MNK *i* S **SKSac** **03 17 11.2 0.0**
MNK *i* 03 17 46.2
MNK *i* PS **PS** **03 19 09.4 +1.8**
MNK *i* SSS SSS 03 28 00.6
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=E,4.0nm,22.0s
MNK MLR MLR
comp=Z,71nm,17.0s
MNK MLR MLR
comp=N,30nm,17.0s
MNK Minsk 95.06 33 *i* P P **03 06 35.8 +0.6**
comp=E,2.0nm,0.8s
MNK *i* P P **03 06 35.8 +0.6**
comp=N,8.0nm,0.8s
MNK *i* P **P** **03 06 35.8 +0.6**
comp=Z,5.0nm,0.8s,baz=292
MNK *i* PP **PP** **03 10 24.6 +0.4**
MNK *i* PPP PPP 03 12 27.0
MNK *i* S **SKSac** **03 17 11.3 +0.1**
MNK *i* ScS **S** **03 17 46.2 -4.0**
MNK *i* PS **PS** **03 19 09.4 +1.8**
MNK *i* SS SS 03 24 31.2 +16
MNK *i* SSS SSS 03 28 00.6
MNK *i* LQ LQ 03 42 20.1
MNK *i* LR LR 03 47 30.6
MNK *i* LRM MLR 03 50 21.8
comp=E,4.0nm,21.7s
MNK *i* LRM MLR 03 50 26.9
comp=Z,71nm,16.6s
MNK *i* LRM MLR 03 50 38.4
comp=N,30nm,16.6s
TIXI Tiksi 97.58 350 P P **03 06 45.5 -0.7**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 97.58 350 P P **03 06 45.5 -0.7**
TIXI IAmb IAmb 03 06 46.4
comp=Z,3.9nm,0.8s
OBN Obninsk 99.34 30 *e*P **Pdif** **03 06 53.5 -1.0**
OBN *e* 03 10 56.7
OBN pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 114.79 18 *j* PKIKP PKPdf 03 11 53.1 +0.2
ZALV Zalesovo Beam 117.17 8 PKP **PKPdf** **03 11 56.6 -0.9**
comp=Z,0.6nm,0.4s,baz=126,slow=7.5,SNR=5.4
ZALV Zalesovo Beam 117.17 8 PKIKP **PKPdf** **03 11 56.2 -1.3**
ZALV Zalesovo Beam 117.17 8 **PKPdf** **03 11 56.2 -1.3**
USRK Ussuriysk Ar. 119.07 332 PKP **PKPdf** **03 12 00.5 -1.0**
comp=Z,1.2nm,0.7s,baz=3.8,slow=4.3,SNR=2.4
USRK Ussuriysk Ar. 119.07 332 PKIKP **PKPdf** **03 12 00.3 -1.1**
USRK Ussuriysk Ar. 119.07 332 **PKPdf** **03 12 00.3 -1.1**
MAJO Matsushiro 121.15 322 *i* PKIKP **PKPdf** **03 12 05.0 -0.7**
MJAR Matsushiro Arr 121.15 322 PKP **PKPdf** **03 12 05.3 -0.4**
comp=Z,1.3nm,0.6s,baz=93,slow=1.4,SNR=4.4
MJAR Matsushiro Arr 121.15 322 PKIKP **PKPdf** **03 12 04.6 -1.1**
MJAR Matsushiro Arr 121.15 322 **PKPdf** **03 12 04.6 -1.1**
DGZ Jazzator, Alta 121.68 7 *j* PKIKP **PKPdf** **03 12 06.1 -0.4**
ULN Ulaanbaatar 123.47 352 *j* PKIKP **PKPdf** **03 12 09.9 -0.1**
SONM Songino Array 123.59 353 PKP **PKPdf** **03 12 08.7 -1.5**
comp=Z,4.4nm,1.0s,baz=303,slow=0.3,SNR=14
SONM PP **PP** **03 13 49.2 -1.6**
comp=Z,4.3nm,1.1s,baz=0.0,slow=5.9,SNR=9.1
MK31 Makanchi Array 123.63 12 *j* PKIKP **PKPdf** **03 12 09.0 -1.2**
MKAR Makanchi Array 123.63 12 PKP **PKPdf** **03 12 09.1 -1.1**
comp=Z,2.4nm,1.0s,baz=5.7,slow=2.4,SNR=8.7
MKAR Makanchi Array 123.63 12 PKIKP **PKPdf** **03 12 08.8 -1.4**
MKAR Makanchi Array 123.63 12 PKPdf **PKPdf** **03 12 08.8 -1.4**
AAK Ala-Archa 125.29 20 *i* PKIKP **PKPdf** **03 12 13.4 -0.3**
KSRS Korea Array 126.23 330 PKP **PKPdf** **03 12 15.5 +0.1**
comp=Z,7.8nm,0.9s,baz=6.0,slow=1.1,SNR=29
WMQ Urumqi 127.48 9 *e*PKP **PKiKP** **03 12 19.4 +1.2**
HHC Hu-ho-hao-te 129.40 346 *e*PKP **PKPdf** **03 12 17.5 -4.0**
BTO Baotou 129.99 347 *e*PKP **PKPdf** **03 12 22.9 +0.3**
GTA Gaotai 132.54 357 *i* PKP **PKiKP** **03 12 28.4 -0.2**
GTA L L
comp=Z,94nm,19.3s
GTA L L
comp=Z,140nm,18.9s
STKA Stephens Creek 132.58 234 PKP **PKPdf** **03 12 27.8 +0.2**
comp=Z,1.7nm,0.7s,baz=62,slow=15,SNR=2.9
NJ2 Nanjing 134.92 334 *e*PKP **PKPdf** **03 12 32.3 +0.3**
CD2 Chengdu 140.58 351 PKP **PKPdf** **03 12 41.6 -1.0**
ASAR Alice Springs 141.68 242 PKhKP PKPpre 03 12 38.7
comp=Z,3.2nm,0.9s,baz=117,slow=3.5,SNR=20
ASAR PKP **PKPdf** **03 12 44.6 0.0**
comp=Z,4.2nm,0.8s,baz=109,slow=2.6,SNR=12
ASAR Alice Springs 141.68 242 PKHKP PKPpre 03 12 38.6
WRAB Tennant Creek 142.24 248 *j* PKIKP **PKPdf** **03 12 42.6 -3.1**
WRA Warramunga Arr 142.25 248 PKhKP PKPpre 03 12 40.6
comp=Z,11nm,0.9s,baz=104,slow=3.1,SNR=20
GYA Guiyang 144.31 345 PKP PKPbc 03 12 47.8 +0.2
KMI Kunming 146.41 351 *j* PKPbc **PKPbc** **03 12 54.3 -0.1**
KMI pPKP PKiKP 03 12 57.5 0.0
CMAR Chiang Mai Arr 153.42 356 PKP **PKPdf** **03 13 04.5 +0.5**
comp=Z,3.7nm,0.8s,baz=311,slow=2.2,SNR=12
CMAR Chiang Mai Arr 153.42 356 *e* PKIKP **PKPbc** **03 13 11.1 -0.6**
CMAR pmax pmax
comp=Z,6.0nm,0.8s

JMA ***25*** *03:03:42.3±0.3, 44.07N×148.16E, h0km, M4.1*
SKHL ***25*** *03:03:43.2±0.7, 44.40N×148.30E, h44km±5km, mb4.5/4*
ISC 25 03:03:41.0±3.4, 44.3N±0.1×148.6E±0.2, h55km, n17,
σ1s74/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
KUR	**Kuril'sk**	**1.01**	**332**	*i* P		Pn	03 03 58.4		-0.6
KUR					AMB	AMB	03 03 59.0		
	300nm,0.4s								
KUR				*e*S		**Sn**	**03 04 09.4**		**-2.9**
KUR					A	A	03 04 11.4		
	710nm,0.2s								
KUR					A	A	03 04 11.4		
	570nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.96**	**262**	*e*P		**Pn**	**03 04 11.7**		**-0.1**
YUK					AMB	AMB	03 04 12.9		
	160nm,0.3s								
YUK				*e*S		**Sn**	**03 04 32.2**		**-3.0**
YUK					A	A	03 04 34.2		
	250nm,0.2s								
YUK					A	A	03 04 34.2		
	290nm,0.2s								
GRPR	**Tuman**	**2.03**	**261**	*e*P		**Pn**	**03 04 13.0**		**+0.3**
GRPR					AMB	AMB	03 04 16.0		
	160nm,0.4s								
GRPR				*e*S		**Sn**	**03 04 36.0**		**-0.9**
GRPR					A	A	03 04 40.0		
	390nm,0.4s								
GRPR					A	A	03 04 40.0		
	470nm,0.4s								
NEM2	**Nemuro 2**	**2.25**	**245**	P		**Pn**	**03 04 16.1**		**+0.3**
NEM2				*e*S		**Sn**	**03 04 40.4**		**-2.0**
NMR	**Nemuro--Hokkai**	**2.26**	**245**	*e*P		**Pn**	**03 04 16.0**		**+0.1**
NMR				*e*S		**Sn**	**03 04 40.7**		**-1.9**
GLVR	**Golovnino**	**2.27**	**256**	*e*P		**Pn**	**03 04 16.0**		**0.0**
GLVR					AMB	AMB	03 04 18.0		
	100nm,0.4s								
GLVR				*e*S		**Sn**	**03 04 41.0**		**-1.7**
GLVR					A	A	03 04 46.0		
	540nm,0.4s								
GLVR					A	A	03 04 46.0		
	290nm,0.4s								
JRA	**Rausu**	**2.50**	**262**	P		**Pn**	**03 04 20.6**		**+1.4**
JRA				*e*S		**Sn**	**03 04 48.9**		**+0.4**
JNSB	**Nemuroshibetsu**	**2.62**	**259**	P		**Pn**	**03 04 22.1**		**+1.3**
JKHN	**Kushirohamanak**	**2.76**	**244**	P		**Pn**	**03 04 23.5**		**+0.8**
JKHN				*e*S		**Sn**	**03 04 53.9**		**-1.0**
JNK	**Nakash**	**2.87**	**256**	P		**Pn**	**03 04 25.5**		**+1.3**
JNK				*e*S		**Sn**	**03 04 57.1**		**-0.4**
JAK	**Akkeshi**	**3.10**	**246**	P		**Pn**	**03 04 28.2**		**+0.8**
JAK				*e*S		**Sn**	**03 05 01.2**		**-2.0**
JAR	**Ashorobuto**	**3.61**	**255**	P		**Pn**	**03 04 36.8**		**+2.4**
JAR				*e*S		**Sn**	**03 05 16.6**		**+0.8**
JCH	**Churui**	**4.15**	**247**	P		**Pn**	**03 04 43.1**		**+1.3**
JCH				*e*S		**Sn**	**03 05 28.1**		**-0.9**
JKK2	**Kamakawa 2**	**4.21**	**266**	P		**Pn**	**03 04 46.1**		**+3.6**
JKB	**Kayabe**	**6.02**	**249**	P		**Pn**	**03 05 09.3**		**+1.9**
JKB				*e*S		**Sn**	**03 06 13.6**		**-1.4**
JOT	**Ohata**	**6.26**	**244**	P		**Pn**	**03 05 11.9**		**+1.3**
JOT				*e*S		**Sn**	**03 06 17.9**		**-2.8**
JOSM	**Okushiri--Mats**	**7.00**	**254**	P		**Pn**	**03 05 23.0**		**+2.1**

ARE ***25*** *03:07:14±4.7, 6.55S±0.09×80.56W±0.08, h22km±7km,*
Error ellipse: s-maj=0.0km s-min=0.0km az=124.0
NEIC ***25*** *03:07:19.1±1.5, 6.64S±0.06×80.27W±0.10, h58km±14km,*
mb4.0/6, ML4.3(ARE), Error ellipse: s-maj=14.3km
s-min=7.3km az=110.0
ISC 25 03:07:17.3±1.4, 6.65S±0.10×80.4W±0.2, h35km, n8,
σ0s81/9, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
NNA	**Nana**	**6.34**	**147**	Pn		**Pn**	**03 08 49.0**		**+0.7**
NNA				Sn		**Sn**	**03 10 00.3**		**+0.8**
OTAV	**Otavalo**	**7.11**	**16**	Pn		**Pn**	**03 09 00.1**		**+0.9**
FLOC	**Florencia**	**9.44**	**30**	Pn		**Pn**	**03 09 30.4**		**-0.4**

LPAZ	**La Paz**	**15.33**	**130**	Pn	**Pn**	**03 10 50.7**	**-1.0**
LPAZ				IAmb	IAmb	03 10 58.8	
	comp=Z,2.8nm,0.8s						
PB16	**IPOC Station P**	**15.71**	**139**	Pn	**Pn**	**03 10 56.1**	**-0.5**
PB16				IAmb	IAmb	03 11 03.2	
	comp=Z,5.7nm,0.8s						
SAML	**Samuel**	**17.17**	**99**		**Pn**	**03 11 14.2**	**-0.4**
TGUH	**Tegucigalpa,Un**	**21.69**	**342**	P	**P**	**03 12 05.5**	**+0.1**
TGUH				IAmb	IAmb	03 12 15.0	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**03 19 40.4**	**-0.7**
QSPA				IAmb	IAmb	03 19 55.9	
	comp=Z,3.9nm,1.3s						

*BGS **25** 03:09:21.1±1.7,48.˚76N×4.˚96W,h13km±242km,ML1.6*
*LDG **25** 03:09:24.3±0.2,48.˚69N×4.˚51W,h17km,Md2.7/2,Ml2.3/14, Error ellipse: s-maj=3.8km s-min=2.8km az=153.0*

ISC 25 03:09:19.0±1.4,**48.˚76N**±0.˚04×**4.˚68W**±0.˚06,**h10**km,**n29,** σ2**s26**/45,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**1.02**	**114**	*e*P	**Pn**	**03 09 41.7**	**+2.3**
ROSF				IAML		03 09 55.2	
	comp=N,16nm,0.3s						
ROSF				IAML		03 09 55.6	
	comp=E,13nm,0.3s						
ROSF	**Rostrenen**	**1.02**	**114**	*e*P	**Pn**	**03 09 41.7**	**+2.3**
ROSF				IAML		03 09 55.2	
	comp=N,16nm,0.3s						
ROSF				IAML		03 09 55.6	
	comp=E,13nm,0.3s						
ROSF	**Rostrenen**	**1.02**	**114**	*e*Pg	**Pn**	**03 09 41.6**	**+2.3**
ROSF				*e*Sg	**Sb**	**03 09 53.3**	**+1.1**
	comp=E,10nm,0.2s						
QUIF	**Quistinic**	**1.31**	**129**	*e*Pn	**Pb**	**03 09 44.5**	**+0.8**
QUIF	**Quistinic**	**1.31**	**129**	*e*Pg	**Pg**	**03 09 46.6**	**+2.5**
QUIF				*e*Sn	**Sb**	**03 09 59.5**	**-1.0**
QUIF				*e*Sg	**Sg**	**03 10 02.9**	**+1.7**
	comp=E,24nm,0.2s						
CCA1	**Carnmenellis**	**1.48**	**346**	*e*P	**Pn**	**03 09 46.2**	**+0.6**
CCA1				IAML		03 10 10.0	
	comp=N,3.7nm,0.5s						
CCA1				IAML		03 10 16.9	
	comp=E,4.0nm,0.4s						
CCA1	**Carnmenellis**	**1.48**	**346**	*e*P	**Pn**	**03 09 46.2**	**+0.6**
CCA1				IAML		03 10 10.0	
	comp=N,3.7nm,0.5s						
CCA1				IAML		03 10 16.9	
	comp=E,4.0nm,0.4s						
SGMF	**Saint Gilles**	**1.50**	**109**	*e*Pn	**Pn**	**03 09 47.1**	**+1.2**
SGMF	**Saint Gilles**	**1.50**	**109**	*e*Pg	**Pg**	**03 09 49.8**	**+2.1**
SGMF				*e*Sn	**Sn**	**03 10 04.0**	**-1.5**
SGMF				*e*Sg	**Sg**	**03 10 08.0**	**+0.9**
	comp=E,12nm,0.2s						
JSA	**Saint Aubin**	**1.71**	**74**	*e*P	**Pg**	**03 09 53.4**	**+1.7**
JSA				*e*S	**Sg**	**03 10 14.7**	**+0.8**
JSA				IAML		03 10 22.2	
	comp=N,4.6nm,0.5s						
JSA				IAML		03 10 23.2	
	comp=E,5.3nm,0.2s						
JSA	**Saint Aubin**	**1.71**	**74**	*e*P	**Pg**	**03 09 53.4**	**+1.7**
JSA				*e*S	**Sg**	**03 10 14.7**	**+0.8**
JSA				IAML		03 10 22.2	
	comp=N,4.6nm,0.5s						
JSA				IAML		03 10 23.2	
	comp=E,5.3nm,0.2s						
DYA	**Yadsworthy**	**1.75**	**16**	*e*P	**Pn**	**03 09 50.3**	**+0.9**
DYA				IAML		03 10 22.7	
	comp=N,9.3nm,0.5s						
DYA				IAML		03 10 24.6	
	comp=E,6.1nm,0.4s						
DYA	**Yadsworthy**	**1.75**	**16**	*e*P	**Pn**	**03 09 50.3**	**+0.9**
DYA				IAML		03 10 22.7	
	comp=N,9.3nm,0.5s						
DYA				IAML		03 10 24.6	
	comp=E,6.1nm,0.4s						
GRR	**Gorron**	**2.56**	**97**	*e*Pn	**Pn**	**03 10 02.0**	**+1.5**
GRR	**Gorron**	**2.56**	**97**	*e*Pg	**Pg**	**03 10 09.5**	**+1.4**
GRR				*e*Sn	**Sn**	**03 10 29.5**	**-2.3**
GRR				*e*Sg	**Sg**	**03 10 41.4**	**+0.1**
	comp=E,6.5nm,0.2s						
FLN	**La Foliniere**	**2.78**	**88**	*e*Pn	**Pn**	**03 10 04.5**	**+1.0**
	baz=272						
FLN	**La Foliniere**	**2.78**	**88**	*e*Pg	**Pg**	**03 10 12.8**	**+0.7**
	baz=269						
FLN				*e*Sn	**Sn**	**03 10 34.8**	**-2.2**
	baz=273						
FLN				*e*Sg	**Sg**	**03 10 48.4**	**+0.3**
	comp=E,3.4nm,0.3s,baz=261						
LDF	**La Druitiere**	**3.02**	**91**	*e*Pn	**Pn**	**03 10 08.2**	**+1.3**
LDF	**La Druitiere**	**3.02**	**91**	*e*Pg	**Pg**	**03 10 18.4**	**+1.5**
LDF				*e*Sn	**Sn**	**03 10 40.5**	**-2.6**
	comp=E,0.3nm,0.1s						
LDF				*e*Sg	**Sg**	**03 10 54.7**	**-1.4**
	comp=E,1.2nm,0.1s						
MFF	**Saint Martin d**	**3.74**	**123**	*e*Pg	**Pg**	**03 10 31.7**	**+1.1**
MFF				*e*Sn	**Sn**	**03 10 56.7**	**-4.2**
MFF				*e*Sg	**Sg**	**03 11 17.9**	**-1.2**
	comp=E,1.0nm,0.2s						
LFF	**La Frestale**	**5.33**	**134**	*e*Pn	**Pn**	**03 10 39.9**	**+1.4**
RJF	**Les Rejaudoux**	**5.46**	**127**	*e*Pn	**Pn**	**03 10 41.4**	**+1.0**
RJF				*e*Sn	**Sn**	**03 11 38.2**	**-5.1**
	comp=E,0.4nm,0.2s						
SSF	**Saint Saulge**	**5.76**	**104**	*e*Sn	**Sn**	**03 11 45.4**	**-5.1**
	comp=E,0.5nm,0.3s						
AVF	**Avril sur Loir**	**5.76**	**107**	*e*Sn	**Sn**	**03 11 45.1**	**-5.4**
	comp=E,0.4nm,0.2s						
LOR	**Lormes**	**5.92**	**101**	*e*Sn	**Sn**	**03 11 48.7**	**-5.8**
	comp=E,0.5nm,0.2s,baz=281						
CAF	**Calviac**	**6.00**	**127**	*e*Pn	**Pn**	**03 10 49.0**	**+1.1**
SJPF	**Ste Jean**	**6.13**	**156**	*e*Pn	**Pn**	**03 10 49.9**	**+0.3**
ETSF	**Etsaut**	**6.53**	**152**	*e*Pn	**Pn**	**03 10 55.1**	**+0.1**
MTLF	**Montolieu**	**7.23**	**136**	*e*Pn	**Pn**	**03 11 05.2**	**+0.5**

TRN 25 03:12:06.2,11˚.94N×61˚.79W,h113km,MD3.1,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.23**	**35**	*e*S	Sn	03 12 35.3	+1.3
GRGR	**Grenville**	**0.23**	**35**	*e*P	Pn	03 12 23.1	+1.0
GCMP	**Grenada, Carri**	**0.65**	**33**	*e*S	Sn	03 12 39.6	+1.5
GCMP	**Grenada, Carri**	**0.65**	**33**	*e*P	Pn	03 12 25.2	+0.7
TRN	**Trinidad (W)**	**1.34**	**163**	*e*S	Sn	03 12 51.6	+1.1
TRN	**Trinidad (W)**	**1.34**	**163**	*e*P	Pn	03 12 32.6	+1.2
TOSP	**Speyside**	**1.39**	**117**	*e*S	Sn	03 12 52.5	+1.2
TOSP	**Speyside**	**1.39**	**117**	P	Sn	03 12 52.2	+0.9
TOSP	**Speyside**	**1.39**	**117**	*e*P	Pn	03 12 33.0	+1.2

IDC 25 03:14:22.5±1.4,**28˚.47N×100˚.14E,h0**km,**mb3.5**/3, **mb1 3.7**/3,**mb1mx3.3**/36,**mbtmp3.5**/3,**Error ellipse: s-maj=90.3km s-min=23.9km az=60.0,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.03**	**187**	Pg	Pg	03 17 26.4	
	baz=359,slow=17,SNR=6.2						
CMAR				Lg	Lg	03 19 32.4	
	0.7nm,0.3s,baz=3.9,slow=28,SNR=1.2						
MKAR	**Makanchi Array**	**23.02**	**327**	P	P	03 19 29.0	-0.1
	0.6nm,0.6s,baz=134,slow=11,SNR=5.6						
KURBB	**Kurchatov Arra**	**27.50**	**329**	P	P	03 20 10.6	+0.1
	0.3nm,0.5s,baz=142,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**58.39**	**142**	P	P	03 24 19.7	-0.2
	0.9nm,0.7s,baz=329,slow=7.6,SNR=10						

*IDC **25** 03:35:27.9±1.0,7˚.24S×112˚.18E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.7/32,mbtmp3.8/8,ML3.4/2,MS3.7/4, Ms1 3.8/4,ms1mx3.3/27,Error ellipse: s-maj=41.8km s-min=18.7km az=40.0*
*NEIC **25** 03:35:28.1±1.5,7.˚47S±0.˚08×111.˚77E±0.˚04,h10km±5km, mb4.3/8,Error ellipse: s-maj=11.2km s-min=4.8km az=191.0*
*DJA **25** 03:35:28.9±0.2,8˚S±2˚×11˚2E±˚,h10km,M4.2/13,mb4.3/1, MLv4.2/13*

ISC 25 03:35:27.9±1.2,**7.˚56S**±0.˚04×**111.˚74E**±0.˚03,**h6**km±8km, **n44,**σ1**s45**/50,**mb4.0**/10,**MS3.6**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJI	**Sawahan**	**0.18**	**172**	P	**Pg**	**03 35 31.6**	**+0.1**
PWJI	**Pagerwojo**	**0.47**	**173**	P	**Pg**	**03 35 36.0**	**-0.9**
PWJI				S	**Sg**	**03 35 42.4**	**-0.5**
TBJI	**Tambak Boyo**	**0.74**	**8**	P	**Pg**	**03 35 42.6**	**+0.5**
TBJI				S	**Sn**	**03 35 56.4**	**-0.1**
PCJI	**Pacitan**	**0.84**	**222**	P	**Pg**	**03 35 43.7**	**-0.4**
UGM	**Wanagama**	**1.26**	**254**	Pn	**Pn**	**03 35 51.2**	**-0.9**
UGM				Sn	**Sn**	**03 36 12.5**	**+3.2**
UGM	**Wanagama**	**1.26**	**254**	P	**Pb**	**03 35 52.0**	**-0.1**
UGM				S	**Sn**	**03 36 12.5**	**+3.2**
SMRI	**Semarang**	**1.39**	**291**	Pn	**Pn**	**03 35 53.2**	**-0.6**
SMRI				Sn	**Sg**	**03 36 14.2**	**+1.7**
SMRI	**Semarang**	**1.39**	**291**	P	**Pn**	**03 35 53.6**	**-0.2**
YOGI	**Yogyakarta**	**1.46**	**260**	P	**Pb**	**03 35 54.9**	**-0.5**
YOGI				S	**Sg**	**03 36 17.6**	**+2.8**
KMMI	**Kalianget**	**2.26**	**77**	P	**Pn**	**03 36 06.1**	**+0.3**
ABJI	**Asem Bagus**	**2.48**	**96**	P	**Pn**	**03 36 10.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**2.55**	**111**	Pn	**Pn**	**03 36 10.3**	**+0.5**
JAGI				Sn	**Sn**	**03 36 41.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**2.55**	**111**	P	**Pn**	**03 36 10.0**	**+0.2**
CTJI	**Waduk Cacaban**	**2.60**	**282**	P	**Pn**	**03 36 09.4**	**-1.0**
BYJI	**Banyuwangi**	**2.67**	**104**	P	**Pn**	**03 36 11.7**	**+0.3**
KPJI	**Karang Pucung**	**2.80**	**274**	P	**Pn**	**03 36 13.1**	**-0.1**
SRBI	**Singaraja**	**3.48**	**99**	P	**Pn**	**03 36 24.3**	**+1.8**
CISI	**Cisompet, Garu**	**3.89**	**270**	Pn	**Pn**	**03 36 29.4**	**+1.1**
CISI	**Cisompet, Garu**	**3.89**	**270**	P	**Pn**	**03 36 28.5**	**+0.2**
KHKI	**Kahang-Kahang**	**3.91**	**102**	P	**Pn**	**03 36 31.2**	**+2.7**
LEM	**Lembang**	**4.16**	**280**	Pn	**Pb**	**03 36 37.9**	**-3.7**
	1.9nm,0.3s,baz=154,slow=13,SNR=6.3						
LEM				Sn	**Sb**	**03 37 32.5**	**+0.4**
	3.9nm,0.3s,baz=357,slow=23,SNR=1.6						
LEM				LR	LR	03 39 04.8	
	comp=Z,763nm,18.7s,baz=156,slow=48						
LEM	**Lembang**	**4.16**	**280**	P	**Pn**	**03 36 35.1**	**+3.0**
TWSI	**Taliwang, Sumb**	**5.22**	**103**	P	**Pn**	**03 36 46.9**	**+0.4**
MBWA	**Marble Bar**	**15.57**	**151**	Pn	**Pn**	**03 39 09.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**17.11**	**129**	Pn	**Pn**	**03 39 28.1**	**+0.2**
	0.1nm,0.3s,baz=311,slow=9.3,SNR=1.3						
WB0	**Warramunga Arr**	**25.09**	**121**	P	**P**	**03 40 52.3**	**-1.3**
WRA	**Warramunga Arr**	**25.12**	**122**	P	**P**	**03 40 52.7**	**-1.2**
	0.8nm,0.6s,baz=296,slow=12,SNR=12						
WRA	**Warramunga Arr**	**25.12**	**122**	P	**P**	**03 40 53.1**	**-0.8**
WB2	**Warramunga Arr**	**25.13**	**122**	P	**P**	**03 40 53.6**	**-0.4**
WB2				IAmb	IAmb	03 41 00.3	
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**25.30**	**121**	P	**P**	**03 40 54.4**	**-1.0**
WR0				IAmb	IAmb	03 41 06.4	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**26.62**	**129**	P	**P**	**03 41 05.9**	**-1.5**
AS31				IAmb	IAmb	03 41 20.0	
	comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**26.62**	**129**	P	**P**	**03 41 06.7**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=307,slow=8.8,SNR=3.4						
ASAR	**Alice Springs**	**26.62**	**129**	P	**P**	**03 41 06.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**28.77**	**334**	LR	LR	03 53 35.9	
	comp=Z,148nm,18.7s,baz=202,slow=38						
STKA	**Stephens Creek**	**36.85**	**135**	P	**P**	**03 42 37.5**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=343,slow=7.6,SNR=3.6						
STKA	**Stephens Creek**	**36.85**	**135**	P	**P**	**03 42 36.0**	**-1.1**
MKAR	**Makanchi Array**	**60.12**	**337**	P	**P**	**03 45 35.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=142,slow=7.3,SNR=3.8						
MKAR	**Makanchi Array**	**60.12**	**337**	P	**P**	**03 45 34.6**	**-1.6**
ZALV	**Zalesovo Beam**	**65.35**	**343**	P	**P**	**03 46 11.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=142,slow=4.9,SNR=1.6						
ZALV	**Zalesovo Beam**	**65.35**	**343**	P	**P**	**03 46 10.0**	**-0.8**
VNDA	**Vanda**	**74.58**	**170**	P	**P**	**03 47 09.9**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=325,slow=8.4,SNR=3.8						
VNDA				LR	LR	04 16 47.5	
	comp=Z,29nm,21.2s,baz=317,slow=33						
QSPA	**South Pole Qui**	**82.43**	**180**	P	**P**	**03 47 50.2**	**-0.7**
QSPA				IAmb	IAmb	03 47 59.4	
	comp=Z,5.3nm,1.5s						
BOSA	**Boshof**	**83.36**	**242**	LR	LR	04 21 46.1	
	comp=Z,72nm,18.7s,baz=136,slow=33						
BOSA	**Boshof**	**83.36**	**242**	P	**P**	**03 47 55.1**	**-1.5**

*KRNET **25** 03:38:10.6±0.1,38˚.94N×70˚.52E,h15km,mb3.3*
*NNC **25** 03:38:13.1±4.3,38˚.60N×70˚.21E,h88km±91km,mb3.3, mpv3.6,Error ellipse: s-maj=38.0km s-min=20.2km az=179.0*

ISC 25 03:38:11.0±1.4,**38˚.90N**±0.˚07×**70˚.41E**±0.˚04,**h9**km±7km, **n16,**σ2**s48**/31,**22C-10D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.12**	**323**	↑*i*P	**Pg**	**03 38 14.1**	**+0.2**
	baz=91						
GAR				↑*i*S	**Sg**	**03 38 16.6**	**+0.7**
	baz=91						
CHGR	**Chuyangaron**	**1.01**	**256**	↑*i*P	**Pn**	**03 38 31.4**	**-0.1**
	baz=56						
CHGR				↑*i*S	**Sn**	**03 38 46.6**	**+0.8**
	baz=56						
BTK	**Batken**	**1.20**	**15**	↑*i*P	**Pn**	**03 38 32.1**	**-2.0**
	baz=12						
BTK				↑*i*S	**Sb**	**03 38 47.8**	**-1.8**
	baz=12						
DRK	**Karamyk**	**1.23**	**62**	↓*i*P	**Pb**	**03 38 32.0**	**-2.6**
	baz=61						
DRK				↓*i*S	**Sb**	**03 38 47.6**	**-3.0**
	baz=61						
OHH	**Osh**	**2.44**	**48**	↓*e*P	**Pn**	**03 38 51.9**	**+0.7**
	baz=47						
OHH				↓*i*S	**Sn**	**03 39 22.1**	**+0.8**
	baz=47						
SFK	**Sufi-Kurgan**	**2.64**	**64**	↑*e*P	**Pn**	**03 38 54.5**	**+0.5**
	baz=64						
SFK				↑*i*S	**Sn**	**03 39 26.5**	**+0.2**
	baz=64						
TRKS	**Terek-Say**	**2.68**	**12**	↑*i*P	**Pn**	**03 38 54.9**	**+0.3**
	baz=11						
TRKS				↑*i*S	**Sn**	**03 39 27.1**	**-0.2**
	baz=11						
ARSB	**Arslanbob**	**3.12**	**38**	↑*e*P	**Pn**	**03 39 01.3**	**+0.7**
	baz=38						
ARSB				↑*i*S	**Sn**	**03 39 38.2**	**+0.1**
	baz=38						
MNAS	**Manas**	**3.92**	**23**	↑*i*P	**Pn**	**03 39 12.7**	**+1.2**
	baz=22						
MNAS				↑*i*S	**Sn**	**03 39 58.1**	**+0.4**
	baz=22						
AML	**Almayashu**	**4.08**	**37**	↑*e*P	**Pn**	**03 39 14.8**	**+0.8**
	baz=36						
AML				↑*i*S	**Sn**	**03 40 01.4**	**-0.7**
	baz=36						
KK31	**Karatay Array**	**4.20**	**1**	↑P	**Pn**	**03 39 19.0**	**+3.8**
	3.6nm,0.3s,baz=176,slow=12,SNR=17						
KK31				↓S	**Sb**	**03 40 12.4**	**-3.4**
	3.0nm,0.2s,baz=183,slow=31,SNR=5.5						
EKS2	**Erkin-Say**	**4.54**	**33**	↑*e*P	**Pn**	**03 39 21.1**	**+1.0**
	baz=33						
EKS2				↑*i*S	**Sn**	**03 40 12.7**	**-0.4**
	baz=33						
AAK	**Ala-Archa**	**4.85**	**38**	↑P	Pn	03 39 28.1	+3.8
AAK				↑S	**Sn**	**03 40 26.9**	**+6.2**
TKM2	**Tokmak 2**	**5.62**	**43**	↓P	**Pn**	**03 39 37.8**	**+2.9**
TKM2				↓S	**Sn**	**03 40 46.9**	**+7.2**
AB31	**Akbulak array**	**12.78**	**327**	↓P	**Pn**	**03 41 13.2**	**+0.4**
	0.6nm,0.5s,baz=146,slow=12,SNR=19						
AB31				↑S	**Sn**	**03 43 32.9**	**-2.3**
	1.1nm,0.7s,baz=145,slow=22,SNR=6.6						
AKTO	**Aktyubinsk**	**14.49**	**327**	↓P	**Pn**	**03 41 38.8**	**+2.6**
	1.0nm,0.6s						
AKTO				↓S	**Sn**	**03 44 16.4**	**-0.4**
	1.1nm,0.8s						

*IDC **25** 03:51:46.5±0.8,52˚.17N×30˚.23W,h0km,mb3.8/18, mb1 3.9/19,mb1mx3.8/59,mbtmp3.8/19,ML4.7/1,MS3.6/29, Ms1 3.6/29,ms1mx3.5/47,Error ellipse: s-maj=23.7km s-min=12.9km az=13.0*
*NEIC **25** 03:51:47.9±1.1,52˚.2N±0.˚1×30˚.10W±0.˚02,h7km±5km, mb4.5/19,Error ellipse: s-maj=19.5km s-min=1.8km az=181.0*

ISC 25 03:51:48.1±0.6,**52˚.26N**±0.˚08×**29˚.99W**±0.˚06,**h10**km,**n90,** σ1**s73**/76,**mb4.1**/31,**MS3.5**/27,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.29**	**16**	Pn	**Pn**	**03 55 00.9**	**+4.2**
	0.2nm,0.3s,baz=127,slow=8.6,SNR=1.7						
BORG				Sn	**Sn**	**03 57 18.5**	**-5.8**
	0.3nm,0.3s,baz=311,slow=8.2,SNR=1.6						
BORG				LR	LR	03 58 33.8	
	comp=Z,121nm,21.2s,baz=219,slow=30						
BORG	**Borgarnes**	**13.29**	**16**		**Pn**	**03 54 57.2**	**+0.6**
ESK	**Eskdalemuir**	**16.08**	**68**	Pn	**Pn**	**03 55 36.0**	**+2.0**
ESK				IAmb	IAmb	03 55 52.3	
	comp=Z,91nm,2.0s						
EKA	**Eskdalemuir Ar**	**16.11**	**68**	Pn	**Pn**	**03 55 34.3**	**-0.1**
	baz=271,slow=11,SNR=24						
EKA				Sn	Sn	03 58 21.9	-11
	baz=272,slow=25,SNR=1.5						
DY2G	**Dye2**	**16.40**	**337**	*i* P	**P**	**03 55 43.0**	**+1.9**
DY2G				IAmb	IAmb	03 55 44.1	
	comp=Z,17nm,1.0s						
ROSF	**Rostrenen**	**17.47**	**92**	*e*P	**Pn**	**03 55 50.2**	**-1.5**
ROSF				*e*S	Sn	03 58 52.5	-14
	comp=Z,2.0nm,0.4s						
QUIF	**Quistinic**	**17.71**	**94**	*e*P	**P**	**03 55 56.6**	**+1.1**
	comp=Z,24nm,1.5s						
QUIF				*e*S	Sn	03 58 55.5	-16
	comp=Z,4.0nm,0.6s						
SFJD	**Kangerlussuaq**	**17.93**	**333**	LR	LR	04 01 28.1	
	comp=Z,377nm,19.4s,baz=140,slow=32						
SGMF	**Saint Gilles**	**17.95**	**92**	*e*P	**P**	**03 55 59.3**	**+1.2**
GRR	**Gorron**	**18.94**	**90**	*e*P	**Pn**	**03 56 10.8**	**+1.2**
FLN	**La Foliniere**	**19.03**	**89**	*e*P	**P**	**03 56 10.0**	**0.0**
MFF	**Saint Martin d**	**20.13**	**94**	*e*P	Pn	03 56 24.7	+0.8
	comp=Z,91nm,1.9s						
PESTR	**Estremoz**	**20.52**	**122**	P	**P**	**03 56 26.1**	**-0.2**
SUMG	**Summit**	**20.72**	**353**	*i* P	Pn	03 56 33.0	+2.0
SUMG				IAmb	IAmb	03 56 37.5	
	comp=Z,26nm,1.3s						
SUMG	**Summit**	**20.72**	**353**	P	**P**	**03 56 28.1**	**-0.6**
SUMG				IAmb	IAmb	03 56 37.2	
	comp=Z,24nm,1.3s						
JMIC	**Jan Mayen**	**21.14**	**19**	LR	LR	04 02 44.9	
	comp=Z,115nm,20.2s,baz=250,slow=31						
SJPF	**Ste Jean**	**21.30**	**104**	*e*P	**P**	**03 56 37.5**	**+2.8**
	comp=Z,24nm,1.2s						
SJPF				*e*S	**S**	**04 00 29.7**	**-1.4**
	comp=Z,8.8nm,1.1s						
SJPF	**Ste Jean**	**21.30**	**104**	*e*T	T	04 16 58.5	
BAIF	**Baives**	**21.45**	**82**	*e*P	**P**	**03 56 36.0**	**-0.2**
LFF	**La Frestale**	**21.48**	**98**	*e*P	**P**	**03 56 39.0**	**+2.3**
LFF				*e*S	**S**	**04 00 31.7**	**-3.0**
RJF	**Les Rejaudoux**	**21.77**	**96**	*e*P	**P**	**03 56 39.6**	**-0.2**
	comp=Z,18nm,1.2s						
GIVF	**Givet**	**21.81**	**82**	*e*P	**P**	**03 56 40.1**	**0.0**
ETSF	**Etsaut**	**21.82**	**104**	*e*P	**P**	**03 56 43.1**	**+2.7**
ETSF				*e*S	**S**	**04 00 40.2**	**-1.3**
	comp=Z,0.7nm,0.4s						
ETSF	**Etsaut**	**21.82**	**104**	*e*T	T	04 17 30.1	
SCHQ	**Schefferville**	**21.88**	**291**	P	**P**	**03 56 39.5**	**-1.4**
	comp=Z,4.7nm,0.6s,baz=69,slow=8.2,SNR=12						
SCHQ				LR	LR	04 03 31.6	
	comp=Z,110nm,21.3s,baz=78,slow=32						
SCHQ	**Schefferville**	**21.88**	**291**	P	**P**	**03 56 39.6**	**-1.3**
SCHQ				IAmb	IAmb	03 56 46.1	
	comp=Z,32nm,1.5s						
ESDC	**Sonseca Array**	**21.90**	**115**	P	**P**	**03 56 43.4**	**+2.1**
	comp=Z,2.4nm,1.0s,baz=314,slow=9.6,SNR=12						
ESDC				LR	LR	04 03 08.2	
	comp=Z,115nm,20.0s,baz=305,slow=31						
ESDC	**Sonseca Array**	**21.90**	**115**	P	**P**	**03 56 41.3**	**0.0**
BGF	**Bois d'Agland**	**21.99**	**92**	*e*P	**P**	**03 56 41.9**	**-0.2**
	comp=Z,10nm,0.7s						
SSF	**Saint Saulge**	**22.17**	**90**	*e*P	**P**	**03 56 43.6**	**-0.4**
AVF	**Avril sur Loir**	**22.19**	**91**	*e*P	**P**	**03 56 43.9**	**-0.4**
	comp=Z,17nm,1.1s						
EPF	**Esparros**	**22.28**	**102**	*e*P	**P**	**03 56 47.8**	**+2.5**
LOR	**Lormes**	**22.30**	**89**	*e*P	**P**	**03 56 45.1**	**-0.3**
	comp=Z,22nm,1.2s						
CAF	**Calviac**	**22.30**	**96**	*e*P	**P**	**03 56 46.7**	**+1.2**
MEZF	**Maizieres J'vi**	**22.52**	**86**	*e*P	**P**	**03 56 47.6**	**-0.2**
SMF	**Signal de Mont**	**22.56**	**91**	*e*P	**P**	**03 56 48.9**	**+0.7**
	comp=Z,18nm,1.2s						
SFTF	**Sexfontaines**	**22.63**	**86**	*e*P	**P**	**03 56 48.4**	**-0.6**
FRB	**Frobisher Bay**	**23.03**	**315**	P	**P**	**03 56 52.9**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=99,slow=6.7,SNR=3.9						
FRB				LR	LR	04 04 01.7	
	comp=Z,177nm,18.9s,baz=82,slow=32						
MTLF	**Montolieu**	**23.24**	**100**	*e*S	**S**	**04 00 59.9**	**-7.3**
HAU	**Haudompre**	**23.51**	**86**	*e*P	**P**	**03 56 58.0**	**-0.1**
NOA	**NORSAR Array B**	**23.92**	**52**	P	**P**	**03 57 02.7**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=266,slow=9.7,SNR=2.7						
NOA				LR	LR	04 05 06.2	
	comp=Z,114nm,21.8s,baz=270,slow=33						
CABF	**La Chapelle**	**23.95**	**89**	*e*P	**P**	**03 57 02.7**	**+0.3**
LPG	**La Plagne**	**24.89**	**91**	*e*P	**P**	**03 57 12.7**	**+1.5**
HFS	**Hagfors**	**25.13**	**54**	P	**P**	**03 57 16.2**	**+3.3**
	comp=Z,6.9nm,1.2s,baz=267,slow=10,SNR=2.2						
HFS				LR	LR	04 06

comp=Z,0.4nm,0.5s,baz=63,slow=5.5,SNR=7.1
PDAR LR LR 04 21 34.7
comp=Z,62nm,18.4s,baz=94,slow=34
PDAR Pinedale Array 52.00 293 P **P** **04 00 56.8 -0.9**
ILAR Eielson Array 53.59 332 P **P** **04 01 09.9 +1.2**
comp=Z,0.4nm,0.8s,baz=46,slow=5.7,SNR=5.4
ILAR LR LR 04 22 51.4
comp=Z,98nm,20.3s,baz=56,slow=35
HWUT Hardware Ranch 53.89 293 P **P** **04 01 11.2 -0.4**
HWUT IAmb IAmb 04 01 14.1
comp=Z,2.9nm,0.8s
PV03 Paradox Valley 54.56 289 P **P** **04 01 16.4 -0.1**
PV03 IAmb IAmb 04 01 28.1
comp=Z,5.9nm,1.2s
PV16 Nyswonger Mesa 54.56 289 P **P** **04 01 16.3 -0.2**
PV16 IAmb IAmb 04 01 19.2
comp=Z,5.3nm,1.0s
PV18 Skein Mesa, Pa 54.60 289 P **P** **04 01 16.5 -0.3**
PV18 IAmb IAmb 04 01 17.8
comp=Z,4.1nm,0.9s
PV05 Paradox Valley 54.82 289 P **P** **04 01 17.4 -1.0**
PV05 IAmb IAmb 04 01 19.8
comp=Z,5.6nm,1.2s
PMR Palmer 56.66 330 P **P** **04 01 31.1 +0.2**
TX31 Lajitas Ar. Si 57.63 277 P **P** **04 01 37.5 -1.0**
TX32 Lajitas Array 57.63 277 P **P** **04 01 38.0 -0.5**
TXAR Lajitas Array 57.63 277 P **P** **04 01 37.4 -1.1**
comp=Z,0.6nm,0.6s,baz=61,slow=8.5,SNR=11
TXAR Lajitas Array 57.63 277 P **P** **04 01 37.8 -0.6**
KVN Kaiserville 59.29 295 P **P** **04 01 49.3 -0.7**
KVN IAmb IAmb 04 01 59.5
comp=Z,4.8nm,1.2s
ROSC El Rosal 59.72 234 LR LR 04 24 20.3
comp=Z,74nm,21.9s,baz=117,slow=33
MKAR Makanchi Array 65.60 44 P **P** **04 02 32.7 +0.8**
comp=Z,0.3nm,0.5s,baz=328,slow=5.2,SNR=3.2
MKAR LR LR 04 30 48.2
comp=Z,66nm,19.6s,baz=268,slow=36
SONM Songino Array 73.56 29 LR LR 04 38 37.9
comp=Z,33nm,19.1s,baz=116,slow=38
LPAZ La Paz 75.86 218 LR LR 04 33 49.7
comp=Z,37nm,20.2s,baz=56,slow=33
WRA Warramunga Arr 145.51 27 PKPbc **PKPdf** **04 11 26.7 +0.3**
comp=Z,0.9nm,0.7s,baz=347,slow=3.6,SNR=2.8
ASAR Alice Springs 148.90 29 PKPbc **PKPbc** **04 11 35.6 -0.4**
comp=Z,0.7nm,0.7s,baz=348,slow=2.1,SNR=6.5

*JMA **25** 03:55:23.0±0.1,23.33N×122.00E,h33km,M3.3*
*TAP **25** 03:55:24.1,23.33N×121.99E,h30km,ML3.6,D*
ISC 25 03:55:21.8±1.1,23.33N±0.02×122.03E±0.02,h14km±8km,
n108,σ0°77/210,4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.58**	**287**	P	**Pb**	**03 55 34.2**	**+0.6**
	baz=287						
HGSD				S	**Sb**	**03 55 41.6**	**-0.1**
	baz=287						
TEGC	**Jichi Village**	**0.59**	**311**	P	**Pb**	**03 55 34.8**	**+0.9**
	baz=312						
TEGC				S	**Sb**	**03 55 42.9**	**+0.9**
	baz=312						
EGFH	**Guangfu**	**0.65**	**302**	*i* P	**Pb**	**03 55 35.6**	**+0.7**
	baz=313						
EGFH				*i* S	**Sb**	**03 55 44.4**	**+0.7**
	baz=313						
CHKT	**Chengkung**	**0.65**	**250**	*i* P	**Pg**	**03 55 35.2**	**+0.8**
	baz=240						
CHKT				*i* S	**Sg**	**03 55 43.2**	**+0.2**
	baz=240						
EYUL	**Yuli**	**0.65**	**272**	*i* P	**Pb**	**03 55 35.7**	**+0.8**
	baz=264						
EYUL				*i* S	**Sb**	**03 55 44.7**	**+0.9**
	baz=264						
TEYL	**Yanliau Villag**	**0.67**	**324**	P	**Pn**	**03 55 36.5**	**-0.2**
	baz=327						
TEYL				*e*S	**Sn**	**03 55 46.1**	**-0.9**
	baz=327						
TWF1	**Yuli**	**0.67**	**272**	⇓*i* P	**Pb**	**03 55 35.9**	**+0.6**
	baz=265						
TWF1				S	**Sb**	**03 55 44.9**	**+0.5**
	baz=265						
EHY	**Hungye**	**0.67**	**286**	*i* P	**Pb**	**03 55 35.9**	**+0.6**
	baz=285						
EHY				S	**Sg**	**03 55 44.2**	**+0.5**
	baz=285						
YULB	**Yu-li**	**0.67**	**276**	P	**Pb**	**03 55 35.9**	**+0.6**
	baz=275						
YULB				S	**Sb**	**03 55 45.3**	**+0.9**
	baz=275						
FULB	**Fuli**	**0.68**	**259**	*i* P	**Pg**	**03 55 35.7**	**+0.6**
	baz=250						
FULB				S	**Sg**	**03 55 44.2**	**0.0**
	baz=250						
ESL	**Shilin**	**0.73**	**312**	⇓*i* P	**Pb**	**03 55 36.5**	**+0.2**
	baz=313						
ESL				*i* S	**Sg**	**03 55 45.4**	**-0.2**
	baz=313						
EDH	**Donghe**	**0.75**	**242**	*i* P	**Pg**	**03 55 36.7**	**+0.3**
	baz=236						
EDH				*i* S	**Sg**	**03 55 46.1**	**-0.2**
	baz=236						
HWA	**Hwalien**	**0.75**	**329**	*i* P	**Pb**	**03 55 37.7**	**+1.0**
	baz=331						
HWA				*i* S	**Sb**	**03 55 47.7**	**+0.9**
	baz=331						
ECS	**Chishang**	**0.78**	**253**	P	**Pb**	**03 55 37.8**	**+0.7**
	baz=244						
ECS				S	**Sb**	**03 55 48.5**	**+1.0**
	baz=244						
ETM	**Tongmen**	**0.80**	**323**	P	**Pb**	**03 55 37.7**	**+0.2**
	baz=324						
ETM				S	**Sg**	**03 55 47.2**	**-0.8**
	baz=324						
LDUT	**Ludao**	**0.83**	**218**	*i* P	**Pg**	**03 55 37.5**	**-0.4**
	baz=216						
LDUT				S	**Sg**	**03 55 47.3**	**-1.4**
	baz=216						
TWD	**Chiawan**	**0.85**	**332**	*i* P	**Pb**	**03 55 38.5**	**+0.2**
	baz=334						
TWD				S	**Sg**	**03 55 48.9**	**-0.5**
	baz=334						
ETL	**Fush Village**	**0.91**	**336**	P	**Pg**	**03 55 39.3**	**-0.1**
	baz=337						
ETL				S	**Sg**	**03 55 51.0**	**-0.3**
	baz=337						
LONT	**Longtian**	**0.92**	**243**	*i* P	**Pg**	**03 55 39.9**	**+0.2**
	baz=237						
LONT				S	**Sg**	**03 55 52.0**	**+0.2**
	baz=237						
NACB	**Ninganchiao**	**0.93**	**335**	P	**Pg**	**03 55 39.8**	**-0.1**
	baz=344						
NACB				S	**Sg**	**03 55 51.4**	**-0.6**
	baz=344						
ELDTW	**Lidau**	**0.94**	**262**	*i* P	**Pg**	**03 55 39.7**	**-0.3**
	baz=261						
ELDTW				*i* S	**Sg**	**03 55 50.7**	**-1.6**
	baz=261						
TTN	**Taitung**	**0.99**	**235**	*e*S	**Sb**	**03 55 55.2**	**+1.6**
	baz=233						
OWD	**Renai**	**1.00**	**309**	*i* P	**Pg**	**03 55 41.0**	**-0.1**
	baz=309						
OWD				*i* S	**Sg**	**03 55 53.0**	**-1.2**
	baz=309						
YUS	**Yu-Shan**	**1.00**	**280**	S	**Sg**	**03 55 53.7**	**-0.6**
	baz=289						
TWGBT	**Beinan**	**1.01**	**240**	P	**Pg**	**03 55 40.9**	**-0.3**
	baz=232						
TWGBT				S	**Sg**	**03 55 53.4**	**-1.0**
	baz=232						
ETLH	**Xiulin Townshi**	**1.01**	**331**	P	**Pg**	**03 55 40.9**	**-0.4**
	baz=331						
ETLH				S	**Sg**	**03 55 53.4**	**-1.1**
	baz=331						
TWG	**Pinlang**	**1.01**	**240**	*i* P	**Pg**	**03 55 40.9**	**-0.4**
	baz=232						
TWG				*i* S	**Sg**	**03 55 52.8**	**-1.8**
	baz=232						
EHP	**Heping Village**	**1.01**	**345**	P	**Pg**	**03 55 41.3**	**-0.1**
	baz=346						
EHP				S	**Sg**	**03 55 53.5**	**-1.1**
	baz=346						
CHGB	**Renai**	**1.07**	**313**	P	**Pg**	**03 55 42.4**	**-0.1**
	baz=314						
CHGB				S	**Sg**	**03 55 56.0**	**-0.4**
	baz=314						
WHF	**Hehuan Shan**	**1.07**	**320**	⇓*i* P	**Pg**	**03 55 42.2**	**-0.4**
	baz=320						
WHF				*i* S	**Sg**	**03 55 55.1**	**-1.5**
	baz=320						
SSLB	**Suanglung**	**1.08**	**295**	P	**Pb**	**03 55 42.3**	**-0.1**
	baz=287						
SSLB				S	**Sg**	**03 55 56.1**	**-0.8**
	baz=287						
ALS	**Alishan**	**1.14**	**280**	⇓*i* P	**Pb**	**03 55 43.9**	**+0.5**
	baz=279						
ALS				*i* S	**Sg**	**03 55 58.0**	**-0.6**
	baz=279						
EWUT	**Wuta**	**1.14**	**349**	P	**Pb**	**03 55 43.5**	**+0.3**
	baz=349						
EWUT				S	**Sb**	**03 55 57.7**	**-0.2**
	baz=349						
WHYT	**Xinyi Township**	**1.14**	**289**	P	**Pg**	**03 55 43.9**	**+0.2**
	baz=289						
WHYT				*e*S	**Sb**	**03 55 57.2**	**-0.7**
	baz=289						
STYH	**Taoyuan**	**1.16**	**263**	P	**Pb**	**03 55 43.7**	**+0.1**
	baz=256						
STYH				S	**Sb**	**03 55 57.6**	**-0.9**
	baz=256						
FUSS	**Fushou**	**1.16**	**322**	*i* P	**Pb**	**03 55 44.0**	**+0.1**
	baz=323						
FUSS				*i* S	**Sb**	**03 55 58.1**	**-0.7**
	baz=323						
SMLT	**Sun Moon Lake**	**1.17**	**298**	*i* P	**Pb**	**03 55 44.2**	**+0.3**
	baz=306						
SMLT				*e*S	**Sb**	**03 55 58.4**	**-0.6**
	baz=306						
STYT	**Tauyuan**	**1.18**	**262**	*i* P	**Pb**	**03 55 44.0**	**+0.1**
	baz=255						
STYT				*i* S	**Sb**	**03 55 58.2**	**-0.8**
	baz=255						
WPL	**Puli Township**	**1.19**	**305**	P	**Pb**	**03 55 44.4**	**+0.2**
	baz=313						
WPL				S	**Sb**	**03 55 59.7**	**+0.2**
	baz=313						
TWT	**Tachien**	**1.21**	**320**	*i* P	**Pn**	**03 55 45.0**	**+0.6**
	baz=320						
TWT				*i* S	**Sb**	**03 55 59.1**	**-0.9**
	baz=320						
TYC	**Yuchr**	**1.22**	**298**	*i* P	**Pn**	**03 55 44.7**	**+0.3**
	baz=299						
TYC				*e*S	**Sn**	**03 56 01.5**	**+0.9**
	baz=299						
TDCB	**Techi**	**1.22**	**319**	P	**Pb**	**03 55 44.9**	**+0.2**
	baz=320						
TDCB				S	**Sb**	**03 55 59.1**	**-1.2**
	baz=320						
ECL	**Taimali**	**1.23**	**234**	*i* P	**Pn**	**03 55 43.5**	**-0.9**
	baz=244						
ECL				*i* S	**Sb**	**03 55 57.5**	**-2.9**
	baz=244						
DPDB	**Guoxing**	**1.23**	**305**	P	**Pn**	**03 55 45.1**	**+0.5**
	baz=315						
DPDB				S	**Sb**	**03 55 60.0**	**-0.6**
	baz=315						
NNSB	**Datong**	**1.25**	**332**	P	**Pn**	**03 55 45.0**	**+0.1**
	baz=332						
NNSB				S	**Sb**	**03 56 00.1**	**-1.0**
	baz=332						
NNSH	**Datong**	**1.25**	**332**	*i* P	**Pn**	**03 55 45.1**	**+0.3**
	baz=332						
NNSH				*i* S	**Sb**	**03 55 59.7**	**-1.3**
	baz=332						
WCS	**Beigang Elemen**	**1.25**	**306**	P	**Pn**	**03 55 45.5**	**+0.6**
	baz=315						
WCS				*e*S	**Sb**	**03 56 00.1**	**-1.1**
	baz=315						
NNS	**Nan Shan**	**1.26**	**332**	*i* P	**Pn**	**03 55 45.4**	**+0.3**
	baz=332						
NNS				*i* S	**Sb**	**03 56 00.6**	**-0.9**
	baz=332						
CHN5	**Tsauling**	**1.27**	**283**	*i* P	**Pg**	**03 55 46.4**	**+0.2**
	baz=290						
CHN5				S	**Sb**	**03 56 02.1**	**+0.5**
	baz=290						
TPUB	**Ta-pu**	**1.28**	**269**	P	**Pb**	**03 55 46.3**	**+0.6**
	baz=268						
TPUB				S	**Sb**	**03 56 02.8**	**+0.7**
	baz=268						
TWC	**Suao**	**1.29**	**353**	*i* P	**Pg**	**03 55 46.4**	**-0.2**
	baz=354						
TWC				*i* S	**Sb**	**03 56 00.7**	**-1.5**
	baz=354						
WJS	**Zhushan**	**1.29**	**293**	*i* P	**Pg**	**03 55 46.7**	**+0.1**
	baz=286						
WJS				S	**Sg**	**03 56 04.3**	**+0.9**
	baz=286						
WTP	**Ta-pu**	**1.30**	**267**	*i* P	**Pb**	**03 55 46.6**	**+0.6**
	baz=259						
WTP				*i* S	**Sb**	**03 56 03.4**	**+0.8**
	baz=259						
SLGT	**Liugui**	**1.31**	**256**	*i* P	**Pn**	**03 55 46.1**	**+0.4**
	baz=258						
SLGT				*i* S	**Sb**	**03 56 02.6**	**-0.3**
	baz=258						
CHN4	**Tsaushan**	**1.32**	**271**	*i* P	**Pb**	**03 55 47.2**	**+0.9**
	baz=271						
CHN4				S	**Sg**	**03 56 04.8**	**+0.6**
	baz=271						
NDS	**Dongshan**	**1.33**	**348**	P	**Pb**	**03 55 46.7**	**+0.2**
	baz=348						
NDS				S	**Sb**	**03 56 02.9**	**-0.5**
	baz=348						
WNT	**Mingjian**	**1.35**	**294**	*i* P	**Pg**	**03 55 47.6**	**-0.1**
	baz=294						
WNT				S	**Sg**	**03 56 04.9**	**-0.3**
	baz=294						
SGST	**Jiashian**	**1.35**	**260**	*i* P	**Pn**	**03 55 46.6**	**+0.4**
	baz=252						
SGST				S	**Sb**	**03 56 04.5**	**+0.5**
	baz=252						
LAY	**Lan-yu**	**1.35**	**199**	*e*P	**Pn**	**03 55 45.8**	**-0.5**
	baz=197						
NDT	**Datong Townshi**	**1.35**	**340**	*i* P	**Pn**	**03 55 47.0**	**+0.7**
	baz=340						
NDT				*i* S	**Sb**	**03 56 03.3**	**-0.8**
	baz=340						
WNT1	**Nantou City**	**1.36**	**295**	*e*P	**Pg**	**03 55 48.7**	**+0.7**
	baz=295						
WNT1				*e*S	**Sg**	**03 56 05.7**	**-0.1**
	baz=295						
WHP	**Taichung City**	**1.37**	**314**	*i* P	**Pb**	**03 55 47.7**	**+0.5**
	baz=314						
WHP				S	**Sb**	**03 56 04.1**	**-0.6**
	baz=314						
ENTT	**Nioudou**	**1.37**	**342**	*i* P	**Pb**	**03 55 47.4**	**+0.1**
	baz=343						
ENTT				*i* S	**Sb**	**03 56 03.8**	**-0.9**
	baz=343						
CHN1	**Nanshi**	**1.38**	**264**	*i* P	**Pb**	**03 55 48.2**	**+0.7**
	baz=257						
CHN1				*i* S	**Sg**	**03 56 06.5**	**0.0**
	baz=257						
WGK	**Gukeng**	**1.39**	**285**	P	**Pn**	**03 55 47.1**	**+0.4**
	baz=285						
JYNG	**Yonagunijimaku**	**1.40**	**37**	P	**Pn**	**03 55 47.9**	**+1.0**
JYNG				*e*S	**Sn**	**03 56 04.6**	**-0.6**
SSD	**Sandimen**	**1.41**	**246**	*i* P	**Pn**	**03 55 47.3**	**+0.3**
	baz=245						
SSD				S	**Sn**	**03 56 03.0**	**-2.3**
	baz=245						
WWF	**Wufeng**	**1.41**	**301**	P	**Pg**	**03 55 49.2**	**+0.3**
	baz=300						
WWF				S	**Sg**	**03 56 07.8**	**+0.6**
	baz=300						
WDLH	**Douliu**	**1.41**	**285**	*i* P	**Pb**	**03 55 48.7**	**+0.8**
	baz=285						
WDLH				S	**Sb**	**03 56 06.4**	**+0.7**
	baz=285						
TSMG	**Majia**	**1.41**	**244**	*i* P	**Pn**	**03 55 47.8**	**+0.7**
	baz=247						
TSMG				S	**Sn**	**03 56 04.1**	**-1.4**
	baz=247						
TAW	**Tawu**	**1.42**	**227**	*e*P	**Pn**	**03 55 46.9**	**-0.2**
	baz=235						
TAW				S	**Sn**	**03 56 03.4**	**-2.2**
	baz=235						
TWE	**Neicheng**	**1.43**	**347**	*i* P	**Pb**	**03 55 48.4**	**+0.2**
	baz=348						
TWE				*e*S	**Sn**	**03 56 05.2**	**-0.6**
	baz=348						
EAST	**Anshuo**	**1.44**	**229**	P	**Pn**	**03 55 47.0**	**-0.4**
	baz=237						
CHN2	**Minshiung**	**1.44**	**278**	P	**Pg**	**03 55 49.8**	**+0.3**
	baz=290						
CHN2				S	**Sg**	**03 56 07.8**	**-0.4**
	baz=290						
YOJ	**Yonaguni jima**	**1.45**	**38**	P	**Pn**	**03 55 48.2**	**+0.7**
YOJ				*e*S	**Sn**	**03 56 06.0**	**-0.3**
YOJ	**Yonaguni jima**	**1.45**	**38**	P	**Pn**	**03 55 48.5**	**+1.0**
	baz=51						
YOJ				S	**Sn**	**03 56 05.2**	**-1.1**
	baz=51						
YHNB	**Yeheng**	**1.46**	**336**	P	**Pn**	**03 55 48.4**	**+0.6**
	baz=336						
YHNB				S	**Sn**	**03 56 05.7**	**-1.2**
	baz=336						
MASBT	**Mashibuluo**	**1.47**	**241**	P	**Pn**	**03 55 47.9**	**+0.1**
	baz=234						
MASBT				*e*S	**Sn**	**03 56 05.5**	**-1.3**
	baz=234						
NSK	**Sanguang**	**1.48**	**336**	*i* P	**Pn**	**03 55 48.6**	**+0.7**
	baz=336						
NSK				*i* S	**Sn**	**03 56 05.6**	**-1.5**
	baz=336						
SCST	**Cishan**	**1.48**	**253**	*i* P	**Pb**	**03 55 49.7**	**+0.7**
	baz=252						
SCST				*i* S	**Sg**	**03 56 10.4**	**+1.0**
	baz=252						
CHY	**Chiayi**	**1.48**	**277**	*i* P	**Pb**	**03 55 50.1**	**+1.0**
	baz=289						
CHY				S	**Sg**	**03 56 09.8**	**+0.2**
	baz=289						
TCU	**Taichung**	**1.48**	**304**	P	**Pg**	**03 55 50.1**	**-0.2**
	baz=304						
TCU				S	**Sg**	**03 56 08.8**	**-0.8**
	baz=304						
EGS		**1.51**	**357**	*i* P	**Pg**	**03 55 51.5**	**+0.6**
	baz=8.0						
EGS				S	**Sb**	**03 56 08.6**	**-0.1**
	baz=8.0						
NWLT	**Wulai**	**1.52**	**342**	*i* P	**Pn**	**03 55 49.6**	**+1.0**
	baz=342						
NWLT				*i* S	**Sn**	**03 56 07.3**	**-0.9**
	baz=342						
NTC	**Toucheng**	**1.53**	**353**	P	**Pb**	**03 55 50.1**	**+0.2**
	baz=353						
NTC				*e*S	**Sn**	**03 56 09.0**	**+0.6**
	baz=353						
TWQ1	**Liyutan**	**1.53**	**312**	*i* P	**Pb**	**03 55 50.7**	**+0.7**
	baz=312						
TWQ1				S	**Sb**	**03 56 10.1**	**+0.9**
	baz=312						
WCHH	**Zhanghua**	**1.54**	**299**	*i* P	**Pb**	**03 55 50.8**	**+0.8**
	baz=299						
WCHH				S	**Sg**	**03 56 10.8**	**-0.7**
	baz=299						
WTK	**Tuku**	**1.54**	**284**	P	**Pb**	**03 55 50.4**	**+0.3**
	baz=283						
TWM1	**Shoushan**	**1.56**	**252**	*i* P	**Pg**	**03 55 52.3**	**+0.5**
	baz=251						
TWM1				S	**Sg**	**03 56 11.9**	**-0.1**
	baz=251						
SLIU	**Shizi**	**1.58**	**226**	P	**Pn**	**03 55 51.0**	**+1.7**
	baz=225						
SLIU				*e*S	**Sn**	**03 56 08.4**	**-1.2**
	baz=225						
SSPT	**Xinbi**	**1.58**	**238**	*i* P	**Pn**	**03 55 50.4**	**+1.0**
	baz=231						
SSPT				S	**Sn**	**03 56 09.3**	**-0.4**
	baz=231						
NSY	**Sanyi**	**1.59**	**313**	*i* P	**Pb**	**03 55 51.7**	**+0.8**
	baz=328						
NSY				S	**Sg**	**03 56 12.5**	**-0.4**
	baz=328						
NSTT	**Nanjuang**	**1.60**	**324**	*i* P	**Pb**	**03 55 51.5**	**+0.4**
	baz=334						
NSTT				*i* S	**Sn**	**03 56 10.2**	**+0.1**
	baz=334						
LIOB	**Emei**	**1.60**	**325**	*i* P	**Pb**	**03 55 52.0**	**+0.8**
	baz=334						
LIOB				S	**Sb**	**03 56 11.2**	**-0.2**
	baz=334						
SCZT	**Fangliau**	**1.61**	**234**	*i* P	**Pn**	**03 55 50.5**	**+0.8**
	baz=227						
SCZT				S	**Sn**	**03 56 09.2**	**-1.0**
	baz=227						
WRL	**Guolierlin Hig**	**1.62**	**291**	P	**Pb**	**03 55 51.5**	**+0.1**
	baz=291						
WRL				S	**Sg**	**03 56 13.3**	**-0.6**
	baz=291						
WDJ	**Dajia District**	**1.62**	**309**	*i* P	**Pb**	**03 55 52.1**	**+0.6**
	baz=309						
WDJ				*i* S	**Sg**	**03 56 13.4**	**-0.8**
	baz=309						
NJD	**Zhudong**	**1.64**	**329**	*e*P	**Pb**	**03 55 52.2**	**+0.4**
	baz=329						
NJD				*e*S	**Sn**	**03 56 12.0**	**+0.8**
	baz=329						
NMLH	**Miaoli**	**1.65**	**317**	P	**Pb**	**03 55 52.2**	**+0.2**
	baz=317						
NMLH				S	**Sb**	**03 56 12.6**	**-0.1**
	baz=317						
CHN8	**Yiju**	**1.67**	**271**	*e*P	**Pn**	**03 55 51.0**	**+0.4**
	baz=270						
CHN8				*i* S	**Sb**	**03 56 13.7**	**+0.6**
	baz=270						
HATJ	**Hateruma jima**	**1.79**	**66**	P	**Pn**	**03 55 53.0**	**+0.8**
HATJ				*e*S	**Sn**	**03 56 14.3**	**-0.4**
IRIF	**Iriomote-Funau**	**1.86**	**57**	P	**Pn**	**03 55 54.2**	**+1.1**
IRIF				S	**Sn**	**03 56 16.3**	**-0.1**
JKRS	**Kuro-shima**	**2.03**	**63**	P	**Pn**	**03 55 56.8**	**+1.2**
JKRS				*e*S	**Sn**	**03 56 21.0**	**+0.3**
JIJ	**Ishigaki jima**	**2.20**	**62**	P	**Pn**	**03 55 58.5**	**+0.7**
JIJ				S	**Sn**	**03 56 24.0**	**-0.8**
JISG	**Ishigakijimahi**	**2.44**	**59**	P	**Pn**	**03 56 01.6**	**+0.4**
JISG				*e*S	**Sn**	**03 56 30.5**	**-0.3**
JTJ	**Tarama**	**2.78**	**61**	P	**Pn**	**03 56 06.7**	**+0.9**
JTJ				*e*S	**Sn**	**03 56 38.6**	**-0.5**
JIRB	**Irabujima**	**3.24**	**62**	P	**Pn**	**03 56 13.1**	**+0.9**
JIRB				*e*S	**Sn**	**03 56 49.4**	**-1.2**
JMJ2	**Miyako jima3**	**3.33**	**64**	P	**Pn**	**03 56 14.7**	**+1.2**
JMJ2				*e*S	**Sn**	**03 56 53.3**	**+0.5**

*IDC **25** 04:15:54.4±2.3,19.00S×173.84W,h0km,mb4.0/6,*
mb1 4.2/7,mb1mx3.9/35,mbtmp4.0/7,ML3.9/1,Error
ellipse: s-maj=103.5km s-min=21.7km az=142.0
ISC 25 04:16:00.1±1.8,18.9S±0.3×173.9W±0.4,h35km,n7,
σ1°00/8,mb4.0/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.36**	**23**	P	**Pn**	**04 17 18.8**	**+1.1**
	3.4nm,0.3s,baz=229,slow=9.3,SNR=1.7						
AFI				S	**Sn**	**04 18 17.3**	**-1.1**
	5.0nm,0.3s,baz=220,slow=22,SNR=1.6						
STKA	**Stephens Creek**	**41.95**	**243**	P	**P**	**04 23 48.3**	**+0.5**
	0.7nm,0.3s,baz=84,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**48.65**	**255**	P	**P**	**04 24 40.0**	**-1.0**
	2.4nm,0.8s,baz=82,slow=8.4,SNR=18						
WRA	**Warramunga Arr**	**48.66**	**260**	P	**P**	**04 24 40.5**	**-0.6**
	1.0nm,0.8s,baz=96,slow=7.4,SNR=8.1						
FITZ	**Fitzroy Crossi**	**57.08**	**260**	P	**P**	**04 25 43.5**	**+0.3**
	2.8nm,0.8s,baz=84,slow=9.2,SNR=1.8						
NVAR	**Mina Array Bea**	**77.24**	**42**	P	**P**	**04 27 50.2**	**-0.9**
	0.9nm,1.0s,baz=216,slow=5.6,SNR=4.7						
ILAR	**Eielson Array**	**85.95**	**11**	P	**P**	**04 28 36.7**	**+0.6**
	0.9nm,0.7s,baz=222,slow=5.6,SNR=12						

*IDC **25** 04:23:06.0±1.0,2.32S×139.73E,h0km,mb4.0/5,*
mb1 4.3/7,mb1mx3.9/28,mbtmp4.2/7,ML4.1/2,MS3.4/5,
Ms1 3.4/5,ms1mx3.0/25,Error ellipse: s-maj=42.2km
s-min=20.3km az=91.0
*NEIC **25** 04:23:15.2±1.4,2.65S±0.1×139.4E±0.1,h52km±10km,*
mb4.2/12,Error ellipse: s-maj=21.1km s-min=15.1km
az=193.0
ISC 25 04:23:10.9±0.9,2.50S±0.10×139.55E±0.09,h27km,n30,
σ1°75/28,mb4.2/6,MS3.3/4,Near north coast of Irian
Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**7.30**	**267**	Pn	**Pn**	**04 24 58.2**	**+2.3**
FAKI				Sn	**Sn**	**04 26 17.0**	**-0.9**
MTN	**Manton Dam**	**13.22**	**219**	Pn	**Pn**	**04 26 17.9**	**+0.8**
SOEI	**Soe**	**16.80**	**244**	Pn	**Pn**	**04 27 04.7**	**+0.1**
KNRA	**Kununurra**	**16.86**	**218**		**Pn**	**04 27 06.6**	**+1.4**
KNRA				IAmb	IAmb	04 27 22.7	

comp=Z,54nm,1.5s
WB0 Warramunga Arr 17.88 196 P 04 27 19.1 +0.7
WB0 IAmb IAmb 04 27 24.4
comp=Z,12nm,0.9s
WR0 Warramunga Arr 18.03 195 P Pn 04 27 18.6 -1.0
WB2 Warramunga Arr 18.06 196 P Pn 04 27 19.2 -0.9
WB2 IAmb IAmb 04 27 23.0
comp=Z,16nm,0.9s
WRA Warramunga Arr 18.06 196 P Pn 04 27 19.5 -0.6
comp=Z,0.9nm,0.3s,baz=21,slow=12,SNR=26
WRA S Sn 04 30 30.4 -11
comp=Z,0.1nm,0.3s,baz=8.6,slow=22,SNR=3.5
WRA LR LR 04 34 43.8
comp=Z,140nm,21.4s,baz=50,slow=38
WRA Warramunga Arr 18.06 196 P Pn 04 27 18.6 -1.6
CTA Charters Tower 18.66 160 P Pn 04 27 27.4 -0.1
comp=Z,0.3nm,0.3s,baz=336,slow=13,SNR=4.2
FITZ Fitzroy Crossi 20.64 220 P P 04 27 50.2 +1.7
comp=Z,8.9nm,1.0s,baz=71,slow=8.6,SNR=4.5
FITZ S S 04 31 32.4 -5.8
comp=Z,3.5nm,0.8s,baz=342,slow=20,SNR=1.9
FITZ Fitzroy Crossi 20.64 220 P P 04 27 49.3 +0.7
FITZ IAmb IAmb 04 27 51.9
comp=Z,15nm,1.1s
AS31 Alice Springs 21.73 194 P P 04 28 01.7 +1.4
ASAR Alice Springs 21.74 194 P P 04 28 00.4 +0.1
comp=Z,9.2nm,1.0s,baz=24,slow=9.7,SNR=41
ASAR S S 04 31 57.7 -2.0
comp=Z,2.3nm,1.0s,baz=16,slow=25,SNR=3.5
ASAR LR LR 04 36 44.9
comp=Z,153nm,19.4s,baz=210,slow=37
ASAR Alice Springs 21.74 194 P P 04 28 01.0 +0.7
EIDS Eidsvold 25.30 155 P P 04 28 37.6 +2.2
STKA Stephens Creek 29.28 176 P P 04 29 13.5 +2.4
comp=Z,1.2nm,0.6s,baz=343,slow=11,SNR=3.8
STKA LR LR 04 42 30.0
comp=Z,193nm,19.5s,baz=353,slow=40
JCJ Chichijima 29.54 5 LR LR 04 39 09.2
comp=Z,36nm,18.9s,baz=246,slow=33
FORT Forrest 30.15 200 P P 04 29 19.3 +0.6
BBOO Buckleboo 30.33 186 P P 04 29 20.4 +0.2
BBOO IAmb IAmb 04 29 25.3
comp=Z,6.1nm,0.9s
H11N1 WAKE ISLAND Hy 34.76 49 T T 05 06 23.8
baz=232,slow=74
H11N2 WAKE ISLAND Hy 34.78 49 T T 05 06 24.9
baz=232,slow=74
H11N3 WAKE ISLAND Hy 34.78 49 T T 05 06 24.5
baz=232
KSRS Korea Array 41.19 346 LR LR 04 45 04.5
comp=Z,30nm,21.7s,baz=185,slow=32
MK31 Makanchi Array 70.14 322 P P 04 34 21.2 +0.2
MK31 IAmb IAmb 04 34 22.7
comp=Z,2.6nm,1.2s
MKAR Makanchi Array 70.14 322 P P 04 34 21.1 0.0
comp=Z,1.4nm,0.6s,baz=104,slow=8.2,SNR=14
MKAR Makanchi Array 70.14 322 P P 04 34 21.2 +0.1
ILAR Eielson Array 85.30 24 P P 04 35 42.4 -2.7
comp=Z,0.6nm,0.7s,baz=256,slow=4.8,SNR=6.9
DBIC Dimbokro 144.29 278 PKP PKPab 04 42 43.1 -0.4
comp=Z,3.1nm,0.6s,baz=70,slow=4.8,SNR=5.9
LPAZ La Paz 146.89 125 PKPbc PKPbc 04 42 51.5 -1.1
comp=Z,1.9nm,0.8s,baz=252,slow=2.2,SNR=8.4

*VAO **25** 05:01:09.8±0.7,24°.16S×67°.26W,h250km±8km, mb3.9*
*NEIC **25** 05:01:09.8±1.6,24°.12S±0°.07×66°.9W±0°.1,h197km±9km, mb4.1/11, Md3.9(SJA), Error ellipse: s-maj=18.1km s-min=10.3km az=86.0*
*IDC **25** 05:01:09.5±1.3,24°.02S×66°.77W, h197km±10km, mb3.2/5, mb1 3.4/11,mb1mx3.3/29, mbtmp3.7/11, Error ellipse: s-maj=19.4km s-min=14.6km az=7.0*
ISC 25 05:01:09.4±0.5,24°.07S±0°.05×66°.83W±0°.07,h200km,n65, σ1s13/68,mb3.9/11,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.41**	**307**	P		**Pn**	**05 01 53.5**	**+0.9**
	15nm,0.3s,baz=176,slow=6.6,SNR=390							
LVC				S		**Sn**	**05 02 26.1**	**-0.1**
	14nm,0.3s,baz=66,slow=20,SNR=22							
LVC	**Limon Verde**	**2.41**	**307**	*eP*		**Pn**	**05 01 53.6**	**+1.0**
PB15	**IPOC Station P**	**2.57**	**289**			**Pn**	**05 01 55.0**	**+0.7**
GO02	**Mina Guanaco**	**2.74**	**246**			**Pn**	**05 01 56.5**	**+0.2**
PB06	**IPOC Station P**	**2.87**	**298**			**Pn**	**05 01 58.1**	**+0.5**
PB14	**IPOC Station P**	**3.31**	**260**			**Pn**	**05 02 02.7**	**-0.3**
AC02	**Maricunga**	**3.45**	**217**			**Pn**	**05 02 04.9**	**+0.1**
PB10	**IPOC Station P**	**3.46**	**279**			**Pn**	**05 02 04.6**	**+0.1**
PB04	**IPOC Station P**	**3.51**	**299**			**Pn**	**05 02 05.4**	**0.0**
PB07	**IPOC Station P**	**3.66**	**309**			**Pn**	**05 02 06.8**	**-0.4**
PB01	**IPOC Station P**	**3.89**	**320**	Pn		**Pn**	**05 02 09.7**	**-0.2**
AC01	**Pan de Azucar**	**3.99**	**238**	Pn		**Pn**	**05 02 09.6**	**-1.5**
PB08	**IPOC Station P**	**4.47**	**331**			**Pn**	**05 02 18.1**	**+0.6**
GO03	**Copiap**	**4.66**	**220**	Pn		**Pn**	**05 02 17.9**	**-1.6**
TA01	**Diego Aracena**	**4.67**	**318**	Pn		**Pn**	**05 02 18.9**	**-0.7**
TA02	**Huaiquique**	**4.87**	**320**			**Pn**	**05 02 21.8**	**-0.3**
PB11	**IPOC Station P**	**5.03**	**328**	Pn		**Pn**	**05 02 23.1**	**-1.3**
PSGCX	**Pisagua**	**5.40**	**325**	Pn		**Pn**	**05 02 27.3**	**-1.8**
MNMC	**Minye Minye**	**5.55**	**332**	Pn		**Pn**	**05 02 30.9**	**-0.2**
AC04	**Llanos de Chal**	**5.61**	**222**	Pn		**Pn**	**05 02 29.3**	**-2.3**
PB16	**IPOC Station P**	**6.23**	**336**			**Pn**	**05 02 40.1**	**-0.2**
GO04	**Tololo Observa**	**7.03**	**209**	Pn		**Pn**	**05 02 47.1**	**-3.1**
CO03	**El Pedregal**	**7.56**	**206**	Pn		**Pn**	**05 02 54.4**	**-2.6**
LPAZ	**La Paz**	**7.84**	**351**	P		**Pn**	**05 03 01.9**	**+0.7**
	0.7nm,0.3s,baz=206,slow=14,SNR=26							
LPAZ				S		**Sn**	**05 04 28.6**	**-1.5**
	0.3nm,0.3s,baz=231,slow=19,SNR=8.4							
LPAZ	**La Paz**	**7.84**	**351**	Pn		**Pn**	**05 03 01.7**	**+0.4**
LPAZ	**La Paz**	**7.84**	**351**	*eP*		**Pn**	**05 03 02.0**	**+0.7**
CPUP	**Villa Florida**	**8.89**	**107**	P		**Pn**	**05 03 13.7**	**-0.6**
	0.1nm,0.3s,baz=310,slow=17,SNR=1.7							
SIV	**San Ignacio**	**9.69**	**35**	P		**Pn**	**05 03 23.5**	**-1.2**
	0.4nm,0.3s,baz=232,slow=13,SNR=14							
SIV				S		**Sn**	**05 05 12.1**	**-1.1**
	0.0nm,0.3s,baz=198,slow=20,SNR=2.5							
ITQB	**Itaqui**	**10.68**	**124**	*eP*		**Pn**	**05 03 39.9**	**+2.6**
AQDB	**Aquidauana**	**10.91**	**73**	*eP*		**P**	**05 03 44.7**	**-2.2**
CPSB	**Cacapava Do Su**	**13.47**	**121**	*eP*		**P**	**05 04 15.5**	**+0.2**
ITAB	**Concordia**	**13.62**	**106**	*eP*		**P**	**05 04 17.5**	**+0.5**
PLTB	**Pedras Altas**	**13.97**	**126**	*eP*		**P**	**05 04 20.9**	**0.0**
TRQA	**Tornquist**	**14.54**	**165**	Pn		**Pn**	**05 04 24.1**	**-1.8**
SAML	**Samuel**	**15.44**	**14**	P		**Pn**	**05 04 36.6**	**-0.4**
SAML					IAmb	IAmb	05 04 38.2	
	comp=Z,4.5nm,0.8s							
ARAG	**Araguaiana, MT**	**16.38**	**62**	*eP*		**Pn**	**05 04 50.8**	**+2.3**
CLDB	**Colider**	**16.81**	**41**	*eP*		**P**	**05 04 52.7**	**+0.4**
PLCA	**Paso Flores**	**16.90**	**190**	P		**Pn**	**05 04 54.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=358,slow=11,SNR=3.7							
IPMB	**Ipameri, GO**	**18.48**	**74**	*eP*		**Pn**	**05 05 11.3**	**-0.9**
BDFB	**Brasilia**	**19.57**	**68**	P		**P**	**05 05 22.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=246,slow=12,SNR=14							
BDFB	**Brasilia**	**19.57**	**68**	P		**P**	**05 05 22.9**	**+0.6**
PEXB	**Peixe**	**21.23**	**59**	*eP*		**P**	**05 05 38.5**	**-1.4**
ITTB	**Itaituba**	**22.32**	**30**	*eP*		**P**	**05 05 49.2**	**-1.5**
DIAM	**Diamantina, MG**	**22.33**	**80**	*eP*		**P**	**05 05 51.0**	**0.0**
MC01	**Montes Claros**	**22.65**	**75**	*eP*		**P**	**05 05 53.6**	**-0.2**
JANB	**Januaria**	**23.01**	**71**	*eP*		**P**	**05 05 56.5**	**-0.5**
SDBA	**SAO DESIDERIO**	**23.80**	**65**	*eP*		**P**	**05 06 03.9**	**-0.3**
SMTB	**Santa Maria do**	**23.81**	**54**	*eP*		**P**	**05 06 04.1**	**-0.1**
PTGA	**Pitinga**	**24.14**	**17**	P		**P**	**05 06 07.1**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=82,slow=10,SNR=2.1							
PRPB	**Paraupebas**	**24.17**	**45**	*eP*		**P**	**05 06 07.2**	**-0.3**
CMC01	**Camacan, BA**	**27.09**	**76**	*eP*		**P**	**05 06 33.6**	**-0.2**
SNAA	**Sanae**	**59.23**	**161**	P		**P**	**05 10 50.4**	**+1.1**
SNAA					IAmb	IAmb	05 10 51.1	
	comp=Z,2.0nm,0.9s							
WVT	**Waverly**	**63.08**	**341**	P		**P**	**05 11 15.8**	**+0.4**
WVT					IAmb	IAmb	05 11 16.0	
	comp=Z,3.1nm,0.7s							
TXAR	**Lajitas Array**	**63.83**	**324**	P		**P**	**05 11 21.9**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=156,slow=8.9,SNR=4.5							
QSPA	**South Pole Qui**	**66.13**	**180**	P		**P**	**05 11 36.8**	**+1.7**
QSPA					IAmb	IAmb	05 11 59.3	
	comp=Z,5.3nm,1.3s							
P38A	**Dawn**	**68.10**	**338**	P		**P**	**05 11 48.0**	**+0.5**
P38A					IAmb	IAmb	05 11 48.6	
	comp=Z,3.1nm,0.7s							
ECSD	**EROS Data Cent**	**72.81**	**338**	P		**P**	**05 12 17.0**	**+1.1**
B35A	**Bob, Littlefor**	**76.03**	**342**	P		**P**	**05 12 35.7**	**+1.4**
B35A					IAmb	IAmb	05 12 48.2	
	comp=Z,4.9nm,1.2s							
TOA0	**Torodi Ar. Sit**	**76.45**	**69**	P		**P**	**05 12 37.7**	**+0.2**
TOA0					IAmb	IAmb	05 12 39.4	
	comp=Z,7.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**76.45**	**69**	P		**P**	**05 12 36.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=250,slow=5.7,SNR=8.4							
TORD	**Torodi Ar. Bea**	**76.45**	**69**	P		**P**	**05 12 37.7**	**+0.2**
PDAR	**Pinedale Array**	**77.29**	**329**	P		**P**	**05 12 40.9**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=139,slow=8.4,SNR=2.8							
EGMT	**Eagleton**	**81.45**	**332**	P		**P**	**05 13 02.6**	**-1.4**
YKA	**Yellowknife Ar**	**94.25**	**340**	P		**P**	**05 14 06.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=130,slow=5.4,SNR=6.3							
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc		**PKPbc**	**05 20 26.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=294,slow=3.4,SNR=14							

*NEIC **25** 05:11:04.4±1.7,16°.2S±0°.1×175°.4W±0°.1,h313km±7km, mb4.3/44, Error ellipse: s-maj=18.6km s-min=13.2km az=144.0*
*IDC **25** 05:11:04.0±1.9,16°.26S×175°.43W,h314km±19km, mb3.6/10,mb1 3.8/12,mb1mx3.5/25,mbtmp4.2/12,Error ellipse: s-maj=26.9km s-min=12.0km az=143.0*
ISC 25 05:11:03.1±0.5,16°.20S±0°.09×175°.45W±0°.09,h300km, n73,σ0s87/76,mb4.2/31,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.22**	**58**	P		**Pn**	**05 12 13.6**	**+1.7**
	13nm,0.3s,baz=284,slow=17,SNR=9.6							
AFI				S		**S**	**05 13 06.5**	**-0.5**
	15nm,0.3s,baz=233,slow=20,SNR=7.9							
NIUE	**Niue**	**6.00**	**119**	Pn		**Pn**	**05 12 33.5**	**+1.1**
MSVF	**Nonsavu**	**6.40**	**255**	P		Pn	05 12 43.4	+6.0
	1.4nm,0.3s,baz=58,slow=9.5,SNR=4.9							
MSVF	**Nonsavu**	**6.40**	**255**			Pn	05 12 43.5	+6.1
RAO	**Raoul Island**	**13.19**	**189**	P		**P**	**05 14 00.6**	**+0.4**
DZM	**Mont Dzumac**	**18.07**	**248**	P		**P**	**05 14 55.2**	**+1.5**
	0.4nm,0.3s,baz=50,slow=16,SNR=2.0							
URZ	**Urewera**	**22.93**	**195**	P		**P**	**05 15 39.6**	**-1.9**
	9.6nm,1.0s,baz=122,slow=24,SNR=1.8							
NNZ	**Nelson**	**26.73**	**199**	P		**P**	**05 16 14.8**	**-0.9**
STKA	**Stephens Creek**	**41.92**	**240**	P		**P**	**05 18 24.6**	**-0.6**
	2.1nm,0.7s,baz=344,slow=16,SNR=3.9							
WB2	**Warramunga Arr**	**47.73**	**258**	P		**P**	**05 19 10.0**	**-0.8**
WB2					IAmb	IAmb	05 20 00.7	
	comp=Z,30nm,1.7s							
WRA	**Warramunga Arr**	**47.74**	**258**	P		**P**	**05 19 10.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=93,slow=6.7,SNR=16							
WRA				pP		**pwP**	**05 20 17.1**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=80,slow=5.0,SNR=1.8							
WRA				PcP		**PcP**	**05 20 34.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=97,slow=3.6,SNR=2.4							
WRA	**Warramunga Arr**	**47.74**	**258**	P		**P**	**05 19 10.8**	**-0.1**
AS31	**Alice Springs**	**47.98**	**253**	P		**P**	**05 19 12.3**	**-0.5**
ASAR	**Alice Springs**	**47.98**	**253**	P		**P**	**05 19 12.2**	**-0.6**
	comp=Z,4.5nm,0.5s,baz=87,slow=8.1,SNR=60							
ASAR				pP		**pwP**	**05 20 21.0**	**+3.1**
	comp=Z,1.5nm,0.9s,baz=83,slow=8.7,SNR=2.3							
ASAR				PcP		**PcP**	**05 20 34.4**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=99,slow=4.8,SNR=2.0							
ASAR	**Alice Springs**	**47.98**	**253**	P		**P**	**05 19 12.0**	**-0.8**
PSA00	**Pilbara Seismi**	**61.08**	**254**	P		**P**	**05 20 45.9**	**-0.5**
PSA00					IAmb	IAmb	05 21 30.1	
	comp=Z,18nm,1.6s							
PSA00	**Pilbara Seismi**	**61.08**	**254**	P		**P**	**05 20 46.0**	**-0.4**
PSA00					IAmb	IAmb	05 21 36.5	
	comp=Z,103nm,2.0s							
SBA	**Scott Base**	**62.30**	**184**	P		**P**	**05 20 54.9**	**+1.4**
KAPI	**Kappang**	**64.42**	**272**	P		**P**	**05 21 08.9**	**+0.5**
GIRL	**Giralia**	**66.10**	**252**	P		**P**	**05 21 19.4**	**+0.5**
QSPA	**South Pole Qui**	**73.85**	**180**	P		**P**	**05 22 04.7**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=33,slow=1.2,SNR=4.5							
QSPA	**South Pole Qui**	**73.85**	**180**	P		**P**	**05 22 04.8**	**-0.5**
YBH	**Yreka Blue Hor**	**75.44**	**38**	P		**P**	**05 22 15.2**	**+0.7**
YBH					IAmb	IAmb	05 22 15.7	
	comp=Z,5.3nm,1.1s							
NVAR	**Mina Array Bea**	**76.25**	**43**	P		**P**	**05 22 19.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=221,slow=9.1,SNR=14							
NVAR	**Mina Array Bea**	**76.25**	**43**	P		**P**	**05 22 18.8**	**-0.6**
PAHR	**Pah Rah Range**	**76.27**	**41**	P		**P**	**05 22 19.1**	**-0.3**
PAHR					IAmb	IAmb	05 22 40.0	
	comp=Z,6.5nm,1.5s							
TPH	**Tonopah**	**76.77**	**44**	P		**P**	**05 22 21.9**	**-0.3**
PINE	**Pine Mountain**	**77.72**	**37**	P		**P**	**05 22 27.4**	**0.0**
PINE					IAmb	IAmb	05 22 28.4	
	comp=Z,4.2nm,0.9s							
WVOR	**Wild Horse Val**	**78.29**	**39**	P		**P**	**05 22 30.2**	**-0.2**
J08A	**Circle Bar Ran**	**78.92**	**39**	P		**P**	**05 22 33.2**	**-0.6**
J08A					IAmb	IAmb	05 22 34.5	
	comp=Z,4.0nm,1.2s							
319A	**Douglas**	**79.14**	**53**	P		**P**	**05 22 35.3**	**0.0**
319A					IAmb	IAmb	05 22 36.7	
	comp=Z,6.0nm,1.0s							
ELK	**Elko**	**79.49**	**42**	P		**P**	**05 22 36.4**	**-0.7**
BMO	**Blue Mountains**	**80.46**	**38**	P		**P**	**05 22 41.4**	**-0.7**
F10A	**Beach Ranch, E**	**81.14**	**37**	P		**P**	**05 22 44.8**	**-0.8**
F10A					IAmb	IAmb	05 22 45.2	
	comp=Z,3.3nm,0.9s							
N25K	**Chitina, Valde**	**81.33**	**14**	P		**P**	**05 22 46.0**	**-0.2**
B08A	**Colville Reser**	**81.34**	**34**	P		**P**	**05 22 45.6**	**-0.9**
B08A					IAmb	IAmb	05 22 46.3	
	comp=Z,10nm,1.6s							
GLB	**Gilahina Butte**	**81.38**	**15**	P		**P**	**05 22 46.1**	**-0.3**
HLID	**Hailey**	**81.50**	**40**	P		**P**	**05 22 48.0**	**+0.4**
HLID					IAmb	IAmb	05 22 48.5	
	comp=Z,2.5nm,0.7s							
SRU	**San Rafael Swe**	**81.81**	**45**	P		**P**	**05 22 49.2**	**-0.1**
SRU					IAmb	IAmb	05 22 50.4	
	comp=Z,3.7nm,0.8s							
PV14	**Lion Creek, Pa**	**82.50**	**47**	P		**P**	**05 22 52.3**	**-0.6**
PV14					IAmb	IAmb	05 22 53.4	
	comp=Z,6.5nm,0.9s							
TXAR	**Lajitas Array**	**82.70**	**57**	P		**P**	**05 22 54.1**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=215,slow=5.8,SNR=7.2							
PV01	**Paradox Valley**	**82.71**	**47**	P		**P**	**05 22 53.5**	**-0.5**
PV01					IAmb	IAmb	05 22 54.3	
	comp=Z,3.4nm,0.8s							
PV07	**Paradox Valley**	**82.79**	**47**	P		**P**	**05 22 53.6**	**-0.9**
PV07					IAmb	IAmb	05 22 54.7	
	comp=Z,3.1nm,0.8s							
ANMO	**Albuquerque**	**82.83**	**51**	P		**P**	**05 22 54.6**	**-0.1**
WRH	**Wood River Hil**	**83.12**	**12**	P		**P**	**05 22 54.5**	**-0.7**
MCMT	**McKenzie Canyo**	**83.12**	**40**	P		**P**	**05 22 56.1**	**+0.1**
MLY	**Manley**	**83.14**	**10**	P		**P**	**05 22 54.3**	**-1.1**
CCB	**Clear Creek Bu**	**83.33**	**12**	P		**P**	**05 22 55.2**	**-1.0**
CCB					IAmb	IAmb	05 22 56.0	
	comp=Z,5.2nm,0.7s							
TCOL	**CIGO, UAF Yank**	**83.52**	**11**	P		**P**	**05 22 56.6**	**-0.6**
IL31		**83.62**	**12**	P		**P**	**05 22 56.7**	**-1.0**
IL31					IAmb	IAmb	05 22 58.3	
	comp=Z,4.4nm,1.1s							
ILAR	**Eielson Array**	**83.62**	**12**	P		**P**	**05 22 56.6**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=224,slow=5.8,SNR=29							
ILAR	**Eielson Array**	**83.62**	**12**	P		**P**	**05 22 56.8**	**-0.9**
REDW	**Red Top Meadow**	**83.64**	**42**	P		**P**	**05 22 58.1**	**-0.6**
REDW					IAmb	IAmb	05 22 59.7	
	comp=Z,3.3nm,0.9s							
SNOW	**Snow King Moun**	**83.75**	**41**	P		**P**	**05 22 57.8**	**-1.4**
SNOW					IAmb	IAmb	05 22 59.9	
	comp=Z,4.7nm,0.7s							
POKR	**Poker Plat Res**	**83.82**	**12**	P		**P**	**05 22 57.6**	**-1.2**
QLMT	**Earthquake Lak**	**84.00**	**40**	P		**P**	**05 23 00.6**	**+0.2**
BW06	**Boulder Array**	**84.18**	**43**	P		**P**	**05 23 00.4**	**-1.0**
BW06					IAmb	IAmb	05 23 01.2	
	comp=Z,2.6nm,0.8s							
PD31	**Pinedale Array**	**84.18**	**43**	P		**P**	**05 23 00.4**	**-1.0**
PDAR	**Pinedale Array**	**84.18**	**43**	P		**P**	**05 23 00.6**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=220,slow=3.6,SNR=17							
PDAR	**Pinedale Array**	**84.18**	**43**	P		**P**	**05 23 00.4**	**-1.0**
BOZ	**Bozeman (W)**	**84.25**	**39**	P		**P**	**05 23 01.1**	**-0.5**
PRP	**Porcupine Dome**	**84.55**	**12**	P		**P**	**05 23 02.0**	**-0.6**
PRP					IAmb	IAmb	05 23 03.2	
	comp=Z,4.5nm,0.9s							
HRY	**Holter Researc**	**84.69**	**38**	P		**P**	**05 23 03.2**	**-0.4**
DAWY	**Dawson**	**84.69**	**15**	P		**P**	**05 23 03.2**	**0.0**
DAWY					IAmb	IAmb	05 23 03.7	
	comp=Z,2.7nm,0.8s							
MAW	**Mawson**	**86.40**	**199**	P		**P**	**05 23 11.0**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=128,slow=7.4,SNR=6.4							
MAW	**Mawson**	**86.40**	**199**	P		**P**	**05 23 10.8**	**-0.8**
MAW					IAmb	IAmb	05 25 38.8	
	comp=Z,8.6nm,2.0s							
BMAR	**Burnt Mountain**	**86.41**	**11**	P		**P**	**05 23 11.9**	**+0.4**
TOLK	**Toolik Lake Re**	**86.64**	**9**	P		**P**	**05 23 12.6**	**0.0**
ARCES	**ARCESS Array B**	**125.11**	**351**	PKP		**PKPdf**	**05 29 26.3**	**-1.0**
	comp=Z,3.3nm,1.0s,baz=339,slow=1.7,SNR=5.9							
ARCES	**ARCESS Array B**	**125.11**	**351**			**PKPdf**	**05 29 26.6**	**-0.8**
BRTR	**Keskin Array B**	**145.49**	**319**	PKPbc		**PKPdf**	**05 30 06.2**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=116,slow=2.9,SNR=4.1							
BRTR	**Keskin Array B**	**145.49**	**319**			**PKPdf**	**05 30 06.3**	**+0.3**
GERES	**GERESS Array B**	**146.59**	**349**	PKPbc		**PKPdf**	**05 30 08.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=343,slow=1.4,SNR=3.9							

*IDC **25** 05:17:17.6±1.4,35°.10S×179°.37W,h0km,mb4.2/4, mb1 4.4/5,mb1mx4.0/22,mbtmp4.2/5,ML4.1/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/20, Error ellipse: s-maj=34.9km s-min=29.0km az=98.0*
*WEL **25** 05:17:19.1±0.9,35°.5S±17°×17°.9W±2°.0,h118km±37km, M3.9/24,mB4.4/7,ML4.5/21,MLv4.3/24,Mw(mB)3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=129.5*
ISC 25 05:17:22.8±1.2,35°.2S±0°.1×179°.2W±0°.1,h42km,n41, σ1s47/56,mb4.2/4,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.09**	**220**	P		**Pn**	**05 18 06.8**	**-2.3**
PUZ	**Puketiti**	**3.51**	**215**	P		**Pn**	**05 18 13.6**	**-1.3**
HAZ	**Te Kaha**	**3.52**	**223**	P		**Pn**	**05 18 13.3**	**-1.6**
HAZ				S		**Sn**	**05 18 57.4**	**+2.1**
RUGZ	**Raukumara Rang**	**3.73**	**222**	P		**Pn**	**05 18 17.0**	**-0.9**
RUGZ				S		**Sn**	**05 19 02.8**	**+2.1**
TWGZ	**Tauwhareparae**	**3.73**	**217**	P		**Pn**	**05 18 17.4**	**-0.5**
TWGZ				S		**Sn**	**05 19 02.7**	**+2.1**
CNGZ	**Carnagh Statio**	**3.87**	**212**	P		**Pn**	**05 18 18.5**	**-1.3**
TKGZ	**Te Karaka**	**4.00**	**216**	P		**Pn**	**05 18 20.4**	**-1.1**
TKGZ				S		**Sn**	**05 19 07.0**	**-0.1**
MWZ	**Matawai**	**4.08**	**220**	P		**Pn**	**05 18 21.2**	**-1.5**
MWZ				S		**Sn**	**05 19 10.3**	**+1.1**
URZ	**Urewera**	**4.25**	**224**	Pn		**Pn**	**05 18 23.5**	**-1.5**
	12nm,0.3s,baz=121,slow=23,SNR=58							
URZ				Sn		**Sn**	**05 19 14.5**	**+1.2**
	0.6nm,0.3s,baz=126,slow=24,SNR=0.9							
URZ	**Urewera**	**4.25**	**224**	P		**Pn**	**05 18 23.5**	**-1.5**
RAGZ	**Rawiri**	**4.26**	**219**	P		**Pn**	**05 18 24.0**	**-1.2**
OPRZ	**Ohinepanea**	**4.32**	**232**	P		**Pn**	**05 18 24.7**	**-1.3**
PRGZ	**Paritu Road**	**4.38**	**212**	P		**Pn**	**05 18 24.9**	**-1.9**
SNGZ	**Shannon Statio**	**4.51**	**217**	P		**Pn**	**05 18 27.9**	**-0.8**
RTZ	**Ruatahuna**	**4.58**	**221**	P		**Pn**	**05 18 28.2**	**-1.4**
RTZ				S		**Sn**	**05 19 23.6**	**+2.1**
RAHZ	**Arahi**	**4.75**	**218**	P		**Pn**	**05 18 31.4**	**-0.4**
RAHZ				S		**Sn**	**05 19 26.4**	**+0.8**
WHHZ	**Waihua**	**4.80**	**216**	P		**Pn**	**05 18 32.0**	**-0.5**
WHHZ				S		**Sn**	**05 19 27.0**	**+0.2**
MTHZ	**Maungataniwha**	**4.82**	**220**	P		**Pn**	**05 18 32.1**	**-0.9**
MTHZ				S		**Sn**	**05 19 27.5**	**-0.1**
TOZ	**Tahuroa Road**	**4.97**	**238**	P		**Pn**	**05 18 34.3**	**-0.5**
NMHZ	**Naumai**	**5.02**	**219**	P		**Pn**	**05 18 35.1**	**-0.7**
NMHZ				S		**Sn**	**05 19 33.0**	**+0.5**
MRHZ	**Matea Rd**	**5.04**	**223**	P		**Pn**	**05 18 34.6**	**-1.3**
MRHZ				S		**Sn**	**05 19 33.8**	**+0.9**
BKZ	**Black Stump Fm**	**5.24**	**220**	P		**Pn**	**05 18 37.4**	**-1.2**
BKZ				S		**Sn**	**05 19 38.7**	**+0.9**
KWHZ	**Kaweka Forest**	**5.47**	**219**	P		**Pn**	**05 18 39.4**	**-2.3**
KWHZ				S		**Sn**	**05 19 44.1**	**+0.7**
KAHZ	**Kahuranaki**	**5.54**	**213**	P		**Pn**	**05 18 39.1**	**-3.6**
KAHZ				S		**Sn**	**05 19 44.2**	**-0.9**
TMVZ	**Te Maari**	**5.64**	**225**	P		**Pn**	**05 18 42.7**	**-1.

comp=Z,11nm,21.2s,baz=57,slow=32

KRSC 25 05:39:51.8±1.5, 51°49N×160°59E, h61km±26km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.59**	**307**	*e*P	Pn	05 40 19.5	+1.8
RUS				*e*S	Sn	05 40 38.7	+1.4
KDTR	**Khodutka, Kamc**	**1.60**	**283**	*e*P	Pn	05 40 19.7	+2.0
KDTR				*e*S	Sn	05 40 38.3	+1.0
SPN	**Mys Shipunski**	**1.65**	**348**	*e*P	Pn	05 40 19.8	+1.3
SPN				*e*S	Sn	05 40 38.5	-0.1
MTVR	**Mutnovka**	**1.79**	**305**	*e*P	Pn	05 40 22.8	+2.3
MTVR				*e*S	Sn	05 40 44.0	+1.7
NLC	**Nalytchevo**	**1.85**	**336**	*e*P	Pn	05 40 23.3	+2.1
NLC				*e*S	Sn	05 40 45.6	+2.1
GRL	**Gorelyy**	**1.88**	**305**	*e*P	Pn	05 40 24.7	+2.9
GRL				*e*S	Sn	05 40 47.4	+2.9
DALK	**Dalny**	**1.91**	**325**	*e*S	Sn	05 40 46.5	+1.5
PET	**Petropavlovsk**	**1.94**	**323**	*e*P	Pn	05 40 24.7	+2.3
PET				*e*S	Sn	05 40 47.6	+1.8
KRMR	**Karymshinskiy**	**2.02**	**313**	*e*P	Pn	05 40 26.5	+3.0
KRMR				*e*S	Sn	05 40 50.2	+2.5
UGLR	**Uglovaya**	**2.04**	**329**	*e*P	Pn	05 40 26.7	+2.9
UGLR				*e*S	Sn	05 40 51.2	+3.0
SDLR	**Sedlovina**	**2.08**	**330**	*e*P	Pn	05 40 26.7	+2.3
SDLR				*e*S	Sn	05 40 50.7	+1.5
SMAR	**Somma**	**2.09**	**329**	*e*P	Pn	05 40 27.1	+2.5
AVH	**Avacha**	**2.11**	**328**	*e*P	Pn	05 40 27.6	+2.8
AVH				*e*S	Sn	05 40 53.1	+3.1
KRER	**Koryakskii**	**2.14**	**329**	*e*P	Pn	05 40 28.1	+2.8
KRER				*e*S	Sn	05 40 54.3	+3.4
KOK	**Koryaka**	**2.17**	**327**	*e*P	Pn	05 40 28.5	+2.9
KOK				*e*S	Sn	05 40 54.1	+2.7
KRX	**Arik**	**2.22**	**328**	*e*P	Pn	05 40 29.1	+2.8
KRX				*e*S	Sn	05 40 55.4	+2.7
PAU	**Pauzhetka**	**2.36**	**271**	P	Pn	05 40 31.0	+2.9
MIPR	**Malaya Ipel'ka**	**2.50**	**290**	*e*P	Pn	05 40 33.3	+3.2
MIPR				*e*S	Sn	05 41 03.4	+4.0
APC	**Apacha**	**2.56**	**306**	P	Pn	05 40 34.6	+3.9
APC				*e*S	Sn	05 41 05.5	+4.9
KII	**Karymskiy**	**2.65**	**345**	*e*P	Pn	05 40 34.7	+2.6
GNL	**Ganaly**	**2.74**	**325**	*e*P	Pn	05 40 36.9	+3.5
GNL				*e*S	Sn	05 41 09.7	+4.4
SKR	**Severo-Kuril's**	**2.93**	**256**	*e*P	Pn	05 40 38.3	+2.4
SKR				*e*S	Sn	05 41 10.9	+1.0
MKZ	**Mys Kozlova**	**3.15**	**12**	*e*P	Pn	05 40 40.2	+1.3
ALID	**Alaid**	**3.23**	**261**	*e*P	Pn	05 40 42.9	+2.8
ALID				*e*S	Sn	05 41 19.0	+1.6
KZV	**Kizimen**	**3.64**	**357**	*e*P	Pn	05 40 48.5	+2.8
TUMD	**Tumrok D**	**3.72**	**358**	*e*P	Pn	05 40 49.2	+2.4
TUMR	**Tumrok**	**3.81**	**356**	*e*P	Pn	05 40 51.5	+3.5
KMNR	**Kamenistaya**	**4.28**	**357**	*e*P	Pn	05 40 58.2	+3.7
BZGR	**Bezymyannyi-Gr**	**4.46**	**1**	P	Pn	05 41 00.2	+3.3
KIRR	**Kirishev**	**4.48**	**358**	P	Pn	05 41 01.1	+3.9
BZWR	**Bezymyannyi-We**	**4.49**	**359**	P	Pn	05 41 01.4	+4.1
ESO	**Esso**	**4.58**	**347**	P	Pn	05 41 02.7	+4.2
KOZ	**Kozyrevsk**	**4.60**	**355**	P	Pn	05 41 02.3	+3.6
LGNR	**Loginova**	**4.61**	**1**	P	Pn	05 41 03.0	+4.0
SRDR	**Sredinnyy**	**4.87**	**354**	P	Pn	05 41 05.5	+3.1
KBTR	**Krutoberegovo**	**4.91**	**15**	P	Pn	05 41 05.4	+2.5
SMKR	**Semkarok**	**5.13**	**5**	P	Pn	05 41 09.8	+3.8

IDC 25 05:48:06.7±8.3, 4°51S×148°04E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.7/3, Error ellipse: s-maj=178.8km s-min=40.4km az=87.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.33**	**220**	P	P	05 52 45.0	+0.3
	1.0nm,0.4s,baz=44,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**23.42**	**214**	P	P	05 53 17.3	-0.4
	0.3nm,0.5s,baz=50,slow=8.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**53.48**	**297**	P	P	05 57 29.3	0.0
	1.4nm,0.4s,baz=119,slow=8.5,SNR=4.3						

*TUL **25** 06:03:06.8±1.3, 36°73N±0°02×98°32W±0°03, h6km±2km, ML3.1, mb_Lg3.0/78(NEIC), Error ellipse: s-maj=3.6km s-min=2.1km az=77.0*
*NEIC **25** 06:03:07.0±1.1, 36°69N±0°01×98°31W±0°03, h5km±2km, Error ellipse: s-maj=3.7km s-min=3.0km az=116.0*
ISC 25 06:03:06.6±1.1, 36°71N±0°02×98°33W±0°03, h4km±10km, n80, σ0s65/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**44**		**Pg**	**06 03 09.6**	**+0.3**
OK032				Sg	**Sg**	**06 03 11.6**	**+0.4**
CROK	**Carrier**	**0.34**	**126**		**Pg**	**06 03 13.8**	**+0.6**
CROK				Sg	**Sg**	**06 03 18.9**	**+1.1**
KAN14	**Manchester OK**	**0.39**	**49**		**Pg**	**06 03 14.2**	**+0.1**
KAN14				Sg	**Sg**	**06 03 19.4**	**+0.2**
KAN10	**Anthony SW Sta**	**0.46**	**24**		**Pg**	**06 03 15.5**	**+0.1**
KAN10				Sg	**Sg**	**06 03 21.8**	**+0.4**
KAN16	**Harper SW Stat**	**0.56**	**22**		**Pg**	**06 03 17.4**	**0.0**
KAN16				Sg	**Sg**	**06 03 25.0**	**+0.3**
KAN17	**Caldwell West**	**0.56**	**53**		**Pg**	**06 03 17.4**	**-0.1**
KAN17				Sg	**Sg**	**06 03 24.9**	**+0.1**
KAN08	**Anthony NE Sta**	**0.59**	**29**	Pg	**Pg**	**06 03 18.1**	**0.0**
KAN08				Sg	**Sg**	**06 03 25.9**	**+0.1**
U32A	**Winter Ranch,**	**0.63**	**239**	Pg	**Pg**	**06 03 19.4**	**+0.7**
U32A	**Winter Ranch,** baz=60,SNR=22	**0.63**	**239**	P	**Pg**	**06 03 19.4**	**+0.7**
U32A				S	**Sb**	**06 03 28.7**	**-0.8**
	baz=60						
U32A	**Winter Ranch,** baz=60,SNR=22	**0.63**	**239**	P		06 03 19.4	
U32A				S		06 03 28.7	
	baz=60						
KAN12	**Harper NE Stat**	**0.65**	**24**	Pg	**Pb**	**06 03 20.4**	**-0.1**
KAN12				Sg	**Sg**	**06 03 27.9**	**+0.4**
KAN09	**Caldwell North**	**0.71**	**53**		**Pg**	**06 03 20.1**	**-0.3**
KAN09				Sg	**Sg**	**06 03 29.5**	**-0.1**
KAN13	**South Haven SW**	**0.75**	**66**		**Pg**	**06 03 20.7**	**-0.3**
KS20	**Mayfield South**	**0.81**	**50**	Pg	**Pg**	**06 03 21.9**	**-0.3**
BLOK	**Blackwell**	**0.90**	**86**		**Pg**	**06 03 23.5**	**-0.3**
OK029	**Liberty Lake**	**1.15**	**142**		**Pb**	**06 03 28.3**	**-0.8**
BCOK	**Bluff Creek, N**	**1.20**	**151**		**Pb**	**06 03 29.1**	**-0.8**
OK025	**Westminster Rd**	**1.38**	**144**		**Pn**	**06 03 32.2**	**-0.5**
OK031	**S. Brethren Rd**	**1.42**	**122**		**Pb**	**06 03 33.2**	**-0.5**
OK030	**Cody Creek RV**	**1.47**	**121**		**Pn**	**06 03 33.6**	**-0.3**
OKCFA	**Oklahoma City** baz=333,SNR=9.9	**1.47**	**151**	P		06 03 33.9	
OKCFA				S		06 03 54.0	
	baz=333						
OKCFA	**Oklahoma City**	**1.47**	**151**		**Pn**	**06 03 33.5**	**-0.5**
OKCFA	**Oklahoma City** baz=333,SNR=9.9	**1.47**	**151**	P	**Pb**	**06 03 33.9**	**-0.7**
OKCFA				S	**Sg**	**06 03 54.0**	**+0.2**
	baz=333						
T35A	**Sooner Cattle**	**1.47**	**81**		**Pn**	**06 03 33.6**	**-0.5**
T35B	**Sooner Cattle** baz=262,SNR=68	**1.47**	**81**	P	**Pn**	**06 03 33.6**	**-0.4**
T35B				S	**Sb**	**06 03 53.4**	**-0.3**
	baz=262						
T35B	**Sooner Cattle** baz=262,SNR=68	**1.47**	**81**	P		06 03 33.6	
T35B				S		06 03 53.4	
	baz=262						
OKCSW	**OKLAHOMA CITY**	**1.48**	**151**		**Pn**	**06 03 33.8**	**-0.3**
FNO	**Franklin**	**1.63**	**152**		**Pb**	**06 03 36.4**	**-0.9**
R32A	**Long Quarter,**	**1.74**	**350**		**Pn**	**06 03 38.3**	**+0.6**
R32A	**Long Quarter,** baz=169,SNR=15	**1.74**	**350**	P	**Pn**	**06 03 38.3**	**+0.6**
R32A				S	**Sb**	**06 04 01.7**	**+0.2**
	baz=169						
R32A	**Long Quarter,** baz=169,SNR=15	**1.74**	**350**	P		06 03 38.3	
R32A				S		06 04 01.7	
	baz=169						
WMOK	**Wichita Mounta**	**2.00**	**191**		**Pb**	**06 03 42.0**	**-1.5**
WMOK	**Wichita Mounta** baz=11,SNR=46	**2.00**	**191**	P	**Pn**	**06 03 41.9**	**+0.7**
WMOK				S	**Sb**	**06 04 08.7**	**-0.1**
	baz=11						
WMOK	**Wichita Mounta** baz=11,SNR=46	**2.00**	**191**	P		06 03 41.9	
WMOK				S		06 04 08.7	
	baz=11						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	**Smith Ranch, M**	**2.14**	**169**		**Pb**	**06 03 44.3**	**-1.6**
TUL1	**Leonard** baz=292	**2.20**	**110**	S	**Sb**	**06 04 14.6**	**0.0**
TUL1	**Leonard** baz=292	**2.20**	**110**	S		06 04 14.6	
CBKS	**Cedar Bluff**	**2.38**	**332**		**Pb**	**06 03 48.4**	**-1.8**
CBKS	**Cedar Bluff** baz=151	**2.38**	**332**	S	**Sn**	**06 04 17.5**	**+1.3**
CBKS	**Cedar Bluff** baz=151	**2.38**	**332**	S		06 04 17.5	
LOOK	**Love County**	**2.87**	**161**		**Pn**	**06 03 53.8**	**+0.7**
U38A	**Gravette**	**3.19**	**94**		**Pn**	**06 03 58.0**	**+0.5**
X37A	**Clayton**	**3.20**	**130**		**Pn**	**06 03 58.3**	**+0.5**
X37A	comp=Z,43nm,0.8s			IAmb_Lg		06 04 56.6	
X37A	**Clayton** baz=313,SNR=13	**3.20**	**130**	P	**Pn**	**06 03 58.3**	**+0.5**
X37A	baz=313			S	**Sn**	**06 04 37.2**	**+0.7**
X37A	**Clayton** baz=313,SNR=13	**3.20**	**130**	P		06 03 58.3	
X37A	baz=313			S		06 04 37.2	
AMTX	**Amarillo**	**3.27**	**237**	Pn	**Pn**	**06 03 58.4**	**-0.5**
AMTX	comp=Z,40nm,0.8s			IAmb_Lg		06 04 59.2	
HHAR	**Hobbs**	**3.56**	**96**		**Pn**	**06 04 02.8**	**0.0**
HHAR	comp=Z,31nm,0.8s			IAmb_Lg		06 05 06.5	
HHAR	**Hobbs** baz=278	**3.56**	**96**	S	**Sn**	**06 04 46.1**	**+0.8**
HHAR	**Hobbs** baz=278	**3.56**	**96**	S		06 04 46.1	
W39A	**Magazine**	**3.98**	**111**		**Pn**	**06 04 09.6**	**+1.1**
W39A	comp=Z,41nm,0.8s			IAmb_Lg		06 05 23.9	
N33A	**J Bar K, Exete** comp=Z,25nm,0.7s	**4.08**	**9**	IAmb_Lg		06 05 17.2	
S39A	**Bolivar**	**4.12**	**75**	Pn	**Pn**	**06 04 10.5**	**+0.1**
S39A	**Bolivar** baz=258,SNR=6.9	**4.12**	**75**	P	**Pn**	**06 04 10.2**	**-0.1**
S39A	**Bolivar** baz=258,SNR=6.9	**4.12**	**75**	P		06 04 10.2	
ABTX	**Abilene, Hawle** comp=Z,33nm,1.1s	**4.21**	**195**	IAmb_Lg		06 05 23.7	
U40A	**Yellville** comp=Z,31nm,0.7s	**4.42**	**93**	IAmb_Lg		06 05 30.0	
MIAR	**Mount Ida** comp=Z,30nm,1.0s	**4.43**	**118**	IAmb_Lg		06 05 37.0	
P38A	**Dawn** comp=Z,21nm,0.8s	**4.77**	**51**	IAmb_Lg		06 05 48.2	
MGMO	**Mountain Grove**	**4.88**	**83**		**Pn**	**06 04 21.2**	**+0.4**
X40A	**Basin Creek Fa**	**5.00**	**115**		**Pn**	**06 04 23.2**	**+0.8**
X40A	comp=Z,23nm,0.8s			IAmb_Lg		06 05 50.9	
OGNE	**Ogallala** comp=Z,25nm,0.8s	**5.13**	**327**	IAmb_Lg		06 05 57.4	
237A	**Washetta, Mont**	**5.13**	**155**	Pn	**Pn**	**06 04 24.3**	**-0.1**
WLAR	**White Oak Lake** comp=Z,24nm,0.9s	**5.23**	**124**	IAmb_Lg		06 06 02.5	
L34A	**Svendsen Farm,** comp=Z,32nm,0.7s	**5.47**	**15**	IAmb_Lg		06 06 03.5	
CCM	**Cathedral Cave** comp=Z,20nm,0.8s	**5.80**	**74**	IAmb_Lg		06 06 11.2	
SDCO	**Great Sand Dun** comp=Z,13nm,1.1s	**5.82**	**282**	IAmb_Lg		06 06 20.7	
LCAR	**Lake Charles** comp=Z,14nm,0.9s	**5.82**	**94**	IAmb_Lg		06 06 18.6	
K31A	**O'Neill** comp=Z,28nm,0.8s	**5.92**	**357**	IAmb_Lg		06 06 25.9	
435B	**Jarrell** comp=Z,15nm,0.8s	**5.94**	**174**	IAmb_Lg		06 06 21.1	
CCAR	**Cane Creek** comp=Z,20nm,0.9s	**6.04**	**116**	IAmb_Lg		06 06 29.3	
PBMO	**Poplar Bluff** comp=Z,15nm,0.7s	**6.34**	**87**	IAmb_Lg		06 06 27.0	
SCIA	**State Center** comp=Z,23nm,0.8s	**6.53**	**36**	IAmb_Lg		06 06 45.9	
143A	**Sows Landing,** comp=Z,16nm,0.9s	**6.96**	**123**	IAmb_Lg		06 07 03.9	
PHWY	**Pilot Hill** comp=Z,16nm,1.1s	**7.20**	**312**	IAmb_Lg		06 07 12.3	
S44A	**Carbondale** comp=Z,15nm,0.8s	**7.31**	**80**	IAmb_Lg		06 07 02.9	
SIUC	**Southern Illin** comp=Z,21nm,1.1s	**7.34**	**79**	IAmb_Lg		06 07 04.1	
W45A	**Hickory Valley** comp=Z,20nm,0.7s	**7.58**	**99**	IAmb_Lg		06 07 09.8	
L40A	**Anamosa** comp=Z,19nm,1.1s	**7.67**	**44**	IAmb_Lg		06 07 15.5	
SUSD	**Miller** comp=Z,13nm,0.8s	**7.74**	**357**	IAmb_Lg		06 07 25.0	
T45A	**Paducah** comp=Z,20nm,0.9s	**7.77**	**85**	IAmb_Lg		06 07 21.9	
O44A	**Mansfield** comp=Z,12nm,0.8s	**8.47**	**63**	IAmb_Lg		06 07 57.9	
WVT	**Waverly,** comp=Z,14nm,1.3s	**8.48**	**91**	IAmb_Lg		06 07 41.0	
L42A	**Oliver, Polo** comp=Z,13nm,0.7s	**8.54**	**49**	IAmb_Lg		06 07 49.2	
K22A	**Casper** comp=Z,13nm,0.9s	**8.67**	**316**	IAmb_Lg		06 08 04.8	
JFWS	**Jewell Farm** comp=Z,9.8nm,0.8s	**8.78**	**43**	IAmb_Lg		06 07 58.4	
T47A	**Sharon Grove** comp=Z,10nm,1.0s	**9.00**	**85**	IAmb_Lg		06 08 01.5	
F33A	**5 Mile Ranch,** comp=Z,8.8nm,1.0s	**9.25**	**9**	IAmb_Lg		06 08 00.4	
V48A	**Smith Brothers** comp=Z,10nm,1.1s	**9.35**	**93**	IAmb_Lg		06 08 01.1	
X48A	**Hartselle** comp=Z,7.2nm,0.9s	**9.46**	**100**	IAmb_Lg		06 08 26.8	
BLO	**Bloomington** comp=Z,9.7nm,0.7s	**9.65**	**72**	IAmb_Lg		06 08 22.3	

*IDC **25** 06:04:52.1±6.7, 31°19S×179°83W, h381km±70km, mb2.6/2, mb1 3.0/3, mb1mx2.9/27, mbtmp3.6/3, Error ellipse: s-maj=76.9km s-min=37.1km az=9.0*
ISC 25 06:04:48.0±0.9, 30°97S±0°08×179°3W±0°2, h350km, n49, σ1s60/70, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.06**	**35**	P	**Pn**	**06 05 41.6**	**+1.9**
GLKZ				S	**S**	**06 06 20.7**	**-0.6**
RIZ	**Raoul Island**	**2.07**	**34**	S	**S**	**06 06 21.9**	**+0.5**
MXZ	**Matakaoa Point**	**6.88**	**196**	P	**Pn**	**06 06 30.5**	**+1.7**
MXZ				S	**S**	**06 07 50.7**	**-0.1**
WMGZ	**Waiomatatini S**	**7.10**	**195**	P	**Pn**	**06 06 36.1**	**+4.7**
WMGZ				S	**S**	**06 07 58.0**	**+2.5**
HAZ	**Te Kaha**	**7.20**	**199**	P	**Pn**	**06 06 34.3**	**+1.8**
HAZ				S	**S**	**06 07 57.9**	**+0.3**
PKGZ	**Pakihiroa**	**7.25**	**197**	P	**Pn**	**06 06 34.3**	**+1.2**
PKGZ				S	**S**	**06 07 58.0**	**-0.8**
WCZ	**Waipu Caves**	**7.29**	**225**	P	**Pn**	**06 06 37.8**	**+4.2**
PUZ	**Puketiti**	**7.38**	**195**	P	**Pn**	**06 06 38.4**	**+3.8**
PUZ				S	**S**	**06 08 00.4**	**-1.2**
RUGZ	**Raukumara Rang**	**7.42**	**199**	P	**Pn**	**06 06 37.6**	**+2.3**
RUGZ				S	**S**	**06 08 03.8**	**+1.1**
TWGZ	**Tauwhareparae**	**7.54**	**197**	P	**Pn**	**06 06 35.8**	**-0.8**
TWGZ				S	**S**	**06 08 06.3**	**+1.2**
CNGZ	**Carnagh Statio**	**7.78**	**195**	P	**Pn**	**06 06 42.3**	**+2.9**
MWZ	**Matawai**	**7.81**	**199**	P	**Pn**	**06 06 41.3**	**+1.5**
MWZ				S	**S**	**06 08 10.5**	**-0.4**
TKGZ	**Te Karaka**	**7.83**	**197**	P	**Pn**	**06 06 41.3**	**+1.4**
TKGZ				S	**S**	**06 08 10.1**	**-1.1**
URZ	**Urewera** 2.8nm,0.3s,baz=121,slow=23,SNR=33	**7.87**	**201**	P	**Pn**	**06 06 41.2**	**+0.9**
URZ	11nm,0.3s,baz=112,slow=21,SNR=6.1			S	**S**	**06 08 09.2**	**-2.8**
URZ	**Urewera**	**7.87**	**201**	P	**Pn**	**06 06 41.2**	**+0.9**
URZ				S	**S**	**06 08 10.8**	**-1.2**
RIGZ	**Rimuhau**	**8.10**	**197**	P	**Pn**	**06 06 43.0**	**-0.2**
RIGZ				S	**S**	**06 08 14.8**	**-2.4**
MUGZ	**Murupara**	**8.17**	**202**	P	**Pn**	**06 06 45.5**	**+1.4**
MUGZ				S	**S**	**06 08 18.1**	**-0.6**
RTZ	**Ruatahuna**	**8.23**	**201**	P	**Pn**	**06 06 45.8**	**+1.0**
RTZ				S	**S**	**06 08 18.9**	**-1.3**
SNGZ	**Shannon Statio**	**8.28**	**199**	P	**Pn**	**06 06 46.8**	**+1.3**
SNGZ				S	**S**	**06 08 21.0**	**-0.2**
RAHZ	**Arahi**	**8.48**	**200**	P	**P**	**06 06 49.4**	**-1.0**
RAHZ				S	**S**	**06 08 23.8**	**-1.6**
MTHZ	**Maungataniwha**	**8.49**	**201**	P	**P**	**06 06 50.3**	**-0.3**
MTHZ				S	**S**	**06 08 23.8**	**-2.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**8.50**	**209**	P	**P**	**06 06 51.7**	**+1.1**
MRHZ	**Matea Rd**	**8.61**	**203**	P	**P**	**06 06 51.9**	**0.0**
MRHZ				S	**S**	**06 08 25.4**	**-3.1**
NMHZ	**Naumai**	**8.73**	**201**	P	**Pn**	**06 06 52.0**	**+1.3**
NMHZ				S	**S**	**06 08 31.9**	**+0.9**
ARHZ	**Aropaoanui**	**8.83**	**199**	P	**P**	**06 06 54.4**	**+0.2**
BKZ	**Black Stump Fm**	**8.89**	**202**	P	**P**	**06 06 54.9**	**-0.1**
HIZ	**Hauiti**	**8.95**	**211**	P	**P**	**06 06 59.3**	**+3.8**
MCHZ	**McNeill Hill**	**9.08**	**200**	P	**P**	**06 06 57.1**	**+0.1**
KWHZ	**Kaweka Forest**	**9.15**	**201**	P	**P**	**06 06 57.8**	**0.0**
OTVZ	**Oturere**	**9.17**	**206**	P	**P**	**06 06 57.6**	**-0.6**
SNVZ	**South Ngauruho**	**9.20**	**206**	P	**P**	**06 06 59.1**	**+0.6**
FWVZ	**Far West T-bar**	**9.29**	**206**	P	**P**	**06 07 00.6**	**+0.9**
BHHZ	**Black Hill Sta**	**9.32**	**203**	P	**P**	**06 06 59.0**	**-0.8**
WNVZ	**Wahianoa**	**9.34**	**205**	P	**Pn**	**06 06 59.0**	**+0.9**
KAHZ	**Kahuranaki**	**9.35**	**199**	P	**P**	**06 06 59.9**	**-0.2**
MOVZ	**Moawhango**	**9.36**	**204**	P	**P**	**06 07 00.2**	**0.0**
KRHZ	**Kereru**	**9.36**	**201**	P	**Pn**	**06 06 58.0**	**-0.2**
PXZ	**Pawanui**	**9.58**	**198**	P	**P**	**06 07 02.4**	**-0.1**
PNHZ	**Pukenui**	**9.66**	**201**	P	**Pn**	**06 07 02.6**	**+0.8**
TSZ	**Takapari Road**	**9.87**	**202**	P	**P**	**06 07 05.2**	**-0.7**
DVHZ	**Dannevirke**	**10.03**	**200**	P	**P**	**06 07 07.6**	**0.0**
TIWZ	**Tintock**	**10.55**	**201**	P	**P**	**06 07 13.3**	**-0.1**
MTW	**Mount Morrison**	**11.02**	**201**	P	**P**	**06 07 18.9**	**+0.4**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=112,slow=7.1,SNR=1.4	**41.99**	**268**	P	**P**	**06 12 03.8**	**-2.5**
ASAR	0.2nm,0.4s,baz=100,slow=4.8,SNR=2.2			PcP	**sP**	**06 13 53.3**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=111,slow=8.0,SNR=7.3	**43.03**	**273**	P	**P**	**06 12 12.3**	**-2.3**
FINES	**FINESS Array B** 4.3nm,0.5s,baz=52,slow=4.2,SNR=29	**145.29**	**339**	PKPbc	**PKPbc**	**06 23 44.1**	**-0.1**
NOA	**NORSAR Array B** 1.1nm,0.7s,baz=15,slow=4.1,SNR=3.6	**149.13**	**350**	PKPbc	**PKPbc**	**06 23 55.0**	**+0.3**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=63,slow=2.6,SNR=4.0	**151.07**	**321**	PKPbc	**PKPbc**	**06 23 59.8**	**+0.3**
BRTR	**Keskin Array B** 1.0nm,0.5s,baz=311,slow=37,SNR=2.5	**151.90**	**297**	PKPbc	**PKPbc**	**06 24 02.1**	**+0.2**

*TAP **25** 06:20:21.4, 24°60N×122°34E, h11km, ML3.1, C*
*JMA **25** 06:20:22.4, 24°56N×122°32E, h24km±2km, M2.7*
ISC 25 06:20:20.7±1.0, 24°60N±0°02×122°41E±0°02, h9km±9km, n72, σ0s59/134, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=270	**0.51**	**271**	*i* P	**Pg**	**06 20 29.8**	**-0.7**
TWC				*i* S	**Sg**	**06 20 37.5**	**+0.3**
	baz=270						
JYNG	**Yonagunijimaku**	**0.51**	**107**	P	**Pn**	**06 20 33.6**	**-0.6**
TWB1	**Santiao Chiao** baz=322	**0.56**	**317**	*i* P	**Pb**	**06 20 32.0**	**-0.6**
TWB1				S	**Sb**	**06 20 40.1**	**-0.6**
	baz=322						
YOJ	**Yonaguni jima**	**0.57**	**104**	P	**Pn**	**06 20 34.6**	**-0.3**
YOJ				S	**Sn**	**06 20 43.3**	**-1.1**
YOJ	**Yonaguni jima** baz=103	**0.57**	**104**	P	**Pn**	**06 20 34.7**	**-0.2**
YOJ				*e*S	**Sn**	**06 20 43.6**	**-0.8**
	baz=103						
NTC	**Toucheng** baz=298	**0.58**	**296**	*i* P	**Pg**	**06 20 31.9**	**0.0**
NTC				S	**Sb**	**06 20 40.9**	**-0.5**
	baz=298						
EWUT	**Wuta** baz=262	**0.59**	**255**	*i* P	**Pg**	**06 20 32.0**	**-0.1**
EWUT				S	**Sg**	**06 20 40.2**	**+0.3**
	baz=262						
NDS	**Dongshan** baz=273	**0.63**	**273**	*i* P	**Pg**	**06 20 32.6**	**-0.3**
NDS				*i* S	**Sg**	**06 20 40.9**	**-0.2**
	baz=273						
TIPB	**Shuangxi** baz=300	**0.64**	**305**	*i* P	**Pg**	**06 20 33.1**	**0.0**
TIPB				S	**Sb**	**06 20 42.6**	**-0.7**
	baz=300						
TWE	**Neicheng** baz=281	**0.68**	**280**	*i* P	**Pg**	**06 20 33.5**	**-0.4**
TWE				*i* S	**Sg**	**06 20 43.5**	**+0.7**
	baz=281						
NWF	**Wu-fen Shan** baz=313	**0.74**	**310**	*i* P	**Pb**	**06 20 36.3**	**+0.6**
NWF				*i* S	**Sb**	**06 20 46.2**	**+0.3**
	baz=313						
WFSB	**Wu-fen Shan** baz=313	**0.74**	**310**	P	**Pn**	**06 20 36.4**	**-0.9**
WFSB				S	**Sb**	**06 20 45.7**	**-0.1**
	baz=313						
ENTT	**Nioudou** baz=264	**0.77**	**273**	*i* P	**Pg**	**06 20 35.2**	**-0.2**
ENTT				S	**Sg**	**06 20 45.5**	**0.0**
	baz=264						
TNOU	**National Taiwa** baz=329	**0.79**	**314**	P	**Pb**	**06 20 37.1**	**+0.4**
TNOU				S	**Sb**	**06 20 47.9**	**+0.4**
	baz=329						
NDT	**Datong Townshi** baz=270	**0.81**	**270**	*i* P	**Pg**	**06 20 36.2**	**-0.1**
NDT				*i* S	**Sg**	**06 20 46.8**	**-0.1**
	baz=270						
ETL	**Fush Village** baz=245	**0.84**	**239**	P	**Pg**	**06 20 36.4**	**-0.4**
ETL				*e*S	**Sb**	**06 20 48.6**	**-0.1**
	baz=245						
TWA	**Mucha** baz=299	**0.84**	**297**	*i* P	**Pb**	**06 20 37.3**	**-0.1**
TWA				S	**Sg**	**06 20 47.8**	**+0.1**
	baz=299						
NWLT	**Wulai** baz=273	**0.84**	**282**	*i* P	**Pg**	**06 20 37.0**	**+0.1**
NWLT				S	**Sg**	**06 20 47.5**	**-0.4**
	baz=273						
NACB	**Ninganchiao** baz=237	**0.85**	**240**	P	**Pg**	**06 20 36.8**	**-0.2**
NACB				S	**Sg**	**06 20 46.8**	**-1.4**
	baz=237						
NHDH	**Xindian Distri** baz=288	**0.88**	**295**	P	**Pb**	**06 20 38.0**	**-0.1**
NHDH	

	baz=301							
TWS1				S		Sn	06 20 56.1	+0.3
	baz=301							
NTST	**Danshui**	**1.03**	**303**	S		Sn	06 20 55.4	-0.5
	baz=305							
PCYT	**Pengchaiyu**	**1.07**	**344**	*i* P		Pb	06 20 41.3	-0.1
	baz=348							
PCYT				*e*S		Sn	06 20 56.6	-0.2
	baz=348							
FUSS	**Fushou**	**1.11**	**252**	*i* P		Pg	06 20 41.8	-0.3
	baz=250							
FUSS				S		Sg	06 20 56.4	-0.3
	baz=250							
WHF	**Hehuan Shan**	**1.13**	**247**	*i* P		Pg	06 20 42.5	0.0
	baz=254							
WHF				S		Sb	06 20 58.0	+0.3
	baz=254							
TWT	**Tachien**	**1.17**	**253**	*e*P		Pn	06 20 44.1	+0.7
	baz=252							
ESL	**Shilin**	**1.18**	**229**	*i* P		Pb	06 20 43.1	-0.2
	baz=225							
ESL				*e*S		Sb	06 20 58.0	-0.6
	baz=225							
TDCB	**Techi**	**1.19**	**253**	P		Pg	06 20 44.2	+0.7
	baz=252							
IRIF	**Iriomote-Funau**	**1.24**	**102**	P		Pg	06 20 45.3	+0.9
IRIF				S		Sn	06 21 02.6	+1.7
CHGB	**Renai**	**1.24**	**245**	P		Pn	06 20 44.5	+0.1
	baz=222							
CHGB				*e*S		Sg	06 21 01.4	+0.6
	baz=222							
LIOB	**Emei**	**1.27**	**272**	*i* P		Pg	06 20 45.7	+0.7
	baz=271							
LIOB				*i* S		Sn	06 21 02.1	+0.4
	baz=271							
NSTT	**Nanjuang**	**1.28**	**272**	*i* P		Pg	06 20 45.9	+0.7
	baz=270							
NSTT				*i* S		Sn	06 21 01.9	-0.1
	baz=270							
OWD	**Renai**	**1.29**	**240**	*i* P		Pg	06 20 45.9	+0.4
	baz=219							
OWD				*e*S		Sb	06 21 01.9	-0.1
	baz=219							
WHP	**Taichung City**	**1.37**	**257**	*i* P		Pg	06 20 48.0	+1.1
	baz=255							
WHP				S		Sn	06 21 04.8	+0.4
	baz=255							
HATJ	**Hateruma jima**	**1.39**	**113**	P		Pg	06 20 47.7	+0.4
HATJ				S		Sg	06 21 05.8	+0.5
HGSD	**Ruisui**	**1.42**	**219**	P		Pn	06 20 47.0	+0.3
	baz=200							
HGSD				*e*S		Sn	06 21 04.1	-1.3
	baz=200							
WCS	**Beigang Elemen**	**1.47**	**249**	*e*P		Pb	06 20 48.5	+0.4
	baz=254							
WCS				*e*S		Sb	06 21 07.6	+0.7
	baz=254							
EHY	**Hungye**	**1.47**	**223**	*i* P		Pn	06 20 47.5	+0.1
	baz=219							
EHY				*e*S		Sn	06 21 05.8	-0.9
	baz=219							
NMLH	**Miaoli**	**1.47**	**268**	P		Pg	06 20 49.3	+0.4
	baz=282							
NMLH				S		Sg	06 21 08.6	+0.6
	baz=282							
JKRS	**Kuro-shima**	**1.51**	**103**	P		Pg	06 20 49.3	-0.3
JKRS				*e*S		Sg	06 21 09.1	0.0
TWQ1	**Liyutan**	**1.51**	**261**	P		Pg	06 20 49.6	0.0
	baz=277							
TWQ1				*e*S		Sg	06 21 10.3	+1.1
	baz=277							
SMLT	**Sun Moon Lake**	**1.55**	**243**	*i* P		Pg	06 20 51.1	+0.7
	baz=225							
SSLB	**Suanglung**	**1.55**	**239**	P		Pb	06 20 49.8	+0.2
	baz=220							
SSLB				S		Sb	06 21 09.7	+0.3
	baz=220							
YULB	**Yu-li**	**1.57**	**220**	P		Pn	06 20 48.8	0.0
	baz=217							
YULB				S		Sn	06 21 08.4	-0.9
	baz=217							
TYC	**Yuchr**	**1.57**	**244**	*i* P		Pg	06 20 51.5	+0.6
	baz=248							
TYC				S		Sb	06 21 10.2	+0.2
	baz=248							
EYUL	**Yuli**	**1.59**	**219**	*e*P		Pb	06 20 50.2	-0.1
	baz=236							
JIJ	**Ishigaki jima**	**1.60**	**98**	P		Pb	06 20 50.5	+0.1
JIJ				S		Sb	06 21 10.9	+0.2
TWF1	**Yuli**	**1.60**	**219**	*i* P		Pn	06 20 48.8	-0.4
	baz=216							
TWF1				*i* S		Sn	06 21 09.6	-0.4
	baz=216							
FULB	**Fuli**	**1.73**	**216**	P		Pn	06 20 51.2	+0.4
	baz=198							
FULB				*e*S		Sn	06 21 13.3	+0.2
	baz=198							
JISG	**Ishigakijimahi**	**1.73**	**90**	P		Pb	06 20 52.7	0.0
JISG				S		Sg	06 21 16.1	-0.4
ALS	**Alishan**	**1.82**	**234**	*i* P		Pb	06 20 54.2	-0.1
	baz=215							
ALS				*e*S		Sn	06 21 15.5	-0.3
	baz=215							
CHN5	**Tsauling**	**1.87**	**238**	*i* P		Pb	06 20 55.8	+0.7
	baz=218							
CHN5				*e*S		Sb	06 21 19.1	+0.6
	baz=218							
EDH	**Donghe**	**1.91**	**212**	P		Pn	06 20 53.6	+0.3
	baz=196							
EDH				S		Sn	06 21 15.6	-1.9
	baz=196							
STYH	**Taoyuan**	**2.06**	**227**	P		Pn	06 20 55.5	0.0
	baz=212							
CHN4	**Tsaushan**	**2.07**	**234**	*i* P		Pb	06 20 58.8	+0.4
	baz=214							
CHN4				*e*S		Sb	06 21 24.1	-0.2
	baz=214							
JTJ	**Tarama**	**2.09**	**88**	S		Sb	06 21 24.8	0.0
WTP	**Ta-pu**	**2.12**	**231**	*i* P		Pb	06 20 59.4	0.0
	baz=211							
WTP				*e*S		Sb	06 21 24.8	-1.0
	baz=211							
TWK	**Hsinying**	**2.20**	**233**	P		Pn	06 20 58.9	+1.5
	baz=230							
TWK				*i* S		Sb	06 21 29.1	+1.1
	baz=230							
SLGT	**Liugui**	**2.27**	**226**	*i* P		Pb	06 21 01.0	-0.8
	baz=211							
SLGT				*i* S		Sb	06 21 30.2	+0.2
	baz=211							
MASBT	**Mashibuluo**	**2.56**	**220**	*e*S		Sb	06 21 36.3	-2.1
	baz=217							
EAST	**Anshuo**	**2.63**	**213**	*e*P		Pn	06 21 04.4	+1.1
	baz=213							

IDC ***25*** *06:33:00.5±3.2,* **54°.14N×86°.94E, h0km, mb1 2.8**/2, **mb1mx2.7**/37, **mbtmp2.8**/2, **ML2.5**/2, *Error ellipse:* **s-maj=27.0km s-min=16.9km az=62.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**262**	*i*				06 41 46.3	
	baz=79,slow=314,SNR=0.8								
ZALV	**Zalesovo Beam**	**1.26**	**262**	Pg		Pg	Pg	06 33 23.5	-1.2
	0.4nm,0.3s,baz=79,slow=17,SNR=2.0								
ZALV				Lg		Lg	Lg	06 33 41.4	
	0.9nm,0.3s,baz=81,slow=29,SNR=3.7								
KURBB	**Kurchatov Arra**	**6.23**	**239**	Pn		Pn	Pn	06 34 35.2	+1.5
	0.1nm,0.3s,baz=54,slow=13,SNR=4.9								
KURBB				Lg		Lg	Lg	06 36 16.6	
	0.1nm,0.3s,baz=65,slow=33,SNR=1.7								
MKAR	**Makanchi Array**	**7.92**	**204**	Pn		Pn	Pn	06 34 57.6	+0.8
	0.1nm,0.3s,baz=26,slow=12,SNR=4.1								
MKAR				Sn		Sn	Sn	06 36 26.8	-0.4
	0.1nm,0.3s,baz=21,slow=23,SNR=3.5								
MKAR				Lg		Lg	Lg	06 37 10.3	
	0.1nm,0.3s,baz=31,slow=34,SNR=1.4								

ANF 25 06:43:08.8±0.8, 36°.84N×98°.29W, h4km±6km, ML3.5/12, **Error ellipse: s-maj=4.9km s-min=2.7km az=51.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.73**	**232**	P		P	Pg	06 43 22.7	-0.2
	baz=51,SNR=16								
U32A	**Winter Ranch,**	**0.73**	**232**	P		P		06 43 22.7	
	baz=51,SNR=16								
T35B	**Sooner Cattle**	**1.43**	**86**	P		P	Pn	06 43 34.8	-0.6
	baz=267,SNR=64								
T35B				S		S	Sb	06 43 53.9	-0.6
	baz=267								
T35B	**Sooner Cattle**	**1.43**	**86**	P		P		06 43 34.8	
	baz=267,SNR=64								
T35B				S		S		06 43 53.9	
	baz=267								
OKCFA	**Oklahoma City**	**1.57**	**154**	P		P	Pn	06 43 37.3	-0.2
	baz=335,SNR=6.5								
OKCFA				S		S	Sn	06 43 58.4	+0.1
	baz=335								
OKCFA	**Oklahoma City**	**1.57**	**154**	P		P		06 43 37.3	
	baz=335,SNR=6.5								
OKCFA				S		S		06 43 58.4	
	baz=335								
R32A	**Long Quarter,**	**1.62**	**348**	P		P	Pn	06 43 38.3	+0.2
	baz=168,SNR=23								
R32A				S		S	Sb	06 44 00.2	+0.2
	baz=168								
R32A	**Long Quarter,**	**1.62**	**348**	P		P		06 43 38.3	
	baz=168,SNR=23								
R32A				S		S		06 44 00.2	
	baz=168								
WMOK	**Wichita Mounta**	**2.13**	**191**	P		P	Pn	06 43 45.3	+0.1
	baz=11,SNR=36								
WMOK	**Wichita Mounta**	**2.13**	**191**	P		P		06 43 45.3	
	baz=11,SNR=36								
TUL1	**Leonard**	**2.22**	**114**	P		P	Pn	06 43 46.3	0.0
	baz=296,SNR=22								
TUL1				S		S	Sb	06 44 17.3	+0.1
	baz=296								
TUL1	**Leonard**	**2.22**	**114**	P		P		06 43 46.3	
	baz=296,SNR=22								
TUL1				S		S		06 44 17.3	
	baz=296								
CBKS	**Cedar Bluff**	**2.28**	**330**	P		P	Pn	06 43 47.7	+0.4
	baz=150,SNR=16								
CBKS				S		S	Sn	06 44 17.0	+1.2
	baz=150								
CBKS	**Cedar Bluff**	**2.28**	**330**	P		P		06 43 47.7	
	baz=150,SNR=16								
CBKS				S		S		06 44 17.0	
	baz=150								
U38A	**Gravette**	**3.17**	**96**	P		P	Pn	06 43 59.4	+0.1
	baz=278								
U38A	**Gravette**	**3.17**	**96**	P		P		06 43 59.4	
	baz=278								
X37A	**Clayton**	**3.27**	**133**	P		P	Pn	06 44 00.8	+0.1
	baz=314,SNR=19								
X37A	**Clayton**	**3.27**	**133**	P		P		06 44 00.8	
	baz=314,SNR=19								
HHAR	**Hobbs**	**3.55**	**98**	P		P	Pn	06 44 04.7	+0.1
	baz=280								
HHAR	**Hobbs**	**3.55**	**98**	P		P		06 44 04.7	
	baz=280								
W39A	**Magazine**	**4.00**	**113**	P		P	Pn	06 44 11.0	+0.1
	baz=296,SNR=9.9								
W39A	**Magazine**	**4.00**	**113**	P		P		06 44 11.0	
	baz=296,SNR=9.9								
S39A	**Bolivar**	**4.05**	**76**	P		P	Pn	06 44 11.5	-0.1
	baz=259,SNR=12								
S39A	**Bolivar**	**4.05**	**76**	P		P		06 44 11.5	
	baz=259,SNR=12								
BGNE	**Belgrade**	**4.57**	**1**	P		P	Pn	06 44 18.6	0.0
	baz=181,SNR=14								
BGNE	**Belgrade**	**4.57**	**1**	P		P		06 44 18.6	
	baz=181,SNR=14								
X40A	**Basin Creek Fa**	**5.02**	**116**	P		P	Pn	06 44 25.2	+0.4
	baz=300,SNR=9.9								
X40A	**Basin Creek Fa**	**5.02**	**116**	P		P		06 44 25.2	
	baz=300,SNR=9.9								
X40A				P		P		06 44 25.2	
	baz=300,SNR=9.9								

INET ***25*** *06:43:21.5, 9°.57N×84°.14W, h32km, MW3.5*
UPA 25 06:43:25.5±1.9, 9°.58N×84°.11W, h18km±10km, MW3.9, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.42**	**359**	*e*P		P	Pb	06 43 34.6	+0.1
HDC				*e*S		S	Sn	06 43 42.8	-1.4
DRK0	**Durika**	**0.91**	**110**	*i* P		P	Pb	06 43 41.7	-1.2
DRK0				*e*S		S	Sb	06 43 54.9	+0.2
JTS	**Las Juntas de**	**1.09**	**310**	*i* P		P	Pb	06 43 44.3	-1.6
JTS				*e*S		S	Sb	06 43 59.6	-0.3
PTJ1	**Puerto Jimnez**	**1.31**	**143**	*e*P		P	Pn	06 43 47.9	-1.1
PTJ1				*e*S		S	Sg	06 44 07.5	-0.4
PIRO	**Carate, Puerto**	**1.40**	**147**	*e*P		P	Pn	06 43 49.0	-0.7
PIRO				*e*S		S	Sb	06 44 08.8	+0.1
BC3P	**Paso Ancho**	**1.66**	**117**	*e*P		P	Pn	06 43 53.0	-1.0
BCO2	**Palmira**	**1.78**	**119**	*e*P		P	Pn	06 43 54.2	-1.3
BCO2				*e*S		S	Sn	06 44 15.0	-2.8
PTAR3	**Potrerillos Ar**	**1.82**	**119**	*e*P		P	Pn	06 43 56.4	+0.3
LNBQ3	**Los Naranjos,**	**1.82**	**115**	*e*P		P	Pn	06 43 55.7	-0.4

IDC ***25*** *06:46:23.8±1.8, 29°.77S×177°.34E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/35, mbtmp4.0/4, ML4.7/2, Error ellipse: s-maj=48.1km s-min=28.7km az=6.0*
WEL ***25*** *06:46:37.8±1.1, 31°.5±11°×17°.9E±1°.5, h13km±13km, M4.7/17, mB4.8/4, ML5.0/17, MLv4.9/17, Mw(mB)4.0/4, Error ellipse: s-maj=0.0km s-min=0.0km az=127.1*
ISC 25 06:46:35.6±2.3, 30°.75±0°.1×178°.4E±0°.2, h10km, n30, σ1°.96/46, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.51**	**67**	P		P	Pn	06 47 29.8	-0.4
GLKZ				S		S	Sn	06 48 11.7	-0.2
RIZ	**Raoul Island**	**3.51**	**66**	P		P	Pn	06 47 30.7	+0.4
RAO	**Raoul Island**	**3.52**	**67**	Pn		Pn	Pn	06 47 29.0	-1.3
	176nm,0.3s,baz=36,slow=15,SNR=11								
RAO				Sn		Sn	Sn	06 48 12.8	+0.8
	72nm,0.3s,baz=85,slow=22,SNR=1.3								
GRZ	**Great Barrier**	**6.05**	**203**	S		S	Sn	06 49 17.3	+2.9
MXZ	**Matakaoa Point**	**6.84**	**181**	S		S	Sn	06 49 35.9	+2.0
HAZ	**Te Kaha**	**7.05**	**184**	P		P	Pn	06 48 18.6	-0.3
HAZ				S		S	Sn	06 49 43.6	+4.5
WMGZ	**Waiomatatini S**	**7.10**	**180**	P		P	Pn	06 48 20.2	+0.7
WMGZ				S		S	Sn	06 49 40.6	+0.4
PKGZ	**Pakihiroa**	**7.17**	**182**	P		P	Pn	06 48 21.3	-0.4
PKGZ				S		S	Sn	06 49 42.3	+0.2
RUGZ	**Raukumara Rang**	**7.27**	**184**	P		P	Pn	06 48 23.4	+1.4
RUGZ				S		S	Sn	06 49 44.6	0.0
TWGZ	**Tauwhareparae**	**7.46**	**182**	P		P	Pn	06 48 26.8	+2.2
TWGZ				S		S	Sn	06 49 51.4	+2.1
URZ	**Urewera**	**7.61**	**188**	Pn		Pn	Pn	06 48 26.8	+0.2
	2.1nm,0.3s,baz=300,slow=23,SNR=9.5								
URZ				Sn		Sn	Sn	06 49 54.7	+1.9
	2.1nm,0.3s,baz=120,slow=24,SNR=2.0								
URZ	**Urewera**	**7.61**	**188**	P		P	Pn	06 48 26.9	+0.4
URZ				S		S	Sn	06 49 54.9	+2.1
MWZ	**Matawai**	**7.64**	**185**	P		P	Pn	06 48 27.2	+0.2
MWZ				S		S	Sn	06 49 56.5	+2.7
TKGZ	**Te Karaka**	**7.73**	**183**	P		P	Pn	06 48 26.9	-1.3
TKGZ				S		S	Sn	06 49 54.1	-1.7
MUGZ	**Murupara**	**7.87**	**189**	P		P	Pn	06 48 31.1	+0.9
MUGZ				S		S	Sn	06 49 59.5	+0.3
RTZ	**Ruatahuna**	**7.98**	**188**	P		P	Pn	06 48 31.4	-0.3
RTZ				S		S	Sn	06 50 01.6	-0.5
SNGZ	**Shannon Statio**	**8.10**	**186**	P		P	Pn	06 48 32.1	-1.3
SNGZ				S		S	Sn	06 50 04.8	-0.3
MTHZ	**Maungataniwha**	**8.23**	**188**	P		P	Pn	06 48 35.7	+0.6
MTHZ				S		S	Sn	06 50 08.8	+0.7
RAHZ	**Arahi**	**8.26**	**187**	P		P	Pn	06 48 36.1	+0.6
RAHZ				S		S	Sn	06 50 08.0	-1.0
HIZ	**Hauiti**	**8.31**	**200**	P		P	Pn	06 48 43.6	+7.3
NMHZ	**Naumai**	**8.47**	**188**	P		P	Pn	06 48 39.1	+0.6
NMHZ				S		S	Sn	06 50 12.7	-1.6
OTVZ	**Oturere**	**8.73**	**194**	P		P	Pn	06 48 43.2	+1.1
OTVZ				S		S	Sn	06 50 23.9	+3.3
SNVZ	**South Ngauruho**	**8.76**	**194**	P		P	Pn	06 48 43.6	+1.1
BHHZ	**Black Hill Sta**	**8.97**	**192**	P		P	Pn	06 48 44.2	-1.1
BHHZ				S		S	Sn	06 50 24.1	-2.3
KRHZ	**Kereru**	**9.07**	**190**	P		P	Pn	06 48 45.2	-1.4
KRHZ				S		S	Sn	06 50 23.8	-5.0
PXZ	**Pawanui**	**9.39**	**187**	P		P	Pn	06 48 48.2	-2.8
PXZ				S		S	Sn	06 50 30.6	-6.0
PRWZ	**Pori Road**	**10.02**	**191**	P		P	Pn	06 48 50.3	-9.3
STKA	**Stephens Creek**	**31.37**	**258**	P		P	P	06 52 41.7	-15
	2.3nm,0.5s,baz=100,slow=8.9,SNR=6.5								
ASAR	**Alice Springs**	**39.98**	**269**	P		P	P	06 53 52.1	-19
	0.8nm,0.8s,baz=105,slow=7.4,SNR=7.3								
WRA	**Warramunga Arr**	**41.00**	**275**	P		P	P	06 54 00.2	-19
	0.8nm,0.5s,baz=112,slow=7.8,SNR=11								

IDC ***25*** *06:53:15.8±0.6, 13°.38N×145°.86E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.1/53, mbtmp4.1/17, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=23.4km s-min=17.2km az=103.0*
NEIC ***25*** *06:53:18.3±1.1, 13°.26N±0°.09×145°.9E±0°.2, h10km±1km, mb4.6/37, Error ellipse: s-maj=32.1km s-min=15.7km az=94.0*
ISC 25 06:53:17.8±0.6, 13°.29N±0°.09×145°.8E±0°.1, h10km, n66, σ0°.72/65, mb4.5/35, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**3.03**	**358**			Pn	**Pn**	**06 54 06.4**	**+0.5**
PATS	**Pohnpei**	**13.87**	**116**			Pn	Pn	06 56 29.6	-4.9
MJAR	**Matsushiro Arr**	**24.14**	**345**			LR	LR	07 07 23.2	
	comp=Z,64nm,20.3s,baz=150,slow=35								
KSRS	**Korea Array**	**28.88**	**330**	P		P	**P**	**06 59 16.4**	**-0.3**
	0.4nm,0.3s,baz=198,slow=39,SNR=1.9								
WR0	**Warramunga Arr**	**34.86**	**199**	P		P	**P**	**07 00 09.3**	**0.0**
WB2	**Warramunga Arr**	**34.90**	**199**	P		P	**P**	**07 00 09.7**	**0.0**
WB2						IAmb	IAmb	07 00 28.6	
	comp=Z,20nm,1.5s								
WRA	**Warramunga Arr**	**34.91**	**199**	P		P	**P**	**07 00 10.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=40,slow=7.5,SNR=3.4								
WRA				PcP		PcP	**PcP**	**07 02 43.1**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=19,slow=3.8,SNR=4.8								
FITZ	**Fitzroy Crossi**	**37.00**	**213**	P		P	**P**	**07 00 27.3**	**-0.5**
FITZ						IAmb	IAmb	07 00 44.3	
	comp=Z,11nm,1.3s								
ASAR	**Alice Springs**	**38.54**	**198**	P		P	**P**	**07 00 40.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=24,slow=12,SNR=5.4								
STKA	**Stephens Creek**	**45.09**	**185**	P		P	**P**	**07 01 33.8**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=351,slow=10,SNR=3.3								
CMAR	**Chiang Mai Arr**	**45.29**	**283**	P		P	**P**	**07 01 35.8**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=80,slow=5.7,SNR=5.4								
BBOO	**Buckleboo**	**46.78**	**191**	P		P	**P**	**07 01 48.1**	**+0.5**
SONM	**Songino Array**	**47.51**	**325**	P		P	**P**	**07 01 53.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=132,slow=7.8,SNR=2.1								
MK31	**Makanchi Array**	**62.35**	**316**	P		P	**P**	**07 03 40.8**	**+0.2**
MKAR	**Makanchi Array**	**62.35**	**316**	P		P	**P**	**07 03 40.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=90,slow=8.7,SNR=9.8								
MKAR	**Makanchi Array**	**62.35**	**316**	P		P	**P**	**07 03 41.4**	**+0.8**
OHAK	**Old Harbor**	**63.30**	**32**	P		P	**P**	**07 03 47.0**	**+0.3**
SVW2	**Sparrevohn**	**63.51**	**28**	P		P	**P**	**07 03 48.3**	**+0.3**
SVW2						IAmb	IAmb	07 04 12.1	
	comp=Z,5.4nm,1.3s								
KDAK	**Kodiak Island**	**63.83**	**32**	P		P	**P**	**07 03 50.5**	**+0.3**
CNPM	**China Poot**	**65.02**	**30**	P		P	**P**	**07 03 57.9**	**-0.1**
PPLA	**Purkeypile**	**65.64**	**26**	P		P	**P**	**07 04 02.1**	**0.0**
KTH	**Kantishna Hill**	**66.39**	**26**	P		P	**P**	**07 04 06.6**	**-0.3**
KTH						IAmb	IAmb	07 04 07.0	
	comp=Z,3.4nm,0.8s								
BPAW	**Bear Paw Mtn.**	**66.54**	**25**	P		P	**P**	**07 04 08.0**	**+0.2**
BPAW						IAmb	IAmb	07 04 08.3	
	comp=Z,3.7nm,0.9s								
NRIK	**Noril'sk**	**66.72**	**341**	P		P	**P**	**07 04 06.5**	**-2.2**
	comp=Z,1.9nm,0.5s,baz=72,slow=6.5,SNR=3.7								
NRIK	**Noril'sk**	**66.72**	**341**	P		P	**P**	**07 04 08.3**	**-0.4**
PWL	**Port Wells**	**66.78**	**29**	P		P	**P**	**07 04 08.7**	**-0.6**
MLY	**Manley**	**66.94**	**24**	P		P	**P**	**07 04 10.6**	**+0.3**
MLY						IAmb	IAmb	07 04 11.0	
	comp=Z,3.1nm,0.7s								
I23K	**Minto, Yukon-K**	**67.54**	**24**	P		P	**P**	**07 04 14.3**	**+0.3**
FID	**Port Fidalgo**	**67.64**	**29**	P		P	**P**	**07 04 14.5**	**-0.2**
FID						IAmb	IAmb	07 04 23.8	
	comp=Z,9.5nm,1.4s								
WRH	**Wood River Hil**	**67.86**	**25**	P		P	**P**	**07 04 15.1**	**-0.9**
WRH						IAmb	IAmb	07 04 16.0	
	comp=Z,3.1nm,0.7s								
MDM	**Murphy Dome**	**67.94**	**25**	P		P	**P**	**07 04 16.9**	**+0.3**
MDM						IAmb	IAmb	07 04 17.8	
	comp=Z,2.3nm,0.7s								
NIL	**Nilore**	**68.33**	**301**	P		P	**P**	**07 04 20.3**	**+0.7**
IL31		**68.44**	**25**	P		P	**P**	**07 04 18.0**	**-1.7**
IL31						IAmb	IAmb	07 04 18.7	
	comp=Z,2.7nm,0.8s								
ILAR	**Eielson Array**	**68.44**	**25**	P		P	**P**	**07 04 17.9**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=249,slow=6.2,SNR=27								
ILAR	**Eielson Array**	**68.44**	**25**	P		P	**P**	**07 04 18.2**	**-1.5**
PAX	**Paxson**	**68.61**	**27**	P		P	**P**	**07 04 20.8**	**-0.1**
DOT	**Dot Lake**	**69.38**	**27**	P		P	**P**	**07 04 25.3**	**-0.3**
DOT						IAmb	IAmb	07 04 25.8	
	comp=Z,3.6nm,0.9s								
SCRK	**Sand Creek**	**69.48**	**26**	P		P	**P**	**07 04 26.2**	**-0.2**
BMAR	**Burnt Mountain**	**70.02**	**23**	P		P	**P**	**07 04 30.1**	**+0.6**
BCAR	**Beaver Creek A**	**70.28**	**27**	P		P	**P**	**07 04 31.5**	**+0.3**
K27K	**Chicken**	**70.32**	**26**	P		P	**P**	**07 04 31.6**	**+0.3**
KKAR	**Karatay Array**	**70.34**	**311**	P		P	**P**	**07 04 33.6**	**+1.6**
EGAK	**Eagle**	**70.84**	**26**	P		P	**P**	**07 04 35.1**	**+0.6**
DAWY	**Dawson**	**71.49**	**27**	P		P	**P**	**07 04 38.7**	**+0.2**
HYT	**Haines Junctio**	**72.00**	**30**	P		P	**P**	**07 04 42.8**	**+1.1**
HYT						IAmb	IAmb	07 04 43.8	
	comp=Z,8.6nm,1.1s								
INK	**Inuvik**	**74.28**	**22**	P		P	**P**	**07 04 53.7**	**-1.2**
	comp=Z,3.5nm,1.0s,baz=253,slow=7.9,SNR=7.3								
DLBC	**Dease Lake**	**75.73**	**33**	P		P	**P**	**07 05 04.3**	**+0.7**
DLBC						IAmb	IAmb	07 05

OK029	**Liberty Lake**	**0.48**	**174**			**Pg**	**06 58 16.2**	**+0.1**
BLOK	**Blackwell**	**0.54**	**27**	Pg		**Pg**	**06 58 17.4**	**+0.1**
BLOK				Sg		**Sg**	**06 58 24.9**	**+0.5**
BCOK	**Bluff Creek, N**	**0.63**	**187**			**Pg**	**06 58 18.9**	**0.0**
BCOK				Sg		**Sg**	**06 58 27.5**	**+0.5**
OK031	**S. Brethren Rd**	**0.64**	**120**			**Pg**	**06 58 19.1**	**0.0**
QUOK	**Quay**	**0.67**	**99**			**Pg**	**06 58 19.5**	**-0.1**
OK030	**Cody Creek RV**	**0.69**	**120**			**Pg**	**06 58 20.0**	**-0.1**
OK030				Sg		**Sg**	**06 58 29.4**	**+0.2**
OK025	**Westminster Rd**	**0.71**	**168**	Pg		**Pg**	**06 58 20.5**	**0.0**
KAN13	**South Haven SW**	**0.73**	**3**			**Pg**	**06 58 20.9**	**0.0**
KAN14	**Manchester OK**	**0.76**	**332**			**Pg**	**06 58 21.4**	**0.0**
OK032	**Salt Plains WL**	**0.76**	**313**			**Pg**	**06 58 21.4**	**-0.1**
KAN17	**Caldwell West**	**0.79**	**346**			**Pg**	**06 58 21.9**	**-0.1**
KAN09	**Caldwell North**	**0.86**	**355**			**Pg**	**06 58 23.1**	**-0.2**
OKCFA	**Oklahoma City**	**0.86**	**176**			**Pg**	**06 58 23.2**	**-0.2**
OKCFA	comp=Z,178nm,1.0s			IAmb_Lg			06 58 34.1	
OKCFA	**Oklahoma City** baz=355,SNR=20	**0.86**	**176**	P		**Pg**	**06 58 23.2**	**-0.2**
OKCFA	**Oklahoma City** baz=355,SNR=20	**0.86**	**176**	P			06 58 23.2	
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**			**Pg**	**06 58 23.4**	**-0.2**
KS20	**Mayfield South**	**0.95**	**358**			**Pg**	**06 58 24.8**	**-0.2**
KAN10	**Anthony SW Sta**	**0.96**	**331**			**Pg**	**06 58 25.0**	**-0.2**
KAN08	**Anthony NE Sta**	**1.01**	**339**			**Pg**	**06 58 26.0**	**-0.2**
FNO	**Franklin**	**1.02**	**175**			**Pg**	**06 58 26.0**	**-0.5**
T35A	**Sooner Cattle**	**1.03**	**52**			**Pg**	**06 58 26.1**	**-0.4**
KAN16	**Harper SW Stat**	**1.04**	**335**			**Pg**	**06 58 26.5**	**-0.3**
KAN12	**Harper NE Stat**	**1.09**	**339**			**Pg**	**06 58 27.3**	**-0.3**
U32A	**Winter Ranch,**	**1.20**	**275**			**Pb**	**06 58 29.0**	**-0.5**
U32A	**Winter Ranch,** baz=94,SNR=35	**1.20**	**275**	P		**Pb**	**06 58 29.2**	**-0.4**
U32A	**Winter Ranch,** baz=94,SNR=35	**1.20**	**275**	P			06 58 29.2	
X34A	**Smith Ranch, M**	**1.69**	**189**			**Pb**	**06 58 38.1**	**+0.1**
WMOK	**Wichita Mounta**	**1.85**	**214**			**Pn**	**06 58 39.6**	**+1.0**
WMOK	**Wichita Mounta** baz=33,SNR=44	**1.85**	**214**	P		**Pn**	**06 58 39.5**	**+1.0**
WMOK	**Wichita Mounta** baz=33,SNR=44	**1.85**	**214**	P			06 58 39.5	
LOOK	**Love County**	**2.30**	**173**			**Pn**	**06 58 46.3**	**+1.6**
LOOK	comp=Z,57nm,0.9s			IAmb_Lg			06 59 22.6	
R32A	**Long Quarter,**	**2.34**	**336**			**Pn**	**06 58 46.4**	**+1.1**
X37A	**Clayton**	**2.43**	**133**	Pn		**Pn**	**06 58 47.8**	**+1.3**
X37A	comp=Z,58nm,0.7s			IAmb_Lg			06 59 24.5	
X37A	**Clayton** baz=314,SNR=22	**2.43**	**133**	P		**Pn**	**06 58 47.7**	**+1.2**
X37A	**Clayton** baz=314,SNR=22	**2.43**	**133**	P			06 58 47.7	
U38A	**Gravette**	**2.53**	**85**			**Pn**	**06 58 48.5**	**+0.5**
HHAR	**Hobbs**	**2.89**	**89**			**Pn**	**06 58 53.4**	**+0.5**
KSU1	**Kansas State U**	**2.91**	**14**	Pn		**Pn**	**06 58 54.2**	**+1.2**
Z35A	**Perchaven, San**	**2.95**	**176**			**Pn**	**06 58 54.1**	**+0.4**
CBKS	**Cedar Bluff**	**3.08**	**326**			**Pn**	**06 58 56.0**	**+0.5**
W39A	**Magazine**	**3.23**	**108**			**Pn**	**06 58 58.3**	**+0.9**
W39A	comp=Z,90nm,0.8s			IAmb_Lg			06 59 54.0	
S39A	**Bolivar**	**3.64**	**66**			**Pn**	**06 59 03.6**	**+0.4**
S39A	comp=Z,28nm,0.9s			IAmb_Lg			07 00 01.4	
S39A	**Bolivar** baz=249,SNR=25	**3.64**	**66**	P		**Pn**	**06 59 04.1**	**+0.9**
S39A	**Bolivar** baz=249,SNR=25	**3.64**	**66**	P			06 59 04.1	
MIAR	**Mount Ida**	**3.66**	**117**	Pn		**Pn**	**06 59 03.8**	**+0.5**
MIAR	comp=Z,36nm,0.9s			IAmb_Lg			07 00 10.7	
MIAR	**Mount Ida** baz=299,SNR=44	**3.66**	**117**	P		**Pn**	**06 59 04.9**	**+1.5**
MIAR	**Mount Ida** baz=299,SNR=44	**3.66**	**117**	P			06 59 04.9	
Z38A	**Mt. Pleasant**	**3.66**	**145**	Pn		**Pn**	**06 59 02.6**	**-0.9**
Z38A	comp=Z,55nm,0.7s			IAmb_Lg			07 00 07.8	
AMTX	**Amarillo**	**3.67**	**249**			**Pn**	**06 59 04.1**	**+0.5**
AMTX	comp=Z,42nm,0.7s			IAmb_Lg			07 00 07.6	
U40A	**Yellville** comp=Z,52nm,0.7s	**3.77**	**87**	IAmb_Lg			07 00 09.2	
ABTX	**Abilene, Hawle** comp=Z,50nm,0.9s	**4.05**	**206**	IAmb_Lg			07 00 17.7	
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn		**Pn**	**06 59 11.2**	**0.0**
X40A	comp=Z,45nm,0.8s			IAmb_Lg			07 00 22.1	
WHAR	**Wooly Hollow** comp=Z,32nm,0.8s	**4.37**	**102**	IAmb_Lg			07 00 30.5	
W41B	**Gary Mavity, V** baz=286,SNR=7.7	**4.43**	**103**	P		**Pn**	**06 59 14.5**	**+0.6**
W41B	**Gary Mavity, V** baz=286,SNR=7.7	**4.43**	**103**	P			06 59 14.5	
WLAR	**White Oak Lake** comp=Z,39nm,0.7s	**4.45**	**124**	IAmb_Lg			07 00 39.4	
237A	**Washetta, Mont**	**4.50**	**161**	Pn		**Pn**	**06 59 15.4**	**+0.5**
P38A	**Dawn** comp=Z,32nm,0.8s	**4.59**	**42**	IAmb_Lg			07 00 36.3	
R40A	**Maddies Statio**	**4.64**	**63**	Pn		**Pn**	**06 59 17.3**	**+0.4**
KSCO	**Kaye Shedlock'** comp=Z,41nm,0.8s	**4.88**	**305**	IAmb_Lg			07 00 55.1	
NATX	**Nacogdoches** comp=Z,22nm,1.0s	**5.09**	**151**	IAmb_Lg			07 00 58.0	
BGNE	**Belgrade**	**5.14**	**355**	Pn		**Pn**	**06 59 24.1**	**+0.3**
BGNE	comp=Z,38nm,0.8s			IAmb_Lg			07 00 57.4	
CCAR	**Cane Creek** comp=Z,42nm,0.9s	**5.27**	**115**	IAmb_Lg			07 01 03.5	
CCM	**Cathedral Cave** comp=Z,22nm,0.7s	**5.32**	**69**	IAmb_Lg			07 00 57.7	
T25A	**Trinidad**	**5.60**	**281**	Pn		**Pn**	**06 59 31.4**	**+1.1**
T25A	comp=Z,23nm,0.8s			IAmb_Lg			07 01 16.5	
PBMO	**Poplar Bluff** comp=Z,39nm,0.8s	**5.73**	**83**	IAmb_Lg			07 01 09.6	
GNAR	**Gosnell** comp=Z,37nm,0.8s	**6.08**	**91**	IAmb_Lg			07 01 21.8	
143A	**Socs Landing,** comp=Z,33nm,0.9s	**6.18**	**123**	IAmb_Lg			07 01 34.5	
PEBM	**Pemiscott Bayo** comp=Z,36nm,0.7s	**6.19**	**89**	IAmb_Lg			07 01 27.5	
K31A	**O'Neill** comp=Z,35nm,0.7s	**6.41**	**352**	IAmb_Lg			07 01 39.9	
SDCO	**Great Sand Dun**	**6.55**	**285**	Pn		**Pn**	**06 59 45.7**	**+2.3**
S44A	**Carbondale** comp=Z,28nm,0.8s	**6.76**	**76**	IAmb_Lg			07 01 44.0	
SIUC	**Southern Illin** comp=Z,25nm,0.8s	**6.80**	**75**	IAmb_Lg			07 01 46.7	
OXF	**Oxford** comp=Z,36nm,1.1s	**6.85**	**103**	IAmb_Lg			07 01 50.6	
W45A	**Hickory Valley** comp=Z,27nm,0.7s	**6.87**	**97**	IAmb_Lg			07 01 57.3	
Y45A	**Yeager Farm, C** comp=Z,18nm,1.0s	**6.97**	**108**	IAmb_Lg			07 02 06.3	
UTMT	**University of** comp=Z,35nm,0.8s	**6.99**	**87**	IAmb_Lg			07 01 56.2	
ISCO	**Idaho Springs** comp=Z,12nm,0.8s	**7.29**	**301**	IAmb_Lg			07 01 59.7	
ECSD	**EROS Data Cent**	**7.48**	**5**	Pn		**Pn**	**06 59 55.9**	**0.0**
L40A	**Anamosa**	**7.57**	**38**	Pn		**Pn**	**06 59 57.0**	**0.0**
L40A	comp=Z,19nm,0.7s			IAmb_Lg			07 02 10.6	
PLAL	**Pickwick Lake** comp=Z,16nm,1.1s	**7.80**	**97**	IAmb_Lg			07 02 21.7	
OLIL	**Olney** comp=Z,30nm,0.9s	**7.88**	**69**	IAmb_Lg			07 02 19.3	
MNTX	**Cornudas Mount**	**7.97**	**237**	Pn		**Pn**	**07 00 03.0**	**+0.4**
PHWY	**Pilot Hill** comp=Z,16nm,0.8s	**7.97**	**311**	IAmb_Lg			07 02 31.4	
O44A	**Mansfield** comp=Z,27nm,0.8s	**8.11**	**59**	IAmb_Lg			07 02 39.2	
SUSD	**Miller** comp=Z,16nm,1.0s	**8.23**	**353**	IAmb_Lg			07 02 44.4	
I37A	**Lemond, Waseca** comp=Z,17nm,0.8s	**8.34**	**21**	IAmb_Lg			07 02 34.7	
L42A	**Oliver, Polo** comp=Z,28nm,0.8s	**8.36**	**44**	IAmb_Lg			07 02 37.0	
T47A	**Sharon Grove** comp=Z,22nm,1.1s	**8.40**	**82**	IAmb_Lg			07 02 45.5	
TX32	**Lajitas Array**	**8.64**	**218**	Pn		**Pn**	**07 00 11.6**	**-0.4**
TXAR	**Lajitas Array**	**8.64**	**218**	Pn		**Pn**	**07 00 11.8**	**-0.1**
JFWS	**Jewell Farm** comp=Z,26nm,0.7s	**8.68**	**38**	IAmb_Lg			07 02 41.9	
X48A	**Hartselle** comp=Z,11nm,1.1s	**8.75**	**99**	IAmb_Lg			07 02 45.0	
M44A	**Midewin, Midew** comp=Z,23nm,0.9s	**8.98**	**53**	IAmb_Lg			07 02 51.6	
SFIN	**Lafayette** comp=Z,22nm,0.8s	**9.15**	**60**	IAmb_Lg			07 02 55.2	
WCI	**Wyandotte Cave** comp=Z,15nm,1.0s	**9.16**	**74**	IAmb_Lg			07 03 04.0	
PV13	**Radium Mtn., P** comp=Z,8.7nm,1.1s	**9.21**	**285**	IAmb_Lg			07 03 06.6	
I40A	**Norwalk** comp=Z,12nm,0.9s	**9.26**	**33**	IAmb_Lg			07 03 06.0	
PV11	**David Mesa, Pa** comp=Z,9.0nm,1.0s	**9.27**	**286**	IAmb_Lg			07 03 15.8	
RWWY	**Rawlins** comp=Z,15nm,1.1s	**9.28**	**309**	IAmb_Lg			07 03 11.4	
K43A	**Burlington** comp=Z,23nm,0.9s	**9.57**	**45**	IAmb_Lg			07 03 30.7	
F33A	**5 Mile Ranch,** comp=Z,8.4nm,0.9s	**9.60**	**5**	IAmb_Lg			07 03 09.2	
SPMN	**Marine on St.** comp=Z,19nm,1.3s	**9.62**	**20**	IAmb_Lg			07 03 20.5	
W50A	**Signal Mountai** comp=Z,9.5nm,0.8s	**9.98**	**93**	IAmb_Lg			07 03 31.0	
I42A	**Draeger Farm,**	**10.06**	**38**	Pn		**Pn**	**07 00 31.0**	**-0.2**
G40A	**Rib Lake**	**10.55**	**29**	Pn		**Pn**	**07 00 38.6**	**+0.7**

TEH ***25*** *07:16:31.5, 35°.21N × 53°.30E, h14km, ML3.8*
THR ***25*** *07:16:31.6±0.5, 35°.29N × 53°.25E, h18km±6km, ML3.8*
ISC 25 07:16:32.3±0.9, 35°.24N±0'.04 × 53°.28E±0'.03, h10km, n51,
σ1§05/53, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.30**	**299**	*e*Pg	**Pg**	**07 16 39.0**	**+0.6**
ISHM	**Shahmirzad**	**0.57**	**1**	*e*Pg	**Pg**	**07 16 43.3**	**-0.1**
ISHM	comp=Z,78μm,0.3s			*e*		07 16 52.5	
IANJ	**Anjilo**	**0.57**	**66**	*e*Pg	**Pg**	**07 16 42.3**	**-1.1**
IANJ	comp=Z,91μm,0.2s			*e*		07 16 50.9	
ISFB	**Sefidab**	**1.23**	**224**	*e*Pg	**Pn**	**07 16 54.7**	**-1.0**
ISFB	comp=Z,24μm,0.2s			*e*		07 17 15.4	
IPRN	**Peran**	**1.26**	**323**	*e*Pg	**Pg**	**07 16 56.5**	**-0.1**
IPRN	comp=Z,14μm,0.5s			*e*		07 17 18.1	
IVRN	**Varamin**	**1.29**	**260**	*e*Pg	**Pn**	**07 16 55.9**	**-0.7**
IVRN	comp=Z,31μm,0.2s			*e*		07 17 17.5	
IGLO	**Ghaloghah**	**1.34**	**19**	*e*Pg	**Pn**	**07 16 57.1**	**-0.2**
IGLO	comp=Z,18μm,0.5s			*e*		07 17 23.1	
KRSH	**Karshahi**	**1.58**	**217**	*e*Pg	**Pn**	**07 17 00.5**	**-0.1**
TEH	**Tehran**	**1.63**	**288**	*e*Pn	**Pb**	**07 17 02.3**	**-0.2**
IHSB	**Hasanabad**	**1.65**	**277**	*e*Pn	**Pn**	**07 17 01.8**	**+0.3**
IHSB	comp=Z,9μm,0.3s			*e*		07 17 27.4	
GHVR	**GHOM**	**1.80**	**246**	*e*Pg	**Pb**	**07 17 05.0**	**-0.4**
GHVR				*e*Sg	**Sg**	**07 17 29.7**	**-0.5**
GHVR	comp=E,2μm,0.3s			IAML		07 17 37.4	
GHVR	comp=N,2μm,0.5s			IAML		07 17 37.8	
GHVR	**GHOM**	**1.80**	**246**	*e*Pg	**Pb**	**07 17 05.0**	**-0.4**
IQOM	**Qom**	**1.85**	**258**	*e*Pn	**Pn**	**07 17 04.7**	**+0.3**
CHTH	**Charan**	**1.88**	**291**	*e*Pg	**Pn**	**07 17 05.3**	**+0.6**
CHTH	comp=E,349nm,0.6s			IAML		07 17 33.4	
CHTH	**Charan**	**1.88**	**291**	*e*Pg	**Pn**	**07 17 05.3**	**+0.6**
THKV	**Tehran--Karaj**	**2.07**	**290**	*e*Pn	**Pn**	**07 17 06.7**	**-0.6**
THKV				*e*Sg	**Sb**	**07 17 35.7**	**-0.2**
THKV	**Tehran--Karaj**	**2.07**	**290**	*e*Pn	**Pn**	**07 17 06.7**	**-0.6**
ANAR	**Anarak**	**2.08**	**170**	*e*Pn	**Pn**	**07 17 07.4**	**0.0**
QAMS	**Qamsar**	**2.16**	**227**	*e*Pn	**Pn**	**07 17 08.6**	**0.0**
IMHD	**Mahdasht**	**2.18**	**283**	*e*Pn	**Pn**	**07 17 10.1**	**+1.4**
IMHD	comp=Z,7μm,0.2s			*e*		07 17 43.8	
SHRO	**Shahrood**	**2.35**	**71**	*e*Pn	**Pn**	**07 17 11.7**	**+0.6**
SHRO	comp=N,202nm,0.6s			IAML		07 17 54.1	
SHRO	**Shahrood**	**2.35**	**71**	*e*Pn	**Pn**	**07 17 11.7**	**+0.6**
IKLH	**Kolahrood**	**2.38**	**217**	*e*Pn	**Pn**	**07 17 12.1**	**+0.5**
IKLH	comp=Z,10μm,0.3s			*e*		07 17 47.2	
QALM	**Alamut, Qazvin**	**2.45**	**300**	*e*Pn	**Pn**	**07 17 13.8**	**+1.2**
IZEF	**Zefreh**	**2.47**	**199**	*e*Pn	**Pn**	**07 17 12.8**	**-0.1**
IZEF	comp=Z,4μm,0.3s			*e*		07 17 53.4	
IMND	**Minoodasht**	**2.65**	**40**	*e*Pn	**Pn**	**07 17 16.5**	**+1.4**
IGZV	**Ghazvin**	**2.74**	**296**	*e*Pn	**Pb**	**07 17 19.9**	**-1.6**
TNSJ	**Nastanj**	**3.03**	**114**	*e*Pn	**Pn**	**07 17 20.8**	**+0.4**
TNSJ	comp=Z,4μm,0.4s			*e*		07 18 20.7	
ICHK	**Chekchek**	**3.13**	**162**	*e*Pn	**Pn**	**07 17 22.7**	**+0.7**
ICHK	comp=Z,4μm,0.4s			*e*		07 18 01.7	
IPIR	**Pirpir**	**3.23**	**219**	*e*Pn	**Pn**	**07 17 25.7**	**+2.3**
MRVT	**Maraveh tapeh**	**3.31**	**42**	*e*Pn	**Pn**	**07 17 24.6**	**+0.3**
MRVT	**Maraveh tapeh**	**3.31**	**42**	*e*Pn	**Pn**	**07 17 24.6**	**+0.3**
ISAD	**Sadrabad**	**3.33**	**174**	*e*Pn	**Pn**	**07 17 25.2**	**+0.4**
HAGD	**Aghdasht**	**3.42**	**264**	*e*Pn	**Pn**	**07 17 28.1**	**+2.1**
IRAM	**Ramesheh**	**3.50**	**193**	*e*Pn	**Pn**	**07 17 27.9**	**+0.8**
TKDS	**Koohdasht(Taba**	**3.57**	**116**	*e*Pn	**Pn**	**07 17 28.2**	**+0.4**
TPRV	**Parvadeh(Tabas**	**3.58**	**127**	*e*Pn	**Pn**	**07 17 28.7**	**+0.6**
TPRV	comp=Z,2μm,0.7s			*e*		07 18 46.1	
SBZV	**Sabzevar**	**3.70**	**71**	*e*Pn	**Pn**	**07 17 30.6**	**+0.8**
HSAM	**Samen**	**3.99**	**256**	*e*Pn	**Pn**	**07 17 36.4**	**+2.7**
IMEH	**Mehriz**	**4.00**	**163**	*e*Pn	**Pn**	**07 17 34.5**	**+0.6**
BMDN	**Meydan**	**4.00**	**248**	*e*Pn	**Pn**	**07 17 36.9**	**+3.1**
IBAF	**Bafgh**	**4.11**	**152**	*e*Pn	**Pn**	**07 17 36.5**	**+1.1**
ISFR	**Sfrayin**	**4.23**	**63**	*e*Pn	**Pn**	**07 17 38.6**	**+1.5**
KLNJ	**Kolanjah**	**4.45**	**199**	*e*Pn	**Pn**	**07 17 41.3**	**+1.1**
IEMG	**Emamgholi**	**4.85**	**62**	*e*Pn	**Pn**	**07 17 47.0**	**+1.3**
AFRZ	**Afriz**	**5.08**	**109**	*e*Pn	**Pn**	**07 17 49.1**	**+0.4**
ITEG	**Tejag**	**5.11**	**116**	*e*Pn	**Pn**	**07 17 49.8**	**+0.7**
IKRD	**Kardeh**	**5.28**	**71**	*e*Pn	**Pn**	**07 17 52.9**	**+1.4**
IKOO	**Kooshah**	**5.53**	**119**	*e*Pn	**Pn**	**07 17 55.8**	**+0.8**
IMON	**Monand**	**5.67**	**109**	*e*Pn	**Pn**	**07 17 57.8**	**+0.9**
IDAH	**Dahanechah**	**6.01**	**113**	*e*Pn	**Pn**	**07 18 02.6**	**+1.0**

JMA ***25*** *07:37:52.6±0.1, 24°.95N × 122°.88E, h24km±2km, M2.3*
TAP ***25*** *07:37:53.2, 24°.90N × 122°.94E, h31km, ML3.1, C*
ISC 25 07:37:52.5±1.4, 24°.96N±0'.05 × 122°.92E±0'.03, h21km±4km,
n53, σ0§94/76, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.50**	**171**	P	**Pb**	**07 38 02.5**	**-0.1**
YOJ				S	**Sb**	**07 38 09.3**	**-0.1**
YOJ	**Yonaguni jima** baz=172	**0.50**	**171**	*i*P	**Pb**	**07 38 02.7**	**+0.1**
YOJ	baz=172			*i* S	**Sb**	**07 38 09.3**	**-0.1**
JYNG	**Yonagunijimaku**	**0.50**	**177**	P	**Pb**	**07 38 02.5**	**-0.2**
JYNG				S	**Sb**	**07 38 09.8**	**+0.2**
TWB1	**Santiao Chiao** baz=278	**0.85**	**274**	P	**Pn**	**07 38 08.1**	**-1.1**
TWB1	baz=278			*e*S	**Sn**	**07 38 20.3**	**-0.7**
IRIF	**Iriomote-Funau**	**0.96**	**130**	P	**Pb**	**07 38 10.5**	**0.0**
IRIF				*e*S	**Sb**	**07 38 24.3**	**+1.5**
TIPB	**Shuangxi** baz=275	**0.99**	**271**	*i*P	**Pn**	**07 38 10.4**	**-0.9**
NTC	**Toucheng** baz=278	**1.00**	**264**	*i*P	**Pn**	**07 38 11.4**	**+0.1**
PCYT	**Pengchaiyu** baz=313	**1.02**	**311**	P	**Pn**	**07 38 12.5**	**+0.9**
TWC	**Suao** baz=264	**1.03**	**251**	*i*P	**Pn**	**07 38 11.5**	**-0.3**
TWC	baz=264			*e*S	**Sn**	**07 38 23.3**	**-2.3**
TNOU	**National Taiwa** baz=284	**1.06**	**281**	*e*P	**Pn**	**07 38 11.7**	**-0.4**
NDS	**Dongshan** baz=265	**1.14**	**254**	*e*P	**Pb**	**07 38 13.9**	**+0.3**
NDS	baz=265			S	**Sn**	**07 38 27.7**	**-0.6**
EWUT	**Wuta** baz=260	**1.16**	**244**	*e*P	**Pn**	**07 38 13.2**	**-0.3**
EWUT	baz=260			*e*S	**Sn**	**07 38 27.1**	**-1.6**
TWE	**Neicheng** baz=262	**1.16**	**259**	*e*P	**Pb**	**07 38 14.7**	**+0.8**
HATJ	**Hateruma jima**	**1.21**	**138**	P	**Pb**	**07 38 14.3**	**-0.3**
JKRS	**Kuro-shima**	**1.22**	**126**	P	**Pb**	**07 38 14.7**	**-0.2**
JKRS				*e*S	**Sb**	**07 38 30.5**	**+0.2**
YM08	**YM08** baz=284	**1.23**	**281**	*e*P	**Pn**	**07 38 14.5**	**0.0**
JIJ	**Ishigaki jima**	**1.26**	**118**	P	**Pb**	**07 38 15.0**	**-0.6**
ANP	**Anpu** baz=283	**1.29**	**280**	*e*P	**Pn**	**07 38 15.7**	**+0.3**
TATO	**Taipei** baz=265	**1.30**	**271**	*e*P	**Pn**	**07 38 14.6**	**-0.8**
JISG	**Ishigakijimahi**	**1.32**	**106**	P	**Pb**	**07 38 16.3**	**-0.2**
NDT	**Datong Townshi** baz=247	**1.33**	**255**	*e*P	**Pb**	**07 38 17.6**	**+0.9**
NDT	baz=247			*e*S	**Sb**	**07 38 33.2**	**-0.1**
YHNB	**Yeheng** baz=252	**1.43**	**259**	P	**Pn**	**07 38 17.1**	**-0.3**
YHNB	baz=252			S	**Sn**	**07 38 35.5**	**-0.1**
NACB	**Ninganchiao** baz=241	**1.44**	**237**	P	**Pn**	**07 38 17.6**	**+0.2**
NACB	baz=241			S	**Sn**	**07 38 35.1**	**-0.6**
NSK	**Sanguang** baz=252	**1.45**	**259**	*e*P	**Pb**	**07 38 18.5**	**-0.3**
NSK	baz=252			*e*S	**Sn**	**07 38 36.1**	**+0.1**
TWD	**Chiawan** baz=237	**1.49**	**234**	*e*P	**Pb**	**07 38 19.3**	**-0.2**
NNSB	**Datong** baz=253	**1.49**	**250**	P	**Pn**	**07 38 18.3**	**0.0**
NNSB	baz=253			*e*S	**Sn**	**07 38 37.2**	**0.0**
NNSH	**Datong** baz=253	**1.49**	**250**	*i*P	**Pn**	**07 38 18.9**	**+0.6**
NNSH	baz=253			*i* S	**Sn**	**07 38 37.1**	**-0.1**
NNS	**Nan Shan** baz=253	**1.50**	**250**	P	**Pb**	**07 38 19.3**	**-0.4**
NNS	baz=253			*e*S	**Sn**	**07 38 37.1**	**-0.2**
ETLH	**Xiulin Townshi** baz=253	**1.51**	**241**	P	**Pb**	**07 38 19.9**	**0.0**
ETLH	baz=253			S	**Sb**	**07 38 38.3**	**-0.3**
FUSS	**Fushou** baz=248	**1.68**	**246**	*i*P	**Pb**	**07 38 22.6**	**-0.3**
WHF	**Hehuan Shan** baz=245	**1.71**	**242**	*i*P	**Pn**	**07 38 22.1**	**+0.6**
WHF	baz=245			*e*S	**Sn**	**07 38 42.6**	**-0.4**
TDCB	**Techi** baz=237	**1.75**	**247**	*e*P	**Pb**	**07 38 23.4**	**-0.6**
LIOB	**Emei** baz=263	**1.76**	**260**	*e*P	**Pb**	**07 38 23.7**	**-0.4**
NSTT	**Nanjuang** baz=263	**1.77**	**260**	*e*P	**Pn**	**07 38 23.4**	**+1.4**
CHGB	**Renai** baz=244	**1.82**	**241**	P	**Pn**	**07 38 23.8**	**+0.9**
CHGB	baz=244			S	**Sb**	**07 38 46.7**	**-1.1**
OWD	**Renai** baz=229	**1.88**	**238**	*i*P	**Pn**	**07 38 23.4**	**-0.2**
WHP	**Taichung City** baz=240	**1.92**	**250**	*e*P	**Pb**	**07 38 26.1**	**-0.7**
HGSD	**Ruisui** baz=226	**2.00**	**223**	P	**Pn**	**07 38 25.3**	**+0.2**
DPDB	**Guoxing** baz=235	**2.04**	**244**	*e*P	**Pn**	**07 38 27.1**	**+1.4**
WCS	**Beigang Elemen** baz=235	**2.04**	**244**	P	**Pn**	**07 38 26.3**	**+0.7**
SMLT	**Sun Moon Lake** baz=232	**2.13**	**240**	P	**Pn**	**07 38 28.3**	**+1.3**
SSLB	**Suanglung** baz=228	**2.14**	**237**	P	**Pn**	**07 38 27.8**	**+0.7**
YULB	**Yu-li** baz=239	**2.15**	**224**	P	**Pn**	**07 38 26.3**	**-0.9**
TYC	**Yuchr** baz=232	**2.15**	**241**	P	**Pn**	**07 38 28.8**	**+1.5**
TYC	baz=232			*e*S	**Sn**	**07 38 53.6**	**+0.3**
JMJ	**Miyako jima 2** baz=90	**2.16**	**93**	*e*P	**Pn**	**07 38 27.0**	**-0.3**
TWF1	**Yuli** baz=238	**2.18**	**223**	P	**Pn**	**07 38 28.2**	**+0.6**
CHN5	**Tsauling** baz=240	**2.45**	**237**	*e*P	**Pn**	**07 38 33.3**	**+1.8**
CHN5	baz=240			*e*S	**Sn**	**07 39 02.8**	**+1.9**
EDH	**Donghe** baz=219	**2.47**	**217**	P	**Pn**	**07 38 30.6**	**-1.0**
EDH	baz=219			S	**Sn**	**07 38 58.1**	**-2.9**
STYH	**Taoyuan** baz=230	**2.65**	**228**	*e*P	**Pn**	**07 38 33.9**	**-0.1**
CHN4	**Tsaushan** baz=226	**2.66**	**234**	P	**Pn**	**07 38 36.0**	**+1.7**
CHN4	baz=226			*e*S	**Sn**	**07 39 08.0**	**+2.1**
STYT	**Tauyuan** baz=230	**2.67**	**228**	*e*P	**Pn**	**07 38 35.5**	**+1.1**
WTP	**Ta-pu** baz=224	**2.71**	**232**	*e*P	**Pn**	**07 38 36.8**	**+1.9**
CHN1	**Nanshi** baz=234	**2.81**	**232**	*e*P	**Pn**	**07 38 37.9**	**+1.6**

WEL 25 07:42:37.5, 39°S±3°× 17°8E±°, h16km±4km, M3.4/50,
ML3.7/50, MLv3.4/50, Error ellipse: s-maj=0.0km
s-min=0.0km az=79.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.10**	**167**	P	**Pb**	**07 42 42.6**	**+1.4**
PRGZ	**Paritu Road**	**0.13**	**2**	P	**Pb**	**07 42 41.6**	**0.0**
KNZ	**Kokohu**	**0.16**	**280**	P	**Pb**	**07 42 42.0**	**-0.1**
KNZ				S	**Sb**	**07 42 46.0**	**+0.8**
RIGZ	**Rimuhau**	**0.36**	**345**	P	**Pb**	**07 42 45.6**	**+0.1**
RIGZ				S	**Sn**	**07 42 53.0**	**-1.8**
SNGZ	**Shannon Statio**	**0.50**	**303**	P	**Pb**	**07 42 48.4**	**+0.5**
WHHZ	**Waihua**	**0.50**	**267**	P	**Pn**	**07 42 49.1**	**-0.9**
TKGZ	**Te Karaka**	**0.61**	**358**	P	**Pb**	**07 42 50.5**	**+0.7**
TKGZ				S	**Sn**	**07 43 01.2**	**+0.2**
CNGZ	**Carnagh Statio**	**0.62**	**25**	P	**Pn**	**07 42 51.2**	**-0.5**
RAHZ	**Arahi**	**0.63**	**282**	P	**Pn**	**07 42 51.1**	**-0.8**
RAGZ	**Rawiri**	**0.66**	**327**	P	**Pb**	**07 42 51.2**	**+0.4**
ARHZ	**Arop

MXZ	**Matakaoa Point**	**1.52**	**13**	P	Pn	07 43 03.3	-0.8
WHTZ	**Whakaora**	**1.55**	**284**	P	Pg	07 43 09.0	+1.7
PNHZ	**Pukenui**	**1.56**	**236**	P	Pn	07 43 04.0	-0.6
RITZ	**Rihia Road**	**1.57**	**272**	P	Pg	07 43 09.1	+1.3
UTU	**Utuhina**	**1.58**	**303**	P	Pg	07 43 10.4	+2.5
OPRZ	**Ohinepanea**	**1.59**	**319**	P	Pn	07 43 04.0	-0.9
KARZ	**Kaharoa**	**1.64**	**308**	P	Pb	07 43 08.1	+0.7
RATZ	**Rangitukua**	**1.65**	**276**	P	Pb	07 43 08.4	+0.8
ETVZ	**East Tongariro**	**1.69**	**266**	P	Pb	07 43 08.0	-0.2
MOVZ	**Moawhango**	**1.69**	**257**	P	Pb	07 43 07.6	-0.6
TMVZ	**Te Maari**	**1.69**	**267**	P	Pn	07 43 07.0	+0.5
KUTZ	**Kaahu Road**	**1.70**	**289**	P	Pb	07 43 07.6	-0.8
KATZ	**Kakaramea**	**1.70**	**272**	P	Pg	07 43 10.7	+0.5
NTVZ	**North Tongarir**	**1.71**	**268**	P	Pn	07 43 07.2	+0.4
OTVZ	**Oturere**	**1.73**	**266**	P	Pn	07 43 07.4	+0.4
KRVZ	**Karewarewa**	**1.74**	**268**	P	Pn	07 43 07.5	+0.3
TUVZ	**Tukino**	**1.74**	**262**	P	Pg	07 43 10.8	-0.1
SNVZ	**South Ngauruho**	**1.75**	**265**	P	Pn	07 43 07.6	+0.3
NNVZ	**North Ngauruho**	**1.76**	**267**	P	Pg	07 43 11.3	0.0
NGZ	**Ngauruhoe**	**1.77**	**265**	P	Pb	07 43 08.9	-0.9
WTVZ	**West Tongariro**	**1.78**	**267**	P	Pg	07 43 12.3	+0.5
TSZ	**Takapari Road**	**1.79**	**235**	P	Pn	07 43 06.7	-1.1
WNVZ	**Wahianoa**	**1.79**	**260**	P	Pn	07 43 08.6	+0.6
WHVZ	**Whangaehu Hut**	**1.79**	**262**	P	Pg	07 43 12.3	+0.3
DVHZ	**Dannevirke**	**1.81**	**226**	P	Pn	07 43 06.9	-1.2
FWVZ	**Far West T-bar**	**1.82**	**263**	P	Pb	07 43 11.0	+0.4
TRVZ	**Turoa**	**1.83**	**261**	P	Pb	07 43 10.0	-0.7
TGRZ	**Tauranga**	**1.83**	**316**	P	Pg	07 43 14.4	+1.7
MTVZ	**Mangateitei**	**1.90**	**259**	P	Pb	07 43 11.3	-0.5
TLZ	**Tolley Road**	**1.97**	**291**	P	Pg	07 43 16.3	+1.0
PKVZ	**Pokaka**	**1.98**	**262**	P	Pg	07 43 16.1	+0.5
BFZ	**Birch Farm**	**2.06**	**217**	P	Pn	07 43 09.9	-1.5
PRWZ	**Pori Road**	**2.10**	**224**	P	Pn	07 43 11.1	-0.9
TOZ	**Tahuroa Road**	**2.29**	**304**	P	Pg	07 43 22.3	+1.0
TIWZ	**Tintock**	**2.31**	**221**	P	Pn	07 43 13.7	-1.2
MRZ	**Mangatainoka R**	**2.39**	**227**	P	Pn	07 43 14.4	-1.6
HIZ	**Hauiti**	**2.42**	**282**	P	Pn	07 43 17.4	+1.0
VRZ	**Vera Road**	**2.43**	**267**	P	Pb	07 43 19.9	-0.9
TMWZ	**Te Maipa**	**2.56**	**216**	P	Pn	07 43 16.0	-2.3
HOWZ	**Holdsworth Sta**	**2.59**	**224**	P	Pn	07 43 16.8	-1.9
OGWZ	**Otaki Gorge**	**2.73**	**229**	P	Pn	07 43 18.9	-1.7
MTW	**Mount Morrison**	**2.78**	**220**	P	Pn	07 43 18.9	-2.5
NEZ	**North Egmont**	**2.95**	**265**	P	Pn	07 43 25.6	+1.8
CAW	**Cannon Point**	**2.98**	**226**	P	Pn	07 43 22.0	-2.1
PAWZ	**Paruwai Farm**	**2.99**	**218**	P	Pn	07 43 21.7	-2.6
KHEZ	**Kahui Hut**	**3.01**	**264**	P	Pn	07 43 26.4	+1.8
PKE	**Pukeiti**	**3.03**	**266**	P	Pn	07 43 26.7	+1.9
MSWZ	**Moikau Station**	**3.10**	**220**	P	Pn	07 43 23.1	-2.7
WIAZ	**Waiheke Island**	**3.13**	**315**	P	Pn	07 43 26.4	+0.2
NNZ	**Nelson**	**4.07**	**236**	P	Pn	07 43 37.6	-1.5
KHZ	**Kahutara**	**4.71**	**223**	P	Pn	07 43 45.5	-2.3
GVZ	**Greta Valley S**	**5.36**	**222**	P	Pn	07 43 54.7	-2.1
LTZ	**Lake Taylor**	**5.65**	**227**	P	Pn	07 43 58.4	-2.4

IDC 25 07:48:35.1±2.1, 6°10S×130°09E, h0km, mb3.7/1, mb1 4.0/4, mb1mx3.6/39, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=79.1km s-min=26.4km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.69**	**200**	Pn	Pn	07 51 36.1	-0.9
	0.1nm,0.3s,baz=23,slow=11,SNR=3.6						
FITZ				Sn	Sn	07 53 59.1	-0.1
	0.1nm,0.3s,baz=67,slow=23,SNR=1.0						
WRA	**Warramunga Arr**	**14.37**	**164**	Pn	Pn	07 51 59.4	-0.6
	0.3nm,0.3s,baz=348,slow=13,SNR=8.7						
WRA				Sn	Sn	07 54 37.7	-2.5
	0.3nm,0.3s,baz=338,slow=31,SNR=6.8						
ASAR	**Alice Springs**	**17.85**	**169**	P	P	07 52 46.4	+0.6
	0.2nm,0.3s,baz=349,slow=8.2,SNR=12						
ASAR				S	Sn	07 55 57.5	-7.3
	0.1nm,0.3s,baz=349,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	07 59 33.3	0.0
	0.6nm,0.7s,baz=124,slow=7.8,SNR=6.5						

NNC 25 07:49:38.8±11.0, 36°90N×70°65E, h100km, mb3.1, mpv3.5, 5C-3D, Error ellipse: s-maj=87.9km s-min=59.9km az=170.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.19**	**359**	⇑P	Pn	07 51 08.8	+1.1
	1.2nm,0.3s,baz=179,slow=13,SNR=12						
KK31				⇓S	Sn	07 52 18.9	+1.8
	1.1nm,0.3s,baz=188,slow=27,SNR=4.9						
AAK	**Ala-Archa**	**6.45**	**26**	⇓P	Pn	07 51 09.6	-1.7
	2.9nm,0.6s						
AAK				⇑S	Sn	07 52 21.3	-2.1
	3.5nm,0.6s						
AB31	**Akbulak array**	**14.60**	**331**	⇑P	Pn	07 53 00.7	+0.5
	0.4nm,0.3s,baz=190,slow=24,SNR=30						
AB31				⇑S	Sn	07 55 43.8	+2.9
	0.7nm,0.6s,baz=157,slow=23,SNR=4.6						
AKTO	**Aktyubinsk**	**16.29**	**330**	⇑P	P	07 53 23.5	+0.9
	1.8nm,0.8s						
AKTO				⇓S	Sn	07 56 24.4	+2.6
	1.3nm,1.1s						

IDC 25 08:00:52.5±56.0, 16°36S×172°05W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/42, mbtmp3.8/3, Error ellipse: s-maj=1085.0km s-min=196.9km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.70**	**241**	P	P	08 09 07.9	+0.4
	0.7nm,0.5s,baz=90,slow=12,SNR=1.4						
WRA	**Warramunga Arr**	**50.90**	**257**	P	P	08 09 55.6	-0.2
	0.5nm,0.4s,baz=96,slow=6.8,SNR=10						
ASAR	**Alice Springs**	**51.06**	**253**	P	P	08 09 56.7	-0.3
	1.4nm,0.6s,baz=86,slow=8.9,SNR=13						

*NNC **25** 08:11:45.0±2.6, 54°20N×87°91E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=20.8km s-min=12.2km az=31.0, Suspected Mining explosion.*
*IDC **25** 08:11:50.3±2.7, 54°18N×87°20E, h0km, mb1 3.0/2, mb1mx2.9/37, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=22.6km s-min=16.5km az=59.0*
ISC 25 08:11:44.1±3.5, 54°3N×87°8E±0°1, h0km, n8, σ2s17/12, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**259**	*i*		08 20 20.0	
	baz=79,slow=303,SNR=4.2						
ZAA0	**Zalesovo Array**	**1.78**	**259**	⇓P	**Pg**	**08 12 16.8**	**-1.4**
	1.1nm,0.8s						
ZAA0				⇓S	**Sg**	**08 12 42.6**	**+1.3**
	13nm,1.4s						
ZALV	**Zalesovo Beam**	**1.78**	**259**	Pg	**Pb**	**08 12 15.8**	**-1.8**
	0.9nm,0.3s,baz=81,slow=15,SNR=13						
ZALV				Lg	Lg	08 12 35.4	
	1.8nm,0.3s,baz=84,slow=30,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.75**	**240**	Pn	**Pn**	**08 13 25.9**	**+1.5**
	0.1nm,0.3s,baz=55,slow=14,SNR=8.1						
KURBB				Sn	**Sn**	**08 14 40.5**	**-1.5**
	0.0nm,0.3s,baz=50,slow=22,SNR=4.2						
KURBB				Lg	Lg	08 15 10.8	
	0.0nm,0.3s,baz=63,slow=34,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.75**	**240**	⇑Pn	**Pn**	**08 13 26.6**	**+2.1**
	5.1nm,1.1s						
KURBB				⇑Sn	**Sn**	**08 14 45.7**	**+3.6**
	5.7nm,0.7s						
KURBB				⇑Lg	Lg	08 15 20.5	
	20nm,1.3s						
MK31	**Makanchi Array**	**8.31**	**207**	⇓Pn	**Pn**	**08 13 48.2**	**+2.4**
	0.1nm,0.3s,baz=20,slow=8.9,SNR=3.8						
MK31				⇓Sn	**Sn**	**08 15 19.3**	**-0.9**
	0.8nm,0.5s,baz=23,slow=25,SNR=5.9						
MK31				⇓Lg	Lg	08 16 03.4	
	7.1nm,1.2s,baz=27,slow=28,SNR=4.6						
MKAR	**Makanchi Array**	**8.31**	**207**	Pn	Pn	08 13 49.4	+3.6
	0.2nm,0.3s,baz=24,slow=13,SNR=8.0						
MKAR				Sn	**Sn**	**08 15 19.6**	**-0.7**
	0.3nm,0.3s,baz=22,slow=28,SNR=9.2						
MKAR				Lg	Lg	08 16 02.7	
	0.1nm,0.3s,baz=17,slow=30,SNR=5.4						
MAKZ	**Makanchi**	**8.38**	**208**	⇑Pn	**Pn**	**08 13 48.2**	**+1.5**
	1.2nm,1.1s						
MAKZ				⇓Sn	**Sn**	**08 15 20.1**	**-2.0**
	1.5nm,0.8s						
MAKZ				⇑Lg	Lg	08 16 05.6	
	5.6nm,1.1s						

IDC 25 09:19:39.7±10.0, 24°36S×179°67W, h524km±122km, mb3.0/4, mb1 3.1/5, mb1mx2.9/31, mbtmp3.9/5, Error ellipse: s-maj=265.5km s-min=88.1km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.93**	**342**	P	P	09 21 26.2	-0.1
	2.2nm,0.3s,baz=180,slow=5.1,SNR=8.4						
CTA	**Charters Tower**	**31.78**	**271**	P	P	09 25 21.2	+0.1
	2.0nm,0.3s,baz=86,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**34.84**	**249**	P	P	09 25 46.3	-0.4
	0.9nm,0.6s,baz=92,slow=9.9,SNR=7.9						
ASAR	**Alice Springs**	**42.26**	**261**	P	P	09 26 47.3	+0.1
	0.4nm,0.5s,baz=93,slow=6.4,SNR=6.8						
WRA	**Warramunga Arr**	**42.68**	**267**	P	P	09 26 50.3	-0.2
	0.9nm,0.5s,baz=103,slow=7.9,SNR=11						

*IDC **25** 09:22:13.3±3.4, 17°44S×174°45W, h73km±38km, mb3.7/5, mb1 4.0/7, mb1mx3.5/40, mbtmp4.1/7, ML3.5/2, Error ellipse: s-maj=39.8km s-min=22.9km az=137.0*
ISC 25 09:22:15.0±0.9, 17°3S±0°1×174°4W±0°1, h100km, n7, σ1s97/8, mb3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.15**	**37**	P	**Pn**	**09 23 17.0**	**+0.8**
	5.2nm,0.3s,baz=207,slow=9.0,SNR=7.5						
AFI				S	**Sn**	**09 24 00.8**	**-3.0**
	36nm,0.3s,baz=139,slow=16,SNR=11						
RAR	**Rarotonga**	**14.33**	**108**	P	**Pn**	**09 25 33.3**	**+0.1**
	1.2nm,0.3s,baz=285,slow=6.2,SNR=2.1						
URZ	**Urewera**	**22.23**	**198**	P	**P**	**09 27 01.4**	**-2.0**
	3.7nm,0.5s,baz=121,slow=23,SNR=5.6						
STKA	**Stephens Creek**	**42.33**	**241**	P	**P**	**09 29 59.2**	**0.0**
	1.9nm,1.0s,baz=90,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**48.55**	**258**	P	**P**	**09 30 48.0**	**-0.5**
	0.6nm,0.4s,baz=97,slow=6.6,SNR=8.5						
ASAR	**Alice Springs**	**48.68**	**253**	P	**P**	**09 30 49.5**	**0.0**
	4.2nm,0.5s,baz=90,slow=8.0,SNR=68						
PDAR	**Pinedale Array**	**84.25**	**42**	P	**P**	**09 34 38.2**	**+2.4**
	0.3nm,0.6s,baz=198,slow=2.9,SNR=5.4						

IDC 25 09:22:21.3±2.4, 6°47S×129°51E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/33, mbtmp3.5/4, ML3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/15, Error ellipse: s-maj=93.1km s-min=30.2km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.15**	**198**	Pn	Pn	09 25 17.2	+1.4
	0.1nm,0.3s,baz=0.0,slow=11,SNR=1.4						
FITZ				Sn	Sn	09 27 20.2	-12
	0.2nm,0.3s,baz=103,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**14.19**	**161**	Pn	Pn	09 25 42.5	-1.2
	0.2nm,0.3s,baz=342,slow=12,SNR=13						
WRA				Sn	Sn	09 28 08.0	-14
	0.1nm,0.3s,baz=335,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**17.61**	**167**	P	Pn	09 26 28.2	-0.1
	0.1nm,0.3s,baz=340,slow=9.4,SNR=12						
ASAR				S	Sn	09 29 33.5	-12
	0.1nm,0.3s,baz=336,slow=38,SNR=2.5						
KSRS	**Korea Array**	**43.72**	**358**	LR	LR	09 48 24.6	
	comp=Z,16nm,21.6s,baz=200,slow=36						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	09 33 19.4	0.0
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.1						

*DJA **25** 09:27:49.4±0.5, 10°S±7°×12°5E±°, h33km±10km, M4.1/6, mb4.0/5, MLv4.1/6*
ISC 25 09:27:47.4±5.3, 10°2S±0°2×124°6E±0°3, h19km, n5, σ0s61/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.56**	**325**	P	**Pn**	**09 28 00.8**	**+0.3**
SOEI				S	**Sn**	**09 28 09.3**	**0.0**
BATI	**Baumata**	**0.92**	**270**	P	**Pn**	**09 28 05.9**	**+0.6**
BATI				S	**Sn**	**09 28 18.4**	**+0.4**
EDFI	**Ende, Flores**	**3.21**	**297**	P	**Pn**	**09 28 37.0**	**0.0**
PLAI	**Plampang**	**6.86**	**281**	P	**Pn**	**09 29 26.6**	**-0.5**
	0.1nm20nm,0.9s						
TWSI	**Taliwang, Sumb**	**7.75**	**280**	P	**Pn**	**09 29 38.5**	**-0.8**
	0.1nm8.5nm,1.4s						

IDC 25 09:36:07.1±18.0, 34°13N×136°55E, h410km±144km, mb1 2.6/3, mb1mx2.4/39, mbtmp3.3/3, Error ellipse: s-maj=241.0km s-min=59.3km az=154.0, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**2.77**	**29**	P	P	09 37 09.3	+0.2
	0.2nm,0.3s,baz=209,slow=7.1,SNR=6.3						
KSRS	**Korea Array**	**7.75**	**298**	P	P	09 37 59.4	-0.2
	0.2nm,0.3s,baz=110,slow=12,SNR=6.6						
USRK	**Ussuriysk Ar.**	**10.66**	**342**	P	P	09 38 31.9	+0.3
	baz=141,slow=10.0,SNR=4.6						

IDC 25 10:03:40.5±3.3, 4°76S×133°72E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=133.9km s-min=31.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.10**	**178**	Pn	Pn	10 07 13.2	-2.1
	0.2nm,0.3s,baz=355,slow=13,SNR=8.7						
WRA				Sn	Sn	10 09 54.1	-9.3
	0.2nm,0.3s,baz=355,slow=24,SNR=4.8						
FITZ	**Fitzroy Crossi**	**15.43**	**210**	Pn	Pn	10 07 19.4	-0.2
	0.2nm,0.3s,baz=60,slow=14,SNR=1.8						
FITZ				Sn	Sn	10 10 02.7	-8.7
	0.2nm,0.3s,baz=271,slow=17,SNR=3.3						
ASAR	**Alice Springs**	**18.80**	**179**	P	Pn	10 08 02.5	+0.5
	0.2nm,0.3s,baz=14,slow=11,SNR=15						
MKAR	**Makanchi Array**	**68.47**	**325**	P	P	10 14 44.6	0.0
	0.2nm,0.7s,baz=138,slow=6.9,SNR=1.5						

*IDC **25** 10:17:35.4±1.9, 0°27N×123°66E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.4/37, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=137.4km s-min=27.2km az=65.0*
*DJA **25** 10:17:46.2±0.5, 0°S±4°×12°3E±°, h73km±8km, M3.7/7, MLv3.7/7*
ISC 25 10:17:46.3±1.0, 0°19S±0°06×122°96E±0°09, h100km, n11, σ1s50/14, mb3.1/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.82**	**3**	P	**Pn**	**10 18 04.3**	**-0.6**
GTOI				S	**Sn**	**10 18 18.3**	**-0.6**
LUWI	**Luwuk**	**0.87**	**193**	P	**Pn**	**10 18 03.5**	**-1.9**
LUWI				S	**Sn**	**10 18 18.5**	**-1.1**
MRSI	**Marisa**	**1.22**	**303**	P	**Pn**	**10 18 07.4**	**-1.8**
MRSI				S	**Sn**	**10 18 24.2**	**-2.3**
APSI	**Ampana**	**1.50**	**241**	P	**Pn**	**10 18 11.9**	**-0.6**
MPSI	**Mapaga**	**3.11**	**280**	P	**Pn**	**10 18 35.1**	**+1.6**
PCI	**Palu**	**3.21**	**257**	P	**Pn**	**10 18 33.6**	**-1.2**
TTSI	**Tana Toraja**	**4.23**	**228**	P	**Pn**	**10 18 49.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**17.99**	**172**	P	**Pn**	**10 21 50.2**	**+0.3**
	0.1nm,0.3s,baz=9.4,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**22.57**	**151**	P	**P**	**10 22 38.1**	**-0.5**
	0.9nm,0.9s,baz=331,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**25.64**	**156**	P	**P**	**10 23 08.9**	**+2.1**
	0.2nm,0.7s,baz=344,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**58.76**	**328**	P	**P**	**10 27 35.1**	**+1.2**
	0.1nm,0.3s,baz=135,slow=8.2,SNR=1.8						

*ISN **25** 10:18:05.1±0.8, 33°33N×46°01E, h14km±3km, ML2.4*
*TEH **25** 10:18:09.9, 33°54N×46°27E, h24km, ML3.0*
ISC 25 10:18:05.4±0.9, 33°37N±0°04×46°01E±0°04, h10km, n21, σ1s27/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.27**	**195**	*e*Pg	**Pg**	**10 18 10.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**10 18 14.0**	**-0.5**
IBDR				AML	AML	10 18 26.0	
	comp=N,366nm,0.4s						
IBDR				AML	AML	10 18 34.0	
	comp=E,506nm,0.6s						
IGHG	**Ghaleghazi**	**1.06**	**26**	*e*Pg	**Pb**	**10 18 26.2**	**+0.2**
IGHG				*e*		10 18 29.0	
	comp=Z,14μm,0.1s						
KCHF	**Cheshme Sefid,**	**1.24**	**43**	*e*Pg	**Pn**	**10 18 28.0**	**-1.0**
KCHF				*e*		10 18 48.7	
	comp=Z,4μm,0.3s						
IDHR	**Dehrash**	**1.36**	**13**	*e*Pg	**Pg**	**10 18 31.8**	**+0.2**
IDHR				*e*		10 18 52.6	
	comp=Z,4μm,0.3s						
BHD	**Baghdad**	**1.37**	**266**	*e*Pn	**Pn**	**10 18 31.0**	**+0.5**
BHD				*e*Sn	**Sg**	**10 18 51.0**	**+1.5**
KER	**Kermanshah**	**1.38**	**42**	*e*Pg	**Pb**	**10 18 31.4**	**+0.1**
IKFM	**Kafar-mosalman**	**1.54**	**84**	*e*Pg	**Pg**	**10 18 34.7**	**-0.3**
IKFM				*e*		10 18 59.7	
	comp=Z,5μm,0.3s						
IDOB	**Doab**	**1.85**	**76**	*e*Pn	**Pb**	**10 18 38.5**	**-1.0**
IBZA	**Bozab**	**1.89**	**54**	*e*Pg	**Pb**	**10 18 39.4**	**-0.7**
IBZA				*e*		10 18 42.5	
	comp=Z,2μm,0.4s						
HSAM	**Samen**	**2.31**	**68**	*e*Pn	**Pn**	**10 18 45.1**	**+1.3**
HSAM				*e*		10 18 51.1	
	comp=Z,497nm,0.4s						
IALM	**Almabolaq**	**2.33**	**50**	*e*Pn	**Pb**	**10 18 45.9**	**-1.7**
NSR	**Nassriya**	**2.36**	**177**	*e*Pn	**Pn**	**10 18 45.0**	**+0.9**
NSR				*e*Sn	**Sn**	**10 19 13.0**	**-0.1**
BMDN	**Meydan**	**2.37**	**82**	*e*Pn	**Pn**	**10 18 45.6**	**+1.1**
BMDN				*e*		10 19 22.8	
	comp=Z,616nm,0.3s						
IKRK	**Kirkuk**	**2.45**	**326**	*e*Pn	**Pn**	**10 18 47.0**	**+1.5**
IKRK				*e*Sn	**Sb**	**10 19 18.0**	**-1.8**
QABG	**Abgarm-Qazvin**	**3.76**	**51**	*e*Pn	**Pn**	**10 19 03.4**	**-0.2**
IRAZ	**Razeghan**	**3.82**	**57**	*e*Pn	**Pn**	**10 19 06.3**	**+1.8**
IPIR	**Pirpir**	**4.16**	**98**	*e*Pn	**Pn**	**10 19 10.8**	**+1.6**
KRSH	**Karshahi**	**5.14**	**82**	*e*Pn	**Pn**	**10 19 23.7**	**+1.1**
ISFB	**Sefidab**	**5.27**	**78**	*e*Pn	**Pn**	**10 19 24.8**	**+0.5**
IZEF	**Zefreh**	**5.32**	**93**	*e*Pn	**Pn**	**10 19 27.2**	**+2.0**
IRAM	**Ramesheh**	**5.60**	**104**	*e*Pn	**Pn**	**10 19 31.2**	**+2.3**

BUC 25 10:28:49.3±0.4, 45°48N×26°34E, h130km±2km, ml3.5/34, 94C-38D, Error ellipse: s-maj=2.4km s-min=2.1km az=165.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.06**	**210**	⇓P	Pn	10 29 07.6	+0.6
NEHR				⇑S	Sn	10 29 19.8	-0.6
NEHR	**Nehoiu**	**0.06**	**210**	⇓P	Pn	10 29 07.6	+0.6
NEHR				⇑S	Sn	10 29 19.8	-0.6
BISRR	**Bisoca**	**0.27**	**75**	⇓P	Pn	10 29 08.3	+0.8
BISRR				⇓S	Sn	10 29 22.3	+1.1
BISRR	**Bisoca**	**0.27**	**75**	⇓P	Pn	10 29 08.3	+0.8
BISRR				⇓S	Sn	10 29 22.3	+1.1
MLR	**Muntele Rosu**	**0.28**	**273**	⇑P	Pn	10 29 08.0	+0.5
MLR				⇑S	Sn	10 29 21.9	+0.6
MLR	**Muntele Rosu**	**0.28**	**273**	⇑P	Pn	10 29 08.0	+0.5
MLR				⇑S	Sn	10 29 21.9	+0.6
ISR	**Istrita**	**0.39**	**158**	⇑P	Pn	10 29 08.5	+0.6
ISR				⇑S	Sn	10 29 23.4	+1.4
ISR	**Istrita**	**0.39**	**158**	⇑P	Pn	10 29 08.5	+0.6
ISR				⇑S	Sn	10 29 23.4	+1.4
PLOR	**Plostina**	**0.43**	**30**	⇑P	Pn	10 29 08.4	+0.3
PLOR				⇑S	Sn	10 29 23.0	+0.7
PLOR	**Plostina**	**0.43**	**30**	⇑P	Pn	10 29 08.4	+0.3
PLOR				⇑S	Sn	10 29 23.0	+0.7
GRER		**0.46**	**102**	⇓P	Pn	10 29 09.1	+0.9
GRER		**0.46**	**102**	⇓P	Pn	10 29 09.1	+0.9
VRI	**Vrincioaia**	**0.47**	**35**	⇑P	Pn	10 29 08.8	+0.5
VRI				⇑S	Sn	10 29 22.9	+0.2
VRI	**Vrincioaia**	**0.47**	**35**	⇑P	Pn	10 29 08.8	+0.5
VRI				⇑S	Sn	10 29 22.9	+0.2
SECR		**0.48**	**203**	⇓P	Pn	10 29 09.1	+0.8
SECR				⇑S	Sn	10 29 24.1	+1.4
SECR		**0.48**	**203**	⇓P	Pn	10 29 09.1	+0.8
SECR				⇑S	Sn	10 29 24.1	+1.4
ODBI	**Odobesti**	**0.58**	**60**	⇓P	Pn	10 29 09.8	+1.0
ODBI				⇓S	Sn	10 29 24.4	+0.7
ODBI	**Odobesti**	**0.58**	**60**	⇓P	Pn	10 29 09.8	+1.0
ODBI				⇓S	Sn	10 29 24.4	+0.7
PLAR	**PLOIESTI**	**0.60**	**201**	⇑P	Pn	10 29 09.9	+0.9
PLAR				⇑S	Sn	10 29 25.6	+1.7
PLAR	**PLOIESTI**	**0.60**	**201**	⇑P	Pn	10 29 09.9	+0.9
PLAR				⇑S	Sn	10 29 25.6	+1.7
PETR	**Petresti**	**0.67**	**68**	⇑P	Pn	10 29 09.8	+0.4
PETR				⇑S	Sn	10 29 25.6	+0.8
PETR	**Petresti**	**0.67**	**68**	⇑P	Pn	10 29 09.8	+0.4

TPGR	Topolog	1.60	112	⇑P	Pn	10 29 18.5	-0.1
TPGR				⇑S	Sn	10 29 39.5	-1.3
TPGR	Topolog	1.60	112	⇑P	Pn	10 29 18.5	-0.1
TPGR				⇑S	Sn	10 29 39.5	-1.3
ICOR	Ion Corvin	1.71	142	⇑S	Sn	10 29 42.7	-0.4
ICOR	Ion Corvin	1.71	142	⇑S	Sn	10 29 42.7	-0.4
TLCR		1.77	99	⇑P	Pn	10 29 20.7	+0.2
TLCR				⇑S	Sn	10 29 44.7	+0.3
TLCR		1.77	99	⇑P	Pn	10 29 20.7	+0.2
TLCR				⇑S	Sn	10 29 44.7	+0.3
TIRR	Tirgusor	1.79	124	⇑P	Pn	10 29 21.0	+0.2
TIRR	Tirgusor	1.79	124	⇑P	Sn	10 29 21.0	+0.2
LOT	Lotru	1.81	270	⇑S	Sn	10 29 45.5	+0.2
LOT	Lotru	1.81	270	⇑S	Sn	10 29 45.5	+0.2
MILM	Milestii Mici	2.24	49	⇑P	Pn	10 29 26.3	+0.1
MILM	Milestii Mici	2.24	49	⇑P	Pn	10 29 26.3	+0.1
GZR	Gura Zlata	2.51	269	⇓P	Pn	10 29 30.1	+0.5
GZR				⇓S	Sn	10 30 00.4	-0.3
GZR	Gura Zlata	2.51	269	⇓P	Pn	10 29 30.1	+0.5
GZR				⇓S	Sn	10 30 00.4	-0.3
HERR	Herculane	2.84	259	⇑P	Pn	10 29 34.0	+0.2
HERR	Herculane	2.84	259	⇑P	Pn	10 29 34.0	+0.2
DRGR		2.84	299	⇑P	Pn	10 29 33.6	-0.3
DRGR		2.84	299	⇑P	Pn	10 29 33.6	-0.3

MEX ***25*** *10:31:46.3±5.0, 16°.12N×98°.05W, h16km±64km, MD5.0*
IDC ***25*** *10:31:47.9±0.5, 16°.88N×97°.70W, h0km, mb4.5/22, mb1 4.6/26, mb1mx4.5/55, mbtmp4.5/26, ML4.0/4, MS4.0/27, Ms1 4.1/27, ms1mx4.0/30, Error ellipse: s-maj=20.7km s-min=9.9km az=60.0*
NEIC ***25*** *10:31:51.5±2.5, 16°.64N±0°.09×97°.99W±0°.07, h33km±4km, mb5.0/439, Md5.0/12(MEX), Error ellipse: s-maj=14.2km s-min=7.6km az=212.0*
GCMT ***25*** *10:31:51.3±0.3, 16°.26N±0°.02×98°.16W±0°.02, h70km±5km, MW4.8/81, Moment Tensor Solution. s15,c16; s81,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.05±.15; $M_{\theta\theta}$=-0.91±.11; $M_{\phi\phi}$=0.95±.11; $M_{r\theta}$=1.49±.06; $M_{r\phi}$=1.04±.12; $M_{\theta\phi}$=-1.11±.07; Best double couple: M_o2.16400×10^{16} NP1:ϕ_s238.00000°, δ40.00000°, λ-4.00000°. NP2: ϕ_s332.00000°, δ87.00000°, λ-130.00000°. Principal axes: T 1.6750, Plg31.0000°, Azm94.0000°; N 0.9790, Plg40.0000°, Azm334.0000°; P -2.6530, Plg35.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***25*** *10:31:55.0±0.0, 16°.80N×97°.90W, h50km, mB4.8/1, Ms5.0/1, Ms7 4.6/1*

ISC 25 10:31:50.1±0.4, 16°.57N±0°.04×98°.03W±0°.03, h25km±2km, n423, σ1°99/267, mb5.0/194, MS4.2/28, 2C-9D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOIG	**Yosondua** baz=204,slow=16	**0.55**	**58**	⇓*i*P		**Pb**	**10 32 00.9**	**-0.4**
YOIG				*i* S		**Sn**	**10 32 11.3**	**+0.2**
PEIG	**Puerto Escondi**	**1.02**	**124**	*e*P		Pn	10 32 03.1	-5.7
PEIG				*i* S		**Sn**	**10 32 13.4**	**-9.0**
CRIG	**Cruz Grande** baz=110,slow=16	**1.07**	**279**	⇓*e*P		Pn	10 32 04.1	-5.3
CRIG				*e*S		**Sn**	**10 32 18.3**	**-5.2**
TLIG	**Tlapa**	**1.11**	**333**	*e*P		**Pn**	**10 32 09.4**	**-0.8**
TLIG				*e*S		**Sb**	**10 32 26.8**	**+1.9**
TLIG	**Tlapa**	**1.11**	**333**			**Sb**	**10 32 26.8**	**+1.9**
TLIG	**Tlapa**	**1.11**	**333**	Pn		**Pn**	**10 32 09.8**	**-0.4**
HLIG	**Huajuapan de L**	**1.27**	**10**	*e*P		**Pb**	**10 32 13.0**	**-0.6**
HLIG				*e*S		**Sb**	**10 32 32.8**	**+3.2**
HMTT	**Tlapaneco**	**1.32**	**338**	*e*P		**Pn**	**10 32 13.3**	**+0.2**
HMTT				*e*S		**Sb**	**10 32 32.6**	**+1.6**
FTIG	**Fresnillo de T**	**1.34**	**356**	*e*P		**Pb**	**10 32 13.6**	**-1.0**
FTIG				*i* S		**Sb**	**10 32 33.7**	**+2.4**
VHO	**Vista Hermosa**	**1.34**	**68**	*e*P		**Pn**	**10 32 12.3**	**-1.1**
VHO				*i* S		**Sb**	**10 32 33.7**	**+2.2**
DAIG	**Los Arroyos**	**1.61**	**286**	*e*P		Pn	10 32 12.6	-4.4
DAIG				*i* S		**Sn**	**10 32 32.9**	**-4.2**
DAIG	**Los Arroyos**	**1.61**	**286**			**Sn**	**10 32 35.1**	**-2.0**
TOIG	**Toxpalan**	**1.78**	**31**	*e*P		**Pn**	**10 32 19.6**	**+0.3**
TOIG				*i* S		**Sb**	**10 32 44.6**	**+0.6**
ACP2	**Acapulco**	**1.80**	**280**	*e*P		Pn	10 32 19.3	-4.3
ACP2				*e*S		**Sn**	**10 32 35.2**	**-6.5**
TPIG	**Tehuac#an**	**1.95**	**19**	*i* P		**Pb**	**10 32 22.6**	**-2.4**
HUIG	**Huatulco**	**2.01**	**113**	*i* P		**Pn**	**10 32 17.8**	**-4.7**
HUIG				*i* S		Sn	10 32 37.0	-10
MEIG	**Mezcala**	**2.03**	**312**	*e*P		**Pn**	**10 32 21.4**	**-1.4**
MEIG				*e*S		**Sb**	**10 32 53.4**	**+2.1**
MEIG	**Mezcala**	**2.03**	**312**			**Pn**	**10 32 21.4**	**-1.4**
MEIG						**Sb**	**10 32 53.4**	**+2.1**
CAIG	**El Cayaco**	**2.19**	**283**	*e*P		Pn	10 32 20.1	-4.9
CAIG				*e*S		**Sn**	**10 32 51.5**	**+0.1**
CAIG	**El Cayaco**	**2.19**	**283**			**Sn**	**10 32 51.5**	**+0.1**
PLIG	**Platanillo**	**2.29**	**323**	*e*P		**Pn**	**10 32 26.2**	**-0.2**
YAIG	**Yautepec**	**2.49**	**337**	*e*P		**Pn**	**10 32 29.2**	**0.0**
YAIG				*e*S		**Sn**	**10 32 56.1**	**-2.7**
AMVM	**AMECAMECA**	**2.65**	**344**	*e*P		**Pb**	**10 32 35.3**	**-1.7**
AMVM				*e*S		**Sb**	**10 33 07.4**	**-1.9**
MAVM	**Malinalco, Edo**	**2.76**	**330**	*e*P		**Pn**	**10 32 34.5**	**+1.6**
MAVM				*e*S		**Sb**	**10 33 15.0**	**+3.8**
ARIG	**Puente Sto Nin**	**2.79**	**308**	*e*P		**Pn**	**10 32 32.0**	**-1.2**
ARIG				*i* S		**Sn**	**10 33 06.2**	**+0.1**
MZVM		**2.85**	**337**	*e*P		**Pb**	**10 32 37.2**	**-3.0**
MZVM				*e*S		**Sb**	**10 33 20.1**	**+5.5**
UNM	**Universidad Na** 50nm,0.3s,baz=260,slow=11,SNR=403	**2.96**	**339**	*i* P		**Pn**	**10 32 33.9**	**-1.9**
UNM				*i* S		**Sn**	**10 33 13.6**	**+3.0**
CVM	**Colonia del Va**	**3.00**	**339**	*e*P		**Pb**	**10 32 40.3**	**-2.6**
CVM				*e*S		**Sb**	**10 33 23.4**	**+4.2**
PBVM	**Pinon**	**3.03**	**341**	*e*P		**Pn**	**10 32 33.8**	**-2.7**
PBVM				*e*S		**Sn**	**10 33 12.8**	**+0.9**
CMIG	**Matias Romero** 50nm,0.3s,baz=260,slow=11,SNR=403	**3.06**	**80**	Pn		**Pn**	**10 32 34.4**	**-2.5**
CMIG				Lg	LR	Lg	10 33 09.5	
CMIG	comp=Z,972nm,21.1s,baz=224,slow=30			Lg		Lg	10 33 23.5	
PTVM	**Pico Tres Padr** 142nm,0.3s,baz=356,slow=3.9,SNR=4.3	**3.18**	**341**	*e*P		**Pn**	**10 32 38.7**	**-0.1**
PTVM				*e*S		**Sn**	**10 33 14.6**	**-1.5**
ZUVM	**ZUMPANGO**	**3.39**	**343**	*e*P		**Pb**	**10 32 47.3**	**-2.4**
ZUVM				*e*S		**Sn**	**10 33 23.2**	**+1.9**
ZIIG	**Zihuatanejo**	**3.44**	**288**	*i* P		**Pn**	**10 32 39.2**	**-2.9**
ZIIG				*e*S		Sn	10 33 12.2	-10
MOIG	**Morelia**	**4.31**	**316**	*i* P		**Pn**	**10 32 51.5**	**-2.8**
MOIG				*e*S		**Sn**	**10 33 49.5**	**+5.6**
MOIG	**Morelia**	**4.31**	**316**			**Pn**	**10 32 58.2**	**+3.8**
MMIG	**Aquila**	**5.35**	**289**	*i* P		**Pn**	**10 33 06.0**	**-2.4**
MMIG				*e*			10 33 48.2	
CCIG	**Comitan**	**5.66**	**92**			**Pn**	**10 33 11.9**	**-1.0**
HUEH	**Huehuetenango**	**6.40**	**100**			**Pn**	**10 33 22.6**	**-0.5**
RTAL	**Retalhuleu**	**6.44**	**108**			**Pn**	**10 33 22.4**	**-0.9**
CJM	**Chamela**	**7.28**	**295**	*e*P		**Pn**	**10 33 34.3**	**-0.6**
CJM				*e*			10 34 25.6	
ZAIG	**Zacatecas**	**7.50**	**326**	Pn		**Pn**	**10 33 39.8**	**+1.6**
ANIG	**Ahuacatlan**	**7.59**	**307**	*i*		Pb	10 33 56.6	-4.6
ANIG				*i*			10 34 50.8	
PETF	**Flores**	**7.83**	**86**			**Pn**	**10 33 40.1**	**-2.4**
ESQI	**Esquipulas**	**8.61**	**102**			**Pn**	**10 33 54.1**	**+0.9**
MTO3	**Montecristo**	**8.63**	**103**			**Pn**	**10 33 54.3**	**+0.6**
CRIN	**San Cristobal**	**11.30**	**108**			**Pn**	**10 34 31.0**	**+0.9**
833A	**Chaparral WMA,** baz=173,SNR=14	**11.77**	**354**	P			10 34 38.2	
H06E1	**SOCORRO T-PHAS** SNR=31	**12.48**	**282**	T		T	10 47 25.3	
H06S1	**SOCORRO T** SNR=16	**12.51**	**282**	T		T	10 47 27.6	
SLBS	**Sierra La Lagu**	**13.24**	**304**			**Pn**	**10 34 57.5**	**+0.9**
HZTE	**Horizontes, Gu**	**13.41**	**114**			**Pn**	**10 35 01.8**	**+2.8**
ORTG	**Ortega, Santa**	**13.69**	**115**	Pn		**Pn**	**10 35 03.1**	**+0.3**
TX32	**Lajitas Array**	**13.72**	**339**			**Pn**	**10 35 03.0**	**-0.3**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=160,slow=12,SNR=14	**13.72**	**339**	Pn		**Pn**	**10 35 04.7**	**+1.5**
TXAR				Lg		Lg	10 39 11.4	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=229,slow=51,SNR=2.3	**13.72**	**339**			**Pn**	**10 35 04.9**	**+1.7**
TX31	**Lajitas Ar. Si**	**13.72**	**339**	Pn		**Pn**	**10 35 04.2**	**+1.0**
LPIG	**La Paz** comp=Z,577nm,19.0s,baz=122,slow=33	**13.73**	**305**	LR		LR	10 39 21.9	
DUNO	**Dulce Nombre,**	**13.80**	**116**			**Pn**	**10 35 07.9**	**+3.7**
JCT	**Junction City**	**13.94**	**354**	Pn		**Pn**	**10 35 07.4**	**+1.2**
JCT	**Junction City**	**13.94**	**354**	P			10 35 05.6	
	baz=172							
435B	**Jarrell** baz=181	**14.16**	**2**	P			10 35 08.5	
435B	**Jarrell**	**14.16**	**2**	Pn		**Pn**	**10 35 11.5**	**+2.4**
JTS	**Las Juntas de** 0.6nm,0.3s,baz=169,slow=22,SNR=2.9	**14.16**	**114**	Pn		**Pn**	**10 35 08.6**	**-0.6**
JTS				LR		LR	10 39 29.6	
	comp=Z,272nm,21.0s,baz=16,slow=33							
JTS	**Las Juntas de**	**14.16**	**114**	Pn		**Pn**	**10 35 10.0**	**+0.7**
CAO2	**Cobano, Puntar**	**14.32**	**117**	Pn		**Pn**	**10 35 12.5**	**+1.1**
COVE	**Coope Vega, Sa**	**14.46**	**112**			**Pn**	**10 35 14.1**	**+0.8**
441A	**DeRidder**	**14.79**	**17**	Pn		**Pn**	**10 35 17.7**	**0.0**
CVTR	**Volcan Turrial**	**15.33**	**113**	P		**Pn**	**10 35 24.9**	**-0.5**
CVTR						IAmb	IAmb	10 35 36.2
	comp=Z,112nm,1.1s							
RIMA	**Rio Macho**	**15.36**	**114**			**Pn**	**10 35 25.4**	**-0.1**
RIMA						IAmb	IAmb	10 35 36.8
	comp=Z,245nm,1.6s							
WHTX	**Lake Whitney,** baz=182,SNR=5.6	**15.37**	**2**	P			10 35 24.8	
WHTX	**Lake Whitney,**	**15.37**	**2**	Pn		**Pn**	**10 35 25.0**	**-0.3**
WHTX				P		**P**	**10 35 30.6**	**+0.8**
WHTX						IAmb	IAmb	10 35 39.5
	comp=Z,100nm,1.1s							
NATX	**Nacogdoches**	**15.43**	**11**			**Pn**	**10 35 25.2**	**-1.0**
NATX						IAmb	IAmb	10 35 39.6
	comp=Z,204nm,1.6s							
NATX	**Nacogdoches** baz=192,SNR=5.6	**15.43**	**11**	P			10 35 25.7	
SOR	**Soroa**	**15.44**	**64**	Pn		**Pn**	**10 35 25.5**	**-0.9**
SOR				pP		**pP**	**10 35 38.0**	**+0.3**
237A	**Washetta, Mont**	**15.50**	**7**	P		**P**	**10 35 29.5**	**-1.7**
237A						IAmb	IAmb	10 35 40.8
	comp=Z,117nm,0.9s							
342A	**Flagon Creek P**	**15.63**	**18**			**Pn**	**10 35 27.5**	**-1.2**
342A						IAmb	IAmb	10 35 41.1
	comp=Z,106nm,1.1s							
PEZE	**Perez Zeledon,**	**15.70**	**115**			**Pn**	**10 35 28.9**	**-0.9**
PEZE						IAmb	IAmb	10 35 49.0
	comp=Z,133nm,1.7s							
SRBA	**San Rafael, Bu**	**16.05**	**115**	P		**P**	**10 35 36.8**	**-0.7**
SRBA				pP		**pP**	**10 35 44.9**	**+0.5**
ABTX	**Abilene, Hawle**	**16.05**	**355**	P		**P**	**10 35 37.5**	**+0.1**
ABTX						IAmb	IAmb	10 35 40.0
	comp=Z,257nm,1.4s							
ABTX	**Abilene, Hawle** baz=174,SNR=24	**16.05**	**355**	P			10 35 33.8	
DRK0	**Durika**	**16.13**	**115**			**Pn**	**10 35 35.8**	**+0.3**
DRK0						IAmb	IAmb	10 35 42.3
	comp=Z,74nm,0.7s							
344A	**Westbrook Farm**	**16.24**	**23**			**Pn**	**10 35 34.5**	**-2.1**
344A						IAmb	IAmb	10 35 48.9
	comp=Z,112nm,1.0s							
MNTX	**Cornudas Mount** baz=154,SNR=16	**16.48**	**337**	P			10 35 38.6	
MNTX	**Cornudas Mount**	**16.48**	**337**			**Pn**	**10 35 39.9**	**+0.2**
346A	**Big Creek Wild**	**16.69**	**26**	Pn		**Pn**	**10 35 41.3**	**-1.0**
346A				pP		**pP**	**10 35 49.6**	**-1.8**
346A						IAmb	IAmb	10 36 18.2
	comp=Z,80nm,1.0s							
Z35A	**Perchaven, San**	**16.71**	**2**	Pn		**Pn**	**10 35 40.9**	**-1.7**
Z38A	**Mt. Pleasant** comp=Z,246nm,1.5s	**16.85**	**9**	IAmb		IAmb	10 35 47.4	
VBMS	**Vicksburg** comp=Z,230nm,1.1s	**17.01**	**22**	IAmb		IAmb	10 35 56.5	
VBMS	**Vicksburg** baz=205,SNR=9.1	**17.01**	**22**	P			10 35 43.7	
143A	**Socs Landing,** comp=Z,85nm,0.9s	**17.15**	**19**	IAmb		IAmb	10 35 58.5	
HSIG		**17.17**	**318**	Pn		**Pn**	**10 35 48.0**	**-0.4**
Z41A	**Richland Creek** baz=197	**17.28**	**15**	P			10 35 48.3	
LOOK	**Love County**	**17.37**	**2**	P		**Pn**	**10 35 49.0**	**-1.8**
WLAR	**White Oak Lake**	**17.61**	**14**	P		**Pn**	**10 35 51.6**	**-2.2**
BRAL	**Brewton**	**17.65**	**33**	P		**Pn**	**10 35 52.8**	**-1.5**
BRAL						IAmb	IAmb	10 36 03.6
	comp=Z,117nm,1.4s							
BRAL	**Brewton** baz=217	**17.65**	**33**	P			10 35 51.9	
MSTX	**Muleshoe** baz=164,SNR=8.1	**17.85**	**347**	P			10 35 56.4	
MSTX	**Muleshoe**	**17.85**	**347**			**Pn**	**10 35 55.6**	**-1.3**
319A	**Douglas**	**17.95**	**327**	P		**P**	**10 35 58.4**	**-0.2**
X34A	**Smith Ranch, M**	**17.96**	**1**			**P**	**10 35 58.3**	**-0.3**
X34A						IAmb	IAmb	10 36 23.3
	comp=Z,137nm,1.3s							
X37A	**Clayton** comp=Z,127nm,1.4s	**18.11**	**7**	IAmb		IAmb	10 36 22.4	
WMOK	**Wichita Mounta** baz=177,SNR=27	**18.11**	**358**	P			10 35 58.5	
121A	**Cookes Peak, D** baz=148,SNR=20	**18.18**	**333**	P			10 36 01.8	
MIAR	**Mount Ida** baz=193,SNR=14	**18.34**	**12**	P			10 36 00.7	
MIAR	**Mount Ida**	**18.34**	**12**	P		**P**	**10 35 59.6**	**-3.1**
MIAR						IAmb	IAmb	10 36 12.5
	comp=Z,112nm,1.4s							
553A	**Crawfordville**	**18.41**	**40**	P		**P**	**10 36 02.5**	**-1.0**
553A						IAmb	IAmb	10 36 24.7
	comp=Z,214nm,1.8s							
X40A	**Basin Creek Fa** baz=196	**18.45**	**14**	P			10 36 01.9	
AMTX	**Amarillo** baz=168	**18.53**	**351**	P			10 36 04.5	
AMTX	**Amarillo**	**18.53**	**351**			**Pn**	**10 36 04.8**	**-0.4**
250A	**Grady**	**18.70**	**33**	P		**P**	**10 36 04.7**	**-2.0**
OKCFA	**Oklahoma City** comp=Z,99nm,0.7s	**18.78**	**1**	IAmb		IAmb	10 36 18.8	
Y45A	**Yeager Farm, C** comp=Z,172nm,1.1s	**18.84**	**22**	IAmb		IAmb	10 36 16.9	
Z47A	**Carrollton** comp=Z,276nm,1.8s	**18.85**	**27**	IAmb		IAmb	10 36 18.0	
W39A	**Magazine** baz=192,SNR=10	**18.94**	**11**	P			10 36 08.9	
W39A	**Magazine** comp=Z,202nm,1.8s	**18.94**	**11**	IAmb		IAmb	10 36 18.1	
OK025	**Westminster Rd** comp=Z,87nm,1.1s	**18.95**	**2**	IAmb		IAmb	10 36 19.8	
352A	**Blakely**	**19.04**	**36**	P		**Pn**	**10 36 10.5**	**-0.8**
DWPF	**Disney Wildern** baz=237	**19.15**	**50**	P			10 36 08.8	
OK029	**Liberty Lake** comp=Z,77nm,1.1s	**19.16**	**1**	IAmb		IAmb	10 36 22.1	
LRAL	**Lakeview Retre**	**19.19**	**29**	P		**P**	**10 36 11.1**	**-1.0**
LRAL	**Lakeview Retre** baz=214,SNR=14	**19.19**	**29**	P			10 36 10.6	
W41B	**Gary Mavity, V** baz=197,SNR=10	**19.24**	**15**	P			10 36 11.4	
OK030	**Cody Creek RV** comp=Z,211nm,1.4s	**19.32**	**3**	IAmb		IAmb	10 36 15.1	
OK031	**S. Brethren Rd** comp=Z,194nm,1.3s	**19.34**	**3**	IAmb		IAmb	10 36 15.3	
TUL1	**Leonard** baz=186,SNR=19	**19.37**	**5**	P			10 36 12.9	
OXF	**Oxford** baz=205	**19.47**	**22**	P			10 36 13.7	
OXF	**Oxford**	**19.47**	**22**	P		**P**	**10 36 13.4**	**-1.7**
OXF						pP	**pP**	**10 36 20.5**	**-1.6**
OXF						IAmb	IAmb	10 36 31.1
	comp=Z,62nm,1.1s							
TUC	**Tucson**	**19.48**	**326**			**Pn**	**10 36 16.8**	**+0.2**
TUC	**Tucson** baz=140	**19.48**	**326**	P			10 36 16.4	
ANMO	**Albuquerque** comp=Z,0.9nm,0.3s,baz=153,slow=12,SNR=35	**19.80**	**339**	P		**Pn**	**10 36 19.8**	**-0.7**
ANMO	**Albuquerque** baz=155	**19.80**	**339**	P		**P**	**10 36 19.4**	**+0.6**
ANMO	**Albuquerque**	**19.80**	**339**	P			10 36 19.5	
TIGA	**Tifton** baz=225	**19.80**	**39**	P			10 36 16.4	
FCAR	**Ozark Folk Cen** comp=Z,126nm,1.7s	**19.95**	**14**	IAmb		IAmb	10 36 34.7	
U38A	**Gravette** comp=Z,87nm,1.4s	**20.06**	**9**	IAmb		IAmb	10 36 27.3	
BLOK	**Blackwell**	**20.13**	**2**	P		**P**	**10 36 21.5**	**-0.8**
Y49A	**Blount Mountai** comp=Z,65nm,1.1s	**20.14**	**29**	IAmb		IAmb	10 36 30.4	
OK032	**Salt Plains WL** comp=Z,86nm,0.9s	**20.16**	**360**	IAmb		IAmb	10 36 32.6	
U40A	**Yellville** comp=Z,70nm,1.2s	**20.24**	**12**	IAmb		IAmb	10 36 34.7	
U40A	**Yellville** baz=194,SNR=12	**20.24**	**12**	P			10 36 22.5	
KAN14	**Manchester OK** comp=Z,192nm,1.8s	**20.31**	**0**	IAmb		IAmb	10 36 33.4	
T35A	**Sooner Cattle**	**20.31**	**4**	IAmb		IAmb	10 36 26.9	
	comp=Z,171nm,1.6s							
X48A	**Hartselle** comp=Z,56nm,0.9s	**20.36**	**27**	IAmb		IAmb	10 36 37.1	
214A	**Organ Pipe Nat**	**20.37**	**321**	P		**P**	**10 36 24.4**	**-0.5**
214A	**Organ Pipe Nat** baz=135,SNR=8.3	**20.37**	**321**	P			10 36 25.6	
PLAL	**Pickwick Lake** comp=Z,98nm,1.2s	**20.39**	**24**	IAmb		IAmb	10 36 30.5	
KAN10	**Anthony SW Sta**	**20.48**	**360**	P		**P**	**10 36 25.6**	**-0.5**
KAN08	**Anthony NE Sta**	**20.58**	**0**	P		**P**	**10 36 24.2**	**-3.0**
HALT	**Halls**	**20.76**	**20**	P		**P**	**10 36 27.7**	**-1.4**
HALT						IAmb	IAmb	10 36 33.7
	comp=Z,107nm,1.0s							
PEBM	**Pemiscott Bayo**	**20.78**	**19**	P		**P**	**10 36 28.4**	**-0.9**
255A	**Hazlehurst** comp=Z,147nm,1.3s	**20.82**	**40**	IAmb		IAmb	10 36 46.0	
X18A	**Snowflake** comp=Z,81nm,1.3s	**20.84**	**331**	IAmb		IAmb	10 36 33.4	
SFX	**San Felipe**	**21.04**	**316**	P		**P**	**10 36 31.8**	**-0.3**
W18A	**Petrified Fore** comp=Z,49nm,1.1s	**21.23**	**333**	IAmb		IAmb	10 36 47.9	
W18A	**Petrified Fore** baz=147,SNR=10	**21.23**	**333**	P			10 36 35.7	
T25A	**Trinidad** baz=162,SNR=98	**21.25**	**346**	P			10 36 35.9	
GOGA	**Godfrey** comp=Z,62nm,0.8s	**21.30**	**35**	IAmb		IAmb	10 36 42.7	
GOGA	**Godfrey** baz=222,SNR=16	**21.30**	**35**	P			10 36 32.8	
Y52A	**Lilburn** comp=Z,93nm,0.8s	**21.32**	**34**	IAmb		IAmb	10 36 43.0	
HICK	**Hickman**	**21.37**	**20**	P		**P**	**10 36 34.1**	**-1.6**
SPX	**San Pedro Mart** SPX	**21.45**	**315**	P		**P**	**10 36 37.3**	**+0.3**
	comp=Z,66nm,1.5s					IAmb	IAmb	10 36 48.0
S39A	**Bolivar** comp=Z,139nm,1.5s	**21.45**	**10**	IAmb		IAmb	10 36 40.6	
X51A	**Calhoun** comp=Z,83nm,1.2s	**21.47**	**31**	IAmb		IAmb	10 36 44.8	
SWET	**Sewanee** comp=Z,65nm,0.9s	**21.49**	**28**	IAmb		IAmb	10 36 42.4	
WVT	**Waverly** comp=Z,97nm,0.9s	**21.49**	**23**	P		**P**	**10 36 35.1**	**-1.9**
WVT						IAmb	IAmb	10 36 47.8	
WVT	**Waverly** baz=207	**21.49**	**23**	P			10 36 35.2	
113A	**Mohawk Valley,** comp=Z,85nm,1.8s	**21.51**	**321**	IAmb		IAmb	10 36 47.1	
V48A	**Smith Brothers** comp=Z,103nm,1.1s	**21.55**	**26**	IAmb		IAmb	10 36 45.1	
R32A	**Long Quarter,** comp=Z,44nm,1.0s	**21.78**	**359**	IAmb		IAmb	10 36 51.0	
Y14A	**Wickenburg** comp=Z,83nm,1.4s	**21.92**	**325**	IAmb		IAmb	10 36 52.5	
GTBY	**Guantanamo Bay**	**22.02**	**78**	P		**P**	**10 36 43.3**	**+0.5**
CLTN	**Cedars of Leba** comp=Z,63nm,1.1s	**22.06**	**26**	IAmb		IAmb	10 36 50.7	
SDCO	**Great Sand Dun** baz=160,SNR=60	**22.10**	**344**	P			10 36 44.1	
SDCO	**Great Sand Dun** comp=Z,55nm,1.4s	**22.10**	**344**	IAmb		IAmb	10 36 55.2	
CBKS	**Cedar Bluff** baz=175	**22.21**	**356**	P			10 36 43.7	
CBKS	**Cedar Bluff** comp=Z,102nm,1.2s	**22.21**	**356**	IAmb		IAmb	10 36 58.8	
CCM	**Cathedral Cave**	**22.23**	**14**	P		**P**	**10 36 43.2**	**-1.7**
CCM						IAmb	IAmb	10 36 57.3	
	comp=Z,55nm,1.0s							
WUAZ	**Wupatki**	**22.31**	**330**	P		**P**	**10 36 47.2**	**+1.1**
WUAZ	**Wupatki** baz=144,SNR=20	**22.31**	**330**	P			10 36 47.4	
CPCT	**Cooper Cave** comp=Z,95nm,1.1s	**22.34**	**30**	IAmb		IAmb	10 36 53.1	
GLA	**Glamis**	**22.35**	**320**	P		**P**	**10 36 46.4**	**+0.1**
GLA	**Glamis** baz=133	**22.35**	**320**	P			10 36 46.7	
SIUC	**Southern Illin**	**22.45**	**19**	P		**P**	**10 36 45.8**	**-1.6**
S22A	**4UR Ranch, Cre** baz=157,SNR=34	**22.48**	**342**	P			10 36 47.7	
KSU1	**Kansas State U** baz=183	**22.48**	**3**	P			10 36 47.7	
MVCO	**Mesa Verde**	**22.55**	**338**	P		**P**	**10 36 47.9**	**-0.8**
MVCO	**Mesa Verde** baz=152,SNR=58	**22.55**	**338**	P			10 36 48.8	
HODGE	**Hodges** comp=Z,72nm,0.9s	**22.58**	**36**	IAmb		IAmb	10 36 55.4	
KSCO	**Kaye Shedlock'** comp=Z,45nm,0.9s	**22.72**	**351**	IAmb		IAmb	10 36 58.9	
KSCO	**Kaye Shedlock'** baz=168,SNR=11	**22.72**	**351**	P			10 36 50.0	
BG3	**Lake Jocassee** comp=Z,53nm,1.3s	**22.79**	**34**	IAmb		IAmb	10 36 58.0	
PDMCI	**Parker Dam,Lak** baz=136,SNR=6.1	**22.83**	**324**	P			10 36 52.0	
TKL	**Tuckaleechee C** comp=Z,38nm,1.2s,baz=191,slow=9.6,SNR=12	**22.87**	**31**	P		**P**	**10 36 50.0**	**-1.8**
TKL	**Tuckaleechee C** comp=Z,71nm,1.1s	**22.87**	**31**	IAmb		IAmb	10 37 00.3	
SWSC	**Sam W. Stewart** baz=130	**22.88**	**319**	P			10 36 52.4	
IKP	**In-Ko-Pah, Jac** baz=129	**22.89**	**318**	P			10 36 53.0	
SLM	**Saint Louis**	**23.03**	**16**	P		**P**	**10

PV04	**Paradox Valley**	**23.75**	**338**	IAmb	IAmb	10 37 10.3			
	comp=Z,74nm,1.3s								
KMSC	**Kings Mountain**	**23.77**	**36**	IAmb	IAmb	10 37 09.0			
	comp=Z,60nm,1.0s								
KMSC	**Kings Mountain**	**23.77**	**36**	P		10 36 58.8			
	baz=223								
PV14	**Lion Creek, Pa**	**23.77**	**338**	IAmb	IAmb	10 37 09.5			
	comp=Z,89nm,1.6s								
PV22	**Blue Mesa, Par**	**23.84**	**339**	pP	**pP**	**10 37 09.8**	**+0.9**		
PV22				IAmb	IAmb	10 37 11.2			
	comp=Z,55nm,1.1s								
SMCO	**Snowmass**	**23.85**	**343**	IAmb	IAmb	10 37 07.4			
	comp=Z,75nm,1.4s								
WCI	**Wyandotte Cave**	**23.92**	**23**	P		10 37 00.5			
	baz=209								
WCI	**Wyandotte Cave**	**23.92**	**23**	P	**P**	**10 37 00.2**	**-1.9**		
GMRC	**Granite Mounta**	**24.05**	**322**	P		10 37 03.8			
	baz=134,SNR=7.0								
ISCO	**Idaho Springs**	**24.07**	**346**	P		10 37 04.4			
	baz=161,SNR=78								
ISCO	**Idaho Springs**	**24.07**	**346**	pP	**pP**	**10 37 12.2**	**+0.9**		
ISCO				IAmb	IAmb	10 37 13.5			
	comp=Z,63nm,1.0s								
MURC	**Murrieta**	**24.20**	**318**	P		10 37 05.4			
	baz=129								
KNB	**Kanab**	**24.21**	**330**	IAmb	IAmb	10 37 15.6			
	comp=Z,42nm,1.2s								
PKCU	**Pink Cliffs**	**24.32**	**332**	IAmb	IAmb	10 37 17.9			
	comp=Z,62nm,1.2s								
V55A	**Taylorsville**	**24.35**	**35**	IAmb	IAmb	10 37 13.5			
	comp=Z,78nm,1.1s								
R49A	**Shelbyville**	**24.42**	**25**	IAmb	IAmb	10 37 13.8			
	comp=Z,40nm,0.9s								
BBRC	**Big Bear Solar**	**24.45**	**320**	P		10 37 08.3			
	baz=131								
HEC	**Hector,Ludlow**	**24.48**	**321**	P		10 37 08.0			
	baz=133								
OGNE	**Ogallala**	**24.54**	**353**	P		10 37 08.1			
	baz=170,SNR=5.7								
S51A	**Beattyville**	**24.55**	**28**	IAmb	IAmb	10 37 16.8			
	comp=Z,50nm,0.8s								
TUQ	**Turquoise Moun**	**24.66**	**323**	P		10 37 09.6			
	baz=134,SNR=19								
SCI2	**San Clemente I**	**24.70**	**315**	P		10 37 10.2			
	baz=126								
MTPU	**Mount Pierson**	**24.75**	**333**	IAmb	IAmb	10 37 20.7			
	comp=Z,56nm,1.0s								
BGNE	**Belgrade**	**24.75**	**360**	P		10 37 09.5			
	baz=179								
R50A	**Paris**	**24.76**	**26**	IAmb	IAmb	10 37 18.1			
	comp=Z,51nm,1.0s								
CIS	**Catalina Islan**	**24.87**	**316**	P		10 37 12.2			
	baz=127								
BFSC	**Mount Baldy Ra**	**24.90**	**319**	P		10 37 11.4			
	baz=130								
RRX	**Edison Barstow**	**24.91**	**321**	P		10 37 11.6			
	baz=132								
SRU	**San Rafael Swe**	**24.98**	**337**	IAmb	IAmb	10 37 22.8			
	comp=Z,49nm,1.2s								
FMP	**Fort Macarthur**	**24.98**	**317**	P		10 37 12.7			
	baz=128								
Q16A	**Castle Valley**	**25.06**	**335**	IAmb	IAmb	10 37 23.0			
	comp=Z,46nm,1.2s								
HDIL	**Hopedale**	**25.08**	**16**	P		10 37 11.4			
	baz=200,SNR=8.9								
GSC	**Goldstone, Bar**	**25.08**	**322**	P		10 37 13.3			
	baz=133								
O20A	**White River Ci**	**25.10**	**341**	P		10 37 13.5			
	baz=156,SNR=36								
O20A	**White River Ci**	**25.11**	**341**	IAmb	IAmb	10 37 24.1			
	comp=Z,66nm,1.1s								
MWC	**Mount Wilson**	**25.14**	**318**	IAmb	IAmb	10 37 24.5			
	comp=Z,53nm,1.6s								
SHOC	**Shoshone, Teco**	**25.19**	**323**	P		10 37 15.2			
	baz=135								
N23A	**Red Feather La**	**25.19**	**346**	P		10 37 14.5			
	baz=162,SNR=42								
OTAV	**Otavalo**	**25.22**	**128**	P	**P**	**10 37 11.3**	**-3.4**		
OTAV	**Otavalo**	**25.22**	**128**	*e*P	**P**	**10 37 17.4**	**+2.8**		
P48A	**Milroy**	**25.32**	**23**	IAmb	IAmb	10 37 22.9			
	comp=Z,47nm,0.9s								
DECC	**Green Verdugo**	**25.34**	**318**	P		10 37 15.4			
	baz=128								
L34A	**Svendsen Farm,**	**25.35**	**3**	IAmb	IAmb	10 37 24.5			
	comp=Z,51nm,0.8s								
PHWY	**Pilot Hill**	**25.47**	**347**	IAmb	IAmb	10 37 19.5			
	comp=Z,52nm,1.4s								
EDW2	**Edwards Air Fo**	**25.53**	**319**	P		10 37 16.8			
	baz=130								
SFIN	**Lafayette**	**25.55**	**20**	P		10 37 15.6			
	baz=205,SNR=8.1								
SDDR	**Presa de Saban**	**25.57**	**81**	P	**P**	**10 37 16.5**	**-0.9**		
SDDR				pP	**pP**	**10 37 25.7**	**+0.7**		
SCIA	**State Center**	**25.59**	**8**	P		10 37 16.1			
	baz=190,SNR=12								
P49A	**Miami Univ. Ec**	**25.66**	**24**	P		10 37 16.1			
	baz=210,SNR=19								
LRMC	**Laurel Mtn Rad**	**25.73**	**321**	P		10 37 19.0			
	baz=131								
BLA	**Blacksburg**	**25.79**	**34**	P	**P**	**10 37 17.3**	**-1.9**		
BLA				pP	**pP**	**10 37 27.1**	**+0.4**		
BLA	**Blacksburg**	**25.79**	**34**	P		10 37 18.1			
	baz=222,SNR=6.8								
CNNC	**Cliffs of the**	**25.87**	**40**	P		10 37 18.2			
	baz=229								
R53A	**Hurricane**	**25.88**	**30**	IAmb	IAmb	10 37 27.8			
	comp=Z,52nm,0.9s								
FURC	**Furnace Creek,**	**25.92**	**323**	P		10 37 21.5			
	baz=134								
TPNV	**Topopah Spring**	**25.93**	**325**	IAmb	IAmb	10 37 40.6			
	comp=Z,42nm,1.6s								
TPNV	**Topopah Spring**	**25.93**	**325**	P		10 37 21.3			
	baz=136,SNR=8.2								
RDMU	**Red Mountain**	**25.93**	**340**	IAmb	IAmb	10 37 32.5			
	comp=Z,37nm,1.0s								
MPMC	**Manual Prospec**	**26.00**	**322**	P		10 37 21.6			
	baz=133,SNR=6.7								
ROSC	**El Rosal**	**26.01**	**114**	P	**P**	**10 37 22.1**	**+0.3**		
	comp=Z,6.6nm,0.4s,baz=178,slow=11,SNR=3.6								
ROSC				LR	LR	10 47 33.6			
	comp=Z,239nm,21.2s,baz=10,slow=37								
ROSC	**El Rosal**	**26.01**	**114**	P	**P**	**10 37 20.8**	**-1.0**		
ROSC					**sP**	**10 37 32.6**	**0.0**		
ROSC				IAmb	IAmb	10 37 35.2			
	comp=Z,67nm,1.1s								
L40A	**Anamosa**	**26.07**	**12**	IAmb	IAmb	10 37 29.9			
	comp=Z,57nm,0.9s								
MPU	**Maple Canyon**	**26.19**	**336**	P	**P**	**10 37 23.6**	**+0.6**		
ARVC	**Arvin**	**26.21**	**319**	P		10 37 23.1			
	baz=129								
RWWY	**Rawlins**	**26.25**	**344**	IAmb	IAmb	10 37 33.4			
	comp=Z,88nm,1.5s								
ISA	**Isabella, Lake**	**26.33**	**320**	P		10 37 24.6			
	baz=130								
CWC	**Cottonwood Cre**	**26.61**	**322**	P		10 37 27.0			
	baz=132								
R11A	**Troy Canyon, C**	**26.62**	**328**	P		10 37 27.2			
	baz=139								
RUSC	**La Rusia**	**26.63**	**111**	P	**P**	**10 37 25.6**	**-2.0**		
RUSC				pP	**pP**	**10 37 34.5**	**-0.6**		
RUSC				IAmb	IAmb	10 37 38.3			
	comp=Z,70nm,1.2s								
U59A	**Littleton**	**26.67**	**38**	IAmb	IAmb	10 37 34.9			
	comp=Z,88nm,1.4s								
PKM	**Mcpherson Peak**	**26.69**	**317**	P		10 37 27.9			
	baz=127								
DUG	**Dugway, Tooele**	**26.82**	**334**	P		10 37 29.3			
	baz=147,SNR=20								
VES	**Vestal, Richgr**	**26.82**	**320**	P		10 37 29.3			
	baz=130								
P52A	**Corning**	**26.84**	**28**	P		10 37 26.6			
	baz=215								
P52A	**Corning**	**26.84**	**28**	IAmb	IAmb	10 37 40.1			
	comp=Z,22nm,0.8s								
Q54A	**Coxs Mills**	**26.93**	**31**	IAmb	IAmb	10 37 40.9			
	comp=Z,76nm,1.1s								
L44A	**Lake County Fo**	**26.96**	**17**	P		10 37 28.8			
	baz=202,SNR=8.5								
S57A	**Dark Hollow, R**	**26.98**	**35**	pP	**pP**	**10 37 37.6**	**+0.2**		
S57A				IAmb	IAmb	10 37 39.4			
	comp=Z,61nm,1.1s								
K22A	**Casper**	**26.99**	**346**	IAmb	IAmb	10 37 39.6			
	comp=Z,45nm,1.1s								
K22A	**Casper**	**26.99**	**346**	P		10 37 30.3			
	baz=161,SNR=21								
V61A	**Roper**	**27.04**	**41**	P	**P**	**10 37 29.6**	**-0.8**		
P53A	**Whipple**	**27.06**	**29**	IAmb	IAmb	10 37 38.5			
	comp=Z,44nm,1.3s								
SMMC	**Simmler**	**27.07**	**318**	P		10 37 31.2			
	baz=127								
JFWS	**Jewell Farm**	**27.09**	**13**	IAmb	IAmb	10 37 38.7			
	comp=Z,62nm,1.1s								
JFWS	**Jewell Farm**	**27.09**	**13**	P		10 37 29.6			
	baz=196,SNR=19								
ECSD	**EROS Data Cent**	**27.11**	**2**	P		10 37 29.8			
	baz=183,SNR=13								
T59A	**Double "B" Far**	**27.23**	**38**	pP	pP	10 37 37.5	-2.2		
TPH	**Tonopah**	**27.27**	**326**		**P**	**10 37 31.7**	**-1.1**		
TPH				IAmb	IAmb	10 37 50.3			
	comp=Z,24nm,0.9s								
K43A	**Burlington**	**27.34**	**16**	pP	**pP**	**10 37 41.0**	**+0.4**		
K43A				IAmb	IAmb	10 37 41.1			
	comp=Z,63nm,1.1s								
O52A	**Adamsville**	**27.36**	**28**	IAmb	IAmb	10 38 19.8			
	comp=Z,43nm,1.2s								
I37A	**Lemond, Waseca**	**27.64**	**7**	IAmb	IAmb	10 37 42.6			
	comp=Z,43nm,1.2s								
N51A	**Ashland**	**27.79**	**26**	IAmb	IAmb	10 37 44.1			
	comp=Z,37nm,1.1s								
SUSD	**Miller**	**27.80**	**359**	P		10 37 36.5			
	baz=178								
Q56A	**Snyder Ridge,**	**27.80**	**33**	IAmb	IAmb	10 37 46.3			
	comp=Z,31nm,1.1s								
MLAC	**Mammoth, Mammo**	**27.86**	**323**	P		10 37 38.9			
	baz=133								
BW06	**Boulder Array**	**27.91**	**342**	P		10 37 38.8			
	baz=155,SNR=18								
PDAR	**Pinedale Array**	**27.91**	**342**	P	**P**	**10 37 38.5**	**0.0**		
	comp=Z,2.4nm,0.7s,baz=138,slow=6.9,SNR=21								
PDAR				PcP	**PcP**	**10 40 56.5**	**+2.8**		
	comp=Z,1.0nm,0.8s,baz=123,slow=5.5,SNR=3.5								
PDAR				LR	LR	10 50 05.1			
	comp=Z,735nm,19.6s,baz=168,slow=40								
M50A	**Fremont**	**27.92**	**25**	IAmb	IAmb	10 37 45.4			
	comp=Z,33nm,0.9s								
RSSD	**Black Hills**	**27.93**	**351**	P	**P**	**10 37 37.2**	**-1.4**		
RSSD	**Black Hills**	**27.93**	**351**	P		10 37 38.6			
	baz=167								
MCWV	**Mont Chateau**	**27.94**	**31**	P		10 37 37.1			
	baz=220								
I40A	**Norwalk**	**27.95**	**11**	IAmb	IAmb	10 37 46.5			
	comp=Z,50nm,1.2s								
O54A	**Avella**	**28.09**	**30**	IAmb	IAmb	10 37 47.4			
	comp=Z,30nm,1.1s								
NVAR	**Mina Arraay Bea**	**28.12**	**325**	P	**P**	**10 37 41.4**	**+1.1**		
	comp=Z,11nm,1.1s,baz=144,slow=8.7,SNR=42								
NVAR				PcP	**PcP**	**10 40 57.8**	**+3.5**		
	comp=Z,1.9nm,0.9s,baz=112,slow=4.2,SNR=5.6								
NVAR				LR	LR	10 49 20.1			
	comp=Z,533nm,18.8s,baz=138,slow=38								
I42A	**Draeger Farm,**	**28.31**	**14**	IAmb	IAmb	10 37 49.8			
	comp=Z,33nm,1.1s								
ELK	**Elko**	**28.32**	**332**	P	**P**	**10 37 42.8**	**+0.6**		
	comp=Z,3.8nm,0.9s,baz=151,slow=6.2,SNR=14								
N53A	**Lisbon**	**28.37**	**28**	IAmb	IAmb	10 37 52.7			
	comp=Z,44nm,1.2s								
M52A	**Chesterland**	**28.73**	**27**	IAmb	IAmb	10 37 53.6			
	comp=Z,22nm,1.0s								
P57A	**Homestead Farm**	**28.74**	**33**	IAmb	IAmb	10 37 55.9			
	comp=Z,41nm,1.3s								
REDW	**Red Top Meadow**	**28.85**	**340**	IAmb	IAmb	10 37 56.5			
	comp=Z,28nm,1.1s								
J47A	**Sunmer**	**28.87**	**20**	IAmb	IAmb	10 37 54.5			
	comp=Z,40nm,1.1s								
N54A	**Moraine State**	**28.88**	**29**	P		10 37 45.5			
	baz=218								
SPMN	**Marine on St.**	**28.91**	**8**	IAmb	IAmb	10 37 54.7			
	comp=Z,35nm,1.1s								
SPMN	**Marine on St.**	**28.91**	**8**	P		10 37 45.6			
	baz=190,SNR=7.6								
M53A	**Wi Miller and**	**28.95**	**28**	P		10 37 45.1			
	baz=216								
LOHW	**Long Hollow**	**29.00**	**341**	IAmb	IAmb	10 37 57.8			
	comp=Z,30nm,1.1s								
O56A	**Blue Knob Stat**	**29.04**	**32**	P		10 37 46.9			
	baz=221								
H43A	**Windswept, Lux**	**29.14**	**15**	IAmb	IAmb	10 37 57.0			
	comp=Z,36nm,1.1s								
G40A	**Rib Lake**	**29.36**	**11**	IAmb	IAmb	10 37 59.0			
	comp=Z,51nm,1.1s								
M54A	**Oil Creek Stat**	**29.46**	**29**	P		10 37 50.6			
	baz=218								
RUBR	**Rubicon Trail**	**29.59**	**324**	IAmb	IAmb	10 37 56.1			
	comp=Z,47nm,1.6s								
SSPA	**Standing Stone**	**29.66**	**32**	P		10 37 52.6			
	baz=222								
SSPA	**Standing Stone**	**29.66**	**32**	P	**P**	**10 37 53.3**	**-0.4**		
SSPA				IAmb	IAmb	10 38 04.0			
	comp=Z,82nm,1.9s								
H17A	**Grant Village**	**29.70**	**342**	P		10 37 55.2			
	baz=155								
ERPA	**Erie**	**29.80**	**28**	P		10 37 55.0			
	baz=217								
M55A	**Ridgway**	**29.85**	**30**	IAmb	IAmb	10 38 03.1			
	comp=Z,37nm,0.9s								
RLMT	**Red Lodge**	**29.99**	**344**	P		10 37 56.9			
	baz=158,SNR=16								
RLMT	**Red Lodge**	**30.00**	**344**	IAmb	IAmb	10 38 06.4			
	comp=Z,50nm,1.3s								
YMR	**Madison River**	**30.06**	**341**	IAmb	IAmb	10 38 07.7			
	comp=Z,20nm,1.0s								
F42A	**Maple Grove Fa**	**30.26**	**14**	IAmb	IAmb	10 38 06.7			
	comp=Z,44nm,1.2s								
P60A	**Greenville**	**30.27**	**36**	P		10 37 58.1			
	baz=226								
P60A	**Greenville**	**30.27**	**36**	IAmb	IAmb	10 38 08.2			
	comp=Z,34nm,1.2s								
HLID	**Hailey**	**30.30**	**336**	P		10 38 00.2			
	baz=147,SNR=7.6								
COWI	**Conover**	**30.37**	**12**	IAmb	IAmb	10 38 07.9			
	comp=Z,27nm,1.1s								
D32A	**Dogwood Acres,**	**30.49**	**1**	IAmb	IAmb	10 38 01.3			
	comp=Z,14nm,0.6s								
ATAH	**Atahualpa**	**30.53**	**139**	P	**P**	**10 38 05.5**	**+3.3**		
	comp=Z,8.3nm,0.7s,baz=325,slow=7.4,SNR=5.4								
WVNY	**West Valley, N**	**30.66**	**29**	IAmb	IAmb	10 38 10.3			
	comp=Z,22nm,0.9s								
LAO	**LASA Array**	**30.80**	**349**	P		10 38 03.6			
	baz=164								
LAO	**LASA Array**	**30.80**	**349**	IAmb	IAmb	10 38 12.6			
	comp=Z,22nm,1.2s								
N59A	**State Game Lan**	**30.96**	**34**	P		10 38 04.1			
	baz=225								
BOZ	**Bozeman (W)**	**31.10**	**341**	P		10 38 07.2			
	baz=154,SNR=10								
E43A	**Lone Tree Farm**	**31.11**	**15**	IAmb	IAmb	10 38 14.1			
	comp=Z,40nm,0.9s								
DLMT	**Dillon**	**31.20**	**340**	IAmb	IAmb	10 38 17.7			
	comp=Z,38nm,1.2s								
MDND	**Maddock**	**31.22**	**358**	P		10 38 06.4			
	baz=177								
WVOR	**Wild Horse Val**	**31.23**	**330**	IAmb	IAmb	10 38 09.7			
	comp=Z,40nm,1.3s								
O03E	**Paynes Creek**	**31.37**	**324**	P		10 38 08.8			
	baz=132								
K56A	**Middlesex**	**31.48**	**30**	P		10 38 08.4			
	baz=220,SNR=5.5								
AGMN	**Agassiz Nation**	**31.69**	**3**	P		10 38 10.6			
	baz=184,SNR=30								
L58A	**Harry Jones Me**	**31.73**	**32**	P		10 38 10.6			
	baz=223								
EYMN	**Ely**	**31.75**	**8**	IAmb	IAmb	10 38 19.9			
	comp=Z,36nm,1.4s								
EYMN	**Ely**	**31.75**	**8**	P		10 38 10.6			
	baz=192,SNR=9.2								
BINY	**Binghamton**	**31.77**	**32**	P		10 38 11.3			
	baz=223								
E46A	**Sault Ste Mari**	**31.84**	**18**	IAmb	IAmb	10 38 20.7			
	comp=Z,35nm,1.2s								
J08A	**Circle Bar Ran**	**31.87**	**331**	IAmb	IAmb	10 38 23.1			
	comp=Z,24nm,1.0s								
K57A	**Scipio Center**	**31.90**	**31**	IAmb	IAmb	10 38 22.8			
	comp=Z,30nm,1.1s								
B35A	**Bob, Littlefor**	**31.90**	**5**	IAmb	IAmb	10 38 20.9			
	comp=Z,16nm,0.9s								
PAL	**Palisades**	**32.05**	**36**	P		10 38 13.3			
	baz=228								
DGMT	**Dagmar**	**32.22**	**352**	IAmb	IAmb	10 38 25.3			
	comp=Z,30nm,1.1s								
DGMT	**Dagmar**	**32.22**	**352**	P		10 38 16.1			
	baz=168								
SADO	**Sadowa**	**32.31**	**26**	P	**P**	**10 38 14.8**	**-2.3**		
	comp=Z,5.8nm,0.8s,baz=234,slow=6.9,SNR=7.6								
SADO	**Sadowa**	**32.31**	**26**	IAmb	IAmb	10 38 23.8			
	comp=Z,15nm,1.0s								
M04C	**Macdoel**	**32.40**	**326**	P		10 38 18.3			
	baz=133								
WSPT	**Westport, CT**	**32.48**	**36**	IAmb	IAmb	10 38 27.4			
	comp=Z,30nm,1.1s								
K05A	**Summer Lake**	**32.57**	**328**	IAmb	IAmb	10 38 28.6			
	comp=Z,38nm,1.9s								
PECO	**Prince Edward**	**32.59**	**29**	IAmb	IAmb	10 38 26.6			
	comp=Z,13nm,0.9s								
DELO	**Deloro Mine**	**32.76**	**27**	IAmb	IAmb	10 38 28.0			
	comp=Z,19nm,1.1s								
EGMT	**Eagleton**	**32.82**	**345**	P		10 38 21.6			
	baz=159,SNR=7.9								
EGMT	**Eagleton**	**32.82**	**345**	IAmb	IAmb	10 38 31.0			
	comp=Z,30nm,1.2s								
MSO	**Missoula**	**32.94**	**340**	P		10 38 22.7			
	baz=151,SNR=7.2								
K04D	**Chiloquin, OR**	**32.94**	**327**	P		10 38 22.8			
	baz=134								
L04D	**Klamath Falls**	**32.95**	**326**	P		10 38 22.0			
	baz=133								
J58A	**Remsen**	**32.97**	**31**	IAmb	IAmb	10 38 32.1			
	comp=Z,58nm,1.8s								
J58A	**Remsen**	**32.97**	**31**	P		10 38 20.6			
	baz=223								
I57A	**Carthage**	**33.22**	**30**	P		10 38 23.6			
	baz=222								
I58A	**Old Forge**	**33.37**	**31**	P		10 38 24.8			
	baz=223								
F10A	**Beach Ranch, E**	**33.41**	**335**	IAmb	IAmb	10 38 35.4			
	comp=Z,24nm,1.2s								
K61A	**Williamstown**	**33.53**	**34**	P		10 38 25.9			
	baz=227								
J04D	**Umpqua Nationa**	**33.56**	**327**	P		10 38 28.3			
	baz=134								
G08A	**Pilot Rock**	**33.59**	**333**	IAmb	IAmb	10 38 37.5			
	comp=Z,15nm,1.1s								
ULM	**Lac du Bonnet**	**33.64**	**2**	P	**P**	**10 38 27.2**	**-1.4**		
	comp=Z,27nm,1.2s,baz=192,slow=9.1,SNR=12								
ULM				LR	LR	10 52 51.9			
	comp=Z,227nm,18.9s,baz=188,slow=38								
ULM	**Lac du Bonnet**	**33.64**	**2**	IAmb	IAmb	10 38 29.0			
	comp=Z,18nm,1.1s								
L61B	**Northampton**	**33.70**	**35**	P		10 38 28.6			
	baz=228								
ALGO	**Algonquin Park**	**33.72**	**25**	P		10 38 27.8			
	baz=216								
H57A	**Richville**	**33.74**	**30**	P		10 38 27.8			
	baz=222								
JTMT	**Jette**	**33.85**	**340**	IAmb	IAmb	10 38 39.9			
	comp=Z,16nm,1.2s								
L63A	**North Scituate**	**33.91**	**37**	P		10 38 30.5			
	baz=230								
NCB	**Newcomb**	**33.95**	**31**	IAmb	IAmb	10 38 41.6			
	comp=Z,35nm,1.4s								
I05D	**Terrebonne, OR**	**33.97**	**329**	P		10 38 31.5			
	baz=137,SNR=5.9								
I59A	**Olmsteadville**	**34.00**	**32**	P		10 38 31.0			
	baz=224								
K62A	**Royalston**	**34.09**	**35**	P		10 38 31.8			
	baz=228								
I04A	**Tendick Farm,**	**34.11**	**328**	P		10 38 32.4			
	baz=135								
LONY	**Lake Ozonia**	**34.24**	**30**	IAmb	IAmb	10 38 43.7			
	comp=Z,28nm,1.3s								
LONY	**Lake Ozonia**	**34.24**	**30**	P		10 38 32.7			
	baz=223								
H58A	**Gabriels**	**34.29**	**31**	P		10 38 33.6			
	baz=223								
I60A	**Shoreham**	**34.33**	**32**	P		10 38 33.1			
	baz=225								
HRV	**Adam Dziewonsk**	**34.35**	**36**	P	**P**	**10 38 33.8**	**-1.2**		
HRV				IAmb	IAmb	10 38 44.1			
	comp=Z,45nm,1.4s								
HRV	**Adam Dziewonsk**	**34.35**	**36**	P		10 38 33.9			
	baz=229								
J61A	**Chester**	**34.37**	**34**	P		10 38 34.2			
	baz=227								
L64A	**Middleborough**	**34.40**	**37**	P		10 38 33.7			
	baz=231								
G57A	**Newington**	**34.41**	**29**	P		10 38 33.6			
	baz=222								
K63A	**Dunstable**	**34.49**	**36**	IAmb	IAmb	10 38 44.9			
	comp=Z,34nm,1.2s								
K63A	**Dunstable**	**34.49**	**36**	P		10 38 35.4			
	baz=229								
I03D	**Drain, OR**	**34.53**	**327**	P		10 38 35.5			
	baz=133								
J62A	**Henniker**	**34.69**	**35**	P		10 38 35.6			
	baz=228								
H59A	**Cadyville**	**34.70**	**31**	P		10 38 35.9			
	baz=224								
H04D	**Lebanon**	**34.79**	**328**	P		10 38 38.0			
	baz=135,SNR=5.2								
CZSB	**Cruzeiro do Su**	**34.80**	**132**	*e*P	**P**	**10 38 42.7**	**+3.6**		
G58A	**Ormstown**	**34.88**	**30**	P		10 38 38.8			
	baz=223								
WALA	**Waterton Lakes**	**34.90**	**342**	IAmb	IAmb	10 38 49.0			
	comp=Z,14nm,1.1s								
I61A	**Oroboro, Fairl**	**34.95**	**33**	P		10 38 39.0			
	baz=227								
I02D	**Swisshome**	**35.07**	**327**	P		10 38 41.7			
	baz=133								
COR	**Corvallis**	**35.12**	**328**	P	**P**	**10 38 40.0**	**-1.5**		
COR				IAmb	IAmb	10 38 43.9			
	comp=Z,48nm,1.4s								
J63A	**Strafford**	**35.13**	**35**	P		10 38 40.0			
	baz=229								
F05D	**White Salmon**	**35.17**	**331**	P		10 38 42.7			
	baz=138,SNR=9.9								
NNA	**Nana**	**35.27**	**142**	LR	LR	10 50 15.1			
	comp=Z,361nm,19.3s,baz=328,slow=31								
NEW	**Newport**	**35.27**	**338**	P		10 38 42.4			
	baz=147,SNR=6.1								
C09A	**Chrisman Ranch**	**35.32**	**336**	IAmb	IAmb	10 38 53.4			
	comp=Z,29nm,1.3s								
I62A	**Tamworth**	**35.38**	**34**	P		10 38 42.7			
	baz=228								
E56A	**St. Veronique**	**35.47**	**28**	P		10 38 43.3			
	baz=220								
G03D	**McMinnville, O**	**35.55**	**329**	P		10 38 44.8			
	baz=135								
D55A	**Sainte-Anne-du**	**35.65**	**27**	P		10 38 44.1			
	baz=219								
LTY	**Liberty**	**35.87**	**333**	IAmb	IAmb	10 38 57.6			
	comp=Z,43nm,1.6s								
I63A	**Otisfield**	**35.91**	**35**	P		10 38 46.7			
	baz=229								
H62

E61A	**Lac Etchemin**	**37.55**	**32**	P			10 39 01.1		
	baz=227								
G64A	**Maxfield**	**37.68**	**34**	P			10 39 02.3		
	baz=230								
A04D	**Lummi Island**	**37.87**	**333**	P			10 39 04.7		
	baz=139,SNR=14								
PGC	**Sidney**	**38.14**	**333**	IAmb		IAmb	10 39 16.3		
	comp=Z,20nm,1.1s								
E62A	**Clayton Lake**	**38.17**	**32**	P			10 39 06.9		
	baz=228								
FFC	**Flin Flon**	**38.20**	**356**	P		**P**	**10 39 05.7**	**-2.0**	
F64A	**Sherman**	**38.29**	**34**	P			10 39 06.7		
	baz=230								
G65A	**Princeton**	**38.30**	**35**	P			10 39 07.8		
	baz=232								
CHGQ	**Chibougamau**	**38.36**	**25**	P			10 39 07.6		
	baz=218								
E63A	**Oxbow**	**38.61**	**33**	P			10 39 09.7		
	baz=229								
D62A	**Allapoint, All**	**38.72**	**32**	IAmb		IAmb	10 39 24.0		
	comp=Z,45nm,1.3s								
D62A	**Allapoint, All**	**38.72**	**32**	P			10 39 10.7		
	baz=228								
E64A	**Bridgewater**	**38.92**	**34**	P			10 39 12.7		
	baz=230								
D63A	**Stockholm**	**39.18**	**33**	P			10 39 14.6		
	baz=229								
LPAZ	**La Paz**	**43.99**	**136**	P		**P**	**10 39 57.9**	**+1.5**	
	comp=Z,3.7nm,0.8s,baz=333,slow=8.2,SNR=14								
LPAZ				LR		LR	10 57 23.1		
	comp=Z,186nm,19.0s,baz=304,slow=35								
LPAZ	**La Paz**	**43.99**	**136**	P		**P**	**10 39 58.5**	**+2.1**	
LPAZ	**La Paz**	**43.99**	**136**	*eP*		**P**	**10 39 58.7**	**+2.3**	
PB16	**IPOC Station P**	**44.62**	**140**	IAmb		IAmb	10 40 05.1		
	comp=Z,73nm,2.0s								
SCHQ	**Schefferville**	**45.11**	**25**	P		**P**	**10 40 02.7**	**-1.6**	
	comp=Z,6.3nm,0.5s,baz=223,slow=6.7,SNR=21								
SCHQ				LR		LR	11 03 05.8		
	comp=Z,258nm,18.4s,baz=225,slow=42								
SCHQ	**Schefferville**	**45.11**	**25**	P		**P**	**10 40 03.1**	**-1.1**	
SCHQ				IAmb		IAmb	10 40 17.2		
	comp=Z,22nm,1.1s								
MNMC	**Minye Minye**	**45.17**	**141**	IAmb		IAmb	10 40 09.1		
	comp=Z,32nm,1.5s								
MALB	**Monte Alegre**	**46.91**	**109**	*eP*		**P**	**10 40 23.0**	**+4.0**	
YKA	**Yellowknife Ar**	**47.33**	**350**	P		**P**	**10 40 20.2**	**-1.4**	
	comp=Z,5.3nm,1.0s,baz=156,slow=8.1,SNR=34								
YKA				PcP		**PcP**	**10 41 55.2**	**+3.1**	
	comp=Z,1.9nm,0.9s,baz=155,slow=4.1,SNR=3.7								
YKA				LR		LR	11 04 00.8		
	comp=Z,183nm,22.0s,baz=0.0,slow=41								
VILB	**Vilhena**	**47.52**	**126**	*eP*		**P**	**10 40 25.4**	**+1.6**	
DLBC	**Dease Lake**	**48.02**	**338**	IAmb		IAmb	10 40 37.9		
	comp=Z,29nm,1.2s								
LVC	**Limon Verde**	**48.25**	**143**	P		**P**	**10 40 31.7**	**+2.1**	
	comp=Z,3.9nm,0.8s,baz=323,slow=10,SNR=3.0								
LVC	**Limon Verde**	**48.25**	**143**	*eP*		**P**	**10 40 32.2**	**+2.6**	
MCPB	**Macapa, AP**	**48.34**	**106**	*eP*		**P**	**10 40 32.1**	**+2.0**	
TAOE	**Nuku Hiva Isla**	**48.73**	**242**	*eT*		T	11 32 03.2		
	comp=Z,105nm,0.2s								
SIV	**San Ignacio**	**48.74**	**130**	P		**P**	**10 40 33.9**	**+0.8**	
	comp=Z,2.1nm,0.7s,baz=313,slow=8.4,SNR=10								
PTLB	**Pontes e Lacer**	**49.85**	**128**	*eP*		**P**	**10 40 43.1**	**+1.6**	
CLDB	**Colider**	**49.88**	**120**	*eP*		**P**	**10 40 43.4**	**+1.5**	
FRB	**Frobisher Bay**	**51.31**	**16**	P		**P**	**10 40 50.6**	**-1.3**	
	comp=Z,9.5nm,0.9s,baz=216,slow=9.7,SNR=9.4								
WHY	**Whitehorse**	**51.35**	**338**	P			10 40 52.6		
	baz=132								
AC02	**Maricunga**	**51.47**	**146**	P		**P**	**10 40 54.6**	**+0.4**	
HYT	**Haines Junctio**	**52.43**	**337**	IAmb		IAmb	10 41 03.3		
	comp=Z,46nm,1.6s								
PRPB	**Parauapebas**	**52.77**	**111**	*eP*		**P**	**10 41 06.2**	**+2.6**	
H03N2	**Juan Fernandez**	**52.96**	**160**	T		T	11 37 47.8		
	baz=338,slow=77,SNR=2389								
H03N1	**Juan Fernandez**	**52.97**	**160**	T		T	11 37 41.0		
	baz=338,slow=77,SNR=3311								
H03N3	**Juan Fernandez**	**52.98**	**160**	T		T	11 37 39.9		
	baz=338,slow=77,SNR=2273								
PINM	**Pinnacle**	**53.05**	**335**	P			10 41 05.2		
	baz=126								
CO03	**El Pedregal**	**53.97**	**151**	P		**P**	**10 41 14.2**	**+2.1**	
CO03				IAmb		IAmb	10 41 15.1		
	comp=Z,31nm,1.8s								
SNDB	**Serra Nova Dou**	**54.22**	**119**	*eP*		**P**	**10 41 16.5**	**+2.4**	
PP1B	**Ponte de Pedra**	**54.40**	**127**	*eP*		**P**	**10 41 16.9**	**+1.5**	
CRQE	**Cirque**	**54.58**	**335**	P			10 41 17.0		
	baz=123								
MCARA	**McCarthy VSAT**	**54.91**	**335**	P			10 41 19.2		
	baz=124								
GLB	**Gilahina Butte**	**55.26**	**335**	IAmb		IAmb	10 41 31.1		
	comp=Z,14nm,1.0s								
BMRM	**Bremner River**	**55.32**	**334**	P			10 41 21.8		
	baz=122								
L27K	**Beaver Creek,**	**55.42**	**337**	IAmb		IAmb	10 41 23.9		
	comp=Z,12nm,1.1s								
L27K	**Beaver Creek,**	**55.42**	**337**	P			10 41 22.1		
	baz=126,SNR=10								
AQDB	**Aquidauana**	**55.52**	**130**	*eP*		**P**	**10 41 24.8**	**+1.4**	
EYAK	**Cordova Ski Ar**	**55.58**	**334**	P			10 41 23.8		
	baz=120								
N25K	**Chitina, Valde**	**55.66**	**335**	P			10 41 24.2		
	baz=122								
EPYK	**Eagle Plains**	**55.87**	**342**	P			10 41 24.6		
	baz=133								
SMTB	**Santa Maria do**	**55.93**	**113**	*eP*		**P**	**10 41 29.6**	**+3.0**	
MENT	**Mentasta**	**56.05**	**337**	IAmb		IAmb	10 41 27.7		
	comp=Z,16nm,1.3s								
K27K	**Chicken**	**56.09**	**338**	P			10 41 27.4		
	baz=126								
KLU	**Klutina**	**56.14**	**335**	IAmb		IAmb	10 41 37.4		
	comp=Z,20nm,1.2s								
KLU	**Klutina**	**56.14**	**335**	P			10 41 27.9		
	baz=121								
EGAK	**Eagle**	**56.22**	**339**	P		**P**	**10 41 26.9**	**-1.0**	
EGAK				pP		**pP**	**10 41 35.1**	**-0.7**	
EGAK				IAmb		IAmb	10 41 35.9		
	comp=Z,17nm,1.2s								
EGAK	**Eagle**	**56.22**	**339**	P			10 41 27.1		
	baz=128,SNR=8.6								
HARP	**HAARP**	**56.31**	**336**	P			10 41 28.4		
	baz=122								
INK	**Inuvik**	**56.40**	**345**	P		**P**	**10 41 28.0**	**-1.1**	
	comp=Z,8.8nm,0.8s,baz=130,slow=7.2,SNR=16								
INK	**Inuvik**	**56.40**	**345**	IAmb		IAmb	10 41 37.6		
	comp=Z,22nm,1.1s								
INK	**Inuvik**	**56.40**	**345**	P			10 41 28.3		
	baz=138,SNR=14								
M24K	**Tolsona, Glenn**	**56.56**	**335**	P			10 41 30.5		
	baz=121								
DOT	**Dot Lake**	**56.58**	**337**	P		**P**	**10 41 28.9**	**-1.6**	
DOT				IAmb		IAmb	10 41 40.2		
	comp=Z,21nm,1.2s								
ROSB	**Rosrio**	**56.63**	**105**	*eP*		P	10 41 36.2	+4.6	
PAX	**Paxson**	**56.74**	**336**	IAmb		IAmb	10 41 40.9		
	comp=Z,18nm,1.2s								
PAX	**Paxson**	**56.74**	**336**	P			10 41 31.4		
	baz=122,SNR=8.2								
SCRK	**Sand Creek**	**56.74**	**338**	IAmb		IAmb	10 41 33.4		
	comp=Z,19nm,1.3s								
SCRK	**Sand Creek**	**56.74**	**338**	P			10 41 31.9		
	baz=124,SNR=9.9								
KNK	**Knik Glacier**	**57.16**	**334**	P			10 41 34.2		
	baz=118								
SML	**Sawmill**	**57.30**	**334**	P			10 41 34.1		
	baz=118								
WAT6	**Susitna Watana**	**57.43**	**335**	P			10 41 36.5		
	baz=120,SNR=7.8								
BRLK	**Bradley Lake**	**57.49**	**331**	IAmb		IAmb	10 41 37.3		
	comp=Z,23nm,1.2s								
KDAK	**Kodiak Island**	**57.50**	**329**	LR		LR	11 06 35.7		
	comp=Z,410nm,18.5s,baz=125,slow=36								
PMR	**Palmer**	**57.53**	**334**	IAmb		IAmb	10 41 46.1		
	comp=Z,18nm,1.2s								
PMR	**Palmer**	**57.53**	**334**	P			10 41 36.9		
	baz=118								
RC01	**Rabbit Creek A**	**57.56**	**333**	P			10 41 37.0		
	baz=117								
HDA	**Harding Lake**	**58.06**	**337**	IAmb		IAmb	10 41 41.6		
	comp=Z,23nm,1.5s								
HDA	**Harding Lake**	**58.06**	**337**	P			10 41 40.0		
	baz=121,SNR=6.1								
HDA				P			10 41 40.0		
	baz=121,SNR=6.1								
CPUP	**Villa Florida**	**58.17**	**136**	P		**P**	**10 41 42.2**	**+0.1**	
	comp=Z,1.9nm,0.7s,baz=292,slow=7.0,SNR=5.8								
CPUP				LR		LR	11 05 48.6		
	comp=Z,126nm,20.5s,baz=329,slow=35								
CPUP	**Villa Florida**	**58.17**	**136**	IAmb		IAmb	10 43 27.7		
	comp=Z,38nm,1.9s								
CPUP	**Villa Florida**	**58.17**	**136**	*eP*		**P**	**10 41 43.2**	**+1.0**	
IL31		**58.23**	**338**	IAmb		IAmb	10 41 51.0		
	comp=Z,30nm,1.4s								
ILAR	**Eielson Array**	**58.23**	**338**	P		**P**	**10 41 41.4**	**-0.7**	
	comp=Z,10nm,1.2s,baz=141,slow=4.3,SNR=38								
ILAR				LR		LR	11 08 20.6		
	comp=Z,162nm,19.4s,baz=130,slow=38								
PMOR	**Pomariorio Ree**	**58.37**	**240**	*eT*		T	11 44 05.2		
	comp=Z,5.6nm,0.2s								
MCK	**McKinley**	**58.47**	**336**	IAmb		IAmb	10 41 44.8		
	comp=Z,21nm,1.2s								
MCK	**McKinley**	**58.47**	**336**	P			10 41 43.4		
	baz=119,SNR=5.5								
CCB	**Clear Creek Bu**	**58.51**	**337**	IAmb		IAmb	10 41 44.5		
	comp=Z,19nm,1.8s								
POKR	**Poker Plat Res**	**58.61**	**338**	P			10 41 44.0		
	baz=121								
COLA	**College**	**58.64**	**338**	P		**P**	**10 41 44.1**	**-0.8**	
COLA				IAmb		IAmb	10 41 45.3		
	comp=Z,19nm,1.4s								
COLA				pP		**pP**	**10 41 52.5**	**-0.3**	
COLA				sP		**sP**	**10 41 55.8**	**-0.1**	
COLA	**College**	**58.64**	**338**	P			10 41 44.1		
	baz=121								
TCOL	**CIGO, UAF Yank**	**58.64**	**338**	IAmb		IAmb	10 41 45.4		
	comp=Z,19nm,1.4s								
TCOL	**CIGO, UAF Yank**	**58.64**	**338**	P			10 41 44.1		
	baz=121								
SPCR	**Spurr Chakacha**	**58.69**	**333**	P			10 41 44.8		
	baz=114								
SKT	**Skwentna**	**58.72**	**334**	IAmb		IAmb	10 41 54.5		
	comp=Z,22nm,1.2s								
SKT	**Skwentna**	**58.72**	**334**	P			10 41 45.1		
	baz=115,SNR=6.9								
BDFB	**Brasilia**	**58.82**	**120**	P		**P**	**10 41 48.2**	**+1.1**	
	comp=Z,2.7nm,0.3s,baz=325,slow=9.9,SNR=7.3								
TRF	**Thorofare Moun**	**58.87**	**335**	P			10 41 46.1		
	baz=117,SNR=13								
NEA2	**Nenana**	**58.95**	**337**	IAmb		IAmb	10 41 48.5		
	comp=Z,13nm,1.2s								
NEA2	**Nenana**	**58.95**	**337**	P			10 41 46.1		
	baz=119,SNR=6.4								
SFJD	**Kangerlussuaq**	**58.96**	**20**	P		**P**	**10 41 46.0**	**-1.1**	
SFJD						**pP**	**10 41 54.4**	**-0.6**	
H24K	**Noodor Dome**	**59.15**	**339**	P			10 41 48.3		
	baz=121,SNR=12								
KTH	**Kantishna Hill**	**59.17**	**335**	IAmb		IAmb	10 41 49.2		
	comp=Z,15nm,1.1s								
I23K	**Minto, Yukon-K**	**59.33**	**337**	P			10 41 49.2		
	baz=119,SNR=18								
PPLA	**Purkeypile**	**59.40**	**334**	P			10 41 49.7		
	baz=115,SNR=7.1								
BPAW	**Bear Paw Mtn.**	**59.45**	**336**	IAmb		IAmb	10 41 51.1		
	comp=Z,18nm,1.4s								
BPAW	**Bear Paw Mtn.**	**59.45**	**336**	P			10 41 49.5		
	baz=117,SNR=6.2								
N19K	**Bonanza Creek**	**59.55**	**332**	P			10 41 50.5		
	baz=112,SNR=6.7								
H23K	**Yukon River**	**59.73**	**338**	P			10 41 51.9		
	baz=119								
MLY	**Manley**	**59.79**	**337**	IAmb		IAmb	10 42 01.9		
	comp=Z,22nm,1.2s								
MLY	**Manley**	**59.79**	**337**	P			10 41 52.0		
	baz=118,SNR=16								
CHUM	**Lake Minchumin**	**59.87**	**335**	P			10 41 52.3		
	baz=116								
SDBA	**SAO DESIDERIO**	**59.89**	**115**	*eP*		**P**	**10 41 57.2**	**+2.8**	
N18K	**Kilae Creek**	**60.15**	**331**	P			10 41 54.4		
	baz=110,SNR=6.9								
SVW2	**Sparrevohn**	**60.15**	**332**	P		**P**	**10 41 53.9**	**-1.6**	
I21K	**Tanana**	**60.32**	**337**	P			10 41 55.8		
	baz=116,SNR=12								
COLD	**Coldfoot**	**60.66**	**339**	P		**P**	**10 41 58.9**	**+0.1**	
COLD				IAmb		IAmb	10 42 08.4		
	comp=Z,13nm,1.2s								
COLD	**Coldfoot**	**60.66**	**339**	P			10 41 58.7		
	baz=119,SNR=6.9								
H21K	**Melozitna Rive**	**60.84**	**337**	P			10 41 59.0		
	baz=116								
TTA	**Tatalina**	**61.01**	**334**	P		**P**	**10 42 00.1**	**-1.2**	
TTA				IAmb		IAmb	10 42 01.3		
	comp=Z,12nm,1.1s								
TTA	**Tatalina**	**61.01**	**334**	P			10 42 00.0		
	baz=111,SNR=6.9								
PPT	**Papeete**	**61.06**	**239**	LR		LR	11 01 11.7		
	comp=Z,186nm,19.3s,baz=37,slow=29								
PPT2	**Papeete2**	**61.07**	**239**	*e*LR		LR	10 59 47.4		
	comp=Z,382nm,25.5s,baz=50								
TOLK	**Toolik Lake Re**	**61.17**	**341**	IAmb		IAmb	10 42 11.3		
	comp=Z,9.7nm,1.1s								
TOLK	**Toolik Lake Re**	**61.17**	**341**	P			10 42 01.9		
	baz=121,SNR=5.1								
ITAB	**Concordia**	**62.27**	**134**	*eP*		**P**	**10 42 11.0**	**+0.8**	
PLCA	**Paso Flores**	**62.46**	**157**	P		**P**	**10 42 12.8**	**+1.5**	
	comp=Z,6.2nm,0.9s,baz=349,slow=10,SNR=7.1								
PLCA				LR		LR	11 04 28.6		
	comp=Z,291nm,18.0s,baz=324,slow=31								
PLCA	**Paso Flores**	**62.46**	**157**	P		**P**	**10 42 13.6**	**+2.2**	
PLCA				IAmb		IAmb	10 42 14.0		
	comp=Z,9.6nm,1.0s								
PLCA	**Paso Flores**	**62.46**	**157**	*eP*		**P**	**10 42 13.3**	**+2.0**	
MC01	**Montes Claros**	**62.74**	**119**	*eP*		**P**	**10 42 16.8**	**+3.2**	
ANGG	**Ammassalik, Gr**	**62.97**	**24**	P		**P**	**10 42 12.7**	**-1.6**	
ANGG						**pP**	**10 42 20.9**	**-1.5**	
NBMA	**Muriti-CE**	**63.26**	**107**	*eP*		**P**	**10 42 21.1**	**+4.0**	
NBPN	**Ponto Novo - B**	**63.35**	**111**	*eP*		**P**	**10 42 21.0**	**+3.3**	
TIJ01	**Guaruva-PR**	**63.35**	**130**	*eP*		**P**	**10 42 20.1**	**+2.4**	
CPSB	**Cacapava Do Su**	**63.43**	**137**	*eP*		**P**	**10 42 18.6**	**+0.7**	
SPB	**Sao Paulo**	**63.53**	**128**	*eP*		**P**	**10 42 20.2**	**+1.4**	
ICESG	**Greenland Ices**	**63.58**	**20**	*i* P		**P**	**10 42 17.4**	**-1.4**	
ICESG				IAmb		IAmb	10 42 18.5		
	comp=Z,33nm,1.1s								
TBI	**Tubuai**	**64.03**	**233**	*e*LR		LR	11 01 21.8		
	comp=Z,446nm,26.2s,baz=50								
TBI	**Tubuai**	**64.03**	**233**	*e*T		T	11 51 04.6		
	comp=Z,33nm,0.3s								
BSCB	**Bom Sucesso**	**64.21**	**124**	*eP*		**P**	**10 42 26.3**	**+3.0**	
PLTB	**Pedras Altas**	**64.22**	**139**	*eP*		**P**	**10 42 25.1**	**+2.0**	
NEEM	**North Greenlan**	**65.19**	**10**	*i* P		**P**	**10 42 28.3**	**-0.8**	
NEEM				IAmb		IAmb	10 42 29.0		
	comp=Z,27nm,0.7s								
SUMG	**Summit**	**65.39**	**17**	*i* P		**P**	**10 42 29.4**	**-1.2**	
SUMG				IAmb		IAmb	10 42 30.2		
	comp=Z,17nm,1.1s								
SUMG	**Summit**	**65.39**	**17**	P		**P**	**10 42 29.8**	**-0.8**	
RAR	**Rarotonga**	**71.23**	**240**	LR		LR	11 09 33.8		
	comp=Z,160nm,18.1s,baz=62,slow=32								
NOR	**Nord**	**72.45**	**9**	*i* P		**P**	**10 43 12.6**	**-1.3**	
KBS	**Kingsbay**	**77.60**	**11**	P		**P**	**10 43 42.8**	**-0.8**	
KBS				IAmb		IAmb	10 43 53.5		
	comp=Z,20nm,1.1s								
PFVI	**Vila Bisbo**	**79.57**	**54**	P		**P**	**10 43 54.8**	**-0.6**	
MTE	**Manteigas**	**79.82**	**51**	P		**P**	**10 43 54.8**	**-1.9**	
MTE				IAmb		IAmb	10 44 04.2		
	comp=Z,21nm,1.1s								
PVAQ	**Vaqueiros**	**80.38**	**54**	IAmb		IAmb	10 44 07.7		
	comp=Z,22nm,1.1s								
PAB	**San Pablo**	**82.41**	**51**	P		**P**	**10 44 09.5**	**-1.1**	
PAB				IAmb		IAmb	10 44 18.6		
	comp=Z,19nm,1.1s								
ESBB	**Sonseca Array**	**82.67**	**51**	P		**P**	**10 44 10.4**	**-1.4**	
ESBB				IAmb		IAmb	10 44 19.8		
	comp=Z,16nm,1.4s								
ESDC	**Sonseca Array**	**82.67**	**51**	P		**P**	**10 44 09.4**	**-2.4**	
	comp=Z,2.4nm,0.9s,baz=295,slow=5.3,SNR=12								
ESDC				LR		LR	11 16 32.2		
	comp=Z,78nm,21.7s,baz=265,slow=33								
ESDC	**Sonseca Array**	**82.67**	**51**	P		**P**	**10 44 10.2**	**-1.6**	
ESDC				pP		**PcP**	**10 44 18.3**	**+1.6**	
ESDC				IAmb		IAmb	10 44 19.8		
	comp=Z,13nm,1.4s								
SEY	**Seymchan**	**83.98**	**334**	P		**P**	**10 44 16.8**	**-1.2**	
	comp=Z,2.3nm,0.9s,baz=92,slow=3.4,SNR=4.3								
NOA	**NORSAR Array B**	**84.62**	**27**	P		**P**	**10 44 19.6**	**-1.8**	
	comp=Z,1.6nm,1.0s,baz=300,slow=5.4,SNR=4.1								
NOA				LR		LR	11 24 59.2		
	comp=Z,39nm,18.2s,baz=285,slow=38								
DOU	**Dourbes**	**85.31**	**39**	*d*P		**P**	**10 44 24.1**	**-0.8**	
DOU				*dx*		x	10 44 30.3		
BMRD	**Maredsous**	**85.34**	**39**	*d*P		**P**	**10 44 24.4**	**-0.8**	
BMRD				*dx*		x	10 44 31.7		
ARCES	**ARCESS Array B**	**85.47**	**17**	LR		LR	11 25 08.1		
	comp=Z,56nm,20.1s,baz=315,slow=38								
BGES	**Gesves**	**85.51**	**39**	*dx*		x	10 44 33.4		
BTNL	**Ternell**	**86.06**	**38**	*d*P		**P**	**10 44 28.0**	**-0.8**	
BTNL				*dx*		x	10 44 34.9		
TIXI	**Tiksi**	**86.49**	**347**	P		**P**	**10 44 28.2**	**-2.1**	
TIXI				IAmb		IAmb	10 44 29.9		
	comp=Z,18nm,1.4s								
CLL	**Collm**	**89.74**	**36**	*e*P		**P**	**10 44 45.0**	**-1.3**	
CLL				*e*PP		**PP**	**10 48 16.0**	**-2.1**	
CLL				*e*S		**S**	**10 55 32.0**	**-4.6**	
CLL				*e*			10 56 00.0		
CLL				*e*PS		**PnS**	**10 56 42.0**	**-2.3**	
CLL				*e*PPS		PPS	10 57 20.0		
CLL				*e*SS		**SS**	**11 01 30.0**	**-2.7**	
CLL				LmV			11 30 00.0		
	comp=Z,100nm,18.6s								
FINES	**FINESS Array B**	**90.57**	**23**	LR		LR	11 29 13.8		
	comp=Z,94nm,19.4s,baz=247,slow=38								
DBIC	**Dimbokro**	**91.15**	**83**	LR		LR	11 24 06.2		
	comp=Z,45nm,20.1s,baz=245,slow=35								
GERES	**GERESS Array B**	**91.25**	**38**	LR		LR	11 26 13.3		
	comp=Z,118nm,19.7s,baz=302,slow=36								
KEST	**Kesra**	**93.92**	**51**	LR		LR	11 24 33.2		
	comp=Z,62nm,19.9s,baz=248,slow=34								
NRIK	**Noril'sk**	**94.23**	**358**	LR		LR	11 30 23.5		
	comp=Z,66nm,20.7s,baz=34,slow=37								
TORD	**Torodi Ar. Bea**	**95.38**	**75**	LR		LR	11 26 42.5		
	comp=Z,101nm,19.6s,baz=275,slow=35								
AKASG	**Malin Array Be**	**98.66**	**31**	LR		LR	11 33 15.4		
	comp=Z,69nm,18.1s,baz=285,slow=38								
DZM	**Mont Dzumac**	**101.04**	**250**	*e*LR		LR	11 18 53.8		
	comp=Z,221nm,23.2s								
HHC	**Hu-ho-hao-te**	**116.61**	**335**	*e*PKP		**PKiKP**	**10 50 36.0**	**+3.5**	
WMQ	**Urumqi**	**119.68**	**355**	*e*PKP		**PKiKP**	**10 50 39.8**	**+1.4**	
NJ2	**Nanjing**	**120.11**	**324**	*e*PKP		**PKiKP**	**10 50 40.3**	**+0.9**	
LZH	**Lanzhou**	**123.69**	**339**	*e*PKP		**PKiKP**	**10 50 50.0**	**+3.4**	
LZH				sPKP			10 51 11.8		
LZH				L		L			
	comp=Z,150nm,17.8s								
LZH				L		L			
	comp=Z,140nm,19.5s								
STKA	**Stephens Creek**	**124.16**	**242**	PKP		**PKiKP**	**10 50 49.8**	**+2.4**	
	comp=Z,5.8nm,0.9s,baz=26,slow=5.5,SNR=11								
BOSA	**Boshof**	**126.71**	**114**	PKP		**PKiKP**	**10 50 54.5**	**+1.8**	
	comp=Z,5.6nm,1.0s,baz=49,slow=3.9,SNR=4.3								
MAW	**Mawson**	**127.52**	**171**	PKP		**PKiKP**	**10 50 54.6**	**+1.7**	
	comp=Z,2.2nm,0.8s,baz=260,slow=4.5,SNR=4.8								
CD2	**Chengdu**	**128.35**	**336**	PKP		**PKPdf**	**10 50 54.5**	**-0.8**	
WRA	**Warramunga Arr**	**130.31**	**258**	PKhKP		PKPpre	10 50 55.1		
	comp=Z,1.1nm,1.0s,baz=91,slow=2.4,SNR=5.3								
WRA				PKP		**PKiKP**	**10 51 02.4**	**+2.4**	
	comp=Z,4.1nm,1.0s,baz=80,slow=1.7,SNR=12								
WRA	**Warramunga Arr**	**130.31**	**258**			**PKPdf**	**10 50 55.5**	**-3.6**	
ASAR	**Alice Springs**	**130.94**	**253**	PKhKP		PKPpre	10 50 56.3		
	comp=Z,2.3nm,0.9s,baz=92,slow=2.3,SNR=4.6								
ASAR				PKP		**PKiKP**	**10 51 03.3**	**+2.1**	
	comp=Z,2.3nm,0.9s,baz=88,slow=2.3,SNR=11								
KMI	**Kunming**	**133.88**	**334**	⇑PKP		**PKPdf**	**10 51 02.8**	**-3.3**	
KMI				sPKP			10 51 27.0		
CMAR	**Chiang Mai Arr**	**141.39**	**334**	PKP		**PKPdf**	**10 51 18.6**	**-1.2**	
	comp=Z,1.0nm,0.3s,baz=342,slow=4.3,SNR=5.4								
PSA00	**Pilbara Seismi**	**143.92**	**256**			**PKPab**	**10 51 18.9**	**-2.4**	
KHLT	**Khaolaem Dam**	**144.78**	**331**	PKP		**PKiKP**	**10 51 31.7**	**+2.2**	
HYB	**Hyderabad**	**146.06**	**6**	*i* PKP		**PKiKP**	**10 51 32.5**	**+0.3**	

SNET ***25*** *11:11:31.9±1.2, 14°.06N×91°.33W, h17km±7km, ML3.2*
MEX ***25*** *11:11:42.5±0.5, 14°.44N×92°.07W, h13km, MD4.0*
ISC 25 11:11:27.1±2.2, 13°.9N±0°.2×91°.4W±0°.1, h10km, n9,
σ0°.49/13, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.69**	**339**	*eP*	**Pn**	**11 11 43.6**	**+0.5**
RTAL				*eS*	**Sb**	**11 11 51.0**	**0.0**
THIG		**1.

IGT				S		**Sn**	**11 52 57.2 +3.8**
	baz=239						
AGG	**Agios Georgios**	**1.25 156**		P		**Pn**	**11 52 36.8 -0.5**
AGG	**Agios Georgios**	**1.25 156**		P		**Pn**	**11 52 36.7 -0.5**
EVR	**Evrytania**	**1.26 176**		P		**Pn**	**11 52 36.5 -0.9**
EVR	**Evrytania**	**1.26 176**		P		**Pn**	**11 52 36.4 -1.0**
SRN	**Sarande**	**1.33 258**		P		**Pg**	**11 52 40.6 +1.8**
	baz=257						
SRN				S		**Sg**	**11 52 59.8 +3.7**
	baz=257						
SRN				AMP			
	comp=N,0.6nm,0.7s,baz=257						
VAY	**Valandovo**	**1.33 30**	*i*	Pn		**Pg**	**11 52 39.7 +0.9**
PVO	**Paravola**	**1.56 185**		P		**Pb**	**11 52 42.4 -0.1**
STIP	**Stip**	**1.56 14**	*i*	Pn		**Pg**	**11 52 44.4 +1.0**
ANX	**Ano Chora**	**1.59 173**		P		**Pb**	**11 52 42.4 -0.6**
LKD2	**Lefkada island**	**1.60 210**		P		**Pg**	**11 52 44.7 +0.6**
	baz=213						
LKD2				S		**Sg**	**11 53 08.0 +3.2**
	baz=213						
PDO	**Prodromos**	**1.62 194**		P		**Pb**	**11 52 43.2 -0.3**
EFP	**Efpalio**	**1.75 174**		P		**Pb**	**11 52 45.1 -0.7**
PHP	**Peshkopia**	**1.78 328**		P		**Pb**	**11 52 45.9 -0.3**
	baz=325						
PHP				S		**Sg**	**11 53 10.2 -0.3**
	baz=325						
PHP				AMP			
	comp=N,0.3nm,0.5s,baz=325						
KLV	**Kalavryta, Ach**	**2.16 170**		P		**Pb**	**11 52 51.7 -1.1**
BCI	**Bajram Curri**	**2.50 331**		P		**Pb**	**11 52 56.2 -2.4**
	baz=330						
BCI				S		**Sb**	**11 53 29.4 -0.2**
	baz=330						

ROM 25 12:03:01.9±0.2,**42°217N**±0.007×**13°447E**±0.005,
h9km±2km,**ML0.8/1,Error ellipse: s-maj=0.8km**
s-min=0.2km az=178.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.11**	**64**	P	Pg	12 03 05.0	+0.5
FAGN				S	Sg	12 03 07.1	+0.6
FAGN				AML	AML		
	comp=N,278μm,0.3s						
FAGN				AML	AML		
	comp=N,279μm,0.3s						
FAGN				AML	AML		
	comp=E,421μm,0.5s						
T0110	**Collepietro**	**0.25**	**88**	P	Pg	12 03 07.3	+0.4
T0110				S	Sg	12 03 11.9	+1.6
T0110				AML	AML		
	comp=E,58μm,1.2s						
T0110				AML	AML		
	comp=N,68μm,0.5s						
FIAM	**Fiamignano**	**0.25**	**282**	P	Pg	12 03 07.9	+0.9
FIAM				S	Sg	12 03 11.8	+1.5
FIAM				AML	AML		
	comp=N,34μm,0.4s						
FIAM				AML	AML		
	comp=N,34μm,0.4s						
FIAM				AML	AML		
	comp=E,39μm,1.5s						
GIGS	**Gran Sasso**	**0.25**	**21**	P	Pg	12 03 07.8	+0.9
GIGS				S	Sb	12 03 12.1	-1.1

ROM 25 12:04:12.4±0.1,**37°268N**±0.005×**15°441E**±0.008,
h11km,**Md1.9**/4,**4C,Error ellipse: s-maj=0.8km**
s-min=0.2km az=308.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGST	**Augusta-Monte**	**0.17**	**266**	⇑P	Pb	12 04 17.0	-0.6
AGST	**Augusta-Monte**	**0.17**	**266**	P	Pg	12 04 16.9	+0.7
AGST				S	Sg	12 04 20.0	+1.2
AGST				END			
SSY	**Sortino**	**0.32**	**249**	⇑P	Pg	12 04 19.2	+0.4
SSY	**Sortino**	**0.32**	**249**	P	Pg	12 04 18.9	+0.1
SSY				S	Sb	12 04 24.2	-1.1
SSY				END			
HAVL	**Avola**	**0.40**	**220**	P	Pg	12 04 20.6	+0.3
HAVL				S	Sb	12 04 26.9	-0.7
HAVL				END			
MEU	**Monte Lauro**	**0.44**	**248**	⇑P	Pb	12 04 22.3	0.0
HLNI	**Lentini**	**0.46**	**280**	⇑P	Pg	12 04 21.4	-0.1
HLNI	**Lentini**	**0.46**	**280**	P	Pg	12 04 21.4	-0.1
HLNI				S	Sg	12 04 28.0	+0.4
HLNI				END			
HVZN	**Vizzini**	**0.59**	**261**	P	Pg	12 04 23.6	-0.3
HVZN				S	Sb	12 04 32.6	-0.5
HMDC	**Modica**	**0.61**	**240**	P	Pg	12 04 24.1	-0.2
HMDC				S	Sb	12 04 33.1	-0.7
NOV	**Novara**	**0.80**	**342**	P	Pb	12 04 28.3	0.0
MCSR	**Castroreale**	**0.81**	**349**	P	Pg	12 04 28.0	-0.1
MCSR				S	Sg	12 04 38.8	+0.1
MPAZ	**Palizzi**	**0.82**	**33**	P	Pg	12 04 27.9	-0.3
MPAZ				S	Sg	12 04 38.9	-0.1
RAFF	**Raffo Rosso**	**0.86**	**267**	P	Pg	12 04 28.5	-0.6
RAFF				S	Sb	12 04 40.8	-0.2
MUCR	**Ucria**	**0.90**	**330**	P	Pg	12 04 29.1	-0.7
MUCR				S	Sg	12 04 41.3	-0.1
MSFR	**San Fratello**	**1.02**	**319**	P	Pg	12 04 31.6	-0.5
VPL	**Vulcano Piano**	**1.17**	**342**	P	Pb	12 04 34.0	-0.6
VPL				S	Sb	12 04 49.5	-0.3

*TUL **25** 12:16:11.1±1.3,35°738N±0°009×97°38W±0°01,h5km±4km,*
ML2.7,mb_Lg2.5/42(NEIC),Error ellipse: s-maj=1.6km
s-min=1.2km az=57.0

NEIC 25 12:16:11.3±0.8,**35°76N**±0°01×**97°40W**±0°01,**h7**km±4km,
Error ellipse: s-maj=1.5km s-min=1.5km az=202.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.06**	**312**		Pg	12 16 13.3	+0.3
OK029				Sg	Sg	12 16 14.9	+0.6
OK025	**Westminster Rd**	**0.18**	**164**		Pg	12 16 14.9	-0.1
BCOK	**Bluff Creek, N**	**0.20**	**240**	Pg	Pg	12 16 15.4	+0.1
BCOK				Sg	Sg	12 16 17.5	-0.5
OKCFA	**Oklahoma City**	**0.34**	**187**	Pg	Pg	12 16 17.9	-0.1
OKCFA				Sg	Sg	12 16 22.8	+0.3
OKCSW	**OKLAHOMA CITY**	**0.35**	**185**	Pg	Pg	12 16 18.0	-0.2
OK031	**S. Brethren Rd**	**0.49**	**66**		Pg	12 16 20.7	-0.1
OK031				Sg	Sg	12 16 27.8	+0.5
FNO	**Franklin**	**0.50**	**180**		Pg	12 16 20.6	-0.3
FNO				Sg	Sg	12 16 27.8	+0.4
OK030	**Cody Creek RV**	**0.53**	**71**	Pg	Pg	12 16 21.4	-0.1
OK030				Sg	Sg	12 16 28.8	+0.4
QUOK	**Quay**	**0.70**	**53**		Pg	12 16 24.6	-0.1
QUOK				Sg	Sg	12 16 34.1	+0.4
CROK	**Carrier**	**0.89**	**328**	Pg	Pg	12 16 28.4	+0.1
CROK				Sg	Sb	12 16 40.6	-0.5
BLOK	**Blackwell**	**1.01**	**8**		Pg	12 16 30.5	-0.2
X34A	**Smith Ranch, M**	**1.21**	**197**	Pg	Pg	12 16 33.8	-0.6
OK032	**Salt Plains WL**	**1.24**	**328**		Pb	12 16 34.6	-0.4
KAN13	**South Haven SW**	**1.26**	**357**		Pn	12 16 34.8	-0.5
KAN14	**Manchester OK**	**1.28**	**339**		Pn	12 16 35.3	-0.3
KAN17	**Caldwell West**	**1.32**	**347**		Pn	12 16 36.2	+0.1
T35A	**Sooner Cattle**	**1.36**	**31**		Pn	12 16 36.4	-0.3
KAN09	**Caldwell North**	**1.39**	**353**	Pn	Pn	12 16 37.2	+0.1
KAN09				IAmb_Lg		12 16 58.1	
	comp=Z,33nm,0.8s						
KS20	**Mayfield South**	**1.48**	**355**	Pn	Pb	12 16 38.7	-0.4
WMOK	**Wichita Mounta**	**1.52**	**229**		Pn	12 16 39.2	+0.3
KAN08	**Anthony NE Sta**	**1.54**	**343**	Pn	Pn	12 16 39.5	+0.4
KAN08				IAmb_Lg		12 17 03.1	
	comp=Z,24nm,0.7s						
KS21	**Milan North St**	**1.54**	**352**	IAmb_Lg		12 17 03.8	
	comp=Z,36nm,0.9s						
LOOK	**Love County**	**1.77**	**174**	IAmb_Lg		12 17 09.2	
	comp=Z,29nm,1.2s						
W39A	**Magazine**	**3.00**	**100**	Pn	Pn	12 16 59.2	0.0
MIAR	**Mount Ida**	**3.35**	**110**	IAmb_Lg		12 18 05.8	
	comp=Z,20nm,1.3s						
CBKS	**Cedar Bluff**	**3.58**	**329**	IAmb_Lg		12 18 08.8	
	comp=Z,21nm,0.8s						
U40A	**Yellville**	**3.73**	**79**	Pn	Pn	12 17 08.5	-0.8
U40A				IAmb_Lg		12 18 12.8	
	comp=Z,7.7nm,0.8s						
S39A	**Bolivar**	**3.80**	**58**	IAmb_Lg		12 18 12.8	
	comp=Z,12nm,0.9s						
X40A	**Basin Creek Fa**	**3.95**	**107**	Pn	Pn	12 17 11.6	-0.7
X40A				IAmb_Lg		12 18 22.9	
	comp=Z,13nm,0.7s						
WLAR	**White Oak Lake**	**4.09**	**119**	IAmb_Lg		12 18 18.9	
	comp=Z,10nm,0.8s						
WHAR	**Wooly Hollow**	**4.19**	**95**	Pn	Pn	12 17 15.5	-0.1
WHAR				IAmb_Lg		12 18 32.5	
	comp=Z,9.8nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.29**	**87**	IAmb_Lg		12 18 37.0	
	comp=Z,9.6nm,1.0s						
MGMO	**Mountain Grove**	**4.36**	**70**	IAmb_Lg		12 18 30.3	
	comp=Z,14nm,0.8s						
R40A	**Maddies Statio**	**4.82**	**57**	IAmb_Lg		12 18 46.1	
	comp=Z,6.7nm,0.7s						
P38A	**Dawn**	**4.93**	**37**	IAmb_Lg		12 18 48.0	
	comp=Z,6.3nm,0.7s						
435B	**Jarrell**	**4.96**	**182**	IAmb_Lg		12 19 00.8	
	comp=Z,10nm,0.8s						
LCAR	**Lake Charles**	**5.08**	**85**	IAmb_Lg		12 18 58.0	
	comp=Z,6.5nm,0.9s						
CCM	**Cathedral Cave**	**5.44**	**63**	IAmb_Lg		12 19 18.9	
	comp=Z,7.0nm,0.8s						
JCT	**Junction City**	**5.63**	**202**	IAmb_Lg		12 19 22.5	
	comp=Z,5.8nm,0.7s						
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg		12 19 13.2	
	comp=Z,6.3nm,0.8s						
S44A	**Carbondale**	**6.82**	**71**	IAmb_Lg		12 19 53.5	
	comp=Z,9.1nm,0.8s						
JFWS	**Jewell Farm**	**9.04**	**36**	IAmb_Lg		12 21 07.3	
	comp=Z,6.0nm,0.8s						

*IDC **25** 12:22:15.2±1.9,33°55S×179°22W,h0km,mb3.9/3,*
mb1 4.2/4,mb1mx3.8/36,mbtmp4.1/4,ML4.5/1,Error
ellipse: s-maj=47.1km s-min=31.6km az=59.0
*WEL **25** 12:22:16.0±0.7,34°S×17°8W±1°3,h33km,M4.3/54,*
mB5.0/31,ML5.0/54,MLv4.8/54,Mw(mB)4.2/31,Error
ellipse: s-maj=0.0km s-min=0.0km az=112.7
*NEIC **25** 12:22:16.6±1.3,34°05±0°1×179°14W±0°05,h10km±2km,*
mb4.5/5,Error ellipse: s-maj=22.3km s-min=7.5km az=8.0

ISC 25 12:22:14.5±1.2,**33°95S**±0°06×**178°3W**±0°1,**h35**km,**n109,**
s31/106,**mb4.3/6,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.54**	**217**	P	**Pn**	**12 23 19.7**	**-1.0**
MXZ	**Matakaoa Point**	**4.54**	**217**	P	**Pn**	**12 23 23.1**	**+2.3**
MXZ				S	**Sn**	**12 24 14.5**	**+2.2**
GLKZ	**Green Lake**	**4.69**	**4**	P	**Pn**	**12 23 23.2**	**+0.4**
GLKZ				S	**Sn**	**12 24 18.2**	**+2.3**
WMGZ	**Waiomatatini S**	**4.69**	**214**	P	**Pn**	**12 23 26.4**	**+3.6**
HAZ	**Te Kaha**	**4.96**	**219**	P	**Pn**	**12 23 29.7**	**+3.2**
HAZ				S	**Sn**	**12 24 26.6**	**+4.1**
PUZ	**Puketiti**	**4.97**	**213**	P	**Pn**	**12 23 29.6**	**+2.9**
PUZ				S	**Sn**	**12 24 24.7**	**+1.8**
RUGZ	**Raukumara Rang**	**5.17**	**218**	P	**Pn**	**12 23 31.3**	**+1.9**
TWGZ	**Tauwhareparae**	**5.18**	**215**	P	**Pn**	**12 23 32.6**	**+2.9**
TWGZ				S	**Sn**	**12 24 31.5**	**+3.3**
CNGZ	**Carnagh Statio**	**5.33**	**211**	P	**Pn**	**12 23 35.6**	**+4.0**
TKGZ	**Te Karaka**	**5.46**	**214**	P	**Pn**	**12 23 36.5**	**+3.2**
MWZ	**Matawai**	**5.53**	**217**	P	**Pn**	**12 23 36.3**	**+2.0**
KUZ	**Kuaotunu**	**5.63**	**239**	P	**Pn**	**12 23 37.2**	**+1.5**
URZ	**Urewera**	**5.69**	**220**	Pn	**Pn**	**12 23 38.2**	**+1.8**
	14nm,0.3s,baz=121,slow=24,SNR=68						
URZ				Sn	**Sn**	**12 24 37.7**	**-2.8**
	3.7nm,0.3s,baz=204,slow=22,SNR=1.5						
URZ	**Urewera**	**5.69**	**220**		**Pn**	**12 23 38.6**	**+2.1**
URZ	**Urewera**	**5.69**	**220**	P	**Pn**	**12 23 38.3**	**+1.8**
RIGZ	**Rimuhau**	**5.71**	**213**	P	**Pn**	**12 23 35.6**	**-1.3**
MARZ	**Manawahe**	**5.73**	**224**	P	**Pn**	**12 23 40.4**	**+3.3**
SNGZ	**Shannon Statio**	**5.97**	**215**	P	**Pn**	**12 23 38.5**	**-1.9**
OMRZ	**Omania**	**5.99**	**225**	P	**Pn**	**12 23 44.7**	**+4.0**
TARZ	**Mount Tarawera**	**6.00**	**223**	P	**Pn**	**12 23 44.1**	**+3.2**
KARZ	**Kaharoa**	**6.01**	**226**	P	**Pn**	**12 23 43.5**	**+2.5**
RTZ	**Ruatahuna**	**6.02**	**218**	P	**Pn**	**12 23 43.6**	**+2.5**
RTZ				S	**Sn**	**12 24 48.9**	**+0.1**
MUGZ	**Murupara**	**6.03**	**220**	P	**Pn**	**12 23 42.4**	**+1.2**
MUGZ				S	**Sn**	**12 24 46.9**	**-2.0**
RRRZ	**Republican Roa**	**6.07**	**222**	P	**Pn**	**12 23 45.7**	**+3.9**
HSRZ	**Hossack Road**	**6.20**	**224**	P	**Pn**	12 23 50.0	+6.5
PRRZ	**Plateau Road**	**6.25**	**222**	P	**Pn**	**12 23 47.0**	**+2.8**
MTHZ	**Maungataniwha**	**6.27**	**217**	P	**Pn**	**12 23 43.9**	**-0.7**
MTHZ				S	**Sn**	**12 24 52.6**	**-2.4**
NMHZ	**Naumai**	**6.47**	**216**	P	**Pn**	**12 23 44.3**	**-3.1**
NMHZ				S	**Sn**	**12 24 57.7**	**-2.4**
MRHZ	**Matea Rd**	**6.48**	**220**	P	**Pn**	**12 23 48.8**	**+1.4**
KUTZ	**Kaahu Road**	**6.57**	**225**	P	**Pn**	**12 23 52.2**	**+3.6**
TLZ	**Tolley Road**	**6.63**	**227**	P	**Pn**	**12 23 53.7**	**+4.2**
BKZ	**Black Stump Fm**	**6.68**	**217**		**Pn**	**12 23 48.4**	**-1.8**
BKZ	**Black Stump Fm**	**6.68**	**217**	P	**Pn**	**12 23 52.3**	**+2.1**
MCHZ	**McNeill Hill**	**6.80**	**215**	P	Pn	12 23 47.3	-4.5
OUZ	**Omahuta**	**6.81**	**257**		**Pn**	**12 23 51.5**	**-0.4**
RATZ	**Rangitukua**	**6.85**	**223**	P	Pn	12 23 58.6	+6.1
RITZ	**Rihia Road**	**6.88**	**222**	P	Pn	12 24 01.3	+8.4
KWHZ	**Kaweka Forest**	**6.92**	**216**	P	**Pn**	**12 23 55.4**	**+2.0**
KAHZ	**Kahuranaki**	**7.00**	**212**	P	**Pn**	**12 23 54.3**	**-0.2**
TMVZ	**Te Maari**	**7.06**	**221**	P	**Pn**	**12 23 56.9**	**+1.7**
NTVZ	**North Tongarir**	**7.07**	**222**	P	**Pn**	**12 23 57.5**	**+1.9**
ETVZ	**East Tongariro**	**7.08**	**221**	P	**Pn**	**12 23 57.4**	**+1.7**
KRVZ	**Karewarewa**	**7.08**	**222**	P	Pn	12 24 01.4	+5.6
KRHZ	**Kereru**	**7.11**	**215**	P	**Pn**	**12 23 57.3**	**+1.3**
OTVZ	**Oturere**	**7.12**	**221**	P	**Pn**	**12 23 57.8**	**+1.5**
NNVZ	**North Ngauruho**	**7.12**	**222**	P	**Pn**	**12 23 58.5**	**+2.1**
WTVZ	**West Tongariro**	**7.13**	**222**	P	**Pn**	**12 23 59.8**	**+3.5**
BHHZ	**Black Hill Sta**	**7.15**	**218**	P	**Pn**	**12 23 56.6**	**0.0**
SNVZ	**South Ngauruho**	**7.15**	**221**	P	**Pn**	**12 23 58.7**	**+1.9**
NGZ	**Ngauruhoe**	**7.16**	**222**	P	**Pn**	**12 23 59.4**	**+2.6**
HIZ	**Hauiti**	**7.17**	**229**	Pn	**Pn**	**12 23 57.5**	**+0.6**
HIZ	**Hauiti**	**7.17**	**229**	P	**Pn**	**12 23 59.8**	**+3.0**
PXZ	**Pawanui**	**7.20**	**211**	P	**Pn**	**12 23 59.9**	**+2.7**
TUVZ	**Tukino**	**7.20**	**221**	P	**Pn**	**12 23 59.8**	**+2.5**
FWVZ	**Far West T-bar**	**7.25**	**221**	P	**Pn**	**12 24 01.2**	**+3.1**
WHVZ	**Whangaehu Hut**	**7.25**	**221**	P	**Pn**	**12 24 00.7**	**+2.6**
MOVZ	**Moawhango**	**7.25**	**220**	P	**Pn**	**12 23 59.0**	**+1.5**
WNVZ	**Waihianoa**	**7.27**	**221**	P	**Pn**	**12 24 00.9**	**+2.5**
TRVZ	**Turoa**	**7.28**	**221**	P	**Pn**	**12 24 01.3**	**+2.8**
PKVZ	**Pokaka**	**7.38**	**222**	P	**Pn**	**12 24 03.4**	**+3.6**
PNHZ	**Pukenui**	**7.41**	**215**	P	**Pn**	**12 24 01.1**	**+1.0**
WPHZ	**Waipukurau**	**7.41**	**213**	P	**Pn**	**12 24 03.2**	**+3.0**
VRZ	**Vera Road**	**7.61**	**225**	P	**Pn**	**12 24 06.7**	**+3.8**
TSZ	**Takapari Road**	**7.63**	**215**	P	**Pn**	**12 24 04.3**	**+1.1**
DVHZ	**Dannevirke**	**7.73**	**213**	P	**Pn**	**12 24 05.2**	**+0.8**
WAZ	**Wanganui**	**7.91**	**221**	P	**Pn**	**12 24 09.2**	**+2.2**
BFZ	**Birch Farm**	**8.00**	**211**	Pn	**Pn**	**12 24 06.2**	**-2.1**
BFZ	**Birch Farm**	**8.00**	**211**	P	**Pn**	**12 24 08.5**	**+0.3**
PRWZ	**Pori Road**	**8.02**	**213**	P	**Pn**	**12 24 11.4**	**+2.9**
NEZ	**North Egmont**	**8.10**	**227**	P	**Pn**	**12 24 13.8**	**+4.1**
KHEZ	**Kahui Hut**	**8.16**	**227**	P	Pn	12 24 18.5	+8.0
TIWZ	**Tintock**	**8.24**	**213**	P	**Pn**	**12 24 11.9**	**+0.4**
MRZ	**Mangatainoka R**	**8.29**	**214**	P	**Pn**	**12 24 11.8**	**-0.4**
HOWZ	**Holdsworth Sta**	**8.50**	**214**	P	**Pn**	**12 24 15.1**	**0.0**
TMWZ	**Te Maipa**	**8.50**	**211**	P	**Pn**	**12 24 16.4**	**+1.2**
OGWZ	**Otaki Gorge**	**8.60**	**215**	P	**Pn**	**12 24 15.9**	**-0.6**
MTW	**Mount Morrison**	**8.72**	**213**	P	**Pn**	**12 24 18.4**	**+0.4**
KIW	**Kapiti Island**	**8.76**	**216**	P	**Pn**	**12 24 17.4**	**-1.2**
CAW	**Cannon Point**	**8.88**	**215**	P	**Pn**	**12 24 19.3**	**-0.9**
PAWZ	**Paruwai Farm**	**8.93**	**212**	P	**Pn**	**12 24 21.3**	**+0.3**
MSWZ	**Moikau Station**	**9.04**	**213**	Pn	**Pn**	**12 24 21.9**	**-0.5**
MSWZ	**Moikau Station**	**9.04**	**213**	P	**Pn**	**12 24 22.6**	**+0.2**
SNZO	**South Karori**	**9.21**	**215**	Pn	**Pn**	**12 24 21.9**	**-2.9**
DUWZ	**D'Urville Isla**	**9.22**	**220**	P	**Pn**	**12 24 25.0**	**-0.1**
TCW	**Tory Channel**	**9.34**	**217**	P	**Pn**	**12 24 25.0**	**-1.5**
NNZ	**Nelson**	**9.81**	**220**	Pn	**Pn**	**12 24 30.7**	**-2.3**
QRZ	**Quartz Range**	**10.02**	**224**	Pn	**Pn**	**12 24 33.6**	**-2.3**
THZ	**Tophouse**	**10.45**	**219**	Pn	**Pn**	**12 24 40.6**	**-1.2**
THZ					**Sn**	**12 26 31.6**	**-6.0**
KHZ	**Kahutara**	**10.61**	**215**	Pn	**Pn**	**12 24 42.9**	**-1.1**
KHZ	**Kahutara**	**10.61**	**215**	P	**Pn**	**12 24 42.6**	**-1.3**
LTZ	**Lake Taylor**	**11.51**	**217**	Pn	**Pn**	**12 24 54.1**	**-2.2**
MQZ	**McQueen's Vall**	**12.02**	**213**	Pn	**Pn**	**12 25 02.3**	**-1.0**
OXZ	**Oxford**	**12.02**	**216**	Pn	**Pn**	**12 25 02.0**	**-1.3**
OXZ					Sn	12 27 04.9	-11
LBZ	**Lake Benmore**	**13.71**	**217**	P	**Pn**	**12 25 25.5**	**-0.9**
CTAO	**Charters Tower**	**34.29**	**285**	P	**P**	**12 28 56.3**	**-1.3**
CTAO				IAmb	IAmb	12 28 58.5	
	comp=Z,6.6nm,1.1s						
ASAR	**Alice Springs**	**42.80**	**271**	P	**P**	**12 30 08.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=115,slow=7.3,SNR=11						
WR0	**Warramunga Arr**	**43.93**	**276**	P	**P**	**12 30 17.5**	**-0.7**
WR0				IAmb	IAmb	12 30 39.3	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**44.09**	**276**	P	**P**	**12 30 18.2**	**-1.4**
WRA	**Warramunga Arr**	**44.10**	**276**	P	**P**	**12 30 18.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=116,slow=7.9,SNR=20						
WB0	**Warramunga Arr**	**44.14**	**276**	P	**P**	**12 30 18.4**	**-1.5**
WB0				IAmb	IAmb	12 30 23.6	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**56.17**	**180**	P	P	12 31 59.6	+9.1
	comp=Z,1.5nm,0.7s,baz=66,slow=1.1,SNR=12						
QSPA	**South Pole Qui**	**56.17**	**180**	P	P	12 31 58.5	+8.0
H03S2	**Juan Fernandez**	**78.72**	**123**	T	T	14 02 41.1	
	baz=234,slow=74,SNR=7.9						
H03S1	**Juan Fernandez**	**78.73**	**123**	T	T	14 02 40.8	
	baz=234,slow=74,SNR=6.9						
H03S3	**Juan Fernandez**	**78.74**	**123**	T	T	14 02 41.1	
	baz=234,slow=74,SNR=8.0						
H03N3	**Juan Fernandez**	**78.93**	**123**	T	T	14 02 53.6	
	baz=238,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**78.93**	**123**	T	T	14 02 53.4	
	baz=238,slow=72,SNR=13						
H03N1	**Juan Fernandez**	**78.95**	**123**	T	T	14 02 54.3	
	baz=238,slow=72,SNR=16						
FINES	**FINESS Array B**	**148.36**	**338**	PKPbc	**PKiKP**	**12 42 00.0**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=40,slow=3.2,SNR=6.8						

*IASPEI **25** 12:54:24.6±1.0,35°84N±0°03×97°45W±0°03,h7km±8km,*
Error ellipse: s-maj=4.9km s-min=3.7km az=114.7,GT5
selection from ISC bulletin GT5 identified by Bondr and
McLaughlin (2009) selection criteria Bondr and
McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009
*ANF **25** 12:54:24.4±0.3,35°85N×97°46W,h5km,ML3.5/11,Error*
ellipse: s-maj=3.1km s-min=2.7km az=156.0
*NEIC **25** 12:54:24.6±0.5,35°83N±0°02×97°47W±0°03,h5km±7km,*
Error ellipse: s-maj=3.7km s-min=2.7km az=57.0
*TUL **25** 12:54:25±1.3,35°82N±0°02×97°44W±0°03,h4km±7km,*
ML3.0,mb_Lg2.8/59(NEIC),Error ellipse: s-maj=4.0km
s-min=2.8km az=66.0

ISC 25 12:54:24.7±1.1,**35°84N**±0°02×**97°46W**±0°03,**h3**km±9km,
n67,σ048/54,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**172**	Pg	**Pg**	**12 54 25.8**	**0.0**
BCOK	**Bluff Creek, N**	**0.22**	**213**		**Pg**	**12 54 29.1**	**+0.2**
OK025	**Westminster Rd**	**0.28**	**159**	Pg	**Pg**	**12 54 30.1**	**0.0**
OK005	**Luther M Schoo**	**0.29**	**130**	Pg	**Pg**	**12 54 30.1**	**-0.1**
OKCFA	**Oklahoma City**	**0.43**	**179**		**Pg**	**12 54 32.7**	**-0.2**
OKCFA	**Oklahoma City**	**0.43**	**179**	P	**Pg**	**12 54 32.7**	**-0.2**
	baz=358,SNR=18						
OKCFA				S	**Sg**	**12 54 38.7**	**+0.2**
	baz=358						
OKCFA	**Oklahoma City**	**0.43**	**179**	P		12 54 32.7	
	baz=358,SNR=18						
OKCFA				S		12 54 38.7	
	baz=358						
OKCSW	**OKLAHOMA CITY**	**0.44**	**177**		**Pg**	**12 54 32.9**	**-0.2**
OK031	**S. Brethren Rd**	**0.52**	**78**	Pg	**Pg**	**12 54 34.7**	**+0.1**
OK031				Sg	**Sg**	**12 54 41.8**	**+0.5**
OK030	**Cody Creek RV**	**0.56**	**81**	Pg	**Pg**	**12 54 35.4**	**0.0**
OK030				Sg	**Sg**	**12 54 42.8**	**+0.2**
FNO	**Franklin**	**0.59**	**175**	Pg	**Pg**	**12 54 35.6**	**-0.3**
QUOK	**Quay**	**0.69**	**62**	Pg	**Pg**	**12 54 38.1**	**+0.1**
QUOK				Sg	**Sg**	**12 54 47.2**	**+0.2**
CROK	**Carrier**	**0.78**	**328**	IAmb_Lg		12 54 51.0	
	comp=Z,66nm,0.9s						
BLOK	**Blackwell**	**0.94**	**12**	Pg	**Pg**	**12 54 42.6**	**-0.1**
OK032	**Salt Plains WL**	**1.13**	**328**		**Pg**	**12 54 46.2**	**-0.2**
KAN14	**Manchester OK**	**1.18**	**340**		**Pg**	**12 54 47.2**	**-0.1**
KAN17	**Caldwell West**	**1.22**	**349**		**Pg**	**12 54 48.1**	**0.0**
X34A	**Smith Ranch, M**	**1.28**	**194**		**Pg**	**12 54 48.5**	**-0.6**
KAN09	**Caldwell North**	**1.30**	**355**	Pn	**Pb**	**12 54 49.8**	**+0.1**
T35A	**Sooner Cattle**	**1.32**	**35**	Pn	**Pn**	**12 54 49.4**	**-0.5**
T35B	**Sooner Cattle**	**1.32**	**35**	P

baz=291,SNR=5.8
X40A Basin Creek Fa 4.03 108 P 12 55 27.0
baz=291,SNR=5.8
X40A P 12 55 27.0
baz=291,SNR=5.8
WHAR Wooly Hollow 4.25 96 Pn **Pn 12 55 30.4 +0.1**
WHAR lAmb_Lg 12 56 49.5
comp=Z,17nm,0.8s
W41B Gary Mavity, V 4.31 97 P **Pn 12 55 30.8 -0.2**
baz=280,SNR=8.9
W41B Gary Mavity, V 4.31 97 P 12 55 30.8
baz=280,SNR=8.9
FCAR Ozark Folk Cen 4.34 88 lAmb_Lg 12 56 39.7
comp=Z,13nm,0.7s
MGMO Mountain Grove 4.38 71 lAmb_Lg 12 56 41.5
comp=Z,18nm,0.8s
R40A Maddies Statio 4.82 58 Pn **Pn 12 55 37.9 -0.1**
R40A lAmb_Lg 12 56 59.6
comp=Z,14nm,0.8s
P38A Dawn 4.89 38 lAmb_Lg 12 57 01.9
comp=Z,17nm,0.8s
435B Jarrell 5.05 181 lAmb_Lg 12 57 09.4
comp=Z,23nm,0.9s
KSCO Kaye Shedlock' 5.18 309 lAmb_Lg 12 57 23.5
comp=Z,13nm,0.8s
CCM Cathedral Cave 5.45 64 lAmb_Lg 12 57 32.6
comp=Z,11nm,0.8s
P40A Paris 5.65 48 lAmb_Lg 12 57 29.2
comp=Z,15nm,0.7s
T25A Trinidad 5.75 285 lAmb_Lg 12 57 32.1
comp=Z,14nm,0.7s
PBMO Poplar Bluff 5.76 79 lAmb_Lg 12 57 31.8
comp=Z,14nm,0.8s
S44A Carbondale 6.84 72 lAmb_Lg 12 58 09.1
comp=Z,15nm,0.8s
SIUC Southern Illin 6.88 72 lAmb_Lg 12 58 06.2
comp=Z,15nm,0.8s
SCIA State Center 6.90 27 lAmb_Lg 12 58 18.8
comp=Z,20nm,0.7s
L40A Anamosa 7.88 36 lAmb_Lg 12 58 44.1
comp=Z,13nm,0.9s
T47A Sharon Grove 8.43 79 lAmb_Lg 12 59 10.7
comp=Z,8.6nm,1.0s
L42A Oliver, Polo 8.64 42 lAmb_Lg 12 59 03.3
comp=Z,14nm,0.8s
P46A Rosedale 8.96 62 lAmb_Lg 12 59 07.8
comp=Z,13nm,0.8s
JFWS Jewell Farm 9.00 36 lAmb_Lg 12 59 23.1
comp=Z,12nm,0.7s
SFIN Lafayette 9.34 58 lAmb_Lg 12 59 28.9
comp=Z,9.1nm,0.7s
RWWY Rawlins 9.59 310 lAmb_Lg 12 59 32.3
comp=Z,6.5nm,0.9s
K22A Casper 9.77 317 lAmb_Lg 12 59 55.9
comp=Z,7.6nm,1.0s

*BJI **25** 12:58:59.0±0.0,21.˙60S×173.˙80W,h5km,mB5.5/26, mb5.5/48,Ms4.9/12,Ms7 4.5/13*
*MOS **25** 12:59:00.6±1.0,21.˙57S×174.˙09W,h10km,mb5.3/33, Error ellipse: s-maj=10.9km s-min=8.9km az=100.7*
*IDC **25** 12:59:00.6±0.4,21.˙49S×174.˙11W,h0km, mb4.7/18, mb1 4.9/19,mb1mx4.7/30,mbtmp4.7/19,ML5.4/2,MS4.1/15, Ms1 4.1/15,ms1mx4.0/22,Error ellipse: s-maj=19.4km s-min=14.1km az=136.0*
*NEIC **25** 12:59:01.9±2.5,21.˙52S±0.˙07×173.˙76W±0.˙08,h10km±1km, mb5.3/111,Error ellipse: s-maj=13.0km s-min=10.8km az=138.0*
*BGR **25** 12:59:06.2±0.0,21.˙38S×173.˙95W,h33km*
*GCMT **25** 12:59:07.0±0.3,21.˙66S±0.˙02×173.˙64W±0.˙03,h42km±2km, MW4.9/77,Moment Tensor Solution. s24,c31; s77,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.49±.18; $M_{\theta\theta}$0.79±.14; $M_{\phi\phi}$-2.28±.12; $M_{r\theta}$0.36±.12; $M_{r\phi}$0.67±.08; $M_{\theta\phi}$2.35±.15; Best double couple: M_o3.13000×10^{16} NP1:ϕ_s140.00000°,δ26.00000°,λ44.00000°. NP2: ϕ_s8.00000°,δ72.00000°,λ109.00000°. Principal axes: T 2.8060, Plg58.0000°, Azm304.0000°; N 0.6500, Plg18.0000°, Azm182.0000°; P -3.4550, Plg25.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 12:59:00.9±1.1,21.˙64S±0.˙05×173.˙80W±0.˙05,h8km±6km, n502,σ1°49/494,mb5.3/120,MS4.4/24,63C-30D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.44**	**56**	P		**Pn**	**13 00 05.3**	**-3.3**
	baz=4.2,SNR=142							
NIUE	**Niue**	**4.44**	**56**	Pn		**Pn**	**13 00 06.1**	**-2.5**
AFI	**Afiamalu**	**7.92**	**14**	Pn		Pn	13 00 51.0	-5.5
	20nm,0.3s,baz=215,slow=6.3,SNR=15							
AFI				Sn		Sn	13 02 14.2	-12
	121nm,0.3s,baz=11,slow=22,SNR=6.7							
AFI	**Afiamalu**	**7.92**	**14**	P		**Pn**	**13 00 53.4**	**-3.1**
AFI	**Afiamalu**	**7.92**	**14**	Pn		**Pn**	**13 00 53.4**	**-3.1**
RIZ	**Raoul Island**	**8.44**	**205**	P		**Pn**	**13 01 03.8**	**+0.2**
RIZ				S		**Sn**	**13 02 36.0**	**-3.1**
RAO	**Raoul Island**	**8.44**	**205**	Pn		**Pn**	**13 01 04.4**	**+0.9**
	245nm,0.3s,baz=79,slow=15,SNR=4.7							
RAO				Sn		**Sn**	**13 02 31.8**	**-7.3**
	113nm,0.3s,baz=88,slow=23,SNR=7.5							
GLKZ	**Green Lake**	**8.45**	**205**	P		**Pn**	**13 01 04.0**	**+0.3**
GLKZ				S		**Sn**	**13 02 34.1**	**-5.3**
MSVF	**Nonsavu**	**8.60**	**295**	P		**Pn**	**13 01 09.3**	**+3.5**
MSVF	**Nonsavu**	**8.60**	**295**	Pn		**Pn**	**13 01 09.3**	**+3.5**
RAR	**Rarotonga**	**13.07**	**91**	Pn		**Pn**	**13 02 04.5**	**-2.5**
	17nm,0.3s,baz=275,slow=7.9,SNR=62							
RAR				Sn		Sn	13 04 18.7	-14
	16nm,0.3s,baz=101,slow=20,SNR=6.9							
RAR				LR		LR	13 05 47.0	
	comp=Z,2μm,21.4s,baz=256,slow=30							
PINNC	**Pines Island,**	**17.40**	**263**	P		**P**	**13 03 06.7**	**+1.2**
PINNC				lAmb		lAmb	13 03 22.9	
	comp=Z,94nm,0.9s							
OUZ	**Omahuta**	**17.47**	**217**	Pn		**Pn**	**13 03 06.3**	**+1.4**
OUZ	**Omahuta**	**17.47**	**217**	P		**P**	**13 03 06.5**	**+0.4**
KUZ	**Kuaotunu**	**17.59**	**209**	P		**P**	**13 03 08.7**	**+1.2**
WCZ	**Waipu Caves**	**17.61**	**213**	P		**P**	**13 03 09.9**	**+2.2**
HAZ	**Te Kaha**	**17.63**	**203**	P		**Pn**	**13 03 01.1**	**-5.8**
LIFNC	**LIFOU**	**17.70**	**269**	P		**P**	**13 03 09.4**	**+0.6**
LIFNC				lAmb		lAmb	13 03 11.1	
	comp=Z,262nm,0.8s							
OUENC	**Ouen Island, N**	**17.96**	**264**	P		**P**	**13 03 12.8**	**+1.0**
MWZ	**Matawai**	**18.24**	**202**	P		**P**	**13 03 16.9**	**+2.2**
MWZ				S		Sn	13 06 21.6	-17
URZ	**Urewera**	**18.32**	**203**	P		**P**	**13 03 17.7**	**+2.2**
	comp=Z,2.4nm,0.3s,baz=350,slow=11,SNR=14							
URZ	**Urewera**	**18.32**	**203**	P		**P**	**13 03 17.8**	**+2.3**
URZ	**Urewera**	**18.32**	**203**	P		**P**	**13 03 18.1**	**+2.5**
URZ				S		Sn	13 06 26.5	-14
DZM	**Mont Dzumac**	**18.34**	**265**	P		**Pn**	**13 03 16.5**	**+0.6**
	comp=Z,3.7nm,0.3s,baz=80,slow=17,SNR=29							
DZM	**Mont Dzumac**	**18.34**	**265**	*e*P		**Pn**	**13 03 16.6**	**+0.6**
	comp=Z,196nm,1.1s							
DZM				*e*S		**Sn**	**13 06 36.0**	**-5.1**
	comp=Z,366nm,25.9s							
DZM				*e*LR		LR	13 07 30.0	
	comp=Z,2μm,24.6s							
DZM	**Mont Dzumac**	**18.34**	**265**	P		**P**	**13 03 16.9**	**+0.9**
RAGZ	**Rawiri**	**18.42**	**202**	P		**Pn**	**13 03 20.7**	**+3.9**
RAGZ				S		Sn	13 06 27.8	-15
OMRZ	**Omania**	**18.47**	**205**	P		**Pn**	**13 03 20.1**	**+2.7**
TOZ	**Tahuroa Road**	**18.51**	**208**	P		**Pn**	**13 03 21.3**	**+3.5**
SNGZ	**Shannon Statio**	**18.70**	**202**	P		**Pn**	**13 03 26.9**	**+6.8**
SNGZ				S		Sn	13 06 32.9	-17
RAHZ	**Arahi**	**18.91**	**202**	P		**Pn**	**13 03 25.0**	**+2.3**
RAHZ				S		Sn	13 06 37.1	-17
BKZ	**Black Stump Fm**	**19.35**	**203**	P		**P**	**13 03 28.1**	**+1.1**
BKZ				S		Sn	13 06 47.6	-18
HIZ	**Hauiti**	**19.45**	**208**	P		**Pn**	**13 03 30.0**	**+0.9**
OTVZ	**Oturere**	**19.66**	**205**	P		**P**	**13 03 29.9**	**-0.5**
SNVZ	**South Ngauruho**	**19.69**	**205**	P		**Pn**	**13 03 32.6**	**+0.4**
KAHZ	**Kahuranaki**	**19.77**	**202**	P		**Pn**	**13 03 34.3**	**+1.3**
KAHZ				S		S	13 06 58.8	-16
BHHZ	**Black Hill Sta**	**19.79**	**204**	P		**P**	**13 03 30.1**	**-1.7**
BHHZ				S		S	13 06 58.7	-16
WNVZ	**Wahianoa**	**19.83**	**205**	P		**P**	**13 03 33.7**	**+1.4**
BFZ	**Birch Farm**	**20.78**	**202**	P		Pn	13 03 44.8	0.0
BFZ				lAmb		lAmb	13 03 53.5	
	comp=Z,115nm,1.3s							
MSWZ	**Moikau Station**	**21.78**	**203**	P		**P**	**13 03 54.7**	**+1.5**
TUWZ	**Tuamarina**	**22.28**	**205**	P		**P**	**13 03 57.2**	**-1.3**
NNZ	**Nelson**	**22.33**	**206**	P		**P**	**13 03 58.0**	**-1.0**
QRZ	**Quartz Range**	**22.36**	**208**	P		**P**	**13 03 59.2**	**-0.3**
TBI	**Tubuai**	**22.55**	**99**	*e*P		**P**	**13 04 01.9**	**+0.3**
	comp=Z,272nm,1.3s							
TBI				*e*S		**S**	**13 08 02.7**	**-6.5**
	comp=Z,150nm,22.3s							
TBI				*e*LQ		LQ	13 08 25.4	
	comp=Z,1μm,28.0s							
TBI				*e*LR		LR	13 09 19.6	
	comp=Z,2μm,27.2s,baz=269							
TBI	**Tubuai**	**22.55**	**99**	*e*T		T	13 27 15.7	
	comp=Z,18nm,0.4s							
BSWZ	**Blackbirch Sta**	**22.55**	**205**	P		**P**	**13 04 02.0**	**+0.5**
THZ	**Tophouse**	**22.98**	**206**	P		**P**	**13 04 06.7**	**+0.7**
PAE	**Paea**	**23.14**	**84**	*e*P		**P**	**13 04 08.0**	**+0.2**
	comp=Z,28nm,1.2s							
PAE	**Paea**	**23.14**	**84**	*e*T		T	13 28 00.2	
	comp=Z,17nm,0.3s							
PPT2	**Papeete2**	**23.16**	**84**	*e*P		**P**	**13 04 08.4**	**+0.3**
	comp=Z,109nm,1.2s							
PPT2				*e*S		**S**	**13 08 13.9**	**-6.4**
	comp=Z,258nm,26.2s							
PPT2				*e*LQ		LQ	13 08 36.9	
	comp=Z,869nm,26.2s							
PPT2				*e*LR		LR	13 09 45.0	
	comp=Z,2μm,24.2s,baz=253							
PPT2	**Papeete2**	**23.16**	**84**	*e*T		T	13 28 02.0	
	comp=Z,14nm,0.4s							
PPT	**Papete**	**23.17**	**84**	P		**P**	**13 04 10.5**	**+2.3**
	comp=Z,100nm,1.0s,baz=342,slow=6.6,SNR=11							
PPT				LR		LR	13 10 36.4	
	comp=Z,780nm,21.0s,baz=253,slow=30							
PPTF	**Pamatai, Papee**	**23.17**	**84**	P		**P**	**13 04 09.9**	**+1.6**
PPTF				lAmb		lAmb	13 04 14.6	
	comp=Z,124nm,1.0s							
KHZ	**Kahutara**	**23.28**	**204**	P		**P**	**13 04 08.9**	**-0.1**
TIAR	**Tiarei**	**23.39**	**84**	*e*P		**P**	**13 04 10.5**	**+0.2**
	comp=Z,17nm,0.8s							
TIAR	**Tiarei**	**23.39**	**84**	*e*T		T	13 28 17.1	
	comp=Z,1.7nm,0.4s							
LTZ	**Lake Taylor**	**24.09**	**206**	P		**P**	**13 04 17.1**	**+0.1**
LTZ				lAmb		lAmb	13 04 30.3	
	comp=Z,31nm,0.7s							
MEH	**Mehetia**	**24.50**	**86**	*e*T		T	13 29 42.1	
	comp=Z,27nm,0.2s							
OXZ	**Oxford**	**24.64**	**205**	P		**P**	**13 04 22.1**	**+0.2**
OXZ				lAmb		lAmb	13 04 47.7	
	comp=Z,39nm,0.7s							
MQZ	**McQueen's Vall**	**24.72**	**204**	P		**P**	**13 04 22.0**	**-0.6**
RPZ	**Rata Peaks**	**25.36**	**206**	P		**P**	**13 04 28.7**	**+0.3**
RPZ				lAmb		lAmb	13 04 46.2	
	comp=Z,30nm,0.8s							
PMOR	**Pomariorio Ree**	**25.44**	**79**	*e*P		**P**	**13 04 30.2**	**+0.8**
	comp=Z,77nm,1.1s							
PMOR	**Pomariorio Ree**	**25.44**	**79**	*e*T		T	13 30 52.1	
	comp=Z,2.9nm,0.3s							
FOZ	**Fox Glacier**	**25.74**	**208**	P		**P**	**13 04 33.0**	**+1.2**
FOZ				lAmb		lAmb	13 04 38.2	
	comp=Z,174nm,1.4s							
LBZ	**Lake Benmore**	**26.27**	**207**	P		**P**	**13 04 35.4**	**-1.3**
LBZ				lAmb		lAmb	13 04 53.2	
	comp=Z,43nm,1.4s							
TARA	**Tarawa**	**26.28**	**329**	P		**P**	**13 04 34.5**	**-2.5**
TARA				lAmb		lAmb	13 04 38.4	
	comp=Z,89nm,0.8s							
ODZ	**Otahua Downs**	**26.62**	**205**	lAmb		lAmb	13 05 01.7	
	comp=Z,36nm,1.2s							
HNR	**Honiara**	**28.00**	**292**	LR		LR	13 14 10.8	
	comp=Z,378nm,21.5s,baz=167,slow=33							
ARMA	**Armidale**	**32.17**	**247**	P		**P**	**13 05 28.9**	**-0.6**
	baz=32,SNR=14							
ARMA	**Armidale**	**32.17**	**247**	P		**P**	**13 05 28.9**	**-0.6**
ARMA						**pP**	**13 05 29.1**	**-0.4**
ARMA				lAmb		lAmb	13 05 29.6	
	comp=Z,50nm,0.8s							
EIDS	**Eidsvold**	**32.36**	**256**	P		**P**	**13 05 29.8**	**-1.2**
	baz=33,SNR=10							
EIDS	**Eidsvold**	**32.36**	**256**	P		**P**	**13 05 29.4**	**-1.7**
EIDS				lAmb		lAmb	13 05 31.2	
	comp=Z,19nm,0.7s							
MGCD	**Mangrove Creek**	**33.06**	**242**	P		**P**	**13 05 36.9**	**-0.2**
	baz=33,SNR=4.7							
RMQ	**Roma**	**34.44**	**254**	P		**P**	**13 05 48.7**	**-0.6**
	baz=35,SNR=29							
TAOE	**Nuku Hiva Isla**	**34.77**	**74**	*e*LR		LR	13 14 47.8	
	comp=Z,1μm,27.4s,baz=247							
TAOE	**Nuku Hiva Isla**	**34.77**	**74**	*e*T		T	13 42 31.3	
	comp=Z,26nm,0.3s							
CTAO	**Charters Tower**	**37.29**	**265**	P		**P**	**13 06 11.5**	**-2.2**
CTAO				pmax		pmax		
	comp=Z,38nm,0.7s							
CTAO	**Charters Tower**	**37.29**	**265**	P		**P**	**13 06 11.5**	**-2.2**
CTAO				lAmb		lAmb	13 06 12.5	
	comp=Z,38nm,0.7s							
CMSA	**Cobar Meteorol**	**37.36**	**246**	P		**P**	**13 06 12.7**	**-1.4**
	baz=38,SNR=87							
TOO	**Toolangi**	**38.47**	**236**	P		**P**	**13 06 23.1**	**-0.4**
	baz=39,SNR=5.1							
QLP	**Qiple**	**38.49**	**254**	P		**P**	**13 06 22.2**	**-1.6**
	baz=39,SNR=9.8							
TAU	**Tasmania Unive**	**38.66**	**228**	P		**P**	**13 06 26.8**	**+1.8**
TAU				pmax		pmax		
	comp=Z,31nm,0.8s							
TAU	**Tasmania Unive**	**38.66**	**228**	P		**P**	**13 06 26.8**	**+1.8**
TAU				lAmb		lAmb	13 06 27.1	
	comp=Z,31nm,0.8s							
PMG	**Port Moresby**	**39.41**	**282**	*c* *i*P		**P**	**13 06 29.7**	**-1.9**
PMG				pmax		pmax		
	comp=Z,163nm,1.1s							
PMG	**Port Moresby**	**39.41**	**282**	P		**P**	**13 06 29.6**	**-2.0**
PMG	**Port Moresby**	**39.41**	**282**	P		**P**	**13 06 29.1**	**-2.5**
	comp=Z,143nm,1.1s							
MTSU	**Mount Surprise**	**39.45**	**267**	P		**P**	**13 06 29.9**	**-2.1**
	baz=40,SNR=81							
STKA	**Stephens Creek**	**40.87**	**246**	P		**P**	**13 06 42.3**	**-1.2**
	comp=Z,39nm,0.6s,baz=95,slow=10,SNR=143							
STKA				LR		LR	13 22 02.2	
	comp=Z,384nm,20.1s,baz=84,slow=34							
STKA	**Stephens Creek**	**40.87**	**246**	P		**P**	**13 06 42.3**	**-1.2**
	baz=41,SNR=77							
STKA	**Stephens Creek**	**40.87**	**246**	P		**P**	**13 06 42.2**	**-1.4**
STKA				pmax		pmax		
	comp=Z,9.0nm,0.7s							
STKA	**Stephens Creek**	**40.87**	**246**	P		**P**	**13 06 42.2**	**-1.4**
ARPS	**Mount Arapiles**	**41.18**	**238**	P		**P**	**13 06 45.4**	**-0.6**
	baz=41,SNR=6.9							
MANU	**Manus Island**	**42.50**	**292**	P		**P**	**13 06 56.3**	**-0.8**
MANU				lAmb		lAmb	13 06 57.3	
	comp=Z,51nm,1.1s							
HTT	**Hallett**	**43.21**	**244**	P		**P**	**13 07 01.3**	**-1.4**
	baz=43,SNR=36							
QIS	**Mount Isa**	**43.36**	**263**	P		**P**	**13 07 01.2**	**-2.8**
	baz=44,SNR=11							
BBOO	**Buckleboo**	**45.58**	**245**	P		**P**	**13 07 19.8**	**-1.9**
	baz=46,SNR=123							
BBOO	**Buckleboo**	**45.58**	**245**	lAmb		lAmb	13 07 20.7	
	comp=Z,36nm,0.7s							
AS31	**Alice Springs**	**48.08**	**257**	lAmb		lAmb	13 07 40.8	
	comp=Z,35nm,1.1s							
ASAR	**Alice Springs**	**48.08**	**257**	P		**P**	**13 07 39.2**	**-2.2**
	comp=Z,73nm,0.9s,baz=89,slow=8.3,SNR=379							
ASAR				S		S	13 14 29.4	-11
	comp=Z,1.9nm,1.0s,baz=96,slow=14,SNR=8.1							
ASAR				LR		LR	13 26 27.4	
	comp=Z,376nm,19.4s,baz=128,slow=34							
ASAR	**Alice Springs**	**48.08**	**257**	P		**P**	**13 07 39.5**	**-1.9**
ASAR	**Alice Springs**	**48.08**	**257**	P		**P**	**13 07 39.5**	**-1.9**
WR0	**Warramunga Arr**	**48.14**	**262**	P		**P**	**13 07 39.5**	**-2.3**
WB0	**Warramunga Arr**	**48.31**	**262**	P		**P**	**13 07 40.6**	**-2.6**
WB2	**Warramunga Arr**	**48.32**	**262**	P		**P**	**13 07 40.6**	**-2.6**
WRAB	**Tennant Creek**	**48.32**	**262**	*c* *i*P		**P**	**13 07 40.4**	**-2.9**
WRAB				pmax		pmax		
	comp=Z,113nm,0.8s							
WRAB	**Tennant Creek**	**48.32**	**262**	P		**P**	**13 07 41.2**	**-2.0**
WRA	**Warramunga Arr**	**48.33**	**262**	P		**P**	**13 07 40.3**	**-3.0**
	comp=Z,93nm,0.8s,baz=99,slow=8.0,SNR=253							
WRA	**Warramunga Arr**	**48.33**	**262**	P		**P**	**13 07 40.3**	**-3.0**
WRA				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WRA	**Warramunga Arr**	**48.33**	**262**	lAmb		lAmb	13 07 41.5	
	comp=Z,8.6nm,0.7s							
GENI	**Genyem**	**48.56**	**286**	P		**P**	**13 07 42.4**	**-2.8**
	comp=Z,178nm,1.3s							
KDU	**Kakadu**	**51.89**	**271**	P		**P**	**13 08 08.0**	**-2.4**
	baz=52,SNR=7.1							
FORT	**Forrest**	**52.46**	**247**	P		**P**	**13 08 12.8**	**-1.6**
	baz=53,SNR=30							
FORT	**Forrest**	**52.46**	**247**	P		**P**	**13 08 12.9**	**-1.5**
BAKI	**Biak**	**52.82**	**286**	P		**P**	**13 08 16.6**	**-0.7**
	comp=Z,178nm,1.3s							
WRKA	**Warakurna**	**52.93**	**254**	P		**P**	**13 08 16.2**	**-1.9**
	baz=53,SNR=48							
MTN	**Manton Dam**	**53.09**	**270**	P		**P**	**13 08 16.6**	**-2.6**
	baz=53,SNR=7.9							
MTN	**Manton Dam**	**53.09**	**270**	lAmb		lAmb	13 08 18.1	
	comp=Z,21nm,0.6s							
KNRA	**Kununurra**	**54.49**	**266**	P		**P**	**13 08 27.4**	**-2.1**
	baz=55,SNR=62							
KNRA	**Kununurra**	**54.49**	**266**	P		**P**	**13 08 27.6**	**-1.9**
MWPI	**Manokwari, Pap**	**54.79**	**285**	P		**P**	**13 08 30.4**	**-1.3**
	comp=Z,82nm,0.9s							
FITZ	**Fitzroy Crossi**	**56.76**	**262**	P		**P**	**13 08 44.3**	**-1.5**
	baz=57,SNR=44							
FITZ	**Fitzroy Crossi**	**56.76**	**262**	P		**P**	**13 08 44.4**	**-1.4**
FITZ				lAmb		lAmb	13 08 45.4	
	comp=Z,74nm,1.3s							
SBA	**Scott Base**	**57.04**	**185**	P		**P**	**13 08 50.3**	**+3.4**
SBA				pmax		pmax		
	comp=Z,14nm,1.0s							
SBA	**Scott Base**	**57.04**	**185**	P		**P**	**13 08 50.3**	**+3.4**
SBA				lAmb		lAmb	13 08 58.0	
	comp=Z,14nm,1.0s							
VNDA	**Vanda**	**57.17**	**186**	P		**P**	**13 08 50.7**	**+2.9**
	comp=Z,3.5nm,1.0s,baz=5.9,slow=6.1,SNR=14							
VNDA				LR		LR	13 29 29.5	
	comp=Z,53nm,21.1s,baz=337,slow=32							
VNDA	**Vanda**	**57.17**	**186**	P		**P**	**13 08 49.3**	**+1.5**
VNDA				pmax		pmax		
	comp=Z,8.0nm,1.1s							
VNDA	**Vanda**	**57.17**	**186**	P		**P**	**13 08 49.2**	**+1.5**
SIJI	**Sorong**	**57.31**	**284**	P		**P**	**13 08 48.3**	**-1.5**
	comp=Z,1μmcomp=Z,178nm,1.0s							
SWI	**Sorong**	**57.32**	**284**	P		**P**	**13 08 48.0**	**-1.9**
	comp=Z,3μmcomp=Z,400nm,0.9s							
KRAI	**Karang Ratu**	**58.94**	**280**	P		**P**	**13 08 58.5**	**-2.7**
	comp=Z,3μmcomp=Z,94nm,1.0s							
NLAI	**Namlea**	**60.16**	**279**	P		**P**	**13 09 07.7**	**-1.9**
	comp=Z,56nm,1.4s							
SOEI	**Soe**	**60.45**	**271**	P		**P**	**13 09 11.4**	**-0.4**
	comp=Z,2μmcomp=Z,192nm,0.8s							
BATI	**Baumata**	**60.86**	**270**	P		**P**	**13 09 13.9**	**-0.6**
	comp=Z,60nm,0.9s							
KLBR	**Kellerberrin**	**61.13**	**245**	P		**P**	**13 09 15.7**	**-0.4**
	baz=61,SNR=17							
PSA00	**Pilbara Seismi**	**61.23**	**257**	P		**P**	**13 09 15.2**	**-1.6**
PSA00	**Pilbara Seismi**	**61.23**	**257**	P		**P**	**13 09 14.7**	**-2.1**
PSA00				lAmb		lAmb	13 09 16.2	
	comp=Z,21nm,1.1s							
MEEK	**Meekatharra**	**61.25**	**251**	P		**P**	**13 09 15.6**	**-1.3**
	baz=61,SNR=14							
NWAO	**Narrogin (SRO)**	**61.37**	**243**	P		**P**	**13 09 17.7**	**0.0**
	baz=62,SNR=4.8							
TNTI	**Ternate**	**61.54**	**283**	P		**P**	**13 09 18.0**	**-1.0**
	comp=Z,101nm,1.2s							
BLDU	**Ballidu**	**62.17**	**246**	P		**P**	**13 09 22.5**	**-0.6**
	baz=62,SNR=8.0							
MUN	**Mundaring**	**62.37**	**244**	P		**P**	**13 09 24.4**	**0.0**
	baz=62,SNR=12							
MMRI	**Maumere**	**62.71**	**271**	P		**P**	**13 09 24.8**	**-2.1**
	comp=Z,2μmcomp=Z,76nm,0.8s							
MORW	**Morawa**	**63.02**	**248**	P		**P**	**13 09 28.3**	**-0.5**
	baz=63,SNR=11							
MORW	**Morawa**	**63.02**	**248**	P		**P**	**13 09 28.3**	**-0.5**
EDFI	**Ende, Flores**	**63.18**	**271**	P		**P**	**13 09 28.4**	**-1.8**
	comp=Z,321nmcomp=Z,35nm,0.8s							
CASY	**Casey**	**64.63**	**206**	P		**P**	**13 09 40.4**	**+1.6**
CASY				lAmb		lAmb	13 09 41.3	
	comp=Z,24nm,0.8s							
WBSI	**Waikabubak, Su**	**65.02**	**269**	P		**P**	**13 09 41.1**	**-1.1**
GIRL	**Giralia**	**66.02**	**254**	P		**P**	**13 09 49.0**	**+0.5**
TOLI2	**Tolitoli**	**67.67**	**281**	lAmb		lAmb	13 10 02.2	
	comp=Z,24nm,0.7s							
QSPA	**South Pole Qui**	**68.44**	**180**	P		**P**	**13 10 05.7**	**+2.4**
QSPA				lAmb		lAmb	13 10 23.2	
	comp=Z,25nm,1.0s							
JHJ2	**Mitsune**	**70.16**	**320**	P		**P**	**13 10 14.1**	**-0.1**
AMKA	**Amchitka**	**72.95**	**355**	P		**P**	**13 10 30.4**	**-0.1**
JMM	**Marumori**	**72.97**	**324**	lAmb		lAmb	13 10 31.1	
	comp=Z,15nm,0.9s							
SPMM	**Sapulut**	**73.06**	**282**	P		**P**	**13 10 32.0**	**-0.2**
KIWB	**Kanaga Island**	**73.23**	**358**	P		**P**	**13 10 32.8**	**+0.6**
ADK	**Adak**	**73.25**	**358**	P		**P**	**13 10 32.1**	**-0.2**
ADK				pmax		pmax		
	comp=Z,32nm,0.8s							
ADK	**Adak**	**73.25**	**358**	P		**P**	**13 10 32.1**	**-0.2**
ADK				lAmb		lAmb	13 10 33.2	
	comp=Z,32nm,0.8s							
GSTR	**Great Sitkin T**	**73.44**	**359**	P		**P**	**13 10 33.8**	**+0.3**
MJAR	**Matsushiro Arr**	**73.49**	**321**	P		**P**	**13 10 33.5**	**-0.7**
	comp=Z,20nm,0.7s,baz=155,slow=5.7,SNR=58							
MJAR	**Matsushiro Arr**	**73.49**	**321**	lAmb		lAmb	13 10 35.4	
	comp=Z,17nm,0.7s							
MAJO	**Matsushiro**	**73.49**	**321**	*c* *i*P		**P**	**13 10 33.6**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,53nm,1.8s							
MAJO	**Matsushiro**	**73.49**	**321**	P		**P**	**13 10 33.7**	**-0.6**
MAJO				lAmb		lAmb	13 10 35.7

PET pmax pmax
comp=Z,18nm,0.8s
PET Petropavlovsk 78.10 343 P P 13 10 59.7 -0.4
PET IAmb IAmb 13 11 00.2
comp=Z,13nm,0.7s
GSC Goldstone, Bar 78.25 44 P 13 11 02.3
baz=233
MPMC Manual Prospec 78.27 44 P 13 11 02.6
baz=232
HEC Hector,Ludlow 78.28 45 P 13 11 02.4
baz=233
N02D Trinity Center 78.29 37 P 13 11 02.7
baz=228
O03E Paynes Creek 78.35 38 P 13 11 02.7
baz=228
PEA0B Petropavlovsk- 78.44 343 *ce*P **P 13 11 02.0 0.0**
PETK Petropavlovsk- 78.44 343 P P 13 11 02.0 0.0
comp=Z,41nm,0.6s,baz=132,slow=8.3,SNR=59
M02C Callahan 78.49 37 P 13 11 05.1
baz=227
IRM Iron Mountain 78.67 46 P 13 11 05.7
baz=234
YSS Yuzh-Sakhalins 78.72 331 *c i*P **P 13 11 04.3 +0.7**
YSS pmax pmax
comp=Z,72nm,0.9s
YSS Yuzh-Sakhalins 78.72 331 P P 13 11 04.0 +0.4
NVAR Mina Array Bea 79.22 41 P P 13 11 08.8 +1.8
comp=Z,1.7nm,0.6s,baz=225,slow=8.5,SNR=19
NVAR LR LR 13 37 49.4
comp=Z,110nm,21.9s,baz=235,slow=29
NVAR Mina Array Bea 79.22 41 P P 13 11 08.6 +1.6
KVN Kaiserville 79.73 41 P P 13 11 10.1 +0.4
KVN pmax pmax
comp=Z,6.0nm,1.2s
KVN Kaiserville 79.73 41 P P 13 11 10.1 +0.4
KSRS Korea Array 80.37 317 P P 13 11 13.4 +0.6
comp=Z,0.5nm,0.6s,baz=200,slow=29,SNR=4.0
J05D Fort Rock, OR 80.65 36 P 13 11 15.9
baz=228
VLA Vladivostok 81.50 323 ⇑ *i*P **P 13 11 19.5 +0.7**
VLA pmax pmax
comp=Z,18nm,0.8s
MSHR Mys Shultsa 81.57 322 *c i*P **P 13 11 20.2 +1.0**
MSHR pmax pmax
comp=Z,36nm,0.8s
MAW Mawson 81.79 199 P P 13 11 21.9 +1.8
comp=Z,6.6nm,0.7s,baz=120,slow=4.9,SNR=13
MAW LR LR 13 49 15.6
comp=Z,91nm,18.1s,baz=64,slow=37
MAW Mawson 81.79 199 P P 13 11 22.1 +2.0
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 81.79 199 P P 13 11 22.1 +2.0
H03S2 Juan Fernandez 82.11 123 T T 14 43 32.6
baz=247,slow=75,SNR=194
H03S1 Juan Fernandez 82.12 123 T T 14 43 53.3
baz=247,slow=75,SNR=180
H03S3 Juan Fernandez 82.12 123 T T 14 43 43.2
baz=247,slow=75,SNR=228
E04D Cinebar 82.14 33 P 13 11 22.5
baz=227
USA0B Ussuriysk Arra 82.14 324 IAmb IAmb 13 11 24.2
comp=Z,42nm,1.5s
USRK Ussuriysk Ar. 82.14 324 P P 13 11 22.3 +0.1
comp=Z,8.1nm,0.8s,baz=103,slow=4.6,SNR=16
USRK Ussuriysk Ar. 82.14 324 P P 13 11 23.2 +1.1
H03N2 Juan Fernandez 82.24 123 T T 14 43 37.0
baz=258,slow=71,SNR=108
H03N3 Juan Fernandez 82.24 123 T T 14 43 44.6
baz=258,slow=71,SNR=70
H03N1 Juan Fernandez 82.25 123 T T 14 43 50.6
baz=258,slow=71,SNR=77
ELK Elko 82.51 41 P P 13 11 25.4 +0.9
comp=Z,0.4nm,0.4s,baz=207,slow=7.9,SNR=3.8
D03D Eldon 82.55 32 P 13 11 24.9
baz=226
O18K Koktuh Hills 82.61 9 P 13 11 25.1
baz=197
121A Cookes Peak, D 82.92 51 P 13 11 24.9
baz=239
A04D Lummi Island 83.55 31 P 13 11 31.2
baz=227
N19K Bonanza Creek 83.64 9 P 13 11 29.7
baz=198
NJ2 Nanjing 83.64 308 ⇓ **P P 13 11 31.5 +1.3**
NJ2 pmax pmax
comp=Z,29nm,0.6s
MDJ Mudanjiang 83.74 323 P P 13 11 31.0 +0.6
MDJ pP PcP 13 11 34.3 -0.2
MDJ sP sP 13 11 35.5 +5.6
MDJ S **S 13 21 57.0 +3.5**
MDJ sS ScS 13 22 03.0 -3.4
MDJ pmax pmax
comp=Z,53nm,1.0s
MDJ pmax pmax
comp=Z,120nm,5.0s
MDJ L L
comp=Z,140nm,15.0s
MDJ L L
comp=Z,140nm,14.8s
MDJ L L
comp=Z,260nm,24.2s
GRNR Gornyy 84.36 331 ⇑ *i*P **P 13 11 34.1 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
TXAR Lajitas Array 84.41 56 P P 13 11 36.0 +1.7
comp=Z,1.1nm,1.0s,baz=208,slow=9.0,SNR=9.4
TXAR LR LR 13 43 25.6
comp=Z,111nm,19.1s,baz=0.0,slow=32
TXAR Lajitas Array 84.41 56 P P 13 11 33.7 -0.7
TXAR Lajitas Array 84.41 56 P P 13 11 33.7 -0.7
F10A Beach Ranch, E 84.57 36 P P 13 11 34.8 +0.1
QIZ Qiongzhong 84.90 293 P P 13 11 38.0 +1.1
QIZ S **S 13 22 04.8 -1.5**
QIZ L L
comp=Z,200nm,27.9s
ANMO Albuquerque 85.10 50 P P 13 11 39.5 +1.6
comp=Z,4.0nm,0.9s,baz=206,slow=5.3,SNR=8.5
ANMO Albuquerque 85.10 50 *de*P **P 13 11 39.6 +1.7**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 85.10 50 P P 13 11 38.7 +0.8
TTA Tatalina 85.45 8 P 13 11 38.8
baz=196
TTA Tatalina 85.45 8 P P 13 11 38.6 -0.2
TTA pmax pmax
comp=Z,14nm,1.2s
TTA Tatalina 85.45 8 P P 13 11 38.6 -0.2
TTA IAmb IAmb 13 11 58.8
comp=Z,14nm,1.2s
KLR Kul'dur 85.54 328 *c i*P **P 13 11 40.0 +0.6**
KLR pmax pmax
comp=Z,13nm,1.0s
CN2 Changchun 85.62 321 *e*P **P 13 11 40.3 +0.3**
CN2 pmax pmax
comp=Z,20nm,1.0s
PLCA Paso Flores 85.63 132 LR LR 13 40 45.3
comp=Z,157nm,21.3s,baz=224,slow=29
CUT Chulitna 85.82 11 P 13 11 40.8
baz=202
MA2 Magadan 85.97 343 *c i*P **P 13 11 40.5 -0.8**
MA2 pmax pmax
comp=Z,12nm,0.8s
N25K Chitina, Valde 86.20 14 P 13 11 43.3
baz=207
S22A 4UR Ranch, Cre 86.27 47 P 13 11 44.8
baz=239
WHN Wuhan 86.29 305 ⇓ **P P 13 11 44.5 +0.9**
WHN pmax pmax
comp=Z,76nm,1.2s
SYO Syowa Base 86.44 191 ⇑ *e*P **P 13 11 44.2 +0.5**
WAT6 Susitna Watana 86.45 12 P 13 11 44.3
baz=204
VNA3 Neumayer Olymp 86.71 175 P P 13 11 45.8 +0.7
SNAA Sanae 86.73 177 P P 13 11 46.1 +0.9
SNAA Sanae 86.73 177 ⇑ *e*P **P 13 11 46.0 +0.8**
SNAA pmax pmax
comp=Z,5.0nm,0.9s
SNAA Sanae 86.73 177 P P 13 11 46.4 +1.1
KTH Kantishna Hill 86.79 10 P P 13 11 44.9 -0.5
TRF Thorofare Moun 86.80 10 P 13 11 45.4
baz=202
TRF Thorofare Moun 86.80 10 IAmb IAmb 13 11 53.7
comp=Z,16nm,0.8s
RND Reindeer 87.00 11 IAmb IAmb 13 12 06.6
comp=Z,24nm,1.0s

PDAR Pinedale Array 87.15 42 P P 13 11 48.8 +0.9
comp=Z,0.8nm,0.8s,baz=219,slow=3.8,SNR=7.2
PDAR LR LR 13 43 23.8
comp=Z,54nm,21.8s,baz=244,slow=30
IPM Ipoh 87.16 276 P P 13 11 49.0 +0.7
VNA2 Neumayer--Watz 87.20 176 P P 13 11 48.4 +1.0
baz=210,slow=3.3
BPAW Bear Paw Mtn. 87.29 10 P 13 11 47.1
baz=201
MCK McKinley 87.29 11 P 13 11 47.5
baz=203
VNA1 Neumayer--Stat 87.40 175 P P 13 11 49.2 +0.8
MT01 Popeta 87.99 126 P P 13 11 53.2 +1.2
MT01 IAmb IAmb 13 12 00.0
comp=Z,16nm,0.9s
L27K Beaver Creek, 88.10 14 P 13 11 51.5
baz=209
WRH Wood River Hil 88.12 11 IAmb IAmb 13 12 11.2
comp=Z,14nm,1.0s
DOT Dot Lake 88.14 13 P P 13 11 52.4 +0.6
DOT IAmb IAmb 13 12 11.6
comp=Z,6.7nm,0.9s
I21K Tanana 88.15 9 P 13 11 52.5
baz=200
MLY Manley 88.20 10 P 13 11 52.3
baz=201
HDA Harding Lake 88.26 11 P 13 11 51.4
baz=205
HDA P 13 11 51.4
baz=205
HDA Harding Lake 88.27 11 IAmb IAmb 13 12 11.8
comp=Z,8.4nm,0.8s
CCB Clear Creek Bu 88.33 11 IAmb IAmb 13 12 12.0
comp=Z,8.1nm,0.9s
SEY Seymchan 88.42 345 *c i*P **P 13 11 53.3 +0.2**
SCRK Sand Creek 88.45 13 P 13 11 54.1
baz=208
RPSI Rantau Prapat 88.45 273 IAmb IAmb 13 11 56.0
comp=Z,21nm,0.8s
SCRK Sand Creek 88.45 13 P P 13 11 52.7 -0.6
H21K Melozitna Rive 88.48 9 P 13 11 55.4
baz=199
I23K Minto, Yukon-K 88.53 10 P 13 11 55.4
baz=203
SKLT Songkhla 88.53 278 P P 13 11 57.0 +2.2
COLA College 88.53 11 ⇓ *i*P **P 13 11 54.4 +0.9**
COLA pmax pmax
comp=Z,5.0nm,0.9s
MDM Murphy Dome 88.54 11 P P 13 11 54.2 +0.5
ILAR Eielson Array 88.61 11 P P 13 11 54.7 +0.8
comp=Z,1.4nm,1.0s,baz=212,slow=5.9,SNR=8.3
ILAR LR LR 13 48 46.4
comp=Z,45nm,18.4s,baz=205,slow=34
ILAR Eielson Array 88.61 11 P P 13 11 53.8 -0.2
ILAR Eielson Array 88.61 11 P P 13 11 53.8 -0.2
K27K Chicken 88.89 13 P 13 11 56.8
baz=209
K27K Chicken 88.89 13 P P 13 11 56.5 +1.2
BJI Beijing 89.48 314 P P 13 11 59.0 +0.4
BJI S **S 13 22 52.0 +2.5**
BJI pmax pmax
comp=Z,13nm,0.7s
ENH Enshi 89.94 303 IAmb IAmb 13 12 26.5
comp=Z,56nm,1.5s
KRAB Krabi 90.22 279 P P 13 12 05.9 +3.2
COLD Coldfoot 90.33 9 P 13 12 03.3
baz=202
NONG Nongkai 90.34 289 P P 13 12 04.5 +1.4
CHAI Chaiyaphum 90.55 287 P P 13 12 06.5 +2.3
ZEA Zeya 90.56 329 *e*P **P 13 12 04.5 +1.2**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
BILL Bilibino 90.61 353 *e*P **P 13 12 02.8 -0.5**
BILL *e* 13 15 36.8
BILL pmax pmax
comp=Z,3.0nm,0.9s
GYA Guiyang 90.63 298 ⇑ P **P 13 12 05.0 +0.5**
BMAR Burnt Mountain 91.42 11 P P 13 12 08.1 +1.0
PHET Kaeng Krachan 91.55 283 P P 13 12 12.1 +3.2
XAN Xi'an 91.95 306 P P 13 12 10.5 +0.1
XAN pP sP 13 12 16.0 +6.1
XAN sP pwP 13 12 23.0 +1.4
XAN pmax pmax
comp=Z,51nm,0.8s
EPYK Eagle Plains 92.08 14 P 13 12 10.9
baz=214
PHIT Phitsanulok 92.42 287 P P 13 12 14.7 +1.9
UTTA Uttaradit 92.50 288 P P 13 12 16.4 +3.2
JTS Las Juntas de 92.68 80 *e*P **P 13 12 14.4 +0.3**
JTS pmax pmax
comp=Z,10.0nm,1.0s
UTHA Uthaitani 92.69 286 P P 13 12 16.9 +2.8
HHC Hu-ho-hao-te 92.97 313 *e*P **P 13 12 15.3 +0.3**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,78nm,6.4s
KMI Kunming 93.36 296 ⇓ P **P 13 12 19.0 +1.7**
KMI pP sP 13 12 24.0 +7.1
KMI sP pwP 13 12 29.8 +1.2
KMI pmax pmax
comp=Z,14nm,0.6s
BTO Baotou 93.92 312 *e*P **P 13 12 17.0 -2.4**
CDITO Canoas 93.97 82 P P 13 12 19.1 -1.0
CM04 Chiang Mai Arr 94.14 288 P P 13 12 22.8 +2.0
comp=Z,153nmcomp=Z,24nm,0.9s
CM09 Chiang Mai Arr 94.14 288 P P 13 12 23.7 +2.9
comp=Z,161nmcomp=Z,23nm,0.9s
CM01 Chiang Mai Arr 94.16 288 P P 13 12 23.3 +2.4
comp=Z,23nm,0.8s
CM05 Chiang Mai Arr 94.17 288 P P 13 12 22.9 +2.0
comp=Z,18nm,0.9s
CM02 Chiang Mai Arr 94.18 288 P P 13 12 23.1 +2.2
comp=Z,144nmcomp=Z,19nm,1.1s
CM31 Chiang Mai Arr 94.19 288 IAmb IAmb 13 12 24.4
comp=Z,34nm,1.2s
CMAR Chiang Mai Arr 94.19 288 P P 13 12 21.9 +1.0
comp=Z,13nm,0.9s,baz=127,slow=2.6,SNR=51
CMAR Chiang Mai Arr 94.19 288 P P 13 12 22.0 +1.0
CM15 Chiang Mai Arr 94.20 288 P P 13 12 22.9 +1.8
comp=Z,15nm,1.0s
CM13 Chiang Mai Arr 94.21 288 P P 13 12 23.1 +2.0
comp=Z,131nmcomp=Z,20nm,0.9s
CMMT Chiang Mai 94.31 288 P P 13 12 21.7 +0.1
CHTO Chiang Mai 94.32 288 P P 13 12 22.2 +0.6
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 94.32 288 P P 13 12 22.7 +1.1
CHTO Chiang Mai 94.32 288 P P 13 12 22.2 +0.6
CHTO IAmb IAmb 13 12 24.0
comp=Z,21nm,0.8s
YAK Yakutsk 94.66 337 *ce*P **P 13 12 20.7 -1.4**
YAK pmax pmax
comp=Z,11nm,0.7s
CD2 Chengdu 94.71 301 *e*P **P 13 12 23.0 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YKA Yellowknife Ar 95.94 24 P P 13 12 28.9 +0.9
comp=Z,0.3nm,0.6s,baz=232,slow=4.5,SNR=6.4
YKA LR LR 13 49 46.0
comp=Z,84nm,20.6s,baz=0.0,slow=32
LZH Lanzhou 96.59 306 *e*P **P 13 12 32.3 +0.5**
LZH pP sP 13 12 35.5 +4.2
LZH sP pP 13 12 36.8 +5.4
LZH pmax pmax
comp=Z,27nm,1.4s
LZH pmax pmax
comp=Z,98nm,5.9s
LZH L L
comp=Z,180nm,19.0s
LZH L L
comp=Z,110nm,21.1s
LPAZ La Paz 98.00 111 LR LR 13 47 13.5
comp=Z,172nm,21.9s,baz=270,slow=29
ULN Ulaanbaatar 98.80 318 *ce*P **P 13 12 41.1 -0.3**
ULN pmax pmax
comp=Z,5.0nm,1.5s
ULM Lac du Bonnet 98.98 39 LR LR 13 49 46.6
comp=Z,56nm,19.7s,baz=272,slow=31
SONM Songino Array 99.20 318 P Pdif 13 12 44.1 +0.8
comp=Z,0.7nm,0.6s,baz=134,slow=6.2,SNR=1.7
GTA Gaotai 100.74 308 *e*P **Pdif 13 12 53.5 +3.2**

GTA pP sP 13 12 58.3 +8.4
GTA sP pwP 13 13 00.8 -0.8
GTA SKS 13 23 29.8
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,62nm,4.9s
GTA L L
comp=Z,70nm,18.2s
GTA L L
comp=Z,84nm,18.5s
GTA L L
comp=Z,120nm,18.2s
WMQ Urumqi 110.64 310 *e*PKP **PKiKP 13 17 35.8 +1.4**
NRIK Noril'sk 113.10 338 *i* PKIKP **PKiKP 13 17 39.0 +0.8**
MK31 Makanchi Array 114.83 313 ⇑ *i*PKIKP PKPdf 13 17 41.4 -0.8
MKAR Makanchi Array 114.83 313 PKP PKPdf 13 17 41.4 -0.8
comp=Z,0.9nm,0.6s,baz=178,slow=0.6,SNR=9.2
KURK Kurchatov 117.49 317 PKIKP **PKPdf 13 17 46.0 -1.1**
KURK Kurchatov 117.49 317 PKPdf 13 17 46.0 -1.1
KURBB Kurchatov Arra 117.55 317 PKP **PKPdf 13 17 46.0 -1.2**
comp=Z,2.0nm,0.7s,baz=86,slow=1.8,SNR=20
AAK Ala-Archa 120.09 308 ⇑ *i*PKIKP **PKPdf 13 17 51.0 -1.6**
AAK pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 122.47 320 PKP **PKPdf 13 17 55.2 -1.4**
comp=Z,2.8nm,0.7s,baz=180,slow=10,SNR=11
BRVK Borovoye 122.53 320 ⇑ *i*PKIKP **PKPdf 13 17 56.2 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 122.53 320 PKPdf **PKPdf 13 17 54.6 -2.1**
KKAR Karatay Array 123.02 308 PKIKP **PKPdf 13 17 57.0 -1.1**
KKAR Karatay Array 123.02 308 PKPdf **PKPdf 13 17 57.0 -1.1**
KBL Kabul 123.88 298 PKIKP **PKPdf 13 17 58.1 -2.1**
KBL Kabul 123.88 298 PKPdf **PKPdf 13 17 58.1 -2.1**
ICESG Greenland Ices 125.09 18 *i* P **PKPdf 13 18 01.4 -0.3**
ICESG IAmb IAmb 13 18 01.9
comp=Z,4.9nm,0.8s
DBG Daneborg 125.42 9 *i* P **PKPdf 13 18 01.6 -0.1**
DBG IAmb IAmb 13 18 02.2
comp=Z,2.7nm,0.7s
ARU Arti 128.35 326 PKP **PKPdf 13 18 07.7 -0.2**
comp=Z,2.4nm,0.4s,baz=22,slow=1.2,SNR=15
ARU Arti 128.35 326 *i* PKIKP **PKPdf 13 18 07.6 -0.2**
ARU 13 20 10.1
ARU 13 25 18.6
ARU Arti 128.35 326 PKPdf **PKPdf 13 18 07.4 -0.4**
ABKAR Akbulak array 129.60 317 PKPdf **PKPdf 13 18 09.8 -0.6**
AKTO Aktyubinsk 130.51 319 PKP **PKPdf 13 18 12.5 +0.4**
comp=Z,1.5nm,0.7s,baz=82,slow=2.1,SNR=8.4
ARCES ARCESS Array B 130.69 351 PKP **PKPdf 13 18 12.0 +0.1**
comp=Z,2.3nm,0.6s,baz=355,slow=2.9,SNR=3.3
KIRV Kirov 131.87 331 *c i*PKIKP **PKiKP 13 18 15.7 +0.3**
KLMR Klimovskoe 134.45 338 *e*PKHKP PKPpre 13 18 06.3
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 134.45 338 *e*PKPdf PKPpre 13 18 06.4
KLMR AMP 13 18 13.7
comp=Z,8.0nm,1.0s
BELG Belogornoye 135.82 324 PKP **PKPdf 13 18 22.2 +0.2**
comp=Z,18nm,0.9s,baz=207,slow=6.9,SNR=3.9
BELG Belogornoye 135.82 324 *e*PKIKP **PKPdf 13 18 20.6 -1.4**
BELG *i* 13 18 23.5
FINES FINESS Array B 137.89 346 PKP **PKPdf 13 18 24.5 -1.0**
comp=Z,2.1nm,0.8s,baz=11,slow=1.0,SNR=5.0
OBN Obninsk 139.57 333 *e*PKIKP **PKPdf 13 18 29.3 +0.5**
OBN *e* 13 21 28.6
OBN *e*PPP PPP 13 24 26.7
OBN pmax pmax
comp=Z,7.0nm,0.7s
VRH Novokhopyorsk 139.58 326 *e*PKIKP **PKPdf 13 18 27.5 -1.5**
VRH pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 140.16 329 *e*PKIKP **PKPdf 13 18 29.2 -0.8**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
NOA NORSAR Array B 140.47 356 PKhKP PKPpre 13 18 23.3
comp=Z,0.9nm,0.8s,baz=8.2,slow=2.3,SNR=3.9
VSR Storozhevoye 140.89 327 *e*PKIKP **PKPdf 13 18 30.6 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 140.97 327 *e*PKIKP **PKPdf 13 18 30.3 -1.2**
VORD pmax pmax
comp=Z,10.0nm,1.6s
HFS Hagfors 141.17 354 PKhKP PKPpre 13 18 24.7
comp=Z,2.6nm,0.6s,baz=56,slow=2.7,SNR=8.9
MNK Minsk 143.32 339 *i* PKIKP **PKPdf 13 18 37.7 +2.1**
MNK *i* 13 21 48.5
MNK *i* PPP PPP 13 24 57.6
MNK *i* 13 25 47.4
MNK *i* SS SS 13 40 25.2 -1.1
MNK *i* SSS SSS 13 45 50.7
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=E,6.0nm,22.0s
MNK MLR MLR
comp=Z,61nm,20.0s
MNK MLR MLR
comp=N,166nm,23.0s
MNK Minsk 143.32 339 *i* PKP **PKPdf 13 18 37.8 +2.2**
comp=E,2.0nm,0.8s
MNK *i* PKP **PKPdf 13 18 37.8 +2.2**
comp=N,14nm,0.9s
MNK *i* PKP **PKPdf 13 18 37.8 +2.2**
comp=Z,11nm,0.8s,baz=217
MNK *i* PP **PP 13 21 48.5 +2.4**
MNK *i* SKP 13 22 12.2
MNK *i* PKS **PKSdf 13 22 13.4 +2.4**
MNK *i* PPP PPP 13 24 57.7
MNK *i* SKS **SKSdf 13 25 47.5 +2.0**
MNK *i* SKKS **SKKSdf 13 35 03.1 +0.4**
MNK *i* SS **SS 13 40 25.2 -1.0**
MNK *i* SSS SSS 13 45 50.7
MNK *i* LQ LQ 14 14 13.7
MNK *i* LR LR 14 20 26.8
MNK *i* LRM MLR 14 22 10.2
comp=E,6.0nm,21.7s
MNK *i* LRM MLR 14 22 29.8
comp=Z,61nm,20.2s
MNK *i* LRM MLR 14 22 47.1
comp=N,166nm,23.2s
NACGM Naroch 143.35 340 *i* PKP PKPbc 13 18 33.5 +0.8
RAYN Ar Rayn 143.73 281 PKIKP PKPab 13 18 34.9 +0.7
RAYN Ar Rayn 143.73 281 PKPab 13 18 34.9 +0.7
SOC Sochi 144.64 316 *e*PKHKP PKPpre 13 18 34.1
SOC *e*PPP PPP 13 25 05.4
SOC *e*SSS SSS 13 46 08.0
SOC MLR MLR
comp=Z,73nm,19.0s
GURO Guroymak-BITLI 144.98 307 PKPab 13 18 38.6 +0.1
MUD Monsted U'grnd 145.16 357 ⇑ *i*P **PKPbc 13 18 38.7 +0.4**
MUD IAmb IAmb 13 18 39.5
comp=Z,52nm,1.0s
MUD Monsted U'grnd 145.16 357 ⇑ *i*PKIKP **PKPbc 13 18 38.6 +0.4**
MUD pmax pmax
comp=Z,52nm,1.0s
SUW Suwalki 145.19 342 *e*PKP **PKPbc 13 18 38.8 +0.3**
BJUU Bjuv 145.24 353 *i* P **PKPbc 13 18 38.5 0.0**
LUNU Lund 145.62 353 *i* P **PKPdf 13 18 39.8 +0.3**
AKASG Malin Array Be 145.84 334 PKPbc **PKPdf 13 18 40.2 +0.1**
comp=Z,11nm,0.5s,baz=40,slow=4.1,SNR=79
AKASG Malin Array Be 145.84 334 PKIKP **PKPdf 13 18 40.4 +0.3**
AKASG Malin Array Be 145.84 334 PKPdf **PKPdf 13 18 40.4 +0.3**
AKBB Malin Array Si 145.84 334 PKIKP **PKPdf 13 18 39.2 -0.9**
AKBB Malin Array Si 145.84 334 PKPdf **PKPdf 13 18 39.2 -0.9**
BSD Bornholm Skovb 145.94 351 *i* P **PKPdf 13 18 40.7 +0.6**
BSD IAmb IAmb 13 18 41.5
comp=Z,33nm,0.8s
BSD Bornholm Skovb 145.94 351 *i* PKP2 **PKPdf 13 18 40.7 +0.6**
BSD pmax pmax
comp=Z,33nm,0.8s
LODK Lodwar 146.38 241 PKPdf **PKPdf 13 18 42.1 -0.2**
BSEG Bad Segeberg 147.60 355 *e*PKPbc **PKPbc 13 18 46.1 +0.6**
baz=9.1,slow=2.5
SORM Soroca 148.15 331 ⇑ P **PKPbc 13 18 47.4 +0.1**
SORM Soroca 148.15 331 ⇑ PKP2 **PKPbc 13 18 47.4 +0.1**
LVV L'vov 148.54 338 *e*PKP2 **PKPbc 13 18 47.9 -0.3**
RUE Ruedersdorf 148.66 351 *e*PKPbc **PKPbc 13 18 48.9 +0.5**
baz=9.1,slow=2.5

GAZ	Gaziantep	149.03	307		PKPbc	13 18 48.8	-1.2
NRDL	Niedersach Rie	149.05	355	ePKPbc	PKPbc	13 18 50.0	+0.6
	baz=9.1,slow=2.5						
NRDL				ePKPab	PKPab	13 18 53.9	+0.4
	baz=7.4,slow=4.0						
FLTG	Flechtingen	149.11	354	ePKPbc	PKPbc	13 18 49.9	+0.3
	baz=9.1,slow=2.5						
KWP	Kalwaria Pacla	149.15	339	ePKP	PKPbc	13 18 50.5	+0.7
BNN	Bunyan	149.36	311		PKPbc	13 18 49.9	-1.0
IBBN	Ibbenburen	149.36	358	ePKPbc	PKPbc	13 18 50.8	+0.6
	baz=9.1,slow=2.5						
IBBN				ePKPab	PKPab	13 18 55.3	+0.5
	baz=7.4,slow=4.0						
ASSE	Asse, Remlinge	149.37	355	ePKPbc	PKPbc	13 18 51.3	+1.2
	baz=9.1,slow=2.5						
OJC	Ojcow	149.53	343	ePKP	PKPbc	13 18 51.3	+0.5
CLZ	Clausthal	149.68	355	ePKPbc	PKPbc	13 18 51.8	+0.7
	baz=9.1,slow=2.5						
CLZ				ePKPab	PKPab	13 18 56.5	+0.3
	baz=7.4,slow=4.0						
KSP	Ksiaz	149.79	347	ePKP	PKPbc	13 18 52.4	+1.0
BUR01	Bucovina Ar. S	149.89	334	⇑P	PKPbc	13 18 52.9	+1.0
CLL	Collm	149.91	351	⇑iPKP2	PKPbc	13 18 52.2	+0.6
CLL				pmax	pmax		
	comp=Z,24nm,0.8s						
CLL				pmax	pmax		
	comp=Z,19nm,1.1s						
CLL	Collm	149.91	351	ePKPbc	PKPbc	13 18 52.1	+0.6
	baz=9.1,slow=2.5						
GTTG	Gottingen	150.00	355	ePKPbc	PKPbc	13 18 52.5	+0.6
	baz=9.1,slow=2.5						
GTTG				ePKPab	PKPab	13 18 57.7	+0.1
	baz=7.4,slow=4.0						
BIZ	Bicaz	150.05	332	⇓P	PKPbc	13 18 52.9	+0.8
OSTC	Ostas	150.08	347	ePKP	PKPbc	13 18 53.1	+1.0
CHVC	Chvalec	150.09	347	⇑ePKP	PKPbc	13 18 52.8	+0.7
NIE	Niedzica	150.10	341	ePKP	PKiKP	13 18 53.6	+0.5
TESR	Tescani	150.13	331	⇓P	PKPbc	13 18 52.8	+0.4
UZH	Uzhgorod	150.15	338	ePKHKP	PKPpre	13 18 50.6	
UZH				i		13 18 53.5	
NEUB	Neuenburg	150.16	353	ePKPbc	PKPbc	13 18 52.8	+0.6
	baz=9.1,slow=2.5						
UPC	Upice	150.17	347	ePKIKP	PKPbc	13 18 53.1	+0.8
UPC	Upice	150.17	347	⇑ePKP	PKPbc	13 18 53.1	+0.8
CRVS	Cervenica-Dubn	150.19	340	ePKIKP	PKiKP	13 18 53.5	+0.2
CRVS				e		13 18 59.5	
CRVS	Cervenica-Dubn	150.19	340	ePKP	PKiKP	13 18 53.5	+0.2
CRVS				e		13 18 59.5	
BRG	Berggiesshubel	150.19	350	ePKP	PKPdf	13 18 48.0	+0.8
BRG				Amp		13 18 49.9	
	comp=Z,11nm,1.5s						
BRG				ix	x	13 18 53.1	
BRG				Amp		13 18 53.8	
	comp=Z,23nm,0.8s						
BRG				ex	x	13 18 57.5	
BRG				Amp		13 18 58.4	
	comp=Z,7.2nm,0.7s						
BRG	Berggiesshubel	150.19	350	ePKPbc	PKPbc	13 18 53.0	+0.7
	baz=9.1,slow=2.5						
FBE	Freiberg	150.24	351	ePKPbc	PKPbc	13 18 53.4	+1.0
	baz=9.1,slow=2.5						
FBE				ePKPab	PKPab	13 18 59.1	+0.6
	baz=7.4,slow=4.0						
BUG	Bochum--Univer	150.24	359	ePKPbc	PKPbc	13 18 52.8	+0.5
	baz=9.1,slow=2.5						
BUG				ePKPab	PKPab	13 18 58.9	+0.4
	baz=7.4,slow=4.0						
DPC	Dobruska-Polom	150.25	347	ePKIKP	PKPbc	13 18 53.6	+1.0
DPC	Dobruska-Polom	150.25	347	⇑ePKP	PKPbc	13 18 53.6	+1.0
CFR	Carcaliu	150.41	328	⇓P	PKPbc	13 18 53.3	+0.3
CFR	Carcaliu	150.41	328	⇓PKIKP	PKPbc	13 18 53.3	+0.3
KRLC	Kraliky	150.41	346	ePKIKP	PKPbc	13 18 53.3	+0.3
KRLC	Kraliky	150.41	346	⇑ePKP	PKPbc	13 18 53.3	+0.3
PVCC	Panska Ves	150.42	349	ePKIKP	PKPbc	13 18 53.9	+1.0
PVCC	Panska Ves	150.42	349	⇑ePKP	PKPbc	13 18 53.9	+1.0
KASTN	Kahler Asten	150.44	357	ePKPbc	PKPbc	13 18 53.6	+0.6
	baz=9.1,slow=2.5						
KASTN				ePKPab	PKPab	13 18 59.5	+0.2
	baz=7.4,slow=4.0						
BR131	Keskin Array S	150.48	314	PKIKP	PKPbc	13 18 53.2	-0.4
BR131	Keskin Array S	150.48	314		PKPbc	13 18 53.1	-0.4
BRTR	Keskin Array B	150.48	314	PKPbc	PKPbc	13 18 53.6	+0.1
	comp=Z,11nm,0.8s,baz=122,slow=3.2,SNR=26						
BRTR	Keskin Array B	150.48	314		PKPbc	13 18 53.5	-0.1
TPGR	Topolog	150.49	327	⇑P	PKPbc	13 18 53.8	+0.5
MORC	Moravsky Berou	150.52	345	⇑P	PKPbc	13 18 53.9	+0.7
MORC	Moravsky Berou	150.52	345	ePKP	PKPbc	13 18 53.9	+0.7
MORC	Moravsky Berou	150.52	345	⇑PKIKP	PKPbc	13 18 53.9	+0.7
VRI	Vrincioaia	150.58	330	⇑P	PKPbc	13 18 53.2	-0.3
VRI	Vrincioaia	150.58	330	⇑PKIKP	PKPbc	13 18 53.2	-0.3
LANS	Liptovska Anna	150.58	342	ePKIKP	PKiKP	13 18 55.2	+1.1
LANS	Liptovska Anna	150.58	342	ePKP	PKiKP	13 18 55.2	+1.1
PLOR	Plostina	150.63	330	⇓P	PKPbc	13 18 54.0	+0.4
PLOR	Plostina	150.63	330	⇓PKIKP	PKPbc	13 18 54.0	+0.4
UBBA	Unterbreizbach	150.72	355	ePKPbc	PKPbc	13 18 54.1	+0.7
	baz=9.1,slow=2.5						
MOX	Moxa	150.74	353	ePKPbc	PKPbc	13 18 54.2	+0.6
	baz=9.1,slow=2.5						
BISRR	Bisoca	150.83	330	⇓P	PKPbc	13 18 55.0	+0.9
PLN	Plauen	150.83	352	ePKPbc	PKPbc	13 18 54.5	+0.7
	baz=9.1,slow=2.5						
WERD	Werda	150.85	352	ePKPbc	PKPbc	13 18 54.6	+0.6
	baz=9.1,slow=2.5						
HARR	Harsova	150.85	327	⇑P	PKPbc	13 18 54.9	+0.8
HARR	Harsova	150.85	327	⇑PKIKP	PKPbc	13 18 54.9	+0.8
TANN	Tannenbergstha	150.86	352	ePKPbc	PKPbc	13 18 54.6	+0.6
	baz=9.1,slow=2.5						
PRA	Prague	150.89	349	ePKIKP	PKPbc	13 18 54.8	+0.8
PRA	Prague	150.89	349	⇑ePKP	PKPbc	13 18 54.8	+0.8
GUNZ	Gunzen	150.93	352	ePKPbc	PKPbc	13 18 54.9	+0.8
	baz=9.1,slow=2.5						
GUNZ				ePKPab	PKPab	13 19 02.1	+0.7
	baz=7.4,slow=4.0						
PRU	Pruhonice	150.95	349	ePKIKP	PKPbc	13 18 54.8	+0.6
PRU	Pruhonice	150.95	349	⇑ePKP	PKPbc	13 18 54.8	+0.6
NKC	Novy Kostel	151.04	352	ePKIKP	PKPbc	13 18 55.0	+0.6
NKC	Novy Kostel	151.04	352	⇑ePKP	PKPbc	13 18 55.0	+0.6
MEM	Membach	151.09	0	dPKIKP	PKPbc	13 18 55.0	+0.5
BSTI	Sart Tilman	151.11	1	dPKIKP	PKiKP	13 18 55.4	+0.4
BSTI				dx	x	13 19 13.8	
BTNL	Ternell	151.11	0	dPKIKP	PKPbc	13 18 55.2	+0.6
DOPR	Dopca	151.11	332	⇑P	PKiKP	13 18 55.8	+0.5
AHRW	Bad Neuenahr-A	151.15	359	ePKPbc	PKiKP	13 18 56.2	+1.1
	baz=9.1,slow=2.5						
AHRW				ePKPab	PKPab	13 19 02.6	+0.4
	baz=7.4,slow=4.0						
VRAC	Vranov	151.18	346	PKPbc	PKPbc	13 18 55.4	+0.7
	comp=Z,7.4nm,0.8s,baz=12,slow=1.0,SNR=12						
VRAC	Vranov	151.18	346	⇑P	PKiKP	13 18 55.8	+0.5
VRAC	Vranov	151.18	346	ePKP	PKPbc	13 18 55.5	+0.7
VRAC	Vranov	151.18	346	⇑PKIKP	PKiKP	13 18 55.8	+0.5
MLR	Muntele Rosu	151.23	330	PKPbc	PKPbc	13 18 55.2	+0.1
	comp=Z,16nm,0.9s,baz=18,slow=7.3,SNR=3.2						
MLR	Muntele Rosu	151.23	330	⇑P	PKPbc	13 18 54.8	-0.4
MLR	Muntele Rosu	151.23	330	⇑PKIKP	PKPbc	13 18 54.8	-0.4
MLR	Muntele Rosu	151.23	330		PKPbc	13 18 55.0	-0.2
BGES	Gesves	151.30	1	dPKPdf	PKPdf	13 18 48.7	-0.3
BGES				dPKiKP	PKPbc	13 18 55.1	+0.1
BGES				dPKPab	PKPab	13 19 02.5	-0.4
MANZ	Manzenberg	151.32	352	ePKPbc	PKPbc	13 18 55.8	+0.7
	baz=9.1,slow=2.5						
JAVC	Velka Javorina	151.34	344	ePKP	PKiKP	13 18 56.8	+1.1
PBCC	Pribram	151.34	349	⇑ePKP	PKPbc	13 18 55.6	+0.5
VYHS	Vyhne	151.36	342	ePKIKP	PKPbc	13 18 55.7	+0.5
VYHS	Vyhne	151.36	342	ePKP	PKPbc	13 18 55.7	+0.5
BMRD	Maredsous	151.37	2	dPKIKP	PKPbc	13 18 55.6	+0.5
BMRD				dPKPab	PKPab	13 19 02.4	-0.8
BMRD				dx	x	13 19 14.1	
TNS	Taunus Mts	151.42	357	ePKPbc	PKPbc	13 18 55.9	+0.6
	baz=9.1,slow=2.5						
TREC	Trest	151.43	347	ePKIKP	PKPbc	13 18 56.1	+0.8
TREC	Trest	151.43	347	⇑ePKP	PKPbc	13 18 56.1	+0.8
KRUC	Moravsky	151.45	346	ePKP	PKPbc	13 18 55.9	+0.5
ROTZ	Rotzenmuhle	151.53	352	ePKPbc	PKPbc	13 18 56.2	+0.7
	baz=9.1,slow=2.5						
DRGR		151.55	336	⇓P	PKPbc	13 18 55.8	0.0
DRGR		151.55	336	⇓PKIKP	PKPbc	13 18 55.8	0.0
PSZ	Piszkesteto	151.56	340	PKIKP	PKPbc	13 18 55.2	-0.6
PSZ	Piszkesteto	151.56	340		PKPbc	13 18 55.2	-0.6
DOU	Dourbes	151.57	2	dPKPdf	PKPdf	13 18 49.9	+0.5
DOU				dPKiKP	PKPbc	13 18 56.2	+0.6
VOIR		151.67	331	⇑P	PKPbc	13 18 56.7	+0.6
VOIR		151.67	331	⇑PKIKP	PKPbc	13 18 56.7	+0.6
GRF	Grafenberg Arr	151.72	353	ePKPbc	PKPbc	13 18 56.7	+0.8
	baz=9.1,slow=2.5						
MMAI	Mount Meron Ar	151.78	300	PKPbc	PKPbc	13 18 57.4	+0.7
	comp=Z,10nm,0.7s,baz=70,slow=7.3,SNR=10						
MODS	Modra-Piesok	151.88	344	ePKIKP	PKPbc	13 18 56.5	+0.1
MODS	Modra-Piesok	151.88	344	ePKP	PKPbc	13 18 56.5	+0.1
ARR	Arges	151.91	332	⇑P	PKiKP	13 18 57.9	+0.9
KHC	Kasperske Hory	151.94	350	ePKIKP	PKPbc	13 18 57.0	+0.5
KHC				e		13 19 05.5	
KHC	Kasperske Hory	151.94	350	⇑ePKP	PKPbc	13 18 57.0	+0.5
KHC				ePKPAB	PKPab	13 19 05.5	-0.2
WLF	Walferdange	152.03	0	ePKPbc	PKiKP	13 18 57.7	+0.7
	baz=9.1,slow=2.5						
WET	Wettzell	152.04	351	ePKPbc	PKPbc	13 18 57.4	+0.7
	baz=9.1,slow=2.5						
WET				ePKPab	PKPab	13 19 06.3	+0.2
	baz=7.4,slow=4.0						
CKRC	Cesky Krumlov	152.11	348	⇑ePKP	PKPbc	13 18 57.6	+0.7
GEC2	GERESS Array S	152.20	349	ePKPbc	PKPbc	13 18 57.7	+0.4
	baz=9.1,slow=2.5						
GERES	GERESS Array B	152.20	349	PKP	PKPdf	13 18 51.9	+1.3
	comp=Z,0.4nm,0.3s,baz=169,slow=2.7,SNR=6.0						
GERES				PKPbc	PKPbc	13 18 57.6	+0.4
	comp=Z,5.2nm,0.8s,baz=42,slow=2.2,SNR=27						
SIRR	Siria	152.39	336	⇑P	PKPbc	13 18 58.3	+0.7
CONA	Conrad Observa	152.64	346	iP	PiKiP	13 18 59.0	+0.5
	comp=Z,8.2nm,0.6s						
GZR	Gura Zlata	152.68	334	⇓P	PKPbc	13 18 58.2	-0.2
GZR	Gura Zlata	152.68	334	⇓PKIKP	PKPbc	13 18 58.2	-0.2
EIL	Elat	152.93	293	PKPbc	PKPbc	13 18 59.5	+0.2
	comp=Z,6.6nm,0.7s,baz=229,slow=1.8,SNR=6.5						
BZS	Buzias	152.95	336	⇑P	PKPbc	13 18 59.1	+0.3
BZS	Buzias	152.95	336	⇑PKIKP	PKPbc	13 18 59.1	+0.3
MOA	Molln	153.05	348	iP	PKPbc	13 18 59.4	+0.3
	comp=Z,6.2nm,1.1s						
VLAD	Vladila	153.07	330	⇑P	PKPbc	13 18 57.5	-1.7
FUR	Furstenfeldbru	153.22	352	ePKPbc	PKPbc	13 18 59.8	+0.4
	baz=9.1,slow=2.5						
HERR	Herculane	153.24	334	⇑P	PKPbc	13 18 60.0	+0.4
BFO	Black Forest	153.31	357	ePKPbc	PKPbc	13 18 60.0	+0.4
	baz=9.1,slow=2.5						
RJOB	Jochberg	153.42	350	ePKPbc	PKiKP	13 19 01.0	+1.0
	baz=9.1,slow=2.5						
MORH	Mrgy, Hungar	153.46	340	⇓P	PKPbc	13 18 59.1	-0.8
UBR	Ueberruh	153.83	354	ePKPbc	PKiKP	13 19 02.0	+1.1
	baz=9.1,slow=2.5						
RETA	Reutte	153.95	353	eP	PKPbc	13 19 01.1	0.0
	comp=Z,5.8nm,1.1s						
KBA	Koelnbreinsper	153.97	349	iP	PKPbc	13 19 00.6	-0.7
	comp=Z,7.5nm,1.3s						
SOKA	Soboth	154.01	346	eP	PKPdf	13 18 53.9	+0.7
	comp=Z,2.3nm,0.7s						
SOKA				eP	PKPbc	13 19 01.3	+0.1
	comp=Z,7.4nm,1.1s						
SOKA				eP	PKPab	13 19 14.4	-0.1
	comp=Z,11nm,1.0s						
PERS	Pernice	154.03	346	ePKPdf	PKPdf	13 18 52.9	-0.3
PERS				ePKPbc	PKPbc	13 19 01.1	-0.2
PERS				ePKPab	PKPab	13 19 14.8	+0.2
MOTA	Moosalm	154.05	352	eP	PKPbc	13 19 01.9	+0.5
	comp=Z,9.4nm,1.1s						
WTTA	Wattenberg	154.06	352	eP	PKiKP	13 19 02.3	+0.8
	comp=Z,5.1nm,0.5s						
GROS	Grobnik	154.10	345	iPKPdf	PKPdf	13 18 53.2	-0.1
FETA	Feichten	154.41	353	eP	PKiKP	13 19 03.0	+0.7
	comp=Z,6.3nm,1.0s						
ABTA	Abfaltersbach	154.43	350	eP	PKPbc	13 19 02.1	0.0
	comp=Z,8.6nm,0.9s						
ABTA				eP	PKPab	13 19 16.2	-0.1
	comp=Z,7.8nm,0.9s						
GCIS	Gornji Cirnik	154.63	345	ePKPdf	PKPdf	13 18 54.2	+0.2
GCIS				ePKPbc	PKPbc	13 19 02.8	+0.3
GCIS				ePKPab	PKPab	13 19 17.2	+0.1
DIVS	Divibare	154.85	336	PKPdf	PKPdf	13 18 52.3	-2.2
BOJS	Bojanci	155.06	345	ePKPdf	PKPdf	13 18 54.7	+0.2
BOJS				ePKPab	PKPab	13 19 14.1	-4.8
IDI	Anoyia	158.72	314	PKPab	PKPab	13 19 34.2	-0.9
	comp=Z,6.4nm,0.6s,baz=119,slow=10,SNR=2.7						
ESDC	Sonseca Array	160.03	24	PKP	PKPdf	13 19 02.3	+1.2
	comp=Z,0.6nm,0.9s,baz=352,slow=3.0,SNR=4.4						
TORD	Torodi Ar. Bea	170.53	152	PKP	PKPdf	13 19 09.9	-0.5
	comp=Z,1.1nm,0.8s,baz=312,slow=2.0,SNR=4.2						
TORD				PKPab	PKPab	13 20 28.4	+1.1
	comp=Z,0.7nm,0.7s,baz=169,slow=2.2,SNR=1.9						
TORD	Torodi Ar. Bea	170.53	152	PKPdf	PKPdf	13 19 10.5	0.0

*ISK **25** 13:00:47.8,39˚.74N×43˚.61E,h5km,ML3.5/11*
*NSSP **25** 13:00:47.1,39˚.77N×43˚.57E,h5km,Ms3.2*
*DDA **25** 13:00:47.6,39˚.73N×43˚.64E,h23km±1km,MW3.4*
*TEH **25** 13:00:48.4,39˚.77N×43˚.61E,h7km,ML3.4*

ISC 25 13:00:48.3±1.0,39˚.76N±0˚.02×43˚.62E±0˚.02,h9km±9km, n55,σ0˚.74/70,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DYDN	Diyadin	0.23	166	iP	Pg	13 00 53.2	+0.2
DYDN				iS	Sg	13 00 57.3	+1.1
DYDN	Diyadin	0.23	166	ePg	Pg	13 00 53.2	+0.2
IGDI	IGDIR	0.37	73	iP	Pg	13 00 55.8	+0.2
IGDI				iS	Sb	13 01 01.5	-1.4
IGDI	IGDIR	0.37	73	ePg	Pg	13 00 55.7	+0.2
VNNZ	Vanand	0.37	25	iP	Pb	13 00 56.3	-0.8
VNNZ				iS	Sb	13 01 03.2	+0.1
AGRB	Hanur-Agry	0.52	249	PG	Pg	13 00 57.9	-0.5
AGRB				SG	Sg	13 01 05.3	+0.1
AGRB	Hanur-Agry	0.52	249	ePg	Pg	13 00 57.9	-0.5
TASB	TASBURUN-IGDIR	0.53	65	PG	Pg	13 00 58.7	+0.2
TASB				SG	Sb	13 01 06.9	-0.5
TASB	TASBURUN-IGDIR	0.53	65	ePg	Pg	13 00 58.7	+0.2
ARUZ	Aruch	0.63	35	iP	Pg	13 01 00.3	-0.3
ARUZ				iS	Sb	13 01 10.3	-0.3
CLDR	Caldiran	0.66	159	iP	Pg	13 00 59.8	-1.3
CLDR				iS	Sg	13 01 09.5	-0.3
CLDR	Caldiran	0.66	159	PG	Pg	13 00 59.9	-1.2
CLDR				SG	Sg	13 01 09.9	+0.1
CLDR	Caldiran	0.66	159	ePg	Pg	13 00 59.9	-1.2
DIGO	Kars	0.68	344	iP	Pg	13 01 00.4	-1.1
DIGO				iS	Sb	13 01 11.8	-0.2
DIGO	Kars	0.68	344	ePg	Pg	13 01 00.3	-1.1
ERCV	ERCIS-VAN	0.77	196	PG	Pg	13 01 03.2	0.0
ERCV	ERCIS-VAN	0.77	196	ePg	Pg	13 01 03.2	0.0
VMUR	Van-Muradiye	0.77	183	iP	Pg	13 01 03.1	-0.2
VMUR				iS	Sb	13 01 15.9	+1.3
VMUR	Van-Muradiye	0.77	183	ePg	Pg	13 01 03.0	-0.2
NRKZ	NAREK	0.83	73	iP	Pg	13 01 04.1	-0.3
NRKZ				iS	Sb	13 01 16.4	+0.1
EAK	Akyaka	0.92	359	iP	Pb	13 01 06.4	-0.1
EAK				iS	Sn	13 01 22.6	+1.6
EAK	Akyaka	0.92	359	ePg	Pb	13 01 06.4	-0.1
GNI	Garni	0.94	66	iP	Pg	13 01 06.2	-0.3
GNI				iS	Sb	13 01 20.1	+0.5
KARS	Kars	0.96	335	PG	Pb	13 01 06.9	-0.2
KARS	Kars	0.96	335	ePg	Pb	13 01 06.8	-0.3
KAPZ	Kaputan	1.00	56	iP	Pg	13 01 07.3	-0.2
KAPZ				iS	Sb	13 01 22.1	+0.9
MLAZ	Malazgirt-MUS	1.03	233	PG	Pb	13 01 07.9	-0.5
MLAZ	Malazgirt-MUS	1.03	233	ePg	Pb	13 01 07.9	-0.5
OZAP	Van, Ozalp-Mer	1.14	165	iP	Pn	13 01 11.3	+0.7
ADCV	BITLIS_Adilcev	1.18	216	iP	Pn	13 01 11.0	-0.1
ADCV	BITLIS_Adilcev	1.18	216	ePg	Pn	13 01 11.0	-0.1
VANB	Van	1.18	189	PN	Pn	13 01 11.8	+0.7
VANB	Van	1.18	189	ePn	Pn	13 01 12.9	+1.8
TVAN	Van	1.24	188	iP	Pn	13 01 12.4	+0.4
TVAN	Van	1.24	188	ePn	Pn	13 01 12.4	+0.4
SENK	Senkaya-Erzuru	1.26	310	PN	Pn	13 01 12.1	-0.1
SENK	Senkaya-Erzuru	1.26	310	ePn	Pn	13 01 12.1	-0.1
HOMI	Horasan	1.35	283	iP	Pg	13 01 13.9	-0.2
KOPR	Koprukoy-ERZUR	1.38	280	PN	Pg	13 01 14.7	0.0
AKDM	Akdamar-Van	1.52	199	PN	Pb	13 01 16.2	-0.5
AKDM	Akdamar-Van	1.52	199	ePn	Pg	13 01 16.7	-0.7
KZRT	Kazreti	1.73	20	iP	Pg	13 01 21.4	0.0
GURO	Guroymak-BITLI	1.73	226	PN	Pb	13 01 20.0	-0.2
ERZM	Erzurum	1.74	275	iP	Pg	13 01 21.1	-0.5
BLIS	Bitlis-Merkez	1.78	221	iP	Pg	13 01 21.7	-0.8
EJDE	Erzurum, Palan	1.79	273	iP	Pb	13 01 20.7	-0.7
DDEM	Demirkent	1.82	309	iP	Pg	13 01 22.7	-0.5
DAGI	Agillar	1.85	316	iP	Pg	13 01 23.6	-0.1
IMRD	Marand	1.93	122	ePn	Pb	13 01 23.8	+0.1
IMRD				e		13 02 02.7	
	comp=Z,5μm,0.7s						
DBAD	Bademkaya	1.93	311	iP	Pb	13 01 23.7	0.0
MUSM	Mu-Merkez	1.94	238	iP	Pb	13 01 23.0	-0.9
MUSM				iS	Sb	13 01 48.8	+0.7
MUSM	Mu-Merkez	1.94	238	ePn	Pb	13 01 22.9	-0.9
ECAT	Cat-ERZURUM	2.05	266	iP	Pb	13 01 24.9	-0.9
ITBZ	Tabriz	2.49	127	ePn	Pb	13 01 31.6	-1.7
IHRS	Heris	3.03	117	ePn	Pb	13 01 40.3	-2.2
IHRS				e		13 01 50.7	
	comp=Z,1μm,0.8s						

*PNSN **25** 13:24:47.6,45˚.49N×123˚.44W,h52km,MD3.2,Fault plane solution: NP1:ϕ=55.00000°,δ55.00000°,λ90.00000°.*
*SEA **25** 13:24:47.6±0.9,45˚.49N±0˚.02×123˚.44W±0˚.02,h52km±2km, ML3.2/73,ML2.9/36(NEIC),Error ellipse: s-maj=3.2km s-min=2.2km az=148.0*
*ANF **25** 13:24:48.1±0.2,45˚.48N×123˚.49W,h47km±5km,ML3.2/22, Error ellipse: s-maj=2.9km s-min=1.2km az=104.0, Hypocentre not reviewed by the ISC*

NEIC 25 13:24:48.4±0.8,45˚.48N±0˚.02×123˚.44W±0˚.03,h46km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=49.0, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMOR	Kings Mountain	0.16	347		Pn	13 24 56.1	-0.1
G03D	McMinnville, O	0.30	155		Pn	13 24 57.1	0.0
G03D					Sn	13 25 04.2	+1.0
G03D	McMinnville, O	0.30	155	P		13 24 57.1	
	baz=336,SNR=1000						
G03D				S		13 25 04.1	
	baz=336						
HEBO	Mount Hebo	0.35	220		Pn	13 24 57.8	+0.1
HEBO					Sn	13 25 05.7	+1.4
KEEL	Keeler	0.39	80		Pn	13 24 58.0	-0.1
WPO	West Portland	0.47	78		Pn	13 24 58.9	-0.1
WPO					Sn	13 25 07.7	+1.1
HUBA	Hudson Bay Hig	0.57	75		Pn	13 25 00.1	-0.2
B022	Seaside	0.58	324		Pn	13 25 00.3	-0.2
B022					Sn	13 25 10.3	+1.2
NLO	Nicolai Mounta	0.61	359		Pn	13 25 00.8	-0.1
SEAS	Seaside SMO	0.62	327		Pn	13 25 00.8	-0.1
SEAS					Sn	13 25 11.6	+1.7
MONO	Monmouth DOGAM	0.64	167		Pn	13 25 00.3	-0.9
MONO					Sn	13 25 12.1	+1.6
F04D	Rainier, OR	0.67	26		Pn	13 25 01.6	-0.1
F04D	Rainier, OR	0.67	26	P		13 25 01.5	
	baz=207,SNR=43						
F04D				S		13 25 11.9	
	baz=207						
B023	Clatskanie	0.68	22		Pn	13 25 01.4	-0.3
PGO	Gresham	0.69	91		Pn	13 25 01.8	-0.1
G04A	Mulino	0.73	112		Pn	13 25 02.2	-0.2
RVW	Rose Valley	0.83	36		Pn	13 25 03.5	-0.2
COR	Corvallis	0.90	174	Pn	Pn	13 25 04.9	+0.2
COR				IAML		13 25 18.4	
	598nm,0.7s						
COR	Corvallis	0.90	174	Sn	Sn	13 25 17.9	+1.3
LVP	Lakeview Peak	0.93	51		Pn	13 25 04.9	-0.3
RADR	Rader Ridge	0.97	345		Pn	13 25 05.4	-0.4
MPOR	Mary's Peak	0.98	185		Pn	13 25 05.8	-0.1
MTMW	Mount Mitchell	1.02	57		Pn	13 25 06.1	-0.2
B203	Quarry, Mount	1.03	48		Pn	13 25 06.4	-0.1
FL2	Flat Top 2	1.04	46		Pn	13 25 06.8	0.0
E03A	Leb

D05A	**Enumclaw**	**1.98**	**30**			Pn	13 25 20.2	+0.7	
D05A				IAML			13 25 58.6		
	comp=E,126nnm,1.0s								
D05A				IAML			13 25 59.3		
	comp=N,69nnm,1.0s								
OLQ	**Olympics--Lake**	**2.05**	**353**			Pn	13 25 19.7	-0.7	
D03D	**Eldon**	**2.07**	**7**			Pn	13 25 20.1	-0.5	
D03D	**Eldon**	**2.07**	**7**	P			13 25 20.3		
	baz=187,SNR=84								
GMW	**Gold Mountain**	**2.12**	**12**			Pn	13 25 20.9	-0.4	
GNW	**Green Mountain**	**2.13**	**11**			Pn	13 25 17.5	-4.0	
TRW	**Toppenish Ridg**	**2.18**	**67**			Pn	13 25 22.8	+0.6	
HDW	**Hoodsport**	**2.18**	**7**			Pn	13 25 21.9	-0.5	
VIPM	**Ingram Point**	**2.23**	**115**			Pn	13 25 22.8	-0.2	
RATT	**Rattlesnake La**	**2.25**	**30**			Pn	13 25 24.7	+1.5	
C04A	**Brinnon**	**2.26**	**8**			Pn	13 25 22.9	-0.4	
KWBU	**Kawak Butte, N**	**2.30**	**138**			Pn	13 25 24.3	+0.2	
BLTW	**Bickleton**	**2.33**	**78**			Pn	13 25 24.4	+0.1	
J01E	**Myrtle Point**	**2.35**	**189**	P			13 25 24.0		
	baz=8.4,SNR=8.4								
J01E				S			13 25 51.2		
	baz=8.4								
B013	**Quilcene**	**2.36**	**9**			Pn	13 25 24.6	0.0	
DBO	**Dodson Butte**	**2.37**	**177**			Pn	13 25 25.3	+0.4	
SVIC	**Surveyors Ice**	**2.41**	**139**			Pn	13 25 25.6	0.0	
J04D	**Umpqua Nationa**	**2.44**	**156**			Pn	13 25 26.7	+0.8	
J04D	**Umpqua Nationa**	**2.44**	**156**	P			13 25 26.0		
	baz=338								
EBG	**Ellensburg**	**2.45**	**53**			Pn	13 25 27.2	+1.2	
PINE	**Pine Mountain**	**2.46**	**133**			Pn	13 25 26.0	-0.2	
PINE				IAML			13 25 48.1		
	comp=E,51nm,0.7s								
PINE				IAML			13 25 48.5		
	comp=N,51nm,0.6s								
TMBU	**Tom Butte, New**	**2.50**	**138**			Pn	13 25 26.9	+0.2	
F07A	**Phinny Hill Vi**	**2.50**	**79**	Pn		Pn	13 25 26.3	-0.2	
F07A				IAML			13 26 16.4		
	comp=N,80nm,0.7s								
F07A				IAML			13 26 17.5		
	comp=E,49nm,0.8s								
B04A	**Port Angeles**	**2.58**	**359**			Pn	13 25 27.5	-0.1	
OBC	**Olympics--Boni**	**2.59**	**350**			Pn	13 25 27.6	-0.4	
SQM	**Sequim**	**2.61**	**6**			Pn	13 25 28.7	+0.6	
LTY	**Liberty**	**2.61**	**46**			Pn	13 25 28.8	+0.5	
P403	**Sandy Floe Qua**	**2.63**	**350**			Pn	13 25 27.8	-0.6	
STW	**Striped Peak**	**2.67**	**357**			Pn	13 25 28.9	0.0	
OTR	**Olympics--Tyee**	**2.68**	**347**			Pn	13 25 28.8	-0.2	
J05D	**Fort Rock, OR**	**2.71**	**143**			Pn	13 25 29.7	+0.2	
J05D	**Fort Rock, OR**	**2.71**	**143**	P			13 25 29.6		
	baz=325,SNR=11								
K02D	**Willamette Mer**	**2.79**	**183**			Pn	13 25 30.7	+0.1	
K02D	**Willamette Mer**	**2.79**	**183**	P			13 25 30.5		
	baz=3.2,SNR=56								
K02D				S			13 26 02.0		
	baz=3.2								
RSW	**Rattlesnake Hi**	**2.84**	**70**			Pn	13 25 31.9	+0.6	
HAWA	**Hanford**	**2.88**	**70**			Pn	13 25 32.0	+0.3	
HAWA				IAML			13 26 21.3		
	comp=E,23nm,0.7s								
HAWA				IAML			13 26 24.9		
	comp=E,32nm,0.6s								
HUMO	**Hull Mountain**	**2.89**	**173**			Pn	13 25 32.7	+0.7	
JCW	**Jim Creek**	**2.90**	**20**			Pn	13 25 32.4	+0.2	
B05A	**Bryant**	**2.93**	**18**			Pn	13 25 32.8	+0.3	
B05A	**Bryant**	**2.93**	**18**	P			13 25 32.6		
	baz=199,SNR=6.8								
B05A				S			13 26 06.1		
	baz=199								
OCP	**Olym-Cheeka Pk**	**2.93**	**344**			Pn	13 25 32.1	-0.4	
VGZ	**Gonzales**	**2.94**	**2**			Pn	13 25 31.9	-0.6	
K04D	**Chiloquin, OR**	**3.10**	**156**	P			13 25 35.3		
	baz=338								
I07A	**Izee**	**3.13**	**115**			Pn	13 25 35.9	+0.5	
I07A				IAML			13 26 36.9		
	comp=N,21nm,1.0s								
G08A	**Pilot Rock**	**3.16**	**92**			Pn	13 25 34.7	-1.1	
G08A				IAML			13 26 39.4		
	comp=N,29nm,1.2s								
G08A				IAML			13 26 39.6		
	comp=E,36nm,0.8s								
PFB	**Port Renfrew**	**3.17**	**348**			Pn	13 25 34.8	-0.9	
B011	**North Saanich**	**3.17**	**360**			Pn	13 25 35.2	-0.6	
PGC	**Sidney**	**3.17**	**360**			Pn	13 25 35.1	-0.6	
A04D	**Lummi Island**	**3.28**	**9**	S			13 26 13.7		
	baz=189								
B06A	**Marblemount**	**3.32**	**23**	Pn		Pn	13 25 37.7	-0.1	
L02E	**Cave Junction**	**3.32**	**182**			Pn	13 25 38.3	+0.4	
L02E	**Cave Junction**	**3.32**	**182**	P			13 25 37.9		
	baz=2.0,SNR=9.1								
L04D	**Klamath Falls**	**3.36**	**165**			Pn	13 25 39.7	+1.1	
L04D	**Klamath Falls**	**3.36**	**165**	P			13 25 39.0		
	baz=346,SNR=17								
B926	**Mesachie Lake**	**3.37**	**352**			Pn	13 25 38.0	-0.6	
B928	**Bamfield**	**3.55**	**342**			Pn	13 25 40.0	-0.9	
MGB	**Mount Grey**	**3.62**	**347**			Pn	13 25 41.4	-0.7	
B040	**Montague**	**3.72**	**168**			Pn	13 25 44.5	+1.0	
B012	**Ucluelet**	**3.73**	**338**			Pn	13 25 42.8	-0.6	
OZB	**Mount Ozzard**	**3.75**	**339**			Pn	13 25 43.0	-0.8	
NLLB	**Nanaimo Lost L**	**3.77**	**355**			Pn	13 25 43.5	-0.5	
YBH	**Yreka Blue Hor**	**3.79**	**172**			Pn	13 25 45.3	+1.0	
B927	**Port Alberni**	**3.85**	**346**			Pn	13 25 44.5	-0.6	
M04C	**Macdoel**	**3.88**	**162**	P			13 25 46.3		
	baz=343,SNR=6.6								
SHB	**Sechelt**	**4.13**	**356**			Pn	13 25 49.1	+0.1	
J08A	**Circle Bar Ran**	**4.14**	**119**			Pn	13 25 48.1	-1.1	
J08A				IAML			13 26 35.7		
	comp=E,12nm,0.8s								
BTB	**Buttle Lake**	**4.23**	**341**			Pn	13 25 50.4	-0.1	
BMO	**Blue Mountains**	**4.38**	**96**			Pn	13 25 51.9	-0.6	
BMO				IAML			13 27 13.2		
	comp=E,7.0nm,0.9s								
BMO				IAML			13 27 13.4		
	comp=E,11nm,1.2s								
PHC	**Port Hardy**	**5.87**	**334**			Pn	13 26 15.0	+2.2	

PRU 25 13:25:06.6±0.0,49°.84N×18°.53E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**270**	*e*PG	Pg	13 25 11.7	+0.4
OKC				*e*SG	Sg	13 25 14.8	+0.3
	comp=Z,19nm,0.5s						
MORC	**Moravsky Berou**	**0.64**	**265**	*e*PG	Pg	13 25 19.3	+0.4
MORC				*e*SG	Sg	13 25 27.1	-0.1
KRLC	**Kraliky**	**1.15**	**282**	*e*SG	Sg	13 25 43.7	+0.1
	comp=Z,2.8nm,0.5s						
DPC	**Dobruska-Polom**	**1.51**	**291**	*e*PG	Pn	13 25 33.9	-1.1
DPC				*e*SG	Sg	13 25 54.1	-1.0
	comp=Z,2.1nm,0.6s						

BJI ***25*** *13:44:07.7±0.0,6°.42S×131°.48E,h68km,mB5.1/41, mb5.3/66,Ms4.6/29,Ms7 4.2/29*

NEIC ***25*** *13:44:11.7±2.3,6°.11S±0°.05×131°.09E±0°.08,h52km±4km, mb5.4/75,Error ellipse: s-maj=11.7km s-min=8.0km az=87.0*

GCMT ***25*** *13:44:11.7±0.2,6°.14S±0°.01×131°.14E±0°.01,h77km±1km, MW5.1/88,Moment Tensor Solution. s76,c114; s88,c133; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.78±.15; Mθθ-7.32±.13; Mθφ3.54±.17; Mrθ0.88±.14; Mθφ-0.46±.13; Mrφ0.27±.13; Best double couple: M₀5.69400×10¹⁶ NP1:φs295.00000°,δ48.00000°, λ131.00000°. NP2:φs63.00000°,δ56.00000°,λ54.00000°. Principal axes: T 3.9790, Plg61.0000°, Azm276.0000°; N 3.4310, Plg29.0000°, Azm85.0000°; P -7.4100, Plg5.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***25*** *13:44:12.5±1.0,6°.05S×131°.14E,h80km,mb5.5/43, MS4.1/6 Error ellipse: s-maj=9.4km s-min=4.9km az=114.5*

DJA ***25*** *13:44:12.4±0.2,6°.S±2°×13°.1E±°,h79km±3km,M5.3/67, mb5.5/67,mB5.7/43,MLv5.9/14,Mw(mB)5.2/43, MwMwp4.8/5,Mwp5.1/5*

IDC ***25*** *13:44:16.3±0.5,6°.13S×131°.05E,h99km±3km,mb4.9/38, mb1 4.9/39,mb1mx4.8/46,mbtmp5.2/39,MS3.9/18, Ms1 3.9/18,ms1mx3.7/34,Error ellipse: s-maj=12.2km s-min=7.7km az=74.0*

ISC 25 13:44:12.9±0.3,6°.18S±0°.03×131°.13E±0°.04,h76km±2km, h76km:pP-P,n612,σ1370/671,mb5.4/163,76C-36D,Fault plane solution: NP1:φs73.72655°,δ82.61759°, λ46.68224°. NP2:φs335.96683°,δ43.81913°,λ169.30518°. Principal axes: T Plg36.9455°, Azm306.3548°; N Plg42.8716°, Azm80.6348°; P Plg24.7930°, Azm196.0270°**; Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.80**	**175**		**Pn**	**13 44 42.5**	**+0.4**
SAUI	**Saumlaki**	**1.80**	**175**	P	**Pn**	**13 44 42.9**	**+0.8**
BNDI	**Bandanaira**	**2.05**	**323**	P	**Pn**	**13 44 46.2**	**+0.9**
FAKI	**Fak Fak**	**3.42**	**19**		**Pn**	**13 45 02.1**	**-1.9**
FAKI	**Fak Fak**	**3.42**	**19**	P	**Pn**	**13 45 02.3**	**-1.7**
MSAI	**Masohi**	**3.56**	**322**	P	**Pn**	**13 45 06.6**	**+0.7**
KMPI	**Kaimana, Papua**	**3.58**	**46**	P	**Pn**	**13 45 04.7**	**-1.4**
KRAI	**Karang Ratu**	**3.94**	**316**	P	**Pn**	**13 45 12.8**	**+1.8**
NLAI	**Namlea**	**4.96**	**306**	P	**Pn**	**13 45 26.1**	**+1.1**
	4.8nm16µm1µm,0.8s						
SIJI	**Sorong**	**5.27**	**1**	P	**Pn**	**13 45 27.2**	**-2.1**
	269nm,0.3s,baz=29,slow=9.7,SNR=764						
SIJI				S	**Sn**	**13 46 21.4**	**-7.4**
	254nm,0.3s,baz=212,slow=24,SNR=13						
SIJI	**Sorong**	**5.27**	**1**	P	**Pn**	**13 45 27.1**	**-2.1**
	6.9nm62µm848nm,0.9s						
SWI	**Sorong**	**5.28**	**1**	P	**Pn**	**13 45 27.2**	**-2.1**
	15nm7µm65µm2µm,0.7s						
MWPI	**Manokwari, Pap**	**5.96**	**29**	P	**Pn**	**13 45 38.0**	**-0.7**
	26nm4µm24µm3µm,1.0s						
SANI	**Sanana**	**6.56**	**308**	P	**Pn**	**13 45 46.4**	**-0.5**
	2.8nm8µm804nm,0.8s						
KDU	**Kakadu**	**6.60**	**169**	P	**Pn**	**13 45 44.9**	**-2.5**
	baz=6.6,SNR=669						
KDU				S	**Sn**	**13 46 54.3**	**-7.0**
	baz=6.6						
MTN	**Manton Dam**	**6.63**	**180**	P	**Pn**	**13 45 45.9**	**-1.8**
	baz=6.6,SNR=910						
MTN				S	**Sn**	**13 46 54.4**	**-7.4**
	baz=6.6						
MTN	**Manton Dam**	**6.63**	**180**	Pn	**Pn**	**13 45 45.9**	**-1.8**
SRPI	**Serui, Papua**	**6.65**	**50**	P	**Pn**	**13 45 45.9**	**-2.2**
	6.5nm5µm255nm,0.5s						
BAKI	**Biak**	**7.01**	**45**	P	**Pn**	**13 45 51.7**	**-1.3**
	4.4nm5µm636nm,0.8s						
SOEI	**Soe**	**7.67**	**242**	Pn	**Pn**	**13 46 02.7**	**+0.6**
SOEI	**Soe**	**7.67**	**242**	P	**Pn**	**13 46 02.7**	**+0.6**
	7.2nm6µm617nm,0.8s						
TNTI	**Ternate**	**7.86**	**331**	Pn	**Pn**	**13 46 03.8**	**-0.8**
TNTI	**Ternate**	**7.86**	**331**	P	**Pn**	**13 46 03.7**	**-0.8**
	0.8nm2µm2µm270nm,0.9s						
BATI	**Baumata**	**8.40**	**241**	P	**Pn**	**13 46 12.1**	**+0.1**
	61nm,0.3s,baz=127,slow=4.5,SNR=41						
BATI				S	**Sn**	**13 47 41.5**	**-3.9**
	101nm,0.3s,baz=68,slow=20,SNR=10						
BATI	**Baumata**	**8.40**	**241**	P	**Pn**	**13 46 12.3**	**+0.2**
	3µm213nm,0.6s						
GAMI	**Galela, Maluku**	**8.63**	**337**	P	**Pn**	**13 46 15.5**	**+0.4**
	3µm334nm,1.2s						
MMRI	**Maumere**	**9.15**	**254**	Pn	**Pn**	**13 46 24.1**	**+1.9**
MMRI	**Maumere**	**9.15**	**254**	P	**Pn**	**13 46 22.6**	**+0.4**
	4µm367nm,1.3s						
MMPI	**Merake**	**9.46**	**104**	P	**Pn**	**13 46 24.5**	**-1.9**
	17µm814nm,0.6s						
KKSI	**Kolaka, Sulawe**	**9.65**	**281**	P	**Pn**	**13 46 32.5**	**+3.5**
	178nm,1.3s						
GENI	**Genyem**	**9.69**	**69**	P	**Pn**	**13 46 28.6**	**-1.0**
	334nm,0.9s						
EDFI	**Ende, Flores**	**9.70**	**254**	P	**Pn**	**13 46 32.0**	**+2.1**
	898nm72nm,0.9s						
KNRA	**Kununurra**	**9.72**	**194**	P	**Pn**	**13 46 27.1**	**-2.9**
	baz=9.7,SNR=1000						
KNRA				S	Sn	13 48 08.3	-9.4
	baz=9.7						
KNRA	**Kununurra**	**9.72**	**194**	Pn	**Pn**	**13 46 27.2**	**-2.8**
LUWI	**Luwuk**	**9.78**	**301**		**Pn**	**13 46 31.8**	**+1.0**
LUWI	**Luwuk**	**9.78**	**301**	P	**Pn**	**13 46 32.9**	**+2.2**
	6µm368nm,0.8s						
MNI	**Manado**	**9.84**	**320**	P	**Pn**	**13 46 31.6**	**0.0**
GTOI	**Gorontalo**	**10.56**	**310**	P	**Pn**	**13 46 44.6**	**+3.2**
	1µm152nm,0.9s						
APSI	**Ampana**	**10.81**	**299**	P	**Pn**	**13 46 46.4**	**+1.5**
	2µm210nm,1.0s						
BNSI	**Bone**	**11.12**	**279**	P	**Pn**	**13 46 53.0**	**+3.9**
	2µm206nm,0.9s						
BASI	**Baing, Sumba**	**11.19**	**248**	P	**Pn**	**13 46 50.5**	**+0.5**
	3µm249nm,1.0s						
SGSI	**Sangihe**	**11.28**	**330**	P	**Pn**	**13 46 51.1**	**-0.2**
MRSI	**Marisa**	**11.30**	**305**	P	**Pn**	**13 46 52.1**	**+0.5**
KAPI	**Kappang**	**11.38**	**275**	P	**Pn**	**13 46 54.9**	**+2.2**
	5.7nm,0.3s,baz=107,slow=12,SNR=38						
KAPI					LR	13 51 18.7	
	comp=Z,422nm,19.0s,baz=93,slow=37						
KAPI	**Kappang**	**11.38**	**275**	P	**Pn**	**13 46 54.4**	**+1.7**
KAPI	**Kappang**	**11.38**	**275**	Pn	**Pn**	**13 46 54.4**	**+1.7**
KAPI	**Kappang**	**11.38**	**275**	P	**Pn**	**13 46 52.2**	**-0.5**
	2µm170nm,1.7s						
MKS	**Makassar**	**11.64**	**274**	P	**Pn**	**13 46 57.4**	**+1.2**
	2µm137nm,1.0s						
TTSI	**Tana Toraja**	**11.69**	**285**	P	**Pn**	**13 47 00.9**	**+4.0**
	1µm190nm,1.0s						
WBSI	**Waikabubak, Su**	**12.13**	**253**	P	**Pn**	**13 47 02.0**	**-0.8**
	2µm129nm,0.8s						
PMSI	**Majene**	**12.46**	**282**	P	**Pn**	**13 47 07.1**	**-0.3**
	1µm101nm,0.9s						
TOLI2	**Tolitoli**	**12.61**	**305**	Pn	**Pn**	**13 47 09.8**	**+0.3**
MPSI	**Mapaga**	**12.94**	**300**	P	**Pn**	**13 47 14.9**	**+1.0**
	1µm103nm,0.9s						
FITZ	**Fitzroy Crossi**	**13.01**	**204**	P	Pn	13 47 09.7	-5.0
	43nm,0.3s,baz=28,slow=10.0,SNR=358						
FITZ				S	Sn	13 49 25.2	-12
	51nm,0.3s,baz=222,slow=21,SNR=12						
FITZ				LR	LR	13 53 05.6	
	comp=Z,686nm,18.7s,baz=28,slow=41						
FITZ	**Fitzroy Crossi**	**13.01**	**204**	Pn	Pn	13 47 09.5	-5.2
PLAI	**Plampang**	**13.50**	**258**	P	**Pn**	**13 47 20.7**	**-0.6**
	1µm119nm,0.9s						
WRAB	**Tennant Creek**	**14.03**	**167**	*d* iP	Pn	13 47 21.4	-6.8
WRAB				pmax	pmax		
	comp=Z,219nm,0.6s						
WRA	**Warramunga Arr**	**14.04**	**167**	P	Pn	13 47 21.5	-6.8
	comp=Z,28nm,0.3s,baz=353,slow=13,SNR=292						
WRA				S	Sn	13 49 49.6	-13
	comp=Z,37nm,0.3s,baz=334,slow=22,SNR=3.9						
WRA				LR	LR	13 53 39.4	
	comp=Z,2µm,18.9s,baz=350,slow=40						
WB2	**Warramunga Arr**	**14.04**	**167**	P	Pn	13 47 21.9	-6.5
WR0	**Warramunga Arr**	**14.10**	**167**	Pn	Pn	13 47 22.5	-6.6
DAV	**Davao City (W)**	**14.28**	**337**	P	**Pn**	**13 47 29.6**	**-1.8**
	comp=Z,29nm,0.3s,baz=358,slow=18,SNR=1.3						
TWSI	**Taliwang, Sumb**	**14.36**	**259**	P	**Pn**	**13 47 31.3**	**-1.2**
	comp=Z,27nm,0.8s						
BKB	**Balikpapan**	**15.02**	**288**	P	**P**	**13 47 45.5**	**+0.8**
	comp=Z,4µmcomp=Z,164nm,0.9s						
KLNI	**Mataram**	**15.08**	**261**	P	**Pn**	**13 47 41.6**	**-0.2**
	comp=Z,54nm,0.8s						
KHKI	**Kahang-Kahang**	**15.55**	**261**	P	**Pn**	**13 47 47.3**	**-0.5**
SRBI	**Singaraja**	**15.91**	**262**	P	**Pn**	**13 47 52.9**	**+0.6**
	comp=Z,121nm,0.9s						
PMG	**Port Moresby**	**16.20**	**102**	P	**Pn**	**13 47 55.4**	**-0.6**
	comp=Z,8.6nm,0.3s,baz=310,slow=3.1,SNR=26						
PMG				S	Sn	13 50 42.7	-13
	comp=Z,8.6nm,0.3s,baz=256,slow=17,SNR=6.2						
PMG				LR	LR	13 56 01.6	
	comp=Z,482nm,18.2s,baz=281,slow=43						
PMG	**Port Moresby**	**16.20**	**102**	*c* iP	**Pn**	**13 47 55.7**	**-0.3**
PMG				pmax	pmax		
	comp=Z,187nm,1.3s						
PMG	**Port Moresby**	**16.20**	**102**	P	**Pn**	**13 47 54.3**	**-1.7**
PMG	**Port Moresby**	**16.20**	**102**	P	**Pn**	**13 47 56.1**	**+0.1**
	comp=Z,2µmcomp=Z,152nm,0.9s						
BBKI	**Banjar Baru**	**16.45**	**279**	P	**P**	**13 48 00.4**	**-0.2**
	comp=Z,6µmcomp=Z,850nm,0.8s						
BYJI	**Banyuwangi**	**16.77**	**262**	P	**P**	**13 48 11.2**	**+7.1**
ABJI	**Asem Bagus**	**16.85**	**264**	P	**P**	**13 48 07.3**	**+2.3**
JAGI	**Jajag, Banyuwa**	**16.99**	**261**		**Pn**	**13 48 04.2**	**-1.7**
JAGI	**Jajag, Banyuwa**	**16.99**	**261**	P	**Pn**	**13 48 04.4**	**-1.5**
	comp=Z,103nm,0.6s						
MTKI	**Muara Teweh, K**	**17.01**	**287**	P	**P**	**13 48 07.5**	**+0.7**
	comp=Z,74nm,0.9s						
KMMI	**Kalianget**	**17.07**	**266**	P	**P**	**13 48 09.9**	**+2.4**
	comp=Z,4µmcomp=Z,439nm,0.9s						
PKKI	**Palangkaraya**	**17.55**	**282**	P	**P**	**13 48 13.2**	**+0.4**
	comp=Z,3µmcomp=Z,429nm,1.1s						
AS31	**Alice Springs**	**17.59**	**172**	P	**Pn**	**13 48 09.2**	**-4.0**
ASAR	**Alice Springs**	**17.59**	**172**	P	**Pn**	**13 48 10.3**	**-2.9**
	comp=Z,21nm,0.3s,baz=14,slow=11,SNR=362						
ASAR				S	Sn	13 51 16.1	-13
	comp=Z,9.7nm,0.3s,baz=3.4,slow=29,SNR=6.2						
ASAR				LR	LR	13 55 49.8	
	comp=Z,1µm,20.0s,baz=355,slow=39						
ASAR	**Alice Springs**	**17.59**	**172**	P	**Pn**	**13 48 08.5**	**-4.7**
ASAR	**Alice Springs**	**17.59**	**172**		**Pn**	**13 48 08.5**	**-4.7**
SPMM	**Sapulut**	**18.20**	**306**	P	**Pn**	**13 48 21.0**	**+0.4**
PSA00	**Pilbara Seismi**	**18.80**	**214**	P	**P**	**13 48 26.2**	**-0.3**
PSA00				IAmb	IAmb	13 48 28.2	
	comp=Z,153nm,0.8s						
PSA00	**Pilbara Seismi**	**18.80**	**214**	P	**P**	**13 48 26.2**	**-0.3**
PSA00				IAmb	IAmb	13 48 28.2	
	comp=Z,57nm,0.8s						
WRKA	**Warakurna**	**18.95**	**188**	P	**P**	**13 48 26.3**	**-1.8**
	baz=19,SNR=398						
PWJI	**Pagerwojo**	**19.27**	**263**	P	**P**	**13 48 28.7**	**-2.9**
	comp=Z,80nm,0.8s						
SJI	**Sawahan**	**19.28**	**264**	P	**P**	**13 48 30.0**	**-1.9**
	comp=Z,110nm,1.5s						
PBKI	**Pangkalan Bun**	**19.70**	**279**	P	**Pn**	**13 48 38.2**	**-0.3**
	comp=Z,4µmcomp=Z,461nm,1.1s						
CTA	**Charters Tower**	**20.18**	**135**	P	**P**	**13 48 42.5**	**+1.0**
	comp=Z,155nm,0.8s,baz=311,slow=12,SNR=182						
CTA				S	**S**	**13 52 14.8**	**-9.1**
	comp=Z,15nm,0.7s,baz=21,slow=22,SNR=2.0						
CTAO	**Charters Tower**	**20.18**	**135**	P	Pn	13 48 42.9	-1.1
CTAO				pmax	pmax		
	comp=Z,193nm,0.9s						
CTAO	**Charters Tower**	**20.18**	**135**	P	Pn	13 48 42.9	-1.1
CTAO				IAmb	IAmb	13 48 44.0	
	comp=Z,193nm,0.8s						
UGM	**Wanagama**	**20.52**	**264**	P	**P**	**13 48 45.1**	**-0.2**
	comp=Z,156nm,1.1s						
STKI	**Sintang**	**20.57**	**287**	P	**P**	**13 48 46.4**	**+0.6**
	comp=Z,53nm,1.0s						
SBUM	**Sibu**	**20.73**	**294**	P	**P**	**13 48 48.0**	**+0.5**
CTJI	**Waduk Cacaban**	**21.82**	**267**	P	**P**	**13 48 58.1**	**-1.0**
KPJI	**Karang Pucung**	**22.07**	**266**	P	**P**	**13 49 00.2**	**-1.7**
	comp=Z,134nm,0.7s						
KSM	**Kuching**	**22.13**	**289**	P	**P**	**13 49 02.0**	**-0.5**
TGY	**Tagaytay City**	**22.54**	**333**	P	**P**	**13 49 06.0**	**-0.9**
	comp=Z,95nm,0.3s,baz=160,slow=11,SNR=3.1						
TGY	**Tagaytay City**	**22.54**	**333**	P	**P**	**13 49 06.0**	**-0.9**
GIRL	**Giralia**	**23.10**	**223**	P	**P**	**13 49 13.2**	**+0.7**
	baz=23,SNR=14						
GIRL	**Giralia**	**23.10**	**223**	P	**P**	**13 49 13.2**	**+0.7**
GIRL				IAmb	IAmb	13 49 21.2	
	comp=Z,180nm,1.1s						
CISI	**Cisompet, Garu**	**23.19**	**265**	P	**P**	**13 49 10.6**	**-2.9**
CISI	**Cisompet, Garu**	**23.19**	**265**	P	**P**	**13 49 10.9**	**-2.6**
	comp=Z,3µmcomp=Z,335nm,0.9s						
LEM	**Lembang**	**23.37**	**267**	P	**P**	**13 49 15.1**	**-0.2**
	comp=Z,153nm,0.9s,baz=81,slow=8.9,SNR=22						
LEM	**Lembang**	**23.37**	**267**	P	**P**	**13 49 14.7**	**-0.6**
	comp=Z,2µmcomp=Z,123nm,1.0s						
MEEK	**Meekatharra**	**23.59**	**209**	P	**P**	**13 49 16.9**	**-0.1**
	baz=24,SNR=57						
TPI	**Tanjungpandan**	**23.65**	**277**	P	**P**	**13 49 20.8**	**+3.2**
QLP	**Quilpie**	**23.83**	**150**	P	**P**	**13 49 19.8**	**+0.6**
	baz=24,SNR=32						
CNJI	**Cibinong**	**23.86**	**266**	P	**P**	**13 49 17.6**	**-1.9**
	comp=Z,10µmcomp=Z,1µm,1.2s						
CBJI	**Citeko**	**24.13**	**268**	P	**P**	**13 49 19.6**	**-2.4**
FORT	**Forrest**	**24.64**	**186**	P	**P**	**13 49 26.6**	**+0.1**
	baz=25,SNR=119						
FORT	**Forrest**	**24.64**	**186**	P	**P**	**13 49 26.7**	**+0.3**
PPBI	**Pangkal Pinang**	**25.24**	**278**	P	**P**	**13 49 33.4**	**+1.3**
	comp=Z,7µmcomp=Z,108nm,1.1s						
CGJI	**Cibinong**	**25.28**	**268**	P	**P**	**13 49 32.4**	**-0.1**
XMIS	**Christmas Isla**	**25.56**	**259**	P	**P**	**13 49 33.9**	**-1.1**
XMIS				IAmb	IAmb	13 49 36.6	
	comp=Z,104nm,0.9s						
RMQ	**Roma**	**26.28**	**142**	P	**P**	**13 49 42.1**	**+0.8**
	baz=26,SNR=11						
KASI	**Kota Agung**	**26.50**	**270**	P	**P**	**13 49 42.5**	**-1.0**
	comp=Z,87nm,0.9s						
MORW	**Morawa**	**26.87**	**210**	P	**P**	**13 49 47.2**	**+0.6**
	baz=27,SNR=10						
MORW	**Morawa**	**26.87**	**210**	P	**P**	**13 49 47.3**	**+0.6**
MDSI	**Maura Dua**	**26.89**	**272**	P	**P**	**13 49 46.1**	**-0.9**
	comp=Z,14nm,1.0s						
BBOO	**Buckleboo**	**26.90**	**171**	P	**P**	**13 49 46.6**	**-0.3**
	baz=27,SNR=63						
BBOO

CHAI Chaiyaphum 36.24 308 P **P** **13 51 09.0 0.0**
comp=Z,672nmcomp=Z,82nm,0.8s
CHAI Chaiyaphum 36.24 308 P **P** **13 51 09.1 0.0**
comp=Z,167nmcomp=Z,20nm,0.8s
PHET Kaeng Krachan 36.59 301 P **P** **13 51 12.5 +0.5**
comp=Z,59nm,0.9s
PHET Kaeng Krachan 36.59 301 P **P** **13 51 12.5 +0.5**
comp=Z,59nm,0.9s
PHET Kaeng Krachan 36.59 301 P **P** **13 51 12.6 +0.5**
comp=Z,15nm,0.9s
NONG Nongkai 36.65 312 P **P** **13 51 12.3 -0.1**
comp=Z,80nm,1.2s
NONG Nongkai 36.65 312 P **P** **13 51 12.3 -0.1**
comp=Z,80nm,1.2s
NONG Nongkai 36.65 312 P **P** **13 51 12.0 -0.4**
comp=Z,79nm,1.2s
DZM Mont Dzumac 37.58 118 P **P** **13 51 21.0 +0.6**
comp=Z,15nm,1.0s,baz=101,slow=18,SNR=6.3
DZM Mont Dzumac 37.58 118 *e*LR LR 14 01 47.6
comp=Z,492nm,32.8s
BSI Banda Aceh 37.60 287 P **P** **13 51 19.0 -1.6**
comp=Z,231nm,0.9s
LOEI Loei 37.74 309 P **P** **13 51 19.7 -2.0**
comp=Z,9µmcomp=Z,94nm,1.2s
SRDT SRDT 37.74 303 P **P** **13 51 21.6 -0.1**
comp=Z,49nm,0.9s
SRDT SRDT 37.74 303 P **P** **13 51 21.6 -0.1**
comp=Z,49nm,0.9s
SRDT SRDT 37.74 303 P **P** **13 51 21.0 -0.7**
comp=Z,49nm,0.9s
UTHA Uthaitani 38.10 305 P **P** **13 51 25.1 +0.4**
comp=Z,651nmcomp=Z,75nm,1.0s
UTHA Uthaitani 38.10 305 P **P** **13 51 25.1 +0.4**
comp=Z,162nmcomp=Z,19nm,1.0s
PHIT Phitsanulok 38.21 308 P **P** **13 51 26.5 +0.9**
comp=Z,3µmcomp=Z,427nm,0.9s
PHIT Phitsanulok 38.21 308 P **P** **13 51 26.5 +0.9**
comp=Z,3µmcomp=Z,427nm,0.9s
PHIT Phitsanulok 38.21 308 P **P** **13 51 26.6 +0.9**
comp=Z,843nmcomp=Z,106nm,0.9s
SLVN Son La 38.22 316 P **P** **13 51 24.8 -1.0**
SLVN IAmb IAmb 13 51 27.6
comp=Z,56nm,1.4s
KHLT Khaolaem Dam 38.41 303 P **P** **13 51 28.9 +1.6**
comp=Z,42nm,0.6s
KHLT Khaolaem Dam 38.41 303 P **P** **13 51 28.0 +0.7**
comp=Z,42nm,0.6s
UTTA Uttaradit 38.42 309 P **P** **13 51 28.0 +0.6**
comp=Z,936nmcomp=Z,114nm,0.9s
UTTA Uttaradit 38.42 309 P **P** **13 51 28.0 +0.6**
comp=Z,936nmcomp=Z,114nm,0.9s
UTTA Uttaradit 38.42 309 P **P** **13 51 28.1 +0.6**
comp=Z,234nmcomp=Z,28nm,0.9s
UMPA Umpang Tak 38.91 305 P **P** **13 51 32.2 +0.6**
comp=Z,5µmcomp=Z,65nm,1.2s
UMPA Umpang Tak 38.91 305 P **P** **13 51 32.2 +0.6**
comp=Z,5µmcomp=Z,65nm,1.2s
UMPA Umpang Tak 38.91 305 P **P** **13 51 32.0 +0.4**
comp=Z,1µmcomp=Z,16nm,1.2s
JNU Nakatsue 39.08 360 P **P** **13 51 32.8 0.0**
comp=Z,23nm,1.0s,baz=175,slow=10,SNR=3.6
JNU pP **pwP** **13 51 58.1 -0.1**
comp=Z,45nm,0.9s,baz=75,slow=5.1,SNR=5.8
NJ2 Nanjing 39.77 344 *e*P **P** **13 51 41.0 +2.5**
NJ2 pmax pmax
comp=Z,36nm,0.9s
WHN Wuhan 39.89 337 ⇓P **P** **13 51 40.8 +1.3**
WHN S **S** **13 57 37.8 -1.1**
WHN L L
comp=Z,630nm,25.1s
JHJ Hachijo jima 2 39.93 11 LR LR 14 06 20.8
comp=Z,341nm,19.7s,baz=193,slow=33
CM36 Chiang Mai Arr 40.00 308 P **P** **13 51 41.0 +0.4**
CM04 Chiang Mai Arr 40.02 308 P **P** **13 51 41.7 +1.0**
comp=Z,406nmcomp=Z,58nm,0.8s
CM04 Chiang Mai Arr 40.02 308 P **P** **13 51 41.8 +1.0**
comp=Z,406nmcomp=Z,58nm,0.8s
CRAI Chiangrai 40.04 312 P **P** **13 51 41.7 +0.9**
comp=Z,19nm,1.2s
CRAI Chiangrai 40.04 312 P **P** **13 51 41.7 +0.9**
comp=Z,19nm,1.2s
CRAI Chiangrai 40.04 312 P **P** **13 51 41.7 +0.9**
comp=Z,19nm,1.2s
CM09 Chiang Mai Arr 40.04 308 P **P** **13 51 42.2 +1.3**
comp=Z,415nmcomp=Z,37nm,0.8s
CM09 Chiang Mai Arr 40.04 308 P **P** **13 51 42.3 +1.3**
comp=Z,415nmcomp=Z,37nm,0.8s
CM35 Chiang Mai Arr 40.05 309 P **P** **13 51 41.0 0.0**
CM01 Chiang Mai Arr 40.05 308 P **P** **13 51 42.0 +1.0**
comp=Z,436nmcomp=Z,48nm,0.7s
CM01 Chiang Mai Arr 40.05 308 P **P** **13 51 42.0 +1.0**
comp=Z,436nmcomp=Z,48nm,0.7s
CM05 Chiang Mai Arr 40.05 308 P **P** **13 51 41.8 +0.8**
comp=Z,334nmcomp=Z,43nm,0.8s
CM05 Chiang Mai Arr 40.05 308 P **P** **13 51 41.9 +0.9**
comp=Z,334nmcomp=Z,43nm,0.8s
CM02 Chiang Mai Arr 40.07 308 P **P** **13 51 42.0 +0.9**
comp=Z,380nmcomp=Z,42nm,1.1s
CM02 Chiang Mai Arr 40.07 308 P **P** **13 51 42.1 +0.9**
comp=Z,380nmcomp=Z,42nm,1.1s
CM31 Chiang Mai Arr 40.09 308 P **P** **13 51 42.2 +0.9**
comp=Z,9µmcomp=Z,1µm,1.0s
CM31 Chiang Mai Arr 40.09 308 P **P** **13 51 41.8 +0.5**
CM31 IAmb IAmb 13 51 43.1
comp=Z,75nm,1.1s
CMAR Chiang Mai Arr 40.09 308 P **P** **13 51 41.9 +0.6**
comp=Z,34nm,1.0s,baz=137,slow=7.3,SNR=7.9
CMAR pP **sP** **13 52 05.1 -0.4**
comp=Z,26nm,0.7s,baz=133,slow=6.9,SNR=10
CMAR PcP **PcP** **13 53 45.9 +1.1**
comp=Z,13nm,0.9s,baz=159,slow=3.0,SNR=8.6
CMAR Chiang Mai Arr 40.09 308 P **P** **13 51 41.8 +0.6**
CMAR **PcP** **13 53 46.6 +1.8**
CM13 Chiang Mai Arr 40.09 308 P **P** **13 51 42.2 +0.9**
comp=Z,314nmcomp=Z,33nm,0.8s
CM13 Chiang Mai Arr 40.09 308 P **P** **13 51 42.0 +0.7**
comp=Z,314nmcomp=Z,33nm,0.8s
CM15 Chiang Mai Arr 40.10 308 P **P** **13 51 42.2 +0.8**
comp=Z,437nmcomp=Z,42nm,0.8s
CM15 Chiang Mai Arr 40.10 308 P **P** **13 51 42.0 +0.6**
comp=Z,437nmcomp=Z,42nm,0.8s
CM34 Chiang Mai Arr 40.15 309 P **P** **13 51 42.0 +0.2**
GYA Guiyang 40.19 325 ⇑P **P** **13 51 42.3 +0.1**
GYA pP sP 13 52 02.8 -3.5
GYA PcP **PcP** **13 53 45.5 +0.4**
GYA pmax pmax
comp=Z,13nm,0.7s
CM32 Chiang Mai Arr 40.27 308 P **P** **13 51 43.0 +0.2**
CMMT Chiang Mai 40.28 309 P **P** **13 51 42.3 -0.6**
comp=Z,970nmcomp=Z,86nm,0.9s
CMMT Chiang Mai 40.28 309 P **P** **13 51 42.3 -0.6**
comp=Z,970nmcomp=Z,86nm,0.9s
CMMT Chiang Mai 40.28 309 P **P** **13 51 42.4 -0.6**
comp=Z,970nmcomp=Z,86nm,0.9s
CHTO Chiang Mai 40.29 309 P **P** **13 51 43.2 +0.3**
CHTO pmax pmax
comp=Z,84nm,1.1s
CHTO Chiang Mai 40.29 309 P **P** **13 51 43.3 +0.3**
comp=Z,955nmcomp=Z,86nm,0.9s
CHTO Chiang Mai 40.29 309 P **P** **13 51 43.2 +0.3**
CHTO IAmb IAmb 13 51 44.6
comp=Z,84nm,1.1s
CHTO Chiang Mai 40.29 309 P **P** **13 51 43.4 +0.5**
comp=Z,537nmcomp=Z,48nm,0.9s
CM33 Chiang Mai Arr 40.29 309 P **P** **13 51 43.0 0.0**
MHMT Maesarieng 40.73 307 P **P** **13 51 46.8 +0.3**
comp=Z,81nm,1.2s
MHMT Maesarieng 40.73 307 P **P** **13 51 46.8 +0.3**
comp=Z,81nm,1.2s
MHMT Maesarieng 40.73 307 P **P** **13 51 46.0 -0.5**
comp=Z,81nm,1.2s
JWT Wachi 41.43 5 IAmb IAmb 13 52 19.8
comp=Z,73nm,0.8s
KMI Kunming 41.60 320 ⇑P **P** **13 51 55.0 +1.1**
KMI pP pP 13 52 14.0 +3.8
KMI sP pwP 13 52 22.5 +2.8
KMI S **S** **13 58 05.0 0.0**
KMI SS **SS** **14 01 09.0 -3.9**
KMI pmax pmax
comp=Z,76nm,0.8s
KMI L L
comp=Z,120nm,10.9s
KMI L L
comp=Z,120nm,14.5s
KMI L L
comp=Z,150nm,15.5s
ENH Enshi 41.76 331 IAmb IAmb 13 51 55.7
comp=Z,47nm,0.8s
TJN Taejon 42.48 355 *e*P **P** **13 52 00.7 +0.2**
MJAR Matsushiro Arr 43.01 8 P **P** **13 52 04.0 -0.8**
comp=Z,42nm,0.9s,baz=188,slow=9.7,SNR=8.5
MJAR pP **sP** **13 52 29.7 +0.3**
comp=Z,21nm,0.8s,baz=187,slow=8.9,SNR=4.8
MJAR PcP **PcP** **13 53 54.3 +0.3**
comp=Z,2.4nm,0.7s,baz=194,slow=4.6,SNR=4.3
MJAR LR LR 14 08 05.2
comp=Z,184nm,20.6s,baz=155,slow=33
MJAR Matsushiro Arr 43.01 8 P **P** **13 52 04.1 -0.8**
MJAR pmax pmax
comp=Z,41nm,0.9s
MJAR Matsushiro Arr 43.01 8 P **P** **13 52 04.1 -0.8**
MAJO Matsushiro 43.01 8*c* *i*P **P** **13 52 04.1 -0.8**
MAJO pmax pmax
comp=Z,80nm,0.9s
MAJO Matsushiro 43.01 8 P **P** **13 52 04.2 -0.7**
MAJO IAmb IAmb 13 52 05.6
comp=Z,75nm,0.9s
MAT Matsushiro 43.01 8 P **P** **13 52 04.0 -0.9**
MAT S **S** **13 58 22.6 -2.3**
MJB9 Matsu-Tunnel 43.01 8 P **P** **13 52 04.2 -0.8**
MJB9 IAmb IAmb 13 52 05.6
comp=Z,83nm,0.9s
JYT Yasato 43.03 11 IAmb IAmb 13 52 05.1
comp=Z,57nm,0.5s
KSAR Wonju Array Be 43.50 356 P **P** **13 52 09.5 +0.7**
KSAR Wonju Array Be 43.50 356 P **P** **13 52 09.5 +0.7**
KSRS Korea Array 43.51 356 P **P** **13 52 09.6 +0.7**
comp=Z,5.6nm,0.9s,baz=176,slow=8.5,SNR=22
KSRS pP **pwP** **13 52 34.3 -0.2**
comp=Z,9.6nm,0.7s,baz=177,slow=9.1,SNR=12
KSRS PcP **PcP** **13 53 56.5 +0.9**
comp=Z,6.6nm,0.8s,baz=185,slow=3.6,SNR=9.0
TIA Tai'an 44.16 344 *e*P **P** **13 52 13.8 -0.4**
TIA pmax pmax
comp=Z,14nm,0.9s
JSD Sado 44.48 8 P **P** **13 52 16.5 -0.2**
JMM Marumori 44.73 11 IAmb IAmb 13 52 20.0
comp=Z,53nm,0.8s
CD2 Chengdu 45.23 326 *e*P **P** **13 52 25.0 +2.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DL2 Dalian 45.71 350 P **P** **13 52 26.8 +0.4**
DL2 sP **sP** **13 52 51.3 +0.6**
DL2 S **S** **13 59 01.5 -2.5**
DL2 pmax pmax
comp=Z,19nm,0.9s
DL2 L L
comp=Z,190nm,21.5s
JTM Tenmabayashi 47.62 10 P **P** **13 52 41.3 +0.1**
BJT Baijiatuau 47.99 345 IAmb IAmb 13 53 12.7
comp=Z,48nm,1.0s
BJI Beijing 48.01 345 P **P** **13 52 44.5 +0.2**
BJI pP **pP** **13 52 59.8 -1.1**
BJI sP **sP** **13 53 08.8 +0.1**
BJI PcP **PcP** **13 54 12.8 +1.5**
BJI PP **PP** **13 54 33.3 -3.8**
BJI S **S** **13 59 39.5 +2.7**
BJI pmax pmax
comp=Z,45nm,0.8s
BRDH Bariadhala 48.10 308 P **P** **13 52 46.2 +0.9**
comp=Z,221nm,0.4s,baz=85,slow=10,SNR=4.5
MSHR Mys Shultsa 48.52 0⇑ *e*P **P** **13 52 48.2 0.0**
MSHR pmax pmax
comp=Z,19nm,1.0s
ERM Erimo 49.20 12 *i* P **P** **13 52 53.7 +0.3**
LZH Lanzhou 49.23 331 *e*P **P** **13 52 55.0 +1.1**
LZH pP pP 13 53 09.0 -1.6
LZH sP pwP 13 53 19.5 -0.7
LZH S **S** **13 59 51.8 -2.6**
LZH SS **SS** **14 03 22.8 -4.1**
LZH pmax pmax
comp=Z,40nm,1.3s
LZH pmax pmax
comp=Z,140nm,5.6s
LZH L L
comp=Z,210nm,14.2s
LZH L L
comp=Z,230nm,13.8s
LZH L L
comp=Z,280nm,16.7s
CN2 Changchun 50.01 355 *e*P **P** **13 52 59.5 0.0**
CN2 S **S** **14 00 04.3 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,100nm,18.0s
CN2 L L
comp=Z,100nm,18.0s
CN2 L L
comp=Z,100nm,15.0s
HHC Hu-ho-hao-te 50.13 341 *e*P **P** **13 53 01.3 +0.7**
HHC sP sP 13 53 22.5 -2.6
HHC S **S** **14 00 02.3 -4.4**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.3s
HHC L L
comp=Z,97nm,12.8s
HHC L L
comp=Z,140nm,13.6s
HHC L L
comp=Z,94nm,13.6s
USA0B Ussuriysk Arra 50.15 1 IAmb IAmb 13 53 28.4
comp=Z,37nm,1.1s
USRK Ussuriysk Ar. 50.15 1 P **P** **13 53 01.1 +0.5**
comp=Z,12nm,0.7s,baz=182,slow=7.1,SNR=36
USRK pP **sP** **13 53 24.5 -0.5**
comp=Z,17nm,0.8s,baz=178,slow=7.4,SNR=8.6
USRK PcP **PcP** **13 54 18.5 -0.5**
comp=Z,4.7nm,0.9s,baz=176,slow=4.3,SNR=1.4
USRK LR LR 14 12 13.2
comp=Z,34nm,20.3s,baz=164,slow=34
USRK Ussuriysk Ar. 50.15 1 P **P** **13 53 01.0 +0.4**
BTO Baotou 50.44 339 *e*P P 13 52 53.8 -9.2
MDJ Mudanjiang 50.58 359 P **P** **13 53 04.3 +0.5**
MDJ pP pP 13 53 19.5 -1.1
MDJ sP sP 13 53 28.5 +0.2
MDJ ScP **ScP** **13 58 11.0 +1.0**
MDJ PcS **PcS** **13 58 18.5 +0.7**
MDJ S **S** **14 00 15.8 +3.2**
MDJ sS sS 14 00 42.5 +0.7
MDJ pmax pmax
comp=Z,26nm,1.3s
MDJ pmax pmax
comp=Z,130nm,4.8s
MDJ L L
comp=Z,170nm,10.7s
MDJ L L
comp=Z,86nm,8.5s
MDJ L L
comp=Z,250nm,24.5s
MDJ Mudanjiang 50.58 359 IAmb IAmb 13 53 31.8
comp=Z,29nm,0.9s
ASAJ Asahikawa 51.12 11 P **P** **13 53 08.5 +0.6**
comp=Z,17nm,0.7s,baz=214,slow=9.9,SNR=21
RPZ Rata Peaks 51.21 143 P **P** **13 53 10.1 +1.4**
RPZ IAmb IAmb 13 53 30.3
comp=Z,25nm,0.9s
LSA Lhasa 52.40 315 P **P** **13 53 19.0 +0.7**
KUR Kuril'sk 53.33 15 *e*P **P** **13 53 24.9 +0.7**
GTA Gaotai 53.81 330 ⇑P **P** **13 53 28.8 +0.7**
GTA pP pP 13 53 44.0 -1.0
GTA sP sP 13 53 52.5 -0.2
GTA PcP **PcP** **13 54 34.8 +1.8**
GTA PP **PP** **13 55 37.5 +7.5**
GTA PcS **PcS** **13 58 31.3 -1.1**
GTA S **S** **14 00 54.3 -3.0**
GTA pmax pmax
comp=Z,45nm,1.0s
GTA pmax pmax
comp=Z,150nm,4.2s
GTA L L
comp=Z,77nm,16.4s
GTA L L
comp=Z,82nm,16.7s
GTA L L
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 53.89 10*oe*P **P** **13 53 28.7 +0.4**
YSS *e**SP **sP** **13 53 53.0 -0.1**
YSS *e* 13 54 30.0
YSS *e*S **S** **14 00 54.8 -3.0**
YSS *e*SS **SS** **14 04 43.0 +2.8**
YSS pmax pmax
comp=Z,50nm,0.6s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 53.89 10 P **P** **13 53 29.0 +0.6**
YSS IAmb IAmb 13 53 29.6
comp=Z,36nm,0.6s
KLR Kul'dur 55.18 0 P **P** **13 53 38.1 +0.5**
comp=Z,8.3nm,0.9s,baz=195,slow=4.9,SNR=17
KLR Kul'dur 55.18 0*ce*P **P** **13 53 37.9 +0.3**
KLR pmax pmax
comp=Z,24nm,1.2s
UGL Uglegorsk 55.85 9⇓ *i*P **P** **13 53 43.7 +1.3**
UGL *e* 13 54 06.2
UGL *e*S S 14 01 12.6 -11
UGL pmax pmax
comp=Z,100nm,1.0s
UGL MLR MLR
comp=Z,1µm,21.0s
GRNR Gornyy 56.90 4⇑ *i*P **P** **13 53 50.5 +0.6**
GRNR pmax pmax
comp=Z,9.0nm,1.0s
GRNR MLR MLR
comp=E,50nm,16.0s
GRNR MLR MLR
comp=N,40nm,15.0s
GRNR MLR MLR
comp=Z,90nm,19.0s
HYB Hyderabad 56.97 295 *i* P **P** **13 53 50.0 -1.1**
comp=Z,35nm,0.8s
ULN Ulaanbaatar 57.84 341*ce*P **P** **13 53 57.8 +1.0**
ULN pmax pmax
comp=Z,38nm,0.8s
ULN Ulaanbaatar 57.84 341 P **P** **13 53 58.0 +1.2**
ULN IAmb IAmb 13 53 59.0
comp=Z,37nm,0.8s
SONM Songino Array 58.03 341 P **P** **13 53 58.5 +0.5**
comp=Z,16nm,0.8s,baz=162,slow=6.6,SNR=63
SONM LR LR 14 23 08.5
comp=Z,57nm,18.0s,baz=164,slow=40
SONM Songino Array 58.03 341 P **P** **13 53 59.1 +1.0**
SONM pmax pmax
comp=Z,38nm,1.3s
SONM Songino Array 58.03 341 P **P** **13 53 59.1 +1.0**
SONM IAmb IAmb 13 54 00.1
comp=Z,38nm,1.3s
ZEA Zeya 59.78 357 *e*P **P** **13 54 11.1 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 61.27 340 *e*P **P** **13 54 20.5 +0.3**
ZAK pmax pmax
comp=Z,16nm,1.1s
TLY Talaya 62.26 341 P **P** **13 54 26.1 -0.6**
comp=Z,16nm,0.8s,baz=220,slow=3.2,SNR=4.0
TLY Talaya 62.26 341 *e*P **P** **13 54 26.3 -0.4**
TLY pmax pmax
comp=Z,39nm,0.8s
IRK Irkutsk 62.54 342 *e*P **P** **13 54 28.0 -0.6**
IRK pmax pmax
comp=Z,59nm,0.7s
MOY Mondy 63.13 339 *e*P **P** **13 54 34.2 +1.5**
MOY pmax pmax
comp=Z,58nm,1.7s
PEA0B Petropavlovsk- 63.20 18*c* *i*P **P** **13 54 33.9 +0.9**
PETK Petropavlovsk- 63.20 18 P **P** **13 54 34.0 +1.0**
comp=Z,48nm,0.9s,baz=195,slow=4.6,SNR=32
PETK pP **sP** **13 54 58.0 0.0**
comp=Z,24nm,0.9s,baz=188,slow=5.4,SNR=4.4
PETK PcP **PcP** **13 55 09.6 -0.2**
comp=Z,19nm,0.9s,baz=202,slow=2.4,SNR=4.3
PETK LR LR 14 18 47.7
comp=Z,36nm,21.8s,baz=199,slow=33
PETK Petropavlovsk- 63.20 18 P **P** **13 54 34.1 +1.1**
WMQ Urumqi 63.33 326 *e*P **P** **13 54 35.5 +1.4**
WMQ pP pP 13 54 50.5 -1.0
WMQ sP sP 13 55 00.0 +0.9
WMQ PP **PP** **13 56 56.0 +1.7**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,180nm,3.7s
PET Petropavlovsk 63.42 18 *e*P **P** **13 54 35.5 +1.1**
PET *e**SP **sP** **13 54 58.6 -0.7**
PET *e*S **S** **14 03 03.8 +2.6**
PET pmax pmax
comp=Z,89nm,1.2s
PET MLR MLR
comp=Z,100nm,19.0s
THN Thein Dam 65.15 310 *e*P **P** **13 54 47.0 +0.9**
BOD Bodaibo 65.28 350 *e*P **P** **13 54 46.8 +0.4**
BOD pmax pmax
comp=Z,41nm,1.4s
ZSN Zaisan 67.17 328⇑ *i*P **P** **13 54 59.2 +0.4**
comp=Z,14nm,0.9s,baz=328
ZSN *e*S **S** **14 03 41.8 -5.6**
baz=328
ZSN Zaisan 67.17 328*c* *i*P **P** **13 54 59.2 +0.4**
ZSN *e*S **S** **14 03 41.8 -5.6**
ZSN pmax pmax
comp=Z,14nm,0.9s
DGZ Jazzator, Alta 67.33 331*c* *i*P **P** **13 55 00.7 +0.8**
DGZ pmax pmax
comp=Z,54nm,1.1s
MA2 Magadan 67.38 11 P **P** **13 55 00.8 +0.9**
comp=Z,22nm,0.8s,baz=181,slow=5.7,SNR=12
MA2 Magadan 67.38 11*c* *i*P **P** **13 55 00.6 +0.8**
MA2 pmax pmax
comp=Z,30nm,1.0s
MA2 Magadan 67.38 11 P **P** **13 54 59.6 -0.3**
MA2 IAmb IAmb 13 55 01.8
comp=Z,27nm,0.9s
NIL Nilore 67.54 310 P **P** **13 55 01.8 +0.3**
NIL pmax pmax
comp=Z,62nm,0.7s
NIL Nilore 67.54 310 P **P** **13 55 01.8 +0.3**
PDGK Podgornoye 67.84 322 P **P** **13 55 03.9 +0.6**
YAK Yakutsk 68.02 359 P **P** **13 55 04.2 +0.4**
comp=Z,48nm,0.7s,baz=190,slow=0.5,SNR=40
YAK PcP **PcP** **13 55 30.3 +0.8**
comp=Z,23nm,0.7s,baz=38,slow=1.6,SNR=5.7
YAK Yakutsk 68.02 359*c* *i*P **P** **13 55 04.1 +0.4**
YAK *e**PP **pP** **13 55 23.1 +1.8**
YAK *e* 13 55 28.7
YAK *e* 13 57 35.3
YAK *e*PPP PPP 13 59 13.9
YAK *e*S **S** **14 03 57.6 +0.7**
YAK *e**SS **sS** **14 04 28.1 +0.9**
YAK *e* 14 04 54.8
YAK *e*SS **SS** **14 08 21.8 +1.1**
YAK pmax pmax
comp=Z,102nm,0.8s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,22nm,2.1s
YAK pmax pmax
comp=N,65nm,2.3s
YAK pmax pmax
comp=E,62nm,2.4s
YAK smax smax
comp=N,44nm,2.0s
YAK smax smax
comp=E,41nm,2.3s
YAK Yakutsk 68.02 359 P **P** **13 55 04.1 +0.4**
UZB Uzynbulak 68.03 321⇑ *i*P **P** **13 55 05.4 +0.9**
comp=E,37nm,1.1s,baz=322
UZB *e*S **S** **14 03 58.5 +0.3**
baz=322
UZB Uzynbulak 68.03 321*c* *i*P **P** **13 55 05.4 +0.9**
UZB *e*S **S** **14 03 58.5 +0.3**
UZB pmax pmax
comp=Z,37nm,1.1s
TARG Taragay, Kyrgy 68.06 320 IAmb IAmb 13 55 17.2
comp=Z,44nm,1.1s
MK31 Makanchi Array 68.16 326 P **P** **13 55 06.1 +1.0**
MK31 pmax pmax
comp=Z,69nm,1.0s
MK31 Makanchi Array 68.16 326 P **P** **13 55 06.1 +1.0**

MKAR Makanchi Array 68.16 326 P **P** **13 55 06.0 +1.0**
comp=Z,36nm,0.5s,baz=120,slow=8.3,SNR=333
MKAR pP **PcP** **13 55 30.8 +0.3**
comp=Z,60nm,0.7s,baz=120,slow=7.2,SNR=10
MKAR S **S** **14 03 59.1 -0.3**
comp=Z,1.3nm,1.0s,baz=146,slow=11,SNR=5.0
KSH Kashi 68.18 317⇑ *i*P **P** **13 55 07.0 +1.5**
KSH S **S** **14 04 00.3 +0.2**
KSH sS sS 14 04 37.5 +5.1
KSH pmax pmax
comp=Z,47nm,0.6s
KSH pmax pmax
comp=Z,190nm,2.6s
KSH L L
comp=Z,100nm,5.0s
KSH L L
comp=Z,80nm,5.5s
KSH L L
comp=Z,160nm,5.2s
MAKZ Makanchi 68.34 326 P **P** **13 55 07.1 +0.9**
MAKZ pmax pmax
comp=Z,100nm,1.1s
MAKZ Makanchi 68.34 326 P **P** **13 55 07.1 +0.9**
SATY Saty 68.37 321⇑ *i*P **P** **13 55 07.6 +1.0**
comp=Z,38nm,0.9s,baz=321
SATY Saty 68.37 321*c i*P **P** **13 55 07.5 +1.0**
SATY pmax pmax
comp=Z,38nm,0.9s
KPKS Kokpek 68.41 322⇑ *i*P **P** **13 55 07.6 +0.8**
comp=Z,78nm,1.1s,baz=322
KPKS Kokpek 68.41 322*c i*P **P** **13 55 07.6 +0.8**
KPKS pmax pmax
comp=Z,78nm,1.1s
KDJ Kajisay 68.66 320 IAmb IAmb 13 55 11.0
comp=Z,55nm,1.0s
MDOK Medeo 69.27 321 *i* P **P** **13 55 13.1 +0.9**
baz=321
MDOK Medeo 69.27 321 P **P** **13 55 13.2 +1.0**
ULHL Ulahol 69.33 320 P **P** **13 55 13.6 +0.9**
SNR=7.0
AAA Alma-Ata 69.38 321 *e*P **P** **13 55 12.7 -0.1**
baz=321
AAA Alma-Ata 69.38 321 *e*P **P** **13 55 12.7 -0.1**
TDK Taldyqorghan 69.39 323 *e*P **P** **13 55 13.1 +0.2**
comp=Z,85nm,1.1s,baz=323
TDK Taldyqorghan 69.39 323 *e*P **P** **13 55 13.0 +0.2**
TDK pmax pmax
comp=Z,85nm,1.1s
BOOM Boomskoye usch 69.64 320 IAmb IAmb 13 55 17.6
comp=Z,85nm,1.1s
CHKK Chushkaly 69.66 321 *e*P **P** **13 55 14.3 -0.2**
baz=321
CHKK Chushkaly 69.66 321 *e*P **P** **13 55 14.2 -0.2**
TKM2 Tokmak 2 70.07 320 P **P** **13 55 18.4 +1.1**
SNR=47
TKM2 Tokmak 2 70.07 320 P **P** **13 55 18.1 +0.9**
KUU Kurty 70.09 321⇑ *i*P **P** **13 55 17.7 +0.7**
comp=Z,115nm,1.0s,baz=321
KUU Kurty 70.09 321*c i*P **P** **13 55 17.7 +0.7**
KUU pmax pmax
comp=Z,115nm,1.0s
KBK Karagaybulak 70.36 319 P **P** **13 55 20.5 +1.5**
SNR=16
AMKA Amchitka 70.59 30 P **P** **13 55 20.5 +0.6**
AAK Ala-Archa 70.65 319 P **P** **13 55 21.8 +1.1**
comp=Z,35nm,1.0s,baz=129,slow=5.1,SNR=57
AAK Ala-Archa 70.65 319 P **P** **13 55 22.1 +1.4**
SNR=24
AAK Ala-Archa 70.65 319*c i*P **P** **13 55 22.1 +1.4**
AAK pmax pmax
comp=Z,184nm,1.1s
CHMS Chumysh 70.65 320 P **P** **13 55 21.3 +0.8**
SNR=7.7
SEY Seymchan 70.80 10 P **P** **13 55 21.9 +1.1**
comp=Z,39nm,0.9s,baz=196,slow=4.5,SNR=80
SEY Seymchan 70.80 10*c i*P **P** **13 55 22.0 +1.1**
AML Almayashu 70.93 318 P **P** **13 55 24.3 +1.6**
SNR=84
USP Ospenovka 70.94 320 P **P** **13 55 23.4 +1.1**
SNR=57
SGDS Sogindy 70.95 320⇑ *i*P **P** **13 55 22.9 +0.4**
comp=Z,17nm,1.1s,baz=320
SGDS Sogindy 70.95 320*c i*P **P** **13 55 22.8 +0.4**
SGDS pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 71.10 310 P **P** **13 55 24.1 +0.4**
KBL pmax pmax
comp=Z,102nm,1.0s
KBL Kabul 71.10 310 P **P** **13 55 24.1 +0.4**
EKS2 Erkin-Say 71.12 319 P **P** **13 55 25.2 +1.6**
SNR=29
ZAA0 Zalesovo Array 71.35 333 IAmb IAmb 13 55 25.3
comp=Z,43nm,0.8s
ZALV Zalesovo Beam 71.35 333 P **P** **13 55 24.3 -0.2**
comp=Z,39nm,0.8s,baz=114,slow=4.9,SNR=115
ZALV pP **sP** **13 55 49.2 -0.5**
comp=Z,30nm,0.9s,baz=64,slow=3.4,SNR=6.3
ZALV S **S** **14 04 33.8 -2.6**
comp=Z,1.7nm,0.8s,baz=150,slow=10,SNR=7.5
ZALV LR LR 14 29 33.8
comp=Z,46nm,19.9s,baz=139,slow=38
ZALV Zalesovo Beam 71.35 333 P **P** **13 55 24.2 -0.3**
SEM Semipalatinsk 71.38 328⇑ *e*P **P** **13 55 24.2 -0.9**
comp=Z,23nm,1.2s,baz=328
SEM Semipalatinsk 71.38 328*ce*P **P** **13 55 24.1 -0.9**
SEM pmax pmax
comp=Z,23nm,1.2s
BTK Batken 71.97 315 IAmb IAmb 13 55 30.9
comp=Z,50nm,1.0s
KURBB Kurchatov Arra 72.41 328 P **P** **13 55 31.4 +0.5**
comp=Z,30nm,0.8s,baz=127,slow=4.8,SNR=277
KURBB pP **sP** **13 55 54.8 -1.3**
comp=Z,28nm,0.9s,baz=129,slow=5.5,SNR=7.7
KURBB S **S** **14 04 42.3 -6.3**
comp=Z,0.3nm,0.3s,baz=122,slow=12,SNR=8.7
KURBB Kurchatov Arra 72.41 328 P **P** **13 55 31.2 +0.4**
KURK Kurchatov 72.41 328 P **P** **13 55 31.4 +0.5**
KURK Kurchatov 72.41 328 P **P** **13 55 31.4 +0.5**
DZA Taraz 72.84 318 *e*P **P** **13 55 33.3 -0.4**
baz=318
DZA Taraz 72.84 318 *e*P **P** **13 55 33.2 -0.4**
VNDA Vanda 73.13 173 P **P** **13 55 35.9 +1.2**
comp=Z,5.5nm,0.8s,baz=321,slow=7.4,SNR=28
VNDA LR LR 14 27 11.1
comp=Z,114nm,19.8s,baz=334,slow=35
VNDA Vanda 73.13 173 P **P** **13 55 36.0 +1.2**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA Vanda 73.13 173 P **P** **13 55 36.0 +1.3**
KK31 Karatay Array 73.47 318 *i*P **P** **13 55 37.8 +0.4**
KKAR Karatay Array 73.47 318 P **P** **13 55 37.8 +0.4**
KKAR Karatay Array 73.47 318 P **P** **13 55 37.8 +0.4**
SBA Scott Base 74.00 173 P **P** **13 55 41.9 +2.1**
SBA pmax pmax
comp=Z,12nm,1.2s
SBA Scott Base 74.00 173 P **P** **13 55 41.9 +2.1**
OTUK Ortayu 74.64 324 P **P** **13 55 44.6 +0.5**
BRZS Berezniki 75.27 325⇑ *i*P **P** **13 55 47.9 +0.2**
comp=Z,19nm,1.0s,baz=325
BRZS Berezniki 75.27 325*c i*P **P** **13 55 47.9 +0.2**
BRZS pmax pmax
comp=Z,19nm,1.0s
MAW Mawson 76.12 202 P **P** **13 55 53.6 +1.4**
comp=Z,11nm,0.8s,baz=54,slow=5.5,SNR=18
MAW LR LR 14 26 29.7
comp=Z,129nm,22.0s,baz=56,slow=33
MAW Mawson 76.12 202 P **P** **13 55 53.8 +1.6**
baz=76,SNR=11
MAW Mawson 76.12 202 P **P** **13 55 53.4 +1.2**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 76.12 202 P **P** **13 55 53.4 +1.2**
HMH Humu'ula Sheep 76.56 68 P **P** **13 55 55.9 -0.2**
TIXI Tiksi 77.68 359 P **P** **13 56 00.4 -0.4**
TIXI pmax pmax
comp=Z,23nm,0.9s
TIXI Tiksi 77.68 359 P **P** **13 56 00.4 -0.4**
TBI Tubuai 77.87 112 *e*LR LR 14 20 25.2
comp=Z,149nm,29.5s
PAE Paea 77.97 107 *e*P **P** **13 56 04.9 +1.4**
comp=Z,5.8nm,0.9s
BVAR Borovoye Array 77.97 327 P **P** **13 56 03.0 +0.2**
comp=Z,20nm,0.9s,baz=207,slow=25,SNR=64
BVAR Borovoye Array 77.97 327 P **P** **13 56 03.0 +0.2**
PPT2 Papeete2 77.98 107 *e*P **P** **13 56 05.2 +1.5**
comp=Z,30nm,1.0s

PPT2 Papeete2 77.98 107 *e*LR LR 14 20 32.4
comp=Z,125nm,28.0s
PPT Papeete 77.98 107 P **P** **13 56 06.4 +2.8**
comp=Z,30nm,0.8s,baz=288,slow=7.6,SNR=5.8
BRVK Borovoye 78.05 327*ce*P **P** **13 56 03.5 +0.3**
BRVK pmax pmax
comp=Z,43nm,0.9s
BRVK Borovoye 78.05 327 P **P** **13 56 03.2 0.0**
BRVK IAmb IAmb 13 56 04.7
comp=Z,39nm,0.9s
BILL Bilibino 78.06 13⇑ *i*P **P** **13 56 01.6 -1.4**
BILL *e* 13 56 13.5
BILL *e**PP **pP** **13 56 21.4 +0.4**
BILL *e**SP **sP** **13 56 27.9 -0.6**
BILL *e* 13 59 03.1
BILL *e*PPP PPP 14 00 48.9
BILL pmax pmax
comp=Z,5.0nm,0.8s
TIAR Tiarei 78.20 107 *e*P **P** **13 56 06.3 +1.5**
comp=Z,5.3nm,1.1s
SPIA Saint Paul Isl 78.91 28 P 13 56 08.0
baz=240
PMOR Pomariorio Ree 79.74 104 *e*P **P** **13 56 14.7 +1.5**
comp=Z,98nm,1.4s
GEYT Alibeck 80.54 310 P **P** **13 56 17.7 +0.5**
comp=Z,9.7nm,0.7s,baz=188,slow=7.0,SNR=18
GEYT pP **sP** **13 56 42.9 +0.1**
comp=Z,12nm,1.0s,baz=190,slow=6.0,SNR=4.3
NRIK Noril'sk 81.04 346 P **P** **13 56 19.8 +0.6**
comp=Z,34nm,0.9s,baz=131,slow=5.9,SNR=32
NRIK LR LR 14 34 14.2
comp=Z,77nm,21.9s,baz=151,slow=37
NRIK Noril'sk 81.04 346*c i*P **P** **13 56 19.7 +0.6**
NRIK pmax pmax
comp=Z,55nm,1.0s
NRIK Noril'sk 81.04 346 P **P** **13 56 19.5 +0.4**
NRIK IAmb IAmb 13 56 22.5
comp=Z,41nm,0.9s
FALS False Pass 81.28 32 P 13 56 21.0
baz=246
GAMB Gambell 81.73 22 P 13 56 23.2
baz=238
VOI Vohitsoka 82.49 249 P **P** **13 56 28.4 +0.4**
VOI IAmb IAmb 13 56 29.5
comp=Z,48nm,0.8s
AB31 Akbulak array 82.57 321 P **P** **13 56 26.9 -0.7**
ABKAR Akbulak array 82.57 321 P **P** **13 56 27.1 -0.4**
ABKAR Akbulak array 82.57 321 IAmb IAmb 13 56 30.1
comp=Z,24nm,1.0s
SDPT Sand Point 83.03 32 P 13 56 30.1
baz=249
CHNA Chernabura Isl 83.32 33 P 13 56 31.6
baz=249
QSPA South Pole Qui 83.80 180 P **P** **13 56 34.4 +0.6**
comp=Z,22nm,0.7s,baz=310,slow=1.3,SNR=82
QSPA South Pole Qui 83.80 180 P **P** **13 56 34.4 +0.6**
QSPA IAmb IAmb 13 56 35.4
comp=Z,27nm,0.8s
TNA Tin City 84.05 21 P 13 56 35.6
baz=241
AKTO Aktubinsk 84.11 322 P **P** **13 56 35.9 +0.4**
comp=Z,10nm,0.9s,baz=98,slow=5.8,SNR=35
ANM Nome 84.53 23 P 13 56 38.3
baz=243
SYO Syowa Base 84.83 201⇓ *e*P **P** **13 56 40.4 +1.6**
ARU Arti 85.61 328 P **P** **13 56 42.2 -0.7**
comp=Z,8.3nm,0.8s,baz=127,slow=2.6,SNR=37
ARU Arti 85.61 328*c i*P **P** **13 56 41.9 -0.9**
ARU *PP **pP** **13 57 03.1 +2.0**
ARU S **S** **14 07 00.6 -8.0**
ARU SS **SS** **14 12 43.5 -2.8**
ARU pmax pmax
comp=Z,35nm,0.9s
ARU Arti 85.61 328 P **P** **13 56 42.1 -0.7**
ARU IAmb IAmb 13 56 44.0
comp=Z,32nm,0.9s
SII Sitkinak Islan 86.77 32 P 13 56 49.6
baz=254
RDOG Red Dog Mine 86.95 20 P 13 56 50.1
baz=245
N18K Kilae Creek 87.12 28 P 13 56 51.2
baz=252,SNR=7.2
SVW2 Sparrevohn 87.39 28 P **P** **13 56 52.6 +1.1**
SVW2 IAmb IAmb 13 56 53.8
comp=Z,17nm,1.0s
OHAK Old Harbor 87.42 32 P **P** **13 56 52.5 +0.8**
OHAK Old Harbor 87.42 32 P 13 56 52.6
baz=255
TTA Tatalina 87.76 26 P **P** **13 56 54.4 +1.1**
TTA pmax pmax
comp=Z,20nm,0.8s
TTA Tatalina 87.76 26 P **P** **13 56 54.4 +1.1**
TTA IAmb IAmb 13 56 55.4
comp=Z,20nm,0.8s
TTA Tatalina 87.76 26 P 13 56 54.3
baz=252
N19K Bonanza Creek 87.82 28 P 13 56 54.5
baz=253,SNR=13
KDAK Kodiak Island 87.94 31 P 13 56 54.6
baz=255
RAYN Ar Rayn 88.44 294 P **P** **13 56 57.6 +0.2**
RAYN pmax pmax
comp=Z,45nm,1.0s
RAYN Ar Rayn 88.44 294 P **P** **13 56 57.6 +0.2**
AKT Akhty 89.12 312 *e*P **P** **13 57 01.4 +1.1**
AKT *e* 14 00 28.1
AKT pmax pmax
comp=Z,20nm,1.2s
CAPN Captain Cook N 89.39 29 P 13 57 01.4
baz=256
PPLA Purkeypile 89.43 26 P 13 57 01.2
baz=255
SKT Skwentna 89.50 27 P 13 57 01.2
baz=256
CHUM Lake Minchumin 89.63 25 P 13 57 02.5
baz=255
SUA Susitna One 89.74 28 P 13 57 02.8
baz=257
H21K Melozitna Rive 89.89 24 P 13 57 03.5
baz=255
O22K Cooper Landing 90.01 29 P 13 57 04.0
baz=258
I21K Tanana 90.09 24 P 13 57 04.4
baz=256
RC01 Rabbit Creek A 90.13 29 P 13 57 04.3
baz=258
A21K Barrow 90.20 18 P 13 57 04.5
baz=251
BPAW Bear Paw Mtn. 90.25 25 P 13 57 04.9
baz=256
TRF Thorofare Moun 90.40 26 P 13 57 05.6
baz=257
PMR Palmer 90.52 28 P 13 57 06.3
baz=258
MLY Manley 90.57 25 P 13 57 06.3
baz=257,SNR=8.1
KNK Knik Glacier 90.80 28 P 13 57 07.5
baz=259
BELG Belogornoye 90.89 322 P **P** **13 57 06.7 -1.3**
comp=Z,28nm,1.0s,baz=22,slow=0.6,SNR=5.4
KIRV Kirov 90.92 329 P **P** **13 57 07.0 -1.1**
comp=Z,17nm,0.7s,baz=55,slow=1.0,SNR=10
SML Sawmill 90.94 28 P 13 57 08.1
baz=259
MCK McKinley 91.05 26 P 13 57 08.1
baz=258
I23K Minto, Yukon-K 91.17 25 P **P** **13 57 08.7 -0.3**
I23K IAmb IAmb 13 57 10.3
comp=Z,15nm,0.8s
I23K Minto, Yukon-K 91.17 25 P 13 57 09.1
baz=258,SNR=18
NEA2 Nenana 91.17 25 P 13 57 08.9
baz=258
GNI Garni 91.18 310 *i* P **P** **13 57 08.1 -1.9**
GNI pmax pmax
comp=Z,15nm,1.5s
H23K Yukon River 91.23 24 P 13 57 09.4
baz=258,SNR=12
COLD Coldfoot 91.28 22 P **P** **13 57 09.6 0.0**
COLD Coldfoot 91.28 22 P 13 57 09.7
baz=257,SNR=11
GLI Glacier Island 91.35 29 P 13 57 10.1
baz=260
WRH Wood River Hil 91.56 25 P **P** **13 57 09.9 -1.1**
WRH IAmb IAmb 13 57 11.1
comp=Z,11nm,0.9s
TCOL CIGO, UAF Yank 91.73 25 P 13 57 11.4
baz=259
COLA College 91.74 25 *i* P **P** **13 57 11.8 +0.1**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 91.74 25 P 13 57 11.7
baz=259
TOLK Toolik Lake Re 91.82 21 P 13 57 12.3
baz=258,SNR=7.2
H24K Noodor Dome 91.91 24 P 13 57 12.7
baz=259,SNR=13
M24K Tolsona, Glenn 92.00 28 P 13 57 13.2
baz=261
KLU Klutina 92.02 28 P 13 57 13.6
baz=261
HDA Harding Lake 92.04 25 P **P** **13 57 12.0 -1.2**
HDA Harding Lake 92.04 25 P 13 57 13.0
baz=260
HDA P 13 57 13.0
baz=260
ZEI Tsey 92.12 313 *e*P **P** **13 57 14.3 0.0**
ZEI pmax pmax
comp=Z,24nm,1.5s
ILAR Eielson Array 92.13 25 P **P** **13 57 11.9 -1.7**
comp=Z,4.3nm,0.7s,baz=268,slow=4.3,SNR=51
ILAR LR LR 14 33 19.8
comp=Z,23nm,20.6s,baz=286,slow=32
ILAR Eielson Array 92.13 25 P **P** **13 57 11.8 -1.8**
ILAR Eielson Array 92.13 25 P **P** **13 57 11.8 -1.8**
PAX Paxson 92.45 27 P 13 57 15.0
baz=261
BMRM Bremner River 92.57 29 P 13 57 15.7
baz=262
N25K Chitina, Valde 92.66 28 P 13 57 16.0
baz=262
KBZ Khabaz 92.94 313⇑ *e*P **P** **13 57 17.4 -0.4**
KIV Kislovodsk 93.12 314 *e*P **P** **13 57 18.6 -0.2**
KIV pmax pmax
comp=Z,19nm,1.1s
DOT Dot Lake 93.18 26 P **P** **13 57 18.2 -0.3**
PRGR Permogore 93.25 332 *e*P **P** **13 57 14.9 -3.9**
PRGR pmax pmax
comp=Z,40nm,0.9s
SCRK Sand Creek 93.26 26 P 13 57 19.0
baz=263
CRQE Cirque 93.28 29 P 13 57 19.1
baz=263
BMAR Burnt Mountain 93.46 23 P **P** **13 57 20.5 +0.8**
KMBO Kilima Mbogo 93.73 268 P **P** **13 57 23.4 +0.9**
comp=Z,4.8nm,1.0s,baz=77,slow=6.6,SNR=5.6
KMBO LR LR 14 42 20.6
comp=Z,40nm,18.5s,baz=96,slow=37
K27K Chicken 94.10 26 P **P** **13 57 23.5 +0.8**
K27K IAmb IAmb 13 57 24.9
comp=Z,19nm,1.2s
L27K Beaver Creek, 94.11 27 P 13 57 23.2
baz=265
BCAR Beaver Creek A 94.14 27 P **P** **13 57 22.9 0.0**
VRH Novokhopyorsk 94.39 321 *e*P **P** **13 57 23.0 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.5s
EGAK Eagle 94.56 25 P **P** **13 57 25.0 +0.3**
EGAK Eagle 94.56 25 P 13 57 24.8
baz=265
SOC Sochi 95.23 313 *e*P P 13 57 21.6 -6.7
SOC *e* 14 01 19.1
SOC *e*S **SKSac** **14 07 49.9 -7.7**
SOC *e*SS **SS** **14 14 59.2 -6.8**
SOC *e*SSS SSS 14 18 46.3
SOC MLR MLR
comp=Z,43nm,17.0s
DAWY Dawson 95.28 26 P **P** **13 57 28.6 +0.4**
DAWY IAmb IAmb 13 57 29.6
comp=Z,12nm,1.1s
VSR Storozhevoye 96.00 321 *e*P **P** **13 57 29.6 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 96.14 331 *e*P **P** **13 57 27.8 -4.2**
KLMR *e**PP **pP** **13 57 53.6 +3.2**
KLMR pmax pmax
comp=Z,46nm,1.1s
KLMR Klimovskoe 96.14 331 *e*P **P** **13 57 27.8 -4.2**
KLMR AMP 13 57 31.3
comp=Z,46nm,1.1s
KLMR *e*pP **pP** **13 57 53.7 +3.3**
KLMR *e*PP PP 14 01 16.9 -8.8
LPSR Galich'ya Gora 96.20 322 *e*P **P** **13 57 30.6 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
EPYK Eagle Plains 96.48 24 P 13 57 33.4
baz=270
SNAA Sanae 96.72 193 P **P** **13 57 35.6 +0.9**
SNAA Sanae 96.72 193⇑ *e*P **P** **13 57 35.5 +0.9**
SNAA pmax pmax
comp=Z,8.0nm,1.1s
WHY Whitehorse 97.30 30 P 13 57 37.8
baz=270
OBN Obninsk 97.64 325 P **P** **13 57 37.5 -1.4**
comp=Z,6.5nm,0.3s,baz=191,slow=22,SNR=5.1
OBN Obninsk 97.64 325 *e*P **P** **13 57 37.9 -1.0**
OBN *e**SP **sP** **13 58 03.4 -1.3**
OBN *e* 14 01 38.3
OBN *e*PPP PPP 14 03 42.3
OBN pmax pmax
comp=Z,39nm,1.4s
INK Inuvik 97.68 22 P 13 57 38.1
baz=273
INK Inuvik 97.68 22 P **P** **13 57 37.9 -1.0**
comp=Z,7.3nm,1.1s,baz=270,slow=5.6,SNR=9.9
LVZ Lovozero 98.13 338*c i*P **P** **13 57 39.5 -1.4**
LVZ pmax pmax
comp=Z,15nm,0.8s
VNA2 Neumayer--Watz 98.28 193 Pdiff Pdif 13 57 42.5 +0.9
VNA3 Neumayer Olymp 98.52 192 Pdiff Pdif 13 57 44.0 +1.2
APA Apatity 98.62 337⇓ *i*P **P** **13 57 41.3 -1.8**
APA pmax pmax
comp=Z,6.0nm,0.9s
APA MLR MLR
comp=Z,200nm,20.0s
BRTR Keskin Array B 99.67 309 PP **PP** **14 01 53.0 -0.7**
comp=Z,1.6nm,0.9s,baz=104,slow=5.2,SNR=3.9
C36M Paulatuk 100.95 20 P 13 57 53.5
baz=282
ARCES ARCESS Array B 101.20 340 P **Pdif** **13 57 53.4 -1.2**
comp=Z,6.0nm,0.8s,baz=75,slow=2.7,SNR=9.1
AKASG Malin Array Be 102.29 320 P **Pdif** **13 57 58.3 -1.5**
comp=Z,0.7nm,0.6s,baz=74,slow=4.6,SNR=5.5
AKASG PP **PP** **14 02 16.0 +3.2**
comp=Z,0.8nm,0.4s,baz=77,slow=6.7,SNR=6.2
FINES FINESS Array B 102.58 332 P **Pdif** **13 57 59.2 -1.6**
comp=Z,5.3nm,0.9s,baz=53,slow=7.6,SNR=9.5
FINES PKiKP **PKiKP** **14 02 21.4 -0.2**
comp=Z,1.4nm,0.6s,baz=64,slow=4.4,SNR=4.3
MNK Minsk 102.69 324 *i* P **Pdif** **13 58 02.8 +1.3**
MNK *i* 14 02 17.6
MNK *i* PPP PPP 14 04 27.8
MNK *i* S **SKSac** **14 08 36.0 +1.7**
MNK *i* SS **SS** **14 16 53.6 +4.0**
MNK *i* SSS SSS 14 20 48.2
MNK pmax pmax
comp=N,11nm,0.6s
MNK pmax pmax
comp=Z,22nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=Z,173nm,23.0s
MNK MLR MLR
comp=N,684nm,32.0s
MNK MLR MLR
comp=E,15nm,26.0s
MNK Minsk 102.69 324 *i* P **Pdif** **13 58 02.9 +1.4**
comp=E,2.0nm,0.8s
MNK *i* P **Pdif** **13 58 02.9 +1.4**
comp=N,11nm,0.7s
MNK *i* P **Pdif** **13 58 02.9 +1.4**
comp=Z,22nm,0.8s,baz=264
MNK *i* pP **pPdif** **13 58 22.3 +2.3**
MNK *i* PP **PP** **14 02 17.6 +1.9**
MNK *i* PPP PPP 14 04 27.9
MNK *i* S **SKSac** **14 08 36.1 +1.8**
MNK *i* sS **SKKSac** **14 09 11.1 -3.1**
MNK *i* SS **SS** **14 16 53.6 +4.1**
MNK *i* SSS SSS 14 20 48.3
MNK *i* LQ LQ 14 31 53.0
MNK *i* LR LR 14 39 42.0

MNK				*i* LRM		MLR		14 44 27.1		
	comp=Z,173nm,23.1s									
MNK				*i* LRM		MLR		14 44 43.0		
	comp=N,684nm,31.9s									
MNK				*i* LRM		MLR		14 45 00.4		
	comp=E,15nm,26.1s									
NACGM	**Naroch**	**103.27**	**325**	*i* P		**Pdif**		**13 57 59.5**	**-4.6**	
L02E	**Cave Junction**	**105.43**	**48**	P				14 02 28.3		
	baz=276									
YKA	**Yellowknife Ar**	**106.52**	**26**	Pdiff		**Pdif**		**13 58 18.0**	**-0.4**	
	comp=E,0.4nm,0.8s,baz=288,slow=3.7,SNR=7.2									
YKA				PKiKP		**PKiKP**		**14 02 27.0**	**-1.8**	
	comp=E,2.3nm,0.7s,baz=295,slow=1.3,SNR=26									
YKA				PKKPbc		**PKKPbc**		**14 13 48.7**	**-2.6**	
	comp=E,0.5nm,0.7s,baz=107,slow=3.3,SNR=7.5									
J05D	**Fort Rock, OR**	**107.04**	**47**	P				14 02 31.5		
	baz=278									
CRVS	**Cervenica-Dubn**	**107.52**	**319**	*e*P		**Pdif**		**13 58 24.3**	**+1.1**	
CRVS	**Cervenica-Dubn**	**107.52**	**319**	*e*PDIFF		**Pdif**		**13 58 24.3**	**+1.1**	
NB2	**NORSAR Subarra**	**109.55**	**333**	P		**Pdif**		**13 58 30.9**	**-1.1**	
	baz=68,slow=4.4									
NOA	**NORSAR Array B**	**109.55**	**333**	Pdiff		**Pdif**		**13 58 31.1**	**-0.8**	
	comp=E,2.8nm,0.9s,baz=68,slow=4.6,SNR=6.3									
NVAR	**Mina Array Bea**	**109.91**	**51**	Pdiff		**Pdif**		**13 58 35.1**	**+0.8**	
	comp=E,0.5nm,0.9s,baz=185,slow=4.2,SNR=2.7									
NVAR				PKKPbc		**PKKPbc**		**14 13 41.1**	**+1.0**	
	comp=E,1.0nm,0.7s,baz=110,slow=5.3,SNR=8.1									
KRLC	**Kraliky**	**110.23**	**321**	*e*PKiKP		**PKiKP**		**14 02 36.6**	**+0.4**	
KRLC	**Kraliky**	**110.23**	**321**	*e*PKiP		**PKiKP**		**14 02 36.6**	**+0.4**	
CWC	**Cottonwood Cre**	**110.35**	**54**	P				14 02 37.5		
	baz=278									
DPC	**Dobruska-Polom**	**110.44**	**322**	*e*PKiKP		**PKiKP**		**14 02 37.9**	**+1.3**	
DPC	**Dobruska-Polom**	**110.44**	**322**	*e*PKP		**PKiKP**		**14 02 37.9**	**+1.3**	
MPMC	**Manual Prospec**	**110.88**	**54**	P				14 02 38.5		
	baz=278									
CONA	**Conrad Observa**	**111.38**	**319**	*e*P		**PKiKP**		**14 02 38.0**	**-0.4**	
	comp=E,4.6nm,0.8s									
GSC	**Goldstone, Bar**	**111.53**	**55**	P				14 02 40.0		
	baz=278									
PRU	**Pruhonice**	**111.64**	**322**	*e*PKiKP		**PKiKP**		**14 02 38.9**	**+0.1**	
PRU	**Pruhonice**	**111.64**	**322**	*e*PKP		**PKiKP**		**14 02 38.9**	**+0.1**	
BRG	**Berggiesshubel**	**111.75**	**323**	*e*(P)		**PKiKP**		**14 02 38.1**	**-0.9**	
BRG				Amp				14 02 41.8		
	comp=Z,4.0nm,1.0s									
ARSA	**Arzberg**	**111.78**	**319**	*e*P		**PKiKP**		**14 02 39.4**	**+0.2**	
	comp=Z,2.2nm,0.5s									
HLID	**Hailey**	**111.88**	**45**	P				14 02 40.4		
	baz=283									
HEC	**Hector,Ludlow**	**111.98**	**55**	P				14 02 40.7		
	baz=278									
R11A	**Troy Canyon, C**	**112.03**	**51**	P				14 02 41.2		
	baz=280									
TPFO	**Pinon Flats**	**112.04**	**56**	P				14 02 40.8		
	baz=278									
CKRC	**Cesky Krumlov**	**112.13**	**320**	*e*PKP		**PKiKP**		**14 02 40.0**	**+0.2**	
MONP2	**Monument Peak**	**112.16**	**57**	P				14 02 40.8		
	baz=277									
CLL	**Collm**	**112.17**	**323**	*i* PKiKP		**PKiKP**		**14 02 40.0**	**+0.2**	
	comp=Z,8.0nm,1.1s									
CLL	**Collm**	**112.17**	**323**	*e*PKiKP		**PKiKP**		**14 02 38.0**	**-1.8**	
SOKA	**Soboth**	**112.25**	**318**	*e*P		**PKiKP**		**14 02 40.2**	**+0.1**	
	comp=Z,8.0nm,1.1s									
BELC	**Belle Mtn. Jos**	**112.37**	**56**	P				14 02 41.6		
	baz=278									
BOJS	**Bojanci**	**112.41**	**317**	*e*PKiKP		**PKiKP**		**14 02 41.0**	**+0.6**	
MOA	**Molln**	**112.43**	**319**	*e*P		**PKiKP**		**14 02 40.2**	**-0.2**	
	comp=Z,2.8nm,0.6s									
KHC	**Kasperske Hory**	**112.50**	**321**	*e*PKiKP		**PKiKP**		**14 02 40.4**	**-0.1**	
KHC	**Kasperske Hory**	**112.50**	**321**	*e*PKP		**PKiKP**		**14 02 40.4**	**-0.1**	
GERES	**GERESS Array B**	**112.51**	**321**	PKiKP		**PKiKP**		**14 02 41.0**	**+0.4**	
	comp=Z,4.7nm,0.7s,baz=52,slow=2.2,SNR=30									
GERES	**GERESS Array B**	**112.51**	**321**	*i* PKiKP		**PKiKP**		**14 02 41.0**	**+0.4**	
GMRC	**Granite Mounta**	**112.53**	**55**	P				14 02 42.2		
	baz=278									
VISS	**Visnje**	**112.61**	**317**	*e*PKiKP		**PKiKP**		**14 02 41.1**	**+0.4**	
LJU	**Ljubljana**	**112.75**	**318**	*i* PKiKP		**PKiKP**		**14 02 41.7**	**+0.6**	
BC3	**Big Chuckawall**	**112.86**	**56**	P				14 02 43.2		
	baz=278									
IRM	**Iron Mountain**	**113.05**	**56**	P				14 02 43.7		
	baz=278									
KBA	**Koelnbreinsper**	**113.25**	**319**	*e*P		**PKiKP**		**14 02 41.6**	**-0.6**	
	comp=Z,3.0nm,0.5s									
BOZ	**Bozeman (W)**	**113.31**	**43**	P				14 02 43.5		
	baz=286									
DUG	**Dugway, Tooele**	**113.78**	**49**	P				14 02 44.6		
	baz=283									
EGMT	**Eagleton**	**113.83**	**40**	P				14 02 43.9		
	baz=288									
ABTA	**Abfaltersbach**	**113.89**	**319**	*e*P		**PKiKP**		**14 02 43.1**	**-0.3**	
	comp=Z,12nm,0.8s									
WTTA	**Wattenberg**	**114.31**	**319**	*e*P		**PKiKP**		**14 02 44.5**	**+0.3**	
	comp=Z,20nm,0.5s									
WATA	**Walderalm**	**114.32**	**320**	*e*P		PKPdf		14 02 44.1	-0.1	
	comp=Z,7.2nm,0.5s									
SQTA	**Sankt Quirin**	**114.60**	**319**	*e*P		**PKiKP**		**14 02 45.5**	**+0.8**	
	comp=Z,9.0nm,0.7s									
MOTA	**Moosalm**	**114.63**	**320**	*e*P		**PKiKP**		**14 02 44.7**	**-0.1**	
	comp=Z,9.5nm,0.6s									
RETA	**Reutte**	**114.80**	**320**	*e*P		**PKiKP**		**14 02 44.8**	**-0.2**	
	comp=Z,3.7nm,0.7s									
VAE	**Valguarnera**	**114.86**	**308**	PKP		PKPdf		14 02 47.1	+1.7	
	comp=Z,9.0nm,0.3s,baz=146,slow=6.3,SNR=3.7									
FETA	**Feichten**	**114.97**	**319**	*e*P		PKPdf		14 02 45.8	+0.3	
	comp=Z,8.4nm,0.8s									
RLMT	**Red Lodge**	**115.04**	**43**	P				14 02 46.4		
	baz=288									
DAVA	**Damuels**	**115.43**	**320**	*e*P		**PKPdf**		**14 02 46.6**	**+0.2**	
	comp=Z,22nm,1.1s									
BW06	**Boulder Array**	**115.52**	**45**	P				14 02 47.3		
	baz=286									
PDAR	**Pinedale Array**	**115.52**	**45**	PKP		**PKiKP**		**14 02 46.7**	**-0.1**	
	comp=Z,1.4nm,0.7s,baz=266,slow=0.5,SNR=15									
PDAR				PKKPbc		**PKKPbc**		**14 13 20.9**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=117,slow=6.2,SNR=10									
DAVOX	**Davos/Dischmat**	**115.60**	**319**	PKP		**PKPdf**		**14 02 47.0**	**+0.3**	
	comp=Z,12nm,0.7s,baz=192,slow=5.4,SNR=11									
WUAZ	**Wupatki**	**115.87**	**54**	P				14 02 48.3		
	baz=282									
TUE	**Stuetta**	**116.05**	**319**			**PKiKP**		**14 02 48.5**	**+0.9**	
BTNL	**Ternell**	**116.48**	**324**	*d*PKPdf		**PKiKP**		**14 02 48.5**	**+0.5**	
LAO	**LASA Array**	**116.53**	**40**	P				14 02 49.9		
	baz=291									
MEM	**Membach**	**116.54**	**324**	*d*PKPdf		**PKiKP**		**14 02 48.8**	**+0.6**	
TUC	**Tucson**	**116.95**	**57**	P				14 02 50.6		
	baz=280									
DGMT	**Dagmar**	**117.14**	**38**	P				14 02 50.9		
	baz=293									
BGES	**Gesves**	**117.17**	**324**	*d*PKPdf		**PKiKP**		**14 02 50.2**	**+0.8**	
O20A	**White River Ci**	**117.19**	**48**	P				14 02 51.3		
	baz=286									
W18A	**Petrified Fore**	**117.26**	**54**	P				14 02 51.2		
	baz=282									
BMRD	**Maredsous**	**117.39**	**324**	*d*PKPdf		**PKiKP**		**14 02 50.6**	**+0.8**	
K22A	**Casper**	**117.69**	**45**	P				14 02 51.1		
	baz=289									
MVCO	**Mesa Verde**	**117.75**	**51**	P				14 02 52.7		
	baz=284									
N23A	**Red Feather La**	**118.65**	**46**	P				14 02 53.9		
	baz=288									
RSSD	**Black Hills**	**118.89**	**42**	PKiKP		**PKPdf**		**14 02 53.2**	**0.0**	
RSSD	**Black Hills**	**118.89**	**42**	PKPdf		**PKPdf**		**14 02 53.2**	**0.0**	
RSSD	**Black Hills**	**118.89**	**42**	P				14 02 53.5		
	baz=291									
S22A	**4UR Ranch, Cre**	**118.90**	**50**	P				14 02 54.8		
	baz=286									
EKA	**Eskdalemuir Ar**	**118.97**	**332**	PKP		**PKPdf**		**14 02 52.5**	**-0.2**	
	comp=Z,3.5nm,0.5s,baz=28,slow=3.1,SNR=18									
ISCO	**Idaho Springs**	**119.22**	**48**	P				14 02 55.3		
	baz=288									
KEST	**Kesra**	**119.22**	**308**	PKP		**PKiKP**		**14 02 54.8**	**+0.8**	
	comp=Z,9.8nm,0.9s,baz=288,slow=5.1,SNR=8.9									
121A	**Cookes Peak, D**	**119.39**	**56**	P				14 02 55.7		
	baz=282									
Q24A	**Divide**	**119.82**	**48**	P				14 02 56.2		
	baz=288									
SDCO	**Great Sand Dun**	**119.91**	**50**	P				14 02 56.6		
	baz=287									
ANMO	**Albuquerque**	**119.92**	**53***c*	*i* PKiKP		**PKiKP**		**14 02 56.7**	**+1.2**	
ANMO				pmax		pmax				
	comp=Z,11nm,1.3s									
ANMO	**Albuquerque**	**119.92**	**53**	P				14 02 56.6		
	baz=285									
MDND	**Maddock**	**120.19**	**37**	P				14 02 56.5		
	baz=297									
T25A	**Trinidad**	**120.92**	**50**	P				14 02 58.7		
	baz=287									
ULM	**Lac du Bonnet**	**121.15**	**33**	PKP		**PKPdf**		**14 02 56.6**	**-0.4**	
	comp=Z,4.6nm,0.6s,baz=331,slow=3.5,SNR=7.0									
OGNE	**Ogallala**	**121.42**	**45**	P				14 02 59.4		
	baz=291									
MNTX	**Cornudas Mount**	**121.57**	**57**	P				14 02 59.7		
	baz=283,SNR=21									
MSTX	**Muleshoe**	**123.11**	**53**	P				14 03 02.0		
	baz=287,SNR=5.7									
TXAR	**Lajitas Array**	**123.54**	**59**	PKP		**PKiKP**		**14 03 03.0**	**+0.3**	
	comp=Z,3.6nm,0.9s,baz=279,slow=1.4,SNR=26									
TXAR				PKKPab		**PKKPbc**		**14 12 55.2**	**+3.8**	
	comp=Z,0.5nm,0.7s,baz=120,slow=7.4,SNR=5.4									
CBKS	**Cedar Bluff**	**123.84**	**47**	P				14 03 03.2		
	baz=292									
ECSD	**EROS Data Cent**	**123.94**	**40**	P				14 03 02.6		
	baz=298									
BGNE	**Belgrade**	**123.94**	**43**	P				14 03 02.8		
	baz=295									
EYMN	**Ely**	**124.82**	**34**	PKPdf		**PKiKP**		**14 03 04.8**	**+0.2**	
EYMN	**Ely**	**124.82**	**34**	P				14 03 04.7		
	baz=305									
SPMN	**Marine on St.**	**125.56**	**37**	P				14 03 06.3		
	baz=302									
WMOK	**Wichita Mounta**	**126.01**	**51**	P				14 03 07.2		
	baz=290,SNR=9.1									
ABTX	**Abilene, Hawle**	**126.01**	**54**	P				14 03 07.6		
	baz=288									
JCT	**Junction City**	**126.51**	**56**	P				14 03 08.7		
	baz=286									
833A	**Chaparral WMA,**	**127.42**	**59**	P				14 03 10.8		
	baz=285									
ESDC	**Sonseca Array**	**127.69**	**316**	PKP		**PKiKP**		**14 03 10.6**	**0.0**	
	comp=Z,4.4nm,1.1s,baz=26,slow=2.6,SNR=19									
ESDC				PP		**PP**		**14 05 12.0**	**+0.1**	
	comp=Z,5.2nm,0.9s,baz=60,slow=6.9,SNR=18									
TUL1	**Leonard**	**127.86**	**49**	P				14 03 10.8		
	baz=293									
PBRG	**Braganca**	**128.48**	**320**	*e*PKPdf		**PKiKP**		**14 03 12.7**	**+0.6**	
S39A	**Bolivar**	**128.91**	**46**	PKPdf		**PKiKP**		**14 03 12.9**	**-0.1**	
MVO	**Moncorvo**	**129.00**	**320**	*e*PKPdf		**PKiKP**		**14 03 14.3**	**+1.1**	
PLCA	**Paso Flores**	**129.25**	**159**	PKP		**PKiKP**		**14 03 14.5**	**+0.8**	
	comp=Z,3.7nm,0.9s,baz=218,slow=9.3,SNR=4.2									
PGAV	**Gavieira, Arco**	**129.36**	**321**	*e*PKPdf		**PKiKP**		**14 03 14.6**	**+0.7**	
SCHQ	**Schefferville**	**129.37**	**13**	PKP		**PKiKP**		**14 03 13.5**	**+0.1**	
	comp=Z,6.0nm,0.8s,baz=66,slow=1.4,SNR=5.6									
POLO	**Lamas de Olo**	**129.38**	**320**	*e*PKPdf		**PKiKP**		**14 03 14.9**	**+0.9**	
W39A	**Magazine**	**129.64**	**49**	P				14 03 14.3		
	baz=294									
MTE	**Manteigas**	**129.73**	**319**	*e*PKPdf		**PKiKP**		**14 03 15.7**	**+1.0**	
TOA0	**Torodi Ar. Sit**	**129.75**	**282**	PKPdf		**PKPdf**		**14 03 14.5**	**0.0**	
TORD	**Torodi Ar. Bea**	**129.75**	**282**	PKP		**PKPdf**		**14 03 14.8**	**+0.4**	
	comp=Z,15nm,0.7s,baz=63,slow=2.0,SNR=56									
TORD				SKPbc		SKPab		14 06 29.7	0.0	
	comp=Z,6.3nm,0.8s,baz=72,slow=3.8,SNR=10.0									
TORD	**Torodi Ar. Bea**	**129.75**	**282**	PKPdf		**PKPdf**		**14 03 14.5**	**0.0**	
PVIS	**Viseu**	**129.79**	**320**	*e*PKPdf		**PKiKP**		**14 03 15.8**	**+1.1**	
U40A	**Yellville**	**129.84**	**47**	P				14 03 14.4		
	baz=296									
PCBR	**Castelo Branco**	**129.98**	**318**	*e*PKPdf		**PKiKP**		**14 03 16.1**	**+1.0**	
MIAR	**Mount Ida**	**130.06**	**49**	P				14 03 15.2		
	baz=294,SNR=6.9									
PMRV	**Marv??o**	**130.13**	**318**	*e*PKPdf		**PKiKP**		**14 03 15.9**	**+0.5**	
MATQ	**Matagami**	**130.28**	**24**	P				14 03 15.1		
	baz=321									
PBAR	**Barrancos**	**130.52**	**316**	*e*PKPdf		**PKiKP**		**14 03 17.4**	**+1.2**	
W41B	**Gary Mavity, V**	**130.79**	**48**	P				14 03 16.5		
	baz=296									
PMTG	**Montargil**	**130.87**	**318**	*e*PKPdf		**PKiKP**		**14 03 17.6**	**+0.7**	
MDT	**Midelt**	**131.09**	**309**	PKP		**PKiKP**		**14 03 18.4**	**+0.7**	
	comp=Z,5.3nm,0.8s,baz=64,slow=2.5,SNR=12									
LSQQ	**Lebel-sur-Quev**	**131.10**	**24**	P				14 03 16.4		
	baz=322									
PVAQ	**Vaqueiros**	**131.36**	**316**	*e*PKPdf		**PKiKP**		**14 03 19.1**	**+1.2**	
CHGQ	**Chibougamau**	**131.43**	**22**	P				14 03 17.2		
	baz=325									
PCVE	**Castro Verde**	**131.47**	**316**	*e*PKPdf		**PKiKP**		**14 03 19.4**	**+1.3**	
PNCL	**Nicolau / Gran**	**131.56**	**317**	*e*PKPdf		**PKiKP**		**14 03 19.4**	**+1.1**	
SFIN	**Lafayette**	**131.73**	**39**	P				14 03 18.2		
	baz=305									
MORF	**Marmelete**	**132.06**	**316**	*e*PKPdf		**PKiKP**		**14 03 20.6**	**+1.2**	
PFVI	**Vila Bisbo**	**132.26**	**316**	*e*PKPdf		**PKiKP**		**14 03 21.1**	**+1.3**	
ALGO	**Algonquin Park**	**133.01**	**28**	P				14 03 20.6		
	baz=319									
D55A	**Sainte-Anne-du**	**133.33**	**25**	P				14 03 21.3		
	baz=322									
WCI	**Wyandotte Cave**	**133.45**	**41**	P				14 03 21.9		
	baz=304									
WVT	**Waverly**	**133.52**	**45**	P				14 03 21.6		
	baz=301									
E55A	**Montcerf-Lytto**	**133.53**	**26**	P				14 03 22.2		
	baz=321									
D56A	**ZEC Mazanza, M**	**133.60**	**24**	P				14 03 21.8		
	baz=323									
P49A	**Miami Univ. Ec**	**133.71**	**39**	P				14 03 22.2		
	baz=306									
E56A	**St. Veronique**	**133.89**	**25**	P				14 03 22.2		
	baz=323									
ERPA	**Erie**	**134.81**	**33**	P				14 03 23.9		
	baz=314									
M53A	**Wi Miller and**	**134.89**	**34**	P				14 03 24.1		
	baz=312									
G57A	**Newington**	**135.05**	**26**	P				14 03 24.5		
	baz=322									
KOWA	**Kowa**	**135.18**	**284**	PKP		**PKPdf**		**14 03 25.0**	**+0.3**	
	comp=Z,13nm,0.7s,baz=288,slow=2.2,SNR=5.8									
D60A	**Saint Jean D'O**	**135.20**	**21**	P				14 03 24.6		
	baz=328									
P52A	**Corning**	**135.23**	**37**	P				14 03 24.9		
	baz=309									
H57A	**Richville**	**135.37**	**27**	P				14 03 25.2		
	baz=321									
F59A	**Saint Guilaume**	**135.37**	**24**	P				14 03 24.9		
	baz=325									
O53A	**New Philadelph**	**135.37**	**36**	P				14 03 25.1		
	baz=311									
M54A	**Oil Creek Stat**	**135.40**	**33**	P				14 03 24.5		
	baz=314,SNR=7.7									
E60A	**Ste Agathe de**	**135.46**	**22**	P				14 03 25.2		
	baz=327									
N54A	**Moraine State**	**135.59**	**34**	P				14 03 25.8		
	baz=313									
F60A	**Warwick**	**135.60**	**23**	P				14 03 25.9		
	baz=326									
LONY	**Lake Ozonia**	**135.61**	**26**	P				14 03 25.7		
	baz=322									
LRAL	**Lakeview Retre**	**135.64**	**48**	P				14 03 25.7		
	baz=299									
I57A	**Carthage**	**135.65**	**28**	P				14 03 25.8		
	baz=320									
D62A	**Allapoint, All**	**135.71**	**20**	P				14 03 25.8		
	baz=331									
E61A	**Lac Etchemin**	**135.77**	**21**	P				14 03 26.2		
	baz=328									
K56A	**Middlesex**	**135.78**	**30**	P				14 03 26.3		
	baz=317									
H58A	**Gabriels**	**135.94**	**26**	P				14 03 26.1		
	baz=322,SNR=6.7									
E62A	**Clayton Lake**	**135.95**	**20**	P				14 03 26.3		
	baz=330									
F61A	**St Evariste**	**135.97**	**22**	P				14 03 26.7		
	baz=328									
H59A	**Cadyville**	**135.97**	**26**	P				14 03 26.4		
	baz=323									
D63A	**Stockholm**	**136.06**	**19**	P				14 03 26.7		
	baz=332									
KIC	**Kosan Boka**	**136.14**	**273**	*e*PKIKP		**PKiKP**		**14 03 28.5**	**+0.2**	
	comp=Z,23nm,0.7s									
I58A	**Old Forge**	**136.16**	**27**	P				14 03 26.8		
	baz=321									
TZTN	**Tazewell**	**136.20**	**41**	P				14 03 26.9		
	baz=305									
J58A	**Remsen**	**136.27**	**28**	P				14 03 26.2		
	baz=320,SNR=5.5									
DBIC	**Dimbokro**	**136.27**	**273**	PKP		**PKPdf**		**14 03 26.6**	**-0.2**	
	comp=Z,14nm,0.8s,baz=95,slow=3.4,SNR=10.0									
G61A	**St-Isidore-de-**	**136.34**	**23**	P				14 03 27.0		
	baz=326									
F62A	**Pittston Farm,**	**136.41**	**21**	P				14 03 27.4		
	baz=329									
LIC	**Lamto**	**136.42**	**273**	*e*PKIKP		**PKiKP**		**14 03 29.0**	**+0.2**	
	comp=Z,49nm,0.8s									
TIC	**Toumodi**	**136.43**	**273**	*e*PKIKP		**PKiKP**		**14 03 29.0**	**+0.1**	
E63A	**Oxbow**	**136.50**	**20**	P				14 03 27.6		
	baz=331									
I59A	**Olmsteadville**	**136.57**	**26**	P				14 03 27.6		
	baz=322									
E64A	**Bridgewater**	**136.69**	**19**	P				14 03 27.6		
	baz=332									
G62A	**West of Eustis**	**136.78**	**22**	P				14 03 28.0		
	baz=328									
I60A	**Shoreham**	**136.79**	**26**	P				14 03 27.7		
	baz=323,SNR=6.9									
H61A	**Lyndonville**	**136.80**	**24**	P				14 03 27.9		
	baz=325									
BINY	**Binghamton**	**136.81**	**30**	P				14 03 28.0		
	baz=319									
O56A	**Blue Knob Stat**	**136.86**	**34**	P				14 03 28.3		
	baz=314									
F63A	**Nahmakanta, Br**	**136.89**	**21**	P				14 03 28.4		
	baz=330									
SSPA	**Standing Stone**	**136.97**	**33**	P				14 03 28.6		
	baz=315									
L58A	**Harry Jones Me**	**137.00**	**30**	P				14 03 28.5		
	baz=319									
F64A	**Sherman**	**137.01**	**20**	P				14 03 28.9		
	baz=331									
LBNH	**Lisbon**	**137.04**	**24**	P				14 03 29.2		
	baz=325									
H62A	**Milan**	**137.08**	**23**	P				14 03 29.2		
	baz=326									
I61A	**Oroboro, Fairl**	**137.18**	**25**	P				14 03 29.3		
	baz=325									
PKME	**Peaks-Kenny Pk**	**137.20**	**21**	P				14 03 28.7		
	baz=329									
G63A	**Kingsbury**	**137.21**	**22**	P				14 03 29.2		
	baz=329									
J60A	**Lant Hill Farm**	**137.21**	**27**	P				14 03 29.0		
	baz=323									
G64A	**Maxfield**	**137.40**	**21**	P				14 03 29.5		
	baz=330									
H63A	**New Sharon**	**137.44**	**22**	P				14 03 29.6		
	baz=328									
J61A	**Chester**	**137.51**	**26**	P				14 03 29.7		
	baz=324									
I62A	**Tamworth**	**137.59**	**24**	P				14 03 29.6		
	baz=326									
K61A	**Williamstown**	**137.73**	**27**	P				14 03 29.4		
	baz=322									
I63A	**Otisfield**	**137.74**	**23**	P				14 03 29.3		
	baz=327									
H64A	**Troy**	**137.76**	**22**	P				14 03 29.4		
	baz=329									
BLA	**Blacksburg**	**137.80**	**38**	P				14 03 29.5		
	baz=309									
G65A	**Princeton**	**137.86**	**20**	P				14 03 29.6		
	baz=332									
N59A	**State Game Lan**	**137.88**	**31**	P				14 03 29.8		
	baz=318									
J62A	**Henniker**	**137.92**	**25**	P				14 03 30.0		
	baz=325									
GOGA	**Godfrey**	**138.00**	**45**	P				14 03 29.8		
	baz=303									
H65A	**Eastbrook**	**138.06**	**21**	P				14 03 30.0		
	baz=330									
L61B	**Northampton**	**138.17**	**27**	P				14 03 29.8		
	baz=323									
J63A	**Strafford**	**138.18**	**24**	P				14 03 30.2		
	baz=326									
K62A	**Royalston**	**138.19**	**26**	P				14 03 30.1		
	baz=324									
I64A	**Boothbay**	**138.22**	**23**	P				14 03 30.1		
	baz=328									
H66A	**Whiting**	**138.31**	**20**	P				14 03 30.1		
	baz=332									
K63A	**Dunstable**	**138.48**	**25**	P				14 03 30.3		
	baz=325									
KMSC	**Kings Mountain**	**138.48**	**42**	P				14 03 30.7		
	baz=307									
HRV	**Adam Dziewonsk**	**138.61**	**26**	P				14 03 31.1		
	baz=325									
PAL	**Palisades**	**138.73**	**29**	P				14 03 31.3		
	baz=320									
P60A	**Greenville**	**138.76**	**32**	P				14 03 31.8		
	baz=317									
L63A	**North Scituate**	**139.11**	**26**	P				14 03 32.1		
	baz=324									
M64A	**Tiverton**	**139.54**	**26**	P				14 03 33.6		
	baz=324									
JTS	**Las Juntas de**	**144.07**	**81**	PKiKP		**PKPdf**		**14 03 40.7**	**-0.2**	
JTS	**Las Juntas de**	**144.07**	**81**	PKPdf		**PKPdf**		**14 03 40.7**	**-0.2**	
JTS	**Las Juntas de**	**144.07**	**81**	*e*P		PKPbc		14 03 39.0	-0.1	
PB04	**IPOC Station P**	**144.83**	**144**			**PKPdf**		**14 03 43.4**	**+1.1**	
PB06	**IPOC Station P**	**144.87**	**145**			**PKPdf**		**14 03 43.6**	**+1.2**	
RIMA	**Rio Macho**	**145.17**	**82**			**PKiKP**		**14 03 45.5**	**-1.4**	
LVC	**Limon Verde**	**145.31**	**146**	*e*P		**PKPab**	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.57**	**32**	*eP*	Pg	14 16 32.2	-1.2
CAIG				*eS*	Sg	14 16 40.0	-0.9
DAIG	**Los Arroyos**	**1.00**	**63**	*eP*	Pg	14 16 38.7	-2.9
DAIG				*i S*	Sg	14 16 51.6	-3.1
ZIIG	**Zihuatanejo**	**1.33**	**321**	*eP*	Pn	14 16 44.6	-2.4
ZIIG				*eS*	Sb	14 16 59.3	-5.3
CRIG	**Cruz Grande**	**1.41**	**83**	*eP*	Pn	14 16 43.5	-4.5
CRIG				*eS*	Sn	14 16 59.8	-6.8
ARIG	**Puente Sto Nin**	**1.72**	**8**	*eP*	Pn	14 16 49.2	-3.1
ARIG				*eS*	Sn	14 17 11.1	-3.4
PLIG	**Platanillo**	**2.09**	**29**	*eP*	Pn	14 16 53.8	-3.7
PLIG				*eS*	Sn	14 17 19.7	-4.0
TLIG	**Tlapa**	**2.17**	**63**	*eP*	Pn	14 16 55.0	-3.6
TLIG				*eS*	Sn	14 17 21.1	-4.6
FTIG	**Fresnillo de T**	**2.70**	**60**	*eP*	Pb	14 17 10.9	+0.1
FTIG				*eS*	Sn	14 17 38.5	-0.2
HLIG	**Huajuapan de L**	**2.94**	**64**	*eP*	Pn	14 17 11.3	+2.0
HLIG				*eS*	Sb	14 17 50.1	-1.1

IDC 25 14:36:14.8±1.9,3°.90N×125°.36E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/47, mbtmp3.7/4, Error ellipse: s-maj=130.9km s-min=24.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.86**	**179**	P	P	14 41 10.0	+0.7
	0.6nm,0.3s,baz=7.9,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**25.29**	**160**	P	P	14 41 43.5	+0.3
	1.9nm,0.3s,baz=338,slow=9.9,SNR=81						
ASAR	**Alice Springs**	**28.64**	**163**	P	P	14 42 12.5	-0.8
	0.2nm,0.5s,baz=340,slow=7.2,SNR=9.2						
MKAR	**Makanchi Array**	**56.64**	**326**	P	P	14 45 59.8	0.0
	0.3nm,0.5s,baz=123,slow=8.6,SNR=6.3						

*NIC **25** 14:37:23.1±0.0,36°.20N×29°.54E, h7km, Ml3.0/2*
*ISK **25** 14:37:23.2,36°.16N×29°.66E, h5km, ML3.2/11*
*IDC **25** 14:37:23.0±1.5,35°.95N×29°.76E, h0km, mb3.2/2, mb1 3.4/5, mb1mx3.2/45, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=31.8km s-min=20.1km az=151.0*
*DDA **25** 14:37:23.0,35°.92N×29°.70E, h6km±3km, ML3.0*
*NEIC **25** 14:37:25.1±3.9, 36°.2N±0°.1×29°.7E±0°.1, h1km±7km, Error ellipse: s-maj=21.7km s-min=6.2km az=129.0*
ISC 25 14:37:23.0±1.3, 36°.10N±0°.03×29°.68E±0°.02, h1km±10km, n43, σ1§44/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.09**	**303**	P	**Pg**	**14 37 25.0**	**+0.2**
KSL				S	**Sg**	**14 37 26.4**	**+0.4**
AKAS	**Kas**	**0.14**	**337**	PG	**Pg**	**14 37 25.1**	**-0.7**
AKAS				SG	**Sg**	**14 37 26.9**	**-0.8**
DEMR	**Demre-Antalya**	**0.23**	**54**	PG	**Pg**	**14 37 28.2**	**+0.7**
DEMR				SG	**Sg**	**14 37 32.3**	**+1.8**
AKUM	**Antalya-Kumluc**	**0.58**	**68**	*i* P	**Pg**	**14 37 35.0**	**+0.8**
ELL	**Elmali**	**0.67**	**16**	PG	**Pg**	**14 37 35.3**	**-0.7**
ELL				SG	**Sb**	**14 37 46.1**	**-1.5**
ELL	**Elmali**	**0.67**	**16**		**Pg**	**14 37 35.5**	**-0.4**
ELL	**Elmali**	**0.67**	**16**	P	**Pg**	**14 37 35.5**	**-0.4**
ELL				S	**Sb**	**14 37 45.3**	**-2.3**
FETY	**Fethiye**	**0.72**	**318**	PG	**Pg**	**14 37 36.6**	**-0.2**
FETY				SG	**Sb**	**14 37 47.7**	**-1.0**
KORT	**Korkueli**	**1.05**	**31**	*i* P	**Pn**	**14 37 43.9**	**-1.1**
KORT				*i* S	**Sn**	**14 38 03.4**	**+3.0**
KORT				IAML		14 38 08.0	
	comp=N,371nm,0.5s						
KORT				IAML		14 38 16.0	
	comp=E,455nm,0.6s						
KORT	**Korkueli**	**1.05**	**31**	PG	**Pn**	**14 37 44.0**	**-1.1**
DALY	**Dalyan (Mula)**	**1.09**	**311**	*i* P	**Pn**	**14 37 44.4**	**-1.0**
DALY				*i* S	**Sn**	**14 38 02.0**	**+0.9**
DALY				IAML		14 38 05.0	
	comp=E,347nm,0.5s						
DALY				IAML		14 38 11.0	
	comp=N,280nm,0.6s						
DALY	**Dalyan (Mula)**	**1.09**	**311**	PG	**Pn**	**14 37 44.7**	**-0.8**
ANTB	**Antalya**	**1.12**	**44**	PN	**Pn**	**14 37 45.5**	**-0.4**
ARG	**Arkhangelos**	**1.26**	**276**	PN	**Pg**	**14 37 47.9**	**+0.7**
TURN	**Turunc**	**1.34**	**301**	PN	**Pg**	**14 37 49.1**	**+0.5**
BUCA	**Burdur, Bucak-**	**1.42**	**30**	*i* P	**Pg**	**14 37 51.0**	**+0.9**
BUCA				IAML		14 38 24.0	
	comp=N,106nm,0.7s						
TAVA	**DENIZLI_Tavas**	**1.49**	**336**	*i* P	**Pg**	**14 37 51.5**	**-0.2**
TAVA				*i* S	**Sg**	**14 38 13.7**	**+2.6**
TAVA				IAML		14 38 21.0	
	comp=N,207nm,0.5s						
TAVA				IAML		14 38 25.0	
	comp=E,173nm,1.1s						
YER	**Yerkesik**	**1.52**	**313**	PN	**Pg**	**14 37 52.3**	**+0.1**
BCK	**Bucak**	**1.54**	**28**	PN	**Pg**	**14 37 52.5**	**-0.1**
MULA	**Mugla, Merkez-**	**1.59**	**317**	*i* P	**Pg**	**14 37 54.0**	**+0.5**
MULA				*i* S	**Sg**	**14 38 16.0**	**+2.0**
MULA				IAML		14 38 18.0	
	comp=N,305nm,0.8s						
MULA				IAML		14 38 19.0	
	comp=E,620nm,0.8s						
BRDR	**BURDUR-Merkez**	**1.62**	**11**	*i* P	**Pg**	**14 37 54.6**	**+0.4**
BRDR				*i* S	**Sg**	**14 38 17.5**	**+2.3**
BRDR				IAML		14 38 21.0	
	comp=E,204nm,0.7s						
BRDR				IAML		14 38 22.0	
	comp=N,101nm,1.0s						
DAT	**Datca**	**1.80**	**291**	PN	**Pb**	**14 37 56.6**	**-0.4**
BASM	**Basmaki-Afyon**	**1.84**	**9**	PN	**Pb**	**14 37 56.5**	**-1.0**
ISP	**Isparta**	**1.85**	**21**	PN	**Pb**	**14 37 56.9**	**-0.8**
ISP	**Isparta**	**1.85**	**21**		**Pg**	**14 37 57.9**	**-0.6**
SEDI	**Konya, Seydise**	**2.15**	**50**	*i* P	**Pg**	**14 38 03.0**	**-1.2**
SEDI				IAML		14 38 37.0	
	comp=E,128nm,0.5s						
SEDI				IAML		14 38 39.0	
	comp=N,105nm,0.6s						
KZIL	**AFYON_Kizioren**	**2.19**	**10**	*i* P	**Pb**	**14 38 02.2**	**-1.3**
AKMS	**Akamas**	**2.42**	**116**	P	**Pb**	**14 38 05.9**	**-1.6**
AKMS				AML	AML	14 38 36.9	
	comp=N,0.3nm,0.7s						
AKMS				AML	AML	14 38 37.6	
	comp=N,0.2nm,0.5s						
DOGA	**KONYA_Doganhis**	**2.56**	**38**	*i* P	**Pb**	**14 38 09.2**	**-0.7**
DOGA				*i* S	**Sg**	**14 38 42.8**	**-2.5**
DOGA				IAML		14 38 48.0	
	comp=E,70nm,0.7s						
DOGA				IAML		14 38 53.0	
	comp=N,96nm,0.8s						
ALFC	**Alefka**	**2.56**	**111**	P	**Pn**	**14 38 06.3**	**+0.5**
ALFC				AML	AML	14 38 38.4	
	comp=N,0.2nm,0.3s						
NATA	**Nata**	**2.71**	**118**	P	**Pn**	**14 38 09.0**	**+1.3**
SZAC	**Souni**	**2.94**	**116**	P	**Pn**	**14 38 12.2**	**+1.2**
ASGA	**Asgata**	**3.20**	**113**	P	**Pn**	**14 38 16.2**	**+1.7**
SANT	**Santorini**	**3.42**	**276**	Pn	**Pn**	**14 38 17.7**	**+0.2**
IDI	**Anoyia**	**3.98**	**260**	Pn	**Pn**	**14 38 25.6**	**+0.4**
	comp=N,3.3nm,0.3s,baz=76,slow=13,SNR=16						
IDI				Sn	**Sn**	**14 39 11.2**	**-1.3**
	comp=N,2.1nm,0.3s,baz=324,slow=18,SNR=1.9						
IDI	**Anoyia**	**3.98**	**260**	Pn	**Pn**	**14 38 25.4**	**+0.1**
BR131	**Keskin Array S**	**4.79**	**40**	Pn	**Pn**	**14 38 37.1**	**+0.7**
BRTR	**Keskin Array B**	**4.79**	**40**	Pn	**Pn**	**14 38 39.4**	**+2.9**
	comp=N,0.7nm,0.3s,baz=215,slow=15,SNR=12						
BRTR				Sn	**Sn**	**14 39 36.9**	**+4.3**
	comp=N,0.6nm,0.3s,baz=218,slow=29,SNR=10						
BRTR	**Keskin Array B**	**4.79**	**40**	Pn	**Pn**	**14 38 36.7**	**+0.2**
MMAI	**Mount Meron Ar**	**5.64**	**121**	Pn	**Pn**	**14 38 46.7**	**-1.4**
	comp=N,2.8nm,0.3s,baz=296,slow=12,SNR=7.9						
MMAI				Sn	**Sn**	**14 39 52.3**	**-1.3**
	comp=N,2.7nm,0.3s,baz=311,slow=23,SNR=1.9						
ITM	**Ithomi**	**6.32**	**282**	Pn	**Pn**	**14 39 00.7**	**+3.3**
TORD	**Torodi Ar. Bea**	**33.98**	**235**	P	**P**	**14 44 08.2**	**-0.1**
	comp=N,0.4nm,0.7s,baz=32,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**40.17**	**58**	P	**P**	**14 45 00.8**	**0.0**
	comp=N,0.1nm,0.5s,baz=268,slow=6.8,SNR=1.9						

*IDC **25** 14:54:58.0±0.9,28°.23N×140°.02E, h378km±13km, mb2.7/4, mb1 3.0/7, mb1mx2.8/41, mbtmp3.6/7, Error ellipse: s-maj=38.5km s-min=12.1km az=74.0*
*JMA **25** 14:54:59.0±0.2,28°.49N×140°.65E, h397km±4km, M3.3*
ISC 25 14:54:57.9±0.8, 28°.45N±0°.08×140°.6E±0°.2, h400km, n19, σ1§54/24, mb2.9/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.92**	**134**	P	**Pn**	**14 55 54.5**	**+1.0**
CBIJ				S	**S**	**14 56 38.1**	**-0.2**
JCJ	**Chichijima**	**1.92**	**134**	P	**Pn**	**14 55 54.6**	**+1.2**
	24nm,0.3s,baz=252,slow=20,SNR=9.6						
JCJ				S	**S**	**14 56 38.3**	**+0.1**
	26nm,0.3s,baz=118,slow=23,SNR=15						
JHH2	**Haha-jima-NKT2**	**2.27**	**143**	S	**S**	**14 56 42.8**	**+0.5**
JHJ2	**Mitsune**	**4.70**	**352**	P	**Pn**	**14 56 18.1**	**+1.4**
JHJ	**Hachijo jima 2**	**4.71**	**351**	P	**Pn**	**14 56 18.1**	**+1.3**
	9.8nm,0.3s,baz=252,slow=20,SNR=10						
JHJ				S	**S**	**14 57 21.6**	**+0.6**
	7.4nm,0.3s,baz=53,slow=20,SNR=2.1						
BSO3	**Boso 3**	**6.33**	**359**	*eS*	**S**	**14 57 52.0**	**0.0**
JIE	**Ise**	**6.81**	**331**	P	**P**	**14 56 41.0**	**+1.1**
JKN2	**Miekihoku**	**6.87**	**328**	P	**P**	**14 56 41.5**	**+0.9**
JNY	**Yasuok**	**7.28**	**342**	P	**P**	**14 56 46.6**	**+1.4**
JHU	**Hanno**	**7.46**	**351**	P	**P**	**14 56 47.5**	**+0.3**
JHU				S	**S**	**14 58 11.1**	**-4.6**
JRY	**Ryogami san**	**7.68**	**349**	P	**P**	**14 56 50.5**	**+0.8**
JYT	**Yasato**	**7.76**	**357**	P	**P**	**14 56 51.5**	**+1.1**
JAG	**Ashikaga**	**8.01**	**353**	P	**Pn**	**14 56 53.3**	**+0.4**
JAG				*eS*	**S**	**14 58 23.7**	**-3.4**
JHO	**Hitachi**	**8.13**	**360**	P	**P**	**14 56 56.4**	**+1.8**
JHO				S	**S**	**14 58 29.1**	**-0.6**
MJAR	**Matsushiro Arr**	**8.32**	**346**	P	**P**	**14 56 57.5**	**+0.8**
	0.1nm,0.3s,baz=169,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**48.50**	**188**	P	**P**	**15 03 02.0**	**-0.4**
	0.4nm,0.4s,baz=6.1,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**48.56**	**309**	P	**P**	**15 03 02.4**	**-0.3**
	0.2nm,0.6s,baz=78,slow=8.1,SNR=2.6						
ASAR	**Alice Springs**	**52.22**	**188**	P	**P**	**15 03 29.6**	**-0.4**
	0.3nm,0.6s,baz=2.4,slow=5.9,SNR=17						
NVAR	**Mina Array Bea**	**80.75**	**51**	P	P	15 06 33.7	+5.3
	0.3nm,0.6s,baz=309,slow=5.7,SNR=2.4						

*MOS **25** 15:01:03.4±0.9,4°.88S×133°.94E, h15km, mb5.3/63, MS4.4/7, Error ellipse: s-maj=8.7km s-min=4.6km az=112.7*
*BJI **25** 15:01:03.0±0.0,5°.18S×134°.34E, h31km, mB5.2/55, mb5.1/65, Ms4.8/62, Ms7 4.5/59*
*IDC **25** 15:01:03.5±0.5,4°.82S×133°.97E, h0km, mb4.8/22, mb1 4.8/28, mb1mx4.8/39, mbtmp4.8/28, ML4.4/4, MS4.6/24, Ms1 4.6/24, ms1mx4.4/37, Error ellipse: s-maj=16.4km s-min=11.3km az=75.0*
*DJA **25** 15:01:04.8±0.2,5°.2S×13°.4E±°, h10km, M5.1/24, mb5.3/24, mB5.5/19, MLv5.3/12, Mw(mB)5.0/19, MwMwp5.1/6, Mwp5.3/6*
*NEIC **25** 15:01:05.3±1.9,4°.81S±0°.06×133°.98E±0°.06, h10km±1km, mb5.1/110, Error ellipse: s-maj=10.2km s-min=9.3km az=255.0*
*GCMT **25** 15:01:07.3±0.1,4°.73S±0°.01×133°.98E±0°.01, h12km, MW5.2/140, Moment Tensor Solution. s101,c155; s140,c253; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr=0.76±.01; Mθθ=0.02±.01; Mφφ=0.74±.01; Mrθ=0.17±.03; Mrφ=0.18±.01; Mθφ=0.16±.03; Best double couple: M=0.81000×10^17 NP1:ϕ=4.00000°, δ=39.00000°, λ=-104.00000°. NP2:ϕ=202.00000°, δ=53.00000°, λ=-79.00000°. Principal axes: T 0.8120, Plg7.0000°, Azm284.0000°; N -0.0040, Plg9.0000°, Azm15.0000°; P -0.8080, Plg79.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 15:01:07.0±0.2, 5°.00S±0°.03×133°.92E±0°.04, h28km, h25km:pP-P, n458, σ1§95/485, mb5.1/130, MS4.5/47, 48C-58D, Fault plane solution: NP1:ϕ=2.73476°, δ=44.51650°, λ=-86.98415°. **NP2:**ϕ=178.50902°, δ=45.56147°, λ=-92.96137°. **Principal axes:** T Plg0.5228°, Azm270.6026°; N Plg2.1140°, Azm180.5833°; P Plg87.8223°, Azm14.4879°; **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.34**	**351**	P	**Pn**	**15 01 26.8**	**-3.1**
FAKI	**Fak Fak**	**2.66**	**321**		**Pn**	**15 01 45.2**	**-2.7**
FAKI	**Fak Fak**	**2.66**	**321**	P	**Pn**	**15 01 46.3**	**-1.6**
SRPI	**Serui, Papua**	**3.87**	**37**	P	**Pb**	**15 02 13.6**	**-1.0**
SAUI	**Saumlaki**	**3.95**	**221**		**Pn**	**15 02 07.6**	**+1.8**
SAUI	**Saumlaki**	**3.95**	**221**	P	**Pn**	**15 02 06.9**	**+1.1**
BNDI	**Bandanaira**	**4.03**	**277**	P	**Pn**	**15 02 08.7**	**+1.8**
MWPI	**Manokwari, Pap**	**4.04**	**2**	P	**Pn**	**15 02 05.7**	**-1.3**
BAKI	**Biak**	**4.36**	**30**	P	**Pn**	**15 02 09.8**	**-1.6**
SIJI	**Sorong**	**4.88**	**327**	Pn	**Pn**	**15 02 16.9**	**-1.7**
	11nm,0.3s,baz=128,slow=21,SNR=37						
SIJI				Sn	**Sn**	**15 03 08.8**	**-5.5**
	46nm,0.3s,baz=13,slow=23,SNR=9.5						
SIJI				LR	LR	15 04 50.0	
	comp=Z,8μm,18.9s,baz=140,slow=48						
SIJI	**Sorong**	**4.88**	**327**	P	**Pn**	**15 02 16.7**	**-1.9**
SWI	**Sorong**	**4.89**	**327**	P	**Pn**	**15 02 18.7**	**0.0**
MSAI	**Masohi**	**5.25**	**288**	P	**Pn**	**15 02 25.3**	**+1.7**
	0.8nm1μm93nm,0.5s						
KRAI	**Karang Ratu**	**5.76**	**287**	P	**Pn**	**15 02 33.5**	**+2.8**
	1.6nm5μm242nm,0.9s						
GENI	**Genyem**	**6.67**	**69**	P	**Pn**	**15 02 44.1**	**+0.9**
NLAI	**Namlea**	**7.03**	**284**	P	**Pn**	**15 02 49.9**	**+1.8**
	1.2nm5μm260nm,0.8s						
MMPI	**Merauke**	**7.28**	**119**	P	**Pn**	**15 02 51.6**	**0.0**
	12nm17μm501nm,0.5s						
KDU	**Kakadu**	**7.78**	**191**	P	**Pn**	**15 03 00.1**	**+1.7**
	baz=7.9,SNR=201						
KDU				S	**Sn**	**15 04 27.8**	**+2.3**
	baz=7.9						
MTN	**Manton Dam**	**8.27**	**199**	P	**Pn**	**15 03 07.2**	**+2.1**
	baz=8.4,SNR=49						
MTN	**Manton Dam**	**8.27**	**199**	Pn	**Pn**	**15 03 07.0**	**+1.9**
SANI	**Sanana**	**8.44**	**290**	P	**Pn**	**15 03 06.6**	**-0.9**
	6μm3μm215nm,0.9s						
TNTI	**Ternate**	**8.70**	**311**	Pn	**Pn**	**15 03 09.1**	**-2.0**
TNTI	**Ternate**	**8.70**	**311**	P	Pn	15 03 18.4	+7.3
SOEI	**Soe**	**10.68**	**243**	Pn	**Pn**	**15 03 38.9**	**+0.7**
SOEI	**Soe**	**10.68**	**243**	P	**Pn**	**15 03 39.0**	**+0.7**
	7μm3μm396nm,1.1s						
BATI	**Baumata**	**11.41**	**242**	Pn	**Pn**	**15 03 48.8**	**+0.6**
	18nm,0.3s,baz=113,slow=3.1,SNR=19						
BATI				Sn	**Sn**	**15 05 53.5**	**-1.4**
	9.3nm,0.3s,baz=77,slow=18,SNR=4.3						
BATI	**Baumata**	**11.41**	**242**	P	**Pn**	**15 03 49.8**	**+1.6**
	1μm101nm,0.7s						
KNRA	**Kununurra**	**11.76**	**205**	P	**Pn**	**15 03 53.0**	**0.0**
	baz=12,SNR=196						
KNRA				S	**Sn**	**15 05 58.8**	**-4.7**
	baz=12						
KNRA	**Kununurra**	**11.76**	**205**	Pn	**Pn**	**15 03 53.0**	**0.0**
LUWI	**Luwuk**	**11.81**	**289**	Pn	**Pn**	**15 03 52.7**	**-0.9**
LUWI	**Luwuk**	**11.81**	**289**	P	Pn	15 04 00.9	+7.3
MMRI	**Maumere**	**12.15**	**252**		**Pn**	**15 04 00.1**	**+1.7**
MMRI	**Maumere**	**12.15**	**252**	P	**P**	**15 04 10.4**	**-0.3**
KKSI	**Kolaka, Sulawe**	**12.26**	**273**	P	**P**	**15 04 08.1**	**-3.8**
EDFI	**Ende, Flores**	**12.70**	**252**	P	**Pn**	**15 04 09.9**	**+3.9**
	627nm33nm,1.0s						
APSI	**Ampana**	**12.91**	**288**	P	**Pn**	**15 04 10.1**	**+1.4**
	2μm3μm212nm,1.3s						
MRSI	**Marisa**	**13.15**	**294**	P	**Pn**	**15 04 14.2**	**+2.2**
MANU	**Manus Island**	**13.73**	**78**	Pn	**Pn**	**15 04 15.5**	**-4.5**
BNSI	**Bone**	**13.78**	**272**	P	**P**	**15 04 30.9**	**+2.1**
PMG	**Port Moresby**	**13.84**	**109**	Pn	**Pn**	**15 04 21.1**	**-0.3**
	2.5nm,0.3s,baz=355,slow=6.1,SNR=9.8						
PMG				Sn	Sn	15 06 44.6	-10
	1.4nm,0.3s,baz=225,slow=18,SNR=1.2						
PMG				Lg	Lg	15 08 24.5	
	0.1nm,0.3s,baz=354,slow=21,SNR=1.5						
PMG				LR	LR	15 11 28.9	
	comp=Z,6μm,18.3s,baz=320,slow=45						
PMG	**Port Moresby**	**13.84**	**109**	*i* P	**Pn**	**15 04 20.9**	**-0.5**
PMG				pmax	pmax		
	comp=Z,42nm,1.0s						
PMG	**Port Moresby**	**13.84**	**109**	Pn	**Pn**	**15 04 19.8**	**-1.7**
PMG	**Port Moresby**	**13.84**	**109**	P	**Pn**	**15 04 20.6**	**-0.8**
	comp=Z,3μmcomp=Z,96nm,1.0s						
KAPI	**Kappang**	**14.12**	**269**	Pn	**Pn**	**15 04 25.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=51,slow=3.7,SNR=4.6						
KAPI				LR	LR	15 11 36.0	
	comp=Z,4μm,18.7s,baz=86,slow=45						
KAPI	**Kappang**	**14.12**	**269**	P	**Pn**	**15 04 26.4**	**+1.2**
KAPI	**Kappang**	**14.12**	**269**	Pn	**Pn**	**15 04 26.4**	**+1.2**
KAPI	**Kappang**	**14.12**	**269**	P	**Pn**	**15 04 26.2**	**+1.0**
	comp=Z,2μmcomp=Z,77nm,2.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**14.20**	**277**	P	**P**	**15 04 34.8**	**+1.3**
TOLI2	**Tolitoli**	**14.46**	**294**	Pn	**Pn**	**15 04 27.9**	**-2.0**
WB0	**Warramunga Arr**	**14.69**	**178**		**Pn**	**15 04 30.4**	**-2.6**
WRAB	**Tennant Creek**	**14.85**	**178**	*c i* P	**Pn**	**15 04 34.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,47nm,1.7s						
WRAB	**Tennant Creek**	**14.85**	**178**	P	**Pn**	**15 04 33.4**	**-1.8**
WRA	**Warramunga Arr**	**14.86**	**178**	Pn	**Pn**	**15 04 33.6**	**-1.7**
	comp=Z,1.6nm,0.3s,baz=352,slow=13,SNR=39						
WRA				Sn	**Sn**	**15 07 13.5**	**-5.7**
	comp=Z,3.1nm,0.3s,baz=351,slow=25,SNR=3.3						
WRA				Lg	Lg	15 09 01.0	
	comp=Z,1.2nm,0.3s,baz=1.7,slow=29,SNR=4.7						
WRA	**Warramunga Arr**	**14.86**	**178**	P	**Pn**	**15 04 32.2**	**-3.1**
WRA				pmax	pmax		
	comp=Z,19nm,1.0s						
WRA	**Warramunga Arr**	**14.86**	**178**		**Pn**	**15 04 32.2**	**-3.1**
WB2	**Warramunga Arr**	**14.86**	**178**	Pn	**Pn**	**15 04 32.8**	**-2.6**
WR0	**Warramunga Arr**	**14.89**	**178**	Pn	**Pn**	**15 04 34.2**	**-1.4**
MPSI	**Mapaga**	**14.98**	**290**	P	**Pn**	**15 04 38.0**	**+1.1**
	comp=Z,4μmcomp=Z,1μmcomp=Z,52nm,1.5s						
WBSI	**Waikabubak, Su**	**15.13**	**251**	P	**Pn**	**15 04 37.7**	**-1.3**
	comp=Z,2μmcomp=Z,143nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.34**	**211**	Pn	**Pn**	**15 04 40.1**	**-1.5**
	comp=Z,6.8nm,0.3s,baz=32,slow=9.5,SNR=102						
FITZ				Sn	**Sn**	**15 07 21.6**	**-9.0**
	comp=Z,7.0nm,0.3s,baz=201,slow=18,SNR=17						
FITZ	**Fitzroy Crossi**	**15.34**	**211**	Pn	**Pn**	**15 04 39.0**	**-2.6**
FITZ				IAmb	IAmb	15 05 00.5	
	comp=Z,171nm,1.4s						
PLAI	**Plampang**	**16.47**	**256**	P	**Pn**	**15 04 56.6**	**+0.3**
	comp=Z,1μmcomp=Z,117nm,0.8s						
MTSU	**Mount Surprise**	**16.54**	**143**	P	**Pn**	**15 04 56.0**	**-1.2**
	baz=17,SNR=18						
TWSI	**Taliwang, Sumb**	**17.32**	**257**	P	P	15 05 15.6	+7.5
AS31	**Alice Springs**	**18.56**	**180**	P	**P**	**15 05 19.5**	**-2.3**
ASAR	**Alice Springs**	**18.56**	**180**	P	**P**	**15 05 22.1**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=353,slow=14,SNR=84						
ASAR				S	**Sn**	**15 08 41.7**	**-7.3**
	comp=Z,0.8nm,0.3s,baz=354,slow=27,SNR=4.4						
ASAR				Lg	Lg	15 10 51.3	
	baz=7.3,slow=30,SNR=2.2						
ASAR				LR	LR	15 13 50.6	
	comp=Z,1μm,18.1s,baz=3.0,slow=41						
ASAR	**Alice Springs**	**18.56**	**180**	P	**P**	**15 05 21.7**	**-0.1**
ASAR	**Alice Springs**	**18.56**	**180**	P	**P**	**15 05 21.7**	**-0.1**
BBKI	**Banjar Baru**	**19.09**	**274**	P	**P**	**15 05 27.9**	**+0.2**
	comp=Z,2μmcomp=Z,123nm,1.6s						
CTA	**Charters Tower**	**19.21**	**142**	P	**Pn**	**15 05 31.9**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=323,slow=12,SNR=31						
CTA				Lg	Lg	15 11 11.1	
	comp=Z,0.6nm,0.3s,baz=254,slow=20,SNR=3.3						
CTA				LR	LR	15 13 55.0	
	comp=Z,5μm,19.4s,baz=328,slow=40						
CTAO	**Charters Tower**	**19.21**	**142**	P	**Pn**	**15 05 31.0**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,86nm,1.2s						
CTAO	**Charters Tower**	**19.21**	**142**	P	**Pn**	**15 05 31.0**	**+1.0**
SPMM	**Sapulut**	**19.93**	**299**	P	**Pn**	**15 05 40.0**	**+1.4**
JAGI	**Jajag, Banyuwa**	**19.93**	**259**	P	**Pn**	**15 05 38.8**	**+0.2**
JAGI				IAmb	IAmb	15 06 01.0	
	comp=Z,106nm,1.3s						
KMMI	**Kalianget**	**19.95**	**263**	P	**Pn**	**15 05 40.3**	**+1.4**
	comp=Z,5μmcomp=Z,5μmcomp=Z,306nm,1.2s						
WRKA	**Warakurna**	**20.65**	**195**	P	Pn	15 05 46.5	-0.4
	baz=21,SNR=86						
PSA00	**Pilbara Seismi**	**21.40**	**218**	P	**P**	**15 05 52.9**	**+0.2**
PSA00				IAmb	IAmb	15 06 06.5	
	comp=Z,99nm,0.9s						
PSA00	**Pilbara Seismi**	**21.40**	**218**	P	**P**	**15 05 53.3**	**+0.7**
PSA00				IAmb	IAmb	15 06 06.5	
	comp=Z,46nm,0.9s						
SBUM	**Sibu**	**22.91**	**288**	P	**P**	**15 06 10.0**	**+1.1**
QLP	**Quilpie**	**23.62**	**156**	P	**P**	**15 06 17.6**	**+1.8**
	baz=24,SNR=12						
KSM	**Kuching**	**24.45**	**285**	P	**P**	**15 06 25.0**	**+1.3**
GIRL	**Giralia**	**25.89**	**225**	P	**P**	**15 06 40.0**	**+3.4**
	baz=26,SNR=7.1						
GIRL	**Giralia**	**25.89**	**225**	P	**P**	**15 06 38.8**	**+2.1**
CISI	**Cisompet, Garu**	**26.07**	**263

TOO Toolangi 34.10 163 P **P** 15 07 52.5 +3.1
TOO IAmb IAmb 15 07 53.8
comp=Z,47nm,1.4s
IPM Ipoh 34.18 285 P **P** 15 07 50.0 -0.3
DZM Mont Dzumac 35.75 121 *e*S **S** 15 13 38.5 -1.1
comp=Z,753nm,28.1s
DZM *e*LR LR 15 17 39.6
comp=Z,2µm,22.8s
DZM Mont Dzumac 35.75 121 P **P** 15 08 03.3 -0.5
DZM IAmb IAmb 15 08 08.7
comp=Z,38nm,1.4s
RPSI Rantau Prapat 35.79 282 P **P** 15 08 03.7 -0.4
RPSI IAmb IAmb 15 08 32.2
comp=Z,44nm,1.4s
RPSI Rantau Prapat 35.79 282 P **P** 15 08 04.3 +0.1
PSI Prapat 35.81 282 P **P** 15 08 04.3 -0.2
comp=Z,4.9nm,0.6s,baz=132,slow=0.5,SNR=6.5
PSI Prapat 35.81 282 P **P** 15 08 04.3 -0.2
PSI pmax pmax
comp=Z,44nm,1.4s
PANO Nakornpanom 36.37 308 P **P** 15 08 05.5 -3.5
comp=Z,160nmcomp=Z,1.4nm,1.0s
GSI Gunungsitoli 36.85 279 P **P** 15 08 11.3 -1.9
GSI IAmb IAmb 15 08 24.2
comp=Z,78nm,1.4s
COCO West Island 37.33 257 *ce*P **P** 15 08 16.2 -1.1
CHAI Chaiyaphum 37.82 304 P **P** 15 08 23.1 +1.7
comp=Z,24nm,0.7s
CHAI Chaiyaphum 37.82 304 P **P** 15 08 23.2 +1.8
comp=Z,6.0nm,0.7s
SSE Sheshan 37.90 342 P **P** 15 08 22.0 +0.2
SSE S **S** 15 14 14.0 +2.3
SSE pmax pmax
comp=Z,29nm,0.7s
SSE pmax pmax
comp=Z,99nm,4.9s
SSE L L
comp=Z,290nm,18.9s
SSE L L
comp=Z,280nm,18.8s
JNU Nakatsue 38.02 356 P **P** 15 08 21.1 -1.8
comp=Z,22nm,0.9s,baz=160,slow=2.5,SNR=3.5
JNU Nakatsue 38.02 356 IAmb IAmb 15 08 30.1
comp=Z,53nm,1.2s
NONG Nongkai 38.04 308 P **P** 15 08 24.0 +0.8
comp=Z,24nm,0.9s
NONG Nongkai 38.04 308 P **P** 15 08 24.0 +0.8
comp=Z,23nm,0.9s
SLVN Son La 39.38 313 P **P** 15 08 34.0 -0.6
NJ2 Nanjing 39.54 340 *e*P **P** 15 08 37.0 +1.4
NJ2 pmax pmax
comp=Z,11nm,0.5s
JTU Tsushima 39.54 354 P **P** 15 08 35.2 -0.4
PHIT Phitsanulok 39.77 304 P **P** 15 08 40.3 +2.6
comp=Z,2µmcomp=Z,71nm,0.8s
PHIT Phitsanulok 39.77 304 P **P** 15 08 40.3 +2.6
comp=Z,449nmcomp=Z,18nm,0.8s
WHN Wuhan 40.00 333 ⇑P **P** 15 08 37.3 -2.1
WHN L L
comp=Z,2µm,25.9s
JWT Wachi 40.09 2 P **P** 15 08 38.5 -1.6
JWT IAmb IAmb 15 08 40.5
comp=Z,47nm,1.3s
GYA Guiyang 40.93 321 P **P** 15 08 47.3 0.0
GYA pP pP 15 08 56.3 +1.5
GYA sP pwP 15 09 00.8 +2.0
GYA PP **PnPn** **15 10 24.8 -1.6**
GYA S **S** **15 14 59.5 +1.8**
GYA sS sS 15 15 20.0 +10
GYA pmax pmax
comp=Z,4.0nm,1.2s
GYA pmax pmax
comp=Z,56nm,5.1s
JYT Yasato 41.43 8 P **P** 15 08 50.2 -0.9
MJAR Matsushiro Arr 41.52 5 P **P** 15 08 49.9 -2.0
comp=Z,1.6nm,0.8s,baz=182,slow=8.9,SNR=5.2
MJAR LR LR 15 24 24.0
comp=Z,964nm,20.1s,baz=195,slow=34
MJAR Matsushiro Arr 41.52 5 P **P** 15 08 49.1 -2.8
MJAR pmax pmax
comp=Z,4.0nm,1.5s
MJAR Matsushiro Arr 41.52 5 P **P** 15 08 49.1 -2.8
MAJO Matsushiro 41.52 5 *c i*P **P** 15 08 50.8 -1.1
MAJO Matsushiro 41.52 5 P **P** 15 08 49.1 -2.7
MAT Matsushiro 41.52 5 P **P** 15 08 50.6 -1.3
MJB9 Matsu-Tunnel 41.52 5 P **P** 15 08 49.1 -2.8
CM36 Chiang Mai Arr 41.53 305 P **P** 15 08 55.0 +2.7
CM35 Chiang Mai Arr 41.56 305 P **P** 15 08 53.0 +0.5
CM01 Chiang Mai Arr 41.59 305 P P 15 08 59.6 +6.8
CM01 Chiang Mai Arr 41.59 305 P P 15 08 59.0 +6.2
comp=Z,11nm,1.0s
CM05 Chiang Mai Arr 41.59 305 P **P** 15 08 56.6 +3.8
comp=Z,8.0nm,0.9s
CM05 Chiang Mai Arr 41.59 305 P **P** 15 08 56.6 +3.8
comp=Z,8.0nm,0.9s
CM02 Chiang Mai Arr 41.60 305 P P 15 09 00.0 +7.1
CM02 Chiang Mai Arr 41.60 305 P P 15 09 00.0 +7.1
comp=Z,12nm,1.1s
TJN Taejon 41.61 352 ⇑*i*P **P** 15 08 51.3 -1.3
CM31 Chiang Mai Arr 41.62 305 P P 15 08 60.0 +6.9
comp=Z,284nm,0.9s
CM31 Chiang Mai Arr 41.62 305 P **P** 15 08 52.6 -0.4
CMAR Chiang Mai Arr 41.62 305 P **P** 15 08 53.2 +0.2
comp=Z,4.3nm,0.8s,baz=131,slow=6.5,SNR=19
CMAR LR LR 15 28 48.1
comp=Z,195nm,19.9s,baz=174,slow=40
CMAR Chiang Mai Arr 41.62 305 P **P** 15 08 52.7 -0.3
CM13 Chiang Mai Arr 41.63 305 P **P** 15 08 55.9 +2.8
comp=Z,7.1nm,0.8s
CM13 Chiang Mai Arr 41.63 305 P **P** 15 08 56.0 +2.8
comp=Z,7.1nm,0.8s
CM15 Chiang Mai Arr 41.63 305 P **P** 15 08 55.2 +2.1
comp=Z,102nmcomp=Z,11nm,0.9s
CM15 Chiang Mai Arr 41.63 305 P **P** 15 08 55.2 +2.1
comp=Z,102nmcomp=Z,11nm,0.9s
CM34 Chiang Mai Arr 41.65 306 P **P** 15 08 55.0 +1.7
CMMT Chiang Mai 41.80 305 P **P** 15 08 55.0 +0.5
comp=Z,789nmcomp=Z,16nm,1.8s
CMMT Chiang Mai 41.80 305 P **P** 15 08 55.0 +0.5
comp=Z,789nmcomp=Z,16nm,1.8s
CM32 Chiang Mai Arr 41.80 305 P **P** 15 08 57.7 +3.2
CHTO Chiang Mai 41.80 305 P **P** 15 08 53.7 -0.8
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 41.80 305 P **P** 15 08 56.0 +1.5
comp=Z,740nmcomp=Z,16nm,1.8s
CHTO Chiang Mai 41.80 305 P **P** 15 08 53.7 -0.8
CM33 Chiang Mai Arr 41.80 305 P **P** 15 08 56.0 +1.5
ENH Enshi 42.16 328 P **P** 15 08 56.0 -1.3
KSAR Wonju Array Be 42.59 353 P **P** 15 09 00.2 -0.4
KSAR Wonju Array Be 42.59 353 P **P** 15 09 00.2 -0.4
KSRS Korea Array 42.60 353 P **P** 15 09 00.7 +0.1
comp=Z,6.1nm,0.9s,baz=171,slow=9.7,SNR=23
KSRS PcP **PcP** **15 10 53.2 +0.6**
comp=Z,2.9nm,0.9s,baz=182,slow=3.2,SNR=6.2
KSRS LR LR 15 26 26.4
comp=Z,554nm,19.5s,baz=176,slow=36
KMI Kunming 42.60 316 ⇑P **P** 15 09 02.5 +1.3
KMI pP pP 15 09 09.5 +0.8
KMI S **S** **15 15 26.0 +3.3**
KMI SS **SS** **15 18 30.5 -3.0**
KMI pmax pmax
comp=Z,22nm,1.3s
KMI pmax pmax
comp=Z,110nm,3.6s
KMI L L
comp=Z,380nm,19.5s
KMI L L
comp=Z,440nm,19.1s
KMI L L
comp=Z,470nm,21.8s
KS19 Wonju Array Si 42.65 353 P **P** 15 09 00.2 -1.0
JSD Sado 43.00 5 P **P** 15 09 01.4 -2.5
JMM Marumori 43.12 8 P **P** 15 09 03.3 -1.6
DL2 Dalian 45.14 346 P **P** 15 09 23.0 +1.9
DL2 S **S** **15 16 03.5 +4.6**
DL2 pmax pmax
comp=Z,17nm,1.2s
DL2 pmax pmax
comp=Z,110nm,5.7s
DL2 L L
comp=Z,780nm,19.7s
DL2 L L
comp=Z,1µm,17.0s
DL2 L L
comp=Z,1µm,18.9s
XAN Xi'an 45.45 330 P **P** 15 09 23.5 -0.2
XAN pP pP 15 09 30.3 -0.9
XAN sP sP 15 09 34.3 +0.2
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,310nm,9.4s
XAN L L
comp=Z,390nm,17.1s
XAN L L
comp=Z,380nm,15.3s
XAN L L
comp=Z,560nm,21.7s
CD2 Chengdu 45.89 323 P **P** 15 09 27.5 +0.3
CD2 S **S** **15 16 10.5 +0.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 L L
comp=Z,830nm,20.6s
CD2 L L
comp=Z,760nm,20.6s
CD2 L L
comp=Z,840nm,19.6s
JTM Tenmabayashi 46.03 8 P **P** 15 09 26.5 -1.6
JTM IAmb IAmb 15 09 28.7
comp=Z,47nm,1.2s
TIY Taiyuan 46.96 337 *e*P **P** 15 09 36.3 +0.7
TIY S **S** 15 16 24.5 -0.8
TIY sS **sS** **15 16 44.0 +6.4**
TIY pmax pmax
comp=Z,37nm,1.1s
TIY pmax pmax
comp=Z,190nm,9.0s
TIY L L
comp=Z,230nm,9.6s
TIY L L
comp=Z,280nm,11.0s
TIY L L
comp=Z,380nm,17.8s
MSHR Mys Shultsa 47.42 357 *d i*P **P** 15 09 39.0 +0.1
MSHR pmax pmax
comp=Z,39nm,1.3s
ERM Erimo 47.54 9 P **P** 15 09 38.8 -1.1
ERM pmax pmax
comp=Z,19nm,1.3s
ERM Erimo 47.54 9 P **P** 15 09 38.8 -1.1
ERM IAmb IAmb 15 09 50.0
comp=Z,19nm,1.3s
BJT Baijiatuau 47.68 342 P **P** 15 09 41.3 +0.3
BJT pmax pmax
comp=Z,40nm,1.3s
BJT Baijiatuau 47.68 342 P **P** 15 09 41.3 +0.3
BJI Beijing 47.70 342 P **P** 15 09 41.5 +0.3
BJI pP **pP** 15 09 49.0 +0.2
BJI sP **pwP** 15 09 52.3 -0.3
BJI S **S** **15 16 37.5 +2.0**
BJI pmax pmax
comp=Z,24nm,1.2s
BJI L L
comp=Z,490nm,18.3s
BJI L L
comp=Z,620nm,20.5s
BJI L L
comp=Z,360nm,21.3s
VLA Vladivostok 47.93 358 *d i*P **P** 15 09 43.1 +0.2
VLA pmax pmax
comp=Z,53nm,1.2s
JEW Eniwo 48.10 7 P **P** 15 09 43.1 -1.1
USA0B Ussuriysk Arra 49.00 358 P **P** 15 09 50.8 -0.4
USA0B pmax pmax
comp=Z,27nm,1.3s
USA0B Ussuriysk Arra 49.00 358 P **P** 15 09 50.8 -0.4
USA0B IAmb IAmb 15 09 51.9
comp=Z,27nm,1.2s
USRK Ussuriysk Ar. 49.00 358 P **P** 15 09 51.3 +0.2
comp=Z,7.5nm,0.7s,baz=171,slow=6.5,SNR=19
USRK LR LR 15 29 22.5
comp=Z,503nm,19.6s,baz=162,slow=35
USRK Ussuriysk Ar. 49.00 358 P **P** 15 09 51.0 -0.1
USRK Ussuriysk Ar. 49.00 358 P **P** 15 09 51.0 -0.1
CN2 Changchun 49.17 352 *e*P **P** 15 09 52.0 -0.5
CN2 *e*S **S** **15 16 54.8 -1.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.2s
CN2 L L
comp=Z,400nm,18.0s
CN2 L L
comp=Z,400nm,18.0s
CN2 L L
comp=Z,400nm,20.0s
ASAJ Asahikawa 49.51 8 P **P** 15 09 54.5 -0.6
comp=Z,4.4nm,0.6s,baz=236,slow=8.3,SNR=7.4
ASAJ Asahikawa 49.51 8 P **P** 15 09 53.6 -1.4
ASAJ pmax pmax
comp=Z,11nm,1.0s
JKA Kamikawa-asahi 49.51 8 P **P** 15 09 53.6 -1.4
MDJ Mudanjiang 49.54 356 P **P** 15 09 55.5 +0.2
MDJ pP pP 15 10 03.0 +0.1
MDJ sP pwP 15 10 10.0 +3.4
MDJ PcS **PcS** **15 15 12.0 -1.3**
MDJ S **S** **15 17 02.8 +1.4**
MDJ sS sS 15 17 19.0 +5.2
MDJ pmax pmax
comp=Z,51nm,1.3s
MDJ pmax pmax
comp=Z,290nm,3.5s
MDJ L L
comp=Z,390nm,16.0s
MDJ L L
comp=Z,330nm,17.8s
MDJ L L
comp=Z,500nm,21.2s
MDJ Mudanjiang 49.54 356 P **P** 15 09 54.5 -0.8
LZH Lanzhou 49.64 328 *e*P **P** 15 09 57.3 +0.9
LZH pP pP 15 10 05.0 +1.0
LZH PP **PP** **15 11 55.5 +4.4**
LZH S **S** **15 17 03.0 -0.4**
LZH sS sS 15 17 16.0 +0.2
LZH SS **SS** **15 20 30.8 -5.4**
LZH pmax pmax
comp=Z,53nm,1.3s
LZH pmax pmax
comp=Z,180nm,5.4s
LZH L L
comp=Z,440nm,13.8s
LZH L L
comp=Z,350nm,14.1s
LZH L L
comp=Z,400nm,16.8s
HHC Hu-ho-hao-te 50.02 338 *e*P **P** 15 09 59.8 +0.7
HHC sP pwP 15 10 11.5 +0.9
HHC S **S** **15 17 07.3 -1.1**
HHC ScS **ScS** **15 19 44.3 -4.5**
HHC SS **SS** **15 20 44.3 +2.4**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,280nm,5.0s
HHC L L
comp=Z,510nm,17.0s
HHC L L
comp=Z,280nm,17.9s
HHC L L
comp=Z,610nm,18.7s
WHZ Wether Hill Ro 50.31 149 P **P** 15 10 01.6 +0.4
WHZ IAmb IAmb 15 10 25.9
comp=Z,35nm,1.3s
BTO Baotou 50.40 336 *e*P **P** 15 10 06.5 +4.5
BTO S **S** **15 17 18.0 +4.2**
BTO L L
comp=Z,1µm,21.1s
BTO L L
comp=Z,1µm,21.1s
BTO L L
comp=Z,2µm,22.1s
LBZ Lake Benmore 50.49 147 P **P** 15 10 03.5 +1.0
LBZ IAmb IAmb 15 10 18.7
comp=Z,50nm,1.3s
RPZ Rata Peaks 50.54 145 P **P** 15 10 03.7 +0.7
RPZ IAmb IAmb 15 10 16.9
comp=Z,20nm,0.9s
LTZ Lake Taylor 50.67 144 P **P** 15 10 05.3 +1.3
LTZ IAmb IAmb 15 10 24.0
comp=Z,29nm,1.2s
OXZ Oxford 50.87 144 P **P** 15 10 06.8 +1.4
OXZ IAmb IAmb 15 10 23.2
comp=Z,11nm,0.6s
TUWZ Tuamarina 50.90 141 P **P** 15 10 06.2 +0.6
KHZ Kahutara 51.21 143 P **P** 15 10 08.4 +0.4
KHZ IAmb IAmb 15 10 22.9
comp=Z,22nm,1.0s
MQZ McQueen's Vall 51.45 145 P **P** 15 10 11.0 +1.3
MQZ IAmb IAmb 15 10 24.1
comp=Z,25nm,1.1s
YSS Yuzh-Sakhalins 52.31 8 *de*P **P** 15 10 15.2 -0.9
YSS *e*S **S** **15 17 41.1 +1.5**
YSS pmax pmax
comp=Z,200nm,4.7s
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS Yuzh-Sakhalins 52.31 8 P **P** 15 10 13.9 -2.2
YSS IAmb IAmb 15 10 23.9
comp=Z,54nm,1.5s
LSA Lhasa 53.59 313 P **P** 15 10 26.3 -0.1
LSA pmax pmax
comp=Z,13nm,0.9s
LSA Lhasa 53.59 313 P **P** 15 10 26.3 -0.1
LSA IAmb IAmb 15 10 36.7
comp=Z,13nm,0.9s
KLR Kul'dur 54.04 358 P **P** 15 10 28.6 -0.2
comp=Z,1.9nm,0.4s,baz=176,slow=3.4,SNR=11
KLR Kul'dur 54.04 358 *d i*P **P** 15 10 28.5 -0.2
KLR pmax pmax
comp=Z,32nm,1.8s
GTA Gaotai 54.24 328 ⇑P **P** 15 10 31.5 +0.9
GTA pP pP 15 10 38.3 0.0
GTA sP sP 15 10 40.8 -0.3
GTA S **S** **15 18 08.5 +2.0**
GTA sS sS 15 18 22.8 +3.7
GTA pmax pmax
comp=Z,35nm,1.0s
GTA pmax pmax
comp=Z,190nm,4.9s
GTA L L
comp=Z,210nm,19.3s
GTA L L
comp=Z,250nm,18.9s
GTA L L
comp=Z,230nm,17.4s
KNTN Kanton 54.27 90 P **P** 15 10 31.7 +0.7
UGL Uglegorsk 54.32 7 *e*P P 15 10 23.9 -6.8
PALK Pallekele 54.49 283 LR LR 15 35 17.1
comp=Z,270nm,21.9s,baz=224,slow=38
PALK Pallekele 54.49 283 P **P** 15 10 32.0 -0.7
PALK pmax pmax
comp=Z,44nm,1.4s
PALK Pallekele 54.49 283 P **P** 15 10 32.0 -0.7
PALK IAmb IAmb 15 10 45.7
comp=Z,44nm,1.4s
HIA Hailar 55.44 349 *d i*P **P** 15 10 39.3 +0.4
HIA pmax pmax
comp=Z,24nm,1.6s
HIA Hailar 55.44 349 P **P** 15 10 38.0 -0.9
HIA IAmb IAmb 15 10 54.9
comp=Z,32nm,1.5s
ULN Ulaanbaatar 57.69 339 *d i*P **P** 15 10 56.0 +0.8
ULN pmax pmax
comp=Z,24nm,1.7s
ULN Ulaanbaatar 57.69 339 P **P** 15 10 55.8 +0.6
ULN IAmb IAmb 15 10 57.3
comp=Z,20nm,1.3s
SONM Songino Array 57.91 338 P **P** 15 10 56.6 -0.1
comp=Z,2.3nm,0.7s,baz=153,slow=6.7,SNR=20
SONM LR LR 15 36 01.7
comp=Z,434nm,21.2s,baz=146,slow=36
SONM Songino Array 57.91 338 P **P** 15 10 56.8 +0.1
SONM pmax pmax
comp=Z,15nm,1.5s
SONM Songino Array 57.91 338 P **P** 15 10 56.8 +0.1
SKR Severo-Kuril's 58.66 16 *e*P **P** 15 11 01.4 -0.3
SKR *e*S **S** **15 19 07.3 +3.0**
SKR pmax pmax
comp=Z,200nm,5.6s
SKR pmax pmax
comp=Z,44nm,1.2s
SKR pmax pmax
comp=Z,100nm,6.0s
SKR MLR MLR
comp=Z,100nm,16.0s
SKR MLR MLR
comp=Z,200nm,17.0s
ZEA Zeya 58.79 355 *e*P **P** 15 11 03.3 +0.8
ZEA pmax pmax
comp=N,10.0nm,1.6s
ZEA pmax pmax
comp=Z,10.0nm,1.7s
ZEA pmax pmax
comp=Z,100nm,5.0s
ZEA MLR MLR
comp=N,200nm,26.0s
ZEA MLR MLR
comp=Z,200nm,19.0s
CIT Chita 59.40 346 *e*P **P** 15 11 08.5 +1.7
CIT *e* 15 11 54.1
CIT pmax pmax
comp=Z,121nm,2.7s
JOHN Johnston Islan 59.90 68 P **P** 15 11 11.2 +0.3
ZAK Zakamensk 61.16 338 *e*P **P** 15 11 19.3 +0.2
ZAK pmax pmax
comp=Z,15nm,1.4s
PEA0B Petropavlovsk- 61.27 16 P **P** 15 11 18.9 -0.7
PEA0B pmax pmax
comp=Z,62nm,1.5s
PEA0B Petropavlovsk- 61.27 16 P **P** 15 11 18.9 -0.7
PETK Petropavlovsk- 61.27 16 P **P** 15 11 19.4 -0.2
comp=Z,3.5nm,0.7s,baz=186,slow=8.9,SNR=4.3
PETK LR LR 15 35 55.6
comp=Z,124nm,21.4s,baz=200,slow=34
PETK Petropavlovsk- 61.27 16 P **P** 15 11 19.1 -0.5
PETK Petropavlovsk- 61.27 16 P **P** 15 11 19.1 -0.5
PET Petropavlovsk 61.47 17 *e*P **P** 15 11 22.5 +1.6
PET *e*S **S** **15 19 40.1 -0.2**
PET MLR MLR
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,300nm,17.0s
TLY Talaya 62.10 339 LR LR 15 39 02.7
comp=Z,296nm,21.5s,baz=134,slow=37
TLY Talaya 62.10 339 *e*P **P** 15 11 24.9 -0.3
TLY *e*S S 15 19 59.8 +11
TLY pmax pmax
comp=Z,39nm,1.6s
TLY MLR MLR
comp=Z,401nm,15.0s
TLY Talaya 62.10 339 P **P** 15 11 25.6 +0.4
TLY IAmb IAmb 15 11 42.9
comp=Z,13nm,1.2s
IRK Irkutsk 62.35 340 *e*P **P** 15 11 26.7 -0.1
IRK pmax pmax
comp=Z,70nm,2.4s
MOY Mondy 63.06 338 *e*P **P** 15 11 33.0 +1.3
MOY pmax pmax
comp=Z,75nm,2.4s
CASY Casey 63.32 190 P **P** 15 11 35.6 +2.5
WMQ Urumqi 63.95 324 *e*P **P** 15 11 39.3 +1.5
WMQ pP pP 15 11 46.3 +0.7
WMQ pmax pmax
comp=Z,98nm,1.3s
WMQ pmax pmax
comp=Z,300nm,5.1s
WMQ L L
comp=Z,660nm,23.3s
WMQ L L
comp=Z,370nm,16.5s
BOD Bodaibo 64.65 348 *e*P **P** 15 11 42.5 +0.6
BOD pmax pmax
comp=Z,48nm,1.6s
MA2 Magadan 65.74 9 *c i*P **P** 15 11 50.2 +1.2
MA2 pmax pmax
comp=Z,25nm,2.0s
YAK Yakutsk 66.91 358 *e*P **P** 15 11 56.1 -0.3
YAK *e**PP **pP** **15 12 03.6 -0.6**
YAK *e* 15 12 20.6
YAK *e* 15 14 20.7

YAK ePPP PPP 15 15 58.7
YAK eS **S** **15 20 46.3 -1.1**
YAK e*SS **sS** **15 21 04.3 +4.1**
YAK e 15 21 50.4
YAK eSS **SS** **15 25 09.2 +2.9**
YAK pmax pmax
comp=Z,76nm,1.1s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,20nm,2.8s
YAK pmax pmax
comp=N,46nm,2.7s
YAK pmax pmax
comp=E,44nm,2.7s
YAK smax smax
comp=N,34nm,3.2s
YAK smax smax
comp=E,46nm,3.0s
YAK Yakutsk 66.91 358 P **P** **15 11 56.2 -0.3**
DGZ Jazzator, Alta 67.69 329*d iP* **P** **15 12 02.0 +0.1**
DGZ pmax pmax
comp=Z,31nm,1.3s
ZSN Zaisan 67.69 326 *eP* **P** **15 12 00.4 -1.4**
baz=326
ZSN Zaisan 67.69 326 *eP* **P** **15 12 00.4 -1.4**
AMKA Amchitka 68.21 29 P **P** **15 12 04.1 -0.8**
SHLS Shalkode 68.61 320 *eP* **P** **15 12 07.0 -0.8**
comp=Z,14nm,0.7s,baz=320
SHLS Shalkode 68.61 320 *eP* **P** **15 12 06.9 -0.8**
SHLS pmax pmax
comp=Z,14nm,0.7s
PDGK Podgornoye 68.67 320 P **P** **15 12 08.1 0.0**
MK31 Makanchi Array 68.78 325*d iP* **P** **15 12 08.9 +0.3**
MK31 Makanchi Array 68.78 325 P **P** **15 12 08.8 +0.2**
MKAR Makanchi Array 68.78 325 P **P** **15 12 09.0 +0.4**
comp=Z,16nm,0.5s,baz=119,slow=7.8,SNR=206
MKAR LR LR 15 43 10.4
comp=Z,173nm,21.3s,baz=128,slow=37
MKAR Makanchi Array 68.78 325 *i* P **P** **15 12 09.0 +0.4**
MKAR pmax pmax
comp=Z,16nm,0.5s
MKAR Makanchi Array 68.78 325 P **P** **15 12 08.9 +0.3**
UZB Uzynbulak 68.88 320 *eP* **P** **15 12 09.9 +0.4**
comp=Z,24nm,1.3s,baz=320
UZB Uzynbulak 68.88 320 *eP* **P** **15 12 09.8 +0.4**
UZB pmax pmax
comp=Z,24nm,1.3s
XMAS Kiritimati 68.92 86 P **P** **15 12 09.1 -0.9**
NIL Nilore 68.94 309 P **P** **15 12 10.6 +0.7**
NIL pmax pmax
comp=Z,20nm,1.1s
NIL Nilore 68.94 309 P **P** **15 12 10.6 +0.7**
NIL IAmb IAmb 15 12 12.1
comp=Z,20nm,1.1s
PRZ Przheval'sk 68.96 319 P **P** **15 12 10.4 +0.3**
PRZ pmax pmax
comp=Z,50nm,1.3s
PRZ Przheval'sk 68.96 319 P **P** **15 12 10.3 +0.3**
MAKZ Makanchi 68.97 325 P **P** **15 12 10.0 +0.3**
MAKZ pmax pmax
comp=Z,42nm,1.1s
MAKZ Makanchi 68.97 325 P **P** **15 12 10.0 +0.3**
TARG Taragay, Kyrgy 69.00 318 P **P** **15 12 11.0 +0.4**
TARG IAmb IAmb 15 12 21.4
comp=Z,17nm,1.0s
SEY Seymchan 69.18 9*d iP* **P** **15 12 10.6 -0.1**
SATY Saty 69.23 320 *eP* **P** **15 12 12.3 +0.6**
comp=Z,9.8nm,0.6s,baz=320
SATY Saty 69.23 320 *eP* **P** **15 12 12.2 +0.6**
SATY pmax pmax
comp=Z,10.0nm,0.6s
KPKS Kokpek 69.25 320 *eP* **P** **15 12 11.8 +0.1**
comp=Z,39nm,1.3s,baz=320
KPKS Kokpek 69.25 320 *eP* **P** **15 12 11.7 +0.1**
KPKS pmax pmax
comp=Z,39nm,1.3s
KSH Kashi 69.26 315 P **P** **15 12 14.3 +2.4**
KSH pmax pmax
comp=Z,13nm,0.4s
KDJ Kajisay 69.60 318 P **P** **15 12 13.7 -0.3**
KDJ pmax pmax
comp=Z,10.0nm,0.7s
KDJ Kajisay 69.60 318 P **P** **15 12 13.7 -0.3**
KDJ IAmb IAmb 15 12 15.9
comp=Z,10nm,0.7s
MDOK Medeo 70.16 319 *eP* **P** **15 12 16.8 -0.6**
baz=319
MDOK Medeo 70.16 319 *eP* **P** **15 12 16.7 -0.6**
TDK Taldyqorghan 70.17 322 *eP* **P** **15 12 17.1 -0.1**
baz=322
TDK Taldyqorghan 70.17 322 *eP* **P** **15 12 17.1 -0.1**
KIWB Kanaga Island 70.24 30 P **P** **15 12 16.6 -0.8**
AAA Alma-Ata 70.27 319 *eP* **P** **15 12 16.9 -1.0**
baz=319
AAA Alma-Ata 70.27 319 *eP* **P** **15 12 16.9 -1.0**
CHKK Chushkaly 70.52 320 *eP* **P** **15 12 19.1 -0.3**
baz=320
CHKK Chushkaly 70.52 320 *eP* **P** **15 12 19.0 -0.3**
BOOM Boomskoye usch 70.58 318 P **P** **15 12 19.8 -0.2**
BOOM pmax pmax
comp=Z,35nm,1.4s
BOOM Boomskoye usch 70.58 318 P **P** **15 12 19.8 -0.2**
BOOM IAmb IAmb 15 12 22.4
comp=Z,35nm,1.4s
KUU Kurty 70.95 320 *eP* **P** **15 12 21.5 -0.5**
comp=Z,53nm,1.2s,baz=320
KUU Kurty 70.95 320 *eP* **P** **15 12 21.5 -0.5**
KUU pmax pmax
comp=Z,53nm,1.2s
TKM2 Tokmak 2 71.00 319 P **P** **15 12 23.2 +0.7**
SNR=21
TKM2 Tokmak 2 71.00 319 P **P** **15 12 22.9 +0.3**
ZAA0 Zalesovo Array 71.59 332 P **P** **15 12 24.4 -1.2**
ZAA0 IAmb IAmb 15 12 26.4
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 71.59 332 P **P** **15 12 24.7 -0.9**
comp=Z,3.1nm,0.5s,baz=108,slow=4.8,SNR=21
ZALV Zalesovo Beam 71.59 332 P **P** **15 12 23.8 -1.9**
AAK Ala-Archa 71.61 318 P **P** **15 12 28.0 +1.8**
SNR=5.5
AAK Ala-Archa 71.61 318 P **P** **15 12 27.1 +0.9**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 71.61 318 P **P** **15 12 27.1 +0.9**
AAK IAmb IAmb 15 12 28.8
comp=Z,15nm,1.1s
SGDS Sogindy 71.87 319 *eP* **P** **15 12 26.5 -1.1**
comp=Z,12nm,1.4s,baz=319
SGDS Sogindy 71.87 319 *eP* **P** **15 12 26.5 -1.1**
SGDS pmax pmax
comp=Z,12nm,1.4s
SEM Semipalatinsk 71.87 327 *eP* **P** **15 12 26.0 -1.7**
comp=Z,33nm,1.9s,baz=327
SEM Semipalatinsk 71.87 327 *eP* **P** **15 12 26.0 -1.7**
SEM pmax pmax
comp=Z,33nm,1.9s
USP Ospenovka 71.88 319 P **P** **15 12 28.1 +0.4**
SNR=26
AML Almayashu 71.93 317 P **P** **15 12 29.8 +1.3**
SNR=14
EKS2 Erkin-Say 72.10 318 P **P** **15 12 30.8 +1.7**
SNR=9.4
DRK Karamyk 72.20 314 P **P** **15 12 30.3 +0.3**
DRK IAmb IAmb 15 12 41.4
comp=Z,43nm,1.4s
KBL Kabul 72.53 308 P **P** **15 12 31.8 -0.1**
KBL pmax pmax
comp=Z,17nm,1.3s
KBL Kabul 72.53 308 P **P** **15 12 31.8 -0.1**
KBL IAmb IAmb 15 12 33.8
comp=Z,17nm,1.3s
KURBB Kurchatov Arra 72.92 327 P **P** **15 12 32.7 -0.9**
BTLS Baital 72.94 320 *eP* **P** **15 12 32.1 -1.7**
comp=Z,17nm,1.4s,baz=320
BTLS Baital 72.94 320 *eP* **P** **15 12 32.9 -0.9**
BTLS pmax pmax
comp=Z,17nm,1.4s
BTK Batken 73.12 314 P **P** **15 12 36.2 +1.0**
BTK pmax pmax
comp=Z,35nm,1.4s
BTK Batken 73.12 314 P **P** **15 12 36.2 +1.0**
BTK IAmb IAmb 15 12 38.3
comp=Z,35nm,1.4s
HMH Humu'ula Sheep 73.55 68 P **P** **15 12 38.8 +0.5**
DZA Taraz 73.84 317 *eP* **P** **15 12 37.6 -1.7**
baz=317
DZA Taraz 73.84 317 *eP* **P** **15 12 37.6 -1.7**
VNDA Vanda 73.98 174 P **P** **15 12 41.0 +1.6**
comp=Z,9.8nm,1.0s,baz=315,slow=6.0,SNR=31
VNDA LR LR 15 44 53.0
comp=Z,512nm,19.0s,baz=354,slow=36
VNDA Vanda 73.98 174 P **P** **15 12 40.6 +1.1**
VNDA pmax pmax
comp=Z,19nm,1.2s
VNDA Vanda 73.98 174 P **P** **15 12 40.6 +1.1**
VNDA IAmb IAmb 15 12 42.6
comp=Z,19nm,1.2s
KK31 Karatay Array 73.47 317 P **P** **15 12 42.9 -0.1**
KK31 pmax pmax
comp=Z,19nm,1.1s
KK31 Karatay Array 73.47 317 P **P** **15 12 42.9 -0.1**
KK31 IAmb IAmb 15 12 44.9
comp=Z,20nm,1.1s
KKAR Karatay Array 73.47 317 P **P** **15 12 42.6 -0.4**
KKAR pmax pmax
comp=Z,19nm,1.1s
KKAR Karatay Array 73.47 317 P **P** **15 12 43.3 +0.3**
KKAR Karatay Array 73.47 317 P **P** **15 12 42.6 -0.4**
KKAR IAmb IAmb 15 12 44.9
comp=Z,20nm,1.1s
TAS Tashkent 74.66 315 P **P** **15 12 45.2 +1.1**
TAS pmax pmax
comp=Z,47nm,0.7s
TAS Tashkent 74.66 315 P **P** **15 12 45.2 +1.1**
SBA Scott Base 74.82 173 P **P** **15 12 47.1 +2.8**
SBA pmax pmax
comp=Z,29nm,1.3s
SBA Scott Base 74.82 173 P **P** **15 12 47.1 +2.8**
SBA IAmb IAmb 15 12 48.7
comp=Z,29nm,1.3s
NIKH Nikolski High 75.09 32 P 15 12 44.2
baz=240
OTUK Ortayu 75.37 323 P **P** **15 12 47.8 -0.2**
PPT2 Papeete2 75.65 107 *e*LQ LQ 15 33 00.5
comp=Z,584nm,34.8s
PPT2 *e*LR LR 15 36 12.5
comp=Z,2µm,35.0s
TBI Tubuai 75.76 113 *e*S **S** **15 22 32.8 +1.6**
comp=Z,257nm,29.8s
TBI Tubuai 75.76 113 *e*LR LR 15 36 11.5
comp=Z,970nm,24.0s
BRZS Berezniki 75.92 324⇓ *iP* **P** **15 12 50.8 -0.3**
comp=Z,22nm,1.4s,baz=324
BRZS Berezniki 75.92 324*d iP* **P** **15 12 50.8 -0.3**
BRZS pmax pmax
comp=Z,22nm,1.4s
BILL Bilibino 76.32 12*d iP* **P** **15 12 53.7 +0.7**
BILL *e* 15 13 05.2
BILL *e* 15 15 49.2
BILL pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 76.57 358 P **P** **15 12 53.9 -0.4**
TIXI pmax pmax
comp=Z,16nm,0.9s
TIXI Tiksi 76.57 358 P **P** **15 12 53.9 -0.4**
TIXI IAmb IAmb 15 13 05.1
comp=Z,16nm,0.9s
HRA Herat 77.86 307 P **P** **15 13 02.1 -0.6**
MSEY Mahe Island 78.12 266 P **P** **15 13 05.6 +1.3**
MSEY pmax pmax
comp=Z,28nm,1.2s
MSEY Mahe Island 78.12 266 P **P** **15 13 05.6 +1.3**
MSEY IAmb IAmb 15 13 16.2
comp=Z,28nm,1.2s
MAW Mawson 78.24 202 P **P** **15 13 06.7 +2.9**
comp=Z,31nm,1.2s,baz=63,slow=7.1,SNR=18
MAW LR LR 15 47 21.9
comp=Z,400nm,18.6s,baz=60,slow=35
MAW Mawson 78.24 202 P **P** **15 13 07.2 +3.4**
baz=78,SNR=11
MAW Mawson 78.24 202 P **P** **15 13 06.3 +2.5**
MAW pmax pmax
comp=Z,12nm,1.3s
MAW Mawson 78.24 202 P **P** **15 13 06.3 +2.5**
BRVK Borovoye 78.58 327*c iP* **P** **15 13 05.6 -0.3**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 78.58 327 P **P** **15 13 04.9 -1.1**
BRVK IAmb IAmb 15 13 07.5
comp=Z,21nm,0.9s
FALS False Pass 78.81 32 P 15 13 06.3
baz=244
GAMB Gambell 79.61 22 P 15 13 10.9
baz=235
SDPT Sand Point 80.56 32 P 15 13 16.4
baz=247
NRIK Noril'sk 80.61 345 P **P** **15 13 17.4 +0.8**
comp=Z,20nm,1.1s,baz=132,slow=5.3,SNR=26
NRIK LR LR 15 50 19.8
comp=Z,621nm,19.9s,baz=136,slow=37
NRIK Noril'sk 80.61 345 P **P** **15 13 17.1 +0.5**
NRIK pmax pmax
comp=Z,37nm,1.2s
NRIK Noril'sk 80.61 345 P **P** **15 13 17.1 +0.5**
NRIK IAmb IAmb 15 13 18.3
comp=Z,37nm,1.2s
CHNA Chernabura Isl 80.83 33 P 15 13 18.1
baz=248
SOCY Socotra 81.25 283 P **P** **15 13 21.4 0.0**
GEYT Alibeck 81.94 309 P **P** **15 13 25.4 +0.9**
comp=Z,28nm,0.5s,baz=189,slow=8.4,SNR=14
GYA0B ALIBECK ARRAY 81.94 309 P **P** **15 13 25.8 +1.3**
GYA0B IAmb IAmb 15 13 34.2
comp=Z,23nm,1.1s
ANM Nome 82.39 22 P 15 13 25.6
baz=241
CHIR Chirikof Isln 83.30 32 P 15 13 29.4
baz=251
AB31 Akbulak array 83.41 321 *i* P **P** **15 13 31.2 -0.6**
ABKAR Akbulak array 83.41 321 P **P** **15 13 31.4 -0.4**
ABKAR Akbulak array 83.41 321 P **P** **15 13 31.2 -0.6**
ABKAR IAmb IAmb 15 13 32.4
comp=Z,5.8nm,0.8s
SII Sitkinak Islan 84.30 32 P 15 13 35.7
baz=252
N18K Kilae Creek 84.78 28 P 15 13 38.2
baz=243
RDOG Red Dog Mine 84.90 20 P 15 13 37.8
AKTO Aktyubinsk 84.92 321 P **P** **15 13 39.6 +0.2**
OHAK Old Harbor 84.97 31 P **P** **15 13 39.4 0.0**
OHAK Old Harbor 84.97 31 P 15 13 38.7
baz=253
SVW2 Sparrevohn 85.07 27 P **P** **15 13 38.5 -1.5**
SVW2 IAmb IAmb 15 13 51.1
comp=Z,9.7nm,1.1s
N19K Bonanza Creek 85.48 28 P 15 13 41.3
baz=252,SNR=5.9
KDAK Kodiak Island 85.49 31 P **P** **15 13 41.8 -0.3**
comp=Z,11nm,0.6s,baz=241,slow=4.0,SNR=8.6
KDAK Kodiak Island 85.49 31 P **P** **15 13 41.7 -0.4**
KDAK pmax pmax
comp=Z,18nm,1.0s
KDAK Kodiak Island 85.49 31 P **P** **15 13 41.7 -0.4**
KDAK IAmb IAmb 15 13 51.9
comp=Z,18nm,0.9s
KDAK Kodiak Island 85.49 31 P 15 13 41.7
baz=253
TTA Tatalina 85.50 26 P 15 13 41.5
baz=250,SNR=12
TTA Tatalina 85.50 26 P **P** **15 13 42.6 +0.4**
TTA pmax pmax
comp=Z,18nm,1.2s
TTA Tatalina 85.50 26 P **P** **15 13 42.6 +0.4**
TTA IAmb IAmb 15 13 44.1
comp=Z,18nm,1.2s
VOI Vohitsoka 85.50 248 P **P** **15 13 44.3 +1.1**
VOI IAmb IAmb 15 13 56.6
comp=Z,34nm,1.4s
ARU Arti 86.11 327*d iP* **P** **15 13 44.2 -1.0**
ARU 15 17 03.3
ARU PPP PPP 15 19 01.1
ARU S **S** **15 24 10.0 -7.8**
ARU SS **SS** **15 29 56.2 -0.4**
ARU pmax pmax
comp=Z,9.0nm,1.2s
SYO Syowa Base 86.93 201⇓ *eP* **P** **15 13 51.0 +2.0**
SYO Syowa Base 86.93 201⇓ *es*P sP 15 13 57.0 -2.8
PPLA Purkeypile 87.15 26 P 15 13 50.0
baz=253,SNR=6.1
PPLA Purkeypile 87.15 26 P **P** **15 13 50.5 +0.1**
SKT Skwentna 87.18 27 P 15 13 48.9
baz=254,SNR=8.7
CHUM Lake Minchumin 87.38 25 P 15 13 51.2
baz=253,SNR=15
SUA Susitna One 87.41 28 P 15 13 50.4
baz=255
SEW Seward 87.67 29 P 15 13 51.8
baz=256
H21K Melozitna Rive 87.70 23 P 15 13 52.5
baz=253,SNR=7.9
RC01 Rabbit Creek A 87.78 28 P 15 13 52.3
baz=256,SNR=5.2
I21K Tanana 87.89 24 P 15 13 54.0
baz=254,SNR=7.2
BPAW Bear Paw Mtn. 88.00 25 P 15 13 53.8
baz=254
TRF Thorofare Moun 88.13 26 P **P** **15 13 54.5 -0.5**
TRF IAmb IAmb 15 14 03.7
comp=Z,18nm,1.4s
TRF Thorofare Moun 88.13 26 P 15 13 54.6
baz=255
PMR Palmer 88.19 28 P 15 13 54.4
baz=256
A21K Barrow 88.24 18 P 15 13 54.6
baz=249
MLY Manley 88.35 24 P 15 13 55.4
baz=255,SNR=11
MLY Manley 88.36 24 P **P** **15 13 55.6 -0.4**
MLY IAmb IAmb 15 14 07.1
comp=Z,9.0nm,0.8s
PWL Port Wells 88.39 29 P **P** **15 13 56.3 +0.2**
KNK Knik Glacier 88.46 28 P 15 13 56.4
baz=257,SNR=5.9
SML Sawmill 88.61 28 P 15 13 56.1
baz=257,SNR=8.2
MCK McKinley 88.79 26 P 15 13 57.0
baz=256
NEA2 Nenana 88.94 25 P 15 13 57.8
baz=256
I23K Minto, Yukon-K 88.95 24 P 15 13 57.8
baz=256,SNR=10.0
GLI Glacier Island 88.99 29 P 15 13 56.6
baz=258
H23K Yukon River 89.04 24 P 15 13 56.8
baz=256
WAT6 Susitna Watana 89.05 27 P 15 13 57.9
baz=257,SNR=6.5
COLD Coldfoot 89.14 22 P 15 13 58.8
baz=255
COLD Coldfoot 89.14 22 P **P** **15 14 00.4 +0.8**
EYAK Cordova Ski Ar 89.57 29 P 15 14 01.2
baz=259
KLU Klutina 89.67 28 P 15 14 00.5
baz=259
M24K Tolsona, Glenn 89.67 28 P 15 14 01.6
baz=259
H24K Noodor Dome 89.71 24 P 15 14 01.4
baz=257,SNR=8.5
TOLK Toolik Lake Re 89.73 21 P 15 14 02.1
baz=256
HDA Harding Lake 89.79 25 P 15 14 01.7
baz=258
HDA P 15 14 01.7
baz=258
IL31 89.89 25 P **P** **15 14 02.0 -1.0**
ILAR Eielson Array 89.89 25 P **P** **15 14 01.5 -1.6**
comp=Z,2.5nm,0.9s,baz=260,slow=5.0,SNR=15
ILAR Eielson Array 89.89 25 P **P** **15 14 00.9 -2.2**
ILAR Eielson Array 89.89 25 P **P** **15 14 00.9 -2.2**
PAX Paxson 90.15 27 P 15 14 03.5
baz=259
HARP HAARP 90.19 27 P 15 14 04.2
baz=260
BMRM Bremner River 90.20 29 P 15 14 04.4
baz=260
N25K Chitina, Valde 90.31 28 P 15 14 04.9
baz=260
BGLC Bering Glacier 90.70 30 P 15 14 06.7
baz=261
FYU Fort Yukon 90.91 23 P **P** **15 14 07.9 +0.1**
FYU IAmb IAmb 15 14 10.9
comp=Z,24nm,1.3s
SCRK Sand Creek 90.98 26 P 15 14 07.9
baz=261
BMAR Burnt Mountain 91.31 22 P **P** **15 14 09.5 -0.3**
L27K Beaver Creek, 91.81 27 P 15 14 11.6
baz=263
L27K Beaver Creek, 91.81 27 P **P** **15 14 12.6 +0.5**
BCAR Beaver Creek A 91.83 27 P **P** **15 14 12.9 +0.7**
PINM Pinnacle 92.21 30 P 15 14 13.4
baz=264
EGAK Eagle 92.31 25 P 15 14 13.9
baz=263
KBZ Khabaz 94.16 313 LR LR 16 02 03.0
comp=Z,88nm,19.8s,baz=68,slow=39
EPYK Eagle Plains 94.28 24 P 15 14 22.5
baz=267
KIV Kislovodsk 94.32 314 *eP* **P** **15 14 21.8 -2.4**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,234nm,20.0s
WHY Whitehorse 94.91 30 P 15 14 25.4
baz=269
INK Inuvik 95.55 22 P **P** **15 14 28.6 -0.5**
comp=Z,3.3nm,1.1s,baz=270,slow=5.1,SNR=2.3
INK Inuvik 95.55 22 P **P** **15 14 28.2 -1.0**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 95.55 22 P **P** **15 14 28.2 -1.0**
INK Inuvik 95.55 22 P 15 14 28.3
baz=270
KLMR Klimovskoe 96.48 331 *eP* **P** **15 14 29.5 -4.0**
KLMR *i* 15 18 23.4
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 96.48 331 *eP* **P** **15 14 29.6 -4.0**
KLMR AMP 15 14 33.9
comp=Z,17nm,1.4s
KLMR *i* PP **PP** **15 18 23.4 -4.2**
KLMR LR LR 15 58 48.1
KMBO Kilima Mbogo 96.55 268 LR LR 15 55 16.1
comp=Z,285nm,21.6s,baz=95,slow=34
OBN Obninsk 98.28 325 *eP* **P** **15 14 40.6 -1.2**
OBN *e* 15 18 38.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 98.49 193 Pdiff Pdif 15 14 44.0 +1.5
SNAA Sanae 98.49 193 P Pdif 15 14 44.5 +1.9
SNAA pmax pmax
comp=Z,10.0nm,1.3s
SNAA Sanae 98.49 193 P Pdif 15 14 44.5 +1.9
SNAA IAmb IAmb 15 14 53.5
comp=Z,10nm,1.3s
VNA2 Neumayer--Watz 100.02 192 Pdiff **Pdif** **15 14 51.7 +2.4**
VNA3 Neumayer Olymp 100.23 191 Pdiff **Pdif** **15 14 52.8 +2.5**
VNA1 Neumayer--Stat 100.42 192 Pdiff **Pdif** **15 14 52.6 +1.6**
ARCES ARCESS Array B 101.05 340 P **Pdif** **15 14 53.1 -0.8**
comp=Z,6.2nm,1.1s,baz=76,slow=5.1,SNR=8.0
ARCES ARCESS Array B 101.05 340 P **Pdif** **15 14 52.8 -1.1**
ARCES ARCESS Array B 101.05 340 **Pdif** **15 14 52.8 -1.1**
MNK Minsk 103.35 325 *i* P **Pdif** **15 15 10.3 +5.9**
MNK *i* 15 19 14.9
MNK *i* S **SKSac** **15 25 39.3 -3.0**
MNK *i* SS **SS** **15 34 00.3 -1.5**
MNK *i* SSS SSS 15 37 55.3
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK MLR MLR
comp=N,244nm,26.0s
MNK MLR MLR
comp=E,22nm,24.0s
MNK MLR MLR
comp=Z,138nm,23.0s
MNK Minsk 103.35 325 *i* P **Pdif** **15 15 10.4 +6.0**
comp=E,1.0nm,0.7s
MNK *i* P **Pdif** **15 15 10.4 +6.0**
comp=N,12nm,0.7s
MNK *i* P **Pdif** **15 15 10.4 +6.0**

	comp=Z,8.0nm,0.7s,baz=80								
MNK					*i* PP	**PP**	**15 19 15.0**	**-4.9**	
MNK					*i* PP	**PP**	**15 19 15.0**	**-4.9**	
MNK					*i* PP	**PP**	**15 19 15.0**	**-4.9**	
MNK					*i* PPP	PPP	15 21 25.8		
MNK					*i* S	**SKSac**	**15 25 39.4**	**-2.9**	
MNK					*i* PS	**PS**	**15 28 42.3**	**+13**	
MNK					*i* SS	**SS**	**15 34 00.3**	**-1.5**	
MNK					*i* SSS	SSS	15 37 55.4		
MNK					*i* LQ	LQ	15 55 42.9		
MNK					*i* LR	LR	16 02 11.6		
MNK					*i* LRM	MLR	16 02 42.2		
	comp=N,244nm,25.6s								
MNK					*i* LRM	MLR	16 03 38.5		
	comp=E,22nm,24.3s								
MNK					*i* LRM	MLR	16 03 48.7		
	comp=Z,138nm,23.0s								
YKA	**Yellowknife Ar**	**104.24**	**26**		Pdiff	**Pdif**	**15 15 07.7**	**-0.4**	
	comp=Z,0.3nm,0.8s,baz=291,slow=3.6,SNR=5.4								
NVAR	**Mina Array Bea**	**107.00**	**51**		PKKP		15 30 60.0		
	comp=Z,0.4nm,0.6s,baz=134,slow=2.6,SNR=3.6								
PFO	**Pinyon Flats O**	**109.07**	**56**		P		15 19 33.5		
	baz=277								
TPFO	**Pinon Flats**	**109.08**	**56**		P		15 19 34.3		
	baz=277								
IKP	**In-Ko-Pah, Jac**	**109.48**	**57**		P		15 19 33.8		
	baz=277								
VYHS	**Vyhne**	**110.22**	**320**		*e*P	**Pdif**	**15 15 31.9**	**-3.2**	
VYHS	**Vyhne**	**110.22**	**320**		*e*PDIFF	**Pdif**	**15 15 31.8**	**-3.3**	
PDAR	**Pinedale Array**	**112.71**	**46**		PKKPbc	PKKPbc	15 30 31.6	+0.5	
	comp=Z,0.8nm,0.8s,baz=131,slow=6.1,SNR=4.0								
CLL	**Collm**	**112.87**	**324**		*e*PP	**PP**	**15 20 29.0**	**-0.4**	
CLL					*e*		15 28 42.0		
CLL					*e*PPS	PPS	15 31 12.0		
CLL					*e*SS	SS	15 35 54.0	-16	
CLL					*e*		15 36 54.0		
CLL					*e*		15 47 18.0		
CLL					LmV		16 13 00.0		
	comp=Z,200nm,19.5s								
CLL					Lm	MLR	16 58 00.0		
	comp=N,400nm,20.7s								
CLL					Lm	MLR	16 58 00.0		
	comp=E,500nm,20.5s								
CLL					Lm	MLR	16 58 00.0		
	comp=Z,700nm,19.8s								
CLL	**Collm**	**112.87**	**324**		*e*PKIKP	**PKiKP**	**15 19 39.0**	**-2.3**	
CLL					*e*		15 20 29.0		
MNTX	**Cornudas Mount**	**118.60**	**57**		P		15 19 52.3		
	baz=283								
TXAR	**Lajitas Array**	**120.56**	**59**		PKP	**PKiKP**	**15 19 57.8**	**+0.8**	
	comp=Z,0.6nm,0.8s,baz=310,slow=2.9,SNR=4.9								
ECSD	**EROS Data Cent**	**121.24**	**41**		P		15 19 57.2		
	baz=296								
EYMN	**Ely**	**122.29**	**35**		P		15 19 58.9		
	baz=303								
JCT	**Junction City**	**123.54**	**57**		PKIKP	**PKPdf**	**15 20 02.5**	**0.0**	
JCT	**Junction City**	**123.54**	**57**			**PKPdf**	**15 20 02.5**	**0.0**	
P38A	**Dawn**	**125.11**	**44**		PKPdf	**PKPdf**	**15 20 04.6**	**-0.6**	
S39A	**Bolivar**	**126.10**	**46**		PKPdf	**PKPdf**	**15 20 06.8**	**-0.4**	
MATQ	**Matagami**	**128.05**	**26**		P		15 20 10.1		
	baz=319								
LSQQ	**Lebel-sur-Quev**	**128.86**	**26**		P		15 20 11.6		
	baz=319								
CHGQ	**Chibougamau**	**129.28**	**23**		P		15 20 12.6		
	baz=322								
D56A	**ZEC Mazanza, M**	**131.36**	**26**		P		15 20 16.2		
	baz=321								
TORD	**Torodi Ar. Bea**	**132.21**	**283**		PKP	**PKPdf**	**15 20 19.9**	**+0.6**	
	comp=Z,1.1nm,0.7s,baz=47,slow=2.6,SNR=5.3								
D62A	**Allapoint, All**	**133.63**	**22**		P		15 20 20.8		
	baz=328								
D63A	**Stockholm**	**134.01**	**21**		P		15 20 21.6		
	baz=329								
E63A	**Oxbow**	**134.42**	**22**		P		15 20 22.0		
	baz=328								
PLTB	**Pedras Altas**	**142.75**	**169**		PKPdf	**PKPdf**	**15 20 36.9**	**-1.6**	
LVC	**Limon Verde**	**144.62**	**142**		PKIKP	PKPbc	15 20 41.7	+0.6	
LVC	**Limon Verde**	**144.62**	**142**		PKPdf	PKPbc	15 20 41.7	+0.6	
NNA	**Nana**	**145.06**	**119**		PKIKP	**PKPdf**	**15 20 42.8**	**-0.1**	
NNA	**Nana**	**145.06**	**119**			**PKPdf**	**15 20 42.8**	**-0.1**	
PB01	**IPOC Station P**	**145.40**	**139**		PKPdf	**PKPab**	**15 20 44.4**	**+0.9**	
PB11	**IPOC Station P**	**146.19**	**137**			**PKPdf**	**15 20 44.6**	**-0.3**	
MNMC	**Minye Minye**	**146.66**	**137**			**PKPbc**	**15 20 47.0**	**-0.4**	
CPUP	**Villa Florida**	**147.00**	**161**		PKPbc	**PKPab**	**15 20 48.6**	**-0.6**	
	comp=Z,23nm,1.2s,baz=207,slow=1.8,SNR=17								
CPUP	**Villa Florida**	**147.00**	**161**		PKP2	**PKPab**	**15 20 49.0**	**-0.3**	
CPUP	**Villa Florida**	**147.00**	**161**			**PKPab**	**15 20 49.0**	**-0.3**	
POPC	**Popayan, Colom**	**149.37**	**93**		*e*P	**PKPdf**	**15 20 49.6**	**-3.5**	
LPAZ	**La Paz**	**149.62**	**135**		PKPbc	**PKiKP**	**15 20 58.0**	**+1.2**	
	comp=Z,5.1nm,0.9s,baz=188,slow=1.5,SNR=13								
LPAZ	**La Paz**	**149.62**	**135**		PKHKP	PKPpre	15 20 50.9		
LPAZ	**La Paz**	**149.62**	**135**		PKPdf	**PKPdf**	**15 20 50.9**	**-0.2**	
LPAZ						**PKiKP**	**15 20 58.0**	**+1.2**	
LPAZ	**La Paz**	**149.62**	**135**		*e*P	**PKiKP**	**15 20 56.5**	**-0.3**	
YOTC	**Yotoco, Valle**	**149.81**	**91**		*e*P	**PKPbc**	**15 20 55.5**	**-0.2**	
PLMC	**San Jos del P**	**149.91**	**89**		*e*P	**PKPbc**	**15 20 56.5**	**+0.6**	
DBBC	**Dabeiba**	**149.97**	**85**		*e*P	**PKPbc**	**15 20 56.1**	**0.0**	
MARP	**Paez Belalcaza**	**150.12**	**93**		*e*P	**PKPbc**	**15 20 55.5**	**-1.1**	
FLOC	**Florencia**	**150.28**	**96**		*e*P	**PKPbc**	**15 20 56.5**	**-0.3**	
SJCC	**San Jacinto, C**	**150.75**	**79**		PKPdf	**PKPdf**	**15 20 50.7**	**-1.6**	
SJCC						**PKiKP**	**15 20 58.9**	**+0.4**	
GUY2C	**Guyana, Caldas**	**150.83**	**88**		*e*P	**PKiKP**	**15 20 59.4**	**+0.1**	
TOLC	**Tolima**	**150.86**	**90**		*e*P	**PKPdf**	**15 20 55.5**	**+2.7**	
ORTC	**Ortega, Tolima**	**150.90**	**91**		*e*P	**PKPbc**	**15 20 56.5**	**-1.8**	
PTLC	**Puerto Leguiza**	**150.92**	**99**		*e*P	**PKPbc**	**15 20 56.5**	**-1.8**	
PRAC	**Prado**	**151.25**	**91**		*e*P	**PKPbc**	**15 20 57.4**	**-1.6**	
ZARC	**Zaragoza, Cauc**	**151.28**	**84**		*e*P	**PKPdf**	**15 20 50.8**	**-2.3**	
NORC	**Norcasia**	**151.32**	**88**		*e*P	**PKPbc**	**15 20 58.4**	**-0.8**	
SDDR	**Presa de Saban**	**151.75**	**58**		*e*P	**PKPdf**	**15 20 55.5**	**+1.8**	
ROSC	**El Rosal**	**151.86**	**89**		PKPbc	**PKiKP**	**15 21 01.7**	**+0.4**	
	comp=Z,13nm,0.4s,baz=285,slow=8.0,SNR=5.1								
ROSC	**El Rosal**	**151.86**	**89**		PKIKP	**PKPbc**	**15 21 01.0**	**+0.1**	
ROSC	**El Rosal**	**151.86**	**89**			**PKPbc**	**15 21 00.9**	**+0.1**	
ROSC	**El Rosal**	**151.86**	**89**		*e*P	**PKPbc**	**15 20 59.4**	**-1.5**	

*IDC **25** 15:22:17.5±1.6,27.61N×85.12E,h0km,mb3.7/6, mb1 3.9/8,mb1mx3.6/59,mbtmp3.8/8,ML3.4/2 Error ellipse: s-maj=64.4km s-min=20.2km az=65.0*

*NEIC **25** 15:22:19.4±2.6,27.8N±0.2×85.3E±0.2,h10km±2km, mb3.7/8,Error ellipse: s-maj=29.9km s-min=19.5km az=218.0*

*NDI **25** 15:22:21.6±1.8,28.47N×85.35E,h10km,ML3.3, mb3.7(NEIC)*

ISC 25 15:22:17.6±0.6,**27.68N**±0.06×**85.19E**±0.06,**h10**km,**n25,** σ2**s06**/26,**mb3.9/8,Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**3.05**	**96**	*e*P	**Pb**	**15 23 11.8**	**-0.2**
GTK				*e*S	**Sb**	**15 23 46.5**	**-3.0**
GTK				IAML		15 23 55.9	
	comp=N,115nm,0.3s						
BOK	**Bokaro**	**3.92**	**171**	*e*P	**Pg**	**15 23 30.9**	**-1.8**
BOK				*e*S	**Sg**	**15 24 24.6**	**+1.0**
BOK				IAML		15 24 26.4	
	comp=E,74nm,0.7s						
LSA	**Lhasa**	**5.61**	**68**	Pn	**Pn**	**15 23 38.9**	**-2.6**
SMLA	**Simla**	**7.80**	**298**	*e*P	**Pn**	**15 24 11.3**	**+0.3**
SMLA				*e*S	**Sn**	**15 25 33.2**	**-6.2**
SMLA				IAML		15 25 37.3	
	comp=N,34nm,0.4s						
WMQ	**Urumqi**	**16.23**	**6**	*e*P	**P**	**15 26 07.0**	**-1.8**
WMQ				SMN			
	comp=N,12nm,0.5s						
WMQ				SME			
	comp=N,18nm,0.5s						
GTA	**Gaotai**	**16.87**	**42**	*e*P	**P**	**15 26 15.5**	**-0.5**
GTA				pP	sP	15 26 19.3	-1.5
GTA				sP	pP	15 26 22.0	+2.7
GTA				pmax	pmax		
	comp=N,2.0nm,1.0s						
BTK	**Batken**	**17.14**	**320**	Pn	**Pn**	**15 26 16.7**	**-0.6**
BTK				IAmb	IAmb	15 26 23.4	
	comp=Z,2.2nm,0.6s						
AAK	**Ala-Archa**	**17.27**	**333**	P	**P**	**15 26 20.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=189,slow=13,SNR=1.2						
AAK	**Ala-Archa**	**17.27**	**333**	P	**Pn**	**15 26 19.7**	**+0.7**
AAK				IAmb	IAmb	15 26 45.8	
	comp=Z,2.1nm,0.5s						
LZH	**Lanzhou**	**17.90**	**57**	*e*P	**P**	**15 26 27.8**	**+0.3**
LZH				sP	sP	15 26 31.5	-0.7
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
MK31	**Makanchi Array**	**19.21**	**354**	P	**Pn**	**15 26 41.9**	**-0.8**
MKAR	**Makanchi Array**	**19.21**	**354**	P	**Pn**	**15 26 41.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**19.21**	**354**	P	**P**	**15 26 41.3**	**-0.4**
KURBB	**Kurchatov Arra**	**23.47**	**349**	P	**P**	**15 27 29.1**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=172,slow=9.5,SNR=5.0						
KURK	**Kurchatov**	**23.54**	**350**	P	**P**	**15 27 29.1**	**+1.2**
HHC	**Hu-ho-hao-te**	**25.34**	**52**	*e*P	**P**	**15 27 46.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,7.3s						
SONM	**Songino Array**	**26.04**	**34**	P	**P**	**15 27 53.7**	**+2.7**
	comp=Z,1.5nm,0.7s,baz=219,slow=11,SNR=5.8						
SONM	**Songino Array**	**26.04**	**34**	IAmb	IAmb	15 27 59.1	
	comp=Z,1.7nm,1.0s						
ULN	**Ulaanbaatar**	**26.38**	**34**	P	**P**	**15 27 55.9**	**+1.7**
ULN				IAmb	IAmb	15 28 02.6	
	comp=Z,2.9nm,0.8s						
TIXI	**Tiksi**	**50.10**	**17**	P	**P**	**15 31 13.0**	**+0.7**
ARCES	**ARCESS Array B**	**53.84**	**338**	P	**P**	**15 31 42.6**	**+2.3**
	comp=Z,2.9nm,0.9s,baz=110,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**67.11**	**129**	P	**P**	**15 33 12.9**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=322,slow=6.3,SNR=7.1						
WRA	**Warramunga Arr**	**67.11**	**129**	IAmb	IAmb	15 33 21.2	
	comp=Z,0.4nm,1.4s						
ASAR	**Alice Springs**	**69.39**	**133**	P	**P**	**15 33 27.3**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=319,slow=6.6,SNR=8.0						
YKA	**Yellowknife Ar**	**88.75**	**9**	P	**P**	**15 35 13.7**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=335,slow=5.0,SNR=3.1						

IDC 25 15:24:21.3±6.3,**4.89S**×**134.33E,h0**km,**mb3.7**/1, **mb1 3.7**/3,**mb1mx3.3**/31,**mbtmp3.5**/3,**ML3.1/2,Error ellipse: s-maj=347.0km s-min=31.7km az=79.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.96**	**180**	Pn	Pn	15 27 52.5	-1.7
	0.1nm,0.3s,baz=359,slow=13,SNR=1.8						
WRA				Sn	Sn	15 30 31.9	-8.9
	0.1nm,0.3s,baz=359,slow=23,SNR=1.5						
FITZ	**Fitzroy Crossi**	**15.63**	**212**	Sn	Sn	15 30 41.9	-15
	0.2nm,0.3s,baz=270,slow=9.1,SNR=1.3						
ASAR	**Alice Springs**	**18.67**	**181**	P	Pn	15 28 41.7	+0.3
	0.1nm,0.3s,baz=4.0,slow=11,SNR=14						
MKAR	**Makanchi Array**	**68.93**	**325**	P	P	15 35 28.2	0.0
	0.4nm,0.4s,baz=120,slow=6.5,SNR=6.6						

IDC 25 15:30:27.7±3.1,**5.00S**×**133.79E,h0**km,**mb3.8**/1, **mb1 3.8**/4,**mb1mx3.5**/28,**mbtmp3.7**/4,**ML3.2**/3,**Error ellipse: s-maj=131.2km s-min=29.4km az=82.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.86**	**178**	Pn	Pn	15 33 58.0	-1.4
	0.1nm,0.3s,baz=356,slow=13,SNR=1.7						
WRA				Sn	Sn	15 36 38.8	-6.0
	0.1nm,0.3s,baz=9.5,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**15.26**	**211**	Pn	Pn	15 34 04.7	0.0
	0.1nm,0.3s,baz=29,slow=12,SNR=6.5						
FITZ				Sn	Sn	15 36 47.5	-7.0
	0.2nm,0.3s,baz=227,slow=21,SNR=1.6						
ASAR	**Alice Springs**	**18.56**	**180**	P	Pn	15 34 46.6	+0.2
	0.1nm,0.3s,baz=3.3,slow=10,SNR=11						
ASAR				S	Sn	15 38 07.1	-7.5
	0.0nm,0.3s,baz=354,slow=25,SNR=1.4						
MKAR	**Makanchi Array**	**68.70**	**325**	P	P	15 41 33.3	0.0
	0.5nm,0.6s,baz=120,slow=7.7,SNR=7.7						

*NEIC **25** 15:38:24.4±1.7,47.67N±0.06×91.95W±0.09,h0km±2km, mb_Lg2.2/7,Error ellipse: s-maj=12.7km s-min=7.0km az=43.0*

*IDC **25** 15:38:27.9±4.8,47.78N×92.05W,h0km,mb1 2.5/1, mb1mx2.5/41,mbtmp2.5/1,ML1.0/1,Error ellipse: s-maj=79.2km s-min=30.2km az=46.0*

ISC 25 15:38:23.8±1.0,**47.63N**±0.05×**91.99W**±0.04,**h0**km,**n19,** σ0**s99**/17,**Minnesota**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**0.46**	**47**		**Pg**	**15 38 32.3**	**-0.3**
E38A	**The Farm, Brul**	**1.07**	**164**		**Pg**	**15 38 44.3**	**-0.1**
B35A	**Bob, Littlefor**	**1.37**	**303**		**Pg**	**15 38 50.5**	**+0.3**
F36A	**Milaca**	**2.06**	**211**		**Pb**	**15 39 01.4**	**-0.7**
F36A				IAmb_Lg		15 39 35.1	
	comp=Z,4.9nm,0.7s						
D41A	**Chassel**	**2.40**	**103**	Pn	**Pn**	**15 39 05.2**	**+0.9**
COWI	**Conover**	**2.49**	**127**	Pn	**Pn**	**15 39 06.9**	**+1.3**
COWI				IAmb_Lg		15 39 49.5	
	comp=Z,4.1nm,0.8s						
G40A	**Rib Lake**	**2.67**	**152**		**Pn**	**15 39 08.6**	**+0.5**
G40A				IAmb_Lg		15 39 50.8	
	comp=Z,12nm,0.8s						
AGMN	**Agassiz Nation**	**2.68**	**286**	Pn	**Pn**	**15 39 08.9**	**+0.7**
D32A	**Dogwood Acres,**	**3.45**	**264**	Pn	**Pn**	**15 39 19.5**	**+0.7**
F33A	**5 Mile Ranch,**	**3.46**	**240**	Pn	**Pn**	**15 39 20.4**	**+1.5**
E43A	**Lone Tree Farm**	**3.64**	**108**	Pn	**Pn**	**15 39 22.1**	**+0.6**
ULM	**Lac du Bonnet**	**3.66**	**317**	Pn	**Pn**	**15 39 22.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=147,slow=10,SNR=1.3						
ULM				Sn	**Sn**	**15 40 04.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=9.1,slow=16,SNR=1.9						
ULM				Lg	Lg	15 40 16.8	
	comp=Z,0.8nm,0.3s,baz=50,slow=21,SNR=7.9						
ULM	**Lac du Bonnet**	**3.66**	**317**		**Pn**	**15 39 21.9**	**+0.2**
I10CA	**LAC DU BONNET**	**3.70**	**316**	*i*		16 00 00.0	
	baz=131,slow=318,SNR=5.1						
I40A	**Norwalk**	**3.86**	**165**	Pn	**Pn**	**15 39 24.4**	**-0.1**
H43A	**Windswept, Lux**	**4.32**	**136**	Pn	**Pn**	**15 39 30.6**	**-0.1**
H43A				IAmb_Lg		15 40 43.7	
	comp=Z,8.0nm,0.8s						
G45A	**Suttons Bay**	**5.10**	**118**	Pn	**Pn**	**15 39 43.3**	**+1.9**
K43A	**Burlington**	**5.57**	**151**	IAmb_Lg		15 41 19.8	
	comp=Z,8.5nm,0.9s						
I56US	**NEWPORT INFRAS**	**16.83**	**281**	*i*		17 22 00.0	
	baz=84,slow=316,SNR=2.0						

*MOS **25** 15:41:14.5±1.2,10.37S×152.13E,h10km,mb5.4/56, MS4.9/6,Error ellipse: s-maj=7.6km s-min=5.7km az=100.7*

*IDC **25** 15:41:14.6±0.6,10.34S×152.18E,h0km,mb4.9/24, mb1 5.0/28,mb1mx4.9/38,mbtmp4.9/28,ML4.8/3,MS4.8/30, Ms1 4.8/30,ms1mx4.7/37,Error ellipse: s-maj=15.7km s-min=12.3km az=120.0*

*NEIC **25** 15:41:16.4±1.8,10.31S±0.07×152.13E±0.04,h10km±1km, mb5.4/154,Mwc5.4(GCMT),Error ellipse: s-maj=11.4km s-min=5.8km az=187.0*

*DJA **25** 15:41:17.8±1.9,10.5±4.4×15.2E±.,h19km±15km,M5.2/14, mb5.2/14,mB5.5/8,MLv5.4/2,Mw(mB)4.9/8,MwMwp4.2/1, Mwp4.7/1*

*GCMT **25** 15:41:18.4±0.1,10.26S±0.01×152.11E±0.01,h12km, MW5.4/147,Moment Tensor Solution. s111,c181; s147,c298; Duration: 1ŝ2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$ 1.23±.01; $M_{\phi\phi}$-1.16±.01; $M_{r\theta}$-0.01±.04; $M_{\theta\phi}$ 0.71±.01; $M_{\phi r}$ 0.03±.04; Best double couple: $M_0$1.38900×10^{17} NP1:ϕ1 20.00000°,δ89.00000°, λ-1.00000°. NP2:ϕ2 10.00000°,δ89.00000°, λ-179.00000°. Principal axes: T 1.4240, Plg0.0000°, Azm345.0000°; N -0.0660, Plg89.0000°, Azm254.0000°; P -1.3550, Plg1.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **25** 15:41:18, 10.28S×152.13E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.10; $M_{\theta\theta}$ 1.36; $M_{\phi\phi}$-1.25; $M_{r\theta}$-0.27; $M_{\theta\phi}$ 0.72; $M_{\phi r}$ 0.04; Fault plane solution: $M_0$1.52000×10^{17} NP1:ϕ1 210.00000°, δ81.00000°,λ177.00000°. NP2:ϕ2 301.00000°, δ87.00000°, λ9.00000°. Principal axes: T 1.5792, Plg8.0000°, Azm166.0000°; N -0.1340, Plg80.0000°, Azm317.0000°; P -1.4451, Plg5.0000°, Azm75.0000°;*

*BJI **25** 15:41:19.0±0.0,10.40S×152.10E,h30km,mB5.4/57, mb5.1/67,Ms5.1/65,Ms7 4.9/65*

ISC 25 15:41:16.0±0.3,**10.39S**±0.04×**152.13E**±0.04,**h10**km,**n395,** σ1ŝ**64**/392,**mb5.3**/162,**MS4.9**/62,**35C-40D,Fault plane solution: NP1:**ϕ1 291.54862°,δ75.34750°,λ4.17119°. **NP2:**ϕ2 200.49173°,δ85.96469°,λ165.31027°. **Principal axes:** T Plg13.2162°, Azm155.1279°; N Plg74.7779°, Azm5.4658°; P Plg7.4180°, Azm246.8801°; **Fault plane solution: NP1:**ϕ1 318.18927°,δ84.11423°,λ-18.48438°. **NP2:**ϕ2 50.15262°,δ71.61656°,λ-173.79649°. **Principal axes:** T Plg8.6555°, Azm5.4742°; N Plg70.6324°, Azm121.1357°; P Plg17.1884°, Azm272.7752°;

D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.99**	**281**	Pn	**Pn**	**15 42 30.3**	**-0.7**
	16nm,0.3s,baz=86,slow=7.0,SNR=44						
PMG				Lg	Lg	15 43 51.5	
	37nm,0.3s,baz=110,slow=18,SNR=1.3						
PMG				LR	LR	15 44 40.3	
	comp=Z,17μm,22.0s,baz=103,slow=41						
PMG	**Port Moresby**	**4.99**	**281**	*d* iP	**Pn**	**15 42 30.0**	**-1.1**
PMG				pmax	pmax		
	comp=Z,116nm,0.8s						
PMG	**Port Moresby**	**4.99**	**281**	Pn	**Pn**	**15 42 30.1**	**-1.0**
PMG	**Port Moresby**	**4.99**	**281**	P	**Pn**	**15 42 30.4**	**-0.7**
RABL	**Rabaul**	**6.16**	**0**	Pn	**Pn**	**15 42 43.7**	**-3.4**
HNR	**Honiara**	**7.76**	**84**	Pn	**Pn**	**15 43 10.0**	**+0.9**
	comp=Z,12nm,0.3s,baz=195,slow=8.2,SNR=32						
HNR				LR	LR	15 45 42.4	
	comp=Z,9μm,21.9s,baz=267,slow=35						
HNR	**Honiara**	**7.76**	**84**	P	**Pn**	**15 43 11.8**	**+2.7**
HNR	**Honiara**	**7.76**	**84**	Pn	**Pn**	**15 43 11.8**	**+2.7**
MANU	**Manus Island**	**9.55**	**330**		**Pn**	**15 43 33.5**	**-0.1**
MTSU	**Mount Surprise**	**10.80**	**224**	P	**Pn**	**15 43 51.7**	**+0.9**
	baz=11,SNR=28						
MTSU				S	**Sn**	**15 45 48.4**	**-3.4**
	baz=11						
CTA	**Charters Tower**	**11.18**	**210**	Pn	**Pn**	**15 43 56.4**	**+0.4**
	comp=Z,7.4nm,0.3s,baz=24,slow=14,SNR=65						
CTA				Sn	**Sn**	**15 45 57.6**	**-3.6**
	comp=Z,3.5nm,0.3s,baz=302,slow=21,SNR=6.3						
CTA				LR	LR	15 47 52.3	
	comp=Z,7μm,19.0s,baz=29,slow=35						
CTAO	**Charters Tower**	**11.18**	**210**	P	**Pn**	**15 43 56.5**	**+0.4**
CTAO	**Charters Tower**	**11.18**	**210**	Pn	**Pn**	**15 43 56.5**	**+0.4**
GENI	**Genyem**	**14.18**	**302**	P	**Pn**	**15 44 35.6**	**-1.5**
	comp=Z,134nm,1.1s						
EIDS	**Eidsvold**	**14.93**	**184**	P	**Pn**	**15 44 48.6**	**+1.3**
	baz=15,SNR=14						
EIDS	**Eidsvold**	**14.93**	**184**	Pn	**Pn**	**15 44 47.6**	**+0.3**
EIDS				IAmb	IAmb	15 44 57.0	
	comp=Z,124nm,0.9s						
QIS	**Mount Isa**	**15.73**	**229**	P	**Pn**	**15 44 59.8**	**+1.9**
	baz=16,SNR=83						
RMQ	**Roma**	**16.33**	**191**	P	**P**	**15 45 08.6**	**+0.2**
	baz=16,SNR=39						
QLP	**Quilpie**	**17.75**	**204**	P	**P**	**15 45 25.4**	**+1.2**
	baz=18,SNR=9.0						
LIFNC	**LIFOU**	**17.83**	**127**	P	**P**	**15 45 25.7**	**+0.6**
LIFNC				IAmb	IAmb	15 45 51.8	
	comp=Z,258nm,1.3s						
DZM	**Mont Dzumac**	**17.98**	**132**	P	**P**	**15 45 29.5**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=342,slow=11,SNR=5.2						
DZM				LR	LR	15 51 35.6	
	comp=Z,14μm,19.3s,baz=324,slow=35						
DZM	**Mont Dzumac**	**17.98**	**132**	*e*P	**P**	**15 45 29.4**	**+2.6**
	comp=Z,144nm,1.6s						
DZM				*e*LR	LR	15 49 42.0	
	comp=Z,16μm,22.8s						
DZM	**Mont Dzumac**	**17.98**	**132**	P	**P**	**15 45 28.4**	**+1.6**
PATS	**Pohnpei**	**18.19**	**20**		**Pn**	**15 45 27.1**	**-1.7**
PATS				IAmb	IAmb	15 46 15.7	
	comp=Z,757nm,1.9s						
KDU	**Kakadu**	**19.39**	**261**	P	**Pn**	**15 45 43.5**	**+0.1**
	baz=19,SNR=17						
WR0	**Warramunga Arr**	**19.44**	**239**		**P**	**15 45 43.9**	**+1.0**
WB0	**Warramunga Arr**	**19.48**	**239**	P	**P**	**15 45 44.1**	**+0.8**
WRAB	**Tennant Creek**	**19.59**	**239**	*d* iP	**Pn**	**15 45 45.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,94nm,1.3s						
WRAB	**Tennant Creek**	**19.59**	**239**	P	**P**	**15 45 44.1**	**-0.4**
WB2	**Warramunga Arr**	**19.59**	**239**	P	**P**	**15 45 45.1**	**+0.5**
WRA	**Warramunga Arr**	**19.61**	**239**	P	**P**	**15 45 45.5**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=61,slow=10,SNR=94						
WRA				S	S	15 49 17.2	-8.9
	comp=Z,0.3nm,0.3s,baz=56,slow=21,SNR=4.6						
WRA				LR	LR	15 52 45.5	
	comp=Z,5μm,20.9s,baz=55,slow=35						
WRA	**Warramunga Arr**	**19.61**	**239**	*c*eP	**Pn**	**15 45 45.9**	**-0.1**
WRA				pmax	pmax		

BATI LR LR 15 59 57.8
comp=Z,9µm,18.0s,baz=102,slow=40
MMRI Maumere 29.53 271 P **P** **15 47 21.1 +0.1**
MMRI IAmb IAmb 15 47 28.1
comp=Z,107nm,1.2s
FORT Forrest 30.20 224 P **P** **15 47 27.2 +0.5**
baz=30,SNR=6.3
FORT Forrest 30.20 224 P **P** **15 47 26.1 -0.6**
FORT IAmb IAmb 15 47 27.8
comp=Z,48nm,0.9s
LUWI Luwuk 30.62 286 P **P** **15 47 31.7 +1.1**
GTOI Gorontalo 30.97 289 P **P** **15 47 35.2 +1.5**
comp=Z,770nmcomp=Z,75nm,1.1s
APSI Ampana 31.73 285 P **P** **15 47 38.8 -1.6**
comp=Z,956nmcomp=Z,74nm,1.1s
KAPI Kappang 32.51 277 P **P** **15 47 48.9 +1.6**
comp=Z,15nm,0.3s,baz=83,slow=11,SNR=7.7
KAPI Kappang 32.51 277 P **P** **15 47 47.9 +0.6**
KAPI pmax pmax
comp=Z,169nm,1.7s
KAPI Kappang 32.51 277 P **P** **15 47 47.9 +0.6**
WAKE Wake Island 32.78 26 P **P** **15 47 49.1 -0.4**
PSA00 Pilbara Seismi 32.90 246 P **P** **15 47 49.7 -0.9**
PSA00 IAmb IAmb 15 47 57.2
comp=Z,43nm,1.4s
PSA00 Pilbara Seismi 32.90 246 P **P** **15 47 49.6 -1.1**
PSA00 IAmb IAmb 15 47 57.2
comp=Z,77nm,1.4s
TOLI2 Tolitoli 33.22 288 P **P** **15 47 52.7 -0.8**
TOLI2 IAmb IAmb 15 47 59.9
comp=Z,42nm,1.1s
MPSI Mapaga 33.78 286 P **P** **15 47 57.7 -0.7**
comp=Z,522nmcomp=Z,27nm,1.2s
AFI Afiamalu 35.44 99 P **P** **15 48 12.2 -0.6**
AFI pmax pmax
comp=Z,93nm,1.2s
AFI Afiamalu 35.44 99 P **P** **15 48 12.2 -0.6**
AFI IAmb IAmb 15 48 16.1
comp=Z,93nm,1.2s
MEEK Meekatharra 35.51 238 P **P** **15 48 13.3 +0.1**
baz=35,SNR=8.8
URZ Urewera 35.66 145 P **P** **15 48 15.1 +0.7**
BKZ Black Stump Fm 35.96 147 P **P** **15 48 15.4 -1.7**
BKZ IAmb IAmb 15 48 19.6
comp=Z,78nm,1.6s
BKB Balikpapan 36.17 282 P **P** **15 48 21.7 +2.7**
THZ Tophouse 36.19 153 P **P** **15 48 20.2 +1.2**
THZ IAmb IAmb 15 48 37.9
comp=Z,56nm,1.5s
TUWZ Tuamarina 36.40 152 P **P** **15 48 21.9 +1.3**
BSWZ Blackbirch Sta 36.59 152 P **P** **15 48 22.9 +0.6**
LTZ Lake Taylor 36.75 155 P **P** **15 48 24.0 +0.3**
BHW Baring Head 36.82 151 P **P** **15 48 25.1 +0.9**
MSWZ Moikau Station 37.00 151 P **P** **15 48 25.6 -0.2**
OXZ Oxford 37.10 156 P **P** **15 48 26.9 +0.2**
MQZ McQueen's Vall 37.67 155 P **P** **15 48 33.2 +1.8**
KLBR Kellerberrin 38.16 231 P **P** **15 48 35.6 -0.1**
baz=38,SNR=9.2
GIRL Giralia 38.20 247 P **P** **15 48 35.1 -1.2**
JCJ Chichijima 38.49 346 P **P** **15 48 38.1 -0.4**
MORW Morawa 38.50 236 P **P** **15 48 38.8 +0.1**
baz=38,SNR=7.1
MORW Morawa 38.50 236 P **P** **15 48 37.9 -0.8**
SPMM Sapulul 38.55 291 P **P** **15 48 41.0 +1.7**
NWAO Narrogin (SRO) 39.14 230 P **P** **15 48 44.0 0.0**
comp=Z,14nm,0.9s,baz=71,slow=11,SNR=4.7
NWAO LR LR 16 05 04.5
comp=Z,2µm,18.8s,baz=73,slow=36
NWAO Narrogin (SRO) 39.14 230 P **P** **15 48 43.6 -0.4**
NWAO pmax pmax
comp=Z,67nm,1.4s
NWAO Narrogin (SRO) 39.14 230 P **P** **15 48 43.6 -0.4**
NWAO Narrogin (SRO) 39.14 230 P **P** **15 48 43.7 -0.4**
NWAO IAmb IAmb 15 50 04.5
comp=Z,49nm,1.4s
TGY Tagaytay City 39.36 308 P **P** **15 48 47.0 +1.0**
comp=Z,218nm,0.4s,baz=94,slow=19,SNR=1.8
SBUM Sibu 41.73 286 P **P** **15 49 07.0 +1.4**
KSM Kuching 43.25 283 P **P** **15 49 20.0 +1.9**
LEM Lembang 44.13 271 P **P** **15 49 26.9 +1.6**
comp=Z,12nm,0.4s,baz=142,slow=7.6,SNR=7.3
TPUB Ta-pu 45.51 318 P **P** **15 49 35.0 -1.0**
TPUB IAmb IAmb 15 49 46.4
comp=Z,54nm,1.1s
JSG Sagara 46.73 344 P **P** **15 49 44.3 -1.0**
JMN Monobe 47.18 339 P **P** **15 49 48.3 -0.7**
INU Inuyama 47.68 343 P **P** **15 49 51.5 -1.3**
JYT Yasato 47.71 347 P **P** **15 49 52.7 -0.3**
JGF Kuroka 47.82 344 P **P** **15 49 53.0 -0.9**
JWT Wachi 48.10 342 P **P** **15 49 55.6 -0.4**
JWT IAmb IAmb 15 50 02.3
comp=Z,46nm,1.1s
MIDW Midway 48.41 37 P **P** **15 49 57.0 -1.5**
MJAR Matsushiro Arr 48.48 345 P **P** **15 49 57.9 -1.1**
comp=Z,21nm,1.2s,baz=167,slow=6.1,SNR=20
MJAR LR LR 16 09 54.0
comp=Z,512nm,18.3s,baz=175,slow=36
MJAR Matsushiro Arr 48.48 345 P **P** **15 49 58.5 -0.5**
MJAR pmax pmax
comp=Z,42nm,1.5s
MJAR Matsushiro Arr 48.48 345 P **P** **15 49 58.5 -0.5**
MJAR IAmb IAmb 15 50 04.2
comp=Z,42nm,1.5s
MAJO Matsushiro 48.49 345*c i* P **P** **15 49 59.5 +0.5**
MAJO pmax pmax
comp=Z,39nm,1.3s
MAJO Matsushiro 48.49 345 P **P** **15 49 58.2 -0.9**
MAJO IAmb IAmb 15 50 08.1
comp=Z,54nm,1.1s
MAT Matsushiro 48.49 345 P **P** **15 49 57.5 -1.5**
MAT S **S** **15 56 59.4 -0.8**
MJB9 Matsu-Tunnel 48.49 345 P **P** **15 49 58.1 -0.9**
MJB9 IAmb IAmb 15 50 08.1
comp=Z,60nm,1.1s
JHS Saijyo 48.60 339 P **P** **15 49 59.4 -0.5**
JHS IAmb IAmb 15 50 19.9
comp=Z,64nm,1.6s
JMM Marumori 49.16 348 P **P** **15 50 03.6 -0.5**
JMM IAmb IAmb 15 50 10.9
comp=Z,33nm,1.1s
JSD Sado 49.89 346 P **P** **15 50 09.0 -0.7**
JSD IAmb IAmb 15 50 20.4
comp=Z,58nm,1.5s
SSE Sheshan 50.82 325 P **P** **15 50 19.5 +2.6**
SSE S **S** **15 57 35.5 +2.5**
SSE pmax pmax
comp=Z,32nm,0.7s
SSE pmax pmax
comp=Z,210nm,4.6s
SSE L L
comp=Z,410nm,20.7s
SSE L L
comp=Z,440nm,20.6s
QIZ Qiongzhong 50.92 305 P **P** **15 50 19.0 +1.2**
QIZ S **S** **15 57 36.3 +1.5**
QIZ ScS **ScS** **16 00 02.0 -7.3**
QIZ SS **SS** **16 01 08.8 -1.1**
QIZ L L
comp=Z,320nm,16.2s
QIZ L L
comp=Z,430nm,22.6s
QIZ L L
comp=Z,600nm,27.5s
BKNI Bangkinang 51.91 279 P **P** **15 50 25.6 +0.2**
JTM Tenmabayashi 51.93 349 P **P** **15 50 24.8 -0.2**
JTM IAmb IAmb 15 50 29.4
comp=Z,48nm,1.2s
KSRS Korea Array 52.73 336 P **P** **15 50 31.0 0.0**
comp=Z,6.2nm,0.9s,baz=152,slow=8.4,SNR=18
KSRS LR LR 16 11 13.2
comp=Z,536nm,19.5s,baz=158,slow=34
KSRS Korea Array 52.73 336 P **P** **15 50 31.0 0.0**
KSAR Wonju Array Be 52.73 336 P **P** **15 50 31.7 +0.7**
KSAR Wonju Array Be 52.73 336 P **P** **15 50 31.7 +0.7**
ERM Erimo 52.79 352 P **P** **15 50 32.9 +1.5**
ERM pmax pmax
comp=Z,27nm,1.3s
ERM Erimo 52.79 352 P **P** **15 50 32.9 +1.5**
KS19 Wonju Array Si 52.79 336 P **P** **15 50 31.1 -0.5**
KS19 IAmb IAmb 15 51 18.9
comp=Z,130nm,1.9s
JEM Erimo 52.79 352 P P 15 50 46.3 +15
NJ2 Nanjing 52.85 324 ⇓P **P** **15 50 35.0 +2.9**
NJ2 S **S** **15 58 07.0 +6.0**
NJ2 sS sS 15 58 16.3 +11
NJ2 pmax pmax
comp=Z,19nm,0.7s
NJ2 pmax pmax
comp=Z,500nm,4.5s
NJ2 L L
comp=Z,940nm,18.0s
NJ2 L L
comp=Z,690nm,18.0s
NJ2 L L
comp=Z,1µm,18.9s
INCN Inchon 53.28 335 P **P** **15 50 35.0 -0.2**
INCN pmax pmax
comp=Z,88nm,1.6s
INCN Inchon 53.28 335 P **P** **15 50 35.0 -0.2**
INCN IAmb IAmb 15 50 47.6
comp=Z,88nm,1.6s
JEW Eniwo 53.86 350 P **P** **15 50 36.5 -2.8**
JEW IAmb IAmb 15 50 50.9
comp=Z,45nm,1.0s
YUK Yuzh-Kuril'sk 54.46 354 *eP* **P** **15 50 41.6 -2.0**
YUK *eS* **S** **15 58 19.5 -2.8**
WHN Wuhan 54.53 320 P **P** **15 50 47.3 +2.9**
WHN S **S** **15 58 24.0 +0.2**
WHN pmax pmax
comp=Z,1µm,4.6s
WHN L L
comp=Z,1µm,18.9s
WHN L L
comp=Z,660nm,11.2s
WHN L L
comp=Z,3µm,38.4s
RPSI Rantau Prapat 54.53 281 P **P** **15 50 44.4 -0.3**
RPSI IAmb IAmb 15 50 48.4
comp=Z,41nm,1.4s
PSI Prapat 54.56 281 P **P** **15 50 46.2 +1.1**
comp=Z,6.4nm,0.9s,baz=12,slow=0.3,SNR=11
PSI Prapat 54.56 281 P **P** **15 50 44.4 -0.7**
PSI pmax pmax
comp=Z,41nm,1.4s
JKA Kamikawa-asahi 54.93 352 P **P** **15 50 47.1 +0.1**
JKA IAmb IAmb 15 50 55.4
comp=Z,32nm,1.0s
ASAJ Asahikawa 54.93 352 P **P** **15 50 47.2 +0.2**
ASAJ pmax pmax
comp=Z,32nm,1.0s
KUR Kuril'sk 55.49 356 *eP* **P** **15 50 47.4 -3.6**
KUR *e**PP **pP** **15 50 51.9 -1.9**
KUR *e* 15 52 52.9
KUR S **S** **15 58 35.3 -0.9**
KUR *e**SS **pS** **15 58 39.0 -0.5**
KUR pmax pmax
comp=Z,600nm,4.6s
KUR pmax pmax
comp=Z,143nm,1.4s
KUR MLR MLR
comp=Z,500nm,18.0s
GSI Gunungsitoli 55.50 279 P **P** **15 50 50.9 -0.9**
GSI IAmb IAmb 15 50 56.0
comp=Z,87nm,1.6s
NONG Nongkai 56.01 300 P **P** **15 50 57.0 +1.7**
comp=Z,24nm,0.8s
CHAI Chaiyaphum 56.09 297 P **P** **15 50 57.5 +1.6**
comp=Z,37nm,0.9s
MSHR Mys Shultsa 56.10 341 *eP* **P** **15 50 56.1 +0.6**
MSHR pmax pmax
comp=Z,20nm,1.3s
VLA Vladivostok 56.37 342⇑ *i* P **P** **15 50 56.6 -0.8**
VLA pmax pmax
comp=Z,34nm,1.2s
DL2 Dalian 56.68 332 P **P** **15 50 59.0 -0.7**
DL2 S **S** **15 58 52.5 +0.3**
DL2 SS **SS** **16 02 42.5 +2.2**
DL2 pmax pmax
comp=Z,53nm,1.1s
DL2 pmax pmax
comp=Z,400nm,3.7s
DL2 L L
comp=Z,770nm,20.3s
DL2 L L
comp=Z,470nm,20.2s
DL2 L L
comp=Z,1µm,21.2s
PPT2 Papeete2 56.84 104 *eS* **S** **15 58 56.0 +0.7**
comp=Z,609nm,26.5s
PPT2 *eLQ* LQ 16 05 17.3
comp=Z,6µm,32.0s
PPT2 *eLR* LR 16 07 38.6
comp=Z,2µm,22.8s,baz=268
PPT Papeete 56.84 104 LR LR 16 10 06.3
comp=Z,809nm,21.9s,baz=268,slow=30
TIA Tai'an 56.88 326 P **P** **15 51 00.0 -1.2**
TIA S **S** **15 58 54.5 -0.6**
TIA pmax pmax
comp=Z,31nm,0.8s
TIA pmax pmax
comp=Z,260nm,6.1s
TIA L L
comp=Z,700nm,21.4s
TIA L L
comp=Z,730nm,22.0s
TIA L L
comp=Z,1µm,22.1s
SLVN Son La 56.89 304 P **P** **15 51 02.2 +0.6**
TBI Tubuai 57.02 111 *eS* **S** **15 58 53.5 -3.9**
comp=Z,338nm,30.8s
TBI *eLQ* LQ 16 05 20.0
comp=Z,3µm,33.5s
TBI *eLR* LR 16 07 44.8
comp=Z,1µm,30.2s,baz=274
USA0B Ussuriysk Arra 57.33 343 P **P** **15 51 04.0 -0.2**
USA0B pmax pmax
comp=Z,51nm,1.5s
USA0B Ussuriysk Arra 57.33 343 P **P** **15 51 04.0 -0.2**
USA0B IAmb IAmb 15 51 09.4
comp=Z,51nm,1.5s
USRK Ussuriysk Ar. 57.33 343 P **P** **15 51 04.9 +0.8**
comp=Z,13nm,1.1s,baz=144,slow=6.8,SNR=18
USRK LR LR 16 13 40.9
comp=Z,513nm,19.9s,baz=145,slow=34
USRK Ussuriysk Ar. 57.33 343 P **P** **15 51 04.4 +0.2**
GYA Guiyang 57.38 311 P **P** **15 51 07.0 +2.0**
GYA pP pwP 15 51 17.5 +10
GYA S **S** **15 59 03.5 +1.4**
ENH Enshi 57.57 316 P **P** **15 51 05.9 -0.4**
ENH IAmb IAmb 15 51 17.9
comp=Z,68nm,1.5s
YSS Yuzh-Sakhalins 57.70 352*c i* P **P** **15 51 06.7 0.0**
YSS pmax pmax
comp=Z,21nm,1.3s
PHIT Phitsanulok 57.99 298 P **P** **15 51 13.7 +4.4**
comp=Z,72nm,0.9s
UTTA Uttaradit 58.10 298 P **P** **15 51 12.9 +2.8**
comp=Z,224nmcomp=Z,21nm,1.1s
UTHA Uthaitani 58.19 296 P **P** **15 51 15.2 +4.4**
comp=Z,26nm,0.8s
MDJ Mudanjiang 58.43 341 P **P** **15 51 12.7 +0.8**
MDJ IAmb IAmb 15 51 17.1
comp=Z,56nm,1.8s
UMPA Umpang Tak 58.96 296 P **P** **15 51 19.1 +2.9**
comp=Z,3µmcomp=Z,57nm,1.0s
CN2 Changchun 59.14 338 *eP* **P** **15 51 16.5 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 L L
comp=Z,500nm,21.0s
CN2 L L
comp=Z,500nm,21.0s
CN2 L L
comp=Z,500nm,23.0s
CRAI Chiangrai 59.32 301 P **P** **15 51 21.0 +2.4**
comp=Z,18nm,1.0s
KMI Kunming 59.68 307⇑ P **P** **15 51 24.0 +2.7**
KMI pP pwP 15 51 34.3 +10
KMI PP **PP** **15 53 35.5 +2.3**
KMI S **S** **15 59 31.3 -1.1**
KMI pmax pmax
comp=Z,40nm,1.3s
KMI pmax pmax
comp=Z,260nm,3.5s
KMI L L
comp=Z,240nm,15.8s
KMI L L
comp=Z,650nm,22.4s
KMI L L
comp=Z,740nm,22.7s
CM04 Chiang Mai Arr 59.73 298 P **P** **15 51 26.0 +4.5**
comp=Z,17nm,1.3s
CM09 Chiang Mai Arr 59.74 298 P **P** **15 51 26.3 +4.7**
comp=Z,187nmcomp=Z,16nm,0.9s
CM01 Chiang Mai Arr 59.76 298 P **P** **15 51 25.6 +3.9**
comp=Z,200nmcomp=Z,23nm,1.2s
CM05 Chiang Mai Arr 59.77 298 P **P** **15 51 25.8 +4.1**
comp=Z,142nmcomp=Z,15nm,1.2s
CM02 Chiang Mai Arr 59.78 298 P **P** **15 51 24.7 +2.9**
comp=Z,157nmcomp=Z,18nm,1.0s
CM31 Chiang Mai Arr 59.79 298 P **P** **15 51 23.2 +1.4**
CM31 IAmb IAmb 15 51 30.4
comp=Z,42nm,1.3s
CMAR Chiang Mai Arr 59.79 298 P **P** **15 51 22.1 +0.2**
comp=Z,17nm,1.1s,baz=122,slow=5.1,SNR=27
CMAR LR LR 16 17 52.2
comp=Z,173nm,19.1s,baz=170,slow=37
CMAR Chiang Mai Arr 59.79 298 *i* P **P** **15 51 23.8 +1.9**
CMAR pmax pmax
comp=Z,17nm,1.1s
CM15 Chiang Mai Arr 59.80 298 P **P** **15 51 24.6 +2.6**
comp=Z,153nmcomp=Z,18nm,1.1s
CM13 Chiang Mai Arr 59.81 298 P **P** **15 51 25.9 +3.9**
comp=Z,152nmcomp=Z,19nm,1.1s
CMMT Chiang Mai 59.93 299 P **P** **15 51 24.0 +1.1**
comp=Z,26nm,1.5s
CHTO Chiang Mai 59.94 299 P **P** **15 51 25.0 +2.1**
comp=Z,26nm,1.5s
BJT Baijiatuau 60.21 329 P **P** **15 51 22.8 -1.5**
BJT pmax pmax
comp=Z,38nm,1.1s
BJT Baijiatuau 60.21 329 P **P** **15 51 22.8 -1.5**
BJT IAmb IAmb 15 51 45.2
comp=Z,38nm,1.1s
BJI Beijing 60.23 329 P **P** **15 51 24.0 -0.4**
BJI S **S** **15 59 37.8 -0.6**
BJI SS **SS** **16 03 32.8 -3.2**
BJI pmax pmax
comp=Z,32nm,1.1s
BJI pmax pmax
comp=Z,560nm,4.7s
BJI L L
comp=Z,750nm,21.7s
BJI L L
comp=Z,510nm,19.1s
BJI L L
comp=Z,1µm,21.7s
XAN Xi'an 60.29 319 P **P** **15 51 24.0 -1.1**
XAN sP pwP 15 51 39.5 +12
XAN S **S** **15 59 39.8 +0.2**
XAN pmax pmax
comp=Z,46nm,1.0s
XAN pmax pmax
comp=Z,450nm,6.5s
XAN L L
comp=Z,420nm,20.8s
XAN L L
comp=Z,490nm,16.7s
XAN L L
comp=Z,750nm,21.2s
SKR Severo-Kuril's 60.91 3 *eP* **P** **15 51 29.9 +1.0**
SKR *eS* **S** **15 59 47.9 +1.1**
SKR pmax pmax
comp=Z,100nm,5.3s
SKR pmax pmax
comp=Z,38nm,1.2s
SKR MLR MLR
comp=Z,300nm,16.0s
SKR MLR MLR
comp=Z,300nm,16.0s
CD2 Chengdu 61.96 313 P **P** **15 51 37.5 +1.0**
CD2 S **S** **16 00 01.3 +0.3**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 L L
comp=Z,480nm,18.6s
CD2 L L
comp=Z,820nm,22.1s
CD2 L L
comp=Z,870nm,19.1s
KLR Kul'dur 62.01 345 LR LR 16 17 32.4
comp=Z,438nm,18.4s,baz=162,slow=35
KLR Kul'dur 62.01 345*c i* P **P** **15 51 37.7 +1.3**
KLR pmax pmax
comp=Z,33nm,1.8s
GRNR Gornyy 62.42 349⇑ *i* P **P** **15 51 38.6 -0.5**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
CASY Casey 62.52 198 P **P** **15 51 38.4 -1.1**
CASY IAmb IAmb 15 51 54.2
comp=Z,43nm,1.6s
HHC Hu-ho-hao-te 63.24 326 *eP* **P** **15 51 47.0 +2.1**
HHC S **S** **16 00 17.0 +0.1**
HHC sS sS 16 00 35.8 +15
HHC SS **SS** **16 04 23.0 -0.6**
HHC pmax pmax
comp=Z,40nm,0.8s
HHC pmax pmax
comp=Z,370nm,6.2s
HHC L L
comp=Z,860nm,17.0s
HHC L L
comp=Z,890nm,17.9s
HHC L L
comp=Z,2µm,18.7s
PET Petropavlovsk 63.41 4 *eP* **P** **15 51 49.4 +3.9**
PET *eS* **S** **16 00 21.5 +3.4**
PEA0B Petropavlovsk- 63.42 4 P **P** **15 51 45.7 0.0**
PEA0B pmax pmax
comp=Z,51nm,1.2s
PEA0B Petropavlovsk- 63.42 4 P **P** **15 51 45.7 0.0**
PETK Petropavlovsk- 63.42 4 P **P** **15 51 45.0 -0.8**
comp=Z,13nm,0.9s,baz=142,slow=5.1,SNR=14
PETK LR LR 16 15 12.2
comp=Z,270nm,21.2s,baz=184,slow=32
PETK Petropavlovsk- 63.42 4 P **P** **15 51 45.6 -0.1**
PETK Petropavlovsk- 63.42 4 P **P** **15 51 45.6 -0.1**
BTO Baotou 63.92 325 *eP* **P** **15 51 53.0 +3.6**
BTO S **S** **16 00 28.5 +3.1**
BTO L L
comp=Z,2µm,23.0s
BTO L L
comp=Z,2µm,20.6s
BTO L L
comp=Z,5µm,20.1s
LZH Lanzhou 64.84 318⇑ P **P** **15 51 58.5 +2.9**
LZH pP pwP 15 52 07.5 +9.1
LZH sP sP 15 52 11.5 +12
LZH S **S** **16 00 35.0 -2.0**
LZH sS sS 16 00 54.5 +13
LZH pmax pmax
comp=Z,44nm,1.3s
LZH pmax pmax
comp=Z,390nm,6.4s
LZH L L
comp=Z,440nm,15.3s
LZH L L
comp=Z,540nm,15.0s
LZH L L
comp=Z,540nm,18.0s
SMY Shemya 65.63 14 P **P** **15 51 59.9 -0.2**
SMY pmax pmax
comp=Z,85nm,1.5s
SMY Shemya 65.63 14 P **P** **15 51 59.9 -0.2**
AMKA Amchitka 65.86 18 P **P** **15 52 00.7 -1.0**
HIA Hailar 65.87 337*d i* P **P** **15 52 01.9 +0.1**
HIA pmax pmax
comp=Z,29nm,1.2s
HIA Hailar 65.87 337 P **P** **15 52 01.6 -0.3**
HIA IAmb IAmb 15 52 11.1
comp=Z,22nm,1.0s
TAOE Nuku Hiva Isla 66.67 95 *eS* **S** **16 01 00.7 +0.6**
comp=Z,805nm,31.8s
TAOE *eLQ* LQ 16 09 22.0
comp=Z,1µm,26.4s
TAOE *eLR* LR 16 12 12.6
comp=Z,1µm,27.9s,baz=276
ZEA Zeya 67.29 344 *eP* **P** **15 52 10.5 -0.2**
ZEA *e* 16 05 26.3
ZEA pmax pmax
comp=Z,200nm,4.4s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax

comp=Z,30nm,1.3s
VNDA Vanda 67.31 178 P **P** **15 52 11.4 +0.8**
comp=Z,8.5nm,0.9s,baz=333,slow=6.8,SNR=40
VNDA LR LR 16 18 52.0
comp=Z,454nm,18.3s,baz=354,slow=34
VNDA Vanda 67.31 178 P **P** **15 52 10.8 +0.2**
VNDA pmax pmax
comp=Z,16nm,1.1s
VNDA Vanda 67.31 178 P **P** **15 52 10.8 +0.2**
KIWB Kanaga Island 67.42 20 P **P** **15 52 11.1 -0.5**
ADK Adak 67.60 20 P **P** **15 52 12.3 -0.4**
ADK pmax pmax
comp=Z,43nm,1.3s
ADK Adak 67.60 20 P **P** **15 52 12.3 -0.4**
ADK IAmb IAmb 15 52 18.2
comp=Z,43nm,1.2s
SBA Scott Base 67.87 177 P **P** **15 52 15.6 +1.5**
SBA pmax pmax
comp=Z,40nm,1.7s
SBA Scott Base 67.87 177 P **P** **15 52 15.6 +1.5**
SBA IAmb IAmb 15 52 56.9
comp=Z,40nm,1.7s
SHL Shillong 68.65 303 P **P** **15 52 19.3 -0.8**
SHL pmax pmax
comp=Z,58nm,1.3s
SHL Shillong 68.65 303 P **P** **15 52 19.3 -0.8**
GTA Gaotai 69.35 319 ⇑P **P** **15 52 26.5 +2.3**
GTA pP PcP 15 52 40.5 -7.2
GTA S **S** **16 01 31.3 0.0**
GTA pmax pmax
comp=Z,8.0nm,1.5s
GTA pmax pmax
comp=Z,270nm,5.3s
GTA L L
comp=Z,300nm,20.4s
GTA L L
comp=Z,300nm,21.8s
GTA L L
comp=Z,440nm,23.6s
MA2 Magadan 69.74 359 LR LR 16 17 59.9
comp=Z,304nm,21.9s,baz=190,slow=32
MA2 Magadan 69.74 359*c iP* **P** **15 52 28.6 +2.7**
MA2 pmax pmax
comp=Z,29nm,1.7s
ULN Ulaanbaatar 70.41 330*d iP* **P** **15 52 31.4 +0.9**
ULN pmax pmax
comp=Z,49nm,1.7s
ULN Ulaanbaatar 70.41 330 P **P** **15 52 30.0 -0.5**
ULN IAmb IAmb 15 52 38.5
comp=Z,56nm,1.4s
CIT Chita 70.46 336 *eP* **P** **15 52 30.2 -0.4**
CIT *e* 15 52 54.1
CIT pmax pmax
comp=Z,103nm,3.3s
SONM Songino Array 70.72 329 P **P** **15 52 33.5 +1.1**
comp=Z,21nm,1.1s,baz=142,slow=4.8,SNR=37
SONM LR LR 16 22 43.5
comp=Z,738nm,21.9s,baz=136,slow=35
SONM Songino Array 70.72 329 P **P** **15 52 32.9 +0.5**
SONM pmax pmax
comp=Z,43nm,1.2s
SONM Songino Array 70.72 329 P **P** **15 52 32.9 +0.5**
SONM IAmb IAmb 15 52 43.3
comp=Z,43nm,1.2s
SEY Seymchan 73.10 0*c iP* **P** **15 52 45.6 -0.6**
ZAK Zakamensk 73.93 330 *eP* **P** **15 52 51.6 +0.1**
ZAK pmax pmax
comp=Z,35nm,1.2s
YAK Yakutsk 74.30 349 LR LR 16 23 59.5
comp=Z,108nm,21.2s,baz=104,slow=34
YAK Yakutsk 74.30 349*c iP* **P** **15 52 54.0 +0.8**
YAK pmax pmax
comp=Z,14nm,1.0s
TLY Talaya 74.59 331 LR LR 16 24 24.2
comp=Z,678nm,21.6s,baz=128,slow=35
TLY Talaya 74.59 331 *eP* P 15 52 50.3 -4.9
TLY *eS* **S** **16 02 30.2 -0.6**
TLY pmax pmax
comp=Z,30nm,1.0s
TLY MLR MLR
comp=Z,912nm,19.0s
TLY Talaya 74.59 331 P **P** **15 52 55.8 +0.6**
IRK Irkutsk 74.66 332 *eP* **P** **15 52 54.0 -1.6**
IRK pmax pmax
comp=Z,60nm,3.6s
BOD Bodaibo 74.76 340 *eP* **P** **15 52 58.1 +2.1**
BOD pmax pmax
comp=Z,28nm,1.2s
MOY Mondy 75.86 330 *eP* **P** **15 53 05.0 +2.4**
MOY pmax pmax
comp=Z,67nm,2.1s
BILL Bilibino 78.88 5*d iP* **P** **15 53 18.8 -0.3**
BILL *e* 15 53 27.1
BILL *e* 15 56 13.3
BILL pmax pmax
comp=Z,34nm,1.3s
BILL MLR MLR
comp=Z,235nm,16.0s
BILL Bilibino 78.88 5 P **P** **15 53 18.1 -1.0**
WMQ Urumqi 79.42 318 *eP* **P** **15 53 25.0 +2.4**
WMQ sP PcP 15 53 43.5 +13
WMQ S **S** **16 03 26.3 +2.4**
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.9s
QSPA South Pole Qui 79.61 180 P **P** **15 53 23.7 +0.3**
QSPA IAmb IAmb 15 53 25.2
comp=Z,50nm,0.9s
MAW Mawson 80.19 203 P **P** **15 53 26.8 +0.4**
comp=Z,8.5nm,1.0s,baz=70,slow=6.9,SNR=7.1
MAW LR LR 16 26 46.5
comp=Z,1μm,19.6s,baz=76,slow=34
MAW Mawson 80.19 203 P **P** **15 53 26.9 +0.6**
O18K Koktuh Hills 81.57 24 P 15 53 33.1
baz=232
N18K Kilae Creek 81.82 23 P 15 53 34.9
baz=232
DGZ Jazzator, Alta 82.14 324*d iP* **P** **15 53 39.6 +2.4**
DGZ pmax pmax
comp=Z,23nm,1.5s
P19K Oil Pt 82.25 25 P 15 53 36.4
baz=234
N19K Bonanza Creek 82.45 23 P 15 53 38.3
baz=233
ZSN Zaisan 82.73 321 *eP* **P** **15 53 40.2 0.0**
comp=Z,76nm,3.8s,baz=321
ZSN Zaisan 82.73 321 *eP* **P** **15 53 40.2 0.0**
ZSN pmax pmax
comp=Z,76nm,3.8s
O20K Slope Mountain 82.75 25 P 15 53 39.7
baz=235
L19K White Mountain 83.14 22 P 15 53 42.8
baz=232
M19K Big River Lodg 83.14 23 P 15 53 42.6
baz=233
TTA Tatalina 83.18 21 P 15 53 41.7
baz=231
TIXI Tiksi 83.32 353 LR LR 16 29 38.0
comp=Z,126nm,20.1s,baz=158,slow=35
TIXI Tiksi 83.32 353 P **P** **15 53 42.2 -0.4**
TIXI pmax pmax
comp=Z,37nm,2.0s
TIXI Tiksi 83.32 353 P **P** **15 53 42.2 -0.4**
TIXI IAmb IAmb 15 53 53.6
comp=Z,37nm,2.0s
MK31 Makanchi Array 84.10 320 *eP* **P** **15 53 46.6 -0.6**
MK31 Makanchi Array 84.10 320 IAmb IAmb 15 53 52.4
comp=Z,30nm,1.1s
MKAR Makanchi Array 84.10 320 P **P** **15 53 46.7 -0.5**
comp=Z,23nm,1.1s,baz=110,slow=5.3,SNR=20
O22K Cooper Landing 84.17 25 P 15 53 47.6
baz=237
SKT Skwentna 84.28 23 P 15 53 46.1
baz=235
MAKZ Makanchi 84.31 320 P **P** **15 53 47.2 -1.1**
MAKZ pmax pmax
comp=Z,53nm,1.2s
MAKZ Makanchi 84.31 320 P **P** **15 53 47.2 -1.1**
RC01 Rabbit Creek A 84.50 24 P 15 53 48.8
baz=237
RC01 Rabbit Creek A 84.50 24 P **P** **15 53 49.2 +0.3**
RC01 IAmb IAmb 15 53 57.7
comp=Z,41nm,1.2s
RDOG Red Dog Mine 84.51 15 P 15 53 48.4
baz=224

PPLA Purkeypile 84.56 22 P **P** **15 53 49.2 -0.2**
PPLA IAmb IAmb 15 53 57.1
comp=Z,36nm,1.3s
UZB Uzunbulak 85.00 315 *eP* **P** **15 53 54.1 +2.0**
comp=Z,24nm,1.2s,baz=315
UZB Uzunbulak 85.00 315 *eP* **P** **15 53 54.0 +2.0**
UZB pmax pmax
comp=Z,24nm,1.2s
CUT Chulitna 85.01 23 P 15 53 50.9
baz=236
CHUM Lake Minchumin 85.09 21 P 15 53 47.6
baz=235
GHO Glory Hole Cre 85.20 24 IAmb IAmb 15 54 06.5
comp=Z,31nm,1.1s
KPKS Kokpek 85.34 316 *eP* **P** **15 53 55.6 +1.9**
comp=Z,49nm,1.4s,baz=316
KPKS Kokpek 85.34 316 *eP* **P** **15 53 55.5 +1.9**
KPKS pmax pmax
comp=Z,49nm,1.4s
SATY Saty 85.40 315 *eP* **P** **15 53 55.4 +1.4**
comp=Z,24nm,1.5s,baz=315
SATY Saty 85.40 315 *eP* **P** **15 53 55.4 +1.4**
SATY pmax pmax
comp=Z,23nm,1.5s
TARG Taragay, Kyrgy 85.40 314 IAmb IAmb 15 54 08.6
comp=Z,20nm,1.0s
KTH Kantishna Hill 85.41 22 P **P** **15 53 51.8 -1.7**
KTH IAmb IAmb 15 53 58.0
comp=Z,32nm,1.4s
ZAA0 Zalesovo Array 85.42 327 IAmb IAmb 15 53 57.4
comp=Z,19nm,1.2s
ZALV Zalesovo Beam 85.42 327 P **P** **15 53 53.1 -0.5**
comp=Z,7.0nm,0.9s,baz=103,slow=4.7,SNR=20
ZALV LR LR 16 32 09.8
comp=Z,699nm,19.8s,baz=122,slow=36
ZALV Zalesovo Beam 85.42 327 *i* P **P** **15 53 54.9 +1.2**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 85.42 327 P **P** **15 53 52.3 -1.4**
SML Sawmill 85.46 24 P 15 53 52.6
baz=238
SML Sawmill 85.46 24 IAmb IAmb 15 54 02.7
comp=Z,34nm,0.9s
GLI Glacier Island 85.48 25 P 15 53 53.9
baz=240
TRF Thorofare Moun 85.58 22 P 15 53 53.5
baz=236
BPAW Bear Paw Mtn. 85.69 22 P 15 53 52.9
baz=236
BPAW Bear Paw Mtn. 85.69 22 IAmb IAmb 15 53 59.6
comp=Z,35nm,1.6s
SCM Sheep Creek Mo 85.88 24 P **P** **15 53 55.8 -0.1**
SCM pmax pmax
comp=Z,99nm,1.7s
SCM Sheep Creek Mo 85.88 24 P **P** **15 53 55.8 -0.1**
EYAK Cordova Ski Ar 85.89 26 P 15 53 55.5
baz=241
H21K Melozitna Rive 85.96 20 P 15 53 55.8
baz=234
KDJ Kajisay 85.97 314 IAmb IAmb 15 54 02.2
comp=Z,47nm,1.2s
TDK Taldyqorghan 86.02 317 *eP* **P** **15 53 59.0 +2.0**
comp=Z,98nm,1.4s,baz=317
TDK Taldyqorghan 86.02 317 *eP* **P** **15 53 58.9 +2.0**
TDK pmax pmax
comp=Z,98nm,1.4s
KSH Kashi 86.07 311 P **P** **15 54 00.3 +2.9**
KSH S **S** **16 04 35.5 +3.4**
KSH pmax pmax
comp=Z,16nm,1.5s
KSH pmax pmax
comp=Z,110nm,2.8s
KSH L L
comp=Z,110nm,6.9s
KSH L L
comp=Z,500nm,14.4s
KSH L L
comp=Z,560nm,9.7s
WAT6 Susitna Watana 86.10 24 P 15 53 56.6
baz=239
RND Reindeer 86.10 23 IAmb IAmb 15 54 01.7
comp=Z,24nm,1.1s
MCK McKinley 86.25 22 P **P** **15 53 56.3 -1.3**
MCK pmax pmax
comp=Z,36nm,1.0s
MCK McKinley 86.25 22 P **P** **15 53 56.2 -1.3**
MCK IAmb IAmb 15 54 05.7
comp=Z,36nm,1.0s
MCK McKinley 86.25 22 P 15 53 58.4
baz=238
KLU Klutina 86.28 25 P 15 53 58.0
baz=240
MLY Manley 86.31 21 P 15 53 57.0
baz=236
MLY Manley 86.31 21 IAmb IAmb 15 54 03.3
comp=Z,42nm,1.5s
MDOK Medeo 86.38 315 *eP* **P** **15 53 59.4 +0.5**
baz=315
MDOK Medeo 86.38 315 *eP* **P** **15 53 59.3 +0.4**
AAA Alma-Ata 86.48 315 *eP* **P** **15 53 58.8 -0.6**
baz=315
AAA Alma-Ata 86.48 315 *eP* **P** **15 53 58.7 -0.6**
BMRM Bremner River 86.59 26 P 15 53 60.0
baz=242
NIL Nilore 86.59 305 P **P** **15 53 59.3 -0.7**
NIL pmax pmax
comp=Z,49nm,1.6s
NIL Nilore 86.59 305 P **P** **15 53 59.2 -0.7**
NIL IAmb IAmb 15 54 12.7
comp=Z,48nm,1.6s
CHKK Chushkaly 86.63 316 *eP* **P** **15 54 00.1 +0.2**
baz=316
CHKK Chushkaly 86.63 316 *eP* **P** **15 54 00.1 +0.2**
NEA2 Nenana 86.66 22 IAmb IAmb 15 54 07.0
comp=Z,16nm,1.0s
NEA2 Nenana 86.66 22 P 15 53 58.8
baz=238
SEM Semipalatinsk 86.67 322 *eP* **P** **15 54 00.4 +0.2**
baz=322
SEM Semipalatinsk 86.67 322 *eP* **P** **15 54 00.4 +0.2**
I23K Minto, Yukon-K 86.86 21 P 15 53 59.7
baz=237
I23K Minto, Yukon-K 86.86 21 IAmb IAmb 15 54 07.2
comp=Z,53nm,1.9s
N25K Chitina, Valde 86.89 25 P 15 54 01.0
baz=242
N25K Chitina, Valde 86.90 25 P **P** **15 54 00.5 -0.4**
BOOM Boomskoye usch 86.95 314 IAmb IAmb 15 54 07.0
comp=Z,38nm,1.4s
WRH Wood River Hil 86.95 22 IAmb IAmb 15 54 09.5
comp=Z,20nm,1.2s
KUU Kurty 87.09 315 *eP* **P** **15 54 03.2 +1.0**
comp=Z,48nm,0.9s,baz=315
KUU Kurty 87.09 315 *eP* **P** **15 54 03.1 +1.0**
KUU pmax pmax
comp=Z,48nm,0.9s
CRQE Cirque 87.14 26 P 15 54 02.7
baz=243
CCB Clear Creek Bu 87.15 22 IAmb IAmb 15 54 06.5
comp=Z,22nm,1.1s
GLB Gilahina Butte 87.15 26 IAmb IAmb 15 54 08.2
comp=Z,39nm,1.3s
MDM Murphy Dome 87.16 22 P **P** **15 54 00.7 -1.3**
H23K Yukon River 87.16 21 P 15 54 02.3
baz=237
VRDI Verde Repeater 87.21 26 IAmb IAmb 15 54 11.4
comp=Z,30nm,1.2s
COLA College 87.25 22*d iP* **P** **15 54 01.0 -1.4**
COLA pmax pmax
comp=Z,20nm,1.0s
HDA Harding Lake 87.35 22 P 15 54 01.8
baz=239
HDA P 15 54 01.8
baz=239
MCARA McCarthy VSAT 87.46 26 P 15 54 05.8
baz=243
IL31 87.56 22 P **P** **15 54 02.2 -1.6**
IL31 IAmb IAmb 15 54 11.6
comp=Z,13nm,0.8s
ILAR Eielson Array 87.56 22 P **P** **15 54 02.1 -1.8**
comp=Z,10nm,1.0s,baz=261,slow=4.5,SNR=40
ILAR LR LR 16 28 50.6
comp=Z,388nm,21.5s,baz=252,slow=33
ILAR Eielson Array 87.56 22 P **P** **15 54 01.9 -2.0**
COLD Coldfoot 87.72 19 P 15 54 04.5
baz=236
COLD Coldfoot 87.72 19 IAmb IAmb 15 54 13.1

comp=Z,38nm,1.5s
H24K Noodor Dome 87.75 21 P 15 54 04.6
baz=238
MENT Mentasta 87.89 24 IAmb IAmb 15 54 11.8
comp=Z,20nm,1.2s
BARN Barnard Glacie 87.91 26 IAmb IAmb 15 54 15.7
comp=Z,24nm,1.0s
AAK Ala-Archa 88.02 314*d iP* **P** **15 54 09.2 +2.3**
AAK pmax pmax
comp=Z,54nm,1.7s
DOT Dot Lake 88.08 24 P **P** **15 54 05.5 -1.0**
PINM Pinnacle 88.13 28 P 15 54 07.3
baz=246
SGDS Sogindy 88.15 315 *eP* **P** **15 54 08.4 +1.0**
comp=Z,20nm,2.5s,baz=315
SGDS Sogindy 88.15 315 *eP* **P** **15 54 08.3 +0.9**
SGDS pmax pmax
comp=Z,19nm,2.5s
SYO Syowa Base 88.21 199⇑ *eP* PP 15 57 35.2 +1.5
SCRK Sand Creek 88.27 23 P 15 54 07.0
baz=242
A21K Barrow 88.35 15 P 15 54 07.7
baz=230
TOLK Toolik Lake Re 88.70 18 P **P** **15 54 09.2 -0.2**
TOLK IAmb IAmb 15 54 15.5
comp=Z,18nm,1.2s
TOLK Toolik Lake Re 88.70 18 P 15 54 09.8
baz=237
L27K Beaver Creek, 88.71 25 P 15 54 10.3
baz=244
BCAR Beaver Creek A 88.73 25 P **P** **15 54 10.1 +0.5**
BTLS Baital 88.99 316 *eP* **P** **15 54 12.8 +1.6**
comp=Z,17nm,1.6s,baz=316
BTLS Baital 88.99 316 *eP* **P** **15 54 12.8 +1.6**
BTLS pmax pmax
comp=Z,17nm,1.6s
K27K Chicken 89.04 24 P 15 54 11.4
baz=244
HYT Haines Junctio 89.67 27 IAmb IAmb 15 54 21.0
comp=Z,29nm,1.2s
BMAR Burnt Mountain 89.69 20 P **P** **15 54 14.1 0.0**
EGAK Eagle 89.73 23 IAmb IAmb 15 54 20.4
comp=Z,36nm,1.3s
GAR Garm 90.18 310 IAmb IAmb 15 54 21.2
comp=Z,31nm,1.4s
WHY Whitehorse 90.81 28 P 15 54 19.8
baz=250
KK31 Karatay Array 90.97 314 P **P** **15 54 19.3 -1.2**
KK31 pmax pmax
comp=Z,9.0nm,1.3s
KK31 Karatay Array 90.97 314 P **P** **15 54 19.2 -1.2**
KKAR Karatay Array 90.97 314 P **P** **15 54 19.1 -1.4**
KKAR Karatay Array 90.97 314 P **P** **15 54 19.1 -1.4**
KKAR Karatay Array 90.97 314 IAmb IAmb 15 54 24.7
comp=Z,8.9nm,1.2s
NRIK Noril'sk 91.01 341 P **P** **15 54 19.1 -1.0**
comp=Z,12nm,1.0s,baz=114,slow=4.2,SNR=14
NRIK LR LR 16 33 31.5
comp=Z,241nm,20.6s,baz=116,slow=34
NRIK Noril'sk 91.01 341*d iP* **P** **15 54 19.0 -1.0**
NRIK pmax pmax
comp=Z,25nm,1.2s
NRIK Noril'sk 91.01 341 P **P** **15 54 18.7 -1.3**
NRIK IAmb IAmb 15 54 23.9
comp=Z,22nm,1.1s
EPYK Eagle Plains 92.05 22 IAmb IAmb 15 54 31.0
comp=Z,26nm,1.2s
EPYK Eagle Plains 92.05 22 P 15 54 25.0
baz=249
DLBC Dease Lake 92.49 31 P **P** **15 54 26.7 -0.5**
comp=Z,2.6nm,0.8s,baz=234,slow=10.0,SNR=4.0
DLBC Dease Lake 92.49 31 IAmb IAmb 15 54 34.0
comp=Z,29nm,1.5s
O02D Mt. Diablo Mer 92.89 50 P 15 54 29.8
baz=259
M02C Callahan 93.08 49 P 15 54 30.4
baz=259
YBH Yreka Blue Hor 93.25 48 P **P** **15 54 32.2 +1.0**
comp=Z,1.4nm,0.8s,baz=212,slow=13,SNR=2.2
BRVK Borovoye 93.36 323*d iP* **P** **15 54 32.4 +1.1**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 93.36 323 P **P** **15 54 31.7 +0.4**
O03E Paynes Creek 93.66 50 P 15 54 34.0
baz=260
INK Inuvik 93.88 21 IAmb IAmb 15 54 38.5
comp=Z,15nm,1.3s
INK Inuvik 93.88 21 P 15 54 33.1
baz=252
AFDM Forest Hills D 94.05 51 P **P** **15 54 34.9 0.0**
AFDM IAmb IAmb 15 54 43.6
comp=Z,24nm,1.5s
K05A Summer Lake 94.75 48 P **P** **15 54 36.7 -1.5**
NVAR Mina Array Bea 96.03 52 P **P** **15 54 45.0 +0.8**
comp=Z,3.5nm,1.0s,baz=248,slow=5.1,SNR=8.3
NVAR LR LR 16 35 25.4
comp=Z,270nm,18.2s,baz=268,slow=34
NVAR Mina Array Bea 96.03 52 P **P** **15 54 43.3 -0.8**
KVN Kaiserville 96.28 52 P **P** **15 54 43.9 -1.4**
KVN pmax pmax
comp=Z,7.0nm,1.3s
KVN Kaiserville 96.28 52 P **P** **15 54 43.9 -1.4**
SNAA Sanae 96.44 188 P **P** **15 54 47.0 +1.8**
VNA3 Neumayer Olymp 97.63 186 P **P** **15 54 50.5 -0.1**
ABKAR Akbulak array 99.20 318 P **Pdif** **15 54 54.4 -3.6**
GEYT Alibeck 99.44 307 LR LR 16 43 42.8
comp=Z,284nm,20.7s,baz=70,slow=38
YKA Yellowknife Ar 100.64 28 P **Pdif** **15 55 04.4 +0.3**
comp=Z,1.4nm,1.0s,baz=263,slow=4.3,SNR=9.2
PDAR Pinedale Array 103.06 48 Pdiff **Pdif** **15 55 14.7 -0.9**
comp=Z,0.3nm,0.6s,baz=253,slow=2.7,SNR=3.1
TXAR Tejitas Array 107.34 62 PP **PP** **16 00 01.5 -0.8**
comp=Z,0.7nm,1.1s,baz=253,slow=5.6,SNR=2.5
TXAR PKKP **PKKPab** **16 11 14.1 +0.7**
comp=Z,0.8nm,0.9s,baz=108,slow=2.9,SNR=4.5
KLMR Klimovskoe 109.96 331 P **Pdif** **15 55 48.4 +2.9**
KLMR pmax pmax
comp=Z,5.0nm,1.0s
KLMR Klimovskoe 109.96 331 Pdif **Pdif** **15 55 48.4 +2.9**
KLMR AMP 15 55 57.3
comp=Z,5.0nm,1.0s
KLMR LQ LQ 16 34 46.3
KLMR LQ LQ 16 34 46.3
KLMR LR LR 16 39 39.9
KIV Kislovodsk 111.13 313 *i* PKIKP **PKiKP** **15 59 51.0 +0.7**
KIV *e* 16 00 29.5
KIV *e*PS **PS** **16 10 01.2 +0.2**
KIV *e*SS SS 16 16 02.8 +1.0
KIV pmax pmax
comp=Z,14nm,1.0s
OBN Obninsk 112.99 326 *i* PKIKP **PKiKP** **15 59 53.4 +0.1**
OBN *e* 16 00 40.9
OBN *e*PPP PPP 16 03 05.2
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,481nm,20.0s
MNK Minsk 117.93 327 *i* PKIKP **PKPdf** **16 00 02.7 -0.1**
MNK *i* 16 01 16.8
MNK *i* PPP PPP 16 03 46.2
MNK *i* 16 07 08.1
MNK *i* PS **PS** **16 11 02.4 -0.1**
MNK *i* SS SS 16 17 32.1 +1.8
MNK *i* SSS SSS 16 21 53.8
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=N,215nm,17.0s
MNK MLR MLR
comp=Z,771nm,25.0s
MNK MLR MLR
comp=E,66nm,25.0s
MNK Minsk 117.93 327 *i* PKP **PKPdf** **16 00 02.8 -0.1**
comp=E,2.0nm,0.8s
MNK *i* PKP **PKPdf** **16 00 02.8 -0.1**
comp=N,12nm,0.8s
MNK *i* PKP **PKPdf** **16 00 02.8 -0.1**
comp=Z,6.0nm,0.8s,baz=68
MNK *i* PP **PP** **16 01 16.8 +0.1**
MNK *i* SKP 16 03 34.9
MNK *i* PPP PPP 16 03 46.3
MNK *i* SKS **SKSdf** **16 07 08.1 -6.9**

MNK			*i* PS	**PS**	**16 11 02.4**	**-0.1**	
MNK			*i* SS	**SS**	**16 17 32.1**	**+1.9**	
MNK			*i* SSS	SSS	16 21 53.9		
MNK			*i* LR	LR	16 46 58.6		
MNK			*i* LRM	MLR	16 51 15.2		
	comp=N,215nm,16.8s						
MNK			*i* LRM	MLR	16 51 16.4		
	comp=Z,771nm,24.5s						
MNK			*i* LRM	MLR	16 51 21.6		
	comp=E,66nm,24.5s						
AKASG	**Malin Array Be**	**118.56 323**	PP	PP	16 01 24.5	+3.3	
	comp=E,0.2nm,0.4s,baz=56,slow=7.1,SNR=5.8						
OKC	**Ostrava-Krasne**	**125.37 325**	AMS	AMS	16 55 30.0		
	comp=E,400nm,22.3s						
KRLC	**Kraliky**	**126.01 326**	AMS	AMS	16 56 00.0		
	comp=E,600nm,22.5s						
OSTC	**Ostas**	**126.07 327**	AMS	AMS	16 56 30.0		
	comp=E,600nm,19.0s						
DPC	**Dobruska-Polom**	**126.12 326**	AMS	AMS	16 56 40.0		
	comp=E,500nm,19.3s						
CHVC	**Chvalec**	**126.14 327**	AMS	AMS	16 56 30.0		
	comp=E,600nm,21.6s						
UPC	**Upice**	**126.20 327**	AMS	AMS	16 56 40.0		
	comp=E,600nm,18.5s						
PVCC	**Panska Ves**	**126.96 327**	AMS	AMS	16 58 40.0		
	comp=E,500nm,20.8s						
TREC	**Trest**	**127.14 326**	AMS	AMS	16 54 50.0		
	comp=E,600nm,24.5s						
PRU	**Pruhonice**	**127.28 327**	AMS	AMS	16 57 20.0		
	comp=E,400nm,18.9s						
PRA	**Prague**	**127.29 327**	AMS	AMS	16 58 50.0		
	comp=E,500nm,22.9s						
CKRC	**Cesky Krumlov**	**128.05 326**	*e*PKP	**PKPdf**	**16 00 21.1**	**-1.4**	
NKC	**Novy Kostel**	**128.25 328**	AMS	AMS	16 58 30.0		
	comp=E,700nm,21.0s						
KHC	**Kasperske Hory**	**128.28 326**	*e*PKIKP	**PKiKP**	**16 00 25.7**	**+2.2**	
KHC			MLR	MLR			
	comp=Z,700nm,21.2s						
KHC	**Kasperske Hory**	**128.28 326**	*e*PKP	**PKiKP**	**16 00 25.7**	**+2.2**	
KHC			AMS	AMS	16 57 20.0		
	comp=Z,700nm,21.2s						
GERES	**GERESS Array B**	**128.37 326**	PKP	**PKiKP**	**16 00 25.6**	**+1.7**	
	comp=Z,0.2nm,0.3s,baz=70,slow=1.6,SNR=6.5						
GRF	**Grafenberg Arr**	**129.21 328**	*e*PKP	**PKiKP**	**16 00 25.8**	**+0.5**	
GRF			*e*PP	**PP**	**16 02 31.7**	**-1.0**	
	baz=56,slow=6.2						
GRF			*e*L	L	16 58 07.3		
	comp=Z,397nm,21.2s						
ESDC	**Sonseca Array**	**143.91 328**	PKP	PKPbc	16 00 50.5	+0.6	
	comp=Z,0.4nm,0.8s,baz=46,slow=2.8,SNR=4.2						
ESDC			PP	**PP**	**16 04 06.5**	**+1.6**	
	comp=Z,0.3nm,0.5s,baz=29,slow=6.2,SNR=4.6						
PGAV	**Gavieira, Arco**	**144.15 335**	*e*PKPdf	**PKiKP**	**16 00 54.4**	**-1.7**	
MVO	**Moncorvo**	**144.26 333**	*e*PKPdf	**PKiKP**	**16 00 55.6**	**-0.7**	
POLO	**Lamas de Olo**	**144.43 334**	*e*PKPdf	**PKiKP**	**16 00 55.6**	**-1.1**	
PVIS	**Viseu**	**145.01 333**	*e*PKPdf	**PKiKP**	**16 00 57.5**	**-0.4**	
MTE	**Manteigas**	**145.10 332**	*e*PKPdf	**PKiKP**	**16 00 58.1**	**0.0**	
PCBR	**Castelo Branco**	**145.52 332**	*e*PKPdf	**PKiKP**	**16 00 58.9**	**0.0**	
PMRV	**Marv??o**	**145.81 331**	*e*PKPdf	**PKiKP**	**16 01 00.4**	**+0.9**	
PMTG	**Montargil**	**146.49 332**	*e*PKPdf	**PKiKP**	**16 01 03.3**	**+2.4**	
PBAR	**Barrancos**	**146.61 329**	*e*PKPdf	**PKPab**	**16 01 00.0**	**+0.7**	
BDFB	**Brasilia**	**147.34 142**	PKPbc	**PKPbc**	**16 01 01.2**	**+0.1**	
	comp=Z,4.5nm,0.8s,baz=276,slow=2.9,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**150.94 278**		**PKPbc**	**16 01 09.0**	**-1.1**	
TORD	**Torodi Ar. Bea**	**150.94 278**	PKPbc	**PKPbc**	**16 01 09.0**	**-1.1**	
	comp=Z,6.9nm,0.7s,baz=55,slow=2.4,SNR=26						
TORD	**Torodi Ar. Bea**	**150.94 278**	PKPdf	**PKPdf**	**16 01 04.0**	**-0.5**	
TORD			PKPbc	**sPKPdf**	**16 01 09.2**	**+0.6**	

*TAP **25** 15:50:41.4,24.˝80N×121.˝89E,h9km,ML2.6,B*
*JMA **25** 15:50:42.0±0.1,24.˝78N×121.˝83E,h29km,M2.4*
ISC 25 15:50:41.5±0.8,24.˝79N±0.˝01×121.˝92E±0.˝02,h11km±5km, n76,σ0$55/145,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.10**	**309**	*e*P	**Pg**	**15 50 44.1**	**-0.1**
	baz=322						
NTC				S	**Sg**	**15 50 45.6**	**-0.6**
	baz=322						
ILA	**Ilan**	**0.16**	**261**	P	**Pg**	**15 50 45.1**	**+0.1**
	baz=255						
ILA				S	**Sg**	**15 50 47.8**	**+0.3**
	baz=255						
TWC	**Suao**	**0.19**	**199**	P	**Pg**	**15 50 45.8**	**+0.2**
	baz=184						
TWC				S	**Sg**	**15 50 48.3**	**-0.1**
	baz=184						
TIPB	**Shuangxi**	**0.20**	**335**	P	**Pg**	**15 50 45.8**	**0.0**
	baz=340						
TIPB				S	**Sg**	**15 50 48.7**	**-0.1**
	baz=340						
TWB1	**Santiao Chiao**	**0.23**	**17**	P	**Pg**	**15 50 46.2**	**0.0**
	baz=14						
TWB1				S	**Sg**	**15 50 49.2**	**-0.3**
	baz=14						
NDS	**Dongshan**	**0.24**	**229**	P	**Pg**	**15 50 46.6**	**+0.1**
	baz=225						
NDS				*e*S	**Sg**	**15 50 49.6**	**-0.2**
	baz=225						
NWF	**Wu-fen Shan**	**0.30**	**336**	P	**Pg**	**15 50 48.0**	**+0.3**
	baz=330						
NWF				S	**Sg**	**15 50 52.1**	**+0.2**
	baz=330						
WFSB	**Wu-fen Shan**	**0.30**	**336**	P	**Pg**	**15 50 48.0**	**+0.3**
	baz=330						
WFSB				S	**Sg**	**15 50 52.2**	**+0.4**
	baz=330						
ENTT	**Nioudou**	**0.35**	**245**	*e*P	**Pg**	**15 50 48.6**	**0.0**
	baz=241						
ENTT				*e*S	**Sg**	**15 50 53.4**	**+0.2**
	baz=241						
TWA	**Mucha**	**0.36**	**302**	P	**Pg**	**15 50 48.8**	**+0.2**
	baz=303						
TWA				S	**Sg**	**15 50 53.6**	**+0.2**
	baz=303						
EWUT	**Wuta**	**0.37**	**200**	P	**Pg**	**15 50 48.9**	**+0.1**
	baz=197						
EWUT				S	**Sg**	**15 50 53.3**	**-0.4**
	baz=197						
NWLT	**Wulai**	**0.38**	**268**	P	**Pg**	**15 50 49.0**	**0.0**
	baz=266						
NWLT				S	**Sg**	**15 50 53.4**	**-0.7**
	baz=266						
TNOU	**National Taiwa**	**0.38**	**340**	P	**Pg**	**15 50 49.3**	**+0.2**
	baz=335						
TNOU				*e*S	**Sg**	**15 50 54.1**	**0.0**
	baz=335						
NHDH	**Xindian Distri**	**0.40**	**296**	P	**Pg**	**15 50 49.7**	**+0.3**
	baz=296						
NHDH				S	**Sg**	**15 50 54.9**	**+0.3**
	baz=296						
NDT	**Datong Townshi**	**0.41**	**243**	P	**Pg**	**15 50 49.6**	**-0.1**
	baz=241						
NDT				*e*S	**Sg**	**15 50 55.0**	**-0.1**
	baz=241						
TATO	**Taipei**	**0.43**	**295**	P	**Pg**	**15 50 50.1**	**+0.1**
	baz=282						
TATO				S	**Sg**	**15 50 55.6**	**-0.1**
	baz=282						
TAP	**Taipei**	**0.45**	**304**	*e*P	**Pg**	**15 50 50.7**	**+0.4**
	baz=304						
TAP				*e*S	**Sb**	**15 50 57.1**	**-1.1**
	baz=304						
YM01	**YM01**	**0.47**	**318**	P	**Pb**	**15 50 51.5**	**-0.5**
	baz=319						
YM01				*e*S	**Sb**	**15 50 57.8**	**-1.1**
	baz=319						
BACT	**New Taipei Cit**	**0.48**	**296**	*e*P	**Pg**	**15 50 51.0**	**+0.1**
	baz=283						
BACT				*e*S	**Sb**	**15 50 58.4**	**-0.6**
	baz=283						
YM08	**YM08**	**0.49**	**323**	P	**Pg**	**15 50 51.5**	**+0.3**
	baz=313						
YM08				*e*S	**Sb**	**15 50 59.3**	**-0.3**
	baz=313						
YHNB	**Yeheng**	**0.51**	**256**	P	**Pg**	**15 50 51.2**	**-0.3**
	baz=255						
YHNB				S	**Sg**	**15 50 57.0**	**-1.2**
	baz=255						
ANP	**Anpu**	**0.53**	**318**	P	**Pg**	**15 50 52.1**	**+0.2**
	baz=319						
ANP				*e*S	**Sb**	**15 50 59.9**	**-0.9**
	baz=319						
TWS1	**Kuangyinshan**	**0.55**	**304**	P	**Pb**	**15 50 53.1**	**0.0**
	baz=305						
TWS1				S	**Sb**	**15 51 00.1**	**-0.9**
	baz=305						
TWY	**Chenhua**	**0.56**	**329**	P	**Pg**	**15 50 52.8**	**+0.3**
	baz=320						
TWY				*e*S	**Sb**	**15 51 00.7**	**-0.7**
	baz=320						
NTST	**Danshui**	**0.56**	**311**	*e*P	**Pb**	**15 50 53.4**	**-0.1**
	baz=311						
NTST				*e*S	**Sb**	**15 51 01.3**	**-0.2**
	baz=311						
NTY	**Taoyuan**	**0.60**	**290**	*e*P	**Pg**	**15 50 53.4**	**+0.2**
	baz=280						
NTY				*e*S	**Sb**	**15 51 01.3**	**-1.2**
	baz=280						
NNSB	**Datong**	**0.60**	**234**	*e*P	**Pg**	**15 50 52.8**	**-0.5**
	baz=232						
NNSB				*e*S	**Sg**	**15 51 01.5**	**+0.2**
	baz=232						
NNSH	**Datong**	**0.60**	**234**	*e*P	**Pg**	**15 50 53.1**	**-0.2**
	baz=227						
NNSH				*e*S	**Sg**	**15 51 00.2**	**-1.1**
	baz=227						
NNS	**Nan Shan**	**0.61**	**235**	*e*P	**Pg**	**15 50 53.1**	**-0.2**
	baz=233						
NNS				*e*S	**Sb**	**15 51 01.9**	**-0.9**
	baz=233						
NACB	**Ninganchiao**	**0.68**	**206**	P	**Pg**	**15 50 54.7**	**0.0**
	baz=213						
NACB				*e*S	**Sg**	**15 51 03.9**	**+0.2**
	baz=213						
ETL	**Fush Village**	**0.68**	**203**	*e*P	**Pg**	**15 50 54.9**	**+0.1**
	baz=201						
ETL				*e*S	**Sg**	**15 51 03.9**	**+0.1**
	baz=201						
NCUH	**Zhongli**	**0.69**	**285**	*e*P	**Pb**	**15 50 56.0**	**+0.5**
	baz=284						
NCUH				*e*S	**Sb**	**15 51 05.6**	**+0.6**
	baz=284						
ETLH	**Xiulin Townshi**	**0.70**	**214**	*e*P	**Pg**	**15 50 55.2**	**0.0**
	baz=213						
ETLH				*e*S	**Sb**	**15 51 05.8**	**+0.2**
	baz=213						
TWD	**Chiawan**	**0.77**	**203**	*e*P	**Pg**	**15 50 55.8**	**-0.5**
	baz=200						
TWD				*e*S	**Sg**	**15 51 06.1**	**-0.2**
	baz=200						
HSN1	**Hsinchu**	**0.82**	**269**	*e*P	**Pn**	**15 50 59.0**	**0.0**
	baz=287						
HSN1				*e*S	**Sn**	**15 51 11.4**	**+0.3**
	baz=287						
FUSS	**Fushou**	**0.82**	**229**	*e*P	**Pg**	**15 50 56.9**	**-0.5**
	baz=222						
FUSS				*e*S	**Sg**	**15 51 07.2**	**-0.8**
	baz=222						
LIOB	**Emei**	**0.83**	**260**	*e*P	**Pb**	**15 50 57.9**	**-0.1**
	baz=259						
LIOB				*e*S	**Sb**	**15 51 08.9**	**-0.3**
	baz=259						
PCYT	**Pengchaiyu**	**0.85**	**9**	*e*P	**Pg**	**15 50 58.2**	**+0.3**
	baz=12						
PCYT				*e*S	**Sb**	**15 51 10.6**	**+1.0**
	baz=12						
SBCB	**Hsinchu**	**0.85**	**270**	*e*P	**Pn**	**15 50 59.6**	**+0.2**
	baz=269						
SBCB				*e*S	**Sn**	**15 51 11.1**	**-0.7**
	baz=269						
NSTT	**Nanjuang**	**0.85**	**259**	*e*P	**Pb**	**15 50 58.0**	**-0.2**
	baz=258						
NSTT				*e*S	**Sb**	**15 51 09.0**	**-0.7**
	baz=258						
TWT	**Tachien**	**0.86**	**232**	*e*P	**Pb**	**15 50 58.8**	**+0.2**
	baz=238						
TWT				*e*S	**Sb**	**15 51 11.2**	**+1.0**
	baz=238						
TDCB	**Techi**	**0.87**	**232**	*e*P	**Pb**	**15 50 58.7**	**-0.1**
	baz=238						
TDCB				*e*S	**Sb**	**15 51 11.0**	**+0.4**
	baz=238						
WHF	**Hehuan Shan**	**0.88**	**223**	*e*P	**Pg**	**15 50 58.2**	**-0.3**
	baz=212						
WHF				*e*S	**Sg**	**15 51 10.0**	**+0.1**
	baz=212						
ETM	**Tongmen**	**0.91**	**205**	*e*P	**Pg**	**15 50 59.2**	**+0.2**
	baz=204						
ETM				*e*S	**Sg**	**15 51 11.2**	**+0.3**
	baz=204						
CHGB	**Renai**	**0.99**	**223**	*e*P	**Pg**	**15 51 00.6**	**-0.1**
	baz=216						
CHGB				*e*S	**Sg**	**15 51 13.7**	**0.0**
	baz=216						
JYNG	**Yonagunijimaku**	**0.99**	**110**	P	**Pg**	**15 51 00.7**	**0.0**
JYNG				*e*S	**Sg**	**15 51 13.8**	**+0.2**
WHP	**Taichung City**	**1.02**	**240**	*e*P	**Pg**	**15 51 01.0**	**-0.2**
	baz=239						
WHP				*e*S	**Sb**	**15 51 14.6**	**-0.2**
	baz=239						
YOJ	**Yonaguni jima**	**1.05**	**108**	P	**Pg**	**15 51 01.1**	**-0.6**
YOJ				*e*S	**Sg**	**15 51 15.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.05**	**108**	*e*P	**Pg**	**15 51 01.9**	**+0.2**
	baz=109						
YOJ				*e*S	**Sg**	**15 51 15.9**	**+0.6**
	baz=109						
NMLH	**Miaoli**	**1.05**	**256**	*e*P	**Pn**	**15 51 02.5**	**+0.3**
	baz=255						
NMLH				*e*S	**Sn**	**15 51 18.0**	**+1.0**
	baz=255						
ESL	**Shilin**	**1.07**	**205**	*e*P	**Pg**	**15 51 01.6**	**-0.5**
	baz=203						
ESL				*e*S	**Sg**	**15 51 15.3**	**-0.7**
	baz=203						
OWD	**Renai**	**1.07**	**219**	*e*P	**Pg**	**15 51 01.9**	**-0.2**
	baz=218						
OWD				*e*S	**Sg**	**15 51 15.7**	**-0.5**
	baz=218						
NSY	**Sanyi**	**1.12**	**251**	*e*P	**Pn**	**15 51 04.2**	**+1.1**
	baz=249						
NSY				*e*S	**Sn**	**15 51 18.6**	**+0.1**
	baz=249						
TWQ1	**Liyutan**	**1.13**	**247**	*e*P	**Pn**	**15 51 03.9**	**+0.6**
	baz=246						
TWQ1				*e*S	**Sb**	**15 51 18.4**	**+0.5**
	baz=246						
WPL	**Puli Township**	**1.17**	**229**	*e*P	**Pg**	**15 51 03.7**	**-0.3**
	baz=236						
WCS	**Beigang Elemen**	**1.17**	**232**	*e*P	**Pg**	**15 51 03.3**	**-0.7**
	baz=238						
WCS				*e*S	**Sg**	**15 51 18.5**	**-0.8**
	baz=238						
DPDB	**Guoxing**	**1.18**	**230**	*e*P	**Pg**	**15 51 03.7**	**-0.5**
	baz=238						
DPDB				*e*S	**Sg**	**15 51 18.4**	**-1.1**
	baz=238						
WDJ	**Dajia District**	**1.24**	**249**	*e*P	**Pg**	**15 51 05.9**	**+0.5**
	baz=249						
WDJ				*e*S	**Sn**	**15 51 21.9**	**+0.3**
	baz=249						
SMLT	**Sun Moon Lake**	**1.29**	**226**	*e*P	**Pb**	**15 51 06.2**	**+0.2**
	baz=225						
SMLT				*e*S	**Sg**	**15 51 23.1**	**-0.2**
	baz=225						
TCU	**Taichung**	**1.30**	**241**	*e*P	**Pg**	**15 51 06.5**	**0.0**
	baz=261						
TYC	**Yuchr**	**1.31**	**228**	*e*P	**Pn**	**15 51 06.1**	**+0.3**
	baz=235						
TYC				*e*S	**Sb**	**15 51 23.1**	**+0.2**
	baz=235						
SSLB	**Suanglung**	**1.33**	**222**	*e*P	**Pn**	**15 51 06.6**	**+0.6**
	baz=210						
SSLB				*e*S	**Sg**	**15 51 24.1**	**-0.3**
	baz=210						
HGSD	**Ruisui**	**1.37**	**199**	*e*P	**Pb**	**15 51 07.5**	**+0.3**
	baz=209						
HGSD				*e*S	**Sn**	**15 51 25.5**	**+0.8**
	baz=209						
EHY	**Hungye**	**1.39**	**203**	*e*P	**Pn**	**15 51 07.1**	**+0.3**
	baz=202						
EHY				*e*S	**Sb**	**15 51 24.8**	**-0.5**
	baz=202						
YULB	**Yu-li**	**1.50**	**202**	*e*P	**Pn**	**15 51 07.8**	**-0.6**
	baz=201						
YULB				*e*S	**Sn**	**15 51 28.1**	**0.0**
	baz=201						
EYUL	**Yuli**	**1.54**	**201**	*e*P	**Pb**	**15 51 10.2**	**+0.2**
	baz=209						
EYUL				*e*S	**Sn**	**15 51 28.9**	**0.0**
	baz=209						
TWF1	**Yuli**	**1.54**	**202**	*e*P	**Pn**	**15 51 09.6**	**+0.7**
	baz=210						
TWF1				*e*S	**Sn**	**15 51 29.8**	**+0.9**
	baz=210						
ALS	**Alishan**	**1.63**	**219**	*e*P	**Pb**	**15 51 12.1**	**+0.3**
	baz=211						
ALS				*e*S	**Sg**	**15 51 33.7**	**-0.3**
	baz=211						
CHN5	**Tsauling**	**1.64**	**224**	*e*P	**Pg**	**15 51 12.9**	**-0.1**
	baz=223						
CHN5				*e*S	**Sg**	**15 51 35.2**	**+0.8**
	baz=223						
FULB	**Fuli**	**1.68**	**200**	*e*P	**Pn**	**15 51 11.9**	**+0.9**
	baz=209						
IRIF	**Iriomote-Funau**	**1.71**	**105**	*e*S	**Sn**	**15 51 33.6**	**+0.4**
ELDTW	**Lidau**	**1.79**	**207**	*e*P	**Pn**	**15 51 13.6**	**+1.1**
	baz=191						
CHN4	**Tsaushan**	**1.88**	**220**	*e*P	**Pg**	**15 51 16.9**	**-0.6**
	baz=219						
CHN4				*e*S	**Sg**	**15 51 41.7**	**-0.2**
	baz=219						
TWK	**Hsinying**	**2.00**	**221**	*e*P	**Pb**	**15 51 17.9**	**-0.1**
	baz=218						
JIJ	**Ishigaki jima**	**2.07**	**101**	P	**Pn**	**15 51 16.3**	**+0.1**
JIJ				*e*S	**Sn**	**15 51 39.1**	**-2.9**
MATB	**Ma-tsu**	**2.24**	**308**	*e*P	**Pn**	**15 51 18.7**	**+0.2**
	baz=305						

*NEIC **25** 15:51:52.5±2.5,8.˝87S±0.˝08×117.˝74E±0.˝08,h117km±9km, mb4.3/13,Error ellipse: s-maj=11.8km s-min=10.9km az=195.0*
*DJA **25** 15:51:53.9±0.5,9.˚S±20.˚×11.˚8E±.˚,h95km±14km,M3.9/6, MLv3.9/6*
*IDC **25** 15:51:55.7±3.3,8.˝65S×118.˝05E,h145km±26km,mb3.5/4, mb1 3.7/7,mb1mx3.4/37,mbtmp4.0/7,Error ellipse: s-maj=39.5km s-min=13.3km az=71.0*
ISC 25 15:51:51.8±0.8,8.˝85S±0.˝07×117.˝78E±0.˝05,h122km±7km, n39,σ1$81/44,mb4.0/6,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.03**	**3**	P	**Pn**	**15 52 08.9**	**+0.5**
PLAI				S	**Sn**	**15 52 21.5**	**+0.6**
TWSI	**Taliwang, Sumb**	**0.89**	**277**	P	**Pn**	**15 52 13.3**	**+0.4**
WBSI	**Waikabubak, Su**	**1.78**	**116**	P	**Pn**	**15 52 25.3**	**+2.6**
KHKI	**Kahang-Kahang**	**2.20**	**283**	P	**Pn**	**15 52 27.7**	**-0.1**
DNP	**Denpasar**	**2.54**	**274**	P	**Pn**	**15 52 34.2**	**+2.0**
SRBI	**Singaraja**	**2.65**	**287**	P	**Pn**	**15 52 34.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.60**	**276**	Pn	**Pn**	**15 52 45.4**	**-0.7**
ABJI	**Asem Bagus**	**3.66**	**286**	P	**Pn**	**15 52 49.0**	**+2.2**
EDFI	**Ende, Flores**	**3.87**	**89**	P	**Pn**	**15 52 50.9**	**+1.1**
KAPI	**Kappang**	**4.29**	**27**	P	**Pn**	**15 52 56.5**	**+1.2**
	2.4nm,0.3s,baz=190,slow=5.8,SNR=6.1						
KAPI				S	**Sn**	**15 53 42.9**	**-1.6**
	3.5nm,0.3s,baz=94,slow=22,SNR=8.0						
MMRI	**Maumere**	**4.42**	**88**		**Pn**	**15 52 58.1**	**+1.1**
MMRI				Sn	**Sn**	**15 53 48.7**	**+1.1**
MMRI	**Maumere**	**4.42**	**88**	P	**Pn**	**15 52 58.3**	**+1.3**
BATI	**Baumata**	**5.96**	**104**	P	**Pn**	**15 53 18.9**	**+1.1**
	13nm,0.3s,baz=274,slow=4.0,SNR=18						
BATI				S	**Sn**	**15 54 24.3**	**-0.6**
	24nm,0.3s,baz=203,slow=23,SNR=11						
SOEI	**Soe**	**6.47**	**98**		**Pn**	**15 53 25.0**	**+0.3**
UGM	**Wanagama**	**7.24**	**277**	Pn	**Pn**	**15 53 34.5**	**-0.5**
CISI	**Cisompet, Garu**	**9.94**	**277**	Pn	**Pn**	**15 54 09.1**	**-2.6**
FITZ	**Fitzroy Crossi**	**11.95**	**141**	P	**Pn**	**15 54 38.6**	**+0.3**
	0.7nm,0.3s,baz=329,slow=8.4,SNR=22						
FITZ				S	**Sn**	**15 56 44.5**	**-5.5**
	1.1nm,0.3s,baz=179,slow=23,SNR=12						
KNRA	**Kununurra**	**12.70**	**123**	Pn	**Pn**	**15 54 47.5**	**-0.6**
PSA00	**Pilbara Seismi**	**12.80**	**171**	Pn	**Pn**	**15 54 48.9**	**-0.6**
PSA00	**Pilbara Seismi**	**12.80**	**171**	Pn	**Pn**	**15 54 49.5**	**+0.1**
MTN	**Manton Dam**	**13.70**	**108**	Pn	**Pn**	**15 54 59.2**	**-2.0**
GIRL	**Giralia**	**14.13**	**194**	Pn	**Pn**	**15 55 06.6**	**+0.1**
FAKI	**Fak Fak**	**15.55**	**69**	Pn	**Pn**	**15 55 23.4**	**-1.2**
WB0	**Warramunga Arr**	**19.39**	**126**	P	**Pn**	**15 56 10.0**	**-0.8**
WB0				IAmb	IAmb	15 56 33.2	
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**19.45**	**126**	P	**Pn**	**15 56 10.4**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=301,slow=12,SNR=36						
WRA				S	**S**	**15 59 38.0**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=296,slow=21,SNR=2.9						
WRAB	**Tennant Creek**	**19.45**	**126**	P	**Pn**	**15 56 10.4**	**-1.0**
WRAB				IAmb	IAmb	15 56 52.0	
	comp=Z,20nm,1.2s						
WB2	**Warramunga Arr**	**19.45**	**126**	P	**Pn**	**15 56 10.5**	**-1.0**
WB2				IAmb	IAmb	15 56 40.7	
	comp=Z,34nm,1.6s						
WR0	**Warramunga Arr**	**19.61**	**126**	P	**Pn**	**15 56 12.4**	**-0.9**
WR0				IAmb	IAmb	15 56 12.6	
	comp=Z,25nm,1.2s						
AS31	**Alice Springs**	**21.34**	**136**	P	**P**	**15 56 30.8**	**+1.4**
ASAR	**Alice Springs**	**21.34**	**136**	P	**P**	**15 56 31.0**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=307,slow=9.5,SNR=42						
ASAR				S	**S**	**16 00 15.2**	**-4.1**
	comp=Z,0.7nm,1.0s,baz=298,slow=21,SNR=3.1						
ASAR				ScP	**ScP**	**16 03 53.9**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=316,slow=2.1,SNR=2.1						
FORT	**Forrest**	**23.83**	**158**	P	**P**	**15 56 55.1**	**+1.3**
NWAO	**Narrogin (SRO)**	**23.96**	**181**	P	**P**	**15 56 54.5**	**-0.4**
NWAO				IAmb	IAmb	15 57 06.4	
	comp=Z,29nm,1.4s						
BBOO	**Buckleboo**	**29.23**	**147**	P	**P**	**15 57 43.4**	**+1.2**
STKA	**Stephens Creek**	**31.84**	**139**	P	**P**	**15 58 07.1**	**+1.9**
	comp=Z,1.4nm,0.4s,baz=314,slow=10,SNR=7.8						
USRK	**Ussuriysk Ar.**	**54.35**	**13**	P	**P**	**16 01 04.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=194,slow=6.1,SNR=5.1						
VNDA	**Vanda**	**72.32**	**171**	P	**P**	**16 03 05.9**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=321,slow=7.0,SNR=7.1						
VNDA	**Vanda**	**72.32**	**171**	IAmb	IAmb	16 03 11.2	
	comp=Z,3.3nm,1.4s						
QSPA	**South Pole Qui**	**81.14**	**180**	P	**P**	**16 03 56.1**	**+2.5**
QSPA				IAmb	IAmb	16 04 20.7	
	comp=Z,12nm,1.6s						
CPUP	**Villa Florida**	**144.71**	**188**	PKP	PKPbc	16 11 15.5	+1.4
	comp=Z,2.0nm,0.7s,baz=145,slow=2.6,SNR=3.3						

*NEIC **25** 16:07:35.5±2.7,53.˝85N±0.˝09×165.˝51W±0.˝09,h76km±6km, mb3.8/8,ML3.8(AEIC),Error ellipse: s-maj=13.2km s-min=6.3km az=157.0*
*AEIC **25** 16:07:35±3.0,53.˝87N±0.˝08×165.˝51W±0.˝10,h72km±4km, Error ellipse: s-maj=13.0km s-min=6.4km az=152.0*
*IDC **25** 16:07:38.8±8.9,54.˝26N×165.˝29W,h83km±64km,mb3.4/5, mb1 3.6/7,mb1mx3.2/60,mbtmp3.8/7,ML3.6/2,Error ellipse: s-maj=66.3km s-min=31.2km az=41.0*
ISC 25 16:07:35.8±0.9,53.˝9N±0.˝1×165.˝47W±0.˝06,h76km±7km, n116,σ1$36/115,mb3.8/4,Fox Islands

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

FALS				S			16 08 22.9	
	baz=232							
OKTU	**Okmok Mt. Tuli**	**1.62**	**252**			**Pn**	**16 08 02.9**	**+0.3**
OKSO	**Okmok South**	**1.70**	**252**			**Pn**	**16 08 03.5**	**-0.1**
OKSP	**Okmok Steeple**	**1.81**	**250**			**Pn**	**16 08 05.0**	**-0.1**
DT1	**Dutton Round H**	**2.21**	**56**			**Pn**	**16 08 11.7**	**+1.3**
NIKH	**Nikolski High**	**2.23**	**246**	Pn		**Pn**	**16 08 10.2**	**-0.5**
HAG	**Hague Volcano**	**2.50**	**54**			**Pn**	**16 08 16.4**	**+2.0**
PS4A	**Pavlof South-4**	**2.54**	**54**			**Pn**	**16 08 16.5**	**+1.6**
PVV	**Pavlof Volcano**	**2.59**	**54**			**Pn**	**16 08 17.1**	**+1.6**
SDPT	**Sand Point**	**3.24**	**62**			**Pn**	**16 08 24.6**	**+0.4**
SDPT	**Sand Point**	**3.24**	**62**	P			16 08 25.7	
	baz=245							
CNBA	**Chernabura Isl**	**3.56**	**73**			**Pn**	**16 08 29.3**	**+0.7**
CHNA	**Chernabura Isl**	**3.56**	**73**	P			16 08 29.3	
	baz=257							
SPIA	**Saint Paul Isl**	**4.25**	**322**	Pn		**Pn**	**16 08 37.7**	**-0.3**
VNHG	**Veniaminof 1**	**4.30**	**55**			**Pn**	**16 08 41.0**	**+2.3**
ATKA	**Atka Island**	**5.54**	**255**	Pn		**Pn**	**16 08 56.1**	**+0.5**
GSTR	**Great Sitkin T**	**6.65**	**258**	Pn		**Pn**	**16 09 11.6**	**+0.8**
ADK	**Adak**	**7.08**	**258**			**Pn**	**16 09 19.1**	**+2.4**
KABU	**Katmai Buttres**	**7.18**	**48**			**Pn**	**16 09 21.8**	**+3.8**
KIWB	**Kanaga Island**	**7.37**	**258**	Pn		**Pn**	**16 09 21.2**	**+0.6**
OHAK	**Old Harbor**	**7.66**	**59**	Pn		**Pn**	**16 09 23.9**	**-0.6**
KDAK	**Kodiak Island**	**8.22**	**57**	P		**Pn**	**16 09 31.0**	**-1.1**
	2.0nm,0.3s,baz=256,slow=3.9,SNR=52							
KDAK				S		**Sn**	**16 10 59.6**	**-3.6**
	0.4nm,0.3s,baz=126,slow=19,SNR=1.8							
SVW2	**Sparrevohn**	**8.95**	**32**	Pn		**Pn**	**16 09 43.3**	**+1.2**
RSO	**Redoubt South**	**9.51**	**41**	Pn		**Pn**	**16 09 52.1**	**+2.2**
AMKA	**Amchitka**	**9.60**	**261**	Pn		**Pn**	**16 09 50.6**	**-0.4**
CNPM	**China Poot**	**9.62**	**49**	Pn		**Pn**	**16 09 51.2**	**-0.1**
BRLK	**Bradley Lake**	**9.90**	**48**	Pn		**Pn**	**16 09 55.3**	**+0.2**
TTA	**Tatalina**	**10.30**	**25**	Pn		**Pn**	**16 10 01.1**	**+0.6**
SEW	**Seward**	**10.69**	**48**	Pn		**Pn**	**16 10 05.3**	**-0.6**
O22K	**Cooper Landing**	**10.76**	**46**			**Pn**	**16 10 05.3**	**-1.5**
SKT	**Skwentna**	**10.94**	**37**	Pn		**Pn**	**16 10 10.2**	**+1.0**
RC01	**Rabbit Creek A**	**11.08**	**43**	Pn		**Pn**	**16 10 10.1**	**-1.0**
PPLA	**Purkeypile**	**11.36**	**32**	Pn		**Pn**	**16 10 15.2**	**+0.2**
PWL	**Port Wells**	**11.54**	**46**	Pn		**Pn**	**16 10 15.7**	**-1.7**
KNK	**Knik Glacier**	**11.78**	**44**	Pn		**Pn**	**16 10 19.4**	**-1.3**
GHO	**Glory Hole Cre**	**11.79**	**42**	Pn		**Pn**	**16 10 19.4**	**-1.4**
SML	**Sawmill**	**12.04**	**42**	Pn		**Pn**	**16 10 23.0**	**-1.3**
GLI	**Glacier Island**	**12.09**	**47**	Pn		**Pn**	**16 10 23.6**	**-1.3**
HIN	**Hinchinbrook I**	**12.14**	**50**	Pn		**Pn**	**16 10 25.2**	**-0.4**
FID	**Port Fidalgo**	**12.30**	**49**	Pn		**Pn**	**16 10 25.4**	**-2.4**
TRF	**Thorofare Moun**	**12.36**	**33**	Pn		**Pn**	**16 10 29.4**	**+0.7**
SCM	**Sheep Creek Mo**	**12.46**	**43**			**Pn**	**16 10 28.1**	**-1.8**
EYAK	**Cordova Ski Ar**	**12.55**	**50**	Pn		**Pn**	**16 10 29.4**	**-1.6**
BPAW	**Bear Paw Mtn.**	**12.61**	**30**	Pn		**Pn**	**16 10 33.0**	**+1.0**
KLU	**Klutina**	**12.88**	**46**			**Pn**	**16 10 33.6**	**-1.9**
MCK	**McKinley**	**13.00**	**34**	Pn		Pn	16 10 32.2	-5.0
M24K	**Tolsona, Glenn**	**13.07**	**43**			**Pn**	**16 10 36.5**	**-1.7**
HMT	**Hamilton**	**13.15**	**52**	Pn		**Pn**	**16 10 39.0**	**-0.2**
BMRM	**Bremner River**	**13.23**	**49**	Pn		**Pn**	**16 10 39.4**	**-0.9**
MLY	**Manley**	**13.38**	**28**	Pn		**Pn**	**16 10 43.8**	**+1.5**
N25K	**Chitina, Valde**	**13.49**	**47**	Pn		**Pn**	**16 10 42.2**	**-1.7**
NEA2	**Nenana**	**13.54**	**37**	Pn		**Pn**	**16 10 44.3**	**-0.1**
GLB	**Gilahina Butte**	**13.77**	**48**	Pn		**Pn**	**16 10 45.5**	**-1.9**
WRH	**Wood River Hil**	**13.77**	**33**	Pn		**Pn**	**16 10 46.9**	**-0.4**
PAX	**Paxson**	**13.79**	**41**	Pn		**Pn**	**16 10 44.3**	**-3.4**
CRQM	**Cirque**	**13.82**	**51**	Pn		**Pn**	**16 10 46.8**	**-1.4**
VRDI	**Verde Repeater**	**13.85**	**49**			**Pn**	**16 10 45.7**	**-2.8**
WAX	**Waxell Ridge**	**13.85**	**53**	Pn		**Pn**	**16 10 47.2**	**-1.3**
I23K	**Minto, Yukon-K**	**13.86**	**29**	Pn		**Pn**	**16 10 49.8**	**+1.4**
TGL	**Tana Glacier**	**13.96**	**52**	Pn		**Pn**	**16 10 48.7**	**-1.3**
CCB	**Clear Creek Bu**	**13.98**	**33**	Pn		**Pn**	**16 10 48.3**	**-1.7**
MCARA	**McCarthy VSAT**	**14.10**	**49**	Pn		**Pn**	**16 10 52.2**	**+0.6**
MESA	**MESA**	**14.20**	**54**	Pn		**Pn**	**16 10 53.5**	**+0.3**
YAH	**Yahtse**	**14.35**	**54**	Pn		**Pn**	**16 10 54.0**	**-1.2**
IL31		**14.36**	**33**	Pn		**Pn**	**16 10 55.0**	**0.0**
ILAR	**Eielson Array**	**14.36**	**33**	P		**Pn**	**16 10 54.9**	**-0.1**
	0.1nm,0.3s,baz=221,slow=11,SNR=2.5							
ILAR	**Eielson Array**	**14.36**	**33**	Pn		**Pn**	**16 10 52.9**	**-2.1**
POKR	**Poker Flat Res**	**14.41**	**32**			**Sn**	**16 13 31.3**	**-2.7**
GRNC	**Granite Creek**	**14.46**	**52**	Pn		**Pn**	**16 10 55.9**	**-0.6**
MENT	**Mentasta**	**14.47**	**43**			**Pn**	**16 10 56.3**	**-0.2**
BARN	**Barnard Glacie**	**14.60**	**51**	Pn		**Pn**	**16 10 58.7**	**+0.3**
TABL	**Table Mountain**	**14.66**	**54**	Pn		**Pn**	**16 10 59.5**	**+0.4**
DOT	**Dot Lake**	**14.69**	**40**	Pn		**Pn**	**16 11 01.1**	**+1.7**
SCRK	**Sand Creek**	**14.90**	**39**	Pn		**Pn**	**16 11 00.3**	**-1.8**
PCA	**Pinnacle**	**15.00**	**56**	Pn		**Pn**	**16 11 04.8**	**+1.4**
L27K	**Beaver Creek,**	**15.29**	**44**	Pn		**Pn**	**16 11 05.2**	**-1.8**
BCAR	**Beaver Creek A**	**15.31**	**44**	Pn		**Pn**	**16 11 05.8**	**-1.5**
K27K	**Chicken**	**15.64**	**40**	Pn		**Pn**	**16 11 10.3**	**-1.2**
K27K				IAmb		IAmb	16 11 34.2	
	comp=Z,11nm,1.9s							
EGAK	**Eagle**	**16.36**	**39**	Pn		**Pn**	**16 11 19.7**	**-0.8**
EGAK				IAmb		IAmb	16 11 27.0	
	comp=Z,9.5nm,1.8s							
HYT	**Haines Junctio**	**16.49**	**54**	P		**P**	**16 11 24.3**	**+0.6**
HYT				IAmb		IAmb	16 11 34.5	
	comp=Z,17nm,1.8s							
DAWY	**Dawson**	**16.71**	**42**	P		**Pn**	**16 11 25.1**	**+0.3**
BMAR	**Burnt Mountain**	**16.84**	**28**	P		**Pn**	**16 11 26.3**	**-0.1**
BESE	**Bessie Mountai**	**17.55**	**62**	P		**P**	**16 11 38.0**	**+2.7**
BESE				IAmb		IAmb	16 11 38.2	
	comp=Z,5.3nm,1.0s							
INK	**Inuvik**	**20.76**	**34**	P		**P**	**16 12 07.5**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=239,slow=11,SNR=2.6							
YKA	**Yellowknife Ar**	**27.45**	**51**	P		**P**	**16 13 14.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=270,slow=8.1,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**40.16**	**223**	T		T	16 58 01.2	
	baz=25,slow=76,SNR=66							
H11N3	**WAKE ISLAND Hy**	**40.16**	**223**	T		T	16 58 00.4	
	baz=25,slow=76,SNR=48							
H11N1	**WAKE ISLAND Hy**	**40.17**	**223**	T		T	16 57 59.5	
	baz=25,slow=76,SNR=58							
H11S1	**WAKE ISLAND Hy**	**41.34**	**222**	T		T	16 59 37.4	
	baz=25,slow=76,SNR=46							
H11S2	**WAKE ISLAND Hy**	**41.35**	**222**	T		T	16 59 30.9	
	baz=25,slow=76,SNR=56							
H11S3	**WAKE ISLAND Hy**	**41.35**	**222**	T		T	16 59 29.9	
	baz=25,slow=76,SNR=50							
TXAR	**Lajitas Array**	**50.43**	**93**	P		**P**	**16 16 27.1**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=298,slow=5.6,SNR=20							
ARCES	**ARCESS Array B**	**56.60**	**355**	P		**P**	**16 17 11.4**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=6.8,slow=8.4,SNR=3.6							
FINES	**FINESS Array B**	**64.62**	**354**	P		**P**	**16 18 02.8**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.3,SNR=3.3							
H03N2	**Juan Fernandez**	**114.35**	**114**	T		T	18 30 54.4	
	baz=322,slow=78,SNR=32							
H03N1	**Juan Fernandez**	**114.36**	**114**	T		T	18 30 56.4	
	baz=322,slow=78,SNR=28							
H03N3	**Juan Fernandez**	**114.37**	**114**	T		T	18 30 56.1	
	baz=322,slow=78,SNR=33							

*SKHL **25** 16:10:18.3±0.2, 43.80N×147.60E, h59km±9km, mb4.9/6*
*MOS **25** 16:10:18.1±1.0, 43.87N×147.49E, h54km, mb4.4/5, Error ellipse: s-maj=9.5km s-min=8.6km az=68.4*
*JMA **25** 16:10:18.2±0.2, 43.67N×147.38E, h17km, M4.2*
*IDC **25** 16:10:21.4±3.0, 43.94N×147.43E, h64km±27km, mb3.4/14, mb1 3.6/17, mb1mx3.5/51, mbtmp3.7/17, ML3.1/3, Error ellipse: s-maj=23.8km s-min=16.6km az=144.0*

ISC 25 16:10:18.7±1.3, 43.81N±0.06×147.52E±0.06, h42km±11km, n76, σ0.95/86, mb3.8/21, 1C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.22**	**281**	*d*	*i*PN	**Pn**		**16 10 38.4**	**-0.8**
YUK					*i*S	**Sn**		**16 10 53.0**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**1.22**	**281**		*i*P	**Pn**		**16 10 38.5**	**-0.8**
YUK					AMB	AMB		16 10 38.8	
	760nm,0.4s								
YUK					*e*S	**Sn**		**16 10 53.5**	**-1.0**
YUK					A	A		16 10 54.0	
	4μm,0.5s								
YUK					A	A		16 10 54.0	
	2μm,0.5s								
GRPR	**Tuman**	**1.27**	**279**	‖	*i*PN	**Pn**		**16 10 39.8**	**-0.2**
GRPR					*i*S	**Sn**		**16 10 55.2**	**-0.7**
GRPR					pmax	pmax			
	comp=Z,1μm,0.4s								
GRPR					pmax	pmax			
	comp=N,346nm,0.3s								
GRPR					pmax	pmax			
	comp=E,242nm,0.2s								
GRPR					smax	smax			
	comp=E,2μm,0.2s								
GRPR					smax	smax			
	comp=N,4μm,0.3s								
GRPR	**Tuman**	**1.27**	**279**		A	**P**		**16 10 39.8**	**-0.2**
GRPR					AMB	AMB		16 10 40.0	
	comp=N,520nm,0.4s								
GRPR					*i*S	**Sn**		**16 10 55.2**	**-0.7**
GRPR					A	A		16 10 58.0	
	comp=N,4μm,0.3s								
GRPR					A	A		16 10 58.0	
	comp=N,2μm,0.3s								
NEM2	**Nemuro 2**	**1.36**	**252**		P	**Pn**		**16 10 40.6**	**-0.6**
NEM2					*e*S	**Sn**		**16 10 56.7**	**-1.4**
NMR	**Nemuro--Hokkai**	**1.37**	**252**	‖	*i*PN	**Pn**		**16 10 40.6**	**-0.8**
NMR					*e*S	**Sn**		**16 10 56.6**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.37**	**252**		*i*P	**Pn**		**16 10 40.6**	**-0.8**
NMR					*e*S	**Sn**		**16 10 56.9**	**-1.4**
KUR	**Kuril'sk**	**1.45**	**10**		*e*PN	**Pn**		**16 10 42.3**	**-0.1**
KUR					*e*S	**Sn**		**16 10 59.8**	**-0.4**
KUR					pmax	pmax			
	comp=N,68nm,0.2s								
KUR					pmax	pmax			
	comp=Z,141nm,0.2s								
KUR					pmax	pmax			
	comp=E,27nm,0.1s								
KUR					smax	smax			
	comp=E,582nm,0.1s								
KUR					smax	smax			
	comp=N,1μm,0.2s								
KUR	**Kuril'sk**	**1.45**	**10**	*e*	P	**Pn**		**16 10 42.3**	**-0.1**
KUR					AMB	AMB		16 10 44.0	
	comp=N,140nm,0.3s								
KUR					*i*S	**Sn**		**16 11 00.4**	**+0.2**
KUR					A	A		16 11 01.0	
	comp=N,880nm,0.3s								
KUR					A	A		16 11 01.0	
	comp=N,940nm,0.3s								
GLVR	**Golovnino**	**1.45**	**268**	*d*	*i*PN	**Pn**		**16 10 42.6**	**+0.2**
GLVR					*e*S	**Sn**		**16 11 00.2**	**0.0**
GLVR					pmax	pmax			
	comp=N,233nm,0.3s								
GLVR					pmax	pmax			
	comp=E,319nm,0.3s								
GLVR					pmax	pmax			
	comp=Z,2μm,0.3s								
GLVR					smax	smax			
	comp=N,4μm,0.4s								
GLVR					smax	smax			
	comp=E,1.0nm,0.3s								
GLVR	**Golovnino**	**1.45**	**268**	*i*	P	**Pn**		**16 10 42.6**	**+0.2**
GLVR					AMB	AMB		16 10 43.0	
	comp=E,800nm,0.4s								
GLVR					*e*S	**Sn**		**16 11 00.2**	**0.0**
GLVR					A	A		16 11 01.0	
	comp=E,4μm,0.4s								
GLVR					A	A		16 11 01.0	
	comp=E,1.0nm,0.4s								
RUSJ	**Misakicho**	**1.67**	**281**	‖	*i*PN	**Pn**		**16 10 46.1**	**+0.7**
RUSJ					*e*S	**Sn**		**16 11 08.0**	**+2.5**
JRA	**Rausu**	**1.74**	**275**		P	**Pn**		**16 10 47.0**	**+0.6**
JNSB	**Nemuroshibetsu**	**1.82**	**270**		P	**Pn**		**16 10 48.1**	**+0.6**
JKHN	**Kushirohamanak**	**1.86**	**248**		P	**Pn**		**16 10 48.0**	**-0.1**
JNK	**Nakash**	**2.04**	**265**		P	**Pn**		**16 10 50.6**	**0.0**
JNK					*e*S	**Sn**		**16 11 14.9**	**+0.1**
JAK	**Akkeshi**	**2.21**	**249**		P	**Pn**		**16 10 52.5**	**-0.4**
JAK					*e*S	**Sn**		**16 11 18.4**	**-0.5**
JTKR	**Abashiri--Toko**	**2.62**	**275**		P	**Pn**		**16 10 59.7**	**+1.3**
JAR	**Ashorobuto**	**2.77**	**261**		P	**Pn**		**16 11 01.6**	**+1.0**
JOB	**Onbets**	**2.83**	**253**		P	**Pn**		**16 11 01.9**	**+0.5**
JOB					*e*S	**Sn**		**16 11 34.6**	**+0.3**
JMP	**Maruseppu**	**3.01**	**275**		P	**Pn**		**16 11 05.4**	**+1.5**
JCH	**Churui**	**3.26**	**250**		P	**Pn**		**16 11 07.6**	**+0.3**
JCH					*e*S	**Sn**		**16 11 45.3**	**+0.4**
JKA	**Kamikawa-asahi**	**3.56**	**277**	*e*	P	**Pn**		**16 11 13.5**	**+2.0**
ASAJ	**Asahikawa**	**3.57**	**277**		P	**Pn**		**16 11 13.4**	**+2.0**
	comp=E,2.9nm,0.3s,baz=94,slow=17,SNR=23								
JFR	**Furan**	**3.64**	**262**		P	**Pn**		**16 11 14.5**	**+2.0**
JFR					*e*S	**Sn**		**16 11 56.1**	**+1.9**
JEM	**Erimo**	**3.67**	**242**		P	**Pn**		**16 11 15.2**	**+2.3**
ERM	**Erimo**	**3.67**	**242**	*d*	*i*PN	**Pn**		**16 11 15.1**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.60**	**315**	‖	*e*PN	**Pn**		**16 11 27.1**	**+1.4**
YSS					*e*S	**Sn**		**16 12 16.4**	**-1.4**
YSS					pmax	pmax			
	comp=Z,10.0nm,0.7s								
YSS					smax	smax			
	comp=N,10.0nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.60**	**315**	*e*	P	**Pn**		**16 11 27.5**	**+1.8**
YSS					AMB	AMB		16 11 30.0	
	comp=N,40nm,0.3s								
YSS					*e*S	**Sn**		**16 12 16.4**	**-1.4**
YSS					A	A		16 12 19.0	
	comp=N,10.0nm,0.8s								
MAJO	**Matsushiro**	**10.16**	**228**		*e*PN	**Pn**		**16 12 42.8**	**+0.8**
MJAR	**Matsushiro Arr**	**10.16**	**228**		P	**Pn**		**16 12 41.3**	**-0.7**
	comp=N,0.1nm,0.3s,baz=29,slow=14,SNR=2.8								
PETK	**Petropavlovsk-**	**11.49**	**32**		P	**Pn**		**16 13 00.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=201,slow=8.7,SNR=1.4								
KSRS	**Korea Array**	**16.16**	**254**		P	**P**		**16 14 05.0**	**-0.3**
	comp=N,0.0nm,0.3s,baz=58,slow=12,SNR=4.3								
HIA	**Hailar**	**19.81**	**296**		*e*P	**P**		**16 14 45.4**	**-0.1**
HIA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
BILL	**Bilibino**	**26.23**	**16**		*e*P	**P**		**16 15 48.6**	**-0.7**
BILL					*e*			16 16 34.1	
BILL					pmax	pmax			
	comp=Z,2.0nm,2.5s								
H11N2	**WAKE ISLAND Hy**	**28.97**	**140**		T	T		16 46 58.9	
	baz=330,slow=76,SNR=224								
H11N1	**WAKE ISLAND Hy**	**28.98**	**140**		T	T		16 46 56.2	
	baz=330,slow=76,SNR=213								
H11N3	**WAKE ISLAND Hy**	**28.99**	**140**		T	T		16 46 58.2	
	baz=330,slow=76,SNR=216								
TIXI	**Tiksi**	**29.36**	**348**	*i*	P	**P**		**16 16 17.9**	**+0.7**
TIXI	**Tiksi**	**29.36**	**348**	*e*	P	**P**		**16 16 17.9**	**+0.7**
H11S1	**WAKE ISLAND Hy**	**29.94**	**141**		T	T		16 48 14.7	
	baz=332,slow=76,SNR=520								
H11S3	**WAKE ISLAND Hy**	**29.95**	**141**		T	T		16 48 10.3	
	baz=332,slow=76,SNR=468								
H11S2	**WAKE ISLAND Hy**	**29.96**	**141**		T	T		16 48 12.4	
	baz=332,slow=76,SNR=345								
NRIK	**Noril'sk**	**39.33**	**331**	⇑	*i*P	**P**		**16 17 42.6**	**-0.7**
NRIK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
COLA	**College**	**40.87**	**36**	*i*	P	**P**		**16 17 56.1**	**+0.1**
COLA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
ZALV	**Zalesovo Beam**	**41.18**	**307**		PcP	**PcP**		**16 19 56.9**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=72,slow=3.5,SNR=2.6								
ILAR	**Eielson Array**	**41.28**	**36**		P	**P**		**16 17 59.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=256,slow=8.1,SNR=7.1								
ILAR	**Eielson Array**	**41.28**	**36**	*e*	P	**P**		**16 17 59.8**	**+0.3**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**44.79**	**298**		P	**P**		**16 18 27.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=84,slow=8.4,SNR=3.0								
CMAR	**Chiang Mai Arr**	**47.80**	**254**		P	**P**		**16 18 52.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=40,slow=7.1,SNR=2.7								
ARU	**Arti**	**54.49**	**317**	*e*	P	**P**		**16 19 41.1**	**-0.6**
ARU					pmax	pmax			
	comp=Z,1.0nm,0.9s								
ARU	**Arti**	**54.49**	**317**	*e*	P	**P**		**16 19 41.1**	**-0.6**
YKA	**Yellowknife Ar**	**55.61**	**34**		P	**P**		**16 19 49.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=299,slow=6.5,SNR=3.5								
YKA	**Yellowknife Ar**	**55.61**	**34**	*e*	P	**P**		**16 19 50.2**	**+0.5**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**59.28**	**340**		P	**P**		**16 20 14.8**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=44,slow=7.8,SNR=3.6								
ARCES	**ARCESS Array B**	**59.28**	**340**	*e*	P	**P**		**16 20 15.6**	**+0.1**
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
WRA	**Warramunga Arr**	**64.58**	**194**		P	**P**		**16 20 51.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=7.4,slow=6.8,SNR=2.4								
FINES	**FINESS Array B**	**64.94**	**333**		P	**P**		**16 20 52.2**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=55,slow=7.2,SNR=5.1								
OBN	**Obninsk**	**65.42**	**324**	*e*	P	**P**		**16 20 56.6**	**-0.1**
OBN					*e*			16 21 28.0	
OBN					*e*			16 23 20.9	
OBN					pmax	pmax			
	comp=Z,6.0nm,0.5s								
OBN	**Obninsk**	**65.42**	**324**	*e*	P	**P**		**16 20 56.6**	**-0.1**
NVAR	**Mina Array Bea**	**67.32**	**58**		P	**P**		**16 21 10.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=286,slow=6.5,SNR=4.9								
ASAR	**Alice Springs**	**68.30**	**193**		P	**P**		**16 21 16.4**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=7.8,slow=7.5,SNR=2.0								
NOA	**NORSAR Array B**	**69.64**	**339**		P	**P**		**16 21 22.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=54,slow=7.6,SNR=4.4								
PDAR	**Pinedale Array**	**69.67**	**50**		P	**P**		**16 21 23.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=334,slow=6.0,SNR=2.3								
KIV	**Kislovodsk**	**69.92**	**312**	*e*	P	**P**		**16 21 25.4**	**0.0**
KIV					pmax	pmax			
	comp=Z,16nm,1.0s								
KIV	**Kislovodsk**	**69.92**	**312**	*e*	P	**P**		**16 21 25.4**	**0.0**
KBZ	**Khabaz**	**69.96**	**312**		P	**P**		**16 21 25.3**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=28,slow=7.4,SNR=4.0								
KBZ	**Khabaz**	**69.96**	**312**	*i*	P	**P**		**16 21 25.7**	**+0.2**
KBZ					pmax	pmax			
	comp=Z,2.0nm,0.9s								
KBZ	**Khabaz**	**69.96**	**312**	*e*	P	**P**		**16 21 25.7**	**+0.2**
AKASG	**Malin Array Be**	**71.69**	**324**		P	**P**		**16 21 35.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=38,slow=6.2,SNR=5.1								
AKBB	**Malin Array Si**	**71.69**	**324**	*e*	P	**P**		**16 21 35.0**	**-0.9**
AKBB					pmax	pmax			
	comp=Z,2.0nm,0.9s								
TXAR	**Lajitas Array**	**82.40**	**56**	P		**P**		**16 22 37.0**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=284,slow=4.5,SNR=3.6								
TXAR	**Lajitas Array**	**82.40**	**56**	P		**P**		**16 22 37.0**	**+0.4**
H03N2	**Juan Fernandez**	**142.70**	**90**	T		T		19 08 59.3	
	baz=304,slow=77,SNR=13								
H03N3	**Juan Fernandez**	**142.71**	**90**	T		T		19 08 58.0	
	baz=304,slow=77,SNR=12								
H03N1	**Juan Fernandez**	**142.71**	**90**	T		T		19 09 00.8	
	baz=304,slow=77,SNR=13								

IDC 25 16:10:54.1±3.2, 4.92S×133.79E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/37, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=130.0km s-min=30.9km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.94**	**178**			Pn	Pn	16 14 24.6	-2.2
	0.1nm,0.3s,baz=359,slow=14,SNR=5.3								
WRA						Sn	Sn	16 17 01.4	-12
	0.0nm,0.3s,baz=0.7,slow=24,SNR=2.3								
FITZ	**Fitzroy Crossi**	**15.33**	**211**			Pn	Pn	16 14 31.2	-0.7
	0.2nm,0.3s,baz=26,slow=11,SNR=14								
FITZ						Sn	Sn	16 17 12.5	-10
	0.1nm,0.3s,baz=328,slow=13,SNR=1.5								
ASAR	**Alice Springs**	**18.64**	**180**			P	Pn	16 15 14.7	+0.9
	0.1nm,0.3s,baz=7.9,slow=11,SNR=7.3								
MKAR	**Makanchi Array**	**68.64**	**325**			P	P	16 21 59.2	0.0
	0.4nm,0.6s,baz=112,slow=7.9,SNR=4.2								

*JMA **25** 16:19:38.3±0.1, 23.97N×122.43E, h19km±2km, M2.1*
*TAP **25** 16:19:39.5, 24.09N×122.42E, h37km, ML2.6, D*

ISC 25 16:19:38.8±1.0, 24.03N±0.02×122.42E±0.02, h27km±11km, n82, σ0.67/152, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.64**	**49**			P	**Pb**	**16 19 51.1**	**-0.4**
JYNG						*e*S	**Sb**	**16 20 00.4**	**+

	baz=262								
YHNB	**Yeheng**	**1.15 304**	P		**Pn**	**16 19 59.7**	**+0.5**		
	baz=288								
YHNB			S		**Sn**	**16 20 13.4**	**-0.7**		
	baz=288								
TDCB	**Techi**	**1.17 281**	*e*P		**Pb**	**16 20 00.2**	**-0.3**		
	baz=266								
TDCB			*e*S		**Sn**	**16 20 15.2**	**+0.4**		
	baz=266								
NWF	**Wu-fen Shan**	**1.19 331**	*e*P		**Pn**	**16 20 00.2**	**+0.3**		
	baz=328								
NWF			*e*S		**Sn**	**16 20 14.6**	**-0.6**		
	baz=328								
WFSB	**Wu-fen Shan**	**1.19 331**	*e*P		**Pn**	**16 19 59.9**	**+0.2**		
	baz=328								
WFSB			*e*S		**Sn**	**16 20 14.8**	**-0.3**		
	baz=328								
YULB	**Yu-li**	**1.21 239**	P		**Pn**	**16 19 59.9**	**0.0**		
	baz=249								
YULB			S		**Sn**	**16 20 15.9**	**+0.5**		
	baz=249								
EYUL	**Yuli**	**1.21 236**	P		**Pn**	**16 20 00.2**	**+0.2**		
	baz=224								
EYUL			S		**Sn**	**16 20 16.1**	**+0.5**		
	baz=224								
TWA	**Mucha**	**1.22 322**	*e*P		**Pb**	**16 20 01.0**	**-0.3**		
	baz=334								
TWA			*e*S		**Sb**	**16 20 16.3**	**-0.2**		
	baz=334								
TWF1	**Yuli**	**1.23 237**	*e*P		**Pn**	**16 20 00.4**	**+0.1**		
	baz=224								
TWF1			*e*S		**Sn**	**16 20 16.6**	**+0.6**		
	baz=224								
IRIF	**Iriomote-Funau**	**1.24 75**	P		**Pn**	**16 20 00.8**	**+0.4**		
IRIF			S		**Sn**	**16 20 16.3**	**+0.1**		
TNOU	**National Taiwa**	**1.26 332**	*e*P		**Pn**	**16 20 00.9**	**+0.1**		
	baz=330								
TNOU			*e*S		**Sn**	**16 20 16.3**	**-0.5**		
	baz=330								
FULB	**Fuli**	**1.32 232**	*e*P		**Pb**	**16 20 03.2**	**+0.2**		
	baz=228								
FULB			*e*S		**Sb**	**16 20 19.8**	**+0.3**		
	baz=228								
YM01	**YM01**	**1.35 325**	*e*P		**Pn**	**16 20 02.1**	**0.0**		
	baz=336								
YM01			*e*S		**Sn**	**16 20 19.2**	**-0.1**		
	baz=336								
SSLB	**Suanglung**	**1.36 260**	*e*P		**Pn**	**16 20 02.6**	**+0.5**		
	baz=257								
SSLB			*e*S		**Sb**	**16 20 20.9**	**+0.3**		
	baz=257								
DPDB	**Guoxing**	**1.36 271**	*e*P		**Pb**	**16 20 03.3**	**-0.4**		
	baz=260								
DPDB			*e*S		**Sb**	**16 20 20.9**	**+0.1**		
	baz=260								
WHP	**Taichung City**	**1.37 281**	*e*P		**Pb**	**16 20 03.7**	**-0.2**		
	baz=268								
WHP			*e*S		**Sb**	**16 20 20.8**	**-0.1**		
	baz=268								
WCS	**Beigang Elemen**	**1.38 272**	*e*P		**Pn**	**16 20 03.2**	**+0.8**		
	baz=261								
WCS			*e*S		**Sn**	**16 20 20.2**	**+0.5**		
	baz=261								
YM08	**YM08**	**1.38 327**	*e*P		**Pn**	**16 20 02.7**	**+0.3**		
	baz=324								
YM08			*e*S		**Sn**	**16 20 19.2**	**-0.6**		
	baz=324								
SMLT	**Sun Moon Lake**	**1.40 264**	*e*P		**Pn**	**16 20 03.4**	**+0.7**		
	baz=261								
ANP	**Anpu**	**1.41 325**	*e*P		**Pn**	**16 20 02.6**	**-0.3**		
	baz=322								
LIOB	**Emei**	**1.42 296**	*e*P		**Pb**	**16 20 04.8**	**+0.1**		
	baz=292								
LIOB			*e*S		**Sb**	**16 20 22.6**	**+0.3**		
	baz=292								
NSTT	**Nanjuang**	**1.43 295**	*e*P		**Pb**	**16 20 05.4**	**+0.7**		
	baz=291								
NSTT			*e*S		**Sb**	**16 20 23.1**	**+0.6**		
	baz=291								
TYC	**Yuchr**	**1.43 265**	*e*P		**Pb**	**16 20 04.2**	**-0.7**		
	baz=262								
TYC			*e*S		**Sn**	**16 20 21.8**	**+0.8**		
	baz=262								
YUS	**Yu-Shan**	**1.45 249**	*e*P		**Pb**	**16 20 05.0**	**-0.4**		
	baz=245								
YUS			*e*S		**Sn**	**16 20 22.3**	**+0.2**		
	baz=245								
EDH	**Donghe**	**1.47 224**	*e*P		**Pn**	**16 20 03.1**	**-0.5**		
	baz=214								
EDH			*e*S		**Sn**	**16 20 20.3**	**-1.5**		
	baz=214								
JKRS	**Kuro-shima**	**1.47 81**	P		**Pb**	**16 20 05.1**	**-0.4**		
JKRS			*e*S		**Sb**	**16 20 23.6**	**-0.2**		
ALS	**Alishan**	**1.56 251**	*e*P		**Pb**	**16 20 06.5**	**-0.8**		
	baz=248								
ALS			*e*S		**Sb**	**16 20 26.2**	**-0.6**		
	baz=248								
WWF	**Wufeng**	**1.57 271**	*e*P		**Pb**	**16 20 07.8**	**+0.5**		
	baz=267								
JIJ	**Ishigaki jima**	**1.61 78**	P		**Pn**	**16 20 06.3**	**+0.8**		
JIJ			S		**Sn**	**16 20 26.2**	**+0.7**		
CHN5	**Tsauling**	**1.65 255**	*e*P		**Pn**	**16 20 07.4**	**+1.3**		
	baz=252								
TWGBT	**Beinan**	**1.72 226**	*e*P		**Pn**	**16 20 07.3**	**+0.2**		
	baz=234								
TWGBT			*e*S		**Sn**	**16 20 28.2**	**0.0**		
	baz=234								
TWG	**Pinlang**	**1.72 226**	*e*P		**Pn**	**16 20 07.5**	**+0.4**		
	baz=234								
TWG			*e*S		**Sn**	**16 20 27.8**	**-0.4**		
	baz=234								
STYH	**Taoyuan**	**1.73 241**	*e*P		**Pn**	**16 20 08.6**	**+1.4**		
	baz=230								
STYH			*e*S		**Sb**	**16 20 30.6**	**-0.6**		
	baz=230								
STYT	**Tauyuan**	**1.75 241**	*e*P		**Pb**	**16 20 09.5**	**-0.8**		
	baz=230								
STYT			*e*S		**Sb**	**16 20 30.8**	**-1.1**		
	baz=230								
TPUB	**Ta-pu**	**1.79 247**	*e*P		**Pb**	**16 20 10.1**	**-0.9**		
	baz=244								
TPUB			*e*S		**Sb**	**16 20 32.6**	**-0.5**		
	baz=244								
CHN4	**Tsaushan**	**1.80 248**	*e*P		**Pb**	**16 20 11.0**	**-0.2**		
	baz=246								
CHN4			*e*S		**Sb**	**16 20 33.1**	**-0.3**		
	baz=246								
JISG	**Ishigakijimahi**	**1.81 72**	P		**Pn**	**16 20 08.8**	**+0.5**		
JISG			S		**Sn**	**16 20 30.4**	**-0.1**		
WTP	**Ta-pu**	**1.83 245**	*e*P		**Pb**	**16 20 10.5**	**-1.1**		
	baz=243								
WTP			*e*S		**Sb**	**16 20 33.4**	**-0.8**		
	baz=243								
WTK	**Tuku**	**1.89 260**	*e*P		**Pb**	**16 20 11.2**	**-1.5**		
	baz=257								
WTK			*e*S		**Sb**	**16 20 35.5**	**-0.3**		
	baz=257								
SLGT	**Liugui**	**1.92 238**	*e*P		**Pb**	**16 20 12.1**	**-1.2**		
	baz=228								
SLGT			*e*S		**Sb**	**16 20 36.2**	**-0.7**		
	baz=228								
TWK	**Hsinying**	**1.92 247**	*e*P		**Pb**	**16 20 12.2**	**-1.1**		
	baz=245								
TWK			*e*S		**Sb**	**16 20 36.6**	**-0.3**		
	baz=245								
CHN1	**Nanshi**	**1.93 245**	*e*P		**Pb**	**16 20 11.8**	**-1.5**		
	baz=242								
CHN1			*e*S		**Sb**	**16 20 37.0**	**+0.1**		
	baz=242								
SGST	**Jiashian**	**1.93 241**	*e*P		**Pb**	**16 20 12.1**	**-1.3**		
	baz=239								
SGST			*e*S		**Sb**	**16 20 36.6**	**-0.4**		
	baz=239								
ECL	**Taimali**	**1.96 224**	*e*P		**Pn**	**16 20 10.6**	**+0.3**		
	baz=231								
SSD	**Sandimen**	**2.08 232**	*e*P		**Pb**	**16 20 14.1**	**-1.7**		
	baz=226								
SSD			*e*S		**Sb**	**16 20 39.5**	**-1.7**		
	baz=226								
TSMG	**Majia**	**2.09 231**	*e*P		**Pn**	**16 20 13.7**	**+1.6**		
	baz=225								
TSMG			*e*S		**Sn**	**16 20 38.5**	**+1.1**		
	baz=225								
SCST	**Cishan**	**2.10 238**	*e*P		**Pb**	**16 20 15.5**	**-0.7**		
	baz=225								
MASBT	**Mashibuluo**	**2.16 230**	*e*P		**Pn**	**16 20 14.2**	**+1.1**		
	baz=224								
MASBT			*e*S		**Sn**	**16 20 40.8**	**+1.8**		
	baz=224								
EAST	**Anshuo**	**2.18 222**	*e*P		**Pn**	**16 20 14.1**	**+0.7**		
	baz=219								
SCZT	**Fangliau**	**2.33 225**	*e*P		**Pn**	**16 20 16.7**	**+1.2**		
	baz=223								
SLIU	**Shizi**	**2.34 220**	*e*P		**Pn**	**16 20 18.0**	**+2.4**		
	baz=218								
PTMZ	**Houxiangcun**	**3.17 289**	*e*P		**Pn**	**16 20 27.7**	**+0.7**		
	baz=286								
PTMZ			*e*S		**Sn**	**16 21 04.7**	**+0.8**		
	baz=286								

MOS ***25*** *16:20:19.8±0.9, 16°.13S×167°.69E, h33km, mb5.4/21, Error ellipse: s-maj=9.7km s-min=7.3km az=133.4*

IDC ***25*** *16:20:20.3±2.5, 16°.11S×167°.78E, h29km±15km, mb4.4/18, mb1 4.5/18, mb1mx4.5/22, mbtmp4.6/18, ML5.2/1, MS3.9/17, Ms1 3.9/17, ms1mx3.8/23, Error ellipse: s-maj=22.6km s-min=14.8km az=112.0*

BJI ***25*** *16:20:22.0±0.0, 16°.20S×167°.70E, h51km, mB5.0/32, mb4.9/49, Ms4.8/11, Ms7 4.5/11*

NEIC ***25*** *16:20:23.5±2.1, 16°.26S±0°.07×167°.66E±0°.08, h44km±4km, mb5.1/83, Error ellipse: s-maj=10.6km s-min=9.8km az=97.0*

GCMT ***25*** *16:20:26.5±0.2, 16°.25S±0°.02×167°.44E±0°.02, h45km±1km, MW5.0/79, Moment Tensor Solution. s43,c62; s79,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.18±.21; Mθθ -1.57±.15; Mϕϕ -0.61±.16; Mrθ 1.72±.11; Mrϕ -2.69±.08; Mθϕ 0.03±.11; Best double couple: M0 3.65300×10^16 NP1: ϕs 197.00000°, δ 44.00000°, λ 38.00000°. NP2: ϕs 78.00000°, δ 65.00000°, λ 127.00000°. Principal axes: T 3.1890, Plg 54.0000°, Azm 35.0000°; N 0.9280, Plg 33.0000°, Azm 241.0000°; P -4.1170, Plg 12.0000°, Azm 142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 16:20:21.8±0.3, 16°.19S±0°.04×167°.73E±0°.06, h39km, n282, σ 1§33/283, mb5.0/86, MS4.0/25, 10C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**4.58**	**186**	Pn		**Pn**	**Pn**	**16 21 27.4**	**-1.2**
LIFNC				Sn		**Sn**	**Sn**	**16 22 14.5**	**-6.1**
DZM	**Mont Dzumac**	**5.97**	**192**	Pn		**Pn**	**Pn**	**16 21 48.0**	**+0.2**
	53nm,0.3s,baz=78,slow=4.5,SNR=250								
DZM				Sn		**Sn**	**Sn**	**16 22 52.0**	**-3.0**
	193nm,0.3s,baz=319,slow=19,SNR=19								
DZM	**Mont Dzumac**	**5.97**	**192**	*e*Pn		**Pn**	**Pn**	**16 21 47.7**	**-0.1**
	423nm,0.3s								
DZM				*e*Sn		**Sn**	**Sn**	**16 22 53.6**	**-1.4**
	353nm,0.3s								
DZM				*e*LR		LR	LR	16 23 12.0	
	comp=Z,3μm,25.1s								
DZM	**Mont Dzumac**	**5.97**	**192**	Pn		**Pn**	**Pn**	**16 21 47.7**	**-0.1**
DZM				Sn		**Sn**	**Sn**	**16 22 51.8**	**-3.2**
PINNC	**Pines Island,**	**6.39**	**182**	Pn		**Pn**	**Pn**	**16 21 54.1**	**+0.7**
MSVF	**Nonsavu**	**10.00**	**100**	LR		LR	LR	16 25 59.3	
	comp=Z,1μm,20.1s,baz=301,slow=34								
MSVF	**Nonsavu**	**10.00**	**100**	P		**Pn**	**Pn**	**16 22 46.0**	**+3.0**
MSVF	**Nonsavu**	**10.00**	**100**	Pn		**Pn**	**Pn**	**16 22 46.0**	**+3.0**
HNR	**Honiara**	**10.13**	**311**	Pn		**Pn**	**Pn**	**16 22 46.6**	**+1.8**
	36nm,0.3s,baz=169,slow=7.2,SNR=14								
HNR				Sn		**Sn**	**Sn**	**16 24 36.6**	**-0.6**
	7.3nm,0.3s,baz=174,slow=18,SNR=1.6								
HNR				LR		LR	LR	16 26 30.6	
	comp=Z,457nm,18.4s,baz=150,slow=37								
HNR	**Honiara**	**10.13**	**311**	P		**Pn**	**Pn**	**16 22 46.4**	**+1.6**
HNR	**Honiara**	**10.13**	**311**	Pn		**Pn**	**Pn**	**16 22 46.4**	**+1.6**
EIDS	**Eidsvold**	**18.03**	**237**	P		**P**	**P**	**16 24 31.7**	**+2.1**
	baz=18,SNR=13								
EIDS	**Eidsvold**	**18.03**	**237**	P		**P**	**P**	**16 24 32.1**	**+2.5**
OUZ	**Omahuta**	**19.66**	**166**			**Pn**	**Pn**	**16 24 50.0**	**+1.0**
RMQ	**Roma**	**20.40**	**237**	P		Pn	Pn	16 24 58.9	+1.1
	baz=20,SNR=8.1								
ARMA	**Armidale**	**20.44**	**223**	P		Pn	Pn	16 24 59.0	+0.7
	baz=20,SNR=3.8								
ARMA	**Armidale**	**20.44**	**223**	P		Pn	Pn	16 24 58.9	+0.6
CTA	**Charters Tower**	**20.77**	**256**	P		Pn	Pn	16 25 01.2	-1.0
	9.8nm,0.7s,baz=90,slow=12,SNR=13								
CTAO	**Charters Tower**	**20.77**	**256**	P		Pn	Pn	16 25 01.3	-0.8
CTAO				pmax		pmax	pmax		
	comp=Z,48nm,1.4s								
CTAO	**Charters Tower**	**20.77**	**256**	Pn		Pn	Pn	16 25 01.3	-0.9
PMG	**Port Moresby**	**21.15**	**286**	LR		LR	LR	16 32 26.0	
	comp=Z,397nm,18.8s,baz=318,slow=34								
PMG	**Port Moresby**	**21.15**	**286**	*d* P		**P**	**P**	**16 25 05.5**	**+1.8**
PMG				pmax		pmax	pmax		
	comp=Z,47nm,1.1s								
MTSU	**Mount Surprise**	**22.45**	**262**	P		**P**	**P**	**16 25 20.2**	**+2.5**
	baz=22,SNR=27								
URZ	**Urewera**	**23.48**	**161**	P		**P**	**P**	**16 25 29.0**	**+1.0**
URZ				IAmb		IAmb	IAmb	16 25 54.1	
	comp=Z,57nm,1.2s								
BKZ	**Black Stump Fm**	**24.14**	**163**	P		**P**	**P**	**16 25 35.4**	**+1.2**
QLP	**Quilpie**	**24.16**	**241**	P		**P**	**P**	**16 25 35.2**	**+0.8**
	baz=24,SNR=4.9								
KNTN	**Kanton**	**24.22**	**59**	P		**P**	**P**	**16 25 36.3**	**+1.2**
KNTN				IAmb		IAmb	IAmb	16 25 38.2	
	comp=Z,96nm,1.1s								
PATS	**Pohnpei**	**24.70**	**337**	P		**P**	**P**	**16 25 40.0**	**+0.6**
	baz=25,SNR=3.3								
PATS	**Pohnpei**	**24.70**	**337**	P		**P**	**P**	**16 25 40.1**	**+0.6**
QRZ	**Quartz Range**	**24.90**	**171**	P		**P**	**P**	**16 25 42.4**	**+1.4**
QRZ				IAmb		IAmb	IAmb	16 25 44.7	
	comp=Z,62nm,1.0s								
CMSA	**Cobar Meteorol**	**25.21**	**229**	P		**P**	**P**	**16 25 45.6**	**+1.6**
	baz=25,SNR=46								
CAN	**Canberra**	**25.36**	**218**	P		**P**	**P**	**16 25 46.3**	**+1.0**
CAN				pmax		pmax	pmax		
	comp=Z,21nm,0.9s								
CAN	**Canberra**	**25.36**	**218**	P		**P**	**P**	**16 25 46.3**	**+1.0**
NNZ	**Nelson**	**25.41**	**170**	P		**P**	**P**	**16 25 47.3**	**+1.7**
BFZ	**Birch Farm**	**25.50**	**165**	P		**P**	**P**	**16 25 46.2**	**-0.3**
BFZ				IAmb		IAmb	IAmb	16 25 49.4	
	comp=Z,50nm,0.9s								
TUWZ	**Tuamarina**	**25.72**	**169**	P		**P**	**P**	**16 25 48.8**	**+0.3**
THZ	**Tophouse**	**25.87**	**171**	P		**P**	**P**	**16 25 51.0**	**+1.1**
THZ				IAmb		IAmb	IAmb	16 25 51.7	
	comp=Z,35nm,0.9s								
MSWZ	**Moikau Station**	**25.96**	**167**	P		**P**	**P**	**16 25 50.5**	**-0.2**
BSWZ	**Blackbirch Sta**	**25.98**	**169**	P		**P**	**P**	**16 25 51.8**	**+0.9**
CMWZ	**Cape Campbell**	**26.08**	**169**	P		**P**	**P**	**16 25 52.2**	**+0.5**
KHZ	**Kahutara**	**26.61**	**170**	P		**P**	**P**	**16 25 57.3**	**+0.9**
KHZ				IAmb		IAmb	IAmb	16 26 36.5	
	comp=Z,97nm,1.5s								
LTZ	**Lake Taylor**	**26.79**	**173**	P		**P**	**P**	**16 25 58.0**	**-0.2**
LTZ				IAmb		IAmb	IAmb	16 26 05.2	
	comp=Z,59nm,1.3s								
QIS	**Mount Isa**	**27.02**	**256**	P		**P**	**P**	**16 26 01.2**	**+0.7**
	baz=27,SNR=5.0								
OXZ	**Oxford**	**27.30**	**173**	P		**P**	**P**	**16 26 03.0**	**+0.3**
OXZ				IAmb		IAmb	IAmb	16 26 04.1	
	comp=Z,64nm,1.4s								
RPZ	**Rata Peaks**	**27.58**	**175**	P		**P**	**P**	**16 26 05.8**	**+0.6**
LBZ	**Lake Benmore**	**28.18**	**176**	P		**P**	**P**	**16 26 11.8**	**+1.3**
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**P**	**16 26 13.3**	**+0.5**
	comp=Z,8.0nm,0.8s,baz=58,slow=8.7,SNR=20								
STKA				LR		LR	LR	16 37 01.1	
	comp=Z,482nm,18.1s,baz=98,slow=35								
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**P**	**16 26 14.3**	**+1.5**
	baz=28,SNR=6.7								
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**P**	**16 26 13.5**	**+0.7**
STKA				pmax		pmax	pmax		
	comp=Z,11nm,1.0s								
STKA	**Stephens Creek**	**28.41**	**232**	P		**P**	**P**	**16 26 13.5**	**+0.7**
HTT	**Hallett**	**31.13**	**231**	P		**P**	**P**	**16 26 37.0**	**+0.1**
	baz=31,SNR=4.4								
WR0	**Warramunga Arr**	**31.74**	**258**	P		**P**	**P**	**16 26 41.4**	**-1.0**
WR0				IAmb		IAmb	IAmb	16 26 45.0	
	comp=Z,37nm,1.6s								
WB0	**Warramunga Arr**	**31.88**	**259**	P		**P**	**P**	**16 26 42.9**	**-0.7**
WB0				IAmb		IAmb	IAmb	16 26 45.4	
	comp=Z,14nm,0.7s								
WB2	**Warramunga Arr**	**31.92**	**258**	P		**P**	**P**	**16 26 43.4**	**-0.5**
WB2				IAmb		IAmb	IAmb	16 26 46.6	
	comp=Z,43nm,1.8s								
WRAB	**Tennant Creek**	**31.92**	**258**	*e*P		**P**	**P**	**16 26 43.8**	**-0.2**
WRAB				pmax		pmax	pmax		
	comp=Z,10.0nm,0.8s								
WRA	**Warramunga Arr**	**31.93**	**258**	P		**P**	**P**	**16 26 42.7**	**-1.3**
	comp=Z,6.0nm,0.7s,baz=88,slow=8.8,SNR=31								
WRA				PcP		**PcP**	**PcP**	**16 29 32.3**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=82,slow=4.1,SNR=2.3								
WRA				ScP		**ScP**	**ScP**	**16 33 15.5**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=90,slow=3.7,SNR=3.3								
WRA	**Warramunga Arr**	**31.93**	**258**	P		**P**	**P**	**16 26 42.9**	**-1.2**
AS31	**Alice Springs**	**32.59**	**251**	P		**P**	**P**	**16 26 50.0**	**+0.1**
ASAR	**Alice Springs**	**32.59**	**251**	P		**P**	**P**	**16 26 49.9**	**-0.1**
	comp=Z,17nm,0.7s,baz=75,slow=8.9,SNR=219								
ASAR				PcP			**PcP**	**16 29 36.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=90,slow=2.8,SNR=4.9								
ASAR				ScP			**ScP**	**16 33 16.9**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=89,slow=3.5,SNR=9.4								
ASAR	**Alice Springs**	**32.59**	**251**	P		**P**	**P**	**16 26 49.7**	**-0.2**
ASAR	**Alice Springs**	**32.59**	**251**				**ScP**	**16 33 18.5**	**+1.8**
BBOO	**Buckleboo**	**33.06**	**234**	P		**P**	**P**	**16 26 54.0**	**+0.2**
	baz=33,SNR=6.7								
BBOO	**Buckleboo**	**33.06**	**234**	P		**P**	**P**	**16 26 54.0**	**+0.2**
BBOO				IAmb		IAmb	IAmb	16 27 06.7	
	comp=Z,31nm,1.0s								
KDU	**Kakadu**	**34.29**	**271**	P		**P**	**P**	**16 27 05.3**	**+0.7**
	baz=34,SNR=5.9								
WAKE	**Wake Island**	**35.27**	**358**	P		**P**	**P**	**16 27 13.2**	**+0.3**
MTN	**Manton Dam**	**35.55**	**270**	P		**P**	**P**	**16 27 16.3**	**+0.7**
GUMO	**Guam**	**37.23**	**321**	P		**P**	**P**	**16 27 31.4**	**+1.6**
GUMO				pmax		pmax	pmax		
	comp=Z,160nm,1.3s								
GUMO	**Guam**	**37.23**	**321**	P		**P**	**P**	**16 27 31.4**	**+1.6**
FAKI	**Fak Fak**	**37.30**	**287**	P		**P**	**P**	**16 27 30.4**	**-0.2**
FAKI				IAmb		IAmb	IAmb	16 28 27.5	
	comp=Z,74nm,1.4s								
FAKI	**Fak Fak**	**37.30**	**287**	P		**P**	**P**	**16 27 29.3**	**-1.2**
	comp=Z,32nm,1.1s								
KNRA	**Kununurra**	**37.43**	**265**	P		**P**	**P**	**16 27 31.0**	**-0.6**
	baz=37,SNR=10								
KNRA	**Kununurra**	**37.43**	**265**	P		**P**	**P**	**16 27 30.8**	**-0.8**
WRKA	**Warakurna**	**37.83**	**250**	P		**P**	**P**	**16 27 35.0**	**0.0**
	baz=38,SNR=15								
FORT	**Forrest**	**38.95**	**241**	P		**P**	**P**	**16 27 44.9**	**+0.7**
	baz=39,SNR=8.9								
FORT	**Forrest**	**38.95**	**241**	P		**P**	**P**	**16 27 44.9**	**+0.7**
FORT				IAmb		IAmb	IAmb	16 27 57.8	
	comp=Z,46nm,0.8s								
FITZ	**Fitzroy Crossi**	**40.20**	**261**	P		**P**	**P**	**16 27 55.0**	**+0.2**
	baz=40,SNR=14								
FITZ	**Fitzroy Crossi**	**40.20**	**261**	P		**P**	**P**	**16 27 55.0**	**+0.2**
FITZ				IAmb		IAmb	IAmb	16 27 58.1	
	comp=Z,39nm,1.2s								
TBI	**Tubuai**	**40.80**	**107**	*e*LQ		LQ	LQ	16 37 47.7	
	comp=Z,617nm,35.2s								
TBI				*e*LR		LR	LR	16 39 31.0	
	comp=Z,259nm,28.5s								
PPT2	**Papeete2**	**40.82**	**98**	*e*LQ		LQ	LQ	16 37 35.7	
	comp=Z,807nm,31.8s								
PPT2				*e*LR		LR	LR	16 39 30.1	
	comp=Z,227nm,26.5s								
PPT	**Papeete**	**40.82**	**98**	LR		LR	LR	16 42 17.6	
	comp=Z,69nm,18.6s,baz=298,slow=32								
PPTF	**Pamatai, Papee**	**40.83**	**98**	P		**P**	**P**	**16 27 59.5**	**-0.6**
PPTF				IAmb		IAmb	IAmb	16 28 39.2	
	comp=Z,70nm,1.5s								
BATI	**Baumata**	**43.24**	**272**	P		P	P	16 28 14.4	-5.4
MMRI	**Maumere**	**44.98**	**274**	P		**P**	**P**	**16 28 34.3**	**+0.7**
MMRI				IAmb		IAmb	IAmb	16 28 50.2	
	comp=Z,25nm,0.7s								
PSA00	**Pilbara Seismi**	**45.48**	**256**	P		**P**	**P**	**16 28 37.5**	**-0.1**
MEEK	**Meekatharra**	**46.65**	**249**	P		**P**	**P**	**16 28 46.7**	**-0.1**
	baz=47,SNR=7.0								
KAPI	**Kappang**	**48.33**	**278**	P		**P**	**P**	**16 29 00.0**	**+0.1**
KAPI				pmax		pmax	pmax		
	comp=Z,25nm,1.0s								
KAPI	**Kappang**	**48.33**	**278**	P		**P**	**P**	**16 29 00.0**	**+0.1**
KAPI				IAmb		IAmb	IAmb	16 29 01.3	
	comp=Z,25nm,0.9s								
NWAO	**Narrogin (SRO)**	**48.39**	**240**	P		**P**	**P**	**16 29 00.1**	**-0.1**
NWAO				pmax		pmax	pmax		
	comp=Z,47nm,1.1s								
NWAO	**Narrogin (SRO)**	**48.39**	**240**	P		**P**	**P**	**16 29 00.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**48.39**	**240**	P		**P**	**P**	**16 28 59.7**	**-0.5**
NWAO				IAmb		IAmb	IAmb	16 29 13.8	
	comp=Z,37nm,1.1s								
MORW	**Morawa**	**49.05**	**245**	P		**P**	**P**	**16 29 04.3**	**-1.0**
	baz=49,SNR=7.0								
MORW	**Morawa**	**49.05**	**245**	P		**P**	**P**	**16 29 06.4**	**+1.1**
MORW				IAmb		IAmb	IAmb	16 29 09.2	
	comp=Z,66nm,1.8s								
TAOE	**Nuku Hiva Isla**	**51.29**	**88**	*e*LR		LR	LR	16 44 21.9	
	comp=Z,262nm,27.1s								
JAGI	**Jajag, Banyuwa**	**52.78**	**272**	P		**P**	**P**	**16 29 32.6**	**-0.9**
UGM	**Wanagama**	**56.40**	**271**	P		**P**	**P**	**16 29 58.8**	**-1.0**
JOW	**Kunigami**	**57.42**	**318**	P		**P**	**P**	**16 30 07.9**	**+1.1**
INU	**Inuyama**	**58.95**	**331**	P		**P**	**P**	**

comp=Z,10nm,0.8s
JEW Eniwo 63.52 339 P P 16 30 50.1 +2.1
JEW IAmb IAmb 16 31 29.3
comp=Z,19nm,0.8s
KUR Kuril'sk 63.74 344 *e*P **P 16 30 49.1 -0.3**
JKA Kamikawa-asahi 64.26 340 P **P 16 30 53.4 +0.5**
ASAJ Asahikawa 64.26 340 P **P 16 30 53.4 +0.5**
ASAJ pmax pmax
comp=Z,37nm,0.9s
KSRS Korea Array 65.19 326 P **P 16 30 57.9 -1.2**
comp=Z,2.8nm,0.9s,baz=137,slow=6.8,SNR=9.4
KSRS LR LR 16 56 37.6
comp=Z,61nm,22.0s,baz=145,slow=33
KSAR Wonju Array Be 65.20 326 P **P 16 30 59.5 +0.3**
KSAR Wonju Array Be 65.20 326 P **P 16 30 59.5 +0.3**
YSS Yuzh-Sakhalins 66.75 342 *e*P **P 16 31 10.3 +1.4**
YSS *e*S **S 16 39 56.8 -1.3**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS Yuzh-Sakhalins 66.75 342 P **P 16 31 09.7 +0.8**
NJ2 Nanjing 67.03 316 *e*P **P 16 31 13.8 +2.8**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
USRK Ussuriysk Ar. 68.38 333 P **P 16 31 19.9 +0.6**
comp=Z,12nm,0.7s,baz=134,slow=6.3,SNR=30
USRK LR LR 16 59 09.4
comp=Z,30nm,20.8s,baz=122,slow=34
USRK Ussuriysk Ar. 68.38 333 P **P 16 31 20.1 +0.8**
USRK Ussuriysk Ar. 68.38 333 P **P 16 31 20.1 +0.8**
USA0B Ussuriysk Arra 68.38 333 P **P 16 31 19.9 +0.6**
USA0B pmax pmax
comp=Z,25nm,1.0s
USA0B Ussuriysk Arra 68.38 333 P **P 16 31 19.9 +0.6**
USA0B IAmb IAmb 16 31 22.6
comp=Z,24nm,1.0s
PEA0B Petropavlovsk- 69.55 354 P **P 16 31 27.2 +0.8**
PEA0B pmax pmax
comp=Z,111nm,1.8s
PEA0B Petropavlovsk- 69.55 354 P **P 16 31 27.1 +0.8**
PETK Petropavlovsk- 69.55 354 P **P 16 31 26.7 +0.3**
comp=Z,5.1nm,0.8s,baz=148,slow=8.7,SNR=6.9
PETK LR LR 16 56 50.5
comp=Z,134nm,20.8s,baz=164,slow=32
MDJ Mudanjiang 69.77 332 P **P 16 31 30.5 +2.6**
MDJ pP pP 16 31 39.8 +0.5
MDJ sP sP 16 31 44.0 +0.2
MDJ S **S 16 40 29.3 -5.0**
MDJ pmax pmax
comp=Z,41nm,1.0s
MDJ pmax pmax
comp=Z,98nm,4.1s
MDJ L L
comp=Z,160nm,14.0s
MDJ L L
comp=Z,160nm,16.1s
MDJ L L
comp=Z,200nm,24.0s
MDJ Mudanjiang 69.77 332 P **P 16 31 28.1 +0.2**
MDJ IAmb IAmb 16 31 31.0
comp=Z,30nm,0.9s
RPSI Rantau Prapat 70.48 279 P **P 16 31 31.6 -1.3**
RPSI IAmb IAmb 16 31 34.5
comp=Z,16nm,0.9s
PSI Prapat 70.52 279 P **P 16 31 31.6 -1.7**
PSI pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 71.12 329 *e*P **P 16 31 35.8 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
GSI Gunungsitoli 71.34 277 P **P 16 31 37.3 -1.0**
GSI IAmb IAmb 16 31 40.7
comp=Z,24nm,0.8s
GRNR Gornyy 72.11 340⇑ *i*P **P 16 31 43.0 +1.0**
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=E,100nm,18.0s
KLR Kul'dur 72.52 336 *c i*P **P 16 31 44.8 +0.4**
KLR pmax pmax
comp=Z,39nm,1.6s
ENH Enshi 72.63 310 P **P 16 31 43.7 -1.9**
ENH IAmb IAmb 16 31 47.4
comp=Z,15nm,1.0s
GYA Guiyang 72.91 305 P **P 16 31 47.5 +0.1**
GYA pP sP 16 32 03.5 -0.2
GYA pmax pmax
comp=Z,2.0nm,1.2s
BJT Baijiatuau 73.66 321 P **P 16 31 52.1 +0.7**
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuau 73.66 321 P **P 16 31 52.1 +0.7**
BJI Beijing 73.67 321 P **P 16 31 52.0 +0.5**
BJI pP **PcP 16 32 06.0 -1.1**
BJI pmax pmax
comp=Z,6.0nm,0.8s
QSPA South Pole Qui 73.84 180 P **P 16 31 53.8 +1.5**
QSPA IAmb IAmb 16 32 07.0
comp=Z,26nm,1.1s
XAN Xi'an 75.00 313 P **P 16 31 59.8 +0.4**
XAN pmax pmax
comp=Z,8.0nm,0.7s
KMI Kunming 75.45 302 ⇓P **P 16 32 03.5 +1.1**
KMI pP PcP 16 32 16.8 +1.4
KMI pmax pmax
comp=Z,18nm,1.0s
CM09 Chiang Mai Arr 75.90 294 P **P 16 32 08.3 +3.4**
comp=Z,15nm,0.9s
CM05 Chiang Mai Arr 75.92 294 P **P 16 32 08.8 +3.8**
comp=Z,6.4nm,1.0s
CMAR Chiang Mai Arr 75.94 294 P **P 16 32 05.9 +0.8**
comp=Z,5.4nm,0.9s,baz=135,slow=4.4,SNR=23
CMAR Chiang Mai Arr 75.94 294 P **P 16 32 05.1 0.0**
CM15 Chiang Mai Arr 75.96 294 P **P 16 32 08.0 +2.8**
comp=Z,12nm,0.9s
CHTO Chiang Mai 76.08 295 P **P 16 32 08.2 +2.3**
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 76.98 320 *e*P **P 16 32 14.0 +3.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.6s
CD2 Chengdu 77.25 308 *e*P **P 16 32 14.0 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HIA Hailar 77.77 330 *c i*P **P 16 32 16.8 +2.0**
HIA pmax pmax
comp=Z,8.0nm,0.9s
ZEA Zeya 77.80 337 *e*P **P 16 32 15.7 +0.9**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.7s
BTO Baotou 77.81 319 *e*P **P 16 32 19.3 +4.0**
BTO S **S 16 42 09.5 +4.2**
LZH Lanzhou 79.62 312 *e*P **P 16 32 28.0 +2.5**
LZH pP sP 16 32 42.5 +0.9
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,130nm,6.5s
LZH L L
comp=Z,180nm,17.4s
LZH L L
comp=Z,140nm,16.8s
LZH L L
comp=Z,150nm,18.4s
SEY Seymchan 79.78 353 ⇓ *i*P **P 16 32 25.6 +0.2**
MAW Mawson 80.70 202 P **P 16 32 31.0 +0.5**
comp=Z,2.7nm,0.6s,baz=154,slow=7.4,SNR=5.8
MAW LR LR 17 03 30.7
comp=Z,73nm,20.9s,baz=62,slow=32
MAW Mawson 80.70 202 P **P 16 32 30.8 +0.3**
MAW pmax pmax
comp=Z,11nm,1.8s
MAW Mawson 80.70 202 P **P 16 32 30.8 +0.3**
CIT Chita 82.55 330 *e*P **P 16 32 39.4 -1.1**
CIT *e* 16 32 54.7
YAK Yakutsk 83.55 343 *c i*P **P 16 32 44.9 -0.4**
YAK *e*PPP **pP 16 32 58.5 +1.4**
YAK *e*PPP PPP 16 37 56.5
YAK *e*S **S 16 43 02.9 -1.2**
YAK *e*SS **SS 16 48 27.5 -3.8**
YAK *e*SSS SSS 16 52 00.8
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,20nm,2.5s
YAK pmax pmax
comp=N,49nm,2.3s
YAK pmax pmax
comp=E,59nm,2.3s
YAK smax smax
comp=N,47nm,2.5s
YAK smax smax
comp=E,38nm,2.5s
YAK Yakutsk 83.55 343 P **P 16 32 44.9 -0.4**
ULN Ulaanbaatar 83.57 324 *ce*P **P 16 32 45.8 -0.2**
ULN pmax pmax
comp=Z,15nm,0.9s
ULN Ulaanbaatar 83.57 324 P **P 16 32 45.5 -0.5**
ULN IAmb IAmb 16 32 48.9
comp=Z,12nm,0.9s
SONM Songino Array 83.93 324 P **P 16 32 47.5 -0.3**
comp=Z,3.0nm,0.6s,baz=134,slow=4.7,SNR=19
SONM LR LR 17 08 32.3
comp=Z,66nm,21.6s,baz=126,slow=34
SONM Songino Array 83.93 324 P **P 16 32 47.4 -0.4**
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 83.93 324 P **P 16 32 47.4 -0.4**
GTA Gaotai 83.99 314 ⇑P **P 16 32 48.5 +0.1**
GTA pP sP 16 33 04.5 0.0
GTA sP pP 16 33 09.8 +10
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,36nm,4.2s
GTA L L
comp=Z,57nm,17.8s
GTA L L
comp=Z,97nm,17.8s
GTA L L
comp=Z,120nm,19.6s
BILL Bilibino 84.00 359⇑ *i*P **P 16 32 47.3 -0.3**
BILL *e* 16 36 01.9
BILL *e*PPP PPP 16 37 54.1
BILL pmax pmax
comp=Z,11nm,0.9s
BILL Bilibino 84.00 359 P **P 16 32 46.7 -0.8**
SHL Shillong 84.65 298 P **P 16 32 51.2 -0.8**
SHL pmax pmax
comp=Z,29nm,0.8s
SHL Shillong 84.65 298 P **P 16 32 51.2 -0.8**
ZAK Zakamensk 86.99 325 *e*P **P 16 33 01.4 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
ILAR Eielson Array 87.77 18 P **P 16 33 04.0 -2.3**
comp=Z,1.6nm,0.6s,baz=238,slow=4.7,SNR=18
ILAR LR LR 17 10 58.0
comp=Z,89nm,18.1s,baz=244,slow=35
NVAR Mina Array Bea 87.89 49 P **P 16 33 08.0 +0.2**
comp=Z,0.8nm,0.8s,baz=229,slow=6.4,SNR=5.7
NVAR LR LR 17 07 01.3
comp=Z,84nm,19.7s,baz=258,slow=32
PRN Pahroc Range 89.91 51 P **P 16 33 17.4 +0.2**
TIXI Tiksi 91.48 349 *ce*P **P 16 33 22.1 -1.4**
SNAA Sanae 92.12 183 P **P 16 33 27.2 +0.4**
SNAA Sanae 92.12 183⇑ *i*P **P 16 33 27.7 +0.9**
SNAA pmax pmax
comp=Z,6.0nm,1.1s
VNA3 Neumayer Olymp 92.77 181 P **P 16 33 30.5 +0.7**
VNA2 Neumayer--Watz 93.04 182 P **P 16 33 31.6 +0.6**
baz=169,slow=3.3
VNA1 Neumayer--Stat 93.34 181 P **P 16 33 33.2 +0.9**
WMQ Urumqi 94.06 314 *e*P **P 16 33 38.0 +1.8**
PDAR Pinedale Array 95.61 47 PP **PP 16 37 35.5 +0.2**
comp=Z,0.1nm,0.5s,baz=275,slow=5.2,SNR=4.3
PDAR LR LR 17 12 27.8
comp=Z,52nm,18.6s,baz=4.5,slow=33
MK31 Makanchi Array 98.56 316 *i* P Pdif 16 33 56.6 +0.1
MK31 Makanchi Array 98.56 316 P **P 16 33 55.2 -1.3**
MK31 IAmb IAmb 16 35 51.0
comp=Z,7.8nm,1.9s
MKAR Makanchi Array 98.56 316 P **P 16 33 55.7 -0.8**
comp=Z,0.8nm,0.7s,baz=96,slow=5.8,SNR=9.0
MKAR PP **PP 16 37 57.9 +0.3**
comp=Z,0.5nm,0.9s,baz=108,slow=9.3,SNR=3.6
YKA Yellowknife Ar 98.64 27 P **P 16 33 55.5 -0.9**
comp=Z,0.6nm,0.8s,baz=262,slow=4.3,SNR=3.3
YKA LR LR 17 08 53.6
comp=Z,40nm,21.7s,baz=0.0,slow=30
ZALV Zalesovo Beam 98.82 324 P **P 16 33 56.5 -0.9**
comp=Z,1.4nm,0.7s,baz=96,slow=4.6,SNR=4.6
ZALV LR LR 17 20 30.3
comp=Z,40nm,18.9s,baz=10,slow=36
NRIK Noril'sk 101.59 339 P **Pdif 16 34 08.5 -0.9**
comp=Z,2.1nm,0.6s,baz=181,slow=3.5,SNR=5.0
NRIK Noril'sk 101.59 339 *d i*P **Pdif 16 34 08.7 -0.7**
NRIK pmax pmax
comp=Z,3.0nm,0.8s
Q54A Coxs Mills 116.57 54 PKiKP 16 39 02.1 +0.2
O54A Avella 116.91 53 PKPdf 16 39 01.1 -1.4
ARCES ARCESS Array B 121.77 345 PKP **PKPdf 16 39 10.3 -0.7**
comp=Z,4.0nm,0.5s,baz=68,slow=1.8,SNR=33
ARCES ARCESS Array B 121.77 345 PKPdf **PKPdf 16 39 09.8 -1.2**
KLMR Klimovskoe 122.18 333 *e*PKIKP **PKPdf 16 39 09.9 -2.1**
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 122.18 333 *e*PKPdf **PKPdf 16 39 09.9 -2.1**
KLMR AMP 16 39 12.3
comp=Z,19nm,1.5s
AKT Akhty 122.94 309 *e*PKIKP **PKPdf 16 39 14.0 -0.2**
AKT *e* 16 40 52.7
AKT pmax pmax
comp=Z,8.0nm,0.9s
VRH Novokhopyorsk 124.80 322 *e*PKIKP **PKPdf 16 39 16.0 -1.3**
VRH pmax pmax
comp=Z,20nm,0.7s
RAYN Ar Rayn 125.47 288 PKIKP **PKPdf 16 39 18.7 -0.8**
RAYN Ar Rayn 125.47 288 PKPdf 16 39 18.7 -0.8
LPSR Galich'ya Gora 125.93 324 *e*PKIKP **PKPdf 16 39 18.4 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 126.16 313 *e*PKIKP **PKPdf 16 39 19.2 -1.1**
KIV pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 126.17 328 *i* PKIKP **PKPdf 16 39 19.2 -0.6**
OBN *e* 16 41 14.2
OBN pmax pmax
comp=Z,11nm,0.5s
VSR Storozhevoye 126.31 322 *e*PKIKP **PKPdf 16 39 19.2 -1.0**
VSR pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 127.24 338 PKP **PKPdf 16 39 20.8 -0.8**
comp=Z,3.4nm,0.8s,baz=349,slow=1.9,SNR=8.5
MNK Minsk 130.80 330 *i* PKIKP **PKPdf 16 39 28.9 +0.3**
MNK *i* 16 39 44.0
MNK *i* 16 41 44.5
MNK *i* PPP PPP 16 44 32.4
MNK *i* 16 46 36.0
MNK *i* SS SS 16 59 09.5 -1.6
MNK *i* SSS SSS 17 03 59.3
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=Z,67nm,20.0s
MNK MLR MLR
comp=N,34nm,22.0s
MNK MLR MLR
comp=E,6.0nm,20.0s
MNK Minsk 130.80 330 *i* PKP **PKPdf 16 39 28.9 +0.3**
comp=E,1.0nm,0.8s
MNK *i* PKP **PKPdf 16 39 28.9 +0.3**
comp=N,7.0nm,0.8s
MNK *i* PKP **PKPdf 16 39 28.9 +0.3**
comp=Z,6.0nm,0.8s,baz=236
MNK *i* pPKP **sPKPdf 16 39 44.1 -0.9**
MNK *i* PP **PP 16 41 44.5 0.0**
MNK *i* SKP 16 42 59.7
MNK *i* PKS **PKSdf 16 43 05.4 +0.6**
MNK *i* PPP PPP 16 44 32.4
MNK *i* SKS **SKSdf 16 46 36.0 -1.0**
MNK *i* SS **SS 16 59 09.5 -1.6**
MNK *i* SSS SSS 17 03 59.3
MNK *i* LQ LQ 17 29 18.1
MNK *i* LR LR 17 32 36.4
MNK *i* LRM MLR 17 36 20.0
comp=Z,67nm,20.2s
MNK *i* LRM MLR 17 36 36.8
comp=N,34nm,21.7s
MNK *i* LRM MLR 17 36 49.6
comp=E,6.0nm,20.3s
NACGM Naroch 131.08 331 *i* PKP **PKPdf 16 39 29.2 0.0**
NOA NORSAR Array 132.14 345 PKP **PKPdf 16 39 30.4 -0.7**
comp=E,1.3nm,0.7s,baz=34,slow=2.0,SNR=6.1
AKASG Malin Array Be 132.18 325 PKP **PKPdf 16 39 30.8 -0.6**
comp=E,2.0nm,0.6s,baz=53,slow=2.3,SNR=9.7
AKASG SKPbc **SKPbc 16 42 55.1 +0.2**
comp=E,3.5nm,0.9s,baz=43,slow=4.7,SNR=5.1
AKASG Malin Array Be 132.18 325 PKPdf **PKPdf 16 39 30.2 -1.2**
AKBB Malin Array Si 132.18 325*c i* PKiKP **PKPdf 16 39 31.8 +0.4**
BURAR Bucovina Array 136.04 324 PKPdf **PKPdf 16 39 39.5 +0.6**
KWP Kalwaria Pacla 136.25 327 PKIKP **PKPdf 16 39 38.8 -0.3**
KWP Kalwaria Pacla 136.25 327 PKPdf 16 39 38.8 -0.3
KOLS Kolonicke sedl 136.90 327 *e*PKIKP **PKPdf 16 39 40.9 +0.6**
KOLS Kolonicke sedl 136.90 327 *e*PKP **PKPdf 16 39 40.8 +0.5**
UZH Uzhgorod 137.07 326 *e*PKIKP **PKPdf 16 39 37.8 -2.8**
UZH *e* 16 39 48.7
MORC Moravsky Berou 138.72 331 *e*PKP **PKPdf 16 39 44.0 +0.3**
MORC Moravsky Berou 138.72 331 PKIKP **PKPdf 16 39 42.7 -1.0**
MORC Moravsky Berou 138.72 331 PKPdf 16 39 42.7 -1.0
KRLC Kraliky 138.86 332 *e*PKIKP **PKiKP 16 39 46.1 0.0**
KRLC Kraliky 138.86 332 *e*PKPDF **PKiKP 16 39 46.1 0.0**
VYHS Vyhne 138.95 328 *e*PKIKP **PKPdf 16 39 44.1 0.0**
VYHS Vyhne 138.95 328 *e*PKP **PKPdf 16 39 44.1 0.0**
JAVC Velka Javorina 139.28 330 *e*PKP **PKiKP 16 39 46.4 -0.7**
BRG Berggiesshubel 139.51 334 *e*PKP **PKiKP 16 39 47.4 +0.1**
BRG Amp 16 39 48.3
comp=Z,7.0nm,1.2s
BRG Amp 16 55 50.0
comp=N,0.4nm,24.6s
BRG Amp 16 55 56.0
comp=Z,0.6nm,20.9s
BRG Amp 16 56 12.0
comp=E,0.3nm,20.4s
CLL Collm 139.56 336 *e*PKPdf **PKPdf 16 39 46.0 +0.9**
comp=Z,9.0nm,1.4s
CLL LmV 17 45 00.0
comp=Z,100nm,19.5s
KRUC Moravsky 139.75 331 *e*PKP **PKPdf 16 39 45.8 +0.3**
MODS Modra-Piesok 139.80 329 *e*PKIKP **PKPdf 16 39 45.4 -0.3**
MODS Modra-Piesok 139.80 329 *e*PKP **PKPdf 16 39 45.4 -0.3**
CONA Conrad Observa 140.80 330 *e*P **PKiKP 16 39 50.2 0.0**
comp=Z,4.2nm,0.8s
CKRC Cesky Krumlov 140.88 332 *e*PKPDF **PKPdf 16 39 44.0 -3.6**
CKRC *ex* x 16 39 49.8
KHC Kasperske Hory 140.98 333 *e*PKHKP PKPpre 16 39 38.6
KHC Kasperske Hory 140.98 333 *e*PKPDF **PKiKP 16 39 50.1 -0.4**
GERES GERESS Array B 141.14 333 PKHKP PKPpre 16 39 42.5
comp=Z,0.7nm,0.5s,baz=36,slow=5.0,SNR=6.2
GERES SKPbc **SKPbc 16 43 21.2 -0.9**
comp=Z,0.5nm,0.7s,baz=41,slow=1.8,SNR=2.6
GRF Grafenberg Arr 141.53 335 *e*PKP **PKiKP 16 39 51.0 -0.6**
baz=38,slow=1.3
SOKA Soboth 142.07 329 *e*P **PKPdf 16 39 46.5 -3.4**
comp=Z,1.9nm,0.5s
KBA Koelnbreinsper 142.60 331 *e*P **PKPdf 16 39 47.3 -3.6**
comp=Z,3.5nm,0.8s
MYKA Terra Mystica 142.78 330 *e*P **PKPdf 16 39 47.9 -3.3**
comp=Z,2.9nm,0.7s
WATA Walderalm 143.21 333 *e*P PKPbc 16 39 49.0 0.0
comp=Z,4.2nm,0.7s
ABTA Abfaltersbach 143.23 331 *i* P PKPbc 16 39 48.8 -0.2
comp=Z,12nm,0.8s,SNR=7.1
WTTA Wattenberg 143.24 333 *e*P PKPbc 16 39 49.8 +0.6
comp=Z,8.1nm,0.9s
MOTA Moosalm 143.41 333 *i* P PKPbc 16 39 49.5 -0.1
comp=Z,12nm,0.8s,SNR=7.0
RETA Reutte 143.45 334 *e*P PKPbc 16 39 50.2 +0.6
comp=Z,6.9nm,1.0s
SQTA Sankt Quirin 143.46 333 *i* P PKPbc 16 39 49.8 +0.1
comp=Z,13nm,0.8s,SNR=5.9
BFO Black Forest 143.76 337 PKIKP PKPbc 16 39 50.5 +0.1
BFO Black Forest 143.76 337 PKPpre 16 39 50.5
FETA Feichten 143.82 333 *i* P PKPbc 16 39 51.2 +0.4
comp=Z,20nm,0.9s,SNR=13
DAVA Damuels 143.98 334 *i* P PKPbc 16 39 52.0 +0.8
comp=Z,13nm,0.8s,SNR=8.5
SALO Salr 144.39 332 PKPbc 16 39 53.6 -0.7
NRCA Norcia 145.72 326 PKPdf 16 39 56.4 -0.1
MURB Monte Urbino 145.73 327 PKPbc 16 39 56.6 -0.2
CLF Chambon-Foret 146.07 342 PKPbc 16 39 57.2 -0.4
BNI Bardonecchia 147.10 335 PKP2 **PKPbc 16 40 00.7 -0.2**
BNI Bardonecchia 147.10 335 PKPbc 16 40 00.7 -0.2
RAFF Raffo Rosso 148.49 317 PKPbc 16 40 04.3 -0.4
CLTB Caltabellotta 149.02 318 PKPbc 16 40 04.7 -1.4
KEST Kesra 152.61 319 PKPbc **PKiKP 16 40 14.9 0.0**
comp=Z,17nm,0.9s,baz=111,slow=2.1,SNR=13
KEST Kesra 152.61 319 PKPbc 16 40 14.1 -0.6
ESDC Sonseca Array 155.50 344 PKPab **PKPab 16 40 36.3 -1.0**
comp=Z,1.1nm,0.7s,baz=17,slow=3.6,SNR=7.1
TORD Torodi Ar. Bea 166.15 259 PKP **PKPdf 16 40 23.0 -0.7**
comp=Z,1.1nm,0.7s,baz=70,slow=0.7,SNR=4.9
TORD PKPab **PKPab 16 41 24.0 -0.5**
comp=Z,1.1nm,0.8s,baz=82,slow=4.4,SNR=3.3
TORD Torodi Ar. Bea 166.15 259 PKPdf 16 40 22.9 -0.7

TUL ***25*** *16:59:20.1±1.4, 35.965N±0.010×97.08W±0.02, h4km±5km, ML2.7, mb_Lg2.6/33(NEIC), Error ellipse: s-maj=1.9km s-min=1.3km az=114.0*

NEIC 25 16:59:20.3±1.0, 35.98N±0.01×97.09W±0.02, h8km±7km, Error ellipse: s-maj=2.4km s-min=1.5km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.20**	**96**	Pg	Pg	16 59 24.4	0.0
OK031				Sg	Sg	16 59 27.6	+0.4
OK030	**Cody Creek RV**	**0.25**	**101**	Pg	Pg	16 59 25.2	0.0
OK030				Sg	Sg	16 59 29.0	+0.3
OK005	**Luther M Schoo**	**0.33**	**195**	Pg	Pg	16 59 26.8	0.0
OK005				Sg	Sg	16 59 31.7	+0.5
OK029	**Liberty Lake**	**0.35**	**239**	Pg	Pg	16 59 27.1	0.0
OK029				Sg	Sg	16 59 32.2	+0.5
QUOK	**Quay**	**0.36**	**57**	Pg	Pg	16 59 27.4	0.0
QUOK				Sg	Sg	16 59 32.6	+0.4
OK025	**Westminster Rd**	**0.44**	**207**		Pg	16 59 28.9	0.0
OK025				Sg	Sg	16 59 35.3	+0.6
BCOK	**Bluff Creek, N**	**0.53**	**233**	Pg	Pg	16 59 30.4	-0.1
BCOK				Sg	Sg	16 59 37.8	+0.4
OKCFA	**Oklahoma City**	**0.63**	**208**	Pg	Pg	16 59 32.3	-0.2
OKCFA				Sg	Sg	16 59 41.3	+0.6
OKCSW	**OKLAHOMA CITY**	**0.64**	**207**	Pg	Pg	16 59 32.1	-0.4
FNO	**Franklin**	**0.76**	**200**	Pg	Pg	16 59 34.5	-0.4
FNO				Sg	Sg	16 59 45.1	+0.3
BLOK	**Blackwell**	**0.79**	**353**	Pg	Pg	16 59 35.3	-0.2
BLOK				Sg	Sg	16 59 46.2	+0.4
CROK	**Carrier**	**0.90**	**306**	Pg	Pg	16 59 37.4	-0.2
T35A	**Sooner Cattle**	**1.05**	**26**	Pg	Pg	16 59 39.9	-0.5
KAN13	**South Haven SW**	**1.08**	**343**	Pg	Pg	16 59 40.7	-0.4
KAN17	**Caldwell West**	**1.20**	**333**	Pg	Pb	16 59 42.9	-0.4
KAN14	**Manchester OK**	**1.21**	**324**	Pg	Pb	16 59 42.9	-0.6
OK032	**Salt Plains WL**	**1.23**	**313**	Pg	Pb	16 59 43.0	-0.7
KAN09	**Caldwell North**	**1.23**	**340**	Pg	Pb	16 59 43.4	-0.5
KS20	**Mayfield South**	**1.31**	**343**	Pn	Pb	16 59 45.0	-0.1
KAN10	**Anthony SW Sta**	**1.40**	**325**		Pn	16 59 46.3	+0.1
KAN08	**Anthony NE Sta**	**1.44**	**331**	Pn	Pb	16 59 47.2	-0.1
KAN16	**Harper SW Stat**	**1.48**	**328**	Pn	Pb	16 59 47.5	+0.3
X34A	**Smith Ranch, M**	**1.50**	**204**	Pn	Pn	16 59 47.2	-0.3
U32A	**Winter Ranch,**	**1.60**	**285**	Pn	Pn	16 59 49.5	+0.6
WMOK	**Wichita Mounta**	**1.85**	**229**		Pn	16 59 53.4	+1.0
WMOK				IAmb_Lg		17 00 22.5	
	comp=Z,22nm,1.0s						
X37A	**Clayton**	**1.97**	**134**	Pn	Pn	16 59 54.4	+0.4
LOOK	**Love County**	**1.98**	**182**	Pn	Pn	16 59 54.1	0.0
U38A	**Gravette**	**2.23**	**77**	Pn	Pn	16 59 59.0	+1.4
HHAR	**Hobbs**	**2.57**	**82**	Pn	Pn	17 00 03.5	+1.3
R32A	**Long Quarter,**	**2.77**	**333**	Pn	Pn	17 00 04.7	-0.3
MIAR	**Mount Ida**	**3.21**	**115**	Pn	Pn	17 00 12.2	+1.3
MIAR				IAmb_Lg		17 01 09.0	
	comp=Z,13nm,0.9s						
U40A	**Yellville**	**3.45**	**82**	Pn	Pn	17 00 14.4	+0.1

S39A	**Bolivar**	**3.47**	**59**	Pn	Pn	17 00 15.4	+0.8
CBKS	**Cedar Bluff**	**3.53**	**324**	Pn	Pn	17 00 15.6	+0.1
X40A	**Basin Creek Fa**	**3.79**	**112**	IAmb_Lg		17 01 25.4	
	comp=Z,21nm,0.7s						
AMTX	**Amarillo**	**3.91**	**255**	IAmb_Lg		17 01 33.4	
	comp=Z,15nm,0.9s						
WHAR	**Wooly Hollow**	**3.97**	**99**	Pn	Pn	17 00 21.1	-0.3
WHAR				IAmb_Lg		17 01 34.1	
	comp=Z,13nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.03**	**90**	Pn	Pn	17 00 19.9	-2.4
R40A	**Maddies Statio**	**4.49**	**58**	Pn	Pn	17 00 28.6	0.0
R40A				IAmb_Lg		17 01 42.6	
	comp=Z,9.3nm,0.8s						
P38A	**Dawn**	**4.60**	**37**	Pn	Pn	17 00 31.0	+0.8
N33A	**J Bar K, Exete**	**4.76**	**357**	Pn	Pn	17 00 32.1	-0.3
LCAR	**Lake Charles**	**4.81**	**87**	IAmb_Lg		17 01 55.8	
	comp=Z,8.4nm,0.9s						
CCM	**Cathedral Cave**	**5.12**	**64**	IAmb_Lg		17 02 10.4	
	comp=Z,6.9nm,0.8s						
P40A	**Paris**	**5.34**	**47**	IAmb_Lg		17 02 19.5	
	comp=Z,6.6nm,0.8s						
PBMO	**Poplar Bluff**	**5.43**	**80**	IAmb_Lg		17 02 20.4	
	comp=Z,11nm,0.7s						
N38A	**Joes South For**	**5.68**	**31**	IAmb_Lg		17 02 34.9	
	comp=Z,9.9nm,0.8s						
JCT	**Junction City**	**5.93**	**203**	IAmb_Lg		17 02 30.3	
	comp=Z,10nm,0.9s						
T25A	**Trinidad**	**6.01**	**283**	IAmb_Lg		17 02 33.1	
	comp=Z,7.4nm,0.9s						
S44A	**Carbondale**	**6.51**	**72**	IAmb_Lg		17 02 50.2	
	comp=Z,8.2nm,0.8s						
SIUC	**Southern Illin**	**6.54**	**72**	IAmb_Lg		17 02 56.4	
	comp=Z,11nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.02**	**56**	IAmb_Lg		17 03 19.7	
	comp=Z,7.9nm,0.7s						
PLAL	**Pickwick Lake**	**7.42**	**95**	IAmb_Lg		17 03 18.5	
	comp=Z,5.2nm,1.0s						

UPP ***25*** *17:02:48.1±0.1, 67.08N×20.94E, h1km, ML2.2, Explosion*
HEL 25 17:02:49.0±0.1, 67.09N×20.91E, h0km, ML1.6, ML2.2(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.86**	**93**	P	Pg	17 03 04.0	-1.5
PAJU				S	Sg	17 03 15.6	-1.1
PAJU	**Pajala**	**0.86**	**93**	*e*P	Pg	17 03 04.0	-1.5
PAJU				*e*S	Sg	17 03 16.9	+0.2
RATU	**Laukkuluspa**	**0.90**	**326**	P	Pg	17 03 05.0	-1.2
RATU	**Laukkuluspa**	**0.90**	**326**	*e*P	Pg	17 03 05.0	-1.2
KUA	**Kurravaara**	**0.90**	**346**	P	Pg	17 03 05.1	-1.1
KUA				S	Sg	17 03 17.0	-0.9
KUA	**Kurravaara**	**0.90**	**346**	*e*P	Pg	17 03 05.1	-1.1
KUA				*e*S	Sg	17 03 17.0	-0.9
HARU	**Harads**	**0.93**	**178**	P	Pg	17 03 05.2	-1.5
HARU	**Harads**	**0.93**	**178**	*e*P	Pg	17 03 05.2	-1.5
LANU	**Lannavaara**	**1.05**	**23**	P	Pg	17 03 07.6	-1.5
LANU				S	Sg	17 03 21.3	-1.4
LANU	**Lannavaara**	**1.05**	**23**	*e*P	Pg	17 03 07.5	-1.6
LANU				*e*S	Sg	17 03 21.6	-1.2
NIKU	**Nikkaluokta**	**1.07**	**318**	P	Pg	17 03 08.2	-1.3
NIKU	**Nikkaluokta**	**1.07**	**318**	*e*P	Pg	17 03 08.2	-1.3
KOVU	**Salmi**	**1.18**	**346**	P	Pg	17 03 10.1	-1.4
KOVU	**Salmi**	**1.18**	**346**	*e*P	Pg	17 03 10.1	-1.4
KLF	**Kolari**	**1.20**	**81**	*e*P	Pg	17 03 10.3	-1.6
SJUU	**Sjulsmark**	**1.61**	**170**	P	Pn	17 03 17.6	-1.0
SJUU	**Sjulsmark**	**1.61**	**170**	*e*P	Pn	17 03 17.6	-1.0
HEF	**Hetta**	**1.69**	**37**	*e*P	Pn	17 03 18.9	-0.9
HEF	**Hetta**	**1.69**	**37**	*e*P	Pn	17 03 18.8	-0.9
HEF				*e*S	Sn	17 03 41.5	-0.6
TOF	**Tornio**	**1.70**	**125**	*e*P	Pn	17 03 19.2	-0.6
TOF				*e*S	Sn	17 03 41.6	-0.6
TOF				MSG		17 03 42.8	
	comp=Z,4.6nm,0.1s						
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	Pn	17 03 23.1	+0.2
RNF	**Rovaniemi**	**2.07**	**101**	*e*P	Pn	17 03 25.1	+0.1
SGF	**Sodankyl**	**2.21**	**78**	*e*P	Pn	17 03 26.9	+0.1
BURU	**Burvik**	**2.52**	**175**	*e*P	Pn	17 03 31.3	+0.2
ARA0	**ARCESS Array S**	**2.99**	**33**	*e*P	Pn	17 03 37.5	-0.2

ECX ***25*** *17:24:09.7±0.6, 32.34N×115.39W, h14km±3km, MD2.4, ML2.7*
MEX ***25*** *17:24:13.0±1.2, 32.33N×115.24W, h26km±13km, MD3.8*
ISC 25 17:24:10.1±0.9, 32.26N±0.03×115.37W±0.03, h14km±7km, n16, σ0s57/33, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.17**	**19**	*e*P	**Pg**	**17 24 14.4**	**+0.2**
CPBX				*e*S	**Sg**	**17 24 17.3**	**+0.3**
CPBX				⇑*e*		17 24 19.6	
CPBX				IAML		17 24 19.6	
	comp=N,14μm,0.2s						
MBIG	**Mexicali**	**0.21**	**44**	*e*P	**Pg**	**17 24 14.4**	**-0.4**
MBIG				*i* P	**Pb**	**17 24 15.6**	**-0.1**
MBIG				*e*S	**Sg**	**17 24 17.2**	**-0.7**
MBIG				*i* S	**Sb**	**17 24 19.8**	**+0.4**
GUVIX	**Guadalupe Vict**	**0.25**	**79**	⇑*i*P	**Pb**	**17 24 17.1**	**+0.6**
GUVIX				*i* S	**Sb**	**17 24 21.6**	**+0.8**
EMSC	**East Mesa**	**0.58**	**34**	*e*P	**Pg**	**17 24 21.5**	**0.0**
EMSC				*e*S	**Sb**	**17 24 29.9**	**-0.3**
YUH2	**Yuha Desert**	**0.61**	**310**	*e*P	**Pg**	**17 24 21.7**	**-0.3**
YUH2				*i* S	**Sg**	**17 24 30.0**	**-0.1**
YUH2				*e*S	**Sb**	**17 24 30.5**	**-0.5**
RMX	**La Rumorosa**	**0.69**	**300**	*e*P	**Pg**	**17 24 23.0**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.74**	**302**	⇑*i*P	**Pg**	**17 24 24.7**	**+0.2**
IKP				*i* S	**Sg**	**17 24 34.1**	**-0.2**
MONP2	**Monument Peak**	**1.09**	**306**	*e*P	**Pn**	**17 24 31.1**	**-0.1**
MONP2				*e*S	**Sb**	**17 24 44.8**	**-0.3**
CBX	**Cerro Bola**	**1.10**	**273**	*e*P	**Pn**	**17 24 31.5**	**+0.3**
CBX				*e*S	**Sg**	**17 24 46.4**	**+0.8**
CBX	**Cerro Bola**	**1.10**	**273**	*e*P	**Pg**	**17 24 31.7**	**+0.4**
CBX				*e*S	**Sg**	**17 24 46.8**	**+1.1**
CBX				IAML		17 24 50.1	
	comp=E,124nm,0.5s						
CBX				*e*		17 24 50.1	
TJIG	**Tijuana**	**1.12**	**279**	*i* P	**Pb**	**17 24 31.6**	**+0.4**
TJIG				*i* S	**Sn**	**17 24 46.2**	**-0.4**
BAR	**Barrett**	**1.18**	**291**	*e*P	**Pb**	**17 24 32.5**	**+0.2**
BAR				*e*S	**Sn**	**17 24 47.8**	**-0.3**
BAR				IAML		17 24 49.6	
	comp=N,133nm,0.2s						
BAR				⇓*e*		17 24 49.6	
SPIG	**San Pedro Mart**	**1.21**	**184**	*e*P	**Pb**	**17 24 33.5**	**+0.6**
SPIG				*e*S	**Sb**	**17 24 47.5**	**-1.1**
SPX	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pb**	**17 24 33.5**	**+0.3**
SPX				*e*S	**Sb**	**17 24 47.4**	**-1.5**
EML	**El Monte Cty P**	**1.40**	**297**	*e*P	**Pb**	**17 24 36.0**	**+0.1**
SDRC	**San Diego Road**	**1.41**	**290**	*e*P	**Pb**	**17 24 36.3**	**+0.1**
SDRC				*e*S	**Sb**	**17 24 54.3**	**+0.2**

INET 25 17:25:41.1, 12.45N×87.40W, h63km, MW3.7, Near coast of Nicaragua

IDC ***25*** *17:55:01.6±1.0, 30.31N×101.51E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.6/45, mbtmp3.9/7, MS3.3/2, Ms1 3.4/2, ms1mx2.8/39, Error ellipse: s-maj=38.1km s-min=17.3km az=57.0*
BJI ***25*** *17:55:02.4±0.0, 30.38N×101.59E, h13km, ML3.8/11*
NEIC ***25*** *17:55:03.6±0.6, 30.6N±0.2×101.95E±0.05, h10km±2km, mb4.1/9, Error ellipse: s-maj=33.1km s-min=7.1km az=2.0*
ISC 25 17:55:04.1±0.8, 30.42N±0.06×101.65E±0.06, h10km, n26, σ2s01/25, mb4.0/11, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**5.92**	**131**	Pn	**Pn**	**17 56 33.8**	**+1.7**
GYA				Sn	**Sn**	**17 57 44.5**	**+4.4**
GYA				Sg	**Sg**	**17 58 13.0**	**-1.4**
ENH	**Enshi**	**6.78**	**89**		**Pn**	**17 56 39.2**	**-4.5**
XAN	**Xi'an**	**7.14**	**58**	Pn	**Pn**	**17 56 52.0**	**+3.4**
XAN				Sn	**Sn**	**17 58 12.0**	**+2.2**
XAN				Sg	**Sg**	**17 58 53.0**	**-0.2**
XAN				SMN			
	62nm,1.0s						
XAN				SME			
	81nm,1.1s						
GTA	**Gaotai**	**9.09**	**351**	*e*P	Pn	17 57 21.3	+5.8
GTA				pP		17 57 25.0	
GTA				sP		17 57 27.5	
GTA				S	Sn	17 59 09.8	+12
LSA	**Lhasa**	**9.13**	**268**		**Pn**	**17 57 18.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**12.16**	**192**	LR	LR	18 02 50.4	
	comp=Z,104nm,19.5s,baz=14,slow=39						
WMQ	**Urumqi**	**17.36**	**324**	*e*P	**Pn**	**17 59 06.3**	**-0.3**
SONM	**Songino Array**	**17.77**	**11**	P	**P**	**17 59 12.8**	**+0.4**
	baz=197,slow=12,SNR=9.1						
SONM	**Songino Array**	**17.77**	**11**	IAmb	IAmb	17 59 15.5	
	comp=Z,2.5nm,1.0s						
MK31	**Makanchi Array**	**22.18**	**323**	P	**P**	**17 59 59.5**	**-0.8**
MK31				IAmb	IAmb	18 00 04.9	
	comp=Z,2.8nm,0.9s						
MKAR	**Makanchi Array**	**22.18**	**323**	P	**P**	**17 59 59.6**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=127,slow=11,SNR=15						
MKAR	**Makanchi Array**	**22.18**	**323**	P	**P**	**17 59 58.4**	**-1.9**
KDJ	**Kajisay**	**22.84**	**307**	IAmb	IAmb	18 00 17.0	
	comp=Z,2.7nm,0.8s						
KSRS	**Korea Array**	**22.85**	**65**	P	**P**	**18 00 07.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=253,slow=9.1,SNR=11						
NIL	**Nilore**	**24.26**	**285**	P	**P**	**18 00 20.4**	**-1.1**
NIL				IAmb	IAmb	18 00 25.5	
	comp=Z,12nm,1.3s						
ZAA0	**Zalesovo Array**	**26.48**	**337**		**P**	**18 00 39.8**	**-1.5**
ZAA0				IAmb	IAmb	18 00 43.2	
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**26.48**	**337**	P	**P**	**18 00 40.6**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=141,slow=10,SNR=13						
ZALV				LR	LR	18 11 43.0	
	comp=E,68nm,19.5s,baz=263,slow=38						
ZALV	**Zalesovo Beam**	**26.48**	**337**		**P**	**18 00 40.1**	**-1.2**
KURBB	**Kurchatov Arra**	**26.56**	**326**	P	**P**	**18 00 41.2**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=132,slow=9.8,SNR=16						
KURK	**Kurchatov**	**26.58**	**326**	P	**P**	**18 00 41.2**	**-1.1**
WB0	**Warramunga Arr**	**59.01**	**144**	P	**P**	**18 05 01.8**	**-2.5**
WRA	**Warramunga Arr**	**59.13**	**144**	P	**P**	**18 05 03.9**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=336,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**59.13**	**144**	IAmb	IAmb	18 05 05.6	
	comp=Z,0.4nm,1.1s						
WB2	**Warramunga Arr**	**59.14**	**144**	P	**P**	**18 05 04.0**	**-1.2**
WR0	**Warramunga Arr**	**59.25**	**144**	P	**P**	**18 05 04.7**	**-1.2**
WR0				IAmb	IAmb	18 05 05.6	
	comp=Z,5.5nm,1.1s						
ASAR	**Alice Springs**	**62.05**	**146**	P	**P**	**18 05 24.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=329,slow=7.4,SNR=12						

KRNET 25 17:59:57.0±0.1, 42.23N×76.76E, h7km, mb1.6, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.33**	**109**	⇑*i*P	Pg	18 00 03.5	+0.1
	baz=8.0						
KDJ				⇑*i*S	Sg	18 00 08.8	+1.1
	baz=8.0						
KDJ	**Kajisay**	**0.33**	**109**	P	Pg	18 00 03.3	-0.1
ULHL	**Ulahol**	**0.39**	**272**	⇑*i*P	Pg	18 00 04.5	-0.1
	baz=72						
ULHL				⇑*i*S	Sg	18 00 10.3	+0.6
	baz=72						
BOOM	**Boomskoye usch**	**0.66**	**293**	⇑*i*P	Pg	18 00 10.1	+0.4
	baz=93						
BOOM				⇑*i*S	Sb	18 00 19.5	-0.9
	baz=93						
ANVS	**Anan'yevo**	**0.86**	**50**	⇑*i*P	Pg	18 00 13.6	0.0
	baz=50						
ANVS				⇑*i*S	Sb	18 00 26.0	-0.3
	baz=50						
TKM2	**Tokmak 2**	**1.10**	**309**	⇑*e*P	Pg	18 00 18.1	0.0
	baz=9.0						
TKM2				⇑*i*S	Sb	18 00 33.6	+0.5
	baz=9.0						

NEIC ***25*** *18:45:57.5±2.7, 32.07S±0.06×178.3W±0.1, h10km±1km, mb5.8/149, Ms_20 6.1/417, Mwc6.1/29, Mww6.0, Mwc5.9(GCMT), Error ellipse: s-maj=17.1km s-min=10.3km az=105.0*
MOS ***25*** *18:45:57.1±1.5, 31.99S×178.33W, h10km, mb5.8/21, MS6.0/43, Error ellipse: s-maj=9.6km s-min=7.1km az=95.4*
BJI ***25*** *18:45:57.0±0.0, 32.20S×178.10W, h10km, mB6.1/52, mb5.3/43, Ms5.8/67, Ms7 5.6/64*
IDC ***25*** *18:45:57.3±0.4, 32.07S×178.29W, h0km, mb5.1/27, mb1 5.1/29, mb1mx5.1/33, mbtmp5.0/29, ML5.5/2, MS5.8/24, Ms1 5.8/24, ms1mx5.6/36, Error ellipse: s-maj=13.6km s-min=10.7km az=169.0*
BGR ***25*** *18:46:02.5±0.0, 31.74S×177.64W, h33km, Ms6.3*
GCMT ***25*** *18:46:04.5±0.1, 32.22S±0.01×177.65W, h14km, MW5.9/164, Moment Tensor Solution. s145,c300; s164,c508; Duration: 2s1 Moment tensor: Scale 10^17 Nm; Mrr5.68±.05; Mθθ-0.24±.04; Mϕϕ-5.43±.04; Mrθ 1.04±.09; Mrϕ-1.76±.03; Mθϕ5.19±.12; Best double couple: Mo7.87200×10^17 NP1:ϕs201.00000°, δ24.00000°, λ98.00000°. NP2:ϕs13.00000°, δ66.00000°, λ87.00000°. Principal axes: T 7.7410, Plg69.0000°, Azm277.0000°; N 0.2670, Plg3.0000°, Azm14.0000°; P -8.0030, Plg21.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *18:46:04, 32.24S×177.62W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr5.61; Mθθ-0.13; Mϕϕ-5.48; Mrθ 1.58; Mθϕ-1.90; Mϕr6.27; Fault plane solution: Mo8.73000×10^17 NP1:ϕs201.00000°, δ21.00000°, λ96.00000°. NP2:ϕs15.00000°, δ69.00000°, λ88.00000°. Principal axes: T 8.4878, Plg66.0000°, Azm281.0000°; N 0.4622, Plg2.0000°, Azm16.0000°; P -8.9500, Plg24.0000°, Azm107.0000°;*
NEIC ***25*** *18:46:06, 31.74S×177.72W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.60; Mθθ0.05; Mϕϕ-0.65; Mrθ0.23; Mϕθ-0.13; Mϕr0.94; Fault plane solution: Mo1.15000×10^18 NP1:ϕs187.00000°, δ17.00000°, λ84.00000°. NP2:ϕs13.00000°, δ73.00000°, λ92.00000°. Principal axes: T 1.1157, Plg62.0000°, Azm286.0000°; N 0.0749, Plg2.0000°, Azm193.0000°; P -1.1906, Plg28.0000°, Azm102.0000°;*
NEIC ***25*** *18:46:15.1, 31.93S×176.99W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.58; Mθθ-0.03; Mϕϕ-0.55; Mrθ-0.39; Mϕθ-0.32; Mϕr1.94; Fault plane solution: Mo2.08000×10^18 NP1:ϕs227.81000°, δ12.99000°, λ145.76000°. NP2:ϕs351.37000°, δ82.73000°, λ79.20000°. Principal axes: T 2.1552, Plg51.0000°, Azm249.0000°; N -0.1466, Plg11.0000°, Azm353.0000°; P -2.0086, Plg37.0000°, Azm91.0000°;*
ISC 25 18:45:58.6±0.3, 32.22S±0.03×178.12W±0.04, h15km±1km, h14km: pP-P, n1250, σ2s48/1122, mb5.7/167, MS6.0/279, 82C-66D, Fault plane solution: NP1:ϕs2.70636°, δ65.77012°, λ113.86114°. NP2:ϕs135.56200°, δ33.49186°, λ48.04931°. Principal axes: T Plg61.6300°, Azm309.7183°; N Plg21.6469°, Azm172.4175°; P Plg17.4279°, Azm75.2606°; South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.95**	**3**	P	**Pn**	**18 46 41.7**	**-3.2**
GLKZ				S	**Sn**	**18 47 18.0**	**-2.1**
RAO	**Raoul Island**	**2.96**	**3**	Pn	**Pn**	**18 46 43.9**	**-1.2**
	586nm,0.3s,baz=49,slow=2.6,SNR=9.9						
RAO				Sn	**Sn**	**18 47 18.4**	**-1.9**
	705nm,0.3s,baz=257,slow=19,SNR=6.2						
RAO	**Raoul Island**	**2.96**	**3**	P	**Pn**	**18 46 43.0**	**-2.0**
RAO						18 47 16.7	
RAO	**Raoul Island**	**2.96**	**3**		**Pn**	**18 46 43.0**	**-2.0**
RAO	**Raoul Island**	**2.96**	**3**	Sn	**Sn**	**18 47 16.7**	**-3.6**
RAO	**Raoul Island**	**2.96**	**3**	⇑P	**Pn**	**18 46 43.6**	**-1.5**
RIZ	**Raoul Island**	**2.97**	**3**	P	**Pn**	**18 46 42.0**	**-3.2**
RIZ				S	**Sn**	**18 47 20.5**	**0.0**
MXZ	**Matakaoa Point**	**6.09**	**208**	Pn	**Pn**	**18 47 25.7**	**-2.4**
MXZ	**Matakaoa Point**	**6.09**	**208**	P	**Pn**	**18 47 25.9**	**-2.1**
WMGZ	**Waiomatatini S**	**6.27**	**206**	P	**Pn**	**18 47 29.6**	**-1.0**
WMGZ				S	**Sn**	**18 48 42.9**	**+1.0**
PKGZ	**Pakihiroa**	**6.46**	**208**	P	**Pn**	**18 47 30.3**	**-2.9**
PKGZ				S	**Sn**	**18 48 44.8**	**-1.9**
HAZ	**Te Kaha**	**6.47**	**210**	P	**Pn**	**18 47 30.6**	**-2.6**
PUZ	**Puketiti**	**6.55**	**206**	P	**Pn**	**18 47 31.6**	**-2.8**
PUZ				S	**Sn**	**18 48 47.4**	**-1.5**
RUGZ	**Raukumara Rang**	**6.69**	**210**	P	**Pn**	**18 47 34.0**	**-2.4**
TWGZ	**Tauwhareparae**	**6.75**	**207**	P	**Pn**	**18 47 34.8**	**-2.3**
WHRZ	**Whale Island**	**6.92**	**214**	P	**Pn**	**18 47 39.4**	**-0.1**
CNGZ	**Carnagh Statio**	**6.94**	**205**	P	**Pn**	**18 47 35.3**	**-4.4**
CNGZ				S	**Sn**	**18 48 57.9**	**-0.4**
TKGZ	**Te Karaka**	**7.03**	**207**	P	**Pn**	**18 47 37.6**	**-3.3**
TKGZ				S	**Sn**	**18 48 58.1**	**-2.5**
MWZ	**Matawai**	**7.06**	**209**	P	**Pn**	**18 47 38.0**	**-3.5**
MWZ				S	**Sn**	**18 48 59.7**	**-1.9**
OPRZ	**Ohinepanea**	**7.11**	**216**	P	**Pn**	**18 47 40.2**	**-1.9**
MARZ	**Manawahe**	**7.16**	**215**	P	**Pn**	**18 47 45.0**	**+2.2**
URZ	**Urewera**	**7.18**	**212**	Pn	Pn	18 47 38.4	-4.7
URZ	**Urewera**	**7.18**	**212**	P	**Pn**	**18 47 40.2**	**-2.8**
URZ	**Urewera**	**7.18**	**212**	⇓P	**Pn**	**18 47 40.0**	**-3.0**
WIAZ	**Waiheke Island**	**7.20**	**229**	P	**Pn**	**18 47 45.5**	**+2.2**
RAGZ	**Rawiri**	**7.25**	**209**	P	**Pn**	**18 47 41.4**	**-2.7**
WCZ	**Waipu Caves**	**7.27**	**237**	P	**Pn**	**18 47 47.2**	**+3.0**
RIGZ	**Rimuhau**	**7.29**	**206**	P	**Pn**	**18 47 41.6**	**-3.0**
RIGZ				S	**Sn**	**18 49 02.6**	**-4.6**
KARZ	**Kaharoa**	**7.40**	**217**	P	**Pn**	**18 47 49.4**	**+3.3**
PRGZ	**Paritu Road**	**7.44**	**205**	P	Pn	18 47 41.1	-5.5
MUGZ	**Murupara**	**7.51**	**212**	P	**Pn**	**18 47 45.7**	**-1.9**
OUZ	**Omahuta**	**7.52**	**244**	Pn	**Pn**	**18 47 49.9**	**+2.2**
OUZ	**Omahuta**	**7.52**	**244**	P	**Pn**	**18 47 52.4**	**+4.7**
OUZ	**Omahuta**	**7.52**	**244**	⇓P	**Pn**	**18 47 52.3**	**+4.6**
SNGZ	**Shannon Statio**	**7.52**	**208**	P	Pn	**18 47 45.3**	**-2.5**
RTZ	**Ruatahuna**	**7.53**	**211**	P	**Pn**	**18 47 45.5**	**-2.4**
KNZ	**Kokohu**	**7.60**	**206**	P	**Pn**	**18 47 46.6**	**-2.2**
MHGZ	**Mahia Peninsul**	**7.64**	**204**	P	**Pn**	**18 47 45.2**	**-4.1**
WTAZ	**Waiatarua**	**7.64**	**230**	P	Pb	18 48 01.0	-10
RAHZ	**Arahi**	**7.74**	**209**	P	**Pn**	**18 47 49.6**	**-1.2**
MTHZ	**Maungataniwha**	**7.79**	**210**	P	**Pn**	**18 47 49.3**	**-2.2**
MRHZ	**Matea Rd**	**7.96**	**212**	P	**Pn**	**18 47 52.9**	**-1.0**
TLZ	**Tolley Road**	**8.00**	**219**	P	**Pn**	**18 47 54.2**	**-0.1**
NMHZ	**Naumai**	**8.01**	**210**	P	Pn	**18 47 52.4**	**-2.1**
BKZ	**Black Stump Fm**	**8.20**	**211**		**Pn**	**18 47 54.1**	**-3.0**
BKZ	**Black Stump Fm**	**8.20**	**211**	P	**Pn**	**18 47 54.5**	**-2.6**
RATZ	**Rangitukua**	**8.29**	**215**	P	**Pn**	**18 48 01.6**	**+3.2**
MCHZ	**McNeill Hill**	**8.35**	**209**	P	**Pn**	**18 47 57.5**	**-1.6**
HIZ	**Hauiti**	**8.50**	**220**	Pn	**Pn**	**18 48 00.2**	**-1.0**
HIZ	**Hauiti**	**8.50**	**220**	P	**Pn**	**18 47 59.6**	**-1.7**
KRVZ	**Karewarewa**	**8.53**	**215**	P	**Pn**	**18 48 01.8**	**+0.1**
NNVZ	**North Ngauruho**	**8.57**	**215**	P	**Pn**	**18 48 03.0**	**+0.7**
WTVZ	**West Tongariro**	**8.57**	**215**	P	**Pn**	**18 48 02.1**	**-0.2**
OTVZ	**Oturere**	**8.58**	**214**	P	**Pn**	**18 48 01.1**	**-1.3**
SNVZ	**South Ngauruho**	**8.61**	**214**	P	**Pn**	**18 48 02.4**	**-0.4**
NGZ	**Ngauruhoe**	**8.62**	**215**	P	**Pn**	**18 48 02.1**	**-0.8**
KRHZ	**Kereru**	**8.65**	**210**	P	**Pn**	**18 48 00.8**	**-2.4**
BHHZ	**Black Hill Sta**	**8.65**	**211**	P	**Pn**	**18 48 00.4**	**-3.0**
TUVZ	**Tukino**	**8.66**	**214**	P	**Pn**	**18 48 05.6**	**+2.1**
FWVZ	**Far West T-bar**	**8.70**	**214**	P	**Pn**	**18 48 04.8**	**+0.6**
WHVZ	**Whangaehu Hut**	**8.71**	**214**	P	**Pn**	**18 48 08.3**	**+4.1**
MOVZ	**Moawhango**	**8.73**	**213**	P	**Pn**	**18 48 03.4**	**-1.0**
WNVZ	**Wahianoa**	**8.74**	**214**	P	**Pn**	**18 48 04.5**	**0.0**
PXZ	**Pawanui**	**8.79**	**206**	P	**Pn**	**18 48 01.1**	**-4.0**
PKVZ	**Pokaka**	**8.83**	**215**	P	**Pn**	**18 48 08.3**	**+2.6**
PNHZ	**Pukenui**	**8.95**	**209**	P	**Pn**	**18 48 04.6**	**-2.8**
WPHZ	**Waipukurau**	**8.98**	**208**	P	**Pn**	**18 48 04.3**	**-3.4**
VRZ	**Vera Road**	**9.00**	**218**	P	**Pn**	**18 48 10.1**	**+2.1**
TSZ	**Takapari Road**	**9.17**	**210**	P	**Pn**	**18 48 06.8**	**-3.6**
DVHZ	**Dannevirke**	**9.29**	**208**	P	**Pn**	**18 48 08.8**	**-3.2**
WAZ	**Wanganui**	**9.37**	**215**	P	**Pn**	**18 48 13.6**	**+0.6**
KHEZ	**Kahui Hut**	**9.52**	**220**	P	Pn	18 48 22.4	+7.2
PRWZ	**Puri Road**	**9.59**	**208**	P	**Pn**	**18 48 13.6**	**-2.4**
BFZ	**Birch Farm**	**9.59**	**207**		**Pn**	**18 48 13.6**	**-2.5**
BFZ	**Birch Farm**	**9.59**	**207**	P	Pn	18 48 10.9	-5.1
MRZ	**Mangatainoka R**	**9.83**	**209**	P	Pn	18 48 14.3	-5.2
HOWZ	**Holdsworth Sta**	**10.06**	**209**	P	**Pn**	**18 48 18.4**	**-4.2**
TMWZ	**Te Maipa**	**10.09**	**207**	P	Pn	18 48 18.3	-4.6
OGWZ	**Otaki Gorge**	**10.13**	**210**	P	**Pn**	**18 48 20.2**	**-3.4**
KIW	**Kapiti Island**	**10.28**	**211**	P	**Pn**	**18 48 21.6**	**-4.0**
MTW	**Mount Morrison**	**10.28**	**208**	P	**Pn**	**18 48 21.9**	**-3.7**
TRWZ	**Traveller**	**10.42**	**207**	P	**Pn**	**18 48 23.9**	**-3.5**
CAW	**Cannon Point**	**10.42**	**210**	P	**Pn**	**18 48 25.6**	**-1.9**
PAWZ	**Paruwai Farm**	**10.50**	**208**	P	**Pn**	**18 48 25.3**	**-3.4**
MSWZ	**Moikau Station**	**10.60**	**208**	Pn	Pn	18 48 25.3	-4.7
MSWZ	**Moikau Station**	**10.60**	**208**	P	**Pn**	**18 48 25.6**	**-4.4**
DUWZ	**D'Urville Isla**	**10.

comp=Z,736nm,1.2s
AFI Afiamalu 19.12 19 P P 18 50 18.0 -3.2
AFI IAmb IAmb 18 50 36.7
comp=Z,736nm,1.2s
AFI Afiamalu 19.12 19 ⇑P Pn 18 50 23.4 +1.2
KOUNC Koumac, New Ca 19.55 302 ⇑P Pn 18 50 29.6 +2.5
RAR Rarotonga 19.69 61 P P 18 50 25.8 -1.5
comp=Z,3.3nm,0.3s,baz=174,slow=2.0,SNR=7.9
RAR LR LR 18 58 38.2
comp=Z,26µm,18.3s,baz=224,slow=39
RAR Rarotonga 19.69 61 P P 18 50 24.0 -3.3
RAR pmax pmax
comp=Z,3µm,2.5s
RAR Rarotonga 19.69 61 P P 18 50 24.0 -3.3
RAR Rarotonga 19.69 61 ⇑P P 18 50 27.2 -0.1
SANVU Saraoutou 21.38 318 ⇓P P 18 50 52.2 +6.5
ARMA Armidale 25.86 266 P P 18 51 26.4 -3.5
ARMA IAmb IAmb 18 51 43.6
comp=Z,352nm,1.5s
ARMA Armidale 25.86 266 ⇑P P 18 51 35.0 +5.2
MGCD Mangrove Creek 25.86 259 P P 18 51 31.8 +2.0
baz=26,SNR=21
TBI Tubuai 26.79 78 *e*P **P 18 51 38.5 +0.4**
comp=Z,403nm,1.3s
TBI *e*LQ LQ 18 56 46.0
comp=Z,20µm,26.0s
TBI *e*LR LR 18 58 10.7
comp=Z,24µm,21.2s,baz=243
TBI Tubuai 26.79 78 *e*T T 19 18 49.9
comp=Z,23nm,0.4s
CAN Canberra 27.44 254 P P 18 51 41.5 -2.5
CAN pmax pmax
comp=Z,113nm,1.4s
CAN MLR MLR
comp=Z,25µm,18.0s
CAN Canberra 27.44 254 P P 18 51 41.5 -2.5
CAN Canberra 27.44 254 ⇓P P 18 51 51.1 +7.1
EIDS Eidsvold 27.77 276 P P 18 51 49.0 +2.0
baz=28,SNR=10
EIDS Eidsvold 27.77 276 P P 18 51 47.5 +0.6
EIDS Eidsvold 27.77 276 ⇑P P 18 51 49.0 +2.0
PAE Paea 29.55 67 *e*P **P 18 52 03.2 +0.4**
comp=Z,18nm,1.2s
PAE Paea 29.55 67 *e*T T 19 22 13.7
comp=Z,8.0nm,0.3s
PPT2 Papeete2 29.59 67 *e*P **P 18 52 03.8 +0.5**
comp=Z,138nm,1.3s
PPT2 *e*S **S 18 56 52.9 -5.2**
comp=Z,3µm,25.0s
PPT2 *e*LQ LQ 18 58 01.1
comp=Z,16µm,23.0s
PPT2 *e*LR LR 18 59 27.0
comp=Z,20µm,20.8s,baz=232
PPT2 Papeete2 29.59 67 *e*T T 19 22 17.8
comp=Z,13nm,0.4s
PPTF Pamatai, Papee 29.60 67 P P 18 52 05.2 +1.8
PPTF IAmb IAmb 18 52 16.1
comp=Z,243nm,1.3s
PPT Papeete 29.60 67 P P 18 52 05.4 +2.1
comp=Z,26nm,0.7s,baz=246,slow=20,SNR=4.3
PPT LR LR 19 02 30.5
comp=Z,25µm,18.1s,baz=240,slow=34
TIAR Tiarei 29.79 68 *e*P **P 18 52 04.7 -0.3**
comp=Z,12nm,0.8s
KNTN Kanton 29.90 13 P P 18 52 02.5 -3.4
KNTN IAmb IAmb 18 52 41.6
comp=Z,218nm,1.3s
TOO Toolangi 30.19 250 P P 18 52 08.6 +0.2
baz=30,SNR=11
TOO Toolangi 30.19 250 P P 18 52 06.5 -2.0
TOO pmax pmax
comp=Z,70nm,1.3s
TOO Toolangi 30.19 250 P P 18 52 06.5 -2.0
TOO Toolangi 30.19 250 ⇓P P 18 52 10.1 +1.7
HNR Honiara 30.43 313 P P 18 52 12.6 +1.9
comp=Z,94nm,0.8s,baz=189,slow=7.2,SNR=4.0
HNR LR LR 19 03 10.2
comp=Z,12µm,19.0s,baz=170,slow=34
HNR Honiara 30.43 313 P P 18 52 12.6 +1.9
HNR pmax pmax
comp=Z,116nm,0.9s
HNR MLR MLR
comp=Z,16µm,19.0s
HNR Honiara 30.43 313 IAmb IAmb 18 52 20.2
comp=Z,116nm,0.9s
MEH Mehetia 30.62 69 *e*P **P 18 52 12.8 +0.5**
comp=Z,40nm,1.3s
MEH Mehetia 30.62 69 *e*T T 19 23 34.4
comp=Z,9.6nm,0.3s
CMSA Cobar Meteorol 30.65 261 P P 18 52 14.3 +1.8
baz=30,SNR=192
PMOR Pomariorio Ree 32.41 65 *e*P **P 18 52 28.1 0.0**
comp=Z,178nm,1.4s
VAH Vaihoa 32.48 66 *e*P **P 18 52 28.4 -0.2**
comp=Z,152nm,1.4s
VAH Vaihoa 32.48 66 *e*T T 19 25 53.3
comp=Z,20nm,0.2s
ARPS Mount Arapiles 33.14 251 P P 18 52 35.7 +1.4
baz=33,SNR=34
QLP Quilpie 33.16 270 P P 18 52 35.8 +1.3
baz=33,SNR=8.8
QLP Quilpie 33.16 270 ⇑P P 18 52 35.9 +1.3
STKA Stephens Creek 34.01 260 P P 18 52 43.4 +1.4
comp=Z,32nm,0.8s,baz=92,slow=9.7,SNR=40
STKA ScP **ScP 18 59 06.7 +2.6**
comp=Z,11nm,1.1s,baz=90,slow=4.0,SNR=4.2
STKA LR LR 19 06 41.9
comp=Z,19µm,18.1s,baz=98,slow=37
STKA Stephens Creek 34.01 260 P P 18 52 43.3 +1.4
baz=34,SNR=46
STKA Stephens Creek 34.01 260 P P 18 52 40.4 -1.5
STKA pmax pmax
comp=Z,13nm,0.9s
STKA Stephens Creek 34.01 260 P P 18 52 40.4 -1.5
CTA Charters Tower 34.03 282 P P 18 52 44.3 +2.1
comp=Z,65nm,0.8s,baz=105,slow=10.0,SNR=47
CTA LR LR 19 05 42.5
comp=Z,12µm,18.6s,baz=140,slow=35
CTAO Charters Tower 34.03 282 P P 18 52 41.4 -0.8
CTAO pmax pmax
comp=Z,267nm,1.2s
CTAO MLR MLR
comp=Z,13µm,19.0s
CTAO Charters Tower 34.03 282 P P 18 52 41.4 -0.8
CTAO Charters Tower 34.03 282 ⇑P P 18 52 44.2 +2.0
HTT Hallett 35.93 256 P P 18 52 59.1 +0.5
baz=36,SNR=51
HTT Hallett 35.93 256 ⇑P P 18 52 59.0 +0.5
MTSU Mount Surprise 36.57 283 P P 18 53 06.1 +1.9
baz=36,SNR=27
BBOO Buckleboo 38.41 256 P P 18 53 19.1 -0.4
baz=38,SNR=37
BBOO Buckleboo 38.41 256 P P 18 53 17.4 -2.1
PMG Port Moresby 39.32 298 P P 18 53 29.4 +2.1
comp=Z,16nm,0.9s,baz=180,slow=5.1,SNR=3.1
PMG LR LR 19 08 25.8
comp=Z,7µm,18.9s,baz=130,slow=34
PMG Port Moresby 39.32 298 *e*P **P 18 53 24.0 -3.3**
PMG pmax pmax
comp=Z,97nm,1.9s
PMG Port Moresby 39.32 298 P P 18 53 24.2 -3.1
QIS Mount Isa 39.38 277 P P 18 53 28.4 +0.5
baz=39,SNR=12
TAOE Nuku Hiva Isla 42.14 65 *e*S **S 19 00 05.9 -4.4**
comp=Z,4µm,24.7s
TAOE *e*LQ LQ 19 03 30.0
comp=Z,11µm,26.5s
TAOE *e*LR LR 19 05 11.0
comp=Z,11µm,21.3s,baz=240
PTCN Pitcairn Islan 42.47 93 IAMs_20 IAMs_20 19 09 06.0
comp=Z,20µm,18.0s
AS31 Alice Springs 42.94 269 P P 18 53 56.3 -0.9
ASAR Alice Springs 42.94 269 P P 18 53 57.0 -0.1
comp=Z,28nm,0.7s,baz=107,slow=7.7,SNR=113
ASAR ScP **ScP 18 59 41.0 +2.7**
comp=Z,5.2nm,1.1s,baz=108,slow=3.0,SNR=4.2
ASAR S **S 19 00 24.4 +2.6**
comp=Z,7.2nm,1.0s,baz=108,slow=16,SNR=8.1
ASAR LR LR 19 12 29.4
comp=Z,13µm,18.0s,baz=110,slow=37
ASAR Alice Springs 42.94 269 P P 18 53 56.4 -0.8
KWAJ Kwajalein Atol 43.00 339 IAMs_20 IAMs_20 19 13 30.6
comp=Z,16µm,18.0s
WR0 Warramunga Arr 43.91 274 P P 18 54 04.3 -0.7
WR0 IAmb IAmb 18 54 32.7
comp=Z,112nm,1.0s
WB2 Warramunga Arr 44.08 274 P P 18 54 05.9 -0.4
WB2 IAmb IAmb 18 54 16.2
comp=Z,177nm,1.1s
WRAB Tennant Creek 44.09 274*c* **iP P 18 54 06.3 -0.1**
WRAB pmax pmax
comp=Z,58nm,0.7s
WRAB Tennant Creek 44.09 274 P P 18 54 05.3 -1.1
WRAB IAmb IAmb 18 54 27.3
comp=Z,152nm,1.1s
WRAB Tennant Creek 44.09 274 ⇑P P 18 54 06.1 -0.3
WRA Warramunga Arr 44.09 274 P P 18 54 06.2 -0.3
comp=Z,30nm,0.5s,baz=114,slow=7.6,SNR=93
WRA ScP **ScP 18 59 44.2 +1.2**
comp=Z,4.1nm,0.9s,baz=118,slow=4.3,SNR=6.1
WRA S **S 19 00 38.8 0.0**
comp=Z,2.8nm,0.8s,baz=113,slow=13,SNR=2.5
WRA LR LR 19 12 12.6
comp=Z,12µm,18.3s,baz=100,slow=36
WRA Warramunga Arr 44.09 274 P P 18 54 05.1 -1.4
WRA S **S 19 00 38.8 0.0**
WRA pmax pmax
comp=Z,18nm,1.1s
WRA Warramunga Arr 44.09 274 P P 18 54 05.0 -1.4
WB0 Warramunga Arr 44.12 274 P P 18 54 05.7 -1.0
WB0 IAmb IAmb 18 54 16.5
comp=Z,172nm,1.0s
PATS Pohnpei 44.86 326 IAMs_20 IAMs_20 19 10 22.4
comp=Z,15µm,19.0s
FORT Forrest 45.51 257 P P 18 54 16.9 -0.7
baz=45,SNR=77
FORT Forrest 45.51 257 P P 18 54 16.0 -1.6
FORT Forrest 45.51 257 ⇑P P 18 54 16.5 -1.1
SBA Scott Base 46.22 184 P P 18 54 24.2 +1.6
SBA pmax pmax
comp=Z,251nm,1.6s
SBA MLR MLR
comp=Z,9µm,19.0s
SBA Scott Base 46.22 184 P P 18 54 24.2 +1.6
SBA IAmb IAmb 18 54 42.1
comp=Z,251nm,1.6s
VNDA Vanda 46.28 186 P P 18 54 25.1 +2.0
comp=Z,2.5nm,0.9s,baz=16,slow=5.9,SNR=7.9
VNDA LR LR 19 10 17.5
comp=Z,8µm,20.9s,baz=12,slow=32
VNDA Vanda 46.28 186 P P 18 54 25.4 +2.3
VNDA pmax pmax
comp=Z,76nm,1.6s
VNDA Vanda 46.28 186 P P 18 54 25.4 +2.3
WRKA Warakurna 47.17 264 P P 18 54 29.6 -1.2
baz=47,SNR=112
WRKA Warakurna 47.17 264 ⇑P P 18 54 29.6 -1.2
KDU Kakadu 49.15 282 P P 18 54 47.4 +1.3
baz=49,SNR=21
KDU Kakadu 49.15 282 ⇓P P 18 54 45.5 -0.6
MTN Manton Dam 50.19 281 P P 18 54 52.9 -1.1
baz=50,SNR=5.9
MTN Manton Dam 50.19 281 P P 18 54 52.4 -1.6
MTN IAmb IAmb 18 55 03.1
comp=Z,248nm,1.6s
MTN Manton Dam 50.19 281 ⇑P P 18 54 53.7 -0.3
KNRA Kununurra 50.76 276 P P 18 54 58.1 -0.2
baz=51,SNR=29
KNRA Kununurra 50.76 276 P P 18 54 55.6 -2.8
KNRA IAmb IAmb 18 55 07.7
comp=Z,125nm,1.1s
FITZ Fitzroy Crossi 52.27 271 P P 18 55 08.8 -0.9
comp=Z,11nm,0.6s,baz=121,slow=7.2,SNR=16
FITZ S **S 19 02 36.5 +2.0**
comp=Z,5.5nm,1.2s,baz=275,slow=15,SNR=1.5
FITZ Fitzroy Crossi 52.27 271 P P 18 55 09.4 -0.3
baz=52,SNR=23
FITZ Fitzroy Crossi 52.27 271 P P 18 55 08.8 -0.9
FITZ IAmb IAmb 18 55 16.8
comp=Z,230nm,1.6s
FITZ Fitzroy Crossi 52.27 271 ⇓P P 18 55 09.5 -0.2
SAUI Saumlaki 52.67 286 IAMs_20 IAMs_20 19 16 56.6
comp=Z,16µm,18.0s
CASY Casey 53.49 208 P P 18 55 17.1 -0.8
CASY Casey 53.49 208 ⇑P P 18 55 17.5 -0.5
NWAO Narrogin (SRO) 53.68 251 P P 18 55 18.9 -1.0
comp=Z,7.5nm,0.6s,baz=127,slow=6.5,SNR=7.9
NWAO Narrogin (SRO) 53.68 251 P P 18 55 19.6 -0.3
baz=54,SNR=4.9
MEEK Mekatharra 54.70 258 P P 18 55 25.9 -1.6
baz=54,SNR=13
MUN Mundaring 54.80 251 P P 18 55 27.0 -1.0
baz=55,SNR=5.7
FAKI Fak Fak 54.89 292 P P 18 55 24.4 -4.5
FAKI IAmb IAmb 18 55 34.4
comp=Z,287nm,1.7s
PSA00 Pilbara Seismi 55.67 265 P P 18 55 32.6 -1.9
PSA00 IAmb IAmb 18 55 40.5
comp=Z,164nm,1.7s
PSA00 Pilbara Seismi 55.67 265 P P 18 55 31.8 -2.7
PSA00 IAmb IAmb 18 55 40.5
comp=Z,119nm,1.7s
KHLU Kahalu`u 55.74 26 P P 18 55 32.7 -2.2
MORW Morawa 55.93 255 P P 18 55 36.8 +0.5
baz=56,SNR=7.9
MORW Morawa 55.93 255 P P 18 55 32.8 -3.5
MORW IAmb IAmb 18 55 41.4
comp=Z,128nm,1.8s
MBWA Marble Bar 55.94 265 IAMs_20 IAMs_20 19 21 53.5
comp=Z,14µm,18.0s
MBWA Marble Bar 55.94 265 ⇑P P 18 55 35.9 -0.5
KIP Kipapa 56.70 23*d* **iP P 18 55 46.0 +4.4**
KIP pmax pmax
comp=Z,222nm,1.6s
SIJI Sorong 56.92 293 P P 18 55 43.9 +0.5
comp=Z,19nm,0.8s,baz=92,slow=6.9,SNR=13
SWI Sorong 56.93 293 P P 18 55 50.2 +6.7
comp=Z,5µmcomp=Z,2µmcomp=Z,91nm,1.0s
SOEI Soe 57.53 279 P P 18 55 47.1 -0.8
SOEI IAmb IAmb 18 56 13.1
comp=Z,187nm,1.1s
SOEI Soe 57.53 279 ⇓P P 18 55 51.5 +3.6
SOEI Soe 57.53 279 P P 18 56 00.6 +13
comp=Z,3µmcomp=Z,165nm,1.6s
BATI Baumata 57.80 279 P P 18 55 50.1 +0.4
comp=Z,24nm,0.7s,baz=216,slow=4.3,SNR=6.7
QSPA South Pole Qui 57.90 180 P P 18 55 52.5 +2.7
comp=Z,9.4nm,0.8s,baz=331,slow=0.8,SNR=40
QSPA South Pole Qui 57.90 180 P P 18 55 50.1 +0.2
QSPA South Pole Qui 57.90 180 IAMs_20 IAMs_20 19 18 13.5
comp=Z,11µm,19.0s
NLAI Namatahira 58.81 288 P P 18 56 02.8 +6.1
comp=Z,2µmcomp=Z,74nm,1.9s
RPN Rapa Nui 59.07 104 IAMs_20 IAMs_20 19 17 30.2
comp=Z,11µm,19.0s
MMRI Maumere 59.82 279 P P 18 56 02.0 -1.7
MMRI Maumere 59.82 279 ⇑P P 18 56 02.9 -0.8
MMRI Maumere 59.82 279 P P 18 56 07.5 +3.8
comp=Z,4µmcomp=Z,3µmcomp=Z,197nm,2.0s
MIDW Midway 60.10 1 IAMs_20 IAMs_20 19 24 21.5
comp=Z,13µm,19.0s
EDFI Ende, Flores 60.21 279 P P 18 56 10.4 +3.8
comp=Z,3µmcomp=Z,745nmcomp=Z,26nm,1.7s
KKSI Kolaka, Sulawe 62.73 283 P P 18 56 29.6 +6.1
comp=Z,1µmcomp=Z,26nm,0.7s
PLAI Plampang 63.46 276 P P 18 56 36.5 +8.2
comp=Z,5µmcomp=Z,4µmcomp=Z,105nm,1.5s
LUWI Luwuk 63.59 287 P P 18 56 25.4 -3.8
LUWI Luwuk 63.59 287 P P 18 56 36.5 +7.3
comp=Z,2µmcomp=Z,111nm,1.3s
KAPI Kappang 63.84 281 P P 18 56 28.1 -2.7
KAPI pmax pmax
comp=Z,182nm,1.8s
KAPI MLR MLR
comp=Z,8µm,19.0s
KAPI Kappang 63.84 281 P P 18 56 33.9 +3.1
KAPI IAmb IAmb 18 56 37.0
comp=Z,182nm,1.8s
KAPI Kappang 63.84 281 IAMs_20 IAMs_20 19 24 21.6
comp=Z,8µm,19.0s
KAPI Kappang 63.84 281 ⇓P P 18 56 33.9 +3.1
KAPI Kappang 63.84 281 P P 18 56 36.1 +5.3
comp=Z,1µmcomp=Z,40nm,1.2s
BNSI Bone 63.88 282 P P 18 56 35.9 +4.8
comp=Z,2µmcomp=Z,77nm,1.8s
TWSI Taliwang, Sumb 64.26 276 P P 18 56 34.0 +0.4
comp=Z,3µmcomp=Z,950nmcomp=Z,65nm,0.9s
GTOI Gorontalo 64.38 288 P P 18 56 36.1 +1.8
comp=Z,683nmcomp=Z,38nm,0.7s
APSI Ampana 64.58 286 P P 18 56 42.4 +6.7
comp=Z,2µmcomp=Z,1µmcomp=Z,71nm,1.6s
TTSI Tana Toraja 64.87 283 P P 18 56 42.5 +4.9
comp=Z,1µmcomp=Z,52nm,1.3s
KLNI Mataram 65.09 276 P P 18 56 48.2 +9.2
MRSI Marisa 65.15 287 P P 18 56 45.0 +5.6
comp=Z,3µmcomp=Z,33nm,0.9s
SRBI Singaraja 66.01 276 P P 18 56 59.3 +14
TOLI2 Tolitoli 66.46 287 P P 18 56 44.8 -3.0
TOLI2 IAmb IAmb 18 57 03.5
comp=Z,144nm,1.8s
MPSI Mapaga 66.73 286 P P 18 56 49.3 -0.2
comp=Z,4µmcomp=Z,824nmcomp=Z,46nm,1.1s
BKB Balikpapan 68.28 283 IAMs_20 IAMs_20 19 27 38.2
comp=Z,12µm,19.0s
BBKI Banjar Baru 68.78 280 P P 18 57 06.9 +4.4
comp=Z,2µmcomp=Z,72nm,1.6s
PWJI Pagerwojo 68.92 274 P P 18 57 13.7 +10
comp=Z,56nm,1.2s
SJI Sawahan 69.10 274 P P 18 57 12.4 +7.8
comp=Z,23µmcomp=Z,37nm,1.4s
PCJI Pacitan 69.36 273 P P 18 57 12.4 +6.3
comp=Z,3µmcomp=Z,170nm,1.7s
MTKI Muara Teweh, K 70.12 282 P P 18 57 16.4 +5.6
comp=Z,2µmcomp=Z,1µmcomp=Z,19nm,1.4s
PKKI Palangkaraya 70.17 280 P P 18 57 16.9 +5.8
comp=Z,2µmcomp=Z,99nm,1.0s
MAW Mawson 70.58 201 P P 18 57 13.0 +0.4
comp=Z,25nm,1.0s,baz=116,slow=7.4,SNR=12
MAW LR LR 19 29 01.4
comp=Z,9µm,18.2s,baz=116,slow=37
MAW Mawson 70.58 201 P P 18 57 12.9 +0.2
baz=70,SNR=18
MAW Mawson 70.58 201 P P 18 57 12.6 -0.1
MAW pmax pmax
comp=Z,115nm,1.9s
MAW Mawson 70.58 201 P P 18 57 12.6 -0.1
MAW IAmb IAmb 18 57 25.9
comp=Z,115nm,1.9s
MAW Mawson 70.58 201 ⇑P P 18 57 12.9 +0.2
PBKI Pangkalan Bun 71.84 278 P P 18 57 28.5 +7.2
comp=Z,2µmcomp=Z,94nm,1.1s
STKI Sintang 73.52 281 P P 18 57 33.9 +2.7
DBJI Dramaga 73.96 272 P P 18 57 40.3 +6.5
comp=Z,567µmcomp=Z,8µmcomp=Z,21nm,0.9s
SBUM Sibu 74.22 283 P P 18 57 36.0 +0.7
KSM Kuching 75.26 281 P P 18 57 41.0 -0.4
SYO Syowa Base 75.33 193⇓*e*P **P 18 57 39.0 -1.8**
SYO Syowa Base 75.33 193⇓*e*pP **P 18 57 42.0 +1.2**
SYO Syowa Base 75.33 193⇑*es*P sP 18 57 44.2 -1.0
SNAA Sanae 76.35 178 P P 18 57 46.8 0.0
SNAA Sanae 76.35 178 P P 18 57 46.0 -0.8
SNAA pmax pmax
comp=Z,394nm,1.4s
SNAA MLR MLR
comp=Z,6µm,18.0s
SNAA Sanae 76.35 178 P P 18 57 46.0 -0.8
SNAA Sanae 76.35 178 ⇑P P 18 57 46.2 -0.5
KASI Kota Agung 76.40 272 P P 18 57 58.9 +11
comp=Z,38nm,1.1s
VNA3 Neumayer Olymp 76.51 176 P P 18 57 47.2 -0.4
VNA3 Neumayer Olymp 76.51 176 PcP PcP 18 57 59.5 +0.3
VNA3 Neumayer Olymp 76.51 176 sP sP 18 57 52.7 +0.7
VNA2 Neumayer--Watz 76.94 177 P P 18 57 50.1 +0.1
baz=174,slow=4.0
VNA2 Neumayer--Watz 76.94 177 PcP PcP 18 58 00.3 -0.7
VNA2 Neumayer--Watz 76.94 177 sP sP 18 57 55.6 +1.2
LWLI Liwa 77.04 272 P P 18 58 03.1 +11
comp=Z,14µmcomp=Z,49nm,0.6s
VNA1 Neumayer--Stat 77.17 177 P P 18 57 52.6 +1.4
VNA1 Neumayer--Stat 77.17 177 PcP PcP 18 58 01.8 -0.2
VNA1 Neumayer--Stat 77.17 177 sP sP 18 57 57.0 +1.3
MDSI Maura Dua 77.22 273 P P 18 57 51.1 -1.4
comp=Z,2µmcomp=Z,656nmcomp=Z,26nm,1.3s
PMBI Palembang 77.54 274 IAMs_20 IAMs_20 19 38 02.5
comp=Z,7µm,18.0s
JYT Yasato 78.48 327 P P 18 57 57.4 -1.5
KSI Kapahiang 79.00 273 P P 18 58 06.9 +4.4
comp=Z,2µmcomp=Z,57nm,0.8s
INU Inuyama 79.30 324 P P 18 58 01.3 -2.1
COCO West Island 79.46 262 IAMs_20 IAMs_20 19 35 58.9
comp=Z,8µm,18.0s
JMM Marumori 79.55 328 P P 18 58 04.4 -0.4
JMM Marumori 79.55 328 ⇓P P 18 58 07.2 +2.5
H03S2 Juan Fernandez 79.56 123 T T 20 25 20.9
baz=236,slow=74,SNR=7.1
H03S1 Juan Fernandez 79.57 123 T T 20 25 19.5
baz=236,slow=74,SNR=7.2
H03S3 Juan Fernandez 79.57 123 T T 20 25 19.6
baz=236,slow=74,SNR=6.4
MJAR Matsushiro Arr 79.67 326 P P 18 58 04.3 -1.2
comp=Z,8.5nm,1.0s,baz=166,slow=5.4,SNR=12
MJAR Matsushiro Arr 79.67 326 P P 18 58 03.8 -1.7
MJAR pmax pmax
comp=Z,31nm,1.5s
MJAR Matsushiro Arr 79.67 326 P P 18 58 03.8 -1.7
MAJO Matsushiro 79.67 326*c* **iP P 18 58 03.9 -1.6**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 79.67 326 P P 18 58 03.8 -1.8
MAJO Matsushiro 79.67 326 ⇑P P 18 58 04.1 -1.4
MAT Matsushiro 79.67 326 P P 18 58 03.7 -1.8
MAT S **S 19 08 07.0 -0.3**
MJB9 Matsu-Tunnel 79.68 326 P P 18 58 03.6 -1.9
H03N3 Juan Fernandez 79.76 123 T T 20 25 32.1
baz=240,slow=72,SNR=7.5
H03N2 Juan Fernandez 79.76 123 T T 20 25 31.5
baz=240,slow=72,SNR=5.1
H03N1 Juan Fernandez 79.77 123 T T 20 25 32.7
baz=240,slow=72,SNR=11
JWT Wachi 80.07 323 P P 18 58 07.5 -0.2
SSLB Suanglung 80.53 306 P P 18 58 09.4 -1.0
SSLB IAmb IAmb 18 58 14.4
comp=Z,233nm,2.2s
JNU Nakatsue 80.84 319 P P 18 58 11.9 0.0
comp=Z,13nm,0.8s,baz=90,slow=7.1,SNR=2.7
JNU Nakatsue 80.84 319 P P 18 58 10.6 -1.4
JSD Sado 80.85 327 P P 18 58 10.2 -1.6
EFI East Falkland 81.33 147*ce* **P P 18 58 18.9 +4.6**
EFI pmax pmax
comp=Z,272nm,1.7s
PLCA Paso Flores 81.35 133 P P 18 58 16.5 +1.7
comp=Z,36nm,1.2s,baz=227,slow=6.6,SNR=13
PLCA LR LR 19 27 15.3
comp=Z,8µm,19.6s,baz=236,slow=30
PLCA Paso Flores 81.35 133 P P 18 58 16.2 +1.4
PLCA pmax pmax
comp=Z,150nm,1.7s
PLCA Paso Flores 81.35 133 P P 18 58 16.2 +1.4
PLCA IAmb IAmb 18 58 23.0
comp=Z,150nm,1.7s
JTM Tenmabayashi 81.84 330 P P 18 58 16.1 -0.8
JTM IAmb IAmb 18 58 26.1
comp=Z,108nm,1.1s
ERM Erimo 82.01 332 *i* **P P 18 58 17.4 -0.4**
ERM pmax pmax
comp=Z,85nm,1.7s
ERM Erimo 82.01 332 P P 18 58 17.2 -0.6
ERM IAmb IAmb 18 58 33.6
comp=Z,171nm,1.6s
ERM Erimo 82.01 332 IAMs_20 IAMs_20 19 31 27.3
comp=Z,7µm,20.0s
JEM Erimo 82.01 332 P P 18 58 22.5 +4.8
PDSI Padang 82.25 274 P P 18 58 22.1 +2.3
comp=Z,13nm,1.2s
BKNI Bangkinang 82.42 275 IAMs_20 IAMs_20 19 38 24.9
comp=Z,6µm,19.0s
YUK Yuzh-Kuril'sk 82.70 335*c* **iP P 18 58 19.9 -1.5**
YUK *e*SS SS 19 14 06.4 +4.9
YUK *e*SSS SSS 19 17 17.9
QZH Quanzhou 82.91 305⇑*i* **iP P 18 58 23.0 +0.1**
QZH S **S 19 08 44.8 +3.5**
QZH pmax pmax
comp=Z,680nm,3.6s
QZH L L
comp=Z,630nm,19.4s
QZH L L
comp=Z,1µm,19.4s
QZH L L
comp=Z,2µm,19.0s
KUR Kuril'sk 83.05 337 *e*P **P 18 58 22.2 -0.9**
KUR *e**PP **pP 18 58 26.3 0.0**
KUR *e* 18 58 27.2
KUR *e* 19 01 34.3
KUR *e*S **S 19 08 41.8 0.0**
KUR *e**SS **sS 19 08 47.3 +0.1**
KUR *e*SS **SS 19 14 03.1 -3.4**
KUR *e*SSS SSS 19 17 28.9
KUR pmax pmax

	comp=Z,201nm,1.5s									
KUR						pmax	pmax			
	comp=E,74nm,1.3s									
KUR						pmax	pmax			
	comp=N,27nm,1.5s									
KUR						pmax	pmax			
	comp=Z,1µm,5.5s									
KUR						MLR	MLR			
	comp=Z,5µm,19.0s									
KUR						MLR	MLR			
	comp=N,4µm,18.0s									
KUR						MLR	MLR			
	comp=E,2µm,18.0s									
AMKA	**Amchitka**	**83.26**	**358**		P	**P**		**18 58 23.3**	**-0.7**	
JEW	**Eniwo**	**83.39**	**331**		P	**P**		**18 58 24.4**	**-0.5**	
JEW	**Eniwo**	**83.39**	**331**	⇓	P	**P**		**18 58 28.5**	**+3.5**	
KIWB	**Kanaga Island**	**83.71**	**1**		P	**P**		**18 58 25.6**	**-0.8**	
GO05	**Huala**	**83.74**	**128**		P	**P**		**18 58 29.1**	**+1.8**	
GO05					IAmb	IAmb		18 58 34.6		
	comp=Z,108nm,1.3s									
ADK	**Adak**	**83.75**	**1**		P	**P**		**18 58 26.2**	**-0.4**	
ADK					pmax	pmax				
	comp=Z,454nm,2.1s									
ADK					MLR	MLR				
	comp=Z,6µm,20.0s									
ADK	**Adak**	**83.75**	**1**		P	**P**		**18 58 26.2**	**-0.4**	
ADK	**Adak**	**83.75**	**1**		IAMs_20	IAMs_20		19 38 35.4		
	comp=Z,6µm,20.0s									
ADK	**Adak**	**83.75**	**1**	⇑	P	**P**		**18 58 25.8**	**-0.7**	
ADK				⇑	P	**pP**		**18 58 27.4**	**-2.4**	
ADK				⇑	P	**PcP**		**18 58 29.9**	**-0.8**	
MNSI	**Mandailing Nat**	**83.90**	**275**		P	**P**		**18 58 30.1**	**+1.8**	
	comp=Z,16nm,0.7s									
JKA	**Kamikawa-asahi**	**84.00**	**333**		P	**P**		**18 58 27.9**	**-0.2**	
JKA					IAmb	IAmb		18 58 35.4		
	comp=Z,78nm,1.3s									
ASAJ	**Asahikawa**	**84.00**	**333**		P	**P**		**18 58 28.9**	**+0.8**	
	comp=Z,12nm,0.6s,baz=218,slow=9.2,SNR=10									
ASAJ	**Asahikawa**	**84.00**	**333**		P	**P**		**18 58 27.9**	**-0.2**	
ASAJ					pmax	pmax				
	comp=Z,79nm,1.3s									
ATKA	**Atka Island**	**84.13**	**2**		P	**P**		**18 58 27.4**	**-1.1**	
ATKA	**Atka Island**	**84.13**	**2**	⇑	P	**P**		**18 58 27.6**	**-0.9**	
ATKA				⇑	P	**PcP**		**18 58 32.0**	**-0.2**	
BO02	**Sierra Bellavi**	**84.64**	**128**		P	**P**		**18 58 30.8**	**-1.2**	
BO02					IAmb	IAmb		18 58 39.4		
	comp=Z,124nm,1.2s									
IPM	**Ipoh**	**84.65**	**279**		P	**P**		**18 58 34.0**	**+1.8**	
BO01	**Tunca**	**84.67**	**127**		P	**P**		**18 58 33.4**	**+1.4**	
BO01					IAmb	IAmb		18 58 39.3		
	comp=Z,94nm,1.5s									
SMY	**Shemya**	**84.86**	**355**		P	**P**		**18 58 33.1**	**+0.9**	
SMY					pmax	pmax				
	comp=Z,230nm,1.4s									
SMY					MLR	MLR				
	comp=Z,8µm,21.0s									
SMY	**Shemya**	**84.86**	**355**		P	**P**		**18 58 33.1**	**+0.9**	
SMY					IAMs_20	IAMs_20		19 32 52.8		
	comp=Z,8µm,21.0s									
MT01	**Popeta**	**84.86**	**127**		P	**P**		**18 58 32.1**	**-0.9**	
VA01	**Torpederas**	**85.08**	**126**		P	**P**		**18 58 34.3**	**+0.2**	
MT09	**Talagante**	**85.09**	**127**		P	**P**		**18 58 37.2**	**+2.9**	
NIKH	**Nikolski High**	**85.21**	**6**		P			18 58 33.3		
	baz=188									
SSE	**Sheshan**	**85.22**	**311**		P	**P**		**18 58 34.0**	**-0.6**	
SSE					S	**S**		**19 09 05.5**	**+1.2**	
SSE					SS	**SS**		**19 14 42.0**	**+2.8**	
SSE					pmax	pmax				
	comp=Z,16nm,0.9s									
SSE					pmax	pmax				
	comp=Z,120nm,5.9s									
SSE					L	L				
	comp=Z,550nm,18.2s									
RPSI	**Rantau Prapat**	**85.46**	**276**		IAMs_20	IAMs_20		19 41 23.6		
	comp=Z,7µm,18.0s									
PSI	**Prapat**	**85.52**	**276**		P	**P**		**18 58 39.1**	**+2.4**	
	comp=Z,420nmcomp=Z,9.2nm,1.6s									
SLBS	**Sierra La Lagu**	**85.59**	**59**		IAMs_20	IAMs_20		19 28 37.3		
	comp=Z,9µm,20.0s									
SLBS	**Sierra La Lagu**	**85.59**	**59**	⇑	P	**P**		**18 58 40.8**	**+4.1**	
SLBS				⇑	P	**sP**		**18 58 43.0**	**+1.9**	
SKR	**Severo-Kuril's**	**85.62**	**344**	*e*	P	**P**		**18 58 35.2**	**-0.8**	
SKR				*e*	S	**S**		**19 09 05.1**	**-2.2**	
SKR					pmax	pmax				
	comp=Z,300nm,6.1s									
SKR					pmax	pmax				
	comp=Z,600nm,2.5s									
SKR					pmax	pmax				
	comp=Z,78nm,1.4s									
SKR					MLR	MLR				
	comp=Z,2µm,17.0s									
SKR					MLR	MLR				
	comp=Z,2µm,20.0s									
KSRS	**Korea Array**	**85.66**	**320**		P	**P**		**18 58 36.7**	**+0.1**	
	comp=Z,3.8nm,1.0s,baz=138,slow=5.7,SNR=8.7									
KSRS					LR	LR		19 34 16.7		
	comp=Z,2µm,19.6s,baz=116,slow=34									
KSAR	**Wonju Array Be**	**85.67**	**320**		P	**P**		**18 58 34.0**	**-2.6**	
KSAR	**Wonju Array Be**	**85.67**	**320**		P	**P**		**18 58 34.0**	**-2.6**	
QIZ	**Qiongzhong**	**85.68**	**296**		P	**P**		**18 58 38.5**	**+1.4**	
QIZ					PP	**PP**		**19 01 54.8**	**-1.7**	
QIZ					S	**S**		**19 09 09.8**	**+0.5**	
QIZ					SS	**SS**		**19 14 44.0**	**-2.2**	
QIZ					pmax	pmax				
	comp=Z,830nm,11.4s									
QIZ					L	L				
	comp=Z,770nm,18.1s									
QIZ					L	L				
	comp=Z,730nm,15.2s									
QIZ					L	L				
	comp=Z,950nm,16.2s									
SCI2	**San Clemente I**	**85.79**	**47**		P			18 58 36.3		
	baz=227									
SCZ2	**Santa Cruz Isl**	**85.82**	**45**		P			18 58 37.2		
	baz=226									
GSI	**Gunungsitoli**	**85.86**	**274**		P	**P**		**18 58 36.9**	**-1.3**	
GSI					IAmb	IAmb		18 58 53.2		
	comp=Z,74nm,1.0s									
GSI					IAMs_20	IAMs_20		19 38 35.2		
	comp=Z,7µm,21.0s									
GSI	**Gunungsitoli**	**85.86**	**274**	⇑	P	**P**		**18 58 37.7**	**-0.5**	
GSI				⇓	P	**sP**		**18 58 42.2**	**-0.4**	
GSI	**Gunungsitoli**	**85.86**	**274**		P	**P**		**18 58 38.7**	**+0.5**	
	comp=Z,74nm,0.9s									
SBC	**Santa Barbara**	**86.08**	**45**		P			18 58 37.8		
	baz=226									
PKM	**Mcpherson Peak**	**86.33**	**45**		P			18 58 40.6		
	baz=226									
YSS	**Yuzh-Sakhalins**	**86.33**	**334**	*ce*	P	**P**		**18 58 40.3**	**+0.6**	
YSS				*e*	*SP	**sP**		**18 58 45.1**	**+1.1**	
YSS				*e*				19 09 05.0		
YSS				*e*	S	**S**		**19 09 09.9**	**-4.5**	
YSS				*e*	PS	PnS		19 10 34.3	+21	
YSS					pmax	pmax				
	comp=Z,400nm,2.9s									
YSS					pmax	pmax				
	comp=Z,50nm,0.7s									
YSS					smax	smax				
	comp=E,1µm,14.3s									
YSS					MLR	MLR				
	comp=Z,6µm,19.0s									
YSS	**Yuzh-Sakhalins**	**86.33**	**334**		P	**P**		**18 58 38.7**	**-1.0**	
YSS					IAmb	IAmb		18 58 47.0		
	comp=Z,106nm,1.1s									
YSS					IAMs_20	IAMs_20		19 36 55.4		
	comp=Z,7µm,20.0s									
YSS	**Yuzh-Sakhalins**	**86.33**	**334**	⇑	P	**P**		**18 58 40.2**	**+0.6**	
YSS				⇓	P	**PcP**		**18 58 40.6**	**-1.6**	
FMP	**Fort Macarthur**	**86.44**	**46**		P			18 58 40.0		
	baz=227									
SMMC	**Simmler**	**86.52**	**44**		P			18 58 41.1		
	baz=226									
CO02	**Combarbal**	**86.58**	**125**		P	**P**		**18 58 40.8**	**-0.9**	
CO02					IAmb	IAmb		18 58 49.1		
	comp=Z,102nm,1.1s									
109C	**Camp Elliot, M**	**86.62**	**48**		P			18 58 41.3		
	baz=228									
109C	**Camp Elliot, M**	**86.63**	**48**		IAMs_20	IAMs_20		19 30 10.5		
	comp=Z,7µm,19.0s									
PAGB	**Antelope Grade**	**86.66**	**44**		P	**P**		**18 58 41.0**	**-0.6**	
DECC	**Green Verdugo**	**86.79**	**46**		P			18 58 40.7		
	baz=227									
OSI	**Osito Audit: C**	**86.80**	**45**		P			18 58 42.0		
	baz=227									
CO03	**El Pedregal**	**87.01**	**125**		P	**P**		**18 58 43.2**	**-0.6**	
CO03					IAmb	IAmb		18 58 51.0		
	comp=Z,115nm,1.2s									
MURC	**Murrieta**	**87.04**	**47**		P			18 58 43.4		
	baz=228,SNR=7.3									
MONP2	**Monument Peak**	**87.06**	**48**		P			18 58 43.8		
	baz=228,SNR=15									
ARVC	**Arvin**	**87.08**	**45**		P			18 58 43.1		
	baz=227									
IKP	**In-Ko-Pah, Jac**	**87.09**	**48**		P			18 58 44.5		
	baz=228,SNR=9.9									
BFSC	**Mount Baldy Ra**	**87.19**	**46**		P			18 58 44.3		
	baz=228,SNR=22									
TPTI		**87.23**	**276**		P	P		18 58 51.7	+6.7	
	comp=Z,9.0nm,1.3s									
PET	**Petropavlovsk**	**87.26**	**346**	*e*	P	**P**		**18 58 43.0**	**-1.0**	
PET				*e*	S	**S**		**19 09 20.3**	**-2.9**	
PET				*e*	SS	**SS**		**19 15 03.6**	**-4.8**	
PET					pmax	pmax				
	comp=Z,700nm,11.9s									
PET					pmax	pmax				
	comp=Z,71nm,1.6s									
PET					smax	smax				
	comp=E,2µm,14.1s									
PET					smax	smax				
	comp=E,2µm,14.2s									
PET					MLR	MLR				
	comp=Z,6µm,19.0s									
PET					MLR	MLR				
	comp=Z,5µm,19.0s									
NJ2	**Nanjing**	**87.34**	**311**	*e*	P	**P**		**18 58 46.0**	**+1.0**	
NJ2					pP	**sP**		**18 58 50.8**	**+1.5**	
NJ2					sP	**pwP**		**18 58 52.5**	**-2.5**	
NJ2					S	**S**		**19 09 21.5**	**-3.5**	
NJ2					sS	**ScS**		**19 09 33.0**	**+0.9**	
NJ2					pmax	pmax				
	comp=Z,9.0nm,0.6s									
NJ2					pmax	pmax				
	comp=Z,890nm,4.5s									
NJ2					L	L				
	comp=Z,1µm,15.6s									
NJ2					L	L				
	comp=Z,1µm,16.6s									
NJ2					L	L				
	comp=Z,2µm,20.8s									
EDW2	**Edwards Air Fo**	**87.42**	**46**		P			18 58 44.9		
	baz=227,SNR=36									
VES	**Vestal, Richgr**	**87.42**	**44**		P			18 58 44.5		
	baz=227,SNR=16									
SWSC	**Sam W. Stewart**	**87.48**	**48**		P			18 58 45.2		
	baz=229,SNR=6.9									
PFO	**Pinyon Flats O**	**87.51**	**47**		P			18 58 45.8		
	baz=228,SNR=16									
TPFO	**Pinon Flats**	**87.51**	**47**		P			18 58 45.5		
	baz=228,SNR=14									
PFO	**Pinyon Flats O**	**87.51**	**47**		P	**P**		**18 58 46.3**	**+0.4**	
PFO					pmax	pmax				
	comp=Z,113nm,1.5s									
PFO					MLR	MLR				
	comp=Z,9µm,18.0s									
PFO	**Pinyon Flats O**	**87.51**	**47**		P	**P**		**18 58 46.3**	**+0.4**	
PFO					IAmb	IAmb		18 58 53.4		
	comp=Z,113nm,1.4s									
PEA0B	**Petropavlovsk-**	**87.54**	**346**		P	**P**		**18 58 44.6**	**-0.8**	
PEA0B					pmax	pmax				
	comp=Z,840nm,2.0s									
PEA0B					MLR	MLR				
	comp=Z,5µm,19.0s									
PEA0B	**Petropavlovsk-**	**87.54**	**346**		P	**P**		**18 58 44.6**	**-0.8**	
PETK	**Petropavlovsk-**	**87.54**	**346**		P	**P**		**18 58 45.3**	**-0.1**	
	comp=Z,10nm,0.6s,baz=119,slow=5.1,SNR=14									
PETK	**Petropavlovsk-**	**87.54**	**346**		P	**P**		**18 58 43.7**	**-1.7**	
PETK	**Petropavlovsk-**	**87.54**	**346**		P	**P**		**18 58 43.7**	**-1.7**	
VOG	**Valley Oaks Go**	**87.57**	**44**		P			18 58 44.8		
	baz=226									
FALS	**False Pass**	**87.64**	**8**		IAMs_20	IAMs_20		19 38 14.5		
	comp=Z,5µm,20.0s									
BBRC	**Big Bear Solar**	**87.66**	**47**		P			18 58 46.6		
	baz=228									
ISA	**Isabella, Lake**	**87.66**	**45**		P			18 58 46.1		
	baz=227,SNR=40									
ISA	**Isabella, Lake**	**87.66**	**45**		P	**P**		**18 58 46.2**	**-0.4**	
ISA					pmax	pmax				
	comp=Z,215nm,1.5s									
ISA	**Isabella, Lake**	**87.66**	**45**		P	**P**		**18 58 46.2**	**-0.4**	
MSHR	**Mys Shultsa**	**87.78**	**325**	*i*	P	**P**		**18 58 47.0**	**+0.2**	
MSHR					pmax	pmax				
	comp=Z,131nm,1.9s									
PAYG	**Puerto Ayora**	**87.81**	**89**		IAMs_20	IAMs_20		19 29 23.4		
	comp=Z,6µm,20.0s									
VLA	**Vladivostok**	**87.84**	**326**	⇑	P	**P**		**18 58 47.1**	**0.0**	
LRMC	**Laurel Mtn Rad**	**88.01**	**45**		P			18 58 47.7		
	baz=228,SNR=34									
RRX	**Edison Barstow**	**88.02**	**46**		P			18 58 48.7		
	baz=228									
BELC	**Belle Mtn. Jos**	**88.05**	**47**		P			18 58 48.8		
	baz=228,SNR=42									
LCO	**Las Campanas**	**88.07**	**123**		IAMs_20	IAMs_20		19 30 33.7		
	comp=Z,7µm,20.0s									
CNBA	**Chernabura Isl**	**88.14**	**11**		IAMs_20	IAMs_20		19 39 38.1		
	comp=Z,5µm,20.0s									
CHNA	**Chernabura Isl**	**88.15**	**11**		P			18 58 49.0		
	baz=196									
BC3	**Big Chuckawall**	**88.17**	**48**		P			18 58 48.3		
	baz=229,SNR=41									
GLA	**Glamis**	**88.17**	**49**		P			18 58 49.7		
	baz=229,SNR=16									
CMB	**Columbia Colle**	**88.18**	**42**		P	**P**		**18 58 48.4**	**-0.6**	
CMB					pmax	pmax				
	comp=Z,138nm,1.4s									
CMB					MLR	MLR				
	comp=Z,7µm,18.0s									
CMB	**Columbia Colle**	**88.18**	**42**		P	**P**		**18 58 48.4**	**-0.6**	
CMB					IAMs_20	IAMs_20		19 37 07.9		
	comp=Z,7µm,18.0s									
TRQA	**Tornquist**	**88.23**	**135**		P	**P**		**18 58 52.0**	**+2.5**	
TRQA					pmax	pmax				
	comp=Z,97nm,1.7s									
TRQA					MLR	MLR				
	comp=Z,7µm,18.0s									
TRQA	**Tornquist**	**88.23**	**135**		P	**P**		**18 58 52.0**	**+2.5**	
TRQA					IAmb	IAmb		18 58 57.1		
	comp=Z,97nm,1.6s									
TRQA	**Tornquist**	**88.23**	**135**		IAMs_20	IAMs_20		19 35 10.1		
	comp=Z,7µm,18.0s									
O02D	**Mt. Diablo Mer**	**88.37**	**39**		P			18 58 50.0		
	baz=224,SNR=18									
UGL	**Uglegorsk**	**88.37**	**335**	*e*	P	P		18 58 54.7	+5.3	
UGL				*e*	S	**SKSac**		**19 09 20.7**	**+3.2**	
UGL					pmax	pmax				
	comp=Z,100nm,1.5s									
UGL					smax	smax				
	comp=N,100nm,0.6s									
UGL					smax	smax				
	comp=N,5µm,14.0s									
UGL					MLR	MLR				
	comp=E,1.0nm,18.0s									
UGL					MLR	MLR				
	comp=N,2µm,20.0s									
UGL					MLR	MLR				
	comp=Z,4µm,20.0s									
HEC	**Hector,Ludlow**	**88.39**	**46**		P			18 58 49.6		
	baz=228,SNR=10.0									
CWC	**Cottonwood Cre**	**88.42**	**44**		P			18 58 50.2		
	baz=227									
GSC	**Goldstone, Bar**	**88.42**	**46**		P			18 58 49.6		
	baz=228,SNR=37									
GSC	**Goldstone, Bar**	**88.42**	**46**		P	**P**		**18 58 50.0**	**-0.2**	
GSC					pmax	pmax				
	comp=Z,192nm,1.4s									
GSC	**Goldstone, Bar**	**88.42**	**46**		P	**P**		**18 58 50.0**	**-0.2**	
AFDM	**Forest Hills D**	**88.49**	**41**		P	**P**		**18 58 49.5**	**-0.8**	
MPMC	**Manual Prospec**	**88.51**	**45**		P			18 58 50.4		
	baz=228,SNR=50									
USA0B	**Ussuriysk Arra**	**88.61**	**327**		P	**P**		**18 58 50.0**	**-0.7**	
USA0B					pmax	pmax				
	comp=Z,438nm,2.2s									
USA0B	**Ussuriysk Arra**	**88.61**	**327**		P	**P**		**18 58 50.0**	**-0.7**	
USRK	**Ussuriysk Ar.**	**88.61**	**327**		P	**P**		**18 58 51.2**	**+0.5**	
	comp=Z,10nm,0.8s,baz=125,slow=3.4,SNR=14									
USRK					LR	LR		19 34 41.9		
	comp=Z,2µm,20.2s,baz=132,slow=33									
USRK	**Ussuriysk Ar.**	**88.61**	**327**		P	**P**		**18 58 50.2**	**-0.6**	
USRK	**Ussuriysk Ar.**	**88.61**	**327**		P	**P**		**18 58 50.2**	**-0.6**	
ORV	**Oroville**	**88.62**	**40**		P	**P**		**18 58 49.4**	**-1.6**	
ORV					pmax	pmax				
	comp=Z,192nm,1.9s									
ORV					MLR	MLR				
	comp=Z,9µm,20.0s									
ORV	**Oroville**	**88.62**	**40**		P	**P**		**18 58 49.4**	**-1.6**	
ORV					IAMs_20	IAMs_20		19 33 04.5		
	comp=Z,9µm,20.0s									
113A	**Mohawk Valley,**	**88.67**	**49**		P	**P**		**18 58 51.6**	**+0.3**	
113A					IAmb	IAmb		18 59 00.4		
	comp=Z,116nm,1.5s									
IRM	**Iron Mountain**	**88.69**	**48**		P			18 58 51.3		
	baz=229,SNR=75									
TIN	**Tinemaha, Big**	**88.75**	**44**		P			18 58 51.3		
	baz=227									
214A	**Organ Pipe Nat**	**88.77**	**51**		P			18 58 51.3		
	baz=230									
214A	**Organ Pipe Nat**	**88.77**	**51**		P	**P**		**18 58 50.4**	**-1.4**	
214A					IAmb	IAmb		18 58 59.5		
	comp=Z,154nm,1.8s									
GMRC	**Granite Mounta**	**88.78**	**47**		P			18 58 51.6		
	baz=229,SNR=33									
MLAC	**Mammoth, Mammo**	**88.79**	**43**		P			18 58 51.4		
	baz=227,SNR=6.9									
WDC	**Whiskeytown Da**	**88.79**	**39**		P	**P**		**18 58 50.8**	**-0.9**	
WDC					pmax	pmax				
	comp=Z,140nm,1.6s									
WDC					MLR	MLR				
	comp=Z,10µm,19.0s									
WDC	**Whiskeytown Da**	**88.79**	**39**		P	**P**		**18 58 50.8**	**-0.9**	
WDC					IAmb	IAmb		18 58 58.9		
	comp=Z,140nm,1.6s									
O03E	**Paynes Creek**	**88.98**	**40**		P			18 58 52.1		
	baz=225,SNR=21									
N02D	**Trinity Center**	**88.98**	**39**		P			18 58 51.9		
	baz=224,SNR=18									
WAKR	**Walker**	**89.04**	**42**		P	**P**		**18 58 52.9**	**-0.3**	
TUQ	**Turquoise Moun**	**89.05**	**46**		P			18 58 51.2		
	baz=229,SNR=18									
SHOC	**Shoshone, Teco**	**89.14**	**46**		P			18 58 53.8		
	baz=228,SNR=8.5									
FURC	**Furnace Creek,**	**89.16**	**45**		P			18 58 53.7		
	baz=228,SNR=14									
M02C	**Callahan**	**89.20**	**38**		P			18 58 53.5		
	baz=224,SNR=16									
GRAC	**Grapevine Rang**	**89.22**	**44**		P			18 58 53.4		
	baz=228,SNR=16									
PNTR	**Pine Nut**	**89.35**	**42**		P	**P**		**18 58 53.1**	**-1.6**	
WHN	**Wuhan**	**89.36**	**307**	⇑	P	**P**		**18 58 52.8**	**-1.8**	
WHN					pmax	pmax				
	comp=Z,190nm,1.6s									
WHN					pmax	pmax				
	comp=Z,2µm,14.5s									
WHN					L	L				
	comp=Z,2µm,14.2s									
WHN					L	L				
	comp=Z,1µm,12.3s									
WHN					L	L				
	comp=Z,4µm,17.6s									
L02E	**Cave Junction**	**89.37**	**37**		P			18 58 54.4		
	baz=224									
LHV	**Little Huntoon**	**89.40**	**43**		P	**P**		**18 58 52.4**	**-2.2**	
PDMCI	**Parker Dam,Lak**	**89.42**	**48**		P			18 58 55.0		
	baz=230,SNR=14									
NEE2	**Needles Airpor**	**89.42**	**47**		P			18 58 55.3		
	baz=229									
BEKR	**Beckworth**	**89.47**	**41**		P	**P**		**18 58 53.5**	**-1.7**	
BEKR					IAmb	IAmb		18 59 02.6		
	comp=Z,55nm,1.3s									
YERR	**Yerington**	**89.48**	**42**		P	**P**		**18 58 52.3**	**-2.9**	
YERR					IAmb	IAmb		18 59 02.9		
	comp=Z,78nm,1.3s									
YBH	**Yreka Blue Hor**	**89.52**	**38**		P	**P**		**18 58 58.0**	**+2.8**	
	comp=Z,32nm,1.2s,baz=219,slow=4.7,SNR=16									
YBH	**Yreka Blue Hor**	**89.52**	**38**		P	**P**		**18 58 52.3**	**-2.9**	
YBH					pmax	pmax				
	comp=Z,69nm,1.4s									
YBH					MLR	MLR				
	comp=Z,8µm,19.0s									
YBH	**Yreka Blue Hor**	**89.52**	**38**		P	**P**		**18 58 52.3**	**-2.9**	
YBH					IAmb	IAmb		18 59 03.8		
	comp=Z,69nm,1.4s									
YBH					IAMs_20	IAMs_20		19 34 20.2		
	comp=Z,8µm,19.0s									
NVAR	**Mina Array Bea**	**89.64**	**43**		P	**P**		**18 58 56.0**	**0.0**	
	comp=Z,24nm,0.9s,baz=222,slow=7.6,SNR=29									
NVAR					PKKPbc	**PKKPbc**		**19 16 32.6**	**+2.0**	
	comp=Z,0.2nm,0.4s,baz=324,slow=41,SNR=2.0									
NVAR					PKPPKP	**P'P'df**		**19 24 41.5**	**+6.7**	
	comp=Z,0.5nm,0.8s,baz=86,slow=4.6,SNR=2.3									
NVAR					LR	LR		19 31 15.1		
	comp=Z,7µm,20.7s,baz=231,slow=30									
NVAR	**Mina Array Bea**	**89.64**	**43**		P	**P**		**18 58 54.6**	**-1.5**	
RYN	**Ryan**	**89.65**	**42**		P	**P**		**18 58 55.3**	**-0.7**	
RYN					IAmb	IAmb		18 59 03.7		
	comp=Z,67nm,1.2s									
K02D	**Willamette Mer**	**89.72**	**37**		P			18 58 56.3		
	baz=224,SNR=12									
NV11	**Mina Array Sit**	**89.73**	**43**		P	**P**		**18 58 54.4**	**-1.9**	
NV11					IAmb	IAmb		18 59 04.8		
	comp=Z,75nm,1.4s									
TPNV	**Topopah Spring**	**89.85**	**45**		P			18 58 56.3		
	baz=228,SNR=47									
TPNV	**Topopah Spring**	**89.85**	**45**		P	**P**		**18 58 56.3**	**-0.7**	
TPNV					pmax	pmax				
	comp=Z,108nm,1.4s									
TPNV					MLR	MLR				
	comp=Z,11µm,18.0s									
TPNV	**Topopah Spring**	**89.85**	**45**		P	**P**		**18 58 56.3**	**-0.7**	
TPNV					IAmb	IAmb		18 59 05.9		
	comp=Z,108nm,1.4s									
PAHR	**Pah Rah Range**	**89.90**	**41**		P	**P**		**18 58 55.9**	**-1.2**	
PAHR					IAmb	IAmb		18 59 05.3		
	comp=Z,68nm,1.3s									
Y14A	**Wickenburg**	**89.90**	**49**		P	**P**		**18 58 56.0**	**-1.2**	
Y14A					IAmb	IAmb		18 59 04.6		
	comp=Z,69nm,1.2s									
J01E	**Myrtle Point**	**89.93**	**36**		P			18 58 57.0		
	baz=223,SNR=6.8

baz=231
TUC Tucson 90.32 51 IAMs_20 IAMs_20 19 42 53.9
comp=Z,8μm,18.0s
NONG Nongkai 90.34 291 P **P** **18 59 01.9 +2.4**
comp=Z,7μmcomp=Z,72nm,1.3s
I03D Drain, OR 90.61 36 P 18 58 59.2
baz=224,SNR=25
I02D Swiss home 90.65 36 P 18 59 00.7
baz=224
K04D Chiloquin, OR 90.66 38 P 18 59 00.2
baz=225
PRN Pahroc Range 90.87 45 P **P** **18 59 01.2 -0.5**
J04D Umpqua Nationa 90.91 37 P 18 59 01.8
baz=225,SNR=8.6
TIA Tai'an 91.13 313 ⇓P **P** **18 59 03.5 +0.8**
TIA SS SS 19 16 08.5 +3.2
TIA pmax pmax
comp=Z,22nm,2.7s
TIA pmax pmax
comp=Z,800nm,14.2s
TIA L L
comp=Z,1μm,21.1s
TIA L L
comp=Z,1μm,24.5s
TIA L L
comp=Z,2μm,21.6s
I04A Tendick Farm, 91.15 37 P 18 59 02.4
baz=224,SNR=25
R11A Troy Canyon, C 91.17 44 P 18 59 02.2
baz=229,SNR=13
R11A Troy Canyon, C 91.17 44 P **P** **18 59 02.0 -1.1**
R11A IAmb IAmb 18 59 11.3
comp=Z,100nm,2.5s
K05A Summer Lake 91.18 38 P **P** **18 59 01.3 -1.8**
X16A Lo Mia Camp, P 91.21 49 P **P** **18 59 01.5 -1.9**
X16A IAmb IAmb 18 59 11.2
comp=Z,75nm,1.2s
J05D Fort Rock, OR 91.39 38 P 18 59 03.1
baz=225,SNR=24
PB10 IPOC Station P 91.40 119 IAMs_20 IAMs_20 19 32 26.3
comp=Z,7μm,19.0s
H04D Lebanon 91.51 36 P 18 59 06.5
baz=224
CN2 Changchun 91.52 323 *e*P **P** **18 59 03.5 -0.8**
CN2 pmax pmax
comp=Z,600nm,5.0s
CN2 L L
comp=Z,1μm,19.0s
CN2 L L
comp=Z,3μm,19.0s
CN2 L L
comp=Z,2μm,21.0s
OHAK Old Harbor 91.53 13 P 18 59 04.0
baz=201
OHAK Old Harbor 91.53 13 IAMs_20 IAMs_20 19 37 23.6
comp=Z,7μm,20.0s
LCMT Little Creek M 91.72 46 P **P** **18 59 04.1 -1.5**
LCMT IAmb IAmb 18 59 12.4
comp=Z,29nm,1.0s
G03D McMinnville, O 91.74 35 P 18 59 05.9
baz=224,SNR=5.5
GRNR Gornyy 91.85 333 ⇑*i*P **P** **18 59 06.2 +0.5**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
H04A Detroit Lake 91.90 36 P **P** **18 59 05.1 -1.0**
PINE Pine Mountain 91.90 38 P **P** **18 59 05.6 -0.8**
PINE IAmb IAmb 18 59 13.6
comp=Z,74nm,1.1s
U15A North Rim 91.94 47 P **P** **18 59 05.0 -1.8**
U15A IAmb IAmb 18 59 19.1
comp=Z,98nm,1.4s
WUAZ Wupatki 91.94 49 P 18 59 06.8
baz=231
WUAZ Wupatki 91.94 49 IAMs_20 IAMs_20 19 32 58.3
comp=Z,7μm,20.0s
KNB Kanab 91.98 47 P **P** **18 59 06.3 -0.6**
KNB pmax pmax
comp=Z,152nm,1.7s
KNB Kanab 91.98 47 P **P** **18 59 06.3 -0.6**
CCUT Cedar City 91.99 46 P **P** **18 59 06.5 -0.5**
CCUT IAmb IAmb 18 59 16.1
comp=Z,38nm,1.2s
I05D Terrebonne, OR 92.08 37 P 18 59 07.7
baz=225,SNR=12
KDAK Kodiak Island 92.19 13 IAMs_20 IAMs_20 19 37 54.1
comp=Z,7μm,20.0s
PSUT Pine Spring 92.32 45 P **P** **18 59 06.4 -2.1**
GYA Guiyang 92.36 300 ⇑P **P** **18 59 10.8 +2.0**
GYA pP sP 18 59 14.5 +1.3
GYA PP **PP** **19 02 53.0 +3.0**
GYA SKS **SKSac** **19 09 42.0 0.0**
GYA S **ScS** **19 10 15.8 +1.5**
GYA pmax pmax
comp=Z,50nm,3.5s
PB15 IPOC Station P 92.38 119 IAMs_20 IAMs_20 19 32 47.1
comp=Z,6μm,20.0s
121A Cookes Peak, D 92.47 53 P 18 59 09.9
baz=233
F04D Rainier, OR 92.49 35 P 18 59 08.9
baz=224
ENH Enshi 92.54 304 P **P** **18 59 08.2 -1.2**
KLR Kul'dur 92.55 330 LR LR 19 36 11.6
comp=Z,3μm,20.9s,baz=142,slow=33
KLR Kul'dur 92.55 330*c i*P **P** **18 59 09.1 +0.2**
KLR pmax pmax
comp=Z,67nm,1.8s
PB06 IPOC Station P 92.60 119 IAMs_20 IAMs_20 19 33 12.2
comp=Z,5μm,19.0s
G05D Wamic, OR 92.73 36 P 18 59 11.4
baz=225
W18A Petrified Fore 92.74 50 P 18 59 10.9
baz=232
I07A Izee 92.85 38 P **P** **18 59 10.0 -0.7**
I07A IAmb IAmb 18 59 17.6
comp=Z,64nm,1.4s
EPT El Paso 92.88 54 IAMs_20 IAMs_20 19 38 34.0
comp=Z,6μm,18.0s
J08A Circle Bar Ran 92.90 39 P **P** **18 59 09.8 -1.1**
J08A IAmb IAmb 18 59 17.7
comp=Z,66nm,1.3s
ELK Elko 92.95 43 P **P** **18 59 10.2 -1.2**
ELK pmax pmax
comp=Z,30nm,1.3s
ELK MLR MLR
comp=Z,9μm,18.0s
ELK Elko 92.95 43 P **P** **18 59 10.2 -1.2**
MTPU Mount Pierson 93.02 46 P **P** **18 59 10.8 -1.1**
MTPU IAmb IAmb 18 59 21.4
comp=Z,58nm,1.2s
NNA Nana 93.02 106 LR LR 19 34 00.3
comp=Z,9μm,18.8s,baz=250,slow=31
NNA Nana 93.02 106*ce*P P 18 59 19.2 +7.0
NNA pmax pmax
comp=Z,65nm,1.3s
NNA Nana 93.02 106 IAMs_20 IAMs_20 19 33 46.7
comp=Z,8μm,19.0s
NLWA Neilton Lookou 93.03 34 IAMs_20 IAMs_20 19 35 13.7
comp=Z,8μm,20.0s
E04D Cinebar 93.04 35 P 18 59 12.6
baz=224
LVC Limon Verde 93.15 119 LR LR 19 33 23.3
comp=Z,5μm,19.2s,baz=209,slow=30
LVC Limon Verde 93.15 119 IAMs_20 IAMs_20 19 32 52.6
comp=Z,5μm,20.0s
TX31 Lajitas Ar. Si 93.45 57 P **P** **18 59 12.8 -1.0**
TX31 IAmb IAmb 18 59 20.7
comp=Z,91nm,1.4s
TX32 Lajitas Array 93.45 57 P **P** **18 59 12.4 -1.4**
TXAR Lajitas Array 93.45 57 P **P** **18 59 15.0 +1.2**
comp=Z,9.2nm,1.1s,baz=205,slow=5.5,SNR=30
TXAR PKKPbc **PKKPbc** **19 16 20.5 +0.4**
comp=Z,0.3nm,0.7s,baz=90,slow=4.0,SNR=3.3
TXAR LR LR 19 35 54.4
comp=Z,6μm,18.3s,baz=0.0,slow=32
TXAR Lajitas Array 93.45 57 P **P** **18 59 14.1 +0.3**
TXAR Lajitas Array 93.45 57 P **P** **18 59 14.1 +0.3**
D03D Eldon 93.50 34 P 18 59 13.7
baz=224
LON Longmire 93.55 35 P **P** **18 59 13.4 -0.3**
LON pmax pmax
comp=Z,29nm,1.5s
LON Longmire 93.55 35 P **P** **18 59 13.4 -0.3**
MNTX Cornudas Mount 93.61 55 P 18 59 14.2
baz=234
MNTX Cornudas Mount 93.61 55 IAMs_20 IAMs_20 19 39 09.0
comp=Z,4μm,18.0s
CMAR Chiang Mai Arr 93.90 289 P **P** **18 59 18.0 +2.1**
comp=Z,0.6nm,0.8s,baz=146,slow=3.4,SNR=2.7
CMAR PP **PP** **19 02 56.5 -5.6**
comp=Z,2.6nm,1.1s,baz=145,slow=5.5,SNR=4.0
CMAR LR LR 19 44 07.2
comp=Z,911nm,19.8s,baz=120,slow=37
G08A Pilot Rock 93.96 37 P **P** **18 59 14.7 -1.1**
G08A IAmb IAmb 18 59 22.6
comp=Z,61nm,1.4s
DUG Dugway, Tooele 94.00 44 P 18 59 16.3
baz=230
PSGCX Pisagua 94.02 116 IAMs_20 IAMs_20 19 33 32.8
comp=Z,5μm,20.0s
CNPM China Poot 94.08 13 IAMs_20 IAMs_20 19 39 15.9
comp=Z,9μm,20.0s
BJI Beijing 94.14 315 P **P** **18 59 16.5 0.0**
BJI SKS **SKSac** **19 09 52.5 +1.7**
BJI S **ScS** **19 10 32.0 +3.8**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI pmax pmax
comp=Z,500nm,5.1s
BJI L L
comp=Z,2μm,20.4s
BJI L L
comp=Z,2μm,19.5s
BJI L L
comp=Z,4μm,20.3s
Q16A Castle Valley 94.19 46 P **P** **18 59 15.8 -1.3**
Q16A IAmb IAmb 18 59 26.0
comp=Z,54nm,1.8s
N18K Kilae Creek 94.34 11 P 18 59 18.3
baz=199
BRLK Bradley Lake 94.37 13 IAMs_20 IAMs_20 19 39 23.2
comp=Z,8μm,20.0s
MFID Camas Ranch 94.37 40 P **P** **18 59 16.7 -1.0**
MFID IAmb IAmb 18 59 23.7
comp=Z,27nm,1.1s
MFID IAMs_20 IAMs_20 19 36 10.6
comp=Z,6μm,20.0s
TMUT Trail Mountain 94.40 46 P **P** **18 59 16.4 -1.8**
PB08 IPOC Station P 94.43 117 IAMs_20 IAMs_20 19 34 32.8
comp=Z,6μm,20.0s
LTY Liberty 94.46 35 P **P** **18 59 16.8 -1.1**
B05A Bryant 94.48 34 P 18 59 18.0
baz=225
A04D Lummi Island 94.53 33 P 18 59 19.1
baz=224
BMO Blue Mountains 94.53 39 P **P** **18 59 17.8 -0.5**
BMO pmax pmax
comp=Z,67nm,1.8s
BMO MLR MLR
comp=Z,11μm,19.0s
BMO Blue Mountains 94.53 39 P **P** **18 59 17.8 -0.5**
BMO IAmb IAmb 18 59 26.3
comp=Z,67nm,1.8s
KMI Kunming 94.54 297 ⇓P **P** **18 59 18.0 -1.1**
KMI pP sP 18 59 25.3 +1.9
KMI PP **PP** **19 03 10.0 +2.7**
KMI S **S** **19 10 28.3 -3.3**
KMI SS **SS** **19 16 56.8 +1.7**
KMI pmax pmax
comp=Z,16nm,1.6s
KMI pmax pmax
comp=Z,380nm,8.7s
KMI L L
comp=Z,650nm,19.4s
KMI L L
comp=Z,1μm,20.0s
KMI L L
comp=Z,1μm,22.4s
N19K Bonanza Creek 94.69 11 P 18 59 18.7
baz=200
MNMC Minye Minye 94.69 116 IAMs_20 IAMs_20 19 33 14.7
comp=Z,5μm,20.0s
SRU San Rafael Swe 94.70 46 P **P** **18 59 17.4 -2.0**
SRU pmax pmax
comp=Z,28nm,1.2s
SRU San Rafael Swe 94.70 46 P **P** **18 59 17.4 -2.0**
ANMO Albuquerque 94.79 51 P 18 59 17.2
baz=234
ANMO Albuquerque 94.79 51*d i*P **P** **18 59 22.2 +2.3**
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO Albuquerque 94.79 51 IAMs_20 IAMs_20 19 37 29.1
comp=Z,8μm,19.0s
MVCO Mesa Verde 94.81 49 P 18 59 18.7
baz=233
MVCO Mesa Verde 94.81 49 IAMs_20 IAMs_20 19 34 39.3
comp=Z,7μm,20.0s
SEW Seward 94.97 14 IAMs_20 IAMs_20 19 47 21.5
comp=Z,5μm,19.0s
TIY Taiyuan 95.00 312 *e*P P 18 59 27.0 +6.4
TIY pmax pmax
comp=Z,15nm,0.5s
TIY pmax pmax
comp=Z,300nm,7.1s
TIY L L
comp=Z,920nm,15.4s
TIY L L
comp=Z,1μm,19.2s
TIY L L
comp=Z,1μm,18.6s
MA2 Magadan 95.01 345 P **P** **18 59 19.5 -0.5**
comp=Z,7.2nm,0.8s,baz=63,slow=6.8,SNR=3.6
MA2 Magadan 95.01 345*c i*P **P** **18 59 21.9 +1.9**
MA2 pmax pmax
comp=Z,38nm,2.0s
MA2 Magadan 95.01 345 P **P** **18 59 17.8 -2.3**
MA2 IAmb IAmb 18 59 26.5
comp=Z,117nm,2.1s
MA2 IAMs_20 IAMs_20 19 46 22.3
comp=Z,4μm,20.0s
HVU Hansel Valley 95.03 43 P **P** **18 59 20.6 -0.2**
HVU pmax pmax
comp=Z,51nm,1.3s
HVU Hansel Valley 95.03 43 P **P** **18 59 20.6 -0.2**
HVU IAmb IAmb 18 59 29.0
comp=Z,51nm,1.3s
XAN Xi'an 95.12 307 P P 18 59 27.3 +6.0
XAN S **S** **19 10 32.0 -3.9**
XAN pmax pmax
comp=Z,18nm,1.1s
XAN L L
comp=Z,1μm,18.9s
XAN L L
comp=Z,1μm,18.4s
XAN L L
comp=Z,2μm,17.7s
D08A Wollman Farm, 95.19 36 P **P** **18 59 20.6 -0.6**
D08A IAmb IAmb 18 59 28.2
comp=Z,118nm,2.0s
HLID Hailey 95.24 41 P 18 59 21.4
baz=230
HLID Hailey 95.24 41 P **P** **18 59 19.2 -2.5**
HLID IAMs_20 IAMs_20 19 36 37.5
comp=Z,5μm,19.0s
O22K Cooper Landing 95.26 14 IAMs_20 IAMs_20 19 47 43.2
comp=Z,6μm,18.0s
F10A Beach Ranch, E 95.32 38 P **P** **18 59 19.5 -2.4**
F10A IAmb IAmb 18 59 27.8
comp=Z,29nm,1.1s
HIN Hinchinbrook I 95.86 15 IAMs_20 IAMs_20 19 40 07.2
comp=Z,8μm,20.0s
B08A Colville Reser 95.88 35 P **P** **18 59 21.1 -3.3**
PWL Port Wells 95.89 14 IAMs_20 IAMs_20 19 47 46.8
comp=Z,5μm,19.0s
SUA Susitna One 95.97 13 IAMs_20 IAMs_20 19 40 18.8
comp=Z,8μm,20.0s
GLI Glacier Island 96.17 15 P 18 59 27.5
baz=206
GLI Glacier Island 96.17 15 IAMs_20 IAMs_20 19 40 30.2
comp=Z,6μm,20.0s
RDMU Red Mountain 96.18 45 P **P** **18 59 29.9 +3.7**
FID Port Fidalgo 96.19 15 IAMs_20 IAMs_20 19 40 08.5
comp=Z,8μm,20.0s
SKT Skwentna 96.30 12 IAMs_20 IAMs_20 19 40 42.6
comp=Z,5μm,21.0s
KNK Knik Glacier 96.37 14 IAMs_20 IAMs_20 19 48 15.4
comp=Z,6μm,19.0s
TTA Tatalina 96.46 10 P 18 59 29.3
baz=199
TTA Tatalina 96.46 10 IAMs_20 IAMs_20 19 40 15.7
comp=Z,5μm,20.0s
WRAK Wrangell Islan 96.46 24 IAMs_20 IAMs_20 19 39 18.7
comp=Z,5μm,19.0s
GHO Glory Hole Cre 96.60 14 IAMs_20 IAMs_20 19 45 08.6
comp=Z,4μm,18.0s
AHID Auburn Hatcher 96.62 43 IAMs_20 IAMs_20 19 37 44.4
comp=Z,7μm,20.0s
KVTX Kingsville 96.68 62 IAMs_20 IAMs_20 19 44 02.5
comp=Z,6μm,18.0s
MESA MESA 96.75 17 IAMs_20 IAMs_20 19 39 18.7
comp=Z,7μm,20.0s
SML Sawmill 96.75 14 IAMs_20 IAMs_20 19 48 37.2
comp=Z,5μm,18.0s
BMRM Bremner River 96.80 16 IAMs_20 IAMs_20 19 47 58.0
comp=Z,7μm,18.0s
NEW Newport 96.90 36 P 18 59 29.6
baz=228
NEW Newport 96.90 36 P **P** **18 59 32.6 +3.6**
comp=Z,0.9nm,0.5s,baz=191,slow=11,SNR=3.3
NEW Newport 96.90 36 P **P** **18 59 25.7 -3.3**
NEW pmax pmax
comp=Z,61nm,2.7s
NEW MLR MLR
comp=Z,12μm,20.0s
NEW Newport 96.90 36 P **P** **18 59 25.7 -3.3**
NEW IAmb IAmb 18 59 52.5
comp=Z,60nm,2.7s
CUT Chulitna 96.92 13 IAMs_20 IAMs_20 19 40 50.1
comp=Z,8μm,20.0s
SMCO Snowmass 96.94 48 IAMs_20 IAMs_20 19 38 21.7
comp=Z,6μm,18.0s
YAH Yahtse 96.96 17 IAMs_20 IAMs_20 19 39 35.2
comp=Z,6μm,20.0s
CD2 Chengdu 96.96 302 P **P** **18 59 30.8 +1.1**
CD2 sP sP 18 59 36.8 +2.7
CD2 SS SS 19 17 29.8 +0.9
CD2 pmax pmax
comp=Z,410nm,5.9s
CD2 L L
comp=Z,1μm,20.6s
CD2 L L
comp=Z,2μm,21.1s
CD2 L L
comp=Z,3μm,19.1s
KLU Klutina 96.97 15 IAMs_20 IAMs_20 19 40 43.5
comp=Z,6μm,20.0s
ANM Nome 96.98 6 IAMs_20 IAMs_20 19 40 45.3
comp=Z,4μm,20.0s
SCM Sheep Creek Mo 96.98 14 IAMs_20 IAMs_20 19 48 21.6
comp=Z,5μm,19.0s
TGL Tana Glacier 97.03 17 IAMs_20 IAMs_20 19 47 34.2
comp=Z,8μm,19.0s
PPLA Purkeypile 97.03 12 IAMs_20 IAMs_20 19 42 13.0
comp=Z,5μm,20.0s
SDCO Great Sand Dun 97.05 50 P 18 59 31.2
baz=235
SDCO Great Sand Dun 97.05 50 IAMs_20 IAMs_20 19 36 03.4
comp=Z,4μm,19.0s
PCA Pinnacle 97.11 18 IAMs_20 IAMs_20 19 39 19.4
comp=Z,8μm,21.0s
REDW Red Top Meadow 97.13 43 IAMs_20 IAMs_20 19 38 10.9
comp=Z,6μm,20.0s
TPAW Teton Pass 97.15 43 IAMs_20 IAMs_20 19 45 57.5
comp=Z,7μm,18.0s
BCPM Bancas Point 97.16 18 IAMs_20 IAMs_20 19 39 19.6
comp=Z,7μm,19.0s
TABL Table Mountain 97.18 17 IAMs_20 IAMs_20 19 39 42.2
comp=Z,6μm,20.0s
GRNC Granite Creek 97.28 17 IAMs_20 IAMs_20 19 39 44.8
comp=Z,7μm,20.0s
JIS Juneau Island 97.29 22 IAMs_20 IAMs_20 19 40 06.2
comp=Z,5μm,19.0s
VRDI Verde Repeater 97.30 16 IAMs_20 IAMs_20 19 40 39.2
comp=Z,6μm,20.0s
N25K Chitina, Valde 97.37 15 P 18 59 32.4
baz=208
N25K Chitina, Valde 97.37 15 IAMs_20 IAMs_20 19 40 35.0
comp=Z,5μm,20.0s
BESE Bessie Mountai 97.39 21 IAMs_20 IAMs_20 19 40 16.8
comp=Z,5μm,19.0s
DLMT Dillon 97.39 40 IAMs_20 IAMs_20 19 38 29.7
comp=Z,6μm,20.0s
GLB Gilahina Butte 97.40 16 IAMs_20 IAMs_20 19 40 43.9
comp=Z,4μm,20.0s
T25A Trinidad 97.41 51 P 18 59 30.4
baz=235
T25A Trinidad 97.41 51 IAMs_20 IAMs_20 19 36 08.4
comp=Z,4μm,20.0s
HHC Hu-ho-hao-te 97.42 314 *e*P **P** **18 59 30.3 -1.3**
HHC SKS **SKSac** **19 10 08.5 +0.1**
HHC S **S** **19 10 50.5 -5.0**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,300nm,6.7s
HHC L L
comp=Z,1μm,19.6s
HHC L L
comp=Z,1μm,18.7s
HHC L L
comp=Z,2μm,20.4s
LOHW Long Hollow 97.43 43 P **P** **18 59 27.6 -4.1**
LOHW IAmb IAmb 18 59 39.8
comp=Z,26nm,1.4s
LOHW IAMs_20 IAMs_20 19 38 29.7
comp=Z,5μm,20.0s
M24K Tolsona, Glenn 97.47 15 IAMs_20 IAMs_20 19 41 20.6
comp=Z,5μm,20.0s
LPAZ La Paz 97.50 114 P Pdif 18 59 36.6 +3.2
comp=Z,3.5nm,0.8s,baz=233,slow=2.1,SNR=14
LPAZ PP **PP** **19 03 33.5 +3.3**
comp=Z,1.0nm,0.5s,baz=233,slow=5.5,SNR=3.6
LPAZ PKKPbc **PKKPdf** **19 16 10.4 -0.5**
comp=Z,0.5nm,0.5s,baz=190,slow=1.5,SNR=1.8
LPAZ LR LR 19 39 18.3
comp=Z,3μm,18.0s,baz=234,slow=33
LPAZ La Paz 97.50 114 P **P** **18 59 32.1 -1.2**
LPAZ pmax pmax
comp=Z,24nm,1.5s
LPAZ La Paz 97.50 114 P **P** **18 59 32.1 -1.2**
LPAZ IAmb IAmb 18 59 42.1
comp=Z,24nm,1.4s
BW06 Boulder Array 97.52 44 P 18 59 34.7
baz=233
PDAR Pinedale Array 97.52 44 P **P** **18 59 32.0 -0.1**
comp=Z,3.4nm,0.8s,baz=194,slow=3.1,SNR=20
PDAR PP **PP** **19 03 32.7 +2.7**
comp=Z,0.7nm,0.9s,baz=241,slow=6.1,SNR=5.5
PDAR PKKPbc **PKKPbc** **19 16 11.3 +1.4**
comp=Z,0.6nm,0.6s,baz=116,slow=2.1,SNR=4.2
PDAR LR LR 19 36 18.6
comp=Z,5μm,20.1s,baz=242,slow=31
PDAR Pinedale Array 97.52 44 P **P** **18 59 29.0 -3.2**
MCARA McCarthy VSAT 97.53 16 IAMs_20 IAMs_20 19 48 10.5
comp=Z,5μm,19.0s
WAT6 Susitna Watana 97.57 14 P 18 59 34.7
baz=206
BARN Barnard Glacie 97.58 17 IAMs_20 IAMs_20 19 47 51.9
comp=Z,5μm,19.0s
MSO Missoula 97.60 39 P 18 59 34.8
baz=230
FLWY Flagg Ranch 97.66 42 IAMs_20 IAMs_20 19 38 06.8
comp=Z,7μm,20.0s
SEY Seymchan 97.72 347 P **P** **18 59 31.8 -0.5**
comp=Z,5.5nm,1.2s,baz=148,slow=4.7,SNR=6.5
SEY Seymchan 97.72 347 ⇑*i*P **P** **18 59 31.5 -0.7**
CNGN Cerro Negro 97.74 80 IAMs_20 IAMs_20 19 36 06.2
comp=Z,5μm,20.0s
ZEA Zeya 97.77 331 *e*P Pdif 18 59 36.1 +3.3
ZEA *e* 19 03 34.5
ZEA *e*SP SP 19 12 28.1 +7.3
ZEA *e*SS **SS** **19 17 44.5 +5.1**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,10.0nm,1.8s
ZEA pmax pmax
comp=N,100nm,8.4s
ZEA pmax pmax
comp=Z,100nm,8.7s
ZEA pmax pmax
comp=Z,200nm,21.2s
ZEA MLR MLR
comp=E,900nm,18.0s
ZEA MLR MLR
comp=N,1μm,19.0s
ZEA MLR MLR
comp=Z,2μm,19.0s
YHB Horse Butte 97.79 41 P **P** **18 59 31.1 -2.3**
YHB IAmb IAmb 19 00 06.2
comp=Z,68nm,2.1s

KTH	**Kantishna Hill**	**97.86**	**12**	IAMs_20	IAMs_20	19 38 18.9		
	comp=Z,6µm,21.0s							
TRF	**Thorofare Moun**	**97.88**	**12**	P		18 59 34.9		
	baz=204							
TRF	**Thorofare Moun**	**97.88**	**12**	IAMs_20	IAMs_20	19 41 21.4		
	comp=Z,9µm,21.0s							
CHUM	**Lake Minchumin**	**97.93**	**11**	P		18 59 34.4		
	baz=202							
SKAG	**Skagway**	**97.96**	**21**	IAMs_20	IAMs_20	19 40 33.0		
	comp=Z,5µm,19.0s							
AMTX	**Amarillo**	**97.97**	**54**	P		18 59 36.0		
	baz=236							
AMTX	**Amarillo**	**97.97**	**54**	IAMs_20	IAMs_20	19 42 08.3		
	comp=Z,5µm,19.0s							
TGUH	**Tegucigalpa,Un**	**98.06**	**79**	IAMs_20	IAMs_20	19 36 09.6		
	comp=Z,5µm,19.0s							
JTS	**Las Juntas de**	**98.06**	**83**	*i* P	Pdif	18 59 38.1	+3.0	
JTS				pmax	pmax			
	comp=Z,14nm,1.3s							
JTS	**Las Juntas de**	**98.06**	**83**	IAMs_20	IAMs_20	19 36 16.0		
	comp=Z,6µm,19.0s							
BOZ	**Bozeman (W)**	**98.07**	**41**	P		18 59 34.8		
	baz=232							
BOZ	**Bozeman (W)**	**98.07**	**41**	IAMs_20	IAMs_20	19 43 28.3		
	comp=Z,6µm,18.0s							
RND	**Reindeer**	**98.10**	**13**	IAMs_20	IAMs_20	19 41 35.3		
	comp=Z,7µm,20.0s							
ABTX	**Abilene, Hawle**	**98.15**	**57**	P		18 59 35.8		
	baz=237							
ISCO	**Idaho Springs**	**98.16**	**48**	P		18 59 35.4		
	baz=235							
ISCO	**Idaho Springs**	**98.16**	**48**	IAMs_20	IAMs_20	19 39 13.0		
	comp=Z,7µm,18.0s							
BPAW	**Bear Paw Mtn.**	**98.36**	**12**	IAMs_20	IAMs_20	19 45 49.0		
	comp=Z,5µm,20.0s							
MCK	**McKinley**	**98.39**	**13**	IAMs_20	IAMs_20	19 41 45.8		
	comp=Z,6µm,20.0s							
PAX	**Paxson**	**98.39**	**14**	IAMs_20	IAMs_20	19 41 42.9		
	comp=Z,6µm,20.0s							
HYT	**Haines Junctio**	**98.47**	**19**	IAMs_20	IAMs_20	19 40 52.2		
	comp=Z,6µm,20.0s							
N23A	**Red Feather La**	**98.59**	**47**	P		18 59 38.5		
	baz=235							
YNE	**Yellowstone No**	**98.61**	**42**	P	Pdif	18 59 37.3	+0.2	
YNE				IAmb	IAmb	18 59 44.9		
	comp=Z,26nm,1.4s							
435B	**Jarrell**	**98.64**	**59**	IAMs_20	IAMs_20	19 36 17.1		
	comp=Z,6µm,20.0s							
ACON	**Acoyapa**	**98.74**	**81**	IAMs_20	IAMs_20	19 37 16.8		
	comp=Z,5µm,19.0s							
CPUP	**Villa Florida**	**98.94**	**129**	PKKPbc	PKKPbc	19 16 01.6	-3.0	
	comp=Z,1.4nm,0.4s,baz=16,slow=0.8,SNR=4.0							
CPUP				LR	LR	19 38 03.3		
	comp=Z,2µm,19.9s,baz=228,slow=32							
WHY	**Whitehorse**	**99.07**	**20**	IAMs_20	IAMs_20	19 46 37.2		
	comp=Z,7µm,18.0s							
RLMT	**Red Lodge**	**99.10**	**42**	P		18 59 42.2		
	baz=233							
RLMT	**Red Lodge**	**99.10**	**42**	IAMs_20	IAMs_20	19 37 17.0		
	comp=Z,6µm,20.0s							
PHWY	**Pilot Hill**	**99.12**	**47**	IAMs_20	IAMs_20	19 40 03.2		
	comp=Z,5µm,19.0s							
NEA2	**Nenana**	**99.15**	**12**	IAMs_20	IAMs_20	19 41 59.9		
	comp=Z,8µm,20.0s							
WRH	**Wood River Hil**	**99.22**	**13**	P	**Pdif**	**18 59 41.0**	**+2.1**	
WRH				IAMs_20	IAMs_20	19 42 11.7		
	comp=Z,7µm,20.0s							
K22A	**Casper**	**99.25**	**45**	P		18 59 40.0		
	baz=235							
MLY	**Manley**	**99.26**	**11**	P		18 59 41.2		
	baz=203							
MLY	**Manley**	**99.26**	**11**	IAMs_20	IAMs_20	19 48 02.8		
	comp=Z,5µm,19.0s							
L27K	**Beaver Creek,**	**99.27**	**16**	P		18 59 42.2		
	baz=211							
L27K	**Beaver Creek,**	**99.27**	**16**	IAMs_20	IAMs_20	19 41 24.4		
	comp=Z,5µm,20.0s							
DOT	**Dot Lake**	**99.29**	**15**	P	**Pdif**	**18 59 35.8**	**-3.6**	
DOT				IAMs_20	IAMs_20	19 42 19.7		
	comp=Z,5µm,20.0s							
HDA	**Harding Lake**	**99.38**	**13**	P		18 59 41.5		
	baz=206							
HDA				P		18 59 41.5		
	baz=206							
CCB	**Clear Creek Bu**	**99.43**	**13**	P	**Pdif**	**18 59 39.5**	**-0.4**	
CCB				IAMs_20	IAMs_20	19 42 18.3		
	comp=Z,7µm,20.0s							
H21K	**Melozitna Rive**	**99.51**	**10**	P		18 59 41.9		
	baz=202							
ESPN	**Las Esperanzas**	**99.59**	**82**	IAMs_20	IAMs_20	19 37 32.3		
	comp=Z,4µm,19.0s							
SCRK	**Sand Creek**	**99.59**	**15**	P		18 59 43.4		
	baz=209							
SCRK	**Sand Creek**	**99.59**	**15**	IAMs_20	IAMs_20	19 49 42.7		
	comp=Z,5µm,19.0s							
I23K	**Minto, Yukon-K**	**99.60**	**12**	P		18 59 43.9		
	baz=204							
I23K	**Minto, Yukon-K**	**99.60**	**12**	IAMs_20	IAMs_20	19 50 31.9		
	comp=Z,7µm,20.0s							
TCOL	**CIGO, UAF Yank**	**99.62**	**13**	IAMs_20	IAMs_20	19 42 24.5		
	comp=Z,8µm,20.0s							
COLA	**College**	**99.62**	**13**	*i* P	**Pdif**	**18 59 42.9**	**+2.2**	
COLA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
COLA	**College**	**99.62**	**13**	IAMs_20	IAMs_20	19 42 34.5		
	comp=Z,8µm,20.0s							
MDM	**Murphy Dome**	**99.63**	**12**	IAMs_20	IAMs_20	19 42 24.7		
	comp=Z,7µm,20.0s							
ILAR	**Eielson Array**	**99.71**	**13**	P	**Pdif**	**18 59 42.7**	**+1.5**	
	comp=Z,1.0nm,0.8s,baz=224,slow=5.0,SNR=6.2							
ILAR				PP	**PP**	**19 03 43.6**	**-2.4**	
	comp=Z,1.9nm,1.1s,baz=215,slow=8.8,SNR=3.4							
ILAR				PKKPbc	**PKKPdf**	**19 16 08.8**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=21,slow=5.5,SNR=4.3							
ILAR				LR	LR	19 40 22.2		
	comp=Z,2µm,19.5s,baz=212,slow=33							
ILAR	**Eielson Array**	**99.71**	**13**	P	**Pdif**	**18 59 40.9**	**-0.3**	
ILAR	**Eielson Array**	**99.71**	**13**		**Pdif**	**18 59 40.9**	**-0.3**	
LZH	**Lanzhou**	**99.72**	**306**	*eP*	**Pdif**	**18 59 42.0**	**-0.1**	
LZH				sP	sP	18 59 47.5	+1.0	
LZH				PP	**PP**	**19 03 49.5**	**+2.6**	
LZH				SKS	**SKSac**	**19 10 19.3**	**-1.1**	
LZH				S	**ScS**	**19 11 05.5**	**-10**	
LZH				sS	sS	19 11 27.0	+6.1	
LZH				SS	**SS**	**19 18 10.0**	**+2.3**	
LZH				pmax	pmax			
	comp=Z,23nm,1.4s							
LZH				pmax	pmax			
	comp=Z,300nm,7.9s							
LZH				L	L			
	comp=Z,2µm,17.0s							
LZH				L	L			
	comp=Z,2µm,17.3s							
LZH				L	L			
	comp=Z,1µm,19.6s							
WMOK	**Wichita Mounta**	**99.89**	**55**	IAMs_20	IAMs_20	19 38 17.4		
	comp=Z,5µm,20.0s							
POKR	**Poker Plat Res**	**99.92**	**13**	P		18 59 42.3		
	baz=206							
K27K	**Chicken**	**100.06**	**15**	IAMs_20	IAMs_20	19 42 21.7		
	comp=Z,6µm,20.0s							
RDOG	**Red Dog Mine**	**100.61**	**6**	IAMs_20	IAMs_20	19 43 00.4		
	comp=Z,7µm,20.0s							
BILL	**Bilibino**	**100.63**	**354**	*eP*	**Pdif**	**18 59 45.9**	**+0.7**	
BILL				*e*		19 03 54.1		
BILL				*e*PPP	PPP	19 05 58.5		
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
PRP	**Porcupine Dome**	**100.64**	**13**	P		18 59 44.8		
	baz=208							
EGAK	**Eagle**	**100.90**	**15**	IAMs_20	IAMs_20	19 50 22.5		
	comp=Z,5µm,18.0s							
OGNE	**Ogallala**	**101.07**	**49**	P		18 59 47.1		
	baz=237							
NATX	**Nacogdoches**	**101.28**	**60**	IAMs_20	IAMs_20	19 38 01.1		
	comp=Z,5µm,20.0s							
OK025	**Westminster Rd**	**101.34**	**55**	IAMs_20	IAMs_20	19 43 33.1		
	comp=Z,6µm,18.0s							
COLD	**Coldfoot**	**101.37**	**11**	IAMs_20	IAMs_20	19 44 50.5		
	comp=Z,4µm,20.0s							
OK029	**Liberty Lake**	**101.37**	**55**	IAMs_20	IAMs_20	19 39 15.9		
	comp=Z,5µm,20.0s							
OK032	**Salt Plains WL**	**101.38**	**54**	IAMs_20	IAMs_20	19 43 47.9		
	comp=Z,6µm,19.0s							
CBKS	**Cedar Bluff**	**101.41**	**51**	P		18 59 48.0		
	baz=238							
RSSD	**Black Hills**	**101.58**	**45**	P		18 59 50.1		
	baz=236							
FYU	**Fort Yukon**	**101.63**	**13**	IAMs_20	IAMs_20	19 43 35.5		
	comp=Z,5µm,20.0s							
LAO	**LASA Array**	**101.74**	**42**	IAMs_20	IAMs_20	19 48 35.9		
	comp=Z,5µm,18.0s							
OK031	**S. Brethren Rd**	**101.88**	**55**	IAMs_20	IAMs_20	19 41 41.4		
	comp=Z,6µm,20.0s							
OK030	**Cody Creek RV**	**101.91**	**55**	IAMs_20	IAMs_20	19 39 01.0		
	comp=Z,5µm,20.0s							
KS21	**Milan North St**	**102.00**	**54**	IAMs_20	IAMs_20	19 44 14.0		
	comp=Z,6µm,19.0s							
KS20	**Mayfield South**	**102.05**	**54**	IAMs_20	IAMs_20	19 44 42.6		
	comp=Z,5µm,20.0s							
DGAR	**Diego Garcia**	**102.22**	**253**	IAMs_20	IAMs_20	19 46 01.3		
	comp=Z,5µm,20.0s							
TOLK	**Toolik Lake Re**	**102.76**	**10**	IAMs_20	IAMs_20	19 43 43.3		
	comp=Z,4µm,19.0s							
YAK	**Yakutsk**	**102.88**	**338**	*eP*	**Pdif**	**18 59 57.9**	**+2.6**	
YAK				*e*		19 04 09.5		
YAK				*e*S	**SKSac**	**19 10 37.7**	**+3.8**	
YAK				*e*SS	**SS**	**19 18 42.9**	**-7.2**	
YAK				*e*SSS	SSS	19 22 41.8		
YAK				pmax	pmax			
	comp=Z,11nm,1.1s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.4s							
YAK				pmax	pmax			
	comp=Z,72nm,2.4s							
YAK				pmax	pmax			
	comp=N,55nm,2.4s							
YAK				pmax	pmax			
	comp=E,21nm,2.5s							
YAK				smax	smax			
	comp=N,152nm,2.8s							
YAK				smax	smax			
	comp=E,67nm,2.4s							
MIAR	**Mount Ida**	**103.47**	**58**	IAMs_20	IAMs_20	19 45 53.4		
	comp=Z,5µm,18.0s							
X40A	**Basin Creek Fa**	**103.98**	**58**	IAMs_20	IAMs_20	19 44 53.2		
	comp=Z,7µm,18.0s							
SONM	**Songino Array**	**104.41**	**318**	Pdiff	**Pdif**	**19 00 03.5**	**+0.9**	
	comp=Z,0.6nm,0.9s,baz=110,slow=3.4,SNR=1.6							
SONM				PKIKP	**PKiKP**	**19 04 20.1**	**+1.2**	
	comp=Z,1.3nm,1.1s,baz=94,slow=4.3,SNR=2.1							
SONM				PKKPbc	**PKKPbc**	**19 15 53.3**	**+3.4**	
	comp=Z,0.3nm,0.4s,baz=328,slow=2.2,SNR=3.0							
SONM				SKKP		19 19 53.1		
	comp=Z,0.3nm,0.4s,baz=222,slow=4.1,SNR=4.0							
SONM	**Songino Array**	**104.41**	**318**	P	**Pdif**	**18 59 59.8**	**-2.8**	
SONM	**Songino Array**	**104.41**	**318**		**Pdif**	**18 59 59.8**	**-2.8**	
INK	**Inuvik**	**105.55**	**16**	PKiKP	**PKiKP**	**19 04 24.9**	**+4.7**	
	comp=Z,2.8nm,0.6s,baz=234,slow=12,SNR=5.7							
INK	**Inuvik**	**105.55**	**16**		**PKiKP**	**19 04 24.2**	**+4.0**	
INK				IAMs_20	IAMs_20	19 45 13.4		
	comp=Z,5µm,20.0s							
OXF	**Oxford**	**106.47**	**59**	IAMs_20	IAMs_20	19 43 47.4		
	comp=Z,6µm,20.0s							
CCM	**Cathedral Cave**	**106.81**	**55**	IAMs_20	IAMs_20	19 52 17.9		
	comp=Z,6µm,18.0s							
YKA	**Yellowknife Ar**	**107.12**	**26**	PKiKP	**PKiKP**	**19 04 25.4**	**+2.1**	
	comp=Z,0.1nm,0.3s,baz=270,slow=1.2,SNR=1.5							
YKA				PKKPbc	**PKKPbc**	**19 15 40.9**	**-0.9**	
	comp=Z,0.8nm,0.8s,baz=50,slow=3.3,SNR=2.3							
SPB	**Sao Paulo**	**107.21**	**133**	IAMs_20	IAMs_20	19 44 28.8		
	comp=Z,6µm,19.0s							
TLY	**Talaya**	**107.91**	**320**	*eP*	**Pdif**	**19 00 16.9**	**-1.1**	
TLY				*i*		19 04 46.5		
TLY				*e*		19 10 59.0		
TLY				*e*		19 14 07.0		
TLY				*e*PPS	PPS	19 15 08.2		
TLY				pmax	pmax			
	comp=Z,22nm,1.4s							
TLY				MLR	MLR			
	comp=Z,4µm,15.0s							
MTDJ	**Mount Denham**	**108.24**	**80**	IAMs_20	IAMs_20	19 42 23.3		
	comp=Z,5µm,19.0s							
WVT	**Waverly**	**108.36**	**59**	IAMs_20	IAMs_20	19 47 17.3		
	comp=Z,5µm,18.0s							
AGMN	**Agassiz Nation**	**108.58**	**44**	IAMs_20	IAMs_20	19 48 52.2		
	comp=Z,6µm,18.0s							
C36M	**Paulatuk**	**108.63**	**18**	IAMs_20	IAMs_20	19 50 14.9		
	comp=Z,5µm,19.0s							
HDIL	**Hopedale**	**109.29**	**54**	IAMs_20	IAMs_20	19 46 28.0		
	comp=Z,5µm,19.0s							
SDV	**Santo Domingo**	**109.46**	**92**	IAMs_20	IAMs_20	19 44 11.3		
	comp=Z,7µm,19.0s							
ULM	**Lac du Bonnet**	**109.47**	**42**	PKKPbc	PKKPbc	19 15 41.4	+7.5	
	comp=Z,1.1nm,0.4s,baz=96,slow=3.2,SNR=2.1							
TIXI	**Tiksi**	**109.98**	**344**	PKKPab	PKKPab	19 15 45.7	+6.1	
	comp=Z,1.0nm,0.3s,baz=289,slow=4.0,SNR=3.6							
TIXI	**Tiksi**	**109.98**	**344**	IAMs_20	IAMs_20	19 49 42.7		
	comp=Z,5µm,20.0s							
GOGA	**Godfrey**	**110.39**	**63**	IAMs_20	IAMs_20	19 50 33.5		
	comp=Z,4µm,19.0s							
HQIL	**Hanson Quary C**	**110.81**	**53**	IAMs_20	IAMs_20	19 52 50.4		
	comp=Z,4µm,18.0s							
L44A	**Lake County Fo**	**110.93**	**53**	IAMs_20	IAMs_20	19 50 00.5		
	comp=Z,5µm,18.0s							
VOI	**Vohitsoka**	**111.14**	**225**	IAMs_20	IAMs_20	19 55 14.0		
	comp=Z,3µm,18.0s							
COWI	**Conover**	**111.75**	**49**	IAMs_20	IAMs_20	19 44 59.7		
	comp=Z,6µm,20.0s							
NHSC	**New Hope**	**112.75**	**64**	IAMs_20	IAMs_20	19 47 20.4		
	comp=Z,4µm,20.0s							
ABPO	**Ambohimpanom**	**113.06**	**227**	IAMs_20	IAMs_20	19 45 15.0		
	comp=Z,3µm,19.0s							
AAM	**Ann Arbor**	**113.87**	**54**	IAMs_20	IAMs_20	19 57 31.2		
	comp=Z,5µm,18.0s							
P52A	**Corning**	**113.92**	**57**	P		19 04 35.8		
	baz=247							
BLA	**Blacksburg**	**114.22**	**60**	P		19 04 36.2		
	baz=247							
WMQ	**Urumqi**	**114.26**	**308**	*e*PKP	PKPdf	19 04 36.0	-1.4	
WMQ				L	L			
	comp=Z,1µm,18.7s							
WMQ				L	L			
	comp=Z,960nm,16.7s							
WMQ				L	L			
	comp=Z,2µm,18.7s							
BOSA	**Boshof**	**115.55**	**203**	PKP	**PKPdf**	**19 04 42.3**	**+1.7**	
	comp=Z,2.8nm,0.9s,baz=170,slow=6.1,SNR=2.2							
BOSA				PKKPab	**PKKPab**	**19 15 22.6**	**+0.9**	
	comp=Z,2.5nm,0.8s,baz=9.0,slow=3.1,SNR=4.1							
MSEY	**Mahe Island**	**117.28**	**245**	IAMs_20	IAMs_20	19 53 33.8		
	comp=Z,3µm,18.0s							
P60A	**Greenville**	**118.65**	**59**	IAMs_20	IAMs_20	19 49 36.9		
	comp=Z,4µm,21.0s							
MKAR	**Makanchi Array**	**118.85**	**309**	PKP	**PKPdf**	**19 04 45.0**	**-1.1**	
	comp=Z,6.1nm,0.9s,baz=52,slow=2.0,SNR=10							
MKAR				PKKPab	**PKKPab**	**19 15 06.4**	**+4.4**	
	comp=Z,0.8nm,0.8s,baz=268,slow=4.7,SNR=6.0							
MKAR				SKKPbc	SKKPbc	19 18 58.6	+8.3	
	comp=Z,0.4nm,0.9s,baz=270,slow=3.5,SNR=4.0							
MKAR	**Makanchi Array**	**118.85**	**309**	PKPdf	**PKPdf**	**19 04 43.8**	**-2.3**	
ALGO	**Algonquin Park**	**118.92**	**52**	P		19 04 47.3		
	baz=252							
RES	**Resolute Bay**	**119.00**	**18**	IAMs_20	IAMs_20	19 53 09.0		
	comp=Z,5µm,20.0s							
MAKZ	**Makanchi**	**119.06**	**309**	PKIKP	**PKPdf**	**19 04 44.5**	**-2.0**	
MAKZ				MLR	MLR			
	comp=Z,2µm,20.0s							
MAKZ	**Makanchi**	**119.06**	**309**		**PKPdf**	**19 04 44.5**	**-2.0**	
ZALV	**Zalesovo Beam**	**119.31**	**318**	PKP	**PKiKP**	**19 04 46.8**	**0.0**	
	comp=Z,1.3nm,0.4s,baz=102,slow=2.3,SNR=7.0							
ZALV	**Zalesovo Beam**	**119.31**	**318**	PKPdf	**PKPdf**	**19 04 44.1**	**-2.6**	
SHLS	**Shalkode**	**119.67**	**305**	*e*PKP	**PKiKP**	**19 04 48.2**	**+0.2**	
	baz=305							
SHLS	**Shalkode**	**119.67**	**305**	*e*PKIKP	**PKiKP**	**19 04 48.2**	**+0.2**	
UZB	**Uzunbulak**	**119.97**	**305**	*e*PKP	**PKPdf**	**19 04 47.8**	**-0.8**	
	baz=305							
UZB	**Uzunbulak**	**119.97**	**305**	*e*PKIKP	**PKPdf**	**19 04 47.7**	**-0.8**	
SEUS	**St. Eustatius**	**120.14**	**87**	IAMs_20	IAMs_20	19 48 15.3		
	comp=Z,3µm,20.0s							
KPKS	**Kokpek**	**120.30**	**305**	*e*PKP	**PKiKP**	**19 04 51.0**	**+1.8**	
	baz=305							
KPKS	**Kokpek**	**120.30**	**305**	*e*PKIKP	**PKiKP**	**19 04 51.0**	**+1.8**	
SATY	**Saty**	**120.38**	**304**	*e*PKP	**PKiKP**	**19 04 51.0**	**+1.6**	
	baz=304							
SATY	**Saty**	**120.38**	**304**	*e*PKIKP	**PKiKP**	**19 04 51.0**	**+1.6**	
FDF	**Fort de France**	**120.40**	**91**	IAMs_20	IAMs_20	19 53 03.4		
	comp=Z,3µm,18.0s							
TARG	**Taragay, Kyrgy**	**120.40**	**303**		**PKPdf**	**19 04 45.6**	**-4.2**	
LONY	**Lake Ozonia**	**120.87**	**54**	P		19 04 51.0		
	baz=254							
LONY	**Lake Ozonia**	**120.87**	**54**	IAMs_20	IAMs_20	19 54 52.4		
	comp=Z,5µm,18.0s							
D55A	**Sainte-Anne-du**	**120.92**	**51**	P		19 04 50.6		
	baz=255							
TDK	**Taldyqorghan**	**120.93**	**306**	*e*PKP	**PKPdf**	**19 04 50.2**	**-0.1**	
	baz=307							
TDK	**Taldyqorghan**	**120.93**	**306**	*e*PKIKP	**PKPdf**	**19 04 50.1**	**-0.1**	
BBGH	**Gun Hill**	**120.98**	**94**	IAMs_20	IAMs_20	19 56 37.6		
	comp=Z,4µm,19.0s							
KSH	**Kashi**	**121.06**	**300**	PKP	**PKiKP**	**19 04 52.3**	**+1.4**	
KSH				PP	**PP**	**19 06 20.0**	**-1.0**	
KSH				SKS	**SKSdf**	**19 11 59.0**	**-3.4**	
KSH				SKKS	**SKKSac**	**19 13 20.0**	**+0.3**	
KSH				SS	**SS**	**19 22 57.0**	**+3.5**	
KSH				PPMZ				
	comp=Z,310nm,4.5s							
KSH				L	L			
	comp=Z,810nm,13.7s							
KSH				L	L			
	comp=Z,1µm,13.0s							
KSH				L	L			
	comp=Z,2µm,12.0s							
E56A	**St. Veronique**	**121.09**	**52**	P		19 04 50.5		
	baz=255							
H58A	**Gabriels**	**121.09**	**54**	P		19 04 49.8		
	baz=254							
SEM	**Semipalatinsk**	**121.13**	**313**	*e*PKP	**PKiKP**	**19 04 51.4**	**+0.6**	
	baz=313							
SEM	**Semipalatinsk**	**121.13**	**313**	*e*PKIKP	**PKiKP**	**19 04 51.3**	**+0.6**	
NRIK	**Noril'sk**	**121.24**	**336**	PKP	**PKPdf**	**19 04 49.3**	**-0.7**	
	comp=Z,1.4nm,0.3s,baz=162,slow=6.4,SNR=2.7							
NRIK				PKKPbc	**PKKPbc**	**19 14 56.1**	**+2.9**	
	comp=Z,1.7nm,0.4s,baz=199,slow=2.0,SNR=5.0							
NRIK	**Noril'sk**	**121.24**	**336**	*c i* PKIKP	**PKiKP**	**19 04 54.4**	**+4.3**	
NRIK	**Noril'sk**	**121.24**	**336**		**PKPdf**	**19 04 46.9**	**-3.1**	
J60A	**Lant Hill Farm**	**121.29**	**56**	P		19 04 52.0		
	baz=254							
MDOK	**Medeo**	**121.36**	**304**	*e*PKP	**PKiKP**	**19 04 51.3**	**-0.1**	
	baz=304							
MDOK	**Medeo**	**121.36**	**304**	*e*PKIKP	**PKiKP**	**19 04 51.2**	**-0.1**	
G58A	**Ormestown**	**121.38**	**54**	P		19 04 52.4		
	baz=254							
D56A	**ZEC Mazanza, M**	**121.41**	**51**	P		19 04 52.0		
	baz=255							
EUNU	**Eureka**	**121.79**	**12**	IAMs_20	IAMs_20	20 02 54.2		
	comp=Z,3µm,20.0s							
J61A	**Chester**	**121.93**	**56**	P		19 04 52.5		
	baz=254							
BOOM	**Boomskoye usch**	**121.95**	**303**	PKIKP	**PKPdf**	**19 04 50.8**	**-1.7**	
BOOM	**Boomskoye usch**	**121.95**	**303**	PKPdf	**PKPdf**	**19 04 50.8**	**-1.7**	
KUU	**Kurty**	**122.05**	**305**	*e*PKP	**PKPdf**	**19 04 51.6**	**-0.8**	
	baz=305							
KUU	**Kurty**	**122.05**	**305**	*e*PKIKP	**PKPdf**	**19 04 51.6**	**-0.8**	
KURBB	**Kurchatov Arra**	**122.25**	**313**	PKKPbc	PKKPbc	19 14 53.6	+4.6	
	comp=Z,0.3nm,0.8s,baz=294,slow=6.0,SNR=5.2							
KURBB				PKKP	**PKKPdf**	**19 15 31.0**	**+5.1**	
	comp=Z,0.6nm,0.8s,baz=280,slow=4.2,SNR=4.3							
CHGQ	**Chibougamau**	**122.34**	**48**	P		19 04 53.3		
	baz=257							
G60A	**Masonville**	**122.54**	**54**	P		19 04 51.8		
	baz=256							
M65A	**Busby, Falmout**	**122.80**	**58**	IAMs_20	IAMs_20	19 51 40.5		
	comp=Z,5µm,20.0s							
I62A	**Tamworth**	**122.92**	**56**	IAMs_20	IAMs_20	19 53 27.3		
	comp=Z,5µm,19.0s							
I62A	**Tamworth**	**122.92**	**56**	P		19 04 53.3		
	baz=255							
F60A	**Warwick**	**123.01**	**53**	P		19 04 53.9		
	baz=256							
AAK	**Ala-Archa**	**123.02**	**303**	PKKPbc	PKKPbc	19 14 50.9	+4.9	
	comp=Z,1.1nm,0.3s,baz=17,slow=2.2,SNR=3.5							
AAK	**Ala-Archa**	**123.02**	**303**	*c i* PKIKP	**PKPdf**	**19 04 54.2**	**-0.3**	
AAK				*i*		19 04 56.9		
AAK				pmax	pmax			
	comp=Z,65nm,2.5s							
SGDS	**Sogindy**	**123.14**	**304**	*e*PKP	**PKPdf**	**19 04 53.1**	**-1.4**	
	baz=304							
SGDS	**Sogindy**	**123.14**	**304**	*e*PKIKP	**PKPdf**	**19 04 53.1**	**-1.4**	
G61A	**St-Isidore-de-**	**123.14**	**54**	P		19 04 53.4		
	baz=256							
H62A	**Milan**	**123.22**	**55**	P		19 04 54.8		
	baz=256							
E60A	**Ste Agathe de**	**123.45**	**53**	P		19 04 55.7		
	baz=257							
I63A	**Otisfield**	**123.49**	**56**	P		19 04 55.8		
	baz=256							
F61A	**St Evariste**	**123.67**	**53**	P		19 04 55.8		
	baz=257							
ARSB	**Arslanbob**	**123.76**	**301**	PKIKP	**PKPdf**	**19 04 55.2**	**-0.7**	
ARSB	**Arslanbob**	**123.76**	**301**		**PKPdf**	**19 04 55.2**	**-0.7**	
G62A	**West of Eustis**	**123.81**	**54**	IAMs_20	IAMs_20	19 54 29.5		
	comp=Z,5µm,19.0s							
G62A	**West of Eustis**	**123.81**	**54**	P		19 04 55.6		
	baz=257							
D60A	**Saint Jean D'O**	**123.92**	**52**	P		19 04 56.3		
	baz=258							
BTLS	**Baital**	**123.93**	**306**	*e*PKP	**PKPdf**	**19 04 54.6**	**-1.4**	
	baz=306							
BTLS	**Baital**	**123.93**	**306**	*e*PKIKP	**PKPdf**	**19 04 54.5**	**-1.4**	
E61A	**Lac Etchemin**	**124.11**	**53**

KMBO SKPbc **SKPab** **19 08 42.6 -0.4**
comp=Z,5.1nm,0.8s,baz=128,slow=7.0,SNR=4.4
KBS Kingsbay 132.99 357 *e*PKPdf **PKPdf** **19 05 11.8 -0.4**
KBS IVmB_BB 19 05 18.2
comp=Z,232nm,2.1s
KBS *e*PP **PP** **19 07 37.0 -1.3**
KBS *e*SKPdf **SKPdf** **19 08 45.0 -1.9**
KBS *e*SP **SP** **19 17 53.5 +1.1**
KBS *e*SS **SS** **19 25 22.8 +3.3**
KBS IVmS_BB IVmS_BB 20 07 44.7
comp=Z,685nm,16.2s
SPA0 Spitsbergen Ar 133.50 356 *e*PKPdf **PKPdf** **19 05 13.0 -0.2**
SPA0 IVmBBB 19 05 17.8
comp=Z,435nm,2.3s
SPA0 *e*SKPdf **SKPdf** **19 08 46.7 -1.2**
SPA0 IVmS_BB IVmS_BB 20 09 10.6
comp=Z,948nm,19.8s
SFJD Kangerlussuaq 133.68 26 IAmS_20 IAmS_20 20 01 45.6
comp=Z,5μm,19.0s
ABKAR Akbulak array 133.99 309 PKPdf **PKPdf** **19 05 08.7 -6.2**
ABKAR Akbulak array 133.99 309 **PKPdf** **19 05 08.7 -6.2**
GEYT Alibeck 134.21 293 PKP **PKPdf** **19 05 16.0 +0.3**
comp=Z,3.1nm,0.7s,baz=211,slow=17,SNR=4.4
GEYT SKPbc **SKPab** **19 08 47.3 -0.4**
comp=Z,6.4nm,0.9s,baz=210,slow=8.3,SNR=4.7
HOPEN Hopen 134.32 353 *e*PKPdf **PKPdf** **19 05 11.6 -3.2**
HOPEN IVmBBB 19 05 14.8
comp=Z,262nm,1.3s
HOPEN *e*SKPdf **SKPab** **19 08 46.6 -0.3**
HOPEN *e*SS **SS** **19 25 37.9 +2.3**
HOPEN IVmS_BB IVmS_BB 20 02 30.1
comp=Z,1μm,23.6s
DAG Danmarks Havn 134.35 6 *e*P **PKiKP** **19 05 16.0 -0.2**
DAG Danmarks Havn 134.35 6 *e*PKIKP **PKiKP** **19 05 15.9 -0.2**
ARU Arti 134.41 319 *i* PKIKP **PKPdf** **19 05 15.1 -0.3**
ARU 19 07 45.0
ARU 19 12 24.6
ARU SSS SSS 19 30 38.5
ARU MLR MLR
comp=Z,3μm,20.0s
ARU Arti 134.41 319 PKPdf **PKPdf** **19 05 12.5 -2.9**
ARU IAmS_20 IAmS_20 20 08 02.6
comp=Z,3μm,20.0s
SUMG Summit 134.47 16 IAmS_20 IAmS_20 20 06 13.5
comp=Z,5μm,20.0s
HSPB Hornsund (broa 134.69 356 *e*PKPdf **PKPdf** **19 05 11.8 -3.6**
HSPB IVmB_BB 19 05 15.4
comp=Z,237nm,2.8s
HSPB *e*SKPdf **SKPdf** **19 08 50.0 -0.1**
HSPB *e*SS **SS** **19 25 43.9 +3.9**
HSPB IVmS_BB IVmS_BB 20 09 44.5
comp=Z,999nm,21.3s
DY2G Dye2 135.48 25 *i* P **PKiKP** **19 05 21.7 +2.6**
DBG Daneborg 136.41 9 *i* P **PKiKP** **19 05 20.5 +0.1**
BJO1 Bjornoya 136.79 353 *e*PKPdf **PKPdf** **19 05 18.2 -1.1**
BJO1 IVmB_BB 19 05 34.1
comp=Z,901nm,3.0s
BJO1 *e*SKPdf **SKPdf** **19 08 53.6 -0.2**
BJO1 *e*SS **SS** **19 26 06.7 +1.6**
BJO1 IVmS_BB IVmS_BB 20 06 57.0
comp=Z,536nm,18.9s
ATD Arta Tunnel 137.11 251 IAmS_20 IAmS_20 20 04 17.2
comp=Z,2μm,18.0s
MBAR Mbarara 137.46 226 IAmS_20 IAmS_20 19 59 35.5
comp=Z,3μm,20.0s
LODK Lodwar 137.49 235 PKPdf **PKPdf** **19 05 17.6 -5.1**
KIRV Kirov 138.74 324 *i* PKIKP **PKiKP** **19 05 25.1 -0.4**
KIRV *i* 19 05 29.6
FURI Furi 138.78 244 IAmS_20 IAmS_20 20 13 55.4
comp=Z,2μm,18.0s
PRGR Permogore 139.34 330 *e*PKIKP **PKPdf** **19 05 22.7 -1.7**
PRGR pmax pmax
comp=Z,81nm,1.0s
SCO Scoresbysund 139.49 12 IAmS_20 IAmS_20 20 07 54.8
comp=Z,4μm,20.0s
LVZ Lovozero 139.53 342 *i* PKIKP **PKiKP** **19 05 26.3 -0.7**
LVZ Lovozero 139.53 342 IAmS_20 IAmS_20 20 09 44.5
comp=Z,4μm,20.0s
HAMF Hammerfest 139.69 349 *e*PKPdf **PKPdf** **19 05 24.4 -0.4**
HAMF *e*SS SS 19 26 39.8 +0.3
HAMF IVmS_BB IVmS_BB 20 06 02.6
comp=Z,1μm,20.3s
KEV Kevo 139.86 347 IAmS_20 IAmS_20 20 08 56.4
comp=Z,2μm,20.0s
APA Apatity 140.10 342 ⇓*i* PKIKP **PKPdf** **19 05 26.2 +0.6**
APA *i* 19 12 38.0
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,3μm,20.0s
ARA0 ARCESS Array S 140.33 347 *e*PKPdf **PKPdf** **19 05 25.4 -0.7**
ARCES ARCESS Array B 140.33 347 PKhKP PKPpre 19 05 21.5
comp=Z,3.5nm,0.7s,baz=1.8,slow=5.8,SNR=3.2
ARCES ARCESS Array B 140.33 347 PKIKP **PKPdf** **19 05 22.4 -3.7**
ARCES ARCESS Array B 140.33 347 **PKPdf** **19 05 22.4 -3.7**
RAYN Ar Rayn 140.69 269 PKIKP **PKPdf** **19 05 25.3 -2.8**
RAYN MLR MLR
comp=Z,3μm,19.0s
RAYN Ar Rayn 140.69 269 **PKPdf** **19 05 25.3 -2.8**
RAYN IAmS_20 IAmS_20 20 07 09.3
comp=Z,3μm,19.0s
JMIC Jan Mayen 140.76 5 *e*PKPdf **PKPdf** **19 05 24.0 -2.8**
JMIC IVmB_BB 19 05 38.5
comp=Z,1μm,2.4s
JMIC *e*PP **PP** **19 08 25.1 -1.8**
JMIC *e*SS SS 19 26 54.5 +2.5
JMIC IVmS_BB IVmS_BB 19 56 58.7
comp=Z,771nm,2.7s
JETT Jettan, Norway 141.18 350 *e*PKPdf **PKPdf** **19 05 26.7 -0.9**
KTK1 Kautokeino 141.20 348 *e*PKPdf **PKPdf** **19 05 26.6 -1.0**
KTK1 *e*SS SS 19 27 00.8 +3.5
TRO Tromso 141.32 351 *e*PKPdf **PKPdf** **19 05 22.5 -5.3**
TRO IVmBBB 19 05 28.3
comp=Z,342nm,1.7s
TRO *e*PKSdf **PKSdf** **19 09 05.3 +2.1**
TRO *e*SS SS 19 27 03.3 +4.8
TRO IVmS_BB IVmS_BB 20 06 49.8
comp=Z,1μm,17.2s
KLMR Klimovskoe 142.30 331 *e*PKIKP **PKPdf** **19 05 31.2 +1.4**
KLMR pmax pmax
comp=Z,63nm,1.1s
KLMR Klimovskoe 142.30 331 *e*PKPdf **PKPdf** **19 05 31.2 +1.4**
KLMR AMP 19 05 43.7
comp=Z,63nm,1.1s
KLMR *e*PP PP 19 08 52.7 +16
KLMR LQ LQ 19 59 28.3
KLMR LQ LQ 19 59 28.3
KLMR LR LR 20 07 03.0
KLMR AMP 20 14 12.6
comp=Z,2μm,21.6s
AKT Akhty 142.53 298 *e*PKIKP **PKPdf** **19 05 27.5 -3.5**
AKT *i* 19 05 31.4
AKT pmax pmax
comp=Z,9.0nm,1.7s
MAK Makhachkala 142.69 300 *e*P **Pdif** **19 02 48.1 -4.7**
MAK *i* 19 05 25.5
MAK *e*SSS SSS 19 32 37.2
MAK pmax pmax
comp=Z,195nm,1.3s
STEI Steigen 143.40 352 *e*pPKPdf **PKiKP** **19 05 34.5 -0.3**
STEI *e*SS SS 19 27 27.4 +4.8
STEI IVmS_BB IVmS_BB 20 10 43.3
comp=Z,1μm,20.8s
LOF Lofoten 143.41 353 *e*PKPdf PKPbc 19 05 29.1 +0.3
LOF IVmBBB 19 05 37.4
comp=Z,761nm,2.2s
LOF *e*SS SS 19 27 24.1 +1.5
LOF IVmS_BB IVmS_BB 20 10 04.8
comp=Z,585nm,3.5s
FAUS Fauske 143.92 351 *e*PKPdf **PKPdf** **19 05 31.8 -0.6**
FAUS IVmB_BB 19 05 35.2
comp=Z,1μm,5.3s
FAUS *e*SS SS 19 27 33.2 +4.6
FAUS IVmS_BB IVmS_BB 20 08 47.8
comp=Z,476nm,12.2s
GROC Groznyy 143.94 300 *e*PKIKP PKPbc 19 05 32.0 +0.9
GROC *e* 19 12 39.2
GROC pmax pmax
comp=Z,42nm,0.6s
BORG Borgarnes 144.43 17 IAmS_20 IAmS_20 20 09 12.0
comp=Z,3μm,19.0s
NBB17 Glomfjord BYr 144.62 352 *e*PKPbc **PKPab** **19 05 31.8 -0.5**
NBB15 Halsa Church 144.74 352 *e*PKPbc **PKPab** **19 05 31.8 -0.9**
GNI Garni 144.78 295 P **PKPdf** **19 05 34.6 -0.5**

NBB40 Tonnes 145.03 352 *e*PKPbc **PKPbc** **19 05 32.5 -1.2**
KONS Konsvik 145.03 352 *e*PKPbc **PKPbc** **19 05 32.6 -1.1**
KONS *e*pPKPbc pPKPab 19 05 36.2 -0.7
TASB TASBURUN-IGDIR 145.17 295 P **PKPdf** **19 05 35.6 0.0**
MOR8 Moi Rana 145.18 351 *e*PKPbc **PKPbc** **19 05 32.8 -1.5**
MOR8 IVmBBB 19 05 37.8
comp=Z,1μm,2.1s
MOR8 *e*SS SS 19 27 44.6 +1.6
MOR8 IVmS_BB IVmS_BB 20 05 33.6
comp=Z,498nm,4.2s
STOK Stokkvaagen 145.20 352 *e*PKPdf **PKPbc** **19 05 34.0 -0.3**
VRH Novokhopyorsk 145.27 315 *i* PKIKP **PKPbc** **19 05 34.8 -0.2**
VRH pmax pmax
comp=Z,80nm,0.6s
ZEI Tsey 145.35 300 *i* PKIKP **PKPbc** **19 05 35.3 -0.6**
ZEI pmax pmax
comp=Z,134nm,1.4s
CLDR Caldiran 145.40 294 P **PKPbc** **19 05 34.2 -2.0**
CUKT Cukurca 145.54 290 P **PKPdf** **19 05 33.9 -2.5**
GOF Gofitskoye 145.75 304⇑ *e*PKIKP **PKPbc** **19 05 36.6 -0.2**
GOF pmax pmax
comp=Z,146nm,0.9s
MOS Moscow 145.75 324 *e*PKP2 **PKPdf** **19 05 34.7 -1.3**
MOS *e* 19 08 55.9
MOS pmax pmax
comp=Z,884nm,1.5s
VANB Van 145.79 293 P **PKPdf** **19 05 36.7 -0.1**
KBZ Khabaz 146.00 302 PKPbc **PKPbc** **19 05 37.2 -0.3**
comp=Z,39nm,1.0s,baz=149,slow=1.5,SNR=33
KARS Kars 146.05 296 P **PKPab** **19 05 38.9 +0.2**
AKDM Akdamar-Van 146.10 292 P **PKPdf** **19 05 36.9 -0.5**
AGRB Hanur-Agry 146.12 294 P **PKPdf** **19 05 37.5 +0.1**
KIV Kislovodsk 146.13 302 ⇑P **PKPbc** **19 05 38.3 +0.1**
KIV Kislovodsk 146.13 302 P **PKPdf** **19 05 37.0 -0.2**
KIV Kislovodsk 146.13 302 *e*PKP2 **PKPdf** **19 05 36.3 -0.9**
KIV *e* 19 08 57.0
KIV *e*SS SS 19 27 51.6 -4.8
KIV *e*SSS SSS 19 33 27.4
KIV pmax pmax
comp=Z,177nm,1.0s
KIV MLR MLR
comp=Z,6μm,25.0s
KIV Kislovodsk 146.13 302 PKPdf **PKPdf** **19 05 35.6 -1.5**
LPSR Galich'ya Gora 146.41 318 *i* PKP2 **PKPdf** **19 05 37.3 +0.1**
LPSR pmax pmax
comp=Z,400nm,0.9s
LPSR MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 146.58 324 ⇓P **PKPbc** **19 05 38.6 -0.3**
OBN Obninsk 146.58 324*c* *i* PKP2 **PKPdf** **19 05 38.0 +0.6**
OBN *e* 19 09 01.8
OBN *e*PPP PPP 19 12 19.0
OBN pmax pmax
comp=Z,97nm,1.2s
OBN Obninsk 146.58 324 **PKPdf** **19 05 37.6 +0.3**
VORR Voronezh 146.60 317⇑ *i* PKIKP **PKPdf** **19 05 36.0 -1.5**
VORR pmax pmax
comp=Z,1μm,2.0s
SENK Senkaya-Erzuru 146.61 296 P **PKPab** **19 05 40.4 -0.5**
VSR Storozhevoye 146.78 316 *i* PKIKP **PKPdf** **19 05 36.7 -1.2**
VSR pmax pmax
comp=Z,110nm,0.6s
VORD Divnogorie 146.80 315 *e*PKIKP **PKPdf** **19 05 37.3 -0.6**
VORD pmax pmax
comp=Z,330nm,1.4s
FIA1 FINESS Array S 146.80 339 PKPdf **PKPdf** **19 05 37.6 0.0**
FINES FINESS Array B 146.80 339 PKPbc **PKPdf** **19 05 38.2 +0.7**
comp=Z,27nm,0.6s,baz=52,slow=3.1,SNR=64
FINES PKKPab 19 13 15.7
comp=Z,0.9nm,0.6s,baz=341,slow=4.0,SNR=4.3
FINES FINESS Array B 146.80 339 PKP2 **PKPbc** **19 05 37.4 -0.1**
FINES FINESS Array B 146.80 339 PKPdf **PKPdf** **19 05 37.4 -0.1**
KOPR Koprukoy-ERZUR 147.00 295 P **PKPbc** **19 05 40.8 -0.1**
NSS Namsos 147.06 352 *e*PKPbc **PKPdf** **19 05 38.8 +0.9**
SVAN Silvan-Diyarba 147.50 292 P **PKPdf** **19 05 40.6 +1.0**
CHOM Cayeli-Rize 147.79 297 P **PKPab** **19 05 46.4 +1.1**
BNGB Bingl 147.92 293 P **PKPbc** **19 05 42.6 -0.8**
YEDI Yedisu-Bingol 148.02 294 P **PKPdf** **19 05 39.2 -1.4**
MAZI Mazidag 148.07 290 P **PKPdf** **19 05 40.8 +0.2**
MEF Metsahovi 148.28 339 *e*P **PKiKP** **19 05 44.5 -0.6**
SOC Sochi 148.31 302 *e*PKP2 **PKPdf** **19 05 42.0 +1.3**
SOC *i* 19 09 11.6
SOC *e*SSS SSS 19 33 47.7
SOC pmax pmax
comp=Z,45nm,0.8s
SOC pmax pmax
comp=Z,37nm,0.8s
DYBB Diyarbakir 148.33 291 P **PKPbc** **19 05 43.2 -1.2**
RAF Rauma 148.38 342 *e*P **PKPbc** **19 05 42.2 -1.4**
KTUT Trabzon 148.55 297 P **PKPdf** **19 05 40.7 -0.4**
KTUT Trabzon 148.55 297 P **PKPbc** **19 05 44.2 -0.6**
VSU Vasula 148.83 335 *e*P **PKPbc** **19 05 44.8 -0.1**
ESPY Espiye-Giresun 149.34 297 P **PKPbc** **19 05 46.3 -0.5**
URFA Urfa 149.36 290 P **PKPbc** **19 05 46.3 -0.8**
MOL Molde 149.41 355 *e*PKPdf **PKPdf** **19 05 40.2 -1.6**
MOL *e*SS SS 19 28 29.5 -1.2
AAL Aland 149.56 342 *e*P **PKPbc** **19 05 44.8 -1.9**
MALT Malatya 149.68 292 P **PKPbc** **19 05 46.7 -1.2**
ANN Anapa 149.72 305 *e*PKIKP **PKPdf** **19 05 40.7 -2.2**
ANN *i* 19 05 48.4
ANN pmax pmax
comp=Z,411nm,1.7s
ARPR Arapgir-MALATY 149.74 293 P **PKPdf** **19 05 44.6 +1.3**
DOMB Dombas 149.80 353 *e*PKPab **PKPab** **19 05 52.2 -0.5**
DOMB IVmB_BB 19 05 55.6
comp=Z,2μm,4.2s
DOMB *e*SS SS 19 28 34.0 -1.2
DOMB IVmS_BB IVmS_BB 20 05 43.3
comp=Z,575nm,22.1s
AKN Aaknes 149.84 355 *e*PKPbc **PKPbc** **19 05 46.8 -0.6**
AKN *e*SS SS 19 28 39.1 +3.5
NC303 NORSAR Array S 150.32 351 **PKPbc** **19 05 46.6 -1.9**
NC204 NORSAR Array S 150.35 351 **PKiKP** **19 05 52.2 +2.7**
NC405 NORSAR Array S 150.38 350 PKPdf **PKPdf** **19 05 40.3 -3.2**
DARE Darende-Malaty 150.42 292 P **PKPbc** **19 05 49.6 0.0**
UPP Uppsala 150.43 344 *e*P **PKPbc** **19 05 47.7 -1.0**
RSDY Resadiye-TOKAT 150.44 296 P **PKiKP** **19 05 50.2 -0.1**
NB2 NORSAR Subarra 150.52 351 PKPab **PKPbc** **19 05 47.9 -1.2**
baz=15,slow=2.6
NOA NORSAR Array B 150.52 351 PKPbc **PKPbc** **19 05 48.2 -0.9**
comp=Z,9.9nm,0.8s,baz=15,slow=4.1,SNR=13
FOO Floro 150.53 357 *e*PKPdf **PKPdf** **19 05 42.3 -1.3**
FOO *e*SS SS 19 28 47.2 +4.1
GAZ Gaziantep 150.64 290 P **PKPbc** **19 05 48.7 -1.5**
GAZ Gaziantep 150.64 290 **PKPbc** **19 05 49.1 -1.1**
SVSK Karacayir 150.73 295 P **PKiKP** **19 05 51.2 +0.4**
NC602 NORSAR Array S 150.77 350 *e*PKPbc **PKPbc** **19 05 48.7 -0.9**
NC602 IVmB_BB 19 05 56.4
comp=Z,964nm,3.4s
NC602 *e*SS SS 19 28 49.8 +3.8
NC602 IVmS_BB IVmS_BB 20 07 38.9
comp=Z,372nm,3.7s
NC602 NORSAR Array S 150.77 350 **PKPdf** **19 05 42.9 -1.1**
KMRS Kahramanmaras 150.89 290 P **PKPdf** **19 05 43.7 -1.3**
HYA Hoyanger 150.90 356 *e*PKPbc **PKPbc** **19 05 49.3 -0.5**
HYA *e*SS SS 19 28 44.2 -3.1
IDID Didziasalis 151.04 330 *e*P **PKiKP** **19 05 51.7 +0.8**
TOKT Tokat 151.04 296 P **PKPbc** **19 05 50.9 -0.1**
MNK Minsk 151.08 328 *i* PKIKP **PKPbc** **19 05 50.1 -0.4**
MNK *i* 19 09 33.3
MNK *i* PPP PPP 19 12 55.4
MNK *i* SS SS 19 28 54.6 +4.4
MNK *i* SSS SSS 19 34 36.5
MNK pmax pmax
comp=Z,60nm,1.1s
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK Minsk 151.08 328 *i* PKP **PKPbc** **19 05 50.2 -0.3**
comp=E,3.0nm,1.1s
MNK *i* PKP **PKPbc** **19 05 50.2 -0.3**
comp=N,21nm,0.8s
MNK *i* PKP **PKPbc** **19 05 50.2 -0.3**
comp=Z,60nm,1.1s,baz=230
MNK *i* SKP 19 09 23.8
MNK *i* PP **PP** **19 09 33.3 +4.8**
MNK *i* PPP PPP 19 12 55.4
MNK *i* SKS **SKSdf** **19 12 58.1 +6.5**
MNK *i* SS **SS** **19 28 54.7 +4.5**
MNK *i* SSS SSS 19 34 36.6
MNK *i* LQ LQ 20 05 14.8
MNK *i* LR LR 20 09 40.1

MNK *i* LRM MLR 20 16 32.6
comp=N,2μm,21.7s
MNK *i* LRM MLR 20 16 32.6
comp=Z,2μm,24.4s
MNK *i* LRM MLR 20 17 47.2
comp=E,163nm,23.1s
SUE Sulen 151.09 357 *e*PKPdf **PKPdf** **19 05 41.6 -2.8**
SUE *e*SS SS 19 28 51.6 +2.4
SACV Santiago Islan 151.13 121 IAmS_20 IAmS_20 20 07 59.9
comp=Z,2μm,19.0s
SKAR Skarslia 151.21 353 *e*PKPbc **PKPbc** **19 05 50.4 -0.4**
SKAR IVmB_BB 19 06 00.9
comp=Z,1μm,1.5s
SKAR *e*SS SS 19 28 52.9 +2.0
IIGN Ignalina 151.23 331 *e*P **PKiKP** **19 05 52.2 +0.8**
SARI SarD1z-Kayseri 151.26 292 P **PKPbc** **19 05 49.8 -1.9**
NACGM Naroch 151.30 330 *i* PKP **PKPbc** **19 05 50.9 -0.1**
GHAJ Ghor Haditha 151.40 277 IAmS_20 IAmS_20 20 21 06.7
comp=Z,2μm,18.0s
TAHT Tahtakopru-Hat 151.44 288 P **PKPdf** **19 05 48.7 +2.8**
YAYL Yayladag 151.50 287 P **PKPbc** **19 05 51.6 -0.7**
RCY Rachaya 151.51 282 *e*P **PKiKP** **19 05 52.8 -0.1**
EIL Elat 151.58 274 P **PKiKP** **19 05 53.6 +0.7**
HRFI Mount Harif 151.59 274 P **PKPbc** **19 05 51.8 -0.8**
OSL Oslo 151.65 351 *e*PKPdf **PKPdf** **19 05 44.4 -1.0**
OSL *e*SS SS 19 28 59.4 +3.8
BNN Bunyan 151.69 293 P **PKPbc** **19 05 51.2 -1.4**
BNN Bunyan 151.69 293 PKPdf **PKPdf** **19 05 45.2 -1.2**
BHL Bhannes 151.71 283 *e*P **PKPbc** **19 05 52.8 0.0**
MMLI Mount Malkishu 151.72 280 P **PKPbc** **19 05 52.0 -0.8**
BER Bergen 151.73 356 *e*PKPdf **PKPdf** **19 05 44.3 -1.1**
BER *e*SS SS 19 28 59.5 +3.1
KOZT Kozan 151.75 290 P **PKPbc** **19 05 51.6 -1.1**
CEYT Ceyhan 151.81 289 P **PKiKP** **19 05 53.1 -0.1**
SNOP Sinop 151.83 300 **PKPdf** **19 05 45.1 -1.1**
DIKM Dikmen 151.85 299 ⇑P **PKPdf** **19 05 47.0 +0.7**
DIKM Dikmen 151.85 299 P **PKiKP** **19 05 53.6 +0.5**
SIM Simferopol' 151.97 306 *e*PKIKP **PKPbc** **19 05 53.0 +0.1**
SIM pmax pmax
comp=Z,113μm,1.5s
PABE Paberze 152.03 333 *e*P **PKiKP** **19 05 53.5 +0.6**
PABE Paberze 152.03 333 **PKPbc** **19 05 51.1 -1.5**
PABE IAmS_20 IAmS_20 20 16 07.2
comp=Z,3μm,20.0s
YOZ Yozgat 152.04 295 P **PKPbc** **19 05 51.2 -2.2**
KONO Kongsberg 152.08 352 PKIKP **PKPbc** **19 05 51.3 -1.4**
KONO MLR MLR
comp=Z,2μm,20.0s
KONO Kongsberg 152.08 352 *e*PKPbc **PKPbc** **19 05 52.1 -0.6**
KONO IVmB_BB 19 06 00.7
comp=Z,818nm,2.1s
KONO *e*SS SS 19 29 03.0 +2.6
KONO IVmS_BB IVmS_BB 20 09 55.1
comp=Z,640nm,29.5s
KONO Kongsberg 152.08 352 **PKPbc** **19 05 51.2 -1.4**
KONO Kongsberg 152.08 352 IAmS_20 IAmS_20 20 21 59.1
comp=Z,2μm,20.0s
ODD1 Odda 152.12 355 *e*PKPbc **PKPbc** **19 05 51.6 -1.2**
ODD1 *e*SS SS 19 29 01.5 +0.6
PBUR Paburge 152.39 335 *e*P **PKiKP** **19 05 54.7 +1.0**
CMRD Camardi-Nigde 152.41 291 P **PKPbc** **19 05 51.7 -2.6**
STRU Stroemstad 152.45 350 *e*P **PKPab** **19 05 59.0 -4.7**
CORM Corum 152.52 296 P **PKPdf** **19 05 46.7 -0.9**
BLS5 Blasjo 152.62 355 *e*PKPab **PKPab** **19 06 03.0 -1.5**
BLS5 *e*SS SS 19 29 06.5 +0.2
BLS5 IVmS_BB IVmS_BB 20 11 17.8
comp=Z,535nm,26.4s
AKASG Malin Array Be 152.65 321 PKPbc **PKPbc** **19 05 54.0 -0.2**
comp=Z,16nm,0.7s,baz=55,slow=2.6,SNR=17
AKASG Malin Array Be 152.65 321 PKIKP **PKPbc** **19 05 54.0 -0.2**
AKASG Malin Array Be 152.65 321 **PKPdf** **19 05 49.5 +2.3**
AKBB Malin Array Si 152.65 321 PKIKP **PKPbc** **19 05 51.7 -2.5**
AKBB Malin Array Si 152.65 321 **PKPbc** **19 05 51.7 -2.5**
BZK Bozkurt 152.72 300 P **PKPbc** **19 05 52.8 -1.9**
MERS Mersin 152.79 289 P **PKPbc** **19 05 54.5 -0.6**
KMY Karmoy 152.91 356 *e*pPKPbc **pPKPbc** **19 05 57.4 -0.4**
KMY *e*SS SS 19 29 13.0 +3.7
KIZK Mersin 153.09 288 P **PKPbc** **19 05 52.4 -3.3**
CANT Cankiri 153.23 297 P **PKPbc** **19 05 52.6 -3.3**
YAYX Yaylak 153.27 294 P **PKPdf** **19 05 52.0 +3.4**
BR131 Keskin Array S 153.32 295 PKIKP **PKPdf** **19 05 48.3 -0.4**
BR131 Keskin Array S 153.32 295 PKPdf **PKPdf** **19 05 48.3 -0.4**
BRTR Keskin Array B 153.32 295 PKPbc **PKPbc** **19 05 55.5 -0.8**
comp=Z,5.2nm,0.9s,baz=123,slow=4.6,SNR=13
BRTR Keskin Array B 153.32 295 P **PKPdf** **19 05 51.3 +2.5**
BRTR Keskin Array B 153.32 295 PKIKP **PKPdf** **19 05 51.2 +2.5**
BRTR Keskin Array B 153.32 295 **PKPdf** **19 05 51.2 +2.4**
LIC Lamto 153.35 165 *e*PKIKP **PKPbc** **19 05 56.8 -0.1**
comp=Z,204nm,1.7s
SUW Suwalki 153.43 331 *e*PKP **PKPbc** **19 05 55.0 -0.8**
SUW *e*L L 20 26 45.6
comp=Z,2μm,19.3s
SUW Suwalki 153.43 331 *e*P **PKPbc** **19 05 55.3 -0.5**
SUW Suwalki 153.43 331 PKIKP **PKPbc** **19 05 52.3 -3.5**
SUW MLR MLR
comp=Z,2μm,20.0s
SUW Suwalki 153.43 331 **PKPbc** **19 05 52.2 -3.5**
SUW IAmS_20 IAmS_20 20 26 42.9
comp=Z,2μm,20.0s
KEBE Keben-Mersin 153.44 288 P **PKPbc** **19 05 53.9 -2.6**
SERE Serefiikochisa 153.46 294 P **PKPbc** **19 05 56.3 -0.3**
IKL Isikli 153.46 288 P **PKPbc** **19 05 55.1 -1.4**
BORU Boraas 153.51 347 *i* P **PKPbc** **19 05 57.5 +1.5**
KIC Kosan Boka 153.54 165 *e*PKIKP **PKPbc** **19 05 57.2 -0.1**
comp=Z,56nm,1.1s
HOMB Homborsund 153.56 352 *i* P **PKiKP** **19 05 58.6 +2.6**
HOMB Homborsund 153.56 352 *e*PKPdf **PKPdf** **19 05 45.0 -3.2**
HOMB IVmB_BB 19 06 05.8
comp=Z,1μm,1.6s
HOMB *e*SS SS 19 29 20.6 +4.1
HOMB IVmS_BB IVmS_BB 20 07 41.5
comp=Z,694nm,21.3s
LFK Lefkose 153.56 285 P **PKPbc** **19 05 56.7 -0.1**
AKKU Akkuyu-Mersin 153.57 287 P **PKPdf** **19 05 52.6 +3.6**
TEVE Tevekalti-Mers 153.66 288 P **PKPbc** **19 05 53.3 -3.4**
CSS Mathiatis 153.71 285 P **PKPbc** **19 05 55.3 -1.8**
CSS Mathiatis 153.71 285 PKPdf **PKPdf** **19 05 47.9 -1.4**
CSS IAmS_20 IAmS_20 20 20 52.3
comp=Z,3μm,20.0s
TIC Toumodi 153.76 164 *e*PKIKP **PKPbc** **19 05 57.3 -0.5**
DBIC Dimbokro 153.82 165 PKP **PKPdf** **19 05 51.9 +1.8**
comp=Z,5.7nm,1.0s,baz=217,slow=7.2,SNR=3.1
DBIC PKPbc **sPKPbc** **19 06 02.2 -0.2**
comp=Z,14nm,0.9s,baz=146,slow=3.7,SNR=8.9
DBIC Dimbokro 153.82 165 PKIKP **PKPdf** **19 05 51.3 +1.3**
DBIC Dimbokro 153.82 165 **PKPdf** **19 05 51.3 +1.3**
BERE Bereket-Mersin 153.84 288 P **PKPbc** **19 05 52.0 +2.6**
ONAU Onsala 153.89 348 *e*P **PKiKP** **19 05 59.8 +3.0**
TEKE Tekeli-Mersin 153.92 287 P **PKPdf** **19 05 52.2 +2.7**
ANTO Ankara 153.95 296 PKIKP **PKPdf** **19 05 47.7 -1.9**
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 153.95 296 PKPdf **PKPdf** **19 05 47.7 -1.9**
ANTO IAmS_20 IAmS_20 20 23 44.6
comp=Z,2μm,19.0s
CHBY Cihanbeyli 154.01 293 P **PKPbc** **19 05 56.7 -1.1**
BLEU Blekinge 154.03 342 *i* P **PKiKP** **19 05 59.4 +2.3**
LEF Lefka 154.08 285 P **PKPbc** **19 05 56.2 -1.7**
DEL Delary 154.35 345 *i* P **PKiKP** **19 06 04.3 +6.6**
SORM Soroca 154.45 316 ⇑P **PKiKP** **19 05 58.6 +0.4**
SORM Soroca 154.45 316 ⇓PKIKP **PKiKP** **19 05 58.6 +0.4**
KIS Kishinev 154.69 313 *e*P **PKPbc** **19 05 54.6 -4.2**
KIS LQM 20 18 19.0
comp=Z,500nm,18.0s
KIS LRM MLR 20 26 12.0
comp=Z,600nm,19.0s
KIS Kishinev 154.69 313 *e*PKIKP **PKPbc** **19 05 54.6 -4.2**
KIZT Kizilcal 154.77 294 P **PKPdf** **19 05 52.6 +1.8**
BJUU Bjuv 154.91 345 *e*P **PKiKP** **19 06 04.2 +5.3**
SEYD Seydisehir-KON 154.92 290 P **PKPdf** **19 05 53.5 +2.5**
LUNU Lund 155.22 344 *i* P **PKPab** **19 06 21.1 +5.6**
MUD Monsted U'grnd 155.24 350 *e*P **PKPab** **19 06 21.0 +5.4**
BSD Bornholm Skovb 155.32 342 *e*P **PKPab** **19 06 19.3 +3.2**
TPGR Topolog 155.82 309 ⇑P PKPdf 19 06 04.4 +13
CFR Carcaliu 155.88 310 ⇓P **PKPdf** **19 05 57.8 +5.9**
CFR Carcaliu 155.88 310 ⇓PKIKP **PKPdf** **19 05 57.8 +5.9**
LVV L'vov 155.88 323 *e*PKIKP **PKPdf** **19 05 52.9 +1.1**
LVV *e* 19 09 52.7
LVV MLR MLR
comp=Z,2μm,23.0s
BEL Belsk 156.01 330 *e*PKPab **PKPab** **19 06 22.5 +3.4**
BEL *e*L L 20 17 59.5
comp=Z,4μm,21.5s

RGN	**Rugen**	**156.24 343**		IAMs_20	IAMs_20	20 27 46.4		
	comp=Z,3µm,18.0s							
RGN	**Rugen**	**156.24 343**		*e*PKPab	**PKPab**	**19 06 19.5**	**-0.5**	
	baz=21,slow=4.3							
TESR	**Tescani**	**156.24 314**	⇑	P	**PKPdf**	**19 05 59.5**	**+7.1**	
BIZ	**Bicaz**	**156.36 315**	⇓	P	PKPdf	19 06 00.4	+7.9	
VRI	**Vrincioaia**	**156.49 313**	⇑	P	PKPdf	19 06 05.3	+13	
BUR01	**Bucovina Ar. S**	**156.53 318**	⇓	P	**PKPdf**	**19 05 59.5**	**+6.7**	
PLOR	**Plostina**	**156.54 313**	⇑	P	**PKPab**	**19 06 15.1**	**-6.6**	
PLOR	**Plostina**	**156.54 313**	⇑	PKP2	**PKPab**	**19 06 15.1**	**-6.6**	
TVSB	**Tavsanli**	**156.56 296**		P	**PKPdf**	**19 05 52.6**	**-0.5**	
KWP	**Kalwaria Pacla**	**156.67 324**		eL	L	20 21 57.8		
	comp=Z,3µm,19.3s							
KWP	**Kalwaria Pacla**	**156.67 324**		PKIKP	**PKPdf**	**19 05 51.4**	**-1.4**	
KWP				MLR	MLR			
	comp=Z,25µm,19.0s							
KWP	**Kalwaria Pacla**	**156.67 324**		PKPdf	**PKPdf**	**19 05 51.4**	**-1.4**	
KWP	**Kalwaria Pacla**	**156.67 324**		*e*PKPab	**PKPab**	**19 06 25.6**	**+3.6**	
SKMB	**Sankelmark Bun**	**156.87 349**		*e*PKPab	**PKPab**	**19 06 22.4**	**-0.2**	
	baz=21,slow=4.3							
CMLA	**Cha da Macela**	**156.92 69**		IAMs_20	IAMs_20	20 12 21.4		
	comp=Z,3µm,20.0s							
LNIZ	**Loecknitz**	**156.96 341**		*e*PKPab	**PKPab**	**19 06 22.7**	**-0.4**	
	baz=21,slow=4.3							
MLR	**Muntele Rosu**	**157.15 312**	⇓	P	**PKPdf**	**19 06 00.4**	**+6.6**	
MLR	**Muntele Rosu**	**157.15 312**	⇓	PKIKP	**PKPdf**	**19 06 00.4**	**+6.6**	
MLR	**Muntele Rosu**	**157.15 312**		IAMs_20	IAMs_20	20 30 10.5		
	comp=Z,2µm,19.0s							
DOPR	**Dopca**	**157.27 314**	⇓	P	**PKPdf**	**19 06 01.3**	**+7.6**	
ARCR	**ARCALIA**	**157.31 317**	⇓	P	**PKPdf**	**19 06 01.2**	**+7.5**	
KOLS	**Kolonicke sedl**	**157.34 323**	*e*	PKIKP	**PKPdf**	**19 05 57.0**	**+3.3**	
KOLS	**Kolonicke sedl**	**157.34 323**	*e*	PKP	**PKPdf**	**19 05 57.0**	**+3.3**	
BMR	**Baia Mare**	**157.46 319**	⇑	P	**PKPab**	**19 06 23.0**	**-2.5**	
BMR	**Baia Mare**	**157.46 319**	⇑	PKP2	**PKPab**	**19 06 23.0**	**-2.5**	
BSEG	**Bad Segeberg**	**157.47 347**	*e*	PKPab	**PKPab**	**19 06 24.5**	**-0.7**	
	baz=21,slow=4.3							
UZH	**Uzhgorod**	**157.52 323**	*i*	PKIKP	**PKPdf**	**19 05 56.7**	**+2.8**	
UZH			*e*			19 12 54.9		
UZH			*e*	PPP	PPP	19 13 48.9		
UZH				MLR	MLR			
	comp=N,400nm,18.0s							
UZH				MLR	MLR			
	comp=E,300nm,18.0s							
UZH				MLR	MLR			
	comp=Z,300nm,18.0s							
OJC	**Ojcow**	**157.62 329**	*e*	PKPdf	**PKPdf**	**19 05 58.3**	**+4.3**	
OJC			*e*	PKPab	**pPKPab**	**19 06 29.6**	**+0.2**	
OJC			*e*	L	L	20 19 06.6		
	comp=Z,4µm,21.0s							
OJC	**Ojcow**	**157.62 329**		IAMs_20	IAMs_20	20 19 07.1		
	comp=Z,4µm,21.0s							
HLG	**Helgoland**	**157.62 351**	*e*	PKPab	**PKPab**	**19 06 25.4**	**-0.5**	
	baz=21,slow=4.3							
VOIR		**157.73 313**	⇑	P	PKPdf	19 06 07.0	+13	
CRVS	**Cervenica-Dubn**	**157.76 324**	*e*	PKP2	**PKPab**	**19 06 26.7**	**-0.1**	
CRVS	**Cervenica-Dubn**	**157.76 324**	*e*	PKP	**PKPab**	**19 06 26.7**	**-0.1**	
NIE	**Niedzica**	**157.97 327**	*e*	PKPdf	**PKPdf**	**19 05 59.8**	**+5.3**	
NIE				PKPab	**sPKPab**	**19 06 31.7**	**-0.4**	
NIE				eL	L	20 19 39.3		
	comp=Z,2µm,20.6s							
RUE	**Ruedersdorf**	**157.98 340**	*e*	PKPab	**PKPab**	**19 06 27.0**	**-0.5**	
	baz=21,slow=4.3							
ARR	**Arges**	**158.02 313**	⇑	P	PKPdf	19 06 02.5	+7.8	
HUMR	**Humele**	**158.19 311**	⇓	P	**PKPab**	**19 06 28.0**	**-0.8**	
DRGR		**158.41 318**	⇓	P	PKPab	19 06 14.9	-15	
DRGR		**158.41 318**	⇓	PKP2	PKPab	19 06 14.9	-15	
KECS	**Kecovo**	**158.52 325**	*e*	PKP2	**PKPab**	**19 06 33.1**	**+3.0**	
KECS	**Kecovo**	**158.52 325**	*e*	PKP	**PKPab**	**19 06 33.1**	**+3.0**	
LANS	**Liptovska Anna**	**158.54 327**	*e*	PKP2	**PKPab**	**19 06 30.5**	**+0.3**	
LANS	**Liptovska Anna**	**158.54 327**	*e*	PKP	**PKPab**	**19 06 30.5**	**+0.3**	
KSP	**Ksiaz**	**158.56 334**	*e*	PKPdf	**PKPdf**	**19 06 00.2**	**+5.1**	
KSP				PKPab	**pPKPab**	**19 06 33.9**	**+0.6**	
KSP				eL	L	20 22 05.9		
	comp=Z,3µm,21.4s							
OKC	**Ostrava-Krasne**	**158.62 330**		PKIKP	**PKPdf**	**19 05 53.1**	**-2.1**	
OKC	**Ostrava-Krasne**	**158.62 330**	*e*	PKPDF	**PKPdf**	**19 05 53.1**	**-2.1**	
OKC			*e*	SKKS		19 16 57.6		
OKC				AMS	AMS	20 21 00.0		
	comp=Z,2µm,19.8s							
FLTG	**Flechtingen**	**158.77 344**	*e*	PKPdf	**PKPdf**	**19 05 58.8**	**+3.5**	
	baz=17,slow=1.3							
FLTG			*e*	PKPab	**PKPab**	**19 06 29.8**	**-1.2**	
	baz=21,slow=4.3							
OSTC	**Ostas**	**158.82 334**	*e*	PKPDF	**PKPdf**	**19 05 51.7**	**-3.8**	
OSTC			*e*	PKPAB	**PKPab**	**19 06 32.0**	**+0.7**	
OSTC			*e*	SKKS		19 17 02.3		
OSTC				AMS	AMS	20 21 50.0		
	comp=Z,8µm,60.3s							
CHVC	**Chvalec**	**158.85 334**	*e*	PKPDF	**PKPdf**	**19 05 54.7**	**-0.8**	
CHVC			*e*	PKPAB	**PKPab**	**19 06 31.3**	**-0.2**	
CHVC			*e*	SKKS		19 16 51.2		
CHVC				AMS	AMS	20 34 20.0		
	comp=Z,3µm,18.8s							
NRDL	**Niedersach Rie**	**158.87 346**	*e*	PKPdf	**PKPdf**	**19 05 58.9**	**+3.6**	
	baz=17,slow=1.3							
NRDL			*e*	PKPab	**PKPab**	**19 06 30.4**	**-0.9**	
	baz=21,slow=4.3							
MORC	**Moravsky Berou**	**158.92 331**	⇑	P	**PKPdf**	**19 05 59.9**	**+4.3**	
MORC	**Moravsky Berou**	**158.92 331**	*e*	PKP	**PKPdf**	**19 05 59.2**	**+3.6**	
MORC			*e*			19 06 32.6		
MORC			*e*			19 17 07.3		
MORC			*e*			19 30 18.1		
MORC	**Moravsky Berou**	**158.92 331**	⇑	PKIKP	**PKPdf**	**19 05 59.9**	**+4.3**	
UPC	**Upice**	**158.93 334**	*e*	PKIKP	**PKPdf**	**19 05 53.8**	**-1.8**	
UPC				MLR	MLR			
	comp=Z,3µm,18.0s							
UPC	**Upice**	**158.93 334**	*e*	PKPDF	**PKPdf**	**19 05 53.8**	**-1.8**	
UPC			*e*	SKKS		19 17 02.0		
UPC				AMS	AMS	20 34 20.0		
	comp=Z,3µm,18.0s							
DPC	**Dobruska-Polom**	**158.95 334**	*e*	PKIKP	**PKPdf**	**19 05 53.8**	**-1.9**	
DPC			*e*			19 06 30.2		
DPC				MLR	MLR			
	comp=Z,2µm,18.9s							
DPC	**Dobruska-Polom**	**158.95 334**	*e*	PKPDF	**PKPdf**	**19 05 53.8**	**-1.9**	
DPC			*e*	PKPAB	**PKPab**	**19 06 30.2**	**-1.7**	
DPC			*e*	SKKS		19 16 51.4		
DPC				AMS	AMS	20 19 50.0		
	comp=Z,2µm,18.9s							
KRLC	**Kraliky**	**158.99 332**	*e*	PKIKP	**PKPdf**	**19 05 54.3**	**-1.4**	
KRLC			*e*			19 06 30.2		
KRLC				MLR	MLR			
	comp=Z,2µm,18.1s							
KRLC	**Kraliky**	**158.99 332**	*e*	PKPDF	**PKPdf**	**19 05 54.3**	**-1.4**	
KRLC			*e*	PKPAB	**PKPab**	**19 06 30.2**	**-1.9**	
KRLC			*e*	SKKS		19 16 59.9		
KRLC				AMS	AMS	20 32 40.0		
	comp=Z,2µm,18.1s							
ASSE	**Asse, Remlinge**	**159.09 345**	*e*	PKPdf	**PKPdf**	**19 05 58.9**	**+3.3**	
	baz=17,slow=1.3							
ASSE			*e*	PKPab	**PKPab**	**19 06 31.7**	**-0.5**	
	baz=21,slow=4.3							
ASSE			*e*	PP	**PP**	**19 10 13.0**	**+0.2**	
GZR	**Gura Zlata**	**159.14 315**	⇑	P	**PKPdf**	**19 05 54.2**	**-1.9**	
GZR	**Gura Zlata**	**159.14 315**	⇑	PKIKP	**PKPdf**	**19 05 54.2**	**-1.9**	
PSZ	**Piszkesteto**	**159.20 324**		IAMs_20	IAMs_20	20 26 49.8		
	comp=Z,4µm,20.0s							
CLL	**Collm**	**159.24 340**	*e*	(PKPdf)	**PKPdf**	**19 05 59.0**	**+3.1**	
CLL			*e*	PKPab	**PKPab**	**19 06 32.0**	**-1.0**	
CLL			⇓	*i*		19 06 37.0		
	comp=Z,82nm,1.1s							
CLL			*e*	PP	**PP**	**19 10 14.0**	**+0.2**	
CLL			*e*	PPP	PPP	19 13 52.0		
CLL			*e*	SKKSac	SKKSac	19 17 00.0	-2.3	
CLL			*e*			19 20 00.0		
CLL			*e*	PSKS		19 20 37.0		
CLL			*e*	PPS	PPS	19 23 36.0		
CLL			*e*	SS	**SS**	**19 30 15.0**	**-3.0**	
CLL			*e*			19 35 06.0		
CLL			*e*	SSS	SSS	19 36 24.0		
CLL			*e*			19 38 24.0		
CLL			*e*	SSSS		19 40 48.0		
CLL				LmV		20 24 00.0		
	comp=Z,3µm,20.0s							
CLL				LmH		20 33 00.0		
	comp=N,2µm,18.4s							
CLL				LmH		20 33 00.0		
	comp=E,2µm,18.5s							
CLL	**Collm**	**159.24 340**	⇓	PKIKP	**PKPdf**	**19 05 59.0**	**+3.1**	
CLL			*e*			19 06 32.0		
CLL			*e*			19 10 14.0		
CLL	**Collm**	**159.24 340**		PKPab	**PKPab**	**19 06 28.1**	**-4.9**	
CLL				IAMs_20	IAMs_20	20 24 34.0		
	comp=Z,3µm,20.0s							
CLL	**Collm**	**159.24 340**	*e*	PKPdf	**PKPdf**	**19 05 59.1**	**+3.1**	
	baz=17,slow=1.3							
CLL			*e*	PKPab	**PKPab**	**19 06 32.2**	**-0.8**	
	baz=21,slow=4.3							
VYHS	**Vyhne**	**159.31 327**	*e*	PKP2	**PKPab**	**19 06 32.6**	**-0.9**	
VYHS	**Vyhne**	**159.31 327**	*e*	PKP	**PKPab**	**19 06 32.6**	**-0.9**	
BRG	**Berggiesshubel**	**159.34 338**	⇓	*e*PKPf		19 05 55.5		
BRG				Amp		19 06 02.6		
	comp=Z,50nm,2.2s							
BRG				*ex*	x	19 06 13.3		
BRG				Amp		19 06 26.3		
	comp=Z,12nm,1.2s							
BRG				PKPab	**PKPab**	**19 06 33.2**	**-0.3**	
BRG				Amp		19 06 41.7		
	comp=Z,108nm,1.4s							
BRG				*ex*	x	19 07 05.8		
BRG				Amp		19 07 08.7		
	comp=Z,69nm,1.5s							
BRG				Amp		19 08 35.0		
	comp=N,146nm,12.0s							
BRG	**Berggiesshubel**	**159.34 338**	*e*	PKPdf	**PKPdf**	**19 05 59.3**	**+3.3**	
	baz=17,slow=1.3							
BRG			*e*	PKPab	**PKPab**	**19 06 33.0**	**-0.5**	
	baz=21,slow=4.3							
CLZ	**Clausthal**	**159.43 345**	*e*	PKPdf	**PKPdf**	**19 05 58.8**	**+2.7**	
	baz=17,slow=1.3							
CLZ			*e*	PKPab	**PKPab**	**19 06 33.3**	**-0.6**	
	baz=21,slow=4.3							
PVCC	**Panska Ves**	**159.43 336**	*e*	PKIKP	**PKPdf**	**19 05 55.2**	**-0.9**	
PVCC			*e*			19 06 34.0		
PVCC				MLR	MLR			
	comp=Z,2µm,19.3s							
PVCC	**Panska Ves**	**159.43 336**	*e*	PKPDF	**PKPdf**	**19 05 55.2**	**-0.9**	
PVCC			*e*	PKPAB	**PKPab**	**19 06 34.0**	**+0.1**	
PVCC			*e*	SKKS		19 17 02.4		
PVCC				AMS	AMS	20 24 50.0		
	comp=Z,2µm,19.3s							
IBBN	**Ibbenburen**	**159.47 350**	*e*	PKPdf	**PKPdf**	**19 05 58.4**	**+2.3**	
	baz=17,slow=1.3							
IBBN			*e*	PKPab	**PKPab**	**19 06 33.1**	**-0.8**	
	baz=21,slow=4.3							
FBE	**Freiberg**	**159.48 339**	*e*	PKPdf	**PKPdf**	**19 05 58.7**	**+2.6**	
	baz=17,slow=1.3							
FBE			*e*	PKPab	**PKPab**	**19 06 33.8**	**-0.3**	
	baz=21,slow=4.3							
JAVC	**Velka Javorina**	**159.56 329**	*e*	PKP	**PKPdf**	**19 06 00.8**	**+4.4**	
JAVC			*e*			19 17 13.3		
JAVC			*e*			19 30 28.5		
NEUB	**Neuenburg**	**159.67 342**	*e*	PKPdf	**PKPdf**	**19 05 59.2**	**+2.8**	
	baz=17,slow=1.3							
NEUB			*e*	PKPab	**PKPab**	**19 06 34.2**	**-0.7**	
	baz=21,slow=4.3							
VRAC	**Vranov**	**159.67 331**	*e*	PKP	**PKPdf**	**19 05 59.9**	**+3.4**	
VRAC			*e*			19 06 34.0		
VRAC			*e*			19 17 11.4		
VRAC			*e*			19 30 23.8		
BZS	**Buzias**	**159.70 317**	⇓	P	**PKPdf**	**19 06 00.3**	**+3.7**	
BZS	**Buzias**	**159.70 317**	⇓	PKIKP	**PKPdf**	**19 06 00.3**	**+3.7**	
GTTG	**Gottingen**	**159.79 345**	*e*	PKPdf	**PKPdf**	**19 05 59.5**	**+3.0**	
	baz=17,slow=1.3							
GTTG			*e*	PKPab	**PKPab**	**19 06 34.7**	**-0.7**	
	baz=21,slow=4.3							
GTTG			*e*	PP	**PP**	**19 10 17.0**	**+0.3**	
PRA	**Prague**	**159.86 336**	*e*	PKIKP	**PKPdf**	**19 05 54.2**	**-2.4**	
PRA				MLR	MLR			
	comp=Z,4µm,19.0s							
PRA	**Prague**	**159.86 336**	*e*	PKPDF	**PKPdf**	**19 05 54.2**	**-2.4**	
PRA			*e*	PKPAB	**sPKPab**	**19 06 40.5**	**+0.4**	
PRA				AMS	AMS	20 25 50.0		
	comp=Z,4µm,19.0s							
PRU	**Pruhonice**	**159.89 336**	*e*	PKIKP	**PKPdf**	**19 05 53.7**	**-3.0**	
PRU			*e*			19 06 35.8		
PRU				MLR	MLR			
	comp=Z,3µm,20.6s							
PRU	**Pruhonice**	**159.89 336**	*e*	PKPDF	**PKPdf**	**19 05 53.7**	**-3.0**	
PRU			*e*	PKPAB	**PKPab**	**19 06 35.8**	**-0.1**	
PRU			*e*	SKKS		19 16 52.8		
PRU				AMS	AMS	20 25 40.0		
	comp=Z,3µm,20.6s							
SMOL	**Smolenice**	**159.93 329**	*e*	PKP2	**PKPab**	**19 06 36.4**	**+0.2**	
SMOL	**Smolenice**	**159.93 329**	*e*	PKP	**PKPab**	**19 06 36.4**	**+0.2**	
KRUC	**Moravsky**	**159.95 331**	*e*	PKP	**PKPdf**	**19 06 00.3**	**+3.5**	
KRUC			*e*			19 06 33.4		
KRUC			*e*			19 17 11.0		
KRUC			*e*			19 30 26.6		
SANT	**Santorini**	**160.09 289**		IAMs_20	IAMs_20	20 30 48.0		
	comp=Z,2µm,21.0s							
MODS	**Modra-Piesok**	**160.10 329**	*e*	PKIKP	**PKPdf**	**19 06 01.0**	**+4.0**	
MODS			*e*			19 06 36.2		
MODS	**Modra-Piesok**	**160.10 329**	*e*	PKP	**PKPdf**	**19 06 01.0**	**+4.0**	
MODS			*e*			19 06 36.2		
MDVR	**Moldovita**	**160.10 315**	⇓	P	**PKPdf**	**19 06 02.8**	**+5.6**	
TREC	**Trest**	**160.12 333**	*e*	PKIKP	**PKPdf**	**19 05 54.7**	**-2.3**	
TREC				MLR	MLR			
	comp=Z,3µm,19.9s							
TREC	**Trest**	**160.12 333**	*e*	PKPDF	**PKPdf**	**19 05 54.7**	**-2.3**	
TREC				AMS	AMS	20 24 20.0		
	comp=Z,3µm,19.9s							
VTS	**Vitosha**	**160.16 308**	⇑	P	**PKPdf**	**19 05 57.9**	**+0.4**	
VTS	**Vitosha**	**160.16 308**	⇑	PKIKP	**PKPdf**	**19 05 57.9**	**+0.4**	
TANN	**Tannenbergstha**	**160.19 340**	*e*	PKPdf	**PKPdf**	**19 06 00.7**	**+3.6**	
	baz=17,slow=1.3							
TANN			*e*	PKPab	**PKPab**	**19 06 37.0**	**-0.3**	
	baz=21,slow=4.3							
WERD	**Werda**	**160.21 340**	*e*	PKPdf	**PKPdf**	**19 05 59.8**	**+2.7**	
	baz=17,slow=1.3							
WERD			*e*	PKPab	**PKPab**	**19 06 36.9**	**-0.4**	
	baz=21,slow=4.3							
PLN	**Plauen**	**160.22 340**	*e*	PKPdf	**PKPdf**	**19 05 59.5**	**+2.4**	
	baz=17,slow=1.3							
PLN			*e*	PKPab	**PKPab**	**19 06 36.9**	**-0.5**	
	baz=21,slow=4.3							
MOX	**Moxa**	**160.22 341**	*e*	PKPdf	**PKPdf**	**19 05 60.0**	**+2.9**	
	baz=17,slow=1.3							
MOX			*e*	PKPab	**PKPab**	**19 06 36.7**	**-0.7**	
	baz=21,slow=4.3							
GUNZ	**Gunzen**	**160.28 340**	*e*	PKPdf	**PKPdf**	**19 06 00.4**	**+3.3**	
	baz=17,slow=1.3							
GUNZ			*e*	PKPab	**PKPab**	**19 06 37.3**	**-0.3**	
	baz=21,slow=4.3							
PBCC	**Pribram**	**160.34 336**	*e*	PKP	**PKPdf**	**19 06 04.4**	**+7.2**	
PBCC			*e*	PKPAB	**PKPab**	**19 06 35.5**	**-2.4**	
NKC	**Novy Kostel**	**160.36 339**	*e*	PKIKP	**PKPdf**	**19 05 54.9**	**-2.3**	
NKC			*e*			19 06 37.9		
NKC				MLR	MLR			
	comp=Z,3µm,18.0s							
NKC	**Novy Kostel**	**160.36 339**	*e*	PKPDF	**PKPdf**	**19 05 54.9**	**-2.3**	
NKC			*e*	PKPAB	**PKPab**	**19 06 37.9**	**-0.1**	
NKC			*e*	SKKS		19 17 14.3		
NKC				AMS	AMS	20 29 50.0		
	comp=Z,3µm,18.0s							
BUG	**Bochum--Univer**	**160.38 350**	*e*	PKPdf	**PKPdf**	**19 06 00.6**	**+3.5**	
	baz=17,slow=1.3							
BUG			*e*	PKPab	**PKPab**	**19 06 36.8**	**-1.2**	
	baz=21,slow=4.3							
KASTN	**Kahler Asten**	**160.43 348**	*e*	PKPdf	**PKPdf**	**19 06 00.2**	**+2.9**	
	baz=17,slow=1.3							
KASTN			*e*	PKPab	**PKPab**	**19 06 37.2**	**-1.0**	
	baz=21,slow=4.3							
KASTN			*e*	PP	**PP**	**19 10 20.7**	**+0.6**	
UBBA	**Unterbreizbach**	**160.47 344**	*e*	PKPdf	**PKPdf**	**19 05 59.9**	**+2.8**	
	baz=17,slow=1.3							
UBBA			*e*	PKPab	**PKPab**	**19 06 37.6**	**-0.7**	
	baz=21,slow=4.3							
UBBA			*e*	PP	**PP**	**19 10 21.4**	**+1.2**	
IDI	**Anoyia**	**160.63 285**	⇓	P	**PKPdf**	**19 06 05.4**	**+7.3**	
MANZ	**Manzenberg**	**160.68 340**	*e*	PKPdf	**PKPdf**	**19 06 01.5**	**+3.9**	
	baz=17,slow=1.3							
MANZ			*e*	PKPab	**PKPab**	**19 06 39.0**	**-0.4**	
	baz=21,slow=4.3							
BOVS	**Bovan**	**160.70 312**	⇓	P	**PKPdf**	**19 06 01.1**	**+3.3**	
ROTZ	**Rotzenmuhle**	**160.84 339**	*e*	PKPdf	**PKPdf**	**19 06 01.4**	**+3.6**	
	baz=17,slow=1.3							
ROTZ			*e*	PKPab	**PKPab**	**19 06 40.0**	**-0.1**	
	baz=21,slow=4.3							
CKRC	**Cesky Krumlov**	**160.95 334**	*e*	PKPDF	**PKPdf**	**19 05 56.0**	**-1.9**	
CKRC			*e*	PKPAB	**PKPab**	**19 06 40.4**	**-0.2**	
CKRC			*e*	SKKS		19 17 11.9		
KHC	**Kasperske Hory**	**160.95 336**	*e*	PKIKP	**PKPdf**	**19 05 57.2**	**-0.7**	
KHC			*e*			19 06 40.5		
KHC				MLR	MLR			
	comp=Z,6µm,18.6s							
KHC	**Kasperske Hory**	**160.95 336**	*e*	PKPDF	**PKPdf**	**19 05 57.2**	**-0.7**	
KHC			*e*	PKPAB	**PKPab**	**19 06 40.5**	**-0.2**	
KHC			*e*	SKKS		19 17 03.6		
KHC				AMS	AMS	20 26 50.0		
	comp=Z,6µm,18.6s							
MORH	**Mrgy, Hungar**	**160.97 322**	⇑	P	**PKPdf**	**19 05 57.0**	**-1.0**	
FRGS	**Fruska Gora**	**161.00 318**	⇑	P	**PKPdf**	**19 06 04.4**	**+6.3**	
TORD	**Torodi Ar. Bea**	**161.02 179**		PKP	**PKPdf**	**19 05 59.6**	**+0.6**	
	comp=Z,4.6nm,1.1s,baz=25,slow=0.9,SNR=4.7							
TORD				PKPab	**pPKPab**	**19 06 44.1**	**-0.8**	
	comp=Z,28nm,1.0s,baz=185,slow=2.6,SNR=14							
TORD				PP	**PP**	**19 10 22.8**	**-0.3**	
	comp=Z,5.6nm,1.1s,baz=153,slow=4.8,SNR=3.5							
CONA	**Conrad Observa**	**161.05 330**	*e*	P	**PKPdf**	**19 06 03.5**	**+5.3**	
	comp=Z,12nm,1.8s							
CONA			*e*	P	**sPKPab**	**19 06 46.3**	**+0.8**	
	comp=Z,45nm,1.4s							
GEC2	**GERESS Array S**	**161.15 335**	*e*	PKPdf	**PKPdf**	**19 06 02.7**	**+4.4**	
	baz=17,slow=1.3							
GEC2			*e*	PKPab	**PKPab**	**19 06 41.0**	**-0.6**	
	baz=21,slow=4.3							
GERES	**GERESS Array B**	**161.15 335**		PKP	**PKPdf**	**19 06 00.3**	**+2.1**	
	comp=Z,0.8nm,0.9s,baz=143,slow=3.4,SNR=7.3							
GERES				PKPab	**PKPab**	**19 06 41.4**	**-0.3**	
	comp=Z,2.4nm,0.7s,baz=35,slow=4.9,SNR=8.1							
GERES	**GERESS Array B**	**161.15 335**			**PKPdf**	**19 05 54.2**	**-4.0**	
WET	**Wettzell**	**161.18 337**	*e*	PKPdf	**PKPdf**	**19 06 01.7**	**+3.5**	
	baz=17,slow=1.3							
WET			*e*	PKPab	**PKPab**	**19 06 41.6**	**0.0**	
	baz=21,slow=4.3							
GRF	**Grafenberg Arr**	**161.19 341**	*e*	PKPdf	**PKPdf**	**19 06 01.1**	**+3.0**	
	baz=17,slow=1.3							
GRF			*e*	PKPab	**PKPab**	**19 06 41.5**	**-0.1**	
	baz=21,slow=4.3							
GRF			*e*	L	L	20 26 44.5		
	comp=Z,4µm,18.2s							
AHRW	**Bad Neuenahr-A**	**161.29 350**	*e*	PKPab	**PKPab**	**19 06 41.2**	**-0.8**	
	baz=21,slow=4.3							
AHRW			*e*	PP	**PP**	**19 10 24.7**	**+0.1**	
TNS	**Taunus Mts**	**161.36 347**	*e*	PKPdf	**PKPdf**	**19 06 01.1**	**+2.7**	
	baz=17,slow=1.3							
TNS			*e*	PKPab	**PKPab**	**19 06 41.4**	**-1.0**	
	baz=21,slow=4.3							
MEM	**Membach**	**161.37 352**	*d*	PKPab	**PKPab**	**19 06 42.0**	**-0.3**	
MEM			*ds*	PKPab	**sPKPab**	**19 06 46.3**	**-0.4**	
BTNL	**Ternell**	**161.38 351**	*d*	PKPdf	**PKPdf**	**19 05 57.8**	**-0.6**	
BTNL			*d*	PKPab	**PKPab**	**19 06 41.4**	**-1.0**	
BTNL			*ds*	PKPab	**pPKPab**	**19 06 46.1**	**+0.4**	
BSTI	**Sart Tilman**	**161.44 353**	*ds*	PKPab	sPKPab	19 06 46.7	-0.3	
KOWA	**Kowa**	**161.56 162**		PKPdf	**PKPdf**	**19 05 57.6**	**-2.0**	
BHOU	**Houvegnez**	**161.62 352**	*d*	PKPab	**PKPab**	**19 06 42.2**	**-1.2**	
BHOU			*ds*	PKPab	**pPKPab**	**19 06 46.8**	**+0.1**	
BCLA	**Clavier**	**161.63 353**	*d*	PKPdf	**PKPdf**	**19 05 57.6**	**-1.0**	
BCLA			*dp*	PKPdf	**pPKPdf**	**19 06 01.5**	**-0.3**	
BCLA			*d*	PKPab	**PKPab**	**19 06 43.1**	**-0.4**	
BCLA			*dp*	PKPab	**pPKPab**	**19 06 46.5**	**-0.2**	
SKO	**Skopje**	**161.64 308**	*i*	PKP	**PKPdf**	**19 05 58.3**	**-0.6**	
BGES	**Gesves**	**161.69 353**	*d*	PKPdf	**PKPdf**	**19 05 57.6**	**-1.0**	
BGES			*d*	PKPab	**PKPab**	**19 06 42.6**	**-1.2**	
BGES			*dx*		x	19 06 48.3		
ARSA	**Arzberg**	**161.72 329**	*e*	P	**PKPab**	**19 06 49.0**	**+4.9**	
	comp=Z,38nm,1.5s							
MOA	**Molln**	**161.77 332**	*e*	P	**PKPab**	**19 06 49.4**	**+5.1**	
	comp=Z,52nm,1.8s							
BMRD	**Maredsous**	**161.80 354**	*dp*	PKPdf	**pPKPdf**	**19 06 01.8**	**-0.3**	
BMRD			*ds*	PKPab	pPKPab	19 06 46.6	-0.8	
BMRD			*dx*		x	19 06 49.0		
DOU	**Dourbes**	**162.02 354**	*d*	PKPdf	**PKPdf**	**19 05 59.6**	**+0.7**	
DOU			*dp*	PKPdf	**pPKPdf**	**19 06 02.0**	**-0.2**	
DOU			*dx*		x	19 06 49.5

PMTG	**Montargil**	**169.31**	**47**	*e*SS	SS	19 32 23.3	+20
PMRV	**Marv??o**	**169.59**	**44**	*e*PKPdf	**PKPdf**	**19 06 10.3**	**+4.8**
PMRV	**Marv??o**	**169.59**	**44**	*e*SS	SS	19 32 09.8	+4.2
PMRV	**Marv??o**	**169.59**	**44**	*e*LR	LR	20 13 07.6	
	comp=Z,7μm,18.0s						
PNCL	**Nicolau / Gran**	**169.65**	**52**	*e*PKPdf	**PKPdf**	**19 06 10.1**	**+4.6**
PNCL	**Nicolau / Gran**	**169.65**	**52**	*e*SS	SS	19 32 25.9	+19
EVO	**Evora**	**169.76**	**49**	PKP	**PKPdf**	**19 06 04.7**	**-0.9**
EVO	**Evora**	**169.76**	**49**	*e*PKPdf	**PKPdf**	**19 06 10.7**	**+5.1**
PTEO	**Sao Teotonio**	**169.80**	**56**	*e*PKPdf	**PKPdf**	**19 06 10.3**	**+4.7**
PESTR	**Estremoz**	**169.83**	**47**	*e*PKPdf	**PKPdf**	**19 06 11.7**	**+6.1**
PESTR	**Estremoz**	**169.83**	**47**	*i* SS	SS	19 32 21.4	+13
PESTR				*e*SS	SS	19 32 22.5	+14
PFVI	**Vila Bisbo**	**169.91**	**58**	*e*PKPdf	**PKPdf**	**19 06 12.8**	**+7.1**
PFVI	**Vila Bisbo**	**169.91**	**58**	*e*SS	SS	19 31 31.5	-38
MORF	**Marmelete**	**169.96**	**57**	*e*PKPdf	**PKPdf**	**19 06 05.2**	**-0.6**
MORF				IAMs_20	IAMs_20	20 24 51.3	
	comp=Z,4μm,17.6s						
MORF	**Marmelete**	**169.96**	**57**	*e*PKIKP	**PKPdf**	**19 06 05.2**	**-0.6**
MORF	**Marmelete**	**169.96**	**57**	*e*PKPdf	**PKPdf**	**19 06 11.2**	**+5.4**
MORF	**Marmelete**	**169.96**	**57**	*e*SS	SS	19 32 27.3	+17
MESJ	**Messejana**	**170.00**	**53**	*e*PKPdf	**PKPdf**	**19 06 05.2**	**-0.6**
MESJ				*e*SS	SS	19 32 10.1	0.0
MESJ				IAMs_20	IAMs_20	20 24 44.4	
	comp=Z,5μm,23.5s						
MESJ	**Messejana**	**170.00**	**53**	*e*PKIKP	**PKPdf**	**19 06 05.2**	**-0.6**
MESJ				*e*SS	SS	19 32 10.1	0.0
MESJ	**Messejana**	**170.00**	**53**	*e*PKPdf	**PKPdf**	**19 06 11.8**	**+6.1**
PBEJ	**Beja**	**170.14**	**51**	*e*PKPdf	**PKPdf**	**19 06 11.8**	**+6.0**
PCVE	**Castro Verde**	**170.23**	**54**	*e*PKPdf	**PKPdf**	**19 06 10.9**	**+5.0**
PCVE	**Castro Verde**	**170.23**	**54**	*e*SS	SS	19 32 26.2	+14
PBDV	**Barranco-do-Ve**	**170.50**	**55**	*e*PKPdf	**PKPdf**	**19 06 11.2**	**+5.1**
PBDV	**Barranco-do-Ve**	**170.50**	**55**	*e*SS	SS	19 32 30.6	+15
PVAQ	**Vaqueiros**	**170.57**	**54**	*e*PKPdf	**PKPdf**	**19 06 11.8**	**+5.7**
PVAQ	**Vaqueiros**	**170.57**	**54**	*e*SS	SS	19 32 38.5	+23
PVAQ	**Vaqueiros**	**170.57**	**54**	*e*LR	LR	20 11 54.9	
	comp=Z,3μm,20.0s						
PBAR	**Barrancos**	**170.59**	**48**	*e*PKPdf	**PKPdf**	**19 06 11.1**	**+5.0**
PBAR	**Barrancos**	**170.59**	**48**	*e*SS	SS	19 32 27.3	+12
UCM	**Universidad Co**	**170.93**	**26**	PKP	**PKPdf**	**19 06 03.9**	**-2.3**
UCM				SS	SS	19 32 23.6	+5.7
ESDC	**Sonseca Array**	**171.18**	**31**	PKP	**PKPdf**	**19 06 05.7**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=359,slow=1.6,SNR=3.7						
ESDC				PKPab	**pPKPab**	**19 07 28.8**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=314,slow=4.4,SNR=9.0						
ESDC				PP	**PP**	**19 11 16.3**	**0.0**
	comp=Z,0.2nm,0.6s,baz=298,slow=8.3,SNR=1.4						
ESDC	**Sonseca Array**	**171.18**	**31**		**PKPdf**	**19 06 05.1**	**-1.3**
ARNO	**Arenosillo**	**171.40**	**53**	PKP	**PKPdf**	**19 06 06.0**	**-0.5**
ARNO	**Arenosillo**	**171.40**	**53**	PP	PP	19 11 22.8	+4.8
SFS	**San Fernando**	**172.09**	**55**	PKP	**PKPdf**	**19 06 04.5**	**-2.4**
SFS	**San Fernando**	**172.09**	**55**	PP	PP	19 11 27.0	+5.5
MAHO	**Mahon**	**172.10**	**347**	PKP	**PKPdf**	**19 06 06.5**	**-0.2**
MAHO	**Mahon**	**172.10**	**347**	PP	PP	19 11 18.7	-1.6
TIO	**Tiouine**	**172.10**	**97**	PKP	**PKPdf**	**19 06 05.8**	**-1.4**
TIO	**Tiouine**	**172.10**	**97**	PP	PP	19 11 23.7	+1.3
AVE	**Averroes**	**172.10**	**80**	PKP	**PKPdf**	**19 06 06.8**	**-0.2**
AVE	**Averroes**	**172.10**	**80**	PP	PP	19 11 22.7	+0.5
KEST	**Kesra**	**172.87**	**302**	PKP	**PKPdf**	**19 06 09.8**	**+2.4**
	comp=Z,2.6nm,0.9s,baz=58,slow=15,SNR=2.3						
CEU	**Ceuta**	**172.95**	**57**	PKP	**PKPdf**	**19 06 05.3**	**-1.9**
EMAL	**Malaga-Limoner**	**173.10**	**47**	PKP	**PKPdf**	**19 06 05.1**	**-2.2**
EMAL				SS	SS	19 32 49.4	+9.3
IFR	**Ifrane**	**173.97**	**76**	PKP	**PKPdf**	**19 06 06.8**	**-1.1**
PVLZ	**Peæn de**	**174.07**	**59**	PKP	**PKPdf**	**19 06 03.4**	**-4.2**
PVLZ				SS	SS	19 32 56.8	+6.6
CART	**Cartagena**	**174.14**	**23**	PKP	**PKPdf**	**19 06 07.8**	**+0.1**
CART				SS	SS	19 32 56.6	+7.7

IDC 25 18:54:29.0±6.4, 30.56S×178.83W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/25, mbtmp3.8/2 Error ellipse: s-maj=247.5km s-min=64.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.38**	**267**	P		P	19 02 24.5	-0.8
	0.5nm,0.6s,baz=107,slow=7.4,SNR=2.2							
WRA	**Warramunga Arr**	**43.39**	**273**	P		P	19 02 33.9	+0.4
	0.8nm,0.4s,baz=113,slow=7.7,SNR=6.9							
FINES	**FINESS Array B**	**145.04**	**339**	PKPbc		PKPbc	19 14 06.1	-0.8
	0.9nm,0.7s,baz=46,slow=4.0,SNR=1.4							

IDC 25 19:01:05.4±3.6, 30.16S×178.61W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/26, mbtmp4.0/2, Error ellipse: s-maj=207.5km s-min=59.1km az=168.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.60**	**267**	P		P	19 09 02.8	-0.7
	0.8nm,0.5s,baz=106,slow=7.6,SNR=13							
WRA	**Warramunga Arr**	**43.56**	**272**	P		P	19 09 11.9	+0.6
	1.5nm,0.3s,baz=112,slow=7.9,SNR=36							
KVAR	**Kislovodsk Arr**	**144.65**	**305**	PKP		PKPab	19 20 42.2	-0.5
	1.7nm,0.3s,baz=30,slow=9.0,SNR=2.9							
FINES	**FINESS Array B**	**144.74**	**340**	PKP		PKPdf	19 20 43.7	+0.2
	0.7nm,0.5s,baz=45,slow=2.2,SNR=5.3							

BUC 25 19:05:02.1±0.6, 45.76N×26.54E, h29km±4km, ml0.8/4, 14C-6D, Error ellipse: s-maj=4.3km s-min=1.9km az=113.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.12**	**43**	↑P		Pn	19 05 07.9	-0.2
PLOR				↑S		Sb	19 05 11.0	-0.3
PLOR	**Plostina**	**0.12**	**43**	↑P		Pn	19 05 07.9	-0.2
PLOR				↑S		Sb	19 05 11.0	-0.3
VRI	**Vrincioaia**	**0.17**	**53**	↑P		Pn	19 05 08.5	-0.3
VRI				↑S		Sb	19 05 12.6	+0.6
VRI	**Vrincioaia**	**0.17**	**53**	↑P		Pn	19 05 08.5	-0.3
VRI				↑S		Sb	19 05 12.6	+0.6
BISRR	**Bisoca**	**0.25**	**150**	↑P		Pb	19 05 08.7	-0.3
BISRR				↓S		Sb	19 05 14.1	+0.6
BISRR	**Bisoca**	**0.25**	**150**	↑P		Pb	19 05 08.7	-0.3
BISRR				↓S		Sb	19 05 14.1	+0.6
NEHR	**Nehoiu**	**0.38**	**207**	↑S		Sb	19 05 16.8	+0.3
NEHR	**Nehoiu**	**0.38**	**207**	↑S		Sb	19 05 16.8	+0.3
MLR	**Muntele Rosu**	**0.50**	**237**	↑P		Pb	19 05 12.1	-0.5
MLR				↓S		Sn	19 05 20.8	-0.2
MLR	**Muntele Rosu**	**0.50**	**237**	↑P		Pb	19 05 12.1	-0.5
MLR				↓S		Sn	19 05 20.8	-0.2
TESR	**Tescani**	**0.75**	**6**	↓S		Sn	19 05 27.3	+0.1
TESR	**Tescani**	**0.75**	**6**	↓S		Sn	19 05 27.3	+0.1

IDC 25 19:05:40.0±3.4, 30.33S×178.75W, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.7/30, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=230.2km s-min=31.1km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**19.33**	**66**	P		P	19 10 06.8	-0.1
	3.8nm,0.3s,baz=58,slow=19,SNR=2.5							
ASAR	**Alice Springs**	**42.46**	**267**	P		P	19 13 36.2	-0.8
	0.5nm,0.8s,baz=109,slow=7.9,SNR=5.8							
WRA	**Warramunga Arr**	**43.44**	**272**	P		P	19 13 45.4	+0.4
	0.6nm,0.3s,baz=112,slow=8.0,SNR=12							
FINES	**FINESS Array B**	**144.85**	**339**	PKP		PKPbc	19 25 17.8	+0.4
	1.9nm,0.9s,baz=72,slow=4.5,SNR=3.4							

IDC 25 19:08:44.5±6.1, 30.51S×178.81W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/28, mbtmp3.9/2, Error ellipse: s-maj=239.9km s-min=56.8km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.41**	**267**	P		P	19 16 40.2	-0.8
	0.6nm,0.5s,baz=105,slow=7.1,SNR=14							
WRA	**Warramunga Arr**	**43.40**	**273**	P		P	19 16 49.6	+0.5
	1.0nm,0.4s,baz=113,slow=7.8,SNR=15							
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc		PKPbc	19 28 21.4	-0.8
	1.3nm,0.7s,baz=60,slow=3.9,SNR=6.0							

*BJI **25** 19:14:03.0±0.0, 32.40S×177.90W, h10km, mB5.8/10, mb5.4/13, Ms5.6/5, Ms7 5.4/5*
*IDC **25** 19:14:03.8±0.7, 32.25S×177.92W, h0km, mb4.5/12, mb1 4.7/13, mb1mx4.4/30, mbtmp4.5/13, ML5.3/1, MS4.9/2, Ms1 4.9/2, ms1mx4.3/29, Error ellipse: s-maj=26.2km s-min=21.7km az=146.0*
*NEIC **25** 19:14:05.5±2.3, 32.16S±0.07×177.9W±0.1, h10km±1km, mb4.9/47, Error ellipse: s-maj=15.9km s-min=11.4km az=77.0*

ISC 25 19:14:05.1±0.4, 32.23S±0.05×177.98W±0.09, h10km, n177, σ1°69/180, mb4.9/42, MS5.2/5, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.96**	**1**	P		Pn	19 14 47.4	-4.7
GLKZ				S		**Sn**	**19 15 24.3**	**-3.4**
RAO	**Raoul Island**	**2.97**	**1**	Pn		**Pn**	**19 14 50.8**	**-1.5**
RIZ	**Raoul Island**	**2.98**	**1**	S		**Sn**	**19 15 25.2**	**-2.9**
MXZ	**Matakaoa Point**	**6.13**	**209**	Pn		**Pn**	**19 15 34.4**	**-1.3**
MXZ	**Matakaoa Point**	**6.13**	**209**	P		**Pn**	**19 15 34.2**	**-1.5**
MXZ				S		**Sn**	**19 16 44.5**	**-1.3**
WMGZ	**Waiomatatini S**	**6.31**	**207**	P		**Pn**	**19 15 39.2**	**+1.1**
WMGZ				S		**Sn**	**19 16 50.4**	**+0.2**
PKGZ	**Pakihiroa**	**6.50**	**209**	P		**Pn**	**19 15 39.5**	**-1.4**
PKGZ				S		**Sn**	**19 16 53.6**	**-1.6**
HAZ	**Te Kaha**	**6.51**	**211**	P		**Pn**	**19 15 41.4**	**+0.4**
HAZ				S		**Sn**	**19 16 52.9**	**-2.4**
PUZ	**Puketiti**	**6.59**	**207**	P		**Pn**	**19 15 40.6**	**-1.4**
PUZ				S		**Sn**	**19 16 55.1**	**-2.2**
RUGZ	**Raukumara Rang**	**6.74**	**211**	P		**Pn**	**19 15 43.3**	**-0.8**
TWGZ	**Tauwhareparae**	**6.79**	**208**	P		**Pn**	**19 15 44.6**	**-0.1**
TWGZ				S		**Sn**	**19 16 59.5**	**-2.6**
MYRZ	**Mayor Island**	**6.92**	**222**	P		Pn	19 15 50.6	+4.0
CNGZ	**Carnagh Statio**	**6.97**	**205**	P		**Pn**	**19 15 45.6**	**-1.6**
MWZ	**Matawai**	**7.11**	**210**	P		**Pn**	**19 15 48.0**	**-1.2**
URZ	**Urewera**	**7.23**	**212**	Pn		**Pn**	**19 15 49.4**	**-1.3**
RIGZ	**Rimuhau**	**7.33**	**207**	P		**Pn**	**19 15 50.6**	**-1.6**
MUGZ	**Murupara**	**7.56**	**213**	P		**Pn**	**19 15 54.5**	**-0.9**
OUZ	**Omahuta**	**7.62**	**245**	Pn		Pn	19 16 01.0	+4.8
BKZ	**Black Stump Fm**	**8.25**	**211**	Pn		**Pn**	**19 16 02.0**	**-2.8**
HIZ	**Hauiti**	**8.57**	**221**	Pn		**Pn**	**19 16 08.3**	**-0.9**
BFZ	**Birch Farm**	**9.63**	**207**	Pn		**Pn**	**19 16 23.9**	**+0.3**
MSWZ	**Moikau Station**	**10.65**	**209**	Pn		**Pn**	**19 16 35.5**	**-2.2**
TUWZ	**Tuamarina**	**11.22**	**213**	Pn		**Pn**	**19 16 42.8**	**-2.7**
QRZ	**Quartz Range**	**11.47**	**219**	Pn		**Pn**	**19 16 49.0**	**+0.1**
THZ	**Tophouse**	**11.97**	**215**	Pn		**Pn**	**19 16 53.5**	**-2.4**
KHZ	**Kahutara**	**12.19**	**211**	Pn		**Pn**	**19 16 54.3**	**-4.5**
LTZ	**Lake Taylor**	**13.06**	**213**	Pn		**Pn**	**19 17 07.6**	**-3.0**
OXZ	**Oxford**	**13.59**	**213**	Pn		**Pn**	**19 17 13.4**	**-4.4**
MQZ	**McQueen's Vall**	**13.62**	**210**	Pn		**Pn**	**19 17 15.4**	**-2.8**
RPZ	**Rata Peaks**	**14.34**	**214**			**Pn**	**19 17 25.7**	**-2.5**
MSVF	**Nonsavu**	**14.88**	**345**	Pn		**Pn**	**19 17 35.6**	**0.0**
	0.5nm,0.3s,baz=156,slow=15,SNR=3.6							
LBZ	**Lake Benmore**	**15.26**	**214**	Pn		**Pn**	**19 17 34.0**	**-6.5**
ODZ	**Otahua Downs**	**15.55**	**211**	Pn		**Pn**	**19 17 38.7**	**-5.7**
WKZ	**Wanaka**	**16.15**	**215**	Pn		**Pn**	**19 17 47.5**	**-4.6**
MLZ	**Mavora Lakes**	**16.98**	**215**	Pn		**Pn**	**19 17 59.2**	**-3.4**
DZM	**Mont Dzumac**	**17.15**	**302**	P		**P**	**19 18 10.0**	**+3.4**
	0.6nm,0.3s,baz=103,slow=18,SNR=5.3							
DZM	**Mont Dzumac**	**17.15**	**302**	P		**Pn**	**19 18 02.6**	**-2.3**
WHZ	**Wether Hill Ro**	**17.44**	**215**			**Pn**	**19 18 03.6**	**-4.7**
ARMA	**Armidale**	**25.99**	**266**	P		**P**	**19 19 42.4**	**+4.2**
ARMA				IAmb		IAmb	19 19 46.3	
	comp=Z,28nm,1.3s							
EIDS	**Eidsvold**	**27.90**	**276**	P		**P**	**19 19 55.6**	**+0.3**
	baz=26,SNR=4.6							
EIDS	**Eidsvold**	**27.90**	**276**	P		**P**	**19 19 57.5**	**+2.2**
EIDS				IAmb		IAmb	19 19 58.0	
	comp=Z,11nm,0.8s							
RMQ	**Roma**	**29.48**	**273**	P		**P**	**19 20 10.0**	**+0.7**
	baz=27,SNR=7.1							
TOO	**Toolangi**	**30.30**	**250**	P		**P**	**19 20 15.5**	**-1.1**
	baz=28,SNR=5.3							
TOO	**Toolangi**	**30.30**	**250**	P		**P**	**19 20 19.1**	**+2.5**
TOO				IAmb		IAmb	19 20 32.7	
	comp=Z,20nm,1.1s							
CMSA	**Cobar Meteorol**	**30.77**	**261**	P		**P**	**19 20 20.9**	**+0.2**
	baz=28,SNR=43							
ARPS	**Mount Arapiles**	**33.25**	**251**	P		**P**	**19 20 40.1**	**-2.4**
	baz=31,SNR=17							
QLP	**Quilpie**	**33.28**	**270**	P		**P**	**19 20 43.3**	**+0.5**
	baz=31,SNR=4.4							
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**19 20 52.1**	**+2.0**
	comp=Z,11nm,0.7s,baz=95,slow=9.1,SNR=27							
STKA				LR		LR	19 33 23.6	
	comp=Z,2μm,18.4s,baz=55,slow=34							
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**19 20 49.5**	**-0.7**
	baz=32,SNR=23							
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**19 20 52.2**	**+2.0**
CTAO	**Charters Tower**	**34.15**	**282**	P		**P**	**19 20 52.8**	**+2.3**
HTT	**Hallett**	**36.05**	**256**	P		**P**	**19 21 06.3**	**-0.5**
	baz=34,SNR=14							
MTSU	**Mount Surprise**	**36.70**	**283**	P		**P**	**19 21 14.5**	**+2.1**
	baz=35,SNR=18							
BBOO	**Buckleboo**	**38.52**	**256**	P		**P**	**19 21 27.8**	**0.0**
	baz=36,SNR=16							
BBOO	**Buckleboo**	**38.52**	**256**	P		**P**	**19 21 27.2**	**-0.6**
BBOO				IAmb		IAmb	19 21 28.7	
	comp=Z,24nm,0.9s							
AS31	**Alice Springs**	**43.06**	**269**	P		**P**	**19 22 05.3**	**0.0**
ASAR	**Alice Springs**	**43.06**	**269**	P		**P**	**19 22 05.5**	**+0.2**
	comp=Z,11nm,0.6s,baz=105,slow=7.6,SNR=159							
ASAR	**Alice Springs**	**43.06**	**269**	P		**P**	**19 22 05.2**	**-0.1**
WR0	**Warramunga Arr**	**44.04**	**274**	P		**P**	**19 22 13.4**	**+0.2**
WR0				IAmb		IAmb	19 22 29.5	
	comp=Z,12nm,0.7s							
WB2	**Warramunga Arr**	**44.20**	**274**	P		**P**	**19 22 14.2**	**-0.3**
WB2				IAmb		IAmb	19 22 15.8	
	comp=Z,54nm,1.4s							
WRAB	**Tennant Creek**	**44.21**	**274**	P		**P**	**19 22 14.6**	**0.0**
WRAB				IAmb		IAmb	19 22 15.8	
	comp=Z,50nm,1.4s							
WRA	**Warramunga Arr**	**44.21**	**274**	P		**P**	**19 22 14.7**	**+0.1**
	comp=Z,9.6nm,0.4s,baz=113,slow=7.8,SNR=88							
WRA	**Warramunga Arr**	**44.21**	**274**	P		**P**	**19 22 13.9**	**-0.7**
WB0	**Warramunga Arr**	**44.24**	**274**	P		**P**	**19 22 14.6**	**-0.3**
WB0				IAmb		IAmb	19 22 16.1	
	comp=Z,51nm,1.4s							
FORT	**Forrest**	**45.62**	**257**	P		**P**	**19 22 25.5**	**-0.2**
	baz=43,SNR=32							
FORT	**Forrest**	**45.62**	**257**	P		**P**	**19 22 25.3**	**-0.4**
WRKA	**Warakurna**	**47.29**	**264**	P		**P**	**19 22 38.4**	**-0.6**
	baz=45,SNR=17							
MTN	**Manton Dam**	**50.31**	**280**	P		**P**	**19 23 01.9**	**-0.3**
KNRA	**Kununurra**	**50.88**	**276**	P		**P**	**19 23 07.2**	**+0.7**
	baz=49,SNR=5.7							
KNRA	**Kununurra**	**50.88**	**276**	P		**P**	**19 23 06.1**	**-0.4**
KNRA				IAmb		IAmb	19 23 19.1	
	comp=Z,35nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.40**	**271**	P		**P**	**19 23 17.8**	**0.0**
	baz=50,SNR=7.7							
FITZ	**Fitzroy Crossi**	**52.40**	**271**	P		**P**	**19 23 17.3**	**-0.5**
FITZ				IAmb		IAmb	19 23 18.6	
	comp=Z,10.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**53.79**	**251**	P		**P**	**19 23 26.9**	**-1.0**
KLBR	**Kellerberrin**	**53.79**	**252**	P		**P**	**19 23 26.7**	**-1.3**
	baz=51,SNR=13							
FAKI	**Fak Fak**	**55.01**	**291**	P		**P**	**19 23 35.8**	**-1.2**
MMRI	**Maumere**	**59.94**	**279**	P		**P**	**19 24 11.5**	**-0.3**
GIRL	**Giralia**	**60.05**	**261**	P		**P**	**19 24 12.9**	**+0.4**
MAW	**Mawson**	**70.60**	**201**	P		**P**	**19 25 20.9**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=99,slow=5.3,SNR=4.0							
SNAA	**Sanae**	**76.33**	**178**	P		**P**	**19 25 54.2**	**+0.4**
SNAA	**Sanae**	**76.33**	**178**	PcP		**PcP**	**19 26 05.6**	**-0.1**
SNAA	**Sanae**	**76.33**	**178**			**P**	**19 25 53.7**	**-0.1**
SNAA				IAmb		IAmb	19 26 18.0	
	comp=Z,26nm,1.2s							
VNA3	**Neumayer Olymp**	**76.48**	**176**	P		**P**	**19 25 55.0**	**+0.3**
VNA3	**Neumayer Olymp**	**76.48**	**176**	PcP		**PcP**	**19 26 06.4**	**+0.1**
VNA2	**Neumayer--Watz**	**76.91**	**177**	P		**P**	**19 25 58.2**	**+1.1**
	baz=195,slow=4.2							
VNA2	**Neumayer--Watz**	**76.91**	**177**	PcP		**PcP**	**19 26 09.0**	**+0.8**
VNA1	**Neumayer--Stat**	**77.14**	**177**	P		**P**	**19 26 00.8**	**+2.5**
VNA1	**Neumayer--Stat**	**77.14**	**177**	PcP		**PcP**	**19 26 11.1**	**+1.9**
MJAR	**Matsushiro Arr**	**79.76**	**325**	P		**P**	**19 26 12.6**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=163,slow=5.5,SNR=5.1							
JKA	**Kamikawa-asahi**	**84.07**	**333**	P		**P**	**19 26 36.6**	**+1.0**
JKA	**Kamikawa-asahi**	**84.07**	**333**	IAmb		IAmb	19 26 37.6	
	comp=Z,19nm,1.0s							
ASAJ	**Asahikawa**	**84.07**	**333**	P		**P**	**19 26 36.6**	**+1.0**
	comp=Z,10nm,0.9s,baz=264,slow=4.8,SNR=4.9							
KSRS	**Korea Array**	**85.75**	**320**	P		**P**	**19 26 45.3**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=139,slow=7.6,SNR=2.7							

GSI	**Gunungsitoli**	**85.99**	**274**	P		**P**	**19 26 48.6**	**+2.5**
LASI	**Langsa, Aceh**	**87.33**	**277**	P		P	19 27 05.6	+13
NJ2	**Nanjing**	**87.45**	**311**	*e*P		**P**	**19 26 55.5**	**+2.7**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
ISA	**Isabella, Lake**	**87.59**	**45**			**P**	**19 26 55.1**	**+1.7**
ISA				IAmb		IAmb	19 26 57.0	
	comp=Z,19nm,1.4s							
PETK	**Petropavlovsk-**	**87.59**	**346**	P		**P**	**19 26 53.7**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=103,slow=6.4,SNR=2.9							
GSC	**Goldstone, Bar**	**88.35**	**46**			**P**	**19 26 58.8**	**+1.6**
GSC				IAmb		IAmb	19 27 00.6	
	comp=Z,11nm,1.3s							
113A	**Mohawk Valley,**	**88.58**	**49**	P		**P**	**19 26 57.4**	**-0.7**
113A				IAmb		IAmb	19 27 01.9	
	comp=Z,6.3nm,1.3s							
USRK	**Ussuriysk Ar.**	**88.69**	**327**	P		**P**	**19 26 59.4**	**+1.0**
	comp=Z,3.3nm,0.9s,baz=147,slow=3.9,SNR=6.3							
WAKR	**Walker**	**88.97**	**42**			**P**	**19 26 59.2**	**-0.9**
WAKR				IAmb		IAmb	19 27 03.5	
	comp=Z,13nm,1.3s							
NVAR	**Mina Array Bea**	**89.57**	**43**	P		**P**	**19 27 03.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=219,slow=8.3,SNR=8.9							
NV11	**Mina Array Sit**	**89.66**	**43**	P		**P**	**19 27 01.5**	**-1.8**
NV11				IAmb		IAmb	19 27 06.3	
	comp=Z,7.8nm,1.4s							
TPH	**Tonopah**	**89.96**	**44**	P		**P**	**19 27 04.9**	**+0.2**
W13A	**Hualapai Mount**	**90.01**	**48**			**P**	**19 27 05.0**	**-0.2**
W13A				IAmb		IAmb	19 27 08.8	
	comp=Z,10nm,1.5s							
KVN	**Kaiserville**	**90.11**	**42**			**P**	**19 27 06.2**	**+0.8**
KVN				IAmb		IAmb	19 27 08.2	
	comp=Z,6.8nm,1.3s							
MDJ	**Mudanjiang**	**90.14**	**326**	P		**P**	**19 27 06.3**	**+1.1**
MDJ				S		**S**	**19 38 00.0**	**+1.4**
MDJ				pmax		pmax		
	comp=Z,11nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,210nm,7.3s							
MDJ				L		L		
	comp=Z,1μm,16.5s							
MDJ				L		L		
	comp=Z,430nm,19.8s							
MDJ				L		L		
	comp=Z,1μm,18.1s							
PRN	**Pahroc Range**	**90.80**	**45**	P		**P**	**19 27 09.7**	**+1.1**
PRN				IAmb		IAmb	19 27 12.4	
	comp=Z,7.4nm,1.2s							
K05A	**Summer Lake**	**91.12**	**38**			**P**	**19 27 10.5**	**+0.4**
K05A				IAmb		IAmb	19 27 25.1	
	comp=Z,13nm,0.9s							
X16A	**Lo Mia Camp, P**	**91.13**	**49**	P		**P**	**19 27 09.7**	**-0.6**
X16A				IAmb		IAmb	19 27 14.2	
	comp=Z,7.5nm,1.3s							
PINE	**Pine Mountain**	**91.84**	**37**			**P**	**19 27 13.7**	**+0.3**
PINE				IAmb		IAmb	19 27 18.2	
	comp=Z,6.8nm,1.1s							
KLR	**Kul'dur**	**92.62**	**330**	P		**P**	**19 27 17.1**	**+0.6**
	comp=Z,1.6nm,0.2s,baz=165,slow=3.8,SNR=5.8							
I07A	**Izee**	**92.79**	**38**			**P**	**19 27 16.8**	**-0.8**
I07A				IAmb		IAmb	19 27 19.1	
	comp=Z,5.6nm,1.4s					

comp=Z,3.8nm,0.9s
WTTA Wattenberg 163.29 337 *e*P **PKPab 19 34 58.8 +0.4**
comp=Z,5.8nm,1.0s
RETA Reutte 163.37 339 *e*P **PKPab 19 34 59.3 +0.7**
comp=Z,8.8nm,1.3s
MOTA Moosalm 163.39 338 *e*P **PKPab 19 34 59.0 +0.2**
comp=Z,7.6nm,1.2s
ABTA Abfaltersbach 163.42 334 *e*P **PKPab 19 34 58.1 -0.8**
comp=Z,5.3nm,1.2s
SQTA Sankt Quirin 163.47 338 *e*P **PKPab 19 35 00.2 +1.1**
comp=Z,6.6nm,1.4s
FETA Feichten 163.80 338 *e*P **PKPab 19 35 01.0 +0.4**
comp=Z,5.1nm,1.1s
DAVA Damuels 163.81 340 *e*P **PKPab 19 35 02.6 +1.9**
comp=Z,6.3nm,1.1s
ESDC Sonseca Array 171.13 31 PKPab **PKPab 19 35 33.7 +0.6**
comp=Z,0.7nm,0.9s,baz=312,slow=3.4,SNR=2.6

IDC ***25*** *19:18:03.6±0.7, 32°.13S×177°.99W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/29, mbtmp4.4/13, MS4.7/3, Ms1 4.7/3, ms1mx4.2/28, Error ellipse: s-maj=28.0km s-min=21.6km az=160.0*
NEIC ***25*** *19:18:04.9±1.9, 32°.29S±0°.07×177°.92W±0°.05, h10km±1km, mb4.8/20, Error ellipse: s-maj=11.9km s-min=7.2km az=172.0*
BJI ***25*** *19:18:04.0±0.0, 32°.30S×177°.90W, h10km, mB5.7/4, mb5.1/13, Ms5.4/3, Ms7 5.2/3*
ISC 25 19:18:05.0±0.4, 32°.24S±0°.05×178°.00W±0°.08, h10km, n152, σ1§41/162, mb4.7/24, MS4.9/4, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.97**	**1**	P	**Pn**	**19 18 50.7**	**-1.6**
GLKZ				S	**Sn**	**19 19 24.8**	**-3.1**
RAO	**Raoul Island**	**2.98**	**1**	Pn	**Pn**	**19 18 52.5**	**+0.1**
MXZ	**Matakaoa Point**	**6.12**	**209**	Pn	**Pn**	**19 19 33.3**	**-2.1**
MXZ	**Matakaoa Point**	**6.12**	**209**	P	**Pn**	**19 19 33.4**	**-2.1**
MXZ				S	**Sn**	**19 20 43.2**	**-2.3**
WMGZ	**Waiomatatini S**	**6.29**	**207**	P	**Pn**	**19 19 38.7**	**+0.8**
WMGZ				S	**Sn**	**19 20 51.5**	**+1.6**
PKGZ	**Pakihiroa**	**6.49**	**209**	P	**Pn**	**19 19 39.5**	**-1.1**
PKGZ				S	**Sn**	**19 20 54.4**	**-0.3**
HAZ	**Te Kaha**	**6.50**	**211**	P	**Pn**	**19 19 40.6**	**-0.1**
HAZ				S	**Sn**	**19 20 54.5**	**-0.4**
PUZ	**Puketiti**	**6.58**	**207**	P	**Pn**	**19 19 39.6**	**-2.2**
PUZ				S	**Sn**	**19 20 54.6**	**-2.3**
RUGZ	**Raukumara Rang**	**6.72**	**211**	P	**Pn**	**19 19 43.2**	**-0.6**
RUGZ				S	**Sn**	**19 21 00.1**	**-0.5**
TWGZ	**Tauwhareparae**	**6.77**	**208**	P	**Pn**	**19 19 43.3**	**-1.3**
TWGZ				S	**Sn**	**19 21 02.0**	**+0.2**
CNGZ	**Carnagh Statio**	**6.96**	**205**	P	**Pn**	**19 19 43.8**	**-3.2**
CNGZ				S	**Sn**	**19 21 05.3**	**-0.9**
TKGZ	**Te Karaka**	**7.05**	**208**	P	**Pn**	**19 19 47.7**	**-0.6**
TKGZ				S	**Sn**	**19 21 05.9**	**-2.6**
MWZ	**Matawai**	**7.09**	**210**	P	**Pn**	**19 19 48.3**	**-0.6**
MWZ				S	**Sn**	**19 21 07.7**	**-2.0**
URZ	**Urewera**	**7.21**	**212**	Pn	**Pn**	**19 19 49.4**	**-1.2**
URZ	**Urewera**	**7.21**	**212**	P	**Pn**	**19 19 50.1**	**-0.4**
URZ				S	**Sn**	**19 21 10.2**	**-2.3**
RIGZ	**Rimuhau**	**7.32**	**207**	P	**Pn**	**19 19 52.6**	**+0.6**
RIGZ				S	**Sn**	**19 21 13.9**	**-1.3**
WCZ	**Waipu Caves**	**7.34**	**238**	P	Pn	19 19 57.2	+4.9
MUGZ	**Murupara**	**7.55**	**213**	P	**Pn**	**19 19 55.6**	**+0.5**
MUGZ				S	**Sn**	**19 21 17.7**	**-3.0**
RTZ	**Ruatahuna**	**7.56**	**211**	P	**Pn**	**19 19 57.0**	**+1.5**
RTZ				S	**Sn**	**19 21 19.1**	**-2.2**
OUZ	**Omahuta**	**7.61**	**245**	Pn	**Pn**	**19 19 55.7**	**-0.2**
OUZ	**Omahuta**	**7.61**	**245**	P	Pn	19 20 00.7	+4.8
MTHZ	**Maungataniwha**	**7.82**	**211**	P	**Pn**	**19 19 58.4**	**-0.5**
MTHZ				S	**Sn**	**19 21 24.6**	**-3.0**
BKZ	**Black Stump Fm**	**8.23**	**211**	Pn	**Pn**	**19 20 04.6**	**0.0**
BFZ	**Birch Farm**	**9.61**	**207**	Pn	**Pn**	**19 20 22.2**	**-1.2**
MSWZ	**Moikau Station**	**10.63**	**209**	Pn	**Pn**	**19 20 35.5**	**-1.9**
TUWZ	**Tuamarina**	**11.21**	**213**	Pn	**Pn**	**19 20 43.7**	**-1.6**
THZ	**Tophouse**	**11.96**	**215**	Pn	**Pn**	**19 20 53.4**	**-2.2**
KHZ	**Kahutara**	**12.18**	**211**	Pn	**Pn**	**19 20 56.4**	**-2.1**
RPZ	**Rata Peaks**	**14.33**	**214**	Pn	**Pn**	**19 21 26.8**	**-1.1**
ODZ	**Otahua Downs**	**15.54**	**211**	Pn	**Pn**	**19 21 43.9**	**-0.2**
DZM	**Mont Dzumac**	**17.14**	**302**	Pn	**P**	**19 22 08.0**	**+1.5**
	0.2nm,0.3s,baz=128,slow=17,SNR=3.0						
ARMA	**Armidale**	**25.97**	**266**	P	**P**	**19 23 37.0**	**-1.0**
ARMA				IAmb	IAmb	19 23 40.2	
	comp=Z,20nm,1.1s						
EIDS	**Eidsvold**	**27.89**	**276**	P	**P**	**19 23 57.2**	**+2.1**
EIDS				IAmb	IAmb	19 24 13.2	
	comp=Z,16nm,0.9s						
PPT	**Papeete**	**29.51**	**67**	LR	LR	19 33 49.2	
	comp=Z,854nm,18.8s,baz=266,slow=32						
STKA	**Stephens Creek**	**34.11**	**260**	P	**P**	**19 24 50.8**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=99,slow=8.4,SNR=7.1						
STKA	**Stephens Creek**	**34.11**	**260**	P	**P**	**19 24 51.7**	**+1.7**
	baz=35,SNR=8.4						
STKA	**Stephens Creek**	**34.11**	**260**	P	**P**	**19 24 50.4**	**+0.4**
CTAO	**Charters Tower**	**34.14**	**282**	P	**P**	**19 24 51.7**	**+1.3**
CTAO				IAmb	IAmb	19 24 54.8	
	comp=Z,18nm,0.8s						
HTT	**Hallett**	**36.03**	**256**	P	**P**	**19 25 06.4**	**-0.2**
	baz=36,SNR=4.7						
MTSU	**Mount Surprise**	**36.68**	**283**	P	**P**	**19 25 14.2**	**+1.9**
	baz=37,SNR=10.0						
BBOO	**Buckleboo**	**38.51**	**256**	P	**P**	**19 25 27.5**	**-0.1**
	baz=39,SNR=7.1						
BBOO	**Buckleboo**	**38.51**	**256**	P	**P**	**19 25 26.6**	**-1.0**
BBOO				IAmb	IAmb	19 25 30.2	
	comp=Z,17nm,0.9s						
AS31	**Alice Springs**	**43.05**	**269**	P	**P**	**19 26 05.2**	**0.0**
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**19 26 05.0**	**-0.3**
	comp=Z,8.5nm,0.9s,baz=113,slow=7,SNR=17						
ASAR				S	**S**	**19 32 29.2**	**-1.9**
	comp=Z,1.5nm,0.9s,baz=107,slow=16,SNR=5.8						
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**19 26 04.8**	**-0.5**
WR0	**Warramunga Arr**	**44.02**	**274**	P	**P**	**19 26 12.3**	**-0.8**
WR0				IAmb	IAmb	19 26 30.2	
	comp=Z,23nm,1.1s						
WB2	**Warramunga Arr**	**44.19**	**274**	P	**P**	**19 26 13.8**	**-0.7**
WRAB	**Tennant Creek**	**44.20**	**274**	P	**P**	**19 26 13.9**	**-0.6**
WRA	**Warramunga Arr**	**44.20**	**274**	P	**P**	**19 26 14.2**	**-0.4**
	comp=Z,9.2nm,0.8s,baz=111,slow=8.0,SNR=23						
WRA				LR	LR	19 42 10.5	
	comp=Z,2μm,19.7s,baz=100,slow=33						
WRA	**Warramunga Arr**	**44.20**	**274**	P	**P**	**19 26 13.8**	**-0.7**
WB0	**Warramunga Arr**	**44.23**	**274**	P	**P**	**19 26 14.1**	**-0.7**
FORT	**Forrest**	**45.61**	**257**	P	**P**	**19 26 25.3**	**-0.3**
	baz=46,SNR=14						
FORT	**Forrest**	**45.61**	**257**	P	**P**	**19 26 24.2**	**-1.4**
VNDA	**Vanda**	**46.27**	**186**	P	P	19 26 39.7	+10
	comp=Z,0.7nm,0.7s,baz=16,slow=8.6,SNR=2.2						
WRKA	**Warakurna**	**47.28**	**264**	P	**P**	**19 26 38.0**	**-0.9**
	baz=48,SNR=9.8						
MTN	**Manton Dam**	**50.30**	**280**	P	**P**	**19 27 03.0**	**+0.9**
	baz=51,SNR=4.4						
KNRA	**Kununurra**	**50.87**	**276**	P	**P**	**19 27 05.9**	**-0.5**
	baz=51,SNR=4.6						
KNRA	**Kununurra**	**50.87**	**276**	P	**P**	**19 27 05.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**52.38**	**271**	P	**P**	**19 27 18.7**	**+1.0**
	baz=53,SNR=3.9						
FITZ	**Fitzroy Crossi**	**52.38**	**271**	P	**P**	**19 27 16.6**	**-1.1**
FITZ				IAmb	IAmb	19 27 20.1	
	comp=Z,10nm,1.1s						
CASY	**Casey**	**53.52**	**208**	P	**P**	**19 27 25.5**	**+0.1**
KLBR	**Kellerberrin**	**53.78**	**252**	P	**P**	**19 27 27.7**	**-0.2**
	baz=54,SNR=5.4						
QSPA	**South Pole Qui**	**57.87**	**180**	P	**P**	**19 27 58.8**	**+1.9**
MAW	**Mawson**	**70.59**	**201**	P	**P**	**19 29 21.1**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=148,slow=13,SNR=3.1						
SNAA	**Sanae**	**76.32**	**178**	P	**P**	**19 29 55.1**	**+1.2**
SNAA	**Sanae**	**76.32**	**178**	PcP	**PcP**	**19 30 04.9**	**-0.8**
SNAA	**Sanae**	**76.32**	**178**	P	**P**	**19 29 53.5**	**-0.3**
SNAA				IAmb	IAmb	19 30 05.8	
	comp=Z,14nm,1.1s						
VNA3	**Neumayer Olymp**	**76.47**	**176**	P	**P**	**19 29 55.4**	**+0.8**
VNA3	**Neumayer Olymp**	**76.47**	**176**	PcP	**PcP**	**19 30 06.8**	**+0.5**
VNA2	**Neumayer--Watz**	**76.91**	**177**	P	**P**	**19 29 58.2**	**+1.2**
	baz=170,slow=4.4						
VNA2	**Neumayer--Watz**	**76.91**	**177**	PcP	**PcP**	**19 30 09.1**	**+1.0**
VNA1	**Neumayer--Stat**	**77.14**	**177**	P	**P**	**19 30 00.8**	**+2.4**
VNA1	**Neumayer--Stat**	**77.14**	**177**	PcP	**PcP**	**19 30 10.2**	**+1.1**
PLCA	**Paso Flores**	**81.25**	**133**	P	**P**	**19 30 22.1**	**+0.6**
	comp=Z,3.2nm,1.0s,baz=214,slow=3.6,SNR=3.2						
KIWB	**Kanaga Island**	**83.74**	**1**	P	**P**	**19 30 34.1**	**+0.4**
ADK	**Adak**	**83.77**	**1**	P	**P**	**19 30 33.2**	**-0.7**
ASAJ	**Asahikawa**	**84.07**	**333**	P	**P**	**19 30 34.8**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=216,slow=8.7,SNR=3.0						
NJ2	**Nanjing**	**87.44**	**311**	*e*P	**P**	**19 30 55.3**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PETK	**Petropavlovsk-**	**87.59**	**346**	P	**P**	**19 30 51.9**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=123,slow=5.5,SNR=5.5						
PETK	**Petropavlovsk-**	**87.59**	**346**	P	P	19 30 48.0	-5.0
ISA	**Isabella, Lake**	**87.60**	**45**	P		19 30 54.9	
	baz=227						
ISA	**Isabella, Lake**	**87.60**	**45**	P	**P**	**19 30 49.7**	**-3.8**
ISA				IAmb	IAmb	19 30 56.9	
	comp=Z,5.0nm,1.0s						
BC3	**Big Chuckawall**	**88.11**	**48**	P		19 30 58.4	
	baz=228						
GSC	**Goldstone, Bar**	**88.36**	**46**	P		19 30 58.6	
	baz=228						
MPMC	**Manual Prospec**	**88.46**	**45**	P		19 30 59.4	
	baz=227						
IRM	**Iron Mountain**	**88.63**	**48**	P		19 30 59.8	
	baz=229						
USRK	**Ussuriysk Ar.**	**88.69**	**327**	P	**P**	**19 30 58.4**	**0.0**
	comp=Z,2.7nm,0.8s,baz=146,slow=3.7,SNR=5.9						
USRK	**Ussuriysk Ar.**	**88.69**	**327**	P	P	19 30 53.5	-4.9
214A	**Organ Pipe Nat**	**88.70**	**51**	P		19 31 00.7	
	baz=230						
GMRC	**Granite Mounta**	**88.72**	**47**	P		19 31 00.9	
	baz=228						
O03E	**Paynes Creek**	**88.93**	**39**	P		19 31 01.7	
	baz=224						
N02D	**Trinity Center**	**88.94**	**39**	P		19 31 02.0	
	baz=224						
SHOC	**Shoshone, Teco**	**89.08**	**46**	P		19 31 02.6	
	baz=228						
NVAR	**Mina Array Bea**	**89.59**	**43**	P	**P**	**19 31 02.1**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=216,slow=7.3,SNR=7.8						
NVAR	**Mina Array Bea**	**89.59**	**43**	P	**P**	**19 31 01.5**	**-1.5**
KLR	**Kul'dur**	**92.62**	**330**	P	**P**	**19 31 17.0**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=50,slow=0.8,SNR=4.1						
NNA	**Nana**	**92.91**	**106**	LR	LR	20 04 52.2	
	comp=Z,352nm,18.6s,baz=156,slow=30						
TXAR	**Lajitas Array**	**93.38**	**57**	P	**P**	**19 31 21.3**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=280,slow=5.1,SNR=2.4						
KMI	**Kunming**	**94.65**	**297**	⇑P	**P**	**19 31 30.0**	**+3.2**
KMI				pP	pwP	19 31 36.8	+1.4
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				L	L		
	comp=Z,350nm,17.6s						
KMI				L	L		
	comp=Z,580nm,15.8s						
KMI				L	L		
	comp=Z,650nm,15.4s						
CD2	**Chengdu**	**97.07**	**302**	P	Pdif	19 31 39.0	+1.4
PDAR	**Pinedale Array**	**97.46**	**44**	P	**P**	**19 31 38.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=209,slow=1.7,SNR=2.1						
HHC	**Hu-ho-hao-te**	**97.51**	**314**	*e*P	Pdif	19 31 41.0	+1.6
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	**99.72**	**13**	P	**Pdif**	**19 31 48.3**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=201,slow=4.7,SNR=2.6						
GTA	**Gaotai**	**104.27**	**308**	*e*P	**Pdif**	**19 32 16.8**	**+7.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA	**Gaotai**	**104.27**	**308**	*e*P	PKiKP	19 36 34.0	+7.8
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	**Urumqi**	**114.36**	**308**	*e*PKP	**PKiKP**	**19 36 46.5**	**+1.6**
MK31	**Makanchi Array**	**118.95**	**309**		**PKPdf**	**19 36 52.4**	**-1.2**
MKAR	**Makanchi Array**	**118.95**	**309**	PKP	**PKPdf**	**19 36 53.1**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=92,slow=2.1,SNR=6.7						
MKAR	**Makanchi Array**	**118.95**	**309**		**PKPdf**	**19 36 52.2**	**-1.4**
MAKZ	**Makanchi**	**119.16**	**309**		**PKPdf**	**19 36 53.7**	**-0.3**
ZALV	**Zalesovo Beam**	**119.40**	**318**	PKP	**PKiKP**	**19 36 54.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=42,slow=2.3,SNR=2.2						
BOOM	**Boomskoye usch**	**122.06**	**303**		**PKPdf**	**19 36 59.0**	**-0.9**
BRVK	**Borovoye**	**127.78**	**315**		**PKPdf**	**19 37 09.4**	**-0.9**
GEYT	**Alibeck**	**134.32**	**293**	PKP	**PKPdf**	**19 37 23.7**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=158,slow=12,SNR=2.2						
NRS	**Narsarsuaq**	**137.93**	**32**	PKPdf	**PKPdf**	**19 37 29.1**	**0.0**
ARCES	**ARCESS Array B**	**140.38**	**347**	PKP	**PKPdf**	**19 37 32.8**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=349,slow=3.8,SNR=4.7						
KLMR	**Klimovskoe**	**142.38**	**331**	*e*PKPdf	**PKPdf**	**19 37 35.3**	**-1.9**
KLMR				AMP		19 37 52.5	
	comp=Z,16nm,1.5s						
KLMR				*e*PP	**PP**	**19 40 44.2**	**-0.2**
ONI	**Oni**	**145.80**	**300**		**PKPdf**	**19 37 42.9**	**-0.9**
KBZ	**Khabaz**	**146.11**	**302**	PKPbc	**PKPbc**	**19 37 45.4**	**+0.2**
	comp=Z,8.4nm,1.0s,baz=58,slow=1.3,SNR=6.7						
FIA1	**FINESS Array S**	**146.87**	**339**		**PKPdf**	**19 37 45.7**	**+0.8**
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	**PKPbc**	**19 37 46.4**	**-0.4**
	comp=Z,16nm,0.8s,baz=50,slow=3.0,SNR=18						
FINES	**FINESS Array B**	**146.87**	**339**		**PKPbc**	**19 37 46.0**	**-0.8**
GURO	**Guroymak-BITLI**	**146.96**	**292**		**PKPdf**	**19 37 46.5**	**+0.4**
MEF	**Metsahovi**	**148.34**	**339**	*e*P	**PKPbc**	**19 37 51.2**	**+0.3**
VSU	**Vasula**	**148.90**	**335**	*e*P	**PKiKP**	**19 37 53.2**	**-0.5**
NC303	**NORSAR Array S**	**150.37**	**351**		**PKPbc**	**19 37 55.7**	**-0.2**
NC405	**NORSAR Array S**	**150.43**	**350**		**PKiKP**	**19 37 58.3**	**+1.4**
NB201	**NORSAR Array S**	**150.55**	**351**		**PKPdf**	**19 37 49.3**	**-1.7**
NB2	**NORSAR Subarra**	**150.57**	**351**	PKP	**PKiKP**	**19 37 56.9**	**-0.3**
	baz=23,slow=3.1						
NOA	**NORSAR Array B**	**150.57**	**351**	PKPbc	**PKPbc**	**19 37 55.5**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=15,slow=4.1,SNR=7.6						
NOA				PKPab	**pPKPab**	**19 38 04.2**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=18,slow=2.8,SNR=8.1						
GAZ	**Gaziantep**	**150.75**	**290**		**PKPbc**	**19 37 57.1**	**-0.6**
NAO01	**NORSAR Array S**	**150.80**	**351**		**PKPdf**	**19 37 49.3**	**-2.1**
IIGN	**Ignalina**	**151.31**	**331**	*e*P	**PKiKP**	**19 37 59.5**	**+0.7**
BNN	**Bunyan**	**151.80**	**293**		**PKPbc**	**19 37 59.3**	**-0.9**
PABE	**Paberze**	**152.10**	**333**	*e*P	**PKiKP**	**19 38 01.6**	**+1.2**
PABE	**Paberze**	**152.10**	**333**		**PKPdf**	**19 37 52.8**	**-0.7**
AKASG	**Malin Array Be**	**152.74**	**321**	PKPbc	**PKPbc**	**19 38 01.2**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=54,slow=2.5,SNR=9.9						
AKASG	**Malin Array Be**	**152.74**	**321**		**PKPbc**	**19 38 01.4**	**-0.2**
AKBB	**Malin Array Si**	**152.74**	**321**		**PKPbc**	**19 38 00.8**	**-0.9**
BRTR	**Keskin Array B**	**153.43**	**295**	PKPbc	**PKiKP**	**19 38 04.5**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=124,slow=4.4,SNR=2.6						
KWP	**Kalwaria Pacla**	**156.75**	**324**		**PKPab**	**19 38 28.8**	**-0.9**
DPC	**Dobruska-Polom**	**159.02**	**334**	*e*PKPAB	**PKPab**	**19 38 39.9**	**+0.4**
KRLC	**Kraliky**	**159.06**	**333**	*e*PKPAB	**PKPab**	**19 38 40.1**	**+0.4**
CLL	**Collm**	**159.30**	**340**	*e*PKPdf	**PKPdf**	**19 38 05.0**	**+1.8**
CLL				*i* PKPab	**PKPab**	**19 38 38.8**	**-1.8**
	comp=Z,9.0nm,1.2s						
CLL				*e*		19 39 01.0	
CLL	**Collm**	**159.30**	**340**		**PKPab**	**19 38 39.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**160.99**	**179**	PKPab	**PKPab**	**19 38 48.7**	**0.0**
	comp=Z,1.9nm,0.8s,baz=183,slow=3.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**160.99**	**179**		**PKPab**	**19 38 45.7**	**-3.0**
KHC	**Kasperske Hory**	**161.02**	**336**	*e*PKPAB	**PKPab**	**19 38 48.4**	**+0.2**
CKRC	**Cesky Krumlov**	**161.02**	**334**	*e*PKPAB	**PKPab**	**19 38 48.4**	**+0.2**
CONA	**Conrad Observa**	**161.13**	**330**	*e*P	**PKPab**	**19 38 49.0**	**+0.2**
	comp=Z,5.8nm,1.1s						
GERES	**GERESS Array B**	**161.22**	**335**	PKPab	**PKPab**	**19 38 47.6**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=35,slow=4.9,SNR=6.9						
GERES	**GERESS Array B**	**161.22**	**335**		**PKPab**	**19 38 47.2**	**-2.0**
GRF	**Grafenberg Arr**	**161.26**	**341**	*e*PKP	**PKPab**	**19 38 49.3**	**+0.1**
	baz=25,slow=4.2						
SOKA	**Soboth**	**162.46**	**329**	*e*P	**PKPab**	**19 38 54.1**	**-0.5**
	comp=Z,8.2nm,1.6s						
WATA	**Walderalm**	**163.25**	**337**	*e*P	**PKPab**	**19 38 58.5**	**+0.3**
	comp=Z,5.0nm,1.0s						
WTTA	**Wattenberg**	**163.29**	**337**	*e*P	**PKPab**	**19 38 58.2**	**-0.2**
	comp=Z,6.0nm,1.1s						
RETA	**Reutte**	**163.38**	**339**	*e*P	**PKPab**	**19 38 58.9**	**+0.3**
	comp=Z,5.4nm,0.9s						
MOTA	**Moosalm**	**163.40**	**338**	*e*P	**PKPab**	**19 38 58.7**	**-0.1**
	comp=Z,6.8nm,1.0s						
ABTA	**Abfaltersbach**	**163.42**	**334**	*e*P	**PKPab**	**19 38 57.9**	**-1.0**
	comp=Z,5.4nm,1.1s						
SQTA	**Sankt Quirin**	**163.47**	**337**	*e*P	**PKPab**	**19 38 59.3**	**+0.2**
	comp=Z,5.3nm,0.9s						
FETA	**Feichten**	**163.80**	**338**	*e*P	**PKPab**	**19 39 00.8**	**+0.2**
	comp=Z,7.3nm,1.2s						
DAVA	**Damuels**	**163.82**	**340**	*e*P	**PKPab**	**19 39 00.7**	**+0.1**
	comp=Z,9.3nm,1.5s						

IDC ***25*** *19:32:22.0±0.6, 32°.61S×57°.06E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/42, mbtmp4.1/14, Error ellipse: s-maj=20.6km s-min=17.6km az=36.0*
NEIC ***25*** *19:32:24.0±1.1, 32°.6S±0°.1×57°.0E±0°.2, h12km±4km, mb4.4/16, Error ellipse: s-maj=21.3km s-min=16.9km az=52.0*
ISC 25 19:32:24.5±0.6, 32°.6S±0°.1×57°.0E±0°.1, h16km, n57, σ0§61/47, mb4.4/27, 3C-3D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**13.99**	**317**		**Pn**	**19 35 41.9**	**-0.5**
ABPO	**Ambohimpanom**	**16.13**	**325**	Pn	**Pn**	**19 36 10.4**	**-0.5**
MATP	**Matopo**	**28.15**	**288**	P	**P**	**19 38 15.1**	**-1.2**
	1.3nm,0.7s,baz=151,slow=11,SNR=1.9						
H08S1	**Diego Carcia H**	**28.70**	**33**	T	T	20 08 13.6	
	baz=207,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**28.71**	**33**	T	T	20 08 12.8	
	baz=207,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**28.72**	**33**	T	T	20 08 14.8	
	baz=207,slow=76,SNR=35						
SUR	**Sutherland**	**30.43**	**261**	P	**P**	**19 38 36.9**	**+0.3**
	5.8nm,0.9s,baz=57,slow=13,SNR=1.5						
H01W2	**Cape Leeuwin H**	**47.00**	**109**	T	T	20 30 50.1	
	baz=254,slow=75,SNR=127						
H01W3	**Cape Leeuwin H**	**47.01**	**109**	T	T	20 30 50.7	
	baz=254,slow=75,SNR=130						
H01W1	**Cape Leeuwin H**	**47.02**	**109**	T	T	20 30 51.5	
	baz=254,slow=75,SNR=107						
SNAA	**Sanae**	**49.98**	**201**	P	**P**	**19 41 17.6**	**0.0**
	2.7nm,0.8s,baz=62,slow=8.7,SNR=9.8						
SNAA	**Sanae**	**49.98**	**201**	IAmb	IAmb	19 41 22.2	
	comp=Z,5.8nm,1.0s						
QSPA	**South Pole Qui**	**57.56**	**180**	P	**P**	**19 42 13.4**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=244,slow=1.3,SNR=10.0						
QSPA	**South Pole Qui**	**57.56**	**180**	P	**P**	**19 42 12.9**	**-0.3**
VNDA	**Vanda**	**61.54**	**166**	P	**P**	**19 42 40.4**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=242,slow=7.4,SNR=2.5						
CMAR	**Chiang Mai Arr**	**64.72**	**45**	P	**P**	**19 43 02.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=225,slow=7.5,SNR=8.1						
ASAR	**Alice Springs**	**67.08**	**104**	P	**P**	**19 43 16.9**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=237,slow=5.8,SNR=7.9						
WRA	**Warramunga Arr**	**69.15**	**101**	P	**P**	**19 43 29.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=242,slow=5.1,SNR=15						
TORD	**Torodi Ar. Bea**	**69.71**	**301**	P	**P**	**19 43 34.4**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=128,slow=5.3,SNR=10.0						
TORD	**Torodi Ar. Bea**	**69.71**	**301**	P	**P**	**19 43 34.4**	**+0.5**
TORD				IAmb	IAmb	19 43 35.2	
	comp=Z,2.7nm,0.8s						
DBIC	**Dimbokro**	**70.52**	**292**	P	**P**	**19 43 40.2**	**+1.3**
	comp=Z,4.3nm,0.8s,baz=121,slow=4.6,SNR=5.4						
DBIC	**Dimbokro**	**70.52**	**292**		**P**	**19 43 39.2**	**+0.3**
DBIC	**Dimbokro**	**70.52**	**292**	P	**P**	**19 43 38.5**	**-0.4**
DBIC				IAmb	IAmb	19 43 51.6	
	comp=Z,38nm,1.6s						
CHGR	**Chuyangaron**	**71.81**	**10**	P	**P**	**19 43 47.3**	**+1.0**
GAR	**Garm**	**72.32**	**11**	P	**P**	**19 43 49.3**	**0.0**
GAR				IAmb	IAmb	19 44 12.8	
	comp=Z,4.9nm,1.0s						
BRTR	**Keskin Array B**	**75.16**	**342**	P	**P**	**19 44 06.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=146,slow=9.0,SNR=3.7						
BRTR	**Keskin Array B**	**75.16**	**342**	P	**P**	**19 44 05.7**	**-0.4**
KK31	**Karatay Array**	**76.36**	**10**	P	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.18**	**222**	Pg	Pg	20 09 07.6	+0.1
APZ9				Lg	Lg	20 09 09.8	
APZ9				Rg	Rg	20 09 10.8	
APZ9	**Apatity**	**0.18**	**222**	Pg	Pg	20 09 07.6	+0.1
APZ9				Sg	Sg	20 09 09.8	+0.1
APA0	**Apatity Array** baz=89,slow=16	**0.30**	**251**	Pg	Pg	20 09 10.0	+0.4
APA0	baz=61,slow=28			Lg	Lg	20 09 13.9	
APA0	baz=90,slow=28			Rg	Rg	20 09 15.8	
APA0	**Apatity Array** baz=89,slow=16	**0.30**	**251**	Pg	Pg	20 09 10.0	+0.4
APA0	baz=61,slow=28			Sg	Sg	20 09 13.9	+0.4
VRF	**Varrio** baz=95	**1.57**	**274**	PG	Pn	20 09 32.9	-0.2
VRF	comp=Z,11nm,0.2s			MSG		20 09 53.0	
VRF				SN	Sn	20 09 53.3	-0.8
OLKF	**Oulanka, Finla** baz=49	**2.19**	**233**	PG	Pb	20 09 43.7	-0.8
OLKF				SG	Sb	20 10 11.7	-0.5
KU6	**Riekki**	**2.27**	**224**	PG	Pb	20 09 44.4	-1.3
KU6	comp=Z,4.5nm,0.2s			MSG		20 10 11.4	
KU6				SG	Sb	20 10 14.5	+0.3
MSF	**Maaselka** baz=47	**2.58**	**228**	PG	Pb	20 09 49.9	-1.2
MSF				SG	Sb	20 10 23.2	-0.2
SGF	**Sodankyl** baz=86	**2.77**	**268**	PB	Pb	20 09 53.3	-1.0
SGF				SG	Sb	20 10 28.1	-0.8
KEV	**Kevo**	**3.20**	**313**	Pn	Pn	20 09 56.9	+1.4
KEV				Sn	Sn	20 10 34.9	+0.7
KEV				Lg	Lg	20 10 42.9	
KEV	**Kevo**	**3.20**	**313**	Pn	Pn	20 09 56.9	+1.4
KEV				Sn	Sn	20 10 34.9	+0.7
KEV	**Kevo**	**3.20**	**313**	PN	Pn	20 09 57.8	+2.4
KEV				SN	Sn	20 10 35.1	+0.9
RNF	**Rovaniemi**	**3.20**	**254**	PN	Pn	20 09 56.1	+0.7
RNF				SN	Sn	20 10 34.9	+0.6
ARA0	**ARCESS Array S** baz=122,slow=18	**3.53**	**305**	Pn	Pn	20 10 00.8	+0.8
ARA0	baz=126,slow=28			Sn	Sn	20 10 41.8	-0.6
ARA0	baz=113,slow=37			Lg	Lg	20 10 52.7	
ARA0	**ARCESS Array S** baz=122,slow=18	**3.53**	**305**	Pn	Pn	20 10 00.8	+0.8
ARA0	baz=126,slow=28			Sn	Sn	20 10 41.8	-0.6
ARA0	baz=113,slow=37			Sg	Sb	20 10 52.7	+2.2
ARA0	**ARCESS Array S**	**3.53**	**305**	PN	Pn	20 10 02.3	+2.3
ARA0				SN	Sn	20 10 42.2	-0.1
KLF	**Kolari** baz=82	**3.79**	**267**	PG	Pb	20 10 13.3	+1.7
KLF				SG	Sg	20 11 02.5	-3.0
HEF	**Hetta**	**3.84**	**285**	Sn	Sn	20 10 49.7	-0.5
HEF				Lg	Lg	20 11 03.1	
HEF	**Hetta**	**3.84**	**285**	Sg	Sb	20 11 03.1	+3.5
TOF	**Tornio**	**4.05**	**251**	PG	Pb	20 10 18.3	+2.3
KTK1	**Kautokeino**	**4.10**	**293**	*e*S	Sn	20 10 54.8	-1.7
KTK1				*e*Sg	Sg	20 11 12.0	-3.5
KTK1	comp=Z,5.2nm,0.4s			IAML		20 11 26.9	
PAJU	**Pajala** baz=79	**4.16**	**265**	PG	Pb	20 10 19.2	+1.3
PAJU				SN	Sn	20 10 57.3	-0.6
LANU	**Lannavaara**	**4.45**	**280**	PB	Pb	20 10 18.8	-4.1
KIF	**Kilpisjarvi**	**4.96**	**291**	Sn	Sn	20 11 16.4	-1.1
KIF				Lg	Lg	20 11 35.3	
KIF	**Kilpisjarvi**	**4.96**	**291**	Sn	Sn	20 11 16.4	-1.1
FIA0	**FINESS Array S**	**7.09**	**211**	Sn	Sn	20 12 04.9	-5.1
FIA0	baz=32,slow=28			Lg	Lg	20 12 38.8	
FIA0	**FINESS Array S**	**7.09**	**211**	Sn	Sn	20 12 04.9	-5.1

IDC 25 20:23:59.0±3.2, 32°21S×178°34W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/20, mbtmpg3.9/3, ML3.5/1, Error ellipse: s-maj=71.3km s-min=37.2km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.9nm,0.3s,baz=121,slow=23,SNR=1.8	**7.09**	**210**	Pn	Pn	20 25 43.1	-0.9
URZ	5.0nm,0.3s,baz=268,slow=20,SNR=10.0			Sn	Sn	20 27 06.4	+1.0
ASAR	**Alice Springs** 0.4nm,0.5s,baz=107,slow=8.0,SNR=7.2	**42.76**	**269**	P	P	20 31 58.5	+0.1
WRA	**Warramunga Arr** 1.7nm,0.4s,baz=114,slow=7.6,SNR=36	**43.91**	**274**	P	P	20 32 07.5	-0.2
FINES	**FINESS Array B** 1.8nm,0.9s,baz=66,slow=3.4,SNR=4.8	**146.73**	**339**	PKPbc	PKPbc	20 43 41.3	-0.8

*ANF **25** 20:25:34.2±0.7, 44°.35N×124°.54W, h17km±2km, ML2.6/7, Error ellipse: s-maj=5.2km s-min=3.5km az=73.0, Hypocentre not reviewed by the ISC*
*PNSN **25** 20:25:34.9, 44°.38N×124°.47W, h29km, MD2.5, Fault plane solution: NP1:ϕ±290.00000°, δ90.00000°, λ-120.00000°.*
*SEA **25** 20:25:34.9±2.9, 44°.38N±0°.03×124°.47W±0°.04, h29km±7km, ML2.5/21, ML2.4/10(NEIC), Error ellipse: s-maj=4.7km s-min=3.7km az=205.0*

NEIC 25 20:25:35.4±2.5, 44°.38N±0°.02×124°.48W±0°.04, h26km±7km, Error ellipse: s-maj=4.1km s-min=2.4km az=63.0, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEWO	**Newport DOGAMI**	**0.40**	**51**		Sb	20 25 49.9	+0.1
TOLO	**Toledo BPA CRE**	**0.47**	**58**		Pb	20 25 43.7	-1.4
TOLO					Sb	20 25 51.7	0.0
I02D	**Swisshome**	**0.53**	**120**		Pb	20 25 45.3	-0.8
I02D					Sb	20 25 53.4	+0.1
I02D	**Swisshome** baz=302,SNR=726	**0.53**	**120**	P		20 25 45.3	
I02D	baz=302			S		20 25 53.2	
MPOR	**Mary's Peak**	**0.68**	**79**		Pb	20 25 47.9	-0.9
RNO	**Roman Nose**	**0.70**	**131**		Pb	20 25 48.7	-0.4
COR	**Corvallis**	**0.87**	**76**		Pb	20 25 51.4	-0.4
COR	**Corvallis** 254nm,0.6s	**0.87**	**76**	IAML		20 26 06.2	
COR	141nm,0.5s			IAML		20 26 06.6	
I03D	**Drain, OR**	**1.06**	**129**		Pn	20 25 54.1	-0.5
I03D					Sn	20 26 09.2	+0.6
I03D	**Drain, OR** baz=311,SNR=21	**1.06**	**129**	P		20 25 54.1	
I03D	baz=311			S		20 26 08.9	
BUCK	**Buck Mountain**	**1.09**	**99**		Pn	20 25 55.0	-0.1
G03D	**McMinnville, O** baz=226,SNR=9.2	**1.20**	**46**	P		20 25 56.4	
G03D	baz=226			S		20 26 13.6	
H04D	**Lebanon**	**1.26**	**83**		Pn	20 25 57.7	+0.4
H04D					Sb	20 26 15.8	+1.6
H04D	**Lebanon** baz=264,SNR=17	**1.26**	**83**	P		20 25 57.7	
H04D	baz=264			S		20 26 15.4	
BROR	**Big Rock Looko**	**1.46**	**94**		Pn	20 26 00.9	+0.8
DBO	**Dodson Butte**	**1.54**	**144**		Pb	20 26 02.8	-0.6
I04A	**Tendick Farm,**	**1.60**	**111**		Pn	20 26 02.9	+0.8
I04A	**Tendick Farm,** baz=292,SNR=5.8	**1.60**	**111**	P		20 26 02.7	
I04A	baz=292			S		20 26 23.6	
H04A	**Detroit Lake**	**1.67**	**79**		Pn	20 26 03.6	+0.6
H04A	comp=E,55nm,0.3s			IAML		20 26 29.8	
H04A	comp=N,54nm,0.5s			IAML		20 26 34.9	
PRLK	**Prince Lake**	**1.81**	**94**		Pb	20 26 06.7	-1.3
J04D	**Umpqua Nationa** baz=305	**2.06**	**123**	Sg		20 26 42.4	
HUMO	**Hull Mountain**	**2.09**	**147**		Pn	20 26 07.8	-0.9
I05D	**Terrebonne, OR** baz=272	**2.25**	**90**	Sb		20 26 45.0	
SEPW	**September Lobe**	**2.44**	**41**		Pb	20 26 17.6	-1.1
VALT	**Mount Saint He**	**2.45**	**40**		Pn	20 26 16.3	+2.4
J05D	**Fort Rock, OR** baz=296	**2.59**	**114**	Sb		20 26 55.5	
PINE	**Pine Mountain**	**2.62**	**102**		Pn	20 26 14.1	-2.1
PINE	comp=N,11nm,2.2s			IAML		20 27 08.7	
PINE	comp=E,8.9nm,3.2s			IAML		20 27 10.0	
GHW	**Garrison Hill**	**3.08**	**29**		Pn	20 26 21.2	-1.2
RCM	**Mount Rainier-**	**3.13**	**37**		Pn	20 26 25.0	+1.7
A05A	**Maple Falls**	**4.91**	**19**		Pn	20 26 52.9	+5.4

*IDC **25** 20:38:58.2±1.0, 32°.12S×178°.02W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.1/23, mbtmp4.3/6, ML4.0/1, Error ellipse: s-maj=29.8km s-min=27.5km az=156.0*
*NEIC **25** 20:39:00.1±0.7, 32°.1S±0°.1×178°.0W±0°.2, h8km±5km, mb4.6/14, Error ellipse: s-maj=20.7km s-min=12.0km az=123.0*

ISC 25 20:38:59.1±0.7, 32°20S±0°.07×178°.0W±0°.1, h10km, n48, σ1§81/59, mb4.6/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.93**	**1**	P	Pn	20 39 43.3	-2.4
GLKZ				S	Sn	20 40 15.8	-5.1
RAO	**Raoul Island**	**2.94**	**1**	Pn	Pn	20 39 45.4	-0.5
MXZ	**Matakaoa Point**	**6.15**	**209**	P	Pn	20 40 27.7	-2.3
MXZ				S	Sn	20 41 37.3	-3.1
WMGZ	**Waiomatatini S**	**6.33**	**207**	P	Pn	20 40 30.7	-1.8
WMGZ				S	Sn	20 41 44.0	-0.9
PKGZ	**Pakihiroa**	**6.53**	**208**	P	Pn	20 40 33.7	-1.6
PKGZ				S	Sn	20 41 49.6	-0.1
HAZ	**Te Kaha**	**6.54**	**211**	P	Pn	20 40 33.4	-1.9
HAZ				S	Sn	20 41 50.4	+0.5
RUGZ	**Raukumara Rang**	**6.76**	**210**	P	Pn	20 40 37.2	-1.2
RUGZ				S	Sn	20 41 55.0	-0.5
TWGZ	**Tauwhareparae**	**6.81**	**208**	P	Pn	20 40 39.2	+0.1
TWGZ				S	Sn	20 41 57.0	+0.2
CNGZ	**Carnagh Statio**	**7.00**	**205**	P	Pn	20 40 38.8	-2.8
CNGZ				S	Sn	20 42 00.5	-0.7
MWZ	**Matawai**	**7.13**	**210**	P	Pn	20 40 41.8	-1.7
MWZ				S	Sn	20 42 03.3	-1.3
URZ	**Urewera** 2.5nm,0.3s,baz=121,slow=24,SNR=9.8	**7.25**	**212**	Pn	Pn	20 40 44.8	-0.3
URZ	20nm,0.3s,baz=45,slow=20,SNR=15			Sn	Sn	20 42 05.5	-1.9
URZ	**Urewera**	**7.25**	**212**		Pn	20 40 41.9	-3.2
URZ	**Urewera**	**7.25**	**212**	P	Pn	20 40 42.6	-2.5
URZ				S	Sn	20 42 04.9	-2.6
RAGZ	**Rawiri**	**7.32**	**210**	P	Pn	20 40 44.4	-1.7
RAGZ				S	Sn	20 42 07.1	-2.1
OUZ	**Omahuta**	**7.62**	**244**	Pn	Pn	20 40 51.6	+1.4
BKZ	**Black Stump Fm**	**8.27**	**211**	Pn	Pn	20 40 57.2	-2.0
BFZ	**Birch Farm**	**9.65**	**207**	Pn	Pn	20 41 16.5	-1.5
MSWZ	**Moikau Station**	**10.67**	**209**	Pn	Pn	20 41 31.4	-0.6
BHW	**Baring Head**	**10.82**	**210**	Pn	Pn	20 41 31.7	-2.3
TUWZ	**Tuamarina**	**11.24**	**213**	Pn	Pn	20 41 36.7	-3.2
KHZ	**Kahutara**	**12.21**	**211**	Pn	Pn	20 41 50.6	-2.5
ODZ	**Otahua Downs**	**15.58**	**211**	Pn	Pn	20 42 34.0	-4.7
ODZ	comp=Z,24nm,1.3s			IAmb	IAmb	20 42 54.4	
STKA	**Stephens Creek** comp=Z,2.0nm,0.7s,baz=89,slow=10,SNR=5.8	**34.11**	**260**	P	**P**	**20 45 46.3**	**+2.2**
BBOO	**Buckleboo**	**38.51**	**256**	P	**P**	**20 46 20.4**	**-1.3**
BBOO	comp=Z,7.2nm,0.9s			IAmb	IAmb	20 46 33.8	
AS31	**Alice Springs**	**43.04**	**269**	P	**P**	**20 46 59.1**	**-0.2**
ASAR	**Alice Springs** comp=Z,2.7nm,0.5s,baz=105,slow=7.6,SNR=35	**43.04**	**269**	P	**P**	**20 46 59.5**	**+0.2**
WR0	**Warramunga Arr**	**44.01**	**274**	P	**P**	**20 47 07.0**	**-0.1**
WR0	comp=Z,19nm,1.4s			IAmb	IAmb	20 47 30.9	
WB2	**Warramunga Arr**	**44.18**	**274**	P	**P**	**20 47 08.4**	**0.0**
WB2	comp=Z,9.2nm,0.5s			IAmb	IAmb	20 47 09.7	
WRA	**Warramunga Arr** comp=Z,5.5nm,0.4s,baz=113,slow=7.7,SNR=117	**44.19**	**274**	P	**P**	**20 47 08.5**	**0.0**
WRA	**Warramunga Arr**	**44.19**	**274**	P	**P**	**20 47 08.4**	**-0.1**
WB0	**Warramunga Arr**	**44.22**	**274**	P	**P**	**20 47 08.8**	**0.0**
WB0	comp=Z,15nm,1.2s			IAmb	IAmb	20 47 12.7	
FORT	**Forrest**	**45.61**	**257**	P	**P**	**20 47 19.8**	**+0.1**
KNRA	**Kununurra**	**50.86**	**276**	P	**P**	**20 48 00.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.38**	**271**	P	**P**	**20 48 12.0**	**+0.2**
FITZ	comp=Z,12nm,1.3s			IAmb	IAmb	20 48 32.8	
QSPA	**South Pole Qui** comp=Z,5.4nm,1.1s,baz=49,slow=4.6,SNR=8.6	**57.92**	**180**	P	**P**	**20 48 52.4**	**+1.2**
QSPA	**South Pole Qui**	**57.92**	**180**	P	**P**	**20 48 53.3**	**+2.1**
QSPA	comp=Z,4.8nm,0.7s			IAmb	IAmb	20 49 05.2	
SNAA	**Sanae**	**76.36**	**178**	P	**P**	**20 50 49.2**	**+1.0**
SNAA	**Sanae**	**76.36**	**178**	P	**P**	**20 50 50.0**	**+1.8**
SNAA	comp=Z,4.4nm,0.9s			IAmb	IAmb	20 51 05.8	
VNA3	**Neumayer Olymp**	**76.52**	**176**	P	**P**	**20 50 49.9**	**+0.9**
VNA2	**Neumayer--Watz**	**76.95**	**177**	P	**P**	**20 50 50.9**	**-0.5**
VNA1	**Neumayer--Stat**	**77.18**	**177**	P	**P**	**20 50 53.6**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.5s,baz=221,slow=7.9,SNR=4.1	**89.56**	**43**	P	**P**	**20 51 57.9**	**+0.9**
LOHW	**Long Hollow**	**97.34**	**43**	P	Pdif	20 52 35.0	+2.2
MKAR	**Makanchi Array** comp=Z,0.2nm,0.6s,baz=88,slow=2.1,SNR=2.9	**118.92**	**309**	PKP	**PKiKP**	**20 57 49.0**	**+1.4**
KBZ	**Khabaz** comp=Z,2.1nm,0.8s,baz=90,slow=1.0,SNR=1.9	**146.08**	**302**	PKPbc	**PKPdf**	**20 58 38.3**	**0.0**
FINES	**FINESS Array B** comp=Z,1.6nm,0.5s,baz=52,slow=3.0,SNR=8.4	**146.82**	**339**	PKPbc	**PKPdf**	**20 58 39.5**	**+0.6**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=50,slow=2.6,SNR=6.9	**152.70**	**321**	PKPbc	**PKiKP**	**20 58 56.4**	**+0.5**
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,1.0s,baz=184,slow=3.3,SNR=5.1	**161.04**	**179**	PKPab	**PKPab**	**20 59 44.2**	**+1.2**

*AUST **25** 21:25:22.2±0.5, 31°.42S×117°.49E, h10km±5km, Error ellipse: s-maj=6.2km s-min=2.9km az=68.0*
*CUPWA **25** 21:25:23.4±0.0, 31°.47S×117°.49E, h1km, ML2.4, Region: WESTERN AUSTRALIA*

ISC 25 21:25:22.2±1.1, 31°.44S±0°.03×117°.48E±0°.04, h8km±10km, n10, σ0§74/20, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin** baz=0.3	**0.28**	**123**	P	**Pg**	**21 25 28.0**	**+0.3**
KLBR	baz=0.3			S	**Sg**	**21 25 31.4**	**-0.1**
KLBR	**Kellerberrin**	**0.28**	**123**	*i* P	**Pg**	**21 25 27.6**	**-0.1**
KLBR				S	**Sg**	**21 25 30.6**	**-0.9**
BLDU	**Ballidu** baz=1.1	**1.06**	**321**	P	**Pg**	**21 25 43.0**	**+0.6**
BLDU	baz=1.1			S	**Sg**	**21 25 56.6**	**+0.4**
BLDU	**Ballidu**	**1.06**	**321**	P	**Pg**	**21 25 42.6**	**+0.2**
BLDU				S	**Sg**	**21 25 55.6**	**-0.6**
MUN	**Mundaring** baz=1.2	**1.21**	**243**	P	**Pg**	**21 25 45.3**	**-0.1**
MUN	baz=1.2			S	**Sg**	**21 26 01.9**	**+0.8**
MUN	**Mundaring**	**1.21**	**243**	P	**Pg**	**21 25 44.6**	**-0.8**
MUN				S	**Sg**	**21 26 00.6**	**-0.5**
NWAO	**Narrogin (SRO)** baz=1.5	**1.50**	**188**	P	**Pn**	**21 25 50.1**	**+0.7**
NWAO	baz=1.5			S	**Sn**	**21 26 09.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**1.50**	**188**	P	**Pn**	**21 25 49.6**	**+0.2**
NWAO				S	**Sn**	**21 26 08.6**	**-0.5**
MORW	**Morawa** baz=2.7	**2.67**	**332**	P	**Pn**	**21 26 06.5**	**+1.0**
MORW	baz=2.7			S	**Sn**	**21 26 37.2**	**-0.9**
MORW	**Morawa**	**2.67**	**332**	P	**Pn**	**21 26 05.6**	**+0.1**
MORW				S	**Sn**	**21 26 36.6**	**-1.5**

*IDC **25** 21:36:20.5±0.4, 2°.04N×126°.53E, h0km, mb4.6/27, mb1 4.6/30, mb1mx4.5/47, mbtmp4.6/30, ML3.8/3, MS3.8/4, Ms1 3.8/4, ms1mx3.1/34, Error ellipse: s-maj=21.0km s-min=9.0km az=81.0*

*DJA **25** 21:36:26.4±3.5, 2°.1N±5°.1×12°.7E±°, h25km±38km, M4.5/12, mb4.9/7, mB5.0/6, MLv4.5/12, Mw(mB)4.3/6*
*KLM **25** 21:36:28, 2°.65N×127°.05E, h50km, mb4.8*
*NEIC **25** 21:36:28.5±1.6, 2°.14N±0°.08×126°.75E±0°.07, h49km±7km, mb4.7/107, Error ellipse: s-maj=12.5km s-min=9.2km az=216.0*

ISC 25 21:36:27.7±0.3, 2°.10N±0°.04×126°.66E±0°.05, h47km, n180, σ1§48/195, mb4.8/89, MS4.0/8, 1C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.15**	**103**	P	**Pn**	**21 36 46.2**	**-1.3**
TNTI	**Ternate**	**1.50**	**152**		**Pn**	**21 36 51.8**	**-0.3**
TNTI	**Ternate**	**1.50**	**152**	P	**Pn**	**21 36 51.9**	**-0.3**
MNI	**Manado**	**1.94**	**250**	P	**Pn**	**21 36 59.6**	**+1.4**
SGSI	**Sangihe**	**1.94**	**324**	P	**Pn**	**21 36 57.2**	**-1.0**
GTOI	**Gorontalo**	**3.93**	**248**	P	**Pn**	**21 37 27.8**	**+2.2**
SANI	**Sanana**	**4.18**	**189**	P	**Pn**	**21 37 29.9**	**+0.9**
LUWI	**Luwuk**	**4.99**	**231**	Pn	**Pn**	**21 37 43.9**	**+3.8**
LUWI	**Luwuk** 1.2nm2µm296nm,0.8s	**4.99**	**231**	P	**Pn**	**21 37 43.3**	**+3.2**
MRSI	**Marisa** 0.6nm2µm148nm,0.5s	**4.99**	**251**	P	**Pn**	**21 37 43.2**	**+3.1**
DAV	**Davao City (W)** 4.9nm,0.3s,baz=72,slow=16,SNR=1.1	**5.05**	**348**	Pn	**Pn**	**21 37 38.3**	**-2.7**
DAV	58nm,0.3s,baz=262,slow=19,SNR=2.3			Sn	**Sn**	**21 38 39.9**	**+1.8**
KCP	**Kidapawan** 0.4nm1µm41nm,0.5s	**5.12**	**342**	‖*e*P	**Pn**	**21 37 44.1**	**+2.2**
NLAI	**Namlea** 0.3nm,0.3s,baz=27,slow=16,SNR=11	**5.32**	**175**	P	**Pn**	**21 37 46.3**	**+1.6**
SWI	**Sorong** 0.2nm27nm,0.8s	**5.46**	**123**	P	**Pn**	**21 37 46.2**	**-0.3**
SIJI	**Sorong** 6.5nm,0.3s,baz=206,slow=16,SNR=11	**5.47**	**123**	Pn	**Pn**	**21 37 44.5**	**-2.1**
SIJI	comp=Z,686nm,21.9s,baz=220,slow=42			LR		21 40 11.9	
APSI	**Ampana** 0.4nm1µm143nm,1.1s	**5.84**	**239**	P	**Pn**	**21 37 56.3**	**+4.5**
TOLI2	**Tolitoli**	**5.96**	**261**	Pn	**Pn**	**21 37 54.2**	**+0.7**
PAGZ	**Pagadian**	**6.58**	**330**	‖*e*P	**Pn**	**21 38 00.4**	**-1.5**
MPSI	**Mapaga**	**6.99**	**256**	P	**Pn**	**21 38 09.6**	**+2.0**
FAKI	**Fak Fak**	**7.49**	**132**	Pn	**Pn**	**21 38 14.9**	**+0.5**
KAPI	**Kappang** 0.3nm,0.3s,baz=69,slow=16,SNR=1.3	**9.88**	**224**	Pn	**Pn**	**21 38 42.5**	**-4.8**
KAPI	0.7nm,0.3s,baz=258,slow=22,SNR=1.5			Sn	**Sn**	**21 40 31.1**	**-5.8**
KAPI	**Kappang**	**9.88**	**224**	Pn	**Pn**	**21 38 49.5**	**+2.2**
SPMM	**Sapulut**	**10.51**	**285**	P	**Pn**	**21 38 59.0**	**+3.2**
LQP	**Lukban**	**12.96**	**337**	‖*e*P	**Pn**	**21 39 31.8**	**+2.3**
SBUM	**Sibu**	**14.44**	**272**	P	**P**	**21 39 57.0**	**+1.8**
MTN	**Manton Dam**	**15.50**	**163**	Pn	**Pn**	**21 40 02.2**	**-1.0**
MTN	comp=Z,22nm,0.5s			IAmb	IAmb	21 40 14.0	
JAGI	**Jajag, Banyuwa**	**16.31**	**230**	Pn	**Pn**	**21 40 14.6**	**+0.9**
KNRA	**Kununurra**	**17.79**	**173**	P	**Pn**	**21 40 32.0**	**0.0**
UGM	**Wanagama**	**18.93**	**238**	P	**Pn**	**21 40 46.2**	**+0.3**
UGM	comp=Z,45nm,1.0s			IAmb	IAmb	21 40 58.2	
FITZ	**Fitzroy Crossi** comp=Z,2.4nm,0.3s,baz=7,1,slow=9.4,SNR=8.7	**20.10**	**183**	P	**P**	**21 40 54.8**	**-2.8**
FITZ	**Fitzroy Crossi**	**20.10**	**183**	P	**P**	**21 40 58.0**	**+0.4**
YULB	**Yu-li**	**21.79**	**347**	P	**P**	**21 41 11.8**	**-4.1**
TPUB	**Ta-pu**	**21.87**	**345**	P	**P**	**21 41 13.7**	**-3.0**
TPUB	comp=Z,35nm,1.1s			IAmb	IAmb	21 41 18.2	
SSLB	**Suanglung**	**22.25**	**346**	P	**P**	**21 41 19.9**	**-0.9**
SSLB	comp=Z,21nm,0.8s			IAmb	IAmb	21 41 21.8	
NACB	**Ninganchiao**	**22.48**	**348**	P	**P**	**21 41 22.4**	**-0.9**
YOJ	**Yonaguni jima**	**22.51**	**351**	P	**P**	**21 41 22.9**	**-0.5**
YOJ	comp=Z,50nm,0.9s			IAmb	IAmb	21 41 33.8	
YHNB	**Yeheng**	**23.01**	**348**	P	**P**	**21 41 27.5**	**-1.3**
YHNB	comp=Z,18nm,0.8s			IAmb	IAmb	21 41 32.7	
WB0	**Warramunga Arr**	**23.02**	**161**	P	**P**	**21 41 27.6**	**-1.3**
WB0	comp=Z,17nm,0.5s			IAmb	IAmb	21 41 38.4	
WRAB	**Tennant Creek**	**23.16**	**161**	P	**P**	**21 41 29.6**	**-0.7**
WRAB	comp=Z,15nm,0.8s			IAmb	IAmb	21 41 35.2	
WRA	**Warramunga Arr** comp=Z,12nm,0.4s,baz=335,slow=11,SNR=60	**23.17**	**161**	P	**P**	**21 41 29.1**	**-1.2**
WRA	comp=Z,0.4nm,0.4s,baz=329,slow=2.1,SNR=2.1			PcP	**PcP**	**21 45 17.9**	**+0.1**
WRA	comp=Z,1.1nm,0.6s,baz=330,slow=22,SNR=3.5			S	**S**	**21 45 39.5**	**+0.9**
WRA	**Warramunga Arr**	**23.17**	**161**	P	**P**	**21 41 29.0**	**-1.4**
WB2	**Warramunga Arr**	**23.17**	**161**	P	**P**	**21 41 29.4**	**-1.0**
WB2	comp=Z,20nm,0.8s			IAmb	IAmb	21 41 35.2	
WR0	**Warramunga Arr**	**23.25**	**161**	P	**P**	**21 41 30.2**	**-1.0**
TATO	**Taipei**	**23.28**	**348**	P	**P**	**21 41 29.0**	**-2.4**
TATO	comp=Z,50nm,1.1s			IAmb	IAmb	21 41 47.4	
QIZ	**Qiongzhong**	**23.54**	**317**	P	**P**	**21 41 33.2**	**-0.8**
PSA00	**Pilbara Seismi**	**24.46**	**195**	P	**P**	**21 41 43.7**	**+1.4**
PSA00	**Pilbara Seismi**	**24.46**	**195**	P	**P**	**21 41 43.8**	**+1.4**
PSA00	comp=Z,3.2nm,1.0s			IAmb	IAmb	21 41 46.1	
JOW	**Kunigami** comp=Z,42nm,0.6s,baz=191,slow=11,SNR=6.7	**24.64**	**3**	P	**P**	**21 41 44.0**	**+0.1**
JOW	**Kunigami**	**24.64**	**3**	P	**P**	**21 41 44.5**	**+0.5**
AS31	**Alice Springs**	**26.56**	**165**	P	**P**	**21 42 01.2**	**-0.3**
ASAR	**Alice Springs** comp=Z,1.5nm,0.3s,baz=344,slow=8.7,SNR=26	**26.57**	**165**	P	**P**	**21 42 00.8**	**-0.7**
ASAR	comp=Z,0.7nm,0.4s,baz=355,slow=2.1,SNR=5.9			PcP	**PcP**	**21 45 25.1**	**-0.1**
ASAR	comp=Z,0.9nm,0.9s,baz=346,slow=18,SNR=3.1			S	**S**	**21 46 35.7**	**+2.7**
ASAR	**Alice Springs**	**26.57**	**165**	P	**P**	**21 42 02.4**	**+0.9**
GIRL	**Giralia**	**27.42**	**206**	P	**P**	**21 42 10.7**	**+1.5**
CHAI	**Chaiyaphum** comp=Z,15nm,0.7s	**27.91**	**301**	P	**P**	**21 42 14.1**	**+0.4**
NONG	**Nongkai** comp=Z,18nm,0.8s	**28.00**	**306**	P	**P**	**21 42 14.0**	**-0.4**
GSI	**Gunungsitoli**	**29.09**	**269**	P	**P**	**21 42 24.6**	**+0.4**
SLVN	**Son La**	**29.27**	**312**	P	**P**	**21 42 26.7**	**+0.9**
PHIT	**Phitsanulok** comp=Z,55nm,0.8s	**29.84**	**302**	P	**P**	**21 42 31.8**	**+1.1**
NJ2	**Nanjing**	**30.69**	**347**	*e*P	**P**	**21 42 40.5**	**+2.4**
NJ2	comp=Z,6.0nm,0.5s			pmax	pmax		
CM31	**Chiang Mai Arr**	**31.66**	**303**	P	**P**	**21 42 47.7**	**+0.8**
CM31	comp=Z,8.8nm,0.9s			IAmb	IAmb	21 42 48.8	
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.7s,baz=112,slow=6.3,SNR=11	**31.66**	**303**	P	**P**	**21 42 45.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**31.66**	**303**

KSAR Wonju Array Be 35.19 2 P P 21 43 18.2 +1.0
KSRS Korea Array 35.20 2 P P 21 43 17.4 +0.1
comp=Z,9.4nm,0.6s,baz=179,slow=9.8,SNR=35
KSRS LR LR 21 58 29.7
comp=Z,71nm,19.5s,baz=240,slow=38
KS19 Wonju Array Si 35.24 2 P P 21 43 18.2 +0.4
KS19 IAmb IAmb 21 43 24.3
comp=Z,3.7nm,0.6s
XAN Xi'an 35.84 334 P P 21 43 21.8 -1.2
XAN pP pP 21 43 30.5 -4.5
XAN sP pwP 21 43 34.5 -2.9
XAN pmax pmax
comp=Z,6.0nm,0.6s
BBOO Buckleboo 35.84 166 P P 21 43 22.5 -0.5
BBOO IAmb IAmb 21 43 23.7
comp=Z,9.3nm,1.0s
MAJO Matsushiro 35.89 16 P P 21 43 21.9 -1.5
MAJO IAmb IAmb 21 43 24.2
comp=Z,16nm,0.8s
MAT Matsushiro 35.89 16 P P 21 43 22.0 -1.4
MJAR Matsushiro Arr 35.89 16 P P 21 43 21.9 -1.5
comp=Z,14nm,0.8s,baz=187,slow=9.5,SNR=29
MJAR Matsushiro Arr 35.89 16 P P 21 43 22.3 -1.1
EIDS Eidsvold 36.13 141 P P 21 43 25.1 -0.5
EIDS IAmb IAmb 21 43 26.5
comp=Z,8.4nm,1.0s
STKA Stephens Creek 36.65 158 P P 21 43 29.0 -0.8
comp=Z,3.2nm,0.4s,baz=346,slow=6.0,SNR=19
STKA Stephens Creek 36.65 158 P P 21 43 29.8 -0.1
JSD Sado 37.31 15 P P 21 43 34.6 -0.9
JMM Marumori 37.88 18 P P 21 43 40.1 -0.2
BJT Baijiatuau 38.93 347 P P 21 43 48.9 -0.1
BJT IAmb IAmb 21 43 52.0
comp=Z,8.5nm,0.6s
BJI Beijing 38.95 347 P P 21 43 49.5 +0.3
BJI pP pP 21 44 01.5 +0.4
BJI sP sP 21 44 06.8 +0.4
BJI pmax pmax
comp=Z,13nm,0.9s
LZH Lanzhou 39.87 331 *e*P P 21 44 00.3 +3.1
LZH pP pwP 21 44 12.8 +1.1
LZH sP sP 21 44 19.0 +4.4
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH L L
comp=Z,220nm,13.1s
LZH L L
comp=Z,220nm,13.2s
LZH L L
comp=Z,220nm,16.5s
ARMA Armidale 40.16 146 P P 21 44 00.1 +0.5
ARMA IAmb IAmb 21 44 02.9
comp=Z,20nm,1.1s
JTM Tenmabayashi 40.65 17 P P 21 44 03.2 -0.1
SHL Shillong 40.80 308 P P 21 44 04.6 -0.5
HHC Hu-ho-hao-te 40.92 342 *e*P P 21 44 07.5 +1.8
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,94nm,5.6s
USRK Ussuriysk Ar. 42.18 6 P P 21 44 16.0 +0.1
comp=Z,26nm,0.7s,baz=190,slow=6.6,SNR=65
USRK Ussuriysk Ar. 42.18 6 P P 21 44 16.1 +0.2
USA0B Ussuriysk Arra 42.19 6 P P 21 44 15.9 0.0
MDJ Mudanjiang 42.41 3 P P 21 44 18.5 +0.8
MDJ pP pP 21 44 22.3 -7.5
MDJ ScP **ScP** 21 50 02.8 +5.5
MDJ PcS **PcS** 21 50 04.0 +1.9
MDJ S **S** 21 50 39.0 +3.0
MDJ sS sS 21 50 45.0 -11
MDJ Mudanjiang 42.41 3 ScS ScS 21 54 21.5 +6.1
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,92nm,4.1s
MDJ L L
comp=Z,140nm,13.7s
MDJ L L
comp=Z,98nm,13.1s
MDJ L L
comp=Z,150nm,15.9s
MDJ Mudanjiang 42.41 3 P P 21 44 17.1 -0.6
JEW Eniwo 42.66 16 P P 21 44 19.8 +0.1
JEW IAmb IAmb 21 44 26.4
comp=Z,18nm,0.8s
LSA Lhasa 43.47 313 P P 21 44 27.1 0.0
LSA IAmb IAmb 21 44 28.8
comp=Z,8.9nm,0.6s
ASAJ Asahikawa 44.16 16 P P 21 44 32.2 +0.4
comp=Z,5.0nm,0.4s,baz=183,slow=8.4,SNR=7.5
JKA Kamikawa-asahi 44.16 16 P P 21 44 32.9 +1.1
JKA IAmb IAmb 21 44 36.3
comp=Z,8.8nm,0.6s
GTA Gaotai 44.46 330 *e*P P 21 44 34.0 -0.5
GTA pP pP 21 44 43.3 -3.4
GTA sP pwP 21 44 47.5 -1.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,37nm,4.4s
GTA L L
comp=Z,72nm,16.0s
GTA L L
comp=Z,120nm,16.7s
GTA L L
comp=Z,170nm,16.4s
DZM Mont Dzumac 45.67 124 P P 21 44 44.3 0.0
DZM IAmb IAmb 21 44 45.5
comp=Z,14nm,1.1s
YSS Yuzh-Sakhalins 46.82 15 P P 21 44 52.8 0.0
KLR Kul'dur 47.15 5 P P 21 44 55.4 0.0
comp=Z,8.2nm,0.7s,baz=210,slow=4.4,SNR=25
ULN Ulaanbaatar 48.64 342 P P 21 45 06.4 -0.7
ULN IAmb IAmb 21 45 10.9
comp=Z,4.1nm,0.7s
SONM Songino Array 48.81 342 P P 21 45 08.2 -0.2
comp=Z,2.6nm,0.7s,baz=158,slow=7.8,SNR=12
SONM PcP **PcP 21 46 32.3 -0.3**
comp=Z,1.4nm,0.7s,baz=158,slow=4.1,SNR=4.2
SONM Songino Array 48.81 342 P P 21 45 08.4 0.0
TLY Talaya 53.05 342 P P 21 45 39.5 -0.5
comp=Z,4.8nm,0.7s,baz=222,slow=7.9,SNR=3.9
TLY Talaya 53.05 342 P P 21 45 40.1 0.0
TLY IAmb IAmb 21 45 47.4
comp=Z,6.5nm,1.0s
WMQ Urumqi 54.02 326 *e*P P 21 45 50.0 +2.6
PEA0B Petropavlovsk- 56.95 22 P P 21 46 09.0 +0.8
PEA0B IAmb IAmb 21 46 10.8
comp=Z,14nm,1.1s
PETK Petropavlovsk- 56.95 22 P P 21 46 08.5 +0.2
comp=Z,5.9nm,0.6s,baz=182,slow=6.3,SNR=12
PETK Petropavlovsk- 56.95 22 P P 21 46 08.6 +0.4
MKAR Makanchi Array 58.85 326 P P 21 46 20.8 -0.9
comp=Z,3.8nm,0.3s,baz=120,slow=7.7,SNR=103
MKAR PcP **PcP 21 47 10.2 -0.5**
comp=Z,2.6nm,0.7s,baz=111,slow=5.3,SNR=5.9
MKAR Makanchi Array 58.85 326 P P 21 46 21.3 -0.4
NIL Nilore 58.87 309 P P 21 46 21.3 -0.8
NIL IAmb IAmb 21 46 23.3
comp=Z,5.1nm,0.6s
PRZ Przheval'sk 58.89 320 P P 21 46 22.4 +0.2
PRZ IAmb IAmb 21 46 24.6
comp=Z,7.1nm,0.8s
TARG Taragay, Kyrgy 58.92 319 P P 21 46 22.8 +0.1
TARG IAmb IAmb 21 46 26.6
comp=Z,2.9nm,0.7s
MAKZ Makanchi 59.04 326 P P 21 46 21.8 -1.1
MAKZ IAmb IAmb 21 46 24.8
comp=Z,10.0nm,1.1s
KDJ Kajisay 59.52 319 P P 21 46 26.5 -0.1
KDJ IAmb IAmb 21 46 27.8
comp=Z,5.8nm,0.9s
YAK Yakutsk 59.83 2 P P 21 46 28.2 +0.1
comp=Z,14nm,0.6s,baz=335,slow=0.4,SNR=9.4
YAK Yakutsk 59.83 2 P P 21 46 28.0 0.0
MA2 Magadan 60.29 14 P P 21 46 31.5 +0.2
comp=Z,21nm,0.8s,baz=194,slow=5.6,SNR=19
MA2 Magadan 60.29 14 P P 21 46 31.2 -0.1
THZ Tophouse 60.47 142 P P 21 46 32.8 -0.1
BOOM Boomskoye usch 60.50 319 P P 21 46 33.0 -0.3
ARSB Arslanbob 61.98 317 P P 21 46 43.2 -0.1
ARSB IAmb IAmb 21 46 44.4
comp=Z,4.4nm,0.6s

ZAA0 Zalesovo Array 62.00 333 P P 21 46 41.8 -1.2
ZALV Zalesovo Beam 62.00 333 P P 21 46 41.8 -1.2
comp=Z,2.1nm,0.4s,baz=129,slow=6.8,SNR=15
ZALV Zalesovo Beam 62.00 333 P P 21 46 41.9 -1.1
KBL Kabul 62.46 308 P P 21 46 45.3 -1.4
KBL IAmb IAmb 21 46 47.3
comp=Z,9.1nm,0.7s
GAR Garm 62.98 313 P P 21 46 49.4 -0.6
BTK Batken 63.00 315 IAmb IAmb 21 47 05.2
comp=Z,3.6nm,0.8s
SEY Senchan 63.62 13 P P 21 46 54.2 +0.6
comp=Z,11nm,0.8s,baz=216,slow=5.2,SNR=29
CHGR Chuyangaron 63.70 313 P P 21 46 53.6 -1.1
CHGR IAmb IAmb 21 46 57.2
comp=Z,11nm,1.1s
KK31 Karatay Array 64.38 318 P P 21 46 58.5 -0.5
KKAR Karatay Array 64.38 318 P P 21 46 58.2 -0.8
KKAR Karatay Array 64.38 318 P P 21 46 57.8 -1.2
BRVK Borovoye 68.72 327 P P 21 47 26.2 -0.3
BRVK IAmb IAmb 21 47 26.7
comp=Z,8.7nm,1.1s
TIXI Tiksi 69.46 1 P P 21 47 29.6 -1.1
TIXI IAmb IAmb 21 47 31.2
comp=Z,5.8nm,0.7s
ATKA Atka Island 69.87 34 P P 21 47 33.2 -0.4
GEYT Alibeck 71.86 309 P P 21 47 45.2 -0.9
comp=Z,24nm,0.8s,baz=159,slow=13,SNR=3.6
NRIK Noril'sk 71.98 346 P P 21 47 46.0 -0.1
comp=Z,6.5nm,0.7s,baz=134,slow=7.1,SNR=12
NRIK Noril'sk 71.98 346 P P 21 47 46.2 +0.1
NRIK IAmb IAmb 21 47 46.7
comp=Z,7.0nm,0.8s
ARU Arti 76.27 328 P P 21 48 10.7 -0.6
RDOG Red Dog Mine 80.82 21 P 21 48 36.8
baz=252
VNDA Vanda 81.83 173 P P 21 48 41.2 -0.2
comp=Z,1.1nm,0.4s,baz=308,slow=6.8,SNR=15
VNDA Vanda 81.83 173 P P 21 48 41.8 +0.4
MAW Mawson 82.22 200 P P 21 48 42.6 -0.9
comp=Z,1.4nm,0.5s,baz=52,slow=5.9,SNR=6.9
TTA Tatalina 82.37 27 P P 21 48 44.9 +0.3
TTA IAmb IAmb 21 48 46.6
comp=Z,11nm,1.0s
TTA Tatalina 82.37 27 P 21 48 45.4
baz=260
N19K Bonanza Creek 82.73 29 P 21 48 47.8
baz=261
OHAK Old Harbor 82.85 33 P 21 48 48.5
baz=263
RSO Redoubt South 83.53 29 P P 21 48 50.9 +0.1
A21K Barrow 83.77 18 P 21 48 52.6
baz=258
SPCR Spurr Chakacha 83.89 29 P 21 48 52.5
baz=263
KBZ Khabaz 84.04 314 P P 21 48 52.4 -1.1
comp=Z,2.4nm,0.8s,baz=174,slow=11,SNR=3.5
PPLA Purkeypile 84.10 27 P 21 48 54.2
baz=263
CHUM Lake Minchumin 84.16 26 P 21 48 54.3
baz=263
SKT Skwentna 84.30 28 P P 21 48 54.1 -0.3
SKT IAmb IAmb 21 48 55.4
comp=Z,11nm,0.8s
SKT Skwentna 84.30 28 P 21 48 53.9
baz=264,SNR=7.3
CAPN Captain Cook N 84.35 29 P 21 48 55.4
baz=264
BRSE Bradley Lake S 84.45 30 P 21 48 56.0
baz=265
GURO Guroymak-BITLI 84.50 308 P P 21 48 56.9 +0.7
GURO IAmb IAmb 21 48 57.8
comp=Z,9.2nm,0.7s
SUA Susitna One 84.61 29 P P 21 48 56.1 -0.1
SUA Susitna One 84.61 29 P 21 48 56.0
baz=264,SNR=9.0
PPT Papeete 84.68 108 LR LR 22 24 58.2
comp=Z,160nm,18.5s,baz=187,slow=34
BPAW Bear Paw Mtn. 84.77 26 P 21 48 57.0
baz=264
MLY Manley 84.97 25 P 21 48 58.2
baz=264,SNR=5.2
TRF Thorofare Moun 85.01 27 P 21 48 58.1
baz=265
RC01 Rabbit Creek A 85.07 29 P 21 48 58.5
baz=265
SEW Seward 85.13 30 P 21 48 58.2
baz=266
PMR Palmer 85.40 29 P 21 49 00.1
baz=266
COLD Coldfoot 85.41 23 P P 21 49 00.3 +0.4
COLD IAmb IAmb 21 49 03.3
comp=Z,9.5nm,0.9s
COLD Coldfoot 85.41 23 P 21 49 00.2
baz=264,SNR=8.0
H23K Yukon River 85.54 24 P 21 49 01.3
baz=265,SNR=7.8
I23K Minto, Yukon-K 85.56 25 IAmb IAmb 21 49 02.0
comp=Z,4.5nm,0.7s
I23K Minto, Yukon-K 85.56 25 P 21 49 01.0
baz=265,SNR=6.3
MCK McKinley 85.64 26 P P 21 49 01.1 0.0
MCK IAmb IAmb 21 49 02.5
comp=Z,8.1nm,1.0s
MCK McKinley 85.64 26 P 21 49 00.9
baz=266
NEA2 Nenana 85.64 25 P P 21 49 01.1 0.0
NEA2 IAmb IAmb 21 49 03.4
comp=Z,3.6nm,0.7s
NEA2 Nenana 85.64 25 P 21 49 01.8
baz=266
KNK Knik Glacier 85.71 29 P P 21 49 01.9 +0.3
KNK Knik Glacier 85.71 29 P 21 49 02.1
baz=266,SNR=5.7
PWL Port Wells 85.73 29 P P 21 49 01.9 +0.2
WAT1 Susitna Watana 85.75 27 P 21 49 02.2
baz=266
TOLK Toolik Lake Re 85.78 21 P P 21 49 02.2 +0.5
TOLK IAmb IAmb 21 49 04.5
comp=Z,8.2nm,0.9s
TOLK Toolik Lake Re 85.78 21 P 21 49 02.7
baz=266,SNR=6.1
SML Sawmill 85.79 28 P P 21 49 02.4 +0.4
SML Sawmill 85.79 28 P 21 49 01.9
baz=266,SNR=6.1
WAT6 Susitna Watana 86.11 28 P 21 49 03.8
baz=267,SNR=7.4
CCB Clear Creek Bu 86.19 25 IAmb IAmb 21 49 04.5
comp=Z,2.8nm,0.6s
H24K Noodor Dome 86.23 24 P 21 49 04.2
baz=267
GLI Glacier Island 86.34 29 P 21 49 05.1
baz=268
HDA Harding Lake 86.55 26 IAmb IAmb 21 49 05.5
comp=Z,4.0nm,0.8s
HDA Harding Lake 86.55 26 P 21 49 04.9
baz=268
HDA P 21 49 04.9
baz=268
ILAR Eielson Array 86.59 25 P P 21 49 04.2 -1.6
comp=Z,1.0nm,0.7s,baz=240,slow=5.0,SNR=10
KLMR Klimovskoe 86.78 331 *e*P P 21 49 04.6 -2.2
KLMR AMP 21 49 08.7
comp=Z,6.0nm,0.6s
DOT Dot Lake 87.81 27 IAmb IAmb 21 49 12.6
comp=Z,3.2nm,0.8s
SCRK Sand Creek 87.84 26 P 21 49 12.0
baz=270
K27K Chicken 88.68 26 P P 21 49 16.0 +0.1
K27K IAmb IAmb 21 49 17.7
comp=Z,7.4nm,0.9s
L27K Beaver Creek, 88.83 27 P 21 49 17.0
baz=272
EGAK Eagle 89.05 25 P 21 49 17.3
baz=273
DAWY Dawson 89.86 26 P P 21 49 21.5 +0.1
DAWY IAmb IAmb 21 49 22.4
comp=Z,3.0nm,0.8s
EPYK Eagle Plains 90.75 24 P 21 49 25.7
baz=277
SYO Syowa Base 90.89 201⇓*e*PcP **PcP 21 49 29.2 +2.2**
INK Inuvik 91.69 22 P 21 49 29.7
baz=280
ARCES ARCESS Array B 91.94 340 P P 21 49 29.6 -1.4
comp=Z,3.3nm,0.7s,baz=87,slow=6.4,SNR=7.1
ARCES LR LR 22 38 13.6
comp=Z,29nm,18.2s,baz=125,slow=40
WHY Whitehorse 92.33 29 P 21 49 33.2
baz=278
SIT Sitka 92.61 33 P 21 49 34.8
baz=278
FINES FINESS Array B 93.23 332 P P 21 49 35.2 -1.7
comp=Z,0.8nm,0.5s,baz=42,slow=3.1,SNR=6.7
MNK Minsk 93.40 325 *i* P **P 21 49 35.9 -2.1**
comp=E,2.0nm,1.2s
MNK *i* P **P 21 49 35.9 -2.1**
comp=N,16nm,1.1s
MNK *i* P **P 21 49 35.9 -2.1**
comp=Z,4.0nm,0.5s,baz=262
MNK *i* pP **pP 21 49 50.5 -0.7**
MNK *i* PP **PP 21 53 19.9 -2.4**
MNK *i* PPP PPP 21 55 20.5
MNK *i* S **SKSac 22 00 05.4 -3.1**
MNK *i* sS **SKKSac 22 00 31.5 +3.6**
MNK *i* PS **PS 22 01 59.9 -1.3**
MNK *i* SS **SS 22 06 58.2 -0.9**
MNK *i* SSS SSS 22 10 38.9
MNK *i* LQ LQ 22 25 53.2
MNK *i* LR LR 22 29 53.2
MNK *i* LRM MLR 22 32 51.2
comp=N,15nm,15.9s
MNK *i* LRM MLR 22 32 59.9
comp=E,1.0nm,13.8s
MNK *i* LRM MLR 22 33 01.3
comp=Z,39nm,14.5s
C36M Paulatuk 94.76 20 P 21 49 43.8
baz=289
BURAR Bucovina Array 96.16 318 P P 21 49 50.7 -0.2
BURAR IAmb IAmb 21 49 51.7
comp=Z,3.2nm,0.8s
TORD Torodi Ar. Bea 123.35 287 PKP **PKPdf 21 55 20.4 -0.2**
comp=Z,0.5nm,0.6s,baz=73,slow=2.3,SNR=2.2
X40A Basin Creek Fa 128.06 42 P 21 55 29.6
baz=306
E62A Clayton Lake 129.43 14 P 21 55 30.4
baz=339
M53A WI Miller and 130.05 27 P 21 55 32.9
baz=323
H58A Gabriels 130.08 19 P 21 55 32.8
baz=332
H60A Morristown 130.43 18 P 21 55 34.0
baz=334
I58A Old Forge 130.45 21 P 21 55 33.7
baz=331
H64A Troy 131.35 15 P 21 55 35.6
baz=339
HRV Adam Dziewonsk 132.64 18 P 21 55 37.6
baz=335
P60A Greenville 133.55 24 P 21 55 38.7
baz=328

NEIC ***25*** *21:56:50.6±1.2,31.64N±0.02×115.98W±0.02,h17km±5km, Error ellipse: s-maj=3.3km s-min=2.1km az=203.0*
PAS ***25*** *21:56:51.1±2.1,31.66N±0.02×115.98W±0.02,h6km±3km, ML3.0/76, ML2.9(ECX), ML2.9/32(NEIC), Error ellipse: s-maj=2.8km s-min=1.6km az=48.0*
ECX ***25*** *21:56:51.8±0.6,31.67N×115.96W,h5km±4km,MD2.6, ML2.8*
MEX ***25*** *21:56:52.1±0.5,31.56N×116.08W,h8km±7km,MD3.8*
ISC 25 21:56:50.4±1.0,31.66N±0.02×115.98W±0.03,h11km±9km, n36,σ0 86/69,2C-8D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCX	**Cicese**	**0.62**	**290**		**Pg**	**21 57 03.5**	**+0.6**
CCX				Sg	**Sb**	**21 57 11.5**	**-0.5**
CCX				IAML		21 57 12.3	
	comp=E,807nm,0.3s						
CCX				IAML		21 57 12.5	
	comp=N,682nm,0.2s						
CCX	**Cicese**	**0.62**	**290**	*e*P	**Pg**	**21 57 03.1**	**+0.6**
CCX				*e*S	**Sb**	**21 57 11.8**	**-0.2**
SPIG	**San Pedro Mart**	**0.75**	**144**	*i* P	**Pg**	**21 57 05.0**	**+0.1**
SPIG				*i* S	**Sg**	**21 57 14.9**	**+0.2**
SPIG	**San Pedro Mart**	**0.75**	**144**		**Pg**	**21 57 05.0**	**+0.1**
SPIG					**Sg**	**21 57 14.9**	**+0.2**
SPIG	**San Pedro Mart**	**0.75**	**144**	⇓*e*P	**Pg**	**21 57 05.0**	**+0.1**
SPIG				*e*S	**Sb**	**21 57 15.4**	**-0.6**
SPX	**San Pedro Mart**	**0.76**	**144**	*e*P	**Pg**	**21 57 04.6**	**-0.5**
SPX				*i* S	**Sg**	**21 57 15.0**	**0.0**
SPX	**San Pedro Mart**	**0.76**	**144**	Pg	**Pg**	**21 57 05.0**	**-0.1**
SPX				Sg	**Sg**	**21 57 15.2**	**+0.2**
SPX				IAML		21 57 15.9	
	comp=N,224nm,0.3s						
SPX	**San Pedro Mart**	**0.76**	**144**	⇓*e*P	**Pg**	**21 57 05.0**	**-0.1**
SPX				*e*S	**Sg**	**21 57 15.3**	**+0.3**
SPX				⇑*e*		21 57 15.9	
SPX				IAML		21 57 15.9	
	comp=N,350nm,0.3s						
SPX				IAML		21 57 16.2	
	comp=E,166nm,0.1s						
SPX				⇑*e*		21 57 16.2	
CBX	**Cerro Bola**	**0.88**	**319**	*e*P	**Pg**	**21 57 07.2**	**-0.1**
CBX				*i* S	**Sg**	**21 57 19.1**	**+0.3**
CBX	**Cerro Bola**	**0.88**	**319**		**Pg**	**21 57 07.2**	**-0.1**
CBX				Sg	**Sg**	**21 57 18.9**	**+0.1**
CBX				IAML		21 57 20.5	
	comp=N,166nm,0.5s						
CBX				IAML		21 57 21.3	
	comp=E,255nm,0.3s						
CBX	**Cerro Bola**	**0.88**	**319**	*e*P	**Pg**	**21 57 07.3**	**-0.1**
CBX				*e*S	**Sg**	**21 57 19.4**	**+0.6**
RMX	**La Rumorosa**	**0.95**	**355**	Pg	**Pg**	**21 57 07.8**	**-0.9**
RMX				Sg	**Sg**	**21 57 19.6**	**-1.5**
RMX				IAML		21 57 22.8	
	comp=N,448nm,0.2s						
RMX				IAML		21 57 23.3	
	comp=E,511nm,0.2s						
RMX	**La Rumorosa**	**0.95**	**355**	*e*P	**Pg**	**21 57 07.5**	**-1.1**
RMX				*e*S	**Sg**	**21 57 19.4**	**-1.7**
CPBX	**Cerro Prieto**	**0.95**	**37**	Pg	**Pn**	**21 57 10.4**	**+0.7**
CPBX				Sg	**Sg**	**21 57 22.3**	**+1.1**
TJIG	**Tijuana**	**0.98**	**323**	*e*P	**Pg**	**21 57 08.7**	**-0.4**
TJIG				*i* S	**Sg**	**21 57 21.3**	**-0.6**
TJIG	**Tijuana**	**0.98**	**323**		**Pg**	**21 57 08.7**	**-0.4**
TJIG					**Sg**	**21 57 21.3**	**-0.6**
TJIG	**Tijuana**	**0.98**	**323**	*e*P	**Pg**	**21 57 08.8**	**-0.4**
YUH2	**Yuha Desert**	**0.99**	**3**	⇓*i*P	**Pg**	**21 57 09.2**	**-0.3**
YUH2				*e*S	**Sg**	**21 57 21.7**	**-0.6**
MBIG	**Mexicali**	**1.00**	**41**	*i* P	**Pb**	**21 57 10.1**	**+1.1**
MBIG				*i* P	**Pn**	**21 57 11.1**	**+0.8**
MBIG				*i* S	**Sg**	**21 57 24.0**	**+1.3**
MBIG				*i* S	**Sn**	**21 57 25.5**	**+1.1**
MBIG	**Mexicali**	**1.00**	**41**		**Pb**	**21 57 10.8**	**+1.1**
MBIG					**Sn**	**21 57 25.5**	**+1.1**
GUVIX	**Guadalupe Vict**	**1.00**	**50**	Pg	**Pb**	**21 57 10.9**	**+1.2**
TKX	**Tecate**	**1.06**	**330**		**Pg**	**21 57 10.2**	**-0.5**
TKX				Sg	**Sg**	**21 57 23.5**	**-1.0**
TKX	**Tecate**	**1.06**	**330**	*e*P	**Pg**	**21 57 10.2**	**-0.5**
UABX	**UABC, Campus M**	**1.08**	**25**	Pg	**Pn**	**21 57 12.9**	**+1.5**
UABX					**Sn**	**21 57 27.5**	**+1.2**
SFX	**San Felipe**	**1.14**	**122**	Pg	**Pb**	**21 57 12.4**	**+0.3**
SFX				Sg	**Sb**	**21 57 25.8**	**-1.2**
SFX				IAML		21 57 28.3	
	comp=E,198nm,0.6s						
SFX				IAML		21 57 28.7	
	comp=N,213nm,0.4s						
SFX	**San Felipe**	**1.14**	**122**	*e*P	**Pb**	**21 57 11.3**	**-0.9**
SFX				*e*S	**Sb**	**21 57 27.1**	**+0.1**
SFX				⇓*e*		21 57 28.8	
SFX				IAML		21 57 28.8	
	comp=N,208nm,0.3s						
BAR	**Barrett**	**1.18**	**330**		**Pb**	**21 57 12.4**	**-0.4**
BAR				Sg	**Sb**	**21 57 27.0**	**-1.1**
BAR				IAML		21 57 27.8	
	comp=N,267nm,0.2s						
BAR				IAML		21 57 28.1	
	comp=E,267nm,0.2s						
BAR	**Barrett**	**1.18**	**330**	*e*P	**Pb**	**21 57 12.1**	**-0.7**
BAR				IAML		21 57 27.8	
	comp=N,215nm,0.2s						
BAR				⇓*e*		21 57 27.8	
BAR				IAML		21 57 27.8	
	comp=E,202nm,0.1s						
BAR				⇓*e*		21 57 27.8	
OLP	**Otay Lakes Par**	**1.25**	**320**	*e*P	**Pn**	**21 57 13.4**	**-0.3**
OLP				*e*S	**Sb**	**21 57 29.6**	**-0.4**
TJX	**Tijuana**	**1.25**	**313**		**Pg**	**21 57 16.6**	**+2.2**
TJX				Sg	**Sb**	**21 57 30.3**	**+0.2**
TJX				IAML		21 57 33.2	

	comp=E,366nm,0.8s							
TJX					IAML		21 57 36.2	
	comp=N,225nm,0.5s							
SDRC	**San Diego Road**	**1.35**	**323**	*e*P		**Pn**	**21 57 15.2**	**0.0**
SDRC				*e*S		**Sb**	**21 57 32.6**	**-0.4**
SDRC				⇓*e*			21 57 33.3	
SDRC					IAML		21 57 33.3	
	comp=N,172nm,0.1s							
SDRC					IAML		21 57 33.3	
	comp=E,162nm,0.2s							
SDRC				⇓*e*			21 57 33.3	
109C	**Camp Elliot, M**	**1.56**	**322**			**Pn**	**21 57 18.7**	**+0.7**
109C						**Sn**	**21 57 38.7**	**+0.5**
109C					IAML		21 57 39.2	
	comp=E,287nm,0.2s							
109C					IAML		21 57 39.3	
	comp=N,331nm,0.3s							
GLA	**Glamis**	**1.70**	**35**	Pn		**Pn**	**21 57 19.3**	**-0.7**
GLA				Sn		**Sn**	**21 57 39.7**	**-2.1**
PFO	**Pinyon Flats O**	**1.99**	**348**			**Pb**	**21 57 27.3**	**+0.6**
PFO						**Sb**	**21 57 53.1**	**+1.5**
PFO					IAML		21 57 55.2	
	comp=N,58nm,0.3s							
113A	**Mohawk Valley,**	**2.18**	**59**	Pn		**Pn**	**21 57 26.1**	**-0.4**
113A						**Sn**	**21 57 51.6**	**-1.9**
214A	**Organ Pipe Nat**	**2.71**	**83**	Pn		**Pn**	**21 57 33.6**	**-0.4**

*IDC **25** 21:58:25.1±1.2, 1.°88N×126.°31E, h0km, mb4.0/7, mb1 1.1/8, mb1mx3.8/35, mbtmp4.0/8, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/42, Error ellipse: s-maj=122.9km s-min=16.7km az=70.0*

*NEIC **25** 21:58:31.9±1.2, 1.°9N±0.°1×126.°45E±0.°10, h43km±8km, mb4.2/13, Error ellipse: s-maj=19.1km s-min=10.7km az=213.0*

ISC 25 21:58:31.6±0.7, **1.°94N**±0.°07×**126.°47E**±0.°10, **h47**km, **n26, s0°97/23, mb4.2/13, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.46**	**142**	Pn	**Pn**	**21 58 55.4**	**-0.1**
LUWI	**Luwuk**	**4.74**	**231**	Pn	**Pn**	**21 59 41.7**	**+1.2**
TOLI2	**Tolitoli**	**5.75**	**262**		**Pn**	**21 59 53.3**	**-1.1**
PAGZ	**Pagadian**	**6.63**	**332**	⇑*e*P	**Pn**	**22 00 06.6**	**+0.1**
KNRA	**Kununurra**	**17.65**	**173**		**P**	**22 02 34.8**	**+0.2**
KNRA				IAmb	IAmb	22 02 35.2	
	comp=Z,38nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.93**	**182**	P	**P**	**22 02 56.6**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=1.4						
YULB	**Yu-li**	**21.91**	**347**		**P**	**22 03 21.1**	**+0.1**
YULB				IAmb	IAmb	22 03 29.4	
	comp=Z,11nm,1.1s						
SSLB	**Suanglung**	**22.37**	**347**	P	**P**	**22 03 26.9**	**+1.0**
SSLB				IAmb	IAmb	22 03 32.8	
	comp=Z,12nm,1.0s						
WB0	**Warramunga Arr**	**22.93**	**161**	P	**P**	**22 03 31.3**	**-0.5**
WRA	**Warramunga Arr**	**23.07**	**161**	P	**P**	**22 03 32.2**	**-1.1**
	comp=Z,4.8nm,0.4s,baz=340,slow=11,SNR=58						
WRA	**Warramunga Arr**	**23.07**	**161**	IAmb	IAmb	22 03 37.0	
	comp=Z,0.3nm,0.5s						
WB2	**Warramunga Arr**	**23.08**	**161**	P	**P**	**22 03 32.9**	**-0.4**
WB2				IAmb	IAmb	22 03 34.1	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**23.16**	**160**	P	**P**	**22 03 33.5**	**-0.6**
WR0				IAmb	IAmb	22 03 37.2	
	comp=Z,7.0nm,0.5s						
AS31	**Alice Springs**	**26.45**	**165**	P	**P**	**22 04 05.2**	**+0.8**
AS31				IAmb	IAmb	22 04 12.7	
	comp=Z,1.6nm,0.4s						
ASAR	**Alice Springs**	**26.46**	**165**	P	**P**	**22 04 04.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=347,slow=12,SNR=16						
PSI	**Prapat**	**27.54**	**272**	LR	LR	22 15 37.3	
	comp=Z,148nm,19.2s,baz=218,slow=38						
BBOO	**Buckleboo**	**35.73**	**166**	P	**P**	**22 05 26.1**	**+0.2**
STKA	**Stephens Creek**	**36.56**	**158**	P	**P**	**22 05 32.4**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=351,slow=8.2,SNR=4.2						
SONM	**Songino Array**	**48.91**	**342**	P	**P**	**22 07 12.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=165,slow=7.4,SNR=2.2						
TLY	**Talaya**	**53.15**	**342**	LR	LR	22 32 02.1	
	comp=Z,38nm,18.1s,baz=159,slow=38						
MK31	**Makanchi Array**	**58.88**	**326**	P	**P**	**22 08 26.3**	**+0.5**
MK31				IAmb	IAmb	22 08 27.9	
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**58.88**	**326**	P	**P**	**22 08 26.1**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=121,slow=7.3,SNR=35						
MAKZ	**Makanchi**	**59.06**	**326**	P	**P**	**22 08 27.8**	**+0.8**
ZALV	**Zalesovo Beam**	**62.06**	**334**	P	**P**	**22 08 46.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.5,SNR=1.8						
VNDA	**Vanda**	**81.69**	**173**	P	**P**	**22 10 45.5**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=322,slow=7.7,SNR=6.2						
VNDA	**Vanda**	**81.69**	**173**	P	**P**	**22 10 45.3**	**+0.9**

*IDC **25** 22:16:55.6±1.6, 43.°70N×105.°46W, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.3/51, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=42.8km s-min=10.5km az=151.0*

*NEIC **25** 22:16:57.5±0.7, 43.°77N±0.°05×105.°27W±0.°06, h0km±1km, ML3.1/42, Error ellipse: s-maj=9.8km s-min=5.0km az=140.0*

ISC 25 22:16:56.7±1.0, **43.°77N**±0.°06×**105.°31W**±0.°07, **h0**km, **n63, s0°88/62, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**69**		**Pg**	**22 17 16.3**	**+0.7**
K22A	**Casper**	**1.43**	**219**	Pn	**Pn**	**22 17 23.1**	**-1.0**
K22A				IAML		22 17 48.7	
	comp=N,233nm,0.5s						
K22A				IAML		22 17 49.5	
	comp=E,202nm,0.8s						
PHWY	**Pilot Hill**	**2.47**	**183**	Pn	**Pn**	**22 17 39.8**	**+1.3**
RWWY	**Rawlins**	**2.51**	**215**	Pn	**Pn**	**22 17 39.7**	**+0.7**
RWWY				IAML		22 18 14.7	
	comp=E,123nm,0.7s						
RWWY				IAML		22 18 18.2	
	comp=E,89nm,0.9s						
LAO	**LASA Array**	**2.99**	**348**		**Pn**	**22 17 45.9**	**+0.5**
RLMT	**Red Lodge**	**3.14**	**297**	Pn	**Pn**	**22 17 48.6**	**+0.9**
RLMT				IAML		22 18 39.4	
	comp=E,27nm,0.6s						
BW06	**Boulder Array**	**3.26**	**254**	Pn	**Pn**	**22 17 50.0**	**+0.6**
BW06				IAML		22 18 39.6	
	comp=E,26nm,0.7s						
BW06				IAML		22 18 42.1	
	comp=E,27nm,0.6s						
PD31	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**22 17 50.2**	**+0.8**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**22 17 50.0**	**+0.6**
	comp=E,2.3nm,0.3s,baz=81,slow=18,SNR=30						
PDAR				Lg	Lg	22 18 33.0	
	comp=E,3.3nm,0.3s,baz=72,slow=35,SNR=1.8						
PDAR	**Pinedale Array**	**3.26**	**254**		**Pn**	**22 17 50.4**	**+1.0**
YNE	**Yellowstone No**	**3.59**	**292**	Pn	**Pn**	**22 17 54.2**	**+0.3**
YNE				IAML		22 19 54.0	
	comp=E,30nm,1.0s						
YNE				IAML		22 19 54.5	
	comp=N,27nm,1.2s						
YMP	**Mirror Lake Pl**	**3.62**	**287**	Pn	**Pn**	**22 17 55.2**	**+0.9**
YMP				IAML		22 18 53.1	
	comp=E,46nm,0.7s						
YMP				IAML		22 18 56.3	
	comp=N,52nm,0.6s						
GCMT	**Greycliff**	**3.71**	**305**		**Pn**	**22 17 56.4**	**+1.1**
OGNE	**Ogallala**	**3.72**	**138**		**Pn**	**22 17 56.0**	**+0.5**
LOHW	**Long Hollow**	**3.85**	**269**	Pn	**Pn**	**22 17 58.2**	**+0.8**
FLWY	**Flagg Ranch**	**3.91**	**276**	Pn	**Pn**	**22 17 59.5**	**+1.3**
FLWY				IAML		22 19 10.9	
	comp=N,17nm,0.9s						
FLWY				IAML		22 19 14.3	
	comp=N,17nm,1.9s						
SNOW	**Snow King Moun**	**3.97**	**267**	Pn	**Pn**	**22 17 59.4**	**+0.3**
SNOW				IAML		22 19 14.5	
	comp=N,25nm,1.0s						
SNOW				IAML		22 19 29.9	
	comp=N,30nm,0.8s						
ISCO	**Idaho Springs**	**3.98**	**183**		**Pn**	**22 18 00.2**	**+1.0**
REDW	**Red Top Meadow**	**4.05**	**266**		**Pn**	**22 18 01.0**	**+0.8**
REDW				IAML		22 19 08.5	
	comp=N,26nm,0.8s						
REDW				IAML		22 19 23.4	
	comp=N,21nm,0.8s						
TPAW	**Teton Pass**	**4.11**	**268**		**Pn**	**22 18 01.8**	**+0.8**
TPAW				IAML		22 19 29.1	
	comp=N,22nm,0.9s						
YHH	**Holmes Hill**	**4.11**	**286**		**Pn**	**22 18 02.5**	**+1.5**
O20A	**White River Ci**	**4.24**	**212**		**Pn**	**22 18 04.3**	**+1.5**
O20A				IAML		22 19 16.6	
	comp=N,24nm,0.8s						
O20A				IAML		22 19 19.1	
	comp=E,25nm,0.7s						
E28A	**Huff**	**4.30**	**48**		**Pn**	**22 18 03.4**	**-0.1**
RDMU	**Red Mountain**	**4.50**	**226**		**Pn**	**22 18 05.8**	**-0.5**
RDMU				IAML		22 19 29.3	
	comp=N,20nm,0.8s						
RDMU				IAML		22 19 31.4	
	comp=E,15nm,0.7s						
KSCO	**Kaye Shedlock***	**5.16**	**156**	Pn	**Pn**	**22 18 15.6**	**+0.2**
EGMT	**Eagleton**	**5.27**	**325**		**Pn**	**22 18 17.4**	**+0.6**
DLMT	**Dillon**	**5.45**	**290**	Pn	**Pn**	**22 18 20.7**	**+1.4**
HRY	**Holter Researc**	**5.47**	**305**	Pn	**Pn**	**22 18 20.1**	**+0.6**
MCMT	**McKenzie Canyo**	**5.52**	**284**	Pn	**Pn**	**22 18 21.3**	**+0.9**
HVU	**Hansel Valley**	**5.85**	**253**	Pn	**Pn**	**22 18 25.6**	**+0.8**
PV22	**Blue Mesa, Par**	**5.85**	**208**	Pn	**Pn**	**22 18 26.0**	**+1.1**
PV07	**Paradox Valley**	**5.89**	**206**		**Pn**	**22 18 26.0**	**+0.5**
PV04	**Paradox Valley**	**6.02**	**208**	Pn	**Pn**	**22 18 27.8**	**+0.6**
SDCO	**Great Sand Dun**	**6.02**	**181**	Pn	**Pn**	**22 18 28.3**	**+1.0**
PV12	**Saucer Basin,**	**6.05**	**207**	Pn	**Pn**	**22 18 28.8**	**+1.1**
PV14	**Lion Creek, Pa**	**6.08**	**209**	Pn	**Pn**	**22 18 28.4**	**+0.4**
PV10	**Paradox Valley**	**6.08**	**209**	Pn	**Pn**	**22 18 29.8**	**+1.7**
SRU	**San Rafael Swe**	**6.09**	**222**	Pn	**Pn**	**22 18 28.4**	**+0.3**
PV11	**David Mesa, Pa**	**6.09**	**207**		**Pn**	**22 18 28.9**	**+0.7**
PV16	**Nyswonger Mesa**	**6.10**	**208**		**Pn**	**22 18 28.7**	**+0.4**
PV19	**Morning Glory**	**6.12**	**208**	Pn	**Pn**	**22 18 29.8**	**+1.2**
PV03	**Paradox Valley**	**6.13**	**207**	Pn	**Pn**	**22 18 29.5**	**+0.8**
PV02	**Paradox Valley**	**6.13**	**206**	Pn	**Pn**	**22 18 29.6**	**+0.8**
PV17	**East Wray Mesa**	**6.14**	**208**	Pn	**Pn**	**22 18 29.4**	**+0.5**
PV01	**Paradox Valley**	**6.15**	**205**	Pn	**Pn**	**22 18 29.4**	**+0.4**
PV18	**Skein Mesa, Pa**	**6.16**	**207**	Pn	**Pn**	**22 18 29.6**	**+0.5**
PV13	**Radium Mtn., P**	**6.21**	**207**	Pn	**Pn**	**22 18 30.3**	**+0.5**
TMUT	**Trail Mountain**	**6.29**	**227**	Pn	**Pn**	**22 18 31.3**	**+0.2**
ECSD	**EROS Data Cent**	**6.29**	**87**	Pn	**Pn**	**22 18 31.1**	**+0.3**
PV05	**Paradox Valley**	**6.37**	**208**	Pn	**Pn**	**22 18 31.2**	**-0.8**
DUG	**Dugway, Tooele**	**6.64**	**240**	Pn	**Pn**	**22 18 35.9**	**+0.3**
T25A	**Trinidad**	**6.66**	**174**	Pn	**Pn**	**22 18 36.0**	**0.0**
D32A	**Dogwood Acres,**	**6.73**	**57**	Pn	**Pn**	**22 18 37.6**	**+0.9**
MSO	**Missoula**	**6.81**	**300**	Pn	**Pn**	**22 18 39.3**	**+1.3**
MSU	**Marysvale**	**7.38**	**227**	Pn	**Pn**	**22 18 45.8**	**-0.1**
JTMT	**Jette**	**7.43**	**305**	Pn	**Pn**	**22 18 46.8**	**+0.3**
ELK	**Elko**	**7.96**	**251**	Pn	**Pn**	**22 18 54.1**	**+0.2**
AGMN	**Agassiz Nation**	**7.98**	**52**	Pn	**Pn**	**22 18 53.0**	**-0.9**
PSUT	**Pine Spring**	**8.30**	**234**	Pn	**Pn**	**22 18 59.0**	**+0.5**
ULM	**Lac du Bonnet**	**9.13**	**42**	Pn	**Pn**	**22 19 07.7**	**-2.0**
	comp=E,0.9nm,0.3s,baz=229,slow=10,SNR=6.8						
ULM				Lg	Lg	22 21 36.6	
	comp=E,0.4nm,0.3s,baz=183,slow=6.7,SNR=2.1						
ULM	**Lac du Bonnet**	**9.13**	**42**		**Pn**	**22 19 08.2**	**-1.5**
TXAR	**Lajitas Array**	**14.47**	**174**	Pg	P	22 21 16.4	+47
	comp=E,0.0nm,0.3s,baz=354,slow=16,SNR=1.7						
TXAR				Lg	Lg	22 24 30.6	
	comp=E,0.0nm,0.3s,baz=3.1,slow=33,SNR=2.5						
MKAR	**Makanchi Array**	**89.57**	**355**	P	**P**	**22 29 55.7**	**-0.2**
	comp=E,0.3nm,0.7s,baz=5.0,slow=4.6,SNR=2.7						

*NEIC **25** 22:25:58.8±1.1, 32.°4S±0.°1×177.°1W±0.°1, h10km±2km, mb4.5/10, Error ellipse: s-maj=25.9km s-min=15.9km az=136.0*

*IDC **25** 22:26:03.7±1.3, 32.°43S×178.°14W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/43, mbtmp4.2/7, ML4.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=31.4km s-min=28.2km az=91.0*

ISC 25 22:26:04.7±1.1, **32.°34S**±0.°08×**178.°1W**±0.°2, **h10**km, **n44, s1°86/58, mb4.4/11, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.07**	**3**	S	**Sn**	**22 27 23.7**	**-6.4**
MXZ	**Matakaoa Point**	**5.99**	**208**	P	**Pn**	**22 27 35.5**	**+2.2**
MXZ				S	**Sn**	**22 28 43.1**	**+1.1**
WMGZ	**Waiomatatini S**	**6.17**	**207**	P	**Pn**	**22 27 38.7**	**+2.9**
WMGZ				S	**Sn**	**22 28 47.3**	**+0.9**
PKGZ	**Pakihiroa**	**6.36**	**208**	P	**Pn**	**22 27 36.8**	**-1.8**
PKGZ				S	**Sn**	**22 28 51.4**	**+0.1**
HAZ	**Te Kaha**	**6.37**	**211**	P	**Pn**	**22 27 38.2**	**-0.4**
HAZ				S	**Sn**	**22 28 52.0**	**+0.6**
PUZ	**Puketiti**	**6.45**	**206**	P	**Pn**	**22 27 38.7**	**-1.0**
PUZ				S	**Sn**	**22 28 53.1**	**-0.3**
RUGZ	**Raukumara Rang**	**6.59**	**210**	P	**Pn**	**22 27 41.6**	**-0.2**
RUGZ				S	**Sn**	**22 28 57.3**	**+0.2**
CNGZ	**Carnagh Statio**	**6.83**	**205**	P	**Pn**	**22 27 41.8**	**-3.2**
CNGZ				S	**Sn**	**22 29 01.3**	**-1.4**
TKGZ	**Te Karaka**	**6.92**	**207**	P	**Pn**	**22 27 41.9**	**-4.4**
TKGZ				S	**Sn**	**22 29 04.6**	**-0.4**
MWZ	**Matawai**	**6.96**	**210**	P	**Pn**	**22 27 45.1**	**-1.7**
MWZ				S	**Sn**	**22 29 05.9**	**-0.2**
URZ	**Urewera**	**7.08**	**212**	Pn	**Pn**	**22 27 46.7**	**-1.8**
	2.5nm,0.3s,baz=301,slow=23,SNR=12						
URZ				Sn	**Sn**	**22 29 08.4**	**-0.5**
	9.0nm,0.3s,baz=219,slow=22,SNR=6.6						
URZ	**Urewera**	**7.08**	**212**		**Pn**	**22 27 48.6**	**+0.2**
URZ				Sn	**Sn**	**22 29 09.5**	**+0.6**
URZ	**Urewera**	**7.08**	**212**	P	**Pn**	**22 27 48.9**	**+0.5**
URZ				S	**Sn**	**22 29 08.4**	**-0.5**
RIGZ	**Rimuhau**	**7.19**	**207**	P	**Pn**	**22 27 48.6**	**-1.3**
RIGZ				S	**Sn**	**22 29 11.4**	**-0.3**
MUGZ	**Murupara**	**7.42**	**213**	P	**Pn**	**22 27 51.2**	**-1.8**
MUGZ				S	**Sn**	**22 29 16.5**	**-0.7**
SNGZ	**Shannon Statio**	**7.42**	**209**	P	**Pn**	**22 27 52.9**	**-0.2**
SNGZ				S	**Sn**	**22 29 17.1**	**-0.3**
RTZ	**Ruatahuna**	**7.43**	**211**	P	**Pn**	**22 27 53.2**	**-0.2**
RTZ				S	**Sn**	**22 29 16.6**	**-1.2**
OUZ	**Omahuta**	**7.48**	**245**	Pn	Pn	22 27 59.0	+5.1
MTHZ	**Maungataniwha**	**7.69**	**211**	P	**Pn**	**22 27 56.7**	**-0.1**
MTHZ				S	**Sn**	**22 29 22.7**	**-1.3**
BKZ	**Black Stump Fm**	**8.10**	**211**	Pn	**Pn**	**22 28 01.9**	**-0.6**
TSZ	**Takapari Road**	**9.07**	**210**	S	**Sn**	**22 29 53.9**	**-4.1**
OGWZ	**Otaki Gorge**	**10.04**	**211**	S	**Sn**	**22 30 14.4**	**-7.2**
QRZ	**Quartz Range**	**11.33**	**219**	Pn	**Pn**	**22 28 47.6**	**+1.0**
LTZ	**Lake Taylor**	**12.91**	**213**	Pn	**Pn**	**22 29 08.6**	**+0.3**
DZM	**Mont Dzumac**	**17.11**	**303**	LR	LR	22 35 42.3	
	comp=Z,171nm,19.6s,baz=236,slow=34						
RAR	**Rarotonga**	**19.73**	**60**	LR	LR	22 38 34.6	
	comp=Z,71nm,19.1s,baz=218,slow=38						
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**22 32 48.2**	**-0.5**
	1.5nm,0.5s,baz=98,slow=11,SNR=4.6						
STKA				PcP	**PcP**	**22 35 27.6**	**+0.9**
	0.6nm,0.3s,baz=167,slow=19,SNR=1.5						
CTA	**Charters Tower**	**34.07**	**282**	P	**P**	**22 32 50.6**	**+1.1**
	2.5nm,0.5s,baz=110,slow=9.4,SNR=6.2						
CTAO	**Charters Tower**	**34.07**	**282**	P	**P**	**22 32 51.6**	**+2.1**
CTAO				IAmb	IAmb	22 33 07.7	
	comp=Z,6.0nm,0.8s						
BBOO	**Buckleboo**	**38.40**	**257**	P	**P**	**22 33 26.6**	**+0.2**
BBOO				IAmb	IAmb	22 33 43.1	
	comp=Z,8.1nm,1.1s						
XMAS	**Kiritimati**	**39.40**	**34**	P	P	22 33 24.5	-10
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**22 34 04.5**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=107,slow=7.4,SNR=22						
ASAR				PcP	**PcP**	**22 35 54.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=115,slow=4.0,SNR=1.4						
WR0	**Warramunga Arr**	**43.94**	**274**	P	**P**	**22 34 12.2**	**+0.1**
WR0				IAmb	IAmb	22 34 21.2	
	comp=Z,4.3nm,0.9s						
WB2	**Warramunga Arr**	**44.11**	**274**	P	**P**	**22 34 13.7**	**+0.3**
WB2				IAmb	IAmb	22 34 26.1	
	comp=Z,6.5nm,0.8s						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**22 34 13.6**	**+0.1**
	comp=Z,2.6nm,0.4s,baz=112,slow=7.9,SNR=49						
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**22 34 13.4**	**-0.2**
WB0	**Warramunga Arr**	**44.15**	**274**	P	**P**	**22 34 13.8**	**0.0**
WB0				IAmb	IAmb	22 34 14.3	
	comp=Z,4.6nm,0.5s						
FORT	**Forrest**	**45.49**	**257**	P	**P**	**22 34 24.3**	**-0.1**
VNDA	**Vanda**	**46.16**	**186**	P	P	22 34 23.3	-5.7
FITZ	**Fitzroy Crossi**	**52.29**	**271**	P	**P**	**22 35 15.9**	**-0.8**
FITZ				IAmb	IAmb	22 35 26.8	
	comp=Z,8.2nm,1.1s						
QSPA	**South Pole Qui**	**57.78**	**180**	P	**P**	**22 35 56.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=177,slow=7.4,SNR=1.4						
PETK	**Petropavlovsk-**	**87.66**	**346**	P	**P**	**22 38 54.6**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=131,slow=6.5,SNR=2.6						
FINES	**FINESS Array B**	**146.92**	**339**	PKPbc	**PKPdf**	**22 45 45.8**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=63,slow=4.2,SNR=18						
TORD	**Torodi Ar. Bea**	**160.90**	**179**	PKPab	**PKPab**	**22 46 47.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=173,slow=3.4,SNR=2.2						

*IDC **25** 22:29:56.4±1.4, 32.°21S×178.°02W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/42, mbtmp4.2/7, ML3.8/1, Error ellipse: s-maj=37.0km s-min=30.3km az=32.0*

*NEIC **25** 22:30:35.5±1.0, 34.°1S±0.°1×179.°1E±0.°2, h193km±12km, mb4.2/12, Error ellipse: s-maj=28.3km s-min=10.8km az=113.0*

ISC 25 22:29:57.7±0.9, **32.°20S**±0.°07×**178.°2W**±0.°2, **h10**km, **n39, s2°02/51, mb4.4/9, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.94**	**4**	P	**Pn**	**22 30 43.6**	**-0.8**
GLKZ				S	**Sn**	**22 31 16.6**	**-3.2**
RAO	**Raoul Island**	**2.95**	**4**	Sn	**Sn**	**22 31 18.0**	**-2.1**
	52nm,0.3s,baz=317,slow=23,SNR=1.3						
MXZ	**Matakaoa Point**	**6.08**	**207**	S	**Sn**	**22 32 36.5**	**-0.7**
WMGZ	**Waiomatatini S**	**6.26**	**206**	P	**Pn**	**22 31 34.4**	**+4.3**
WMGZ				S	**Sn**	**22 32 41.7**	**+0.1**
PKGZ	**Pakihiroa**	**6.45**	**207**	P	**Pn**	**22 31 30.7**	**-2.0**
PKGZ				S	**Sn**	**22 32 43.8**	**-2.6**
HAZ	**Te Kaha**	**6.46**	**210**	P	**Pn**	**22 31 33.9**	**+1.2**
HAZ				S	**Sn**	**22 32 47.0**	**+0.6**
PUZ	**Puketiti**	**6.54**	**206**	P	**Pn**	**22 31 31.9**	**-2.0**
PUZ				S	**Sn**	**22 32 47.1**	**-1.5**
RUGZ	**Raukumara Rang**	**6.68**	**209**	P	**Pn**	**22 31 36.3**	**+0.4**
RUGZ				S	**Sn**	**22 32 51.3**	**-0.8**
TKGZ	**Te Karaka**	**7.02**	**206**	P	**Pn**	**22 31 39.9**	**-0.5**
TKGZ				S	**Sn**	**22 32 58.8**	**-1.5**
MWZ	**Matawai**	**7.05**	**209**	P	**Pn**	**22 31 42.4**	**+1.4**
MWZ				S	**Sn**	**22 32 58.6**	**-2.7**
URZ	**Urewera**	**7.17**	**211**	Pn	**Pn**	**22 31 42.2**	**-0.2**
	1.5nm,0.3s,baz=118,slow=23,SNR=2.1						
URZ				Sn	**Sn**	**22 32 59.3**	**-4.6**
	3.0nm,0.3s,baz=286,slow=23,SNR=4.1						
URZ	**Urewera**	**7.17**	**211**	P	**Pn**	**22 31 43.0**	**+0.6**
URZ				S	**Sn**	**22 32 01.5**	**-2.5**
RIGZ	**Rimuhau**	**7.28**	**206**	P	**Pn**	**22 31 44.0**	**-0.1**
RIGZ				S	**Sn**	**22 32 03.1**	**-3.8**
SNGZ	**Shannon Statio**	**7.51**	**208**	P	**Pn**	**22 31 48.8**	**+1.5**
SNGZ				S	**Sn**	**22 32 09.5**	**-3.0**
RTZ	**Ruatahuna**	**7.52**	**210**	P	**Pn**	**22 31 48.6**	**+1.2**
RTZ				S	**Sn**	**22 32 13.1**	**-2.7**
MTHZ	**Maungataniwha**	**7.78**	**210**	P	**Pn**	**22 31 51.6**	**+0.7**
MTHZ				S	**Sn**	**22 32 13.4**	**-1.7**
MSVF	**Nonsavu**	**14.81**	**346**	IAmb	IAmb	22 34 26.3	
	comp=Z,5.4nm,0.9s						
LBZ	**Lake Benmore**	**15.19**	**214**	Pn	Pn	22 33 25.0	-7.2
ARMA	**Armidale**	**25.82**	**266**	P	**P**	**22 35 27.7**	**-1.6**
ARMA				IAmb	IAmb	22 35 43.6	
	comp=Z,8.7nm,1.1s						
STKA	**Stephens Creek**	**33.97**	**260**	P	**P**	**22 36 43.1**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=90,slow=12,SNR=3.7						
CTA	**Charters Tower**	**33.98**	**282**	P	**P**	**22 36 42.5**	**+0.9**
	comp=Z,8nm,0.5s,baz=97,slow=8.1,SNR=2.2						
CTAO	**Charters Tower**	**33.98**	**282**	P	**P**	**22 36 46.0**	**+4.4**
ASAR	**Alice Springs**	**42.89**	**269**	P	**P**	**22 37 58.0**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=108,slow=7.4,SNR=14						
WR0	**Warramunga Arr**	**43.87**	**274**	P	**P**	**22 38 05.8**	**+1.4**
WB2	**Warramunga Arr**	**44.03**	**274**	P	**P**	**22 38 06.8**	**+1.0**
WB2				IAmb	IAmb	22 38 09.5	
	comp=Z,3.1nm,0.6s						
WRAB	**Tennant Creek**	**44.04**	**274**	P	**P**	**22 38 07.0**	**+1.2**
WRA	**Warramunga Arr**	**44.05**	**274**	P	**P**	**22 38 07.3**	**+1.4**
	comp=Z,2.1nm,0.3s,baz=112,slow=8.0,SNR=20						
WRA	**Warramunga Arr**	**44.05**	**274**	P	**P**	**22 38 06.6**	**+0.7**
WB0	**Warramunga Arr**	**44.08**	**274**	P	**P**	**22 38 07.4**	**+1.3**
WB0				IAmb	IAmb	22 38 10.9	
	comp=Z,6.5nm,0.7s						
FORT	**Forrest**	**45.47**	**257**	P	**P**	**22 38 13.5**	**-3.6**
FITZ	**F

PV02	**Paradox Valley**	**6.10**	**207**		**Pn**	**22 33 56.4**	**+0.8**	
PV01	**Paradox Valley**	**6.12**	**206**		**Pn**	**22 33 55.5**	**-0.2**	
ECSD	**EROS Data Cent**	**6.22**	**87**		**Pn**	**22 33 57.8**	**+0.8**	
BGU	**Big Grassy Mou**	**6.43**	**247**	Pn	**Pn**	**22 34 00.2**	**+0.2**	
HLID	**Hailey**	**6.69**	**272**	Pn	**Pn**	**22 34 04.5**	**+1.0**	
D32A	**Dogwood Acres,**	**6.71**	**56**	Pn	**Pn**	**22 34 06.2**	**+2.6**	
MSO	**Missoula**	**6.92**	**300**	Pn	**Pn**	**22 34 05.9**	**-0.7**	
JTMT	**Jette**	**7.53**	**306**		**Pn**	**22 34 15.8**	**+0.7**	
MTPU	**Mount Pierson**	**7.74**	**225**	Pn	**Pn**	**22 34 18.1**	**0.0**	
KSU1	**Kansas State U**	**7.92**	**123**	Pn	**Pn**	**22 34 20.0**	**-0.3**	
WALA	**Waterton Lakes**	**8.06**	**315**	Pn	**Pn**	**22 34 20.4**	**-1.9**	
PSUT	**Pine Spring**	**8.32**	**235**	Pn	**Pn**	**22 34 26.3**	**+0.4**	
F36A	**Milaca**	**8.58**	**71**	Pn	**Pn**	**22 34 30.3**	**+0.9**	
CCUT	**Cedar City**	**8.73**	**228**	Pn	**Pn**	**22 34 31.0**	**-0.6**	
KNB	**Kanab**	**8.85**	**224**	Pn	**Pn**	**22 34 34.8**	**+1.6**	
U15A	**North Rim**	**9.07**	**219**	Pn	**Pn**	**22 34 36.0**	**-0.2**	
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**22 34 35.7**	**-1.2**	
	2.5nm,0.3s,baz=236,slow=12,SNR=10							
ULM				Lg	Lg	22 37 06.0		
	0.3nm,0.3s,baz=170,slow=21,SNR=1.3							
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**22 34 36.1**	**-0.8**	
B35A	**Bob, Littlefor**	**9.24**	**56**	Pn	**Pn**	**22 34 36.8**	**-1.6**	
I56US	**NEWPORT INFRAS**	**9.47**	**303**	*i*		23 31 30.0		
	baz=117,slow=316,SNR=1.1							
TXAR	**Lajitas Array**	**14.39**	**175**	Pg	P	22 36 50.2	+54	
	0.1nm,0.3s,baz=1.1,slow=18,SNR=3.3							
TXAR				Lg	Lg	22 39 54.3		
	0.0nm,0.3s,baz=8.1,slow=33,SNR=2.6							
TKL	**Tuckaleechee C**	**18.31**	**109**	LR	LR	22 44 04.8		
	comp=Z,64nm,21.2s,baz=335,slow=38							
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**22 42 40.2**	**-1.3**	
	0.6nm,0.4s,baz=333,slow=7.1,SNR=6.2							
FINES	**FINESS Array B**	**68.05**	**23**	P	**P**	**22 43 24.4**	**-0.3**	
	0.8nm,0.7s,baz=320,slow=5.6,SNR=3.2							

JMA ***25*** *22:33:15.7±0.2, 24°.03N×122°.42E, h19km±4km, M2.0*
TAP ***25*** *22:33:16.1, 24°.12N×122°.43E, h33km±1km, ML2.7, D*

ISC 25 22:33:15.7±1.1, 24°.07N±0°.03×122°.42E±0°.02, h25km±12km, n53, σ0°61/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.62**	**52**	P		**Pb**	**22 33 27.8**	**-0.1**
JYNG				S		**Sb**	**22 33 36.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.67**	**54**	P		**Pb**	**22 33 28.9**	**+0.1**
YOJ				*e*S		**Sb**	**22 33 37.7**	**0.0**
YOJ	**Yonaguni jima**	**0.67**	**54**	*i* P		**Pb**	**22 33 28.7**	**-0.1**
	baz=56							
YOJ				S		**Sb**	**22 33 37.3**	**-0.5**
	baz=56							
EWUT	**Wuta**	**0.69**	**303**	P		**Pb**	**22 33 29.3**	**+0.2**
	baz=298							
EWUT				*e*S		**Sb**	**22 33 38.9**	**+0.5**
	baz=298							
ETL	**Fush Village**	**0.73**	**277**	*e*P		**Pb**	**22 33 29.8**	**0.0**
	baz=259							
ETL				*e*S		**Sn**	**22 33 41.1**	**+0.1**
	baz=259							
TWC	**Suao**	**0.75**	**316**	P		**Pb**	**22 33 29.7**	**-0.4**
	baz=303							
TWC				S		**Sb**	**22 33 38.5**	**-1.4**
	baz=303							
NACB	**Ninganchiao**	**0.76**	**278**	P		**Pb**	**22 33 30.2**	**-0.1**
	baz=260							
NACB				*e*S		**Sb**	**22 33 40.8**	**+0.6**
	baz=260							
ETM	**Tongmen**	**0.85**	**263**	*e*P		**Pb**	**22 33 31.8**	**0.0**
	baz=251							
NDS	**Dongshan**	**0.85**	**312**	P		**Pb**	**22 33 31.8**	**0.0**
	baz=308							
NDS				*e*S		**Sb**	**22 33 43.4**	**+0.5**
	baz=308							
ETLH	**Xiulin Townshi**	**0.86**	**279**	P		**Pb**	**22 33 31.8**	**-0.4**
	baz=275							
ETLH				*e*S		**Sb**	**22 33 43.5**	**+0.1**
	baz=275							
TEGC	**Jichi Village**	**0.88**	**246**	*e*P		**Pb**	**22 33 32.3**	**0.0**
	baz=243							
EGS		**0.89**	**330**	P		**Pb**	**22 33 32.3**	**-0.2**
	baz=317							
EGS				*e*S		**Sb**	**22 33 43.9**	**-0.1**
	baz=317							
NTC	**Toucheng**	**0.95**	**326**	*e*P		**Pb**	**22 33 33.7**	**+0.2**
	baz=323							
NTC				*e*S		**Sb**	**22 33 46.0**	**+0.3**
	baz=323							
ENTT	**Nioudou**	**0.96**	**307**	P		**Pb**	**22 33 34.1**	**+0.4**
	baz=303							
ENTT				*e*S		**Sn**	**22 33 47.9**	**+1.2**
	baz=303							
NDT	**Datong Townshi**	**0.98**	**303**	P		**Pb**	**22 33 34.5**	**+0.4**
	baz=299							
NDT				*e*S		**Sb**	**22 33 46.8**	**+0.2**
	baz=299							
NNSB	**Datong**	**1.01**	**291**	P		**Pn**	**22 33 34.4**	**-0.1**
	baz=287							
NNSB				*e*S		**Sb**	**22 33 46.9**	**-0.6**
	baz=287							
NNSH	**Datong**	**1.01**	**291**	P		**Pn**	**22 33 34.1**	**-0.3**
	baz=287							
NNSH				*e*S		**Sn**	**22 33 48.0**	**+0.1**
	baz=287							
NNS	**Nan Shan**	**1.02**	**292**	*e*P		**Pn**	**22 33 34.3**	**-0.3**
	baz=288							
NNS				*e*S		**Sn**	**22 33 48.9**	**+0.6**
	baz=288							
TIPB	**Shuangxi**	**1.05**	**329**	P		**Pn**	**22 33 34.8**	**-0.1**
	baz=318							
TIPB				*e*S		**Sn**	**22 33 47.9**	**-0.9**
	baz=318							
WHF	**Hehuan Shan**	**1.05**	**274**	P		**Pn**	**22 33 34.7**	**-0.7**
	baz=259							
WHF				*e*S		**Sb**	**22 33 49.2**	**0.0**
	baz=259							
HGSD	**Ruisui**	**1.07**	**238**	P		**Pn**	**22 33 34.0**	**-1.3**
	baz=235							
HGSD				*e*S		**Sn**	**22 33 47.6**	**-1.8**
	baz=235							
FUSS	**Fushou**	**1.08**	**280**	*e*P		**Pn**	**22 33 35.7**	**+0.1**
	baz=276							
NWLT	**Wulai**	**1.09**	**311**	P		**Pb**	**22 33 35.9**	**-0.1**
	baz=307							
NWLT				*e*S		**Sb**	**22 33 50.3**	**+0.5**
	baz=307							
YHNB	**Yeheng**	**1.12**	**303**	P		**Pn**	**22 33 36.4**	**+0.4**
	baz=287							
YHNB				*e*S		**Sn**	**22 33 50.7**	**0.0**
	baz=287							
CHGB	**Renai**	**1.13**	**270**	P		**Pn**	**22 33 36.0**	**-0.3**
	baz=257							
OWD	**Renai**	**1.14**	**265**	*e*P		**Pn**	**22 33 36.1**	**-0.2**
	baz=251							
EHY	**Hungye**	**1.15**	**241**	*e*P		**Pn**	**22 33 35.7**	**-0.5**
	baz=238							
EHY				*e*S		**Sn**	**22 33 50.8**	**-0.4**
	baz=238							
TWT	**Tachien**	**1.15**	**280**	P		**Pb**	**22 33 37.5**	**+0.5**
	baz=266							
TWT				*e*S		**Sn**	**22 33 51.5**	**0.0**
	baz=266							
NWF	**Wu-fen Shan**	**1.15**	**330**	*e*P		**Pn**	**22 33 36.2**	**-0.3**
	baz=328							
NWF				*e*S		**Sb**	**22 33 51.7**	**0.0**
	baz=328							
WFSB	**Wu-fen Shan**	**1.15**	**330**	*e*P		**Pn**	**22 33 35.9**	**-0.5**
	baz=327							
TDCB	**Techi**	**1.16**	**279**	*e*P		**Pn**	**22 33 36.7**	**+0.1**
	baz=266							
YULB	**Yu-li**	**1.23**	**237**	*e*P		**Pn**	**22 33 36.6**	**-0.7**
	baz=249							
YULB				*e*S		**Sn**	**22 33 52.0**	**-1.2**
	baz=249							
IRIF	**Iriomote-Funau**	**1.23**	**77**	P		**Pb**	**22 33 37.8**	**-0.5**
IRIF				*e*S		**Sb**	**22 33 54.1**	**+0.3**
TATO	**Taipei**	**1.24**	**317**	*e*P		**Pb**	**22 33 38.5**	**0.0**
	baz=315							
TATO				*e*S		**Sb**	**22 33 54.4**	**+0.4**
	baz=315							
TWF1	**Yuli**	**1.25**	**235**	*e*P		**Pn**	**22 33 37.4**	**-0.3**
	baz=222							
TWF1				*e*S		**Sn**	**22 33 53.0**	**-0.7**
	baz=222							
HATJ	**Hateruma jima**	**1.27**	**90**	P		**Pb**	**22 33 38.6**	**-0.4**
YM01	**YM01**	**1.32**	**325**	*e*P		**Pb**	**22 33 39.4**	**-0.5**
	baz=322							
WHP	**Taichung City**	**1.36**	**279**	P		**Pb**	**22 33 40.3**	**-0.2**
	baz=265							
WHP				*e*S		**Sn**	**22 33 57.3**	**+0.8**
	baz=265							
SSLB	**Suanglung**	**1.37**	**259**	*e*P		**Pn**	**22 33 39.6**	**+0.3**
	baz=246							
SMLT	**Sun Moon Lake**	**1.40**	**263**	*e*P		**Pn**	**22 33 40.1**	**+0.3**
	baz=260							
LIOB	**Emei**	**1.40**	**295**	*e*P		**Pb**	**22 33 41.0**	**-0.3**
	baz=291							
LIOB				*e*S		**Sb**	**22 34 00.1**	**+1.4**
	baz=291							
NSTT	**Nanjuang**	**1.41**	**294**	*e*P		**Pn**	**22 33 39.8**	**0.0**
	baz=290							
NSTT				*e*S		**Sb**	**22 33 59.1**	**+0.3**
	baz=290							
TYC	**Yuchr**	**1.43**	**264**	*e*P		**Pb**	**22 33 41.6**	**-0.2**
	baz=261							
JKRS	**Kuro-shima**	**1.47**	**83**	P		**Pb**	**22 33 42.6**	**+0.3**
JKRS				*e*S		**Sb**	**22 34 01.9**	**+1.4**
ALS	**Alishan**	**1.58**	**250**	*e*P		**Pn**	**22 33 43.0**	**+0.6**
	baz=247							
JIJ	**Ishigaki jima**	**1.60**	**79**	S		**Sn**	**22 34 02.4**	**-0.1**
CHN5	**Tsauling**	**1.66**	**254**	*e*P		**Pb**	**22 33 46.0**	**+0.4**
	baz=242							
JISG	**Ishigakijimahi**	**1.81**	**73**	P		**Pn**	**22 33 45.5**	**+0.2**
JISG				*e*S		**Sn**	**22 34 07.3**	**-0.1**
CHN4	**Tsaushan**	**1.82**	**247**	*e*P		**Pb**	**22 33 48.2**	**-0.1**
	baz=245							
CHN4				*e*S		**Sb**	**22 34 10.7**	**0.0**
	baz=245							
WTP	**Ta-pu**	**1.84**	**244**	*e*P		**Pb**	**22 33 47.7**	**-1.1**
	baz=241							
CHN1	**Nanshi**	**1.94**	**243**	*e*P		**Pb**	**22 33 50.0**	**-0.4**
	baz=241							
MASBT	**Mashibuluo**	**2.19**	**229**	*e*P		**Pn**	**22 33 52.6**	**+2.0**
	baz=222							
MASBT				*e*S		**Sn**	**22 34 18.3**	**+1.4**
	baz=222							
PTMZ	**Houxiangcun**	**3.15**	**289**	*e*P		**Pn**	**22 34 03.1**	**-0.7**
	baz=285							

IDC ***25*** *22:57:12.3±0.5, 32°.06S×178°.00W, h0km, mb4.6/16, mb1 4.8/19, mb1mx4.7/27, mbtmp4.6/19, ML5.3/2, MS4.3/12, Ms1 4.3/12, ms1mx4.1/24, Error ellipse: s-maj=17.6km s-min=15.9km az=77.0*
BJI ***25*** *22:57:13.0±0.0, 32°.10S×178°.00W, h10km, mB5.6/13, mb5.4/17, Ms5.0/7, Ms7 4.6/6*
MOS ***25*** *22:57:13.3±1.1, 32°.03S×178°.11W, h10km, mb5.2/10, Error ellipse: s-maj=12.1km s-min=10.3km az=93.8*
NEIC ***25*** *22:57:15.2±1.6, 32°.13S±0°.04×177°.9W±0°.1, h10km±1km, mb5.0/65, Error ellipse: s-maj=18.4km s-min=6.8km az=95.0*
GCMT ***25*** *22:57:18.2±0.4, 32°.28S±0°.04×177°.62W±0°.04, h30km±1km, MW5.0/60, Moment Tensor Solution. s30,c37; s60,c77; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.89±.22; Mθθ-0.94±.15; Mϕϕ-1.95±.13; Mrθ 0.99±.20; Mrϕ-1.05±.09; Mθϕ 1.69±.15; Best double couple: Mo 3.37700×10^16 NP1: ϕs 213.00000°, δ 27.00000°, λ 92.00000°. NP2: ϕs 31.00000°, δ 63.00000°, λ 89.00000°. Principal axes: T 3.5170, Plg 72.0000°, Azm 299.0000°; N -0.2810, Plg 1.0000°, Azm 32.0000°; P -3.2370, Plg 18.0000°, Azm 122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 22:57:14.1±0.3, 32°.21S±0°.04×177°.99W±0°.07, h10km, n289, σ1°76/301, mb5.0/59, MS4.2/15, 18C-11D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.93**	**1**	P		**Pn**	**22 57 57.4**	**-3.3**
GLKZ				S		**Sn**	**22 58 32.7**	**-3.4**
RAO	**Raoul Island**	**2.94**	**1**	Pn		**Pn**	**22 57 58.8**	**-2.1**
	162nm,0.3s,baz=68,slow=22,SNR=3.9							
RAO				Sn		**Sn**	**22 58 29.5**	**-6.8**
	223nm,0.3s,baz=284,slow=20,SNR=4.6							
RAO	**Raoul Island**	**2.94**	**1**	Pn		**Pn**	**22 58 00.3**	**-0.6**
RIZ	**Raoul Island**	**2.95**	**1**	P		**Pn**	**22 57 58.7**	**-2.3**
RIZ				S		**Sn**	**22 58 31.0**	**-5.5**
MXZ	**Matakaoa Point**	**6.15**	**209**	Pn		**Pn**	**22 58 42.5**	**-2.5**
MXZ	**Matakaoa Point**	**6.15**	**209**	P		**Pn**	**22 58 43.0**	**-2.0**
MXZ				S		**Sn**	**22 59 52.7**	**-2.7**
WMGZ	**Waiomatatini S**	**6.33**	**207**	P		**Pn**	**22 58 47.3**	**-0.1**
WMGZ				S		**Sn**	**22 59 59.0**	**-0.8**
PKGZ	**Pakihiroa**	**6.52**	**209**	P		**Pn**	**22 58 48.7**	**-1.5**
PKGZ				S		**Sn**	**23 00 01.5**	**-3.2**
HAZ	**Te Kaha**	**6.54**	**211**	P		**Pn**	**22 58 47.9**	**-2.3**
HAZ				S		**Sn**	**23 00 04.4**	**-0.5**
PUZ	**Puketiti**	**6.61**	**207**	P		**Pn**	**22 58 49.5**	**-1.8**
PUZ				S		**Sn**	**23 00 03.5**	**-3.3**
RUGZ	**Raukumara Rang**	**6.76**	**211**	P		**Pn**	**22 58 52.2**	**-1.2**
RUGZ				S		**Sn**	**23 00 09.4**	**-1.1**
TWGZ	**Tauwhareparae**	**6.81**	**208**	P		**Pn**	**22 58 54.2**	**+0.1**
TWGZ				S		**Sn**	**23 00 10.2**	**-1.5**
KUZ	**Kuaotunu**	**6.89**	**227**	P		**Pn**	**22 58 58.2**	**+3.0**
CNGZ	**Carnagh Statio**	**6.99**	**205**	P		**Pn**	**22 58 52.8**	**-3.7**
CNGZ				S		**Sn**	**23 00 15.0**	**-1.1**
TKGZ	**Te Karaka**	**7.09**	**208**	P		**Pn**	**22 58 56.5**	**-1.3**
TKGZ				S		**Sn**	**23 00 15.6**	**-2.9**
MWZ	**Matawai**	**7.13**	**210**	P		**Pn**	**22 58 55.3**	**-3.2**
MWZ				S		**Sn**	**23 00 17.3**	**-2.2**
URZ	**Urewera**	**7.25**	**212**	Pn		**Pn**	**22 58 56.8**	**-3.3**
	9.3nm,0.3s,baz=302,slow=23,SNR=36							
URZ				Sn		**Sn**	**23 00 18.2**	**-4.3**
	21nm,0.3s,baz=203,slow=19,SNR=7.2							
URZ	**Urewera**	**7.25**	**212**	Pn		**Pn**	**22 58 58.2**	**-1.8**
URZ	**Urewera**	**7.25**	**212**	P		**Pn**	**22 58 58.9**	**-1.2**
URZ				S		**Sn**	**23 00 19.0**	**-3.4**
RAGZ	**Rawiri**	**7.31**	**210**	P		**Pn**	**22 58 59.1**	**-2.0**
RAGZ				S		**Sn**	**23 00 22.0**	**-2.1**
RIGZ	**Rimuhau**	**7.35**	**207**	P		**Pn**	**22 58 59.9**	**-1.6**
RIGZ				S		**Sn**	**23 00 23.5**	**-1.6**
WCZ	**Waipu Caves**	**7.37**	**238**	P		**Pn**	**22 59 02.8**	**+1.0**
OUZ	**Omahuta**	**7.63**	**245**	Pn		**Pn**	**22 59 08.9**	**+3.6**
BKZ	**Black Stump Fm**	**8.27**	**211**	Pn		**Pn**	**22 59 14.6**	**+0.4**
HIZ	**Hauiti**	**8.59**	**221**	Pn		**Pn**	**22 59 20.5**	**+2.0**
QRZ	**Quartz Range**	**11.49**	**219**	Pn		**Pn**	**23 00 00.2**	**+2.0**
THZ	**Tophouse**	**11.99**	**215**	Pn		**Pn**	**23 00 05.1**	**0.0**
KHZ	**Kahutara**	**12.21**	**211**			**Pn**	**23 00 06.2**	**-1.8**
LTZ	**Lake Taylor**	**13.08**	**213**	Pn		**Pn**	**23 00 18.5**	**-1.4**
OXZ	**Oxford**	**13.61**	**213**			**Pn**	**23 00 25.5**	**-1.6**
MSVF	**Nonsavu**	**14.85**	**345**	Pn		**Pn**	**23 00 42.3**	**-2.0**
	1.1nm,0.3s,baz=145,slow=14,SNR=5.0							
MSVF				LR		LR	23 05 22.3	
	comp=Z,715nm,18.9s,baz=179,slow=33							
MSVF	**Nonsavu**	**14.85**	**345**			**Pn**	**23 00 44.0**	**-0.3**
ODZ	**Otahua Downs**	**15.57**	**211**			**Pn**	**23 00 54.0**	**+0.3**
PINNC	**Pines Island,**	**16.07**	**303**	Pn		**Pn**	**23 00 57.8**	**-2.3**
PINNC				IAmb		IAmb	23 01 07.9	
	comp=Z,136nm,1.0s							
DZM	**Mont Dzumac**	**17.12**	**302**	P		**P**	**23 01 13.6**	**-1.8**
	baz=136,slow=12,SNR=2.5							
DZM				LR		LR	23 06 48.0	
	comp=Z,3μm,18.8s,baz=154,slow=34							
DZM	**Mont Dzumac**	**17.12**	**302**	*e*Pn		**P**	**23 01 17.8**	**+2.4**
	comp=Z,238nm,1.4s							
DZM				*e*LR		LR	23 05 06.9	
	comp=Z,2μm,20.9s							
DZM	**Mont Dzumac**	**17.12**	**302**	Pn		**P**	**23 01 13.9**	**-1.5**
DZM				IAmb		IAmb	23 01 32.0	
	comp=Z,130nm,1.4s							
RAR	**Rarotonga**	**19.58**	**60**	LR		LR	23 10 09.5	
	comp=Z,596nm,18.3s,baz=235,slow=40							
MGCD	**Mangrove Creek**	**25.98**	**259**	P		**P**	**23 02 47.1**	**+0.1**
	baz=26,SNR=8.5							
ARMA	**Armidale**	**25.98**	**266**	P		**P**	**23 02 49.8**	**+2.6**
ARMA				IAmb		IAmb	23 03 05.5	
	comp=Z,25nm,1.1s							
TBI	**Tubuai**	**26.67**	**78**	*e*S		S	23 07 46.7	+18
	comp=Z,534nm,26.0s							
TBI				*e*LR		LR	23 09 51.5	
	comp=Z,682nm,22.2s,baz=242							
TBI	**Tubuai**	**26.67**	**78**	*e*T		T	23 30 52.0	
	comp=Z,12nm,0.4s							
CAN	**Canberra**	**27.55**	**254**	P		**P**	**23 03 03.6**	**+2.4**
CAN				pmax		pmax		
	comp=Z,42nm,1.5s							
CAN	**Canberra**	**27.55**	**254**	P		**P**	**23 03 03.6**	**+2.4**
CAN				IAmb		IAmb	23 03 05.8	
	comp=Z,42nm,1.5s							

EIDS	**Eidsvold**	**27.89**	**276**	P		**P**	**23 03 05.3**	**+1.1**
	baz=28,SNR=5.3							
EIDS	**Eidsvold**	**27.89**	**276**	P		**P**	**23 03 05.4**	**+1.1**
EIDS				IAmb		IAmb	23 03 14.4	
	comp=Z,16nm,0.8s							
PPT2	**Papeete2**	**29.48**	**67**	*e*S		S	23 08 28.3	+15
	comp=Z,355nm,23.2s							
PPT2				*e*LR		LR	23 11 00.7	
	comp=Z,520nm,21.0s,baz=233							
PPT	**Papeete**	**29.49**	**67**	LR		LR	23 14 20.4	
	comp=Z,616nm,18.5s,baz=232,slow=35							
TOO	**Toolangi**	**30.30**	**250**	P		**P**	**23 03 26.4**	**+0.7**
TOO				pmax		pmax		
	comp=Z,21nm,1.4s							
TOO	**Toolangi**	**30.30**	**250**	P		**P**	**23 03 26.4**	**+0.7**
CMSA	**Cobar Meteorol**	**30.76**	**261**	P		**P**	**23 03 31.2**	**+1.5**
	baz=30,SNR=63							
PMOR	**Pomariorio Ree**	**32.30**	**65**	*e*T		T	23 37 30.6	
	comp=Z,1.8nm,0.3s							
VAH	**Vaihoa**	**32.37**	**66**	*e*T		T	23 37 35.7	
	comp=Z,5.3nm,0.3s							
ARPS	**Mount Arapiles**	**33.26**	**251**	P		**P**	**23 03 52.5**	**+1.0**
	baz=33,SNR=11							
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**23 03 58.6**	**-0.5**
	comp=Z,12nm,0.7s,baz=99,slow=9.8,SNR=31							
STKA				LR		LR	23 17 45.1	
	comp=Z,827nm,18.1s,baz=134,slow=36							
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**23 03 58.0**	**-1.1**
	baz=34,SNR=24							
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**23 04 00.3**	**+1.1**
CTA	**Charters Tower**	**34.14**	**282**	P		**P**	**23 04 00.3**	**+0.9**
	comp=Z,19nm,0.7s,baz=108,slow=9.5,SNR=17							
CTAO	**Charters Tower**	**34.14**	**282**	P		**P**	**23 04 00.6**	**+1.2**
CTAO				pmax		pmax		
	comp=Z,46nm,1.1s							
CTAO	**Charters Tower**	**34.14**	**282**	P		**P**	**23 04 00.6**	**+1.2**
HTT	**Hallett**	**36.05**	**256**	P		**P**	**23 04 16.6**	**+0.8**
	baz=36,SNR=8.3							
MTSU	**Mount Surprise**	**36.68**	**283**	P		**P**	**23 04 22.4**	**+1.1**
	baz=36,SNR=11							
BBOO	**Buckleboo**	**38.52**	**256**	P		**P**	**23 04 36.2**	**-0.6**
	baz=38,SNR=11							
BBOO	**Buckleboo**	**38.52**	**256**	P		**P**	**23 04 36.2**	**-0.6**
BBOO				IAmb		IAmb	23 04 36.8	
	comp=Z,24nm,0.8s							
PMG	**Port Moresby**	**39.42**	**297**	*i* P		**P**	**23 04 43.7**	**-0.7**
PMG				pmax		pmax		
	comp=Z,40nm,2.1s							
TAOE	**Nuku Hiva Isla**	**42.03**	**65**	*e*LR		LR	23 16 49.0	
	comp=Z,296nm,21.4s							
AS31	**Alice Springs**	**43.05**	**269**	P		**P**	**23 05 13.6**	**-0.8**
ASAR	**Alice Springs**	**43.05**	**269**	P		**P**	**23 05 13.6**	**-0.7**
	comp=Z,8.2nm,0.7s,baz=106,slow=7.3,SNR=82							
ASAR				S		**S**	**23 11 36.9**	**-3.4**
	comp=Z,0.8nm,0.9s,baz=102,slow=17,SNR=4.7							
WR0	**Warramunga Arr**	**44.03**	**274**	P		**P**	**23 05 21.6**	**-0.5**
WR0				IAmb		IAmb	23 05 34.9	
	comp=Z,23nm,0.8s							
WRAB	**Tennant Creek**	**44.20**	**274**	*i* P		**P**	**23 05 22.4**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,36nm,1.4s							
WRA	**Warramunga Arr**	**44.20**	**274**	P		**P**	**23 05 22.8**	**-0.9**
	comp=Z,13nm,0.5s,baz=114,slow=7.7,SNR=110							
WRA				S		**S**	**23 11 50.9**	**-6.2**
	comp=Z,0.9nm,1.0s,baz=107,slow=14,SNR=1.7							
FORT	**Forrest**	**45.62**	**257**	P		**P**	**23 05 33.5**	**-1.2**
	baz=45,SNR=26							
FORT	**Forrest**	**45.62**	**257**	P		**P**	**23 05 34.2**	**-0.6**
VNDA	**Vanda**	**46.31**	**186**	P		**P**	**23 05 41.6**	**+2.2**
	comp=Z,1.6nm,0.7s,baz=17,slow=5.3,SNR=11							
VNDA				LR		LR	23 22 00.7	
	comp=Z,282nm,18.5s,baz=16,slow=32							
VNDA	**Vanda**	**46.31**	**186**	P		**P**	**23 05 42.0**	**+2.5**
WRKA	**Warakurna**	**47.29**	**264**	P		**P**	**23 05 46.5**	**-1.5**
	baz=47,SNR=27							
KDU	**Kakadu**	**49.26**	**281**	P		**P**	**23 06 04.0**	**+0.8**
	baz=49,SNR=4.1							
MTN	**Manton Dam**	**50.30**	**280**	P		**P**	**23 06 11.6**	**+0.5**
	baz=50,SNR=3.6							
MTN	**Manton Dam**	**50.30**	**280**	P		**P**	**23 06 11.1**	**0.0**
KNRA	**Kununurra**	**50.88**	**276**	P		**P**	**23 06 15.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.39**	**271**	P		**P**	**23 06 25.9**	**-0.8**
	comp=Z,9.0nm,0.8s,baz=140,slow=6.2,SNR=9.2							
FITZ	**Fitzroy Crossi**	**52.39**	**271**	P		**P**	**23 06 25.9**	**-0.8**
	baz=52,SNR=6.3							
FITZ	**Fitzroy Crossi**	**52.39**	**271**	P		**P**	**23 06 26.6**	**-0.2**
SAUI	**Saumlaki**	**52.78**	**286**	P		**P**	**23 06 31.6**	**+1.9**
WAKE	**Wake Island**	**53.27**	**342**	P		**P**	**23 06 34.8**	**+1.8**
CASY	**Casey**	**53.56**	**208**	P		**P**	**23 06 35.7**	**+1.0**
CASY				IAmb		IAmb	23 06 36.4	
	comp=Z,19nm,0.8s							
KLBR	**Kellerberrin**	**53.79**	**252**	P		**P**	**23 06 34.9**	**-2.1**
	baz=54,SNR=8.3							
MEEK	**Meekatharra**	**54.81**

comp=Z,5.1nm,0.7s,baz=137,slow=6.8,SNR=9.6
ISA Isabella, Lake 87.57 45 P 23 10 03.2
baz=227
ISA Isabella, Lake 87.57 45 P **P** **23 10 03.3 +0.9**
ISA pmax pmax
comp=Z,10.0nm,0.9s
ISA Isabella, Lake 87.57 45 P **P** **23 10 03.3 +0.9**
ISA lAmb lAmb 23 10 05.1
comp=Z,9.5nm,0.9s
LRMC Laurel Mtn Rad 87.92 45 P 23 10 05.2
baz=227
BELC Belle Mtn. Jos 87.96 47 P 23 10 05.5
baz=228
BC3 Big Chuckawall 88.08 48 P 23 10 06.0
baz=229
CMB Columbia Colle 88.09 42 lAmb lAmb 23 10 10.2
comp=Z,12nm,1.4s
O02D Mt. Diablo Mer 88.29 39 P 23 10 06.5
baz=224
HEC Hector,Ludlow 88.30 46 P 23 10 07.3
baz=228
GSC Goldstone, Bar 88.33 46 P 23 10 07.0
baz=228
CWC Cottonwood Cre 88.33 44 P 23 10 07.1
baz=227
AFDM Forest Hills D 88.40 41 lAmb lAmb 23 10 10.7
comp=Z,7.9nm,1.3s
MPMC Manual Prospec 88.42 45 P 23 10 07.6
baz=228
IRM Iron Mountain 88.60 48 P 23 10 08.7
baz=229
USRK Ussuriysk Ar. 88.67 327 P **P** **23 10 07.0 -0.3**
comp=Z,5.1nm,0.8s,baz=143,slow=4.2,SNR=11
GMRC Granite Mounta 88.69 47 P 23 10 09.1
baz=229
WDC Whiskeytown Da 88.71 39 P **P** **23 10 09.1 +1.5**
WDC pmax pmax
comp=Z,6.0nm,1.0s
WDC Whiskeytown Da 88.71 39 P **P** **23 10 09.1 +1.5**
WDC lAmb lAmb 23 10 09.9
comp=Z,5.9nm,0.9s
N02D Trinity Center 88.90 38 P 23 10 09.9
baz=224
WAKR Walker 88.96 42 P **P** **23 10 10.3 +1.2**
WAKR lAmb lAmb 23 10 12.3
comp=Z,14nm,1.3s
SHOC Shoshone, Teco 89.05 46 P 23 10 10.8
baz=228
FURC Furnace Creek, 89.07 45 P 23 10 10.6
baz=228
M02C Callahan 89.12 38 P 23 10 10.8
baz=224
PNTR Pine Nut 89.27 42 P **P** **23 10 10.6 0.0**
PNTR lAmb lAmb 23 10 12.8
comp=Z,10nm,0.9s
LHV Little Huntoon 89.32 43 P **P** **23 10 11.5 +1.1**
LHV lAmb lAmb 23 10 13.1
comp=Z,10nm,1.0s
PDMCI Parker Dam,Lak 89.32 48 P 23 10 12.1
baz=229
BEKR Beckworth 89.39 41 P **P** **23 10 11.0 0.0**
NVAR Mina Array Bea 89.55 43 P **P** **23 10 11.9 0.0**
comp=Z,4.1nm,0.7s,baz=222,slow=7.3,SNR=22
NVAR Mina Array Bea 89.55 43 P **P** **23 10 11.2 -0.7**
NV11 Mina Array Sit 89.64 43 P **P** **23 10 12.5 +0.3**
TPNV Topopah Spring 89.76 45 P **P** **23 10 13.1 +0.2**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 89.76 45 P **P** **23 10 13.1 +0.2**
Y14A Wickenburg 89.81 49 P **P** **23 10 13.2 +0.1**
Y14A lAmb lAmb 23 10 15.8
comp=Z,5.9nm,0.9s
PAHR Pah Rah Range 89.82 41 P **P** **23 10 13.3 +0.3**
PAHR lAmb lAmb 23 10 15.0
comp=Z,9.1nm,1.4s
M04C Macdoel 89.94 38 P 23 10 13.4
baz=225
TPH Tonopah 89.94 44 P **P** **23 10 13.3 -0.4**
TPH pmax pmax
comp=Z,34nm,0.9s
TPH Tonopah 89.94 44 P **P** **23 10 13.3 -0.4**
W13A Hualapai Mount 90.00 48 P **P** **23 10 14.7 +0.7**
W13A lAmb lAmb 23 10 16.9
comp=Z,7.0nm,0.9s
L04D Klamath Falls 90.00 38 P 23 10 14.9
baz=224
KVN Kaiserville 90.09 42 P **P** **23 10 14.5 +0.1**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 90.09 42 P **P** **23 10 14.5 +0.1**
KVN lAmb lAmb 23 10 20.0
comp=Z,7.5nm,1.1s
MDJ Mudanjiang 90.12 326 P **P** **23 10 14.5 +0.4**
MDJ pP sP 23 10 17.8 +1.7
MDJ S **S** **23 21 09.5 +2.1**
MDJ sS ScS 23 21 14.5 +3.2
MDJ pmax pmax
comp=Z,13nm,1.0s
MDJ pmax pmax
comp=Z,100nm,5.1s
MDJ L L
comp=Z,100nm,3.8s
MDJ L L
comp=Z,68nm,5.4s
MDJ L L
comp=Z,150nm,5.6s
SHPR Sheep Range 90.13 46 P **P** **23 10 15.5 +0.9**
TUC Tucson 90.23 51 P **P** **23 10 15.8 +0.8**
TUC pmax pmax
comp=Z,12nm,1.3s
TUC Tucson 90.23 51 P **P** **23 10 15.8 +0.8**
TUC lAmb lAmb 23 10 20.8
comp=Z,12nm,1.2s
NONG Nongkai 90.44 291 P **P** **23 10 17.2 +1.0**
PRN Pahroc Range 90.78 45 P **P** **23 10 18.5 +0.9**
PRN lAmb lAmb 23 10 23.7
comp=Z,12nm,1.2s
I04A Tendick Farm, 91.07 37 P 23 10 19.0
baz=224
K05A Summer Lake 91.10 38 P **P** **23 10 20.0 +1.0**
X16A Lo Mia Camp, P 91.11 49 P **P** **23 10 19.9 +0.7**
X16A lAmb lAmb 23 10 25.5
comp=Z,9.8nm,1.1s
J05D Fort Rock, OR 91.31 38 P 23 10 20.5
baz=225
H04D Lebanon 91.43 36 P 23 10 21.7
baz=224
CN2 Changchun 91.58 323 *e*P P **23 10 19.0 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
LCMT Little Creek M 91.63 46 P **P** **23 10 22.6 +1.1**
PINE Pine Mountain 91.82 37 P **P** **23 10 22.4 0.0**
PINE lAmb lAmb 23 10 24.7
comp=Z,9.4nm,0.8s
U15A North Rim 91.84 47 P **P** **23 10 23.3 +0.6**
U15A lAmb lAmb 23 10 25.7
comp=Z,6.6nm,0.7s
WUAZ Wupatki 91.85 49 P **P** **23 10 23.2 +0.6**
WUAZ lAmb lAmb 23 10 29.3
comp=Z,5.6nm,1.0s
KNB Kanab 91.89 47 P **P** **23 10 23.5 +0.7**
KNB pmax pmax
comp=Z,7.0nm,0.8s
KNB Kanab 91.89 47 P **P** **23 10 23.5 +0.7**
KNB lAmb lAmb 23 10 25.6
comp=Z,6.8nm,0.8s
I05D Terrebonne, OR 92.00 37 P 23 10 23.3
baz=225
KLR Kul'dur 92.59 330⇓ *i*P **P** **23 10 24.6 -0.9**
KLR pmax pmax
comp=Z,5.0nm,0.8s
I07A Izee 92.77 38 lAmb lAmb 23 10 28.7
comp=Z,5.4nm,1.1s
J08A Circle Bar Ran 92.82 39 P **P** **23 10 26.9 +0.1**
J08A lAmb lAmb 23 10 29.4
comp=Z,6.2nm,1.1s
ELK Elko 92.86 43 P **P** **23 10 27.7 +0.5**
ELK pmax pmax
comp=Z,3.0nm,1.2s
ELK Elko 92.86 43 P **P** **23 10 27.7 +0.5**
MTPU Mount Pierson 92.93 46 P **P** **23 10 27.9 +0.1**
MTPU lAmb lAmb 23 10 41.4
comp=Z,8.7nm,1.3s
MSU Marysvale 93.23 46 P **P** **23 10 30.3 +1.3**
MSU Marysvale 93.23 46 P **P** **23 10 30.3 +1.3**
TX31 Lajitas Ar. Si 93.35 57 P **P** **23 10 30.0 +0.4**
TX31 lAmb lAmb 23 10 34.2
comp=Z,11nm,1.2s
TX32 Lajitas Array 93.35 57 P **P** **23 10 29.8 +0.1**
TXAR Lajitas Array 93.35 57 P **P** **23 10 29.8 +0.2**
comp=Z,1.6nm,1.0s,baz=216,slow=6.2,SNR=9.4
TXAR LR LR 23 47 17.3
comp=Z,151nm,18.1s,baz=0.0,slow=32
G08A Pilot Rock 93.88 37 P **P** **23 10 30.7 -0.9**
G08A lAmb lAmb 23 10 44.0
comp=Z,5.7nm,1.2s
TMUT Trail Mountain 94.31 46 P **P** **23 10 33.9 -0.2**
TMUT lAmb lAmb 23 10 36.0
comp=Z,12nm,1.4s
ANMO Albuquerque 94.69 51 *e*P **P** **23 10 33.9 -1.9**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
PV14 Lion Creek, Pa 95.09 47 P **P** **23 10 38.2 +0.7**
CD2 Chengdu 97.05 302 P **P** **23 10 48.0 +1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LPAZ La Paz 97.39 114 LR LR 23 48 02.1
comp=Z,91nm,19.1s,baz=214,slow=31
PDAR Pinedale Array 97.43 44 P **P** **23 10 48.1 0.0**
comp=Z,0.5nm,0.7s,baz=237,slow=4.6,SNR=5.4
HHC Hu-ho-hao-te 97.49 314 *e*P Pdif 23 10 49.5 +1.2
HHC SKS **SKSac** **23 21 23.8 -1.9**
HHC S **S** **23 22 08.8 -4.2**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,65nm,5.5s
HHC L L
comp=Z,76nm,16.2s
HHC L L
comp=Z,120nm,15.3s
HHC L L
comp=Z,96nm,16.2s
CPUP Villa Florida 98.86 129 LR LR 23 49 26.6
comp=Z,82nm,19.2s,baz=217,slow=32
ILAR Eielson Array 99.68 13 LR LR 23 51 54.2
comp=Z,58nm,19.5s,baz=222,slow=33
BILL Bilibino 100.63 354 *e*P **Pdif** **23 11 00.8 -0.7**
BILL *e*PPP PPP 23 17 14.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 114.34 308 *e*PKP **PKiKP** **23 15 55.0 +1.1**
MKAR Makanchi Array 118.93 309 PKP **PKPdf** **23 16 02.4 -0.2**
comp=Z,1.6nm,0.7s,baz=77,slow=1.6,SNR=13
ZALV Zalesovo Beam 119.38 318 PKP **PKPdf** **23 16 01.1 -2.1**
comp=Z,0.6nm,0.5s,baz=96,slow=2.9,SNR=1.6
KSH Kashi 121.15 300 PKP **PKPdf** **23 16 04.3 -3.0**
KSH PP **PP** **23 17 40.5 +2.6**
KSH L L
comp=Z,140nm,3.8s
KSH L L
comp=Z,110nm,3.8s
NRIK Noril'sk 121.28 336 PKP **PKPdf** **23 16 05.0 -1.4**
comp=Z,1.7nm,0.7s,baz=3.9,slow=4.3,SNR=2.6
NRIK Noril'sk 121.28 336*c* *i*PKIKP **PKPdf** **23 16 05.7 -0.7**
AAK Ala-Archa 123.11 303⇓ *i*PKIKP **PKPdf** **23 16 10.0 -1.0**
AAK pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 124.92 292 PKIKP **PKiKP** **23 16 14.9 -0.2**
KBL Kabul 124.92 292 PKPdf **PKiKP** **23 16 14.9 -0.2**
BRVK Borovoye 127.76 315⇓ *i*PKIKP **PKPdf** **23 16 18.6 -0.7**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
ARU Arti 134.48 319 *i* PKIKP **PKPdf** **23 16 30.5 -1.4**
ARU 23 19 00.2
ARU SS SS 23 36 47.5 -8.1
PRGR Permogore 139.39 330 *e*PKIKP **PKPdf** **23 16 37.4 -3.4**
PRGR pmax pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 142.35 331 *e*PKIKP **PKPdf** **23 16 44.2 -1.9**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 142.35 331 *e*PKPdf **PKPdf** **23 16 44.3 -1.9**
KLMR AMP 23 16 53.4
comp=Z,10.0nm,1.0s
GNI Garni 144.88 295 *e*PKIKP **PKPab** **23 16 50.1 -0.6**
GNI *i* 23 16 54.1
GNI pmax pmax
comp=Z,24nm,1.7s
VRH Novokhopyorsk 145.34 315 *e*PKP2 **PKPbc** **23 16 50.0 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 145.44 300 *i* PKIKP **PKPbc** **23 16 51.4 -1.1**
ZEI pmax pmax
comp=Z,14nm,0.9s
ONI Oni 145.79 300 PKIKP **PKPab** **23 16 54.7 +0.9**
ONI Oni 145.79 300 **PKPab** **23 16 54.6 +0.9**
MOS Moscow 145.81 324 *i* PKP2 **PKPdf** **23 16 51.0 -1.4**
MOS pmax pmax
comp=Z,95nm,1.2s
GOF Gofitskoye 145.84 304⇑ *e*PKIKP **PKPab** **23 16 53.3 -0.5**
GOF pmax pmax
comp=Z,58nm,1.2s
KBZ Khabaz 146.10 302 PKPbc **PKPdf** **23 16 53.1 -0.1**
comp=Z,15nm,1.0s,baz=203,slow=1.1,SNR=12
KBZ Khabaz 146.10 302*c* *i*PKP2 **PKPdf** **23 16 53.3 +0.1**
KIV Kislovodsk 146.22 302 ⇑P **PKiKP** **23 16 57.3 -0.6**
KIV Kislovodsk 146.22 302 ⇑PKP2 **PKiKP** **23 16 57.3 -0.6**
LPSR Galich'ya Gora 146.48 318 *e*PKP2 **PKPbc** **23 16 54.2 -0.8**
LPSR pmax pmax
comp=Z,70nm,0.9s
OBN Obninsk 146.64 324 PKPbc **PKPdf** **23 16 53.3 -0.4**
comp=Z,4.5nm,0.5s,baz=94,slow=2.1,SNR=13
OBN Obninsk 146.64 324*c* *i*PKP2 **PKPdf** **23 16 54.1 +0.3**
OBN *e* 23 20 20.5
OBN *e*PPP PPP 23 23 34.2
OBN pmax pmax
comp=Z,41nm,1.0s
VORR Voronezh 146.67 317 PKIKP **PKPdf** **23 16 52.0 -2.0**
VORR pmax pmax
comp=Z,250nm,1.6s
CHVG Ch'k'valeri 146.78 300 ⇑P **PKPab** **23 16 56.9 -0.6**
CHVG Ch'k'valeri 146.78 300 ⇑PKP2 **PKPab** **23 16 56.9 -0.6**
FIA1 FINESS Array S 146.83 339 **PKPbc** **23 16 54.9 -0.9**
FINES FINESS Array B 146.84 339 PKPbc **PKPbc** **23 16 54.8 -1.0**
comp=Z,17nm,0.6s,baz=59,slow=3.2,SNR=66
VSR Storozhevoye 146.86 316 *e*PKP2 **PKPbc** **23 16 55.1 -1.1**
VSR pmax pmax
comp=Z,40nm,0.8s
VORD Divnogorie 146.87 316 *e*PKP2 **PKPdf** **23 16 55.0 +0.7**
VORD pmax pmax
comp=Z,20nm,0.8s
MEF Metsahovi 148.31 339 *e*P **PKPbc** **23 17 00.3 +0.5**
SOC Sochi 148.41 302 *e*PKIKP **PKPdf** **23 16 58.0 +0.9**
SOC *e* 23 20 36.2
SOC *e*PPP PPP 23 23 45.2
SOC *e*SS SS 23 39 34.1 -4.5
SOC *e*SSS SSS 23 45 07.6
RAF Rauma 148.41 342 *e*P **PKPdf** **23 16 56.9 +0.4**
VSU Vasula 148.87 335 *e*P **PKPbc** **23 17 01.3 0.0**
NB201 NORSAR Array S 150.51 351 **PKiKP** **23 17 08.2 +2.1**
NOA NORSAR Array B 150.53 351 PKPbc **PKPbc** **23 17 04.5 -0.9**
comp=Z,1.8nm,0.6s,baz=15,slow=4.1,SNR=15
MNK Minsk 151.13 328 *i* PKIKP **PKPbc** **23 17 06.7 -0.2**
MNK *i* 23 20 51.6
MNK *i* PPP PPP 23 24 13.7
MNK *i* SSS SSS 23 45 56.7
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK Minsk 151.13 328 *i* PKP **PKPbc** **23 17 06.8 -0.2**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPbc** **23 17 06.8 -0.2**
comp=N,12nm,0.9s
MNK *i* PKP **PKPbc** **23 17 06.8 -0.2**
comp=Z,29nm,0.9s,baz=231
MNK *i* PP **PP** **23 20 51.7 +6.6**
MNK *i* PPP PPP 23 24 13.8
MNK *i* SKS **SKSdf** **23 24 14.6 +6.1**
MNK *i* SS **SS** **23 40 14.0 +6.4**
MNK *i* SSS SSS 23 45 56.7
MNK *i* LR LR 00 19 03.6
MNK *i* LRM MLR 00 23 32.8
comp=Z,34nm,14.5s
MNK *i* LRM MLR 00 23 44.4
comp=E,2.0nm,10.8s
MNK *i* LRM MLR 00 23 50.2
comp=N,53nm,26.1s
ISAL Salakas 151.17 331 *e*P **PKPab** **23 17 11.8 -3.0**
IIGN Ignalina 151.28 331 *e*P **PKiKP** **23 17 08.4 +0.7**
NACGM Naroch 151.35 330 *i* PKP **PKiKP** **23 17 07.7 -0.2**
EIL Elat 151.69 274 PKPbc **PKPbc** **23 17 08.8 -0.3**
comp=N,16nm,0.8s,baz=166,slow=1.9,SNR=18
MMAI Mount Meron Ar 151.93 281 PKPbc **PKiKP** **23 17 10.0 0.0**
comp=N,21nm,0.9s,baz=72,slow=5.4,SNR=16
PABE Paberze 152.07 333 *e*P **PKiKP** **23 17 09.9 +0.5**
AKASG Malin Array Be 152.72 321 PKPbc **PKPbc** **23 17 09.8 -0.8**
comp=N,2.8nm,0.5s,baz=64,slow=2.1,SNR=15
BR131 Keskin Array S 153.42 295 **PKiKP** **23 17 15.1 +2.2**
BRTR Keskin Array B 153.42 295 PKPbc **PKiKP** **23 17 12.8 -0.1**
comp=N,2.4nm,0.9s,baz=178,slow=5.4,SNR=10
SUW Suwalki 153.48 331 *e*P **PKiKP** **23 17 12.3 0.0**
DBIC Dimbokro 153.80 164 PKPbc **PKPbc** **23 17 13.9 -0.2**
comp=N,12nm,1.1s,baz=279,slow=2.6,SNR=4.0
DBIC Dimbokro 153.80 164 PKIKP **PKPbc** **23 17 14.0 -0.2**
SORM Soroca 154.52 316 ⇓P **PKPbc** **23 17 14.4 -0.3**
SORM Soroca 154.52 316 ⇓PKIKP **PKPbc** **23 17 14.4 -0.3**
BIZ Bicaz 156.44 316 ⇑P PKPdf 23 17 19.5 +11
VRI Vrincioaia 156.57 313 ⇓P **PKPab** **23 17 31.5 -6.6**
VRI Vrincioaia 156.57 313 ⇓PKP2 **PKPab** **23 17 31.5 -6.6**
BUR01 Bucovina Ar. S 156.60 318 ⇓P PKPdf 23 17 19.9 +11
PLOR Plostina 156.62 313 ⇑P **PKPab** **23 17 38.2 -0.2**
PLOR Plostina 156.62 313 ⇑PKP2 **PKPab** **23 17 38.2 -0.2**
KOLS Kolonicke sedl 157.40 324 *e*PKIKP PKPab 23 17 26.6 -15
CRVS Cervenica-Dubn 157.82 324 *e*PKP2 **PKPab** **23 17 42.8 -0.6**
DRGR 158.47 319 ⇑P **PKPab** **23 17 45.3 -1.1**
DRGR 158.47 319 ⇑PKP2 **PKPab** **23 17 45.3 -1.1**
LANS Liptovska Anna 158.60 327 *e*PKP2 **PKPab** **23 17 46.8 +0.1**
OSTC Ostas 158.86 334 *e*PKPAB **PKPab** **23 17 46.7 -1.1**
CHVC Chvalec 158.89 335 *e*PKPAB **PKPab** **23 17 47.2 -0.7**
UPC Upice 158.97 335 *e*PKP2 **PKPab** **23 17 47.5 -0.8**
UPC Upice 158.97 335 *e*PKPAB **PKPab** **23 17 47.5 -0.8**
DPC Dobruska-Polom 158.99 334 *e*PKP2 **PKPab** **23 17 47.5 -0.9**
DPC Dobruska-Polom 158.99 334 *e*PKPAB **PKPab** **23 17 47.5 -0.9**
KRLC Kraliky 159.03 333 *e*PKP2 **PKPab** **23 17 47.7 -0.9**
KRLC Kraliky 159.03 333 *e*PKPAB **PKPab** **23 17 47.7 -0.9**
CLL Collm 159.27 340 *e*PKPdf **PKPdf** **23 17 13.0 +0.8**
CLL *e* 23 17 46.0
comp=Z,7.0nm,0.9s
CLL *i* PKPab **sPKPab** **23 17 52.3 +0.8**
comp=Z,14nm,1.4s
CLL *i* 23 17 59.6
CLL *e*PP **PP** **23 21 32.0 +1.8**
CLL Collm 159.27 340 *e*PKIKP **PKPdf** **23 17 12.0 -0.2**
CLL *e* 23 17 46.0
CLL pmax pmax
comp=Z,7.0nm,0.9s
VYHS Vyhne 159.36 327 *e*PKP2 **PKPab** **23 17 49.8 -0.2**
PVCC Panska Ves 159.46 337 *e*PKP2 **PKPab** **23 17 50.1 -0.3**
PVCC Panska Ves 159.46 337 *e*PKPAB **PKPab** **23 17 50.1 -0.3**
BZS Buzias 159.77 317 ⇑P **PKPab** **23 17 50.3 -1.6**
BZS Buzias 159.77 317 ⇑PKP2 **PKPab** **23 17 50.3 -1.6**
PRU Pruhonice 159.93 336 *e*PKP2 **PKPab** **23 17 51.6 -0.8**
PRU Pruhonice 159.93 336 *e*PKPAB **PKPab** **23 17 51.6 -0.8**
MODS Modra-Piesok 160.15 329 *e*PKP2 **PKPab** **23 17 52.5 -1.0**
TREC Trest 160.16 333 *e*PKP2 **PKPab** **23 17 52.6 -0.9**
TREC Trest 160.16 333 *e*PKPAB **PKPab** **23 17 52.6 -0.9**
MDVR Moldovita 160.18 315 ⇑P **PKPab** **23 17 52.9 -0.9**
NKC Novy Kostel 160.39 340 *e*PKP2 **PKPab** **23 17 54.1 -0.3**
NKC Novy Kostel 160.39 340 *e*PKPAB **PKPab** **23 17 54.1 -0.3**
KHC Kasperske Hory 160.99 336 *e*PKP2 **PKPab** **23 17 56.3 -0.8**
KHC Kasperske Hory 160.99 336 *e*PKPAB **PKPab** **23 17 56.3 -0.8**
CKRC Cesky Krumlov 160.99 334 *e*PKPAB **PKPab** **23 17 55.8 -1.3**
TORD Torodi Ar. Bea 161.03 179 PKP **PKPdf** **23 17 14.8 -0.5**
comp=Z,1.3nm,1.0s,baz=318,slow=2.0,SNR=3.9
TORD PKPab **PKPab** **23 17 56.7 -1.2**
comp=Z,5.3nm,0.7s,baz=180,slow=3.1,SNR=13
TORD PP PP **23 21 37.3 -2.2**
comp=Z,0.8nm,1.1s,baz=355,slow=1.6,SNR=3.6
MORH Mrgy, Hungar 161.03 322 ⇓P **PKPdf** **23 17 20.3 +5.9**
CONA Conrad Observa 161.10 330 *i* P **PKPab** **23 17 57.3 -0.4**
comp=Z,5.1nm,0.8s,SNR=7.0
GERES GERESS Array B 161.19 335 PKPab **PKPab** **23 17 56.9 -1.2**
comp=Z,1.4nm,0.8s,baz=33,slow=5.1,SNR=10
GRF Grafenberg Arr 161.22 341 *e*PKP **PKPab** **23 17 57.4 -0.7**
baz=25,slow=3.9
GRF *e*pPKP **sPKPab** **23 18 02.0 +1.9**
ARSA Arzberg 161.77 329 P **PKPab** **23 18 00.2 -0.4**
comp=Z,3.0nm,0.9s
MOA Molln 161.81 333 *e*P **PKPab** **23 18 00.2 -0.5**
comp=Z,5.3nm,1.1s
SOKA Soboth 162.43 329 *e*P **PKPab** **23 18 02.9 -0.7**
comp=Z,6.7nm,1.2s
MYKA Terra Mystica 163.05 332 *e*P **PKPab** **23 18 04.5 -1.7**
comp=Z,5.3nm,0.9s
WATA Walderalm 163.22 337 *e*P **PKPab** **23 18 07.8 +0.8**
comp=Z,6.7nm,1.1s
RETA Reutte 163.34 339 *i* P **PKPab** **23 18 07.0 -0.5**
comp=Z,9.7nm,1.0s,SNR=6.1
MOTA Moosalm 163.36 338 *e*P **PKPab** **23 18 07.1 -0.6**
comp=Z,8.9nm,1.1s
ABTA Abfaltersbach 163.39 334 *e*P **PKPab** **23 18 06.3 -1.5**
comp=Z,5.5nm,0.9s
SQTA Sankt Quirin 163.44 338 *e*P **PKPab** **23 18 07.4 -0.6**
comp=Z,5.4nm,1.0s
FETA Feichten 163.77 338 *i* P **PKPab** **23 18 08.9 -0.6**
comp=Z,6.3nm,1.0s,SNR=4.6
DAVA Damuels 163.78 341 *e*P **PKPab** **23 18 08.9 -0.6**
comp=Z,8.3nm,1.2s

NAO ***25*** *23:15:56.8*$_S$ *0.9, 69°25.N*$_K$ *30°48.E, ML2.7*
HEL ***25*** *23:15:57.5*$_S$ *0.3, 69°35.N*$_K$ *30°62.E, h0*^{km}*, ML2.4, Explosion*
UPP ***25*** *23:15:57.5*$_S$ *2.9, 69°39.N*$_K$ *30°62.E, h0*^{km}*, ML2.3, Suspected explosion*
BER ***25*** *23:15:57.2*$_S$ *3.0, 69°56.N*$_K$ *30°98.E, h0*^{km}*, 33*^{km}*, ML2.1*
KOLA ***25*** *23:15:57.6, 69°28.N*$_K$ *30°29.E, h0*^{km}*, ML2.5, Murmansk region, Pechenga district*

ISC 25 23:15:55.9$_S$1.7**, 69°46.N**0°05.$_K$**30°75.E**0°05, **h5**^{km}12km, **n43,** $_{\sigma}$**0°97/65, 1C, Norway-Murmansk border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEV	**Kevo**	**1.35**	**285**	Pg	**Pg**	**23 16 21.7**	**+0.1**
KEV				Lg	Lg	23 16 39.2	
KEV	**Kevo**	**1.35**	**285**	⇑*i*P	**Pg**	**23 16 21.7**	**+0.1**
KEV				*e*S	**Sg**	**23 16 39.3**	**+0.2**
KEV	**Kevo** baz=107	**1.35**	**285**	PG	**Pn**	**23 16 21.2**	**-0.1**
KEV				MSG		23 16 37.7	
	comp=Z,46nm,0.2s						
KEV				SB	**Sb**	**23 16 39.0**	**-0.1**
VRF	**Varrio**	**1.77**	**194**	PG	**Pn**	**23 16 26.9**	**-0.2**
VRF				MSG		23 16 47.0	
	comp=Z,41nm,0.2s						
VRF				SN	**Sn**	**23 16 48.5**	**-1.5**
ARA0	**ARCESS Array S** baz=93,slow=16	**1.85**	**275**	Pn	**Pb**	**23 16 29.8**	**-0.4**
ARA0				Lg	Lg	23 16 53.4	
	baz=92,slow=28						
ARA0	**ARCESS Array S** baz=93,slow=16	**1.85**	**275**	Pn	**Pb**	**23 16 29.8**	**-0.4**
ARA0				Sg	**Sb**	**23 16 53.4**	**-0.2**
	baz=92,slow=28						
ARA0				IAML		23 16 56.8	
	comp=Z,34nm,0.2s						
ARA0	**ARCESS Array S** baz=93	**1.85**	**275**	PG	**Pb**	**23 16 29.8**	**-0.4**
APA0	**Apatity Array** baz=332,slow=14	**2.03**	**155**	Pn	**Pn**	**23 16 31.6**	**+0.8**
APA0				Lg	Lg	23 16 57.0	
	baz=330,slow=37						
APA0	**Apatity Array** baz=332,slow=14	**2.03**	**155**	Pn	**Pn**	**23 16 31.6**	**+0.8**
APA0				Sg	**Sn**	**23 16 57.0**	**+0.5**
	baz=330,slow=37						
APA0	**Apatity Array**	**2.03**	**155**	P	**Pn**	**23 16 31.4**	**+0.7**
APA0				S	**Sn**	**23 16 56.6**	**+0.1**
APA	**Apatity**	**2.13**	**151**	P	**Pn**	**23 16 33.2**	**+1.1**
APA				S	**Sn**	**23 16 59.5**	**+0.6**
SGF	**Sodankyl** baz=39	**2.56**	**220**	PB	**Pn**	**23 16 38.6**	**+0.7**
SGF				SG	**Sb**	**23 17 12.7**	**-1.1**
HAMF	**Hammerfest**	**2.70**	**299**	*e*P	**Pn**	**23 16 40.9**	**+1.0**
HAMF				*e*S	**Sn**	**23 17 10.2**	**-2.7**
HAMF				IAML		23 17 21.2	
	comp=Z,17nm,0.5s						
KTK1	**Kautokeino**	**2.71**	**264**	Pn	**Pn**	**23 16 41.4**	**+1.3**
KTK1				Pg	**Pb**	**23 16 44.5**	**-0.3**
KTK1				Lg	Lg	23 17 18.0	
KTK1	**Kautokeino**	**2.71**	**264**	*e*P	**Pn**	**23 16 41.9**	**+1.8**

KTK1				*e*S	**Sn**	23 17 15.0	**+1.7**
KTK1				IAML		23 17 18.8	
	comp=Z,14nm,0.4s						
HEF	**Hetta**	**2.77**	**251**	Pn	**Pn**	23 16 41.7	**+0.8**
HEF				Sn	**Sn**	23 17 14.2	**-0.5**
HEF				Lg	Lg	23 17 18.9	
HEF	**Hetta**	**2.77**	**251**	*e*P	**Pn**	23 16 41.8	**+0.9**
HEF				*e*S	**Sn**	23 17 15.5	**+0.8**
HEF	**Hetta**	**2.77**	**251**	PN	**Pn**	23 16 41.8	**+0.9**
	baz=71						
HEF				MSG		23 17 16.8	
	comp=Z,14nm,0.2s						
HEF				SG	**Sb**	23 17 18.6	**-1.4**
OLKF	**Oulanka, Finla**	**3.19**	**190**	PN	**Pn**	23 16 47.2	**+0.5**
OLKF				SN	**Sn**	23 17 24.9	**-0.1**
KLF	**Kolari**	**3.36**	**232**	PN	**Pn**	23 16 49.6	**+0.6**
KLF				SG	**Sb**	23 17 37.1	**+0.1**
RNF	**Rovaniemi**	**3.37**	**214**	PN	**Pn**	23 16 49.1	**0.0**
RNF				SN	**Sn**	23 17 29.2	**-0.1**
KU6	**Riekki**	**3.46**	**186**	PN	**Pn**	23 16 51.4	**+1.0**
LANU	**Lannavaara**	**3.49**	**250**	P	**Pn**	23 16 51.2	**+0.4**
LANU	**Lannavaara**	**3.49**	**250**	PN	**Pn**	23 16 49.5	**-1.2**
KIF	**Kilpisjarvi**	**3.57**	**267**	Pn	**Pn**	23 16 53.4	**+1.4**
KIF				Sn	**Sn**	23 17 35.5	**+1.1**
KIF				Lg	Lg	23 17 45.3	
KIF	**Kilpisjarvi**	**3.57**	**267**	*e*P	**Pn**	23 16 53.3	**+1.4**
KIF				*e*S	**Sn**	23 17 33.9	**-0.5**
KIF	**Kilpisjarvi**	**3.57**	**267**	PN	**Pn**	23 16 53.4	**+1.5**
MSF	**Maaselka**	**3.62**	**191**	PN	**Pn**	23 16 53.4	**+0.9**
	baz=7.0						
JETT	**Jettan, Norway**	**3.64**	**276**	Pn	**Pn**	23 16 51.9	**-0.9**
JETT				Sn	**Sn**	23 17 38.2	**+2.1**
JETT				IAML		23 17 54.8	
	comp=Z,15nm,0.4s						
PAJU	**Pajala**	**3.75**	**233**	P	**Pn**	23 16 55.4	**+1.1**
PAJU				S	**Sn**	23 17 39.1	**+0.3**
PAJU	**Pajala**	**3.75**	**233**	PN	**Pn**	23 16 55.4	**+1.1**
KOVU	**Salmi**	**4.03**	**257**	P	**Pn**	23 16 59.5	**+1.2**
KOVU				S	**Sn**	23 17 45.5	**-0.3**
TOF	**Tornio**	**4.18**	**219**	PN	**Pn**	23 17 00.3	**+0.1**
TOF				SG	**Sb**	23 18 02.5	**+2.0**
RATU	**Laukkuluspa**	**4.40**	**253**	P	**Pn**	23 17 04.2	**+1.0**
NIKU	**Nikkaluokta**	**4.57**	**255**	P	**Pn**	23 17 06.3	**+0.8**
HARU	**Harads**	**4.96**	**233**	P	**Pn**	23 17 10.8	**-0.1**
STEI	**Steigen**	**5.85**	**262**	*e*P	**Pn**	23 17 23.5	**+0.3**
BJO1	**Bjornoya**	**6.23**	**330**	*e*P	**Pn**	23 17 27.3	**-1.1**
LOF	**Lofoten**	**6.38**	**266**	*e*P	**Pn**	23 17 30.5	**+0.1**
STOK	**Stokkvaagen**	**7.37**	**253**	*e*P	**Pn**	23 17 44.1	**+0.1**
FIA0	**FINESS Array S**	**8.28**	**196**	Lg	Lg	23 20 05.8	
	baz=18,slow=28						
SPA0	**Spitsbergen Ar**	**9.59**	**342**	Pn	**Pn**	23 18 14.3	**0.0**
	baz=135,slow=16						
SPA0	**Spitsbergen Ar**	**9.59**	**342**	Pn	**Pn**	23 18 14.3	**0.0**
	baz=135,slow=16						

*NEIC **25** 23:21:34.3±2.2,25°.28S±0°.07×179°.7W±0°.2, h495km±14km, mb4.3/19, Error ellipse: s-maj=22.4km s-min=8.0km az=104.0*
*IDC **25** 23:21:36.2±5.7, 24°.84S×179°.89W, h520km±68km, mb3.4/6, mb1 3.6/7, mb1mx3.3/20, mbtmp4.3/7, Error ellipse: s-maj=30.5km s-min=26.5km az=85.0*
ISC 25 23:21:34.2±0.9,**25°.25S**±0°.1×**179°.8W**±0°.1, **h496**km, **n34,** σ1§**10**/33, **mb4.3**/16, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.40**	**158**		**P**	**23 22 54.8**	**-0.7**
PINNC	**Pines Island,**	**11.96**	**280**	P	**P**	**23 24 13.8**	**+1.4**
DZM	**Mont Dzumac**	**13.00**	**281**	P	**P**	**23 24 22.8**	**-0.8**
	1.3nm,0.3s,baz=86,slow=17,SNR=9.9						
DZM	**Mont Dzumac**	**13.00**	**281**	P	**P**	**23 24 24.7**	**+1.1**
HIZ	**Hauiti**	**14.08**	**198**	P	**P**	**23 24 34.5**	**0.0**
BFZ	**Birch Farm**	**15.84**	**191**	P	**P**	**23 24 51.8**	**-1.2**
QRZ	**Quartz Range**	**16.90**	**200**	P	**P**	**23 25 02.2**	**-1.8**
QRZ				IAmb	IAmb	23 25 02.4	
	comp=Z,15nm,0.9s						
LTZ	**Lake Taylor**	**18.77**	**198**	P	**P**	**23 25 21.4**	**-0.2**
LTZ				IAmb	IAmb	23 25 28.1	
	comp=Z,5.1nm,1.0s						
FOZ	**Fox Glacier**	**20.22**	**202**	P	**P**	**23 25 34.1**	**-0.6**
MLZ	**Mavora Lakes**	**22.41**	**203**	P	**P**	**23 25 52.4**	**-2.3**
MLZ				IAmb	IAmb	23 26 11.9	
	comp=Z,19nm,1.2s						
KNTN	**Kanton**	**23.56**	**20**	P	**P**	**23 26 06.0**	**+0.8**
HNR	**Honiara**	**24.83**	**305**	P	**P**	**23 26 15.6**	**-0.9**
	comp=Z,151nm,0.4s,baz=196,slow=10,SNR=5.6						
ARMA	**Armidale**	**25.80**	**252**	P	**P**	**23 26 26.3**	**+1.2**
ARMA				IAmb	IAmb	23 26 39.7	
	comp=Z,10.0nm,1.1s						
EIDS	**Eidsvold**	**26.34**	**263**	P	**P**	**23 26 30.7**	**+0.9**
EIDS				IAmb	IAmb	23 26 48.1	
	comp=Z,6.5nm,1.1s						
CTA	**Charters Tower**	**31.71**	**272**	P	**P**	**23 27 16.4**	**-0.3**
	comp=Z,111nm,0.5s,baz=95,slow=10,SNR=23						
CTAO	**Charters Tower**	**31.71**	**272**	P	**P**	**23 27 16.7**	**0.0**
STKA	**Stephens Creek**	**34.47**	**250**	P	**P**	**23 27 40.8**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=83,slow=9.2,SNR=4.8						
STKA	**Stephens Creek**	**34.47**	**250**	P	**P**	**23 27 41.1**	**+1.2**
BBOO	**Buckleboo**	**39.16**	**248**	P	**P**	**23 28 19.2**	**+0.6**
BBOO				IAmb	IAmb	23 28 29.6	
	comp=Z,7.4nm,1.0s						
AS31	**Alice Springs**	**42.05**	**262**	P	**P**	**23 28 42.5**	**+0.6**
ASAR	**Alice Springs**	**42.05**	**262**	P	**P**	**23 28 41.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=95,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**42.05**	**262**	P	**P**	**23 28 41.5**	**-0.3**
WR0	**Warramunga Arr**	**42.36**	**267**	P	**P**	**23 28 43.3**	**-1.0**
WB2	**Warramunga Arr**	**42.53**	**267**	P	**P**	**23 28 44.6**	**-1.1**
WB2				IAmb	IAmb	23 28 45.0	
	comp=Z,6.9nm,0.5s						
WB0	**Warramunga Arr**	**42.54**	**268**	P	**P**	**23 28 44.7**	**-1.1**
WB0				IAmb	IAmb	23 28 45.2	
	comp=Z,8.0nm,0.7s						
WRA	**Warramunga Arr**	**42.54**	**267**	P	**P**	**23 28 44.6**	**-1.2**
	comp=Z,5.4nm,0.5s,baz=101,slow=8.2,SNR=50						
WRA	**Warramunga Arr**	**42.54**	**267**	P	**P**	**23 28 44.5**	**-1.3**
FORT	**Forrest**	**46.08**	**251**	P	**P**	**23 29 11.5**	**-1.5**
FORT				IAmb	IAmb	23 29 17.2	
	comp=Z,16nm,0.9s						
KNRA	**Kununurra**	**48.90**	**271**	P	**P**	**23 29 33.7**	**-0.8**
KNRA				IAmb	IAmb	23 29 34.2	
	comp=Z,26nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.95**	**267**	P	**P**	**23 29 49.2**	**-0.3**
FITZ				IAmb	IAmb	23 29 50.5	
	comp=Z,4.8nm,0.7s						
VNDA	**Vanda**	**53.15**	**185**	P	**P**	**23 30 06.8**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=355,slow=11,SNR=6.0						
TXAR	**Lajitas Array**	**90.92**	**58**		**P**	**23 33 44.3**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=211,slow=5.9,SNR=9.0						
TXAR	**Lajitas Array**	**90.92**	**58**	P	**P**	**23 33 44.8**	**0.0**
O20A	**White River Ci**	**92.94**	**47**		pP	23 35 41.6	-2.6

*IDC **25** 23:34:14.7±2.9, 32°.32S×178°.13W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/20, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=69.5km s-min=36.3km az=118.0*
*NEIC **25** 23:34:15.6±0.7, 32°.4S±0°.1×177°.9W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=28.3km s-min=18.4km az=141.0*
ISC 25 23:34:14.8±1.3,**32°.3S**±0°.1×**177°.9W**±0°.2, **h10**km, **n19,** σ0§**82**/19, **mb4.3**/7, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.18**	**213**	Pn	**Pn**	**23 35 59.3**	**-0.4**
	0.5nm,0.3s,baz=303,slow=24,SNR=1.7						
URZ				Sn	**Sn**	23 37 20.4	**-1.0**
	2.8nm,0.3s,baz=236,slow=22,SNR=9.1						
OUZ	**Omahuta**	**7.64**	**246**	Pn	**Pn**	**23 36 08.7**	**+2.5**
BKZ	**Black Stump Fm**	**8.20**	**212**	Pn	**Pn**	**23 36 15.1**	**+1.2**
KHZ	**Kahutara**	**12.14**	**212**	Pn	**Pn**	**23 37 08.1**	**+0.3**
RPZ	**Rata Peaks**	**14.30**	**214**	Pn	**Pn**	**23 37 37.6**	**+0.4**
LBZ	**Lake Benmore**	**15.21**	**214**	Pn	**Pn**	**23 37 49.9**	**+0.3**
LBZ				IAmb	IAmb	23 38 08.6	
	comp=Z,12nm,1.1s						
ARMA	**Armidale**	**26.05**	**266**	P	P	23 39 41.3	-7.1
MCQ	**Macquarie Isla**	**27.57**	**210**	P	**P**	**23 40 01.7**	**-0.1**
EIDS	**Eidsvold**	**27.98**	**276**	P	**P**	**23 40 04.9**	**-0.8**
EIDS				IAmb	IAmb	23 40 10.1	
	comp=Z,9.1nm,1.1s						
CTAO	**Charters Tower**	**34.24**	**282**	P	**P**	**23 41 00.5**	**-0.4**
CTAO				IAmb	IAmb	23 41 01.7	
	comp=Z,9.8nm,1.1s						
BBOO	**Buckleboo**	**38.56**	**257**	P	**P**	**23 41 37.8**	**0.0**
XMAS	**Kiritimati**	**39.30**	**33**	P	**P**	**23 41 43.9**	**-0.2**
ASAR	**Alice Springs**	**43.13**	**269**	P	**P**	**23 42 15.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=108,slow=7.3,SNR=8.4						
WR0	**Warramunga Arr**	**44.11**	**274**	P	**P**	**23 42 23.4**	**-0.2**
WR0				IAmb	IAmb	23 42 28.1	
	comp=Z,4.4nm,1.1s						
WB2	**Warramunga Arr**	**44.28**	**274**	P	**P**	**23 42 25.0**	**+0.1**
WB2				IAmb	IAmb	23 42 39.0	
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**44.29**	**274**	P	**P**	**23 42 24.9**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=113,slow=7.8,SNR=15						
WRA	**Warramunga Arr**	**44.29**	**274**	P	**P**	**23 42 24.9**	**-0.1**
WB0	**Warramunga Arr**	**44.32**	**274**	P	**P**	**23 42 24.9**	**-0.4**
WB0				IAmb	IAmb	23 42 35.2	
	comp=Z,4.9nm,1.0s						
FINES	**FINESS Array B**	**146.98**	**339**	PKPbc	**PKPbc**	**23 53 57.4**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=48,slow=3.8,SNR=9.5						

*THE **25** 23:38:24.6, 35°.13N×28°.39E, h66km±21km, ML2.9/4, Error ellipse: s-maj=21.6km s-min=2.0km az=6.0*
*ISK **25** 23:38:25.8, 35°.31N×27°.77E, h6km, ML2.8/14*
*DDA **25** 23:38:27.8, 35°.51N×27°.70E, h14km±3km, ML2.5*
*ATH **25** 23:38:27.5, 35°.53N×27°.63E, h66km±6km, ML2.8/5, Error ellipse: s-maj=8.7km s-min=1.7km az=127.0*
ISC 25 23:38:26.2±1.3,**35°.37N**±0°.05×**27°.90E**±0°.03, **h12**km±10km, **n44,** σ1§**11**/59, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.86**	**12**	P	**Pn**	**23 38 43.9**	**-0.3**
ARG				S	**Sn**	23 38 57.0	**+0.2**
	545nm,0.9s						
ARG	**Arkhangelos**	**0.86**	**12**	P	**Pn**	**23 38 44.2**	**-0.1**
ARG				S	**Sn**	**23 38 57.2**	**+0.4**
ARG				AML	AML	23 38 59.5	
	comp=N,900μm,0.9s						
ARG				AML	AML	23 39 02.9	
	comp=E,1222μm,0.7s						
ARG	**Arkhangelos**	**0.86**	**12**	PG	**Pn**	**23 38 44.4**	**+0.2**
ARG				SG	**Sn**	**23 38 57.9**	**+1.1**
NIS1	**Nisyros Isl.**	**1.36**	**335**	P	**Pn**	**23 38 50.2**	**-0.9**
NIS1	**Nisyros Isl.**	**1.36**	**335**	PN	**Pg**	**23 38 51.9**	**-0.5**
NIS1				SN	**Sg**	**23 39 11.4**	**+1.3**
DAT	**Datca**	**1.38**	**349**	P	**Pb**	**23 38 51.8**	**-0.3**
DAT				S	**Sg**	**23 39 13.5**	**+2.7**
DAT	**Datca**	**1.38**	**349**	PN	**Pg**	**23 38 52.3**	**-0.5**
ZKR	**Zakros**	**1.40**	**260**	P	**Pn**	**23 38 51.7**	**+0.1**
ZKR				S	**Sg**	**23 39 14.0**	**+2.6**
	comp=E,308nm,0.5s						
ZKR	**Zakros**	**1.40**	**260**	P	**Pn**	**23 38 51.8**	**+0.1**
ZKR				S	**Sb**	**23 39 07.9**	**-2.3**
ZKR				AML	AML	23 39 19.9	
	comp=E,632μm,0.5s						
ZKR				AML	AML	23 39 21.6	
	comp=N,559μm,0.6s						
TURN	**Turunc**	**1.43**	**11**	*i* P	**Pg**	**23 38 53.5**	**-0.2**
TURN				*i* S	**Sg**	**23 39 11.3**	**-1.0**
TURN				IAML		23 39 18.0	
	comp=E,88nm,0.5s						
TURN	**Turunc**	**1.43**	**11**	PN	**Pg**	**23 38 53.9**	**+0.2**
DALY	**Dalyan (Mula)**	**1.57**	**23**	*i* P	**Pg**	**23 38 55.2**	**-1.1**
DALY				*i* S	**Sg**	**23 39 17.4**	**+0.8**
DALY				IAML		23 39 29.0	
	comp=E,64nm,0.8s						
DALY	**Dalyan (Mula)**	**1.57**	**23**	PN	**Pg**	**23 38 56.4**	**+0.1**
KOSK	**Kos Island**	**1.57**	**332**	PN	**Pb**	**23 38 54.6**	**-0.6**
FETY	**Fethiye**	**1.58**	**37**	PN	**Pg**	**23 38 56.7**	**0.0**
AKAS	**Kas**	**1.63**	**58**	*i* P	**Pb**	**23 38 55.8**	**-0.5**
AKAS				IAML		23 39 44.0	
	comp=N,54nm,1.4s						
AKAS	**Kas**	**1.63**	**58**	PN	**Pg**	**23 38 57.9**	**+0.4**
BDRM	**Kayabasi**	**1.73**	**348**	*i* P	**Pn**	**23 38 53.9**	**-2.3**
BDRM				*i* S	**Sn**	**23 39 19.2**	**+1.0**
BODT	**Bodrum**	**1.75**	**344**	PN	**Pb**	**23 38 57.7**	**-0.7**
YER	**Yerkesik**	**1.79**	**10**	PN	**Pg**	**23 38 59.3**	**-1.2**
NPS	**Neapolis**	**1.88**	**267**	P	**Pn**	**23 38 59.2**	**+1.0**
NPS				AML	AML	23 39 36.4	
	comp=E,570μm,0.6s						
NPS				AML	AML	23 39 39.3	
	comp=N,597μm,0.6s						
MULA	**Mugla, Merkez-**	**1.91**	**10**	*i* P	**Pg**	**23 39 02.5**	**-0.5**
MULA				IAML		23 39 34.0	
	comp=E,47nm,0.8s						
MLSB	**Milas**	**1.92**	**357**	PN	**Pb**	**23 39 00.4**	**-0.9**
CAME	**Cameli-Denizli**	**1.94**	**35**	PN	**Pb**	**23 39 01.5**	**-0.1**
LAST	**Lasithi**	**1.99**	**265**	P	**Pn**	**23 39 01.0**	**+1.1**
LAST				S	**Sg**	**23 39 29.2**	**-1.2**
	comp=E,125nm,0.6s						
LAST	**Lasithi**	**1.99**	**265**	P	**Pn**	**23 39 00.7**	**+0.8**
LAST				AML	AML	23 39 37.8	
	comp=N,276μm,0.6s						
LAST				AML	AML	23 39 43.4	
	comp=E,220μm,0.7s						
CAEL	**Denizli, Camel**	**2.09**	**33**	*i* P	**Pg**	**23 39 05.2**	**-1.1**
CAEL				IAML		23 39 55.0	
	comp=E,95nm,0.7s						
CAEL				IAML		23 39 57.0	
	comp=N,114nm,2.0s						
DDIM	**Aydin, Didim**	**2.15**	**346**	*i* P	**Pg**	**23 39 08.1**	**+0.7**
DDIM				*i* S	**Sg**	**23 39 36.0**	**+0.6**
SANT	**Santorini**	**2.22**	**297**	PN	**Pn**	**23 39 03.5**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.25**	**21**	*i* P	**Pn**	**23 39 04.7**	**+1.4**
TAVA				*i* S	**Sb**	**23 39 35.4**	**+0.8**
TAVA				IAML		23 39 48.0	
	comp=N,33nm,0.7s						
TAVA				IAML		23 39 54.0	
	comp=E,34nm,1.1s						
THR6	**Thira Island,**	**2.26**	**297**	P	**Pn**	**23 39 03.6**	**+0.2**
THR3	**Thira Island,**	**2.28**	**298**	P	**Pn**	**23 39 03.9**	**+0.2**
AYDN	**Tasoluk**	**2.29**	**360**	*i* P	**Pn**	**23 39 04.8**	**+0.9**
GOLH	**Golhisar**	**2.29**	**35**	*i* P	**Pn**	**23 39 03.9**	**-0.1**
GOLH				*i* S	**Sn**	**23 39 32.8**	**+0.6**
CMBO	**Columbo, Santo**	**2.31**	**299**	P	**Pn**	**23 39 03.9**	**-0.2**
GCAM	**G?zelcaml?**	**2.39**	**347**	*i* P	**Pb**	**23 39 07.2**	**-1.9**
GCAM				IAML		23 39 43.0	
	comp=N,43nm,1.0s						
IDI	**Anoyia**	**2.46**	**269**	P	**Pn**	**23 39 06.7**	**+0.4**
IDI				S	**Sb**	**23 39 39.6**	**-1.3**
	comp=N,70nm,0.5s						
IDI	**Anoyia**	**2.46**	**269**	P	**Pn**	**23 39 06.8**	**+0.4**
IDI				AML	AML	23 39 47.9	
	comp=N,146μm,0.5s						
IDI				AML	AML	23 39 49.2	
	comp=E,129μm,0.5s						
SIVA	**Sivas**	**2.56**	**263**	P	**Pn**	**23 39 08.8**	**+1.3**
APE	**Apeiranthos**	**2.56**	**312**	P	**Pn**	**23 39 07.8**	**+0.2**
APE	**Apeiranthos**	**2.56**	**312**	PN	**Pn**	**23 39 08.6**	**+1.0**
KORT	**Korkueli**	**2.56**	**50**	*i* P	**Pg**	**23 39 13.5**	**-1.9**
KORT				IAML		23 39 49.0	
	comp=E,28nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**2.57**	**360**	PN	**Pn**	**23 39 09.8**	**+2.0**
VAM	**Vamos**	**3.02**	**272**	P	**Pn**	**23 39 15.9**	**+2.0**

*IDC **26** 00:00:17.1±3.4, 30°.57S×179°.39W, h334km±32km, mb3.0/1, mb1 3.6/4, mb1mx3.1/31, mbtmp4.4/4, Error ellipse: s-maj=41.8km s-min=28.0km az=81.0*
*NEIC **26** 00:00:17.2±2.3, 30°.6S±0°.1×179°.5W±0°.2, h319km±13km, mb4.0/8, Error ellipse: s-maj=25.3km s-min=14.0km az=101.0*
ISC 26 00:00:16.7±0.7,**30°.48S**±0°.06×**179°.6W**±0°.1, **h321**km, **n69,** σ1§**65**/84, **mb3.7**/4, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.87**	**50**	P	**Pn**	**00 01 04.8**	**+0.4**
GLKZ				S	**S**	**00 01 41.2**	**-1.4**
RIZ	**Raoul Island**	**1.88**	**49**	S	**S**	**00 01 45.9**	**+3.3**
RAO	**Raoul Island**	**1.88**	**50**	Pn	**Pn**	**00 01 05.2**	**+0.8**
RAO				Sn	**S**	**00 01 40.6**	**-2.1**
MXZ	**Matakaoa Point**	**7.28**	**194**	Pn	**Pn**	**00 02 02.0**	**+0.4**
MXZ	**Matakaoa Point**	**7.28**	**194**	P	Pn	00 02 06.6	+4.9
MXZ				S	**S**	**00 03 28.9**	**+2.1**
OUZ	**Omahuta**	**7.45**	**229**	Pn	**Pn**	**00 02 04.0**	**+0.3**
WCZ	**Waipu Caves**	**7.46**	**222**	P	Pn	00 02 10.6	+6.8
WMGZ	**Waiomatatini S**	**7.51**	**192**	P	**Pn**	**00 02 07.6**	**+3.2**
WMGZ				S	**S**	**00 03 31.5**	**-0.4**
HAZ	**Te Kaha**	**7.58**	**196**	P	**Pn**	**00 02 07.0**	**+1.8**
HAZ				S	**S**	**00 03 33.1**	**-0.4**
PKGZ	**Pakihiroa**	**7.64**	**194**	P	**Pn**	**00 02 06.9**	**+0.8**
PKGZ				S	**S**	**00 03 35.1**	**+0.1**
PUZ	**Puketiti**	**7.78**	**193**	P	**Pn**	**00 02 08.7**	**+1.0**
RUGZ	**Raukumara Rang**	**7.81**	**196**	P	**Pn**	**00 02 09.9**	**+1.7**
RUGZ				S	**S**	**00 03 36.8**	**-1.9**
WHRZ	**Whale Island**	**7.90**	**200**	P	Pn	00 02 16.2	+7.1
WHRZ				S	**S**	**00 03 48.0**	**+7.5**
MKAZ	**Moumakai**	**7.93**	**212**	P	Pn	00 02 16.0	+6.5
TWGZ	**Tauwhareparae**	**7.94**	**194**	P	**Pn**	**00 02 10.9**	**+1.3**
TWGZ				S	**S**	**00 03 41.9**	**+0.4**
CNGZ	**Carnagh Statio**	**8.19**	**192**	P	**Pn**	**00 02 14.0**	**+1.4**
CNGZ				S	**S**	**00 03 49.5**	**+2.5**
MWZ	**Matawai**	**8.19**	**196**	P	**Pn**	**00 02 13.4**	**+0.7**
MWZ				S	**S**	**00 03 46.8**	**-0.3**
TKGZ	**Te Karaka**	**8.22**	**194**	P	**Pn**	**00 02 12.8**	**-0.1**
TKGZ				S	**S**	**00 03 47.0**	**-0.6**
URZ	**Urewera**	**8.23**	**199**	P	**Pn**	**00 02 14.0**	**+0.9**
	8.3nm,0.3s,baz=121,slow=23,SNR=31						
URZ				S	**S**	**00 03 47.1**	**-0.7**
	2.0nm,0.3s,baz=120,slow=24,SNR=4.5						
URZ	**Urewera**	**8.23**	**199**		**Pn**	**00 02 13.9**	**+0.9**
URZ				Sn	**S**	**00 03 47.6**	**-0.2**
URZ	**Urewera**	**8.23**	**199**	P	**Pn**	**00 02 13.5**	**+0.4**
URZ				S	**S**	**00 03 51.2**	**+3.3**
TOZ	**Tahuroa Road**	**8.31**	**208**	P	**P**	**00 02 20.3**	**+2.1**
MUGZ	**Murupara**	**8.53**	**200**	P	**P**	**00 02 18.2**	**-2.7**
SNGZ	**Shannon Statio**	**8.66**	**196**	P	**Pn**	**00 02 19.7**	**+1.3**
PRGZ	**Paritu Road**	**8.68**	**193**	P	**P**	**00 02 23.1**	**+0.7**
RAHZ	**Arahi**	**8.86**	**197**	P	**P**	**00 02 23.1**	**-1.5**
RAHZ				S	**S**	**00 04 00.7**	**-1.1**
ARHZ	**Aropaoanui**	**9.21**	**197**	P	**P**	**00 02 27.5**	**-0.9**
HIZ	**Hauiti**	**9.24**	**208**	Pn	**Pn**	**00 02 25.4**	**0.0**
HIZ	**Hauiti**	**9.24**	**208**	P	**P**	**00 02 32.1**	**+3.3**
BKZ	**Black Stump Fm**	**9.25**	**199**	Pn	**Pn**	**00 02 25.5**	**0.0**
BKZ				Sn	**S**	**00 04 06.8**	**-3.9**
MCHZ	**McNeill Hill**	**9.45**	**198**	P	**P**	**00 02 30.7**	**-0.5**
FWVZ	**Far West T-bar**	**9.63**	**203**	P	**P**	**00 02 32.2**	**-1.1**
BHHZ	**Black Hill Sta**	**9.68**	**201**	P	**P**	**00 02 31.6**	**-2.0**
BHHZ				S	**S**	**00 04 17.5**	**-2.8**
WNVZ	**Wahianoa**	**9.68**	**203**	P	**P**	**00 02 32.6**	**-1.2**
MOVZ	**Moawhango**	**9.70**	**202**	P	**P**	**00 02 32.3**	**-1.7**
MOVZ				S	**S**	**00 04 18.3**	**-2.4**
KAHZ	**Kahuranaki**	**9.74**	**196**	P	**Pn**	**00 02 30.6**	**-0.8**
KAHZ				S	**S**	**00 04 20.5**	**-1.1**
PXZ	**Pawanui**	**9.96**	**196**	P	**P**	**00 02 35.2**	**-1.6**
PNHZ	**Pukenui**	**10.03**	**199**	P	**Pn**	**00 02 35.3**	**+0.4**
PRHZ	**Porangahau**	**10.24**	**197**	P	**P**	**00 02 39.1**	**-0.9**
DVHZ	**Dannevirke**	**10.40**	**198**	P	**Pn**	**00 02 39.7**	**+0.3**
BFZ	**Birch Farm**	**10.73**	**197**		**P**	**00 02 43.9**	**-1.5**
BFZ	**Birch Farm**	**10.73**	**197**	P	**Pn**	**00 02 43.7**	**+0.3**
OGWZ	**Otaki Gorge**	**11.16**	**201**	P	**Pn**	**00 02 48.7**	**+0.1**
MTW	**Mount Morrison**	**11.38**	**199**	P	**Pn**	**00 02 51.0**	**-0.2**
MSWZ	**Moikau Station**	**11.69**	**200**		**Pn**	**00 02 54.7**	**-0.3**
SNZO	**South Karori**	**11.76**	**202**		**P**	**00 02 56.6**	**-0.2**
BHW	**Baring Head**	**11.80**	**201**		**Pn**	**00 02 55.9**	**-0.3**
PLWZ	**Palliser**	**11.83**	**199**		**P**	**00 02 56.6**	**-1.0**
TUWZ	**Tuamarina**	**12.12**	**204**		**Pn**	**00 02 59.9**	**-0.2**
NNZ	**Nelson**	**12.14**	**206**	P	**P**	**00 03 01.1**	**+0.2**
QRZ	**Quartz Range**	**12.16**	**210**	P	**Pn**	**00 03 00.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**12.40**	**204**		**P**	**00 03 03.2**	**-0.6**
MSVF	**Nonsavu**	**12.88**	**350**	P	**P**	**00 03 09.3**	**-0.2**
	2.4nm,0.3s,baz=187,slow=14,SNR=9.3						
MSVF	**Nonsavu**	**12.88**	**350**	P	**P**	**00 03 09.4**	**-0.1**
KHZ	**Kahutara**	**13.14**	**203**	P	**P**	**00 03 11.2**	**-0.7**
PINNC	**Pines Island,**	**14.02**	**301**	P	**Pn**	**00 03 24.0**	**+1.0**
DZM	**Mont Dzumac**	**15.09**	**300**	P	**Pn**	**00 03 36.5**	**+0.9**
	0.8nm,0.3s,baz=147,slow=12,SNR=6.2						
DZM	**Mont Dzumac**	**15.09**	**300**	P	**Pn**	**00 03 36.9**	**+1.3**
DZM				IAmb	IAmb	00 03 50.3	
	comp=Z,17nm,1.0s			

THR6	**Thira Island,**	**2.22**	**304**	P	**Pb**	**00 23 15.6**	**-1.3**
CAME	**Cameli-Denizli**	**2.23**	**36**	PN	**Pn**	**00 23 14.1**	**0.0**
SNT5	**Nea Kammeni, S**	**2.25**	**305**	P	**Pb**	**00 23 16.8**	**-0.6**
THR3	**Thira Island,**	**2.25**	**305**	P	**Pb**	**00 23 15.4**	**-2.0**
IDI	**Anoyia**	**2.29**	**275**	P	**Pg**	**00 23 18.4**	**-1.9**
IDI				AML	AML	00 24 18.1	
	comp=N,120μm,0.7s						
IDI				AML	AML	00 24 18.3	
	comp=E,94μm,0.8s						
SIVA	**Sivas**	**2.35**	**268**	P	**Pg**	**00 23 20.8**	**-0.7**
CAEL	**Denizli, Camel**	**2.39**	**33**	*i* P	**Pb**	**00 23 20.3**	**+0.4**
CAEL				IAML		00 24 09.0	
	comp=E,80nm,0.7s						
CAEL				IAML		00 24 20.0	
	comp=N,86nm,1.0s						
AYDN	**Tasoluk**	**2.53**	**4**	*i* P	**Pn**	**00 23 20.0**	**+1.9**
TAVA	**DENIZLI_Tavas**	**2.53**	**23**	*i* P	**Pb**	**00 23 21.1**	**-1.2**
TAVA				*i* S	**Sb**	**00 23 55.6**	**+1.8**
TAVA				IAML		00 24 02.0	
	comp=E,28nm,0.4s						
TAVA				IAML		00 24 05.0	
	comp=N,33nm,0.7s						
GCAM	**G?zelcaml?**	**2.59**	**352**	*i* P	**Pb**	**00 23 22.6**	**-0.6**
GCAM				IAML		00 24 10.0	
	comp=E,24nm,0.7s						
GCAM				IAML		00 24 11.0	
	comp=N,37nm,0.7s						
GOLH	**Golhisar**	**2.59**	**35**	*i* P	**Pb**	**00 23 21.8**	**-1.6**
GOLH				*i* S	**Sn**	**00 23 49.6**	**-1.3**
APE	**Apeiranthos**	**2.60**	**319**	P	**Pn**	**00 23 19.6**	**+0.6**
APE	**Apeiranthos**	**2.60**	**319**	PN	**Pb**	**00 23 22.5**	**-0.9**
VAM	**Vamos**	**2.86**	**276**	P	**Pb**	**00 23 27.6**	**-0.2**
IMMV	**Iera Moni Meta**	**3.04**	**277**	P	**Pb**	**00 23 30.4**	**-0.5**

*IDC **26** 00:22:39.4±1.0,5˚.34S×152˚.95E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/28, mbtmp3.9/9, Error ellipse: s-maj=35.7km s-min=21.5km az=111.0*

*NEIC **26** 00:22:42.5±2.1,5˚.19S±0˚.10×152˚.9E±0˚.2, h12km±7km, mb4.5/17, Error ellipse: s-maj=22.3km s-min=13.1km az=74.0*

ISC 26 00:22:45.2±0.7, 5˚.25S±0˚.08×152˚.8E±0˚.1, h37km, n31, σ1§21/31, mb4.3/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.25**	**328**			Pn	**Pn**	**00 23 04.0**	**-2.1**
PMG	**Port Moresby**	**6.98**	**233**			Sn	**Sn**	**00 25 41.3**	**-1.7**
	3.3nm,0.3s,baz=184,slow=20,SNR=2.1								
FAKI	**Fak Fak**	**20.66**	**276**	P		**P**		**00 27 22.0**	**-0.1**
FAKI				IAmb		IAmb		00 27 39.7	
	comp=Z,12nm,0.9s								
DZM	**Mont Dzumac**	**21.28**	**143**	P		**P**		**00 27 27.0**	**-1.8**
	comp=Z,3.9nm,0.6s,baz=325,slow=16,SNR=1.8								
SAUI	**Saumlaki**	**21.56**	**262**	P		**P**		**00 27 31.7**	**0.0**
MTN	**Manton Dam**	**22.71**	**249**	P		**P**		**00 27 45.8**	**+1.8**
MTN				IAmb		IAmb		00 27 47.0	
	comp=Z,16nm,1.0s								
WB0	**Warramunga Arr**	**23.03**	**230**	P		**P**		**00 27 48.7**	**+1.4**
WR0	**Warramunga Arr**	**23.03**	**229**	P		**P**		**00 27 47.0**	**-0.3**
WRA	**Warramunga Arr**	**23.18**	**229**	P		**P**		**00 27 47.9**	**-0.8**
	comp=Z,2.8nm,1.1s,baz=56,slow=10,SNR=3.8								
KNRA	**Kununurra**	**25.81**	**244**	P		**P**		**00 28 15.1**	**+2.0**
KNRA				IAmb		IAmb		00 28 23.0	
	comp=Z,14nm,1.1s								
ASAR	**Alice Springs**	**25.84**	**223**	P		**P**		**00 28 12.0**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=55,slow=8.7,SNR=6.9								
ASAR	**Alice Springs**	**25.84**	**223**	P		**P**		**00 28 13.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**29.48**	**242**	P		**P**		**00 28 47.9**	**+1.9**
	comp=Z,4.0nm,0.9s,baz=82,slow=7.9,SNR=2.3								
FITZ	**Fitzroy Crossi**	**29.48**	**242**	P		**P**		**00 28 46.2**	**+0.3**
FITZ				IAmb		IAmb		00 28 50.7	
	comp=Z,7.0nm,1.1s								
BBOO	**Buckleboo**	**31.57**	**208**	P		**P**		**00 29 05.4**	**+1.1**
BBOO				IAmb		IAmb		00 29 09.4	
	comp=Z,12nm,1.1s								
TOO	**Toolangi**	**32.86**	**191**	P		**P**		**00 29 15.3**	**-0.2**
TOO				IAmb		IAmb		00 29 17.7	
	comp=Z,6.4nm,1.1s								
OUZ	**Omahuta**	**35.45**	**150**	P		**P**		**00 29 38.2**	**+0.3**
OUZ				IAmb		IAmb		00 29 38.8	
	comp=Z,8.8nm,1.0s								
PSA00	**Pilbara Seismi**	**35.83**	**240**	P		**P**		**00 29 40.2**	**-1.3**
PSA00				IAmb		IAmb		00 29 42.1	
	comp=Z,13nm,1.1s								
KHZ	**Kahutara**	**41.33**	**157**	P		**P**		**00 30 26.7**	**-0.6**
WKZ	**Wanaka**	**41.88**	**163**	P		**P**		**00 30 33.0**	**+1.1**
MORW	**Morawa**	**42.09**	**231**	P		**P**		**00 30 35.9**	**+2.1**
ODZ	**Otahua Downs**	**42.58**	**161**	P		**P**		**00 30 36.1**	**-1.5**
ODZ				IAmb		IAmb		00 30 44.2	
	comp=Z,10nm,1.1s								
PEA0B	**Petropavlovsk-**	**58.29**	**3**	P		**P**		**00 32 36.6**	**+0.6**
PETK	**Petropavlovsk-**	**58.29**	**3**	P		**P**		**00 32 36.9**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=157,slow=6.5,SNR=6.6								
PETK	**Petropavlovsk-**	**58.29**	**3**	P		**P**		**00 32 36.4**	**+0.4**
SONM	**Songino Array**	**66.73**	**328**	P		**P**		**00 33 33.7**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=147,slow=8.2,SNR=2.4								
MKAR	**Makanchi Array**	**80.69**	**319**	P		**P**		**00 34 55.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=108,slow=7.2,SNR=4.2								
ZALV	**Zalesovo Beam**	**81.55**	**326**	P		**P**		**00 34 59.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=77,slow=7.7,SNR=1.5								
ILAR	**Eielson Array**	**82.56**	**22**	P		**P**		**00 35 03.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=267,slow=5.1,SNR=1.8								
GERES	**GERESS Array B**	**124.46**	**328**	PKP		**PKiKP**		**00 41 41.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=24,slow=7.3,SNR=3.7								
TORD	**Torodi Ar. Bea**	**150.48**	**287**	PKPbc		**PKPbc**		**00 42 33.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=82,slow=2.0,SNR=5.8								

*AUST **26** 00:56:14.7±1.5,31˚.44S×117˚.48E, h6km±21km, Error ellipse: s-maj=19.3km s-min=9.3km az=36.0*

CUPWA 26 00:56:16.0±3.6, 31˚.43S×117˚.53E, h2km±332km, Region: WESTERN AUSTRALIA, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**0.25**	**130**	P		Pg		00 56 20.5	-0.3
	baz=0.3								
KLBR				S		Sg		00 56 23.9	-0.2
	baz=0.3								
KLBR	**Kellerberrin**	**0.25**	**130**	*i* P		Pg		00 56 20.0	-0.9
KLBR				S		Sg		00 56 23.0	-1.2
BLDU	**Ballidu**	**1.07**	**319**	P		Pg		00 56 35.6	-1.0
	baz=1.1								
BLDU				S		Sg		00 56 48.9	-1.6
	baz=1.1								
BLDU	**Ballidu**	**1.07**	**319**	P		Pg		00 56 35.0	-1.6
BLDU				S		Sg		00 56 48.0	-2.6
PING	**Pingelly**	**1.17**	**203**	P		Pg		00 56 37.0	-1.4
PING				S		Sg		00 56 51.0	-2.6
MUN	**Mundaring**	**1.25**	**244**	P		Pg		00 56 38.4	-1.6
	baz=1.2								
MUN				S		Sg		00 56 54.4	-1.9
	baz=1.2								
MUN	**Mundaring**	**1.25**	**244**	P		Pg		00 56 38.0	-2.0
MUN				S		Sg		00 56 54.0	-2.3
NWAO	**Narrogin (SRO)**	**1.52**	**189**	P		Pn		00 56 42.7	-1.4
	baz=1.5								
NWAO				S		Sn		00 57 02.7	-1.7
	baz=1.5								
NWAO	**Narrogin (SRO)**	**1.52**	**189**	P		Pn		00 56 42.0	-2.1
NWAO				S		Sn		00 57 02.0	-2.4

*IDC **26** 01:14:49.6±1.1, 10˚.18N×62˚.22W, h0km, mb3.4/5, mb1 3.7/8, mb1mx3.5/33, mbtmp3.5/8, ML3.3/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/21, Error ellipse: s-maj=32.6km s-min=22.9km az=50.0*

*CAR **26** 01:14:52.8±5.0, 10˚.47N±0˚.06×62˚.18W±0˚.09, h18km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=193.0*

*FUNV **26** 01:14:52.7, 10˚.46N×62˚.19W, h16km, MW3.8*

*NEIC **26** 01:14:53.8±1.2, 10˚.25N±0˚.10×62˚.4W±0˚.1, h74km±16km, mb3.7/1, Error ellipse: s-maj=17.6km s-min=13.3km az=107.0*

ISC 26 01:14:53.0±1.5, 10˚.32N±0˚.04×62˚.26W±0˚.03, h25km±12km, n70, σ2§01/75, mb3.3/6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.80**	**90**	*e*			**Pn**	**01 15 09.2**	**+0.5**
TRN	**Trinidad (W)**	**0.90**	**69**	*e*			**Pn**	**01 15 08.6**	**-1.5**
TRN	**Trinidad (W)**	**0.90**	**69**	*eP*			**Pn**	**01 15 08.0**	**-2.2**
TRN				*eS*			**Sn**	**01 15 18.9**	**-3.5**
CRUV	**Carupano**	**1.02**	**290**	*eP*			**Pn**	**01 15 10.4**	**-1.3**
CRUV				*eS*			**Sn**	**01 15 24.0**	**-1.3**
TBH	**Brigand Hill**	**1.19**	**82**	*e*			**Pb**	**01 15 16.0**	**+1.2**
TPR	**Prospect**	**1.69**	**59**	*e*			**Pn**	**01 15 23.3**	**+2.3**
GRGR	**Grenville**	**1.89**	**18**	*e*			**Pn**	**01 15 24.8**	**+1.0**
GRGR	**Grenville**	**1.89**	**18**	P	n		**Pn**	**01 15 25.5**	**+1.7**
GRGR	**Grenville**	**1.89**	**18**	*eP*			**Pn**	**01 15 21.5**	**-2.3**
TOSP	**Speyside**	**1.95**	**60**	*e*			**Pn**	**01 15 26.7**	**+2.1**
TOSP	**Speyside**	**1.95**	**60**	P	n		**Pn**	**01 15 26.6**	**+2.1**
TOSP	**Speyside**	**1.95**	**60**	*eP*			**Pn**	**01 15 23.4**	**-1.1**
TOSP				*eS*			**Sn**	**01 15 44.2**	**-4.0**
RIOV	**Rio Grande**	**2.28**	**169**	*eP*			**Pn**	**01 15 30.3**	**+1.1**
RIOV				*eS*			**Sn**	**01 15 58.9**	**+2.4**
GCMP	**Grenada, Carri**	**2.30**	**21**	*e*			**Pn**	**01 15 30.6**	**+1.3**
PCRV	**Puerto La Cruz**	**2.34**	**267**	P	n		**Pn**	**01 15 30.9**	**+1.0**
	8.1nm,0.3s,baz=86,slow=3.5,SNR=47								
PCRV	**Puerto La Cruz**	**2.34**	**267**	*eP*			**Pn**	**01 15 30.7**	**+0.7**
PCRV				*eS*			**Sn**	**01 15 58.6**	**+0.6**
PRGV	**PARIAGUAN**	**2.82**	**237**	*eP*			**Pn**	**01 15 37.3**	**+0.8**
PRGV				*eS*			**Sn**	**01 16 11.6**	**+1.9**
SVOC	**Richmond Hill,**	**2.99**	**20**	*e*			**Pb**	**01 15 43.7**	**-1.9**
SVB	**Belmont**	**3.09**	**19**	*e*			**Pb**	**01 15 45.1**	**-2.3**
SVB	**Belmont**	**3.09**	**19**	P	n		**Pn**	**01 15 41.5**	**+1.2**
SVV	**Soufriere Volc**	**3.15**	**19**	*e*			**Pn**	**01 15 43.3**	**+2.3**
SSV	**Crater Summit**	**3.16**	**19**	*e*			**Pn**	**01 15 42.6**	**+1.3**
MCLT	**Moule a Chique**	**3.60**	**21**	*e*			**Pn**	**01 15 49.5**	**+2.2**
MCLT	**Moule a Chique**	**3.60**	**21**	P	n		**Pn**	**01 15 49.0**	**+1.7**
SLB	**Belfond**	**3.68**	**19**	*e*			**Pn**	**01 15 51.2**	**+2.7**
SLPA	**Patience**	**3.75**	**20**	*e*			**Pn**	**01 15 51.8**	**+2.5**
BBGH	**Gun Hill**	**3.85**	**43**	P	n		**Pn**	**01 15 52.7**	**+2.0**
SLBI	**Saint Lucia, B**	**3.89**	**19**	*e*			**Pn**	**01 15 52.7**	**+1.5**
SLW	**Petit Monier**	**3.90**	**19**	*eS*			**Sb**	**01 16 52.6**	**+4.8**
BIRV	**Birongo**	**3.95**	**273**	*eP*			**Pn**	**01 15 52.9**	**+0.8**
BIRV				*eS*			**Sn**	**01 16 36.6**	**-1.0**
MERV	**Las Mercedes**	**4.12**	**255**	*eP*			**Pn**	**01 15 55.2**	**+0.8**
MERV				*eS*			**Sn**	**01 16 41.2**	**-0.6**
MPOM	**Morne Pois Mar**	**4.32**	**18**	*e*			**Pn**	**01 15 58.7**	**+1.5**
MPOM	**Morne Pois Mar**	**4.32**	**18**	P	n		**Pn**	**01 15 58.5**	**+1.3**
BIM	**Bigot**	**4.33**	**15**	*e*			**Pn**	**01 15 58.8**	**+1.5**
BIM	**Bigot**	**4.33**	**15**	P	n		**Pn**	**01 15 58.8**	**+1.5**
FDF	**Fort de France**	**4.52**	**14**	*e*			**Pn**	**01 16 00.6**	**+0.7**
FDF	**Fort de France**	**4.52**	**14**	*eP*			**Pb**	**01 16 10.0**	**+4.4**
FDF	**Fort de France**	**4.52**	**14**				**Pn**	**01 16 01.9**	**+2.0**
ILAM	**Ilet Lapin Mar**	**4.63**	**17**	P	n		**Pn**	**01 16 01.6**	**+0.2**
DLPL	**La Plaine**	**5.08**	**11**	P	n		**Pn**	**01 16 08.2**	**+0.6**
MAGL	**Barre de l'ile**	**5.67**	**10**	*e*			**Pn**	**01 16 17.6**	**+1.8**
CBE	**Ff, Capester**	**5.75**	**6**	*e*			**Pn**	**01 16 18.2**	**+1.4**
BAUV	**El Baul**	**5.86**	**257**	*e*			**Pn**	**01 16 18.8**	**+0.4**
ABD	**La Joyeuse, An**	**6.16**	**7**	*e*			**Pn**	**01 16 26.5**	**+4.0**
BPA	**Boggy Peak**	**6.70**	**3**	*e*			**Pn**	**01 16 31.4**	**+1.5**
BPA	**Boggy Peak**	**6.70**	**3**	*eP*			**Pb**	**01 16 46.1**	**-2.7**
ANBD	**Bethesda, Anti**	**6.70**	**4**	*e*			**Pn**	**01 16 32.3**	**+2.4**
ANBD	**Bethesda, Anti**	**6.70**	**4**	*eP*			**Pb**	**01 16 46.2**	**-2.7**
SKI	**Saint Kitts**	**6.99**	**356**	*e*			**Pn**	**01 16 38.0**	**+4.1**
SKI	**Saint Kitts**	**6.99**	**356**				**Pn**	**01 16 33.0**	**-0.8**
ANWB	**Willy Bob**	**7.32**	**4**	P	n		**Pn**	**01 16 38.0**	**-0.3**
CDVI	**St. Croix**	**7.78**	**342**	*e*			**Pn**	**01 16 45.3**	**+0.7**
CDVI	**St. Croix**	**7.78**	**342**	P	n		**Pn**	**01 16 42.7**	**-1.9**
STVI	**Saint Thomas**	**8.40**	**342**	P	n		**Pn**	**01 16 53.6**	**+0.5**
CUPR	**Culebra, Puert**	**8.46**	**340**	P	n		**Pn**	**01 16 54.9**	**+0.8**
CBYP	**Canovanas**	**8.64**	**337**	P	n		**Pn**	**01 16 56.0**	**-0.5**
AOPR	**Arecibo Observ**	**9.09**	**332**	P	n		**Pn**	**01 17 02.1**	**-0.5**
MDP	**Montagnes des**	**10.85**	**118**	P	n		**Pn**	**01 17 24.1**	**-2.8**
	0.2nm,0.3s,baz=350,slow=3.8,SNR=1.2								
MDP							Sn	01 19 17.9	-10
	0.6nm,0.3s,baz=144,slow=21,SNR=1.1								
PTGA	**Pitinga**	**11.22**	**168**	P	n		**Pn**	**01 17 28.8**	**-3.0**
	0.3nm,0.3s,baz=311,slow=22,SNR=2.4								
PTGA	**Pitinga**	**11.22**	**168**				**Pn**	**01 17 31.3**	**-0.5**
SJCC	**San Jacinto, C**	**12.73**	**269**	P	n		**Pn**	**01 17 49.7**	**-2.9**
SIV	**San Ignacio**	**26.17**	**177**	P			**P**	**01 20 25.0**	**-0.7**
	0.2nm,0.4s,baz=348,slow=12,SNR=1.2								
LPAZ	**La Paz**	**27.07**	**192**	LR			LR	01 32 40.7	
	comp=Z,48nm,20.8s,baz=294,slow=40								
TXAR	**Lajitas Array**	**43.01**	**302**	P			**P**	**01 22 51.1**	**+0.3**
	0.1nm,0.6s,baz=108,slow=7.7,SNR=2.5								
TXAR						PcP	**PcP**	**01 24 40.8**	**-0.2**
	0.1nm,0.5s,baz=114,slow=6.2,SNR=2.0								
TXAR	**Lajitas Array**	**43.01**	**302**	P		P	P	01 22 44.5	-6.3
TX31	**Lajitas Ar. Si**	**43.01**	**302**	P		P	P	01 22 45.3	-5.6
TX31						IAmb	IAmb	01 22 56.9	
	comp=Z,0.9nm,0.7s								
PLCA	**Paso Flores**	**51.37**	**188**	LR		LR	LR	01 46 13.6	
	comp=Z,89nm,20.5s,baz=168,slow=37								
PDAR	**Pinedale Array**	**52.27**	**317**	P			**P**	**01 24 02.9**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=108,slow=5.8,SNR=2.0								
ILAR	**Eielson Array**	**78.44**	**334**	P			**P**	**01 26 53.6**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=91,slow=3.7,SNR=2.9								
FINES	**FINESS Array B**	**80.22**	**29**	P			**P**	**01 27 03.7**	**+2.5**
	comp=Z,2.1nm,1.0s,baz=273,slow=5.4,SNR=4.0								

*IDC **26** 01:15:03.0±1.1, 10˚.13N×62˚.26W, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.8/32, mbtmp3.7/10, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=33.4km s-min=20.5km az=13.0*

*TRN **26** 01:15:05.7, 10˚.31N×62˚.29W, h6km, MD4.4*

TRN Felt widely in Trinidad, MMI III, IV, V.

*NEIC **26** 01:15:09.0±1.6, 10˚.27N±0˚.07×62˚.23W±0˚.07, h44km±4km, mb4.3/6, Md4.4(TRN), Mwr3.9(CAR), Error ellipse: s-maj=10.4km s-min=8.6km az=139.0*

ISC 26 01:15:07.9±0.6, 10˚.21N±0˚.05×62˚.27W±0˚.05, h35km, n86, σ1§31/95, mb3.7/12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.96**	**63**	*eP*			**Pn**	**01 15 23.1**	**-1.8**
TRN	**Trinidad (W)**	**0.96**	**63**	*e*			**Sn**	**01 15 38.1**	**+0.8**
TBH	**Brigand Hill**	**1.21**	**77**	*eP*			**Pn**	**01 15 30.2**	**+1.8**
TPR	**Prospect**	**1.76**	**57**	*eP*			**Pn**	**01 15 37.0**	**+1.0**
BOT	**Bacolet**	**1.80**	**58**	*e*			**Pn**	**01 15 38.6**	**+2.1**
GRGR	**Grenville**	**2.00**	**18**	*eP*			**Pn**	**01 15 38.7**	**-0.6**
GRGR				*eS*			**Sn**	**01 16 03.4**	**+0.3**
GRGR	**Grenville**	**2.00**	**18**	P	n		**Pn**	**01 15 39.0**	**-0.2**
GRGR							Sn	**Sn**	**01 16 01.9**	**-1.2**
TOSP	**Speyside**	**2.02**	**58**	*eP*			**Pn**	**01 15 40.6**	**+1.1**
TOSP	**Speyside**	**2.02**	**58**	P	n		**Pn**	**01 15 40.8**	**+1.3**
PLCV	**Puerto La Cruz**	**2.28**	**269**				**Pn**	**01 15 44.2**	**+1.0**
PCRV	**Puerto La Cruz**	**2.33**	**269**	P	n		**Pn**	**01 15 44.2**	**+0.4**
	26nm,0.3s,baz=123,slow=1.8,SNR=10								
GCMP	**Grenada, Carri**	**2.41**	**20**	*eP*			**Pn**	**01 15 44.6**	**-0.2**
GCMP				*eS*			**Sn**	**01 16 12.9**	**-0.1**
SVOC	**Richmond Hill,**	**3.10**	**19**	*eP*			**Pn**	**01 15 55.1**	**+0.8**
SVOC				*eS*			**Sn**	**01 16 31.5**	**+1.4**
SVOC				*eS*			**Sn**	**01 16 31.6**	**+1.4**
SVB	**Belmont**	**3.20**	**18**	*eP*			**Pn**	**01 15 55.3**	**-0.5**
SVB				*eS*			**Sn**	**01 16 31.6**	**-1.1**
SVB	**Belmont**	**3.20**	**18**	P	n		**Pn**	**01 15 54.9**	**-0.9**
SVV	**Soufriere Volc**	**3.25**	**18**	*eP*			**Pn**	**01 15 57.1**	**+0.6**
SSV	**Crater Summit**	**3.27**	**19**	*eP*			**Pn**	**01 15 57.6**	**+0.9**
MCLT	**Moule a Chique**	**3.71**	**20**	*eP*			**Pn**	**01 16 03.3**	**+0.5**
MCLT				*eS*			**Sn**	**01 16 44.1**	**-1.2**
MCLT	**Moule a Chique**	**3.71**	**20**	P	n		**Pn**	**01 16 03.2**	**+0.4**
SLDE	**Delcer**	**3.76**	**18**	*e*			**Pn**	**01 16 06.0**	**+2.5**
SLPA	**Patience**	**3.85**	**20**	*eP*			**Pn**	**01 16 05.8**	**+1.1**
SLPA				*eS*			**Sn**	**01 16 48.8**	**0.0**
BCHC	**Barbados, Cave**	**3.89**	**41**	*e*			**Pn**	**01 16 09.1**	**+3.9**
BBGH	**Gun Hill**	**3.94**	**42**	*eP*			**Pn**	**01 16 08.8**	**+0.8**
SLCP	**Castries, St.**	**3.98**	**18**	*eP*			**Pn**	**01 16 07.0**	**+0.6**
SLCP				*eS*			**Sn**	**01 16 51.4**	**-0.5**
SLBI	**Saint Lucia, B**	**3.99**	**18**	*eP*			**Pn**	**01 16 06.1**	**-0.5**
SLBI	**Saint Lucia, B**	**3.99**	**18**	*eS*			**Sn**	**01 16 51.8**	**-0.4**
SLW	**Petit Monier**	**4.00**	**19**	*eP*			**Pn**	**01 16 06.2**	**-0.6**
MPOM	**Morne Pois Mar**	**4.42**	**18**	*eP*			**Pn**	**01 16 12.5**	**-0.1**
MPOM	**Morne Pois Mar**	**4.42**	**18**	*eS*			**Sn**	**01 17 04.0**	**+1.1**
MPOM	**Morne Pois Mar**	**4.42**	**18**	P	n		**Pn**	**01 16 13.0**	**+0.4**
BIM	**Bigot**	**4.43**	**15**	*eP*			**Pn**	**01 16 12.5**	**-0.3**
BIM	**Bigot**	**4.43**	**15**	*eS*			**Sn**	**01 17 02.9**	**-0.3**
BIM	**Bigot**	**4.43**	**15**	P	n		**Pn**	**01 16 12.7**	**-0.1**
FDF	**Fort de France**	**4.62**	**14**	*eS*			**Sn**	**01 17 08.5**	**+0.6**
FDF	**Fort de France**	**4.62**	**14**	P	n		**Pn**	**01 16 15.1**	**-0.3**
ILAM	**Ilet Lapin Mar**	**4.73**	**17**	*eP*			**Pn**	**01 16 17.4**	**+0.6**
ILAM	**Ilet Lapin Mar**	**4.73**	**17**	*eS*			**Sn**	**01 17 09.5**	**-1.0**
ILAM	**Ilet Lapin Mar**	**4.73**	**17**	P	n		**Pn**	**01 16 17.0**	**+0.1**
DSLB	**Salisbury**	**5.26**	**9**	*eP*			**Pn**	**01 16 24.3**	**+0.2**
DSLB	**Salisbury**	**5.26**	**9**	*eS*			**Sn**	**01 17 22.1**	**-1.4**
TDBA	**Terre de Bas,**	**5.63**	**6**	*eP*			**Pn**	**01 16 30.1**	**+0.8**
TDBA	**Terre de Bas,**	**5.63**	**6**	*eS*			**Sn**	**01 17 32.1**	**-0.7**
TBG	**Guadaloupe-3**	**5.64**	**6**	*eP*			**Pn**	**01 16 31.0**	**+1.7**
TBG	**Guadaloupe-3**	**5.64**	**6**	*eS*			**Sn**	**01 17 31.7**	**-1.1**
MAGL	**Barre de l'ile**	**5.78**	**9**	*eP*			**Pn**	**01 16 32.4**	**+1.1**
MAGL	**Barre de l'ile**	**5.78**	**9**	*eS*			**Sn**	**01 17 33.5**	**-2.9**
BAUV	**El Baul**	**5.83**	**258**	*eP*			**Pn**	**01 16 33.6**	**+1.6**
BAUV	**El Baul**	**5.83**	**258**	*eS*			**Sn**	**01 17 38.5**	**+0.9**
CBE	**Ff, Capester**	**5.86**	**6**	*eP*			**Pn**	**01 16 33.3**	**+1.0**
CBE	**Ff, Capester**	**5.86**	**6**	*eS*			**Sn**	**01 17 36.0**	**-2.3**
ABD	**La Joyeuse, An**	**6.27**	**7**	*eP*			**Pn**	**01 16 38.3**	**+0.4**
ABD	**La Joyeuse, An**	**6.27**	**7**	*eS*			**Sn**	**01 17 46.7**	**-1.7**
ANBD	**Bethesda, Anti**	**6.81**	**4**	*eS*			**Sn**	**01 17 59.8**	**-2.0**
SKI	**Saint Kitts**	**7.09**	**356**	*eP*			**Pn**	**01 16 50.4**	**+1.1**
SKI	**Saint Kitts**	**7.09**	**356**	P	n		**Pn**	**01 16 48.7**	**-0.6**
SEUS	**St. Eustatius**	**7.27**	**355**	*e*			**Pn**	**01 16 51.7**	**0.0**
SEUS	**St. Eustatius**	**7.27**	**355**	P	n		**Pn**	**01 16 51.7**	**0.0**
CDVI	**St. Croix**	**7.88**	**342**	P	n		**Pn**	**01 17 00.5**	**+0.5**
SDV	**Santo Domingo**	**8.35**	**262**	LR			LR	01 21 12.2	
	comp=Z,86nm,20.6s,baz=349,slow=44								
MTP	**Monte Pirata**	**8.46**	**338**	P	n		**Pn**	**01 17 09.3**	**+1.3**
STVI	**Saint Thomas**	**8.50**	**342**	P	n		**Pn**	**01 17 09.9**	**+1.3**
CUPR	**Culebra, Puert**	**8.56**	**340**	P	n		**Pn**	**01 17 09.3**	**-0.1**
HUMP	**Col San Antoni**	**8.61**	**337**	P	n		**Pn**	**01 17 09.3**	**-0.9**
CBYP	**Canovanas**	**8.73**	**337**	P	n		**Pn**	**01 17 11.8**	**-0.1**
AOPR	**Arecibo Observ**	**9.18**	**332**	*eP*			**Pn**	**01 17 18.3**	**+0.4**
AOPR	**Arecibo Observ**	**9.18**	**332**	P	n		**Pn**	**01 17 19.1**	**+1.2**
URIC	**Uribia, Colomb**	**9.66**	**280**	P	n		**Pn**	**01 17 25.8**	**+1.2**
MDP	**Montagnes des**	**10.81**	**117**	P	n		**Pn**	**01 17 37.4**	**-2.9**
	1.5nm,0.3s,baz=307,slow=15,SNR=19								
MDP							Sn	Sn	01 19 28.3	-12
	1.1nm,0.3s,baz=200,slow=23,SNR=3.1				

RIGZ S Sn 02 55 01.5 -2.7
MUGZ Murupara 7.49 212 P Pn 02 53 43.3 -1.2
MUGZ S Sn 02 55 06.3 -3.2
OUZ Omahuta 7.50 244 Pn 02 53 46.1 +1.4
OUZ Omahuta 7.50 244 P Pn 02 53 49.7 +5.1
RTZ Ruatahuna 7.51 211 P Pn 02 53 43.5 -1.4
RTZ S Sn 02 55 07.5 -2.6
MHGZ Mahia Peninsul 7.62 204 P Pn 02 53 43.2 -3.1
MHGZ S Sn 02 55 09.2 -3.5
RAHZ Arahi 7.72 209 P Pn 02 53 49.1 +1.4
RAHZ S Sn 02 55 12.1 -3.1
MTHZ Maungataniwha 7.76 210 P Pn 02 53 48.2 -0.2
MTHZ S Sn 02 55 14.4 -2.0
NMHZ Naumai 7.99 210 P Pn 02 53 50.5 -0.9
NMHZ S Sn 02 55 19.6 -2.3
MOVZ Moawhango 8.70 213 P Pn 02 54 02.4 +1.1
MOVZ S Sn 02 55 34.1 -5.4
OUENC Ouen Island, N 16.52 303 Pn Pn 02 55 44.1 -3.0
OUENC IAmb IAmb 02 55 56.2
comp=Z,94nm,1.3s
DZM Mont Dzumac 17.02 303 Pn Pn 02 55 51.9 -1.7
comp=Z,0.1nm,0.3s,baz=350,slow=17,SNR=1.8
DZM LR LR 03 01 30.2
comp=Z,2μm,18.6s,baz=156,slow=34
DZM Mont Dzumac 17.02 303 *e*Pn P 02 55 58.4 +3.0
comp=Z,93nm,1.4s
DZM *e*LR LR 03 00 01.4
comp=Z,1μm,21.4s
DZM Mont Dzumac 17.02 303 Pn Pn 02 55 50.7 -2.9
RAR Rarotonga 19.71 61 LR LR 03 04 34.8
comp=Z,573nm,18.1s,baz=232,slow=39
TBI Tubuai 26.81 78 *e*LQ LQ 03 02 43.6
comp=Z,491nm,25.8s
TBI *e*LR LR 03 04 10.5
comp=Z,528nm,22.5s,baz=246
TBI Tubuai 26.81 78 *e*T T 03 24 57.0
comp=Z,5.4nm,0.4s
MILA Mila 27.25 251 P P 02 57 41.6 +1.9
baz=28,SNR=3.2
PAE Paea 29.57 68 *e*T T 03 28 29.0
comp=Z,1.9nm,0.3s
PPT2 Papeete2 29.62 67 *e*LQ LQ 03 03 58.5
comp=Z,336nm,23.0s
PPT2 *e*LR LR 03 05 32.0
comp=Z,434nm,22.0s,baz=231
PPT Papeete 29.63 67 LR LR 03 09 21.4
comp=Z,505nm,18.1s,baz=238,slow=35
CMSA Cobar Meteorol 30.62 262 P P 02 58 12.7 +3.0
baz=31,SNR=57
ARPS Mount Arapiles 33.12 251 P P 02 58 33.5 +2.0
baz=33,SNR=5.6
STKA Stephens Creek 33.98 260 P P 02 58 37.6 -1.5
comp=Z,3.7nm,0.8s,baz=327,slow=12,SNR=3.2
STKA LR LR 03 11 58.2
comp=Z,490nm,18.3s,baz=121,slow=36
STKA Stephens Creek 33.98 260 P P 02 58 41.9 +2.7
baz=34,SNR=5.0
STKA Stephens Creek 33.98 260 P P 02 58 38.9 -0.3
CTAO Charters Tower 34.01 282 P P 02 58 38.6 -0.9
MTSU Mount Surprise 36.55 283 P P 02 59 04.0 +2.5
baz=37,SNR=14
BBOO Buckleboo 38.38 256 P P 02 59 17.1 +0.3
baz=39,SNR=5.4
TAOE Nuku Hiva Isla 42.17 65 *e*LR LR 03 11 28.4
comp=Z,228nm,23.0s
AS31 Alice Springs 42.91 269 P P 02 59 54.3 -0.1
ASAR Alice Springs 42.91 269 P P 02 59 54.6 +0.2
comp=Z,11nm,0.9s,baz=108,slow=7.5,SNR=36
ASAR Alice Springs 42.91 269 P P 02 59 54.3 -0.1
WR0 Warramunga Arr 43.89 274 P P 03 00 01.9 -0.4
WR0 IAmb IAmb 03 00 25.9
comp=Z,13nm,1.0s
WB2 Warramunga Arr 44.06 274 P P 03 00 03.2 -0.4
WB2 IAmb IAmb 03 00 05.7
comp=Z,38nm,1.4s
WRAB Tennant Creek 44.06 274 P P 03 00 03.2 -0.5
WRA Warramunga Arr 44.07 274 P P 03 00 03.8 +0.1
comp=Z,10nm,0.8s,baz=113,slow=7.8,SNR=61
WRA LR LR 03 17 38.7
comp=Z,359nm,18.5s,baz=100,slow=35
WB0 Warramunga Arr 44.10 274 P P 03 00 03.3 -0.7
WB0 IAmb IAmb 03 00 26.3
comp=Z,15nm,0.8s
FORT Forrest 45.48 257 P P 03 00 14.6 -0.3
baz=46,SNR=18
FORT Forrest 45.48 257 P P 03 00 14.0 -0.8
SBA Scott Base 46.21 184 P P 03 00 22.1 +2.2
VNDA Vanda 46.27 186 LR LR 03 16 22.5
comp=Z,191nm,21.9s,baz=17,slow=32
WRKA Warakurna 47.15 264 P P 03 00 27.5 -0.6
baz=48,SNR=15
CASY Casey 53.47 208 P P 03 01 16.3 +1.0
CASY IAmb IAmb 03 01 17.3
comp=Z,17nm,1.1s
KLBR Kellerberrin 53.66 252 P P 03 01 15.7 -1.5
baz=54,SNR=5.1
QSPA South Pole Qui 57.88 180 P P 03 01 48.1 +0.9
comp=Z,5.7nm,0.9s,baz=34,slow=1.7,SNR=18
QSPA South Pole Qui 57.88 180 P P 03 01 48.0 +0.9
MAW Mawson 70.56 201 P P 03 03 10.0 0.0
comp=Z,1.3nm,0.6s,baz=91,slow=8.7,SNR=2.8
MAW Mawson 70.56 201 P P 03 03 10.8 +0.7
SYO Syowa Base 75.31 193‖ *e*P P 03 03 37.4 -0.8
SNAA Sanae 76.33 178 P P 03 03 44.9 +0.7
SNAA Sanae 76.33 178 P P 03 03 45.4 +1.2
SNAA IAmb IAmb 03 03 56.4
comp=Z,18nm,1.2s
VNA3 Neumayer Olymp 76.49 176 P P 03 03 45.3 +0.4
VNA3 Neumayer Olymp 76.49 176 PcP PcP 03 03 57.2 +0.5
VNA2 Neumayer--Watz 76.92 177 P P 03 03 48.2 +0.7
baz=169,slow=5.5
VNA2 Neumayer--Watz 76.92 177 PcP PcP 03 03 59.3 +0.8
VNA1 Neumayer--Stat 77.16 177 P P 03 03 49.6 +0.9
VNA1 Neumayer--Stat 77.16 177 PcP PcP 03 04 00.6 +1.2
PLCA Paso Flores 81.36 133 LR LR 03 32 59.9
comp=Z,181nm,19.1s,baz=209,slow=30
KSRS Korea Array 85.66 320 LR LR 03 40 21.3
comp=Z,63nm,18.5s,baz=164,slow=34
NJ2 Nanjing 87.34 311 *e*P P 03 04 44.5 +2.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
PETK Petropavlovsk- 87.55 346 P P 03 04 43.0 0.0
comp=Z,3.0nm,0.7s,baz=116,slow=6.8,SNR=4.6
PETK LR LR 03 42 04.4
comp=Z,60nm,18.1s,baz=150,slow=34
ISA Isabella, Lake 87.69 45 P P 03 04 44.7 +0.5
GSC Goldstone, Bar 88.45 46 IAmb IAmb 03 04 53.0
comp=Z,11nm,1.4s
AFDM Forest Hills D 88.51 41 P P 03 04 48.5 +0.6
AFDM IAmb IAmb 03 04 52.4
comp=Z,5.1nm,1.1s
113A Mohawk Valley, 88.69 49 P P 03 04 48.9 0.0
WAKR Walker 89.07 42 IAmb IAmb 03 04 55.9
comp=Z,11nm,1.4s
LHV Little Huntoon 89.43 43 IAmb IAmb 03 05 07.7
comp=Z,5.4nm,1.1s
YERR Yerington 89.51 42 P P 03 04 52.4 -0.4
YERR IAmb IAmb 03 04 57.5
comp=Z,8.4nm,1.3s
NVAR Mina Array Bea 89.67 43 P P 03 04 54.1 +0.5
comp=Z,2.2nm,0.9s,baz=217,slow=7.6,SNR=13
NVAR LR LR 03 37 12.6
comp=Z,134nm,20.8s,baz=270,slow=30
NV11 Mina Array Sit 89.75 43 IAmb IAmb 03 04 59.2
comp=Z,5.2nm,1.2s
Y14A Wickenburg 89.93 49 IAmb IAmb 03 05 00.0
comp=Z,5.5nm,1.2s
KVN Kaiserville 90.20 42 P P 03 04 55.9 -0.2
TUC Tucson 90.35 51 P P 03 04 57.2 +0.4
TUC IAmb IAmb 03 05 02.5
comp=Z,5.2nm,1.1s
PRN Pahroc Range 90.90 45 IAmb IAmb 03 05 04.9
comp=Z,7.6nm,1.1s
X16A Lo Mia Camp, P 91.24 49 IAmb IAmb 03 05 06.6
comp=Z,4.2nm,1.0s
PINE Pine Mountain 91.93 38 P P 03 05 04.4 +0.4
U15A North Rim 91.96 47 IAmb IAmb 03 05 10.0
comp=Z,5.9nm,1.2s
J08A Circle Bar Ran 92.92 39 P P 03 05 08.5 0.0
J08A IAmb IAmb 03 05 13.1
comp=Z,3.6nm,1.0s
TXAR Lajitas Array 93.48 57 P P 03 05 11.3 -0.1
comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=3.9
TXAR LR LR 03 42 00.4
comp=Z,129nm,18.1s,baz=0.0,slow=32
G08A Pilot Rock 93.99 37 P P 03 05 13.1 -0.2
G08A IAmb IAmb 03 05 17.9
comp=Z,5.0nm,1.3s
F10A Beach Ranch, E 95.34 38 IAmb IAmb 03 05 21.2
comp=Z,2.8nm,1.0s
HHC Hu-ho-hao-te 97.41 314 *e*P Pdif 03 05 31.5 +2.3
HHC Hu-ho-hao-te 97.41 314 SS SS 03 23 41.8 +8.9
HHC pmax pmax
comp=Z,25nm,1.4s
HHC pmax pmax
comp=Z,90nm,7.3s
HHC L L
comp=Z,97nm,19.9s
HHC L L
comp=Z,120nm,18.7s
HHC L L
comp=Z,140nm,20.0s
LPAZ La Paz 97.51 114 LR LR 03 45 22.4
comp=Z,52nm,18.1s,baz=220,slow=33
LPAZ La Paz 97.51 114 P P 03 05 31.0 +0.2
PDAR Pinedale Array 97.54 44 P P 03 05 27.7 -2.1
comp=Z,0.2nm,0.6s,baz=231,slow=4.2,SNR=2.4
CPUP Villa Florida 98.95 129 LR LR 03 47 46.9
comp=Z,109nm,18.3s,baz=218,slow=34
MKAR Makanchi Array 118.84 309 PKP PKPdf 03 10 42.1 -1.5
comp=Z,0.9nm,0.8s,baz=101,slow=0.9,SNR=1.3
KURBB Kurchatov Arra 122.25 313 PKP PKPdf 03 10 48.7 -1.3
baz=116,slow=2.1
ONI Oni 145.68 300 PKPab 03 11 35.8 +1.2
KBZ Khabaz 145.99 302 PKPbc PKPbc 03 11 34.9 -0.2
comp=Z,4.3nm,0.9s,baz=233,slow=2.1,SNR=4.5
KARS Kars 146.04 296 PKPbc PKPab 03 11 36.4 +0.3
OBN Obninsk 146.58 324 PKPbc PKPbc 03 11 36.3 -0.1
FIA1 FINESS Array S 146.81 339 PKPbc PKPbc 03 11 37.0 +0.1
FINES FINESS Array B 146.81 339 PKPbc PKPbc 03 11 36.4 -0.5
comp=Z,10nm,0.8s,baz=58,slow=4.7,SNR=22
FINES FINESS Array B 146.81 339 PKPbc PKPbc 03 11 36.7 -0.2
GURO Guroymak-BITLI 146.84 292 PKPdf PKPdf 03 11 33.8 -2.3
GURO PKPbc PKPab 03 11 38.8 -0.4
NOA NORSAR Array B 150.53 351 PKPbc PKPbc 03 11 46.2 -0.4
comp=Z,1.4nm,0.6s,baz=14,slow=4.1,SNR=8.2
AKASG Malin Array Be 152.65 320 PKPbc PKPbc 03 11 51.7 0.0
comp=Z,1.6nm,0.6s,baz=51,slow=2.6,SNR=8.1
BRTR Keskin Array B 153.31 295 PKPbc PKPbc 03 11 53.5 -0.2
comp=Z,3.8nm,1.0s,baz=116,slow=2.9,SNR=4.4
OSTC Ostas 158.82 334 *e*PKPAB PKPab 03 12 29.8 +1.0
DPC Dobruska-Polom 158.95 334 *e*PKPAB PKPab 03 12 29.8 +0.4
KRLC Kraliky 158.99 332 *e*PKPAB PKPab 03 12 29.6 0.0
CLL Collm 159.25 340 *e*PKPdf PKPdf 03 11 55.0 +1.6
CLL *i* PKPab PKPab 03 12 30.2 -0.4
comp=Z,9.0nm,1.3s
CKRC Cesky Krumlov 160.96 334 *e*PKPAB PKPab 03 12 38.1 -0.1
CKRC *ex* x 03 12 42.0
KHC Kasperske Hory 160.96 336 *e*PKPAB PKPab 03 12 38.1 -0.1
KHC *ex* x 03 12 42.0
TORD Torodi Ar. Bea 161.00 180 PKPab PKPab 03 12 39.1 0.0
comp=Z,3.8nm,1.1s,baz=173,slow=3.5,SNR=6.2
TORD Torodi Ar. Bea 161.00 180 PKPab 03 12 39.2 +0.2
GERES GERESS Array B 161.16 335 PKPab PKPab 03 12 38.6 -0.5
comp=Z,0.7nm,0.7s,baz=18,slow=5.6,SNR=5.3
ARSA Arzberg 161.72 329 *e*P PKPab 03 12 42.4 +0.8
comp=Z,4.4nm,1.4s
MOA Molln 161.77 332 *e*P PKPab 03 12 42.2 +0.4
comp=Z,5.4nm,1.2s
WTTA Wattenberg 163.23 336 *e*P PKPab 03 12 48.9 +0.6
comp=Z,2.4nm,0.5s
RETA Reutte 163.32 339 *e*P PKPab 03 12 49.2 +0.6
comp=Z,7.1nm,1.2s
MOTA Moosalm 163.33 338 *e*P PKPab 03 12 49.3 +0.5
comp=Z,8.3nm,1.3s
FETA Feichten 163.74 338 *e*P PKPab 03 12 51.0 +0.5
comp=Z,5.9nm,1.1s
DAVA Damuels 163.76 340 *e*P PKPab 03 12 51.0 +0.4
comp=Z,6.0nm,1.3s

*GCMT **26** 02:55:53.8±0.5, 4.°19N±0.°03×125.°90E±0.°04, h147km±5km, MW4.9/71, Moment Tensor Solution. s9,c9; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.58±.12; $M_{\theta\theta}$=0.99±.13; $M_{\phi\phi}$=-2.57±.14; $M_{r\theta}$=-1.20±.08; $M_{r\phi}$=0.16±.14; $M_{\theta\phi}$=0.38±.12; Best double couple: M_o=2.57700×10^{16} NP1:ϕ_s=209.00000°, δ50.00000°, λ141.00000°. NP2: ϕ_s=326.00000°, δ61.00000°, λ47.00000°. Principal axes: T 2.5270, Plg52.0000°, Azm184.0000°; N 0.0950, Plg37.0000°, Azm350.0000°; P -2.6260, Plg6.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 02:55:55.5±0.4, 4.°30N×125.°63E, h160km±3km, mb4.2/31, mb1 4.3/34, mb1mx4.2/57, mbtmp4.7/34 Error ellipse: s-maj=14.2km s-min=6.5km az=81.0*
*KLM **26** 02:55:55, 4.°33N×126.°00E, h184km, mb5.0*
*NEIC **26** 02:55:55.8±2.1, 4.°26N±0.°06×125.°75E±0.°09, h158km±5km, mb4.7/63, Error ellipse: s-maj=13.1km s-min=8.7km az=78.0*
*DJA **26** 02:55:55.9±0.2, 4.°N±2.°×12.°6E±.°, h156km±2km, M4.9/34, mB5.4/17, mb5.1/34, MLv5.2/14, Mw(mB)4.8/17*
*MAN **26** 02:55:55.7, 4.°28N×125.°47E, h138km, MS3.9*
*BJI **26** 02:55:56.5±0.0, 4.°19N×126.°03E, h188km, mB4.8/18, mb4.6/27*
ISC 26 02:55:55.8±0.3, **4.°28N**±0.°03×**125.°76E**±0.°05, **h164**km±3km, **h165**km:**pP-P, n226**, σ1.943/273, **mb4.6**/65, **62C-15D, Fault plane solution: NP1**:ϕ_s312.12216°, δ69.81128°, λ53.28692°. **NP2:**ϕ_s197.28819°, δ41.20240°, λ148.40482°.
Principal axes: T Plg50.9003°, Azm180.0350°; N Plg34.1305°, Azm326.5547°; P Plg16.7374°, Azm68.3164°; **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.63**	**201**	P		**Pn**	**02 56 19.1**	**-0.3**
SGSI				S		**Sn**	**02 56 36.6**	**-1.0**
DDMP	**Don Marcelino,**	**1.81**	**359**	*e*P		**Pn**	**02 56 27.9**	**-1.8**
DDMP				*e*S		**Sn**	**02 56 54.5**	**-1.5**
SKMP	**Bagumbayan, Su**	**2.53**	**332**	*e*P		**Pn**	**02 56 36.9**	**-1.1**
SKMP				*e*S		**Sn**	**02 57 06.2**	**-4.6**
MATI	**Mati**	**2.69**	**11**	*e*P		**Pn**	**02 56 38.2**	**-1.8**
MATI				*e*S		**Sn**	**02 57 13.3**	**-1.0**
DAV	**Davao City (W)**	**2.78**	**356**	P		**Pn**	**02 56 41.7**	**+0.7**
DAV	257nm,0.3s,baz=107,slow=1.6,SNR=17			S		**Sn**	**02 57 15.9**	**-0.2**
DAV	**Davao City (W)**	**2.78**	**356**	Pn		**Pn**	**02 56 41.4**	**+0.4**
DAV	**Davao City (W)**	**2.78**	**356**	P		**Pn**	**02 56 41.9**	**+0.9**
DAV	410nm,0.3s,baz=105,slow=20,SNR=4.9			S		**Sn**	**02 57 15.9**	**-0.2**
KCP	**Kidapawan**	**2.79**	**346**‖	*i*P		**Pn**	**02 56 40.7**	**-0.5**
KCP				*i* S		**Sn**	**02 57 18.9**	**+2.4**
MNI	**Manado**	**2.96**	**198**	P		**Pn**	**02 56 43.8**	**+0.5**
MNI				S		**Sn**	**02 57 19.9**	**-0.3**
GAMI	**Galela, Maluku**	**3.16**	**140**	P		**Pn**	**02 56 44.9**	**-0.9**
GAMI				S		**Sn**	**02 57 21.6**	**-3.1**
BUKP	**Musuan**	**3.64**	**349**	*e*P		**Pn**	**02 56 51.2**	**-0.7**
BUKP				*e*S		**Sn**	**02 57 36.4**	**+0.8**
TNTI	**Ternate**	**3.84**	**155**	Pn		**Pn**	**02 56 52.9**	**-1.5**
TNTI	**Ternate**	**3.84**	**155**	P		**Pn**	**02 56 54.0**	**-0.4**
TNTI				S		**Sn**	**02 57 37.1**	**-3.0**
KMSI	**Cibinong**	**4.08**	**206**	P		**Pn**	**02 56 58.6**	**+1.1**
PAGZ	**Pagadian**	**4.26**	**326**	*e*P		**Pn**	**02 56 58.1**	**-1.7**
PAGZ				*e*S		**Sn**	**02 57 46.2**	**-3.6**
CGP	**Cagayan de Oro**	**4.28**	**346**‖	*e*P		**Pn**	**02 57 00.5**	**+0.5**
CGP				*e*S		**Sn**	**02 57 58.3**	**+8.0**
GTOI	**Gorontalo**	**4.54**	**217**	P		**Pn**	**02 57 04.1**	**+0.7**
BUTP	**Butuan**	**4.66**	**358**	*e*P		**Pn**	**02 57 05.5**	**+0.5**
BUTP				*e*S		**Sn**	**02 57 59.4**	**+0.2**
MRSI	**Marisa**	**5.37**	**225**	P		**Pn**	**02 57 15.6**	**+1.3**
	3.6nm8μm1μm,0.8s							
TOLI2	**Tolitoli**	**5.88**	**238**	Pn		**Pn**	**02 57 21.2**	**+0.1**
MSLP	**Maasin**	**5.88**	**351**	*e*P		**Pn**	**02 57 20.2**	**-0.9**
MSLP				*e*S		**Sn**	**02 58 23.7**	**-4.3**
LUWI	**Luwuk**	**6.07**	**209**	Pn		**Pn**	**02 57 24.3**	**+0.8**
LUWI	**Luwuk**	**6.07**	**209**	P		**Pn**	**02 57 26.5**	**+2.9**
	3.3nm7μm451nm,1.1s							
LUWI				S		**Sn**	**02 58 34.8**	**+2.3**
	3.3nm7μm451nm,1.1s							
SANI	**Sanana**	**6.29**	**178**	P		**Pn**	**02 57 24.2**	**-2.3**
	3.5nm6μm480nm,0.9s							
SANI				S		Sn	02 58 28.0	-10
	3.5nm6μm480nm,0.9s							
APSI	**Ampana**	**6.59**	**219**	P		**Pn**	**02 57 32.0**	**+1.5**
	0.9nm3μm266nm,0.9s							
APSI				S		**Sn**	**02 58 47.3**	**+2.4**
	0.9nm3μm266nm,0.9s							
MPSI	**Mapaga**	**7.04**	**236**	P		**Pn**	**02 57 37.3**	**+0.9**
	0.3nm1μm96nm,0.8s							
SWI	**Sorong**	**7.51**	**133**	P		**Pn**	**02 57 42.0**	**-0.6**
	0.3nm71nm,0.7s							
SIJI	**Sorong**	**7.52**	**133**	P		**Pn**	**02 57 43.3**	**+0.6**
	13nm,0.3s,baz=315,slow=16,SNR=5.8							
SIJI	**Sorong**	**7.52**	**133**	P		**Pn**	**02 57 42.7**	**-0.1**
	0.1nm22nm,0.5s							
NLAI	**Namlea**	**7.59**	**170**	P		**Pn**	**02 57 42.2**	**-1.5**
	3.2nm5μm196nm,1.2s							
KRAI	**Karang Ratu**	**8.00**	**161**	P		**Pn**	**02 57 49.2**	**+0.1**
	1.1nm8μm172nm,0.6s							
MSAI	**Masohi**	**8.21**	**157**	P		**Pn**	**02 57 54.7**	**+2.7**
SPMM	**Sapulut**	**9.27**	**273**	P		**Pn**	**02 58 08.0**	**+1.9**
TTSI	**Tana Toraja**	**9.39**	**219**	P		**Pn**	**02 58 09.8**	**+2.2**
	278nm,0.9s							
FAKI	**Fak Fak**	**9.66**	**138**	P		**Pn**	**02 58 12.8**	**+1.7**
	41nm,0.8s							
BNSI	**Bone**	**10.30**	**213**	P		**Pn**	**02 58 21.7**	**+2.1**
	91nm,0.8s							
BKB	**Balikpapan**	**10.42**	**238**	Pn		**Pn**	**02 58 21.9**	**+0.7**
BKB	**Balikpapan**	**10.42**	**238**	P		**Pn**	**02 58 23.5**	**+2.3**
	5μm428nm,1.1s							
LQP	**Lukban**	**10.62**	**337**‖	*e*P		**P**	**02 58 29.6**	**-2.8**
KAPI	**Kappang**	**11.01**	**213**	P		**Pn**	**02 58 29.7**	**+0.8**
	4.3nm,0.3s,baz=18,slow=8.9,SNR=51							
KAPI	**Kappang**	**11.01**	**213**	Pn		**Pn**	**02 58 29.0**	**+0.2**
KAPI	**Kappang**	**11.01**	**213**	P		**Pn**	**02 58 27.9**	**-1.0**
	1μm202nm,1.1s							
BAKI	**Biak**	**11.69**	**117**	P		**P**	**02 58 44.3**	**0.0**
MTKI	**Muara Teweh, K**	**12.03**	**245**	P		**Pn**	**02 58 44.6**	**+2.5**
	14μm217nm,0.8s							
MMRI	**Maumere**	**13.30**	**195**	Pn		**Pn**	**02 58 57.3**	**-1.1**
BBKI	**Banjar Baru**	**13.34**	**235**	P		**P**	**02 59 01.8**	**-0.9**
	4μm37nm,0.7s							
EDFI	**Ende, Flores**	**13.56**	**197**	P		**Pn**	**02 59 01.9**	**+0.1**
	483nm47nm,0.7s							
SBUM	**Sibu**	**13.63**	**263**	P		**Pn**	**02 59 04.0**	**+1.4**
SOEI	**Soe**	**14.02**	**186**	P		**P**	**02 59 09.8**	**-0.6**
	187nm,0.8s							
BATI	**Baumata**	**14.54**	**188**	P		**P**	**02 59 15.6**	**-0.5**
	44nm,0.3s,baz=57,slow=0.7,SNR=16							
BATI				S		**Sn**	**03 01 57.5**	**+1.6**
	4.5nm,0.3s,baz=98,slow=21,SNR=2.8							
BATI	**Baumata**	**14.54**	**188**	P		**Pn**	**02 59 15.0**	**+1.0**
	2μm142nm,0.6s							
WBSI	**Waikabubak, Su**	**15.21**	**205**	P		**Pn**	**02 59 21.7**	**-0.6**
	1μm129nm,0.8s							
PLAI	**Plampang**	**15.26**	**211**	P		**Pn**	**02 59 22.5**	**-0.3**
	131nm,0.9s							
TWSI	**Taliwang, Sumb**	**15.67**	**214**	P		**P**	**02 59 29.0**	**+0.5**
	933nm128nm,1.0s							
KSM	**Kuching**	**15.68**	**260**	P		**P**	**02 59 29.0**	**+0.4**
KLNI	**Mataram**	**15.88**	**217**	P		**P**	**02 59 30.7**	**-0.1**
	54nm,1.1s							
GENI	**Genyem**	**15.94**	**115**	P		**P**	**02 59 38.7**	**+7.2**
MTN	**Manton Dam**	**17.83**	**163**	P		**P**	**02 59 51.3**	**-1.0**
SJI	**Sawahan**	**18.36**	**229**	P		**P**	**02 59 58.6**	**+0.4**
	5μm36nm,0.6s							
PWJI	**Pagerwojo**	**18.52**	**229**	P		**P**	**02 59 57.7**	**-2.1**
	20nm,1.5s							
PCJI	**Pacitan**	**19.11**	**230**	P		**Pn**	**03 00 08.3**	**-0.5**
	46nm,1.1s							
SSLB	**Suanglung**	**19.94**	**347**	P		**P**	**03 00 13.3**	**-1.9**
SSLB				IAmb		IAmb	03 00 22.5	
	comp=Z,11nm,0.7s							
KNRA	**Kununurra**	**20.05**	**172**	P		**P**	**03 00 15.3**	**-1.0**
KPJI	**Karang Pucung**	**20.37**	**236**	P		**P**	**03 00 18.9**	**-0.9**
	comp=Z,28nm,1.0s							
LEM	**Lembang**	**21.20**	**239**	P		**P**	**03 00 28.7**	**-0.2**
	comp=Z,20nm,0.4s,baz=357,slow=22,SNR=3.9							
QIZ	**Qiongzhong**	**21.36**	**315**	P		**P**	**03 00 34.3**	**+3.9**
QIZ				S		**S**	**03 04 20.0**	**+2.4**
QIZ				L		L		
	comp=Z,200nm,16.7s							
QIZ				L		L		
	comp=Z,200nm,11.8s							
QIZ				L		L		
	comp=Z,110nm,20.6s							
FITZ	**Fitzroy Crossi**	**22.24**	**180**	P		**P**	**03 00 38.6**	**-0.6**
	comp=Z,52nm,0.3s,baz=11,slow=9.1,SNR=295							
FITZ	**Fitzroy Crossi**	**22.24**	**180**	P		**P**	**03 00 38.7**	**-0.6**
WRAB	**Tennant Creek**	**25.50**	**161**	P		**P**	**03 01 08.5**	**-0.6**
WRA	**Warramunga Arr**	**25.51**	**161**	P		**P**	**03 01 08.9**	**-0.2**
	comp=Z,44nm,0.8s,baz=342,slow=9.9,SNR=49							
WRA				PcP		**PcP**	**03 04 37.0**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=326,slow=2.4,SNR=4.1							
WRA				S		**S**	**03 05 23.0**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=331,slow=16,SNR=2.9							
WRA				ScP		**ScP**	**03 08 00.3**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=234,slow=1.3,SNR=1.7							
WRA	**Warramunga Arr**	**25.51**	**161**	IAmb		IAmb	03 01 10.0	
	comp=Z,1.6nm,0.8s							
WRA						**PcP**	**03 04 36.6**	**+0.1**
WR0	**Warramunga Arr**	**25.59**	**161**	P		**P**	**03 01 08.7**	**-1.2**
PSA00	**Pilbara Seismi**	**26.34**	**192**	P		**P**	**03 01 16.0**	**-0.5**
GSI	**Gunungsitoli**	**28.30**	**265**	P		**P**	**03 01 33.8**	**-0.5**
GSI				IAmb		IAmb	03 01 34.2	
	comp=Z,10.0nm,0.9s							
NJ2	**Nanjing**	**28.38**	**348**	*e*P		**P**	**03 01 38.0**	**+3.4**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MTSU	**Mount Surprise**	**28.83**	**141**	P		**P**	**03 01 40.6**	**+1.7**
	baz=29,SNR=4.5							
AS31	**Alice Springs**	**28.89**	**164**	P		**P**	**03 01 38.9**	**-0.4**
AS31				IAmb		IAmb	03 01 41.2	
	comp=Z,13nm,0.5s							
ASAR	**Alice Springs**	**28.89**	**164**	P		**P**	**03 01 39.5**	**+0.2**
	comp=Z,19nm,0.6s,baz=346,slow=7.7,SNR=112							
ASAR				PcP		**PcP**	**03 04 45.0**	**+0.4**
	comp=Z,7.6nm,0.7s,baz=0.0,slow=2.4,SNR=9.2							
ASAR				S		**S**	**03 06 16.2**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=356,slow=24,SNR=3.8							
ASAR				ScP		**ScP**	**03 08 10.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=343,slow=2.6,SNR=3.2							
ASAR	**Alice Springs**	**28.89**	**164**	P		**P**	**03 01 39.3**	**0.0**
WRKA	**Warakurna**	**29.25**	**175**	P		**P**	**03 01 43.4**	**+0.9**
	baz=29,SNR=8.6							
CMAR	**Chiang Mai Arr**	**29.76**	**300**	P		**P**	**03 01 47.1**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=114,slow=7.0,SNR=8.2							
CMAR				PcP		**PcP**	**03 04 48.3**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=158,slow=1.3,SNR=8.3							
CMAR				ScP		**ScP**	**03 08 14.6**	**+0.9**
	comp=Z,8.8nm,1.0s,baz=152,slow=2.3,SNR=21							
CMAR	**Chiang Mai Arr**	**29.76**	**300**	P		**P**	**03 01 48.3**	**+1.2**
CHTO	**Chiang Mai**	**29.91**	**301**	P		**P**	**03 01 48.8**	**+0.4**
CTAO	**Charters Tower**	**31.50**	**141**	P		**P**	**03 02 02.1**	**-0.3**
CTAO				IAmb		IAmb	03 02 04.7	
	comp=Z,25nm,1.1s							
KSAR	**Wonju Array Be**	**33.06**	**3**	P		**P**	**03 02 17.0**	**+1.2**
KSRS	**Korea Array**	**33.08**	**3**	P		**P**	**03 02 17.2**	**+1.4**
	comp=Z,3.9nm,0.9s,baz=181,slow=9.1,SNR=4.9							
KSRS				pP		**pP**	**03 02 48.9**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=185,slow=10.0,SNR=3.0							
KSRS				PcP		**PcP**	**03 04 56.4**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=184,slow=2.9,SNR=6.4							
XAN	**Xi'an**	**33.49**	**334**	P		P	03 02 29.5	+10
XAN				pP		pP	03 02 40.5	-13
CD2	**Chengdu**	**33.63**	**324**	*e*P		**P**	**03 02 22.0**	**+1.1**
CD2				pmax		pmax		
	comp=Z

HHC sS sS 03 10 01.5 +13
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,95nm,4.0s
STKA Stephens Creek 38.99 158 P **P 03 03 07.2 +1.0**
comp=Z,58nm,0.5s,baz=332,slow=8.6,SNR=126
STKA PcP **PcP 03 05 13.5 +0.2**
comp=Z,11nm,0.6s,baz=304,slow=11,SNR=3.1
STKA S **S 03 08 52.1 -0.8**
comp=Z,6.7nm,1.0s,baz=126,slow=14,SNR=5.4
STKA Stephens Creek 38.99 158 P **P 03 03 07.0 +0.7**
baz=39,SNR=122
STKA Stephens Creek 38.99 158 P **P 03 03 06.9 +0.7**
STKA IAmb IAmb 03 03 08.1
comp=Z,19nm,0.8s
USRK Ussuriysk Ar. 40.13 7 P **P 03 03 15.9 +0.4**
comp=Z,5.8nm,0.6s,baz=193,slow=5.6,SNR=17
USRK pP **pP 03 03 50.8 +0.6**
comp=Z,4.6nm,0.6s,baz=192,slow=8.0,SNR=4.4
USRK S **S 03 09 07.8 -1.8**
comp=Z,1.9nm,0.4s,baz=30,slow=29,SNR=8.7
USRK Ussuriysk Ar. 40.13 7 P **P 03 03 15.7 +0.2**
MDJ Mudanjiang 40.31 4 P **P 03 03 17.4 +0.4**
MDJ IAmb IAmb 03 03 18.9
comp=Z,7.2nm,0.7s
CMSA Cobar Meteorol 40.37 153 P **P 03 03 18.9 +1.2**
baz=41,SNR=27
LSA Lhasa 41.35 312 P **P 03 03 26.1 -0.2**
LSA IAmb IAmb 03 03 28.1
comp=Z,8.5nm,0.5s
GTA Gaotai 42.13 330 *eP* P 03 03 39.0 +6.9
GTA pP pwP 03 04 15.3 +2.8
GTA PcP **PcP 03 05 24.8 +1.3**
GTA ScP **ScP 03 08 58.8 0.0**
GTA pmax pmax
comp=Z,4.0nm,0.7s
ASAJ Asahikawa 42.36 18 pP pP 03 04 09.4 +0.8
comp=Z,12nm,0.8s,baz=235,slow=18,SNR=3.9
ARMA Armidale 42.46 146 P **P 03 03 36.3 +1.5**
baz=43,SNR=7.1
ARPS Mount Arapiles 43.51 161 P **P 03 03 44.5 +1.5**
baz=44,SNR=53
CAN Canberra 45.04 153 P **P 03 03 55.8 +0.6**
KLR Kul'dur 45.08 6 P **P 03 03 56.0 +0.7**
comp=Z,3.4nm,0.5s,baz=197,slow=7.4,SNR=17
KLR pP **pP 03 04 31.6 +0.7**
comp=Z,3.7nm,0.6s,baz=224,slow=2.9,SNR=4.3
TOO Toolangi 45.51 158 P **P 03 04 01.0 +2.1**
baz=46,SNR=14
TOO Toolangi 45.51 158 P **P 03 03 58.9 0.0**
ULN Ulaanbaatar 46.30 343 P **P 03 04 04.8 -0.3**
SONM Songino Array 46.47 342 P **P 03 04 06.4 0.0**
comp=Z,1.0nm,0.7s,baz=148,slow=8.7,SNR=3.8
SONM PcP **PcP 03 05 38.4 +0.1**
comp=Z,3.9nm,0.8s,baz=165,slow=4.3,SNR=6.7
SONM ScP **ScP 03 09 16.0 -0.3**
comp=Z,1.6nm,0.9s,baz=174,slow=4.5,SNR=4.3
SONM Songino Array 46.47 342 P **P 03 04 07.0 +0.6**
MILA Mila 46.55 154 P **P 03 04 09.2 +2.1**
baz=47,SNR=5.0
DZM Mont Dzumac 47.65 125 P **P 03 04 17.2 +1.3**
comp=Z,18nm,0.8s,baz=265,slow=11,SNR=11
DZM Mont Dzumac 47.65 125 IAmb IAmb 03 04 18.2
comp=Z,20nm,0.8s
WMQ Urumqi 51.72 325 *eP* **P 03 04 49.5 +3.2**
PETK Petropavlovsk- 55.30 23 P **P 03 05 11.7 -0.4**
comp=Z,1.4nm,0.7s,baz=182,slow=3.9,SNR=2.1
PETK pP **pP 03 05 50.0 +1.3**
comp=Z,8.3nm,0.7s,baz=190,slow=5.7,SNR=7.1
MK31 Makanchi Array 56.55 325 P **P 03 05 20.4 -0.8**
MKAR Makanchi Array 56.55 325 P **P 03 05 20.1 -1.1**
comp=Z,2.0nm,0.5s,baz=120,slow=7.2,SNR=34
MKAR pP **pP 03 05 59.1 +1.0**
comp=Z,3.6nm,0.5s,baz=124,slow=7.9,SNR=5.6
MKAR PcP **sP 03 06 15.6 +0.2**
comp=Z,6.9nm,0.6s,baz=118,slow=5.5,SNR=13
MKAR ScP **ScP 03 09 58.3 -1.6**
comp=Z,7.1nm,0.7s,baz=119,slow=4.6,SNR=24
MAKZ Makanchi 56.74 325 P **P 03 05 21.8 -0.7**
NIL Nilore 56.82 308 P **P 03 05 22.3 -1.0**
NIL IAmb IAmb 03 05 23.6
comp=Z,9.8nm,1.1s
YAK Yakutsk 57.70 2 P **P 03 05 28.2 -0.6**
comp=Z,16nm,0.4s,baz=29,slow=1.4,SNR=5.5
YAK Yakutsk 57.70 2 P **P 03 05 29.0 +0.2**
ZALV Zalesovo Beam 59.66 333 P **P 03 05 41.6 -1.0**
comp=Z,0.8nm,0.4s,baz=133,slow=8.1,SNR=4.2
ZALV pP **pP 03 06 19.0 -1.0**
comp=Z,1.3nm,0.5s,baz=101,slow=7.9,SNR=2.7
ZALV Zalesovo Beam 59.66 333 P **P 03 05 40.2 -2.3**
DRK Karamyk 59.93 314 P **P 03 05 43.4 -1.7**
DRK IAmb IAmb 03 05 46.1
comp=Z,9.1nm,0.8s
KBL Kabul 60.42 307 P **P 03 05 47.5 -0.9**
KURBB Kurchatov Arra 60.76 328 P **P 03 05 49.1 -0.9**
comp=Z,5.8nm,0.8s,baz=125,slow=6.1,SNR=50
KURBB pP **pP 03 06 27.6 +0.4**
comp=Z,2.1nm,0.5s,baz=125,slow=6.2,SNR=3.0
KURBB ScP **ScP 03 10 17.1 -1.2**
comp=Z,0.6nm,0.7s,baz=137,slow=3.4,SNR=2.9
GAR Garm 60.84 313 P **P 03 05 49.3 -1.8**
GAR IAmb IAmb 03 05 51.1
comp=Z,12nm,0.9s
SEY Seymchan 61.72 13 P **P 03 05 58.1 +1.8**
comp=Z,1.2nm,0.3s,baz=221,slow=9.6,SNR=4.2
SEY pP **pP 03 06 34.0 -0.1**
comp=Z,4.3nm,0.8s,baz=192,slow=3.4,SNR=3.5
KK31 Karatay Array 62.17 317 P **P 03 05 58.7 -1.0**
KK31 IAmb IAmb 03 06 00.3
comp=Z,3.1nm,0.7s
KKAR Karatay Array 62.17 317 P **P 03 05 58.2 -1.6**
LBZ Lake Benmore 62.68 146 P **P 03 06 02.6 -0.5**
AMKA Amchitka 64.59 34 P **P 03 06 16.0 +0.6**
BVAR Borovoye Array 66.33 327 P **P 03 06 25.9 -0.7**
comp=Z,2.7nm,0.8s,baz=199,slow=20,SNR=12
BRVK Borovoye 66.40 327 P **P 03 06 25.8 -1.3**
BRVK IAmb IAmb 03 06 27.6
comp=Z,6.2nm,0.9s
TIXI Tiksi 67.31 1 P **P 03 06 32.5 0.0**
comp=Z,9.8nm,0.4s,baz=157,slow=5.3,SNR=15
TIXI Tiksi 67.31 1 P **P 03 06 31.4 -1.1**
TIXI IAmb IAmb 03 06 33.0
comp=Z,12nm,0.5s
NRIK Noril'sk 69.67 346 P **P 03 06 47.0 -0.1**
comp=Z,6.2nm,0.6s,baz=128,slow=7.0,SNR=9.6
ABKAR Akbulak array 71.11 321 P **P 03 06 54.7 -1.6**
CASY Casey 71.25 186 P **P 03 06 56.6 0.0**
CASY IAmb IAmb 03 06 58.3
comp=Z,17nm,0.7s
SKT Skwentna 82.81 28 P **P 03 08 00.8 -0.7**
SKT IAmb IAmb 03 08 02.5
comp=Z,5.4nm,0.6s
SKT pP **pP 03 08 40.1 -1.2**
SUA Susitna One 83.15 29 IAmb IAmb 03 08 04.5
comp=Z,19nm,0.8s
BPAW Bear Paw Mtn. 83.22 26 P **P 03 08 01.0 -2.5**
BPAW IAmb IAmb 03 08 05.5
comp=Z,7.2nm,1.0s
BPAW pP **pP 03 08 43.1 -0.2**
MLY Manley 83.40 25 IAmb IAmb 03 08 06.6
comp=Z,10nm,0.8s
TRF Thorofare Moun 83.49 27 P **P 03 08 05.8 +0.7**
TRF IAmb IAmb 03 08 08.1
comp=Z,8.3nm,1.1s
COLD Coldfoot 83.77 23 IAmb IAmb 03 08 08.9
comp=Z,9.7nm,0.8s
MAW Mawson 83.93 200 P **P 03 08 07.4 +0.4**
comp=Z,6.9nm,0.9s,baz=78,slow=11,SNR=9.8
MAW Mawson 83.93 200 P **P 03 08 07.3 +0.4**
I23K Minto, Yukon-K 83.99 25 P **P 03 08 07.9 +0.6**
I23K IAmb IAmb 03 08 09.6
comp=Z,15nm,1.2s
I23K pP **pP 03 08 46.3 -1.2**
NEA2 Nenana 84.08 26 IAmb IAmb 03 08 10.4
comp=Z,5.4nm,0.9s
VNDA Vanda 84.09 173 P **P 03 08 08.2 +0.7**
comp=Z,15nm,0.7s,baz=317,slow=6.4,SNR=112
VNDA Vanda 84.09 173 IAmb IAmb 03 08 09.2
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 84.09 22 IAmb IAmb 03 08 10.5
comp=Z,8.5nm,0.8s
MCK McKinley 84.11 26 P **P 03 08 07.7 -0.3**
MCK IAmb IAmb 03 08 09.3
comp=Z,7.7nm,0.8s
MCK **pP 03 08 47.6 -0.3**

PWL Port Wells 84.29 29 IAmb IAmb 03 08 10.6
comp=Z,24nm,1.1s
KLMR Klimovskoe 84.45 331 *eP* **P 03 08 07.3 -2.4**
KLMR AMP 03 08 09.2
comp=Z,8.0nm,0.6s
KLMR *ePP* **pP 03 08 50.0 -0.2**
KLMR *ePP* **PP 03 11 24.9 -2.2**
MDM Murphy Dome 84.46 25 P **P 03 08 10.8 +1.0**
SBA Scott Base 85.01 172 P **P 03 08 12.5 +0.3**
SBA IAmb IAmb 03 08 14.3
comp=Z,7.6nm,0.8s
ILAR Eielson Array 85.03 25 P **P 03 08 11.8 -0.8**
comp=Z,0.5nm,0.5s,baz=246,slow=4.9,SNR=18
ILAR pP **pP 03 08 51.8 -1.1**
comp=Z,2.5nm,0.8s,baz=245,slow=5.2,SNR=9.8
ILAR Eielson Array 85.03 25 P **P 03 08 12.1 -0.5**
BMAR Burnt Mountain 85.95 23 P **P 03 08 17.7 +0.6**
BMAR pP **pP 03 08 57.1 -0.3**
K27K Chicken 87.14 26 IAmb IAmb 03 08 25.7
comp=Z,3.9nm,0.9s
L27K Beaver Creek, 87.31 27 P **P 03 08 24.3 +0.5**
BRTR Keeski Array B 88.92 310 P **P 03 08 31.0 -1.1**
ARA0 ARCESS Array S 89.60 340 *eP* **P 03 08 34.0 -0.4**
ARCES ARCESS Array B 89.60 340 P **P 03 08 33.6 -0.8**
comp=Z,5.8nm,0.6s,baz=81,slow=5.7,SNR=27
SPA0 Spitsbergen Ar 89.75 349 *eP* **P 03 08 34.9 -0.1**
SPITS Spitsbergen Ar 89.75 349 P **P 03 08 34.3 -0.7**
comp=Z,2.2nm,0.4s,baz=95,slow=7.6,SNR=15
HAMF Hammerfest 89.98 341 *eP* **P 03 08 35.0 -1.1**
INK Inuvik 90.01 21 P **P 03 08 36.3 0.0**
comp=Z,1.3nm,0.8s,baz=140,slow=7.4,SNR=2.3
INK pP **pP 03 09 14.9 -1.9**
comp=Z,4.2nm,1.0s,baz=289,slow=9.2,SNR=4.3
KTK1 Kautokeino 90.50 339 *eP* **P 03 08 37.8 -0.8**
AKASG Malin Array Be 90.85 321 P **P 03 08 38.9 -1.7**
comp=Z,0.2nm,0.3s,baz=70,slow=3.5,SNR=5.4
AKASG Malin Array Be 90.85 321 IAmb IAmb 03 08 40.9
comp=Z,1.7nm,1.2s
WHY Whitehorse 90.88 29 IAmb IAmb 03 08 42.7
comp=Z,5.0nm,0.8s
FINES FINESS Array B 90.89 332 P **P 03 08 39.0 -1.6**
comp=Z,1.9nm,0.6s,baz=50,slow=4.4,SNR=17
JETT Jettan, Norway 91.34 340 *eP* **P 03 08 41.7 -0.9**
TRO Tromso 91.81 340 *eP* **P 03 08 43.5 -1.2**
STEI Steigen 93.64 339 *eP* **P 03 08 51.7 -1.3**
DLBC Dease Lake 93.77 31 P **P 03 08 53.9 -0.1**
comp=Z,2.6nm,0.8s,baz=283,slow=11,SNR=3.7
DLBC Dease Lake 93.77 31 IAmb IAmb 03 09 04.5
comp=Z,6.0nm,1.2s
FAUS Fauske 93.81 339 *eP* **P 03 08 52.6 -1.3**
BURAR Bucovina Array 93.94 318 P **P 03 08 53.7 -1.5**
LOF Lofoten 94.16 340 *eP* **P 03 08 55.1 -0.3**
QSPA South Pole Qui 94.18 180 P **P 03 08 55.7 -0.1**
comp=Z,11nm,0.7s,baz=287,slow=0.8,SNR=65
QSPA South Pole Qui 94.18 180 P **P 03 08 56.0 +0.2**
NSS Namsos 96.15 337 *eP* **P 03 09 03.8 -0.8**
NC602 NORSAR Array S 97.84 333 *eP* **P 03 09 11.4 -0.9**
NB2 NORSAR Subarra 97.86 333 P **P 03 09 10.6 -1.9**
baz=67,slow=4.6
NOA NORSAR Array B 97.86 333 P **P 03 09 11.0 -1.5**
comp=Z,2.0nm,0.7s,baz=66,slow=4.5,SNR=11
KONO Kongsberg 99.17 333 *ePdif* **Pdif 03 09 17.8 -0.5**
SKAR Skarslia 99.31 334 *ePdif* **Pdif 03 09 18.4 -0.6**
YKA Yellowknife Ar 99.40 24 P **Pdif 03 09 19.8 +0.5**
comp=Z,0.2nm,0.4s,baz=299,slow=4.7,SNR=4.9
YKA pP **pP 03 09 58.1 -2.0**
comp=Z,0.8nm,0.7s,baz=302,slow=4.8,SNR=3.4
BLS5 Blasjo 100.71 333 *ePdif* **Pdif 03 09 24.2 -1.0**
NVAR Mina Array Bea 107.26 48 PKiKP **PKiKP 03 14 04.5 +1.2**
comp=Z,0.5nm,0.8s,baz=193,slow=2.9,SNR=4.1
NVAR PKKPbc **PKKPbc 03 25 20.3 -0.5**
comp=Z,0.5nm,0.6s,baz=123,slow=4.6,SNR=5.8
NVAR PKKPab **PKKPdf 03 25 34.3 +1.2**
comp=Z,0.9nm,0.7s,baz=132,slow=4.5,SNR=7.5
KEST Kesra 108.53 310 PKKPbc PKKPbc 03 25 16.7 +0.1
comp=Z,1.7nm,0.6s,baz=205,slow=4.2,SNR=4.1
PDAR Pinedale Array 111.58 41 PKiKP **PKiKP 03 14 11.4 +0.1**
comp=Z,0.4nm,0.5s,baz=166,slow=4.4,SNR=4.1
PDAR PKKPab **PKKPab 03 25 14.4 -2.2**
comp=Z,0.8nm,0.6s,baz=121,slow=7.6,SNR=8.4
ESDC Sonseca Array 116.40 318 PKP **PKiKP 03 14 20.5 +0.1**
comp=Z,0.2nm,0.4s,baz=21,slow=2.8,SNR=1.7
ESDC Sonseca Array 116.40 318 **PKPdf 03 14 19.8 -0.6**
SCHQ Schefferville 120.17 8 PKP **PKPdf 03 14 27.2 +0.1**
comp=Z,2.7nm,0.4s,baz=271,slow=2.6,SNR=8.1
TORD Torodi Ar. Bea 121.82 288 PKP **PKPdf 03 14 30.9 -0.4**
comp=Z,5.1nm,0.7s,baz=67,slow=1.9,SNR=12
TORD SKP 03 17 50.9
comp=Z,1.0nm,1.1s,baz=78,slow=1.0,SNR=3.5
TORD PKKPbc **PKKPab 03 24 31.8 +0.6**
comp=Z,0.7nm,0.8s,baz=238,slow=2.5,SNR=4.4
TXAR Lajitas Array 122.03 51 PKP **PKiKP 03 14 32.3 +0.6**
comp=Z,1.2nm,0.7s,baz=228,slow=1.3,SNR=17
TXAR pPKP **pPKPdf 03 15 12.8 -1.8**
comp=Z,0.5nm,0.8s,baz=256,slow=0.5,SNR=3.2
TXAR PKKPbc **PKKPbc 03 24 29.5 -0.4**
comp=Z,0.1nm,0.5s,baz=126,slow=6.5,SNR=3.7
PLCA Paso Flores 140.85 160 PKhKP PKPpre 03 15 01.8
comp=Z,2.4nm,0.8s,baz=214,slow=3.5,SNR=4.9
PLCA PKP **PKiKP 03 15 08.1 -1.2**
comp=Z,3.8nm,0.7s,baz=214,slow=5.1,SNR=6.4
ACON Acoyapa 145.27 62 PKPbc **PKPab 03 15 16.0 +0.6**
TRQA Tornquist 145.65 169 PKPbc **PKPbc 03 15 15.6 -0.1**
BO01 Tunca 146.20 154 PKPbc **PKPbc 03 15 17.8 +0.4**
MT01 Popeta 146.58 154 PKPbc **PKPbc 03 15 18.5 0.0**
MT05 Renca 147.20 154 PKPbc **PKPdf 03 15 18.7 +0.8**
RIMA Rio Macho 147.36 65 PKPbc **PKPbc 03 15 21.9 +0.4**
VA03 San Esteban 147.82 154 PKPbc **PKPbc 03 15 22.7 +0.6**
CO02 Combarbal 148.92 151 PKPbc **PKPbc 03 15 25.0 0.0**
CO03 El Pedregal 149.37 151 PKPbc **PKPbc 03 15 26.0 -0.1**
ZON Zonda 149.67 155 PKPbc **PKPbc 03 15 27.0 +0.2**
GO04 Tololo Observa 149.87 151 PKPbc **PKPbc 03 15 27.6 0.0**
CPUP Villa Florida 157.88 173 PKP **PKPdf 03 15 33.2 -0.3**
comp=Z,4.1nm,1.1s,baz=191,slow=2.4,SNR=3.8
CPUP PKPab **PKPab 03 16 08.4 +1.4**
comp=Z,9.7nm,0.8s,baz=182,slow=3.7,SNR=18
CPUP Villa Florida 157.88 173 PKPab **PKPab 03 16 07.9 +0.9**
LPAZ La Paz 161.88 132 PKP **PKPdf 03 15 40.7 +1.6**
comp=Z,1.8nm,0.7s,baz=248,slow=5.3,SNR=6.5

*VAO **26** 03:01:56.2₀0.6, 10°.94N×62°.70W, h10^{km}, mb4.4*
*NEIC **26** 03:02:05.9±1.9, 11°.05N±0°.04×62°.42W±0°.07, h116^{km}±7^{km}, mb4.2/20, Mwr4.0(CAR), Error ellipse: s-maj=9.6km s-min=5.6km az=107.0*
*IDC **26** 03:02:06.6±0.6, 11°.08N×62°.58W, h122^{km}±6^{km}, mb3.8/16, mb1 3.9/17, mb1mx3.7/45, mbtmp4.2/17, Error ellipse: s-maj=12.0km s-min=8.6km az=136.0*
*FUNV **26** 03:02:06.2, 10°.96N×62°.40W, h104^{km}, MW4.0*
*TRN **26** 03:02:06.3, 10°.99N×62°.55W, h64^{km}, MD4.4*
*CAR **26** 03:02:06.1±2.4, 10°.96N±0°.07×62°.40W±0°.06, h105^{km}±5^{km}, Error ellipse: s-maj=10.4km s-min=6.7km az=144.0*
ISC 26 03:02:05.6±0.5,**10°.99N**±0°.03×**62°.49W**±0°.03,**h114**^{km}±4^{km}, **n151**,σ1§**88**/184,**mb4.2**/20,**2C-1D**,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.79**	**247**	*i*	*P*	**Pn**	**03 02 25.2**	**+0.1**
CRUV					*eS*	**Sn**	**03 02 38.6**	**-1.2**
TRN	**Trinidad (W)**	**1.12**	**107**	*i*	*P*	**Pn**	**03 02 27.7**	**-0.6**
TRN					*eS*	**Sn**	**03 02 42.4**	**-3.1**
TRN	**Trinidad (W)**	**1.12**	**107**		*eP*	**Pn**	**03 02 27.3**	**-1.0**
TRN					*eS*	**Sn**	**03 02 41.7**	**-3.8**
TPP	**Pointe-a-Pierr**	**1.22**	**123**		*eP*	**Pn**	**03 02 29.6**	**+0.2**
GRGR	**Grenville**	**1.40**	**36**		*eP*	**Pn**	**03 02 31.0**	**-0.5**
GRGR					*eS*	**Sn**	**03 02 48.8**	**-2.4**
GRGR	**Grenville**	**1.40**	**36**			**Pn**	**03 02 30.9**	**-0.6**
GRGR	**Grenville**	**1.40**	**36**		*eP*	**Pn**	**03 02 31.0**	**-0.5**
GRGR					*eS*	**Sn**	**03 02 48.0**	**-3.2**
TBH	**Brigand Hill**	**1.49**	**109**		*eP*	**Pn**	**03 02 33.1**	**+0.7**
TBH					*eS*	**Sn**	**03 02 49.9**	**-3.0**
TPR	**Prospect**	**1.69**	**83**		*eP*	**Pn**	**03 02 35.4**	**+0.4**
TPR					*eS*	**Sn**	**03 02 55.9**	**-1.4**
BOT	**Bacolet**	**1.75**	**84**	*i*	*P*	**Pn**	**03 02 35.8**	**+0.2**
GCMP	**Grenada, Carri**	**1.82**	**35**	*i*	*P*	**Pn**	**03 02 36.0**	**-0.5**
GCMP					*eS*	**Sn**	**03 02 57.6**	**-2.5**
TOSP	**Speyside**	**1.94**	**81**		*eP*	**Pn**	**03 02 36.8**	**-1.3**
TOSP					*eS*	**Sn**	**03 03 00.9**	**-2.0**
TOSP	**Speyside**	**1.94**	**81**			**Pn**	**03 02 36.7**	**-1.3**
TOSP	**Speyside**	**1.94**	**81**		*eP*	**Pn**	**03 02 36.5**	**-1.5**
TOSP					*eS*	**Sn**	**03 02 59.2**	**-3.6**
PLCV	**Puerto La Cruz**	**2.22**	**249**			**Pn**	**03 02 43.2**	**+1.7**
PLCV						**Sn**	**03 03 09.8**	**+0.7**
PCRV	**Puerto La Cruz**	**2.26**	**249**		P	**Pn**	**03 02 43.2**	**+1.1**
	119nm,0.3s,baz=58,slow=5.0,SNR=354							
PCRV					S	**Sn**	**03 03 09.8**	**-0.2**
	99nm,0.3s,baz=48,slow=12,SNR=22							
PCRV	**Puerto La Cruz**	**2.26**	**249**		*eP*	**Pn**	**03 02 41.9**	**-0.1**
PCRV					*eS*	**Sn**	**03 03 08.7**	**-1.4**
SVOC	**Richmond Hill,**	**2.49**	**30**		*eP*	**Pn**	**03 02 44.3**	**-0.7**
SVB	**Belmont**	**2.58**	**28**		*eP*	**Pn**	**03 02 45.6**	**-0.6**
SVB					*eS*	**Sn**	**03 03 16.4**	**-0.9**
SVB	**Belmont**	**2.58**	**28**	Pn		**Pn**	**03 02 45.4**	**-0.7**
SVV	**Soufriere Volc**	**2.63**	**28**		*eP*	**Pn**	**03 02 47.3**	**+0.4**
SSV	**Crater Summit**	**2.65**	**28**		*eP*	**Pn**	**03 02 47.8**	**+0.6**
RIOV	**Rio Grande**	**2.98**	**167**		*eP*	**Pn**	**03 02 50.7**	**-0.7**
RIOV					*eS*	**Sn**	**03 03 22.5**	**-4.2**
PRGV	**PARIAGUAN**	**3.06**	**224**		*eP*	**Pn**	**03 02 52.4**	**-0.2**
PRGV					*eS*	**Sn**	**03 03 26.4**	**-2.4**
MCLT	**Moule a Chique**	**3.10**	**29**		*eP*	**Pn**	**03 02 52.6**	**-0.4**
MCLT					*eS*	**Sn**	**03 03 27.7**	**-2.0**
MCLT	**Moule a Chique**	**3.10**	**29**			**Pn**	**03 02 52.0**	**-1.1**
SLDE	**Delcer**	**3.13**	**26**		*eP*	**Pn**	**03 02 53.5**	**0.0**
SLDE					*eS*	**Sn**	**03 03 28.4**	**-2.0**
SLB	**Belfond**	**3.16**	**26**		*eP*	**Pn**	**03 02 54.3**	**+0.4**
SLB					*eS*	**Sn**	**03 03 30.0**	**-1.2**
SLPA	**Patience**	**3.24**	**28**		*i P*	**Pn**	**03 02 55.5**	**+0.7**
SLPA					*eS*	**Sn**	**03 03 32.5**	**-0.4**
SLBI	**Saint Lucia, B**	**3.36**	**26**		*eP*	**Pn**	**03 02 56.1**	**-0.4**
SLBI					*eS*	**Sn**	**03 03 35.4**	**-0.5**
SLW	**Petit Monier**	**3.38**	**27**		*eS*	**Sn**	**03 03 35.6**	**-0.6**
BCHC	**Barbados, Cave**	**3.52**	**52**		*eP*	**Pn**	**03 03 00.2**	**+1.6**
BCHC					*eS*	**Sn**	**03 03 39.2**	**-0.4**
BBGH	**Gun Hill**	**3.58**	**53**		*eP*	**Pn**	**03 03 00.5**	**+1.0**
BBGH					*eS*	**Sn**	**03 03 41.0**	**-0.1**
BBGH	**Gun Hill**	**3.58**	**53**	Pn		**Pn**	**03 02 57.2**	**-2.2**
BBSP	**Saint Philip**	**3.64**	**54**		*eP*	**Pn**	**03 03 01.8**	**+1.7**
BIRV	**Birongo**	**3.75**	**263**		*eP*	**Pn**	**03 03 02.2**	**+0.6**
BIRV					*eS*	**Sn**	**03 03 42.6**	**-2.5**
BIM	**Bigot**	**3.77**	**21**	*i*	*P*	**Pn**	**03 03 01.9**	**-0.1**
BIM					*eS*	**Sn**	**03 03 44.7**	**-1.0**
BIM	**Bigot**	**3.77**	**21**	Pn		**Pn**	**03 03 01.5**	**-0.6**
MPOM	**Morne Pois Mar**	**3.79**	**25**		*eP*	**Pn**	**03 03 03.1**	**+0.9**
MPOM					*eS*	**Sn**	**03 03 44.7**	**-1.4**
MPOM	**Morne Pois Mar**	**3.79**	**25**			**Pn**	**03 03 00.9**	**-1.3**
FDF	**Fort de France**	**3.95**	**19**		*eP*	**Pn**	**03 03 04.1**	**-0.2**
FDF					*eS*	**Sn**	**03 03 47.8**	**-2.2**
FDF	**Fort de France**	**3.95**	**19**			**Pn**	**03 03 03.4**	**-1.0**
ILAM	**Ilet Lapin Mar**	**4.08**	**23**		*eP*	**Pn**	**03 03 06.3**	**+0.2**
MERV	**Las Mercedes**	**4.12**	**246**		*eP*	**Pn**	**03 03 06.5**	**-0.2**
MERV					*eS*	**Sn**	**03 03 52.1**	**-2.0**
TACV	**Tcata**	**4.54**	**260**		*eP*	**Pn**	**03 03 12.5**	**+0.2**
TACV					*eS*	**Sn**	**03 04 01.6**	**-2.6**
DSLB	**Salisbury**	**4.55**	**13**		*eP*	**Pn**	**03 03 14.0**	**+1.6**
TDBA	**Terre de Bas,**	**4.91**	**10**		*eP*	**Pn**	**03 03 19.9**	**+2.7**
TBG	**Guadaloupe-3**	**4.91**	**10**		*eP*	**Pn**	**03 03 19.1**	**+1.9**
MAGL	**Barre de l'ile**	**5.07**	**13**		*eP*	**Pn**	**03 03 20.3**	**+0.8**
BENV	**Beln**	**5.12**	**259**	‖	*eP*	**Pn**	**03 03 20.0**	**-0.3**
BENV					*eS*	**Sn**	**03 04 14.6**	**-3.8**
CBE	**Ff, Capester**	**5.13**	**10**		*eP*	**Pn**	**03 03 20.9**	**+0.7**
CBE	**Ff, Capester**	**5.13**	**10**		*eS*	**Sn**	**03 04 15.8**	**-2.5**
CACV	**CAICARA DEL OR**	**5.25**	**230**		*eP*	Pn	03 03 15.9	-5.9
CACV					*eS*	Sn	03 04 08.4	-13
ABD	**La Joyeuse, An**	**5.54**	**10**		*eP*	**Pn**	**03 03 28.7**	**+2.9**
ABD	**La Joyeuse, An**	**5.54**	**10**		*eS*	**Sn**	**03 04 25.5**	**-2.4**
BAUV	**El Baul**	**5.83**	**250**		*eP*	**Pn**	**03 03 28.8**	**+0.9**
BAUV	**El Baul**	**5.83**	**250**		*eS*	**Sn**	**03 04 31.8**	**-3.6**
BPA	**Boggy Peak**	**6.06**	**6**		*eP*	**Pn**	**03 03 34.5**	**+1.8**
ANBD	**Bethesda, Anti**	**6.07**	**7**		*eP*	**Pn**	**03 03 33.6**	**+0.7**
NVBH	**Bath Hotel, Ne**	**6.10**	**359**		*eP*	**Pn**	**03 03 35.7**	**+2.4**
ANDO	**Antigua, Disas**	**6.12**	**6**		*e*	**Pn**	**03 03 35.2**	**+1.5**
ANOC	**Antigua Open C**	**6.13**	**6**		*eP*	**Pn**	**03 03 35.9**	**+2.2**
TEPV	**Terepaima**	**6.67**	**262**		*eP*	**Pn**	**03 03 40.9**	**-0.2**
TEPV					*eS*	**Sn**	**03 04 49.8**	**-5.9**
ANWB	**Willy Bob**	**6.68**	**6**		*eP*	**Pn**	**03 03 42.5**	**+1.3**
CDVI	**St. Croix**	**7.08**	**342**		*eP*	**Pn**	**03 03 47.1**	**+0.6**
CDVI	**St. Croix**	**7.08**	**342**	Pn		**Pn**	**03 03 46.7**	**+0.1**
STVI	**Saint Thomas**	**7.70**	**342**	Pn		**Pn**	**03 03 54.7**	**-0.3**
SJG	**San Juan**	**7.92**	**334**		P	Pn	03 03 54.2	-3.8
	1.4nm,0.3s,baz=1.2,slow=18,SNR=2.2							
SJG					S	**Sn**	**03 05 19.4**	**-6.6**
	2.7nm,0.3s,baz=310,slow=19,SNR=3.5							
GCPR	**Guaynabo City**	**8.07**	**335**	Pn		**Pn**	**03 03 59.0**	**-0.9**
SDV	**Santo Domingo**	**8.29**	**256**		S	**Sn**	**03 05 30.1**	**-5.2**
	15nm,0.3s,baz=14,slow=6.9,SNR=2.1							
AOPR	**Arecibo Observ**	**8.40**	**331**		*eP*	**Pn**	**03 04 05.8**	**+1.3**
MDP	**Montagnes des**	**11.37**	**120**		P	**Pn**	**03 04 39.9**	**-4.7**
	12nm,0.3s,baz=319,slow=16,SNR=88							
MDP					S	Sn	03 06 38.5	-11
	23nm,0.3s,baz=32,slow=12,SNR=18							
BARC	**Barichara**	**11.43**	**248**		*eP*	**Pn**	**03 04 43.6**	**-2.1**
SDDR	**Presa de Saban**	**11.63**	**314**		*e*	**Pn**	**03 04 51.4**	**+3.2**
SDDR	**Presa de Saban**	**11.63**	**314**			**Pn**	**03 04 48.9**	**+0.7**
PTGA	**Pitinga**	**11.91**	**168**		P	**Pn**	**03 04 49.5**	**-2.3**
	6.2nm,0.3s,baz=347,slow=15,SNR=86							
PTGA					S	Sn	03 06 53.1	-10
	5.9nm,0.3s,baz=81,slow=15,SNR=9.9							
PTGA	**Pitinga**	**11.91**	**168**			**Pn**	**03 04 49.8**	**-2.0**
SJCC	**San Jacinto, C**	**12.53**	**266**	Pn		**Pn**	**03 05 01.2**	**+1.3**
ZARC	**Zaragoza, Cauc**	**12.69**	**255**		*eP*	**Pn**	**03 05 02.0**	**-0.1**
VILC	**Villavicencio,**	**13.03**	**239**		*eP*	**P**	**03 05 14.5**	**+1.8**
ROSC	**El Rosal**	**13.21**	**243**		P	Pn	03 05 05.1	-4.1
	1.5nm,0.3s,baz=36,slow=21,SNR=2.0							
ROSC					S	**Sn**	**03 07 30.7**	**-4.2**
	1.3nm,0.3s,baz=98,slow=22,SNR=1.7							
NORC	**Norcasia**	**13.38**	**247**		*eP*	**P**	**03 05 17.4**	**+0.9**
HELC	**Santa Helena**	**13.74**	**251**		*eP*	**Pn**

CPUP	**Villa Florida**	**37.43**	**172**	IAmb	IAmb	03 09 08.7		
	comp=Z,3.6nm,0.9s							
P40A	**Paris**	**38.68**	**322**	P	**P**	**03 09 17.0**	**-1.2**
P40A				IAmb	IAmb	03 09 18.4		
	comp=Z,4.0nm,0.8s							
TXAR	**Lajitas Array**	**42.47**	**302**	P	**P**	**03 09 49.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=127,slow=10,SNR=15							
TXAR				pP	**pP**	**03 10 17.8**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=105,slow=9.2,SNR=3.7							
TXAR				PcP	**PcP**	**03 11 39.8**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=119,slow=5.7,SNR=10							
TXAR	**Lajitas Array**	**42.47**	**302**	P	**P**	**03 09 48.9**	**-0.8**
TX31	**Lajitas Ar. Si**	**42.47**	**302**	P	**P**	**03 09 50.0**	**+0.3**
TX31				IAmb	IAmb	03 10 04.7		
	comp=Z,12nm,1.5s							
F33A	**5 Mile Ranch,**	**45.11**	**327**	P	**P**	**03 10 08.3**	**-2.2**
F33A				IAmb	IAmb	03 10 11.1		
	comp=Z,4.1nm,1.2s							
ANMO	**Albuquerque**	**46.48**	**308**	P	**P**	**03 10 21.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=33,slow=5.5,SNR=2.1							
PD31	**Pinedale Array**	**51.64**	**317**	P	**P**	**03 10 60.0**	**-1.0**
PD31				IAmb	IAmb	03 11 00.6		
	comp=Z,2.7nm,1.4s							
PDAR	**Pinedale Array**	**51.64**	**317**	P	**P**	**03 10 59.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=118,slow=9.4,SNR=6.9							
PDAR				pP	**pP**	**03 11 28.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=110,slow=8.5,SNR=2.7							
PDAR	**Pinedale Array**	**51.64**	**317**	P	**P**	**03 10 59.0**	**-1.9**
PLCA	**Paso Flores**	**51.99**	**188**	P	**P**	**03 11 03.8**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=5.7,slow=9.4,SNR=13							
PLCA	**Paso Flores**	**51.99**	**188**	P	**P**	**03 11 02.1**	**-1.2**
DLMT	**Dillon**	**54.67**	**318**	P	**P**	**03 11 22.0**	**-1.0**
ISA	**Isabella, Lake**	**56.14**	**306**	P	**P**	**03 11 33.1**	**-0.5**
ISA				IAmb	IAmb	03 11 34.8		
	comp=Z,5.1nm,1.5s							
ESDC	**Sonseca Array**	**58.93**	**50**	P	**P**	**03 11 52.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=262,slow=7.2,SNR=6.2							
ESDC				pP	**pP**	**03 12 23.0**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=266,slow=7.3,SNR=4.9							
ESDC				PcP	**PcP**	**03 12 41.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=293,slow=4.0,SNR=2.7							
ESDC	**Sonseca Array**	**58.93**	**50**	P	**P**	**03 11 51.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**62.66**	**81**	P	**P**	**03 12 19.1**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=287,slow=6.8,SNR=52							
TORD	**Torodi Ar. Bea**	**62.66**	**81**	IAmb	IAmb	03 12 43.6		
	comp=Z,5.1nm,1.2s							
NOA	**NORSAR Array B**	**72.57**	**29**	P	**P**	**03 13 21.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=236,slow=6.7,SNR=2.0							
ILAR	**Eielson Array**	**77.75**	**334**	P	**P**	**03 13 48.0**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=99,slow=4.7,SNR=6.8							
ILAR				pP	**pP**	**03 14 19.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=95,slow=5.3,SNR=2.8							
FINES	**FINESS Array B**	**79.76**	**29**	P	**P**	**03 14 00.7**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=268,slow=4.1,SNR=4.4							
BRTR	**Keskin Array B**	**87.73**	**50**	P	**P**	**03 14 42.7**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=283,slow=6.6,SNR=2.5							
MKAR	**Makanchi Array**	**114.43**	**26**	PKP	**PKiKP**	**03 20 31.9**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=309,slow=3.0,SNR=2.0							
WRA	**Warramunga Arr**	**161.51**	**239**	PKP	**PKPdf**	**03 21 52.0**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=131,slow=0.8,SNR=1.7							

*TAP **26** 03:04:10.2,24°.61N×122°.29E,h7km±1km,ML2.7,C*
*JMA **26** 03:04:11.3,24°.54N×122°.32E,h27km±3km,M2.3*
ISC 26 03:04:09.2±1.1,24°.63N±0°.03×122°.40E±0°.02,h7km±10km, n42,σ0°.54/74,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.48**	**297**	*eP*	**Pg**	**03 04 18.1**	**-0.4**
	baz=305						
TWC	**Suao**	**0.50**	**268**	*i* P	**Pg**	**03 04 18.6**	**-0.3**
	baz=269						
TWC				S	**Sg**	**03 04 25.6**	**+0.1**
	baz=269						
TWB1	**Santiao Chiao**	**0.53**	**315**	P	**Pb**	**03 04 20.5**	**-0.4**
	baz=325						
TWB1				*eS*	**Sb**	**03 04 28.0**	**-0.7**
	baz=325						
NTC	**Toucheng**	**0.57**	**293**	*eP*	**Pb**	**03 04 21.1**	**-0.3**
	baz=299						
NTC				*eS*	**Sb**	**03 04 29.5**	**-0.2**
	baz=299						
YOJ	**Yonaguni jima**	**0.58**	**107**	P	**Pn**	**03 04 23.4**	**-0.5**
YOJ				*eS*	**Sn**	**03 04 32.8**	**-0.8**
YOJ	**Yonaguni jima**	**0.58**	**107**	*eP*	**Pn**	**03 04 23.4**	**-0.5**
	baz=102						
YOJ				*eS*	**Sn**	**03 04 34.1**	**+0.5**
	baz=102						
EWUT	**Wuta**	**0.60**	**252**	*eP*	**Pg**	**03 04 20.9**	**+0.2**
	baz=250						
EWUT				*eS*	**Sg**	**03 04 28.8**	**+0.3**
	baz=250						
NDS	**Dongshan**	**0.62**	**270**	*eP*	**Pg**	**03 04 21.5**	**+0.2**
	baz=272						
NDS				*eS*	**Sg**	**03 04 29.5**	**0.0**
	baz=272						
TIPB	**Shuangxi**	**0.62**	**303**	*eP*	**Pb**	**03 04 22.2**	**-0.3**
	baz=310						
TIPB				*eS*	**Sb**	**03 04 30.7**	**-0.8**
	baz=310						
TWE	**Neicheng**	**0.68**	**278**	P	**Pg**	**03 04 22.2**	**0.0**
	baz=280						
TWE				*eS*	**Sg**	**03 04 31.1**	**+0.1**
	baz=280						
NWF	**Wu-fen Shan**	**0.71**	**308**	*eP*	**Pn**	**03 04 25.3**	**-0.6**
	baz=314						
NWF				*eS*	**Sb**	**03 04 34.8**	**+0.6**
	baz=314						
WFSB	**Wu-fen Shan**	**0.71**	**308**	*eP*	**Pn**	**03 04 25.3**	**-0.5**
	baz=314						
WFSB				*eS*	**Sb**	**03 04 34.7**	**+0.7**
	baz=314						
ENTT	**Nioudou**	**0.76**	**271**	P	**Pb**	**03 04 24.8**	**0.0**
	baz=272						
ENTT				*eS*	**Sg**	**03 04 34.4**	**+0.6**
	baz=272						
NDT	**Datong Townshi**	**0.81**	**268**	*eP*	**Pg**	**03 04 25.6**	**+0.8**
	baz=269						
NDT				*eS*	**Sg**	**03 04 35.5**	**+0.2**
	baz=269						
TWA	**Mucha**	**0.82**	**295**	*eP*	**Pn**	**03 04 27.1**	**-0.2**
	baz=299						
TWA				*eS*	**Sg**	**03 04 35.9**	**+0.2**
	baz=299						
NWLT	**Wulai**	**0.83**	**280**	*eP*	**Pg**	**03 04 25.3**	**+0.1**
	baz=282						
NWLT				S	**Sg**	**03 04 36.2**	**+0.2**
	baz=282						
NACB	**Ninganchiao**	**0.87**	**238**	*eP*	**Pg**	**03 04 25.4**	**-0.5**
	baz=235						
NACB				*eS*	**Sg**	**03 04 35.1**	**-2.0**
	baz=235						
TATO	**Taipei**	**0.90**	**293**	*eP*	**Pb**	**03 04 27.5**	**+0.4**
	baz=296						
TATO				*eS*	**Sg**	**03 04 38.3**	**+0.1**
	baz=296						
YM01	**YM01**	**0.91**	**304**	*eP*	**Pn**	**03 04 28.5**	**0.0**
	baz=308						
YM01				*eS*	**Sb**	**03 04 40.1**	**+0.3**
	baz=308						
TWD	**Chiawan**	**0.92**	**233**	*eP*	**Pn**	**03 04 28.3**	**-0.2**
	baz=229						
TWD				*eS*	**Sn**	**03 04 41.4**	**-0.6**
	baz=229						
YHNB	**Yeheng**	**0.94**	**273**	*eP*	**Pg**	**03 04 27.5**	**+0.3**
	baz=273						
YHNB				*eS*	**Sg**	**03 04 39.4**	**0.0**
	baz=273						
ETLH	**Xiulin Townshi**	**0.94**	**243**	*eP*	**Pg**	**03 04 27.7**	**+0.5**
	baz=241						
ETLH				*eS*	**Sg**	**03 04 39.3**	**-0.2**
	baz=241						
NNSB	**Datong**	**0.95**	**258**	*eP*	**Pg**	**03 04 27.7**	**+0.2**
	baz=257						
NNSB				*eS*	**Sg**	**03 04 40.0**	**+0.2**
	baz=257						
NNSH	**Datong**	**0.95**	**258**	*eP*	**Pg**	**03 04 27.3**	**-0.2**
	baz=257						
NNSH				*eS*	**Sg**	**03 04 39.3**	**-0.6**
	baz=257						
NNS	**Nan Shan**	**0.96**	**259**	*eP*	**Pg**	**03 04 28.2**	**+0.6**
	baz=258						
NNS				*eS*	**Sg**	**03 04 39.8**	**-0.3**
	baz=258						
FUSS	**Fushou**	**1.12**	**250**	*eP*	**Pg**	**03 04 31.2**	**+0.4**
	baz=249						
WHF	**Hehuan Shan**	**1.14**	**245**	*eP*	**Pg**	**03 04 31.6**	**+0.4**
	baz=243						
WHF				*eS*	**Sg**	**03 04 45.6**	**-0.5**
	baz=243						
TWT	**Tachien**	**1.18**	**252**	*eS*	**Sg**	**03 04 47.1**	**-0.1**
	baz=250						
ESL	**Shilin**	**1.20**	**228**	*eP*	**Pn**	**03 04 32.1**	**-0.4**
	baz=224						
IRIF	**Iriomote-Funau**	**1.25**	**103**	P	**Pg**	**03 04 33.7**	**+0.6**
IRIF				*eS*	**Sn**	**03 04 50.9**	**+0.8**
CHGB	**Renai**	**1.26**	**243**	*eP*	**Pn**	**03 04 33.5**	**+0.1**
	baz=241						
CHGB				*eS*	**Sg**	**03 04 50.6**	**+0.9**
	baz=241						
LIOB	**Emei**	**1.26**	**271**	*eP*	**Pg**	**03 04 35.3**	**+1.9**
	baz=271						
LIOB				*eS*	**Sn**	**03 04 50.7**	**+0.2**
	baz=271						
NSTT	**Nanjuang**	**1.27**	**270**	*eP*	**Pg**	**03 04 34.0**	**+0.3**
	baz=270						
NSTT				*eS*	**Sb**	**03 04 50.2**	**+0.1**
	baz=270						
WHP	**Taichung City**	**1.37**	**255**	*eP*	**Pg**	**03 04 36.4**	**+0.8**
	baz=254						
WHP				*eS*	**Sb**	**03 04 53.0**	**0.0**
	baz=254						
HGSD	**Ruisui**	**1.44**	**218**	*eP*	**Pn**	**03 04 36.2**	**+0.4**
	baz=215						
JKRS	**Kuro-shima**	**1.52**	**105**	*eS*	**Sg**	**03 04 58.1**	**+0.1**
SMLT	**Sun Moon Lake**	**1.56**	**242**	*eP*	**Pb**	**03 04 38.4**	**-0.1**
	baz=240						
TYC	**Yuchr**	**1.58**	**243**	*eP*	**Pg**	**03 04 39.9**	**+0.2**
	baz=241						
YULB	**Yu-li**	**1.59**	**220**	*eP*	**Pn**	**03 04 38.3**	**+0.4**
	baz=216						
JIJ	**Ishigaki jima**	**1.61**	**99**	P	**Pb**	**03 04 39.5**	**+0.2**
JIJ				*eS*	**Sb**	**03 04 59.9**	**+0.1**
JISG	**Ishigakijimahi**	**1.74**	**91**	P	**Pb**	**03 04 41.3**	**-0.2**
JISG				S	**Sg**	**03 05 04.4**	**-0.7**
ALS	**Alishan**	**1.84**	**233**	*eP*	**Pb**	**03 04 43.0**	**-0.3**
	baz=230						

*IDC **26** 03:08:00.7±2.8,17°.09S×179°.06W,h553km±18km,mb3.2/4, mb1 3.4/6,mb1mx3.0/30,mbtmp4.1/6,Error ellipse: s-maj=102.4km s-min=26.5km az=140.0*
ISC 26 03:08:00.7±3.0,16°.9S±0°.8×179°.2W±0°.7,h550km,n7, σ0°.38/9,mb3.9/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.78**	**252**	P	**P**	**03 09 15.3**	**+0.8**
	2.7nm,0.3s,baz=111,slow=8.6,SNR=12						
DZM	**Mont Dzumac**	**14.50**	**247**	P	**P**	**03 11 04.9**	**-0.3**
	0.2nm,0.3s,baz=264,slow=16,SNR=2.0						
STKA	**Stephens Creek**	**38.49**	**240**	P	**P**	**03 14 35.9**	**-0.3**
	1.5nm,0.4s,baz=87,slow=10,SNR=9.4						
WRA	**Warramunga Arr**	**44.10**	**259**	P	**P**	**03 15 20.8**	**0.0**
	0.9nm,0.3s,baz=95,slow=8.3,SNR=24						
WRA				PcP	**PcP**	**03 16 53.8**	**-0.1**
	1.0nm,0.9s,baz=87,slow=2.8,SNR=2.8						
ASAR	**Alice Springs**	**44.37**	**253**	P	**P**	**03 15 23.1**	**+0.2**
	11nm,0.4s,baz=89,slow=8.1,SNR=169						
ASAR				PcP	**PcP**	**03 16 54.6**	**-0.2**
	0.3nm,0.4s,baz=115,slow=3.7,SNR=2.5						
ILAR	**Eielson Array**	**85.07**	**13**	P	**P**	**03 19 38.0**	**-0.2**
	0.2nm,0.6s,baz=235,slow=3.2,SNR=1.9						
GERES	**GERESS Array B**	**146.44**	**345**	PKPbc	**PKPbc**	**03 26 40.5**	**0.0**
	0.2nm,0.3s,baz=31,slow=5.9,SNR=2.1						

ROM 26 03:28:12.2±0.1,41°.93N±0°.01×14°.051E±0°.010,h10km±1km, ML1.2/6,5C,Error ellipse: s-maj=1.2km s-min=0.8km az=8.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTR	**Introdacqua**	**0.14**	**307**	↑P	Pg	03 28 16.2	+0.8
INTR				S	Sg	03 28 19.0	+1.3
INTR				AML	AML		
	comp=E,200μm,0.7s						
INTR				AML	AML		
	comp=N,234μm,0.6s						
LPEL	**Lama dei Pelig**	**0.15**	**40**	↑P	Pg	03 28 15.8	+0.2
LPEL				S	Sg	03 28 18.3	+0.3
LPEL				AML	AML		
	comp=E,376μm,0.8s						
LPEL				AML	AML		
	comp=N,414μm,0.1s						
RNI2	**Rionero Sannit**	**0.24**	**162**	P	Pg	03 28 18.9	+1.7
MIDA	**Miranda**	**0.33**	**152**	P	Pg	03 28 19.3	+0.6
MIDA				S	Sb	03 28 25.1	-0.5
MIDA				AML	AML		
	comp=E,48μm,1.1s						
MIDA				AML	AML		
	comp=N,54μm,1.6s						
VVLD	**Villa Vallelon**	**0.33**	**260**	↑P	Pg	03 28 19.1	+0.4
VVLD				S	Sg	03 28 24.2	+1.0
VVLD				AML	AML		
	comp=N,19μm,0.9s						
VVLD				AML	AML		
	comp=E,19μm,0.7s						
VVLD				AML	AML		
	comp=N,19μm,0.9s						
POFI	**Posta Fibreno**	**0.33**	**230**	↑P	Pg	03 28 19.1	+0.2
POFI				S	Sb	03 28 24.6	-1.1
POFI				AML	AML		
	comp=E,48μm,1.0s						
POFI				AML	AML		
	comp=N,31μm,1.2s						
POFI				AML	AML		
	comp=N,31μm,1.2s						
POFI				AML	AML		
	comp=E,48μm,1.0s						
CERA	**Filignano**	**0.33**	**184**	P	Pg	03 28 19.3	+0.4
CERA				S	Sb	03 28 25.0	-0.8
T0110	**Collepietro**	**0.36**	**326**	P	Pb	03 28 20.2	-0.6
T0110				AML	AML		
	comp=E,104μm,0.4s						
T0110				AML	AML		
	comp=N,80μm,1.2s						
T0110				AML	AML		
	comp=N,80μm,1.2s						
T0110				AML	AML		
	comp=E,104μm,0.4s						
TRIV	**Trivento**	**0.41**	**114**	↑P	Pg	03 28 20.7	+0.5
TRIV				S	Sb	03 28 27.5	-0.4
VCEL	**Villa Celiera**	**0.49**	**341**	P	Pb	03 28 22.7	-0.4

*BEO **26** 03:29:40.1±0.3,45°.51N×21°.27E,h0km,ML1.8/12*
BUC 26 03:29:40.0±0.2,45°.51N×21°.27E,h2km±2km,ml1.8/12, 20C-24D,Error ellipse: s-maj=1.4km s-min=1.3km az=84.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANR	**Banloc**	**0.16**	**216**	↑P	Pg	03 29 43.3	+0.2
BANR				↓S	Sg	03 29 45.9	+0.7
BANR	**Banloc**	**0.16**	**216**	↑P	Pg	03 29 43.3	+0.2
BANR				↓S	Sg	03 29 45.9	+0.7
TIM	**Timisoara**	**0.23**	**351**	↑P	Pg	03 29 43.8	-0.6
TIM				↑S	Sg	03 29 48.4	+1.0
TIM	**Timisoara**	**0.23**	**351**	↑P	Pg	03 29 43.8	-0.6
TIM				↑S	Sg	03 29 48.4	+1.0
BZS	**Buzias**	**0.27**	**66**	↓P	Pg	03 29 45.3	+0.2
BZS				↓S	Sg	03 29 50.1	+1.6
BZS	**Buzias**	**0.27**	**66**	*eP*g	Pg	03 29 45.0	-0.1
BZS				*eS*g	Sg	03 29 49.7	+1.1
BZS	**Buzias**	**0.27**	**66**	↑P	Pg	03 29 45.3	+0.2
BZS				↓S	Sg	03 29 50.1	+1.6
MDVR	**Moldovita**	**0.79**	**157**	↑P	Pg	03 29 55.2	0.0
MDVR				↓S	Sg	03 30 06.4	+0.8
MDVR	**Moldovita**	**0.79**	**157**	*eP*g	Pg	03 29 55.0	-0.2
MDVR				*eS*g	Sg	03 30 06.2	+0.7
MDVR	**Moldovita**	**0.79**	**157**	↑P	Pg	03 29 55.2	0.0
MDVR				↓S	Sg	03 30 06.4	+0.8
SIRR	**Siria**	**0.80**	**20**	↓P	Pg	03 29 54.8	-0.7
SIRR				↑S	Sg	03 30 06.1	+0.2
SIRR	**Siria**	**0.80**	**20**	*eP*g	Pg	03 29 54.6	-0.8
SIRR				*eS*g	Sg	03 30 04.8	-1.1
SIRR	**Siria**	**0.80**	**20**	↓P	Pg	03 29 54.8	-0.7
SIRR				↑S	Sg	03 30 06.1	+0.2
AMBH	**Ambrzfalva**	**0.92**	**336**	↓S	Sb	03 30 11.1	-0.2
AMBH	**Ambrzfalva**	**0.92**	**336**	↓S	Sb	03 30 11.1	-0.2
HERR	**Herculane**	**1.03**	**127**	↑P	Pg	03 29 60.0	+0.3
HERR				↑S	Sb	03 30 14.0	-0.3
HERR	**Herculane**	**1.03**	**127**	↑P	Pg	03 29 60.0	+0.3
HERR				↑S	Sb	03 30 14.0	-0.3
GZR	**Gura Zlata**	**1.07**	**96**	↓P	Pg	03 30 00.5	+0.1
GZR				↓S	Sb	03 30 15.4	-0.2
GZR	**Gura Zlata**	**1.07**	**96**	*eP*g	Pg	03 29 59.9	-0.6
GZR				*eS*g	Sg	03 30 14.5	+0.2
GZR	**Gura Zlata**	**1.07**	**96**	↓P	Pg	03 30 00.5	+0.1
GZR				↓S	Sb	03 30 15.4	-0.2
FRGS	**Fruska Gora**	**1.09**	**252**	↓P	Pg	03 30 00.4	-0.4
FRGS				↓S	Sb	03 30 15.6	-0.6
FRGS	**Fruska Gora**	**1.09**	**252**	*eP*g	Pg	03 30 00.4	-0.5
FRGS				*eS*g	Sg	03 30 12.9	-2.1
FRGS	**Fruska Gora**	**1.09**	**252**	↓P	Pg	03 30 00.4	-0.4
FRGS				↓S	Sb	03 30 15.6	-0.6
DEV	**Deva**	**1.20**	**71**	↓P	Pg	03 30 02.2	-0.8
DEV	**Deva**	**1.20**	**71**	↓P	Pg	03 30 02.2	-0.8
SVIS	**Svilajnac**	**1.25**	**182**	*eS*g	Sg	03 30 18.3	-1.7
TRUS	**Trudelj**	**1.43**	**206**	*eP*g	Pn	03 30 06.3	-0.6
TRUS				*eS*g	Sg	03 30 25.1	-0.7
SRE	**Strehaia**	**1.61**	**121**	↑S	Sg	03 30 32.1	+0.4
SRE	**Strehaia**	**1.61**	**121**	↑S	Sg	03 30 32.1	+0.4
DRGR		**1.63**	**38**	↑P	Pn	03 30 09.8	+0.1
DRGR		**1.63**	**38**	*eP*g	Pn	03 30 10.0	+0.3
DRGR				*eS*g	Sb	03 30 31.7	0.0
DRGR		**1.63**	**38**	↑P	Pn	03 30 09.8	+0.1
GRUS	**Gruza**	**1.67**	**194**	*eP*g	Pn	03 30 09.8	-0.4
GRUS				*eS*g	Sn	03 30 31.7	-0.5
DIVS	**Divibare**	**1.68**	**213**	*eP*g	Pn	03 30 09.7	-0.7
DIVS				*eS*g	Sb	03 30 33.3	0.0
BOVS	**Bovan**	**1.90**	**170**	*eP*n	Pn	03 30 14.1	+0.7
BOVS				*eS*g	Sg	03 30 41.2	+0.1
MORH	**Mrgy, Hungar**	**1.96**	**292**	↑P	Pn	03 30 14.4	+0.2
MORH	**Mrgy, Hungar**	**1.96**	**292**	↑P	Pn	03 30 14.4	+0.2
BLKB	**Belogradchik**	**2.14**	**152**	↓S	Sn	03 30 44.4	+0.6
BLKB	**Belogradchik**	**2.14**	**152**	↓S	Sn	03 30 44.4	+0.6
BARS	**Barje**	**2.72**	**172**	*eP*n	Pn	03 30 26.4	+1.7
BARS				*eS*g	Sb	03 31 04.4	+1.2

*VAO **26** 03:33:14.5±0.3,23°.34S×67°.04W,h246km,mb4.0*
*IDC **26** 03:33:17.1±2.5,23°.07S×66°.58W,h221km±24km,mb3.1/2, mb1 3.3/5,mb1mx3.1/18,mbtmp3.8/5,Error ellipse: s-maj=26.6km s-min=21.8km az=85.0*
ISC 26 03:33:14.2±0.7,23°.21S±0°.08×66°.67W±0°.08,h200km,n43, σ0°.97/45,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.15**	**286**	*eP*	**Pn**	**03 33 55.5**	**+0.7**
LVC				*eS*	**Sn**	**03 34 26.0**	**-0.2**
LPAZ	**La Paz**	**7.03**	**348**	P	**Pn**	**03 34 57.3**	**+1.8**
	0.5nm,0.3s,baz=176,slow=6.5,SNR=17						
LPAZ				S	**Sn**	**03 36 16.6**	**+0.9**
	0.1nm,0.3s,baz=50,slow=24,SNR=2.0						
LPAZ	**La Paz**	**7.03**	**348**	*eP*	**Pn**	**03 34 57.2**	**+1.7**
VILB	**Vilhena**	**11.91**	**32**	*eP*	**P**	**03 36 00.8**	**-2.2**
ETMB	**Extrema**	**13.33**	**2**	*eP*	**Pn**	**03 36 17.1**	**+1.1**
PTGB	**Pitanga**	**13.44**	**99**	*eP*	**P**	**03 36 21.0**	**+1.1**
CPSB	**Cacapava Do Su**	**13.81**	**124**	*eP*	**Pn**	**03 36 22.1**	**+0.3**
PLTB	**Pedras Altas**	**14.38**	**129**	*eP*	**Pn**	**03 36 29.2**	**+0.4**
ITRB	**Iturama**	**15.58**	**80**	*eP*	**P**	**03 36 45.0**	**+1.4**
ARAG	**Araguaiana, MT**	**15.87**	**65**	*eP*	**Pn**	**03 36 48.8**	**+1.8**
CLDB	**Colider**	**16.07**	**42**	*eP*	**Pn**	**03 36 49.9**	**+0.4**
BB19B	**Bebedouro**	**16.94**	**86**	*eP*	**Pn**	**03 37 00.5**	**+0.6**
PLCA	**Paso Flores**	**17.77**	**190**	P	**Pn**	**03 37 10.8**	**+1.3**
	0.2nm,0.3s,baz=348,slow=20,SNR=3.8						
IPMB	**Ipameri, GO**	**18.04**	**77**	*eP*	**P**	**03 37 11.4**	**+0.8**
VAO	**Valinhos**	**18.13**	**93**	*eP*	**P**	**03 37 11.7**	**+0.1**
SNDB	**Serra Nova Dou**	**18.41**	**55**	*eP*	**P**	**03 37 15.1**	**+0.4**
BDFB	**Brasilia**	**19.12**	**70**	P	**P**	**03 37 22.9**	**+0.5**
	0.6nm,0.3s,baz=251,slow=13,SNR=7.3						
PARB	**Paraibuna**	**19.34**	**95**	*eP*	**P**	**03 37 25.5**	**+0.8**
BSCB	**Bom Sucesso**	**20.40**	**88**	*eP*	**P**	**03 37 36.1**	**0.0**
ESAR	**Angra dos Reis**	**20.44**	**94**	*eP*	**P**	**03 37 36.4**	**-0.1**
PEXB	**Peixe**	**20.57**	**61**	*eP*	**P**	**03 37 39.0**	**+0.1**
ITTB	**Itatiuba**	**21.51**	**31**	*eP*	**P**	**03 37 46.3**	**-1.4**
DIAM	**Diamantina, MG**	**22.04**	**81**	*eP*	**P**	**03 37 53.0**	**-0.1**
MC01	**Montes Claros**	**22.30**	**77**	*eP*	**P**	**03 37 55.2**	**-0.3**
JANB	**Januaria**	**22.60**	**73**	*eP*	**P**	**03 37 57.4**	**-0.9**
SMTB	**Santa Maria do**	**23.19**	**55**	*eP*	**P**	**03 38 02.4**	**-1.1**
SDBA	**SAO DESIDERIO**	**23.31**	**66**	*eP*	**P**	**03 38 03.9**	**-0.7**
PRPB	**Parauapebas**	**23.46**	**46**	*eP*	**P**	**03 38 05.1**	**-0.8**
MALB	**Monte Alegre**	**24.41**	**31**	*eP*	**P**	**03 38 13.6**	**-0.8**
RIB01	**Linhares ES**	**24.78**	**86**	*eP*	**P**	**03 38 16.6**	**-1.2**
NAN01	**Guarapari, ES**	**25.40**	**83**	*eP*	**P**	**03 38 22.7**	**-0.9**
GUA01	**Guaratinga, BA**	**26.08**	**80**	*eP*	**P**	**03 38 29.4**	**-0.2**
BOAV	**Boa Vista**	**26.15**	**14**	*eP*	**P**	**03 38 28.2**	**-2.0**
CMC01	**Camacan, BA**	**26.76**	**78**	*eP*	**P**	**03 38 35.5**	**-0.1**
GDU01	**Guandu, BA**	**27.33**	**75**	*eP*	**P**	**03 38 39.7**	**-1.1**
ROSB	**Rosrio**	**29.74**	**51**	*eP*	**P**	**03 39 02.1**	**+0.1**
NBMA	**Muriti-CE**	**31.09**	**64**	*eP*	**P**	**03 39 13.6**	**-0.5**
NBPB	**Pedra_Branca-C**	**31.47**	**60**	*eP*	**P**	**03 39 16.9**	**-0.4**
NBPV	**Pedro Velho**	**34.50**	**66**	*eP*	**P**	**03 39 43.5**	**-0.1**
TXAR	**Lajitas Array**	**63.22**	**324**	P	**P**	**03 43 21.3**	**-0.2**
	0.1nm,0.4s,baz=144,slow=7.8,SNR=2.1						
TORD	**Torodi

	comp=Z,20nm,0.9s							
CBKS	**Cedar Bluff**	**3.59**	**329**	IAmb_Lg		03 57 55.5		
	comp=Z,29nm,0.8s							
U40A	**Yellville**	**3.72**	**79**	Pn	Pn	03 56 57.1	-0.2	
U40A				IAmb_Lg		03 58 01.2		
	comp=Z,18nm,0.7s							
S39A	**Bolivar**	**3.79**	**58**	Pn	Pn	03 56 59.6	+1.3	
S39A				IAmb_Lg		03 58 01.9		
	comp=Z,21nm,0.8s							
X40A	**Basin Creek Fa**	**3.94**	**107**	Pn	Pn	03 57 01.7	+1.5	
X40A				IAmb_Lg		03 58 09.1		
	comp=Z,20nm,0.7s							
237A	**Washetta, Mont**	**3.96**	**160**	IAmb_Lg		03 58 05.5		
	comp=Z,16nm,1.0s							
WHAR	**Wooly Hollow**	**4.18**	**95**	Pn	Pn	03 57 04.6	+0.9	
WHAR				IAmb_Lg		03 58 20.9		
	comp=Z,18nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.27**	**87**	Pn	Pn	03 57 05.2	+0.3	
MGMO	**Mountain Grove**	**4.35**	**70**	Pn	Pn	03 57 06.6	+0.6	
MGMO				IAmb_Lg		03 58 21.4		
	comp=Z,20nm,0.7s							
R40A	**Maddies Statio**	**4.81**	**57**	IAmb_Lg		03 58 32.1		
	comp=Z,16nm,0.9s							
P38A	**Dawn**	**4.93**	**37**	Pn	Pn	03 57 14.3	+0.4	
P38A				IAmb_Lg		03 58 36.8		
	comp=Z,11nm,0.7s							
435B	**Jarrell**	**4.96**	**182**	IAmb_Lg		03 58 40.7		
	comp=Z,14nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.29**	**309**	IAmb_Lg		03 58 51.8		
	comp=Z,12nm,0.9s							
CCM	**Cathedral Cave**	**5.43**	**63**	IAmb_Lg		03 58 51.5		
	comp=Z,13nm,0.8s							
JCT	**Junction City**	**5.64**	**202**	IAmb_Lg		03 59 05.6		
	comp=Z,9.9nm,0.7s							
BGNE	**Belgrade**	**5.68**	**354**	IAmb_Lg		03 59 04.2		
	comp=Z,13nm,0.8s							
PBMO	**Poplar Bluff**	**5.71**	**78**	IAmb_Lg		03 59 14.2		
	comp=Z,12nm,0.7s							
T25A	**Trinidad**	**5.83**	**286**	IAmb_Lg		03 59 19.0		
	comp=Z,11nm,0.8s							
OGNE	**Ogallala**	**6.34**	**326**	IAmb_Lg		03 59 16.0		
	comp=Z,18nm,0.7s							
S44A	**Carbondale**	**6.81**	**71**	IAmb_Lg		03 59 41.9		
	comp=Z,17nm,0.7s							
SIUC	**Southern Illin**	**6.84**	**71**	IAmb_Lg		03 59 45.2		
	comp=Z,15nm,0.7s							
K31A	**O'Neill**	**6.95**	**352**	IAmb_Lg		03 59 44.0		
	comp=Z,12nm,0.7s							
MNTX	**Cornudas Mount**	**7.79**	**241**	IAmb_Lg		04 00 10.4		
	comp=Z,6.9nm,1.3s							
L40A	**Anamosa**	**7.92**	**35**	IAmb_Lg		04 00 11.6		
	comp=Z,10nm,0.9s							
T47A	**Sharon Grove**	**8.38**	**79**	IAmb_Lg		04 00 43.2		
	comp=Z,13nm,1.1s							
PHWY	**Pilot Hill**	**8.41**	**314**	IAmb_Lg		04 00 32.1		
	comp=Z,5.9nm,0.9s							
L42A	**Oliver, Polo**	**8.67**	**42**	IAmb_Lg		04 00 37.6		
	comp=Z,14nm,0.8s							
SUSD	**Miller**	**8.77**	**353**	IAmb_Lg		04 00 54.5		
	comp=Z,5.5nm,0.7s							
JFWS	**Jewell Farm**	**9.04**	**36**	IAmb_Lg		04 01 07.3		
	comp=Z,11nm,0.7s							
WCI	**Wyandotte Cave**	**9.21**	**71**	IAmb_Lg		04 00 57.6		
	comp=Z,11nm,1.0s							
SFIN	**Lafayette**	**9.33**	**57**	IAmb_Lg		04 01 03.7		
	comp=Z,9.2nm,0.8s							
I40A	**Norwalk**	**9.65**	**31**	IAmb_Lg		04 01 06.1		
	comp=Z,8.6nm,1.2s							
K22A	**Casper**	**9.88**	**317**	IAmb_Lg		04 01 32.9		
	comp=Z,11nm,1.2s							

TUL ***26*** *04:00:25.4±1.0, 35°.74N±0°.02×97°.38W±0°.03, h5km±7km, ML2.5, mb_Lg2.4/22(NEIC), Error ellipse: s-maj=3.5km s-min=2.1km az=115.0*

NEIC 26 04:00:25.4±1.0, 35°.76N±0°.02×97°.40W±0°.05, h8km±5km, Error ellipse: s-maj=6.4km s-min=2.7km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.06**	**309**		**Pg**	04 00 27.5	+0.2
OK025	**Westminster Rd**	**0.18**	**165**		**Pg**	04 00 29.1	-0.1
BCOK	**Bluff Creek, N**	**0.20**	**240**		**Pg**	04 00 29.6	+0.1
OKCFA	**Oklahoma City**	**0.34**	**188**		**Pg**	04 00 32.1	0.0
OKCSW	**OKLAHOMA CITY**	**0.35**	**186**		**Pg**	04 00 31.9	-0.4
OK031	**S. Brethren Rd**	**0.49**	**66**		**Pg**	04 00 34.7	-0.2
FNO	**Franklin**	**0.50**	**180**		**Pg**	04 00 34.7	-0.4
OK030	**Cody Creek RV**	**0.53**	**71**		**Pg**	04 00 35.3	-0.3
QUOK	**Quay**	**0.69**	**53**		**Pg**	04 00 38.6	-0.1
W35A	**Tecumseh**	**0.74**	**145**		**Pg**	04 00 39.6	0.0
CROK	**Carrier**	**0.88**	**328**		**Pb**	04 00 42.9	-0.1
BLOK	**Blackwell**	**1.01**	**8**		**Pg**	04 00 44.2	-0.6
X34A	**Smith Ranch, M**	**1.21**	**197**		**Pb**	04 00 48.1	-0.5
OK032	**Salt Plains WL**	**1.23**	**328**	Pg	**Pb**	04 00 48.6	-0.3
KAN13	**South Haven SW**	**1.25**	**357**		**Pn**	04 00 48.9	-0.3
KAN14	**Manchester OK**	**1.28**	**339**		**Pg**	04 00 49.9	-0.1
KAN17	**Caldwell West**	**1.32**	**347**		**Pg**	04 00 50.6	-0.1
T35A	**Sooner Cattle**	**1.36**	**31**	Pn	**Pn**	04 00 50.2	-0.5
KAN09	**Caldwell North**	**1.39**	**353**	Pn	**Pb**	04 00 51.5	-0.1
KS20	**Mayfield South**	**1.48**	**355**	Pn	**Pn**	04 00 52.5	+0.2
WMOK	**Wichita Mounta**	**1.52**	**228**	Pn	**Pn**	04 00 52.7	-0.2
KAN08	**Anthony NE Sta**	**1.54**	**343**		**Pb**	04 00 53.9	-0.3
KS21	**Milan North St**	**1.54**	**352**	IAmb_Lg		04 01 18.1	
	comp=Z,24nm,0.7s						
KAN12	**Harper NE Stat**	**1.61**	**343**	Pn	**Pb**	04 00 55.4	0.0
LOOK	**Love County**	**1.77**	**174**	Pn	**Pn**	04 00 55.9	-0.4
LOOK				IAmb_Lg		04 01 23.2	
	comp=Z,19nm,1.1s						
X37A	**Clayton**	**2.03**	**125**	Pn	**Pn**	04 01 00.5	+0.7
U38A	**Gravette**	**2.53**	**74**		**Pn**	04 01 08.2	+1.4
HHAR	**Hobbs**	**2.85**	**78**	Pn	**Pn**	04 01 11.2	+0.1
W39A	**Magazine**	**3.00**	**100**	Pn	**Pn**	04 01 12.9	-0.3
W39A				IAmb_Lg		04 02 08.4	
	comp=Z,12nm,1.1s						
MIAR	**Mount Ida**	**3.35**	**110**	Pn	**Pn**	04 01 17.5	-0.6
CBKS	**Cedar Bluff**	**3.58**	**329**	IAmb_Lg		04 02 22.4	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**3.80**	**58**	Pn	**Pn**	04 01 26.0	+1.8
S39A				IAmb_Lg		04 02 27.2	
	comp=Z,8.7nm,0.9s						
X40A	**Basin Creek Fa**	**3.95**	**107**	Pn	**Pn**	04 01 27.3	+1.0
X40A				IAmb_Lg		04 02 36.5	
	comp=Z,7.6nm,0.8s						
WHAR	**Wooly Hollow**	**4.19**	**95**	Pn	**Pn**	04 01 28.8	-0.8
WHAR				IAmb_Lg		04 02 39.4	
	comp=Z,6.0nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.29**	**87**	IAmb_Lg		04 02 51.3		
	comp=Z,5.3nm,0.8s						
CCM	**Cathedral Cave**	**5.44**	**63**	IAmb_Lg		04 03 23.7		
	comp=Z,7.4nm,1.1s						
P40A	**Paris**	**5.67**	**47**	IAmb_Lg		04 03 31.0		
	comp=Z,8.9nm,0.9s						
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg		04 03 24.8		
	comp=Z,7.2nm,1.1s							
143A	**Socs Landing,**	**5.82**	**120**	IAmb_Lg		04 03 36.9		
	comp=Z,7.3nm,0.8s							

IDC ***26*** *04:05:14.6±1.0, 32°.30S×178°.09W, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/41, mbtmp4.0/7, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/34, Error ellipse: s-maj=28.5km s-min=25.3km az=138.0*

ISC 26 04:05:15.9±0.9, 32°.20S±0°.09×178°.1W±0°.2, h10km, n28, σ1°32/35, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.93**	**4**	S	**Sn**	**04 06 35.0**	**-2.9**
MXZ	**Matakaoa Point**	**6.09**	**208**	P	**Pn**	**04 06 47.1**	**+1.0**
MXZ				S	**Sn**	**04 07 55.9**	**0.0**
WMGZ	**Waiomatatini S**	**6.28**	**206**	P	**Pn**	**04 06 49.9**	**+1.3**
WMGZ				S	**Sn**	**04 08 01.0**	**+0.6**
PKGZ	**Pakihiroa**	**6.47**	**208**	P	**Pn**	**04 06 49.2**	**-2.1**
PKGZ				S	**Sn**	**04 08 04.0**	**-1.2**
HAZ	**Te Kaha**	**6.48**	**210**	P	**Pn**	**04 06 50.0**	**-1.3**
HAZ				S	**Sn**	**04 08 07.0**	**+1.8**
PUZ	**Puketiti**	**6.56**	**206**	P	**Pn**	**04 06 52.4**	**-0.1**
PUZ				S	**Sn**	**04 08 05.5**	**-1.8**
RUGZ	**Raukumara Rang**	**6.70**	**210**	P	**Pn**	**04 06 55.2**	**+0.8**
RUGZ				S	**Sn**	**04 08 09.6**	**-1.3**
TWGZ	**Tauwhareparae**	**6.76**	**207**	P	**Pn**	**04 06 57.3**	**+2.1**
TWGZ				S	**Sn**	**04 08 11.9**	**-0.4**
MWZ	**Matawai**	**7.07**	**209**	P	**Pn**	**04 06 59.7**	**+0.2**
MWZ				S	**Sn**	**04 08 18.0**	**-2.0**
URZ	**Urewera**	**7.19**	**211**	Pn	**Pn**	**04 07 00.1**	**-0.9**
	1.6nm,0.3s,baz=301,slow=23,SNR=9.0						
URZ				Sn	**Sn**	**04 08 20.7**	**-2.0**
	8.6nm,0.3s,baz=90,slow=20,SNR=12						
URZ	**Urewera**	**7.19**	**211**	P	**Pn**	**04 07 01.3**	**+0.2**
URZ				S	**Sn**	**04 08 21.0**	**-1.8**
SNGZ	**Shannon Statio**	**7.53**	**208**	P	**Pn**	**04 07 06.3**	**+0.5**
SNGZ				S	**Sn**	**04 08 29.1**	**-2.2**
MTHZ	**Maungataniwha**	**7.80**	**210**	P	**Pn**	**04 07 10.1**	**+0.6**
MTHZ				S	**Sn**	**04 08 36.2**	**-1.7**
DZM	**Mont Dzumac**	**17.01**	**303**	LR	LR	04 14 28.3	
	comp=Z,162nm,20.2s,baz=231,slow=32						
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**04 12 01.1**	**+1.2**
	2.0nm,0.7s,baz=90,slow=15,SNR=4.4						
ASAR	**Alice Springs**	**42.92**	**269**	P	**P**	**04 13 15.6**	**+0.5**
	1.4nm,0.5s,baz=106,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**44.08**	**274**	P	**P**	**04 13 24.6**	**+0.1**
	2.5nm,0.4s,baz=113,slow=7.9,SNR=41						
FITZ	**Fitzroy Crossi**	**52.26**	**271**	P	**P**	**04 14 28.5**	**+0.8**
	2.6nm,0.8s,baz=162,slow=6.4,SNR=1.6						
QSPA	**South Pole Qui**	**57.92**	**180**	P	**P**	**04 15 07.7**	**-0.3**
	0.9nm,0.7s,baz=56,slow=7.3,SNR=7.9						
SNAA	**Sanae**	**76.37**	**178**	P	P	04 17 15.5	+11
VNA3	**Neumayer Olymp**	**76.52**	**176**	P	P	04 17 16.2	+10
VNA2	**Neumayer--Watz**	**76.95**	**177**	P	P	04 17 18.9	+11
	baz=170,slow=4.6						
VNA1	**Neumayer--Stat**	**77.19**	**177**	P	P	04 17 21.0	+12
NVAR	**Mina Array Bea**	**89.64**	**43**	P	**P**	**04 18 14.7**	**+0.5**
	0.1nm,0.3s,baz=224,slow=6.3,SNR=2.2						
FINES	**FINESS Array B**	**146.78**	**339**	PKPbc	**PKPbc**	**04 24 56.9**	**-0.5**
	2.6nm,0.7s,baz=40,slow=3.9,SNR=9.4						
NOA	**NORSAR Array B**	**150.50**	**351**	PKPbc	**PKiKP**	**04 25 07.9**	**0.0**
	0.2nm,0.6s,baz=17,slow=4.2,SNR=2.4						
AKASG	**Malin Array Be**	**152.63**	**321**	PKPbc	**PKiKP**	**04 25 12.5**	**-0.1**
	0.4nm,0.4s,baz=49,slow=3.3,SNR=1.6						
TORD	**Torodi Ar. Bea**	**161.04**	**180**	PKPab	**PKPab**	**04 25 59.6**	**-0.3**
	0.4nm,0.6s,baz=195,slow=4.6,SNR=4.7						

TUL ***26*** *04:11:18.9±0.8, 35°.60N±0°.02×97°.05W±0°.05, h6km±7km, ML2.8, mb_Lg2.6/50(NEIC), Error ellipse: s-maj=6.2km s-min=1.6km az=104.0*

ANF ***26*** *04:11:18.9±0.4, 35°.64N×97°.06W, h5km±3km, ML2.8/9, Error ellipse: s-maj=3.8km s-min=2.0km az=154.0*

NEIC ***26*** *04:11:19.1±0.8, 35°.60N±0°.02×97°.06W±0°.05, h5km±1km, Error ellipse: s-maj=6.4km s-min=3.0km az=106.0*

ISC 26 04:11:19.0±1.1, 35°.61N±0°.02×97°.05W±0°.02, h5km±10km, n66, σ0°56/58, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.20**	**256**	Pg	**Pg**	**04 11 23.4**	**+0.5**
OK025	**Westminster Rd**	**0.23**	**263**		**Pg**	**04 11 23.6**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.37**	**237**		**Pg**	**04 11 26.1**	**-0.1**
OK029	**Liberty Lake**	**0.38**	**300**		**Pg**	**04 11 25.9**	**-0.4**
OKCFA	**Oklahoma City**	**0.38**	**239**		**Pg**	**04 11 26.2**	**-0.1**
OKCFA	**Oklahoma City**	**0.38**	**239**	P	**Pg**	**04 11 26.6**	**+0.3**
	baz=60,SNR=14						
OKCFA				S	**Sg**	**04 11 32.1**	**+0.9**
	baz=60						
OKCFA	**Oklahoma City**	**0.38**	**239**	P		04 11 26.6	
	baz=60,SNR=14						
OKCFA				S		04 11 32.1	
	baz=60						
OK031	**S. Brethren Rd**	**0.39**	**27**		**Pg**	**04 11 26.9**	**+0.4**
OK030	**Cody Creek RV**	**0.39**	**34**		**Pg**	**04 11 26.6**	**+0.1**
FNO	**Franklin**	**0.45**	**219**		**Pg**	**04 11 27.6**	**-0.1**
BCOK	**Bluff Creek, N**	**0.46**	**276**		**Pg**	**04 11 28.1**	**+0.3**
W35A	**Tecumseh**	**0.48**	**162**		**Pg**	**04 11 28.0**	**-0.1**
QUOK	**Quay**	**0.63**	**26**		**Pg**	**04 11 30.9**	**-0.1**
TUL1	**Leonard**	**1.07**	**73**	P	**Pg**	**04 11 38.7**	**-0.8**
	baz=254,SNR=24						
TUL1				S	**Sg**	**04 11 53.6**	**+0.2**
	baz=254						
TUL1	**Leonard**	**1.07**	**73**	P		04 11 38.7	
	baz=254,SNR=24						
TUL1				S		04 11 53.6	
	baz=254						
BLOK	**Blackwell**	**1.16**	**354**	Pg	**Pb**	**04 11 41.1**	**-0.4**
CROK	**Carrier**	**1.17**	**320**		**Pb**	**04 11 41.0**	**-0.6**
X34A	**Smith Ranch, M**	**1.19**	**213**		**Pb**	**04 11 41.5**	**-0.6**
T35A	**Sooner Cattle**	**1.38**	**18**		**Pn**	**04 11 44.2**	**-0.6**
T35B	**Sooner Cattle**	**1.38**	**18**	P	**Pn**	**04 11 44.2**	**-0.6**
	baz=198						
T35B				S	**Sn**	**04 12 03.0**	**-0.5**
	baz=198						
T35B	**Sooner Cattle**	**1.38**	**18**	P		04 11 44.2	
	baz=198						
T35B				S		04 12 03.0	
	baz=198						
KAN13	**South Haven SW**	**1.44**	**346**	Pn	**Pg**	**04 11 46.6**	**-0.1**
OK032	**Salt Plains WL**	**1.52**	**322**		**Pn**	**04 11 46.8**	**0.0**
KAN14	**Manchester OK**	**1.53**	**332**		**Pn**	**04 11 47.0**	**0.0**
KAN17	**Caldwell West**	**1.54**	**338**		**Pb**	**04 11 47.5**	**-0.6**
KAN09	**Caldwell North**	**1.59**	**344**	Pn	**Pb**	**04 11 48.4**	**-0.5**
LOOK	**Love County**	**1.62**	**184**		**Pn**	**04 11 48.0**	**-0.2**
WMOK	**Wichita Mounta**	**1.66**	**239**		**Pn**	**04 11 48.7**	**0.0**
WMOK	**Wichita Mounta**	**1.66**	**239**	P	**Pn**	**04 11 48.2**	**-0.6**
WMOK	baz=58,SNR=28			S	**Sb**	**04 12 10.9**	**-0.4**
	baz=58						
WMOK	**Wichita Mounta**	**1.66**	**239**	P		04 11 48.2	
	baz=58,SNR=28						
WMOK				S		04 12 10.9	
	baz=58						
KS20	**Mayfield South**	**1.67**	**346**	Pn	**Pn**	**04 11 48.9**	**+0.1**
KS20				IAmb_Lg		04 12 11.9	
	comp=Z,20nm,1.0s						
X37A	**Clayton**	**1.71**	**126**		**Pn**	**04 11 49.6**	**+0.2**
X37A				IAmb_Lg		04 12 17.4	
	comp=Z,30nm,0.9s						
X37A	**Clayton**	**1.71**	**126**	P	**Pb**	**04 11 50.1**	**-0.8**
	baz=307,SNR=60						
X37A				Sb	**Sg**	**04 12 13.8**	**-0.2**
	baz=307						
X37A	**Clayton**	**1.71**	**126**	P		04 11 50.1	
	baz=307,SNR=60						
X37A				Sb		04 12 13.8	
	baz=307						
KAN08	**Anthony NE Sta**	**1.78**	**336**	Pn	**Pn**	**04 11 50.4**	**+0.1**
KAN12	**Harper NE Stat**	**1.85**	**336**	Pn	**Pn**	**04 11 51.6**	**+0.3**
Z35A	**Perchaven, San**	**2.28**	**184**	Pn	**Pn**	**04 11 57.6**	**+0.4**
U38A	**Gravette**	**2.32**	**68**	Pn	**Pn**	**04 11 58.2**	**+0.5**
HHAR	**Hobbs**	**2.61**	**74**	Pn	**Pn**	**04 12 03.1**	**+1.3**
W39A	**Magazine**	**2.70**	**98**	Pn	**Pn**	**04 12 02.4**	**-0.6**
W39A				IAmb_Lg		04 12 49.9	
	comp=Z,14nm,0.9s						
W39A	**Magazine**	**2.70**	**98**	P	**Pn**	**04 12 03.7**	**+0.6**
	baz=280,SNR=11						
W39A				S	**Sn**	**04 12 36.7**	**+0.6**
	baz=280						
W39A	**Magazine**	**2.70**	**98**	P		04 12 03.7	
	baz=280,SNR=11						
W39A				S		04 12 36.7	
	baz=280						
MIAR	**Mount Ida**	**3.04**	**109**		**Pn**	**04 12 07.9**	**+0.2**
MIAR	**Mount Ida**	**3.04**	**109**	P	**Pn**	**04 12 08.7**	**+1.0**
	baz=291,SNR=20						
MIAR	**Mount Ida**	**3.04**	**109**	P		04 12 08.7	
	baz=291,SNR=20						
U40A	**Yellville**	**3.49**	**76**	Pn	**Pn**	**04 12 13.0**	**-0.8**
U40A				IAmb_Lg		04 13 16.2	
	comp=Z,15nm,0.8s						
U40A	**Yellville**	**3.49**	**76**	S	**Sn**	**04 12 56.3**	**+0.8**
	baz=259						
U40A	**Yellville**	**3.49**	**76**	S		04 12 56.3	
	baz=259						
U40A				S		04 12 56.3	
	baz=259						
X40A	**Basin Creek Fa**	**3.64**	**107**	Pn	**Pn**	**04 12 15.0**	**-0.9**
X40A				IAmb_Lg		04 13 19.6	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**3.65**	**54**	Pn	**Pn**	**04 12 16.1**	**0.0**
S39A	**Bolivar**	**3.65**	**54**	P	**Pn**	**04 12 16.5**	**+0.5**
	baz=236,SNR=5.4						
S39A	**Bolivar**	**3.65**	**54**	P		04 12 16.5	
	baz=236,SNR=5.4						
AMTX	**Amarillo**	**3.86**	**261**	IAmb_Lg		04 13 29.2	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**3.90**	**93**	Pn	**Pn**	**04 12 18.9**	**-0.6**
WHAR					**Sn**	**04 13 06.5**	**+0.8**
WHAR				IAmb_Lg		04 13 26.2	
	comp=Z,10nm,0.8s						
W41B	**Gary Mavity, V**	**3.95**	**95**	P	**Pn**	**04 12 20.8**	**+0.7**
	baz=278,SNR=8.4						
W41B	**Gary Mavity, V**	**3.95**	**95**	P		04 12 20.8	
	baz=278,SNR=8.4						
FCAR	**Ozark Folk Cen**	**4.02**	**85**	Pn	**Pn**	**04 12 21.6**	**+0.5**
FCAR				IAmb_Lg		04 13 32.4	
	comp=Z,12nm,0.7s						
MGMO	**Mountain Grove**	**4.16**	**67**	Pn	**Pn**	**04 12 22.5**	**-0.6**
MGMO					**Sn**	**04 13 13.0**	**+0.9**
MGMO				IAmb_Lg		04 13 34.2	
	comp=Z,17nm,0.8s						
R40A	**Maddies Statio**	**4.67**	**54**	IAmb_Lg		04 13 51.9	
	comp=Z,13nm,0.7s						
LCAR	**Lake Charles**	**4.81**	**83**	IAmb_Lg		04 13 57.2	
	comp=Z,9.3nm,0.7s						
435B	**Jarrell**	**4.83**	**185**	IAmb_Lg		04 14 04.1	
	comp=Z,8.2nm,0.7s						
P38A	**Dawn**	**4.89**	**34**	Pn	**Pn**	**04 12 34.2**	**+1.1**
MSTX	**Muleshoe**	**4.98**	**252**	IAmb_Lg		04 13 57.7	
	comp=Z,6.3nm,0.9s						
T42A	**Van Buren**	**5.02**	**72**	Pn	**Pn**	**04 12 34.9**	**0.0**
T42A				IAmb_Lg		04 14 06.3	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	**5.26**	**61**	IAmb_Lg		04 14 13.6	
	comp=Z,11nm,0.9s						
PBMO	**Poplar Bluff**	**5.48**	**76**	IAmb_Lg		04 14 14.1	
	comp=Z,13nm,0.8s						
P40A	**Paris**	**5.58**	**44**	IAmb_Lg		04 14 18.7	
	comp=Z,8.0nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.59**	**309**	IAmb_Lg		04 14 21.7	
	comp=Z,6.6nm,0.8s						
JCT	**Junction City**	**5.61**	**205**	IAmb_Lg		04 14 29.5	
	comp=Z,6.6nm,0.8s						
N38A	**Joes South For**	**5.99**	**29**	IAmb_Lg		04 14 39.7	
	comp=Z,9.5nm,0.8s						
T25A	**Trinidad**	**6.13**	**287**	Pn	**Pn**	**04 12 50.4**	**+0.1**
T25A				IAmb_Lg		04 14 42.8	
	comp=Z,7.0nm,0.7s						
L34A	**Svendsen Farm,**	**6.37**	**5**	IAmb_Lg		04 14 41.1	
	comp=Z,11nm,0.8s						
W45A	**Hickory Valley**	**6.44**	**92**	IAmb_Lg		04 14 48.3	
	comp=Z,10nm,0.8s						
S44A	**Carbondale**	**6.61**	**69**	IAmb_Lg		04 14 50.2	
	comp=Z,12nm,0.8s						
SIUC	**Southern Illin**	**6.64**	**69**	IAmb_Lg		04 14 55.8	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**9.00**	**34**	IAmb_Lg		04 16 13.6	
	comp=Z,4.5nm,0.7s						

TUL ***26*** *04:12:53.1±0.9, 35°.740N±0°.010×97°.38W±0°.01, h6km±4km, ML2.7, mb_Lg2.3/18(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=110.0*

NEIC 26 04:12:53.1±0.4, 35°.75N±0°.01×97°.39W±0°.02, h9km±3km, Error ellipse: s-maj=2.3km s-min=1.5km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**310**		Pg	04 12 55.3	+0.1
OK029				Sg	Sg	04 12 56.8	+0.2
OK025	**Westminster Rd**	**0.18**	**166**		Pg	04 12 56.8	0.0
OK025				Sg	Sg	04 12 59.7	+0.4
BCOK	**Bluff Creek, N**	**0.20**	**242**		Pg	04 12 57.3	0.0
OKCFA	**Oklahoma City**	**0.34**	**188**		Pg	04 12 59.7	-0.1
OKCFA				Sg	Sg	04 13 04.7	+0.4
OKCSW	**OKLAHOMA CITY**	**0.35**	**186**		Pg	04 12 59.9	0.0
OK031	**S. Brethren Rd**	**0.49**	**66**	Pg	Pg	04 13 02.7	0.0
FNO	**Franklin**	**0.49**	**181**	Pg	Pg	04 13 02.6	-0.1
OK030	**Cody Creek RV**	**0.52**	**70**	Pg	Pg	04 13 03.2	0.0
QUOK	**Quay**	**0.69**	**53**	Pg	Pg	04 13 06.4	-0.1
W35A	**Tecumseh**	**0.73**	**145**	Pg	Pg	04 13 06.6	-0.6
CROK	**Carrier**	**0.89**	**328**	Pg	Pg	04 13 10.3	0.0
BLOK	**Blackwell**	**1.02**	**8**	Pg	Pg	04 13 12.3	-0.3
X34A	**Smith Ranch, M**	**1.21**	**198**	Pg	Pb	04 13 15.9	-0.2
OK032	**Salt Plains WL**	**1.24**	**328**	Pg	Pn	04 13 16.2	-0.4
KAN13	**South Haven SW**	**1.26**	**357**		Pn	04 13 16.8	-0.2
KAN13				IAmb_Lg		04 13 34.5	
	comp=Z,12nm,0.9s						
KAN14	**Manchester OK**	**1.29**	**339**	Pn	Pn	04 13 17.2	-0.1
KAN17	**Caldwell West**	**1.32**	**347**	Pn	Pn	04 13 18.0	+0.1
T35A	**Sooner Cattle**	**1.36**	**31**	Pn	Pn	04 13 18.3	0.0
KAN09	**Caldwell North**	**1.39**	**353**	Pn	Pb	04 13 19.1	-0.2
KS20	**Mayfield South**	**1.48**	**355**	Pn	Pb	04 13 20.6	-0.2
KS20				IAmb_Lg		04 13 39.5	
	comp=Z,9.1nm,1.0s						
WMOK	**Wichita Mounta**	**1.52**	**229**	Pn	Pn	04 13 20.7	+0.1
KS21	**Milan North St**	**1.55**	**352**

MKAR	**Makanchi Array**	**59.53**	**314**	P		**P**	**04 24 21.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=91,slow=9.5,SNR=8.0							
MAKZ	**Makanchi**	**59.74**	**314**	P		**P**	**04 24 21.2**	**-0.3**
BPAW	**Bear Paw Mtn.**	**62.08**	**26**	P		**P**	**04 24 36.9**	**-0.3**
IL31		**63.97**	**26**	P		**P**	**04 24 48.6**	**-0.9**
IL31				IAmb		IAmb	04 24 49.2	
	comp=Z,1.9nm,0.9s							
ILAR	**Eielson Array**	**63.97**	**26**	P		**P**	**04 24 48.4**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=266,slow=5.2,SNR=8.4							
BMAR	**Burnt Mountain**	**65.49**	**23**	P		**P**	**04 25 00.0**	**+0.6**
BRVK	**Borovoye**	**67.60**	**321**	P		**P**	**04 25 13.9**	**+0.9**
BRVK				IAmb		IAmb	04 25 15.8	
	comp=Z,2.4nm,0.6s							
YKA	**Yellowknife Ar**	**78.28**	**28**	P		**P**	**04 26 16.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=284,slow=5.7,SNR=4.7							
NVAR	**Mina Array Bea**	**82.99**	**52**	P		**P**	**04 26 43.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=270,slow=6.8,SNR=5.4							
ARCES	**ARCESS Array B**	**83.43**	**342**	P		**P**	**04 26 41.7**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=89,slow=7.4,SNR=5.2							
ELK	**Elko**	**84.53**	**49**	P		**P**	**04 26 50.2**	**+0.6**
	comp=Z,3.9nm,1.3s,baz=346,slow=4.6,SNR=5.5							
ELK	**Elko**	**84.53**	**49**	IAmb		IAmb	04 26 52.3	
	comp=Z,1.1nm,0.6s							
FINES	**FINESS Array B**	**87.88**	**336**	P		**P**	**04 27 04.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=50,slow=5.9,SNR=5.3							

IDC 26 04:21:31.9±2.1, 32.13S×178.34W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/36, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=48.2km s-min=46.2km az=74.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.16**	**210**	Pn	Pn	04 23 16.0	-1.9
	0.9nm,0.3s,baz=301,slow=23,SNR=1.6						
URZ				Sn	Sn	04 24 35.5	-4.4
	3.8nm,0.3s,baz=301,slow=19,SNR=10.0						
ASAR	**Alice Springs**	**42.75**	**269**	P		04 29 31.1	-0.1
	0.6nm,0.5s,baz=108,slow=7.6,SNR=5.9						
WRA	**Warramunga Arr**	**43.90**	**274**	P		04 29 40.8	+0.2
	0.9nm,0.4s,baz=112,slow=7.9,SNR=14						
SNAA	**Sanae**	**76.44**	**179**	P		04 33 29.5	+6.5
VNA3	**Neumayer Olymp**	**76.61**	**176**	P		04 33 32.6	+8.7
VNA2	**Neumayer--Watz**	**77.03**	**177**	P		04 33 35.3	+9.0
	baz=159,slow=4.5						
VNA1	**Neumayer--Stat**	**77.27**	**177**	P		04 33 36.9	+9.3
FINES	**FINESS Array B**	**146.66**	**339**	PKPbc	PKPdf	04 41 13.8	+0.6
	2.6nm,0.9s,baz=48,slow=2.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**161.11**	**180**	PKPab	PKPab	04 42 17.7	-0.1
	0.4nm,0.9s,baz=182,slow=4.3,SNR=1.5						

*NEIC **26** 04:35:56.5±1.2, 35.75N×0.02×97.39W×0.01, h6km±5km, Error ellipse: s-maj=2.3km s-min=1.1km az=175.0*
*IDC **26** 04:35:56.1±1.0, 35.86N×97.51W, h0km, mb1 3.6/6, mb1mx3.4/70, mbtmp3.4/6, ML3.3/6, Error ellipse: s-maj=14.0km s-min=9.5km az=133.0*
*ANF **26** 04:35:56.3±0.5, 35.76N×97.39W, h6km±4km, ML4.4/17, Error ellipse: s-maj=2.5km s-min=1.9km az=133.0*
*IASPEI **26** 04:35:56.3±0.9, 35.75N×0.02×97.39W×0.03, h10km±7km, Error ellipse: s-maj=4.7km s-min=3.4km az=109.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TUL **26** 04:35:56.3±1.3, 35.74N±0.01×97.39W±0.03, h5km±6km, mb_Lg3.6/148(NEIC), Mwr3.5/61(NEIC), Error ellipse: s-maj=3.2km s-min=1.8km az=107.0*
*NEIC **26** 04:35:56.5, 35.75N×97.40W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.51; $M_{\theta\theta}$=2.24; $M_{\phi\phi}$=-1.73; $M_{r\theta}$=-0.69; $M_{r\phi}$=-0.02; $M_{\theta\phi}$=0.48; Fault plane solution: M_0=2.20000×10^{14} NP1:ϕ_1=133.36000°, δ85.52000°, λ=-24.33000° NP2:ϕ_2=225.38000°, δ=65.75000°, λ=-175.09000°. Principal axes: T 2.4029, Plg14.0000°, Azm182.0000°; N -0.4992, Plg65.0000°, Azm304.0000°; P -1.9037, Plg20.0000°, Azm87.0000°;*

ISC 26 04:35:56.3±0.8, 35.75N±0.02×97.39W±0.03, h11km±6km, n190, σ0 79/189, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**311**		**Pg**	**04 35 58.4**	**-0.3**
OK009	**Oakdale Elemen**	**0.17**	**189**		**Pg**	**04 35 59.7**	**-0.4**
OK025	**Westminster Bd**	**0.17**	**166**		**Pg**	**04 35 59.9**	**-0.2**
OK005	**Luther M Schoo**	**0.19**	**121**		**Pg**	**04 36 00.4**	**+0.1**
BCOK	**Bluff Creek, N**	**0.20**	**242**		**Pg**	**04 36 00.6**	**0.0**
BCOK				Sg	**Sg**	**04 36 03.7**	**+0.2**
OKCFA	**Oklahoma City**	**0.34**	**189**		**Pg**	**04 36 03.0**	**-0.1**
OKCFA				Sg	**Sg**	**04 36 07.8**	**+0.2**
OKCFA	**Oklahoma City**	**0.34**	**189**	P	**Pg**	**04 36 03.0**	**-0.1**
	baz=8.0,SNR=27						
OKCFA	**Oklahoma City**	**0.34**	**189**	P		04 36 03.0	
	baz=8.0,SNR=27						
OKCSW	**OKLAHOMA CITY**	**0.35**	**187**		**Pg**	**04 36 03.1**	**-0.1**
OKCSW				Sg	**Sg**	**04 36 08.0**	**+0.2**
OK031	**S. Brethren Rd**	**0.49**	**66**		**Pg**	**04 36 05.9**	**0.0**
OK031				Sg	**Sg**	**04 36 11.7**	**+0.8**
FNO	**Franklin**	**0.49**	**181**		**Pg**	**04 36 05.8**	**-0.2**
FNO				Sg	**Sg**	**04 36 12.4**	**0.0**
OK030	**Cody Creek RV**	**0.52**	**70**		**Pg**	**04 36 06.5**	**0.0**
OK030				Sg	**Sg**	**04 36 13.5**	**+0.1**
OK011	**Prague**	**0.63**	**115**		**Pg**	**04 36 08.5**	**0.0**
QUOK	**Quay**	**0.69**	**53**		**Pg**	**04 36 09.1**	**-0.7**
QUOK				Sg	**Sg**	**04 36 19.1**	**+0.2**
W35A	**Tecumseh**	**0.73**	**145**		**Pg**	**04 36 09.9**	**-0.5**
CROK	**Carrier**	**0.89**	**328**		**Pg**	**04 36 13.5**	**0.0**
BLOK	**Blackwell**	**1.02**	**8**		**Pg**	**04 36 15.7**	**-0.2**
BLOK				Sg	**Sb**	**04 36 29.9**	**+0.6**
X34A	**Smith Ranch, M**	**1.20**	**198**		**Pg**	**04 36 18.8**	**-0.6**
X34A				Sg	**Sb**	**04 36 35.7**	**+1.1**
OK032	**Salt Plains WL**	**1.24**	**328**		**Pg**	**04 36 19.6**	**-0.6**
KAN13	**South Haven SW**	**1.26**	**357**		**Pg**	**04 36 20.2**	**-0.4**
KAN14	**Manchester OK**	**1.29**	**339**		**Pn**	**04 36 20.4**	**+0.1**
TUL1	**Leonard**	**1.31**	**83**	P		04 36 19.7	
	baz=264,SNR=294						
TUL1				S		04 36 37.9	
	baz=264						
KAN17	**Caldwell West**	**1.33**	**347**		**Pn**	**04 36 21.3**	**+0.5**
T35A	**Sooner Cattle**	**1.36**	**31**	Pn	**Pn**	**04 36 21.4**	**+0.2**
T35B	**Sooner Cattle**	**1.36**	**31**	P	**Pn**	**04 36 21.4**	**+0.1**
	baz=212,SNR=97						
T35B	**Sooner Cattle**	**1.36**	**31**	P		04 36 21.4	
	baz=212,SNR=97						
KAN09	**Caldwell North**	**1.40**	**352**		**Pn**	**04 36 22.4**	**+0.7**
KAN09				IAmb_Lg		04 36 43.4	
	comp=Z,244nm,0.7s						
KS20	**Mayfield South**	**1.48**	**355**		**Pn**	**04 36 23.8**	**+0.9**
KS20				IAmb_Lg		04 36 44.9	
	comp=Z,533nm,0.9s						
KAN10	**Anthony SW Sta**	**1.48**	**338**		**Pn**	**04 36 23.6**	**+0.7**
WMOK	**Wichita Mounta**	**1.52**	**229**		**Pn**	**04 36 23.4**	**-0.1**
WMOK	**Wichita Mounta**	**1.52**	**229**	P	**Pn**	**04 36 23.8**	**+0.3**
	baz=48,SNR=57						
WMOK	**Wichita Mounta**	**1.52**	**229**	P		04 36 23.8	
	baz=48,SNR=70						
WMOK				S		04 36 44.1	
	baz=48						
WMOK	**Wichita Mounta**	**1.52**	**229**	P		04 36 23.8	
	baz=48,SNR=57						
KAN08	**Anthony NE Sta**	**1.55**	**343**		**Pb**	**04 36 24.8**	**-0.1**
KAN08				IAmb_Lg		04 36 47.4	
	comp=Z,456nm,0.9s						
KS21	**Milan North St**	**1.55**	**352**	IAmb_Lg		04 36 47.0	
	comp=Z,649nm,0.8s						
KAN16	**Harper SW Stat**	**1.57**	**340**		**Pb**	**04 36 25.2**	**-0.2**
KAN12	**Harper NE Stat**	**1.62**	**343**		**Pb**	**04 36 26.1**	**-0.1**
LOOK	**Love County**	**1.76**	**174**		**Pn**	**04 36 27.9**	**+1.2**
LOOK				IAmb_Lg		04 36 54.8	
	comp=Z,394nm,1.1s						
X37A	**Clayton**	**2.02**	**124**		**Pn**	**04 36 31.4**	**+1.1**
X37A				IAmb_Lg		04 37 05.6	
	comp=Z,232nm,0.8s						
X37A	**Clayton**	**2.02**	**124**	P	**Pn**	**04 36 31.2**	**+1.0**
	baz=306,SNR=208						
X37A	**Clayton**	**2.02**	**124**	P		04 36 31.2	
	baz=306,SNR=208						
Z35A	**Perchaven, San**	**2.42**	**177**		**Pn**	**04 36 36.8**	**+1.1**
Z35A				IAmb_Lg		04 37 14.2	
	comp=Z,116nm,0.8s						
Z35A	**Perchaven, San**	**2.42**	**177**	P	**Pn**	**04 36 36.9**	**+1.1**
	baz=357,SNR=42						
Z35A	**Perchaven, San**	**2.42**	**177**	P		04 36 36.9	
	baz=357,SNR=42						
U38A	**Gravette**	**2.53**	**73**		**Pn**	**04 36 38.5**	**+1.2**
U38A				IAmb_Lg		04 37 21.1	
	comp=Z,152nm,0.8s						
U38A	**Gravette**	**2.53**	**73**	P	**Pn**	**04 36 38.4**	**+1.1**
	baz=255,SNR=64						
U38A	**Gravette**	**2.53**	**73**	P		04 36 38.4	
	baz=255,SNR=64						
HHAR	**Hobbs**	**2.85**	**78**		**Pn**	**04 36 42.5**	**+0.9**
HHAR	**Hobbs**	**2.85**	**78**	P	**Pn**	**04 36 42.4**	**+0.7**
	baz=260						
HHAR	**Hobbs**	**2.85**	**78**	P		04 36 42.4	
	baz=260						
R32A	**Long Quarter,**	**2.87**	**339**	Pn	**Pn**	**04 36 41.5**	**-0.5**
W39A	**Magazine**	**2.99**	**100**	Pn	**Pn**	**04 36 43.6**	**-0.1**
W39A				IAmb_Lg		04 37 38.4	
	comp=Z,226nm,0.8s						
W39A	**Magazine**	**2.99**	**100**	P	**Pn**	**04 36 44.5**	**+0.8**
	baz=282,SNR=45						
W39A	**Magazine**	**2.99**	**100**	P		04 36 44.5	
	baz=282,SNR=15						
W39A				S		04 37 21.0	
	baz=282						
W39A	**Magazine**	**2.99**	**100**	P		04 36 44.5	
	baz=282,SNR=45						
Z38A	**Mt. Pleasant**	**3.18**	**141**	P		04 36 47.3	
	baz=322						
Z38A	**Mt. Pleasant**	**3.18**	**141**	Pn	**Pn**	**04 36 46.4**	**+0.2**
Z38A				IAmb_Lg		04 37 43.7	
	comp=Z,176nm,0.8s						
Z38A	**Mt. Pleasant**	**3.18**	**141**	P	**Pn**	**04 36 47.3**	**+1.0**
	baz=322						
MIAR	**Mount Ida**	**3.35**	**110**		**Pn**	**04 36 49.0**	**+0.4**
MIAR				IAmb_Lg		04 37 47.4	
	comp=Z,166nm,0.7s						
MIAR	**Mount Ida**	**3.35**	**110**	P	**Pn**	**04 36 49.6**	**+1.1**
	baz=292,SNR=79						
MIAR	**Mount Ida**	**3.35**	**110**	P		04 36 49.5	
	baz=292,SNR=30						
MIAR				S		04 37 29.7	
	baz=292						
MIAR	**Mount Ida**	**3.35**	**110**	P		04 36 49.6	
	baz=292,SNR=79						
KSU1	**Kansas State U**	**3.40**	**10**	Pn	**Pn**	**04 36 49.1**	**-0.2**
KSU1					Lg	04 37 46.6	
KSU1				IAmb_Lg		04 37 49.1	
	comp=Z,211nm,0.8s						
CBKS	**Cedar Bluff**	**3.58**	**329**		**Pn**	**04 36 52.9**	**+1.1**
CBKS				IAmb_Lg		04 37 53.3	
	comp=Z,272nm,0.8s						
CBKS	**Cedar Bluff**	**3.58**	**329**	P	**Pn**	**04 36 52.6**	**+0.8**
	baz=148						
CBKS	**Cedar Bluff**	**3.58**	**329**	P		04 36 52.7	
	baz=148						
CBKS	**Cedar Bluff**	**3.58**	**329**	P		04 36 52.6	
	baz=148						
AMTX	**Amarillo**	**3.61**	**257**		**Pn**	**04 36 53.3**	**+1.0**
AMTX	**Amarillo**	**3.61**	**257**	P		04 36 53.6	
	baz=75						
ABTX	**Abilene, Hawle**	**3.64**	**212**	Pn	**Pn**	**04 36 53.4**	**+0.8**
ABTX				IAmb_Lg		04 37 48.9	
	comp=Z,96nm,0.8s						
ABTX	**Abilene, Hawle**	**3.64**	**212**	P	**Pn**	**04 36 53.2**	**+0.6**
	baz=30						
ABTX	**Abilene, Hawle**	**3.64**	**212**	P		04 36 53.1	
	baz=30						
ABTX				S		04 37 37.5	
	baz=30						
ABTX	**Abilene, Hawle**	**3.64**	**212**	P		04 36 53.2	
	baz=30						
U40A	**Yellville**	**3.73**	**79**		**Pn**	**04 36 53.8**	**0.0**
U40A				IAmb_Lg		04 37 58.0	
	comp=Z,145nm,0.8s						
U40A	**Yellville**	**3.73**	**79**	P	**Pn**	**04 36 53.9**	**+0.2**
	baz=262,SNR=20						
U40A	**Yellville**	**3.73**	**79**	P		04 36 53.7	
	baz=262						
U40A	**Yellville**	**3.73**	**79**	P		04 36 53.9	
	baz=262,SNR=20						
U40A				P		04 36 53.9	
	baz=262,SNR=20						
WHTX	**Lake Whitney,**	**3.75**	**181**	Pn	**Pn**	**04 36 53.9**	**-0.1**
WHTX	**Lake Whitney,**	**3.75**	**181**	P	**Pn**	**04 36 54.7**	**+0.6**
	baz=0.8,SNR=8.6						
WHTX	**Lake Whitney,**	**3.75**	**181**	P		04 36 54.6	
	baz=0.8,SNR=6.2						
WHTX	**Lake Whitney,**	**3.75**	**181**	P		04 36 54.7	
	baz=0.8,SNR=8.6						
S39A	**Bolivar**	**3.80**	**58**	Pn	**Pn**	**04 36 54.9**	**+0.1**
S39A				IAmb_Lg		04 38 00.3	
	comp=Z,213nm,0.7s						
S39A	**Bolivar**	**3.80**	**58**	P	**Pn**	**04 36 55.2**	**+0.5**
	baz=240,SNR=16						
S39A	**Bolivar**	**3.80**	**58**	P		04 36 55.2	
	baz=240,SNR=16						
X40A	**Basin Creek Fa**	**3.94**	**107**		**Pn**	**04 36 58.1**	**+1.4**
X40A	**Basin Creek Fa**	**3.94**	**107**	P		04 36 57.2	
	baz=290,SNR=12						
X40A				S		04 37 44.4	
	baz=290						
237A	**Washetta, Mont**	**3.96**	**160**		**Pn**	**04 36 57.5**	**+0.5**
237A				IAmb_Lg		04 38 01.8	
	comp=Z,98nm,0.9s						
237A	**Washetta, Mont**	**3.96**	**160**	P	**Pn**	**04 36 57.2**	**+0.2**
	baz=341,SNR=10						
237A	**Washetta, Mont**	**3.96**	**160**	P		04 36 57.2	
	baz=341,SNR=10						
WLAR	**White Oak Lake**	**4.08**	**119**	Pn	**Pn**	**04 36 59.0**	**+0.4**
WLAR				IAmb_Lg		04 38 14.4	
	comp=Z,140nm,0.8s						
WHAR	**Wooly Hollow**	**4.19**	**95**	Pn	**Pn**	**04 37 00.9**	**+0.8**
WHAR				IAmb_Lg		04 38 17.2	
	comp=Z,199nm,1.0s						
W41B	**Gary Mavity, V**	**4.24**	**96**	P	**Pn**	**04 37 01.3**	**+0.6**
	baz=279,SNR=58						
W41B	**Gary Mavity, V**	**4.24**	**96**	P		04 37 01.3	
	baz=279,SNR=14						
W41B				S		04 37 51.1	
	baz=279						
W41B	**Gary Mavity, V**	**4.24**	**96**	P		04 37 01.3	
	baz=279,SNR=58						
FCAR	**Ozark Folk Cen**	**4.28**	**87**		**Pn**	**04 37 01.4**	**+0.1**
FCAR				IAmb_Lg		04 38 12.9	
	comp=Z,107nm,0.8s						
MGMO	**Mountain Grove**	**4.36**	**70**		**Pn**	**04 37 03.2**	**+0.8**
MGMO				IAmb_Lg		04 38 12.9	
	comp=Z,256nm,0.9s						
Z41A	**Richland Creek**	**4.53**	**122**	P		04 37 05.4	
	baz=305						
Z41A				S		04 37 57.8	
	baz=305						
NATX	**Nacogdoches**	**4.58**	**150**	Pn	**Pn**	**04 37 05.1**	**-0.4**
NATX				IAmb_Lg		04 38 34.1	
	comp=Z,59nm,0.9s						
MSTX	**Muleshoe**	**4.77**	**250**	Pn	**Pn**	**04 37 07.6**	**-0.6**
MSTX				IAmb_Lg		04 38 40.9	
	comp=Z,67nm,1.1s						
MSTX	**Muleshoe**	**4.77**	**250**	P	**Pn**	**04 37 09.1**	**+1.0**
	baz=66,SNR=5.8						
MSTX	**Muleshoe**	**4.77**	**250**	P		04 37 08.7	
	baz=66						
MSTX	**Muleshoe**	**4.77**	**250**	P		04 37 09.1	
	baz=66,SNR=5.8						
R40A	**Maddies Statio**	**4.82**	**57**		**Pn**	**04 37 08.9**	**+0.2**
R40A				IAmb_Lg		04 38 28.8	
	comp=Z,158nm,0.9s						
P38A	**Dawn**	**4.93**	**37**	Pn	**Pn**	**04 37 12.4**	**+2.1**
P38A				IAmb_Lg		04 38 41.7	
	comp=Z,196nm,1.1s						
435B	**Jarrell**	**4.96**	**182**	Pn	**Pn**	**04 37 11.3**	**+0.6**
435B				IAmb_Lg		04 38 45.8	
	comp=Z,124nm,0.8s						
435B	**Jarrell**	**4.96**	**182**	P		04 37 11.4	
	baz=1.8						
435B				Sb		04 38 29.5	
	baz=1.8						
CCAR	**Cane Creek**	**4.97**	**110**	Pn	**Pn**	**04 37 11.8**	**+1.0**
CCAR					Lg	04 38 38.7	
CCAR				IAmb_Lg		04 38 47.8	
	comp=Z,154nm,1.0s						
N33A	**J Bar K, Exete**	**4.98**	**359**	Pn	**Pn**	**04 37 11.6**	**+0.6**
N33A				IAmb_Lg		04 38 47.9	
	comp=Z,94nm,0.8s						
LCAR	**Lake Charles**	**5.07**	**85**		**Pn**	**04 37 12.1**	**-0.1**
LCAR				IAmb_Lg		04 38 40.5	
	comp=Z,101nm,1.0s						
T42A	**Van Buren**	**5.24**	**74**		**Pn**	**04 37 15.9**	**+1.4**
T42A				IAmb_Lg		04 38 54.5	
	comp=Z,95nm,0.7s						
T42A	**Van Buren**	**5.24**	**74**	P	**Pn**	**04 37 14.5**	**0.0**
	baz=258						
T42A	**Van Buren**	**5.24**	**74**	P		04 37 14.5	
	baz=258						
N35A	**Tabor**	**5.28**	**15**		**Pn**	**04 37 15.7**	**+0.6**
KSCO	**Kaye Shedlock'**	**5.29**	**310**	Pn	**Pn**	**04 37 15.3**	**-0.1**
KSCO				IAmb_Lg		04 38 59.0	
	comp=Z,97nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**63**	Pn	**Pn**	**04 37 17.1**	**-0.1**
CCM				IAmb_Lg		04 38 52.6	
	comp=Z,116nm,0.7s						
HBAR	**Harrisburg**	**5.49**	**90**	Pn	**Pn**	**04 37 18.9**	**+1.0**
HBAR					LR	04 38 50.7	
JCT	**Junction City**	**5.63**	**202**	Pn	**Pn**	**04 37 20.8**	**+0.8**
JCT				IAmb_Lg		04 38 59.4	
	comp=Z,99nm,0.7s						
P40A	**Paris**	**5.67**	**47**	Pn	**Pn**	**04 37 21.4**	**+0.9**
BGNE	**Belgrade**	**5.68**	**354**	Pn	**Pn**	**04 37 22.0**	**+1.4**
BGNE				IAmb_Lg		04 39 12.6	
	comp=Z,80nm,0.7s						
BGNE	**Belgrade**	**5.68**	**354**	P	**Pn**	**04 37 21.6**	**+1.0**
	baz=174,SNR=7.7						
BGNE	**Belgrade**	**5.68**	**354**	P		04 37 21.6	
	baz=174,SNR=7.7						
PBMO	**Poplar Bluff**	**5.72**	**78**	Pn	**Pn**	**04 37 22.0**	**+1.0**
PBMO				IAmb_Lg		04 38 58.4	
	comp=Z,128nm,0.8s						
LPAR	**Lepanto**	**5.77**	**89**	Pn	**Pn**	**04 37 23.1**	**+1.3**
LPAR					LR	04 39 01.1	
LPAR				IAmb_Lg		04 39 11.9	
	comp=Z,104nm,0.8s						
143A	**Socs Landing,**	**5.81**	**120**	Pn	**Pn**	**04 37 23.4**	**+1.0**
143A				IAmb_Lg		04 39 11.2	
	comp=Z,81nm,0.8s						
T25A	**Trinidad**	**5.83**	**286**		**Pn**	**04 37 23.4**	**+0.6**
T25A				IAmb_Lg		04 39 10.0	
	comp=Z,110nm,0.8s						
T25A	**Trinidad**	**5.83**	**286**	P		04 37 22.2	
	baz=102						
GNAR	**Gosnell**	**5.99**	**86**	Pn	**Pn**	**04 37 25.0**	**+0.2**
N38A	**Joes South For**	**6.00**	**32**		**Pn**	**04 37 25.4**	**+0.4**
342A	**Flagon Creek P**	**6.08**	**134**	Pn	**Pn**	**04 37 26.4**	**+0.4**
441A	**DeRidder**	**6.10**	**144**	Pn	**Pn**	**04 37 26.0**	**-0.4**
PEBM	**Pemiscott Bayo**	**6.12**	**84**	Pn	**Pn**	**04 37 27.8**	**+1.2**
PARMO	**Parma**	**6.24**	**79**	Pn	**Pn**	**04 37 29.0**	**+0.7**
L34A	**Svendsen Farm,**	**6.26**	**7**	Pn	**Pn**	**04 37 29.7**	**+1.1**
PENMO	**Penman**	**6.32**	**81**	IAmb_Lg		04 39 28.4	
	comp=Z,143nm,0.8s						
OGNE	**Ogallala**	**6.34**	**326**	Pn	**Pn**	**04 37 29.4**	**-0.3**
OGNE				IAmb_Lg		04 39 19.2	
	comp=Z,142nm,0.8s						
OGNE	**Ogallala**	**6.34**	**326**	P		04 37 29.5	
	baz=144						
SLM	**Saint Louis**	**6.39**	**61**	Pn	**Pn**	**04 37 31.1**	**+0.7**
LNXT	**Lenox**	**6.42**	**85**	Pn	**Pn**	**04 37 32.0**	**+1.2**
HENM	**Henderson Moun**	**6.47**	**79**	Pn	**Pn**	**04 37 32.4**	**+1.0**
HALT	**Halls**	**6.54**	**86**		Lg	04 39 23.5	
HALT				IAmb_Lg		04 39 35.5	
	comp=Z,120nm,0.8s						
GLAT	**Glass**	**6.59**	**83**	Pn	**Pn**	**04 37 34.3**	**+1.2**
HICK	**Hickman**	**6.65**	**81**	Pn	**Pn**	**04 37 33.5**	**-0.4**
OXF	**Oxford**	**6.66**	**98**	Pn	**Pn**	**04 37 34.2**	**+0.2**
OXF				IAmb_Lg		04 39 35.7	
	comp=Z,63nm,0.8s						
OXF	**Oxford**	**6.66**	**98**	P		04 37 34.0	
	baz=283,SNR=6.5						
VBMS	**Vicksburg**	**6.71**	**120**	Pn	**Pn**	**04 37 36.2**	**+1.5**
VBMS				IAmb_Lg		04 39 34.3	
	comp=Z,38nm,1.0s						
W45A	**Hickory Valley**	**6.72**	**93**	Pn	**Pn**	**04 37 36.1**	**+1.2**
W45A				IAmb_Lg		04 39 38.8	
	comp=Z,98nm,0.9s						
Y45A	**Yeager Farm, C**	**6.72**	**104**	Pn	**Pn**	**04 37 34.5**	**-0.4**
Y45A				IAmb_Lg		04 39 41.7	
	comp=Z,64nm,1.0s						
GDL2	**Guadalupe Moun**	**6.79**	**241**	Pn	**Pn**	**04 37 36.4**	**+0.4**
SDCO	**Great Sand Dun**	**6.81**	**289**	Pn	**Pn**	**04 37 36.4**	**0.0**
SDCO				IAmb_Lg		04 39 41.3	
	comp=Z,43nm,1.0s						
SDCO	**Great Sand Dun**	**6.81**	**289**	P		04 37 37.8	
	baz=105						
S44A	**Carbondale**	**6.81**	**71**	Pn	**Pn**	**04 37 37.4**	**+1.2**
735A	**Kenedy**	**6.88**	**183**	Pn	**Pn**	**04 37 38.0**	**+0.9**
735A				IAmb_Lg		04 39 52.2	
	comp=Z,71nm,1.0s						
K31A	**O'Neill**	**6.94**	**352**	Pn	**Pn**	**04 37 39.1**	**+1.1**
SCIA	**State Center**	**6.96**	**27**		**Pn**	**04 37 39.0**	**+0.9**
SCIA	**State Center**	**6.96**	**27**	P		04 37 38.1	
	baz=209						
344A	**Westbrook Farm**	**7.01**	**126**	Pn	**Pn**	**04 37 39.1**	**+0.2**
N41A	**Harden Midland**	**7.14**	**44**	Pn	**Pn**	**04 37 41.0**	**+0.4**
P43A	**Skaggs, Pawnee**	**7.35**	**56**	Pn	**Pn**	**04 37 43.9**	**+0.4**
Q44A	**Meyer Farm, Va**	**7.38**	**62**	Pn	**Pn**	**04 37 44.8**	**+1.0**
ANMO	**Albuquerque**	**7.45**	**266**	Pn	**Pn**	**04 37 45.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=97,slow=19,SNR=1.8						
ANMO					Pg	**04 38 06.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=75,slow=14,SNR=6.8						
ANMO					Sn	**04 39 11.5**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=80,slow=15,SNR=1.8						
ANMO					Lg	04 39 47.5	
	comp=Z,1.7nm,0.3s,baz=78,slow=11,S

comp=Z,26nm,1.0s
V48A Smith Brothers 8.59 87 Pn **Pn** **04 38 01.2 +0.7**
L42A Oliver, Polo 8.67 42 **Pn** **04 38 02.1 +0.5**
SUSD Miller 8.76 353 Pn **Pn** **04 38 03.2 +0.3**
SUSD IAmb_Lg 04 40 45.0
comp=Z,46nm,0.8s
I37A Lemond, Waseca 8.80 19 Pn **Pn** **04 38 03.3 -0.1**
I37A IAmb_Lg 04 40 45.7
comp=Z,105nm,0.9s
CLTN Cedars of Leba 8.98 85 Pn **Pn** **04 38 06.0 +0.2**
CLTN IAmb_Lg 04 40 43.5
comp=Z,28nm,0.9s
LRAL Lakeview Retre 9.01 105 Pn **Pn** **04 38 05.8 -0.4**
LRAL Lakeview Retre 9.01 105 P 04 38 06.1
baz=290
JFWS Jewell Farm 9.04 36 Pn **Pn** **04 38 07.6 +0.9**
JFWS Jewell Farm 9.04 36 P 04 38 06.2
baz=220
MVCO Mesa Verde 9.07 283 Pn **Pn** **04 38 07.1 -0.2**
121A Cookes Peak, D 9.19 253 Pn **Pn** **04 38 09.1 +0.1**
121A IAmb_Lg 04 41 11.1
comp=Z,42nm,1.3s
121A Cookes Peak, D 9.19 253 P 04 38 09.5
baz=67
WCI Wyandotte Cave 9.21 71 IAmb_Lg 04 40 49.4
comp=Z,77nm,0.8s
Y49A Blount Mountai 9.22 99 Pn **Pn** **04 38 09.6 +0.4**
PV15 Paradox Valley 9.24 290 Pn **Pn** **04 38 10.2 +0.6**
BLO Bloomington 9.29 65 **Pn** **04 38 10.5 +0.4**
SFIN Lafayette 9.34 57 Pn **Pn** **04 38 11.7 +1.0**
SFIN IAmb_Lg 04 40 58.5
comp=Z,88nm,0.8s
SWET Sewanee 9.36 90 IAmb_Lg 04 41 05.1
comp=Z,24nm,0.8s
PV02 Paradox Valley 9.40 288 Pn **Pn** **04 38 11.7 -0.2**
PV02 IAmb_Lg 04 41 18.5
comp=Z,26nm,1.2s
U49A Red Boiling Sp 9.42 82 Pn **Pn** **04 38 13.4 +1.5**
U49A IAmb_Lg 04 40 58.0
comp=Z,27nm,0.8s
PV13 Radium Mtn., P 9.46 288 Pn **Pn** **04 38 13.5 +0.8**
PV12 Saucer Basin, 9.48 289 IAmb_Lg 04 41 14.8
comp=Z,32nm,1.1s
PV11 David Mesa, Pa 9.53 289 IAmb_Lg 04 41 16.4
comp=Z,52nm,1.2s
PV16 Nyswonger Mesa 9.56 289 IAmb_Lg 04 41 26.4
comp=Z,21nm,1.0s
PV04 Paradox Valley 9.57 289 IAmb_Lg 04 41 08.3
comp=Z,23nm,1.0s
I40A Norwalk 9.65 31 **Pn** **04 38 14.6 -0.5**
I40A IAmb_Lg 04 41 24.0
comp=Z,43nm,0.8s
RWWY Rawlins 9.69 311 IAmb_Lg 04 41 12.7
comp=Z,30nm,0.9s
RSSD Black Hills 9.79 331 Pn **Pn** **04 38 17.3 +0.1**
RSSD IAmb_Lg 04 41 20.2
comp=Z,34nm,0.8s
RSSD Black Hills 9.79 331 P 04 38 17.0
baz=146
W50A Signal Mountai 9.87 90 IAmb_Lg 04 41 18.2
comp=Z,39nm,0.8s
K43A Burlington 9.87 43 Pn **Pn** **04 38 19.0 +0.9**
K22A Casper 9.88 317 IAmb_Lg 04 41 31.1
comp=Z,84nm,1.1s
K22A Casper 9.88 317 P 04 38 16.2
baz=131
SPMN Marine on St. 10.09 19 Pn **Pn** **04 38 21.1 +0.1**
P48A Milroy 10.19 65 Pn **Pn** **04 38 23.1 +0.7**
T50A Nancy 10.20 79 Pn **Pn** **04 38 24.6 +2.0**
P49A Miami Univ. Ec 10.73 66 Pn **Pn** **04 38 30.3 +0.4**
R50A Paris 10.75 73 Pn **Pn** **04 38 30.2 +0.1**
G40A Rib Lake 10.96 28 Pn **Pn** **04 38 32.4 -0.7**
SRU San Rafael Swe 10.97 292 Pn **Pn** **04 38 33.9 +0.6**
W52A Murphy 11.01 90 Pn **Pn** **04 38 33.0 -0.7**
TKL Tuckaleechee C 11.07 87 Pn **Pn** **04 38 35.6 +1.1**
comp=Z,0.2nm,0.3s,baz=310,slow=9.9,SNR=2.3
TKL Lg Lg 04 41 39.2
comp=Z,1.5nm,0.3s,baz=286,slow=19,SNR=6.5
Y52A Lilburn 11.12 96 Pn **Pn** **04 38 35.8 +0.7**
V52A Sevierville 11.21 86 Pn **Pn** **04 38 36.8 +0.4**
O49A Covington 11.21 63 Pn **Pn** **04 38 37.7 +1.2**
H43A Windswept, Lux 11.40 37 Pn **Pn** **04 38 40.1 +1.2**
Q51A Peebles 11.64 70 Pn **Pn** **04 38 43.5 +1.2**
PDAR Pinedale Array 11.74 310 Pn **Pn** **04 38 44.0 +0.1**
comp=Z,0.2nm,0.3s,baz=118,slow=12,SNR=4.8
PDAR Lg Lg 04 41 55.1
comp=Z,0.2nm,0.3s,baz=124,slow=20,SNR=2.1
P51A Williamsport 11.96 68 Pn **Pn** **04 38 47.3 +0.7**
COWI Conover 12.07 29 **Pn** **04 38 47.4 -0.8**
ULM Lac du Bonnet 14.53 4 Pn Pn 04 39 15.8 -6.0
comp=Z,0.3nm,0.3s,baz=193,slow=8.8,SNR=1.9
ULM Sn Sn 04 41 49.4 -13
comp=Z,0.2nm,0.3s,baz=189,slow=13,SNR=1.2
ULM Lg Lg 04 43 22.2
comp=Z,0.2nm,0.3s,baz=176,slow=16,SNR=1.4
SADO Sadowa 16.56 52 Pn **Pn** **04 39 48.0 -0.3**
SADO Sn **Sn** **04 42 50.6 -1.5**
comp=Z,0.3nm,0.3s,baz=315,slow=21,SNR=1.5
SADO Lg Lg 04 44 27.7
comp=Z,0.5nm,0.3s,baz=333,slow=21,SNR=2.5

IDC 26 04:35:58.1±55.0, 18°68S×179°72E, h563km±230km, mb3.1/4, mb1 3.2/5, mb1mx2.9/44, mbtmp4.1/5, Error ellipse: s-maj=694.4km s-min=125.5km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.90**	**253**	P	P	04 38 46.5	+0.4
	0.3nm,0.3s,baz=72,slow=14,SNR=1.9						
STKA	**Stephens Creek**	**36.70**	**242**	P	P	04 42 17.4	-0.8
	0.8nm,0.4s,baz=96,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**42.75**	**261**	P	P	04 43 06.3	-0.6
	0.9nm,0.8s,baz=92,slow=8.0,SNR=5.6						
ASAR	**Alice Springs**	**42.88**	**255**	P	P	04 43 08.0	+0.1
	2.4nm,0.4s,baz=89,slow=8.4,SNR=19						
FITZ	**Fitzroy Crossi**	**51.16**	**262**	P	P	04 44 10.4	+0.3
	2.9nm,0.9s,baz=106,slow=7.4,SNR=0.9						

*IDC **26** 04:37:37.9±1.1, 10°.64S×152°.54E, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/37, mbtmp4.0/11, ML3.7/1, MS3.3/6, Ms1 3.3/6, ms1mx3.1/28, Error ellipse: s-maj=30.3km s-min=18.9km az=111.0*
*NEIC **26** 04:37:43.8±2.7, 10°.64S±0°.07×152°.4E±0°.1, h30km±5km, mb4.1/12, Error ellipse: s-maj=19.0km s-min=10.0km az=77.0*

ISC 26 04:37:43.2±0.8, 10°.68S±0°.08×152°.5E±0°.1, h35km, n31, σ1s29/26, mb4.1/10, MS3.5/3, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**283**	Pn	**Pn**	**04 38 59.4**	**-2.0**
	2.0nm,0.3s,baz=119,slow=12,SNR=3.7						
PMG				Sn	**Sn**	**04 40 05.1**	**+2.6**
	0.6nm,0.3s,baz=49,slow=18,SNR=1.9						
PMG				LR	LR	04 40 32.0	
	comp=Z,92nm,21.9s,baz=198,slow=32						
HNR	**Honiara**	**7.44**	**81**	LR	LR	04 41 55.7	
	comp=Z,108nm,21.3s,baz=252,slow=35						
CTA	**Charters Tower**	**11.12**	**212**	Pn	**Pn**	**04 40 20.6**	**+0.6**
	2.0nm,0.3s,baz=29,slow=14,SNR=9.8						
CTA				Sn	**Sn**	**04 42 23.8**	**+0.6**
	0.5nm,0.3s,baz=11,slow=19,SNR=1.9						
CTAO	**Charters Tower**	**11.12**	**212**	Pn	**Pn**	**04 40 18.6**	**-1.3**
EIDS	**Eidsvold**	**14.68**	**185**	Pn	**Pn**	**04 41 07.4**	**-1.0**
DZM	**Mont Dzumac**	**17.52**	**132**	LR	LR	04 46 36.7	
	comp=Z,131nm,21.8s,baz=284,slow=31						
WR0	**Warramunga Arr**	**19.61**	**240**	P	**P**	**04 42 07.3**	**-1.4**
WB0	**Warramunga Arr**	**19.65**	**240**	P	**P**	**04 42 07.5**	**-1.7**
WB2	**Warramunga Arr**	**19.76**	**240**	P	**P**	**04 42 09.5**	**-0.9**
WB2				IAmb	IAmb	04 42 18.3	
	comp=Z,9.7nm,1.0s						
WRA	**Warramunga Arr**	**19.77**	**240**	P	**P**	**04 42 09.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=9.6						
AS31	**Alice Springs**	**21.93**	**232**	P	**P**	**04 42 32.3**	**-1.6**
ASAR	**Alice Springs**	**21.93**	**232**	P	**P**	**04 42 33.6**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=61,slow=8.9,SNR=13						
STKA	**Stephens Creek**	**23.38**	**204**	P	**P**	**04 42 48.2**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=20,slow=11,SNR=4.6						
STKA				LR	LR	04 51 17.0	
	comp=Z,191nm,20.7s,baz=203,slow=35						
STKA	**Stephens Creek**	**23.38**	**204**	IAmb	IAmb	04 42 52.3	
	comp=Z,0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.02**	**251**	P	**P**	**04 43 23.0**	**+0.7**
	comp=Z,8.0nm,1.2s,baz=23,slow=7.7,SNR=1.8						
FITZ				LR	LR	04 53 15.3	
	comp=Z,68nm,20.9s,baz=159,slow=35						
MJAR	**Matsushiro Arr**	**48.86**	**345**	P	**P**	**04 46 25.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=163,slow=8.8,SNR=1.8						
MJAR	**Matsushiro Arr**	**48.86**	**345**	IAmb	IAmb	04 46 33.9	
	comp=Z,3.8nm,1.5s						
USRK	**Ussuriysk Ar.**	**57.71**	**343**	LR	LR	05 09 28.4	
	comp=Z,100nm,21.1s,baz=45,slow=33						
CMAR	**Chiang Mai Arr**	**60.24**	**298**	P	**P**	**04 47 47.7**	**-0.8**
HIA	**Hailar**	**66.27**	**337**	P	**P**	**04 48 29.2**	**+1.3**
VNDA	**Vanda**	**67.01**	**178**	P	**P**	**04 48 33.8**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=281,slow=5.2,SNR=2.2						
VNDA	**Vanda**	**67.01**	**178**	IAmb	IAmb	04 48 36.6	
	comp=Z,1.2nm,1.1s						
SONM	**Songino Array**	**71.15**	**329**	P	**P**	**04 48 59.1**	**+0.7**
	comp=Z,1.6nm,1.1s,baz=160,slow=4.7,SNR=4.5						
SONM	**Songino Array**	**71.15**	**329**	IAmb	IAmb	04 49 03.9	
	comp=Z,1.9nm,1.1s						
QSPA	**South Pole Qui**	**79.32**	**180**	P	**P**	**04 49 47.1**	**+1.9**
QSPA				IAmb	IAmb	04 49 51.3	
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**84.55**	**320**	P	**P**	**04 50 13.2**	**+0.3**
MK31				IAmb	IAmb	04 50 18.5	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**84.55**	**320**	P	**P**	**04 50 13.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=134,slow=5.2,SNR=4.9						
MKAR	**Makanchi Array**	**84.55**	**320**	P	**P**	**04 50 12.7**	**-0.2**
ILAR	**Eielson Array**	**87.68**	**22**	P	**P**	**04 50 26.3**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=251,slow=5.1,SNR=4.9						
AAK	**Ala-Archa**	**88.48**	**314**	P	**P**	**04 50 32.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**151.34**	**278**	PKPbc	**PKPbc**	**04 57 33.2**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=61,slow=2.4,SNR=4.3						

*BJI **26** 04:39:46.1±0.0, 57°.80N×154°.40W, h10km, mB5.0/27, mb4.8/44, Ms4.7/16, Ms7 4.3/17*
*IDC **26** 04:39:47.6±0.4, 57°.96N×154°.27W, h0km, mb4.6/47, mb1 4.7/50, mb1mx4.6/73, mbtmp4.6/50, ML4.4/3, MS3.9/28, Ms1 3.9/28, ms1mx3.7/51, Error ellipse: s-maj=13.0km s-min=6.4km az=16.0*
*AEIC **26** 04:39:49±2.5, 57°.77N±0°.03×154°.06W±0°.05, h28km±3km, ML4.7/175, mb4.9/224(NEIC), ML4.9/50(NEIC), Mwr4.6/36(NEIC), Mww4.8(NEIC), Error ellipse: s-maj=4.7km s-min=3.5km az=215.0*
*NEIC **26** 04:39:50.8±2.0, 57°.79N±0°.05×154°.19W±0°.07, h22km±3km, Error ellipse: s-maj=7.5km s-min=5.7km az=180.0*
*NEIC **26** 04:39:51.5, 57°.76N×154°.09W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=8.24; $M_{\theta\theta}$2.13; $M_{\phi\phi}$6.11; $M_{r\theta}$1.31; $M_{r\phi}$-4.53; $M_{\theta\phi}$0.55; Fault plane solution: $M_0$8.80000×10^{15} NP1:ϕ_s316.76000°, δ46.76000°, λ-104.20000°. NP2:ϕ_s157.04000°, δ45.07000°, λ-75.38000°. Principal axes: T 9.0697, Plg1.0000°, Azm57.0000°; N -0.5771, Plg10.0000°, Azm327.0000°; P -8.4926, Plg80.0000°, Azm151.0000°;*
*BGR **26** 04:39:52.4±0.0, 57°.61N×154°.47W, h33km, mb5.0, Ms3.8*
*GCMT **26** 04:39:52.0±0.4, 57°.72N±0°.03×154°.08W±0°.04, h31km, MW4.9/59, Moment Tensor Solution. s39,c42; s59,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.65±.17; $M_{\theta\theta}$0.66±.12; $M_{\phi\phi}$1.99±.12; $M_{r\theta}$-0.17±.15; $M_{\phi\phi}$-0.93±.06; $M_{\theta\phi}$-0.20±.13; Best double couple: $M_0$2.57100×10^{16} NP1:ϕ_s148.00000°, δ44.00000°, λ-97.00000°. NP2: ϕ_s338.00000°, δ46.00000°, λ-83.00000°. Principal axes: T 2.4700, Plg1.0000°, Azm63.0000°; N 0.2020, Plg5.0000°, Azm153.0000°; P -2.6720, Plg85.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 04:39:53, 57°.75N×154°.09W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.88; $M_{\theta\theta}$0.44; $M_{\phi\phi}$1.44; $M_{r\theta}$0.53; $M_{r\phi}$-0.64; $M_{\theta\phi}$0.09; Fault plane solution: $M_0$1.90000×10^{16} NP1:ϕ_s167.00000°, δ44.00000°, λ-70.00000°. NP2:ϕ_s321.00000°, δ49.00000°, λ-108.00000°. Principal axes: T 1.7624, Plg2.0000°, Azm63.0000°; N 0.2481, Plg13.0000°, Azm333.0000°; P -2.0106, Plg76.0000°, Azm163.0000°;*

ISC 26 04:39:50.7±1.0, 57°.83N±0°.03×154°.12W±0°.03, h24km±7km, n507, σ1s30/452, mb4.9/201, MS3.9/32, 2C-11D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KABR	**Katmai Barrier**	**0.54**	**304**		**Pn**	**04 40 02.6**	**-0.4**
KAWH	**Katmai**	**0.66**	**327**		**Pn**	**04 40 04.8**	**+0.2**
CAHL	**Cahill**	**0.67**	**290**		**Pn**	**04 40 04.7**	**0.0**
KCE	**Katmai Mt Cerb**	**0.70**	**306**		**Pn**	**04 40 05.5**	**+0.3**
KBM	**Katmai Bkd Mtn**	**0.73**	**308**		**Pn**	**04 40 06.0**	**+0.4**
OHAK	**Old Harbor**	**0.76**	**144**		**Sb**	**04 40 14.1**	**-1.0**
OHAK	**Old Harbor**	**0.76**	**144**	Pn	**Pb**	**04 40 04.1**	**-1.1**
OHAK	**Old Harbor**	**0.76**	**144**	IAML		04 40 17.4	
	comp=E,22μm,0.3s						
OHAK				IAML		04 40 19.1	
	comp=N,25μm,0.9s						
OHAK	**Old Harbor**	**0.76**	**144**	P		04 40 04.4	
	baz=323,SNR=842						
KABU	**Katmai Buttres**	**0.76**	**306**		**Sn**	**04 40 18.5**	**+1.7**
KJL	**Kejulik**	**0.81**	**287**		**Pn**	**04 40 07.0**	**+0.4**
ANCK	**Angle Creek**	**0.82**	**297**		**Pn**	**04 40 07.2**	**+0.4**
KDAK	**Kodiak Island**	**0.82**	**93**	Pg	**Pb**	**04 40 05.6**	**-0.7**
	comp=N,4μm,0.3s,baz=284,slow=11						
KDAK				Lg	Lg	04 40 16.3	
	comp=N,3μm,0.3s,baz=253,slow=19,SNR=14						
KDAK	**Kodiak Island**	**0.82**	**93**		**Pb**	**04 40 05.3**	**-1.0**
KDAK				IAML		04 40 22.1	
	comp=N,26μm,0.9s						
KDAK				IAML		04 40 22.2	
	comp=N,36μm,1.1s						
KDAK	**Kodiak Island**	**0.82**	**93**		**Sb**	**04 40 16.1**	**-0.8**
KDAK	**Kodiak Island**	**0.82**	**93**	P		04 40 05.5	
	baz=270						
KVTA	**Katmai Vly 10**	**0.83**	**312**		**Pn**	**04 40 07.7**	**+0.7**
PLK3	**Peulik 3**	**1.16**	**264**		**Pb**	**04 40 12.4**	**+0.3**
PLK2	**Peulik 2**	**1.18**	**268**		**Pb**	**04 40 12.9**	**+0.4**
PLK1	**Peulik 1**	**1.33**	**270**		**Pb**	**04 40 15.2**	**+0.2**
PLK5	**Peulik 5**	**1.48**	**278**		**Pb**	**04 40 17.6**	**+0.1**
AUQ	**Augustine Qik'**	**1.57**	**13**		**Pb**	**04 40 18.7**	**-0.3**
AUCH	**Augustine Cone**	**1.57**	**13**		**Pb**	**04 40 18.8**	**-0.3**
AUW	**Augustine West**	**1.58**	**12**		**Pb**	**04 40 18.9**	**-0.3**
AU22	**Augustine Moun**	**1.59**	**14**		**Pb**	**04 40 19.0**	**-0.4**
AU22					**Sb**	**04 40 41.0**	**+2.0**
AUL	**Augustine Lava**	**1.59**	**13**		**Pb**	**04 40 19.1**	**-0.3**
OPT	**Oil Point**	**1.88**	**14**		**Pn**	**04 40 23.4**	**-1.0**
ILS	**Iliamna Low So**	**2.20**	**14**		**Pn**	**04 40 27.5**	**+1.6**
IVE	**Iliamna Volcan**	**2.26**	**14**		**Pn**	**04 40 28.4**	**+1.7**
CNPM	**China Poot**	**2.27**	**40**		**Pn**	**04 40 28.3**	**+1.6**
CNPM				IAML		04 41 02.7	
	comp=E,7μm,0.8s						
CNPM				IAML		04 41 03.1	
	comp=N,6μm,0.8s						
CNPM	**China Poot**	**2.27**	**40**		**Sb**	**04 40 58.1**	**-0.4**
O19K	**Port Alsworth**	**2.37**	**358**		**Pn**	**04 40 29.4**	**+1.3**
O19K					**Sb**	**04 41 01.8**	**+0.3**
O19K	**Port Alsworth**	**2.37**	**358**	P		04 40 29.2	
	baz=177						
BRLK	**Bradley Lake**	**2.56**	**40**		**Pn**	**04 40 32.1**	**+1.3**
BRLK				IAML		04 41 10.0	
	comp=E,5μm,0.8s						
BRSE	**Bradley Lake S**	**2.60**	**41**		**Pn**	**04 40 33.1**	**+1.8**
BRSE	**Bradley Lake S**	**2.60**	**41**	P		04 40 33.1	
	baz=222,SNR=519						
RED	**Redoubt Volcan**	**2.69**	**14**		**Pn**	**04 40 34.0**	**+1.5**
RSO	**Redoubt South**	**2.73**	**14**	Pn	**Pn**	**04 40 34.8**	**+1.6**
REF	**Redoubt East F**	**2.76**	**15**		**Pn**	**04 40 36.0**	**+2.4**
NCT	**North Crescent**	**2.81**	**12**		**Pn**	**04 40 36.3**	**+2.2**
DFR	**Drift River**	**2.86**	**14**		**Pn**	**04 40 37.1**	**+2.2**
N19K	**Bonanza Creek**	**3.00**	**357**		**Pn**	**04 40 38.0**	**+1.2**
N19K	**Bonanza Creek**	**3.00**	**357**	P		04 40 38.0	
	baz=176,SNR=384						
N18K	**Kilae Creek**	**3.00**	**343**		**Pn**	**04 40 38.0**	**+1.2**
N18K					**Sb**	**04 41 17.0**	**-2.5**
N18K	**Kilae Creek**	**3.00**	**343**	P		04 40 37.7	
	baz=161,SNR=430						
VNHG	**Veniaminof 1**	**3.20**	**242**		**Pn**	**04 40 41.1**	**+1.6**
VNSG	**Veniaminof 6**	**3.21**	**240**		**Pn**	**04 40 41.2**	**+1.5**
CAPN	**Captain Cook N**	**3.31**	**26**		**Pn**	**04 40 44.1**	**+3.1**
CAPN	**Captain Cook N**	**3.31**	**26**	P		04 40 41.9	
	baz=208,SNR=11						
SEW	**Seward**	**3.32**	**45**		**Pn**	**04 40 42.0**	**+0.9**
SEW	**Seward**	**3.32**	**45**	P		04 40 41.9	
	baz=228,SNR=70						
SLKM	**Skilak Lake**	**3.35**	**35**		**Pn**	**04 40 42.9**	**+1.4**
VNFG	**Fog Glacier, M**	**3.35**	**245**		**Pn**	**04 40 43.3**	**+1.7**
SVW2	**Sparrevohn**	**3.36**	**348**		**Pn**	**04 40 43.0**	**+1.3**
SVW2	**Sparrevohn**	**3.36**	**348**	IAML		04 41 39.4	
	comp=E,2μm,1.1s						
O22K	**Cooper Landing**	**3.49**	**39**		**Pn**	**04 40 44.4**	**+1.0**
O22K	**Cooper Landing**	**3.49**	**39**	P		04 40 44.1	
	baz=221,SNR=24						
SPCR	**Spurr Chakacha**	**3.52**	**15**		**Pn**	**04 40 46.7**	**+2.8**
SPCR	**Spurr Chakacha**	**3.52**	**15**	P		04 40 44.9	
	baz=196,SNR=73						
SPU	**Mount Spurr**	**3.52**	**16**		**Pn**	**04 40 45.8**	**+1.9**
SPCN	**Chakachatna No**	**3.54**	**15**		**Pn**	**04 40 46.5**	**+2.2**
SPBG	**Spurr Blockage**	**3.55**	**14**		**Pn**	**04 40 47.2**	**+2.8**
SPCP	**Crater Peak Br**	**3.59**	**15**		**Pn**	**04 40 47.5**	**+2.6**
SPCG	**Spurr Capps Gl**	**3.63**	**16**		**Pn**	**04 40 48.0**	**+2.5**
STLK	**Strandline Lak**	**3.86**	**17**		**Pn**	**04 40 51.3**	**+2.8**
FIS	**Fire Island**	**3.87**	**29**		**Pn**	**04 40 50.2**	**+1.6**
RC01	**Rabbit Creek A**	**3.96**	**33**	Pn	**Pn**	**04 40 51.6**	**+1.8**
RC01	**Rabbit Creek A**	**3.96**	**33**	P		04 40 51.6	
	baz=215,SNR=120						
SUA	**Susitna One**	**4.02**	**24**		**Pn**	**04 40 52.7**	**+1.8**
SUA				IAML		04 41 51.9	
	comp=N,2μm,1.0s						
SUA	**Susitna One**	**4.02**	**24**	P		04 40 53.3	
	baz=206,SNR=440						
PWL	**Port Wells**	**4.24**	**42**		**Pn**	**04 40 54.6**	**+0.8**
PWL				IAML		04 42 07.0	
	comp=N,2μm,0.8s						
PWL				IAML		04 42 18.9	
	comp=E,1μm,1.2s						
CHNA	**Chernabura Isl**	**4.28**	**228**	P		04 40 54.5	
	baz=44,SNR=43						
CNBA	**Chernabura Isl**	**4.29**	**228**		**Pn**	**04 40 54.5**	**+0.1**
CNBA	**Chernabura Isl**	**4.29**	**228**	IAML		04 42 01.2	
	comp=E,1μm,0.6s						
CNBA				IAML		04 42 08.0	
	comp=N,945nm,0.9s						
SDPT	**Sand Point**	**4.31**	**237**		**Pn**	**04 40 54.9**	**+0.2**
SDPT				IAML		04 41 53.9	
	comp=N,2μm,0.7s						
SDPT				IAML		04 42 18.2	
	comp=E,2μm,0.9s						
SDPT	**Sand Point**	**4.31**	**237**	P		04 40 55.4	
	baz=53,SNR=44						
SKT	**Skwentna**	**4.36**	**16**		**Pn**	**04 40 57.7**	**+2.3**
SKT	**Skwentna**	**4.36**	**16**	P		04 40 57.6	
	baz=198,SNR=84						
MID	**Middleton Isla**	**4.37**	**65**		**Pn**	**04 40 55.4**	**0.0**
PMR	**Palmer**	**4.54**	**32**		**Pn**	**04 40 59.2**	**+1.4**
PMR	**Palmer**	**4.54**	**32**	P		04 40 58.7	
	baz=215,SNR=20						
KNK	**Knik Glacier**	**4.60**	**36**		**Pn**	**04 40 59.7**	**+1.0**
KNK	**Knik Glacier**	**4.60**	**36**	IAML		04 42 13.8	
	comp=N,978nm,0.9s						
KNK				IAML		04 42 26.0	
	comp=E,2μm,1.2s						
KNK	**Knik Glacier**	**4.60**	**36**	P		04 40 59.6	
	baz=220,SNR=62						
HIN	**Hinchinbrook I**	**4.69**	**54**		**Pn**	**04 41 00.8**	**+0.8**
HIN	**Hinchinbrook I**	**4.69**	**54**	IAML		04 42 50.2	
	comp=E,1μm,1.3s						
GLI	**Glacier Island**	**4.71**	**47**		**Pn**	**04 41 00.6**	**+0.3**
GLI	**Glacier Island**	**4.71**	**47**	IAML		04 42 25.3	
	comp=E,736nm,0.9s						
GLI				IAML		04 42 25.7	
	comp=N,924nm,1.2s						
GLI	**Glacier Island**	**4.71**	**47**	P		04 41 00.3	
	baz=232,SNR=36						
GHO	**Glory Hole Cre**	**4.74**	**31**		**Pn**	**04 41 02.3**	**+1.6**
GHO	**Glory Hole Cre**	**4.74**	**31**	IAML		04 42 36.5	
	comp=E,1μm,1.0s						
FID	**Port Fidalgo**	**4.89**	**50**		**Pn**	**04 41 02.5**	**-0.1**
FID	**Port Fidalgo**	**4.89**	**50**	IAML		04 42 28.6	
	comp=N,738nm,1.6s						
FID				IAML		04 42 32.4	
	comp=E,576nm,1.3s						
PVV	**Pavlof Volcano**	**4.90**	**243**		**Pn**	**04 41 04.5**	**+1.7**
SML	**Sawmill**	**4.94**	**34**		**Pn**	**04 41 04.5**	**+1.1**
SML	**Sawmill**	**4.94**	**34**	IAML		04 42 24.4	
	comp=E,961nm,1.1s						
SML				IAML		04 42 32.5	
	comp=N,959nm,1.2s						
SML	**Sawmill**	**4.94**	**34**	P		04 41 04.4	
	baz=218,SNR=128						
PS4A	**Pavlof South-4**	**4.95**	**243**		**Pn**	**04 41 05.2**	**+1.6**
CUT	**Chulitna**	**4.97**	**21**		**Pn**	**04 41 05.9**	**+2.1**
CUT	**Chulitna**	**4.97**	**21**	P		04 41 05.4	
	baz=204,SNR=22						
HAG	**Hague Volcano**	**4.99**	**243**		**Pn**	**04 41 06.5**	**+2.5**
JPK	**Jack Peak**	**5.01**	**47**		**Pn**	**04 41 05.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.09**	**54**		**Pn**	**04 41 06.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.09**	**54**	P		04 41 05.9	
	baz=240,SNR=23						
VMT	**TAPS TI Valdez**	**5.12**	**47**		**Pn**	**04 41 07.4**	**+1.6**
PPLA	**Purkeypile**	**5.17**	**10**		**Pn**	**04 41 09.6**	**+3.0**
PPLA	**Purkeypile**	**5.17**	**10**	P		04 41 09.6	
	baz=191,SNR=182						
TT01	**Tatalina**	**5.18**	**350**		**Pn**	**04 41 08.7**	**+2.0**
TTA	**Tatalina**	**5.20**	**350**		**Pn**	**04 41 08.1**	**+1.1**
TTA	**Tatalina**	**5.20**	**350**	IAML		04 42 39.1	
	comp=E,488nm,1.4s						
TTA				IAML		04 42 45.0	
	comp=N,612nm,1.2s						
TTA	**Tatalina**	**5.20**	**350**	P		04 41 07.7	
	baz=169,SNR=38						
SCM	**Sheep Creek Mo**	**5.27**	**38**		**Pn**	**04 41 09.2**	**+1.2**
SCM	**Sheep Creek Mo**	**5.27**	**38**	IAML		04 42 46.0	
	comp=E,930nm,1.1s						
DT1	**Dutton Round H**	**5.29**	**242**		**Pn**	**04 41 09.9**	**+1.8**
DIV	**Divide

HARP **HAARP** 6.40 41 Pn 04 41 25.3 +1.8
HARP **HAARP** 6.40 41 P 04 41 24.6
baz=228,SNR=26
VRDI **Verde Repeater** 6.40 53 Pn 04 41 24.5 +0.9
CYK **Cape Yakataga** 6.43 65 Pn 04 41 25.0 +1.3
MCK **McKinley** 6.44 21 Pn 04 41 25.4 +1.5
MCK **McKinley** 6.44 21 P 04 41 25.3
baz=205,SNR=51
BPAW **Bear Paw Mtn.** 6.47 12 Pn 04 41 26.5 +2.1
BPAW **Bear Paw Mtn.** 6.47 12 P 04 41 25.5
baz=195,SNR=50
TGL **Tana Glacier** 6.48 58 Pn 04 41 25.7 +1.1
ISLE **Juniper Island** 6.65 60 Pn 04 41 27.9 +0.9
MCARA **McCarthy VSAT** 6.66 53 Pn 04 41 28.5 +1.6
MCARA **McCarthy VSAT** 6.66 53 P 04 41 27.6
baz=242,SNR=32
PAX **Paxson** 6.70 36 Pn 04 41 28.8 +1.3
PAX **Paxson** 6.70 36 P 04 41 28.4
baz=223,SNR=128
MESA **MESA** 6.71 64 Pn 04 41 28.7 +0.9
MESA **MESA** 6.71 64 P 04 41 28.4
baz=254,SNR=33
BAGL **Bagley Icefiel** 6.73 62 Pn 04 41 29.0 +1.1
BWN **Browne** 6.75 18 Pn 04 41 30.2 +2.0
KIAG **Kiagna River** 6.76 58 Pn 04 41 29.5 +1.0
BALM **Baldy** 6.81 57 Pn 04 41 29.8 +0.7
WECS **Westdahl Cape** 6.81 245 Pn 04 41 29.4 +0.4
PTPK **Patty Peak** 6.81 56 Pn 04 41 30.1 +0.9
YAH **Yahtse** 6.86 63 Pn 04 41 31.0 +1.1
GRNC **Granite Creek** 6.97 60 Pn 04 41 32.5 +1.1
RKAV **Rock Avalanche** 7.03 64 Pn 04 41 33.5 +1.3
CHX **Chaix Hills** 7.09 66 Pn 04 41 34.0 +1.1
BARN **Barnard Glacie** 7.12 58 Pn 04 41 34.9 +1.4
TABL **Table Mountain** 7.17 63 Pn 04 41 35.1 +1.0
NEA2 **Nenana** 7.21 18 Pn 04 41 34.6 +0.1
NEA2 **Nenana** 7.21 18 P 04 41 35.0
baz=202,SNR=51
SAMH **Samovar Hills** 7.26 66 Pn 04 41 36.4 +1.1
WRH **Wood River Hil** 7.27 21 Pn 04 41 36.3 +1.1
MLY **Manley** 7.40 11 Pn 04 41 38.5 +1.3
MLY **Manley** 7.40 11 P 04 41 37.8
baz=194,SNR=97
I21K **Tanana** 7.44 7 Pn 04 41 40.1 +2.4
I21K **Tanana** 7.44 7 P 04 41 39.0
baz=189,SNR=42
HDA **Harding Lake** 7.45 25 Pn 04 41 39.2 +1.4
HDA **Harding Lake** 7.45 25 P 04 41 38.3
baz=210,SNR=65
HDA P 04 41 38.3
baz=210,SNR=65
CCB **Clear Creek Bu** 7.48 21 Pn 04 41 39.0 +0.8
AKUT **Akutan** 7.51 245 Pn Pn 04 41 40.1 +1.5
PCA **Pinnacle** 7.51 67 Pn 04 41 39.5 +0.7
PINM **Pinnacle** 7.52 67 P 04 41 39.4
baz=258,SNR=36
PS08 **TAPS Pump Stn8** 7.59 25 Pn 04 41 40.9 +1.2
AKBBA **Akutan Broad B** 7.61 246 Pn 04 41 41.0 +1.0
DOT **Dot Lake** 7.63 36 Pn 04 41 41.4 +1.2
AKMO **Akutan Morgan** 7.65 246 Pn 04 41 41.6 +1.0
AKRB **Akutan Reef Bi** 7.66 246 Pn 04 41 41.2 +0.5
TCOL **CIGO, UAF Yank** 7.67 20 Pn 04 41 42.3 +1.5
TCOL **CIGO, UAF Yank** 7.67 20 P 04 41 41.2
baz=206,SNR=17
COLA **College** 7.68 20 Pn 04 41 41.8 +0.9
COLA **College** 7.68 20 P 04 41 41.3
baz=206
I23K **Minto, Yukon-K** 7.68 15 Pn 04 41 40.6 -0.4
I23K **Minto, Yukon-K** 7.68 15 P 04 41 41.8
baz=199,SNR=95
MDM **Murphy Dome** 7.69 19 Pn 04 41 42.0 +1.0
YUK2 **White River** 7.77 54 Pn 04 41 43.8 +1.5
IL31 7.78 23 Pn 04 41 43.3 +1.1
ILAR **Eielson Array** 7.78 23 Pn Pn 04 41 42.7 +0.4
comp=E,6.2nm,0.3s,baz=210,slow=13,SNR=320
ILAR Sn Sn 04 43 06.5 -2.9
comp=E,3.5nm,0.3s,baz=224,slow=19,SNR=5.2
ILAR LR LR 04 44 54.9
comp=E,2μm,18.1s,baz=222,slow=40
BCPM **Bancas Point** 7.79 68 Pn 04 41 42.9 +0.4
PNL **Peninsula** 7.87 70 Pn 04 41 43.8 +0.1
H21K **Melozitna Rive** 7.88 4 P 04 41 44.9
baz=185
SCRK **Sand Creek** 7.89 34 Pn 04 41 45.0 +1.1
SCRK **Sand Creek** 7.89 34 P 04 41 44.4
baz=223,SNR=37
YUK3 **Moose Creek** 7.93 54 Pn 04 41 46.1 +1.5
POKR **Poker Plat Res** 7.97 21 Pn 04 41 45.9 +1.0
POKR **Poker Plat Res** 7.97 21 P 04 41 45.3
baz=206,SNR=15
PS07 **TAPS Pump Stn7** 8.00 18 Pn 04 41 46.4 +1.1
L27K **Beaver Creek,** 8.02 44 Pn 04 41 47.0 +1.4
L27K **Beaver Creek,** 8.02 44 P 04 41 46.5
baz=234,SNR=45
BC03 8.04 44 Pn 04 41 47.2 +1.5
MTBL **Makushin Table** 8.05 247 Pn 04 41 47.5 +1.4
MNAT **Makushin Natee** 8.10 246 Pn 04 41 47.8 +1.1
MSW **Makushin Switc** 8.13 247 Pn 04 41 48.3 +1.2
MGOD **Makushin Gods** 8.24 246 Pn 04 41 49.2 +0.5
MAPS **Pakushin South** 8.27 246 Pn 04 41 49.8 +0.8
H23K **Yukon River** 8.30 13 Pn 04 41 50.9 +1.4
H23K **Yukon River** 8.30 13 P 04 41 50.4
baz=197,SNR=42
PS06 **TAPS Pump Stn6** 8.31 13 Pn 04 41 51.5 +1.9
K27K **Chicken** 8.53 38 Pn 04 41 54.0 +1.5
K27K **Chicken** 8.53 38 P 04 41 53.6
baz=228
H24K **Noodor Dome** 8.55 18 Pn 04 41 53.5 +0.6
H24K **Noodor Dome** 8.55 18 P 04 41 53.0
baz=203,SNR=48
YUK4 **Talbot Arm** 8.60 59 Pn 04 41 56.3 +2.6
YUK6 **Outpost Mounta** 8.62 62 Pn 04 41 54.9 +0.9
ANM **Nome** 8.65 326 Pn 04 41 56.5 +2.2
ANM **Nome** 8.65 326 P 04 41 54.4
baz=136,SNR=6.7
PRP **Porcupine Dome** 8.72 24 Pn 04 41 55.6 +0.4
PRP **Porcupine Dome** 8.72 24 P 04 41 55.7
baz=211,SNR=23
HYT **Haines Junctio** 9.00 64 Pn Pn 04 41 59.0 -0.1
OKTU **Okmok Mt. Tuli** 9.05 246 Pn 04 41 59.7 0.0
EGAK **Eagle** 9.33 36 Pn 04 42 04.8 +1.3
EGAK **Eagle** 9.33 36 P 04 42 03.8
baz=227,SNR=38
DAWY **Dawson** 9.49 43 Pn 04 42 07.2 +1.4
COLD **Coldfoot** 9.60 9 Pn 04 42 08.6 +1.4
COLD **Coldfoot** 9.60 9 P 04 42 07.3
baz=192,SNR=29
SKAG **Skagway** 9.92 73 Pn 04 42 11.8 +0.1
SKAG **Skagway** 9.92 73 P 04 42 11.9
baz=268,SNR=14
SIT **Sitka** 10.16 86 Pn Pn 04 42 13.4 -1.4
SIT **Sitka** 10.16 86 P 04 42 13.3
baz=282
BESE **Bessie Mountai** 10.19 78 Pn Pn 04 42 15.9 +0.5
WHY **Whitehorse** 10.24 66 Pn 04 42 16.9 +0.7
WHY **Whitehorse** 10.24 66 P 04 42 16.7
baz=262,SNR=30
BMAR **Burnt Mountain** 10.57 20 Pn Pn 04 42 20.7 +0.2
TOLK **Toolik Lake Re** 11.04 9 P 04 42 28.0
baz=193,SNR=8.5
EPYK **Eagle Plains** 11.77 36 P 04 42 37.1
baz=231,SNR=7.5
CRAG **Craig** 11.78 93 P 04 42 35.9
baz=290
WRAK **Wrangell Islan** 11.90 88 Pn 04 42 38.3 -0.4
WRAK **Wrangell Islan** 11.90 88 P 04 42 37.4
baz=286
DLBC **Dease Lake** 12.72 77 Pn Pn 04 42 51.0 +1.0
comp=E,1.2nm,0.3s,baz=266,slow=12,SNR=10
DLBC Sn Sn 04 45 07.5 -3.3
comp=E,0.8nm,0.3s,baz=230,slow=18,SNR=1.4
DLBC LR LR 04 47 31.4
comp=E,1μm,20.6s,baz=276,slow=36
DLBC **Dease Lake** 12.72 77 Pn Pn 04 42 50.5 +0.4
ATKA **Atka Island** 12.80 252 Pn 04 42 50.4 -0.6
A21K **Barrow** 13.59 357 Pn Pn 04 43 00.7 -0.9
A21K **Barrow** 13.59 357 P 04 43 00.8
baz=174
INK **Inuvik** 13.95 33 Pn Pn 04 43 06.5 0.0
comp=E,0.7nm,0.3s,baz=224,slow=15,SNR=34
INK Lg Lg 04 47 00.6
comp=E,0.1nm,0.3s,baz=138,slow=32,SNR=1.2
INK LR LR 04 48 49.9
comp=E,1μm,19.4s,baz=221,slow=39
INK **Inuvik** 13.95 33 Pn Pn 04 43 06.3 -0.3
baz=231
ADK **Adak** 14.26 255 Pn Pn 04 43 09.9 -0.9
BBB **Bella Bella** 15.89 100 Pn P 04 43 38.1 +2.1
comp=E,0.4nm,0.3s,baz=301,slow=13,SNR=3.6
BBB LR LR 04 48 37.8
comp=E,611nm,20.4s,baz=304,slow=33
AMKA **Amchitka** 16.63 259 Pn 04 43 40.9 -1.0
C36M **Paulatuk** 17.41 36 Pn 04 43 49.8 -1.7
C36M **Paulatuk** 17.41 36 P 04 43 49.3
baz=243
SMY **Shemya** 18.70 268 P P 04 44 04.8 -2.2
SMY IAmb IAmb 04 44 17.6
comp=E,31nm,0.7s
YKA **Yellowknife Ar** 19.96 60 P P 04 44 21.8 +1.0
comp=E,1.6nm,0.3s,baz=270,slow=10.0,SNR=98
YKA S Sn 04 48 06.3 +0.2
comp=E,0.1nm,0.3s,baz=186,slow=20,SNR=1.1
YKA PcP PcP 04 48 36.3 +0.1
comp=E,0.2nm,0.3s,baz=271,slow=1.3,SNR=7.7
YKA ScP ScP 04 52 12.0 +1.4
comp=E,0.1nm,0.3s,baz=275,slow=1.7,SNR=1.5
YKA LR LR 04 53 07.9
comp=E,1μm,18.0s,baz=0.0,slow=40
BILL **Bilibino** 20.31 316 P P 04 44 22.8 -1.7
BILL IAmb IAmb 04 44 29.1
comp=E,25nm,0.7s
A04D **Lummi Island** 20.70 103 P 04 44 30.4
baz=308,SNR=6.6
D03D **Eldon** 21.26 106 P 04 44 35.4
baz=310,SNR=11
B05A **Bryant** 21.31 103 P 04 44 36.7
baz=309,SNR=12
E03A **Lebam** 21.67 108 IAmb IAmb 04 44 53.4
comp=E,33nm,1.0s
D05A **Enumclaw** 22.05 105 IAmb IAmb 04 44 56.2
comp=E,50nm,1.1s
E04D **Cinebar** 22.17 107 P 04 44 46.2
baz=312,SNR=7.4
G03D **McMinnville, O** 22.74 110 P 04 44 50.9
baz=315
F05D **White Salmon** 23.19 107 P 04 44 55.9
baz=313
H04D **Lebanon** 23.49 111 P 04 44 59.7
baz=316
E07A **Sunnyside** 23.57 104 IAmb IAmb 04 45 10.4
comp=E,15nm,0.7s
H04A **Detroit Lake** 23.66 110 IAmb IAmb 04 45 10.9
comp=E,55nm,1.3s
G05D **Wamic, OR** 23.70 108 P 04 45 01.9
baz=314
I03D **Drain, OR** 23.79 113 P 04 45 02.7
baz=317
HAWA **Hanford** 23.84 104 P P 04 45 02.8 +1.0
J01E **Myrtle Point** 23.90 115 P 04 45 03.1
baz=318
NEW **Newport** 23.92 97 P P 04 45 04.5 +1.9
comp=E,7.0nm,1.0s,baz=326,slow=8.3,SNR=12
NEW **Newport** 23.92 97 P 04 45 03.2
baz=307,SNR=9.1
F07A **Phinny Hill Vi** 23.97 105 IAmb IAmb 04 45 13.6
comp=E,21nm,0.9s
I04A **Tendick Farm,** 24.18 112 P 04 45 05.8
baz=317
I05D **Terrebonne, OR** 24.33 109 P 04 45 07.6
baz=315,SNR=5.6
K02D **Willamette Mer** 24.38 115 P 04 45 07.3
baz=319,SNR=6.3
J04D **Umpqua Nationa** 24.74 112 P 04 45 12.6
baz=317,SNR=9.4
L02E **Cave Junction** 24.82 116 P 04 45 12.8
baz=320
PINE **Pine Mountain** 24.92 110 P P 04 45 13.6 +1.7
PINE IAmb IAmb 04 45 16.1
comp=E,24nm,1.0s
PINE PcP 04 48 46.3 -0.6
J05D **Fort Rock, OR** 25.14 111 P 04 45 16.3
baz=317,SNR=11
L04D **Klamath Falls** 25.40 114 P 04 45 18.2
baz=319
YBH **Yreka Blue Hor** 25.57 115 P P 04 45 20.9 +3.2
comp=E,11nm,0.9s,baz=344,slow=4.5,SNR=14
YBH **Yreka Blue Hor** 25.57 115 P P 04 45 19.2 +1.5
M02C **Callahan** 25.77 116 P 04 45 22.1
baz=320
M04C **Macdoel** 25.96 114 P 04 45 24.0
baz=319
N02D **Trinity Center** 26.16 116 P 04 45 25.7
baz=321
SEY **Seymchan** 26.25 304 P P 04 45 21.8 -1.8
comp=E,7.9nm,0.7s,baz=100,slow=8.3,SNR=21
WDC **Whiskeytown Da** 26.54 117 P P 04 45 26.6 +0.2
O02D **Mt. Diablo Mer** 26.74 118 P 04 45 30.6
baz=322
O03E **Paynes Creek** 27.12 116 P 04 45 32.3
baz=321,SNR=8.6
PETK **Petropavlovsk-** 27.24 281 P P 04 45 32.4 -0.1
comp=E,2.1nm,0.7s,baz=64,slow=12,SNR=3.3
PETK PcP PcP 04 48 51.9 +0.1
comp=E,2.4nm,0.7s,baz=81,slow=4.7,SNR=4.2
RES **Resolute Bay** 27.47 30 P P 04 45 39.0 +4.7
comp=E,3.9nm,0.8s,baz=175,slow=12,SNR=1.5
MA2 **Magadan** 28.00 297 P P 04 45 39.9 +0.6
comp=E,4.0nm,0.3s,baz=117,slow=9.0,SNR=3.9
MA2 LR LR 04 57 51.1
comp=E,195nm,19.7s,baz=80,slow=39
HLID **Hailey** 28.43 103 P 04 45 43.5
baz=314,SNR=5.4
PAHR **Pah Rah Range** 28.75 114 P P 04 45 47.1 +0.8
H17A **Grant Village** 29.88 98 P 04 45 57.0
baz=312
RYN **Ryan** 30.00 114 P P 04 45 57.5 0.0
ELK **Elko** 30.03 108 P P 04 46 00.2 +2.4
comp=E,4.3nm,1.0s,baz=330,slow=5.4,SNR=11
ELK PcP PcP 04 49 00.0 +0.7
comp=E,1.3nm,0.8s,baz=232,slow=2.5,SNR=3.6
ELK **Elko** 30.03 108 P P 04 45 58.8 +1.0
RLMT **Red Lodge** 30.09 95 P 04 45 59.4
baz=311
NVAR **Mina Array Bea** 30.27 114 P P 04 46 02.5 +2.7
comp=E,5.9nm,0.7s,baz=306,slow=9.1,SNR=50
NVAR PcP PcP 04 49 00.8 +0.9
comp=E,2.7nm,0.7s,baz=246,slow=4.3,SNR=6.4
NVAR LR LR 04 57 30.9
comp=E,201nm,18.1s,baz=278,slow=35
NVAR **Mina Array Bea** 30.27 114 P P 04 46 00.7 +0.8
LHV **Little Huntoon** 30.31 115 P P 04 46 00.6 +0.7
LHV IAmb IAmb 04 46 11.9
comp=E,16nm,1.1s
LOHW **Long Hollow** 30.40 99 P P 04 46 01.2 +0.2
MLAC **Mammoth, Mammo** 30.64 116 P 04 46 05.9
baz=323
PAGB **Antelope Grade** 31.50 120 IAmb IAmb 04 46 14.2
comp=E,13nm,0.8s
BW06 **Boulder Array** 31.54 99 P 04 46 12.6
baz=314
PDAR **Pinedale Array** 31.54 99 P P 04 46 13.0 +2.0
comp=E,2.2nm,0.6s,baz=316,slow=4.7,SNR=13
PDAR PcP PcP 04 49 02.3 -0.9
comp=E,0.2nm,0.5s,baz=90,slow=1.8,SNR=3.8
PDAR LR LR 04 58 55.9
comp=E,103nm,18.0s,baz=320,slow=36
R11A **Troy Canyon, C** 31.67 111 P 04 46 13.7
baz=321,SNR=19
DUG **Dugway, Tooele** 31.68 106 P P 04 46 13.6 +1.4
DUG **Dugway, Tooele** 31.68 106 P 04 46 12.6
baz=318,SNR=6.0
GRAC **Grapevine Rang** 31.85 115 P 04 46 16.0
baz=323,SNR=7.0
CWC **Cottonwood Cre** 31.95 116 P 04 46 15.9
baz=324
VES **Vestal, Richgr** 31.96 118 P 04 46 15.9
baz=325
SMMC **Simmler** 31.96 120 P 04 46 17.1
baz=326,SNR=5.1
ISA **Isabella, Lake** 32.39 118 P 04 46 20.0
baz=324,SNR=5.7
PKM **Mcpherson Peak** 32.40 120 P 04 46 20.3
baz=326,SNR=14
TPNV **Topopah Spring** 32.44 114 P 04 46 20.2
baz=322,SNR=16
FURC **Furnace Creek,** 32.52 115 P 04 46 20.7
baz=323,SNR=11
MPMC **Manual Prospec** 32.54 116 P 04 46 22.4
baz=324
ARVC **Arvin** 32.66 119 P 04 46 21.6
baz=325
PRN **Pahroc Range** 32.67 112 P P 04 46 22.1 +1.2
PRN IAmb IAmb 04 46 47.6
comp=Z,18nm,1.2s
LRMC **Laurel Mtn Rad** 32.92 117 P 04 46 25.0
baz=324
TIXI **Tiksi** 32.92 325 LR LR 05 00 02.0
comp=Z,55nm,21.5s,baz=46,slow=37
TIXI **Tiksi** 32.92 325 P P 04 46 21.7 -0.9
TIXI IAmb IAmb 04 46 24.8
comp=Z,13nm,0.7s
EDW2 **Edwards Air Fo** 33.26 118 P 04 46 27.8
baz=325
SHOC **Shoshone, Teco** 33.26 115 P 04 46 27.2
baz=323,SNR=7.0
GSC **Goldstone, Bar** 33.48 116 P 04 46 29.7
baz=324,SNR=6.7
RWWY **Rawlins** 33.53 98 IAmb IAmb 04 46 30.2
comp=Z,20nm,1.1s
RSSD **Black Hills** 33.55 92 P P 04 46 29.7 +1.0
RSSD IAmb IAmb 04 46 34.0
comp=Z,14nm,0.6s
RSSD **Black Hills** 33.55 92 P 04 46 30.1
baz=312
TUQ **Turquoise Moun** 33.80 115 P 04 46 31.4
baz=324,SNR=5.7
BFSC **Mount Baldy Ra** 33.94 118 P 04 46 34.0
baz=325,SNR=5.7
ULM **Lac du Bonnet** 34.05 77 P P 04 46 33.9 +1.3
comp=Z,5.6nm,0.9s,baz=324,slow=8.5,SNR=3.4
ULM PcP PcP 04 49 09.1 -0.7
comp=Z,1.3nm,0.5s,baz=279,slow=3.4,SNR=3.0
ULM LR LR 05 00 31.7
comp=Z,497nm,20.5s,baz=306,slow=36
ULM **Lac du Bonnet** 34.05 77 IAmb IAmb 04 46 44.1
comp=Z,8.5nm,0.9s
HEC **Hector,Ludlow** 34.09 116 P 04 46 35.0
baz=324
O20A **White River Ci** 34.11 101 IAmb IAmb 04 46 36.3
comp=Z,13nm,0.8s
O20A **White River Ci** 34.11 101 P 04 46 34.2
baz=317,SNR=9.2
GMRC **Granite Mounta** 34.45 115 P 04 46 37.8
baz=324,SNR=6.6
N23A **Red Feather La** 34.77 98 P 04 46 40.2
baz=316
BELC **Belle Mtn. Jos** 34.92 116 P 04 46 42.2
baz=325
PV14 **Lion Creek, Pa** 35.00 104 IAmb IAmb 04 46 44.2
comp=Z,10nm,0.9s
PV22 **Blue Mesa, Par** 35.00 104 IAmb IAmb 04 46 44.2
comp=Z,22nm,1.1s
PFO **Pinyon Flats O** 35.02 117 P P 04 46 43.7 +2.3
comp=Z,3.9nm,0.9s,baz=320,slow=6.4,SNR=5.5
PFO **Pinyon Flats O** 35.02 117 P P 04 46 42.8 +1.4
PFO IAmb IAmb 04 46 44.6
comp=Z,16nm,1.4s
PFO **Pinyon Flats O** 35.02 117 P 04 46 42.8
baz=325
TPFO **Pinon Flats** 35.03 117 P 04 46 42.6
baz=325,SNR=6.5
PV12 **Saucer Basin,** 35.16 104 P P 04 46 43.6 +1.0
PV12 IAmb IAmb 04 47 01.1
comp=Z,15nm,1.0s
IRM **Iron Mountain** 35.21 115 P 04 46 44.1
baz=324,SNR=12
AGMN **Agassiz Nation** 35.23 80 P P 04 46 43.2 +0.3
AGMN IAmb IAmb 04 46 51.7
comp=Z,9.7nm,0.8s
AGMN **Agassiz Nation** 35.23 80 P 04 46 44.2
baz=308
PV13 **Radium Mtn., P** 35.27 104 IAmb IAmb 04 46 46.5
comp=Z,18nm,0.9s
109C **Camp Elliot, M** 35.31 119 P 04 46 45.3
baz=326
PV01 **Paradox Valley** 35.41 104 P P 04 46 46.1 +1.3
PV01 IAmb IAmb 04 47 03.4
comp=Z,26nm,1.3s
BC3 **Big Chuckawall** 35.47 116 P 04 46 46.5
baz=325
PDMCI **Parker Dam,Lak** 35.58 114 P 04 46 47.7
baz=324
MONP2 **Monument Peak** 35.63 118 P 04 46 48.1
baz=326,SNR=8.8
ISCO **Idaho Springs** 35.73 99 P P 04 46 49.4 +1.8
SWSC **Sam W. Stewart** 35.88 117 P 04 46 50.4
baz=326
IKP **In-Ko-Pah, Jac** 35.98 118 P 04 46 51.1
baz=326
WUAZ **Wupatki** 35.99 110 P 04 46 51.0
baz=322,SNR=8.7
MVCO **Mesa Verde** 36.15 105 P 04 46 51.6
baz=320,SNR=5.9
GLA **Glamis** 36.26 116 P 04 46 53.4
baz=325
YAK **Yakutsk** 36.37 309 P P 04 46 51.1 -1.3
comp=Z,15nm,0.4s,baz=107,slow=2.2,SNR=5.8
YAK **Yakutsk** 36.37 309 IAmb IAmb 04 46 52.0
comp=Z,38nm,0.6s
Q24A **Divide** 36.59 99 P 04 46 56.2
baz=317
S22A **4UR Ranch, Cre** 36.61 102 P 04 46 56.6
baz=319
OGNE **Ogallala** 36.81 94 P 04 46 57.8
baz=315
NEEM **North Greenlan** 37.06 21 *i* P P 04 46 58.9 +0.3
NEEM IAmb IAmb 04 47 01.3
comp=Z,18nm,1.0s
W18A **Petrified Fore** 37.13 108 P 04 47 00.8
baz=322
SDCO **Great Sand Dun** 37.31 101 P 04 47 02.0
baz=319,SNR=7.5
EYMN **Ely** 37.74 77 P P 04 47 05.8 +1.5
EYMN IAmb IAmb 04 47 16.4
comp=Z,27nm,1.1s
EYMN **Ely** 37.74 77 P 04 47 04.4
baz=309,SNR=11
ECSD **EROS Data Cent** 37.78 86 P 04 47 05.4
baz=313
KSCO **Kaye Shedlock'** 37.89 97 P 04 47 06.8
baz=317
214A **Organ Pipe Nat** 38.13 115 P 04 47 08.2
baz=325,SNR=7.0
T25A **Trinidad** 38.34 101 P 04 47 11.3
baz=319
BGNE **Belgrade** 38.56 90 P 04 47 12.3
baz=315
E38A **The Farm, Brul** 38.56 79 P P 04 47 12.9 +1.7
E38A IAmb IAmb 04 47 28.2
comp=Z,22nm,1.1s
SPMN **Marine on St.** 38.81 82 IAmb IAmb 04 47 27.4
comp=Z,14nm,0.9s
SPMN **Marine on St.** 38.81 82 P 04 47 14.1
baz=312
TUC **Tucson** 38.84 112 P P 04 47 14.2 +0.4
TUC **Tucson** 38.84 112 P 04 47 14.7
baz=324
ANMO **Albuquerque** 38.94 105 P P 04 47 16.4 +1.6
comp=Z,1.1nm,0.7s,baz=344,slow=9.6,SNR=4.7
ANMO PcP PcP 04 49 26.1 +1.2
comp=Z,4.9nm,1.0s,baz=293,slow=2.4,SNR=6.9
ANMO **Albuquerque** 38.94 105 P P 04 47 15.6 +0.8
ANMO PcP PcP 04 49 26.5 +1.5
ANMO **Albuquerque** 38.94 105 P 04 47 15.2
baz=321
FRB **Frobisher Bay** 39.19 45 P P 04 47 17.1 +1.0
comp=Z,11nm,0.6s,baz=314,slow=8.7,SNR=7.7
I37A **Lemond, Waseca** 39.30 83 IAmb IAmb 04 47 19.7
comp=Z,32nm,1.2s
121A **Cookes Peak, D** 40.16 109 P 04 47 26.2
baz=323,SNR=6.0
I40A **Norwalk** 40.86 81 IAmb IAmb 04 47 43.9
comp=Z,10.0nm,0.8s
E43A **Lone Tree Farm** 41.09 76 P P 04 47 33.2 +1.0
E43A IAmb IAmb 04 47 36.0
comp=Z,13nm,0.8s
JFWS **Jewell Farm** 41.73 82 P 04 47 37.9
baz=314
I42A **Draeger Farm,** 41.76 80 IAmb IAmb 04 47 50.6
comp=Z,34nm,1.4s
L40A **Anamosa** 41.80 84 IAmb IAmb 04 47 45.9
comp=Z,11nm,0.7s
H43A **Windswept, Lux** 41.97 79 P P 04 47 39.9 +0.5
H43A IAmb IAmb 04 47 56.7
comp=Z,18nm,0.8s
MNTX **Cornudas Mount** 42.05 107 P P 04 47 41.4 +1.2
MNTX **Cornudas Mount** 42.05 107 P 04 47 41.3
baz=323,SNR=9.6

P38A	**Dawn**	**42.30**	**88**	IAmb	IAmb	04 47 44.3		
	comp=Z,22nm,1.1s							
E46A	**Sault Ste Mari**	**42.49**	**74**	IAmb	IAmb	04 47 45.6		
	comp=Z,12nm,0.8s							
SUMG	**Summit**	**42.62**	**24**	*i* P	**P**	**04 47 45.6**	**+0.7**	
SUMG				IAmb	IAmb	04 47 47.6		
	comp=Z,1.9nm,0.5s							
SUMG	**Summit**	**42.62**	**24**	P	**P**	**04 47 45.0**	**+0.2**	
SUMG				IAmb	IAmb	04 47 53.8		
	comp=Z,17nm,0.6s							
KLR	**Kul'dur**	**42.79**	**292**	P	**P**	**04 47 45.2**	**-0.8**	
	comp=Z,7.9nm,0.8s,baz=63,slow=8.4,SNR=22							
N41A	**Harden Midland**	**42.96**	**85**	IAmb	IAmb	04 47 48.7		
	comp=Z,19nm,0.9s							
P40A	**Paris**	**43.16**	**87**	IAmb	IAmb	04 47 50.5		
	comp=Z,14nm,1.0s							
SFJD	**Kangerlussuaq**	**43.30**	**34**	P	**P**	**04 47 50.8**	**+0.9**	
	comp=Z,4.7nm,0.5s,baz=305,slow=4.9,SNR=4.9							
GLMI	**Grayling**	**43.37**	**76**	P		04 47 51.5		
	baz=313							
MATQ	**Matagami**	**43.60**	**66**	P		04 47 53.1		
	baz=311							
HDIL	**Hopedale**	**43.90**	**84**	IAmb	IAmb	04 47 59.1		
	comp=Z,17nm,0.7s							
HDIL	**Hopedale**	**43.90**	**84**	P		04 47 55.5		
	baz=316							
ABTX	**Abilene, Hawle**	**44.30**	**100**	P		04 47 59.0		
	baz=322							
LSQQ	**Lebel-sur-Quev**	**44.38**	**66**	P		04 47 59.4		
	baz=312							
P43A	**Skaggs, Pawnee**	**44.43**	**85**	IAmb	IAmb	04 48 00.6		
	comp=Z,18nm,0.9s							
DBG	**Daneborg**	**44.60**	**16**	*i* P	**P**	**04 48 01.5**	**+1.2**	
DBG				IAmb	IAmb	04 48 01.8		
	comp=Z,4.3nm,0.7s							
CCM	**Cathedral Cave**	**44.67**	**88**	P		04 48 01.0		
	baz=317							
TX31	**Lajitas Ar. Si**	**44.83**	**107**	IAmb	IAmb	04 48 05.6		
	comp=Z,17nm,1.0s							
TXAR	**Lajitas Array**	**44.83**	**107**	P	**P**	**04 48 04.1**	**+1.3**	
	comp=Z,3.1nm,0.8s,baz=324,slow=6.2,SNR=18							
TXAR				PcP	**PcP**	**04 49 44.7**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=263,slow=2.1,SNR=4.4							
TXAR				LR	LR	05 06 15.7		
	comp=Z,111nm,20.2s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**44.83**	**107**	P	**P**	**04 48 02.7**	**-0.1**	
ICESG	**Greenland Ices**	**44.84**	**28**	*i* P	**P**	**04 48 03.2**	**+0.5**	
ICESG				IAmb	IAmb	04 48 05.4		
	comp=Z,28nm,0.9s							
SFIN	**Lafayette**	**45.19**	**82**	P		04 48 05.8		
	baz=316							
SCHQ	**Schefferville**	**45.27**	**54**	P	**P**	**04 48 06.4**	**+0.6**	
	comp=Z,4.9nm,0.7s,baz=305,slow=8.0,SNR=11							
SCHQ				LR	LR	05 07 46.1		
	comp=Z,590nm,18.9s,baz=302,slow=37							
SCHQ	**Schefferville**	**45.27**	**54**	IAmb	IAmb	04 48 33.1		
	comp=Z,16nm,1.4s							
L48A	**N Adams**	**45.48**	**79**	IAmb	IAmb	04 48 22.6		
	comp=Z,28nm,1.4s							
NRIK	**Noril'sk**	**45.59**	**334**	P	**P**	**04 48 07.2**	**-1.0**	
	comp=Z,5.9nm,0.5s,baz=55,slow=5.8,SNR=8.3							
NRIK				LR	LR	05 10 06.8		
	comp=Z,81nm,18.4s,baz=48,slow=40							
NRIK	**Noril'sk**	**45.59**	**334**	P	**P**	**04 48 07.4**	**-0.8**	
NRIK				IAmb	IAmb	04 48 08.1		
	comp=Z,7.9nm,0.7s							
P46A	**Rosedale**	**45.68**	**83**	IAmb	IAmb	04 48 10.9		
	comp=Z,13nm,0.9s							
JCT	**Junction City**	**45.91**	**103**	P		04 48 12.0		
	baz=323							
ALGO	**Algonquin Park**	**45.96**	**70**	P		04 48 11.9		
	baz=314							
MIAR	**Mount Ida**	**46.05**	**93**	P		04 48 13.2		
	baz=320							
LCAR	**Lake Charles**	**46.19**	**90**	IAmb	IAmb	04 48 23.1		
	comp=Z,20nm,1.0s							
SADO	**Sadowa**	**46.23**	**72**	P	**P**	**04 48 14.1**	**+0.5**	
	comp=Z,7.6nm,0.9s,baz=323,slow=10,SNR=4.9							
SADO	**Sadowa**	**46.23**	**72**	IAmb	IAmb	04 48 15.0		
	comp=Z,7.1nm,0.8s							
BLO	**Bloomington**	**46.37**	**83**	IAmb	IAmb	04 48 31.1		
	comp=Z,16nm,0.8s							
D55A	**Sainte-Anne-du**	**46.51**	**68**	P		04 48 15.7		
	baz=314,SNR=6.7							
E55A	**Montcerf-Lytto**	**46.61**	**69**	P		04 48 17.5		
	baz=314							
D56A	**ZEC Mazanza, M**	**46.84**	**67**	P		04 48 18.4		
	baz=314,SNR=7.6							
E56A	**St. Veronique**	**47.06**	**68**	P		04 48 20.6		
	baz=314							
WCI	**Wyandotte Cave**	**47.18**	**84**	P		04 48 21.4		
	baz=318							
LATQ	**La Tuque**	**47.58**	**66**	P		04 48 24.3		
	baz=314							
NATX	**Nacogdoches**	**47.61**	**97**	P		04 48 25.1		
	baz=322							
ERPA	**Erie**	**47.67**	**75**	P		04 48 25.7		
	baz=316							
D58A	**Chemin du LacG**	**47.73**	**66**	P		04 48 25.5		
	baz=314							
M53A	**WI Miller and**	**47.80**	**77**	P		04 48 26.6		
	baz=316							
WVT	**Waverly**	**47.92**	**87**	P	**P**	**04 48 27.6**	**+0.7**	
WVT				IAmb	IAmb	04 48 28.5		
	comp=Z,13nm,0.9s							
WVT	**Waverly**	**47.92**	**87**	P		04 48 27.4		
	baz=319							
E58A	**La Victoria**	**48.04**	**67**	P		04 48 27.9		
	baz=315							
G57A	**Newington**	**48.09**	**69**	P		04 48 28.6		
	baz=315							
O52A	**Adamsville**	**48.16**	**79**	IAmb	IAmb	04 48 29.8		
	comp=Z,13nm,1.0s							
WVNY	**West Valley, N**	**48.18**	**74**	IAmb	IAmb	04 48 30.6		
	comp=Z,14nm,0.8s							
M54A	**Oil Creek Stat**	**48.28**	**76**	IAmb	IAmb	04 48 31.2		
	comp=Z,17nm,1.1s							
M54A	**Oil Creek Stat**	**48.28**	**76**	P		04 48 29.6		
	baz=316,SNR=5.4							
OXF	**Oxford**	**48.30**	**90**	P	**P**	**04 48 30.8**	**+1.1**	
OXF	**Oxford**	**48.30**	**90**	P		04 48 29.4		
	baz=320,SNR=9.8							
H57A	**Richville**	**48.34**	**70**	P		04 48 30.4		
	baz=315							
P52A	**Corning**	**48.35**	**79**	P		04 48 30.7		
	baz=317							
MJAR	**Matsushiro Arr**	**48.35**	**275**	PcP	**PcP**	**04 49 56.4**	**-0.1**	
	comp=Z,2.1nm,0.6s,baz=25,slow=2.5,SNR=5.4							
MJAR				LR	LR	05 08 20.0		
	comp=Z,81nm,22.0s,baz=250,slow=36							
O53A	**New Philadelph**	**48.39**	**78**	P		04 48 30.5		
	baz=317							
N54A	**Moraine State**	**48.51**	**77**	P		04 48 31.3		
	baz=317							
G58A	**Ormstown**	**48.52**	**68**	P		04 48 31.5		
	baz=315							
I57A	**Carthage**	**48.58**	**71**	P		04 48 32.6		
	baz=316							
K56A	**Middlesex**	**48.63**	**73**	P		04 48 33.1		
	baz=316							
LONY	**Lake Ozonia**	**48.64**	**69**	P		04 48 32.8		
	baz=316							
U49A	**Red Boiling Sp**	**48.73**	**85**	IAmb	IAmb	04 48 51.6		
	comp=Z,8.2nm,0.9s							
V48A	**Smith Brothers**	**48.75**	**87**	IAmb	IAmb	04 48 34.9		
	comp=Z,16nm,0.9s							
M55A	**Ridgway**	**48.77**	**75**	IAmb	IAmb	04 48 44.4		
	comp=Z,15nm,0.8s							
D60A	**Saint Jean D'O**	**48.81**	**65**	P		04 48 34.3		
	baz=315							
T50A	**Nancy**	**48.85**	**84**	IAmb	IAmb	04 48 35.6		
	comp=Z,12nm,1.1s							
FRNY	**Flat Rock**	**48.98**	**68**	P	**P**	**04 48 35.0**	**+0.1**	
FRNY				IAmb	IAmb	04 48 35.5		
	comp=Z,10.0nm,0.7s							
F60A	**Warwick**	**48.98**	**66**	P		04 48 35.2		
	baz=315							
H58A	**Gabriels**	**48.98**	**69**	P		04 48 35.3		
	baz=316							
H59A	**Cadyville**	**49.07**	**69**	P		04 48 35.3		
	baz=316,SNR=5.6							
I58A	**Old Forge**	**49.11**	**70**	P		04 48 36.1		
	baz=316,SNR=6.1							
J58A	**Remsen**	**49.19**	**71**	IAmb	IAmb	04 48 38.2		
	comp=Z,13nm,0.8s							
J58A	**Remsen**	**49.19**	**71**	P		04 48 36.2		
	baz=316,SNR=6.4							
G60A	**Masonville**	**49.41**	**67**	P		04 48 38.6		
	baz=316							
VBMS	**Vicksburg**	**49.47**	**93**	P		04 48 39.5		
	baz=321							
MCWV	**Mont Chateau**	**49.53**	**78**	P		04 48 39.6		
	baz=317							
I59A	**Olmsteadville**	**49.58**	**70**	P		04 48 39.9		
	baz=316							
H60A	**Morristown**	**49.62**	**68**	P		04 48 40.1		
	baz=316							
BINY	**Binghamton**	**49.67**	**73**	IAmb	IAmb	04 48 42.1		
	comp=Z,16nm,1.0s							
BINY	**Binghamton**	**49.67**	**73**	P		04 48 40.1		
	baz=317,SNR=6.3							
CN2	**Changchun**	**49.68**	**291**	*e*P	**P**	**04 48 39.5**	**-0.7**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				L	L			
	comp=Z,200nm,16.0s							
CN2				L	L			
	comp=Z,200nm,16.0s							
CN2				L	L			
	comp=Z,200nm,17.0s							
E62A	**Clayton Lake**	**49.70**	**64**	P		04 48 40.2		
	baz=316							
M57A	**Sunshine Farm,**	**49.71**	**74**	IAmb	IAmb	04 48 43.3		
	comp=Z,20nm,1.2s							
O56A	**Blue Knob Stat**	**49.75**	**76**	IAmb	IAmb	04 48 42.1		
	comp=Z,14nm,1.1s							
O56A	**Blue Knob Stat**	**49.75**	**76**	P		04 48 41.3		
	baz=317							
SSPA	**Standing Stone**	**49.83**	**75**	P		04 48 41.5		
	baz=317							
I60A	**Shoreham**	**49.84**	**69**	P		04 48 41.3		
	baz=316							
L58A	**Harry Jones Me**	**49.85**	**73**	P		04 48 42.0		
	baz=317,SNR=5.7							
TZTN	**Tazewell**	**49.89**	**83**	P		04 48 42.6		
	baz=319							
W50A	**Signal Mountai**	**49.97**	**86**	P	**P**	**04 48 43.4**	**+0.8**	
W50A				IAmb	IAmb	04 48 44.1		
	comp=Z,18nm,1.1s							
F62A	**Pittston Farm,**	**50.00**	**65**	P		04 48 42.9		
	baz=316							
H61A	**Lyndonville**	**50.02**	**68**	P		04 48 43.1		
	baz=316							
D63A	**Stockholm**	**50.07**	**63**	P		04 48 43.5		
	baz=316							
J60A	**Lant Hill Farm**	**50.21**	**70**	P		04 48 44.7		
	baz=317,SNR=5.6							
G62A	**West of Eustis**	**50.21**	**66**	P		04 48 45.1		
	baz=316							
LBNH	**Lisbon**	**50.23**	**68**	P		04 48 45.0		
	baz=316							
N58A	**Sunbury**	**50.29**	**74**	IAmb	IAmb	04 48 46.5		
	comp=Z,18nm,1.3s							
FPAL	**Fort Paine**	**50.31**	**87**	IAmb	IAmb	04 48 46.6		
	comp=Z,21nm,1.1s							
I61A	**Oroboro, Fairl**	**50.32**	**68**	P		04 48 45.7		
	baz=316							
H62A	**Milan**	**50.37**	**67**	P		04 48 45.8		
	baz=316							
Y49A	**Blount Mountai**	**50.40**	**88**	IAmb	IAmb	04 48 46.9		
	comp=Z,14nm,0.8s							
TKL	**Tuckaleechee C**	**50.44**	**84**	P	**P**	**04 48 46.4**	**+0.3**	
	comp=Z,4.5nm,0.8s,baz=270,slow=7.7,SNR=4.2							
TKL	**Tuckaleechee C**	**50.44**	**84**	IAmb	IAmb	04 49 04.1		
	comp=Z,7.1nm,0.8s							
J61A	**Chester**	**50.57**	**69**	P		04 48 47.3		
	baz=317							
P57A	**Homestead Farm**	**50.62**	**76**	IAmb	IAmb	04 48 49.0		
	comp=Z,16nm,1.0s							
E64A	**Bridgewater**	**50.65**	**63**	P		04 48 47.4		
	baz=316							
X51A	**Calhoun**	**50.69**	**86**	IAmb	IAmb	04 48 49.6		
	comp=Z,16nm,0.9s							
K61A	**Williamstown**	**50.71**	**70**	P		04 48 48.3		
	baz=317							
LRAL	**Lakeview Retre**	**50.72**	**89**	P	**P**	**04 48 48.4**	**+0.2**	
LRAL				IAmb	IAmb	04 48 52.2		
	comp=Z,7.5nm,0.8s							
LRAL	**Lakeview Retre**	**50.72**	**89**	P		04 48 48.4		
	baz=320							
N59A	**Ste Game Lan**	**50.72**	**74**	P		04 48 48.5		
	baz=317							
G63A	**Kingsbury**	**50.73**	**66**	P		04 48 47.9		
	baz=317							
W52A	**Murphy**	**50.78**	**85**	IAmb	IAmb	04 48 50.1		
	comp=Z,16nm,1.1s							
U54A	**Nelsons Funny**	**50.83**	**82**	IAmb	IAmb	04 49 18.9		
	comp=Z,18nm,1.1s							
BATG	**Bathurst New B**	**50.87**	**61**	IAmb	IAmb	04 48 51.2		
	comp=Z,26nm,1.2s							
V53A	**Saluda**	**50.94**	**83**	IAmb	IAmb	04 48 51.7		
	comp=Z,17nm,0.9s							
I63A	**Otisfield**	**51.04**	**67**	P		04 48 51.6		
	baz=317							
BLA	**Blacksburg**	**51.05**	**80**	P		04 48 51.0		
	baz=319							
LUPA	**Lehigh Univers**	**51.16**	**74**	IAmb	IAmb	04 48 53.3		
	comp=Z,16nm,1.0s							
K62A	**Royalston**	**51.23**	**69**	P		04 48 52.7		
	baz=317							
KSCT	**Kent School, K**	**51.29**	**71**	IAmb	IAmb	04 49 11.3		
	comp=Z,17nm,1.0s							
TRNY	**Table Rock, Ra**	**51.34**	**72**	IAmb	IAmb	04 48 54.5		
	comp=Z,29nm,1.5s							
BG3	**Lake Jocassee**	**51.39**	**84**	P	**P**	**04 48 54.2**	**+0.9**	
BG3				IAmb	IAmb	04 48 54.9		
	comp=Z,10nm,1.0s							
Z51A	**Franklin**	**51.48**	**87**	IAmb	IAmb	04 48 54.7		
	comp=Z,20nm,1.1s							
Y52A	**Lilburn**	**51.65**	**86**	IAmb	IAmb	04 48 57.4		
	comp=Z,20nm,1.2s							
R58B	**Mineral**	**51.82**	**78**	IAmb	IAmb	04 48 58.7		
	comp=Z,11nm,1.1s							
WES	**Weston**	**51.89**	**69**	IAmb	IAmb	04 49 06.8		
	comp=Z,16nm,1.0s							
250A	**Grady**	**51.92**	**89**	IAmb	IAmb	04 49 15.6		
	comp=Z,26nm,1.2s							
KMSC	**Kings Mountain**	**52.13**	**83**	P		04 48 59.3		
	baz=320							
152A	**Waverly Hall**	**52.22**	**87**	P	**P**	**04 48 59.2**	**-0.3**	
GOGA	**Godfrey**	**52.32**	**86**	P		04 49 00.3		
	baz=320							
HODGE	**Hodges**	**52.33**	**84**	IAmb	IAmb	04 49 01.4		
	comp=Z,13nm,0.8s							
Q61A	**Milford**	**52.46**	**75**	P		04 49 01.8		
	baz=319							
LMN	**Caledonia Moun**	**52.50**	**62**	IAmb	IAmb	04 49 02.6		
	comp=Z,13nm,0.7s							
T59A	**Double "B" Far**	**52.73**	**78**	IAmb	IAmb	04 49 05.3		
	comp=Z,14nm,1.2s							
V58A	**Windy Hill, Pi**	**52.81**	**80**	IAmb	IAmb	04 49 05.7		
	comp=Z,18nm,1.1s							
ARCES	**ARCESS Array B**	**52.93**	**0**	P	**P**	**04 49 04.9**	**+0.6**	
	comp=Z,2.2nm,0.8s,baz=9.2,slow=9.8,SNR=4.3							
ARCES				PcP	**PcP**	**04 50 13.4**	**+0.6**	
	comp=Z,7.6nm,0.9s,baz=29,slow=2.8,SNR=7.3							
ARCES				LR	LR	05 13 50.4		
	comp=Z,70nm,18.7s,baz=355,slow=39							
ARCES	**ARCESS Array B**	**52.93**	**0**	IAmb	IAmb	04 49 09.0		
	comp=Z,19nm,1.5s							
KSRS	**Korea Array**	**53.10**	**283**	P	**P**	**04 49 05.4**	**-0.5**	
	comp=Z,1.1nm,0.5s,baz=42,slow=6.8,SNR=4.3							
KSRS				PcP	**PcP**	**04 50 14.3**	**+0.4**	
	comp=Z,2.9nm,0.7s,baz=39,slow=3.3,SNR=5.9							
KSRS				LR	LR	05 12 06.2		
	comp=Z,56nm,21.1s,baz=56,slow=37							
NHSC	**New Hope**	**54.30**	**83**	P		04 49 15.2		
	baz=321							
SONM	**Songino Array**	**55.60**	**306**	P	**P**	**04 49 23.8**	**-0.4**	
	comp=Z,9.9nm,0.8s,baz=48,slow=7.0,SNR=25							
SONM				PcP	**PcP**	**04 50 24.1**	**+0.5**	
	comp=Z,7.7nm,0.8s,baz=61,slow=2.2,SNR=7.5							
SONM				LR	LR	05 15 18.0		
	comp=Z,142nm,20.5s,baz=55,slow=38							
SONM	**Songino Array**	**55.60**	**306**	P	**P**	**04 49 24.1**	**-0.1**	
SONM				IAmb	IAmb	04 49 25.5		
	comp=Z,7.4nm,0.8s							
TLIG	**Tlapa**	**57.17**	**111**	IAmb	IAmb	04 49 37.6		
	comp=Z,8.8nm,0.9s							
HHC	**Hu-ho-hao-te**	**58.67**	**298**	*e*P	**P**	**04 49 45.8**	**-0.2**	
HHC				pmax	pmax			
	comp=Z,27nm,1.0s							
HHC				pmax	pmax			
	comp=Z,82nm,5.6s							
HHC				L	L			
	comp=Z,170nm,16.1s							
HHC				L	L			
	comp=Z,160nm,15.2s							
HHC				L	L			
	comp=Z,130nm,15.1s							
ZAA0	**Zalesovo Array**	**58.78**	**324**	P	**P**	**04 49 46.0**	**-0.3**	
ZAA0				IAmb	IAmb	04 49 47.5		
	comp=Z,8.4nm,0.7s							
ZAA0				PcP	**PcP**	**04 50 33.9**	**-1.9**	
ZALV	**Zalesovo Beam**	**58.78**	**324**	P	**P**	**04 49 46.6**	**+0.3**	
	comp=Z,9.3nm,0.6s,baz=37,slow=7.2,SNR=28							
ZALV				PcP	**PcP**	**04 50 35.7**	**-0.1**	
	comp=Z,6.9nm,0.8s,baz=20,slow=3.8,SNR=6.4							
ZALV				LR	LR	05 17 31.6		
	comp=Z,67nm,18.1s,baz=186,slow=39							
ZALV	**Zalesovo Beam**	**58.78**	**324**	P	**P**	**04 49 45.4**	**-1.0**	
ZALV				PcP	**PcP**	**04 50 35.5**	**-0.3**	
NOA	**NORSAR Array B**	**60.91**	**8**	P	**P**	**04 50 00.9**	**0.0**	
	comp=Z,0.3nm,0.8s,baz=351,slow=6.7,SNR=6.1							
NOA				LR	LR	05 18 07.5		
	comp=Z,36nm,18.2s,baz=30,slow=38							
FINES	**FINESS Array B**	**61.06**	**360**	P	**P**	**04 50 00.5**	**-1.3**	
	comp=Z,3.2nm,0.9s,baz=276,slow=1.7,SNR=3.9							
KLMR	**Klimovskoe**	**61.17**	**352**	*e*P	**P**	**04 50 00.8**	**-1.8**	
KLMR				AMP		04 50 06.3		
	comp=Z,6.0nm,1.0s							
HFS	**Hagfors**	**61.98**	**7**	P	**P**	**04 50 08.0**	**-0.1**	
	comp=Z,4.4nm,0.7s,baz=53,slow=5.7,SNR=7.9							
NJ2	**Nanjing**	**61.98**	**286**	*e*P	**P**	**04 50 08.0**	**-0.5**	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
ARU	**Arti**	**63.10**	**340**	P	**P**	**04 50 14.1**	**-1.6**	
	comp=Z,2.9nm,0.2s,baz=41,slow=2.8,SNR=11							
ARU	**Arti**	**63.10**	**340**	P	**P**	**04 50 14.5**	**-1.2**	
ARU				IAmb	IAmb	04 50 14.9		
	comp=Z,8.1nm,0.6s							
BRVK	**Borovoye**	**63.71**	**332**	P	**P**	**04 50 18.7**	**-1.0**	
EKA	**Eskdalemuir Ar**	**64.78**	**18**	P	**P**	**04 50 27.2**	**+0.6**	
	comp=Z,6.7nm,0.8s,baz=348,slow=5.5,SNR=20							
GTA	**Gaotai**	**65.20**	**305**	↑P	**P**	**04 50 29.5**	**-0.3**	
GTA				pP	pP	04 50 34.0	-3.3	
GTA				sP	sP	04 50 37.3	-2.8	
GTA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,69nm,6.9s							
GTA				L	L			
	comp=Z,140nm,16.0s							
GTA				L	L			
	comp=Z,180nm,16.7s							
GTA				L	L			
	comp=Z,240nm,17.5s							
XAN	**Xi'an**	**65.36**	**295**	P	**P**	**04 50 30.0**	**-0.9**	
XAN				pmax	pmax			
	comp=Z,15nm,1.6s							
XAN				L	L			
	comp=Z,140nm,16.3s							
XAN				L	L			
	comp=Z,200nm,16.3s							
XAN				L	L			
	comp=Z,200nm,21.7s							
MK31	**Makanchi Array**	**65.76**	**321**	IAmb	IAmb	04 50 33.7		
	comp=Z,3.9nm,0.6s							
MKAR	**Makanchi Array**	**65.76**	**321**	P	**P**	**04 50 32.8**	**-0.4**	
	comp=Z,6.2nm,0.5s,baz=42,slow=6.9,SNR=54							
MKAR				PP	**PP**	**04 52 52.6**	**-4.9**	
	comp=Z,1.1nm,0.8s,baz=49,slow=7.9,SNR=2.8							
MKAR				LR	LR	05 19 44.0		
	comp=Z,89nm,20.0s,baz=58,slow=36							
MKAR	**Makanchi Array**	**65.76**	**321**	P	**P**	**04 50 32.4**	**-0.9**	
MAKZ	**Makanchi**	**65.86**	**321**	P	**P**	**04 50 33.1**	**-0.8**	
MAKZ				IAmb	IAmb	04 50 34.3		
	comp=Z,7.1nm,1.0s							
MAKZ				PcP	**PcP**	**04 51 04.0**	**-0.6**	
LZH	**Lanzhou**	**66.10**	**300**	*e*P	**P**	**04 50 35.8**	**0.0**	
LZH				pP	pP	04 50 39.5	-3.8	
LZH				pmax	pmax			
	comp=Z,27nm,1.0s							
LZH				pmax	pmax			
	comp=Z,94nm,6.0s							
LZH				L	L			
	comp=Z,200nm,14.1s							
LZH				L	L			
	comp=Z,320nm,12.5s							
LZH				L	L			
	comp=Z,150nm,13.6s							
WMQ	**Urumqi**	**66.42**	**316**	*e*P	P	04 50 43.0	+5.4	
TAOE	**Nuku Hiva Isla**	**67.43**	**165**	*e*LR	LR	05 10 32.7		
	comp=Z,154nm,27.5s							
MNK	**Minsk**	**68.01**	**359**	*i* P	**P**	**04 50 45.2**	**-2.2**	
	comp=E,1.0nm,0.9s							
MNK				*i* P	**P**	**04 50 45.2**	**-2.2**	
	comp=N,4.0nm,0.9s							
MNK				*i* P	**P**	**04 50 45.2**	**-2.2**	
	comp=Z,14nm,0.9s,baz=181							
MNK				*i* PcP	**PcP**	**04 51 12.2**	**-1.3**	
MNK				*i* PP	**PP**	**04 53 14.7**	**-2.0**	
MNK				*i* PPP	PPP	04 54 52.4		
MNK				*i* S	**S**	**04 59 41.8**	**-2.9**	
MNK				*i* ScS	**SKKSac**	**05 00 44.0**	**+0.2**	
MNK				*i* SSS	SSS	05 06 31.9		
MNK				*i* LQ	LQ	05 15 43.2		
MNK				*i* LR	LR	05 17 50.7		
MNK				*i* LRM	MLR	05 22 30.3		
	comp=N,65nm,16.1s							
MNK				*i* LRM	MLR	05 22 58.2		
	comp=E,4.0nm,17.1s							
MNK				*i* LRM	MLR	05 23 29.6		
	comp=Z,49nm,17.1s							
BELG	**Belogornoye**	**68.71**	**346**	P	**P**	**04 50 50.6**	**-1.1**	
	comp=Z,10nm,0.4s,baz=11,slow=10,SNR=5.1							
AKTO	**Aktyubinsk**	**68.91**	**339**	P	**P**	**04 50 51.9**	**-1.2**	
	comp=Z,6.7nm,0.9s,baz=1.8,slow=5.4,SNR=12							
AKTO				LR	LR	05 23 33.2		
	comp=Z,29nm,19.4s,baz=15,slow=38							
ABKAR	**Akbulak array**	**69.64**	**337**	P	**P**	**04 50 56.4**	**-1.2**	
BSTI	**Sart Tilman**	**70.66**	**14**	*d*P	**P**	**04 51 05.2**	**+1.4**	
BSTI				*dx*	x	04 51 12.2		
CLL	**Collm**	**70.71**	**9**	*e*P	**P**	**04 51 05.0**	**+0.9**	
CLL				*i*		04 51 08.6		
CLL				*e*PcP	**PcP**	**04 51 21.0**	**-3.9**	
BTNL	**Ternell**	**70.73**	**13**	*d*P	**P**	**04 51 04.7**	**+0.4**	
BCLA	**Clavier**	**70.79**	**14**	*d*P	**P**	**04 51 05.3**	**+0.7**	
BCLA				*d*PcP	**PcP**	**04 51 26.7**	**+1.5**	
BGES	**Gesves**	**70.80**	**14**	*d*P	**P**	**04 51 04.2**	**-0.5**	
B

PMOR	**Pomariorio Ree**	**72.75**	**174**	*eP*		**P**	**04 51 17.0**	**+0.4**
PMOR	**Pomariorio Ree**	**72.75**	**174**	*eT*		T	06 08 38.9	
	comp=Z,34nm,0.3s							
KK31	**Karatay Array**	**72.76**	**327**	P		**P**	**04 51 16.2**	**-0.4**
KKAR	**Karatay Array**	**72.76**	**327**	P		**P**	**04 51 16.0**	**-0.6**
KHC	**Kasperske Hory**	**72.92**	**8**	*eP*		**P**	**04 51 18.9**	**+1.4**
KHC				*e*PCP		**PcP**	**04 51 34.8**	**+0.4**
VAH	**Vaihoa**	**73.00**	**173**	*eP*		**P**	**04 51 18.4**	**+0.3**
	comp=Z,32nm,1.0s							
STHS	**Stebnicka Huta**	**73.05**	**3**	*eP*		**P**	**04 51 19.8**	**+1.6**
KRUC	**Moravsky**	**73.18**	**7**	*eP*		**P**	**04 51 22.5**	**+3.5**
ECH	**Echery**	**73.19**	**13**	P		**P**	**04 51 19.3**	**+0.2**
ECH				IAmb		IAmb	04 51 20.8	
	comp=Z,12nm,1.1s							
BFO	**Black Forest**	**73.21**	**12**	P		**P**	**04 51 19.4**	**+0.2**
GEC2	**GERESS Array S**	**73.21**	**8**	P		**P**	**04 51 20.1**	**+0.8**
GERES	**GERESS Array B**	**73.21**	**8**	P		**P**	**04 51 19.8**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=21,slow=5.7,SNR=15							
LANS	**Liptovska Anna**	**73.25**	**4**	*eP*		**P**	**04 51 21.5**	**+2.1**
JAVC	**Velka Javorina**	**73.46**	**6**	*eP*		**P**	**04 51 22.6**	**+1.9**
KOLS	**Kolonicke sedl**	**73.56**	**2**	*eP*		**P**	**04 51 22.7**	**+1.5**
CONA	**Conrad Observa**	**74.28**	**7**	*eP*		**P**	**04 51 26.0**	**+0.5**
	comp=Z,4.4nm,1.0s							
RETA	**Reutte**	**74.30**	**11**	*eP*		**P**	**04 51 26.7**	**+1.0**
	comp=Z,8.5nm,1.9s							
KSH	**Kashi**	**74.34**	**322**	P		**P**	**04 51 29.5**	**+3.4**
KSH				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,130nm,4.3s							
DAVA	**Damuels**	**74.41**	**11**	*eP*		**P**	**04 51 29.0**	**+2.6**
	comp=Z,2.2nm,0.9s							
MOTA	**Moosalm**	**74.47**	**10**	*eP*		**P**	**04 51 27.6**	**+0.8**
	comp=Z,12nm,1.4s							
WATA	**Walderalm**	**74.53**	**10**	*eP*		**P**	**04 51 28.3**	**+1.2**
	comp=Z,11nm,1.3s							
WTTA	**Wattenberg**	**74.60**	**10**	*eP*		**P**	**04 51 28.8**	**+1.2**
	comp=Z,6.8nm,0.7s							
SQTA	**Sankt Quirin**	**74.61**	**10**	*eP*		**P**	**04 51 28.9**	**+1.4**
	comp=Z,10nm,0.7s							
FETA	**Feichten**	**74.76**	**11**	*i* P		**P**	**04 51 29.8**	**+1.4**
	comp=Z,12nm,1.2s,SNR=6.0							
DAVOX	**Davos/Dischmat**	**74.91**	**11**	P		**P**	**04 51 30.5**	**+1.1**
	baz=0.4,slow=9.3,SNR=1.1							
KBA	**Koelnbreinsper**	**74.94**	**9**	*i* P		**P**	**04 51 30.7**	**+1.2**
	comp=Z,16nm,1.2s,SNR=7.9							
SENIN	**Lac Senin/Sane**	**75.03**	**13**	P		**P**	**04 51 30.7**	**+0.6**
SENIN				IAmb		IAmb	04 51 45.2	
	comp=Z,12nm,1.4s							
TUE	**Stuetta**	**75.16**	**12**	P		**P**	**04 51 31.4**	**+0.6**
TUE				IAmb		IAmb	04 51 36.6	
	comp=Z,6.0nm,0.7s							
ABTA	**Abfaltersbach**	**75.19**	**9**	*eP*		**P**	**04 51 31.5**	**+0.7**
	comp=Z,6.5nm,1.2s							
TIAR	**Tiarei**	**75.21**	**175**	*eP*		**P**	**04 51 31.5**	**+0.5**
	comp=Z,4.8nm,1.0s							
PPT	**Papeete**	**75.21**	**176**	LR		LR	05 17 12.7	
	comp=Z,101nm,19.4s,baz=322,slow=30							
PPT2	**Papeete2**	**75.23**	**176**	*e*LR		LR	05 14 05.7	
	comp=Z,116nm,22.0s							
MYKA	**Terra Mystica**	**75.41**	**9**	*eP*		**P**	**04 51 32.7**	**+0.6**
	comp=Z,18nm,0.9s							
ZOU	**Zoufplan**	**75.42**	**9**	P		**P**	**04 51 33.3**	**+0.9**
SOKA	**Soboth**	**75.47**	**8**	*i* P		**P**	**04 51 33.2**	**+0.8**
	comp=Z,8.8nm,1.3s,SNR=7.2							
BTK	**Batken**	**75.47**	**326**	P		**P**	**04 51 32.5**	**0.0**
BTK				IAmb		IAmb	04 51 34.2	
	comp=Z,7.5nm,0.9s							
OBKA	**Obir**	**75.60**	**8**	*i* P		**P**	**04 51 33.8**	**+0.6**
	comp=Z,23nm,0.8s,SNR=5.3							
GROS	**Grobnik**	**75.71**	**7**	*i* P		**P**	**04 51 34.3**	**+0.4**
KMI	**Kunming**	**75.73**	**294**	⇑P		**P**	**04 51 34.8**	**+0.3**
KMI				pmax		pmax		
	comp=Z,12nm,0.8s							
CADS	**Cadrg**	**75.81**	**9**	*i* P		**P**	**04 51 34.0**	**-0.4**
BNI	**Bardonecchia**	**76.24**	**14**	P		**P**	**04 51 38.2**	**+1.2**
BNI				IAmb		IAmb	04 51 39.9	
	comp=Z,13nm,1.0s							
TEOL	**Teolo**	**76.49**	**10**	P		**P**	**04 51 37.8**	**-0.5**
PGAV	**Gavieira, Arco**	**76.54**	**26**	*eP*		**P**	**04 51 37.6**	**-1.1**
	comp=Z,30nm,1.6s							
PCAB	**Cabril**	**76.84**	**25**	*eP*		**P**	**04 51 41.7**	**+1.4**
MLR	**Muntele Rosu**	**77.04**	**360**	P		**P**	**04 51 39.6**	**-1.9**
	comp=Z,1.5nm,0.6s,baz=264,slow=12,SNR=2.2							
PBRG	**Braganca**	**77.04**	**24**	*eP*		**P**	**04 51 42.8**	**+1.4**
	comp=Z,17nm,1.9s							
LSA	**Lhasa**	**77.19**	**306**	P		**P**	**04 51 43.4**	**+0.4**
POLO	**Lamas de Olo**	**77.22**	**25**	*eP*		**P**	**04 51 43.8**	**+1.3**
	comp=Z,7.1nm,2.2s							
MSSA	**Maissana**	**77.31**	**12**	P		**P**	**04 51 42.4**	**-0.5**
PVRL	**Vila Real**	**77.33**	**25**	*eP*		**P**	**04 51 44.6**	**+1.6**
	comp=Z,23nm,1.7s							
MVO	**Moncorvo**	**77.59**	**25**	*eP*		**P**	**04 51 46.0**	**+1.5**
	comp=Z,16nm,1.4s							
KBZ	**Khabaz**	**77.81**	**347**	P		**P**	**04 51 45.4**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=351,slow=5.9,SNR=9.4							
PVIS	**Viseu**	**77.82**	**26**	*eP*		**P**	**04 51 47.0**	**+1.2**
MTE	**Manteigas**	**78.20**	**25**	*eP*		**P**	**04 51 49.4**	**+1.5**
	comp=Z,21nm,0.9s							
MTE	**Manteigas**	**78.20**	**25**	IAmb		IAmb	04 51 49.8	
	comp=Z,14nm,0.8s							
PCAS	**Casmilo, Conde**	**78.31**	**26**	*eP*		**P**	**04 51 49.9**	**+1.4**
	comp=Z,22nm,1.8s							
SLVN	**Son La**	**78.34**	**291**	P		**P**	**04 51 48.9**	**-0.1**
MURB	**Monte Urbino**	**78.65**	**10**	P		**P**	**04 51 51.7**	**+1.3**
PSBE	**So Bento**	**78.75**	**27**	*eP*		**P**	**04 51 52.4**	**+1.5**
	comp=Z,29nm,2.1s							
PCBR	**Castelo Branco**	**78.75**	**26**	*eP*		**P**	**04 51 52.1**	**+1.2**
	comp=Z,15nm,1.0s							
PMAFR	**Mafra**	**79.16**	**27**	*eP*		**P**	**04 51 54.8**	**+1.6**
	comp=Z,105nm,1.6s							
PMRV	**Marv??o**	**79.16**	**26**	*eP*		**P**	**04 51 54.1**	**+0.9**
	comp=Z,18nm,2.0s							
PMTG	**Montargil**	**79.31**	**26**	*eP*		**P**	**04 51 55.0**	**+1.1**
	comp=Z,13nm,1.6s							
ESBB	**Sonseca Array**	**79.68**	**23**	IAmb		IAmb	04 51 58.3	
	comp=Z,11nm,0.9s							
ESDC	**Sonseca Array**	**79.68**	**23**	P		**P**	**04 51 57.3**	**+1.3**
	comp=Z,8.6nm,0.8s,baz=340,slow=5.3,SNR=66							
ESDC				LR		LR	05 27 32.9	
	comp=Z,52nm,21.9s,baz=200,slow=36							
ESDC	**Sonseca Array**	**79.68**	**23**	IAmb		IAmb	04 51 58.4	
	comp=Z,9.1nm,0.9s							
PAB	**San Pablo**	**79.72**	**23**	P		**P**	**04 51 56.7**	**+0.4**
PAB				IAmb		IAmb	04 51 58.6	
	comp=Z,12nm,1.3s							
EVO	**Evora**	**79.87**	**26**	*eP*		**P**	**04 51 58.0**	**+1.0**
	comp=Z,16nm,1.5s							
PNCL	**Nicolau / Gran**	**80.14**	**27**	*eP*		**P**	**04 52 00.0**	**+1.5**
	comp=Z,25nm,1.1s							
RUSC	**La Rusia**	**80.26**	**94**	IAmb		IAmb	04 52 00.1	
	comp=Z,21nm,1.2s							
PBAR	**Barrancos**	**80.44**	**26**	*eP*		**P**	**04 52 01.3**	**+1.2**
	comp=Z,20nm,1.1s							
MESJ	**Messejana**	**80.48**	**27**	*eP*		**P**	**04 52 02.0**	**+1.7**
ROSC	**El Rosal**	**80.49**	**96**	P		**P**	**04 52 02.4**	**+1.3**
	comp=Z,4.3nm,0.3s,baz=30,slow=20,SNR=2.9							
ROSC				LR		LR	05 32 20.8	
	comp=Z,55nm,18.1s,baz=213,slow=39							
NIL	**Nilore**	**80.58**	**322**	P		**P**	**04 52 01.5**	**+0.5**
NIL				IAmb		IAmb	04 52 02.1	
	comp=Z,15nm,0.9s							
TAPN	**Taplejung**	**80.71**	**307**	*eP*		**P**	**04 52 02.2**	**+0.1**
	comp=Z,67nm,0.6s							
GEYT	**Alibeck**	**80.83**	**335**	P		**P**	**04 52 02.5**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=46,slow=6.2,SNR=2.3							
GEYT				LR		LR	05 32 51.8	
	comp=Z,36nm,18.8s,baz=215,slow=40							
TBI	**Tubuai**	**80.96**	**176**	*e*LR		LR	05 16 43.4	
	comp=Z,200nm,24.8s							
GUN	**Gumba**	**80.99**	**309**	*eP*		**P**	**04 52 03.9**	**+0.3**
	comp=Z,78nm,0.8s							
PVAQ	**Vaqueiros**	**81.01**	**26**	*eP*		**P**	**04 52 04.7**	**+1.5**
	comp=Z,26nm,1.7s							
PBDV	**Barranco-do-Ve**	**81.11**	**27**	*eP*		**P**	**04 52 05.9**	**+2.1**
ODAN	**Odare**	**81.27**	**307**	*eP*		**P**	**04 52 05.0**	**0.0**
	comp=Z,44nm,0.9s							
KKN	**Kakani**	**81.34**	**310**	*eP*		**P**	**04 52 05.4**	**+0.1**
	comp=Z,30nm,0.5s							
GKN	**Gorkha**	**81.42**	**310**	*eP*		**P**	**04 52 05.6**	**-0.1**
	comp=Z,102nm,1.0s							
DANN	**Dangsing**	**81.47**	**311**	*eP*		**P**	**04 52 06.5**	**+0.4**
	comp=Z,258nm,0.8s							
NONG	**Nongkai**	**81.48**	**290**	P		**P**	**04 52 06.0**	**+0.1**
PKIN	**Phulchoki**	**81.48**	**309**	*eP*		**P**	**04 52 06.0**	**-0.2**
	comp=Z,56nm,0.7s							
PKI	**Pulchoki**	**81.48**	**309**	*eP*		**P**	**04 52 06.1**	**-0.1**
	comp=Z,55nm,0.7s							
RAMN	**Ramite**	**81.53**	**308**	*eP*		**P**	**04 52 06.4**	**0.0**
	comp=Z,60nm,0.7s							
DMN	**Daman**	**81.57**	**310**	*eP*		**P**	**04 52 06.7**	**+0.1**
	comp=Z,59nm,0.6s							
FNA	**Florina**	**81.67**	**3**	IAmb		IAmb	04 52 07.7	
	comp=Z,16nm,0.9s							
PYUN	**Piuthan**	**82.00**	**311**	*eP*		**P**	**04 52 09.0**	**+0.2**
	comp=Z,166nm,0.8s							
KOLN	**Koldanda**	**82.05**	**311**	*eP*		**P**	**04 52 09.0**	**0.0**
	comp=Z,96nm,0.9s							
ANTO	**Ankara**	**82.49**	**355**	P		**P**	**04 52 10.9**	**-0.1**
ANTO				IAmb		IAmb	04 52 12.7	
	comp=Z,11nm,0.8s							
BRTR	**Keskin Array B**	**82.59**	**354**	P		**P**	**04 52 11.7**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=16,slow=2.1,SNR=6.3							
BRTR				LR		LR	05 34 47.3	
	comp=Z,22nm,18.8s,baz=69,slow=40							
CHTO	**Chiang Mai**	**82.92**	**294**	P		**P**	**04 52 12.9**	**-0.6**
CHTO	**Chiang Mai**	**82.92**	**294**	P		**P**	**04 52 12.8**	**-0.6**
CHTO				IAmb		IAmb	04 52 13.6	
	comp=Z,16nm,1.1s							
CMAR	**Chiang Mai Arr**	**83.23**	**294**	P		**P**	**04 52 14.9**	**-0.1**
	comp=Z,11nm,0.7s,baz=22,slow=5.3,SNR=36							
CMAR				LR		LR	05 34 37.3	
	comp=Z,60nm,18.9s,baz=220,slow=40							
CMAR	**Chiang Mai Arr**	**83.23**	**294**	P		**P**	**04 52 14.5**	**-0.5**
PHIT	**Phitsanulok**	**83.58**	**292**	P		**P**	**04 52 17.3**	**+0.4**
KEST	**Kesra**	**85.76**	**13**	P		**P**	**04 52 28.9**	**+1.2**
	comp=Z,15nm,0.9s,baz=302,slow=3.2,SNR=13							
MDT	**Midelt**	**86.13**	**25**	P		**P**	**04 52 30.8**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=318,slow=7.2,SNR=8.2							
IDI	**Anoyia**	**87.23**	**1**	P		**P**	**04 52 33.7**	**-1.2**
	comp=Z,7.0nm,0.7s,baz=339,slow=8.6,SNR=4.9							
MMAI	**Mount Meron Ar**	**89.15**	**352**	P		**P**	**04 52 45.2**	**+1.1**
	comp=Z,21nm,0.9s,baz=343,slow=7.2,SNR=10							
CTA	**Charters Tower**	**91.96**	**234**	P		**P**	**04 52 57.7**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=63,slow=7.1,SNR=5.2							
MTN	**Manton Dam**	**92.83**	**250**	P		**P**	**04 53 00.2**	**-0.9**
PTGA	**Pitinga**	**92.83**	**87**	P		**P**	**04 53 01.4**	**+0.1**
WRA	**Warramunga Arr**	**97.31**	**244**	P		**P**	**04 53 20.3**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=33,slow=5.7,SNR=2.8							
RAYN	**Ar Rayn**	**97.31**	**342**	P		Pdif	04 53 22.3	+0.4
ASAR	**Alice Springs**	**100.69**	**243**	P		**Pdif**	**04 53 35.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=17,slow=6.8,SNR=2.6							
KMBO	**Kilima Mbogo**	**122.74**	**346**	PKP		**PKiKP**	**04 58 45.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=0.9,slow=8.8,SNR=3.9							
HOPE	**Hope Point**	**146.08**	**111**	PKPbc		**PKPab**	**04 59 27.7**	**-0.3**
LBTB	**Lobatse**	**147.21**	**0**	PKPbc		**PKPab**	**04 59 32.7**	**-0.6**
QSPA	**South Pole Qui**	**147.62**	**180**	PKPbc		**PKPbc**	**04 59 31.5**	**+0.1**
BOSA	**Boshof**	**150.79**	**1**	PKPbc		**PKPbc**	**04 59 40.8**	**+0.1**
	comp=Z,9.3nm,0.6s,baz=1.4,slow=2.0,SNR=28							
VNA3	**Neumayer Olymp**	**160.09**	**146**	PKPab		**PKPab**	**05 00 25.3**	**-1.0**
MAW	**Mawson**	**160.76**	**224**	PKPab		**PKPab**	**05 00 29.4**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=110,slow=7.8,SNR=3.7							
VNA1	**Neumayer--Stat**	**160.76**	**145**	PKPab		**PKPab**	**05 00 26.9**	**-2.3**
VNA2	**Neumayer--Watz**	**160.90**	**147**	PKPab		**PKPab**	**05 00 28.8**	**-1.1**
SNAA	**Sanae**	**161.79**	**151**	PKPab		**PKPab**	**05 00 32.8**	**-1.0**

*IDC **26** 05:02:58.5±2.8, 22°.51S×173°.14E, h49km±24km, mb3.8/9, mb1 4.0/11, mb1mx3.9/22, mbtmp4.1/11, ML4.9/2, MS3.6/4, Ms1 3.5/4, ms1mx3.2/22, Error ellipse: s-maj=30.7km s-min=17.3km az=153.0*

ISC 26 05:02:56.4±0.9, 22°.6S±0°.2×173°.21E±0°.10, h32km, n18, σ1§01/13, mb4.2/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DZM	**Mont Dzumac**	**6.29**	**273**	P		**Pn**	**05 04 28.5**		**+1.4**
	3.2nm,0.3s,baz=115,slow=10,SNR=37								
DZM				S		**Sn**	**05 05 38.4**		**+0.5**
	3.2nm,0.3s,baz=129,slow=20,SNR=8.7								
MSVF	**Nonsavu**	**6.63**	**44**	P		**Pn**	**05 04 32.8**		**+1.1**
	2.5nm,0.3s,baz=218,slow=18,SNR=8.0								
RAO	**Raoul Island**	**10.38**	**132**	LR		LR	05 08 37.6		
	comp=Z,384nm,18.2s,baz=333,slow=32								
URZ	**Urewera**	**15.98**	**169**	LR		LR	05 12 06.9		
	comp=Z,220nm,18.5s,baz=32,slow=34								
RAR	**Rarotonga**	**25.09**	**92**	LR		LR	05 15 04.8		
	comp=Z,56nm,20.4s,baz=294,slow=29								
STKA	**Stephens Creek**	**29.51**	**245**	P		**P**	**05 08 57.8**		**-0.2**
	2.6nm,0.8s,baz=78,slow=9.3,SNR=2.4								
STKA				LR		LR	05 19 26.3		
	comp=Z,132nm,21.0s,baz=185,slow=34								
ASAR	**Alice Springs**	**36.09**	**260**	P		**P**	**05 09 55.6**		**+0.1**
	2.4nm,0.8s,baz=83,slow=8.8,SNR=15								
WRA	**Warramunga Arr**	**36.25**	**267**	P		**P**	**05 09 56.2**		**-0.8**
	1.2nm,0.7s,baz=98,slow=8.4,SNR=8.1								
H11S2	**WAKE ISLAND Hy**	**41.31**	**351**	T		T	05 54 40.5		
	baz=171,slow=76,SNR=3.5								
H11S3	**WAKE ISLAND Hy**	**41.32**	**351**	T		T	05 54 41.1		
	baz=171,slow=76,SNR=3.2								
H11S1	**WAKE ISLAND Hy**	**41.33**	**351**	T		T	05 54 39.8		
	baz=171,slow=76,SNR=5.3								
VNDA	**Vanda**	**55.26**	**183**	P		**P**	**05 12 26.1**		**0.0**
	0.3nm,0.7s,baz=18,slow=9.0,SNR=1.5								
MJAR	**Matsushiro Arr**	**67.46**	**330**	P		**P**	**05 13 48.2**		**-0.9**
	2.3nm,0.7s,baz=167,slow=7.4,SNR=4.3								
PETK	**Petropavlovsk-**	**76.57**	**350**	P		**P**	**05 14 42.5**		**-0.8**
	8.7nm,1.2s,baz=140,slow=7.0,SNR=5.5								
NVAR	**Mina Array Bea**	**88.29**	**47**	P		**P**	**05 15 46.6**		**+1.5**
	0.1nm,0.3s,baz=216,slow=7.1,SNR=2.4								
SONM	**Songino Array**	**92.12**	**322**	P		**P**	**05 16 01.3**		**-1.3**
	0.4nm,0.4s,baz=127,slow=7.0,SNR=3.2								
ILAR	**Eielson Array**	**92.36**	**16**	P		**P**	**05 16 02.5**		**-0.7**
	1.4nm,0.8s,baz=239,slow=5.6,SNR=11								
GERES	**GERESS Array B**	**149.16**	**333**	PKPbc		**PKPbc**	**05 22 41.7**		**+0.1**
	0.4nm,0.4s,baz=20,slow=3.1,SNR=4.2								

*SOME **26** 05:05:11.4, 42°.27N×79°.53E, h10km*
*KRNET **26** 05:05:12.1±0.1, 42°.23N×79°.63E, h16km, mb3.7*
*NNC **26** 05:05:13.2±1.9, 42°.35N×79°.77E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=13.4km s-min=7.4km az=131.0*

ISC 26 05:05:09.9±1.5, 42°.19N±0°.05×79°.67E±0°.04, h7km±10km, n45, σ1§31/80, 16C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SHLS	**Shalkode**	**0.98**	**351**	⇓*e*P		**Pn**	**05 05 29.7**		**-0.5**
	baz=11								
SHLS				⇓*e*S		**Sn**	**05 05 43.0**		**-1.5**
	baz=11								
SHLS	**Shalkode**	**0.98**	**351**	⇓*e*P		**Pn**	**05 05 29.7**		**-0.5**
	139nm,0.1s								
SHLS				*e*S		**Sn**	**05 05 42.9**		**-1.5**
	144nm,0.2s								
SHLS	**Shalkode**	**0.98**	**351**	P		**Pn**	**05 05 29.6**		**-0.5**
	139nm,0.1s								
SHLS				S		**Sn**	**05 05 42.9**		**-1.5**
	144nm,0.2s								
PRZ	**Przheval'sk**	**0.98**	**288**	⇑*i*P		**Pb**	**05 05 29.6**		**+0.2**
	baz=87								
PRZ				⇑*i*S		**Sg**	**05 05 42.3**		**+0.7**
	baz=87								
UZB	**Uzynbulak**	**1.07**	**334**	*eP*		**Pb**	**05 05 30.5**		**-0.3**
	baz=34								
UZB				*e*S		**Sg**	**05 05 44.3**		**0.0**
	baz=34								
UZB	**Uzynbulak**	**1.07**	**334**	*eP*		**Pb**	**05 05 30.5**		**-0.3**
	8.1nm,0.1s								
UZB				*e*S		**Sg**	**05 05 44.3**		**0.0**
	83nm,0.2s								
UZB	**Uzynbulak**	**1.07**	**334**	P		**Pb**	**05 05 30.5**		**-0.3**
	8.1nm,0.1s								
UZB				S		**Sg**	**05 05 44.3**		**0.0**
	83nm,0.2s								
PDGK	**Podgornoye**	**1.15**	**354**	P		**Pn**	**05 05 31.9**		**-0.6**
PDGK				S		**Sg**	**05 05 46.6**		**-0.3**
PDGK	**Podgornoye**	**1.15**	**354**	⇑P		**Pg**	**05 05 31.7**		**-0.2**
	3.1nm,0.2s								
PDGK				⇑S		**Sg**	**05 05 46.2**		**-0.6**
	49nm,0.4s								
KTMS	**Ketmen**	**1.36**	**22**	*eP*		**Pg**	**05 05 35.9**		**0.0**
	baz=23								
KTMS				*e*S		**Sg**	**05 05 53.8**		**+0.3**
	baz=23								
KTMS	**Ketmen**	**1.36**	**22**	*eP*		**Pg**	**05 05 35.9**		**0.0**
	24nm,0.1s								
KTMS				*e*S		**Sg**	**05 05 53.8**		**+0.3**
	47nm,0.1s								
KTMS	**Ketmen**	**1.36**	**22**	P		**Pg**	**05 05 35.9**		**0.0**
	31nm,0.1s								
KTMS				S		**Sg**	**05 05 53.8**		**+0.3**
	47nm,0.1s								
TARG	**Taragay, Kyrgy**	**1.46**	**252**	⇓*i*P		**Pg**	**05 05 38.1**		**+0.2**
	baz=51								
TARG				⇓*i*S		**Sg**	**05 05 57.9**		**+1.0**
	baz=51								
KPKS	**Kokpek**	**1.47**	**331**	*eP*		**Pg**	**05 05 37.7**		**-0.3**
	baz=31								
KPKS				*e*S		**Sb**	**05 05 56.4**		**-0.1**
	baz=31								
KPKS	**Kokpek**	**1.47**	**331**	*eP*		**Pg**	**05 05 37.7**		**-0.3**
	21nm,0.1s								
KPKS				*e*S		**Sb**	**05 05 56.3**		**-0.1**
	182nm,0.3s								
ANVS	**Anan'yevo**	**1.59**	**293**	⇑*i*P		**Pg**	**05 05 40.7**		**+0.3**
	baz=92								
ANVS				⇑*i*S		**Sg**	**05 06 01.2**		**+0.1**
	baz=92								
KURS	**Kuram**	**1.70**	**320**	*eP*		**Pg**	**05 05 42.8**		**+0.3**
	baz=20								
KURS				*e*S		**Sg**	**05 06 05.1**		**+0.5**
	baz=20								
KURS	**Kuram**	**1.70**	**320**	*eP*		**Pg**	**05 05 42.8**		**+0.3**
	13nm,0.1s								
KURS				*e*S		**Sg**	**05 06 05.1**		**+0.5**
	38nm,0.3s								
KURS	**Kuram**	**1.70**	**320**	P		**Pg**	**05 05 42.8**		**+0.3**
	13nm,0.1s								
KURS				S		**Sg**	**05 06 05.1**		**+0.5**
	38nm,0.3s								
KDJ	**Kajisay**	**1.85**	**269**	⇑*i*P		**Pb**	**05 05 44.9**		**+0.8**
	baz=68								
KDJ				⇑*i*S		**Sb**	**05 06 08.4**		**+0.9**
	baz=68								
DJR	**Jarkent**	**2.15**	**2**	⇑*e*P		**Pg**	**05 05 49.7**		**-1.2**
	2.4nm,0.3s								
DJR				*e*S		**Sg**	**05 06 17.6**		**-1.2**
	30nm,0.3s								
DJR	**Jarkent**	**2.15**	**2**	Pg		**Pg**	**05 05 49.7**		**-1.2**
	2.4nm,0.3s								
DJR				Lg		Lg	05 06 17.6		
	30nm,0.3s								
MDOK	**Medeo**	**2.16**	**298**	⇓*e*P		**Pb**	**05 05 50.0**		**+0.5**
	baz=97								
MDOK				⇓*e*S		**Sb**	**05 06 17.9**		**+1.4**
	baz=97								
MDOK	**Medeo**	**2.16**	**298**	⇓*e*P		**Pb**	**05 05 50.0**		**+0.5**
	26nm,0.2s								
MDOK				*e*S		**Sb**	**05 06 17.9**		**+1.4**
	23nm,0.3s								
MDOK	**Medeo**	**2.16**	**298**	Pn		**Pb**	**05 05 49.7**		**+0.3**
	28nm,0.6s								
MDOK				Sn		**Sg**	**05 06 20.4**		**+1.0**
	18nm,0.5s								
MDOK	**Medeo**	**2.16**	**298**	Pg		**Pb**	**05 05 49.9**		**+0.5**
	26nm,0.2s								
MDOK				Lg		Lg	05 06 17.3		
	23nm,0.3s								
ULHL	**Ulahol**	**2.54**	**272**	⇑*i*P		**Pb**	**05 05 54.7**		**-1.3**
	baz=72								
ULHL				⇑*i*S		**Sb**	**05 06 26.1**		**-1.5**
	baz=72								
KTBS	**Karatobe**	**2.67**	**306**	*eP*		**Pb**	**05 05 59.2**		**+1.2**
	21nm,0.2s								
KTBS				*e*S		**Sg**	**05 06 33.6**		**-1.9**
	153nm,0.2s								
KTBS	**Karatobe**	**2.67**	**306**	Pg		**Pb**	**05 05 59.2**		**+1.2**
	21nm,0.2s								
KTBS				Lg		Lg	05 06 33.6		
	153nm,0

	45nm,0.2s									
SATY					*e*S		**Sg**	05 08 53.6	+0.9	
	153nm,0.1s									
SATY	**Saty**	**1.61**	**21**	P			**Pb**	05 08 30.2	-1.1	
	70nm,0.1s									
SATY					S		**Sg**	05 08 53.6	+0.9	
	153nm,0.1s									
IZV	**Izvestkoviy**	**1.66**	**333**	⇑	*e*P		**Pb**	05 08 32.0	-0.2	
	42nm,0.3s									
IZV					*e*S		**Sg**	05 08 56.5	+2.3	
	159nm,0.2s									
IZV	**Izvestkoviy**	**1.66**	**333**		P		**Pb**	05 08 32.0	-0.2	
	42nm,0.3s									
IZV					S		**Sg**	05 08 56.5	+2.3	
	159nm,0.2s									
MDOK	**Medeo**	**1.66**	**345**	⇑	*e*P		**Pb**	05 08 31.7	-0.5	
	43nm,0.2s									
MDOK					*e*S		**Sg**	05 08 55.9	+1.5	
	104nm,0.4s									
MDOK	**Medeo**	**1.66**	**345**	⇑	P		**Pb**	05 08 31.5	-0.7	
	28nm,0.5s									
MDOK				⇑	S		**Sg**	05 08 55.8	+1.4	
	63nm,0.4s									
MDOK	**Medeo**	**1.66**	**345**		Pg		**Pb**	05 08 31.7	-0.5	
	37nm,0.2s									
MDOK					Lg		Lg	05 08 55.9		
	104nm,0.4s									
AAA	**Alma-Ata**	**1.73**	**343**		*e*P		**Pb**	05 08 33.6	+0.2	
	143nm,0.2s									
AAA					*e*S		**Sg**	05 08 59.5	+2.9	
	322nm,0.3s									
AAA	**Alma-Ata**	**1.73**	**343**		Pg		**Pb**	05 08 33.6	+0.2	
	143nm,0.2s									
AAA					Lg		Lg	05 08 59.5		
	322nm,0.3s									
UZB	**Uzynbulak**	**1.90**	**33**		*e*P		**Pb**	05 08 34.8	-1.4	
	34nm,0.3s									
UZB					*e*S		**Sg**	05 09 01.2	-0.6	
	135nm,0.4s									
UZB	**Uzynbulak**	**1.90**	**33**		Pg		**Pb**	05 08 34.8	-1.4	
	34nm,0.3s									
UZB					Lg		Lg	05 09 01.2		
	135nm,0.4s									
KURS	**Kuram**	**1.97**	**12**		*e*P		**Pb**	05 08 36.6	-0.8	
	27nm,0.4s									
KURS					*e*S		**Sg**	05 09 04.4	+0.1	
	65nm,0.8s									
KURS	**Kuram**	**1.97**	**12**		Pg		**Pb**	05 08 36.6	-0.8	
	37nm,0.6s									
KURS					Lg		Lg	05 09 04.4		
	65nm,0.8s									
TKM2	**Tokmak 2**	**2.03**	**313**	⇑	*i*P		**Pb**	05 08 37.6	-1.0	
	baz=15									
TKM2				⇑	*i*S		**Sg**	05 09 05.9	-0.3	
	baz=15									
TKM2	**Tokmak 2**	**2.03**	**313**	⇓	Pn		**Pb**	05 08 38.2	-0.4	
	24nm,0.4s									
TKM2				⇑	Lg		Lg	05 09 07.3		
	17nm,0.3s									
KPKS	**Kokpek**	**2.06**	**22**		*e*P		**Pb**	05 08 38.0	-1.0	
	109nm,0.3s									
KPKS					*e*S		**Sg**	05 09 07.3	+0.1	
	307nm,0.5s									
SHLS	**Shalkode**	**2.10**	**40**		*e*P		**Pb**	05 08 42.2	+1.1	
	126nm,0.2s									
SHLS					*e*S		**Sg**	05 09 14.1	+5.7	
	269nm,0.4s									
SHLS	**Shalkode**	**2.10**	**40**		Pg		**Pg**	05 08 42.2	+1.1	
	126nm,0.2s									
SHLS					Lg		Lg	05 09 14.1		
	269nm,0.4s									
DGS	**Degeres**	**2.17**	**321**		*e*P		**Pb**	05 08 41.0	+0.1	
	44nm,0.4s									
DGS					*e*S		**Sg**	05 09 12.0	+1.2	
	105nm,0.5s									
DGS	**Degeres**	**2.17**	**321**		Pg		**Pb**	05 08 41.0	+0.1	
	44nm,0.4s									
DGS					Lg		Lg	05 09 12.0		
	105nm,0.5s									
PDGK	**Podgornoye**	**2.25**	**37**		Pg		**Pb**	05 08 40.3	-1.8	
	34nm,0.4s									
PDGK					Lg		Lg	05 09 11.3		
	50nm,0.6s									
PDGK	**Podgornoye**	**2.25**	**37**	⇓	Pn		**Pb**	05 08 40.1	-2.1	
	48nm,0.6s									
PDGK				⇑	Lg		Lg	05 09 13.4		
	142nm,0.9s									
KTBS	**Karatobe**	**2.27**	**342**		*e*P		**Pb**	05 08 42.2	-0.2	
	28nm,0.4s									
KTBS					*e*S		**Sg**	05 09 14.6	+0.9	
	318nm,0.3s									
KTBS	**Karatobe**	**2.27**	**342**		Pg		**Pb**	05 08 42.2	-0.2	
	28nm,0.4s									
KTBS					Lg		Lg	05 09 14.6		
	318nm,0.3s									
KBK	**Karagaybulak**	**2.28**	**300**	⇑	*i*P		**Pn**	05 08 40.3	+0.8	
	baz=2.0									
KBK				⇑	*i*S		**Sb**	05 09 10.9	-0.4	
	baz=2.0									
ARLS	**Aral**	**2.49**	**278**	⇑	*e*P		**Pn**	05 08 42.8	+0.4	
	baz=81									
ARLS				⇑	*i*S		**Sb**	05 09 15.3	-2.2	
	baz=81									
KUU	**Kurty**	**2.52**	**338**		*e*P		**Pb**	05 08 46.3	-0.4	
	7.0nm,0.2s									
KUU					*e*S		**Sg**	05 09 21.0	-0.9	
	165nm,0.7s									
KUU	**Kurty**	**2.52**	**338**		Pg		**Pb**	05 08 46.3	-0.4	
	7.0nm,0.2s									
KUU					Lg		Lg	05 09 21.0		
	165nm,0.7s									
AAK	**Ala-Archa**	**2.57**	**296**	⇓	*i*P		**Pn**	05 08 44.2	+0.7	
	baz=98									
AAK				⇓	*i*S		**Sb**	05 09 17.8	-1.9	
	baz=98									
AAK	**Ala-Archa**	**2.57**	**296**	⇑	Pg		**Pb**	05 08 46.7	-0.9	
	5.5nm,0.4s									
AAK				⇑	Lg		Lg	05 09 22.1		
	25nm,0.8s									
CHMS	**Chumysh**	**2.58**	**305**	⇓	*i*P		**Pn**	05 08 44.4	+0.9	
	baz=7.0									
CHMS				⇓	*i*S		**Sb**	05 09 18.2	-1.5	
	baz=7.0									
KRBS	**Karabastau**	**2.58**	**327**		*e*P		**Pb**	05 08 47.6	-0.2	
	12nm,0.3s									
KRBS					*e*S		**Sg**	05 09 23.5	-0.2	
	94nm,0.5s									
KRBS	**Karabastau**	**2.58**	**327**		Pg		**Pb**	05 08 47.6	-0.2	
	12nm,0.3s									
KRBS					Lg		Lg	05 09 23.5		
	94nm,0.5s									
KTMS	**Ketmen**	**2.76**	**46**		*e*P		**Pb**	05 08 49.1	-1.9	
	25nm,0.4s									
KTMS					*e*S		**Sb**	05 09 25.8	+0.5	
	75nm,0.3s									
KTMS	**Ketmen**	**2.76**	**46**		Pg		**Pb**	05 08 49.1	-1.9	
	25nm,0.4s									
KTMS					Lg		Lg	05 09 25.8		
	75nm,0.3s									
USP	**Ospenovka**	**2.88**	**308**	⇓	*e*P		**Pn**	05 08 48.8	+1.2	
	baz=9.0									
USP				⇓	*e*S		**Sb**	05 09 25.5	-3.0	
	baz=9.0									
SGDS	**Sogindy**	**2.92**	**312**		Pg		**Pb**	05 08 53.5	0.0	
	3.4nm,0.3s									
AML	**Almayashu**	**2.99**	**282**	⇓	*i*P		**Pn**	05 08 50.0	+0.5	
	baz=85									
AML				⇓	*i*S		**Sn**	05 09 27.9	+1.8	
	baz=85									
EKS2	**Erkin-Say**	**3.07**	**292**	⇑	*i*P		**Pn**	05 08 51.1	+0.8	
	baz=94									
EKS2				⇑	*i*S		**Sn**	05 09 29.5	+1.9	
	baz=94									
DJR	**Jarkent**	**3.20**	**29**		*e*P		**Pb**	05 08 58.2	-0.2	
	1.1nm,0.2s									
DJR					*e*S		**Sg**	05 09 41.3	-2.3	
	3.8nm,0.3s									
DJR	**Jarkent**	**3.20**	**29**		Pg		**Pb**	05 08 58.2	-0.2	
	1.1nm,0.2s									
MRKS	**Merke**	**3.48**	**291**		*e*P		**Pb**	05 09 04.0	+0.9	
	7.1nm,0.4s									
MRKS					*e*S		**Sg**	05 09 51.8	-0.9	
	16nm,0.3s									
MRKS	**Merke**	**3.48**	**291**		Pg		**Pb**	05 09 04.0	+0.9	
	7.1nm,0.4s									
KAPS	**Kapalarasan**	**3.94**	**18**		*e*P		**Pg**	05 09 14.0	-2.3	
	0.6nm,0.4s									
KAPS					*e*S		**Sg**	05 10 08.8	+1.5	
	2.7nm,0.6s									
KAPS	**Kapalarasan**	**3.94**	**18**		Pg		**Pg**	05 09 14.0	-2.3	
	0.6nm,0.4s									
MK31	**Makanchi Array**	**6.22**	**31**	⇓	Pn		**Pn**	05 09 36.3	+2.8	
	1.3nm,0.7s,baz=218,slow=14,SNR=2.5									
MK31				⇓	Sn		**Sn**	05 10 47.5	+2.4	
	0.9nm,0.5s,baz=213,slow=27									
MK31				⇑	Lg		Lg	05 11 18.8		
	1.1nm,0.5s,baz=215,slow=29,SNR=4.1									
OTUK	**Ortayu**	**7.67**	**333**	⇑	Pn		Pg	05 11 02.6	+35	
	2.3nm,0.9s									
OTUK				⇓	Lg		Lg	05 12 05.5		
	4.8nm,0.8s									

OMAN ***26*** *05:15:59.1±3.5,29°.03N×51°.98E,h180km±8km,mb4.3/4, ml4.0/4,Error ellipse: s-maj=73.0km s-min=6.8km az=341.0*
IDC ***26*** *05:16:00.7±1.0,28°.61N×52°.21E,h0km,mb4.1/15, mb1 4.1/18,mb1mx3.9/44,mbtmp4.1/18,ML3.6/3,Error ellipse: s-maj=22.4km s-min=16.4km az=145.0*
KISR ***26*** *05:16:02.2±0.7,28°.54N×52°.21E,h46km±999km*
TEH ***26*** *05:16:04.5,28°.61N×52°.29E,h20km,ML3.9*
THR ***26*** *05:16:04.2±0.4,28°.70N×52°.38E,h6km±17km,ML3.9*
NEIC ***26*** *05:16:06.0±1.6,28°.64N±0°.06×52°.19E±0°.06,h34km±7km, Error ellipse: s-maj=9.7km s-min=6.5km az=207.0*

ISC 26 05:16:02.7±0.5,28°.55N±0°.04×52°.21E±0°.04,h15km,n125, σ1s45/125,mb4.0/18,Southern Iran

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
						Op	ISC	h	m	s	ISC
QIR1	**Qir**	**0.74**	**95**		*e*Pg		**Pb**	**05**	**16**	**17.6**	**+0.2**
QIR1					*e*			05	16	37.2	
	comp=Z,76μm,0.4s										
AHBU	**AHRAM**	**0.86**	**292**		*e*Pg		**Pn**	**05**	**16**	**22.7**	**+2.4**
SHI	**Shiraz**	**1.12**	**14**		*e*Pg		**Pn**	**05**	**16**	**24.0**	**-0.1**
SHI					*e*Sg		**Sn**	**05**	**16**	**39.8**	**+0.5**
SHI					*e*			05	16	43.6	
	comp=Z,28μm,0.3s										
KAZ1	**Kazerun**	**1.18**	**335**				**Pn**	**05**	**16**	**24.6**	**-0.2**
KAZ1	**Kazerun**	**1.18**	**335**		*e*Pg		**Pg**	**05**	**16**	**26.0**	**+0.5**
KAZ1					*e*			05	16	26.7	
	comp=Z,46μm,0.3s										
JHRM	**Jahrom**	**1.21**	**92**				**Pg**	**05**	**16**	**26.9**	**+0.9**
JHRM	**Jahrom**	**1.21**	**92**		*e*Pg		**Pg**	**05**	**16**	**27.0**	**+0.9**
LMD1	**Lamerd**	**1.47**	**145**		*e*Pg		**Pg**	**05**	**16**	**32.5**	**+1.4**
LMD1					*e*			05	17	02.9	
	comp=Z,24μm,0.6s										
LAR1	**LAR**	**2.11**	**114**		*e*Pn		**Pn**	**05**	**16**	**39.0**	**+1.5**
LAR1					*e*			05	17	33.7	
	comp=Z,17μm,0.6s										
KLNJ	**Kolanjah**	**2.51**	**348**		*e*Pn		**Pn**	**05**	**16**	**43.9**	**+0.6**
SHMA	**Al-Shehemyia**	**2.90**	**203**		P		**Pn**	**05**	**16**	**51.1**	**+2.7**
IRAM	**Ramesheh**	**3.25**	**3**		*e*Pn		**Pn**	**05**	**16**	**54.1**	**+0.7**
IMEH	**Mehriz**	**3.52**	**36**		*e*Pn		**Pn**	**05**	**16**	**59.1**	**+2.0**
IMEH					*e*			05	17	01.4	
	comp=Z,2μm,0.2s										
ISAD	**Sadrabad**	**3.59**	**21**		*e*Pn		**Pn**	**05**	**17**	**00.0**	**+1.9**
GENO	**Geno**	**3.69**	**107**		*e*Pn		**Pn**	**05**	**17**	**01.5**	**+2.1**
QRN	**Al-Qurain**	**3.77**	**274**		*e*P		**Pn**	**05**	**17**	**01.0**	**+0.6**
QRN					*e*S		**Sn**	**05**	**17**	**44.8**	**+0.3**
IGAR	**Gharneh**	**3.84**	**358**		*e*Pn		**Pn**	**05**	**17**	**02.5**	**+0.9**
TRNA	**Turayna**	**3.90**	**193**		P		**Pn**	**05**	**17**	**05.0**	**+2.9**
SHK1	**Shahrekord**	**3.94**	**343**		*e*Pn		**Pn**	**05**	**17**	**02.6**	**-0.2**
UMR	**Umm Al-Rimmam**	**4.06**	**285**		*e*P		**Pn**	**05**	**17**	**05.0**	**+0.7**
RDF	**Al-Radifah**	**4.11**	**276**		*e*P		**Pn**	**05**	**17**	**05.2**	**+0.2**
NGRK	**Negar Kerman**	**4.11**	**74**		*e*			05	17	59.4	
	comp=Z,1μm,0.4s										
NGRK					*e*Pn		**Pn**	**05**	**17**	**06.2**	**+0.9**
ICHK	**Chekchek**	**4.14**	**27**		*e*			05	17	11.3	
	comp=Z,838nm,0.3s										
ICHK					*e*Pn		**Pn**	**05**	**17**	**07.3**	**+1.6**
KHGB	**Koh Gabri**	**4.14**	**63**		*e*Pn		**Pn**	**05**	**17**	**06.8**	**+1.1**
IBAF	**Bafgh**	**4.20**	**43**		*e*Pn		**Pn**	**05**	**17**	**08.1**	**+1.7**
KRBR	**Kerman**	**4.23**	**69**		*e*Pn		**Pn**	**05**	**17**	**08.9**	**+2.0**
KRBR	**Kerman**	**4.23**	**69**		*e*Pn		**Pn**	**05**	**17**	**08.9**	**+2.0**
TVBK	**TV Kerman**	**4.23**	**69**		*e*Pn		**Pn**	**05**	**17**	**09.1**	**+2.1**
TVBK					*e*			05	18	01.0	
	comp=Z,1μm,0.3s										
IPIR	**Pirpir**	**4.27**	**345**		*e*Pn		**Pn**	**05**	**17**	**07.4**	**-0.1**
SHME	**Shamm**	**4.30**	**124**		*e*Pn		**Pn**	**05**	**17**	**08.4**	**+0.8**
IZEF	**Zefreh**	**4.33**	**1**		*e*Pn		**Pn**	**05**	**17**	**09.1**	**+0.8**
YZKH	**Yazd**	**4.35**	**28**		*e*Pn		**Pn**	**05**	**17**	**10.3**	**+2.0**
YZKH	**Yazd**	**4.35**	**28**		*e*Pn		**Pn**	**05**	**17**	**10.3**	**+2.0**
SLWR	**Sila**	**4.49**	**186**		P		**Pn**	**05**	**17**	**12.8**	**+2.7**
BANOM	**Banah**	**4.49**	**125**		*e*Pn		**Pn**	**05**	**17**	**11.8**	**+1.6**
BANOM	**Banah**	**4.49**	**125**		P		**Pn**	**05**	**17**	**12.2**	**+2.0**
	SNR=27										
RST	**Umm Al-Ruwaisa**	**4.66**	**283**		*e*P		**Pn**	**05**	**17**	**14.0**	**+1.5**
AJN	**Ajban**	**4.69**	**147**		*e*Pn		**Pn**	**05**	**17**	**15.6**	**+2.7**
NAZ	**Nazwa, Dubai**	**4.70**	**138**		*e*Pn		**Pn**	**05**	**17**	**15.5**	**+2.3**
MASF	**Masafi**	**4.74**	**131**		P		**Pn**	**05**	**17**	**15.8**	**+2.1**
	SNR=11										
MSFE	**Esma-Masafi**	**4.75**	**131**		*e*Pn		**Pn**	**05**	**17**	**15.1**	**+1.3**
IKLH	**Kolahrood**	**4.79**	**354**		*e*Pn		**Pn**	**05**	**17**	**14.8**	**+0.3**
ASUD	**Al Ashush, Dub**	**4.80**	**144**		*e*Pn		**Pn**	**05**	**17**	**17.3**	**+2.8**
ASUD	**Al Ashush, Dub**	**4.80**	**144**		P		**Pn**	**05**	**17**	**17.5**	**+2.9**
	SNR=7.1										
ANAR	**Anarak**	**4.81**	**15**		*e*Pn		**Pn**	**05**	**17**	**15.4**	**+0.7**
CHMN	**Cheshme madani**	**4.84**	**73**		*e*Pn		**Pn**	**05**	**17**	**17.0**	**+1.6**
FAQ	**Al Faqa, Dubai**	**4.85**	**141**		*e*Pn		**Pn**	**05**	**17**	**16.3**	**+1.1**
MDH	**Madha**	**4.88**	**131**		*e*Pn		**Pn**	**05**	**17**	**16.6**	**+1.0**
UOSS	**Minazif**	**5.07**	**134**		Pn		**Pn**	**05**	**17**	**20.1**	**+2.0**
UOSS	**Minazif**	**5.07**	**134**		*e*Pn		**Pn**	**05**	**17**	**20.1**	**+2.0**
HATD	**Hatta, Dubai**	**5.11**	**136**		*e*Pn		**Pn**	**05**	**17**	**20.6**	**+1.9**
HATD	**Hatta, Dubai**	**5.11**	**136**		P		**Pn**	**05**	**17**	**21.4**	**+2.7**
ASHO	**Ashiyiah**	**5.17**	**137**		*e*Pn		**Pn**	**05**	**17**	**21.0**	**+1.4**
ASHO	**Ashiyiah**	**5.17**	**137**		P		**Pn**	**05**	**17**	**21.8**	**+2.2**
	SNR=5.3										
QAMS	**Qamsar**	**5.22**	**353**		*e*Pn		**Pn**	**05**	**17**	**20.7**	**+0.3**
KRSH	**Karshahi**	**5.40**	**359**		*e*Pn		**Pn**	**05**	**17**	**23.2**	**+0.3**
ALNE	**Al Ain**	**5.49**	**144**		*e*Pn		**Pn**	**05**	**17**	**25.9**	**+1.9**
KBAM	**BAM**	**5.51**	**82**		*e*Pn		**Pn**	**05**	**17**	**27.5**	**+3.2**
ISFB	**Sefidab**	**5.79**	**0**		*e*Pn		**Pn**	**05**	**17**	**27.9**	**-0.2**
SOHO	**SOHO**	**5.87**	**138**		*e*Pn		**Pn**	**05**	**17**	**30.1**	**+1.0**
SOHO	**SOHO**	**5.87**	**138**		P		**Pn**	**05**	**17**	**30.6**	**+1.5**
BMDN	**Meydan**	**5.87**	**331**		*e*Pn		**Pn**	**05**	**17**	**29.3**	**-0.1**
TPRV	**Parvadeh(Tabas**	**5.90**	**40**		*e*Pn		**Pn**	**05**	**17**	**31.0**	**+1.4**
IKFM	**Kafar-mosalman**	**6.21**	**324**		*e*Pn		**Pn**	**05**	**17**	**34.6**	**+0.8**
IDOB	**Doab**	**6.26**	**328**		*e*Pn		**Pn**	**05**	**17**	**34.1**	**-0.6**
IQOM	**Qom**	**6.35**	**352**		*e*Pn		**Pn**	**05**	**17**	**35.5**	**-0.5**
HSAM	**Samen**	**6.43**	**332**		*e*Pn		**Pn**	**05**	**17**	**37.4**	**+0.3**
IVRN	**Varamin**	**6.44**	**356**		*e*Pn		**Pn**	**05**	**17**	**36.8**	**-0.3**
TKDS	**Koohdasht(Taba**	**6.58**	**39**		*e*Pn		**Pn**	**05**	**17**	**40.0**	**+1.0**
TNSJ	**Nastanj**	**6.58**	**34**		*e*Pn		**Pn**	**05**	**17**	**40.4**	**+1.3**
TABS	**Tabas**	**6.60**	**38**		*e*Pn		**Pn**	**05**	**17**	**41.0**	**+1.7**
TABS	**Tabas**	**6.60**	**38**		*e*Pn		**Pn**	**05**	**17**	**41.0**	**+1.7**
IBZA	**Bozab**	**6.97**	**329**		*e*Pn		**Pn**	**05**	**17**	**43.9**	**-0.6**
IKOO	**Kooshah**	**7.02**	**55**		*e*Pn		**Pn**	**05**	**17**	**46.9**	**+1.6**
IRAZ	**Razghan**	**7.10**	**345**		*e*Pn		**Pn**	**05**	**17**	**45.8**	**-0.5**
ITEG	**Tejag**	**7.11**	**51**		*e*Pn		**Pn**	**05**	**17**	**47.8**	**+1.5**
IALM	**Almaboloq**	**7.17**	**332**		*e*Pn		**Pn**	**05**	**17**	**47.3**	**0.0**
NHDN	**Nehbandan**	**7.37**	**65**		*e*Pn		**Pn**	**05**	**17**	**51.2**	**+1.3**
ZHDN	**Zahedan**	**7.58**	**82**		*e*Pn		**Pn**	**05**	**17**	**54.2**	**+1.3**
AFRZ	**Afriz**	**7.60**	**49**		*e*Pn		**Pn**	**05**	**17**	**53.9**	**+0.8**
ILIN	**Lien**	**7.76**	**326**		*e*Pn		**Pn**	**05**	**17**	**54.5**	**-0.9**
RAYN	**Ar Rayn**	**7.83**	**232**				**Pn**	**05**	**17**	**56.9**	**+0.7**
WSAR	**Wadi Sarin**	**7.84**	**131**		Pn		**Pn**	**05**	**17**	**56.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=318,slow=9.1,SNR=7.0										
WSAR					Sn		**Sn**	**05**	**19**	**19.2**	**-5.5**
	comp=Z,1.6nm,0.3s,baz=221,slow=20,SNR=5.8										
IDHR	**Dehrash**	**7.89**	**322**		*e*Pn		**Pn**	**05**	**17**	**56.5**	**-0.6**
QSDN	**Sirdan**	**8.33**	**343**		*e*Pn		**Pn**	**05**	**18**	**02.3**	**-0.9**
SBZV	**Sabzevar**	**9.05**	**29**		*e*Pn		**Pn**	**05**	**18**	**14.2**	**+1.2**
SRVN	**Saravan**	**9.08**	**95**		*e*Pn		**Pn**	**05**	**18**	**14.1**	**+0.6**
MHTO	**MHTO**	**9.17**	**144**		P		**Pn**	**05**	**18**	**15.4**	**+1.0**
	SNR=12										
IAKL	**Akhelmad**	**9.74**	**33**		*e*Pn		**Pn**	**05**	**18**	**24.0**	**+1.4**
ISFR	**Sfrayin**	**9.78**	**28**		*e*Pn		**Pn**	**05**	**18**	**24.8**	**+1.7**
DOK	**Doka**	**10.04**	**169**		P		**Pn**	**05**	**18**	**26.1**	**-0.4**
GEYT	**Alibeck**	**10.58**	**26**		Pn		**Pn**	**05**	**18**	**31.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=202,slow=7.4,SNR=1.6										
GYA0B	**ALIBECK ARRAY**	**10.58**	**26**		Pn		**Pn**	**05**	**18**	**35.8**	**+2.0**
WHFO	**Wadi Hawf**	**10.68**	**172**		P		**Pn**	**05**	**18**	**34.2**	**-1.1**
ABTO	**Aybut**	**11.19**	**175**		P		**Pn**	**05**	**18**	**41.4**	**-0.8**
	SNR=5.2										
BRTR	**Keskin Array B**	**18.95**	**311**		P		**Pn**	**05**	**20**	**24.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=134,slow=9.1,SNR=4.2										
KK31	**Karatay Array**	**20.70**	**41**		P		**P**	**05**	**20**	**41.6**	**-0.7**
KKAR	**Karatay Array**	**20.70**	**41**		P		**P**	**05**	**20**	**41.9**	**-0.5**
ARSB	**Arslanbob**	**21.21**	**48**		P		**P**	**05**	**20**	**47.7**	**-0.3**
ARSB					IAmb		IAmb	05	21	14.5	
	comp=Z,13nm,1.4s										
ABKAR	**Akbulak array**	**21.51**	**14**		P		**P**	**05**	**20**	**51.3**	**+0.3**
ABKAR	**Akbulak array**	**21.51**	**14**		P		**P**	**05**	**20**	**50.8**	**-0.2**
ABKAR					IAmb		IAmb	05	20	53.9	
	comp=Z,5.1nm,1.4s										
AKTO	**Aktyubinsk**	**22.30**	**10**		P		**P**	**05**	**20**	**59.8**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=186,slow=16,SNR=3.8										
BELG	**Belogornoye**	**24.06**	**353**		P		**P**	**05**	**21**	**17.3**	**+0.1**
	comp=Z,4.4nm,0.4s,baz=154,slow=10,SNR=1.6										
IDI	**Anoyia**	**24.09**	**293**		P		**P**	**05**	**21**	**18.7**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=32,slow=7.9,SNR=3.1										
AKASG	**Malin Array Be**	**28.12**	**328**		P		**P**	**05**	**21**	**55.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=80,slow=16,SNR=2.8										
MAKZ	**Makanchi**	**29.53**	**44**		P		**P**	**05**	**22**	**04.7**	**-1.9**
MAKZ					IAmb		IAmb	05	22	05.5	
	comp=Z,2.7nm,1.1s										
KURBB	**Kurchatov Arra**	**29.68**	**35**		P		**P**	**05**	**22**	**08.4**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=234,slow=9.1,SNR=7.4										
MK31	**Makanchi Array**	**29.72**	**44**		P		**P**	**05**	**22**	**08.4**	**+0.1**
MK31					IAmb		IAmb	05	22	25.8	
	comp=Z,2.4nm,1.4s										
MKAR	**Makanchi Array**	**29.72**	**44**		P		**P**	**05**	**22**	**08.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=254,slow=7.5,SNR=9.9										
KURK	**Kurchatov**	**29.79**	**35**		P		**P**	**05**	**22**	**08.4**	**-0.3**
VYHS	**Vyhne**	**32.47**	**317**		*e*P		**P**	**05**	**22**	**33.1**	**+0.7**
ZAA0	**Zalesovo Array**	**34.76**	**34**		P		**P**	**05**	**22**	**51.3**	**-1.0**
ZALV	**Zalesovo Beam**	**34.76**	**34**		P		**P**	**05**	**22**	**52.2**	**-0.1**
	comp=Z,3.8nm,0.3s,baz=241,slow=8.4,SNR=10										
ZALV	**Zalesovo Beam**	**34.76**	**34**		P		**P**	**05**	**22**	**51.6**	**-0.7**
MBAR	**Mbarara**	**35.54**	**219**		P		**P**	**05**	**23**	**01.6**	**+2.0**
	comp=Z,2.7nm,0.2s,baz=27,slow=9.1,SNR=1.6										
MBAR	**Mbarara**	**35.54**	**219**		IAmb		IAmb	05	23	02.5	
	comp=Z,2.3nm,0.7s										
FINES	**FINESS Array B**	**37.20**	**340**		P		**P**	**05**	**23**	**12.7**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=145,slow=12,SNR=17										
NOA	**NOR

0.2nm,0.5s,baz=214,slow=6.4,SNR=2.1

IDC ***26*** *05:54:01.9±0.9,35°.79N×97°.36W,h0km,mb1 3.8/7, mb1mx3.5/50,mbtmp3.6/7,ML3.4/7, Error ellipse: s-maj=12.9km s-min=9.9km az=144.0*

NEIC ***26*** *05:54:03.9±1.1,35°.77N±0°.02×97°.37W±0°.06,h3km±6km, Error ellipse: s-maj=7.1km s-min=1.5km az=71.0*

NEIC ***26*** *05:54:03.8,35°.74N×97°.38W,h3km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.60; $M_{\theta\theta}$=4.04; $M_{\phi\phi}$=3.44; $M_{r\theta}$=-1.07; $M_{r\phi}$=-0.26; $M_{\theta\phi}$=0.90; Fault plane solution: M_o=4.03000×10^{14} NP1:ϕ_s136.11000°, δ87.68000°,λ-20.91000°. NP2:ϕ_s226.99000°,δ69.10000°, λ-177.52000°. Principal axes: T 4.2986, Plg13.0000°, Azm183.0000°; N -0.6001, Plg69.0000°, Azm310.0000°; P -3.6986, Plg16.0000°, Azm90.0000°;*

ANF ***26*** *05:54:03.6±0.2,35°.76N×97°.38W,h5km,ML4.7/20 Error ellipse: s-maj=2.3km s-min=1.9km az=116.0*

TUL ***26*** *05:54:03.8±1.1,35°.74N±0°.03×97°.38W±0°.06, h5km±7km, ML3.9,mb_Lg3.9/156(NEIC),Mwr3.7/57(NEIC), Error ellipse: s-maj=7.0km s-min=2.6km az=66.0*

ISC 26 05:54:03.1±0.8,35°.76N±0°.02×97°.37W±0°.02,h11km±5km, n144,σ1§83/115,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.08**	**295**		**Pg**	**05 54 05.9**	**+0.3**
OK029				Sg	**Sg**	**05 54 07.5**	**+0.2**
OK005	**Luther M Schoo**	**0.18**	**127**		**Pg**	**05 54 07.8**	**+0.9**
OK025	**Westminster Rd**	**0.18**	**173**		**Pg**	**05 54 07.4**	**+0.4**
OK025				Sg	**Sg**	**05 54 10.3**	**+0.6**
OK009	**Oakdale Elemen**	**0.19**	**195**		**Pg**	**05 54 07.5**	**+0.3**
OK001	**Jones High Sch**	**0.21**	**163**	Pg	**Pg**	**05 54 08.0**	**+0.5**
BCOK	**Bluff Creek, N**	**0.23**	**242**		**Pg**	**05 54 08.1**	**+0.3**
BCOK				Sg	**Sg**	**05 54 11.5**	**+0.5**
OKCFA	**Oklahoma City**	**0.35**	**192**		**Pg**	**05 54 10.4**	**+0.3**
OKCFA				Sg	**Sg**	**05 54 15.6**	**+0.7**
OKCFA	**Oklahoma City** baz=10,SNR=260	**0.35**	**192**	P	**Pg**	05 54 10.5	
OKCFA	baz=10			S	**Sg**	**05 54 15.6**	**+0.7**
OKCFA	**Oklahoma City** baz=10,SNR=260	**0.35**	**192**	P		05 54 10.5	
OKCFA	baz=10			S		05 54 15.6	
OKCSW	**OKLAHOMA CITY**	**0.36**	**190**		**Pg**	**05 54 10.7**	**+0.4**
OKCSW				Sg	**Sg**	**05 54 16.1**	**+1.0**
OK031	**S. Brethren Rd**	**0.47**	**66**		**Pg**	**05 54 13.5**	**+1.3**
OK031				Sg	**Sb**	**05 54 20.5**	**+0.2**
OK030	**Cody Creek RV**	**0.50**	**71**		**Pg**	**05 54 14.1**	**+1.2**
FNO	**Franklin**	**0.51**	**183**		**Pg**	**05 54 13.3**	**+0.4**
FNO				Sg	**Sg**	**05 54 20.4**	**+0.8**
OK011	**Prague**	**0.62**	**116**		**Pg**	**05 54 16.0**	**+0.9**
QUOK	**Quay**	**0.67**	**52**		**Pg**	**05 54 17.2**	**+1.1**
CROK	**Carrier**	**0.89**	**326**		**Pg**	**05 54 21.0**	**+0.7**
CROK	comp=Z,862nm,0.7s			IAmb_Lg		05 54 34.0	
BLOK	**Blackwell**	**1.00**	**7**		**Pg**	**05 54 23.2**	**+0.8**
X34A	**Smith Ranch, M**	**1.22**	**198**		**Pg**	**05 54 26.6**	**+0.1**
OK032	**Salt Plains WL**	**1.24**	**327**		**Pg**	**05 54 27.1**	**+0.2**
KAN13	**South Haven SW**	**1.25**	**356**		**Pg**	**05 54 27.6**	**+0.5**
KAN14	**Manchester OK**	**1.29**	**338**		**Pg**	**05 54 27.9**	**+0.1**
TUL1	**Leonard** baz=263	**1.29**	**83**	P	**Pn**	**05 54 27.2**	**+0.2**
TUL1	baz=263			S	**Sg**	**05 54 44.9**	**+0.4**
TUL1	**Leonard** baz=263,SNR=594	**1.29**	**83**	P		05 54 27.2	
TUL1	baz=263			S		05 54 45.1	
TUL1	**Leonard** baz=263	**1.29**	**83**	P		05 54 27.2	
TUL1	baz=263			S		05 54 44.9	
KAN17	**Caldwell West**	**1.32**	**346**		**Pn**	**05 54 28.7**	**+1.2**
T35A	**Sooner Cattle**	**1.34**	**31**	Pn	**Pn**	**05 54 28.9**	**+1.1**
T35A	comp=Z,480nm,0.9s			IAmb_Lg		05 54 49.0	
T35B	**Sooner Cattle** baz=211	**1.34**	**31**	P	**Pn**	**05 54 28.9**	**+1.1**
T35B	baz=211			S	**Sn**	**05 54 47.7**	**+2.1**
T35B	**Sooner Cattle** baz=211	**1.34**	**31**	P		05 54 28.9	
T35B	baz=211			S		05 54 47.7	
KAN09	**Caldwell North**	**1.39**	**352**		**Pn**	**05 54 29.8**	**+1.4**
KAN09	comp=Z,966nm,0.8s			IAmb_Lg		05 54 49.5	
KS20	**Mayfield South**	**1.47**	**354**		**Pb**	**05 54 31.3**	**+0.8**
KAN10	**Anthony SW Sta**	**1.48**	**337**		**Pn**	**05 54 31.1**	**+1.4**
KS21	**Milan North St** comp=Z,1µm,0.8s	**1.54**	**351**	IAmb_Lg		05 54 54.1	
KAN08	**Anthony NE Sta**	**1.54**	**342**		**Pb**	**05 54 32.3**	**+0.7**
KAN08	comp=Z,667nm,0.9s			IAmb_Lg		05 54 54.6	
WMOK	**Wichita Mounta**	**1.55**	**229**		**Pn**	**05 54 31.5**	**+0.9**
WMOK	**Wichita Mounta** baz=48,SNR=434	**1.55**	**229**	P	**Pn**	**05 54 31.4**	**+0.8**
WMOK	baz=48			S	**Sn**	**05 54 51.6**	**+0.9**
WMOK	**Wichita Mounta** baz=48,SNR=402	**1.55**	**229**	P		05 54 31.2	
WMOK	baz=48			S		05 54 51.6	
WMOK	**Wichita Mounta** baz=48,SNR=434	**1.55**	**229**	P		05 54 31.4	
WMOK	baz=48			S		05 54 51.6	
KAN16	**Harper SW Stat**	**1.56**	**339**		**Pn**	**05 54 32.6**	**+1.7**
KAN16	comp=Z,594nm,1.0s			IAmb_Lg		05 54 58.6	
KAN12	**Harper NE Stat**	**1.61**	**342**		**Pb**	**05 54 33.7**	**+0.8**
LOOK	**Love County**	**1.77**	**175**		**Pn**	**05 54 35.4**	**+1.7**
LOOK	comp=Z,546nm,0.9s			IAmb_Lg		05 55 01.2	
X37A	**Clayton**	**2.01**	**125**		**Pn**	**05 54 38.9**	**+1.9**
X37A	comp=Z,487nm,0.8s			IAmb_Lg		05 55 06.4	
X37A	**Clayton** baz=306,SNR=242	**2.01**	**125**	P	**Pn**	**05 54 39.0**	**+2.0**
X37A	baz=306			S	**Sn**	**05 55 05.1**	**+3.0**
X37A	**Clayton** baz=306,SNR=242	**2.01**	**125**	P		05 54 39.0	
X37A	baz=306			S		05 55 05.1	
Z35A	**Perchaven, San**	**2.43**	**178**		**Pn**	**05 54 44.6**	**+1.9**
Z35A	comp=Z,491nm,1.2s			IAmb_Lg		05 55 20.0	
Z35A	**Perchaven, San** baz=358,SNR=111	**2.43**	**178**	P	**Pn**	**05 54 44.2**	**+1.5**
Z35A	**Perchaven, San** baz=358,SNR=111	**2.43**	**178**	P		05 54 44.2	
U38A	**Gravette**	**2.50**	**73**		**Pn**	**05 54 45.6**	**+1.8**
U38A	comp=Z,422nm,0.7s			IAmb_Lg		05 55 24.4	
U38A	**Gravette** baz=255,SNR=208	**2.50**	**73**	P	**Pn**	**05 54 45.6**	**+1.8**
U38A	**Gravette** baz=255,SNR=208	**2.50**	**73**	P		05 54 45.6	
HHAR	**Hobbs**	**2.82**	**78**		**Pn**	**05 54 50.0**	**+1.9**
HHAR	comp=Z,259nm,0.7s			IAmb_Lg		05 55 37.8	
HHAR	**Hobbs** baz=260	**2.82**	**78**	P	**Pn**	**05 54 50.1**	**+1.9**
HHAR	**Hobbs** baz=260	**2.82**	**78**	P		05 54 50.1	
R32A	**Long Quarter,** comp=Z,269nm,0.7s	**2.87**	**338**	IAmb_Lg		05 55 39.4	
R32A	**Long Quarter,** baz=158	**2.87**	**338**	P	**Pn**	**05 54 50.3**	**+1.5**
R32A	baz=158			S	**Sn**	**05 55 25.9**	**+2.7**
R32A	**Long Quarter,** baz=158	**2.87**	**338**	P		05 54 50.3	
R32A	baz=158			S		05 55 25.9	
W39A	**Magazine**	**2.98**	**100**	Pn	**Pn**	**05 54 52.3**	**+2.1**
W39A	comp=Z,313nm,0.8s			IAmb_Lg		05 55 46.1	
W39A	**Magazine** baz=282,SNR=70	**2.98**	**100**	P	**Pn**	**05 54 52.0**	**+1.7**
W39A	baz=282			S	**Sn**	**05 55 27.8**	**+1.8**
W39A	**Magazine** baz=282,SNR=30	**2.98**	**100**	P		05 54 51.7	
W39A	baz=282			S		05 55 27.3	
W39A	**Magazine** baz=282,SNR=70	**2.98**	**100**	P		05 54 52.0	
W39A	baz=282			S		05 55 27.8	
Z38A	**Mt. Pleasant**	**3.18**	**141**		**Pn**	**05 54 55.0**	**+2.0**
Z38A	comp=Z,303nm,0.8s			IAmb_Lg		05 55 51.0	
Z38A	**Mt. Pleasant** baz=322,SNR=6.5	**3.18**	**141**	P	**Pn**	**05 54 54.7**	**+1.7**
Z38A	**Mt. Pleasant** baz=322,SNR=6.5	**3.18**	**141**	P		05 54 54.7	
MIAR	**Mount Ida**	**3.33**	**110**		**Pn**	**05 54 57.8**	**+2.7**
MIAR	comp=Z,482nm,1.0s			IAmb_Lg		05 55 58.2	
MIAR	**Mount Ida** baz=292,SNR=105	**3.33**	**110**	P	**Pn**	**05 54 57.1**	**+2.0**
MIAR	baz=292			S	**Sn**	**05 55 37.5**	**+2.7**
MIAR	**Mount Ida** baz=292,SNR=59	**3.33**	**110**	P		05 54 57.1	
MIAR	baz=292			S		05 55 36.6	
MIAR	**Mount Ida** baz=292,SNR=105	**3.33**	**110**	P		05 54 57.1	
MIAR	baz=292			S		05 55 37.5	
KSU1	**Kansas State U** comp=Z,592nm,0.9s	**3.39**	**10**	IAmb_Lg		05 55 57.7	
KSU1	**Kansas State U** baz=191,SNR=6.1	**3.39**	**10**	P	**Pn**	**05 54 58.0**	**+2.1**
KSU1	**Kansas State U** baz=191	**3.39**	**10**	P		05 54 57.3	
KSU1	baz=191			S		05 55 38.3	
KSU1	**Kansas State U** baz=191,SNR=6.1	**3.39**	**10**	P		05 54 58.0	
CBKS	**Cedar Bluff**	**3.58**	**329**	Pn	**Pn**	**05 55 01.5**	**+2.8**
CBKS	**Cedar Bluff** baz=148,SNR=11	**3.58**	**329**	P	**Pn**	**05 55 00.7**	**+2.0**
CBKS	baz=148			S	**Sn**	**05 55 43.3**	**+2.2**
CBKS	**Cedar Bluff** baz=148	**3.58**	**329**	P		05 55 00.2	
CBKS	baz=148			S		05 55 42.4	
CBKS	**Cedar Bluff** baz=148,SNR=11	**3.58**	**329**	P		05 55 00.7	
CBKS	baz=148			S		05 55 43.3	
AMTX	**Amarillo**	**3.64**	**257**		**Pn**	**05 55 02.0**	**+2.5**
AMTX	comp=Z,191nm,0.8s			IAmb_Lg		05 56 04.3	
AMTX	**Amarillo** baz=75	**3.64**	**257**	P		05 55 01.3	
AMTX	baz=75			S		05 55 44.3	
ABTX	**Abilene, Hawle**	**3.66**	**212**	Pn	**Pn**	**05 55 00.9**	**+1.2**
ABTX	comp=Z,405nm,1.2s			IAmb_Lg		05 56 03.3	
ABTX	**Abilene, Hawle** baz=30,SNR=6.6	**3.66**	**212**	P	**Pn**	**05 55 00.6**	**+1.0**
ABTX	**Abilene, Hawle** baz=30,SNR=14	**3.66**	**212**	P		05 55 00.5	
ABTX	**Abilene, Hawle** baz=30,SNR=6.6	**3.66**	**212**	P		05 55 00.6	
U40A	**Yellville**	**3.70**	**79**		**Pn**	**05 55 01.6**	**+1.3**
U40A	comp=Z,290nm,0.8s			IAmb_Lg		05 56 03.2	
U40A	**Yellville** baz=262,SNR=24	**3.70**	**79**	P	**Pn**	**05 55 01.5**	**+1.2**
U40A	**Yellville** baz=262,SNR=6.7	**3.70**	**79**	P		05 55 01.2	
U40A	baz=262			S		05 55 46.0	
U40A	**Yellville** baz=262,SNR=24	**3.70**	**79**	P		05 55 01.5	
U40A	baz=262,SNR=24			P		05 55 01.5	
WHTX	**Lake Whitney,** baz=0.9,SNR=30	**3.76**	**181**	P	**Pn**	**05 55 02.2**	**+1.2**
WHTX	**Lake Whitney,** baz=0.9,SNR=24	**3.76**	**181**	P		05 55 02.2	
WHTX	baz=0.9			S		05 55 47.1	
WHTX	**Lake Whitney,** baz=0.9,SNR=30	**3.76**	**181**	P		05 55 02.2	
S39A	**Bolivar** comp=Z,530nm,0.9s	**3.77**	**58**	IAmb_Lg		05 56 05.6	
S39A	**Bolivar** baz=240,SNR=37	**3.77**	**58**	P	**Pn**	**05 55 03.0**	**+1.7**
S39A	**Bolivar** baz=240,SNR=37	**3.77**	**58**	P		05 55 03.0	
X40A	**Basin Creek Fa**	**3.92**	**108**		**Pn**	**05 55 05.7**	**+2.4**
X40A	comp=Z,402nm,0.8s			IAmb_Lg		05 56 14.6	
X40A	**Basin Creek Fa** baz=290,SNR=28	**3.92**	**108**	P	**Pn**	**05 55 05.4**	**+2.1**
X40A	**Basin Creek Fa** baz=290,SNR=14	**3.92**	**108**	P		05 55 05.0	
X40A	baz=290			S		05 55 50.5	
X40A	**Basin Creek Fa** baz=290,SNR=28	**3.92**	**108**	P		05 55 05.4	
X40A	baz=290,SNR=28			P		05 55 05.4	
237A	**Washetta, Mont**	**3.97**	**161**		**Pn**	**05 55 05.1**	**+1.2**
237A	comp=Z,230nm,0.7s			IAmb_Lg		05 56 18.7	
237A	**Washetta, Mont** baz=341,SNR=22	**3.97**	**161**	P	**Pn**	**05 55 04.8**	**+0.9**
237A	baz=341			S	**Sn**	**05 55 51.9**	**+1.4**
237A	**Washetta, Mont** baz=341,SNR=22	**3.97**	**161**	P		05 55 04.8	
237A	baz=341			S		05 55 51.9	
WLAR	**White Oak Lake**	**4.07**	**119**		**Pn**	**05 55 07.0**	**+1.8**
WLAR	comp=Z,302nm,0.9s			IAmb_Lg		05 56 20.3	
WHAR	**Wooly Hollow**	**4.17**	**95**	Pn	**Pn**	**05 55 08.1**	**+1.5**
WHAR	comp=Z,301nm,0.9s			IAmb_Lg		05 56 16.7	
W41B	**Gary Mavity, V** baz=279,SNR=76	**4.22**	**97**	P	**Pn**	**05 55 08.8**	**+1.5**
W41B	**Gary Mavity, V** baz=279,SNR=26	**4.22**	**97**	P		05 55 08.8	
W41B	baz=279			S		05 55 57.9	
W41B	**Gary Mavity, V** baz=279,SNR=76	**4.22**	**97**	P		05 55 08.8	
FCAR	**Ozark Folk Cen** comp=Z,193nm,0.8s	**4.26**	**87**	IAmb_Lg		05 56 31.1	
MGMO	**Mountain Grove** comp=Z,461nm,0.8s	**4.34**	**70**	IAmb_Lg		05 56 25.9	
Z41A	**Richland Creek** baz=305	**4.52**	**122**	P		05 55 12.8	
Z41A	baz=305			S		05 56 04.8	
NATX	**Nacogdoches** comp=Z,154nm,0.8s	**4.58**	**150**	IAmb_Lg		05 56 33.0	
NATX	**Nacogdoches** baz=331	**4.58**	**150**	P		05 55 13.9	
MSTX	**Muleshoe** comp=Z,164nm,1.0s	**4.79**	**250**	IAmb_Lg		05 56 48.1	
MSTX	**Muleshoe** baz=67	**4.79**	**250**	S		05 56 12.2	
P38A	**Dawn** comp=Z,202nm,0.7s	**4.91**	**37**	IAmb_Lg		05 56 41.6	
CCAR	**Cane Creek**	**4.95**	**110**		**Pn**	**05 55 20.0**	**+2.5**
CCAR	comp=Z,286nm,1.0s			IAmb_Lg		05 56 50.1	
N33A	**J Bar K, Exete**	**4.97**	**359**		**Pn**	**05 55 19.4**	**+1.7**
N33A	comp=Z,320nm,1.0s			IAmb_Lg		05 56 52.7	
435B	**Jarrell** comp=Z,272nm,0.9s	**4.97**	**182**	IAmb_Lg		05 56 53.0	
435B	**Jarrell** baz=1.9	**4.97**	**182**	P		05 55 18.9	
435B	baz=1.9			S		05 56 17.0	
LCAR	**Lake Charles**	**5.05**	**85**		**Pn**	**05 55 19.2**	**+0.5**
LCAR	comp=Z,291nm,1.1s			IAmb_Lg		05 56 50.4	
T42A	**Van Buren** comp=Z,251nm,1.0s	**5.21**	**74**	IAmb_Lg		05 56 54.6	
T42A	**Van Buren** baz=258,SNR=12	**5.21**	**74**	P	**Pn**	**05 55 22.1**	**+1.1**
T42A	**Van Buren** baz=258,SNR=12	**5.21**	**74**	P		05 55 22.1	
N35A	**Tabor**	**5.27**	**14**		**Pn**	**05 55 23.3**	**+1.5**
KSCO	**Kaye Shedlock'** comp=Z,227nm,0.7s	**5.30**	**309**	IAmb_Lg		05 56 53.7	
KSCO	**Kaye Shedlock'** baz=126	**5.30**	**309**	S		05 56 22.9	
CCM	**Cathedral Cave** comp=Z,324nm,0.9s	**5.41**	**63**	IAmb_Lg		05 56 59.1	
CCM	**Cathedral Cave** baz=247	**5.41**	**63**	P		05 55 24.8	
CCM	baz=247			S		05 56 26.9	
JCT	**Junction City** baz=20	**5.65**	**202**	P		05 55 27.8	
JCT	baz=20			S		05 56 33.6	
BGNE	**Belgrade** comp=Z,246nm,0.7s	**5.67**	**354**	IAmb_Lg		05 57 13.8	
BGNE	**Belgrade** baz=174	**5.67**	**354**	P		05 55 27.8	
BGNE	baz=174			S		05 56 33.9	
PBMO	**Poplar Bluff** comp=Z,270nm,0.8s	**5.69**	**78**	IAmb_Lg		05 57 10.1	
LPAR	**Lepanto** comp=Z,260nm,1.0s	**5.75**	**90**	IAmb_Lg		05 57 20.2	
143A	**Socs Landing,** comp=Z,148nm,0.9s	**5.80**	**120**	IAmb_Lg		05 57 19.2	
T25A	**Trinidad**	**5.84**	**286**		**Pn**	**05 55 31.3**	**+1.5**
T25A	comp=Z,271nm,0.9s			IAmb_Lg		05 57 15.0	
T25A	**Trinidad** baz=102	**5.84**	**286**	P		05 55 30.7	
N38A	**Joes South For**	**5.98**	**32**		**Pn**	**05 55 33.5**	**+1.9**
342A	**Flagon Creek P** comp=Z,106nm,1.1s	**6.07**	**135**	IAmb_Lg		05 57 17.0	
MET	**Memphis--Engin** comp=Z,204nm,0.8s	**6.10**	**94**	IAmb_Lg		05 57 31.8	
PENMO	**Penman** comp=Z,275nm,0.7s	**6.30**	**81**	IAmb_Lg		05 57 42.3	
OGNE	**Ogallala** comp=Z,282nm,0.8s	**6.34**	**326**	IAmb_Lg		05 57 26.8	
OGNE	**Ogallala** baz=144	**6.34**	**326**	P		05 55 37.5	
LNXT	**Lenox** comp=Z,271nm,0.7s	**6.40**	**85**	IAmb_Lg		05 57 32.9	
HALT	**Halls** comp=Z,255nm,0.8s	**6.52**	**86**	IAmb_Lg		05 57 37.8	
GLAT	**Glass** comp=Z,274nm,0.8s	**6.57**	**83**	IAmb_Lg		05 57 43.8	
OXF	**Oxford**	**6.64**	**99**	Pn	**Pn**	**05 55 41.9**	**+1.3**
OXF	comp=Z,145nm,0.8s			IAmb_Lg		05 57 42.9	
OXF	**Oxford** baz=283,SNR=6.0	**6.64**	**99**	P	**Pn**	**05 55 41.8**	**+1.2**
OXF	**Oxford** baz=283,SNR=13	**6.64**	**99**	P		05 55 41.0	
OXF	**Oxford** baz=283,SNR=6.0	**6.64**	**99**	P		05 55 41.8	
VBMS	**Vicksburg** comp=Z,79nm,1.1s	**6.70**	**120**	IAmb_Lg		05 57 41.4	
W45A	**Hickory Valley** comp=Z,154nm,0.8s	**6.70**	**93**		**Pn**	**05 55 43.5**	**+2.0**
W45A				IAmb_Lg		05 57 45.3	
Y45A	**Yeager Farm, C**	**6.71**	**104**	Pn	**Pn**	**05 55 42.8**	**+1.3**
SDCO	**Great Sand Dun**	**6.83**	**289**	Pn	**Pn**	**05 55 46.0**	**+2.5**
SDCO	**Great Sand Dun** baz=105,SNR=26	**6.83**	**289**	P		05 55 45.0	
735A	**Kenedy** comp=Z,149nm,1.1s	**6.90**	**183**	IAmb_Lg		05 57 52.7	
UTMT	**University of** comp=Z,257nm,0.8s	**6.91**	**83**	IAmb_Lg		05 58 02.7	
Q24A	**Divide** baz=115	**6.97**	**300**	P		05 55 46.4	
344A	**Westbrook Farm** comp=Z,88nm,1.1s	**7.01**	**126**	IAmb_Lg		05 58 05.2	
N41A	**Harden Midland**	**7.11**	**44**	Pn	**Pn**	**05 55 49.2**	**+2.1**
ANMO	**Albuquerque** comp=Z,0.2nm,0.3s,baz=86,slow=13,SNR=3.3	**7.47**	**266**	Pn	**Pn**	**05 55 53.2**	**+0.9**
ANMO	comp=Z,0.7nm,0.3s,baz=86,slow=12,SNR=9.7			Pg	**Pb**	**05 56 17.4**	**+4.5**
ANMO	comp=Z,2.4nm,0.3s,baz=81,slow=14,SNR=3.0			Sn	**Sn**	**05 57 19.0**	**+1.9**
ANMO	comp=Z,4.5nm,0.3s,baz=54,slow=14,SNR=3.7			Lg	Lg	05 57 57.0	
833A	**Chaparral WMA,** baz=12	**7.61**	**194**	P		05 55 55.1	
PLAL	**Pickwick Lake** comp=Z,70nm,0.8s	**7.63**	**93**	IAmb_Lg	**Pn**	**05 55 54.6** 05 58 07.6	**+0.4**
ISCO	**Idaho Springs**	**7.67**	**304**	Pn	**Pn**	**05 55 56.2**	**+1.1**
ISCO	comp=Z,96nm,0.8s			IAmb_Lg		05 58 19.7	
ISCO	**Idaho Springs** baz=119,SNR=5.8	**7.67**	**304**	P		05 55 56.0	
WVT	**Waverly** baz=270	**7.74**	**85**	P		05 55 56.1	
BNM	**Barren Site**	**7.77**	**261**	Pn	**Pn**	**05 55 57.7**	**+1.3**
MNTX	**Cornudas Mount** comp=Z,129nm,1.1s	**7.81**	**241**	IAmb_Lg		05 58 29.1	
MNTX	**Cornudas Mount** baz=56,SNR=17	**7.81**	**241**	P		05 55 57.5	
L40A	**Anamosa**	**7.90**	**35**	Pn	**Pn**	**05 55 59.2**	**+1.3**
L40A	comp=Z,184nm,0.9s			IAmb_Lg		05 58 16.1	
HDIL	**Hopedale**	**7.96**	**51**		**Pn**	**05 55 59.5**	**+0.8**
HDIL	**Hopedale** baz=235,SNR=7.6	**7.96**	**51**	P		05 55 59.6	
ECSD	**EROS Data Cent**	**7.98**	**4**	Pn	**Pn**	**05 55 59.1**	**+0.1**
ECSD	**EROS Data Cent** baz=184,SNR=18	**7.98**	**4**	P		05 55 58.7	
Y22D	**IRIS PASSCAL I** comp=Z,200nm,1.0s	**8.03**	**261**	IAmb_Lg		05 58 29.9	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.3s,baz=50,slow=11,SNR=18	**8.33**	**221**	Pn	**Pn**	**05 56 03.2**	**-0.7**
TXAR	comp=Z,1.4nm,0.3s,baz=50,slow=12,SNR=6.3			Pg	**Pb**	**05 56 23.9**	**-3.5**
TXAR	comp=Z,6.4nm,0.3s,baz=37,slow=31,SNR=6.7			Lg	Lg	05 58 20.9	
PHWY	**Pilot Hill** comp=Z,184nm,1.1s	**8.41**	**314**	IAmb_Lg		05 58 36.5	
N23A	**Red Feather La** baz=125	**8.46**	**310**	P		05 56 07.9	
V48A	**Smith Brothers** comp=Z,58nm,0.9s	**8.57**	**87**	IAmb_Lg		05 58 44.6	
L42A	**Oliver, Polo**	**8.65**	**42**		**Pn**	**05 56 10.0**	**+1.8**
SUSD	**Miller** comp=Z,90nm,0.9s	**8.76**	**352**	IAmb_Lg		05 58 52.6	
I37A	**Lemond, Waseca** comp=Z,148nm,0.8s	**8.79**	**19**	IAmb_Lg		05 58 54.7	
CLTN	**Cedars of Leba** comp=Z,76nm,0.9s	**8.96**	**85**	IAmb_Lg		05 58 54.8	
LRAL	**Lakeview Retre**	**8.99**	**105**	Pn	**Pn**	**05 56 13.8**	**+1.0**
LRAL	**Lakeview Retre** baz=290	**8.99**	**105**	P		05 56 13.3	
JFWS	**Jewell Farm** baz=220	**9.02**	**35**	P		05 56 13.8	
WCI	**Wyandotte Cave** comp=Z,171nm,0.9s	**9.19**	**71**	IAmb_Lg		05 59 01.6	
121A	**Cookes Peak, D** comp=Z,53nm,0.9s	**9.22**	**253**	IAmb_Lg		05 59 04.0	
U49A	**Red Boiling Sp** comp=Z,64nm,1.0s	**9.40**	**82**	IAmb_Lg		05 59 03.0	
PV02	**Paradox Valley** comp=Z,67nm,1.2s	**9.42**	**288**	IAmb_Lg		05 59 26.1	
PV12	**Saucer Basin,** comp=Z,74nm,1.1s	**9.49**	**289**	IAmb_Lg		05 59 21.3	
PV11	**David Mesa, Pa** comp=Z,76nm,1.0s	**9.54**	**289**	IAmb_Lg		05 59 15.3	
PV16	**Nyswonger Mesa** comp=Z,49nm,1.0s	**9.58**	**289**	IAmb_Lg		05 59 34.0	
PV04	**Paradox Valley** comp=Z,60nm,1.1s	**9.59**	**289**	IAmb_Lg		05 59 15.4	
I40A	**Norwalk** comp=Z,91nm,0.8s	**9.63**	**31**	IAmb_Lg		05 59 17.3	
PV14	**Lion Creek, Pa** comp=Z,55nm,1.3s	**9.67**	**289**	IAmb_Lg		05 59 23.4	
PV05	**Paradox Valley** comp=Z,62nm,1.2s	**9.68**	**287**	IAmb_Lg		05 59 26.2	
RWWY	**Rawlins** comp=Z,98nm,1.0s	**9.70**	**311**	IAmb_Lg		05 59 23.3	
RSSD	**Black Hills**	**9.79**	**331**	IAmb_Lg		05 59 27.8	

comp=Z,6nm,0.7s
W50A Signal Mountai 9.85 90 IAmb_Lg 05 59 24.9
comp=Z,72nm,0.8s
K22A Casper 9.89 317 IAmb_Lg 05 59 37.8
comp=Z,134nm,1.0s
SPMN Marine on St. 10.07 19 P 05 56 27.7
baz=202
P49A Miami Univ. Ec 10.71 66 P 05 56 36.9
baz=253
TKL Tuckaleechee C 11.05 87 Pn **Pn 05 56 39.2 -1.9**
comp=Z,0.2nm,0.3s,baz=284,slow=4.2,SNR=1.6
TKL Pg 05 57 24.3
comp=Z,0.6nm,0.3s,baz=271,slow=14,SNR=2.0
TKL Lg Lg 05 59 44.3
comp=Z,2.2nm,0.3s,baz=330,slow=20,SNR=4.2
PDAR Pinedale Array 11.75 310 Pn **Pn 05 56 51.7 +0.8**
comp=Z,0.2nm,0.3s,baz=120,slow=15,SNR=5.7
PDAR Pg 05 57 35.5
comp=Z,0.3nm,0.3s,baz=116,slow=14,SNR=4.3
PDAR Sn **Sn 05 59 07.2 +5.1**
comp=Z,0.3nm,0.3s,baz=111,slow=14,SNR=1.4
PDAR Lg Lg 06 00 06.2
comp=Z,0.7nm,0.3s,baz=128,slow=42,SNR=2.9
ULM Lac du Bonnet 14.52 4 Pn Pn 05 57 22.9 -5.5
comp=Z,0.5nm,0.3s,baz=182,slow=13,SNR=3.3
ULM Sn Sn 05 59 58.2 -11
comp=Z,0.6nm,0.3s,baz=267,slow=16,SNR=2.9
ULM Lg Lg 06 01 31.9
comp=Z,0.7nm,0.3s,baz=202,slow=19,SNR=1.6
SADO Sadowa 16.54 52 Pn **Pn 05 57 50.9 -4.0**
comp=Z,0.3nm,0.3s,baz=246,slow=16,SNR=2.0
SADO Sn **Sn 06 00 50.6 -7.8**
comp=Z,0.4nm,0.3s,baz=239,slow=18,SNR=2.4
SADO Lg Lg 06 02 35.0
comp=Z,0.7nm,0.3s,baz=211,slow=18,SNR=5.1
NVAR Mina Array Bea 16.91 285 Sn **Sn 06 01 06.3 -1.7**
comp=Z,0.2nm,0.3s,baz=69,slow=27,SNR=2.8
CMIG Matias Romero 18.73 173 P **P 05 58 22.7 +0.9**
comp=Z,0.1nm,0.3s,baz=4.8,slow=12,SNR=1.7

IDC 26 06:02:27.9±3.1, 32°.38S×178°.26W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/34, mbtmp3.9/3, ML3.3/1, Error ellipse: s-maj=71.3km s-min=37.2km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.98**	**212**	Pn	Pn	06 04 10.0	-1.4
	0.5nm,0.3s,baz=123,slow=23,SNR=1.6						
URZ				Sn	Sn	06 05 32.7	+1.2
	3.2nm,0.3s,baz=122,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**42.82**	**269**	P	P	06 10 27.9	+0.2
	0.9nm,0.7s,baz=107,slow=7.6,SNR=7.4						
WRA	**Warramunga Arr**	**43.99**	**274**	P	P	06 10 37.1	-0.1
	0.9nm,0.4s,baz=113,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	PKPbc	06 22 10.7	-0.8
	1.3nm,0.8s,baz=43,slow=3.4,SNR=5.8						

*VAO **26** 06:05:12.7±0.5, 25°.21S×65°.00W, h10km, mb4.1*
*IDC **26** 06:05:12.9±0.8, 25°.01S×65°.00W, h24km±5km, mb3.9/5, mb1 3.9/10, mb1mx3.7/30, mbtmp3.9/10, ML3.7/3, MS3.1/4, Ms1 3.1/4, ms1mx2.9/26, Error ellipse: s-maj=18.9km s-min=16.1km az=43.0*
*SJA **26** 06:05:12.6±1.1, 25°.06S×65°.13W, h21km±9km, ML3.9, MW4.0*
*NEIC **26** 06:05:16.7±1.4, 25°.03S±0°.05×64°.92W±0°.08, h49km±9km, mb4.0/5, Md4.0(SJA), Error ellipse: s-maj=10.6km s-min=6.4km az=109.0*
ISC 26 06:05:12.3±0.5, 25°.05S±0°.03×64°.96W±0°.03, h10km, n64, σ1s65/82, mb4.4/5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.59**	**303**	*i* P	**Pg**	**06 05 23.3**	**-0.5**
SLA				*e*S	**Sg**	**06 05 30.5**	**-1.1**
SLA				IAML		06 05 32.0	
	comp=Z,6μm,0.5s						
FSA	**Cafayete**	**1.40**	**221**	*i* P	**Pn**	**06 05 38.1**	**0.0**
FSA				*i* S	**Sb**	**06 05 55.6**	**-1.1**
HJA	**Humahuaca**	**1.88**	**347**	*i* P	**Pn**	**06 05 45.7**	**+0.8**
HJA				*i* S	**Sb**	**06 06 11.9**	**+1.3**
HJA				IAML		06 06 12.2	
	comp=Z,1μm,0.4s						
YJA	**Yavi**	**2.90**	**350**	*i* P	**Pn**	**06 06 01.1**	**+2.1**
CYA	**Choya**	**3.46**	**192**	*i* P	**Pn**	**06 06 06.7**	**+0.4**
CYA				*e*S	**Sg**	**06 07 02.6**	**-0.9**
CYA				IAML		06 07 09.7	
	comp=Z,235nm,0.7s						
AC02	**Maricunga**	**4.15**	**244**		**Pn**	**06 06 18.1**	**+1.8**
GO02	**Mina Guanaco**	**4.20**	**267**	Pn	**Pn**	**06 06 17.6**	**+0.9**
LVC	**Limon Verde**	**4.35**	**303**	Pn	**Pn**	**06 06 16.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=197,slow=5.5,SNR=1.7						
LVC				Pg	**Pb**	**06 06 32.1**	**+3.0**
	comp=Z,2.3nm,0.3s,baz=127,slow=16,SNR=9.4						
LVC	**Limon Verde**	**4.35**	**303**	Pn	**Pn**	**06 06 21.9**	**+3.0**
PB15	**IPOC Station P**	**4.51**	**293**	Pn	**Pn**	**06 06 23.8**	**+3.0**
VCA	**Vinchina**	**4.68**	**218**	*i* P	**Pn**	**06 06 24.6**	**+1.5**
VCA				*e*S	**Sb**	**06 07 35.2**	**+4.3**
VCA				IAML		06 07 44.3	
	comp=Z,158nm,0.6s						
PB06	**IPOC Station P**	**4.82**	**298**	Pn	**Pn**	**06 06 27.1**	**+2.0**
PB14	**IPOC Station P**	**4.96**	**274**	Pn	**Pn**	**06 06 29.1**	**+1.9**
PB09	**IPOC Station P**	**5.09**	**309**	Pn	**Pn**	**06 06 32.5**	**+3.6**
AC01	**Pan de Azucar**	**5.21**	**257**	Pn	**Pn**	**06 06 32.5**	**+2.2**
PB10	**IPOC Station P**	**5.33**	**286**	Pn	**Pn**	**06 06 34.3**	**+2.4**
PB07	**IPOC Station P**	**5.60**	**305**	Pn	**Pn**	**06 06 37.5**	**+1.6**
PB01	**IPOC Station P**	**5.77**	**313**	Pn	**Pn**	**06 06 40.9**	**+2.8**
PB08	**IPOC Station P**	**6.23**	**321**	Pn	**Pn**	**06 06 47.1**	**+2.4**
AC04	**Llanos de Chal**	**6.31**	**239**	Pn	**Pn**	**06 06 47.9**	**+2.5**
PB11	**IPOC Station P**	**6.82**	**320**	Pn	**Pn**	**06 06 54.6**	**+2.0**
CPUP	**Villa Florida**	**7.00**	**102**	Pn	**Pn**	**06 06 55.4**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=280,slow=11,SNR=30						
CPUP				Pg	**Pg**	**06 07 27.4**	**+0.9**
	comp=Z,3.8nm,0.3s,baz=276,slow=16,SNR=5.7						
CPUP				Lg	Lg	06 08 57.1	
	comp=Z,7.6nm,0.3s,baz=14,slow=20,SNR=2.9						
CPUP				LR	LR	06 10 21.3	
	comp=Z,127nm,19.9s,baz=246,slow=44						
CPUP	**Villa Florida**	**7.00**	**102**		**Pn**	**06 06 55.7**	**+0.8**
CPUP	**Villa Florida**	**7.00**	**102**	*e*P	**Pn**	**06 06 55.6**	**+0.6**
CPUP				*e*S	**Sn**	**06 08 15.7**	**+1.0**
PSGCX	**Pisagua**	**7.23**	**318**	Pn	**Pn**	**06 06 60.0**	**+1.8**
MNMC	**Minye Minye**	**7.29**	**323**	Pn	**Pn**	**06 07 01.0**	**+1.9**
MRA	**San Martin**	**7.37**	**185**	*e*P	Pn	06 06 47.5	-13
ITQB	**Itaqui**	**8.72**	**124**	*e*P	**Pn**	**06 07 19.6**	**+1.0**
ITQB				*e*S	**Sn**	**06 08 58.7**	**+1.7**
LPAZ	**La Paz**	**9.21**	**341**	Pn	**Pn**	**06 07 24.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=150,slow=12,SNR=18						
LPAZ				Sn	**Sn**	**06 09 08.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=210,slow=20,SNR=1.7						
LPAZ	**La Paz**	**9.21**	**341**	Pn	**Pn**	**06 07 26.8**	**+1.0**
LPAZ	**La Paz**	**9.21**	**341**	*e*P	**Pn**	**06 07 26.5**	**+0.7**
LPAZ	**La Paz**	**9.21**	**341**	*i* P	**Pn**	**06 07 27.5**	**+1.7**
AQDB	**Aquidauana**	**9.68**	**64**	Pn	**Pn**	**06 07 33.0**	**+1.3**
AQDB	**Aquidauana**	**9.68**	**64**	*e*P	**Pn**	**06 07 32.1**	**+0.4**
AQDB				*e*S	**Sn**	**06 09 21.3**	**+0.7**
SIV	**San Ignacio**	**9.72**	**23**	Pn	**Pn**	**06 07 31.9**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=219,slow=11,SNR=56						
SIV				Sn	**Sn**	**06 09 18.8**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=140,slow=24,SNR=1.6						
SIV				LR	LR	06 11 20.4	
	comp=Z,63nm,19.8s,baz=120,slow=38						
TRCB	**Terra Rica**	**11.50**	**81**	*e*P	**Pn**	**06 07 57.0**	**+0.3**
TRCB				*e*S	**Sn**	**06 10 05.9**	**+0.7**
PTGB	**Pitanga**	**11.71**	**91**	*e*P	**Pn**	**06 08 00.8**	**+1.1**
PTGB				*e*S	**Sn**	**06 10 12.2**	**+1.6**
PP1B	**Ponte de Pedra**	**11.96**	**54**	*e*S	**Sn**	**06 10 17.1**	**+0.5**
PLTB	**Pedras Altas**	**12.03**	**126**	Pn	**Pn**	**06 08 03.2**	**-0.5**
PLTB	**Pedras Altas**	**12.03**	**126**	*e*S	**Sn**	**06 10 19.9**	**+1.9**
SALV	**Santo Antonio**	**12.57**	**45**	*e*P	**Pn**	**06 08 11.7**	**+0.4**
SALV				*e*S	**Sn**	**06 10 32.1**	**+0.6**
VILB	**Vilhena**	**12.85**	**21**	*e*P	**Pn**	**06 08 14.6**	**-0.5**
VILB				*e*S	**Sn**	**06 10 39.2**	**+1.0**
PCMB	**Pacaembu**	**13.04**	**78**	*e*P	**Pn**	**06 08 18.2**	**+0.5**
PCMB				*e*S	**Sn**	**06 10 42.6**	**-0.4**
ITRB	**Iturama**	**14.51**	**71**	*e*P	**Pn**	**06 08 38.1**	**+0.2**
ITRB				*e*S	**S**	**06 11 39.0**	**+0.3**
ETMB	**Extrema**	**15.20**	**355**	*e*S	**S**	**06 11 53.4**	**+0.8**
SAML	**Samuel**	**16.10**	**6**	Pn	**Pn**	**06 08 55.1**	**-3.8**
SAML				IAmb	IAmb	06 08 59.3	
	comp=Z,2.8nm,0.7s						
PLCA	**Paso Flores**	**16.32**	**195**	Lg	Lg	06 13 52.8	
	comp=Z,0.1nm,0.3s,baz=353,slow=20,SNR=1.9						
IPMB	**Ipameri, GO**	**17.09**	**69**	*e*P	**Pn**	**06 09 11.8**	**+0.3**
IPMB				*e*S	**S**	**06 12 31.9**	**+0.5**
BDFB	**Brasilia**	**18.43**	**63**	Pn	**P**	**06 09 27.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=180,slow=27,SNR=2.2						
BDFB				Lg	Lg	06 15 01.4	
	comp=Z,0.2nm,0.3s,baz=39,slow=26,SNR=2.2						
BDFB				LR	LR	06 17 17.0	
	comp=Z,94nm,21.2s,baz=104,slow=39						
CZSB	**Cruzeiro do Su**	**18.74**	**335**	*e*P	**Pn**	**06 09 33.2**	**+1.4**
NPGB	**Novo Progresso**	**20.12**	**29**	*e*P	**P**	**06 09 47.0**	**+0.4**
JANB	**Januaria**	**21.77**	**67**	*e*P	**P**	**06 10 05.1**	**+0.7**
ITTB	**Itaituba**	**22.39**	**25**	*e*P	**P**	**06 10 11.1**	**0.0**
PTGA	**Pitinga**	**24.65**	**12**	LR	LR	06 21 33.0	
	comp=Z,64nm,18.1s,baz=158,slow=40						
QSPA	**South Pole Qui**	**65.16**	**180**	P	**P**	**06 15 52.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=171,slow=8.2,SNR=16						
QSPA	**South Pole Qui**	**65.16**	**180**	P	**P**	**06 15 52.7**	**-0.7**
QSPA				IAmb	IAmb	06 16 00.7	
	comp=Z,5.6nm,1.6s						
TXAR	**Lajitas Array**	**65.62**	**323**	P	**P**	**06 15 54.4**	**-2.3**
	comp=Z,0.2nm,0.8s,baz=130,slow=2.8,SNR=1.7						
TOA0	**Torodi Ar. Sit**	**75.23**	**68**	P	**P**	**06 16 54.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**75.23**	**68**	P	**P**	**06 16 54.0**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=260,slow=4.5,SNR=6.9						
TORD				pP	**sP**	**06 17 02.0**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=257,slow=6.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**75.23**	**68**	P	**P**	**06 16 53.6**	**-2.1**
TORD				IAmb	IAmb	06 16 55.0	
	comp=Z,3.3nm,1.1s						
BOSA	**Boshof**	**78.61**	**116**	P	**P**	**06 17 12.8**	**-2.0**
	comp=Z,3.9nm,1.1s,baz=240,slow=3.8,SNR=4.0						
MATP	**Matopo**	**84.56**	**110**	P	**P**	**06 17 44.8**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=245,slow=7.0,SNR=6.7						
WRA	**Warramunga Arr**	**131.50**	**205**	PKP	**PKPdf**	**06 24 24.5**	**-1.5**
	comp=Z,0.9nm,0.9s,baz=178,slow=2.0,SNR=1.2						
WRA				pPKP	**sPKPdf**	**06 24 32.2**	**+1.1**
	comp=Z,0.7nm,1.0s,baz=142,slow=1.4,SNR=1.1						
MKAR	**Makanchi Array**	**146.11**	**42**	PKPbc	**PKPdf**	**06 24 50.0**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=298,slow=2.6,SNR=3.0						

*IDC **26** 06:05:44.5±1.8, 19°.83S×177°.96W, h588km±20km, mb3.5/13, mb1 3.7/16, mb1mx3.6/36, mbtmp4.5/16, Error ellipse: s-maj=23.9km s-min=15.0km az=144.0*
*NEIC **26** 06:05:44.9±1.9, 19°.85S±0°.1×178°.04W±0°.1, h588km±11km, mb4.3/15, Error ellipse: s-maj=20.9km s-min=16.0km az=156.0*
ISC 26 06:05:43.3±0.6, 19°.84S±0°.10×177°.95W±0°.09, h569km, n39, σ1s59/39, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.33**	**298**	P	**P**	**06 07 11.8**	**+2.6**
	20nm,0.3s,baz=145,slow=3.5,SNR=98						
MSVF	**Nonsavu**	**4.33**	**298**	P	**P**	**06 07 12.0**	**+2.8**
NIUE	**Niue**	**7.61**	**86**	P	**P**	**06 07 41.4**	**+3.5**
AFI	**Afiamalu**	**8.35**	**46**	P	**P**	**06 07 43.8**	**-1.5**
PINNC	**Pines Island,**	**13.89**	**256**	P	**P**	**06 08 41.5**	**+0.2**
DZM	**Mont Dzumac**	**14.74**	**259**	P	**P**	**06 08 52.4**	**+2.4**
	2.5nm,0.3s,baz=113,slow=22,SNR=26						
DZM	**Mont Dzumac**	**14.74**	**259**	P	**P**	**06 08 53.2**	**+3.2**
URZ	**Urewera**	**18.84**	**192**	P	**P**	**06 09 27.3**	**-0.5**
	1.6nm,0.3s,baz=308,slow=20,SNR=8.9						
URZ				S	**S**	**06 12 24.9**	**-5.1**
	0.3nm,0.3s,baz=304,slow=23,SNR=3.6						
URZ	**Urewera**	**18.84**	**192**	IAmb	IAmb	06 09 34.7	
	comp=Z,21nm,1.2s						
EIDS	**Eidsvold**	**29.07**	**253**	P	**P**	**06 10 58.3**	**-0.5**
EIDS				IAmb	IAmb	06 11 22.6	
	comp=Z,9.3nm,1.0s						
ARMA	**Armidale**	**29.40**	**243**	P	**P**	**06 11 02.6**	**+0.9**
ARMA				IAmb	IAmb	06 11 09.4	
	comp=Z,38nm,1.5s						
CTAO	**Charters Tower**	**33.60**	**263**	P	**P**	**06 11 37.3**	**-0.2**
PMG	**Port Moresby**	**35.25**	**282**	P	**P**	**06 11 51.1**	**-0.2**
	comp=Z,28nm,0.7s,baz=97,slow=5.4,SNR=5.1						
TOO	**Toolangi**	**36.32**	**233**	P	**P**	**06 12 00.6**	**+0.7**
TOO				IAmb	IAmb	06 12 01.4	
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**38.12**	**243**	P	**P**	**06 12 14.9**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=64,slow=7.8,SNR=12						
STKA	**Stephens Creek**	**38.12**	**243**	P	**P**	**06 12 15.1**	**+0.5**
BBOO	**Buckleboo**	**42.88**	**243**	P	**P**	**06 12 52.2**	**-0.2**
AS31	**Alice Springs**	**44.72**	**256**	P	**P**	**06 13 06.1**	**-0.7**
AS31				IAmb	IAmb	06 13 07.6	
	comp=Z,6.0nm,0.8s						
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**06 13 06.5**	**-0.4**
	comp=Z,12nm,0.5s,baz=87,slow=8.2,SNR=106						
ASAR				PcP	**PcP**	**06 14 36.0**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=103,slow=3.1,SNR=4.8						
ASAR	**Alice Springs**	**44.72**	**256**	P	**P**	**06 13 05.9**	**-0.9**
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**06 13 06.2**	**-0.9**
	comp=Z,3.7nm,0.3s,baz=97,slow=7.6,SNR=76						
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**06 13 05.7**	**-1.3**
FORT	**Forrest**	**49.60**	**246**	P	**P**	**06 13 42.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	**P**	**06 14 08.9**	**-0.2**
FITZ				IAmb	IAmb	06 14 36.8	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**69.71**	**324**	P	**P**	**06 15 55.4**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=161,slow=5.9,SNR=4.4						
MJAR	**Matsushiro Arr**	**69.71**	**324**	IAmb	IAmb	06 15 55.9	
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**06 15 59.6**	**+0.2**
QSPA				IAmb	IAmb	06 16 01.6	
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**70.22**	**180**	pP	**P**	**06 15 59.7**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=133,slow=0.7,SNR=6.9						
PETK	**Petropavlovsk-**	**75.65**	**345**	P	**P**	**06 16 29.1**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=106,slow=8.2,SNR=3.9						
USRK	**Ussuriysk Ar.**	**78.45**	**326**	P	**P**	**06 16 46.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=110,slow=4.3,SNR=4.6						
NVAR	**Mina Array Bea**	**80.52**	**43**	P	**P**	**06 16 56.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=225,slow=8.9,SNR=10						
I07A	**Izee**	**83.05**	**38**	P	**P**	**06 17 09.8**	**0.0**
I07A				IAmb	IAmb	06 17 28.6	
	comp=Z,5.5nm,1.5s						
TX32	**Lajitas Array**	**86.67**	**57**	P	**P**	**06 17 29.0**	**+1.4**
TX32				IAmb	IAmb	06 17 29.5	
	comp=Z,2.6nm,1.0s						
TXAR	**Lajitas Array**	**86.67**	**57**	P	**P**	**06 17 28.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=216,slow=6.9,SNR=16						
ILAR	**Eielson Array**	**87.67**	**13**	P	**P**	**06 17 29.2**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=219,slow=5.9,SNR=2.2						
PDAR	**Pinedale Array**	**88.46**	**43**	P	**P**	**06 17 35.0**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=198,slow=2.7,SNR=9.1						
CMAR	**Chiang Mai Arr**	**89.94**	**290**	P	**P**	**06 17 43.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=96,slow=2.0,SNR=6.3						
SONM	**Songino Array**	**95.29**	**319**	P	**P**	**06 18 07.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=108,slow=2.6,SNR=2.5						
BRTR	**Keskin Array B**	**146.43**	**313**	PKPbc	**PKPdf**	**06 24 19.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=41,slow=1.9,SNR=2.2						

*IDC **26** 06:08:08.7±4.0, 2°.04S×99°.50E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/38, mbtmp4.0/5, Error ellipse: s-maj=171.9km s-min=23.1km az=56.0*
*DJA **26** 06:08:12.1±1.0, 2°.5S±6°×9°.9E±°, h33km±17km, M3.6/7, MLv3.6/7*
ISC 26 06:08:12.7±1.1, 2°.05S±0°.08×99°.58E±0°.08, h30km, n18, σ1s82/15, mb4.1/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.87**	**326**	P	**Pn**	**06 08 28.3**	**-0.5**
SISI				S	**Sn**	**06 08 41.0**	**+0.5**
PDSI	**Padang**	**1.43**	**38**	P	**Pb**	**06 08 37.8**	**-0.9**
PDSI				S	**Sb**	**06 08 59.4**	**+2.8**
KRJI	**Kerinci**	**1.88**	**91**	P	**Pb**	**06 08 45.0**	**-1.4**
KRJI				S	**Sb**	**06 09 08.4**	**-1.2**
PBSI	**Pulau Batu**	**2.37**	**327**	P	**Pn**	**06 08 49.1**	**-0.4**
PBSI				S	**Sn**	**06 09 17.5**	**-0.1**
BKNI	**Bangkinang**	**2.77**	**32**	P	**Pb**	**06 08 57.3**	**-4.3**
MNSI	**Mandailing Nat**	**2.82**	**360**	P	**Pn**	**06 08 57.3**	**+1.5**
H08S2	**Diego Garcia H**	**27.55**	**257**	T	T	06 42 23.9	
	baz=80,slow=75,SNR=223						
H08S3	**Diego Garcia H**	**27.55**	**257**	T	T	06 42 27.4	
	baz=80,slow=75,SNR=234						
H08S1	**Diego Garcia H**	**27.57**	**257**	T	T	06 42 28.4	
	baz=80,slow=75,SNR=185						
H01W3	**Cape Leeuwin H**	**35.37**	**159**	T	T	06 52 15.9	
	baz=335,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**35.38**	**159**	T	T	06 52 16.9	
	baz=335,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**35.38**	**159**	T	T	06 52 16.9	
	baz=335,slow=76,SNR=12						
WRA	**Warramunga Arr**	**38.33**	**120**	P	**P**	**06 15 30.6**	**-0.6**
	0.5nm,0.6s,baz=307,slow=9.2,SNR=2.1						
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**06 15 43.8**	**+2.3**
	0.7nm,0.6s,baz=302,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**50.03**	**6**	P	**P**	**06 17 05.3**	**+0.8**
	2.3nm,0.7s,baz=188,slow=9.1,SNR=6.5						
MKAR	**Makanchi Array**	**50.96**	**345**	P	**P**	**06 17 11.8**	**+0.3**
	1.4nm,0.6s,baz=152,slow=8.4,SNR=17						
ZALV	**Zalesovo Beam**	**57.14**	**350**	P	**P**	**06 17 56.3**	**-0.1**
	1.8nm,0.4s,baz=165,slow=6.2,SNR=9.3						
TXAR	**Lajitas Array**	**144.99**	**37**	PKPbc	PKPbc	06 27 47.6	+0.5
	0.8nm,0.6s,baz=336,slow=2.0,SNR=5.4						

IDC 26 06:15:02.0±3.5, 30°.35S×138°.38E, h0km, mb1 3.1/3, mb1mx3.0/25, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=85.0km s-min=16.8km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.15**	**120**	Pn	Pn	06 15 51.5	-1.4
	0.4nm,0.3s,baz=299,slow=14,SNR=7.4						
STKA				Pg	Pb	06 16 00.6	+1.7
	1.5nm,0.3s,baz=297,slow=13,SNR=13						
STKA				Lg	Lg	06 16 42.3	
	2.5nm,0.3s,baz=11,slow=24,SNR=4.5						
ASAR	**Alice Springs**	**7.76**	**328**	Pn	Pn	06 16 58.0	+1.7
	0.1nm,0.3s,baz=120,slow=22,SNR=1.9						
ASAR				Sn	Sn	06 18 25.7	+0.7
	0.3nm,0.3s,baz=154,slow=22,SNR=6.5						
WRA	**Warramunga Arr**	**10.99**	**340**	Pn	Pn	06 17 39.3	-1.3
	0.1nm,0.3s,baz=154,slow=13,SNR=1.2						
WRA				Sn	Sn	06 19 37.6	-6.7
	0.1nm,0.3s,baz=162,slow=23,SNR=2.7						

*IDC **26** 06:19:22.1±2.4, 35°.79N×97°.39W, h0km, mb1 3.5/3, mb1mx3.3/42, mbtmp3.2/3, ML3.3/3, Error ellipse: s-maj=33.9km s-min=14.4km az=102.0*
*ANF **26** 06:19:22.4±0.4, 35°.79N×97°.39W, h2km±3km, ML4.0/14, Error ellipse: s-maj=3.4km s-min=1.9km az=122.0*
*IASPEI **26** 06:19:23.1±0.9, 35°.76N±0°.02×97°.38W±0°.03, h10km±6km, Error ellipse: s-maj=4.3km s-min=3.3km az=106.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*NEIC **26** 06:19:23.4±1.1, 35°.76N±0°.02×97°.39W±0°.02, h8km±6km, Error ellipse: s-maj=2.9km s-min=2.1km az=119.0*
*TUL **26** 06:19:23.2±1.0, 35°.74N±0°.01×97°.38W±0°.01, h6km±7km, ML3.4, mb_Lg3.3/137(NEIC), Error ellipse: s-maj=2.0km s-min=1.1km az=162.0*
ISC 26 06:19:23.2±0.8, 35°.77N±0°.02×97°.40W±0°.02, h10km±6km, n112, σ0s58/72, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**300**		**Pg**	**06 19 25.3**	**+0.1**
OK029				Sg	**Sg**	**06 19 26.9**	**+0.3**
OK009	**Oakdale Elemen**	**0.19**	**186**		**Pg**	**06 19 26.8**	**-0.4**
OK025	**Westminster Rd**	**0.20**	**165**		**Pg**	**06 19 26.8**	**-0.5**
BCOK	**Bluff Creek, N**	**0.20**	**236**		**Pg**	**06 19 27.4**	**-0.1**
BCOK				Sg	**Sg**	**06 19 30.9**	**+0.5**
OK005	**Luther M Schoo**	**0.21**	**124**		**Pg**	**06 19 27.1**	**-0.4**
OKCFA	**Oklahoma City**	**0.36**	**187**		**Pg**	**06 19 29.9**	**-0.4**
OKCFA				Sg	**Sg**	**06 19 35.0**	**-0.1**
OKCFA	**Oklahoma City**	**0.36**	**187**	P	**Pg**	**06 19 29.9**	**-0.4**
	baz=10,SNR=98						
OKCFA				S	**Sg**	**06 19 35.0**	**-0.1**
	baz=10						
OKCFA	**Oklahoma City**	**0.36**	**187**	P		06 19 29.9	
	baz=10,SNR=98						
OKCFA				S		06 19 35.0	
	baz=10						
OKCSW	**OKLAHOMA CITY**	**0.37**	**185**		**Pg**	**06 19 30.0**	**-0.4**
OKCSW				Sg	**Sg**	**06 19 35.2**	**-0.1**
OK031	**S. Brethren Rd**	**0.49**	**68**		**Pg**	**06 19 32.7**	**-0.1**
OK031				Sg	**Sg**	**06 19 39.4**	**+0.1**
FNO	**Franklin**	**0.51**	**180**		**Pg**	**06 19 32.7**

U38A	**Gravette**	**2.53**	**74**	P		**Pn**	**06 20 05.0**	**+0.6**
	baz=255								
U38A	**Gravette**	**2.53**	**74**	P			06 20 05.0		
	baz=255								
HHAR	**Hobbs**	**2.85**	**79**			**Pn**	**06 20 09.3**	**+0.5**
HHAR				IAmb_Lg			06 20 59.7		
	comp=Z,65nm,0.8s								
HHAR	**Hobbs**	**2.85**	**79**	P		**Pn**	**06 20 09.2**	**+0.3**
	baz=260								
HHAR	**Hobbs**	**2.85**	**79**	P			06 20 09.2		
	baz=260								
W39A	**Magazine**	**3.01**	**100**	Pn		**Pn**	**06 20 11.6**	**+0.6**
W39A				IAmb_Lg			06 21 04.9		
	comp=Z,98nm,0.8s								
W39A	**Magazine**	**3.01**	**100**	P		**Pn**	**06 20 11.4**	**+0.4**
	baz=282,SNR=44								
W39A	**Magazine**	**3.01**	**100**	P			06 20 11.4		
	baz=282,SNR=44								
Z38A	**Mt. Pleasant**	**3.20**	**141**	IAmb_Lg			06 21 11.8		
	comp=Z,92nm,0.8s								
Z38A	**Mt. Pleasant**	**3.20**	**141**	P		**Pn**	**06 20 13.9**	**+0.2**
	baz=322								
Z38A	**Mt. Pleasant**	**3.20**	**141**	P			06 20 13.9		
	baz=322								
MIAR	**Mount Ida**	**3.36**	**110**			**Pn**	**06 20 16.4**	**+0.5**
MIAR				IAmb_Lg			06 21 17.4		
	comp=Z,130nm,1.1s								
MIAR	**Mount Ida**	**3.36**	**110**	P		**Pn**	**06 20 16.4**	**+0.5**
	baz=292,SNR=46								
MIAR				S		**Sn**	**06 20 56.9**	**+1.0**
	baz=292								
MIAR	**Mount Ida**	**3.36**	**110**	P			06 20 16.4		
	baz=292,SNR=46								
MIAR				S			06 20 56.9		
	baz=292								
CBKS	**Cedar Bluff**	**3.56**	**329**	IAmb_Lg			06 21 24.5		
	comp=Z,130nm,0.8s								
AMTX	**Amarillo**	**3.61**	**257**	IAmb_Lg			06 21 26.8		
	comp=Z,59nm,0.7s								
ABTX	**Abilene, Hawle**	**3.65**	**211**	IAmb_Lg			06 21 18.3		
	comp=Z,67nm,0.8s								
U40A	**Yellville**	**3.73**	**80**	P		**Pn**	**06 20 20.8**	**-0.2**
	baz=262,SNR=24								
U40A	**Yellville**	**3.73**	**80**	P			06 20 20.8		
	baz=262,SNR=24								
U40A				P			06 20 20.8		
	baz=262,SNR=24								
S39A	**Bolivar**	**3.79**	**58**	IAmb_Lg			06 21 28.6		
	comp=Z,132nm,0.7s								
S39A	**Bolivar**	**3.79**	**58**	P		**Pn**	**06 20 22.3**	**+0.5**
	baz=240,SNR=7.2								
S39A	**Bolivar**	**3.79**	**58**	P			06 20 22.3		
	baz=240,SNR=7.2								
X40A	**Basin Creek Fa**	**3.96**	**108**	Pn		**Pn**	**06 20 24.8**	**+0.8**
X40A				IAmb_Lg			06 21 31.4		
	comp=Z,114nm,0.7s								
X40A	**Basin Creek Fa**	**3.96**	**108**	P		**Pn**	**06 20 24.5**	**+0.4**
	baz=290,SNR=12								
X40A	**Basin Creek Fa**	**3.96**	**108**	P			06 20 24.5		
	baz=290,SNR=12								
X40A				P			06 20 24.5		
	baz=290,SNR=12								
237A	**Washetta, Mont**	**3.99**	**160**	IAmb_Lg			06 21 26.2		
	comp=Z,46nm,0.8s								
WLAR	**White Oak Lake**	**4.10**	**119**	IAmb_Lg			06 21 42.0		
	comp=Z,65nm,0.7s								
WHAR	**Wooly Hollow**	**4.20**	**95**	Pn		**Pn**	**06 20 27.7**	**+0.3**
WHAR				IAmb_Lg			06 21 35.8		
	comp=Z,76nm,0.9s								
W41B	**Gary Mavity, V**	**4.25**	**97**	P		**Pn**	**06 20 28.2**	**+0.1**
	baz=279,SNR=37								
W41B	**Gary Mavity, V**	**4.25**	**97**	P			06 20 28.2		
	baz=279,SNR=37								
FCAR	**Ozark Folk Cen**	**4.29**	**87**	IAmb_Lg			06 21 44.8		
	comp=Z,42nm,0.7s								
MGMO	**Mountain Grove**	**4.36**	**70**			**Pn**	**06 20 30.5**	**+0.9**
MGMO				IAmb_Lg			06 21 39.0		
	comp=Z,105nm,0.9s								
NATX	**Nacogdoches**	**4.61**	**150**	IAmb_Lg			06 21 58.6		
	comp=Z,36nm,0.8s								
R40A	**Maddies Statio**	**4.81**	**57**			**Pn**	**06 20 36.2**	**+0.4**
R40A				IAmb_Lg			06 21 58.0		
	comp=Z,52nm,0.8s								
P38A	**Dawn**	**4.92**	**37**	IAmb_Lg			06 21 57.8		
	comp=Z,46nm,0.8s								
N33A	**J Bar K, Exete**	**4.96**	**360**	IAmb_Lg			06 22 13.4		
	comp=Z,66nm,0.8s								
435B	**Jarrell**	**4.98**	**182**	IAmb_Lg			06 22 04.9		
	comp=Z,61nm,0.8s								
CCAR	**Cane Creek**	**4.98**	**110**	IAmb_Lg			06 22 09.3		
	comp=Z,87nm,0.9s								
LCAR	**Lake Charles**	**5.08**	**85**	IAmb_Lg			06 22 09.6		
	comp=Z,57nm,1.1s								
T42A	**Van Buren**	**5.24**	**74**	IAmb_Lg			06 22 13.8		
	comp=Z,53nm,1.0s								
T42A	**Van Buren**	**5.24**	**74**	P		**Pn**	**06 20 41.3**	**-0.4**
	baz=258,SNR=12								
T42A	**Van Buren**	**5.24**	**74**	P			06 20 41.3		
	baz=258,SNR=12								
KSCO	**Kaye Shedlock'**	**5.27**	**309**	IAmb_Lg			06 22 23.4		
	comp=Z,69nm,0.7s								
CCM	**Cathedral Cave**	**5.43**	**63**	IAmb_Lg			06 22 18.1		
	comp=Z,86nm,0.9s								
BGNE	**Belgrade**	**5.66**	**354**	IAmb_Lg			06 22 30.9		
	comp=Z,56nm,0.7s								
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg			06 22 30.6		
	comp=Z,60nm,0.7s								
LPAR	**Lepanto**	**5.78**	**90**	IAmb_Lg			06 22 40.9		
	comp=Z,52nm,0.8s								
143A	**Socs Landing,**	**5.83**	**120**	IAmb_Lg			06 22 42.5		
	comp=Z,28nm,0.7s								
OGNE	**Ogallala**	**6.32**	**326**	IAmb_Lg			06 22 46.0		
	comp=Z,50nm,0.7s								
PENMO	**Penman**	**6.33**	**82**	IAmb_Lg			06 22 45.7		
	comp=Z,70nm,0.8s								
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg			06 22 44.3		
	comp=Z,73nm,0.7s								
W45A	**Hickory Valley**	**6.73**	**93**	IAmb_Lg			06 22 59.4		
	comp=Z,44nm,0.7s								
Y45A	**Yeager Farm, C**	**6.74**	**104**	IAmb_Lg			06 23 00.9		
	comp=Z,25nm,0.9s								
SDCO	**Great Sand Dun**	**6.79**	**289**	IAmb_Lg			06 23 01.1		
	comp=Z,24nm,1.1s								
S44A	**Carbondale**	**6.82**	**71**	IAmb_Lg			06 23 12.2		
	comp=Z,64nm,0.7s								
735A	**Kenedy**	**6.90**	**183**	IAmb_Lg			06 23 07.7		
	comp=Z,28nm,0.8s								
K31A	**O'Neill**	**6.92**	**352**	IAmb_Lg			06 23 06.8		
	comp=Z,65nm,0.7s								
UTMT	**University of**	**6.94**	**83**	IAmb_Lg			06 23 13.5		
	comp=Z,53nm,0.8s								
344A	**Westbrook Farm**	**7.03**	**126**	IAmb_Lg			06 23 24.4		
	comp=Z,22nm,1.1s								
ISCO	**Idaho Springs**	**7.64**	**304**	IAmb_Lg			06 23 40.2		
	comp=Z,24nm,0.9s								
L40A	**Anamosa**	**7.91**	**36**	IAmb_Lg			06 23 39.1		
	comp=Z,43nm,0.9s								
ECSD	**EROS Data Cent**	**7.98**	**4**	P		**Pn**	**06 21 18.2**	**-1.0**
	baz=184,SNR=14								
ECSD	**EROS Data Cent**	**7.98**	**4**	P			06 21 18.2		
	baz=184,SNR=14								
OLIL	**Olney**	**7.99**	**66**	IAmb_Lg			06 23 52.9		
	comp=Z,50nm,0.8s								
Y22D	**IRIS PASSCAL I**	**8.00**	**261**	IAmb_Lg			06 23 47.7		
	comp=Z,36nm,0.7s								
USIN	**University of**	**8.10**	**71**	IAmb_Lg			06 23 45.5		
	comp=Z,50nm,1.0s								
TXAR	**Lajitas Array**	**8.31**	**221**	Pn		**Pn**	**06 21 23.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=50,slow=12,SNR=6.5								
TXAR				Pg		Pb	06 21 43.0	-4.4	
	comp=Z,0.9nm,0.3s,baz=43,slow=11,SNR=6.0								
TXAR				Lg		Lg	06 23 40.2		
	comp=Z,2.1nm,0.3s,baz=36,slow=28,SNR=7.5								
SUSD	**Miller**	**8.74**	**353**	IAmb_Lg			06 24 10.4		
	comp=Z,26nm,0.9s								
I37A	**Lemond, Waseca**	**8.79**	**19**	IAmb_Lg			06 24 13.0		
	comp=Z,38nm,0.9s								
CLTN	**Cedars of Leba**	**8.98**	**85**	IAmb_Lg			06 24 14.4		
	comp=Z,15nm,0.8s								
121A	**Cookes Peak, D**	**9.19**	**252**	IAmb_Lg			06 24 31.8		
	comp=Z,25nm,1.3s								
WCI	**Wyandotte Cave**	**9.22**	**71**	IAmb_Lg			06 24 20.7		
	comp=Z,30nm,0.8s								
BLO	**Bloomington**	**9.29**	**65**	IAmb_Lg			06 24 40.8		
	comp=Z,41nm,0.7s								
SFIN	**Lafayette**	**9.33**	**57**	IAmb_Lg			06 24 24.1		
	comp=Z,33nm,0.8s								
SWET	**Sewanee**	**9.37**	**90**	IAmb_Lg			06 24 28.7		
	comp=Z,14nm,0.9s								
U49A	**Red Boiling Sp**	**9.43**	**82**	IAmb_Lg			06 24 27.2		
	comp=Z,17nm,1.2s								
PV11	**David Mesa, Pa**	**9.51**	**289**	IAmb_Lg			06 24 43.2		
	comp=Z,20nm,1.1s								
I40A	**Norwalk**	**9.64**	**31**	IAmb_Lg			06 24 33.5		
	comp=Z,40nm,1.1s								
PV05	**Paradox Valley**	**9.65**	**287**	IAmb_Lg			06 24 46.1		
	comp=Z,13nm,1.1s								
RWWY	**Rawlins**	**9.67**	**311**	IAmb_Lg			06 24 55.3		
	comp=Z,24nm,1.1s								
RSSD	**Black Hills**	**9.77**	**331**	IAmb_Lg			06 24 37.3		
	comp=Z,14nm,0.8s								
K22A	**Casper**	**9.86**	**317**	IAmb_Lg			06 24 57.0		
	comp=Z,29nm,1.0s								
W50A	**Signal Mountai**	**9.88**	**90**	IAmb_Lg			06 24 37.2		
	comp=Z,18nm,1.0s								
250A	**Grady**	**10.00**	**109**	IAmb_Lg			06 24 47.4		
	comp=Z,14nm,0.8s								
PDAR	**Pinedale Array**	**11.72**	**310**	Pn		**Pn**	**06 22 10.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=119,slow=17,SNR=3.5								
PDAR				Lg		Lg	06 25 30.7		
	comp=Z,0.4nm,0.3s,baz=118,slow=26,SNR=4.6								
ULM	**Lac du Bonnet**	**14.51**	**4**	Pn		Pn	06 22 43.4	-5.3	
	comp=Z,0.3nm,0.3s,baz=151,slow=19,SNR=1.7								
ULM				Lg		Lg	06 26 53.5		
	comp=Z,0.2nm,0.3s,baz=115,slow=17,SNR=1.9								

*IDC **26** 06:30:12.9±2.3, 6°22S×129°63E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/34, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=155.2km s-min=31.6km az=69.0, Banda Sea*

ISC 26 06:30:46.8±1.8, 5°6S±0°3×152°6E±0°3, h40km, n7, σ1°19/8, mb3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.59**	**235**	Pn		**Pn**	**06 37 19.7**	**-1.5**
	2.7nm,0.3s,baz=58,slow=15,SNR=1.8							
PMG				Sn		**Sn**	**06 38 35.7**	**+0.5**
	1.7nm,0.3s,baz=58,slow=19,SNR=1.8							
WRA	**Warramunga Arr**	**22.77**	**230**	P		**P**	**06 40 46.2**	**+0.2**
	0.6nm,0.8s,baz=53,slow=9.7,SNR=2.0							
ASAR	**Alice Springs**	**25.43**	**223**	P		**P**	**06 41 12.8**	**+1.8**
	0.5nm,0.8s,baz=57,slow=8.9,SNR=1.9							
SONM	**Songino Array**	**66.90**	**328**	P		**P**	**06 46 35.2**	**+0.1**
	0.3nm,0.3s,baz=142,slow=7.2,SNR=1.8							
MKAR	**Makanchi Array**	**80.80**	**319**	P		**P**	**06 47 57.1**	**+0.7**
	0.1nm,0.5s,baz=118,slow=5.2,SNR=1.7							
ILAR	**Eielson Array**	**82.97**	**22**	P		**P**	**06 48 06.5**	**-0.9**
	0.3nm,0.7s,baz=238,slow=5.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**150.36**	**287**	PKPbc		**PKiKP**	**06 55 36.1**	**+0.3**
	0.6nm,0.9s,baz=116,slow=1.7,SNR=1.8							

ISC 26 06:39:35.7±1.3, 49°18N±0°05×18°91E±0°04, h13km±11km, n5, σ0°89/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LANS	**Liptovska Anna**	**0.36**	**94**	*e*PG		**Pg**	**06 39 43.0**	**-0.1**
LANS				*e*SG		**Sb**	**06 39 49.0**	**-0.7**
LANS				*e*LG		Lg	06 39 51.0	
VYHS	**Vyhne**	**0.69**	**184**	*e*PG		**Pg**	**06 39 49.0**	**0.0**
VYHS				*e*SG		**Sn**	**06 40 01.4**	**-0.2**
KOLL	**Kolacno**	**0.69**	**210**	*e*PG		**Pg**	**06 39 47.6**	**-1.5**
KOLL				*e*SG		**Sg**	**06 39 59.2**	**+1.1**
JAVC	**Velka Javorina**	**0.88**	**249**	*e*PG		**Pb**	**06 39 53.2**	**+0.4**
JAVC				*e*SG		**Sn**	**06 40 06.8**	**+0.4**
MORC	**Moravsky Berou**	**1.08**	**304**	*e*PG		**Pg**	**06 39 55.8**	**-0.7**
MORC				*e*SG		**Sb**	**06 40 10.5**	**+0.3**

NNC 26 06:54:13.7±10.0, 36°24N×71°07E, h0km, mb3.9, mpv3.6, 2C-3D, Error ellipse: s-maj=86.7km s-min=71.2km az=148.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.87**	**357**	⇑P		Pn	06 55 56.9	+1.2
	1.0nm,0.2s,baz=197,slow=17,SNR=19							
KK31				⇓S		Sn	06 57 15.8	+1.2
	6.7nm,0.6s,baz=186,slow=25,SNR=8.1							
AAK	**Ala-Archa**	**6.92**	**21**	⇑P		Pn	06 55 55.7	-0.8
	2.3nm,0.4s							
AAK				S		Sn	06 57 16.7	+0.7
	1.8nm,0.3s							
AB31	**Akbulak array**	**15.34**	**331**	⇓P		Pn	06 57 50.7	-0.7
	0.6nm,0.3s,baz=155,slow=10,SNR=47							
AB31				⇓S		Sn	07 00 44.8	+2.9
	0.4nm,0.4s,baz=0.0,slow=0.1,SNR=5.2							

*IDC **26** 07:03:07.1±1.2, 32°25S×178°06W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/30, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=32.6km s-min=30.7km az=165.0*

ISC 26 07:03:10.7±1.1, 32°5S±0°1×178°1W±0°2, h20km, n8, σ1°10/9, mb3.7/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.96**	**212**	Pn		**Pn**	**07 04 52.2**	**+0.7**
	1.6nm,0.3s,baz=121,slow=24,SNR=9.2							
URZ				Sn		**Sn**	**07 06 08.4**	**-1.7**
	2.2nm,0.3s,baz=127,slow=23,SNR=3.3							
CTA	**Charters Tower**	**34.06**	**282**	P		**P**	**07 09 54.4**	**+0.5**
	2.1nm,0.3s,baz=170,slow=12,SNR=1.9							
ASAR	**Alice Springs**	**42.92**	**269**	P		**P**	**07 11 08.2**	**-0.1**
	1.0nm,0.6s,baz=109,slow=7.1,SNR=12							
WRA	**Warramunga Arr**	**44.09**	**274**	P		**P**	**07 11 17.4**	**-0.4**
	1.5nm,0.3s,baz=112,slow=7.9,SNR=29							
QSPA	**South Pole Qui**	**57.66**	**180**	P		**P**	**07 13 00.5**	**+1.1**
	0.4nm,0.6s,baz=323,slow=6.5,SNR=5.4							
NVAR	**Mina Array Bea**	**89.83**	**43**	P		**P**	**07 16 06.7**	**-1.5**
	0.2nm,0.6s,baz=216,slow=9.0,SNR=2.2							
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc		**PKPdf**	**07 22 49.5**	**+0.3**
	4.8nm,1.1s,baz=56,slow=3.5,SNR=6.9							
AKASG	**Malin Array Be**	**152.83**	**320**	PKPbc		**PKPbc**	**07 23 06.2**	**+0.3**
	0.2nm,0.3s,baz=39,slow=3.6,SNR=1.9							

*IDC **26** 07:08:28.9±1.3, 22°39S×173°89E, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/33, mbtmp4.0/7, ML3.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=42.0km s-min=27.7km az=134.0*

ISC 26 07:08:34.2±0.9, 22°5S±0°2×173°8E±0°1, h35km, n12, σ1°24/12, mb4.1/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.19**	**41**	LR		LR	07 11 49.6	
	comp=Z,345nm,19.5s,baz=179,slow=33							
DZM	**Mont Dzumac**	**6.80**	**272**	Pn		**Pn**	**07 10 13.4**	**+1.8**
	0.3nm,0.3s,baz=97,slow=17,SNR=1.4							
DZM				Sn		**Sn**	**07 11 25.8**	**-2.2**
	0.3nm,0.3s,baz=300,slow=22,SNR=1.4							
ASAR	**Alice Springs**	**36.62**	**260**	P		**P**	**07 15 37.8**	**+0.3**
	1.1nm,0.8s,baz=81,slow=8.5,SNR=6.7							
WRA	**Warramunga Arr**	**36.78**	**266**	P		**P**	**07 15 38.7**	**-0.2**
	0.2nm,0.3s,baz=95,slow=8.6,SNR=5.3							
PETK	**Petropavlovsk-**	**76.55**	**350**	P		**P**	**07 20 21.6**	**+1.1**
	0.8nm,0.5s,baz=146,slow=11,SNR=3.9							
MAW	**Mawson**	**77.03**	**202**	P		**P**	**07 20 24.1**	**+0.9**
	2.5nm,0.7s,baz=114,slow=7.8,SNR=9.2							
SNAA	**Sanae**	**86.08**	**181**	P		**P**	**07 21 09.9**	**-1.2**
VNA3	**Neumayer Olymp**	**86.51**	**179**	P		**P**	**07 21 12.4**	**-0.7**
SEY	**Seymchan**	**86.79**	**350**	P		**P**	**07 21 13.8**	**-0.5**
	0.8nm,0.3s,baz=184,slow=9.2,SNR=3.8							
VNA2	**Neumayer--Watz**	**86.86**	**180**	P		**P**	**07 21 14.1**	**-0.8**
	baz=164,slow=3.7							
VNA1	**Neumayer--Stat**	**87.12**	**179**	P		**P**	**07 21 15.6**	**-0.5**
ILAR	**Eielson Array**	**92.11**	**16**	P		**P**	**07 21 38.4**	**-0.9**
	0.7nm,0.8s,baz=234,slow=6.6,SNR=7.2							

*IDC **26** 07:17:40.4±0.6, 32°02S×177°89W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/32, mbtmp4.4/13, ML3.8/2, MS3.9/7, Ms1 3.8/7, ms1mx3.5/28, Error ellipse: s-maj=21.3km s-min=18.8km az=94.0*
*NEIC **26** 07:17:43.4±2.0, 32°.08S±0°.06×178°.0W±0°.1, h10km±1km, mb4.8/23, Error ellipse: s-maj=20.3km s-min=9.2km az=105.0*

ISC 26 07:17:42.3±0.5, 32°16S±0°05×178°03W±0°10, h10km, n116, σ2°31/123, mb4.8/24, MS4.0/9, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**2.89**	**2**	P		**Pn**	**07 18 26.5**	**-1.8**
GLKZ				S		**Sn**	**07 18 58.7**	**-4.4**
RAO	**Raoul Island**	**2.90**	**2**	Pn		Pn	07 18 25.1	-3.4
	121nm,0.3s,baz=209,slow=21,SNR=2.1							
RAO				Sn		**Sn**	**07 18 58.5**	**-4.8**
	226nm,0.3s,baz=78,slow=23,SNR=2.2							
RAO				LR		LR	07 19 33.7	
	comp=Z,599nm,18.7s,baz=151,slow=41							
RAO	**Raoul Island**	**2.90**	**2**	Pn		**Pn**	**07 18 28.9**	**+0.5**
RIZ	**Raoul Island**	**2.90**	**2**	P		**Pn**	**07 18 26.9**	**-1.6**
RIZ				S		**Sn**	**07 19 01.0**	**-2.5**
MXZ	**Matakaoa Point**	**6.18**	**208**	Pn		**Pn**	**07 19 12.4**	**-1.1**
MXZ	**Matakaoa Point**	**6.18**	**208**	P		**Pn**	**07 19 11.5**	**-2.0**
MXZ				S		**Sn**	**07 20 21.9**	**-2.3**
WMGZ	**Waiomatatini S**	**6.36**	**206**	P		**Pn**	**07 19 16.1**	**0.0**
PKGZ	**Pakihiroa**	**6.55**	**208**	P		**Pn**	**07 19 19.5**	**+0.8**
PKGZ				S		**Sn**	**07 20 32.0**	**-1.5**
HAZ	**Te Kaha**	**6.56**	**210**	P		**Pn**	**07 19 17.0**	**-1.8**
HAZ				S		**Sn**	**07 20 34.1**	**+0.5**
PUZ	**Puketiti**	**6.64**	**206**	P		**Pn**	**07 19 17.0**	**-2.9**
PUZ				S		**Sn**	**07 20 32.6**	**-3.0**
RUGZ	**Raukumara Rang**	**6.78**	**210**	P		**Pn**	**07 19 21.3**	**-0.6**
RUGZ				S		**Sn**	**07 20 37.0**	**-2.3**
TWGZ	**Tauwhareparae**	**6.84**	**207**	P		**Pn**	**07 19 24.3**	**+1.6**
TWGZ				S		**Sn**	**07 20 39.3**	**-1.3**
CNGZ	**Carnagh Statio**	**7.02**	**205**	P		**Pn**	**07 19 22.7**	**-2.4**
CNGZ				S		**Sn**	**07 20 44.8**	**-0.2**
TKGZ	**Te Karaka**	**7.12**	**207**	P		**Pn**	**07 19 24.4**	**-2.0**
TKGZ				S		**Sn**	**07 20 45.2**	**-2.2**
MWZ	**Matawai**	**7.16**	**209**	P		**Pn**	**07 19 24.7**	**-2.3**
MWZ				S		**Sn**	**07 20 46.1**	**-2.3**
URZ	**Urewera**	**7.27**	**212**	Pn		**Pn**	**07 19 27.7**	**-0.8**
	3.0nm,0.3s,baz=301,slow=24,SNR=23							
URZ				Sn		**Sn**	**07 20 47.8**	**-3.4**
	26nm,0.3s,baz=189,slow=17,SNR=13							
URZ	**Urewera**	**7.27**	**212**	Pn		**Pn**	**07 19 28.1**	**-0.4**
URZ	**Urewera**	**7.27**	**212**	P		**Pn**	**07 19 26.4**	**-2.1**
URZ				S		**Sn**	**07 20 48.1**	**-3.1**
RAGZ	**Rawiri**	**7.34**	**209**	P		**Pn**	**07 19 27.2**	**-2.4**
RAGZ				S		**Sn**	**07 20 50.4**	**-2.5**
OUZ	**Omahuta**	**7.62**	**244**	Pn		Pn	07 19 38.0	+4.7
RAHZ	**Arahi**	**7.83**	**209**	P		**Pn**	**07 19 36.4**	**+0.2**
RAHZ				S		**Sn**	**07 21 01.3**	**-3.7**
MTHZ	**Maungataniwha**	**7.88**	**211**	P		**Pn**	**07 19 37.5**	**+0.5**
MTHZ				S		**Sn**	**07 21 03.3**	**-3.0**
MRHZ	**Matea Rd**	**8.05**	**213**	P		**Pn**	**07 19 40.5**	**+1.1**
MRHZ				S		**Sn**	**07 21 07.2**	**-3.3**
NMHZ	**Naumai**	**8.10**	**210**	P		**Pn**	**07 19 39.8**	**-0.2**
NMHZ				S		**Sn**	**07 21 09.8**	**-1.9**
BKZ	**Black Stump Fm**	**8.29**	**211**	Pn		**Pn**	**07 19 42.5**	**-0.1**
BKZ	**Black Stump Fm**	**8.29**	**211**	P		**Pn**	**07 19 42.5**	**-0.1**
BKZ				S		**Sn**	**07 21 11.3**	**-5.1**
MCHZ	**McNeill Hill**	**8.44**	**209**	P		**Pn**	**07 19 43.2**	**-1.4**
MCHZ				S		**Sn**	**07 21 16.1**	**-3.8**
KAHZ	**Kahuranaki**	**8.67**	**207**	P		**Pn**	**07 19 47.5**	**-0.2**
KAHZ				S		**Sn**	**07 21 20.7**	**-4.9**
MOVZ	**Moawhango**	**8.82**	**213**	P		**Pn**	**07 19 51.8**	**+1.9**
MOVZ				S		**Sn**	**07 21 23.4**	**-6.1**
BFZ	**Birch Farm**	**9.68**	**207**	P		**Pn**	**07 19 58.5**	**-3.0**
BFZ				S		**Sn**	**07 21 42.5**	**-7.8**
MRZ	**Mangatainoka R**	**9.93**	**209**	P		**Pn**	**07 20 02.3**	**-2.7**
MRZ				S		**Sn**	**07 21 47.9**	**-8.5**
TUWZ	**Tuamarina**	**11.27**	**213**	P		**Pn**	**07 20 23.6**	**+0.3**
TUWZ				S		Sn	07 22 18.7	-11
THZ	**Tophouse**	**12.01**	**215**	Pn		**Pn**	**07 20 35.5**	**+1.9**
LTZ	**Lake Taylor**	**13.10**	**213**	Pn		**Pn**	**07 20 49.4**	**+1.0**
ARCZ	**Arundel**	**14.51**	**213**	P		**Pn**	**07 21 05.2**	**-2.4**
MSVF	**Nonsavu**	**14.79**	**345**	LR		LR	07 25 07.4	
	comp=Z,179nm,19.0s,baz=159,slow=30							
TMZ	**Timaru**	**14.92**	**212**	P		**Pn**	**07 21 10.2**	**-3.1**
MLZ	**Mavora Lakes**	**17.02**	**215**	Pn		**Pn**	**07 21 40.0**	**-0.3**
MLZ				IAmb		IAmb	07 21 59.8	
	comp=Z,64nm,1.4s							
DZM	**Mont Dzumac**	**17.07**	**302**	P		**Pn**	**07 21 39.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=7.5,SN

SNAA	**Sanae**	**76.41**	**178**	PcP	**PcP**	**07 29 42.5**	**-0.8**
SNAA	**Sanae**	**76.41**	**178**	P	**P**	**07 29 33.0**	**+1.5**
SNAA				IAmb	IAmb	07 29 43.6	
	comp=Z,15nm,1.0s						
VNA3	**Neumayer Olymp**	**76.56**	**176**	P	**P**	**07 29 33.2**	**+0.8**
VNA3	**Neumayer Olymp**	**76.56**	**176**	PcP	**PcP**	**07 29 44.1**	**+0.2**
VNA2	**Neumayer--Watz**	**76.99**	**177**	P	**P**	**07 29 36.0**	**+1.3**
	baz=176,slow=4.4						
VNA2	**Neumayer--Watz**	**76.99**	**177**	PcP	**PcP**	**07 29 46.3**	**+0.5**
VNA1	**Neumayer--Stat**	**77.22**	**177**	P	**P**	**07 29 37.3**	**+1.3**
VNA1	**Neumayer--Stat**	**77.22**	**177**	PcP	**PcP**	**07 29 47.5**	**+0.8**
JOW	**Kunigami**	**77.83**	**313**	LR	LR	07 58 30.9	
	comp=Z,127nm,20.7s,baz=297,slow=32						
H03S2	**Juan Fernandez**	**79.52**	**123**	T	T	08 58 45.5	
	baz=235						
H03S1	**Juan Fernandez**	**79.53**	**123**	T	T	08 58 43.3	
	baz=235						
H03S3	**Juan Fernandez**	**79.54**	**123**	T	T	08 58 42.8	
	baz=235						
H03N3	**Juan Fernandez**	**79.72**	**123**	T	T	08 58 54.1	
	baz=242,slow=74						
H03N2	**Juan Fernandez**	**79.72**	**123**	T	T	08 58 53.1	
	baz=242						
H03N1	**Juan Fernandez**	**79.74**	**123**	T	T	08 58 52.8	
	baz=242,slow=74						
NJ2	**Nanjing**	**87.37**	**311**	*e*P	**P**	**07 30 31.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PETK	**Petropavlovsk-**	**87.50**	**346**	P	**P**	**07 30 30.2**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=123,slow=7.4,SNR=7.4						
USRK	**Ussuriysk Ar.**	**88.61**	**327**	P	**P**	**07 30 36.0**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=116,slow=4.4,SNR=4.8						
USRK	**Ussuriysk Ar.**	**88.61**	**327**	P	**P**	**07 30 35.4**	**+0.2**
LHV	**Little Huntoon**	**89.30**	**43**	P	**P**	**07 30 40.6**	**+2.0**
LHV				IAmb	IAmb	07 30 45.2	
	comp=Z,7.8nm,1.2s						
NVAR	**Mina Array Bea**	**89.54**	**43**	P	**P**	**07 30 40.6**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=214,slow=6.5,SNR=8.7						
NVAR	**Mina Array Bea**	**89.54**	**43**	P	**P**	**07 30 40.5**	**+0.5**
W13A	**Hualapai Mount**	**89.99**	**48**	P	**P**	**07 30 43.4**	**+1.1**
MOD	**Modoc Plateau**	**90.82**	**39**	P	**P**	**07 30 46.5**	**+0.6**
MOD				IAmb	IAmb	07 30 48.6	
	comp=Z,6.5nm,1.1s						
X16A	**Lo Mia Camp, P**	**91.11**	**49**	P	**P**	**07 30 49.0**	**+1.6**
X16A				IAmb	IAmb	07 30 54.5	
	comp=Z,3.4nm,1.0s						
U15A	**North Rim**	**91.84**	**47**	P	**P**	**07 30 52.1**	**+1.3**
U15A				IAmb	IAmb	07 31 05.8	
	comp=Z,3.0nm,1.0s						
KNB	**Kanab**	**91.88**	**47**	P	**P**	**07 30 51.7**	**+0.7**
KNB				IAmb	IAmb	07 31 06.2	
	comp=Z,3.8nm,1.2s						
TXAR	**Lajitas Array**	**93.35**	**57**	P	**P**	**07 30 55.4**	**-2.4**
	comp=Z,0.1nm,0.6s,baz=209,slow=7.2,SNR=2.1						
XAN	**Xi'an**	**95.15**	**307**	P	P	07 30 56.3	-10
XAN				pP	pP	07 31 08.0	+0.5
XAN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**97.43**	**314**	*e*P	Pdif	07 31 17.5	+1.3
HHC	**Hu-ho-hao-te**	**97.43**	**314**	S	**S**	**07 42 35.0**	**-5.7**
HHC				pmax	pmax		
	comp=Z,25nm,1.4s						
HHC				pmax	pmax		
	comp=Z,77nm,7.1s						
HHC				L	L		
	comp=Z,110nm,19.5s						
HHC				L	L		
	comp=Z,120nm,19.1s						
HHC				L	L		
	comp=Z,110nm,17.6s						
BTO	**Baotou**	**98.24**	**313**	*e*P	Pdif	07 31 22.0	+2.2
BTO	**Baotou**	**98.24**	**313**	S	**S**	**07 42 48.5**	**+1.0**
BTO				L	L		
	comp=Z,330nm,13.0s						
BTO				L	L		
	comp=Z,350nm,20.1s						
BTO				L	L		
	comp=Z,450nm,18.4s						
MKAR	**Makanchi Array**	**118.87**	**309**	PKP	**PKPdf**	**07 36 30.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=56,slow=3.2,SNR=5.0						
KSH	**Kashi**	**121.10**	**300**	PKP	**PKPdf**	**07 36 32.5**	**-2.8**
ARCES	**ARCESS Array B**	**140.29**	**347**	PKP	**PKPdf**	**07 37 09.4**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=56,slow=3.3,SNR=2.1						
KBZ	**Khabaz**	**146.04**	**302**	PKPbc	**PKPdf**	**07 37 21.4**	**0.0**
	comp=Z,11nm,1.0s,baz=189,slow=3.0,SNR=8.4						
OBN	**Obninsk**	**146.58**	**324**	PKPbc	**PKPdf**	**07 37 21.9**	**0.0**
	comp=Z,5.7nm,0.4s,baz=295,slow=1.6,SNR=7.3						
FINES	**FINESS Array B**	**146.78**	**339**	PKPbc	**PKPdf**	**07 37 23.1**	**+1.0**
	comp=Z,10nm,0.6s,baz=64,slow=4.4,SNR=29						
FINES	**FINESS Array B**	**146.78**	**339**	PKPdf	**PKPbc**	**07 37 23.6**	**-0.2**
NOA	**NORSAR Array B**	**150.48**	**351**	PKPbc	**PKPbc**	**07 37 32.4**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=16,slow=4.1,SNR=8.5						
AKASG	**Malin Array Be**	**152.66**	**321**	PKPbc	**PKPbc**	**07 37 36.3**	**-2.5**
	comp=Z,1.8nm,0.6s,baz=42,slow=3.4,SNR=5.0						
BRTR	**Keskin Array B**	**153.37**	**295**	PKPbc	**PKPbc**	**07 37 38.8**	**-2.1**
	comp=Z,3.9nm,1.1s,baz=186,slow=1.1,SNR=4.8						
CLL	**Collm**	**159.21**	**340**	⇓*i* PKPab	**PKPab**	**07 38 17.4**	**0.0**
	comp=Z,7.0nm,0.8s						
CLL				*i*		07 38 29.5	
TORD	**Torodi Ar. Bea**	**161.08**	**179**	PKPab	**PKPab**	**07 38 25.3**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=179,slow=3.7,SNR=6.0						
GERES	**GERESS Array B**	**161.13**	**335**	PKPab	**PKPab**	**07 38 24.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=341,slow=2.1,SNR=3.3						

NNC ***26*** *07:20:02.5±7.8, 37.°27N×69.°68E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=61.3km s-min=52.0km az=177.0*
IDC ***26*** *07:20:04.7±9.3, 36.°90N×70.°25E, h191km±61km, mb3.4/2, mb1 3.4/6, mb1mx3.0/51, mbtmp4.0/6, Error ellipse: s-maj=91.8km s-min=47.0km az=175.0*

ISC 26 07:20:08.0±2.5, 37.°2N±0.°2×70.°0E±0.°1, h200km, n14, σ1≒19/18, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.67**	**29**	P		**Pn**	**07 21 30.9**	**-0.4**
	SNR=20							
KK31	**Karatay Array**	**5.90**	**4**	⇑P		**Pn**	**07 21 32.1**	**-1.7**
	2.3nm,0.5s,baz=184,slow=13,SNR=23							
KK31				⇓S		**Sn**	**07 22 40.4**	**-1.4**
	3.8nm,0.3s,baz=191,slow=24,SNR=7.3							
EKS2	**Erkin-Say**	**6.16**	**27**	P		**Pn**	**07 21 37.3**	**0.0**
	SNR=14							
AAK	**Ala-Archa**	**6.42**	**31**	P		**Pn**	**07 21 39.9**	**-0.8**
	2.3nm,0.3s,baz=220,slow=11,SNR=6.6							
AAK				S		**Sn**	**07 22 55.1**	**+0.8**
	1.2nm,0.3s,baz=222,slow=12,SNR=4.6							
AAK	**Ala-Archa**	**6.42**	**31**	⇑P		**Pn**	**07 21 39.8**	**-0.9**
	3.5nm,0.5s							
AAK				⇓S		**Sn**	**07 22 55.2**	**+0.9**
	26nm,0.6s							
KBK	**Karagaybulak**	**6.63**	**33**	P		**Pn**	**07 21 43.0**	**-0.5**
	SNR=5.1							
USP	**Ospenovka**	**6.95**	**28**	P		**Pn**	**07 21 46.8**	**-0.8**
	SNR=5.9							
TKM2	**Tokmak 2**	**7.13**	**35**	P		**Pn**	**07 21 48.7**	**-1.3**
	SNR=25							
TKM2	**Tokmak 2**	**7.13**	**35**	⇑P		**Pn**	**07 21 48.4**	**-1.6**
	11nm,0.5s							
TKM2				⇓S		**Sn**	**07 23 12.7**	**+1.7**
	11nm,0.9s							
MKAR	**Makanchi Array**	**13.21**	**40**	P		**Pn**	**07 23 06.3**	**-1.7**
	0.5nm,0.3s,baz=221,slow=12,SNR=22							
AKTO	**Aktyubinsk**	**15.77**	**331**	P		**Pn**	**07 23 40.5**	**+1.2**
	0.4nm,0.3s,baz=142,slow=9.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**19.62**	**27**	P		**P**	**07 24 20.5**	**-0.4**
	1.0nm,0.3s,baz=217,slow=10,SNR=6.3							
FINES	**FINESS Array B**	**36.45**	**326**	P		**P**	**07 26 53.3**	**0.0**
	0.8nm,0.6s,baz=98,slow=12,SNR=1.7							
ARCES	**ARCESS Array B**	**40.18**	**338**	P		**P**	**07 27 25.0**	**+0.7**
	3.3nm,1.0s,baz=102,slow=8.4,SNR=4.1							

MOS ***26*** *07:21:29.8±0.9, 45.°41N×148.°84E, h124km, mb4.4/6, Error ellipse: s-maj=12.2km s-min=6.7km az=52.4*
SKHL ***26*** *07:21:30.1±0.2, 45.°30N×149.°00E, h117km±3km, mb5.2/6, msha5.8/4*
NEIC ***26*** *07:21:31.8±1.3, 45.°5N±0.°1×148.°7E±0.°1, h122km±10km, mb4.3/10, Error ellipse: s-maj=21.1km s-min=12.6km az=160.0*
JMA ***26*** *07:21:32.3±0.5, 44.°90N×148.°93E, h130km, M4.0*
NIED ***26*** *07:21:32.4, 44.°90N×148.°93E, h130km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.47; Mθθ-0.22; Mφφ-0.25; Mrθ0.01; Mθφ-0.28; Mφr-1.42;*

Fault plane solution: M0 1.50000×10¹⁵ NP1: φs 183.00000°, δ82.00000°, λ79.00000°. NP2: φs 59.00000°, δ13.00000°, λ145.00000°.
IDC ***26*** *07:21:32.2±1.6, 45.°61N×148.°56E, h132km±14km, mb3.6/16, mb1 3.8/21, mb1mx3.6/50, mbtmp4.0/21, MS3.2/5, Ms1 3.2/5, ms1mx2.7/45 Error ellipse: s-maj=18.5km s-min=10.1km az=145.0*

ISC 26 07:21:30.1±0.7, 45.°23N±0.°05×148.°94E±0.°06, h122km±6km, n117, σ1≒82/136, mb4.0/24, 5C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.76**	**271**	*c*	*i* PN	**Pn**	**07 21 49.6**	**-0.4**
KUR					*i*		07 22 04.4	
KUR					pmax	pmax		
	comp=Z,2μm,0.5s							
KUR					pmax	pmax		
	comp=N,553nm,0.3s							
KUR					pmax	pmax		
	comp=E,267nm,0.6s							
KUR					pmax	pmax		
	comp=Z,4μm,1.4s							
KUR					smax	smax		
	comp=N,3μm,0.7s							
KUR					smax	smax		
	comp=E,2μm,0.7s							
KUR					smax	smax		
	comp=E,7μm,2.7s							
KUR					smax	smax		
	comp=N,3μm,2.2s							
KUR	**Kuril'sk**	**0.76**	**271**	*i*	P	**Pn**	**07 21 49.7**	**-0.3**
KUR					AMB	AMB	07 21 50.1	
	comp=N,2μm,0.5s							
KUR				*i*	S	**Sn**	**07 22 04.2**	**-0.9**
KUR					A	A	07 22 05.8	
	comp=N,3μm,2.0s							
KUR					A	A	07 22 05.8	
	comp=N,7μm,2.0s							
KUR					A	A	07 22 09.0	
	comp=N,3μm,0.7s							
KUR					A	A	07 22 09.0	
	comp=N,2μm,0.7s							
YUK	**Yuzh-Kuril'sk**	**2.50**	**243**	*c*	*i* PN	**Pn**	**07 22 10.9**	**+1.1**
YUK					*e*S	**Sn**	**07 22 40.6**	**+0.2**
YUK					pmax	pmax		
	comp=E,236μm,0.3s							
YUK					pmax	pmax		
	comp=Z,519μm,0.3s							
YUK					pmax	pmax		
	comp=N,117μm,0.4s							
YUK					smax	smax		
	comp=E,565nm,0.4s							
YUK					smax	smax		
	comp=N,744nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.50**	**243**	*i*	P	**Pn**	**07 22 10.8**	**+1.0**
YUK					AMB	AMB	07 22 11.0	
	comp=N,520nm,0.3s							
YUK					*e*S	**Sn**	**07 22 41.3**	**+0.9**
YUK					A	A	07 22 46.0	
	comp=N,740nm,0.5s							
YUK					A	A	07 22 46.0	
	comp=N,570nm,0.5s							
GRPR	**Tuman**	**2.57**	**243**	⇑*i*	PN	**Pn**	**07 22 12.3**	**+1.5**
GRPR					*e*S	**Sn**	**07 22 42.6**	**+0.4**
GRPR					pmax	pmax		
	comp=Z,303nm,0.3s							
GRPR					pmax	pmax		
	comp=E,133nm,0.4s							
GRPR					pmax	pmax		
	comp=N,103nm,0.2s							
GRPR					smax	smax		
	comp=N,840nm,0.4s							
GRPR					smax	smax		
	comp=E,823nm,0.4s							
GRPR	**Tuman**	**2.57**	**243**	*i*	P	**Pn**	**07 22 12.0**	**+1.2**
GRPR					AMB	AMB	07 22 13.0	
	comp=E,300nm,0.4s							
GRPR					*e*S	**Sn**	**07 22 43.5**	**+1.3**
GRPR					A	A	07 22 48.0	
	comp=E,840nm,0.4s							
GRPR					A	A	07 22 48.0	
	comp=E,820nm,0.4s							
RUSJ	**Misakicho**	**2.86**	**248**	*e*	PN	**Pn**	**07 22 17.1**	**+2.6**
RUSJ					*e*S	**Sn**	**07 22 50.4**	**+1.6**
GLVR	**Golovnino**	**2.86**	**240**	*c*	*i* PN	**Pn**	**07 22 16.1**	**+1.6**
GLVR					*e*S	**Sn**	**07 22 49.9**	**+1.1**
GLVR					pmax	pmax		
	comp=Z,192μm,0.1s							
GLVR					smax	smax		
	comp=N,1μm,0.4s							
GLVR					smax	smax		
	comp=E,639nm,0.3s							
GLVR	**Golovnino**	**2.86**	**240**	*i*	P	**Pn**	**07 22 15.8**	**+1.3**
GLVR					AMB	AMB	07 22 17.4	
	comp=E,190nm,0.3s							
GLVR					*e*S	**Sn**	**07 22 50.4**	**+1.6**
GLVR					A	A	07 22 55.0	
	comp=E,1μm,0.4s							
GLVR					A	A	07 22 55.0	
	comp=E,640nm,0.4s							
NEM2	**Nemuro 2**	**2.95**	**232**	P		**Pn**	**07 22 16.0**	**+0.3**
NEM2					*e*S	**Sn**	**07 22 50.1**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.96**	**232**	⇑*i*	PN	**Pn**	**07 22 16.1**	**+0.3**
NMR					*e*S	**Sn**	**07 22 50.1**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.96**	**232**	*e*	P	**Pn**	**07 22 16.2**	**+0.4**
NMR					*e*S	**Sn**	**07 22 50.7**	**-0.3**
JRA	**Rausu**	**3.01**	**246**	P		**Pn**	**07 22 18.4**	**+1.9**
JNK	**Nakash**	**3.44**	**243**	P		**Pn**	**07 22 24.0**	**+1.9**
AKK	**Akkeshi**	**3.68**	**235**	*e*	P	**Pn**	**07 22 26.0**	**+0.6**
AKK					*e*S	**Sn**	**07 23 07.7**	**-0.5**
JAK	**Akkeshi**	**3.78**	**235**	P		**Pn**	**07 22 27.2**	**+0.6**
JAK					*e*S	**Sn**	**07 23 09.6**	**-0.9**
JTKR	**Abashiri--Toko**	**3.80**	**253**	P		**Pn**	**07 22 28.4**	**+1.4**
JAR	**Ashorobuto**	**4.18**	**244**	P		**Pn**	**07 22 34.1**	**+2.1**
JOB	**Onbets**	**4.35**	**240**	P		**Pn**	**07 22 35.5**	**+1.3**
JOB					*e*S	**Sn**	**07 23 23.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.63**	**294**	*e*	PN	**Pn**	**07 22 36.4**	**-1.6**
YSS					*e*S	**Sn**	**07 23 27.8**	**-3.1**
YSS					pmax	pmax		
	comp=Z,50nm,1.0s							
YSS					smax	smax		
	comp=E,200nm,2.0s							
YSS					smax	smax		
	comp=E,60nm,1.4s							
YSS	**Yuzh-Sakhalins**	**4.63**	**294**		Pn	**Pn**	**07 22 36.4**	**-1.6**
YSS	**Yuzh-Sakhalins**	**4.63**	**294**	*e*	P	**Pn**	**07 22 38.3**	**+0.3**
YSS					AMB	AMB	07 22 38.8	
	comp=E,50nm,1.0s							
YSS					*e*S	**Sn**	**07 23 30.9**	**0.0**
YSS					A	A	07 23 33.4	
	comp=E,200nm,2.0s							
YSS					A	A	07 23 33.5	
	comp=E,60nm,1.0s							
JKA	**Kamikawa-asahi**	**4.65**	**258**		Pn	**Pn**	**07 22 39.9**	**+1.5**
ASAJ	**Asahikawa**	**4.66**	**258**	P		**Pn**	**07 22 40.4**	**+2.0**
	comp=E,4.5nm,0.3s,baz=62,slow=12,SNR=21							
ASAJ					S	**Sn**	**07 23 29.4**	**-2.0**
	comp=E,0.2nm,0.3s,baz=65,slow=26,SNR=1.0							
ASAJ					LR	LR	07 24 34.7	
	comp=E,74nm,21.7s,baz=36,slow=41							
ASAJ	**Asahikawa**	**4.66**	**258**	P		**Pn**	**07 22 40.4**	**+2.0**
JCH	**Churui**	**4.80**	**239**	P		**Pn**	**07 22 40.9**	**+0.6**
JCH					*e*S	**Sn**	**07 23 33.4**	**-1.4**
ERM	**Erimo**	**5.28**	**235**	PN		**Pn**	**07 22 48.8**	**+2.1**
ERM	**Erimo**	**5.28**	**235**	Pn		**Pn**	**07 22 48.8**	**+2.1**
JNBK	**Urakawa-nobuka**	**5.36**	**239**	P		**Pn**	**07 22 47.4**	**-0.4**
JEW	**Eniwo**	**5.90**	**249**	Pn		**Pn**	**07 22 56.8**	**+1.7**
JNB	**Noboribetsu**	**6.34**	**247**	P		**Pn**	**07 23 00.9**	**-0.1**
JNB					*e*S	**Sn**	**07 24 10.8**	**-1.2**
JKB	**Kayabe**	**6.64**	**243**	P		**Pn**	**07 23 04.6**	**-0.5**
JKB					*e*S	**Sn**	**07 24 14.5**	**-4.8**
JSH	**Shimam**	**6.92**	**251**	P		**Pn**	**07 23 10.1**	**+1.3**
JYM2	**Yakumo 2**	**6.94**	**246**	P		**Pn**	**07 23 09.3**	**+0.1**
SKR	**Severo-Kuril's**	**7.28**	**39**	*e*	PN	**Pn**	**07 23 14.6**	**+0.9**
SKR					pmax	pmax		
	comp=Z,17nm,0.4s							
SKR					MLR	MLR		
	comp=Z,100nm,14.0s							
SKR	**Severo-Kuril's**	**7.28**	**39**	*e*	P	**Pn**	**07 23 12.8**	**-0.9**
SKR					AMB	AMB	07 23 14.0	
	comp=Z,20nm,0.4s							
JANG	**Nango**	**7.30**	**231**	P		**Pn**	**07 23 12.7**	**-1.3**
JANG					*e*S	**Sn**	**07 24 28.4**	**-6.9**
JTH	**Tanohata**	**7.42**	**227**	*e*S		**Sn**	**07 24 31.0**	**-7.3**
JOSM	**Okushiri--Mats**	**7.54**	**249**	P		**Pn**	**07 23 17.2**	**-0.1**
PAU	**Pauzhetka**	**8.15**	**37**	*e*P		**Pn**	**07 23 24.8**	**-0.6**
PAU				AMB	AMB	07 23 26.5		
	comp=Z,40nm,0.3s							
OFUJ	**Ofunato**	**8.17**	**224**	P		**Pn**	**07 23 24.3**	**-1.5**
OFUJ				*e*S		**Sn**	**07 24 50.5**	**-6.0**
JRG	**Rokugo**	**8.47**	**229**	*e*S		**Sn**	**07 24 58.6**	**-5.0**
PEA0B	**Petropavlovsk-**	**9.75**	**33**	*i* PN		**Pn**	**07 23 46.8**	**-0.2**
PEA0B	**Petropavlovsk-**	**9.75**	**33**	Pn		**Pn**	**07 23 46.7**	**-0.3**
PETK	**Petropavlovsk-**	**9.75**	**33**	P		**Pn**	**07 23 46.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=191,slow=11,SNR=13							
PETK				LR		LR	07 27 39.9	
	comp=Z,28nm,19.1s,baz=232,slow=38							
PET	**Petropavlovsk**	**10.07**	**36**	*i* PN		**Pn**	**07 23 50.1**	**-1.1**
PET	**Petropavlovsk**	**10.07**	**36**	Pn		**Pn**	**07 23 50.8**	**-0.4**
PET	**Petropavlovsk**	**10.07**	**36**	*i* P		**Pn**	**07 23 50.1**	**-1.1**
MJAR	**Matsushiro Arr**	**11.87**	**227**	P		**P**	**07 24 24.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=12,SNR=8.3							
USRK	**Ussuriysk Ar.**	**12.10**	**271**	P		**Pn**	**07 24 18.3**	**-0.1**
	baz=82,slow=14,SNR=5.7							
KLR	**Kul'dur**	**12.35**	**295**	P		**Pn**	**07 24 22.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=98,slow=14,SNR=7.6							
KLR	**Kul'dur**	**12.35**	**295**	*i* PN		**Pn**	**07 24 21.4**	**-0.2**
KLR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KLR	**Kul'dur**	**12.35**	**295**	*e*P		**Pn**	**07 24 21.4**	**-0.2**
EKMR	**Ekimchan**	**13.06**	**313**	*e*P		**Pn**	**07 24 30.0**	**-0.8**
EKMR				AMB	AMB	07 24 36.5		
	comp=Z,5.0nm,1.0s							
MSHR	**Mys Shultsa**	**13.09**	**265**	*i* PN		**Pn**	**07 24 29.3**	**-2.0**
KSRS	**Korea Array**	**17.55**	**251**	P		**Pn**	**07 25 28.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=54,slow=11,SNR=5.6							
KSRS	**Korea Array**	**17.55**	**251**	*e*P		**Pn**	**07 25 29.4**	**+2.4**
SEY	**Seymchan**	**17.85**	**5**	P		**P**	**07 25 27.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=5.1,slow=23,SNR=1.3							
SEY	**Seymchan**	**17.85**	**5**	*i* P		**P**	**07 25 28.6**	**-0.8**
SEY	**Seymchan**	**17.85**	**5**	*e*P		**P**	**07 25 28.6**	**-0.8**
YAK	**Yakutsk**	**20.20**	**333**	*e*P		**P**	**07 25 56.1**	**+1.2**
YAK				pmax	pmax			
	comp=Z,24nm,1.1s							
YAK				pmax	pmax			
	comp=N,14nm,1.3s							
YAK				pmax	pmax			
	comp=E,5.0nm,0.8s							
YAK	**Yakutsk**	**20.20**	**333**	*e*P		**P**	**07 25 56.1**	**+1.2**
ADK	**Adak**	**23.55**	**61**	P		**P**	**07 26 30.7**	**+1.6**
ADK				pmax	pmax			
	comp=Z,15nm,1.2s							
ADK	**Adak**	**23.55**	**61**	P		**P**	**07 26 30.6**	**+1.6**
ADK				IAmb	IAmb	07 26 53.4		
	comp=Z,16nm,1.2s							
GSTR	**Great Sitkin T**	**23.95**	**61**	P		**P**	**07 26 33.5**	**+0.8**
BILL	**Bilibino**	**24.59**	**16**	*i* P		**P**	**07 26 35.3**	**-3.1**
BILL				pmax	pmax			
	comp=Z,1.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**29.46**	**144**	T		T	07 58 32.5	
	baz=334,slow=76,SNR=230							
H11N1	**WAKE ISLAND Hy**	**29.47**	**144**	T		T	07 58 33.5	
	baz=334,slow=76,SNR=163							
H11N3	**WAKE ISLAND Hy**	**29.48**	**144**	T		T	07 58 33.8	
	baz=334,slow=76,SNR=189							
TLY	**Talaya**	**30.32**	**299**	LR		LR	07 40 07.9	
	comp=Z,372nm,21.9s,baz=107,slow=37							
H11S1	**WAKE ISLAND Hy**	**30.47**	**145**	T		T	07 59 46.3	
	baz=335,slow=76,SNR=245							
H11S3	**WAKE ISLAND Hy**	**30.48**	**145**	T		T	07 59 44.8	
	baz=335,slow=76,SNR=115							
H11S2	**WAKE ISLAND Hy**	**30.49**	**145**	T		T	07 59 47.8	
	baz=335,slow=76,SNR=134							
XAN	**Xi'an**	**32.47**	**264**	P		**P**	**07 27 49.3**	**+0.5**
XAN	**Xi'an**	**32.47**	**264**	P		**P**	**07 27 49.3**	**+0.5**
SVW2	**Sparrevohn**	**35.62**	**43**	P		**P**	**07 28 16.9**	**+1.3**
SVW2				IAmb	IAmb	07 28 23.5		
	comp=Z,9.2nm,1.4s							
KDAK	**Kodiak Island**	**37.31**	**49**	P		**P**	**07 28 30.0**	**0.0**
	comp=Z,9.2nm,0.9s,baz=263,slow=7.1,SNR=7.9							
KDAK	**Kodiak Island**	**37.31**	**49**	P		**P**	**07 28 30.0**	**0.0**
KDAK				pmax	pmax			
	comp=Z,21nm,1.3s							
COLD	**Coldfoot**	**38.22**	**33**	P		**P**	**07 28 37.6**	**0.0**
COLD				IAmb	IAmb	07 29 05.0		
	comp=Z,2.0nm,0.7s							
SCM	**Sheep Creek Mo**	**39.54**	**42**	P		**P**	**07 28 49.0**	**+0.3**
SCM				pmax	pmax			
	comp=Z,14nm,1.4s							
SCM	**Sheep Creek Mo**	**39.54**	**42**	P		**P**	**07 28 49.0**	**+0.3**
ILAR	**Eielson Array**	**39.54**	**37**	P		**P**	**07 28 48.5**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=267,slow=8.1,SNR=9.4							
ILAR				PcP		**PcP**	**07 30 53.5**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=200,slow=2.4,SNR=2.6							
ILAR				ScP		**ScP**	**07 34 29.7**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=286,slow=4.5,SNR=2.2							
SCRK	**Sand Creek**	**40.86**	**38**	P		**P**	**07 28 59.1**	**-0.5**
ZALV	**Zalesovo Beam**	**41.15**	**306**	PcP		**PcP**	**07 30 58.6**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=96,slow=2.6,SNR=8.3							
EPYK	**Eagle Plains**	**43.59**	**34**	P		**P**	**07 29 22.9**	**+1.3**
EPYK				IAmb	IAmb	07 29 50.8		
	comp=Z,6.5nm,1.2s							
INK	**Inuvik**	**44.48**	**31**	P		**P**	**07 29 28.6**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=280,slow=7.7,SNR=5.7							
MKAR	**Makanchi Array**	**45.04**	**297**	P		**P**	**07 29 31.5**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=76,slow=8.4,SNR=5.6							
MKAR				PcP		**PcP**	**07 31

NEIC ***26*** *07:36:46.5±1.9, 6.84S±0.08×145.2E±0.1, h35km±1km, mb4.2/12, Error ellipse: s-maj=20.0km s-min=13.0km az=271.0*

IDC ***26*** *07:36:47.2±3.2, 6.78S×145.22E, h45km±32km, mb3.9/9, mb1 4.2/13, mb1mx3.9/38, mbtmp4.2/13, ML4.4/3, MS3.2/2, Ms1 3.3/2, ms1mx2.9/20, Error ellipse: s-maj=28.6km s-min=21.2km az=86.0*

ISC 26 07:36:46.4±0.7, 6.90S±0.08×145.05E±0.09, h35km, n28, σ1§63/27, mb4.1/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.25**	**140**	P		**Pn**	**07 37 35.4**	**+0.6**
	6.4nm,0.3s,baz=34,slow=5.0,SNR=3.7							
PMG				S		**Sn**	**07 38 10.5**	**-1.8**
	72nm,0.3s,baz=11,slow=12,SNR=7.0							
CTA	**Charters Tower**	**13.16**	**175**	P		**Pn**	**07 39 53.7**	**+2.8**
	1.5nm,0.3s,baz=358,slow=13,SNR=9.5							
CTAO	**Charters Tower**	**13.16**	**175**	Pn		**Pn**	**07 39 49.5**	**-1.4**
WB0	**Warramunga Arr**	**16.45**	**218**	Pn		**Pn**	**07 40 36.0**	**+1.2**
WB0				IAmb	IAmb		07 40 53.9	
	comp=Z,31nm,1.4s							
WR0	**Warramunga Arr**	**16.51**	**217**			**P**	**07 40 37.6**	**-0.1**
WR0				IAmb	IAmb		07 40 52.9	
	comp=Z,22nm,1.0s							
WB2	**Warramunga Arr**	**16.61**	**218**	P		**P**	**07 40 39.1**	**+0.2**
WB2				IAmb	IAmb		07 40 42.9	
	comp=Z,15nm,0.7s							
WRA	**Warramunga Arr**	**16.62**	**218**	P		**Pn**	**07 40 37.9**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=40,slow=12,SNR=44							
WRA				S		Sn	07 43 30.2	-10
	comp=Z,0.1nm,0.3s,baz=41,slow=21,SNR=1.4							
WRA	**Warramunga Arr**	**16.62**	**218**			**P**	**07 40 39.4**	**+0.4**
KNRA	**Kununurra**	**18.19**	**240**	P		**Pn**	**07 40 58.1**	**+1.8**
AS31	**Alice Springs**	**19.81**	**212**	P		**Pn**	**07 41 17.5**	**+1.6**
AS31				IAmb	IAmb		07 41 17.9	
	comp=Z,4.9nm,0.6s							
ASAR	**Alice Springs**	**19.82**	**212**	P		**Pn**	**07 41 17.2**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=46,slow=9.2,SNR=164							
ASAR				S		**S**	**07 44 52.9**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=47,slow=20,SNR=4.1							
ASAR	**Alice Springs**	**19.82**	**212**	P		**Pn**	**07 41 16.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.95**	**238**	P		**P**	**07 41 37.7**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=52,slow=9.5,SNR=6.3							
FITZ				S		**S**	**07 45 33.3**	**-4.5**
	comp=Z,3.8nm,1.0s,baz=68,slow=23,SNR=1.7							
MJAR	**Matsushiro Arr**	**43.69**	**352**	LR		LR	08 00 00.9	
	comp=Z,29nm,21.8s,baz=315,slow=32							
CMAR	**Chiang Mai Arr**	**51.99**	**300**	P		**P**	**07 45 54.0**	**+1.4**
	comp=Z,5.6nm,0.7s,baz=118,slow=5.8,SNR=15							
CMAR				LR		LR	08 06 36.4	
	comp=Z,27nm,21.7s,baz=145,slow=34							
KLR	**Kul'dur**	**57.09**	**350**	P		**P**	**07 46 28.7**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=202,slow=5.4,SNR=3.8							
VNDA	**Vanda**	**71.14**	**176**	P		**P**	**07 48 01.8**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=324,slow=6.6,SNR=9.0							
VNDA	**Vanda**	**71.14**	**176**	IAmb	IAmb		07 48 03.0	
	comp=Z,2.8nm,1.1s							
MK31	**Makanchi Array**	**76.97**	**321**	P		**P**	**07 48 34.5**	**-1.1**
MKAR	**Makanchi Array**	**76.97**	**321**	P		**P**	**07 48 35.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=105,slow=6.3,SNR=15							
MAKZ	**Makanchi**	**77.17**	**321**	P		**P**	**07 48 36.8**	**+0.1**
ZALV	**Zalesovo Beam**	**78.75**	**328**	P		**P**	**07 48 44.1**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=126,slow=7.1,SNR=4.6							
MAW	**Mawson**	**80.68**	**203**	P		**P**	**07 48 55.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=171,slow=8.9,SNR=4.0							
MAW	**Mawson**	**80.68**	**203**	IAmb	IAmb		07 48 57.1	
	comp=Z,1.0nm,1.1s							
KURBB	**Kurchatov Arra**	**80.80**	**324**	P		**P**	**07 48 55.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=118,slow=3.6,SNR=5.9							
MLY	**Manley**	**85.68**	**23**	P		**P**	**07 49 21.1**	**-0.3**
MLY				IAmb	IAmb		07 49 40.7	
	comp=Z,1.6nm,0.8s							
ILAR	**Eielson Array**	**87.07**	**23**	P		**P**	**07 49 26.1**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=254,slow=5.3,SNR=5.3							
TORD	**Torodi Ar. Bea**	**143.42**	**283**	PKP		PKPbc	07 56 15.9	+0.3
	comp=Z,0.3nm,0.8s,baz=91,slow=3.0,SNR=1.2							

IDC 26 07:43:10.3±3.0, 54.41N×86.73E, h0km, mb1 3.1/2, mb1mx3.0/52, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=24.7km s-min=18.3km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**248**	*i*			07 51 10.0	
	baz=67,slow=310,SNR=1.3							
ZALV	**Zalesovo Beam**	**1.22**	**248**	Pg		Pg	07 43 32.5	-1.1
	1.3nm,0.3s,baz=69,slow=17,SNR=14							
ZALV				Lg		Lg	07 43 48.2	
	1.0nm,0.3s,baz=62,slow=13,SNR=4.5							
KURBB	**Kurchatov Arra**	**6.28**	**236**	Pn		Pn	07 44 45.1	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=12							
KURBB				Sn		Sn	07 45 58.5	+2.0
	0.0nm,0.3s,baz=340,slow=20,SNR=1.1							
KURBB				Lg		Lg	07 46 29.8	
	0.1nm,0.3s,baz=55,slow=32,SNR=1.8							
MKAR	**Makanchi Array**	**8.13**	**202**	Pn		Pn	07 45 10.2	+0.7
	0.1nm,0.3s,baz=24,slow=12,SNR=7.4							
MKAR				Lg		Lg	07 47 27.4	
	0.0nm,0.3s,baz=7.0,slow=31,SNR=2.4							

ANF ***26*** *07:48:12.7±0.4, 35.79N×97.40W, h5km, ML3.4/11, Error ellipse: s-maj=4.3km s-min=2.4km az=131.0*

IASPEI ***26*** *07:48:13.2±0.9, 35.75N±0.03×97.38W±0.03, h10km±7km, Error ellipse: s-maj=4.8km s-min=3.7km az=97.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

NEIC ***26*** *07:48:13.4±0.9, 35.76N±0.02×97.39W±0.02, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=129.0*

TUL ***26*** *07:48:13.2±1.1, 35.74N±0.02×97.38W±0.02, h5km±6km, ML2.9, mb_Lg3.0/114(NEIC), Error ellipse: s-maj=3.0km s-min=2.1km az=119.0*

ISC 26 07:48:13.4±0.9, 35.76N±0.02×97.39W±0.03, h9km±6km, n96, σ0§64/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OK029	**Liberty Cpte**	**0.06**	**303**			**Pg**	**07 48 15.4**	**0.0**
OK029				Sg		**Sg**	**07 48 17.0**	**+0.1**
OK025	**Westminster Rd**	**0.19**	**166**			**Pg**	**07 48 16.9**	**-0.5**
OK005	**Luther M Schoo**	**0.20**	**123**			**Pg**	**07 48 17.1**	**-0.4**
BCOK	**Bluff Creek, N**	**0.21**	**239**			**Pg**	**07 48 17.4**	**-0.2**
BCOK				Sg		**Sg**	**07 48 21.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.35**	**188**			**Pg**	**07 48 19.9**	**-0.4**
OKCFA				Sg		**Sg**	**07 48 25.1**	**0.0**
OKCFA	**Oklahoma City**	**0.35**	**188**	P		**Pg**	**07 48 19.9**	**-0.4**
	baz=10,SNR=48							
OKCFA				S		**Sg**	**07 48 25.0**	**0.0**
	baz=10							
OKCFA	**Oklahoma City**	**0.35**	**188**	P			07 48 19.9	
	baz=10,SNR=48							
OKCFA				S			07 48 25.0	
	baz=10							
OKCSW	**OKLAHOMA CITY**	**0.36**	**186**			**Pg**	**07 48 20.1**	**-0.4**
OK031	**S. Brethren Rd**	**0.49**	**67**			**Pg**	**07 48 22.8**	**-0.1**
FNO	**Franklin**	**0.51**	**181**			**Pg**	**07 48 22.7**	**-0.6**
OK030	**Cody Creek RV**	**0.52**	**72**			**Pg**	**07 48 23.4**	**-0.2**
QUOK	**Quay**	**0.69**	**54**			**Pg**	**07 48 26.5**	**-0.3**
QUOK				Sg		**Sg**	**07 48 36.0**	**+0.3**
W35A	**Tecumseh**	**0.74**	**145**			**Pg**	**07 48 26.7**	**-1.0**
CROK	**Carrier**	**0.88**	**327**			**Pg**	**07 48 30.3**	**0.0**
BLOK	**Blackwell**	**1.00**	**8**			**Pg**	**07 48 32.4**	**-0.4**
X34A	**Smith Ranch, M**	**1.22**	**197**			**Pn**	**07 48 36.1**	**-0.5**
OK032	**Salt Plains WL**	**1.23**	**328**			**Pn**	**07 48 36.7**	**-0.1**
KAN13	**South Haven SW**	**1.25**	**357**			**Pn**	**07 48 36.9**	**-0.2**
KAN14	**Manchester OK**	**1.28**	**339**			**Pb**	**07 48 37.5**	**-0.1**
TUL1	**Leonard**	**1.31**	**83**	P		**Pn**	**07 48 36.5**	**-1.4**
	baz=263,SNR=224							
TUL1				S		**Sb**	**07 48 54.4**	**-0.7**
	baz=263							
TUL1	**Leonard**	**1.31**	**83**	P			07 48 36.5	
	baz=263,SNR=224							
TUL1				S			07 48 54.4	
	baz=263							
KAN17	**Caldwell West**	**1.31**	**347**			**Pb**	**07 48 38.1**	**-0.1**
T35A	**Sooner Cattle**	**1.35**	**32**	Pn		**Pn**	**07 48 38.3**	**-0.2**
T35B	**Sooner Cattle**	**1.35**	**32**	P		**Pn**	**07 48 38.3**	**-0.4**
	baz=211							
T35B				S		**Sn**	**07 48 56.6**	**0.0**
	baz=211							
T35B	**Sooner Cattle**	**1.35**	**32**	P			07 48 38.1	
	baz=211							
T35B				S			07 48 56.6	
	baz=211							
KAN09	**Caldwell North**	**1.38**	**353**			**Pb**	**07 48 39.3**	**-0.1**
KS20	**Mayfield South**	**1.47**	**355**			**Pb**	**07 48 41.0**	**0.0**
KS20				IAmb_Lg			07 49 03.2	
	comp=Z,56nm,0.8s							
KAN10	**Anthony SW Sta**	**1.47**	**338**			**Pg**	**07 48 41.3**	**-0.3**
WMOK	**Wichita Mounta**	**1.53**	**228**			**Pn**	**07 48 41.1**	**+0.2**
WMOK	**Wichita Mounta**	**1.53**	**228**	P		**Pn**	**07 48 40.8**	**-0.1**
	baz=48,SNR=113							
WMOK				S		**Sb**	**07 49 01.4**	**0.0**
	baz=48							
WMOK	**Wichita Mounta**	**1.53**	**228**	P			07 48 40.8	
	baz=48,SNR=113							
WMOK				S			07 49 01.4	
	baz=48							
KAN08	**Anthony NE Sta**	**1.53**	**342**			**Pb**	**07 48 42.0**	**0.0**
KS21	**Milan North St**	**1.54**	**352**	IAmb_Lg			07 49 06.2	
	comp=Z,114nm,0.8s							
KAN16	**Harper SW Stat**	**1.56**	**340**			**Pb**	**07 48 42.1**	**-0.3**
LOOK	**Love County**	**1.78**	**174**			**Pn**	**07 48 45.0**	**+0.7**
LOOK				IAmb_Lg			07 49 12.8	
	comp=Z,68nm,1.0s							
X37A	**Clayton**	**2.03**	**125**			**Pn**	**07 48 48.4**	**+0.6**
X37A				IAmb_Lg			07 49 21.2	
	comp=Z,72nm,1.0s							
X37A	**Clayton**	**2.03**	**125**	P		**Pn**	**07 48 48.1**	**+0.4**
	baz=306,SNR=80							
X37A				S		**Sb**	**07 49 15.0**	**-0.8**
	baz=306							
X37A	**Clayton**	**2.03**	**125**	P			07 48 48.1	
	baz=306,SNR=80							
X37A				S			07 49 15.0	
	baz=306							
Z35A	**Perchaven, San**	**2.43**	**177**			**Pn**	**07 48 54.3**	**+1.0**
Z35A	**Perchaven, San**	**2.43**	**177**	P		**Pn**	**07 48 53.9**	**+0.6**
	baz=358,SNR=15							
Z35A	**Perchaven, San**	**2.43**	**177**	P			07 48 53.9	
	baz=358,SNR=15							
U38A	**Gravette**	**2.53**	**74**	IAmb_Lg			07 49 39.8	
	comp=Z,34nm,0.9s							
U38A	**Gravette**	**2.53**	**74**	P		**Pn**	**07 48 55.2**	**+0.5**
	baz=255,SNR=84							
U38A	**Gravette**	**2.53**	**74**	P			07 48 55.2	
	baz=255,SNR=84							
HHAR	**Hobbs**	**2.85**	**79**			**Pn**	**07 49 01.5**	**+2.4**
HHAR	**Hobbs**	**2.85**	**79**	P		**Pn**	**07 48 59.4**	**+0.4**
	baz=260							
HHAR	**Hobbs**	**2.85**	**79**	P			07 48 59.4	
	baz=260							
W39A	**Magazine**	**3.00**	**100**	Pn		**Pn**	**07 49 02.6**	**+1.5**
W39A				IAmb_Lg			07 49 51.2	
	comp=Z,29nm,0.7s							
W39A	**Magazine**	**3.00**	**100**	P		**Pn**	**07 49 01.3**	**+0.2**
	baz=282,SNR=12							
W39A	**Magazine**	**3.00**	**100**	P			07 49 01.3	
	baz=282,SNR=12							
Z38A	**Mt. Pleasant**	**3.19**	**141**	IAmb_Lg			07 50 00.5	
	comp=Z,44nm,0.8s							
MIAR	**Mount Ida**	**3.36**	**110**			**Pn**	**07 49 07.0**	**+1.0**
MIAR				IAmb_Lg			07 50 05.3	
	comp=Z,50nm,1.1s							
MIAR	**Mount Ida**	**3.36**	**110**	P		**Pn**	**07 49 06.5**	**+0.5**
	baz=292,SNR=33							
MIAR				S		**Sn**	**07 49 47.1**	**+1.2**
	baz=292							
MIAR	**Mount Ida**	**3.36**	**110**	P			07 49 06.5	
	baz=292,SNR=33							
MIAR				S			07 49 47.1	
	baz=292							
CBKS	**Cedar Bluff**	**3.57**	**329**	IAmb_Lg			07 50 10.1	
	comp=Z,83nm,1.0s							
AMTX	**Amarillo**	**3.61**	**257**	IAmb_Lg			07 50 12.8	
	comp=Z,25nm,0.9s							
U40A	**Yellville**	**3.73**	**80**	Pn		**Pn**	**07 49 11.2**	**+0.1**
U40A				IAmb_Lg			07 50 16.4	
	comp=Z,30nm,0.8s							
U40A	**Yellville**	**3.73**	**80**	P		**Pn**	**07 49 11.0**	**-0.1**
	baz=262,SNR=6.9							
U40A	**Yellville**	**3.73**	**80**	P			07 49 11.0	
	baz=262,SNR=6.9							
U40A				P			07 49 11.0	
	baz=262,SNR=6.9							
WHTX	**Lake Whitney,**	**3.76**	**181**	IAmb_Lg			07 50 14.8	
	comp=Z,26nm,1.3s							
S39A	**Bolivar**	**3.79**	**58**	Pn		**Pn**	**07 49 12.6**	**+0.6**
S39A				IAmb_Lg			07 50 19.9	
	comp=Z,36nm,0.8s							
X40A	**Basin Creek Fa**	**3.95**	**108**	Pn		**Pn**	**07 49 15.1**	**+1.0**
X40A				IAmb_Lg			07 50 25.6	
	comp=Z,32nm,0.7s							
X40A	**Basin Creek Fa**	**3.95**	**108**	P		**Pn**	**07 49 14.5**	**+0.4**
	baz=290,SNR=6.5							
X40A	**Basin Creek Fa**	**3.95**	**108**	P			07 49 14.5	
	baz=290,SNR=6.5							
X40A				P			07 49 14.5	
	baz=290,SNR=6.5							
WLAR	**White Oak Lake**	**4.09**	**119**	IAmb_Lg			07 50 31.2	
	comp=Z,28nm,0.8s							
WHAR	**Wooly Hollow**	**4.19**	**95**	IAmb_Lg			07 50 34.1	
	comp=Z,37nm,0.9s							
W41B	**Gary Mavity, V**	**4.24**	**96**	P		**Pn**	**07 49 18.2**	**+0.1**
	baz=279,SNR=16							
W41B	**Gary Mavity, V**	**4.24**	**96**	P			07 49 18.2	
	baz=279,SNR=16							
FCAR	**Ozark Folk Cen**	**4.28**	**87**	IAmb_Lg			07 50 38.9	
	comp=Z,24nm,0.7s							
MGMO	**Mountain Grove**	**4.36**	**70**	IAmb_Lg			07 50 36.5	
	comp=Z,49nm,0.9s							
R40A	**Maddies Statio**	**4.81**	**57**	IAmb_Lg			07 50 47.9	
	comp=Z,27nm,0.8s							
P38A	**Dawn**	**4.92**	**37**	IAmb_Lg			07 50 48.1	
	comp=Z,23nm,0.7s							
N33A	**J Bar K, Exete**	**4.97**	**359**	IAmb_Lg			07 50 58.4	
	comp=Z,18nm,0.8s							
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg			07 51 02.4	
	comp=Z,38nm,1.1s							
CCAR	**Cane Creek**	**4.98**	**110**	IAmb_Lg			07 51 02.4	
	comp=Z,21nm,0.8s							
LCAR	**Lake Charles**	**5.07**	**85**	IAmb_Lg			07 50 57.2	
	comp=Z,26nm,0.8s							
T42A	**Van Buren**	**5.24**	**74**	IAmb_Lg			07 51 04.3	
	comp=Z,26nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.28**	**309**	IAmb_Lg			07 51 15.9	
	comp=Z,18nm,0.8s							
CCM	**Cathedral Cave**	**5.43**	**63**	IAmb_Lg			07 51 20.8	
	comp=Z,29nm,0.8s							
JCT	**Junction City**	**5.64**	**202**	IAmb_Lg			07 51 22.8	
	comp=Z,24nm,0.9s							
BGNE	**Belgrade**	**5.67**	**354**	IAmb_Lg			07 51 22.1	
	comp=Z,30nm,0.9s							
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg			07 51 26.4	
	comp=Z,27nm,0.9s							
T25A	**Trinidad**	**5.82**	**286**	IAmb_Lg			07 51 31.7	
	comp=Z,25nm,0.9s							
143A	**Socs Landing,**	**5.83**	**120**	IAmb_Lg			07 51 28.4	
	comp=Z,16nm,0.8s							
OGNE	**Ogallala**	**6.33**	**326**	IAmb_Lg			07 51 36.1	
	comp=Z,39nm,0.8s							
OXF	**Oxford**	**6.66**	**99**	IAmb_Lg			07 51 56.0	
	comp=Z,19nm,1.0s							
W45A	**Hickory Valley**	**6.73**	**93**	IAmb_Lg			07 51 56.0	
	comp=Z,20nm,0.8s							
S44A	**Carbondale**	**6.81**	**71**	IAmb_Lg			07 51 53.4	
	comp=Z,29nm,0.8s							
K31A	**O'Neill**	**6.93**	**352**	IAmb_Lg			07 52 00.2	
	comp=Z,27nm,0.7s							
SCIA	**State Center**	**6.95**	**27**	IAmb_Lg			07 52 02.7	
	comp=Z,29nm,0.7s							
K38A	**Parkersburg**	**7.75**	**26**	IAmb_Lg			07 52 29.6	
	comp=Z,28nm,0.9s							
WVT	**Waverly**	**7.77**	**85**	IAmb_Lg			07 52 29.3	
	comp=Z,8.8nm,0.9s							
L40A	**Anamosa**	**7.92**	**36**	IAmb_Lg			07 52 25.6	
	comp=Z,18nm,0.8s							
Y22D	**IRIS PASSCAL I**	**8.01**	**261**	IAmb_Lg			07 52 42.6	
	comp=Z,24nm,1.0s							
PHWY	**Pilot Hill**	**8.39**	**314**	IAmb_Lg			07 52 56.9	
	comp=Z,9.7nm,0.9s							
V48A	**Smith Brothers**	**8.60**	**87**	IAmb_Lg			07 52 48.0	
	comp=Z,9.0nm,1.0s							
I37A	**Lemond, Waseca**	**8.79**	**19**	IAmb_Lg			07 53 03.7	
	comp=Z,16nm,0.7s							
JFWS	**Jewell Farm**	**9.03**	**36**	IAmb_Lg			07 53 11.6	
	comp=Z,21nm,0.7s							
121A	**Cookes Peak, D**	**9.20**	**252**	IAmb_Lg			07 53 23.7	
	comp=Z,9.6nm,1.2s							
WCI	**Wyandotte Cave**	**9.21**	**71**	IAmb_Lg			07 53 10.7	
	comp=Z,22nm,0.9s							
SFIN	**Lafayette**	**9.33**	**57**	IAmb_Lg			07 53 17.7	
	comp=Z,24nm,0.8s							
SWET	**Sewanee**	**9.36**	**90**	IAmb_Lg			07 53 19.6	
	comp=Z,7.8nm,1.0s							
U49A	**Red Boiling Sp**	**9.43**	**82**	IAmb_Lg			07 53 22.7	
	comp=Z,6.9nm,0.9s							
PV11	**David Mesa, Pa**	**9.52**	**289**	IAmb_Lg			07 53 23.5	
	comp=Z,10.0nm,1.1s							
I40A	**Norwalk**	**9.64**	**31**	IAmb_Lg			07 53 26.0	
	comp=Z,9.1nm,0.9s							
RWWY	**Rawlins**	**9.68**	**311**	IAmb_Lg			07 53 43.2	
	comp=Z,9.1nm,1.0s							
RSSD	**Black Hills**	**9.78**	**331**	IAmb_Lg			07 53 37.1	
	comp=Z,8.6nm,0.8s							
K22A	**Casper**	**9.87**	**317**	IAmb_Lg			07 53 46.1	
	comp=Z,18nm,1.2s							
W50A	**Signal Mountai**	**9.87**	**90**	IAmb_Lg			07 53 34.0	
	comp=Z,1.1nm,1.0s							

IDC 26 07:48:38.3±2.9, 53.58N×86.84E, h0km, mb1 2.5/2, mb1mx2.5/53, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=26.5km s-min=15.6km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**288**	*i*			07 56 50.0	
	baz=104,slow=310,SNR=3.8							
ZALV	**Zalesovo Beam**	**1.26**	**288**	Pg		Pg	07 49 01.1	-1.2
	0.2nm,0.3s,baz=108,slow=12,SNR=5.6							
ZALV				Lg		Lg	07 49 19.1	
	0.5nm,0.3s,baz=111,slow=29,SNR=8.8							
KURBB	**Kurchatov Arra**	**5.91**	**243**	Pn		Pn	07 50 08.3	+1.2
	0.0nm,0.3s,baz=57,slow=12,SNR=1.9							
MKAR	**Makanchi Array**	**7.39**	**205**	Pn		Pn	07 50 28.5	+1.2
	0.0nm,0.3s,baz=27,slow=14,SNR=1.6							

IDC ***26*** *07:50:19.9±0.6, 13.99N×121.08E, h164km±3km, mb3.6/10, mb1 3.7/10, mb1mx3.4/45, mbtmp4.0/10, Error ellipse: s-maj=45.3km s-min=12.4km az=63.0*

MAN ***26*** *07:50:21.0, 13.95N×120.56E, h134km, MS3.1*

ISC 26 07:50:19.8±0.7, 13.86N±0.04×120.55E±0.08, h160km±6km, n22, σ1§66/34, mb3.8/10, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.32**	**247**	⇑*i*	P	**Pn**	**07 50 42.3**	**+0.8**
LUBP				*i*	S	**Sn**	**07 50 58.3**	**+0.1**
MACP	**Maragondon, Ca**	**0.43**	**23**	*e*	P	**Pn**	**07 50 41.2**	**-0.8**
MACP				*e*	S	**Sn**	**07 50 56.1**	**-3.0**
TGY	**Tagaytay City**	**0.45**	**58**	P		**Pn**	**07 50 43.3**	**+1.2**
	709nm,0.3s,baz=262,slow=2.1,SNR=39							
TGY				S		**Sn**	**07 50 59.3**	**0.0**
	443nm,0.3s,baz=322,slow=17,SNR=7.7							
TGY	**Tagaytay City**	**0.45**	**58**	⇓*e*	P	**Pn**	**07 50 43.3**	**+1.2**
TGY				*e*	S	Sn	07 50 46.3	-13
PGP	**Puerto Galera**	**0.53**	**132**	⇑*e*	P	**Pn**	**07 50 42.6**	**+0.1**
PGP				*i*	S	**Sn**	**07 50 58.8**	**-1.0**
QVP	**Quezon City--P**	**0.88**	**30**	*e*	P	**Pn**	**07 50 44.8**	**+0.2**
QVP				*e*	S	**Sn**	**07 51 03.2**	**-0.4**
LQP	**Lukban**	**1.00**	**75**	⇑*e*	P	**Pn**	**07 50 46.6**	**+0.9**
LQP				*i*	S	**Sn**	**07 51 06.7**	**+1.1**
BOAC	**Boac**	**1.32**	**107**	*e*	P	**Pn**	**07 50 48.8**	**+0.4**
BOAC				*e*	S	**Sn**	**07 51 09.6**	**-0.7**
SJMP	**San Jose**	**1.50**	**158**	*e*	P	**Pn**	**07 50 50.3**	**+0.2**
SJMP				*e*	S	**Sn**	**07 51 13.6**	**+0.1**
BUSP	**Coron**	**1.88**	**190**	*e*	P	**Pn**	**07 50 55.1**	**+0.9**
BUSP				*e*	S	**Sn**	**07 51 15.9**	**-4.9**
SMPP	**San Manuel, Pa**	**2.28**	**3**	*e*	P	**Pn**	**07 50 57.7**	**-1.1**
SMPP				*e*	S	**Sn**	**07 51 26.7**	**-2.4**
BOLP	**Bolinao**	**2.58**	**346**	*e*	P	**Pn**	**07 51 02.6**	**+0.2**
BOLP				*e*	S	**Sn**	**07 51 33.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**21.24**	**285**	P		**P**	**07 54 58.0**	**+4.6**
	0.8nm,0.3s,baz=90,slow=11,SNR=5.1							
WRA	**Warramunga Arr**	**36.23**	**158**	P		**P**	**07 57 05.9**	**-1.6**
	1.1nm,0.4s,baz=330,slow=10.0,SNR=18							
ASAR	**Alice Springs**	**39.52**	**161**	P		**P**	**07 57 34.4**	**-0.7**
	3.5nm,0.5s,baz=335,slow=7.0,SNR=48							
ASAR				PcP		**PcP**	**07 59 38.9**	**-0.6**
	0.3nm,0.8s,baz=350,slow=4.3,SNR=1.7							
MKAR	**Makanchi Array**	**45.81**	**324**	P		**P**	**07 58 27.2**	**+1.6**
	1.1nm,0.7s,baz=128,slow=8.5,SNR=8.3							
ZALV	**Zalesovo Beam**	**48.85**	**333**	P		**P**	**07 58 49.4**	**+0.6**
	0.8nm,0.4s,baz=125,slow=7.2,SNR=2.5							
STKA	**Stephens Creek**	**49.75**	**156**	P		**P**	**07 58

	comp=Z,34nm,0.2s						
SMOL	**Smolenice**	**1.51**	**209**	*e*PN	**Pb**	07 51 57.5	**-0.2**
SMOL				*e*SN	**Sb**	07 52 17.2	**-0.1**
SMOL				*e*LG	Lg	07 52 18.9	
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	**Pn**	07 51 58.6	**+0.4**
KRUC				*e*SG	**Sg**	07 52 20.2	**+0.3**
KRUC	**Moravsky**	**1.59**	**242**	*e*Pg	**Pn**	07 51 58.6	**+0.4**
	baz=60						
KRUC				*e*Sg	**Sg**	07 52 20.2	**+0.3**
	comp=Z,50nm,0.2s,baz=60						
KRUC	**Moravsky**	**1.59**	**242**	Pn	**Pb**	07 51 58.8	**-0.3**
KRUC				Sn	**Sg**	07 52 20.3	**+0.3**
OSTC	**Ostas**	**1.65**	**297**	*e*PG	**Pb**	07 52 00.0	**-0.1**
OSTC				*e*SG	**Sg**	07 52 22.3	**+0.6**
MODS	**Modra-Piesok**	**1.68**	**210**	*e*PN	**Pn**	07 51 58.7	**-0.8**
MODS				*e*SN	**Sn**	07 52 20.5	**-1.2**
KSP	**Ksiaz**	**1.75**	**306**	*e*Pb	**Pn**	07 52 00.0	**-0.4**
KSP				*e*Pg	**Pg**	07 52 02.2	**-0.1**
KSP				*e*Sg	**Sg**	07 52 25.1	**+0.2**
KSP	**Ksiaz**	**1.75**	**306**	Pn	**Pn**	07 52 00.7	**+0.3**
	comp=Z,0.1nm,SNR=6.7						
UPC	**Upice**	**1.75**	**294**	*e*PG	**Pb**	07 52 01.7	**-0.1**
UPC				*e*SG	**Sg**	07 52 25.3	**+0.4**
	comp=Z,40nm,0.6s						
CHVC	**Chvalec**	**1.75**	**296**	*e*SG	**Sg**	07 52 25.3	**+0.1**
	comp=Z,95nm,1.2s						
STHS	**Stebnicka Huta**	**1.82**	**102**	*e*PN	**Pg**	07 52 04.0	**+0.3**
STHS				*e*SN	**Sg**	07 52 29.0	**+1.8**
KECS	**Kecovo**	**1.87**	**136**	Pn	**Pb**	07 52 02.9	**-0.9**
	comp=Z,1.1nm,SNR=8.7						
KECS				Sn	**Sn**	07 52 26.4	**+0.1**
KECS	**Kecovo**	**1.87**	**136**	*e*PN	**Pn**	07 52 01.5	**-0.6**
KECS				*e*SN	**Sn**	07 52 26.5	**+0.1**
ZST	**Bratislava**	**1.89**	**210**	*e*SN	**Sn**	07 52 26.9	**0.0**
TREC	**Trest**	**2.05**	**256**	Pn	**Pb**	07 52 06.3	**-0.6**
TREC				Sn	**Sg**	07 52 33.9	**-0.7**
PSZ	**Piszkesteto**	**2.12**	**154**	⇑P	**Pn**	07 52 05.7	**0.0**
PSZ				⇓S	**Sb**	07 52 34.8	**-0.3**
PSZ	**Piszkesteto**	**2.12**	**154**	Pn	**Pb**	07 52 08.6	**+0.4**
	comp=Z,0.1nm,SNR=3.4						
CRVS	**Cervenica-Dubn**	**2.14**	**115**	Pg	**Pg**	07 52 09.9	**+0.1**
	SNR=6.2						
CRVS	**Cervenica-Dubn**	**2.14**	**115**	*e*PN	**Pg**	07 52 09.5	**-0.3**
PRU	**Pruhonice**	**2.58**	**275**	*e*PG	**Pb**	07 52 16.5	**+0.6**
PRU				*e*SG	**Sb**	07 52 49.6	**+1.5**
	comp=Z,19nm,0.7s						
CONA	**Conrad Observa**	**2.59**	**224**	*e*Pn	**Pn**	07 52 12.1	**0.0**
	comp=Z,1.0nm,0.2s						
CONA				*e*Sn	**Sn**	07 52 43.7	**-0.7**
	comp=Z,6.4nm,0.3s						
KOLS	**Kolonicke sedl**	**2.61**	**109**	*e*PG	**Pg**	07 52 20.7	**+1.8**
CKRC	**Cesky Krumlov**	**2.94**	**251**	*e*SG	**Sg**	07 53 01.9	**-1.3**
	comp=Z,16nm,0.5s						
ARSA	**Arzberg**	**3.27**	**219**	*i* Pn	**Pg**	07 52 33.2	**+1.8**
	comp=Z,1.7nm,0.2s						
KHC	**Kasperske Hory**	**3.30**	**260**	*e*PN	**Pn**	07 52 22.9	**+1.1**
KHC				*e*PG	**Pg**	07 52 30.3	**-1.8**
KHC				*e*SG	**Sg**	07 53 12.1	**-2.7**
	comp=Z,20nm,0.6s						
CLL	**Collm**	**3.81**	**295**	*e*Pg	**Pg**	07 52 42.0	**+0.1**
CLL				*e*Sg	**Sg**	07 53 31.0	**-0.3**
	comp=Z,16nm,0.9s						
DRGR		**4.13**	**136**	⇓P	**Pn**	07 52 32.9	**-0.3**
DRGR				⇓S	**Sn**	07 53 20.1	**-2.2**
BUR01	**Bucovina Ar. S**	**4.96**	**114**	⇓P	**Pn**	07 52 44.1	**-0.5**
GZR	**Gura Zlata**	**5.29**	**145**	⇓P	**Pn**	07 52 49.3	**+0.1**

IDC 26 07:51:38.4±2.0, 5°16S×125°54E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/37, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=127.6km s-min=27.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.86**	**180**	Pn	Pn	07 54 41.4	-1.1
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**17.00**	**151**	Pn	Pn	07 55 35.7	-2.1
	0.1nm,0.3s,baz=331,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**20.08**	**157**	P	Pn	07 56 15.1	-0.4
	2.0nm,0.8s,baz=334,slow=11,SNR=20						
MKAR	**Makanchi Array**	**64.31**	**329**	P	P	08 02 15.7	-0.1
	0.2nm,0.5s,baz=139,slow=6.8,SNR=3.4						

*JMA **26** 08:13:06.8±0.1, 23°.14N×121°.59E, h41km±4km, M2.9*
*TAP **26** 08:13:06.6, 23°.15N×121°.62E, h41km, ML3.2, D*
ISC 26 08:13:08.1±0.9, 23°.16N±0°.02×121°.58E±0°.02, h35km±5km, n80, σ0°60/147, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.21**	**254**	P	**Pn**	**08 13 15.1**	**+0.4**
	baz=257						
CHKT				*i* S	**Sb**	**08 13 20.4**	**+0.7**
	baz=257						
FULB	**Fuli**	**0.27**	**279**	*i* P	**Pn**	**08 13 15.4**	**-0.2**
	baz=279						
FULB				*i* S	**Sb**	**08 13 21.2**	**+0.3**
	baz=279						
EYUL	**Yuli**	**0.31**	**308**	P	**Pn**	**08 13 16.2**	**0.0**
	baz=305						
EYUL				S	**Sb**	**08 13 23.3**	**+1.7**
	baz=305						
EDH	**Donghe**	**0.32**	**235**	P	**Pn**	**08 13 16.4**	**+0.1**
	baz=238						
EDH				S	**Sb**	**08 13 22.4**	**+0.6**
	baz=238						
TWF1	**Yuli**	**0.33**	**306**	P	**Pb**	**08 13 16.2**	**-0.3**
	baz=304						
TWF1				S	**Sb**	**08 13 22.8**	**+0.7**
	baz=304						
ECS	**Chishang**	**0.34**	**260**	*e*P	**Pb**	**08 13 16.4**	**-0.2**
	baz=261						
ECS				S	**Sb**	**08 13 23.5**	**+1.2**
	baz=261						
YULB	**Yu-li**	**0.35**	**312**	*i* P	**Pb**	**08 13 16.0**	**-0.7**
	baz=309						
YULB				*e*S	**Sb**	**08 13 23.2**	**+0.6**
	baz=309						
HGSD	**Ruisui**	**0.36**	**336**	*e*P	**Pb**	**08 13 16.3**	**-0.6**
	baz=332						
HGSD				*e*S	**Sb**	**08 13 23.4**	**+0.5**
	baz=332						
EHY	**Hungye**	**0.42**	**325**	P	**Pb**	**08 13 16.8**	**-0.9**
	baz=322						
EHY				*e*S	**Sb**	**08 13 24.3**	**0.0**
	baz=322						
LONT	**Longtian**	**0.49**	**239**	P	**Pn**	**08 13 17.8**	**-0.9**
	baz=241						
LONT				*e*S	**Sb**	**08 13 26.0**	**+0.2**
	baz=241						
LDUT	**Ludao**	**0.49**	**192**	*e*P	**Pn**	**08 13 18.0**	**-0.7**
	baz=196						
LDUT				*e*S	**Sb**	**08 13 25.8**	**-0.2**
	baz=196						
ELDTW	**Lidau**	**0.52**	**274**	*e*P	**Pn**	**08 13 18.1**	**-1.1**
	baz=273						
ELDTW				*e*S	**Sn**	**08 13 26.9**	**0.0**
	baz=273						
EGFH	**Guangfu**	**0.53**	**344**	*e*P	**Pn**	**08 13 18.1**	**-1.1**
	baz=341						
EGFH				*e*S	**Sn**	**08 13 26.7**	**-0.3**
	baz=341						
TEGC	**Jichi Village**	**0.55**	**356**	*e*P	**Pn**	**08 13 18.9**	**-0.5**
	baz=353						
TEGC				*e*S	**Sn**	**08 13 27.7**	**+0.2**
	baz=353						
TTN	**Taitung**	**0.57**	**225**	*e*S	**Sb**	**08 13 28.3**	**+0.3**
	baz=227						
TWGBT	**Beinan**	**0.57**	**234**	P	**Pn**	**08 13 18.6**	**-1.2**
	baz=236						
TWGBT				*e*S	**Sn**	**08 13 28.3**	**+0.2**
	baz=236						
TWG	**Pinlang**	**0.58**	**235**	P	**Pn**	**08 13 18.6**	**-1.3**
	baz=236						
TWG				*e*S	**Sn**	**08 13 28.0**	**-0.2**
	baz=236						
ESL	**Shilin**	**0.67**	**348**	*e*P	**Pn**	**08 13 20.5**	**-0.7**
	baz=346						
ESL				*e*S	**Sn**	**08 13 30.4**	**0.0**
	baz=346						
TEYL	**Yanliau Villag**	**0.71**	**1**	*e*P	**Pn**	**08 13 21.4**	**-0.2**
	baz=358						
TEYL				*e*S	**Sb**	**08 13 32.8**	**+1.0**
	baz=358						
STYH	**Taoyuan**	**0.74**	**271**	P	**Pn**	**08 13 21.5**	**-0.7**
	baz=271						
STYH				*e*S	**Sn**	**08 13 32.8**	**+0.6**
	baz=271						
STYT	**Tauyuan**	**0.76**	**271**	*e*P	**Pn**	**08 13 21.4**	**-1.0**
	baz=270						
STYT				*e*S	**Sn**	**08 13 32.8**	**0.0**
	baz=270						
ALS	**Alishan**	**0.80**	**296**	P	**Pn**	**08 13 23.0**	**-0.2**
	baz=295						
ALS				S	**Sn**	**08 13 33.9**	**-0.1**
	baz=295						
ECL	**Taimali**	**0.81**	**226**	*e*P	**Pn**	**08 13 22.4**	**-0.6**
	baz=227						
ECL				*e*S	**Sn**	**08 13 33.8**	**0.0**
	baz=227						
HWA	**Hwalien**	**0.82**	**1**	*e*S	**Sn**	**08 13 33.9**	**-0.1**
	baz=359						
SSLB	**Suanglung**	**0.85**	**317**	P	**Pn**	**08 13 22.9**	**-0.8**
	baz=316						
SSLB				*e*S	**Sn**	**08 13 35.2**	**+0.2**
	baz=316						
OWD	**Renai**	**0.88**	**335**	P	**Pn**	**08 13 23.4**	**-0.8**
	baz=333						
OWD				*e*S	**Sn**	**08 13 36.1**	**+0.3**
	baz=333						
SLGT	**Liugui**	**0.88**	**259**	*e*P	**Pn**	**08 13 23.8**	**-0.2**
	baz=260						
SLGT				*e*S	**Sn**	**08 13 35.4**	**-0.2**
	baz=260						
TPUB	**Ta-pu**	**0.89**	**279**	*e*P	**Pn**	**08 13 24.6**	**+0.4**
	baz=279						
TPUB				S	**Sn**	**08 13 36.5**	**+0.6**
	baz=279						
WTP	**Ta-pu**	**0.90**	**276**	P	**Pn**	**08 13 24.5**	**+0.2**
	baz=275						
WTP				S	**Sn**	**08 13 36.7**	**+0.6**
	baz=275						
TWD	**Chiawan**	**0.92**	**1**	*e*P	**Pn**	**08 13 23.8**	**-0.8**
	baz=359						
TWD				*e*S	**Sn**	**08 13 36.1**	**-0.5**
	baz=359						
SGST	**Jiashian**	**0.92**	**266**	*e*P	**Pn**	**08 13 24.1**	**-0.6**
	baz=265						
SGST				*e*S	**Sn**	**08 13 37.0**	**+0.3**
	baz=265						
CHN4	**Tsaushan**	**0.93**	**282**	P	**Pn**	**08 13 25.3**	**+0.5**
	baz=282						
CHN4				S	**Sb**	**08 13 37.9**	**-0.1**
	baz=282						
CHN5	**Tsauling**	**0.94**	**298**	P	**Pn**	**08 13 25.5**	**+0.6**
	baz=297						
CHN5				S	**Sb**	**08 13 38.3**	**-0.1**
	baz=297						
SMLT	**Sun Moon Lake**	**0.96**	**319**	P	**Pn**	**08 13 25.1**	**-0.1**
	baz=318						
SMLT				S	**Sn**	**08 13 37.3**	**-0.4**
	baz=318						
SSD	**Sandimen**	**0.97**	**245**	*e*P	**Pn**	**08 13 25.2**	**0.0**
	baz=245						
SSD				*e*S	**Sn**	**08 13 38.1**	**+0.4**
	baz=245						
CHN1	**Nanshi**	**0.97**	**272**	*e*P	**Pn**	**08 13 25.2**	**-0.1**
	baz=271						
CHN1				*e*S	**Sn**	**08 13 38.7**	**+0.8**
	baz=271						
CHGB	**Renai**	**0.97**	**337**	P	**Pn**	**08 13 25.0**	**-0.6**
	baz=335						
CHGB				*e*S	**Sn**	**08 13 37.6**	**-0.6**
	baz=335						
TSMG	**Majia**	**0.97**	**243**	*e*P	**Pn**	**08 13 25.3**	**0.0**
	baz=243						
TSMG				*e*S	**Sn**	**08 13 38.6**	**+0.7**
	baz=243						
TYC	**Yuchr**	**1.00**	**318**	P	**Pn**	**08 13 25.8**	**+0.2**
	baz=317						
TYC				S	**Sn**	**08 13 39.1**	**+0.6**
	baz=317						
NACB	**Ninganchiao**	**1.01**	**1**	P	**Pn**	**08 13 24.8**	**-1.0**
	baz=358						
NACB				S	**Sn**	**08 13 38.2**	**-0.7**
	baz=358						
TWK	**Hsinying**	**1.01**	**276**	*e*P	**Pn**	**08 13 25.6**	**-0.3**
	baz=276						
TWK				*e*S	**Sn**	**08 13 39.4**	**+0.4**
	baz=276						
WHF	**Hehuan Shan**	**1.03**	**344**	P	**Pn**	**08 13 25.5**	**-0.9**
	baz=342						
WHF				S	**Sn**	**08 13 38.6**	**-1.2**
	baz=342						
EAST	**Anshuo**	**1.03**	**222**	*e*P	**Pn**	**08 13 25.3**	**-0.8**
	baz=222						
EAST				*e*S	**Sn**	**08 13 38.5**	**-0.8**
	baz=222						
WJS	**Zhushan**	**1.03**	**310**	*e*P	**Pn**	**08 13 25.8**	**-0.3**
	baz=309						
WJS				*e*S	**Sn**	**08 13 40.2**	**+1.0**
	baz=309						
MASBT	**Mashibuluo**	**1.03**	**238**	*e*P	**Pn**	**08 13 25.6**	**-0.5**
	baz=239						
MASBT				*e*S	**Sn**	**08 13 39.9**	**+0.5**
	baz=239						
ETLH	**Xiulin Townshi**	**1.05**	**355**	*e*P	**Pn**	**08 13 25.4**	**-1.1**
	baz=353						
ETLH				*e*S	**Sn**	**08 13 39.2**	**-0.7**
	baz=353						
DPDB	**Guoxing**	**1.06**	**325**	*e*P	**Pn**	**08 13 26.3**	**-0.2**
	baz=324						
DPDB				*e*S	**Sn**	**08 13 40.4**	**+0.3**
	baz=324						
CHN2	**Minshiung**	**1.08**	**290**	*e*S	**Sn**	**08 13 41.4**	**+0.7**
	baz=289						
WCS	**Beigang Elemen**	**1.09**	**326**	*e*P	**Pn**	**08 13 27.2**	**+0.3**
	baz=324						
WCS				*e*S	**Sn**	**08 13 41.3**	**+0.6**
	baz=324						
WNT	**Mingjian**	**1.09**	**311**	*e*P	**Pn**	**08 13 26.6**	**-0.3**
	baz=310						
WDLH	**Douliu**	**1.10**	**299**	*e*P	**Pn**	**08 13 26.8**	**-0.2**
	baz=298						
WDLH				*e*S	**Sn**	**08 13 41.9**	**+0.9**
	baz=298						
CHY	**Chiayi**	**1.12**	**288**	*e*P	**Pn**	**08 13 27.8**	**+0.5**
	baz=287						
CHY				*e*S	**Sb**	**08 13 42.9**	**-0.4**
	baz=287						
TWM1	**Shoushan**	**1.12**	**253**	*e*S	**Sn**	**08 13 41.8**	**+0.2**
	baz=253						
FUSS	**Fushou**	**1.13**	**344**	*e*P	**Pn**	**08 13 27.3**	**-0.4**
	baz=342						
FUSS				*e*S	**Sn**	**08 13 42.0**	**-0.2**
	baz=342						
SSPT	**Xinbi**	**1.15**	**235**	*e*P	**Pn**	**08 13 27.5**	**-0.2**
	baz=235						
TWT	**Tachien**	**1.15**	**341**	*e*S	**Sn**	**08 13 43.0**	**+0.4**
	baz=339						
TDCB	**Techi**	**1.16**	**340**	*e*P	**Pn**	**08 13 28.0**	**0.0**
	baz=338						
TDCB				*e*S	**Sn**	**08 13 42.4**	**-0.3**
	baz=338						
SCZT	**Fangliau**	**1.18**	**229**	*e*P	**Pn**	**08 13 28.0**	**-0.2**
	baz=229						
SCZT				*e*S	**Sn**	**08 13 43.6**	**+0.5**
	baz=229						
SLIU	**Shizi**	**1.18**	**218**	*e*P	**Pn**	**08 13 27.9**	**-0.3**
	baz=219						
SLIU				*e*S	**Sn**	**08 13 43.0**	**-0.1**
	baz=219						
ICHU	**Yijhu**	**1.22**	**280**	*e*P	**Pn**	**08 13 28.6**	**-0.1**
	baz=279						
WHP	**Taichung City**	**1.26**	**332**	*e*P	**Pn**	**08 13 29.0**	**-0.4**
	baz=331						
WHP				*e*S	**Sn**	**08 13 45.9**	**+0.7**
	baz=331						
NNSB	**Datong**	**1.28**	**352**	*e*P	**Pn**	**08 13 29.2**	**-0.5**
	baz=350						
NNSB				*e*S	**Sn**	**08 13 45.5**	**-0.2**
	baz=350						
NNSH	**Datong**	**1.28**	**352**	*e*P	**Pn**	**08 13 29.9**	**+0.2**
	baz=350						
NNSH				*e*S	**Sn**	**08 13 44.9**	**-0.7**
	baz=350						
NNS	**Nan Shan**	**1.29**	**351**	*e*P	**Pn**	**08 13 29.6**	**-0.2**
	baz=350						
NNS				*e*S	**Sn**	**08 13 45.5**	**-0.5**
	baz=350						
EWUT	**Wuta**	**1.29**	**8**	*e*P	**Pn**	**08 13 28.6**	**-1.1**
	baz=6.0						
EWUT				*e*S	**Sn**	**08 13 45.4**	**-0.4**
	baz=6.0						
WCHH	**Zhanghua**	**1.31**	**315**	*e*S	**Sn**	**08 13 47.0**	**+0.7**
	baz=313						
WRL	**Guolierlin Hig**	**1.33**	**304**	*e*S	**Sn**	**08 13 46.9**	**+0.2**
	baz=303						
TWQ1	**Liyutan**	**1.40**	**328**	*e*P	**Pn**	**08 13 31.0**	**-0.2**
	baz=326						
TWQ1				*e*S	**Sn**	**08 13 49.8**	**+1.3**
	baz=326						
TWC	**Suao**	**1.47**	**9**	*e*P	**Pn**	**08 13 32.4**	**+0.3**
	baz=8.0						
TWC				S	**Sn**	**08 13 51.0**	**+0.9**
	baz=8.0						
WDJ	**Dajia District**	**1.47**	**324**	*e*S	**Sn**	**08 13 50.6**	**+0.5**
	baz=323						
ENTT	**Nioudou**	**1.48**	**359**	*e*S	**Sn**	**08 13 50.1**	**-0.2**
	baz=358						
YHNB	**Yeheng**	**1.52**	**353**	P	**Pn**	**08 13 33.4**	**+0.5**
	baz=351						
YHNB				S	**Sn**	**08 13 50.6**	**-0.8**
	baz=351						
NSTT	**Nanjuang**	**1.56**	**340**	*e*P	**Pn**	**08 13 33.2**	**-0.2**
	baz=339						
NSTT				*e*S	**Sn**	**08 13 52.6**	**+0.2**
	baz=339						
NWLT	**Wulai**	**1.61**	**357**	*e*P	**Pn**	**08 13 33.9**	**-0.3**
	baz=356						
NWLT				*e*S	**Sn**	**08 13 54.0**	**+0.2**
	baz=356						
YOJ	**Yonaguni jima**	**1.84**	**45**	P	**Pn**	**08 13 38.2**	**+0.9**
YOJ				*e*S	**Sn**	**08 13 59.7**	**+0.3**
HATJ	**Hateruma jima**	**2.23**	**66**	P	**Pn**	**08 13 43.1**	**+0.6**
HATJ				*e*S	**Sn**	**08 14 09.5**	**+0.7**
IRIF	**Iriomote-Funau**	**2.29**	**59**	P	**Pn**	**08 13 44.4**	**+1.0**
IRIF				S	**Sn**	**08 14 10.7**	**+0.3**
JIJ	**Ishigaki jima**	**2.63**	**62**	P	**Pn**	**08 13 48.5**	**+0.3**
JIJ				*e*S	**Sn**	**08 14 18.7**	**-0.2**
JISG	**Ishigakijimahi**	**2.87**	**60**	P	**Pn**	**08 13 51.5**	**+0.1**
JISG				S	**Sn**	**08 14 24.0**	**-0.8**
JTJ	**Tarama**	**3.21**	**62**	S	**Sn**	**08 14 34.3**	**+1.1**

*INET **26** 08:36:43.3, 14°.37N×92°.24W, h85km, MW3.8*
*NEIC **26** 08:36:44.8±2.5, 14°.26N±0°.05×92°.70W±0°.05, h57km±15km, Error ellipse: s-maj=8.5km s-min=4.3km az=135.0*
*MEX **26** 08:36:45.3±1.5, 14°.34N×92°.52W, h78km±28km, MD4.2*
*UCR **26** 08:36:47.9±1.3, 14°.31N×92°.36W, h70km±12km, ML4.0, mb4.1(NEIC)*
*SNET **26** 08:36:47.7±1.2, 14°.30N×92°.37W, h70km±11km, ML4.3*
*GCG **26** 08:36:47.8±1.4, 13°.57N×92°.20W, h34km±999km, MD4.1*
ISC 26 08:36:42.5±1.6, 14°.15N±0°.09×92°.72W±0°.08, h57km±18km, n77, σ1°86/97, 3C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.87**	**31**	*e*P	**Pn**	**08 36 58.0**	**-0.7**
THIG				*i* S	**Sn**	**08 37 09.2**	**-1.6**
THIG		**0.87**	**31**		**Pn**	**08 36 58.0**	**-0.7**
THIG					**Sn**	**08 37 09.2**	**-1.6**
RTAL	**Retalhuleu**	**1.06**	**70**	*e*P	**Pn**	**08 37 01.7**	**+0.4**
RTAL				*e*S	**Sn**	**08 37 14.7**	**-0.5**
RTAL	**Retalhuleu**	**1.06**	**70**		**Pn**	**08 37 01.9**	**+0.6**
PCIG		**1.61**	**343**	*e*P	**Pn**	**08 37 09.4**	**+0.6**
PCIG				*e*S	**Sn**	**08 37 27.4**	**-1.1**
PCIG		**1.61**	**343**		**Pn**	**08 37 09.4**	**+0.6**
PCIG					**Sn**	**08 37 27.4**	**-1.1**
HUEH	**Huehuetenango**	**1.66**	**45**	*e*P	**Pn**	**08 37 10.6**	**+1.2**
HUEH				*e*S	**Sn**	**08 37 29.8**	**0.0**
HUEH	**Huehuetenango**	**1.66**	**45**		**Pn**	**08 37 10.8**	**+1.4**
FUG	**Fuego 3**	**1.85**	**81**	⇑*e*P	**Pn**	**08 37 13.3**	**+1.2**
FUG				*e*S	**Sn**	**08 37 34.9**	**+0.5**
PCG	**Pacaya**	**2.07**	**83**	⇑*e*P	**Pn**	**08 37 16.6**	**+1.5**
PCG				*e*S	**Sn**	**08 37 34.7**	**-5.2**
CCIG	**Comitan**	**2.19**	**15**	*e*P	**Pn**	**08 37 19.3**	**+2.6**
CCIG				*e*S	**Sn**	**08 37 44.1**	**+1.3**
CCIG	**Comitan**	**2.19**	**15**		**Pn**	**08 37 19.3**	**+2.6**
CCIG					**Sn**	**08 37 44.1**	**+1.3**
NBG	**Las Nubes**	**2.34**	**79**	⇑*e*P	**Pn**	**08 37 22.0**	**+3.1**
NBG				*e*S	**Sn**	**08 37 46.7**	**0.0**
TGIG		**2.64**	**352**	*e*P	**Pn**	**08 37 24.1**	**+1.3**
TGIG				*e*S	**Sn**	**08 37 54.0**	**+0.4**
TGIG		**2.64**	**352**		**Pn**	**08 37 24.1**	**+1.3**
TGIG					**Sn**	**08 37 54.0**	**+0.4**
RTR	**El Retiro**	**3.00**	**94**	*e*P	**Pn**	**08 37 30.1**	**+2.4**
RTR	**El Retiro**	**3.00**	**94**	*e*P	**Pn**	**08 37 30.1**	**+2.4**
CEVE	**Cerro Verde**	**3.03**	**96**	*e*P	**Pn**	**08 37 29.8**	**+1.5**
CEVE				*e*S	**Sn**	**08 38 03.5**	**+0.1**
CEVE				IAML		08 38 09.9	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**3.03**	**96**	*e*P	**Pn**	**08 37 29.8**	**+1.5**
CEVE				*e*S	**Sn**	**08 38 03.5**	**+0.1**
CEVE				IAML		08 38 09.9	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**3.04**	**95**	*e*P	**Pn**	**08 37 30.3**	**+1.9**
SNJE	**San Jose**	**3.04**	**95**	*e*P	**Pn**	**08 37 30.3**	**+1.9**
JAYA	**Jayaque - finc**	**3.22**	**98**	*e*P	**Pn**	**08 37 31.7**	**+0.9**
JAYA	**Jayaque - finc**	**3.22**	**98**	*e*P	**Pn**	**08 37 31.7**	**+0.9**
CEDA	**San Andres**	**3.25**	**96**	*e*S	**Sn**	**08 38 06.9**	**-1.7**
CEDA	**San Andres**	**3.25**	**96**	*e*S	**Sn**	**08 38 06.9**	**-1.7**
MTO3	**Montecristo**	**3.27**	**85**	*e*P	**Pn**	**08 37 32.9**	**+1.4**
MTO3	**Montecristo**	**3.27**	**85**	*e*P	**Pn**	**08 37 32.9**	**+1.4**
MTO3	**Montecristo**	**3.27**	**85**		**Pn**	**08 37 32.9**	**+1.4**
ESQI	**Esquipulas**	**3.30**	**83**	*e*P	**Pn**	**08 37 33.5**	**+1.6**
ESQI	**Esquipulas**	**3.30**	**83**		**Pn**	**08 37 33.8**	**+1.9**
BOQS	**Boqueron**	**3.37**	**97**	*e*P	**Pn**	**08 37 34.6**	**+1.7**
BOQS	**Boqueron**	**3.37**	**97**	*e*P	**Pn**	**08 37 34.6**	**+1.7**
SNET	**Serv Nac Est T**	**3.42**	**97**	*e*P	**Pn**	**08 37 35.2**	**+1.7**
SNET				*e*S	**Sn**	**08 38 11.6**	**-1.3**
SNET	**Serv Nac Est T**	**3.42**	**97**	*e*P	**Pn**	**08 37 35.2**	**+1.7**
SNET				*e*S	**Sn**	**08 38 11.6**	**-1.3**
SNET	**Serv Nac Est T**	**3.42**	**97**		**Pn**	**08 37 35.6**	**+2.1**
CMIG	**Matias Romero**	**3.59**	**325**	*e*P	**Pn**	**08 37 38.1**	**+2.4**
CMIG				*i* S	**Sn**	**08 38 13.9**	**-2.9**
CMIG	**Matias Romero**	**3.59**	**325**		**Pn**	**08 37 38.1**	**+2.4**
LFRS	**El Faro**	**3.59**	**98**	*e*P	**Pn**	**08 37 37.9**	**+2.0**
LFRS	**El Faro**	**3.59**	**98**	*e*P	**Pn**	**08 37 37.9**	**+2.0**
HUIG	**Huatulco**	**3.64**	**297**	*i* P	Pn	08 37 39.1	+2.7
HUIG				*e*S	Sn	08 38 16.8	-1.4
HUIG	**Huatulco**	**3.64**	**297**		Pn	08 37 39.1	+2.7
SJTE	**Alcalda de S**	**3.65**	**98**	*e*P	**

comp=Z,14nm,1.1s

TX32	**Lajitas Array**	**18.19**	**328**	P	**P**	**08 40 51.5**	**+0.7**
154A	**Montrose**	**20.36**	**24**	P	**P**	**08 41 12.4**	**-2.0**
W45A	**Hickory Valley**	**21.16**	**8**	P	**P**	**08 41 19.8**	**-3.2**
W45A				IAmb	IAmb	08 41 41.8	

comp=Z,17nm,0.8s

FPAL	**Fort Paine**	**21.29**	**16**	P	**P**	**08 41 21.7**	**-2.8**
FPAL				IAmb	IAmb	08 41 41.9	

comp=Z,7.2nm,1.0s

UPP ***26*** *08:47:52.5±2.2, 65°.10N×25°.65E, h1km, ML2.1, Suspected explosion*

HEL 26 08:47:52.7±0.0, 65°.10N×25°.64E, h0km, ML1.6, ML2.1(UPP), Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OUF	**Merijarvi**	**0.83**	**208**	*e*P		Pg	08 48 07.9	-0.7
	baz=29							
OUF				*e*SB		Sg	08 48 19.3	-0.1
OBF0	**Syolatti, Pyha**	**0.85**	**225**	*e*PB		Pg	08 48 08.5	-0.5
	baz=40							
OBF0				*e*SB		Sg	08 48 20.2	+0.2
TOF	**Tornio**	**1.12**	**331**	*e*P		Pg	08 48 12.7	-1.6
	baz=155							
TOF				MSG			08 48 26.3	
	comp=Z,4.5nm,0.2s							
TOF				*e*S		Sg	08 48 26.6	-2.2
RNF	**Rovaniemi**	**1.52**	**6**	*e*PG		Pn	08 48 20.4	-0.7
RNF				*e*SB		Sg	08 48 40.0	-1.5
MSF	**Maaselka**	**1.63**	**59**	*e*PN		Pn	08 48 22.2	-0.4
	baz=245							
MSF				*e*SG		Sn	08 48 43.0	-1.4
SJUU	**Sjulsmark**	**1.74**	**285**	P		Pn	08 48 24.2	0.0
SJUU				S		Sn	08 48 47.4	+0.4
SJUU	**Sjulsmark**	**1.74**	**285**	*e*P		Pn	08 48 24.2	0.0
SJUU				*e*S		Sn	08 48 47.4	+0.4
BURU	**Burvik**	**1.90**	**256**	P		Pn	08 48 26.0	-0.3
BURU				S		Sb	08 48 51.6	-0.7
BURU	**Burvik**	**1.90**	**256**	*e*P		Pn	08 48 26.0	-0.3
BURU				*e*S		Sb	08 48 51.6	-0.7
OLKF	**Oulanka, Finla**	**1.98**	**50**	*e*PG		Pn	08 48 28.2	+0.8
	baz=236							
OLKF				*e*SG		Sn	08 48 53.5	+0.7
KU6	**Riekki**	**2.00**	**60**	*e*PG		Pn	08 48 28.3	+0.7
KU6				MSG			08 48 52.0	
	comp=Z,3.7nm,0.2s							
KU6				*e*SG		Sn	08 48 53.9	+0.6
PAJU	**Pajala**	**2.19**	**333**	*e*PG		Pb	08 48 32.0	-1.1
PAJU				*e*SB		Sn	08 48 58.6	+0.5
ODEU	**Stanfors**	**2.22**	**254**	P		Pn	08 48 30.8	0.0
ODEU	**Stanfors**	**2.22**	**254**	*e*P		Pn	08 48 30.8	0.0
KLF	**Kolari**	**2.25**	**343**	*e*P		Pn	08 48 31.2	+0.1
KLF				*e*S		Sn	08 48 59.3	-0.2
SUF	**Sumiainen**	**2.40**	**174**	*e*PB		Pn	08 48 34.8	+1.6
	baz=350							
SUF				MSG			08 49 03.9	
	comp=Z,1.9nm,0.2s							
SUF				*e*SG		Sb	08 49 06.4	-0.5
VAF	**Ylistaro**	**2.44**	**214**	*e*PG		Pb	08 48 38.1	+0.7
VAF				MSG			08 49 04.9	
	comp=Z,2.4nm,0.2s							
VAF				*e*SG		Sb	08 49 07.9	-0.2
LILU	**Lilltraesk**	**2.45**	**277**	P		Pn	08 48 33.8	-0.1
LILU	**Lilltraesk**	**2.45**	**277**	*e*P		Pn	08 48 33.8	-0.1
UMAU	**Umeaa**	**2.47**	**243**	*e*PG		Pb	08 48 36.6	-1.3
UMAU				*e*SG		Sb	08 49 08.1	-0.7
SVAU	**Svanoeiden**	**2.67**	**260**	P		Pn	08 48 37.0	+0.1
SVAU	**Svanoeiden**	**2.67**	**260**	*e*P		Pn	08 48 37.0	+0.1
KAF	**Kangasniemi**	**3.02**	**174**	*e*SB		Sb	08 49 23.9	-0.6
JOF	**Joensuu**	**3.32**	**129**	*e*SB		Sb	08 49 31.4	-1.9
HEF	**Hetta**	**3.41**	**348**	*e*SB		Sb	08 49 34.1	-1.8
FIA0	**FINESS Array S**	**3.68**	**177**	*e*PB		Sb	08 48 54.9	-3.5
FIA0				*e*SB		Sn	08 49 38.7	+4.0
HEMU	**Hemsoen**	**4.15**	**238**	*e*S		Sn	08 49 44.9	-1.4
ARA0	**ARCESS Array S**	**4.46**	**359**	*e*P		Pn	08 49 01.1	-0.3
	baz=175							

BER 26 08:48:44.3±1.2, 66°.63N×13°.43E, h2km±4km, ML1.3, 2C-2D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NBB13	**Alf Garage**	**0.04**	**264**	⇑*i*P		Pg	08 48 44.8	-0.3
NBB13				*e*S		Sg	08 48 45.5	-0.2
NBB13				IAML			08 48 45.7	
	comp=Z,1μm,0.2s							
NBB15	**Halsa Church**	**0.13**	**28**	⇓*i*P		Pg	08 48 46.3	-0.4
NBB15				*e*S		Sg	08 48 48.0	-0.4
NBB15				IAML			08 48 48.3	
	comp=Z,69nm,0.4s							
KONS	**Konsvik**	**0.18**	**223**	⇑*i*P		Pg	08 48 47.5	-0.2
KONS				*e*S		Sg	08 48 50.2	0.0
KONS				IAML			08 48 50.7	
	comp=Z,45nm,0.3s							
NBB40	**Tonnes**	**0.21**	**235**	*e*P		Pg	08 48 47.9	-0.3
NBB40				*e*S		Sg	08 48 50.7	-0.2
NBB40				IAML			08 48 52.1	
	comp=Z,69nm,0.2s							
NBB17	**Glomfjord BÝr**	**0.28**	**48**	*e*P		Pg	08 48 49.5	-0.2
NBB17	**Glomfjord BÝr**	**0.28**	**48**	*e*S		Sg	08 48 53.2	0.0
NBB17				IAML			08 48 53.7	
	comp=Z,72nm,0.2s							
NBB14	**Nordeng Farm**	**0.33**	**187**	*e*P		Pg	08 48 50.4	-0.2
NBB14	**Nordeng Farm**	**0.33**	**187**	*e*S		Sg	08 48 54.9	0.0
NBB14				IAML			08 48 55.6	
	comp=Z,40nm,0.3s							
STOK	**Stokkvaagen**	**0.34**	**209**	*e*P		Pg	08 48 50.5	-0.3
STOK				*e*S		Sg	08 48 55.4	+0.1
NBB30	**Finnes**	**0.36**	**19**	⇓*i*P		Pg	08 48 50.6	-0.7
NBB30				*e*S		Sg	08 48 55.2	-0.8
NBB30				IAML			08 48 56.0	
	comp=Z,21nm,0.2s							
NBB05	**Inndyr**	**0.47**	**30**	*e*P		Pg	08 48 52.7	-0.6
NBB05				*e*S		Sg	08 48 59.7	+0.3
NBB05				IAML			08 49 00.1	
	comp=Z,49nm,0.3s							
MOR8	**Moi Rana**	**0.62**	**138**	*e*P		Pg	08 48 55.2	-0.9
MOR8				*e*S		Sg	08 49 03.1	-1.0
MOR8				IAML			08 49 05.4	
	comp=Z,9.6nm,0.3s							
NBB28	**Valnes**	**0.69**	**35**	*e*P		Pg	08 48 56.6	-1.0
NBB28				*e*S		Sg	08 49 06.0	-0.5
NBB28				IAML			08 49 07.9	
	comp=Z,14nm,0.3s							
NBB03	**Karbol**	**0.77**	**51**	IAML			08 49 09.6	
	comp=Z,11nm,0.2s							
NBB08	**Skaug oppvekst**	**0.89**	**31**	*e*P		Pg	08 49 00.4	-1.0
NBB08	**Skaug oppvekst**	**0.89**	**31**	*e*S		Sg	08 49 12.3	-0.6
NBB08				IAML			08 49 28.1	
	comp=Z,29nm,0.1s							
N2RO	**R¸st**	**1.03**	**331**	*e*P		Pg	08 49 02.5	-1.5
N2RO				*e*S		Sg	08 49 16.6	-0.6
N2RO				IAML			08 49 18.7	
	comp=Z,6.6nm,0.7s							
FAUS	**Fauske**	**1.05**	**43**	*e*P		Pg	08 49 02.6	-1.8
FAUS				*e*S		Sg	08 49 16.8	-1.2
FAUS				IAML			08 49 23.1	
	comp=Z,6.7nm,0.5s							
N2VA	**Vr¸y**	**1.08**	**345**	*e*P		Pg	08 49 03.0	-1.9
N2VA				*e*S		Sg	08 49 18.5	-0.3
N2VA				IAML			08 49 26.0	
	comp=Z,4.4nm,0.6s							
N2TV	**TÝrnvik**	**1.15**	**34**	*e*P		Pg	08 49 04.7	-1.6
N2TV				*e*S		Sg	08 49 20.5	-0.7
N2TV				IAML			08 49 27.2	
	comp=Z,12nm,0.4s							
N2SV	**S¸rvÅgen**	**1.28**	**353**	*e*P		Pg	08 49 06.5	-2.3
N2SV				*e*S		Sg	08 49 22.6	-2.6
N2SV				IAML			08 49 25.8	
	comp=Z,5.8nm,1.0s							
N2NF	**Nordfold**	**1.33**	**31**	*e*P		Pg	08 49 08.6	-1.2
N2NF				*e*S		Sg	08 49 26.0	-1.0
N2NF				IAML			08 49 29.7	
	comp=Z,7.6nm,0.3s							
STEI	**Steigen**	**1.48**	**28**	*e*Pg		Pn	08 49 10.7	-1.3
STEI				*e*Sg		Sb	08 49 30.0	-1.8
STEI				IAML			08 49 34.3	
	comp=Z,3.4nm,0.3s							
LOF	**Lofoten**	**1.51**	**2**	*e*Pg		Pn	08 49 11.2	-1.2
LOF				*e*S		Sb	08 49 29.2	-3.3
LOF				*e*Sg		Sn	08 49 31.7	-0.8
LOF				IAML			08 49 34.0	
	comp=Z,3.4nm,0.2s							
N2IH	**Innhavet**	**1.66**	**35**	*e*P		Pn	08 49 13.4	-1.0
N2IH				*e*Sg		Sn	08 49 36.4	+0.2
N2IH				IAML			08 49 40.2	
	comp=Z,8.2nm,0.3s							
N2HS	**Hamsund**	**1.68**	**28**	*e*Pg		Pn	08 49 14.3	-0.4
N2HS				*e*Sg		Sn	08 49 37.2	+0.3
N2HS				IAML			08 49 41.0	
	comp=Z,8.2nm,0.3s							
N2VI	**Vinje**	**1.72**	**10**	*e*Sg		Sb	08 49 38.8	+0.1
N2DI	**Digermulen**	**1.79**	**19**	*e*Pg		Pn	08 49 16.4	+0.1
N2DI				*e*Sg		Sb	08 49 40.7	0.0
N2DI				IAML			08 49 44.7	
	comp=Z,4.8nm,0.6s							
N2LO	**L¸dingen**	**2.02**	**27**	*e*Pg		Pn	08 49 19.9	+0.4
N2LO				*e*Sg		Sb	08 49 46.5	-0.9
N2LO				IAML			08 49 52.6	
	comp=Z,3.9nm,0.2s							
NSS	**Namsos**	**2.20**	**197**	*e*Pg		Pn	08 49 23.1	+1.3
NSS				*e*Sg		Sb	08 49 53.3	+1.0
NSS				IAML			08 49 56.3	
	comp=Z,3.3nm,0.4s							

BJI ***26*** *08:50:09.8±0.0, 0°.29N×121°.92E, h132km, mB4.8/18, mb4.8/35*

NEIC ***26*** *08:50:11.1±2.5, 0°.66N±0°.08×121°.72E±0°.08, h115km±6km, mb4.7/25, Error ellipse: s-maj=13.4km s-min=8.3km az=221.0*

DJA ***26*** *08:50:11.1±0.2, 1°.N±2°×12°.2E±°, h101km±2km, M4.7/23, mB5.2/4, mb4.8/23, MLv4.7/17, Mw(mB)4.5/4*

KLM ***26*** *08:50:12, 0°.54N×121°.63E, h97km, mb4.7*

IDC ***26*** *08:50:13.3±3.1, 0°.42N×121°.68E, h138km±28km, mb4.0/13, mb1 4.2/15, mb1mx3.8/55, mbtmp4.4/15, MS3.4/5, Ms1 3.5/5, ms1mx2.9/45, Error ellipse: s-maj=30.4km s-min=11.5km az=64.0*

ISC 26 08:50:10.9±0.5, 0°.56N±0°.04×121°.70E±0°.04, h113km±5km, n93, σ1§89/111, mb4.6/33, 2C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**0.25**	**109**	P		**Pn**	**08 50 26.4**	**-0.4**
MRSI				S		**Sn**	**08 50 38.1**	**-0.7**
TOLI2	**Tolitoli**	**1.07**	**301**	Pn		**Pn**	**08 50 32.4**	**-0.7**
GTOI	**Gorontalo**	**1.31**	**87**	P		**Pn**	**08 50 35.7**	**0.0**
GTOI				S		**Sn**	**08 50 54.5**	**0.0**
APSI	**Ampana**	**1.46**	**182**	P		**Pn**	**08 50 38.1**	**+0.6**
APSI				S		**Sn**	**08 51 01.6**	**+3.9**
MPSI	**Mapaga**	**1.82**	**263**	P		**Pn**	**08 50 41.5**	**-0.3**
MPSI				S		**Sn**	**08 51 03.6**	**-1.7**
LUWI	**Luwuk**	**1.92**	**146**	Pn		**Pn**	**08 50 44.4**	**+1.4**
LUWI	**Luwuk**	**1.92**	**146**	P		**Pn**	**08 50 44.2**	**+1.2**
LUWI				S		**Sn**	**08 51 11.6**	**+4.1**
KMSI	**Cibinong**	**2.28**	**90**	P		**Pn**	**08 50 50.3**	**+2.7**
KMSI				S		**Sn**	**08 51 17.2**	**+1.5**
MNI	**Manado**	**3.26**	**74**	P		**Pn**	**08 51 00.8**	**+0.4**
MNI				S		**Sn**	**08 51 36.6**	**-2.1**
TTSI	**Tana Toraja**	**4.05**	**208**	P		**Pn**	**08 51 11.3**	**+0.3**
TTSI				S		**Sn**	**08 51 55.1**	**-2.4**
SGKI	**Sangatta, Kali**	**4.24**	**255**	P		**Pn**	**08 51 11.7**	**-1.9**
SGKI				S		**Sn**	**08 51 55.6**	**-6.6**
KKSI	**Kolaka, Sulawe**	**4.70**	**181**	P		**Pn**	**08 51 20.4**	**+0.6**
KKSI				S		**Sn**	**08 52 10.8**	**-2.5**
PMSI	**Majene**	**4.90**	**215**	P		**Pn**	**08 51 23.5**	**+1.0**
SGSI	**Sangihe**	**4.92**	**51**	P		**Pn**	**08 51 25.2**	**+2.4**
SGSI				S		**Sn**	**08 52 17.8**	**-0.9**
SANI	**Sanana**	**5.01**	**121**	P		**Pn**	**08 51 23.1**	**-0.8**
	0.9nm2μm36nm,0.8s							
BKB	**Balikpapan**	**5.14**	**249**	Pn		**Pn**	**08 51 24.9**	**-0.8**
BNSI	**Bone**	**5.18**	**198**	P		**Pn**	**08 51 29.3**	**+3.1**
	0.4nm1μm142nm,0.7s							
TNTI	**Ternate**	**5.67**	**88**	Pn		**Pn**	**08 51 32.1**	**-0.7**
KAPI	**Kappang**	**5.87**	**199**	P		**Pn**	**08 51 36.6**	**+1.0**
	3.9nm,0.3s,baz=31,slow=12,SNR=9.1							
KAPI				S		**Sn**	**08 52 40.1**	**-1.5**
	1.3nm,0.3s,baz=177,slow=23,SNR=1.3							
KAPI				LR		LR	08 54 19.5	
	comp=Z,136nm,19.4s,baz=352,slow=43							
KAPI	**Kappang**	**5.87**	**199**	P		**Pn**	**08 51 36.4**	**+0.8**
	0.2nm32nm,0.9s							
LBMI	**Labuha**	**5.92**	**102**	P		**Pn**	**08 51 37.0**	**+0.8**
	2.8nm142nm,0.8s							
LBMI				S		**Sn**	**08 52 40.4**	**-2.4**
	2.8nm142nm,0.8s							
GAMI	**Galela, Maluku**	**6.21**	**78**	P		**Pn**	**08 51 39.7**	**-0.5**
	0.3nm45nm,0.6s							
NLAI	**Namlea**	**6.58**	**125**	P		**Pn**	**08 51 46.0**	**+0.8**
	0.7nm3μm76nm,0.7s							
NLAI				S		**Sn**	**08 52 55.6**	**-3.3**
	0.7nm3μm76nm,0.7s							
SPMM	**Sapulut**	**6.66**	**308**	P		**Pn**	**08 51 47.0**	**+0.7**
DAV	**Davao City (W)**	**7.53**	**31**	S		**Sn**	**08 53 24.8**	**+2.8**
	55nm,0.3s,baz=175,slow=19,SNR=1.9							
KRAI	**Karang Ratu**	**7.72**	**120**	P		**Pn**	**08 52 01.9**	**+1.3**
	0.3nm26nm,0.6s							
EDFI	**Ende, Flores**	**9.25**	**180**	P		**Pn**	**08 52 22.2**	**+0.7**
	20nm,0.6s							
SBUM	**Sibu**	**9.66**	**281**	P		**Pn**	**08 52 28.0**	**+1.0**
FAKI	**Fak Fak**	**11.09**	**108**	Pn		**Pn**	**08 52 45.9**	**-0.4**
MTN	**Manton Dam**	**16.27**	**145**	P		**P**	**08 53 54.5**	**+0.6**
MTN				IAmb		IAmb	08 53 57.6	
	comp=Z,34nm,0.6s							
KNRA	**Kununurra**	**17.57**	**157**			**Pn**	**08 54 09.4**	**+0.6**
KNRA				IAmb		IAmb	08 54 11.0	
	comp=Z,35nm,0.6s							
MDSI	**Maura Dua**	**18.21**	**254**	P		**Pn**	**08 54 23.5**	**+6.9**
FITZ	**Fitzroy Crossi**	**18.94**	**168**	P		**P**	**08 54 23.2**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=8.7,slow=7.0,SNR=43							
FITZ	**Fitzroy Crossi**	**18.94**	**168**	P		**P**	**08 54 23.5**	**+0.2**
FITZ				IAmb		IAmb	08 54 24.1	
	comp=Z,27nm,1.1s							
QIZ	**Qiongzhong**	**21.73**	**328**	P		**P**	**08 54 54.5**	**+1.2**
QIZ				S		**S**	**08 58 48.3**	**+1.2**
QIZ				L		L		
	comp=Z,170nm,11.8s							
QIZ				L		L		
	comp=Z,140nm,11.8s							
SKLT	**Songkhla**	**22.03**	**288**	P		**P**	**08 54 57.4**	**+0.9**
	comp=Z,24nm,1.1s							
YULB	**Yu-li**	**22.70**	**359**	P		**P**	**08 55 02.2**	**-1.0**
WB0	**Warramunga Arr**	**23.73**	**149**	P		**P**	**08 55 11.8**	**-1.0**
WRAB	**Tennant Creek**	**23.84**	**149**	P		**P**	**08 55 13.3**	**-0.6**
WRA	**Warramunga Arr**	**23.84**	**149**	P		**P**	**08 55 12.5**	**-1.4**
	comp=Z,48nm,0.5s,baz=325,slow=11,SNR=506							
WRA				LR		LR	09 05 50.6	
	comp=Z,86nm,19.2s,baz=250,slow=40							
WRA	**Warramunga Arr**	**23.84**	**149**	P		**P**	**08 55 13.0**	**-0.9**
GSI	**Gunungsitoli**	**24.14**	**272**	P		**P**	**08 55 16.8**	**+0.2**
GSI				IAmb		IAmb	08 55 44.0	
	comp=Z,18nm,0.7s							
GSI	**Gunungsitoli**	**24.14**	**272**	P		**P**	**08 55 16.3**	**-0.3**
	comp=Z,28nm,0.8s							
GIRL	**Giralia**	**24.18**	**197**	P		**P**	**08 55 17.3**	**+0.4**
CHAI	**Chaiyaphum**	**24.72**	**309**	P		**P**	**08 55 24.1**	**+2.3**
	comp=Z,733nmcomp=Z,98nm,0.8s							
NONG	**Nongkai**	**25.20**	**315**	P		**P**	**08 55 28.3**	**+2.0**
	comp=Z,19nm,0.8s							
LOEI	**Loei**	**26.23**	**311**	P		**P**	**08 55 34.7**	**-0.9**
	comp=Z,50nm,1.0s							
PHIT	**Phitsanulok**	**26.69**	**309**	P		**P**	**08 55 44.3**	**+4.7**
	comp=Z,48nm,0.9s							
AS31	**Alice Springs**	**26.84**	**155**	P		**P**	**08 55 41.0**	**0.0**
ASAR	**Alice Springs**	**26.84**	**155**	P		**P**	**08 55 40.4**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=340,slow=10,SNR=72							
ASAR				pP		**pP**	**08 56 05.3**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=331,slow=8.5,SNR=4.3							
ASAR				PcP		**PcP**	**08 59 00.0**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=350,slow=2.1,SNR=5.4							
ASAR	**Alice Springs**	**26.84**	**155**	P		**P**	**08 55 41.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**28.56**	**310**	P		**P**	**08 55 58.8**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=125,slow=7.8,SNR=1.5							
CMAR				LR		LR	09 08 01.6	
	comp=Z,88nm,21.7s,baz=228,slow=37							
CMAR	**Chiang Mai Arr**	**28.56**	**310**	P		**P**	**08 55 56.7**	**+0.3**
CHTO	**Chiang Mai**	**28.77**	**310**	P		**P**	**08 56 00.8**	**+2.5**
	comp=Z,15nm,1.1s							
CHTO	**Chiang Mai**	**28.77**	**310**	P		**P**	**08 55 58.9**	**+0.6**
	comp=Z,8.3nm,1.1s							
MORW	**Morawa**	**29.95**	**190**	P		**P**	**08 56 07.4**	**-1.1**
MORW				IAmb		IAmb	08 56 09.0	
	comp=Z,28nm,1.1s							
KMI	**Kunming**	**30.53**	**325**	⇑P		**P**	**08 56 16.8**	**+2.8**
KMI				pmax		pmax		
	comp=Z,19nm,0.8s							
NJ2	**Nanjing**	**31.44**	**355**	*e*P		**P**	**08 56 23.0**	**+1.4**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
CTA	**Charters Tower**	**31.61**	**132**	P		**P**	**08 56 22.4**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=322,slow=10,SNR=4.2							
FORT	**Forrest**	**31.75**	**170**	P		**P**	**08 56 23.6**	**-0.7**
FORT				IAmb		IAmb	08 56 25.5	
	comp=Z,21nm,0.8s							
NWAO	**Narrogin (SRO)**	**33.57**	**187**	P		**P**	**08 56 39.0**	**-1.3**
	comp=Z,11nm,0.8s,baz=18,slow=7.1,SNR=3.9							
NWAO	**Narrogin (SRO)**	**33.57**	**187**	P		**P**	**08 56 39.4**	**-0.8**
NWAO				IAmb		IAmb	08 56 55.8	
	comp=Z,27nm,1.4s							
XAN	**Xi'an**	**35.40**	**342**	P		**P**	**08 56 58.5**	**+2.5**
XAN				pmax		pmax		
	comp=Z,4.0nm,1.4s							
BBOO	**Buckleboo**	**35.85**	**159**	P		**P**	**08 56 58.9**	**-1.0**
BBOO				IAmb		IAmb	08 56 59.5	
	comp=Z,12nm,0.8s							
STKA	**Stephens Creek**	**37.36**	**152**	P		**P**	**08 57 12.4**	**-0.2**
	comp=Z,13nm,0.7s,baz=326,slow=9.5,SNR=33							
STKA	**Stephens Creek**	**37.36**	**152**	P		**P**	**08 57 12.4**	**-0.2**
STKA				IAmb		IAmb	08 57 14.0	
	comp=Z,4.4nm,0.9s							
HHC	**Hu-ho-hao-te**	**41.15**	**348**	*e*P		**P**	**08 57 45.8**	**+1.6**
HHC				S		**S**	**09 03 44.8**	**-4.3**
HHC				pmax		pmax		
	comp=Z,28nm,1.0s							
HHC				pmax		pmax		
	comp=Z,77nm,5.2s							
BTO	**Baotou**	**41.25**	**346**	*e*P		**P**	**08 57 48.8**	**+3.8**
BTO				L		L		
	comp=Z,310nm,10.6s							
BTO				L		L		
	comp=Z,240nm,8.6s							
BTO				L		L		
	comp=Z,250nm,12.4s							
ARMA	**Armidale**	**41.95**	**140**	P		**P**	**08 57 52.3**	**+1.4**
ARMA				IAmb		IAmb	08 57 53.1	
	comp=Z,15nm,0.8s							
GTA	**Gaotai**	**43.53**	**335**	⇑P		**P**	**08 58 05.8**	**+2.2**
GTA				pP		pP	08 58 31.8	+2.2
GTA				sP		sP	08 58 45.8	+3.4
GTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
TOO	**Toolangi**	**43.85**	**152**	P		**P**	**08 58 06.9**	**+0.8**
CAN	**Canberra**	**43.86**	**147**	P		**P**	**08 58 07.4**	**+1.3**
SONM	**Songino Array**	**48.93**	**346**	P		**P**	**08 58 46.5**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=167,slow=11,SNR=6.6							
WMQ	**Urumqi**	**52.65**	**329**	*e*P		**P**	**08 59 16.3**	**+2.7**
KSH	**Kashi**	**56.90**	**319**	P		**P**	**08 59 46.5**	**+2.1**
KSH				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KSH				pmax		pmax		
	comp=Z,110nm,5.0s							
MK31	**Makanchi Array**	**57.46**	**329**	P		**P**	**08 59 47.0**	**-1.1**
MK31				IAmb		IAmb	08 59 51.5	
	comp=Z,3.3nm,0.6s							
MKAR	**Makanchi Array**	**57.46**	**329**	P		**P**	**08 59 49.2**	**+1.1**
	comp=Z,4.1nm,0.4s,baz=130,slow=8.1,SNR=48							
MKAR				pP		**pP**	**09 00 15.7**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=137,slow=9.1,SNR=6.2							
MKAR	**Makanchi Array**	**57.46**	**329**	P		**P**	**08 59 48.7**	**+0.6**
MAKZ	**Makanchi**	**57.63**	**329**	P		**P**	**08 59 49.3**	**0.0**
MAKZ				IAmb		IAmb	08 59 52.5	
	comp=Z,3.8nm,0.6s							
KBL	**Kabul**	**59.59**	**310**	P		**P**	**09 00 03.9**	**+0.5**
PETK	**Petropavlovsk-**	**60.30**	**24**	pP		pP	09 00 35.0	-0.1
	comp=Z,2.9nm,0.8s,baz=202,slow=6.4,SNR=5.6							
ZALV	**Zalesovo Beam**	**61.28**	**336**	P		**P**	**09 00 14.0**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=116,slow=8.2,SNR=7.2							
ABKAR	**Akbulak array**	**71.50**	**323**	P		**P**	**09 01 19.0**	**-0.4**
ABKAR	**Akbulak array**	**71.50**	**323**	P		**P**	**09 01 19.9**	**+0.5**
ABKAR				IAmb		IAmb	09 01 20.9	
	comp=Z,2.5nm,0.8s							
AKTO	**Aktyubinsk**	**73.09**	**323**	LR		LR	09 36 32.3	
	comp=Z,32nm,20.4s,baz=152,slow=38							
MAW	**Mawson**	**79.08**	**200**	P		**P**	**09 02 00.7**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=76,slow=9.1,SNR=3.8							
VNDA	**Vanda**	**80.98**	**172**	P		**P**	**09 02 11.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=313,slow=6.3,SNR=22							
VNDA				LR		LR	09 35 34.1	
	comp=Z,40nm,21.9s,baz=339,slow=34							
VNDA	**Vanda**	**80.98**	**172**	P		**P**	**09 02 11.8**	**-0.7**
KLMR	**Klimovskoe**	**85.70**	**331**	*e*P		**P**	**09 02 34.7**	**-2.3**
KLMR				AMP			09 02 36.9	
	comp=Z,5.0nm,0.6s							
KLMR				*e*pP

RAFF AML AML
comp=E,2655μm,1.1s
RAFF AML AML
comp=N,2210μm,1.5s
ALJA Alia 1.76 27 P **Pn** 08 51 42.3 +0.7
ALJA AML AML
comp=E,1157μm,0.6s
ALJA AML AML
comp=N,1300μm,0.6s
ALJA AML AML
comp=E,1500μm,0.9s
ALJA AML AML
comp=N,1785μm,1.0s
CORL Corleone 1.77 15 P **Pn** 08 51 41.3 -0.4
CORL AML AML
comp=E,2385μm,0.5s
CORL AML AML
comp=N,2440μm,0.7s
RESU Resuttano 1.80 35 P **Pb** 08 51 44.1 -0.2
RESU AML AML
comp=E,1034μm,0.9s
RESU AML AML
comp=N,1265μm,1.1s
HMDC Modica 1.81 64 P **Pn** 08 51 41.8 -0.5
HMDC S **Sn** 08 52 05.1 0.0
HMDC AML AML
comp=E,1415μm,1.0s
HMDC AML AML
comp=N,1790μm,1.5s
ERC Erice 1.86 356 P **Pn** 08 51 42.5 -0.5
ERC S **Sn** 08 52 05.7 -0.5
VAE Valguarnera 1.86 45 Pn **Pn** 08 51 44.0 +1.0
comp=N,19nm,0.3s,baz=138,slow=2.1,SNR=13
VAE Sn **Sn** 08 52 07.2 +0.9
comp=N,34nm,0.3s,baz=213,slow=10,SNR=9.3
HPAC Pachino 1.98 74 P **Pn** 08 51 43.9 -0.6
HPAC AML AML
comp=E,3810μm,0.7s
HPAC AML AML
comp=N,4920μm,0.8s
PETRA Petralia Sopra 1.98 33 P **Pn** 08 51 45.8 +1.0
PETRA AML AML
comp=E,1740μm,0.6s
PETRA AML AML
comp=N,1415μm,0.5s
MEU Monte Lauro 1.98 62 P **Pn** 08 51 43.8 -0.9
MEU S **Sn** 08 52 07.3 -2.0
MEU AML AML
comp=E,3695μm,1.5s
MEU AML AML
comp=N,3945μm,1.2s
SOLUN Solunto 2.01 18 P **Pn** 08 51 44.8 -0.2
SOLUN S **Sn** 08 52 10.0 +0.2
SOLUN AML AML
comp=E,688μm,0.5s
SOLUN AML AML
comp=N,934μm,0.7s
MPG Monte Pellegri 2.04 14 P **Pn** 08 51 45.7 +0.3
MPG S **Sn** 08 52 10.8 +0.2
MPG AML AML
comp=N,1315μm,0.5s
MPG AML AML
comp=E,679μm,0.8s
CSLB Castelbuono 2.04 31 P **Pn** 08 51 46.1 +0.7
CSLB AML AML
comp=N,696μm,0.7s
CSLB AML AML
comp=E,694μm,0.5s
HLNI Lentini 2.07 55 P **Pn** 08 51 45.4 -0.3
HLNI S **Sn** 08 52 10.8 -0.4
HLNI AML AML
comp=N,1610μm,1.0s
HLNI AML AML
comp=E,1410μm,1.3s
HAVL Avola 2.07 67 P **Pn** 08 51 45.2 -0.6
HAVL AML AML
comp=N,1635μm,1.0s
HAVL AML AML
comp=E,1390μm,1.1s
GIB Gibilmanna 2.08 29 P **Pn** 08 51 46.6 +0.6
GIB AML AML
comp=N,3635μm,0.5s
GIB AML AML
comp=E,3590μm,0.6s
SSY Sortino 2.11 62 P **Pn** 08 51 46.5 +0.1
SSY S **Sn** 08 52 11.7 -0.6
SSY AML AML
comp=E,2380μm,1.3s
SSY AML AML
comp=N,3060μm,0.5s
GALF Gagliano Caste 2.11 43 P **Pn** 08 51 47.9 +1.4
GALF AML AML
comp=N,1230μm,0.5s
GALF AML AML
comp=E,1425μm,0.9s
ECNV Catenanuova 2.12 48 ⇓P **Pb** 08 51 48.2 -1.5
ECNV AML AML
comp=N,2950μm,0.8s
ECNV AML AML
comp=E,1895μm,1.4s
HAGA Augusta 2.23 60 P **Pn** 08 51 48.3 +0.3
ESML S. M. di Licod 2.23 49 P **Pn** 08 51 49.0 +1.0
ESML AML AML
comp=N,1415μm,1.0s
ESML AML AML
comp=E,1565μm,0.6s
ESLN Serra La Nave 2.34 49 P **Pn** 08 51 50.3 +0.6
ESLN AML AML
comp=N,2790μm,0.5s
ESLN AML AML
comp=E,3910μm,1.2s
MNO Monte Soro 2.34 41 P **Pn** 08 51 50.6 +0.8
EPZF Pizzo Felice 2.35 45 P **Pn** 08 51 51.2 +1.3
EPZF AML AML
comp=E,1940μm,1.5s
EPZF AML AML
comp=N,5890μm,0.4s
MSFR San Fratello 2.37 38 P **Pn** 08 51 51.4 +1.5
MSFR AML AML
comp=E,806μm,1.2s
MSFR AML AML
comp=N,932μm,0.9s
EMSG Monte Spagnolo 2.41 47 P **Pn** 08 51 52.1 +1.5
EMSG AML AML
comp=E,1955μm,0.9s
EMSG AML AML
comp=N,2115μm,0.5s
MUCR Ucria 2.52 42 P **Pn** 08 51 53.1 +1.0
MUCR AML AML
comp=N,1330μm,0.5s
MUCR AML AML
comp=E,1175μm,0.6s
USI Ustica 2.54 8 P **Pn** 08 51 52.4 +0.1
USI AML AML
comp=E,2930μm,0.5s
USI AML AML
comp=N,2350μm,0.4s
NOV Novara 2.66 45 P **Pn** 08 51 54.8 +0.9
NOV AML AML
comp=E,775μm,0.8s
NOV AML AML
comp=N,742μm,0.8s
AIO Antillo 2.67 47 P **Pn** 08 51 54.9 +0.7
AIO AML AML
comp=E,406μm,1.5s
AIO AML AML
comp=N,501μm,1.6s
IACL Alicudi 2.68 28 P **Pn** 08 51 53.9 -0.3
IACL AML AML
comp=E,832μm,0.8s
IACL AML AML
comp=N,922μm,0.4s
MCSR Castroreale 2.75 46 P **Pn** 08 51 55.7 +0.5
MCSR AML AML
comp=N,884μm,0.5s
MCSR AML AML
comp=E,916μm,1.1s
IFIL Filicudi I Eol 2.79 31 P **Pn** 08 51 55.6 -0.1
KEST Kesra 2.79 262 Pn **Pn** 08 51 55.8 -0.1
comp=E,16nm,0.3s,baz=94,slow=4.8,SNR=146
KEST Sn **Sn** 08 52 27.6 -1.7
comp=E,36nm,0.3s,baz=254,slow=23,SNR=11
MPNC Port Mandanici 2.86 46 P **Pn** 08 51 57.6 +0.9
MPNC AML AML
comp=N,1011μm,0.9s
MPNC AML AML
comp=E,1185μm,0.6s
LLI Lipari 2.86 37 P **Pn** 08 51 52.9 -3.8
MSRU Castanea 3.03 46 P **Pn** 08 52 00.1 +1.1
MSRU AML AML
comp=E,604μm,1.3s
MSRU AML AML
comp=N,647μm,1.2s
TAMR Tamra 3.05 288 ⇓P **Pn** 08 51 58.1 -1.1
TAMR Tamra 3.05 288 AML AML
comp=N,825μm,0.7s
TAMR AML AML
comp=E,725μm,1.5s
MPAZ Palizzi 3.15 55 P **Pn** 08 52 01.4 +0.7
MPAZ AML AML
comp=N,256μm,0.8s
MPAZ AML AML
comp=E,224μm,0.5s
SOI Samo 3.25 54 P **Pn** 08 52 02.8 +0.7
SOI AML AML
comp=E,194μm,0.7s
SOI AML AML
comp=N,226μm,1.6s
JOPP Joppolo 3.48 45 P **Pn** 08 52 05.4 +0.2
JOPP AML AML
comp=N,109μm,1.5s
JOPP AML AML
comp=E,112μm,1.0s
PLAC Placanica 3.71 51 P **Pn** 08 52 08.5 0.0
PLAC AML AML
comp=E,158μm,0.7s
PLAC AML AML
comp=N,180μm,0.6s
GRI Girifalco 3.94 47 P **Pn** 08 52 12.0 +0.6
GRI AML AML
comp=E,105μm,0.7s
GRI AML AML
comp=N,105μm,0.7s
CAR1 CAROLEI 4.12 41 P **Pn** 08 52 14.4 +0.4
CAR1 AML AML
comp=N,171μm,0.6s
CAR1 AML AML
comp=E,184μm,1.2s
CGL Cagliari Serpe 4.19 320 P **Pn** 08 52 14.2 -0.9
VSL Villasalto 4.25 322 P **Pn** 08 52 14.9 -0.9
VSL AML AML
comp=E,74μm,0.4s
VSL AML AML
comp=N,80μm,0.7s
ABSA Djebel Ababsia 4.26 273 P **Pn** 08 52 15.4 -0.6
CMAH Djebel Manchou 4.32 277 P **Pn** 08 52 15.9 -0.9
BULG Bulgheria - Ca 4.41 27 P **Pn** 08 52 18.4 +0.4
BULG AML AML
comp=E,160μm,0.4s
BULG AML AML
comp=N,214μm,0.8s
CUC Castrocucco 4.51 32 P **Pn** 08 52 19.8 +0.4
CUC AML AML
comp=N,89μm,1.6s
CUC AML AML
comp=E,105μm,1.4s
MGR Morigerati 4.53 28 P **Pn** 08 52 19.8 +0.2
MGR AML AML
comp=E,106μm,0.6s
MGR AML AML
comp=N,92μm,0.6s
CMPR Campora 4.59 25 P **Pn** 08 52 21.0 +0.4
CMPR AML AML
comp=E,108μm,0.5s
CMPR AML AML
comp=N,191μm,0.6s
SALB San Lorenzo Be 4.66 37 P **Pn** 08 52 21.1 -0.4
SIRI Monte Sirino - 4.69 31 P **Pn** 08 52 23.0 +1.1
SIRI AML AML
comp=E,135μm,0.4s
SIRI AML AML
comp=N,146μm,1.4s
MTSN Montesano sull 4.71 29 P **Pn** 08 52 23.3 +1.0
DGI Dorgali Grotta 4.81 330 P **Pn** 08 52 23.2 -0.3
CKFL Kef-Lekhel 4.87 274 P **Pn** 08 52 23.9 -0.5
CASM Ain Smara 5.06 273 P **Pn** 08 52 26.9 0.0
CTEI Djebel Teioual 5.13 271 P **Pn** 08 52 28.0 0.0
VITU Vitulano (BN) 5.21 16 P Pb 08 52 36.1 -6.3
PTRJ Pietraroja 5.36 15 P **Pb** 08 52 42.0 -3.0
GIUL Giuliano Di Ro 5.38 4 ⇓P **Pn** 08 52 33.4 +2.0
DFRA Djebel Bou Aff 5.55 276 P **Pn** 08 52 33.7 -0.1
TOLF Tolfa 5.90 355 ⇑P **Pn** 08 52 40.2 +1.7
SET Setif 5.94 272 P **Pn** 08 52 37.0 -2.1
FIAM Fiamignano 6.08 3 ⇑P **Pn** 08 52 36.6 -4.5
MAON Monte Argentar 6.36 349 ⇑P **Pn** 08 52 46.7 +1.9
SMPL Sampolo 6.49 337 ⇑P **Pn** 08 52 47.3 +0.7
CASP Castiglione de 6.76 348 ⇑P **Pn** 08 52 52.0 +1.8
ATAF Djebel Tarf 6.87 270 P **Pn** 08 52 52.2 +0.3
MTL1 Matelica 7.07 2 ⇓P **Pn** 08 52 59.2 +4.7
AKET Djebel Ketaf 7.17 272 P **Pn** 08 52 55.6 -0.5
APEC Apecchio 7.37 358 P **Pn** 08 52 58.8 +0.1
LMR La Mourre 8.60 328 *e*Pn **Pn** 08 53 10.9 -4.6
LMR La Mourre 8.60 328 *e*P **Pn** 08 53 16.1 +0.6
LMR *e*Sn Sn 08 54 42.1 -10
comp=N,5.4nm,0.4s
SBF Sospel 8.68 334 *e*P **Pn** 08 53 16.7 0.0
SBF *e*Sn Sn 08 54 44.5 -10
comp=N,21nm,0.6s
FRF La Foret Royal 8.73 329 *e*Pn **Pn** 08 53 13.1 -4.2
FRF La Foret Royal 8.73 329 *e*P **Pn** 08 53 18.7 +1.4
FRF *e*Sn Sn 08 54 45.0 -10
comp=N,5.1nm,0.3s
SMRF Simiane la Rot 9.52 327 *e*P **Pn** 08 53 29.2 +1.0
MBDF Montbardon 9.67 334 *e*P **Pn** 08 53 32.6 +2.3
MBDF *e*Sn Sn 08 55 07.8 -11
comp=N,14nm,0.8s
IDI Anoyia 9.91 92 Pn **Pn** 08 53 34.7 +1.1
comp=N,0.5nm,0.3s,baz=288,slow=14,SNR=1.6
IDI Sn **Sn** 08 55 19.1 -5.6
comp=N,0.5nm,0.3s,baz=184,slow=5.7,SNR=2.2
ORIF Oris-en-Rattie 10.17 331 *e*P **Pn** 08 53 38.3 +1.3
LPG La Plagne 10.35 336 *e*Pn **Pn** 08 53 35.9 -3.8
LPG La Plagne 10.35 336 *e*P **Pn** 08 53 43.2 +3.5
LPL La Plagne 10.37 336 *e*P **Pn** 08 53 41.3 +1.3
LASF Ste Croix 10.41 322 *e*Pn **Pn** 08 53 35.8 -4.5
LASF Ste Croix 10.41 322 *e*P **Pn** 08 53 42.4 +2.1
VIVF Saint-Julien-l 10.62 327 *e*P **Pn** 08 53 44.8 +1.7
MTLF Montolieu 10.80 315 *e*Pn **Pn** 08 53 41.5 -4.1
MTLF Montolieu 10.80 315 *e*P **Pn** 08 53 47.6 +2.0
DAVOX Davos/Dischmat 10.80 349 Pn Pn 08 53 52.9 +7.0
comp=N,1.1nm,0.3s,baz=162,slow=18,SNR=11
DAVOX LR LR 08 57 55.1
comp=N,85nm,18.4s,baz=258,slow=38
CAF Calviac 11.92 320 *e*P **Pn** 08 54 02.9 +2.0
ETSF Etsaut 12.26 307 *e*P **Pn** 08 54 05.8 +0.1
LFF La Frestale 12.63 318 *e*P **Pn** 08 54 11.1 +0.5
GERES GERESS Array B 12.68 3 Pn **Pn** 08 54 12.8 +1.4
comp=N,0.2nm,0.3s,baz=164,slow=25,SNR=1.6
CDF Champ du Feu 12.87 343 *e*Pn **Pn** 08 54 15.1 +1.1
ESDC Sonseca Array 13.64 290 Pn **Pn** 08 54 26.2 +1.7
comp=N,0.3nm,0.3s,baz=96,slow=14,SNR=13
ESDC LR LR 08 58 54.6
comp=N,64nm,19.9s,baz=315,slow=34
MDT Midelt 14.70 262 Pn **Pn** 08 54 39.0 -0.1
comp=N,0.1nm,0.3s,baz=77,slow=12,SNR=4.0
MDT LR LR 09 01 07.4
comp=N,155nm,19.0s,baz=63,slow=41
LDF La Druitiere 15.60 327 *e*P **Pn** 08 54 51.9 +1.1
GRR Gorron 15.78 325 *e*P **Pn** 08 54 54.6 +1.4
FLN La Foliniere 15.88 326 *e*P **P** 08 54 56.4 -1.7
baz=147
BRTR Keskin Array B 16.85 72 Pn **Pn** 08 55 07.9 +0.9
comp=N,0.2nm,0.3s,baz=317,slow=39,SNR=1.5
BRTR LR LR 09 01 51.7
comp=N,77nm,21.4s,baz=297,slow=38
AKASG Malin Array Be 18.75 34 P **P** 08 55 28.4 -1.3
comp=N,0.9nm,0.3s,baz=226,slow=8.5,SNR=4.1
EKA Eskdalemuir Ar 22.04 335 P **P** 08 56 05.4 0.0
comp=N,1.2nm,0.6s,baz=146,slow=12,SNR=3.4
HFS Hagfors 23.98 1 P **P** 08 56 24.5 -0.7
comp=N,1.9nm,0.6s,baz=139,slow=7.0,SNR=3.7
HFS LR LR 09 07 23.2
comp=N,42nm,18.6s,baz=93,slow=41
NOA NORSAR Array B 24.90 358 P **P** 08 56 35.3 +1.7
comp=N,0.8nm,0.6s,baz=172,slow=9.5,SNR=5.5
NOA LR LR 09 06 52.2
comp=N,29nm,18.2s,baz=80,slow=38
TORD Torodi Ar. Bea 25.00 206 P **P** 08 56 36.0 +1.1
comp=N,0.7nm,0.5s,baz=15,slow=8.8,SNR=9.0
TORD LR LR 09 06 24.1
comp=N,83nm,18.8s,baz=125,slow=36
OBN Obninsk 25.00 33 LR LR 09 07 46.6
comp=N,12nm,18.7s,baz=202,slow=40
KOWA Kowa 26.30 219 P **P** 08 56 47.7 +1.1
comp=N,1.3nm,0.6s,baz=288,slow=8.8,SNR=1.8
KOWA LR LR 09 08 07.3
comp=N,91nm,18.3s,baz=51,slow=39
FINES FINESS Array B 26.65 14 P **P** 08 56 48.9 -0.5
comp=N,1.5nm,0.6s,baz=211,slow=6.7,SNR=4.2
KIRV Kirov 32.80 35 LR LR 09 13 36.4
comp=N,39nm,19.5s,baz=174,slow=41
DBIC Dimbokro 33.51 213 LR LR 09 12 28.3
comp=N,69nm,19.6s,baz=47,slow=38
ARCES ARCESS Array B 34.13 8 P **P** 08 57 57.3 +1.7
comp=N,1.4nm,0.7s,baz=190,slow=4.5,SNR=5.0
BORG Borgarnes 35.07 335 LR LR 09 12 24.2
comp=N,31nm,18.7s,baz=132,slow=36
AKTO Aktyubinsk 35.32 52 LR LR 09 14 52.8
comp=N,31nm,20.0s,baz=167,slow=40
SFJD Kangerlussuaq 46.92 331 LR LR 09 17 32.6
comp=N,26nm,20.2s,baz=108,slow=34
MKAR Makanchi Array 51.59 55 LR LR 09 24 12.3
comp=N,39nm,18.1s,baz=149,slow=38
TIXI Tiksi 63.60 19 LR LR 09 30 28.9
comp=N,39nm,21.0s,baz=196,slow=37
YAK Yakutsk 69.78 27 LR LR 09 38 04.7
comp=N,43nm,18.6s,baz=253,slow=40
PCRV Puerto La Cruz 73.91 271 LR LR 09 34 15.4
comp=N,189nm,18.5s,slow=35
TKL Tuckaleechee C 74.55 303 LR LR 09 31 45.5
comp=N,38nm,21.1s,baz=11,slow=33

*IDC **26** 09:04:16.0±1.1,26.24N×125.42E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.5/64,mbtmp3.6/6,ML2.9/1,Error ellipse: s-maj=30.5km s-min=20.5km az=51.0*
*JMA **26** 09:04:16.8±0.3,26.16N×125.52E,h5km±4km,M3.2*
ISC 26 09:04:15.7±3.3,26.19N±0.08×125.48E±0.08,h1km±22km, n13,σ0.73/18,mb3.5/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.18**	**83**	P	**Pb**	**09 04 38.6**	**-0.3**
JIKM	**Ikemajima**	**1.27**	**189**	P	**Pn**	**09 04 40.4**	**-0.2**
JIKM				*e*S	**Sg**	**09 04 57.1**	**+0.5**
JIRB	**Irabujima**	**1.38**	**192**	P	**Pn**	**09 04 41.9**	**-0.2**
JIRB				*e*S	**Sb**	**09 04 59.5**	**-0.9**
JOGS	**Gusukube**	**1.42**	**183**	P	**Pb**	**09 04 42.7**	**-0.3**
JOGS				*e*S	**Sb**	**09 05 01.3**	**-0.3**
JMJ2	**Miyako jima3**	**1.44**	**185**	P	**Pb**	**09 04 43.1**	**-0.3**
JMJ2				S	**Sb**	**09 05 01.8**	**-0.5**
JAGN	**Aguni-jima**	**1.63**	**75**	S	**Sb**	**09 05 07.1**	**-0.6**
JTJ	**Tarama**	**1.69**	**205**	P	**Pb**	**09 04 47.5**	**-0.1**
JOW	**Kunigami**	**2.59**	**75**	Pn	**Pn**	**09 04 59.6**	**+0.8**
	3.4nm,0.3s,baz=161,slow=25,SNR=1.9						
JOW				Sn	**Sb**	**09 05 34.1**	**-1.1**
	4.3nm,0.3s,baz=191,slow=23,SNR=1.4						
MKAR	**Makanchi Array**	**39.73**	**313**	P	**P**	**09 11 50.4**	**+0.6**
	0.5nm,0.7s,baz=108,slow=9.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.81**	**324**	P	**P**	**09 11 57.3**	**-1.2**
	0.4nm,0.4s,baz=122,slow=11,SNR=1.5						
KURBB	**Kurchatov Arra**	**43.19**	**317**	P	**P**	**09 12 17.8**	**-0.3**
	0.5nm,0.7s,baz=107,slow=9.4,SNR=3.4						
WRA	**Warramunga Arr**	**46.65**	**169**	P	**P**	**09 12 46.8**	**+0.8**
	0.9nm,0.6s,baz=351,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**50.22**	**170**	P	**P**	**09 13 14.4**	**+0.9**
	0.6nm,0.5s,baz=356,slow=12,SNR=12						

*TIR **26** 09:05:06.9,41.23N×20.33E,h0km±1km,Md2.6,Ml2.4*
*SKO **26** 09:05:07.7,41.26N×20.33E,h6km*
*PDG **26** 09:05:08.5±0.2,41.23N×20.27E,h8km,ML2.9/12,Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
ISC 26 09:05:08.5±1.1,41.21N±0.02×20.29E±0.02,h9km±9km, n32,σ1.51/60,10C-2D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.35**	**293**	P	**Pg**	**09 05 15.0**	**-0.5**
	baz=289						
TIR				S	**Sb**	**09 05 21.3**	**-1.3**
	baz=289						
TIR				AMP			
	comp=N,2.0nm,0.1s,baz=289						
TIR	**Tirane**	**0.35**	**293**	*i* Pg	**Pg**	**09 05 14.9**	**-0.5**
OHR	**Ohrid**	**0.39**	**104**	*i* Pg	**Pb**	**09 05 15.9**	**-1.8**
OHR				*i* Sg	**Sb**	**09 05 23.1**	**-0.7**
OHR				*e*Lg	Lg	09 05 25.0	
	comp=E,313nm,0.5s						
PHP	**Peshkopia**	**0.49**	**13**	P	**Pg**	**09 05 17.2**	**-0.8**
	baz=10.0						
PHP				S	**Sb**	**09 05 24.9**	**-1.6**
	baz=10.0						
PHP				AMP			
	comp=N,1.5nm,0.1s,baz=10.0						
KBN	**Korca**	**0.69**	**147**	P	**Pb**	**09 05 21.8**	**-1.0**
	baz=149						
KBN				S	**Sb**	**09 05 32.5**	**-0.1**
	baz=149						
PUK	**Puka**	**0.88**	**340**	P	**Pb**	**09 05 25.0**	**-1.0**
	baz=339						
PUK				S	**Sb**	**09 05 38.5**	**+0.5**
	baz=339						
PUK				AMP			
	comp=N,2.0nm,0.2s,baz=339						
FNA	**Florina**	**0.92**	**117**	P	**Pg**	**09 05 25.3**	**-0.9**
	baz=118						
FNA				S	**Sn**	**09 05 39.4**	**-1.7**
	baz=118						
FNA	**Florina**	**0.92**	**117**	*i* Pg	**Pg**	**09 05 25.3**	**-0.9**
FNA				*i* Sg	**Sn**	**09 05 39.8**	**-1.3**
ULC	**Ulcinj**	**1.09**	**314**	⇑*i* Pg	**Pg**	**09 05 27.9**	**-1.5**
ULC				*i* Sg	**Sn**	**09 05 45.1**	**0.0**
SKO	**Skopje**	**1.15**	**48**	*i* Pg	**Pg**	**09 05 28.4**	**-2.1**
SKO				*i* Sg	**Sn**	**09 05 46.2**	**-0.3**
SKO				*e*Lg	Lg	09 05 46.7	
	comp=N,11nm,0.3s						
BCI	**Bajram Curri**	**1.17**	**352**	P	**Pg**	**09 05 29.7**	**-1.2**
	baz=351						
DRME	**Dracevica, Mon**	**1.28**	**320**	⇑*i* Pg	**Pn**	**09 05 31.5**	**-1.1**
DRME				*i* Sg	**Sn**	**09 05 51.4**	**+1.6**
SRN	**Sarande**	**1.35**	**190**	P	**Pg**	**09 05 34.5**	**+0.2**
	baz=191						
SRN				S	**Sn**	**09 05 55.2**	**+3.8**
	baz=191						
SRN				AMP			
	comp=N,0.3nm,0.5s,baz=191						
PVY	**Plav**	**1.41**	**350**	⇑*i* Pg	**Pb**	**09 05 34.0**	**-1.0**
PVY				*i* Sg	**Sn**	**09 05 56.4**	**+3.3**
PDG	**Podgorica**	**1.45**	**328**	*i* Pg	**Pb**	**09 05 35.0**	**-0.6**
PDG				*i* Sg	**Sg**	**09 05 57.5**	**+2.5**
TTG	**Podgorica**	**1.45**	**328**	⇑*i* Pg	**Pb**	**09 05 34.8**	**-0.7**
TTG				*i* Sg	**Sg**	**09 05 57.3**	**+2.3**
STIP	**Stip**	**1.50**	**71**	*i* Pn	**Pg**	**09 05 39.6**	**+2.3**
STIP				*i* Sn	**Sg**	**09 06 02.2**	**+5.5**
STIP				*e*Lg	Lg	09 06 05.6	
	comp=E,11nm,0.5s						
BUM	**Brajici-Budva**	**1.51**	**317**	⇑*i* Pg	**Pb**	**09 05 36.0**	**-0.7**
BUM				*i* Sg	**Sg**	**09 05 58.9**	**+1.8**
GRG	**Griva**	**1.61**	**98**	*i* Pg	**Pb**	**09 05 37.6**	**-0.8**
GRG				*i* Sg	**Sg**	**09 06 00.6**	**+0.3**
IGT	**Igoumenitsa**	**1.68**	**179**	*i* Pn	**Pg**	**09 05 39.8**	**-0.9**
IGT				*i* Sn	**Sg**	**09 06 04.0**	**+1.6**
CEME	**Cevo**	**1.69**	**323**	⇑*i* Pn	**Pb**	**09 05 38.7**	**-1.0**
CEME				*i* Sn	**Sg**	**09 06 03.7**	**+1.0**
IVA	**Berane**	**1.69**	**350**	⇑*i* Pn	**Pb**	**09 05 39.2**	**-0.5**
IVA				*i* Sn	**Sg**	**09 06 03.9**	**+1.2**
VAY	**Valandovo**	**1.72**	**86**	*i* Pn	**Pg**	**09 05 40.4**	**-1.1**
KOME	**Kolasin**	**1.74**	**341**	⇓*i* Pn	**Pb**	**09 05 39.8**	**-0.8**
KOME				*i* Sn	**Sg**	**09 06 05.1**	**+0.7**
HCY	**Herceg Novi**	**1.83**	**313**	⇓*i* Pn	**Pb**	**09 05 40.9**	**-1.2**
HCY				*i* Sn	**Sg**	**09 06 06.9**	**-0.3**
NKME	**Niksic**	**1.85**	**328**	⇑*i* Pn	**Pb**	**09 05 41.4**	**-1.1**
NKME				*i* Sn	**Sg**	**09 06 07.5**	**-0.4**
BRY	**Bratogost**	**2.14**	**323**	⇑*i* Pn	**Pb**	**09 05 45.5**	**-1.9**
BRY				*i* Sn	**Sb**	**09 06 14.6**	**+0.5**
PLE	**Pljevlja**	**2.22**	**343**	⇑*i* Pn	**Pn**	**09 05 46.2**	**+0.6**
PLE				*i* Sn	**Sb**	**09 06 17.0**	**+0.5**
STON	**Ston**	**2.55**	**312**	*e*Pn	**Pn**	**09 05 49.7**	**-0.2**
KIJV	**Kijevo**	**4.00**	**316**	*e*Pn	**Pn**	**09 06 11.1**	**+1.1**
KIJV				Sn	**Sn**	**09 06 58.3**	**+1.3**
ZIRJ	**Zirje**	**4.22**	**307**	*e*Pn	**Pn**	**09 06 12.5**	**-0.4**
ZIRJ				Sn	**Sn**	**09 07 02.9**	**+0.6**
DUGI	**Dugi Otok**	**4.76**	**307**	*e*Pn	**Pn**	**09 06 19.9**	**-0.5**
DUGI				Sn	**Sn**	**09 07 15.8**	**+0.2**

*IDC **26** 09:05:55.8±2.9, 53°.48N×87°.75E, h0km, mb1 2.6/1, mb1mx2.6/59, mbtmp2.6/1, ML2.6/1, Error ellipse: s-maj=24.0km s-min=14.6km az=66.0*
*NNC **26** 09:05:55.4±2.7, 53°.40N×87°.70E, h0km, mb2.2, mpv2.6, Error ellipse: s-maj=19.2km s-min=10.0km az=84.0, Suspected Mining explosion.*

ISC 26 09:05:55.3±3.3, 53°.6N±0°.1×87°.7E±0°.2, h0km, n8, σ1§19/11, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**284**	*i*				09 19 20.0	
	baz=102,slow=306,SNR=3.3								
ZAA0	**Zalesovo Array**	**1.73**	**284**	⇓	P		**Pn**	**09 06 26.8**	**+0.2**
	0.8nm,0.7s,baz=102,slow=16								
ZAA0				⇑	S		**Sg**	**09 06 51.9**	**+1.1**
	4.1nm,0.9s,baz=110,slow=28								
ZALV	**Zalesovo Beam**	**1.73**	**284**		Pg		**Pb**	**09 06 27.0**	**-0.9**
	1.2nm,0.3s,baz=101,slow=13,SNR=19								
ZALV					Lg		Lg	09 06 54.1	
	2.1nm,0.3s,baz=106,slow=26,SNR=23								
KURBB	**Kurchatov Arra**	**6.35**	**246**		Pn		**Pn**	**09 07 31.7**	**+1.6**
	baz=62,slow=14								
KURBB					Sn		**Sn**	**09 08 42.6**	**-0.5**
	0.0nm,0.3s,baz=51,slow=19,SNR=1.5								
KURBB					Lg		Lg	09 09 18.1	
	0.0nm,0.3s,baz=61,slow=32,SNR=7.4								
KURBB	**Kurchatov Arra**	**6.35**	**246**	⇑	Pn		**Pn**	**09 07 30.2**	**+0.2**
	0.3nm,0.1s								
KURBB				⇓	Sn		**Sn**	**09 08 43.0**	**-0.2**
	2.8nm,0.7s								
KURBB				⇑	Lg		Lg	09 09 16.4	
	5.4nm,0.7s								
MK31	**Makanchi Array**	**7.60**	**209**	⇑	Sn		**Sn**	**09 09 13.1**	**-1.0**
	1.9nm,1.1s								
MK31				⇑	Lg		Lg	09 09 53.1	
	1.5nm,0.8s,baz=39,slow=30,SNR=3.5								
MKAR	**Makanchi Array**	**7.60**	**209**		Pn		**Pn**	**09 07 48.7**	**+1.5**
	0.1nm,0.3s,baz=21,slow=8.2,SNR=3.9								
MKAR					Sn		**Sn**	**09 09 12.7**	**-1.4**
	0.0nm,0.3s,baz=25,slow=29,SNR=4.1								
MKAR					Lg		Lg	09 09 55.2	
	0.0nm,0.3s,baz=34,slow=28,SNR=4.1								
MAKZ	**Makanchi**	**7.68**	**211**	⇑	Sn		**Sn**	**09 09 15.0**	**-1.0**
	0.7nm,0.5s								
MAKZ				⇑	Lg		Lg	09 09 56.0	
	1.7nm,0.9s								

ISK 26 09:07:15.8, 39°.59N×29°.42E, h0km, ML2.1/9, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.14**	**167**		PG		Pg	09 07 19.3	+0.8
AUBOZ	**BOZOYUK**	**0.57**	**56**		PG		Pg	09 07 26.3	-0.5
CAVI	**Cavuskoy**	**0.69**	**28**		PG		Pg	09 07 29.1	0.0
BORA	**Eskisehir**	**0.85**	**70**		PG		Pg	09 07 32.4	+0.3
YLV	**Yalova**	**0.98**	**358**		Pg		Pg	09 07 34.9	+0.4
YLV					SG		Sb	09 07 49.1	0.0
SRCK	**Saricakaya, Es**	**1.03**	**64**		PG		Pg	09 07 35.9	+0.3
KCTX	**Karacabey (Bur**	**1.06**	**310**		PG		Pb	09 07 45.2	-0.2
GULT	**Gulveren**	**1.19**	**45**		PN		Pb	09 07 39.5	+0.2
CIFT	**Ciftеler, Eski**	**1.29**	**100**		PN		Pb	09 07 41.1	+0.1

ISK 26 09:07:23.9, 39°.99N×29°.15E, h0km, ML2.2/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YLV	**Yalova**	**0.60**	**16**		PG		Pg	09 07 36.1	+0.6
ARMT	**Armutlu**	**0.62**	**339**		PG		Pg	09 07 36.1	+0.3
ARMT	**Armutlu**	**0.62**	**339**		PG		Pg	09 07 36.1	+0.3
TRML	**Termal-Yalova**	**0.62**	**2**		PG		Pg	09 07 36.1	+0.2
TRML	**Termal-Yalova**	**0.62**	**2**		PG		Pg	09 07 36.4	+0.5
KAVV	**Kandilli-Istan**	**1.08**	**356**		PG		Pb	09 07 45.2	-0.2
KAVV					SG		Sb	09 08 00.7	+0.6
ISK	**Istanbul-Kandi**	**1.08**	**356**		PG		Pg	09 07 44.9	+0.3
ISK					SG		Sb	09 08 00.1	0.0
MAR9	**Marsite Statio**	**1.27**	**300**		PN		Pg	09 07 48.0	-0.3
MRMT	**Marmara Adasi**	**1.34**	**298**		PN		Pg	09 07 49.2	-0.3

IDC 26 09:14:37.7±3.0, 54°.20N×86°.38E, h0km, mb1 2.7/2, mb1mx2.7/60, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=22.9km s-min=14.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**255**	*i*				09 21 10.0	
	baz=75,slow=304,SNR=1.2								
ZALV	**Zalesovo Beam**	**0.95**	**255**		Pg		Pg	09 14 55.0	-0.9
	1.5nm,0.3s,baz=74,slow=17,SNR=7.7								
ZALV					Lg		Lg	09 15 09.3	
	2.2nm,0.3s,baz=73,slow=31,SNR=9.2								
KURBB	**Kurchatov Arra**	**5.99**	**236**		Pn		Pn	09 16 08.6	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=6.0								
MKAR	**Makanchi Array**	**7.86**	**201**		Pn		Pn	09 16 33.8	+0.7
	0.1nm,0.3s,baz=26,slow=14,SNR=2.0								

*KRNET **26** 09:23:27.3±0.1, 41°.24N×69°.67E, mb2.6*
ISC 26 09:23:27.5±2.5, 41°.17N±0°.08×69°.7E±0°.1, h10km, n6, σ1§19/10, 8C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.15**	**71**	⇑	*i*P		**Pb**	**09 23 48.3**	**-1.2**
	baz=78								
TRKS				⇑	*i*S		**Sb**	**09 24 04.2**	**-0.4**
	baz=78								
BTK	**Batken**	**1.41**	**142**	⇑	*e*P		**Pg**	**09 23 55.0**	**+0.5**
	baz=43								
BTK				⇑	*i*S		**Sg**	**09 24 13.6**	**+0.9**
	baz=43								
KK31	**Karatay Array**	**2.02**	**17**	⇓	Pg		Pg	09 24 14.6	+8.3
	1.9nm,0.6s,baz=192,slow=15,SNR=11								
KK31				⇓	Lg		Lg	09 24 43.5	
	1.1nm,0.4s,baz=189,slow=24,SNR=8.0								
GAR	**Garm**	**2.22**	**167**	⇑	*e*P		**Pb**	**09 24 06.2**	**-1.6**
	baz=67								
GAR				⇑	*i*S		**Sb**	**09 24 35.7**	**+0.3**
	baz=67								
OHH	**Osh**	**2.44**	**104**	⇑	*i*P		**Pb**	**09 24 09.9**	**-1.5**
	baz=6.0								
OHH				⇑	*i*S		**Sb**	**09 24 40.8**	**-0.7**
	baz=6.0								
AML	**Almayashu**	**3.15**	**71**	⇓	*i*P		**Pn**	**09 24 18.7**	**+1.2**
	baz=72								
AML				⇓	*i*S		**Sn**	**09 24 55.8**	**+0.4**
	baz=72								

*INET **26** 09:25:59.9, 12°.56N×88°.72W, h15km, MW4.5*
*SNET **26** 09:26:06.6±1.4, 12°.75N×88°.67W, h15km±6km, ML4.4*
*UCR **26** 09:26:07.3±1.6, 12°.78N×88°.68W, h18km±6km, ML4.4, MW3.7, mb4.4(NEIC)*
*IDC **26** 09:26:08.0±0.8, 13°.04N×88°.33W, h58km±6km, mb3.9/14, mb1 4.1/16, mb1mx3.9/38, mbtmp4.2/16, MS3.3/7, Ms1 3.3/7, ms1mx3.1/23, Error ellipse: s-maj=25.8km s-min=12.7km az=52.0*
*NEIC **26** 09:26:09.3±2.6, 12°.80N±0°.07×88°.58W±0°.06, h59km±6km, mb4.4/122, Md4.4(SNET), Error ellipse: s-maj=11.7km s-min=5.9km az=218.0*
ISC 26 09:26:08.0±0.7, 12°.81N±0°.05×88°.57W±0°.04, h59km±5km, n235, σ1§41/259, mb4.3/67, MS3.4/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.66**	**24**	*e*P			**Pn**	**09 26 21.8**	**-0.1**
LCY	**Lacayo**	**0.66**	**24**	*e*P			**Pn**	**09 26 21.8**	**-0.1**
COEB	**Comit de Eme**	**0.68**	**3**	*e*P			**Pn**	**09 26 21.7**	**-0.4**
COEB				*e*S			**Sn**	**09 26 32.0**	**-0.4**
COEB				IAML				09 26 35.2	
	comp=Z,21μm,0.4s								
COEB	**Comit de Eme**	**0.68**	**3**	*e*P			**Pn**	**09 26 21.7**	**-0.4**
COEB				*e*S			**Sn**	**09 26 32.0**	**-0.4**
COEB				IAML				09 26 35.2	
	comp=Z,21μm,0.4s								
CNRM	**Centro Naciona**	**0.76**	**31**	*e*P			**Pn**	**09 26 23.2**	**+0.2**
CNRM				*e*S			**Sn**	**09 26 35.3**	**+1.4**
CNRM	**Centro Naciona**	**0.76**	**31**	*e*P			**Pn**	**09 26 23.2**	**+0.2**
CNRM				*e*S			**Sn**	**09 26 35.3**	**+1.4**
CNRM				*e*S				09 26 35.5	
LCND	**La Caada**	**0.82**	**53**	*e*P			**Pn**	**09 26 23.8**	**+0.1**
LCND	**La Caada**	**0.82**	**53**	*e*P			**Pn**	**09 26 23.8**	**+0.1**
LCND				*e*S			**Sn**	**09 26 36.0**	**+0.7**
CNCH	**Conchagua**	**0.85**	**57**	*e*P			**Pn**	**09 26 24.2**	**0.0**
CNCH	**Conchagua**	**0.85**	**57**	*e*P			**Pn**	**09 26 24.2**	**0.0**
CNCH				*e*P				09 26 25.4	
COEG	**Centro de Oper**	**0.86**	**339**	*e*P			**Pn**	**09 26 23.5**	**-0.7**
COEG				*e*S			**Sn**	**09 26 35.6**	**-0.5**
COEG	**Centro de Oper**	**0.86**	**339**	*e*P			**Pn**	**09 26 23.5**	**-0.7**
COEG				*e*S			**Sn**	**09 26 35.6**	**-0.5**
LFRS	**El Faro**	**0.94**	**329**	*e*P			**Pn**	**09 26 24.4**	**-0.8**
LFRS	**El Faro**	**0.94**	**329**	*e*P			**Pn**	**09 26 24.4**	**-0.8**
AEIL	**Aeropuerto Ilo**	**1.03**	**329**	*e*P			**Pn**	**09 26 26.0**	**-0.4**
AEIL				*e*S			**Sn**	**09 26 40.4**	**+0.4**
AEIL	**Aeropuerto Ilo**	**1.03**	**329**	*e*P			**Pn**	**09 26 26.0**	**-0.4**
AEIL				*e*S			**Sn**	**09 26 40.4**	**+0.4**
LBRS	**Las Brisas**	**1.03**	**333**	*e*P			**Pn**	**09 26 26.1**	**-0.3**
LBRS	**Las Brisas**	**1.03**	**333**	*e*P			**Pn**	**09 26 26.1**	**-0.3**
IGN	**Direccin Gen**	**1.07**	**327**	*e*P			**Pn**	**09 26 26.3**	**-0.7**
IGN				*e*S			**Sn**	**09 26 40.8**	**-0.2**
IGN	**Direccin Gen**	**1.07**	**327**	*e*P			**Pn**	**09 26 26.3**	**-0.7**
IGN				*e*S			**Sn**	**09 26 40.8**	**-0.2**
LFU	**La Fuente**	**1.07**	**330**	*e*S			**Sn**	**09 26 40.8**	**-0.2**
LFU	**La Fuente**	**1.07**	**330**	*e*S			**Sn**	**09 26 40.8**	**-0.2**
SNET	**Serv Nac Est T**	**1.08**	**324**				**Pn**	**09 26 26.2**	**-0.9**
ITCA	**Escuela Especi**	**1.10**	**321**	*e*P			**Pn**	**09 26 26.6**	**-0.7**
ITCA	**Escuela Especi**	**1.10**	**321**	*e*P			**Pn**	**09 26 26.6**	**-0.7**
BOQS	**Boqueron**	**1.15**	**323**	*e*P			**Pn**	**09 26 27.7**	**-0.5**
BOQS	**Boqueron**	**1.15**	**323**	*e*P			**Pn**	**09 26 27.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.20**	**314**	*e*P			**Pn**	**09 26 27.1**	**-1.6**
JAYA				IAML				09 26 49.1	
	comp=Z,6μm,0.2s								
JAYA	**Jayaque - finc**	**1.20**	**314**	*e*P			**Pn**	**09 26 27.1**	**-1.6**
JAYA				IAML				09 26 49.1	
	comp=Z,6μm,0.2s								
CEVE	**Cerro Verde**	**1.44**	**315**	*e*P			**Pn**	**09 26 31.7**	**-0.4**
CEVE				*e*S			**Sn**	**09 26 51.5**	**+1.4**
CEVE				IAML				09 27 03.0	
	comp=Z,7μm,0.6s								
CEVE	**Cerro Verde**	**1.44**	**315**	*e*P			**Pn**	**09 26 31.7**	**-0.4**
CEVE				*e*S			**Sn**	**09 26 51.5**	**+1.4**
CEVE				IAML				09 27 03.0	
	comp=Z,7μm,0.6s								
CRIN	**San Cristobal**	**1.49**	**94**				**Pn**	**09 26 33.4**	**+0.8**
CRIN						Sn	**Sn**	**09 26 52.8**	**+1.7**
MTO3	**Montecristo**	**1.75**	**334**	*e*P			**Pn**	**09 26 36.3**	**0.0**
MTO3				*e*S			**Sn**	**09 27 01.1**	**+3.4**
MTO3	**Montecristo**	**1.75**	**334**	*e*P			**Pn**	**09 26 36.3**	**0.0**
MTO3				*e*S			**Sn**	**09 27 01.1**	**+3.4**
MTO3	**Montecristo**	**1.75**	**334**				**Pn**	**09 26 36.3**	**0.0**
MTO3						Sn	**Sn**	**09 26 59.9**	**+2.2**
TGUH	**Tegucigalpa,Un**	**1.77**	**45**		Pn		**Pn**	**09 26 37.3**	**+0.9**
CNGN	**Cerro Negro**	**1.85**	**99**				**Pn**	**09 26 37.5**	**0.0**
CNGN						Sn	**Sn**	**09 26 59.0**	**-0.9**
ESQI	**Esquipulas**	**1.89**	**337**	*e*P			**Pn**	**09 26 38.0**	**-0.1**
ESQI				*e*S			**Sn**	**09 27 04.7**	**+3.8**
ESQI	**Esquipulas**	**1.89**	**337**				**Pn**	**09 26 38.6**	**+0.5**
ESQI						Sn	**Sn**	**09 27 05.5**	**+4.6**
MASN	**Masaya**	**2.50**	**109**		Pn		**Pn**	**09 26 44.4**	**-2.0**
MATN	**Matagalpa**	**2.58**	**87**				**Pn**	**09 26 50.0**	**+2.6**
BOAB	**BOACO BROADBAN**	**2.86**	**97**				**Pn**	**09 26 51.1**	**0.0**
ACON	**Acoyapa**	**3.42**	**104**				**Pn**	**09 26 57.8**	**-1.1**
RTAL	**Retalhuleu**	**3.48**	**300**				**Pn**	**09 27 02.2**	**+2.5**
HZTE	**Horizontes, Gu**	**3.58**	**125**				**Pn**	**09 26 59.8**	**-1.3**
HUEH	**Huehuetenango**	**3.78**	**312**				**Pn**	**09 27 03.6**	**-0.4**
ORTG	**Ortega, Santa**	**3.90**	**128**		Pn		**Pn**	**09 27 08.5**	**+3.0**
SAJU	**San Juanillo,**	**3.91**	**134**	*e*P			**Pn**	**09 27 06.8**	**+1.2**
DUNO	**Dulce Nombre,**	**4.06**	**132**				**Pn**	**09 27 08.7**	**+1.0**
GRZA	**Playa Garza**	**4.07**	**135**	*e*P			**Pn**	**09 27 08.8**	**+1.0**
PETF	**Flores**	**4.27**	**343**				**Pn**	**09 27 12.6**	**+2.1**
JTS	**Las Juntas de**	**4.34**	**125**		P		**Pn**	**09 27 12.8**	**+1.3**
	comp=Z,4.5nm,0.3s,baz=176,slow=22,SNR=30								
JTS					S		**Sn**	**09 27 57.1**	**-3.8**
	baz=0.2,slow=19,SNR=1.2								
JTS					LR		LR	09 28 58.4	
	comp=Z,205nm,21.4s,baz=32,slow=40								
JTS	**Las Juntas de**	**4.34**	**125**		Pn		**Pn**	**09 27 12.4**	**+0.9**
ARE1	**Arenal 1**	**4.44**	**121**	*e*P			**Pn**	**09 27 15.3**	**+2.4**
COVE	**Coope Vega, Sa**	**4.58**	**117**		Pn		**Pn**	**09 27 13.1**	**-1.7**
CAO2	**Cobano, Puntar**	**4.60**	**132**		Pn		**Pn**	**09 27 17.1**	**+2.0**
LAFE	**Finca La Fe, P**	**4.67**	**129**	*e*P			**Pn**	**09 27 17.7**	**+1.7**
CCIG	**Comitan**	**4.88**	**315**				**Pn**	**09 27 20.7**	**+1.7**
JACO	**JACO, Garabito**	**4.95**	**129**	*e*P			**Pn**	**09 27 22.4**	**+2.6**
JACO	**JACO, Garabito**	**4.95**	**129**		Pn		**Pn**	**09 27 22.5**	**+2.6**
OCM	**Ochomogo**	**5.37**	**122**	*e*P			**Pn**	**09 27 28.1**	**+2.3**
LCR2	**La Lucha 2**	**5.42**	**124**	*e*P			**Pn**	**09 27 29.4**	**+2.9**
CVTR	**Volcan Turrial**	**5.47**	**120**		Pn		**Pn**	**09 27 29.4**	**+2.0**
RIMA	**Rio Macho**	**5.52**	**123**	*e*P			**Pn**	**09 27 30.6**	**+2.8**
RIMA	**Rio Macho**	**5.52**	**123**				**Pn**	**09 27 30.7**	**+2.8**
CDM	**Cerro de Muert**	**5.72**	**124**	*e*P			**Pn**	**09 27 33.7**	**+2.8**
BATAN	**Batan**	**5.76**	**117**		Pn		**Pn**	**09 27 29.9**	**-1.0**
MRVA	**Moravia de Chi**	**5.84**	**120**	*e*P			**Pn**	**09 27 34.1**	**+1.9**
PEZE	**Perez Zeledon,**	**5.89**	**125**	*e*P			**Pn**	**09 27 35.2**	**+2.4**
PEZE	**Perez Zeledon,**	**5.89**	**125**				**Pn**	**09 27 35.9**	**+3.1**
SRBA	**San Rafael, Bu**	**6.23**	**124**				**Pn**	**09 27 40.3**	**+2.8**
DRK0	**Durika**	**6.31**	**123**	*e*P			**Pn**	**09 27 41.1**	**+2.5**
DRK0	**Durika**	**6.31**	**123**				**Pn**	**09 27 41.5**	**+2.9**
EDPN	**Palmar Norte**	**6.31**	**127**	*e*P			**Pn**	**09 27 41.1**	**+2.5**
EDBA	**Buenos Aires**	**6.34**	**124**	*e*P			**Pn**	**09 27 41.3**	**+2.4**
LPLA	**Las Palmas La**	**6.63**	**124**	*e*P			**Pn**	**09 27 45.6**	**+2.6**
PIRO	**Carate, Puerto**	**6.76**	**130**	*e*P			**Pn**	**09 27 47.9**	**+3.3**
BRU2	**Volcan**	**7.02**	**124**	*e*P			**Pn**	**09 27 51.1**	**+2.7**
PRVC	**Isla de Provid**	**7.04**	**85**		Pn		**Pn**	**09 27 49.1**	**+0.6**
CMIG	**Matias Romero**	**7.44**	**306**		P		**Pn**	**09 27 55.3**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=138,slow=10,SNR=18								
CMIG					S		**Sn**	**09 29 15.9**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=332,slow=22,SNR=1.9								
BCIP	**Isla Barro Col**	**9.31**	**112**		Pn		**Pn**	**09 28 17.8**	**-1.7**
SOR	**Soroa**	**11.25**	**27**		Pn		**Pn**	**09 28 49.7**	**+3.7**
DWPF	**Disney Wildern**	**16.61**	**23**		P			09 29 57.2	
	baz=205								
FLOC	**Florencia**	**16.98**	**130**		Pn		**Pn**	**09 30 01.9**	**+0.2**
BRAL	**Brewton**	**18.32**	**4**		P			09 30 18.9	
	baz=185								
352A	**Blakely**	**18.88**	**10**		P		**Pn**	**09 30 26.6**	**+1.9**
TIGA	**Tifton**	**19.10**	**13**		P		**Pn**	**09 30 28.9**	**+1.6**
TIGA						IAmb	IAmb	09 30 31.4	
	comp=Z,16nm,0.6s								
TIGA	**Tifton**	**19.10**	**13**		P			09 30 27.6	
	baz=195								
VBMS	**Vicksburg**	**19.40**	**355**		P			09 30 31.6	
	baz=174								
VBMS	**Vicksburg**	**19.40**	**355**		P		**Pn**	**09 30 32.3**	**+1.5**
VBMS						IAmb	IAmb	09 30 36.3	
	comp=Z,27nm,0.8s								
NATX	**Nacogdoches**	**19.67**	**344**		P			09 30 33.7	
	baz=162								
435B	**Jarrell**	**19.73**	**336**		P		**P**	**09 30 34.1**	**+1.3**
435B						IAmb	IAmb	09 30 39.6	
	comp=Z,9.4nm,0.6s								
152A	**Waverly Hall**	**20.07**	**10**		P		Pn	09 30 38.5	-0.4
152A						IAmb	IAmb	09 30 41.1	
	comp=Z,8.5nm,0.6s								
LRAL	**Lakeview Retre**	**20.18**	**4**				Pn	09 30 40.4	+0.3
LRAL	**Lakeview Retre**	**20.18**	**4**		P			09 30 40.1	
	baz=184,SNR=8.5								
Z47A	**Carrollton**	**20.30**	**1**		P		Pn	09 30 41.2	-0.2
Z47A						IAmb	IAmb	09 30 42.7	
	comp=Z,12nm,0.8s								
JCT	**Junction City**	**20.42**	**331**		P		**P**	**09 30 41.8**	**+1.4**
JCT						IAmb	IAmb	09 30 45.5	
	comp=Z,8.4nm,0.7s								
JCT	**Junction City**	**20.42**	**331**		P			09 30 40.8	
	baz=147								
Z51A	**Franklin**	**20.64**	**8**		P		Pn	09 30 45.5	-0.1
GOGA	**Godfrey**	**21.03**	**12**		P		**P**	**09 30 48.4**	**+1.5**
GOGA	**Godfrey**	**21.03**	**12**		P			09 30 48.1	
	baz=194								
Y49A	**Blount Mountai**	**21.04**	**5**		P		**P**	**09 30 49.3**	**+2.2**
Y49A						IAmb	IAmb	09 30 50.6	
	comp=Z,10nm,0.7s								
Y52A	**Lilburn**	**21.35**	**10**		P		**P**	**09 30 52.4**	**+2.0**
Y52A						IAmb	IAmb	09 31 07.7	
	comp=Z,10nm,0.9s								
X48A	**Hartselle**	**21.59**	**3**		P		**P**	**09 30 54.3**	**+1.5**
X48A						IAmb	IAmb	09 31 12.5	
	comp=Z,18nm,1.4s								
TXAR	**Lajitas Array**	**21.61**	**322**		P		**P**	**09 30 54.2**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=144,slow=10.0,SNR=57								
TXAR					PcP		**PcP**	**09 34 52.2**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=153,slow=3.6,SNR=6.3								
TXAR	**Lajitas Array**	**21.61**	**322**		P		**P**	**09 30 54.6**	**+1.3**
TX31	**Lajitas Ar. Si**	**21.61**	**322**		P		**P**	**09 30 54.8**	**+1.5**
TX31						IAmb	IAmb	09 30 57.7	
	comp=Z,12nm,0.6s								
TX32	**Lajitas Array**	**21.61**	**322**		P		**P**	**09 30 54.7**	**+1.4**
FPAL	**Fort Paine**	**21.80**	**7**		P		**P**	**09 30 57.0**	**+1.8**
PLAL	**Pickwick Lake**	**22.07**	**1**		P		**P**	**09 30 57.9**	**-0.2**
HODGE	**Hodges**	**22.08**	**14**		P		**P**	**09 31 00.1**	**+1.9**
HODGE						IAmb	IAmb	09 31 17.0	
	comp=Z,10nm,0.8s								
MIAR	**Mount Ida**	**22.11**	**349**		P		**P**	**09 30 59.5**	**+1.0**
MIAR						IAmb	IAmb	09 31 17.3	
	comp=Z,10.0nm,0.9s								
MIAR	**Mount Ida**	**22.11**	**349**		P			09 30 59.2	
	baz=167								
ABTX	**Abilene, Hawle**	**22.17**	**335**		P		**P**	**09 30 59.7**	**+0.5**
ABTX						IAmb	IAmb	09 31 02.4	
	comp=Z,10nm,0.7s								
ABTX	**Abilene, Hawle**	**22.17**	**335**		P			09 31 00.5	
	baz=150,SNR=5.0								
JSC	**Jenkinsville**	**22.38**	**16**		P		**P**	**09 31 03.0**	**+1.6**
Y57A	**Sumter**	**22.38**	**18**		P		**P**	**09 31 03.0**	**+1.6**
W41B	**Gary Mavity, V**	**22.51**	**352**		P			09 31 03.3	
	baz=171								
X37A	**Clayton**	**22.54**	**345**		P		**P**	**09 31 04.8**	**+1.7**
X37A						IAmb	IAmb	09 31 18.4	
	comp=Z,12nm,1.1s								
W52A	**Murphy**	**22.58**	**10**		P		**P**	**09 31 05.9**	**+2.3**
W52A						IAmb	IAmb	09 31 26.4	
	comp=Z,8.6nm,0.7s								
WHAR	**Wooly Hollow**	**22.63**	**352**		P		**P**	**09 31 05.5**	**+1.4**
WHAR						IAmb	IAmb	09 31 27.9	
	comp=Z,8.3nm,0.9s								
W39A	**Magazine**	**22.78**	**349**		P			09 31 06.8	
	baz=167								
BIRD	**Birdtown, Kers**	**22.95**	**17**		P		**P**	**09 31 08.4**	**+1.1**
BIRD						IAmb	IAmb	09 31 08.8	
	comp=Z,10nm,0.6s								
TKL	**Tuckaleechee C**	**23.15**	**10**		P		**P**	**09 31 08.8**	**-0.6**
	comp=Z,8.2nm,0.8s,baz=182,slow=12,SNR=12								
TKL	**Tuckaleechee C**	**23.15**	**10**		P		**P**	**09 31 09.9**	**+0.5**
TKL						IAmb	IAmb	09 31 12.4	
	comp=Z,8.4nm,0.8s								
KMSC	**Kings Mountain**	**23.18**	**15**		P			09 31 10.1	
	baz=198								
FCAR	**Ozark Folk Cen**	**23.20**	**353**		P		**P**	**09 31 09.8**	**0.0**
FCAR						IAmb	IAmb	09 31 12.2	
	comp=Z,10nm,0.7s								
WVT	**Waverly**	**23.23**	**2**		P			09 31 11.1	
	baz=182								
X34A	**Smith Ranch, M**	**23.26**	**340**		P		**P**	**09 31 11.8**	**+1.4**
CLTN	**Cedars of Leba**	**23.27**	**5**		P		**P**	**09 31 12.5**	**+2.0**
V53A	**Saluda**	**23.34**	**12**		P		**P**	**09 31 13.1**	**+1.8**
V53A						IAmb	IAmb	09 31 33.1	
	comp=Z,11nm,1.1s								
PCRV	**Puerto La Cruz**	**23.60**	**94**		P		**P**	**09 31 13.9**	**+0.1**
	comp=Z,11nm,0.9s,baz=65,slow=7.6,SNR=2.0								
PLCV	**Puerto La Cruz**	**23.64**	**94**		P		**P**	**09 31 13.9**	**-0.3**
WMOK	**Wichita Mounta**	**23.71**	**339**		P		**P**	**09 31 15.1**	**+0.5**
WMOK	**Wichita Mounta**	**23.71**	**339**		P			09 31 14.8	
	baz=155,SNR=7.0								
FNO	**Franklin**	**23.73**	**342**		P		**P**	**09 31 15.0**	**+0.2**
U49A	**Red Boiling Sp**	**23.73**

MVCO	Mesa Verde	30.14	327	P	P	09 32 13.7	+1.1
MVCO	Mesa Verde	30.14	327	P		09 32 12.5	
	baz=139						
N59A	State Game Lan	30.16	20	P		09 32 11.8	
	baz=205						
WUAZ	Wupatki	30.57	322	P		09 32 16.9	
	baz=132						
ISCO	Idaho Springs	30.80	334	P	P	09 32 18.2	-0.3
ISCO	Idaho Springs	30.80	334	P		09 32 18.8	
	baz=146						
SMCO	Snowmass	30.90	331	P	P	09 32 20.4	+0.8
PV13	Radium Mtn., P	31.02	328	P	P	09 32 21.5	+1.1
L58A	Harry Jones Me	31.16	18	P		09 32 20.9	
	baz=204						
PV17	East Wray Mesa	31.18	328	P	P	09 32 22.9	+1.1
PV17				IAmb	IAmb	09 32 24.1	
	comp=Z,7.0nm,0.6s						
BINY	Binghamton	31.26	18	P		09 32 21.4	
	baz=204						
I37A	Lemond, Waseca	31.37	353	P	P	09 32 22.7	-0.4
I37A				IAmb	IAmb	09 32 24.0	
	comp=Z,6.8nm,0.8s						
ECSD	EROS Data Cent	31.58	349	P	P	09 32 23.7	-1.3
ECSD				IAmb	IAmb	09 32 25.9	
	comp=Z,6.5nm,1.5s						
ECSD	EROS Data Cent	31.58	349	P		09 32 24.3	
	baz=165						
N23A	Red Feather La	31.85	335	P		09 32 27.9	
	baz=147						
O20A	White River Ci	32.26	331	P	P	09 32 32.1	+0.9
O20A	White River Ci	32.26	331	P		09 32 32.2	
	baz=142,SNR=12						
SPMN	Marine on St.	32.50	354	P	P	09 32 32.5	-0.5
SPMN	Marine on St.	32.50	354	P		09 32 31.7	
	baz=172,SNR=8.5						
J58A	Remsen	32.53	18	P		09 32 32.2	
	baz=205						
SRU	San Rafael Swe	32.62	327	P	P	09 32 35.5	+1.1
P17A	Butcher Ranch,	33.00	328	P	P	09 32 38.5	+0.8
P17A				IAmb	IAmb	09 32 39.7	
	comp=Z,3.3nm,0.7s						
RWWY	Rawlins	33.04	334	P	P	09 32 38.0	-0.2
COWI	Conover	33.18	359	P	P	09 32 37.0	-2.0
COWI				IAmb	IAmb	09 32 38.0	
	comp=Z,3.8nm,0.6s						
SAML	Samuel	33.22	129	P	P	09 32 39.2	-0.4
SAML				IAmb	IAmb	09 32 40.1	
	comp=Z,5.3nm,0.8s						
J61A	Chester	33.42	21	P		09 32 43.2	
	baz=209						
H57A	Richville	33.50	17	P		09 32 41.7	
	baz=204						
K22A	Casper	33.55	336	P		09 32 42.9	
	baz=147						
K22A	Casper	33.56	336	P	P	09 32 43.0	+0.5
K22A				IAmb	IAmb	09 32 43.8	
	comp=Z,4.4nm,0.7s						
F33A	5 Mile Ranch,	33.56	350	P	P	09 32 41.0	-1.2
F33A				IAmb	IAmb	09 32 59.3	
	comp=Z,3.9nm,0.6s						
H58A	Gabriels	33.82	19	P		09 32 43.4	
	baz=206						
MPU	Maple Canyon	33.86	327	P	P	09 32 47.2	+2.0
LONY	Lake Ozonia	33.88	18	P		09 32 43.3	
	baz=205						
ALGO	Algonquin Park	34.21	13	P		09 32 46.6	
	baz=198						
MPMC	Manual Prospec	34.82	317	P		09 32 53.9	
	baz=124						
BW06	Boulder Array	34.94	333	P	P	09 32 54.7	+0.1
BW06	Boulder Array	34.94	333	P		09 32 54.1	
	baz=143						
PD31	Pinedale Array	34.94	333	P	P	09 32 54.5	0.0
PDAR	Pinedale Array	34.94	333	P	P	09 32 54.5	0.0
	comp=Z,1.7nm,0.7s,baz=129,slow=10,SNR=17						
PDAR				PcP	PcP	09 35 24.7	-1.4
	comp=Z,0.6nm,0.6s,baz=142,slow=5.4,SNR=5.7						
HWUT	Hardware Ranch	35.00	329	P	P	09 32 56.3	+1.3
HWUT				IAmb	IAmb	09 32 56.7	
	comp=Z,2.8nm,0.7s						
EYMN	Ely	35.11	357	P		09 32 54.0	
	baz=175						
EYMN	Ely	35.11	357	P	P	09 32 54.0	-1.6
EYMN				IAmb	IAmb	09 32 55.5	
	comp=Z,2.9nm,0.7s						
E28A	Huff	35.17	345	P	P	09 32 55.8	-0.5
LPAZ	La Paz	35.28	144	P	P	09 32 58.9	+0.8
	comp=Z,0.9nm,0.6s,baz=321,slow=6.3,SNR=6.7						
LPAZ				LR	LR	09 47 01.6	
	comp=Z,65nm,20.2s,baz=28,slow=36						
LPAZ	La Paz	35.28	144	P	P	09 32 58.8	+0.6
AHID	Auburn Hatcher	35.65	331	P	P	09 32 59.9	-0.8
B35A	Bob, Littlefor	35.70	354	P	P	09 32 59.2	-1.5
B35A				IAmb	IAmb	09 32 59.6	
	comp=Z,3.6nm,1.2s						
G62A	West of Eustis	35.77	22	P		09 33 00.9	
	baz=211						
H64A	Troy	35.77	24	P		09 33 00.3	
	baz=214						
D55A	Sainte-Anne-du	35.83	15	P		09 33 00.6	
	baz=202						
AGMN	Agassiz Nation	35.89	352	P	P	09 33 01.0	-1.4
AGMN	Agassiz Nation	35.89	352	P		09 33 01.4	
	baz=168						
REDW	Red Top Meadow	36.00	332	P	P	09 33 04.3	+0.7
G63A	Kingsbury	36.02	23	P		09 33 02.3	
	baz=213						
SNOW	Snow King Moun	36.03	332	P	P	09 33 04.7	+0.8
LOHW	Long Hollow	36.08	332	P	P	09 33 04.9	+0.6
LOHW				IAmb	IAmb	09 33 06.4	
	comp=Z,3.0nm,0.8s						
MDND	Maddock	36.12	347	P		09 33 03.6	
	baz=162						
MDND	Maddock	36.12	347	P	P	09 33 04.0	-0.3
TPAW	Teton Pass	36.14	332	P	P	09 33 05.6	+0.7
ELK	Elko	36.34	325	P	P	09 33 07.5	+0.9
FLWY	Flagg Ranch	36.49	333	P	P	09 33 08.9	+1.1
H17A	Grant Village	36.68	333	P	P	09 33 10.5	+1.0
H17A				IAmb	IAmb	09 33 13.3	
	comp=Z,2.8nm,0.8s						
NVAR	Mina Array Bea	36.71	319	P	P	09 33 10.6	+0.8
	comp=Z,1.3nm,0.7s,baz=132,slow=7.2,SNR=16						
NVAR				PcP	PcP	09 35 32.5	+1.1
	comp=Z,1.6nm,0.6s,baz=134,slow=4.0,SNR=18						
NVAR				pPcP		09 35 48.1	
	comp=Z,0.8nm,0.6s,baz=124,slow=3.8,SNR=5.9						
NVAR				ScP	ScP	09 39 14.2	+0.9
	comp=Z,0.1nm,0.5s,baz=126,slow=2.3,SNR=3.1						
NVAR				LR	LR	09 49 41.4	
	comp=Z,44nm,18.7s,baz=158,slow=39						
NVAR	Mina Array Bea	36.71	319	P	P	09 33 11.2	+1.5
RLMT	Red Lodge	36.71	335	P	P	09 33 09.4	-0.2
RLMT	Red Lodge	36.71	335	P		09 33 09.5	
	baz=145,SNR=9.2						
YMP	Mirror Lake Pl	36.77	334	P	P	09 33 11.7	+1.3
YMP				IAmb	IAmb	09 33 18.9	
	comp=Z,5.6nm,0.9s						
LAO	LASA Array	36.90	340	P	P	09 33 12.0	+0.9
LAO				IAmb	IAmb	09 33 13.4	
	comp=Z,5.2nm,0.7s						
LAO	LASA Array	36.90	340	P		09 33 11.4	
	baz=151						
LATQ	La Tuque	36.92	18	P		09 33 10.0	
	baz=206						
YNE	Yellowstone No	36.93	334	P	P	09 33 11.9	+0.4
KVN	Kaiserville	36.95	320	P	P	09 33 13.1	+1.4
YMR	Madison River	37.07	333	P	P	09 33 13.4	+0.7
YMR				IAmb	IAmb	09 33 18.9	
	comp=Z,6.3nm,0.9s						
YHH	Holmes Hill	37.11	333	P	P	09 33 14.8	+1.6
YHH				IAmb	IAmb	09 33 19.0	
	comp=Z,3.8nm,0.7s						
LSQQ	Lebel-sur-Quev	37.39	13	P		09 33 14.2	
	baz=199						
E63A	Oxbow	37.57	23	P		09 33 15.9	
	baz=213						
ULM	Lac du Bonnet	37.81	352	P	P	09 33 16.9	-1.7
	comp=Z,5.4nm,0.6s,baz=160,slow=8.6,SNR=9.7						
ULM				LR	LR	09 50 30.6	
	comp=Z,52nm,19.9s,baz=154,slow=39						
ULM	Lac du Bonnet	37.81	352	P	P	09 33 16.9	-1.7
DGMT	Dagmar	37.85	343	P	P	09 33 19.4	+0.4
DGMT	Dagmar	37.85	343	P		09 33 18.8	
	baz=155,SNR=7.4						
HLID	Hailey	37.86	329	P	P	09 33 20.1	+0.7
HLID					PcP	09 35 35.9	+1.1
HLID	Hailey	37.86	329	P		09 33 19.2	
	baz=136						
MATQ	Matagami	37.92	12	P		09 33 18.1	
	baz=198						
MCMT	McKenzie Canyo	38.04	332	P	P	09 33 22.4	+1.4
BOZ	Bozeman (W)	38.09	334	P	P	09 33 22.4	+1.1
BOZ				IAmb	IAmb	09 33 25.5	
	comp=Z,4.2nm,0.7s						
BOZ	Bozeman (W)	38.09	334	P		09 33 21.4	
	baz=142,SNR=8.8						
DLMT	Dillon	38.34	332	P	P	09 33 24.3	+1.0
DLMT				IAmb	IAmb	09 33 26.4	
	comp=Z,3.2nm,0.8s						
LRM	Limekiln Ridge	38.63	333	P	P	09 33 25.1	-0.8
HRY	Holter Researc	39.05	334	P	P	09 33 30.2	+0.9
EGMT	Eagleton	39.30	337	P	P	09 33 31.1	-0.1
EGMT	Eagleton	39.30	337	P		09 33 30.8	
	baz=146,SNR=20						
MSO	Missoula	40.06	333	P		09 33 37.2	
	baz=140						
MSO	Missoula	40.06	333	P	P	09 33 37.8	+0.1
F10A	Beach Ranch, E	40.99	329	P	P	09 33 45.2	-0.1
F10A				IAmb	IAmb	09 33 48.3	
	comp=Z,5.4nm,1.2s						
G08A	Pilot Rock	41.41	327	P	P	09 33 49.2	+0.5
G08A					PcP	09 35 47.1	+1.2
WALA	Waterton Lakes	41.77	335	P	P	09 33 52.0	+0.3
WALA				IAmb	IAmb	09 33 54.1	
	comp=Z,3.8nm,0.8s						
C09A	Chrisman Ranch	42.78	331	P	P	09 34 00.2	+0.4
C09A				IAmb	IAmb	09 34 03.5	
	comp=Z,2.9nm,0.6s						
FFC	Flin Flon	43.12	349	P	P	09 34 02.2	-0.2
FFC				IAmb	IAmb	09 34 02.8	
	comp=Z,4.5nm,0.5s						
SCHQ	Schefferville	45.26	18	P	P	09 34 16.3	-3.2
	comp=Z,3.3nm,0.6s,baz=194,slow=5.2,SNR=6.3						
H03N2	Juan Fernandez	46.90	169	T	T	10 24 40.7	
	baz=347,slow=76,SNR=7.9						
H03N1	Juan Fernandez	46.91	169	T	T	10 24 40.6	
	baz=347,slow=76,SNR=6.9						
H03N3	Juan Fernandez	46.92	169	T	T	10 24 40.9	
	baz=347,slow=76,SNR=8.4						
BDFB	Brasilia	49.09	124	P	P	09 34 48.9	-1.1
	comp=Z,2.2nm,0.4s,baz=255,slow=8.3,SNR=3.4						
BDFB	Brasilia	49.09	124	IAmb	IAmb	09 34 55.1	
	comp=Z,8.3nm,1.3s						
YKA	Yellowknife Ar	52.98	345	P	P	09 35 17.0	-1.4
	comp=Z,4.6nm,0.7s,baz=139,slow=8.1,SNR=20						
YKA				pP	pP	09 35 32.5	-1.3
	comp=Z,2.0nm,0.8s,baz=139,slow=8.2,SNR=3.4						
YKA				PcP	PcP	09 36 25.0	-1.4
	comp=Z,0.6nm,0.6s,baz=310,slow=38,SNR=2.5						
YKA				LR	LR	09 59 15.0	
	comp=Z,45nm,20.0s,baz=0.0,slow=38						
DLBC	Dease Lake	55.11	335	P	P	09 35 35.3	+1.2
EPYK	Eagle Plains	62.35	340	P		09 36 23.2	
	baz=125						
BCAR	Beaver Creek A	62.47	336	P	P	09 36 24.7	-0.4
L27K	Beaver Creek,	62.49	336	P	P	09 36 25.1	-0.1
L27K				IAmb	IAmb	09 36 25.4	
	comp=Z,2.6nm,0.8s						
L27K	Beaver Creek,	62.49	336	P		09 36 24.1	
	baz=118						
INK	Inuvik	62.53	343	P	P	09 36 24.6	-0.7
	comp=Z,4.8nm,0.7s,baz=117,slow=6.5,SNR=13						
INK	Inuvik	62.53	343	IAmb	IAmb	09 36 25.3	
	comp=Z,4.6nm,0.7s						
INK	Inuvik	62.53	343	P		09 36 24.2	
	baz=129						
N25K	Chitina, Valde	62.99	334	P		09 36 28.3	
	baz=115						
K27K	Chicken	63.05	337	P		09 36 27.9	
	baz=118						
EGAK	Eagle	63.06	338	P		09 36 27.9	
	baz=120						
KLU	Klutina	63.52	333	P		09 36 31.3	
	baz=114						
SCRK	Sand Creek	63.77	336	P		09 36 33.1	
	baz=116						
PAX	Paxson	63.93	335	P		09 36 33.6	
	baz=115						
HDA	Harding Lake	65.13	336	P		09 36 41.1	
	baz=114						
HDA				P		09 36 41.1	
	baz=114						
ILAR	Eielson Array	65.25	336	P	P	09 36 42.1	-1.1
	comp=Z,2.1nm,0.6s,baz=168,slow=4.9,SNR=28						
ILAR				pP	pP	09 36 57.2	-1.9
	comp=Z,1.0nm,0.9s,baz=118,slow=3.8,SNR=4.0						
COLA	College	65.67	336	P		09 36 44.6	
	baz=113						
TCOL	CIGO, UAF Yank	65.67	336	P		09 36 44.6	
	baz=113						
NEA2	Nenana	66.04	336	P		09 36 47.2	
	baz=112						
H24K	Noodor Dome	66.06	337	P		09 36 47.6	
	baz=114						
TRF	Throfare Moun	66.14	334	P		09 36 48.0	
	baz=110						
SKT	Skwentna	66.19	333	P		09 36 48.3	
	baz=108						
SPCR	Spurr Chakacha	66.26	332	P		09 36 48.5	
	baz=107						
I23K	Minto, Yukon-K	66.37	336	P		09 36 49.2	
	baz=112						
BPAW	Bear Paw Mtn.	66.65	335	P		09 36 50.3	
	baz=110						
H23K	Yukon River	66.69	337	P		09 36 51.0	
	baz=112						
PPLA	Purkeypile	66.77	333	P		09 36 51.1	
	baz=108						
MLY	Manley	66.87	336	P		09 36 52.3	
	baz=110,SNR=6.3						
O18K	Koktuh Hills	67.33	330	P		09 36 55.3	
	baz=104						
I21K	Tanana	67.42	336	P		09 36 56.1	
	baz=109						
COLD	Coldfoot	67.45	338	P		09 36 56.8	
	baz=112						
TOLK	Toolik Lake Re	67.77	340	P		09 36 58.1	
	baz=113						
H21K	Melozitna Rive	67.89	336	P		09 36 58.7	
	baz=109						
ESDC	Sonseca Array	77.83	52	P	P	09 37 56.5	-3.0
	comp=Z,0.2nm,0.4s,baz=279,slow=5.6,SNR=1.8						
ESDC				LR	LR	10 06 00.5	
	comp=Z,27nm,21.8s,baz=80,slow=31						
NOA	NORSAR Array B	83.58	29	LR	LR	10 13 02.2	
	comp=Z,7.8nm,20.4s,baz=110,slow=34						
KSRS	Korea Array	119.38	327	PKP	PKPdf	09 44 51.0	-0.2
	comp=Z,0.4nm,0.4s,baz=12,slow=1.6,SNR=4.0						
MKAR	Makanchi Array	120.10	7	PKP	PKPdf	09 44 50.9	-1.5
	comp=Z,0.1nm,0.4s,baz=303,slow=4.6,SNR=2.1						
MKAR	Makanchi Array	120.10	7	PKP	PKPdf	09 44 51.4	-1.0
WRA	Warramunga Arr	138.32	254	PKP	PKPdf	09 45 28.7	+1.1
	comp=Z,0.9nm,0.6s,baz=89,slow=1.6,SNR=10						
WRA				pPKP	pPKPdf	09 45 45.3	+0.4
	comp=Z,1.3nm,0.7s,baz=93,slow=2.7,SNR=4.2						
ASAR	Alice Springs	138.38	249	PKhKP	PKPpre	09 45 18.2	
	comp=Z,0.2nm,0.6s,baz=121,slow=3.6,SNR=1.6						
ASAR				PKP	PKPdf	09 45 28.6	+1.0
	comp=Z,0.4nm,0.7s,baz=97,slow=2.3,SNR=5.6						
ASAR				pPKP	pPKPdf	09 45 45.2	+0.2
	comp=Z,0.7nm,0.7s,baz=86,slow=2.2,SNR=4.0						
FITZ	Fitzroy Crossi	146.65	257	PKPbc	PKPdf	09 45 43.2	+0.8
	comp=Z,7.6nm,1.0s,baz=157,slow=7.7,SNR=3.3						
CMAR	Chiang Mai Arr	148.06	346	PKPbc	PKPdf	09 45 45.0	+0.3
	comp=Z,1.3nm,0.3s,baz=335,slow=3.7,SNR=4.6						
CMAR	Chiang Mai Arr	148.06	346		PKPdf	09 45 44.9	+0.1
CMAR				PKPab	PKPab	09 45 51.8	+1.2

IDC 26 09:26:14.3±3.8, 55.67N×85.93E, h0km, mb1 2.9/2, mb1mx2.9/44, mbtmp2.9/2, ML2.2/2, Error ellipse: s-maj=31.8km s-min=25.6km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.84	201	*i*		09 38 10.0	
	baz=19,slow=314,SNR=3.3						
ZALV	Zalesovo Beam	1.84	201	Pg	Pn	09 26 46.4	-0.7
	1.7nm,0.3s,baz=24,slow=20,SNR=4.9						
ZALV				Lg	Lg	09 27 13.1	
	1.0nm,0.3s,baz=20,slow=28,SNR=5.1						
KURBB	Kurchatov Arra	6.73	224	Pn	Pn	09 27 54.0	-0.3
	0.1nm,0.3s,baz=40,slow=14,SNR=5.1						
MKAR	Makanchi Array	9.17	196	Pn	Pn	09 28 28.4	+0.5
	0.0nm,0.3s,baz=27,slow=13,SNR=2.3						

IDC 26 09:30:12.9±5.0, 5.04S×132.39E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.5/25, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=314.2km s-min=33.0km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.93	173	Pn	Pn	09 33 47.2	+1.7
	0.1nm,0.3s,baz=356,slow=12,SNR=2.5						
ASAR	Alice Springs	18.57	176	P	P	09 34 30.8	-0.9
	0.1nm,0.3s,baz=1.2,slow=9.5,SNR=9.8						
MKAR	Makanchi Array	67.94	325	P	P	09 41 13.7	+0.1
	0.3nm,0.5s,baz=128,slow=7.4,SNR=3.4						

*TRN **26** 09:45:13.4, 11.96N×61.78W, h114km, MD3.5*
*FUNV **26** 09:45:15.0, 11.85N×61.78W, h101km, MW3.4*

ISC 26 09:45:12.0±1.4, 11.93N±0.04×61.82W±0.05, h118km±10km, n20, σ1s30/33, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRGR	Grenville	0.26	39	*eP*	Pn	09 45 28.6	0.0
GRGR				*eS*	Sn	09 45 41.2	+0.2
GRGR	Grenville	0.26	39	*eP*	Pn	09 45 28.6	0.0
GRGR				*eS*	Sn	09 45 40.4	-0.7
GCMP	Grenada, Carri	0.68	35	*eP*	Pn	09 45 31.1	+0.1
GCMP				*eS*	Sn	09 45 45.1	-0.1
TPR	Prospect	1.26	126	*eP*	Pn	09 45 38.4	+1.8
TPR				*eS*	Sn	09 45 55.8	+0.5
TRN	Trinidad (W)	1.34	162	*eP*	Pn	09 45 38.8	+1.3
TRN				*eS*	Sn	09 45 57.2	+0.4
TRN	Trinidad (W)	1.34	162	*eP*	Pn	09 45 38.4	+0.9
TRN				*eS*	Sn	09 45 55.3	-1.5
TOSP	Speyside	1.41	116	*eP*	Pn	09 45 38.8	+0.5
TOSP				*eS*	Sn	09 45 57.3	-0.9
TOSP	Speyside	1.41	116	*eP*	Pn	09 45 38.4	+0.2
TOSP				*eS*	Sn	09 45 56.8	-1.4
SVB	Belmont	1.45	23	*eP*	Pn	09 45 39.4	+0.7
SVB				*eS*	Sn	09 45 58.5	-0.6
TBH	Brigand Hill	1.62	153	*eP*	Pn	09 45 42.9	+2.2
CRUV	Carupano	1.86	228	*eP*	Pn	09 45 44.2	+0.6
CRUV				*eS*	Sn	09 46 07.0	-0.8
MCLT	Moule a Chique	1.97	26	*eP*	Pn	09 45 45.1	+0.1
MCLT				*eS*	Sn	09 46 09.4	-0.8
SLB	Belfond	2.04	22	*eP*	Pn	09 45 46.3	+0.4
SLBI	Saint Lucia, B	2.24	22	*eP*	Pn	09 45 49.3	+0.9
SLBI				*eS*	Sn	09 46 15.3	-1.0
PCRV	Puerto La Cruz	3.27	238	*eP*	Pn	09 46 03.3	+1.5
RIOV	Rio Grande	3.84	180	*eP*	Pn	09 46 10.0	+0.6
RIOV				*eS*	Sn	09 46 50.0	-3.9
PRGV	PARIAGUAN	4.20	222	*eP*	Pn	09 46 15.0	+0.7
PRGV				*eS*	Sn	09 47 00.1	-2.4
BENV	Beln	6.00	252	*eP*	Pn	09 46 40.4	+1.8
CACV	CAICARA DEL OR	6.36	227	*eP*	Pn	09 46 38.1	-5.2
BAUV	El Baul	6.80	245	*eP*	Pn	09 46 50.4	+1.1

*IDC **26** 09:47:43.7±3.3, 4.78S×133.52E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.5/36, mbtmp3.5/4, ML3.3/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/22, Error ellipse: s-maj=131.9km s-min=31.7km az=81.0*
*NEIC **26** 09:47:49.0±1.1, 4.83S±0.05×133.7E±0.1, h37km±11km, mb4.0/5, Error ellipse: s-maj=21.7km s-min=4.7km az=103.0*

ISC 26 09:47:47.0±1.3, 4.90S±0.09×133.7E±0.2, h25km, n14, σ2s14/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	2.46	323	Pn	Pn	09 48 25.4	-0.1
SAUI	Saumlaki	3.91	218	Pn	Pn	09 48 46.6	+1.2
KNRA	Kununurra	11.77	204	Pn	Pn	09 50 35.1	+1.6
WRA	Warramunga Arr	14.97	178	Pn	Pn	09 51 17.1	+0.1
	0.1nm,0.3s,baz=356,slow=13,SNR=1.4						
WRA				Sn	Sn	09 53 56.4	-5.8
	0.1nm,0.3s,baz=360,slow=23,SNR=1.4						
WB2	Warramunga Arr	14.97	178	Pn	Pn	09 51 18.3	+1.3
WB2				IAmb	IAmb	09 51 25.2	
	comp=Z,9.4nm,1.1s						
WR0	Warramunga Arr	14.99	177	Pn	Pn	09 51 18.9	+1.5
FITZ	Fitzroy Crossi	15.32	210	Pn	Pn	09 51 21.1	-0.6
	comp=Z,0.3nm,0.3s,baz=29,slow=9.5,SNR=9.2						
FITZ				Sn	Sn	09 54 00.1	-11
	comp=Z,0.1nm,0.3s,baz=118,slow=6.8,SNR=3.0						
FITZ	Fitzroy Crossi	15.32	210		Pn	09 51 21.1	-0.6
FITZ				IAmb	IAmb	09 51 36.0	
	comp=Z,13nm,1.2s						
AS31	Alice Springs	18.66	180	P	P	09 52 03.4	+0.1
ASAR	Alice Springs	18.66	180	P	P	09 52 05.2	+1.9
	comp=Z,0.1nm,0.3s,baz=5.6,slow=10,SNR=8.7						
ASAR				S	Sn	09 55 22.9	-9.0
	comp=Z,0.0nm,0.3s,baz=311,slow=21,SNR=1.9						
ASAR	Alice Springs	18.66	180	P	Pn	09 52 05.7	+2.0
LEM	Lembang	26.05	265	LR	LR	10 06 04.3	
	comp=Z,307nm,19.6s,baz=166,slow=43						
MKAR	Makanchi Array	68.59	325	P	P	09 58 47.2	-0.7
	comp=Z,0.4nm,0.8s,baz=121,slow=7.4,SNR=2.3						
VNDA	Vanda	74.10	174	P	P	09 59 20.8	+0.2
VNDA				IAmb	IAmb	09 59 41.6	
	comp=Z,2.1nm,1.2s						

IDC 26 09:57:25.6±2.8, 16.42S×174.52W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/34, mbtmp4.1/5, ML3.1/1, Error ellipse: s-maj=66.2km s-min=34.8km az=28.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	14.76	111	Pn	Pn	10 00 56.5	+0.7
	0.8nm,0.3s,baz=268,slow=15,SNR=2.2						
URZ	Urewera	22.97	197	P	P	10 02 31.3	-0.5
	6.2nm,0.8s,baz=302,slow=23,SNR=2.5						
WRA	Warramunga Arr	48.56	258	P	P	10 06 11.0	-0.3
	0.2nm,0.4s,baz=96,slow=6.9,SNR=7.4						
ASAR	Alice Springs	48.77	253	P	P	10 06 13.2	+0.5
	4.0nm,0.5s,baz=89,slow=8.3,SNR=103						
ASAR				PcP	PcP	10 07 36.4	-1.5
	0.3nm,0.8s,baz=105,slow=3.8,SNR=1.8						
VNDA	Vanda	62.26	186	P	P	10 07 49.3	+0.3
	0.6nm,0.7s,baz=358,slow=8.2,SNR=5.0						

*UPP **26** 09:58:58.9±3.4, 64.66N×31.36E, h2km, ML1.6, Suspected explosion*
*KOLA **26** 09:58:59.8, 64.71N×30.24E, h0km, ML2.6, Karelia,Finland, Oulu area*
*NAO **26** 09:59:01.9±1.5, 64.81N×30.52E, ML2.5*
*BER **26** 09:59:03.9±2.6, 64.86N×30.33E, h0km, ML2.5(NAO), Suspected explosion*

**ISC 26 09:59

baz=23,slow=37
FIA0 Rg Rg 10 01 26.3
baz=31,slow=37
FIA0 FINESS Array S 3.95 216 Pn **Pn 10 00 03.2 +0.7**
baz=36,slow=14
FIA0 Sn **Sn 10 00 49.7 +0.2**
baz=31,slow=18
FIA0 Sg **Sg 10 01 05.0 -2.5**
baz=23,slow=37
LILU Lilltraesk 4.71 282 P **Pn 10 00 13.0 +0.1**
LANU Lannavaara 4.88 317 P **Pn 10 00 15.0 -0.3**
ARA0 ARCESS Array S 5.26 339 Pn **Pn 10 00 18.8 -1.7**
baz=155,slow=14
ARA0 Lg Lg 10 01 40.8
baz=150,slow=37
ARA0 ARCESS Array S 5.26 339 Pn **Pn 10 00 18.8 -1.7**
baz=155,slow=14
ARA0 Sg **Sb 10 01 40.8 +3.8**
baz=150,slow=37
RATU Laukkuluspa 5.51 309 P **Pn 10 00 23.8 -0.1**
KOVU Salmi 5.54 314 P **Pn 10 00 23.2 -1.1**
KOVU S **Sn 10 01 28.2 -0.4**
NIKU Nikkaluokta 5.71 309 P **Pn 10 00 26.1 -0.7**

ROM 26 10:02:25.9±1.0, 35°90N±0°10×12°86E±0°07, h20km, ML2.5/2, 2C, Error ellipse: s-maj=11.7km s-min=5.6km az=339.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAVR	**Favara**	**1.51**	**25**	P	Pb	10 02 53.1	-0.2
CLTA	**Licata**	**1.54**	**35**	P	Pb	10 02 53.2	-0.6
RAFF	**Raffo Rosso**	**1.79**	**42**	P	Pn	10 02 55.5	-0.3
HMDC	**Modica**	**1.88**	**55**	P	Pn	10 02 57.5	+0.6
HMDC				S	Sn	10 03 20.7	+0.7
HMDC	comp=N,91μm,1.2s			AML	AML		
HMDC	comp=E,95μm,1.6s			AML	AML		
MEU	**Monte Lauro**	**2.06**	**54**	P	Pn	10 03 00.0	+0.6
MEU				S	Sn	10 03 24.8	+0.2
MEU	comp=E,114μm,0.8s			AML	AML		
MEU	comp=N,154μm,0.3s			AML	AML		
HLNI	**Lentini**	**2.17**	**48**	↑P	Pn	10 03 01.2	+0.3
HLNI				S	Sn	10 03 27.1	-0.1
SSY	**Sortino**	**2.18**	**54**	P	Pn	10 03 01.8	+0.8
SPS2	**Spezzano della**	**4.37**	**38**	P	Pn	10 03 29.8	-1.5
TDS	**Terranova Siba**	**4.66**	**35**	P	Pb	10 03 41.2	-5.7
ACER	**Acerenza**	**5.45**	**25**	↑P	Pn	10 03 47.9	+1.8

*TUL **26** 10:03:44.3±1.4, 35°74N±0°01×97°38W±0°01, h5km±5km, ML2.6, mb_Lg2.4/32(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=145.0*

NEIC 26 10:03:44.6±1.0, 35°76N±0°01×97°38W±0°01, h9km±4km, Error ellipse: s-maj=1.9km s-min=0.9km az=154.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.07**	**303**		Pg	10 03 46.5	-0.2
OK029				Sg	Sg	10 03 48.1	-0.1
OK025	**Westminster Rd**	**0.18**	**169**		Pg	10 03 47.9	-0.4
OK025				Sg	Sg	10 03 51.0	+0.1
OK005	**Luther M Schoo**	**0.18**	**123**	Pg	Pg	10 03 48.2	-0.2
OK005				Sg	Sg	10 03 51.3	+0.2
OK001	**Jones High Sch**	**0.21**	**159**	Pg	Pg	10 03 48.4	-0.5
OK001				Sg	Sg	10 03 51.9	+0.1
BCOK	**Bluff Creek, N**	**0.21**	**242**		Pg	10 03 48.5	-0.4
BCOK				Sg	Sg	10 03 52.1	+0.3
OKCFA	**Oklahoma City**	**0.35**	**190**		Pg	10 03 51.0	-0.4
OKCFA				Sg	Sg	10 03 56.3	+0.3
OKCSW	**OKLAHOMA CITY**	**0.35**	**188**		Pg	10 03 51.2	-0.4
OKCSW				Sg	Sg	10 03 56.6	+0.3
OK031	**S. Brethren Rd**	**0.48**	**66**		Pg	10 03 54.0	0.0
OK031				Sg	Sg	10 04 00.8	+0.5
FNO	**Franklin**	**0.50**	**182**		Pg	10 03 53.9	-0.4
FNO				Sg	Sg	10 04 01.3	+0.5
OK030	**Cody Creek RV**	**0.51**	**70**		Pg	10 03 54.5	0.0
OK030				Sg	Sg	10 04 02.1	+0.7
QUOK	**Quay**	**0.69**	**53**		Pg	10 03 57.5	-0.3
QUOK				Sg	Sg	10 04 07.3	+0.6
CROK	**Carrier**	**0.89**	**327**	Pg	Pg	10 04 01.2	-0.5
CROK				Sg	Sb	10 04 14.0	-0.4
BLOK	**Blackwell**	**1.01**	**8**		Pg	10 04 03.7	-0.3
BLOK				Sg	Sg	10 04 17.4	+0.2
X34A	**Smith Ranch, M**	**1.21**	**198**	Pg	Pb	10 04 07.1	-0.6
OK032	**Salt Plains WL**	**1.24**	**328**	Pn	Pn	10 04 07.6	-0.6
KAN13	**South Haven SW**	**1.26**	**356**		Pn	10 04 08.0	-0.4
KAN14	**Manchester OK**	**1.29**	**339**		Pn	10 04 08.5	-0.3
KAN17	**Caldwell West**	**1.32**	**347**		Pn	10 04 09.1	-0.2
T35A	**Sooner Cattle**	**1.35**	**31**		Pn	10 04 09.3	-0.5
KAN09	**Caldwell North**	**1.39**	**352**		Pn	10 04 10.2	0.0
KS20	**Mayfield South**	**1.48**	**355**		Pn	10 04 11.8	+0.4
KAN10	**Anthony SW Sta**	**1.48**	**337**		Pn	10 04 11.8	+0.3
WMOK	**Wichita Mounta**	**1.53**	**229**		Pn	10 04 12.1	-0.1
KAN08	**Anthony NE Sta**	**1.54**	**342**		Pn	10 04 12.6	+0.3
KS21	**Milan North St**	**1.54**	**352**	lAmb_Lg		10 04 34.0	
comp=Z,18nm,0.8s							
KAN16	**Harper SW Stat**	**1.57**	**340**		Pn	10 04 12.9	+0.2
LOOK	**Love County**	**1.77**	**175**		Pn	10 04 16.0	+0.6
X37A	**Clayton**	**2.02**	**125**		Pn	10 04 19.7	+0.9
Z35A	**Perchaven, San**	**2.42**	**177**	Pn	Pn	10 04 25.5	+1.1
U38A	**Gravette**	**2.52**	**73**		Pn	10 04 27.7	+1.9
W39A	**Magazine**	**2.99**	**100**	Pn	Pn	10 04 32.2	0.0
Z38A	**Mt. Pleasant**	**3.18**	**141**	lAmb_Lg		10 05 28.5	
comp=Z,13nm,0.9s							
MIAR	**Mount Ida**	**3.34**	**110**	Pn	Pn	10 04 37.7	+0.6
MIAR				lAmb_Lg		10 05 38.0	
comp=Z,8.5nm,0.9s							
CBKS	**Cedar Bluff**	**3.58**	**329**	lAmb_Lg		10 05 45.4	
comp=Z,12nm,0.7s							
AMTX	**Amarillo**	**3.62**	**257**	lAmb_Lg		10 05 45.4	
comp=Z,7.8nm,0.8s							
S39A	**Bolivar**	**3.79**	**58**	lAmb_Lg		10 05 50.1	
comp=Z,8.5nm,0.9s							
WHAR	**Wooly Hollow**	**4.18**	**95**	Pn	Pn	10 04 48.1	-0.4
FCAR	**Ozark Folk Cen**	**4.27**	**87**	Pn	Pn	10 04 49.3	-0.5
MGMO	**Mountain Grove**	**4.35**	**70**	Pn	Pn	10 04 50.7	-0.2
MGMO				lAmb_Lg		10 06 06.1	
comp=Z,11nm,0.7s							
NATX	**Nacogdoches**	**4.58**	**150**	Pn	Pn	10 04 53.9	-0.3
R40A	**Maddies Statio**	**4.81**	**57**	lAmb_Lg		10 06 16.2	
comp=Z,6.9nm,0.8s							
P38A	**Dawn**	**4.92**	**37**	lAmb_Lg		10 06 34.4	
comp=Z,5.2nm,0.8s							
LCAR	**Lake Charles**	**5.06**	**85**	lAmb_Lg		10 06 28.7	
comp=Z,5.9nm,0.8s							
T42A	**Van Buren**	**5.23**	**74**	lAmb_Lg		10 06 35.8	
comp=Z,4.9nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.29**	**309**	lAmb_Lg		10 06 39.8	
comp=Z,5.4nm,0.7s							
CCM	**Cathedral Cave**	**5.43**	**63**	lAmb_Lg		10 06 36.1	
comp=Z,6.4nm,0.7s							
JCT	**Junction City**	**5.64**	**202**	lAmb_Lg		10 06 53.0	
comp=Z,6.3nm,0.7s							
PBMO	**Poplar Bluff**	**5.71**	**78**	lAmb_Lg		10 06 57.5	
comp=Z,5.3nm,0.8s							
T25A	**Trinidad**	**5.83**	**286**	lAmb_Lg		10 06 55.4	
comp=Z,4.7nm,0.9s							

ISC 26 10:07:58.8±1.1, 49°02N±0°04×18°34E±0°05, h10km, n6, σ0°62/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLL	**Kolacno**	**0.44**	**175**	*e*SG	**Sg**	**10 08 13.6**	**+0.4**
JAVC	**Velka Javorina**	**0.47**	**251**	*e*PG	**Pg**	**10 08 07.7**	**-0.3**
JAVC				*e*SG	**Sb**	**10 08 17.3**	**+1.1**
VYHS	**Vyhne**	**0.62**	**148**	*e*PG	**Pg**	**10 08 10.3**	**-0.5**
VYHS				*e*SG	**Sg**	**10 08 19.1**	**+0.2**
VYHS				*e*LG	Lg	10 08 20.5	
LANS	**Liptovska Anna**	**0.75**	**79**	*e*PG	**Pn**	**10 08 15.7**	**+0.2**
MORC	**Moravsky Berou**	**0.92**	**326**	*e*PG	**Pg**	**10 08 16.2**	**-0.3**
MORC				*e*SG	**Sg**	**10 08 28.5**	**0.0**
MODS	**Modra-Piesok**	**0.95**	**228**	*e*PG	**Pg**	**10 08 16.4**	**-0.7**
MODS				*e*SG	**Sn**	**10 08 31.4**	**-0.5**
MODS				*e*LG	Lg	10 08 33.3	

IDC 26 10:11:28.2±4.2, 2°62S×150°61E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/26, mbtmp3.4/2, Error ellipse: s-maj=163.9km s-min=51.3km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.42**	**222**	P	P	10 16 39.9	+0.7
	0.4nm,0.4s,baz=46,slow=9.4,SNR=7.0						
ASAR	**Alice Springs**	**26.43**	**216**	P	P	10 17 06.5	-0.5
	0.4nm,0.4s,baz=47,slow=8.2,SNR=12						
TORD	**Torodi Ar. Bea**	**147.52**	**290**	PKPbc	PKPbc	10 31 14.7	-0.8
	0.3nm,0.6s,baz=100,slow=2.9,SNR=1.8						

*ANF **26** 10:18:35.8±0.2, 36°12N×97°33W, h3km, ML3.6/14, Error ellipse: s-maj=2.6km s-min=2.0km az=122.0*

*TUL **26** 10:18:35.7±1.6, 36°101N±0°010×97°34W±0°01, h5km±7km, ML3.1, mb_Lg3.0/92(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=142.0*

*NEIC **26** 10:18:36.1±1.2, 36°11N±0°01×97°36W±0°02, h5km±7km, Error ellipse: s-maj=2.0km s-min=1.7km az=78.0*

ISC 26 10:18:35.9±1.1, 36°12N±0°02×97°34W±0°02, h3km±10km, n105, σ0°63/108, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.33**	**196**	Pg	**Pg**	**10 18 42.3**	**0.0**
OK029				Sg	**Sg**	**10 18 47.0**	**+0.4**
OK031	**S. Brethren Rd**	**0.44**	**112**	Pg	**Pg**	**10 18 44.5**	**+0.2**
OK031				Sg	**Sg**	**10 18 50.6**	**+0.6**
OK005	**Luther M Schoo**	**0.48**	**165**	Pg	**Pg**	**10 18 45.1**	**0.0**
OK005				Sg	**Sg**	**10 18 52.0**	**+0.7**
OK030	**Cody Creek RV**	**0.49**	**112**	Pg	**Pg**	**10 18 45.5**	**+0.2**
OK030				Sg	**Sg**	**10 18 52.5**	**+0.9**
BCOK	**Bluff Creek, N**	**0.51**	**205**	Pg	**Pg**	**10 18 45.5**	**-0.2**
BCOK				Sg	**Sg**	**10 18 52.6**	**+0.4**
QUOK	**Quay**	**0.52**	**84**	Pg	**Pg**	**10 18 46.0**	**+0.2**
QUOK				Sg	**Sb**	**10 18 53.7**	**-1.8**
OK025	**Westminster Rd**	**0.54**	**180**	Pg	**Pg**	**10 18 46.1**	**-0.1**
OK025				Sg	**Sg**	**10 18 53.6**	**+0.6**
OK009	**Oakdale Elemen**	**0.54**	**187**	Sg	**Sg**	**10 18 53.9**	**+0.7**
OK001	**Jones High Sch**	**0.56**	**176**	Pg	**Pg**	**10 18 46.5**	**-0.1**
OK001				Sg	**Sg**	**10 18 54.4**	**+0.6**
CROK	**Carrier**	**0.65**	**307**	Pg	**Pg**	**10 18 48.3**	**0.0**
CROK				Sg	**Sg**	**10 18 57.4**	**+0.7**
BLOK	**Blackwell**	**0.65**	**9**	Pg	**Pg**	**10 18 48.5**	**+0.1**
BLOK				Sg	**Sb**	**10 18 58.3**	**-1.2**
OKCFA	**Oklahoma City**	**0.71**	**187**	Pg	**Pg**	**10 18 47.9**	**-1.5**
OKCFA				Sg	**Sg**	**10 18 58.8**	**+0.2**
OKCFA	**Oklahoma City**	**0.71**	**187**	P	**Pg**	**10 18 49.1**	**-0.3**
baz=7.6,SNR=18							
OKCFA				S	**Sg**	**10 18 58.8**	**+0.2**
baz=7.6							
OKCFA	**Oklahoma City**	**0.71**	**187**	P		10 18 49.1	
baz=7.6,SNR=18							
OKCFA				S		10 18 58.8	
baz=7.6							
OKCSW	**OKLAHOMA CITY**	**0.71**	**186**		**Pg**	**10 18 49.3**	**-0.3**
OKCSW				Sg	**Sg**	**10 18 59.3**	**+0.5**
OK011	**Prague**	**0.82**	**140**	Sg	**Sg**	**10 19 02.5**	**+0.1**
FNO	**Franklin**	**0.86**	**183**		**Pg**	**10 18 51.8**	**-0.6**
FNO				Sg	**Sg**	**10 19 03.6**	**+0.1**
KAN13	**South Haven SW**	**0.90**	**353**		**Pg**	**10 18 53.1**	**-0.1**
KAN13				Sg	**Sb**	**10 19 05.6**	**-1.1**
KAN14	**Manchester OK**	**0.98**	**329**		**Pg**	**10 18 54.4**	**-0.3**
KAN14				Sg	**Sg**	**10 19 07.7**	**+0.4**
OK032	**Salt Plains WL**	**0.98**	**315**		**Pg**	**10 18 54.3**	**-0.4**
OK032				Sg	**Sg**	**10 19 07.6**	**+0.1**
KAN17	**Caldwell West**	**0.99**	**340**		**Pg**	**10 18 54.5**	**-0.3**
KAN17				Sg	**Sg**	**10 19 08.1**	**+0.5**
W35A	**Tecumseh**	**1.03**	**158**		**Pg**	**10 18 54.8**	**-0.9**
W35A				Sg	**Sg**	**10 19 08.6**	**-0.5**
W35A				lAmb_Lg		10 19 10.3	
comp=Z,163nm,0.7s							
T35A	**Sooner Cattle**	**1.04**	**40**		**Pg**	**10 18 55.6**	**-0.2**
T35A				Sg	**Sg**	**10 19 09.5**	**+0.1**
KAN09	**Caldwell North**	**1.04**	**348**		**Pg**	**10 18 55.6**	**-0.3**
T35B	**Sooner Cattle**	**1.04**	**40**	P	**Pg**	**10 18 55.6**	**-0.3**
baz=220,SNR=130							
T35B				S	**Sg**	**10 19 09.5**	**+0.1**
baz=220							
T35B	**Sooner Cattle**	**1.04**	**40**	P		10 18 55.6	
baz=220,SNR=130							
T35B				S		10 19 09.5	
baz=220							
KS20	**Mayfield South**	**1.12**	**351**	Pg	**Pg**	**10 18 57.2**	**-0.3**
KS20				Sg	**Sg**	**10 19 11.8**	**-0.2**
KAN10	**Anthony SW Sta**	**1.17**	**329**		**Pg**	**10 18 57.9**	**-0.6**
KAN10				Sg	**Sb**	**10 19 14.1**	**-0.4**
KAN08	**Anthony NE Sta**	**1.22**	**336**		**Pg**	**10 18 58.7**	**-0.6**
KAN08				Sg	**Sb**	**10 19 15.7**	**-0.1**
KAN16	**Harper SW Stat**	**1.25**	**332**		**Pg**	**10 18 59.4**	**-0.5**
KAN16				Sg	**Sb**	**10 19 16.6**	**-0.2**
TUL1	**Leonard**	**1.27**	**99**	P	**Pg**	**10 18 59.0**	**-1.3**
baz=280,SNR=20							
TUL1				S	**Sg**	**10 19 16.4**	**-0.4**
baz=280							
TUL1	**Leonard**	**1.27**	**99**	P		10 18 59.0	
baz=280,SNR=20							
TUL1				S		10 19 16.4	
baz=280							
KAN12	**Harper NE Stat**	**1.29**	**336**		**Pg**	**10 19 00.0**	**-0.6**
U32A	**Winter Ranch,**	**1.37**	**282**	Pn	**Pn**	**10 19 01.1**	**-0.9**
U32A	**Winter Ranch,**	**1.37**	**282**	P	**Pn**	**10 19 01.1**	**-0.9**
baz=101							
U32A	**Winter Ranch,**	**1.37**	**282**	P		10 19 01.1	
baz=101							
X34A	**Smith Ranch, M**	**1.56**	**195**		**Pn**	**10 19 04.4**	**-0.3**
WMOK	**Wichita Mounta**	**1.81**	**221**		**Pn**	**10 19 07.8**	**-0.3**
WMOK				lAmb_Lg		10 19 34.9	
comp=Z,58nm,1.0s							
WMOK	**Wichita Mounta**	**1.81**	**221**	P	**Pn**	**10 19 07.9**	**-0.2**
baz=40,SNR=298							
WMOK				S	**Sb**	**10 19 32.4**	**-0.4**
baz=40							
WMOK	**Wichita Mounta**	**1.81**	**221**	P		10 19 07.9	
baz=40,SNR=298							
WMOK				S		10 19 32.4	
baz=40							
LOOK	**Love County**	**2.12**	**176**		**Pn**	**10 19 13.2**	**+0.8**
LOOK				lAmb_Lg		10 19 44.4	
comp=Z,59nm,0.9s							
X37A	**Clayton**	**2.22**	**133**		**Pn**	**10 19 13.8**	**+0.2**
X37A				lAmb_Lg		10 19 50.3	
comp=Z,42nm,0.8s							
X37A	**Clayton**	**2.22**	**133**	P	**Pn**	**10 19 13.8**	**+0.2**
baz=314,SNR=16							
X37A	**Clayton**	**2.22**	**133**	P		10 19 13.8	
baz=314,SNR=16							
U38A	**Gravette**	**2.41**	**81**		**Pn**	**10 19 16.9**	**+0.6**
U38A				lAmb_Lg		10 19 57.3	
comp=Z,45nm,0.7s							
U38A	**Gravette**	**2.41**	**81**	P	**Pn**	**10 19 16.6**	**+0.3**
baz=263,SNR=66							
U38A	**Gravette**	**2.41**	**81**	P		10 19 16.6	
baz=263,SNR=66							
R32A	**Long Quarter,**	**2.55**	**335**		**Pn**	**10 19 19.7**	**+1.5**
R32A				lAmb_Lg		10 19 58.2	
comp=Z,40nm,0.8s							
R32A	**Long Quarter,**	**2.55**	**335**	P	**Pn**	**10 19 18.3**	**0.0**
baz=154,SNR=23							
R32A				S	**Sn**	**10 19 50.1**	**+0.3**
baz=154							
R32A	**Long Quarter,**	**2.55**	**335**	P		10 19 18.3	
baz=154,SNR=23							
R32A				S		10 19 50.1	
baz=154							
HHAR	**Hobbs**	**2.76**	**86**		**Pn**	**10 19 21.2**	**+0.2**
Z35A	**Perchaven, San**	**2.78**	**178**	Pn	**Pn**	**10 19 19.7**	**-1.7**
Z35A	**Perchaven, San**	**2.78**	**178**	P	**Pn**	**10 19 21.7**	**+0.3**
baz=359							
Z35A				S	**Sn**	**10 19 56.6**	**+1.1**
baz=359							
Z35A	**Perchaven, San**	**2.78**	**178**	P		10 19 21.7	
baz=359							
Z35A				S		10 19 56.6	
baz=359							
W39A	**Magazine**	**3.04**	**107**	Pn	**Pn**	**10 19 25.1**	**+0.2**
W39A				lAmb_Lg		10 20 17.0	
comp=Z,40nm,0.8s							
W39A	**Magazine**	**3.04**	**107**	P	**Pn**	**10 19 25.1**	**+0.2**
baz=289							
W39A	**Magazine**	**3.04**	**107**	P		10 19 25.1	
baz=289							
CBKS	**Cedar Bluff**	**3.30**	**325**	Pn	**Pn**	**10 19 28.5**	**0.0**
CBKS	**Cedar Bluff**	**3.30**	**325**	P	**Pn**	**10 19 28.6**	**0.0**
baz=144,SNR=8.9							
CBKS	**Cedar Bluff**	**3.30**	**325**	P		10 19 28.6	
baz=144,SNR=8.9							
Z38A	**Mt. Pleasant**	**3.45**	**145**	Pn	**Pn**	**10 19 30.4**	**-0.1**
Z38A				lAmb_Lg		10 20 33.4	
comp=Z,54nm,1.1s							
MIAR	**Mount Ida**	**3.45**	**116**	Pn	**Pn**	**10 19 31.0**	**+0.4**
MIAR	**Mount Ida**	**3.45**	**116**	P	**Pn**	**10 19 30.9**	**+0.2**
baz=298,SNR=21							
MIAR	**Mount Ida**	**3.45**	**116**	P		10 19 30.9	
baz=298,SNR=21							
S39A	**Bolivar**	**3.58**	**63**	Pn	**Pn**	**10 19 33.2**	**+0.8**
S39A	**Bolivar**	**3.58**	**63**	P	**Pn**	**10 19 33.2**	**+0.8**
baz=245,SNR=36							
S39A	**Bolivar**	**3.58**	**63**	P		10 19 33.2	
baz=245,SNR=36							
U40A	**Yellville**	**3.64**	**85**	Pn	**Pn**	**10 19 33.4**	**+0.2**
U40A	**Yellville**	**3.64**	**85**	P	**Pn**	**10 19 33.5**	**+0.4**
baz=268,SNR=10							
U40A	**Yellville**	**3.64**	**85**	P		10 19 33.5	
baz=268,SNR=10							
U40A				P		10 19 33.5	
baz=268,SNR=10							
AMTX	**Amarillo**	**3.75**	**252**		**Pn**	**10 19 35.0**	**+0.2**
AMTX				lAmb_Lg		10 20 38.0	
comp=Z,25nm,0.8s							
AMTX	**Amarillo**	**3.75**	**252**	P	**Pn**	**10 19 35.2**	**+0.4**
baz=70,SNR=7.9							
AMTX	**Amarillo**	**3.75**	**252**	P		10 19 35.2	
baz=70,SNR=7.9							
ABTX	**Abilene, Hawle**	**3.97**	**209**	Pn	**Pn**	**10 19 38.2**	**+0.5**
X40A	**Basin Creek Fa**	**4.03**	**112**	Pn	**Pn**	**10 19 38.1**	**-0.4**
X40A				lAmb_Lg		10 20 45.4	
comp=Z,35nm,0.9s							
WHAR	**Wooly Hollow**	**4.19**	**100**	Pn	**Pn**	**10 19 40.7**	**-0.1**
WHAR				lAmb_Lg		10 20 59.6	
comp=Z,31nm,0.9s							
MGMO	**Mountain Grove**	**4.21**	**74**	Pn	**Pn**	**10 19 41.9**	**+0.9**
MGMO				lAmb_Lg		10 20 52.1	
comp=Z,46nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.24**	**92**	lAmb_Lg		10 20 59.2	
comp=Z,21nm,0.8s							
WLAR	**White Oak Lake**	**4.24**	**124**	lAmb_Lg		10 20 59.8	
comp=Z,24nm,0.8s							
237A	**Washetta, Mont**	**4.30**	**162**	Pn	**Pn**	**10 19 41.6**	**-0.7**
R40A	**Maddies Statio**	**4.59**	**60**		**Pn**	**10 19 46.4**	**+0.1**
P38A	**Dawn**	**4.62**	**40**	Pn	**Pn**	**10 19 46.2**	**-0.5**
P38A				lAmb_Lg		10 21 02.7	
comp=Z,24nm,0.7s							
N35A	**Tabor**	**4.92**	**15**	Pn	**Pn**	**10 19 51.0**	**+0.2**
MSTX	**Muleshoe**	**4.94**	**246**	Pn	**Pn**	**10 19 50.6**	**-0.7**
LCAR	**Lake Charles**	**5.01**	**89**	Pn	**Pn**	**10 19 51.0**	**-1.0**
LCAR				lAmb_Lg		10 21 14.8	
comp=Z,22nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.10**	**306**		**Pn**	**10 19 53.6**	**+0.2**
T42A	**Van Buren**	**5.11**	**78**	Pn	**Pn**	**10 19 54.1**	**+0.7**
T42A				lAmb_Lg		10 21 17.8	
comp=Z,19nm,0.8s							
CCM	**Cathedral Cave**	**5.24**	**67**	Pn	**Pn**	**10 19 55.9**	**+0.7**
P40A	**Paris**	**5.40**	**49**	lAmb_Lg		10 21 39.5	
comp=Z,18nm,0.7s							
PBMO	**Poplar Bluff**	**5.61**	**81**	lAmb_Lg		10 21 40.1	
comp=Z,23nm,0.8s							
T25A	**Trinidad**	**5.78**	**282**	lAmb_Lg		10 21 46.1	
comp=Z,32nm,1.0s							
143A	**Socs Landing,**	**5.97**	**123**	lAmb_Lg		10 22 00.8	
comp=Z,18nm,1.0s							
JCT	**Junction City**	**5.99**	**201**	lAmb_Lg		10 21 48.5	
comp=Z,23nm,0.9s							
OGNE	**Ogallala**	**6.06**	**324**	Pn	**Pn**	**10 20 07.6**	**+1.0**
OGNE				lAmb_Lg		10 22 02.5	
comp=Z,22nm,0.8s							
SCIA	**State Center**	**6.61**	**28**	lAmb_Lg		10 22 10.3	
comp=Z,24nm,0.7s							
S44A	**Carbondale**	**6.67**	**74**	lAmb_Lg		10 22 05.7	
comp=Z,27nm,0.8s							
OXF	**Oxford**	**6.68**	**102**	Pn	**Pn**	**10 20 15.2**	**+0.3**
OXF				lAmb_Lg		10 22 16.3	
comp=Z,21nm,0.8s							
SDCO	**Great Sand Dun**	**6.74**	**286**	Pn	**Pn**	**10 20 17.2**	**+1.2**
P43A	**Skaggs, Pawnee**	**7.11**	**58**	lAmb_Lg		10 22 20.2	
comp=Z,25nm,0.9s							
ISCO	**Idaho Springs**	**7.50**	**302**	lAmb_Lg		10 22 41.7	
comp=Z,16nm,1.2s							
L40A	**Anamosa**	**7.61**	**37**	Pn	**Pn**	**10 20 28.7**	**+1.0**
L40A				lAmb_Lg		10 22 36.6	
comp=Z,13nm,0.8s							
ECSD	**EROS Data Cent**	**7.63**	**4**	Pn	**Pn**	**10 20 26.6**	**-1.4**
WVT	**Waverly**	**7.70**	**87**	lAmb_Lg		10 22 48.8	
comp=Z,11nm,0.9s							
HDIL	**Hopedale**	**7.72**	**53**	Pn	**Pn**	**10 20 29.4**	**+0.2**
OLIL	**Olney**	**7.80**	**68**	lAmb_Lg		10 22 48.2	
comp=Z,14nm,0.7s							
MNTX	**Cornudas Mount**	**8.00**	**239**	Pn	**Pn**	**10 20 32.7**	**-0.5**
O44A	**Mansfield**	**8.07**	**57**	lAmb_Lg		10 22 53.8	
comp=Z,13nm,0.8s							
L42A	**Oliver, Polo**	**8.38**	**43**	lAmb_Lg		10 23 10.1	
comp=Z,18nm,0.8s							
I37A	**Lemond, Waseca**	**8.45**	**20**	lAmb_Lg		10 23 18.6	
comp=Z,12nm,0.8s							
V48A	**Smith Brothers**	**8.54**	**89**	lAmb_Lg		10 23 30.0	
comp=Z,16nm,0.9s							
X48A	**Hartselle**	**8.58**	**98**	lAmb_Lg		10 23 15.9	
comp=Z,15nm,1.3s							
JFWS	**Jewell Farm**	**8.72**	**37**	Pn	**Pn**	**10 20 44.0**	**+1.0**
JFWS				lAmb_Lg		10 23 14.4	
comp=Z,15nm,0.8s							
P46A	**Rosedale**	**8.74**	**63**	lAmb_Lg		10 23 18.7	
comp=Z,14nm,0.7s							
WCI	**Wyandotte Cave**	**9.07**	**73**	lAmb_L

ISC 26 10:38:01.5±0.6, 41°49N±0°04×142°10E±0°04, h62km±4km, n287, σ1°65/294, mb4.6/90, 30C-25D, Fault plane solution: NP1:ϕ=36.94935°, δ=69.41620°, λ=77.48143°. NP2:ϕ=249.22337°, δ=23.94965°, λ=119.99206°. Principal axes: T Plg63.4865°, Azm286.8689°; N Plg11.7077°, Azm41.4129°; P Plg23.4297°, Azm136.5653°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.62**	**249**	⇓P		**Pn**	**10 38 14.5**	**-0.3**
JAHD				S		**Sn**	**10 38 24.0**	**-0.6**
JARK	**Aomorirokkasho**	**0.73**	**230**	⇓P		**Pn**	**10 38 15.5**	**-0.7**
JARK				S		**Sn**	**10 38 25.7**	**-1.3**
JOT	**Ohata**	**0.80**	**263**	⇓P		**Pn**	**10 38 16.2**	**-0.8**
JOT				S		**Sn**	**10 38 27.3**	**-1.2**
JKB	**Kayabe**	**0.90**	**297**	⇓P		**Pn**	**10 38 17.3**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.93**	**31**	⇑P		**Pn**	**10 38 18.7**	**0.0**
JNBK				*e*S		**Sn**	**10 38 31.9**	**+0.5**
ERM	**Erimo**	**0.95**	**56**	*ce*P		**Pn**	**10 38 19.6**	**+0.7**
ERM	comp=Z,5μm,0.7s			pmax	pmax			
ERM	**Erimo**	**0.95**	**56**			**Pn**	**10 38 19.7**	**+0.8**
JEM	**Erimo**	**0.95**	**56**	⇑P		**Pn**	**10 38 19.7**	**+0.8**
JEM				*e*S		**Sn**	**10 38 33.4**	**+1.6**
JTM	**Tenmabayashi**	**1.05**	**229**	⇓P		**Pn**	**10 38 19.8**	**-0.4**
JTM				S		**Sn**	**10 38 33.6**	**-0.5**
JTM	**Tenmabayashi**	**1.05**	**229**	Pn		**Pn**	**10 38 19.9**	**-0.4**
JIAM	**Iburiatsuma**	**1.15**	**353**	⇓P		**Pn**	**10 38 22.3**	**+0.8**
JIAM				S		**Sn**	**10 38 38.0**	**+1.7**
JANG	**Nango**	**1.20**	**202**	P		**Pn**	**10 38 21.6**	**-0.6**
JANG				S		**Sn**	**10 38 36.8**	**-0.8**
JNB	**Noboribetsu**	**1.26**	**321**	⇓P		**Pn**	**10 38 22.1**	**-0.9**
JNB				*e*S		**Sn**	**10 38 37.9**	**-1.3**
JSR	**Shiriuchi**	**1.27**	**273**	⇓P		**Pn**	**10 38 22.4**	**-0.7**
JBT2	**Biratori 2**	**1.31**	**8**	⇓P		**Pn**	**10 38 24.2**	**+0.6**
JEW	**Eniwo**	**1.44**	**340**	⇓P		**Pn**	**10 38 25.5**	**+0.2**
JEW	**Eniwo**	**1.44**	**340**			**Pn**	**10 38 25.6**	**+0.2**
JYM2	**Yakumo 2**	**1.44**	**297**	⇓P		**Pn**	**10 38 25.2**	**-0.2**
JCH	**Churui**	**1.47**	**39**	⇓P		**Pn**	**10 38 27.1**	**+1.4**
JOMM	**Oshimamatsumae**	**1.58**	**272**	⇓P		**Pn**	**10 38 26.4**	**-0.8**
JOMM				*e*S		**Sn**	**10 38 45.3**	**-1.3**
JFR	**Furan**	**1.72**	**12**	⇓P		**Pn**	**10 38 29.6**	**+0.5**
JOSM	**Okushiri--Mats**	**2.06**	**288**	⇓P		**Pn**	**10 38 32.6**	**-1.1**
ASAJ	**Asahikawa**	**2.66**	**8**	P		**Pn**	**10 38 42.9**	**+1.0**
ASAJ	comp=Z,41nm,0.3s,baz=215,slow=10,SNR=139			S		**Sn**	**10 39 10.5**	**-2.4**
	comp=Z,36nm,0.3s,baz=217,slow=17,SNR=9.5							
JKA	**Kamikawa-asahi**	**2.66**	**8**	Pn		**Pn**	**10 38 43.1**	**+1.2**
NMR	**Nemuro--Hokkai**	**3.28**	**54**	⇑*i*P		**Pn**	**10 38 49.6**	**-0.7**
NMR				*e*S		**Sn**	**10 39 25.2**	**-2.9**
GLVR	**Golovnino**	**3.38**	**47**	*e*P		**Pn**	**10 38 51.9**	**+0.2**
GLVR				*e*S		**Sn**	**10 39 29.4**	**-1.2**
GLVR	comp=Z,1μm,0.3s			pmax	pmax			
GLVR	comp=N,299nm,0.2s			pmax	pmax			
GLVR	comp=E,466nm,0.5s			pmax	pmax			
GLVR	comp=N,3μm,0.3s			smax	smax			
GLVR	comp=E,3μm,0.4s			smax	smax			
GLVR	comp=Z,4μm,10.0s			MLR	MLR			
RUSJ	**Misakicho**	**3.49**	**40**	⇑*i*P		**Pn**	**10 38 54.2**	**+0.9**
RUSJ				*e*S		**Sn**	**10 39 35.5**	**+2.1**
GRPR	**Tuman**	**3.69**	**46**	⇓*i*P		**Pn**	**10 38 56.1**	**+0.2**
GRPR				*e*S		**Sn**	**10 39 36.1**	**-2.0**
GRPR	comp=Z,372nm,0.4s			pmax	pmax			
GRPR	comp=N,199nm,0.1s			pmax	pmax			
GRPR	comp=N,2μm,0.3s			smax	smax			
GRPR	comp=E,811nm,0.4s			smax	smax			
GRPR	comp=E,2μm,0.6s			smax	smax			
GRPR	comp=N,2μm,1.0s			smax	smax			
GRPR	comp=Z,813nm,18.0s			MLR	MLR			
JMM	**Marumori**	**3.75**	**196**			**Pn**	**10 38 57.7**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**3.76**	**46**	*d*/*i*P		**Pn**	**10 38 56.6**	**-0.3**
YUK				*i* S		**Sn**	**10 39 37.5**	**-2.4**
YUK	comp=Z,778μm,0.6s			pmax	pmax			
YUK	comp=N,522μm,0.4s			pmax	pmax			
YUK	comp=N,2μm,0.5s			smax	smax			
YUK	comp=E,4μm,0.5s			smax	smax			
YUK	comp=Z,601nm,17.0s			MLR	MLR			
JSD	**Sado**	**4.54**	**222**	Pn		**Pn**	**10 39 08.6**	**+0.9**
JYT	**Yasato**	**5.46**	**196**	Pn		**Pn**	**10 39 20.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.49**	**5**	*e*P		**Pn**	**10 39 22.2**	**+1.6**
YSS				*e*S		**Sn**	**10 40 24.0**	**+1.7**
YSS	comp=Z,40nm,1.0s			pmax	pmax			
YSS	comp=N,40nm,1.2s			smax	smax			
YSS	comp=Z,400nm,12.0s			MLR	MLR			
YSS	**Yuzh-Sakhalins**	**5.49**	**5**	Pn		**Pn**	**10 39 22.1**	**+1.5**
KUR	**Kuril'sk**	**5.63**	**46**	*e*P		**Pn**	**10 39 22.5**	**0.0**
KUR				*i* S		**Sn**	**10 40 23.8**	**-1.9**
KUR	comp=Z,218nm,0.4s			pmax	pmax			
KUR	comp=N,115nm,0.6s			pmax	pmax			
KUR	comp=E,79nm,0.3s			pmax	pmax			
KUR	comp=Z,587nm,1.2s			smax	smax			
KUR	comp=E,98μm,0.3s			smax	smax			
KUR	comp=N,286μm,0.6s			pmax	pmax			
KUR	comp=N,647nm,2.0s			pmax	pmax			
KUR	comp=E,494nm,1.3s			MLR	MLR			
KUR	comp=Z,379nm,16.0s							
MJB9	**Matsu-Tunnel**	**5.79**	**213**			**Pn**	**10 39 26.8**	**+2.0**
MAJO	**Matsushiro**	**5.79**	**213**	*c*/*i*P		**Pn**	**10 39 26.8**	**+2.0**
MAJO	**Matsushiro**	**5.79**	**213**	Pn		**Pn**	**10 39 26.5**	**+1.7**
MAT	**Matsushiro**	**5.79**	**213**	P		**Pn**	**10 39 26.8**	**+2.0**
MAT				*e*S		**Sn**	**10 40 31.2**	**+1.3**
MJAR	**Matsushiro Arr**	**5.79**	**213**	P		**Pn**	**10 39 25.1**	**+0.2**
MJAR	comp=Z,0.6nm,0.3s,baz=27,slow=16,SNR=23			LR	LR		10 42 02.9	
	comp=Z,317nm,20.8s,baz=40,slow=42							
MJAR	**Matsushiro Arr**	**5.79**	**213**	P		**Pn**	**10 39 27.4**	**+2.5**
MJAR	**Matsushiro Arr**	**5.79**	**213**	Pn		**Pn**	**10 39 27.4**	**+2.5**
JGF	**Kuroka**	**6.95**	**214**	Pn		**Pn**	**10 39 44.5**	**+3.8**
INU	**Inuyama**	**7.31**	**215**	Pn		**Pn**	**10 39 49.0**	**+3.5**
VLA	**Vladivostok**	**7.75**	**286**	*i* P		**Pn**	**10 39 56.2**	**+4.7**
VLA	comp=Z,69nm,1.1s			pmax	pmax			
USA0B	**Ussuriysk Arra**	**7.91**	**293**	P		**Pn**	**10 39 54.1**	**+0.3**
USA0B	**Ussuriysk Arra**	**7.91**	**293**	Pn		**Pn**	**10 39 54.1**	**+0.3**
USRK	**Ussuriysk Ar.** baz=97,slow=14,SNR=35	**7.91**	**293**	P		**Pn**	**10 39 52.9**	**-0.8**
USRK	comp=Z,408nm,18.4s,baz=88,slow=38			LR	LR		10 42 58.1	
USRK	**Ussuriysk Ar.**	**7.91**	**293**	P		**Pn**	**10 39 54.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.91**	**293**	Pn		**Pn**	**10 39 54.5**	**+0.7**
JWT	**Wachi**	**8.12**	**223**	Pn		**Pn**	**10 40 00.8**	**+4.1**
JHJ	**Hachijo jima 2** comp=Z,8.1nm,0.3s,baz=88,slow=23,SNR=10	**8.55**	**193**	P		**Pn**	**10 40 01.6**	**-0.9**
JHJ				S		**Sn**	**10 41 30.2**	**-7.3**
	comp=Z,7.8nm,0.3s,baz=53,slow=20,SNR=1.4							
JHJ	comp=Z,95nm,21.6s,baz=94,slow=40			LR	LR		10 43 47.3	
JHJ2	**Mitsune**	**8.55**	**193**	Pn		**Pn**	**10 40 02.0**	**-0.6**
JHS	**Saijyo**	**9.58**	**230**	Pn		**Pn**	**10 40 19.5**	**+2.8**
MDJ	**Mudanjiang**	**9.68**	**293**	P		**Pn**	**10 40 19.3**	**+1.4**
MDJ				S		**Sn**	**10 42 12.3**	**+7.3**
MDJ				PcP		**PcP**	**10 46 27.5**	**-0.8**
MDJ	comp=Z,30nm,1.1s			pmax	pmax			
MDJ	comp=Z,550nm,11.2s			L	L			
MDJ	comp=Z,160nm,18.5s			L	L			
MDJ	comp=Z,420nm,19.6s			L	L			
MDJ	comp=Z,650nm,17.8s							
MDJ	**Mudanjiang**	**9.68**	**293**	Pn		**Pn**	**10 40 17.2**	**-0.7**
GRNR	**Gornyy**	**10.09**	**339**	⇓*i*P		**Pn**	**10 40 26.0**	**+2.6**
GRNR	comp=Z,5.0nm,0.9s			pmax	pmax			
GRNR	comp=E,200nm,16.0s			MLR	MLR			
GRNR	comp=N,230nm,20.0s			MLR	MLR			
GRNR	comp=Z,190nm,18.0s							
JMN	**Monobe**	**10.12**	**223**	Pn		**Pn**	**10 40 24.7**	**+0.6**
KLR	**Kul'dur**	**10.62**	**320**	P		**Pn**	**10 40 32.3**	**+1.5**
KLR	comp=Z,0.4nm,0.3s,baz=123,slow=13,SNR=16			LR	LR		10 44 39.3	
	comp=Z,418nm,20.1s,baz=154,slow=38							
KLR	**Kul'dur**	**10.62**	**320**	*i* P		**Pn**	**10 40 33.6**	**+2.8**
KLR	comp=Z,20nm,1.1s			pmax	pmax			
KSRS	**Korea Array**	**11.68**	**254**	P		**Pn**	**10 40 48.2**	**+3.0**
KSRS	comp=Z,2.1nm,0.3s,baz=63,slow=14,SNR=36			S		**Sn**	**10 43 00.6**	**+6.8**
KSRS	comp=Z,0.9nm,0.3s,baz=68,slow=24,SNR=7.9			LR	LR		10 44 49.4	
	comp=Z,231nm,21.5s,baz=52,slow=35							
KS19	**Wonju Array Si**	**11.70**	**255**			**Pn**	**10 40 48.0**	**+2.5**
CN2	**Changchun**	**12.48**	**286**	*e*P		**Pn**	**10 41 00.3**	**+4.1**
CN2				*e*S		**Sn**	**10 43 18.5**	**+5.0**
CN2	comp=Z,10.0nm,0.6s			pmax	pmax			
CN2	comp=Z,200nm,12.0s			L	L			
CN2	comp=Z,300nm,12.0s			L	L			
CN2	comp=Z,400nm,19.0s			L	L			
TJN	**Taejon**	**12.56**	**251**	*ce*P		**Pn**	**10 41 00.6**	**+3.4**
ZEA	**Zeya**	**15.79**	**326**	*e*P		**Pn**	**10 41 38.3**	**-1.4**
ZEA	comp=Z,20nm,1.4s			pmax	pmax			
ZEA	comp=E,100nm,19.0s			MLR	MLR			
ZEA	comp=N,100nm,15.0s			MLR	MLR			
ZEA	comp=Z,100nm,18.0s			MLR	MLR			
DL2	**Dalian**	**15.86**	**267**	P		**P**	**10 41 43.0**	**-0.3**
DL2	comp=Z,39nm,1.1s			pmax	pmax			
JOW	**Kunigami**	**18.53**	**222**	LR	LR		10 49 53.5	
	comp=Z,208nm,20.0s,baz=176,slow=39							
MA2	**Magadan**	**18.90**	**14**	P		**P**	**10 42 16.4**	**-0.3**
MA2	comp=Z,0.3nm,0.3s,baz=177,slow=19,SNR=2.5			LR	LR		10 50 36.6	
	comp=Z,63nm,18.9s,baz=202,slow=40							
MA2	**Magadan**	**18.90**	**14**	P		**P**	**10 42 16.7**	**0.0**
MA2	comp=Z,21nm,1.0s			pmax	pmax			
MA2	**Magadan**	**18.90**	**14**	P		**P**	**10 42 16.7**	**0.0**
BJI	**Beijing**	**19.68**	**274**	P		**P**	**10 42 24.0**	**-1.3**
BJI				S		**S**	**10 46 01.3**	**-2.6**
BJI	comp=Z,18nm,0.9s			pmax	pmax			
BJI	comp=Z,160nm,13.1s			L	L			
BJI	comp=Z,250nm,12.7s			L	L			
BJI	comp=Z,260nm,13.5s			L	L			
BJT	**Baijiatuau**	**19.68**	**274**	P		**P**	**10 42 24.0**	**-1.5**
BJT	comp=Z,11nm,0.7s			pmax	pmax			
BJT	**Baijiatuau**	**19.68**	**274**	P		**P**	**10 42 24.0**	**-1.5**
NJ2	**Nanjing**	**20.82**	**251**	*e*P		Pn	10 42 39.8	-1.0
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax			
YAK	**Yakutsk**	**21.89**	**344**	P		**P**	**10 42 46.9**	**-2.0**
YAK	comp=Z,6.4nm,0.3s,baz=140,slow=2.9,SNR=1.1			LR	LR		10 51 44.7	
	comp=Z,88nm,18.3s,baz=83,slow=38							
YAK	**Yakutsk**	**21.89**	**344**	*e*P		**P**	**10 42 42.4**	**-6.6**
YAK				*e*S		**S**	**10 46 38.2**	**-8.9**
YAK				*e**SS		**sS**	**10 47 06.0**	**-2.6**
YAK	comp=Z,16nm,1.0s			pmax	pmax			
YAK	comp=N,7.0nm,0.9s			pmax	pmax			
YAK	comp=E,2.0nm,1.1s			pmax	pmax			
YAK	comp=E,106nm,3.4s			smax	smax			
YAK	comp=N,76nm,3.0s			smax	smax			
SEY	**Seymchan**	**22.33**	**12**	P		**P**	**10 42 52.0**	**-1.7**
	comp=N,1.9nm,0.5s,baz=335,slow=22,SNR=8.1							
SEY	**Seymchan**	**22.33**	**12**	*i* P		**P**	**10 42 53.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**22.95**	**279**	*e*P		**P**	**10 42 58.5**	**-2.1**
HHC				PcP		**PcP**	**10 46 51.3**	**+2.7**
HHC	comp=N,18nm,0.8s			pmax	pmax			
HHC	comp=N,65nm,4.2s			pmax	pmax			
HHC	comp=N,160nm,12.1s			L	L			
HHC	comp=N,230nm,11.6s			L	L			
HHC	comp=N,240nm,12.0s			L	L			
BTO	**Baotou**	**24.14**	**279**	*e*P		P	10 43 04.3	-7.4
BTO	**Baotou**	**24.14**	**279**	*e*P		**P**	**10 43 13.0**	**+1.3**
BTO	comp=N,490nm,9.6s			L	L			
BTO	comp=N,600nm,16.8s			L	L			
BTO	comp=N,1μm,25.9s			L	L			
BOD	**Bodaibo**	**24.20**	**322**	*e*P		**P**	**10 43 10.7**	**-1.2**
BOD	comp=Z,9.0nm,1.1s			pmax	pmax			
NACB	**Ninganchiao**	**24.29**	**231**	P		**P**	**10 43 11.2**	**-1.8**
YULB	**Yu-li**	**25.07**	**230**	P		**P**	**10 43 18.5**	**-1.6**
YULB	comp=Z,28nm,1.3s			IAmb	IAmb		10 43 31.1	
TPUB	**Ta-pu**	**25.53**	**231**	P		**P**	**10 43 23.7**	**-0.6**
TPUB	comp=Z,38nm,1.3s			IAmb	IAmb		10 43 44.5	
ULN	**Ulaanbaatar**	**25.57**	**296**	*ce*P		**P**	**10 43 24.7**	**0.0**
ULN	comp=Z,7.0nm,1.0s			pmax	pmax			
SONM	**Songino Array**	**26.01**	**296**	P		**P**	**10 43 28.0**	**-0.7**
SONM	comp=Z,2.2nm,0.5s,baz=98,slow=7.9,SNR=4.3			LR	LR		10 54 35.8	
	comp=Z,212nm,18.8s,baz=102,slow=38							
SONM	**Songino Array**	**26.01**	**296**	P		**P**	**10 43 28.5**	**-0.2**
SONM	comp=Z,15nm,1.5s			pmax	pmax			
SONM	**Songino Array**	**26.01**	**296**	P		**P**	**10 43 28.5**	**-0.2**
XAN	**Xi'an**	**27.14**	**265**	P		**P**	**10 43 37.8**	**-1.1**
XAN				pP		pP	10 43 55.8	+2.1
XAN	comp=Z,13nm,1.5s			pmax	pmax			
TLY	**Talaya**	**28.03**	**305**	P		**P**	**10 43 46.4**	**-0.2**
	comp=Z,2.5nm,0.2s,baz=216,slow=14,SNR=4.1							
TLY	comp=Z,97nm,19.2s,baz=118,slow=38			LR	LR		10 55 29.7	
TLY	**Talaya**	**28.03**	**305**	*e*P		**P**	**10 43 47.8**	**+1.2**
TLY	comp=Z,20nm,1.1s			pmax	pmax			
TLY	comp=Z,336nm,15.0s			MLR	MLR			
ZAK	**Zakamensk**	**28.15**	**302**	*e*P		**P**	**10 43 46.8**	**-1.0**
ZAK	comp=Z,6.0nm,1.4s			pmax	pmax			
BILL	**Bilibino**	**29.62**	**18**	*i* P		**P**	**10 43 59.1**	**-1.4**
BILL	comp=Z,13nm,2.2s			pmax	pmax			
H11N2	**WAKE ISLAND Hy** baz=321,slow=76	**30.23**	**128**	T		T	11 16 33.7	
H11N1	**WAKE ISLAND Hy** baz=321,slow=76	**30.24**	**128**	T		T	11 16 34.9	
H11N3	**WAKE ISLAND Hy** baz=321,slow=76	**30.25**	**128**	T		T	11 16 35.6	
H11S1	**WAKE ISLAND Hy** baz=323,slow=76	**31.08**	**130**	T		T	11 17 37.6	
H11S3	**WAKE ISLAND Hy** baz=323,slow=76	**31.08**	**130**	T		T	11 17 36.3	
H11S2	**WAKE ISLAND Hy** baz=323,slow=76	**31.09**	**130**	T		T	11 17 37.3	
ATKA	**Atka Island**	**31.30**	**55**	P		**P**	**10 44 15.5**	**0.0**
ATKA	comp=Z,17nm,1.1s			IAmb	IAmb		10 44 36.3	
GTA	**Gaotai**	**32.02**	**281**	⇑P		**P**	**10 44 22.5**	**+0.4**
GTA	comp=Z,6.0nm,0.7s			pmax	pmax			
GTA	comp=Z,57nm,4.7s			pmax	pmax			
GTA	comp=Z,99nm,16.0s			L	L			
GTA	comp=Z,180nm,17.4s			L	L			
GTA	comp=Z,180nm,17.8s			L	L			
TNA	**Tin City** baz=254	**36.76**	**32**	P			10 45 02.6	
SLVN	**Son La**	**37.89**	**250**	P		**P**	**10 45 13.3**	**+0.6**
SLVN	comp=Z,11nm,1.1s			IAmb	IAmb		10 45 16.7	
DGZ	**Jazzator, Alta**	**38.37**	**301**	*e*P		**P**	**10 45 17.4**	**+0.8**
ZAA0	**Zalesovo Array**	**39.44**	**308**	P		**P**	**10 45 25.1**	**-0.2**
ZAA0	comp=Z,8.3nm,0.8s			IAmb	IAmb		10 45 26.5	
ZALV	**Zalesovo Beam**	**39.44**	**308**	P		**P**	**10 45 24.2**	**-1.0**
	comp=Z,4.5nm,0.3s,baz=88,slow=7.9,SNR=22			PcP		**PcP**	**10 47 31.9**	**-0.1**
ZALV	comp=Z,1.5nm,0.5s,baz=87,slow=2.7,SNR=3.8			LR	LR		11 02 40.8	
	comp=Z,141nm,19.6s,baz=150,slow=38							
ZALV	**Zalesovo Beam**	**39.44**	**308**	P		**P**	**10 45 25.1**	**-0.2**
WMQ	**Urumqi**	**39.48**	**292**	*e*P		**P**	**10 45 27.0**	**+1.2**
WMQ	comp=Z,140nm,17.9s			L	L			
NRIK	**Noril'sk**	**39.50**	**333**	P		**P**	**10 45 24.4**	**-1.1**
	comp=Z,4.0nm,0.5s,baz=113,slow=7.3,SNR=7.6			LR	LR			
NRIK	comp=Z,212nm,20.7s,baz=117,slow=37						11 02 37.6	
NRIK	**Noril'sk**	**39.50**	**333**	P		**P**	**10 45 26.0**	**+0.5**
NRIK	comp=Z,4.0nm,1.0s			pmax	pmax			
NRIK	**Noril'sk**	**39.50**	**333**	P		**P**	**10 45 26.0**	**+0.5**
TTA	**Tatalina** baz=269	**41.51**	**38**	P			10 45 43.8	
N18K	**Kilae Creek** baz=272	**41.58**	**41**	P			10 45 41.9	
A21K	**Barrow**	**42.18**	**25**	P		**P**	**10 45 47.8**	**+0.3**
A21K	comp=Z,13nm,1.1s			IAmb	IAmb		10 45 48.5	
A21K	**Barrow** baz=259	**42.18**	**25**	P			10 45 47.2	
MK31	**Makanchi Array**	**42.35**	**298**	P		**P**	**10 45 49.0**	**-0.3**
MK31	comp=Z,12nm,1.0s			pmax	pmax			
MK31	**Makanchi Array**	**42.35**	**298**	P		**P**	**10 45 49.0**	**-0.3**
MK31	comp=Z,12nm,0.9s			IAmb	IAmb		10 45 54.1	
MKAR	**Makanchi Array**	**42.35**	**298**	P		**P**	**10 45 48.2**	**-1.1**
	comp=Z,9.0nm,0.8s,baz=83,slow=13,SNR=40			PcP		**PcP**	**10 47 41.6**	**-0.1**
MKAR	comp=Z,0.6nm,0.4s,baz=47,slow=4.1,SNR=2.1			LR	LR		11 04 31.8	
	comp=Z,107nm,19.5s,baz=115,slow=38							
MKAR	**Makanchi Array**	**42.35**	**298**	P		**P**	**10 45 49.1**	**-0.2**
MKAR							10 47 41.6	
MKAR	**Makanchi Array**	**42.35**	**298**	P		**P**	**10 45 49.1**	**-0.2**
MAKZ	**Makanchi**	**42.55**	**298**	P		**P**	**10 45 51.3**	**+0.3**
MAKZ	comp=Z,15nm,0.9s			pmax	pmax			
MAKZ	**Makanchi**	**42.55**	**298**	P		**P**	**10 45 51.3**	**+0.3**
MAKZ	comp=Z,15nm,0.8s			IAmb	IAmb		10 45 55.4	
CHAI	**Chaiyaphum** comp=Z,19nm,0.9s	**42.90**	**246**	P		**P**	**10 45 55.0**	**+1.0**
CHTO	**Chiang Mai**	**43.06**	**252**	P		**P**	**10 45 57.1**	**+1.8**
CHTO	comp=Z,5.0nm,0.6s			pmax	pmax			
CHTO	**Chiang Mai**	**43.06**	**252**	P		P	10 46 00.2	+4.9
	comp=Z,8.4nm,0.7s							
CHTO	**Chiang Mai**	**43.06**	**252**	P		**P**	**10 45 57.1**	**+1.8**
CHTO				IAmb	IAmb		10 46 02.8	
PPLA	**Purkeypile**	**43.26**	**38**	P		**P**	**10 45 58.5**	**+1.9**
PPLA	comp=Z,13nm,1.1s			IAmb	IAmb		10 46 26.5	
PPLA	**Purkeypile** baz=272	**43.26**	**38**	P			10 45 58.0	
CMAR	**Chiang Mai Arr**	**43.29**	**251**	P		**P**	**10 45 57.4**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=35,slow=7.3,SNR=4.2							
CMAR	comp=Z,44nm,19.4s,baz=195,slow=36			LR	LR		11 04 12.4	
I21K	**Tanana**	**43.31**	**34**	P			10 45 58.4	
	baz=270,SNR=6.4							
KDAK	**Kodiak Island**	**43.50**	**45**	P		**P**	**10 45 59.1**	**+0.7**
	comp=Z,5.6nm,0.7s,baz=312,slow=16,SNR=5.3							
KDAK	**Kodiak Island**	**43.50**	**45**	P		**P**	**10 46 00.5**	**+2.1**
KDAK	comp=Z,33nm,1.4s			pmax	pmax			
KDAK	**Kodiak Island**	**43.50**	**45**	P		**P**	**10 46 00.5**	**+2.1**
BPAW	**Bear Paw Mtn.**	**43.76**	**36**	P		**P**	**10 46 02.1**	**+1.6**
BPAW	**Bear Paw Mtn.** baz=272	**43.76**	**36**	P			10 46 01.9	
KTH	**Kantishna Hill**	**43.81**	**37**	P		**P**	**10 46 02.7**	**+1.7**
MLY	**Manley**	**43.84**	**34**	P		**P**	**10 46 02.9**	**+1.8**
MLY	comp=Z,9.9nm,1.0s			IAmb	IAmb		10 46 03.9	
MLY	**Manley** baz=271,SNR=12	**43.84**	**34**	P			10 46 02.6	
CNPM	**China Poot**	**43.99**	**42**	P		**P**	**10 46 04.3**	**+2.0**
COLD	**Coldfoot**	**44.04**	**31**	P		**P**	**10 46 03.6**	**+1.0**
COLD	**Coldfoot** baz=270	**44.04**	**31**	P			10 46 03.2	
TOLK	**Toolik Lake Re**	**44.30**	**29**	P		**P**	**10 46 07.3**	**+2.6**
TOLK	**Toolik Lake Re** baz=269	**44.30**	**29**	P			10 46 05.2	
H23K	**Yukon River** baz=272,SNR=8.9	**44.32**	**33**	P			10 46 06.3	
I23K	**Minto, Yukon-K**	**44.41**	**34**	P		**P**	**10 46 07.3**	**+1.6**
I23K	comp=Z,7.2nm,1.0s			IAmb	IAmb		10 46 08.4	
I23K	**Minto, Yukon-K** baz=272,SNR=6.5	**44.42**	**34**	P			10 46 07.3	
BWN	**Browne**	**44.42**	**36**	P		**P**	**10 46 09.2**	**+3.5**
TOLI2	**Tolitoli**	**44.56**	**211**	P		**P**	**10 46 08.4**	**+1.0**
TOLI2	comp=Z,6.3nm,0.8s			IAmb	IAmb		10 46 21.6	
NEA2	**Nenana**	**44.57**	**35**	P		**P**	**10 46 08.8**	**+1.9**
NEA2	comp=Z,11nm,0.8s			IAmb	IAmb		10 46 09.5	
NEA2	**Nenana** baz=273,SNR=13	**44.57**	**35**	P			10 46 08.3	
MCK	**McKinley** baz=274	**44.68**	**36**	P			10 46 09.0	
RND	**Reindeer**	**44.74**	**37**	P		**P**	**10 46 09.3**	**+0.9**
RND	comp=Z,6.0nm,0.8s			pmax	pmax			
RND	**Reindeer**	**44.74**	**37**	P		**P**	**10 46 09.3**	**+0.9**
RND	comp=Z,5.7nm,0.8s			IAmb	IAmb		10 46 28.8	
MDM	**Murphy Dome**	**44.90**	**34**	P		**P**	**10 46 10.9**	**+1.4**
MDM	comp=Z,10nm,0.9s			IAmb	IAmb		10 46 12.2	
WAT1	**Susitna Watana** baz=276	**44.93**	**37**	P			10 46 10.2	
WRH	**Wood River Hil**	**45.00**	**35**	P		**P**	**10 46 12.5**	**+2.2**
H24K	**Noodor Dome** baz=273,SNR=9.6	**45.00**	**33**	P			10 46 12.1	
TCOL	**CIGO, UAF Yank**	**45.07**	**35**	P		**P**	**10 46 12.4**	**+1.6**
TCOL	**CIGO, UAF Yank** baz=274,SNR=7.5	**45.07**	**35**	P			10 46 12.0	
COLA	**College**	**45.07**	**35**	*c*/*i*P		**P**	**10 46 12.7**	**+1.9**
COLA	comp=Z,18nm,1.0s			pmax	pmax			
COLA	**College**	**45.07**	**35**	P		**P**	**10 46 12.5**	**+1.7**
COLA	**College** baz=274	**45.07**	**35**	P			10 46 12.3	
POKR	**Poker Plat Res**	**45.23**	**34**	P		**P**	**10 46 14.0**	**+1.8**

POKR	**Poker Plat Res**	**45.23**	**34**	P			10 46 13.9	
	baz=274							
WAT6	**Susitna Watana**	**45.33**	**38**	P			10 46 14.2	
	baz=276							
IL31		**45.49**	**35**	P		**P**	**10 46 14.9**	**+0.8**
IL31				IAmb		IAmb	10 46 16.8	
	comp=Z,16nm,1.1s							
ILAR	**Eielson Array**	**45.49**	**35**	P		**P**	**10 46 14.8**	**+0.7**
	comp=Z,9.3nm,1.0s,baz=271,slow=5.9,SNR=54							
ILAR				LR		LR	11 06 05.4	
	comp=Z,45nm,20.4s,baz=286,slow=37							
HDA	**Harding Lake**	**45.50**	**35**	P		**P**	**10 46 15.2**	**+1.0**
HDA				IAmb		IAmb	10 46 16.0	
	comp=Z,7.0nm,1.0s							
HDA	**Harding Lake**	**45.50**	**35**	P			10 46 15.1	
	baz=275							
HDA				P			10 46 15.1	
	baz=275							
PRP	**Porcupine Dome**	**46.00**	**34**	P		**P**	**10 46 20.2**	**+1.8**
PRP	**Porcupine Dome**	**46.00**	**34**	P			10 46 19.8	
	baz=275							
FYU	**Fort Yukon**	**46.02**	**32**	P		**P**	**10 46 20.3**	**+1.9**
BMAR	**Burnt Mountain**	**46.21**	**31**	P		**P**	**10 46 19.9**	**0.0**
KLU	**Klutina**	**46.33**	**39**	P			10 46 22.5	
	baz=279							
HARP	**HAARP**	**46.54**	**38**	P			10 46 23.2	
	baz=279							
SCRK	**Sand Creek**	**46.84**	**36**	P		**P**	**10 46 25.9**	**+1.0**
SCRK				IAmb		IAmb	10 46 45.4	
	comp=Z,11nm,1.0s							
SCRK	**Sand Creek**	**46.84**	**36**	P			10 46 25.5	
	baz=278,SNR=8.9							
DOT	**Dot Lake**	**46.85**	**36**	P		**P**	**10 46 25.9**	**+0.9**
TARG	**Taragay, Kyrgy**	**47.04**	**293**	P		**P**	**10 46 27.3**	**+0.1**
TARG				IAmb		IAmb	10 46 32.5	
	comp=Z,8.1nm,0.9s							
BMRM	**Bremner River**	**47.04**	**40**	P			10 46 27.9	
	baz=280							
K27K	**Chicken**	**47.66**	**35**	P		**P**	**10 46 32.8**	**+1.6**
K27K	**Chicken**	**47.66**	**35**	P			10 46 32.4	
	baz=280							
EGAK	**Eagle**	**47.92**	**34**	P		**P**	**10 46 34.4**	**+1.2**
EGAK	**Eagle**	**47.92**	**34**	P			10 46 34.0	
	baz=280,SNR=7.2							
L27K	**Beaver Creek,**	**47.94**	**37**	P		**P**	**10 46 35.5**	**+2.0**
L27K				IAmb		IAmb	10 46 58.4	
	comp=Z,5.6nm,0.9s							
L27K	**Beaver Creek,**	**47.94**	**37**	P			10 46 34.9	
	baz=281,SNR=7.4							
BCAR	**Beaver Creek A**	**47.96**	**37**	P		**P**	**10 46 35.6**	**+2.0**
BRVK	**Borovoye**	**48.12**	**310**	*ce*P		**P**	**10 46 36.2**	**+1.4**
BRVK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
BRVK	**Borovoye**	**48.12**	**310**	P		**P**	**10 46 35.5**	**+0.6**
BRVK				IAmb		IAmb	10 46 39.5	
	comp=Z,9.3nm,1.1s							
AAK	**Ala-Archa**	**48.96**	**295**	*ce*P		**P**	**10 46 42.4**	**+0.7**
AAK				pmax		pmax		
	comp=Z,12nm,1.0s							
EPYK	**Eagle Plains**	**49.43**	**32**	P		**P**	**10 46 46.5**	**+1.7**
EPYK	**Eagle Plains**	**49.43**	**32**	P			10 46 46.2	
	baz=282,SNR=13							
INK	**Inuvik**	**50.21**	**29**	P		**P**	**10 46 51.5**	**+0.9**
	comp=Z,8.2nm,0.8s,baz=274,slow=5.8,SNR=20							
INK	**Inuvik**	**50.21**	**29**	P		**P**	**10 46 51.3**	**+0.7**
INK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
INK	**Inuvik**	**50.21**	**29**	P		**P**	**10 46 51.2**	**+0.7**
INK	**Inuvik**	**50.21**	**29**	P			10 46 51.3	
	baz=283,SNR=7.3							
KK31	**Karatay Array**	**51.46**	**297**	P		**P**	**10 47 00.1**	**-0.3**
KK31				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KK31	**Karatay Array**	**51.46**	**297**	P		**P**	**10 47 00.1**	**-0.3**
KK31				IAmb		IAmb	10 47 01.0	
	comp=Z,5.8nm,0.9s							
KKAR	**Karatay Array**	**51.46**	**297**	P		**P**	**10 46 59.8**	**-0.6**
KKAR	**Karatay Array**	**51.46**	**297**	P		**P**	**10 46 59.8**	**-0.6**
BTK	**Batken**	**52.55**	**294**	P		**P**	**10 47 08.2**	**-0.5**
BTK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
BTK	**Batken**	**52.55**	**294**	P		**P**	**10 47 08.2**	**-0.5**
BTK				IAmb		IAmb	10 47 12.3	
	comp=Z,9.0nm,1.2s							
GAR	**Garm**	**53.37**	**293**	P		**P**	**10 47 14.6**	**-0.1**
ARU	**Arti**	**53.44**	**317**	*c i*P		**P**	**10 47 14.6**	**-0.2**
ARU				*PP		**sP**	**10 47 35.0**	**-2.5**
ARU							10 49 11.8	
ARU				S		**S**	**10 54 40.8**	**-1.6**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ARU				MLR		MLR		
	comp=Z,181nm,17.0s							
ARU	**Arti**	**53.44**	**317**	P		**P**	**10 47 14.5**	**-0.2**
ARU				IAmb		IAmb	10 47 15.9	
	comp=Z,7.6nm,1.0s							
NIL	**Nilore**	**53.84**	**286**	P		**P**	**10 47 19.2**	**+1.1**
NIL				pmax		pmax		
	comp=Z,25nm,1.5s							
NIL	**Nilore**	**53.84**	**286**	P		**P**	**10 47 19.2**	**+1.1**
CHGR	**Chuyangaron**	**54.34**	**293**	P		**P**	**10 47 21.8**	**0.0**
PSI	**Prapat**	**54.60**	**237**	P		**P**	**10 47 23.4**	**-0.5**
PSI				pmax		pmax		
	comp=Z,13nm,1.1s							
RPSI	**Rantau Prapat**	**54.68**	**237**	P		**P**	**10 47 23.4**	**-0.9**
ABKAR	**Akbulak array**	**55.55**	**308**	P		**P**	**10 47 29.9**	**-0.3**
KBL	**Kabul**	**56.41**	**289**	P		**P**	**10 47 36.5**	**-0.4**
KBL				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KBL	**Kabul**	**56.41**	**289**	P		**P**	**10 47 36.5**	**-0.4**
KIRV	**Kirov**	**57.06**	**321**	*ce*P		**P**	**10 47 41.5**	**+0.7**
PRGR	**Permogore**	**57.36**	**326**	*e*P		**P**	**10 47 42.4**	**-0.5**
PRGR				pmax		pmax		
	comp=Z,7.0nm,0.7s							
YKA	**Yellowknife Ar**	**59.72**	**32**	P		**P**	**10 47 59.9**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=306,slow=6.8,SNR=4.5							
YKA				LR		LR	11 17 38.2	
	comp=Z,40nm,19.2s,baz=0.0,slow=40							
ARCES	**ARCESS Array B**	**60.04**	**339**	P		**P**	**10 48 00.8**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=61,slow=8.5,SNR=5.7							
ARCES				LR		LR	11 18 29.6	
	comp=Z,48nm,19.0s,baz=40,slow=40							
ARCES	**ARCESS Array B**	**60.04**	**339**	P		**P**	**10 48 00.8**	**-0.6**
ARCES				pmax		pmax		
	comp=Z,11nm,1.5s							
ARCES	**ARCESS Array B**	**60.04**	**339**	IAmb		IAmb	10 48 12.6	
	comp=Z,11nm,1.5s							
KLMR	**Klimovskoe**	**60.31**	**327**	*e*P		P	10 47 57.5	-5.8
KLMR				pmax		pmax		
	comp=Z,13nm,1.3s							
KLMR	**Klimovskoe**	**60.31**	**327**	*e*P		P	10 47 57.5	-5.8
KLMR				AMP			10 48 04.2	
	comp=Z,13nm,1.3s							
NEEM	**North Greenlan**	**61.06**	**3**	*i* P		**P**	**10 48 08.7**	**+0.1**
NEEM				IAmb		IAmb	10 48 09.7	
	comp=Z,15nm,1.1s							
HRA	**Herat**	**61.29**	**292**	P		**P**	**10 48 10.3**	**-0.4**
HRA				IAmb		IAmb	10 48 11.9	
	comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**61.54**	**188**	P		**P**	**10 48 11.1**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=5.1,slow=6.9,SNR=39							
WRA	**Warramunga Arr**	**61.54**	**188**	P		**P**	**10 48 11.4**	**-0.7**
WRA				pmax		pmax		
	comp=Z,1.0nm,1.1s							
WRA	**Warramunga Arr**	**61.54**	**188**	P		**P**	**10 48 11.4**	**-0.7**
GEYT	**Alibeck**	**62.21**	**297**	P		**P**	**10 48 15.4**	**-1.2**
	comp=Z,698nm,0.8s,baz=192,slow=5.5,SNR=4.7							
GEYT				LR		LR	11 17 35.6	
	comp=Z,93nm,18.3s,baz=190,slow=38							
D04E	**Lakebay**	**64.10**	**49**	P			10 48 28.7	
	baz=304							
OBN	**Obninsk**	**64.88**	**322**	*i* P		**P**	**10 48 33.8**	**0.0**
OBN				*i*			10 49 06.6	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,58nm,16.0s							
FIA1	**FINESS Array S**	**65.14**	**332**	P		**P**	**10 48 34.9**	**-0.6**
FINES	**FINESS Array B**	**65.14**	**332**	P		**P**	**10 48 35.0**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=40,slow=7.3,SNR=25							
FINES				LR		LR	11 19 16.1	
	comp=Z,129nm,20.4s,baz=48,slow=38							
FINES	**FINESS Array B**	**65.14**	**332**	P		**P**	**10 48 35.0**	**-0.5**
FINES	**FINESS Array B**	**65.14**	**332**	P		**P**	**10 48 35.1**	**-0.4**
ASAR	**Alice Springs**	**65.26**	**188**	P		**P**	**10 48 36.5**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=5.6,slow=5.3,SNR=14							
SUMG	**Summit**	**66.24**	**0**	*i* P		**P**	**10 48 43.4**	**+0.6**
SUMG				IAmb		IAmb	10 48 44.7	
	comp=Z,8.0nm,0.9s							
SUMG	**Summit**	**66.24**	**0**	P		**P**	**10 48 43.6**	**+0.8**
SUMG				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SUMG	**Summit**	**66.24**	**0**	P		**P**	**10 48 43.6**	**+0.8**
SUMG				IAmb		IAmb	10 48 44.9	
	comp=Z,8.0nm,0.9s							
AKT	**Akhty**	**66.90**	**305**	*e*P		**P**	**10 48 46.8**	**-0.4**
AKT				*e*			10 49 16.7	
AKT				pmax		pmax		
	comp=Z,16nm,1.2s							
KIV	**Kislovodsk**	**68.43**	**310**	*e*P		**P**	**10 48 57.5**	**+0.7**
KIV				pmax		pmax		
	comp=Z,76nm,1.1s							
KIV	**Kislovodsk**	**68.43**	**310**	P		**P**	**10 48 57.0**	**+0.3**
KBZ	**Khabaz**	**68.44**	**310**	P		**P**	**10 48 56.9**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=12,slow=4.4,SNR=6.5							
KBZ	**Khabaz**	**68.44**	**310**	*ce*P		**P**	**10 48 57.9**	**+1.2**
KBZ				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ICESG	**Greenland Ices**	**69.74**	**1**	*i* P		**P**	**10 49 05.5**	**+0.8**
ICESG				IAmb		IAmb	10 49 06.3	
	comp=Z,14nm,1.0s							
NC405	**NORSAR Array S**	**70.09**	**337**	P		**P**	**10 49 06.8**	**+0.1**
NC303	**NORSAR Array S**	**70.11**	**337**	P		**P**	**10 49 06.8**	**+0.1**
NC303				IAmb		IAmb	10 49 15.3	
	comp=Z,9.9nm,1.2s							
NOA	**NORSAR Array B**	**70.30**	**337**	P		**P**	**10 49 07.5**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=36,slow=6.2,SNR=8.5							
NOA				LR		LR	11 22 47.5	
	comp=Z,56nm,22.0s,baz=35,slow=38							
HRY	**Holter Researc**	**70.38**	**45**	P		**P**	**10 49 09.3**	**+0.5**
PAHR	**Pah Rah Range**	**70.48**	**54**	P		**P**	**10 49 10.4**	**+0.8**
PAHR				IAmb		IAmb	10 49 31.4	
	comp=Z,6.5nm,1.1s							
VCNR	**Virginia City**	**70.57**	**55**	P		**P**	**10 49 11.7**	**+1.4**
DLMT	**Dillon**	**70.84**	**46**	P		**P**	**10 49 12.7**	**+1.0**
ANN	**Anapa**	**70.86**	**313**	*e*P		**P**	**10 49 10.2**	**-1.3**
ANN				pmax		pmax		
	comp=Z,84nm,1.0s							
HLID	**Hailey**	**70.98**	**48**	P			10 49 12.2	
	baz=310							
YERR	**Yerington**	**71.01**	**55**	P		**P**	**10 49 14.1**	**+1.2**
YERR				IAmb		IAmb	10 49 34.8	
	comp=Z,9.1nm,1.0s							
BCYI	**Bear Canyon**	**71.07**	**47**	P		**P**	**10 49 13.9**	**+0.7**
AKASG	**Malin Array Be**	**71.12**	**322**	P		**P**	**10 49 12.7**	**-0.4**
	comp=Z,2.6nm,0.3s,baz=44,slow=6.7,SNR=17							
AKASG				LR		LR	11 24 04.4	
	comp=Z,47nm,18.5s,baz=20,slow=39							
AKASG	**Malin Array Be**	**71.12**	**322**	P		**P**	**10 49 12.8**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,5.0nm,1.4s							
AKASG	**Malin Array Be**	**71.12**	**322**	P		**P**	**10 49 12.8**	**-0.3**
AKBB	**Malin Array Si**	**71.12**	**322**	*ce*P		**P**	**10 49 13.6**	**+0.5**
AKBB	**Malin Array Si**	**71.12**	**322**	IAmb		IAmb	10 49 13.8	
	comp=Z,6.1nm,0.7s							
AKBB				P		**P**	**10 49 13.9**	**+0.8**
BOZ	**Bozeman (W)**	**71.21**	**45**	P		**P**	**10 49 15.2**	**+1.3**
BOZ				pmax		pmax		
	comp=Z,9.0nm,1.4s							
BOZ	**Bozeman (W)**	**71.21**	**45**	P		**P**	**10 49 15.2**	**+1.3**
BOZ				IAmb		IAmb	10 49 37.1	
	comp=Z,9.2nm,1.4s							
BOZ	**Bozeman (W)**	**71.21**	**45**	P			10 49 14.2	
	baz=310							
LHV	**Little Huntoon**	**71.92**	**55**	P		**P**	**10 49 19.9**	**+1.8**
LHV				IAmb		IAmb	10 49 40.8	
	comp=Z,9.4nm,1.0s							
NVAR	**Mina Array Bea**	**71.93**	**55**	P		**P**	**10 49 19.7**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=282,slow=6.3,SNR=9.1							
NVAR				LR		LR	11 17 44.0	
	comp=Z,29nm,19.9s,baz=291,slow=33							
GCMT	**Greycliff**	**72.12**	**44**	P		**P**	**10 49 19.9**	**+0.6**
DY2G	**Dye2**	**72.18**	**4**	*i* P		**P**	**10 49 19.6**	**+0.2**
DY2G				IAmb		IAmb	10 49 20.8	
	comp=Z,14nm,0.9s							
H17A	**Grant Village**	**72.56**	**46**	P		**P**	**10 49 23.2**	**+1.0**
H17A				IAmb		IAmb	10 49 47.2	
	comp=Z,5.7nm,1.1s							
FLWY	**Flagg Ranch**	**72.70**	**46**	P		**P**	**10 49 24.9**	**+2.0**
RLMT	**Red Lodge**	**72.77**	**45**	P		**P**	**10 49 24.4**	**+1.0**
TPAW	**Teton Pass**	**72.95**	**47**	P		**P**	**10 49 24.9**	**+0.4**
TPAW				IAmb		IAmb	10 49 46.1	
	comp=Z,9.0nm,1.4s							
ISA	**Isabella, Lake**	**73.57**	**57**	P			10 49 26.6	
	baz=310							
MPMC	**Manual Prospec**	**73.93**	**56**	P			10 49 31.7	
	baz=310							
FURC	**Furnace Creek,**	**74.06**	**55**	P			10 49 29.9	
	baz=310							
DUG	**Dugway, Tooele**	**74.07**	**50**	P			10 49 28.7	
	baz=311							
UMR	**Umm Al-Rimmam**	**74.11**	**295**	*e*P		**P**	**10 49 29.6**	**-1.6**
TPNV	**Topopah Spring**	**74.13**	**55**	P		**P**	**10 49 32.0**	**+0.6**
TPNV				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TPNV	**Topopah Spring**	**74.13**	**55**	P		**P**	**10 49 32.0**	**+0.6**
TPNV				IAmb		IAmb	10 49 53.3	
	comp=Z,5.0nm,0.8s							
TPNV	**Topopah Spring**	**74.13**	**55**	P			10 49 32.6	
	baz=310							
BW06	**Boulder Array**	**74.19**	**47**	P		**P**	**10 49 32.5**	**+0.7**
PD31	**Pinedale Array**	**74.19**	**47**	P		**P**	**10 49 32.2**	**+0.4**
PDAR	**Pinedale Array**	**74.19**	**47**	P		**P**	**10 49 31.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=334,slow=1.0,SNR=9.3							
PDAR				LR		LR	11 22 50.3	
	comp=Z,28nm,20.4s,baz=338,slow=36							
PDAR	**Pinedale Array**	**74.19**	**47**	P		**P**	**10 49 32.1**	**+0.3**
BW06	**Boulder Array**	**74.19**	**47**	P			10 49 32.3	
	baz=312							
QRN	**Al-Qurain**	**74.48**	**295**	*e*P		**P**	**10 49 32.1**	**-1.2**
RDF	**Al-Radifah**	**74.62**	**295**	*e*P		**P**	**10 49 32.6**	**-1.6**
FMP	**Fort Macarthur**	**74.92**	**58**	P			10 49 36.9	
	baz=310							
BURAR	**Bucovina Array**	**75.16**	**321**	P		**P**	**10 49 37.3**	**+0.2**
ULM	**Lac du Bonnet**	**75.51**	**34**	LR		LR	11 25 17.0	
	comp=Z,38nm,18.3s,baz=320,slow=38							
P17A	**Butcher Ranch,**	**75.74**	**50**	P		**P**	**10 49 40.9**	**+0.2**
P17A				IAmb		IAmb	10 50 02.6	
	comp=Z,3.6nm,0.7s							
CRVS	**Cervenica-Dubn**	**75.93**	**324**	*e*P		**P**	**10 49 42.7**	**+1.4**
CRVS	**Cervenica-Dubn**	**75.93**	**324**	*e*P		**P**	**10 49 42.7**	**+1.4**
BRTR	**Keskin Array B**	**76.32**	**311**	P		**P**	**10 49 43.5**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=72,slow=4.0,SNR=4.6							
BRTR				LR		LR	11 26 29.7	
	comp=Z,44nm,18.6s,baz=82,slow=38							
BRTR	**Keskin Array B**	**76.32**	**311**	P		**P**	**10 49 43.8**	**-0.1**
BRTR	**Keskin Array B**	**76.32**	**311**	P		**P**	**10 49 43.8**	**-0.1**
O20A	**White River Ci**	**76.71**	**48**	P			10 49 46.6	
	baz=314							
MORC	**Moravsky Berou**	**76.93**	**327**	*e*P		**P**	**10 49 48.1**	**+1.0**
CLL	**Collm**	**77.51**	**330**	*e*P		**P**	**10 49 50.0**	**-0.2**
CLL	**Collm**	**77.51**	**330**	*e*P		**P**	**10 49 50.0**	**-0.2**
JAVC	**Velka Javorina**	**77.59**	**326**	*e*P		**P**	**10 49 52.7**	**+1.9**
PV05	**Paradox Valley**	**77.63**	**50**	P		**P**	**10 49 52.9**	**+1.4**
PV05				IAmb		IAmb	10 49 53.9	
	comp=Z,7.7nm,1.2s							
VRAC	**Vranov**	**77.68**	**327**	*e*P		**P**	**10 49 52.4**	**+1.2**
KRUC	**Moravsky**	**77.96**	**327**	*e*P		**P**	**10 49 53.6**	**+0.9**
EYMN	**Ely**	**79.12**	**33**	P		**P**	**10 49 59.6**	**+0.5**
EYMN	**Ely**	**79.12**	**33**	P			10 49 59.4	
	baz=322							
GERES	**GERESS Array B**	**79.22**	**328**	P		**P**	**10 49 59.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=41,slow=9.1,SNR=5.9							
RAYN	**Ar Rayn**	**79.48**	**292**	P		**P**		
RAYN				pmax		pmax		
	comp=Z,8.0nm,1.1s							
RAYN	**Ar Rayn**	**79.48**	**292**	P		**P**	**10 50 01.6**	**0.0**
RAYN				IAmb		IAmb	10 50 02.6	
	comp=Z,8.0nm,1.1s							
SDCO	**Great Sand Dun**	**79.90**	**48**	P			10 50 04.3	
	baz=315							
ECSD	**EROS Data Cent**	**80.11**	**39**	P			10 50 04.9	
	baz=319							
SCHQ	**Schefferville**	**80.92**	**16**	P		**P**	**10 50 09.1**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=315,slow=8.6,SNR=2.8							
SCHQ	**Schefferville**	**80.92**	**16**	IAmb		IAmb	10 50 13.3	
	comp=Z,11nm,1.1s							
ANMO	**Albuquerque**	**81.33**	**51**	P		**P**	**10 50 12.8**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=331,slow=10,SNR=3.1							
ANMO	**Albuquerque**	**81.33**	**51**	P		**P**	**10 50 12.8**	**+1.3**
ANMO				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ANMO	**Albuquerque**	**81.33**	**51**	P			10 50 12.3	
	baz=315							
Y22D	**IRIS PASSCAL I**	**81.68**	**52**	P			10 50 12.8	
	baz=315							
MATQ	**Matagami**	**82.67**	**25**	P			10 50 16.1	
	baz=331							
LSQQ	**Lebel-sur-Quev**	**83.49**	**25**	P			10 50 22.0	
	baz=332							
CHGQ	**Chibougamau**	**83.52**	**23**	P			10 50 22.5	
	baz=333							
VLDQ	**Val d'Or**	**84.17**	**25**	P		**P**	**10 50 25.4**	**-0.3**
VLDQ				IAmb		IAmb	10 50 26.4	
	comp=Z,7.1nm,1.0s							
MNTX	**Cornudas Mount**	**84.27**	**52**	P			10 50 27.5	
	baz=316							
NRCA	**Norcia**	**84.30**	**325**	P		**P**	**10 50 27.4**	**+0.8**
PMOR	**Pomariorio Ree**	**85.50**	**114**	*e*T		T	12 24 29.9	
	comp=Z,12nm,0.2s							
D55A	**Sainte-Anne-du**	**85.77**	**25**	P			10 50 34.1	
	baz=333							
ALGO	**Algonquin Park**	**85.86**	**27**	P			10 50 34.1	
	baz=331							
D56A	**ZEC Mazanza, M**	**85.96**	**24**	P			10 50 34.7	
	baz=333							
PPT	**Papeete**	**86.17**	**117**	LR		LR	11 23 08.8	
	comp=Z,64nm,20.8s,baz=320,slow=31							
PPT2	**Papeete2**	**86.19**	**117**	*e*LR		LR	11 17 43.0	
	comp=Z,85nm,21.8s							
PPT2	**Papeete2**	**86.19**	**117**	*e*T		T	12 25 21.8	
	comp=Z,2.8nm,0.3s							
TAOE	**Nuku Hiva Isla**	**86.75**	**105**	*e*LR		LR	11 18 03.9	
	comp=Z,84nm,23.6s							
TXAR	**Lajitas Array**	**87.00**	**53**	P		**P**	**10 50 41.4**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=316,slow=3.8,SNR=5.0							
TXAR	**Lajitas Array**	**87.00**	**53**	P		**P**	**10 50 41.0**	**+0.8**
CCM	**Cathedral Cave**	**87.08**	**39**	P			10 50 40.6	
	baz=323							
MEH	**Mehetia**	**87.40**	**117**	*e*T		T	12 26 52.8	
	comp=Z,15nm,0.3s							
H57A	**Richville**	**88.06**	**26**	P			10 50 45.5	
	baz=333							
H58A	**Gabriels**	**88.50**	**25**	P			10 50 47.4	
	baz=334							
M53A	**WI Miller and**	**88.83**	**31**	P			10 50 49.5	
	baz=329							
H61A	**Lyndonville**	**89.09**	**24**	P			10 50 50.5	
	baz=335							
G64A	**Maxfield**	**89.34**	**21**	P			10 50 51.6	
	baz=337							
TBI	**Tubuai**	**90.36**	**121**	*e*T		T	12 30 33.2	
	comp=Z,13nm,0.3s							
O56A	**Blue Knob Stat**	**90.64**	**30**	P			10 50 57.8	
	baz=331							
K62A	**Royalston**	**90.69**	**25**	P			10 50 58.0	
	baz=335							
L64A	**Middleborough**	**91.78**	**24**	P			10 51 02.4	
	baz=336							
ESDC	**Sonseca Array**	**93.53**	**334**	P		**P**	**10 51 10.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=11,slow=4.1,SNR=6.2							
ESDC				LR		LR	11 40 46.6	
	comp=Z,32nm,18.4s,baz=155,slow=40							
SNAA	**Sanae**	**145.15**	**199**	PKPdf		**PKPbc**	**10 57 30.1**	**-0.3**
H03N2	**Juan Fernandez**	**146.70**	**90**	T		T	13 42 34.1	
	baz=300,slow=77							
H03N3	**Juan Fernandez**	**146.72**	**90**	T		T	13 42 32.0	
	baz=300,slow=77							
H03N1	**Juan Fernandez**	**146.72**	**90**	T		T	13 42 35.4	
	baz=300,slow=77							
VNA3	**Neumayer Olymp**	**146.99**	**196**	PKPdf		**PKPbc**	**10 57 36.1**	**+0.2**
VNA1	**Neumayer--Stat**	**147.13**	**198**	PKPdf		**PKPbc**	**10 57 36.9**	**+0.7**

IDC ***26*** *10:43:35.2±3.4, 31°.49S×177°.99W, h0km, mb4.2/2, mb1 4.3/3, mb1mx3.8/32, mbtmp4.1/3, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/36 Error ellipse: s-maj=75.5km s-min=49.5km az=117.0*

NEIC ***26*** *10:43:39.8±2.1, 31°.22S±0°.05×177°.8W±0°.2, h35km±2km, mb4.6/10, Error ellipse: s-maj=24.0km s-min=7.0km az=99.0*

ISC 26 10:43:39.4±1.2, 31°.2S±0°.1×177°.7W±0°.2, h35km, n19, σ1§13/17, mb4.5/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op	ISC		h m s		ISC
RAO	**Raoul Island**	**1.94**	**355**	Pn	**Pn**		**10 44 09.7**		**-0.3**
URZ	**Urewera**	**8.22**	**210**	Pn	Pn		10 45 30.2		-5.9
	0.4nm,0.3s,baz=307,slow=20,SNR=1.2								
URZ				Sn	Sn		10 46 56.8		-11
	0.4nm,0.3s,baz=127,slow=20,SNR=1.4								
URZ	**Urewera**	**8.22**	**210**		**Pn**		**10 45 34.7**		**-1.5**
OUZ	**Omahuta**	**8.29**	**239**	Pn	**Pn**		**10 45 38.7**		**+1.5**
CTAO	**Charters Tower**	**34.16**	**280**	P	**P**		**10 50 39.6**		**-0.8**
CTAO				IAmb	IAmb		10 50 39.9		
	comp=Z,27nm,1.5s								
PMG	**Port Moresby**	**39.15**	**296**	LR	LR		11 04 04

OKCFA				S			10 50 10.6	
	baz=6.9							
OKCSW	**OKLAHOMA CITY**	**0.35**	**187**			**Pg**	**10 50 05.7**	**-0.3**
OKCSW				Sg		**Sg**	**10 50 10.8**	**+0.2**
OK031	**S. Brethren Rd**	**0.49**	**66**	Pg		**Pg**	**10 50 08.5**	**-0.1**
FNO	**Franklin**	**0.50**	**181**			**Pg**	**10 50 08.4**	**-0.3**
FNO				Sg		**Sg**	**10 50 15.5**	**+0.3**
OK030	**Cody Creek RV**	**0.52**	**71**			**Pg**	**10 50 09.1**	**-0.1**
OK030				Sg		**Sg**	**10 50 16.2**	**+0.3**
QUOK	**Quay**	**0.69**	**53**			**Pg**	**10 50 12.2**	**-0.2**
QUOK				Sg		**Sg**	**10 50 21.6**	**+0.2**
W35A	**Tecumseh**	**0.73**	**145**			**Pg**	**10 50 12.5**	**-0.7**
CROK	**Carrier**	**0.89**	**327**			**Pg**	**10 50 16.0**	**-0.3**
CROK				Sg		**Sb**	**10 50 28.7**	**-0.3**
BLOK	**Blackwell**	**1.01**	**8**			**Pg**	**10 50 18.2**	**-0.3**
X34A	**Smith Ranch, M**	**1.21**	**198**			**Pg**	**10 50 21.6**	**-0.7**
OK032	**Salt Plains WL**	**1.24**	**328**			**Pg**	**10 50 22.1**	**-0.8**
KAN13	**South Haven SW**	**1.26**	**357**			**Pg**	**10 50 22.6**	**-0.6**
KAN14	**Manchester OK**	**1.28**	**339**			**Pg**	**10 50 23.0**	**-0.8**
TUL1	**Leonard**	**1.31**	**83**	P		**Pn**	**10 50 22.2**	**-1.6**
	baz=264,SNR=116							
TUL1				S		**Sg**	**10 50 40.1**	**-1.0**
	baz=264							
TUL1	**Leonard**	**1.31**	**83**	P			10 50 22.2	
	baz=264,SNR=116							
TUL1				S			10 50 40.1	
	baz=264							
KAN17	**Caldwell West**	**1.32**	**347**			**Pn**	**10 50 23.7**	**-0.3**
T35A	**Sooner Cattle**	**1.36**	**31**	Pn		**Pn**	**10 50 24.0**	**-0.5**
T35B	**Sooner Cattle**	**1.36**	**31**	P		**Pn**	**10 50 23.9**	**-0.6**
	baz=212							
T35B				S		**Sg**	**10 50 42.5**	**-0.3**
	baz=212							
T35B	**Sooner Cattle**	**1.36**	**31**	P			10 50 23.9	
	baz=212							
T35B				S			10 50 42.5	
	baz=212							
KAN09	**Caldwell North**	**1.39**	**352**			**Pn**	**10 50 24.7**	**-0.2**
U32A	**Winter Ranch,**	**1.45**	**296**			**Pn**	**10 50 25.4**	**-0.4**
U32A	**Winter Ranch,**	**1.45**	**296**	P		**Pn**	**10 50 25.5**	**-0.2**
	baz=115							
U32A				S		**Sn**	**10 50 45.5**	**+0.4**
	baz=115							
U32A	**Winter Ranch,**	**1.45**	**296**	P			10 50 25.5	
	baz=115							
U32A				S			10 50 45.5	
	baz=115							
KS20	**Mayfield South**	**1.48**	**355**			**Pn**	**10 50 26.4**	**+0.2**
KS20				IAmb_Lg			10 50 48.2	
	comp=Z,110nm,0.7s							
KAN10	**Anthony SW Sta**	**1.48**	**338**			**Pn**	**10 50 26.2**	**0.0**
WMOK	**Wichita Mounta**	**1.53**	**229**			**Pn**	**10 50 26.4**	**-0.4**
WMOK	**Wichita Mounta**	**1.53**	**229**	P		**Pn**	**10 50 26.4**	**-0.4**
	baz=48,SNR=187							
WMOK				S		**Sn**	**10 50 47.0**	**0.0**
	baz=48							
WMOK	**Wichita Mounta**	**1.53**	**229**	P			10 50 26.4	
	baz=48,SNR=187							
WMOK				S			10 50 47.0	
	baz=48							
KAN08	**Anthony NE Sta**	**1.54**	**342**			**Pn**	**10 50 27.5**	**+0.4**
KS21	**Milan North St**	**1.54**	**352**	IAmb_Lg			10 50 51.2	
	comp=Z,216nm,0.7s							
KAN16	**Harper SW Stat**	**1.56**	**340**			**Pn**	**10 50 27.7**	**+0.3**
LOOK	**Love County**	**1.77**	**174**			**Pn**	**10 50 30.7**	**+0.6**
LOOK				IAmb_Lg			10 50 59.3	
	comp=Z,85nm,0.7s							
X37A	**Clayton**	**2.02**	**125**			**Pn**	**10 50 33.8**	**+0.2**
X37A	**Clayton**	**2.02**	**125**	P		**Pn**	**10 50 33.8**	**+0.2**
	baz=306,SNR=27							
X37A				S		**Sn**	**10 51 00.0**	**+0.9**
	baz=306							
X37A	**Clayton**	**2.02**	**125**	P			10 50 33.8	
	baz=306,SNR=27							
X37A				S			10 51 00.0	
	baz=306							
Z35A	**Perchaven, San**	**2.42**	**177**			**Pn**	**10 50 39.4**	**+0.4**
Z35A	**Perchaven, San**	**2.42**	**177**	P		**Pn**	**10 50 39.5**	**+0.4**
	baz=357,SNR=13							
Z35A	**Perchaven, San**	**2.42**	**177**	P			10 50 39.5	
	baz=357,SNR=13							
U38A	**Gravette**	**2.53**	**73**			**Pn**	**10 50 40.8**	**+0.2**
U38A	**Gravette**	**2.53**	**73**	P		**Pn**	**10 50 41.1**	**+0.5**
	baz=255,SNR=51							
U38A	**Gravette**	**2.53**	**73**	P			10 50 41.1	
	baz=255,SNR=51							
HHAR	**Hobbs**	**2.84**	**78**	Pn		**Pn**	**10 50 45.0**	**0.0**
HHAR	**Hobbs**	**2.84**	**78**	P		**Pn**	**10 50 45.0**	**0.0**
	baz=260							
HHAR	**Hobbs**	**2.84**	**78**	P			10 50 45.0	
	baz=260							
R32A	**Long Quarter,**	**2.86**	**339**	Pn		**Pn**	**10 50 45.4**	**+0.2**
W39A	**Magazine**	**3.00**	**100**	Pn		**Pn**	**10 50 47.0**	**0.0**
W39A				IAmb_Lg			10 51 39.7	
	comp=Z,79nm,0.9s							
Z38A	**Mt. Pleasant**	**3.18**	**141**	Pn		**Pn**	**10 50 49.3**	**-0.3**
Z38A				IAmb_Lg			10 51 43.2	
	comp=Z,78nm,0.7s							
MIAR	**Mount Ida**	**3.35**	**110**	Pn		**Pn**	**10 50 52.1**	**+0.2**
MIAR				IAmb_Lg			10 51 49.8	
	comp=Z,71nm,0.7s							
MIAR	**Mount Ida**	**3.35**	**110**	P		**Pn**	**10 50 52.0**	**+0.1**
	baz=292,SNR=39							
MIAR				S		**Sn**	**10 51 33.9**	**+2.0**
	baz=292							
MIAR	**Mount Ida**	**3.35**	**110**	P			10 50 52.0	
	baz=292,SNR=39							
MIAR				S			10 51 33.9	
	baz=292							
KSU1	**Kansas State U**	**3.40**	**10**	Pn		**Pn**	**10 50 53.0**	**+0.5**
KSU1				IAmb_Lg			10 51 51.3	
	comp=Z,96nm,0.8s							
CBKS	**Cedar Bluff**	**3.58**	**329**	Pn		**Pn**	**10 50 55.5**	**+0.4**
CBKS				IAmb_Lg			10 51 58.5	
	comp=Z,117nm,0.8s							
AMTX	**Amarillo**	**3.62**	**257**	Pn		**Pn**	**10 50 55.7**	**+0.1**
AMTX				IAmb_Lg			10 51 58.6	
	comp=Z,49nm,0.8s							
ABTX	**Abilene, Hawle**	**3.64**	**212**	IAmb_Lg			10 51 55.0	
	comp=Z,50nm,0.9s							
U40A	**Yellville**	**3.72**	**79**	Pn		**Pn**	**10 50 56.7**	**-0.4**
U40A				IAmb_Lg			10 52 00.5	
	comp=Z,67nm,0.8s							
U40A	**Yellville**	**3.72**	**79**	P		**Pn**	**10 50 56.5**	**-0.5**
	baz=262,SNR=15							
U40A	**Yellville**	**3.72**	**79**	P			10 50 56.5	
	baz=262,SNR=15							
U40A				P			10 50 56.5	
	baz=262,SNR=15							
WHTX	**Lake Whitney,**	**3.75**	**181**	Pn		**Pn**	**10 50 57.5**	**+0.1**
S39A	**Bolivar**	**3.79**	**58**	Pn		**Pn**	**10 50 58.5**	**+0.5**
S39A				IAmb_Lg			10 52 01.2	
	comp=Z,74nm,0.9s							
X40A	**Basin Creek Fa**	**3.94**	**107**			**Pn**	**10 51 00.6**	**+0.6**
X40A	**Basin Creek Fa**	**3.94**	**107**	P		**Pn**	**10 51 00.7**	**+0.6**
	baz=290,SNR=11							
X40A	**Basin Creek Fa**	**3.94**	**107**	P			10 51 00.7	
	baz=290,SNR=11							
X40A				P			10 51 00.7	
	baz=290,SNR=11							
237A	**Washetta, Mont**	**3.97**	**160**			**Pn**	**10 51 00.1**	**-0.3**
237A				IAmb_Lg			10 52 13.5	
	comp=Z,45nm,0.8s							
WLAR	**White Oak Lake**	**4.08**	**119**	IAmb_Lg			10 52 16.8	
	comp=Z,57nm,0.8s							
WHAR	**Wooly Hollow**	**4.19**	**95**	Pn		**Pn**	**10 51 03.4**	**0.0**
WHAR				IAmb_Lg			10 52 10.7	
	comp=Z,64nm,0.9s							
W41B	**Gary Mavity, V**	**4.24**	**96**	P		**Pn**	**10 51 03.9**	**-0.2**
	baz=279,SNR=29							
W41B	**Gary Mavity, V**	**4.24**	**96**	P			10 51 03.9	
	baz=279,SNR=29							
FCAR	**Ozark Folk Cen**	**4.28**	**87**			**Pn**	**10 51 04.0**	**-0.7**
MGMO	**Mountain Grove**	**4.36**	**70**	Pn		**Pn**	**10 51 06.3**	**+0.6**
MGMO				IAmb_Lg			10 52 22.4	
	comp=Z,74nm,0.8s							
R40A	**Maddies Statio**	**4.81**	**57**			**Pn**	**10 51 11.9**	**-0.1**
R40A				IAmb_Lg			10 52 31.4	
	comp=Z,62nm,0.9s							
P38A	**Dawn**	**4.93**	**37**	Pn		**Pn**	**10 51 14.0**	**+0.4**
P38A				IAmb_Lg			10 52 45.4	
	comp=Z,44nm,0.7s							
435B	**Jarrell**	**4.96**	**182**	IAmb_Lg			10 52 40.6	
	comp=Z,57nm,0.8s							
CCAR	**Cane Creek**	**4.97**	**110**	IAmb_Lg			10 52 45.0	
	comp=Z,45nm,0.7s							
N33A	**J Bar K, Exete**	**4.97**	**359**	Pn		**Pn**	**10 51 14.3**	**+0.1**
N33A				IAmb_Lg			10 52 46.7	
	comp=Z,52nm,0.8s							
LCAR	**Lake Charles**	**5.07**	**85**	IAmb_Lg			10 52 43.0	
	comp=Z,52nm,1.1s							
T42A	**Van Buren**	**5.24**	**74**	Pn		**Pn**	**10 51 17.8**	**0.0**
T42A				IAmb_Lg			10 52 57.8	
	comp=Z,41nm,0.8s							
N35A	**Tabor**	**5.28**	**15**			**Pn**	**10 51 18.1**	**-0.2**
KSCO	**Kaye Shedlock'**	**5.29**	**309**	IAmb_Lg			10 52 48.5	
	comp=Z,42nm,0.7s							
CCM	**Cathedral Cave**	**5.43**	**63**	IAmb_Lg			10 52 50.8	
	comp=Z,49nm,0.8s							
JCT	**Junction City**	**5.64**	**202**	IAmb_Lg			10 53 13.6	
	comp=Z,49nm,0.8s							
BGNE	**Belgrade**	**5.68**	**354**	Pn		**Pn**	**10 51 24.0**	**+0.1**
BGNE				IAmb_Lg			10 53 05.8	
	comp=Z,26nm,1.1s							
PBMO	**Poplar Bluff**	**5.71**	**78**	IAmb_Lg			10 53 00.6	
	comp=Z,45nm,0.8s							
LPAR	**Lepanto**	**5.77**	**89**	IAmb_Lg			10 53 11.8	
	comp=Z,54nm,1.0s							
143A	**Socs Landing,**	**5.82**	**120**	IAmb_Lg			10 53 13.7	
	comp=Z,37nm,0.8s							
T25A	**Trinidad**	**5.83**	**286**	IAmb_Lg			10 53 12.6	
	comp=Z,56nm,0.8s							
N38A	**Joes South For**	**6.00**	**32**	Pn		**Pn**	**10 51 28.1**	**-0.1**
PEBM	**Pemiscott Bayo**	**6.12**	**84**	IAmb_Lg			10 53 25.4	
	comp=Z,64nm,0.9s							
LNXT	**Lenox**	**6.42**	**85**	IAmb_Lg			10 53 35.4	
	comp=Z,42nm,0.7s							
HALT	**Halls**	**6.54**	**86**	IAmb_Lg			10 53 40.5	
	comp=Z,52nm,0.9s							
GLAT	**Glass**	**6.59**	**83**	IAmb_Lg			10 53 35.6	
	comp=Z,56nm,0.8s							
OXF	**Oxford**	**6.66**	**98**	Pn		**Pn**	**10 51 37.1**	**-0.2**
W45A	**Hickory Valley**	**6.72**	**93**	IAmb_Lg			10 53 40.9	
	comp=Z,41nm,0.8s							
SDCO	**Grand Sand Dun**	**6.81**	**289**			**Pn**	**10 51 40.5**	**+0.8**
S44A	**Carbondale**	**6.81**	**71**	Pn		**Pn**	**10 51 39.2**	**-0.2**
S44A				IAmb_Lg			10 53 42.2	
	comp=Z,53nm,0.8s							
SIUC	**Southern Illin**	**6.85**	**71**	IAmb_Lg			10 53 36.7	
	comp=Z,58nm,0.8s							
735A	**Kenedy**	**6.89**	**183**	IAmb_Lg			10 53 53.8	
	comp=Z,28nm,0.8s							
N41A	**Harden Midland**	**7.13**	**44**	Pn		**Pn**	**10 51 44.8**	**+1.0**
ISCO	**Idaho Springs**	**7.66**	**304**	Pn		**Pn**	**10 51 52.3**	**+0.9**
ISCO				IAmb_Lg			10 54 17.1	
	comp=Z,18nm,0.7s							
WVT	**Waverly**	**7.76**	**84**	Pn		**Pn**	**10 51 53.0**	**+0.5**
L40A	**Anamosa**	**7.92**	**35**	IAmb_Lg			10 54 31.6	
	comp=Z,36nm,0.8s							
HDIL	**Hopedale**	**7.97**	**51**	Pn		**Pn**	**10 51 55.0**	**-0.4**
ECSD	**EROS Data Cent**	**7.99**	**4**			**Pn**	**10 51 54.2**	**-1.4**
ECSD	**EROS Data Cent**	**7.99**	**4**	P		**Pn**	**10 51 54.0**	**-1.6**
	baz=185,SNR=7.7							
ECSD	**EROS Data Cent**	**7.99**	**4**	P			10 51 54.0	
	baz=185,SNR=7.7							
Y22D	**IRIS PASSCAL I**	**8.01**	**261**	IAmb_Lg			10 54 29.2	
	comp=Z,38nm,0.9s							
USIN	**University of**	**8.10**	**71**	IAmb_Lg			10 54 27.9	
	comp=Z,44nm,0.9s							
T47A	**Sharon Grove**	**8.39**	**79**	Pn		**Pn**	**10 52 00.9**	**-0.1**
PHWY	**Pilot Hill**	**8.40**	**314**	IAmb_Lg			10 54 30.2	
	comp=Z,19nm,0.7s							
V48A	**Smith Brothers**	**8.59**	**87**	IAmb_Lg			10 54 40.4	
	comp=Z,14nm,1.1s							
SUSD	**Miller**	**8.76**	**353**	IAmb_Lg			10 54 43.6	
	comp=Z,19nm,0.7s							
CLTN	**Cedars of Leba**	**8.98**	**85**	IAmb_Lg			10 54 54.5	
	comp=Z,20nm,1.2s							
JFWS	**Jewell Farm**	**9.04**	**36**	Pn		**Pn**	**10 52 09.8**	**-0.1**
JFWS				IAmb_Lg			10 54 44.6	
	comp=Z,39nm,0.7s							
WCI	**Wyandotte Cave**	**9.21**	**71**	IAmb_Lg			10 54 51.5	
	comp=Z,30nm,0.9s							
BLO	**Bloomington**	**9.29**	**65**	IAmb_Lg			10 55 00.4	
	comp=Z,37nm,0.8s							
SFIN	**Lafayette**	**9.34**	**57**	IAmb_Lg			10 55 03.9	
	comp=Z,33nm,0.7s							
U49A	**Red Boiling Sp**	**9.42**	**82**	IAmb_Lg			10 55 21.6	
	comp=Z,12nm,1.0s							
PV11	**David Mesa, Pa**	**9.53**	**289**	IAmb_Lg			10 55 17.8	
	comp=Z,17nm,1.1s							
PV19	**Morning Glory**	**9.61**	**289**	IAmb_Lg			10 55 20.9	
	comp=Z,12nm,1.2s							
I40A	**Norwalk**	**9.65**	**31**	IAmb_Lg			10 55 26.6	
	comp=Z,16nm,0.8s							
RWWY	**Rawlins**	**9.69**	**311**	IAmb_Lg			10 55 15.2	
	comp=Z,12nm,0.8s							
RSSD	**Black Hills**	**9.79**	**331**	IAmb_Lg			10 55 22.7	
	comp=Z,16nm,0.7s							
W50A	**Signal Mountai**	**9.87**	**90**	IAmb_Lg			10 55 14.5	
	comp=Z,12nm,0.8s							
K22A	**Casper**	**9.88**	**317**	IAmb_Lg			10 55 33.2	
	comp=Z,24nm,1.0s							

*ISU **26** 10:56:40,40°.50N×69°.50E,h5km*
*KRNET **26** 10:56:47.9±0.1,41°.00N×69°.75E,mb3.2*
*NNC **26** 10:56:49.2±2.3,40°.83N×69°.80E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=16.7km s-min=9.0km az=23.0
ISC 26 10:56:49.8±1.0,40°.96N±0°.03×69°.73E±0°.06,h10km,n16,
σ1°.58/30,17C-10D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.62**	**20**	*e*P	**Pg**	**10 57 00.0**	**-1.9**
CHMG				*e*S	**Sg**	**10 57 09.0**	**-1.1**
CHRV	**Charvak**	**0.70**	**14**	*e*P	**Pg**	**10 57 01.0**	**-2.3**
CHRV				*e*S	**Sn**	**10 57 19.0**	**+2.3**
TRKS	**Terek-Say**	**1.20**	**62**	⇓*i*P	**Pb**	**10 57 10.0**	**-2.8**
	baz=66						
TRKS				⇓*i*S	**Sb**	**10 57 26.4**	**-2.1**
	baz=66						
BTK	**Batken**	**1.23**	**137**	⇑*e*P	**Pb**	**10 57 11.9**	**-1.3**
	baz=39						
BTK				⇑*i*S	**Sb**	**10 57 28.7**	**-0.4**
	baz=39						
GAR	**Garm**	**2.01**	**167**	⇓*i*P	**Pb**	**10 57 25.7**	**-0.9**
	baz=67						
GAR				⇓*i*S	**Sb**	**10 57 52.4**	**+0.7**
	baz=67						
DRK	**Karamyk**	**2.17**	**132**	⇑*i*P	**Pb**	**10 57 28.1**	**-1.2**
	baz=33						
DRK				⇑*i*S	**Sb**	**10 57 57.0**	**+0.6**
	baz=33						
KK31	**Karatay Array**	**2.21**	**15**	Pn	**Pb**	**10 57 29.1**	**-0.9**
	2.3nm,0.2s,baz=196,slow=15,SNR=202						
KK31				⇓Sn	**Sb**	**10 57 59.3**	**+1.8**
	12nm,0.3s,baz=194,slow=32,SNR=22						
CHGR	**Chuyangaron**	**2.35**	**191**	⇑*i*P	**Pn**	**10 57 30.4**	**+1.9**
	baz=91						
CHGR				⇑*i*S	**Sb**	**10 58 00.5**	**-0.8**
	baz=91						
OHH	**Osh**	**2.36**	**100**	⇑*i*P	**Pn**	**10 57 28.8**	**+0.1**
	baz=1.0						
OHH				⇑*i*S	**Sn**	**10 57 59.2**	**+1.4**
	baz=1.0						
MNAS	**Manas**	**2.57**	**53**	⇑*i*P	**Pn**	**10 57 31.8**	**+0.1**
	baz=53						
MNAS				⇑*i*S	**Sn**	**10 58 04.6**	**+1.5**
	baz=53						
AML	**Almayashu**	**3.19**	**67**	⇑*e*P	**Pn**	**10 57 41.1**	**+0.6**
	baz=68						
AML				⇑*i*S	**Sn**	**10 58 20.8**	**+2.0**
	baz=68						
EKS2	**Erkin-Say**	**3.47**	**59**	⇑*e*P	**Pn**	**10 57 44.8**	**+0.8**
	baz=60						
EKS2				⇑*e*S	**Sn**	**10 58 26.8**	**+1.7**
	baz=60						
ARLS	**Aral**	**3.57**	**74**	⇓*e*P	**Pn**	**10 57 46.6**	**+1.2**
	baz=75						
ARLS				⇓*i*S	**Sn**	**10 58 28.9**	**+1.2**
	baz=75						
AAK	**Ala-Archa**	**3.93**	**63**	⇓Pg	**Pb**	**10 58 01.3**	**+2.0**
AAK	5.0nm,0.8s			⇓Lg	Lg	10 58 53.7	
	8.1nm,0.9s						
USP	**Ospenovka**	**4.23**	**55**	⇑*i*P	**Pn**	**10 57 55.4**	**+1.1**
	baz=56						
USP				⇑*i*S	**Sn**	**10 58 45.3**	**+1.5**
	baz=56						
TKM2	**Tokmak 2**	**4.79**	**64**	⇑Pg	**Pb**	**10 58 15.9**	**+1.9**
	2.6nm,0.6s						
TKM2				⇓Lg	Lg	10 59 21.3	
	8.3nm,0.7s						

*JMA **26** 11:22:04.6,24°.10N×121°.78E,h0km,M3.3*
*TAP **26** 11:22:05.1,24°.18N×121°.79E,h9km,ML3.6,B*
ISC 26 11:22:04.8±0.9,24°.18N±0°.01×121°.87E±0°.02,h12km±6km,
n142,σ0°60/260,6C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**318**	⇑P	**Pg**	**11 22 08.8**	**+0.2**
	baz=344						
EHP				S	**Sg**	**11 22 11.6**	**+0.2**
	baz=344						
ETL	**Fush Village**	**0.22**	**265**	P	**Pg**	**11 22 09.0**	**-0.6**
	baz=262						
ETL				S	**Sg**	**11 22 12.1**	**-0.7**
	baz=262						
NACB	**Ninganchiao**	**0.25**	**268**	⇑P	**Pg**	**11 22 09.4**	**-0.6**
	baz=268						
NACB				*e*S	**Sg**	**11 22 13.7**	**+0.2**
	baz=268						
TWD	**Chiawan**	**0.27**	**248**	*e*P	**Pg**	**11 22 09.9**	**-0.4**
	baz=239						
TWD				*e*S	**Sg**	**11 22 13.8**	**-0.2**
	baz=239						
EWUT	**Wuta**	**0.28**	**343**	⇓*i*P	**Pb**	**11 22 11.1**	**-0.5**
	baz=357						
EWUT				S	**Sb**	**11 22 16.3**	**0.0**
	baz=357						
HWA	**Hwalien**	**0.31**	**230**	*e*P	**Pb**	**11 22 11.5**	**-0.8**
	baz=218						
HWA				*e*S	**Sg**	**11 22 15.6**	**+0.2**
	baz=218						
ETLH	**Xiulin Townshi**	**0.35**	**274**	⇑P	**Pg**	**11 22 11.6**	**-0.3**
	baz=275						
ETLH				*e*S	**Sg**	**11 22 16.5**	**-0.1**
	baz=275						
TEYL	**Yanliau Villag**	**0.40**	**218**	*e*P	**Pb**	**11 22 13.5**	**-0.2**
	baz=211						
TEYL				*e*S	**Sg**	**11 22 17.8**	**-0.1**
	baz=211						
ETM	**Tongmen**	**0.40**	**238**	*e*P	**Pg**	**11 22 12.6**	**-0.2**
	baz=231						
ETM				*e*S	**Sg**	**11 22 18.7**	**+0.5**
	baz=231						
TWC	**Suao**	**0.43**	**358**	⇓*i*P	**Pb**	**11 22 14.1**	**-0.1**
	baz=8.0						
TWC				S	**Sb**	**11 22 21.0**	**+0.4**
	baz=8.0						
NDS	**Dongshan**	**0.47**	**343**	⇓*i*P	**Pb**	**11 22 14.9**	**-0.1**
	baz=351						
NDS				S	**Sb**	**11 22 22.2**	**+0.3**
	baz=351						
NNSB	**Datong**	**0.51**	**299**	⇓P	**Pb**	**11 22 14.8**	**-0.8**
	baz=303						
NNSB				S	**Sg**	**11 22 21.4**	**-0.1**
	baz=303						
NNSH	**Datong**	**0.51**	**299**	⇑P	**Pb**	**11 22 15.0**	**-0.7**
	baz=303						
NNSH				S	**Sg**	**11 22 21.4**	**-0.1**
	baz=303						
NNS	**Nan Shan**	**0.52**	**300**	*e*P	**Pb**	**11 22 15.0**	**-0.9**
	baz=304						
NNS				*e*S	**Sg**	**11 22 21.8**	**-0.1**
	baz=304						
NDT	**Datong Townshi**	**0.53**	**323**	P	**Pb**	**11 22 15.8**	**-0.2**
	baz=329						
NDT				S	**Sb**	**11 22 23.9**	**+0.2**
	baz=329						
ENTT	**Nioudou**	**0.53**	**329**	⇓*i*P	**Pb**	**11 22 15.8**	**-0.3**
	baz=336						
ENTT				S	**Sb**	**11 22 23.5**	**-0.3**
	baz=336						
ESL	**Shilin**	**0.54**	**227**	*e*P	**Pg**	**11 22 15.3**	**0.0**
	baz=220						
ESL				*e*S	**Sg**	**11 22 23.0**	**+0.6**
	baz=220						
WHF	**Hehuan Shan**	**0.55**	**266**	P	**Pg**	**11 22 15.3**	**-0.3**
	baz=265						
WHF				S	**Sg**	**11 22 22.6**	**-0.4**
	baz=265						
TEGC	**Jichi Village**	**0.56**	**213**	*e*P	**Pb**	**11 22 16.6**	**+0.1**
	baz=205						
TEGC				*e*S	**Sb**	**11 22 23.9**	**-0.4**
	baz=205						
TWE	**Neicheng**	**0.57**	**341**	⇓P	**Pb**	**11 22 16.7**	**+0.1**
	baz=349						
TWE				S	**Sb**	**11 22 24.7**	**0.0**
	baz=349						
FUSS	**Fushou**	**0.57**	**277**	*e*P	**Pg**	**11 22 16.1**	**+0.1**
	baz=277						
FUSS				*e*S	**Sg**	**11 22 23.8**	**+0.2**
	baz=277						
ILA	**Ilan**	**0.59**	**350**	*e*P	**Pb**	**11 22 17.3**	**+0.2**
	baz=357						
ILA				*e*S	**Sb**	**11 22 26.5**	**+1.0**
	baz=357						
TWT	**Tachien**	**0.64**	**277**	*e*P	**Pb**	**11 22 17.6**	**-0.4**
	baz=276						
TWT				*e*S	**Sg**	**11 22 25.9**	**+0.4**
	baz=276						
CHGB	**Renai**	**0.64**	**259**	⇑*e*P	**Pg**	**11 22 17.2**	**-0.1**
	baz=258						
CHGB				*e*S	**Sg**	**11 22 25.7**	**-0.2**
	baz=258						
EGFH	**Guangfu**	**0.65**	**218**	*e*P	**Pb**	**11 22 17.8**	**-0.3**
	baz=213						
EGFH				*e*S	**Sb**	**11 22 26.6**	**-0.5**
	baz=213						
TDCB	**Techi**	**0.65**	**277**	P	**Pb**	**11 22 17.5**	**-0.6**
	baz=277						
TDCB				*e*S	**Sg**	**11 22 25.5**	**-0.5**
	baz=277						
YHNB	**Yeheng**	**0.66**	**318**	⇓P	**Pb**	**11 22 18.3**	**0.0**
	baz=322						
YHNB				S	**Sb**	**11 22 27.8**	**+0.3**
	baz=322						
EGS		**0.66**	**5**	*e*P	**Pb**	**11 22 18.9**	**+0.6**
	baz=12						
EGS				*e*S	**Sn**	**11 22 29.1**	**-1.3**
	baz=12						
OWD	**Renai**	**0.67**	**251**	*e*P	**Pg**	**11 22 17.5**	**-0.3**
	baz=248						
NTC	**Toucheng**	**0.67**	**357**	P	**Pb**	**11 22 18.9**	**+0.4**
	baz=3.0						
NTC	

DPDB				*e*S	**Sg**	**11 22 32.8**	**-0.2**
	baz=259								
WCS	**Beigang Elemen**	**0.88**	**262**	*e*P	**Pg**	**11 22 21.6**	**-0.2**
	baz=261								
WCS				*e*S	**Sb**	**11 22 33.6**	**-0.1**
	baz=261								
NWF	**Wu-fen Shan**	**0.89**	**355**	*e*P	**Pn**	**11 22 23.1**	**-0.1**
	baz=359								
NWF				*e*S	**Sn**	**11 22 35.5**	**-0.6**
	baz=359								
WFSB	**Wu-fen Shan**	**0.89**	**355**	*e*P	**Pn**	**11 22 23.3**	**+0.2**
	baz=359								
WFSB				*e*S	**Sn**	**11 22 35.5**	**-0.5**
	baz=359								
NJD	**Zhudong**	**0.90**	**308**	*e*S	**Sb**	**11 22 34.6**	**+0.4**
	baz=310								
LIOB	**Emei**	**0.90**	**301**	*e*P	**Pn**	**11 22 23.0**	**-0.3**
	baz=303								
LIOB				*e*S	**Sb**	**11 22 34.2**	**-0.2**
	baz=303								
NSTT	**Nanjuang**	**0.91**	**300**	*e*P	**Pb**	**11 22 22.7**	**+0.2**
	baz=302								
NSTT				*e*S	**Sb**	**11 22 34.4**	**-0.1**
	baz=302								
SSLB	**Suanglung**	**0.92**	**245**	*e*P	**Pg**	**11 22 22.2**	**-0.4**
	baz=242								
SSLB				*e*S	**Sg**	**11 22 34.7**	**+0.1**
	baz=242								
SMLT	**Sun Moon Lake**	**0.93**	**252**	*e*P	**Pg**	**11 22 22.5**	**-0.3**
	baz=249								
SMLT				*e*S	**Sg**	**11 22 35.1**	**+0.1**
	baz=249								
YULB	**Yu-li**	**0.94**	**214**	*e*P	**Pg**	**11 22 22.3**	**-0.6**
	baz=209								
YULB				*e*S	**Sb**	**11 22 35.9**	**+0.4**
	baz=209								
TYC	**Yuchr**	**0.96**	**254**	*e*P	**Pg**	**11 22 23.1**	**-0.2**
	baz=252								
TYC				*e*S	**Sg**	**11 22 35.5**	**-0.4**
	baz=252								
NTY	**Taoyuan**	**0.97**	**328**	*e*P	**Pb**	**11 22 23.4**	**-0.1**
	baz=331								
NTY				*e*S	**Sb**	**11 22 37.1**	**+0.9**
	baz=331								
EYUL	**Yuli**	**0.97**	**211**	*e*P	**Pb**	**11 22 24.0**	**+0.5**
	baz=207								
EYUL				*e*S	**Sb**	**11 22 37.2**	**+0.9**
	baz=207								
TNOU	**National Taiwa**	**0.97**	**355**	*e*P	**Pn**	**11 22 24.2**	**0.0**
	baz=358								
TNOU				*e*S	**Sn**	**11 22 38.0**	**+0.1**
	baz=358								
HSN1	**Hsinchu**	**0.97**	**308**	*e*P	**Pb**	**11 22 23.8**	**+0.2**
	baz=310								
HSN1				*e*S	**Sb**	**11 22 36.7**	**+0.2**
	baz=310								
TWF1	**Yuli**	**0.98**	**212**	*e*P	**Pb**	**11 22 23.5**	**-0.1**
	baz=208								
TWF1				*e*S	**Sb**	**11 22 37.2**	**+0.7**
	baz=208								
YM01	**YM01**	**1.00**	**344**	*e*P	**Pn**	**11 22 25.1**	**+0.5**
	baz=348								
YM01				*e*S	**Sb**	**11 22 38.0**	**+0.8**
	baz=348								
NCU	**National Centr**	**1.00**	**322**	*e*P	**Pb**	**11 22 23.6**	**-0.4**
	baz=325								
NCUH	**Zhongli**	**1.00**	**322**	*e*P	**Pb**	**11 22 24.3**	**+0.2**
	baz=325								
NCUH				*e*S	**Sb**	**11 22 37.7**	**+0.6**
	baz=325								
TWS1	**Kuangyinshan**	**1.00**	**336**	*e*P	**Pn**	**11 22 25.2**	**+0.6**
	baz=340								
TWS1				*e*S	**Sn**	**11 22 38.8**	**+0.1**
	baz=340								
SBCB	**Hsinchu**	**1.01**	**307**	*e*P	**Pb**	**11 22 24.0**	**-0.2**
	baz=309								
SBCB				*e*S	**Sb**	**11 22 37.9**	**+0.5**
	baz=309								
JYNG	**Yonagunijimaku**	**1.02**	**74**	P	**Pn**	**11 22 26.3**	**+1.4**
YM08	**YM08**	**1.03**	**346**	*e*P	**Pb**	**11 22 24.6**	**-0.1**
	baz=349								
YM08				*e*S	**Sn**	**11 22 39.3**	**-0.3**
	baz=349								
NSY	**Sanyi**	**1.03**	**283**	*e*P	**Pb**	**11 22 25.0**	**+0.3**
	baz=284								
NSY				*e*S	**Sb**	**11 22 38.7**	**+0.5**
	baz=284								
NJN	**Zhunan**	**1.04**	**299**	*e*P	**Pg**	**11 22 24.0**	**-0.7**
	baz=300								
NJN				*e*S	**Sb**	**11 22 38.3**	**+0.1**
	baz=300								
NMLH	**Miaoli**	**1.04**	**290**	*e*P	**Pn**	**11 22 25.5**	**+0.3**
	baz=291								
NMLH				*e*S	**Sb**	**11 22 38.7**	**+0.3**
	baz=291								
WHYT	**Xinyi Township**	**1.04**	**243**	*e*P	**Pb**	**11 22 24.8**	**-0.1**
	baz=240								
ANP	**Anpu**	**1.05**	**343**	*e*P	**Pn**	**11 22 25.2**	**-0.2**
	baz=346								
ANP				*e*S	**Sn**	**11 22 40.2**	**+0.2**
	baz=346								
NTST	**Danshui**	**1.05**	**339**	*e*P	**Pn**	**11 22 25.4**	**0.0**
	baz=342								
NTST				*e*S	**Sn**	**11 22 40.1**	**+0.2**
	baz=342								
WWF	**Wufeng**	**1.08**	**263**	*e*P	**Pn**	**11 22 26.3**	**+0.6**
	baz=262								
WWF				*e*S	**Sg**	**11 22 39.1**	**-0.4**
	baz=262								
YOJ	**Yonaguni jima**	**1.08**	**75**	P	**Pn**	**11 22 27.6**	**+1.9**
YOJ	**Yonaguni jima**	**1.08**	**75**	*e*P	**Pn**	**11 22 26.5**	**+0.8**
	baz=75								
YUS	**Yu-Shan**	**1.08**	**231**	*e*P	**Pg**	**11 22 25.4**	**-0.3**
	baz=227								
YUS				*e*S	**Sb**	**11 22 40.1**	**+0.1**
	baz=227								
TCU	**Taichung**	**1.09**	**269**	*e*P	**Pg**	**11 22 24.8**	**-0.9**
	baz=268								
TCU				*e*S	**Sg**	**11 22 39.1**	**-0.8**
	baz=268								
WJS	**Zhushan**	**1.10**	**251**	*e*P	**Pn**	**11 22 26.1**	**+0.1**
	baz=249								
WJS				*e*S	**Sg**	**11 22 40.1**	**-0.2**
	baz=249								
FULB	**Fuli**	**1.11**	**208**	*e*P	**Pb**	**11 22 25.9**	**0.0**
	baz=204								
FULB				*e*S	**Sb**	**11 22 41.0**	**+0.7**
	baz=204								
NHW	**Xinwu Township**	**1.11**	**318**	*e*P	**Pg**	**11 22 25.5**	**-0.6**
	baz=320								
NHW				*e*S	**Sn**	**11 22 41.8**	**+0.4**
	baz=320								
TWY	**Chenhua**	**1.12**	**348**	*e*P	**Pn**	**11 22 26.1**	**-0.1**
	baz=351								
TWY				*e*S	**Sn**	**11 22 42.2**	**+0.6**
	baz=351								
WNT1	**Nantou City**	**1.12**	**256**	*e*P	**Pn**	**11 22 26.9**	**+0.7**
	baz=255								
WNT1				*e*S	**Sg**	**11 22 40.4**	**-0.4**
	baz=255								
WNT	**Mingjian**	**1.12**	**255**	*e*P	**Pn**	**11 22 26.8**	**+0.5**
	baz=253								
WNT				*e*S	**Sg**	**11 22 40.5**	**-0.5**
	baz=253								
WDJ	**Dajia District**	**1.13**	**279**	*e*P	**Pn**	**11 22 26.9**	**+0.5**
	baz=279								
WDJ				*e*S	**Sg**	**11 22 40.8**	**-0.4**
	baz=279								
CHKT	**Chengkung**	**1.17**	**203**	*e*P	**Pn**	**11 22 26.1**	**-1.2**
	baz=199								
CHKT				*e*S	**Sb**	**11 22 43.0**	**+0.9**
	baz=199								
ALS	**Alishan**	**1.18**	**236**	*e*P	**Pb**	**11 22 27.5**	**+0.2**
	baz=233								
ALS				*e*S	**Sg**	**11 22 42.0**	**-0.9**
	baz=233								
WCHH	**Zhanghua**	**1.20**	**265**	*e*P	**Pg**	**11 22 27.1**	**-0.8**
	baz=264								
WCHH				*e*S	**Sg**	**11 22 43.1**	**-0.3**
	baz=264								
CHN5	**Tsauling**	**1.23**	**242**	*e*P	**Pn**	**11 22 28.2**	**+0.3**
	baz=240								
CHN5				*e*S	**Sg**	**11 22 43.7**	**-0.8**
	baz=240								
ECS	**Chishang**	**1.23**	**209**	*e*P	**Pg**	**11 22 27.9**	**-0.6**
	baz=205								
ECS				*e*S	**Sn**	**11 22 45.1**	**+0.7**
	baz=205								
ELDTW	**Lidau**	**1.26**	**218**	*e*P	**Pg**	**11 22 27.1**	**-1.9**
	baz=215								
ELDTW				*e*S	**Sg**	**11 22 44.7**	**-0.6**
	baz=215								
EDH	**Donghe**	**1.31**	**203**	*e*P	**Pg**	**11 22 29.4**	**-0.5**
	baz=200								
EDH				*e*S	**Sb**	**11 22 46.6**	**+0.6**
	baz=200								
WDLH	**Douliu**	**1.31**	**248**	*e*P	**Pg**	**11 22 30.4**	**+0.4**
	baz=246								
WDLH				*e*S	**Sg**	**11 22 45.9**	**-1.1**
	baz=246								
WRL	**Guolierlin Hig**	**1.39**	**259**	*e*P	**Pg**	**11 22 31.0**	**-0.5**
	baz=257								
WRL				*e*S	**Sb**	**11 22 48.0**	**-0.4**
	baz=257								
STYH	**Taoyuan**	**1.42**	**225**	*e*P	**Pn**	**11 22 30.6**	**+0.2**
	baz=222								
STYH				*e*S	**Sb**	**11 22 49.1**	**0.0**
	baz=222								
CHN2	**Minshiung**	**1.43**	**243**	*e*P	**Pn**	**11 22 30.6**	**+0.1**
	baz=241								
CHN2				*e*S	**Sb**	**11 22 49.1**	**-0.3**
	baz=241								
CHN4	**Tsaushan**	**1.43**	**235**	*e*P	**Pn**	**11 22 31.0**	**+0.4**
	baz=233								
CHN4				*e*S	**Sb**	**11 22 49.4**	**-0.2**
	baz=233								
TPUB	**Ta-pu**	**1.43**	**233**	*e*P	**Pn**	**11 22 30.6**	**0.0**
	baz=230								
TPUB				*e*S	**Sb**	**11 22 49.5**	**-0.1**
	baz=230								
STYT	**Tauyuan**	**1.44**	**225**	*e*P	**Pn**	**11 22 30.2**	**-0.5**
	baz=222								
STYT				*e*S	**Sb**	**11 22 49.5**	**-0.2**
	baz=222								
LONT	**Longtian**	**1.44**	**208**	*e*P	**Pn**	**11 22 31.0**	**+0.3**
	baz=205								
LONT				*e*S	**Sb**	**11 22 50.3**	**+0.6**
	baz=205								
WTK	**Tuku**	**1.44**	**250**	*e*P	**Pn**	**11 22 31.0**	**+0.3**
	baz=249								
PCYT	**Pengchaiyu**	**1.45**	**7**	*e*P	**Pg**	**11 22 31.7**	**-1.0**
	baz=10.0								
PCYT				*e*S	**Sg**	**11 22 51.9**	**+0.2**
	baz=10.0								
WTP	**Ta-pu**	**1.48**	**231**	*e*P	**Pn**	**11 22 31.7**	**+0.5**
	baz=228								
WTP				*e*S	**Sn**	**11 22 49.9**	**-0.6**
	baz=228								
CHY	**Chiayi**	**1.48**	**243**	*e*P	**Pn**	**11 22 31.6**	**+0.3**
	baz=241								
CHY				*e*S	**Sn**	**11 22 50.9**	**+0.3**
	baz=241								
TWGBT	**Beinan**	**1.54**	**208**	*e*P	**Pn**	**11 22 31.6**	**-0.5**
	baz=205								
TWG	**Pinlang**	**1.54**	**208**	*e*P	**Pn**	**11 22 31.4**	**-0.7**
	baz=205								
TWG				*e*S	**Sn**	**11 22 52.2**	**+0.3**
	baz=205								
LDUT	**Ludao**	**1.54**	**194**	*e*P	**Pn**	**11 22 32.7**	**+0.6**
	baz=191								
TWK	**Hsinying**	**1.56**	**235**	*e*P	**Pn**	**11 22 33.1**	**+0.8**
	baz=232								
TWK				*e*S	**Sn**	**11 22 52.8**	**+0.3**
	baz=232								
CHN1	**Nanshi**	**1.58**	**231**	*e*P	**Pn**	**11 22 33.1**	**+0.5**
	baz=229								
CHN1				*e*S	**Sn**	**11 22 52.6**	**-0.3**
	baz=229								
SNST	**Tainan City**	**1.58**	**233**	*e*P	**Pn**	**11 22 32.7**	**+0.1**
	baz=231								
SNST				*e*S	**Sn**	**11 22 53.2**	**+0.3**
	baz=231								
WSF	**Szhu**	**1.60**	**251**	*e*P	**Pn**	**11 22 33.3**	**+0.4**
	baz=249								
WSF				*e*S	**Sn**	**11 22 52.6**	**-0.8**
	baz=249								
SGST	**Jiashian**	**1.61**	**227**	*e*P	**Pn**	**11 22 33.3**	**+0.3**
	baz=225								
SGST				*e*S	**Sn**	**11 22 53.6**	**-0.1**
	baz=225								
SLGT	**Liugui**	**1.63**	**224**	*e*P	**Pn**	**11 22 34.1**	**+0.8**
	baz=221								
SLGT				*e*S	**Sn**	**11 22 54.6**	**+0.4**
	baz=221								
ICHU	**Yijhu**	**1.67**	**241**	*e*P	**Pn**	**11 22 34.2**	**+0.5**
	baz=239								
ICHU				*e*S	**Sn**	**11 22 55.2**	**0.0**
	baz=239								
IRIF	**Iriomote-Funau**	**1.71**	**84**	P	**Pg**	**11 22 37.8**	**+0.2**
CHN8	**Yiju**	**1.73**	**242**	*e*P	**Pn**	**11 22 35.0**	**+0.4**
	baz=240								
CHN8				*e*S	**Sn**	**11 22 56.3**	**-0.3**
	baz=240								
HATJ	**Hateruma jima**	**1.78**	**94**	P	**Pg**	**11 22 37.8**	**-1.0**
HATJ				*e*S	**Sg**	**11 23 01.6**	**-0.3**
ECL	**Taimali**	**1.79**	**208**	*e*P	**Pn**	**11 22 35.8**	**+0.4**
	baz=205								
ECL				*e*S	**Sn**	**11 22 59.0**	**+1.0**
	baz=205								
SCST	**Cishan**	**1.80**	**225**	*e*P	**Pn**	**11 22 36.0**	**+0.3**
	baz=222								
SSD	**Sandimen**	**1.82**	**219**	*e*P	**Pn**	**11 22 36.2**	**+0.2**
	baz=216								
SSD				*e*S	**Sn**	**11 22 59.6**	**+0.6**
	baz=216								
TSMG	**Majia**	**1.85**	**218**	*e*P	**Pn**	**11 22 37.4**	**+1.1**
	baz=215								
TSMG				*e*S	**Sn**	**11 23 00.2**	**+0.6**
	baz=215								
TWM1	**Shoushan**	**1.89**	**225**	*e*P	**Pn**	**11 22 37.5**	**+0.6**
	baz=222								
MASBT	**Mashibuluo**	**1.93**	**216**	*e*P	**Pn**	**11 22 37.4**	**-0.1**
	baz=214								
MASBT				*e*S	**Sn**	**11 23 01.6**	**-0.1**
	baz=214								
TAI	**Tainan**	**1.93**	**233**	*e*S	**Sn**	**11 23 01.2**	**-0.5**
	baz=231								
JKRS	**Kuro-shima**	**1.96**	**88**	P	**Pb**	**11 22 40.7**	**+0.4**
EAST	**Anshuo**	**2.02**	**208**	*e*P	**Pn**	**11 22 39.7**	**+1.0**
	baz=205								
EAST				*e*S	**Sn**	**11 23 04.2**	**+0.4**
	baz=205								
TAW	**Tawu**	**2.02**	**206**	*e*S	**Sn**	**11 23 04.8**	**+1.0**
	baz=204								
SSPT	**Xinbi**	**2.07**	**215**	*e*P	**Pn**	**11 22 40.1**	**+0.8**
	baz=213								
SSPT				*e*S	**Sn**	**11 23 05.6**	**+0.6**
	baz=213								
JIJ	**Ishigaki jima**	**2.09**	**85**	P	**Pb**	**11 22 41.7**	**-0.8**
JIJ				*e*S	**Sg**	**11 23 09.6**	**-2.2**
SCZT	**Fangliau**	**2.13**	**213**	*e*P	**Pn**	**11 22 41.2**	**+1.0**
	baz=210								
SCZT				*e*S	**Sn**	**11 23 07.3**	**+0.7**
	baz=210								
SLIU	**Shizi**	**2.19**	**207**	*e*P	**Pn**	**11 22 41.8**	**+0.8**
	baz=204								
SLIU				*e*S	**Sn**	**11 23 08.7**	**+0.7**
	baz=204								
PNG	**Penghu**	**2.20**	**254**	*e*P	**Pn**	**11 22 42.8**	**+1.6**
	baz=253								
PNG				*e*S	**Sn**	**11 23 08.3**	**0.0**
	baz=253								
PHUB	**P'eng-hu**	**2.20**	**253**	*e*P	**Pn**	**11 22 41.2**	**+0.1**
	baz=251								
PHUB				*e*S	**Sn**	**11 23 07.5**	**-0.8**
	baz=251								
WDGT	**Dungji**	**2.22**	**246**	*e*P	**Pn**	**11 22 41.2**	**-0.2**
	baz=244								
WDGT				*e*S	**Sn**	**11 23 09.1**	**+0.3**
	baz=244								
JISG	**Ishigakijimahi**	**2.27**	**79**	P	**Pb**	**11 22 44.8**	**-0.8**
VWUC	**VWUC**	**2.34**	**291**	*e*P	**Pn**	**11 22 44.5**	**+1.4**
	baz=290								
VWUC				*e*S	**Sn**	**11 23 11.4**	**-0.4**
	baz=290								
MATB	**Ma-tsu**	**2.62**	**319**	*e*P	**Pn**	**11 22 47.2**	**+0.3**
	baz=319								
MATB				*e*S	**Sn**	**11 23 18.8**	**0.0**
	baz=319								
JTJ	**Tarama**	**2.62**	**79**	P	**Pb**	**11 22 50.9**	**-0.8**
PTMZ	**Houxiangcun**	**2.64**	**289**	*e*P	**Pn**	**11 22 47.2**	**0.0**
	baz=289								
PTMZ				*e*S	**Sn**	**11 23 19.1**	**0.0**
	baz=289								
LYJJ	**Jianjiangzhen**	**3.03**	**322**	*e*P	**Pn**	**11 22 53.4**	**+0.8**
	baz=322								
LYJJ				*e*S	**Sn**	**11 23 28.8**	**0.0**
	baz=322								
XPSS	**Dashiqiu**	**3.13**	**331**	*e*P	**Pn**	**11 22 55.4**	**+1.5**
	baz=332								
XPSS				*e*S	**Sn**	**11 23 31.7**	**+0.5**
	baz=332								
KNM	**Kinmen**	**3.14**	**275**	*e*P	**Pn**	**11 22 57.1**	**+3.0**
	baz=274								
MHZQ	**Yeshan**	**3.20**	**307**	*e*P	**Pn**	**11 22 55.5**	**+0.6**
	baz=307								
MHZQ				*e*S	**Sn**	**11 23 32.7**	**-0.3**
	baz=307								
AXDP	**Jialang**	**3.62**	**282**	*e*P	**Pn**	**11 23 01.2**	**+0.5**
	baz=281								
ZPLA	**Ao Xicun**	**3.77**	**267**	*e*P	**Pn**	**11 23 02.7**	**0.0**
	baz=266								

HEL ***26*** *11:30:37.7, 63°.15N×21°.62E, h0km, ML1.8, Explosion*
UPP 26 11:30:36.8±0.8, 63°.15N×21°.60E, h0km, ML1.9, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.50**	**102**	*e*P	Pg	11 30 46.5	+0.2
VAF				*e*S	Sg	11 30 53.0	+0.2
UMAU	**Umeaa**	**0.85**	**331**	P	Pg	11 30 52.7	-0.3
UMAU				S	Sg	11 31 03.7	-0.2
UMAU	**Umeaa**	**0.85**	**331**	*e*P	Pg	11 30 52.9	-0.1
UMAU				*e*S	Sg	11 31 04.1	+0.2
HUSU	**Husum**	**1.09**	**281**	P	Pg	11 30 57.3	-0.4
HUSU				S	Sg	11 31 11.6	-0.3
HUSU	**Husum**	**1.09**	**281**	*e*P	Pg	11 30 57.4	-0.3
	baz=96						
HUSU				*e*SN	Sn	11 31 19.3	+4.1
ODEU	**Stanfors**	**1.32**	**343**	P	Pg	11 31 01.4	-0.7
ODEU	**Stanfors**	**1.32**	**343**	*e*P	Pg	11 31 01.4	-0.7
SVAU	**Svanoeiden**	**1.62**	**327**	P	Pn	11 31 06.5	-0.1
SVAU	**Svanoeiden**	**1.62**	**327**	*e*P	Pn	11 31 06.5	-0.1
HEMU	**Hemsoen**	**1.70**	**255**	P	Pn	11 31 07.4	-0.2
HEMU	**Hemsoen**	**1.70**	**255**	*e*PN	Pb	11 31 08.4	-0.4
HEMU				*e*SN	Sn	11 31 30.3	+0.3
DBF0	**Syolatti, Pyha**	**1.79**	**40**	*e*SN	Sb	11 31 33.7	+0.4
KEF	**Keuruu**	**1.80**	**122**	*e*PN	Pn	11 31 09.7	+0.6
KEF				MSG		11 31 31.1	
	comp=Z,4.1nm,0.2s						
KEF				*e*SN	Sb	11 31 33.7	0.0
OUF	**Merijarvi**	**1.85**	**47**	*e*PN	Pn	11 31 10.6	+0.8
	baz=226						
OUF				MSG		11 31 32.6	
	comp=Z,7.8nm,0.2s						
OUF				*e*S	Sn	11 31 34.4	+0.6
SOLU	**Sollefteaa**	**1.97**	**275**	P	Pb	11 31 12.6	-0.8
SOLU	**Sollefteaa**	**1.97**	**275**	*e*P	Pb	11 31 12.6	-0.8
SUF	**Sumiainen**	**2.13**	**100**	*e*PG	Pb	11 31 15.4	-0.8
SUF				MSG		11 31 40.4	
	comp=Z,5.8nm,0.2s						
SUF				*e*SG	Sb	11 31 42.9	-0.1
RAF	**Rauma**	**2.13**	**178**	*e*P	Pn	11 31 12.6	-1.0
	baz=1.0						
RAF				*e*S	Sn	11 31 40.3	-0.4
RAF				MSG		11 31 40.9	
	comp=Z,5.3nm,0.2s						
KAF	**Kangasniemi**	**2.41**	**113**	*e*PB	Pb	11 31 19.7	-1.2
KAF				*e*SG	Sb	11 31 51.5	+0.3
FIA0	**FINESS Array S**	**2.70**	**127**	*e*PB	Pb	11 31 23.7	-2.2
	baz=315						
FIA0				*e*SB	Sb	11 31 58.9	-0.7
AAL	**Aland**	**3.08**	**195**	*e*SB	Sb	11 32 10.4	+0.1
TOF	**Tornio**	**3.17**	**21**	*e*S	Sn	11 32 05.8	-0.5
TOF				MSG		11 32 10.7	
	comp=Z,2.4nm,0.2s						
PAJU	**Pajala**	**3.94**	**9**	*e*S	Sn	11 32 25.4	0.0
RNF	**Rovaniemi**	**3.95**	**26**	*e*SG	Sg	11 32 40.9	-2.7
KLF	**Kolari**	**4.22**	**13**	*e*P	Pn	11 31 43.2	+0.9
KLF				*e*S	Sn	11 32 30.6	-1.6
MSF	**Maaselka**	**4.24**	**46**	*e*S	Sn	11 32 32.1	-0.7
KU6	**Riekki**	**4.59**	**47**	*e*SG	Sb	11 32 58.7	+4.8

DNK ***26*** *11:30:42.2±0.8, 59°.26N×9°.45E, h0km, ML1.6(UPP), Suspected explosion*
BER ***26*** *11:30:43.3±0.9, 59°.26N×9°.48E, h0km, ML0.9, Suspected explosion*
UPP 26 11:30:42.2±1.0, 59°.24N×9°.51E, h0km, ML1.6, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONO	**Kongsberg**	**0.41**	**6**	*e*P	Pg	11 30 50.1	+0.1
KONO				*e*S	Sg	11 30 55.6	+0.3
KONO				IAML		11 30 55.9	
	comp=Z,5.3nm,0.3s						
STRU	**Stroemstad**	**0.89**	**103**	P	Pg	11 30 58.9	-0.3
STRU				S	Sg	11 31 11.5	+0.8
STRU	**Stroemstad**	**0.89**	**103**	P	Pg	11 30 58.9	-0.3
STRU				S	Sg	11 31 11.5	+0.8
STRU	**Stroemstad**	**0.89**	**103**	*e*P	Pg	11 30 58.9	-0.3
STRU				*e*S	Sg	11 31 11.7	+1.0
HOMB	**Homborsund**	**1.11**	**209**	*e*P	Pg	11 31 03.5	+0.1
SNART	**Snartemo**	**1.50**	**234**	*e*P	Pn	11 31 08.9	-1.4
SNART				*e*S	Sg	11 31 29.2	-1.2
SNART				IAML		11 31 35.0	
	comp=Z,6.4nm,0.1s						
VANU	**Vaenersborg**	**1.53**	**118**	P	Pn	11 31 10.1	-0.6
VANU				S	Sn	11 31 30.7	-0.6
VANU	**Vaenersborg**	**1.53**	**118**	P	Pn	11 31 10.1	-0.6
VANU				S	Sn	11 31 30.7	-0.6
FINU	**Finntorp**	**1.53**	**83**	P	Pn	11 31 10.1	-0.6
FINU				S	Sn	11 31 30.5	-0.9
FINU	**Finntorp**	**1.53**	**83**	P	Pn	11 31 10.1	-0.6
FINU				S	Sn	11 31 30.5	-0.9
SKAR	**Skarslia**	**1.56**	**338**	*e*P	Pn	11 31 09.9	-1.4
SKAR				*e*S	Sn	11 31 29.9	-2.4
SKAR				IAML		11 31 35.1	
	comp=Z,2.4nm,0.5s						
TJOU	**Tjoern**	**1.64**	**137**	P	Pn	11 31 12.4	+0.2
TJOU	**Tjoern**	**1.64**	**137**	P	Pn	11 31 12.4	+0.2
NC602	**NORSAR Array S**	**1.81**	**33**	*e*P	Pn	11 31 13.8	-0.9
NC602				IAML		11 31 41.8	
	comp=Z,1.8nm,0.3s						
NBO00	**NORSAR Array S**	**1.90**	**19**	*e*P	Pn	11 31 15.2	-0.7
NBO00				*e*S	Sn	11 31 37.9	-2.6
NBO00				IAML		11 31 49.6	
	comp=Z,1.2nm,0.5s						
NASU	**Vaermlandsnaes**	**1.93**	**98**	P	Pn	11 31 17.0	+0.9
NASU				S	Sb	11 31 42.9	+0.2
NASU	**Vaermlandsnaes**	**1.93**	**98**	P	Pn	11 31 17.0	+0.9
NASU				S	Sb	11 31 42.9	+0.2
NC204	**NORSAR Array S**	**2.13**	**17**	*e*P	Pn	11 31 18.9	-0.2

IDC ***26*** *11:31:08.6±2.4, 32°.17S×178°.06W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/24, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=68.0km s-min=42.9km az=135.0*
NEIC ***26*** *11:31:09.8±1.3, 31°.95S±0°.05×177°.8W±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=30.0km s-min=7.1km az=81.0*
ISC 26 11:31:09.0±0.9, 31°.9S±0°.1×177°.8W±0°.2, h10km, n15, σ0671/15, mb4.3/6, Kermadec Islands region

| Code | Station Name | Δ

WB0				IAmb	IAmb	11 39 44.2	
	comp=Z,6.4nm,1.1s						
FORT	**Forrest**	**45.81**	**257**	P	**P**	**11 39 30.4**	**-0.7**
QSPA	**South Pole Qui**	**58.18**	**180**	P	**P**	**11 41 03.8**	**+0.8**
QSPA				IAmb	IAmb	11 41 26.7	
	comp=Z,2.3nm,1.0s						
MCMT	**McKenzie Canyo**	**96.55**	**40**	P	**P**	**11 44 37.7**	**-1.2**
FINES	**FINESS Array B**	**146.63**	**339**	PKPbc	**PKPab**	**11 50 50.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=26,slow=3.5,SNR=1.8						
AKASG	**Malin Array Be**	**152.59**	**321**	PKPbc	**PKiKP**	**11 51 06.8**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=64,slow=2.2,SNR=6.0						
AKASG	**Malin Array Be**	**152.59**	**321**	PKPdf	**PKPdf**	**11 50 58.4**	**+0.1**
AKASG					**pPKPbc**	**11 51 06.2**	**-0.6**

LVSN 26 11:31:35.8±2.2,59°19N×27°71E,h0km±42km,ML1.9,
Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.20**	**25**	*e*P	Pg	11 31 36.8	-2.9
EE04				*e*S	Sg	11 31 39.2	-3.0
EE03	**Tooma soojaam,**	**0.81**	**247**	*e*P	Pg	11 31 48.5	-2.8
EE03				*e*S	Sg	11 31 59.8	-1.9
VSU	**Vasula**	**0.89**	**215**	*e*S	Sg	11 32 02.5	-1.8
VSU				AML	AML	11 32 04.7	
	comp=E,106nm,0.4s						
VSU				AML	AML	11 32 16.8	
	comp=N,98nm,0.4s						
VSU				AML	AML	11 32 25.9	
	comp=Z,50nm,1.0s						
VSU	**Vasula**	**0.89**	**215**	*e*P	Pg	11 31 50.7	-2.1
VSU				*e*S	Sg	11 32 02.7	-1.7
ARBE	**Arbavere**	**0.92**	**286**	*e*P	Pg	11 31 50.5	-2.8
ARBE				*e*S	Sg	11 32 02.0	-3.3
VJF	**Virojoki**	**1.35**	**357**	*e*P	Pg	11 31 56.8	-4.9
VJF				*e*SB	Sg	11 32 14.9	-4.3
VJF				MSG		11 32 16.8	
	comp=Z,4.0nm,0.1s						
EE02	**Kiisa, Saku**	**1.55**	**271**	*e*P	Pn	11 32 01.6	-3.0
EE02				*e*S	Sn	11 32 22.1	-3.3
PVF	**Pernaja**	**1.65**	**326**	*e*P	Pn	11 32 02.6	-3.3
PVF				*e*S	Sn	11 32 23.6	-4.2
PVF				MSG		11 32 27.3	
	comp=Z,3.1nm,0.1s						
MEF	**Metsahovi**	**1.97**	**303**	*e*P	Pn	11 32 08.8	-1.6
MEF				*e*S	Sn	11 32 33.9	-1.9
MEF				AML	AML	11 32 34.3	
	comp=Z,9.4nm,0.9s						
MEF				AML	AML	11 32 34.7	
	comp=E,12nm,0.2s						
MEF				AML	AML	11 32 35.8	
	comp=N,20nm,0.3s						
MEF	**Metsahovi**	**1.97**	**303**	*e*PG	Pn	11 32 08.7	-1.7
MEF				*e*SG	Sn	11 32 33.8	-1.9
MEF				MSG		11 32 35.8	
	comp=Z,5.2nm,0.1s						
NUR	**Nurmijrvi**	**2.03**	**312**	*e*PB	Pn	11 32 09.4	-1.8
NUR				*e*SG	Sn	11 32 35.6	-1.7
NUR				MSG		11 32 37.0	
	comp=Z,4.6nm,0.1s						
MTSE	**Matsula**	**2.08**	**258**	*e*P	Pn	11 32 12.0	+0.2
MTSE				*e*S	Sn	11 32 37.1	-1.2
MTSE	**Matsula**	**2.08**	**258**	*e*PB	Pn	11 32 10.8	-1.0
MTSE				*e*SG	Sn	11 32 37.8	-0.5
FIA0	**FINESS Array S**	**2.40**	**341**	*e*P	Pn	11 32 13.2	-3.0
FIA1	**FINESS Array S**	**2.40**	**341**	*e*P	Pn	11 32 13.2	-3.0
FIA1				*e*S	Sn	11 32 42.7	-3.6
FIA1				MSG		11 32 48.2	
	comp=Z,2.1nm,0.1s						
KAF	**Kangasniemi**	**3.01**	**347**	*e*PB	Pn	11 32 25.4	+0.7
JOF	**Joensuu**	**4.13**	**24**	*e*P	Pn	11 32 37.8	-2.2

*IDC **26** 11:43:11.2±2.4,22°.20S×179°.56W,h618km±64km, mb3.1/4, mb1 3.2/5,mb1mx2.9/24,mbtmp4.1/5,Error ellipse: s-maj=101.7km s-min=33.5km az=33.0*
*NEIC **26** 11:43:12.1±1.2,22°.1S±0°.1×179°.4W±0°.1,h634km±6km, mb4.3/16,Error ellipse: s-maj=18.4km s-min=17.0km az=213.0*
ISC 26 11:43:12.0±0.7,21°.9S±0°.1×179°.5W±0°.1,h650km,n28,
σ1s09/28,mb4.1/12,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.74**	**330**	P	**P**	**11 44 45.2**	**-1.2**
	2.0nm,0.3s,baz=160,slow=18,SNR=10						
MSVF	**Nonsavu**	**4.74**	**330**	P	**P**	**11 44 45.7**	**-0.7**
RAO	**Raoul Island**	**7.47**	**169**	P	**P**	**11 45 06.6**	**-1.7**
NIUE	**Niue**	**9.38**	**74**	P	**P**	**11 45 27.4**	**+1.4**
AFI	**Afiamalu**	**10.79**	**44**	P	**P**	**11 45 37.3**	**-2.4**
ARMA	**Armidale**	**27.23**	**246**	P	**P**	**11 48 07.3**	**-0.3**
CAN	**Canberra**	**30.60**	**237**	P	**P**	**11 48 35.3**	**-1.1**
CAN				IAmb	IAmb	11 48 55.8	
	comp=Z,9.9nm,1.1s						
CTAO	**Charters Tower**	**32.01**	**267**	P	**P**	**11 48 49.3**	**+0.9**
TOO	**Toolangi**	**33.97**	**235**	P	**P**	**11 49 03.6**	**-1.0**
TOO				IAmb	IAmb	11 49 28.5	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**35.96**	**246**	P	**P**	**11 49 19.9**	**-1.0**
	comp=Z,3.1nm,0.5s,baz=94,slow=9.9,SNR=12						
STKA	**Stephens Creek**	**35.96**	**246**	P	**P**	**11 49 20.7**	**-0.3**
BBOO	**Buckleboo**	**40.71**	**245**	P	**P**	**11 49 58.2**	**-0.9**
BBOO				IAmb	IAmb	11 50 17.6	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**42.87**	**264**	P	**P**	**11 50 16.6**	**+0.4**
WR0				IAmb	IAmb	11 50 31.9	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**42.87**	**258**	P	**P**	**11 50 16.5**	**+0.3**
ASAR	**Alice Springs**	**42.88**	**258**	P	**P**	**11 50 16.4**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=97,slow=7.0,SNR=33						
ASAR	**Alice Springs**	**42.88**	**258**	P	**P**	**11 50 16.8**	**+0.6**
WB0	**Warramunga Arr**	**43.05**	**264**	P	**P**	**11 50 18.1**	**+0.6**
WB0				IAmb	IAmb	11 50 19.3	
	comp=Z,8.6nm,1.1s						
WB2	**Warramunga Arr**	**43.05**	**264**	P	**P**	**11 50 18.3**	**+0.8**
WB2				IAmb	IAmb	11 50 18.7	
	comp=Z,7.1nm,0.9s						
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**11 50 17.9**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=96,slow=8.3,SNR=62						
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**11 50 18.2**	**+0.6**
RSD	**Rainshed**	**47.42**	**32**	P	**P**	**11 50 52.2**	**+1.5**
FORT	**Forrest**	**47.49**	**248**	P	**P**	**11 50 50.7**	**-0.2**
KNRA	**Kununurra**	**49.21**	**268**	P	**P**	**11 51 04.8**	**+1.0**
KNRA				IAmb	IAmb	11 51 06.5	
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.49**	**264**	P	**P**	**11 51 22.6**	**+2.3**
FITZ				IAmb	IAmb	11 51 49.8	
	comp=Z,17nm,1.4s						
VNDA	**Vanda**	**56.42**	**185**	P	**P**	**11 51 52.9**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=359,slow=6.6,SNR=4.1						
VNDA	**Vanda**	**56.42**	**185**	P	**P**	**11 51 54.2**	**+0.4**
QSPA	**South Pole Qui**	**58.19**	**180**	P	**P**	**11 53 10.3**	**+0.7**
JSU	**Suzuyama**	**71.55**	**316**	P	**P**	**11 53 30.1**	**+0.4**

*IDC **26** 11:51:10.6±1.7,23°.15S×179°.90W,h551km±18km, mb3.3/10,mb1 3.4/13,mb1mx3.3/29,mbtmp4.3/13,Error ellipse: s-maj=22.1km s-min=14.6km az=76.0*
*NEIC **26** 11:51:10.6±2.1,23°.2S±0°.1×179°.8W±0°.1,h554km±9km, mb4.2/23,Error ellipse: s-maj=19.2km s-min=15.8km az=107.0*
ISC 26 11:51:10.1±0.6,23°.27S±0°.07×179°.86W±0°.09,h550km,
n49,σ1s80/52,mb4.0/21,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.84**	**340**	P	**P**	**11 52 47.5**	**0.0**
	15nm,0.3s,baz=224,slow=22,SNR=65						
MSVF	**Nonsavu**	**5.84**	**340**	P	**P**	**11 52 47.9**	**+0.4**
PINNC	**Pines Island,**	**11.72**	**271**	P	**P**	**11 53 46.0**	**+0.3**
AFI	**Afiamalu**	**12.05**	**41**	P	**P**	**11 53 46.6**	**-2.7**
DZM	**Mont Dzumac**	**12.71**	**273**	P	**P**	**11 53 56.6**	**+0.5**
	0.1nm,0.3s,baz=152,slow=18,SNR=1.9						
SANVU	**Saraoutou**	**14.47**	**300**	P	**P**	**11 54 16.9**	**+2.7**
URZ	**Urewera**	**15.17**	**189**	P	**P**	**11 54 20.3**	**-0.7**
	5.5nm,0.3s,baz=122,slow=23,SNR=25						
URZ				S	**S**	**11 56 50.6**	**-7.6**
	0.5nm,0.3s,baz=307,slow=20,SNR=2.0						
URZ	**Urewera**	**15.17**	**189**	P	**P**	**11 54 21.2**	**+0.2**
CAN	**Canberra**	**29.58**	**239**	P	**P**	**11 56 32.9**	**+2.0**
CAN				IAmb	IAmb	11 56 42.8	
	comp=Z,18nm,1.5s						
CTAO	**Charters Tower**	**31.61**	**269**	P	**P**	**11 56 49.6**	**+1.1**
TOO	**Toolangi**	**32.91**	**236**	P	**P**	**11 57 01.1**	**+1.8**
STKA	**Stephens Creek**	**35.08**	**247**	P	**P**	**11 57 18.5**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=90,slow=21,SNR=3.0						
STKA	**Stephens Creek**	**35.08**	**247**	P	**P**	**11 57 19.1**	**+1.5**
BBOO	**Buckleboo**	**39.82**	**246**	P	**P**	**11 57 56.8**	**+0.5**
BBOO				IAmb	IAmb	11 58 21.1	
	comp=Z,13nm,1.3s						
AS31	**Alice Springs**	**42.27**	**260**	P	**P**	**11 58 16.4**	**+0.6**
ASAR	**Alice Springs**	**42.27**	**260**	P	**P**	**11 58 16.2**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=91,slow=7.8,SNR=40						
ASAR				ScP	**ScP**	**12 02 56.5**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=120,slow=4.6,SNR=1.4						
ASAR				S	**S**	**12 03 55.2**	**-2.1**
	comp=Z,0.4nm,0.8s,baz=97,slow=16,SNR=4.7						
ASAR	**Alice Springs**	**42.27**	**260**	P	**P**	**11 58 15.8**	**0.0**
WR0	**Warramunga Arr**	**42.40**	**265**	P	**P**	**11 58 16.7**	**-0.1**
WR0				IAmb	IAmb	11 58 41.6	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**42.57**	**265**	P	**P**	**11 58 18.1**	**-0.2**
WB2				IAmb	IAmb	11 58 19.4	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**42.58**	**266**	P	**P**	**11 58 18.1**	**-0.1**
WB0				IAmb	IAmb	11 58 32.8	
	comp=Z,8.5nm,1.2s						
WRAB	**Tennant Creek**	**42.58**	**265**	P	**P**	**11 58 18.0**	**-0.3**
WRAB				IAmb	IAmb	11 58 29.4	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**42.59**	**265**	P	**P**	**11 58 17.8**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=96,slow=8.5,SNR=74						
WRA				S	**S**	**12 03 56.4**	**-5.3**
	comp=Z,0.5nm,0.8s,baz=97,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**42.59**	**265**	IAmb	IAmb	11 58 18.7	
	comp=Z,0.4nm,0.8s						
KNRA	**Kununurra**	**48.83**	**269**	P	**P**	**11 59 06.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.01**	**265**	P	**P**	**11 59 22.9**	**+1.1**
FITZ				IAmb	IAmb	11 59 50.0	
	comp=Z,11nm,1.3s						
SOEI	**Soe**	**54.92**	**274**	P	**P**	**11 59 49.1**	**-0.9**
SBA	**Scott Base**	**55.02**	**183**	P	**P**	**11 59 52.7**	**+3.4**
SBA				IAmb	IAmb	11 59 53.9	
	comp=Z,5.2nm,0.9s						
VNDA	**Vanda**	**55.02**	**185**	P	**P**	**11 59 51.5**	**+2.0**
	comp=Z,1.8nm,0.5s,baz=353,slow=8.4,SNR=15						
VNDA	**Vanda**	**55.02**	**185**	P	**P**	**11 59 51.9**	**+2.5**
CASY	**Casey**	**60.74**	**206**	P	**P**	**12 00 28.3**	**0.0**
CASY				IAmb	IAmb	12 00 52.5	
	comp=Z,14nm,1.4s						
TOLI2	**Tolitoli**	**62.55**	**284**	P	**P**	**12 00 39.2**	**-1.8**
TOLI2				IAmb	IAmb	12 00 40.1	
	comp=Z,6.4nm,1.0s						
QSPA	**South Pole Qui**	**66.81**	**180**	P	**P**	**12 01 08.8**	**+1.6**
	comp=Z,6.3nm,0.6s,baz=332,slow=0.5,SNR=75						
QSPA	**South Pole Qui**	**66.81**	**180**	P	**P**	**12 01 09.0**	**+1.8**
QSPA				IAmb	IAmb	12 01 09.6	
	comp=Z,7.6nm,0.8s						
KIWB	**Kanaga Island**	**74.83**	**2**	P	**P**	**12 01 54.0**	**-0.1**
ADK	**Adak**	**74.88**	**2**	P	**P**	**12 01 53.8**	**-0.6**
ADK				IAmb	IAmb	12 02 20.6	
	comp=Z,21nm,1.4s						
KSRS	**Korea Array**	**77.85**	**320**	P	**P**	**12 02 11.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=131,slow=6.7,SNR=1.9						
MAW	**Mawson**	**78.39**	**200**	P	**P**	**12 02 14.3**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=145,slow=6.6,SNR=8.7						
MAW	**Mawson**	**78.39**	**200**	P	**P**	**12 02 14.9**	**+1.4**
PETK	**Petropavlovsk-**	**78.52**	**346**	P	**P**	**12 02 14.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=102,slow=9.0,SNR=7.3						
SNAA	**Sanae**	**85.30**	**179**	P	**P**	**12 02 48.3**	**-0.4**
SNAA	**Sanae**	**85.30**	**179**	P	**P**	**12 02 47.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=212,slow=9.9,SNR=13						
SNAA	**Sanae**	**85.30**	**179**	P	**P**	**12 02 48.7**	**-0.1**
SNAA				IAmb	IAmb	12 02 53.8	
	comp=Z,5.0nm,1.4s						
VNA3	**Neumayer Olymp**	**85.50**	**177**	P	**P**	**12 02 49.3**	**-0.3**
VNA1	**Neumayer--Stat**	**86.16**	**177**	P	**P**	**12 02 52.7**	**-0.1**
ILAR	**Eielson Array**	**91.39**	**13**	P	**P**	**12 03 17.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=212,slow=8.5,SNR=2.2						
NOA	**NORSAR Array B**	**141.48**	**351**	PKhKP	PKPpre	12 09 32.5	
	comp=Z,0.1nm,0.4s,baz=16,slow=4.7,SNR=3.5						
AKASG	**Malin Array Be**	**144.51**	**328**	PKP	**PKPdf**	**12 09 42.9**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=46,slow=4.1,SNR=10						
AKASG	**Malin Array Be**	**144.51**	**328**		**PKPdf**	**12 09 43.3**	**-0.5**
CLL	**Colim**	**150.29**	**344**	*i* PKPbc	**PKPbc**	**12 09 59.0**	**-0.1**
CLL				*e*PKPab	**PKPab**	**12 10 07.0**	**-0.8**

*HEL **26** 11:54:22.7±0.5,67°.81N×33°.78E,h0km,ML2.6,Explosion KOLA **26** 11:54:22.7,67°.66N×33°.97E,h0km,ML2.5,Khibiny, mines Koashva, Nyurkpakh*
NAO 26 11:54:23.6±1.2,67.74N×33°.81E,ML2.7,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.23**	**223**	P	Pg	11 54 27.1	-0.8
APA				S	Sg	11 54 30.2	-0.7
APA0	**Apatity Array**	**0.34**	**247**	Pg	Pg	11 54 29.9	-0.2
	baz=79,slow=16						
APA0				Lg	Lg	11 54 34.8	
	baz=76,slow=28						
APA0				Rg	Rg	11 54 37.9	
	baz=77,slow=56						
APA0	**Apatity Array**	**0.34**	**247**	Pg	Pg	11 54 29.9	-0.2
	baz=79,slow=16						
APA0				Sg	Sg	11 54 34.8	+0.3
	baz=76,slow=28						
APA0	**Apatity Array**	**0.34**	**247**	P	Pg	11 54 29.7	-0.4
APA0				S	Sg	11 54 34.6	+0.1
VRF	**Varrio**	**1.60**	**272**	PG	Pn	11 54 50.7	-2.5
VRF				MSG		11 55 10.1	
	comp=Z,65nm,0.2s						
VRF				SN	Sg	11 55 15.1	+0.2
OLKF	**Oulanka, Finla**	**2.24**	**233**	PB	Pn	11 55 01.4	-0.5
OLKF				SG	Sb	11 55 31.8	-1.3
KU6	**Riekki**	**2.31**	**224**	PB	Pn	11 55 02.4	-0.5
KU6				MSG		11 55 32.4	
	comp=Z,28nm,0.2s						
KU6				SB	Sn	11 55 33.3	+1.3
MSF	**Maaselka**	**2.63**	**228**	PN	Pn	11 55 06.9	-0.4
	baz=47						
MSF				SB	Sb	11 55 42.5	-1.8
SGF	**Sodankyl**	**2.81**	**267**	PG	Pb	11 55 13.5	-1.0
SGF				SG	Sb	11 55 50.1	+0.7
KEV	**Kevo**	**3.20**	**312**	Pn	Pn	11 55 16.5	+1.4
KEV				Sn	Sn	11 55 55.8	+1.9
KEV				Lg	Lg	11 56 02.9	
KEV	**Kevo**	**3.20**	**312**	*e*P	Pn	11 55 16.4	+1.4
KEV				*e*S	Sn	11 55 55.7	+1.9
KEV	**Kevo**	**3.20**	**312**	PB	Pn	11 55 16.3	+1.2
KEV				MSG		11 55 55.2	
	comp=Z,18nm,0.2s						
KEV				SB	Sn	11 55 55.8	+2.0
RNF	**Rovaniemi**	**3.25**	**253**	PN	Pn	11 55 15.1	-0.6
	baz=66						
RNF				SN	Sn	11 55 55.8	+0.8
ARA0	**ARCESS Array S**	**3.53**	**304**	Pn	Pn	11 55 20.4	+0.7
	baz=121,slow=16						
ARA0				Pg	Pb	11 55 27.1	+0.2
	baz=115,slow=16						
ARA0				Sn	Sn	11 56 01.6	-0.5
	baz=124,slow=28						
ARA0				Lg	Lg	11 56 12.3	
	baz=117,slow=28						
ARA0	**ARCESS Array S**	**3.53**	**304**	Pn	Pn	11 55 20.4	+0.7
	baz=121,slow=16						
ARA0				Pg	Pb	11 55 27.1	+0.2
	baz=115,slow=16						
ARA0				Sn	Sn	11 56 01.6	-0.5
	baz=124,slow=28						
ARA0				IAML		11 56 19.0	
	comp=Z,9.4nm,0.2s						
ARA0	**ARCESS Array S**	**3.53**	**304**	PB	Pn	11 55 20.4	+0.7
	baz=120						
ARA0				SN	Sn	11 55 58.4	-3.7
KLF	**Kolari**	**3.82**	**267**	PN	Pn	11 55 23.4	-0.2
HEF	**Hetta**	**3.87**	**285**	Pn	Pn	11 55 24.5	+0.3
HEF				Pg	Pb	11 55 32.5	-0.1
HEF				Sn	Sn	11 56 09.9	-0.4
HEF				Lg	Lg	11 56 23.6	
HEF	**Hetta**	**3.87**	**285**	*e*P	Pn	11 55 24.4	+0.1
HEF				*e*S	Sn	11 56 09.8	-0.5
HEF	**Hetta**	**3.87**	**285**	PB	Pn	11 55 24.4	+0.2
	baz=94						
TOF	**Tornio**	**4.09**	**250**	PN	Pn	11 55 26.6	-0.7
KTK1	**Kautokeino**	**4.12**	**293**	Pn	Pn	11 55 26.5	-1.2
KTK1				Pg	Pb	11 55 36.0	-0.8
KTK1				Sn	Sn	11 56 15.6	-0.8
KTK1				Lg	Lg	11 56 30.1	
KTK1	**Kautokeino**	**4.12**	**293**	*e*P	Pn	11 55 27.7	0.0
KTK1				IAML		11 56 39.3	
	comp=Z,7.4nm,0.4s						
PAJU	**Pajala**	**4.20**	**265**	PN	Pn	11 55 27.4	-1.3
PAJU				SN	Sn	11 56 18.6	+0.2
LANU	**Lannavaara**	**4.48**	**279**	PN	Pn	11 55 31.7	-0.9
	baz=84						
HAMF	**Hammerfest**	**4.64**	**314**	*e*P	Pn	11 55 36.5	+1.7
HAMF				IAML		11 56 50.1	
	comp=Z,4.8nm,0.5s						
KIF	**Kilpisjarvi**	**4.98**	**291**	Pn	Pn	11 55 39.1	-0.3
KIF				Sn	Sn	11 56 36.0	-1.6
KIF				Lg	Lg	11 56 56.3	
KIF	**Kilpisjarvi**	**4.98**	**291**	*e*P	Pn	11 55 39.2	-0.2
KIF				*e*S	Sn	11 56 35.9	-1.6
FIA0	**FINESS Array S**	**7.14**	**211**	Pn	Pn	11 56 06.3	-2.7
	baz=27,slow=14						
FIA0				Sn	Sn	11 57 25.9	-4.9
	baz=42,slow=28						
FIA0				Lg	Lg	11 57 59.8	
	baz=21,slow=28						
FIA0	**FINESS Array S**	**7.14**	**211**	Pn	Pn	11 56 06.3	-2.7
	baz=27,slow=14						
FIA0				Sn	Sn	11 57 25.9	-4.9
	baz=42,slow=28						
FIA0				Sg	Sb	11 57 59.8	+6.0
	baz=21,slow=28						
SPA0	**Spitsbergen Ar**	**11.58**	**342**	Pn	Pn	11 57 06.9	-2.9
	baz=141,slow=16						
SPA0	**Spitsbergen Ar**	**11.58**	**342**	Pn	Pn	11 57 06.9	-2.9
	baz=141,slow=16						
HFS	**Hagfors**	**11.62**	**239**	Pn	Pn	11 57 06.8	-3.7
	baz=53,slow=12						
HFS	**Hagfors**	**11.62**	**239**	Pn	Pn	11 57 06.8	-3.7
	baz=53,slow=12						

*IDC **26** 12:16:26.9±2.2,24°.73N×109°.29W,h0km,mb3.6/1, mb1 3.7/5,mb1mx3.4/31,mbtmp3.3/5,ML3.6/4,MS2.9/2, Ms1 2.9/2,ms1mx2.4/32,Error ellipse: s-maj=45.6km s-min=10.4km az=136.0*
*MEX **26** 12:16:31.1±0.4,24°.78N×109°.22W,h15km±56km,MD4.1*
ISC 26 12:16:28.1±1.1,24°.76N±0°.06×109°.24W±0°.05,h16km,n17,
σ2s13/20,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.86**	**12**	*e*P	**Pb**	**12 16 44.4**	**-0.3**
TSIG				*i* S	**Sb**	**12 16 54.7**	**-1.2**
LPIG	**La Paz**	**1.17**	**237**	Pg	**Pn**	**12 16 48.8**	**-1.0**
	46nm,0.3s,baz=59,slow=12,SNR=22						
LPIG				LR	LR	12 16 53.7	
	comp=Z,29nm,18.3s,baz=168,slow=24						
LPIG				Lg	Lg	12 17 03.1	
	102nm,0.3s,baz=324,slow=18,SNR=10						
SSIG	**Sanalona**	**1.91**	**88**	*i* P	**Pn**	**12 16 59.4**	**-0.5**
SSIG				*e*S	**Sn**	**12 17 18.9**	**-4.8**
CSIG	**Choix**	**2.21**	**21**	*e*P	**Pn**	**12 17 03.8**	**-0.3**
CSIG				*e*S	**Sn**	**12 17 29.4**	**-1.7**
MAIG	**Mazatlaan**	**3.01**	**121**	*e*P	**Pn**	**12 17 17.5**	**+2.4**
MAIG				*e*S	**Sb**	**12 17 56.3**	**-1.5**
PDIG	**Papasquiaro**	**3.50**	**85**	*e*P	**Pn**	**12 17 23.0**	**+1.0**
PDIG				*e*S	**Sn**	**12 18 04.7**	**+1.4**
HPIG		**3.88**	**55**	*e*P	**Pn**	**12 17 27.2**	**-0.1**
HPIG				*e*S	**Sn**	**12 18 09.7**	**-3.0**
TXAR	**Lajitas Array**	**6.74**	**46**	Pn	**Pn**	**12 18 07.2**	**+0.6**
	0.1nm,0.3s,baz=223,slow=13,SNR=9.0						
TXAR				Sn	**Sn**	**12 19 20.9**	**-2.2**
	0.6nm,0.3s,baz=115,slow=31,SNR=7.7						
TXAR				Lg	Lg	12 20 01.3	
	0.7nm,0.3s,baz=230,slow=29,SNR=4.6						
ANMO	**Albuquerque**	**10.44**	**13**	Pn	**Pn**	**12 18 58.0**	**+0.7**
	0.1nm,0.3s,baz=274,slow=16,SNR=1.7						
ANMO				Lg	Lg	12 21 56.2	
	0.1nm,0.3s,baz=118,slow=20,SNR=1.6						
PFO	**Pinyon Flats O**	**10.84**	**326**	Pn	**Pn**	**12 19 01.7**	**-1.1**
	0.1nm,0.3s,baz=76,slow=23,SNR=1.7						
NVAR	**Mina Array Bea**	**15.65**	**333**	Pn	**Pn**	**12 20 10.8**	**+2.6**
	0.1nm,0.3s,baz=156,slow=12,SNR=3.3						
PDAR	**Pinedale Array**	**17.97**	**359**	P	**P**	**12 20 40.4**	**+2.5**
	0.1nm,0.3s,baz=156,slow=14,SNR=5.3						
PDAR				LR	LR	12 28 08.8	
	comp=Z,24nm,18.5s,baz=6.0,slow=39						
NEW	**Newport**	**24.28**	**347**	P	**P**	**12 21 47.5**	**+2.9**
	0.8nm,0.5s,baz=156,slow=12,SNR=2.3						
TKL	**Tuckaleechee C**	**24.47**	**58**	LR	LR	12 31 44.1	
	comp=Z,39nm,21.1s,baz=96,slow=37						
H03N2	**Juan Fernandez**	**64.66**	**152**	T	T	13 37 25.9	
	baz=330,slow=77						
H03N1	**Juan Fernandez**	**64.67**	**152**	T	T	13 37 27.5	
	baz=330,slow=77						
H03N3	**Juan Fernandez**	**64.68**	**152**	T	T	13 37 27.1	
	baz=330,slow=77						

*IDC **26** 12:17:11.2±0.7,32°.01S×177°.90W,h0km,mb4.3/12, mb1 4.4/13,mb1mx4.3/27,mbtmp4.3/13,ML4.6/1,MS3.6/4, Ms1 3.7/4,ms1mx3.3/21,Error ellipse: s-maj=22.0km s-min=17

PPT	**Papeete**	**29.48**	**67**	LR	LR	12 34 27.6	
	comp=Z,112nm,18.4s,baz=225,slow=35						
HNR	**Honiara**	**30.45**	**313**	P	**P**	**12 23 24.5**	**-1.2**
CTA	**Charters Tower**	**34.10**	**282**	P	**P**	**12 23 59.2**	**+1.4**
	comp=Z,6.5nm,0.6s,baz=114,slow=13,SNR=7.6						
CTAO	**Charters Tower**	**34.10**	**282**	P	**P**	**12 24 01.0**	**+3.3**
STKA	**Stephens Creek**	**34.11**	**259**	P	**P**	**12 23 59.2**	**+1.4**
	comp=Z,4.1nm,0.7s,baz=110,slow=13,SNR=6.6						
STKA	**Stephens Creek**	**34.11**	**259**	P	**P**	**12 23 59.5**	**+1.7**
BBOO	**Buckleboo**	**38.52**	**256**	P	**P**	**12 24 35.7**	**+0.3**
BBOO				IAmb	IAmb	12 25 01.1	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**43.03**	**269**	P	**P**	**12 25 12.2**	**-0.6**
ASAR	**Alice Springs**	**43.03**	**269**	P	**P**	**12 25 13.3**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=109,slow=7.6,SNR=36						
ASAR				PcP	**PcP**	**12 27 03.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=116,slow=4.2,SNR=1.2						
ASAR	**Alice Springs**	**43.03**	**269**	P	**P**	**12 25 13.1**	**+0.2**
WR0	**Warramunga Arr**	**44.00**	**274**	P	**P**	**12 25 21.7**	**+1.1**
WR0				IAmb	IAmb	12 25 27.3	
	comp=Z,13nm,1.1s						
WB2	**Warramunga Arr**	**44.17**	**274**	P	**P**	**12 25 21.9**	**0.0**
WB2				IAmb	IAmb	12 25 27.6	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**44.17**	**274**	P	**P**	**12 25 22.6**	**+0.6**
WRAB				IAmb	IAmb	12 25 28.1	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**44.18**	**274**	P	**P**	**12 25 22.1**	**0.0**
	comp=Z,3.5nm,0.3s,baz=113,slow=7.6,SNR=112						
WRA	**Warramunga Arr**	**44.18**	**274**	P	**P**	**12 25 21.9**	**-0.2**
WB0	**Warramunga Arr**	**44.21**	**274**	P	**P**	**12 25 22.9**	**+0.6**
WB0				IAmb	IAmb	12 25 28.3	
	comp=Z,19nm,1.1s						
FORT	**Forrest**	**45.62**	**257**	P	**P**	**12 25 32.7**	**-0.7**
SBA	**Scott Base**	**46.31**	**184**	P	**P**	**12 25 40.5**	**+2.3**
SBA				IAmb	IAmb	12 26 00.7	
	comp=Z,13nm,1.5s						
VNDA	**Vanda**	**46.37**	**186**	P	**P**	**12 25 40.3**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=14,slow=8.3,SNR=1.7						
VNDA	**Vanda**	**46.37**	**186**	P	**P**	**12 25 40.6**	**+1.9**
MTN	**Manton Dam**	**50.26**	**280**	P	**P**	**12 26 10.6**	**+1.1**
KNRA	**Kununurra**	**50.85**	**276**	P	**P**	**12 26 15.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**52.37**	**271**	P	**P**	**12 26 27.2**	**+1.9**
FITZ				IAmb	IAmb	12 26 43.1	
	comp=Z,18nm,1.4s						
CASY	**Casey**	**53.61**	**208**	P	**P**	**12 26 35.1**	**+1.4**
CASY				IAmb	IAmb	12 26 36.6	
	comp=Z,10nm,0.9s						
QSPA	**South Pole Qui**	**57.98**	**180**	P	**P**	**12 27 05.3**	**0.0**
	comp=Z,4.7nm,1.0s,baz=46,slow=3.7,SNR=8.8						
QSPA	**South Pole Qui**	**57.98**	**180**	P	**P**	**12 27 07.8**	**+2.5**
QSPA				IAmb	IAmb	12 27 31.6	
	comp=Z,14nm,1.0s						
MAW	**Mawson**	**70.69**	**201**	P	**P**	**12 28 29.0**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=98,slow=11,SNR=4.3						
SNAA	**Sanae**	**76.42**	**178**	P	**P**	**12 29 02.0**	**-0.1**
SNAA	**Sanae**	**76.42**	**178**	PcP	**PcP**	**12 29 13.5**	**-0.4**
SNAA	**Sanae**	**76.42**	**178**	P	**P**	**12 29 02.4**	**+0.3**
SNAA				IAmb	IAmb	12 29 26.1	
	comp=Z,12nm,1.2s						
VNA3	**Neumayer Olymp**	**76.58**	**176**	P	**P**	**12 29 02.6**	**-0.3**
VNA3	**Neumayer Olymp**	**76.58**	**176**	PcP	**PcP**	**12 29 14.4**	**-0.1**
VNA1	**Neumayer--Stat**	**77.24**	**177**	P	**P**	**12 29 07.8**	**+1.2**
VNA1	**Neumayer--Stat**	**77.24**	**177**	PcP	**PcP**	**12 29 15.8**	**-1.5**
KSRS	**Korea Array**	**85.66**	**320**	LR	LR	13 05 08.2	
	comp=Z,26nm,20.2s,baz=220,slow=34						
PETK	**Petropavlovsk-**	**87.49**	**346**	P	**P**	**12 29 59.1**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=121,slow=7.1,SNR=6.8						
PETK	**Petropavlovsk-**	**87.49**	**346**	P	**P**	**12 29 59.7**	**-0.4**
ISA	**Isabella, Lake**	**87.54**	**45**	P	**P**	**12 30 01.8**	**+0.9**
ISA				IAmb	IAmb	12 30 03.7	
	comp=Z,3.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**88.60**	**327**	P	**P**	**12 30 05.2**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=116,slow=8.3,SNR=4.1						
USRK	**Ussuriysk Ar.**	**88.60**	**327**	P	**P**	**12 30 05.4**	**-0.2**
NVAR	**Mina Array Bea**	**89.52**	**43**	P	**P**	**12 30 09.9**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=217,slow=7.6,SNR=12						
NVAR	**Mina Array Bea**	**89.52**	**43**	P	**P**	**12 30 10.4**	**-0.1**
TPNV	**Topopah Spring**	**89.73**	**45**	P	**P**	**12 30 12.6**	**+1.2**
TPH	**Tonopah**	**89.91**	**44**	P	**P**	**12 30 12.9**	**+0.7**
X16A	**Lo Mia Camp, P**	**91.09**	**49**	P	**P**	**12 30 17.7**	**-0.1**
X16A				IAmb	IAmb	12 30 20.9	
	comp=Z,3.9nm,1.0s						
U15A	**North Rim**	**91.81**	**47**	P	**P**	**12 30 21.5**	**+0.2**
U15A				IAmb	IAmb	12 30 31.6	
	comp=Z,3.6nm,1.2s						
KNB	**Kanab**	**91.86**	**47**	P	**P**	**12 30 22.4**	**+1.1**
KNB				IAmb	IAmb	12 30 25.5	
	comp=Z,2.6nm,1.0s						
TXAR	**Lajitas Array**	**93.33**	**57**	P	**P**	**12 30 28.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=230,slow=4.2,SNR=2.1						
CMAR	**Chiang Mai Arr**	**93.96**	**289**	LR	LR	13 11 48.7	
	comp=Z,33nm,21.7s,baz=225,slow=35						
PDAR	**Pinedale Array**	**97.39**	**44**	P	**P**	**12 30 47.0**	**+0.4**
PDAR				LR	LR	13 09 08.5	
	comp=Z,30nm,18.8s,baz=292,slow=32						
PDAR	**Pinedale Array**	**97.39**	**44**	P	**P**	**12 30 45.4**	**-1.2**
KBZ	**Khabaz**	**146.04**	**302**	PKPbc	**PKPdf**	**12 36 52.1**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=221,slow=6.6,SNR=4.6						
FINES	**FINESS Array B**	**146.76**	**339**	PKPbc	**PKPdf**	**12 36 53.2**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=55,slow=3.2,SNR=20						
FINES	**FINESS Array B**	**146.76**	**339**		**PKPab**	**12 36 55.2**	**-0.3**
NOA	**NORSAR Array B**	**150.46**	**351**	PKPbc	**PKPbc**	**12 37 03.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=14,slow=4.1,SNR=4.3						
AKASG	**Malin Array Be**	**152.65**	**321**	PKPbc	**PKPbc**	**12 37 08.1**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=46,slow=3.0,SNR=6.5						
BRTR	**Keskin Array B**	**153.38**	**295**	PKPbc	**PKiKP**	**12 37 12.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=48,slow=6.4,SNR=2.6						
BRTR	**Keskin Array B**	**153.38**	**295**	PKPdf	**PKPdf**	**12 37 01.9**	**-1.9**
BRTR					**PKPbc**	**12 37 10.7**	**-0.7**
BRTR				PKPab	**PKPab**	**12 37 23.9**	**+0.4**
CLL	**Collm**	**159.20**	**340**	*e*PKPab	**PKPab**	**12 37 50.0**	**+2.2**
TORD	**Torodi Ar. Bea**	**161.10**	**179**	PKPab	**PKPab**	**12 37 57.1**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=185,slow=2.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**161.10**	**179**	PKPdf	**PKPdf**	**12 37 14.4**	**+0.4**
TORD					**PKPab**	**12 37 55.5**	**-1.4**
GERES	**GERESS Array B**	**161.12**	**336**	PKPab	**PKPab**	**12 37 56.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=5.8,SNR=3.6						

*JMA **26** 12:24:07.4,23.˚56N×121.˚61E,h43km±1km,M2.6*
*TAP **26** 12:24:08.0,23.˚58N×121.˚61E,h40km,ML2.7,C*
ISC 26 12:24:08.2±1.0,23.˚55N±0.˚02×121.˚66E±0.˚03,h33km±3km,
n78,σ0.˚89/143,5C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.19**	**326**	⇑*i* P	**Pb**	**12 24 15.2**	**+0.5**
	baz=337						
TEGC				S	**Sb**	**12 24 20.9**	**+1.8**
	baz=337						
HGSD	**Ruisui**	**0.22**	**254**	⇑*i* P	**Pb**	**12 24 15.6**	**+0.5**
	baz=243						
HGSD				*e*S	**Sb**	**12 24 21.5**	**+1.8**
	baz=243						
EGFH	**Guangfu**	**0.24**	**299**	⇑*i* P	**Pn**	**12 24 15.3**	**+0.1**
	baz=299						
EGFH				*i* S	**Sb**	**12 24 20.6**	**+0.5**
	baz=299						
EHY	**Hungye**	**0.31**	**261**	*i* P	**Pb**	**12 24 15.9**	**-0.3**
	baz=254						
EHY				*e*S	**Sn**	**12 24 21.5**	**0.0**
	baz=254						
TEYL	**Yanliau Villag**	**0.32**	**350**	*i* P	**Pn**	**12 24 16.9**	**+0.3**
	baz=6.0						
TEYL				S	**Sb**	**12 24 23.7**	**+2.1**
	baz=6.0						
ESL	**Shilin**	**0.33**	**322**	⇑*i* P	**Pb**	**12 24 16.0**	**-0.5**
	baz=319						
ESL				*i* S	**Sn**	**12 24 21.7**	**-0.5**
	baz=319						
YULB	**Yu-li**	**0.37**	**244**	⇓*i* P	**Pb**	**12 24 16.6**	**-0.3**
	baz=246						
YULB				*e*S	**Sb**	**12 24 22.6**	**-0.2**
	baz=246						
EYUL	**Yuli**	**0.37**	**236**	P	**Pb**	**12 24 16.9**	**0.0**
	baz=240						
EYUL				*e*S	**Sn**	**12 24 24.0**	**+0.7**
	baz=240						
TWF1	**Yuli**	**0.39**	**239**	⇓*i* P	**Pb**	**12 24 16.9**	**-0.2**
	baz=241						
TWF1				S	**Sb**	**12 24 23.2**	**0.0**
	baz=241						
HWA	**Hwalien**	**0.42**	**354**	*e*P	**Pn**	**12 24 18.3**	**+0.2**
	baz=5.0						
HWA				*e*S	**Sn**	**12 24 26.2**	**+1.5**
	baz=5.0						
ETM	**Tongmen**	**0.44**	**340**	*i* P	**Pb**	**12 24 17.3**	**-0.6**
	baz=336						
ETM				*e*S	**Sb**	**12 24 24.6**	**+0.1**
	baz=336						
FULB	**Fuli**	**0.48**	**223**	P	**Pb**	**12 24 18.8**	**+0.2**
	baz=230						
FULB				*e*S	**Sn**	**12 24 27.1**	**+0.9**
	baz=230						
CHKT	**Chengkung**	**0.53**	**211**	*e*P	**Pn**	**12 24 19.4**	**0.0**
	baz=196						
CHKT				*e*S	**Sb**	**12 24 26.9**	**+0.1**
	baz=196						
TWD	**Chiawan**	**0.53**	**354**	P	**Pn**	**12 24 18.8**	**-0.6**
	baz=350						
TWD				*e*S	**Sb**	**12 24 26.5**	**-0.3**
	baz=350						
OWD	**Renai**	**0.59**	**312**	⇓*i* P	**Pn**	**12 24 19.5**	**-1.0**
	baz=313						
OWD				*e*S	**Sn**	**12 24 27.4**	**-1.7**
	baz=313						
ETL	**Fush Village**	**0.60**	**357**	P	**Pn**	**12 24 19.9**	**-0.6**
	baz=352						
ETL				*e*S	**Sn**	**12 24 29.1**	**-0.1**
	baz=352						
NACB	**Ninganchiao**	**0.62**	**355**	*e*P	**Pn**	**12 24 19.7**	**-1.0**
	baz=350						
NACB				*e*S	**Sn**	**12 24 28.4**	**-1.1**
	baz=350						
YUS	**Yu-Shan**	**0.65**	**264**	⇓*e*P	**Pn**	**12 24 21.1**	**-0.4**
	baz=266						
YUS				*e*S	**Sn**	**12 24 29.8**	**-1.1**
	baz=266						
EDH	**Donghe**	**0.66**	**209**	*e*P	**Pn**	**12 24 20.8**	**-0.5**
	baz=216						
EDH				*e*S	**Sn**	**12 24 30.2**	**-0.4**
	baz=216						
ETLH	**Xiulin Townshi**	**0.67**	**346**	*i* P	**Pn**	**12 24 20.2**	**-1.3**
	baz=341						
ETLH				*e*S	**Sn**	**12 24 29.0**	**-1.9**
	baz=341						
CHGB	**Renai**	**0.67**	**319**	*i* P	**Pn**	**12 24 20.9**	**-0.7**
	baz=329						
CHGB				S	**Sn**	**12 24 29.7**	**-1.4**
	baz=329						
SSLB	**Suanglung**	**0.68**	**290**	P	**Pn**	**12 24 20.8**	**-0.8**
	baz=294						
SSLB				*e*S	**Sn**	**12 24 29.7**	**-1.5**
	baz=294						
WHF	**Hehuan Shan**	**0.69**	**329**	P	**Pn**	**12 24 20.8**	**-1.2**
	baz=331						
WHF				*e*S	**Sn**	**12 24 29.9**	**-1.9**
	baz=331						
ELDTW	**Lidau**	**0.69**	**238**	⇓*i* P	**Pn**	**12 24 20.6**	**-1.2**
	baz=229						
ELDTW				*e*S	**Sn**	**12 24 29.0**	**-2.4**
	baz=229						
SMLT	**Sun Moon Lake**	**0.77**	**295**	P	**Pn**	**12 24 22.4**	**-0.5**
	baz=299						
SMLT				*e*S	**Sn**	**12 24 32.5**	**-0.9**
	baz=299						
ALS	**Alishan**	**0.78**	**267**	⇓*i* P	**Pn**	**12 24 23.1**	**-0.1**
	baz=272						
ALS				S	**Sn**	**12 24 33.5**	**-0.4**
	baz=272						
WPL	**Puli Township**	**0.79**	**306**	*e*P	**Pn**	**12 24 22.5**	**-0.6**
	baz=310						
FUSS	**Fushou**	**0.79**	**331**	*e*P	**Pn**	**12 24 22.5**	**-0.8**
	baz=333						
FUSS				*e*S	**Sn**	**12 24 32.2**	**-1.9**
	baz=333						
LONT	**Longtian**	**0.81**	**217**	*e*P	**Pn**	**12 24 21.7**	**-1.6**
	baz=213						
LONT				*e*S	**Sn**	**12 24 32.4**	**-1.7**
	baz=213						
TYC	**Yuchr**	**0.81**	**296**	P	**Pn**	**12 24 23.0**	**-0.3**
	baz=300						
TYC				*e*S	**Sn**	**12 24 33.6**	**-0.6**
	baz=300						
DPDB	**Guoxing**	**0.82**	**306**	⇑P	**Pn**	**12 24 23.4**	**-0.2**
	baz=310						
DPDB				*e*S	**Sn**	**12 24 34.3**	**-0.3**
	baz=310						
TWT	**Tachien**	**0.82**	**328**	*e*P	**Pn**	**12 24 22.6**	**-1.1**
	baz=329						
TWT				*e*S	**Sn**	**12 24 33.8**	**-1.0**
	baz=329						
TDCB	**Techi**	**0.83**	**327**	*e*P	**Pn**	**12 24 23.3**	**-0.5**
	baz=328						
TDCB				*e*S	**Sn**	**12 24 33.5**	**-1.5**
	baz=328						
WCS	**Beigang Elemen**	**0.85**	**306**	*e*P	**Pn**	**12 24 23.4**	**-0.4**
	baz=311						
WCS				*e*S	**Sn**	**12 24 34.3**	**-0.8**
	baz=311						
WJS	**Zhushan**	**0.89**	**288**	*e*P	**Pn**	**12 24 24.7**	**+0.2**
	baz=287						
WJS				*e*S	**Sn**	**12 24 36.9**	**+0.7**
	baz=287						
LDUT	**Ludao**	**0.89**	**191**	*e*P	**Pn**	**12 24 23.4**	**-1.1**
	baz=181						
LDUT				*e*S	**Sn**	**12 24 34.6**	**-1.6**
	baz=181						
STYH	**Taoyuan**	**0.89**	**245**	*e*P	**Pn**	**12 24 24.2**	**-0.2**
	baz=241						
STYH				*e*S	**Sn**	**12 24 35.7**	**-0.5**
	baz=241						
EWUT	**Wuta**	**0.90**	**7**	*e*P	**Pn**	**12 24 24.1**	**-0.4**
	baz=17						
CHN5	**Tsauling**	**0.90**	**273**	*e*P	**Pn**	**12 24 24.8**	**+0.2**
	baz=271						
CHN5				*e*S	**Sn**	**12 24 37.1**	**+0.6**
	baz=271						
TWGBT	**Beinan**	**0.90**	**216**	*e*P	**Pn**	**12 24 23.9**	**-0.8**
	baz=212						
TWGBT				*e*S	**Sn**	**12 24 35.3**	**-1.2**
	baz=212						
NNSB	**Datong**	**0.91**	**344**	*e*P	**Pn**	**12 24 24.1**	**-0.7**
	baz=346						
NNSB				*e*S	**Sn**	**12 24 35.1**	**-1.7**
	baz=346						
NNSH	**Datong**	**0.91**	**344**	*e*P	**Pn**	**12 24 24.1**	**-0.7**
	baz=352						
NNSH				*e*S	**Sn**	**12 24 35.0**	**-1.8**
	baz=352						
TWG	**Pinlang**	**0.91**	**216**	*e*P	**Pn**	**12 24 23.4**	**-1.2**
	baz=212						
TWG				*e*S	**Sn**	**12 24 35.3**	**-1.3**
	baz=212						
STYT	**Tauyuan**	**0.91**	**245**	*e*P	**Pn**	**12 24 24.6**	**-0.2**
	baz=241						
STYT				*e*S	**Sn**	**12 24 36.8**	**0.0**
	baz=241						
NNS	**Nan Shan**	**0.92**	**344**	*e*P	**Pn**	**12 24 24.4**	**-0.5**
	baz=346						
NNS				*e*S	**Sn**	**12 24 35.6**	**-1.6**
	baz=346						
WNT1	**Nantou City**	**0.96**	**292**	*e*P	**Pn**	**12 24 26.3**	**+0.9**
	baz=291						
WHP	**Taichung City**	**0.97**	**318**	*e*P	**Pn**	**12 24 25.7**	**+0.1**
	baz=321						
WHP				*e*S	**Sn**	**12 24 38.2**	**-0.1**
	baz=321						
TPUB	**Ta-pu**	**0.97**	**255**	P	**Pn**	**12 24 26.1**	**+0.5**
	baz=253						
TPUB				*e*S	**Sn**	**12 24 39.5**	**+1.1**
	baz=253						
CHN4	**Tsaushan**	**1.00**	**259**	*e*P	**Pn**	**12 24 26.3**	**+0.4**
	baz=256						
CHN4				*e*S	**Sb**	**12 24 40.5**	**+0.6**
	baz=256						
WWF	**Wufeng**	**1.00**	**299**	*e*P	**Pn**	**12 24 26.9**	**+0.9**
	baz=299						
WTP	**Ta-pu**	**1.00**	**252**	*e*P	**Pn**	**12 24 26.4**	**+0.3**
	baz=249						
WTP				*e*S	**Sn**	**12 24 40.3**	**+1.2**
	baz=249						
WDLH	**Douliu**	**1.03**	**278**	*e*P	**Pn**	**12 24 27.1**	**+0.7**
	baz=276						
WDLH				*e*S	**Sn**	**12 24 40.6**	**+0.8**
	baz=276						
TWC	**Suao**	**1.07**	**10**	*e*P	**Pb**	**12 24 28.1**	**-0.2**
	baz=21						
TWC				*e*S	**Sn**	**12 24 41.1**	**+0.6**
	baz=21						
NDS	**Dongshan**	**1.08**	**3**	*e*P	**Pn**	**12 24 27.3**	**+0.2**
	baz=355						
NDS				*e*S	**Sn**	**12 24 41.4**	**+0.5**
	baz=355						
SLGT	**Liugui**	**1.08**	**239**	*e*P	**Pn**	**12 24 27.6**	**+0.5**
	baz=229						
SLGT				*e*S	**Sb**	**12 24 43.4**	**+1.1**
	baz=229						
ENTT	**Nioudou**	**1.08**	**356**	*e*P	**Pn**	**12 24 26.6**	**-0.6**
	baz=358						
SGST	**Jiashian**	**1.09**	**245**	*e*P	**Pn**	**12 24 27.3**	**+0.1**
	baz=234						
SGST				*e*S	**Sn**	**12 24 42.4**	**+1.2**
	baz=234						
CHN1	**Nanshi**	**1.10**	**251**	*e*P	**Pn**	**12 24 28.1**	**+0.7**
	baz=248						
CHN1				*e*S	**Sb**	**12 24 43.5**	**+0.7**
	baz=248						
TWK	**Hsinying**	**1.11**	**255**	*e*P	**Pn**	**12 24 27.9**	**+0.3**
	baz=253						
TWK				*e*S	**Sb**	**12 24 43.4**	**+0.2**
	baz=253						
TWQ1	**Liyutan**	**1.13**	**315**	*e*P	**Pn**	**12 24 28.2**	**+0.5**
	baz=315						
TWQ1				*e*S	**Sn**	**12 24 43.4**	**+1.3**
	baz=315						
WCHH	**Zhanghua**	**1.13**	**298**	*e*P	**Pn**	**12 24 28.4**	**+0.7**
	baz=297						
WCHH				*e*S	**Sn**	**12 24 43.3**	**+1.1**
	baz=297						
YHNB	**Yeheng**	**1.14**	**347**	*e*P	**Pn**	**12 24 27.5**	**-0.5**
	baz=358						
YHNB				*e*S	**Sn**	**12 24 41.5**	**-1.0**
	baz=358						
NSK	**Sanguang**	**1.15**	**346**	*e*P	**Pn**	**12 24 27.2**	**-0.9**
	baz=357						
NSK				*e*S	**Sn**	**12 24 42.2**	**-0.6**
	baz=357						
TWE	**Neicheng**	**1.16**	**1**	*e*P	**Pn**	**12 24 28.4**	**+0.1**
	baz=354						
WRL	**Guolierlin Hig**	**1.22**	**287**	*e*P	**Pn**	**12 24 29.5**	**+0.5**
	baz=277						
WRL				*e*S	**Sn**	**12 24 45.1**	**+0.7**
	baz=277						
NWLT	**Wulai**	**1.23**	**353**	*e*P	**Pn**	**12 24 29.3**	**+0.1**
	baz=355						
NWLT				*e*S	**Sn**	**12 24 44.1**	**-0.4**
	baz=355						
NSTT	**Nanjuang**	**1.23**	**331**	*e*P	**Pn**	**12 24 28.5**	**-0.6**
	baz=317						
LIOB	**Emei**	**1.23**	**332**	*e*P	**Pn**	**12 24 30.0**	**+0.8**
	baz=318						
SSD	**Sandimen**	**1.24**	**230**	*e*P	**Pn**	**12 24 29.6**	**+0.3**
	baz=227						
SSD				*e*S	**Sb**	**12 24 46.9**	**+0.1**
	baz=227						
TSMG	**Majia**	**1.26**	**228**	*e*P	**Pb**	**12 24 30.9**	**-0.5**
	baz=226						
TSMG				*e*S	**Sn**	**12 24 45.7**	**+0.4**
	baz=226						
MASBT	**Mashibuluo**	**1.33**	**225**	*e*P	**Pn**	**12 24 30.4**	**-0.1**
	baz=223						
TIPB	**Shuangxi**	**1.42**	**6**	*e*P	**Pn**	**12 24 32.8**	**+1.0**
	baz=358						
TIPB				*e*S	**Sb**	**12 24 51.2**	**-0.8**
	baz=358						
YOJ	**Yonaguni jima**	**1.53**	**54**	P	**Pn**	**12 24 33.6**	**+0.3**
YOJ				*e*S	**Sn**	**12 24 52.7**	**+0.6**
HATJ	**Hateruma jima**	**2.03**	**75**	P	**Pn**	**12 24 40.1**	**0.0**
IRIF	**Iriomote-Funau**	**2.05**	**67**	P	**Pn**	**12 24 41.3**	**+0.9**
JKRS	**Kuro-shima**	**2.26**	**72**	P	**Pn**	**12 24 44.5**	**+1.2**
JIJ	**Ishigaki jima**	**2.41**	**70**	P	**Pn**	**12 24 45.6**	**+0.2**
JIJ				S	**Sn**	**12 25 13.9**	**+0.1**
JISG	**Ishigakijimahi**	**2.64**	**66**	P	**Pn**	**12 24 48.6**	**+0.1**

JMA 26 12:37:54.5±0.1,24.˚08N×123.˚27E,h28km±2km,M1.6,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.45**	**328**	P	Pb	12 38 03.8	-0.2
YOJ				S	Sb	12 38 10.3	-0.2
JYNG	**Yonagunijimaku**	**0.47**	**321**	P	Pb	12 38 04.1	-0.3
JYNG				S	Sb	12 38 10.8	-0.4
HATJ	**Hateruma jima**	**0.49**	**93**	P	Pb	12 38 04.4	-0.3
HATJ				S	Sb	12 38 11.4	-0.2
IRIF	**Iriomote-Funau**	**0.49**	**59**	P	Pb	12 38 04.4	-0.3
IRIF				S	Sb	12 38 11.6	0.0
JKRS	**Kuro-shima**	**0.69**	**77**	P	Pb	12 38 08.1	+0.1
JKRS				S	Sn	12 38 18.0	-0.3
JIJ	**Ishigaki jima**	**0.84**	**70**	P	Pn	12 38 09.9	-0.6
JIJ				*e*S	Sb	12 38 21.4	-0.2
JISG	**Ishigakijimahi**	**1.07**	**62**	P	Pn	12 38 13.5	-0.2
JISG				*e*S	Sn	12 38 27.7	0.0
JTJ	**Tarama**	**1.42**	**67**	P	Pb	12 38 19.5	-0.8
JTJ				*e*S	Sb	12 38 37.3	-0.7

TAP 26 12:38:40.3,24.˚85N×121.˚92E,h12km,ML1.1,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.01**	**107**	P	Pg	12 38 42.9	+0.5
	baz=103						
EGS				*e*S	Sg	12 38 44.8	+0.9
	baz=103						
NTC	**Toucheng**	**0.08**	**274**	*e*P	Pg	12 38 43.6	+0.7
	baz=274						
NTC				*e*S	Sg	12 38 45.3	+0.4
	baz=274						
TIPB	**Shuangxi**	**0.15**	**325**	P	Pb	12 38 45.0	-0.1
	baz=324						
TIPB				*e*S	Sg	12 38 47.4	+0.9
	baz=324						
TWB1	**Santiao Chiao**	**0.17**	**21**	*e*P	Pb	12 38 45.0	-0.3
	baz=23						
TWB1				*e*S	Sg	12 38 47.6	+0.7
	baz=23						
TWC	**Suao**	**0.25**	**195**	*e*P	Pg	12 38 45.8	+0.4
	baz=193						
TWC				*e*S	Sg	12 38 48.8	-0.2
	baz=193						
TWE	**Neicheng**	**0.26**	**241**	*e*S	Sg	12 38 48.8	-0.6
	baz=239						
NDS	**Dongshan**	**0.28**	**221**	*e*P	Pg	12 38 46.7	+0.5
	baz=221						
NDS				*e*S	Sb	12 38 51.8	-0.1
	baz=221						
ENTT	**Nioudou**	**0.38**	**237**	*e*P	Pb	12 38 48.8	-0.2
	ba

DKL	**Dikili**	**0.62**	**249**	PG	**Pg**	**12 51 19.5**	**+0.1**
DKL				SG	**Sg**	**12 51 28.3**	**+0.8**
DURS	**Dursunbey**	**0.71**	**64**	*i* P	**Pg**	**12 51 21.1**	**-0.1**
DURS				*i* S	**Sb**	**12 51 31.4**	**-0.2**
DURS				IAML		12 51 32.0	
	comp=N,750nm,0.3s						
DURS				IAML		12 51 38.0	
	comp=E,966nm,0.3s						
GONE	**Gonen-Balikesi**	**0.75**	**2**	PG	**Pg**	**12 51 21.9**	**0.0**
GONE				SG	**Sb**	**12 51 32.8**	**+0.2**
DST	**Dursunbey**	**0.81**	**68**	PG	**Pb**	**12 51 23.6**	**+0.1**
DST				SG	**Sb**	**12 51 35.2**	**+0.7**
DEMI	**Demirci**	**0.87**	**107**	*i* P	**Pb**	**12 51 24.4**	**-0.1**
DEMI				*i* S	**Sb**	**12 51 36.7**	**+0.5**
DEMI				IAML		12 51 40.0	
	comp=N,1μm,0.2s						
DEMI				IAML		12 51 41.0	
	comp=E,2μm,0.2s						
FOCM	**Foa**	**0.92**	**231**	PG	**Pg**	**12 51 25.4**	**+0.3**
FOCM				SG	**Sb**	**12 51 38.3**	**+0.8**
BLCB	**Balcova**	**1.03**	**208**	P	**Pb**	**12 51 26.9**	**-0.2**
BLCB				S	**Sn**	**12 51 42.4**	**+0.4**
EDC	**Edincik**	**1.06**	**9**	PG	**Pb**	**12 51 27.2**	**-0.5**
PRK	**Paraskevi**	**1.07**	**268**	P	**Pn**	**12 51 28.4**	**+0.2**
PRK				S	**Sn**	**12 51 44.1**	**+1.1**
	comp=E,6μm,0.6s						
PRK	**Paraskevi**	**1.07**	**268**	P	**Pn**	**12 51 28.5**	**+0.2**
PRK				S	**Sn**	**12 51 44.5**	**+1.5**
PRK				AML	AML	12 51 45.5	
	comp=N,9069μm,0.7s						
PRK				AML	AML	12 51 45.9	
	comp=E,14203μm,0.4s						
MANT	**Manisa**	**1.07**	**138**	*i* P	**Pn**	**12 51 28.7**	**+0.2**
MANT				*i* S	**Sn**	**12 51 43.0**	**-0.5**
MANT				IAML		12 51 45.0	
	comp=N,557nm,0.9s						
MANT				IAML		12 51 45.0	
	comp=E,584nm,0.7s						
KCTX	**Karacabey (Bur**	**1.11**	**29**	PN	**Pb**	**12 51 28.1**	**-0.5**
KULA	**Kula-Manisa**	**1.11**	**134**	P	**Pn**	**12 51 28.7**	**-0.2**
KULA				S	**Sg**	**12 51 43.5**	**+0.2**
KULA	**Kula-Manisa**	**1.11**	**134**	PN	**Pg**	**12 51 29.0**	**+0.2**
KRBG	**Karabiga-Canak**	**1.13**	**346**	PN	**Pg**	**12 51 29.2**	**+0.1**
EZN	**Ezine**	**1.15**	**298**	P	**Pb**	**12 51 28.9**	**-0.3**
EZN				S	**Sn**	**12 51 45.3**	**+0.3**
	comp=E,800nm,0.5s						
EZN	**Ezine**	**1.15**	**298**	PN	**Pb**	**12 51 28.9**	**-0.3**
USAK	**Uak-Merkez**	**1.22**	**118**	*i* P	**Pg**	**12 51 30.8**	**0.0**
USAK				*i* S	**Sg**	**12 51 48.4**	**+1.8**
ORLT	**Orhaneli**	**1.22**	**52**	PN	**Pg**	**12 51 30.7**	**-0.1**
LPK	**Lapseki**	**1.27**	**328**	PN	**Pn**	**12 51 30.5**	**-0.5**
MRMT	**Marmara Adasi**	**1.30**	**358**	PN	**Pb**	**12 51 31.9**	**0.0**
MAR9	**Marsite Statio**	**1.32**	**2**	PN	**Pn**	**12 51 31.7**	**0.0**
SIGR	**SIGRI**	**1.39**	**267**	P	**Pn**	**12 51 32.5**	**-0.2**
SIGR				S	**Sn**	**12 51 51.1**	**+0.1**
	comp=E,2μm,0.7s						
SIGR	**SIGRI**	**1.39**	**267**	P	**Pb**	**12 51 34.0**	**+0.7**
SIGR				AML	AML	12 51 53.9	
	comp=N,4406μm,0.6s						
SIGR				AML	AML	12 51 54.6	
	comp=E,4065μm,0.6s						
GEDZ	**Gediz**	**1.40**	**100**	PN	**Pb**	**12 51 33.2**	**-0.3**
TVSB	**Tavsanli**	**1.42**	**83**	PN	**Pb**	**12 51 33.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.42**	**321**	PN	**Pn**	**12 51 33.3**	**+0.2**
ULDT	**Uludag**	**1.43**	**53**	*i* P	**Pb**	**12 51 33.7**	**-0.4**
ULDT				*i* S	**Sg**	**12 51 53.4**	**+0.1**
ULDT				IAML		12 51 56.0	
	comp=N,674nm,0.3s						
ULDT				IAML		12 51 57.0	
	comp=E,700nm,0.5s						
MDNY	**Mudanya-Bursa**	**1.43**	**41**	PN	**Pn**	**12 51 33.4**	**+0.2**
MAR6	**Marsite Statio**	**1.43**	**348**	PN	**Pb**	**12 51 33.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.43**	**346**	PN	**Pn**	**12 51 33.5**	**+0.2**
MAR2	**Marsite Statio**	**1.44**	**350**	PN	**Pb**	**12 51 33.9**	**-0.3**
GDZ	**Gediz**	**1.44**	**98**	P	**Pb**	**12 51 34.3**	**0.0**
GDZ				*i* S	**Sg**	**12 51 53.3**	**-0.5**
GDZ				IAML		12 51 56.0	
	comp=N,311nm,0.3s						
GDZ				IAML		12 51 56.0	
	comp=E,235nm,0.3s						
GZKV	**Gazikoy-Tekird**	**1.47**	**351**	PN	**Pn**	**12 51 34.1**	**+0.4**
MAR3	**Marsite Statio**	**1.47**	**350**	PN	**Pn**	**12 51 34.1**	**+0.3**
MAR4	**Marsite Statio**	**1.51**	**350**	PN	**Pn**	**12 51 34.5**	**+0.1**
IGD	**Bursa**	**1.54**	**51**	*i* P	**Pn**	**12 51 35.1**	**+0.4**
IGD				*i* S	**Sb**	**12 51 55.2**	**-0.1**
IGD				IAML		12 51 57.0	
	comp=N,187nm,0.4s						
IGD				IAML		12 51 59.0	
	comp=E,186nm,0.4s						
CHOS	**Chios island**	**1.54**	**234**	P	**Pn**	**12 51 34.6**	**-0.2**
CHOS				S	**Sb**	**12 51 55.7**	**+0.3**
	comp=E,1μm,0.4s						
CHOS	**Chios island**	**1.54**	**234**	P	**Pb**	**12 51 36.2**	**+0.3**
CHOS				AML	AML	12 51 58.9	
	comp=E,2741μm,0.5s						
CHOS				AML	AML	12 52 00.5	
	comp=N,1568μm,0.3s						
ARMT	**Armutlu**	**1.57**	**36**	PN	**Pb**	**12 51 35.9**	**-0.6**
GADA	**Gvkgeada**	**1.61**	**304**	P	**Pn**	**12 51 36.0**	**+0.2**
GADA				S	**Sn**	**12 51 57.1**	**+0.6**
GEMT	**Gemlik**	**1.64**	**46**	PN	**Pb**	**12 51 36.8**	**-0.9**
PASA	**Karahalli, USA**	**1.72**	**123**	*i* P	**Pb**	**12 51 38.5**	**-0.6**
PASA				*i* S	**Sg**	**12 52 04.4**	**+1.6**
ANDZ	**Kutahya, Merke**	**1.76**	**82**	*i* P	**Pb**	**12 51 39.0**	**-0.6**
ANDZ				*i* S	**Sb**	**12 52 02.5**	**+0.7**
ANDZ				IAML		12 52 06.0	
	comp=E,647nm,0.5s						
ANDZ				IAML		12 52 06.0	
	comp=N,481nm,0.4s						
ENEZ	**Enez**	**1.84**	**322**	P	**Pn**	**12 51 39.6**	**+0.8**
ENEZ				S	**Sb**	**12 52 03.2**	**-0.7**
	comp=N,2μm,0.4s						
LIA	**Limnos Island**	**2.00**	**288**	P	**Pn**	**12 51 41.3**	**+0.3**
SMTH	**Samothraki Isl**	**2.00**	**306**	P	**Pn**	**12 51 41.5**	**+0.4**
SMTH	**Samothraki Isl**	**2.00**	**306**	P	**Pb**	**12 51 43.8**	**0.0**
ALN	**Alexandroupoli**	**2.01**	**323**	P	**Pn**	**12 51 41.8**	**+0.6**
ALN				S	**Sn**	**12 52 06.9**	**+0.5**
	comp=N,460nm,0.4s						
ALN	**Alexandroupoli**	**2.01**	**323**	P	**Pb**	**12 51 44.4**	**+0.5**
ALN				AML	AML	12 52 12.0	
	comp=E,1370μm,0.5s						
ALN				AML	AML	12 52 12.7	
	comp=N,1069μm,0.6s						
RDO	**Rodhopi**	**2.45**	**320**	P	**Pn**	**12 51 48.2**	**+0.9**
EDRB	**Edirne**	**2.64**	**345**	P	**Pn**	**12 51 50.1**	**+0.3**
APE	**Apeiranthos**	**2.78**	**217**	⇑P	**Pg**	**12 51 59.2**	**-1.4**
IDI	**Anoyia**	**4.57**	**210**	⇑P	**Pb**	**12 52 23.6**	**-3.9**
VTS	**Vitosha**	**4.71**	**316**	⇑P	**Pn**	**12 52 18.0**	**-0.4**
TPGR	**Topolog**	**5.58**	**6**	⇓P	**Pn**	**12 52 31.5**	**+1.2**
CFR	**Carcaliu**	**5.89**	**3**	⇓P	**Pn**	**12 52 34.8**	**+0.3**
MLR	**Muntele Rosu**	**6.32**	**349**	⇓P	**Pn**	**12 52 40.3**	**-0.2**
VOIR		**6.43**	**343**	⇓P	**Pn**	**12 52 41.2**	**-0.8**
MDVR	**Moldovita**	**7.04**	**323**	⇓P	**Pn**	**12 52 49.9**	**-0.4**
GZR	**Gura Zlata**	**7.08**	**331**	⇑P	**Pn**	**12 52 49.7**	**-1.1**

IDC 26 13:07:42.6±2.5, 6°28S×130°37E, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.5/41, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=148.9km s-min=32.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.12**	**165**	Pn	Pn	13 11 04.1	+0.1
	0.6nm,0.3s,baz=348,slow=13,SNR=23						
WRA				Sn	Sn	13 13 28.1	-13
	1.2nm,0.3s,baz=337,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**17.62**	**169**	P	Pn	13 11 49.6	-0.1
	0.2nm,0.3s,baz=346,slow=11,SNR=9.5						
ASAR				S	Sn	13 14 51.4	-15
	0.2nm,0.3s,baz=351,slow=24,SNR=2.3						
MKAR	**Makanchi Array**	**67.83**	**326**	P	P	13 18 42.8	0.0
	0.5nm,0.6s,baz=114,slow=6.6,SNR=4.5						

IDC 26 13:16:18.1±2.1, 4°61S×151°76E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/37, mbtmp3.5/3, Error ellipse: s-maj=158.5km s-min=29.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**224**	Sn	Sn	13 19 12.9	+0.6
	2.9nm,0.3s,baz=78,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**22.80**	**227**	P	P	13 21 22.7	0.0
	0.9nm,0.9s,baz=53,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**25.60**	**221**	P	P	13 21 49.5	+0.1
	0.9nm,0.8s,baz=56,slow=9.2,SNR=12						
ILAR	**Eielson Array**	**82.38**	**22**	P	P	13 28 41.7	-0.1
	0.4nm,0.6s,baz=252,slow=5.9,SNR=4.6						

*ANF **26** 13:29:45.7±0.5, 44°.38N×124°.51W, h18km±2km, ML2.6/10, Error ellipse: s-maj=3.4km s-min=2.3km az=83.0, Hypocentre not reviewed by the ISC*
*SEA **26** 13:29:46.8±2.6, 44°.36N±0°.02×124°.45W±0°.04, h29km±7km, ML2.5/15, ML2.4/8(NEIC), Error ellipse: s-maj=4.6km s-min=2.5km az=114.0*
NEIC 26 13:29:45.9±2.0, 44°33N±0°.02×124°62W±0°.09, h25km±7km, Error ellipse: s-maj=9.9km s-min=2.0km az=80.0, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**0.60**	**112**		Pb	13 29 57.0	-0.7
I02D					Sb	13 30 05.1	-0.6
I02D	**Swisshome**	**0.60**	**112**	P		13 29 56.9	
	baz=300,SNR=941						
I02D				S		13 30 04.9	
	baz=300						
RNO	**Roman Nose**	**0.76**	**124**		Pb	13 30 00.3	-0.1
MPOR	**Mary's Peak**	**0.78**	**77**		Pb	13 29 59.5	-1.4
COR	**Corvallis**	**0.97**	**75**		Pn	13 30 02.9	-1.0
COR					Sb	13 30 16.0	-0.4
COR	**Corvallis**	**0.97**	**75**	IAML		13 30 18.2	
	158nm,0.5s						
I03D	**Drain, OR**	**1.11**	**124**		Pn	13 30 05.7	-0.2
I03D					Sb	13 30 20.7	+0.2
I03D	**Drain, OR**	**1.11**	**124**	P		13 30 05.6	
	baz=310,SNR=7.5						
I03D				S		13 30 20.6	
	baz=310						
BUCK	**Buck Mountain**	**1.18**	**96**		Pn	13 30 06.5	-0.3
BUCK					Sb	13 30 24.1	+1.7
J01E	**Myrtle Point**	**1.27**	**157**	Pb		13 30 09.7	
	baz=343						
G03D	**McMinnville, O**	**1.30**	**47**		Pn	13 30 08.1	-0.4
G03D	**McMinnville, O**	**1.30**	**47**	P		13 30 07.9	
	baz=225,SNR=9.2						
G03D				S		13 30 24.5	
	baz=225						
H04D	**Lebanon**	**1.36**	**81**	Pb		13 30 09.2	
	baz=263,SNR=23						
H04D				S		13 30 26.4	
	baz=263						
HSO	**Harness Mounta**	**1.37**	**126**		Pn	13 30 10.1	+0.7
BROR	**Big Rock Looko**	**1.55**	**92**		Pn	13 30 12.6	+0.7
DBO	**Dodson Butte**	**1.57**	**140**		Pb	13 30 14.1	-0.1
I04A	**Tendick Farm,**	**1.68**	**108**		Pn	13 30 14.4	+0.8
I04A	**Tendick Farm,**	**1.68**	**108**	Pb		13 30 14.4	
	baz=292,SNR=30						
I04A				S		13 30 35.2	
	baz=292						
H04A	**Detroit Lake**	**1.77**	**78**		Pn	13 30 15.3	+0.3
H04A				IAML		13 30 41.4	
	comp=E,62nm,0.4s						
K02D	**Willamette Mer**	**1.78**	**157**	Pb		13 30 18.4	
	baz=341,SNR=8.2						
HUMO	**Hull Mountain**	**2.11**	**144**	Pn	Pn	13 30 19.8	+0.2
J04D	**Umpqua Nationa**	**2.12**	**120**	Pb		13 30 23.2	
	baz=304						
J04D				Sb		13 30 50.1	
	baz=304						
I05D	**Terrebonne, OR**	**2.35**	**89**	Pb		13 30 25.8	
	baz=272						
I05D				Sb		13 30 56.0	
	baz=272						
G05D	**Wamic, OR**	**2.52**	**68**	Pb		13 30 28.7	
	baz=249,SNR=6.1						
J05D	**Fort Rock, OR**	**2.66**	**112**	Pb		13 30 32.0	
	baz=296						
PINE	**Pine Mountain**	**2.70**	**100**	Pn	Pn	13 30 25.9	-2.1
PINE				IAML		13 30 48.2	
	comp=E,13nm,3.1s						
PINE				IAML		13 31 39.6	
	comp=N,12nm,3.7s						

*IDC **26** 13:48:17.1±2.1, 30°.46S×179°.77E, h422km±23km, mb3.5/4, mb1 3.7/7, mb1mx3.3/25, mbtmp4.6/7, Error ellipse: s-maj=20.9km s-min=16.7km az=84.0*
ISC 26 13:48:18.5±0.7, 30°55S±0°07×180°0E±0°.1, h450km, n33, σ1s80/47, mb3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.24**	**56**	P	**P**	**13 49 19.3**	**-1.2**
OUZ	**Omahuta**	**7.09**	**227**	P	**P**	**13 50 05.7**	**+1.6**
KUZ	**Kuaotunu**	**7.12**	**209**	P	**P**	**13 50 04.8**	**+0.5**
MXZ	**Matakaoa Point**	**7.12**	**191**	P	**P**	**13 50 05.6**	**+1.2**
MXZ				S	**S**	**13 51 28.5**	**-2.7**
WCZ	**Waipu Caves**	**7.14**	**220**	P	**P**	**13 50 06.2**	**+1.6**
WMGZ	**Waiomatatini S**	**7.36**	**190**	P	**P**	**13 50 08.2**	**+1.3**
WMGZ				S	**S**	**13 51 31.0**	**-4.8**
HAZ	**Te Kaha**	**7.41**	**194**	P	**P**	**13 50 07.1**	**-0.3**
HAZ				S	**S**	**13 51 37.4**	**+0.7**
PKGZ	**Pakihiroa**	**7.48**	**192**	P	**P**	**13 50 08.5**	**+0.2**
PKGZ				S	**S**	**13 51 37.1**	**-1.2**
PUZ	**Puketiti**	**7.63**	**190**	P	**P**	**13 50 09.5**	**-0.3**
PUZ				S	**S**	**13 51 38.9**	**-2.2**
RUGZ	**Raukumara Rang**	**7.63**	**194**	P	**P**	**13 50 09.8**	**-0.1**
RUGZ				S	**S**	**13 51 37.6**	**-3.7**
TWGZ	**Tauwhareparae**	**7.78**	**192**	P	**P**	**13 50 12.8**	**+1.4**
TWGZ				S	**S**	**13 51 42.3**	**-1.9**
OPRZ	**Ohinepanea**	**7.80**	**200**	P	**P**	**13 50 14.0**	**+2.4**
URZ	**Urewera**	**8.04**	**196**	P	**P**	**13 50 11.7**	**-2.5**
	26nm,0.3s,baz=301,slow=20,SNR=82						
URZ				S	**S**	**13 51 47.1**	**-2.0**
	2.7nm,0.3s,baz=300,slow=23,SNR=2.8						
URZ	**Urewera**	**8.04**	**196**	P	**P**	**13 50 12.1**	**-2.1**
URZ				S	**S**	**13 51 47.2**	**-1.9**
KARZ	**Kaharoa**	**8.06**	**201**	P	**P**	**13 50 17.4**	**+3.0**
TKGZ	**Te Karaka**	**8.06**	**192**	P	**P**	**13 50 15.4**	**+1.0**
TKGZ				S	**S**	**13 51 48.1**	**-1.4**
RAGZ	**Rawiri**	**8.20**	**194**	P	**P**	**13 50 17.8**	**+1.8**
RRRZ	**Republican Roa**	**8.27**	**199**	P	**P**	**13 50 19.4**	**+2.6**
MUGZ	**Murupara**	**8.33**	**198**	P	**P**	**13 50 17.1**	**-0.3**
MUGZ				S	**S**	**13 51 51.5**	**-3.5**
SNGZ	**Shannon Statio**	**8.49**	**194**	P	**P**	**13 50 19.8**	**+0.7**
SNGZ				S	**S**	**13 51 57.4**	**-0.7**
MSVF	**Nonsavu**	**12.88**	**352**	P	**P**	**13 51 05.4**	**-1.8**
	0.9nm,0.3s,baz=194,slow=20,SNR=5.2						
DZM	**Mont Dzumac**	**14.77**	**302**	P	**P**	**13 51 27.4**	**+0.1**
	0.3nm,0.3s,baz=158,slow=19,SNR=0.9						
AFI	**Afiamalu**	**18.23**	**26**	P	**P**	**13 52 03.7**	**0.0**
	3.1nm,0.3s,baz=279,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**32.73**	**258**	P	**P**	**13 54 13.0**	**+0.5**
	1.2nm,0.3s,baz=94,slow=14,SNR=4.6						
ASAR	**Alice Springs**	**41.34**	**268**	P	**P**	**13 55 22.9**	**-0.9**
	2.1nm,0.7s,baz=105,slow=6.9,SNR=46						
ASAR				PcP	**PP**	**13 57 11.1**	**-0.4**
	0.4nm,0.5s,baz=125,slow=3.9,SNR=4.8						
WRA	**Warramunga Arr**	**42.35**	**273**	P	**P**	**13 55 30.9**	**-0.9**
	5.0nm,0.6s,baz=113,slow=7.2,SNR=73						
WRA				PcP	**PcP**	**13 57 15.3**	**-0.1**
	0.7nm,0.9s,baz=103,slow=2.9,SNR=2.3						
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**13 57 39.5**	**+2.3**
	2.2nm,0.7s,baz=297,slow=0.6,SNR=24						
SNAA	**Sanae**	**78.04**	**179**	P	**P**	**13 59 30.3**	**+1.2**
VNA3	**Neumayer Olymp**	**78.26**	**177**	P	**P**	**13 59 31.6**	**+1.4**
VNA1	**Neumayer--Stat**	**78.91**	**177**	P	**P**	**13 59 35.0**	**+1.4**
FINES	**FINESS Array B**	**144.66**	**339**	PKP	**PKPdf**	**14 07 02.4**	**+0.1**
	2.7nm,0.6s,baz=45,slow=3.2,SNR=9.7						
NOA	**NORSAR Array B**	**148.61**	**349**	PKPbc	**PKPbc**	**14 07 13.1**	**-0.1**
	0.7nm,0.8s,baz=15,slow=4.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**162.60**	**186**	PKPab	**PKPab**	**14 08 20.5**	**+1.0**
	0.7nm,0.8s,baz=184,slow=3.4,SNR=2.6						

IDC 26 13:55:24.4±2.5, 1°96N×124°95E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.7/3, Error ellipse: s-maj=302.5km s-min=26.8km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.63**	**157**	P	P	14 00 37.9	+0.4
	1.8nm,0.4s,baz=337,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**26.92**	**162**	P	P	14 01 06.7	-0.8
	0.3nm,0.3s,baz=338,slow=10,SNR=18						
MKAR	**Makanchi Array**	**58.02**	**327**	P	P	14 05 19.7	+0.6
	0.2nm,0.5s,baz=124,slow=7.3,SNR=2.5						

*AEIC **26** 13:59:51±1.6, 59°.87N±0°.03×137°.40W±0°.04, h0km±5km, Error ellipse: s-maj=4.5km s-min=2.3km az=152.0*
*NEIC **26** 13:59:52.2±1.5, 59°.89N±0°.02×137°.46W±0°.04, h1km±6km, Error ellipse: s-maj=3.3km s-min=2.8km az=159.0*
*PGC **26** 13:59:52.0±0.0, 59°.82N×137°.41W, h1km, ML2.6/9, 103km south of Haines Jct., Yt Southeastern Alaska*
ISC 26 13:59:50.5±1.2, 59°83N±0°03×137°38W±0°02, h1km±11km, n74, σ1s90/97, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK7	**Dusty Glacier**	**0.80**	**332**	P	**Pg**	**14 00 06.2**	**+0.3**
YUK7				S	**Sg**	**14 00 16.5**	**+0.3**
YUK7	**Dusty Glacier**	**0.80**	**332**		**Pg**	**14 00 05.5**	**-0.3**
HYT	**Haines Junctio**	**1.00**	**357**	P	**Pg**	**14 00 09.9**	**+0.2**
HYT				S	**Sg**	**14 00 22.9**	**+0.3**
HYT	**Haines Junctio**	**1.00**	**357**		**Pg**	**14 00 09.9**	**+0.2**
HYT					**Sg**	**14 00 23.0**	**+0.3**
HYT	**Haines Junctio**	**1.00**	**357**	IAML		14 00 27.2	
	comp=N,514nm,0.3s						
HYT				IAML		14 00 27.2	
	comp=E,503nm,0.4s						
PNL	**Peninsula**	**1.03**	**262**	P	**Pg**	**14 00 10.2**	**-0.1**
PNL				S	**Sg**	**14 00 23.9**	**+0.2**
PNL	**Peninsula**	**1.03**	**262**		**Pg**	**14 00 10.4**	**+0.1**
PNL					**Sg**	**14 00 24.1**	**+0.4**
SKAG	**Skagway**	**1.11**	**109**		**Pb**	**14 00 12.1**	**-0.3**
SKAG	**Skagway**	**1.11**	**109**	IAML		14 00 31.4	
	comp=E,759nm,0.5s						
SKAG	**Skagway**	**1.11**	**109**	P		14 00 12.1	
	baz=290						
BCPM	**Bancas Point**	**1.14**	**277**		**Pb**	**14 00 12.1**	**-1.0**
BCPM					**Sg**	**14 00 27.4**	**+0.1**
YKU2	**Yakutat**	**1.21**	**256**		**Pg**	**14 00 14.8**	**+1.3**
YKU2					**Sn**	**14 00 32.7**	**+1.3**
YUK6	**Outpost Mounta**	**1.22**	**337**	P	**Pb**	**14 00 13.5**	**-1.1**
YUK6				S	**Sb**	**14 00 29.5**	**-1.4**
YUK6	**Outpost Mounta**	**1.22**	**337**		**Pb**	**14 00 13.5**	**-1.1**
YUK5	**Granite Creek**	**1.33**	**350**	P	**Pn**	**14 00 15.8**	**-0.6**
YUK5				S	**Sb**	**14 00 33.0**	**-0.9**
PINM	**Pinnacle**	**1.47**	**282**	P		14 00 18.3	
	baz=100						
PINM				S		14 00 39.8	
	baz=100						
PCA	**Pinnacle**	**1.47**	**282**	P	**Pn**	**14 00 18.3**	**0.0**
PCA				S	**Sb**	**14 00 37.3**	**-0.7**
PCA	**Pinnacle**	**1.47**	**282**		**Pn**	**14 00 18.3**	**0.0**
PCA					**Sg**	**14 00 39.8**	**+2.1**
WHY	**Whitehorse**	**1.50**	**55**	Pn	**Pn**	**14 00 19.3**	**0.0**
WHY	**Whitehorse**	**1.50**	**55**		**Pb**	**14 00 19.3**	**0.0**
WHY	**Whitehorse**	**1.50**	**55**	P		14 00 19.3	
	baz=237						
YUK4	**Talbot Arm**	**1.64**	**338**	Pn	**Pb**	**14 00 21.7**	**0.0**
YUK4				Sn	**Sg**	**14 00 44.8**	**+1.4**
YUK4	**Talbot Arm**	**1.64**	**338**	Pn	**Pb**	**14 00 21.7**	**0.0**
YUK4				Sn	**Sg**	**14 00 44.8**	**+1.4**
SAMH	**Samovar Hills**	**1.74**	**281**	Pn	**Pb**	**14 00 23.1**	**-0.2**
SAMH				Sn	**Sb**	**14 00 45.1**	**-0.5**
SAMH	**Samovar Hills**	**1.74**	**281**	Pn	**Pb**	**14 00 23.1**	**-0.2**
SAMH				Sn	**Sb**	**14 00 45.1**	**-0.5**
BESE	**Bessie Mountai**	**1.81**	**133**	Pn	**Pn**	**14 00 23.5**	**+0.6**
BESE				Sn	**Sb**	**14 00 47.5**	**-0.1**
BESE	**Bessie Mountai**	**1.81**	**133**	Pn	**Pn**	**14 00 23.5**	**+0.6**
BESE				Sn	**Sb**	**14 00 47.5**	**-0.1**
CHX	**Chaix Hills**	**1.90**	**279**		**Pb**	**14 00 25.9**	**0.0**
TABL	**Table Mountain**	**1.98**	**290**	Pn	**Pn**	**14 00 25.9**	**+0.5**
TABL				Sn	**Sn**	**14 00 50.7**	**-0.2**
TABL	**Table Mountain**	**1.98**	**290**	Pn	**Pn**	**14 00 25.9**	**+0.5**
TABL				Sn	**Sn**	**14 00 50.7**	**-0.2**
TABL	**Table Mountain**	**1.98**	**290**	IAML		14 00 54.2	
	comp=E,213nm,0.7s						
TABL				IAML		14 00 57.7	
	comp=N,165nm,0.7s						
RKAV	**Rock Avalanche**	**2.04**	**285**	Pn	**Pb**	**14 00 27.3**	**-1.3**
RKAV				Sn	**Sb**	**14 00 54.1**	**-0.4**
RKAV	**Rock Avalanche**	**2.04**	**285**	Pn	**Pb**	**14 00 27.3**	**-1.3**
RKAV				Sn	**Sb**	**14 00 54.1**	**-0.4**
JIS	**Juneau Island**	**2.20**	**134**		**Pb**	**14 00 30.3**	**-0.7**
JIS	**Juneau Island**	**2.20**	**134**	IAML		14 01 04.1	
	comp=E,134nm,0.4s						
JIS				IAML		14 01 06.0	
	comp=N,214nm,0.5s						
YAH	**Yahtse**	**2.25**	**286**		**Pb**	**14 00 30.8**	**-1.4**
YAH	**Yahtse**	**2.25**	**286**	IAML		14 01 02.1	
	comp=E,110nm,1.0s						
YAH				IAML		14 01 04.3	
	comp=N,128nm,0.9s						
MESA	**MESA**	**2.32**	**281**	Pn	**Pn**	**14 00 31.0**	**+0.9**
MESA				Sg	**Sb**	**14 01 02.5**	**-0.1**
MESA	**MESA**	**2.32**	**281**	Pn	**Pn**	**14 00 31.0**	**+0.9**
MESA				Sg	**Sb**	**14 01 02.5**	**-0.1**
MESA	**MESA**	**2.32**	**281**	P		14 00 31.2	
	baz=97						
MESA				S		14 01 01.7	
	baz=97						
GRNC	**Granite Creek**	**2

comp=N,19nm,1.2s
KLU **Klutina** **4.52 295** **Pn** **14 01 00.3 +0.2**
KLU IAML 14 02 12.9
comp=N,20nm,0.6s
KLU IAML 14 02 13.7
comp=E,17nm,1.1s
GLI Glacier Island **4.94 286** Pn **Pn** **14 01 05.4 -0.4**
GLI IAML 14 02 20.1
comp=E,17nm,0.7s
GLI IAML 14 03 51.1
comp=N,15nm,3.8s
EGAK Eagle **5.27 342** **Pn** **14 01 11.5 +1.2**
EGAK IAML 14 02 48.3
comp=N,17nm,0.9s
PWL Port Wells **5.54 285** Pn **Pn** **14 01 15.3 +1.2**
CNPM China Poot **7.02 274** **Pn** **14 01 35.9 +1.5**

*IDC **26** 14:05:34.5±0.9,28°.26N×106°.11E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/47, mbtmp3.8/10, MS2.8/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=31.4km s-min=17.4km az=56.0*
*NEIC **26** 14:05:37.2±1.5,28°.20N±0°.08×106°.1E±0°.1, h15km±5km, mb4.6/6, Error ellipse: s-maj=20.4km s-min=6.5km az=119.0*
ISC 26 14:05:36.5±0.7,28°.31N±0°.10×106°.1E±0°.1, h10km, n23, σ1§37/23, mb4.0/10, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENH	**Enshi**	**3.53**	**55**		**Pn**	**14 06 33.9**	**+2.5**
SLVN	**Son La**	**7.23**	**197**	Pn	**Pn**	**14 07 22.3**	**0.0**
CMAR	**Chiang Mai Arr**	**11.81**	**215**	Pn	**Pn**	**14 08 28.1**	**+2.9**
	0.1nm,0.3s,baz=32,slow=12,SNR=4.7						
CMAR				LR	LR	14 13 46.8	
	comp=Z,42nm,19.2s,baz=185,slow=42						
KSRS	**Korea Array**	**20.41**	**58**	P	**P**	**14 10 13.9**	**+0.1**
	2.8nm,0.8s,baz=242,slow=9.8,SNR=8.0						
KSRS	**Korea Array**	**20.41**	**58**		**P**	**14 10 13.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**26.05**	**46**	P	**P**	**14 11 10.0**	**0.0**
	2.2nm,0.7s,baz=233,slow=7.0,SNR=3.1						
MKAR	**Makanchi Array**	**26.25**	**321**	P	**P**	**14 11 12.2**	**+0.4**
	0.3nm,0.6s,baz=130,slow=10,SNR=2.4						
KURBB	**Kurchatov Arra**	**30.53**	**324**	P	**P**	**14 11 49.8**	**-0.1**
	0.9nm,0.8s,baz=131,slow=9.1,SNR=10						
KURK	**Kurchatov**	**30.54**	**325**	P	**P**	**14 11 49.8**	**-0.2**
AKTO	**Aktyubinsk**	**42.34**	**315**	P	**P**	**14 13 30.7**	**+0.1**
	0.5nm,0.3s,baz=100,slow=11,SNR=2.0						
TIXI	**Tiksi**	**45.17**	**10**	P	**P**	**14 13 51.9**	**-1.2**
	0.9nm,0.5s,baz=198,slow=6.4,SNR=2.5						
WB0	**Warramunga Arr**	**55.05**	**147**	P	**P**	**14 15 07.2**	**-1.5**
WRAB	**Tennant Creek**	**55.17**	**147**	P	**P**	**14 15 07.0**	**-2.5**
WRA	**Warramunga Arr**	**55.17**	**147**	P	**P**	**14 15 08.7**	**-0.9**
	1.8nm,0.5s,baz=335,slow=8.6,SNR=30						
WRA	**Warramunga Arr**	**55.17**	**147**	P	**P**	**14 15 08.6**	**-0.9**
WB2	**Warramunga Arr**	**55.18**	**147**	P	**P**	**14 15 08.5**	**-1.1**
WB2				IAmb	IAmb	14 17 04.9	
	comp=Z,10.0nm,0.9s						
WR0	**Warramunga Arr**	**55.29**	**147**	P	**P**	**14 15 09.5**	**-0.9**
AS31	**Alice Springs**	**58.19**	**150**	P	**P**	**14 15 28.8**	**-2.2**
ASAR	**Alice Springs**	**58.19**	**150**	P	**P**	**14 15 30.4**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=335,slow=6.9,SNR=40						
ASAR	**Alice Springs**	**58.19**	**150**	P	**P**	**14 15 29.2**	**-1.7**
FINES	**FINESS Array B**	**60.87**	**327**	P	**P**	**14 15 48.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=108,slow=8.9,SNR=3.4						
NOA	**NORSAR Array B**	**67.96**	**328**	P	**P**	**14 16 34.4**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=72,slow=6.4,SNR=3.1						
CLL	**Collm**	**70.31**	**318**	*eP*	**P**	**14 16 50.0**	**-0.1**

*JMA **26** 14:07:31.9±0.1,35°.19N×141°.39E, h33km±2km, M3.5*
*NIED **26** 14:07:31.9,35°.19N×141°.39E, h33km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.30; Mθθ-0.95; Mφφ0.64; Mrθ1.03; Mθφ-0.30; Mφr1.26; Fault plane solution: M0 1.86000×10^15 NP1:φs41.00000°, δ85.00000°, λ63.00000°. NP2:φs300.00000°, δ27.00000°, λ168.00000°.*
*NEIC **26** 14:07:34.0±2.6,35°.27N±0°.04×141°.47E±0°.07, h35km±2km, mb4.6/11 Error ellipse: s-maj=11.1km s-min=4.3km az=126.0*
*IDC **26** 14:07:37.3±2.0,35°.14N×141°.08E, h50km±18km, mb3.8/20, mb1 3.9/23, mb1mx3.8/43, mbtmp4.0/23, ML2.7/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/32, Error ellipse: s-maj=18.2km s-min=10.4km az=91.0*
ISC 26 14:07:31.8±1.7,35°.18N±0°.04×141°.35E±0°.05, h14km±10km, n77, σ1§22/75, mb4.0/25, MS3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.61**	**210**	P	**Pb**	**14 07 44.1**	**+0.1**
BSO1				X		14 07 51.3	
CHOJ	**Chosi**	**0.66**	**322**	P	**Pg**	**14 07 44.8**	**+0.1**
CHOJ				S	**Sb**	**14 07 54.2**	**+0.1**
BSO3	**Boso 3**	**0.79**	**241**	P	**Pg**	**14 07 47.2**	**+0.1**
BSO3				X		14 07 58.1	
KTR	**Katsuura**	**0.85**	**268**	P	**Pb**	**14 07 47.9**	**-0.5**
KTR				S	**Sb**	**14 07 59.7**	**0.0**
BSO4	**Boso 4**	**0.85**	**257**	P	**Pb**	**14 07 48.4**	**0.0**
BSO4				X		14 07 59.9	
JSMT	**Sammumatsuo**	**0.87**	**302**	P	**Pb**	**14 07 48.7**	**0.0**
JKUC	**kamogawauchiur**	**0.94**	**269**	P	**Pb**	**14 07 49.3**	**-0.7**
JKUC				S	**Sb**	**14 08 02.3**	**-0.1**
JCN	**Nagara**	**0.97**	**284**	P	**Pb**	**14 07 50.3**	**-0.1**
JYT	**Yasato**	**1.40**	**318**	P	**Pn**	**14 07 56.1**	**-1.0**
JYT	**Yasato**	**1.40**	**318**	Pn	**Pn**	**14 07 55.7**	**-1.4**
JHJ2	**Mitsune**	**2.43**	**212**	Pn	**Pn**	**14 08 11.2**	**0.0**
JHJ	**Hachijo jima 2**	**2.44**	**213**	P	**Pn**	**14 08 11.7**	**+0.4**
	29nm,0.3s,baz=15,slow=20,SNR=8.4						
JHJ				S	**Sn**	**14 08 40.7**	**-0.2**
	39nm,0.3s,baz=62,slow=23,SNR=2.2						
JSG	**Sagara**	**2.65**	**260**	Pn	**Pn**	**14 08 15.0**	**+0.8**
JMM	**Marumori**	**2.71**	**351**		**Pn**	**14 08 15.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.89**	**299**	P	**Pn**	**14 08 18.6**	**+1.1**
	0.8nm,0.3s,baz=97,slow=12,SNR=59						
MJAR				LR	LR	14 09 25.9	
	comp=Z,324nm,19.8s,baz=135,slow=40						
MJAR	**Matsushiro Arr**	**2.89**	**299**		**Pn**	**14 08 19.0**	**+1.5**
MAJO	**Matsushiro**	**2.89**	**299**		**Pn**	**14 08 19.3**	**+1.8**
MAT	**Matsushiro**	**2.89**	**299**	P	**Pn**	**14 08 18.8**	**+1.3**
MAT				S	**Sn**	**14 08 51.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.90**	**299**		**Pn**	**14 08 19.4**	**+1.8**
JGF	**Kuroka**	**3.29**	**278**		**Pn**	**14 08 23.6**	**+0.6**
INU	**Inuyama**	**3.55**	**274**		**Pn**	**14 08 28.0**	**+1.4**
JSD	**Sado**	**3.78**	**320**	Pn	**Pn**	**14 08 30.6**	**+0.9**
JWT	**Wachi**	**4.87**	**273**	Pn	**Pn**	**14 08 45.4**	**+0.7**
JTM	**Tenmabayashi**	**5.60**	**358**	Pn	**Pn**	**14 08 55.7**	**+1.0**
ERM	**Erimo**	**6.96**	**11**	Pn	**Pn**	**14 09 12.9**	**-0.6**
JCJ	**Chichijima**	**8.10**	**175**	P	**Pn**	**14 09 27.8**	**-1.3**
	16nm,0.3s,baz=299,slow=18,SNR=4.9						
JCJ				LR	LR	14 13 26.7	
	comp=Z,79nm,18.4s,baz=320,slow=43						
JCJ	**Chichijima**	**8.10**	**175**		**Pn**	**14 09 27.6**	**-1.4**
ASAJ	**Asahikawa**	**8.97**	**6**	P	**Pn**	**14 09 39.1**	**-1.9**
	1.4nm,0.3s,baz=204,slow=9.9,SNR=17						
ASAJ				S	**Sn**	**14 11 19.4**	**-2.5**
	0.3nm,0.3s,baz=224,slow=28,SNR=1.2						
ASAJ				LR	LR	14 14 00.6	
	comp=Z,166nm,20.9s,baz=122,slow=42						
JKA	**Kamikawa-asahi**	**8.97**	**6**		**Pn**	**14 09 38.8**	**-2.2**
KSRS	**Korea Array**	**11.07**	**286**	LR	LR	14 14 37.5	
	comp=Z,279nm,19.2s,baz=74,slow=39						
USRK	**Uusuriysk Ar.**	**11.53**	**324**	P	**Pn**	**14 10 17.8**	**+1.8**
	baz=148,slow=11,SNR=4.1						
USRK				LR	LR	14 14 42.6	
	comp=Z,234nm,19.0s,baz=159,slow=37						
KLR	**Kul'dur**	**15.71**	**336**	P	**Pn**	**14 11 12.3**	**-0.4**
	0.2nm,0.3s,baz=139,slow=11,SNR=2.9						
YHNB	**Yeheng**	**20.20**	**244**		**P**	**14 12 03.7**	**-2.7**
YHNB				IAmb	IAmb	14 12 15.1	
	comp=Z,33nm,1.4s						
PETK	**Petropavlovsk-**	**21.33**	**28**	P	**P**	**14 12 21.0**	**+2.7**
	comp=Z,1.6nm,0.8s,baz=206,slow=9.0,SNR=2.4						
PETK				LR	LR	14 21 18.4	
	comp=Z,63nm,20.9s,baz=235,slow=38						
MA2	**Magadan**	**25.17**	**11**	P	**P**	**14 12 58.1**	**+1.5**
	comp=Z,11nm,0.8s,baz=180,slow=11,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**27.29**	**118**	T	T	14 42 06.8	
	baz=310,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**27.30**	**118**	T	T	14 42 19.3	
	baz=310,slow=75,SNR=44						
H11N3	**WAKE ISLAND Hy**	**27.31**	**118**	T	T	14 42 14.3	
	baz=310,slow=75,SNR=44						
YAK	**Yakutsk**	**27.86**	**348**	P	**P**	**14 13 21.4**	**+0.6**
	comp=Z,4.6nm,0.5s,baz=98,slow=2.1,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**27.94**	**120**	T	T	14 42 52.2	
	baz=311,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.94**	**120**	T	T	14 42 52.0	
	baz=311						
H11S2	**WAKE ISLAND Hy**	**27.96**	**120**	T	T	14 42 53.2	
	baz=311,slow=74						
SONM	**Songino Array**	**28.81**	**307**	LR	LR	14 25 05.0	
	comp=Z,128nm,18.9s,baz=136,slow=37						
TIXI	**Tiksi**	**37.12**	**353**	P	**P**	**14 14 42.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=140,slow=9.4,SNR=3.6						
SPIA	**Saint Paul Isl**	**38.99**	**40**	P	P	14 14 52.3	-5.2
ZALV	**Zalesovo Beam**	**43.14**	**314**	P	**P**	**14 15 31.8**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=79,slow=7.5,SNR=6.9						
MK31	**Makanchi Array**	**45.08**	**304**	P	**P**	**14 15 45.5**	**-1.9**
MKAR	**Makanchi Array**	**45.08**	**304**	P	**P**	**14 15 47.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=83,slow=9.1,SNR=8.0						
MKAR				LR	LR	14 35 21.4	
	comp=Z,84nm,18.9s,baz=146,slow=37						
MKAR	**Makanchi Array**	**45.08**	**304**	P	**P**	**14 15 45.5**	**-1.9**
KURBB	**Kurchatov Arra**	**47.12**	**309**	P	**P**	**14 16 03.1**	**-0.3**
	comp=Z,6.1nm,0.9s,baz=85,slow=8.0,SNR=27						
MTN	**Manton Dam**	**48.74**	**193**	P	**P**	**14 16 16.2**	**0.0**
ILAR	**Eielson Array**	**51.09**	**32**	P	**P**	**14 16 34.9**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=267,slow=6.7,SNR=14						
BVAR	**Beaverlodge Array**	**51.79**	**313**	P	**P**	**14 16 39.0**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=109,slow=22,SNR=7.6						
KNRA	**Kununurra**	**51.97**	**195**	P	**P**	**14 16 39.7**	**-1.0**
PCA	**Pinnacle**	**54.62**	**37**	P	**P**	**14 16 56.5**	**-3.3**
WB0	**Warramunga Arr**	**55.05**	**188**	P	**P**	**14 17 02.3**	**-0.9**
WB0				IAmb	IAmb	14 17 05.0	
	comp=Z,11nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.05**	**198**	P	**P**	**14 17 03.3**	**+0.1**
FITZ				IAmb	IAmb	14 17 20.1	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**55.22**	**188**	P	**P**	**14 17 02.6**	**-1.8**
WR0				IAmb	IAmb	14 17 06.4	
	comp=Z,8.3nm,0.8s						
WRA	**Warramunga Arr**	**55.23**	**188**	P	**P**	**14 17 03.8**	**-0.7**
	comp=Z,9.0nm,0.9s,baz=3.9,slow=7.5,SNR=26						
WRA				PcP	**PcP**	**14 18 05.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=2.9,slow=4.3,SNR=1.4						
WRA	**Warramunga Arr**	**55.23**	**188**	P	**P**	**14 17 03.0**	**-1.5**
ARU	**Arti**	**57.72**	**319**	P	**P**	**14 17 21.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=85,slow=12,SNR=6.9						
AS31	**Alice Springs**	**58.95**	**188**	P	**P**	**14 17 30.4**	**-0.5**
AS31				IAmb	IAmb	14 17 35.0	
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**58.95**	**188**	P	**P**	**14 17 30.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=0.6,slow=6.7,SNR=22						
ASAR				PcP	**PcP**	**14 18 20.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=13,slow=4.4,SNR=4.0						
ASAR	**Alice Springs**	**58.95**	**188**	P	**P**	**14 17 30.8**	**-0.1**
ABKAR	**Akbulak array**	**59.10**	**311**	P	**P**	**14 17 31.5**	**-0.2**
AKTO	**Aktyubinsk**	**59.88**	**313**	P	**P**	**14 17 36.7**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=90,slow=8.1,SNR=1.8						
ARCES	**ARCESS Array B**	**65.71**	**340**	LR	LR	14 52 31.9	
	comp=Z,58nm,18.2s,baz=45,slow=41						
FINES	**FINESS Array B**	**70.43**	**333**	P	**P**	**14 18 45.2**	**0.0**
	comp=Z,2.8nm,0.9s,baz=45,slow=12,SNR=5.8						
AKASG	**Malin Array Be**	**75.73**	**323**	P	**P**	**14 19 16.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=51,slow=5.9,SNR=4.2						
AKASG				LR	LR	14 55 32.7	
	comp=Z,62nm,19.0s,baz=225,slow=38						
NOA	**NORSAR Array B**	**75.87**	**337**	P	**P**	**14 19 17.7**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=39,slow=5.7,SNR=5.0						
NOA				LR	LR	14 55 48.3	
	comp=Z,48nm,20.3s,baz=95,slow=38						
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**14 19 22.3**	**+2.5**
	comp=Z,1.2nm,0.8s,baz=285,slow=6.3,SNR=10						
PDAR	**Pinedale Array**	**79.00**	**45**	P	**P**	**14 19 37.4**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=259,slow=0.9,SNR=7.8						
CLL	**Collm**	**82.67**	**330**	*eP*	**P**	**14 19 55.0**	**+0.2**
	comp=Z,5.0nm,0.9s						
KHC	**Kasperske Hory**	**84.09**	**329**	*eP*	**P**	**14 20 02.5**	**+0.3**
GERES	**GERESS Array B**	**84.25**	**328**	P	**P**	**14 20 02.3**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=14,slow=5.4,SNR=4.8						
GERES				LR	LR	14 59 36.6	
	comp=Z,41nm,18.2s,baz=92,slow=37						
TXAR	**Lajitas Array**	**91.29**	**52**	P	**P**	**14 20 39.7**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=292,slow=2.4,SNR=5.9						
LPAZ	**La Paz**	**147.64**	**62**	PKPbc	**PKiKP**	**14 27 18.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=309,slow=6.5,SNR=3.9						

IDC 26 14:53:43.8±2.7,11°.61N×143°.02E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.6/4, Error ellipse: s-maj=140.6km s-min=26.2km az=88.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.50**	**195**	P	P	15 00 16.6	+0.1
	0.7nm,0.7s,baz=14,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**36.18**	**194**	P	P	15 00 48.1	-0.2
	0.3nm,0.8s,baz=16,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**61.68**	**317**	P	P	15 04 04.5	+0.7
	0.5nm,0.9s,baz=86,slow=6.2,SNR=2.7						
ARCES	**ARCESS Array B**	**88.39**	**342**	P	P	15 06 37.5	0.0
	1.8nm,0.6s,baz=64,slow=7.1,SNR=6.3						
FINES	**FINESS Array B**	**92.17**	**335**	P	P	15 06 54.3	-0.9
	0.7nm,0.6s,baz=64,slow=6.5,SNR=4.0						

*NAO **26** 15:33:36.0±0.8, 67°.14N×20°.93E, ML2.4*
*HEL **26** 15:33:36.3±0.0, 67°.19N×20°.63E, h1km, ML1.9, ML2.4(UPP), Confirmed Induced event*
*HEL **26** 15:33:36.1, 67°.19N×20°.59E, h1km, ML1.9, Confirmed Induced event*
*IDC **26** 15:33:36.2±1.0, 67°.14N×20°.91E, h0km, mb1 2.7/4, mb1mx2.7/45, mbtmp2.7/4, ML2.1/4, Error ellipse: s-maj=16.5km s-min=8.1km az=113.0*
*BER **26** 15:33:38.5±3.1, 67°.08N×21°.18E, h0km, ML2.0, Suspected explosion*
ISC 26 15:33:34.5±0.7, 67°.14N±0°.02×20°.70E±0°.03, h0km, n38, σ1§22/62, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.05**	**254**	*i* P	**Pg**	**15 33 37.5**	**+2.1**
MASU	**Masugnsbyn**	**0.60**	**57**	*i* P	**Pg**	**15 33 47.0**	**+1.0**
MASU				*i* S	**Sg**	**15 33 54.6**	**+0.9**
RATU	**Laukkuluspa**	**0.81**	**329**	*i* P	**Pg**	**15 33 49.9**	**-0.2**
RATU				*i* S	**Sg**	**15 33 59.9**	**-0.7**
KUA	**Kurravaara**	**0.83**	**351**	*i* P	**Pg**	**15 33 50.2**	**-0.3**
PAJU	**Pajala**	**0.95**	**96**	*eP*	**Pb**	**15 33 53.7**	**-0.2**
PAJU				*eS*	**Sb**	**15 34 06.9**	**-0.2**
NIKU	**Nikkaluokta**	**0.97**	**320**	*eP*	**Pg**	**15 33 53.0**	**-0.2**
LANU	**Lannavaara**	**1.04**	**28**	*eP*	**Pg**	**15 33 54.3**	**-0.2**
LANU				*eS*	**Sg**	**15 34 07.8**	**-0.2**
KOVU	**Salmi**	**1.11**	**350**	*eP*	**Pg**	**15 33 55.2**	**-0.6**
KLF	**Kolari**	**1.28**	**84**	*eP*	**Pb**	**15 33 59.4**	**-0.1**
KLF				*eS*	**Sb**	**15 34 16.7**	**+0.4**
SJUU	**Sjulsmark**	**1.68**	**167**	*eP*	**Pg**	**15 34 06.9**	**+0.3**
HEF	**Hetta**	**1.70**	**40**	Pn	**Pn**	**15 34 06.0**	**+0.5**
HEF				Sn	**Sn**	**15 34 27.1**	**-0.9**
HEF	**Hetta**	**1.70**	**40**	Pn	**Pn**	**15 34 06.0**	**+0.5**
HEF				Sn	**Sn**	**15 34 27.1**	**-0.9**
HEF	**Hetta**	**1.70**	**40**	*eP*	**Pn**	**15 34 05.9**	**+0.5**
HEF				*eS*	**Sn**	**15 34 27.5**	**-0.4**
HEF				MSG		15 34 32.7	
	comp=Z,11nm,0.2s						
TOF	**Tornio**	**1.79**	**125**	*eP*	**Pg**	**15 34 08.9**	**0.0**
TOF				*eSG*	**Sg**	**15 34 33.4**	**+1.3**
TOF				MSG		15 34 36.8	
	comp=Z,5.3nm,0.2s						
KIF	**Kilpisjarvi**	**1.88**	**1**	Pn	**Pb**	**15 34 09.1**	**-0.5**
KIF				Sn	**Sg**	**15 34 35.4**	**+0.6**
KIF	**Kilpisjarvi**	**1.88**	**1**	Pn	**Pb**	**15 34 09.1**	**-0.5**
KIF				Sn	**Sg**	**15 34 35.4**	**+0.6**
KIF	**Kilpisjarvi**	**1.88**	**1**	*eP*	**Pb**	**15 34 09.1**	**-0.5**
KTK1	**Kautokeino**	**2.11**	**26**	Pn	**Pb**	**15 34 12.8**	**-0.8**
KTK1				Sn	**Sb**	**15 34 40.7**	**+0.4**
KTK1	**Kautokeino**	**2.11**	**26**	*eP*	**Pb**	**15 34 12.9**	**-0.8**
KTK1				*eS*	**Sb**	**15 34 40.4**	**0.0**
KTK1				IAML		15 34 41.2	
	comp=Z,20nm,0.4s						
RNF	**Rovaniemi**	**2.17**	**102**	*eP*	**Pb**	**15 34 13.9**	**-0.6**
RNF				*eSB*	**Sg**	**15 34 43.0**	**-0.9**
SGF	**Sodankyl**	**2.28**	**80**	*ePB*	**Pb**	**15 34 16.2**	**-0.3**
SGF				MSG		15 34 49.7	
	comp=Z,5.5nm,0.2s						
JETT	**Jettan, Norway**	**2.43**	**358**	Pn	**Pb**	**15 34 18.8**	**-0.4**
JETT				Sn	**Sb**	**15 34 48.8**	**-0.8**
OBF4	**Vikkela, Lumij**	**2.95**	**140**	*eSB*	**Sg**	**15 35 06.6**	**-2.4**
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn	**Pn**	**15 34 24.4**	**+1.1**
	baz=213,slow=16						
ARA0				Sn	**Sn**	**15 35 00.7**	**+0.9**
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn	**Pn**	**15 34 24.4**	**+1.1**
	baz=213,slow=16						
ARA0				Sn	**Sn**	**15 35 00.7**	**+0.9**
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**3.00**	**34**	*eP*	**Pn**	**15 34 24.8**	**+1.5**
ARA0				*eS*	**Sn**	**15 35 00.6**	**+0.7**
ARCES	**ARCESS Array B**	**3.00**	**34**	Pn	**Pn**	**15 34 24.5**	**+1.3**
	baz=212,slow=13,SNR=45						
ARCES				Sn	**Sn**	**15 35 00.4**	**+0.6**
	baz=210,slow=21,SNR=2.0						
ARCES				Lg	Lg	15 35 05.0	
	baz=215,slow=27,SNR=17						
APA0	**Apatity Array**	**4.77**	**79**	Pn	**Pn**	**15 34 47.4**	**-0.1**
APA0				Sn	**Sn**	**15 35 42.2**	**-1.3**
	baz=269,slow=28						
APA0				Lg	Lg	15 35 59.4	
APA0	**Apatity Array**	**4.77**	**79**	Pn	**Pn**	**15 34 47.4**	**-0.1**
APA0				Sg	**Sb**	**15 35 59.4**	**+2.5**
FIA0	**FINESS Array S**	**6.17**	**155**	Pn	**Pn**	**15 35 09.1**	**+2.3**
	baz=345,slow=12						
FIA0				Sn	**Sn**	**15 36 19.5**	**+1.5**
	baz=344,slow=28						
FIA0				Lg	Lg	15 36 48.3	
	baz=336,slow=37						
FIA0	**FINESS Array S**	**6.17**	**155**	Pn	**Pn**	**15 35 09.1**	**+2.3**
	baz=345,slow=12						
FIA0				Sg	**Sg**	**15 36 48.3**	**-4.3**
	baz=336,slow=37						
FINES	**FINESS Array B**	**6.17**	**155**	Pn	**Pn**	**15 35 08.7**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=334,slow=17,SNR=5.2						
FINES				Sn	**Sn**	**15 36 19.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=23,SNR=5.5						
FINES				Lg	Lg	15 36 48.2	
	comp=Z,0.5nm,0.3s,baz=344,slow=29,SNR=5.4						
NB2	**NORSAR Subarra**	**7.39**	**219**	Lg	Lg	15 37 25.2	
	baz=37,slow=37						
NOA	**NORSAR Array B**	**7.39**	**219**	Pn	**Pn**	**15 35 25.1**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=34,slow=12,SNR=2.2						
NOA				Sn	**Sn**	**15 36 45.8**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=8.2,slow=19,SNR=2.0						
NOA				Lg	Lg	15 37 25.3	
	comp=Z,0.0nm,0.3s,baz=31,slow=10,SNR=4.4						
NRA0	**NORESS Array S**	**7.58**	**216**	Lg	Lg	15 37 32.1	
	baz=31,slow=22						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**15 35 28.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=1.4						
HFS				Sn	**Sn**	**15 36 53.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=13,slow=20,SNR=5.1						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**15 35 28.2**	**+0.7**
	baz=28,slow=14						
HFS	**Hagfors**	**7.68**	**207**	Pn	**Pn**	**15 35 28.2**	**+0.7**
	baz=28,slow=14						

*TUL **26** 15:47:09.5±1.0, 35°.74N±0°.01×97°.38W±0°.02, h1km±7km, ML2.7, mb_Lg2.9/76(NEIC), Error ellipse: s-maj=2.8km s-min=1.9km az=81.0*
NEIC 26 15:47:09.9±1.0, 35°.76N±0°.02×97°.38W±0°.02, h9km±6km, Error ellipse: s-maj=2.5km s-min=2.2km az=179.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.07**	**298**	Pg	Pg	15 47 11.8	-0.3
OK029				Sg	Sg	15 47 13.4	-0.2
OK025	**Westminster Rd**	**0.18**	**171**		Pg	15 47 13.2	-0.5
OK005	**Luther M Schoo**	**0.18**	**125**		Pg	15 47 16.6	+2.9
OK001	**Jones High Sch**	**0.21**	**161**		Pg	15 47 17.1	+2.8
BCOK	**Bluff Creek, N**	**0.22**	**241**		Pg	15 47 13.9	-0.5
OKCFA	**Oklahoma City**	**0.35**	**190**		Pg	15 47 16.3	-0.5
OKCSW	**OKLAHOMA CITY**	**0.36**	**188**		Pg	15 47 16.4	-0.6
OK031	**S. Brethren Rd**	**0.47**	**66**		Pg	15 47 19.4	+0.3
FNO	**Franklin**	**0.50**	**182**		Pg	15 47 19.1	-0.6
OK030	**Cody Creek RV**	**0.51**	**71**		Pg	15 47 20.0	+0.2
QUOK	**Quay

PV20	**West Nyswonger** comp=Z,6.3nm,0.8s	**9.62 289**	IAmb_Lg	15 52 19.0	
PV14	**Lion Creek, Pa** comp=Z,5.9nm,1.1s	**9.67 289**	IAmb_Lg	15 52 23.5	
PV05	**Paradox Valley** comp=Z,11nm,1.0s	**9.67 287**	IAmb_Lg	15 52 09.0	
K22A	**Casper** comp=Z,13nm,1.1s	**9.88 317**	IAmb_Lg	15 52 44.6	

IDC ***26*** *15:54:01.3±6.8, 30.07S×179.44W, h327km±62km, mb2.6/2, mb1 3.0/3, mb1mx2.8/34, mbtmp3.6/3, Error ellipse: s-maj=69.1km s-min=33.3km az=22.0*

ISC 26 15:54:02.8±1.4, 30.3S±0.1×179.9W±0.3, h300km, n31, σ2.532/49, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.99**	**59**	P			Pn	15 54 48.3	-1.2
GLKZ				S			S	**15 55 27.0**	**+0.3**
MXZ	**Matakaoa Point**	**7.39**	**191**	P			**Pn**	**15 55 52.1**	**+3.4**
MXZ				S			S	**15 57 13.5**	**-1.0**
WMGZ	**Waiomatatini S**	**7.62**	**190**	P			**Pn**	**15 55 55.3**	**+3.7**
WMGZ				S			**S**	**15 57 18.9**	**-0.9**
HAZ	**Te Kaha**	**7.68**	**194**	P			**Pn**	**15 55 54.0**	**+1.8**
HAZ				S			**S**	**15 57 20.0**	**-0.9**
PKGZ	**Pakihiroa**	**7.75**	**192**	P			**Pn**	**15 55 55.4**	**+2.2**
PKGZ				S			**S**	**15 57 18.1**	**-4.6**
PUZ	**Puketiti**	**7.89**	**191**	P			**Pn**	**15 55 57.6**	**+2.6**
PUZ				S			**S**	**15 57 23.5**	**-2.4**
RUGZ	**Raukumara Rang**	**7.90**	**194**	P			**Pn**	**15 55 58.2**	**+3.1**
RUGZ				S			**S**	**15 57 23.3**	**-2.9**
TWGZ	**Tauwhareparae**	**8.04**	**192**	P			**Pn**	**15 56 00.9**	**+4.1**
TWGZ				S			**S**	**15 57 29.7**	**+0.4**
MWZ	**Matawai**	**8.29**	**194**	P			**Pn**	**15 56 03.9**	**+4.2**
MWZ				S			**S**	**15 57 35.0**	**+0.2**
CNGZ	**Carnagh Statio**	**8.30**	**191**	P			**Pn**	**15 56 01.7**	**+1.8**
CNGZ				S			**S**	**15 57 33.8**	**-1.3**
URZ	**Urewera** 2.1nm,0.3s,baz=302,slow=24,SNR=32	**8.31**	**197**	P			**Pn**	**15 56 02.8**	**+2.8**
URZ	1.7nm,0.3s,baz=119,slow=23,SNR=1.8			S			**S**	**15 57 35.0**	**-0.3**
URZ	**Urewera**	**8.31**	**197**	P			**Pn**	**15 56 02.4**	**+2.4**
URZ				S			**S**	**15 57 34.9**	**-0.3**
TKGZ	**Te Karaka**	**8.32**	**192**	P			**Pn**	**15 56 04.1**	**+3.9**
TKGZ				S			**S**	**15 57 35.8**	**+0.3**
RAGZ	**Rawiri**	**8.47**	**195**	P			**Pn**	**15 56 04.6**	**+2.6**
RAGZ				S			**S**	**15 57 37.4**	**-1.5**
RIGZ	**Rimuhau**	**8.60**	**192**	P			**Pn**	**15 56 06.5**	**+2.9**
RIGZ				S			**S**	**15 57 38.8**	**-3.0**
MUGZ	**Murupara**	**8.60**	**198**	P			**Pn**	**15 56 06.6**	**+2.9**
MUGZ				S			**S**	**15 57 41.1**	**-0.8**
SNGZ	**Shannon Statio**	**8.76**	**194**	P			**Pn**	**15 56 05.5**	**0.0**
SNGZ				S			**S**	**15 57 44.2**	**-1.2**
MTHZ	**Maungataniwha**	**8.94**	**197**	P			**Pn**	**15 56 10.3**	**+2.5**
MTHZ				S			**S**	**15 57 50.5**	**+1.0**
RAHZ	**Arahi**	**8.94**	**195**	P			**Pn**	**15 56 08.9**	**+1.1**
RAHZ				S			**S**	**15 57 48.7**	**-0.9**
MRHZ	**Matea Rd**	**9.03**	**199**	P			**Pn**	**15 56 11.4**	**+2.5**
NMHZ	**Naumai**	**9.18**	**196**	P			**Pn**	**15 56 12.8**	**+2.1**
NMHZ				S			**S**	**15 57 55.9**	**+0.9**
ARHZ	**Aropaoanui**	**9.29**	**195**	P			**Pn**	**15 56 14.5**	**+2.4**
ARHZ				S			**S**	**15 57 55.1**	**-2.3**
BKZ	**Black Stump Fm**	**9.32**	**198**	P			**Pn**	**15 56 14.2**	**+1.6**
BKZ				S			**S**	**15 57 58.9**	**+0.7**
KRHZ	**Kereru**	**9.81**	**197**	P			**Pn**	**15 56 18.2**	**-0.2**
KRHZ				S			**S**	**15 58 07.2**	**-1.9**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=105,slow=7.2,SNR=6.5	**41.50**	**268**	P			P	16 01 20.7	-0.7
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=110,slow=8.0,SNR=6.8	**42.48**	**273**	P			P	16 01 28.0	-1.3
ARCES	**ARCESS Array B** 1.9nm,0.8s,baz=65,slow=2.4,SNR=3.6	**138.15**	**347**	PKP			PKPdf	16 12 45.6	-5.6
FINES	**FINESS Array B** 2.4nm,0.4s,baz=51,slow=4.2,SNR=30	**144.49**	**339**	PKP			PKPbc	16 12 57.0	-5.2
NOA	**NORSAR Array B** 0.5nm,0.5s,baz=15,slow=4.2,SNR=4.1	**148.40**	**350**	PKPbc			**PKPdf**	**16 13 07.9**	**-1.5**
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=51,slow=2.0,SNR=2.3	**150.24**	**321**	PKPbc			**PKPdf**	**16 13 13.4**	**+0.9**
TORD	**Torodi Ar. Bea** 0.6nm,0.5s,baz=151,slow=3.1,SNR=3.2	**162.86**	**185**	PKPab			**PKPab**	**16 14 16.8**	**-3.6**

IDC 26 16:09:38.4±3.2, 10.90S×115.15E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/36, mbtmp3.1/3, Error ellipse: s-maj=166.1km s-min=30.2km az=46.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=306,slow=12,SNR=1.5	**12.42**	**126**	Pn			Pn	16 12 33.8	-2.9
FITZ	0.1nm,0.3s,baz=60,slow=4.8,SNR=2.7			Sn			Sn	16 14 40.7	-15
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=292,slow=11,SNR=1.2	**20.55**	**118**	P			P	16 14 19.4	+0.5
ASAR	**Alice Springs** 0.2nm,0.7s,baz=305,slow=9.2,SNR=5.1	**21.92**	**128**	P			P	16 14 33.2	-0.4
H08S2	**Diego Garcia H** baz=101	**42.20**	**271**	T			T	17 02 29.5	
H08S3	**Diego Garcia H** baz=101	**42.21**	**271**	T			T	17 02 32.4	
H08S1	**Diego Carcia H** baz=101	**42.22**	**271**	T			T	17 02 32.3	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=136,slow=7.4,SNR=1.9	**64.51**	**336**	P			P	16 20 17.0	0.0

BJI ***26*** *16:16:30.9±0.0, 24.72N×123.72E, h60km, mB4.8/34, mb4.6/62, ML4.1/7, Ms4.1/12, Ms7 3.8/11*

MOS ***26*** *16:16:38.0±1.0, 25.05N×123.36E, h121km, mb4.5/12, Error ellipse: s-maj=9.6km s-min=6.1km az=106.7*

NEIC ***26*** *16:16:38.5±2.4, 25.03N±0.08×123.44E±0.07, h110km±6km, mb4.6/22, Error ellipse: s-maj=12.2km s-min=8.9km az=157.0*

JMA ***26*** *16:16:40.3±0.1, 24.88N×123.33E, h116km±2km, M4.7*

JMA Felt I J1.

NIED ***26*** *16:16:40.3, 24.88N×123.33E, h116km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr-0.35; Mθθ 0.07; Mφφ 0.28; Mrθ-0.04; Mθφ-0.98; Mφr-0.77; Fault plane solution: M0 1.29000×10^16 NP1: φs357.00000°, δ79.00000°, λ-41.00000°. NP2: φs96.00000°, δ50.00000°, λ-166.00000°.*

IDC ***26*** *16:16:40.2±1.4, 25.04N×123.36E, h125km±12km, mb3.9/32, mb1 4.1/35, mb1mx4.0/48, mbtmp4.4/35, MS3.2/4, Ms1 3.2/4, ms1mx2.9/45 Error ellipse: s-maj=11.4km s-min=9.7km az=67.0*

TAP ***26*** *16:16:40.1, 24.84N×123.32E, h114km, ML5.3, C*

ISC 26 16:16:39.7±0.5, 24.86N±0.03×123.36E±0.02, h125km±3km, n363, σ1♀42/538, mb4.5/75, 81C-39D, Fault plane solution: NP1: φs10.45636°, δ66.40055°, λ-34.64179°. **NP2:** φs115.91820°, δ58.60716°, λ-152.03102°. **Principal axes:** T Plg4.8904°, Azm64.7326°; N Plg48.9307°, Azm160.3674°; P Plg40.6485°, Azm330.5198°;

Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.51**	**218**	P			**Pn**	**16 16 58.1**	**-0.1**
YOJ				S			**Sn**	**16 17 11.3**	**-0.9**
YOJ	**Yonaguni jima** baz=224	**0.51**	**218**	*i*P			**Pn**	**16 16 58.1**	**-0.1**
YOJ	baz=224			*i* S			**Sn**	**16 17 11.0**	**-1.2**
YOJ	**Yonaguni jima**	**0.51**	**218**	P			**Pn**	**16 16 57.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.51**	**218**	Pn			**Pn**	**16 16 57.8**	**-0.4**
JYNG	**Yonaguniijimaku**	**0.56**	**223**	P			**Pn**	**16 16 58.2**	**-0.3**
JYNG				S			**Sn**	**16 17 11.8**	**-0.9**
IRIF	**Iriomote-Funau**	**0.63**	**147**	P			**Pn**	**16 16 58.9**	**-0.1**
IRIF				S			**Sn**	**16 17 13.2**	**-0.3**
JKRS	**Kuro-shima**	**0.86**	**136**	P			**Pn**	**16 17 01.4**	**+0.6**
JKRS				S			**Sn**	**16 17 16.8**	**0.0**
JIJ	**Ishigaki jima**	**0.87**	**125**	P			**Pn**	**16 17 01.0**	**+0.1**
JIJ				S			**Sn**	**16 17 16.2**	**-0.7**
HATJ	**Hateruma jima**	**0.90**	**153**	P			**Pn**	**16 17 01.7**	**+0.5**
HATJ				S			**Sn**	**16 17 17.3**	**-0.1**
JISG	**Ishigakijimahi**	**0.91**	**107**	P			**Pn**	**16 17 01.3**	**+0.1**
JISG				S			**Sn**	**16 17 17.3**	**-0.2**
JTJ	**Tarama**	**1.24**	**100**	P			**Pn**	**16 17 05.2**	**+0.7**
JTJ				S			**Sn**	**16 17 23.5**	**+0.1**
TWB1	**Santiao Chiao** baz=283	**1.25**	**277**	*i*P			**Pn**	**16 17 04.9**	**+0.3**
TWB1	baz=283			*i* S			**Sn**	**16 17 22.7**	**-0.9**
EGS	baz=263	**1.30**	**269**	*i*P			**Pn**	**16 17 05.5**	**+0.5**
EGS	baz=263			*e*S			**Sn**	**16 17 24.1**	**-0.3**
NTC	**Toucheng** baz=264	**1.39**	**270**	*i*P			**Pn**	**16 17 06.3**	**+0.2**
NTC	baz=264			*i* S			**Sn**	**16 17 25.1**	**-1.1**
PCYT	**Pengchaiyu** baz=305	**1.39**	**303**	*i*P			**Pn**	**16 17 06.8**	**+0.6**
PCYT	baz=305			S			**Sn**	**16 17 25.8**	**-0.6**
TIPB	**Shuangxi** baz=276	**1.40**	**275**	*i*P			**Pn**	**16 17 06.8**	**+0.6**
TIPB	baz=276			S			**Sn**	**16 17 25.7**	**-0.8**
TWC	**Suao** baz=261	**1.40**	**260**	*i*P			**Pn**	**16 17 06.2**	**0.0**
TWC	baz=261			S			**Sn**	**16 17 25.2**	**-1.1**
NWF	**Wu-fen Shan** baz=280	**1.45**	**279**	*i*P			**Pn**	**16 17 07.4**	**+0.6**
NWF	baz=280			*i* S			**Sn**	**16 17 27.7**	**+0.2**
WFSB	**Wu-fen Shan** baz=280	**1.45**	**279**	*i*P			**Pn**	**16 17 07.4**	**+0.7**
WFSB	baz=280			*i* S			**Sn**	**16 17 27.5**	**0.0**
ILA	**Ilan** baz=267	**1.47**	**267**	P			**Pn**	**16 17 07.3**	**+0.3**
ILA	baz=267			S			**Sn**	**16 17 28.0**	**+0.2**
TNOU	**National Taiwa** baz=289	**1.47**	**282**	P			**Pn**	**16 17 07.2**	**+0.2**
TNOU	baz=289			S			**Sn**	**16 17 27.0**	**-0.8**
EWUT	**Wuta** baz=249	**1.50**	**254**	P			**Pn**	**16 17 07.3**	**0.0**
EWUT	baz=249			*e*S			**Sn**	**16 17 27.0**	**-1.4**
NDS	**Dongshan** baz=269	**1.51**	**262**	P			**Pn**	**16 17 07.7**	**+0.2**
NDS	baz=269			S			**Sn**	**16 17 28.2**	**-0.6**
TWE	**Neicheng** baz=266	**1.54**	**265**	*i*P			**Pn**	**16 17 08.3**	**+0.4**
TWE	baz=266			*i* S			**Sn**	**16 17 29.1**	**-0.3**
TWA	**Mucha** baz=269	**1.62**	**274**	*i*P			**Pn**	**16 17 09.6**	**+0.8**
TWA	baz=269			*i* S			**Sn**	**16 17 30.8**	**-0.1**
YM08	**YM08** baz=283	**1.64**	**282**	P			**Pn**	**16 17 09.3**	**+0.3**
ENTT	**Nioudou** baz=269	**1.65**	**263**	*i*P			**Pn**	**16 17 09.6**	**+0.5**
ENTT	baz=269			S			**Sn**	**16 17 31.1**	**-0.4**
TWY	**Chenhua** baz=286	**1.65**	**285**	P			**Pn**	**16 17 10.0**	**+0.9**
TWY	baz=286			*e*S			**Sn**	**16 17 30.6**	**-1.0**
YM01	**YM01** baz=275	**1.65**	**280**	*i*P			**Pn**	**16 17 09.8**	**+0.7**
JIRB	**Irabujima**	**1.65**	**91**	P			**Pn**	**16 17 09.7**	**+0.6**
JIRB				S			**Sn**	**16 17 31.8**	**+0.3**
NHDH	**Xindian Distri** baz=269	**1.67**	**274**	P			**Pn**	**16 17 10.2**	**+0.8**
NHDH	baz=269			S			**Sn**	**16 17 31.3**	**-0.6**
TAP1	**Taipei** baz=277	**1.68**	**276**	P			**Pn**	**16 17 10.5**	**+1.1**
TAP1	baz=277			S			**Sn**	**16 17 32.7**	**+0.6**
NWLT	**Wulai** baz=268	**1.69**	**267**	P			**Pn**	**16 17 10.2**	**+0.6**
NWLT	baz=268			S			**Sn**	**16 17 31.5**	**-1.0**
TAP	**Taipei** baz=277	**1.69**	**276**	P			**Pn**	**16 17 10.2**	**+0.6**
TAP	baz=277			S			**Sn**	**16 17 32.2**	**-0.3**
ANP	**Anpu** baz=291	**1.70**	**281**	*e*P			**Pn**	**16 17 10.1**	**+0.3**
NDT	**Datong Townshi** baz=266	**1.70**	**262**	⇑P			**Pn**	**16 17 10.7**	**+1.0**
NDT	baz=266			S			**Sn**	**16 17 32.2**	**-0.5**
TATO	**Taipei** baz=269	**1.70**	**274**	*i*P			**Pn**	**16 17 10.4**	**+0.7**
TATO	baz=269			*i* S			**Sn**	**16 17 31.9**	**-0.8**
TATO	**Taipei**	**1.70**	**274**				**Pn**	**16 17 10.4**	**+0.7**
JIKM	**Ikemajima**	**1.72**	**88**	P			**Pn**	**16 17 10.8**	**+0.9**
JIKM				S			**Sn**	**16 17 33.6**	**+0.6**
ETL	**Fush Village** baz=247	**1.73**	**246**	P			**Pn**	**16 17 09.8**	**-0.3**
BACT	**New Taipei Cit** baz=268	**1.75**	**275**	*e*P			**Pn**	**16 17 11.1**	**+0.9**
NACB	**Ninganchiao** baz=240	**1.75**	**247**	⇑P			**Pn**	**16 17 09.6**	**-0.7**
NACB	baz=240			*e*S			**Sn**	**16 17 31.8**	**-1.9**
NACB	**Ninganchiao**	**1.75**	**247**				**Pn**	**16 17 09.6**	**-0.7**
JMJ	**Miyako jima 2** baz=90	**1.76**	**91**	⇓*i*P			**Pn**	**16 17 11.9**	**+1.6**
JMJ	baz=90			*i* S			**Sn**	**16 17 35.4**	**+1.6**
NTST	**Danshui** baz=287	**1.76**	**280**	P			**Pn**	**16 17 11.6**	**+1.2**
NTST	baz=287			S			**Sn**	**16 17 35.4**	**+1.5**
TWS1	**Kuangyinshan** baz=273	**1.78**	**278**	*i*P			**Pn**	**16 17 11.7**	**+1.0**
TWS1	baz=273			*i* S			**Sn**	**16 17 34.8**	**+0.5**
TWD	**Chiawan** baz=245	**1.79**	**244**	*i*P			**Pn**	**16 17 10.2**	**-0.5**
TWD	baz=245			S			**Sn**	**16 17 32.3**	**-2.1**
JMJ2	**Miyako jima3**	**1.79**	**93**	P			**Pn**	**16 17 12.0**	**+1.2**
JMJ2				S			**Sn**	**16 17 35.4**	**+0.8**
YHNB	**Yeheng** baz=271	**1.81**	**264**	*i*P			**Pn**	**16 17 11.8**	**+0.6**
YHNB	baz=271			S			**Sn**	**16 17 34.0**	**-1.2**
YHNB	**Yeheng**	**1.81**	**264**				**Pn**	**16 17 11.7**	**+0.5**
HWA	**Hwalien** baz=242	**1.83**	**241**	P			**Pn**	**16 17 11.0**	**-0.2**
HWA	baz=242			*e*S			**Sn**	**16 17 34.7**	**-0.7**
ETLH	**Xiulin Townshi** baz=243	**1.83**	**249**	P			**Pn**	**16 17 11.2**	**-0.1**
ETLH	baz=243			*e*S			**Sn**	**16 17 33.7**	**-1.9**
NNSH	**Datong** baz=250	**1.85**	**257**	P			**Pn**	**16 17 11.8**	**+0.1**
NNSH	baz=250			*e*S			**Sn**	**16 17 34.6**	**-1.4**
NNSB	**Datong** baz=250	**1.85**	**257**	*i*P			**Pn**	**16 17 11.7**	**0.0**
NNSB	baz=250			S			**Sn**	**16 17 32.9**	**-3.1**
NNS	**Nan Shan** baz=250	**1.85**	**257**	*i*P			**Pn**	**16 17 11.9**	**+0.2**
NNS	baz=250			*e*S			**Sn**	**16 17 33.7**	**-2.5**
JOGS	**Gusukube**	**1.86**	**93**	P			**Pn**	**16 17 12.9**	**+1.2**
JOGS				S			**Sn**	**16 17 37.0**	**+0.9**
NTY	**Taoyuan** baz=270	**1.88**	**275**	*e*P			**Pn**	**16 17 12.7**	**+0.9**
NTY	baz=270			*e*S			**Sn**	**16 17 37.3**	**+0.9**
TEYL	**Yanliau Villag** baz=234	**1.89**	**239**	P			**Pn**	**16 17 11.7**	**-0.2**
TEYL	baz=234			*e*S			**Sn**	**16 17 35.6**	**-1.0**
ETM	**Tongmen** baz=239	**1.92**	**243**	*i*P			**Pn**	**16 17 11.8**	**-0.6**
ETM	baz=239			*e*S			**Sn**	**16 17 35.0**	**-2.5**
NCU	**National Centr** baz=274	**1.98**	**274**	*e*P			**Pn**	**16 17 13.6**	**+0.6**
NCU	baz=274			*e*S			**Sn**	**16 17 39.4**	**+0.8**
NCUH	**Zhongli** baz=274	**1.98**	**273**	*e*P			**Pn**	**16 17 13.8**	**+0.7**
NCUH	baz=274			*e*S			**Sn**	**16 17 39.2**	**+0.6**
TEGC	**Jichi Village** baz=231	**2.02**	**236**	P			**Pn**	**16 17 13.4**	**-0.2**
TEGC	baz=231			S			**Sn**	**16 17 38.0**	**-1.5**
FUSS	**Fushou** baz=247	**2.02**	**253**	*e*P			**Pn**	**16 17 14.0**	**+0.1**
FUSS	baz=247			*e*S			**Sn**	**16 17 38.4**	**-1.6**
WHF	**Hehuan Shan** baz=250	**2.04**	**250**	*i*P			**Pn**	**16 17 14.2**	**-0.1**
WHF	baz=250			S			**Sn**	**16 17 38.1**	**-2.5**
ESL	**Shilin** baz=240	**2.04**	**240**	*i*P			**Pn**	**16 17 13.2**	**-0.7**
ESL	baz=240			S			**Sn**	**16 17 36.9**	**-3.2**
TWT	**Tachien** baz=248	**2.08**	**253**	⇓*i*P			**Pn**	**16 17 15.3**	**+0.8**
TWT	baz=248			S			**Sn**	**16 17 40.5**	**-0.7**
TDCB	**Techi** baz=249	**2.09**	**254**	*i*P			**Pn**	**16 17 15.2**	**+0.6**
TDCB	baz=249			S			**Sn**	**16 17 40.0**	**-1.4**
EGFH	**Guangfu** baz=233	**2.13**	**236**	P			**Pn**	**16 17 14.4**	**-0.5**
EGFH	baz=233			*e*S			**Sn**	**16 17 39.1**	**-2.8**
HSN1	**Hsinchu** baz=260	**2.13**	**268**	*e*P			**Pn**	**16 17 15.8**	**+0.9**
HSN1	baz=260			*e*S			**Sn**	**16 17 41.6**	**-0.3**
LIOB	**Emei** baz=258	**2.14**	**265**	P			**Pn**	**16 17 15.9**	**+0.8**
LIOB	baz=258			S			**Sn**	**16 17 41.5**	**-0.8**
CHGB	**Renai** baz=242	**2.15**	**249**	*i*P			**Pn**	**16 17 15.7**	**+0.3**
CHGB	baz=242			*i* S			**Sn**	**16 17 41.4**	**-1.3**
NSTT	**Nanjuang** baz=258	**2.16**	**264**	*i*P			**Pn**	**16 17 15.8**	**+0.5**
NSTT	baz=258			S			**Sn**	**16 17 41.4**	**-1.2**
SBCB	**Hsinchu** baz=261	**2.16**	**269**	P			**Pn**	**16 17 15.9**	**+0.6**
SBCB	baz=261			S			**Sn**	**16 17 42.3**	**-0.4**
HSN	**Hsinchu** baz=262	**2.17**	**269**	*e*P			**Pn**	**16 17 15.2**	**-0.2**
HSN	baz=262			S			**Sn**	**16 17 42.0**	**-0.9**
OWD	**Renai** baz=241	**2.19**	**246**	*i*P			**Pn**	**16 17 15.8**	**0.0**
OWD	baz=241			S			**Sn**	**16 17 41.9**	**-1.6**
HGSD	**Ruisui** baz=229	**2.23**	**233**	*i*P			**Pn**	**16 17 15.8**	**-0.5**
HGSD	baz=229			S			**Sn**	**16 17 42.1**	**-2.2**
NJN	**Zhunan** baz=259	**2.27**	**266**	*e*P			**Pn**	**16 17 17.0**	**+0.3**
NJN	baz=259			*e*S			**Sn**	**16 17 44.6**	**-0.5**
WHP	**Taichung City** baz=252	**2.27**	**256**	P			**Pn**	**16 17 18.1**	**+1.3**
WHP	baz=252			S			**Sn**	**16 17 44.7**	**-0.7**
EHY	**Hungye** baz=233	**2.30**	**234**	*i*P			**Pn**	**16 17 16.5**	**-0.6**
EHY	baz=233			*e*S			**Sn**	**16 17 42.2**	**-3.6**
WPL	**Puli Township** baz=246	**2.35**	**249**	⇑P			**Pn**	**16 17 18.4**	**+0.7**
WPL	baz=246			S			**Sn**	**16 17 46.2**	**-0.7**
NMLH	**Miaoli** baz=263	**2.36**	**263**	P			**Pn**	**16 17 18.5**	**+0.7**
NMLH	baz=263			S			**Sn**	**16 17 45.9**	**-1.3**
DPDB	**Guoxing** baz=247	**2.37**	**250**	*i*P			**Pn**	**16 17 18.9**	**+0.9**
DPDB	baz=247			S			**Sn**	**16 17 46.8**	**-0.6**
WCS	**Beigang Elemen** baz=247	**2.37**	**251**	P			**Pn**	**16 17 18.9**	**+1.0**
WCS	baz=247			S			**Sn**	**16 17 47.0**	**-0.4**
YULB	**Yu-li** baz=230	**2.39**	**233**	⇑*i*P			**Pn**	**16 17 18.8**	**-0.5**
YULB	baz=230			*e*S			**Sn**	**16 17 43.6**	**-4.2**
YULB	**Yu-li**	**2.39**	**233**				**Pn**	**16 17 17.6**	**-0.6**
EYUL	**Yuli** baz=228	**2.40**	**231**	*i*P			**Pn**	**16 17 18.4**	**0.0**
EYUL	baz=228			S			**Sn**	**16 17 46.2**	**-1.9**
NSY	**Sanyi** baz=260	**2.41**	**260**	P			**Pn**	**16 17 19.3**	**+0.9**
NSY	baz=260			S			**Sn**	**16 17 47.8**	**-0.4**
TWQ1	**Liyutan** baz=259	**2.41**	**258**	⇑*i*P			**Pn**	**16 17 19.1**	**+0.6**
TWQ1	baz=259			*i* S			**Sn**	**16 17 47.5**	**-0.8**
TWF1	**Yuli** baz=229	**2.41**	**232**	⇑*i*P			**Pn**	**16 17 18.3**	**-0.3**
TWF1	baz=229			S			**Sn**	**16 17 46.4**	**-1.9**
SSLB	**Suanglung** baz=241	**2.44**	**244**	⇑*i*P			**Pn**	**16 17 19.1**	**+0.2**
SSLB	baz=241			S			**Sn**	**16 17 47.5**	**-1.6**
SSLB	**Suanglung**	**2.44**	**244**				**Pn**	**16 17 19.1**	**+0.2**
SMLT	**Sun Moon Lake** baz=243	**2.45**	**247**	P			**Pn**	**16 17 19.8**	**+0.7**
SMLT	baz=243			S			**Sn**	**16 17 49.5**	**+0.2**
TYC	**Yuchr** baz=243	**2.47**	**248**	P			**Pn**	**16 17 20.2**	**+1.0**
TYC	baz=243			S			**Sn**	**16 17 50.5**	**+0.8**
FULB	**Fuli** baz=229	**2.51**	**229**	⇑*i*P			**Pn**	**16 17 19.2**	**-0.7**
FULB	baz=229			S			**Sn**	**16 17 48.7**	**-2.0**
WDJ	**Dajia District** baz=259	**2.53**	**259**	P			**Pn**	**16 17 20.6**	**+0.6**
WDJ	baz=259			S			**Sn**	**16 17 49.6**	**-1.4**
CHKT	**Chengkung** baz=227	**2.53**	**226**	⇑*i*P			**Pn**	**16 17 19.1**	**-0.9**
CHKT	baz=227			*i* S			**Sn**	**16 17 48.2**	**-2.9**
TCU	**Taichung** baz=255	**2.55**	**254**	P			**Pn**	**16 17 20.4**	**+0.2**
TCU	baz=255			S			**Sn**	**16 17 50.0**	**-1.4**
WWF	**Wufeng** baz=262	**2.56**	**252**	⇑*i*P			**Pn**	**16 17 21.4**	**+1.0**
WWF	baz=262			S			**Sn**	**16 17 51.3**	**-0.4**
WHYT	**Xinyi Township** baz=241	**2.56**	**244**	⇑*i*P			**Pn**	**16 17 21.7**	**+1.2**
WHYT	baz=241			S			**Sn**	**16 17 52.8**	**+0.9**
YUS	**Yu-Shan** baz=233	**2.59**	**239**	*e*S			**Sn**	**16 17 52.0**	**-1.1**
WJS	**Zhushan** baz=241	**2.61**	**247**	P			**Pn**	**16 17 22.3**	**+1.2**
WJS	baz=241			S			**Sn**	**16 17 53.7**	**+0.7**
WNT1	**Nantou City** baz=242	**2.62**	**249**	P			**Pn**	**16 17 22.5**	**+1.3**
WNT1	baz=242			*e*S			**Sn**	**16 17 53.4**	**+0.3**
WNT	**Mingjian** baz=241	**2.63**	**249**	⇑*i*P			**Pn**	**16 17 22.4**	**+1.2**
WNT	baz=241			S			**Sn**	**16 17 53.7**	**+0.4**
ECS	**Chishang** baz=225	**2.63**	**228**	P			**Pn**	**16 17 21.4**	**0.0**
ECS	baz=225			S			**Sn**	**16 17 53.1**	**-0.3**

EDH Donghe 2.66 225 P Pn 16 17 21.2 -0.5
baz=223
EDH S Sn 16 17 51.3 -2.8
baz=223
WCHH Zhanghua 2.67 254 P Pn 16 17 22.2 +0.5
baz=254
WCHH S Sn 16 17 52.3 -1.9
baz=254
ALS Alishan 2.69 241 P Pn 16 17 23.4 +0.9
baz=235
ALS S Sn 16 17 55.3 0.0
baz=235
ELDTW Lidau 2.71 233⇑iP Pn 16 17 22.2 -0.3
baz=233
ELDTW S Sn 16 17 53.3 -2.2
baz=233
CHN5 Tsauling 2.75 243 P Pn 16 17 24.4 +1.4
baz=237
CHN5 S Sn 16 17 57.1 +0.8
baz=237
LDUT Ludao 2.78 219 P Pn 16 17 22.2 -1.1
baz=216
LDUT S Sn 16 17 53.4 -3.5
baz=216
WGK Gukeng 2.81 246 P Pn 16 17 24.9 +1.3
baz=246
WGK S Sn 16 17 58.4 +0.9
baz=246
LONT Longtian 2.82 227 P Pn 16 17 23.4 -0.4
baz=226
LONT S Sn 16 17 55.5 -2.3
baz=226
WDLH Douliu 2.83 246 P Pn 16 17 24.8 +1.0
baz=247
WDLH S Sn 16 17 58.3 +0.4
baz=247
WRL Guolierlin Hig 2.88 251 P Pn 16 17 24.6 0.0
baz=260
WRL S Sn 16 17 57.5 -1.7
baz=260
STYH Taoyuan 2.90 235 P Pn 16 17 26.0 +1.2
baz=232
STYH S Sn 16 17 59.5 -0.1
baz=232
TWGBT Beinan 2.92 226⇑iP Pn 16 17 24.3 -0.7
baz=234
TWGBT S Sn 16 17 57.2 -2.7
baz=234
TTN Taitung 2.92 224 P Pn 16 17 25.2 +0.2
baz=222
TTN eS Sn 16 17 58.7 -1.3
baz=222
TWG Pinlang 2.92 226⇑iP Pn 16 17 24.4 -0.7
baz=234
TWG S Sn 16 17 57.7 -2.3
baz=234
TWG Pinlang 2.92 226 Pn 16 17 24.1 -1.0
STYT Tauyuan 2.92 235⇑iP Pn 16 17 26.0 +0.9
baz=231
STYT S Sn 16 18 00.5 +0.3
baz=231
TPUB Ta-pu 2.94 239⇑iP Pn 16 17 26.2 +0.9
baz=233
TPUB S Sn 16 18 00.3 -0.2
baz=233
TPUB Ta-pu 2.94 239 Pn Pn 16 17 26.2 +0.9
CHN4 Tsaushan 2.94 240⇑iP Pn 16 17 26.6 +1.2
baz=234
CHN4 iS Sn 16 18 01.4 +0.8
baz=234
WTK Tuku 2.95 247 P Pn 16 17 26.1 +0.7
baz=248
WTK S Sn 16 18 00.2 -0.6
baz=248
WTCT Ta-ch'eng 2.98 251 P Pn 16 17 25.4 -0.5
baz=259
WTCT S Sn 16 17 59.9 -1.5
baz=259
WTP Ta-pu 2.98 238⇑iP Pn 16 17 27.0 +1.1
baz=238
WTP S Sn 16 18 02.0 +0.5
baz=238
CHY Chiayi 3.00 244 P Pn 16 17 26.9 +0.7
baz=244
CHY S Sn 16 18 02.0 0.0
baz=244
WMLT Mailiao 3.05 250 eP Pn 16 17 27.2 +0.5
baz=251
WMLT eS Sn 16 18 02.3 -0.7
baz=251
TWK Hsinying 3.07 239⇑iP Pn 16 17 28.0 +1.0
baz=240
TWK S Sn 16 18 04.4 +0.8
baz=240
CHN1 Nanshi 3.08 238⇑iP Pn 16 17 28.0 +0.8
baz=238
CHN1 S Sn 16 18 04.3 +0.5
baz=238
SNST Tainan City 3.09 239 eP Pn 16 17 28.2 +0.9
baz=239
SNST eS Sn 16 18 04.5 +0.5
baz=239
SGST Jiashian 3.10 236⇑iP Pn 16 17 27.8 +0.4
baz=236
SGST iS Sn 16 18 04.3 +0.1
baz=236
SLGT Liugui 3.10 234 eP Pn 16 17 29.1 +1.6
baz=227
SLGT eS Sn 16 18 05.0 +0.6
baz=227
WSF Szhu 3.11 248⇑iP Pn 16 17 28.0 +0.5
baz=248
WSF iS Sn 16 18 04.0 -0.6
baz=248
ECL Taimali 3.15 225⇑iP Pn 16 17 26.9 -1.2
baz=231
ECL S Sn 16 18 03.0 -2.6
baz=231
CHN8 Yiju 3.25 243⇑iP Pn 16 17 29.9 +0.6
baz=243
CHN8 S Sn 16 18 08.1 +0.4
baz=243
LAY Lan-yu 3.27 211 P Pn 16 17 28.1 -1.5
baz=213
LAY S Sn 16 18 03.3 -4.9
baz=213
CHN3 Shinhua 3.27 238 eP Pn 16 17 31.2 +1.6
baz=247
CHN3 eS Sn 16 18 10.7 +2.5
baz=247
SSD Sandimen 3.27 230 P Pn 16 17 30.6 +1.0
baz=228
SSD S Sn 16 18 08.9 +0.7
baz=228
SCST Cishan 3.28 234 P Pn 16 17 31.6 +1.8
baz=229
TSMG Majia 3.29 230 P Pn 16 17 30.2 +0.4
baz=227
TSMG eS Sn 16 18 08.1 -0.5
baz=227
MATB Ma-tsu 3.34 293 eP Pn 16 17 30.5 0.0
baz=293
SCLT Jiali 3.35 240 P Pn 16 17 31.5 +0.8
baz=241
SCLT S Sn 16 18 10.8 +0.7
baz=241
MASBT Mashibuluo 3.36 229⇑iP Pn 16 17 31.3 +0.5
baz=227
MASBT S Sn 16 18 10.5 +0.2
baz=227
TAW Tawu 3.37 223 P Pn 16 17 30.3 -0.6
baz=229
TAW eS Sn 16 18 08.1 -2.4
baz=229
TWM1 Shoushan 3.37 234⇓iP Pn 16 17 33.1 +2.1
baz=233
TWM1 eS Sn 16 18 15.0 +4.4
baz=233
EAST Anshuo 3.38 224⇑iP Pn 16 17 30.4 -0.7
baz=229
EAST eS Sn 16 18 08.4 -2.5
baz=229
SGLT Jiouru 3.38 232 eP Pn 16 17 33.2 +2.1
baz=232
TAI1 Yung-k'ang 3.39 238 eP Pn 16 17 31.9 +0.7
baz=247
TSPT Pingtung City 3.41 231 eP Pn 16 17 34.4 +3.0
baz=232
TSPT eS Sn 16 18 14.4 +2.9
baz=232
SNJT Kaohsiung City 3.48 233 eP Pn 16 17 33.7 +1.4
baz=234
SNJT eS Sn 16 18 16.1 +3.1
baz=234
SSPT Xinbi 3.49 228 eP Pn 16 17 34.1 +1.6
baz=227
SSPT eS Sn 16 18 13.8 +0.4
baz=227
XPSS Dashiqiu 3.52 306 eP Pn 16 17 31.8 -1.1
baz=306
XPSS eS Sn 16 18 11.6 -2.5
baz=306
SCZT Fangliau 3.53 226 P Pn 16 17 34.3 +1.2
baz=226
SCZT eS Sn 16 18 15.4 +1.0
baz=226
SLIU Shizi 3.53 222 eP Pn 16 17 32.8 -0.3
baz=215
SLIU eS Sn 16 18 11.9 -2.5
baz=215
VWUC VWUC 3.55 273 P Pn 16 17 32.6 -0.8
baz=273
LYJJ Jianjiangzhen 3.66 298 P Pn 16 17 34.8 +0.1
baz=305
PNG Penghu 3.71 250⇑iP Pn 16 17 34.7 -0.7
baz=251
PNG S Sn 16 18 15.8 -2.7
baz=251
WLCH Liuqiu 3.71 228 eP Pn 16 17 38.1 +2.7
baz=239
PHUB P'eng-hu 3.71 250⇑iP Pn 16 17 34.8 -0.7
baz=250
PHUB S Sn 16 18 15.4 -3.3
baz=250
TSEB Hengchuen, Pin 3.71 218 eP Pn 16 17 35.4 -0.1
baz=226
TSEB eS Sn 16 18 18.4 -0.4
baz=226
TWP Hsiaoliuchiu 3.72 228 eP Pn 16 17 38.3 +2.8
baz=230
HEN Hengchun 3.73 221 eP Pn 16 17 35.2 -0.5
baz=221
HEN eS Sn 16 18 19.8 +0.7
baz=221
TWKBT Hengchun 3.73 219 eP Pn 16 17 35.1 -0.7
baz=220
TWKBT eS Sn 16 18 17.6 -1.6
baz=220
TWK1 Hengchun 3.73 219 P Pn 16 17 35.8 0.0
baz=220
TWK1 S Sn 16 18 18.1 -1.2
baz=220
WDGT Dungji 3.74 245⇑iP Pn 16 17 35.7 -0.1
baz=246
WDGT iS Sn 16 18 16.7 -2.7
baz=246
PTMZ Houxiangcun 3.85 274 P Pn 16 17 37.0 -0.3
baz=274
MHZQ Yeshan 4.10 288 eP Pn 16 17 40.5 -0.2
baz=288
QZH Quanzhou 4.33 272 iP Pn 16 17 43.5 -0.2
QZH S Sn 16 18 29.8 -3.6
QZH SMN
290nm,0.8s
QZH SME
160nm,0.9s
KNM Kinmen 4.50 265 eP Pn 16 17 47.4 +1.4
baz=258
KNM eS Sn 16 18 36.8 -0.7
baz=258
KNMB Chin-men Tao 4.54 266 eP Pn 16 17 44.8 -1.7
baz=266
KNMB Chin-men Tao 4.54 266 Pn 16 17 45.8 -0.7
JOW Kunigami 4.84 65 P Pn 16 17 49.7 -0.9
206nm,0.3s,baz=181,slow=6.9,SNR=490
JOW S Sn 16 18 43.6 -2.2
36nm,0.3s,baz=121,slow=26,SNR=1.8
JOW LR LR 16 19 08.2
comp=Z,238nm,20.8s,baz=70,slow=31
JOW Kunigami 4.84 65 P Pn 16 17 49.6 -0.9
baz=66
JOW Kunigami 4.84 65 Pn Pn 16 17 49.5 -1.1
AXDP Jialang 4.89 272 eP Pn 16 17 49.9 -1.4
baz=271
ZPLA Ao Xicun 5.20 261 eP Pn 16 17 54.8 -0.5
baz=262
APYP Conner 7.24 196⇓eP Pn 16 18 23.9 +1.0
APYP iS Sn 16 19 43.0 -0.6
CVP Callao Caves 7.27 192⇓eP Pn 16 18 24.9 +1.6
CVP iS Sn 16 19 45.1 +0.8
NJ2 Nanjing 8.18 332⇓iP Pn 16 18 35.5 -0.1
NJ2 S Sn 16 20 07.0 +0.6
NJ2 pmax pmax
comp=Z,65nm,0.8s
NJ2 SMN
30nm,1.0s
NJ2 SME
48nm,1.1s
NJ2 L L
comp=N,320nm,3.8s
NJ2 L L
comp=Z,180nm,4.4s
WHN Wuhan 9.78 307 ⇓P Pn 16 18 57.8 +0.7
WHN S Sn 16 20 49.0 +3.9
JNU Nakatsue 10.53 37 P Pn 16 19 07.8 +0.6
baz=174,slow=7.0,SNR=6.7
JNU Nakatsue 10.53 37 Pn 16 19 02.3 -4.9
TJN Taejon 11.98 16 iP Pn 16 19 23.7 -2.7
INCN Inchon 12.89 12 P Pn 16 19 35.8 -2.4
INCN Inchon 12.89 12 Pn 16 19 35.8 -2.4
KSAR Wonju Array Be 13.12 16 P Pn 16 19 43.1 +1.9
KSAR Wonju Array Be 13.12 16 P Pn 16 19 43.0 +1.9
KSRS Korea Array 13.14 16 P Pn 16 19 42.4 +0.9
0.9nm,0.3s,baz=191,slow=12,SNR=27
KS19 Wonju Array Si 13.17 16 P Pn 16 19 43.5 +1.6
ENH Enshi 13.43 297 Pn Pn 16 19 42.8 -2.5
GYA Guiyang 15.14 280 ⇑P P 16 20 12.0 +2.7
GYA S Sn 16 22 57.5 +2.6
GYA SS S 16 23 16.3 +13
GYA pmax pmax
comp=Z,2.0nm,0.7s
XAN Xi'an 15.53 309 P Pn 16 20 11.0 -0.9
XAN pmax pmax
comp=Z,57nm,1.4s
XAN pmax pmax
comp=Z,260nm,4.7s
TIY Taiyuan 15.83 327 eP P 16 20 18.8 +1.9
TIY pmax pmax
comp=Z,55nm,0.7s
TIY pmax pmax
comp=Z,200nm,4.1s
TIY L L
comp=N,180nm,8.9s
TIY L L
comp=Z,170nm,11.9s
BJI Beijing 16.29 340 P P 16 20 22.5 +0.7
BJI S S 16 23 29.5 +4.7
BJI ScS ScS 16 32 12.0 +2.8
BJI pmax pmax
comp=Z,16nm,1.0s
JHJ Hachijo jima 2 16.54 56 P P 16 20 27.4 +2.7
6.5nm,0.3s,baz=50,slow=12,SNR=4.2
MAJO Matsushiro 17.25 44 iP P 16 20 30.8 -1.7
MAT Matsushiro 17.25 44 P P 16 20 29.9 -2.6
MJAR Matsushiro Arr 17.25 44 P Pn 16 20 33.0 0.0
0.1nm,0.3s,baz=243,slow=12,SNR=9.6
MJAR LR LR 16 27 38.9
comp=Z,39nm,18.2s,baz=215,slow=38
CD2 Chengdu 18.33 294 eP P 16 20 45.0 +0.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 18.69 275 ⇑P Pn 16 20 51.5 +1.1
KMI pmax pmax
comp=Z,17nm,1.6s
HHC Hu-ho-hao-te 18.74 331 eP Pn 16 20 50.5 -0.2
HHC S Sn 16 24 20.0 -1.1
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,280nm,4.0s
CN2 Changchun 18.97 5 eP Pn 16 20 53.0 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BTO Baotou 19.26 328 eP Pn 16 20 57.5 +0.7
BTO pmax pmax
comp=Z,80nm,0.8s
BTO pmax pmax
comp=Z,310nm,3.3s
UBPT Khong Chiam 19.30 244 P Pn 16 21 01.8 +4.5
UBPT Khong Chiam 19.30 244 P Pn 16 21 01.9 +4.5
UBPT Khong Chiam 19.30 244 P Pn 16 20 58.7 +1.4
789nm14nm,1.1s
LZH Lanzhou 20.16 308 eP P 16 21 05.5 +1.1
LZH pP pP 16 21 22.5 -4.5
LZH pmax pmax
comp=Z,59nm,1.1s
LZH pmax pmax
comp=Z,240nm,4.9s
USRK Ussuriysk Ar. 20.54 18 P P 16 21 07.7 -0.4
6.3nm,0.7s,baz=190,slow=11,SNR=13
USRK Ussuriysk Ar. 20.54 18 P P 16 21 05.0 -3.1
USRK Ussuriysk Ar. 20.54 18 P P 16 21 05.0 -3.1
CRAI Chiangrai 21.71 262 P P 16 21 24.9 +3.9
2μm19nm,1.5s
CRAI Chiangrai 21.71 262 P P 16 21 25.0 +3.9
2μm18nm,1.5s
CHAI Chaiyaphum 21.90 250 P P 16 21 25.5 +2.6
468nm47nm,0.8s
CHAI Chaiyaphum 21.90 250 P P 16 21 25.6 +2.6
117nm12nm,0.8s
UTTA Uttaradit 22.38 256 P P 16 21 30.1 +2.4
17nm,1.1s
UTTA Uttaradit 22.38 256 P P 16 21 30.2 +2.4
4.3nm,1.1s
PHIT Phitsanulok 22.71 255 P P 16 21 33.0 +2.0
1μm123nm,0.8s
PHIT Phitsanulok 22.71 255 P P 16 21 33.1 +2.0
363nm30nm,0.8s
CM34 Chiang Mai Arr 23.23 260 P P 16 21 37.0 +1.0
CM35 Chiang Mai Arr 23.29 259 P P 16 21 37.0 +0.5
CM36 Chiang Mai Arr 23.39 259 P P 16 21 39.0 +1.5
CM33 Chiang Mai Arr 23.43 260 P P 16 21 38.0 +0.2
CMMT Chiang Mai 23.43 260 P P 16 21 37.8 0.0
43nm,1.1s
CMMT Chiang Mai 23.43 260 P P 16 21 37.9 0.0
43nm,1.1s
CMMT Chiang Mai 23.43 260 P P 16 21 37.4 -0.4
41nm,1.1s
CHTO Chiang Mai 23.43 260 P P 16 21 38.1 +0.3
CHTO pmax pmax
comp=Z,34nm,0.9s
CHTO Chiang Mai 23.43 260 P P 16 21 38.8 +1.0
comp=Z,44nm,1.1s
CHTO Chiang Mai 23.43 260 P P 16 21 38.1 +0.3
CHTO IAmb IAmb 16 21 41.0
comp=Z,34nm,0.9s
CHTO Chiang Mai 23.43 260 P P 16 21 38.2 +0.4
comp=Z,25nm,1.1s
CM09 Chiang Mai Arr 23.51 259 P P 16 21 40.5 +1.9
comp=Z,221nmcomp=Z,30nm,1.0s
CM09 Chiang Mai Arr 23.51 259 P P 16 21 40.0 +1.4
comp=Z,221nmcomp=Z,30nm,1.0s
CM04 Chiang Mai Arr 23.54 259 P P 16 21 40.7 +1.9
comp=Z,226nmcomp=Z,29nm,1.1s
CM04 Chiang Mai Arr 23.54 259 P P 16 21 40.8 +1.9
comp=Z,226nmcomp=Z,29nm,1.1s
CM01 Chiang Mai Arr 23.55 259 P P 16 21 41.6 +2.7
comp=Z,239nmcomp=Z,31nm,1.0s
CM01 Chiang Mai Arr 23.55 259 P P 16 21 41.7 +2.8
comp=Z,239nmcomp=Z,31nm,1.0s
CM31 Chiang Mai Arr 23.55 259 P P 16 21 40.7 +1.8
comp=Z,6μmcomp=Z,717nm,0.9s
CMAR Chiang Mai Arr 23.55 259 P P 16 21 40.3 +1.4
comp=Z,19nm,0.9s,baz=64,slow=8.5,SNR=55
CMAR LR LR 16 30 47.1
comp=Z,64nm,20.1s,baz=170,slow=36
CMAR Chiang Mai Arr 23.55 259 P P 16 21 38.6 -0.3
CMAR Chiang Mai Arr 23.55 259 P P 16 21 38.6 -0.3
CM02 Chiang Mai Arr 23.55 259 P P 16 21 41.9 +2.9
comp=Z,235nmcomp=Z,34nm,1.0s
CM02 Chiang Mai Arr 23.55 259 P P 16 21 41.0 +2.0
comp=Z,235nmcomp=Z,34nm,1.0s
CM05 Chiang Mai Arr 23.57 259 P P 16 21 41.0 +1.9
comp=Z,170nmcomp=Z,22nm,1.0s
CM05 Chiang Mai Arr 23.57 259 P P 16 21 41.0 +1.9
comp=Z,170nmcomp=Z,22nm,1.0s
CM15 Chiang Mai Arr 23.57 259 P P 16 21 40.8 +1.7
comp=Z,32nm,0.9s
CM15 Chiang Mai Arr 23.57 259 P P 16 21 40.9 +1.7
comp=Z,32nm,0.9s
CM32 Chiang Mai Arr 23.57 260 P P 16 21 41.0 +1.9
CM13 Chiang Mai Arr 23.59 259 P P 16 21 41.2 +1.9
comp=Z,200nmcomp=Z,32nm,0.9s
CM13 Chiang Mai Arr 23.59 259 P P 16 21 41.0 +1.7
comp=Z,200nmcomp=Z,32nm,0.9s
UMPA Umpang Tak 24.47 254 P P 16 21 51.9 +4.6
comp=Z,45nm,1.0s
UMPA Umpang Tak 24.47 254 P P 16 21 51.0 +3.7
GTA Gaotai 24.56 312 ⇑P P 16 21 47.8 -0.2
GTA pP pP 16 22 09.0 -5.2
GTA PcP PcP 16 25 24.3 +1.5
GTA ScP ScP 16 28 51.3 +1.2
GTA pmax pmax
comp=Z,10.0nm,1.2s
MPSI Mapaga 24.61 188 P P 16 21 49.3 +0.8
comp=Z,5.6nm,0.9s
ASAJ Asahikawa 24.80 34 P P 16 21 48.4 -1.6
comp=Z,6.2nm,0.4s,baz=235,slow=11,SNR=21
KLR Kul'dur 25.20 13 P P 16 21 53.6 +0.1
comp=Z,5.7nm,0.7s,baz=227,slow=8.7,SNR=14
KLR Kul'dur 25.20 13ceP P 16 21 53.4 -0.1
KLR pmax pmax
comp=Z,13nm,1.1s
APSI Ampana 25.68 184 P P 16 21 58.1 0.0
comp=Z,35nm,1.2s
PCI Palu 25.84 188 P P 16 22 00.7 +1.0
comp=Z,831nmcomp=Z,36nm,1.5s
ULN Ulaanbaatar 26.34 335ceP P 16 22 02.7 -1.3
ULN pmax pmax
comp=Z,10.0nm,2.5s
ULN Ulaanbaatar 26.34 335 P P 16 22 03.4 -0.6
comp=Z,11nm,1.3s
SONM Songino Array 26.57 334 P P 16 22 05.3 -0.7
comp=Z,2.1nm,0.6s,baz=158,slow=9.8,SNR=5.2
YSS Yuzh-Sakhalins 26.93 30 eP P 16 22 13.8 +4.7
TLY Talaya 30.73 336 P P 16 22 43.6 +0.8
comp=Z,0.8nm,0.3s,baz=181,slow=9.9,SNR=3.0
TLY Talaya 30.73 336 iP P 16 22 42.1 -0.7
TLY pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 34.64 312 eP P 16 23 19.3 +2.2
DGZ Jazzator, Alta 37.29 321 iP P 16 23 38.6 -1.0
DGZ pmax pmax
comp=Z,1.0nm,0.7s
YAK Yakutsk 37.40 5ceP P 16 23 40.3 +0.1
YAK pmax pmax
comp=Z,11nm,1.0s
PETK Petropavlovsk- 38.20 33 P P 16 23 46.0 -1.1
comp=Z,1.6nm,0.6s,baz=157,slow=4.8,SNR=7.1
PETK LR LR 16 41 45.8
comp=Z,43nm,19.8s,baz=234,slow=40
PETK Petropavlovsk- 38.20 33 P P 16 23 43.9 -3.2
PETK Petropavlovsk- 38.20 33 P P 16 23 43.9 -3.2
MK31 Makanchi Array 39.25 314 P P 16 23 54.5 -1.5
MK31 pmax pmax
comp=Z,17nm,1.3s
MK31 Makanchi Array 39.25 314 P P 16 23 54.5 -1.5
MK31 IAmb IAmb 16 23 56.4
comp=Z,17nm,1.2s
MKAR Makanchi Array 39.25 314 P P 16 23 55.4 -0.5
comp=Z,11nm,0.7s,baz=99,slow=9.4,SNR=79
MKAR PcP PcP 16 26 02.5 0.0
comp=Z,2.1nm,0.6s,baz=90,slow=4.9,SNR=5.1
MKAR ScP ScP 16 29 38.9 -0.6
comp=Z,1.0nm,0.8s,baz=161,slow=2.6,SNR=5.1
MKAR Makanchi Array 39.25 314 P P 16 23 55.6 -0.4
MAKZ Makanchi 39.46 314 P P 16 23 56.2 -1.5
MAKZ pmax pmax
comp=Z,19nm,1.1s
MAKZ Makanchi 39.46 314 P P 16 23 56.2 -1.5
ZAA0 Zalesovo Array 40.78 326 P P 16 24 06.1 -2.3
ZAA0 IAmb IAmb 16 24 07.8
comp=Z,11nm,1.3s
ZALV Zalesovo Beam 40.78 326 P P 16 24 06.8 -1.5
comp=Z,3.2nm,0.6s,baz=115,slow=8.7,SNR=13
ZALV PP PP 16 25 46.5 +1.7
comp=Z,3.0nm,0.9s,baz=131,slow=8.6,SNR=4.4
ZALV PcP PcP 16 26 06.5 -0.6
comp=Z,1.2nm,0.5s,baz=97,slow=4.9,SNR=2.9
ZALV ScP ScP 16 29 44.1 -1.1

comp=Z,0.9nm,0.6s,baz=126,slow=4.0,SNR=5.4
ZALV Zalesovo Beam 40.78 326 P P 16 24 06.1 -2.3
TARG Taragay, Kyrgy 41.12 306 P P 16 24 12.1 +0.2
TARG IAmb IAmb 16 24 13.8
comp=Z,9.2nm,0.8s
KDJ Kajisay 41.64 306 P P 16 24 15.8 -0.1
KDJ pmax pmax
comp=Z,23nm,0.8s
KDJ Kajisay 41.64 306 P P 16 24 15.8 -0.1
KSH Kashi 42.20 302 P P 16 24 24.0 +3.6
KSH pmax pmax
comp=Z,11nm,0.6s
KSH pmax pmax
comp=Z,150nm,5.0s
ULHL Ulahol 42.35 306 P P 16 24 22.8 +1.1
SNR=5.2
BOOM Boomskoye usch 42.61 306 IAmb IAmb 16 24 24.9
comp=Z,8.5nm,0.8s
FITZ Fitzroy Crossi 42.76 177 P P 16 24 26.1 +1.2
comp=Z,2.6nm,0.8s,baz=10,slow=8.1,SNR=8.9
KURK Kurchatov 42.86 319 P P 16 24 24.7 -0.7
KURBB Kurchatov Arra 42.89 319 P P 16 24 24.7 -0.9
KURBB PP PP 16 26 06.7 -0.8
comp=Z,2.4nm,1.1s,baz=114,slow=9.9,SNR=4.6
TKM2 Tokmak 2 42.92 307 P P 16 24 27.0 +0.7
SNR=62
KBK Karagaybulak 43.36 307 P P 16 24 30.5 +0.8
SNR=15
CHMS Chumysh 43.55 307 P P 16 24 31.2 +0.1
SNR=15
AAK Ala-Archa 43.68 306 P P 16 24 32.7 +0.4
comp=Z,8.4nm,0.8s,baz=132,slow=5.3,SNR=11
AAK PcP **PcP** 16 26 17.0 -0.3
comp=Z,1.8nm,0.3s,baz=164,slow=4.4,SNR=4.2
AAK ScP **ScP** 16 29 57.3 -0.1
comp=Z,1.2nm,0.3s,baz=326,slow=5.7,SNR=1.5
AAK Ala-Archa 43.68 306 *ceP* **P 16 24 32.3 0.0**
AAK pmax pmax
comp=Z,26nm,0.8s
USP Ospenovka 43.77 307 P P 16 24 32.9 0.0
SNR=9.7
AML Almayashu 44.21 306 P P 16 24 37.8 +1.0
SNR=15
EKS2 Erkin-Say 44.21 306 P P 16 24 37.1 +0.5
SNR=13
WRAB Tennant Creek 45.79 166 *ceP* **P 16 24 51.4 +2.4**
WRAB pmax pmax
comp=Z,24nm,2.5s
WRA Warramunga Arr 45.80 166 P P 16 24 50.9 +1.8
comp=Z,5.7nm,0.7s,baz=349,slow=8.3,SNR=31
WRA pP **pP** 16 25 17.7 +0.2
comp=Z,7.3nm,0.9s,baz=348,slow=8.5,SNR=11
WRA Warramunga Arr 45.80 166 P P 16 24 50.7 +1.6
WRA pmax pmax
comp=Z,1.0nm,1.1s
WRA Warramunga Arr 45.80 166 P P 16 24 50.7 +1.6
BTK Batken 46.21 302 P P 16 24 51.4 -0.9
BTK pmax pmax
comp=Z,7.0nm,0.7s
BTK Batken 46.21 302 P P 16 24 51.4 -0.9
BTK IAmb IAmb 16 24 53.0
comp=Z,6.6nm,0.7s
GAR Garm 46.56 301 P P 16 24 54.4 -0.7
KK31 Karatay Array 46.65 307 P P 16 24 55.7 +0.2
KK31 16 26 28.1
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 46.65 307 P P 16 24 55.7 +0.2
KK31 IAmb IAmb 16 24 56.8
comp=Z,5.0nm,0.6s
KK31 **PcP** 16 26 28.1 +0.8
KKAR Karatay Array 46.65 307 P P 16 24 56.1 +0.6
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 46.65 307 P P 16 24 55.4 -0.2
KKAR **PcP** 16 26 27.6 +0.2
KKAR Karatay Array 46.65 307 P P 16 24 56.1 +0.6
KKAR IAmb IAmb 16 24 56.8
comp=Z,5.0nm,0.6s
TIXI Tiksi 46.92 2 P P 16 24 55.6 -1.6
comp=Z,0.9nm,0.7s,baz=118,slow=7.4,SNR=1.7
TIXI Tiksi 46.92 2 *ceP* **P 16 24 57.1 -0.1**
CHGR Chuyangaron 47.46 300 P P 16 25 00.0 -2.0
BVAR Borovoye Array 48.42 320 P P 16 25 08.0 -1.0
comp=Z,1.4nm,0.6s,baz=169,slow=18,SNR=9.9
BVAR PcP **PcP** 16 26 32.1 -1.3
comp=Z,3.5nm,0.7s,baz=188,slow=9.7,SNR=10
BVAR ScP **ScP** 16 30 15.8 -0.9
comp=Z,3.1nm,0.9s,baz=236,slow=12,SNR=13
BRVK Borovoye 48.49 320 *ceP* **P 16 25 09.2 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 48.49 320 P P 16 25 08.6 -1.0
NRIK Noril'sk 49.28 344 P P 16 25 13.3 -2.0
comp=Z,1.9nm,0.7s,baz=111,slow=7.6,SNR=4.0
NRIK PcP **PcP** 16 26 35.9 -0.3
comp=Z,4.8nm,0.8s,baz=89,slow=1.3,SNR=5.4
NRIK Noril'sk 49.28 344 *ceP* **P 16 25 14.4 -0.9**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
AS31 Alice Springs 49.31 167 P P 16 25 18.4 +2.2
ASAR Alice Springs 49.31 167 P P 16 25 18.7 +2.5
comp=Z,2.7nm,0.8s,baz=352,slow=7.7,SNR=44
ASAR pP **pP** 16 25 45.1 0.0
comp=Z,1.3nm,0.6s,baz=351,slow=8.1,SNR=6.1
AMKA Amchitka 49.86 43 P P 16 25 20.1 +0.1
BILL Bilibino 50.38 19 *i* P **P 16 25 22.4 -1.3**
BILL *i* 16 26 38.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
ABKAR Akbulak array 54.39 314 P P 16 25 53.4 -0.2
ABKAR Akbulak array 54.39 314 P P 16 25 53.4 -0.2
AKTO Aktyubinsk 55.68 315 P P 16 26 02.4 -0.5
comp=Z,1.5nm,0.5s,baz=71,slow=5.9,SNR=6.4
ARU Arti 55.77 323 P P 16 26 02.1 -1.2
comp=Z,0.9nm,0.3s,baz=98,slow=4.9,SNR=7.3
ARU PcP **PcP** 16 27 00.2 -0.8
comp=Z,0.6nm,0.3s,baz=239,slow=2.3,SNR=4.4
ARU Arti 55.77 323 *c iP* **P 16 26 02.7 -0.6**
ARU 16 26 58.9
ARU 16 28 04.4
ARU S **S 16 33 42.2 +1.9**
ARU SS **SS 16 37 25.0 -2.3**
ARU pmax pmax
comp=Z,8.0nm,1.0s
GEYT Alibeck 56.17 300 P P 16 26 06.2 -0.4
comp=Z,36nm,0.9s,baz=197,slow=7.6,SNR=7.5
GEYT PcP **PcP** 16 27 02.6 -0.4
comp=Z,3.2nm,0.9s,baz=132,slow=4.2,SNR=3.7
STKA Stephens Creek 59.05 162 P P 16 26 27.0 +0.4
comp=Z,2.6nm,0.8s,baz=316,slow=4.8,SNR=5.8
STKA Stephens Creek 59.05 162 P P 16 26 25.8 -0.8
STKA pmax pmax
comp=Z,2.0nm,1.5s
STKA Stephens Creek 59.05 162 P P 16 26 25.8 -0.8
KIRV Kirov 60.80 325 P P 16 26 37.5 -0.8
comp=Z,6.0nm,0.5s,baz=4.5,slow=12,SNR=4.1
KIRV Kirov 60.80 325 *ceP* **P 16 26 38.3 0.0**
KLMR Klimovskoe 65.65 328 *eP* **P 16 27 07.7 -2.5**
KLMR *e* 16 27 39.2
KLMR pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 65.65 328 *eP* **P 16 27 07.7 -2.5**
KLMR AMP 16 27 10.4
comp=Z,12nm,1.2s
KLMR *e*PcP **pP 16 27 39.3 -1.0**
ZEI Tsey 66.09 308 *eP* **P 16 27 12.7 -0.9**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
ONI Oni 66.45 308 P P 16 27 16.6 +0.8
ONI pmax pmax
comp=Z,11nm,1.0s
ONI Oni 66.45 308 P P 16 27 16.6 +0.8
ONI IAmb IAmb 16 27 18.8
comp=Z,11nm,1.0s
KBZ Khabaz 66.60 309 P P 16 27 17.2 +0.6
comp=Z,5.7nm,0.7s,baz=108,slow=4.1,SNR=12
KBZ Khabaz 66.60 309 *ceP* **P 16 27 17.1 +0.6**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 66.70 309 *eP* **P 16 27 17.6 +0.2**
KIV pmax pmax
comp=Z,44nm,1.0s
ILAR Eielson Array 67.70 28 P P 16 27 23.6 +0.5
comp=Z,0.2nm,0.6s,baz=231,slow=4.4,SNR=5.1

OBN Obninsk 68.19 322 ⇓*i* P **P 16 27 26.8 +0.4**
OBN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 70.04 287 P P 16 27 39.0 +0.5
RAYN pmax pmax
comp=Z,10.0nm,1.2s
RAYN Ar Rayn 70.04 287 P P 16 27 39.0 +0.5
RAYN IAmb IAmb 16 27 39.9
comp=Z,9.7nm,1.1s
FINES FINESS Array B 71.86 330 P P 16 27 47.5 -1.1
comp=Z,2.0nm,0.7s,baz=50,slow=6.2,SNR=9.6
AKASG Malin Array Be 73.68 319 P P 16 27 58.3 -1.3
comp=Z,3.3nm,0.5s,baz=58,slow=6.0,SNR=6.3
AKBB Malin Array Si 73.68 319 *ceP* **P 16 27 59.5 -0.1**
BRTR Keskin Array B 74.36 307 P P 16 28 04.2 +0.1
comp=Z,3.1nm,0.8s,baz=89,slow=6.5,SNR=6.8
BRTR Keskin Array B 74.36 307 P P 16 28 03.2 -0.8
BRTR Keskin Array B 74.36 307 P P 16 28 03.2 -0.8
NC405 NORSAR Array S 78.30 333 P P 16 28 25.0 -0.6
NC405 IAmb IAmb 16 28 33.3
comp=Z,16nm,1.2s
NOA NORSAR Array B 78.54 333 P P 16 28 26.4 -0.7
comp=Z,0.9nm,0.6s,baz=53,slow=5.7,SNR=13
YKA Yellowknife Ar 81.57 23 P P 16 28 43.5 +0.3
comp=Z,1.0nm,0.6s,baz=308,slow=4.7,SNR=7.7
GERES GERESS Array B 83.57 321 P P 16 28 53.8 -0.2
comp=Z,1.6nm,0.7s,baz=53,slow=5.5,SNR=12
GERES GERESS Array B 83.57 321 P P 16 28 52.6 -1.4
GERES GERESS Array B 83.57 321 P P 16 28 52.6 -1.4
ABPO Ambohimpanom 85.95 247 P P 16 29 07.0 +0.5
ABPO pmax pmax
comp=Z,10.0nm,1.0s
ABPO Ambohimpanom 85.95 247 P P 16 29 07.0 +0.5
ABPO IAmb IAmb 16 29 10.2
comp=Z,9.7nm,0.9s
KMBO Kilima Mbogo 86.93 267 P P 16 29 12.6 +1.0
comp=Z,0.8nm,0.4s,baz=54,slow=6.6,SNR=4.2
BMO Blue Mountains 91.30 38 P P 16 29 30.6 -0.7
BMO pmax pmax
comp=Z,2.0nm,0.9s
BMO Blue Mountains 91.30 38 P P 16 29 30.6 -0.7
MBAR Mbarara 92.63 271 *ceP* **P 16 29 40.7 +2.6**
NVAR Mina Array Bea 94.58 44 P P 16 29 48.3 +1.6
comp=Z,1.1nm,0.8s,baz=288,slow=5.6,SNR=8.8
LPAZ La Paz 166.28 54 PKP PKPdf 16 36 31.9 +0.4
comp=Z,0.6nm,0.5s,baz=323,slow=5.1,SNR=2.4
LPAZ PKPab **PKPab 16 37 32.4 -0.9**
comp=Z,1.9nm,1.0s,baz=304,slow=3.6,SNR=4.1

*NEIC **26** 16:34:24.8±1.9, 17°.7S±0°.2×178°.55W±0°.09, h557km±17km, mb4.3/16 Error ellipse: s-maj=28.4km s-min=11.1km az=166.0*
*IDC **26** 16:34:28.1±1.9, 17°.27S×178°.97W, h580km±19km, mb3.2/5, mb1 3.6/7, mb1mx3.1/30, mbtmp4.2/7, Error ellipse: s-maj=100.6km s-min=17.3km az=152.0*
ISC 26 16:34:25.4±0.8, 17°.5S±0°.2×178°.43W±0°.10, h600km, n37, σ1§61/35, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.36**	**265**	P	**P**	**16 35 45.1**	**-1.7**
	5.8nm,0.3s,baz=87,slow=2.0,SNR=38						
MSVF				S	**S**	**16 36 51.4**	**-1.7**
	baz=71,slow=22,SNR=1.6						
MSVF	**Nonsavu**	**3.36**	**265**	P	**P**	**16 35 44.6**	**-2.2**
AFI	**Afiamalu**	**7.32**	**62**	P	**P**	**16 36 18.1**	**-0.4**
	8.6nm,0.3s,baz=29,slow=2.2,SNR=13						
AFI	**Afiamalu**	**7.32**	**62**	P	**P**	**16 36 17.2**	**-1.3**
NIUE	**Niue**	**8.24**	**102**	P	**P**	**16 36 24.1**	**-2.9**
LIFNC	**LIFOU**	**13.93**	**254**	P	**P**	**16 37 20.1**	**-3.6**
PINNC	**Pines Island,**	**14.22**	**247**	P	**P**	**16 37 24.2**	**-2.1**
DZM	**Mont Dzumac**	**14.95**	**250**	P	**P**	**16 37 31.1**	**-2.1**
	1.1nm,0.3s,baz=165,slow=22,SNR=12						
DZM	**Mont Dzumac**	**14.95**	**250**	P	**P**	**16 37 30.2**	**-3.0**
ONTNC	**Ouen Toro**	**15.00**	**249**	P	**P**	**16 37 31.9**	**-1.7**
EIDS	**Eidsvold**	**29.40**	**249**	P	**P**	**16 39 41.2**	**-0.8**
EIDS				IAmb	IAmb	16 39 42.6	
	comp=Z,7.7nm,0.8s						
MLZ	**Mavora Lakes**	**30.00**	**199**	P	**P**	**16 39 46.0**	**-0.9**
ARMA	**Armidale**	**30.14**	**239**	P	**P**	**16 39 48.3**	**-0.2**
CTAO	**Charters Tower**	**33.50**	**260**	P	**P**	**16 40 17.5**	**+0.5**
CTAO				IAmb	IAmb	16 40 19.5	
	comp=Z,10nm,1.1s						
CAN	**Canberra**	**33.95**	**232**	P	**P**	**16 40 21.0**	**+0.5**
CAN				IAmb	IAmb	16 40 27.6	
	comp=Z,14nm,1.1s						
TOO	**Toolangi**	**37.43**	**230**	P	**P**	**16 40 49.8**	**+0.6**
STKA	**Stephens Creek**	**38.82**	**241**	P	**P**	**16 41 01.5**	**+1.0**
	comp=Z,8.5nm,0.5s,baz=91,slow=10,SNR=30						
STKA	**Stephens Creek**	**38.82**	**241**	P	**P**	**16 41 01.4**	**+0.9**
STKA				IAmb	IAmb	16 41 01.9	
	comp=Z,2.3nm,0.6s						
WR0	**Warramunga Arr**	**44.50**	**259**	P	**P**	**16 41 45.5**	**+0.3**
WB0	**Warramunga Arr**	**44.65**	**259**	P	**P**	**16 41 46.5**	**+0.1**
WB0				IAmb	IAmb	16 41 47.5	
	comp=Z,4.7nm,0.6s						
WB2	**Warramunga Arr**	**44.68**	**259**	P	**P**	**16 41 46.8**	**+0.3**
WB2				IAmb	IAmb	16 41 47.7	
	comp=Z,9.2nm,0.8s						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**16 41 46.8**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=94,slow=7.5,SNR=128						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**16 41 45.9**	**-0.8**
AS31	**Alice Springs**	**44.89**	**254**	P	**P**	**16 41 48.9**	**+0.8**
AS31				IAmb	IAmb	16 41 49.5	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**16 41 49.0**	**+0.8**
	comp=Z,42nm,0.6s,baz=89,slow=7.9,SNR=1285						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**16 41 48.9**	**+0.7**
FAKI	**Fak Fak**	**50.47**	**281**	P	**P**	**16 42 31.7**	**+1.8**
SOEI	**Soe**	**56.05**	**270**	P	**P**	**16 43 11.1**	**+1.7**
PSA00	**Pilbara Seismi**	**58.00**	**255**	P	**P**	**16 43 23.1**	**+0.7**
NWAO	**Narrogin (SRO)**	**59.40**	**242**	P	**P**	**16 43 31.5**	**-0.1**
NWAO				IAmb	IAmb	16 43 45.7	
	comp=Z,9.1nm,1.1s						
SBA	**Scott Base**	**60.85**	**184**	P	**P**	**16 43 43.3**	**+3.0**
NVAR	**Mina Array Bea**	**79.13**	**44**	P	**P**	16 45 35.2	+5.9
	comp=Z,0.3nm,0.6s,baz=236,slow=7.4,SNR=3.3						
TXAR	**Lajitas Array**	**85.78**	**58**	P	**P**	16 46 08.5	+5.7
	comp=Z,0.8nm,0.8s,baz=222,slow=5.2,SNR=9.2						
PDAR	**Pinedale Array**	**87.05**	**43**	P	**P**	16 46 13.9	+5.3
	comp=Z,0.2nm,0.5s,baz=198,slow=4.4,SNR=2.0						
SNAA	**Sanae**	**91.03**	**179**	P	**P**	**16 46 28.0**	**+1.6**
VNA3	**Neumayer Olymp**	**91.17**	**176**	P	**P**	**16 46 29.0**	**+2.0**
VNA1	**Neumayer--Stat**	**91.84**	**177**	P	**P**	**16 46 30.0**	**0.0**

*IDC **26** 16:59:48.0±1.2, 37°.28N×135°.16E, h384km±20km, mb2.8/2, mb1 3.0/6, mb1mx2.7/49, mbtmp3.6/6, Error ellipse: s-maj=30.1km s-min=26.5km az=46.0*
*JMA **26** 16:59:47.3±0.4, 37°.27N×135°.19E, h389km±4km, M3.0*
ISC 26 16:59:47.4±0.9, 37°.37N±0°.09×135°.24E±0°.10, h378km, n14, σ1§36/18, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSZ	**Suzu**	**1.69**	**87**	P	**Pn**	**17 00 41.0**	**+1.7**
JKY	**Yasaka**	**1.74**	**184**	P	**Pn**	**17 00 40.1**	**+0.3**
JKY				S	**S**	**17 01 21.7**	**-0.2**
JWT	**Wachi**	**2.09**	**176**	P	**Pn**	**17 00 42.3**	**+0.3**
JWT				S	**S**	**17 01 25.5**	**-0.4**
JYTA	**Yamagatataniai**	**2.14**	**145**	P	**Pn**	**17 00 43.1**	**+0.8**
JYTA				S	**S**	**17 01 26.9**	**+0.4**
JNG	**Nsakai**	**2.49**	**112**	P	**Pn**	**17 00 46.6**	**+1.7**
JSD	**Sado**	**2.49**	**74**	P	**Pn**	**17 00 46.5**	**+1.8**
MAT	**Matsushiro**	**2.52**	**108**	P	**Pn**	**17 00 46.0**	**+1.0**
MJAR	**Matsushiro Arr**	**2.52**	**108**	P	**Pn**	**17 00 46.8**	**+1.8**
	0.8nm,0.3s,baz=278,slow=9.0,SNR=24						
JFK	**Kawauchi**	**4.49**	**88**	P	**Pn**	**17 01 03.4**	**+0.4**
KSRS	**Korea Array**	**5.83**	**273**	P	**Pn**	**17 01 17.8**	**+0.6**
	0.2nm,0.3s,baz=89,slow=11,SNR=7.4						
USRK	**Ussuriysk Ar.**	**7.25**	**341**	P	**P**	**17 01 34.9**	**+0.8**
	baz=153,slow=11,SNR=8.1						
ASAJ	**Asahikawa**	**8.75**	**37**	P	**P**	**17 01 51.9**	**+0.4**
	1.5nm,0.3s,baz=228,slow=15,SNR=7.3						
ASAJ				S	**S**	**17 03 28.2**	**-3.4**
	0.4nm,0.3s,baz=270,slow=32,SNR=1.4						
WRA	**Warramunga Arr**	**57.01**	**181**	P	**P**	**17 08 54.4**	**-0.8**
	0.9nm,1.1s,baz=355,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**60.72**	**181**	P	**P**	**17 09 20.0**	**-0.4**
	0.3nm,0.8s,baz=355,slow=10,SNR=2.7						

IDC 26 17:06:04.8±3.9, 5°.20S×152°.95E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/36, mbtmp3.5/2, Error ellipse: s-maj=165.6km s-min=52.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.29**	**229**	P	P	17 11 14.6	+0.1
	1.2nm,0.8s,baz=54,slow=10.0,SNR=5.8						
ASAR	**Alice Springs**	**25.95**	**223**	P	P	17 11 39.0	-0.3
	0.7nm,0.8s,baz=56,slow=8.7,SNR=13						
TORD	**Torodi Ar. Bea**	**150.57**	**288**	PKPbc	PKPbc	17 25 59.8	0.0
	0.5nm,0.8s,baz=49,slow=1.1,SNR=2.4						

*TRN **26** 17:16:07.0, 11°.17N×62°.14W, h118km, MD3.5*
*FUNV **26** 17:16:07.3, 11°.18N×62°.22W, h108km, MW3.3*
ISC 26 17:16:04.3±1.6, 11°.17N±0°.05×62°.24W±0°.04, h129km±14km, n17, σ1§63/33, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.97**	**122**	*i* P	**Pn**	**17 16 27.8**	**+0.9**
TRN				*e*S	**Sn**	**17 16 42.5**	**-1.5**
TRN	**Trinidad (W)**	**0.97**	**122**	*e*P	**Pn**	**17 16 27.5**	**+0.6**
TRN				*e*S	**Sn**	**17 16 42.1**	**-1.9**
CRUV	**Carupano**	**1.09**	**243**	*e*P	**Pn**	**17 16 29.5**	**+1.4**
CRUV				*e*S	**Sn**	**17 16 45.9**	**-0.1**
GRGR	**Grenville**	**1.12**	**31**	*e*P	**Pn**	**17 16 29.2**	**+0.9**
GRGR				*e*S	**Sn**	**17 16 46.5**	**-0.1**
GRGR	**Grenville**	**1.12**	**31**	*e*P	**Pn**	**17 16 29.6**	**+1.3**
GRGR				*e*S	**Sn**	**17 16 44.1**	**-2.4**
TPP	**Pointe-a-Pierr**	**1.15**	**137**	*e*P	**Pn**	**17 16 29.3**	**+0.7**
TPP				*e*S	**Sn**	**17 16 47.0**	**0.0**
TBH	**Brigand Hill**	**1.34**	**120**	*e*P	**Pn**	**17 16 32.2**	**+1.5**
TPR	**Prospect**	**1.44**	**89**	*e*P	**Pn**	**17 16 33.5**	**+1.8**
TPR				*e*S	**Sn**	**17 16 50.8**	**-1.7**
GCMP	**Grenada, Carri**	**1.53**	**31**	*e*P	**Pn**	**17 16 33.8**	**+1.0**
GCMP				*e*S	**Sn**	**17 16 54.1**	**-0.3**
TOSP	**Speyside**	**1.68**	**86**	*e*P	**Pn**	**17 16 34.8**	**+0.4**
TOSP				*e*S	**Sn**	**17 16 56.1**	**-1.3**
TOSP	**Speyside**	**1.68**	**86** ⇑*i*P		**Pn**	**17 16 34.9**	**+0.4**
TOSP				*e*S	**Sn**	**17 16 56.3**	**-1.1**
PCRV	**Puerto La Cruz**	**2.55**	**247**	*e*P	**Pn**	**17 16 46.4**	**+1.2**
PCRV				*e*S	**Sn**	**17 17 15.6**	**-1.0**
RIOV	**Rio Grande**	**3.11**	**172**	*e*P	**Pn**	**17 16 54.4**	**+2.0**
RIOV				*e*S	**Sn**	**17 17 28.5**	**-1.0**
PRGV	**PARIAGUAN**	**3.37**	**225**	*e*P	**Pn**	**17 16 57.2**	**+1.5**
PRGV				*e*S	**Sn**	**17 17 33.7**	**-1.8**
BIRV	**Birongo**	**4.01**	**260**	*e*P	**Pn**	**17 17 06.5**	**+2.2**
BIRV				*e*S	**Sn**	**17 17 49.4**	**-1.4**
MERV	**Las Mercedes**	**4.42**	**245**	*e*P	**Pn**	**17 17 11.6**	**+1.8**
MERV				*e*S	**Sn**	**17 17 58.3**	**-2.2**
BAUV	**El Baul**	**6.12**	**249**	*e*P	**Pn**	**17 17 33.5**	**+1.0**
BAUV				*e*S	**Sn**	**17 18 37.2**	**-4.2**

*IDC **26** 17:41:53.3±0.7, 36°.31N×69°.38E, h0km, mb4.2/25, mb1 4.4/31, mb1mx4.3/44, mbtmp4.3/31, ML4.2/6, MS3.5/13, Ms1 3.5/13, ms1mx3.3/36, Error ellipse: s-maj=13.4km s-min=10.3km az=173.0*
*BJI **26** 17:41:56.9±0.0, 36°.73N×69°.36E, h23km, mB4.9/24, mb4.6/36, ML4.3/3, Ms4.0/13, Ms7 3.7/11*
*MOS **26** 17:41:58.3±1.1, 36°.59N×69°.33E, h40km, mb4.7/13, Error ellipse: s-maj=5.3km s-min=3.9km az=82.7*
*NEIC **26** 17:42:00.1±2.0, 36°.49N±0°.05×69°.29E±0°.06, h39km±7km, mb4.7/47, Error ellipse: s-maj=7.6km s-min=7.1km az=81.0*
*NNC **26** 17:42:00.0±1.2, 36°.74N×69°.69E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=10.5km s-min=8.9km az=138.0*
ISC 26 17:41:59.1±0.3, 36°.46N±0°.04×69°.25E±0°.03, h35km, n246, σ1§72/266, mb4.6/68, MS3.7/19, 23C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.92**	**185**	PN	**Pn**	**17 42 32.0**	**+2.5**
KBL	**Kabul**	**1.92**	**185**	Pn	**Pn**	**17 42 32.0**	**+2.5**
CHGR	**Chuyangaron**	**2.19**	**358**		**Pn**	**17 42 34.0**	**+0.8**
GAR	**Garm**	**2.67**	**18**	Pn	**Pn**	**17 42 41.1**	**+1.3**
CEP	**Cherat**	**3.41**	**140**	P	**Pn**	**17 42 54.1**	**+4.1**
DRK	**Karamyk**	**3.62**	**33**		**Pn**	**17 42 52.4**	**-0.7**
BTK	**Batken**	**3.80**	**18**	PN	**Pn**	**17 42 57.7**	**+2.5**
BTK	**Batken**	**3.80**	**18**	Pn	**Pn**	**17 42 57.7**	**+2.5**
THW	**Thamme Wali**	**4.19**	**150**	P	**Pn**	**17 43 03.3**	**+2.7**
NIL	**Nilore**	**4.32**	**129**	PN	**Pn**	**17 43 05.9**	**+3.6**
NIL	**Nilore**	**4.32**	**129**		**Pn**	**17 43 05.9**	**+3.6**
CHCP	**Chirah Chowk**	**4.32**	**129**	P	**Pn**	**17 43 05.7**	**+3.4**
SARP	**Sargodha**	**5.34**	**147**	P	**Pn**	**17 43 18.3**	**+2.0**
HRA	**Herat**	**6.08**	**252**	Pn	**Pn**	**17 43 27.9**	**+1.2**
KSH	**Kashi**	**6.12**	**58**	P	**Pn**	**17 43 24.0**	**-3.1**
KSH				S	**Sn**	**17 44 28.3**	**-7.7**
KSH				sS		17 44 36.3	
KSH				pmax	pmax		
	comp=Z,53nm,0.4s						
KSH				pmax	pmax		
	comp=Z,62nm,0.8s						
KSH				L	L		
	comp=N,470nm,1.4s						
KSH				L	L		
	comp=E,380nm,0.9s						
KSH				L	L		
	comp=Z,470nm,5.1s						
DZA	**Taraz**	**6.62**	**13**	*e*P	**Pn**	**17 43 34.2**	**+0.3**
	baz=13						
DZA				*e*S	**Sn**	**17 44 48.5**	**+0.4**
	baz=13						
DZA	**Taraz**	**6.62**	**13**	*e*PN	**Pn**	**17 43 34.2**	**+0.3**
DZA				*e*S	**Sn**	**17 44 48.5**	**+0.4**
AML	**Almayashu**	**6.63**	**30**	P	**Pn**	**17 43 35.2**	**+0.9**
	SNR=89						
THN	**Thein Dam**	**6.68**	**125**	*e*P	**Pn**	**17 43 37.0**	**+2.3**
THN				*e*S	**Sn**	**17 44 53.0**	**+3.4**
KK31	**Karatay Array**	**6.71**	**8**	Pn	**Pn**	**17 43 35.7**	**+0.7**
	11nm,0.3s,baz=175,slow=13,SNR=303						
KK31				⇓Sn	**Sn**	**17 44 51.4**	**+1.2**
	38nm,0.5s,baz=177,slow=22						
KK31				⇑Lg	Lg	17 45 24.3	
	59nm,0.5s,baz=173,slow=26						
KK31	**Karatay Array**	**6.71**	**8**	PN	**Pn**	**17 43 35.6**	**+0.5**
KK31	**Karatay Array**	**6.71**	**8**	Pn	**Pn**	**17 43 35.6**	**+0.5**
KKAR	**Karatay Array**	**6.71**	**8**	PN	**Pn**	**17 43 35.9**	**+0.9**
KKAR	**Karatay Array**	**6.71**	**8**		**Pn**	**17 43 35.6**	**+0.5**
KKAR	**Karatay Array**	**6.71**	**8**	Pn	**Pn**	**17 43 35.9**	**+0.9**
EKS2	**Erkin-Say**	**7.11**	**28**	P	**Pn**	**17 43 41.7**	**+1.0**
	SNR=14						
DHRM	**DHARAMSHALA**	**7.18**	**124** ⇑*eP*		**Pn**	**17 43 40.9**	**-0.9**
AAK	**Ala-Archa**	**7.38**	**32**	Pn	**Pn**	**17 43 45.7**	**+1.3**
	9.8nm,0.3s,baz=210,slow=6.9,SNR=28						
AAK				Sn	**Sn**	**17 45 09.3**	**+2.4**
	9.2nm,0.3s,baz=160,slow=22,SNR=6.4						
AAK				Lg	Lg	17 45 52.5	
	2.2nm,0.3s,baz=12,slow=20,SNR=1.7						
AAK				LR	LR	17 46 29.9	
	comp=Z,56nm,19.4s,baz=211,slow=37						
AAK	**Ala-Archa**	**7.38**	**32**	P	**Pn**	**17 43 45.7**	**+1.3**
	SNR=26						
AAK	**Ala-Archa**	**7.38**	**32**	⇑Pn	**Pn**	**17 43 44.6**	**+0.2**
	59nm,0.7s						
AAK				⇓Sn	**Sn**	**17 45 05.4**	**-1.5**
	59nm,0.6s						
AAK	**Ala-Archa**	**7.38**	**32**	*ce*P	**Pn**	**17 43 45.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,52nm,0.6s						
AAK	**Ala-Archa**	**7.38**	**32**		**Pn**	**17 43 45.5**	**+1.1**
FRU1	**Bishkek**	**7.58**	**32**	P	**Pn**	**17 43

comp=Z,34nm,1.1s
SGDS Sogindy 8.11 29 *i* P **Pn** **17 43 54.1 -0.3**
baz=29
SGDS *e*S **Sn** **17 45 24.1 -0.7**
baz=29
SGDS Sogindy 8.11 29 *i* P **Pn** **17 43 54.1 -0.3**
SGDS *e*S **Sn** **17 45 24.1 -0.7**
KDJ Kajisay 8.35 45 P **Pn** **17 43 56.8 -1.0**
KDJ Kajisay 8.35 45 Pn **Pn** **17 43 56.8 -1.0**
SMLA Simla 8.46 127 *e*P **Pn** **17 43 59.8 +0.7**
SMLA *e*S **Sn** **17 45 33.0 -0.5**
SMLA IAML 17 45 39.4
comp=E,229nm,0.6s
TARG Taragay, Kyrgy 8.48 49 **Pn** **17 43 59.3 -0.4**
MDOK Medeo 8.98 39 *e*P **Pn** **17 44 07.1 +0.7**
baz=40
MDOK Medeo 8.98 39 Pn **Pn** **17 44 06.8 +0.3**
comp=E,29nm,0.7s
MDOK ⇓Lg Lg 17 46 30.0
comp=E,76nm,1.4s
MDOK Medeo 8.98 39 *e*P **Pn** **17 44 07.1 +0.7**
GEYT Alibeck 9.01 283 Pn **Pn** **17 44 04.7 -2.0**
comp=E,4.9nm,0.3s,baz=115,slow=13,SNR=33
GEYT Sn **Sn** **17 45 42.5 -4.3**
comp=E,3.6nm,0.3s,baz=83,slow=12,SNR=2.0
GEYT Lg Lg 17 46 45.2
baz=186,slow=40,SNR=1.3
GEYT LR LR 17 48 44.3
comp=E,326nm,21.6s,baz=185,slow=45
GYA0B ALIBECK ARRAY 9.01 283 ⇑Pg **Pn** **17 44 04.2 -2.5**
GYA0B ⇑Lg Lg 17 45 42.9
GYA0B ALIBECK ARRAY 9.01 283 **Pn** **17 44 03.9 -2.7**
PRZ Przheval'sk 9.28 47 P **Pn** **17 44 10.0 -0.5**
PRZ Przheval'sk 9.28 47 Pn **Pn** **17 44 10.0 -0.5**
BTLS Baital 9.31 21 *e*P **Pn** **17 44 10.1 -0.6**
baz=21
BTLS *e*S **Sn** **17 45 52.1 -2.1**
baz=21
BTLS Baital 9.31 21 *e*P **Pn** **17 44 10.1 -0.6**
BTLS *e*S **Sn** **17 45 52.0 -2.1**
CHKK Chushkaly 9.46 36 *e*P **Pn** **17 44 11.7 -1.2**
baz=36
CHKK Chushkaly 9.46 36 *e*P **Pn** **17 44 11.6 -1.2**
DDI Dehra Dun 9.57 127 *e*P **Pn** **17 44 14.8 +0.4**
DDI IAML 17 46 04.9
comp=E,193nm,0.4s
SATY Saty 9.64 44 *e*P **Pn** **17 44 14.5 -0.9**
baz=44
SATY Saty 9.64 44 *e*P **Pn** **17 44 14.5 -0.9**
UZB Uzynbulak 10.05 45 *e*P **Pn** **17 44 20.2 -0.8**
baz=46
UZB Uzynbulak 10.05 45 *e*P **Pn** **17 44 20.2 -0.8**
KPKS Kokpek 10.06 43 *e*P **Pn** **17 44 19.8 -1.4**
baz=43
KPKS Kokpek 10.06 43 *e*P **Pn** **17 44 19.7 -1.4**
SHLS Shalkode 10.31 46 *e*P **Pn** **17 44 26.9 +2.3**
baz=48
SHLS *e*S **Sn** **17 46 22.9 +4.0**
baz=48
SHLS Shalkode 10.31 46 *e*P **Pn** **17 44 26.8 +2.3**
SHLS *e*S **Sn** **17 46 22.9 +4.0**
PDGK Podgornoye 10.43 46 ⇓Pn **Pn** **17 44 25.4 -0.8**
comp=E,7.2nm,0.6s
PDGK ⇑Lg Lg 17 47 14.3
comp=E,26nm,1.1s
AJM Ajmer 10.96 154 ⇑*i* P **Pn** **17 44 33.0 -0.5**
AJM *i* S **Sn** **17 46 29.0 -5.8**
BRZS Berezniki 13.74 9 *e*P **Pn** **17 45 09.0 -2.3**
baz=9.2
BRZS Berezniki 13.74 9 *e*P **Pn** **17 45 09.0 -2.3**
MAKZ Makanchi 14.03 39 P **Pn** **17 45 13.5 -1.8**
MAKZ Makanchi 14.03 39 **Pn** **17 45 13.5 -1.8**
MK31 Makanchi Array 14.18 39 ⇑Lg Lg 17 45 26.6
comp=E,4.5nm,0.6s,baz=210,slow=10,SNR=11
MK31 Makanchi Array 14.18 39 P **Pn** **17 45 15.5 -1.9**
MK31 Makanchi Array 14.18 39 Pn **Pn** **17 45 15.5 -1.9**
MKAR Makanchi Array 14.18 39 Pn **Pn** **17 45 15.8 -1.6**
comp=E,0.2nm,0.3s,baz=228,slow=14,SNR=9.4
MKAR Lg Lg 17 49 23.7
comp=E,0.1nm,0.3s,baz=226,slow=31,SNR=1.3
MKAR Makanchi Array 14.18 39 P **Pn** **17 45 15.5 -1.8**
MKAR Makanchi Array 14.18 39 Pn **Pn** **17 45 15.5 -1.8**
AB31 Akbulak array 14.48 335 Pn **P** **17 45 26.3 -1.3**
comp=E,46nm,0.7s,baz=151,slow=13,SNR=295
AB31 ⇑Lg Lg 17 47 49.4
comp=E,6.1nm,0.6s
ABKAR Akbulak array 14.48 335 Pn **Pn** **17 45 18.3 -3.0**
BHPL Bhopal 14.95 150 *e*P Pn 17 45 23.5 -4.4
KURBB Kurchatov Arra 15.65 22 Pn **Pn** **17 45 32.6 -4.2**
comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=10
KURBB Kurchatov Arra 15.65 22 ⇓Pn **Pn** **17 45 36.4 -0.5**
comp=E,11nm,0.7s
KURBB ⇑Lg Lg 17 50 07.7
comp=E,21nm,0.8s
KURK Kurchatov 15.76 22 P **Pn** **17 45 32.6 -5.6**
KURK Kurchatov 15.76 22 **Pn** **17 45 32.6 -5.6**
WMQ Urumqi 15.88 57 *e*P **P** **17 45 41.8 -1.5**
WMQ pP pP 17 45 47.8 -5.0
WMQ pmax pmax
comp=E,29nm,0.7s
WMQ pmax pmax
comp=E,220nm,5.1s
WMQ L L
comp=E,260nm,10.3s
WMQ L L
comp=E,260nm,8.9s
WMQ L L
comp=E,140nm,15.7s
AKTO Aktyubinsk 16.15 333 Pn **Pn** **17 45 41.2 -2.0**
comp=E,2.8nm,0.3s,baz=141,slow=14,SNR=148
AKTO Aktyubinsk 16.15 333 ⇑Pn **P** **17 45 48.1 +2.0**
comp=E,46nm,0.7s
AKTO ⇑Lg Lg 17 48 32.3
comp=E,19nm,1.2s
BVAR Borovoye Array 16.58 2 Pn **Pn** **17 45 46.0 -2.7**
comp=E,1.9nm,0.3s,baz=82,slow=12,SNR=21
BRVK Borovoye 16.61 2 *ce*P **Pn** **17 45 46.5 -2.6**
BRVK pmax pmax
comp=Z,27nm,1.7s
BRVK Borovoye 16.61 2 Pn **Pn** **17 45 45.6 -3.4**
AKT Akhty 17.46 293 *e*P **Pn** **17 45 58.1 -1.8**
AKT pmax pmax
comp=Z,8.0nm,0.6s
SEKA Sheki 17.81 292 P **Pn** **17 46 04.7 +0.5**
MNGR Mingechevir, A 17.84 291 P **P** **17 46 05.8 +0.9**
MAK Makhachkala 17.93 298 *e*P **Pn** **17 46 03.4 -2.0**
MAK *e*S **Sn** **17 49 23.7 -0.5**
MAK pmax pmax
comp=Z,115nm,1.2s
MAK MLR MLR
comp=Z,184nm,8.0s
ZKTA Zakatala 18.30 293 P **P** **17 46 05.8 -4.2**
GANJ Ganja 18.40 290 P **Pn** **17 46 12.4 +1.0**
DGZ Jazzator, Alta 18.68 39 *i* P **P** **17 46 13.8 -0.5**
DGZ pmax pmax
comp=Z,6.0nm,1.0s
BTLR Botlikh 18.78 296 *i* P **P** **17 46 15.7 +0.4**
NAX Nakhchivan 18.95 285 P **Pn** **17 46 18.6 +0.5**
GROC Groznyy 19.20 298 P **P** **17 46 18.9 -0.9**
GROC pmax pmax
comp=Z,25nm,0.4s
LSA Lhasa 19.53 104 P **P** **17 46 23.7 -0.3**
LSA pmax pmax
comp=Z,18nm,0.9s
LSA Lhasa 19.53 104 P **P** **17 46 23.7 -0.3**
GNI Garni 19.57 288 P **Pn** **17 46 26.7 +1.2**
comp=Z,1.0nm,0.3s,baz=201,slow=3.0,SNR=11
GNI Garni 19.57 288 P **Pn** **17 46 26.0 +0.4**
GNI pmax pmax
comp=Z,23nm,0.9s
GNI Garni 19.57 288 **Pn** **17 46 26.0 +0.4**
GNI IAmb IAmb 17 46 34.8
comp=Z,23nm,0.8s
ZEI Tsey 20.48 296 *e*P **P** **17 46 35.6 +1.5**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
ZAA0 Zalesovo Array 20.56 27 P **P** **17 46 33.1 -1.4**
ZALV Zalesovo Beam 20.56 27 P **P** **17 46 33.5 -1.0**
comp=Z,6.8nm,0.4s,baz=206,slow=9.8,SNR=23
ZALV LR LR 17 55 52.8
comp=Z,24nm,19.0s,baz=160,slow=41
HYB Hyderabad 20.68 154 *i* P **P** **17 46 37.0 +0.9**
ARU Arti 21.24 343 P **P** **17 46 41.2 -0.6**
comp=Z,3.1nm,0.3s,baz=158,slow=5.3,SNR=19
ARU Arti 21.24 343 *d* /P **P** **17 46 42.3 +0.5**

ARU S Sn 17 47 01.9
ARU S Sn 17 50 40.5 -3.4
ARU SS **SnSn** **17 51 06.2 +7.1**
ARU pmax pmax
comp=Z,38nm,1.4s
ARU MLR MLR
comp=Z,314nm,15.0s
ARU Arti 21.24 343 P **P** **17 46 41.6 -0.2**
ARU IAmb IAmb 17 46 45.6
comp=Z,40nm,1.3s
KBZ Khabaz 21.37 298 P **P** **17 46 43.4 +0.1**
comp=Z,13nm,0.7s,baz=121,slow=7.2,SNR=26
KBZ LR LR 17 57 47.3
comp=Z,103nm,18.8s,baz=60,slow=44
KBZ Khabaz 21.37 298 *ce*P **P** **17 46 42.7 -0.6**
KBZ pmax pmax
comp=Z,13nm,0.7s
SHA1 Shidzhatmaz 21.55 298 *e*P **P** **17 46 45.2 -0.3**
KVAR Kislovodsk Arr 21.56 299 P **P** **17 46 46.3 +0.8**
comp=Z,12nm,0.6s,baz=253,slow=19,SNR=7.3
GOF Gofitskoye 21.56 302 ⇑*e*P **P** **17 46 46.5 +1.1**
GOF pmax pmax
comp=Z,60nm,0.6s
KIV Kislovodsk 21.57 299 *e*P **P** **17 46 45.4 -0.2**
KIV *e*S **S** **17 50 43.1 +0.4**
KIV pmax pmax
comp=Z,81nm,0.9s
KIV MLR MLR
comp=Z,347nm,14.0s
KIV Kislovodsk 21.57 299 P **P** **17 46 45.2 -0.3**
KIV IAmb IAmb 17 46 46.4
comp=Z,24nm,0.6s
BELG Belogornoye 22.06 323 P **P** **17 46 50.1 -0.5**
comp=Z,82nm,0.9s,baz=206,slow=0.7,SNR=12
SHL Shillong 22.18 113 P **P** **17 46 51.6 -0.7**
SHL pmax pmax
comp=Z,119nm,1.5s
SHL Shillong 22.18 113 *e*P **P** **17 46 51.0 -1.4**
SHL Shillong 22.18 113 P **P** **17 46 51.6 -0.7**
SOC Sochi 23.63 297 *e*P **P** **17 47 03.0 -3.9**
SOC *e* 17 47 32.2
SOC *e*S **S** **17 51 21.1 +2.1**
SOC *e*SS **SnSn** **17 51 56.7 -0.9**
SOC MLR MLR
comp=Z,166nm,25.0s
MOKO MOKOCHONG 23.75 108 *e*P **P** **17 47 06.6 -1.8**
KOHI KOHIMA 23.76 110 *e*P **P** **17 47 08.3 -0.2**
RAYN Ar Rayn 24.20 244 P **P** **17 47 12.9 +0.4**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 24.20 244 P **P** **17 47 12.9 +0.4**
GTA Gaotai 24.23 74 ⇑P **P** **17 47 13.3 +0.6**
GTA pP pP 17 47 21.3 -1.8
GTA sP sP 17 47 25.3 -2.2
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,29nm,6.0s
GTA L L
comp=Z,160nm,16.4s
GTA L L
comp=Z,210nm,17.1s
GTA L L
comp=Z,230nm,17.1s
VRH Novokhopyorsk 24.54 316 *e*P **P** **17 47 15.7 +0.5**
VRH pmax pmax
comp=Z,20nm,0.8s
ANN Anapa 25.42 299 *e*P **P** **17 47 25.8 +2.5**
ANN pmax pmax
comp=Z,53nm,0.7s
ANN MLR MLR
comp=Z,231nm,11.0s
KIRV Kirov 25.68 336 P **P** **17 47 26.1 +0.6**
comp=Z,9.3nm,0.5s,baz=145,slow=4.9,SNR=4.7
KIRV Kirov 25.68 336 *ce*P **P** **17 47 26.3 +0.8**
LPSR Galich'ya Gora 26.71 317 *e*P **P** **17 47 35.4 +0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
MOY Mondy 27.14 46 *e*P **P** **17 47 42.1 +3.2**
ZAK Zakamensk 28.08 50 *e*P **P** **17 47 47.5 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 28.10 288 P **P** **17 47 49.6 +1.9**
comp=Z,2.2nm,0.7s,baz=96,slow=8.8,SNR=5.7
BRTR LR LR 18 03 09.3
comp=Z,70nm,18.9s,baz=109,slow=45
BRTR Keskin Array B 28.10 288 P **P** **17 47 48.8 +1.1**
OBN Obninsk 29.06 320 P **P** **17 47 56.6 +0.8**
comp=Z,4.1nm,0.4s,baz=108,slow=23,SNR=5.8
OBN Obninsk 29.06 320 *i* P **P** **17 47 54.8 -1.0**
OBN *i* 17 48 03.8
OBN *i* 17 48 46.0
OBN *i* 17 51 01.3
OBN *i* SS SS 17 54 27.7 -21
OBN pmax pmax
comp=Z,15nm,0.9s
OBN MLR MLR
comp=Z,157nm,18.0s
CD2 Chengdu 29.14 91 *e*P **P** **17 47 57.0 +0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PRGR Permogore 29.24 337 *e*P **P** **17 47 56.8 -0.5**
PRGR pmax pmax
comp=Z,19nm,0.8s
EIL Elat 29.43 267 P **P** **17 48 00.1 +0.7**
comp=Z,3.8nm,0.9s,baz=98,slow=4.4,SNR=3.8
SONM Songino Array 29.52 56 P **P** **17 48 00.2 0.0**
comp=Z,1.8nm,0.8s,baz=262,slow=10,SNR=5.7
SONM LR LR 18 01 32.2
comp=Z,168nm,18.6s,baz=251,slow=40
SONM Songino Array 29.52 56 P **P** **17 48 00.0 -0.2**
ULN Ulaanbaatar 29.96 56 *ce*P **P** **17 48 05.1 +1.0**
ULN pmax pmax
comp=Z,5.0nm,1.7s
KLMR Klimovskoe 30.84 332 *e*P P 17 48 18.1 +6.6
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR Klimovskoe 30.84 332 *e*P P 17 48 18.1 +6.6
KLMR AMP 17 48 24.3
comp=Z,12nm,1.5s
ELL Elmali 31.44 282 P **P** **17 48 19.0 +1.8**
ELL pmax pmax
comp=Z,56nm,0.7s
ELL Elmali 31.44 282 P **P** **17 48 19.0 +1.8**
CHTO Chiang Mai 31.46 116 P **P** **17 48 20.1 +2.7**
CHTO pmax pmax
comp=Z,24nm,1.8s
CHTO Chiang Mai 31.46 116 P **P** **17 48 20.1 +2.7**
CHTO IAmb IAmb 17 48 35.5
comp=Z,24nm,1.8s
CMAR Chiang Mai Arr 31.68 116 P **P** **17 48 18.9 -0.4**
comp=Z,1.0nm,0.7s,baz=300,slow=8.6,SNR=8.8
CMAR LR LR 18 05 09.7
comp=Z,87nm,18.7s,baz=230,slow=44
CMAR Chiang Mai Arr 31.68 116 P **P** **17 48 19.0 -0.4**
CMAR Chiang Mai Arr 31.68 116 P **P** **17 48 18.2 -1.2**
AKASG Malin Array Be 31.88 309 P **P** **17 48 21.4 +0.7**
comp=Z,2.5nm,0.4s,baz=85,slow=7.0,SNR=14
AKASG LR LR 18 04 25.0
comp=Z,81nm,18.5s,baz=55,slow=42
AKASG Malin Array Be 31.88 309 *i* P **P** **17 48 21.3 +0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 31.88 309 *ce*P **P** **17 48 21.6 +0.9**
AKBB Malin Array Si 31.88 309 P **P** **17 48 21.1 +0.4**
AKBB IAmb IAmb 17 48 22.4
comp=Z,16nm,1.4s
XAN Xi'an 32.33 82 P **P** **17 48 24.5 -0.5**
XAN pP pP 17 48 34.5 -1.0
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN L L
comp=Z,240nm,15.2s
XAN Xi'an 32.33 82 P **P** **17 48 25.4 +0.4**
XAN Xi'an 32.33 82 P **P** **17 48 25.4 +0.4**
HHC Hu-ho-hao-te 33.09 69 *e*P **P** **17 48 31.3 -0.4**
HHC S **S** **17 53 48.5 0.0**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,66nm,4.4s
HHC L L
comp=Z,140nm,11.9s
HHC L L
comp=Z,210nm,13.4s

HHC L L
comp=Z,180nm,12.4s
MLR Muntele Rosu 33.57 299 P **P** **17 48 36.5 +0.7**
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 33.57 299 P **P** **17 48 36.5 +0.7**
MLR IAmb IAmb 17 48 47.4
comp=Z,9.5nm,0.8s
BURAR Bucovina Array 34.12 303 P **P** **17 48 41.2 +0.6**
NACGM Naroch 34.26 316 *i* P **P** **17 48 42.9 +1.4**
baz=278
NRIK Noril'sk 34.43 11 LR LR 18 04 52.3
comp=Z,78nm,19.8s,baz=192,slow=40
NRIK Noril'sk 34.43 11 *i* P **P** **17 48 43.1 +0.3**
LVV L'vov 35.06 307 *e*P **P** **17 48 45.5 -3.0**
VSU Vasula 35.35 322 *e*P **P** **17 48 52.0 +1.2**
IDI Anoyia 35.73 282 P **P** **17 48 54.9 +0.4**
KWP Kalwaria Pacla 35.90 306 P **P** **17 48 57.2 +1.5**
KWP pmax pmax
comp=Z,256nm,1.5s
KWP Kalwaria Pacla 35.90 306 P **P** **17 48 57.2 +1.5**
PABE Paberze 35.97 317 *e*P **P** **17 48 56.9 +0.7**
PABE Paberze 35.97 317 P **P** **17 48 56.4 +0.2**
PABE IAmb IAmb 17 49 05.6
comp=Z,12nm,0.7s
KOLS Kolonicke sedl 36.15 305 *e*P **P** **17 48 59.5 +1.6**
KOLS Kolonicke sedl 36.15 305 *e*P **P** **17 48 59.5 +1.6**
FIA1 FINESS Array S 36.74 327 P **P** **17 49 03.2 +0.5**
FIA1 IAmb IAmb 17 49 04.3
comp=Z,11nm,0.8s
FINES FINESS Array B 36.74 327 P **P** **17 49 03.4 +0.8**
comp=Z,8.9nm,0.8s,baz=117,slow=9.7,SNR=38
FINES LR LR 18 05 37.6
comp=Z,204nm,18.4s,baz=114,slow=39
FINES FINESS Array B 36.74 327 P **P** **17 49 03.3 +0.6**
LVZ Lovozero 36.98 339 P **P** **17 49 04.9 +0.1**
LVZ pmax pmax
comp=Z,18nm,0.9s
LVZ Lovozero 36.98 339 P **P** **17 49 04.9 +0.1**
LVZ IAmb IAmb 17 49 06.2
comp=Z,18nm,0.9s
MEF Metsahovi 37.06 324 *e*P **P** **17 49 06.2 +0.7**
AAL Aland 39.15 323 *e*P **P** **17 49 23.0 0.0**
UPP Uppsala 40.24 322 *e*P **P** **17 49 32.6 +0.5**
KEV Kevo 40.32 339 P **P** **17 49 33.2 +0.5**
KEV pmax pmax
comp=Z,58nm,1.7s
KEV Kevo 40.32 339 P **P** **17 49 33.2 +0.5**
ARCES ARCESS Array B 40.65 338 P **P** **17 49 36.4 +1.0**
comp=Z,3.2nm,0.6s,baz=104,slow=10,SNR=12
ARCES LR LR 18 07 49.0
comp=Z,84nm,19.2s,baz=100,slow=38
ARCES ARCESS Array B 40.65 338 P **P** **17 49 36.7 +1.3**
ARCES pmax pmax
comp=Z,37nm,1.7s
ARCES ARCESS Array B 40.65 338 P **P** **17 49 36.7 +1.3**
ARCES IAmb IAmb 17 49 41.5
comp=Z,36nm,1.7s
NJ2 Nanjing 40.87 81 *e*P **P** **17 49 38.5 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
BRG Berggiesshubel 41.54 308 *e*P **P** **17 49 44.3 +1.4**
BRG Amp 17 49 45.4
comp=Z,4.6nm,0.8s
GERES GERESS Array B 41.80 305 P **P** **17 49 46.1 +0.9**
comp=Z,0.5nm,0.5s,baz=91,slow=6.9,SNR=4.0
GERES LR LR 18 10 55.3
comp=Z,55nm,18.1s,baz=96,slow=42
CLL Collm 42.12 309 *e*P **P** **17 49 48.0 +0.3**
CLL *e*(pP) **pP** **17 49 56.0 -2.3**
CLL *e*PP **PP** **17 51 26.0 +0.6**
CLL Collm 42.12 309 *e*P **P** **17 49 48.0 +0.3**
MSEY Mahe Island 42.90 200 P **P** **17 49 53.0 -1.4**
MSEY pmax pmax
comp=Z,43nm,1.5s
MSEY Mahe Island 42.90 200 P **P** **17 49 53.0 -1.4**
NC405 NORSAR Array S 43.34 323 P **P** **17 49 57.0 -0.4**
NC405 IAmb IAmb 17 50 06.4
comp=Z,15nm,0.8s
NC602 NORSAR Array S 43.37 323 P **P** **17 49 57.4 -0.3**
NC602 IAmb IAmb 17 50 06.6
comp=Z,18nm,1.0s
CTI Castel Tesino 43.50 301 P **P** **17 49 58.8 -0.3**
CTI pmax pmax
comp=Z,7.0nm,1.2s
CTI Castel Tesino 43.50 301 P **P** **17 49 58.8 -0.3**
NC303 NORSAR Array S 43.52 323 P **P** **17 49 59.5 +0.6**
NC303 IAmb IAmb 17 50 08.1
comp=Z,16nm,0.8s
NB201 NORSAR Array S 43.53 323 P **P** **17 49 59.2 +0.2**
NB201 IAmb IAmb 17 50 11.9
comp=Z,34nm,1.4s
NOA NORSAR Array B 43.57 323 P **P** **17 49 59.4 +0.1**
comp=Z,3.4nm,0.6s,baz=98,slow=8.0,SNR=33
NOA LR LR 18 10 09.4
comp=Z,97nm,18.1s,baz=110,slow=39
GSI Gunungsitoli 43.71 137 P **P** **17 50 00.8 -0.1**
NBO00 NORSAR Array S 43.78 323 P **P** **17 50 00.6 -0.4**
NC204 NORSAR Array S 43.81 323 P **P** **17 50 01.1 -0.2**
NC204 IAmb IAmb 17 50 10.4
comp=Z,19nm,0.9s
YAK Yakutsk 44.82 36 *e*P **P** **17 50 09.5 +0.3**
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK Yakutsk 44.82 36 P **P** **17 50 09.0 -0.2**
YAK IAmb IAmb 17 50 22.6
comp=Z,9.1nm,0.9s
ECH Echery 46.19 305 P **P** **17 50 21.4 +1.0**
ECH pmax pmax
comp=Z,7.0nm,1.2s
ECH Echery 46.19 305 P **P** **17 50 21.4 +1.0**
ECH IAmb IAmb 17 50 24.1
comp=Z,6.9nm,1.2s
KSRS Korea Array 46.22 70 P **P** **17 50 20.5 -0.2**
comp=Z,1.2nm,0.7s,baz=276,slow=6.9,SNR=6.0
KLR Kul'dur 46.30 54 *ce*P **P** **17 50 20.5 -0.7**
KLR pmax pmax
comp=Z,12nm,2.4s
TIXI Tiksi 46.34 22 *ce*P **P** **17 50 22.4 +1.3**
TIXI Tiksi 46.34 22 P **P** **17 50 21.0 -0.1**
TIXI IAmb IAmb 17 50 29.8
comp=Z,10nm,0.9s
SENIN Lac Senin/Sane 46.42 302 P **P** **17 50 22.2 -0.2**
BNI Bardonecchia 47.11 301 P **P** **17 50 28.3 +0.5**
BNI pmax pmax
comp=Z,3.0nm,0.9s
BNI Bardonecchia 47.11 301 P **P** **17 50 28.3 +0.5**
USRK Ussuriysk Ar. 47.41 60 P **P** **17 50 28.5 -1.4**
comp=Z,0.7nm,0.5s,baz=251,slow=9.0,SNR=1.6
KEST Kesra 47.71 288 P **P** **17 50 34.7 +2.2**
comp=Z,2.6nm,0.6s,baz=0.0,slow=6.1,SNR=2.3
KBS Kingsbay 48.34 347 P **P** **17 50 38.1 +1.4**
KBS pmax pmax
comp=Z,5.0nm,0.8s
KBS Kingsbay 48.34 347 P **P** **17 50 38.0 +1.4**
KBS IAmb IAmb 17 50 46.8
comp=Z,5.4nm,0.8s
JMM Marumori 55.69 65 P **P** **17 51 31.5 -0.4**
ESDC Sonseca Array 56.23 297 P **P** **17 51 36.3 +0.5**
comp=Z,1.3nm,0.7s,baz=61,slow=7.5,SNR=10
BILL Bilibino 59.26 26 *i* P **P** **17 51 59.8 +3.2**
BILL *i* 17 52 14.8
BILL *i* 17 52 45.8
BILL pmax pmax
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 60.97 44 P **P** **17 52 07.4 -1.2**
PETK Petropavlovsk- 60.97 44 P **P** **17 52 07.4 -1.2**
EUNU Eureka 62.94 355 P **P** **17 52 22.6 +1.1**
EUNU IAmb IAmb 17 52 29.1
comp=Z,13nm,1.8s
TOA0 Torodi Ar. Sit 64.31 268 P **P** **17 52 30.9 -0.5**
TOA0 IAmb IAmb 17 52 39.2
comp=Z,4.3nm,0.8s
TORD Torodi Ar. Bea 64.31 268 P **P** **17 52 31.1 -0.3**
comp=Z,1.1nm,0.4s,baz=50,slow=5.9,SNR=15
TORD Torodi Ar. Bea 64.31 268 P **P** **17 52 30.9 -0.4**
TORD IAmb IAmb 17 52 39.2
comp=Z,3.9nm,0.8s
COLD Coldfoot 72.38 15 P **P** **17 53 22.2 +1.1**
COLD IAmb IAmb 17 53 30.5
comp=Z,4.1nm,0.9s

INK	**Inuvik**	**74.16**	**9**	P	**P**	**17 53 32.8**	**+1.3**
INK				pmax	pmax		
	comp=Z,16nm,1.5s						
INK	**Inuvik**	**74.16**	**9**	P	**P**	**17 53 32.8**	**+1.3**
INK				IAmb	IAmb	17 53 41.2	
	comp=Z,16nm,1.5s						
BPAW	**Bear Paw Mtn.**	**74.85**	**17**	P	**P**	**17 53 34.5**	**-1.1**
ILAR	**Eielson Array**	**75.19**	**15**	P	**P**	**17 53 38.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=328,slow=3.5,SNR=4.5						
SCRK	**Sand Creek**	**76.49**	**14**	P	**P**	**17 53 45.7**	**+0.5**
SCRK				IAmb	IAmb	17 53 53.9	
	comp=Z,9.4nm,1.4s						
K27K	**Chicken**	**76.82**	**14**	P	**P**	**17 53 47.4**	**+0.5**
YKA	**Yellowknife Ar**	**81.34**	**2**	P	**P**	**17 54 11.8**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=355,slow=5.2,SNR=4.3						
WRA	**Warramunga Arr**	**83.17**	**121**	P	**P**	**17 54 19.4**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=326,slow=4.7,SNR=16						
ASAR	**Alice Springs**	**85.39**	**124**	P	**P**	**17 54 30.8**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=314,slow=4.7,SNR=32						

*IDC **26** 17:58:14.0±4.4, 9˚.32S×119˚.22E, h74km±43km, mb3.7/6, mb1 3.8/8, mb1mx3.6/32, mbtmp4.0/8, ML4.0/3, Error ellipse: s-maj=70.3km s-min=19.8km az=58.0*

*NEIC **26** 17:58:15.7±2.1, 9˚.31S±0˚.07×119˚.30E±0˚.06, h90km±9km, mb4.0/12, Error ellipse: s-maj=10.0km s-min=8.1km az=202.0*

*DJA **26** 17:58:16.3±0.3, 9˚.3S±3˚×11˚.9E±˚, h33km±5km, M4.6/17, mb4.7/8, mB5.4/3, MLv4.5/17, Mw(mB)4.8/3*

ISC 26 17:58:15.2±0.5, **9˚.41S**±0˚.05×**119˚.38E**±0˚.04, **h100**km, **n69,** σ1§**55**/75, **mb3.9**/6, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.23**	**178**	P	**Pn**	**17 58 26.2**	**-3.4**
WBSI				S	Sn	17 58 31.3	-9.0
BASI	**Baing, Sumba**	**1.43**	**125**	P	**Pn**	**17 58 41.2**	**+0.6**
BASI				S	**Sn**	**17 58 59.9**	**+0.1**
PLAI	**Plampang**	**1.69**	**290**	P	**Pn**	**17 58 42.3**	**-1.5**
PLAI				S	**Sn**	**17 59 03.2**	**-2.4**
EDFI	**Ende, Flores**	**2.37**	**74**	P	**Pn**	**17 58 52.8**	**+0.1**
EDFI				S	**Sn**	**17 59 21.9**	**+0.4**
TWSI	**Taliwang, Sumb**	**2.56**	**285**	P	**Pn**	**17 58 54.9**	**-0.2**
TWSI				S	**Sn**	**17 59 25.0**	**-0.8**
MMRI	**Maumere**	**2.92**	**75**		**Pn**	**17 59 01.2**	**+1.2**
MMRI				Sn	**Sn**	**17 59 34.5**	**+0.1**
MMRI	**Maumere**	**2.92**	**75**	P	**Pn**	**17 59 01.1**	**+1.2**
KHKI	**Kahang-Kahang**	**3.87**	**285**	P	**Pn**	**17 59 13.4**	**+0.7**
MKS	**Makassar**	**4.16**	**1**	P	**Pn**	**17 59 17.0**	**+0.4**
DNP	**Denpasar**	**4.18**	**280**	P	**Pn**	**17 59 17.8**	**+0.9**
BATI	**Baumata**	**4.29**	**101**	P	**Pn**	**17 59 19.9**	**+1.5**
	46nm,0.3s,baz=315,slow=2.8,SNR=62						
BATI				S	**Sn**	**18 00 09.7**	**+2.2**
	11nm,0.3s,baz=5.8,slow=20,SNR=6.5						
BATI	**Baumata**	**4.29**	**101**	P	**Pn**	**17 59 19.7**	**+1.3**
SRBI	**Singaraja**	**4.33**	**287**	P	**Pn**	**17 59 19.4**	**+0.6**
KAPI	**Kappang**	**4.38**	**5**	P	**Pn**	**17 59 19.7**	**+0.1**
	9.1nm,0.3s,baz=166,slow=8.1,SNR=8.8						
KAPI				S	**Sn**	**18 00 07.6**	**-2.0**
	38nm,0.3s,baz=187,slow=19,SNR=18						
KAPI	**Kappang**	**4.38**	**5**		**Pn**	**17 59 20.5**	**+1.0**
KAPI				Sn	**Sn**	**18 00 07.5**	**-2.1**
KAPI	**Kappang**	**4.38**	**5**	P	**Pn**	**17 59 20.2**	**+0.6**
KAPI				S	**Sn**	**18 00 07.9**	**-1.6**
SOEI	**Soe**	**4.83**	**95**		**Pn**	**17 59 27.0**	**+1.2**
SOEI	**Soe**	**4.83**	**95**	P	**Pn**	**17 59 27.7**	**+1.9**
BNSI	**Bone**	**5.03**	**8**	P	**Pn**	**17 59 29.3**	**+1.0**
BYJI	**Banyuwangi**	**5.11**	**283**	P	**Pn**	**17 59 30.4**	**+1.0**
	1.1nm13µm179nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.25**	**280**		**Pn**	**17 59 29.4**	**-2.0**
JAGI				Sn	**Sn**	**18 00 28.0**	**-2.8**
JAGI	**Jajag, Banyuwa**	**5.25**	**280**	P	**Pn**	**17 59 28.7**	**-2.7**
ABJI	**Asem Bagus**	**5.34**	**287**	P	**Pn**	**17 59 33.0**	**+0.5**
	0.7nm109nm,0.8s						
KKSI	**Kolaka, Sulawe**	**5.67**	**24**	P	**Pn**	**17 59 38.3**	**+1.2**
	0.3nm939nm22nm,0.5s						
KMMI	**Kalianget**	**5.85**	**293**	P	**Pn**	**17 59 39.3**	**-0.2**
	0.4nm76nm,1.5s						
PMSI	**Majene**	**5.88**	**355**	P	**Pn**	**17 59 40.3**	**+0.3**
	0.2nm60nm,1.0s						
TTSI	**Tana Toraja**	**6.33**	**4**	P	**Pn**	**17 59 47.3**	**+1.2**
	0.1nm2µm26nm,0.6s						
BBKI	**Banjar Baru**	**7.43**	**322**	P	**Pn**	**17 59 58.9**	**-2.1**
PWJI	**Pagerwojo**	**7.62**	**280**	P	**Pn**	**18 00 05.2**	**+1.6**
	0.4nm55nm,0.6s						
SJI	**Sawahan**	**7.71**	**282**	P	**Pn**	**18 00 06.2**	**+1.3**
	0.4nm46nm,2.5s						
PCJI	**Pacitan**	**8.20**	**278**	P	**Pn**	**18 00 11.0**	**-0.5**
	65nm,1.3s						
UGM	**Wanagama**	**8.88**	**279**	Pn	**Pn**	**18 00 22.5**	**+1.6**
UGM	**Wanagama**	**8.88**	**279**	P	**Pn**	**18 00 21.2**	**+0.3**
TOLI2	**Tolitoli**	**10.54**	**8**	Pn	**Pn**	**18 00 41.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.56**	**146**	P	**Pn**	**18 00 42.8**	**-0.8**
	0.4nm,0.3s,baz=338,slow=11,SNR=22						
FITZ				S	**Sn**	**18 02 34.0**	**-6.0**
	1.4nm,0.3s,baz=179,slow=20,SNR=12						
FITZ	**Fitzroy Crossi**	**10.56**	**146**	Pn	**Pn**	**18 00 42.9**	**-0.7**
KNRA	**Kununurra**	**11.07**	**125**	Pn	**Pn**	**18 00 50.1**	**-0.5**
CISI	**Cisompet, Garu**	**11.59**	**278**	Pn	**Pn**	**18 00 57.7**	**+0.1**
MBWA	**Marble Bar**	**11.69**	**178**	Pn	Pn	18 01 05.9	+7.1
MTN	**Manton Dam**	**12.03**	**108**		**Pn**	**18 01 01.1**	**-2.2**
PSA00	**Pilbara Seismi**	**12.11**	**178**	Pn	**Pn**	**18 01 06.2**	**+1.9**
PSA00	**Pilbara Seismi**	**12.11**	**178**	Pn	**Pn**	**18 01 05.6**	**+1.3**
GIRL	**Giralia**	**14.06**	**200**	Pn	**Pn**	**18 01 31.1**	**+1.2**
FAKI	**Fak Fak**	**14.32**	**64**	Pn	**Pn**	**18 01 32.3**	**-1.0**
WB0	**Warramunga Arr**	**17.79**	**127**	P	**Pn**	**18 02 17.0**	**+0.4**
WB0				IAmb	IAmb	18 02 18.9	
	comp=Z,7.7nm,1.0s						
WRA	**Warramunga Arr**	**17.84**	**128**	P	**Pn**	**18 02 19.0**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=302,slow=14,SNR=13						
WRA				S	Sn	18 05 22.5	-14
	comp=Z,0.1nm,0.3s,baz=296,slow=23,SNR=2.9						
WB2	**Warramunga Arr**	**17.86**	**128**	P	**Pn**	**18 02 17.7**	**+0.4**
WB2				IAmb	IAmb	18 02 36.2	
	comp=Z,32nm,1.6s						
WR0	**Warramunga Arr**	**18.01**	**127**	P	**Pn**	**18 02 20.7**	**+1.5**
WR0				IAmb	IAmb	18 02 22.4	
	comp=Z,5.4nm,0.7s						
AS31	**Alice Springs**	**19.84**	**137**	P	**Pn**	**18 02 41.1**	**+0.2**
ASAR	**Alice Springs**	**19.84**	**137**	P	**Pn**	**18 02 41.6**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=312,slow=8.3,SNR=32						
ASAR				S	**S**	**18 06 13.2**	**-3.3**
	comp=Z,1.0nm,0.7s,baz=310,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**19.84**	**137**	P	**Pn**	**18 02 41.1**	**+0.2**
STKA	**Stephens Creek**	**30.40**	**141**	P	**P**	**18 04 21.3**	**+3.2**
	comp=Z,1.6nm,0.6s,baz=315,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**30.40**	**141**	IAmb	IAmb	18 04 34.5	
	comp=Z,2.2nm,1.4s						
YULB	**Yu-li**	**32.65**	**3**	P	**P**	**18 04 37.1**	**-0.8**
CM31	**Chiang Mai Arr**	**34.26**	**324**	P	**P**	**18 04 52.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**34.26**	**324**	P	**P**	**18 04 53.0**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=156,slow=7.5,SNR=9.7						
H08S2	**Diego Garcia H**	**46.38**	**268**	T	T	18 55 59.3	
	baz=96,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**46.39**	**268**	T	T	18 55 55.9	
	baz=96,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**46.40**	**268**	T	T	18 56 00.1	
	baz=96,slow=75,SNR=10						
SONM	**Songino Array**	**58.14**	**350**	P	**P**	**18 07 59.3**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=172,slow=8.9,SNR=6.9						
SONM	**Songino Array**	**58.14**	**350**	IAmb	IAmb	18 08 00.1	
	comp=Z,1.3nm,0.7s						
MK31	**Makanchi Array**	**64.99**	**333**	P	**P**	**18 08 45.1**	**+0.6**
MK31				IAmb	IAmb	18 09 10.8	
	comp=Z,5.0nm,1.4s						
MKAR	**Makanchi Array**	**64.99**	**333**	P	**P**	**18 08 44.7**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=152,slow=6.0,SNR=8.8						
MAKZ	**Makanchi**	**65.14**	**333**	P	**P**	**18 08 46.7**	**+1.2**
SOCY	**Socotra**	**68.43**	**287**	P	**P**	**18 09 08.2**	**+1.0**
KKAR	**Karatay Array**	**68.61**	**324**	P	**P**	**18 09 07.6**	**0.0**
ZALV	**Zalesovo Beam**	**69.55**	**339**	P	**P**	**18 09 13.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=139,slow=5.5,SNR=2.8						
ABKAR	**Akbulak array**	**78.11**	**325**	P	**P**	**18 10 03.2**	**0.0**
AMKA	**Amchitka**	**79.43**	**33**	P	**P**	**18 10 10.8**	**+0.4**

*CNRM **26** 18:20:00.8, 33˚.67N×6˚.01W, h5km, ml2.5, Hypocentre not reviewed by the ISC*

*SFS **26** 18:20:02.0, 33˚.95N×6˚.16W, ML3.2, SIDI ALLAL BAHRAOU (MARR.)*

*MDD **26** 18:20:05.2±3.4, 34˚.27N×6˚.03W, h0km, mb3.1/4, Error ellipse: s-maj=26.1km s-min=17.3km az=31.0, PRXIMO*

ISC 26 18:20:00.4±1.0, **33.82N**±0˚.06×**5.95W**±0˚.04, **h13**km, **n12,** σ1§**80**/24, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.69**	**238**	P		18 20 14.5	
ZHG				S		18 20 23.8	
IFR	**Ifrane**	**0.75**	**113**	P	**Pg**	**18 20 15.0**	**+0.1**
IFR				S	**Sg**	**18 20 24.2**	**-0.6**
LCRM	**LCR**	**0.92**	**98**	P		18 20 19.0	
LCRM				S		18 20 31.9	
RSA	**Sarsar**	**1.07**	**6**	P		18 20 24.2	
RSA				S		18 20 39.7	
CZD	**Col de Zad**	**1.09**	**136**	P		18 20 21.6	
CZD				S		18 20 34.5	
AVE	**Averroes**	**1.33**	**248**	P	**Pg**	**18 20 26.5**	**+0.6**
AVE				S	**Sg**	**18 20 44.1**	**+0.9**
MD31	**MD31**	**1.37**	**133**	P		18 20 26.4	
MD31				S		18 20 44.2	
CHEFC	**Chefchaouen**	**1.38**	**21**	P		18 20 28.0	
CHEFC				S		18 20 50.4	
MDT	**Midelt**	**1.50**	**131**	P		18 20 28.0	
MDT				S		18 20 46.8	
PVLZ	**Peæn de**	**1.92**	**45**	P	**Pb**	**18 20 34.8**	**-0.4**
PVLZ				S	**Sg**	**18 21 04.1**	**+2.0**
PVLZ	**Peæn de**	**1.92**	**45**	P	**Pb**	**18 20 34.8**	**-0.4**
PVLZ				S	**Sg**	**18 21 04.1**	**+2.0**
SMIR	**Smir Dam**	**1.92**	**14**	P		18 20 36.1	
SMIR				S		18 21 04.9	
PALE	**Palemas**	**2.17**	**49**	P		18 20 40.3	
PALE				S		18 21 09.4	
GOG	**Mont Gurugu**	**2.81**	**59**	P		18 20 47.8	
GOG				S		18 21 25.9	
JBK	**JBK**	**2.85**	**79**	P		18 20 46.8	
JBK				S		18 21 21.4	
TZRR	**Tazzarine**	**3.04**	**174**	P		18 20 49.4	
TZRR				S		18 21 25.6	
OUK	**Oukaimeden**	**3.06**	**212**	P		18 20 47.8	
OUK				S		18 21 25.0	
TDRA	**Tendrara**	**3.37**	**102**	P		18 20 53.6	
TDRA				S		18 21 31.1	
PVAQ	**Vaqueiros**	**3.86**	**339**	P	**Pn**	**18 21 00.0**	**+0.6**
PVAQ				S	**Sn**	**18 21 42.5**	**-2.1**
PVAQ	**Vaqueiros**	**3.86**	**339**	*e*Pn	**Pn**	**18 21 00.0**	**+0.6**
PVAQ				*e*Sn	**Sn**	**18 21 42.5**	**-2.1**
PVAQ	**Vaqueiros**	**3.86**	**339**	P		18 21 01.7	
PVAQ				S		18 21 50.8	
TTIG	**Tnine Tigouga,**	**3.88**	**214**	P		18 21 02.0	
TTIG				S		18 21 43.1	
EGRO	**El Granado**	**3.92**	**342**	P	**Pn**	**18 20 59.9**	**-0.3**
	0.3nm,0.1s,SNR=4.1						
EGRO				S	**Sn**	**18 21 42.4**	**-3.6**
	1.4nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**4.27**	**6**	P	**Pn**	**18 21 05.8**	**+0.7**
	0.1nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**18 21 52.9**	**-2.0**
	1.5nm,0.9s,SNR=7.9						
PBAR	**Barrancos**	**4.44**	**349**	P	**Pn**	**18 21 09.3**	**+1.9**
PBAR				S	**Sn**	**18 21 59.9**	**+1.0**
PBAR	**Barrancos**	**4.44**	**349**	*e*Pn	**Pn**	**18 21 09.3**	**+1.9**
PBAR				*e*Sn	**Sn**	**18 21 59.9**	**+1.0**
EADA	**Adamuz**	**4.48**	**14**	P	**Pn**	**18 21 09.1**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**18 21 58.2**	**-1.9**
	2.4nm,0.8s,SNR=7.9						
EBAD	**Badajoz**	**5.00**	**350**	P	**Pn**	**18 21 15.4**	**+0.3**
	0.8nm,0.2s,SNR=4.0						
EBAD				S	**Sn**	**18 22 08.7**	**-4.2**
	5.5nm,0.7s,SNR=7.9						

IDC 26 18:25:57.1±2.3, **1.73N**×**126.42E**, **h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/41, **mbtmp3.2**/3, **Error ellipse: s-maj=193.5km s-min=28.6km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.89**	**161**	P	P	18 31 02.2	-0.5
	0.5nm,0.7s,baz=339,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**26.27**	**164**	P	P	18 31 34.9	+0.5
	0.2nm,0.5s,baz=349,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**59.02**	**326**	P	P	18 35 58.8	-0.1
	0.3nm,0.8s,baz=133,slow=8.2,SNR=1.7						

*BJI **26** 18:30:06.7±0.0, 44˚.18N×147˚.16E, h92km, mB4.9/40, mb4.6/58*

*MOS **26** 18:30:07.3±1.0, 44˚.13N×146˚.80E, h76km, mb5.1/25, MS3.1/4, Error ellipse: s-maj=6.1km s-min=5.1km az=78.4*

MOS Felt (IV) at Malokuril'skoe; (III) at Kuril'sk; (II) at Yuzhno-Kuril'sk, Goryachiy Plyazh.

*NIED **26** 18:30:09.4, 43˚.94N×146˚.97E, h73km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.39; $M_{\theta\theta}$=0.69; $M_{\phi\phi}$=-0.31; $M_{r\theta}$=-0.95; $M_{\theta\phi}$=-0.18; $M_{\phi r}$=0.37; Fault plane solution: $M_0$1.20000×10^{16} NP1: ϕ_s71.00000°, δ79.00000°, λ-112.00000°. NP2: ϕ_s315.00000°, δ25.00000°, λ-28.00000°.*

*NEIC **26** 18:30:09.0±2.2, 44˚.12N±0˚.06×146˚.91E±0˚.10, h74km±5km, mb4.9/306, Mwr4.6/13 Error ellipse: s-maj=10.5km s-min=8.9km az=116.0*

*SKHL **26** 18:30:09.2±0.3, 44˚.90N×147˚.60E, h83km±6km, mb5.5/17, msha6.9/4*

*IDC **26** 18:30:09.2±0.6, 44˚.17N×146˚.72E, h77km±5km, mb4.2/25, mb1 4.4/29, mb1mx4.3/45, mbtmp4.5/29, MS3.5/19, Ms1 3.5/19, ms1mx3.3/51, Error ellipse: s-maj=12.9km s-min=10.4km az=130.0*

*JMA **26** 18:30:09.4±0.2, 43˚.94N×146˚.97E, h73km±4km, M4.7*

JMA Felt II J1.

*NEIC **26** 18:30:09.3, 44˚.13N×146˚.90E, h76km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.20; $M_{\theta\theta}$0.62; $M_{\phi\phi}$-0.42; $M_{r\theta}$-0.60; $M_{\theta\phi}$-0.74; $M_{\phi r}$-0.37; Fault plane solution: $M_0$1.15000×10^{16} NP1:ϕ_s75.39000°, δ80.44000°, λ-142.84000°. NP2:ϕ_s338.21000°, δ53.44000°, λ-11.93000°. Principal axes: T 1.1141, Plg18.0000°, Azm202.0000°; N 0.0761, Plg52.0000°, Azm88.0000°; P -1.1902, Plg33.0000°, Azm303.0000°;*

*GCMT **26** 18:30:11.0±0.5, 44˚.12N±0˚.03×146˚.70E±0˚.04, h89km±5km, MW4.8/68, Moment Tensor Solution. s11,c15; s68,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.71±.11; $M_{\theta\theta}$1.29±.12; $M_{\phi\phi}$-0.57±.10; $M_{r\theta}$-1.39±.06; $M_{\theta\phi}$-0.51±.11; $M_{\phi r}$-0.36±.05; Best double couple: $M_0$1.86700×10^{16} NP1:ϕ_s321.00000°, δ31.00000°, λ-28.00000°. NP2: ϕ_s76.00000°, δ76.00000°, λ-118.00000°. Principal axes: T 2.0360, Plg26.0000°, Azm187.0000°; N -0.3340, Plg27.0000°, Azm83.0000°; P -1.6990, Plg51.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **26** 18:30:14.3±0.0, 45˚.64N×146˚.05E, h33km, mb5.2, Ms3.7*

ISC 26 18:30:08.9±0.4, **44˚.01N**±0˚.04×**146˚.94E**±0˚.04, **h82**km±2km, **h81**km:**pP-P, n621,** σ1§**25**/589, **mb4.8**/267, **74C-128D, Fault plane solution: NP1:**ϕ_s318.30783°, δ22.83789°, λ-42.48826°. **NP2:**ϕ_s88.47720°, δ74.80203°, λ-107.25245°. **Principal axes:** T Plg27.7946°, Azm192.1907°; N Plg16.6312°, Azm93.1316°; P Plg56.8295°, Azm335.9390°; **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.78**	**272**	*c* iPN	**Pn**	**18 30 24.8**	**-0.7**
YUK				*i* S	**Sn**	**18 30 36.6**	**-1.2**
YUK				pmax	pmax		
	comp=N,2354µm,0.2s						
YUK				pmax	pmax		
	comp=E,2334µm,0.2s						
YUK				pmax	pmax		
	comp=Z,8046µm,0.2s						
YUK				smax	smax		
	comp=E,39µm,0.2s						
YUK				smax	smax		
	comp=N,34µm,0.1s						
YUK	**Yuzh-Kuril'sk**	**0.78**	**272**	*i* P	**Pn**	**18 30 24.8**	**-0.7**
YUK				AMB	AMB	18 30 27.4	
	comp=N,8µm,0.3s						
YUK				*i* S	**Sn**	**18 30 36.8**	**-1.0**
YUK				A	A	18 30 37.0	
	comp=N,34µm,0.5s						
YUK				A	A	18 30 37.0	
	comp=N,39µm,0.5s						
GRPR	**Tuman**	**0.84**	**269**	*e*PN	**Pn**	**18 30 26.4**	**+0.2**
GRPR				*i* S	**Sn**	**18 30 38.7**	**-0.4**
GRPR				pmax	pmax		
	comp=N,1µm,0.2s						
GRPR				pmax	pmax		
	comp=E,1µm,0.2s						
GRPR				pmax	pmax		
	comp=Z,9µm,0.2s						
GRPR				smax	smax		
	comp=N,24µm,0.2s						
GRPR				smax	smax		
	comp=E,19µm,0.3s						
GRPR	**Tuman**	**0.84**	**269**	*e*P	**Pn**	**18 30 26.4**	**+0.2**
GRPR				AMB	AMB	18 30 27.0	
	comp=E,8µm,0.3s						
GRPR				*i* S	**Sn**	**18 30 38.7**	**-0.4**
GRPR				A	A	18 30 40.0	
	comp=E,24µm,0.4s						
GRPR				A	A	18 30 40.0	
	comp=E,19µm,0.4s						
GLVR	**Golovnino**	**1.06**	**256**	*e*PN	**Pn**	**18 30 29.3**	**+0.6**
GLVR				*i* S	**Sn**	**18 30 44.1**	**+0.5**
GLVR				pmax	pmax		
	comp=N,1µm,0.3s						
GLVR				pmax	pmax		
	comp=Z,3µm,0.3s						
GLVR				pmax	pmax		
	comp=E,1µm,0.2s						
GLVR				smax	smax		
	comp=N,26µm,0.2s						
GLVR				smax	smax		
	comp=E,18µm,0.2s						
GLVR	**Golovnino**	**1.06**	**256**	*e*P	**Pn**	**18 30 29.3**	**+0.6**
GLVR				AMB	AMB	18 30 30.0	
	comp=E,3µm,0.3s						
GLVR				*i* S	**Sn**	**18 30 44.1**	**+0.5**
GLVR				A	A	18 30 46.0	
	comp=E,26µm,0.5s						
GLVR				A	A	18 30 46.0	
	comp=E,18µm,0.5s						
NEM2	**Nemuro 2**	**1.08**	**234**	⇑P	**Pn**	**18 30 28.9**	**-0.1**
NEM2				*e*S	**Sn**	**18 30 43.0**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.09**	**234**	*e*PN	**Pn**	**18 30 29.0**	**-0.1**
NMR				*i* S	**Sn**	**18 30 43.3**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.09**	**234**	*e*P	**Pn**	**18 30 29.0**	**-0.1**
NMR				*i* S	**Sn**	**18 30 43.3**	**-0.9**
RUSJ	**Misakicho**	**1.23**	**275**	*e*PN	**Pn**	**18 30 31.4**	**+0.7**
RUSJ				*i* S	**Sn**	**18 30 48.6**	**+1.5**
JRA	**Rausu**	**1.32**	**267**	P	**Pn**	**18 30 32.5**	**+0.6**
JRA				*e*S	**Sn**	**18 30 49.1**	**-0.1**
KUR	**Kuril'sk**	**1.39**	**28**	*c* iPN	**Pn**	**18 30 33.8**	**+1.0**
KUR				*i* S	**Sn**	**18 30 52.1**	**+1.3**
KUR				pmax	pmax		
	comp=Z,7µm,0.6s						
KUR				pmax	pmax		
	comp=E,992nm,0.4s						
KUR				pmax	pmax		
	comp=N,1µm,0.7s						
KUR				smax	smax		
	comp=E,60µm,1.3s						
KUR				smax	smax		
	comp=N,38µm,1.7s						
KUR				smax	smax		
	comp=E,33µm,0.4s						
KUR				smax	smax		
	comp=N,20µm,0.5s						
KUR	**Kuril'sk**	**1.39**	**28**	*i* P	**Pn**	**18 30 33.8**	**+1.0**
KUR				AMB	AMB	18 30 34.7	
	comp=N,10µm,0.7s						
KUR				*i* S	**Sn**	**18 30 52.2**	**+1.4**
KUR				A	A	18 30 53.3	
	comp=N,38µm,2.0s						
KUR				A	A	18 30 53.3	
	comp=N,60µm,2.0s						
KUR				A	A	18 30 54.8	
	comp=N,26µm,0.5s						
KUR				A	A	18 30 54.8	
	comp=N,21µm,0.5s						
JNSB	**Nemuroshibetsu**	**1.42**	**261**	⇑P	**Pn**	**18 30 34.2**	**+1.0**
JNSB				*e*S	**Sn**	**18 30 52.6**	**+1.0**
JKHN	**Kushirohamanak**	**1.59**	**235**	P	**Pn**	**18 30 35.7**	**+0.3**
JKHN				*e*S	**Sn**	**18 30 54.8**	**-0.7**
JNK	**Nakash**	**1.67**	**256**	⇑P	**Pn**	**18 30 36.9**	**+0.5**
JNK				*e*S	**Sn**	**18 30 57.4**	**+0.2**
JAK	**Akkeshi**	**1.92**	**239**	⇑P	**Pn**	**18 30 39.9**	**+0.1**
JAK				*e*S	**Sn**	**18 31 02.8**	**-0.5**
JTKR	**Abashiri--Toko**	**2.19**	**270**	⇑P	**Pn**	**18 30 44.2**	**+0.9**
JAR	**Ashorobuto**	**2.41**	**254**	⇑P	**Pn**	**18 30 47.7**	**+1.4**
JAR				*e*S	**Sn**	**18 31 16.5**	**+1.6**
JOB	**Onbets**	**2.52**	**245**	⇑P	**Pn**	**18 30 48.7**	**+1.0**
JOB				*e*S	**Sn**	**18 31 18.0**	**+0.5**
JMP	**Maruseppu**	**2.58**	**271**	⇑P	**Pn**	**18 30 49.8**	**+1.2**
JCH	**Churui**	**2.96**	**243**	P	**Pn**	**18 30 54.3**	**+0.6**
JCH				*e*S	**Sn**	**18 31 27.9**	**-0.3**
JKK2	**Kamakawa 2**	**3.03**	**269**	⇓P	**Pn**	**18 30 56.3**	**+1.6**
JKA	**Kamikawa-asahi**	**3.13**	**273**	Pn	**Pn**	**18 30 56.6**	**+0.6**
JKA				Sn	**Sn**	**18 31 33.3**	**+1.0**
ASAJ	**Asahikawa**	**3.13**	**273**	P	**Pn**	**18 30 57.8**	**+1.8**
	comp=N,23nm,0.3s,baz=73,slow=19,SNR=79						
ASAJ				S	**Sn**	**18 31 33.4**	**+1.0**
	comp=N,35nm,0.3s,baz=33,slow=22,SNR=6.0						
ASAJ	**Asahikawa**	**3.13**	**273**	P	**Pn**	**18 30 57.8**	**+1.8**
JSE	**Soyaes**	**3.26**	**288**	P	**Pn**	**18 30 58.9**	**+1.2**
JSE				*e*S	**Sn**	**18 31 35.2**	**-0.2**
JFR	**Furan**	**3.27**	**256**	⇑P	**Pn**	**18 30 59.7**	**+1.8**
JFR				*e*S	**Sn**	**18 31 38.2**	**+2.4**
ERM	**Erimo**	**3.42**	**236**	*ce*PN	**Pn**	**

	comp=Z,40nm,0.6s								
SKR					*e*S		**Sn**	**18 33 56.4**	**-2.0**
JYT	**Yasato**	**9.33**	**216**		Pn		**Pn**	**18 32 18.1**	**-2.4**
GRNR	**Gornyy**	**9.82**	**317**	*j i*	PN		**Pn**	**18 32 29.4**	**+2.3**
GRNR					*e*S		**Sn**	**18 34 20.2**	**+4.7**
GRNR					pmax	pmax			
	comp=E,20nm,1.0s								
GRNR					pmax	pmax			
	comp=N,20nm,0.9s								
GRNR					pmax	pmax			
	comp=Z,30nm,0.9s								
GRNR					smax	smax			
	comp=N,3.0nm,0.9s								
GRNR					MLR	MLR			
	comp=E,60nm,13.0s								
GRNR					MLR	MLR			
	comp=N,140nm,10.0s								
GRNR					MLR	MLR			
	comp=Z,140nm,12.0s								
GRNR	**Gornyy**	**9.82**	**317**	*e*	P		**Pn**	**18 32 29.4**	**+2.3**
GRNR					AMB	AMB		18 32 30.7	
	comp=Z,30nm,0.9s								
OKH	**Okha**	**9.90**	**346**	*e*	P		**Pn**	**18 32 30.4**	**+2.3**
OKH					AMB	AMB		18 32 32.4	
	comp=Z,120nm,0.9s								
PAU	**Pauzhetka**	**9.98**	**38**	*e*	P		**Pn**	**18 32 30.6**	**+1.4**
PAU					AMB	AMB		18 32 34.2	
	comp=Z,200nm,0.4s								
PAU					*e*S		**Sn**	**18 34 17.2**	**-2.2**
PAU					A	A		18 34 29.2	
	comp=Z,100nm,0.5s								
PAU					A	A		18 34 29.2	
	comp=Z,70nm,0.5s								
MJB9	**Matsu-Tunnel**	**10.00**	**225**				**Pn**	**18 32 29.5**	**-0.2**
MAJO	**Matsushiro**	**10.01**	**225**	*d i*	PN		**Pn**	**18 32 29.0**	**-0.7**
MAJO	**Matsushiro**	**10.01**	**225**		Pn		**Pn**	**18 32 29.4**	**-0.3**
MAT	**Matsushiro**	**10.01**	**225**		P		**Pn**	**18 32 28.6**	**-1.1**
MAT					*e*S		**Sn**	**18 34 19.4**	**-0.8**
MJAR	**Matsushiro Arr**	**10.01**	**225**		P		**Pn**	**18 32 28.5**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=27,slow=15,SNR=97								
MJAR					LR	LR		18 36 48.0	
	comp=Z,136nm,21.6s,baz=45,slow=40								
MJAR	**Matsushiro Arr**	**10.01**	**225**		PN		**Pn**	**18 32 28.9**	**-0.8**
MJAR	**Matsushiro Arr**	**10.01**	**225**		Pn		**Pn**	**18 32 28.9**	**-0.8**
NKL	**Nikolayevsk**	**10.04**	**338**	*e*	P		**Pn**	**18 32 31.0**	**+1.0**
NKL					AMB	AMB		18 32 33.5	
	comp=Z,400nm,1.0s								
USA0B	**Ussuriysk Arra**	**10.76**	**276**		PN		**Pn**	**18 32 38.8**	**-1.1**
USA0B	**Ussuriysk Arra**	**10.76**	**276**		Pn		**Pn**	**18 32 38.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.76**	**276**		P		**Pn**	**18 32 41.8**	**+1.9**
	baz=91,slow=14,SNR=6.9								
USRK					LR	LR		18 36 42.2	
	comp=Z,167nm,21.5s,baz=101,slow=37								
USRK	**Ussuriysk Ar.**	**10.76**	**276**		PN		**Pn**	**18 32 39.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.76**	**276**		Pn		**Pn**	**18 32 39.5**	**-0.4**
JGF	**Kuroka**	**11.17**	**224**		Pn		**Pn**	**18 32 44.6**	**-1.0**
JSG	**Sagara**	**11.52**	**219**		Pn		**Pn**	**18 32 49.7**	**-0.6**
INU	**Inuyama**	**11.54**	**225**		Pn		**Pn**	**18 32 50.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**11.55**	**34**	*ce*	PN		**Pn**	**18 32 51.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**11.55**	**34**		Pn		**Pn**	**18 32 49.3**	**-1.3**
PETK	**Petropavlovsk-**	**11.55**	**34**		P		**Pn**	**18 32 51.2**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=187,slow=10,SNR=15								
PETK	**Petropavlovsk-**	**11.55**	**34**		Pn		**Pn**	**18 32 49.7**	**-0.9**
KLR	**Kul'dur**	**11.67**	**302**		P		**Pn**	**18 32 52.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=114,slow=13,SNR=27								
KLR					LR	LR		18 37 21.1	
	comp=Z,197nm,19.5s,baz=131,slow=38								
KLR	**Kul'dur**	**11.67**	**302**	*ce*	PN		**Pn**	**18 32 53.8**	**+1.6**
KLR	**Kul'dur**	**11.67**	**302**	*e*	P		**Pn**	**18 32 53.0**	**+0.8**
PET	**Petropavlovsk**	**11.88**	**37**	*e*	PN		**Pn**	**18 32 56.1**	**+1.0**
PET					*e*S		**Sn**	**18 35 07.3**	**+1.7**
PET					pmax	pmax			
	comp=Z,60nm,1.0s								
PET					MLR	MLR			
	comp=Z,200nm,13.0s								
PET					MLR	MLR			
	comp=Z,300nm,13.0s								
PET	**Petropavlovsk**	**11.88**	**37**		Pn		**Pn**	**18 32 54.4**	**-0.6**
PET	**Petropavlovsk**	**11.88**	**37**	*e*	P		**Pn**	**18 32 56.1**	**+1.0**
PET					AMB	AMB		18 33 07.9	
	comp=Z,60nm,1.0s								
PET				*e*	rx	rx		18 35 07.3	
JHJ2	**Mitsune**	**12.22**	**209**		Pn		**Pn**	**18 32 58.3**	**-1.5**
JHJ	**Hachijo jima 2**	**12.23**	**210**		P		**Pn**	**18 32 58.1**	**-1.7**
	comp=Z,28nm,0.3s,baz=72,slow=22,SNR=5.1								
JHJ					S		Sn	18 35 02.5	-12
	comp=Z,27nm,0.3s,baz=58,slow=12,SNR=1.7								
JWT	**Wachi**	**12.44**	**229**		Pn		**Pn**	**18 33 02.7**	**-0.1**
MDJ	**Mudanjiang**	**12.45**	**279**		P		**Pn**	**18 33 03.5**	**+0.7**
MDJ					pmax	pmax			
	comp=Z,18nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,170nm,3.7s								
MDJ	**Mudanjiang**	**12.45**	**279**		Pn		**Pn**	**18 33 02.1**	**-0.7**
EKMR	**Ekimchan**	**12.94**	**319**	*e*	P		**Pn**	**18 33 09.2**	**-0.2**
EKMR					AMB	AMB		18 33 12.0	
	comp=Z,90nm,1.0s								
JHS	**Saijyo**	**13.95**	**234**		Pn		**Pn**	**18 33 20.2**	**-2.5**
JMN	**Monobe**	**14.44**	**229**		Pn		**Pn**	**18 33 26.5**	**-2.7**
CN2	**Changchun**	**15.49**	**277**	*e*	P		**P**	**18 33 46.0**	**+0.8**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
MA2	**Magadan**	**15.76**	**7**		P		**P**	**18 33 49.0**	**+1.0**
	comp=Z,9.5nm,0.3s,baz=192,slow=11,SNR=60								
MA2					LR	LR		18 39 43.0	
	comp=Z,102nm,18.9s,baz=207,slow=37								
MA2	**Magadan**	**15.76**	**7**	*i*	P		**P**	**18 33 48.6**	**+0.5**
MA2					pmax	pmax			
	comp=Z,13nm,0.8s								
MA2	**Magadan**	**15.76**	**7**				**Pn**	**18 33 44.9**	**-0.8**
MA2					IAmb	IAmb		18 33 51.2	
	comp=Z,53nm,0.5s								
KSRS	**Korea Array**	**15.82**	**252**		P		**Pn**	**18 33 45.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=5.3								
KSRS					LR	LR		18 38 57.6	
	comp=Z,84nm,18.8s,baz=214,slow=34								
KSRS	**Korea Array**	**15.82**	**252**	*e*	P		**Pn**	**18 33 45.8**	**-0.9**
KSAR	**Wonju Array Be**	**15.85**	**252**		P		**Pn**	**18 33 47.0**	**-0.1**
KSAR	**Wonju Array Be**	**15.85**	**252**		Pn		**Pn**	**18 33 47.0**	**-0.1**
BMKR	**Bomnak**	**15.87**	**319**	*e*	P		**Pn**	**18 33 47.0**	**-0.2**
BMKR					AMB	AMB		18 33 49.7	
	comp=Z,20nm,0.9s								
ZEA	**Zeya**	**16.15**	**314**	*e*	P		**Pn**	**18 33 50.7**	**0.0**
ZEA					pmax	pmax			
	comp=E,10.0nm,1.0s								
ZEA					pmax	pmax			
	comp=N,10.0nm,0.9s								
ZEA					pmax	pmax			
	comp=Z,20nm,1.3s								
ZEA					MLR	MLR			
	comp=Z,100nm,17.0s								
ZEA	**Zeya**	**16.15**	**314**	*e*	P		**Pn**	**18 33 50.6**	**-0.1**
ZEA					AMB	AMB		18 33 52.1	
	comp=Z,10.0nm,1.0s								
JTU	**Tsushima**	**16.54**	**241**		P		**Pn**	**18 33 54.7**	**-0.9**
JNU	**Nakatsue**	**16.58**	**234**		P		**P**	**18 33 59.8**	**+2.4**
KROS	**Kirovskiy**	**16.64**	**316**	*e*	P		**Pn**	**18 33 56.0**	**-0.8**
KROS					AMB	AMB		18 33 58.9	
	comp=Z,7.0nm,0.9s								
KROS					AMB	AMB		18 33 58.9	
	comp=Z,20nm,0.9s								
KROS					AMB	AMB		18 33 58.9	
	comp=Z,20nm,0.9s								
TJN	**Taejon**	**16.77**	**250**	*i*	P		**Pn**	**18 33 58.2**	**-0.2**
SEY	**Seymchan**	**19.22**	**8**		P		**P**	**18 34 23.9**	**-2.2**
	comp=Z,1.4nm,0.3s,baz=195,slow=9.0,SNR=31								
SEY	**Seymchan**	**19.22**	**8**	*i*	P		**P**	**18 34 24.8**	**-1.2**
DL2	**Dalian**	**19.61**	**264**		P		**Pn**	**18 34 32.0**	**-0.7**
DL2					pmax	pmax			
	comp=Z,20nm,1.2s								
SMY	**Shemya**	**19.94**	**54**		P		**P**	**18 34 34.3**	**+0.4**
SMY					pmax	pmax			
	comp=Z,67nm,0.9s								
SMY	**Shemya**	**19.94**	**54**		P		**P**	**18 34 34.3**	**+0.4**
SMY					IAmb	IAmb		18 34 37.5	
	comp=Z,67nm,0.9s								
YAK	**Yakutsk**	**20.70**	**337**		P		**P**	**18 34 39.4**	**-2.7**
	comp=Z,8.7nm,0.4s,baz=309,slow=0.6,SNR=21								
YAK					LR	LR		18 43 12.5	
	comp=Z,48nm,20.0s,baz=29,slow=38								
YAK	**Yakutsk**	**20.70**	**337**	*e*	P		**P**	**18 34 38.2**	**-3.9**
YAK				*e*				18 35 09.1	
YAK					*e*S		**S**	**18 38 26.0**	**-2.4**
YAK					*e**SS		**sS**	**18 38 58.2**	**+2.9**
YAK					pmax	pmax			
	comp=Z,44nm,0.9s								
YAK					pmax	pmax			
	comp=N,4.0nm,1.2s								
YAK					pmax	pmax			
	comp=E,9.0nm,1.4s								
YAK					pmax	pmax			
	comp=Z,77nm,1.5s								
YAK					pmax	pmax			
	comp=N,105nm,1.9s								
YAK					pmax	pmax			
	comp=E,34nm,1.8s								
YAK					smax	smax			
	comp=N,65nm,2.3s								
YAK					smax	smax			
	comp=E,40nm,2.1s								
YAK	**Yakutsk**	**20.70**	**337**		P		**P**	**18 34 38.3**	**-3.7**
YAK					IAmb	IAmb		18 34 42.0	
	comp=Z,41nm,0.8s								
AMKA	**Amchitka**	**22.85**	**60**		P		**P**	**18 35 03.9**	**-1.1**
BJI	**Beijing**	**23.13**	**271**		P		**P**	**18 35 07.5**	**-0.4**
BJI					pmax	pmax			
	comp=Z,11nm,1.1s								
BJT	**Baijiatuan**	**23.14**	**271**		P		**P**	**18 35 06.5**	**-1.6**
BJT					pmax	pmax			
	comp=Z,14nm,1.2s								
BJT	**Baijiatuan**	**23.14**	**271**		P		**P**	**18 35 06.5**	**-1.6**
TIA	**Tai'an**	**24.00**	**261**		P		**P**	**18 35 16.3**	**+0.4**
TIA					pmax	pmax			
	comp=Z,17nm,1.1s								
BOD	**Bodaibo**	**24.64**	**316**	*e*	P		**P**	**18 35 17.1**	**-4.3**
BOD					pmax	pmax			
	comp=Z,13nm,1.4s								
NJ2	**Nanjing**	**25.02**	**251**	*e*	P		**P**	**18 35 26.0**	**+0.9**
NJ2					pmax	pmax			
	comp=Z,5.0nm,0.5s								
KIWB	**Kanaga Island**	**25.10**	**59**		P		**P**	**18 35 26.1**	**+0.5**
ADK	**Adak**	**25.39**	**59**		P		**P**	**18 35 29.5**	**+1.2**
ADK					pmax	pmax			
	comp=Z,20nm,1.0s								
ADK	**Adak**	**25.39**	**59**		P		**P**	**18 35 29.5**	**+1.2**
GSTR	**Great Sitkin T**	**25.79**	**59**		P		**P**	**18 35 33.2**	**+1.3**
BILL	**Bilibino**	**26.15**	**16**	*i*	P		**P**	**18 35 34.1**	**-0.9**
BILL				*i*	*PP		**pP**	**18 35 54.8**	**+1.1**
BILL					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BILL	**Bilibino**	**26.15**	**16**				**P**	**18 35 34.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**26.18**	**275**	*e*	P		**P**	**18 35 36.5**	**+0.8**
HHC					S		**S**	**18 39 52.5**	**-9.2**
HHC					sS		sS	18 40 40.5	+6.4
HHC					SS		**SnSn**	**18 41 17.8**	**+9.1**
HHC					pmax	pmax			
	comp=Z,18nm,0.8s								
HHC					pmax	pmax			
	comp=Z,84nm,5.0s								
HHC					L	L			
	comp=Z,170nm,12.7s								
HHC					L	L			
	comp=Z,120nm,12.7s								
HHC					L	L			
	comp=Z,220nm,12.5s								
BTO	**Baotou**	**27.37**	**276**	*e*	P		**P**	**18 35 47.8**	**+1.4**
BTO					S		**S**	**18 40 19.8**	**-0.6**
BTO					L	L			
	comp=Z,460nm,10.9s								
BTO					L	L			
	comp=Z,500nm,9.7s								
BTO					L	L			
	comp=Z,620nm,20.0s								
ULN	**Ulaanbaatar**	**27.79**	**292**	*i*	P		**P**	**18 35 50.6**	**+0.5**
ULN					pmax	pmax			
	comp=Z,6.0nm,1.0s								
ULN	**Ulaanbaatar**	**27.79**	**292**		P		**P**	**18 35 49.5**	**-0.6**
ULN	**Ulaanbaatar**	**27.79**	**292**	*e*	P		**P**	**18 35 50.6**	**+0.5**
ULN	**Ulaanbaatar**	**27.79**	**292**		P		**P**	**18 35 50.1**	**0.0**
	comp=Z,27nm,1.0s								
SONM	**Songino Array**	**28.23**	**292**		P		**P**	**18 35 54.3**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=90,slow=8.3,SNR=18								
SONM					LR	LR		18 47 51.5	
	comp=Z,114nm,19.4s,baz=86,slow=38								
SONM	**Songino Array**	**28.23**	**292**		P		**P**	**18 35 53.5**	**-0.5**
SONM					pmax	pmax			
	comp=Z,4.0nm,0.9s								
SONM	**Songino Array**	**28.23**	**292**		P		**P**	**18 35 53.5**	**-0.5**
TIXI	**Tiksi**	**29.07**	**348**		P		**P**	**18 36 00.1**	**-1.0**
	comp=Z,1.5nm,0.4s,baz=130,slow=7.9,SNR=3.6								
TIXI					PcP		**PcP**	**18 39 07.1**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=209,slow=3.1,SNR=3.3								
TIXI					LR	LR		18 48 35.4	
	comp=Z,63nm,21.4s,baz=180,slow=38								
TIXI	**Tiksi**	**29.07**	**348**	*e*	P		**P**	**18 36 01.4**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**29.40**	**139**		T		T	19 06 57.1	
	baz=330,slow=75,SNR=3626								
H11N1	**WAKE ISLAND Hy**	**29.41**	**139**		T		T	19 06 56.7	
	baz=330,slow=75,SNR=2976								
H11N3	**WAKE ISLAND Hy**	**29.41**	**139**		T		T	19 06 59.5	
	baz=330,slow=75,SNR=3618								
SPIA	**Saint Paul Isl**	**29.66**	**48**		P			18 36 06.6	
	baz=262								
TLY	**Talaya**	**29.68**	**300**		LR	LR		18 48 09.8	
	comp=Z,108nm,20.1s,baz=110,slow=37								
NIKH	**Nikolski High**	**30.20**	**57**		P			18 36 11.2	
	baz=271								
H11S1	**WAKE ISLAND Hy**	**30.36**	**141**		T		T	19 08 14.2	
	baz=331,slow=76,SNR=2605								
H11S3	**WAKE ISLAND Hy**	**30.37**	**141**		T		T	19 08 08.3	
	baz=331,slow=76,SNR=3623								
H11S2	**WAKE ISLAND Hy**	**30.38**	**141**		T		T	19 08 15.5	
	baz=331,slow=76,SNR=3009								
GAMB	**Gambell**	**30.58**	**35**		P			18 36 14.4	
	baz=250								
XAN	**Xi'an**	**30.93**	**264**		P		**P**	**18 36 17.3**	**-0.7**
XAN					pmax	pmax			
	comp=Z,6.0nm,1.4s								
XAN					L	L			
	comp=Z,170nm,19.5s								
ENH	**Enshi**	**32.56**	**258**		P		**P**	**18 36 31.8**	**-0.5**
TNA	**Tin City**	**32.71**	**33**		P		**P**	**18 36 32.4**	**-0.7**
TNA	**Tin City**	**32.71**	**33**		P			18 36 32.5	
	baz=251								
ANM	**Nome**	**33.46**	**35**		P			18 36 40.3	
	baz=255								
LZH	**Lanzhou**	**33.62**	**271**	*e*	P		**P**	**18 36 42.3**	**+0.7**
LZH					pmax	pmax			
	comp=Z,36nm,1.3s								
LZH					pmax	pmax			
	comp=Z,120nm,5.4s								
LZH					L	L			
	comp=Z,270nm,13.6s								
LZH					L	L			
	comp=Z,240nm,12.5s								
LZH					L	L			
	comp=Z,260nm,13.0s								
SDPT	**Sand Point**	**35.04**	**52**		P			18 36 53.0	
	baz=274								
GTA	**Gaotai**	**35.10**	**279**	⇑	P		**P**	**18 36 55.0**	**+0.7**
GTA					pP		pP	18 37 13.5	0.0
GTA					sP		sP	18 37 23.3	+0.4
GTA					PcP		**PcP**	**18 39 25.8**	**+1.6**
GTA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
GTA					pmax	pmax			
	comp=Z,90nm,5.1s								
GTA					L	L			
	comp=Z,120nm,14.2s								
GTA					L	L			
	comp=Z,120nm,16.7s								
GTA					L	L			
	comp=Z,120nm,18.9s								
RDOG	**Red Dog Mine**	**35.37**	**30**		P			18 36 55.9	
	baz=253								
CHNA	**Chernabura Isl**	**35.59**	**53**		P			18 36 59.3	
	baz=275								
CNBA	**Chernabura Isl**	**35.59**	**53**		P		**P**	**18 36 57.9**	**-0.2**
CD2	**Chengdu**	**36.28**	**264**		P		**P**	**18 37 04.5**	**+0.1**
CD2					pmax	pmax			
	comp=Z,40nm,0.6s								
N18K	**Kilae Creek**	**37.32**	**43**		P			18 37 14.8	
	baz=270,SNR=14								
TTA	**Tatalina**	**37.32**	**39**		P		**P**	**18 37 14.2**	**+1.3**
TTA					pmax	pmax			
	comp=Z,14nm,0.9s								
TTA	**Tatalina**	**37.32**	**39**		P		**P**	**18 37 14.2**	**+1.3**
TTA					IAmb	IAmb		18 37 15.2	
	comp=Z,14nm,0.9s								
TTA	**Tatalina**	**37.32**	**39**		P			18 37 13.8	
	baz=267								
SVW2	**Sparrevohn**	**37.47**	**42**		P		**P**	**18 37 15.7**	**+1.6**
SVW2					IAmb	IAmb		18 37 17.0	
	comp=Z,14nm,0.8s								
N19K	**Bonanza Creek**	**38.01**	**43**		P			18 37 20.3	
	baz=271,SNR=7.2								
A21K	**Barrow**	**38.37**	**26**		P		**P**	**18 37 20.7**	**-0.8**
A21K					IAmb	IAmb		18 37 22.4	
	comp=Z,15nm,0.8s								
A21K	**Barrow**	**38.37**	**26**		P			18 37 20.6	
	baz=256								
OHAK	**Old Harbor**	**38.87**	**48**		P		**P**	**18 37 26.4**	**+0.7**
OHAK	**Old Harbor**	**38.87**	**48**		P			18 37 26.0	
	baz=277								
RSO	**Redoubt South**	**38.87**	**43**		P		**P**	**18 37 27.0**	**+0.9**
NRIK	**Noril'sk**	**38.95**	**331**		PcP		**PcP**	**18 39 35.8**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=176,slow=0.2,SNR=3.7								
PPLA	**Purkeypile**	**39.07**	**39**		P		**P**	**18 37 29.8**	**+2.2**
PPLA	**Purkeypile**	**39.07**	**39**		P			18 37 29.4	
	baz=270								
SPCR	**Spurr Chakacha**	**39.10**	**42**		P			18 37 29.2	
	baz=273								
KDAK	**Kodiak Island**	**39.18**	**48**		P		**P**	**18 37 28.8**	**+0.4**
KDAK					pmax	pmax			
	comp=Z,30nm,0.9s								
KDAK	**Kodiak Island**	**39.18**	**48**		P		**P**	**18 37 28.8**	**+0.4**
KDAK	**Kodiak Island**	**39.18**	**48**		P			18 37 28.9	
	baz=276								
I21K	**Tanana**	**39.20**	**36**		P			18 37 29.4	
	baz=268,SNR=15								
SKT	**Skwentna**	**39.40**	**41**		P		**P**	**18 37 31.1**	**+0.8**
SKT					IAmb	IAmb		18 37 32.6	
	comp=Z,29nm,1.7s								
SKT	**Skwentna**	**39.40**	**41**		P			18 37 31.1	
	baz=272								
BPAW	**Bear Paw Mtn.**	**39.60**	**37**		P		**P**	**18 37 33.0**	**+1.1**
BPAW					IAmb	IAmb		18 37 34.3	
	comp=Z,19nm,1.2s								
BPAW	**Bear Paw Mtn.**	**39.60**	**37**		P			18 37 33.0	
	baz=270,SNR=8.1								
KTH	**Kantishna Hill**	**39.64**	**38**		P		**P**	**18 37 33.3**	**+1.0**
CNPM	**China Poot**	**39.70**	**45**		P		**P**	**18 37 33.1**	**+0.3**
CNPM					IAmb	IAmb		18 37 36.2	
	comp=Z,13nm,0.6s								
MLY	**Manley**	**39.72**	**36**		P		**P**	**18 37 33.4**	**+0.5**
MLY					IAmb	IAmb		18 37 35.2	
	comp=Z,14nm,1.0s								
MLY	**Manley**	**39.72**	**36**		P			18 37 33.8	
	baz=269,SNR=20								
SUA	**Susitna One**	**39.80**	**42**		P		**P**	**18 37 34.4**	**+0.7**
SUA					IAmb	IAmb		18 37 37.6	
	comp=Z,17nm,0.8s								
SUA	**Susitna One**	**39.80**	**42**		P			18 37 34.1	
	baz=274								
BRLK	**Bradley Lake**	**39.86**	**44**		P		**P**	**18 37 34.6**	**+0.5**
TRF	**Thorofare Moun**	**39.92**	**39**		P		**P**	**18 37 35.7**	**+0.9**
TRF					IAmb	IAmb		18 37 39.8	
	comp=Z,24nm,1.6s								
TRF	**Thorofare Moun**	**39.92**	**39**		P			18 37 35.5	
	baz=272,SNR=6.1								
BRSE	**Bradley Lake S**	**39.93**	**44**		P			18 37 35.4	
	baz=276								
CUT	**Chulitna**	**39.97**	**40**		P		**P**	**18 37 35.5**	**+0.6**
CUT	**Chulitna**	**39.97**	**40**		P			18 37 35.1	
	baz=273								
COLD	**Coldfoot**	**40.01**	**33**		P		**P**	**18 37 35.2**	**0.0**
COLD	**Coldfoot**	**40.01**	**33**		P			18 37 35.2	
	baz=267								
DGZ	**Jazzator, Alta**	**40.16**	**300**	*i*	P		**P**	**18 37 37.3**	**+0.5**
DGZ					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BWN	**Browne**	**40.27**	**37**		P		**P**	**18 37 39.0**	**+1.6**
I23K	**Minto, Yukon-K**	**40.30**	**36**		P		**P**	**18 37 38.2**	**+0.6**
I23K					IAmb	IAmb		18 37 39.8	
	comp=Z,16nm,0.9s								
I23K	**Minto, Yukon-K**	**40.30**	**36**		P			18 37 38.7	
	baz=270								
RC01	**Rabbit Creek A**	**40.31**	**42**		P		**P**	**18 37 38.6**	**+0.9**
RC01	**Rabbit Creek A**	**40.31**	**42**		P			18 37 38.5	
	baz=275,SNR=9.4								
TOLK	**Toolik Lake Re**	**40.34**	**30**		P		**P**	**18 37 37.4**	**-0.6**
TOLK	**Toolik Lake Re**	**40.34**	**30**		P			18 37 37.2	
	baz=266,SNR=6.0								
O22K	**Cooper Landing**	**40.37**	**43**		P		**P**	**18 37 38.6**	**+0.4**
NEA2	**Nenana**	**40.43**	**37**		P		**P**	**18 37 39.6**	**+0.8**
NEA2	**Nenana**	**40.43**	**37**		P			18 37 39.6	
	baz=271,SNR=33								
MCK	**McKinley**	**40.52**	**38**		P		**P**	**18 37 40.0**	**+0.5**
MCK					pmax	pmax			
	comp=Z,19nm,0.9s								
MCK	**McKinley**	**40.52**	**38**		P		**P**	**18 37 40.0**	**+0.5**
MCK					IAmb	IAmb		18 37 41.3	
	comp=Z,19nm,0.9s								
MCK	**McKinley**	**40.52**	**38**		P			18 37 40.0	
	baz=272,SNR=10								
SEW	**Seward**	**40.54**	**44**		P			18 37 39.4	
	baz=276								
PMR	**Palmer**	**40.56**	**41**		P		**P**	**18 37 40.0**	**+0.2**
PMR					pmax	pmax			
	comp=Z,11nm,0.8s								
PMR	**Palmer**	**40.56**	**41**		P		**P**	**18 37 40.0**	**+0.2**
PMR					IAmb	IAmb		18 37 41.8	
	comp=Z,11nm,0.8s								
PMR	**Palmer**	**40.56**	**41**		P			18 37 40.2	
	baz=275								
RND	**Reindeer**	**40.57**	**39**		IAmb	IAmb		18 37 41.5	
	comp=Z,21nm,0.9s								
GHO	**Glory Hole Cre**	**40.64**	**41**		P		**P**	**18 37 41.1**	**+0.5**
ZALV	**Zalesovo Beam**	**40.72**	**

M24K **Tolsona, Glenn** 41.90 40 P P 18 37 52.2 +1.3
M24K **Tolsona, Glenn** 41.90 40 P 18 37 52.4
baz=273
FID **Port Fidalgo** 41.93 42 P P 18 37 51.2 +0.1
FYU **Fort Yukon** 41.97 34 P P 18 37 52.4 +1.2
FYU IAmb IAmb 18 37 53.5
comp=Z,19nm,0.7s
KLU **Klutina** 42.10 41 P P 18 37 53.5 +1.0
KLU **Klutina** 42.10 41 P 18 37 53.3
baz=277
BMAR **Burnt Mountain** 42.19 32 P P 18 37 53.4 +0.2
EYAK **Cordova Ski Ar** 42.31 43 P 18 37 55.2
baz=279
HARP **HAARP** 42.34 40 P 18 37 54.1
baz=277
SCRK **Sand Creek** 42.69 37 P P 18 37 57.2 -0.1
SCRK IAmb IAmb 18 37 58.6
comp=Z,21nm,0.9s
SCRK **Sand Creek** 42.69 37 P 18 37 57.6
baz=276
N25K **Chitina, Valde** 42.71 41 P P 18 37 58.0 +0.5
N25K IAmb IAmb 18 38 00.1
comp=Z,25nm,1.6s
BMRM **Bremner River** 42.80 42 IAmb IAmb 18 38 02.0
comp=Z,26nm,1.0s
BMRM **Bremner River** 42.80 42 P 18 37 59.6
baz=279
MENT **Mentasta** 42.93 39 P P 18 38 00.3 +1.1
MENT IAmb IAmb 18 38 08.0
comp=Z,12nm,0.8s
VRDI **Verde Repeater** 43.31 41 P P 18 38 03.1 +0.6
VRDI IAmb IAmb 18 38 04.5
comp=Z,9.0nm,0.7s
MCARA **McCarthy VSAT** 43.49 41 P 18 38 05.5
baz=280
K27K **Chicken** 43.52 37 P P 18 38 04.8 +1.0
K27K **Chicken** 43.52 37 P 18 38 05.1
baz=278
CRQE **Cirque** 43.57 42 P 18 38 06.2
baz=280
L27K **Beaver Creek,** 43.77 39 IAmb IAmb 18 38 08.8
comp=Z,22nm,0.8s
L27K **Beaver Creek,** 43.77 39 P 18 38 07.8
baz=279
BCAR **Beaver Creek A** 43.79 39 P P 18 38 07.7 +1.6
EGAK **Eagle** 43.81 36 P 18 38 06.6
baz=278
BARN **Barnard Glacie** 44.20 41 IAmb IAmb 18 38 12.3
comp=Z,25nm,1.2s
GRNC **Granite Creek** 44.22 42 P P 18 38 10.9 +1.1
MESA **MESA** 44.24 43 P 18 38 11.4
baz=282
MK31 **Makanchi Array** 44.33 297 P P 18 38 09.9 -0.7
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 **Makanchi Array** 44.33 297 P P 18 38 09.9 -0.7
MKAR **Makanchi Array** 44.33 297 P P 18 38 10.1 -0.5
comp=Z,7.8nm,1.0s,baz=76,slow=2.9,SNR=23
MKAR PcP PcP 18 39 53.8 +0.4
comp=Z,1.3nm,0.4s,baz=71,slow=5.3,SNR=9.3
MKAR LR LR 18 59 58.1
comp=Z,55nm,19.6s,baz=134,slow=41
MKAR **Makanchi Array** 44.33 297 eP P 18 38 10.1 -0.5
MAKZ **Makanchi** 44.53 297 P P 18 38 11.5 -0.7
MAKZ pmax pmax
comp=Z,13nm,1.4s
MAKZ **Makanchi** 44.53 297 P P 18 38 11.5 -0.7
TABL **Table Mountain** 44.57 42 IAmb IAmb 18 38 16.5
comp=Z,16nm,1.0s
DAWY **Dawson** 44.68 37 P P 18 38 14.0 +0.8
PINM **Pinnacle** 45.08 43 P 18 38 16.5
baz=283
EPYK **Eagle Plains** 45.38 33 P P 18 38 19.6 +0.8
EPYK IAmb IAmb 18 38 20.8
comp=Z,19nm,1.0s
EPYK **Eagle Plains** 45.38 33 P 18 38 19.7
baz=280
LSA **Lhasa** 46.03 271 P P 18 38 25.4 +0.6
LSA pmax pmax
comp=Z,19nm,1.2s
LSA **Lhasa** 46.03 271 P P 18 38 25.4 +0.6
LSA IAmb IAmb 18 38 26.9
comp=Z,19nm,1.2s
HYT **Haines Junctio** 46.23 41 P P 18 38 27.2 +1.7
INK **Inuvik** 46.25 30 P P 18 38 25.0 -0.4
INK pmax pmax
comp=Z,14nm,0.4s
INK **Inuvik** 46.25 30 P P 18 38 25.0 -0.4
INK **Inuvik** 46.25 30 P 18 38 25.5
baz=281
TNTI **Ternate** 46.45 208 P P 18 38 28.2 +0.6
comp=Z,20nm,0.8s
CMMT **Chiang Mai** 47.21 254 P P 18 38 34.3 +0.7
comp=Z,12nm,1.0s
CMMT **Chiang Mai** 47.21 254 P P 18 38 33.3 -0.3
comp=Z,12nm,1.0s
CHTO **Chiang Mai** 47.21 254 P P 18 38 34.3 +0.7
CHTO pmax pmax
comp=Z,27nm,1.5s
CHTO **Chiang Mai** 47.21 254 P P 18 38 35.3 +1.7
comp=Z,12nm,1.0s
CHTO **Chiang Mai** 47.21 254 P P 18 38 34.2 +0.7
CHTO IAmb IAmb 18 38 35.3
comp=Z,27nm,1.5s
CHTO **Chiang Mai** 47.21 254 P P 18 38 34.2 +0.7
comp=Z,7.0nm,1.0s
CM31 **Chiang Mai Arr** 47.46 253 P P 18 38 36.0 +0.5
CM31 IAmb IAmb 18 39 14.8
comp=Z,18nm,1.6s
CMAR **Chiang Mai Arr** 47.46 253 P P 18 38 36.5 +1.0
comp=Z,2.4nm,0.7s,baz=44,slow=7.5,SNR=18
CMAR PcP PcP 18 40 06.0 +1.4
comp=Z,0.8nm,0.5s,baz=12,slow=1.1,SNR=6.2
CMAR **Chiang Mai Arr** 47.46 253 P P 18 38 34.8 -0.7
WHY **Whitehorse** 47.51 41 IAmb IAmb 18 38 38.7
comp=Z,18nm,1.3s
WHY **Whitehorse** 47.52 41 P 18 38 36.7
baz=287
TDK **Taldyqorghan** 47.52 296 eP P 18 38 35.0 -0.8
comp=Z,44nm,1.5s,baz=296
TDK **Taldyqorghan** 47.52 296 eP P 18 38 34.9 -0.8
TDK pmax pmax
comp=Z,44nm,1.5s
SHLS **Shalkode** 47.61 294 eP P 18 38 33.4 -3.2
comp=Z,18nm,1.8s,baz=294
SHLS **Shalkode** 47.61 294 eP P 18 38 33.4 -3.2
SHLS pmax pmax
comp=Z,18nm,1.8s
SHL **Shillong** 47.90 266 P P 18 38 38.5 -0.5
SHL pmax pmax
comp=Z,11nm,0.8s
SHL **Shillong** 47.90 266 P P 18 38 38.5 -0.5
SHL IAmb IAmb 18 38 39.7
comp=Z,11nm,0.8s
UZB **Uzynbulak** 47.91 294 eP P 18 38 37.6 -1.3
baz=294
UZB **Uzynbulak** 47.91 294 eP P 18 38 37.6 -1.3
KPKS **Kokpek** 47.99 294 eP P 18 38 39.0 -0.5
comp=Z,17nm,1.6s,baz=294
KPKS **Kokpek** 47.99 294 eP P 18 38 39.0 -0.5
KPKS pmax pmax
comp=Z,17nm,1.6s
SATY **Saty** 48.35 294 eP P 18 38 41.5 -0.8
comp=Z,22nm,2.0s,baz=294
SATY **Saty** 48.35 294 eP P 18 38 41.5 -0.8
SATY pmax pmax
comp=Z,22nm,2.0s
MRSI **Marisa** 48.73 214 P P 18 38 46.6 +1.4
comp=Z,27nm,1.1s
CHKK **Chushkaly** 48.93 296 eP P 18 38 45.5 -1.1
baz=296
CHKK **Chushkaly** 48.93 296 eP P 18 38 45.5 -1.1
BRZS **Berezniki** 49.07 305 eP P 18 38 46.2 -1.4
comp=Z,4.1nm,0.8s,baz=305
BRZS **Berezniki** 49.07 305 eP P 18 38 46.1 -1.4
BRZS pmax pmax
comp=Z,4.0nm,0.8s
MDOK **Medeo** 49.20 295 eP P 18 38 47.9 -0.9
baz=295
MDOK **Medeo** 49.20 295 eP P 18 38 47.9 -0.9
BRVK **Borovoye** 49.27 309 ceP P 18 38 49.1 +0.1
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK **Borovoye** 49.27 309 P P 18 38 47.6 -1.4
BRVK PcP PcP 18 40 10.0 -0.7

BRVK **Borovoye** 49.27 309 eP P 18 38 49.1 +0.1
C36M **Paulatuk** 49.32 28 P P 18 38 48.6 -0.4
C36M **Paulatuk** 49.32 28 P 18 38 48.7
baz=288
KUU **Kurty** 49.34 296 eP P 18 38 48.3 -1.4
comp=Z,21nm,1.6s,baz=296
KUU **Kurty** 49.34 296 eP P 18 38 48.2 -1.4
KUU pmax pmax
comp=Z,21nm,1.6s
KDJ **Kajisay** 49.58 294 P P 18 38 51.3 -0.4
KDJ pmax pmax
comp=Z,10.0nm,1.0s
KDJ **Kajisay** 49.58 294 P P 18 38 51.3 -0.4
KDJ IAmb IAmb 18 38 53.8
comp=Z,10nm,0.9s
BOOM **Boomskoye usch** 50.23 295 P P 18 38 56.7 0.0
BOOM pmax pmax
comp=Z,25nm,1.2s
BOOM **Boomskoye usch** 50.23 295 P P 18 38 56.7 0.0
BTLS **Baital** 50.30 298 eP P 18 38 55.7 -1.3
baz=298
BTLS **Baital** 50.30 298 eP P 18 38 55.6 -1.3
DLBC **Dease Lake** 50.59 43 P P 18 39 00.6 +1.6
DLBC IAmb IAmb 18 39 02.5
comp=Z,12nm,1.1s
SGDS **Sogindy** 50.64 296 eP P 18 38 58.6 -1.0
comp=Z,6.5nm,1.3s,baz=296
SGDS **Sogindy** 50.64 296 eP P 18 38 58.6 -1.0
SGDS pmax pmax
comp=Z,7.0nm,1.3s
FRU **Bishkek** 50.94 295 eP P 18 39 02.2 +0.4
FRU1 **Bishkek** 50.94 295 P P 18 39 02.2 +0.3
FRU1 pmax pmax
comp=Z,55nm,1.8s
FRU1 **Bishkek** 50.94 295 P P 18 39 02.2 +0.3
AAK **Ala-Archa** 51.11 295 iP P 18 39 02.5 -0.7
AAK pmax pmax
comp=Z,15nm,1.6s
AAK **Ala-Archa** 51.11 295 P P 18 39 02.9 -0.3
AAK IAmb IAmb 18 39 04.4
comp=Z,27nm,2.0s
AAK **Ala-Archa** 51.11 295 eP P 18 39 04.5 +1.3
KSH **Kashi** 51.62 291 P P 18 39 10.5 +3.4
KSH pmax pmax
comp=Z,6.0nm,1.4s
KSH pmax pmax
comp=Z,90nm,5.2s
RUBB **Prince Rupert** 52.11 47 P P 18 39 12.0 +1.8
RUBB IAmb IAmb 18 39 13.4
comp=Z,14nm,0.9s
EUNU **Eureka** 52.63 10 P P 18 39 11.3 -2.6
KKAR **Karatay Array** 53.46 298 P P 18 39 19.7 -0.8
KKAR **Karatay Array** 53.46 298 P P 18 39 19.7 -0.8
KKAR **Karatay Array** 53.46 298 IAmb IAmb 18 39 22.1
comp=Z,8.0nm,1.1s
SAUI **Saunlaki** 53.66 199 P P 18 39 22.1 0.0
comp=Z,780nm,1.2s
ARU **Arti** 54.05 317 ciP P 18 39 24.3 -0.2
ARU *PP pP 18 39 42.2 -2.6
ARU 18 40 27.4
ARU 18 41 24.5
ARU S S 18 46 57.8 +3.5
ARU SS SS 18 50 37.4 +1.4
ARU pmax pmax
comp=Z,10.0nm,0.9s
ARU **Arti** 54.05 317 P P 18 39 22.7 -1.8
ARU IAmb IAmb 18 39 24.9
comp=Z,8.5nm,0.7s
ARU **Arti** 54.05 317 eP P 18 39 24.4 -0.1
RES **Resolute Bay** 54.76 17 P P 18 39 28.9 -0.4
RES pmax pmax
comp=Z,9.0nm,0.8s
RES **Resolute Bay** 54.76 17 P P 18 39 28.9 -0.4
RES IAmb IAmb 18 39 29.9
comp=Z,9.4nm,0.8s
BTK **Batken** 54.78 294 P P 18 39 29.7 -0.5
BTK pmax pmax
comp=Z,6.0nm,0.7s
BTK **Batken** 54.78 294 P P 18 39 29.7 -0.5
BTK IAmb IAmb 18 39 34.1
comp=Z,5.5nm,0.7s
GAR **Garm** 55.67 293 P P 18 39 35.5 -1.1
YKA **Yellowknife Ar** 55.67 34 P P 18 39 36.9 +0.8
comp=Z,12nm,0.9s,baz=303,slow=6.8,SNR=49
YKA pP pP 18 39 57.4 +0.9
comp=Z,1.6nm,0.8s,baz=309,slow=9.8,SNR=2.8
YKA LR LR 19 07 21.1
comp=Z,35nm,18.4s,baz=0.0,slow=40
NIL **Nilore** 56.57 286 P P 18 39 43.0 0.0
NIL pmax pmax
comp=Z,14nm,0.7s
NIL **Nilore** 56.57 286 P P 18 39 43.0 0.0
ABKAR **Akbulak array** 56.78 309 P P 18 39 43.2 -1.1
ABKAR **Akbulak array** 56.78 309 P P 18 39 43.4 -0.8
ABKAR IAmb IAmb 18 39 45.5
comp=Z,9.6nm,1.0s
PRGR **Permogore** 57.27 326 eP P 18 39 43.6 -3.8
PRGR pmax pmax
comp=Z,21nm,1.0s
LLLB **Lillooet** 58.38 48 P P 18 39 56.2 +0.7
ARCES **ARCESS Array B** 58.95 339 P P 18 39 57.3 -1.8
comp=Z,0.5nm,0.3s,baz=49,slow=7.4,SNR=10
ARCES LR LR 19 06 54.3
comp=Z,53nm,21.6s,baz=30,slow=38
D03D **Eldon** 59.37 52 P 18 40 04.3
baz=303
KLMR **Klimovskoe** 60.13 327 eP P 18 40 04.4 -2.9
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR **Klimovskoe** 60.13 327 eP P 18 40 04.5 -2.9
KLMR AMP 18 40 08.2
comp=Z,19nm,1.2s
B08A **Colville Reser** 61.01 50 P P 18 40 14.1 +0.5
B08A IAmb IAmb 18 40 15.4
comp=Z,5.7nm,0.8s
G05D **Wamic, OR** 61.67 53 P 18 40 19.7
baz=305
I04A **Tendick Farm,** 61.86 55 P 18 40 21.3
baz=305
C09A **Chisman Ranch** 61.91 50 IAmb IAmb 18 40 21.5
comp=Z,8.2nm,0.8s
D08A **Wollman Farm,** 61.99 51 P P 18 40 20.9 +0.8
D08A IAmb IAmb 18 40 43.0
comp=Z,11nm,1.5s
F07A **Phinny Hill Vi** 62.09 52 P P 18 40 22.9 +2.0
NEW **Newport** 62.27 49 IAmb IAmb 18 40 24.5
comp=Z,7.7nm,0.9s
NEW **Newport** 62.27 49 P 18 40 23.3
baz=306
J04D **Umpqua Nationa** 62.36 56 P 18 40 22.9
baz=306
PINE **Pine Mountain** 62.73 55 IAmb IAmb 18 40 28.7
comp=Z,13nm,0.8s
E09A **Wood Farm, Sta** 62.74 51 IAmb IAmb 18 40 27.8
comp=Z,12nm,0.9s
L04D **Klamath Falls** 62.84 57 P 18 40 27.2
baz=306
J05D **Fort Rock, OR** 62.85 55 P 18 40 28.0
baz=306
M02C **Callahan** 62.99 58 P 18 40 29.7
baz=306
G08A **Pilot Rock** 63.00 52 P P 18 40 28.3 +1.3
N02D **Trinity Center** 63.33 58 P 18 40 30.8
baz=306
M04C **Macdoel** 63.38 57 P 18 40 31.8
baz=306
K05A **Summer Lake** 63.38 55 IAmb IAmb 18 40 33.1
comp=Z,18nm,1.1s
WALA **Waterton Lakes** 63.51 47 IAmb IAmb 18 40 32.8
comp=Z,12nm,1.1s
SUMG **Summit** 63.65 2 P P 18 40 29.3 -1.9
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG **Summit** 63.65 2 P P 18 40 29.3 -1.9
SUMG IAmb IAmb 18 40 32.5
comp=Z,13nm,1.1s
WDC **Whiskeytown Da** 63.66 58 P P 18 40 31.8 +0.5
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC **Whiskeytown Da** 63.66 58 P P 18 40 31.8 +0.5
O02D **Mt. Diablo Mer** 63.75 59 P 18 40 33.0
baz=307
GEYT **Alibeck** 64.18 299 P P 18 40 34.8 -0.1
comp=Z,5.4nm,0.8s,baz=11,slow=3.0,SNR=9.5
O03E **Paynes Creek** 64.28 58 P 18 40 37.0
baz=307

WB0 **Warramunga Arr** 64.50 193 P P 18 40 37.4 +0.6
WB0 IAmb IAmb 18 40 38.9
comp=Z,12nm,1.1s
FINES **FINESS Array B** 64.57 333 P P 18 40 34.9 -2.0
comp=Z,2.6nm,0.6s,baz=37,slow=7.3,SNR=19
FINES LR LR 19 12 19.3
comp=Z,80nm,18.9s,baz=77,slow=39
WRAB **Tennant Creek** 64.67 193 iP P 18 40 38.7 +0.7
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRA **Warramunga Arr** 64.68 193 P P 18 40 38.7 +0.6
comp=Z,6.8nm,0.9s,baz=11,slow=6.7,SNR=21
WRA **Warramunga Arr** 64.68 193 P P 18 40 37.8 -0.3
WRA **Warramunga Arr** 64.68 193 P P 18 40 37.8 -0.3
MSO **Missoula** 64.86 48 P 18 40 39.9
baz=308
OBN **Obninsk** 65.01 324 iP P 18 40 38.9 -0.9
OBN i 18 41 10.7
OBN i 18 43 00.4
OBN pmax pmax
comp=Z,12nm,0.9s
OBN **Obninsk** 65.01 324 eP P 18 40 38.9 -0.9
BEKR **Beckworth** 65.42 58 IAmb IAmb 18 40 45.5
comp=Z,10.0nm,0.9s
FFC **Flin Flon** 65.58 36 P P 18 40 44.2 +0.7
FFC pmax pmax
comp=Z,16nm,0.9s
FFC **Flin Flon** 65.58 36 P P 18 40 44.2 +0.7
FFC IAmb IAmb 18 40 45.4
comp=Z,16nm,0.8s
AFDM **Forest Hills D** 65.61 59 P P 18 40 45.2 +1.1
PAHR **Pah Rah Range** 66.11 57 IAmb IAmb 18 40 50.1
comp=Z,11nm,1.0s
EGMT **Eagleton** 66.31 46 P P 18 40 48.9 +0.4
EGMT IAmb IAmb 18 40 50.8
comp=Z,16nm,0.9s
EGMT **Eagleton** 66.31 46 P 18 40 49.7
baz=310
PNTR **Pine Nut** 66.36 58 IAmb IAmb 18 40 52.1
comp=Z,12nm,0.9s
DLMT **Dillon** 66.50 49 IAmb IAmb 18 40 52.6
comp=Z,10nm,1.1s
HLID **Hailey** 66.63 52 P P 18 40 52.1 +1.3
HLID **Hailey** 66.63 52 P 18 40 52.7
baz=309
YERR **Yerington** 66.65 58 IAmb IAmb 18 40 53.8
comp=Z,17nm,1.0s
BOZ **Bozeman (W)** 66.88 48 P P 18 40 53.6 +1.4
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ **Bozeman (W)** 66.88 48 P P 18 40 53.6 +1.4
BOZ IAmb IAmb 18 40 54.9
comp=Z,10nm,0.8s
BOZ **Bozeman (W)** 66.88 48 P 18 40 53.8
baz=310
KVN **Kaiserville** 67.30 57 IAmb IAmb 18 40 57.9
comp=Z,15nm,0.9s
RYN **Ryan** 67.31 58 IAmb IAmb 18 40 57.9
comp=Z,10.0nm,0.9s
NVAR **Mina Array Bea** 67.57 58 P P 18 40 58.7 +1.9
comp=Z,8.6nm,0.8s,baz=267,slow=6.6,SNR=59
NVAR pP pP 18 41 18.1 +0.2
comp=Z,3.1nm,0.9s,baz=278,slow=8.7,SNR=3.8
NVAR **Mina Array Bea** 67.57 58 P P 18 40 58.3 +1.5
NVAR pwP pP 18 41 18.4 +0.6
AKT **Akhty** 68.28 307 eP P 18 41 01.1 0.0
AKT e 18 41 28.3
AKT pmax pmax
comp=Z,16nm,1.1s
ASAR **Alice Springs** 68.40 193 P P 18 41 03.1 +1.4
comp=Z,2.6nm,0.8s,baz=7.6,slow=6.9,SNR=16
ASAR pP pP 18 41 22.9 0.0
comp=Z,0.9nm,0.7s,baz=6.3,slow=4.8,SNR=3.4
ASAR **Alice Springs** 68.40 193 P P 18 41 02.7 +1.0
RLMT **Red Lodge** 68.45 48 IAmb IAmb 18 41 05.3
comp=Z,17nm,1.6s
RLMT **Red Lodge** 68.46 48 P 18 41 04.1
baz=311
TPAW **Teton Pass** 68.61 50 IAmb IAmb 18 41 06.7
comp=Z,13nm,0.9s
PKM **Mcpherson Peak** 68.86 62 P 18 41 06.4
baz=310
CWC **Cottonwood Cre** 68.96 59 P 18 41 06.8
baz=310
LAO **LASA Array** 69.00 45 IAmb IAmb 18 41 08.1
comp=Z,13nm,0.9s
LAO **LASA Array** 69.00 45 P 18 41 06.9
baz=312
MNK **Minsk** 69.02 327 iP P 18 41 04.7 -0.6
MNK i *PP pP 18 41 25.5 -0.9
MNK i 18 41 28.1
MNK i *SP sP 18 41 34.5 -0.8
MNK i 18 43 37.7
MNK i PPP PPP 18 45 18.6
MNK i S S 18 50 03.1 -0.4
MNK i *SS sS 18 50 39.7 +1.7
MNK i 18 50 57.7
MNK i SSS SSS 18 57 40.5
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=N,70nm,20.0s
MNK MLR MLR
comp=Z,66nm,20.0s
MNK MLR MLR
comp=E,7.0nm,20.0s
MNK **Minsk** 69.02 327 iP P 18 41 04.7 -0.6
comp=E,1.0nm,0.9s
MNK i P P 18 41 04.7 -0.6
comp=N,12nm,0.9s
MNK i P P 18 41 04.7 -0.6
comp=Z,13nm,0.9s,baz=222
MNK i pP pP 18 41 25.5 -0.9
MNK i PcP PcP 18 41 28.2 -0.7
MNK i sP sP 18 41 34.6 -0.7
MNK i PP PP 18 43 37.8 -0.3
MNK i PPP PPP 18 45 18.7
MNK i S S 18 50 03.1 -0.3
MNK i sS sS 18 50 39.8 +1.7
MNK i ScS SKKSac 18 50 57.7 +0.4
MNK i SS SS 18 53 55.0 -35
MNK i SSS SSS 18 57 40.6
MNK i LQ LQ 19 06 39.8
MNK i LR LR 19 08 49.8
MNK i LRM MLR 19 13 26.1
comp=N,70nm,19.6s
MNK i LRM MLR 19 13 52.8
comp=Z,66nm,19.7s
MNK i LRM MLR 19 13 54.8
comp=E,7.0nm,19.7s
GRAC **Grapevine Rang** 69.05 59 P 18 41 07.7
baz=310
NC405 **NORSAR Array S** 69.11 339 P P 18 41 04.0 -1.8
NC405 IAmb IAmb 18 41 06.0
comp=Z,15nm,0.8s
NACGM **Naroch** 69.15 328 iP P 18 41 05.0 -1.1
ISA **Isabella, Lake** 69.21 60 P 18 41 08.3
baz=310
NC204 **NORSAR Array S** 69.22 339 IAmb IAmb 18 41 07.3
comp=Z,21nm,1.1s
R11A **Troy Canyon, C** 69.27 56 P 18 41 08.8
baz=310
NOA **NORSAR Array B** 69.30 339 P P 18 41 05.2 -1.7
comp=Z,5.2nm,0.8s,baz=33,slow=6.1,SNR=30
NOA LR LR 19 16 39.7
comp=Z,28nm,18.2s,baz=20,slow=40
KIV **Kislovodsk** 69.48 312 iP P 18 41 09.7 +1.3
KIV **Kislovodsk** 69.48 312 eP P 18 41 09.4 +1.0
KIV pmax pmax
comp=Z,62nm,1.1s
KIV **Kislovodsk** 69.48 312 P P 18 41 09.0 +0.5
KIV IAmb IAmb 18 41 10.7
comp=Z,22nm,1.0s
KIV **Kislovodsk** 69.48 312 eP P 18 41 09.4 +1.0
KBZ **Khabaz** 69.51 311 P P 18 41 09.3 +0.8
comp=Z,12nm,0.9s,baz=47,slow=3.3,SNR=19
KBZ LR LR 19 16 07.7
comp=Z,65nm,18.3s,baz=34,slow=40
KBZ **Khabaz** 69.51 311 ceP P 18 41 08.7 +0.2
KBZ pmax pmax
comp=Z,17nm,0.9s
KBZ **Khabaz** 69.51 311 eP P 18 41 08.7 +0.2

SCZ2 **Santa Cruz Isl** 69.54 62 P 18 41 10.7
baz=310
MPMC **Manual Prospec** 69.57 59 P 18 41 10.8
baz=310
ZEI **Tsey** 69.59 310 *e*P **P** **18 41 08.2 -1.1**
ZEI pmax pmax
comp=Z,15nm,1.0s
SHA1 **Shidzhatmaz** 69.64 311 *i* P **P** **18 41 10.1 +0.5**
FURC **Furnace Creek,** 69.70 59 P 18 41 11.2
baz=310
DUG **Dugway, Tooele** 69.71 53 IAmb IAmb 18 41 12.8
comp=Z,10nm,0.8s
DUG **Dugway, Tooele** 69.71 53 P 18 41 11.9
baz=311
PABE **Paberze** 69.76 329 P **P** **18 41 09.2 -0.6**
TPNV **Topopah Spring** 69.76 58 P **P** **18 41 11.4 +1.0**
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 69.76 58 P **P** **18 41 11.4 +1.0**
TPNV IAmb IAmb 18 41 13.1
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 69.76 58 P 18 41 12.2
baz=310
LRMC **Laurel Mtn Rad** 69.82 60 P 18 41 12.1
baz=310
PDAR **Pinedale Array** 69.85 50 P **P** **18 41 12.2 +1.2**
comp=Z,3.9nm,0.7s,baz=274,slow=2.1,SNR=37
PDAR pP **pP** **18 41 32.2 +0.1**
comp=Z,1.6nm,0.7s,baz=276,slow=1.8,SNR=4.6
PDAR **Pinedale Array** 69.85 50 P **P** **18 41 12.0 +1.1**
BW06 **Boulder Array** 69.86 50 P 18 41 12.1
baz=312
ONI **Oni** 69.97 310 P **P** **18 41 12.0 +0.6**
ONI **Oni** 69.97 310 P **P** **18 41 12.0 +0.6**
ONI IAmb IAmb 18 41 14.3
comp=Z,12nm,0.9s
EDW2 **Edwards Air Fo** 70.01 61 P 18 41 13.1
baz=310
JLU **Jordanelle** 70.22 52 P **P** **18 41 14.2 +0.9**
SHOC **Shoshone, Teco** 70.43 59 P 18 41 16.3
baz=311
MPU **Maple Canyon** 70.51 53 IAmb IAmb 18 41 17.6
comp=Z,10nm,0.9s
BFSC **Mount Baldy Ra** 70.64 61 P 18 41 17.6
baz=311
GNI **Garni** 70.86 308 *ce*P **P** **18 41 18.5 +1.4**
GNI pmax pmax
comp=Z,11nm,1.0s
TUQ **Turquoise Moun** 70.94 59 P 18 41 19.0
baz=311
HEC **Hector,Ludlow** 71.08 60 P 18 41 19.9
baz=311
SUW **Suwalki** 71.20 329 P **P** **18 41 17.7 -0.9**
SUW pmax pmax
comp=Z,18nm,0.7s
SUW **Suwalki** 71.20 329 P **P** **18 41 17.7 -0.9**
AKSG **Malin Array Be** 71.28 324 P **P** **18 41 18.4 -0.8**
comp=Z,8.7nm,0.8s,baz=39,slow=6.5,SNR=26
AKASG LR LR 19 15 26.3
comp=Z,35nm,18.2s,baz=60,slow=38
AKASG **Malin Array Be** 71.28 324 P **P** **18 41 18.7 -0.4**
AKASG IAmb IAmb 18 41 19.7
comp=Z,19nm,1.7s
AKBB **Malin Array Si** 71.28 324 *ce*P **P** **18 41 18.4 -0.7**
AKBB **Malin Array Si** 71.28 324 P **P** **18 41 18.4 -0.7**
AKBB IAmb IAmb 18 41 20.7
comp=Z,12nm,0.8s
SOC **Sochi** 71.31 313 *e*P **P** **18 41 17.1 -2.4**
SOC *e*S **S** **18 50 28.1 -2.5**
SOC *e*SS **SS** **18 55 13.3 +8.0**
MURC **Murrieta** 71.34 61 P 18 41 21.0
baz=311
P17A **Butcher Ranch,** 71.38 53 IAmb IAmb 18 41 22.9
comp=Z,12nm,0.9s
ULM **Lac du Bonnet** 71.38 37 P **P** **18 41 20.0 +0.2**
comp=Z,4.1nm,0.7s,baz=307,slow=7.6,SNR=4.5
ULM **Lac du Bonnet** 71.38 37 P **P** **18 41 20.0 +0.2**
MDND **Maddock** 71.44 41 P 18 41 21.2
baz=316
MTPU **Mount Pierson** 71.49 55 P **P** **18 41 23.0 +1.9**
GMRC **Granite Mounta** 71.53 59 P 18 41 22.5
baz=311
K22A **Casper** 71.58 48 P 18 41 22.5
baz=313
SRU **San Rafael Swe** 71.75 53 IAmb IAmb 18 41 24.9
comp=Z,15nm,0.8s
PFO **Pinyon Flats O** 71.80 61 P 18 41 24.6
baz=311
TPFO **Pinon Flats** 71.81 61 P 18 41 24.6
baz=311
BELC **Belle Mtn. Jos** 71.84 60 P 18 41 23.9
baz=311
RWWY **Rawlins** 71.87 49 IAmb IAmb 18 41 24.3
comp=Z,9.6nm,1.0s
RSSD **Black Hills** 71.88 46 P **P** **18 41 23.6 +0.4**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD **Black Hills** 71.88 46 P **P** **18 41 23.6 +0.4**
RSSD **Black Hills** 71.88 46 P 18 41 23.8
baz=314
IRM **Iron Mountain** 72.27 60 P 18 41 27.0
baz=312
MONP2 **Monument Peak** 72.30 61 P 18 41 27.0
baz=311
O20A **White River Ci** 72.36 51 IAmb IAmb 18 41 28.3
comp=Z,12nm,1.1s
O20A **White River Ci** 72.36 51 P 18 41 27.5
baz=313
BC3 **Big Chuckawall** 72.41 60 P 18 41 27.6
baz=312
IKP **In-Ko-Pah, Jac** 72.66 61 P 18 41 28.5
baz=312
PDMCI **Parker Dam,Lak** 72.79 59 P 18 41 29.9
baz=312
AGMN **Agassiz Nation** 72.83 38 P **P** **18 41 28.4 -0.1**
AGMN IAmb IAmb 18 41 29.6
comp=Z,12nm,1.1s
AGMN **Agassiz Nation** 72.83 38 P 18 41 28.3
baz=318
N23A **Red Feather La** 73.11 49 P 18 41 32.3
baz=314
PV14 **Lion Creek, Pa** 73.11 53 IAmb IAmb 18 41 33.0
comp=Z,11nm,0.8s
PV22 **Blue Mesa, Par** 73.14 53 IAmb IAmb 18 41 33.2
comp=Z,12nm,0.9s
PV20 **West Nyswonger** 73.16 53 IAmb IAmb 18 41 33.4
comp=Z,12nm,0.9s
PV04 **Paradox Valley** 73.17 53 P **P** **18 41 32.1 +1.3**
PV04 IAmb IAmb 18 41 33.5
comp=Z,10nm,0.9s
PV19 **Morning Glory** 73.18 53 IAmb IAmb 18 41 33.5
comp=Z,13nm,0.8s
GLA **Glamis** 73.20 60 IAmb IAmb 18 43 58.0
comp=Z,7.4nm,0.8s
GLA **Glamis** 73.20 60 P 18 41 33.6
baz=312
PV16 **Nyswonger Mesa** 73.22 53 IAmb IAmb 18 41 33.7
comp=Z,12nm,0.9s
PV11 **David Mesa, Pa** 73.25 53 P **P** **18 41 32.5 +1.1**
PV18 **Skein Mesa, Pa** 73.26 53 IAmb IAmb 18 41 34.0
comp=Z,13nm,0.9s
PV05 **Paradox Valley** 73.27 53 IAmb IAmb 18 41 34.2
comp=Z,17nm,1.0s
PV13 **Radium Mtn., P** 73.37 53 P **P** **18 41 33.6 +1.5**
PV13 IAmb IAmb 18 41 34.7
comp=Z,14nm,0.9s
PV15 **Paradox Valley** 73.44 53 IAmb IAmb 18 41 35.0
comp=Z,10.0nm,1.0s
GURO **Guroymak-BITLI** 73.49 308 IAmb IAmb 18 41 34.8
comp=Z,16nm,1.0s
PV01 **Paradox Valley** 73.53 53 IAmb IAmb 18 41 35.5
comp=Z,21nm,1.7s
SORM **Soroca** 73.57 322 ⇑P **P** **18 41 32.0 -0.8**
WUAZ **Wupatki** 73.67 56 P 18 41 35.7
baz=313
B35A **Bob, Littlefor** 73.73 37 P **P** **18 41 33.7 -0.1**
B35A IAmb IAmb 18 41 34.8
comp=Z,8.7nm,0.8s
ISCO **Idaho Springs** 74.05 50 P 18 41 37.1
baz=314
LVV **L'vov** 74.12 326 *e*P **P** **18 41 35.7 -0.3**
MVCO **Mesa Verde** 74.21 53 P 18 41 38.6
baz=314
X16A **Lo Mia Camp, P** 74.37 57 IAmb IAmb 18 41 41.0
comp=Z,9.7nm,0.9s
F33A **5 Mile Ranch,** 74.46 40 IAmb IAmb 18 41 39.6
comp=Z,11nm,1.0s

S22A **4UR Ranch, Cre** 74.80 52 P 18 41 42.4
baz=314
KWP **Kalwaria Pacla** 74.81 326 *e*P **P** **18 41 40.4 +0.4**
Q24A **Divide** 74.89 50 P 18 41 41.9
baz=315
EYMN **Ely** 75.01 36 IAmb IAmb 18 41 42.4
comp=Z,12nm,0.9s
EYMN **Ely** 75.01 36 P 18 41 41.2
baz=321
OGNE **Ogallala** 75.17 47 P 18 41 43.1
baz=316
214A **Organ Pipe Nat** 75.19 60 P 18 41 43.8
baz=313
BUR01 **Bucovina Ar. S** 75.33 323 ⇓P **P** **18 41 43.2 0.0**
BURAR **Bucovina Array** 75.33 323 P **P** **18 41 43.0 -0.2**
BIZ **Bicaz** 75.47 323 ⇓P **P** **18 41 44.0 +0.1**
OJC **Ojcow** 75.48 328 *e*P **P** **18 41 43.6 -0.3**
OJC **Ojcow** 75.48 328 P **P** **18 41 43.7 -0.1**
OJC pmax pmax
comp=Z,32nm,1.1s
OJC **Ojcow** 75.48 328 P **P** **18 41 43.7 -0.1**
KOLS **Kolonicke sedl** 75.53 326 *e*P **P** **18 41 44.4 +0.2**
KOLS **Kolonicke sedl** 75.53 326 *e*P **P** **18 41 44.4 +0.2**
SDCO **Great Sand Dun** 75.55 51 P 18 41 46.1
baz=315
STHS **Stebnicka Huta** 75.56 327 *e*P **P** **18 41 45.0 +0.7**
STHS **Stebnicka Huta** 75.56 327 *e*P **P** **18 41 45.0 +0.7**
TESR **Tescani** 75.56 322 ⇓P **P** **18 41 44.2 -0.2**
TLCR 75.58 320 ⇓P **P** **18 41 44.5 +0.1**
BSEG **Bad Segeberg** 75.62 335 *e*P **P** **18 41 44.6 0.0**
comp=Z,23nm,1.2s,baz=31,slow=5.6
STKA **Stephens Creek** 75.68 185 P **P** **18 41 46.0 +1.0**
comp=Z,1.6nm,0.7s,baz=328,slow=5.3,SNR=3.9
ECSD **EROS Data Cent** 75.87 42 IAmb IAmb 18 41 47.7
comp=Z,15nm,1.0s
ECSD **EROS Data Cent** 75.87 42 P 18 41 46.6
baz=318
CRVS **Cervenica-Dubn** 75.88 326 *e*P **P** **18 41 46.5 +0.3**
CRVS pmax pmax
comp=Z,48nm,1.7s
CRVS **Cervenica-Dubn** 75.88 326 *e*P **P** **18 41 46.5 +0.3**
CFR **Carcaliu** 75.90 320 ⇓P **P** **18 41 45.9 -0.4**
TPGR **Topolog** 76.01 320 ⇓P **P** **18 41 47.1 +0.1**
VRI **Vrincioaia** 76.02 322 ⇓P **P** **18 41 46.8 -0.2**
E38A **The Farm, Brul** 76.02 37 IAmb IAmb 18 41 47.9
comp=Z,15nm,0.8s
PLOR **Plostina** 76.06 322 ⇓P **P** **18 41 47.1 -0.2**
TUC **Tucson** 76.21 58 P **P** **18 41 49.2 +0.8**
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC **Tucson** 76.21 58 P **P** **18 41 49.2 +0.8**
TUC **Tucson** 76.21 58 P 18 41 49.1
baz=314
OZUR 76.26 322 ⇓P **P** **18 41 49.2 +0.8**
KSP **Ksiaz** 76.26 330 *e*P **P** **18 41 49.4 +0.1**
HARR **Harsova** 76.37 320 ⇓P **P** **18 41 49.4 +0.4**
LANS **Liptovska Anna** 76.47 328 *e*P **P** **18 41 50.8 +1.3**
LANS pmax pmax
comp=Z,14nm,1.0s
LANS **Liptovska Anna** 76.47 328 *e*P **P** **18 41 50.8 +1.3**
SPMN **Marine on St.** 76.53 39 P 18 41 49.8
baz=320
DOPR **Dopca** 76.54 322 ⇓P **P** **18 41 50.7 +0.8**
CHVC **Chvalec** 76.56 330 *e*P **P** **18 41 50.0 0.0**
T25A **Trinidad** 76.59 51 P 18 41 51.0
baz=316
UPC **Upice** 76.64 330 *e*P **P** **18 41 50.8 +0.4**
UPC **Upice** 76.64 330 *e*P **P** **18 41 50.8 +0.4**
MLR **Muntele Rosu** 76.66 322 ⇑P **P** **18 41 51.2 +0.4**
MLR **Muntele Rosu** 76.66 322 IAmb IAmb 18 41 52.2
comp=Z,22nm,1.3s
DPC **Dobruska-Polom** 76.66 330 *e*P **P** **18 41 50.8 +0.2**
DPC **Dobruska-Polom** 76.66 330 *e*P **P** **18 41 50.8 +0.2**
ISR **Istrita** 76.67 321 ⇓P **P** **18 41 51.1 +0.3**
MORC **Moravsky Berou** 76.69 329 ⇑P **P** **18 41 50.9 +0.2**
MORC **Moravsky Berou** 76.69 329 *e*P **P** **18 41 50.7 -0.1**
FLTG **Flechtingen** 76.72 334 *e*P **P** **18 41 50.2 -0.6**
comp=Z,22nm,1.0s,baz=31,slow=5.6
KRLC **Kraliky** 76.72 330 *e*P **P** **18 41 51.0 0.0**
CJR **Cluj-Napoca** 76.73 324 ⇓P **P** **18 41 51.6 +0.5**
ICOR **Ion Corvin** 76.86 320 ⇓P **P** **18 41 51.8 +0.1**
NRDL **Niersach Rie** 76.93 335 *e*P **P** **18 41 51.8 -0.1**
comp=Z,53nm,2.0s,baz=31,slow=5.6
D41A **Chassel** 76.94 35 IAmb IAmb 18 41 54.4
comp=Z,19nm,1.0s
ANMO **Albuquerque** 76.97 54 P **P** **18 41 54.3 +1.5**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO **Albuquerque** 76.97 54 P **P** **18 41 54.3 +1.5**
ANMO **Albuquerque** 76.97 54 P 18 41 54.5
baz=315
CLL **Collm** 77.01 332 ⇓*i*P **P** **18 41 51.5 -1.0**
comp=Z,25nm,1.0s
CLL *e* 18 42 29.0
CLL **Collm** 77.01 332 ⇓*i*P **P** **18 41 51.5 -1.0**
CLL pmax pmax
comp=Z,25nm,1.0s
CLL **Collm** 77.01 332 *e*P **P** **18 41 51.9 -0.6**
comp=Z,25nm,1.0s,baz=31,slow=5.6
DRGR 77.04 324 ⇓P **P** **18 41 52.9 0.0**
BRG **Berggiesshubel** 77.06 332 *e*P **P** **18 41 52.5 -0.3**
BRG Amp 18 41 53.6
comp=Z,11nm,1.2s
BRG **Berggiesshubel** 77.06 332 *e*P **P** **18 41 52.5 -0.3**
comp=Z,11nm,1.2s,baz=31,slow=5.6
VOIR 77.10 322 ⇓P **P** **18 41 53.7 +0.5**
KDZE **Karadeniz Ereo** 77.21 316 ⇑P **P** **18 41 53.4 -0.4**
FBE **Freiberg** 77.22 332 *e*P **P** **18 41 53.7 0.0**
comp=Z,19nm,1.0s,baz=31,slow=5.6
VYHS **Vyhne** 77.24 328 *e*P **P** **18 41 54.5 +0.6**
VYHS pmax pmax
comp=Z,69nm,2.4s
VYHS **Vyhne** 77.24 328 *e*P **P** **18 41 54.5 +0.6**
BRTR **Keskin Array B** 77.25 313 P **P** **18 41 54.4 +0.1**
comp=Z,3.8nm,0.9s,baz=57,slow=4.6,SNR=8.4
BRTR **Keskin Array B** 77.25 313 P **P** **18 41 54.2 -0.1**
BRTR **Keskin Array B** 77.25 313 P **P** **18 41 54.2 -0.1**
PSZ **Piszkesteto** 77.30 327 ⇓P **P** **18 41 54.6 +0.3**
PSZ **Piszkesteto** 77.30 327 P **P** **18 41 54.3 0.0**
PSZ pmax pmax
comp=Z,19nm,0.9s
PSZ **Piszkesteto** 77.30 327 P **P** **18 41 54.3 0.0**
PSZ IAmb IAmb 18 41 55.7
comp=Z,19nm,0.9s
ARR **Arges** 77.34 322 ⇓P **P** **18 41 55.4 +0.9**
JAVC **Velka Javorina** 77.39 328 *e*P **P** **18 41 55.7 +1.0**
CLZ **Clausthal** 77.41 334 *e*P **P** **18 41 55.0 +0.2**
comp=Z,45nm,1.4s,baz=31,slow=5.6
SCHQ **Schefferville** 77.42 19 P **P** **18 41 55.0 +0.2**
comp=Z,4.2nm,0.3s,baz=1.7,slow=5.4,SNR=21
SCHQ LR LR 19 17 03.0
comp=Z,47nm,21.4s,baz=96,slow=36
SCHQ **Schefferville** 77.42 19 IAmb IAmb 18 41 55.4
comp=Z,11nm,0.9s
VRAC **Vranov** 77.42 329 ⇓P **P** **18 41 55.2 +0.3**
VRAC **Vranov** 77.42 329 *e*P **P** **18 41 55.1 +0.3**
COWI **Conover** 77.46 36 IAmb IAmb 18 41 55.7
comp=Z,8.9nm,0.8s
NEUB **Neuenburg** 77.50 333 *e*P **P** **18 41 54.9 -0.3**
comp=Z,31nm,1.1s,baz=31,slow=5.6
PRU **Pruhonice** 77.60 331 *e*P **P** **18 41 55.6 -0.2**
PRU **Pruhonice** 77.60 331 *e*P **P** **18 41 55.6 -0.2**
G40A **Rib Lake** 77.65 37 IAmb IAmb 18 41 57.4
comp=Z,11nm,1.0s
KRUC **Moravsky** 77.70 329 *e*P **P** **18 41 56.5 +0.1**
SMOL **Smolenice** 77.77 328 *e*P **P** **18 41 57.7 +0.9**
SMOL pmax pmax
comp=Z,11nm,1.1s
SMOL **Smolenice** 77.77 328 *e*P **P** **18 41 57.7 +0.9**
319A **Douglas** 77.77 58 IAmb IAmb 18 42 00.1
comp=Z,14nm,0.9s
GTTG **Gottingen** 77.80 334 *e*P **P** **18 41 56.9 +0.1**
comp=Z,26nm,0.9s,baz=31,slow=5.6
IBBN **Ibbenburen** 77.81 336 *e*P **P** **18 41 56.7 -0.2**
comp=Z,31nm,1.2s,baz=31,slow=5.6
ESK **Eskdalemuir** 77.85 343 *e*P **P** **18 41 56.9 -0.2**
ESK IAmb IAmb 18 41 57.6
comp=Z,9.3nm,0.8s
121A **Cookes Peak, D** 77.88 56 P 18 41 59.6
baz=315
TANN **Tannenbergstha** 77.95 332 *e*P **P** **18 41 57.5 -0.3**
comp=Z,8.1nm,1.1s,baz=31,slow=5.6
PLN **Plauen** 77.99 332 *e*P **P** **18 41 57.9 -0.1**
comp=Z,10nm,1.1s,baz=31,slow=5.6
COPA **Copaceanca** 78.04 321 ⇓P **P** **18 41 58.1 -0.3**

MOX **Moxa** 78.04 333 *e*P **P** **18 41 57.6 -0.7**
comp=Z,18nm,1.2s,baz=31,slow=5.6
MOX *e*L L 19 20 56.1
comp=Z,34nm,20.1s
GUNZ **Gunzen** 78.04 332 *e*P **P** **18 41 58.2 -0.1**
comp=Z,9.7nm,0.9s,baz=31,slow=5.6
PBCC **Pribram** 78.04 331 *e*P **P** **18 41 58.5 +0.2**
WERN **Wernitzgruen** 78.09 332 *e*P **P** **18 41 58.5 -0.1**
comp=Z,13nm,0.9s,baz=31,slow=5.6
GZR **Gura Zlata** 78.12 323 ⇑P **P** **18 41 58.5 -0.4**
ZST **Bratislava** 78.15 328 *e*P **P** **18 42 00.1 +1.2**
MANZ **Manzenberg** 78.44 332 *e*P **P** **18 42 00.4 -0.1**
comp=Z,9.8nm,1.0s,baz=31,slow=5.6
BZS **Buzias** 78.44 324 ⇑P **P** **18 42 00.2 -0.3**
KASTN **Kahler Asten** 78.57 335 *e*P **P** **18 42 01.1 -0.1**
comp=Z,18nm,1.1s,baz=31,slow=5.6
ROTZ **Rotzenmuhle** 78.59 332 *e*P **P** **18 42 01.5 +0.2**
comp=Z,15nm,1.1s,baz=31,slow=5.6
KHC **Kasperske Hory** 78.66 331 *e*P **P** **18 42 02.0 +0.3**
KHC *e* 18 42 23.4
KHC **Kasperske Hory** 78.66 331 *e*P **P** **18 42 02.0 +0.3**
KHC *e*pP **pP** **18 42 23.4 +0.2**
KHC *ex* x 18 42 38.4
CKRC **Cesky Krumlov** 78.66 330 *e*P **P** **18 42 01.7 0.0**
HERR **Herculane** 78.69 323 ⇓P **P** **18 42 01.2 -0.6**
BUG **Bochum--Univer** 78.71 336 *e*P **P** **18 42 01.6 -0.3**
comp=Z,25nm,1.0s,baz=31,slow=5.6
HPK **Haverah Park** 78.77 342 *e*P **P** **18 42 02.0 -0.2**
HPK IAmb IAmb 18 42 03.1
comp=Z,25nm,0.9s
MATQ **Matagami** 78.83 28 P 18 42 02.5
baz=329
CONA **Conrad Observa** 78.84 329 *i* P **P** **18 42 03.3 +0.5**
comp=Z,15nm,0.9s,SNR=8.3
GEC2 **GERESS Array S** 78.86 331 *e*P **P** **18 42 02.6 -0.3**
comp=Z,9.9nm,1.0s,baz=31,slow=5.6
GERES **GERESS Array B** 78.86 331 P **P** **18 42 02.6 -0.3**
comp=Z,6.4nm,0.9s,baz=37,slow=5.2,SNR=37
GERES **GERESS Array B** 78.86 331 P **P** **18 42 02.5 -0.4**
SCIA **State Center** 78.89 41 P 18 42 03.5
baz=320
WET **Wettzell** 78.89 331 *e*P **P** **18 42 03.3 +0.3**
comp=Z,25nm,1.0s,baz=31,slow=5.6
GRF **Grafenberg Arr** 78.99 332 *e*P **P** **18 42 03.8 +0.3**
comp=Z,34nm,0.9s,baz=31,slow=5.6
GRF *e*L L 19 14 58.2
comp=Z,41nm,20.7s
GRFO **Grafenberg** 78.99 332 P **P** **18 42 03.5 0.0**
GRFO pmax pmax
comp=Z,29nm,0.9s
GRFO **Grafenberg** 78.99 332 P **P** **18 42 03.5 0.0**
MDVR **Moldova** 79.07 324 ⇓P **P** **18 42 03.7 -0.3**
MORH **Mrgy, Hungar** 79.18 326 ⇓P **P** **18 42 04.0 -0.5**
LBWR **Ladybower, Pea** 79.31 342 *e*P **P** **18 42 05.4 +0.3**
LBWR IAmb IAmb 18 42 06.1
comp=Z,51nm,0.9s
H43A **Windswept, Lux** 79.34 36 IAmb IAmb 18 42 06.9
comp=Z,20nm,0.9s
TNS **Taunus Mts** 79.42 334 *e*P **P** **18 42 05.8 -0.1**
comp=Z,24nm,1.2s,baz=31,slow=5.6
MOA **Molln** 79.49 330 *e*P **P** **18 42 06.1 -0.2**
comp=Z,5.6nm,0.8s
MILB **Miltenberg** 79.50 334 *e*P **P** **18 42 06.1 -0.2**
comp=Z,22nm,1.0s,baz=31,slow=5.6
ARSA **Arzberg** 79.53 329 *e*P **P** **18 42 06.8 +0.2**
comp=Z,3.9nm,0.7s
AHRW **Bad Neuenahr-A** 79.56 335 *e*P **P** **18 42 06.6 +0.1**
baz=31,slow=5.6
FRGS **Fruska Gora** 79.56 325 ⇓P **P** **18 42 06.6 -0.1**
LSQQ **Lebel-sur-Quev** 79.65 28 P 18 42 06.8
baz=330
L40A **Anamosa** 79.70 40 IAmb IAmb 18 42 08.5
comp=Z,14nm,1.0s
AMTX **Amarillo** 79.75 51 P 18 42 09.2
baz=317
CHGQ **Chibougamau** 79.75 26 P 18 42 07.1
baz=331
MSTX **Muleshoe** 79.79 52 P 18 42 09.7
baz=317
BTNL **Ternell** 79.81 336 *d*P **P** **18 42 07.5 -0.5**
BTNL *d*pP **pP** **18 42 27.7 -1.8**
MEM **Membach** 79.82 336 *d*P **P** **18 42 07.5 -0.5**
comp=Z,17nm,1.1s
MNTX **Cornudas Mount** 79.90 56 P **P** **18 42 09.8 +1.0**
MNTX **pP** **18 42 28.9 -1.4**
MNTX **Cornudas Mount** 79.90 56 P 18 42 10.0
baz=316
BSTI **Sart Tilman** 79.97 336 *d*P **P** **18 42 08.7 0.0**
FOEL **Foel Wylfa** 80.12 342 *e*P **P** **18 42 08.8 -0.7**
FOEL IAmb IAmb 18 42 09.6
comp=Z,49nm,1.0s
VTS **Vitosha** 80.12 321 ⇓P **P** **18 42 09.8 -0.1**
VTS **Vitosha** 80.12 321 IAmb IAmb 18 42 11.5
comp=Z,20nm,1.0s
ALN **Alexandroupoli** 80.17 319 IAmb IAmb 18 42 11.3
comp=Z,16nm,1.0s
SOKA **Soboth** 80.19 329 *i* P **P** **18 42 10.2 0.0**
comp=Z,15nm,0.9s,SNR=11
BCLA **Clavier** 80.20 336 kP **P** **18 42 09.6 -0.4**
comp=Z,12nm,1.2s
FUR **Furstenfeldbru** 80.28 332 *e*P **P** **18 42 10.7 +0.1**
comp=Z,47nm,1.2s,baz=31,slow=5.6
BGES **Gesves** 80.29 336 *d*P **P** **18 42 09.8 -0.7**
VLDQ **Val d'Or** 80.30 28 P **P** **18 42 09.3 -1.3**
VLDQ IAmb IAmb 18 42 10.8
comp=Z,16nm,1.0s
DIVS **Divibare** 80.35 324 IAmb IAmb 18 42 11.7
comp=Z,11nm,1.0s
HLM1 **Long Mynd** 80.39 342 *e*P **P** **18 42 10.7 -0.3**
STU **Stuttgart** 80.45 333 *e*P **P** **18 42 11.3 -0.1**
baz=31,slow=5.6
BMRD **Maredsous** 80.45 336 *d*P **P** **18 42 10.9 -0.4**
comp=Z,17nm,1.0s
KBA **Koelnbreinsper** 80.48 330 *i* P **P** **18 42 12.1 +0.3**
comp=Z,21nm,1.0s,SNR=12
P38A **Dawn** 80.49 43 IAmb IAmb 18 42 13.5
comp=Z,16nm,0.9s
OBKA **Obir** 80.52 329 *i* P **P** **18 42 11.5 -0.4**
comp=Z,4.8nm,0.7s
WLF **Walferdange** 80.62 335 *d*P **P** **18 42 11.7 -0.5**
DOU **Dourbes** 80.69 337 kP **P** **18 42 12.1 -0.6**
MYKA **Terra Mystica** 80.75 329 *i* P **P** **18 42 12.6 -0.6**
comp=Z,8.1nm,0.9s
WATA **Walderalm** 80.89 331 *i* P **P** **18 42 14.1 +0.1**
comp=Z,29nm,1.2s,SNR=9.8
MCH1 **Michaelchurch** 80.90 342 *e*P **P** **18 42 13.7 -0.1**
MCH1 IAmb IAmb 18 42 14.9
comp=Z,17nm,0.9s
WTTA **Wattenberg** 80.93 331 *i* P **P** **18 42 14.4 +0.2**
comp=Z,8.0nm,0.5s,SNR=11
RETA **Reutte** 81.04 332 *i* P **P** **18 42 14.8 +0.1**
comp=Z,15nm,1.0s,SNR=6.9
T35A **Sooner Cattle** 81.04 47 IAmb IAmb 18 42 16.7
comp=Z,14nm,1.0s
MOTA **Moosalm** 81.05 331 *i* P **P** **18 42 14.8 0.0**
comp=Z,31nm,1.0s,SNR=11
BFO **Black Forest** 81.12 333 P **P** **18 42 14.6 -0.4**
BFO pmax pmax
comp=Z,14nm,1.0s
BFO **Black Forest** 81.12 333 P **P** **18 42 14.6 -0.4**
BFO IAmb IAmb 18 42 15.8
comp=Z,14nm,1.0s
SQTA **Sankt Quirin** 81.12 331 *i* P **P** **18 42 15.2 +0.1**
comp=Z,18nm,0.9s,SNR=8.9
P40A **Paris** 81.29 42 IAmb IAmb 18 42 17.8
comp=Z,21nm,1.1s
STAL **STALIGIAL** 81.41 330 IAmb IAmb 18 42 16.1
comp=Z,10nm,0.9s
FETA **Feichten** 81.45 331 *i* P **P** **18 42 17.0 0.0**
comp=Z,11nm,1.1s,SNR=5.2
WMOK **Wichita Mounta** 81.46 49 P 18 42 17.4
baz=318
DAVA **Damuels** 81.51 332 *i* P **P** **18 42 17.2 -0.1**
comp=Z,18nm,1.1s,SNR=8.4
ECH **Echery** 81.59 334 IAmb IAmb 18 42 18.1
comp=Z,12nm,0.9s
RAYN **Ar Rayn** 81.75 295 P **P** **18 42 18.8 0.0**
RAYN pmax pmax
comp=Z,14nm,1.2s
RAYN **Ar Rayn** 81.75 295 P **P** **18 42 18.8 0.0**
RAYN IAmb IAmb 18 42 20.3
comp=Z,14nm,1.2s
HDIL **Hopedale** 81.78 40 P 18 42 18.7
baz=323
D55A **Sainte-Anne-du** 81.92 28 P 18 42 18.9
baz=331

ALGO	**Algonquin Park**	**81.95**	**30**	P			18 42 19.2	
	baz=329							
PDG	**Podgorica**	**82.02**	**324**	⇓P		**P**	**18 42 19.6**	**-0.2**
S39A	**Bolivar**	**82.09**	**44**	IAmb	IAmb		18 42 21.7	
	comp=Z,9.9nm,0.9s							
D56A	**ZEC Mazanza, M**	**82.14**	**27**	P			18 42 20.5	
	baz=331							
R40A	**Maddies Statio**	**82.15**	**43**	IAmb	IAmb		18 42 21.9	
	comp=Z,11nm,0.8s							
TUL1	**Leonard**	**82.19**	**47**	P			18 42 21.6	
	baz=320							
TUE	**Stuetta**	**82.40**	**332**	IAmb	IAmb		18 42 23.0	
	comp=Z,13nm,0.9s							
E56A	**St. Veronique**	**82.49**	**28**	P			18 42 21.7	
	baz=331							
TXAR	**Lajitas Array**	**82.63**	**56**	P		**P**	**18 42 24.9**	**+1.5**
	comp=Z,6.0nm,0.8s,baz=299,slow=4.0,SNR=66							
TXAR				pP		**pP**	**18 42 44.8**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=299,slow=3.7,SNR=6.3							
TXAR	**Lajitas Array**	**82.63**	**56**	P		**P**	**18 42 24.8**	**+1.4**
TXAR				pwP		**pP**	**18 42 45.0**	**-0.1**
D58A	**Chemin du LacG**	**82.70**	**26**	P			18 42 23.1	
	baz=332							
CCM	**Cathedral Cave**	**82.83**	**43**	P		**P**	**18 42 24.5**	**+0.3**
CCM				pmax		pmax		
	comp=Z,15nm,0.9s							
CCM	**Cathedral Cave**	**82.83**	**43**	P		**P**	**18 42 24.5**	**+0.3**
CCM				IAmb		IAmb	18 42 25.7	
	comp=Z,15nm,0.9s							
CCM	**Cathedral Cave**	**82.83**	**43**	P			18 42 24.8	
	baz=322							
SFIN	**Lafayette**	**82.93**	**39**	P			18 42 24.6	
	baz=324							
PLVO	**Plevna**	**83.08**	**30**	IAmb	IAmb		18 42 26.1	
	comp=Z,10nm,1.0s							
N47A	**Urbana**	**83.14**	**37**	IAmb	IAmb		18 42 27.3	
	comp=Z,19nm,0.9s							
SENIN	**Lac Senin/Sane**	**83.18**	**333**	IAmb	IAmb		18 42 26.9	
	comp=Z,12nm,0.9s							
E58A	**La Victoria**	**83.22**	**27**	P			18 42 26.0	
	baz=332							
U40A	**Yellville**	**83.36**	**45**	P			18 42 27.1	
	baz=321							
PMOR	**Pomariorio Ree**	**83.41**	**118**	*e*T		T	20 13 45.9	
	comp=Z,34nm,0.3s							
D60A	**Saint Jean D'O**	**83.48**	**25**	P			18 42 27.4	
	baz=334							
G57A	**Newington**	**83.76**	**28**	P			18 42 28.6	
	baz=331							
W39A	**Magazine**	**83.78**	**46**	P			18 42 29.6	
	baz=321							
E60A	**Ste Agathe de**	**83.80**	**26**	P			18 42 28.9	
	baz=333							
F59A	**Saint Guilaume**	**83.84**	**27**	P			18 42 29.4	
	baz=332							
D62A	**Allapoint, All**	**83.89**	**24**	P			18 42 29.5	
	baz=335							
F60A	**Warwick**	**84.00**	**26**	P			18 42 29.7	
	baz=333							
G58A	**Ormstown**	**84.04**	**28**	P			18 42 29.9	
	baz=332							
VLC	**Villacollemand**	**84.05**	**330**	IAmb	IAmb		18 42 32.3	
	comp=Z,12nm,0.8s							
E62A	**Clayton Lake**	**84.17**	**24**	P			18 42 30.3	
	baz=335							
H57A	**Richville**	**84.18**	**29**	P			18 42 29.9	
	baz=331							
D63A	**Stockholm**	**84.20**	**23**	P			18 42 30.5	
	baz=336							
MSSA	**Maissana**	**84.22**	**331**	IAmb	IAmb		18 42 31.9	
	comp=Z,16nm,1.1s							
OSSC	**Osservatorio P**	**84.29**	**329**	IAmb	IAmb		18 42 31.8	
	comp=Z,16nm,1.1s							
F61A	**St Evariste**	**84.30**	**26**	P			18 42 31.9	
	baz=334							
PPT2	**Papeete2**	**84.30**	**121**	*e*LR		LR	19 09 03.4	
	comp=Z,146nm,28.8s							
MIAR	**Mount Ida**	**84.39**	**46**	IAmb	IAmb		18 42 34.2	
	comp=Z,10.0nm,1.1s							
MIAR	**Mount Ida**	**84.39**	**46**	P			18 42 32.5	
	baz=321							
WHAR	**Wooly Hollow**	**84.48**	**45**	IAmb	IAmb		18 42 34.2	
	comp=Z,15nm,1.1s							
MOQ	**Mont Orford**	**84.49**	**27**	P		**P**	**18 42 33.2**	**+0.7**
BNI	**Bardonecchia**	**84.54**	**333**	IAmb	IAmb		18 42 38.4	
	comp=Z,7.2nm,0.9s							
BATG	**Bathurst New B**	**84.55**	**22**	IAmb	IAmb		18 42 33.8	
	comp=Z,12nm,1.0s							
INTR	**Introdacqua**	**84.56**	**327**	IAmb	IAmb		18 42 34.0	
	comp=Z,15nm,1.0s							
W41B	**Gary Mavity, V**	**84.59**	**45**	P			18 42 34.0	
	baz=322							
H59A	**Cadyville**	**84.61**	**28**	P			18 42 32.6	
	baz=332							
H58A	**Gabriels**	**84.64**	**28**	P			18 42 32.3	
	baz=332							
E63A	**Oxbow**	**84.67**	**24**	P			18 42 32.7	
	baz=335							
P49A	**Miami Univ. Ec**	**84.67**	**38**	IAmb	IAmb		18 42 34.9	
	comp=Z,18nm,1.1s							
P49A	**Miami Univ. Ec**	**84.67**	**38**	P			18 42 33.6	
	baz=326							
F62A	**Pittston Farm,**	**84.68**	**25**	IAmb	IAmb		18 42 34.9	
	comp=Z,13nm,0.9s							
G61A	**St-Isidore-de-**	**84.75**	**26**	P			18 42 34.0	
	baz=333							
M53A	**WI Miller and**	**84.79**	**34**	P			18 42 34.3	
	baz=328							
X40A	**Basin Creek Fa**	**84.82**	**46**	P			18 42 35.0	
	baz=321							
E64A	**Bridgewater**	**84.84**	**23**	P			18 42 34.6	
	baz=336							
I58A	**Old Forge**	**85.00**	**29**	P			18 42 34.1	
	baz=331							
K56A	**Middlesex**	**85.01**	**31**	P			18 42 34.9	
	baz=330							
WCI	**Wyandotte Cave**	**85.03**	**39**	P			18 42 35.5	
	baz=325							
ITM	**Ithomi**	**85.07**	**319**	P		**P**	**18 42 34.7**	**-0.9**
F63A	**Nahmakanta, Br**	**85.12**	**24**	P			18 42 35.0	
	baz=335							
G62A	**West of Eustis**	**85.12**	**26**	IAmb	IAmb		18 42 36.9	
	comp=Z,16nm,1.2s							
G62A	**West of Eustis**	**85.12**	**26**	P			18 42 35.7	
	baz=334							
IDI	**Anoyia**	**85.13**	**316**	⇓P		**P**	**18 42 35.2**	**-0.8**
IDI	**Anoyia**	**85.13**	**316**	IAmb	IAmb		18 42 36.2	
	comp=Z,18nm,1.1s							
M54A	**Oil Creek Stat**	**85.13**	**33**	P			18 42 36.2	
	baz=328							
J58A	**Remsen**	**85.18**	**29**	P			18 42 36.1	
	baz=331							
F64A	**Sherman**	**85.20**	**24**	P			18 42 36.3	
	baz=335							
H61A	**Lyndonville**	**85.29**	**27**	P			18 42 36.8	
	baz=333							
P51A	**Williamsport**	**85.44**	**36**	IAmb	IAmb		18 42 38.5	
	comp=Z,14nm,1.0s							
I60A	**Shoreham**	**85.45**	**28**	P			18 42 37.6	
	baz=332							
MEH	**Mehetia**	**85.45**	**120**	*e*T		T	20 16 21.7	
	comp=Z,36nm,0.2s							
PKME	**Peaks-Kenny Pk**	**85.46**	**25**	IAmb	IAmb		18 42 38.8	
	comp=Z,20nm,1.1s							
PKME	**Peaks-Kenny Pk**	**85.46**	**25**	P			18 42 37.1	
	baz=335							
N54A	**Moraine State**	**85.47**	**34**	P			18 42 37.8	
	baz=328							
G63A	**Kingsbury**	**85.49**	**25**	P			18 42 37.6	
	baz=335							
H62A	**Milan**	**85.50**	**26**	P			18 42 38.1	
	baz=334							
LBNH	**Lisbon**	**85.55**	**27**	P			18 42 38.3	
	baz=333							
O53A	**New Philadelph**	**85.57**	**35**	P			18 42 37.6	
	baz=328							
G64A	**Maxfield**	**85.63**	**24**	P			18 42 37.7	
	baz=335							
T47A	**Sharon Grove**	**85.66**	**41**	IAmb	IAmb		18 42 40.5	
	comp=Z,15nm,0.9s							
P52A	**Corning**	**85.70**	**36**	P			18 42 38.7	
	baz=327							
J60A	**Lant Hill Farm**	**85.93**	**28**	P			18 42 39.0	
	baz=332							
BINY	**Binghamton**	**85.94**	**30**	P			18 42 39.2	
	baz=331							
WVT	**Waverly**	**86.01**	**42**	P		**P**	**18 42 41.1**	**+0.9**
WVT				pmax		pmax		
	comp=Z,9.0nm,1.1s							
WVT	**Waverly**	**86.01**	**42**	P		**P**	**18 42 41.1**	**+0.9**
WVT				IAmb		IAmb	18 42 42.1	
	comp=Z,8.7nm,1.1s							
WVT	**Waverly**	**86.01**	**42**	P			18 42 40.9	
	baz=324							
G65A	**Princeton**	**86.03**	**24**	P			18 42 40.0	
	baz=336							
H64A	**Troy**	**86.04**	**25**	P			18 42 40.0	
	baz=335							
I62A	**Tamworth**	**86.07**	**27**	P			18 42 40.5	
	baz=334							
L58A	**Harry Jones Me**	**86.12**	**30**	P			18 42 39.8	
	baz=331							
J61A	**Chester**	**86.14**	**28**	P			18 42 40.7	
	baz=333							
I63A	**Otisfield**	**86.15**	**26**	P			18 42 40.6	
	baz=334							
LMN	**Caledonia Moun**	**86.19**	**22**	IAmb	IAmb		18 42 42.4	
	comp=Z,13nm,0.8s							
H65A	**Eastbrook**	**86.29**	**24**	P			18 42 41.3	
	baz=336							
J62A	**Henniker**	**86.49**	**27**	P			18 42 41.8	
	baz=333							
K61A	**Williamstown**	**86.49**	**28**	P			18 42 42.2	
	baz=332							
I64A	**Boothbay**	**86.57**	**26**	P			18 42 42.4	
	baz=335							
SSPA	**Standing Stone**	**86.58**	**33**	P			18 42 42.7	
	baz=330							
O56A	**Blue Knob Stat**	**86.62**	**33**	P			18 42 43.5	
	baz=329							
MCWV	**Mont Chateau**	**86.63**	**34**	P			18 42 43.5	
	baz=328							
U49A	**Red Boiling Sp**	**86.67**	**40**	IAmb	IAmb		18 42 45.2	
	comp=Z,9.6nm,0.9s							
J63A	**Strafford**	**86.68**	**27**	P			18 42 42.4	
	baz=334							
T50A	**Nancy**	**86.68**	**39**	IAmb	IAmb		18 42 45.2	
	comp=Z,16nm,1.1s							
K62A	**Royalston**	**86.85**	**28**	P			18 42 44.5	
	baz=333							
K63A	**Dunstable**	**87.06**	**27**	P			18 42 44.6	
	baz=333							
N59A	**State Game Lan**	**87.14**	**31**	P			18 42 46.2	
	baz=331							
HRV	**Adam Dziewonsk**	**87.22**	**27**	P			18 42 46.1	
	baz=333							
SWET	**Sewanee**	**87.66**	**41**	IAmb	IAmb		18 42 49.6	
	comp=Z,13nm,1.0s							
TZTN	**Tazewell**	**87.66**	**38**	P			18 42 48.6	
	baz=326							
PAL	**Palisades**	**87.74**	**30**	P			18 42 48.1	
	baz=332							
W50A	**Signal Mountai**	**87.96**	**40**	IAmb	IAmb		18 42 51.3	
	comp=Z,8.3nm,1.0s							
TKL	**Tuckaleechee C**	**88.29**	**39**	IAmb	IAmb		18 42 52.5	
	comp=Z,9.1nm,0.8s							
BLA	**Blacksburg**	**88.47**	**36**	P			18 42 52.8	
	baz=328							
TBI	**Tubuai**	**88.74**	**125**	*e*T		T	20 20 29.8	
	comp=Z,8.5nm,0.3s							
ESDC	**Sonseca Array**	**92.65**	**338**	P		**P**	**18 43 11.0**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=8.1,slow=3.9,SNR=10							
ESDC				LR		LR	19 31 09.8	
	comp=Z,28nm,19.4s,baz=220,slow=40							
ESDC	**Sonseca Array**	**92.65**	**338**	P		**P**	**18 43 11.3**	**-0.3**
ESDC				IAmb		IAmb	18 43 12.2	
	comp=Z,6.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**114.90**	**322**	PKP		**PKiKP**	**18 48 39.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=15,slow=2.4,SNR=7.4							
H03N2	**Juan Fernandez**	**143.11**	**89**	T		T	21 28 59.1	
	baz=304,slow=77,SNR=78							
H03N3	**Juan Fernandez**	**143.13**	**89**	T		T	21 28 58.1	
	baz=304,slow=77,SNR=78							
H03N1	**Juan Fernandez**	**143.13**	**89**	T		T	21 29 03.0	
	baz=304,slow=77,SNR=72							
SNAA	**Sanae**	**148.66**	**198**	PKPbc		**PKiKP**	**18 49 46.4**	**-0.2**
BDFB	**Brasilia**	**148.99**	**29**	PKPbc		**PKPbc**	**18 49 48.3**	**+0.6**
	comp=Z,4.2nm,0.5s,baz=243,slow=2.3,SNR=5.9							
VNA3	**Neumayer Olymp**	**150.39**	**195**	PKPbc		**PKiKP**	**18 49 50.6**	**+0.4**
VNA1	**Neumayer--Stat**	**150.59**	**197**	PKPbc		**PKiKP**	**18 49 52.3**	**+1.7**
PLCA	**Paso Flores**	**152.26**	**96**	PKPbc		**PKiKP**	**18 49 56.1**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=270,slow=13,SNR=2.4							

PRU 26 18:45:48.2±0.0,**51.46N**×**16.08E**,**h0**km,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg		Pg	18 46 00.2	-0.1
KSP				*e*Sg		Sg	18 46 09.0	+0.5
CHVC	**Chvalec**	**0.87**	**181**	*e*PG		Pg	18 46 05.0	+0.1
CHVC				*e*SG		Sg	18 46 16.8	+0.6
	comp=Z,6.1nm,0.5s							
OSTC	**Ostas**	**0.91**	**175**	*e*PG		Pg	18 46 05.3	-0.3
OSTC				*e*SG		Sg	18 46 18.0	+0.7
	comp=Z,6.2nm,0.4s							
UPC	**Upice**	**0.95**	**183**	*e*PG		Pb	18 46 07.2	-0.4
UPC				*e*SG		Sg	18 46 19.2	+0.4
	comp=Z,18nm,0.6s							
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG		Pg	18 46 09.0	-0.7
DPC				*e*SG		Sg	18 46 23.7	-0.5
	comp=Z,4.6nm,0.4s							
PVCC	**Panska Ves**	**1.33**	**226**	*e*PG		Pn	18 46 14.0	-0.1
PVCC				*e*SG		Sb	18 46 31.8	+0.1
	comp=Z,24nm,0.2s							
KRLC	**Kraliky**	**1.46**	**162**	*e*PG		Pn	18 46 15.0	-0.8
KRLC				*e*SG		Sg	18 46 34.4	-0.5
	comp=Z,4.2nm,0.2s							
BRG	**Berggiesshubel**	**1.47**	**247**	Pg		Pn	18 46 16.1	+0.2
BRG				Sg		Sn	18 46 36.1	+0.3
BRG				Amp			18 46 37.3	
	comp=Z,12nm,0.3s							
PRU	**Pruhonice**	**1.77**	**214**	*e*SG		Sn	18 46 43.1	-0.1
	comp=Z,4.2nm,0.3s							
MORC	**Moravsky Berou**	**1.93**	**150**	*e*PN		Pn	18 46 20.7	-1.6
MORC				*e*SG		Sn	18 46 47.8	+0.6
CLL	**Collm**	**1.93**	**267**	*e*Pg		Pb	18 46 24.0	-0.3
CLL				*e*Sg		Sg	18 46 50.0	-0.3
	comp=Z,5.0nm,0.5s							
VRAC	**Vranov**	**2.18**	**171**	*e*PN		Pb	18 46 28.7	+0.2
VRAC				*e*SG		Sb	18 46 56.8	+0.8
KRUC	**Moravsky**	**2.41**	**175**	*e*SG		Sg	18 47 04.8	-0.8
NKC	**Novy Kostel**	**2.61**	**243**	*e*SG		Sg	18 47 11.8	-0.2
	comp=Z,6.9nm,0.3s							
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PG		Pb	18 46 39.1	-0.5
KHC				*e*SG		Sg	18 47 17.8	-1.3
CKRC	**Cesky Krumlov**	**2.88**	**204**	*e*SG		Sg	18 47 18.7	-1.9

*NEIC **26** 18:47:03.7±1.8,20.01S±0.03×69.43W±0.09,h118km±6km, mb4.0/3,ML3.8(GUC),Error ellipse: s-maj=12.7km s-min=4.9km az=90.0*
*GUC **26** 18:47:04.6±0.6,19.98S×69.37W,h114km±2km,ML3.8*
*IDC **26** 18:47:05.3±1.4,20.02S×69.05W,h123km±14km,mb3.3/3, mb1 3.5/6,mb1mx3.3/31,mbtmp3.9/6,Error ellipse: s-maj=35.5km s-min=8.6km az=100.0*

ISC 26 18:47:02.5±0.9,**20.00S**±0.03×**69.44W**±0.06,**h124**km±6km, **n51**,σ1§**31**/74,**5C-2D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.31**	**117**	⇓*i*P		**Pn**	**18 47 20.9**	**+0.4**
PB08				*i*S		**Sn**	**18 47 33.3**	**-0.7**
PB08				IAML			18 47 34.2	
	comp=E,3μm,0.4s							
PB08	**IPOC Station P**	**0.31**	**117**			**Pn**	**18 47 20.1**	**-0.4**
PB08				Sn		**Sn**	**18 47 32.9**	**-1.0**
PB11	**IPOC Station P**	**0.31**	**320**	⇑*i*P		**Pn**	**18 47 20.6**	**+0.4**
PB11				*i*S		**Sn**	**18 47 33.5**	**0.0**
PB11				IAML			18 47 34.2	
	comp=N,4μm,0.5s							
PB11	**IPOC Station P**	**0.31**	**320**	Pn		**Pn**	**18 47 20.0**	**-0.2**
PB11				Sn		**Sn**	**18 47 33.1**	**-0.4**
HMBC	**Humberstone**	**0.50**	**236**	⇑*i*P		**Pn**	**18 47 21.9**	**+0.8**
HMBC				*i*S		**Sn**	**18 47 35.5**	**+0.4**
HMBC				IAML			18 47 37.5	
	comp=E,4μm,0.7s							
TA02	**Huaiquique**	**0.70**	**247**	*e*P		**Pn**	**18 47 23.3**	**+1.1**
TA02				*i*S		**Sn**	**18 47 37.5**	**+0.3**
TA02				IAML			18 47 39.0	
	comp=N,3μm,0.1s							
TA02	**Huaiquique**	**0.70**	**247**			**Pn**	**18 47 23.2**	**+0.9**
TA02				Sn		**Sn**	**18 47 37.4**	**+0.3**
PSGC	**Pisagua**	**0.76**	**302**	⇓*i*P		**Pn**	**18 47 23.7**	**+0.8**
PSGC				*i*S		**Sn**	**18 47 38.2**	**0.0**
PSGCX	**Pisagua**	**0.76**	**302**			**Pn**	**18 47 23.4**	**+0.5**
PSGCX				Sn		**Sn**	**18 47 37.7**	**-0.5**
MNMC	**Minye Minye**	**0.88**	**351**	*e*P		**Pn**	**18 47 25.2**	**+1.1**
MNMC				*i*S		**Sn**	**18 47 41.0**	**+0.6**
MNMC	**Minye Minye**	**0.88**	**351**			**Pn**	**18 47 25.0**	**+0.9**
MNMC				Sn		**Sn**	**18 47 40.5**	**+0.1**
TA01	**Diego Aracena**	**0.89**	**231**	⇑*i*P		**Pn**	**18 47 24.8**	**+0.9**
TA01				*i*S		**Sn**	**18 47 40.3**	**+0.3**
TA01	**Diego Aracena**	**0.89**	**231**			**Pn**	**18 47 24.7**	**+0.9**
TA01				Sn		**Sn**	**18 47 39.9**	**-0.1**
PB01	**IPOC Station P**	**1.04**	**182**	⇑*i*P		**Pn**	**18 47 26.4**	**+1.0**
PB01				*i*S		**Sn**	**18 47 43.0**	**+0.3**
PB01				IAML			18 47 44.0	
	comp=N,3μm,0.3s							
PB01	**IPOC Station P**	**1.04**	**182**	Pn		**Pn**	**18 47 26.1**	**+0.7**
PB01				Sn		**Sn**	**18 47 42.6**	**-0.1**
PB16	**IPOC Station P**	**1.66**	**358**			**Pn**	**18 47 34.2**	**+1.5**
PB16				Sn		**Sn**	**18 47 56.2**	**+0.7**
PB07	**IPOC Station P**	**1.77**	**193**	*e*P		**Pn**	**18 47 35.0**	**+1.5**
PB07				*i*S		**Sn**	**18 47 58.5**	**+1.3**
PB07				IAML			18 48 03.2	
	comp=E,811nm,0.6s							
PB07	**IPOC Station P**	**1.77**	**193**			**Pn**	**18 47 34.8**	**+1.2**
PB09	**IPOC Station P**	**1.80**	**174**	*e*P		**Pn**	**18 47 35.5**	**+1.7**
PB09				*i*S		**Sn**	**18 47 59.4**	**+1.5**
PB09				IAML			18 48 01.6	
	comp=E,993nm,0.4s							
PB09	**IPOC Station P**	**1.80**	**174**			**Pn**	**18 47 35.3**	**+1.4**
PB09				Sn		**Sn**	**18 47 58.8**	**+0.9**
AP01	**Chacalluta**	**1.83**	**332**	*i*S		**Sn**	**18 47 58.7**	**+0.5**
AP01	**Chacalluta**	**1.83**	**332**	Pn		**Pn**	**18 47 35.0**	**+0.9**
AP01				Sn		**Sn**	**18 47 58.0**	**-0.2**
PB04	**IPOC Station P**	**2.41**	**196**	*e*P		**Pn**	**18 47 43.0**	**+1.4**
PB04				IAML			18 48 17.0	
	comp=E,301nm,0.2s							
PB04	**IPOC Station P**	**2.41**	**196**			**Pn**	**18 47 42.4**	**+0.9**
LVC	**Limon Verde**	**2.64**	**169**	P		**Pn**	**18 47 47.1**	**+2.4**
	comp=E,18nm,0.3s,baz=344,slow=7.4,SNR=88							
LVC				S		**Sn**	**18 48 18.5**	**+1.4**
	comp=E,56nm,0.3s,baz=211,slow=22,SNR=44							
LVC	**Limon Verde**	**2.64**	**169**	*e*P		**Pn**	**18 47 46.7**	**+2.0**
LVC				*e*S		**Sn**	**18 48 18.7**	**+1.6**
LVC	**Limon Verde**	**2.64**	**169**	Pn		**Pn**	**18 47 46.6**	**+1.9**
LVC						**Sn**	**18 48 17.2**	**+0.2**
PB06	**IPOC Station P**	**2.69**	**183**	⇑*i*P		**Pn**	**18 47 46.5**	**+1.3**
PB06				*i*S		**Sn**	**18 48 17.3**	**-0.6**
PB06				IAML			18 48 20.0	
	comp=N,376nm,0.3s							
PB06	**IPOC Station P**	**2.69**	**183**			**Pn**	**18 47 46.2**	**+1.1**
PB15	**IPOC Station P**	**3.19**	**180**	*e*P		**Pn**	**18 47 53.1**	**+1.4**
PB15				*i*S		**Sn**	**18 48 31.4**	**+1.8**
PB15	**IPOC Station P**	**3.19**	**180**			**Pn**	**18 47 53.1**	**+1.4**
PB10	**IPOC Station P**	**3.64**	**196**			**Pn**	**18 47 57.7**	**+0.3**
PB10						**Sn**	**18 48 38.8**	**-1.2**
LPAZ	**La Paz**	**3.90**	**19**	P		**Pn**	**18 48 04.3**	**+2.9**
	comp=N,6.5nm,0.3s,baz=205,slow=6.5,SNR=123							
LPAZ				S		**Sn**	**18 48 47.9**	**+1.0**
	comp=N,0.4nm,0.3s,baz=216,slow=12,SNR=3.8							
LPAZ	**La Paz**	**3.90**	**19**			**Pn**	**18 48 03.9**	**+2.5**
PB14	**IPOC Station P**	**4.69**	**191**			**Pn**	**18 48 11.3**	**-0.4**
PB14						**Sn**	**18 49 03.4**	**-2.0**
GO02	**Mina Guanaco**	**5.14**	**181**			**Pn**	**18 48 17.9**	**+0.2**
AC01	**Pan de Azucar**	**6.21**	**190**	Pn		**Pn**	**18 48 30.7**	**-1.1**
AC02	**Maricunga**	**6.81**	**178**	Pn		**Pn**	**18 48 40.8**	**+0.4**
GO03	**Copiap**	**7.59**	**185**	Pn		**Pn**	**18 48 48.8**	**-1.8**
AC04	**Llanos de Chal**	**8.30**	**190**	Pn		**Pn**	**18 48 58.0**	**-2.1**
SIV	**San Ignacio**	**8.91**	**65**	P		**Pn**	**18 49 06.4**	**-1.9**
	comp=N,1.5nm,0.3s,baz=265,slow=10,SNR=30							
SIV				S		**Sn**	**18 50 43.0**	**-4.0**
	comp=N,0.1nm,0.3s,baz=239,slow=1.9,SNR=3.5							
GO04	**Tololo Observa**	**10.20**	**187**	Pn		**Pn**	**18 49 23.0**	**-2.9**
TRQA	**Tornquist**	**19.12**	**162**	P		**Pn**	**18 51 18.1**	**0.0**
TRQA				IAmb		IAmb	18 51 27.8	
	comp=Z,15nm,1.4s							
PLCA	**Paso Flores**	**20.69**	**182**	P		Pn	18 51 36.6	+0.2
	comp=Z,1.6nm,0.5s,baz=354,slow=8.3,SNR=3.2							
PLCA	**Paso Flores**	**20.69**	**182**	IAmb		IAmb	18 51 58.3	
	comp=Z,11nm,1.4s							
PTGA	**Pitinga**	**21.28**	**27**	P		**P**	**18 51 39.2**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=180,slow=20,SNR=2.8							
TORD	**Torodi Ar. Bea**	**77.33**	**71**	P		**P**	**18 58 44.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=252,slow=4.5,SNR=1.5							
TORD	**Torodi Ar. Bea**	**77.33**	**71**	IAmb		IAmb	18 58 51.5	
	comp=Z,2.2nm,1.3s							
H11S2	**WAKE ISLAND Hyd**	**127.18**	**278**	T		T	21 25 42.3	
	baz=102,slow=75,SNR=5.5							
H11S1	**WAKE ISLAND Hyd**	**127.19**	**278**	T		T	21 25 43.4	
	baz=102,slow=75,SNR=6.5							
H11S3	**WAKE ISLAND Hyd**	**127.20**	**278**	T		T	21 25 43.7	
	baz=102,slow=75,SNR=7.4							

*IDC **26** 18:55:24.2±1.1,1.28S×127.04E,h0km,mb3.9/5, mb1 4.0/7,mb1mx3.7/42,mbtmp3.9/7,ML4.0/2,MS3.5/2, Ms1 3.5/2,ms1mx2.9/48,Error ellipse: s-maj=43.7km s-min=18.6km az=70.0*
*DJA **26** 18:55:27.8±0.2,1°S±2'×12°7E±°,h10km,M4.1/12,mb4.7/2, MLv3.8/12*
*NEIC **26** 18:55:28.9±1.1,1.23S±0.06×127.28E±0.03,h29km±6km, mb4.2/16,Error ellipse: s-maj=9.4km s-min=3.6km az=190.0*

ISC 26 18:55:25.7±0.5,**1.17S**±0.03×**127.32E**±0.05,**h10**km,**n47**, σ1§**56**/46,**mb4.0/7**,**Halmahera**

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

MJAR	Matsushiro Arr	38.87	14	LR	LR	19 16 39.9		
	comp=Z,47nm,21.0s,baz=245,slow=33							
XAN	Xi'an	39.06	335	P	P	19 02 55.1	+2.1	
USRK	Ussuriysk Ar.	45.36	5	P	P	19 03 43.8	-0.4	
	comp=Z,1.5nm,0.8s,baz=160,slow=6.4,SNR=5.7							
SONM	Songino Array	52.10	342	P	P	19 04 36.7	+0.6	
	comp=Z,0.6nm,0.8s,baz=152,slow=9.5,SNR=2.4							
SONM	Songino Array	52.10	342	IAmb	IAmb	19 04 37.5		
	comp=Z,1.5nm,1.1s							
DGAR	Diego Garcia	55.02	262	P	P	19 04 55.1	-2.8	
TLY	Talaya	56.34	343	P	P	19 05 07.1	+0.3	
MK31	Makanchi Array	61.91	327	P	P	19 05 45.3	-0.3	
MK31				IAmb	IAmb	19 05 46.8		
	comp=Z,3.4nm,1.2s							
MKAR	Makanchi Array	61.91	327	P	P	19 05 46.1	+0.5	
	comp=Z,0.9nm,0.4s,baz=118,slow=8.2,SNR=6.2							
MKAR	Makanchi Array	61.91	327	P	P	19 05 45.6	0.0	
YAK	Yakutsk	63.06	1	P	P	19 05 52.3	-0.5	
YAK				IAmb	IAmb	19 05 53.6		
	comp=Z,4.7nm,0.8s							
KVAR	Kislovodsk Arr	86.92	314	LR	LR	19 50 20.1		
	comp=Z,34nm,21.8s,baz=278,slow=38							

*IDC **26** 19:11:35.9±0.9, 17°.73N×146°.16E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.6/58, mbtmp3.7/8, MS3.9/1, Ms1 3.9/1, ms1mx2.8/45, Error ellipse: s-maj=34.8km s-min=21.4km az=116.0*

*NEIC **26** 19:12:01.9±0.9, 17°.46N±0°.10×145°.8E±0°.1, h221km±4km, mb4.6/17, Error ellipse: s-maj=16.2km s-min=13.1km az=126.0*

ISC 26 19:11:59.4±0.5,**17°.57N**±0°.09×**145°.8E**±0°.1**, h200**km**, n31,** σ1§**47**/30**, mb4.4**/**17, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	Anatahan	1.23	184		Pn	19 12 34.6	+3.7
JHJ	Hachijo jima 2	16.41	342	LR	LR	19 19 53.9	
	comp=Z,432nm,19.3s,baz=118,slow=30						
YHNB	Yeheng	23.84	291	P	P	19 16 53.5	-1.1
YHNB				IAmb	IAmb	19 16 54.2	
	comp=Z,30nm,1.2s						
SSLB	Suanglung	24.05	289	P	P	19 16 55.8	-0.6
SSLB				IAmb	IAmb	19 17 08.6	
	comp=Z,26nm,1.3s						
KNRA	Kununurra	37.07	208	P	P	19 18 48.0	-2.5
KNRA				IAmb	IAmb	19 19 12.0	
	comp=Z,39nm,1.4s						
WRA	Warramunga Arr	38.94	197	P	P	19 19 06.5	+0.3
	comp=Z,0.6nm,0.7s,baz=21,slow=8.2,SNR=2.5						
SLVN	Son La	39.61	282	P	P	19 19 11.9	0.0
FITZ	Fitzroy Crossi	40.62	210	P	P	19 19 19.9	-0.1
	comp=Z,2.9nm,1.1s,baz=26,slow=11,SNR=1.6						
AS31	Alice Springs	42.60	196	P	P	19 19 34.7	-1.4
ASAR	Alice Springs	42.60	196	P	P	19 19 35.6	-0.5
	comp=Z,0.5nm,0.8s,baz=20,slow=6.7,SNR=7.5						
JOHN	Johnston Islan	42.61	84	P	P	19 19 36.4	+0.2
AMKA	Amchitka	42.91	31	P	P	19 19 39.3	+1.1
EIDS	Eidsvold	42.99	173	P	P	19 19 38.8	-0.3
EIDS				IAmb	IAmb	19 19 55.4	
	comp=Z,79nm,1.8s						
CM31	Chiang Mai Arr	44.48	279	P	P	19 19 51.3	+0.1
CM31				IAmb	IAmb	19 20 19.4	
	comp=Z,19nm,1.5s						
CMAR	Chiang Mai Arr	44.48	279	P	P	19 19 50.9	-0.4
	comp=Z,2.5nm,0.8s,baz=79,slow=7.1,SNR=12						
CMAR	Chiang Mai Arr	44.48	279	P	P	19 19 50.6	-0.6
OUENC	Ouen Island, N	44.76	152	P	P	19 19 51.1	-2.1
OUENC				IAmb	IAmb	19 19 51.2	
	comp=Z,50nm,1.3s						
GSI	Gunungsitoli	50.06	257	P	P	19 20 33.1	-1.2
GSI				IAmb	IAmb	19 20 34.0	
	comp=Z,10nm,0.6s						
BBOO	Buckleboo	50.96	191	P	P	19 20 42.0	+1.4
BBOO				IAmb	IAmb	19 20 56.6	
	comp=Z,32nm,1.5s						
GAMB	Gambell	54.45	22	P	P	19 21 06.2	+0.4
MKAR	Makanchi Array	59.32	314	P	P	19 21 42.5	+2.1
	comp=Z,0.5nm,1.0s,baz=90,slow=8.5,SNR=1.8						
BWN	Browne	63.38	26	P	P	19 22 08.9	+1.7
ILAR	Eielson Array	64.61	26	P	P	19 22 11.5	-3.7
	comp=Z,0.3nm,0.6s,baz=269,slow=5.4,SNR=2.5						
BMAR	Burnt Mountain	66.10	23		P	19 22 25.7	+0.9
YKA	Yellowknife Ar	78.93	28	P	P	19 23 38.8	-1.7
	comp=Z,0.2nm,0.2s,baz=300,slow=4.9,SNR=2.2						
PINE	Pine Mountain	80.34	47	P	P	19 23 48.9	+0.1
PINE				IAmb	IAmb	19 24 13.9	
	comp=Z,12nm,1.5s						
KVN	Kaiserville	83.72	51	P	P	19 24 06.6	+0.2
NVAR	Mina Array Bea	83.75	52	P	P	19 24 07.0	+0.4
	comp=Z,0.6nm,0.5s,baz=265,slow=5.8,SNR=6.2						
NVAR	Mina Array Bea	83.75	52	P	P	19 24 06.4	-0.2
TX31	Lajitas Ar. Si	98.38	56	P	P	19 25 14.6	-0.6
TX32	Lajitas Array	98.38	56	P	P	19 25 14.8	-0.3

*IDC **26** 19:17:14.8±7.4, 35°.61S×178°.66E, h188km±82km, mb3.4/2, mb1 3.6/3, mb1mx3.3/33, mbtmp3.9/3, Error ellipse: s-maj=118.9km s-min=50.9km az=178.0*

*WEL **26** 19:17:16.5±1.5, 36°S±11°×17°.8E±1°.3, h192km±13km, M3.8/26, ML3.9/17, MLv3.8/26, Error ellipse: s-maj=0.0km s-min=0.0km az=54.5*

*NEIC **26** 19:17:16.6±2.6, 35°.6S±0°.1×178°.3E±0°.2, h180km±10km, mb4.2/6, Error ellipse: s-maj=20.3km s-min=13.0km az=61.0*

ISC 26 19:17:15.1±1.1,**35°.70S**±0°.08×**178°.48E**±0°.10**, h213**km±9km**, n69,** σ1§**72**/73**, mb4.1**/5**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.86	184	Pn	Pn	19 17 53.4	+0.3
MXZ				Sn	Sn	19 18 18.5	-4.6
MXZ	Matakaoa Point	1.86	184	P	Pn	19 17 53.3	+0.3
MXZ				S	Sn	19 18 21.7	-1.3
WMGZ	Waiomatatini S	2.12	181	P	Pn	19 17 56.6	+0.9
HAZ	Te Kaha	2.13	195	P	Pn	19 17 55.9	+0.2
PKGZ	Pakihiroa	2.21	188	P	Pn	19 17 57.3	+0.6
RUGZ	Raukumara Rang	2.35	196	P	Pn	19 17 58.3	+0.1
PUZ	Puketiti	2.37	184	P	Pn	19 17 58.9	+0.5
PUZ				S	Sn	19 18 31.6	-0.8
KUZ	Kuaotunu	2.46	244	P	Pn	19 17 58.6	-0.7
OPRZ	Ohinepanea	2.64	215	P	Pn	19 18 02.4	+1.2
MARZ	Manawahe	2.70	212	P	Pn	19 18 05.7	+3.8
MWZ	Matawai	2.74	196	P	Pn	19 18 03.0	+0.7
URZ	Urewera	2.78	203	P	Pn	19 18 03.2	+0.4
	7.3nm,0.3s,baz=303,slow=24,SNR=22						
URZ				S	Sn	19 18 40.6	+0.3
	5.3nm,0.3s,baz=120,slow=23,SNR=2.2						
URZ	Urewera	2.78	203		Pn	19 18 03.1	+0.4
URZ				Sn	Sn	19 18 38.2	-2.1
URZ	Urewera	2.78	203	P	Pn	19 18 03.3	+0.5
TKGZ	Te Karaka	2.78	190	P	Pn	19 18 03.4	+0.7
TKGZ				S	Sn	19 18 40.5	+0.2
CNGZ	Carnagh Statio	2.79	184	P	Pn	19 18 04.3	+1.5
RAGZ	Rawiri	2.92	197	P	Pn	19 18 05.5	+1.0
RIGZ	Rimuhau	3.06	191	P	Pn	19 18 06.5	+0.5
RIGZ				S	Sn	19 18 46.9	+0.9
MBAZ	Motutapu North	3.08	249	P	Pn	19 18 06.0	-0.3
MUGZ	Murupara	3.09	206	P	Pn	19 18 07.2	+0.8
SNGZ	Shannon Statio	3.21	196	P	Pn	19 18 08.7	+1.0
ALRZ	Allen Road	3.33	210	P	Pn	19 18 10.4	+1.3
WCZ	Waipu Caves	3.37	265	P	Pn	19 18 08.5	-1.1
KNZ	Kokohu	3.38	191	P	Pn	19 18 09.7	0.0
TLZ	Tolley Road	3.52	221	P	Pn	19 18 18.7	+7.2
BKZ	Black Stump Fm	3.80	204	Pn	Pn	19 18 15.2	+0.3
BKZ	Black Stump Fm	3.80	204	P	Pn	19 18 15.5	+0.6
MCHZ	McNeill Hill	4.00	200	P	Pn	19 18 17.9	+0.8
OUZ	Omahuta	4.01	275		Pn	19 18 15.6	-1.8
OUZ	Omahuta	4.01	275	P	Pn	19 18 16.1	-1.3
HIZ	Hauiti	4.03	225	Pn	Pn	19 18 20.6	+2.9
HIZ	Hauiti	4.03	225	P	Pn	19 18 21.2	+3.6
KWHZ	Kaweka Forest	4.06	203	P	Pn	19 18 18.4	+0.3
OTVZ	Oturere	4.12	212	P	Pn	19 18 19.9	+1.1
SNVZ	South Ngauruho	4.15	212	P	Pn	19 18 20.1	+0.9
NGZ	Ngauruhoe	4.16	213	P	Pn	19 18 20.3	+1.0
BHHZ	Black Hill Sta	4.24	206	P	Pn	19 18 20.3	+0.1
FWVZ	Far West T-bar	4.24	212	P	Pn	19 18 21.3	+0.8
WHVZ	Whangaehu Hut	4.25	212	P	Pn	19 18 21.8	+1.3
KRHZ	Kereru	4.28	202	P	Pn	19 18 20.3	-0.4
WNVZ	Wahianoa	4.28	211	P	Pn	19 18 21.8	+0.9
MOVZ	Moawhango	4.29	210	P	Pn	19 18 20.9	0.0
PXZ	Pawanui	4.51	196	P	Pn	19 18 22.6	-0.9
BFZ	Birch Farm	5.28	199	Pn	Pn	19 18 32.0	-1.2
MSWZ	Moikau Station	6.24	203	Pn	Pn	19 18 44.1	-1.4
SNZO	South Karori	6.33	207	Pn	Pn	19 18 44.9	-1.8
BHW	Baring Head	6.36	205	Pn	Pn	19 18 44.7	-2.3
PLWZ	Palliser	6.38	202	Pn	Pn	19 18 45.0	-2.4
TUWZ	Tuamarina	6.73	210	Pn	Pn	19 18 49.5	-2.3
NNZ	Nelson	6.81	214	Pn	Pn	19 18 50.7	-2.1
CMWZ	Cape Campbell	6.90	208	Pn	Pn	19 18 51.9	-2.1
QRZ	Quartz Range	6.93	221		Pn	19 18 52.1	-2.3
BSWZ	Blackbirch Sta	7.00	210		Pn	19 18 53.2	-2.1
RAO	Raoul Island	7.11	26	Pn	Pn	19 18 53.5	-3.3
THZ	Tophouse	7.46	214		Pn	19 19 00.2	-1.0
KHZ	Kahutara	7.73	208	Pn	Pn	19 19 02.3	-2.3
LTZ	Lake Taylor	8.55	212	Pn	Pn	19 19 12.2	-3.2
OXZ	Oxford	9.09	211		Pn	19 19 20.0	-2.3
OXZ						19 20 57.3	
MQZ	McQueen's Vall	9.17	208		Pn	19 19 19.8	-3.4
RPZ	Rata Peaks	9.83	213	Pn	Pn	19 19 29.9	-1.9
ODZ	Otahua Downs	11.07	210	Pn	Pn	19 19 46.1	-1.6
ONTNC	Ouen Toro	16.97	319	P	P	19 20 58.7	-0.2
ASAR	Alice Springs	40.23	275	P	P	19 24 34.4	+3.2
	1.1nm,0.5s,baz=114,slow=7.8,SNR=18						
WR0	Warramunga Arr	41.54	280	P	P	19 24 43.8	+1.9
WR0				IAmb	IAmb	19 24 48.6	
	comp=Z,13nm,1.4s						
WB2	Warramunga Arr	41.70	280	P	P	19 24 45.9	+2.6
WRA	Warramunga Arr	41.71	280	P	P	19 24 46.1	+2.8
	comp=Z,1.1nm,0.6s,baz=121,slow=7.6,SNR=13						
WB0	Warramunga Arr	41.76	280	P	P	19 24 45.8	+2.0
WB0				IAmb	IAmb	19 24 59.7	
	comp=Z,8.9nm,1.4s						
QSPA	South Pole Qui	54.42	180	P	P	19 26 27.4	+7.4
QSPA				IAmb	IAmb	19 26 45.2	
	comp=Z,7.7nm,1.6s						
FINES	FINESS Array B	148.88	334	PKPbc	PKPbc	19 36 38.6	+1.9
	comp=Z,0.3nm,0.6s,baz=60,slow=4.6,SNR=1.0						

*AUST **26** 19:30:09.4±1.3, 31°.71S×116°.99E, h14km±11km, Error ellipse: s-maj=9.7km s-min=8.8km az=135.0*

*CUPWA **26** 19:30:10.7±0.3, 31°.70S×116°.99E, h2km±10km, ML2.4, Region: WESTERN AUSTRALIA*

ISC 26 19:30:09.0±1.1,**31°.70S**±0°.03×**116°.99E**±0°.03**, h11**km±10km**, n15,** σ0§**80**/27**, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUAI	Quairading	0.46	132	P	Pg	19 30 18.3	+0.2
QUAI				S	Sg	19 30 24.3	+0.1
KLBR	Kellerberrin	0.66	80	P	Pg	19 30 22.7	+0.8
KLBR	baz=0.7			S	Sg	19 30 31.1	+0.5
	baz=0.7						
KLBR	Kellerberrin	0.66	80	P	Pg	19 30 21.3	-0.5
KLBR				S	Sg	19 30 30.3	-0.3
MUN	Mundaring	0.72	247	P	Pg	19 30 23.8	+0.9
MUN	baz=0.7			S	Sg	19 30 33.0	+0.7
	baz=0.7						
MUN	Mundaring	0.72	247	P	Pg	19 30 22.3	-0.6
MUN				S	Sg	19 30 32.3	0.0
PING	Pingelly	0.80	180	P	Pg	19 30 24.3	-0.2
PING				S	Sg	19 30 34.3	-0.6
KOO6	Koorda	0.97	26	P	Pg	19 30 27.3	-0.4
BLDU	Ballidu	1.11	348	P	Pg	19 30 30.9	+0.6
BLDU	baz=1.1			S	Sg	19 30 44.7	-0.1
	baz=1.1						
BLDU	Ballidu	1.11	348	P	Pg	19 30 29.3	-1.1
BLDU				S	Sg	19 30 43.3	-1.5
NWAO	Narrogin (SRO)	1.24	170	P	Pn	19 30 32.5	+0.3
NWAO	baz=1.2			S	Sb	19 30 48.8	+0.5
	baz=1.2						
NWAO	Narrogin (SRO)	1.24	170	P	Pn	19 30 31.3	-0.9
NWAO				S	Sb	19 30 47.3	-1.0
MORW	Morawa	2.75	342	P	Pn	19 30 54.2	+1.2
MORW	baz=2.8			S	Sn	19 31 26.7	+0.5
	baz=2.8						
MORW	Morawa	2.75	342	P	Pn	19 30 53.3	+0.3
MORW				S	Sn	19 31 25.3	-0.9
MEEK	Meekatharra	5.25	16	P	Pn	19 31 28.9	+1.6
MEEK	baz=5.3	5.25	16	P	Pn	19 31 27.3	0.0
	Meekatharra						

*IDC **26** 19:46:05.8±1.1, 40°.28N×21°.33E, h0km, mb3.4/6, mb1 3.6/11, mb1mx3.4/47, mbtmp3.5/11, ML3.4/5, Error ellipse: s-maj=19.4km s-min=17.2km az=95.0*

*BEO **26** 19:46:06.4±0.9, 40°.05N×21°.86E, h12km±5km, ML3.2/15*

*SKO **26** 19:46:06.4, 40°.06N×21°.56E, h0km*

*ATH **26** 19:46:07.2, 40°.16N×21°.67E, h8km±1km, ML3.3/18, Error ellipse: s-maj=1.7km s-min=0.6km az=320.0*

*TIR **26** 19:46:07.3, 40°.23N×21°.64E, h18km±1km, Md3.6, Ml3.6*

*THE **26** 19:46:07.2, 40°.15N×21°.68E, h0km±2km, ML3.3/9, Error ellipse: s-maj=2.0km s-min=0.5km az=246.0*

ISC 26 19:46:07.2±0.8,**40°.16N**±0°.01×**21°.66E**±0°.01**, h10**km±6km**, n156,** σ1§**18**/216**, mb3.4**/5**, 8C-14D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.17	29	P	Pg	19 46 10.6	-0.3
KZN				S	Sg	19 46 13.7	+0.2
	17μm,0.3s						
KZN	Kozani	0.17	29	P	Pg	19 46 10.7	-0.3
KZN				S	Sg	19 46 13.6	+0.2
KZN				AML	AML	19 46 14.2	
	comp=E,42752μm,0.2s						
KZN				AML	AML	19 46 16.7	
	comp=N,23839μm,0.3s						
KPRO	Kipourio	0.31	228	P	Pg	19 46 12.6	-0.8
KPRO	Kipourio	0.31	228	P	Pg	19 46 12.7	-0.8
KPRO				S	Sg	19 46 18.4	+0.9
KPRO				AML	AML	19 46 20.0	
	comp=E,30313μm,0.6s						
KPRO				AML	AML	19 46 20.6	
	comp=N,24645μm,0.4s						
PENT	Pentalofos	0.40	275	P	Pg	19 46 14.6	-0.6
PENT	Pentalofos	0.40	275	P	Pg	19 46 14.7	-0.6
PENT				S	Sg	19 46 20.7	+0.1
PENT				AML	AML	19 46 24.8	
	comp=E,11608μm,0.5s						
PENT				AML	AML	19 46 27.6	
	comp=N,16410μm,0.5s						
KTI	Kastanea	0.42	56	P	Pg	19 46 15.3	-0.2
NEST	Nestorio	0.53	299	P	Pg	19 46 17.0	-0.7
NEST	Nestorio	0.53	299	P	Pg	19 46 17.2	-0.5
NEST				S	Sg	19 46 25.2	+0.5
NEST				AML	AML	19 46 29.8	
	comp=E,10074μm,0.4s						
NEST				AML	AML	19 46 31.6	
	comp=N,8110μm,0.6s						
LIT	Litokhoron	0.64	95	P	Pg	19 46 18.6	-0.9
LIT				S	Sg	19 46 28.1	+0.2
	comp=N,6μm,0.2s						
LIT	Litokhoron	0.64	95	P	Pg	19 46 18.9	-0.6
LIT				S	Sg	19 46 27.9	0.0
LIT				AML	AML	19 46 31.1	
	comp=N,9230μm,0.3s						
LIT				AML	AML	19 46 31.3	
	comp=E,12721μm,0.2s						
LIT	Litokhoron	0.64	95	*i* Pg	Pg	19 46 18.6	-0.9
LIT				*i* Sg	Sb	19 46 29.4	0.0
THL	Klokotos Trika	0.65	155	P	Pg	19 46 18.7	-1.2
THL	Klokotos Trika	0.65	155	P	Pg	19 46 19.0	-0.9
THL				S	Sg	19 46 28.5	+0.1
THL				AML	AML	19 46 32.7	
	comp=N,10753μm,0.5s						
THL				AML	AML	19 46 33.0	
	comp=E,5866μm,0.5s						
FNA	Florina	0.66	341	P	Pg	19 46 19.2	-0.8
FNA				S	Sb	19 46 29.9	-0.3
	comp=E,5μm,0.3s						
FNA	Florina	0.66	341	P	Pg	19 46 19.3	-0.8
FNA				S	Sg	19 46 28.6	-0.1
FNA				AML	AML	19 46 32.1	
	comp=E,9808μm,0.3s						
FNA				AML	AML	19 46 32.2	
	comp=N,9408μm,0.3s						
FNA	Florina	0.66	341	P	Pg	19 46 19.2	-0.8
	baz=341						
FNA				S	Sg	19 46 28.3	-0.4
FNA	Florina	0.66	341	*i* Pg	Pg	19 46 19.3	-0.8
FNA				*i* Sg	Sg	19 46 28.4	-0.3
LRSO	Larissa Observ	0.74	131	P	Pg	19 46 21.6	0.0
LRSO	Larissa Observ	0.74	131	P	Pg	19 46 21.4	-0.1
JAN	Janina	0.80	231	P	Pg	19 46 22.2	-0.5
JAN	Janina	0.80	231	P	Pg	19 46 22.4	-0.3
JAN				S	Sb	19 46 33.7	-0.5
JAN				AML	AML	19 46 39.1	
	comp=E,1855μm,0.4s						
JAN				AML	AML	19 46 42.1	
	comp=N,1877μm,0.4s						
KBN	Korca	0.81	305	P	Pg	19 46 22.5	-0.4
KBN				S	Sb	19 46 34.8	+0.2
	comp=N,3μm,0.7s						
KBN	Korca	0.81	305	P	Pg	19 46 22.3	-0.6
KBN	baz=302			S	Sg	19 46 34.0	+0.4
	baz=302						
KBN				AMP			
	comp=N,11nm,0.6s,baz=302						
LSK	Leskovik	0.81	270	P	Pg	19 46 22.4	-0.6
LSK	Leskovik	0.81	270	P	Pg	19 46 22.9	0.0
LSK	baz=265			S	Sb	19 46 35.1	+0.5
LSK	baz=265			AMP			
	comp=N,8.3nm,0.6s,baz=265						
GRG	Griva	0.97	35	P	Pg	19 46 24.9	-1.0
GRG				S	Sn	19 46 40.7	-0.3
	comp=N,2μm,0.5s						
GRG	Griva	0.97	35	*i* Pg	Pg	19 46 25.0	-1.0
GRG				*i* Sg	Sn	19 46 42.0	+1.0
THE	Thessaloniki	1.10	64	P	Pb	19 46 28.3	0.0
THE	Thessaloniki	1.10	64	P	Pb	19 46 28.4	0.0
	baz=67						
THE	Thessaloniki	1.10	64	*i* Pg	Pb	19 46 28.3	0.0
THE				*i* Sg	Sn	19 46 45.1	+1.1
OHR	Ohrid	1.16	326	*i* Pg	Pg	19 46 28.6	-0.9
OHR				*i* Sg	Sb	19 46 45.2	+0.7
OHR				*e*Lg	Lg	19 46 50.0	
	comp=E,2μm,0.8s						
HORT	Hortiatis	1.18	68	P	Pg	19 46 29.2	-0.8
HORT				S	Sn	19 46 46.6	+0.4
HORT	Hortiatis	1.18	68	P	Pg	19 46 29.1	-0.8
HORT				S	Sb	19 46 45.3	+0.1
HORT				AML	AML	19 46 49.9	
	comp=N,923μm,0.4s						
HORT				AML	AML	19 46 52.5	
	comp=E,510μm,0.3s						
IGT	Igoumenitsa	1.20	239	P	Pb	19 46 29.5	-0.6
IGT				S	Sn	19 46 48.1	+1.6
	comp=E,750nm,0.6s						
IGT	Igoumenitsa	1.20	239	P	Pb	19 46 29.9	-0.2
IGT	Igoumenitsa	1.20	239	P	Pn	19 46 30.5	+0.3
	baz=236						
IGT				S	Sn	19 46 48.2	+1.7
	baz=236						
MAKR	Makrakomi, Fth	1.20	162	P	Pb	19 46 29.2	-0.9
MAKR	Makrakomi, Fth	1.20	162	P	Pb	19 46 29.4	-0.8
MAKR				S	Sb	19 46 45.8	+0.1
MAKR				AML	AML	19 46 50.0	
	comp=E,2987μm,0.5s						
MAKR				AML	AML	19 46 52.6	
	comp=N,3062μm,0.6s						
EVR	Evrytania	1.25	175	P	Pn	19 46 29.9	-1.0
EVR				S	Sn	19 46 49.0	+1.2
	comp=N,1μm,0.6s						
EVR	Evrytania	1.25	175	P	Pn	19 46 30.3	-0.6
EVR				S	Sg	19 46 47.3	-0.1
EVR				AML	AML	19 46 52.1	
	comp=E,2301μm,0.5s						
EVR				AML	AML	19 46 54.0	
	comp=N,2819μm,0.4s						
AGG	Agios Georgios	1.25	155	P	Pn	19 46 30.0	-0.8
AGG				S	Sn	19 46 47.9	+0.2
	comp=N,1μm,0.6s						
AGG	Agios Georgios	1.25	155	P	Pn	19 46 29.8	-1.0
AGG				S	Sb	19 46 46.9	-0.1
AGG				AML	AML	19 46 54.8	
	comp=N,1641μm,0.7s						
AGG				AML	AML	19 46 55.5	
	comp=E,2347μm,0.7s						
SRN	Sarande	1.31	258	P	Pg	19 46 32.5	+0.2
SRN	Sarande	1.31	258	P	Pg	19 46 32.3	0.0
	baz=256						
SRN				S	Sn	19 46 50.3	+1.2
	baz=256						
SRN				AMP			
	comp=N,5.0nm,0.7s,baz=256						
VAY	Valandovo	1.35	30	*e*Pg	Pn	19 46 31.8	-0.4
VAY				*e*Sg	Sb	19 46 50.1	+0.1
VAY	Valandovo	1.35	30	*i* Pn	Pn	19 46 29.0	-3.1
VAY				*i* Sn	Sg	19 46 53.4	+2.7
VAY				*e*Lg	Lg	19 46 56.8	
	comp=N,259nm,0.6s						
KNT	Kendrikon	1.37	43	P	Pn	19 46 32.7	+0.2
KNT	Kendrikon	1.37	43	P	Pn	19 46 32.3	-0.2
KNT	Kendrikon	1.37	43	*i* Pn	Pn	19 46 32.2	-0.3
PLG	Polygyros	1.38	81	P	Pn	19 46 32.3	-0.3
PLG	Polygyros	1.38	81	P	Pn	19 46 32.8	+0.2
PLG				S	Sn	19 46 51.2	+0.2
PLG				AML	AML	19 46 57.3	
	comp=N,548μm,0.4s						
PLG				AML	AML	19 46 57.9	
	comp=E,434μm,0.5s						
XOR	Xorichti	1.42	123	P	Pn	19 46 33.0	-0.2
XOR	Xorichti	1.42	123	P	Pn	19 46 32.9	-0.2
XOR				S	Sb	19 46 51.7	-0.3
XOR				AML	AML	19 46 58.5	
	comp=N,1997μm,0.7s						
XOR				AML	AML	19 46 58.5	
	comp=E,1000μm,1.1s						
SOH	Sokhos	1.45	62	P	Pb	19 46 34.1	-0.3
SOH				S	Sg	19 46 54.8	+0.9
	comp=E,645nm,0.7s						
SOH	Sokhos	1.45	62	P	Pb	19 46 34.3	-0.1
SOH				S	Sb	19 46 53.0	+0.1
SOH				AML	AML	19 46 58.6	
	comp=E,1668μm,0.5s						
SOH				AML	AML	19 46 58.9	
	comp=N,1454μm,0.9s						
SOH	Sokhos	1.45	62	*i* Pn	Pb	19 46 34.1	-0.3
SOH				*i* Sn	Sg	19 46 55.8	+1.9
NEO	Neokhori	1.47	125	P	Pn	19 46 34.3	+0.3
NEO				S	Sn	19 46 53.5	+0.2
NEO				AML	AML	19 47 02.9	
	comp=N,3022μm,0.5s						
NEO				AML	AML	19 47 03.5	

SRS	**Serrai**	**1.75**	**56**	P		**Pn**	**19 46 38.2**	**+0.4**
SRS	**Serrai**	**1.75**	**56**	*i* Pn		**Pn**	**19 46 38.0**	**+0.3**
SERG	**Sergoula**	**1.77**	**170**	P		**Pn**	**19 46 38.6**	**+0.6**
OUR	**Ouranopolis**	**1.78**	**84**	P		**Pn**	**19 46 38.8**	**+0.7**
PHP	**Peshkopia**	**1.78**	**329**	P		**Pn**	**19 46 38.9**	**+0.7**
PHP	**Peshkopia**	**1.78**	**329**	P		**Pn**	**19 46 39.1**	**+0.9**
	baz=329							
PHP				S		**Sb**	**19 47 02.8**	**+0.3**
	baz=329							
PHP				AMP				
	comp=N,1.4nm,0.4s,baz=329							
TIR	**Tirane**	**1.81**	**312**	*e*Pn		**Pb**	**19 46 40.2**	**-0.3**
TIR				*e*Sn		**Sg**	**19 47 05.3**	**-0.1**
TIR	**Tirane**	**1.81**	**312**	⇈P		**Pb**	**19 46 40.9**	**+0.4**
TIR				⇊S		**Sg**	**19 47 04.5**	**-0.9**
TIR	**Tirane**	**1.81**	**312**	P		**Pg**	**19 46 41.5**	**-0.4**
	baz=311							
SKO	**Skopje**	**1.82**	**355**	*i* Pn		**Pn**	**19 46 39.5**	**+0.8**
SKO				*i* Sn		**Sg**	**19 47 08.0**	**+2.3**
SKO				*e*Lg		Lg	19 47 10.5	
	comp=N,27nm,0.8s							
TRIZ	**Trizonia**	**1.82**	**170**	P		**Pn**	**19 46 38.8**	**+0.2**
TRIZ	**Trizonia**	**1.82**	**170**	P		**Pn**	**19 46 39.2**	**+0.6**
LKR	**Lokris**	**1.83**	**145**	P		**Pn**	**19 46 39.0**	**+0.2**
NVR	**Nevrokopi**	**2.05**	**54**	P		**Pn**	**19 46 42.4**	**+0.5**
NVR	**Nevrokopi**	**2.05**	**54**	P		**Pn**	**19 46 42.4**	**+0.5**
KLV	**Kalavryta, Ach**	**2.15**	**170**	P		**Pn**	**19 46 43.9**	**+0.7**
VILL	**Villia**	**2.37**	**147**	P		**Pn**	**19 46 46.5**	**+0.3**
LOUT	**Loutraki**	**2.40**	**154**	P		**Pn**	**19 46 46.3**	**-0.3**
BOSS	**Bosilegrad**	**2.41**	**14**	*e*Pn		**Pn**	**19 46 47.7**	**+0.9**
EREA	**Eretria**	**2.47**	**134**	P		**Pn**	**19 46 48.6**	**+0.9**
BCI	**Bajram Curri**	**2.51**	**332**	P		**Pn**	**19 46 49.4**	**+1.2**
	baz=332							
BCI				AMP				
	comp=E,1.6nm,1.4s,baz=332							
BARS	**Barje**	**2.66**	**2**	*e*Pn		**Pn**	**19 46 47.9**	**-2.3**
VTS	**Vitosha**	**2.73**	**25**	*e*Pn		**Pn**	**19 46 51.7**	**+0.0**
VTS	**Vitosha**	**2.73**	**25**	⇈P		**Pn**	**19 46 52.2**	**+1.0**
VTS				⇈S		**Sn**	**19 47 25.5**	**+1.1**
PDG	**Podgorica**	**2.90**	**322**	*e*Pn		**Pn**	**19 46 54.9**	**+1.4**
PDG				*e*Sn		**Sb**	**19 47 32.1**	**-2.6**
PDG	**Podgorica**	**2.90**	**322**	⇊P		**Pn**	**19 46 56.1**	**+2.5**
PDG				⇈S		**Sb**	**19 47 32.1**	**-2.6**
SELS	**Selova**	**3.08**	**353**	*e*Pn		**Pn**	**19 46 56.4**	**+0.3**
ZAPS	**Zavoj**	**3.19**	**13**	*e*Pn		**Pn**	**19 46 58.6**	**+1.0**
SJES	**Sjenica**	**3.35**	**338**	*e*Pn		**Pn**	**19 47 00.6**	**+0.9**
BOVS	**Bovan**	**3.47**	**1**	*e*Pn		**Pn**	**19 47 01.3**	**-0.1**
BOVS				*e*Sn		**Sn**	**19 47 42.9**	**+0.4**
BOVS	**Bovan**	**3.47**	**1**	⇊P		**Pn**	**19 47 01.8**	**+0.4**
TREB	**Trebinje**	**3.57**	**317**	*e*Pn		**Pn**	**19 47 03.8**	**+1.1**
ZAGS	**Zajecar**	**3.67**	**6**	*e*Pn		**Pn**	**19 47 04.3**	**+0.2**
GRUS	**Gruza**	**3.79**	**350**	*e*Pn		**Pn**	**19 47 06.1**	**+0.3**
MATE	**Matera**	**3.82**	**279**	⇈P		**Pn**	**19 47 09.4**	**+3.4**
BBIS	**Lazići**	**4.07**	**336**	*e*Pn		**Pn**	**19 47 09.4**	**-0.2**
DIVS	**Divibare**	**4.13**	**343**	*e*Pn		**Pn**	**19 47 11.2**	**+0.8**
TRUS	**Trudelj**	**4.17**	**347**	*e*Pn		**Pn**	**19 47 11.5**	**+0.6**
APE	**Apeiranthos**	**4.32**	**134**	⇊P		**Pn**	**19 47 15.0**	**+1.9**
LSTV	**Lastovo**	**4.43**	**308**	*e*Pn		**Pn**	**19 47 14.5**	**-0.1**
LSTV				Sn		**Sn**	**19 48 04.3**	**-1.9**
MDVR	**Moldovita**	**4.62**	**0**	⇊P		**Pn**	**19 47 18.6**	**+1.4**
HERR	**Herculane**	**4.75**	**6**	⇈P		**Pn**	**19 47 20.4**	**+1.5**
FRGS	**Fruska Gora**	**5.18**	**345**	⇊P		**Pn**	**19 47 25.8**	**+0.9**
GZR	**Gura Zlata**	**5.29**	**9**	⇊P		**Pn**	**19 47 27.0**	**+0.5**
BZS	**Buzias**	**5.45**	**360**	⇊P		**Pn**	**19 47 29.1**	**+0.5**
KIJV	**Kijevo**	**5.48**	**316**	*e*Pn		**Pn**	**19 47 29.7**	**+0.7**
KIJV				Sn		**Sn**	**19 48 31.6**	**-0.5**
IDI	**Anoyia**	**5.50**	**151**	Pn		**Pn**	**19 47 32.4**	**+3.2**
	comp=E,0.9nm,0.3s,baz=332,slow=12,SNR=9.5							
IDI				Sn		**Sn**	**19 48 30.7**	**-1.9**
	comp=E,0.7nm,0.3s,baz=3.2,slow=18,SNR=1.4							
IDI	**Anoyia**	**5.50**	**151**	⇊P		**Pn**	**19 47 32.8**	**+3.6**
ARR	**Arges**	**5.64**	**22**	⇊P		**Pn**	**19 47 32.4**	**+1.1**
ZIRJ	**Zirje**	**5.69**	**310**	*e*Pn		**Pn**	**19 47 32.0**	**+0.2**
ZIRJ				Sn		**Sn**	**19 48 35.9**	**-1.2**
MORI	**Morici**	**5.78**	**312**	*e*Pn		**Pn**	**19 47 33.6**	**+0.6**
MORI				Sn		**Sn**	**19 48 38.0**	**-1.3**
VOIR		**5.83**	**24**	⇊P		**Pn**	**19 47 34.1**	**+0.2**
UDBI	**Udbina**	**6.18**	**317**	*e*Pn		**Pn**	**19 47 39.1**	**+0.6**
UDBI				Sn		**Sn**	**19 48 48.6**	**-0.7**
MLR	**Muntele Rosu**	**6.19**	**29**	Pn		**Pn**	**19 47 41.1**	**+2.3**
	comp=E,1.3nm,0.3s,baz=238,slow=9.0,SNR=13							
MLR	**Muntele Rosu**	**6.19**	**29**	⇊P		**Pn**	**19 47 39.9**	**+1.1**
DUGI	**Dugi Otok**	**6.23**	**310**	*e*Pn		**Pn**	**19 47 39.1**	**-0.2**
DUGI				Sn		**Sn**	**19 48 48.7**	**-1.8**
MORH	**Mrgy, Hungar**	**6.44**	**341**	⇈P		**Pn**	**19 47 42.8**	**-0.7**
PLOR	**Plostina**	**6.76**	**31**	⇊P		**Pn**	**19 47 46.8**	**+0.2**
VRI	**Vrincioaia**	**6.80**	**31**	⇊P		**Pn**	**19 47 47.7**	**+0.6**
PSZ	**Piszkesteto**	**7.86**	**351**	⇈P		**Pn**	**19 48 02.7**	**+1.0**
SOKA	**Soboth**	**8.11**	**326**	*e*Pn		**Pn**	**19 48 05.0**	**0.0**
	comp=E,1.6nm,0.5s							
OBKA	**Obir**	**8.19**	**323**	*i* Pn		**Pn**	**19 48 07.8**	**+1.6**
	comp=E,1.0nm,0.4s							
OBKA				*e*Sn		**Sn**	**19 49 42.1**	**+3.2**
	comp=E,2.1nm,0.5s							
VYHS	**Vyhne**	**8.57**	**347**	*e*PN		**Pn**	**19 48 13.9**	**+2.5**
VYHS				*e*SN		**Sn**	**19 49 45.2**	**-3.0**
WTTA	**Wattenberg**	**10.15**	**318**	*e*Sn		**Sn**	**19 50 29.2**	**+2.2**
	comp=E,4.0nm,0.7s							
WATA	**Walderalm**	**10.23**	**318**	*i* Sn		**Sn**	**19 50 28.5**	**-0.4**
	comp=E,2.6nm,0.5s							
GERES	**GERESS Array B**	**10.37**	**329**	Pn		**Pn**	**19 48 31.5**	**-4.6**
	comp=E,0.1nm,0.3s,baz=215,slow=39,SNR=1.7							
MOTA	**Moosalm**	**10.48**	**317**	*e*Pn		**Pn**	**19 48 38.6**	**+1.0**
	comp=E,0.3nm,0.1s							
MOTA				*i* Sn		**Sn**	**19 50 36.3**	**+1.2**
	comp=E,3.6nm,0.8s							
KHC	**Kasperske Hory**	**10.65**	**330**	*e*PN		**Pn**	**19 48 44.0**	**+4.1**
MMAI	**Mount Meron Ar**	**13.13**	**119**	Pn		**Pn**	**19 49 16.4**	**+2.5**
	comp=E,0.1nm,0.3s,baz=301,slow=12,SNR=1.4							
ESDC	**Sonseca Array**	**19.65**	**277**	P		**P**	**19 50 34.0**	**-2.1**
	comp=E,0.0nm,0.3s,baz=84,slow=9.7,SNR=2.7							
HFS	**Hagfors**	**20.61**	**349**	P		**P**	**19 50 45.0**	**-1.3**
	comp=E,1.5nm,0.5s,baz=152,slow=13,SNR=2.9							
FINES	**FINESS Array B**	**21.48**	**6**	P		**P**	**19 50 55.0**	**-0.8**
	comp=E,1.3nm,0.8s,baz=173,slow=13,SNR=2.0							
NOA	**NORSAR Array B**	**21.88**	**346**	P		**P**	**19 50 59.0**	**-1.1**
	comp=E,1.4nm,0.8s,baz=160,slow=11,SNR=6.6							
EKA	**Eskdalemuir Ar**	**22.39**	**321**	P		**P**	**19 51 03.6**	**-2.0**
	comp=E,1.7nm,0.8s,baz=114,slow=10,SNR=5.9							
TORD	**Torodi Ar. Bea**	**32.13**	**219**	P		**P**	**19 52 35.9**	**+0.9**
	comp=E,0.6nm,0.8s,baz=31,slow=9.7,SNR=2.9							
MKAR	**Makanchi Array**	**43.53**	**60**	P		**P**	**19 54 10.5**	**-0.4**
	comp=E,0.4nm,0.7s,baz=274,slow=7.6,SNR=2.9							
ASAR	**Alice Springs**	**121.49**	**96**	PKP		**PKPdf**	**20 05 00.1**	**-1.2**
	comp=E,0.5nm,0.9s,baz=286,slow=1.3,SNR=2.6							

ROM 26 19:53:35.2±0.5, 36°46'N±0'.010×12°38'E±0'.03, h27km±1km, Md2.7/5, Error ellipse: s-maj=2.6km s-min=0.9km az=103.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLTB	**Caltabellotta**	**1.15**	**35**	P	Pn	19 53 55.5	-0.1
FAVR	**Favara**	**1.20**	**59**	P	Pb	19 53 56.9	-0.4
CLTA	**Licata**	**1.36**	**68**	P	Pn	19 53 59.0	+0.5
CLTA				END			
CORL	**Corleone**	**1.45**	**30**	P	Pn	19 54 00.1	+0.5
CORL				END			
RAFF	**Raffo Rosso**	**1.69**	**69**	P	Pn	19 54 03.2	+0.3
RAFF				S	Sb	19 54 26.4	0.0
CSLB	**Castelbuono**	**1.86**	**46**	P	Pb	19 54 07.0	-1.5
CSLB				END			
HMDC	**Modica**	**1.95**	**80**	P	Pn	19 54 06.3	-0.3
HMDC				S	Sn	19 54 28.9	-1.3
GALF	**Gagliano Caste**	**2.04**	**58**	P	Pb	19 54 09.8	-1.9
ECNV	**Catenanuova**	**2.09**	**62**	P	Pn	19 54 10.0	+1.5
MEU	**Monte Lauro**	**2.09**	**77**	P	Pn	19 54 08.9	+0.3
MEU				S	Sn	19 54 32.8	-1.0
HLNI	**Lentini**	**2.11**	**70**	P	Pn	19 54 09.0	+0.3
HLNI				S	Sn	19 54 34.7	+0.6
HLNI				END			
SSY	**Sortino**	**2.21**	**76**	P	Pn	19 54 10.4	+0.2
SSY				S	Sn	19 54 36.8	+0.1
SSY				AML	AML		
	comp=E,134μm,1.6s						
SSY				AML	AML		
	comp=N,240μm,1.6s						
HAVL	**Avola**	**2.22**	**81**	P	Pn	19 54 10.1	-0.2
HAVL				S	Sn	19 54 36.0	-1.0
MSFR	**San Fratello**	**2.24**	**51**	P	Pn	19 54 12.3	+1.7
EPZF	**Pizzo Felice**	**2.30**	**58**	P	Pb	19 54 14.3	-1.8
HAGA	**Augusta**	**2.31**	**73**	P	Pn	19 54 12.0	+0.5
HAGA				S	Sn	19 54 38.9	-0.1
MUCR	**Ucria**	**2.43**	**54**	P	Pn	19 54 15.1	+1.9

*TUL **26** 19:54:06.4±1.5, 36°.41N±0°.01×98°.35W±0°.03, h5km±6km, ML2.8, mb_Lg2.6/41(NEIC), Error ellipse: s-maj=3.8km s-min=2.0km az=90.0*
NEIC **26 19:54:06.8**±1.5, **36°.41N**±0°.02×**98°.32W**±0°.02, **h9**km±6km, **Error ellipse: s-maj=2.6km s-min=2.2km az=78.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.29**	**70**	P	Pg	19 54 13.0	+0.4
CROK				Sg	Sg	19 54 17.5	+1.1
OK032	**Salt Plains WL**	**0.41**	**12**	S	Pg	19 54 14.8	0.0
OK032				Sg	Sg	19 54 20.6	+0.4
U32A	**Winter Ranch,**	**0.55**	**267**	P	Pg	19 54 16.6	-0.9
U32A				Sg	Sg	19 54 24.2	-0.6
KAN14	**Manchester OK**	**0.62**	**27**	P	Pg	19 54 18.7	-0.1
KAN14				Sg	Sg	19 54 27.4	+0.4
KAN10	**Anthony SW Sta**	**0.74**	**14**	P	Pg	19 54 20.6	-0.4
KAN10				Sg	Sg	19 54 30.0	-0.7
KAN17	**Caldwell West**	**0.78**	**35**	P	Pg	19 54 21.5	-0.3
KAN17				Sg	Sg	19 54 32.1	+0.2
KAN08	**Anthony NE Sta**	**0.86**	**19**	Pg	Pg	19 54 23.1	-0.4
KAN08				Sg	Sg	19 54 33.6	-1.2
KAN13	**South Haven SW**	**0.91**	**48**	P	Pg	19 54 24.0	-0.3
KAN13				Sg	Sg	19 54 36.4	+0.3
KAN09	**Caldwell North**	**0.92**	**37**	P	Pg	19 54 24.1	-0.4
KAN09				Sg	Sg	19 54 36.6	+0.1
KAN12	**Harper NE Stat**	**0.93**	**16**	P	Pg	19 54 23.6	-1.1
OK029	**Liberty Lake**	**0.93**	**131**	P	Pg	19 54 24.1	-0.6
BCOK	**Bluff Creek, N**	**0.94**	**142**	Pg	Pg	19 54 24.5	-0.5
BCOK				Sg	Sb	19 54 37.8	-0.2
BLOK	**Blackwell**	**0.95**	**68**	P	Pg	19 54 25.0	-0.2
KS20	**Mayfield South**	**1.02**	**36**	Pg	Pg	19 54 26.0	-0.5
KS20				Sg	Sg	19 54 39.9	+0.1
OK025	**Westminster Rd**	**1.14**	**136**	P	Pb	19 54 28.2	-0.6
OK025				Sg	Sg	19 54 43.6	-0.1
OKCFA	**Oklahoma City**	**1.21**	**144**	Pg	Pb	19 54 29.5	-0.5
OKCSW	**OKLAHOMA CITY**	**1.23**	**144**	Pg	Pn	19 54 29.6	-0.6
OKCSW				Sg	Sn	19 54 46.8	-0.1
OK031	**S. Brethren Rd**	**1.28**	**110**	P	Pn	19 54 30.9	0.0
OK031				Sn	Sn	19 54 48.1	0.0
QUOK	**Quay**	**1.32**	**100**	P	Pb	19 54 31.7	-0.1
QUOK				Sn	Sb	19 54 48.9	0.0
OK030	**Cody Creek RV**	**1.33**	**111**	Pn	Pn	19 54 31.5	-0.1
OK030				Sn	Sn	19 54 49.5	+0.1
FNO	**Franklin**	**1.37**	**147**	P	Pn	19 54 31.9	-0.2
FNO				Sn	Sg	19 54 50.7	-0.1
T35A	**Sooner Cattle**	**1.54**	**70**	P	Pb	19 54 35.2	-0.3
T35A				Sn	Sg	19 54 55.9	-0.4
WMOK	**Wichita Mounta**	**1.71**	**193**	P	Pn	19 54 36.8	-0.1
WMOK				Sn	Sb	19 54 59.7	-0.3
X34A	**Smith Ranch, M**	**1.84**	**167**	P	Pb	19 54 40.2	-0.5
X34A				Sn	Sg	19 55 05.7	-0.4
X34A				lAmb_Lg		19 55 10.0	
	comp=E,50nm,0.8s						
R32A	**Long Quarter,**	**2.04**	**351**	P	Pn	19 54 41.6	+0.3
LOOK	**Love County**	**2.58**	**159**	Pn	Pn	19 54 49.8	+1.0
CBKS	**Cedar Bluff**	**2.65**	**335**	Pn	Pn	19 54 50.6	+0.8
CBKS				lAmb_Lg		19 55 37.5	
	comp=E,12nm,0.7s						
X37A	**Clayton**	**3.01**	**126**	Pn	Pn	19 54 55.4	+0.6
X37A				lAmb_Lg		19 55 50.2	
	comp=E,13nm,0.7s						
AMTX	**Amarillo**	**3.13**	**242**	P	Pn	19 54 56.5	0.0
U38A	**Gravette**	**3.17**	**88**	P	Pn	19 54 58.9	+1.9
HHAR	**Hobbs**	**3.54**	**91**	Pn	Pn	19 55 02.4	+0.4
W39A	**Magazine**	**3.88**	**107**	Pn	Pn	19 55 07.1	+0.5
W39A				lAmb_Lg		19 56 12.8	
	comp=E,22nm,0.8s						
ABTX	**Abilene, Hawle**	**3.93**	**197**	P	Pn	19 55 02.7	-4.7
ABTX				lAmb_Lg		19 56 10.3	
	comp=E,13nm,0.8s						
S39A	**Bolivar**	**4.20**	**71**	P	Pn	19 55 12.0	+1.0
S39A				lAmb_Lg		19 56 21.8	
	comp=E,9.8nm,0.8s						
MIAR	**Mount Ida**	**4.29**	**114**	Pn	Pn	19 55 12.7	+0.3
MIAR				lAmb_Lg		19 56 33.7	
	comp=E,11nm,0.8s						
MSTX	**Muleshoe**	**4.38**	**238**	P	Pn	19 55 12.5	-1.2
U40A	**Yellville**	**4.41**	**89**	lAmb_Lg		19 56 26.0	
	comp=E,12nm,0.8s						
X40A	**Basin Creek Fa**	**4.87**	**112**	Pn	Pn	19 55 19.6	-0.6
X40A				lAmb_Lg		19 56 52.6	
	comp=E,9.4nm,0.8s						
MGMO	**Mountain Grove**	**4.91**	**79**	Pn	Pn	19 55 20.9	+0.1
N35A	**Tabor**	**4.92**	**24**	Pn	Pn	19 55 19.6	-1.3
T25A	**Trinidad**	**4.95**	**280**	Pn	Pn	19 55 20.6	-1.0
T25A				lAmb_Lg		19 56 45.8	
	comp=E,12nm,0.8s						
P38A	**Dawn**	**4.96**	**48**	P	Pn	19 55 21.3	-0.2
P38A				lAmb_Lg		19 56 53.5	
	comp=E,8.6nm,0.7s						
WHAR	**Wooly Hollow**	**5.02**	**101**	Pn	Pn	19 55 23.5	+1.1
WHAR				lAmb_Lg		19 56 48.7	
	comp=E,12nm,1.1s						
R40A	**Maddies Statio**	**5.17**	**67**	lAmb_Lg		19 56 58.3	
	comp=E,5.7nm,0.9s						
LCAR	**Lake Charles**	**5.80**	**91**	Pn	Pn	19 55 31.7	-1.3
T42A	**Van Buren**	**5.84**	**82**	Pn	Pn	19 55 32.5	-1.0
T42A				lAmb_Lg		19 57 18.3	
	comp=E,5.9nm,0.8s						
P40A	**Paris**	**5.85**	**56**	lAmb_Lg		19 57 13.3	
	comp=E,10nm,0.8s						
CCM	**Cathedral Cave**	**5.88**	**72**	lAmb_Lg		19 57 16.8	
	comp=E,7.6nm,0.7s						
SDCO	**Great Sand Dun**	**5.90**	**285**	Pn	Pn	19 55 32.0	-2.6
SDCO				lAmb_Lg		19 57 19.7	
	comp=E,6.8nm,1.1s						
PBMO	**Poplar Bluff**	**6.36**	**84**	lAmb_Lg		19 57 30.6	
	comp=E,8.4nm,0.7s						
ISCO	**Idaho Springs**	**6.67**	**303**	lAmb_Lg		19 57 47.6	
	comp=E,5.4nm,0.7s						
SCIA	**State Center**	**6.77**	**34**	lAmb_Lg		19 57 44.0	
	comp=E,9.5nm,0.8s						
X48A	**Hartselle**	**9.40**	**99**	lAmb_Lg		19 59 03.4	
	comp=Z,4.5nm,1.1s						

*DJA **26** 20:05:18.4±0.4, 9°.S±3°×11°.1E±°, h10km, M4.1/15, MLv4.1/15*
*NEIC **26** 20:05:20.0±2.2, 9°.0S±0°.1×111°.16E±0°.05, h66km±9km, mb4.2/5, Error ellipse: s-maj=14.8km s-min=7.2km az=193.0*
*IDC **26** 20:05:21.8±2.5, 8°.54S±111°.41E, h69km±28km, mb3.3/3, mb1 3.7/5, mb1mx3.3/35, mbtmp3.8/5, Error ellipse: s-maj=59.3km s-min=15.5km az=32.0*
ISC 26 20:05:18.7±0.9, **9°.03S**±0°.06×**111°.22E**±0°.03, **h49**km±11km, **n63**, σ**2**.**501**/76, **mb4.0/5, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.83**	**357**	P	**Pn**	**20 05 34.0**	**-0.1**
PCJI				S	**Sn**	**20 05 44.1**	**-1.2**
PCJI	**Pacitan**	**0.83**	**357**	P	**Pn**	**20 05 34.1**	**-0.1**
PCJI				S	**Sn**	**20 05 44.9**	**-0.4**
PWJI	**Pagerwojo**	**1.16**	**30**	P	**Pn**	**20 05 38.8**	**+0.3**
PWJI				S	**Sn**	**20 05 53.6**	**+0.4**
PWJI	**Pagerwojo**	**1.16**	**30**	P	**Pn**	**20 05 39.1**	**+0.6**
PWJI				S	**Sn**	**20 05 52.6**	**-0.6**
UGM	**Wanagama**	**1.30**	**328**		**Pn**	**20 05 41.4**	**+0.8**
UGM				Sn	**Sn**	**20 05 57.0**	**+0.1**
UGM	**Wanagama**	**1.30**	**328**	P	**Pn**	**20 05 41.9**	**+1.3**
UGM				S	**Sn**	**20 05 58.1**	**+1.2**
UGM	**Wanagama**	**1.30**	**328**	P	**Pn**	**20 05 41.7**	**+1.1**
SJI	**Sawahan**	**1.40**	**23**	P	**Pn**	**20 05 42.9**	**+1.0**
SJI				S	**Sn**	**20 06 01.3**	**+2.1**
SJI	**Sawahan**	**1.40**	**23**	P	**Pn**	**20 05 42.7**	**+0.8**
SJI				S	**Sn**	**20 06 02.6**	**+3.4**
YOGI	**Yogyakarta**	**1.51**	**323**	P	**Pn**	**20 05 44.8**	**+1.4**
YOGI				S	**Sn**	**20 06 02.5**	**+0.6**
YOGI	**Yogyakarta**	**1.51**	**323**	P	**Pn**	**20 05 44.4**	**+1.1**
SMRI	**Semarang**	**2.11**	**339**		**Pn**	**20 05 54.2**	**+2.6**
SMRI				Sn	**Sn**	**20 06 21.2**	**+4.6**
SMRI	**Semarang**	**2.11**	**339**	P	**Pn**	**20 05 52.6**	**+1.0**
SMRI				S	**Sn**	**20 06 17.8**	**+1.2**
SMRI	**Semarang**	**2.11**	**339**	P	**Pn**	**20 05 53.5**	**+1.9**
TBJI	**Tambak Boyo**	**2.28**	**16**	P	**Pn**	**20 05 55.3**	**+1.4**
TBJI	**Tambak Boyo**	**2.28**	**16**	P	**Pn**	**20 05 55.8**	**+1.9**
KPJI	**Karang Pucung**	**2.82**	**306**	P	**Pn**	**20 06 02.8**	**+1.5**
KPJI	**Karang Pucung**	**2.82**	**306**	P	**Pn**	**20 06 03.9**	**+2.6**
CTJI	**Waduk Cacaban**	**2.84**	**315**	P	**Pn**	**20 06 03.3**	**+1.7**
CTJI	**Waduk Cacaban**	**2.84**	**315**	P	**Pn**	**20 06 03.3**	**+1.7**
JAGI	**Jajag, Banyuwa**	**2.95**	**79**	Pn	**Pn**	**20 06 05.0**	**+1.8**
JAGI				Sn	**Sn**	**20 06 38.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**2.95**	**79**	P	**Pn**	**20 06 05.0**	**+1.8**
JAGI	**Jajag, Banyuwa**	**2.95**	**79**	P	**Pn**	**20 06 05.3**	**+2.2**
BYJI	**Banyuwangi**	**3.21**	**76**	P	**Pn**	**20 06 10.0**	**+3.4**
BYJI	**Banyuwangi**	**3.21**	**76**	P	**Pn**	**20 06 08.5**	**+1.9**
ABJI	**Asem Bagus**	**3.23**	**68**	P	**Pn**	**20 06 09.4**	**+2.5**
ABJI	**Asem Bagus**	**3.23**	**68**	P	**Pn**	**20 06 08.5**	**+1.6**
KMMI	**Kalianget**	**3.36**	**54**	P	**Pn**	**20 06 10.7**	**+2.0**
KMMI	**Kalianget**	**3.36**	**54**	P	**Pn**	**20 06 10.5**	**+1.8**
CISI	**Cisompet, Garu**	**3.67**	**293**		**Pn**	**20 06 13.7**	**+0.6**
CISI				Sn	**Sn**	**20 06 53.4**	**-1.7**
CISI	**Cisompet, Garu**	**3.67**	**293**	P	**Pn**	**20 06 14.6**	**+1.6**
CISI	**Cisompet, Garu**	**3.67**	**293**	P	**Pn**	**20 06 14.8**	**+1.8**
DNP	**Denpasar**	**3.96**	**85**	P	**Pn**	**20 06 20.2**	**+3.2**
DNP	**Denpasar**	**3.96**	**85**	P	**Pn**	**20 06 18.7**	**+1.7**
SRBI	**Singaraja**	**4.06**	**77**	P	**Pn**	**20 06 21.0**	**+2.7**
SRBI	**Singaraja**	**4.06**	**77**	P	**Pn**	**20 06 20.3**	**+2.0**
LEM	**Lembang**	**4.18**	**301**	P	**Pn**	**20 06 23.8**	**+3.7**
	4.0nm,0.3s,baz=252,slow=20,SNR=4.3						
LEM				S	**Sn**	**20 07 09.8**	**+1.9**
	5.5nm,0.3s,baz=167,slow=7.0,SNR=3.7						
LEM	**Lembang**	**4.18**	**301**	P	**Pn**	**20 06 21.8**	**+1.6**
LEM	**Lembang**	**4.18**	**301**	P	**Pn**	**20 06 23.2**	**+3.0**
CNJI	**Cibinong**	**4.39**	**293**	P	**Pn**	**20 06 24.8**	**+1.9**
CNJI	**Cibinong**	**4.39**	**293**	P	**Pn**	**20 06 24.3**	**+1.4**
KHKI	**Kahang-Kahang**	**4.39**	**82**	P	**Pn**	**20 06 25.6**	**+2.7**
KHKI	**Kahang-Kahang**	**4.39**	**82**	P	**Pn**	**20 06 25.2**	**+2.3**
KLNI	**Mataram**	**4.86**	**83**	P	**Pn**	**20 06 32.3**	**+3.0**
KLNI	**Mataram**	**4.86**	**83**	P	**Pn**	**20 06 30.9**	**+1.6**
CBJI	**Citeko**	**5.04**	**301**	P	**Pn**	**20 06 30.1**	**-1.7**
TWSI	**Taliwang, Sumb**	**5.61**	**88**	P	**Pn**	**20 06 40.6**	**+1.0**
XMIS	**Christmas Isla**	**5.67**	**255**	Pn	**Pn**	**20 06 40.9**	**+0.4**
CGJI	**Cibinong**	**5.97**	**293**	P	**Pn**	**20 06 47.0**	**+2.4**
BATI	**Baumata**	**12.33**	**96**	P	**Pn**	**20 08 13.0**	**+1.3**
	2.0nm,0.3s,baz=27,slow=1.8,SNR=4.6						
BATI				S	**Sn**	**20 10 21.8**	**-6.0**
	0.4nm,0.3s,baz=306,slow=15,SNR=1.8						
SOEI	**Soe**	**12.90**	**94**	Pn	**Pn**	**20 08 20.0**	**+0.4**
GIRL	**Giralia**	**13.85**	**168**	Pn	**Pn**	**20 08 31.7**	**-0.6**
MTN	**Manton Dam**	**19.92**	**103**	P	**P**	**20 09 47.4**	**+0.8**
WRA	**Warramunga Arr**	**24.84**	**118**	P	**P**	**20 10 38.6**	**+1.8**
	0.6nm,0.8s,baz=290,slow=10.0,SNR=4.8						
WB2	**Warramunga Arr**	**24.85**	**118**	P	**P**	**20 10 39.5

comp=Z,0.5nm,0.3s,baz=251,slow=4.5,SNR=4.0
ILAR Eielson Array 150.28 311 PKPbc PKiKP 20 35 40.0 -0.4
comp=Z,1.7nm,0.9s,baz=139,slow=4.1,SNR=12
ILAR Eielson Array 150.28 311 PKPbc 20 35 39.6 0.0
KDAK Kodiak Island 150.96 296 PKPbc PKiKP 20 35 41.6 -0.3
comp=Z,1.9nm,0.3s,baz=260,slow=2.1,SNR=7.5

*SOF **26** 20:26:19.9, 45˚.56N×26˚.32E, h100km, MD3.7*
*BUC **26** 20:26:19.9±0.2, 45˚.51N×26˚.39E, h134km±2km, ml3.9/48, Error ellipse: s-maj=1.6km s-min=1.4km az=173.0*
*IDC **26** 20:26:20.1±2.1, 45˚.60N×26˚.24E, h128km±7km, mb3.1/1, mb1 3.0/3, mb1mx2.6/48, mbtmp3.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.4/28, Error ellipse: s-maj=74.1km s-min=24.4km az=115.0*

ISC 26 20:26:19.6±1.0, 45˚.51N±0˚.03×26˚.38E±0˚.02, h140km±5km, n132, σ0s67/211, 94C-104D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.10**	**215**	⇑P	**Pn**	**20 26 38.6**	**+0.1**
NEHR				⇓S	**Sn**	**20 26 52.5**	**-0.4**
NEHR	**Nehoiu**	**0.10**	**215**	⇑P	**Pn**	**20 26 38.6**	**+0.1**
NEHR				⇓S	**Sn**	**20 26 52.5**	**-0.4**
BISRR	**Bisoca**	**0.23**	**81**	⇓P	**Pn**	**20 26 39.1**	**+0.3**
BISRR				⇑S	**Sn**	**20 26 53.1**	**-0.3**
BISRR	**Bisoca**	**0.23**	**81**	⇓P	**Pn**	**20 26 39.1**	**+0.3**
BISRR				⇑S	**Sn**	**20 26 53.1**	**-0.3**
MLR	**Muntele Rosu**	**0.31**	**266**	⇑P	**Pn**	**20 26 39.0**	**-0.1**
MLR				⇓S	**Sn**	**20 26 53.2**	**-0.7**
MLR	**Muntele Rosu** baz=297,slow=2.3	**0.31**	**266**	P	**Pn**	**20 26 39.0**	**-0.1**
MLR				S	**Sn**	**20 26 52.8**	**-1.1**
	68nm,0.3s,baz=127,slow=22,SNR=30						
MLR	**Muntele Rosu**	**0.31**	**266**	⇑P	**Pn**	**20 26 39.0**	**-0.1**
MLR				⇓S	**Sn**	**20 26 53.2**	**-0.7**
PLOR	**Plostina**	**0.39**	**29**	⇑P	**Pn**	**20 26 39.0**	**-0.3**
PLOR				⇑S	**Sn**	**20 26 53.2**	**-1.1**
PLOR	**Plostina**	**0.39**	**29**	⇑P	**Pn**	**20 26 39.0**	**-0.3**
PLOR				⇑S	**Sn**	**20 26 53.2**	**-1.1**
ISR	**Istrita**	**0.41**	**164**	⇑P	**Pn**	**20 26 39.7**	**+0.3**
ISR				⇑S	**Sn**	**20 26 54.6**	**+0.2**
ISR	**Istrita**	**0.41**	**164**	⇑P	**Pn**	**20 26 39.7**	**+0.3**
ISR				⇑S	**Sn**	**20 26 54.6**	**+0.2**
VRI	**Vrincioaia**	**0.43**	**34**	⇑P	**Pn**	**20 26 39.4**	**-0.1**
VRI				⇓S	**Sn**	**20 26 53.3**	**-1.3**
VRI	**Vrincioaia**	**0.43**	**34**	⇑P	**Pn**	**20 26 39.4**	**-0.1**
VRI				⇓S	**Sn**	**20 26 53.3**	**-1.3**
GRER		**0.44**	**107**	⇓P	**Pn**	**20 26 40.6**	**+1.1**
GRER		**0.44**	**107**	⇓P	**Pn**	**20 26 40.6**	**+1.1**
SECR		**0.53**	**205**	⇓P	**Pn**	**20 26 40.2**	**+0.3**
SECR				⇓S	**Sn**	**20 26 55.5**	**+0.1**
SECR		**0.53**	**205**	⇓P	**Pn**	**20 26 40.2**	**+0.3**
SECR				⇓S	**Sn**	**20 26 55.5**	**+0.1**
ODBI	**Odobesti**	**0.54**	**62**	⇑P	**Pn**	**20 26 40.8**	**+0.9**
ODBI				⇑S	**Sn**	**20 26 56.2**	**+0.7**
ODBI	**Odobesti**	**0.54**	**62**	⇑P	**Pn**	**20 26 40.8**	**+0.9**
ODBI				⇑S	**Sn**	**20 26 56.2**	**+0.7**
PLAR	**PLOIESTI**	**0.65**	**203**	⇑P	**Pn**	**20 26 41.0**	**+0.4**
PLAR	**PLOIESTI**	**0.65**	**203**	⇑P	**Pn**	**20 26 41.0**	**+0.4**
OZUR		**0.72**	**325**	⇑P	**Pn**	**20 26 40.6**	**-0.5**
OZUR				⇓S	**Sn**	**20 26 55.8**	**-1.9**
OZUR		**0.72**	**325**	⇑P	**Pn**	**20 26 40.6**	**-0.5**
OZUR				⇓S	**Sn**	**20 26 55.8**	**-1.9**
PGOR	**Pogoanele**	**0.74**	**144**	⇑P	**Pn**	**20 26 41.2**	**-0.1**
PGOR				⇑S	**Sn**	**20 26 57.0**	**-0.7**
PGOR	**Pogoanele**	**0.74**	**144**	⇑P	**Pn**	**20 26 41.2**	**-0.1**
PGOR				⇑S	**Sn**	**20 26 57.0**	**-0.7**
DOPR	**Dopca**	**0.83**	**304**	⇓P	**Pn**	**20 26 41.5**	**-0.5**
DOPR				⇓S	**Sn**	**20 26 58.5**	**-0.6**
DOPR	**Dopca**	**0.83**	**304**	⇓P	**Pn**	**20 26 41.5**	**-0.5**
DOPR				⇓S	**Sn**	**20 26 58.5**	**-0.6**
SULR		**0.84**	**186**	⇑P	**Pn**	**20 26 42.3**	**+0.3**
SULR				⇑S	**Sn**	**20 26 58.9**	**-0.1**
SULR		**0.84**	**186**	⇑P	**Pn**	**20 26 42.3**	**+0.3**
SULR				⇓S	**Sn**	**20 26 58.9**	**-0.1**
GHRR		**0.91**	**52**	⇓P	**Pn**	**20 26 43.0**	**+0.4**
GHRR				⇑S	**Sn**	**20 26 59.7**	**-0.3**
GHRR		**0.91**	**52**	⇓P	**Pn**	**20 26 43.0**	**+0.4**
GHRR				⇑S	**Sn**	**20 26 59.7**	**-0.3**
TUDR		**0.91**	**84**	⇑P	**Pn**	**20 26 42.2**	**-0.3**
TUDR				⇓S	**Sn**	**20 26 59.0**	**-1.0**
TUDR		**0.91**	**84**	⇑P	**Pn**	**20 26 42.2**	**-0.3**
TUDR				⇓S	**Sn**	**20 26 59.0**	**-1.0**
VOIR		**0.94**	**266**	⇓P	**Pn**	**20 26 42.7**	**-0.3**
VOIR				⇑S	**Sn**	**20 27 00.2**	**-0.5**
VOIR		**0.94**	**266**	⇓P	**Pn**	**20 26 42.7**	**-0.3**
VOIR				⇑S	**Sn**	**20 27 00.2**	**-0.5**
TESR	**Tescani**	**1.02**	**10**	⇓P	**Pn**	**20 26 43.2**	**-0.3**
TESR	**Tescani**	**1.02**	**10**	⇓P	**Pn**	**20 26 43.2**	**-0.3**
SCHL	**Schela**	**1.02**	**90**	⇓P	**Pn**	**20 26 43.2**	**-0.3**
SCHL				⇑S	**Sn**	**20 27 00.6**	**-1.2**
SCHL	**Schela**	**1.02**	**90**	⇓P	**Pn**	**20 26 43.2**	**-0.3**
SCHL				⇑S	**Sn**	**20 27 00.6**	**-1.2**
INCR	**INCERC-Sediu C**	**1.08**	**188**	⇓P	**Pn**	**20 26 44.2**	**0.0**
INCR				⇑S	**Sn**	**20 27 02.2**	**-0.6**
INCR	**INCERC-Sediu C**	**1.08**	**188**	⇓P	**Pn**	**20 26 44.2**	**0.0**
INCR				⇑S	**Sn**	**20 27 02.2**	**-0.6**
LEHL	**Lehliu**	**1.08**	**163**	⇑P	**Pn**	**20 26 44.4**	**+0.3**
LEHL				⇑S	**Sn**	**20 27 02.8**	**0.0**
LEHL	**Lehliu**	**1.08**	**163**	⇑P	**Pn**	**20 26 44.4**	**+0.3**
LEHL				⇑S	**Sn**	**20 27 02.8**	**0.0**
VARL	**Varlezi**	**1.10**	**69**	⇑P	**Pn**	**20 26 44.6**	**+0.4**
VARL				⇑S	**Sn**	**20 27 02.0**	**-1.1**
VARL	**Varlezi**	**1.10**	**69**	⇑P	**Pn**	**20 26 44.6**	**+0.4**
VARL				⇑S	**Sn**	**20 27 02.0**	**-1.1**
AMRR	**Amara**	**1.13**	**143**	⇑P	**Pn**	**20 26 44.8**	**+0.2**
AMRR				⇑S	**Sn**	**20 27 03.4**	**-0.1**
AMRR	**Amara**	**1.13**	**143**	⇑P	**Pn**	**20 26 44.8**	**+0.2**
AMRR				⇑S	**Sn**	**20 27 03.4**	**-0.1**
BIR	**Birlad**	**1.15**	**49**	⇓P	**Pn**	**20 26 44.9**	**+0.2**
BIR				⇑S	**Sn**	**20 27 02.7**	**-1.4**
BIR	**Birlad**	**1.15**	**49**	⇓P	**Pn**	**20 26 44.9**	**+0.2**
BIR				⇑S	**Sn**	**20 27 02.7**	**-1.4**
GISR	**Galati**	**1.18**	**93**	⇓P	**Pn**	**20 26 45.4**	**+0.4**
GISR				⇑S	**Sn**	**20 27 03.3**	**-1.1**
GISR	**Galati**	**1.18**	**93**	⇓P	**Pn**	**20 26 45.4**	**+0.4**
GISR				⇑S	**Sn**	**20 27 03.3**	**-1.1**
BUC1	**Bucharest**	**1.19**	**192**	⇓P	**Pn**	**20 26 45.0**	**-0.1**
BUC1				⇑S	**Sn**	**20 27 03.6**	**-1.0**
BUC1	**Bucharest**	**1.19**	**192**	⇓P	**Pn**	**20 26 45.0**	**-0.1**
BUC1				⇑S	**Sn**	**20 27 03.6**	**-1.0**
ARR	**Arges**	**1.24**	**264**	⇓P	**Pn**	**20 26 45.6**	**-0.1**
ARR				⇑S	**Sn**	**20 27 04.6**	**-1.0**
ARR	**Arges**	**1.24**	**264**	⇓P	**Pn**	**20 26 45.6**	**-0.1**
ARR				⇑S	**Sn**	**20 27 04.6**	**-1.0**
CFR	**Carcaliu**	**1.28**	**104**	⇑P	**Pn**	**20 26 45.6**	**-0.4**
CFR				⇑S	**Sn**	**20 27 05.5**	**-0.7**
CFR	**Carcaliu**	**1.28**	**104**	⇑P	**Pn**	**20 26 45.6**	**-0.4**
CFR				⇑S	**Sn**	**20 27 05.5**	**-0.7**
GIUM	**Giurgiulesti**	**1.29**	**91**	⇓P	**Pn**	**20 26 46.5**	**+0.4**
GIUM				⇑S	**Sn**	**20 27 05.9**	**-0.4**
GIUM	**Giurgiulesti**	**1.29**	**91**	⇓P	**Pn**	**20 26 46.5**	**+0.4**
GIUM				⇓S	**Sn**	**20 27 05.9**	**-0.4**
SGRR	**Singureni**	**1.32**	**193**	⇓P	**Pn**	**20 26 46.4**	**-0.1**
SGRR				⇑S	**Sn**	**20 27 06.1**	**-0.8**
SGRR	**Singureni**	**1.32**	**193**	⇓P	**Pn**	**20 26 46.4**	**-0.1**
SGRR				⇑S	**Sn**	**20 27 06.1**	**-0.8**
HARR	**Harsova**	**1.37**	**126**	⇑P	**Pn**	**20 26 47.0**	**0.0**
HARR	**Harsova**	**1.37**	**126**	⇑P	**Pn**	**20 26 47.0**	**0.0**
RASA	**Rasa**	**1.41**	**157**	⇑P	**Pn**	**20 26 47.3**	**0.0**
RASA				⇑S	**Sn**	**20 27 07.6**	**-0.9**
RASA	**Rasa**	**1.41**	**157**	⇑P	**Pn**	**20 26 47.3**	**0.0**
RASA				⇑S	**Sn**	**20 27 07.6**	**-0.9**
BIZ	**Bicaz**	**1.44**	**352**	⇓P	**Pn**	**20 26 48.3**	**+0.6**
BIZ				⇑S	**Sn**	**20 27 08.9**	**-0.4**
BIZ	**Bicaz**	**1.44**	**352**	⇓P	**Pn**	**20 26 48.3**	**+0.6**
BIZ				⇑S	**Sn**	**20 27 08.9**	**-0.4**
GIRR	**Girov**	**1.45**	**3**	⇑P	**Pn**	**20 26 48.0**	**+0.3**
GIRR	**Girov**	**1.45**	**3**	⇑P	**Pn**	**20 26 48.0**	**+0.3**
VASR	**Vaslui**	**1.50**	**40**	⇑P	**Pn**	**20 26 48.4**	**+0.1**
VASR				⇓S	**Sn**	**20 27 09.3**	**-1.0**
VASR	**Vaslui**	**1.50**	**40**	⇑P	**Pn**	**20 26 48.4**	**+0.1**
VASR				⇓S	**Sn**	**20 27 09.3**	**-1.0**
TLBR	**Topalu**	**1.53**	**129**	⇓P	**Pn**	**20 26 48.7**	**+0.1**
TLBR				⇑S	**Sn**	**20 27 09.6**	**-1.2**
TLBR	**Topalu**	**1.53**	**129**	⇓P	**Pn**	**20 26 48.7**	**+0.1**
TLBR				⇑S	**Sn**	**20 27 09.6**	**-1.2**
TPGR	**Topolog**	**1.58**	**114**	⇓P	**Pn**	**20 26 49.1**	**-0.1**
TPGR				⇓S	**Sn**	**20 27 11.1**	**-1.0**
TPGR	**Topolog**	**1.58**	**114**	⇓P	**Pn**	**20 26 49.1**	**-0.1**
TPGR				⇓S	**Sn**	**20 27 11.1**	**-1.0**
COPA	**Copaceanca**	**1.61**	**211**	⇓P	**Pn**	**20 26 49.4**	**-0.2**
COPA				⇓S	**Sn**	**20 27 11.5**	**-0.9**
COPA	**Copaceanca**	**1.61**	**211**	⇓P	**Pn**	**20 26 49.4**	**-0.2**
COPA				⇓S	**Sn**	**20 27 11.5**	**-0.9**
CVDA	**Cernavoda**	**1.67**	**134**	⇑P	**Pn**	**20 26 50.3**	**+0.1**
CVDA	**Cernavoda**	**1.67**	**134**	⇑P	**Pn**	**20 26 50.3**	**+0.1**
ICOR	**Ion Corvin**	**1.72**	**144**	⇑P	**Pn**	**20 26 51.0**	**+0.2**
ICOR				⇑S	**Sn**	**20 27 13.6**	**-1.1**
ICOR	**Ion Corvin**	**1.72**	**144**	⇑P	**Pn**	**20 26 51.0**	**+0.2**
ICOR				⇑S	**Sn**	**20 27 13.6**	**-1.1**
TLCR		**1.75**	**100**	⇓P	**Pn**	**20 26 51.3**	**+0.2**
TLCR				⇓S	**Sn**	**20 27 14.6**	**-0.6**
TLCR		**1.75**	**100**	⇓P	**Pn**	**20 26 51.3**	**+0.2**
TLCR				⇓S	**Sn**	**20 27 14.6**	**-0.6**
TIRR	**Tirgusor**	**1.79**	**125**	⇑P	**Pn**	**20 26 51.6**	**0.0**
TIRR				⇓S	**Sn**	**20 27 14.9**	**-1.1**
TIRR	**Tirgusor**	**1.79**	**125**	⇑P	**Pn**	**20 26 51.6**	**0.0**
TIRR				⇓S	**Sn**	**20 27 14.9**	**-1.1**
IAS	**Iasi**	**1.87**	**26**	⇑P	**Pn**	**20 26 52.4**	**-0.1**
IAS	**Iasi**	**1.87**	**26**	⇑P	**Pn**	**20 26 52.4**	**-0.1**
VLAD	**Vladila**	**2.07**	**224**	⇓P	**Pn**	**20 26 54.4**	**-0.4**
VLAD	**Vladila**	**2.07**	**224**	⇓P	**Pn**	**20 26 54.4**	**-0.4**
TSCT	**Constanta Port**	**2.11**	**129**	⇓P	**Pn**	**20 26 55.5**	**+0.2**
TSCT	**Constanta Port**	**2.11**	**129**	⇓P	**Pn**	**20 26 55.5**	**+0.2**
MILM	**Milestii Mici**	**2.20**	**49**	⇓P	**Pn**	**20 26 56.4**	**0.0**
MILM	**Milestii Mici**	**2.20**	**49**	⇓P	**Pn**	**20 26 56.4**	**0.0**
PSN	**Preselentsi**	**2.24**	**144**	*i* P	**Pn**	**20 26 57.4**	**+0.5**
BUR01	**Bucovina Ar. S**	**2.25**	**340**	⇑P	**Pn**	**20 26 57.6**	**+0.4**
BUR01				⇑S	**Sn**	**20 27 27.1**	**+1.0**
BURAR	**Bucovina Array**	**2.25**	**340**	⇑P	**Pn**	**20 26 57.6**	**+0.4**
BURAR				⇑S	**Sn**	**20 27 27.1**	**+1.0**
KIS	**Kishinev** 180nm,0.2s	**2.25**	**48**	*i* P	**Pn**	**20 26 57.0**	**-0.1**
KIS				*e*S	**Sn**	**20 27 23.6**	**-2.3**
	550nm,0.4s						
KIS	**Kishinev**	**2.25**	**48**	⇑P	**Pn**	**20 26 57.1**	**+0.1**
KIS	**Kishinev**	**2.25**	**48**	⇑P	**Pn**	**20 26 57.1**	**+0.1**
SZH	**Strazhica**	**2.27**	**188**	*i* P	**Pn**	**20 26 57.2**	**-0.1**
MANR	**Mangalia**	**2.31**	**136**	⇓P	**Pn**	**20 26 58.0**	**+0.2**
MANR				⇓S	**Sn**	**20 27 26.5**	**-0.8**
MANR	**Mangalia**	**2.31**	**136**	⇓P	**Pn**	**20 26 58.0**	**+0.2**
MANR				⇓S	**Sn**	**20 27 26.5**	**-0.8**
SRRE	**Strehaia**	**2.40**	**250**	⇓P	**Pn**	**20 26 58.6**	**-0.4**
SRE	**Strehaia**	**2.40**	**250**	⇓P	**Pn**	**20 26 58.6**	**-0.4**
PRD	**Provadia**	**2.42**	**162**	*i* P	**Pn**	**20 26 59.8**	**+0.6**
DEV	**Deva**	**2.46**	**280**	⇓P	**Pn**	**20 27 00.4**	**+0.7**
DEV	**Deva**	**2.46**	**280**	⇓P	**Pn**	**20 27 00.4**	**+0.7**
GZR	**Gura Zlata**	**2.54**	**269**	⇓P	**Pn**	**20 27 00.4**	**-0.4**
GZR				⇓S	**Sn**	**20 27 32.1**	**-0.3**
GZR	**Gura Zlata**	**2.54**	**269**	⇓P	**Pn**	**20 27 00.4**	**-0.4**
GZR				⇓S	**Sn**	**20 27 32.1**	**-0.3**
BAIL	**Bailesti**	**2.63**	**236**	⇑P	**Pn**	**20 27 01.8**	**0.0**
BAIL				⇑S	**Sn**	**20 27 33.9**	**-0.4**
BAIL	**Bailesti**	**2.63**	**236**	⇑P	**Pn**	**20 27 01.8**	**0.0**
BAIL				⇑S	**Sn**	**20 27 33.9**	**-0.4**
DRGR		**2.85**	**298**	⇑P	**Pn**	**20 27 04.8**	**+0.1**
DRGR		**2.85**	**298**	⇑P	**Pn**	**20 27 04.8**	**+0.1**
MPEP	**Malo Peshtene**	**2.87**	**222**	*i* P	**Pn**	**20 27 04.6**	**-0.2**
HERR	**Herculane**	**2.87**	**259**	⇑P	**Pn**	**20 27 04.0**	**-0.9**
HERR	**Herculane**	**2.87**	**259**	⇑P	**Pn**	**20 27 04.0**	**-0.9**
SORM	**Soroca**	**2.95**	**27**	⇑P	**Pn**	**20 27 05.3**	**-0.6**
SORM	**Soroca**	**2.95**	**27**	⇑P	**Pn**	**20 27 05.3**	**-0.6**
BZS	**Buzias**	**3.35**	**273**	⇓P	**Pn**	**20 27 10.2**	**-0.8**
BZS	**Buzias**	**3.35**	**273**	⇓P	**Pn**	**20 27 10.2**	**-0.8**
PGB	**Panagyurishte**	**3.36**	**209**	*i* P	**Pn**	**20 27 11.6**	**+0.3**
MDVR	**Moldovita**	**3.38**	**259**	⇑P	**Pn**	**20 27 10.5**	**-1.0**
MDVR	**Moldovita**	**3.38**	**259**	⇑P	**Pn**	**20 27 10.5**	**-1.0**
VTS	**Vitosha**	**3.67**	**219**	⇓P	**Pn**	**20 27 15.6**	**+0.2**
VTS	**Vitosha**	**3.67**	**219**	⇓P	**Pn**	**20 27 15.6**	**+0.2**
STIP	**Stip**	**4.88**	**220**	*i* Pn	**Pn**	**20 27 28.6**	**-2.6**
AKASG	**Malin Array Be** 3.9nm,0.3s,baz=202,slow=12,SNR=11	**5.53**	**19**	P	**Pn**	**20 27 38.7**	**-1.0**
HFS	**Hagfors** comp=Z,34nm,18.1s,baz=79,slow=39	**16.48**	**337**	LR	LR	20 36 58.3	
EIL	**Elat** comp=Z,60nm,20.7s,baz=94,slow=41	**17.19**	**154**	LR	LR	20 38 08.9	
NOA	**NORSAR Array B** 0.0nm,0.3s,baz=143,slow=10,SNR=3.4	**17.93**	**336**	P	**P**	**20 30 18.9**	**+0.5**
MKAR	**Makanchi Array** comp=Z,48nm,18.2s,baz=162,slow=39	**38.05**	**67**	LR	LR	20 51 19.9	
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,baz=13,slow=7.6,SNR=2.2	**38.46**	**221**	P	**P**	**20 33 29.0**	**+1.2**

IDC 26 20:28:39.6±2.5, 13˚.75S×166˚.92E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/51, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=55.7km s-min=43.2km az=110.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 1.7nm,0.3s,baz=160,slow=15,SNR=13	**8.29**	**183**	P	Pn	20 30 41.7	+0.5
DZM					Sn	20 32 03.6	-12
	0.3nm,0.3s,baz=108,slow=19,SNR=1.3						
STKA	**Stephens Creek** 1.1nm,0.5s,baz=46,slow=8.8,SNR=6.9	**29.38**	**228**	P	P	20 34 44.1	-0.6
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=84,slow=8.9,SNR=1.2	**31.75**	**254**	P	P	20 35 06.0	+0.2
ASAR	**Alice Springs** 0.5nm,0.7s,baz=79,slow=9.3,SNR=12	**32.72**	**248**	P	P	20 35 14.3	+0.1
ARCES	**ARCESS Array B** 3.9nm,1.2s,baz=44,slow=2.7,SNR=5.5	**119.23**	**345**	PKP	PKPdf	20 47 29.9	-0.2

*SOME **26** 20:36:43.0, 40˚.65N×77˚.62E, h5km*
*KRNET **26** 20:36:44.2±0.1, 40˚.66N×77˚.78E, h21km, mb3.0*
*NNC **26** 20:36:45.2±2.7, 40˚.59N×78˚.04E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.0km s-min=12.3km az=162.0*

ISC 26 20:36:42.6±2.2, 40˚.64N±0˚.08×77˚.58E±0˚.03, h9km±16km, n59, σ1s40/94, 24C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy** baz=1.0	**1.10**	**9**	⇓*i* P	**Pb**	**20 37 04.4**	**+0.3**
TARG				⇓*i* S	**Sb**	**20 37 19.3**	**+0.6**
	baz=1.0						
KDJ	**Kajisay** baz=43	**1.52**	**349**	⇓*i* P	**Pg**	**20 37 12.2**	**+0.5**
KDJ				⇓*i* S	**Sg**	**20 37 33.7**	**+2.3**
	baz=43						
ULHL	**Ulahol** baz=24	**1.89**	**328**	⇑*i* P	**Pg**	**20 37 19.5**	**+0.6**
ULHL				⇑*i* S	**Sg**	**20 37 45.8**	**+2.3**
	baz=24						
PRZ	**Przheval'sk** baz=14	**1.94**	**18**	⇓*i* P	**Pb**	**20 37 18.8**	**+0.5**
PRZ				⇓*i* S	**Sg**	**20 37 44.7**	**-0.3**
	baz=14						
ANVS	**Anan'yevo** baz=58	**2.14**	**2**	⇑*i* P	**Pg**	**20 37 22.9**	**-0.7**
ANVS				⇑*i* S	**Sg**	**20 37 50.3**	**-1.1**
	baz=58						
BOOM	**Boomskoye usch** baz=24	**2.22**	**327**	⇑*e* P	**Pb**	**20 37 24.4**	**+1.4**
BOOM				⇑*i* S	**Sg**	**20 37 53.7**	**-0.3**
	baz=24						
SATY	**Saty** 10.0nm,0.3s	**2.49**	**14**	*e* P	**Pg**	**20 37 29.9**	**-0.5**
SATY				*e*S	**Sg**	**20 38 03.9**	**+1.2**
	19nm,0.3s						
SATY	**Saty** 10.0nm,0.3s	**2.49**	**14**	Pg	**Pg**	**20 37 29.9**	**-0.5**
SATY				Lg	Lg	20 38 04.2	
	19nm,0.3s						
IZV	**Izvestkoviy** 61nm,0.2s	**2.50**	**343**	*e*P	**Pg**	**20 37 30.2**	**-0.3**
IZV				*e*S	**Sg**	**20 38 04.4**	**+1.5**
	39nm,0.5s						
IZV	**Izvestkoviy** 61nm,0.2s	**2.50**	**343**	Pg	**Pg**	**20 37 30.2**	**-0.3**
IZV				Lg	Lg	20 38 04.4	
	39nm,0.5s						
MDOK	**Medeo** 40nm,0.6s	**2.55**	**351**	*e*P	**Pg**	**20 37 30.7**	**-0.8**
MDOK				*e*S	**Sg**	**20 38 05.0**	**+0.4**
	30nm,0.6s						
MDOK	**Medeo** 25nm,0.4s	**2.55**	**351**	⇓Pn	**Pg**	**20 37 30.9**	**-0.6**
MDOK				⇑Sn	**Sg**	**20 38 04.2**	**-0.4**
	24nm,0.6s						
MDOK	**Medeo** 40nm,0.6s	**2.55**	**351**	Pg	**Pg**	**20 37 30.7**	**-0.8**
MDOK				Lg	Lg	20 38 05.0	
	30nm,0.6s						
AAA	**Alma-Ata** 40nm,0.4s	**2.61**	**349**	*e*P	**Pg**	**20 37 32.8**	**+0.1**
AAA				*e*S	**Sg**	**20 38 08.9**	**+2.3**
	54nm,0.2s						
AAA	**Alma-Ata** 40nm,0.4s	**2.61**	**349**	Pg	**Pg**	**20 37 32.8**	**+0.1**
AAA				Lg	Lg	20 38 08.9	
	54nm,0.2s						
KNDC	**Almaty** 49nm,0.5s	**2.61**	**350**	⇑Pn	**Pb**	**20 37 31.3**	**+1.6**
KNDC				⇑Sn	**Sg**	**20 38 09.2**	**+2.6**
	102nm,0.5s						
TKM2	**Tokmak 2** baz=25	**2.72**	**328**	⇑*e*P	**Pb**	**20 37 31.1**	**-0.5**
TKM2				⇑*i* S	**Sb**	**20 38 05.6**	**+0.5**
	baz=25						
TKM2	**Tokmak 2** SNR=7.9	**2.72**	**328**	P	**Pg**	**20 37 32.0**	**+0.4**
TKM2	**Tokmak 2** 5.0nm,0.7s	**2.72**	**328**	⇓Pn	**Pg**	**20 37 34.2**	**-0.5**
TKM2				⇓Sn	**Sg**	**20 38 10.4**	**+0.5**
	8.7nm,0.6s						
UZB	**Uzynbulak** 4.5nm,0.3s	**2.72**	**23**	*e*P	**Pg**	**20 37 34.0**	**-0.8**
UZB				*e*S	**Sg**	**20 38 10.6**	**+0.4**
	16nm,0.3s						
UZB	**Uzynbulak** 4.5nm,0.3s	**2.72**	**23**	Pg	**Pg**	**20 37 34.0**	**-0.8**
UZB				Lg	Lg	20 38 10.5	
	16nm,0.3s						
ARLS	**Aral** baz=96	**2.74**	**297**	⇓*i* P	**Pb**	**20 37 32.4**	**+0.5**
ARLS				⇓*i* S	**Sb**	**20 38 07.2**	**+1.4**
	baz=96						
KBK	**Karagaybulak** baz=14	**2.82**	**316**	⇑*i* P	**Pb**	**20 37 33.9**	**+0.6**
KBK				⇑*i* S	**Sb**	**20 38 09.1**	**+1.1**
	baz=14						
KBK	**Karagaybulak** SNR=7.6	**2.82**	**316**	P	**Pg**	**20 37 36.6**	**0.0**
KURS	**Kuram** 7.4nm,0.5s	**2.88**	**9**	*e*P	**Pg**	**20 37 36.5**	**-1.2**
KURS				*e*S	**Sg**	**20 38 15.1**	**+0.1**
	9.8nm,0.7s						
KURS	**Kuram** 7.4nm,0.5s	**2.88**	**9**	Pg	**Pg**	**20 37 36.5**	**-1.2**
KURS				Lg	Lg	20 38 15.1	
	9.8nm,0.7s						
SHLS	**Shalkode** 6.1nm,0.4s	**2.88**	**29**	*e*P	**Pg**	**20 37 39.1**	**+1.3**
SHLS				*e*S	**Sg**	**20 38 19.4**	**+4.3**
	70nm,0.6s						
SHLS	**Shalkode** 6.1nm,0.4s	**2.88**	**29**	Pg	**Pg**	**20 37 39.1**	**+1.3**
SHLS				Lg	Lg	20 38 19.4	
	70nm,0.6s						
DGS	**Degeres** 7.5nm,0.3s	**2.93**	**333**	*e*P	**Pg**	**20 37 37.9**	**-0.8**
DGS				*e*S	**Sg**	**20 38 17.1**	**+0.4**
	25nm,0.4s						
DGS	**Degeres** 7.5nm,0.3s	**2.93**	**333**	Pg	**Pg**	**20 37 37.9**	**-0.8**
DGS				Lg	Lg	20 38 17.1	
	25nm,0.4s						
KPKS	**Kokpek** 16nm,0.4s	**2.94**	**16**	*e*P	**Pg**	**20 37 37.5**	**-1.5**
KPKS				*e*S	**Sg**	**20 38 16.9**	**-0.1**
	22nm,0.5s						
PDGK	**Podgornoye** 5.9nm,0.4s	**3.04**	**27**	Pg	**Pg**	**20 37 39.0**	**-1.8**
PDGK				Lg	Lg	20 38 19.4	
	12nm,0.7s						
PDGK	**Podgornoye** 5.5nm,0.4s	**3.04**	**27**

DJR					Lg	Lg	20 38 50.9		
	0.9nm,0.5s								
KAPS	**Kapalarasan**	**4.82**	**15**	*eP*	**Pg**	**20 38 12.9**	**-2.0**		
	0.2nm,0.5s								
KAPS				*eS*	**Sg**	**20 39 17.7**	**+0.4**		
	0.6nm,0.5s								
KAPS	**Kapalarasan**	**4.82**	**15**	Pg	**Pg**	**20 38 12.9**	**-2.0**		
	0.2nm,0.5s								
KAPS					Lg	Lg	20 39 17.7		
	0.6nm,0.5s								

BJI ***26*** *20:39:22.1±0.0,28.°38N×129.°36E,h30km,mB4.8/15, mb4.2/23,Ms3.9/2,Ms7 3.6/2*
JMA ***26*** *20:39:22.5±0.2,28.°30N×129.°51E,h35km±2km,M4.2*
JMA Felt III J1.
NIED ***26*** *20:39:22.6,28.°30N×129.°51E,h35km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.80; Mθθ1.17; Mφφ-0.37; Mrθ-0.66; Mθφ-0.09; Mφr0.57; Fault plane solution: M₀1.36000×10¹⁵ NP1: φs119.00000°,δ68.00000°,λ-62.00000°. NP2: φs245.00000°,δ35.00000°,λ-139.00000°.*
IDC ***26*** *20:39:24.2±1.3,28.°32N×129.°48E,h56km±12km,mb3.6/13, mb1 3.8/16,mb1mx3.6/42,mbtmp3.9/16,MS3.0/4, Ms1 3.0/4,ms1mx2.9/36 Error ellipse: s-maj=20.3km s-min=7.6km az=110.0*
NEIC ***26*** *20:39:24.1±2.4,28.°23N±0.°04×129.°59E±0.°08,h50km±6km, mb4.6/13,Error ellipse: s-maj=10.9km s-min=5.1km az=99.0*

ISC 26 20:39:22.0±0.9,28.°27N±0.°04×129.°57E±0.°04,h33km±3km, n84,σ1§79/106,mb4.2/22,1C-1D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAM	**Amami Oshima**	**0.15**	**13**	P		**Pb**	**20 39 28.4**	**+0.2**
JAM				S		**Sb**	**20 39 32.8**	**+0.4**
JAMN	**Amaminishikomi**	**0.35**	**266**	P		**Pb**	**20 39 30.5**	**+0.1**
JAMN				S		**Sb**	**20 39 36.3**	**+0.2**
JZK	**Kikaishima**	**0.36**	**82**	P		**Pn**	**20 39 31.7**	**+0.7**
JZK				*eS*		**Sn**	**20 39 39.1**	**+2.4**
JTK	**Tokunoshima**	**0.73**	**229**	P		**Pn**	**20 39 35.6**	**-0.4**
JTK				*eS*		**Sn**	**20 39 44.6**	**-1.3**
JTAJ	**Takarajima**	**0.94**	**340**	P		**Pn**	**20 39 38.6**	**-0.3**
JTAJ				*eS*		**Sn**	**20 39 49.2**	**-2.0**
JOKE	**Okinoerabujima**	**1.26**	**225**	P		**Pn**	**20 39 44.6**	**+1.3**
JOKE				*eS*		**Sb**	**20 40 01.1**	**-0.1**
JYRO	**Yoronjima**	**1.58**	**219**	P		**Pn**	**20 39 49.1**	**+1.3**
JYRO				S		**Sn**	**20 40 08.9**	**+1.8**
JNN	**Nakanoshima**	**1.59**	**10**	P		**Pn**	**20 39 48.2**	**+0.3**
JNN				*eS*		**Sn**	**20 40 06.9**	**-0.4**
JOW	**Kunigami**	**1.83**	**219**	P		**Pn**	**20 39 52.4**	**+1.1**
	342nm,0.3s,baz=105,slow=20,SNR=219							
JOW				S		**Sn**	**20 40 15.4**	**+2.2**
	252nm,0.3s,baz=109,slow=28,SNR=9.8							
JOW	**Kunigami**	**1.83**	**219**	P		**Pn**	**20 39 52.3**	**+1.1**
JOW				S		**Sn**	**20 40 15.5**	**+2.2**
JOW	**Kunigami**	**1.83**	**219**	Pn		**Pn**	**20 39 52.2**	**+1.1**
JOW				Sn		**Sn**	**20 40 15.8**	**+2.5**
JIH	**Iheya**	**1.88**	**230**	P		**Pn**	**20 39 53.3**	**+1.2**
JIH				S		**Sn**	**20 40 15.9**	**+1.6**
JYAK	**Yakushimahirau**	**2.13**	**23**	P		**Pn**	**20 39 56.7**	**+1.4**
JYAK				*eS*		**Sn**	**20 40 21.2**	**+0.6**
JNTH	**Nagotoyohara**	**2.22**	**219**	P		**Pn**	**20 39 57.6**	**+1.1**
JNTH				*eS*		**Sn**	**20 40 24.2**	**+1.5**
JKC	**Kuchinoerabu**	**2.26**	**14**	P		**Pn**	**20 39 57.8**	**+0.8**
JKC				*eS*		**Sn**	**20 40 24.2**	**+0.5**
JMTN	**Minamitane**	**2.42**	**28**	P		**Pn**	**20 40 00.7**	**+1.4**
JJT3	**Tamagusuku3**	**2.64**	**217**	P		**Pn**	**20 40 03.6**	**+1.2**
JJT3				*eS*		**Sn**	**20 40 35.5**	**+2.2**
JAGN	**Aguni-jima**	**2.66**	**232**	P		**Pn**	**20 40 03.8**	**+1.3**
JAGN				*eS*		**Sn**	**20 40 35.0**	**+1.4**
JTN	**Tanegashima 3**	**2.68**	**27**	P		**Pn**	**20 40 04.5**	**+1.6**
JTN				*eS*		**Sn**	**20 40 36.7**	**+2.5**
JKDJ	**Kitadaitoujima**	**2.77**	**146**	P		**Pn**	**20 40 03.3**	**-0.9**
JKDJ				*eS*		**Sn**	**20 40 33.4**	**-3.1**
JKE	**Kume jima 2**	**3.14**	**233**	P		**Pn**	**20 40 10.3**	**+1.1**
JKE				*eS*		**Sn**	**20 40 47.0**	**+1.5**
JSU	**Suzuyama**	**3.32**	**13**	Pn		**Pn**	**20 40 12.7**	**+1.0**
JNU	**Nakatsue**	**4.97**	**13**	P		**Pn**	**20 40 37.8**	**+3.4**
	6.7nm,0.3s,baz=222,slow=0.7,SNR=151							
JNU				S		**Sn**	**20 41 31.6**	**+0.9**
	baz=222,slow=14,SNR=1.0							
JNU	**Nakatsue**	**4.97**	**13**			**Pn**	**20 40 37.6**	**+3.3**
JNU				Sn		**Sn**	**20 41 32.9**	**+2.2**
JTU	**Tsushima**	**6.24**	**359**	Pn		**Pn**	**20 40 54.1**	**+2.3**
JMN	**Monobe**	**6.58**	**33**	Pn		**Pn**	**20 40 57.1**	**+0.6**
JMN				Sn		**Sn**	**20 42 06.0**	**-4.4**
YOJ	**Yonaguni jima**	**7.00**	**239**	Pn		**Pn**	**20 41 01.3**	**-0.9**
JHS	**Saijyo**	**7.36**	**23**	Pn		**Pn**	**20 41 08.6**	**+1.4**
TATO	**Taipei**	**7.94**	**240**	Pn		Pn	20 41 19.1	+4.0
YHNB	**Yeheng**	**8.17**	**246**			**Pn**	**20 41 20.3**	**+2.0**
NACB	**Ninganchiao**	**8.24**	**242**	Pn		**Pn**	**20 41 18.4**	**-0.8**
JWT	**Wachi**	**8.58**	**34**			**Pn**	**20 41 25.7**	**+1.9**
YULB	**Yu-li**	**8.89**	**239**			**Pn**	**20 41 25.1**	**-3.2**
SSLB	**Suanglung**	**8.94**	**242**			**Pn**	**20 41 27.1**	**-1.8**
KSRS	**Korea Array**	**9.27**	**352**	P		**Pn**	**20 41 35.9**	**+2.6**
	0.2nm,0.3s,baz=176,slow=15,SNR=3.4							
KSRS				S		**Sn**	**20 43 15.4**	**-0.9**
	0.6nm,0.3s,baz=137,slow=3.6,SNR=4.4							
KSRS				LR		LR	20 44 22.2	
	comp=Z,53nm,21.2s,baz=194,slow=32							
TWG	**Pinlang**	**9.39**	**237**	Pn		**Pn**	**20 41 31.1**	**-4.0**
TPUB	**Ta-pu**	**9.45**	**240**	Pn		**Pn**	**20 41 34.9**	**-1.0**
INU	**Inuyama**	**9.48**	**40**			**Pn**	**20 41 35.6**	**-0.7**
JGF	**Kuroka**	**9.86**	**40**	Pn		**Pn**	**20 41 43.2**	**+1.8**
NJ2	**Nanjing**	**10.01**	**295**	*eP*		**Pn**	**20 41 42.8**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,3.0nm,0.5s							
MAJO	**Matsushiro**	**11.01**	**39**	Pn		**Pn**	**20 41 57.8**	**+0.6**
MJAR	**Matsushiro Arr**	**11.01**	**39**	P		**Pn**	**20 41 59.4**	**+2.2**
	0.1nm,0.3s,baz=76,slow=39,SNR=2.1							
JCJ	**Chichijima**	**11.24**	**93**	LR		LR	20 46 27.2	
	comp=Z,75nm,18.2s,baz=143,slow=37							
JCJ	**Chichijima**	**11.24**	**93**	Pn		**Pn**	**20 42 01.2**	**+0.8**
CN2	**Changchun**	**15.85**	**349**	*eP*		**P**	**20 43 10.5**	**+4.4**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ENH	**Enshi**	**17.64**	**281**	P		**P**	**20 43 27.2**	**+1.2**
XAN	**Xi'an**	**18.57**	**293**	P		**Pn**	**20 43 37.3**	**+0.6**
XAN				pP		pP	20 43 47.0	+2.0
XAN				pmax		pmax		
	comp=Z,12nm,0.6s							
XAN	**Xi'an**	**18.57**	**293**	P		**Pn**	**20 43 38.4**	**+1.7**
ASAJ	**Asahikawa**	**18.95**	**30**	LR		LR	20 51 56.5	
	comp=Z,82nm,20.7s,baz=222,slow=40							
HHC	**Hu-ho-hao-te**	**19.38**	**315**	*eP*		**P**	**20 43 44.5**	**-0.6**
HHC				S		**S**	**20 47 14.5**	**-8.1**
HHC				pmax		pmax		
	comp=Z,20nm,0.8s							
HHC				pmax		pmax		
	comp=Z,100nm,4.5s							
HHC				L		L		
	comp=N,170nm,12.3s							
HHC				L		L		
	comp=E,130nm,11.7s							
HHC				L		L		
	comp=Z,120nm,11.4s							
GYA	**Guiyang**	**20.42**	**270**	*eP*		Pn	20 43 59.0	+0.2
GYA				pP		pP	20 44 05.0	-0.4
GYA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KLR	**Kul'dur**	**21.00**	**4**	P		**P**	**20 44 02.1**	**-0.4**
	0.8nm,0.7s,baz=207,slow=9.0,SNR=2.0							
KMI	**Kunming**	**24.15**	**269**	⇓P		**P**	**20 44 36.3**	**+0.8**
KMI				pmax		pmax		
	comp=Z,11nm,1.0s							
GTA	**Gaotai**	**26.98**	**302**	⇑P		**P**	**20 45 04.0**	**+3.1**
GTA				pP		sP	20 45 15.8	+1.5
GTA				sP		pP	20 45 20.0	+10
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CHTO	**Chiang Mai**	**29.54**	**258**	P		**P**	**20 45 23.7**	**0.0**
CHTO				IAmb		IAmb	20 45 24.6	
	comp=Z,3.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**29.69**	**257**	P		**P**	**20 45 25.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=55,slow=8.2,SNR=6.0							
CMAR				LR		LR	20 57 07.8	
	comp=Z,28nm,21.1s,baz=215,slow=36							
WMQ	**Urumqi**	**36.82**	**306**	*eP*		**P**	**20 46 28.8**	**+1.8**
WMQ				pmax		pmax		
	comp=Z,19nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,100nm,5.1s							
SEY	**Seymchan**	**37.73**	**17**	P		**P**	**20 46 34.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=146,slow=16,SNR=1.9							
MTN	**Manton Dam**	**40.90**	**178**	P		**P**	**20 47 00.8**	**-0.4**
MTN					IAmb	IAmb	20 47 28.5	
	comp=Z,27nm,1.3s							
MKAR	**Makanchi Array**	**41.11**	**310**	P		**P**	**20 47 02.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=102,slow=8.8,SNR=4.4							
MKAR					PcP	**PcP**	**20 49 01.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=63,slow=3.8,SNR=2.4							
ZALV	**Zalesovo Beam**	**41.38**	**321**	P		**P**	**20 47 03.6**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=105,slow=7.2,SNR=3.9							
AMKA	**Amchitka**	**43.58**	**44**	P		**P**	**20 47 22.3**	**-0.4**
KNRA	**Kununurra**	**43.69**	**181**	P		**P**	**20 47 22.2**	**-1.8**
KNRA					IAmb	IAmb	20 48 04.4	
	comp=Z,36nm,1.4s							
TARG	**Taragay, Kyrgy**	**43.86**	**302**	P		**P**	**20 47 26.4**	**+0.7**
KURK	**Kurchatov**	**44.20**	**315**	P		**P**	**20 47 27.2**	**-0.5**
KURBB	**Kurchatov Arra**	**44.24**	**315**	P		**P**	**20 47 27.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=101,slow=8.8,SNR=5.2							
FITZ	**Fitzroy Crossi**	**46.25**	**185**	P		**P**	**20 47 44.3**	**+0.1**
FITZ					IAmb	IAmb	20 48 12.2	
	comp=Z,22nm,1.6s							
WB0	**Warramunga Arr**	**47.98**	**174**	P		**P**	**20 47 57.4**	**-0.4**
WRA	**Warramunga Arr**	**48.15**	**174**	P		**P**	**20 47 58.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=354,slow=8.3,SNR=18							
WB2	**Warramunga Arr**	**48.15**	**174**	P		**P**	**20 47 57.9**	**-1.2**
WR0	**Warramunga Arr**	**48.18**	**174**	P		**P**	**20 47 59.4**	**+0.1**
KKAR	**Karatay Array**	**49.23**	**304**	P		**P**	**20 48 07.1**	**-0.2**
BRVK	**Borovoye**	**49.64**	**317**	P		**P**	**20 48 09.3**	**-0.9**
BRVK					IAmb	IAmb	20 48 10.6	
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**51.80**	**175**	P		**P**	**20 48 27.1**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=12,slow=13,SNR=31							
ASAR	**Alice Springs**	**51.80**	**175**	P		**P**	**20 48 26.4**	**-0.4**
ABKAR	**Akbulak array**	**56.14**	**312**	P		**P**	**20 48 57.0**	**-1.3**
KDAK	**Kodiak Island**	**60.18**	**37**	P		**P**	**20 49 28.2**	**+1.9**
BPAW	**Bear Paw Mtn.**	**60.38**	**30**	P		**P**	**20 49 28.4**	**+0.7**
BPAW					IAmb	IAmb	20 49 34.0	
	comp=Z,5.2nm,1.5s							
ILAR	**Eielson Array**	**62.09**	**29**	P		**P**	**20 49 38.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=269,slow=7.2,SNR=3.0							
BMAR	**Burnt Mountain**	**62.66**	**26**	P		**P**	**20 49 44.7**	**+1.6**
FINES	**FINESS Array B**	**71.68**	**331**	P		**P**	**20 50 39.2**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=66,slow=5.8,SNR=24							
AKASG	**Malin Array Be**	**74.76**	**320**	P		**P**	**20 50 57.7**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=58,slow=6.4,SNR=4.8							
YKA	**Yellowknife Ar**	**76.18**	**25**	P		**P**	**20 51 05.7**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=296,slow=5.4,SNR=2.5							
NOA	**NORSAR Array B**	**78.01**	**334**	P		**P**	**20 51 15.0**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=51,slow=5.6,SNR=7.1							

NNC ***26*** *20:44:22.7±0.8,45.°11N×78.°12E,h0km,mb3.0,mpv3.0, Error ellipse: s-maj=6.2km s-min=3.7km az=145.0*
SOME ***26*** *20:44:23.4,45.°10N×78.°10E,h10km*

ISC 26 20:44:22.7±1.3,45.°14N±0.°04×78.°09E±0.°03,h5km±10km, n36,σ0§75/63,1C-5D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TDK	**Taldyqorghan**	**0.27**	**122**	*eP*		**Pg**	**20 44 28.3**	**+0.4**
	204nm,0.1s							
TDK				*eS*		**Sg**	**20 44 31.9**	**+0.5**
	449nm,0.1s							
KAPS	**Kapalarasan**	**0.91**	**81**	*eP*		**Pg**	**20 44 40.2**	**+0.1**
	0.5nm,0.1s							
KAPS				*eS*		**Sg**	**20 44 51.3**	**-0.6**
	2.2nm,0.3s							
KAPS	**Kapalarasan**	**0.91**	**81**	P		**Pg**	**20 44 40.1**	**+0.1**
	0.5nm,0.1s							
KAPS				S		**Sg**	**20 44 51.3**	**-0.6**
	2.2nm,0.3s							
ARXS	**Arharly**	**0.95**	**191**	*eP*		**Pg**	**20 44 40.7**	**-0.1**
	8.2nm,0.1s							
ARXS				*eS*		**Sg**	**20 44 52.8**	**-0.4**
	27nm,0.4s							
ARXS	**Arharly**	**0.95**	**191**	P		**Pg**	**20 44 40.7**	**-0.1**
	8.2nm,0.1s							
ARXS				S		**Sg**	**20 44 52.8**	**-0.4**
	27nm,0.4s							
DJR	**Jarkent**	**1.46**	**123**	*eP*		**Pn**	**20 44 49.6**	**-0.2**
	0.9nm,0.1s							
DJR				*eS*		**Sb**	**20 45 07.5**	**-1.7**
	1.9nm,0.4s							
DJR	**Jarkent**	**1.46**	**123**	P		**Pn**	**20 44 49.6**	**-0.2**
	0.9nm,0.1s							
DJR				S		**Sb**	**20 45 07.5**	**-1.7**
	1.9nm,0.4s							
CHKK	**Chushkaly**	**1.51**	**212**	⇓*eP*		**Pn**	**20 44 50.6**	**+0.2**
	4.0nm,0.2s							
CHKK				*eS*		**Sn**	**20 45 10.0**	**-0.5**
	39nm,0.3s							
CHKK	**Chushkaly**	**1.51**	**212**	P		**Pn**	**20 44 50.6**	**+0.2**
	4.0nm,0.2s							
CHKK				S		**Sn**	**20 45 10.0**	**-0.5**
	39nm,0.3s							
KURS	**Kuram**	**1.66**	**178**	*eP*		**Pg**	**20 44 53.9**	**-0.6**
	7.0nm,0.3s							
KURS				*eS*		**Sg**	**20 45 15.1**	**-0.8**
	12nm,0.4s							
KURS	**Kuram**	**1.66**	**178**	P		**Pg**	**20 44 53.9**	**-0.6**
	7.0nm,0.3s							
KURS				S		**Sg**	**20 45 15.1**	**-0.8**
	12nm,0.4s							
KPKS	**Kokpek**	**1.73**	**165**	*eP*		**Pb**	**20 44 54.6**	**-0.5**
	11nm,0.1s							
KPKS				*eS*		**Sb**	**20 45 16.6**	**-0.5**
	64nm,0.5s							
KTBS	**Karatobe**	**1.75**	**216**	*eP*		**Pb**	**20 44 54.6**	**-0.7**
	3.1nm,0.2s							
KTBS				*eS*		**Sb**	**20 45 17.2**	**-0.4**
	45nm,0.2s							
KTBS	**Karatobe**	**1.75**	**216**	P		**Pb**	**20 44 54.6**	**-0.7**
	3.1nm,0.2s							
KTBS				S		**Sb**	**20 45 17.2**	**-0.4**
	45nm,0.2s							
KUU	**Kurty**	**1.77**	**226**	*eP*		**Pn**	**20 44 54.8**	**+0.8**
	1.5nm,0.1s							
KUU				*eS*		**Sn**	**20 45 17.1**	**+0.3**
	48nm,0.2s							
KUU	**Kurty**	**1.77**	**226**	P		**Pn**	**20 44 54.8**	**+0.8**
	1.5nm,0.1s							
KUU				S		**Sn**	**20 45 17.1**	**+0.3**
	48nm,0.2s							
PDGK	**Podgornoye**	**2.08**	**150**	Pg		**Pb**	**20 44 59.7**	**-1.2**
	1.6nm,0.2s							
PDGK				Lg		Lg	20 45 25.6	
	16nm,0.3s							
PDGK	**Podgornoye**	**2.08**	**150**	⇓Pn		**Pb**	**20 44 59.7**	**-1.2**
	1.9nm,0.5s							
PDGK				⇓Sn		**Sb**	**20 45 27.2**	**+0.2**
	9.2nm,0.3s							
SATY	**Saty**	**2.10**	**174**	*eP*		**Pb**	**20 45 01.0**	**-0.3**
	3.6nm,0.1s							
SATY				*eS*		**Sb**	**20 45 27.8**	**+0.1**
	83nm,0.3s							
SATY	**Saty**	**2.10**	**174**	Pg		**Pb**	**20 45 01.0**	**-0.3**
	3.6nm,0.1s							
SATY				Lg		Lg	20 45 27.8	
	83nm,0.3s							
UZB	**Uzynbulak**	**2.11**	**161**	*eP*		**Pb**	**20 45 01.6**	**+0.2**
	1.9nm,0.1s							
UZB				*eS*		**Sb**	**20 45 28.1**	**+0.2**
	20nm,0.3s							
UZB	**Uzynbulak**	**2.11**	**161**	Pg		**Pb**	**20 45 01.6**	**+0.2**
	1.9nm,0.1s							
UZB				Lg		Lg	20 45 28.1	
	20nm,0.3s							
MDOK	**Medeo**	**2.12**	**201**	*eP*		**Pb**	**20 45 01.6**	**-0.1**
	1.5nm,0.2s							
MDOK				*eS*		**Sb**	**20 45 28.5**	**+0.3**
	13nm,0.4s							
MDOK	**Medeo**	**2.12**	**201**	Pg		**Pb**	**20 45 01.6**	**-0.1**
	1.5nm,0.2s							
MDOK				Lg		Lg	20 45 28.5	
	13nm,0.4s							
SHLS	**Shalkode**	**2.22**	**153**	*eP*		**Pg**	**20 45 06.3**	**+1.1**
	3.2nm,0.1s							
SHLS				*eS*		**Sg**	**20 45 36.5**	**+2.5**
	35nm,0.3s							
SHLS	**Shalkode**	**2.22**	**153**	Pg		**Pg**	**20 45 06.3**	**+1.1**
	3.2nm,0.1s							
SHLS				Lg		Lg	20 45 36.5	
	35nm,0.3s							
KRBS	**Karabastau**	**2.25**	**231**	*eP*		**Pb**	**20 45 03.8**	**-0.1**
	2.5nm,0.2s							
KRBS				*eS*		**Sb**	**20 45 32.2**	**+0.1**
	8.1nm,0.2s							
KRBS	**Karabastau**	**2.25**	**231**	Pg		**Pb**	**20 45 03.8**	**-0.1**
	2.5nm,0.2s							
KRBS				Lg		Lg	20 45 32.2	
	8.1nm,0.2s							
KTMS	**Ketmen**	**2.35**	**135**	*eP*		**Pb**	**20 45 05.3**	**-0.3**
	1.3nm,0.2s							
KTMS				*eS*		**Sb**	**20 45 35.0**	**0.0**
	27nm,0.3s							
KTMS	**Ketmen**	**2.35**	**135**	Pg		**Pb**	**20 45 05.3**	**-0.3**
	1.3nm,0.2s							
KTMS				Lg		Lg	20 45 35.0	
	27nm,0.3s							
IZV	**Izvestkoviy**	**2.36**	**207**	*eP*		**Pb**	**20 45 06.1**	**+0.3**
	26nm,0.1s							
IZV				*eS*		**Sb**	**20 45 36.1**	**+0.8**
	14nm,0.5s							
IZV	**Izvestkoviy**	**2.36**	**207**	Pg		**Pb**	**20 45 06.1**	**+0.3**
	26nm,0.1s							
IZV				Lg		Lg	20 45 36.1	
	14nm,0.5s							
DGS	**Degeres**	**2.53**	**222**	*eP*		**Pb**	**20 45 07.7**	**-0.9**
	1.2nm,0.3s							
DGS				*eS*		**Sb**	**20 45 39.1**	**-0.9**
	12nm,0.4s							
DGS	**Degeres**	**2.53**	**222**	Pg		**Pb**	**20 45 07.7**	**-0.9**
	1.2nm,0.3s							
DGS				Lg		Lg	20 45 39.1	
	12nm,0.4s							
SGDS	**Sogindy**	**3.00**	**237**	Pg		**Pb**	**20 45 16.3**	**-0.4**
	0.7nm,0.2s							
SGDS				Lg		Lg	20 45 53.6	
	3.7nm,0.4s							
MK31	**Makanchi Array**	**3.36**	**59**	Pn		**Pn**	**20 45 17.3**	**+1.4**
	0.1nm,0.1s,baz=230,slow=13,SNR=34							
MK31				⇓Pg		**Pb**	**20 45 21.8**	**-1.0**
	0.1nm,0.2s,baz=233,slow=13,SNR=8.1							
MK31				⇑Sn		**Sn**	**20 45 57.2**	**+1.0**
	0.2nm,0.3s,baz=240,slow=26							
MK31				⇓Lg		Lg	20 46 06.2	
	0.3nm,0.3s,baz=235,slow=29,SNR=3.6							

TAP ***26*** *20:56:25.9,24.°65N×122.°16E,h77km,ML3.3,B*
JMA ***26*** *20:56:25.5±0.2,24.°61N×122.°11E,h82km±2km,M2.3*

ISC 26 20:56:25.6±1.2,24.°68N±0.°03×122.°14E±0.°02,h82km±5km, n119,σ1§19/215,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	**Suao**	**0.28**	**255**	P		**Pn**	**20 56 37.9**	**-0.1**
	baz=262							
TWC				S		**Sn**	**20 56 45.5**	**-1.6**
	baz=262							
NTC	**Toucheng**	**0.33**	**301**	*eS*		**Sn**	**20 56 47.3**	**-0.4**
	baz=305							
TWB1	**Santiao Chiao**	**0.35**	**337**	P		**Pn**	**20 56 38.5**	**0.0**
	baz=341							
TWB1				S		**Sn**	**20 56 47.4**	**-0.6**
	baz=341							
ILA	**Ilan**	**0.37**	**283**	*eP*		**Pn**	**20 56 39.2**	**+0.7**
	baz=291							
ILA				S		**Sn**	**20 56 48.5**	**+0.3**
	baz=291							
NDS	**Dongshan**	**0.39**	**263**	P		**Pn**	**20 56 39.1**	**+0.4**
	baz=268							
NDS				*eS*		**Sn**	**20 56 48.4**	**-0.1**
	baz=268							
EWUT	**Wuta**	**0.41**	**235**	P		**Pn**	**20 56 39.2**	**+0.4**
	baz=240							
EWUT				*eS*		**Sn**	**20 56 48.9**	**+0.3**
	baz=240							
TIPB	**Shuangxi**	**0.41**	**315**	P		**Pn**	**20 56 39.0**	**+0.1**
	baz=320							
TIPB				S		**Sn**	**20 56 48.1**	**-0.6**
	baz=320							
TWE	**Neicheng**	**0.43**	**275**	P		**Pn**	**20 56 39.4**	**+0.4**
	baz=279							
TWE				*eS*		**Sn**	**20 56 49.0**	**0.0**
	baz=279							
NWF	**Wu-fen Shan**	**0.51**	**320**	P		**Pn**	**20 56 39.9**	**+0.1**
	baz=314							
NWF				S		**Sn**	**20 56 49.8**	**-0.5**
	baz=314							
WFSB	**Wu-fen Shan**	**0.51**	**320**	*eP*		**Pn**	**20 56 39.9**	**+0.3**
	baz=314							
WFSB				*eS*		**Sn**	**20 56 49.9**	**-0.2**
	baz=314							
ENTT	**Nioudou**	**0.53**	**266**	P		**Pn**	**20 56 40.6**	**+0.8**
	baz=272							
ENTT				S		**Sn**	**20 56 51.0**	**+0.7**
	baz=272							
TNOU	**National Taiwa**	**0.58**	**324**	*eP*		**Pn**	**20 56 40.4**	**+0.1**
	baz=318							
TNOU				*eS*		**Sn**	**20 56 50.7**	**-0.4**
	baz=318							
NDT	**Datong Townshi**	**0.58**	**262**	P		**Pn**	**20 56 40.9**	**+0.7**
	baz=268							
NDT				S		**Sn**	**20 56 52.3**	**+1.1**
	baz=268							
NWLT	**Wulai**	**0.59**	**280**	P		**Pn**	**20 56 41.5**	**+1.1**
	baz=290							
NWLT				S		**Sn**	**20 56 51.7**	**+0.3**
	baz=290							
NHDH	**Xindian Distri**	**0.63**	**297**	*eP*		**Pn**	**20 56 41.0**	**+

NTST	**Danshui**	**0.79**	**308**	*e*P	**Pn**	**20 56 42.8 +0.4**
	baz=314					
NTST				*e*S	**Sn**	**20 56 55.4 +0.5**
	baz=314					
YOJ	**Yonaguni jima**	**0.82**	**105**	P	**Pn**	**20 56 42.9 +0.2**
YOJ				S	**Sn**	**20 56 55.3 -0.2**
YOJ	**Yonaguni jima**	**0.82**	**105**	*e*P	**Pn**	**20 56 43.0 +0.3**
	baz=103					
YOJ				*e*S	**Sn**	**20 56 55.1 -0.4**
	baz=103					
NTY	**Taoyuan**	**0.83**	**293**	*e*P	**Pn**	**20 56 43.9 +1.1**
	baz=296					
NTY				*e*S	**Sn**	**20 56 57.5 +1.8**
	baz=296					
HWA	**Hwalien**	**0.85**	**215**	*e*P	**Pn**	**20 56 43.2 +0.1**
	baz=209					
HWA				*e*S	**Sn**	**20 56 57.3 +1.2**
	baz=209					
NCU	**National Centr**	**0.92**	**289**	*e*P	**Pn**	**20 56 44.6 +0.8**
	baz=290					
NCU				*e*S	**Sn**	**20 56 58.7 +1.3**
	baz=290					
NCUH	**Zhongli**	**0.92**	**288**	*e*P	**Pn**	**20 56 44.6 +0.8**
	baz=290					
NCUH				*e*S	**Sn**	**20 56 58.9 +1.5**
	baz=290					
FUSS	**Fushou**	**0.93**	**242**	*e*P	**Pn**	**20 56 44.7 +0.5**
	baz=240					
FUSS				*e*S	**Sn**	**20 56 58.6 +0.5**
	baz=240					
ETM	**Tongmen**	**0.93**	**220**	*e*P	**Pn**	**20 56 43.5 -0.4**
	baz=231					
ETM				*e*S	**Sn**	**20 56 56.4 -1.2**
	baz=231					
PCYT	**Pengchaiyu**	**0.95**	**356**	*e*P	**Pn**	**20 56 44.9 +0.8**
	baz=348					
TEYL	**Yanliau Villag**	**0.95**	**212**	*e*P	**Pn**	**20 56 43.9 -0.3**
	baz=215					
TEYL				*e*S	**Sn**	**20 56 57.6 -0.5**
	baz=215					
NJD	**Zhudong**	**0.96**	**273**	*e*S	**Sn**	**20 56 59.7 +1.4**
	baz=275					
WHF	**Hehuan Shan**	**0.96**	**237**	*e*P	**Pn**	**20 56 45.0 +0.3**
	baz=239					
WHF				*e*S	**Sn**	**20 56 58.8 -0.2**
	baz=239					
TDCB	**Techi**	**0.99**	**245**	*e*P	**Pn**	**20 56 45.6 +0.7**
	baz=240					
TDCB				*e*S	**Sn**	**20 56 59.3 0.0**
	baz=240					
LIOB	**Emei**	**1.03**	**268**	P	**Pn**	**20 56 45.8 +0.7**
	baz=270					
LIOB				S	**Sn**	**20 57 00.3 +0.6**
	baz=270					
NSTT	**Nanjuang**	**1.04**	**268**	P	**Pn**	**20 56 45.8 +0.5**
	baz=269					
NSTT				S	**Sn**	**20 56 60.0 0.0**
	baz=269					
SBCB	**Hsinchu**	**1.06**	**276**	*e*S	**Sn**	**20 57 01.4 +1.1**
	baz=278					
CHGB	**Renai**	**1.08**	**235**	*e*P	**Pn**	**20 56 46.5 +0.5**
	baz=230					
CHGB				*e*S	**Sn**	**20 57 00.7 -0.4**
	baz=230					
ESL	**Shilin**	**1.08**	**217**	P	**Pn**	**20 56 44.8 -0.9**
	baz=227					
ESL				S	**Sn**	**20 56 58.7 -2.1**
	baz=227					
TEGC	**Jichi Village**	**1.11**	**210**	*e*P	**Pn**	**20 56 46.0 -0.2**
	baz=202					
TEGC				*e*S	**Sn**	**20 57 01.1 -0.5**
	baz=202					
WHP	**Taichung City**	**1.16**	**250**	P	**Pn**	**20 56 48.1 +1.3**
	baz=252					
WHP				*e*S	**Sn**	**20 57 04.5 +1.7**
	baz=252					
EGFH	**Guangfu**	**1.20**	**213**	*e*P	**Pn**	**20 56 46.6 -0.6**
	baz=224					
EGFH				*e*S	**Sn**	**20 57 01.8 -1.7**
	baz=224					
NMLH	**Miaoli**	**1.24**	**264**	*e*P	**Pn**	**20 56 48.3 +0.6**
	baz=265					
NMLH				*e*S	**Sn**	**20 57 05.1 +0.8**
	baz=265					
WPL	**Puli Township**	**1.27**	**239**	*e*P	**Pn**	**20 56 49.1 +1.0**
	baz=235					
WPL				*e*S	**Sn**	**20 57 05.8 +0.8**
	baz=235					
DPDB	**Guoxing**	**1.28**	**240**	*e*P	**Pn**	**20 56 49.6 +1.3**
	baz=235					
DPDB				*e*S	**Sn**	**20 57 06.7 +1.3**
	baz=235					
WCS	**Beigang Elemen**	**1.28**	**241**	P	**Pn**	**20 56 49.8 +1.5**
	baz=253					
WCS				S	**Sn**	**20 57 06.6 +1.3**
	baz=253					
NSY	**Sanyi**	**1.29**	**258**	S	**Sn**	**20 57 06.5 +1.1**
	baz=260					
HGSD	**Ruisui**	**1.35**	**209**	*e*P	**Pn**	**20 56 48.9 -0.2**
	baz=221					
HGSD				*e*S	**Sn**	**20 57 06.7 -0.2**
	baz=221					
SMLT	**Sun Moon Lake**	**1.39**	**235**	P	**Pn**	**20 56 51.2 +1.6**
	baz=237					
SMLT				*e*S	**Sn**	**20 57 10.3 +2.6**
	baz=237					
EHY	**Hungye**	**1.39**	**213**	P	**Pn**	**20 56 48.5 -1.1**
	baz=222					
EHY				S	**Sn**	**20 57 05.3 -2.4**
	baz=222					
SSLB	**Suanglung**	**1.40**	**231**	*e*P	**Pn**	**20 56 50.5 +0.7**
	baz=228					
SSLB				*e*S	**Sn**	**20 57 09.5 +1.4**
	baz=228					
TYC	**Yuchr**	**1.41**	**237**	P	**Pn**	**20 56 51.2 +1.4**
	baz=238					
TYC				S	**Sn**	**20 57 09.6 +1.5**
	baz=238					
WDJ	**Dajia District**	**1.41**	**257**	*e*S	**Sn**	**20 57 09.3 +1.2**
	baz=256					
WWF	**Wufeng**	**1.46**	**245**	*e*P	**Pn**	**20 56 51.2 +0.7**
	baz=256					
WWF				*e*S	**Sn**	**20 57 09.9 +0.6**
	baz=256					
IRIF	**Iriomote-Funau**	**1.49**	**103**	P	**Pn**	**20 56 51.1 +0.3**
IRIF				S	**Sn**	**20 57 10.4 +0.5**
YULB	**Yu-li**	**1.50**	**211**	*e*P	**Pn**	**20 56 50.0 -1.1**
	baz=220					
YULB				*e*S	**Sn**	**20 57 07.6 -2.6**
	baz=220					
EYUL	**Yuli**	**1.53**	**210**	*e*P	**Pn**	**20 56 52.0 +0.6**
	baz=219					
TWF1	**Yuli**	**1.53**	**211**	P	**Pn**	**20 56 50.6 -0.9**
	baz=220					
TWF1				*e*S	**Sn**	**20 57 09.1 -1.9**
	baz=220					
WHYT	**Xinyi Township**	**1.53**	**231**	*e*P	**Pn**	**20 56 53.2 +1.7**
	baz=226					
WHYT				*e*S	**Sn**	**20 57 13.4 +2.4**
	baz=226					
WNT1	**Nantou City**	**1.54**	**240**	*e*S	**Sn**	**20 57 13.1 +1.9**
	baz=252					
WJS	**Zhushan**	**1.55**	**237**	*e*P	**Pn**	**20 56 53.3 +1.6**
	baz=250					
WJS				*e*S	**Sn**	**20 57 14.3 +3.0**
	baz=250					
WNT	**Mingjian**	**1.55**	**239**	*e*P	**Pn**	**20 56 53.4 +1.7**
	baz=251					
WNT				*e*S	**Sn**	**20 57 12.5 +1.1**
	baz=251					
WCHH	**Zhanghua**	**1.56**	**248**	*e*S	**Sn**	**20 57 12.1 +0.5**
	baz=259					
YUS	**Yu-Shan**	**1.61**	**223**	*e*P	**Pn**	**20 56 53.5 +0.6**
	baz=215					
YUS				*e*S	**Sn**	**20 57 13.4 -0.1**
	baz=215					
FULB	**Fuli**	**1.67**	**208**	P	**Pn**	**20 56 52.8 -0.4**
	baz=217					
FULB				S	**Sn**	**20 57 13.6 -0.6**
	baz=217					
ALS	**Alishan**	**1.69**	**227**	P	**Pn**	**20 56 55.2 +1.4**
	baz=220					
ALS				*e*S	**Sn**	**20 57 17.2 +2.1**
	baz=220					
CHN5	**Tsauling**	**1.72**	**231**	P	**Pn**	**20 56 55.1 +1.2**
	baz=243					
CHN5				S	**Sn**	**20 57 17.5 +2.0**
	baz=243					
CHKT	**Chengkung**	**1.73**	**204**	*e*S	**Sn**	**20 57 12.7 -2.8**
	baz=197					
WGK	**Gukeng**	**1.75**	**236**	*e*P	**Pn**	**20 56 55.2 +1.0**
	baz=247					
WGK				S	**Sn**	**20 57 17.8 +1.8**
	baz=247					
JKRS	**Kuro-shima**	**1.76**	**104**	P	**Pn**	**20 56 55.3 +1.0**
JKRS				S	**Sn**	**20 57 16.7 +0.5**
ECS	**Chishang**	**1.79**	**208**	*e*P	**Pn**	**20 56 55.7 +0.8**
	baz=218					
ECS				*e*S	**Sn**	**20 57 16.4 -0.6**
	baz=218					
ELDTW	**Lidau**	**1.81**	**215**	P	**Pn**	**20 56 54.6 -0.6**
	baz=216					
ELDTW				S	**Sn**	**20 57 16.1 -1.4**
	baz=216					
JIJ	**Ishigaki jima**	**1.85**	**99**	P	**Pn**	**20 56 56.1 +0.6**
JIJ				*e*S	**Sn**	**20 57 18.1 -0.2**
EDH	**Donghe**	**1.87**	**204**	*e*P	**Pn**	**20 56 55.0 -0.8**
	baz=215					
EDH				*e*S	**Sn**	**20 57 17.0 -1.7**
	baz=215					
WTK	**Tuku**	**1.88**	**239**	*e*P	**Pn**	**20 56 57.0 +1.0**
	baz=240					
WTK				*e*S	**Sn**	**20 57 20.5 +1.4**
	baz=240					
CHN4	**Tsaushan**	**1.94**	**227**	P	**Pn**	**20 56 58.2 +1.5**
	baz=239					
CHN4				S	**Sn**	**20 57 22.7 +2.2**
	baz=239					
TPUB	**Ta-pu**	**1.95**	**226**	*e*P	**Pn**	**20 56 58.2 +1.3**
	baz=238					
TPUB				*e*S	**Sn**	**20 57 22.6 +1.8**
	baz=238					
STYH	**Taoyuan**	**1.96**	**220**	*e*P	**Pn**	**20 56 58.1 +1.2**
	baz=214					
STYH				*e*S	**Sn**	**20 57 21.9 +1.0**
	baz=214					
CHY	**Chiayi**	**1.96**	**233**	*e*S	**Sn**	**20 57 22.7 +1.6**
	baz=245					
STYT	**Tauyuan**	**1.97**	**220**	P	**Pn**	**20 56 58.6 +1.4**
	baz=213					
STYT				S	**Sn**	**20 57 23.3 +1.9**
	baz=213					
JISG	**Ishigakijimahi**	**1.98**	**92**	P	**Pn**	**20 56 57.9 +0.7**
JISG				*e*S	**Sn**	**20 57 22.1 +0.8**
LONT	**Longtian**	**2.00**	**208**	*e*S	**Sn**	**20 57 21.0 -0.8**
	baz=209					
WTP	**Ta-pu**	**2.00**	**225**	P	**Pn**	**20 56 58.2 +0.6**
	baz=225					
WTP				S	**Sn**	**20 57 24.0 +2.0**
	baz=225					
WSF	**Szhu**	**2.04**	**240**	*e*S	**Sn**	**20 57 23.3 +0.5**
	baz=241					
TWK	**Hsinying**	**2.07**	**227**	P	**Pn**	**20 56 59.8 +1.3**
	baz=240					
TWK				S	**Sn**	**20 57 25.6 +1.9**
	baz=240					
LDUT	**Ludao**	**2.09**	**197**	*e*S	**Sn**	**20 57 21.1 -3.0**
	baz=198					
SNST	**Tainan City**	**2.09**	**226**	*e*S	**Sn**	**20 57 25.7 +1.5**
	baz=227					
TWG	**Pinlang**	**2.10**	**208**	*e*S	**Sn**	**20 57 22.1 -2.2**
	baz=203					
TWGBT	**Beinan**	**2.10**	**208**	*e*P	**Pn**	**20 56 58.7 -0.2**
	baz=203					
TWGBT				*e*S	**Sn**	**20 57 22.2 -2.0**
	baz=203					
CHN1	**Nanshi**	**2.10**	**225**	P	**Pn**	**20 56 60.0 +1.1**
	baz=226					
CHN1				S	**Sn**	**20 57 25.6 +1.3**
	baz=226					
SGST	**Jiashian**	**2.14**	**222**	*e*P	**Pn**	**20 57 00.2 +0.8**
	baz=223					
SGST				*e*S	**Sn**	**20 57 26.2 +1.0**
	baz=223					
CHN8	**Yiju**	**2.21**	**233**	*e*S	**Sn**	**20 57 27.7 +0.8**
	baz=234					
JTJ	**Tarama**	**2.33**	**90**	*e*S	**Sn**	**20 57 32.0 +2.3**
ECL	**Taimali**	**2.34**	**208**	*e*P	**Pn**	**20 57 02.7 +0.6**
	baz=204					
ECL				*e*S	**Sn**	**20 57 27.7 -2.4**
	baz=204					
SSD	**Sandimen**	**2.37**	**216**	*e*P	**Pn**	**20 57 04.4 +1.9**
	baz=227					
SSD				*e*S	**Sn**	**20 57 32.0 +1.2**
	baz=227					
VWUC	**VWUC**	**2.47**	**278**	*e*P	**Pn**	**20 57 03.8 0.0**
	baz=278					
VWUC				*e*S	**Sn**	**20 57 30.7 -2.3**
	baz=278					
MATB	**Ma-tsu**	**2.47**	**307**	*e*P	**Pn**	**20 57 03.7 -0.1**
	baz=307					
MATB				*e*S	**Sn**	**20 57 32.7 -0.4**
	baz=307					
MASBT	**Mashibuluo**	**2.48**	**214**	*e*P	**Pn**	**20 57 05.0 +1.0**
	baz=227					
MASBT				*e*S	**Sn**	**20 57 34.0 +0.6**
	baz=227					
MSUT	**Lienchiang**	**2.50**	**307**	*e*P	**Pn**	**20 57 03.9 -0.2**
	baz=307					
MSUT				*e*S	**Sn**	**20 57 33.3 -0.4**
	baz=307					
EAST	**Anshuo**	**2.58**	**208**	*e*S	**Sn**	**20 57 34.5 -1.3**
	baz=205					
PNG	**Penghu**	**2.61**	**245**	*e*P	**Pn**	**20 57 05.1 -0.6**
	baz=246					
PNG				*e*S	**Sn**	**20 57 34.4 -2.2**
	baz=246					
PHUB	**P'eng-hu**	**2.62**	**244**	*e*S	**Sn**	**20 57 34.1 -2.6**
	baz=245					
SCZT	**Fangliau**	**2.69**	**212**	*e*S	**Sn**	**20 57 40.2 +1.7**
	baz=224					
PTMZ	**Houxiangcun**	**2.77**	**278**	*e*P	**Pn**	**20 57 07.3 -0.5**
	baz=278					
PTMZ				*e*S	**Sn**	**20 57 37.4 -2.9**
	baz=278					
LYJJ	**Jianjiangzhen**	**2.84**	**311**	*e*P	**Pn**	**20 57 08.8 0.0**
	baz=311					
LYJJ				*e*S	**Sn**	**20 57 41.6 -0.6**
	baz=311					
XPSS	**Dashiqiu**	**2.85**	**322**	*e*P	**Pn**	**20 57 07.8 -1.1**
	baz=321					
MHZQ	**Yeshan**	**3.15**	**297**	*e*P	**Pn**	**20 57 13.3 +0.3**
	baz=296					
KNMB	**Chin-men Tao**	**3.42**	**267**	*e*P	**Pn**	**20 57 15.9 -0.9**
	baz=267					
KNMB				*e*S	**Sn**	**20 57 53.0 -3.3**
	baz=267					
AXDP	**Jialang**	**3.80**	**274**	*e*P	**Pn**	**20 57 22.1 +0.3**
	baz=273					
AXDP				*e*S	**Sn**	**20 58 02.2 -3.2**
	baz=273					

NERS ***26*** *21:25:40.8±0.0,61°.89N×143°.72E,h4km*
YARS 26 21:25:48.0±0.0,62°.07N×144°.55E,h2km,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
SUUS	**Susuman**	**1.83**	**65**	*e*P		Pn	21 26 19.9	-0.6
SUUS				*e*Pg		Pb	21 26 22.0	-0.2
SUUS				Pgmax			21 26 23.1	
	40nm,0.3s							
SUUS				*e*Sg		Sg	21 26 51.0	+4.3
SUUS				Sgmax			21 26 52.5	
	100nm,0.2s							
SUUS	**Susuman**	**1.83**	**65**	*e*Pg		Pb	21 26 22.0	-0.2
	40nm,0.3s							
SUUS				*e*Sg		Sg	21 26 50.1	+3.4
	100nm,0.2s							
ATKR	**Artyk**	**2.14**	**7**	*i* Pg		Pn	21 26 23.0	-1.7
	28nm,0.4s							
ATKR				*e*Sg		Sb	21 26 55.0	+0.6
	188nm,0.5s							
ATKR	**Artyk**	**2.14**	**7**	*e*Pn		Pn	21 26 24.6	-0.1
ATKR				*e*Pg		Pb	21 26 26.2	-1.2
	9.6nm,0.4s							
ATKR				*e*Sn		Sn	21 26 52.6	+0.7
ATKR				*e*Sn		Sn	21 26 52.6	+0.7
ATKR				*e*Sg		Sb	21 26 55.0	+0.6
	65nm,0.2s							
UNR	**Ust'-Nera**	**2.58**	**347**	*i* Pg		Pn	21 26 28.9	-1.9
	5.9nm,0.2s							
UNR				*i* Sg		Sb	21 27 08.0	+0.8
	50nm,0.3s							
UNR	**Ust'-Nera**	**2.58**	**347**	*e*Pg		Pb	21 26 34.8	-0.2
UNR				*e*Pg		Pg	21 26 34.9	-2.6
	3.0nm,0.1s							
UNR				*e*Sg		Sb	21 27 08.4	+1.2
	47nm,0.2s							
UNR				*e*Sg		Sb	21 27 08.4	+1.2
	117nm,0.2s							
MGD	**Magadan 1**	**3.62**	**121**	*e*P		Pn	21 26 41.9	-3.2
MGD				Pmax			21 26 44.1	
	10.0nm,0.3s							
MGD				*e*S		Sn	21 27 28.7	+0.3
MGD				Sgmax			21 27 31.1	
	40nm,0.2s							
MGD				*e*Sg		Sg	21 27 42.5	-1.8
MGD	**Magadan 1**	**3.62**	**121**	*e*Pn		Pn	21 26 41.9	-3.1
	10.0nm,0.3s							
MGD				*i* Sn		Sn	21 27 29.4	+1.0
	40nm,0.2s							
SEY	**Seymchan**	**3.74**	**73**	*e*P		Pn	21 26 46.0	-0.6
SEY				*e*Pg		Pg	21 26 58.1	-1.4
SEY				*e*S		Sn	21 27 32.5	+1.4
SEY				*e*Sg		Sg	21 27 51.8	+3.9
SEY				Sgmax			21 27 55.4	
	40nm,0.2s							
SEY	**Seymchan**	**3.74**	**73**	*e*Pn		Pn	21 26 46.0	-0.6
SEY				*e*Sn		Sn	21 27 32.5	+1.4
	40nm,0.2s							
MA2	**Magadan**	**3.94**	**127**	*e*P		Pn	21 26 46.8	-2.6
MA2				*e*Sg		Sg	21 27 52.7	-1.7
MA2				Sgmax			21 27 57.5	
	50nm,0.5s							
MA2	**Magadan**	**3.94**	**127**	*e*Pn		Pn	21 26 46.1	-3.3
MOMR	**Moma**	**4.46**	**353**	*i* Pn		Pn	21 26 49.7	-6.8
MOMR				*i* Pg		Pb	21 27 03.5	-3.4
	7.9nm,0.6s							
MOMR				*e*Sn		Sn	21 27 43.3	-5.5
MOMR				*i* Sg		Sg	21 28 09.5	-1.5
	52nm,0.6s							
MOMR	**Moma**	**4.46**	**353**	*e*Pn		Pn	21 26 57.2	+0.7
MOMR				*e*Pg		Pb	21 27 08.4	+1.5
	3.8nm,0.5s							
MOMR				*e*Sn		Sn	21 27 49.2	+0.4
MOMR				*e*Sn		Sn	21 27 49.2	+0.4
MOMR				*e*Sg		Sg	21 28 07.6	-3.4
	35nm,0.5s							
OMS	**Omsukchan**	**5.26**	**80**	*e*Sg		Sg	21 28 39.7	+2.9
EVEN	**Evensk**	**6.92**	**85**	*e*Sg		Sg	21 29 32.4	+2.5
BTGS	**Batagay**	**7.01**	**327**	*i* Pn		Pn	21 27 22.7	-8.8
BTGS				*i* Sg		Sg	21 29 28.8	-4.0
BTGS	**Batagay**	**7.01**	**327**	*e*Pn		Pn	21 27 33.1	+1.6
BTGS				*e*Pg		Pb	21 27 55.1	+4.8
	3.4nm,0.4s							
BTGS				*e*Sn		Sn	21 28 51.6	-0.1
BTGS				*e*Sn		Sn	21 28 51.6	-0.1
BTGS				*e*Sn		Sn	21 28 51.6	-0.1
BTGS				*e*Sg		Sg	21 29 27.1	-5.7
	12nm,0.3s							
TBGR	**Tabaga**	**7.04**	**275**	*e*Lg		Lg	21 29 13.2	
DEPR	**Deputatskiy**	**7.60**	**347**	*e*Pn		Pn	21 27 40.8	+1.2
DEPR				*e*Pg		Pb	21 28 05.0	+4.6
	2.7nm,0.3s							
DEPR				*e*Sn		Sn	21 29 06.3	+0.1
DEPR				*e*Sn		Sn	21 29 06.3	+0.1
DEPR				*e*Sg		Sg	21 29 45.9	-5.8
	8.0nm,0.7s							

IDC ***26*** *21:53:57.7±0.9,26°.25N×125°.40E,h0km,mb4.1/7, mb1 4.2/8,mb1mx3.8/42,mbtmp4.0/8,ML3.4/1,MS3.4/8, Ms1 3.4/8,ms1mx3.1/47,Error ellipse: s-maj=28.0km s-min=16.2km az=59.0*

JMA ***26*** *21:53:58.3±0.2,26°.23N×125°.44E,h16km,M3.5*

NIED ***26*** *21:53:58.4,26°.23N×125°.44E,h16km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.60; $M_{\theta\theta}$1.26; $M_{\phi\phi}$0.34; $M_{r\theta}$0.04; $M_{\theta\phi}$0.54; $M_{r\phi}$-0.15; Fault plane solution: $M_0$1.56000×10^{15} NP1:ϕ_s60.00000°, δ46.00000°,λ-97.00000°. NP2:ϕ_s250.00000°,δ45.00000°, λ-83.00000°.*

NEIC ***26*** *21:54:03.8±1.4,26°.19N±0°.09×125°.43E±0°.04, h35km±10km,mb4.6/10 Error ellipse: s-maj=14.5km s-min=2.5km az=158.0*

ISC 26 21:53:58.6±1.5,26°.11N±0°.06×125°.60E±0°.05,h5km±10km, n45,σ1°42/46,mb4.2/14,MS3.5/7,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
JKE	**Kume jima 2**	**1.09**	**79**	P		**Pn**	**21 54 20.3**	**-0.1**
JIKM	**Ikemajima**	**1.23**	**195**	P		**Pg**	**21 54 21.9**	**-0.2**
JIKM				*e*S		**Sn**	**21 54 38.3**	**-1.0**
JIRB	**Irabujima**	**1.34**	**197**	P		**Pg**	**21 54 23.5**	**-0.7**
JIRB				*e*S		**Sg**	**21 54 41.5**	**0.0**
JOGS	**Gusukube**	**1.36**	**187**	P		**Pg**	**21 54 24.4**	**-0.2**
JOGS				S		**Sg**	**21 54 43.6**	**+1.3**
JMJ2	**Miyako jima3**	**1.39**	**190**	P		**Pg**	**21 54 24.9**	**-0.3**
JMJ2				S		**Sg**	**21 54 44.1**	**+0.9**
JAGN	**Aguni-jima**	**1.55**	**72**	P		**Pn**	**21 54 26.6**	**-0.2**
JTJ	**Tarama**	**1.68**	**209**	P		**Pb**	**21 54 28.2**	**-1.7**
JISG	**Ishigakijimahi**	**1.92**	**218**	S		**Sn**	**21 54 54.9**	**-1.4**
JNTH	**Nagotoyohara**	**2.21**	**79**	P		**Pb**	**21 54 37.8**	**-1.2**
JIH	**Iheya**	**2.31**	**66**	P		**Pb**	**21 54 40.4**	**-0.3**
IRIF	**Iriomote-Funau**	**2.45**	**224**	*e*S		**Sn**	**21 55 07.8**	**-1.7**
JOW	**Kunigami**	**2.50**	**73**	Pn		**Pb**	**21 54 42.8**	**-1.2**
	11nm,0.3s,baz=229,slow=13,SNR=6.3							
JOW				Sn		**Sb**	**21 55 13.7**	**-1.4**
	16nm,0.3s,baz=243,slow=18,SNR=4.5							
JOW	**Kunigami**	**2.50**	**73**			**Pb**	**21 54 43.4**	**-0.6**
JYRO	**Yoronjima**	**2.71**	**70**	P		**Pb**	**21 54 46.1**	**-1.4**
YHNB	**Yeheng**	**4.08**	**250**	Pn		**Pn**	**21 55 02.2**	**+0.6**
NACB	**Ninganchiao**	**4.11**	**243**	Pn		**Pn**	**21 55 02.8**	**+0.8**
YULB	**Yu-li**	**4.76**	**236**	Pn		**Pn**	**21 55 10.9**	**0.0**
SSLB	**Suanglung**	**4.81**	**242**	Pn		**Pn**	**21 55 11.3**	**-0.3**
TPUB	**Ta-pu**	**5.32**	**239**	Pn		**Pn**	**21 55 20.6**	**+2.0**
JMN	**Monobe**	**10.45**	**41**	Pn		**Pn**	**21 56 30.1**	**+1.1**
KSRS	**Korea Array**	**11.48**	**9**	Pn		**Pn**	**21 56 44.6**	**+1.5**
	0.3nm,0.3s,baz=195,slow=14,SNR=1.7							
KSRS				LR		LR	22 01 55.5	
	comp=Z,68nm,19.2s,baz=201,slow=42							
ASAJ	**Asahikawa**	**22.64**	**33**	LR		LR	22 08 51.7	
	comp=Z,66nm,19.6s,baz=186,slow=40							
KLR	**Kul'dur**	**23.57**	**10**	P		**P**	**21 59 14.4**	**+4.5**
	1.8nm,0.8s,baz=229,slow=11,SNR=4.1							
KLR				LR		LR	22 08 43.2	
	comp=Z,56nm,21.4s,baz=208,slow=38							
TOLI2	**Tolitoli**	**25.29**	**191**	P		**P**	**21 59 26.6**	**+0.6**
SONM	**Songino Array**	**26.42**	**330**	P		**P**	**21 59 32.4**	**-3.8**
	0.9nm,0.6s,baz=141,slow=9.3,SNR=1.7							
SONM				LR		LR	22 10 32.5	
	comp=Z,92nm,18.3s,baz=187,slow=38							
MTN	**Manton Dam**	**39.10**	**171**	P		**P**	**22 01 27.1**	**+0.2**
MTN				IAmb		IAmb	22 01 27.8	
	comp=Z,13nm,0.8s							
MK31	**Makanchi Array**	**39.86**	**313**	P		**P**	**22 01 32.3**	**-0.8**
MKAR	**Makanchi Array**	**39.86**	**313**	P		**P**	**22 01 31.2**	**-1.9**
	comp=Z,1.7nm,0.6s,baz=98,slow=10,SNR=16							
MAKZ	**Makanchi**	**40.07**	**313**	P		**P**	**22 01 34.0**	**-0.8**
MAKZ				IAmb		IAmb	22 01 41.4	
	comp=Z,4.6nm,1.0s							
ZALV	**Zalesovo Beam**	**40.93**	**324**	P		**P**	**22 01 40.4**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=106,slow=8.2,SNR=5.8							
ZALV				LR		LR	22 20 02.0	
	comp=Z,74nm,18.4s,baz=152,slow=38							
KNRA	**Kununurra**	**41.65**	**175**	P		**P**	**22 01 48.7**	**+0.7**
KNRA				IAmb		IAmb	22 01 49.3	
	comp=Z,19nm,1.1s							
KURK	**Kurchatov**	**43.29**	**317**	P		**P**	**22 01 59.9**	**-1.2**
KURBB	**Kurchatov Arra**	**43.32**	**317**	P		**P**	**22 01 59.9**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=106,slow=8.5,SNR=10							
FITZ	**Fitzroy Crossi**	**43.95**	**180**	P		**P**	**22 02 07.3**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=18,slow=10.0,SNR=7.

ARCES	**ARCESS Array B**	**69.24**	**338**	LR	LR	22 40 24.2
	comp=Z,36nm,18.7s,baz=95,slow=40					
NOA	**NORSAR Array B**	**78.36**	**333**	LR	LR	22 43 39.6
	comp=Z,24nm,19.4s,baz=70,slow=38					
GERES	**GERESS Array B**	**83.85**	**322**	LR	LR	22 46 09.0
	comp=Z,40nm,18.4s,baz=123,slow=37					

*ISN **26** 21:58:28.8±1.1, 35˚.39N×45˚.13E, h23km±23km, ML2.9*
*TEH **26** 21:58:32.2, 35˚.38N×45˚.19E, h8km, ML3.0*

ISC 26 21:58:30.9±1.0,**35˚.27N**±0˚.05×**44˚.94E**±0˚.05,**h10**km,**n15,** σ1**9**σ**00**/19,**Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.51**	**285**	*e*Pg		**Pg**	**21 58 41.0**	**+0.1**
	baz=92							
IKRK				*e*Sg		**Sb**	**21 58 50.6**	**+1.1**
IKRK				AML		AML	21 59 01.7	
	comp=N,486nm,0.5s							
IKRK				AML		AML	21 59 04.7	
	comp=E,669nm,0.8s							
IDHR	**Dehrash**	**1.31**	**115**	*e*Pg		**Pn**	**21 58 54.0**	**-1.5**
MAHB	**Mahabad**	**1.62**	**22**	*e*Pg		**Pn**	**21 58 58.4**	**-1.3**
MAHB				*e*Sg		**Sb**	**21 59 21.9**	**+0.4**
MAHB				*e*			21 59 27.6	
	comp=Z,3μm,0.4s							
IGHG	**Ghaleghazi**	**1.63**	**125**	*e*Pg		**Pb**	**21 59 01.3**	**+0.1**
IGHG				*e*			21 59 30.1	
	comp=Z,3μm,0.6s							
ILIN	**Lien**	**1.69**	**101**	*e*Pg		**Pn**	**21 59 00.4**	**-0.4**
ILIN				*e*Sg		**Sb**	**21 59 24.2**	**+0.5**
ILIN				*e*			21 59 31.2	
	comp=Z,1μm,0.5s							
KCHF	**Cheshme Sefid,**	**1.99**	**119**	*e*			21 59 37.0	
	comp=Z,3μm,0.4s							
KCHF				*e*Pn		**Pb**	**21 59 06.1**	**-1.2**
KER	**Kermanshah**	**2.00**	**115**	*e*Pn		**Pb**	**21 59 06.3**	**-1.2**
IBDR	**Badra**	**2.30**	**159**	*e*Pn		**Pn**	**21 59 07.5**	**-1.4**
IBDR				*e*Sn		**Sn**	**21 59 37.5**	**+0.2**
IBDR				AML		AML	21 59 45.4	
	comp=E,127nm,0.7s							
IBDR				AML		AML	21 59 45.6	
	comp=N,64nm,0.7s							
IALM	**Almabolaq**	**2.68**	**98**	*e*Pn		**Pn**	**21 59 14.9**	**+0.6**
IKFM	**Kafar-mosalman**	**2.96**	**125**	*e*Pn		**Pn**	**21 59 19.2**	**+1.2**
IKFM				*e*			21 59 20.8	
	comp=Z,964nm,0.2s							
IDOB	**Doab**	**3.05**	**118**	*e*Pn		**Pn**	**21 59 20.3**	**+0.9**
HSAM	**Samen**	**3.19**	**108**	*e*Pn		**Pn**	**21 59 22.6**	**+1.2**
HSAM				*e*			22 00 25.9	
	comp=Z,212nm,1.0s							
ISRB	**Sarab**	**3.37**	**40**	*e*Pn		**Pn**	**21 59 24.4**	**+0.7**
ISRB				*e*			21 59 35.5	
	comp=Z,283nm,0.6s							
ISFB	**Sefidab**	**6.07**	**97**	*e*Pn		**Pn**	**22 00 01.0**	**+0.2**
KLNJ	**Kolanjah**	**7.01**	**125**	*e*Pn		**Pn**	**22 00 14.9**	**+1.0**

*NEIC **26** 23:03:11.3±0.8, 5˚.8S±0˚.1×128˚.8E±0˚.1, h299km±17km, mb4.0/5, Error ellipse: s-maj=20.9km s-min=12.9km az=115.0*
*IDC **26** 23:03:11.6±2.9, 5˚.68S×129˚.03E, h327km±45km, mb2.8/1, mb1 3.1/5, mb1mx2.9/28, mbtmp3.8/5, Error ellipse: s-maj=75.2km s-min=20.2km az=82.0*

ISC 26 23:03:09.8±0.9,**5.79S**±0˚.07×**128˚.91E**±0˚.10,**h300**km,**n17,** σ2**s09**/22,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.22**	**133**	Pn		**Pn**	**23 04 09.7**	**+1.9**
FAKI	**Fak Fak**	**4.38**	**50**	Pn		**Pn**	**23 04 23.2**	**+2.8**
SIJI	**Sorong**	**5.43**	**26**	P		**Pn**	**23 04 33.5**	**+1.1**
	0.2nm,0.3s,baz=290,slow=22,SNR=1.5							
SIJI				S		**S**	**23 05 36.0**	**-2.8**
	1.9nm,0.3s,baz=130,slow=24,SNR=2.3							
SOEI	**Soe**	**6.05**	**229**	Pn		**Pn**	**23 04 40.0**	**+0.1**
SOEI				Sn		**S**	**23 05 52.3**	**-0.3**
MTN	**Manton Dam**	**7.34**	**163**	Pn		**Pn**	**23 04 56.6**	**+1.2**
KNRA	**Kununurra**	**9.83**	**181**	Pn		**Pn**	**23 05 27.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**12.64**	**194**	P		**P**	**23 06 01.4**	**+0.5**
	0.2nm,0.3s,baz=27,slow=13,SNR=2.1							
FITZ				S		**S**	**23 08 20.5**	**0.0**
	0.1nm,0.3s,baz=181,slow=23,SNR=1.9							
FITZ	**Fitzroy Crossi**	**12.64**	**194**	P		**Pn**	**23 06 00.4**	**+0.3**
WB0	**Warramunga Arr**	**14.88**	**159**	P		**Pn**	**23 06 27.1**	**+0.2**
WRA	**Warramunga Arr**	**15.03**	**160**	P		**Pn**	**23 06 28.8**	**+0.1**
	0.2nm,0.3s,baz=341,slow=12,SNR=22							
WRA				S		**S**	**23 09 04.4**	**-6.8**
	0.1nm,0.3s,baz=357,slow=25,SNR=2.2							
WRA	**Warramunga Arr**	**15.03**	**160**	P		**P**	**23 06 28.2**	**+0.9**
WB2	**Warramunga Arr**	**15.03**	**160**	P		**Pn**	**23 06 28.8**	**+0.1**
WB2				IAmb		IAmb	23 06 32.7	
	comp=Z,15nm,1.3s							
WR0	**Warramunga Arr**	**15.11**	**159**	P		**Pn**	**23 06 29.5**	**-0.1**
WR0				IAmb		IAmb	23 06 53.6	
	comp=Z,38nm,1.8s							
PSA00	**Pilbara Seismi**	**17.98**	**208**	P		**P**	**23 07 00.7**	**+1.4**
AS31	**Alice Springs**	**18.41**	**165**	P		**P**	**23 07 05.5**	**+1.5**
AS31				IAmb		IAmb	23 07 06.6	
	comp=Z,1.3nm,0.6s							
ASAR	**Alice Springs**	**18.41**	**165**	P		**P**	**23 07 05.3**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=346,slow=11,SNR=29							
ASAR				S		**S**	**23 10 16.1**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=347,slow=21,SNR=5.1							
MKAR	**Makanchi Array**	**66.63**	**327**	P		**P**	**23 13 27.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=108,slow=7.0,SNR=1.8							

*NNC **26** 23:05:20.7±6.2, 38˚.89N×77˚.89E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=50.1km s-min=25.9km az=26.0*
*SOME **26** 23:05:44.7, 40˚.32N×77˚.57E, h0km*
*KRNET **26** 23:05:45.2±0.1, 40˚.21N×78˚.06E, mb2.5*

ISC 26 23:05:46.0±3.5,**40˚.2N**±0˚.2×**77.74E**±0˚.06,**h5**km±26km,**n34,** σ1**9**σ**45**/55,**13C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.55**	**2**	⇑*i*P		**Pn**	**23 06 12.8**	**-1.9**
	baz=53							
TARG				⇑*i*S		**Sn**	**23 06 33.1**	**-2.3**
	baz=53							
KDJ	**Kajisay**	**2.00**	**348**	⇑*i*P		**Pn**	**23 06 20.7**	**+0.1**
	baz=41							
KDJ				⇑*i*S		**Sn**	**23 06 45.4**	**-0.7**
	baz=41							
ULHL	**Ulahol**	**2.35**	**332**	⇓*i*P		**Pn**	**23 06 26.0**	**+0.4**
	baz=27							
ULHL				⇓*i*S		**Sn**	**23 06 55.8**	**+0.8**
	baz=27							
PRZ	**Przheval'sk**	**2.35**	**12**	⇑*i*P		**Pn**	**23 06 23.4**	**-2.1**
	baz=6.0							
PRZ				⇑*i*S		**Sn**	**23 06 52.4**	**-2.6**
	baz=6.0							
ANVS	**Anan'yevo**	**2.60**	**359**	⇓*i*P		**Pn**	**23 06 27.4**	**-1.5**
	baz=54							
ANVS				⇓*i*S		**Sn**	**23 06 58.3**	**-2.8**
	baz=54							
BOOM	**Boomskoye usch**	**2.68**	**330**	⇑*i*P		**Pn**	**23 06 30.7**	**+0.7**
	baz=26							
BOOM				⇑*i*S		**Sn**	**23 07 03.7**	**+0.8**
	baz=26							
SATY	**Saty**	**2.92**	**10**	*e*P		**Pb**	**23 06 38.6**	**-0.1**
	3.3nm,0.5s							
SATY				*e*S		**Sb**	**23 07 17.2**	**+2.5**
	8.6nm,0.3s							
SATY	**Saty**	**2.92**	**10**	Pg		**Pb**	**23 06 38.6**	**-0.1**
	3.3nm,0.5s							
SATY				Lg		Lg	23 07 17.2	
	8.6nm,0.3s							
IZV	**Izvestkoviy**	**2.98**	**344**	*e*P		**Pb**	**23 06 38.4**	**-1.3**
	32nm,0.1s							
IZV				*e*S		**Sb**	**23 07 17.1**	**+0.7**
	15nm,0.4s							
IZV	**Izvestkoviy**	**2.98**	**344**	Pg		**Pb**	**23 06 38.4**	**-1.3**
	32nm,0.1s							
IZV				Lg		Lg	23 07 17.1	
	15nm,0.4s							
MDOK	**Medeo**	**3.03**	**350**	*e*P		**Pb**	**23 06 39.3**	**-1.2**
	2.8nm,0.3s							
MDOK				*e*S		**Sb**	**23 07 18.7**	**+0.9**
	21nm,0.6s							
MDOK	**Medeo**	**3.03**	**350**	⇑Pg		**Pn**	**23 06 36.7**	**+2.0**
	4.5nm,1.0s							
MDOK				⇓Sn		**Sb**	**23 07 18.9**	**+1.1**
	14nm,0.5s							
MDOK	**Medeo**	**3.03**	**350**	Pg		**Pb**	**23 06 39.3**	**-1.2**
	2.8nm,0.3s							
MDOK				Lg		Lg	23 07 18.7	
	21nm,0.6s							
UZB	**Uzynbulak**	**3.12**	**18**	*e*P		**Pb**	**23 06 41.7**	**-0.3**
	2.3nm,0.5s							
UZB				*e*S		**Sb**	**23 07 22.9**	**+2.5**
	3.9nm,0.4s							
UZB	**Uzynbulak**	**3.12**	**18**	Pg		**Pb**	**23 06 41.7**	**-0.3**
	2.3nm,0.5s							
UZB				Lg		Lg	23 07 22.9	
	3.9nm,0.4s							
TKM2	**Tokmak 2**	**3.18**	**330**	⇑Pg		**Pn**	**23 06 36.8**	**-0.1**
	4.3nm,1.2s							
TKM2				⇑Sn		**Sb**	**23 07 23.1**	**+0.9**
	5.5nm,0.7s							
KBK	**Karagaybulak**	**3.25**	**321**	⇓*e*P		**Pn**	**23 06 38.7**	**+0.9**
	baz=17							
KBK				⇓*i*S		**Sn**	**23 07 17.5**	**+0.6**
	baz=17							
KURS	**Kuram**	**3.32**	**5**	*e*P		**Pb**	**23 06 44.3**	**-1.1**
	3.2nm,0.5s							
KURS				*e*S		**Sb**	**23 07 27.1**	**+0.9**
	5.4nm,0.5s							
KURS	**Kuram**	**3.32**	**5**	Pg		**Pb**	**23 06 44.3**	**-1.1**
	3.2nm,0.5s							
KURS				Lg		Lg	23 07 27.1	
	5.4nm,0.5s							
KPKS	**Kokpek**	**3.36**	**12**	*e*P		**Pb**	**23 06 45.2**	**-0.9**
	4.4nm,0.3s							
KPKS				*e*S		**Sb**	**23 07 28.8**	**+1.5**
	12nm,0.5s							
DGS	**Degeres**	**3.40**	**335**	*e*P		**Pb**	**23 06 45.5**	**-1.2**
	1.8nm,0.3s							
DGS				*e*S		**Sb**	**23 07 29.3**	**+0.9**
	9.5nm,0.6s							
DGS	**Degeres**	**3.40**	**335**	Pg		**Pb**	**23 06 45.5**	**-1.2**
	1.8nm,0.3s							
DGS				Lg		Lg	23 07 29.3	
	9.5nm,0.6s							
PDGK	**Podgornoye**	**3.41**	**22**	Pg		**Pb**	**23 06 47.0**	**+0.1**
	1.5nm,0.4s							
PDGK				Lg		Lg	23 07 32.1	
	5.8nm,0.6s							
PDGK	**Podgornoye**	**3.41**	**22**	⇑Pg		**Pn**	**23 06 42.0**	**+2.0**
	2.8nm,0.6s							
PDGK				⇑Lg		Lg	23 07 30.0	
	6.7nm,0.6s							
KTBS	**Karatobe**	**3.62**	**348**	*e*P		**Pb**	**23 06 48.7**	**-1.7**
	1.6nm,0.6s							
KTBS				*e*S		**Sb**	**23 07 35.1**	**+0.4**
	11nm,0.6s							
KTBS	**Karatobe**	**3.62**	**348**	Pg		**Pb**	**23 06 48.7**	**-1.7**
	1.6nm,0.6s							
KTBS				Lg		Lg	23 07 35.1	
	11nm,0.6s							
CHKK	**Chushkaly**	**3.71**	**352**	*e*P		**Pb**	**23 06 51.6**	**-0.5**
	1.1nm,0.2s							
CHKK				*e*S		**Sb**	**23 07 39.9**	**+2.4**
	12nm,0.4s							
CHKK	**Chushkaly**	**3.71**	**352**	Pg		**Pb**	**23 06 51.6**	**-0.5**
	1.1nm,0.2s							
CHKK				Lg		Lg	23 07 39.9	
	12nm,0.4s							
KRBS	**Karabastau**	**3.84**	**337**	*e*P		**Pb**	**23 06 52.8**	**-1.4**
	0.6nm,0.2s							
KRBS				*e*S		**Sb**	**23 07 42.1**	**+1.1**
	3.6nm,0.6s							
KRBS	**Karabastau**	**3.84**	**337**	Pg		**Pb**	**23 06 52.8**	**-1.4**
	0.6nm,0.2s							
KRBS				Lg		Lg	23 07 42.1	
	3.6nm,0.6s							
KUU	**Kurty**	**3.86**	**345**	*e*P		**Pb**	**23 06 53.7**	**-0.8**
	0.8nm,0.3s							
KUU				*e*S		**Sb**	**23 07 43.2**	**+1.7**
	4.3nm,0.2s							
KUU	**Kurty**	**3.86**	**345**	Pg		**Pb**	**23 06 53.7**	**-0.8**
	0.8nm,0.3s							
KUU				Lg		Lg	23 07 43.2	
	4.3nm,0.2s							
ARXS	**Arharly**	**4.03**	**1**	*e*P		**Pb**	**23 06 57.5**	**0.0**
	3.7nm,0.6s							
ARXS				*e*S		**Sb**	**23 07 50.1**	**+3.4**
	7.6nm,0.7s							
ARXS	**Arharly**	**4.03**	**1**	Pg		**Pb**	**23 06 57.5**	**0.0**
	3.7nm,0.6s							
ARXS				Lg		Lg	23 07 50.1	
	7.6nm,0.7s							

*VAO **26** 23:32:29.9±0.3, 28˚.70S×69˚.55W, h85km, mb4.1*
*SJA **26** 23:32:34.9±0.6, 28˚.28S×69˚.06W, h121km±3km, ML4.1, MW4.1*
*NEIC **26** 23:32:35.9, 28˚.27S×69˚.06W, h46km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.18; Mθθ=0.36; Mφφ=0.81; Mrθ=-0.03; Mθφ=-0.27; Mφr=-0.76; Fault plane solution: M₀1.32000×10¹⁵ NP1:φs147.49000°, δ29.18000°, λ-109.14000°. NP2:φs349.16000°, δ62.57000°, λ-79.62000°. Principal axes: T 1.1471, Plg17.0000°, Azm72.0000°; N 0.2939, Plg9.0000°, Azm164.0000°; P -1.4410, Plg71.0000°, Azm282.0000°;*
*NEIC **26** 23:32:35.7±2.7, 28˚.33S±0˚.04×68˚.96W±0˚.06, h82km±5km, mb4.6/7, Mwr4.0/14, ML4.4(GUC) Error ellipse: s-maj=8.2km s-min=5.9km az=109.0*
*IDC **26** 23:32:37.5±0.6, 28˚.24S×68˚.86W, h111km±4km, mb4.0/12, mb1 4.0/15, mb1mx3.9/38, mbtmp4.3/15, MS2.5/1, Ms1 2.5/1, ms1mx2.3/21, Error ellipse: s-maj=19.3km s-min=11.7km az=86.0*
*GUC **26** 23:32:37.2±0.6, 28˚.39S×69˚.19W, h101km±6km, ML4.4*

ISC 26 23:32:36.3±0.5,**28˚.31S**±0˚.03×**69˚.11W**±0˚.03,**h105**km±4km, **n141,** σ1**9**σ**48**/191,**mb4.1**/13,**9C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.90**	**119**	⇑*i*P		**Pn**	**23 32 57.3**	**+1.0**
VCA				*i*S		**Sn**	**23 33 12.3**	**+1.0**
VCA				IAML			23 33 15.2	
	comp=N,11μm,0.3s							
VCA	**Vinchina**	**0.90**	**119**	*e*P		**Pn**	**23 32 57.1**	**+0.9**
VCA				*e*S		**Sn**	**23 33 13.0**	**+1.7**
VCA				IAML			23 33 16.1	
	comp=Z,5μm,1.7s							
GO03	**Copiap**	**1.23**	**305**	⇓*i*P		**Pn**	**23 33 00.6**	**+0.8**
GO03				*i*S		**Sn**	**23 33 18.4**	**+1.1**
GO03				IAML			23 33 19.1	
	comp=E,18μm,0.1s							
GO03	**Copiap**	**1.23**	**305**			**Pn**	**23 33 00.5**	**+0.8**
GO03				Sn		**Sn**	**23 33 18.5**	**+1.1**
GO03	**Copiap**	**1.23**	**305**	*e*P		**Pn**	**23 33 00.5**	**+0.8**
GO03				*e*S		**Sn**	**23 33 18.8**	**+1.5**
AGUA	**GUANDACOL**	**1.29**	**156**	*e*P		**Pn**	**23 33 01.3**	**+0.8**
AGUA				*e*S		**Sn**	**23 33 19.7**	**+0.9**
AGUA				IAML			23 33 22.9	
	comp=Z,3μm,0.3s							
AC02	**Maricunga**	**1.47**	**359**	⇑*i*P		**Pn**	**23 33 04.8**	**+1.8**
AC02				*i*S		**Sn**	**23 33 25.7**	**+2.6**
AC02				IAML			23 33 29.6	
	comp=E,3μm,0.4s							
AC02	**Maricunga**	**1.47**	**359**	Pn		**Pn**	**23 33 04.8**	**+1.8**
AC02				Sn		**Sn**	**23 33 25.7**	**+2.6**
LCO	**Las Campanas**	**1.57**	**243**	Pn		**Pn**	**23 33 04.8**	**+0.8**
LCO				Sn		**Sn**	**23 33 26.5**	**+1.6**
AC04	**Llanos de Chal**	**1.74**	**273**	⇑*i*P		**Pn**	**23 33 06.2**	**+0.5**
AC04				*i*S		**Sn**	**23 33 28.3**	**+0.1**
AC04				IAML			23 33 30.7	
	comp=E,5μm,0.3s							
AC04	**Llanos de Chal**	**1.74**	**273**	Pn		**Pn**	**23 33 06.3**	**+0.5**
AC04				Sn		**Sn**	**23 33 28.5**	**+0.3**
ACDV	**Cuesta del Vie**	**1.86**	**180**	*e*P		**Pn**	**23 33 09.0**	**+1.5**
ACDV				*e*S		**Sn**	**23 33 33.4**	**+2.3**
ACDV				IAML			23 33 35.2	
	comp=Z,693nm,0.8s							
AROD	**Rodeo**	**1.88**	**190**	*e*P		**Pn**	**23 33 09.4**	**+1.5**
AROD				*e*S		**Sn**	**23 33 34.6**	**+2.7**
ACLC	**CERRO LA CRUZ**	**2.19**	**121**	*e*P		**Pn**	**23 33 12.0**	**+0.2**
ACLC				*e*S		**Sn**	**23 33 39.1**	**+0.3**
ACLC				IAML			23 33 39.7	
	comp=Z,1μm,0.3s							
ACCO	**Cerro Coronel**	**2.27**	**179**	*e*P		**Pn**	**23 33 14.1**	**+1.1**
ACCO				*e*S		**Sn**	**23 33 43.6**	**+2.7**
ACCO				IAML			23 33 48.4	
	comp=Z,819nm,0.4s							
GO04	**Tololo Observa**	**2.38**	**218**	⇑*i*P		**Pn**	**23 33 14.5**	**+0.2**
GO04				*i*S		**Sn**	**23 33 42.7**	**-0.5**
GO04				IAML			23 33 49.3	
	comp=N,5μm,0.6s							
GO04	**Tololo Observa**	**2.38**	**218**			**Pn**	**23 33 14.4**	**+0.2**
GO04				Sn		**Sn**	**23 33 43.7**	**+0.5**
GO04	**Tololo Observa**	**2.38**	**218**	*e*P		**Pn**	**23 33 14.8**	**+0.6**
GO04				*e*S		**Sn**	**23 33 44.8**	**+1.6**
CO05	**La Serena**	**2.46**	**229**	*e*P		**Pn**	**23 33 14.7**	**-0.4**
CO05				*i*S		**Sn**	**23 33 44.1**	**-0.7**
CO05				IAML			23 33 47.4	
	comp=N,3μm,0.2s							
AC01	**Pan de Azucar**	**2.53**	**328**	⇑*i*P		**Pn**	**23 33 16.6**	**+0.6**
AC01				*i*S		**Sn**	**23 33 43.3**	**-3.1**
AC01				IAML			23 33 55.3	
	comp=E,924nm,0.2s							
AC01	**Pan de Azucar**	**2.53**	**328**	Pn		**Pn**	**23 33 16.5**	**+0.6**
AC01				Sn		**Sn**	**23 33 43.2**	**-3.3**
CO03	**El Pedregal**	**2.88**	**208**	⇑*i*P		**Pn**	**23 33 21.0**	**+0.4**
CO03				*i*S		**Sn**	**23 33 54.6**	**-0.1**
CO03				IAML			23 33 57.5	
	comp=E,2μm,0.2s							
CO03	**El Pedregal**	**2.88**	**208**			**Pn**	**23 33 21.0**	**+0.4**
CO03				Sn		**Sn**	**23 33 55.9**	**+1.2**
CO03	**El Pedregal**	**2.88**	**208**	*e*P		**Pn**	**23 33 21.0**	**+0.4**
CO03				*e*S		**Sn**	**23 33 56.0**	**+1.2**
CO03				IAML			23 33 57.2	
	comp=Z,1μm,0.6s							
CYA	**Choya**	**2.91**	**93**	*e*P		**Pn**	**23 33 21.1**	**0.0**
CYA				*e*S		**Sn**	**23 33 54.6**	**-1.0**
CYA				IAML			23 33 55.0	
	comp=Z,2μm,0.5s							
RTLL	**Cerro Villicun**	**3.06**	**170**	*e*P		**Pn**	**23 33 23.7**	**+0.6**
RTLL				*e*S		**Sn**	**23 33 58.6**	**-0.5**
RTLL				IAML			23 33 59.6	
	comp=Z,639nm,0.4s							
APLL	**PUNTA DE LOS L**	**3.06**	**133**	*e*P		**Pn**	**23 33 23.0**	**-0.1**
APLL				*e*S		**Sn**	**23 33 58.6**	**-0.6**
GO02	**Mina Guanaco**	**3.16**	**352**	⇑*i*P		**Pn**	**23 33 25.6**	**+1.0**
GO02				*i*S		**Sn**	**23 34 01.9**	**+0.1**
GO02				IAML			23 34 30.9	
	comp=N,820nm,0.6s							
GO02	**Mina Guanaco**	**3.16**	**352**	Pn		**Pn**	**23 33 25.5**	**+0.8**
GO02				Sn		**Sn**	**23 33 59.2**	**-2.7**
ZON	**Zonda**	**3.25**	**174**	Pn		**Pn**	**23 33 25.8**	**+0.2**
ZON				Sn		**Sn**	**23 34 02.8**	**-0.8**
ZON	**Zonda**	**3.25**	**174**	*e*P		**Pn**	**23 33 25.9**	**+0.4**
ZON				*e*S		**Sn**	**23 34 03.8**	**+0.2**
ZON				IAML			23 34 04.9	
	comp=Z,265nm,0.3s							
CO02	**Combarbal**	**3.32**	**209**	⇑*i*P		**Pn**	**23 33 26.1**	**-0.6**
CO02				*i*S		**Sn**	**23 34 04.9**	**-0.5**
CO02	**Combarbal**	**3.32**	**209**	Pn		**Pn**	**23 33 26.1**	**-0.6**
CO02				Sn		**Sn**	**23 34 04.8**	**-0.7**
RTLS	**Leoncito**	**3.48**	**183**	*e*P		**Pn**	**23 33 29.9**	**+0.9**
RTLS				*e*S		**Sn**	**23 34 09.9**	**+0.4**
RTLS				IAML			23 34 11.6	
	comp=Z,453nm,0.8s							
FSA	**Cafayete**	**3.54**	**53**	*e*P		**Pn**	**23 33 30.8**	**+1.1**
RTCV	**Cerro Valdivia**	**3.58**	**172**	*e*P		**Pn**	**23 33 30.6**	**+0.6**
RTCV				*e*S		**Sn**	**23 34 11.2**	**-0.2**
RTCV				IAML			23 34 11.2	
	comp=Z,127nm,0.5s							
PB14	**IPOC Station P**	**3.85**	**342**	Pn		**Pn**	**23 33 33.7**	**-0.2**
PB14	**IPOC Station P**	**3.85**	**342**	*e*P		**Pn**	**23 33 34.0**	**+0.2**
PB14				*e*S		**Sn**	**23 34 17.6**	**-0.7**
PB14				IAML			23 34 42.9	
	comp=Z,257nm,0.4s							
AUSP	**Uspallata**	**3.91**	**184**	*e*P		**Pn**	**23 33 35.5**	**+0.8**
AUSP				*e*S		**Sn**	**23 34 19.9**	**+0.1**
ASAL	**Salagasta**	**4.28**	**177**	*e*P		**Pn**	**23 33 40.0**	**+0.6**
ASAL				*e*S		**Sn**	**23 34 28.8**	**+0.5**
ASAL				IAML			23 34 32.5	
	comp=Z,123nm,0.5s							
ACAN	**Cantantal**	**4.29**	**158**	*e*P		**Pn**	**23 33 39.8**	**+0.2**
ACAN				*e*S		**Sn**	**23 34 25.4**	**-3.1**
ACAN				IAML			23 34 25.7	
	comp=Z,203nm,0.3s							
ARCO	**CERRO ARCO**	**4.52**	**178**	*e*P		**Pn**	**23 33 43.2**	**+0.4**
ARCO				*e*S		**Sn**	**23 34 40.7**	**+6.3**
ARCO				IAML			23 35 05.8	
	comp=Z,136nm,0.5s							
VA03	**San Esteban**	**4.61**	**195**	⇓*e*P		**Pn**	**23 33 43.7**	**-0.2**
VA03				*i*S		**Sn**	**23 34 35.9**	**-0.6**
VA03	**San Esteban**	**4.61**	**195**			**Pn**	**23 33 43.4**	**-0.6**
VA03				Sn		**Sn**	**23 34 36.3**	**-0.2**
VA03	**San Esteban**	**4.61**	**195**	*e*P		**Pn**	**23 33 44.1**	**+0.1**
VA03				IAML			23 35 20.2	
	comp=Z,279nm,0.8s							
AAGR	**Agrelo**	**4.77**	**177**	*e*P		**Pn**	**23 33 46.4**	**+0.3**
AAGR				*e*P			23 33 46.8	
AAGR				*e*S		**Sn**	**23 34 39.3**	**-0.9**
AAGR				IAML			23 34 43.1	
	comp=Z,144nm,0.9s							
SLA	**San Lorenzo**	**4.81**	**43**	⇑*i*P		**Pn**	**23 33 48.2**	**+1.5**
SLA	**San Lorenzo**	**4.81**	**43**	*e*P		**Pn**	**23 33 48.3**	**+1.5**
PB10	**IPOC Station P**	**4.95**	**344**			**Pn**	**23 33 47.5**	**-1.0**
PB15	**IPOC Station P**	**5.09**	**356**			**Pn**	**23 33 50.4**	**-0.2**
VA01	**Torpederas**	**5.18**	**204**	Pn		**Pn**	**23 33 49.1**	**-2.5**
MT05	**Renca**	**5.26**	**195**			**Pn**	**23 33 51.4**	**-1.3**
MT03	**Universidad Ad**	**5.31**	**193**			**Pn**	**23 33 52.3**	**-1.0**
PB06	**IPOC Station P**	**5.59**	**356**			**Pn**	**23 33 56.3**	**-1.0**
**L

comp=Z,2.4nm,0.5s,baz=212,slow=11,SNR=4.0

BDFB	**Brasilia**	**23.22**	**62**	P	**P**	**23 37 34.9**	**+0.3**
BDFB				IAmb	IAmb	23 37 36.5	

comp=Z,6.8nm,1.1s

NPGB	**Novo Progresso**	**24.83**	**34**	*e*P	**P**	**23 37 48.9**	**-0.1**
PEXB	**Peixe**	**25.25**	**55**	*e*P	**P**	**23 37 52.7**	**-0.1**
DIAM	**Diamantina, MG**	**25.35**	**72**	*e*P	**P**	**23 37 53.8**	**-0.1**
JANB	**Januaria**	**26.48**	**65**	*e*P	**P**	**23 38 02.5**	**-1.5**
ITTB	**Itaituba**	**26.99**	**31**	*e*P	**P**	**23 38 07.8**	**-0.7**
BSFB	**Barra de Sao F**	**27.51**	**76**	*e*P	**P**	**23 38 12.2**	**-0.9**
NAN01	**Guarapari, ES**	**28.55**	**75**	*e*P	**P**	**23 38 22.7**	**+0.2**
PTGA	**Pitinga**	**28.78**	**19**	P	**P**	**23 38 24.3**	**-0.1**

comp=Z,1.6nm,0.7s,baz=120,slow=18,SNR=4.2

FLOC	**Florencia**	**30.38**	**347**	P	**P**	**23 38 40.9**	**+2.3**
FLOC				IAmb	IAmb	23 38 41.7	

comp=Z,7.4nm,0.8s

BOAV	**Boa Vista**	**31.62**	**17**	*e*P	**P**	**23 38 49.6**	**+0.2**
NBPN	**Ponto Novo - B**	**32.17**	**63**	*e*P	**P**	**23 38 53.0**	**-1.4**
NBAN	**Anadia - AL**	**35.98**	**65**	*e*P	**P**	**23 39 28.2**	**+0.9**
NBPB	**Pedra_Branca-C**	**36.00**	**57**	*e*P	**P**	**23 39 28.3**	**+0.8**
MDP	**Montagnes des**	**36.81**	**28**	P	**P**	**23 39 33.9**	**-0.4**

comp=Z,5.9nm,0.8s,baz=190,slow=10.0,SNR=2.9

PRVC	**Isla de Provid**	**43.10**	**342**	P	**P**	**23 40 30.5**	**+4.2**
VNA3	**Neumayer Olymp**	**53.74**	**160**	P	**P**	**23 41 47.2**	**-0.1**
VNA1	**Neumayer--Stat**	**53.99**	**159**	P	**P**	**23 41 49.3**	**+0.3**
SNAA	**Sanae**	**55.96**	**160**	P	**P**	**23 42 03.2**	**-0.2**
SNAA	**Sanae**	**55.96**	**160**	P	**P**	**23 42 03.4**	**0.0**

comp=Z,4.8nm,0.5s,baz=278,slow=8.0,SNR=29

TXAR	**Lajitas Array**	**66.16**	**327**	P	**P**	**23 43 14.0**	**+1.1**

comp=Z,0.8nm,0.7s,baz=147,slow=7.5,SNR=5.5

VNDA	**Vanda**	**70.15**	**190**	P	**P**	**23 43 38.0**	**+1.0**

comp=Z,0.8nm,0.8s,baz=119,slow=9.2,SNR=5.7

DBIC	**Dimbokro**	**70.97**	**71**	P	**P**	**23 43 42.6**	**-0.4**

comp=Z,7.4nm,0.6s,baz=211,slow=3.6,SNR=16

ANMO	**Albuquerque**	**72.13**	**328**	P	**P**	**23 43 51.1**	**+1.4**

comp=Z,1.4nm,0.7s,baz=144,slow=11,SNR=3.5

MAW	**Mawson**	**77.89**	**163**	P	**P**	**23 44 22.7**	**+0.6**

comp=Z,1.7nm,0.5s,baz=173,slow=7.8,SNR=8.5

TORD	**Torodi Ar. Bea**	**79.87**	**69**	P	**P**	**23 44 33.9**	**0.0**

comp=Z,6.5nm,0.7s,baz=273,slow=5.7,SNR=40

TORD				pP	**pP**	**23 45 00.9**	**-1.3**

comp=Z,1.6nm,0.5s,baz=252,slow=5.2,SNR=2.6

TORD	**Torodi Ar. Bea**	**79.87**	**69**	P	**P**	**23 44 33.8**	**-0.1**
TORD				IAmb	IAmb	23 44 34.8	

comp=Z,5.4nm,0.8s

PDAR	**Pinedale Array**	**79.92**	**331**	P	**P**	**23 44 35.0**	**+1.1**

comp=Z,1.3nm,0.8s,baz=128,slow=5.8,SNR=5.6

BOSA	**Boshof**	**80.46**	**117**	P	**P**	**23 44 36.5**	**-0.6**

comp=Z,4.1nm,0.8s,baz=262,slow=3.1,SNR=8.3

ASAR	**Alice Springs**	**123.77**	**206**	PKP	**PKPdf**	**23 51 22.0**	**-0.5**

comp=Z,0.8nm,0.6s,baz=125,slow=1.6,SNR=10

WRA	**Warramunga Arr**	**126.95**	**208**	PKP	**PKPdf**	**23 51 28.5**	**-0.2**

comp=Z,1.3nm,0.5s,baz=160,slow=1.7,SNR=15

WRA				pPKP	**pPKPdf**	**23 51 57.7**	**-0.9**

comp=Z,0.4nm,0.5s,baz=168,slow=1.7,SNR=1.8

SEY	**Seymchan**	**136.19**	**334**	PKP	**PKPdf**	**23 51 45.2**	**+0.5**

comp=Z,2.1nm,0.6s,baz=142,slow=5.1,SNR=7.5

KURBB	**Kurchatov Arra**	**146.94**	**39**	PKPbc	**PKPdf**	**23 52 05.4**	**+1.2**

comp=Z,3.6nm,0.6s,baz=304,slow=3.1,SNR=30

KURBB				pPKPbc	**pPKPdf**	**23 52 35.3**	**+0.8**

comp=Z,1.6nm,0.8s,baz=304,slow=3.8,SNR=4.4

KURK	**Kurchatov**	**146.94**	**38**		**PKPdf**	**23 52 05.4**	**+1.2**
AAK	**Ala-Archa**	**147.36**	**54**	PKPbc	**PKPbc**	**23 52 07.0**	**-1.0**

comp=Z,1.4nm,0.3s,baz=157,slow=1.5,SNR=6.5

AAK				pPKPbc	**pPKPdf**	**23 52 36.5**	**+0.8**

comp=Z,1.5nm,0.4s,baz=259,slow=5.2,SNR=1.6

ZALV	**Zalesovo Beam**	**148.06**	**29**	PKPbc	**PKPdf**	**23 52 07.4**	**+1.4**

comp=Z,7.7nm,0.6s,baz=297,slow=3.3,SNR=25

ZALV				pPKPbc	**pPKPbc**	**23 52 39.3**	**0.0**

comp=Z,4.4nm,0.9s,baz=311,slow=2.8,SNR=3.3

ZALV	**Zalesovo Beam**	**148.06**	**29**	PKPdf	**PKPdf**	**23 52 07.1**	**+1.1**
ZALV					**PKPbc**	**23 52 09.7**	**+0.5**
MKAR	**Makanchi Array**	**151.00**	**43**	PKPbc	**PKPbc**	**23 52 17.1**	**+0.3**

comp=Z,7.8nm,0.6s,baz=298,slow=1.8,SNR=74

MKAR				pPKPbc	**pPKPbc**	**23 52 47.7**	**+0.8**

comp=Z,2.3nm,0.6s,baz=310,slow=2.3,SNR=4.8

*IDC **26** 23:33:10.2±1.7,56.34N×156.51W,h0km,mb3.9/13, mb1 4.0/15,mb1mx3.8/49,mbtmp3.9/15,ML3.6/2,MS2.4/1, Ms1 2.4/1,ms1mx2.2/44,Error ellipse: s-maj=44.2km s-min=20.9km az=176.0*

*NEIC **26** 23:33:18.8±1.9,56.32N±0.10×155.9W±0.1,h56km±54km, Error ellipse: s-maj=16.5km s-min=7.2km az=144.0*

*AEIC **26** 23:33:19±2.1,56.2N±0.1×156.0W±0.1,h56km±9km,ML3.7, ML3.9/16(NEIC),Error ellipse: s-maj=17.2km s-min=5.6km az=149.0*

ISC 26 23:33:18.1±0.7,56°43N±0.09×156°05W±0.06,h60km,n87, σ1971/94,mb4.0/13,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.71**	**61**			**Pn**	**23 33 46.9**	**+1.4**
OHAK				IAML			23 34 08.7	

comp=N,723nm,0.3s

OHAK				IAML			23 34 08.8	

comp=E,746nm,0.3s

OHAK	**Old Harbor**	**1.71**	**61**	P			23 33 46.9	
OHAK				S			23 34 06.7	

baz=239

VNFG	**Fog Glacier, M**	**1.95**	**267**	P			23 33 49.4	

baz=89

KDAK	**Kodiak Island**	**2.33**	**53**	Pn		**Pn**	**23 33 55.3**	**+1.4**

comp=E,34nm,0.3s,baz=223,slow=5.4,SNR=710

KDAK				Sn		**Sn**	**23 34 21.1**	**-0.2**

comp=E,111nm,0.3s,baz=66,slow=21,SNR=28

KDAK				LR		LR	23 34 40.9	

comp=E,73nm,19.2s,baz=257,slow=35

KDAK	**Kodiak Island**	**2.33**	**53**	Pn		**Pn**	**23 33 55.1**	**+1.2**
KDAK				IAML			23 34 22.1	

comp=E,419nm,0.4s

KDAK				Sn		**Sn**	**23 34 22.1**	**+0.8**
KDAK				IAML			23 34 22.5	

comp=E,540nm,0.4s

CHNA	**Chernabura Isl**	**2.57**	**233**	P			23 33 56.5	

baz=53

CHNA				S			23 34 25.0	

baz=53

CNBA	**Chernabura Isl**	**2.57**	**233**			**Pn**	**23 33 56.4**	**-0.9**
SDPT	**Sand Point**	**2.72**	**248**			**Pn**	**23 33 59.2**	**0.0**
SDPT				Sn		**Sn**	**23 34 29.8**	**-1.1**
SDPT				IAML			23 34 31.8	

comp=E,716nm,0.6s

SDPT				IAML			23 34 33.1	

comp=N,403nm,0.6s

SDPT	**Sand Point**	**2.72**	**248**	P			23 33 59.3	

baz=68

SDPT				S			23 34 29.3	

baz=68

OPT	**Oil Point**	**3.56**	**24**	P			23 34 13.4	

baz=205

CNPM	**China Poot**	**4.03**	**38**	Pn		**Pn**	**23 34 18.7**	**+1.6**
CNPM				Sn		**Sn**	**23 35 02.0**	**-0.9**
CNPM				IAML			23 35 04.0	

comp=E,130nm,0.3s

CNPM				IAML			23 35 04.4	

comp=N,171nm,0.6s

N18K	**Kilae Creek**	**4.26**	**1**	P			23 34 21.8	

baz=181

BRLK	**Bradley Lake**	**4.32**	**37**	Pn		**Pn**	**23 34 22.1**	**+1.0**
BRSE	**Bradley Lake S**	**4.35**	**38**	P			23 34 22.7	

baz=221

RSO	**Redoubt South**	**4.40**	**22**			**Pn**	**23 34 24.7**	**+2.3**
FALS	**False Pass**	**4.46**	**252**	Pn		**Pn**	**23 34 23.5**	**+0.5**
FALS	**False Pass**	**4.46**	**252**	P			23 34 23.6	

baz=68

N19K	**Bonanza Creek**	**4.47**	**10**	P			23 34 25.2	

baz=191

SVW2	**Sparrevohn**	**4.69**	**3**			**Pn**	**23 34 27.4**	**+1.2**
CAPN	**Captain Cook N**	**5.05**	**28**	Pn		**Pn**	**23 34 34.0**	**+3.0**
SEW	**Seward**	**5.07**	**41**	Pn		**Pn**	**23 34 31.6**	**+0.3**
FIS	**Fire Island**	**5.62**	**30**	Pn		**Pn**	**23 34 40.7**	**+1.9**
RC01	**Rabbit Creek A**	**5.71**	**33**	Pn		**Pn**	**23 34 41.5**	**+1.3**
RC01	**Rabbit Creek A**	**5.71**	**33**	P			23 34 41.3	

baz=217

SUA	**Susitna One**	**5.74**	**26**			**Pn**	**23 34 42.7**	**+2.0**
MID	**Middleton Isla**	**5.98**	**56**	Pn		**Pn**	**23 34 44.9**	**+1.0**
PWL	**Port Wells**	**5.99**	**39**			**Pn**	**23 34 45.0**	**+0.9**
AKUT	**Akutan**	**6.01**	**252**	Pn		**Pn**	**23 34 45.1**	**+0.8**
SKT	**Skwentna**	**6.03**	**21**			**Pn**	**23 34 47.4**	**+2.8**
KNK	**Knik Glacier**	**6.36**	**35**	Pn		**Pn**	**23 34 51.7**	**+2.7**
KNK	**Knik Glacier**	**6.36**	**35**	P			23 34 49.5	

baz=221

HIN	**Hinchinbrook I**	**6.40**	**48**	Pn		**Pn**	**23 34 50.7**	**+1.1**
GLI	**Glacier Island**	**6.46**	**43**	Pn		**Pn**	**23 34 50.2**	**-0.2**
GLI						**Sn**	**23 35 58.1**	**-4.5**
GLI	**Glacier Island**	**6.46**	**43**	P			23 34 50.2	

baz=229

GHO	**Glory Hole Cre**	**6.49**	**31**	Pn		**Pn**	**23 34 52.4**	**+1.5**
TTA	**Tatalina**	**6.52**	**0**	Pn		**Pn**	**23 34 53.3**	**+2.0**
TTA	**Tatalina**	**6.52**	**0**	P			23 34 53.4	

baz=180

FID	**Port Fidalgo**	**6.62**	**45**	Pn		**Pn**	**23 34 52.1**	**-0.4**
CUT	**Chuliitna**	**6.68**	**24**	Pn		**Pn**	**23 34 55.2**	**+1.9**
SML	**Sawmill**	**6.69**	**33**	Pn		**Pn**	**23 34 54.5**	**+0.8**
PPLA	**Purkeypile**	**6.77**	**15**			**Pn**	**23 34 58.0**	**+3.1**
EYAK	**Cordova Ski Ar**	**6.79**	**48**	Pn		**Pn**	**23 34 55.6**	**+0.6**
EYAK	**Cordova Ski Ar**	**6.79**	**48**	P			23 34 55.1	

baz=236

SCM	**Sheep Creek Mo**	**7.03**	**36**			**Pn**	**23 34 59.0**	**+0.7**
KLU	**Klutina**	**7.29**	**42**	P			23 35 02.6	

baz=230

HMT	**Hamilton**	**7.33**	**53**	Pn		**Pn**	**23 35 04.1**	**+1.8**
WAT1	**Susitna Watana**	**7.46**	**28**	P			23 35 04.3	

baz=213

WAT6	**Susitna Watana**	**7.47**	**31**	P			23 35 04.8	

baz=217

BMRM	**Bremner River**	**7.50**	**48**	Pn		**Pn**	**23 35 05.5**	**+0.9**
KTH	**Kantishna Hill**	**7.59**	**18**			**Pn**	**23 35 07.3**	**+1.4**
M24K	**Tolsona, Glenn**	**7.61**	**38**	Pn		**Pn**	**23 35 07.4**	**+1.2**
TRF	**Thorofare Moun**	**7.61**	**20**			**Pn**	**23 35 07.2**	**+1.0**
TRF	**Thorofare Moun**	**7.61**	**20**	P			23 35 07.6	

baz=204

SPIA	**Saint Paul Isl**	**7.83**	**281**	Pn		**Pn**	**23 35 10.6**	**+1.5**
N25K	**Chitina, Valde**	**7.86**	**44**	Pn		**Pn**	**23 35 10.9**	**+1.3**
N25K	**Chitina, Valde**	**7.86**	**44**	P			23 35 10.4	

baz=233

WAX	**Waxell Ridge**	**8.01**	**54**	Pn		**Pn**	**23 35 13.0**	**+1.4**
CRQM	**Cirque**	**8.01**	**52**			**Pn**	**23 35 14.2**	**+2.4**
BPAW	**Bear Paw Mtn.**	**8.09**	**16**	Pn		**Pn**	**23 35 14.1**	**+1.4**
VRDI	**Verde Repeater**	**8.11**	**48**	Pn		**Pn**	**23 35 14.2**	**+1.1**
TGL	**Tana Glacier**	**8.15**	**52**	Pn		**Pn**	**23 35 14.8**	**+1.2**
ISLE	**Juniper Island**	**8.30**	**54**	Pn		**Pn**	**23 35 17.4**	**+1.7**
YAH	**Yahtse**	**8.48**	**56**	Pn		**Pn**	**23 35 19.8**	**+1.5**
TABL	**Table Mountain**	**8.79**	**57**	Pn		**Pn**	**23 35 24.4**	**+2.0**
BARN	**Barnard Glacie**	**8.80**	**52**	Pn		**Pn**	**23 35 24.0**	**+1.5**
NEA2	**Nenana**	**8.88**	**20**	Pn		**Pn**	**23 35 24.5**	**+1.1**
CTGM	**Chitina Glacie**	**8.90**	**53**	Pn		**Pn**	**23 35 25.4**	**+1.5**
LOGN	**Logan Glacier**	**8.99**	**54**	Pn		**Pn**	**23 35 26.8**	**+1.6**
MLY	**Manley**	**9.01**	**15**	Pn		**Pn**	**23 35 27.0**	**+1.8**
PCA	**Pinnacle**	**9.09**	**60**	Pn		**Pn**	**23 35 29.1**	**+2.6**
I23K	**Minto, Yukon-K**	**9.33**	**18**	P			23 35 29.3	

baz=203

ANM	**Nome**	**9.35**	**335**	Pn		**Pn**	**23 35 32.3**	**+2.4**
BCPM	**Bancas Point**	**9.35**	**61**	Pn		**Pn**	**23 35 32.0**	**+2.0**
DOT	**Dot Lake**	**9.38**	**35**	Pn		**Pn**	**23 35 32.2**	**+1.8**
ILAR	**Eielson Array**	**9.49**	**24**	Pn		**Pn**	**23 35 30.6**	**-1.2**

comp=N,0.4nm,0.3s,baz=219,slow=13,SNR=12

ILAR				Sn		Sn	23 37 09.2	-7.6

comp=N,0.8nm,0.3s,baz=146,slow=13,SNR=7.1

ILAR	**Eielson Array**	**9.49**	**24**	Pn		**Pn**	**23 35 32.9**	**+1.0**
SCRK	**Sand Creek**	**9.64**	**33**	Pn		**Pn**	**23 35 35.1**	**+1.1**
SCRK	**Sand Creek**	**9.64**	**33**	P			23 35 34.6	

baz=223

BCAR	**Beaver Creek A**	**9.78**	**41**	Pn		**Pn**	**23 35 37.8**	**+2.0**
K27K	**Chicken**	**10.29**	**37**	Pn		**Pn**	**23 35 45.2**	**+2.5**
PRP	**Porcupine Dome**	**10.43**	**25**	Pn		**Pn**	**23 35 48.9**	**+4.1**
TNA	**Tin City**	**10.80**	**333**	Pn		**Pn**	**23 35 52.4**	**+2.8**
EGAK	**Eagle**	**11.09**	**35**			**Pn**	**23 35 54.8**	**+1.2**
FYU	**Fort Yukon**	**11.38**	**22**	Pn		**Pn**	**23 35 59.8**	**+2.3**
SIT	**Sitka**	**11.39**	**78**	Pn		**Pn**	**23 35 57.4**	**-0.4**
ATKA	**Atka Island**	**11.40**	**256**	Pn		**Pn**	**23 35 56.9**	**-1.0**
WHY	**Whitehorse**	**11.82**	**60**	Pn		**Pn**	**23 36 05.9**	**+2.1**
JIS	**Juneau Island**	**11.84**	**72**	Pn		**Pn**	**23 36 05.4**	**+1.6**
GSTR	**Great Sitkin T**	**12.46**	**258**	Pn		**Pn**	**23 36 12.4**	**0.0**
CRAG	**Craig**	**12.87**	**85**	Pn		**Pn**	**23 36 17.4**	**-0.5**
ADK	**Adak**	**12.90**	**258**	Pn		**Pn**	**23 36 16.5**	**-1.8**
KIWB	**Kanaga Island**	**13.17**	**259**	Pn		**Pn**	**23 36 20.5**	**-1.5**
DIB	**Dawson Inlet,**	**13.95**	**93**	Pn		**Pn**	**23 36 34.2**	**+1.7**
DLBC	**Dease Lake**	**14.13**	**71**	Pn		**Pn**	**23 36 37.6**	**+2.7**

comp=N,0.1nm,0.3s,baz=204,slow=25,SNR=1.5

DLBC				Sn		**Sn**	**23 39 06.9**	**-3.0**

comp=N,0.1nm,0.3s,baz=197,slow=21,SNR=1.8

INK	**Inuvik**	**15.70**	**32**	Pn		**Pn**	**23 36 56.7**	**+1.6**

comp=N,0.2nm,0.3s,baz=202,slow=9.1,SNR=2.5

INK				Sn		**S**	**23 39 57.8**	**-1.9**

comp=N,0.1nm,0.3s,baz=22,slow=31,SNR=8.3

SEY	**Seymchan**	**26.18**	**306**	P		**P**	**23 38 44.7**	**-1.8**

comp=N,0.7nm,0.3s,baz=154,slow=11,SNR=3.8

PETK	**Petropavlovsk-**	**26.49**	**282**	P		**P**	**23 38 46.6**	**-2.8**

comp=N,2.2nm,0.5s,baz=72,slow=14,SNR=8.4

PDAR	**Pinedale Array**	**32.42**	**95**	P		**P**	**23 39 43.1**	**+0.9**

comp=N,0.2nm,0.6s,baz=330,slow=5.3,SNR=2.7

ARCES	**ARCESS Array B**	**54.33**	**359**	P		**P**	**23 42 37.7**	**0.0**

comp=N,0.7nm,0.5s,baz=15,slow=7.5,SNR=8.3

SONM	**Songino Array**	**55.58**	**306**	P		**P**	**23 42 45.8**	**-1.3**

comp=N,2.7nm,0.6s,baz=29,slow=6.6,SNR=6.8

ZALV	**Zalesovo Beam**	**59.28**	**323**	P		**P**	**23 43 12.4**	**-0.5**

comp=N,0.4nm,0.3s,baz=23,slow=7.8,SNR=1.7

NOA	**NORSAR Array B**	**62.44**	**7**	P		**P**	**23 43 35.0**	**+0.6**

comp=N,0.6nm,0.7s,baz=352,slow=6.7,SNR=6.4

FINES	**FINESS Array B**	**62.45**	**359**	P		**P**	**23 43 34.8**	**+0.5**

comp=N,1.3nm,0.5s,baz=15,slow=7.3,SNR=14

MKAR	**Makanchi Array**	**66.18**	**320**	P		**P**	**23 43 59.1**	**+0.1**

comp=N,0.6nm,0.8s,baz=34,slow=6.6,SNR=3.3

AKTO	**Aktyubinsk**	**69.82**	**338**	P		**P**	**23 44 21.4**	**-0.3**

comp=N,1.3nm,0.6s,baz=15,slow=8.0,SNR=5.3

AKASG	**Malin Array Be**	**73.14**	**356**	P		**P**	**23 44 42.0**	**+0.4**

comp=N,0.8nm,0.3s,baz=10,slow=6.2,SNR=4.5

GERES	**GERESS Array B**	**74.75**	**7**	P		**P**	**23 44 53.0**	**+1.8**

comp=N,0.5nm,0.7s,baz=350,slow=7.0,SNR=5.0

CMAR	**Chiang Mai Arr**	**82.81**	**292**	P		**P**	**23 45 36.3**	**+0.6**

comp=N,0.8nm,0.5s,baz=5.7,slow=4.5,SNR=1.4

*IDC **26** 23:43:56.3±2.6,18.77N×106.12W,h0km,mb3.5/4, mb1 3.9/7,mb1mx3.7/34,mbtmp3.7/7,ML3.6/3,MS3.2/3, Ms1 3.2/3,ms1mx2.9/21,Error ellipse: s-maj=45.6km s-min=32.0km az=5.0*

*MEX **26** 23:44:00.9±0.6,19.06N×105.84W,h16km±111km,MD4.3*

ISC 26 23:43:59.7±1.4,19°3N±0.1°×105°66W±0.08,h10km,n19, σ1987/19,mb3.6/4,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.62**	**69**	*i* P		**Pn**	**23 44 14.2**	**-0.4**
CJM				*i* S		**Sn**	**23 44 25.3**	**+0.8**
R15V		**1.58**	**94**	*e*P		**Pn**	**23 44 27.6**	**-0.3**
R15V				*e*S		**Sb**	**23 44 49.1**	**-0.1**
COIG	**Colima**	**1.86**	**93**	*i* P		**Pn**	**23 44 31.9**	**+0.2**
EZ5V		**1.95**	**84**	*i* P		**Pb**	**23 44 35.0**	**-0.5**
EZ5V				*e*S		**Sg**	**23 45 02.6**	**+0.1**
MMIG	**Aquila**	**2.40**	**114**	*e*P		**Pn**	**23 44 37.6**	**-1.5**
MMIG				*e*S		**Sn**	**23 45 05.9**	**-2.6**
MAIG	**Mazatlaan**	**3.95**	**350**	*e*P		**Pn**	**23 44 58.9**	**-1.6**
MAIG				*e*S		**Sn**	**23 45 43.6**	**-3.2**
ZIIG	**Zihuatanejo**	**4.31**	**112**	*e*P		**Pn**	**23 45 05.6**	**+0.2**
ZIIG				*e*S		**Sn**	**23 45 52.1**	**-3.7**
H06E1	**SOCORRO T-PHAS**	**5.01**	**265**	Pn		Pn	23 45 06.1	-8.9
H06E1				T		T	23 49 53.0	

SNR=20

TXAR	**Lajitas Array**	**10.17**	**10**	Pn		Pn	23 46 32.4	+6.5

0.1nm,0.3s,baz=193,slow=15,SNR=3.3

TXAR				LR		LR	23 50 42.8	

comp=Z,79nm,18.8s,baz=0.0,slow=38

CMIG	**Matias Romero**	**10.47**	**100**	Pn		**Pn**	**23 46 33.1**	**+3.1**

1.8nm,0.3s,baz=276,slow=12,SNR=22

ANMO	**Albuquerque**	**15.62**	**358**	Pn		**P**	**23 47 45.0**	**+0.6**

0.1nm,0.3s,baz=176,slow=10,SNR=4.3

ANMO				LR		LR	23 53 55.6	

comp=Z,104nm,18.9s,baz=208,slow=37

NVAR	**Mina Array Bea**	**22.02**	**333**	P		**P**	**23 48 56.9**	**+2.3**

1.3nm,0.8s,baz=164,slow=12,SNR=5.2

PDAR	**Pinedale Array**	**23.65**	**353**	P		**P**	**23 49 13.0**	**+1.6**

0.5nm,0.7s,baz=163,slow=7.7,SNR=4.4

TKL	**Tuckaleechee C**	**25.27**	**45**	LR		LR	00 00 41.1	

comp=Z,52nm,18.9s,baz=323,slow=39

INK	**Inuvik**	**52.04**	**347**	P		**P**	**23 53 09.9**	**+0.8**

0.7nm,0.6s,baz=146,slow=11,SNR=3.3

ILAR	**Eielson Array**	**53.06**	**339**	P		**P**	**23 53 17.3**	**+0.5**

0.7nm,0.7s,baz=156,slow=6.0,SNR=7.5

H03N2	**Juan Fernandez**	**58.30**	**154**	T		T	00 57 31.5	

baz=333,slow=78,SNR=4.4

H03N1	**Juan Fernandez**	**58.31**	**154**	T		T	00 57 34.4	

baz=333,slow=78,SNR=4.4

H03N3	**Juan Fernandez**	**58.32**	**154**	T		T	00 57 34.4	

baz=333,slow=78,SNR=4.6

*BGR **27** 00:02:18.9±0.0,17.28N×174.71W,h33km*
*NEIC **27** 00:02:30.4±2.1,17.62N±0.08×174.61W±0.09, h137km±8km,mb4.5/24,Error ellipse: s-maj=12.1km s-min=11.2km az=109.0*
*IDC **27** 00:02:31.9±2.5,17.65S×174.72W,h152km±22km, mb3.8/10,mb1 4.1/11,mb1mx3.9/22,mbtmp4.3/11,Error ellipse: s-maj=23.8km s-min=13.1km az=128.0*

ISC 27 00:02:31.4±0.4,17°65S±0.06×174°55W±0.07,h150km, n110,σ0996/113,mb4.3/22,9C-15D,Tonga Islands

| Code | Station

CKRC	**Cesky Krumlov**	**148.08**	**349**	*e*PKP		**PKPbc**	**00 21 59.6**	**+0.3**
GERES	**GERESS Array B**	**148.16**	**350**	PKPbc		**PKPbc**	**00 21 59.7**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=29,slow=3.0,SNR=21							
CONA	**Conrad Observa**	**148.62**	**347**	*i* P		**PKPbc**	**00 22 01.7**	**+0.9**
	comp=Z,10nm,1.5s							
BZS	**Buzias**	**149.02**	**338**	⇑P		**PKPbc**	**00 22 01.5**	**-0.2**
ARSA	**Arzberg**	**149.33**	**346**	*e*P		**PKPbc**	**00 22 02.6**	**+0.1**
	comp=Z,2.6nm,0.9s							
HERR	**Herculane**	**149.35**	**336**	⇓P		**PKPbc**	**00 22 02.6**	**0.0**
MORH	**Mrgy, Hungar**	**149.48**	**342**	⇑P		**PKPbc**	**00 22 02.8**	**0.0**
UBR	**Ueberruh**	**149.80**	**354**	*e*PKPbc		**PKPbc**	**00 22 03.9**	**+0.2**
	baz=10,slow=2.9							
RETA	**Reutte**	**149.92**	**353**	*i* P		**PKPbc**	**00 22 04.3**	**+0.3**
	comp=Z,3.8nm,0.8s							
KBA	**Koelnbreinsper**	**149.93**	**349**	*i* P		**PKPbc**	**00 22 04.0**	**-0.2**
	comp=Z,2.7nm,0.5s							
WATA	**Walderalm**	**149.96**	**352**	*i* P		**PKPbc**	**00 22 04.3**	**+0.1**
	comp=Z,3.2nm,0.5s							
SOKA	**Soboth**	**149.98**	**347**	*i* P		**PKPbc**	**00 22 04.0**	**-0.2**
	comp=Z,4.5nm,1.0s							
MOTA	**Moosalm**	**150.02**	**352**	*e*P		**PKPbc**	**00 22 04.4**	**+0.1**
	comp=Z,8.7nm,1.0s							
WTTA	**Wattenberg**	**150.03**	**352**	*i* P		**PKPbc**	**00 22 04.7**	**+0.3**
	comp=Z,6.5nm,0.5s							
FRGS	**Fruska Gora**	**150.05**	**339**	⇑P		**PKPbc**	**00 22 04.3**	**-0.1**
SQTA	**Sankt Quirin**	**150.13**	**352**	*i* P		**PKPbc**	**00 22 05.0**	**+0.4**
	comp=Z,5.6nm,0.9s							
DAVA	**Damuels**	**150.22**	**354**	*i* P		**PKPbc**	**00 22 05.0**	**+0.1**
	comp=Z,7.7nm,0.9s							
OBKA	**Obir**	**150.25**	**347**	*i* P		**PKPbc**	**00 22 04.0**	**-0.8**
	comp=Z,8.2nm,1.8s							
FETA	**Feichten**	**150.38**	**353**	*i* P		**PKPbc**	**00 22 05.6**	**+0.4**
	comp=Z,8.0nm,1.1s							
ABTA	**Abfaltersbach**	**150.40**	**350**	*i* P		**PKPbc**	**00 22 04.9**	**-0.3**
	comp=Z,6.7nm,0.7s							
VTS	**Vitosha**	**150.86**	**332**	⇓P		**PKPbc**	**00 22 05.5**	**-1.0**
ESDC	**Sonseca Array**	**156.58**	**19**	PKPab		**PKPab**	**00 22 38.7**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=339,slow=2.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**174.25**	**140**	PKP		**PKPdf**	**00 22 22.6**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=335,slow=1.6,SNR=3.3							
TORD				PKPab		**PKPab**	**00 23 56.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=238,slow=4.9,SNR=3.2							

*BER **27** 00:26:46.9±1.1, 67.°17N×20.°57E, h1km, ML1.2, Confirmed Induced event*

HEL 27 00:26:46.0, 67.°18N×20.°71E, h1km, ML1.4, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.57**	**60**	*i* P		Pg	00 26 56.5	-0.4
MASU				*i* S		Sg	00 27 04.6	+0.2
RATU	**Laukkuluspa**	**0.78**	**327**	*i* P		Pg	00 26 59.4	-1.5
RATU				*i* S		Sg	00 27 09.7	-1.3
KUA	**Kurravaara**	**0.80**	**350**	*i* P		Pg	00 26 59.6	-1.6
KUA				*i* S		Sg	00 27 10.2	-1.3
SALU	**Saltoluokta**	**0.88**	**284**	*e*P		Pg	00 27 01.1	-1.7
SALU				*e*S		Sg	00 27 12.7	-1.5
NIKU	**Nikkaluokta**	**0.95**	**318**	*e*P		Pg	00 27 02.4	-1.7
NIKU				*e*S		Sg	00 27 14.9	-1.5
PAJU	**Pajala**	**0.95**	**98**	*e*P		Pg	00 27 02.9	-1.3
PAJU				*e*S		Sg	00 27 15.5	-1.0
LANU	**Lannavaara**	**1.00**	**29**	*e*P		Pg	00 27 03.7	-1.5
KLF	**Kolari**	**1.27**	**86**	*e*P		Pg	00 27 08.6	-1.7
KLF				*e*SB		Sg	00 27 26.0	-0.7
KLF				MSG			00 27 26.8	
	comp=Z,1.8nm,0.2s							
HEF	**Hetta**	**1.67**	**41**	*e*P		Pn	00 27 15.4	-1.0
HEF				*e*S		Sn	00 27 38.0	-0.5
HEF	**Hetta**	**1.67**	**41**	*e*P		Pn	00 27 15.6	-0.8
HEF				*e*SG		Sn	00 27 37.9	-0.6
HEF				MSG			00 27 40.4	
	comp=Z,1.8nm,0.1s							
TOF	**Tornio**	**1.81**	**126**	*e*P		Pn	00 27 18.1	-0.2
TOF				*e*SG		Sb	00 27 42.7	-0.5
TOF				MSG			00 27 45.3	
	comp=Z,3.4nm,0.2s							
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P		Pn	00 27 19.1	+0.5
KIF				*e*S		Sn	00 27 41.2	-1.3
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PN		Pn	00 27 19.1	+0.4
KIF				*e*SG		Sb	00 27 43.9	0.0
KIF				MSG			00 27 45.8	
	comp=Z,2.4nm,0.2s							
KTK1	**Kautokeino**	**2.07**	**26**	*e*P		Pn	00 27 21.7	-0.2
KTK1				*e*S		Sn	00 27 46.5	-1.9
KTK1				IAML			00 27 52.5	
	comp=Z,3.1nm,0.2s							
KTK1	**Kautokeino**	**2.07**	**26**	*e*PG		Pb	00 27 23.4	-1.0
KTK1				*e*SG		Sb	00 27 46.9	-0.7
FAUS	**Fauske**	**2.12**	**278**	*e*P		Pn	00 27 20.8	-1.7
FAUS				*e*S		Sn	00 27 45.9	-3.4
FAUS				IAML			00 27 52.5	
	comp=Z,3.8nm,0.2s							
RNF	**Rovaniemi**	**2.17**	**103**	*e*PB		Pn	00 27 23.6	+0.4
STEI	**Steigen**	**2.23**	**292**	*e*PG		Pn	00 27 24.8	+0.7
STEI				*e*SG		Sb	00 27 55.0	-0.1
SGF	**Sodankyl**	**2.27**	**81**	*e*PB		Pn	00 27 25.8	+1.1
SGF				*e*SG		Sb	00 27 55.9	-0.4
SGF				MSG			00 27 57.5	
	comp=Z,1.5nm,0.2s							
TRO	**Tromso**	**2.56**	**346**	*e*SG		Sb	00 28 04.4	0.0
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P		Pn	00 27 33.0	-1.1
ARA0				IAML			00 28 18.9	
	comp=Z,1.4nm,0.7s							

IDC 27 00:40:00.6±2.4, 34.°72S×53.°89E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, MS3.7/3, Ms1 3.7/3, ms1mx3.3/15, Error ellipse: s-maj=75.0km s-min=51.3km az=99.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Garcia H**	**31.91**	**37**	T		T	01 21 00.4	
	baz=209,slow=75,SNR=24							
H08S2	**Diego Garcia H**	**31.92**	**37**	T		T	01 20 56.2	
	baz=209,slow=75,SNR=13							
H08S3	**Diego Garcia H**	**31.93**	**37**	T		T	01 21 11.5	
	baz=209,slow=75,SNR=22							
MAW	**Mawson**	**33.33**	**174**	LR		LR	00 56 23.8	
	comp=Z,123nm,20.6s,baz=62,slow=30							
VNDA	**Vanda**	**60.12**	**166**	P		P	00 50 09.2	0.0
	0.3nm,0.5s,baz=349,slow=5.2,SNR=7.1							
VNDA				LR		LR	01 14 15.2	
	comp=Z,73nm,18.7s,baz=320,slow=34							
TORD	**Torodi Ar. Bea**	**68.67**	**304**	LR		LR	01 20 13.4	
	comp=Z,54nm,20.1s,baz=135,slow=35							
ASAR	**Alice Springs**	**69.07**	**105**	P		P	00 51 08.1	-0.5
	0.3nm,0.7s,baz=237,slow=5.5,SNR=4.2							
WRA	**Warramunga Arr**	**71.29**	**102**	P		P	00 51 22.9	+0.6
	0.5nm,0.9s,baz=234,slow=5.4,SNR=1.5							
ILAR	**Eielson Array**	**147.39**	**16**	PKPbc		PKPbc	00 59 44.6	-0.8
	0.4nm,0.6s,baz=337,slow=3.0,SNR=3.6							

*ANF **27** 00:56:42.8±0.4, 36.°80N×97.°69W, h5km, ML3.6/6, Error ellipse: s-maj=4.7km s-min=3.5km az=3.0*
*NEIC **27** 00:56:42.8±1.1, 36.°831N±0.°009×97.°69W±0.°02, h5km±7km, Error ellipse: s-maj=2.0km s-min=1.2km az=68.0*
*TUL **27** 00:56:43±1.6, 36.°85N±0.°02×97.°70W±0.°04, h7km±7km, ML3.2, mb_Lg2.9/65(NEIC), Error ellipse: s-maj=5.0km s-min=2.3km az=70.0*

ISC 27 00:56:42.8±1.1, 36.°83N±0.°02×97.°69W±0.°02, h4km±12km, n79, σ0°72/74, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAN17	**Caldwell West**	**0.23**	**345**			**Pg**	**00 56 47.1**	**-0.2**
KAN17				Sg		**Sg**	**00 56 50.1**	**-0.1**
KAN13	**South Haven SW**	**0.25**	**42**			**Pg**	**00 56 47.7**	**-0.1**
KAN13				Sg		**Sg**	**00 56 51.2**	**+0.2**
KAN09	**Caldwell North**	**0.32**	**10**			**Pg**	**00 56 48.7**	**-0.2**
KAN09				Sg		**Sg**	**00 56 53.1**	**0.0**
CROK	**Carrier**	**0.40**	**217**	Pg		**Pg**	**00 56 50.8**	**+0.3**
CROK				Sg		**Sg**	**00 56 56.7**	**+1.0**
KS20	**Mayfield South**	**0.42**	**15**	Pg		**Pg**	**00 56 50.5**	**-0.4**
KS20				Sg		**Sg**	**00 56 56.3**	**-0.1**
OK032	**Salt Plains WL**	**0.42**	**267**	Pg		**Pg**	**00 56 50.8**	**-0.1**
OK032				Sg		**Sg**	**00 56 56.6**	**+0.3**
KAN10	**Anthony SW Sta**	**0.44**	**313**			**Pg**	**00 56 51.2**	**-0.2**
KAN10				Sg		**Sg**	**00 56 57.0**	**0.0**
KAN08	**Anthony NE Sta**	**0.46**	**331**			**Pg**	**00 56 51.4**	**-0.3**
KAN08				Sg		**Sg**	**00 56 57.6**	**-0.1**
T35A	**Sooner Cattle**	**0.95**	**84**			**Pg**	**00 57 00.7**	**-0.4**
T35B	**Sooner Cattle**	**0.95**	**84**	P		**Pg**	**00 57 00.5**	**-0.5**
T35B	baz=265			S		**Sg**	**00 57 13.1**	**-0.2**
T35B	**Sooner Cattle**	**0.95**	**84**	P			00 57 00.5	
T35B	baz=265			S			00 57 13.1	
QUOK	**Quay**	**1.03**	**129**	Pg		**Pg**	**00 57 02.3**	**-0.2**
OK029	**Liberty Lake**	**1.04**	**169**	Pg		**Pg**	**00 57 02.9**	**+0.1**
OK029				Sg		**Sb**	**00 57 17.2**	**-0.4**
OK031	**S. Brethren Rd**	**1.11**	**141**			**Pg**	**00 57 03.8**	**-0.3**
U32A	**Winter Ranch,**	**1.15**	**248**			**Pg**	**00 57 04.5**	**-0.3**
U32A	**Winter Ranch,**	**1.15**	**248**	P		**Pg**	**00 57 04.3**	**-0.5**
U32A	baz=66			S		**Sg**	**00 57 19.4**	**-0.2**
U32A	**Winter Ranch,**	**1.15**	**248**	P			00 57 04.3	
U32A	baz=66			S			00 57 19.4	
OK030	**Cody Creek RV**	**1.16**	**140**			**Pg**	**00 57 04.7**	**-0.3**
BCOK	**Bluff Creek, N**	**1.17**	**177**			**Pg**	**00 57 04.8**	**-0.4**
BCOK				Sg		**Sb**	**00 57 21.1**	**-0.1**
OK005	**Luther M Schoo**	**1.23**	**161**			**Pg**	**00 57 06.3**	**-0.2**
OK025	**Westminster Rd**	**1.27**	**167**			**Pg**	**00 57 06.9**	**-0.3**
OK001	**Jones High Sch**	**1.30**	**165**	Pn		**Pn**	**00 57 07.3**	**-0.5**
OKCFA	**Oklahoma City**	**1.42**	**172**			**Pn**	**00 57 09.3**	**-0.2**
OKCFA	**Oklahoma City**	**1.42**	**172**	P		**Pn**	**00 57 09.3**	**-0.2**
OKCFA	baz=352			S		**Sg**	**00 57 29.1**	**+0.6**
OKCFA	**Oklahoma City**	**1.42**	**172**	P			00 57 09.3	
OKCFA	baz=352			S			00 57 29.1	
OKCSW	**OKLAHOMA CITY**	**1.43**	**172**			**Pn**	**00 57 09.6**	**0.0**
FNO	**Franklin**	**1.58**	**171**			**Pn**	**00 57 11.8**	**0.0**
TUL1	**Leonard**	**1.78**	**120**	P		**Pn**	**00 57 14.4**	**0.0**
TUL1	baz=302			S		**Sb**	**00 57 38.9**	**+0.1**
TUL1	**Leonard**	**1.78**	**120**	P			00 57 14.4	
TUL1	baz=302			S			00 57 38.9	
R32A	**Long Quarter,**	**1.79**	**333**	Pn		**Pn**	**00 57 15.2**	**+0.5**
R32A	**Long Quarter,**	**1.79**	**333**	P		**Pn**	**00 57 14.5**	**-0.1**
R32A	baz=153			S		**Sb**	**00 57 38.2**	**-0.8**
R32A	**Long Quarter,**	**1.79**	**333**	P			00 57 14.5	
R32A	baz=153			S			00 57 38.2	
X34A	**Smith Ranch, M**	**2.22**	**183**			**Pn**	**00 57 19.7**	**-0.8**
WMOK	**Wichita Mounta**	**2.26**	**203**			**Pn**	**00 57 21.0**	**-0.1**
WMOK	**Wichita Mounta**	**2.26**	**203**	P		**Pn**	**00 57 21.1**	**-0.1**
WMOK	baz=23 **Wichita Mounta**	**2.26**	**203**	P			00 57 21.1	
	baz=23							
KSU1	**Kansas State U**	**2.43**	**20**	Pn		**Pn**	**00 57 24.1**	**+0.7**
CBKS	**Cedar Bluff**	**2.56**	**321**	Pn		**Pn**	**00 57 27.0**	**+1.7**
CBKS	**Cedar Bluff**	**2.56**	**321**	S		**Sb**	**00 58 01.2**	**-0.2**
CBKS	baz=140 **Cedar Bluff**	**2.56**	**321**	S			00 58 01.2	
	baz=140							
U38A	**Gravette**	**2.69**	**97**			**Pn**	**00 57 28.5**	**+1.6**
LOOK	**Love County**	**2.86**	**171**			**Pn**	**00 57 28.8**	**-0.5**
X37A	**Clayton**	**2.92**	**139**			**Pn**	**00 57 30.5**	**+0.4**
X37A	comp=Z,42nm,0.8s			IAmb_Lg			00 58 22.5	
HHAR	**Hobbs**	**3.07**	**99**			**Pn**	**00 57 32.7**	**+0.5**
Z35A	**Perchaven, San**	**3.50**	**174**	Pn		**Pn**	**00 57 37.7**	**-0.5**
W39A	**Magazine**	**3.56**	**116**			**Pn**	**00 57 40.4**	**+1.5**
W39A	comp=Z,18nm,0.8s			IAmb_Lg			00 58 39.1	
S39A	**Bolivar**	**3.59**	**75**	Pn		**Pn**	**00 57 39.6**	**+0.3**
S39A	comp=Z,23nm,0.8s			IAmb_Lg			00 58 44.1	
AMTX	**Amarillo**	**3.78**	**240**			**Pn**	**00 57 41.8**	**-0.2**
AMTX	comp=Z,26nm,0.7s			IAmb_Lg			00 58 42.6	
U40A	**Yellville**	**3.92**	**95**	IAmb_Lg			00 58 46.2	
MIAR	comp=Z,24nm,0.8s **Mount Ida**	**4.05**	**123**	IAmb_Lg			00 58 54.2	
	comp=Z,31nm,0.8s							
P38A	**Dawn**	**4.30**	**48**	IAmb_Lg			00 58 57.7	
N35A	comp=Z,22nm,0.7s **Tabor**	**4.34**	**21**	Pn		**Pn**	**00 57 49.7**	**+0.1**
MGMO	**Mountain Grove**	**4.35**	**84**	Pn		**Pn**	**00 57 50.8**	**+0.9**
KSCO	**Kaye Shedlock'**	**4.47**	**301**	Pn		**Pn**	**00 57 51.7**	**+0.1**
KSCO	comp=Z,15nm,0.7s			IAmb_Lg			00 59 16.1	
ABTX	**Abilene, Hawle**	**4.49**	**202**			**Pn**	**00 57 50.4**	**-1.3**
R40A	**Maddies Statio**	**4.55**	**70**			**Pn**	**00 57 52.3**	**-0.2**
FCAR	**Ozark Folk Cen**	**4.59**	**100**	Pn		**Pn**	**00 57 54.0**	**+1.0**
FCAR	comp=Z,14nm,0.7s			IAmb_Lg			00 59 05.2	
X40A	**Basin Creek Fa**	**4.59**	**119**			**Pn**	**00 57 53.0**	**-0.1**
BGNE	**Belgrade**	**4.59**	**356**	Pn		**Pn**	**00 57 53.7**	**+0.6**
WHAR	**Wooly Hollow**	**4.64**	**108**			**Pn**	**00 57 54.9**	**+1.2**
WHAR	comp=Z,22nm,1.0s			IAmb_Lg			00 59 16.6	
WHTX	**Lake Whitney,**	**4.83**	**178**	Pn		**Pn**	**00 57 56.2**	**-0.2**
WLAR	**White Oak Lake**	**4.88**	**129**	Pn		**Pn**	**00 57 56.9**	**-0.2**
WLAR	comp=Z,12nm,0.7s			IAmb_Lg			00 59 30.4	
237A	**Washetta, Mont**	**5.06**	**162**	Pn		**Pn**	**00 57 59.5**	**0.0**
P40A	**Paris**	**5.20**	**57**	IAmb_Lg			00 59 27.1	
L34A	comp=Z,19nm,0.7s **Svendsen Farm,**	**5.24**	**11**	Pn		**Pn**	**00 58 04.4**	**+2.4**
N38A	**Joes South For**	**5.27**	**40**	Pn		**Pn**	**00 58 04.5**	**+2.0**
N38A	comp=Z,30nm,0.7s			IAmb_Lg			00 59 42.0	
CCM	**Cathedral Cave**	**5.27**	**75**	IAmb_Lg			00 59 34.8	
LCAR	comp=Z,22nm,0.8s **Lake Charles**	**5.32**	**96**	Pn		**Pn**	**00 58 04.7**	**+1.6**
LCAR	comp=Z,11nm,0.8s			IAmb_Lg			00 59 36.8	
OGNE	**Ogallala**	**5.33**	**322**	Pn		**Pn**	**00 58 03.8**	**+0.5**
OGNE	comp=Z,16nm,0.8s			IAmb_Lg			00 59 38.3	
PBMO	**Poplar Bluff**	**5.83**	**88**	IAmb_Lg			00 59 58.1	
435B	comp=Z,22nm,0.8s **Jarrell**	**6.03**	**179**	IAmb_Lg			01 00 05.2	
SCIA	comp=Z,24nm,1.1s **State Center**	**6.14**	**33**	IAmb_Lg			01 00 06.8	
SLM	comp=Z,21nm,0.8s **Saint Louis**	**6.18**	**71**	IAmb_Lg			01 00 03.5	
JCT	comp=Z,24nm,0.8s **Junction City**	**6.57**	**196**	IAmb_Lg			01 00 15.1	
S44A	comp=Z,20nm,1.2s **Carbondale**	**6.78**	**80**	IAmb_Lg			01 00 16.1	
SIUC	comp=Z,20nm,0.9s **Southern Illin**	**6.81**	**80**	IAmb_Lg			01 00 15.5	
K38A	comp=Z,19nm,1.1s **Parkersburg**	**6.94**	**32**	IAmb_Lg			01 00 35.4	
ECSD	comp=Z,15nm,0.7s **EROS Data Cent**	**6.95**	**6**	Pn		**Pn**	**00 58 23.9**	**-1.6**
L40A	**Anamosa**	**7.24**	**42**	Pn		**Pn**	**00 58 28.9**	**-0.6**
L40A	comp=Z,15nm,0.8s			IAmb_Lg			01 00 35.1	
T45A	**Paducah**	**7.25**	**86**	IAmb_Lg			01 00 51.9	
PHWY	comp=Z,17nm,0.7s **Pilot Hill**	**7.51**	**309**	IAmb_Lg			01 00 51.5	
L42A	comp=Z,8.6nm,1.1s **Oliver, Polo**	**8.08**	**48**	IAmb_Lg			01 01 09.7	
JFWS	comp=Z,16nm,0.7s **Jewell Farm**	**8.35**	**41**	IAmb_Lg			01 01 14.8	
I40A	comp=Z,14nm,0.7s **Norwalk**	**8.88**	**35**	IAmb_Lg			01 01 25.7	
K22A	comp=Z,7.3nm,0.8s **Casper**	**8.95**	**313**	IAmb_Lg			01 01 42.4	
X48A	comp=Z,15nm,1.1s **Hartselle**	**8.98**	**102**	IAmb_Lg			01 01 54.5	
	comp=Z,8.4nm,1.3s							

*ISK **27** 01:12:16.7, 38.°68N×44.°25E, h4km, ML2.6/10*
*DDA **27** 01:12:17.6, 38.°68N×44.°24E, h7km±2km, ML2.3*

ISC 27 01:12:17.1±1.5, 38.°68N±0.°03×44.°28E±0.°05, h4km±11km, n19, σ0°90/28, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.22**	**265**	*i* P		**Pg**	**01 12 22.3**	**+0.8**
OZAP				*i* S		**Sg**	**01 12 25.3**	**+0.9**
OZAP				IAML			01 12 26.0	
	comp=N,2μm,0.5s							
OZAP				IAML			01 12 26.0	
	comp=E,4μm,0.5s							
CLDR	**Caldiran**	**0.54**	**329**	*i* P		**Pg**	**01 12 27.5**	**0.0**
CLDR				*i* S		**Sb**	**01 12 35.8**	**-1.9**
CLDR				IAML			01 12 38.0	
	comp=E,228nm,0.3s							
CLDR				IAML			01 12 41.0	
	comp=N,230nm,0.3s							
CLDR	**Caldiran**	**0.54**	**329**	PG		**Pg**	**01 12 27.5**	**0.0**
CLDR				SG		**Sg**	**01 12 35.6**	**+1.0**
VMUR	**Van-Muradiye**	**0.63**	**300**	*i* P		**Pb**	**01 12 30.0**	**-0.8**
VMUR				*i* S		**Sb**	**01 12 40.0**	**-0.2**
VMUR				IAML			01 12 42.0	
	comp=E,173nm,0.3s							
VMUR				IAML			01 12 44.0	
	comp=N,184nm,0.6s							
BASK	**Baskale_VAN**	**0.66**	**199**	*i* P		**Pb**	**01 12 30.7**	**-0.7**
BASK				*i* S		**Sb**	**01 12 40.5**	**-0.5**
BASK				IAML			01 12 43.0	
	comp=E,330nm,0.4s							
BASK				IAML			01 12 46.0	
	comp=N,223nm,0.3s							
TVAN	**Van**	**0.70**	**258**	*i* P		**Pg**	**01 12 30.6**	**0.0**
TVAN				IAML			01 12 57.0	
	comp=N,181nm,0.5s							
TVAN				IAML			01 12 58.0	
	comp=E,163nm,0.6s							
VANB	**Van**	**0.70**	**263**	PG		**Pg**	**01 12 30.7**	**+0.1**
GEVA	**Gevas**	**1.02**	**249**	*i* P		**Pg**	**01 12 35.7**	**-1.1**
GEVA				*i* S		**Sb**	**01 12 50.8**	**-0.6**
GEVA				IAML			01 12 53.0	
	comp=E,97nm,0.2s							
GEVA				IAML			01 12 54.0	
	comp=N,80nm,0.4s							
AKDM	**Akdamar-Van**	**1.07**	**251**	PG		**Pg**	**01 12 36.8**	**-1.0**
YOVA	**Hakkari_Yksek**	**1.09**	**179**	*i* P		**Pn**	**01 12 39.8**	**+0.3**
YOVA				IAML			01 12 57.0	
	comp=N,28nm,0.5s							
YOVA				*i* S		**Sn**	**01 12 57.3**	**+2.2**
YOVA				IAML			01 13 03.0	
	comp=E,46nm,0.9s							
HAKT	**HAKKARI**	**1.21**	**202**	*i* P		**Pg**	**01 12 39.7**	**-0.6**
HAKT				*i* S		**Sn**	**01 12 58.1**	**+0.1**
HAKT				IAML			01 13 01.0	
	comp=N,32nm,0.5s							
HAKT				IAML			01 13 06.0	
	comp=E,20nm,0.3s							
ADCV	**BITLIS_Adilcev**	**1.22**	**276**	*i* P		**Pn**	**01 12 40.8**	**-0.4**
ADCV				*i* S		**Sn**	**01 13 00.2**	**+1.9**
ADCV				IAML			01 13 01.0	
	comp=E,60nm,0.5s							
ADCV				IAML			01 13 01.0	
	comp=N,282nm,0.4s							
TASB	**TASBURUN-IGDIR**	**1.30**	**359**	PN		**Pn**	**01 12 42.0**	**-0.2**
AGRB	**Hanur-Agry**	**1.34**	**312**	PN		**Pb**	**01 12 42.6**	**-0.4**
MLAZ	**Malazgirt-MUS**	**1.42**	**289**	PN		**Pn**	**01 12 43.6**	**-0.4**
GNI	**Garni**	**1.51**	**14**	PN		**Pb**	**01 12 45.7**	**-0.2**
CUKT	**Cukurca**	**1.52**	**200**	PN		**Pn**	**01 12 45.3**	**0.0**
GURO	**Guroymak-BITLI**	**1.76**	**266**	PN		**Pn**	**01 12 48.6**	**0.0**
SIRT	**Sirnak**	**1.87**	**231**	PN		**Pn**	**01 12 50.2**	**+0.2**

KRSC 27 01:15:51.1±2.1, 50.°36N×157.°01E, h48km±19km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.66**	**300**	*i* P		Pn	01 16 04.6	+0.4
SKR				*e*S		Sn	01 16 13.6	0.0
ALID	**Alaid**	**1.06**	**299**	*e*P		Pn	01 16 09.9	+0.2
PAU	**Pauzhetka**	**1.12**	**354**	*e*P		Pn	01 16 12.3	+1.9
PAU				*e*S		Sn	01 16 26.9	+2.3
KDTR	**Khodutka, Kamc**	**1.60**	**24**	*e*P		Pn	01 16 19.3	+2.4
KDTR				*e*S		Sn	01 16 39.2	+2.8
MIPR	**Malaya Ipel'ka**	**1.93**	**355**	*e*P		Pn	01 16 23.3	+1.9
MTVR	**Mutnovka**	**2.25**	**19**	*e*P		Pn	01 16 29.0	+3.0
MTVR				*e*S		Sn	01 16 56.1	+3.5
RUS	**Russkaya**	**2.28**	**24**	*e*P		Pn	01 16 28.4	+2.2
RUS				*e*S		Sn	01 16 55.5	+2.4
GRL	**Gorelyy**	**2.30**	**16**	*e*P		Pn	01 16 29.5	+2.9
GRL				*e*S		Sn	01 16 57.1	+3.4
KRMR	**Karymshinskiy**	**2.57**	**15**	*e*P		Pn	01 16 33.7	+3.5
APC	**Apacha**	**2.58**	**2**	*e*P		Pn	01 16 35.1	+4.9
PET	**Petropavlovsk**	**2.86**	**20**	*e*P		Pn	01 16 37.7	+3.6
PET				*e*S		Sn	01 17 11.4	+4.1
DALK	**Dalny**	**2.89**	**21**	*e*P		Pn	01 16 37.7	+3.2
DALK				*e*S		Sn	01 17 11.9	+3.9
UGLR	**Uglovaya**	**3.07**	**21**	*e*P		Pn	01 16 41.3	+4.1
AVH	**Avacha**	**3.10**	**20**	*e*P		Pn	01 16 42.1	+4.5
KOK	**Koryaka**	**3.11**	**18**	*e*P		Pn	01 16 42.1	+4.4
SMAR	**Somma**	**3.12**	**20**	*e*P		Pn	01 16 42.1	+4.2
KRER	**Koryakskii**	**3.14**	**19**	*e*P		Pn	01 16 42.6	+4.4
SDLR	**Sedlovina**	**3.15**	**21**	P		Pn	01 16 41.8	+3.6
NLC	**Nalytchevo**	**3.17**	**26**	S		Sn	01 17 16.7	+1.8
KRX	**Arik**	**3.17**	**18**	*e*P

NOA NORSAR Array B 75.23 337 P **P** **01 41 59.8 -0.2**
0.3nm,0.6s,baz=39,slow=5.7,SNR=3.6

MOS ***27*** *01:35:42.0±0.9,53.57N×163.81W,h24km,mb5.2/71, MS4.7/18,Error ellipse: s-maj=9.4km s-min=4.5km az=97.4*

BJI ***27*** *01:35:42.0±0.0,53.87N×164.37W,h6km,mB5.2/38, mb5.1/58,Ms5.1/37,Ms7 4.8/36*

NEIC ***27*** *01:35:42.3±1.6,53.54N±0.05×163.72W±0.06,h15km±3km, mb5.0/231,ML4.4/59(AEIC),Error ellipse: s-maj=8.3km s-min=4.9km az=161.0*

IDC ***27*** *01:35:43.2±2.6,53.63N×163.82W,h22km±15km,mb4.4/44, mb1 4.5/47,mb1mx4.5/61,mbtmp4.5/47,ML4.1/3,MS4.4/26, Ms1 4.4/26,ms1mx4.3/37,Error ellipse: s-maj=14.9km s-min=8.7km az=178.0*

AEIC ***27*** *01:35:43.7±2.9,53.48N±0.06×163.74W±0.07,h44km±5km, Error ellipse: s-maj=8.9km s-min=6.0km az=164.0*

GCMT ***27*** *01:35:46.3±0.2,53.46N±0.02×163.62W±0.02,h19km, MW5.1/97,Moment Tensor Solution. s66,c100; s97,c158; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.41±.14; Mθθ-2.34±.10; Mϕϕ-1.07±.10; Mrθ3.55±.25; Mθϕ-2.24±.07; Mϕr1.50±.20; Best double couple: M0 5.36900×10^16 NP1:ϕs219.00000°,δ24.00000°, λ67.00000°. NP2:ϕs64.00000°,δ68.00000°,λ99.00000°. Principal axes: T 5.1310, Plg65.0000°, Azm350.0000°; N 0.4750, Plg9.0000°, Azm240.0000°; P -5.6070, Plg23.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***27*** *01:35:52.5±0.0,54.55N×164.26W,h36km,mb5.2,Ms4.3*

ISC 27 01:35:42.4±0.7,53.49N±0.04×163.73W±0.03,h20km±3km, n688,σ1ş45/665,mb5.0/273,MS4.7/62,70C-35D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.11**	**333**				**Pg**	**01 36 03.5**	**-0.5**
BRPK	**Brown Peak**	**1.16**	**360**				**Pb**	**01 36 03.8**	**+0.1**
WESP	**Westdahl Peak**	**1.17**	**330**				**Pb**	**01 36 04.0**	**+0.1**
WECS	**Westdahl Cape**	**1.21**	**330**				**Pb**	**01 36 05.0**	**+0.3**
SSLS	**Shishaldin Sou**	**1.24**	**353**				**Pb**	**01 36 05.2**	**0.0**
SSBA	**Shishaldin**	**1.31**	**350**				**Pb**	**01 36 06.2**	**-0.1**
SSBA							**Sn**	**01 36 22.4**	**-0.1**
SSLN	**Shishaldin Nor**	**1.33**	**353**				**Pb**	**01 36 07.0**	**+0.2**
AKSA	**Akutan Strait**	**1.34**	**300**				**Pn**	**01 36 06.2**	**+0.3**
AKSA							**Sn**	**01 36 22.2**	**-0.9**
AKUT	**Akutan**	**1.37**	**299**	Pn			**Pb**	**01 36 06.9**	**-0.5**
AKUT				Sn			**Sb**	**01 36 24.8**	**+0.3**
FALS	**False Pass**	**1.38**	**7**	Pn			**Pb**	**01 36 07.1**	**-0.5**
FALS				Sn			**Sn**	**01 36 23.1**	**-1.2**
FALS	**False Pass** baz=188,SNR=152	**1.38**	**7**	P				01 36 07.2	
FALS	baz=188			S				01 36 25.7	
AKBBA	**Akutan Broad B**	**1.44**	**296**				**Pn**	**01 36 07.9**	**+0.5**
HSB	**Akutan Spr's B**	**1.47**	**299**				**Pn**	**01 36 08.3**	**+0.5**
AKLV	**Akutan Long Va**	**1.48**	**298**				**Pn**	**01 36 08.4**	**+0.4**
AKLV							**Sb**	**01 36 27.7**	**0.0**
AKMO	**Akutan Morgan**	**1.48**	**295**				**Pb**	**01 36 08.6**	**-0.6**
AKGG	**Akutan Green G**	**1.52**	**299**				**Pn**	**01 36 09.1**	**+0.6**
AKRB	**Akutan Reef Bi**	**1.53**	**296**				**Pb**	**01 36 09.4**	**-0.7**
MNAT	**Makushin Natee**	**1.80**	**284**				**Pn**	**01 36 12.7**	**+0.3**
MTBL	**Makushin Table**	**1.82**	**287**				**Pn**	**01 36 13.3**	**+0.7**
DT1	**Dutton Round H**	**1.83**	**27**				**Pn**	**01 36 13.2**	**+0.5**
MSW	**Makushin Switc**	**1.87**	**284**				**Pn**	**01 36 13.7**	**+0.5**
MGOD	**Makushin Gods**	**1.90**	**281**				**Pn**	**01 36 14.2**	**+0.5**
MAPS	**Pakushin South**	**1.94**	**281**				**Pn**	**01 36 14.7**	**+0.5**
HAG	**Hague Volcano**	**2.12**	**29**	P			**Pn**	**01 36 18.2**	**+1.5**
HAG	**Hague Volcano**	**2.12**	**29**				**Pn**	**01 36 18.2**	**+1.5**
PS4A	**Pavlof South-4**	**2.16**	**30**				**Pn**	**01 36 18.6**	**+1.4**
PVV	**Pavlof Volcano**	**2.20**	**30**				**Pn**	**01 36 19.3**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**2.58**	**269**				**Pn**	**01 36 23.9**	**+0.8**
OKSO	**Okmok South**	**2.66**	**269**				**Pn**	**01 36 24.8**	**+0.7**
SDPT	**Sand Point**	**2.66**	**44**				**Pn**	**01 36 24.9**	**+0.7**
SDPT							**Sn**	**01 36 55.3**	**-0.5**
SDPT	**Sand Point** baz=228,SNR=48	**2.66**	**44**	P				01 36 24.8	
OKSP	**Okmok Steeple**	**2.74**	**267**				**Pn**	**01 36 25.9**	**+0.6**
CNBA	**Chernabura Isl**	**2.77**	**60**	Pn			**Pn**	**01 36 25.5**	**-0.1**
CHNA	**Chernabura Isl** baz=244,SNR=12	**2.78**	**59**	P				01 36 25.6	
CHNA	baz=244			S				01 36 57.1	
NIKH	**Nikolski High**	**3.12**	**263**	Pn			**Pn**	**01 36 30.9**	**+0.4**
NIKH	**Nikolski High** baz=78,SNR=11	**3.12**	**263**	P				01 36 30.6	
NIKH	baz=78			S				01 37 06.3	
VNFG	**Fog Glacier, M**	**3.70**	**39**				**Pn**	**01 36 40.3**	**+1.8**
VNSG	**Veniaminof 6**	**3.77**	**44**				**Pn**	**01 36 41.1**	**+1.7**
VNHG	**Veniaminof 1**	**3.80**	**42**				**Pn**	**01 36 41.6**	**+1.7**
SPIA	**Saint Paul Isl**	**5.24**	**317**	Pn			**Pn**	**01 37 02.0**	**+2.4**
SPIA	**Saint Paul Isl** baz=132	**5.24**	**317**	P				01 37 01.8	
KOFP	**Korovin Flat P**	**6.39**	**263**				**Pn**	**01 37 17.9**	**+2.4**
ATKA	**Atka Island**	**6.47**	**263**	Pn			**Pn**	**01 37 17.8**	**+1.4**
ANCK	**Angle Creek**	**6.61**	**41**				**Pn**	**01 37 20.4**	**+2.0**
KABU	**Katmai Buttres**	**6.75**	**41**				**Pn**	**01 37 21.5**	**+1.2**
KABR	**Katmai Barrier**	**6.78**	**43**				**Pn**	**01 37 22.5**	**+1.7**
KVTA	**Katmai Vly 10**	**6.81**	**41**				**Pn**	**01 37 23.5**	**+2.3**
OHAK	**Old Harbor**	**7.03**	**54**	Pn			**Pn**	**01 37 22.8**	**-1.3**
OHAK	**Old Harbor** baz=242	**7.03**	**54**	P				01 37 22.9	
GSTR	**Great Sitkin T**	**7.61**	**264**	Pn			**Pn**	**01 37 34.5**	**+2.5**
GSMY	**Great Sitkin M**	**7.62**	**264**				**Pn**	**01 37 34.4**	**+2.2**
KDAK	**Kodiak Island** 7.7nm,0.3s,baz=221,slow=6.7,SNR=56	**7.63**	**51**	Pn			**Pn**	**01 37 31.3**	**-1.0**
KDAK	2.8nm,0.3s,baz=11,slow=22,SNR=5.9			Sn			**Sn**	**01 38 50.5**	**-7.6**
KDAK	2.0nm,0.3s,baz=188,slow=23,SNR=1.8			Lg			Lg	01 39 24.2	
KDAK	**Kodiak Island**	**7.63**	**51**	P			**Pn**	**01 37 31.5**	**-0.8**
KDAK	**Kodiak Island**	**7.63**	**51**	Pn			**Pn**	**01 37 31.5**	**-0.8**
KDAK	**Kodiak Island** baz=241	**7.63**	**51**	P				01 37 31.1	
GSTD	**Great Sitkin T**	**7.67**	**264**				**Pn**	**01 37 35.0**	**+2.0**
ADK	**Adak**	**8.04**	**264**	P			**Pn**	**01 37 39.3**	**+1.4**
ADK	**Adak**	**8.04**	**264**	Pn			**Pn**	**01 37 39.3**	**+1.4**
KIWB	**Kanaga Island**	**8.32**	**264**				**Pn**	**01 37 43.4**	**+1.4**
KIKV	**Kanaga Island**	**8.33**	**264**				**Pn**	**01 37 43.4**	**+1.4**
N18K	**Kilae Creek**	**8.37**	**27**				**Pn**	**01 37 43.3**	**+0.8**
N18K	**Kilae Creek** baz=214,SNR=10	**8.37**	**27**	P				01 37 43.3	
KIMD	**Kanaga Island**	**8.40**	**264**				**Pn**	**01 37 44.3**	**+1.4**
O19K	**Port Ailsworth** baz=222	**8.46**	**34**	P				01 37 45.6	
SVW2	**Sparrevohn**	**8.80**	**27**				**Pn**	**01 37 49.9**	**+1.4**
TAFP	**Tanaga Falls P**	**8.81**	**265**				**Pn**	**01 37 51.1**	**+2.6**
TASE	**Tanaga Southea**	**8.86**	**265**				**Pn**	**01 37 51.8**	**+2.6**
N19K	**Bonanza Creek**	**8.89**	**31**				**Pn**	**01 37 51.9**	**+2.2**
N19K	**Bonanza Creek** baz=218,SNR=16	**8.89**	**31**	P				01 37 51.4	
CNPM	**China Poot**	**9.17**	**44**	Pn			**Pn**	**01 37 53.6**	**+0.1**
RSO	**Redoubt South**	**9.20**	**36**				**Pn**	**01 37 53.6**	**-0.4**
BRLK	**Bradley Lake**	**9.46**	**43**	Pn			**Pn**	**01 37 56.5**	**-0.8**
BRSE	**Bradley Lake S** baz=235	**9.50**	**44**	P				01 37 56.5	
SPCR	**Spurr Chakacha** baz=224	**9.91**	**34**	P				01 38 03.1	
SPU	**Mount Spurr**	**9.95**	**35**				**Pn**	**01 38 05.5**	**+1.4**
SPCP	**Crater Peak Br**	**9.98**	**34**				**Pn**	**01 38 07.0**	**+2.4**
SPCG	**Spurr Capps Gl**	**10.04**	**34**				**Pn**	**01 38 07.4**	**+1.9**
SEW	**Seward**	**10.24**	**44**				**Pn**	**01 38 07.5**	**-0.6**
SEW	**Seward** baz=236	**10.24**	**44**	P				01 38 07.2	
TTA	**Tatalina**	**10.30**	**20**	P			**Pn**	**01 38 09.7**	**+0.8**
TTA	**Tatalina**	**10.30**	**20**	Pn			**Pn**	**01 38 09.7**	**+0.8**
TTA	**Tatalina** baz=207,SNR=7.4	**10.30**	**20**	P				01 38 09.5	
O22K	**Cooper Landing** baz=234	**10.35**	**42**	P				01 38 09.8	
AMKA	**Amchitka**	**10.58**	**265**				**Pn**	**01 38 12.9**	**+0.2**
SUA	**Susitna One**	**10.60**	**36**				**Pn**	**01 38 12.8**	**-0.2**
SUA	**Susitna One** baz=227,SNR=8.1	**10.60**	**36**	P				01 38 13.4	
SKT	**Skwentna**	**10.70**	**32**				**Pn**	**01 38 15.3**	**+0.9**
SKT	**Skwentna** baz=223,SNR=15	**10.70**	**32**	P				01 38 14.9	
RC01	**Rabbit Creek A**	**10.72**	**39**	Pn			**Pn**	**01 38 14.0**	**-0.6**
RC01	**Rabbit Creek A** baz=231	**10.72**	**39**	P				01 38 14.3	
ANM	**Nome**	**11.14**	**356**	P			**Pn**	**01 38 22.3**	**+1.9**
ANM	**Nome**	**11.14**	**356**	Pn			**Pn**	**01 38 22.3**	**+1.9**
ANM	**Nome** baz=175	**11.14**	**356**	P				01 38 22.2	
PPLA	**Purkeypile** baz=218,SNR=12	**11.20**	**28**	P				01 38 23.2	
KNK	**Knik Glacier** baz=233	**11.41**	**40**	P				01 38 22.9	
CUT	**Chulitna**	**11.42**	**33**				**Pn**	**01 38 23.8**	**-0.4**
CUT	**Chulitna** baz=225	**11.42**	**33**	P				01 38 22.8	
GLI	**Glacier Island** baz=238	**11.64**	**44**	P				01 38 26.1	
HIN	**Hinchinbrook I**	**11.65**	**47**				**Pn**	**01 38 26.4**	**-1.0**
SML	**Sawmill** baz=232,SNR=6.6	**11.70**	**38**	P				01 38 25.5	
EYAK	**Cordova Ski Ar**	**12.05**	**47**				**Pn**	**01 38 31.4**	**-1.4**
EYAK	**Cordova Ski Ar** baz=242	**12.05**	**47**	P				01 38 30.0	
KTH	**Kantishna Hill**	**12.08**	**28**				**Pn**	**01 38 34.1**	**+0.9**
TRF	**Thorofare Moun** baz=221	**12.18**	**30**	P				01 38 34.5	
WAT1	**Susitna Watana** baz=227	**12.29**	**34**	P				01 38 34.1	
TNA	**Tin City**	**12.29**	**352**	Pn			**Pn**	**01 38 38.6**	**+2.5**
WAT6	**Susitna Watana** baz=230,SNR=10.0	**12.40**	**36**	P				01 38 35.1	
KLU	**Klutina** baz=238,SNR=30	**12.45**	**43**	P				01 38 36.5	
BPAW	**Bear Paw Mtn.**	**12.49**	**27**				**Pn**	**01 38 40.1**	**+1.3**
BPAW	**Bear Paw Mtn.** baz=218,SNR=25	**12.49**	**27**	P				01 38 39.6	
M24K	**Tolsona, Glenn** baz=235	**12.69**	**40**	P				01 38 40.4	
BMRM	**Bremner River**	**12.74**	**46**				**Pn**	**01 38 40.8**	**-1.6**
BMRM	**Bremner River** baz=243	**12.74**	**46**	P				01 38 40.4	
MCK	**McKinley**	**12.80**	**31**	P			**Pn**	**01 38 42.3**	**-0.8**
MCK	**McKinley**	**12.80**	**31**				**Pn**	**01 38 42.2**	**-0.8**
MCK	**McKinley** baz=224	**12.80**	**31**	P				01 38 44.5	
N25K	**Chitina, Valde**	**13.05**	**44**				**Pn**	**01 38 45.6**	**-1.0**
N25K	**Chitina, Valde** baz=240,SNR=8.0	**13.06**	**44**	P				01 38 44.8	
I21K	**Tanana** baz=212,SNR=46	**13.13**	**22**	P				01 38 48.4	
HARP	**HAARP** baz=236	**13.25**	**40**	P				01 38 48.3	
MLY	**Manley** baz=216,SNR=50	**13.30**	**24**	P				01 38 50.6	
CRQE	**Cirque** baz=246	**13.32**	**49**	P				01 38 48.9	
H21K	**Melozitna Rive** baz=209	**13.37**	**20**	P				01 38 51.4	
NEA2	**Nenana**	**13.40**	**28**				**Pn**	**01 38 51.3**	**+0.1**
NEA2	**Nenana** baz=221	**13.40**	**28**	P				01 38 51.2	
ISLE	**Juniper Island**	**13.60**	**50**				**Pn**	**01 38 53.4**	**-0.7**
MCARA	**McCarthy VSAT** baz=244	**13.62**	**46**	P				01 38 52.6	
MESA	**MESA**	**13.63**	**52**	Pn			**Pn**	**01 38 54.6**	**+0.1**
MESA	**MESA** baz=250	**13.63**	**52**	P				01 38 54.2	
I23K	**Minto, Yukon-K** baz=219,SNR=14	**13.75**	**26**	P				01 38 55.0	
HDA	**Harding Lake** baz=226	**13.90**	**31**	P				01 38 56.4	
HDA	baz=226			P				01 38 56.4	
TCOL	**CIGO, UAF Yank** baz=223	**13.96**	**29**	P				01 38 58.8	
COLA	**College**	**13.96**	**29**	*i* P			**Pn**	**01 38 58.9**	**+0.1**
COLA	**College**	**13.96**	**29**	Pn			**Pn**	**01 38 58.4**	**-0.4**
COLA	**College** baz=223	**13.96**	**29**	P				01 38 58.6	
MENT	**Mentasta**	**14.10**	**40**				**Pn**	**01 38 59.4**	**-1.5**
ILAR	**Eielson Array** 0.4nm,0.3s,baz=222,slow=11,SNR=12	**14.17**	**30**	Pn			**Pn**	**01 38 58.4**	**-3.3**
ILAR	baz=233,slow=6.2,SNR=1.0			Sn			**Sn**	**01 41 30.8**	**-7.4**
ILAR	baz=221,slow=26,SNR=1.1			Lg			Lg	01 42 59.5	
ILAR	comp=Z,2μm,21.7s,baz=235,slow=39			LR			LR	01 44 52.7	
ILAR	**Eielson Array**	**14.17**	**30**	P			**Pn**	**01 39 00.5**	**-1.2**
ILAR	**Eielson Array**	**14.17**	**30**				**Pn**	**01 39 00.5**	**-1.2**
CTG	**Chitna Glacier** baz=248	**14.19**	**49**	P				01 39 00.4	
H23K	**Yuon River** baz=217,SNR=33	**14.24**	**24**	P				01 39 02.3	
POKR	**Poker Plat Res** baz=223	**14.26**	**29**	P				01 39 00.0	
PCA	**Pinnacle**	**14.41**	**53**				**Pn**	**01 39 05.4**	**+0.3**
PINM	**Pinnacle** baz=253	**14.41**	**53**	P				01 39 04.8	
SCRK	**Sand Creek** baz=233,SNR=21	**14.60**	**36**	P				01 39 04.8	
RDOG	**Red Dog Mine**	**14.62**	**1**				**Pn**	**01 39 08.6**	**+0.7**
RDOG	**Red Dog Mine** baz=182	**14.62**	**1**	P				01 39 06.2	
H24K	**Noodor Dome** baz=220,SNR=9.4	**14.68**	**26**	P				01 39 06.2	
L27K	**Beaver Creek,**	**14.90**	**41**				**Pn**	**01 39 09.7**	**-2.1**
L27K	**Beaver Creek,** baz=240,SNR=16	**14.91**	**41**	P				01 39 08.7	
BCAR	**Beaver Creek A**	**14.92**	**41**				**Pn**	**01 39 09.4**	**-2.6**
PRP	**Porcupine Dome**	**15.11**	**30**				**Pn**	**01 39 14.1**	**-0.5**
PRP	**Porcupine Dome** baz=226,SNR=5.4	**15.11**	**30**	P				01 39 13.4	
COLD	**Coldfoot** comp=Z,82nm,1.2s	**15.26**	**20**	IAmb		IAmb		01 39 22.0	
COLD	**Coldfoot** baz=212,SNR=74	**15.26**	**20**	P				01 39 16.4	
K27K	**Chicken** baz=237	**15.32**	**38**	P				01 39 15.3	
HYT	**Haines Junctio**	**15.92**	**52**				**Pn**	**01 39 26.1**	**+1.0**
HYT	comp=Z,86nm,1.3s			IAmb		IAmb		01 39 45.2	
EGAK	**Eagle** baz=236,SNR=12	**16.07**	**36**	P				01 39 25.0	
DAWY	**Dawson**	**16.35**	**40**				**Pn**	**01 39 29.0**	**-1.5**
TOLK	**Toolik Lake Re** comp=Z,142nm,1.4s	**16.59**	**18**	IAmb		IAmb		01 39 49.3	
TOLK	**Toolik Lake Re** baz=211,SNR=16	**16.60**	**18**	P				01 39 33.8	
SKAG	**Skagway**	**16.70**	**58**				**Pn**	**01 39 35.5**	**+0.6**
SKAG	**Skagway** baz=262	**16.70**	**58**	P				01 39 34.7	
BMAR	**Burnt Mountain**	**16.75**	**26**				**Pn**	**01 39 31.5**	**-4.0**
BESE	**Bessie Mountai**	**16.84**	**61**				**Pn**	**01 39 37.3**	**+0.5**
WHY	**Whitehorse**	**17.13**	**54**				**Pn**	**01 39 40.6**	**+0.1**
WHY	**Whitehorse** baz=258,SNR=17	**17.14**	**54**	P				01 39 40.8	
A21K	**Barrow**	**18.17**	**7**	P			**Pn**	**01 39 51.8**	**-1.3**
WRAK	**Wrangell Islan** baz=274	**18.17**	**68**	P				01 39 52.2	
A21K	**Barrow** baz=194	**18.18**	**7**	P				01 39 51.3	
EPYK	**Eagle Plains** comp=Z,80nm,1.2s	**18.49**	**35**	IAmb		IAmb		01 40 01.7	
EPYK	**Eagle Plains** baz=239,SNR=20	**18.49**	**35**	P				01 39 55.2	
DLBC	**Dease Lake** comp=Z,0.3nm,0.3s,baz=252,slow=9.2,SNR=13	**19.36**	**62**	P			**P**	**01 40 06.7**	**+0.1**
DLBC	comp=Z,246nm,21.8s,baz=287,slow=31			LR			LR	01 45 41.7	
DLBC	**Dease Lake**	**19.36**	**62**	P			**Pn**	**01 40 08.1**	**+0.3**
BILL	**Bilibino**	**20.35**	**327**	*d* P			**P**	**01 40 17.5**	**+0.3**
BILL				*e*				01 40 29.6	
BILL				*e*	PPP		PPP	01 40 46.6	
BILL					SSS		SSS	01 44 39.0	
BILL	comp=Z,101nm,1.7s				pmax		pmax		
BILL	comp=Z,4μm,16.0s				MLR		MLR		
BILL	**Bilibino**	**20.35**	**327**		P		**P**	**01 40 17.0**	**-0.1**
BILL	comp=Z,63nm,1.1s				IAmb		IAmb	01 40 22.1	
INK	**Inuvik** comp=Z,8.1nm,0.4s,baz=191,slow=11,SNR=45	**20.55**	**32**	P			**P**	**01 40 18.2**	**-1.1**
INK	**Inuvik**	**20.55**	**32**	P			**P**	**01 40 17.2**	**-2.1**
INK	comp=Z,59nm,1.3s				pmax		pmax		
INK	**Inuvik** comp=Z,59nm,1.2s	**20.55**	**32**	P			**P**	**01 40 17.2**	**-2.1**
INK					IAmb		IAmb	01 40 26.4	
INK	**Inuvik** baz=239,SNR=22	**20.55**	**32**	P				01 40 17.4	
BBB	**Bella Bella** comp=Z,430nm,21.1s,baz=295,slow=32	**21.42**	**79**	LR			LR	01 47 04.7	
PET	**Petropavlovsk**	**22.34**	**284**	*e* P			**P**	**01 40 39.5**	**+0.8**
PET				*e* S			**S**	**01 44 36.8**	**-6.4**
PET	comp=Z,300nm,13.4s				pmax		pmax		
PET	comp=Z,44nm,1.2s				pmax		pmax		
PET	comp=Z,400nm,12.2s				MLR		MLR		
PET	comp=Z,2μm,19.0s				MLR		MLR		
PEA0B	**Petropavlovsk-** comp=Z,1μm,18.0s	**22.87**	**285**	P			**P**	**01 40 44.2**	**-0.1**
PEA0B	comp=Z,122nm,1.4s				pmax		pmax		
PEA0B	**Petropavlovsk-**	**22.87**	**285**	P			**P**	**01 40 44.2**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,14nm,0.6s,baz=81,slow=13,SNR=38	**22.87**	**285**	P			**P**	**01 40 44.0**	**-0.4**
PETK	comp=Z,1μm,20.6s,baz=82,slow=36				LR		LR	01 49 29.6	
PETK	**Petropavlovsk-**	**22.87**	**285**	P			**P**	**01 40 44.6**	**+0.3**
PETK	**Petropavlovsk-**	**22.87**	**285**	P			**P**	**01 40 44.6**	**+0.3**
C36M	**Paulatuk**	**24.09**	**34**	P			**P**	**01 40 55.1**	**-1.1**
C36M	comp=Z,44nm,1.1s				IAmb		IAmb	01 40 58.2	
C36M	**Paulatuk** baz=249,SNR=8.4	**24.09**	**34**	P				01 40 56.0	
SEY	**Seymchan** comp=Z,5.5nm,0.7s,baz=93,slow=8.7,SNR=15	**24.49**	**310**	P			**P**	**01 40 58.5**	**-1.4**
SEY	**Seymchan**	**24.49**	**310**	*i* P			**P**	**01 40 59.9**	**0.0**
SKR	**Severo-Kuril's**	**24.61**	**280**	*e* P			**P**	**01 41 00.1**	**-0.9**
SKR				*e* S			**S**	**01 45 18.9**	**-2.0**
SKR	comp=Z,31nm,0.8s				pmax		pmax		
SKR	comp=Z,200nm,4.5s				pmax		pmax		
SKR	comp=Z,100nm,3.9s				pmax		pmax		
SKR	comp=Z,400nm,21.0s				MLR		MLR		
SKR	comp=Z,400nm,20.0s				MLR		MLR		
MA2	**Magadan** comp=Z,2.7nm,0.3s,baz=123,slow=1.7,SNR=4.2	**25.40**	**302**	P			**P**	**01 41 07.9**	**-0.2**
MA2	comp=Z,508nm,18.0s,baz=107,slow=37				LR		LR	01 51 21.6	
MA2	**Magadan**	**25.40**	**302**	*i* P			**P**	**01 41 08.6**	**+0.5**
MA2	comp=Z,10.0nm,1.1s				pmax		pmax		
NLWA	**Neilton Lookou**	**25.84**	**87**	P			**P**	**01 41 13.1**	**+0.7**
NLWA	comp=Z,31nm,1.1s				IAmb		IAmb	01 41 36.4	
J19D	**J19D**	**26.08**	**96**	S			S	01 45 58.0	+14
D03D	**Eldon** baz=298	**26.24**	**86**	P				01 41 17.5	
J11D	**J11D**	**26.39**	**97**	S			S	01 46 01.7	+13
J11D				SS			SnSn	01 47 10.5	+21
G29D	**G29D**	**26.45**	**100**	S			S	01 46 01.7	+12
B05A	**Bryant** baz=297	**26.49**	**84**	P				01 41 20.1	
G22D	**G22D**	**26.69**	**102**	S			S	01 46 09.1	+16
YKA	**Yellowknife Ar** comp=Z,8.6nm,1.0s,baz=268,slow=7.8,SNR=31	**26.91**	**51**	P			**P**	**01 41 21.8**	**0.0**
YKA	comp=Z,1μm,18.6s,baz=0.0,slow=39				LR		LR	01 53 00.1	
E04D	**Cinebar** baz=300	**27.03**	**88**	P				01 41 24.1	
D05A	**Enumclaw**	**27.06**	**86**	P			**P**	**01 41 23.8**	**+0.5**
D05A	comp=Z,32nm,1.1s				IAmb		IAmb	01 41 45.0	
G13D	**G13D**	**27.17**	**103**	S			S	01 46 14.0	+13
G20D	**G20D**	**27.36**	**101**	S			S	01 46 17.7	+14
G05D7	**G05D7**	**27.63**	**104**	S			S	01 46 32.4	+25
LTY	**Liberty** comp=Z,31nm,1.6s	**27.82**	**85**	IAmb			IAmb	01 41 54.6	
B08A	**Colville Reser** comp=Z,34nm,1.6s	**28.09**	**82**	IAmb			IAmb	01 41 54.1	
K02D	**Willamette Mer** baz=306	**28.49**	**96**	P				01 41 37.1	
I04A	**Tendick Farm,** baz=305	**28.60**	**93**	P				01 41 38.4	
HAWA	**Hanford** comp=Z,12nm,0.8s	**28.92**	**86**	IAmb			IAmb	01 42 05.8	
NEW	**Newport** comp=Z,1.3nm,0.4s,baz=317,slow=10,SNR=4.4	**29.44**	**81**	P			**P**	**01 41 45.8**	**+1.3**
NEW	comp=Z,452nm,21.9s,baz=298,slow=32				LR		LR	01 51 19.5	
NEW	**Newport** baz=298	**29.44**	**81**	P				01 41 42.7	
YBH	**Yreka Blue Hor** comp=Z,1.5nm,0.7s,baz=264,slow=15,SNR=2.7	**29.63**	**97**	P			**P**	**01 41 48.8**	**+2.4**
YBH	comp=Z,629nm,20.4s,baz=306,slow=30				LR		LR	01 50 48.8	
E09A	**Wood Farm, Sta**	**29.69**	**85**	P			**P**	**01 41 47.2**	**+0.6**
E09A	comp=Z,31nm,1.6s				IAmb		IAmb	01 42 09.6	
I07A	**Izee**	**30.18**	**90**	P			**P**	**01 41 52.1**	**+0.9**
I07A	comp=Z,19nm,1.4s				IAmb		IAmb	01 42 08.5	
O02D	**Mt. Diablo Mer** baz=310	**30.56**	**99**	P				01 41 56.2	
WVOR	**Wild Horse Val** comp=Z,14nm,1.2s	**31.64**	**92**	IAmb			IAmb	01 42 21.6	
MSO	**Missoula** baz=301	**32.02**	**81**	P				01 42 07.6	
MFID	**Camas Ranch** comp=Z,9.2nm,0.8s	**32.75**	**88**	IAmb			IAmb	01 42 38.1	
PAHR	**Pah Rah Range** comp=Z,15nm,1.2s	**32.87**	**97**	IAmb			IAmb	01 42 32.6	
PNTR	**Pine Nut** comp=Z,13nm,1.0s	**33.14**	**98**	P			**P**	**01 42 18.4**	**+1.0**
PNTR					IAmb		IAmb	01 42 53.2	
HLID	**Hailey** baz=305,SNR=8.7	**33.51**	**87**	P				01 42 21.4	
TIXI	**Tiksi** comp=Z,9.8nm,0.5s,baz=98,slow=13,SNR=13	**33.56**	**328**	P			**P**	**01 42 19.7**	**-0.7**
TIXI	**Tiksi** comp=Z,12nm,0.7s	**33.56**	**328**	P			**P**	**01 42 20.0**	**-0.5**
TIXI					pmax		pmax		
TIXI	**Tiksi** comp=Z,12nm,0.7s	**33.56**	**328**	P			**P**	**01 42 20.0**	**-0.5**
TIXI					IAmb		IAmb	01 42 21.9	
RES	**Resolute Bay** comp=Z,5.9nm,0.6s,baz=254,slow=12,SNR=12	**33.87**	**26**	P			**P**	**01 42 22.3**	**-0.8**
RES	comp=Z,7.7

YAK smax smax
comp=N,108nm,4.0s
YAK smax smax
comp=E,51nm,4.0s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=N,1µm,16.0s
YAK MLR MLR
comp=E,931nm,19.0s
VOG Valley Oaks Go 35.12 101 P 01 42 34.4
baz=314
TPH Tonopah 35.21 97 IAmb IAmb 01 42 53.0
comp=Z,39nm,1.1s
H17A Grant Village 35.32 83 P 01 42 36.7
baz=304
VES Vestal, Richgr 35.62 101 P 01 42 39.3
baz=314
EUNU Eureka 35.67 17 P **P** **01 42 38.9 +0.3**
RLMT Red Lodge 35.69 81 P 01 42 39.8
baz=304
CWC Cottonwood Cre 35.80 100 P 01 42 41.1
baz=313
GRAC Grapevine Rang 35.85 98 P 01 42 42.0
baz=313
GRNR Gornyy 35.90 291 ⇓*i*P **P** **01 42 40.3 -0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,280nm,16.0s
GRNR MLR MLR
comp=N,250nm,13.0s
GRNR MLR MLR
comp=Z,370nm,14.0s
R11A Troy Canyon, C 36.01 95 IAmb IAmb 01 42 59.9
comp=Z,11nm,1.0s
R11A Troy Canyon, C 36.01 95 P 01 42 41.1
baz=311,SNR=6.1
MPMC Manual Prospec 36.41 100 P 01 42 46.9
baz=314
DUG Dugway, Tooele 36.48 90 P 01 42 45.8
baz=309,SNR=10.0
FURC Furnace Creek, 36.50 99 P 01 42 46.7
baz=313
TPNV Topopah Spring 36.54 97 P **P** **01 42 47.5 +0.8**
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV Topopah Spring 36.54 97 P **P** **01 42 47.5 +0.8**
TPNV Topopah Spring 36.54 97 P 01 42 47.7
baz=312
BW06 Boulder Array 36.86 84 P 01 42 49.0
baz=306
PDAR Pinedale Array 36.86 84 P **P** **01 42 50.2 +0.8**
comp=Z,0.8nm,0.6s,baz=307,slow=5.4,SNR=7.8
PDAR ScP **ScP** **01 48 55.6 -0.7**
comp=Z,0.7nm,0.9s,baz=302,slow=2.0,SNR=4.5
PDAR LR LR 01 55 58.5
comp=Z,215nm,20.2s,baz=316,slow=33
PRN Pahroc Range 36.94 96 IAmb IAmb 01 43 07.7
comp=Z,13nm,0.9s
GSC Goldstone, Bar 37.33 100 P 01 42 54.6
baz=314
HEC Hector,Ludlow 37.94 100 P 01 42 59.3
baz=314
RDMU Red Mountain 38.19 87 P **P** **01 43 01.9 +1.2**
GMRC Granite Mounta 38.37 99 P 01 43 02.7
baz=314
PKCU Pink Cliffs 38.55 93 IAmb IAmb 01 43 22.9
comp=Z,33nm,1.8s
TPFO Pinon Flats 38.73 102 P 01 43 06.0
baz=316
K22A Casper 38.73 82 P 01 43 05.7
baz=307
O20A White River Ci 39.25 87 P 01 43 09.2
baz=309,SNR=11
KLR Kul'dur 39.28 291 P **P** **01 43 08.3 -1.2**
comp=Z,5.5nm,0.8s,baz=61,slow=8.6,SNR=14
KLR Kul'dur 39.28 291 *ce*P **P** **01 43 07.6 -1.9**
KLR pmax pmax
comp=Z,12nm,1.1s
RSSD Black Hills 39.33 79 P **P** **01 43 10.3 0.0**
RSSD pmax pmax
comp=Z,5.0nm,0.9s
RSSD Black Hills 39.33 79 P **P** **01 43 10.3 0.0**
RSSD Black Hills 39.34 79 P 01 43 10.2
baz=306
ZEA Zeya 39.46 299 *e*P **P** **01 43 09.9 -1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=E,400nm,15.0s
ZEA MLR MLR
comp=N,400nm,16.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
E28A Huff 39.88 74 P **P** **01 43 15.1 +0.6**
E28A IAmb IAmb 01 43 31.2
comp=Z,46nm,1.1s
PV03 Paradox Valley 40.09 90 P **P** **01 43 16.9 +0.3**
N23A Red Feather La 40.15 84 P 01 43 17.5
baz=308
WUAZ Wupatki 40.40 95 P **P** **01 43 20.1 +1.0**
WUAZ Wupatki 40.41 95 P 01 43 19.7
baz=313,SNR=5.3
H11N2 WAKE ISLAND Hy 40.57 225 T T 02 27 06.5
baz=26,slow=76,SNR=545
H11N3 WAKE ISLAND Hy 40.58 225 T T 02 26 56.6
baz=26,slow=76,SNR=477
H11N1 WAKE ISLAND Hy 40.59 225 T T 02 27 01.7
baz=26,slow=76,SNR=187
ULM Lac du Bonnet 40.59 66 P **P** **01 43 20.7 +0.4**
comp=Z,1.6nm,0.4s,baz=316,slow=8.6,SNR=4.0
ULM LR LR 01 59 15.2
comp=Z,418nm,21.8s,baz=309,slow=35
MVCO Mesa Verde 40.98 90 P 01 43 23.5
baz=312
S22A 4UR Ranch, Cre 41.63 89 P 01 43 28.4
baz=311
AGMN Agassiz Nation 41.65 69 P **P** **01 43 28.6 -0.5**
AGMN Agassiz Nation 41.65 69 P 01 43 29.2
baz=304,SNR=5.5
H11S1 WAKE ISLAND Hy 41.74 225 T T 02 28 17.1
baz=26,slow=76,SNR=536
H11S2 WAKE ISLAND Hy 41.75 225 T T 02 28 17.5
baz=26,slow=76,SNR=517
H11S3 WAKE ISLAND Hy 41.76 225 T T 02 28 29.6
baz=26,slow=76,SNR=274
USRK Ussuriysk Ar. 41.96 284 P **P** **01 43 31.0 -0.7**
comp=Z,1.1nm,0.5s,baz=39,slow=9.4,SNR=2.2
USRK LR LR 02 00 09.5
comp=Z,419nm,21.9s,baz=51,slow=35
USRK Ussuriysk Ar. 41.96 284 P **P** **01 43 31.0 -0.7**
214A Organ Pipe Nat 42.05 100 P 01 43 33.5
baz=316
JSD Sado 42.10 273 P **P** **01 43 33.1 +0.3**
JSD IAmb IAmb 01 43 34.3
comp=Z,64nm,1.2s
NEEM North Greenlan 42.94 17 ⇑*i*P **P** **01 43 39.7 +0.1**
NEEM IAmb IAmb 01 43 40.9
comp=Z,27nm,0.5s
TUC Tucson 42.99 98 P **P** **01 43 40.3 0.0**
TUC pmax pmax
comp=Z,11nm,1.3s
TUC Tucson 42.99 98 P **P** **01 43 40.3 0.0**
TUC Tucson 42.99 98 P 01 43 41.5
baz=316
MDJ Mudanjiang 43.10 286 P **P** **01 43 40.9 0.0**
MAJO Matsushiro 43.12 271 *e*P **P** **01 43 41.4 +0.2**
MAJO pmax pmax
comp=Z,50nm,1.3s
MAJO Matsushiro 43.12 271 P **P** **01 43 41.4 +0.2**
MAJO IAmb IAmb 01 43 50.4
comp=Z,26nm,0.8s
MAT Matsushiro 43.12 271 P **P** **01 43 41.1 -0.1**
MJAR Matsushiro Arr 43.12 271 P **P** **01 43 41.3 +0.1**
comp=Z,10nm,1.1s,baz=33,slow=6.9,SNR=13
MJAR LR LR 01 59 44.0
comp=Z,430nm,22.0s,baz=60,slow=34
MJB9 Matsu-Tunnel 43.12 271 P **P** **01 43 41.4 +0.2**
MJB9 IAmb IAmb 01 43 50.4
comp=Z,28nm,0.8s
MSHR Mys Shultsa 43.43 283 *ce*P **P** **01 43 43.8 +0.3**
MSHR pmax pmax
comp=Z,61nm,1.1s
T25A Trinidad 43.47 87 P 01 43 45.0
baz=312
ANMO Albuquerque 43.73 91 P **P** **01 43 47.2 +0.9**
comp=Z,2.1nm,1.0s,baz=325,slow=12,SNR=3.7
ANMO PcP **PcP** **01 45 33.9 +0.9**
comp=Z,2.4nm,1.0s,baz=209,slow=3.5,SNR=3.9
ANMO ScP **ScP** **01 49 23.5 +0.3**
comp=Z,1.6nm,0.9s,baz=270,slow=4.8,SNR=6.2
ANMO Albuquerque 43.73 91 *i* P **P** **01 43 47.1 +0.8**
ANMO pmax pmax
comp=Z,3.0nm,1.4s
ANMO Albuquerque 43.73 91 P **P** **01 43 47.2 +0.9**
ANMO Albuquerque 43.73 91 P 01 43 47.0
baz=314
ECSD EROS Data Cent 43.88 74 P **P** **01 43 47.2 0.0**
ECSD EROS Data Cent 43.88 74 P 01 43 47.0
baz=308,SNR=9.5
BOD Bodaibo 43.92 310 *e*P **P** **01 43 46.3 -1.0**
BOD pmax pmax
comp=Z,24nm,1.5s
NOR Nord 44.00 7 *i* P **P** **01 43 47.6 -0.1**
NOR IAmb IAmb 01 43 48.6
comp=Z,11nm,0.9s
NOR Nord 44.00 7 *i* P **P** **01 43 47.6 -0.1**
NOR pmax pmax
comp=Z,11nm,0.9s
EYMN Ely 44.26 67 P **P** **01 43 50.7 +0.5**
EYMN IAmb IAmb 01 44 07.4
comp=Z,13nm,0.8s
EYMN Ely 44.26 67 P 01 43 49.9
baz=306,SNR=6.4
JGF Kuroka 44.27 271 P **P** **01 43 51.3 +0.8**
JGF IAmb IAmb 01 43 52.4
comp=Z,29nm,1.2s
121A Cookes Peak, D 44.62 95 P 01 43 53.5
baz=315
UPNV Upernavik 44.63 24 *i* P **P** **01 43 53.4 +0.6**
UPNV IAmb IAmb 01 43 54.3
comp=Z,8.5nm,0.6s
SPMN Marine on St. 45.15 70 P 01 43 57.4
baz=307
HIA Hailar 45.81 297 *i* P **P** **01 44 02.1 -0.5**
HIA pmax pmax
comp=Z,9.0nm,0.8s
CN2 Changchun 45.96 288 *e*P **P** **01 44 03.5 -0.2**
CN2 *e*S **S** **01 50 47.8 +0.5**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,400nm,20.0s
CN2 L L
comp=Z,400nm,20.0s
CN2 L L
comp=Z,500nm,23.0s
G40A Rib Lake 46.58 69 IAmb IAmb 01 44 32.5
comp=Z,8.2nm,0.9s
MNTX Cornudas Mount 46.64 94 P 01 44 09.4
baz=316,SNR=6.0
COWI Conover 46.66 67 IAmb IAmb 01 44 38.4
comp=Z,12nm,1.3s
K38A Parkersburg 46.76 73 IAmb IAmb 01 44 11.2
comp=Z,14nm,1.1s
NRIK Noril'sk 47.03 333 P **P** **01 44 11.6 -0.3**
comp=Z,11nm,0.5s,baz=70,slow=5.9,SNR=14
NRIK LR LR 02 06 35.5
comp=Z,441nm,18.2s,baz=61,slow=40
NRIK Noril'sk 47.03 333 *ce*P **P** **01 44 11.7 -0.1**
NRIK pmax pmax
comp=Z,25nm,1.0s
E43A Lone Tree Farm 47.66 66 IAmb IAmb 01 44 34.1
comp=Z,9.3nm,0.9s
N38A Joes South For 47.67 75 IAmb IAmb 01 44 18.2
comp=Z,14nm,0.8s
KBS Kingsbay 47.82 1 ⇑*i*P **P** **01 44 18.4 +0.6**
KBS IAmb IAmb 01 44 19.2
comp=Z,62nm,0.9s
KBS Kingsbay 47.82 1 *ce*P **P** **01 44 18.3 +0.4**
KBS pmax pmax
comp=Z,31nm,1.0s
KBS Kingsbay 47.82 1 P **P** **01 44 18.2 +0.4**
L40A Anamosa 48.01 73 IAmb IAmb 01 44 31.5
comp=Z,12nm,0.9s
JFWS Jewell Farm 48.02 71 P 01 44 18.9
baz=310
DAG Danmarks Havn 48.13 10 ⇑*i*P **P** **01 44 20.1 -0.1**
DAG IAmb IAmb 01 44 21.0
comp=Z,26nm,0.9s
DAG Danmarks Havn 48.13 10 ⇑*i*P **P** **01 44 20.1 -0.1**
DAG pmax pmax
comp=Z,26nm,0.9s
I42A Draeger Farm, 48.16 69 IAmb IAmb 01 44 39.4
comp=Z,9.5nm,0.8s
P38A Dawn 48.26 77 IAmb IAmb 01 44 22.4
comp=Z,9.9nm,0.7s
WMOK Wichita Mounta 48.45 85 P 01 44 23.1
baz=314,SNR=5.5
SPITS Spitsbergen Ar 48.59 360 LR LR 02 03 58.6
comp=Z,537nm,21.5s,baz=350,slow=35
KSRS Korea Array 48.62 280 P **P** **01 44 25.1 +0.6**
comp=Z,12nm,0.9s,baz=50,slow=7.2,SNR=29
KSRS LR LR 02 04 46.8
comp=Z,196nm,20.4s,baz=34,slow=36
SUMG Summit 48.65 19 *i* P **P** **01 44 25.9 +1.1**
SUMG IAmb IAmb 01 44 27.1
comp=Z,18nm,0.6s
SUMG Summit 48.65 19 P **P** **01 44 25.1 +0.3**
SUMG pmax pmax
comp=Z,57nm,1.0s
SUMG Summit 48.65 19 P **P** **01 44 25.1 +0.3**
KSAR Wonju Array Be 48.66 280 P **P** **01 44 25.2 +0.4**
KSAR Wonju Array Be 48.66 280 P **P** **01 44 25.2 +0.4**
OK030 Cody Creek RV 48.83 83 IAmb IAmb 01 44 26.9
comp=Z,17nm,1.1s
N41A Harden Midland 49.10 74 IAmb IAmb 01 44 29.0
comp=Z,20nm,0.9s
P40A Paris 49.19 76 IAmb IAmb 01 44 29.5
comp=Z,19nm,0.8s
TX31 Lajitas Ar. Si 49.37 94 P **P** **01 44 31.2 +0.8**
TXAR Lajitas Array 49.37 94 P **P** **01 44 31.4 +0.9**
comp=Z,2.2nm,0.8s,baz=308,slow=6.0,SNR=16
TXAR ScP **ScP** **01 49 45.4 -1.3**
comp=Z,1.3nm,1.0s,baz=298,slow=3.8,SNR=6.2
TXAR LR LR 02 04 37.4
comp=Z,210nm,18.1s,baz=0.0,slow=35
ABTX Abilene, Hawle 49.41 88 P 01 44 30.1
baz=315
TUL1 Leonard 49.43 82 P 01 44 30.5
baz=313
TJN Taejon 49.68 279 *ce*P **P** **01 44 32.4 -0.3**
SFJD Kangerlussuaq 49.82 28 *i* P **P** **01 44 34.5 +1.2**
SFJD IAmb IAmb 01 44 35.3
comp=Z,20nm,0.9s
SFJD Kangerlussuaq 49.82 28 P **P** **01 44 33.5 +0.2**
SFJD pmax pmax
comp=Z,61nm,1.2s
SFJD Kangerlussuaq 49.82 28 P **P** **01 44 33.5 +0.2**
R40A Maddies Statio 49.89 77 IAmb IAmb 01 44 34.1
comp=Z,12nm,0.6s
U38A Gravette 49.90 81 IAmb IAmb 01 44 34.8
comp=Z,6.0nm,0.7s
HDIL Hopedale 50.10 73 P 01 44 34.9
baz=312,SNR=10
DBG Daneborg 50.15 12 ⇑*i*P **P** **01 44 35.4 -0.3**
DBG IAmb IAmb 01 44 36.5
comp=Z,14nm,0.8s
MATQ Matagami 50.45 57 P 01 44 36.9
baz=310
P43A Skaggs, Pawnee 50.57 74 IAmb IAmb 01 44 58.3
comp=Z,25nm,0.8s
CCM Cathedral Cave 50.64 77 P 01 44 39.1
baz=313
JCT Junction City 50.84 90 P 01 44 41.2
baz=316
U40A Yellville 50.85 80 P 01 44 39.9
baz=314
ICESG Greenland Ices 51.09 22 *i* P **P** **01 44 43.4 +0.2**
ICESG IAmb IAmb 01 44 45.1
comp=Z,32nm,0.6s
W39A Magazine 51.10 81 IAmb IAmb 01 45 00.3
comp=Z,51nm,2.0s
W39A Magazine 51.10 81 P 01 44 42.9
baz=314
WHTX Lake Whitney, 51.17 87 P 01 44 43.6
baz=316
LSQQ Lebel-sur-Quev 51.23 57 P 01 44 42.4
baz=310
Q44A Meyer Farm, Va 51.36 74 IAmb IAmb 01 44 46.0
comp=Z,11nm,0.8s
DY2G Dye2 51.41 27 *i* P **P** **01 44 46.1 +0.5**
NUUK Nuuk 51.48 31 *i* P **P** **01 44 47.7 +1.9**
FCAR Ozark Folk Cen 51.60 79 IAmb IAmb 01 45 02.4
comp=Z,11nm,0.9s
N47A Urbana 51.92 70 IAmb IAmb 01 44 56.1
comp=Z,17nm,0.8s
CHGQ Chibougamau 51.97 55 P 01 44 48.1
baz=311
PBMO Poplar Bluff 51.98 77 IAmb IAmb 01 45 08.0
comp=Z,23nm,1.6s
OLIL Olney 52.00 74 IAmb IAmb 01 44 51.0
comp=Z,25nm,0.9s
W41B Gary Mavity, V 52.02 80 P 01 44 49.6
baz=314
SIUC Southern Illin 52.05 76 P **P** **01 44 50.2 -0.3**
SIUC IAmb IAmb 01 45 02.0
comp=Z,9.5nm,0.8s
SCHQ Schefferville 52.23 47 P **P** **01 44 51.1 -0.5**
comp=Z,7.2nm,0.9s,baz=336,slow=7.1,SNR=8.3
SCHQ Schefferville 52.23 47 P **P** **01 44 51.6 0.0**
SCHQ IAmb IAmb 01 45 03.5
comp=Z,22nm,1.1s
TLY Talaya 52.38 308 *e*P **P** **01 44 53.5 +0.7**
TLY pmax pmax
comp=Z,83nm,1.0s
TLY MLR MLR
comp=Z,3µm,17.0s
TLY Talaya 52.38 308 P **P** **01 44 53.0 +0.2**
TLY IAmb IAmb 01 44 54.3
comp=Z,33nm,1.0s
WLAR White Oak Lake 52.55 82 IAmb IAmb 01 44 55.7
comp=Z,16nm,0.8s
P48A Milroy 53.03 72 IAmb IAmb 01 44 57.6
comp=Z,18nm,1.1s
ULN Ulaanbaatar 53.25 303 *ce*P **P** **01 44 59.4 -0.1**
ULN pmax pmax
comp=Z,46nm,1.0s
ULN Ulaanbaatar 53.25 303 P **P** **01 44 59.2 -0.2**
SCO Scoresbysund 53.31 15 *i* P **P** **01 45 00.0 +0.6**
SCO Scoresbysund 53.31 15 *i* P **P** **01 45 00.0 +0.6**
D55A Sainte-Anne-du 53.33 58 P 01 44 57.9
baz=312
P49A Miami Univ. Ec 53.38 71 IAmb IAmb 01 45 00.1
comp=Z,26nm,1.4s
P49A Miami Univ. Ec 53.38 71 P 01 44 59.0
baz=313
ZAK Zakamensk 53.42 307 *e*P **P** **01 45 00.3 -0.3**
ZAK *e* 01 46 04.2
ZAK pmax pmax
comp=Z,10.0nm,1.6s
ZAK pmax pmax
comp=Z,7.0nm,1.4s
SONM Songino Array 53.60 303 P **P** **01 45 02.1 +0.1**
comp=Z,18nm,0.9s,baz=51,slow=6.7,SNR=31
SONM Songino Array 53.60 303 P **P** **01 45 02.1 +0.1**
SONM pmax pmax
comp=Z,33nm,1.1s
SONM Songino Array 53.60 303 P **P** **01 45 02.1 +0.1**
SONM IAmb IAmb 01 45 03.5
comp=Z,32nm,1.1s
BJT Baijiatuau 53.67 290 P **P** **01 45 02.1 -0.3**
BJT pmax pmax
comp=Z,20nm,1.6s
BJT Baijiatuau 53.67 290 P **P** **01 45 02.1 -0.3**
BJT IAmb IAmb 01 46 21.5
comp=Z,20nm,1.6s
D56A ZEC Mazanza, M 53.67 58 P 01 45 01.0
baz=312
T47A Sharon Grove 53.77 75 IAmb IAmb 01 45 04.0
comp=Z,15nm,0.7s
WVT Waverly 53.95 76 P **P** **01 45 04.3 -0.2**
WVT pmax pmax
comp=Z,46nm,1.6s
WVT Waverly 53.95 76 P **P** **01 45 04.3 -0.2**
WVT Waverly 53.95 76 P 01 45 03.5
baz=314
ISOG Isortoq, Green 54.04 25 *i* P **P** **01 45 04.6 0.0**
ISOG IAmb IAmb 01 45 05.5
comp=Z,20nm,0.6s
R50A Paris 54.47 72 IAmb IAmb 01 45 08.8
comp=Z,11nm,0.9s
Q51A Peebles 54.51 71 IAmb IAmb 01 45 20.3
comp=Z,15nm,0.8s
D58A Chemin du LacG 54.59 57 P 01 45 07.8
baz=313
PLAL Pickwick Lake 54.60 77 IAmb IAmb 01 45 23.4
comp=Z,24nm,1.4s
CLTN Cedars of Leba 54.84 75 IAmb IAmb 01 45 26.1
comp=Z,19nm,1.2s
M54A Oil Creek Stat 54.84 66 P 01 45 09.7
baz=314
U49A Red Boiling Sp 54.86 74 IAmb IAmb 01 45 25.9
comp=Z,19nm,1.5s
T50A Nancy 55.05 73 IAmb IAmb 01 45 14.0
comp=Z,35nm,1.8s
I57A Carthage 55.32 61 P 01 45 13.8
baz=314
G58A Ormstown 55.32 59 P 01 45 13.5
baz=314
M55A Ridgway 55.36 65 IAmb IAmb 01 45 26.5
comp=Z,22nm,1.1s
HHC Hu-ho-hao-te 55.65 294 *e*P **P** **01 45 17.3 +0.4**
HHC sP pwP 01 45 28.0 +2.4
HHC S **S** **01 52 59.0 -2.9**
HHC sS pS 01 53 09.0 +0.6
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,150nm,6.5s
HHC L L
comp=Z,350nm,13.5s
HHC L L
comp=Z,560nm,16.1s
HHC L L
comp=Z,480nm,15.9s
F60A Warwick 55.83 57 P 01 45 17.1
baz=314
D61A St Aubert, Com 55.85 55 P 01 45 17.2
baz=314
I58A Old Forge 55.85 61 P 01 45 17.0
baz=314
H59A Cadyville 55.86 60 P 01 45 17.0
baz=314
J58A Remsen 55.92 62 P 01 45 17.3
baz=314
W50A Signal Mountai 56.05 75 IAmb IAmb 01 45 20.7
comp=Z,41nm,1.7s
HAMF Hammerfest 56.06 357 *e*P **P** **01 45 18.7 -0.5**
TZTN Tazewell 56.12 73 P 01 45 18.4
baz=315
O56A Blue Knob Stat 56.30 66 P 01 45 20.2
baz=314
F61A St Evariste 56.31 57 P 01 45 19.8
baz=314
FPAL Fort Paine 56.35 76 IAmb IAmb 01 45 33.3
comp=Z,18nm,1.1s
SSPA Standing Stone 56.42 66 P **P** **01 45 22.0 -0.2**
SSPA IAmb IAmb 01 46 03.4
comp=Z,26nm,1.4s
SSPA Standing Stone 56.42 66 P 01 45 21.7
baz=314
D62A Allapoint, All 56.49 55 P 01 45 22.0
baz=315
E62A Clayton Lake 56.58 55 P 01 45 22.1
baz=315
V52A Sevierville 56.59 74 IAmb IAmb 01 45 26.0
comp=Z,29nm,1.6s
J60A Lant Hill Farm 56.97 61 P 01 45 23.8
baz=315
D63A Stockholm 56.98 54 P 01 45 25.1
baz=315
G62A West of Eustis 57.07 57 P 01 45 26.3
baz=315
ARA0 ARCESS Array S 57.10 356 *e*P **P** **01 45 26.0 -0.7**
ARCES ARCESS Array B 57.10 356 P **P** **01 45 26.1 -0.6**
comp=Z,13nm,0.9s,baz=12,slow=7.7,SNR=27
ARCES LR LR 02 10 13.4
comp=Z,386nm,20.5s,baz=355,slow=36
ARCES ARCESS Array B 57.10 356 P **P** **01 45 26.1 -0.6**
ARCES pmax pmax
comp=Z,37nm,1.4s
ARCES ARCESS Array B 57.10 356 P **P** **01 45 26.1 -0.6**
U54A Nelsons Funny 57.12 72 IAmb IAmb 01 45 28.3
comp=Z,21nm,1.2s
V53A Saluda 57.16 73 IAmb IAmb 01 45 40.2
comp=Z,15nm,1.2s
TRO Tromso 57.17 359 *e*P **P** **01 45 27.4 +0.2**

H62A Milan 57.20 58 IAmb IAmb 01 45 39.3
comp=Z,21nm,1.2s
H62A Milan 57.20 58 P 01 45 26.8
baz=315
JETT Jettan, Norway 57.23 358 *e*P **P** **01 45 27.9 +0.2**
E63A Oxbow 57.26 55 P 01 45 26.8
baz=315
BLA Blacksburg 57.42 70 P 01 45 28.7
baz=315
F63A Nahmakanta, Br 57.44 56 P 01 45 27.8
baz=315
E64A Bridgewater 57.56 55 P 01 45 29.2
baz=315
PKME Peaks-Kenny Pk 57.65 56 P 01 45 28.6
baz=315
F64A Sherman 57.69 55 IAmb IAmb 01 45 42.4
comp=Z,22nm,1.4s
F64A Sherman 57.70 55 P 01 45 30.2
baz=315
KTK1 Kautokeino 57.70 357 *e*P **P** **01 45 31.0 0.0**
NJ2 Nanjing 57.72 281 *e*P **P** **01 45 31.8 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
V55A Taylorsville 57.94 72 IAmb IAmb 01 46 03.4
comp=Z,50nm,2.0s
LVZ Lovozero 58.16 352 *c e*P **P** **01 45 35.4 +1.2**
LVZ pmax pmax
comp=Z,19nm,1.0s
LVZ Lovozero 58.16 352 P **P** **01 45 34.2 0.0**
KMSC Kings Mountain 58.38 73 IAmb IAmb 01 45 36.5
comp=Z,30nm,1.5s
KMSC Kings Mountain 58.38 73 P 01 45 35.3
baz=316
G65A Princeton 58.56 55 P 01 45 35.1
baz=316
H65A Eastbrook 58.58 56 P 01 45 35.1
baz=316
APA Apatity 58.58 352 *e*P P 01 45 28.5 -8.6
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,900nm,18.0s
LOF Lofoten 58.68 1 *e*P **P** **01 45 37.6 -0.1**
ZAA0 Zalesovo Array 58.83 320 IAmb IAmb 01 45 39.9
comp=Z,6.9nm,0.8s
ZALV Zalesovo Beam 58.83 320 P **P** **01 45 38.7 -0.3**
comp=Z,3.3nm,0.3s,baz=41,slow=7.3,SNR=26
ZALV PcP **PcP** **01 46 29.2 +0.9**
comp=Z,3.0nm,0.5s,baz=35,slow=5.4,SNR=6.0
ZALV LR LR 02 13 33.5
comp=Z,857nm,18.5s,baz=11,slow=39
ZALV Zalesovo Beam 58.83 320 P **P** **01 45 38.5 -0.5**
ZALV **PcP** **01 46 28.8 +0.5**
STEI Steigen 58.90 0 *e*P **P** **01 45 39.2 0.0**
H66A Whiting 58.98 56 P 01 45 38.1
baz=316
FAUS Fauske 59.45 0 *e*P **P** **01 45 43.1 0.0**
MOR8 Moi Rana 60.66 1 *e*P **P** **01 45 49.7 -1.7**
DGZ Jazzator, Alta 61.02 315 *c i*P **P** **01 45 54.6 +0.3**
DGZ pmax pmax
comp=Z,11nm,0.8s
TLIG Tlapa 61.32 99 P **P** **01 45 57.5 +0.8**
TLIG IAmb IAmb 01 46 00.2
comp=Z,11nm,1.0s
WHN Wuhan 61.45 283 ⇑P P 01 46 04.8 +7.5
XAN Xi'an 61.99 290 ⇑P **P** **01 46 01.0 0.0**
XAN pP sP 01 46 08.0 0.0
XAN sP pwP 01 46 11.5 +1.6
XAN PcP **PcP** **01 46 41.8 +0.4**
XAN pmax pmax
comp=Z,20nm,1.6s
XAN L L
comp=Z,620nm,14.1s
XAN L L
comp=Z,380nm,16.3s
XAN L L
comp=Z,660nm,16.3s
NSS Namsos 62.27 2 *e*P **P** **01 46 02.7 +0.4**
PRGR Permogore 62.89 345 *e*P **P** **01 46 03.1 -3.3**
PRGR pmax pmax
comp=Z,83nm,1.0s
GTA Gaotai 62.94 300 ⇑P **P** **01 46 07.5 +0.1**
GTA pmax pmax
comp=Z,20nm,0.9s
GTA pmax pmax
comp=Z,110nm,7.6s
GTA L L
comp=Z,640nm,17.1s
GTA L L
comp=Z,610nm,15.6s
GTA L L
comp=Z,940nm,16.4s
LZH Lanzhou 63.28 295 *e*P **P** **01 46 10.0 +0.3**
LZH sP pwP 01 46 18.5 -0.1
LZH S **S** **01 54 32.5 -8.1**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,190nm,6.0s
LZH L L
comp=Z,780nm,13.6s
LZH L L
comp=Z,730nm,11.9s
LZH L L
comp=Z,800nm,14.6s
ZSN Zaisan 63.84 315 *e*P **P** **01 46 11.2 -1.9**
comp=Z,44nm,1.8s,baz=315
ZSN Zaisan 63.84 315 *e*P **P** **01 46 11.1 -1.9**
ZSN pmax pmax
comp=Z,44nm,1.8s
MOL Molde 64.08 4 *e*P **P** **01 46 14.0 -0.3**
AKN Aaknes 64.44 5 *e*P **P** **01 46 17.6 +0.8**
ENH Enshi 64.46 287 P **P** **01 46 17.7 +0.3**
KLMR Klimovskoe 64.51 348 *e*P **P** **01 46 15.6 -1.6**
KLMR pmax pmax
comp=Z,46nm,1.4s
KLMR Klimovskoe 64.51 348 *e*P **P** **01 46 15.7 -1.5**
KLMR AMP 01 46 18.0
comp=Z,46nm,1.4s
KLMR LQ LQ 02 15 18.0
KLMR LQ LQ 02 15 18.0
KLMR LR LR 02 16 38.6
DOMB Dombas 64.67 4 *e*P **P** **01 46 18.4 +0.1**
BRVK Borovoye 64.70 327 *c e*P **P** **01 46 19.0 +0.4**
BRVK pmax pmax
comp=Z,48nm,1.7s
BRVK Borovoye 64.70 327 P **P** **01 46 19.0 +0.4**
FOO Floro 64.91 6 *e*P **P** **01 46 20.3 +0.5**
ARU Arti 65.09 336 *c i*P **P** **01 46 20.9 -0.2**
ARU 01 46 52.7
ARU S **S** **01 55 04.4 +2.3**
ARU SS **SS** **01 59 13.5 +0.2**
ARU pmax pmax
comp=Z,45nm,1.2s
ARU MLR MLR
comp=Z,638nm,17.0s
ARU Arti 65.09 336 P **P** **01 46 20.7 -0.4**
KIRV Kirov 65.11 342 *c e*P **P** **01 46 21.1 0.0**
FINES FINESS Array B 65.15 355 P **P** **01 46 21.2 -0.1**
comp=Z,7.7nm,0.5s,baz=16,slow=7.6,SNR=82
FINES LR LR 02 16 59.1
comp=Z,384nm,18.3s,baz=11,slow=38
FINES FINESS Array B 65.15 355 P **P** **01 46 20.7 -0.6**
TAOE Nuku Hiva Isla 65.25 154 *e*S **S** **01 55 04.8 -0.3**
comp=Z,107nm,24.9s
TAOE Nuku Hiva Isla 65.25 154 *e*LR LR 02 05 54.0
comp=Z,296nm,22.1s
TAOE Nuku Hiva Isla 65.25 154 *e*T T 02 56 58.2
comp=Z,39nm,0.2s
HYA Hoyanger 65.41 5 *e*P **P** **01 46 23.7 +0.7**
SUE Sulen 65.43 6 *e*P **P** **01 46 23.7 +0.6**
MK31 Makanchi Array 65.44 316 *c i*P **P** **01 46 22.9 -0.6**
MK31 Makanchi Array 65.44 316 IAmb IAmb 01 46 24.1
comp=Z,5.9nm,0.8s
MKAR Makanchi Array 65.44 316 P **P** **01 46 22.9 -0.6**
comp=Z,5.5nm,0.7s,baz=43,slow=5.9,SNR=44
MKAR LR LR 02 16 24.6
comp=Z,556nm,19.3s,baz=32,slow=37
MKAR Makanchi Array 65.44 316 *c e*P **P** **01 46 22.8 -0.7**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 65.44 316 P **P** **01 46 22.7 -0.7**
WMQ Urumqi 65.45 311 *e*P **P** **01 46 23.8 +0.1**
WMQ pP pP 01 46 26.8 -2.5
WMQ PcP **PcP** **01 46 56.8 +1.3**
WMQ pmax pmax
comp=Z,41nm,0.7s
WMQ pmax pmax
comp=Z,280nm,5.3s
WMQ L L
comp=Z,920nm,11.9s
WMQ L L
comp=Z,630nm,13.3s
WMQ L L
comp=Z,520nm,18.5s
MAKZ Makanchi 65.55 317 P **P** **01 46 23.7 -0.5**
MAKZ pmax pmax
comp=Z,9.0nm,0.7s
MAKZ Makanchi 65.55 317 P **P** **01 46 23.7 -0.5**
MAKZ IAmb IAmb 01 46 24.4
comp=Z,9.2nm,0.7s
NB2 NORSAR Subarra 65.75 3 P **P** **01 46 25.2 -0.1**
baz=358,slow=6.5
NOA NORSAR Array B 65.75 3 P **P** **01 46 25.2 -0.1**
comp=Z,11nm,1.0s,baz=358,slow=6.3,SNR=42
NOA LR LR 02 16 54.1
comp=Z,190nm,18.7s,baz=0.0,slow=38
RAF Rauma 65.75 357 *e*P **P** **01 46 22.0 -3.2**
SKAR Skarslia 66.00 4 *e*P **P** **01 46 27.6 +0.7**
ASK Askoy 66.03 6 *e*P **P** **01 46 27.9 +0.9**
NC602 NORSAR Array S 66.06 3 *e*P **P** **01 46 26.9 -0.3**
BER Bergen 66.14 6 *e*P **P** **01 46 28.5 +0.8**
MEF Metsahovi 66.46 356 *e*P **P** **01 46 30.0 +0.2**
BRZS Berezniki 66.49 324 *e*P **P** **01 46 29.5 -0.8**
comp=Z,7.8nm,0.7s,baz=324
BRZS Berezniki 66.49 324 *e*P **P** **01 46 29.4 -0.8**
BRZS pmax pmax
comp=Z,8.0nm,0.7s
AAL Aland 66.64 358 *e*P **P** **01 46 30.8 -0.1**
ODD1 Odda 66.69 5 *e*P **P** **01 46 32.2 +0.9**
HFS Hagfors 66.71 1 P **P** **01 46 30.9 -0.5**
comp=Z,11nm,0.4s,baz=15,slow=3.6,SNR=13
OSL Oslo 66.84 3 *e*P **P** **01 46 33.0 +0.8**
UPP Uppsala 67.00 359 *e*P **P** **01 46 33.3 +0.1**
KONO Kongsberg 67.09 4 *c e*P **P** **01 46 34.7 +0.9**
KONO pmax pmax
comp=Z,29nm,1.3s
KONO Kongsberg 67.09 4 *e*P **P** **01 46 33.7 -0.1**
KONO Kongsberg 67.09 4 P **P** **01 46 34.2 +0.4**
BLS5 Blasjo 67.16 5 *e*P **P** **01 46 35.3 +0.9**
CD2 Chengdu 67.21 291 P **P** **01 46 35.8 +0.7**
CD2 S **S** **01 55 27.8 -0.9**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 L L
comp=Z,490nm,19.1s
CD2 L L
comp=Z,670nm,14.7s
STRU Stroemstad 67.76 3 *i*P **P** **01 46 38.4 +0.4**
VSU Vasula 68.08 354 *e*P **P** **01 46 40.5 +0.4**
SNART Snartemo 68.29 5 *i*P **P** **01 46 42.4 +1.0**
SNART IAmb IAmb 01 46 42.8
comp=Z,9.9nm,0.6s
SNART Snartemo 68.29 5 *e*P **P** **01 46 42.4 +1.0**
HOMB Homborsund 68.42 4 *i*P **P** **01 46 42.8 +0.6**
HOMB IAmb IAmb 01 46 43.4
comp=Z,17nm,1.0s
TJOU Tjoern 68.77 3 *i*P **P** **01 46 45.0 +0.7**
GYA Guiyang 68.96 286 ⇑P **P** **01 46 46.8 +0.5**
GYA pP pwP 01 46 54.8 -0.4
GYA pmax pmax
comp=Z,5.0nm,1.0s
GYA pmax pmax
comp=Z,40nm,3.5s
SLIT Slitere, Latvi 69.13 357 *e*P **P** **01 46 47.0 +0.4**
BORU Boraas 69.20 2 *i*P **P** **01 46 47.6 +0.6**
ONAU Onsala 69.42 3 *i*P **P** **01 46 48.8 +0.4**
PMOR Pomariorio Ree 69.56 164 *e*T T 03 02 32.3
comp=Z,14nm,0.2s
SHLS Shalkode 69.56 316 *e*P **P** **01 46 49.0 -0.8**
comp=Z,38nm,1.2s,baz=316
SHLS Shalkode 69.56 316 *e*P **P** **01 46 48.9 -0.8**
SHLS pmax pmax
comp=Z,38nm,1.2s
KPKS Kokpek 69.63 316 *e*P **P** **01 46 49.8 -0.4**
comp=Z,18nm,0.9s,baz=316
KPKS Kokpek 69.63 316 *e*P **P** **01 46 49.7 -0.4**
KPKS pmax pmax
comp=Z,18nm,0.9s
MOS Moscow 69.73 347 *e*P **P** **01 46 48.3 -2.0**
UZB Uzynbulak 69.75 316 *e*P **P** **01 46 50.7 -0.2**
comp=Z,7.6nm,1.1s,baz=316
UZB Uzynbulak 69.75 316 *e*P **P** **01 46 50.7 -0.2**
UZB pmax pmax
comp=Z,8.0nm,1.1s
FABU Falkenberg 69.83 2 *i*P **P** **01 46 51.2 +0.3**
SATY Saty 70.08 316 ⇑*i*P **P** **01 46 53.0 +0.1**
comp=Z,15nm,1.4s,baz=316
SATY Saty 70.08 316 *c i*P **P** **01 46 53.0 +0.1**
SATY pmax pmax
comp=Z,15nm,1.4s
BTLS Baital 70.15 320 ⇑*i*P **P** **01 46 52.7 -0.5**
comp=Z,14nm,0.9s,baz=320
BTLS Baital 70.15 320 *c i*P **P** **01 46 52.6 -0.5**
BTLS pmax pmax
comp=Z,13nm,0.9s
MUD Monsted U'grnd 70.26 4 *i*P **P** **01 46 54.6 +0.9**
MUD IAmb IAmb 01 46 55.3
comp=Z,9.3nm,0.8s
MUD Monsted U'grnd 70.26 4 *i*P **P** **01 46 54.5 +0.9**
MUD pmax pmax
comp=Z,9.0nm,0.8s
EKA Eskdalemuir Ar 70.36 12 P **P** **01 46 54.2 0.0**
comp=Z,6.0nm,0.6s,baz=353,slow=5.1,SNR=4.5
ESK Eskdalemuir 70.37 12 P **P** **01 46 55.3 +0.9**
ESK pmax pmax
comp=Z,22nm,1.1s
ESK Eskdalemuir 70.37 12 P **P** **01 46 55.2 +0.9**
ESK IAmb IAmb 01 46 55.6
comp=Z,22nm,1.1s
DEL Delary 70.39 1 *i*P **P** **01 46 54.0 -0.4**
DEL *i*P **pP** **01 46 54.4 -5.5**
DEL IAmb IAmb 01 46 55.2
comp=Z,8.5nm,0.7s
OBN Obninsk 70.47 348 P **P** **01 46 54.0 -0.9**
comp=Z,3.3nm,0.5s,baz=69,slow=5.5,SNR=12
OBN Obninsk 70.47 348 *c e*P **P** **01 46 54.3 -0.6**
OBN *e**SP **pP** **01 46 58.0 -2.5**
OBN *e* 01 47 13.7
OBN S **S** **01 56 08.0 +1.6**
OBN *e*PS PnS 01 56 56.8 +23
OBN *e*SS **SS** **02 00 43.3 +7.0**
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,419nm,18.0s
OBN Obninsk 70.47 348 P **P** **01 46 55.1 +0.2**
MDOK Medeo 70.54 317 *e*P **P** **01 46 54.6 -1.2**
baz=317
MDOK Medeo 70.54 317 *e*P **P** **01 46 54.6 -1.2**
BLEU Blekinge 70.57 0 *i*P **P** **01 46 55.6 +0.1**
PBUR Paburge 70.75 357 *e*P **P** **01 46 56.8 +0.2**
BJUU Bjuv 70.77 2 *i*P **P** **01 46 57.5 +0.7**
ABKAR Akbulak array 71.18 331 P **P** **01 46 59.7 +0.3**
PABE Paberze 71.19 355 *e*P **P** **01 46 59.9 +0.6**
IIGN Ignalina 71.22 354 *e*P **P** **01 47 00.1 +0.7**
IDID Didziasalis 71.22 354 *e*P **P** **01 46 58.6 -0.8**
LUNU Lund 71.22 2 *i*P **P** **01 47 00.1 +0.7**
SGDS Sogindy 71.27 319 ⇑*i*P **P** **01 47 00.7 +0.6**
comp=Z,21nm,1.7s,baz=319
SGDS Sogindy 71.27 319 *c i*P **P** **01 47 00.6 +0.5**
SGDS pmax pmax
comp=Z,21nm,1.7s
BELG Belogornoye 71.28 340 P **P** **01 46 59.6 -0.3**
BELG Belogornoye 71.28 340 *c i*P **P** **01 46 59.2 -0.7**
BELG pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 71.33 318 P **P** **01 47 01.5 +0.8**
SNR=16
KDJ Kajisay 71.35 317 P **P** **01 47 01.1 +0.3**
KDJ pmax pmax
comp=Z,22nm,1.1s
KDJ Kajisay 71.35 317 P **P** **01 47 01.1 +0.3**
KDJ IAmb IAmb 01 47 02.7
comp=Z,22nm,1.1s
TARG Taragay, Kyrgy 71.43 316 IAmb IAmb 01 47 03.9
comp=Z,5.9nm,0.7s
BOOM Boomskoye usch 71.55 318 P **P** **01 47 01.8 -0.2**
BOOM pmax pmax
comp=Z,20nm,1.1s
BOOM Boomskoye usch 71.55 318 P **P** **01 47 01.8 -0.2**
BOOM IAmb IAmb 01 47 03.6
comp=Z,20nm,1.1s
CHMS Chumysh 71.60 319 P **P** **01 47 03.2 +1.1**
SNR=8.4
NACGM Naroch 71.62 354 *i*P **P** **01 47 02.4 +0.5**
ULHL Ulahol 71.64 317 P **P** **01 47 03.4 +0.8**
SNR=6.3
BSD Bornholm Skovb 71.76 1 *i*P **P** **01 47 03.3 +0.6**
BSD IAmb IAmb 01 47 04.0
comp=Z,2.3nm,0.4s
BSD Bornholm Skovb 71.76 1 *i*P **P** **01 47 03.3 +0.6**
BSD pmax pmax
comp=Z,2.0nm,0.4s
PPT Papeete 71.81 166 LR LR 02 12 06.5
comp=Z,269nm,21.4s,baz=5.5,slow=30
KBK Karagaybulak 71.81 318 P **P** **01 47 05.0 +1.5**
SNR=9.5
PPT2 Papeete2 71.83 166 *e*S **S** **01 56 19.6 -3.4**
comp=Z,126nm,28.2s
PPT2 Papeete2 71.83 166 *e*LR LR 02 08 48.0
comp=Z,469nm,22.5s
MNK Minsk 71.95 353 *i*P **P** **01 47 04.2 +0.3**
MNK *i* 01 47 22.7
MNK *i* 01 49 43.6
MNK *i* PPP PPP 01 51 27.3
MNK *i*S **S** **01 56 25.7 +2.1**
MNK *i* 01 57 10.0
MNK *i*SS **SS** **02 01 02.2 +3.3**
MNK pmax pmax
comp=E,1.0nm,1.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.9s
MNK MLR MLR
comp=E,33nm,26.0s
MNK MLR MLR
comp=N,208nm,19.0s
MNK MLR MLR
comp=Z,321nm,23.0s
MNK Minsk 71.95 353 *i*P **P** **01 47 04.2 +0.4**
comp=E,1.0nm,1.9s
MNK *i*P **P** **01 47 04.2 +0.4**
comp=N,12nm,0.9s
MNK *i*P **P** **01 47 04.2 +0.4**
comp=Z,21nm,0.9s,baz=187
MNK *i* PcP **PcP** **01 47 22.7 +0.3**
MNK *i* PP **PP** **01 49 43.6 +0.7**
MNK *i* PPP PPP 01 51 27.3
MNK *i*S **S** **01 56 25.7 +2.1**
MNK *i* ScS **ScS** **01 57 10.1 +1.9**
MNK *i*SS **SS** **02 01 02.3 +3.4**
MNK *i* SSS SSS 02 04 22.8
MNK *i* LQ LQ 02 13 44.8
MNK *i* LR LR 02 19 13.2
MNK *i* LRM MLR 02 21 01.6
comp=E,33nm,25.8s
MNK *i* LRM MLR 02 21 15.8
comp=N,208nm,19.3s
MNK *i* LRM MLR 02 21 32.5
comp=Z,321nm,23.2s
AAK Ala-Archa 72.01 319 P **P** **01 47 05.7 +1.1**
SNR=7.7
AAK Ala-Archa 72.01 319 *c e*P **P** **01 47 05.8 +1.1**
AAK pmax pmax
comp=Z,125nm,1.7s
AAK Ala-Archa 72.01 319 P **P** **01 47 05.0 +0.3**
AAK IAmb IAmb 01 47 06.9
comp=Z,20nm,0.9s
SKMB Sankelmark Bun 72.01 4 *e*P **P** **01 47 05.5 +1.3**
comp=Z,91nm,1.6s,baz=357,slow=5.7
EKS2 Erkin-Say 72.27 319 P **P** **01 47 07.3 +1.1**
SNR=17
HLG Helgoland 72.47 5 *e*P **P** **01 47 08.0 +1.0**
comp=Z,50nm,1.0s,baz=357,slow=5.7
SUW Suwalki 72.71 356 *e*P **P** **01 47 08.2 -0.2**
SUW Suwalki 72.71 356 *e*P **P** **01 47 08.7 +0.3**
AML Almayashu 72.75 319 P **P** **01 47 10.8 +1.4**
SNR=16
BSEG Bad Segeberg 72.83 4 *e*P **P** **01 47 09.9 +0.8**
comp=Z,16nm,1.1s,baz=357,slow=5.7
QIZ Qiongzhong 72.84 279 P **P** **01 47 10.0 +0.3**
QIZ S **SKiKP** **01 56 38.5 -3.3**
QIZ L L
comp=Z,220nm,18.6s
QIZ L L
comp=Z,270nm,19.6s
QIZ L L
comp=Z,300nm,12.7s
KK31 Karatay Array 73.13 322 IAmb IAmb 01 47 12.8
comp=Z,20nm,1.1s
KKAR Karatay Array 73.13 322 P **P** **01 47 11.1 -0.1**
KKAR Karatay Array 73.13 322 P **P** **01 47 11.1 -0.1**
LNIZ Loecknitz 73.37 1 *e*P **P** **01 47 13.2 +0.9**
comp=Z,15nm,1.0s,baz=357,slow=5.7
KSH Kashi 74.04 316 P **P** **01 47 20.3 +3.6**
KSH S **S** **01 56 52.3 +4.1**
KSH pmax pmax
comp=Z,20nm,1.0s
KSH pmax pmax
comp=Z,110nm,4.1s
KSH L L
comp=Z,700nm,15.5s
KSH L L
comp=Z,1μm,18.0s
KSH L L
comp=Z,630nm,18.7s
NRDL Niedersach Rie 74.26 4 *e*P **P** **01 47 18.2 +0.7**
comp=Z,22nm,1.2s,baz=357,slow=5.7
IBBN Ibbenburen 74.33 5 *e*P **P** **01 47 18.8 +0.8**
comp=Z,37nm,1.3s,baz=357,slow=5.7
RUE Ruedersdorf 74.38 2 *e*P **P** **01 47 18.8 +0.6**
comp=Z,39nm,1.2s,baz=357,slow=5.7
FLTG Flechtingen 74.47 3 *e*P **P** **01 47 18.8 +0.1**
comp=Z,35nm,1.7s,baz=357,slow=5.7
SLVN Son La 74.52 285 P **P** **01 47 20.6 +1.0**
SLVN IAmb IAmb 01 47 21.3
comp=Z,9.8nm,0.9s
ASSE Asse, Remlinge 74.65 4 *e*P **P** **01 47 20.5 +0.8**
comp=Z,7.0nm,1.2s,baz=357,slow=5.7
CLZ Clausthal 74.92 4 *e*P **P** **01 47 22.4 +0.9**
comp=Z,23nm,1.0s,baz=357,slow=5.7
LSA Lhasa 74.95 300 P **P** **01 47 23.1 +0.5**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 74.95 300 P **P** **01 47 23.1 +0.5**
LSA IAmb IAmb 01 47 25.1
comp=Z,16nm,0.7s
BUG Bochum--Univer 75.17 6 *e*P **P** **01 47 23.2 +0.3**
comp=Z,30nm,1.3s,baz=357,slow=5.7
GTTG Gottingen 75.20 4 *e*P **P** **01 47 23.9 +0.9**
comp=Z,38nm,1.2s,baz=357,slow=5.7
KASTN Kahler Asten 75.47 5 *e*P **P** **01 47 25.2 +0.6**
comp=Z,21nm,1.0s,baz=357,slow=5.7
CLL Collm 75.54 2 *i*P **P** **01 47 25.0 0.0**
comp=Z,16nm,1.1s
CLL *i* (sP) **PcP** **01 47 35.3 -2.6**
CLL *e* 01 47 40.0
CLL *e*S **S** **01 57 05.0 +0.8**
CLL *e*PPS PPS 01 57 50.0
CLL *e*SS **SS** **02 01 54.0 +0.3**
CLL *e* 02 06 06.0
CLL Collm 75.54 2 P **P** **01 47 25.3 +0.3**
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 75.54 2 P **P** **01 47 25.3 +0.3**
CLL IAmb IAmb 01 47 26.5
comp=Z,15nm,1.1s
CLL Collm 75.54 2 *e*P **P** **01 47 25.1 +0.1**
comp=Z,16nm,1.1s,baz=357,slow=5.7
UCC Uccle 75.60 8 P **P** **01 47 25.7 +0.4**
UCC pmax pmax
comp=Z,44nm,1.7s
UCC Uccle 75.60 8 P **P** **01 47 25.7 +0.4**
NEUB Neuenburg 75.61 3 *e*P **P** **01 47 25.9 +0.5**
comp=Z,21nm,1.0s,baz=357,slow=5.7
AKASG Malin Array Be 75.61 352 P **P** **01 47 24.9 -0.4**
comp=Z,8.7nm,0.5s,baz=12,slow=5.8,SNR=41
AKASG LR LR 02 25 42.3
comp=Z,335nm,18.1s,baz=5.0,slow=40
AKASG Malin Array Be 75.61 352 *c e*P **P** **01 47 25.0 -0.4**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG Malin Array Be 75.61 352 IAmb IAmb 01 47 26.6
comp=Z,29nm,1.9s

AKBB Malin Array Si 75.61 352 *ce*P **P 01 47 24.3 -1.1**
BTK Batken 75.64 320 P **P 01 47 25.6 -0.3**
BTK pmax pmax
comp=Z,68nm,1.7s
BTK Batken 75.64 320 P **P 01 47 25.6 -0.3**
SNF Seneffe 75.89 8 *d*PcP **PcP 01 47 38.7 -0.7**
BSTI Sart Tilman 75.91 7 *d*P **P 01 47 27.9 +0.8**
BSTI *d*PcP **PcP 01 47 38.2 -1.4**
MEM Membach 75.92 7 *d*P **P 01 47 26.7 -0.4**
comp=Z,18nm,0.9s
MEM *d*PcP **PcP 01 47 36.7 -2.9**
UBBA Unterbreizbach 75.93 4 *e*P **P 01 47 27.6 +0.5**
comp=Z,20nm,1.5s,baz=357,slow=5.7
FBE Freiberg 75.93 2 *e*P **P 01 47 28.0 +0.7**
comp=Z,22nm,1.1s,baz=357,slow=5.7
BTNL Ternell 75.95 7 *d*P **P 01 47 27.5 +0.1**
BTNL *d*PcP **PcP 01 47 37.8 -1.9**
BRG Berggiesshubel 75.99 2 *e*P **P 01 47 27.9 +0.4**
BRG Amp 01 47 29.5
comp=Z,13nm,1.2s
BRG *ex* x 01 47 39.4
BRG Amp 01 47 40.2
comp=Z,5.8nm,0.9s
BRG Berggiesshubel 75.99 2 *e*P **P 01 47 28.0 +0.4**
comp=Z,35nm,1.9s,baz=357,slow=5.7
BCLA Clavier 76.05 7 *d*P **P 01 47 28.5 +0.6**
comp=Z,13nm,1.1s
BCLA *d*PcP **PcP 01 47 39.2 -1.0**
AHRW Bad Neuenahr-A 76.05 6 *e*P **P 01 47 28.7 +0.8**
comp=Z,78nm,2.2s,baz=357,slow=5.7
BGES Gesves 76.07 7 *d*P **P 01 47 28.7 +0.6**
BGES *d*PcP **PcP 01 47 38.9 -1.3**
BMRD Maredsous 76.13 8 *d*P **P 01 47 28.9 +0.5**
comp=Z,19nm,1.2s
BMRD *d*PcP **PcP 01 47 38.6 -1.9**
MOX Moxa 76.17 3 *e*P **P 01 47 29.2 +0.6**
comp=Z,13nm,0.9s,baz=357,slow=5.7
MOX *ep*P **PcP 01 47 39.5 -1.2**
MOX *e*L L 02 22 18.7
comp=Z,164nm,21.7s
CHVC Chvalec 76.30 0 *e*P **P 01 47 30.2 +0.8**
CHVC AMS AMS 02 30 10.0
comp=Z,300nm,16.0s
RCHB Rochefort 76.31 7 *d*P **P 01 47 29.3 -0.1**
RCHB *d*PcP **PcP 01 47 40.0 -1.3**
DOU Dourbes 76.32 8 *d*P **P 01 47 27.8 -1.7**
DOU *d*PcP **PcP 01 47 39.9 -1.4**
OSTC Ostas 76.33 0 *e*P **P 01 47 29.9 +0.3**
OSTC AMS AMS 02 30 20.0
comp=Z,400nm,20.4s
PLN Plauen 76.34 3 *e*P **P 01 47 30.0 +0.4**
comp=Z,12nm,1.4s,baz=357,slow=5.7
PVCC Panska Ves 76.35 1 *e*P **P 01 47 30.4 +0.8**
PVCC MLR MLR
comp=Z,300nm,14.6s
PVCC Panska Ves 76.35 1 *e*P **P 01 47 30.4 +0.8**
PVCC AMS AMS 02 32 30.0
comp=Z,300nm,14.6s
UPC Upice 76.38 0 *e*P **P 01 47 30.7 +0.9**
UPC MLR MLR
comp=Z,300nm,18.5s
UPC Upice 76.38 0 *e*P **P 01 47 30.7 +0.9**
UPC AMS AMS 02 30 20.0
comp=Z,300nm,18.5s
TANN Tannenbergstha 76.42 3 *e*P **P 01 47 30.8 +0.7**
comp=Z,58nm,2.3s,baz=357,slow=5.7
TNS Taunus Mts 76.45 5 *e*P **P 01 47 30.8 +0.5**
comp=Z,516nm,4.3s,baz=357,slow=5.7
TNS *ep*P **PcP 01 47 41.0 -1.0**
GUNZ Gunzen 76.47 3 *e*P **P 01 47 31.2 +0.8**
baz=357,slow=5.7
DPC Dobruska-Polom 76.53 360 *e*P **P 01 47 31.5 +0.7**
DPC *e* 01 47 42.2
DPC MLR MLR
comp=Z,400nm,14.6s
DPC Dobruska-Polom 76.53 360 *e*P **P 01 47 31.5 +0.7**
DPC *e*PCP **PcP 01 47 42.2 -0.1**
DPC AMS AMS 02 30 30.0
comp=Z,400nm,14.6s
WERN Wernitzgruen 76.55 3 *e*P **P 01 47 31.6 +0.8**
comp=Z,101nm,2.7s,baz=357,slow=5.7
NKC Novy Kostel 76.60 3 *e*P **P 01 47 32.1 +1.0**
NKC *e* 01 47 42.3
NKC MLR MLR
comp=Z,300nm,20.2s
NKC Novy Kostel 76.60 3 *e*P **P 01 47 32.1 +1.0**
NKC *e*PCP **PcP 01 47 42.3 -0.3**
NKC AMS AMS 02 33 50.0
comp=Z,300nm,20.2s
OJC Ojcow 76.62 358 *e*P **P 01 47 31.8 +0.6**
OJC Ojcow 76.62 358 IAmb IAmb 01 47 32.4
comp=Z,10nm,1.1s
PRA Prague 76.80 1 *e*P **P 01 47 33.2 +1.0**
PRA Prague 76.80 1 *e*P **P 01 47 33.2 +1.0**
KRLC Kraliky 76.81 360 *e*P **P 01 47 33.1 +0.8**
KRLC *e* 01 47 43.4
KRLC MLR MLR
comp=Z,300nm,17.7s
KRLC Kraliky 76.81 360 *e*P **P 01 47 33.1 +0.8**
KRLC *e*PCP **PcP 01 47 43.4 -0.1**
KRLC AMS AMS 02 33 50.0
comp=Z,300nm,17.7s
MANZ Manzenberg 76.84 3 *e*P **P 01 47 33.0 +0.6**
comp=Z,29nm,2.0s,baz=357,slow=5.7
LVV L'vov 76.86 355 *e*P **P 01 47 31.9 -0.6**
WLF Walferdange 76.87 7 *d*P **P 01 47 33.7 +1.1**
WLF *d*PcP **PcP 01 47 43.1 -0.6**
WLF Walferdange 76.87 7 P **P 01 47 33.7 +1.1**
WLF pmax pmax
comp=Z,37nm,1.3s
WLF Walferdange 76.87 7 P **P 01 47 33.7 +1.1**
WLF Walferdange 76.87 7 *e*P **P 01 47 33.6 +1.1**
comp=Z,42nm,1.4s,baz=357,slow=5.7
PRU Pruhonice 76.89 1 *e*P **P 01 47 33.1 +0.4**
PRU *e* 01 47 43.5
PRU MLR MLR
comp=Z,300nm,17.7s
PRU Pruhonice 76.89 1 *e*P **P 01 47 33.1 +0.4**
PRU *e*PCP **PcP 01 47 43.5 -0.3**
PRU AMS AMS 02 32 30.0
comp=Z,300nm,17.7s
MILB Miltenberg 76.89 5 *e*P **P 01 47 33.3 +0.6**
comp=Z,20nm,0.9s,baz=357,slow=5.7
OKC Ostrava-Krasne 77.04 359 AMS AMS 02 31 50.0
comp=Z,300nm,15.2s
ROTZ Rotzenmuhle 77.06 3 *e*P **P 01 47 34.5 +0.8**
comp=Z,14nm,1.2s,baz=357,slow=5.7
MORC Moravsky Berou 77.10 359 ⇑P **P 01 47 34.5 +0.5**
MORC Moravsky Berou 77.10 359 *e*P **P 01 47 34.1 +0.1**
MORC Moravsky Berou 77.10 359 ⇑P **P 01 47 34.5 +0.5**
GRA1 Grafenberg Arr 77.11 3 IAmb IAmb 01 47 35.7
comp=Z,15nm,0.9s
GRF Grafenberg Arr 77.11 3 *e*P **P 01 47 34.9 +1.0**
comp=Z,22nm,1.1s,baz=357,slow=5.7
GRF *e*L L 02 23 09.3
comp=Z,197nm,22.0s
GRFO Grafenberg 77.11 3 P **P 01 47 34.5 +0.6**
GRFO pmax pmax
comp=Z,22nm,1.2s
GRFO Grafenberg 77.11 3 P **P 01 47 34.5 +0.6**
GRFO IAmb IAmb 01 47 36.3
comp=Z,22nm,1.2s
KWP Kalwaria Pacla 77.11 356 *e*P **P 01 47 35.0 +1.0**
PBCC Pribram 77.18 2 *e*P **P 01 47 35.2 +0.8**
PBCC *e*PCP **PcP 01 47 45.4 +0.3**
STHS Stebnicka Huta 77.38 357 *e*P **P 01 47 36.6 +1.0**
STHS Stebnicka Huta 77.38 357 *e*P **P 01 47 36.5 +1.0**
TBI Tubuai 77.51 167 *e*S **S 01 57 25.4 -0.7**
comp=Z,112nm,36.0s
TBI Tubuai 77.51 167 *e*LR LR 02 11 17.6
comp=Z,387nm,33.0s,baz=350
VRAC Vranov 77.58 360 P **P 01 47 36.4 -0.2**
comp=Z,5.8nm,0.6s,baz=304,slow=8.6,SNR=5.2
VRAC Vranov 77.58 360 ⇑P **P 01 47 37.5 +0.9**
VRAC Vranov 77.58 360 *e*P **P 01 47 37.5 +0.9**
VRAC Vranov 77.58 360 ⇑P **P 01 47 37.5 +0.9**
TREC Trest 77.59 1 *e*P **P 01 47 37.4 +0.7**
TREC *e* 01 47 47.6
TREC MLR MLR
comp=Z,400nm,16.2s
TREC Trest 77.59 1 *e*P **P 01 47 37.4 +0.7**
TREC *e*PCP **PcP 01 47 47.6 +0.7**
TREC AMS AMS 02 31 30.0
comp=Z,400nm,16.2s

WET Wettzell 77.70 2 *e*P **P 01 47 38.3 +1.0**
comp=Z,18nm,1.4s,baz=357,slow=5.7
KHC Kasperske Hory 77.73 2 *e*P **P 01 47 38.4 +0.9**
KHC *e* 01 47 49.1
KHC MLR MLR
comp=Z,300nm,14.9s
KHC Kasperske Hory 77.73 2 *e*P **P 01 47 38.4 +0.9**
KHC *e*PCP **PcP 01 47 49.1 +1.6**
KHC AMS AMS 02 33 20.0
comp=Z,300nm,14.9s
KRUC Moravsky 77.82 360 *e*P **P 01 47 38.4 +0.4**
KOLS Kolonicke sedl 77.83 356 *e*P **P 01 47 39.0 +1.0**
KOLS Kolonicke sedl 77.83 356 *e*P **P 01 47 39.0 +1.0**
SHL Shillong 77.88 297 P **P 01 47 38.2 -0.7**
SHL pmax pmax
comp=Z,20nm,0.4s
SHL Shillong 77.88 297 P **P 01 47 38.2 -0.7**
CRVS Cervenica-Dubn 77.89 357 *e*P **P 01 47 39.2 +0.8**
CRVS Cervenica-Dubn 77.89 357 *e*P **P 01 47 39.2 +0.8**
GEC2 GERESS Array S 78.02 2 *e*P **P 01 47 39.7 +0.5**
comp=Z,7.5nm,0.9s,baz=357,slow=5.7
GEC2 *ep*P **PcP 01 47 49.9 +1.1**
GERES GERESS Array B 78.02 2 P **P 01 47 39.4 +0.3**
comp=Z,2.7nm,0.7s,baz=5.2,slow=4.4,SNR=31
JAVC Velka Javorina 78.02 359 *e*P **P 01 47 41.0 +1.9**
CKRC Cesky Krumlov 78.05 1 *e*P **P 01 47 39.8 +0.5**
CKRC AMS AMS 02 33 10.0
comp=Z,300nm,15.2s
SORM Soroca 78.23 352 ⇑P **P 01 47 39.6 -0.6**
SORM Soroca 78.23 352 ⇑P **P 01 47 39.6 -0.6**
BFO Black Forest 78.33 5 P **P 01 47 41.5 +0.6**
BFO pmax pmax
comp=Z,8.0nm,1.0s
BFO Black Forest 78.33 5 P **P 01 47 41.5 +0.6**
BFO IAmb IAmb 01 47 42.1
comp=Z,8.3nm,1.0s
BFO Black Forest 78.33 5 *e*P **P 01 47 41.3 +0.5**
comp=Z,15nm,1.2s,baz=357,slow=5.7
KECS Kecovo 78.34 357 *e*P **P 01 47 42.1 +1.2**
KECS pmax pmax
comp=Z,7.0nm,0.7s
KECS Kecovo 78.34 357 *e*P **P 01 47 42.0 +1.2**
UBPT Khong Chiam 78.35 280 P **P 01 47 43.2 +1.9**
UBPT Khong Chiam 78.35 280 P **P 01 47 40.8 -0.6**
UBPT IAmb IAmb 01 47 43.2
comp=Z,18nm,1.1s
SMOL Smolenice 78.37 359 *e*P **P 01 47 42.7 +1.7**
SMOL pmax pmax
comp=Z,33nm,2.4s
SMOL Smolenice 78.37 359 *e*P **P 01 47 42.7 +1.7**
VYHS Vyhne 78.37 358 *e*P **P 01 47 42.0 +1.0**
VYHS Vyhne 78.37 358 *e*P **P 01 47 42.0 +1.0**
ECH Echery 78.38 6 IAmb IAmb 01 47 53.7
comp=Z,17nm,1.0s
TAPN Taplejung 78.62 301 ⇑ *i*P **P 01 47 43.9 +0.8**
comp=Z,13nm,0.5s
ZST Bratislava 78.69 359 *e*P **P 01 47 44.5 +1.8**
ZST Bratislava 78.69 359 *e*P **P 01 47 44.5 +1.8**
PSZ Piszkesteto 78.92 358 ⇓P **P 01 47 45.3 +1.1**
PSZ Piszkesteto 78.92 358 ⇓P **P 01 47 45.3 +1.1**
PSZ Piszkesteto 78.92 358 IAmb IAmb 01 47 46.2
comp=Z,13nm,1.0s
CONA Conrad Observa 78.96 0 *e*P **P 01 47 45.6 +1.2**
comp=Z,14nm,1.2s,SNR=7.8
CONA *i* P **PcP 01 47 56.9 +3.9**
comp=Z,8.7nm,1.0s
BURAR Bucovina Array 78.98 354 IAmb IAmb 01 47 57.3
comp=Z,8.1nm,0.9s
BUR01 Bucovina Ar. S 78.99 354 ⇓P **P 01 47 45.0 +0.4**
MOA Moln 79.02 1 *e*P **P 01 47 45.4 +0.8**
comp=Z,8.1nm,1.4s
MOA *e*P **PcP 01 47 55.4 +2.3**
comp=Z,5.1nm,1.1s
BMR Baia Mare 79.03 355 ⇓P **P 01 47 44.0 -0.6**
BMR Baia Mare 79.03 355 ⇓P **P 01 47 44.0 -0.6**
UBR Ueberruh 79.07 4 *e*P **P 01 47 45.7 +0.7**
comp=Z,12nm,1.2s,baz=357,slow=5.7
RJOB Jochberg 79.11 2 *e*P **P 01 47 45.8 +0.6**
comp=Z,38nm,0.9s,baz=357,slow=5.7
GOF Gofitskoye 79.19 341 ⇑ *e*P **P 01 47 46.6 +1.0**
GOF pmax pmax
comp=Z,50nm,0.6s
RETA Reutte 79.29 4 *i* P **P 01 47 47.1 +0.9**
comp=Z,7.3nm,1.0s
RETA *i* P **PcP 01 47 57.5 +3.1**
comp=Z,9.1nm,1.4s
MILM Milestii Mici 79.40 351 ⇑P **P 01 47 46.1 -0.5**
MOTA Moosalm 79.45 4 *e*P **P 01 47 48.2 +1.0**
comp=Z,18nm,1.0s,SNR=9.8
MOTA *i* P **PcP 01 47 58.4 +3.3**
comp=Z,13nm,0.8s
DAVA Damuels 79.45 4 *i* P **P 01 47 48.9 +1.7**
comp=Z,4.4nm,0.7s
WATA Walderalm 79.47 3 *e*P **P 01 47 48.3 +1.0**
comp=Z,20nm,1.2s,SNR=12
WATA *i* P **PcP 01 47 58.5 +3.2**
comp=Z,9.8nm,0.8s
KKN Kakani 79.50 303 ⇑ *i*P **P 01 47 48.5 +0.7**
comp=Z,9.7nm,0.4s
RAMN Ramite 79.52 301 ⇑ *i*P **P 01 47 48.4 +0.4**
comp=Z,40nm,0.7s
WTTA Wattenberg 79.55 3 *e*P **P 01 47 49.0 +1.2**
comp=Z,11nm,0.7s,SNR=11
WTTA *i* P **PcP 01 47 59.3 +3.6**
comp=Z,13nm,0.8s
DZM Mont Dzumac 79.55 208 *e*LR LR 02 12 24.3
comp=Z,367nm,22.1s
ARCR ARCALIA 79.57 354 ⇑P **P 01 47 44.6 -3.0**
SQTA Sankt Quirin 79.57 4 *e*P **P 01 47 48.8 +1.0**
comp=Z,19nm,0.8s,SNR=7.3
SQTA *e*P **PcP 01 47 59.4 +3.7**
comp=Z,20nm,0.8s
BIZ Bicaz 79.60 353 ⇓P **P 01 47 48.2 +0.4**
PKIN Phulchoki 79.62 303 ⇑ *i*P **P 01 47 49.0 +0.5**
comp=Z,24nm,0.5s
CM31 Chiang Mai Arr 79.63 287 P **P 01 47 49.3 +0.9**
CMAR Chiang Mai Arr 79.63 287 P **P 01 47 48.6 +0.2**
comp=Z,5.2nm,0.6s,baz=22,slow=5.7,SNR=19
CMAR LR LR 02 25 14.0
comp=Z,203nm,20.4s,baz=208,slow=37
CMAR Chiang Mai Arr 79.63 287 *ce*P **P 01 47 49.0 +0.6**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
ARSA Arzberg 79.64 1 *e*P **P 01 47 49.6 +1.6**
comp=Z,13nm,1.2s,SNR=6.4
ARSA *e*P **PcP 01 47 59.6 +3.8**
comp=Z,6.4nm,0.8s
CM02 Chiang Mai Arr 79.65 287 P **P 01 47 50.3 +1.8**
comp=Z,113nmcomp=Z,12nm,0.9s
GKN Gorkha 79.65 303 ⇑ *i*P **P 01 47 49.1 +0.5**
comp=Z,24nm,0.5s
CM01 Chiang Mai Arr 79.65 287 P **P 01 47 50.4 +1.9**
comp=Z,166nmcomp=Z,12nm,1.3s
CM04 Chiang Mai Arr 79.66 287 P **P 01 47 50.3 +1.8**
comp=Z,152nmcomp=Z,13nm,1.1s
FETA Feichten 79.75 4 *i* P **P 01 47 50.1 +1.3**
comp=Z,19nm,1.0s,SNR=9.2
FETA *i* P **PcP 01 48 00.4 +3.9**
comp=Z,26nm,1.0s
KBA Koelnbreinsper 79.78 2 *i* P **P 01 47 50.6 +1.6**
comp=Z,26nm,1.1s,SNR=7.1
KBA *i* P **PcP 01 48 01.1 +4.4**
comp=Z,35nm,1.1s
PHIT Phitsanulok 79.79 285 P **P 01 47 51.0 +1.8**
DANN Dangsing 79.80 304 ⇑ *i*P **P 01 47 50.5 +1.0**
DRGR 79.94 356 ⇑P **P 01 47 50.0 +0.3**
DRGR 79.94 356 ⇑P **P 01 47 50.0 +0.3**
DAVOX Davos/Dischmat 79.96 4 P **P 01 47 50.0 0.0**
comp=Z,5.9nm,0.7s,baz=351,slow=7.7,SNR=15
ABTA Abfaltersbach 80.09 3 *e*P **P 01 47 51.4 +0.9**
comp=Z,17nm,1.2s,SNR=8.2
ABTA *i* P **PcP 01 48 03.0 +5.1**
comp=Z,14nm,1.2s
NIL Nilore 80.18 315 P **P 01 47 51.3 +0.1**
NIL pmax pmax
comp=Z,28nm,0.9s
NIL Nilore 80.18 315 P **P 01 47 51.3 +0.1**
SOKA Soboth 80.20 1 *e*P **P 01 47 52.1 +1.0**
comp=Z,25nm,1.2s,SNR=16
SOKA *i* P **PcP 01 48 03.7 +5.3**
comp=Z,16nm,1.0s
MYKA Terra Mystica 80.23 2 *e*P **P 01 47 51.8 +0.5**
comp=Z,6.7nm,1.0s
MYKA *i* P **PcP 01 48 03.2 +4.7**
comp=Z,3.2nm,0.5s
TUE Stuetta 80.24 5 IAmb IAmb 01 47 53.5
comp=Z,12nm,1.0s
MAK Makhachkala 80.25 337 *e*P P 01 47 45.8 -5.5
MAK *e*S **S 01 57 48.2 -7.0**
MAK *e*SSS SSS 02 06 30.3
MAK pmax pmax
comp=Z,94nm,0.7s
ZOU Zoufplan 80.29 2 IAmb IAmb 01 47 53.6
comp=Z,34nm,1.7s
KVAR Kislovodsk Arr 80.32 341 P **P 01 47 52.0 +0.1**
comp=Z,6.2nm,0.9s,baz=280,slow=23,SNR=2.2
KIV Kislovodsk 80.32 341 ⇑P **P 01 47 53.0 +1.1**
KIV Kislovodsk 80.32 341 *e*P **P 01 47 52.8 +0.9**
KIV *e*S **S 01 57 58.8 +2.6**
KIV *e*SS **SS 02 03 10.8 +4.7**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV pmax pmax
comp=Z,42nm,3.9s
KIV MLR MLR
comp=Z,918nm,19.0s
KIV Kislovodsk 80.32 341 P **P 01 47 52.0 +0.2**
KIV IAmb IAmb 01 48 05.3
comp=Z,15nm,1.0s
KOLN Koldanda 80.36 304 ⇑ *i*P **P 01 47 53.1 +0.7**
comp=Z,109nm,1.1s
OBKA Obir 80.37 1 *e*P **P 01 47 53.2 +1.1**
comp=Z,26nm,0.8s,SNR=14
OBKA *i* P **PcP 01 48 03.6 +4.5**
comp=Z,27nm,0.9s
GHRR 80.37 352 ⇓P **P 01 47 52.7 +0.7**
PYUN Piuthan 80.39 305 ⇑ *i*P **P 01 47 53.3 +0.7**
comp=Z,84nm,0.7s
GROC Groznyy 80.40 339 *e*P **P 01 47 51.5 -0.7**
GROC *e* 01 50 53.4
GROC pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 80.50 341 P **P 01 47 53.2 +0.6**
comp=Z,10.0nm,0.8s,baz=355,slow=4.2,SNR=15
KBZ LR LR 02 28 51.2
comp=Z,383nm,18.7s,baz=11,slow=40
KBZ Khabaz 80.50 341 *ce*P **P 01 47 53.6 +1.0**
KBZ pmax pmax
comp=Z,14nm,0.9s
SHA1 Shidzhatmaz 80.54 341 *i* P **P 01 47 54.1 +0.9**
VRI Vrincioaia 80.62 353 ⇑P **P 01 47 53.9 +0.6**
VRI Vrincioaia 80.62 353 ⇑P **P 01 47 53.9 +0.6**
MORH Mrgy, Hungar 80.65 358 ⇑P **P 01 47 53.9 +0.5**
CTI Castel Tesino 80.76 3 IAmb IAmb 01 48 05.9
comp=Z,12nm,1.1s
KBL Kabul 81.13 318 P **P 01 47 56.3 -0.2**
KBL pmax pmax
comp=Z,20nm,1.4s
KBL Kabul 81.13 318 P **P 01 47 56.3 -0.2**
KBL IAmb IAmb 01 47 58.1
comp=Z,20nm,1.4s
BZS Buzias 81.17 356 ⇑P **P 01 47 56.6 +0.4**
BZS Buzias 81.17 356 ⇑P **P 01 47 56.6 +0.4**
VOIR 81.17 354 ⇓P **P 01 47 57.2 +0.9**
VOIR 81.17 354 ⇓P **P 01 47 57.2 +0.9**
CFR Carcaliu 81.19 352 ⇓P **P 01 47 56.1 -0.2**
CFR Carcaliu 81.19 352 ⇓P **P 01 47 56.1 -0.2**
ZEI Tsey 81.20 340 *e*P **P 01 47 56.7 0.0**
ZEI pmax pmax
comp=Z,24nm,1.4s
SOC Sochi 81.23 343 *e*P **P 01 47 53.3 -3.3**
SOC *e*PPP PPP 01 52 49.8
SOC *e*S **S 01 58 07.7 +2.2**
ARR Arges 81.26 354 ⇑P **P 01 47 57.7 +0.9**
GZR Gura Zlata 81.34 355 ⇓P **P 01 47 57.6 +0.4**
GZR Gura Zlata 81.34 355 ⇓P **P 01 47 57.6 +0.4**
BNI Bardonecchia 81.49 7 IAmb IAmb 01 48 01.5
comp=Z,31nm,1.3s
AKT Akhty 81.60 337 *e*P **P 01 47 59.7 +1.0**
AKT *e* 01 48 05.0
AKT *e* 01 51 06.5
AKT pmax pmax
comp=Z,34nm,1.0s
FRGS Fruska Gora 81.68 357 ⇑P **P 01 47 59.6 +0.6**
HERR Herculane 81.87 356 ⇑P **P 01 47 59.7 -0.2**
MDVR Moldovita 82.00 356 ⇑P **P 01 48 01.3 +0.6**
GEYT Alibeck 82.02 328 P **P 01 48 00.9 -0.1**
comp=Z,6.1nm,0.9s,baz=234,slow=22,SNR=7.4
GYA0B ALIBECK ARRAY 82.02 328 P **P 01 48 01.9 +1.0**
GYA0B IAmb IAmb 01 48 24.8
comp=Z,8.5nm,0.8s
MSSA Maissana 82.40 5 IAmb IAmb 01 48 14.5
comp=Z,10nm,0.8s
ZCCA Zocca 82.43 4 IAmb IAmb 01 48 30.1
comp=Z,14nm,0.8s
DIVS Divibare 82.74 357 IAmb IAmb 01 48 05.9
comp=Z,9.2nm,1.0s
BOVS Bovan 83.14 356 ⇑P **P 01 48 06.3 -0.3**
OSSC Osservatorio P 83.27 4 IAmb IAmb 01 48 19.3
comp=Z,17nm,1.1s
GNI Garni 83.55 338 P **P 01 48 09.2 +0.2**
comp=Z,8.8nm,0.8s,baz=354,slow=7.0,SNR=3.1
GNI Garni 83.55 338 *ce*P **P 01 48 10.8 +1.8**
GNI pmax pmax
comp=Z,19nm,1.3s
GNI Garni 83.55 338 P **P 01 48 10.1 +1.1**
NRCA Norcia 84.02 2 IAmb IAmb 01 48 13.2
comp=Z,19nm,1.2s
VTS Vitosha 84.08 355 ⇑P **P 01 48 11.7 0.0**
VTS Vitosha 84.08 355 ⇑P **P 01 48 11.7 0.0**
VTS Vitosha 84.08 355 IAmb IAmb 01 48 23.7
comp=Z,11nm,1.2s
PDG Podgorica 84.42 358 ⇓P **P 01 48 13.4 +0.3**
ESDC Sonseca Array 85.58 16 P **P 01 48 19.4 +0.3**
comp=Z,0.7nm,0.5s,baz=340,slow=4.8,SNR=11
ESDC Sonseca Array 85.58 16 IAmb IAmb 01 48 32.1
comp=Z,13nm,1.2s
GURO Guroymak-BITLI 85.66 340 IAmb IAmb 01 48 34.8
comp=Z,5.7nm,0.8s
ANTO Ankara 85.93 347 P **P 01 48 21.8 +0.9**
ANTO pmax pmax
comp=Z,24nm,1.1s
ANTO Ankara 85.93 347 P **P 01 48 21.8 +0.9**
BR131 Keskin Array S 85.95 347 IAmb IAmb 01 48 23.9
comp=Z,16nm,0.9s
BRTR Keskin Array B 85.95 347 P **P 01 48 21.5 +0.4**
comp=Z,9.4nm,0.9s,baz=29,slow=3.3,SNR=30
BRTR Keskin Array B 85.95 347 *ce*P **P 01 48 22.2 +1.1**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
FNA Florina 86.00 356 IAmb IAmb 01 48 44.7
comp=Z,12nm,0.9s
WRA Warramunga Arr 90.42 236 P **P 01 48 41.8 -0.5**
comp=Z,0.4nm,0.7s,baz=31,slow=5.9,SNR=2.0
MMAI Mount Meron Ar 92.27 344 P **P 01 48 51.9 +0.9**
comp=Z,1.0nm,0.6s,baz=23,slow=7.8,SNR=2.1
ASAR Alice Springs 93.78 234 P **P 01 48 58.0 +0.1**
comp=Z,0.8nm,0.8s,baz=23,slow=4.1,SNR=2.9
H03N2 Juan Fernandez 113.23 115 T T 03 58 01.7
baz=322,slow=77,SNR=29
H03N1 Juan Fernandez 113.24 115 T T 03 57 57.2
baz=322,slow=77,SNR=25
H03N3 Juan Fernandez 113.25 115 T T 03 57 57.7
baz=322,slow=77,SNR=28
QSPA South Pole Qui 143.26 180 PKPdf **PKiKP 01 55 16.4 -0.6**
TSUM Tsumeb 145.76 358 PKPbc **PKPbc 01 55 20.0 0.0**
MAW Mawson 153.89 219 PKPbc **PKPbc 01 55 38.0 -0.7**
comp=Z,1.2nm,0.5s,baz=308,slow=9.4,SNR=3.1
BOSA Boshof 154.28 342 PKPbc **PKPbc 01 55 40.8 -0.2**
comp=Z,1.4nm,0.5s,baz=345,slow=4.6,SNR=7.0
BOSA Boshof 154.28 342 PKIKP **PKPbc 01 55 40.3 -0.6**
BOSA Boshof 154.28 342 **PKPbc 01 55 40.3 -0.6**

IDC ***27*** *01:41:56.4±0.6, 52.˚20S×4.˚85W, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/30, mbtmp4.2/13, ML3.6/1, MS4.4/20, Ms1 4.4/20, ms1mx4.3/26, Error ellipse: s-maj=20.5km s-min=16.4km az=99.0*
NEIC ***27*** *01:41:59.8±2.0, 52.˚23S±0.˚08×4.˚7W±0.˚2, h10km± 1km, mb4.7/27, Error ellipse: s-maj=19.6km s-min=11.8km az=67.0*
GCMT ***27*** *01:42:00.8±0.2, 52.˚22S±0.˚01×4.˚82W±0.˚02, h12km, MW5.1/128, Moment Tensor Solution. s43,c49; s128,c202; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.51±.12; Mθθ2.26±.14; Mφφ-0.75±.12; Mrθ0.22±.34; Mθφ-4.61±.08; Mφr-1.35±.30; Best double couple: M05.08000×10¹⁶ NP1φs82.00000°, δ71.00000°, λ-172.00000°. NP2φs349.00000°, δ82.00000°, λ-19.00000°. Principal axes: T 5.7360, Plg8.0000°,*

Azm37.0000°; N -1.3140, Plg70.0000°, Azm148.0000°; P -4.4250, Plg19.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 27 01:41:58.8±0.4,**52°24S**±0.08×**4.72W**±0.09,**h10**km,**n68,** σ1$9/50,**mb4.6**/22,**MS4.5**/23,**1C-1D,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.55**	**184**	P		**Pn**	**01 46 16.0**	**+0.6**
VNA3	**Neumayer Olymp**	**19.20**	**185**	P		**P**	**01 46 22.7**	**+0.3**
SNAA	**Sanae**	**19.52**	**178**	P		**Pn**	**01 46 27.6**	**+0.4**
SNAA	**Sanae**	**19.52**	**178**	P		**P**	**01 46 24.4**	**-1.5**
	0.2nm,0.3s,baz=336,slow=13,SNR=12							
SNAA				LR		LR	01 52 09.7	
	comp=Z,956nm,21.9s,baz=358,slow=31							
SNAA	**Sanae**	**19.52**	**178**	P		**Pn**	**01 46 26.9**	**-0.4**
SYO	**Syowa Base**	**26.60**	**146**	*e*P		**P**	**01 47 34.1**	**-2.6**
SYO	**Syowa Base**	**26.60**	**146**	*e*pP		**P**	**01 47 38.4**	**+1.7**
SUR	**Sutherland**	**27.15**	**53**	LR		LR	01 55 55.0	
	comp=Z,2μm,20.5s,baz=207,slow=31							
BOSA	**Boshof**	**32.43**	**55**	P		**P**	**01 48 28.6**	**-0.4**
	4.6nm,0.9s,baz=199,slow=5.2,SNR=4.8							
BOSA				LR		LR	01 58 49.7	
	comp=Z,1μm,21.7s,baz=216,slow=31							
BOSA	**Boshof**	**32.43**	**55**	P		**P**	**01 48 29.6**	**+0.5**
BOSA				IAmb		IAmb	01 48 30.2	
	comp=Z,17nm,1.2s							
MAW	**Mawson**	**35.09**	**142**	P		**P**	**01 48 51.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=234,slow=7.0,SNR=3.1							
MAW				LR		LR	02 00 25.3	
	comp=Z,635nm,21.5s,baz=261,slow=32							
MAW	**Mawson**	**35.09**	**142**	P		**P**	**01 48 51.5**	**-0.1**
LBTB	**Lobatse**	**35.59**	**52**	P		**P**	**01 48 55.9**	**-0.6**
	comp=Z,10.0nm,1.1s,baz=194,slow=11,SNR=6.6							
LBTB	**Lobatse**	**35.59**	**52**	P		**P**	**01 48 58.3**	**+1.8**
LBTB				IAmb		IAmb	01 48 58.3	
	comp=Z,15nm,1.1s							
TSUM	**Tsumeb**	**37.30**	**36**	P		**P**	**01 49 10.9**	**-0.3**
TSUM				IAmb		IAmb	01 49 12.5	
	comp=Z,21nm,1.0s							
QSPA	**South Pole Qui**	**38.01**	**180**	P		**P**	**01 49 15.9**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=247,slow=3.5,SNR=17							
QSPA				PcP		**PcP**	**01 51 30.4**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=266,slow=5.6,SNR=1.8							
QSPA	**South Pole Qui**	**38.01**	**180**	P		**P**	**01 49 17.4**	**+0.6**
PLTB	**Pedras Altas**	**40.75**	**281**	P		**P**	**01 49 40.8**	**+1.0**
PLTB				IAmb		IAmb	01 49 43.0	
	comp=Z,22nm,1.3s							
MATP	**Matopo**	**40.88**	**52**	P		**P**	**01 49 40.1**	**-1.0**
	comp=Z,5.5nm,0.8s,baz=217,slow=7.5,SNR=12							
TRQA	**Tornquist**	**41.70**	**266**	P		**P**	**01 49 47.5**	**-0.1**
H10S2	**ASCENSION HYDR**	**43.91**	**346**	T		T	02 36 57.0	
	baz=170,slow=74,SNR=18							
H10S3	**ASCENSION HYDR**	**43.92**	**346**	T		T	02 36 57.7	
	baz=50,slow=74,SNR=49							
LL02	**Futaleuf**	**44.55**	**254**	P		**P**	**01 50 09.9**	**-0.6**
LL02				IAmb		IAmb	01 50 25.6	
	comp=Z,8.1nm,1.0s							
LSZ	**Lusaka**	**45.19**	**48**	P		**P**	**01 50 16.9**	**+0.9**
LSZ				IAmb		IAmb	01 50 17.2	
	comp=Z,7.9nm,1.0s							
PLCA	**Paso Flores**	**45.26**	**257**	LR		LR	02 07 19.7	
	comp=Z,321nm,20.1s,baz=128,slow=34							
CPUP	**Villa Florida**	**46.92**	**283**	P		**P**	**01 50 27.0**	**-2.4**
	comp=Z,2.3nm,0.7s,baz=141,slow=9.3,SNR=3.3							
CPUP				LR		LR	02 06 37.5	
	comp=Z,156nm,21.5s,baz=144,slow=32							
BO01	**Tunca**	**49.66**	**264**	P		**P**	**01 50 52.0**	**+1.4**
BDFB	**Brasilia**	**50.02**	**300**	P		**P**	**01 50 51.7**	**-1.8**
	comp=Z,3.4nm,0.9s,baz=129,slow=8.4,SNR=3.0							
BDFB				LR		LR	02 08 08.6	
	comp=Z,468nm,19.0s,baz=141,slow=32							
BDFB	**Brasilia**	**50.02**	**300**	P		**P**	**01 50 54.4**	**+0.9**
SBA	**Scott Base**	**50.07**	**178**	P		**P**	**01 50 54.4**	**+1.4**
SBA				IAmb		IAmb	01 51 03.4	
	comp=Z,6.1nm,1.1s							
MT01	**Popeta**	**50.12**	**264**	P		**P**	**01 50 55.4**	**+1.4**
VNDA	**Vanda**	**50.24**	**176**	P		**P**	**01 50 54.6**	**+0.3**
	comp=Z,2.1nm,1.1s,baz=229,slow=9.1,SNR=7.2							
VNDA				LR		LR	02 11 18.9	
	comp=Z,244nm,19.4s,baz=195,slow=35							
VNDA	**Vanda**	**50.24**	**176**	P		**P**	**01 50 55.9**	**+1.6**
AQDB	**Aquidauana**	**50.41**	**289**	P		**P**	**01 50 56.5**	**+0.2**
AQDB				IAmb		IAmb	01 50 58.9	
	comp=Z,21nm,1.4s							
RCBR	**Riachuelo**	**52.92**	**320**	LR		LR	02 08 27.0	
	comp=Z,367nm,20.7s,baz=138,slow=30							
LVC	**Limon Verde**	**56.71**	**276**	LR		LR	02 13 31.3	
	comp=Z,136nm,19.3s,baz=147,slow=34							
LVC	**Limon Verde**	**56.71**	**276**	P		**P**	**01 51 43.2**	**+0.2**
LVC				IAmb		IAmb	01 51 49.3	
	comp=Z,9.3nm,0.8s							
SIV	**San Ignacio**	**57.07**	**287**	LR		LR	02 14 00.6	
	comp=Z,497nm,18.0s,baz=137,slow=34							
DBIC	**Dimbokro**	**58.68**	**360**	P		**P**	**01 51 55.1**	**-1.2**
	comp=Z,18nm,1.2s,baz=127,slow=14,SNR=2.8							
DBIC				LR		LR	02 12 47.6	
	comp=Z,285nm,18.5s,baz=154,slow=32							
MBAR	**Mbarara**	**59.40**	**42**	P		**P**	**01 52 02.8**	**+1.2**
MBAR				IAmb		IAmb	01 52 09.6	
	comp=Z,12nm,1.4s							
LPAZ	**La Paz**	**61.04**	**281**	P		**P**	**01 52 12.6**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=98,slow=5.7,SNR=4.2							
LPAZ				LR		LR	02 15 37.7	
	comp=Z,153nm,21.6s,baz=132,slow=33							
LPAZ	**La Paz**	**61.04**	**281**	P		**P**	**01 52 14.0**	**+0.6**
LPAZ				IAmb		IAmb	01 52 15.7	
	comp=Z,8.6nm,1.4s							
KMBO	**Kilima Mbogo**	**61.80**	**49**	LR		LR	02 16 24.4	
	comp=Z,1μm,21.9s,baz=232,slow=33							
TOA0	**Torodi Ar. Sit**	**65.35**	**7**	P		**P**	**01 52 42.7**	**+1.5**
TORD	**Torodi Ar. Bea**	**65.35**	**7**	P		**P**	**01 52 40.0**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=216,slow=6.7,SNR=4.1							
TORD				LR		LR	02 15 47.9	
	comp=Z,397nm,20.2s,baz=175,slow=31							
TORD	**Torodi Ar. Bea**	**65.35**	**7**	P		**P**	**01 52 40.6**	**-0.5**
KOWA	**Kowa**	**66.46**	**1**	LR		LR	02 17 01.4	
	comp=Z,295nm,18.4s,baz=204,slow=32							
KOWA	**Kowa**	**66.46**	**1**	P		**P**	**01 52 48.3**	**+0.1**
PTGA	**Pitinga**	**68.87**	**298**	LR		LR	02 19 04.7	
	comp=Z,118nm,18.6s,baz=150,slow=32							
PTGA	**Pitinga**	**68.87**	**298**	P		**P**	**01 53 03.4**	**-0.2**
PTGA				IAmb		IAmb	01 53 22.1	
	comp=Z,4.7nm,1.2s							
NNA	**Nana**	**69.67**	**277**	LR		LR	02 21 24.6	
	comp=Z,107nm,21.7s,baz=145,slow=34							
H01W2	**Cape Leeuwin H**	**78.16**	**133**	T		T	03 21 10.7	
	baz=212,slow=75,SNR=16							
H01W1	**Cape Leeuwin H**	**78.17**	**133**	T		T	03 21 09.4	
	baz=212,slow=75,SNR=15							
H01W3	**Cape Leeuwin H**	**78.17**	**133**	T		T	03 21 05.9	
	baz=212,slow=75,SNR=15							
OTAV	**Otavalo**	**80.27**	**283**	P		**P**	**01 54 12.0**	**+1.6**
OTAV				IAmb		IAmb	01 54 15.5	
	comp=Z,12nm,1.4s							
KEST	**Kesra**	**88.46**	**11**	LR		LR	02 30 27.0	
	comp=Z,258nm,21.8s,baz=277,slow=33							
URZ	**Urewera**	**89.86**	**181**	LR		LR	02 31 49.1	
	comp=Z,208nm,18.3s,baz=211,slow=33							
ESDC	**Sonseca Array**	**91.54**	**1**	P		**P**	**01 55 04.8**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=181,slow=5.3,SNR=2.3							
ESDC	**Sonseca Array**	**91.54**	**1**	P		**P**	**01 55 06.9**	**+1.8**
ESDC				IAmb		IAmb	01 55 10.8	
	comp=Z,3.8nm,1.4s							
TBI	**Tubuai**	**98.67**	**212**	*e*LR		LR	02 27 42.6	
	comp=Z,270nm,27.0s							
PPT2	**Papeete2**	**104.05**	**214**	*e*LR		LR	02 30 19.7	
	comp=Z,249nm,24.5s							
DZM	**Mont Dzumac**	**105.61**	**171**	*e*LR		LR	02 31 04.8	
	comp=Z,473nm,25.9s							
XAN	**Xi'an**	**130.10**	**84**	PKP		**PKiKP**	**02 01 11.0**	**+1.7**
XAN				L		L		
	comp=Z,240nm,16.3s							
XAN				L		L		
	comp=Z,280nm,20.6s							
PDAR	**Pinedale Array**	**130.50**	**291**	PKP		**PKPdf**	**02 01 07.9**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=131,slow=4.1,SNR=6.2							
YKA	**Yellowknife Ar**	**142.71**	**314**	PKP		**PKPdf**	**02 01 29.3**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=110,slow=3.2,SNR=2.2							
HIA	**Hailar**	**145.47**	**72**	PKPbc		**PKPdf**	**02 01 35.4**	**-0.7**
MJAR	**Matsushiro Arr**	**149.61**	**106**	PKPbc		**PKPbc**	**02 01 46.4**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=192,slow=1.7,SNR=2.8							
ILAR	**Eielson Array**	**157.02**	**318**	PKPab		**PKPab**	**02 02 22.7**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=72,slow=2.9,SNR=5.0							

*IDC **27** 02:27:51.7±0.7,29°.79S×178°.52W,h103km±10km,mb3.6/4, mb1 3.8/5,mb1mx3.5/35,mbtmp4.0/5,Error ellipse: s-maj=25.3km s-min=19.3km az=113.0*

*NEIC **27** 02:27:53.0±1.3,29°.7S±0°.1×178°.3W±0°.2,h117km±7km, mb4.4/8,Error ellipse: s-maj=32.2km s-min=12.7km az=115.0*

ISC 27 02:27:51.9±0.6,**29°.7S**±0°.1×**178°.5W**±0°.1,**h100**km,**n24,** σ1$**59**/23,**mb4.2/7,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.70**	**51**	P		**Pn**	**02 28 10.7**	**+1.4**
	386nm,0.3s,baz=90,slow=9.9,SNR=26							
RAO				S		**Sn**	**02 28 24.5**	**+2.1**
	534nm,0.3s,baz=93,slow=22,SNR=6.4							
RAO	**Raoul Island**	**0.70**	**51**			**Pn**	**02 28 11.0**	**+1.7**
URZ	**Urewera**	**9.27**	**202**	P		Pn	02 29 59.4	-3.2
	0.5nm,0.3s,baz=121,slow=24,SNR=1.5							
URZ				S		**Sn**	**02 31 43.4**	**-1.6**
	8.8nm,0.3s,baz=89,slow=22,SNR=12							
URZ	**Urewera**	**9.27**	**202**	Pn		**Pn**	**02 30 02.7**	**+0.1**
URZ						**Sn**	**02 31 47.2**	**+2.2**
NIUE	**Niue**	**13.16**	**38**	Pn		**Pn**	**02 30 52.7**	**-2.2**
STKA	**Stephens Creek**	**34.19**	**256**	P		P	02 34 25.5	-2.2
	0.6nm,0.4s,baz=90,slow=13,SNR=1.2							
BBOO	**Buckleboo**	**38.71**	**253**	P		**P**	**02 35 07.0**	**+0.7**
AS31	**Alice Springs**	**42.68**	**266**	P		**P**	**02 35 40.4**	**+1.3**
ASAR	**Alice Springs**	**42.68**	**266**	P		**P**	**02 35 39.2**	**+0.2**
	0.7nm,0.4s,baz=104,slow=7.2,SNR=16							
WR0	**Warramunga Arr**	**43.42**	**272**	P		**P**	**02 35 44.7**	**-0.3**
WR0				IAmb		IAmb	02 36 00.8	
	comp=Z,9.0nm,1.2s							
WB2	**Warramunga Arr**	**43.59**	**272**	P		**P**	**02 35 45.8**	**-0.6**
WRA	**Warramunga Arr**	**43.61**	**272**	P		**P**	**02 35 46.4**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=111,slow=6.3,SNR=28							
WRA	**Warramunga Arr**	**43.61**	**272**	IAmb		IAmb	02 35 51.1	
	comp=Z,0.1nm,0.8s							
WB0	**Warramunga Arr**	**43.62**	**272**	P		**P**	**02 35 46.1**	**-0.6**
WB0				IAmb		IAmb	02 36 02.3	
	comp=Z,4.8nm,1.1s							
FORT	**Forrest**	**45.78**	**255**	P		**P**	**02 36 03.9**	**+0.3**
FORT				IAmb		IAmb	02 36 05.9	
	comp=Z,7.4nm,0.7s							
QSPA	**South Pole Qui**	**60.41**	**180**	P		**P**	**02 37 50.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=351,slow=0.9,SNR=10							
QSPA	**South Pole Qui**	**60.41**	**180**	IAmb		IAmb	02 37 53.4	
	comp=Z,8.2nm,1.4s							
ARCES	**ARCESS Array B**	**137.81**	**348**	PKP		**PKPdf**	**02 47 04.0**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=36,slow=4.8,SNR=3.9							
ARCES	**ARCESS Array B**	**137.81**	**348**			**PKPdf**	**02 47 01.9**	**-1.7**
FINES	**FINESS Array B**	**144.33**	**340**	PKP		**PKPab**	**02 47 12.4**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=46,slow=4.0,SNR=13							
GURO	**Guroymak-BITLI**	**145.50**	**296**	PKPdf		**PKPdf**	**02 47 15.7**	**-2.8**
NOA	**NORSAR Array B**	**147.99**	**351**	PKPbc		**PKPdf**	**02 47 23.6**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=15,slow=4.4,SNR=4.7							
CLL	**Colln**	**156.75**	**341**	*e*PKPab		**PKPab**	**02 48 07.0**	**+2.1**
TORD	**Torodi Ar. Bea**	**163.53**	**181**	PKPab		**PKPab**	**02 48 32.8**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=171,slow=3.2,SNR=6.7							

*TUL **27** 02:38:11.7±1.2,35°.88N±0°.01×97°.04W±0°.01,h5km±6km, ML3.0,mb_Lg2.7/51(NEIC),Error ellipse: s-maj=1.9km s-min=1.3km az=124.0*

*ANF **27** 02:38:12.0±0.3,35°.91N×97°.05W,h5km,ML3.3/9,Error ellipse: s-maj=3.3km s-min=2.1km az=141.0*

*NEIC **27** 02:38:12.2±0.9,35°.89N±0°.01×97°.05W±0°.01,h6km±5km, Error ellipse: s-maj=1.8km s-min=1.4km az=127.0*

ISC 27 02:38:12.1±1.0,**35°.90N**±0°.02×**97°.06W**±0.02,**h7**km±9km, **n65,** σ0$**53**/61,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.19**	**73**			**Pg**	**02 38 15.8**	**-0.1**
OK031				Sg		**Sg**	**02 38 18.9**	**+0.4**
OK030	**Cody Creek RV**	**0.23**	**82**			**Pg**	**02 38 16.6**	**0.0**
OK030				Sg		**Sg**	**02 38 19.8**	**+0.2**
OK005	**Luther M Schoo**	**0.26**	**204**	Pg		**Pg**	**02 38 17.1**	**-0.2**
OK005				Sg		**Sg**	**02 38 20.9**	**+0.1**
OK029	**Liberty Lake**	**0.34**	**253**			**Pg**	**02 38 18.7**	**0.0**
OK029				Sg		**Sg**	**02 38 23.9**	**+0.8**
OK001	**Jones High Sch**	**0.38**	**209**	Pg		**Pg**	**02 38 19.4**	**-0.2**
OK001				Sg		**Sg**	**02 38 24.8**	**+0.2**
OK025	**Westminster Rd**	**0.39**	**216**			**Pg**	**02 38 19.5**	**-0.2**
OK025				Sg		**Sg**	**02 38 25.0**	**+0.3**
QUOK	**Quay**	**0.40**	**46**			**Pg**	**02 38 19.8**	**+0.1**
QUOK				Sg		**Sg**	**02 38 25.4**	**+0.4**
BCOK	**Bluff Creek, N**	**0.51**	**242**			**Pg**	**02 38 21.7**	**-0.2**
BCOK				Sg		**Sg**	**02 38 29.0**	**+0.5**
OK011	**Prague**	**0.51**	**143**	Pg		**Pg**	**02 38 21.4**	**-0.6**
OK011				Sg		**Sg**	**02 38 28.4**	**-0.3**
OKCFA	**Oklahoma City**	**0.58**	**214**	Pg		**Pg**	**02 38 22.7**	**-0.5**
OKCFA				Sg		**Sg**	**02 38 30.9**	**+0.2**
OKCFA	**Oklahoma City**	**0.58**	**214**	P		**Pg**	**02 38 22.8**	**-0.4**
	baz=36,SNR=10							
OKCFA				S		**Sg**	**02 38 31.0**	**+0.3**
	baz=36							
OKCFA	**Oklahoma City**	**0.58**	**214**	P			02 38 22.8	
	baz=36,SNR=10							
OKCFA				S			02 38 31.0	
	baz=36							
OKCSW	**OKLAHOMA CITY**	**0.58**	**212**	Pg		**Pg**	**02 38 22.8**	**-0.5**
FNO	**Franklin**	**0.70**	**204**	Pg		**Pg**	**02 38 24.7**	**-0.8**
FNO				Sg		**Sg**	**02 38 34.5**	**-0.1**
CROK	**Carrier**	**0.96**	**309**	Pg		**Pg**	**02 38 30.4**	**-0.2**
CROK				Sg		**Sg**	**02 38 43.7**	**+0.6**
TUL1	**Leonard**	**1.03**	**89**	P		**Pg**	**02 38 30.6**	**-1.3**
	baz=268							
TUL1	**Leonard**	**1.03**	**89**	P			02 38 30.6	
	baz=268							
T35A	**Sooner Cattle**	**1.11**	**23**	Pg		**Pb**	**02 38 32.8**	**-0.8**
T35B	**Sooner Cattle**	**1.11**	**23**	P		**Pb**	**02 38 32.7**	**-0.9**
	baz=203							
T35B				S		**Sg**	**02 38 47.5**	**-0.3**
	baz=203							
T35B	**Sooner Cattle**	**1.11**	**23**	P			02 38 32.7	
	baz=203							
T35B				S			02 38 47.5	
	baz=203							
KAN13	**South Haven SW**	**1.16**	**343**			**Pb**	**02 38 34.0**	**-0.5**
KAN17	**Caldwell West**	**1.28**	**334**			**Pn**	**02 38 36.1**	**-0.3**
OK032	**Salt Plains WL**	**1.30**	**315**			**Pn**	**02 38 36.3**	**-0.4**
KAN09	**Caldwell North**	**1.32**	**340**			**Pn**	**02 38 36.5**	**-0.4**
KS20	**Mayfield South**	**1.39**	**343**	Pn		**Pn**	**02 38 37.7**	**-0.2**
X34A	**Smith Ranch, M**	**1.44**	**206**	Pn		**Pn**	**02 38 38.2**	**-0.4**
KAN10	**Anthony SW Sta**	**1.48**	**326**	Pn		**Pn**	**02 38 39.4**	**+0.2**
U32A	**Winter Ranch,**	**1.64**	**288**	IAmb_Lg			02 39 08.2	
	comp=Z,58nm,0.8s							
U32A	**Winter Ranch,**	**1.64**	**288**	Pb		**Pb**	**02 38 42.9**	**+0.2**
	baz=107,SNR=7.0							
U32A				S		**Sg**	**02 39 04.9**	**-0.1**
	baz=107							
U32A	**Winter Ranch,**	**1.64**	**288**	Pb			02 38 42.9	
	baz=107,SNR=7.0							
U32A				S			02 39 04.9	
	baz=107							
WMOK	**Wichita Mounta**	**1.82**	**231**	Pn		**Pn**	**02 38 44.2**	**+0.3**
WMOK	**Wichita Mounta**	**1.82**	**231**	P		**Pn**	**02 38 44.2**	**+0.3**
	baz=51,SNR=69							
WMOK				S		**Sb**	**02 39 08.8**	**0.0**
	baz=51							
WMOK	**Wichita Mounta**	**1.82**	**231**	P			02 38 44.2	
	baz=51,SNR=69							
WMOK				S			02 39 08.8	
	baz=51							
X37A	**Clayton**	**1.90**	**133**	Pn		**Pn**	**02 38 45.3**	**+0.4**
X37A				IAmb_Lg			02 39 13.7	
	comp=Z,38nm,0.8s							
X37A	**Clayton**	**1.90**	**133**	P		**Pn**	**02 38 45.2**	**+0.3**
	baz=314,SNR=50							
X37A	**Clayton**	**1.90**	**133**	P			02 38 45.2	
	baz=314,SNR=50							
LOOK	**Love County**	**1.90**	**183**	Pn		**Pn**	**02 38 45.6**	**+0.7**
U38A	**Gravette**	**2.23**	**75**	P		**Pn**	**02 38 50.8**	**+1.3**
	baz=256,SNR=52							
U38A	**Gravette**	**2.23**	**75**	P			02 38 50.8	
	baz=256,SNR=52							
W39A	**Magazine**	**2.76**	**104**			**Pn**	**02 38 57.3**	**+0.5**
W39A	**Magazine**	**2.76**	**104**	P		**Pn**	**02 38 57.2**	**+0.5**
	baz=285,SNR=15							
W39A	**Magazine**	**2.76**	**104**	P			02 38 57.2	
	baz=285,SNR=15							
Z38A	**Mt. Pleasant**	**3.14**	**146**	IAmb_Lg			02 39 57.5	
	comp=Z,27nm,1.1s							
MIAR	**Mount Ida**	**3.15**	**114**	IAmb_Lg			02 39 58.9	
	comp=Z,18nm,1.0s							
U40A	**Yellville**	**3.44**	**81**	Pn		**Pn**	**02 39 06.0**	**0.0**
S39A	**Bolivar**	**3.49**	**58**	Pn		**Pn**	**02 39 08.4**	**+1.6**
S39A	**Bolivar**	**3.49**	**58**	P		**Pn**	**02 39 07.3**	**+0.5**
	baz=240,SNR=6.1							
S39A	**Bolivar**	**3.49**	**58**	P			02 39 07.3	
	baz=240,SNR=6.1							
X40A	**Basin Creek Fa**	**3.73**	**111**	Pn		**Pn**	**02 39 11.3**	**+1.2**
X40A				IAmb_Lg			02 40 14.2	
	comp=Z,28nm,0.8s							
ABTX	**Abilene, Hawle**	**3.90**	**214**	Pn		**Pn**	**02 39 12.5**	**0.0**
ABTX				IAmb_Lg			02 40 17.3	
	comp=Z,14nm,1.1s							
AMTX	**Amarillo**	**3.91**	**256**	IAmb_Lg			02 40 23.0	
	comp=Z,18nm,0.8s							
WHAR	**Wooly Hollow**	**3.93**	**97**	Pn		**Pn**	**02 39 13.1**	**+0.2**
WHAR				IAmb_Lg			02 40 17.0	
	comp=Z,18nm,1.0s							
W41B	**Gary Mavity, V**	**3.99**	**99**	P		**Pn**	**02 39 13.8**	**+0.2**
	baz=282,SNR=9.8							
W41B				S		**Sn**	**02 40 01.5**	**+0.8**
	baz=282							
W41B	**Gary Mavity, V**	**3.99**	**99**	P			02 39 13.8	
	baz=282,SNR=9.8							
W41B				S			02 40 01.5	
	baz=282							
FCAR	**Ozark Folk Cen**	**4.01**	**89**	Pn		**Pn**	**02 39 14.1**	**+0.3**
MGMO	**Mountain Grove**	**4.06**	**71**	IAmb_Lg			02 40 18.9	
	comp=Z,13nm,0.7s							
R40A	**Maddies Statio**	**4.51**	**57**	Pn		**Pn**	**02 39 21.1**	**+0.2**
R40A				IAmb_Lg			02 40 34.4	
	comp=Z,12nm,0.8s							
T42A	**Van Buren**	**4.94**	**75**	Pn		**Pn**	**02 39 26.8**	**+0.1**
T42A				IAmb_Lg			02 40 45.7	
	comp=Z,12nm,0.9s							
MSTX	**Muleshoe**	**5.07**	**249**	Pn		**Pn**	**02 39 28.8**	**+0.1**
435B	**Jarrell**	**5.12**	**185**	IAmb_Lg			02 41 07.3	
	comp=Z,13nm,1.2s							
CCM	**Cathedral Cave**	**5.13**	**63**	IAmb_Lg			02 40 51.7	
	comp=Z,11nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.41**	**307**	IAmb_Lg			02 41 17.1	
	comp=Z,13nm,0.8s							
PBMO	**Poplar Bluff**	**5.42**	**79**	IAmb_Lg			02 41 06.6	
	comp=Z,19nm,0.9s							
JCT	**Junction City**	**5.87**	**204**	IAmb_Lg			02 41 22.9	
	comp=Z,8.9nm,0.7s							
OGNE	**Ogallala**	**6.38**	**324**	IAmb_Lg			02 41 38.2	
	comp=Z,13nm,0.8s							
S44A	**Carbondale**	**6.51**	**72**	IAmb_Lg			02 41 41.2	
	comp=Z,11nm,0.8s							
SIUC	**Southern Illin**	**6.55**	**72**	IAmb_Lg			02 41 47.1	
	comp=Z,10nm,0.9s							
SCIA	**State Center**	**6.71**	**25**	IAmb_Lg			02 41 49.8	
	comp=Z,13nm,0.8s							
T45A	**Paducah**	**6.87**	**78**	IAmb_Lg			02 41 52.5	
	comp=Z,14nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.04**	**56**	IAmb_Lg			02 41 59.0	
	comp=Z,13nm,0.8s							
L40A	**Anamosa**	**7.65**	**35**	IAmb_Lg			02 42 15.5	
	comp=Z,11nm,1.0s							
O44A	**Mansfield**	**8.00**	**55**	IAmb_Lg			02 42 22.9	
	comp=Z,12nm,0.8s							
T47A	**Sharon Grove**	**8.10**	**79**	IAmb_Lg			02 42 50.0	
	comp=Z,9.6nm,1.2s							
SPMN	**Marine on St.**	**9.86**	**18**	IAmb_Lg			02 43 39.8	
	comp=Z,4.6nm,0.8s							
K22A	**Casper**	**9.96**	**315**	IAmb_Lg			02 43 51.1	
	comp=Z,5.8nm,1.1s							

*IDC **27** 02:51:19.9±0.5,52°.19S×4°.95W,h0km,mb4.2/15, mb1 4.3/16,mb1mx4.2/25,mbtmp4.2/16,ML3.4/1,MS4.7/19, Ms1 4.6/19,ms1mx4.6/21,Error ellipse: s-maj=17.4km s-min=14.9km az=102.0*

*NEIC **27** 02:51:23.7±2.0,52°.5S±0°.1×4°.7W±0°.2,h10km±1km, mb5.0/53,Error ellipse: s-maj=18.3km s-min=17.7km az=

LL02	**Futaleuf**	**44.50**	**254**	P	**P**	**02 59 34.2**	**-0.3**
LL02				IAmb	IAmb	02 59 39.3	
	comp=Z,22nm,1.1s						
PLCA	**Paso Flores**	**45.21**	**258**	LR	LR	03 16 43.6	
	comp=Z,498nm,19.0s,baz=128,slow=34						
PLCA	**Paso Flores**	**45.21**	**258**	P	**P**	**02 59 41.1**	**+0.8**
LSZ	**Lusaka**	**45.31**	**48**	P	**P**	**02 59 40.3**	**-1.0**
CPUP	**Villa Florida**	**46.94**	**283**	P	**P**	**02 59 49.6**	**-4.4**
	comp=Z,3.0nm,0.8s,baz=118,slow=7.4,SNR=6.7						
CPUP				LR	LR	03 16 24.9	
	comp=Z,356nm,21.9s,baz=144,slow=32						
CPUP	**Villa Florida**	**46.94**	**283**	P	**P**	**02 59 53.1**	**-0.9**
CPUP				IAmb	IAmb	02 59 55.7	
	comp=Z,19nm,1.1s						
ITRB	**Iturama**	**48.04**	**295**	*e*P	**P**	**03 00 04.5**	**+1.9**
IPMB	**Ipameri, GO**	**48.26**	**299**	*e*P	**P**	**03 00 04.5**	**+0.2**
JANB	**Januaria**	**48.67**	**305**	*e*P	**P**	**03 00 08.6**	**+1.0**
BO02	**Sierra Bellavi**	**49.18**	**264**	P	**P**	**03 00 11.9**	**+0.6**
BO02				IAmb	IAmb	03 00 17.4	
	comp=Z,22nm,1.1s						
BO01	**Tunca**	**49.64**	**264**	P	**P**	**03 00 14.5**	**-0.2**
MT03	**Universidad Ad**	**49.89**	**265**	P	**P**	**03 00 17.7**	**+0.9**
SBA	**Scott Base**	**49.91**	**178**	P	**P**	**03 00 17.2**	**+1.0**
MT09	**Talagante**	**49.99**	**264**	P	**P**	**03 00 17.7**	**+0.1**
VNDA	**Vanda**	**50.08**	**176**	P	**P**	**03 00 15.5**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=215,slow=6.1,SNR=9.1						
VNDA				LR	LR	03 20 51.0	
	comp=Z,339nm,18.1s,baz=192,slow=35						
VNDA	**Vanda**	**50.08**	**176**	P	**P**	**03 00 17.3**	**-0.2**
BDFB	**Brasilia**	**50.09**	**301**	P	**P**	**03 00 15.2**	**-3.3**
	comp=Z,22nm,1.3s,baz=152,slow=10,SNR=6.4						
BDFB				LR	LR	03 17 32.8	
	comp=Z,806nm,18.9s,baz=145,slow=32						
BDFB	**Brasilia**	**50.09**	**301**	P	**P**	**03 00 18.8**	**+0.4**
BDFB				IAmb	IAmb	03 00 24.7	
	comp=Z,26nm,1.3s						
ZON	**Zonda**	**50.11**	**268**	P	**P**	**03 00 18.8**	**+0.4**
ZON				IAmb	IAmb	03 00 25.2	
	comp=Z,14nm,1.0s						
AQDB	**Aquidauana**	**50.45**	**289**	P	**P**	**03 00 21.2**	**+0.2**
AQDB				IAmb	IAmb	03 00 22.9	
	comp=Z,36nm,1.4s						
AQDB	**Aquidauana**	**50.45**	**289**	*e*P	**P**	**03 00 22.4**	**+1.3**
SDBA	**SAO DESIDERIO**	**51.23**	**306**	*e*P	**P**	**03 00 27.4**	**+0.5**
CASY	**Casey**	**51.91**	**152**	P	**P**	**03 00 32.1**	**+0.7**
ARAG	**Araguaiana, MT**	**52.08**	**297**	*e*P	**P**	**03 00 35.4**	**+2.1**
PP1B	**Ponte de Pedra**	**52.26**	**292**	*e*P	**P**	**03 00 36.4**	**+1.8**
PEXB	**Peixe**	**53.20**	**303**	*e*P	**P**	**03 00 42.7**	**+1.0**
NBPA	**Parau_RN**	**53.59**	**319**	*e*P	**P**	**03 00 45.4**	**+1.0**
AC02	**Maricunga**	**53.74**	**272**	P	**P**	**03 00 46.8**	**+0.7**
AC02				IAmb	IAmb	03 00 49.4	
	comp=Z,23nm,1.3s						
SALV	**Santo Antonio**	**54.09**	**293**	*e*P	**P**	**03 00 49.6**	**+1.6**
NBPB	**Pedra_Branca-C**	**54.80**	**316**	*e*P	**P**	**03 00 55.1**	**+1.8**
SNDB	**Serra Nova Dou**	**54.88**	**300**	*e*P	**P**	**03 00 55.5**	**+1.6**
GO02	**Mina Guanaco**	**55.24**	**273**	P	**P**	**03 00 57.7**	**+0.9**
NBCL	**Cascavel-CE**	**55.45**	**318**	*e*P	**P**	**03 00 59.1**	**+1.2**
SMTB	**Santa Maria do**	**55.60**	**305**	*e*P	**P**	**03 01 00.2**	**+1.1**
PTLB	**Pontes e Lacer**	**56.41**	**290**	*e*P	**P**	**03 01 05.5**	**+0.7**
PB15	**IPOC Station P**	**56.61**	**275**	P	**P**	**03 01 08.2**	**+1.7**
NBPS	**Pedro II - PI**	**56.63**	**314**	*e*P	**P**	**03 01 07.8**	**+1.3**
LVC	**Limon Verde**	**56.72**	**276**	P	**P**	**03 01 07.6**	**+0.2**
LVC				IAmb	IAmb	03 01 12.7	
	comp=Z,23nm,0.9s						
LVC	**Limon Verde**	**56.72**	**276**	*e*P	**P**	**03 01 06.5**	**-0.9**
NBMO	**Morrinhos-CE**	**57.00**	**317**	*e*P	**P**	**03 01 10.3**	**+1.3**
CLDB	**Colider**	**58.24**	**296**	*e*P	**P**	**03 01 18.6**	**+0.9**
PB01	**IPOC Station P**	**58.24**	**276**	IAmb	IAmb	03 01 20.3	
	comp=Z,17nm,1.0s						
LIC	**Lamto**	**58.39**	**360**	*e*P	**P**	**03 01 20.1**	**+1.4**
	comp=Z,74nm,1.1s						
KIC	**Kosan Boka**	**58.53**	**360**	*e*P	**P**	**03 01 20.8**	**+1.1**
	comp=Z,58nm,1.4s						
PB08	**IPOC Station P**	**58.73**	**277**	P	**P**	**03 01 20.6**	**-1.0**
PB08				IAmb	IAmb	03 01 24.3	
	comp=Z,16nm,1.0s						
TIC	**Toumodi**	**58.81**	**360**	*e*P	**P**	**03 01 23.0**	**+1.3**
DBIC	**Dimbokro**	**58.84**	**360**	P	**P**	**03 01 18.9**	**-2.9**
	comp=Z,15nm,1.2s,baz=146,slow=12,SNR=3.7						
DBIC				LR	LR	03 22 11.8	
	comp=Z,459nm,18.2s,baz=156,slow=32						
DBIC	**Dimbokro**	**58.84**	**360**	P	**P**	**03 01 22.2**	**+0.4**
VILB	**Vilhena**	**59.02**	**291**	*e*P	**P**	**03 01 24.5**	**+1.2**
PRPB	**Parauapebas**	**59.03**	**305**	*e*P	**P**	**03 01 24.5**	**+1.2**
ROSB	**Rosrio**	**59.16**	**312**	*e*P	**P**	**03 01 24.9**	**+0.8**
MBAR	**Mbarara**	**59.52**	**42**	P	**P**	**03 01 26.1**	**-0.7**
MBAR				IAmb	IAmb	03 01 42.1	
	comp=Z,20nm,1.4s						
MNMC	**Minye Minye**	**59.76**	**278**	P	**P**	**03 01 29.3**	**+0.7**
MNMC				IAmb	IAmb	03 01 31.8	
	comp=Z,18nm,1.2s						
PB16	**IPOC Station P**	**60.32**	**278**	P	**P**	**03 01 30.8**	**-2.0**
PB16				IAmb	IAmb	03 01 57.6	
	comp=Z,18nm,1.5s						
LPAZ	**La Paz**	**61.06**	**281**	P	**P**	**03 01 35.0**	**-3.0**
	comp=Z,2.9nm,0.8s,baz=172,slow=4.2,SNR=8.6						
LPAZ				LR	LR	03 25 13.8	
	comp=Z,202nm,21.9s,baz=134,slow=33						
LPAZ	**La Paz**	**61.06**	**281**	P	**P**	**03 01 36.6**	**-1.3**
NPGB	**Novo Progresso**	**61.17**	**299**	*e*P	**P**	**03 01 39.2**	**+1.2**
KIBK	**Kibwezi**	**61.22**	**51**	P	**P**	**03 01 38.8**	**+0.4**
TMAB	**Tom-Au,PA,Br**	**61.47**	**309**	*e*P	**P**	**03 01 41.2**	**+1.3**
KMBO	**Kilima Mbogo**	**61.91**	**49**	LR	LR	03 25 58.5	
	comp=Z,2µm,21.1s,baz=192,slow=34						
ITTB	**Itaituba**	**63.62**	**300**	*e*P	**P**	**03 01 55.8**	**+1.4**
MALB	**Monte Alegre**	**64.98**	**303**	*e*P	**P**	**03 02 05.0**	**+1.7**
ETMB	**Extrema**	**65.02**	**287**	*e*P	**P**	**03 02 04.2**	**+0.7**
MCPB	**Macapa, AP**	**65.14**	**306**	*e*P	**P**	**03 02 06.2**	**+1.9**
TOA0	**Torodi Ar. Sit**	**65.51**	**7**	P	**P**	**03 02 06.3**	**-0.2**
TOA0				IAmb	IAmb	03 02 19.4	
	comp=Z,20nm,1.5s						
TORD	**Torodi Ar. Bea**	**65.51**	**7**	P	**P**	**03 02 02.5**	**-4.0**
	comp=Z,0.9nm,0.8s,baz=168,slow=7.4,SNR=4.8						
TORD				LR	LR	03 25 01.5	
	comp=Z,630nm,20.7s,baz=180,slow=31						
TORD	**Torodi Ar. Bea**	**65.51**	**7**	P	**P**	**03 02 06.1**	**-0.4**
TORD				IAmb	IAmb	03 02 14.5	
	comp=Z,11nm,1.4s						
KOWA	**Kowa**	**66.62**	**1**	P	**P**	**03 02 14.7**	**+1.0**
PTGA	**Pitinga**	**68.93**	**298**	P	**P**	**03 02 29.7**	**+1.3**
CZSB	**Cruzeiro do Su**	**70.52**	**283**	*e*P	**P**	**03 02 38.3**	**+0.1**
H08S1	**Diego Carcia H**	**76.18**	**85**	T	T	04 27 00.1	
	baz=218						
H08S2	**Diego Garcia H**	**76.19**	**85**	T	T	04 26 59.2	
	baz=218						
H08S3	**Diego Garcia H**	**76.20**	**85**	T	T	04 27 03.2	
	baz=218						
H01W2	**Cape Leeuwin H**	**78.06**	**133**	T	T	04 30 32.8	
	baz=212,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**78.07**	**133**	T	T	04 30 27.4	
	baz=212,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**78.07**	**133**	T	T	04 30 29.6	
	baz=212,slow=75,SNR=14						
FLOC	**Florencia**	**79.71**	**286**	P	**P**	**03 03 31.4**	**+0.2**
FLOC				IAmb	IAmb	03 03 33.9	
	comp=Z,25nm,1.4s						
OTAV	**Otavalo**	**80.29**	**283**	P	**P**	**03 03 35.8**	**+0.9**
OTAV				IAmb	IAmb	03 03 39.5	
	comp=Z,28nm,1.4s						
OTAV	**Otavalo**	**80.29**	**283**	*e*P	**P**	**03 03 36.8**	**+1.8**
NWAO	**Narrogin (SRO)**	**81.10**	**134**	LR	LR	03 33 05.9	
	comp=Z,430nm,19.6s,baz=228,slow=31						
ROSC	**El Rosal**	**81.56**	**289**	LR	LR	03 38 02.9	
	comp=Z,1µm,18.6s,baz=70,slow=34						
FORT	**Forrest**	**87.47**	**141**	P	**P**	**03 04 10.2**	**-0.7**
KEST	**Kesra**	**88.62**	**11**	LR	LR	03 40 02.8	
	comp=Z,371nm,21.0s,baz=152,slow=33						
STKA	**Stephens Creek**	**91.06**	**152**	LR	LR	03 43 36.0	
	comp=Z,123nm,18.1s,baz=209,slow=34						
ESDC	**Sonseca Array**	**91.70**	**1**	P	**P**	**03 04 28.1**	**-2.2**
	comp=Z,0.3nm,0.8s,baz=164,slow=4.7,SNR=2.2						
ESDC				LR	LR	03 43 46.3	
	comp=Z,224nm,18.1s,baz=160,slow=34						
ESDC	**Sonseca Array**	**91.70**	**1**	P	**P**	**03 04 31.1**	**+0.9**
ESDC				IAmb	IAmb	03 04 34.3	
	comp=Z,7.0nm,1.2s						
ASAR	**Alice Springs**	**96.10**	**142**	P	**P**	**03 04 50.0**	**-1.1**
	comp=Z,0.5nm,1.0s,baz=199,slow=4.9,SNR=2.2						
BRTR	**Keskin Array B**	**97.62**	**29**	LR	LR	03 48 59.3	
	comp=Z,587nm,20.4s,baz=178,slow=36						
LEM	**Lembang**	**97.94**	**112**	LR	LR	03 39 03.6	
	comp=Z,303nm,21.5s,baz=226,slow=29						
TBI	**Tubuai**	**98.53**	**212**	*e*LR	LR	03 37 01.6	
	comp=Z,404nm,27.5s						
PPT2	**Papeete2**	**103.91**	**214**	*e*LR	LR	03 39 36.0	
	comp=Z,326nm,23.5s						
DZM	**Mont Dzumac**	**105.45**	**172**	*e*LR	LR	03 40 18.7	
	comp=Z,518nm,21.8s						
TAOE	**Nuku Hiva Isla**	**108.08**	**227**	*e*LR	LR	03 41 33.4	
	comp=Z,452nm,28.5s						
MNK	**Minsk**	**109.93**	**20**	*i* PP	**PP**	**03 10 28.1**	**+1.0**
MNK				*i* PP	**PP**	**03 10 28.1**	**+1.0**
	comp=N,13nm,2.2s						
MNK				*i* PP	**PP**	**03 10 28.1**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=200						
MNK				*i* PPP	PPP	03 12 47.1	
MNK				*i* SKP		03 13 30.3	
MNK				*i* PKS	PKSdf	03 13 31.6	+1.8
MNK				*i* SKS	**SKSdf**	**03 17 07.0**	**+2.1**
MNK				*i* SKS	**SKSdf**	**03 17 07.0**	**+2.1**
MNK				*i* SS	**SS**	**03 25 55.5**	**+3.7**
MNK				*i* SKKS	**SKKSdf**	**03 28 24.0**	**-1.3**
MNK				*i* SSS	SSS	03 30 03.1	
MNK				*i* LQ	LQ	03 49 40.2	
MNK				*i* LR	LR	03 51 36.4	
MNK				*i* LRM	MLR	03 53 47.9	
	comp=N,183nm,21.2s						
MNK				*i* LRM	MLR	03 54 00.8	
	comp=E,12nm,20.6s						
MNK				*i* LRM	MLR	03 54 03.3	
	comp=Z,100nm,25.8s						
KSH	**Kashi**	**115.11**	**57**	PKP	**PKiKP**	**03 10 07.3**	**+3.2**
TXAR	**Lajitas Array**	**117.92**	**283**	PKP	**PKPdf**	**03 10 07.9**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=152,slow=4.1,SNR=1.5						
KLMR	**Klimovskoe**	**118.31**	**23**	*e*PKPdf	**PKPdf**	**03 10 09.0**	**-0.3**
KLMR				AMP		03 10 13.8	
	comp=Z,4.0nm,0.8s						
KLMR				LR	LR	03 54 57.8	
QIZ	**Qiongzhong**	**119.82**	**97**	PKP	**PKPdf**	**03 10 13.0**	**-0.6**
QIZ				PP	**PP**	**03 11 40.0**	**+2.8**
QIZ				SS	SS	03 28 03.0	+0.7
QIZ				L	L		
	comp=Z,380nm,19.6s						
QIZ				L	L		
	comp=Z,260nm,15.2s						
QIZ				L	L		
	comp=Z,260nm,17.2s						
MKAR	**Makanchi Array**	**123.53**	**55**	PKP	**PKPdf**	**03 10 18.8**	**-1.0**
	comp=Z,1.5nm,1.1s,baz=276,slow=4.2,SNR=2.5						
TUC	**Tucson**	**124.32**	**280**	PKPdf	**PKPdf**	**03 10 20.5**	**-1.4**
WMQ	**Urumqi**	**124.34**	**61**	*e*PKP	**PKiKP**	**03 10 23.5**	**+1.6**
WMQ				L	L		
	comp=Z,300nm,15.1s						
WMQ				L	L		
	comp=Z,290nm,15.1s						
WMQ				L	L		
	comp=Z,940nm,20.0s						
CD2	**Chengdu**	**124.82**	**83**	PKP	**PKPdf**	**03 10 23.0**	**+0.1**
X16A	**Lo Mia Camp. P**	**126.17**	**281**		**PKiKP**	**03 10 26.3**	**+0.3**
PV22	**Blue Mesa, Par**	**127.37**	**287**		**PKPdf**	**03 10 27.0**	**-0.8**
SRU	**San Rafael Swe**	**128.77**	**286**		**PKiKP**	**03 10 32.4**	**+1.4**
TMUT	**Trail Mountain**	**129.29**	**286**		**PKPdf**	**03 10 31.4**	**-0.1**
ZALV	**Zalesovo Beam**	**129.39**	**50**	PKP	**PKPdf**	**03 10 29.1**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=211,slow=0.8,SNR=1.3						
ZALV	**Zalesovo Beam**	**129.39**	**50**	PKPdf	**PKiKP**	**03 10 33.0**	**+1.5**
XAN	**Xi'an**	**130.13**	**84**	PKP	**PKiKP**	**03 10 34.0**	**+0.2**
XAN				L	L		
	comp=Z,320nm,16.3s						
XAN				L	L		
	comp=Z,210nm,15.2s						
PDAR	**Pinedale Array**	**130.55**	**290**	PKP	**PKPdf**	**03 10 31.3**	**-2.4**
	comp=Z,0.2nm,0.6s,baz=127,slow=2.4,SNR=2.6						
SPR3	**Spring Creek 3**	**130.95**	**284**	PKPdf	**PKiKP**	**03 10 37.0**	**+1.3**
AHID	**Auburn Hatcher**	**131.43**	**290**	PKPdf	**PKiKP**	**03 10 37.9**	**+1.6**
QLMT	**Earthquake Lak**	**132.88**	**292**	PKPdf	**PKiKP**	**03 10 40.6**	**+1.4**
NVAR	**Mina Array Bea**	**132.97**	**280**	PKP	**PKPdf**	**03 10 36.1**	**-2.3**
	comp=Z,0.3nm,0.8s,baz=174,slow=3.2,SNR=1.8						
NJ2	**Nanjing**	**134.85**	**94**	*e*PKP	**PKPdf**	**03 10 42.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**136.13**	**79**	*e*PKP	**PKPdf**	**03 10 41.3**	**-2.8**
G08A	**Pilot Rock**	**137.49**	**288**	PKPdf	**PKPdf**	**03 10 46.3**	**-0.2**
ULN	**Ulaanbaatar**	**137.51**	**68**	PKPdf	**PKPdf**	**03 10 45.6**	**-0.9**
B08A	**Colville Reser**	**139.37**	**291**	PKPdf	**PKPdf**	**03 10 49.5**	**-0.3**
YKA	**Yellowknife Ar**	**142.81**	**314**	PKP	**PKPdf**	**03 10 52.4**	**-3.0**
	comp=Z,0.9nm,0.9s,baz=102,slow=2.6,SNR=4.9						
KSAR	**Wonju Array Be**	**143.97**	**95**	PKPdf	PKPbc	03 10 57.0	+0.9
KSRS	**Korea Array**	**144.00**	**95**	PKP	PKPab	03 10 54.4	-1.3
	comp=Z,1.9nm,1.1s,baz=224,slow=3.4,SNR=1.6						
HIA	**Hailar**	**145.52**	**73**	PKPdf	**PKPdf**	**03 11 00.5**	**-0.1**
CN2	**Changchun**	**146.24**	**84**	*e*PKPbc	**PKPbc**	**03 11 02.8**	**-0.3**
CN2				PP	**PP**	**03 14 30.8**	**+4.6**
CN2				SS	SS	03 33 24.8	+2.1
CN2				PPMZ			
	comp=Z,100nm,6.2s						
CN2				L	L		
	comp=Z,200nm,15.0s						
CN2				L	L		
	comp=Z,300nm,15.0s						
CN2				L	L		
	comp=Z,300nm,15.0s						
DLBC	**Dease Lake**	**149.13**	**303**	PKPbc	**PKPbc**	**03 11 08.6**	**-2.0**
	comp=Z,5.7nm,1.0s,baz=174,slow=18,SNR=3.8						
DLBC	**Dease Lake**	**149.13**	**303**		**PKPbc**	**03 11 09.6**	**-0.9**
MAT	**Matsushiro**	**149.58**	**107**	PKP	**PKPbc**	**03 11 10.4**	**-1.9**
MJAR	**Matsushiro Arr**	**149.58**	**107**	PKPbc	**PKPbc**	**03 11 11.2**	**-1.1**
	comp=Z,8.0nm,1.1s,baz=174,slow=1.3,SNR=6.9						
MJB9	**Matsu-Tunnel**	**149.58**	**107**	PKPbc	**PKPbc**	**03 11 11.2**	**-1.1**
INK	**Inuvik**	**151.20**	**323**	PKPbc	**PKPbc**	**03 11 12.5**	**-2.6**
	comp=Z,5.6nm,0.8s,baz=46,slow=5.8,SNR=8.3						
INK	**Inuvik**	**151.20**	**323**	PKPdf	**PKPdf**	**03 11 10.1**	**+0.9**
INK				PKPbc	**pPKPbc**	**03 11 17.0**	**-0.5**
BCAR	**Beaver Creek A**	**155.20**	**312**	PKPdf	**PKPdf**	**03 11 16.3**	**+1.0**
BCAR				PKPab	**pPKPab**	**03 11 41.9**	**-1.0**
L27K	**Beaver Creek,**	**155.22**	**312**	PKPdf	**PKPdf**	**03 11 15.9**	**+0.7**
L27K				PKPab	**pPKPab**	**03 11 42.5**	**-0.5**
BMAR	**Burnt Mountain**	**155.48**	**323**	PKPdf	**PKPdf**	**03 11 17.1**	**+1.6**
BMAR					**PKPab**	**03 11 41.5**	**+0.1**
TOLK	**Toolik Lake Re**	**156.76**	**328**	PKPdf	**PKPdf**	**03 11 17.7**	**+0.6**
TOLK				PKPab	**PKPab**	**03 11 48.0**	**+1.1**
ILAR	**Eielson Array**	**157.13**	**317**	PKP	**PKPdf**	**03 11 14.5**	**-3.1**
	comp=Z,0.3nm,0.8s,baz=112,slow=0.5,SNR=2.6						
ILAR				PKPab	**PKPab**	**03 11 46.9**	**-1.6**
	comp=Z,3.7nm,1.2s,baz=60,slow=2.7,SNR=13						
ILAR	**Eielson Array**	**157.13**	**317**	PKPdf	**PKPdf**	**03 11 17.4**	**-0.3**
ILAR				PKPab	**pPKPab**	**03 11 49.9**	**-1.2**
MLY	**Manley**	**158.62**	**319**	PKPdf	**PKPdf**	**03 11 19.8**	**+0.2**
MLY					**PKPab**	**03 11 56.1**	**+1.1**

KMA 27 03:00:39.7±0.2, 38.79N×126.07E, h0km, Error ellipse: s-maj=3.4km s-min=0.8km az=357.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNCB	**YEONCHEON**	**1.01**	**138**	P	Pg	03 00 58.7	-0.3
	SNR=15						
YNCB	**YEONCHEON**	**1.01**	**138**	P	Pg	03 00 58.7	-0.3
	SNR=15						
YNCB	**YEONCHEON**	**1.01**	**138**	P	Pg	03 00 58.7	-0.3
	SNR=15						
YNCB				S	Sn	03 01 15.3	-0.7
KSMUS	**Musan**	**1.05**	**149**	P	Pg	03 01 00.3	+0.4
	SNR=12						
KSMUS	**Musan**	**1.05**	**149**	P	Pg	03 01 00.3	+0.4
	SNR=12						
KSMUS	**Musan**	**1.05**	**149**	P	Pg	03 01 00.3	+0.4
	SNR=12						
KSMUS				S	Sn	03 01 17.4	+0.3
KSGAH	**Ganghwa**	**1.12**	**164**	P	Pg	03 01 01.2	0.0
	SNR=11						
KSGAH	**Ganghwa**	**1.12**	**164**	P	Pg	03 01 01.2	0.0
	SNR=11						
KSGAH	**Ganghwa**	**1.12**	**164**	P	Pg	03 01 01.2	0.0
	SNR=11						
KSBAR	**Backryungdo**	**1.34**	**233**	P	Pg	03 01 05.3	0.0
	SNR=8.6						
KSBAR	**Backryungdo**	**1.34**	**233**	P	Pg	03 01 05.3	-0.1
KSBAR	**Backryungdo**	**1.34**	**233**	P	Pg	03 01 05.3	-0.1
KSCWO	**Cheorwon**	**1.34**	**121**	P	Pg	03 01 04.3	-1.1
	SNR=12						
KSCWO	**Cheorwon**	**1.34**	**121**	P	Pg	03 01 04.3	-1.1
	SNR=12						
KSCWO	**Cheorwon**	**1.34**	**121**	P	Pg	03 01 04.3	-1.1
	SNR=12						
DACB	**Daecheong-do R**	**1.44**	**229**	P	Pn	03 01 06.5	-0.5
	SNR=29						
DACB	**Daecheong-do R**	**1.44**	**229**	P	Pn	03 01 06.5	-0.5
	SNR=29						
DACB	**Daecheong-do R**	**1.44**	**229**	P	Pn	03 01 06.5	-0.5
	SNR=29						
KSCHC	**Chuncheon**	**1.71**	**126**	P	Pn	03 01 11.0	+0.3
	SNR=14						
SEHB	**SEOHWA**	**1.79**	**106**	P	Pn	03 01 12.0	+0.1
	SNR=11						
SEHB	**SEOHWA**	**1.79**	**106**	P	Pn	03 01 12.0	+0.1
	SNR=11						

KMA 27 03:05:45.8±0.9, 36.72N×127.55E, h33km±10km, Error ellipse: s-maj=15.6km s-min=7.0km az=15.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSCEA	**Cheonan**	**0.26**	**295**	P	Pn	03 05 52.2	-0.7
	SNR=8.8						
KSCEA	**Cheonan**	**0.26**	**295**	P	Pn	03 05 52.2	-0.7
	SNR=8.8						
KSCEA	**Cheonan**	**0.26**	**295**	P	Pn	03 05 52.2	-0.7
	SNR=8.8						
KSBON	**Boeun**	**0.30**	**136**	P	Pn	03 05 54.3	+0.6
	SNR=7.6						
KSBON	**Boeun**	**0.30**	**136**	P	Pn	03 05 54.3	+0.6
	SNR=7.6						
KSBON	**Boeun**	**0.30**	**136**	P	Pn	03 05 54.3	+0.6
	SNR=7.6						
KSCHJ	**Chungju**	**0.38**	**65**	P	Pn	03 05 55.1	+0.1
	SNR=9.3						
KSCHJ	**Chungju**	**0.38**	**65**	P	Pn	03 05 55.2	+0.2
	SNR=7.7

TUL1	**Leonard**	**2.12**	**112**	P		03 32 04.6	
	baz=294,SNR=140						
TUL1	**Leonard**	**2.12**	**112**	P		03 32 04.6	
	baz=294,SNR=66						
X34A	**Smith Ranch, M**	**2.15**	**172**		**Pn**	**03 32 05.4**	**+1.1**
CBKS	**Cedar Bluff**	**2.41**	**330**	Pn	**Pn**	**03 32 08.9**	**+1.0**
CBKS				lAmb_Lg		03 32 48.7	
	comp=Z,348nm,0.8s						
CBKS	**Cedar Bluff**	**2.41**	**330**	P	**Pn**	**03 32 09.2**	**+1.2**
	baz=150,SNR=54						
CBKS				S	**Sn**	**03 32 39.8**	**+2.1**
	baz=150						
CBKS	**Cedar Bluff**	**2.41**	**330**	P		03 32 09.1	
	baz=150,SNR=28						
CBKS				S		03 32 39.4	
	baz=150						
CBKS	**Cedar Bluff**	**2.41**	**330**	P		03 32 09.2	
	baz=150,SNR=54						
CBKS				S		03 32 39.8	
	baz=150						
KSU1	**Kansas State U**	**2.69**	**28**	Pn	**Pn**	**03 32 12.4**	**+0.7**
KSU1				lAmb_Lg		03 32 53.2	
	comp=Z,193nm,0.7s						
KSU1	**Kansas State U**	**2.69**	**28**	P		03 32 12.7	
	baz=209,SNR=9.6						
LOOK	**Love County**	**2.86**	**163**		**Pn**	**03 32 14.8**	**+0.7**
LOOK				lAmb_Lg		03 33 07.1	
	comp=Z,260nm,0.9s						
U38A	**Gravette**	**3.09**	**94**		**Pn**	**03 32 18.1**	**+0.8**
U38A				lAmb_Lg		03 33 12.4	
	comp=Z,398nm,0.9s						
U38A	**Gravette**	**3.09**	**94**	P	**Pn**	**03 32 18.6**	**+1.2**
	baz=277,SNR=33						
U38A	**Gravette**	**3.09**	**94**	P		03 32 18.6	
	baz=277,SNR=33						
X37A	**Clayton**	**3.15**	**132**		**Pn**	**03 32 18.9**	**+0.8**
X37A				lAmb_Lg		03 33 13.4	
	comp=Z,218nm,0.9s						
X37A	**Clayton**	**3.15**	**132**	P	**Pn**	**03 32 19.2**	**+1.2**
	baz=314,SNR=54						
X37A	**Clayton**	**3.15**	**132**	P		03 32 19.2	
	baz=314,SNR=54						
AMTX	**Amarillo**	**3.37**	**238**		**Pn**	**03 32 22.2**	**+1.1**
AMTX				lAmb_Lg		03 33 16.8	
	comp=Z,276nm,0.7s						
AMTX	**Amarillo**	**3.37**	**238**	P	**Pn**	**03 32 22.3**	**+1.1**
	baz=55,SNR=20						
AMTX	**Amarillo**	**3.37**	**238**	P		03 32 22.1	
	baz=55						
AMTX				Sb		03 33 12.5	
	baz=55						
AMTX	**Amarillo**	**3.37**	**238**	P		03 32 22.3	
	baz=55,SNR=20						
HHAR	**Hobbs**	**3.47**	**96**		**Pn**	**03 32 23.2**	**+0.6**
HHAR				lAmb_Lg		03 33 20.5	
	comp=Z,113nm,0.7s						
HHAR	**Hobbs**	**3.47**	**96**	P	**Pn**	**03 32 23.6**	**+1.0**
	baz=279						
HHAR	**Hobbs**	**3.47**	**96**	P		03 32 23.6	
	baz=279						
Z35A	**Perchaven, San**	**3.48**	**167**	Pn	**Pn**	**03 32 23.5**	**+0.9**
Z35A				lAmb_Lg		03 33 26.6	
	comp=Z,121nm,1.0s						
W39A	**Magazine**	**3.90**	**112**	Pn	**Pn**	**03 32 29.0**	**+0.5**
W39A				lAmb_Lg		03 33 34.2	
	comp=Z,180nm,0.9s						
W39A	**Magazine**	**3.90**	**112**	P	**Pn**	**03 32 29.0**	**+0.5**
	baz=295,SNR=22						
W39A	**Magazine**	**3.90**	**112**	P		03 32 28.9	
	baz=295,SNR=7.6						
W39A	**Magazine**	**3.90**	**112**	P		03 32 29.0	
	baz=295,SNR=22						
S39A	**Bolivar**	**4.02**	**75**		**Pn**	**03 32 30.6**	**+0.6**
S39A				lAmb_Lg		03 33 44.7	
	comp=Z,166nm,0.9s						
S39A	**Bolivar**	**4.02**	**75**	P	**Pn**	**03 32 30.8**	**+0.7**
	baz=258,SNR=28						
S39A	**Bolivar**	**4.02**	**75**	P		03 32 30.8	
	baz=258,SNR=28						
N33A	**J Bar K, Exete**	**4.05**	**8**	Pn	**Pn**	**03 32 29.8**	**-0.7**
KSCO	**Kaye Shedlock'**	**4.17**	**304**		**Pn**	**03 32 32.7**	**+0.4**
KSCO				lAmb_Lg		03 33 43.5	
	comp=Z,157nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.17**	**304**	P		03 32 33.3	
	baz=122,SNR=6.5						
ABTX	**Abilene, Hawle**	**4.26**	**196**	Pn	**Pn**	**03 32 33.2**	**-0.2**
ABTX				lAmb_Lg		03 33 49.7	
	comp=Z,87nm,0.8s						
ABTX	**Abilene, Hawle**	**4.26**	**196**	P	**Pn**	**03 32 33.9**	**+0.4**
	baz=15,SNR=17						
ABTX	**Abilene, Hawle**	**4.26**	**196**	P		03 32 33.5	
	baz=15						
ABTX	**Abilene, Hawle**	**4.26**	**196**	P		03 32 33.9	
	baz=15,SNR=17						
U40A	**Yellville**	**4.33**	**93**	Pn	**Pn**	**03 32 35.0**	**+0.7**
U40A				lAmb_Lg		03 33 47.5	
	comp=Z,164nm,0.7s						
U40A	**Yellville**	**4.33**	**93**	P	**Pn**	**03 32 35.2**	**+0.8**
	baz=277,SNR=44						
U40A	**Yellville**	**4.33**	**93**	P		03 32 35.0	
	baz=277,SNR=17						
U40A				S		03 33 24.7	
	baz=277						
U40A	**Yellville**	**4.33**	**93**	P		03 32 35.2	
	baz=277,SNR=44						
U40A				P		03 32 35.2	
	baz=277,SNR=44						
MIAR	**Mount Ida**	**4.36**	**119**	Pn	**Pn**	**03 32 34.4**	**-0.3**
MIAR				lAmb_Lg		03 33 52.3	
	comp=Z,84nm,0.7s						
MIAR	**Mount Ida**	**4.36**	**119**	S		03 33 26.6	
	baz=302						
Z38A	**Mt. Pleasant**	**4.36**	**142**		**Pn**	**03 32 33.8**	**-0.9**
Z38A				lAmb_Lg		03 33 53.0	
	comp=Z,186nm,0.8s						
N35A	**Tabor**	**4.59**	**25**	Pn	**Pn**	**03 32 38.3**	**+0.4**
MSTX	**Muleshoe**	**4.63**	**235**	Pn	**Pn**	**03 32 39.0**	**+0.4**
MSTX				lAmb_Lg		03 33 57.4	
	comp=Z,149nm,1.1s						
MSTX	**Muleshoe**	**4.63**	**235**	P	**Pn**	**03 32 39.6**	**+1.0**
	baz=52,SNR=6.9						
MSTX	**Muleshoe**	**4.63**	**235**	P		03 32 39.5	
	baz=52,SNR=18						
MSTX				Sb		03 33 51.0	
	baz=52						
MSTX	**Muleshoe**	**4.63**	**235**	P		03 32 39.6	
	baz=52,SNR=6.9						
BGNE	**Belgrade**	**4.67**	**1**	Pn	**Pn**	**03 32 38.6**	**-0.4**
BGNE				lAmb_Lg		03 33 58.9	
	comp=Z,169nm,0.8s						
BGNE	**Belgrade**	**4.67**	**1**	P	**Pn**	**03 32 39.6**	**+0.6**
	baz=181,SNR=16						
BGNE	**Belgrade**	**4.67**	**1**	P		03 32 39.6	
	baz=181,SNR=10						
BGNE				S		03 33 35.4	
	baz=181						
BGNE	**Belgrade**	**4.67**	**1**	P		03 32 39.6	
	baz=181,SNR=16						
P38A	**Dawn**	**4.69**	**50**	Pn	**Pn**	**03 32 39.1**	**-0.1**
P38A				lAmb_Lg		03 33 56.1	
	comp=Z,129nm,0.8s						
P38A	**Dawn**	**4.69**	**50**	P	**Pn**	**03 32 39.7**	**+0.5**
	baz=234,SNR=30						
P38A	**Dawn**	**4.69**	**50**	P		03 32 39.7	
	baz=234,SNR=30						
WHTX	**Lake Whitney,**	**4.77**	**172**	Pn	**Pn**	**03 32 41.0**	**+0.6**
WHTX	**Lake Whitney,**	**4.77**	**172**	P	**Pn**	**03 32 40.9**	**+0.6**
	baz=353,SNR=16						
WHTX	**Lake Whitney,**	**4.77**	**172**	P		03 32 41.2	
	baz=353						
WHTX				S		03 33 37.1	
	baz=353						
WHTX	**Lake Whitney,**	**4.77**	**172**	P		03 32 40.9	
	baz=353,SNR=16						
MGMO	**Mountain Grove**	**4.78**	**83**		**Pn**	**03 32 41.7**	**+1.2**
MGMO				lAmb_Lg		03 34 09.5	
	comp=Z,221nm,0.7s						
X40A	**Basin Creek Fa**	**4.92**	**115**		**Pn**	**03 32 43.5**	**+1.1**
X40A				lAmb_Lg		03 34 14.8	
	comp=Z,74nm,0.8s						
X40A	**Basin Creek Fa**	**4.92**	**115**	P	**Pn**	**03 32 43.3**	**+0.9**
	baz=299						
X40A	**Basin Creek Fa**	**4.92**	**115**	P		03 32 43.4	
	baz=299,SNR=14						
X40A				S		03 33 40.5	
	baz=299						
X40A	**Basin Creek Fa**	**4.92**	**115**	P		03 32 43.3	
	baz=299						
X40A				P		03 32 43.3	
	baz=299						
R40A	**Maddies Statio**	**4.97**	**70**		**Pn**	**03 32 44.3**	**+1.1**
R40A				lAmb_Lg		03 34 10.7	
	comp=Z,131nm,0.8s						
R40A	**Maddies Statio**	**4.97**	**70**	P	**Pn**	**03 32 44.1**	**+1.0**
	baz=254,SNR=11						
R40A	**Maddies Statio**	**4.98**	**70**	P		03 32 44.1	
	baz=254,SNR=11						
T25A	**Trinidad**	**4.98**	**277**		**Pn**	**03 32 44.4**	**+0.9**
T25A				lAmb_Lg		03 34 08.6	
	comp=Z,161nm,0.8s						
T25A	**Trinidad**	**4.98**	**277**	P		03 32 43.7	
	baz=93						
T25A				Sb		03 34 01.9	
	baz=93						
FCAR	**Ozark Folk Cen**	**4.99**	**98**		**Pn**	**03 32 44.9**	**+1.6**
FCAR				lAmb_Lg		03 34 10.1	
	comp=Z,127nm,0.8s						
WHAR	**Wooly Hollow**	**5.01**	**105**		**Pn**	**03 32 45.0**	**+1.3**
WHAR				lAmb_Lg		03 34 15.9	
	comp=Z,131nm,0.9s						
W41B	**Gary Mavity, V**	**5.08**	**106**	P	**Pn**	**03 32 45.1**	**+0.5**
	baz=290,SNR=9.8						
W41B	**Gary Mavity, V**	**5.08**	**106**	P		03 32 45.0	
	baz=290,SNR=7.6						
W41B				S		03 33 42.6	
	baz=290						
W41B	**Gary Mavity, V**	**5.08**	**106**	P		03 32 45.1	
	baz=290,SNR=9.8						
237A	**Washetta, Mont**	**5.12**	**156**		**Pn**	**03 32 44.8**	**-0.4**
237A				lAmb_Lg		03 34 17.7	
	comp=Z,186nm,1.0s						
237A	**Washetta, Mont**	**5.12**	**156**	P	**Pn**	**03 32 45.3**	**+0.1**
	baz=338,SNR=9.4						
237A	**Washetta, Mont**	**5.12**	**156**	P		03 32 45.3	
	baz=338,SNR=9.4						
OGNE	**Ogallala**	**5.16**	**326**	Pn	**Pn**	**03 32 47.1**	**+1.3**
OGNE				lAmb_Lg		03 34 22.6	
	comp=Z,202nm,0.7s						
OGNE	**Ogallala**	**5.16**	**326**	P	**Pn**	**03 32 47.8**	**+2.0**
	baz=144,SNR=24						
OGNE	**Ogallala**	**5.16**	**326**	P		03 32 47.5	
	baz=144,SNR=8.2						
OGNE				Sb		03 34 07.2	
	baz=144						
OGNE	**Ogallala**	**5.16**	**326**	P		03 32 47.8	
	baz=144,SNR=24						
WLAR	**White Oak Lake**	**5.16**	**125**		**Pn**	**03 32 47.0**	**+1.2**
WLAR				lAmb_Lg		03 34 23.9	
	comp=Z,135nm,1.2s						
L34A	**Svendsen Farm,**	**5.42**	**15**		**Pn**	**03 32 49.1**	**-0.2**
L34A				lAmb_Lg		03 34 32.5	
	comp=Z,163nm,0.8s						
P40A	**Paris**	**5.61**	**58**	Pn	**Pn**	**03 32 52.5**	**+0.7**
P40A	**Paris**	**5.61**	**58**	P	**Pn**	**03 32 52.3**	**+0.5**
	baz=242						
P40A	**Paris**	**5.61**	**58**	P		03 32 52.3	
	baz=242						
N38A	**Joes South For**	**5.62**	**42**		**Pn**	**03 32 52.4**	**+0.4**
N38A				lAmb_Lg		03 34 29.7	
	comp=Z,134nm,0.8s						
N38A	**Joes South For**	**5.62**	**42**	P	**Pn**	**03 32 52.1**	**+0.1**
	baz=225,SNR=8.5						
N38A	**Joes South For**	**5.62**	**42**	P		03 32 52.1	
	baz=225,SNR=8.5						
Z41A	**Richland Creek**	**5.63**	**126**	P	**Pn**	**03 32 52.4**	**+0.2**
	baz=310						
Z41A	**Richland Creek**	**5.63**	**126**	P		03 32 52.5	
	baz=310						
Z41A				S		03 33 55.5	
	baz=310						
Z41A	**Richland Creek**	**5.63**	**126**	P		03 32 52.4	
	baz=310						
Z41A				P		03 32 52.4	
	baz=310						
CCM	**Cathedral Cave**	**5.70**	**74**	Pn	**Pn**	**03 32 53.1**	**0.0**
CCM				lAmb_Lg		03 34 37.4	
	comp=Z,181nm,0.7s						
T42A	**Van Buren**	**5.71**	**85**	Pn	**Pn**	**03 32 53.8**	**+0.5**
T42A				lAmb_Lg		03 34 38.0	
	comp=Z,107nm,0.8s						
LCAR	**Lake Charles**	**5.73**	**94**		**Pn**	**03 32 54.3**	**+0.8**
LCAR				lAmb_Lg		03 34 29.8	
	comp=Z,131nm,0.9s						
K31A	**O'Neill**	**5.90**	**356**	Pn	**Pn**	**03 32 56.5**	**+0.6**
K31A	**O'Neill**	**5.90**	**356**	P	**Pn**	**03 32 56.6**	**+0.6**
	baz=176,SNR=13						
K31A	**O'Neill**	**5.90**	**356**	P		03 32 56.6	
	baz=176,SNR=13						
SDCO	**Great Sand Dun**	**5.90**	**282**	Pn	**Pn**	**03 32 55.9**	**-0.3**
Q24A	**Divide**	**5.93**	**294**	P		03 32 56.7	
	baz=110						
435B	**Jarrell**	**5.95**	**175**	Pn	**Pn**	**03 32 56.7**	**+0.1**
435B				lAmb_Lg		03 34 49.4	
	comp=Z,177nm,1.0s						
435B	**Jarrell**	**5.95**	**175**	P		03 32 57.2	
	baz=355						
CCAR	**Cane Creek**	**5.96**	**116**	lAmb_Lg		03 34 46.3	
	comp=Z,70nm,0.8s						
PBMO	**Poplar Bluff**	**6.25**	**87**	lAmb_Lg		03 34 50.2	
	comp=Z,162nm,0.9s						
JCT	**Junction City**	**6.37**	**192**	Pn	**Pn**	**03 33 01.9**	**-0.5**
JCT	**Junction City**	**6.37**	**192**	P		03 33 01.8	
	baz=11						
SCIA	**State Center**	**6.46**	**35**	Pn	**Pn**	**03 33 03.8**	**+0.2**
SCIA				lAmb_Lg		03 34 58.3	
	comp=Z,122nm,0.8s						
SCIA	**State Center**	**6.46**	**35**	P		03 33 04.0	
	baz=218						
ISCO	**Idaho Springs**	**6.58**	**300**	Pn	**Pn**	**03 33 05.2**	**-0.3**
ISCO				lAmb_Lg		03 35 02.0	
	comp=Z,51nm,1.0s						
ISCO	**Idaho Springs**	**6.58**	**300**	P		03 33 05.9	
	baz=115						
PARMO	**Parma**	**6.80**	**88**	Pn	**Pn**	**03 33 08.2**	**0.0**
GDL2	**Guadalupe Moun**	**6.80**	**230**	Pn	**Pn**	**03 33 09.0**	**+0.7**
143A	**Socs Landing,**	**6.89**	**124**	lAmb_Lg		03 35 21.8	
	comp=Z,44nm,0.9s						
143A	**Socs Landing,**	**6.89**	**124**	P	**Pn**	**03 33 09.8**	**+0.2**
	baz=308,SNR=6.4						
143A	**Socs Landing,**	**6.89**	**124**	P		03 33 09.8	
	baz=308,SNR=6.4						
ANMO	**Albuquerque**	**6.93**	**258**	Pn	**Pn**	**03 33 11.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=74,slow=18,SNR=1.3						
ANMO				Pg	Pb	03 33 34.7	+5.7
	comp=Z,0.6nm,0.3s,baz=77,slow=18,SNR=4.2						
ANMO				Lg	Lg	03 35 02.6	
	comp=Z,9.7nm,0.3s,baz=32,slow=16,SNR=12						
ANMO	**Albuquerque**	**6.93**	**258**	Pn	**Pn**	**03 33 09.7**	**-0.5**
N41A	**Harden Midland**	**6.99**	**53**	lAmb_Lg		03 35 12.4	
	comp=Z,145nm,0.8s						
HENM	**Henderson Moun**	**7.02**	**88**	Pn	**Pn**	**03 33 12.0**	**+0.8**
ECSD	**EROS Data Cent**	**7.10**	**9**	Pn	**Pn**	**03 33 11.5**	**-1.0**
ECSD				lAmb_Lg		03 35 16.6	
	comp=Z,58nm,1.1s						
ECSD	**EROS Data Cent**	**7.10**	**9**	P	**Pn**	**03 33 11.4**	**-1.0**
	baz=190,SNR=40						
ECSD	**EROS Data Cent**	**7.10**	**9**	P		03 33 11.4	
	baz=190,SNR=14						
ECSD	**EROS Data Cent**	**7.10**	**9**	P		03 33 11.4	
	baz=190,SNR=40						
S44A	**Carbondale**	**7.21**	**80**	Pn	**Pn**	**03 33 14.4**	**+0.5**
HICK	**Hickman**	**7.22**	**89**	Pn	**Pn**	**03 33 14.3**	**+0.2**
SIUC	**Southern Illin**	**7.24**	**79**	Pn	**Pn**	**03 33 14.8**	**+0.5**
K38A	**Parkersburg**	**7.25**	**34**		**Pn**	**03 33 14.6**	**+0.2**
K38A				lAmb_Lg		03 35 30.1	
	comp=Z,127nm,0.9s						
PHWY	**Pilot Hill**	**7.26**	**311**	Pn	**Pn**	**03 33 15.1**	**+0.3**
PHWY				lAmb_Lg		03 35 31.9	
	comp=Z,46nm,0.7s						
N23A	**Red Feather La**	**7.33**	**307**	P		03 33 16.3	
	baz=122,SNR=11						
BNM	**Barren Site**	**7.33**	**252**	Pn	**Pn**	**03 33 16.6**	**+0.8**
SMCO	**Snowmass**	**7.34**	**292**	Pn	**Pn**	**03 33 15.9**	**-0.1**
P43A	**Skaggs, Pawnee**	**7.43**	**64**	Pn	**Pn**	**03 33 17.2**	**+0.2**
W45A	**Hickory Valley**	**7.49**	**99**	Pn	**Pn**	**03 33 17.6**	**0.0**
W45A				lAmb_Lg		03 35 33.9	
	comp=Z,126nm,0.8s						
OXF	**Oxford**	**7.50**	**105**		**Pn**	**03 33 17.3**	**-0.6**
OXF				lAmb_Lg		03 35 43.0	
	comp=Z,67nm,0.8s						
OXF	**Oxford**	**7.50**	**105**	P		03 33 17.7	
	baz=290						
Y22D	**IRIS PASSCAL I**	**7.59**	**252**	lAmb_Lg		03 35 48.6	
	comp=Z,98nm,0.8s						
L40A	**Anamosa**	**7.59**	**43**		**Pn**	**03 33 19.0**	**-0.1**
L40A				lAmb_Lg		03 35 34.8	
	comp=Z,101nm,0.8s						
LENM	**Lemitar**	**7.59**	**253**	Pn	**Pn**	**03 33 19.4**	**+0.1**
Q44A	**Meyer Farm, Va**	**7.59**	**71**	Pn	**Pn**	**03 33 19.9**	**+0.8**
Y45A	**Yeager Farm, C**	**7.64**	**109**	lAmb_Lg		03 35 41.6	
	comp=Z,59nm,0.8s						
SUSD	**Miller**	**7.73**	**356**		**Pn**	**03 33 20.3**	**-0.7**
SUSD				lAmb_Lg		03 35 43.7	
	comp=Z,79nm,0.9s						
SUSD	**Miller**	**7.73**	**356**	P		03 33 21.1	
	baz=176						
MNTX	**Cornudas Mount**	**7.77**	**232**	Pn	**Pn**	**03 33 21.6**	**-0.1**
MNTX				lAmb_Lg		03 35 45.5	
	comp=Z,65nm,1.1s						
MNTX	**Cornudas Mount**	**7.77**	**232**	P	**Pn**	**03 33 22.0**	**+0.3**
	baz=48,SNR=9.9						
MNTX	**Cornudas Mount**	**7.77**	**232**	P		03 33 22.1	
	baz=48						
MNTX	**Cornudas Mount**	**7.77**	**232**	P		03 33 22.0	
	baz=48,SNR=9.9						
735A	**Kenedy**	**7.86**	**177**	lAmb_Lg		03 35 49.8	
	comp=Z,61nm,0.8s						
HDIL	**Hopedale**	**7.96**	**59**		**Pn**	**03 33 24.3**	**+0.2**
HDIL	**Hopedale**	**7.96**	**59**	P		03 33 24.5	
	baz=244,SNR=8.8						
I37A	**Lemond, Waseca**	**8.15**	**25**	lAmb_Lg		03 35 53.5	
	comp=Z,76nm,1.1s						
PV01	**Paradox Valley**	**8.36**	**283**	Pn	**Pn**	**03 33 30.7**	**+0.8**
O44A	**Mansfield**	**8.38**	**63**	Pn	**Pn**	**03 33 29.8**	**0.0**
O44A				lAmb_Lg		03 35 52.0	
	comp=Z,115nm,0.7s						
WVT	**Waverly**	**8.39**	**91**	Pn	**Pn**	**03 33 30.0**	**0.0**
WVT				lAmb_Lg		03 35 58.1	
	comp=Z,50nm,0.7s						
PLAL	**Pickwick Lake**	**8.41**	**99**	Pn	**Pn**	**03 33 30.3**	**0.0**
PLAL				lAmb_Lg		03 35 56.8	
	comp=Z,43nm,1.0s						
L42A	**Oliver, Polo**	**8.46**	**49**		**Pn**	**03 33 30.5**	**-0.5**
L42A				lAmb_Lg		03 36 04.5	
	comp=Z,61nm,0.7s						
PV07	**Paradox Valley**	**8.46**	**285**	Pn	**Pn**	**03 33 31.8**	**+0.5**
PV02	**Paradox Valley**	**8.50**	**283**	Pn	**Pn**	**03 33 32.3**	**+0.5**
PV13	**Radium Mtn., P**	**8.56**	**283**	Pn	**Pn**	**03 33 34.5**	**+1.9**
RWWY	**Rawlins**	**8.56**	**308**	Pn	**Pn**	**03 33 32.7**	**0.0**
PV12	**Saucer Basin,**	**8.56**	**284**	Pn	**Pn**	**03 33 33.2**	**+0.6**
PV22	**Blue Mesa, Par**	**8.58**	**285**	Pn	**Pn**	**03 33 34.5**	**+1.6**
PV03	**Paradox Valley**	**8.59**	**283**	Pn	**Pn**	**03 33 33.6**	**+0.6**
RSSD	**Black Hills**	**8.61**	**331**	Pn	**Pn**	**03 33 33.5**	**+0.1**
RSSD				lAmb_Lg		03 36 23.9	
	comp=Z,41nm,0.8s						
PV11	**David Mesa, Pa**	**8.62**	**284**	Pn	**Pn**	**03 33 32.6**	**-0.7**
PV18	**Skein Mesa, Pa**	**8.64**	**283**	Pn	**Pn**	**03 33 34.0**	**+0.3**
PV16	**Nyswonger Mesa**	**8.65**	**284**	Pn	**Pn**	**03 33 33.6**	**-0.2**
PV04	**Paradox Valley**	**8.65**	**284**	Pn	**Pn**	**03 33 33.6**	**-0.2**
TX31	**Lajitas Ar. Si**	**8.68**	**213**		**Pn**	**03 33 33.4**	**-0.7**
TX31	**Lajitas Ar. Si**	**8.68**	**213**	P	**Pn**	**03 33 34.2**	**0.0**
	baz=30,SNR=18						
TX31	**Lajitas Ar. Si**	**8.68**	**213**	P		03 33 34.2	
	baz=30,SNR=18						
TX32	**Lajitas Array**	**8.68**	**213**		**Pn**	**03 33 33.5**	**-0.7**
TXAR	**Lajitas Array**	**8.68**	**213**	Pn	**Pn**	**03 33 34.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=35,slow=11,SNR=36						
TXAR				Pg	Pg	03 34 04.3	-10
	comp=Z,1.6nm,0.3s,baz=27,slow=14,SNR=11						
TXAR				Lg	Lg	03 36 00.6	
	comp=Z,2.5nm,0.3s,baz=37,slow=24,SNR=10						
TXAR	**Lajitas Array**	**8.68**	**213**	Pn	**Pn**	**03 33 34.0**	**-0.2**
PV17	**East Wray Mesa**	**8.68**	**284**	Pn	**Pn**	**03 33 35.1**	**+0.8**
PV20	**West Nyswonger**	**8.70**	**284**	Pn	**Pn**	**03 33 35.0**	**+0.6**
JFWS	**Jewell Farm**	**8.70**	**42**	Pn	**Pn**	**03 33 33.4**	**-0.9**
JFWS				lAmb_Lg		03 36 13.9	
	comp=Z,82nm,0.7s						
JFWS	**Jewell Farm**	**8.70**	**42**	P		03 33 33.8	
	baz=227						
PV19	**Morning Glory**	**8.70**	**284**	Pn	**Pn**	**03 33 34.6**	**0.0**
K22A	**Casper**	**8.72**	**315**	Pn	**Pn**	**03 33 35.6**	**+0.9**
K22A				lAmb_Lg		03 36 19.6	
	comp=Z,57nm,0.7s						
T47A	**Sharon Grove**	**8.91**	**85**	Pn	**Pn**	**03 33 37.6**	**+0.5**
T47A				lAmb_Lg		03 36 18.8	
	comp=Z,72nm,0.8s						
121A	**Cookes Peak, D**	**8.93**	**245**	Pn	**Pn**	**03 33 38.5**	**+0.8**
121A				lAmb_Lg		03 36 22.2	
	comp=Z,32nm,0.9s						
Z47A	**Carrollton**	**9.04**	**110**	lAmb_Lg		03 36 35.1	
	comp=Z,30nm,0.9s						
P46A	**Rosedale**	**9.13**	**68**	Pn	**Pn**	**03 33 41.3**	**+1.0**
M44A	**Midewin, Midew**	**9.17**	**56**	Pn	**Pn**	**03 33 41.5**	**+0.8**
I40A	**Norwalk**	**9.21**	**37**		**Pn**	**03 33 41.1**	**-0.2**
I40A				lAmb_Lg		03 36 35.4	
	comp=Z,33nm,0.7s						
F33A	**5 Mile Ranch,**	**9.22**	**8**		**Pn**	**03 33 40.4**	**-1.0**
F33A				lAmb_Lg		03 36 35.6	
	comp=Z,28nm,0.8s						
V48A	**Smith Brothers**	**9.26**	**93**	Pn	**Pn**	**03 33 43.5**	**+1.5**
V48A				lAmb_Lg		03 36 18.5	
	comp=Z,44nm,0.9s						
X48A	**Hartselle**	**9.37**	**101**	lAmb_Lg		03 36 30.3	
	comp=Z,40nm,0.8s						
SPMN	**Marine on St.**	**9.42**	**24**	Pn	**Pn**	**03 33 44.1**	**0.0**
SPMN				lAmb_Lg		03 36 36.9	
	comp=Z,28nm,0.8s						
SFIN	**Lafayette**	**9.44**	**64**		**Pn**	**03 33 45.7**	**+1.3**
SFIN				lAmb_Lg		03 36 26.7	
	comp=Z,98nm,0.8s						
SFIN	**Lafayette**	**9.44**	**64**	P		03 33 44.1	
	baz=251						
WCI	**Wyandotte Cave**	**9.59**	**77**	Pn	**Pn**	**03 33 47.3**	**+0.8**
WCI				lAmb_Lg		03 36 29.4	
	comp=Z,68nm,0.8s						
CLTN	**Cedars of Leba**	**9.60**	**90**	Pn	**Pn**	**03 33 46.9**	**+0.2**
CLTN				lAmb_Lg		03 36 31.0	
	comp=Z,40nm,0.9s						
F36A	**Milaca**	**9.78**	**20**	Pn	**Pn**	**03 33 49.3**	**+0.2**
X18A	**Snowflake**

mpv4.4,Error ellipse: s-maj=11.6km s-min=8.0km az=24.0
ISC 27 04:05:34.9±0.6,36°17'N±0'06×70°68'E±0'05,h110km,n62,
σ1ꝉ99/68,mb3.6/7,9C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.10**	**220**	Pn	**Pn**	**04 06 11.8**	**+2.3**
CEP	**Cherat**	**2.55**	**156**	P	**Pn**	**04 06 17.6**	**+2.4**
CHGR	**Chuyangaron**	**2.76**	**334**		**Pn**	**04 06 18.8**	**+1.0**
GAR	**Garm**	**2.84**	**354**	Pn	**Pn**	**04 06 20.6**	**+1.7**
CHCP	**Chirah Chowk**	**3.29**	**139**	P	**Pn**	**04 06 27.0**	**+2.2**
NIL	**Nilore**	**3.29**	**139**	Pn	**Pn**	**04 06 27.4**	**+2.6**
DRK	**Karamyk**	**3.42**	**15**		**Pn**	**04 06 29.2**	**+2.4**
THW	**Thamme Wali**	**3.48**	**165**	P	**Pn**	**04 06 29.5**	**+2.1**
BTK	**Batken**	**3.88**	**2**	Pn	**Pn**	**04 06 35.2**	**+2.5**
SARP	**Sargodha**	**4.55**	**158**	P	**Pn**	**04 06 42.3**	**+0.6**
KSH	**Kashi**	**5.36**	**50**	P	**Pn**	**04 06 51.3**	**-1.4**
KSH				S	**Sn**	**04 07 46.0**	**-7.2**
KSH	350nm,0.5s			SMN			
KSH	180nm,0.3s			SME			
AML	**Almayashu**	**6.39**	**21**	P	**Pn**	**04 07 08.4**	**+1.5**
	SNR=64						
EKS2	**Erkin-Say**	**6.91**	**19**	P	**Pn**	**04 07 15.7**	**+2.1**
	SNR=16						
KK31	**Karatay Array**	**6.92**	**359**	⇓P	**Pn**	**04 07 14.1**	**+0.3**
	7.9nm,0.3s,baz=181,slow=15,SNR=4.1						
KK31				⇑S	**Sn**	**04 08 28.5**	**-2.5**
	57nm,0.8s,baz=188,slow=22,SNR=14						
KK31	**Karatay Array**	**6.92**	**359**	Pn	**Pn**	**04 07 14.3**	**+0.5**
KKAR	**Karatay Array**	**6.92**	**359**		**Pn**	**04 07 14.4**	**+0.6**
KKAR	**Karatay Array**	**6.92**	**359**	Pn	**Pn**	**04 07 14.3**	**+0.6**
AAK	**Ala-Archa**	**7.10**	**23**	P	**Pn**	**04 07 17.8**	**+1.6**
	SNR=17						
AAK	**Ala-Archa**	**7.10**	**23**	⇑P	**Pn**	**04 07 17.5**	**+1.2**
	8.3nm,0.3s						
AAK				⇑S	**Sn**	**04 08 33.8**	**-1.7**
	68nm,0.6s						
AAK	**Ala-Archa**	**7.10**	**23**	Pn	**Pn**	**04 07 17.3**	**+1.1**
KBK	**Karagaybulak**	**7.27**	**26**	P	Pn	04 07 23.8	+5.3
	SNR=6.5						
ULHL	**Ulahol**	**7.44**	**34**	P	**Pn**	**04 07 22.3**	**+1.3**
	SNR=12						
CHMS	**Chumysh**	**7.51**	**24**	P	**Pn**	**04 07 24.1**	**+2.4**
	SNR=5.9						
BOOM	**Boomskoye usch**	**7.51**	**31**	Pn	**Pn**	**04 07 23.6**	**+1.7**
USP	**Ospenovka**	**7.67**	**21**	P	**Pn**	**04 07 25.8**	**+1.9**
	SNR=9.4						
TKM2	**Tokmak 2**	**7.74**	**28**	P	**Pn**	**04 07 22.9**	**-2.1**
	SNR=39						
TKM2	**Tokmak 2**	**7.74**	**28**	⇑P	**Pn**	**04 07 26.0**	**+1.0**
	16nm,0.6s						
TKM2				⇓S	**Sn**	**04 08 50.1**	**-0.9**
	20nm,0.7s						
TARG	**Taragay, Kyrgy**	**7.85**	**43**		**Pn**	**04 07 28.4**	**+1.7**
MDOK	**Medeo**	**8.53**	**33**	⇑P	**Pn**	**04 07 37.6**	**+1.9**
	11nm,0.6s						
PDGK	**Podgornoye**	**9.85**	**41**	⇓P	**Pn**	**04 07 53.6**	**+0.1**
	3.3nm,0.7s						
GEYT	**Alibeck**	**10.19**	**284**	P	**Pn**	**04 07 58.0**	**-0.1**
	0.9nm,0.3s,baz=62,slow=16,SNR=2.3						
GEYT				S	**Sn**	**04 09 46.1**	**-4.3**
	2.5nm,0.3s,baz=284,slow=24,SNR=5.4						
PYUN	**Piuthan**	**13.17**	**124**	*eP*	**Pn**	**04 08 35.5**	**-2.4**
	25nm,0.3s						
DANN	**Dangsing**	**13.53**	**122**	*eP*	**Pn**	**04 08 40.7**	**-2.0**
	16nm,0.4s						
MAKZ	**Makanchi**	**13.57**	**35**	⇑P	**Pn**	**04 08 43.4**	**+0.6**
	8.6nm,1.2s						
MAKZ	**Makanchi**	**13.57**	**35**	Pn	**Pn**	**04 08 42.4**	**-0.4**
MK31	**Makanchi Array**	**13.71**	**36**	P	**Pn**	**04 08 46.2**	**+1.7**
	2.6nm,0.7s,baz=228,slow=14,SNR=24						
MK31	**Makanchi Array**	**13.71**	**36**	Pn	**Pn**	**04 08 46.3**	**+1.7**
MKAR	**Makanchi Array**	**13.71**	**36**	P	**Pn**	**04 08 46.4**	**+1.8**
	0.3nm,0.3s,baz=222,slow=12,SNR=29						
MKAR				S	**Sn**	**04 11 19.2**	**+3.7**
	0.2nm,0.3s,baz=183,slow=24,SNR=3.3						
MKAR	**Makanchi Array**	**13.71**	**36**		**Pn**	**04 08 45.8**	**+1.2**
KOLN	**Koldanda**	**13.79**	**124**	*eP*	**Pn**	**04 08 43.5**	**-2.5**
	10nm,0.4s						
GKN	**Gorkha**	**14.36**	**121**	*eP*	**Pn**	**04 08 50.5**	**-2.7**
	18nm,0.3s						
WMQ	**Urumqi**	**15.10**	**54**	*eP*	**P**	**04 09 05.3**	**+0.3**
PKIN	**Phulchoki**	**15.15**	**120**	*eP*	**Pn**	**04 09 01.4**	**-1.9**
	14nm,0.4s						
PKI	**Pulchoki**	**15.16**	**120**	*eP*	**Pn**	**04 09 01.7**	**-1.8**
	11nm,0.3s						
AB31	**Akbulak array**	**15.25**	**332**	⇓P	**Pn**	**04 09 03.9**	**-0.2**
	9.7nm,0.4s,baz=163,slow=12,SNR=469						
AB31				⇑S	**Sn**	**04 11 49.9**	**-2.7**
	2.6nm,0.5s,baz=152,slow=24,SNR=6.1						
ABKAR	**Akbulak array**	**15.25**	**332**	Pn	**Pn**	**04 09 03.9**	**-0.3**
KURBB	**Kurchatov Arra**	**15.52**	**19**	⇓P	**Pn**	**04 09 06.9**	**-0.5**
	7.1nm,0.8s						
RAMN	**Ramite**	**16.37**	**120**	*eP*	**Pn**	**04 09 17.1**	**-1.5**
	15nm,0.4s						
BRVK	**Borovoye**	**16.89**	**359**		**Pn**	**04 09 23.8**	**-0.5**
BRVK				IAmb	IAmb	04 09 29.9	
	comp=Z,3.7nm,1.0s						
AKTO	**Aktyubinsk**	**16.94**	**331**	⇓P	**P**	**04 09 26.7**	**+1.5**
	comp=Z,5.3nm,0.7s						
AKTO				⇑S	**Sn**	**04 12 30.7**	**-2.5**
	comp=Z,4.6nm,0.7s						
ZAA0	**Zalesovo Array**	**20.32**	**25**	⇑P	**P**	**04 10 03.4**	**+1.4**
	comp=Z,2.9nm,0.6s						
ZAA0	**Zalesovo Array**	**20.32**	**25**	P	**P**	**04 10 02.8**	**+0.7**
ZAA0				IAmb	IAmb	04 10 06.2	
	comp=Z,21nm,0.6s						
ZALV	**Zalesovo Beam**	**20.32**	**25**	P	Pn	04 10 04.2	-0.9
	comp=Z,22nm,0.4s,baz=216,slow=10,SNR=75						
ZALV	**Zalesovo Beam**	**20.32**	**25**	P	**P**	**04 10 03.3**	**+1.3**
HHC	**Hu-ho-hao-te**	**32.12**	**69**	*eP*	**P**	**04 11 53.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,160nm,6.4s						
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**04 12 40.6**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=130,slow=7.5,SNR=6.1						
HFS	**Hagfors**	**43.16**	**322**	P	**P**	**04 13 26.2**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=98,slow=11,SNR=8.6						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**04 13 37.1**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=97,slow=7.8,SNR=4.9						
USRK	**Ussuriysk Ar.**	**46.56**	**60**	P	**P**	**04 13 51.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**65.45**	**269**	P	**P**	**04 16 05.3**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=54,slow=6.7,SNR=9.8						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**04 17 43.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=327,slow=5.1,SNR=1.4						
ASAR	**Alice Springs**	**84.28**	**125**		**P**	**04 17 54.7**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=297,slow=6.1,SNR=2.4						

TUL 27 04:31:51.2±1.5,36°28'N±0'02×97°51'W±0'02,h6km±7km,
ML2.8,mb_Lg2.8/67(NEIC),Error ellipse: s-maj=3.1km
s-min=2.0km az=222.0
NEIC 27 04:31:51.4±1.1,36°28'N±0'02×97°51'W±0'02,h3km±7km,
Error ellipse: s-maj=3.1km s-min=2.1km az=219.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**300**		Pg	04 31 60.0	0.0
CROK				Sg	Sg	04 32 06.3	+0.6
OK029	**Liberty Lake**	**0.49**	**175**		Pg	04 32 00.7	-0.1
BCOK	**Bluff Creek, N**	**0.63**	**188**		Pg	04 32 03.3	-0.2
BCOK				IAmb_Lg		04 32 11.4	
	comp=Z,179nm,0.9s						
BCOK				Sg	Sg	04 32 11.9	+0.3
OK031	**S. Brethren Rd**	**0.63**	**121**		Pg	04 32 03.5	0.0
OK031				Sg	Sg	04 32 12.2	+0.5
QUOK	**Quay**	**0.65**	**100**		Pg	04 32 03.9	0.0
QUOK				Sg	Sg	04 32 12.9	+0.5
OK030	**Cody Creek RV**	**0.68**	**121**		Pg	04 32 04.5	0.0
OK030				Sg	Sg	04 32 13.8	+0.4
OK025	**Westminster Rd**	**0.71**	**169**		Pg	04 32 04.9	-0.2
KAN13	**South Haven SW**	**0.73**	**2**		Pg	04 32 05.3	0.0
OK032	**Salt Plains WL**	**0.77**	**313**		Pg	04 32 05.8	-0.3
KAN17	**Caldwell West**	**0.79**	**345**		Pg	04 32 06.3	-0.2
KAN09	**Caldwell North**	**0.85**	**354**		Pg	04 32 07.6	-0.2
OKCFA	**Oklahoma City**	**0.87**	**177**		Pg	04 32 07.6	-0.4
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		Pg	04 32 07.7	-0.5
KS20	**Mayfield South**	**0.94**	**358**		Pg	04 32 09.2	-0.3
KAN10	**Anthony SW Sta**	**0.96**	**331**		Pg	04 32 09.4	-0.5
KAN08	**Anthony NE Sta**	**1.01**	**338**		Pg	04 32 10.5	-0.3
T35A	**Sooner Cattle**	**1.02**	**51**	Pg	Pg	04 32 10.6	-0.3
FNO	**Franklin**	**1.03**	**175**		Pg	04 32 10.5	-0.6
FNO				IAmb_Lg		04 32 24.1	
	comp=Z,84nm,0.9s						
KAN12	**Harper NE Stat**	**1.09**	**339**		Pg	04 32 11.8	-0.4
U32A	**Winter Ranch,**	**1.21**	**275**	Pg	Pg	04 32 13.7	-0.9
X34A	**Smith Ranch, M**	**1.70**	**189**	Pn	Pn	04 32 22.5	+0.5
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	04 32 24.0	-0.2
LOOK	**Love County**	**2.30**	**173**		Pn	04 32 31.0	+0.7
R32A	**Long Quarter,**	**2.34**	**336**		Pn	04 32 31.4	+0.5
X37A	**Clayton**	**2.43**	**134**		Pn	04 32 32.5	+0.5
X37A				IAmb_Lg		04 33 08.9	
	comp=Z,28nm,0.7s						
U38A	**Gravette**	**2.52**	**86**		Pn	04 32 34.0	+0.7
HHAR	**Hobbs**	**2.88**	**89**		Pn	04 32 38.9	+0.6
KSU1	**Kansas State U**	**2.90**	**14**	Pn	Pn	04 32 38.5	0.0
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	Pn	04 32 39.4	+0.2
CBKS	**Cedar Bluff**	**3.09**	**326**		Pn	04 32 41.0	-0.2
W39A	**Magazine**	**3.22**	**109**	Pn	Pn	04 32 43.0	+0.2
W39A				IAmb_Lg		04 33 37.9	
	comp=Z,35nm,0.9s						
S39A	**Bolivar**	**3.63**	**66**	Pn	Pn	04 32 48.8	+0.2
MIAR	**Mount Ida**	**3.65**	**117**		Pn	04 32 49.0	+0.2
MIAR				IAmb_Lg		04 33 56.7	
	comp=Z,17nm,0.9s						
Z38A	**Mt. Pleasant**	**3.66**	**145**	Pn	Pn	04 32 48.6	-0.3
Z38A				IAmb_Lg		04 33 54.3	
	comp=Z,33nm,0.8s						
AMTX	**Amarillo**	**3.68**	**249**		Pn	04 32 49.0	-0.3
AMTX				IAmb_Lg		04 33 52.1	
	comp=Z,20nm,0.7s						
U40A	**Yellville**	**3.76**	**88**	Pn	Pn	04 32 50.9	+0.6
U40A				IAmb_Lg		04 33 53.1	
	comp=Z,18nm,0.8s						
ABTX	**Abilene, Hawle**	**4.06**	**206**	Pn	Pn	04 32 56.3	+1.8
ABTX				IAmb_Lg		04 34 01.5	
	comp=Z,27nm,1.0s						
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	Pn	04 32 57.0	+0.4
X40A				IAmb_Lg		04 34 06.9	
	comp=Z,24nm,0.8s						
MGMO	**Mountain Grove**	**4.30**	**77**	Pn	Pn	04 32 58.0	+0.3
WHAR	**Wooly Hollow**	**4.36**	**102**	Pn	Pn	04 32 59.0	+0.5
WHAR				IAmb_Lg		04 34 13.1	
	comp=Z,15nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.38**	**94**	Pn	Pn	04 32 58.2	-0.6
WLAR	**White Oak Lake**	**4.44**	**124**	IAmb_Lg		04 34 15.8	
	comp=Z,22nm,0.8s						
P38A	**Dawn**	**4.58**	**42**	Pn	Pn	04 33 01.4	-0.2
P38A				IAmb_Lg		04 34 20.2	
	comp=Z,19nm,0.7s						
R40A	**Maddies Statio**	**4.63**	**63**		Pn	04 33 02.5	+0.2
R40A				IAmb_Lg		04 34 15.9	
	comp=Z,32nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.89**	**305**	IAmb_Lg		04 34 39.6	
	comp=Z,19nm,0.8s						
MSTX	**Muleshoe**	**4.89**	**243**	Pn	Pn	04 33 06.8	+0.8
BGNE	**Belgrade**	**5.14**	**355**	IAmb_Lg		04 34 39.6	
	comp=Z,13nm,0.8s						
LCAR	**Lake Charles**	**5.14**	**91**	Pn	Pn	04 33 10.1	+0.8
T42A	**Van Buren**	**5.21**	**80**	Pn	Pn	04 33 10.5	+0.2
CCM	**Cathedral Cave**	**5.30**	**69**	Pn	Pn	04 33 11.2	-0.3
CCM				IAmb_Lg		04 34 38.0	
	comp=Z,13nm,0.8s						
P40A	**Paris**	**5.40**	**51**	Pn	Pn	04 33 13.3	+0.5
P40A				IAmb_Lg		04 34 44.9	
	comp=Z,13nm,0.7s						
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		04 34 54.0	
	comp=Z,20nm,0.7s						
143A	**Socs Landing,**	**6.17**	**124**	IAmb_Lg		04 35 13.1	
	comp=Z,17nm,0.8s						
PARMO	**Parma**	**6.26**	**84**	IAmb_Lg		04 35 10.1	
	comp=Z,19nm,0.8s						
K31A	**O'Neill**	**6.40**	**352**	IAmb_Lg		04 35 19.9	
	comp=Z,20nm,1.1s						
S44A	**Carbondale**	**6.75**	**76**	IAmb_Lg		04 35 35.2	
	comp=Z,9.6nm,0.8s						
SIUC	**Southern Illin**	**6.79**	**75**	IAmb_Lg		04 35 33.6	
	comp=Z,13nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.14**	**60**	IAmb_Lg		04 35 48.9	
	comp=Z,18nm,0.7s						
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg		04 35 53.1	
	comp=Z,10nm,0.8s						
PHWY	**Pilot Hill**	**7.98**	**311**	IAmb_Lg		04 36 15.8	
	comp=Z,7.6nm,0.8s						
O44A	**Mansfield**	**8.09**	**59**	IAmb_Lg		04 36 19.0	
	comp=Z,12nm,0.8s						
T47A	**Sharon Grove**	**8.39**	**82**	IAmb_Lg		04 36 28.4	
	comp=Z,6.5nm,0.8s						
JFWS	**Jewell Farm**	**8.67**	**38**	IAmb_Lg		04 36 26.6	
	comp=Z,8.8nm,0.8s						
BLO	**Bloomington**	**9.17**	**68**	IAmb_Lg		04 36 47.7	
	comp=Z,13nm,0.7s						
RWWY	**Rawlins**	**9.28**	**308**	IAmb_Lg		04 36 55.1	
	comp=Z,7.5nm,1.1s						
RSSD	**Black Hills**	**9.28**	**329**	IAmb_Lg		04 37 04.5	
	comp=Z,5.1nm,1.1s						
K22A	**Casper**	**9.43**	**315**	IAmb_Lg		04 37 07.9	
	comp=Z,11nm,1.0s						

KRNET 27 04:56:21.9±0.1,41°77'N×79°19'E,h17km,mb2.1
SOME 27 04:56:25.9,41°73'N×78°85'E,h5km
NNC 27 04:56:28.3±0.9,41°85'N×78°93'E,h0km,mb2.4,mpv2.8,
Error ellipse: s-maj=6.4km s-min=4.8km az=158.0
ISC 27 04:56:26.3±1.8,41°78'N±0'07×78°91'E±0'05,h5km±11km,
n17,σ1ꝉ19/33,10C-6D,Kyrgyzstan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.80**	**332**	⇓*iP*	**Pg**	**04 56 39.9**	**-1.8**
PRZ	baz=21			⇓*iS*	**Sb**	**04 56 53.3**	**-0.7**
TARG	**Taragay, Kyrgy**	**0.83**	**267**	⇑*iP*	**Pg**	**04 56 41.8**	**-0.4**
TARG	baz=68			⇑*iS*	**Sb**	**04 56 56.2**	**+1.2**
SATY	**Saty**	**1.33**	**344**	*eP*	**Pg**	**04 56 52.5**	**+0.6**
SATY	1.8nm,0.1s			*eS*	**Sn**	**04 57 10.0**	**+0.1**
SATY	**Saty**	**1.33**	**344**	P	**Pg**	**04 56 52.5**	**+0.6**
SATY	1.8nm,0.1s			S	**Sn**	**04 57 10.0**	**+0.1**
KDJ	**Kajisay**	**1.34**	**286**	⇑*iP*	**Pn**	**04 56 50.9**	**-0.9**
KDJ	baz=84			⇑*iS*	**Sn**	**04 57 11.7**	**+1.6**
ANVS	**Anan'yevo**	**1.36**	**318**	⇑*iP*	**Pn**	**04 56 50.1**	**-2.1**
ANVS	baz=12			⇑*iS*	**Sn**	**04 57 10.9**	**+0.2**
UZB	**Uzynbulak**	**1.37**	**3**	*eP*	**Pg**	**04 56 53.1**	**+0.5**
UZB	0.9nm,0.2s			*eS*	**Sn**	**04 57 10.8**	**-0.1**
UZB	**Uzynbulak**	**1.37**	**3**	P	**Pg**	**04 56 52.9**	**+0.3**
UZB	1.8nm,0.1s			S	**Sn**	**04 57 10.8**	**-0.1**
SHLS	**Shalkode**	**1.44**	**16**	*eP*	**Pg**	**04 56 55.4**	**+1.6**
SHLS	2.5nm,0.1s			*eS*	**Sg**	**04 57 15.1**	**+2.6**
SHLS	**Shalkode**	**1.44**	**16**	P	**Pg**	**04 56 55.4**	**+1.6**
SHLS	2.5nm,0.1s			S	**Sg**	**04 57 15.1**	**+2.6**
PDGK	**Podgornoye**	**1.61**	**15**	⇑P	**Pb**	**04 56 56.4**	**-0.2**
PDGK	0.5nm,0.3s			⇓S	**Sg**	**04 57 17.9**	**-0.1**
KPKS	**Kokpek**	**1.69**	**354**	*eP*	**Pg**	**04 56 58.2**	**-0.6**
KPKS	2.8nm,0.1s			*eS*	**Sb**	**04 57 19.8**	**+0.1**
KTMS	**Ketmen**	**1.98**	**32**	*eP*	**Pg**	**04 57 03.3**	**-0.9**
KTMS	0.9nm,0.1s			*eS*	**Sg**	**04 57 28.6**	**-1.3**
KTMS	**Ketmen**	**1.98**	**32**	P	**Pg**	**04 57 03.3**	**-0.9**
KTMS	0.9nm,0.1s			S	**Sg**	**04 57 28.6**	**-1.3**
ULHL	**Ulahol**	**2.04**	**284**	⇑*iP*	**Pn**	**04 57 02.6**	**+1.1**
ULHL	baz=83			⇑*iS*	**Sg**	**04 57 32.6**	**+0.7**
BOOM	**Boomskoye usch**	**2.32**	**289**	⇓*iP*	**Pn**	**04 57 05.9**	**+0.6**
BOOM	baz=88			⇓*iS*	**Sb**	**04 57 37.7**	**-0.1**
TKM2	**Tokmak 2**	**2.71**	**296**	⇓Pg	**Pg**	**04 57 16.9**	**-1.3**
TKM2	1.3nm,0.8s			⇑Lg	Lg	04 57 53.1	
	0.8nm,0.3s						

IDC 27 05:16:24.6±0.8,25°34'S×179°64'E,h505km±8km,mb3.6/20,
mb1 3.8/24,mb1mx3.7/28,mbtmp4.5/24,Error ellipse:
s-maj=11.8km s-min=9.5km az=1.0
NEIC 27 05:16:25.2±1.7,25°4'S±0°1×179°7'E±0°1,h502km±7km,
mb4.3/24,Error ellipse: s-maj=16.6km s-min=15.5km
az=137.0
ISC 27 05:16:24.6±0.4,25°39'S±0°05×179°67'E±0°06,h507km,n94,
σ1ꝉ84/105,mb4.1/35,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.40**	**151**	P	**P**	**05 17 49.0**	**+2.4**
RIZ				S	**S**	**05 18 53.3**	**-0.3**
RAO	**Raoul Island**	**4.41**	**151**	P	**P**	**05 17 48.1**	**+1.4**
	134nm,0.3s,baz=67,slow=16,SNR=6.9						
RAO				S	**S**	**05 18 54.2**	**+0.4**
	16nm,0.3s,baz=242,slow=23,SNR=1.0						
RAO	**Raoul Island**	**4.41**	**151**	P	**P**	**05 17 48.0**	**+1.3**
GLKZ	**Green Lake**	**4.42**	**151**	P	**P**	**05 17 48.3**	**+1.6**
GLKZ				S	**S**	**05 18 55.4**	**+1.5**
MSVF	**Nonsavu**	**7.76**	**349**	P	**P**	**05 18 18.8**	**-0.2**
	13nm,0.3s,baz=198,slow=8.5,SNR=43						
MSVF				S	**S**	**05 19 47.4**	**-5.2**
	baz=172,slow=16,SNR=1.9						
MSVF	**Nonsavu**	**7.76**	**349**	P	**P**	**05 18 19.1**	**+0.2**
OUZ	**Omahuta**	**11.11**	**207**	P	**P**	**05 18 56.1**	**+2.6**
OUZ	**Omahuta**	**11.11**	**207**	P	**P**	**05 18 56.8**	**+3.2**
GRZ	**Great Barrier**	**11.41**	**197**	P	**P**	**05 18 58.6**	**+1.9**
WCZ	**Waipu Caves**	**11.47**	**202**	P	**P**	**05 19 00.4**	**+3.1**
KUZ	**Kuaotunu**	**11.81**	**196**	P	**P**	**05 19 02.6**	**+1.6**
WIAZ	**Waiheke Island**	**12.01**	**198**	P	**P**	**05 19 05.3**	**+2.2**
MBAZ	**Motutapu North**	**12.05**	**199**	P	**P**	**05 19 06.0**	**+2.5**
MXZ	**Matakaoa Point**	**12.19**	**185**	P	**P**	**05 19 03.8**	**-1.2**
MXZ	**Matakaoa Point**	**12.19**	**185**	P	**P**	**05 19 04.4**	**-0.6**
ETAZ	**East Tamaki Re**	**12.22**	**198**	P	**P**	**05 19 07.3**	**+2.1**
WTAZ	**Waiatarua**	**12.30**	**199**	P	**P**	**05 19 08.4**	**+2.3**
AWAZ	**Awhitu Peninsu**	**12.40**	**199**	P	**P**	**05 19 08.9**	**+1.7**
AWAZ				S	S	05 21 34.4	+13
WMGZ	**Waiomatatini S**	**12.44**	**185**	P	**P**	**05 19 07.5**	**0.0**
WMGZ				S	**S**	**05 21 17.0**	**-4.9**
PKGZ	**Pakihiroa**	**12.54**	**186**	P	**P**	**05 19 09.5**	**+0.8**
DZM	**Mont Dzumac**	**12.55**	**283**	P	**P**	**05 19 09.3**	**+0.2**
	0.8nm,0.3s,baz=83,slow=17,SNR=2.3						
DZM	**Mont Dzumac**	**12.55**	**283**	*eP*	**P**	**05 19 13.8**	**+4.7**
	114nm,1.1s						
RUGZ	**Raukumara Rang**	**12.65**	**187**	P	**P**	**05 19 09.5**	**-0.5**
RUGZ				S	**S**	**05 21 21.2**	**-5.0**
TWGZ	**Tauwhareparae**	**12.83**	**186**	P	**P**	**05 19 10.7**	**-1.1**
TWGZ				S	**S**	**05 21 27.8**	**-1.8**
URZ	**Urewera**	**13.01**	**189**	P	**P**	**05 19 11.1**	**-2.6**
	11nm,0.3s,baz=122,slow=23,SNR=48						
URZ				S	**S**	**05 21 27.5**	**-5.5**
	1.0nm,0.3s,baz=120,slow=23,SNR=2.4						
URZ	**Urewera**	**13.01**	**189**	P	**P**	**05 19 11.2**	**-2.4**
URZ				S	**S**	**05 21 30.4**	**-2.6**
HSRZ	**Hossack Road**	**13.21**	**192**	P	P	05 19 10.4	-5.3
MUGZ	**Murupara**	**13.28**	**190**	P	**P**	**05 19 15.0**	**-1.4**
MUGZ				S	**S**	**05 21 35.2**	**-3.0**
MTHZ	**Maungataniwha**	**13.63**	**189**	P	P	05 19 11.5	-8.8
AFI	**Afiamalu**	**13.97**	**37**	P	P	05 19 19.4	-4.7
	1.7nm,0.3s,baz=277,slow=18,SNR=2.8						
AFI				S	S	05 21 42.4	-10
	1.4nm,0.3s,baz=286,slow=16,SNR=2.1						
RAR	**Rarotonga**	**19.33**	**82**	P	**P**	**05 20 16.3**	**-0.5**
	1.5nm,0.3s,baz=53,slow=18,SNR=2.7						
RAR	**Rarotonga**	**19.33**	**82**	IAmb	IAmb	05 20 20.5	
	comp=Z,56nm,1.2s						
HNR	**Honiara**	**24.56**	**307**	P	**P**	**05 21 03.2**	**-0.8**
	comp=Z,24nm,0.3s,baz=197,slow=14,SNR=1.7						
HNR				S	**S**	**05 24 43.7**	**-5.1**
	comp=Z,37nm,0.3s,baz=199,slow=13,SNR=1.6						
EIDS	**Eidsvold**	**25.81**	**264**	P	**P**	**05 21 16.1**	**+1.2**
PAE	**Paea**	**29.57**	**81**	*eP*	**P**	**05 21 46.5**	**-1.5**
	comp=Z,2.8nm,0.9s						
PPT2	**Papeete2**	**29.60**	**81**	*eP*	**P**	**05 21 47.0**	**-1.3**
	comp=Z,18nm,1.1s						
PPT	**Papeete**	**29.61**	**81**	P	**P**	**05 21 48.0**	**-0.3**
	comp=Z,17nm,0.8s,baz=271,slow=5.5,SNR=5.2						
TIAR	**Tiarei**	**29.82**	**81**	*eP*	**P**	**05 21 48.8**	**-1.3**
	comp=Z,4.4nm,1.0s						
MEH	**Mehetia**	**30.86**	**82**	*eP*	**P**	**05 21 57.6**	**-1.5**
	comp=Z,5.1nm,0.8s						
CTA	**Charters Tower**	**31.21**	**273**	P	**P**	**05 22 02.9**	**+0.8**
	comp=Z,4.3nm,0.6s,baz=88,slow=9.9,SNR=9.2						
CTAO	**Charters Tower**	**31.21**	**273**	P	**P**	**05 22

PNTR IAmb IAmb 05 28 10.8
comp=Z,7.6nm,0.8s
BEKR Beckworth 85.64 42 P **P** **05 28 10.0 +0.6**
BEKR IAmb IAmb 05 28 10.6
comp=Z,2.6nm,0.8s
NVAR Mina Array Bea 86.03 44 P **P** **05 28 11.9 +0.6**
comp=Z,3.4nm,0.8s,baz=223,slow=8.2,SNR=24
PLCA Paso Flores 87.45 134 P **P** **05 28 18.7 +0.7**
comp=Z,4.3nm,1.0s,baz=222,slow=6.8,SNR=5.0
CMAR Chiang Mai Arr 89.76 290 P **P** **05 28 30.8 +1.8**
comp=Z,0.5nm,0.3s,baz=124,slow=4.9,SNR=1.5
MNTX Cornudas Mount 91.31 55 P **P** **05 28 37.0 +1.2**
MNTX IAmb IAmb 05 28 37.3
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 91.47 58 P **P** **05 28 37.7 +0.9**
comp=Z,2.5nm,0.8s,baz=214,slow=6.4,SNR=28
TXAR Lajitas Array 91.47 58 P **P** **05 28 37.8 +1.0**
ILAR Eielson Array 93.54 14 P **P** **05 28 44.3 -1.0**
comp=Z,0.2nm,0.7s,baz=215,slow=4.3,SNR=2.2
PDAR Pinedale Array 93.97 44 P **P** **05 28 47.6 -0.5**
comp=Z,0.4nm,0.7s,baz=180,slow=3.0,SNR=5.0
BOSA Boshof 120.94 206 PKP **PKPdf** **05 34 19.6 -0.1**
comp=Z,1.2nm,0.5s,baz=180,slow=11,SNR=1.3
ARCES ARCESS Array B 133.27 348 PKhKP PKPpre 05 34 33.2
comp=Z,1.6nm,0.9s,baz=50,slow=1.9,SNR=3.6
ARCES PKP **PKPdf** **05 34 41.2 -0.5**
comp=Z,0.5nm,0.3s,baz=86,slow=2.3,SNR=13
ARCES SKPbc **SKPbc** **05 37 22.3 0.0**
comp=Z,2.4nm,0.6s,baz=19,slow=3.8,SNR=18
ARCES SKP 05 37 28.1
comp=Z,1.1nm,0.7s,baz=35,slow=3.0,SNR=6.7
FINES FINESS Array B 139.75 341 PKhKP PKPpre 05 34 45.5
comp=Z,0.5nm,0.4s,baz=61,slow=3.3,SNR=7.0
FINES PKP **PKPdf** **05 34 53.1 -0.7**
comp=Z,0.7nm,0.5s,baz=56,slow=3.5,SNR=7.2
FINES SKPbc **SKPbc** **05 37 41.6 -0.1**
comp=Z,5.3nm,0.8s,baz=66,slow=2.3,SNR=20
NOA NORSAR Array B 143.50 351 PKP PKPab 05 34 58.1 -0.9
comp=Z,1.0nm,0.4s,baz=11,slow=2.4,SNR=18
PABE Paberze 145.05 336 PKPdf **PKPdf** **05 35 03.9 +0.5**
KONO Kongsberg 145.06 351 PKPdf **PKPdf** **05 35 03.9 +0.6**
AKASG Malin Array Be 146.04 326 PKPbc **PKPdf** **05 35 06.1 +0.8**
comp=Z,1.0nm,0.3s,baz=38,slow=3.5,SNR=4.7
AKASG SKPbc **SKPbc** **05 37 57.3 +0.1**
comp=Z,0.8nm,0.6s,baz=44,slow=3.1,SNR=4.3
BRTR Keskin Array B 148.21 305 PKPbc **PKPbc** **05 35 13.0 -0.4**
comp=Z,0.6nm,0.4s,baz=136,slow=4.3,SNR=3.0
CLL Collm 152.18 342 *i* PKPbc **PKPbc** **05 35 21.9 -0.3**
comp=Z,5.0nm,0.7s
CLL *i* 05 35 27.5
CLL *i* PKPab **PKPab** **05 35 39.0 +4.7**
GERES GERESS Array B 154.13 338 PKPab **PKPab** **05 35 43.0 +0.1**
comp=Z,0.1nm,0.4s,baz=39,slow=11,SNR=1.6
TORD Torodi Ar. Bea 167.67 189 PKP **PKPdf** **05 35 31.8 -1.2**
comp=Z,0.9nm,0.8s,baz=188,slow=30,SNR=3.8
TORD PKPab **PKPab** **05 36 42.1 -0.5**
comp=Z,1.7nm,0.6s,baz=176,slow=3.2,SNR=8.3

KRSC 27 05:35:07.5±0.9, 54.03°N×168.60°E, h15km±21km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.93**	**309**	P	Pn	05 35 40.5	+0.8
BKI				S	Sb	05 36 06.1	0.0
MKZ	**Mys Kozlova**	**4.06**	**280**	P	Pn	05 36 12.7	+3.7
MKZ				S	Sn	05 37 00.5	+4.3
SMKR	**Semkarok**	**4.81**	**305**	P	Pn	05 36 24.1	+4.7
BZGR	**Bezymyannyi-Gr**	**4.94**	**296**	P	Pn	05 36 24.9	+3.7
BZGR				S	Sn	05 37 22.6	+4.6
KZV	**Kizimen**	**4.95**	**286**	P	Pn	05 36 26.2	+4.8
KZV				S	Sn	05 37 22.3	+3.9
TUMR	**Tumrok**	**5.06**	**288**	S	Sn	05 37 26.3	+5.1
KMNR	**Kamenistaya**	**5.12**	**293**	P	Pn	05 36 27.6	+3.8
KMNR				S	Sn	05 37 27.6	+5.0
SPN	**Mys Shipunski**	**5.20**	**263**	S	Sn	05 37 29.2	+5.0
SDLR	**Sedlovina**	**5.83**	**266**	P	Pn	05 36 37.4	+4.0
UGLR	**Uglovaya**	**5.88**	**266**	P	Pn	05 36 38.5	+4.4
KRER	**Koryakskii**	**5.90**	**267**	P	Pn	05 36 39.2	+4.7
KRER				S	Sn	05 37 46.8	+4.9
AVH	**Avacha**	**5.92**	**267**	P	Pn	05 36 39.4	+4.8
KRX	**Arik**	**5.95**	**268**	P	Pn	05 36 39.1	+4.0
KRX				S	Sn	05 37 47.3	+4.3
RUS	**Russkaya**	**6.26**	**259**	P	Pn	05 36 44.4	+5.1
GNL	**Ganaly**	**6.31**	**271**	P	Pn	05 36 45.5	+5.4

*ISK **27** 05:46:12.9, 37.11N×28.78E, h5km, ML3.8/23*
*DDA **27** 05:46:13.9, 37.14N×28.77E, h7km±3km, MW3.9*
*IDC **27** 05:46:13.5±1.0, 37.08N×28.83E, h0km, mb3.7/6, mb1 3.9/12, mb1mx3.7/44, mbtmp3.8/12, ML3.9/6, MS2.8/6, Ms1 2.9/6, ms1mx2.6/59, Error ellipse: s-maj=17.5km s-min=15.3km az=142.0*
*NIC **27** 05:46:13.7±0.0, 37.11N×28.72E, h0km±1km, Ml3.9/2*
*ATH **27** 05:46:13.4, 37.24N×28.76E, h8km±4km, ML3.6/5, Error ellipse: s-maj=4.4km s-min=1.3km az=208.0*
*THE **27** 05:46:14.7, 37.08N×28.71E, h0km±2km, ML3.6/4, Error ellipse: s-maj=3.6km s-min=2.1km az=38.0*
*HLW **27** 05:46:16.0, 36.99N×28.91E, h11km±13km, Ml4.2*

ISC 27 05:46:13.9±1.1, 37.11N±0.02×28.77E±0.02, h7km±8km, n91, σ1s43/111, mb3.7/6, 5C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.31**	**197**	*i* P	**Pg**	**05 46 20.2**	**+0.3**
DALY				IAML		05 46 29.0	
	comp=E,6μm,0.7s						
DALY				IAML		05 46 31.0	
	comp=N,7μm,0.6s						
DALY	**Dalyan (Mula)**	**0.31**	**197**	PG	**Pg**	**05 46 20.3**	**+0.3**
TAVA	**DENIZLI_Tavas**	**0.37**	**18**	*i* P	**Pg**	**05 46 20.5**	**-0.7**
TAVA				*i* S	**Sg**	**05 46 25.9**	**-0.2**
TAVA				IAML		05 46 28.0	
	comp=N,5μm,0.5s						
TAVA				IAML		05 46 30.0	
	comp=E,5μm,0.4s						
MULA	**Mugla, Merkez-**	**0.39**	**292**	*i* P	**Pg**	**05 46 21.6**	**+0.1**
MULA				*i* S	**Sb**	**05 46 28.1**	**-1.2**
MULA				IAML		05 46 33.0	
	comp=N,2μm,0.7s						
MULA				IAML		05 46 34.0	
	comp=E,3μm,0.9s						
YER	**Yerkesik**	**0.39**	**273**	P	**Pg**	**05 46 21.4**	**-0.1**
YER				S	**Sg**	**05 46 27.7**	**+1.0**
YER	**Yerkesik**	**0.39**	**273**	PG	**Pg**	**05 46 21.9**	**+0.4**
CAEL	**Denizli, Camel**	**0.44**	**89**	*i* P	**Pg**	**05 46 22.6**	**+0.1**
CAEL				*i* S	**Sb**	**05 46 30.3**	**-0.6**
CAEL				IAML		05 46 36.0	
	comp=E,9μm,0.7s						
CAEL				IAML		05 46 38.0	
	comp=N,6μm,0.6s						
CAME	**Cameli-Denizli**	**0.46**	**111**	PG	**Pg**	**05 46 22.9**	**0.0**
TURN	**Turunc**	**0.54**	**231**	PG	**Pb**	**05 46 24.8**	**-0.9**
FETY	**Fethiye**	**0.54**	**152**	P	**Pg**	**05 46 23.5**	**-0.9**
FETY				S	**Sb**	**05 46 33.0**	**-0.7**
FETY	**Fethiye**	**0.54**	**152**	PG	**Pg**	**05 46 24.2**	**-0.2**
GOLH	**Golhisar**	**0.65**	**79**	*i* P	**Pg**	**05 46 24.7**	**-1.7**
GOLH				*i* S	**Sb**	**05 46 36.1**	**-0.7**
GOLH				IAML		05 46 41.0	
	comp=N,3μm,0.5s						
GOLH				IAML		05 46 52.0	
	comp=E,6μm,0.9s						
MLSB	**Milas**	**0.81**	**283**	PG	**Pg**	**05 46 29.6**	**0.0**
AYDN	**Tasoluk**	**0.90**	**308**	*i* P	**Pg**	**05 46 31.1**	**0.0**
AYDN				*i* S	**Sb**	**05 46 43.7**	**-0.2**
AYDN				IAML		05 46 51.0	
	comp=N,1μm,0.7s						
AYDN				IAML		05 46 51.0	
	comp=E,614nm,0.3s						
ELL	**Elmali**	**0.98**	**111**	PG	**Pb**	**05 46 33.4**	**+0.1**
ELL	**Elmali**	**0.98**	**111**	P	**Pb**	**05 46 33.7**	**+0.4**
ELL				S	**Sn**	**05 46 49.9**	**+1.5**
DAT	**Datca**	**1.03**	**248**	P	**Pg**	**05 46 33.5**	**-0.2**
DAT	**Datca**	**1.03**	**248**	PG	**Pb**	**05 46 33.8**	**-0.3**
ARG	**Arkhangelos**	**1.03**	**210**	P	**Pg**	**05 46 33.6**	**-0.2**
ARG				S	**Sn**	**05 46 48.7**	**-0.8**
	comp=E,2μm,0.8s						
ARG	**Arkhangelos**	**1.03**	**210**	P	**Pn**	**05 46 34.9**	**+0.1**
ARG				S	**Sn**	**05 46 50.2**	**+0.8**
ARG				AML	AML	05 46 56.1	
	comp=E,5092μm,0.7s						
ARG				AML	AML	05 46 59.2	
	comp=N,3429μm,0.8s						
ARG	**Arkhangelos**	**1.03**	**210**	PG	**Pn**	**05 46 34.5**	**-0.3**
ARG	**Arkhangelos**	**1.03**	**210**	⇑P	**Pg**	**05 46 33.5**	**-0.2**
ARG				S	**Sn**	**05 46 49.4**	**-0.1**
BDRM	**Kayabasi**	**1.06**	**268**	*i* P	**Pb**	**05 46 34.2**	**-0.3**
BDRM				*i* P	**Pn**	**05 46 35.3**	**+0.1**
BDRM				IAML		05 46 53.0	
	comp=N,1μm,0.8s						
BDRM				IAML		05 46 53.0	
	comp=E,499nm,0.8s						
BDRM				IAML		05 46 57.0	
	comp=E,906nm,0.8s						
AYDB	**Zeytinkoy-Aydi**	**1.09**	**320**	PN	**Pg**	**05 46 34.6**	**-0.2**
AKAS	**Kas**	**1.11**	**142**	PN	**Pg**	**05 46 34.2**	**-1.0**
KSL	**Kastellorizon**	**1.16**	**145**	P	**Pn**	**05 46 36.8**	**+0.2**
KSL				S	**Sn**	**05 46 57.9**	**+5.2**
	comp=E,6μm,0.7s						
KSL	**Kastellorizon**	**1.16**	**145**	P	**Pn**	**05 46 36.8**	**+0.2**
KSL				S	**Sn**	**05 46 54.2**	**+1.5**
KSL				AML	AML	05 46 59.9	
	comp=N,13108μm,0.7s						
KSL				AML	AML	05 47 02.1	
	comp=E,10908μm,0.7s						
KSL	**Kastellorizon**	**1.16**	**145**	⇑P	**Pn**	**05 46 36.8**	**+0.2**
BODT	**Bodrum**	**1.17**	**268**	P	**Pg**	**05 46 35.0**	**-1.3**
BODT	**Bodrum**	**1.17**	**268**	PN	**Pb**	**05 46 36.2**	**-0.2**
BRDR	**BURDUR-Merkez**	**1.18**	**60**	*i* P	**Pn**	**05 46 37.4**	**+0.5**
BRDR				IAML		05 46 59.0	
	comp=N,1μm,0.5s						
BRDR				IAML		05 47 02.0	
	comp=E,856nm,0.7s						
KORT	**Korkueli**	**1.27**	**95**	*i* P	**Pg**	**05 46 38.0**	**-0.3**
KORT				IAML		05 47 02.0	
	comp=N,1μm,0.8s						
KORT				IAML		05 47 02.0	
	comp=E,2μm,0.6s						
KORT	**Korkueli**	**1.27**	**95**	PN	**Pb**	**05 46 38.2**	**0.0**
BASM	**Basmaki-Afyon**	**1.30**	**51**	PN	**Pb**	**05 46 38.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.35**	**296**	PN	**Pg**	**05 46 40.4**	**+0.5**
PASA	**Karahalli, USA**	**1.36**	**25**	*i* P	**Pn**	**05 46 38.2**	**-1.2**
PASA				IAML		05 47 03.0	
	comp=E,688nm,0.6s						
PASA				IAML		05 47 06.0	
	comp=N,404nm,0.7s						
NIS1	**Nisyros Isl.**	**1.37**	**249**	P	**Pg**	**05 46 40.3**	**0.0**
NIS1				S	**Sn**	**05 46 59.1**	**+1.2**
	comp=N,7μm,0.7s						
NIS1	**Nisyros Isl.**	**1.37**	**249**	P	**Pn**	**05 46 39.4**	**-0.1**
NIS1				S	**Sn**	**05 46 58.2**	**+0.3**
NIS1				AML	AML	05 47 10.9	
	comp=E,11956μm,0.7s						
NIS1				AML	AML	05 47 13.8	
	comp=N,13961μm,0.8s						
NIS1	**Nisyros Isl.**	**1.37**	**249**	PN	**Pg**	**05 46 40.4**	**+0.1**
MANT	**Manisa**	**1.39**	**353**	*i* P	**Pn**	**05 46 39.3**	**-0.5**
MANT				IAML		05 47 00.0	
	comp=N,442nm,0.7s						
MANT				IAML		05 47 05.0	
	comp=E,503nm,0.8s						
KULA	**Kula-Manisa**	**1.40**	**357**	P	**Pn**	**05 46 39.7**	**-0.3**
KULA				S	**Sn**	**05 47 01.1**	**+2.4**
KULA	**Kula-Manisa**	**1.40**	**357**	PN	**Pn**	**05 46 39.7**	**-0.3**
KOSK	**Kos Island**	**1.48**	**256**	PN	**Pg**	**05 46 41.8**	**-0.5**
BCK	**Bucak**	**1.49**	**76**	PN	**Pn**	**05 46 41.6**	**+0.4**
ISP	**Isparta**	**1.56**	**63**	PN	**Pn**	**05 46 41.9**	**-0.3**
KZIL	**AFYON_Kizioren**	**1.58**	**43**	*i* P	**Pn**	**05 46 42.8**	**+0.4**
KZIL				IAML		05 47 13.0	
	comp=E,567nm,0.7s						
KZIL				IAML		05 47 18.0	
	comp=N,673nm,1.3s						
USAK	**Uak-Merkez**	**1.61**	**7**	*i* P	**Pn**	**05 46 42.7**	**-0.1**
USAK				IAML		05 47 10.0	
	comp=E,250nm,0.9s						
SMG	**Samos**	**1.65**	**292**	P	**Pn**	**05 46 43.2**	**-0.1**
SMG	**Samos**	**1.65**	**292**	P	**Pn**	**05 46 43.0**	**-0.2**
SMG				S	**Sn**	**05 47 03.8**	**-0.9**
SMG				AML	AML	05 47 14.1	
	comp=E,1254μm,0.5s						
SMG				AML	AML	05 47 14.8	
	comp=N,1820μm,0.8s						
BLCB	**Balcova**	**1.87**	**313**	P	**Pn**	**05 46 46.7**	**+0.4**
GEDZ	**Gediz**	**1.99**	**15**	PN	**Pb**	**05 46 49.6**	**-0.9**
SHUT	**Suhut-Afyon**	**2.01**	**44**	PN	**Pb**	**05 46 49.8**	**-1.1**
URLA	**Izmir**	**2.12**	**307**	PN	**Pb**	**05 46 51.6**	**-1.2**
SEYD	**Seydisehir-KON**	**2.47**	**82**	PN	**Pn**	**05 46 55.9**	**+1.3**
CHOS	**Chios island**	**2.50**	**301**	P	**Pn**	**05 46 55.6**	**+0.6**
CHOS	**Chios island**	**2.50**	**301**	P	**Pn**	**05 46 55.7**	**+0.7**
CHOS				AML	AML	05 47 49.5	
	comp=E,710μm,0.8s						
CHOS				AML	AML	05 47 53.2	
	comp=N,560μm,0.7s						
CHOS	**Chios island**	**2.50**	**301**	PN	**Pn**	**05 46 55.9**	**+0.9**
APE	**Apiranthos**	**2.59**	**270**	P	**Pn**	**05 46 56.8**	**+0.5**
ZKR	**Zakros**	**2.87**	**227**	PN	**Pn**	**05 47 01.6**	**+1.5**
SIGR	**SIGRI**	**3.11**	**313**	P	**Pb**	**05 47 06.4**	**-3.1**
AKMS	**Akamas**	**3.57**	**125**	P	**Pn**	**05 47 11.1**	**+1.5**
AKMS				AML	AML	05 47 55.8	
	comp=N,0.6nm,0.6s						
AKMS				AML	AML	05 48 02.6	
	comp=N,0.8nm,0.7s						
IDI	**Anoyia**	**3.63**	**241**	Pn	**Pn**	**05 47 12.9**	**+2.4**
	comp=N,6.6nm,0.3s,baz=59,slow=14,SNR=34						
IDI				Sn	**Sn**	**05 47 56.4**	**+2.8**
	comp=N,7.0nm,0.3s,baz=111,slow=23,SNR=2.8						
IDI				LR	LR	05 48 53.9	
	comp=N,118nm,19.5s,baz=69,slow=44						
ALFC	**Alefka**	**3.66**	**121**	P	**Pn**	**05 47 12.4**	**+1.4**
ALFC				AML	AML	05 47 58.2	
	comp=N,0.7nm,0.7s						
ALFC				AML	AML	05 48 10.0	
	comp=N,0.5nm,0.7s						
NATA	**Nata**	**3.87**	**126**	P	**Pn**	**05 47 15.4**	**+1.6**
SZAC	**Souni**	**4.08**	**124**	⇑P	**Pn**	**05 47 18.2**	**+1.4**
CSS	**Mathiatis**	**4.28**	**119**	⇑P	**Pn**	**05 47 20.8**	**+1.4**
ASGA	**Asgata**	**4.31**	**121**	P	**Pn**	**05 47 21.4**	**+1.5**
MVOU	**Mavrovouni**	**4.46**	**117**	⇑P	**Pn**	**05 47 24.0**	**+2.0**
BRTR	**Keskin Array B**	**4.63**	**54**	Pn	**Pn**	**05 47 26.0**	**+1.6**
	comp=N,8.8nm,0.3s,baz=236,slow=13,SNR=80						
BRTR				Sn	**Sn**	**05 48 19.0**	**+0.6**
	comp=N,1.4nm,0.3s,baz=218,slow=25,SNR=7.6						
BRTR				LR	LR	05 49 45.8	
	comp=N,238nm,18.4s,baz=248,slow=46						
SLUM	**Salum**	**6.33**	**209**	P	**Pn**	**05 47 48.6**	**+0.9**
	baz=211						
SLUM				S	**Sn**	**05 48 56.2**	**-4.0**
	baz=211						
MMAI	**Mount Meron Ar**	**6.80**	**125**	Pn	**Pn**	**05 47 54.1**	**-0.1**
	comp=N,17nm,0.3s,baz=313,slow=12,SNR=93						
MMAI				Sn	**Sn**	**05 49 04.0**	**-7.9**
	baz=310,slow=11,SNR=0.8						
KOT	**Kottamia**	**7.61**	**160**	P	**Pn**	**05 48 04.9**	**-0.3**
	baz=160						
KOT				AMP		05 49 00.0	
	baz=160						
HNAT	**Natroun**	**7.62**	**168**	P	**Pn**	**05 48 05.6**	**+0.3**
	baz=168						
HSAF	**As Saff**	**7.83**	**162**	P	**Pn**	**05 48 09.2**	**+0.9**
	baz=162						
GLL	**Jalalah**	**7.91**	**161**	P	**Pn**	**05 48 09.2**	**-0.1**
	baz=161						
RYAN	**Fayoum**	**8.11**	**171**	P	**Pn**	**05 48 12.0**	**-0.1**
	baz=171						
MLR	**Muntele Rosu**	**8.63**	**347**	Pn	**Pn**	**05 48 21.1**	**+1.8**
	comp=N,0.3nm,0.3s,baz=175,slow=5.6,SNR=5.9						
MLR				Sn	**Sn**	**05 49 58.1**	**+1.1**
	comp=N,0.3nm,0.3s,baz=118,slow=20,SNR=1.9						
EIL	**Elat**	**9.04**	**143**	Pn	**Pn**	**05 48 24.1**	**-0.8**
	comp=N,1.5nm,0.3s,baz=210,slow=3.6,SNR=12						
EIL				Sn	**Sn**	**05 50 02.7**	**-4.2**
	comp=N,1.6nm,0.3s,baz=76,slow=20,SNR=6.1						
HKAT	**Jabal Katrina**	**9.63**	**151**	P	**Pn**	**05 48 32.2**	**-0.8**
	baz=151						
TR2	**Tor 2**	**9.65**	**153**	P	**Pn**	**05 48 32.8**	**-0.4**
	baz=153						
GNI	**Garni**	**12.85**	**71**	LR	LR	05 54 38.8	
	comp=N,27nm,18.8s,baz=286,slow=39						
GERES	**GERESS Array B**	**16.06**	**322**	Pn	**P**	**05 50 03.0**	**-0.6**
	comp=N,0.1nm,0.3s,baz=125,slow=9.7,SNR=3.0						
OBN	**Obninsk**	**18.78**	**14**	LR	LR	05 59 27.9	
	comp=N,11nm,18.6s,baz=190,slow=42						
BELG	**Belogorno ye**	**20.22**	**35**	LR	LR	06 00 59.7	
	comp=N,54nm,18.4s,baz=85,slow=44						
FINES	**FINESS Array B**	**24.41**	**357**	P	**P**	**05 51 34.2**	**+1.5**
	comp=N,2.4nm,0.7s,baz=153,slow=11,SNR=12						
AKTO	**Aktyubinsk**	**24.78**	**48**	P	**P**	**05 51 37.6**	**+1.5**
	comp=N,1.2nm,0.5s,baz=249,slow=9.0,SNR=4.3						
HFS	**Hagfors**	**24.98**	**342**	P	**P**	**05 51 39.1**	**+1.3**
	comp=N,0.8nm,0.7s,baz=136,slow=18,SNR=1.9						
ESDC	**Sonseca Array**	**25.70**	**286**	P	**P**	**05 51 45.4**	**+0.7**
	comp=N,0.3nm,0.5s,baz=81,slow=9.2,SNR=4.3						
NOA	**NORSAR Array B**	**26.39**	**341**	LR	LR	06 04 19.5	
	comp=N,29nm,18.1s,baz=40,slow=41						
TORD	**Torodi Ar. Bea**	**33.99**	**232**	P	**P**	**05 52 58.3**	**+0.1**
	comp=N,1.2nm,0.6s,baz=34,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**40.26**	**59**	P	**P**	**05 53 51.6**	**+0.2**
	comp=N,0.3nm,0.5s,baz=282,slow=7.3,SNR=3.7						

*IDC **27** 05:47:55.9±1.2, 37.04N×28.85E, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.5/42, mbtmp3.8/8, ML3.8/4, MS3.3/3, Ms1 3.3/3, ms1mx2.5/61, Error ellipse: s-maj=22.8km s-min=17.1km az=151.0*
*ATH **27** 05:47:55.9, 37.33N×28.85E, h16km±7km, ML3.7/6, Error ellipse: s-maj=8.0km s-min=1.2km az=45.0*
*ISK **27** 05:47:55.9, 37.07N×28.77E, h5km, ML3.7/22*
*NIC **27** 05:47:57.0±0.0, 37.31N×28.81E, h11km±1km, Ml3.9/3*
*DDA **27** 05:47:56.3, 37.13N×28.76E, h7km±3km, MW3.9*
*THE **27** 05:47:57.1, 37.11N×28.76E, h0km±3km, ML3.5/4, Error ellipse: s-maj=4.9km s-min=2.0km az=16.0*

ISC 27 05:47:56.7±1.0, 37.13N±0.02×28.79E±0.01, h5km±8km, n80, σ1s34/107, mb3.7/4, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.33**	**199**	*i* P	**Pg**	**05 48 02.9**	**-0.1**
DALY				*i* S	**Sb**	**05 48 09.0**	**-1.5**
DALY				IAML		05 48 12.0	
	comp=E,6μm,0.8s						
TAVA	**DENIZLI_Tavas**	**0.35**	**16**	*i* P	**Pg**	**05 48 03.1**	**-0.5**
TAVA				*i* S	**Sg**	**05 48 09.0**	**+0.7**
TAVA				IAML		05 48 11.0	
	comp=N,6μm,0.6s						
TAVA				IAML		05 48 12.0	
	comp=E,6μm,0.7s						
MULA	**Mugla, Merkez-**	**0.40**	**289**	*i* P	**Pg**	**05 48 04.7**	**+0.3**
MULA				*i* S	**Sg**	**05 48 09.4**	**-0.2**
MULA				IAML		05 48 12.0	
	comp=E,4μm,0.8s						
YER	**Yerkesik**	**0.40**	**271**	P	**Pg**	**05 48 04.5**	**0.0**
YER	**Yerkesik**	**0.40**	**271**	PG	**Pg**	**05 48 04.6**	**0.0**
YER				SG	**Sg**	**05 48 11.3**	**+1.4**
CAEL	**Denizli, Camel**	**0.42**	**90**	*i* P	**Pb**	**05 48 05.2**	**-1.6**
CAEL				*i* S	**Sb**	**05 48 12.6**	**-1.0**
CAEL				IAML		05 48 31.0	
	comp=N,6μm,0.8s						
CAME	**Cameli-Denizli**	**0.45**	**114**	PG	**Pg**	**05 48 05.4**	**0.0**
CAME				SG	**Sb**	**05 48 13.1**	**-1.1**
FETY	**Fethiye**	**0.55**	**154**	P	**Pg**	**05 48 06.3**	**-0.9**
FETY	**Fethiye**	**0.55**	**154**	PG	**Pg**	**05 48 06.4**	**-0.8**
FETY				SG	**Sg**	**05 48 14.9**	**+0.6**
GOLH	**Golhisar**	**0.63**	**80**	*i* P	**Pg**	**05 48 08.2**	**-0.6**
GOLH				IAML		05 48 17.0	
	comp=E,9μm,1.4s						
GOLH				*i* S	**Sb**	**05 48 17.6**	**-1.7**
GOLH				IAML		05 48 24.0	
	comp=N,2μm,0.7s						
MRSB	**Marmaris-Mugla**	**0.63**	**229**	PG	**Pg**	**05 48 08.3**	**-0.5**
MLSB	**Milas**	**0.82**	**282**	PG	**Pg**	**05 48 12.3**	**-0.3**
AYDN	**Tasoluk**	**0.90**	**307**	*i* P	**Pg**	**05 48 13.6**	**-0.3**
AYDN				*i* S	**Sg**	**05 48 25.3**	**-0.3**
AYDN				IAML		05 48 31.0	
	comp=E,942nm,0.5s						
ELL	**Elmali**	**0.97**	**113**	PG	**Pn**	**05 48 16.7**	**-0.4**
ELL	**Elmali**	**0.97**	**113**	P	**Pn**	**05 48 16.4**	**-0.7**
ELL				S	**Sn**	**05 48 32.2**	**+0.9**
DAT	**Datca**	**1.05**	**248**	P	**Pg**	**05 48 16.3**	**-0.5**
DAT	**Datca**	**1.05**	**248**	PG	**Pb**	**05 48 17.0**	**-0.4**
ARG	**Arkhangelos**	**1.05**	**211**	P	**Pg**	**05 48 16.5**	**-0.4**
ARG				S	**Sn**	**05 48 33.1**	**0.0**
	comp=E,2μm,0.7s						
ARG	**Arkhangelos**	**1.05**	**211**	P	**Pn**	**05 48 18.1**	**0.0**
ARG				AML	AML	05 48 38.7	
	comp=E,4872μm,0.6s						
ARG				AML	AML	05 48 41.8	
	comp=N,2831μm,0.7s						
ARG	**Arkhangelos**	**1.05**	**211**	PG	**Pg**	**05 48 16.1**	**-0.8**
ARG	**Arkhangelos**	**1.05**	**211**	S	**Sn**	**05 48 37.4**	**+4.3**
BDRM	**Kayabasi**	**1.08**	**267**	*i* P	**Pg**	**05 48 17.2**	**-0.2**
BDRM				*i* P	**Pn**	**05 48 17.9**	**-0.6**
BDRM				*i* S	**Sn**	**05 48 33.3**	**-0.4**
BDRM				*i* S	**Sb**	**05 48 33.7**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**319**	PN	**Pb**	**05 48 17.6**	**-0.4**
AKAS	**Kas**	**1.11**	**143**	*i* P	**Pn**	**05 48 19.4**	**+0.5**
AKAS				*i* S	**Sn**	**05 48 35.8**	**+1.1**
AKAS	**Kas**	**1.11**	**143**	PG	**Pb**	**05 48 17.9**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.16**	**60**	*i* P	**Pn**	**05 48 20.7**	**+1.0**
KSL	**Kastellorizon**	**1.17**	**147**	P	**Pn**	**05 48 19.8**	**+0.2**
KSL				S	**Sn**	**05 48 37.0**	**+1.1**
	comp=N,5μm,0.6s						
KSL	**Kastellorizon**	**1.17**	**147**	P	**Pn**	**05 48 20.2**	**+0.6**
KSL				S	**Sn**	**05 48 36.9**	**+1.1**
KSL				AML	AML	05 48 42.5	
	comp=N,11427μm,0.6s						
KSL				AML	AML	05 48 44.7	
	comp=E,9232μm,0.7s						
KSL	**Kastellorizon**	**1.17**	**147**	P	**Pn**	**05 48 20.5**	**+0.8**
KSL				S	**Sn**	**05 48 39.9**	**+4.0**

CHOS	**Chios island**	**2.50**	**301**	P	**Pn**	**05 48 38.4 +0.3**
CHOS	**Chios island**	**2.50**	**301**	P	**Pn**	**05 48 38.7 +0.5**
CHOS				S	**Sn**	**05 49 10.5 +1.4**
CHOS				AML	AML	05 49 22.2
	comp=E,1053μm,1.0s					
CHOS				AML	AML	05 49 24.5
	comp=N,874μm,0.8s					
CHOS	**Chios island**	**2.50**	**301**	PN	**Pn**	**05 48 39.4 +1.3**
APE	**Apeiranthos**	**2.60**	**270**	P	**Pb**	**05 48 42.4 -1.5**
APE	**Apeiranthos**	**2.60**	**270**	PN	**Pn**	**05 48 41.3 +1.8**
APE	**Apeiranthos**	**2.60**	**270**	P	**Pn**	**05 48 39.7 +0.2**
ZKR	**Zakros**	**2.89**	**227**	PN	**Pn**	**05 48 44.3 +0.9**
PRK	**Paraskevi**	**2.90**	**318**	P	**Pn**	**05 48 43.9 +0.4**
PRK				AML	AML	05 49 38.6
	comp=E,1224μm,0.9s					
PRK				AML	AML	05 49 46.6
	comp=N,702μm,0.8s					
SIGR	**SIGRI**	**3.11**	**313**	P	**Pn**	**05 48 48.2 +1.9**
AKMS	**Akamas**	**3.56**	**125**	⇓P	**Pn**	**05 48 53.8 +1.2**
AKMS				AML	AML	05 49 39.8
	comp=N,0.5nm,0.5s					
AKMS				AML	AML	05 49 45.3
	comp=N,0.7nm,0.7s					
IDI	**Anoyia**	**3.65**	**241**	Pn	**Pn**	**05 48 55.1 +1.3**
	comp=N,6.2nm,0.3s,baz=58,slow=14,SNR=6.0					
IDI				Sn	**Sn**	**05 49 38.5 +1.2**
	comp=N,4.6nm,0.3s,baz=114,slow=23,SNR=1.7					
ALFC	**Alefka**	**3.66**	**121**	P	**Pn**	**05 48 55.1 +1.1**
ALFC				AML	AML	05 49 40.1
	comp=N,0.5nm,0.5s					
ALFC				AML	AML	05 49 40.8
	comp=N,0.4nm,0.8s					
NATA	**Nata**	**3.86**	**126**	⇑P	**Pn**	**05 48 57.7 +1.0**
SZAC	**Souni**	**4.08**	**124**	P	**Pn**	**05 49 00.9 +1.2**
SZAC				AML	AML	05 49 53.2
	comp=N,0.6nm,1.2s					
SZAC				AML	AML	05 49 55.4
	comp=N,0.7nm,0.5s					
CSS	**Mathiatis**	**4.27**	**119**	P	**Pn**	**05 49 03.5 +1.2**
ASGA	**Asgata**	**4.31**	**122**	P	**Pn**	**05 49 04.0 +1.2**
BRTR	**Keskin Array B**	**4.61**	**54**	Pn	**Pn**	**05 49 08.9 +1.8**
	comp=N,4.3nm,0.3s,baz=252,slow=16,SNR=18					
BRTR				Sn	**Sn**	**05 50 02.4 +1.4**
	comp=N,1.4nm,0.3s,baz=220,slow=26,SNR=5.9					
MMAI	**Mount Meron Ar**	**6.80**	**125**	Pn	**Pn**	**05 49 36.8 -0.4**
	comp=N,14nm,0.3s,baz=310,slow=12,SNR=16					
MMAI				Sn	**Sn**	**05 50 52.9 -2.1**
	comp=N,3.6nm,0.3s,baz=313,slow=19,SNR=2.0					
EIL	**Elat**	**9.04**	**144**	Sn	**Sn**	**05 51 43.3 -6.8**
	comp=N,0.8nm,0.3s,baz=76,slow=17,SNR=2.2					
GERES	**GERESS Array B**	**16.06**	**322**	Pn	**P**	**05 51 46.1 -0.5**
	comp=N,0.1nm,0.3s,baz=139,slow=14,SNR=4.1					
DAVOX	**Davos/Dischmat**	**17.02**	**310**	LR	LR	05 58 39.5
	comp=N,60nm,19.6s,baz=66,slow=38					
FINES	**FINESS Array B**	**24.40**	**357**	P	**P**	**05 53 16.9 +1.2**
	comp=N,2.2nm,0.8s,baz=150,slow=9.7,SNR=6.0					
HFS	**Hagfors**	**24.97**	**342**	P	**P**	**05 53 22.1 +1.2**
	comp=N,1.1nm,0.8s,baz=144,slow=18,SNR=2.4					
ESDC	**Sonseca Array**	**25.72**	**286**	P	**P**	**05 53 27.8 -0.2**
	comp=N,0.7nm,0.9s,baz=80,slow=8.1,SNR=4.7					
TORD	**Torodi Ar. Bea**	**34.01**	**232**	P	**P**	**05 54 40.8 -0.7**
	comp=N,0.7nm,0.4s,baz=34,slow=8.9,SNR=9.0					
TORD				LR	LR	06 09 46.6
	comp=N,54nm,19.5s,baz=145,slow=39					
ZALV	**Zalesovo Beam**	**41.52**	**48**	LR	LR	06 17 15.1
	comp=N,68nm,19.6s,baz=216,slow=42					

*JMA **27** 06:23:11.2±0.1,36.19N×140.96E,h43km±2km,M3.6*
JMA Felt II J1.
*NIED **27** 06:23:11.2,36.19N×140.96E,h43km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.72; Mθθ0.03; Mϕϕ-3.76; Mrθ-1.72; Mθϕ-0.88; Mϕr5.48; Fault plane solution: M06.90000×10¹⁴ NP1: ϕs349.00000°,δ74.00000°,λ76.00000°. NP2: ϕs211.00000°,δ21.00000°,λ130.00000°.*
*IDC **27** 06:23:14.7±2.5,36.14N×140.90E,h58km±24km,mb3.2/11, mb1 3.5/14,mb1mx3.4/35,mbtmp3.5/14,ML2.9/3,MS2.7/1, Ms1 2.7/1,ms1mx2.4/26 Error ellipse: s-maj=22.6km s-min=10.7km az=70.0*

ISC 27 06:23:11.8±1.1,36.23N±0.03×141.01E±0.06,h30km±7km, n33,σt¹23/33,mb3.4/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.36**	**289**	P	**Pb**	**06 23 20.2**	**+0.1**
JHYU				S	**Sb**	**06 23 26.1**	**+0.3**
JHU	**Itakohorinouch**	**0.47**	**237**	P	**Pb**	**06 23 21.7**	**-0.1**
JHU				eS	**Sb**	**06 23 28.9**	**-0.3**
JHO	**Hitachi**	**0.53**	**317**	P	**Pb**	**06 23 22.1**	**-0.6**
JHO				eS	**Sb**	**06 23 29.5**	**-0.6**
CHOJ	**Chosi**	**0.54**	**194**	P	**Pb**	**06 23 21.8**	**-1.0**
CHOJ				S	**Sb**	**06 23 28.9**	**-1.4**
JYT	**Yasato**	**0.66**	**270**	P	**Pn**	**06 23 23.7**	**-1.4**
JYT				eS	**Sn**	**06 23 32.0**	**-2.5**
JSMT	**Sammumatsuo**	**0.74**	**218**	P	**Pn**	**06 23 25.1**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.89**	**349**	P	**Pn**	**06 23 27.4**	**-1.0**
ONAJ				eS	**Sn**	**06 23 38.5**	**-1.8**
JFK	**Kawauchi**	**1.14**	**354**	P	**Pn**	**06 23 30.8**	**-1.0**
JAG	**Ashikaga**	**1.27**	**279**	P	**Pn**	**06 23 32.4**	**-1.2**
MJAR	**Matsushiro Arr**	**2.28**	**279**	P	**Pn**	**06 23 46.9**	**-0.6**
	4.3nm,0.3s,baz=86,slow=9.5,SNR=148						
MJAR				S	**Sn**	**06 24 15.5**	**+0.9**
	2.1nm,0.3s,baz=5.8,slow=23,SNR=2.5						
MJAR				LR	LR	06 24 48.4	
	comp=Z,176nm,18.7s,baz=135,slow=43						
MAT	**Matsushiro**	**2.29**	**279**	P	**Pn**	**06 23 47.3**	**-0.2**
MAT				S	**Sn**	**06 24 14.6**	**0.0**
JHJ	**Hachijo jima 2**	**3.26**	**198**	P	**Pn**	**06 24 02.5**	**+1.6**
	16nm,0.3s,baz=244,slow=22,SNR=1.8						
JHJ				S	**Sn**	**06 24 38.5**	**-0.1**
	40nm,0.3s,baz=71,slow=22,SNR=6.3						
USRK	**Ussuriysk Ar.**	**10.53**	**322**	P	**Pn**	**06 25 44.4**	**+3.8**
	baz=145,slow=13,SNR=1.4						
SONM	**Songino Array**	**27.98**	**305**	P	**P**	**06 29 00.0**	**+0.2**
	0.2nm,0.3s,baz=106,slow=11,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	06 58 18.4	
	baz=312,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	06 58 18.7	
	baz=312,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	06 58 19.6	
	baz=312,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**28.71**	**121**	T	T	06 59 07.7	
	baz=314,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**28.71**	**121**	T	T	06 59 07.7	
	baz=314,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.72**	**121**	T	T	06 59 09.6	
	baz=314,slow=76,SNR=23						
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**06 31 18.6**	**0.0**
	0.2nm,0.5s,baz=77,slow=9.0,SNR=1.8						
ILAR	**Eielson Array**	**50.35**	**32**	P	**P**	**06 32 05.3**	**-0.2**
	0.4nm,0.9s,baz=274,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**56.22**	**188**	P	**P**	**06 32 47.9**	**-1.3**
	0.9nm,0.6s,baz=2.0,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**59.95**	**188**	P	**P**	**06 33 14.4**	**-0.8**
	0.6nm,0.7s,baz=13,slow=6.3,SNR=5.4						
YKA	**Yellowknife Ar**	**64.67**	**30**	P	**P**	**06 33 47.0**	**+0.6**
	0.3nm,0.7s,baz=273,slow=6.4,SNR=2.3						
AKASG	**Malin Array Be**	**74.74**	**322**	P	**P**	**06 34 47.3**	**-1.3**
	0.2nm,0.3s,baz=47,slow=6.0,SNR=2.5						
NOA	**NORSAR Array B**	**74.81**	**337**	P	**P**	**06 34 48.4**	**-0.4**
	0.5nm,0.8s,baz=40,slow=5.8,SNR=3.3						
NVAR	**Mina Array Bea**	**75.73**	**53**	P	**P**	**06 34 55.8**	**+1.0**
	0.1nm,0.3s,baz=336,slow=6.8,SNR=2.3						
PDAR	**Pinedale Array**	**78.46**	**45**	P	**P**	**06 35 10.5**	**+0.4**
	0.1nm,0.6s,baz=267,slow=1.8,SNR=2.7						
TXAR	**Lajitas Array**	**90.87**	**52**	P	**P**	**06 36 13.4**	**+0.6**
	0.1nm,0.7s,baz=300,slow=2.0,SNR=2.2						
H03N2	**Juan Fernandez**	**147.25**	**97**	T	T	09 27 33.4	
	baz=291,slow=76,SNR=4.6						
H03N3	**Juan Fernandez**	**147.26**	**97**	T	T	09 27 35.2	
	baz=291,slow=76,SNR=5.6						
H03N1	**Juan Fernandez**	**147.27**	**97**	T	T	09 27 32.1	
	baz=291,slow=76,SNR=5.1						

*IDC **27** 06:42:14.4±8.0,2.96N×128.80E,h209km±85km,mb3.4/7, mb1 3.7/7,mb1mx3.3/41,mbtmp4.0/7,MS3.4/2,Ms1 3.4/2, ms1mx2.9/25,Error ellipse: s-maj=44.3km s-min=17.1km az=80.0*
*NEIC **27** 06:42:16.3±0.8,2.93N±0.06×128.7E±0.1,h221km±7km, mb4.3/10,Error ellipse: s-maj=20.9km s-min=9.4km az=88.0*

ISC 27 06:42:13.8±0.8,3.04N±0.09×128.7E±0.1,h200km,n20, σt¹33/20,mb4.2/13,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.63**	**211**		**Pn**	**06 43 02.2**	**+3.1**
TNTI				Sn	**Sn**	**06 43 37.0**	**+2.4**
LUWI	**Luwuk**	**7.19**	**236**	Pn	**Pn**	**06 43 55.4**	**-1.2**
LUWI				Sn	**Sn**	**06 45 17.4**	**-0.8**
TOLI2	**Tolitoli**	**8.16**	**257**	Pn	**Pn**	**06 44 10.1**	**+1.0**
KNRA	**Kununurra**	**18.60**	**180**	P	**P**	**06 46 15.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.23**	**188**	P	**P**	**06 46 43.2**	**-1.0**
	3.8nm,0.5s,baz=16,slow=9.0,SNR=17						
WB0	**Warramunga Arr**	**23.34**	**166**	P	**P**	**06 47 03.2**	**-1.1**
WRA	**Warramunga Arr**	**23.50**	**167**	P	**P**	**06 47 04.5**	**-1.3**
	2.6nm,0.4s,baz=344,slow=10,SNR=60						
WR0	**Warramunga Arr**	**23.57**	**166**	P	**P**	**06 47 05.2**	**-1.1**
WR0				IAmb	IAmb	06 47 15.0	
	comp=Z,4.3nm,0.8s						
PSA00	**Pilbara Seismi**	**25.96**	**199**	P	**P**	**06 47 27.4**	**-0.6**
PSA00				IAmb	IAmb	06 47 43.8	
	comp=Z,6.9nm,1.4s						
AS31	**Alice Springs**	**27.02**	**169**	P	**P**	**06 47 36.7**	**-0.9**
AS31				IAmb	IAmb	06 47 37.7	
	comp=Z,2.2nm,0.3s						
ASAR	**Alice Springs**	**27.02**	**169**	P	**P**	**06 47 36.6**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=354,slow=7.7,SNR=79						
MJAR	**Matsushiro Arr**	**34.47**	**14**	P	**P**	**06 48 43.0**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=182,slow=9.8,SNR=6.3						
BBOO	**Buckleboo**	**36.33**	**170**	P	**P**	**06 48 57.7**	**-0.8**
BBOO				IAmb	IAmb	06 49 17.8	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**36.82**	**162**	P	**P**	**06 49 01.8**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=332,slow=9.4,SNR=9.5						
STKA	**Stephens Creek**	**36.82**	**162**	IAmb	IAmb	06 49 05.6	
	comp=Z,1.4nm,1.3s						
ASAJ	**Asahikawa**	**42.71**	**15**	LR	LR	07 11 24.7	
	comp=Z,24nm,18.4s,baz=238,slow=41						
MKAR	**Makanchi Array**	**59.25**	**325**	P	**P**	**06 51 54.9**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=113,slow=7.3,SNR=5.5						
MKAR				LR	LR	07 20 05.4	
	comp=Z,57nm,19.5s,baz=168,slow=38						
KDAK	**Kodiak Island**	**81.41**	**32**	P	**P**	**06 54 09.3**	**+1.2**
KDAK				IAmb	IAmb	06 54 24.8	
	comp=Z,12nm,1.2s						
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**06 54 24.8**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=256,slow=5.7,SNR=1.9						
QSPA	**South Pole Qui**	**92.95**	**180**	P	**P**	**06 55 03.8**	**-0.3**
QSPA				IAmb	IAmb	06 55 13.6	
	comp=Z,3.1nm,1.2s						

*IDC **27** 06:47:48.8±2.0,23.86S×67.07W,h196km±19km,mb3.3/2, mb1 3.4/6,mb1mx3.2/29,mbtmp3.7/6,MS3.2/1,Ms1 3.2/1, ms1mx2.4/13,Error ellipse: s-maj=34.1km s-min=22.2km az=156.0*
*VAO **27** 06:47:50.5±0.7,23.71S×67.33W,h219km±8km,mb3.9*

ISC 27 06:47:49.1±1.1,23.8S±0.1×67.13W±0.09,h200km,n28, σt¹12/29,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.04**	**306**	P	**Pn**	**06 48 29.1**	**+0.7**
	10nm,0.3s,baz=136,slow=7.8,SNR=80						
LVC				S	**Sn**	**06 48 59.2**	**+0.3**
	27nm,0.3s,baz=261,slow=22,SNR=69						
LVC	**Limon Verde**	**2.04**	**306**	*eP*	**Pn**	**06 48 28.9**	**+0.5**
LPAZ	**La Paz**	**7.56**	**353**	P	**Pn**	**06 49 39.1**	**+1.8**
	0.2nm,0.3s,baz=159,slow=10,SNR=6.3						
LPAZ				S	**Sn**	**06 51 04.3**	**+1.1**
	0.1nm,0.3s,baz=287,slow=2.3,SNR=2.0						
LPAZ	**La Paz**	**7.56**	**353**	*eP*	**Pn**	**06 49 34.4**	**-2.9**
SIV	**San Ignacio**	**9.66**	**37**	P	**Pn**	**06 50 02.7**	**-1.3**
	0.6nm,0.3s,baz=246,slow=8.9,SNR=16						
PTLB	**Pontes e Lacer**	**11.23**	**44**	*eP*	**Pn**	**06 50 25.1**	**+0.8**
PTGB	**Pitanga**	**13.77**	**97**	*eP*	**P**	**06 50 58.2**	**-0.4**
ITRB	**Iturama**	**16.11**	**78**	*eP*	**Pn**	**06 51 25.9**	**+0.9**
ARAG	**Araguaiana, MT**	**16.52**	**64**	*eP*	**Pn**	**06 51 30.4**	**+0.6**
CLDB	**Colider**	**16.81**	**42**	*eP*	**Pn**	**06 51 32.4**	**-0.9**
SNDB	**Serra Nova Dou**	**19.11**	**55**	*eP*	**P**	**06 51 56.8**	**-0.4**
BDFB	**Brasilia**	**19.74**	**69**	P	**P**	**06 52 03.9**	**-0.1**
	0.4nm,0.3s,baz=236,slow=7.1,SNR=6.8						
NPGB	**Novo Progresso**	**20.16**	**36**	*eP*	**P**	**06 52 07.9**	**-0.5**
ESAR	**Angra dos Reis**	**20.84**	**92**	*eP*	**P**	**06 52 16.6**	**+1.1**
PEXB	**Peixe**	**21.34**	**60**	*eP*	**P**	**06 52 20.6**	**-0.3**
VAS01	**Vassouras-RJ**	**21.85**	**91**	*eP*	**P**	**06 52 27.2**	**+1.2**
ITTB	**Itaituba**	**22.26**	**31**	*eP*	**P**	**06 52 29.7**	**-0.2**
DUB01	**Friburgo-RJ**	**22.86**	**91**	*eP*	**P**	**06 52 35.4**	**+0.1**
MC01	**Montes Claros**	**22.86**	**76**	*eP*	**P**	**06 52 33.2**	**-2.3**
CAM01	**Campos-RJ**	**23.56**	**90**	*eP*	**P**	**06 52 43.7**	**+2.1**
SMTB	**Santa Maria do**	**23.89**	**55**	*eP*	**P**	**06 52 45.3**	**+0.5**
SDBA	**SAO DESIDERIO**	**23.95**	**66**	*eP*	**P**	**06 52 44.6**	**-0.7**
PTGA	**Pitinga**	**23.99**	**18**	LR	LR	07 03 12.9	
	comp=Z,57nm,20.4s,baz=126,slow=38						
PRPB	**Parauapebas**	**24.20**	**46**	*eP*	**P**	**06 52 47.2**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**28.18**	**44**	*eP*	**P**	**06 53 23.3**	**0.0**
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P	**P**	**06 59 17.7**	**-0.4**
	0.4nm,0.5s,baz=254,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**93.93**	**340**	P	**P**	**07 00 43.4**	**0.0**
	0.4nm,0.8s,baz=134,slow=1.8,SNR=2.1						
WRA	**Warramunga Arr**	**131.72**	**207**	PKP	**PKiKP**	**07 06 39.2**	**-0.8**
	0.2nm,0.3s,baz=155,slow=2.0,SNR=7.2						

*IDC **27** 07:24:50.5±1.0,48.86S×121.38E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.8/37,mbtmp3.7/7,Error ellipse: s-maj=58.7km s-min=17.6km az=111.0*

ISC 27 07:24:52.3±0.9,48.9S±0.2×121.4E±0.3,h13km,n17, σt⁰56/12,mb3.7/7,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.95**	**336**	T	T	07 43 48.0	
	baz=160,slow=74,SNR=80						
H01W2	**Cape Leeuwin H**	**14.95**	**336**	T	T	07 43 47.2	
	baz=160,slow=74,SNR=79						
H01W3	**Cape Leeuwin H**	**14.96**	**336**	T	T	07 43 49.1	
	baz=160,slow=74,SNR=72						
STKA	**Stephens Creek**	**22.79**	**49**	P	**P**	**07 29 55.5**	**+0.9**
	0.7nm,0.3s,baz=317,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**27.01**	**26**	P	**P**	**07 30 34.2**	**+0.2**
	0.4nm,0.5s,baz=203,slow=9.1,SNR=5.1						
ASAR				PcP	**PcP**	**07 33 55.0**	**-0.3**
	0.5nm,0.7s,baz=190,slow=2.2,SNR=4.9						
WRA	**Warramunga Arr**	**30.67**	**24**	P	**P**	**07 31 06.2**	**-0.3**
	0.4nm,0.7s,baz=197,slow=14,SNR=1.7						
VNDA	**Vanda**	**32.63**	**165**	P	**P**	**07 31 23.1**	**-0.1**
	0.6nm,0.7s,baz=305,slow=8.1,SNR=5.4						
MAW	**Mawson**	**34.34**	**215**	P	**P**	**07 31 38.9**	**+0.7**
	4.0nm,1.0s,baz=59,slow=22,SNR=3.6						
QSPA	**South Pole Qui**	**41.27**	**180**	P	**P**	**07 32 36.9**	**-0.1**
	1.4nm,0.7s,baz=11,slow=0.5,SNR=6.7						
SNAA	**Sanae**	**53.51**	**199**	P	**P**	**07 34 11.7**	**-0.2**
	1.4nm,0.8s,baz=145,slow=13,SNR=5.6						
H08S2	**Diego Garcia H**	**58.02**	**298**	T	T	08 37 31.2	
	baz=144,slow=76,SNR=5.7						
H08S1	**Diego Carcia H**	**58.03**	**298**	T	T	08 37 30.1	
	baz=144,slow=76,SNR=4.1						
H08S3	**Diego Garcia H**	**58.04**	**298**	T	T	08 37 32.0	
	baz=144,slow=76,SNR=5.0						
ILAR	**Eielson Array**	**133.38**	**36**	PKP	**PKPdf**	**07 44 06.9**	**+0.1**
	0.2nm,0.6s,baz=289,slow=2.8,SNR=2.7						
NVAR	**Mina Array Bea**	**136.59**	**81**	PKP	**PKiKP**	**07 44 15.8**	**+0.2**
	0.4nm,0.6s,baz=254,slow=6.5,SNR=3.3						
PDAR	**Pinedale Array**	**144.53**	**80**	PKP	**PKPdf**	**07 44 27.2**	**-0.9**
	0.5nm,0.3s,baz=205,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**146.77**	**45**	PKPbc	**PKPbc**	**07 44 32.4**	**-0.3**
	1.4nm,0.8s,baz=262,slow=2.0,SNR=11						

*IDC **27** 07:28:51.7±0.5,48.95S×121.50E,h0km,mb4.8/19, mb1 4.9/20,mb1mx4.7/34,mbtmp4.8/20,ML2.8/1,MS4.7/20, Ms1 4.7/20,ms1mx4.7/22,Error ellipse: s-maj=23.1km s-min=11.7km az=104.0*
*BJI **27** 07:28:52.0±0.0,49.15S×120.99E,h14km,mB5.2/21, mb5.0/37,Ms5.1/21,Ms7 4.8/19*
*MOS **27** 07:28:52.0±1.1,49.00S×121.45E,h10km,mb5.2/22, MS4.8/7,Error ellipse: s-maj=22.6km s-min=9.0km az=82.7*
*GCMT **27** 07:28:53.6±0.1,48.96S±0.01×121.49E±0.01,h12km, MW5.4/131,Moment Tensor Solution. s89,c137; s131,c245; Duration: 1¹2 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.51±.02; Mθθ1.37±.02; Mϕϕ0.13±.02; Mrθ-0.08±.05; Mθϕ-0.63±.01; Mϕr0.20±.06; Best double couple: M₀1.58900×10¹⁷ NP1:ϕs287.00000°,δ43.00000°, λ-99.00000°. NP2:ϕs119.00000°,δ48.00000°, λ-82.00000°. Principal axes: T 1.6440, Plg3.0000°, Azm203.0000°; N -0.1110, Plg6.0000°, Azm293.0000°; P -1.5340, Plg83.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 07:28:53.6±1.9,49.01S±0.06×121.3E±0.2,h10km±1km, mb5.1/40,Ms_20 5.1/163,Mwc5.4(GCMT) Error ellipse: s-maj=19.5km s-min=2.7km az=241.0*
*NEIC **27** 07:28:53,48.99S×121.50E,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.54; Mθθ1.41; Mϕϕ0.13; Mrθ-0.36; Mθϕ-0.67; Mϕr-0.03; Fault plane solution: M₀1.66000×10¹⁷ NP1:ϕs300.00000°, δ40.00000°,λ-80.00000°. NP2:ϕs107.00000°,δ51.00000°, λ-99.00000°. Principal axes: T 1.7293, Plg6.0000°, Azm203.0000°; N -0.1383, Plg7.0000°, Azm112.0000°; P -1.5910, Plg81.0000°, Azm333.0000°;*

ISC 27 07:28:54.0±0.3,49.06S±0.05×121.47E±0.08,h13km,n299, σt¹66/202,mb5.0/60,MS5.1/117,4C-2D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.15**	**336**	T	T	07 47 43.6	
	baz=160,slow=74,SNR=336						
H01W2	**Cape Leeuwin H**	**15.15**	**336**	T	T	07 47 50.7	
	baz=160,slow=74,SNR=496						
H01W3	**Cape Leeuwin H**	**15.17**	**336**	T	T	07 47 51.4	
	baz=160,slow=74,SNR=404						
NWAO	**Narrogin (SRO)**	**16.43**	**347**	Pn	**Pn**	**07 32 43.0**	**-1.0**
	1.8nm,0.3s,baz=162,slow=8.8,SNR=7.7						
NWAO				LR	LR	07 37 23.0	
	comp=Z,9μm,21.6s,baz=167,slow=31						
NWAO	**Narrogin (SRO)**	**16.43**	**347**	P	**Pn**	**07 32 42.6**	**-1.5**
	baz=16,SNR=7.0						
NWAO	**Narrogin (SRO)**	**16.43**	**347**	P	**Pn**	**07 32 42.7**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,28nm,0.9s						
NWAO	**Narrogin (SRO)**	**16.43**	**347**		**Pn**	**07 32 42.7**	**-1.4**
MUN	**Mundaring**	**17.52**	**345**	P	**Pn**	**07 32 55.5**	**-2.3**
	baz=17,SNR=4.0						
CASY	**Casey**	**18.18**	**194**		**Pn**	**07 33 05.5**	**-0.2**
FORT	**Forrest**	**18.93**	**18**	P	**P**	**07 33 12.4**	**-2.0**
ARPS	**Mount Arapiles**	**19.25**	**58**	P	**P**	**07 33 15.7**	**-2.2**
	baz=19,SNR=5.9						
BBOO	**Buckleboo**	**19.56**	**39**	P	**P**	**07 33 19.5**	**-1.9**
	baz=19,SNR=11						
BBOO	**Buckleboo**	**19.56**	**39**	P	**P**	**07 33 19.3**	**-2.1**
HTT	**Hallett**	**20.32**	**46**	P	**P**	**07 33 28.5**	**-1.2**
	baz=20,SNR=7.6						
MORW	**Morawa**	**20.39**	**346**	P	**P**	**07 33 30.4**	**-0.1**
	baz=20,SNR=5.7						
MORW	**Morawa**	**20.39**	**346**		**P**	**07 33 28.9**	**-1.6**
MORW				IAmb	IAmb	07 33 55.0	
	comp=Z,160nm,1.5s						
TOO	**Toolangi**	**20.82**	**66**	P	**P**	**07 33 31.7**	**-3.3**
	baz=21,SNR=8.8						
TOO	**Toolangi**	**20.82**	**66**	P	**P**	**07 33 34.5**	**-0.5**
TOO				pmax	pmax		
	comp=Z,257nm,1.9s						
TOO	**Toolangi**	**20.82**	**66**		**P**	**07 33 34.5**	**-0.5**
TOO				IAmb	IAmb	07 33 43.0	
	comp=Z,257nm,1.9s						
MEEK	**Meekatharra**	**22.50**	**353**	P	**P**	**07 33 52.2**	**-0.9**
	baz=22,SNR=16						
STKA	**Stephens Creek**	**22.88**	**49**	P	**P**	**07 33 56.5**	**-0.7**
	comp=Z,16nm,0.9s,baz=209,slow=10,SNR=11						
STKA				LR	LR	07 41 11.8	
	comp=Z,5μm,20.9s,baz=219,slow=32						
STKA	**Stephens Creek**	**22.88**	**49**	P	**P**	**07 33 54.8**	**-2.4**
	baz=23,SNR=12						
STKA	**Stephens Creek**	**22.88**	**49**	P	**P**	**07 33 58.1**	**+0.9**
STKA				pmax	pmax		
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**22.88**	**49**	P	**P**	**07 33 58.1**	**+0.9**
CAN	**Canberra**	**24.42**	**66**	P	**P**	**07 34 13.3**	**+1.1**
CAN				pmax	pmax		
	comp=Z,33nm,1.4s						
CAN				MLR	MLR		
	comp=Z,4μm,18.0s						
CAN	**Canberra**	**24.42**	**66**	P	**P**	**07 34 13.3**	**+1.1**
WRKA	**Warakurna**	**24.57**	**15**	P	**P**	**07 34 11.4**	**-2.1**
	baz=24,SNR=30						
CMSA	**Cobar Meteorol**	**25.28**	**55**	P	**P**	**07 34 18.0**	**-1.8**

MAW	Mawson	34.20	216	P	P	07 35 38.0	-0.7		
MAW	Mawson	34.20	216	P	P	07 35 38.0	-0.7		
OXZ	Oxford	34.93	100	P	P	07 35 45.2	0.0		
OXZ				IAmb	IAmb	07 36 04.4			
	comp=Z,33nm,1.2s								
CTA	Charters Tower	35.07	43	P	P	07 35 46.1	-0.5		
	comp=Z,13nm,1.0s,baz=228,slow=11,SNR=4.1								
CTAO	Charters Tower	35.07	43	P	P	07 35 46.6	0.0		
CTAO				pmax	pmax				
	comp=Z,24nm,1.2s								
CTAO				MLR	MLR				
	comp=Z,4µm,18.0s								
CTAO	Charters Tower	35.07	43	P	P	07 35 46.5	0.0		
CTAO				IAmb	IAmb	07 35 51.5			
	comp=Z,24nm,1.1s								
CTAO	Charters Tower	35.07	43	IAMs_20	IAMs_20	07 49 37.7			
	comp=Z,4µm,18.0s								
THZ	Tophouse	36.24	98	P	P	07 35 57.6	+1.1		
THZ				IAmb	IAmb	07 36 00.5			
	comp=Z,30nm,1.0s								
MTN	Manton Dam	36.98	16	P	P	07 36 02.8	-0.2		
	baz=37,SNR=3.4								
MTN	Manton Dam	36.98	16	P	P	07 36 01.0	-2.0		
MTN				IAmb	IAmb	07 36 03.3			
	comp=Z,36nm,1.1s								
KDU	Kakadu	37.39	18	P	P	07 36 04.5	-2.0		
	baz=37,SNR=5.8								
BATI	Baumata	38.77	3	P	P	07 36 17.9	-0.2		
	comp=Z,50nm,0.7s,baz=135,slow=3.6,SNR=6.4								
BATI	Baumata	38.77	3	P	P	07 36 18.3	+0.1		
	comp=Z,45nm,0.9s								
SOEI	Soe	39.25	4	P	P	07 36 21.3	-0.9		
SOEI				IAmb	IAmb	07 36 37.4			
	comp=Z,63nm,1.0s								
SOEI	Soe	39.25	4	P	P	07 36 31.7	+9.5		
EDFI	Ende, Flores	40.18	0	P	P	07 36 30.2	+0.2		
	comp=Z,16nm,1.5s								
URZ	Urewera	40.82	96	P	P	07 36 35.3	+0.3		
	comp=Z,16nm,1.0s,baz=307,slow=20,SNR=3.0								
URZ	Urewera	40.82	96	P	P	07 36 36.1	+1.1		
URZ				IAmb	IAmb	07 36 40.3			
	comp=Z,65nm,1.5s								
QSPA	South Pole Qui	41.06	180	P	P	07 36 37.5	+0.6		
	comp=Z,35nm,1.0s,baz=329,slow=3.4,SNR=45								
QSPA	South Pole Qui	41.06	180	P	P	07 36 37.4	+0.5		
QSPA	South Pole Qui	41.06	180	IAMs_20	IAMs_20	07 52 31.7			
	comp=Z,4µm,20.0s								
SJI	Sawahan	41.99	346	P	P	07 36 44.8	-0.1		
LEM	Lembang	43.69	340	P	P	07 37 00.1	+1.4		
	comp=Z,10nm,0.4s,baz=150,slow=20,SNR=1.4								
KAPI	Kappang	43.91	358	P	P	07 36 59.8	-0.6		
	comp=Z,7.4nm,0.8s,baz=162,slow=16,SNR=1.7								
KAPI	Kappang	43.91	358	P	P	07 36 59.7	-0.6		
KAPI				pmax	pmax				
	comp=Z,26nm,1.1s								
KAPI				MLR	MLR				
	comp=Z,1µm,19.0s								
KAPI	Kappang	43.91	358	P	P	07 36 59.6	-0.6		
KAPI				IAmb	IAmb	07 37 15.1			
	comp=Z,26nm,1.1s								
KAPI	Kappang	43.91	358	P	P	07 37 00.1	-0.2		
	comp=Z,27nm,1.3s								
DZM	Mont Dzumac	44.52	69	LR	LR	07 52 27.0			
	comp=Z,1µm,20.9s,baz=212,slow=32								
DZM	Mont Dzumac	44.52	69	*e*S	S	07 43 47.2	+6.8		
	comp=Z,330nm,29.4s								
DZM				*e*LR	LR	07 49 39.8			
	comp=Z,2µm,22.6s								
MDSI	Maura Dua	46.79	336	P	P	07 37 30.6	+7.5		
FAKI	Fak Fak	46.88	15	P	P	07 37 24.1	+0.2		
FAKI	Fak Fak	46.88	15	P	P	07 37 24.0	+0.1		
	comp=Z,1µmcomp=Z,76nm,1.6s								
BKB	Balikpapan	47.78	354	IAMs_20	IAMs_20	07 57 17.1			
	comp=Z,2µm,19.0s								
LUWI	Luwuk	47.85	2	P	P	07 37 31.2	-0.2		
MPSI	Mapaga	49.22	358	P	P	07 37 46.2	+4.2		
RAO	Raoul Island	49.59	90	LR	LR	07 56 47.7			
	comp=Z,339nm,18.5s,baz=166,slow=34								
HNR	Honiara	50.90	52	LR	LR	07 58 14.2			
	comp=Z,2µm,18.3s,baz=218,slow=35								
HNR	Honiara	50.90	52	IAMs_20	IAMs_20	07 57 54.5			
	comp=Z,2µm,20.0s								
MNSI	Mandailing Nat	53.14	332	P	P	07 38 11.8	+0.4		
SNAA	Sanae	53.33	199	P	P	07 38 12.4	+0.2		
SNAA	Sanae	53.33	199	P	P	07 38 12.4	+0.2		
	comp=Z,22nm,0.9s,baz=143,slow=8.2,SNR=54								
SNAA	Sanae	53.33	199	*i* P	P	07 38 11.7	-0.6		
SNAA				pmax	pmax				
	comp=Z,34nm,1.1s								
SNAA	Sanae	53.33	199	P	P	07 38 12.5	+0.2		
SNAA				IAmb	IAmb	07 38 20.2			
	comp=Z,39nm,1.0s								
GSI	Gunungsitoli	54.25	330	P	P	07 38 19.2	-0.3		
GSI	Gunungsitoli	54.25	330	P	P	07 38 22.0	+2.5		
MSVF	Nonsavu	55.02	76	LR	LR	07 56 56.1			
	comp=Z,561nm,20.9s,baz=207,slow=31								
VNA3	Neumayer Olymp	55.06	197	P	P	07 38 24.5	-0.4		
VNA1	Neumayer--Stat	55.25	198	P	P	07 38 26.4	+0.3		
H08S2	Diego Garcia H	58.16	298	T	T	08 41 25.2			
	baz=144,slow=76,SNR=43								
H08S1	Diego Carcia H	58.17	298	T	T	08 41 40.4			
	baz=144,slow=76,SNR=41								
H08S3	Diego Garcia H	58.18	298	T	T	08 41 39.1			
	baz=144,slow=76,SNR=58								
AFI	Afiamalu	64.40	82	LR	LR	08 02 48.3			
	comp=Z,476nm,19.8s,baz=224,slow=32								
GUMO	Guam	65.72	25	IAMs_20	IAMs_20	08 09 16.3			
	comp=Z,927nm,19.0s								
CHAI	Chaiyaphum	66.95	340	P	P	07 39 48.7	+2.7		
	comp=Z,259nmcomp=Z,5.5nm,1.0s								
RAR	Rarotonga	67.01	96	LR	LR	08 06 42.8			
	comp=Z,60nm,18.3s,baz=239,slow=34								
PHIT	Phitsanulok	68.56	338	P	P	07 39 57.3	+1.2		
	comp=Z,293nmcomp=Z,28nm,1.0s								
QIZ	Qiongzhong	68.57	348	P	P	07 39 55.8	-0.4		
QIZ				PP	PP	07 42 25.5	-2.4		
QIZ				S	S	07 48 58.0	-0.2		
QIZ				pmax	pmax				
	comp=Z,16nm,1.6s								
QIZ				L	L				
	comp=Z,340nm,16.7s								
LOEI	Loei	68.67	339	P	P	07 40 02.2	+5.3		
	comp=Z,9.8nm,1.5s								
UTTA	Uttaradit	69.06	339	P	P	07 40 07.0	+7.7		
	comp=Z,3.8nm,1.0s								
CM04	Chiang Mai Arr	70.08	337	P	P	07 40 08.6	+3.0		
	comp=Z,17nm,1.4s								
CM05	Chiang Mai Arr	70.09	337	P	P	07 40 06.0	+0.3		
	comp=Z,98nmcomp=Z,12nm,1.0s								
CM09	Chiang Mai Arr	70.12	337	P	P	07 40 12.5	+6.7		
	comp=Z,14nm,1.1s								
CM02	Chiang Mai Arr	70.12	337	P	P	07 40 08.8	+3.0		
	comp=Z,104nmcomp=Z,13nm,1.1s								
CM15	Chiang Mai Arr	70.14	337	P	P	07 40 12.6	+6.6		
	comp=Z,12nm,0.9s								
CMAR	Chiang Mai Arr	70.14	337	P	P	07 40 05.2	-0.8		
	comp=Z,2.3nm,0.4s,baz=185,slow=5.8,SNR=17								
CMAR				LR	LR	08 12 36.7			
	comp=Z,241nm,18.4s,baz=214,slow=38								
CMAR	Chiang Mai Arr	70.14	337	*i* P	P	07 40 05.9	-0.1		
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
CMAR	Chiang Mai Arr	70.14	337	P	P	07 40 04.9	-1.1		
CMMT	Chiang Mai	70.48	337	P	P	07 40 06.9	-1.2		
	comp=Z,6.6nm,1.6s								
CHTO	Chiang Mai	70.48	337	P	P	07 40 08.0	-0.1		
CHTO				pmax	pmax				
	comp=Z,19nm,1.4s								
CHTO	Chiang Mai	70.48	337	P	P	07 40 08.0	-0.1		
CHTO				IAmb	IAmb	07 40 08.7			
	comp=Z,18nm,1.4s								
CHTO	Chiang Mai	70.48	337	P	P	07 40 07.9	-0.1		
	comp=Z,3.9nm,1.6s								
SLVN	Son La	71.81	343	P	P	07 40 15.6	-0.5		
SLVN				IAmb	IAmb	07 40 23.6			
	comp=Z,21nm,1.5s								
TPUB	Ta-pu	72.03	359	P	P	07 40 17.8	+0.4		
TBI	Tubuai	72.14	105	*e*LR	LR	08 02 23.6			
	comp=Z,324nm,33.2s,baz=233								
SSLB	Suanglung	72.52	360	P	P	07 40 18.9	-1.4		
BOSA	Boshof	72.77	246	P	P	07 40 23.4	+1.3		
	comp=Z,5.0nm,0.9s,baz=161,slow=6.7,SNR=4.3								
BOSA				PKKP	PKKPdf	07 59 50.2	+5.3		
	comp=Z,1.3nm,0.5s,baz=148,slow=2.9,SNR=5.4								
BOSA				LR	LR	08 06 37.3			
	comp=Z,852nm,18.6s,baz=147,slow=31								
HOPE	Hope Point	75.37	193	P	P	07 40 38.1	+1.4		
HOPE				pmax	pmax				
	comp=Z,199nm,1.6s								
HOPE	Hope Point	75.37	193	P	P	07 40 38.1	+1.4		
KMI	Kunming	75.72	343	⇑P	P	07 40 39.8	+0.6		
KMI				pP	pwP	07 40 46.3	-0.6		
KMI				sP	PcP	07 40 48.8	-3.1		
KMI				S	S	07 50 27.3	+6.8		
KMI				pmax	pmax				
	comp=Z,24nm,1.1s								
KMI				pmax	pmax				
	comp=Z,120nm,4.8s								
KMI				L	L				
	comp=Z,450nm,24.6s								
KMI				L	L				
	comp=Z,260nm,19.1s								
KMI				L	L				
	comp=Z,580nm,19.6s								
PPT2	Papeete2	76.25	101	*e*LR	LR	08 04 24.6			
	comp=Z,471nm,30.2s								
PPT	Papeete	76.27	101	LR	LR	08 09 05.3			
	comp=Z,143nm,18.8s,baz=202,slow=32								
SHL	Shillong	78.85	333	P	P	07 40 56.0	-0.7		
SHL				pmax	pmax				
	comp=Z,39nm,1.0s								
SHL	Shillong	78.85	333	P	P	07 40 56.0	-0.7		
WHN	Wuhan	79.50	354	⇓P	P	07 41 00.5	+0.6		
EFI	East Falkland	79.64	180	*i* P	P	07 40 59.4	-1.2		
EFI				pmax	pmax				
	comp=Z,41nm,1.1s								
LSZ	Lusaka	80.74	257	IAMs_20	IAMs_20	08 13 30.4			
	comp=Z,897nm,18.0s								
NJ2	Nanjing	80.78	358	*e*P	P	07 41 09.8	+3.1		
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2	Chengdu	81.17	345	*e*P	P	07 41 10.0	+1.1		
CD2				S	S	07 51 22.3	+3.9		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				L	L				
	comp=Z,730nm,22.6s								
CD2				L	L				
	comp=Z,630nm,22.1s								
CD2				L	L				
	comp=Z,640nm,15.7s								
XAN	Xi'an	83.48	350	⇑P	P	07 41 20.3	-0.7		
XAN				pP	PcP	07 41 26.8	+1.6		
XAN				pmax	pmax				
	comp=Z,15nm,1.5s								
XAN				L	L				
	comp=Z,430nm,22.8s								
XAN				L	L				
	comp=Z,270nm,21.7s								
XAN				L	L				
	comp=Z,570nm,22.8s								
XAN	Xi'an	83.48	350	P	P	07 41 21.6	+0.6		
XAN	Xi'an	83.48	350	P	P	07 41 21.6	+0.6		
KMBO	Kilima Mbogo	85.36	274	LR	LR	08 12 19.1			
	comp=Z,239nm,22.0s,baz=99,slow=30								
KMBO	Kilima Mbogo	85.36	274	*i* P	P	07 41 31.6	+0.3		
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.5s								
LZH	Lanzhou	86.21	346	*e*P	P	07 41 35.5	+0.7		
LZH				sP	pwP	07 41 47.0	+4.4		
LZH				pmax	pmax				
	comp=Z,18nm,1.1s								
KSAR	Wonju Array Be	86.31	5	P	P	07 41 35.5	+0.5		
KSAR	Wonju Array Be	86.31	5	P	P	07 41 35.5	+0.5		
KSRS	Korea Array	86.33	5	P	P	07 41 36.0	+1.0		
	comp=Z,1.5nm,0.8s,baz=184,slow=5.4,SNR=7.8								
MAJO	Matsushiro	86.52	13	*i* P	P	07 41 34.6	-1.5		
MAJO				pmax	pmax				
	comp=Z,21nm,1.2s								
MAT	Matsushiro	86.52	13	P	P	07 41 36.0	-0.1		
MAT				S	S	07 52 12.8	+0.9		
MJAR	Matsushiro Arr	86.52	13	P	P	07 41 36.4	+0.3		
	comp=Z,14nm,1.2s,baz=193,slow=7.0,SNR=11								
MJAR				LR	LR	08 19 57.3			
	comp=Z,271nm,19.4s,baz=155,slow=36								
MJAR	Matsushiro Arr	86.52	13	P	P	07 41 36.5	+0.3		
MJAR				pmax	pmax				
	comp=Z,19nm,1.4s								
MJAR	Matsushiro Arr	86.52	13	P	P	07 41 36.5	+0.3		
MJAR				IAmb	IAmb	07 41 39.2			
	comp=Z,19nm,1.4s								
TAOE	Nuku Hiva Isla	88.83	102	*e*LR	LR	08 10 12.7			
	comp=Z,348nm,28.8s								
BJI	Beijing	88.84	356	P	P	07 41 48.0	+0.9		
BJI				pmax	pmax				
	comp=Z,7.0nm,1.1s								
HHC	Hu-ho-hao-te	89.95	352	*e*P	P	07 41 53.5	+1.0		
HHC				sP	pwP	07 42 06.0	+5.8		
HHC				S	S	07 52 48.3	+3.8		
HHC				SS	SS	07 58 47.3	+3.7		
HHC				pmax	pmax				
	comp=Z,14nm,0.9s								
HHC				pmax	pmax				
	comp=Z,120nm,5.3s								
HHC				L	L				
	comp=Z,210nm,20.6s								
HHC				L	L				
	comp=Z,230nm,21.6s								
HHC				L	L				
	comp=Z,250nm,18.8s								
PLCA	Paso Flores	89.96	171	P	P	07 41 53.3	+0.4		
	comp=Z,7.6nm,0.9s,baz=177,slow=4.5,SNR=12								
PLCA				LR	LR	08 21 46.9			
	comp=Z,360nm,18.3s,baz=176,slow=35								
GTA	Gaotai	90.15	343	⇑P	P	07 41 53.0	-0.5		
GTA				pP	sP	07 41 59.3	+1.6		
GTA				sP	pwP	07 42 02.5	+1.2		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,74nm,8.2s								
GTA				L	L				
	comp=Z,260nm,20.0s								
GTA				L	L				
	comp=Z,1µm,23.6s								
GTA				L	L				
	comp=Z,380nm,21.5s								
CN2	Changchun	92.54	3	*e*P	P	07 42 04.5	+0.2		
CN2				S	S	07 53 06.3	-1.4		
CN2				pmax	pmax				
	comp=Z,10.0nm,2.0s								
CN2				pmax	pmax				
	comp=Z,100nm,3.0s								
CN2				L	L				
	comp=Z,300nm,20.0s								
CN2				L	L				
	comp=Z,300nm,20.0s								
CN2				L	L				
	comp=Z,300nm,20.0s								
NIL	Nilore	92.86	321	P	P	07 42 04.6	-1.5		
NIL				pmax	pmax				
	comp=Z,17nm,1.1s								
NIL	Nilore	92.86	321	P	P	07 42 04.6	-1.5		
USRK	Ussuriysk Ar.	93.33	8	P	P	07 42 07.4	-0.5		
	comp=Z,2.5nm,0.9s,baz=152,slow=6.5,SNR=2.2								
USRK				LR	LR	08 24 41.4			
	comp=Z,209nm,21.9s,baz=164,slow=36								
WMQ	Urumqi	97.12	336	*e*P	Pdif	07 42 26.3	+0.9		
WMQ				pP	pwP	07 42 31.8	-1.4		
WMQ				pmax	pmax				
	comp=Z,12nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,130nm,3.6s								
WMQ				L	L				
	comp=Z,1µm,21.9s								
WMQ				L	L				
	comp=Z,600nm,24.0s								
WMQ				L	L				
	comp=Z,550nm,21.1s								
ULN	Ulaanbaatar	97.35	350	*i* P	P	07 42 25.8	-0.6		
ULN				pmax	pmax				
	comp=Z,2.0nm,1.2s								
SONM	Songino Array	97.39	350	P	P	07 42 25.1	-1.4		
	comp=Z,1.4nm,0.9s,baz=192,slow=2.9,SNR=5.3								
SONM				LR	LR	08 27 00.2			
	comp=Z,171nm,20.8s,baz=166,slow=36								
SONM	Songino Array	97.39	350	P	P	07 42 25.1	-1.4		
SONM				pmax	pmax				
	comp=Z,6.0nm,1.4s								
SONM	Songino Array	97.39	350	IAmb	IAmb	07 42 27.0			
	comp=Z,5.6nm,1.4s								
HIA	Hailar	97.96	359	*i* P	P	07 42 28.0	-0.9		
HIA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AAK	Ala-Archa	100.20	327	*i* P	Pdif	07 42 36.0	-3.3		
AAK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KIV	Kislovodsk	115.38	308	*i* PKIKP	PKPdf	07 47 34.0	-0.7		
KIV				pmax	pmax				
	comp=Z,16nm,1.0s								
ARU	Arti	117.38	326	*i* PKIKP	PKPdf	07 47 36.6	-1.4		
ARU						07 48 48.7			
ARU						07 54 48.6			
ARU				SP	SP	07 58 32.0	+0.1		
ARU				SS	SS	08 04 59.5	-0.8		
BELG	Belogornoye	118.89	318	*i* PKIKP	PKPdf	07 47 39.9	-1.1		
TORD	Torodi Ar. Bea	119.24	256	PKP	PKPdf	07 47 41.1	-1.8		
	comp=Z,2.5nm,0.8s,baz=91,slow=1.5,SNR=11								
BILL	Bilibino	121.49	18	⇑*i* PKIKP	PKiKP	07 47 46.1	+0.4		
BILL						07 54 53.0			
BILL				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BILL				MLR	MLR				
	comp=Z,187nm,21.0s								
SAML	Samuel	122.10	175	IAMs_20	IAMs_20	08 39 05.7			
	comp=Z,528nm,20.0s								
OBN	Obninsk	125.66	315	⇓*i* PKIKP	PKiKP	07 47 54.4	+0.1		
OBN				*e*		07 48 00.8			
OBN				PS	PS	07 59 52.0	+4.4		
OBN				SS	SS	08 06 48.0	+1.9		
OBN				pmax	pmax				
	comp=Z,7.0nm,0.5s								
OBN				MLR	MLR				
	comp=Z,194nm,20.0s								
ANM	Nome	126.66	31	IAMs_20	IAMs_20	08 39 08.4			
	comp=Z,619nm,20.0s								
OHAK	Old Harbor	127.04	43	P		07 47 56.2			
	baz=235								
KDAK	Kodiak Island	127.67	42	IAMs_20	IAMs_20	08 44 05.2			
	comp=Z,380nm,19.0s								
KLMR	Klimovskoe	127.71	322	*e*PKIKP	PKPdf	07 47 56.9	-0.8		
KLMR				pmax	pmax				
	comp=Z,19nm,1.5s								
KLMR	Klimovskoe	127.71	322	*e*PKPdf	PKPdf	07 47 56.9	-0.8		
KLMR				AMP		07 48 13.1			
	comp=Z,19nm,1.5s								
KLMR				LR	LR	08 35 49.6			
TTA	Tatalina	129.09	36	P		07 48 00.5			
	baz=237								
MNK	Minsk	129.48	311	*i* PKIKP	PKiKP	07 48 01.8	-0.2		
MNK				*i*		07 50 11.7			
MNK				*i* PPP	PPP	07 52 58.3			
MNK				*i*		07 55 15.7			
MNK				*i* SS	SS	08 07 35.5	+1.8		
MNK				*i* SSS	SSS	08 12 28.2			
MNK				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MNK				pmax	pmax				
	comp=N,17nm,0.9s								
MNK				pmax	pmax				
	comp=E,3.0nm,0.9s								
MNK				MLR	MLR				
	comp=E,47nm,23.0s								
MNK				MLR	MLR				
	comp=N,473nm,24.0s								
MNK				MLR	MLR				
	comp=Z,211nm,31.0s								
MNK	Minsk	129.48	311	*i* PKP	PKiKP	07 48 01.8	-0.2		
	comp=E,3.0nm,0.9s								
MNK				*i* PKP	PKiKP	07 48 01.8	-0.2		
	comp=N,17nm,0.9s								
MNK				*i* PKP	PKiKP	07 48 01.8	-0.2		
	comp=Z,8.0nm,0.7s,baz=122								
MNK				*i* PP	PP	07 50 11.8	-0.3		
MNK				*i* PKS	PKSdf	07 51 38.3	+0.9		
MNK				*i* SKP		07 51 38.9			
MNK				*i* PPP	PPP	07 52 58.4			
MNK				*i* SKS	SKSdf	07 55 15.8	+3.8		
MNK				*i* SKKS	SKKSdf	08 05 18.1	+0.2		
MNK				*i* SS	SS	08 07 35.5	+1.8		
MNK				*i* SSS	SSS	08 12 28.3			
MNK				*i* LQ	LQ	08 37 27.0			
MNK				*i* LR	LR	08 40 57.0			
MNK				*i* LRM	MLR	08 44 47.2			
	comp=E,47nm,22.9s								
MNK				*i* LRM	MLR	08 44 48.5			
	comp=N,473nm,24.2s								
MNK				*i* LRM	MLR	08 44 60.0			
	comp=Z,211nm,30.5s								
RDOG	Red Dog Mine	129.54	28	IAMs_20	IAMs_20	08 37 54.2			
	comp=Z,616nm,22.0s								
SUA	Susitna One	130.43	39	IAMs_20	IAMs_20	08 40 24.7			
	comp=Z,511nm,20.0s								
AQU	L'Aquila	131.06	291	IAMs_20	IAMs_20	08 53 27.5			
	comp=Z,338nm,20.0s								
PWL	Port Wells	131.14	41	IAMs_20	IAMs_20	08 37 42.8			
	comp=Z,551nm,21.0s								
PMR	Palmer	131.16	39	P		07 48 04.7			
	baz=241								
KNK	Knik Glacier	131.36	40	IAMs_20	IAMs_20	08 39 06.4			
	comp=Z,626nm,22.0s								
TRF	Thorofare Moun	131.59	37	P		07 48 05.5			
	baz=242								
BPAW	Bear Paw Mtn.	131.63	36	P		07 48 05.6			
	baz=242								
GLI	Glacier Island	131.68	41	IAMs_20	IAMs_20	08 39 00.1			
	comp=Z,598nm,22.0s								
GLI	Glacier Island	131.68	41	P		07 48 06.1			
	baz=242								
H21K	Melozitna Rive	131.69	34	P		07 48 06.1			
	baz=242								
HIN	Hinchinbrook I	131.71	42	IAMs_20	IAMs_20	08 38 47.9			
	comp=Z,574nm,22.0s								
I21K	Tanana	131.76	34	P		07 48 06.2			
	baz=242								
WAT1	Susitna Watana	131.99	38	P		07 48 06.3			
	baz=242								
SCM	Sheep Creek Mo	132.03	40	IAMs_20	IAMs_20	08 39 37.2			
	comp=Z,548nm,22.0s								
MLY	Manley	132.16	35	P		07 48 06.3			
	baz=243								
MLY	Manley	132.16	35	IAMs_20	IAMs_20	08 47 00.2			
	comp=Z,322nm,20.0s								
WAT6	Susitna Watana	132.21	39	P		07 48 06.4			
	baz=243								
MCK	McKinley	132.26	37	P		07 48 07.1			
	baz=243								
KLU	Klutina	132.47	41	IAMs_20	IAMs_20	08 39 37.9			
	comp=Z,523nm,22.0s								
NEA2	Nenana	132.60	36	P		07 48 07.2			
	baz=244								
NEA2	Nenana	132.60	36	IAMs_20	IAMs_20	08 44 26.8			
	comp=Z,467nm,20.0s								
M24K	Tolsona, Glenn	132.64	40	IAMs_20	IAMs_20	08 41 46.4			
	comp=Z,591nm,22.0s								
HMT	Hamilton	132.67	42	IAMs_20	IAMs_20	08 46 33.3			
	comp=

MESA	**MESA**	**133.63**	**43**	IAMs_20	IAMs_20	08 44 39.9			
	comp=Z,524nm,20.0s								
ISLE	**Juniper Island**	**133.64**	**43**	IAMs_20	IAMs_20	08 39 25.1			
	comp=Z,390nm,22.0s								
FINES	**FINESS Array B**	**133.65**	**319**	PKP	**PKPdf**	**07 48 08.6**	**-0.4**		
	comp=Z,2.7nm,0.9s,baz=84,slow=5.9,SNR=8.2								
MCARA	**McCarthy VSAT**	**133.67**	**41**	IAMs_20	IAMs_20	08 40 02.8			
	comp=Z,395nm,22.0s								
GRNC	**Granite Creek**	**133.96**	**43**	IAMs_20	IAMs_20	08 38 46.4			
	comp=Z,373nm,22.0s								
TABL	**Table Mountain**	**134.11**	**43**	IAMs_20	IAMs_20	08 44 45.5			
	comp=Z,436nm,20.0s								
BARN	**Barnard Glacie**	**134.14**	**42**	IAMs_20	IAMs_20	08 39 13.1			
	comp=Z,401nm,22.0s								
TOLK	**Toolik Lake Re**	**134.14**	**31**	IAMs_20	IAMs_20	08 40 57.2			
	comp=Z,500nm,22.0s								
CTGM	**Chitina Glacie**	**134.24**	**43**	IAMs_20	IAMs_20	08 44 23.9			
	comp=Z,300nm,20.0s								
GERES	**GERESS Array B**	**134.27**	**299**	PKP	**PKPdf**	**07 48 10.1**	**-0.6**		
	comp=Z,1.5nm,1.0s,baz=131,slow=5.5,SNR=3.9								
BCPM	**Bancas Point**	**134.59**	**44**	IAMs_20	IAMs_20	08 43 40.4			
	comp=Z,400nm,20.0s								
EDW2	**Edwards Air Fo**	**134.71**	**85**	P		07 48 11.4			
	baz=233								
ISA	**Isabella, Lake**	**134.87**	**84**	P		07 48 10.7			
	baz=233								
L27K	**Beaver Creek,**	**134.87**	**40**	P		07 48 11.3			
	baz=247								
L27K	**Beaver Creek,**	**134.87**	**40**	IAMs_20	IAMs_20	08 41 29.3			
	comp=Z,455nm,21.0s								
PFO	**Pinyon Flats O**	**134.95**	**88**	IAMs_20	IAMs_20	08 34 27.6			
	comp=Z,310nm,21.0s								
CMB	**Columbia Colle**	**135.00**	**80**	IAMs_20	IAMs_20	08 39 14.8			
	comp=Z,300nm,20.0s								
K27K	**Chicken**	**135.14**	**38**	P		07 48 11.9			
	baz=248								
CWC	**Cottonwood Cre**	**135.58**	**83**	P		07 48 12.9			
	baz=234								
GSC	**Goldstone, Bar**	**135.74**	**86**	P		07 48 13.7			
	baz=233								
EGAK	**Eagle**	**135.78**	**38**	IAMs_20	IAMs_20	08 41 19.2			
	comp=Z,543nm,22.0s								
CLL	**Collm**	**135.82**	**301**	*e*PP	PP	07 50 55.0	+2.2		
CLL				LmV		09 10 00.0			
	comp=Z,100nm,20.6s								
TUQ	**Turquoise Moun**	**136.40**	**86**	P		07 48 14.4			
	baz=233								
JIS	**Juneau Island**	**136.42**	**48**	IAMs_20	IAMs_20	08 45 53.1			
	comp=Z,343nm,20.0s								
NVAR	**Mina Array Bea**	**136.58**	**81**	PKhKP	PKPpre	07 48 09.1			
	comp=Z,0.4nm,0.8s,baz=188,slow=6.0,SNR=3.7								
NVAR				PKP	**PKiKP**	**07 48 16.4**	**-0.9**		
	comp=Z,1.5nm,0.8s,baz=216,slow=4.4,SNR=11								
WRAK	**Wrangell Islan**	**136.72**	**51**	IAMs_20	IAMs_20	08 46 36.4			
	comp=Z,412nm,18.0s								
ARCES	**ARCESS Array B**	**136.81**	**329**	PKhKP	PKPpre	07 48 10.9			
	comp=Z,4.4nm,1.3s,baz=79,slow=4.7,SNR=1.3								
ARCES				PKP	**PKPdf**	**07 48 14.3**	**-0.3**		
	comp=Z,4.0nm,1.1s,baz=72,slow=2.9,SNR=3.9								
TPNV	**Topopah Spring**	**137.07**	**84**	P		07 48 15.3			
	baz=235								
CART	**Cartagena**	**137.56**	**277**	IAMs_20	IAMs_20	08 46 57.1			
	comp=Z,276nm,18.0s								
EPYK	**Eagle Plains**	**138.03**	**36**	P		07 48 17.4			
	baz=254								
EPYK	**Eagle Plains**	**138.04**	**36**	IAMs_20	IAMs_20	08 44 51.6			
	comp=Z,487nm,21.0s								
WVOR	**Wild Horse Val**	**138.51**	**76**	IAMs_20	IAMs_20	08 43 02.4			
	comp=Z,300nm,21.0s								
INK	**Inuvik**	**139.69**	**34**	P		07 48 19.4			
	baz=259								
INK	**Inuvik**	**139.69**	**34**	PKP	**PKPdf**	**07 48 19.5**	**-0.4**		
	comp=Z,3.5nm,1.0s,baz=226,slow=3.7,SNR=5.6								
HAWA	**Hanford**	**139.85**	**70**	IAMs_20	IAMs_20	08 44 17.6			
	comp=Z,398nm,21.0s								
NOA	**NORSAR Array B**	**140.25**	**314**	PKP	**PKPdf**	**07 48 21.1**	**-0.2**		
	comp=Z,0.1nm,0.5s,baz=61,slow=5.1,SNR=4.0								
BMO	**Blue Mountains**	**140.53**	**73**	IAMs_20	IAMs_20	08 45 05.8			
	comp=Z,298nm,21.0s								
TXAR	**Lajitas Array**	**140.56**	**103**	PKhKP	PKPpre	07 48 13.4			
	comp=Z,0.8nm,0.8s,baz=202,slow=4.3,SNR=10								
TXAR				PKP	**PKPdf**	**07 48 23.1**	**+0.2**		
	comp=Z,1.1nm,0.7s,baz=193,slow=5.4,SNR=11								
ESDC	**Sonseca Array**	**140.65**	**277**	PKP	**PKPdf**	**07 48 23.5**	**+0.8**		
	comp=Z,0.8nm,0.8s,baz=132,slow=1.9,SNR=5.1								
MNTX	**Cornudas Mount**	**141.01**	**99**	P		07 48 22.6			
	baz=230								
DUG	**Dugway, Tooele**	**141.11**	**82**	P		07 48 22.2			
	baz=238								
HLID	**Hailey**	**141.76**	**76**	P		07 48 23.5			
	baz=242								
HLID	**Hailey**	**141.76**	**76**	IAMs_20	IAMs_20	08 49 42.5			
	comp=Z,308nm,19.0s								
PVAQ	**Vaqueiros**	**141.87**	**272**	*e*LR	LR	08 40 46.7			
	comp=Z,263nm,20.0s								
NEW	**Newport**	**142.13**	**68**	PKP	**PKPdf**	**07 48 24.7**	**-0.4**		
	comp=Z,0.5nm,0.5s,baz=74,slow=13,SNR=1.6								
MVCO	**Mesa Verde**	**142.31**	**89**	P		07 48 24.3			
	baz=235								
ANMO	**Albuquerque**	**142.33**	**94**	PKhKP	PKPpre	07 48 20.6			
	comp=Z,2.3nm,0.9s,baz=201,slow=5.9,SNR=8.2								
ANMO				PKP	**PKPdf**	**07 48 26.0**	**0.0**		
	comp=Z,2.4nm,0.8s,baz=175,slow=3.5,SNR=8.7								
PFVI	**Vila Bisbo**	**142.44**	**271**	*e*PKPdf	**PKPdf**	**07 48 18.9**	**-7.0**		
PMRV	**Marv??o**	**142.76**	**275**	*e*LR	LR	08 39 30.7			
	comp=Z,234nm,22.0s								
C36M	**Paulatuk**	**143.21**	**33**	IAMs_20	IAMs_20	08 49 53.0			
	comp=Z,318nm,20.0s								
MTE	**Manteigas**	**143.37**	**276**	*e*LR	LR	08 47 53.1			
	comp=Z,279nm,22.0s								
MVO	**Moncorvo**	**143.42**	**277**	*e*LR	LR	08 45 19.0			
	comp=Z,290nm,18.0s								
AHID	**Auburn Hatcher**	**143.51**	**80**	IAMs_20	IAMs_20	08 53 05.0			
	comp=Z,285nm,21.0s								
MSO	**Missoula**	**143.51**	**72**	P		07 48 26.7			
	baz=246								
MSO	**Missoula**	**143.51**	**72**	IAMs_20	IAMs_20	08 43 37.6			
	comp=Z,316nm,20.0s								
PBRG	**Braganca**	**143.55**	**279**	*e*PKPdf	PKPab	07 48 24.6	+0.3		
S22A	**4UR Ranch, Cre**	**143.71**	**90**	P		07 48 27.0			
	baz=236								
PMAFR	**Mafra**	**143.75**	**273**	*e*PKPdf	PKPab	07 48 20.0	-5.1		
JCT	**Junction City**	**143.80**	**105**	P		07 48 26.7			
	baz=227								
PVRL	**Vila Real**	**143.93**	**277**	*e*PKPdf	**PKiKP**	**07 48 32.6**	**+0.6**		
POLO	**Lamas de Olo**	**144.03**	**277**	*e*PKPdf	**PKPab**	**07 48 26.1**	**-0.1**		
O20A	**White River Ci**	**144.06**	**85**	P		07 48 26.6			
	baz=239								
MSTX	**Muleshoe**	**144.15**	**98**	P		07 48 26.1			
	baz=232								
PCAB	**Cabril**	**144.34**	**278**	*e*PKPdf	PKPbc	07 48 28.1	+0.5		
FLWY	**Flagg Ranch**	**144.38**	**78**	IAMs_20	IAMs_20	08 53 30.0			
	comp=Z,231nm,18.0s								
WALA	**Waterton Lakes**	**144.40**	**68**	PKPdf	PKPbc	07 48 28.4	+0.7		
BOZ	**Bozeman (W)**	**144.45**	**75**	P		07 48 25.8			
	baz=245,SNR=42								
BW06	**Boulder Array**	**144.51**	**80**	P		07 48 26.1			
	baz=242								
BW06	**Boulder Array**	**144.51**	**80**	IAMs_20	IAMs_20	08 48 13.5			
	comp=Z,340nm,21.0s								
PDAR	**Pinedale Array**	**144.51**	**80**	PKP	**PKPab**	**07 48 27.4**	**-0.7**		
	comp=Z,5.5nm,1.0s,baz=192,slow=4.5,SNR=32								
SDCO	**Great Sand Dun**	**144.58**	**91**	P		07 48 28.4			
	baz=236								
H17A	**Grant Village**	**144.60**	**77**	P		07 48 28.8			
	baz=244,SNR=11								
PGAV	**Gavieira, Arco**	**144.63**	**278**	*e*PKPdf	**PKPab**	**07 48 24.7**	**-3.7**		
PGAV	**Gavieira, Arco**	**144.63**	**278**	*e*LR	LR	08 45 36.4			
	comp=Z,230nm,16.0s								
NOR	**Nord**	**144.79**	**350**	*i* P	**PKPab**	**07 48 27.7**	**-0.2**		
NOR				IAmb	IAmb	07 48 29.3			
	comp=Z,34nm,1.3s								
NOR	**Nord**	**144.79**	**350**	*i* PKIKP	**PKPab**	**07 48 27.6**	**-0.2**		
NOR				pmax	pmax				
	comp=Z,34nm,1.3s								
T25A	**Trinidad**	**144.96**	**92**	P		07 48 29.2			
	baz=235								
YNE	**Yellowstone No**	**145.23**	**77**			**PKPdf**	**07 48 31.3**	**+0.4**	
PMOZ	**Porto Moniz, M**	**145.31**	**258**	*e*PKPdf	**PKPbc**	**07 48 30.7**	**-0.3**		
ABTX	**Abilene, Hawle**	**145.32**	**103**	P		07 48 29.9			
	baz=229								
AMTX	**Amarillo**	**145.42**	**98**	P		07 48 30.1			
	baz=232								
AMTX	**Amarillo**	**145.42**	**98**			**PKPbc**	**07 48 30.9**	**-0.5**	
Q24A	**Divide**	**145.48**	**89**	P		07 48 31.3			
	baz=238								
ISCO	**Idaho Springs**	**145.62**	**88**	P		07 48 31.9			
	baz=238,SNR=23								
RLMT	**Red Lodge**	**145.76**	**77**	P		07 48 32.2			
	baz=245								
N23A	**Red Feather La**	**145.96**	**86**	P		07 48 32.8			
	baz=240,SNR=21								
WHTX	**Lake Whitney,**	**146.30**	**106**	P		07 48 33.3			
	baz=228								
K22A	**Casper**	**146.43**	**82**	P		07 48 33.6			
	baz=242								
K22A	**Casper**	**146.43**	**82**		**PKPbc**	**07 48 34.4**	**+0.1**		
EGMT	**Eagleton**	**146.59**	**72**	P		07 48 33.3			
	baz=249								
YKA	**Yellowknife Ar**	**146.88**	**45**	PKPbc	**PKPdf**	**07 48 33.0**	**+0.3**		
	comp=Z,12nm,0.9s,baz=265,slow=1.6,SNR=53								
KSCO	**Kaye Shedlock'**	**147.16**	**91**	P		07 48 34.8			
	baz=238,SNR=10.0								
WMOK	**Wichita Mounta**	**147.21**	**101**	P		07 48 35.5			
	baz=232								
EUNU	**Eureka**	**147.44**	**9**		**PKPbc**	**07 48 35.9**	**-0.1**		
DAG	**Danmarks Havn**	**148.13**	**344**	*i* P	**PKPbc**	**07 48 37.7**	**0.0**		
DAG				IAmb	IAmb	07 48 38.6			
	comp=Z,25nm,1.2s								
DAG	**Danmarks Havn**	**148.13**	**344**	*i* PKP2	**PKPbc**	**07 48 37.7**	**0.0**		
DAG				pmax	pmax				
	comp=Z,25nm,1.2s								
LAO	**LASA Array**	**148.33**	**76**	IAMs_20	IAMs_20	08 51 28.4			
	comp=Z,314nm,21.0s								
LAO	**LASA Array**	**148.33**	**76**	P		07 48 38.4			
	baz=248								
OGNE	**Ogallala**	**148.55**	**88**	P		07 48 38.6			
	baz=240								
OGNE	**Ogallala**	**148.55**	**88**	IAMs_20	IAMs_20	09 09 01.8			
	comp=Z,309nm,20.0s								
RSSD	**Black Hills**	**148.71**	**82**	P		07 48 39.3			
	baz=245								
CBKS	**Cedar Bluff**	**148.96**	**94**	P		07 48 40.5			
	baz=237								
CBKS	**Cedar Bluff**	**148.96**	**94**	IAMs_20	IAMs_20	09 10 41.5			
	comp=Z,270nm,22.0s								
KS20	**Mayfield South**	**149.50**	**98**	IAMs_20	IAMs_20	09 01 59.9			
	comp=Z,241nm,19.0s								
TUL1	**Leonard**	**149.86**	**102**	P		07 48 42.4			
	baz=232,SNR=14								
DBG	**Daneborg**	**149.91**	**340**	*i* P	**PKPbc**	**07 48 41.2**	**-1.1**		
DBG				IAmb	IAmb	07 48 45.1			
	comp=Z,23nm,1.5s								
DGMT	**Dagmar**	**150.24**	**74**	P		07 48 42.5			
	baz=252								
MIAR	**Mount Ida**	**150.42**	**106**	P		07 48 43.7			
	baz=230								
W39A	**Magazine**	**150.70**	**105**	P		07 48 45.2			
	baz=231								
KSU1	**Kansas State U**	**151.16**	**96**	IAMs_20	IAMs_20	09 11 25.9			
	comp=Z,325nm,20.0s								
BGNE	**Belgrade**	**151.33**	**90**	P		07 48 45.8			
	baz=241								
NEEM	**North Greenlan**	**151.36**	**357**	*i* P	**PKiKP**	**07 48 46.3**	**-0.2**		
NEEM				IAmb	IAmb	07 48 47.4			
	comp=Z,46nm,1.0s								
K31A	**O'Neill**	**151.51**	**88**		**PKPbc**	**07 48 46.8**	**-0.3**		
W41B	**Gary Mavity, V**	**151.66**	**107**	P		07 48 46.7			
	baz=230,SNR=7.8								
U40A	**Yellville**	**152.02**	**104**	IAMs_20	IAMs_20	09 07 17.4			
	comp=Z,441nm,22.0s								
U40A	**Yellville**	**152.02**	**104**	P		07 48 47.9			
	baz=232								
SUSD	**Miller**	**152.16**	**84**	P		07 48 48.5			
	baz=246								
FFC	**Flin Flon**	**152.94**	**61**	IAMs_20	IAMs_20	08 52 06.2			
	comp=Z,428nm,22.0s								
MDND	**Maddock**	**152.96**	**77**	P		07 48 49.6			
	baz=252								
OXF	**Oxford**	**153.00**	**111**	IAMs_20	IAMs_20	09 11 40.2			
	comp=Z,250nm,21.0s								
OXF	**Oxford**	**153.00**	**111**	P		07 48 49.7			
	baz=228								
ECSD	**EROS Data Cent**	**153.40**	**87**	P		07 48 50.3			
	baz=245								
ECSD	**EROS Data Cent**	**153.40**	**87**	IAMs_20	IAMs_20	08 47 29.0			
	comp=Z,297nm,20.0s								
P38A	**Dawn**	**153.46**	**98**		**PKPbc**	**07 48 49.7**	**-1.8**		
CCM	**Cathedral Cave**	**154.06**	**103**	IAMs_20	IAMs_20	09 11 54.6			
	comp=Z,346nm,21.0s								
PLAL	**Pickwick Lake**	**154.13**	**112**	IAMs_20	IAMs_20	09 13 33.1			
	comp=Z,294nm,21.0s								
WVT	**Waverly**	**155.03**	**110**	IAMs_20	IAMs_20	09 03 42.1			
	comp=Z,414nm,21.0s								
AGMN	**Agassiz Nation**	**155.49**	**78**	IAMs_20	IAMs_20	09 15 28.0			
	comp=Z,331nm,22.0s								
GOGA	**Godfrey**	**155.74**	**121**	IAMs_20	IAMs_20	09 07 34.4			
	comp=Z,369nm,20.0s								
GOGA	**Godfrey**	**155.74**	**121**	P		07 49 13.8			
	baz=222								
ULM	**Lac du Bonnet**	**155.95**	**73**	PKPab	**PKPab**	**07 49 13.5**	**-0.7**		
	comp=Z,1.0nm,0.3s,baz=264,slow=3.7,SNR=4.3								
HDIL	**Hedale**	**156.70**	**100**	IAMs_20	IAMs_20	09 11 16.6			
	comp=Z,382nm,20.0s								
JFWS	**Jewell Farm**	**157.23**	**94**	P		07 49 19.5			
	baz=243								
JFWS	**Jewell Farm**	**157.23**	**94**	IAMs_20	IAMs_20	09 09 44.5			
	comp=Z,418nm,22.0s								
WCI	**Wyandotte Cave**	**157.30**	**108**	IAMs_20	IAMs_20	09 14 25.3			
	comp=Z,380nm,20.0s								
WCI	**Wyandotte Cave**	**157.30**	**108**	P		07 49 21.6			
	baz=232								
TZTN	**Tazewell**	**157.90**	**115**	P		07 49 24.2			
	baz=228								
KMSC	**Kings Mountain**	**158.21**	**121**	P		07 49 25.4			
	baz=223								
EYMN	**Ely**	**158.22**	**80**	IAMs_20	IAMs_20	08 55 37.3			
	comp=Z,406nm,22.0s								
EYMN	**Ely**	**158.22**	**80**	P		07 49 24.8			
	baz=255								
L44A	**Lake County Fo**	**158.42**	**97**	IAMs_20	IAMs_20	09 14 01.0			
	comp=Z,408nm,22.0s								
COWI	**Conover**	**159.21**	**87**	IAMs_20	IAMs_20	09 13 36.8			
	comp=Z,329nm,21.0s								
BLA	**Blacksburg**	**160.19**	**119**	P		07 49 30.2			
	baz=226								
P52A	**Corning**	**160.74**	**110**	P		07 49 34.7			
	baz=233								
L58A	**Harry Jones Me**	**166.00**	**114**	P		07 49 55.4			
	baz=234								
BINY	**Binghamton**	**166.01**	**113**	P		07 49 58.1			
	baz=235								
ALGO	**Algonquin Park**	**166.44**	**96**	P		07 49 58.9			
	baz=250								
MATQ	**Matagami**	**167.53**	**80**	P		07 50 04.9			
	baz=266								
LONY	**Lake Ozonia**	**168.15**	**106**	P		07 50 05.3			
	baz=242								
M64A	**Tiverton**	**168.34**	**125**	P		07 50 07.2			
	baz=225								
D55A	**Sainte-Anne-du**	**168.47**	**94**	P		07 50 05.5			
	baz=254								
G58A	**Ormstown**	**168.72**	**104**	P		07 50 08.8			
	baz=244								

*IDC **27** 07:31:55.4±2.4,5.95N×125.30E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/44,mbtmp3.5/3,MS3.3/1,Ms1 3.3/1, ms1mx2.8/34,Error ellipse: s-maj=26.9km s-min=26.9km az=65.0*

*MAN **27** 07:32:00.9,6.64N×126.88E,h19km,MS3.2*

ISC 27 07:31:57.9±3.1,**6.54N**±0.07×**127.0E**±0.1,**h15**km±18km, **n11**,σ1s**58**/14,**mb3.5**/3,**2D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.82**	**299**	*e*P		**Pb**	**07 32 14.1**	**+0.2**
MATI				*e*S		**Sg**	**07 32 23.9**	**-0.7**
DDMP	**Don Marcelino,**	**1.33**	**251**	*e*P		**Pn**	**07 32 23.3**	**+1.3**
DDMP				*e*S		**Sb**	**07 32 40.7**	**+1.3**
KCP	**Kidapawan**	**1.93**	**284**	*e*P		**Pn**	**07 32 31.5**	**+1.2**
BUKP	**Musuan**	**2.32**	**305**	*e*P		**Pn**	**07 32 36.6**	**+1.0**
BUKP				*e*S		**Sb**	**07 33 04.7**	**-3.2**
SKMP	**Bagumbayan, Su**	**2.42**	**270**	*e*P		**Pn**	**07 32 37.2**	**+0.3**
BUTP	**Butuan**	**2.76**	**331**	*e*P		**Pn**	**07 32 43.0**	**+1.4**
BUTP				*e*S		**Sb**	**07 33 21.5**	**+0.9**
CGP	**Cagayan de Oro**	**2.95**	**310**	*e*P		**Pn**	**07 32 45.8**	**+1.5**
CGP				*e*S		**Sn**	**07 33 19.5**	**0.0**
WRA	**Warramunga Arr**	**27.30**	**165**	P		**P**	**07 37 40.8**	**-1.3**
	0.3nm,0.6s,baz=340,slow=11,SNR=10							
ASAR	**Alice Springs**	**30.78**	**168**	P		**P**	**07 38 12.0**	**-1.0**
	0.3nm,0.3s,baz=340,slow=7.0,SNR=8.4							
ASAJ	**Asahikawa**	**39.85**	**18**	LR		LR	07 57 33.6	
	comp=Z,36nm,20.4s,baz=94,slow=38							
MKAR	**Makanchi Array**	**55.42**	**324**	P		P	07 41 28.0	-3.8
	0.2nm,0.4s,baz=114,slow=7.8,SNR=4.9							

*ANF **27** 07:37:47.3±0.8,43.71N×128.19W,h5km,ML3.1/2,Error ellipse: s-maj=9.2km s-min=4.0km az=40.0,Hypocentre not reviewed by the ISC*

*IDC **27** 07:37:48.3±2.4,43.92N×128.08W,h0km,mb3.0/3, mb1 3.5/6,mb1mx3.4/48,mbtmp3.3/6,ML3.3/3,MS3.1/9, Ms1 3.1/9,ms1mx3.0/28,Error ellipse: s-maj=45.3km s-min=18.0km az=52.0*

*NEIC **27** 07:37:49.7±1.6,43.83N±0.06×128.1W±0.2,h10km±1km, ML3.1/22,Error ellipse: s-maj=20.6km s-min=6.0km az=243.0*

ISC 27 07:37:48.8±1.5,**43.85N**±0.09×**128.3W**±0.1,**h10**km,**n40**, σ0s**85**/28,**mb3.0**/3,**MS3.0**/3,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.02**	**107**	Pn		**Pn**	**07 38 34.5**	**-2.2**
KEBM				IAML			07 39 21.0	
	comp=E,84nm,2.3s							
I02D	**Swisshome**	**3.19**	**84**	P			07 38 37.5	
	baz=266							
J01E	**Myrtle Point**	**3.22**	**101**	P			07 38 37.8	
	baz=284,SNR=15							
J01E				S			07 39 16.4	
	baz=284							
KBO	**Bosley Butte**	**3.37**	**118**	Pn		**Pn**	**07 38 40.2**	**-1.4**
KBO				IAML			07 39 37.0	
	comp=E,64nm,3.0s							
KBO				IAML			07 40 03.0	
	comp=N,64nm,2.4s							
K02D	**Willamette Mer**	**3.54**	**107**	P			07 38 41.8	
	baz=291,SNR=32							
K02D				S			07 39 24.1	
	baz=291							
I03D	**Drain, OR**	**3.56**	**91**	P			07 38 42.6	
	baz=274,SNR=59							
I03D				S			07 39 25.9	
	baz=274							
COR	**Corvallis**	**3.64**	**77**	Pn		**Pn**	**07 38 44.5**	**-0.7**
COR				IAML			07 39 33.2	
	comp=N,39nm,3.0s							
COR				IAML			07 40 17.2	
	comp=N,40nm,2.9s							
L02E	**Cave Junction**	**3.81**	**115**	S			07 39 30.3	
	baz=298							
G03D	**McMinnville, O**	**3.82**	**67**	P			07 38 46.9	
	baz=250,SNR=29							
G03D				S			07 39 33.0	
	baz=250							
HUMO	**Hull Mountain**	**4.06**	**106**			**Pn**	**07 38 50.4**	**-0.7**
E03A	**Lebam**	**4.28**	**49**	Pn		**Pn**	**07 38 53.0**	**-0.9**
E03A				IAML			07 40 31.9	
	comp=N,25nm,2.2s							
H04A	**Detroit Lake**	**4.44**	**77**	Pn		**Pn**	**07 38 55.9**	**-0.3**
H04A				IAML			07 39 29.3	
	comp=E,16nm,2.3s							
H04A				IAML			07 39 56.9	
	comp=N,14nm,0.4s							
KHMM	**Horse Mountain**	**4.48**	**130**	Pn		**Pn**	**07 38 56.6**	**-0.3**
YBH	**Yreka Blue Hor**	**4.59**	**115**	Pn		**Pn**	**07 38 58.8**	**+0.3**
	comp=N,0.5nm,0.3s,baz=310,slow=12,SNR=19							
YBH				Sn		**Sn**	**07 39 52.4**	**+0.5**
	comp=N,0.0nm,0.3s,baz=157,slow=18,SNR=1.2							
YBH	**Yreka Blue Hor**	**4.59**	**115**	Pn		**Pn**	**07 38 58.7**	**+0.3**
NLWA	**Neilton Lookou**	**4.70**	**39**	Pn		**Pn**	**07 38 58.2**	**-1.5**
NLWA				IAML			07 40 42.2	
	comp=N,17nm,2.7s							
NLWA				IAML			07 42 01.9	
	comp=N,15nm,3.5s							
E04D	**Cinebar**	**4.85**	**54**	P			07 39 01.4	
	baz=237,SNR=5.7							
D03D	**Eldon**	**5.17**	**43**	P			07 39 05.6	
	baz=226							
PINE	**Pine Mountain**	**5.29**	**88**	Pn		**Pn**	**07 39 08.3**	**+0.2**
PINE				IAML			07 40 07.4	
	comp=N,14nm,3.5s							
LON	**Longmire**	**5.39**	**55**			**Pn**	**07 39 09.2**	**-0.2**
LON				IAML			07 40 38.1	
	comp=N,6.9nm,3.9s							
K05A	**Summer Lake**	**5.49**	**99**	Pn		**Pn**	**07 39 11.2**	**+0.4**
D05A	**Enumclaw**	**5.53**	**51**			**Pn**	**07 39 11.6**	**+0.5**
PGC	**Sidney**	**5.85**	**33**	Pn		**Pn**	**07 39 15.4**	**-0.1**
HOPS	**Hopland Field**	**6.22**	**139**	Pn		**Pn**	**07 39 21.6**	**+0.9**
F07A	**Phinny Hill Vi**	**6.26**	**68**			**Pn**	**07 39 21.5**	**+0.3**
I07A	**Izee**	**6.32**	**85**	Pn		**Pn**	**07 39 21.7**	**-0.5**
LTY	**Liberty**	**6.32**	**55**			**Pn**	**07 39 22.5**	**+0.4**
HAWA	**Hanford**	**6.67**	**65**	Pn		**Pn**	**07 39 27.4**	**+0.5**
G08A	**Pilot Rock**	**6.79**	**74**	Pn		**Pn**	**07 39 29.3**	**+0.6**
BBB	**Bella Bella**	**8.35**	**1**	Pn		**Pn**	**07 39 50.7**	**+1.0**
	comp=N,0.2nm,0.3s,baz=159,slow=6.6,SNR=6.0							
NEW	**Newport**	**8.91**	**56**	Pn		**Pn**	**07 39 57.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=264,slow=15,SNR=2.6							
NEW				LR		LR	07 43 20.9	
	comp=N,80nm,19.0s,baz=276,slow=38							
NVAR	**Mina Array Bea**

CLL				*e*Pg	Pb	07 44 53.0	-0.6
CLL				*e*Sg	Sb	07 45 19.0	+0.6
	comp=Z,7.0nm,0.8s						
MORC	**Moravsky Berou**	**1.95**	**151**	*e*PN	Pn	07 44 50.3	-1.5
MORC				*e*SG	Sb	07 45 18.6	0.0
VRAC	**Vranov**	**2.21**	**171**	*e*PN	Pn	07 44 54.2	-1.1
VRAC				*e*SG	Sg	07 45 27.4	-0.9
KRUC	**Moravsky**	**2.44**	**175**	*e*SG	Sg	07 45 34.8	-0.9
NKC	**Novy Kostel**	**2.63**	**243**	*e*SG	Sg	07 45 42.1	+0.3
	comp=Z,17nm,0.3s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	Pg	07 45 07.7	-0.9
OJC				*e*Sg	Sg	07 45 42.7	-0.5
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	Pn	07 45 04.7	+0.4
KHC				*e*PG	Pb	07 45 10.4	+1.1
KHC				*e*SN	Sn	07 45 38.4	-1.0
KHC				*e*SG	Sg	07 45 47.0	-2.2
	comp=Z,3.6nm,0.5s						
CKRC	**Cesky Krumlov**	**2.91**	**204**	*e*SG	Sg	07 45 48.8	-2.0
	comp=Z,3.7nm,0.4s						

IDC 27 07:54:56.5±3.4, 11°.75S×162°.84E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/34, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=76.3km s-min=40.1km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.66**	**309**	Pn	Pn	07 55 54.1	-0.3
	27nm,0.3s,baz=143,slow=8.7,SNR=4.3						
HNR				Sn	Sn	07 56 30.7	-7.6
	53nm,0.3s,baz=52,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	**28.57**	**250**	P	P	08 00 54.1	-0.4
	0.5nm,1.0s,baz=83,slow=9.0,SNR=1.3						
ASAR	**Alice Springs**	**29.94**	**243**	P	P	08 01 07.0	+0.4
	0.5nm,0.6s,baz=64,slow=10,SNR=5.4						
SONM	**Songino Array**	**77.57**	**325**	P	P	08 06 54.7	+0.2
	0.5nm,0.4s,baz=128,slow=6.1,SNR=2.0						
MKAR	**Makanchi Array**	**92.09**	**317**	P	P	08 08 07.6	-0.2
	0.6nm,0.5s,baz=95,slow=6.4,SNR=5.9						

*JMA **27** 07:57:14.7±0.1, 36°.86N×140°.96E, h55km±1km, M3.8*
JMA Felt II J1.
*IDC **27** 07:57:14.6±1.8, 36°.84N×141°.02E, h53km±18km, mb3.5/12, mb1 3.7/16, mb1mx3.6/42, mbtmp3.8/16, ML3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/27, Error ellipse: s-maj=15.2km s-min=11.5km az=88.0*

ISC 27 07:57:14.5±0.9, 36°.85N±0°.05×141°.02E±0°.07, h52km±7km, n39, σ0°.94/42, mb3.7/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.30**	**325**	P	**Pn**	**07 57 23.9**	**-0.1**
ONAJ				S	**Sn**	**07 57 30.3**	**-0.4**
JHO	**Hitachi**	**0.43**	**236**	P	**Pn**	**07 57 25.2**	**0.0**
JHO				S	**Sn**	**07 57 32.4**	**-0.4**
JFFD	**Fukushimafurud**	**0.44**	**303**	P	**Pn**	**07 57 25.2**	**0.0**
JFFD				S	**Sn**	**07 57 32.3**	**-0.6**
JFK	**Kawauchi**	**0.53**	**347**	P	**Pn**	**07 57 26.1**	**-0.2**
JFK				S	**Sn**	**07 57 34.2**	**-0.5**
JFT	**Otama**	**0.86**	**321**	P	**Pn**	**07 57 30.6**	**+0.1**
JFT				S	**Sn**	**07 57 42.0**	**-0.1**
JSB	**Shiboa**	**0.89**	**278**	P	**Pn**	**07 57 30.7**	**-0.1**
JSB				*e*S	**Sn**	**07 57 42.3**	**-0.5**
JMM	**Marumori**	**1.03**	**350**	P	**Pn**	**07 57 32.5**	**-0.2**
JMM				*e*S	**Sn**	**07 57 45.8**	**-0.2**
JFY	**Yanaizu**	**1.19**	**298**	P	**Pn**	**07 57 34.5**	**-0.3**
JAG	**Ashikaga**	**1.33**	**252**	P	**Pn**	**07 57 36.4**	**-0.3**
JAG				*e*S	**Sn**	**07 57 52.2**	**-1.2**
JKT	**Katashina**	**1.42**	**267**	P	**Pn**	**07 57 38.2**	**+0.1**
JKT				S	**Sn**	**07 57 55.3**	**-0.5**
MJAR	**Matsushiro Arr**	**2.28**	**263**	P	**Pn**	**07 57 49.9**	**+0.1**
	3.2nm,0.3s,baz=54,slow=14,SNR=91						
MJAR				S	**Sn**	**07 58 17.9**	**+1.3**
	3.1nm,0.3s,baz=227,slow=55,SNR=3.5						
MAT	**Matsushiro**	**2.28**	**263**	P	**Pn**	**07 57 50.4**	**+0.6**
MAT				S	**Sn**	**07 58 17.5**	**+0.8**
JHJ	**Hachijo jima 2**	**3.86**	**196**	P	**Pn**	**07 58 11.9**	**+0.6**
	29nm,0.3s,baz=313,slow=22,SNR=26						
JHJ				S	**Sn**	**07 58 54.9**	**-0.6**
	60nm,0.3s,baz=65,slow=23,SNR=7.4						
ASAJ	**Asahikawa**	**7.35**	**9**	P	**Pn**	**07 58 57.8**	**-1.4**
	1.2nm,0.3s,baz=115,slow=30,SNR=2.6						
ASAJ				S	**Sn**	**08 00 22.1**	**+0.8**
	1.2nm,0.3s,baz=206,slow=24,SNR=1.7						
JNU	**Nakatsue**	**9.12**	**249**	LR	LR	08 02 12.8	
	comp=Z,320nm,21.7s,baz=235,slow=33						
USRK	**Ussuriysk Ar.**	**10.05**	**320**	P	**Pn**	**07 59 40.3**	**+4.2**
	baz=134,slow=13,SNR=8.3						
KSRS	**Korea Array**	**10.47**	**277**	P	**Pn**	**07 59 41.1**	**-0.8**
	0.2nm,0.3s,baz=88,slow=14,SNR=1.4						
SONM	**Songino Array**	**27.62**	**304**	P	**P**	**08 02 57.5**	**+0.4**
	1.8nm,0.6s,baz=106,slow=14,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.33**	**120**	T	T	08 32 59.6	
	baz=313,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy**	**28.34**	**120**	T	T	08 33 10.5	
	baz=313,slow=75,SNR=93						
H11N3	**WAKE ISLAND Hy**	**28.35**	**120**	T	T	08 33 01.0	
	baz=313,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy**	**29.03**	**122**	T	T	08 33 55.8	
	baz=314,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.03**	**122**	T	T	08 33 54.6	
	baz=314,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.04**	**122**	T	T	08 33 57.9	
	baz=314,slow=75,SNR=66						
ZALV	**Zalesovo Beam**	**41.80**	**313**	P	**P**	**08 04 58.0**	**-0.8**
	2.0nm,0.6s,baz=104,slow=9.8,SNR=5.0						
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**08 05 15.7**	**-0.7**
	0.8nm,0.5s,baz=84,slow=9.6,SNR=10.0						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**08 06 01.4**	**-0.4**
	0.5nm,0.7s,baz=272,slow=6.2,SNR=5.9						
WRA	**Warramunga Arr**	**56.84**	**188**	P	**P**	**08 06 53.2**	**-0.6**
	1.1nm,0.9s,baz=2.1,slow=7.3,SNR=9.2						
YKA	**Yellowknife Ar**	**64.12**	**30**	P	**P**	**08 07 42.8**	**-0.2**
	0.1nm,0.3s,baz=295,slow=6.1,SNR=1.5						
FINES	**FINESS Array B**	**68.83**	**332**	P	**P**	**08 08 12.1**	**-0.9**
	0.9nm,0.7s,baz=60,slow=8.2,SNR=2.7						
NOA	**NORSAR Array B**	**74.23**	**337**	P	**P**	**08 08 44.8**	**-0.8**
	0.2nm,0.5s,baz=39,slow=5.7,SNR=2.4						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**08 08 44.8**	**-1.0**
	0.6nm,0.4s,baz=49,slow=5.5,SNR=2.2						
NVAR	**Mina Array Bea**	**75.35**	**53**	P	**P**	**08 08 53.8**	**+1.0**
	0.2nm,0.4s,baz=292,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**78.02**	**45**	P	**P**	**08 09 08.6**	**+0.8**
	0.3nm,0.6s,baz=259,slow=1.5,SNR=4.0						
TXAR	**Lajitas Array**	**90.48**	**52**	P	**P**	**08 10 12.0**	**+1.0**
	0.2nm,0.6s,baz=318,slow=3.4,SNR=4.7						
LPAZ	**La Paz**	**147.06**	**59**	PKPbc	**PKPbc**	**08 16 53.0**	**+0.2**
	0.8nm,0.7s,baz=327,slow=4.5,SNR=5.7						
H03N2	**Juan Fernandez**	**147.32**	**96**	T	T	11 01 50.9	
	baz=292,slow=76,SNR=4.4						
H03N3	**Juan Fernandez**	**147.33**	**96**	T	T	11 01 56.0	
	baz=292,slow=76,SNR=4.6						
H03N1	**Juan Fernandez**	**147.34**	**96**	T	T	11 01 52.8	
	baz=292,slow=76,SNR=5.7						

*IGIL **27** 08:01:24.2, 36°.95N×11°.72W, h7km, ML2.1*
*MDD **27** 08:01:25.6±1.1, 37°.12N×11°.67W, h30km, mb4.1/4, Error ellipse: s-maj=8.1km s-min=7.1km az=177.0, PRXIMO*
*INMG **27** 08:01:25.1±1.2, 36°.95N×11°.71W, h10km, ML2.1, Error ellipse: s-maj=5.8km s-min=4.4km az=60.0*
*CNRM **27** 08:01:28.3, 36°.55N×11°.41W, h57km, ml3.3, Hypocentre not reviewed by the ISC*

ISC 27 08:01:24.1±1.5, 37°.07N±0°.06×11°.60W±0°.06, h10km, n59, σ1§17/108, 2C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.22**	**87**	⇑P	**Pn**	**08 02 00.8**	**-0.2**
	1.8nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 02 27.8**	**-0.7**
	18nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.22**	**87**	⇑*e*Pn	**Pn**	**08 02 00.8**	**-0.2**
PFVI				*e*Sn	**Sn**	**08 02 27.4**	**-1.1**
PFVI				A	A	08 02 30.4	
	7.2nm,0.4s						
PFVI	**Vila Bisbo**	**2.22**	**87**	P		08 02 01.6	
PFVI				S		08 02 28.4	
PTEO	**Sao Teotonio**	**2.34**	**77**	P	**Pn**	**08 02 03.1**	**+0.4**
PTEO				S	**Sn**	**08 02 32.0**	**+0.5**
	2.7nm,0.2s						
PTEO	**Sao Teotonio**	**2.34**	**77**	*e*Pn	**Pn**	**08 02 03.1**	**+0.4**
PTEO				*e*Sn	**Sn**	**08 02 32.0**	**+0.5**
PTEO				A	A	08 02 35.3	
	5.3nm,0.2s						
MORF	**Marmelete**	**2.37**	**83**	*e*P	**Pn**	**08 02 03.1**	**0.0**
MORF				*e*S	**Sn**	**08 02 31.7**	**-0.5**
MORF				IAML		08 02 33.2	
	comp=N,12nm,0.1s						
MORF	**Marmelete**	**2.37**	**83**	P	**Pn**	**08 02 03.3**	**+0.2**
MORF				S	**Sn**	**08 02 32.3**	**+0.1**
	comp=N,9.6nm,0.1s						
MORF	**Marmelete**	**2.37**	**83**	*e*Pn	**Pn**	**08 02 03.3**	**+0.2**
MORF				*e*Sn	**Sn**	**08 02 32.3**	**+0.1**
MORF				A	A	08 02 37.9	
	comp=N,9.6nm,0.1s						
PMAFR	**Mafra**	**2.63**	**43**	P	**Pn**	**08 02 07.4**	**+0.8**
	comp=N,2.9nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**08 02 40.6**	**+2.0**
	comp=N,16nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.63**	**43**	*e*Pn	**Pn**	**08 02 07.4**	**+0.8**
PMAFR				*e*Sn	**Sn**	**08 02 40.4**	**+1.8**
PMAFR				A	A	08 02 41.4	
	comp=N,20nm,0.7s						
PNCL	**Nicolau / Gran**	**2.66**	**66**	P	**Pn**	**08 02 07.7**	**+0.8**
PNCL				S	**Sn**	**08 02 40.3**	**+1.1**
	comp=N,4.9nm,0.1s						
PNCL	**Nicolau / Gran**	**2.66**	**66**	*e*Pn	**Pn**	**08 02 07.7**	**+0.8**
PNCL				*e*Sn	**Sn**	**08 02 40.3**	**+1.1**
PNCL				A	A	08 02 42.4	
	comp=N,4.9nm,0.1s						
MESJ	**Messejana**	**2.80**	**73**	*e*S	**Sn**	**08 02 42.3**	**-0.5**
MESJ				IAML		08 02 45.2	
	comp=E,6.0nm,0.1s						
MESJ	**Messejana**	**2.80**	**73**	P	**Pn**	**08 02 10.3**	**+1.4**
MESJ				S	**Sn**	**08 02 42.8**	**0.0**
	comp=E,4.0nm,0.4s						
MESJ	**Messejana**	**2.80**	**73**	*e*Pn	**Pn**	**08 02 10.3**	**+1.4**
MESJ				*e*Sn	**Sn**	**08 02 42.8**	**0.0**
MESJ				A	A	08 02 48.4	
	comp=E,4.0nm,0.4s						
PCVE	**Castro Verde**	**2.90**	**78**	P	**Pn**	**08 02 11.3**	**+1.0**
PCVE				S	**Sn**	**08 02 44.6**	**-0.5**
	comp=E,2.8nm,0.2s						
PCVE	**Castro Verde**	**2.90**	**78**	*e*Pn	**Pn**	**08 02 11.3**	**+1.0**
PCVE				*e*Sn	**Sn**	**08 02 44.6**	**-0.5**
PCVE				A	A	08 02 49.6	
	comp=E,2.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.94**	**85**	P	**Pn**	**08 02 11.8**	**+0.9**
PBDV				S	**Sn**	**08 02 46.1**	**-0.1**
	comp=E,3.5nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.94**	**85**	*e*Pn	**Pn**	**08 02 11.8**	**+0.9**
PBDV				*e*Sn	**Sn**	**08 02 46.1**	**-0.1**
PBDV				A	A	08 02 52.1	
	comp=E,3.5nm,0.2s						
PVAQ	**Vaqueiros**	**3.12**	**83**	P	**Pn**	**08 02 13.8**	**+0.5**
PVAQ				S	**Sn**	**08 02 50.9**	**+0.2**
	comp=E,5.3nm,0.1s						
PVAQ	**Vaqueiros**	**3.12**	**83**	*e*Pn	**Pn**	**08 02 13.8**	**+0.5**
PVAQ				*e*Sn	**Sn**	**08 02 50.9**	**+0.2**
PVAQ				A	A	08 02 53.3	
	comp=E,5.3nm,0.1s						
PVAQ	**Vaqueiros**	**3.12**	**83**	P		08 02 14.0	
PVAQ				S		08 02 51.3	
PBEJ	**Beja**	**3.12**	**71**	S	**Sn**	**08 02 50.3**	**-0.4**
	comp=E,2.3nm,0.5s						
PBEJ	**Beja**	**3.12**	**71**	*e*Sn	**Sn**	**08 02 50.3**	**-0.4**
PBEJ				A	A	08 02 53.0	
	comp=E,4.7nm,0.5s						
EVO	**Evora**	**3.20**	**62**	P	**Pn**	**08 02 15.7**	**+1.3**
EVO				S	**Sn**	**08 02 52.5**	**-0.1**
	comp=E,6.0nm,0.1s						
EVO	**Evora**	**3.20**	**62**	*e*Pn	**Pn**	**08 02 15.7**	**+1.3**
EVO				*e*Sn	**Sn**	**08 02 52.5**	**-0.1**
EVO				A	A	08 03 03.7	
	comp=E,6.0nm,0.1s						
EGRO	**El Granado**	**3.32**	**81**	P	**Pn**	**08 02 16.4**	**+0.4**
	comp=E,0.3nm,0.1s,SNR=9.6						
EGRO				S	**Sn**	**08 02 54.9**	**-0.6**
	comp=E,2.3nm,0.1s,SNR=5.5						
PMTG	**Montargil**	**3.33**	**52**	P	**Pn**	**08 02 17.0**	**+0.7**
PMTG				S	**Sn**	**08 02 55.8**	**-0.1**
	comp=E,2.3nm,0.3s						
PMTG	**Montargil**	**3.33**	**52**	*e*Pn	**Pn**	**08 02 17.0**	**+0.7**
PMTG				*e*Sn	**Sn**	**08 02 55.8**	**-0.1**
PMTG				A	A	08 02 58.3	
	comp=E,2.3nm,0.3s						
PESTR	**Estremoz**	**3.65**	**59**	*e*Pn	**Pn**	**08 02 21.2**	**+0.6**
PESTR				*e*Sn	**Sn**	**08 03 03.8**	**+0.1**
PESTR				A	A	08 03 21.3	
	comp=E,2.1nm,0.6s						
PESTR	**Estremoz**	**3.65**	**59**	P		08 02 21.9	
PESTR				S		08 03 08.4	
PBAR	**Barrancos**	**3.79**	**72**	P	**Pn**	**08 02 23.8**	**+1.3**
PBAR				S	**Sn**	**08 03 06.2**	**-1.0**
	comp=E,2.8nm,0.3s						
PBAR	**Barrancos**	**3.79**	**72**	*e*Pn	**Pn**	**08 02 23.8**	**+1.3**
PBAR				*e*Sn	**Sn**	**08 03 06.2**	**-1.0**
PBAR				A	A	08 03 09.8	
	comp=E,2.8nm,0.3s						
PCAS	**Casmilo, Conde**	**3.85**	**38**	S	**Sn**	**08 03 09.9**	**+1.2**
PCAS	**Casmilo, Conde**	**3.85**	**38**	*e*Sn	**Sn**	**08 03 09.9**	**+1.2**
EMIN	**Mina Concepcio**	**3.99**	**78**	P	**Pn**	**08 02 25.3**	**+0.1**
	comp=E,0.4nm,0.1s,SNR=11						
EMIN				S	**Sn**	**08 03 10.7**	**-1.4**
	comp=E,0.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.00**	**64**	P	**Pn**	**08 02 26.0**	**+0.6**
	comp=E,1.1nm,0.1s,SNR=7.1						
EBAD				S	**Sn**	**08 03 11.7**	**-0.7**
	comp=E,2.0nm,0.1s,SNR=6.3						
PMRV	**Marv??o**	**4.07**	**53**	P	**Pn**	**08 02 26.7**	**+0.3**
PMRV				S	**Sn**	**08 03 13.2**	**-0.9**
	comp=E,4.0nm,0.3s						
PMRV	**Marv??o**	**4.07**	**53**	*e*Pn	**Pn**	**08 02 26.7**	**+0.3**
PMRV				*e*Sn	**Sn**	**08 03 13.2**	**-0.9**
PMRV				A	A	08 03 16.7	
	comp=E,4.0nm,0.3s						
ECAB	**El Cabril**	**5.01**	**77**	P	**Pn**	**08 02 39.2**	**-0.3**
	comp=E,0.2nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**08 03 35.6**	**-1.8**
	comp=E,1.5nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**5.22**	**33**	P	**Pn**	**08 02 42.7**	**+0.4**
POLO				S	**Sn**	**08 03 40.8**	**-1.8**
POLO	**Lamas de Olo**	**5.22**	**33**	*e*Pn	**Pn**	**08 02 42.7**	**+0.4**
POLO				*e*Sn	**Sn**	**08 03 40.8**	**-1.8**
EPLA	**Plasencia**	**5.26**	**54**	P	**Pn**	**08 02 43.6**	**+0.8**
	comp=E,0.7nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**08 03 43.0**	**-0.5**
	comp=E,0.8nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.40**	**30**	P	**Pn**	**08 02 46.5**	**+1.8**
PCAB				S	**Sn**	**08 03 45.7**	**-1.3**
PCAB	**Cabril**	**5.40**	**30**	*e*Pn	**Pn**	**08 02 46.5**	**+1.8**
PCAB				*e*Sn	**Sn**	**08 03 45.7**	**-1.3**
MVO	**Moncorvo**	**5.42**	**40**	P	**Pn**	**08 02 45.3**	**+0.3**
	comp=E,1.2nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**08 03 47.0**	**-0.5**
	comp=E,0.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.42**	**40**	*e*Pn	**Pn**	**08 02 45.4**	**+0.3**
MVO				*e*Sn	**Sn**	**08 03 47.0**	**-0.5**
ZHG	**ZHG**	**5.43**	**130**	P		08 02 41.5	
ZHG				S		08 03 35.2	
SRHM	**Skhour des Reh**	**5.51**	**145**	P		08 02 44.1	
SRHM				S		08 03 39.8	
ELOB	**Lobios**	**5.52**	**29**	P	**Pn**	**08 02 47.7**	**+1.3**
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**08 03 48.6**	**-1.4**
	comp=E,1.8nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.53**	**27**	P	**Pn**	**08 02 47.8**	**+1.3**
PGAV				S	**Sn**	**08 03 47.9**	**-2.3**
	comp=E,2.0nm,0.3s						
PGAV	**Gavieira, Arco**	**5.53**	**27**	*e*Pn	**Pn**	**08 02 47.8**	**+1.3**
PGAV				*e*Sn	**Sn**	**08 03 47.9**	**-2.3**
PGAV				A	A	08 03 52.0	
	comp=E,2.0nm,0.3s						
EZAM	**Zamans**	**5.55**	**23**	P	**Pn**	**08 02 47.9**	**+1.2**
	comp=E,0.6nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**08 03 47.0**	**-3.5**
	comp=E,1.3nm,0.1s,SNR=7.9						
PMPS	**Porto Santo**	**5.57**	**225**	P	**Pn**	**08 02 47.1**	**+0.1**
PMPS				S	**Sn**	**08 03 50.1**	**-1.0**
PMPS	**Porto Santo**	**5.57**	**225**	*e*Pn	**Pn**	**08 02 47.1**	**+0.1**
PMPS				*e*Sn	**Sn**	**08 03 50.1**	**-1.0**
EADA	**Adamuz**	**5.69**	**77**	P	**Pn**	**08 02 48.8**	**+0.2**
	comp=E,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**08 03 52.6**	**-1.4**
	comp=E,0.9nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**6.04**	**37**	S	**Sn**	**08 04 02.8**	**0.0**
PBRG	**Braganca**	**6.04**	**37**	*e*Sn	**Sn**	**08 04 02.8**	**0.0**
ECAL	**Calabor**	**6.15**	**36**	P	**Pn**	**08 02 55.6**	**+0.5**
	comp=E,0.7nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**08 04 04.4**	**-1.1**
	comp=E,0.2nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.21**	**18**	P	**Pn**	**08 02 56.1**	**+0.3**
	comp=E,0.8nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**08 04 02.0**	**-4.9**
	comp=E,4.0nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**6.22**	**64**	S	**Sn**	**08 04 05.0**	**-2.2**
	SNR=4.0						
EAGO	**Agolada(Pontev**	**6.33**	**24**	P	**Pn**	**08 02 57.9**	**+0.4**
	comp=E,0.4nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**08 04 06.5**	**-3.4**
	comp=E,0.3nm,0.1s,SNR=7.9						
MD31	**MD31**	**7.01**	**125**	P		08 03 03.8	
MD31				S		08 04 18.4	
EPON	**Pontenova**	**7.12**	**27**	P	**Pn**	**08 03 09.3**	**+1.0**
	comp=E,1.1nm,0.3s,SNR=4.9						
MDT	**Midelt**	**7.14**	**124**	P		08 03 06.4	
MDT				S		08 04 20.4	
ETOR	**Torete**	**8.33**	**60**	P	**Pn**	**08 03 25.6**	**+0.6**
	comp=E,4.3nm,0.2s,SNR=5.9						

KMA 27 08:31:53.0±0.0, 37°.14N×127°.91E, h16km, Error ellipse: s-maj=1.5km s-min=0.7km az=273.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSCHJ	**Chungju**	**0.28**	**168**	P	Pg	08 31 59.0	0.0
	SNR=14						
KSCHJ	**Chungju**	**0.28**	**168**	P	Pg	08 31 59.0	0.0
	SNR=12						
KSCHJ	**Chungju**	**0.28**	**168**	P	Pg	08 31 59.0	0.0
	SNR=14						
KSCHJ	**Chungju**	**0.28**	**168**	P	Pg	08 31 59.0	0.0
	SNR=12						
KSCHJ	**Chungju**	**0.28**	**168**	P	Pg	08 31 59.0	0.0
	SNR=12						
KSWJU	**Wonju**	**0.28**	**24**	P	Pg	08 31 59.1	-0.1
	SNR=20						
KSWJU	**Wonju**	**0.28**	**24**	P	Pg	08 31 59.1	-0.1
	SNR=20						
KSWJU	**Wonju**	**0.28**	**24**	P	Pg	08 31 59.1	-0.1
	SNR=20						
KSMGY	**Mungyeong**	**0.50**	**166**	P	Pg	08 32 03.3	+0.2
	SNR=10						
KSMGY	**Mungyeong**	**0.50**	**166**	P	Pg	08 32 03.3	+0.2
	SNR=10						
KSMGY	**Mungyeong**	**0.50**	**166**	P	Pg	08 32 03.3	+0.2
	SNR=10						
KSCEA	**Cheonan**	**0.61**	**239**	P	Pg	08 32 05.0	-0.1
	SNR=11						
KSCEA	**Cheonan**	**0.61**	**239**	P	Pg	08 32 05.0	-0.1
	SNR=11						
KSCEA	**Cheonan**	**0.61**	**239**	P	Pg	08 32 05.0	-0.1
	SNR=11						
KSCHC	**Chuncheon**	**0.64**	**353**	P	Pg	08 32 05.6	0.0
	SNR=7.4						
KSCHC	**Chuncheon**	**0.64**	**353**	P	Pg	08 32 05.6	0.0
	SNR=7.4						
KSBON	**Boeun**	**0.65**	**188**	P	Pg	08 32 05.1	-0.7
	SNR=14						
KSBON	**Boeun**	**0.65**	**188**	P	Pg	08 32 05.1	-0.7
	SNR=14						
OKCB	**Cheongsan-myeo**	**0.80**	**186**	P	Pb	08 32 08.6	0.0
	SNR=12						
OKCB	**Cheongsan-myeo**	**0.80**	**186**	P	Pb	08 32 08.6	0.0
	SNR=12						
OKCB	**Cheongsan-myeo**	**0.80**	**186**	P	Pb	08 32 08.6	0.0
	SNR=12						

*IDC **27** 08:47:57.0±5.2, 5°.38S×153°.13E, h57km±43km, mb3.8/10, mb1 3.9/11, mb1mx3.7/43, mbtmp4.1/11, ML1.9/1, Error ellipse: s-maj=30.0km s-min=20.0km az=54.0*

ISC 27 08:47:54.1±0.8, 5°.3S±0°.1×153°.3E±0°.1, h35km, n17, σ0°.70/17, mb4.0/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.30**	**235**	P	**Pn**	**08 49 39.2**	**+0.9**
	1.1nm,0.3s,baz=72,slow=13,SNR=2.2						
PMG				S	**Sn**	**08 51 00.6**	**+0.6**
	1.4nm,0.3s,baz=40,slow=16,SNR=3.1						
DZM	**Mont Dzumac**	**21.02**	**144**	P	**P**	**08 52 36.4**	**+1.4**
	7.7nm,0.7s,baz=251,slow=12,SNR=7.8						
WRA	**Warramunga Arr**	**23.47**	**230**	P	**P**	**08 52 60.0**	**-0.9**
	2.0nm,0.7s,baz=54,slow=9.9,SNR=19						
WRA				PcP	**PcP**	**08 56 46.7**	**+0.3**
	0.6nm,0.7s,baz=54,slow=2.1,SNR=5.3						
ASAR	**Alice Springs**	**26.11**	**224**	P	**P**	**08 53 24.0**	**-1.0**
	0.6nm,0.7s,baz=57,slow=9.3,SNR=10						
ASAR				PcP	**PcP**	**08 56 52.3**	**+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.17**	**106**	Pn	**Pn**	**08 57 28.6**	**-3.4**
K02D	**Willamette Mer**	**3.69**	**106**	P		08 57 35.5	
	baz=289,SNR=13						
K02D				S		08 58 18.6	
	baz=289						
I03D	**Drain, OR**	**3.73**	**90**	P		08 57 36.4	
	baz=273,SNR=17						
COR	**Corvallis**	**3.81**	**76**	Pn	**Pn**	**08 57 40.1**	**-0.6**
COR				IAML		08 58 14.3	
	37nm,3.5s						
COR				IAML		08 58 52.4	
	36nm,2.6s						
G03D	**McMinnville, O**	**3.99**	**68**	P		08 57 40.1	
	baz=251,SNR=7.9						
KRMB	**Red Mountain**	**4.08**	**123**	Pn	**Pn**	**08 57 45.5**	**+0.9**
KRMB				IAML		08 58 43.1	
	comp=E,22nm,2.4s						
KRMB				IAML		09 00 18.2	
	comp=N,29nm,3.5s						
HUMO	**Hull Mountain**	**4.22**	**105**	Pn	**Pn**	**08 57 44.6**	**-1.8**
I04A	**Tendick Farm,**	**4.40**	**88**	P		08 57 46.0	
	baz=272,SNR=6.7						
E03A	**Lebam**	**4.43**	**50**	Pn	**Pn**	**08 57 47.3**	**-1.9**
H04A	**Detroit Lake**	**4.61**	**77**		**Pn**	**08 57 51.0**	**-0.8**
H04A				IAML		08 58 50.1	
	comp=E,13nm,2.6s						
H04A				IAML		08 59 49.0	
	comp=N,13nm,3.7s						
YBH	**Yreka Blue Hor**	**4.73**	**114**	Pn	**Pn**	**08 57 52.9**	**-0.6**
	comp=N,0.1nm,0.3s,baz=295,slow=13,SNR=5.9						
NLWA	**Neilton Lookou**	**4.83**	**41**	Pn	**Pn**	**08 57 53.6**	**-1.2**
NLWA				IAML		08 59 04.4	
	comp=N,13nm,3.4s						
NLWA				IAML		08 59 13.6	
	comp=N,16nm,1.9s						
D03D	**Eldon**	**5.31**	**44**	P		08 58 00.8	
	baz=227						
F05D	**White Salmon**	**5.41**	**65**	P		08 58 01.5	
	baz=250						
PINE	**Pine Mountain**	**5.46**	**88**		**Pn**	**08 58 03.4**	**-0.2**
LON	**Longmire**	**5.55**	**56**		**Pn**	**08 58 05.2**	**+0.5**
K05A	**Summer Lake**	**5.65**	**98**	Pn	**Pn**	**08 58 05.2**	**-1.0**
D05A	**Enumclaw**	**5.68**	**51**		**Pn**	**08 58 06.3**	**-0.1**
B05A	**Bryant**	**6.29**	**43**	P		08 58 13.8	
	baz=227						
LTY	**Liberty**	**6.48**	**55**	Pn	**Pn**	**08 58 17.2**	**-0.3**
I07A	**Izee**	**6.49**	**85**		**Pn**	**08 58 18.1**	**+0.4**
HAWA	**Hanford**	**6.84**	**65**		**Pn**	**08 58 22.1**	**-0.2**
G08A	**Pilot Rock**	**6.97**	**74**		**Pn**	**08 58 23.9**	**-0.3**
WVOR	**Wild Horse Val**	**7.34**	**97**	Pn	**Pn**	**08 58 30.1**	**+0.7**
NEW	**Newport**	**9.07**	**57**	Pn	**Pn**	**08 58 56.0**	**+3.1**
	comp=N,0.4nm,0.3s,baz=252,slow=10,SNR=5.0						
NVAR	**Mina Array Bea**	**9.38**	**122**	Pn	**Pn**	**08 58 58.6**	**+1.2**
	comp=N,0.1nm,0.3s,baz=291,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**20.40**	**19**	P	**P**	**09 01 18.7**	**0.0**
	comp=N,1.3nm,0.8s,baz=206,slow=11,SNR=10						
ILAR	**Eielson Array**	**23.41**	**340**	P	**P**	**09 01 51.2**	**+0.4**
	comp=N,0.3nm,0.7s,baz=150,slow=9.2,SNR=3.1						
TXAR	**Lajitas Array**	**24.50**	**118**	P	**P**	**09 02 01.7**	**+0.2**
	comp=N,0.4nm,0.7s,baz=298,slow=8.1,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**58.41**	**268**	T	T	10 09 47.9	
	baz=49,slow=75,SNR=83						
H11N2	**WAKE ISLAND Hy**	**58.41**	**268**	T	T	10 09 46.8	
	baz=49,slow=75,SNR=66						
H11N1	**WAKE ISLAND Hy**	**58.42**	**268**	T	T	10 09 48.0	
	baz=49,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**59.33**	**267**	T	T	10 11 07.5	
	baz=50,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**59.34**	**267**	T	T	10 10 58.0	
	baz=50,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**59.35**	**267**	T	T	10 11 01.0	
	baz=50,slow=75,SNR=14						

*IDC **27** 09:10:19.7±3.7,53˚.49N×90˚.46E,h0km,mb1 2.7/3, mb1mx2.7/44,mbtmp2.7/3,ML2.3/3,Error ellipse: s-maj=29.4km s-min=23.8km az=58.0*

*NNC **27** 09:10:30.6±1.4,53˚.43N×89˚.56E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=10.8km s-min=6.1km az=72.0, Suspected Mining explosion.*

ISC 27 09:10:22.2±4.3,53˚.5N±0˚.1×90˚.2E±0˚.2,h0km,n7,σ1s76/9, 6C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.24**	**280**	*i*		09 31 30.0	
	baz=89,slow=300,SNR=1.0						
ZAA0	**Zalesovo Array**	**3.24**	**280**	⇑Pg	**Pg**	**09 11 23.0**	**-1.2**
	0.9nm,0.8s						
ZAA0				⇓Lg	Lg	09 12 01.6	
	8.5nm,1.0s						
ZALV	**Zalesovo Beam**	**3.24**	**280**	Pn	**Pn**	**09 11 15.0**	**+0.8**
	0.4nm,0.3s,baz=97,slow=14,SNR=3.2						
ZALV				Lg	Lg	09 12 06.6	
	1.8nm,0.3s,baz=90,slow=24,SNR=15						
KURBB	**Kurchatov Arra**	**7.75**	**253**	Pn	**Pn**	**09 12 15.5**	**-0.7**
	0.1nm,0.3s,baz=65,slow=14,SNR=4.3						
KURBB				Sn	**Sn**	**09 13 44.7**	**+0.1**
	0.0nm,0.3s,baz=66,slow=25,SNR=2.6						
KURBB				Lg	Lg	09 14 29.5	
	baz=63,slow=30,SNR=4.0						
KURBB	**Kurchatov Arra**	**7.75**	**253**	⇑Pn	**Pn**	**09 12 19.0**	**+2.9**
	1.7nm,0.8s						
KURBB				⇑Sn	**Sn**	**09 13 44.7**	**+0.1**
	7.2nm,0.8s						
KURBB				⇑Lg	Lg	09 14 24.0	
	22nm,1.0s						
MK31	**Makanchi Array**	**8.41**	**220**	⇑Sn	**Sn**	**09 14 03.2**	**+2.3**
	1.8nm,1.0s						
MK31				⇑Lg	Lg	09 14 50.3	
	6.8nm,1.1s,baz=50,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.41**	**220**	Pn	**Pn**	**09 12 24.9**	**-0.3**
	0.1nm,0.3s,baz=37,slow=14,SNR=3.1						
MKAR				Sn	**Sn**	**09 13 59.3**	**-1.6**
	0.0nm,0.3s,baz=29,slow=18,SNR=1.8						
MKAR				Lg	Lg	09 14 49.1	
	0.1nm,0.3s,baz=40,slow=32,SNR=2.7						

*TUL **27** 09:44:12.3±1.3,35˚.75N±0˚.01×97˚.36W±0˚.01,h5km±5km, ML2.5,mb_Lg2.6/62(NEIC),Error ellipse: s-maj=1.7km s-min=1.4km az=211.0*

NEIC 27 09:44:12.4±0.9,35˚.760N±0˚.004×97˚.38W±0˚.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=223.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**301**		Pg	09 44 14.4	+0.4
OK029				Sg	Sg	09 44 16.1	+0.9
OK025	**Westminster Rd**	**0.18**	**169**		Pg	09 44 16.1	+0.1
OK025					Sg	09 44 18.1	-0.3
BCOK	**Bluff Creek, N**	**0.21**	**241**		Pg	09 44 16.7	+0.2
BCOK				Sg	Sg	09 44 20.3	+0.9
OKCFA	**Oklahoma City**	**0.35**	**190**		Pg	09 44 19.2	0.0
OKCFA				Sg	Sg	09 44 24.3	+0.6
OKCSW	**OKLAHOMA CITY**	**0.36**	**188**		Pg	09 44 19.3	0.0
OK031	**S. Brethren Rd**	**0.48**	**66**		Pg	09 44 21.7	+0.1
OK031					Sg	09 44 28.2	+0.3
FNO	**Franklin**	**0.50**	**182**		Pg	09 44 22.0	0.0
FNO				Sg	Sg	09 44 29.3	+0.7
OK030	**Cody Creek RV**	**0.51**	**71**	Pg	Pg	09 44 22.2	0.0
OK030				Sg	Sg	09 44 29.4	+0.5
QUOK	**Quay**	**0.68**	**53**		Pg	09 44 25.5	0.0
QUOK					Sg	09 44 34.7	+0.3
CROK	**Carrier**	**0.89**	**327**	Pg	Pg	09 44 29.5	+0.1
CROK				Sg	Sg	09 44 41.6	+0.6
BLOK	**Blackwell**	**1.01**	**7**	Pg	Pg	09 44 31.4	-0.4
X34A	**Smith Ranch, M**	**1.21**	**198**		Pg	09 44 35.2	-0.5
OK032	**Salt Plains WL**	**1.24**	**327**	Pg	Pg	09 44 35.5	-0.7
OK032				Sg	Sg	09 44 52.4	+0.1
KAN13	**South Haven SW**	**1.25**	**356**	Pn	Pg	09 44 35.9	-0.5
KAN17	**Caldwell West**	**1.32**	**346**	Pn	Pn	09 44 37.0	-0.5
T35A	**Sooner Cattle**	**1.35**	**31**		Pn	09 44 37.1	-0.8
KAN09	**Caldwell North**	**1.39**	**352**	Pn	Pn	09 44 38.1	-0.3
U32A	**Winter Ranch,**	**1.45**	**296**	Pn	Pn	09 44 39.1	-0.3
KS20	**Mayfield South**	**1.47**	**355**	Pn	Pn	09 44 39.5	-0.2
KS20				IAmb_Lg		09 45 01.1	
	comp=Z,26nm,0.8s						
WMOK	**Wichita Mounta**	**1.54**	**229**	Pn	Pn	09 44 40.2	-0.3
KS21	**Milan North St**	**1.54**	**352**	IAmb_Lg		09 45 02.7	
	comp=Z,39nm,0.8s						
LOOK	**Love County**	**1.77**	**175**	Pn	Pn	09 44 44.0	+0.3
LOOK				IAmb_Lg		09 45 12.4	
	comp=Z,26nm,0.9s						
X37A	**Clayton**	**2.02**	**125**	Pn	Pn	09 44 47.2	+0.2
X37A				IAmb_Lg		09 45 20.1	
	comp=Z,22nm,0.9s						
U38A	**Gravette**	**2.52**	**73**	IAmb_Lg		09 45 35.5	
	comp=Z,15nm,0.8s						
W39A	**Magazine**	**2.99**	**100**	Pn	Pn	09 44 58.8	-1.6
Z38A	**Mt. Pleasant**	**3.18**	**141**	IAmb_Lg		09 46 01.1	
	comp=Z,15nm,0.8s						
MIAR	**Mount Ida**	**3.34**	**110**	Pn	Pn	09 45 06.0	+0.7
MIAR				IAmb_Lg		09 46 05.8	
	comp=Z,17nm,1.1s						
CBKS	**Cedar Bluff**	**3.58**	**329**	IAmb_Lg		09 46 13.8	
	comp=Z,23nm,0.7s						
U40A	**Yellville**	**3.71**	**79**	IAmb_Lg		09 46 14.0	
	comp=Z,12nm,0.9s						
S39A	**Bolivar**	**3.79**	**58**	IAmb_Lg		09 46 13.9	
	comp=Z,12nm,0.7s						
X40A	**Basin Creek Fa**	**3.94**	**108**	Pn	Pn	09 45 13.9	+0.5
X40A				IAmb_Lg		09 46 21.3	
	comp=Z,12nm,0.8s						
WLAR	**White Oak Lake**	**4.08**	**119**	IAmb_Lg		09 46 30.5	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	**4.18**	**95**	Pn	Pn	09 45 16.4	-0.4
WHAR				IAmb_Lg		09 46 31.1	
	comp=Z,13nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.27**	**87**	Pn	Pn	09 45 18.8	+0.7
FCAR				IAmb_Lg		09 46 34.1	
	comp=Z,9.2nm,0.8s						
MGMO	**Mountain Grove**	**4.35**	**70**	IAmb_Lg		09 46 31.7	
	comp=Z,16nm,0.7s						
NATX	**Nacogdoches**	**4.59**	**150**	IAmb_Lg		09 46 36.6	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**57**	IAmb_Lg		09 46 43.8	
	comp=Z,8.6nm,0.9s						
P38A	**Dawn**	**4.92**	**37**	IAmb_Lg		09 46 47.3	
	comp=Z,7.7nm,0.8s						
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg		09 47 03.0	
	comp=Z,11nm,0.8s						
LCAR	**Lake Charles**	**5.06**	**85**	IAmb_Lg		09 46 58.8	
	comp=Z,7.1nm,0.9s						
T42A	**Van Buren**	**5.23**	**74**	IAmb_Lg		09 47 06.9	
	comp=Z,6.8nm,0.7s						
N35A	**Tabor**	**5.27**	**14**	IAmb_Lg		09 47 10.5	
	comp=Z,20nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.29**	**309**	IAmb_Lg		09 47 13.0	
	comp=Z,8.0nm,0.8s						
CCM	**Cathedral Cave**	**5.42**	**63**	IAmb_Lg		09 47 19.6	
	comp=Z,8.8nm,0.8s						
PBMO	**Poplar Bluff**	**5.71**	**78**	IAmb_Lg		09 47 15.8	
	comp=Z,11nm,0.7s						
T25A	**Trinidad**	**5.83**	**286**	IAmb_Lg		09 47 26.6	
	comp=Z,14nm,1.1s						
L34A	**Svendsen Farm,**	**6.25**	**7**	IAmb_Lg		09 47 38.0	
	comp=Z,15nm,0.7s						
S44A	**Carbondale,**	**6.80**	**71**	IAmb_Lg		09 47 53.9	
	comp=Z,11nm,0.8s						
K31A	**O'Neill**	**6.94**	**352**	IAmb_Lg		09 48 04.2	
	comp=Z,13nm,0.9s						
ISCO	**Idaho Springs**	**7.67**	**304**	IAmb_Lg		09 48 26.6	
	comp=Z,4.5nm,1.1s						
K22A	**Casper**	**9.88**	**317**	IAmb_Lg		09 49 53.0	
	comp=Z,5.7nm,1.1s						

*IDC **27** 09:48:44.8±3.0,43˚.88N×128˚.32W,h0km,mb3.3/4, mb1 3.6/6,mb1mx3.4/36,mbtmp3.2/6,ML2.2/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/21,Error ellipse: s-maj=61.2km s-min=19.0km az=52.0*

*ANF **27** 09:48:46.7±1.4,43˚.83N×128˚.04W,h5km,ML3.3/4,Error ellipse: s-maj=17.0km s-min=3.5km az=41.0,Hypocentre not reviewed by the ISC*

*NEIC **27** 09:48:47.2±1.6,44˚.03N±0˚.09×128˚.26W±0˚.05,h10km±2km, ML3.0/13,Error ellipse: s-maj=15.0km s-min=6.4km az=178.0*

ISC 27 09:48:46.5±1.6,43˚.92N±0˚.09×128˚.3W±0˚.1,h13km,n39, σ1s29/33,mb3.1/3,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.10**	**108**	Pn	**Pn**	**09 49 31.7**	**-3.5**
J01E	**Myrtle Point**	**3.29**	**102**	P		09 49 35.4	
	baz=284,SNR=8.7						
J01E				S		09 50 13.6	
	baz=284						
I03D	**Drain, OR**	**3.62**	**92**	P		09 49 40.1	
	baz=274,SNR=32						
I03D				S		09 50 21.2	
	baz=274						
K02D	**Willamette Mer**	**3.62**	**108**	P		09 49 40.2	
	baz=291,SNR=23						
K02D				S		09 50 20.6	
	baz=291						
G03D	**McMinnville, O**	**3.85**	**69**	P		09 49 44.0	
	baz=250,SNR=16						
H04D	**Lebanon**	**4.07**	**80**	P		09 49 46.8	
	baz=262						
HUMO	**Hull Mountain**	**4.14**	**107**	Pn	**Pn**	**09 49 48.0**	**-1.6**
E03A	**Lebam**	**4.28**	**50**	Pn	**Pn**	**09 49 50.2**	**-1.0**
E03A				IAML		09 51 02.4	
	comp=N,22nm,2.6s						
I04A	**Tendick Farm,**	**4.29**	**90**	P		09 49 50.0	
	baz=272,SNR=8.5						
H04A	**Detroit Lake**	**4.48**	**78**		**Pn**	**09 49 53.8**	**-0.4**
H04A				IAML		09 50 27.5	
	comp=N,14nm,3.6s						
H04A				IAML		09 51 06.3	
	comp=E,17nm,3.3s						
NLWA	**Neilton Lookou**	**4.68**	**40**	Pn	**Pn**	**09 49 56.3**	**-0.5**
NLWA				IAML		09 51 09.9	
	comp=E,14nm,3.0s						
NLWA				IAML		09 51 41.9	
	comp=E,17nm,3.1s						
YBH	**Yreka Blue Hor**	**4.68**	**116**	Pn	**Pn**	**09 49 56.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=300,slow=17,SNR=7.3						
YBH				Sn	**Sn**	**09 50 51.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=164,slow=7.4,SNR=1.5						
D03D	**Eldon**	**5.16**	**44**	P		09 50 03.1	
	baz=225,SNR=7.4						
F05D	**White Salmon**	**5.27**	**66**	P		09 50 03.7	
	baz=249,SNR=5.7						
PINE	**Pine Mountain**	**5.35**	**89**		**Pn**	**09 50 05.8**	**-0.5**
PINE				IAML		09 51 58.3	
	comp=N,12nm,3.1s						
LON	**Longmire**	**5.41**	**56**	Pn	**Pn**	**09 50 06.6**	**-0.3**
LON				IAML		09 50 45.4	
	comp=N,7.0nm,3.6s						
D05A	**Enumclaw**	**5.53**	**52**		**Pn**	**09 50 08.2**	**-0.3**
K05A	**Summer Lake**	**5.56**	**100**	Pn	**Pn**	**09 50 08.3**	**-0.8**
PGC	**Sidney**	**5.82**	**34**	Pn	**Pn**	**09 50 12.7**	**+0.2**
B05A	**Bryant**	**6.14**	**43**	P		09 50 16.9	
	baz=225						
LTY	**Liberty**	**6.33**	**55**	Pn	**Pn**	**09 50 20.2**	**+0.6**
I07A	**Izee**	**6.38**	**85**		**Pn**	**09 50 21.0**	**+0.8**
HAWA	**Hanford**	**6.70**	**65**		**Pn**	**09 50 24.5**	**-0.1**
G08A	**Pilot Rock**	**6.84**	**75**	Pn	**Pn**	**09 50 26.6**	**+0.1**
WVOR	**Wild Horse Val**	**7.25**	**98**	Pn	**Pn**	**09 50 31.3**	**-0.9**
PNTR	**Pine Nut**	**8.14**	**123**		**Pn**	**09 50 47.1**	**+2.6**
CMB	**Columbia Colle**	**8.41**	**132**	Pn	**Pn**	**09 50 51.4**	**+3.3**
YERR	**Yerington**	**8.42**	**123**	Pn	**Pn**	**09 50 51.1**	**+2.7**
NVAR	**Mina Array Bea**	**9.34**	**123**	Pn	**Pn**	**09 51 02.8**	**+1.7**
	comp=N,0.0nm,0.3s,baz=297,slow=14,SNR=5.6						
SDCO	**Great Sand Dun**	**18.32**	**102**	P	**P**	**09 53 00.9**	**+0.2**
ANMO	**Albuquerque**	**19.09**	**111**	LR	LR	10 00 56.3	
	comp=N,100nm,21.8s,baz=308,slow=38						
T25A	**Trinidad**	**19.37**	**102**	P	**Pn**	**09 53 13.1**	**-0.1**
FFC	**Flin Flon**	**20.18**	**48**	P	**P**	**09 53 20.1**	**-0.4**
YKA	**Yellowknife Ar**	**20.26**	**19**	P	**P**	**09 53 21.4**	**+0.1**
	comp=N,1.5nm,0.8s,baz=204,slow=11,SNR=11						
AMTX	**Amarillo**	**22.41**	**105**	P	**P**	**09 53 45.0**	**+0.1**
ECSD	**EROS Data Cent**	**22.82**	**79**	P	**P**	**09 53 48.6**	**-0.5**
ULM	**Lac du Bonnet**	**22.87**	**62**	P	**P**	**09 53 50.1**	**+0.6**
	comp=N,2.9nm,0.6s,baz=275,slow=8.8,SNR=3.8						
ULM	**Lac du Bonnet**	**22.87**	**62**	P	**P**	**09 53 48.4**	**-1.1**
ILAR	**Eielson Array**	**23.34**	**340**	P	**P**	**09 53 54.7**	**+0.5**
	comp=N,0.2nm,0.8s,baz=149,slow=7.3,SNR=2.9						
TXAR	**Lajitas Array**	**24.45**	**118**	P	**P**	**09 54 05.2**	**0.0**
	comp=N,0.3nm,0.6s,baz=300,slow=6.1,SNR=3.1						
TXAR	**Lajitas Array**	**24.45**	**118**	P	**P**	**09 54 05.5**	**+0.3**
MLY	**Manley**	**24.57**	**337**	P	**P**	**09 54 06.1**	**+0.2**
H11N3	**WAKE ISLAND Hy**	**58.52**	**268**	T	T	11 01 55.1	
	baz=49,slow=75,SNR=96						
H11N2	**WAKE ISLAND Hy**	**58.52**	**268**	T	T	11 01 49.3	
	baz=49,slow=75,SNR=74						
H11N1	**WAKE ISLAND Hy**	**58.53**	**268**	T	T	11 01 55.7	
	baz=49,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy**	**59.45**	**267**	T	T	11 02 59.9	
	baz=50,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**59.45**	**267**	T	T	11 03 00.6	
	baz=50,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**59.47**	**267**	T	T	11 03 01.1	
	baz=50,slow=75,SNR=14						

*IDC **27** 09:54:45.1±1.5,43˚.82N×128˚.41W,h0km,mb3.4/6, mb1 3.6/11,mb1mx3.5/51,mbtmp3.4/11,ML3.4/5,MS3.1/5, Ms1 3.1/5,ms1mx2.8/25,Error ellipse: s-maj=30.8km s-min=14.9km az=42.0*

*NEIC **27** 09:54:47.1±2.0,43˚.81N±0˚.09×128˚.4W±0˚.1,h10km±2km, ML3.2/22,Error ellipse: s-maj=17.6km s-min=13.4km az=237.0*

*ANF **27** 09:54:50.4±1.3,43˚.92N×127˚.87W,h5km,ML3.4/3,Error ellipse: s-maj=14.6km s-min=6.8km az=73.0,Hypocentre not reviewed by the ISC*

ISC 27 09:54:47.8±1.1,43˚.86N±0˚.09×128˚.3W±0˚.1,h13km,n52, σ1s40/47,mb3.5/5,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.06**	**107**	Pn	**Pn**	**09 55 31.9**	**-3.9**
KEBM				Sn	**Sn**	**09 56 08.6**	**-3.7**
KEBM				IAML		09 56 19.3	
	comp=E,82nm,3.5s						
KEBM				IAML		09 57 31.0	
	comp=N,85nm,3.0s						
I02D	**Swisshome**	**3.23**	**84**	S		09 56 13.2	
	baz=268						
J01E	**Myrtle Point**	**3.26**	**101**	P		09 55 36.8	
	baz=286,SNR=9.7						
J01E				S		09 56 14.6	
	baz=286						
KBO	**Bosley Butte**	**3.41**	**117**	Pn	**Pn**	**09 55 40.5**	**-0.3**
K02D	**Willamette Mer**	**3.58**	**107**	P		09 55 41.6	
	baz=293,SNR=17						
K02D				S		09 56 23.3	
	baz=293						
I03D	**Drain, OR**	**3.59**	**91**	P		09 55 41.5	
	baz=275,SNR=33						
I03D				S		09 56 22.3	
	baz=275						
COR	**Corvallis**	**3.67**	**77**	Pn	**Pn**	**09 55 44.4**	**+0.2**
COR				IAML		09 56 32.8	
	comp=N,44nm,3.0s						
COR				IAML		09 57 23.8	
	comp=N,38nm,2.6s						
L02E	**Cave Junction**	**3.84**	**115**	S		09 56 29.6	
	baz=301						
G03D	**McMinnville, O**	**3.85**	**68**	P		09 55 45.4	
	baz=250,SNR=14						
KRMB	**Red Mountain**	**3.99**	**124**	Pn	**Pn**	**09 55 47.2**	**-1.5**
KRMB				IAML		09 57 47.8	
	comp=E,30nm,3.2s						
KRMB				IAML		09 58 12.7	
	comp=N,26nm,2.9s						
H04D	**Lebanon**	**4.06**	**79**	P		09 55 47.8	
	baz=262,SNR=5.5						
HUMO	**Hull Mountain**	**4.10**	**106**		**Pn**	**09 55 49.4**	**-0.8**
I04A	**Tendick Farm,**	**4.27**	**89**	P		09 55 51.6	
	baz=274,SNR=20						
E03A	**Lebam**	**4.30**	**50**	Pn	**Pn**	**09 55 51.5**	**-1.3**
E03A				IAML		09 56 51.5	
	comp=E,31nm,3.3s						
E03A				IAML		09 57 40.2	
	comp=N,23nm,2.8s						
H04A	**Detroit Lake**	**4.47**	**77**		**Pn**	**09 55 54.8**	**-0.5**
H04A				IAML		09 56 55.9	
	comp=N,16nm,0.9s						
H04A				IAML		09 57 01.5	
	comp=E,16nm,3.5s						
KHMM	**Horse Mountain**	**4.51**	**130**	Pn	**Pn**	**09 55 54.8**	**-1.1**
YBH	**Yreka Blue Hor**	**4.63**	**115**	Pn	**Pn**	**09 55 57.4**	**-0.2**
	comp=E,0.2nm,0.3s,baz=303,slow=15,SNR=6.3						
YBH				Sn	**Sn**	**09 56 53.1**	**+1.9**
	comp=E,0.2nm,0.3s,baz=165,slow=19,SNR=1.5						
YBH	**Yreka Blue Hor**	**4.63**	**115**		**Pn**	**09 55 57.3**	**-0.2**
L04D	**Klamath Falls**	**4.69**	**108**	P		09 55 58.2	
	baz=295,SNR=8.4						
L04D				S		09 56 51.0	
	baz=295						
NLWA	**Neilton Lookou**	**4.71**	**40**	Pn	**Pn**	**09 55 58.0**	**-0.6**
NLWA				IAML		09 58 39.0	
	comp=E,13nm,3.5s						
D03D	**Eldon**	**5.18**	**43**	P		09 56 04.3	
	baz=224,SNR=17						
F05D	**White Salmon**	**5.27**	**65**	P		09 56 05.9	
	baz=249,SNR=11						
PINE	**Pine Mountain**	**5.33**	**88**		**Pn**	**09 56 07.2**	**+0.1**
PINE				IAML		09 57 49.0	
	comp=E,14nm,4.0s						
LON	**Longmire**	**5.42**	**55**		**Pn**	**09 56 08.4**	**+0.1**
K05A	**Summer Lake**	**5.53**	**99**	Pn	**Pn**	**09 56 10.2**	**+0.3**
D05A	**Enumclaw**	**5.55**	**51**		**Pn**	**09 56 10.3**	**+0.3**
PGC	**Sidney**	**5.86**	**33**	Pn	**Pn**	**09 56 14.0**	**-0.2**
B05A	**Bryant**	**6.17**	**42**	P		09 56 18.0	
	baz=225						
LTY	**Liberty**	**6.35**	**55**		**Pn**	**09 56 21.4**	**+0.4**
I07A	**Izee**	**6.36**	**85**		**Pn**	**09 56 21.1**	**-0.1**
B06A	**Marblemount**	**6.64**	**43**	Pn	**Pn**	**09 56 26.1**	**+1.1**
A05A	**Maple Falls**	**6.70**	**38**		**Pn**	**09 56 27.7**	**+1.9**
HAWA	**Hanford**	**6.70**	**65**		**Pn**	**09 56 26.4**	**+0.5**
G08A	**Pilot Rock**	**6.83**	**75**		**Pn**	**09 56 27.7**	**0.0**
E08A	**Dider Farm, El**	**7.05**	**65**		**Pn**	**09 56 32.6**	**+2.0**
WVOR	**Wild Horse Val**	**7.21**	**98**	Pn	**Pn**	**09 56 32.7**	**-0.3**
D08A	**Wollman Farm,**	**7.33**	**61**		**Pn**	**09 56 35.1**	**+0.6**
BBB	**Bella Bella**	**8.34**	**1**	Pn	**Pn**	**09 56 49.0**

IDC ***27*** *09:55:18.4±1.9, 16°.60N×39°.89E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/40, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=50.1km s-min=25.1km az=56.0*
ISC 27 09:55:09.3±0.7, 15°.05N±0°.05×39°.06E±0°.08, h10km, n12, σ2°09/17, mb3.7/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEND	**Ethiopian Broa**	**3.75**	**149**	*eP*	**Pn**	**09 56 08.9**	**+1.6**
TEND				*eS*	**Sg**	**09 57 08.2**	**-1.6**
ATD	**Arta Tunnel**	**5.08**	**133**	Pn	**Pg**	**09 56 45.2**	**-1.5**
	1.1nm,0.3s,baz=273,slow=17,SNR=2.5						
ATD				Sn	**Sg**	**09 57 56.4**	**+3.9**
	2.3nm,0.3s,baz=165,slow=16,SNR=2.2						
ANKE	**Ethiopia-Afar**	**5.46**	**173**	*eP*	**Pg**	**09 56 50.4**	**-3.6**
ANKE				*eS*	**Sg**	**09 58 04.5**	**-0.4**
AAE	**Adis Abeba**	**5.99**	**183**	*eP*	**Pb**	**09 56 55.6**	**+1.6**
AAE				*eS*	**Sg**	**09 58 22.4**	**+0.7**
FURI	**Furi**	**6.12**	**184**	*eP*	**Pg**	**09 57 05.9**	**-0.8**
FURI				*eS*	**Sg**	**09 58 26.5**	**+0.4**
BRTR	**Keskin Array B**	**25.04**	**350**	P	**P**	**10 00 35.1**	**+1.2**
	1.1nm,0.7s,baz=165,slow=10.0,SNR=5.7						
AKASG	**Malin Array Be**	**36.44**	**349**	P	**P**	**10 02 12.8**	**-1.3**
	0.1nm,0.3s,baz=167,slow=7.1,SNR=5.3						
GERES	**GERESS Array B**	**39.61**	**334**	P	**P**	**10 02 43.5**	**+2.4**
	0.2nm,0.4s,baz=130,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**47.85**	**39**	P	**P**	**10 03 45.1**	**-2.2**
	1.9nm,0.8s,baz=234,slow=6.8,SNR=12						
NOA	**NORSAR Array B**	**50.12**	**343**	P	**P**	**10 04 05.6**	**+1.1**
	0.9nm,0.9s,baz=139,slow=8.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**52.66**	**32**	P	**P**	**10 04 21.3**	**-2.3**
	1.8nm,0.7s,baz=256,slow=5.8,SNR=4.4						
SONM	**Songino Array**	**63.80**	**44**	P	**P**	**10 05 40.9**	**-1.0**
	0.7nm,0.8s,baz=263,slow=5.8,SNR=3.8						

IDC ***27*** *10:08:16.5±1.2, 7°.95S×125°.38E, h0km, mb3.9/3, mb1 4.3/7, mb1mx3.8/45, mbtmp4.1/7, ML3.8/4, Error ellipse: s-maj=41.4km s-min=20.3km az=81.0*
NEIC ***27*** *10:08:22.9±1.6, 8°.15S±0°.08×125°.33E±0°.08, h35km±8km, mb4.2/4, Error ellipse: s-maj=15.2km s-min=5.4km az=224.0*
DJA ***27*** *10:08:23.7±0.4, 8°.5S±4°×12°.5E±°, h117km±19km, M4.2/7, mb4.4/6, MLv4.1/7*
ISC 27 10:08:20.9±0.8, 8°.20S±0°.06×125°.42E±0°.07, h26km, n30, σ1°89/35, mb4.2/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.92**	**216**		**Pn**	**10 08 53.1**	**+1.0**
SOEI	**Soe**	**1.92**	**216**	P	**Pb**	**10 08 54.3**	**-1.1**
SOEI				S	**Sn**	**10 09 16.9**	**+1.4**
BATI	**Baumata**	**2.65**	**221**	Pn	**Pn**	**10 09 03.8**	**+1.8**
	8.5nm,0.3s,baz=44,slow=2.4,SNR=2.9						
BATI				Sn	**Sn**	**10 09 37.2**	**+3.9**
	16nm,0.3s,baz=213,slow=23,SNR=7.4						
BATI	**Baumata**	**2.65**	**221**	P	**Pn**	**10 09 03.3**	**+1.3**
MMRI	**Maumere**	**3.18**	**262**		**Pn**	**10 09 09.3**	**0.0**
MMRI	**Maumere**	**3.18**	**262**	P	**Pn**	**10 09 08.4**	**-0.9**
EDFI	**Ende, Flores**	**3.73**	**261**	P	**Pn**	**10 09 13.4**	**-3.6**
SANI	**Sanana**	**6.13**	**5**	P	**Pn**	**10 09 51.5**	**+1.6**
	0.1nm33nm,0.6s						
BNSI	**Bone**	**6.49**	**305**	P	**Pn**	**10 09 53.2**	**-1.6**
	0.2nm71nm,0.8s						
MTN	**Manton Dam**	**7.27**	**130**		**Pn**	**10 10 08.0**	**+2.5**
KNRA	**Kununurra**	**8.12**	**157**		**Pn**	**10 10 19.4**	**+2.2**
APSI	**Ampana**	**8.16**	**332**	P	**Pn**	**10 10 16.5**	**-1.2**
	0.1nm26nm,0.6s						
FITZ	**Fitzroy Crossi**	**9.84**	**179**	Pn	**Pn**	**10 10 41.5**	**+0.6**
	1.0nm,0.3s,baz=6.0,slow=8.6,SNR=27						
FITZ				Sn	**Sn**	**10 12 26.8**	**-3.8**
	3.1nm,0.3s,baz=15,slow=12,SNR=15						
TOLI2	**Tolitoli**	**10.34**	**333**		**Pn**	**10 10 47.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**11.16**	**268**	Pn	**Pn**	**10 10 58.4**	**-0.4**
WB0	**Warramunga Arr**	**14.41**	**144**		**Pn**	**10 11 44.0**	**+0.6**
WRA	**Warramunga Arr**	**14.52**	**144**	Pn	**Pn**	**10 11 44.4**	**-0.5**
	0.5nm,0.3s,baz=323,slow=15,SNR=31						
WRA				Sn	**Sn**	**10 14 23.2**	**-1.9**
	0.3nm,0.3s,baz=296,slow=21,SNR=7.8						
WRA	**Warramunga Arr**	**14.52**	**144**		**Pn**	**10 11 45.2**	**+0.4**
WB2	**Warramunga Arr**	**14.53**	**144**		**Pn**	**10 11 45.9**	**+0.9**
WR0	**Warramunga Arr**	**14.65**	**144**	Pn	**Pn**	**10 11 47.1**	**+0.5**
PBKI	**Pangkalan Bun**	**14.73**	**291**	P	**Pn**	**10 11 48.5**	**+0.7**
AS31	**Alice Springs**	**17.40**	**153**	P	**P**	**10 12 24.3**	**+1.2**
ASAR	**Alice Springs**	**17.40**	**153**	P	**P**	**10 12 24.2**	**+1.0**
	0.4nm,0.3s,baz=320,slow=10,SNR=44						
ASAR				S	**Sn**	**10 15 30.7**	**-4.3**
	0.2nm,0.3s,baz=319,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**17.40**	**153**	P	**P**	**10 12 23.9**	**+0.8**
MORW	**Morawa**	**22.56**	**202**	P	**P**	**10 13 19.0**	**-0.3**
MORW				IAmb	IAmb	10 13 28.7	
	comp=Z,14nm,1.1s						
MKAR	**Makanchi Array**	**66.83**	**329**	P	**P**	**10 19 09.0**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=134,slow=7.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**70.73**	**336**	P	**P**	**10 19 32.0**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=131,slow=7.9,SNR=1.9						
VNDA	**Vanda**	**71.85**	**172**	P	**P**	**10 19 43.0**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=318,slow=5.7,SNR=5.7						
VNDA	**Vanda**	**71.85**	**172**	P	**P**	**10 19 42.1**	**+1.1**
VNDA				IAmb	IAmb	10 19 58.1	
	comp=Z,3.7nm,1.4s						
QSPA	**South Pole Qui**	**81.79**	**180**	P	**P**	**10 20 39.2**	**+1.7**

IDC ***27*** *10:50:21.1±7.3, 2°.73S×102°.05E, h164km±67km, mb3.5/11, mb1 3.6/11, mb1mx3.4/54, mbtmp4.0/11, Error ellipse: s-maj=43.3km s-min=13.9km az=55.0*
NEIC ***27*** *10:50:21.2±0.8, 2°.7S±0°.1×102°.0E±0°.2, h160km±7km, mb4.4/14, Error ellipse: s-maj=28.9km s-min=10.2km az=58.0*
DJA ***27*** *10:50:21.3±0.5, 3°.5S±4°×10°.2E±°, h145km±5km, M4.2/11, mb4.8/1, MLv3.9/11*
ISC 27 10:50:20.1±0.6, 2°.64S±0°.06×102°.19E±0°.08, h150km, n41, σ0°85/40, mb4.1/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.08**	**158**	P	**Pn**	**10 50 47.6**	**+1.9**
UBSI	**University, Be**	**1.12**	**176**	P	**Pn**	**10 50 47.4**	**+1.5**
JMBI	**JAMBI**	**1.76**	**55**	P	**Pn**	**10 50 53.2**	**+0.7**
LHSI	**Lahat**	**1.77**	**132**	P	**Pn**	**10 50 54.1**	**+1.4**
PDSI	**Padang**	**2.44**	**315**	P	**Pn**	**10 51 01.7**	**+1.2**
EGSI	**Enggano, Bengk**	**2.69**	**178**	P	**Pn**	**10 51 04.0**	**+0.3**
MDSI	**Maura Dua**	**2.70**	**133**	P	**Pn**	**10 51 04.9**	**+1.2**
BKNI	**Bangkinang**	**3.17**	**339**	Pn	**Pn**	**10 51 11.0**	**+1.4**
BKNI	**Bangkinang**	**3.17**	**339**	P	**Pn**	**10 51 11.0**	**+1.4**
SISI	**Saibi**	**3.37**	**293**	P	**Pn**	**10 51 14.0**	**+1.8**
KASI	**Kota Agung**	**3.67**	**141**	P	**Pn**	**10 51 16.1**	**0.0**
GSI	**Gunungsitoli**	**6.06**	**310**		**Pn**	**10 51 47.7**	**+0.1**
GSI	**Gunungsitoli**	**6.06**	**310**	P	**Pn**	**10 51 47.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**21.21**	**351**	P	**P**	**10 54 54.7**	**+0.6**
	1.1nm,0.6s,baz=181,slow=9.3,SNR=8.9						
CMAR	**Chiang Mai Arr**	**21.21**	**351**	P	**P**	**10 54 53.7**	**-0.4**
WB0	**Warramunga Arr**	**35.76**	**121**	P	**P**	**10 57 05.0**	**0.0**
WB0				IAmb	IAmb	10 57 32.2	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**35.78**	**121**	P	**P**	**10 57 05.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=287,slow=10,SNR=15						
WRA	**Warramunga Arr**	**35.78**	**121**	P	**P**	**10 57 04.9**	**-0.3**
WRAB	**Tennant Creek**	**35.79**	**121**	P	**P**	**10 57 05.2**	**0.0**
WB2	**Warramunga Arr**	**35.79**	**121**	P	**P**	**10 57 05.5**	**+0.3**
WB2				IAmb	IAmb	10 57 05.9	
	comp=Z,31nm,1.8s						
WR0	**Warramunga Arr**	**35.96**	**121**	P	**P**	**10 57 06.4**	**-0.2**
AS31	**Alice Springs**	**37.11**	**127**	P	**P**	**10 57 16.5**	**+0.1**
ASAR	**Alice Springs**	**37.11**	**127**	P	**P**	**10 57 16.9**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=301,slow=8.0,SNR=10						
NIL	**Nilore**	**45.25**	**325**	P	**P**	**10 58 22.4**	**-0.4**
NIL				IAmb	IAmb	10 58 22.8	
	comp=Z,11nm,0.6s						
SONM	**Songino Array**	**50.40**	**4**	P	**P**	**10 59 03.1**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=185,slow=9.5,SNR=16						
SONM				PcP	**PcP**	**11 00 18.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=180,slow=4.8,SNR=2.6						
SONM	**Songino Array**	**50.40**	**4**	P	**P**	**10 59 03.3**	**+1.1**
SONM				IAmb	IAmb	10 59 03.8	
	comp=Z,2.4nm,0.7s						
MK31	**Makanchi Array**	**52.26**	**343**	P	**P**	**10 59 15.5**	**-0.4**
MKAR	**Makanchi Array**	**52.26**	**343**	P	**P**	**10 59 15.4**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=148,slow=7.8,SNR=20						
USRK	**Ussuriysk Ar.**	**53.72**	**26**	P	**P**	**10 59 27.0**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=209,slow=6.6,SNR=7.5						
USRK	**Ussuriysk Ar.**	**53.72**	**26**	P	**P**	**10 59 27.2**	**+0.6**
ZAA0	**Zalesovo Array**	**58.22**	**348**	P	**P**	**10 59 58.6**	**+0.1**
ZAA0				IAmb	IAmb	10 59 58.9	
	comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**58.22**	**348**	P	**P**	**10 59 57.7**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=173,slow=4.7,SNR=9.7						
ABKAR	**Akbulak array**	**63.26**	**330**	P	**P**	**11 00 31.6**	**-1.1**
ABKAR				IAmb	IAmb	11 00 32.1	
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**70.23**	**319**	P	**P**	**11 01 16.7**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=151,slow=3.8,SNR=3.8						
BRTR	**Keskin Array B**	**75.37**	**312**	P	**P**	**11 01 46.8**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=141,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**85.70**	**332**	P	**P**	**11 02 42.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=114,slow=6.2,SNR=1.3						
QSPA	**South Pole Qui**	**87.32**	**180**	P	**P**	**11 02 49.6**	**-0.3**
ARCES	**ARCESS Array B**	**87.82**	**340**	P	**P**	**11 02 51.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=106,slow=5.6,SNR=6.1						
ARCES	**ARCESS Array B**	**87.82**	**340**	P	**P**	**11 02 51.2**	**-0.8**
TXAR	**Lajitas Array**	**143.82**	**40**	PKP	PKPab	11 09 35.6	-0.1
	comp=Z,0.1nm,0.4s,baz=225,slow=0.9,SNR=1.8						
TXAR	**Lajitas Array**	**143.82**	**40**		PKPbc	11 09 36.5	+0.1

NNC 27 10:57:15.7±3.3, 51°.34N×71°.78E, h0km, mb3.5, mpv3.1, 3C-1D, Error ellipse: s-maj=65.0km s-min=12.3km az=44.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRVK	**Borovoye**	**1.95**	**332**	⇓Pn	Pn	10 57 50.2	+0.2
	3.4nm,0.4s						
BRVK				⇑Sn	Sb	10 58 16.1	-0.8
	5.1nm,0.3s						
KURBB	**Kurchatov Arra**	**4.33**	**97**	⇑Pn	Pn	10 58 23.5	+0.8
	2.5nm,0.6s,baz=285,slow=12						
KURBB				⇑Lg	Lg	10 59 33.0	
	14nm,0.6s						
MK31	**Makanchi Array**	**8.27**	**119**	Pn	Pn	10 59 14.9	-1.9
	1.2nm,0.6s,baz=149,slow=8.7,SNR=12						

TAP ***27*** *11:09:20.7, 21°.39N×121°.31E, h67km±1km, ML3.4, D*
JMA ***27*** *11:09:24.5±0.3, 21°.70N×121°.14E, h32km, M3.6*
ISC 27 11:09:25.7±2.1, 21°.6N±0°.1×121°.22E±0°.04, h58km±10km, n81, σ1°30/138, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.42**	**316**	P	**Pn**	**11 09 35.0**	**-1.7**
	baz=319						
TSEB				S	**Sn**	**11 09 46.3**	**+1.6**
	baz=319						
TWKBT	**Hengchun**	**0.51**	**313**	P	**Pn**	**11 09 36.1**	**-1.5**
	baz=319						
TWKBT				S	**Sn**	**11 09 47.6**	**+1.4**
	baz=319						
TWK1	**Hengchun**	**0.52**	**312**	*i* P	**Pn**	**11 09 35.8**	**-1.8**
	baz=319						
TWK1				S	**Sn**	**11 09 47.8**	**+1.4**
	baz=319						
LAY	**Lan-yu**	**0.54**	**35**	P	**Pn**	**11 09 36.0**	**-2.0**
	baz=19						
LAY				S	**Sn**	**11 09 46.9**	**0.0**
	baz=19						
HEN	**Hengchun**	**0.60**	**313**	P	**Pn**	**11 09 37.7**	**-0.9**
	baz=319						
HEN				S	**Sn**	**11 09 50.7**	**+2.6**
	baz=319						
SLIU	**Shizi**	**0.73**	**328**	*i* P	**Pn**	**11 09 39.0**	**-1.3**
	baz=329						
SLIU				S	**Sn**	**11 09 52.7**	**+1.9**
	baz=329						
TAW	**Tawu**	**0.82**	**339**	*i* P	**Pn**	**11 09 39.9**	**-1.4**
	baz=338						
TAW				*i* S	**Sn**	**11 09 54.1**	**+1.4**
	baz=338						
EAST	**Anshuo**	**0.86**	**337**	*i* P	**Pn**	**11 09 40.5**	**-1.3**
	baz=336						
EAST				S	**Sn**	**11 09 55.5**	**+1.7**
	baz=336						
SCZT	**Fangliau**	**0.95**	**325**	*i* P	**Pn**	**11 09 42.9**	**-0.2**
	baz=326						
SCZT				S	**Sn**	**11 09 58.0**	**+2.2**
	baz=326						
ECL	**Taimali**	**1.03**	**346**	*i* P	**Pn**	**11 09 42.2**	**-1.8**
	baz=344						
ECL				*i* S	**Sn**	**11 09 58.2**	**+0.7**
	baz=344						
SSPT	**Xinbi**	**1.07**	**326**	*eP*	**Pn**	**11 09 43.2**	**-1.4**
	baz=327						
SSPT				S	**Sn**	**11 10 00.3**	**+1.7**
	baz=327						
TWP	**Hsiaoliuchiu**	**1.09**	**314**	*eP*	**Pn**	**11 09 44.1**	**-0.7**
	baz=317						
TWP				*eS*	**Sn**	**11 09 60.0**	**+0.9**
	baz=317						
LDUT	**Ludao**	**1.10**	**12**	P	**Pn**	**11 09 43.1**	**-1.8**
	baz=6.0						
LDUT				S	**Sn**	**11 10 00.2**	**+1.0**
	baz=6.0						
MASBT	**Mashibuluo**	**1.15**	**332**	P	**Pn**	**11 09 45.5**	**-0.1**
	baz=332						
MASBT				*eS*	**Sn**	**11 10 01.0**	**+0.5**
	baz=332						
TTN	**Taitung**	**1.16**	**357**	*eP*	**Pn**	**11 09 44.4**	**-1.4**
	baz=353						
TTN				*eS*	**Sn**	**11 10 02.2**	**+1.6**
	baz=353						
TWGBT	**Beinan**	**1.22**	**354**	P	**Pn**	**11 09 44.5**	**-2.2**
	baz=351						
TWGBT				S	**Sn**	**11 10 03.2**	**+0.9**
	baz=351						
TSMG	**Majia**	**1.23**	**335**	*eP*	**Pn**	**11 09 46.3**	**-0.4**
	baz=334						
TSMG				*eS*	**Sn**	**11 10 03.3**	**+1.0**
	baz=334						
TWG	**Pinlang**	**1.23**	**354**	*i* P	**Pn**	**11 09 44.5**	**-2.2**
	baz=351						
TWG				S	**Sn**	**11 10 02.6**	**+0.3**
	baz=351						
SSD	**Sandimen**	**1.27**	**335**	P	**Pn**	**11 09 46.6**	**-0.6**
	baz=335						
SSD				S	**Sn**	**11 10 04.2**	**+0.9**
	baz=335						
TSPT	**Pingtung City**	**1.27**	**328**	*eP*	**Pn**	**11 09 45.8**	**-1.4**
	baz=329						
TSPT				*eS*	**Sn**	**11 10 04.5**	**+1.3**
	baz=329						
LONT	**Longtian**	**1.31**	**357**	*eP*	**Pn**	**11 09 45.9**	**-1.8**
	baz=353						
LONT				S	**Sn**	**11 10 05.4**	**+1.1**
	baz=353						
SGLT	**Jiouru**	**1.31**	**329**	*eP*	**Pn**	**11 09 45.8**	**-2.0**
	baz=330						
EDH	**Donghe**	**1.38**	**3**	P	**Pn**	**11 09 47.4**	**-1.3**
	baz=359						
EDH				*eS*	**Sn**	**11 10 07.4**	**+1.5**
	baz=359						
SNJT	**Kaohsiung City**	**1.41**	**325**	*eP*	**Pn**	**11 09 47.3**	**-1.8**
	baz=326						
SNJT				*eS*	**Sn**	**11 10 07.7**	**+0.9**
	baz=326						
TWM1	**Shoushan**	**1.43**	**329**	*eP*	**Pn**	**11 09 48.1**	**-1.3**
	baz=330						
TWM1				S	**Sn**	**11 10 08.2**	**+1.0**
	baz=330						
SCST	**Cishan**	**1.45**	**333**	*eP*	**Pn**	**11 09 48.4**	**-1.2**
	baz=332						
SCST				*eS*	**Sn**	**11 10 08.5**	**+0.9**
	baz=332						
SLGT	**Liugui**	**1.49**	**339**	*eP*	**Pn**	**11 09 49.8**	**-0.4**
	baz=338						
SLGT				*eS*	**Sn**	**11 10 10.1**	**+1.4**
	baz=338						
ECS	**Chishang**	**1.49**	**0**	*eS*	**Sn**	**11 10 09.3**	**+0.6**
	baz=357						
CHKT	**Chengkung**	**1.50**	**5**	*eP*	**Pn**	**11 09 49.9**	**-0.5**
	baz=1.0						
CHKT				*eS*	**Sn**	**11 10 10.8**	**+1.8**
	baz=1.0						
SGST	**Jiashian**	**1.59**	**339**	P	**Pn**	**11 09 51.3**	**-0.3**
	baz=338						
SGST				S	**Sn**	**11 10 14.1**	**+3.0**
	baz=338						
ELDTW	**Lidau**	**1.60**	**353**	*eP*	**Pn**	**11 09 50.2**	**-1.6**
	baz=351						
ELDTW				*eS*	**Sn**	**11 10 11.3**	**-0.2**
	baz=351						
FULB	**Fuli**	**1.60**	**3**	P	**Pn**	**11 09 51.1**	**-0.6**
	baz=359						
FULB				*eS*	**Sn**	**11 10 12.5**	**+1.1**
	baz=359						
STYT	**Tauyuan**	**1.62**	**345**	P	**Pn**	**11 09 52.4**	**+0.3**
	baz=343						
STYH	**Taoyuan**	**1.62**	**346**	*eP*	**Pn**	**11 09 52.4**	**+0.4**
	baz=344						
STYH				*eS*	**Sn**	**11 10 13.2**	**+1.4**
	baz=344						
TAI	**Tainan**	**1.68**	**326**	*eP*	**Pn**	**11 09 51.8**	**-1.0**
	baz=327						
EYUL	**Yuli**	**1.75**	**3**	*eP*	**Pn**	**11 09 51.8**	**-1.9**
EYUL				*eS*	**Sn**	**11 10 15.2**	**+0.3**
SNST	**Tainan City**	**1.75**	**338**	*eP*	**Pn**	**11 09 53.5**	**-0.2**
	baz=337						
SNST				*eS*	**Sn**	**11 10 17.0**	**+2.1**
	baz=337						
TWF1	**Yuli**	**1.75**	**2**	P	**Pn**	**11 09 52.0**	**-1.7**
	baz=359						
TWF1				S	**Sn**	**11 10 15.9**	**+0.9**
	baz=359						
TPUB	**Ta-pu**	**1.78**	**342**	*eP*	**Pn**	**11 09 54.7**	**+0.5**
	baz=341						
YULB	**Yu-li**	**1.79**	**2**	*eP*	**Pn**	**11 09 52.4**	**-2.0**
	baz=359						
YULB				S	**Sn**	**11 10 16.8**	**+0.7**
	baz=359						
TWK	**Hsinying**	**1.80**	**338**	*eP*	**Pn**	**11 09 53.7**	**-0.7**
	baz=338						
TWK				S	**Sn**	**11 10 18.1**	**+1.9**
	baz=338						
HGSD	**Ruisui**	**1.90**	**6**	*eP*	**Pn**	**11 09 54.8**	**-0.9**
	baz=2.0						
EHY	**Hungye**	**1.91**	**3**	*eP*	**Pn**	**11 09 54.0**	**-1.9**
EHY				*eS*	**Sn**	**11 10 19.7**	**+1.0**
ALS	**Alishan**	**1.94**	**349**	P	**Pn**	**11 09 56.0**	**-0.6**
	baz=347						
ALS				S	**Sn**	**11 10 21.7**	**+1.5**
	baz=347						
ICHU	**Yijhu**	**1.96**	**334**	*eS*	**Sn**	**11 10 22.4**	**+2.4**
	baz=333						
CHY	**Chiayi**	**2.03**	**339**	*eP*	**Pn**	**11 09 57.0**	**-0.6**
	baz=338						
CHY				*eS*	**Sn**	**11 10 23.2**	**+1.5**
	baz=338						
CHN2	**Minshiung**	**2.05**	**341**	*eP*	**Pn**	**11 09 55.1**	**-2.7**
	baz=339						
CHN2				*eS*	**Sn**	**11 10 23.8**	**+1.6**
	baz=339						
CHN5	**Tsauling**	**2.06**	**346**	*eP*	**Pn**	**11 09 57.0**	**-1.0**
	baz=345						
CHN5				*eS*	**Sn**	**11 10 23.4**	**+0.9**
	baz=345						
EGFH	**Guangfu**	**2.07**	**5**	*eP*	**Pn**	**11 09 57.6**	**-0.5**
	baz=2.0						
WHYT	**Xinyi Township**	**2.12**	**351**	*eP*	**Pn**	**11 09 58.6**	**-0.2**
	baz=349						
WDLH	**Douliu**	**2.18**	**343**	*eP*	**Pn**	**11 09 58.0**	**-1.5**
	baz=342						
WDGT	**Dungji**	**2.20**	**319**	*eP*	**Pn**	**11 09 57.3**	**-2.5**
	baz=320						
WDGT				*eS*	**Sn**	**11 10 24.9**	**-0.9**
	baz=320						
SSLB	**Suanglung**	**2.20**	**354**	*eP*	**Pn**	**11 09 58.8**	**-1.0**
	baz=352						
SSLB				*eS*	**Sn**	**11 10 25.9**	**0.0**
	baz=352						
ESL	**Shilin**	**2.22**	**5**	*eP*	**Pn**	**11 09 58.9**	**-1.2**
	baz=2.0						
ESL				*eS*	**Sn**	**11 10 25.8**	**-0.6**
	baz=2.0						
WSF	**Szhu**	**2.23**	**336**	*eP*	**Pn**	**11 09 59.4**	**-0.9**
	baz=335						
WJS	**Zhushan**	**2.26**	**349**	*eP*	**Pn**	**11 10 00.0**	**-0.7**
	baz=347						
WJS				*eS*	**Sn**	**11 10 27.9**	**+0.4**
	baz=347						
SMLT	**Sun Moon Lake**	**2.30**	**353**	*eP*	**Pn**	**11 10 01.4**	**+0.1**
	baz=351						
SMLT				*eS*	**Sn**	**11 10 28.9**	**+0.5**
	baz=351						
TYC	**Yuchr**	**2.32**	**352**	*eP*	**Pn**	**11 10 00.5**	**-1.0**
	baz=350						
TYC				*eS*	**Sn**	**11 10 29.4**	**+0.5**
	baz=350						
ETM	**Tongmen**	**2.37**	**6**	*eP*	**Pn**	**11 10 00.9**	**-1.3**
	baz=3.0						
PHUB	**P'eng-hu**	**2.44**	**322**	*eP*	**Pn**	**11 10 01.3**	**-1.8**
	baz=322						
PHUB				*eS*	**Sn**	**11 10 32.5**	**+0.7**
	baz=322						
CHGB	**Renai**	**2.46**	**359**	*eP*	**Pn**	**11 10 02.8**	**-0.7**
	baz=357						
WCS	**Beigang Elemen**	**2.47**	**354**	*eP*	**Pn**	**11 10 02.7**	**-0.8**
	baz=352						
PNG	**Penghu**	**2.49**	**322**	P	**Pn**	**11 10 02.1**	**-1.7**
	baz=323						
PNG				*eS*	**Sn**	**11 10 33.3**	**+0.2**
	baz=323						
TWD	**Chiawan**	**2.50**	**8**	*eS*	**Sn**	**11 10 31.1**	**-2.1**
	baz=5.0						
WHF	**Hehuan Shan**	**2.54**	**1**	*eP*	**Pn**	**11 10 04.7**	**-0.2**
	baz=359						
NACB	**Ninganchiao**	**2.59**	**8**	*eP*	**Pn**	**11 10 03.6**	**-1.6**
	baz=5.0						
ETLH	**Xiulin Townshi**	**2.61**	**5**	*eP*	**Pn**	**11 10 05.5**	**-0.1**
	baz=3.0						
FUSS	**Fushou**	**2.64**	**1**	*eP*	**Pn**	**11 10 05.6**	**-0.5**
	baz=358						
TDCB	**Techi**	**2.65**	**359**	*eP*	**Pn**	**11 10 05.4**	**-0.7**
	baz=357						
TWT	**Tachien**	**2.65**	**359**	*eP*	**Pn**	**11 10 05.1**	**-1.0**
	baz=357						
WHP	**Taichung City**	**2.68**	**355**	*eP*	**Pn**	**11 10 04.5

ϕ_s*194.00000°, δ24.00000°, λ95.00000°. NP2:*ϕ_s*8.00000°, δ66.00000°, λ88.00000°. Principal axes: T Plg69.0000°, Azm274.0000°; N Plg2.0000°, Azm9.0000°; P Plg21.0000°, Azm100.0000°;*

JMA Felt I J1.

ISC 27 11:20:27.8±0.8**,35.78N**±0.05×**140.12E**±0.05**,h69**km±7km**, n30**,σ1s09/37**,mb3.9/7,4C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.30**	**117**	⇑P		**Pn**		**11 20 39.4**	**+0.5**
JSMT				S		**Sn**		**11 20 47.8**	**+0.8**
TOK	**Tokyo**	**0.31**	**253**	P		**Pn**		**11 20 39.6**	**+0.7**
TOK				S		**Sn**		**11 20 47.8**	**+0.8**
JCN	**Nagara**	**0.36**	**170**	⇑P		**Pn**		**11 20 39.9**	**+0.5**
JCN				S		**Sn**		**11 20 48.1**	**+0.3**
JIHU	**Itakohorinouch**	**0.38**	**60**	⇑P		**Pn**		**11 20 39.5**	**0.0**
JIHU				S		**Sn**		**11 20 48.0**	**0.0**
JAG	**Ashikaga**	**0.84**	**320**	⇓P		**Pn**		**11 20 43.9**	**-0.4**
JOD2	**Odawara 2**	**0.99**	**239**	⇓P		**Pn**		**11 20 45.3**	**-0.8**
JOD2				S		**Sn**		**11 20 58.2**	**-1.5**
JRY	**Ryogami san**	**1.02**	**284**	⇓P		**Pn**		**11 20 46.6**	**+0.1**
JRY				S		**Sn**		**11 21 00.7**	**+0.2**
BSO3	**Boso 3**	**1.02**	**162**	⇑P		**Pn**		**11 20 45.8**	**-0.5**
BSO3				S		**Sn**		**11 21 00.5**	**+0.4**
JIM2	**Oshima 2**	**1.20**	**208**	S		**Sn**		**11 21 02.4**	**-2.2**
JKT	**Katashina**	**1.21**	**325**	⇓P		**Pn**		**11 20 48.7**	**-0.4**
JFNN	**Fujinakano**	**1.31**	**244**	P		**Pn**		**11 20 49.7**	**-0.5**
JFNN				S		**Sn**		**11 21 06.0**	**-1.0**
JYN	**Shimob**	**1.31**	**258**	⇓P		**Pn**		**11 20 50.0**	**-0.4**
JYN				S		**Sn**		**11 21 06.3**	**-1.0**
MJAR	**Matsushiro Arr**	**1.73**	**297**	P		**Pn**		**11 20 55.8**	**0.0**
	6.1nm,0.3s,baz=98,slow=14,SNR=201								
MJAR				S		**Sn**		**11 21 19.0**	**+2.0**
	2.9nm,0.3s,baz=132,slow=16,SNR=3.5								
MAT	**Matsushiro**	**1.73**	**297**	P		**Pn**		**11 20 56.1**	**+0.3**
MAT				*e*S		**Sn**		**11 21 17.5**	**+0.5**
JHJ	**Hachijo jima 2**	**2.67**	**186**	P		**Pn**		**11 21 08.2**	**-0.3**
	28nm,0.3s,baz=54,slow=6.1,SNR=2.0								
JHJ				S		**Sn**		**11 21 37.1**	**-2.6**
	38nm,0.3s,baz=45,slow=20,SNR=6.8								
ASAJ	**Asahikawa**	**8.54**	**12**	P		**Pn**		**11 22 26.9**	**-1.8**
	0.5nm,0.3s,baz=222,slow=15,SNR=6.1								
ASAJ				S		**Sn**		**11 24 01.3**	**-2.1**
	0.3nm,0.3s,baz=162,slow=20,SNR=1.5								
KSRS	**Korea Array**	**9.95**	**283**	P		**Pn**		**11 22 50.3**	**+2.4**
	0.2nm,0.3s,baz=96,slow=14,SNR=2.4								
H11N2	**WAKE ISLAND Hy**	**28.45**	**117**	T		T		11 56 09.8	
	baz=308,slow=75,SNR=6.4								
H11N1	**WAKE ISLAND Hy**	**28.46**	**117**	T		T		11 56 19.8	
	baz=308,slow=75,SNR=6.0								
H11N3	**WAKE ISLAND Hy**	**28.47**	**117**	T		T		11 56 11.8	
	baz=308,slow=75,SNR=4.1								
H11S3	**WAKE ISLAND Hy**	**29.11**	**119**	T		T		11 56 34.3	
	baz=318								
H11S1	**WAKE ISLAND Hy**	**29.11**	**119**	T		T		11 56 34.3	
	baz=318								
H11S2	**WAKE ISLAND Hy**	**29.12**	**119**	T		T		11 56 34.3	
	baz=318								
MKAR	**Makanchi Array**	**43.91**	**303**	P		**P**		**11 28 27.7**	**+0.2**
	0.3nm,0.6s,baz=78,slow=9.2,SNR=3.7								
WRA	**Warramunga Arr**	**55.69**	**187**	P		**P**		**11 29 56.5**	**-0.5**
	0.7nm,0.5s,baz=0.1,slow=7.6,SNR=32								
ASAR	**Alice Springs**	**59.41**	**187**	P		**P**		**11 30 23.2**	**+0.1**
	0.1nm,0.4s,baz=2.5,slow=6.6,SNR=10								
ARCES	**ARCESS Array B**	**64.80**	**339**	P		**P**		**11 30 59.3**	**+0.6**
	1.3nm,0.9s,baz=59,slow=8.7,SNR=4.2								
FINES	**FINESS Array B**	**69.44**	**322**	P		**P**		**11 31 27.4**	**-0.7**
	2.2nm,1.0s,baz=50,slow=7.5,SNR=3.8								
AKASG	**Malin Array Be**	**74.65**	**322**	P		**P**		**11 31 59.4**	**-0.1**
	0.7nm,0.4s,baz=50,slow=5.3,SNR=3.0								
NOA	**NORSAR Array B**	**74.94**	**337**	P		**P**		**11 32 01.2**	**+0.2**
	0.3nm,0.7s,baz=38,slow=5.2,SNR=2.0								

IDC 27 11:45:11.6±3.9**,11.35S**×**118.24E,h0**km**,mb3.4/1, mb1 3.5/3,mb1mx3.3/34,mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=259.2km s-min=31.0km az=47.0,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.69**	**121**	P		Pn		11 49 19.2	-0.3
	0.1nm,0.3s,baz=294,slow=13,SNR=6.6								
WRA				S		Sn		11 52 28.7	-8.7
	0.2nm,0.3s,baz=280,slow=22,SNR=2.2								
ASAR	**Alice Springs**	**19.30**	**131**	P		P		11 49 38.6	+0.4
	0.1nm,0.3s,baz=306,slow=12,SNR=9.1								
ASAR				S		Sn		11 53 06.6	-10
	0.1nm,0.3s,baz=304,slow=23,SNR=3.6								
MKAR	**Makanchi Array**	**66.21**	**334**	P		P		11 56 01.2	-0.1
	0.2nm,0.5s,baz=144,slow=5.7,SNR=2.7								

*BJI **27** 11:52:36.9±0.0,52.35N×170.65W,h15km,mB5.1/25, mb4.8/48,Ms4.8/18,Ms7 4.4/15*

*IDC **27** 11:52:36.6±0.6,52.07N×170.57W,h0km,mb4.3/28, mb1 4.5/30,mb1mx4.4/48,mbtmp4.3/30,ML3.9/2,MS4.0/28, Ms1 4.0/28,ms1mx3.9/47,Error ellipse: s-maj=17.6km s-min=11.0km az=177.0*

*AEIC **27** 11:52:37±4.8,51.8N±0.1×170.35W±0.10,h12km±4km, Error ellipse: s-maj=15.3km s-min=8.0km az=163.0*

*MOS **27** 11:52:40.5±0.9,52.22N×170.55W,h35km,mb4.9/48, MS4.1/8,Error ellipse: s-maj=8.5km s-min=5.9km az=94.2*

*NEIC **27** 11:52:42.2±1.8,52.1N±0.1×170.57W±0.10,h39km±7km, mb4.6/182,ML4.2(AEIC),Error ellipse: s-maj=15.9km s-min=7.8km az=164.0*

*GCMT **27** 11:52:43.2±0.3,51.91N±0.02×170.44W±0.04,h18km±1km, MW4.9/84,Moment Tensor Solution. s30,c36; s84,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.41±.16; $M_{\theta\theta}$-2.26±.10; $M_{\phi\phi}$-0.15±.10; $M_{r\theta}$2.07±.24; $M_{r\phi}$-0.64±.06; $M_{\theta\phi}$0.55±.28; Best double couple: $M_0$3.23500×10^{16} NP1:ϕ_s254.00000°, δ24.00000°, λ89.00000°. NP2: ϕ_s75.00000°, δ66.00000°, λ91.00000°. Principal axes: T 3.2200, Plg69.0000°, Azm346.0000°; N 0.0250, Plg0.0000°, Azm255.0000°; P -3.2490, Plg21.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **27** 11:52:45.1±0.0,52.30N×171.66W,h33km,mb5.0*

ISC 27 11:52:39.9±1.7**,52.17N**±0.08×**170.58W**±0.04**, h20**km±10km**,n398,**σ1s**13/397,mb4.7/154,MS4.1/42, 15C-5D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.33**	**52**	Pn		**Pn**		**11 53 02.3**	**-1.0**
NIKH	**Nikolski High**	**1.33**	**52**	P				11 53 02.9	
	baz=218,SNR=44								
ATKA	**Atka Island**	**2.23**	**272**	Pn		**Pn**		**11 53 16.5**	**+0.8**
GSTR	**Great Sitkin T**	**3.38**	**271**	Pn		**Pn**		**11 53 33.2**	**+1.7**
AKUT	**Akutan**	**3.50**	**54**	Pn		**Pn**		**11 53 35.6**	**+2.5**
ADK	**Adak**	**3.78**	**268**	P		**Pn**		**11 53 37.9**	**+0.9**
ADK	**Adak**	**3.78**	**268**	Pn		**Pn**		**11 53 37.9**	**+0.9**
KIWB	**Kanaga Island**	**4.07**	**268**			**Pn**		**11 53 41.3**	**+0.3**
SPIA	**Saint Paul Isl**	**5.03**	**2**	Pn		Pn		11 53 59.2	+5.2
SPIA	**Saint Paul Isl**	**5.03**	**2**	P				11 53 56.4	
	baz=180								
FALS	**False Pass**	**5.05**	**55**	Pn		**Pn**		**11 53 58.2**	**+3.8**
FALS	**False Pass**	**5.05**	**55**	P				11 53 55.5	
	baz=236								
AMKA	**Amchitka**	**6.33**	**267**	Pn		**Pn**		**11 54 12.3**	**+0.3**
SDPT	**Sand Point**	**6.79**	**58**	Pn		**Pn**		**11 54 19.9**	**+1.7**
SDPT	**Sand Point**	**6.79**	**58**	P				11 54 19.1	
	baz=243								
CNBA	**Chernabura Isl**	**7.08**	**64**			**Pn**		**11 54 23.2**	**+1.0**
CHNA	**Chernabura Isl**	**7.08**	**64**	P				11 54 22.1	
	baz=249								
OHAK	**Old Harbor**	**11.20**	**56**	Pn		**Pn**		**11 55 16.9**	**-1.8**
OHAK	**Old Harbor**	**11.20**	**56**	P				11 55 17.3	
	baz=248								
KDAK	**Kodiak Island**	**11.75**	**54**	Pn		**Pn**		**11 55 24.8**	**-1.4**
	0.9nm,0.3s,baz=236,slow=10,SNR=17								
KDAK				S		**Sn**		**11 57 31.6**	**-5.1**
	0.4nm,0.3s,baz=234,slow=19,SNR=1.2								
KDAK	**Kodiak Island**	**11.75**	**54**	P		**Pn**		**11 55 26.3**	**+0.1**
KDAK	**Kodiak Island**	**11.75**	**54**			**Pn**		**11 55 26.3**	**+0.1**
KDAK	**Kodiak Island**	**11.75**	**54**	P				11 55 24.7	
	baz=247								
N18K	**Kilae Creek**	**11.76**	**38**	P				11 55 27.0	
	baz=228								
SVW2	**Sparrevohn**	**12.15**	**37**			Pn		11 55 36.6	+4.9
N19K	**Bonanza Creek**	**12.38**	**39**	P				11 55 35.1	
	baz=231								
RSO	**Redoubt South**	**12.88**	**43**			**Pn**		**11 55 45.9**	**+4.0**
CNPM	**China Poot**	**13.10**	**48**	Pn		**Pn**		**11 55 44.3**	**-0.3**
BRSE	**Bradley Lake S**	**13.41**	**48**	P				11 55 48.4	
	baz=243								
SEW	**Seward**	**14.16**	**48**			**Pn**		**11 55 57.3**	**-1.7**
SEW	**Seward**	**14.16**	**48**	P				11 55 58.2	
	baz=244								
O22K	**Cooper Landing**	**14.20**	**46**			**Pn**		**11 55 57.3**	**-2.3**
O22K	**Cooper Landing**	**14.20**	**46**	P				11 55 58.7	
	baz=242								
SKT	**Skwentna**	**14.22**	**39**			**Pn**		**11 55 59.5**	**-0.5**
RC01	**Rabbit Creek A**	**14.48**	**44**	Pn		**Pn**		**11 56 03.5**	**+0.1**
RC01	**Rabbit Creek A**	**14.48**	**44**	P				11 56 01.7	
	baz=240								
PPLA	**Purkeypile**	**14.53**	**35**			**Pn**		**11 56 03.0**	**-1.3**
PMR	**Palmer**	**14.98**	**43**	P				11 56 11.1	
	baz=239								
PWL	**Port Wells**	**14.98**	**46**	Pn		**Pn**		**11 56 08.0**	**-2.3**
PWL				lAmb		lAmb		11 56 24.2	
	comp=Z,35nm,1.2s								
GHO	**Glory Hole Cre**	**15.15**	**42**			**Pn**		**11 56 11.5**	**-1.1**
KTH	**Kantishna Hill**	**15.39**	**35**			**Pn**		**11 56 14.5**	**-1.2**
KTH				lAmb		lAmb		11 56 35.3	
	comp=Z,32nm,1.0s								
SML	**Sawmill**	**15.42**	**43**	Pn		**Pn**		**11 56 16.2**	**+0.1**
GLI	**Glacier Island**	**15.54**	**47**	Pn		**Pn**		**11 56 16.6**	**-1.0**
TRF	**Thorofare Moun**	**15.55**	**36**	P		**P**		**11 56 21.2**	**-0.9**
TRF	**Thorofare Moun**	**15.55**	**36**	P				11 56 18.2	
	baz=232								
BPAW	**Bear Paw Mtn.**	**15.72**	**33**	Pn		**Pn**		**11 56 18.4**	**-1.5**
BPAW				lAmb		lAmb		11 56 36.7	
	comp=Z,24nm,0.7s								
BPAW	**Bear Paw Mtn.**	**15.72**	**33**	P				11 56 20.5	
	baz=228,SNR=20								
SCM	**Sheep Creek Mo**	**15.85**	**43**	P		**Pn**		**11 56 20.1**	**-1.6**
SCM				pmax		pmax			
	comp=Z,29nm,0.6s								
SCM	**Sheep Creek Mo**	**15.85**	**43**			**Pn**		**11 56 20.1**	**-1.6**
SCM				lAmb		lAmb		11 56 32.1	
	comp=Z,29nm,0.6s								
EYAK	**Cordova Ski Ar**	**16.03**	**49**	P				11 56 23.3	
	baz=248								
WAT6	**Susitna Watana**	**16.04**	**41**	P				11 56 23.1	
	baz=239								
RND	**Reindeer**	**16.05**	**37**	P		**Pn**		**11 56 22.5**	**-1.7**
RND				pmax		pmax			
	comp=Z,17nm,1.2s								
RND	**Reindeer**	**16.05**	**37**			**Pn**		**11 56 22.5**	**-1.7**
I21K	**Tanana**	**16.14**	**29**	P				11 56 24.8	
	baz=224,SNR=10								
MCK	**McKinley**	**16.21**	**36**	P		**Pn**		**11 56 26.7**	**+0.5**
MCK				pmax		pmax			
	comp=Z,17nm,1.1s								
MCK	**McKinley**	**16.21**	**36**			**Pn**		**11 56 26.6**	**+0.5**
MCK	**McKinley**	**16.21**	**36**	P				11 56 25.4	
	baz=233								
H21K	**Melozitna Rive**	**16.25**	**27**	P				11 56 27.6	
	baz=221								
BWN	**Browne**	**16.28**	**34**			**Pn**		**11 56 27.1**	**-0.1**
BWN				lAmb		lAmb		11 56 43.9	
	comp=Z,28nm,1.0s								
KLU	**Klutina**	**16.31**	**45**			**Pn**		**11 56 26.9**	**-0.7**
KLU				lAmb		lAmb		11 56 51.8	
	comp=Z,23nm,0.8s								
KLU	**Klutina**	**16.31**	**45**	P				11 56 26.7	
	baz=245								
MLY	**Manley**	**16.42**	**31**			**Pn**		**11 56 26.8**	**-2.1**
MLY	**Manley**	**16.42**	**31**	P				11 56 28.2	
	baz=226								
M24K	**Tolsona, Glenn**	**16.46**	**43**			**Pn**		**11 56 30.4**	**+0.9**
M24K				lAmb		lAmb		11 56 52.6	
	comp=Z,32nm,0.7s								
M24K	**Tolsona, Glenn**	**16.46**	**43**	P				11 56 28.9	
	baz=243								
NEA2	**Nenana**	**16.68**	**33**			**Pn**		**11 56 32.3**	**+0.1**
NEA2	**Nenana**	**16.68**	**33**	P				11 56 31.9	
	baz=231								
BMRM	**Bremner River**	**16.70**	**48**			**Pn**		**11 56 33.3**	**+0.7**
BMRM				lAmb		lAmb		11 56 48.0	
	comp=Z,33nm,0.9s								
I23K	**Minto, Yukon-K**	**16.93**	**32**			**Pn**		**11 56 36.3**	**+0.9**
I23K				lAmb		lAmb		11 56 49.1	
	comp=Z,43nm,1.4s								
I23K	**Minto, Yukon-K**	**16.93**	**32**	P				11 56 36.1	
	baz=229								
N25K	**Chitina, Valde**	**16.94**	**46**	Pn		**Pn**		**11 56 35.2**	**-0.3**
N25K	**Chitina, Valde**	**16.94**	**46**	P				11 56 35.2	
	baz=247								
WRH	**Wood River Hil**	**16.94**	**35**			**Pn**		**11 56 33.1**	**-2.4**
HARP	**HAARP**	**17.02**	**43**	P				11 56 35.5	
	baz=243								
PAX	**Paxson**	**17.14**	**41**	P		**Pn**		**11 56 37.5**	**-0.6**
PAX				pmax		pmax			
	comp=Z,6.0nm,0.7s								
PAX	**Paxson**	**17.14**	**41**			**Pn**		**11 56 37.5**	**-0.6**
PAX	**Paxson**	**17.14**	**41**	P				11 56 37.4	
	baz=241								
CCB	**Clear Creek Bu**	**17.15**	**34**			**Pn**		**11 56 37.7**	**-0.3**
MDM	**Murphy Dome**	**17.19**	**33**			**Pn**		**11 56 38.4**	**-0.2**
GLB	**Gilahina Butte**	**17.23**	**47**			**Pn**		**11 56 37.3**	**-1.8**
TCOL	**CIGO, UAF Yank**	**17.26**	**34**			**Pn**		**11 56 38.3**	**-1.1**
COLA	**College**	**17.27**	**34**	P		**Pn**		**11 56 39.2**	**-0.3**
COLA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
COLA	**College**	**17.27**	**34**			**Pn**		**11 56 39.2**	**-0.3**
COLA	**College**	**17.27**	**34**	P				11 56 38.0	
	baz=232								
CRQM	**Cirque**	**17.31**	**49**			**Pn**		**11 56 39.6**	**-0.7**
CRQM				lAmb		lAmb		11 56 57.2	
	comp=Z,19nm,0.6s								
HDA	**Harding Lake**	**17.31**	**36**			**Pn**		**11 56 39.3**	**-0.8**
HDA	**Harding Lake**	**17.31**	**36**	P				11 56 39.2	
	baz=235								
HDA				P				11 56 39.2	
	baz=235								
VRDI	**Verde Repeater**	**17.32**	**48**			**Pn**		**11 56 39.5**	**-0.9**
H23K	**Yukon River**	**17.32**	**30**	P				11 56 41.5	
	baz=227								
CRQE	**Cirque**	**17.33**	**50**	P				11 56 40.0	
	baz=251								
WAX	**Waxell Ridge**	**17.36**	**51**			**Pn**		**11 56 41.2**	**+0.4**
WAX				lAmb		lAmb		11 56 49.9	
	comp=Z,24nm,0.6s								
IL31		**17.54**	**35**	Pn		**Pn**		**11 56 42.0**	**-0.8**
ILAR	**Eielson Array**	**17.54**	**35**	P		**Pn**		**11 56 42.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=222,slow=10,SNR=15								
ILAR						LR		12 03 58.5	
	comp=Z,460nm,18.9s,baz=241,slow=39								
ILAR	**Eielson Array**	**17.54**	**35**	P		**Pn**		**11 56 43.6**	**+0.7**
MCARA	**McCarthy VSAT**	**17.56**	**48**			**Pn**		**11 56 41.7**	**-1.5**
MCARA				lAmb		lAmb		11 56 59.5	
	comp=Z,30nm,0.9s								
H24K	**Noodor Dome**	**17.85**	**31**	P				11 56 46.5	
	baz=230,SNR=8.4								
YAH	**Yahtse**	**17.87**	**51**			**Pn**		**11 56 44.4**	**-2.9**
YAH				lAmb		lAmb		11 57 10.5	
	comp=Z,41nm,0.9s								
GRNC	**Granite Creek**	**17.96**	**50**			**Pn**		**11 56 47.4**	**-1.0**
DOT	**Dot Lake**	**18.02**	**40**			**Pn**		**11 56 47.5**	**-1.3**
BARN	**Barnard Glacie**	**18.09**	**49**	P		**Pn**		**11 56 49.9**	**0.0**
BARN				lAmb		lAmb		11 57 13.6	
	comp=Z,19nm,0.6s								
COLD	**Coldfoot**	**18.12**	**26**			**Pn**		**11 56 48.8**	**-1.2**
COLD	**Coldfoot**	**18.12**	**26**	P				11 56 49.8	
	baz=223								
TABL	**Table Mountain**	**18.18**	**51**	P		**Pn**		**11 56 50.4**	**-0.6**
TABL				lAmb		lAmb		11 57 06.3	
	comp=Z,49nm,0.9s								
SCRK	**Sand Creek**	**18.20**	**39**	P		**Pn**		**11 56 51.5**	**+0.3**
SCRK	**Sand Creek**	**18.20**	**39**	P				11 56 50.1	
	baz=241								
CTG	**Chitna Glacier**	**18.22**	**50**	P				11 56 49.9	
	baz=253								
CTGM	**Chitina Glacie**	**18.22**	**50**	P		**P**		**11 56 52.4**	**+0.8**
CTGM				lAmb		lAmb		11 57 21.1	
	comp=Z,20nm,0.7s								
LOGN	**Logan Glacier**	**18.34**	**50**	P		**Pn**		**11 56 52.0**	**-0.9**
LOGN				lAmb		lAmb		11 57 02.9	
	comp=Z,28nm,0.8s								
PCA	**Pinnacle**	**18.53**	**53**	P		**P**		**11 56 54.8**	**-0.2**
PCA				lAmb		lAmb		11 57 17.3	
	comp=Z,34nm,0.8s								
PINM	**Pinnacle**	**18.53**	**53**	P				11 56 55.9	
	baz=257								
PET	**Petropavlovsk**	**18.64**	**285**	*e*P		**Pn**		**11 56 57.4**	**+0.9**
PET				*e*S		**Sn**		**12 00 20.3**	**-3.9**
PET				pmax		pmax			
	comp=Z,26nm,1.1s								
PET				pmax		pmax			
	comp=Z,200nm,13.5s								
L27K	**Beaver Creek,**	**18.69**	**43**	P		**P**		**11 56 56.1**	**-0.5**
L27K	**Beaver Creek,**	**18.69**	**43**	P				11 56 56.6	
	baz=246								
BCAR	**Beaver Creek A**	**18.71**	**43**			**P**		**11 56 55.8**	**-1.1**
BCPM	**Bancas Point**	**18.81**	**53**	P		**P**		**11 56 55.9**	**-2.0**
BCPM				lAmb		lAmb		11 57 14.5	
	comp=Z,25nm,0.8s								
K27K	**Chicken**	**18.98**	**40**	P		**P**		**11 56 59.6**	**-0.1**
K27K	**Chicken**	**18.98**	**40**	P				11 56 59.1	
	baz=244								
FYU	**Fort Yukon**	**19.15**	**31**			**Pn**		**11 57 05.0**	**+2.5**
FYU				lAmb		lAmb		11 57 17.6	
	comp=Z,30nm,1.1s								
PEA0B	**Petropavlovsk-**	**19.20**	**285**	P		**P**		**11 57 02.9**	**+0.7**
PEA0B				pmax		pmax			
	comp=Z,40nm,0.8s								
PEA0B	**Petropavlovsk-**	**19.20**	**285**			**P**		**11 57 02.9**	**+0.7**
PEA0B				lAmb		lAmb		11 57 06.2	
	comp=Z,40nm,0.8s								
PETK	**Petropavlovsk-**	**19.20**	**285**	P		**P**		**11 57 03.3**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=87,slow=14,SNR=45								
PETK				PcP		**PcP**		**12 01 25.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=57,slow=5.5,SNR=3.6								
PETK				LR		LR		12 03 48.4	
	comp=Z,301nm,21.1s,baz=94,slow=35								
PETK	**Petropavlovsk-**	**19.20**	**285**	P		**P**		**11 57 02.5**	**+0.2**
TOLK	**Toolik Lake Re**	**19.32**	**23**	P		**Pn**		**11 57 05.0**	**+0.4**
TOLK	**Toolik Lake Re**	**19.32**	**23**	P				11 57 04.6	
	baz=221								
BILL	**Bilibino**	**19.45**	**334**	⇓*e*P		**P**		**11 57 05.4**	**+0.6**
BILL				pmax		pmax			
	comp=Z,17nm,1.7s								
BILL				MLR		MLR			
	comp=Z,516nm,16.0s								
BILL	**Bilibino**	**19.45**	**334**	P		**P**		**11 57 05.3**	**+0.5**
BILL				lAmb		lAmb		11 57 15.2	
	comp=Z,24nm,1.2s								
EGAK	**Eagle**	**19.66**	**39**	P		**P**		**11 57 08.0**	**+0.7**
EGAK	**Eagle**	**19.66**	**39**	P				11 57 07.3	
	baz=243,SNR=13								
BMAR	**Burnt Mountain**	**19.88**	**30**	P		**P**		**11 57 10.7**	**+1.2**
HYT	**Haines Junctio**	**20.01**	**51**	P		Pn		11 57 13.3	+0.3
DAWY	**Dawson**	**20.08**	**42**	P		**P**		**11 57 12.1**	**+0.3**
DAWY				lAmb		lAmb		11 57 28.2	
	comp=Z,29nm,1.4s								
SKR	**Severo-Kuril's**	**20.72**	**279**	*e*P		**P**		**11 57 17.0**	**-1.8**
SKR				*e*S		**S**		**12 01 05.3**	**-3.8**
SKR				pmax		pmax			
	comp=Z,23nm,0.9s								
SKR				pmax		pmax			
	comp=Z,100nm,3.2s								
SKR				MLR		MLR			
	comp=Z,300nm,17.0s								
SKR				MLR		MLR			
	comp=Z,300nm,19.0s								
SKAG	**Skagway**	**20.90**	**56**	P		**P**		**11 57 22.2**	**+1.5**
SKAG	**Skagway**	**20.90**	**56**	P				11 57 20.9	
	baz=264,SNR=15								
WHY	**Whitehorse**	**21.26**	**52**	P		**P**		**11 57 26.5**	**+1.9**
WHY				lAmb		lAmb		11 57 48.7	
	comp=Z,19nm,0.8s								
WHY	**Whitehorse**	**21.26**	**52**	P				11 57 23.5	
	baz=261								
JIS	**Juneau Island**	**21.33**	**59**	P		**P**		**11 57 23.2**	**-2.1**
JIS				lAmb		lAmb		11 57 38.8	
	comp=Z,23nm,0.9s								
EPYK	**Eagle Plains**	**22.01**	**37**	P		**P**		**11 57 32.2**	**-0.4**
EPYK				lAmb		lAmb		11 57 58.6	
	comp=Z,17nm,0.8s								
EPYK	**Eagle Plains**	**22.01**	**37**	P				11 57 32.0	
	baz=245,SNR=11								
CRAG	**Craig**	**22.18**	**67**	P		**P**		**11 57 36.4**	**+2.0**
CRAG				lAmb		lAmb		11 57 48.4	
	comp=Z,29nm,1.0s								
CRAG	**Craig**	**22.18**	**67**	P				11 57 36.0	
	baz=276								
SEY	**Seymchan**	**22.27**	**313**	P		**P**		**11 57 36.2**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=105,slow=10.0,SNR=16								
SEY	**Seymchan**	**22.27**	**313**	*i* P		**P**		**11 57 35.0**	**-0.3**
MA2	**Magadan**	**22.64**	**304**	P		**P**		**11 57 40.6**	**+1.2**
	comp=Z,9.3nm,0.8s,baz=89,slow=13,SNR=6.0								
MA2				LR		LR		12 07 34.4	
	comp=

H11N1 WAKE ISLAND Hy 36.85 217 T T 12 39 11.0
baz=22,slow=75,SNR=7.1
PAHR Pah Rah Range 36.96 89 P **P** **11 59 47.0 -0.7**
PAHR IAmb IAmb 12 00 03.8
comp=Z,6.7nm,1.1s
VCNR Virginia City 37.05 90 P **P** **11 59 48.2 -0.3**
VCNR IAmb IAmb 12 00 02.7
comp=Z,5.0nm,0.9s
PNTR Pine Nut 37.20 90 P **P** **11 59 50.6 +0.8**
PNTR IAmb IAmb 12 00 09.3
comp=Z,9.2nm,0.9s
YERR Yerington 37.49 90 P **P** **11 59 51.5 -0.8**
YERR IAmb IAmb 12 00 13.8
comp=Z,4.1nm,0.8s
HLID Hailey 37.79 80 P **P** **11 59 55.5 +0.8**
HLID IAmb IAmb 12 00 20.7
comp=Z,8.9nm,1.5s
HLID Hailey 37.79 80 P 11 59 53.7
baz=303,SNR=5.7
BCYI Bear Canyon 37.99 79 P **P** **11 59 56.6 +0.1**
H11S1 WAKE ISLAND Hy 38.03 217 T T 12 41 05.0
baz=23,slow=76,SNR=34
H11S2 WAKE ISLAND Hy 38.04 216 T T 12 40 34.2
baz=23,slow=76,SNR=32
H11S3 WAKE ISLAND Hy 38.05 217 T T 12 41 05.2
baz=23,slow=76,SNR=26
MCMT McKenzie Canyo 38.05 77 P **P** **11 59 57.0 0.0**
EUNU Eureka 38.12 16 P **P** **11 59 57.9 +0.9**
EUNU IAmb IAmb 12 00 02.9
comp=Z,5.1nm,0.9s
RYN Ryan 38.15 90 P **P** **11 59 58.4 +0.6**
KVN Kaiserville 38.15 89 P **P** **11 59 58.0 +0.2**
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN Kaiserville 38.15 89 P **P** **11 59 58.0 +0.2**
USRK Ussuriysk Ar. 38.20 281 LR LR 12 15 22.2
comp=Z,230nm,20.3s,baz=53,slow=36
EGMT Eagleton 38.24 71 P **P** **11 59 58.0 -0.4**
EGMT IAmb IAmb 12 00 15.3
comp=Z,15nm,0.9s
EGMT Eagleton 38.24 71 P 11 59 57.7
baz=299
BOZ Bozeman (W) 38.37 76 P **P** **11 59 58.7 -0.9**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 38.37 76 P **P** **11 59 58.7 -0.9**
BOZ Bozeman (W) 38.37 76 P 11 59 59.1
baz=301
LHV Little Huntoon 38.39 90 P **P** **11 59 59.8 +0.2**
NVAR Mina Array Bea 38.41 90 P **P** **12 00 00.8 +0.8**
comp=Z,2.0nm,0.8s,baz=290,slow=6.9,SNR=16
NVAR PcP **PcP** **12 02 14.8 +1.7**
comp=Z,1.0nm,0.9s,baz=297,slow=4.0,SNR=3.3
NVAR LR LR 12 12 28.9
comp=Z,72nm,21.1s,baz=306,slow=31
MDPB Devils Postpil 38.43 91 P **P** **12 00 00.8 +0.6**
NV11 Mina Array Sit 38.50 90 P **P** **12 00 00.7 0.0**
ELK Elko 38.89 85 P **P** **12 00 04.2 +0.1**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 38.89 85 P **P** **12 00 04.2 +0.1**
MJAR Matsushiro Arr 38.94 267 P **P** **12 00 04.0 -0.3**
comp=Z,2.4nm,1.0s,baz=40,slow=8.2,SNR=3.4
MJAR PcP **PcP** **12 02 14.0 -0.5**
comp=Z,3.3nm,1.0s,baz=90,slow=2.4,SNR=5.2
MJAR LR LR 12 15 34.1
comp=Z,210nm,20.9s,baz=70,slow=35
YHH Holmes Hill 39.27 76 P **P** **12 00 07.3 0.0**
YHH IAmb IAmb 12 00 09.8
comp=Z,8.7nm,1.3s
TPH Tonopah 39.29 89 P **P** **12 00 08.0 +0.6**
TPH pmax pmax
comp=Z,28nm,1.2s
TPH Tonopah 39.29 89 P **P** **12 00 08.0 +0.6**
FFC Flin Flon 39.46 58 P **P** **12 00 08.4 0.0**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 39.46 58 P **P** **12 00 08.3 0.0**
FFC IAmb IAmb 12 00 21.5
comp=Z,7.8nm,1.0s
H17A Grant Village 39.65 77 P **P** **12 00 11.1 +0.7**
H17A IAmb IAmb 12 00 29.4
comp=Z,10nm,1.4s
RLMT Red Lodge 40.03 75 P **P** **12 00 14.0 +0.5**
RLMT IAmb IAmb 12 00 33.0
comp=Z,7.5nm,1.0s
RLMT Red Lodge 40.03 75 P 12 00 12.2
baz=302
ISA Isabella, Lake 40.06 93 P 12 00 12.8
baz=310
R11A Troy Canyon, C 40.13 88 P 12 00 13.9
baz=308
SPR3 Spring Creek 3 40.50 86 P **P** **12 00 16.7 -0.9**
FURC Furnace Creek, 40.53 91 P 12 00 17.4
baz=310,SNR=6.4
TPNV Topopah Spring 40.60 90 P **P** **12 00 18.0 -0.3**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 40.60 90 P **P** **12 00 18.0 -0.3**
TPNV IAmb IAmb 12 00 20.4
comp=Z,7.4nm,0.8s
TPNV Topopah Spring 40.60 90 P 12 00 17.8
baz=309,SNR=11
DUG Dugway, Tooele 40.70 83 P 12 00 18.3
baz=306
PRN Pahroc Range 41.05 88 P **P** **12 00 22.2 +0.2**
PRN IAmb IAmb 12 00 42.5
comp=Z,8.6nm,0.9s
PSUT Pine Spring 41.08 86 P **P** **12 00 22.2 -0.1**
BW06 Boulder Array 41.17 78 P **P** **12 00 22.7 -0.3**
BW06 Boulder Array 41.17 78 P 12 00 20.9
baz=305,SNR=7.3
PD31 Pinedale Array 41.17 78 P **P** **12 00 22.2 -0.8**
PDAR Pinedale Array 41.17 78 P **P** **12 00 22.0 -1.0**
comp=Z,2.4nm,0.7s,baz=305,slow=5.2,SNR=20
PDAR LR LR 12 16 21.7
comp=Z,91nm,20.4s,baz=320,slow=35
PDAR Pinedale Array 41.17 78 P **P** **12 00 22.5 -0.5**
SHOC Shoshone, Teco 41.26 91 P 12 00 23.1
baz=310
GSC Goldstone, Bar 41.33 92 P **P** **12 00 24.1 -0.1**
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC Goldstone, Bar 41.33 92 P **P** **12 00 24.1 -0.1**
GSC IAmb IAmb 12 00 26.1
comp=Z,7.9nm,0.9s
GSC Goldstone, Bar 41.33 92 P 12 00 23.4
baz=311,SNR=6.8
BFSC Mount Baldy Ra 41.51 94 P 12 00 24.4
baz=312
HEC Hector,Ludlow 41.93 92 P 12 00 28.2
baz=311
CCUT Cedar City 42.00 87 P **P** **12 00 30.8 +0.9**
TMUT Trail Mountain 42.23 83 P **P** **12 00 32.6 +0.8**
TMUT IAmb IAmb 12 00 45.7
comp=Z,15nm,1.4s
CN2 Changchun 42.35 285 *eP* **P** **12 00 30.0 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,2.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,400nm,19.0s
CN2 L L
comp=Z,200nm,19.0s
CN2 L L
comp=Z,300nm,19.0s
GMRC Granite Mounta 42.37 92 P 12 00 31.0
baz=311,SNR=5.3
LCMT Little Creek M 42.41 88 P **P** **12 00 33.3 +0.2**
MTPU Mount Pierson 42.41 86 P **P** **12 00 34.6 +1.2**
RDMU Red Mountain 42.46 81 P **P** **12 00 33.8 +0.3**
RDMU IAmb IAmb 12 00 50.5
comp=Z,10nm,1.1s
Q16A Castle Valley 42.49 84 P **P** **12 00 33.0 -0.7**
Q16A IAmb IAmb 12 00 54.0
comp=Z,5.8nm,0.8s
PFO Pinyon Flats O 42.67 94 P 12 00 34.5
baz=312
KNB Kanab 42.67 87 P **P** **12 00 35.4 +0.2**
KNB pmax pmax
comp=Z,6.0nm,1.1s
KNB Kanab 42.67 87 P **P** **12 00 35.4 +0.2**
TPFO Pinon Flats 42.67 94 P 12 00 34.8
baz=312
BELC Belle Mtn. Jos 42.69 93 P 12 00 35.0
baz=312
PKCU Pink Cliffs 42.71 86 P **P** **12 00 35.1 -0.7**
SRU San Rafael Swe 42.77 83 P **P** **12 00 36.6 +0.6**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 42.77 83 P **P** **12 00 36.6 +0.6**
SRU IAmb IAmb 12 00 55.8
comp=Z,8.1nm,0.8s
IRM Iron Mountain 43.11 92 P 12 00 36.5
baz=312
MONP2 Monument Peak 43.18 95 P 12 00 39.3
baz=313
W13A Hualapai Mount 43.26 90 P **P** **12 00 39.7 -0.4**
U15A North Rim 43.37 87 P **P** **12 00 41.1 0.0**
U15A IAmb IAmb 12 00 43.5
comp=Z,9.3nm,1.1s
O20A White River Ci 43.53 80 P **P** **12 00 42.3 +0.2**
O20A IAmb IAmb 12 01 05.1
comp=Z,9.9nm,0.8s
O20A White River Ci 43.53 80 P 12 00 40.6
baz=307
PDMCI Parker Dam,Lak 43.63 91 P 12 00 42.1
baz=312
PV04 Paradox Valley 44.20 83 P **P** **12 00 49.7 +2.1**
PV04 IAmb IAmb 12 01 07.0
comp=Z,8.5nm,0.7s
PV17 East Wray Mesa 44.24 83 P **P** **12 00 48.0 +0.1**
PV17 IAmb IAmb 12 01 08.4
comp=Z,6.2nm,0.7s
WUAZ Wupatki 44.53 88 P **P** **12 00 50.7 +0.4**
WUAZ IAmb IAmb 12 00 52.5
comp=Z,7.8nm,0.9s
WUAZ Wupatki 44.53 88 P 12 00 50.0
baz=311
Y14A Wickenburg 44.57 91 P **P** **12 00 50.3 -0.1**
Y14A IAmb IAmb 12 00 52.1
comp=Z,6.5nm,1.0s
KSRS Korea Array 44.69 276 P **P** **12 00 51.6 +0.4**
comp=Z,2.9nm,0.9s,baz=58,slow=7.3,SNR=7.7
KSRS LR LR 12 18 32.6
comp=Z,153nm,19.4s,baz=90,slow=35
ULM Lac du Bonnet 44.90 61 P **P** **12 00 52.9 +0.1**
comp=Z,2.8nm,0.5s,baz=301,slow=8.2,SNR=6.3
ULM LR LR 12 21 25.0
comp=Z,264nm,18.3s,baz=310,slow=38
ULM Lac du Bonnet 44.90 61 P **P** **12 00 52.7 -0.1**
ULM pmax pmax
comp=Z,15nm,1.2s
ULM Lac du Bonnet 44.90 61 P **P** **12 00 52.7 -0.1**
ULM IAmb IAmb 12 01 04.8
comp=Z,15nm,1.2s
X16A Lo Mia Camp, P 45.22 89 P **P** **12 00 56.0 +0.3**
X16A IAmb IAmb 12 01 11.7
comp=Z,5.8nm,0.9s
NEEM North Greenlan 45.39 16 ⇑*i*P **P** **12 00 57.2 +0.5**
NEEM IAmb IAmb 12 00 57.9
comp=Z,13nm,0.6s
S22A 4UR Ranch, Cre 45.88 82 P 12 00 58.8
baz=309
AGMN Agassiz Nation 45.99 64 P **P** **12 01 00.7 -0.7**
AGMN Agassiz Nation 45.99 64 P 12 00 59.8
baz=304
214A Organ Pipe Nat 46.04 93 P **P** **12 01 01.9 -0.1**
214A IAmb IAmb 12 01 04.2
comp=Z,6.7nm,0.9s
214A Organ Pipe Nat 46.04 93 P 12 01 01.1
baz=313
KULLO Kullorsuaq 46.07 20 *i* P **P** **12 01 02.1 +0.4**
KULLO Kullorsuaq 46.07 20 *i* P **P** **12 01 02.1 +0.4**
NRIK Noril'sk 46.25 331 P **P** **12 01 04.2 +1.1**
comp=Z,1.7nm,0.4s,baz=82,slow=9.3,SNR=4.2
NRIK LR LR 12 22 30.5
comp=Z,148nm,18.2s,baz=75,slow=39
NRIK Noril'sk 46.25 331 *ce* P **P** **12 01 03.1 -0.1**
NRIK pmax pmax
comp=Z,9.0nm,1.5s
SDCO Great Sand Dun 46.69 81 P **P** **12 01 08.6 +1.2**
SDCO IAmb IAmb 12 01 26.4
comp=Z,5.4nm,1.1s
SDCO Great Sand Dun 46.69 81 P 12 01 06.1
baz=309
TUC Tucson 47.04 91 P **P** **12 01 09.8 -0.2**
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 47.04 91 P **P** **12 01 09.8 -0.2**
TUC IAmb IAmb 12 01 11.9
comp=Z,7.0nm,0.9s
TUC Tucson 47.04 91 P 12 01 09.5
baz=313
B35A Bob, Littlefor 47.12 62 P **P** **12 01 09.9 -0.5**
B35A IAmb IAmb 12 01 21.4
comp=Z,7.9nm,0.7s
F33A 5 Mile Ranch, 47.16 67 P **P** **12 01 10.8 +0.2**
F33A IAmb IAmb 12 01 24.8
comp=Z,9.1nm,1.2s
T25A Trinidad 47.74 81 P **P** **12 01 16.9 +1.4**
T25A Trinidad 47.74 81 P 12 01 14.2
baz=310
ANMO Albuquerque 47.93 85 *ce* P **P** **12 01 16.9 -0.1**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ANMO Albuquerque 47.93 85 P **P** **12 01 18.3 +1.3**
ANMO IAmb IAmb 12 01 36.5
comp=Z,11nm,1.4s
ANMO Albuquerque 47.93 85 P 12 01 15.4
baz=311
ECSD EROS Data Cent 48.24 69 P **P** **12 01 19.0 -0.1**
ECSD IAmb IAmb 12 01 31.6
comp=Z,10nm,1.2s
ECSD EROS Data Cent 48.24 69 P 12 01 17.6
baz=307
EYMN Ely 48.58 62 P **P** **12 01 21.4 -0.2**
EYMN Ely 48.58 62 P 12 01 20.5
baz=306
F36A Milaca 48.70 65 P **P** **12 01 23.0 +0.4**
F36A IAmb IAmb 12 01 33.8
comp=Z,8.4nm,1.2s
121A Cookes Peak, D 48.74 88 P **P** **12 01 22.9 -0.3**
121A IAmb IAmb 12 01 25.7
comp=Z,8.1nm,1.0s
121A Cookes Peak, D 48.74 88 P 12 01 22.5
baz=313
E38A The Farm, Brul 49.35 63 P **P** **12 01 28.1 +0.6**
E38A IAmb IAmb 12 01 38.9
comp=Z,11nm,0.9s
L34A Svendsen Farm, 49.47 71 P **P** **12 01 28.6 +0.1**
TLY Talaya 49.86 306 *eP* **P** **12 01 31.6 +0.3**
TLY pmax pmax
comp=Z,54nm,1.0s
TLY Talaya 49.86 306 P **P** **12 01 31.3 0.0**
DAG Danmarks Havn 50.10 8 *i* P **P** **12 01 32.9 0.0**
DAG IAmb IAmb 12 01 34.6
comp=Z,6.1nm,0.7s
DAG Danmarks Havn 50.10 8 *i* P **P** **12 01 32.8 0.0**
DAG pmax pmax
comp=Z,6.0nm,0.7s
BJI Beijing 50.12 287 P **P** **12 01 34.0 +0.5**
BJI pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 50.39 300 *ce* P **P** **12 01 35.3 -0.3**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 50.39 300 P **P** **12 01 35.7 +0.1**
SONM Songino Array 50.76 300 P **P** **12 01 39.1 +0.7**
comp=Z,3.0nm,0.6s,baz=57,slow=5.9,SNR=29
SONM LR LR 12 23 34.3
comp=Z,277nm,20.4s,baz=52,slow=37
SONM Songino Array 50.76 300 P **P** **12 01 38.3 -0.1**
SONM pmax pmax
comp=Z,29nm,1.5s
SONM Songino Array 50.76 300 P **P** **12 01 38.3 -0.1**
MNTX Cornudas Mount 50.79 87 P **P** **12 01 38.3 -0.4**
MNTX IAmb IAmb 12 01 56.0
comp=Z,5.6nm,0.8s
MNTX Cornudas Mount 50.79 87 P 12 01 38.0
baz=314,SNR=13
ZAK Zakamensk 50.82 305 *eP* **P** **12 01 38.7 -0.1**
ZAK pmax pmax
comp=Z,16nm,1.4s
MSTX Muleshoe 50.84 83 P **P** **12 01 40.1 +0.9**
MSTX IAmb IAmb 12 01 56.3
comp=Z,8.6nm,1.0s
MSTX Muleshoe 50.84 83 P 12 01 38.8
baz=312
G40A Rib Lake 50.91 64 P **P** **12 01 40.2 +0.8**
G40A IAmb IAmb 12 01 42.0
comp=Z,11nm,1.2s
COWI Conover 50.98 62 P **P** **12 01 40.7 +0.8**
COWI IAmb IAmb 12 01 51.3
comp=Z,10nm,1.2s
MOY Mondy 51.18 307 *eP* **P** **12 01 42.5 +1.1**
SUMG Summit 51.19 17 *i* P **P** **12 01 42.6 +1.0**
SUMG IAmb IAmb 12 01 44.0
comp=Z,15nm,1.0s
SUMG Summit 51.19 17 P **P** **12 01 41.9 +0.3**
SUMG pmax pmax
comp=Z,32nm,1.3s
SUMG Summit 51.19 17 P **P** **12 01 41.9 +0.3**
E43A Lone Tree Farm 51.97 61 P **P** **12 01 47.6 +0.4**
TIA Tai'an 52.06 282 P **P** **12 01 48.3 +0.2**
TIA pmax pmax
comp=Z,12nm,1.0s
DBG Daneborg 52.24 10 *i* P **P** **12 01 48.7 -0.2**
DBG IAmb IAmb 12 01 50.1
comp=Z,7.6nm,0.7s
HHC Hu-ho-hao-te 52.30 290 *eP* **P** **12 01 50.3 +0.4**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,120nm,7.5s
JFWS Jewell Farm 52.38 66 P 12 01 49.7
baz=310
WMOK Wichita Mounta 52.75 79 P **P** **12 01 52.3 -1.0**
WMOK pmax pmax
comp=Z,7.0nm,1.2s
WMOK Wichita Mounta 52.75 79 P **P** **12 01 52.2 -1.0**
WMOK IAmb IAmb 12 02 09.8
comp=Z,6.9nm,1.2s
WMOK Wichita Mounta 52.75 79 P 12 01 52.4
baz=312
E46A Sault Ste Mari 53.41 59 P **P** **12 01 57.2 -0.7**
E46A IAmb IAmb 12 02 10.6
comp=Z,8.7nm,0.8s
TXAR Lajitas Array 53.50 88 P **P** **12 01 58.2 -0.7**
comp=Z,7.9nm,0.8s,baz=298,slow=5.9,SNR=29
TXAR LR LR 12 22 23.7
comp=Z,79nm,20.2s,baz=0.0,slow=33
TXAR Lajitas Array 53.50 88 P **P** **12 01 57.9 -1.0**
TXAR Lajitas Array 53.50 88 P **P** **12 01 57.9 -1.0**
P40A Paris 53.55 70 P **P** **12 01 58.5 -0.5**
ABTX Abilene, Hawle 53.67 82 P 12 01 59.3
baz=313
ICESG Greenland Ices 53.81 20 *i* P **P** **12 02 00.4 -0.6**
NJ2 Nanjing 53.84 277 *eP* **P** **12 02 02.0 +0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
DY2G Dye2 54.40 24 *i* P **P** **12 02 05.4 +0.3**
DY2G IAmb IAmb 12 02 06.9
comp=Z,5.1nm,0.6s
MATQ Matagami 54.61 53 P 12 02 05.2
baz=311,SNR=6.5
JCT Junction City 55.06 84 P 12 02 09.9
baz=314
LSQQ Lebel-sur-Quev 55.40 53 P 12 02 11.2
baz=311
VLDQ Val d'Or 55.79 54 P **P** **12 02 13.0 -2.1**
MIAR Mount Ida 56.01 76 P **P** **12 02 17.6 +0.6**
MIAR pmax pmax
comp=Z,17nm,1.5s
MIAR Mount Ida 56.01 76 P **P** **12 02 17.6 +0.6**
MIAR Mount Ida 56.01 76 P 12 02 17.0
baz=313
CHGQ Chibougamau 56.09 51 P 12 02 16.1
baz=312
SCHQ Schefferville 56.09 43 P **P** **12 02 17.6 +0.4**
comp=Z,5.2nm,0.7s,baz=291,slow=6.9,SNR=10
SCHQ LR LR 12 29 24.4
comp=Z,258nm,18.6s,baz=6.0,slow=39
SCHQ Schefferville 56.09 43 P **P** **12 02 17.3 0.0**
W41B Gary Mavity, V 56.37 74 P 12 02 18.8
baz=313
833A Chaparral WMA, 56.84 85 P 12 02 22.2
baz=316
ALGO Algonquin Park 56.95 56 P 12 02 22.5
baz=312
ZALV Zalesovo Beam 57.07 317 P **P** **12 02 24.8 +0.6**
comp=Z,0.7nm,0.4s,baz=31,slow=6.9,SNR=4.3
ZALV PcP **PcP** **12 03 19.3 +0.4**
comp=Z,1.0nm,0.4s,baz=18,slow=5.0,SNR=3.9
ZALV LR LR 12 28 16.9
comp=Z,144nm,20.4s,baz=32,slow=38
ZALV Zalesovo Beam 57.07 317 P **P** **12 02 23.3 -0.9**
D55A Sainte-Anne-du 57.52 54 P 12 02 26.4
baz=313
D56A ZEC Mazanza, M 57.86 53 P 12 02 28.5
baz=313
ARCES ARCESS Array B 58.04 353 P **P** **12 02 30.4 -0.4**
comp=Z,1.9nm,0.6s,baz=12,slow=6.3,SNR=17
ARCES LR LR 12 27 15.5
comp=Z,166nm,22.0s,baz=5.0,slow=36
E56A St. Veronique 58.07 54 P 12 02 30.4
baz=313
PLVO Plevna 58.07 56 P **P** **12 02 31.4 0.0**
WVT Waverly 58.31 71 P 12 02 32.8
baz=314
XAN Xi'an 58.44 286 P **P** **12 02 34.0 -0.2**
XAN pP pwP 12 02 45.5 +5.1
XAN pmax pmax
comp=Z,15nm,1.5s
XAN L L
comp=Z,220nm,17.4s
XAN L L
comp=Z,290nm,18.4s
XAN L L
comp=Z,430nm,23.9s
D58A Chemin du LacG 58.74 52 P 12 02 34.9
baz=314
LVZ Lovozero 58.78 349 *ce* P **P** **12 02 35.6 -0.4**
LVZ pmax pmax
comp=Z,86nm,2.5s
LVZ Lovozero 58.78 349 P **P** **12 02 35.9 -0.2**
DGZ Jazzator, Alta 58.93 312 *i* P **P** **12 02 37.9 +0.4**
DGZ pmax pmax
comp=Z,14nm,1.2s
G57A Newington 59.09 55 P 12 02 37.4
baz=314
H57A Richville 59.34 56 P 12 02 40.0
baz=314
N54A Moraine State 59.36 62 P 12 02 39.7
baz=314
I57A Carthage 59.57 57 P 12 02 41.1
baz=314
K56A Middlesex 59.57 59 P 12 02 40.0
baz=314
LONY Lake Ozonia 59.64 55 P 12 02 41.4
baz=314
F59A Saint Guilaume 59.67 53 P 12 02 41.2
baz=315
D60A Saint Jean D'O 59.82 51 P 12 02 42.7
baz=315
L56A Greenwood 59.84 59 P **P** **12 02 43.5 -0.3**
GTA Gaotai 59.91 296 ⇓P **P** **12 02 44.8 +0.4**
GTA pP sP 12 02 53.0 +0.1
GTA sP pP 12 02 56.8 +6.2
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,71nm,5.8s
GTA L L
comp=Z,280nm,16.7s
GTA L L
comp=Z,530nm,18.2s
E60A Ste Agathe de 59.96 52 P 12 02 42.6
baz=315
D61A St Aubert, Com 59.97 51 P 12 02 43.5
baz=315
LZH Lanzhou 59.97 291 *eP* **P** **12 02 46.5 +1.6**
LZH pP sP 12 02 57.3 +3.8
LZH pmax pmax
comp=Z,20nm,1.0s
H58A Gabriels 59.98 55 P 12 02 42.7
baz=315
G59A Clarenceville 60.02 54 P 12 02 44.5
baz=315
H59A Cadyville 60.07 55 P 12 02 44.2
baz=315
I58A Old Forge 60.09 56 P 12 02 44.0
baz=315
J58A Remsen 60.16 57 P **P** **12 02 45.6 -0.3**
J58A Remsen 60.17 57 P 12 02 45.2
baz=315
MOQ Mont Orford 60.31 53 P **P** **12 02 46.2 -0.8**

G60A Masonville 60.43 54 P 12 02 46.7
baz=315
F61A St Evariste 60.46 52 P 12 02 46.9
baz=315
D62A Allapoint, All 60.59 50 P **P** **12 02 49.1 +0.3**
D62A Allapoint, All 60.60 50 P 12 02 46.6
baz=316
O56A Blue Knob Stat 60.62 61 P 12 02 47.6
baz=315
BINY Binghamton 60.62 58 P 12 02 48.1
baz=315
E62A Clayton Lake 60.70 51 P 12 02 48.0
baz=316
FPAL Fort Paine 60.71 71 P **P** **12 02 49.4 -0.4**
SSPA Standing Stone 60.72 61 P **P** **12 02 50.5 +0.8**
SSPA Standing Stone 60.72 61 P 12 02 48.8
baz=315
L58A Harry Jones Me 60.80 58 P 12 02 49.5
baz=315
F62A Pittston Farm, 61.01 52 P 12 02 50.2
baz=316
H61A Lyndonville 61.03 54 P 12 02 51.5
baz=316
D63A Stockholm 61.07 50 P 12 02 50.7
baz=316
J60A Lant Hill Farm 61.20 56 P 12 02 52.6
baz=315
G62A West of Eustis 61.23 53 P 12 02 51.6
baz=316
E63A Oxbow 61.37 50 P 12 02 52.9
baz=316
H62A Milan 61.38 53 P **P** **12 02 54.2 0.0**
H62A Milan 61.39 53 P 12 02 52.9
baz=316
F63A Nahmakanta, Br 61.57 51 P **P** **12 02 54.5 -1.0**
F63A Nahmakanta, Br 61.57 51 P 12 02 55.0
baz=316
J61A Chester 61.57 55 P 12 02 55.3
baz=316
N59A State Game Lan 61.65 59 P 12 02 56.3
baz=315
E64A Bridgewater 61.66 50 P 12 02 55.2
baz=317
K61A Williamstown 61.70 56 P 12 02 55.6
baz=316
PKME Peaks-Kenny Pk 61.80 52 P 12 02 56.5
baz=316
F64A Sherman 61.81 51 P 12 02 56.4
baz=317
BATG Bathurst New B 61.85 48 P **P** **12 02 57.3 0.0**
J62A Henniker 62.03 55 P 12 02 58.4
baz=316
I63A Otisfield 62.05 54 P 12 02 57.7
baz=316
G65A Princeton 62.68 51 P 12 03 02.3
baz=317
H65A Eastbrook 62.72 52 P 12 03 02.4
baz=317
KMSC Kings Mountain 62.74 67 P 12 03 03.1
baz=316
PRGR Permogore 62.95 342 *e*P **P** **12 03 02.7 -1.6**
PRGR pmax pmax
comp=Z,55nm,1.4s
WMQ Urumqi 63.07 307 *e*P **P** **12 03 06.5 +0.9**
WMQ pP sP 12 03 17.5 +3.5
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ L L
comp=Z,360nm,16.1s
EMMW East Machias 63.09 51 P **P** **12 03 05.1 -0.4**
H66A Whiting 63.10 51 P 12 03 04.9
baz=317
MK31 Makanchi Array 63.40 313 P **P** **12 03 06.8 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 63.40 313 P **P** **12 03 06.8 -0.9**
MK31 lAmb lAmb 12 03 08.2
comp=Z,4.7nm,1.1s
MKAR Makanchi Array 63.40 313 P **P** **12 03 07.2 -0.5**
comp=Z,2.5nm,0.8s,baz=52,slow=7.9,SNR=18
MKAR LR LR 12 33 40.7
comp=Z,182nm,18.0s,baz=58,slow=39
MKAR Makanchi Array 63.40 313 P **P** **12 03 07.3 -0.4**
BRVK Borovoye 63.44 324 *ce*P **P** **12 03 08.1 +0.3**
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK Borovoye 63.44 324 P **P** **12 03 07.8 0.0**
LMN Caledonia Moun 63.49 49 P **P** **12 03 07.8 -0.4**
M66A Nantucket 64.32 55 P 12 03 11.0
baz=317
ARU Arti 64.46 332 *c i*P **P** **12 03 14.5 +0.1**
ARU 12 03 47.6
ARU S **S** **12 11 53.3 +1.5**
ARU SS **SS** **12 15 58.9 -2.0**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU MLR MLR
comp=Z,286nm,18.0s
ARU Arti 64.46 332 P **P** **12 03 13.9 -0.5**
ARU lAmb lAmb 12 03 15.7
comp=Z,7.4nm,0.9s
KLMR Klimovskoe 64.78 344 *e*P **P** **12 03 13.5 -2.9**
KLMR pmax pmax
comp=Z,23nm,1.6s
KLMR Klimovskoe 64.78 344 *e*P **P** **12 03 13.6 -2.9**
KLMR AMP 12 03 16.7
comp=Z,23nm,1.6s
KLMR LR LR 12 33 37.3
GYA Guiyang 65.25 282 ⇓P **P** **12 03 20.3 +0.1**
GYA sP pwP 12 03 35.5 +9.0
GYA pmax pmax
comp=Z,3.0nm,1.2s
FIA1 FINESS Array S 65.96 351 P **P** **12 03 24.4 +0.3**
FINES FINESS Array B 65.96 351 P **P** **12 03 23.9 -0.2**
comp=Z,6.1nm,0.9s,baz=28,slow=8.6,SNR=17
FINES LR LR 12 32 18.0
comp=Z,123nm,22.0s,baz=9.5,slow=36
FINES FINESS Array B 65.96 351 *ce*P **P** **12 03 23.8 -0.2**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 65.96 351 P **P** **12 03 24.2 +0.1**
TAOE Nuku Hiva Isla 66.15 147 *e*LR LR 12 23 19.0
comp=Z,210nm,22.1s
NC303 NORSAR Array S 66.95 359 P **P** **12 03 30.5 +0.1**
NC405 NORSAR Array S 67.06 359 P **P** **12 03 31.4 +0.3**
NB201 NORSAR Array S 67.12 359 P **P** **12 03 31.8 +0.3**
NOA NORSAR Array B 67.14 359 P **P** **12 03 31.8 +0.1**
comp=Z,1.2nm,0.6s,baz=1.1,slow=6.3,SNR=13
NOA LR LR 12 35 07.0
comp=Z,73nm,18.6s,baz=355,slow=38
KMI Kunming 68.59 284 ⇑P **P** **12 03 39.5 -2.1**
KMI pP pwP 12 03 48.0 0.0
KMI sP sP 12 03 51.8 +1.5
KMI pmax pmax
comp=Z,10.0nm,1.2s
VSU Vasula 68.83 350 *e*P **P** **12 03 43.1 +0.8**
VSU Vasula 68.83 350 *i* P **P** **12 03 42.5 +0.2**
VSU pmax pmax
comp=Z,60nm,1.3s
KDJ Kajisay 69.32 313 P **P** **12 03 46.0 +0.1**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 69.32 313 P **P** **12 03 46.0 +0.1**
KDJ lAmb lAmb 12 03 48.7
comp=Z,8.0nm,0.8s
MOS Moscow 69.96 343 *e*P **P** **12 03 49.0 -0.3**
AAK Ala-Archa 70.12 315 *ce*P **P** **12 03 50.8 +0.1**
AAK pmax pmax
comp=Z,50nm,1.7s
AAK Ala-Archa 70.12 315 P **P** **12 03 50.6 -0.1**
AAK lAmb lAmb 12 03 52.4
comp=Z,7.5nm,0.9s
ABKAR Akbulak array 70.21 327 P **P** **12 03 50.2 -0.7**
ABKAR Akbulak array 70.21 327 P **P** **12 03 51.1 +0.1**
ABKAR lAmb lAmb 12 03 52.3
comp=Z,8.5nm,0.8s
OBN Obninsk 70.74 344 ⇓*e*P **P** **12 03 54.0 0.0**
OBN *e*S **SKiKP** **12 13 39.1 +3.8**
OBN SSS SSS 12 20 41.0
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,111nm,19.0s
BELG Belogornoye 70.98 336 *i* P **P** **12 03 55.6 +0.1**
BELG pmax pmax
comp=Z,9.0nm,1.5s
KK31 Karatay Array 71.44 317 P **P** **12 03 58.1 -0.5**
KK31 pmax pmax
comp=Z,12nm,1.3s
KK31 Karatay Array 71.44 317 P **P** **12 03 58.1 -0.5**
KK31 lAmb lAmb 12 03 59.7
comp=Z,12nm,1.3s
KKAR Karatay Array 71.44 317 P **P** **12 03 58.5 -0.1**
KKAR pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 71.44 317 P **P** **12 03 58.5 -0.1**
KKAR lAmb lAmb 12 03 59.7
comp=Z,12nm,1.3s
KKAR Karatay Array 71.44 317 P **P** **12 03 58.0 -0.6**
PPT2 Papeete2 71.83 159 *e*LR LR 12 25 53.3
comp=Z,217nm,26.8s
LSA Lhasa 71.86 295 P **P** **12 04 03.4 +1.5**
LSA pmax pmax
comp=Z,21nm,1.2s
LSA Lhasa 71.86 295 P **P** **12 04 03.4 +1.5**
KSH Kashi 71.96 312 P **P** **12 04 05.5 +3.6**
KSH pmax pmax
comp=Z,7.0nm,0.6s
KSH pmax pmax
comp=Z,92nm,3.6s
PABE Paberze 72.02 351 *e*P **P** **12 04 02.2 +0.5**
PABE Paberze 72.02 351 P **P** **12 04 01.6 -0.1**
MNK Minsk 72.59 349 *i* P **P** **12 04 04.2 -1.0**
MNK *i* 12 04 21.4
MNK *i* 12 06 45.6
MNK *i* PPP PPP 12 08 30.2
MNK *i* S **S** **12 13 27.2 -1.3**
MNK *i* 12 14 08.5
MNK *i* SS **SS** **12 18 07.6 +1.3**
MNK pmax pmax
comp=N,27nm,1.3s
MNK pmax pmax
comp=Z,18nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=N,245nm,17.0s
MNK MLR MLR
comp=Z,127nm,18.0s
MNK MLR MLR
comp=E,22nm,25.0s
MNK Minsk 72.59 349 *i* P **P** **12 04 04.2 -1.0**
comp=E,2.0nm,0.8s
MNK *i* P **P** **12 04 04.2 -1.0**
comp=N,27nm,1.3s
MNK *i* P **P** **12 04 04.2 -1.0**
comp=Z,18nm,0.8s,baz=192
MNK *i* PcP **PcP** **12 04 21.4 -1.3**
MNK *i* PP **PP** **12 06 45.7 -0.3**
MNK *i* PPP PPP 12 08 30.2
MNK *i* S S 12 13 06.1 -22
MNK *i* ScS **SKSac** **12 14 08.6 -0.1**
MNK *i* SS **SS** **12 18 07.6 +1.3**
MNK *i* SSS SSS 12 21 28.5
MNK *i* LQ LQ 12 31 06.7
MNK *i* LR LR 12 36 38.4
MNK *i* LRM MLR 12 39 17.8
comp=N,245nm,16.5s
MNK *i* LRM MLR 12 39 19.7
comp=Z,127nm,18.4s
MNK *i* LRM MLR 12 39 21.6
comp=E,22nm,25.4s
SUW Suwalki 73.57 352 *e*P **P** **12 04 10.6 -0.4**
BTK Batken 73.82 315 P **P** **12 04 12.9 0.0**
BTK pmax pmax
comp=Z,17nm,1.3s
BTK Batken 73.82 315 P **P** **12 04 12.9 0.0**
BTK lAmb lAmb 12 04 14.3
comp=Z,17nm,1.3s
GAR Garm 74.91 315 P **P** **12 04 19.3 0.0**
CHGR Chuyangaron 75.70 316 P **P** **12 04 24.0 +0.2**
CMAR Chiang Mai Arr 75.93 282 P **P** **12 04 25.3 0.0**
comp=Z,2.4nm,0.6s,baz=26,slow=6.3,SNR=18
CMAR Chiang Mai Arr 75.93 282 P **P** **12 04 25.1 -0.2**
CM02 Chiang Mai Arr 75.95 282 P **P** **12 04 27.7 +2.3**
comp=Z,101nmcomp=Z,12nm,0.9s
CM04 Chiang Mai Arr 75.96 282 P **P** **12 04 26.8 +1.4**
comp=Z,86nmcomp=Z,11nm,0.8s
CM13 Chiang Mai Arr 75.98 282 P **P** **12 04 27.7 +2.1**
comp=Z,77nmcomp=Z,9.4nm,1.0s
TOLI2 Tolitoli 76.14 254 P **P** **12 04 25.1 -1.3**
AKASG Malin Array Be 76.14 347 P **P** **12 04 25.6 -0.3**
comp=Z,2.9nm,0.6s,baz=15,slow=6.0,SNR=15
AKASG LR LR 12 39 25.9
comp=Z,133nm,21.9s,baz=25,slow=37
AKBB Malin Array Si 76.14 347 *ce*P **P** **12 04 25.4 -0.6**
AKBB Malin Array Si 76.14 347 P **P** **12 04 25.1 -0.9**
AKBB lAmb lAmb 12 04 26.4
comp=Z,7.9nm,1.0s
CLL Collm 76.86 358 *e*P **P** **12 04 30.0 0.0**
comp=Z,4.0nm,0.7s
CLL LmV 12 23 00.0
comp=Z,100nm,21.7s
CLL Collm 76.86 358 *e*P **P** **12 04 30.0 0.0**
CLL pmax pmax
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 77.27 357 *e*P **P** **12 04 32.6 +0.3**
BRG Amp 12 04 34.2
comp=Z,7.6nm,1.2s
TBI Tubuai 77.43 160 *e*LR LR 12 27 59.2
comp=Z,154nm,34.0s
OSTC Ostas 77.49 356 *e*P **P** **12 04 34.5 +0.9**
DPC Dobruska-Polom 77.69 355 *e*P **P** **12 04 35.8 +1.0**
DPC MLR MLR
comp=Z,100nm,16.0s
DPC Dobruska-Polom 77.69 355 *e*P **P** **12 04 35.8 +1.0**
DPC AMS AMS 12 42 40.0
comp=Z,100nm,16.0s
KRLC Kraliky 77.94 355 *e*P **P** **12 04 37.0 +0.8**
KRLC Kraliky 77.94 355 *e*P **P** **12 04 37.0 +0.8**
KWP Kalwaria Pacla 77.95 351 P **P** **12 04 36.3 +0.1**
KWP pmax pmax
comp=Z,112nm,1.0s
KWP Kalwaria Pacla 77.95 351 P **P** **12 04 36.3 +0.1**
NIL Nilore 78.00 310 P **P** **12 04 37.2 +0.5**
NIL pmax pmax
comp=Z,55nm,1.4s
NIL Nilore 78.00 310 P **P** **12 04 37.2 +0.5**
GRF Grafenberg Arr 78.51 359 *e*P **P** **12 04 40.5 +1.2**
comp=Z,18nm,1.5s,baz=4.1,slow=4.9
KOLS Kolonicke sedl 78.68 351 *e*P **P** **12 04 45.0 +4.8**
KOLS Kolonicke sedl 78.68 351 *e*P **P** **12 04 45.0 +4.8**
VRAC Vranov 78.72 355 *e*P **P** **12 04 41.2 +0.8**
GOF Gofitskoye 78.92 336 ⇓*e*P **P** **12 04 42.0 +0.4**
GOF pmax pmax
comp=Z,40nm,0.9s
KRUC Moravsky 78.97 355 *e*P **P** **12 04 42.3 +0.5**
KHC Kasperske Hory 79.02 357 *e*P **P** **12 04 43.4 +1.3**
KHC MLR MLR
comp=Z,100nm,18.4s
KHC Kasperske Hory 79.02 357 *e*P **P** **12 04 43.4 +1.3**
KHC AMS AMS 12 48 50.0
comp=Z,100nm,18.4s
JAVC Velka Javorina 79.11 354 *e*P **P** **12 04 44.5 +1.9**
KBL Kabul 79.19 314 P **P** **12 04 42.4 -1.1**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 79.19 314 P **P** **12 04 42.4 -1.1**
KBL lAmb lAmb 12 04 44.5
comp=Z,9.4nm,0.8s
GEC2 GERESS Array S 79.30 357 P **P** **12 04 44.0 +0.2**
GEC2 lAmb lAmb 12 04 45.2
comp=Z,6.1nm,1.3s
GERES GERESS Array B 79.30 357 P **P** **12 04 44.4 +0.7**
comp=Z,1.1nm,0.5s,baz=23,slow=5.3,SNR=10
GERES GERESS Array B 79.30 357 P **P** **12 04 43.8 0.0**
CKRC Cesky Krumlov 79.31 357 AMS AMS 12 47 00.0
comp=Z,100nm,16.1s
VYHS Vyhne 79.40 354 *e*P P 12 04 49.8 +5.6
VYHS Vyhne 79.40 354 *e*P P 12 04 49.8 +5.6
KIV Kislovodsk 80.04 336 *e*P **P** **12 04 48.7 +0.9**
KIV pmax pmax
comp=Z,22nm,1.0s
CONA Conrad Observa 80.13 356 *e*P **P** **12 04 49.2 +1.0**
comp=Z,12nm,1.5s
KBZ Khabaz 80.20 336 P **P** **12 04 49.9 +1.3**
comp=Z,3.3nm,0.8s,baz=0.0,slow=0.0,SNR=5.2
KBZ LR LR 12 43 34.7
comp=Z,114nm,20.5s,baz=6.0,slow=38
KBZ Khabaz 80.20 336 *ce*P **P** **12 04 49.2 +0.7**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
NCK Nalchik 80.24 335 *i* P **P** **12 04 49.0 +0.2**
NCK pmax pmax
comp=Z,15nm,1.2s
SHA1 Shidzhatmaz 80.25 336 *i* P **P** **12 04 50.0 +0.8**
MOA Molln 80.28 357 *i* P **P** **12 04 50.8 +1.8**
comp=Z,5.0nm,1.7s
ARSA Arzberg 80.82 356 *e*P **P** **12 04 53.2 +1.3**
comp=Z,3.1nm,0.7s
ZEI Tsey 80.83 335 *e*P **P** **12 04 52.1 -0.1**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
MOTA Moosalm 80.86 359 *i* P **P** **12 04 53.2 +1.0**
comp=Z,8.9nm,1.3s
WATA Walderalm 80.86 359 *e*P **P** **12 04 53.3 +1.0**
comp=Z,7.3nm,1.1s
DAVA Damuels 80.92 360 *i* P **P** **12 04 54.1 +1.5**
comp=Z,2.6nm,0.7s
WTTA Wattenberg 80.93 358 *i* P **P** **12 04 54.0 +1.3**
comp=Z,16nm,1.6s
SQTA Sankt Quirin 80.98 359 *i* P **P** **12 04 54.0 +1.2**
comp=Z,9.7nm,1.0s
KBA Koelnbreinsper 81.08 357 *i* P **P** **12 04 54.8 +1.3**
comp=Z,9.4nm,0.7s
FETA Feichten 81.19 359 *i* P **P** **12 04 54.8 +0.8**
comp=Z,8.6nm,1.3s
SOKA Soboth 81.42 356 *i* P **P** **12 04 55.2 +0.1**
comp=Z,15nm,1.5s
ABTA Abfaltersbach 81.43 358 *i* P **P** **12 04 55.8 +0.6**
comp=Z,5.5nm,0.9s
TUE Stuetta 81.74 0 P **P** **12 04 58.2 +1.2**
TUE lAmb lAmb 12 04 59.7
comp=Z,9.5nm,1.2s
TEOL Teolo 82.83 358 P **P** **12 05 03.0 +0.5**
GNI Garni 83.06 333 *i* P **P** **12 05 04.9 +0.9**
GNI pmax pmax
comp=Z,11nm,1.3s
BNI Bardonecchia 83.13 2 P **P** **12 05 06.0 +1.8**
BNI pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 83.13 2 P **P** **12 05 06.0 +1.8**
BNI lAmb lAmb 12 05 14.6
comp=Z,8.1nm,1.1s
OSSC Osservatorio P 84.68 359 P **P** **12 05 12.2 +0.2**
BRTR Keskin Array B 86.09 342 P **P** **12 05 20.1 +0.9**
comp=Z,1.2nm,0.7s,baz=56,slow=5.4,SNR=4.6
BRTR LR LR 12 49 24.2
comp=Z,67nm,19.6s,baz=60,slow=40
WRA Warramunga Arr 86.30 231 P **P** **12 05 18.8 -1.4**
comp=Z,0.3nm,0.5s,baz=36,slow=5.9,SNR=5.7
WRA LR LR 12 43 02.5
comp=Z,224nm,19.6s,baz=90,slow=35
WRA Warramunga Arr 86.30 231 *ce*P **P** **12 05 19.8 -0.4**
ESDC Sonseca Array 87.80 10 P **P** **12 05 27.4 0.0**
comp=Z,1.5nm,0.9s,baz=353,slow=4.5,SNR=10.0
ESDC LR LR 12 44 10.6
comp=Z,60nm,21.7s,baz=330,slow=35
ESDC Sonseca Array 87.80 10 P **P** **12 05 27.1 -0.3**
ESDC lAmb lAmb 12 05 49.6
comp=Z,3.3nm,1.1s
AS31 Alice Springs 89.69 229 P **P** **12 05 36.6 +0.2**
AS31 lAmb lAmb 12 05 53.4
comp=Z,2.9nm,1.4s
ASAR Alice Springs 89.70 229 P **P** **12 05 35.0 -1.4**
comp=Z,1.9nm,0.8s,baz=29,slow=4.7,SNR=19
ASAR LR LR 12 44 05.7
comp=Z,330nm,19.9s,baz=47,slow=34
ASAR Alice Springs 89.70 229 P **P** **12 05 35.0 -1.4**
ASAR Alice Springs 89.70 229 P **P** **12 05 33.8 -2.6**
TORD Torodi Ar. Bea 114.61 8 PKP **PKiKP** **12 11 18.2 -0.6**
comp=Z,0.4nm,0.6s,baz=342,slow=3.2,SNR=1.6
H03N2 Juan Fernandez 116.55 111 T T 14 18 42.0
baz=309
H03N1 Juan Fernandez 116.56 111 T T 14 19 01.3
baz=309
H03N3 Juan Fernandez 116.56 111 T T 14 18 56.3
baz=309
PLCA Paso Flores 126.41 112 PKP **PKPdf** **12 11 39.9 -0.8**
comp=Z,2.0nm,0.8s,baz=313,slow=3.9,SNR=4.0
MAW Mawson 150.25 218 PKPbc **PKPbc** **12 12 26.7 -1.2**
comp=Z,4.5nm,0.8s,baz=180,slow=2.0,SNR=8.6
BOSA Boshof 153.68 327 PKPbc **PKiKP** **12 12 39.5 +2.3**
comp=Z,2.3nm,0.5s,baz=16,slow=2.6,SNR=15

TUL ***27*** *12:02:06.2±1.3, 35.75N±0.01×97.36W±0.02, h6km±6km, ML2.4, mb_Lg2.3/21(NEIC), Error ellipse: s-maj=2.5km s-min=1.5km az=113.0*

NEIC 27 12:02:06.2±1.5, 35.77N±0.01×97.368W±0.008, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.08**	**291**		Pg	12 02 08.4	+0.4
OK029				Sg	Sg	12 02 10.0	+0.9
OK005	**Luther M Schoo**	**0.18**	**129**	Pg	Pg	12 02 09.4	-0.4
OK005				Sg	Sg	12 02 12.7	+0.4
OK025	**Westminster Rd**	**0.19**	**173**	Pg	Pg	12 02 09.9	-0.1
OK009	**Oakdale Elemen**	**0.19**	**193**	Pg	Pg	12 02 09.7	-0.3
OK009				Sg	Sg	12 02 11.4	-1.1
BCOK	**Bluff Creek, N**	**0.23**	**240**	Pg	Pg	12 02 10.7	0.0
BCOK				Sg	Sg	12 02 12.8	-0.8
OKCFA	**Oklahoma City**	**0.36**	**191**	Pg	Pg	12 02 13.1	-0.1
OKCFA				Sg	Sg	12 02 14.3	+0.4
OKCSW	**OKLAHOMA CITY**	**0.37**	**189**	Pg	Pg	12 02 13.3	0.0
OKCSW				Sg	Sg	12 02 18.8	+0.6
OK031	**S. Brethren Rd**	**0.47**	**67**	Pg	Pg	12 02 15.3	+0.2
OK031				Sg	Sg	12 02 21.8	+0.5
OK030	**Cody Creek RV**	**0.50**	**71**	Pg	Pg	12 02 15.9	+0.1
OK030				Sg	Sg	12 02 22.8	+0.5
FNO	**Franklin**	**0.51**	**183**	Pg	Pg	12 02 15.7	-0.3
FNO				Sg	Sg	12 02 23.2	+0.5
QUOK	**Quay**	**0.67**	**53**	Pg	Pg	12 02 19.2	+0.1
QUOK				Sg	Sg	12 02 28.3	+0.6
CROK	**Carrier**	**0.89**	**326**	Pg	Pg	12 02 23.4	+0.2
CROK				Sg	Sb	12 02 36.6	+0.3
BLOK	**Blackwell**	**1.00**	**7**		Pg	12 02 25.2	-0.1
BLOK				Sg	Sb	12 02 39.0	-0.4
X34A	**Smith Ranch, M**	**1.23**	**198**	Pn	Pg	12 02 29.2	-0.6
OK032	**Salt Plains WL**	**1.24**	**327**	Pn	Pg	12 02 29.5	-0.4
KAN13	**South Haven SW**	**1.24**	**356**	Pn	Pg	12 02 29.5	-0.5
KAN07	**Caldwell West**	**1.31**	**346**	Pn	Pn	12 02 30.9	-0.3
T35A	**Sooner Cattle**	**1.34**	**31**		Pn	12 02 30.8	-0.7
KAN09	**Caldwell North**	**1.38**	**352**	Pn	Pn	12 02 31.9	-0.2
U32A	**Winter Ranch,**	**1.46**	**295**	Pn	Pn	12 02 33.2	0.0
KS20	**Mayfield South**	**1.47**	**354**	Pn	Pn	12 02 32.9	-0.4
KS20				lAmb_Lg		12 02 56.2	
comp=Z,17nm,0.8s							
KAN10	**Anthony SW Sta**	**1.47**	**337**	Pn	Pb	12 02 33.9	-0.2
KS21	**Milan North St**	**1.53**	**351**	lAmb_Lg		12 02 58.3	
comp=Z,21nm,0.8s							
KAN08	**Anthony NE Sta**	**1.53**	**342**	Pn	Pn	12 02 34.1	-0.2
WMOK	**Wichita Mounta**	**1.55**	**229**		Pn	12 02 34.4	-0.1
KAN12	**Harper NE Stat**	**1.61**	**342**	Pn	Pn	12 02 35.7	+0.4
LOOK	**Love County**	**1.78**	**175**	Pn	Pn	12 02 38.0	+0.4
X37A	**Clayton**	**2.02**	**125**	Pn	Pn	12 02 41.4	+0.6
X37A				lAmb_Lg		12 03 11.8	
comp=Z,11nm,0.8s							
U38A	**Gravette**	**2.50**	**74**	Pn	Pn	12 02 48.4	+0.8
HHAR	**Hobbs**	**2.83**	**79**	Pn	Pn	12 02 51.5	-0.6
W39A	**Magazine**	**2.98**	**100**	Pn	Pn	12 02 53.9	-0.2
Z38A	**Mt. Pleasant**	**3.18**	**141**	lAmb_Lg		12 03 52.0	
comp=Z,11nm,0.8s							
MIAR	**Mount Ida**	**3.34**	**110**	Pn	Pn	12 02 59.5	+0.4
CBKS	**Cedar Bluff**	**3.58**	**329**	lAmb_Lg		12 04 01.5	
comp=Z,10nm,1.0s							
U40A	**Yellville**	**3.70**	**80**	Pn	Pn	12 03 03.3	-0.8
WHAR	**Wooly Hollow**	**4.17**	**95**	Pn	Pn	12 03 08.2	-2.3
MGMO	**Mountain Grove**	**4.34**	**70**	lAmb_Lg		12 04 22.6	
comp=Z,8.0nm,0.8s							
R40A	**Maddies Statio**	**4.79**	**57**	lAmb_Lg		12 04 42.6	
comp=Z,7.0nm,1.0s							
N33A	**J Bar K, Exete**	**4.96**	**359**	Pn	Pn	12 03 18.8	-2.6
LCAR	**Lake Charles**	**5.05**	**85**	lAmb_Lg		12 04 58.4	
comp=Z,6.8nm,1.1s							
T42A	**Van Buren**	**5.21**	**74**	Pn	Pn	12 03 23.7	-1.1
CCM	**Cathedral Cave**	**5.41**	**63**	Pn	Pn	12 03 26.2	-1.3
HBAR	**Harrisburg**	**5.47**	**90**	Pn	Pn	12 03 27.5	-0.8
PBMO	**Poplar Bluff**	**5.70**	**78**	lAmb_Lg		12 05 10.1	
comp=Z,4.9nm,0.8s							
T25A	**Trinidad**	**5.84**	**286**	lAmb_Lg		12 05 18.7	

comp=Z,4.1nm,1.1s
L34A Svendsen Farm, 6.24 7 IAmb_Lg 12 05 30.0
comp=Z,6.3nm,0.8s
SDCO Great Sand Dun 6.82 289 Pn Pn 12 03 48.2 +1.0
ISCO Idaho Springs 7.67 304 Pn Pn 12 03 57.7 -1.1

DRS 27 12:04:22.2±0.0, 42°.21N×47°.89E, h14km, Ms2.8/5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.19**	**258**	*e*Pg	Pb	12 04 27.3	-0.3
	652nm,0.1s						
URKR				*i* Sg	Sb	12 04 31.1	0.0
	3µm,0.2s						
SGKR	**Sergokala**	**0.30**	**326**	*e*Pg	Pb	12 04 29.4	0.0
	13nm,0.1s						
SGKR				*i* Sg	Sb	12 04 33.8	-0.5
	1µm,0.5s						
KSMR	**Kasumkent**	**0.63**	**163**	*e*Pg	Pg	12 04 34.5	-0.1
	46nm,0.1s						
KSMR				*e*Sg	Sb	12 04 43.6	0.0
	1µm,0.5s						
GNBR	**Gunib**	**0.71**	**285**	*e*Pg	Pg	12 04 34.8	-1.2
	50nm,0.1s						
GNBR				*i* Sg	Sg	12 04 44.4	-1.0
	564nm,0.2s						
AKT	**Akhty**	**0.74**	**189**	*e*Pg	Pg	12 04 35.8	-0.8
	90nm,0.1s						
AKT				*i* Sg	Sg	12 04 45.6	-0.6
	445nm,0.3s						
ARKR	**Arakani**	**0.77**	**301**	*e*Pg	Pg	12 04 36.3	-0.9
	34nm,0.3s						
ARKR				*i* Sg	Sg	12 04 46.8	-0.5
	158nm,0.4s						
XNZR	**Khunzakh**	**0.94**	**291**	*e*Pg	Pb	12 04 39.3	-1.0
	25nm,0.1s						
XNZR				*e*Sg	Sb	12 04 51.4	-1.3
	72nm,0.2s						
KRNR	**Karanay**	**0.95**	**311**	*e*Pg	Pb	12 04 39.8	-0.7
	8.0nm,0.2s						
KRNR				*e*Sg	Sn	12 04 54.3	-0.4
	52nm,0.3s						
DBC	**Dubki**	**1.13**	**317**	*e*Pg	Pb	12 04 42.3	-1.2
	9.0nm,0.5s						
DBC				*e*Sg	Sb	12 04 58.1	+0.1
	30nm,0.6s						
BTLR	**Botlikh**	**1.31**	**291**	*e*Pg	Pn	12 04 46.3	+0.1
	10.0nm,0.3s						
BTLR				*e*Sg	Sb	12 05 02.4	-1.0
	32nm,0.4s						

INET 27 12:05:51.7, 11°.53N×86°.25W, h103km, MW3.8, Near coast of Nicaragua

IDC ***27*** *12:23:57.9±0.4, 5°.18S×153°.23E, h0km, mb4.8/24, mb1 4.9/27, mb1mx4.8/34, mbtmp4.8/27, ML3.2/2, MS4.2/23, Ms1 4.2/23, ms1mx4.1/28, Error ellipse: s-maj=13.7km s-min=11.3km az=81.0*

MOS ***27*** *12:24:00.2±1.2, 5°.15S×153°.30E, h28km, mb5.5/51, Error ellipse: s-maj=10.8km s-min=6.1km az=116.6*

GCMT ***27*** *12:24:02.3±0.2, 5°.37S±0°.02×153°.38E±0°.01, h18km, MW5.1/105, Moment Tensor Solution. s66,c81; s105,c183; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.05±.18; Mθθ1.04±.11; Mϕϕ-5.10±.12; Mrθ0.66±.36; Mθϕ-1.40±.08; Mrϕ0.66±.24; Best double couple: Mo4.83700×10^16 NP1:ϕ182.00000°, δ41.00000°, λ75.00000°. NP2:ϕ22.00000°, δ51.00000°, λ103.00000°. Principal axes: T 4.2050, Plg79.0000°, Azm348.0000°; N 1.2550, Plg10.0000°, Azm193.0000°; P -5.4690, Plg5.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***27*** *12:24:03.1±0.0, 4°.62S×153°.59E, h42km, mB5.3/46, mb5.2/70, Ms4.8/31, Ms7 4.5/33*

NEIC ***27*** *12:24:03.3±1.9, 5°.26S±0°.08×153°.24E±0°.08, h35km±1km, mb5.1/108, Error ellipse: s-maj=15.4km s-min=9.8km az=46.0*

DJA ***27*** *12:24:05.7±0.5, 5°S±3'×15'E±', h53km±5km, M5.1/42, mb5.1/42, mB5.5/11, MLv5.2/3, Mw(mB)5.0/11, MwMwp4.7/1, Mwp5.1/1*

ISC 27 12:24:03.6±0.2, 5°.20S±0°.04×153°.23E±0°.05, h43km, h43km:pP-P,n513,σ1$38/529, mb5.2/152, MS4.3/37, 29C-10D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**313**		**Pn**	**12 24 28.4**	**+0.9**
MANU	**Manus Island**	**6.64**	**298**		**Pn**	**12 25 37.3**	**-1.5**
PMG	**Port Moresby**	**7.33**	**235**	Pn	**Pn**	**12 25 48.2**	**0.0**
	8.7nm,0.3s,baz=57,slow=13,SNR=14						
PMG				Sn	**Sn**	**12 27 09.9**	**-0.3**
	4.2nm,0.3s,baz=260,slow=18,SNR=1.5						
HNR	**Honiara**	**7.87**	**123**	Pn	**Pn**	**12 25 56.1**	**+0.4**
	8.4nm,0.3s,baz=161,slow=9.4,SNR=8.0						
HNR				Sn	**Sn**	**12 27 30.0**	**+6.5**
	7.9nm,0.3s,baz=213,slow=19,SNR=1.0						
HNR				LR	LR	12 29 07.5	
	comp=Z,3µm,18.0s,baz=283,slow=39						
HNR	**Honiara**	**7.87**	**123**	P	**Pn**	**12 25 53.6**	**-2.0**
HNR	**Honiara**	**7.87**	**123**	Pn	**Pn**	**12 25 53.6**	**-2.0**
GENI	**Genyem**	**13.29**	**281**	P	**Pn**	**12 27 11.1**	**+1.3**
	3µm94nm,1.3s						
MTSU	**Mount Surprise**	**15.53**	**213**	P	**Pn**	**12 27 38.5**	**-1.3**
	baz=16,SNR=8.0						
CTA	**Charters Tower**	**16.28**	**204**	Pn	**Pn**	**12 27 48.8**	**-0.6**
	0.1nm,0.3s,baz=24,slow=13,SNR=4.4						
CTAO	**Charters Tower**	**16.28**	**204**	P	**Pn**	**12 27 46.1**	**-3.3**
CTAO				pmax	pmax		
	comp=Z,21nm,1.0s						
CTAO	**Charters Tower**	**16.28**	**204**		**Pn**	**12 27 46.0**	**-3.3**
BAKI	**Biak**	**17.55**	**283**	P	**P**	**12 28 06.1**	**+0.1**
	comp=Z,3µmcomp=Z,151nm,1.1s						
MWPI	**Manokwari, Pap**	**19.63**	**282**	P	**Pn**	**12 28 30.1**	**-0.3**
	comp=Z,2µmcomp=Z,154nm,1.0s						
EIDS	**Eidsvold**	**20.16**	**186**	P	**P**	**12 28 35.2**	**+0.7**
	baz=20,SNR=4.6						
EIDS	**Eidsvold**	**20.16**	**186**	P	**P**	**12 28 32.9**	**-1.5**
QIS	**Mount Isa**	**20.21**	**220**	P	**P**	**12 28 35.4**	**+0.3**
	baz=20,SNR=9.3						
LIFNC	**LIFOU**	**20.61**	**140**	P	**P**	**12 28 38.5**	**-0.8**
TARA	**Tarawa**	**20.72**	**72**	P	**P**	**12 28 40.3**	**-0.3**
FAKI	**Fak Fak**	**21.05**	**275**	P	**P**	**12 28 43.6**	**-0.7**
FAKI				IAmb	IAmb	12 29 02.0	
	comp=Z,70nm,0.9s						
FAKI	**Fak Fak**	**21.05**	**275**	P	**P**	**12 28 44.7**	**+0.5**
	comp=Z,93nm,1.0s						
DZM	**Mont Dzumac**	**21.09**	**144**	P	**P**	**12 28 44.6**	**0.0**
	comp=Z,63nm,0.6s,baz=319,slow=11,SNR=42						
DZM				LR	LR	12 36 13.2	
	comp=Z,2µm,18.3s,baz=322,slow=35						
DZM	**Mont Dzumac**	**21.09**	**144**	*e*P	**P**	**12 28 44.6**	**0.0**
	comp=Z,620nm,1.5s						
DZM				*e*S	**S**	**12 32 37.3**	**+0.1**
	comp=Z,946nm,21.6s						
DZM				*e*LR	LR	12 33 56.3	
	comp=Z,2µm,28.2s						
DZM	**Mont Dzumac**	**21.09**	**144**	P	**P**	**12 28 43.3**	**-1.4**
ONTNC	**Ouen Toro**	**21.28**	**144**	P	**P**	**12 28 45.6**	**-0.9**
ONTNC				IAmb	IAmb	12 29 02.5	
	comp=Z,172nm,1.0s						
OUENC	**Ouen Island, N**	**21.59**	**144**	P	**P**	**12 28 48.3**	**-1.5**
OUENC				IAmb	IAmb	12 29 01.8	
	comp=Z,175nm,1.1s						
RMQ	**Roma**	**21.59**	**191**	P	**P**	**12 28 50.6**	**+0.7**
	baz=22,SNR=12						
KDU	**Kakadu**	**21.80**	**249**	P	**P**	**12 28 51.7**	**-0.5**
	baz=22,SNR=26						
PINNC	**Pines Island,**	**22.10**	**143**	P	**P**	**12 28 54.2**	**-1.2**
SIJI	**Sorong**	**22.35**	**280**	P	**P**	**12 28 58.2**	**+0.1**
	comp=Z,75nm,0.6s,baz=106,slow=8.2,SNR=22						
SIJI	**Sorong**	**22.35**	**280**	P	**P**	**12 28 59.3**	**+1.1**
	comp=Z,768nmcomp=Z,63nm,0.7s						
SWI	**Sorong**	**22.36**	**280**	P	**P**	**12 28 57.8**	**-0.4**
	comp=Z,2µmcomp=Z,149nm,0.6s						
ANA2	**Anatahan**	**22.66**	**341**	P	**P**	**12 29 01.4**	**0.0**
QLP	**Quilpie**	**22.93**	**201**	P	**P**	**12 29 03.6**	**-0.5**
	baz=23,SNR=7.6						
MTN	**Manton Dam**	**23.10**	**249**	P	**P**	**12 29 05.1**	**-0.8**
	baz=23,SNR=15						
MTN	**Manton Dam**	**23.10**	**249**	P	**P**	**12 29 04.5**	**-1.5**
MTN				IAmb	IAmb	12 29 13.0	
	comp=Z,38nm,0.7s						
WB0	**Warramunga Arr**	**23.37**	**230**	P	**P**	**12 29 08.1**	**-0.5**
WB0				IAmb	IAmb	12 29 27.5	
	comp=Z,51nm,0.9s						
WR0	**Warramunga Arr**	**23.37**	**229**	P	**P**	**12 29 07.9**	**-0.7**
WR0				IAmb	IAmb	12 29 32.1	
	comp=Z,116nm,1.1s						
WRAB	**Tennant Creek**	**23.50**	**230**	*ce*P	**P**	**12 29 08.2**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,50nm,2.5s						
WRAB	**Tennant Creek**	**23.50**	**230**	P	**P**	**12 29 08.8**	**-1.0**
WRAB				IAmb	IAmb	12 29 35.2	
	comp=Z,37nm,0.8s						
WB2	**Warramunga Arr**	**23.50**	**230**	P	**P**	**12 29 09.4**	**-0.5**
WB2				IAmb	IAmb	12 29 28.8	
	comp=Z,36nm,0.7s						
WRA	**Warramunga Arr**	**23.51**	**230**	P	**P**	**12 29 08.7**	**-1.2**
	comp=Z,11nm,0.8s,baz=52,slow=9.9,SNR=38						
WRA				PcP	**PcP**	**12 32 57.1**	**+2.3**
	comp=Z,7.9nm,0.7s,baz=53,slow=2.2,SNR=6.2						
WRA				ScP	**ScP**	**12 36 36.3**	**+6.5**
	comp=Z,4.6nm,1.1s,baz=66,slow=4.2,SNR=5.6						
WRA	**Warramunga Arr**	**23.51**	**230**	*i* P	**P**	**12 29 09.1**	**-0.9**
WRA				pmax	pmax		
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**23.51**	**230**	P	**P**	**12 29 09.0**	**-0.9**
ARMA	**Armidale**	**25.13**	**183**	P	**P**	**12 29 26.0**	**+1.2**
	baz=25,SNR=12						
ARMA	**Armidale**	**25.13**	**183**	P	**P**	**12 29 24.0**	**-0.8**
ARMA				IAmb	IAmb	12 29 26.4	
	comp=Z,45nm,1.3s						
AS31	**Alice Springs**	**26.15**	**224**	P	**P**	**12 29 33.1**	**-0.9**
ASAR	**Alice Springs**	**26.15**	**224**	P	**P**	**12 29 33.5**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=53,slow=8.3,SNR=24						
ASAR				PcP	**PcP**	**12 33 03.1**	**+2.4**
	comp=Z,6.3nm,0.8s,baz=49,slow=2.9,SNR=7.1						
ASAR				ScP	**ScP**	**12 36 44.3**	**+7.1**
	comp=Z,1.9nm,0.8s,baz=47,slow=2.7,SNR=6.1						
ASAR	**Alice Springs**	**26.15**	**224**	P	**P**	**12 29 33.1**	**-1.0**
ASAR	**Alice Springs**	**26.15**	**224**	P	**P**	**12 29 33.1**	**-1.0**
KNRA	**Kununurra**	**26.19**	**245**	P	**P**	**12 29 34.7**	**+0.3**
	baz=26,SNR=21						
KNRA	**Kununurra**	**26.19**	**245**	P	**P**	**12 29 34.0**	**-0.5**
KNRA				IAmb	IAmb	12 29 55.4	
	comp=Z,92nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**27.02**	**29**	T	T	12 57 59.7	
	baz=208,slow=73,SNR=22						
H11S2	**WAKE ISLAND Hy**	**27.03**	**29**	T	T	12 58 04.0	
	baz=208,slow=73,SNR=29						
H11S1	**WAKE ISLAND Hy**	**27.04**	**29**	T	T	12 58 01.3	
	baz=208,slow=73,SNR=24						
MSVF	**Nonsavu**	**27.28**	**119**	LR	LR	12 39 01.5	
	comp=Z,1µm,21.9s,baz=343,slow=33						
SANI	**Sanana**	**27.37**	**276**	P	**P**	**12 29 45.2**	**+0.1**
	comp=Z,661nmcomp=Z,47nm,1.0s						
STKA	**Stephens Creek**	**28.69**	**201**	P	**P**	**12 29 55.8**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=23,slow=16,SNR=5.6						
STKA				LR	LR	12 41 45.2	
	comp=Z,535nm,18.5s,baz=15,slow=37						
STKA	**Stephens Creek**	**28.69**	**201**	P	**P**	**12 29 55.1**	**-1.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**28.69**	**201**	P	**P**	**12 29 55.1**	**-1.6**
BATI	**Baumata**	**29.71**	**259**	P	**P**	**12 30 05.6**	**-0.4**
	comp=Z,43nm,0.7s,baz=116,slow=2.2,SNR=5.5						
KMSI	**Cibinong**	**29.77**	**280**	P	**P**	**12 30 07.1**	**+0.6**
	comp=Z,100nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**12 30 06.7**	**-0.5**
	comp=Z,41nm,0.8s,baz=81,slow=7.5,SNR=76						
FITZ				LR	LR	12 43 47.7	
	comp=Z,583nm,18.7s,baz=66,slow=40						
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**12 30 06.4**	**-0.7**
	baz=30,SNR=50						
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**12 30 06.2**	**-0.9**
FITZ				IAmb	IAmb	12 30 07.7	
	comp=Z,53nm,0.9s						
CAN	**Canberra**	**30.23**	**187**	P	**P**	**12 30 10.2**	**-0.1**
CAN				pmax	pmax		
	comp=Z,28nm,1.2s						
CAN	**Canberra**	**30.23**	**187**	P	**P**	**12 30 10.2**	**-0.1**
CAN				IAmb	IAmb	12 30 23.6	
	comp=Z,28nm,1.2s						
WRKA	**Warakurna**	**31.01**	**228**	P	**P**	**12 30 15.7**	**-1.7**
	baz=31,SNR=11						
HTT	**Hallett**	**31.09**	**204**	P	**P**	**12 30 17.2**	**-0.8**
	baz=31,SNR=5.0						
EDFI	**Ems, Flores**	**31.50**	**262**	P	**P**	**12 30 20.9**	**-1.0**
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**31.80**	**208**	P	**P**	**12 30 23.6**	**-0.6**
APSI	**Ampana**	**31.82**	**277**	P	**P**	**12 30 24.6**	**0.0**
	comp=Z,40nm,1.0s						
BNSI	**Bone**	**33.02**	**270**	P	**P**	**12 30 34.9**	**-0.2**
	comp=Z,21nm,0.8s						
KAPI	**Kappang**	**33.35**	**269**	P	**P**	**12 30 37.7**	**-0.3**
	comp=Z,7.4nm,0.5s,baz=125,slow=5.1,SNR=5.0						
KAPI	**Kappang**	**33.35**	**269**	P	**P**	**12 30 37.2**	**-0.8**
KAPI				pmax	pmax		
	comp=Z,18nm,1.0s						
KAPI	**Kappang**	**33.35**	**269**	P	**P**	**12 30 37.2**	**-0.8**
KAPI				IAmb	IAmb	12 30 42.5	
	comp=Z,18nm,1.0s						
KAPI	**Kappang**	**33.35**	**269**	P	**P**	**12 30 38.5**	**+0.5**
	comp=Z,15nm,1.1s						
MPSI	**Mapaga**	**33.74**	**278**	P	**P**	**12 30 40.3**	**-1.1**
	comp=Z,18nm,0.8s						
FORT	**Forrest**	**34.76**	**220**	P	**P**	**12 30 49.1**	**-0.9**
	baz=35,SNR=9.0						
FORT	**Forrest**	**34.76**	**220**	P	**P**	**12 30 49.1**	**-0.9**
PSA00	**Pilbara Seismi**	**36.20**	**240**	P	**P**	**12 31 02.0**	**-0.5**
PSA00				IAmb	IAmb	12 31 16.9	
	comp=Z,39nm,0.9s						
PSA00	**Pilbara Seismi**	**36.20**	**240**	P	**P**	**12 31 01.0**	**-1.5**
PSA00				IAmb	IAmb	12 31 16.9	
	comp=Z,18nm,1.1s						
MTKI	**Muara Teweh, K**	**38.51**	**275**	P	P	12 31 30.3	+8.1
MEEK	**Meekatharra**	**39.31**	**233**	P	**P**	**12 31 28.1**	**-0.7**
	baz=39,SNR=4.5						
URZ	**Urewera**	**39.42**	**150**	P	**P**	**12 31 30.0**	**+0.6**
	comp=Z,24nm,1.0s,baz=125,slow=23,SNR=13						
URZ	**Urewera**	**39.42**	**150**	P	**P**	**12 31 29.2**	**-0.3**
URZ				IAmb	IAmb	12 31 34.7	
	comp=Z,83nm,1.4s						
BKZ	**Black Stump Fm**	**39.83**	**151**	P	**P**	**12 31 33.5**	**+0.6**
BKZ				IAmb	IAmb	12 31 45.3	
	comp=Z,19nm,0.8s						
JOW	**Kunigami**	**39.97**	**324**	P	**P**	**12 31 34.8**	**+0.6**
TUWZ	**Tuamarina**	**40.55**	**156**	P	**P**	**12 31 38.5**	**-0.2**
LTZ	**Lake Taylor**	**41.06**	**159**	P	**P**	**12 31 42.8**	**-0.2**
LTZ				IAmb	IAmb	12 31 55.3	
	comp=Z,58nm,1.3s						
YULB	**Yu-li**	**42.18**	**314**	P	**P**	**12 31 52.1**	**-0.3**
YULB				IAmb	IAmb	12 31 54.8	
	comp=Z,17nm,0.7s						
MORW	**Morawa**	**42.44**	**232**	P	**P**	**12 31 54.7**	**+0.2**
	baz=42,SNR=4.6						
NACB	**Ninganchiao**	**42.46**	**315**	P	**P**	**12 31 55.3**	**+0.7**
NACB				IAmb	IAmb	12 32 03.3	
	comp=Z,36nm,0.9s						
JSU	**Suzuyama**	**42.48**	**331**	P	**P**	**12 31 53.7**	**-1.0**
JSU				IAmb	IAmb	12 31 55.5	
	comp=Z,26nm,0.9s						
SSLB	**Suanglung**	**42.67**	**314**	P	**P**	**12 31 56.4**	**-0.1**
SSLB				IAmb	IAmb	12 32 00.4	
	comp=Z,21nm,0.8s						
YHNB	**Yeheng**	**42.93**	**315**	P	**P**	**12 31 59.2**	**+0.7**
YHNB				IAmb	IAmb	12 32 04.0	
	comp=Z,67nm,1.2s						
NWAO	**Narrogin (SRO)**	**43.42**	**226**	LR	LR	12 50 04.0	
	comp=Z,351nm,20.8s,baz=66,slow=36						
JNU	**Nakatsue**	**43.61**	**332**	P	**P**	**12 32 03.7**	**-0.2**
MJAR	**Matsushiro Arr**	**43.84**	**342**	P	**P**	**12 32 05.0**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=132,slow=1.6,SNR=12						
MJAR				PcP	**PcP**	**12 33 52.2**	**+0.7**
	comp=Z,12nm,1.0s,baz=157,slow=3.8,SNR=7.8						
MJAR				LR	LR	12 49 47.3	
	comp=Z,192nm,18.6s,baz=145,slow=35						
MJAR	**Matsushiro Arr**	**43.84**	**342**	P	**P**	**12 32 04.9**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MJAR	**Matsushiro Arr**	**43.84**	**342**	P	**P**	**12 32 04.9**	**-0.8**
MAT	**Matsushiro**	**43.84**	**342**	P	**P**	**12 32 03.8**	**-1.9**
KPJI	**Karang Pucung**	**44.08**	**265**	P	**P**	**12 32 08.0**	**+0.1**
	comp=Z,45nm,0.7s						
LEM	**Lembang**	**45.38**	**266**	P	**P**	**12 32 19.5**	**+1.0**
	comp=Z,19nm,0.6s,baz=143,slow=22,SNR=2.5						
TJN	**Taejon**	**47.93**	**332**	*ce*P	**P**	**12 32 37.9**	**0.0**
KSRS	**Korea Array**	**48.55**	**333**	P	**P**	**12 32 43.0**	**+0.4**
	comp=Z,9.6nm,0.8s,baz=149,slow=8.3,SNR=31						
KSRS				LR	LR	12 52 47.8	
	comp=Z,179nm,18.5s,baz=140,slow=36						
KSAR	**Wonju Array Be**	**48.56**	**333**	P	**P**	**12 32 42.7**	**0.0**
KSAR	**Wonju Array Be**	**48.56**	**333**	P	**P**	**12 32 42.6**	**0.0**
KS19	**Wonju Array Si**	**48.61**	**333**	P	**P**	**12 32 42.7**	**-0.5**
KS19				IAmb	IAmb	12 33 05.0	
	comp=Z,40nm,1.3s						
MDSI	**Maura Dua**	**48.88**	**269**	P	**P**	**12 32 44.9**	**-0.7**
	comp=Z,21nm,1.4s						
QIZ	**Qiongzhong**	**49.04**	**301**	P	**P**	**12 32 48.5**	**+1.7**
QIZ				S	**S**	**12 39 48.3**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,20nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,290nm,11.8s						
QIZ				L	L		
	comp=Z,230nm,14.2s						
QIZ				L	L		
	comp=Z,250nm,14.7s						
QIZ				L	L		
	comp=Z,360nm,19.1s						
INCN	**Inchon**	**49.17**	**332**	P	**P**	**12 32 47.6**	**+0.2**
INCN				pmax	pmax		
	comp=Z,78nm,1.0s						
INCN	**Inchon**	**49.17**	**332**	P	**P**	**12 32 47.6**	**+0.2**
UBPT	**Khong Chiam**	**51.50**	**294**	P	**P**	**12 33 08.6**	**+3.2**
	comp=Z,11nm,1.2s						
UBPT	**Khong Chiam**	**51.50**	**294**	P	**P**	**12 33 04.9**	**-0.5**
UBPT	**Khong Chiam**	**51.50**	**294**	P	**P**	**12 33 05.6**	**+0.2**
	comp=Z,10nm,1.2s						
USA0B	**Ussuriysk Arra**	**52.76**	**341**	P	**P**	**12 33 14.4**	**+0.1**
USA0B				pmax	pmax		
	comp=Z,41nm,1.0s						
USA0B	**Ussuriysk Arra**	**52.76**	**341**	P	**P**	**12 33 14.3**	**+0.1**
USA0B				IAmb	IAmb	12 33 15.6	
	comp=Z,41nm,0.9s						
USRK	**Ussuriysk Ar.**	**52.76**	**341**	P	**P**	**12 33 14.7**	**+0.4**
	comp=Z,21nm,0.8s,baz=176,slow=7.9,SNR=39						
USRK	**Ussuriysk Ar.**	**52.76**	**341**	P	**P**	**12 33 13.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.76**	**341**	P	**P**	**12 33 13.7**	**-0.6**
PDSI	**Padang**	**52.85**	**273**	P	**P**	**12 33 14.9**	**-0.7**
	comp=Z,14nm,0.7s						
TIA	**Tai'an**	**53.29**	**324**	P	**P**	**12 33 18.5**	**+0.1**
TIA				pmax	pmax		
	comp=Z,17nm,0.9s						
MNSI	**Mandailing Nat**	**53.92**	**275**	P	**P**	**12 33 23.7**	**+0.4**
	comp=Z,16nm,0.6s						
MDJ	**Mudanjiang**	**53.95**	**339**	P	**P**	**12 33 23.0**	**0.0**
MDJ				pmax	pmax		
	comp=Z,41nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,510nm,3.7s						
MDJ	**Mudanjiang**	**53.95**	**339**	P	**P**	**12 33 23.0**	**0.0**
MDJ				IAmb	IAmb	12 33 24.2	
	comp=Z,43nm,1.1s						
NONG	**Nongkai**	**54.54**	**296**	P	**P**	**12 33 28.8**	**+1.0**
	comp=Z,3µmcomp=Z,50nm,0.8s						
ENH	**Enshi**	**54.74**	**313**	P	**P**	**12 33 28.9**	**-0.2**
CN2	**Changchun**	**54.84**	**336**	*e*P	**P**	**12 33 29.0**	**-0.5**
CN2				S	**S**	**12 41 04.0**	**-3.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				pmax	pmax		
	comp=Z,100nm,8.0s						
CN2				L	L		
	comp=Z,200nm,16.0s						
CN2				L	L		
	comp=Z,300nm,16.0s						
CN2				L	L		
	comp=Z,300nm,20.6s						
CHAI	**Chaiyaphum**	**54.88**	**293**	P	**P**	**12 33 31.6**	**+1.3**
	comp=Z,20nm,0.7s						
GYA	**Guiyang**	**54.98**	**307**	P	**P**	**12 33 32.3**	**+1.3**
GYA				pP	pP	12 33 43.3	+0.6
GYA				L	L		
	comp=Z,76nm,18.0s						
SLVN	**Son La**	**55.07**	**300**	P	**P**	**12 33 32.5**	**+0.8**
GSI	**Gunungsitoli**	**55.97**	**275**	P	P	12 33 46.5	+8.3
BJI	**Beijing**	**56.46**	**326**	P	**P**	**12 33 41.5**	**+0.3**
BJI				pP	**pP**	**12 33 54.0**	**+1.1**
BJI				sP	**sP**	**12 33 58.8**	**+1.1**
BJI				S	**S**	**12 41 31.5**	**+2.1**
BJI				pmax	pmax		
	comp=Z,14nm,1.8s						
BJI				L	L		
	comp=Z,240nm,20.4s						
BJI				L	L		
	comp=Z,330nm,21.6s						
BJI				L	L		
	comp=Z,280nm,21.4s						
PHIT	**Phitsanulok**	**56.71**	**294**	P	**P**	**12 33 45.3**	**+1.9**
	comp=Z,977nmcomp=Z,106nm,1.0s						
UTTA	**Uttaradit**	**56.76**	**295**	P	**P**	**12 33 45.5**	**+1.8**
	comp=Z,326nmcomp=Z,36nm,0.9s						
SRDT	**SRDT**	**57.07**	**291**	P	**P**	**12 33 48.8**	**+2.9**
	comp=Z,34nm,0.7s						
SRDT	**SRDT**	**57.07**	**291**	P	**P**	**12 33 48.9**	**+2.9**
UTHA	**Uthaitani**	**57.11**	**292**	P	**P**	**12 33 48.4**	**+2.2**
	comp=Z,7.6nm,0.7s						
PPT	**Papeete**	**57.19**	**107**	LR	LR	12 53 27.1	
	comp=Z,163nm,21.5s,baz=303,slow=31						
PPT2	**Papeete2**	**57.20**	**107**	*e*S	**S**	**12 41 38.6**	**-1.4**
	comp=Z,246nm,35.2s						
PPT2				*e*LR	LR	12 50 32.0	
	comp=Z,286nm,23.0s						
XAN	**Xi'an**	**57.21**	**316**	⇑P	**P**	**12 33 47.0**	**+0.3**
XAN				pP	sP	12 34 03.8	+0.6
XAN				S	**S**	**12 41 45.3**	**+5.7**
XAN				pmax	pmax		
	comp=Z,35nm,0.8s						
XAN				pmax	pmax		
	comp=Z,180nm,5.6s						
XAN				L	L		
	comp=Z,290nm,18.4s						
XAN				L	L		
	comp=Z,390nm,19.5s						
KLR	**Kul'dur**	**57.35**	**343**	*ce*P	**P**	**12 33 46.5**	**-0.8**
KLR				pmax	pmax		
	comp=Z,79nm,1.1s						
**T

comp=Z,118nm,21.6s,baz=184,slow=32
PETK Petropavlovsk- 58.21 3 P **P** **12 33 53.3 0.0**
PETK Petropavlovsk- 58.21 3 P **P** **12 33 53.3 0.0**
CM35 Chiang Mai Arr 58.32 296 P **P** **12 33 56.0 +1.3**
CM36 Chiang Mai Arr 58.32 295 P **P** **12 33 56.0 +1.3**
CM34 Chiang Mai Arr 58.38 296 P **P** **12 33 56.0 +0.9**
CM04 Chiang Mai Arr 58.39 295 P **P** **12 33 57.3 +2.1**
comp=Z,202nmcomp=Z,30nm,0.9s
CM04 Chiang Mai Arr 58.39 295 P **P** **12 33 57.4 +2.2**
comp=Z,202nmcomp=Z,30nm,0.9s
CM09 Chiang Mai Arr 58.39 295 P **P** **12 33 57.4 +2.2**
comp=Z,278nmcomp=Z,42nm,0.9s
CM09 Chiang Mai Arr 58.39 295 P **P** **12 33 57.5 +2.2**
comp=Z,278nmcomp=Z,42nm,0.9s
CM01 Chiang Mai Arr 58.41 295 P **P** **12 33 57.6 +2.2**
comp=Z,266nmcomp=Z,36nm,0.8s
CM01 Chiang Mai Arr 58.41 295 P **P** **12 33 57.0 +1.6**
comp=Z,266nmcomp=Z,36nm,0.8s
CM05 Chiang Mai Arr 58.42 295 P **P** **12 33 57.6 +2.2**
comp=Z,160nmcomp=Z,22nm,0.9s
CM05 Chiang Mai Arr 58.42 295 P **P** **12 33 57.6 +2.2**
comp=Z,160nmcomp=Z,22nm,0.9s
CM02 Chiang Mai Arr 58.43 295 P **P** **12 33 57.6 +2.1**
comp=Z,250nmcomp=Z,38nm,0.8s
CM02 Chiang Mai Arr 58.43 295 P **P** **12 33 57.7 +2.2**
comp=Z,250nmcomp=Z,38nm,0.8s
CM31 Chiang Mai Arr 58.44 295 P **P** **12 33 57.8 +2.2**
comp=Z,7µmcomp=Z,963nm,0.8s
CM31 Chiang Mai Arr 58.44 295 P **P** **12 33 56.6 +1.0**
CMAR Chiang Mai Arr 58.44 295 P **P** **12 33 57.2 +1.7**
comp=Z,24nm,0.8s,baz=123,slow=5.4,SNR=79
CMAR LR LR 12 56 22.0
comp=Z,150nm,21.8s,baz=110,slow=33
CMAR Chiang Mai Arr 58.44 295 P **P** **12 33 56.2 +0.7**
CM15 Chiang Mai Arr 58.45 295 P **P** **12 33 57.8 +2.1**
comp=Z,256nmcomp=Z,40nm,0.9s
CM15 Chiang Mai Arr 58.45 295 P **P** **12 33 57.0 +1.3**
comp=Z,256nmcomp=Z,40nm,0.9s
CM13 Chiang Mai Arr 58.46 295 P **P** **12 33 57.8 +2.1**
comp=Z,199nmcomp=Z,28nm,0.9s
CM13 Chiang Mai Arr 58.46 295 P **P** **12 33 57.0 +1.3**
comp=Z,199nmcomp=Z,28nm,0.9s
CMMT Chiang Mai 58.55 296 P **P** **12 33 56.9 +0.6**
comp=Z,19nm,1.0s
CMMT Chiang Mai 58.55 296 P **P** **12 33 56.9 +0.6**
comp=Z,19nm,1.0s
CMMT Chiang Mai 58.55 296 P **P** **12 33 57.0 +0.6**
comp=Z,18nm,1.0s
CM33 Chiang Mai Arr 58.55 296 P **P** **12 33 57.0 +0.7**
CHTO Chiang Mai 58.55 296 P **P** **12 33 57.2 +0.9**
CHTO pmax pmax
comp=Z,20nm,1.1s
CHTO Chiang Mai 58.55 296 P **P** **12 33 57.9 +1.6**
comp=Z,20nm,1.2s
CHTO Chiang Mai 58.55 296 P **P** **12 33 57.2 +0.9**
CHTO IAmb IAmb 12 34 06.1
comp=Z,20nm,1.1s
CHTO Chiang Mai 58.55 296 P **P** **12 33 57.9 +1.6**
comp=Z,11nm,1.2s
CM32 Chiang Mai Arr 58.59 295 P **P** **12 33 59.0 +2.4**
PMOR Pomariorio Ree 58.62 104 *e*P **P** **12 33 58.0 +1.1**
comp=Z,27nm,1.0s
MHMT Maesarieng 59.27 295 P **P** **12 34 03.7 +2.4**
comp=Z,1µmcomp=Z,31nm,0.8s
MHMT Maesarieng 59.27 295 P **P** **12 34 03.7 +2.4**
comp=Z,1µmcomp=Z,31nm,0.8s
CD2 Chengdu 59.32 311 P **P** **12 34 02.5 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 59.62 324 *e*P **P** **12 34 04.8 +1.3**
HHC pP pwP 12 34 17.5 -0.2
HHC S **S** **12 42 13.0 +2.1**
HHC sS sS 12 42 30.0 -1.1
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,170nm,8.0s
HHC L L
comp=Z,210nm,18.6s
HHC L L
comp=Z,220nm,17.5s
HHC L L
comp=Z,360nm,21.6s
BTO Baotou 60.38 323 *e*P **P** **12 34 10.0 +1.3**
LZH Lanzhou 61.82 316 *e*P **P** **12 34 20.5 +1.9**
LZH pP sP 12 34 37.3 +2.1
LZH pmax pmax
comp=Z,34nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.3s
LZH L L
comp=Z,430nm,15.2s
LZH L L
comp=Z,320nm,16.8s
LZH L L
comp=Z,330nm,16.7s
ZEA Zeya 62.65 343 *e*P **P** **12 34 23.7 +0.1**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,50nm,0.8s
MA2 Magadan 64.60 359 LR LR 13 02 51.3
comp=Z,84nm,18.1s,baz=188,slow=36
MA2 Magadan 64.60 359*ce*P **P** **12 34 34.6 -1.7**
MA2 pmax pmax
comp=Z,36nm,1.7s
MA2 Magadan 64.60 359 P **P** **12 34 36.4 0.0**
GTA Gaotai 66.24 317 ⇑P **P** **12 34 49.0 +1.4**
GTA pP sP 12 35 03.3 -0.9
GTA sP pwP 12 35 08.5 +6.6
GTA pmax pmax
comp=Z,30nm,1.1s
GTA pmax pmax
comp=Z,240nm,6.4s
GTA L L
comp=Z,120nm,19.6s
GTA L L
comp=Z,420nm,20.7s
GTA L L
comp=Z,200nm,17.8s
CIT Chita 66.24 334 *e*P **P** **12 34 45.8 -1.4**
CIT *e* 12 35 01.4
CIT *e* 12 35 17.0
CIT pmax pmax
comp=Z,84nm,1.9s
ULN Ulaanbaatar 66.56 328*ce*P **P** **12 34 50.1 +0.6**
ULN pmax pmax
comp=Z,63nm,2.5s
ULN Ulaanbaatar 66.56 328 P **P** **12 34 50.5 +1.1**
ULN IAmb IAmb 12 34 51.9
comp=Z,20nm,1.1s
ULN Ulaanbaatar 66.56 328 P **P** **12 34 51.2 +1.7**
comp=Z,2µmcomp=Z,93nm,1.2s
SHL Shillong 66.88 300 P **P** **12 34 52.7 +0.7**
SHL pmax pmax
comp=Z,63nm,0.8s
SHL Shillong 66.88 300 P **P** **12 34 52.6 +0.7**
SONM Songino Array 66.89 328 P **P** **12 34 52.5 +1.0**
comp=Z,7.2nm,0.6s,baz=145,slow=5.8,SNR=34
SONM LR LR 13 06 12.2
comp=Z,94nm,18.2s,baz=127,slow=38
SONM Songino Array 66.89 328 P **P** **12 34 51.8 +0.3**
SONM pmax pmax
comp=Z,29nm,1.4s
SONM Songino Array 66.89 328 P **P** **12 34 51.8 +0.3**
SONM IAmb IAmb 12 34 55.1
comp=Z,29nm,1.4s
CASY Casey 67.76 197 P **P** **12 34 57.2 +0.6**
CASY IAmb IAmb 12 35 09.7
comp=Z,9.5nm,1.0s
SEY Seymchan 67.94 360 *i* P **P** **12 34 56.0 -1.7**
LSA Lhasa 68.82 304 P **P** **12 35 05.7 +1.2**
LSA pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa 68.82 304 P **P** **12 35 05.7 +1.2**
LSA IAmb IAmb 12 35 07.0
comp=Z,18nm,1.0s
YAK Yakutsk 69.45 348 LR LR 13 03 18.0
comp=Z,124nm,21.2s,baz=242,slow=34
YAK Yakutsk 69.45 348*c i*P **P** **12 35 07.3 +0.2**
YAK *e* 12 35 33.2
YAK *e* 12 37 41.5
YAK *e*S **S** **12 44 08.6 -2.5**
YAK *e**SS sS 12 44 40.8 +9.2
YAK *e* 12 45 07.7
YAK pmax pmax
comp=Z,78nm,1.3s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=N,33nm,1.5s
YAK pmax pmax
comp=Z,60nm,2.8s
YAK pmax pmax
comp=N,42nm,2.5s
YAK pmax pmax
comp=E,43nm,2.4s
YAK smax smax
comp=E,58nm,4.1s
YAK smax smax
comp=N,32nm,4.2s
YAK Yakutsk 69.45 348 P **P** **12 35 07.0 0.0**
ZAK Zakamensk 70.06 329 *e*P **P** **12 35 11.7 +0.5**
ZAK pmax pmax
comp=Z,28nm,1.0s
BOD Bodaibo 70.32 339 *e*P **P** **12 35 12.6 +0.1**
BOD pmax pmax
comp=Z,56nm,1.5s
TLY Talaya 70.64 330 *e*P **P** **12 35 15.0 +0.4**
TLY pmax pmax
comp=Z,61nm,2.0s
TLY MLR MLR
comp=Z,214nm,12.0s
TLY Talaya 70.64 330 P **P** **12 35 14.9 +0.2**
IRK Irkutsk 70.67 331 *e*P **P** **12 35 14.0 -0.8**
IRK pmax pmax
comp=Z,53nm,2.0s
ODAN Odare 71.12 301 *e*P **P** **12 35 19.3 +1.0**
comp=Z,97nm,0.8s
RKT Rikitea 71.24 113 *e*LR LR 12 57 07.7
comp=Z,746nm,30.5s
MOY Mondy 71.98 329 *e*P **P** **12 35 24.1 +1.2**
MOY pmax pmax
comp=Z,70nm,1.9s
VNDA Vanda 72.42 178 P **P** **12 35 26.0 +1.1**
comp=Z,10nm,0.9s,baz=334,slow=6.3,SNR=51
VNDA Vanda 72.42 178 P **P** **12 35 25.6 +0.7**
VNDA pmax pmax
comp=Z,18nm,1.0s
VNDA Vanda 72.42 178 P **P** **12 35 25.6 +0.7**
VNDA IAmb IAmb 12 35 36.8
comp=Z,18nm,0.9s
SBA Scott Base 72.96 177 P **P** **12 35 29.3 +1.2**
SBA pmax pmax
comp=Z,37nm,1.4s
SBA Scott Base 72.96 177 P **P** **12 35 29.3 +1.2**
SBA IAmb IAmb 12 35 33.1
comp=Z,37nm,1.4s
PKI Pulchoki 73.01 301 *e*P **P** **12 35 30.3 +0.5**
PKIN Phulchoki 73.02 301 *e*P **P** **12 35 30.3 +0.5**
KKN Kakani 73.18 301 *e*P **P** **12 35 31.6 +1.0**
DMN Daman 73.28 301 *e*P **P** **12 35 32.6 +1.3**
comp=Z,205nm,0.9s
BILL Bilibino 73.65 5*d i*P **P** **12 35 32.0 -0.3**
BILL *e**PP **pP** **12 35 38.6 -5.8**
BILL *e**SP **pwP** **12 35 49.3 +2.6**
BILL *e*SS SS 12 49 50.8 +7.4
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,86nm,17.0s
BILL Bilibino 73.65 5 P **P** **12 35 33.0 +0.8**
BILL IAmb IAmb 12 35 58.8
comp=Z,13nm,1.0s
GKN Gorkha 73.78 301 *e*P **P** **12 35 35.2 +1.1**
comp=Z,186nm,0.9s
KOLN Kolganda 74.61 301 *e*P **P** **12 35 39.8 +0.8**
comp=Z,158nm,0.8s
DANN Dangsing 74.62 301 *e*P **P** **12 35 39.5 +0.3**
comp=Z,105nm,0.8s
PYUN Piuthan 75.21 301 *e*P **P** **12 35 43.0 +0.5**
WMQ Urumqi 76.33 317 *e*P **P** **12 35 49.5 +1.2**
WMQ sP sP 12 36 05.0 -0.2
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ pmax pmax
comp=Z,300nm,3.7s
KDAK Kodiak Island 76.34 27 LR LR 13 04 35.2
comp=Z,156nm,21.7s,baz=251,slow=32
N18K Kilae Creek 76.65 23 P 12 35 49.6
baz=232
HYB Hyderabad 77.03 289 *i* P **P** **12 35 52.0 -0.8**
P19K Oil Pt 77.11 25 P 12 35 51.6
baz=235
O20K Slope Mountain 77.61 25 P 12 35 56.4
baz=236
HOM Homer 77.79 25 P 12 35 57.0
baz=237
CNPM China Poot 77.89 25 P **P** **12 35 56.7 0.0**
L19K White Mountain 77.95 22 P 12 35 57.1
baz=233
M19K Big River Lodg 77.96 23 P 12 35 57.5
baz=234
TTA Tatalina 77.98 21 P 12 35 56.7
baz=232
TTA Tatalina 77.98 21 P **P** **12 35 58.1 +0.9**
TTA pmax pmax
comp=Z,14nm,1.5s
TTA Tatalina 77.98 21 P **P** **12 35 58.1 +0.9**
TIXI Tiksi 78.35 352 LR LR 13 11 18.2
comp=Z,58nm,18.0s,baz=179,slow=36
TIXI Tiksi 78.35 352 P **P** **12 35 58.7 -0.2**
TIXI pmax pmax
comp=Z,44nm,1.4s
TIXI Tiksi 78.35 352 P **P** **12 35 58.7 -0.2**
TIXI IAmb IAmb 12 36 01.7
comp=Z,44nm,1.4s
DGZ Jazzator, Alta 78.66 323*c i*P **P** **12 36 01.7 +0.3**
DGZ pmax pmax
comp=Z,61nm,1.0s
SEW Seward 78.96 25 P 12 36 01.8
baz=239
RDOG Red Dog Mine 79.25 15 P **P** **12 36 04.8 +0.8**
RDOG IAmb IAmb 12 36 07.1
comp=Z,26nm,1.3s
RDOG Red Dog Mine 79.25 15 P 12 36 05.1
baz=225
RC01 Rabit Creek A 79.36 25 P 12 36 06.2
baz=238
PPLA Purkeypile 79.38 22 P 12 36 03.2
baz=236
ZSN Zaisan 79.45 320 *e*P **P** **12 36 06.0 +0.4**
comp=Z,16nm,0.8s,baz=320
ZSN Zaisan 79.45 320 *e*P **P** **12 36 06.0 +0.4**
ZSN pmax pmax
comp=Z,16nm,0.8s
PMR Palmer 79.87 24 P 12 36 05.0
baz=239
PMR Palmer 79.87 24 P **P** **12 36 08.2 +0.8**
PMR pmax pmax
comp=Z,13nm,1.2s
PMR Palmer 79.87 24 P **P** **12 36 08.2 +0.8**
KNK Knik Glacier 80.05 25 P 12 36 10.5
baz=239
SML Sawmill 80.31 24 P **P** **12 36 10.9 +0.9**
SML IAmb IAmb 12 36 19.6
comp=Z,20nm,0.9s
SML Sawmill 80.31 24 P 12 36 10.4
baz=239
TRF Thorofare Moun 80.40 22 P 12 36 08.2
baz=237
BPAW Bear Paw Mtn. 80.50 22 P 12 36 08.7
baz=237
H21K Melozitna Rive 80.74 20 P 12 36 11.1
baz=235
I21K Tanana 80.75 20 P 12 36 11.4
baz=236
MK31 Makanchi Array 80.91 319 P **P** **12 36 13.6 +0.2**
MK31 pmax pmax
comp=Z,32nm,1.1s
MK31 Makanchi Array 80.91 319 P **P** **12 36 13.6 +0.2**
MK31 IAmb IAmb 12 36 15.6
comp=Z,32nm,1.1s
MKAR Makanchi Array 80.91 319 P **P** **12 36 14.4 +0.9**
comp=Z,25nm,0.9s,baz=101,slow=6.5,SNR=87
MKAR Makanchi Array 80.91 319*ce*P **P** **12 36 14.3 +0.8**
MKAR pmax pmax
comp=Z,26nm,0.9s
MKAR Makanchi Array 80.91 319 P **P** **12 36 14.1 +0.6**
RND Reindeer 80.93 23 P **P** **12 36 12.1 -1.2**
RND pmax pmax
comp=Z,11nm,1.0s
RND Reindeer 80.93 23 P **P** **12 36 12.1 -1.2**
WAT6 Susitna Watana 80.94 24 P 12 36 12.5
baz=240
MCK McKinley 81.06 22 P 12 36 12.8
baz=238
MCK McKinley 81.06 22 P **P** **12 36 12.6 -1.3**
MCK pmax pmax
comp=Z,12nm,1.0s
MCK McKinley 81.06 22 P **P** **12 36 12.6 -1.3**
MCK IAmb IAmb 12 36 13.2
comp=Z,12nm,1.0s
MLY Manley 81.10 21 P 12 36 13.4
baz=237
MLY Manley 81.10 21 P **P** **12 36 13.3 -0.8**
MAKZ Makanchi 81.12 319 P **P** **12 36 15.6 +1.0**
MAKZ pmax pmax
comp=Z,68nm,1.3s
MAKZ Makanchi 81.12 319 P **P** **12 36 15.6 +1.0**
KLU Klutina 81.15 25 P **P** **12 36 15.3 +0.8**
KLU IAmb IAmb 12 36 40.8
comp=Z,24nm,1.3s
KLU Klutina 81.15 25 P 12 36 14.8
baz=242
M24K Tolsona, Glenn 81.34 24 P 12 36 15.4
baz=241
NEA2 Nenana 81.47 22 P 12 36 14.3
baz=238
NEA2 Nenana 81.47 22 P **P** **12 36 14.7 -1.3**
BMRM Bremner River 81.47 26 P 12 36 15.8
baz=243
I23K Minto, Yukon-K 81.66 21 P 12 36 14.8
baz=238
ZAA0 Zalesovo Array 81.72 326 P **P** **12 36 17.5 -0.1**
ZAA0 IAmb IAmb 12 36 18.6
comp=Z,37nm,1.4s
ZALV Zalesovo Beam 81.72 326 P **P** **12 36 17.7 +0.1**
comp=Z,6.6nm,0.6s,baz=110,slow=5.8,SNR=35
WRH Wood River Hil 81.77 22 P **P** **12 36 16.4 -1.1**
N25K Chitina, Valde 81.77 25 P 12 36 16.7
baz=243
SHLS Shalkode 81.82 315⇑*e*P **P** **12 36 17.1 -1.5**
comp=Z,13nm,0.9s,baz=315
SHLS Shalkode 81.82 315*ce*P **P** **12 36 17.0 -1.5**
SHLS pmax pmax
comp=Z,13nm,0.9s
PDGK Podgornoye 81.84 315 P **P** **12 36 19.1 +0.5**
HARP HAARP 81.90 24 P 12 36 18.3
baz=242
H23K Yukon River 81.95 20 P 12 36 17.7
baz=238
CCB Clear Creek Bu 81.96 22 P **P** **12 36 16.9 -1.7**
MDM Murphy Dome 81.97 22 P **P** **12 36 17.2 -1.4**
PAX Paxson 82.04 24 P 12 36 18.5
baz=242
TCOL CIGO, UAF Yank 82.06 22 P 12 36 17.7
baz=239
TCOL CIGO, UAF Yank 82.06 22 P **P** **12 36 17.1 -1.9**
TCOL IAmb IAmb 12 36 43.1
comp=Z,10nm,0.8s
COLA College 82.06 22 *i* P **P** **12 36 16.3 -2.8**
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 82.06 22 P **P** **12 36 17.5 -1.5**
COLA IAmb IAmb 12 36 43.1
comp=Z,10nm,0.9s
UZB Uzynbulak 82.13 315⇑*i*P **P** **12 36 19.7 -0.5**
comp=Z,29nm,1.8s,baz=315
UZB Uzynbulak 82.13 315*c i*P **P** **12 36 19.6 -0.5**
UZB pmax pmax
comp=Z,29nm,1.8s
HDA Harding Lake 82.16 22 P 12 36 18.5
baz=240
HDA P 12 36 18.5
baz=240
IL31 82.36 22 P **P** **12 36 19.0 -1.6**
ILAR Eielson Array 82.36 22 P **P** **12 36 18.6 -2.1**
comp=Z,1.8nm,0.8s,baz=256,slow=5.2,SNR=18
ILAR LR LR 13 10 19.7
comp=Z,101nm,19.0s,baz=282,slow=34
PRZ Przheval'sk 82.41 314 P **P** **12 36 23.0 +1.3**
PRZ pmax pmax
comp=Z,105nm,1.5s
PRZ Przheval'sk 82.41 314 P **P** **12 36 23.0 +1.3**
KPKS Kokpek 82.45 315⇑*i*P **P** **12 36 20.7 -1.0**
comp=Z,48nm,1.9s,baz=315
KPKS Kokpek 82.45 315*c i*P **P** **12 36 20.7 -1.0**
KPKS pmax pmax
comp=Z,48nm,1.9s
COLD Coldfoot 82.49 19 P **P** **12 36 21.3 0.0**
COLD Coldfoot 82.49 19 P 12 36 20.2
baz=237
SATY Saty 82.54 314⇑*e*P **P** **12 36 22.8 +0.4**
comp=Z,31nm,2.4s,baz=314
SATY Saty 82.54 314*ce*P **P** **12 36 22.7 +0.4**
SATY pmax pmax
comp=Z,31nm,2.4s
H24K Noodor Dome 82.54 21 P 12 36 20.5
baz=239
TARG Taragay, Kyrgy 82.66 313 P **P** **12 36 24.5 +1.2**
TARG IAmb IAmb 12 36 29.1
comp=Z,24nm,1.3s
CTG Chitna Glacier 82.91 27 P 12 36 23.8
baz=246
DOT Dot Lake 82.92 24 P **P** **12 36 23.5 -0.2**
DOT IAmb IAmb 12 36 48.8
comp=Z,12nm,1.0s
TDK Taldyqorghan 83.02 316 *e*P **P** **12 36 24.4 -0.2**
baz=316
TDK Taldyqorghan 83.02 316 *e*P **P** **12 36 24.3 -0.3**
SCRK Sand Creek 83.10 23 P **P** **12 36 24.2 -0.5**
SCRK Sand Creek 83.10 23 P 12 36 21.7
baz=243
KDJ Kajisay 83.20 313 P **P** **12 36 26.5 +0.7**
KDJ pmax pmax
comp=Z,44nm,1.1s
KDJ Kajisay 83.20 313 P **P** **12 36 26.5 +0.7**
TOLK Toolik Lake Re 83.46 18 P **P** **12 36 27.2 +0.8**
TOLK Toolik Lake Re 83.46 18 P 12 36 24.4
baz=237
KSH Kashi 83.52 311 P **P** **12 36 30.5 +3.1**
KSH pP sP 12 36 43.3 -1.1
KSH S **S** **12 46 51.8 +5.4**
KSH pmax pmax
comp=Z,18nm,0.8s
KSH pmax pmax
comp=Z,370nm,5.1s
KSH L L
comp=Z,230nm,6.5s
KSH L L
comp=Z,160nm,6.5s
KSH L L
comp=Z,160nm,7.2s
MDOK Medeo 83.53 314 *e*P **P** **12 36 27.4 0.0**
baz=314
MDOK Medeo 83.53 314 *e*P **P** **12 36 27.4 0.0**
L27K Beaver Creek, 83.57 25 P 12 36 24.9
baz=245
L27K Beaver Creek, 83.57 25 P **P** **12 36 27.6 +0.5**
BCAR Beaver Creek A 83.59 25 P **P** **12 36 26.9 -0.2**
K27K Chicken 83.88 24 P 12 36 28.2
baz=245
K27K Chicken 83.88 24 P **P** **12 36 29.1 +0.6**
BOOM Boomskoye usch 84.18 314 P **P** **12 36 32.4 +1.6**
BOOM pmax pmax
comp=Z,71nm,1.4s
BOOM Boomskoye usch 84.18 314 P **P** **12 36 32.4 +1.6**
KUU Kurty 84.20 315⇑*e*P **P** **12 36 30.4 -0.3**
comp=Z,74nm,0.9s,baz=315
KUU Kurty 84.20 315*ce*P **P** **12 36 30.3 -0.3**
KUU pmax pmax
comp=Z,74nm,0.9s
KURBB Kurchatov Arra 84.38 322 P **P** **12 36 31.2 -0.1**
BMAR Burnt Mountain 84.47 20 P **P** **12 36 32.0 +0.5**
TKM2 Tokmak 2 84.52 314 P **P** **12 36 33.4 +0.9**
SNR=33
TKM2 Tokmak 2 84.52 314 P **P** **12 36 33.1 +0.6**
EGAK Eagle 84.56 23 P **P** **12 36 32.1 +0.2**
NIL Nilore 84.56 304 P **P** **12 36 33.4 +0.7**
NIL pmax pmax
comp=Z,44nm,1.0s
NIL Nilore 84.56 304 P **P** **12 36 33.4 +0.7**
HYT Haines Junctio 84.59 27 P **P** **12 36 32.9 +0.5**
HYT IAmb IAmb 12 37 00.5
comp=Z,13nm,0.9s

QSPA	South Pole Qui	84.76	180	P		P		12 36 33.3	+0.1
KBK	Karagaybulak	84.93	314	P		P		12 36 36.3	+1.7
	SNR=16								
DAWY	Dawson	84.97	24	P		P		12 36 34.7	+0.6
CHMS	Chumysh	85.14	314	P		P		12 36 36.7	+1.3
	SNR=21								
AAK	Ala-Archa	85.25	313	P		P		12 36 37.7	+1.5
	SNR=15								
AAK	Ala-Archa	85.25	313	*ce*P		P		12 36 36.9	+0.7
AAK				pmax		pmax			
	comp=Z,92nm,0.7s								
AAK	Ala-Archa	85.25	313	P		P		12 36 37.0	+0.8
SGDS	Sogindy	85.32	314⇑	*e*P		P		12 36 36.3	-0.1
	comp=Z,12nm,0.7s,baz=314								
SGDS	Sogindy	85.32	314	*ce*P		P		12 36 36.2	-0.1
SGDS				pmax		pmax			
	comp=Z,12nm,0.7s								
MAW	Mawson	85.37	203	P		P		12 36 36.1	+0.1
	comp=Z,8.9nm,1.0s,baz=85,slow=5.5,SNR=14								
MAW				LR		LR		13 11 31.5	
	comp=Z,136nm,20.4s,baz=64,slow=33								
MAW	Mawson	85.37	203	P		P		12 36 36.1	+0.1
	baz=85,SNR=16								
MAW	Mawson	85.37	203	P		P		12 36 35.8	-0.2
MAW				pmax		pmax			
	comp=Z,8.0nm,1.5s								
MAW	Mawson	85.37	203	P		P		12 36 35.8	-0.2
USP	Ospenovka	85.38	314	P		P		12 36 38.0	+1.4
	SNR=35								
AML	Almayashu	85.74	313	P		P		12 36 40.4	+1.5
	SNR=23								
EKS2	Erkin-Say	85.78	313	P		P		12 36 40.5	+1.8
	SNR=14								
BTLS	Baital	86.05	316⇑	*i*P		P		12 36 39.6	-0.2
	comp=Z,20nm,0.9s,baz=316								
BTLS	Baital	86.05	316	*c i*P		P		12 36 39.6	-0.2
BTLS				pmax		pmax			
	comp=Z,20nm,0.9s								
NRIK	Noril'sk	86.48	341	P		P		12 36 41.0	-0.4
	comp=Z,9.3nm,0.6s,baz=109,slow=5.6,SNR=19								
NRIK				LR		LR		13 14 06.8	
	comp=Z,112nm,21.1s,baz=134,slow=35								
NRIK	Noril'sk	86.48	341	*ce*P		P		12 36 40.5	-0.9
NRIK				pmax		pmax			
	comp=Z,47nm,1.6s								
NRIK	Noril'sk	86.48	341	P		P		12 36 42.3	+0.9
NRIK				IAmb		IAmb		12 36 42.9	
	comp=Z,14nm,0.8s								
DRK	Karamyk	86.69	310	P		P		12 36 44.5	+0.9
EPYK	Eagle Plains	86.87	22	P				12 36 42.4	
	baz=250								
EPYK	Eagle Plains	86.87	22	P		P		12 36 43.6	+0.1
EPYK				IAmb		IAmb		12 37 09.0	
	comp=Z,26nm,1.4s								
BTK	Batken	87.53	310	P		P		12 36 48.1	+0.8
BTK				pmax		pmax			
	comp=Z,19nm,1.1s								
BTK	Batken	87.53	310	P		P		12 36 48.1	+0.8
BTK				IAmb		IAmb		12 36 48.6	
	comp=Z,19nm,1.1s								
GAR	Garm	87.75	309	P		P		12 36 48.8	+0.3
BRZS	Berezniki	87.89	320	*e*P		P		12 36 46.8	-2.0
	baz=320								
BRZS	Berezniki	87.89	320	*e*P		P		12 36 46.7	-2.0
KKAR	Karatay Array	88.22	313	P		P		12 36 50.2	-0.3
KKAR				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KKAR	Karatay Array	88.22	313	P		P		12 36 50.8	+0.3
KKAR				IAmb		IAmb		12 36 52.7	
	comp=Z,8.9nm,0.9s								
KKAR	Karatay Array	88.22	313	P		P		12 36 50.2	-0.3
CHGR	Chuyangaron	88.60	309	P		P		12 36 53.0	+0.6
INK	Inuvik	88.67	21	P		P		12 36 52.0	+0.1
INK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
INK	Inuvik	88.67	21	P		P		12 36 52.0	+0.1
INK				IAmb		IAmb		12 37 21.2	
	comp=Z,7.0nm,1.2s								
INK	Inuvik	88.67	21	P				12 36 49.5	
	baz=252								
BRVK	Borovoye	89.89	323	*ce*P		P		12 36 56.6	-1.4
BRVK				pmax		pmax			
	comp=Z,36nm,1.0s								
BRVK	Borovoye	89.89	323	P		P		12 36 58.3	+0.3
NVAR	Mina Array Bea	91.99	52	P		P		12 37 07.8	-0.6
	comp=Z,1.0nm,0.9s,baz=256,slow=5.4,SNR=6.5								
NVAR				LR		LR		13 15 18.0	
	comp=Z,115nm,18.0s,baz=267,slow=33								
NVAR	Mina Array Bea	91.99	52	P		P		12 37 07.9	-0.5
SYO	Syowa Base	93.44	199‖	*e*P		P		12 37 14.2	+0.1
HRA	Herat	93.72	304	P		P		12 37 16.2	-0.3
HRA				IAmb		IAmb		12 37 26.2	
	comp=Z,15nm,1.4s								
YKA	Yellowknife Ar	95.58	28	P		P		12 37 23.9	-0.1
	comp=Z,0.7nm,0.7s,baz=266,slow=4.0,SNR=6.2								
YKA				LR		LR		13 15 42.5	
	comp=Z,117nm,20.6s,baz=0.0,slow=32								
AB31	Akbulak array	96.05	319	P		P		12 37 24.8	-1.7
ABKAR	Akbulak array	96.05	319	P		P		12 37 25.3	-1.2
ABKAR				IAmb		IAmb		12 37 34.7	
	comp=Z,6.3nm,1.1s								
ABKAR	Akbulak array	96.05	319	P		P		12 37 25.6	-0.9
ARU	Arti	96.89	326	*c i*P		P		12 37 28.7	-1.4
ARU								12 41 24.3	
ARU				S		SKSac		12 48 02.1	-1.5
ARU				SP		SP		12 50 06.1	-3.6
ARU				SS		SS		12 55 20.0	-5.4
ARU				pmax		pmax			
	comp=Z,24nm,1.6s								
ARU	Arti	96.89	326	P		P		12 37 29.2	-1.0
GEYT	Alibeck	97.20	307	LR		LR		13 22 56.8	
	comp=Z,70nm,19.8s,baz=30,slow=36								
AKTO	Aktyubinsk	97.30	320	P		P		12 37 29.4	-2.8
PDAR	Pinedale Array	98.80	48	P		Pdif		12 37 41.1	+1.7
	comp=Z,0.2nm,0.6s,baz=298,slow=3.2,SNR=3.4								
PDAR				LR		LR		13 17 47.7	
	comp=Z,106nm,18.4s,baz=279,slow=33								
PDAR	Pinedale Array	98.80	48	P		Pdif		12 37 40.4	+1.0
PRGR	Permogore	102.88	332	*e*P		Pdif		12 37 51.6	-5.2
PRGR				pmax		pmax			
	comp=Z,47nm,1.3s								
KLMR	Klimovskoe	105.94	332	*e*P		Pdif		12 38 07.9	-2.5
KLMR				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KLMR	Klimovskoe	105.94	332	*e*Pdif		Pdif		12 38 07.9	-2.5
KLMR				AMP				12 38 10.9	
	comp=Z,9.0nm,1.1s								
KLMR				LR		LR		13 22 23.9	
ARCES	ARCESS Array B	107.37	343	PKiKP		PKiKP		12 42 25.2	+0.2
	comp=Z,1.8nm,0.7s,baz=47,slow=1.6,SNR=5.5								
FINES	FINESS Array B	111.59	336	PKiKP		PKiKP		12 42 33.2	+0.1
	comp=Z,2.1nm,0.8s,baz=151,slow=4.4,SNR=5.9								
MNK	Minsk	114.16	329	*i* PKiKP		PKPdf		12 42 36.6	-1.6
MNK				*i*				12 43 31.5	
MNK				*i* PPP		PPP		12 45 56.1	
MNK				*i*				12 49 45.3	
MNK				*i* SS		SS		12 59 20.6	-0.1
MNK				*i* SSS		SSS		13 03 35.3	
MNK				pmax		pmax			
	comp=E,2.0nm,1.1s								
MNK				pmax		pmax			
	comp=N,8.0nm,0.8s								
MNK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MNK	Minsk	114.16	329	*i* PKP		PKPdf		12 42 36.6	-1.6
	comp=E,2.0nm,1.1s								
MNK				*i* PKP		PKPdf		12 42 36.6	-1.6
	comp=N,8.0nm,0.8s								
MNK				*i* PKP		PKPdf		12 42 36.6	-1.6
	comp=Z,5.0nm,0.8s,baz=243								
MNK				*i* PP		PP		12 43 31.5	-1.7
MNK				*i* PPP		PPP		12 45 56.1	
MNK				*i* SKP				12 46 08.6	
MNK				*i* PKS		PKSdf		12 46 13.3	-1.3
MNK				*i* SKS		SKSdf		12 49 45.3	-1.6
MNK				*i* SS		SS		12 59 20.6	0.0
MNK				*i* SKKS		SKKSdf		13 00 47.3	-5.2
MNK				*i* SSS		SSS		13 03 35.3	
MNK				*i* LQ		LQ		13 24 27.2	
MNK				*i* LR		LR		13 29 06.2	
MNK				*i* LRM		MLR		13 36 06.6	
	comp=N,808nm,23.0s								
MNK				*i* LRM		MLR		13 36 14.2	
	comp=Z,138nm,23.0s								
MNK				*i* LRM		MLR		13 36 15.5	
	comp=E,25nm,16.6s								
AKASG	Malin Array Be	115.07	324	PKP		PKPdf		12 42 40.2	+0.1
	comp=E,3.3nm,0.6s,baz=62,slow=2.1,SNR=11								
AKBB	Malin Array Si	115.07	324	*c i*PKiKP		PKPdf		12 42 40.4	+0.3
BRTR	Keskin Array B	115.89	312	PKP		PKPdf		12 42 42.2	-0.1
	comp=E,1.1nm,0.8s,baz=106,slow=2.1,SNR=3.0								
BRTR	Keskin Array B	115.89	312	PKiKP		PKPdf		12 42 41.9	-0.3
BRTR	Keskin Array B	115.89	312			PKPdf		12 42 41.9	-0.3
NOA	NORSAR Array B	117.43	340	PKP		PKiKP		12 42 44.4	0.0
	comp=E,1.6nm,0.7s,baz=45,slow=1.8,SNR=14								
BURAR	Bucovina Array	118.77	323	PKPdf		PKiKP		12 42 47.5	0.0
PLCA	Paso Flores	119.20	143	PKP		PKiKP		12 42 49.1	+0.5
	comp=E,1.2nm,0.7s,baz=250,slow=2.6,SNR=4.4								
BOSA	Boshof	119.73	233	PKP		PKiKP		12 42 51.3	+1.2
	comp=E,4.2nm,0.7s,baz=179,slow=2.5,SNR=9.8								
KOLS	Kolonicke sedl	119.88	325	*e*PKiKP		PKiKP		12 42 51.0	+1.5
KOLS	Kolonicke sedl	119.88	325	*e*PKP		PKiKP		12 42 51.0	+1.5
MATP	Matopo	120.06	243	PKP		PKPdf		12 42 50.6	-0.2
	comp=E,5.2nm,0.8s,baz=95,slow=3.4,SNR=12								
CRVS	Cervenica-Dubn	120.36	325	*e*PKiKP		PKiKP		12 42 51.6	+1.1
CRVS	Cervenica-Dubn	120.36	325	*e*PKP		PKiKP		12 42 51.6	+1.1
OJC	Ojcow	120.59	327	PKiKP		PKiKP		12 42 51.5	+0.6
OJC	Ojcow	120.59	327			PKiKP		12 42 51.5	+0.6
SUR	Sutherland	121.36	227	PKP		PKiKP		12 42 55.5	+2.3
	comp=E,13nm,1.2s,baz=133,slow=8.8,SNR=2.0								
LNIZ	Loecknitz	121.43	333	*e*PKPdf		PKiKP		12 42 53.5	+1.2
	baz=49,slow=1.9								
LSZ	Lusaka	121.90	249	PKP		PKiKP		12 42 55.8	+1.2
	comp=E,3.4nm,0.7s,baz=230,slow=1.9,SNR=5.8								
LSZ	Lusaka	121.90	249	PKiKP		PKPdf		12 42 54.0	-0.4
LSZ	Lusaka	121.90	249			PKPdf		12 42 54.0	-0.4
MORC	Moravsky Berou	122.04	328	*e*PKiKP		PKiKP		12 42 54.6	+0.8
VTS	Vitosha	122.23	318	PKiKP		PKPdf		12 42 54.2	-0.1
VTS	Vitosha	122.23	318	PKPdf		PKPdf		12 42 54.2	-0.1
OSTC	Ostas	122.28	329	*e*PKPDF		PKiKP		12 42 55.0	+0.8
DPC	Dobruska-Polom	122.35	329	*e*PKiKP		PKiKP		12 42 55.2	+0.8
DPC	Dobruska-Polom	122.35	329	*e*PKPDF		PKiKP		12 42 55.2	+0.8
JAVC	Velka Javorina	122.50	327	*e*PKiKP		PKiKP		12 42 56.4	+1.7
VRAC	Vranov	122.82	328	*e*PKiKP		PKiKP		12 42 55.9	+0.6
BSEG	Bad Segeberg	122.85	335	*e*PKPdf		PKiKP		12 42 56.1	+1.0
	baz=49,slow=1.9								
KRUC	Moravsky	123.07	328	*e*PKiKP		PKiKP		12 42 56.3	+0.5
BRG	Berggiesshubel	123.23	330	*e*PKP		PKiKP		12 42 56.7	+0.7
BRG				Amp				12 42 59.0	
	comp=Z,14nm,0.9s								
BRG	Berggiesshubel	123.23	330	*e*PKPdf		PKiKP		12 42 56.8	+0.7
	baz=49,slow=1.9								
CLL	Collm	123.41	331	*i* PKPdf		PKiKP		12 42 56.3	-0.1
	comp=Z,12nm,0.9s								
CLL				*i* sPKPdf		sPKPdf		12 43 11.4	-1.9
CLL				LmV				13 42 00.0	
	comp=Z,100nm,18.8s								
CLL	Collm	123.41	331	*i* PKIKP		PKiKP		12 42 56.3	-0.1
CLL				*i*				12 43 11.4	
CLL				pmax		pmax			
	comp=Z,12nm,0.9s								
CLL	Collm	123.41	331	PKPdf		PKiKP		12 42 56.3	-0.1
CLL	Collm	123.41	331	*e*PKPdf		PKiKP		12 42 56.8	+0.5
	baz=49,slow=1.9								
PRU	Pruhonice	123.48	329	*e*PKiKP		PKiKP		12 42 57.5	+0.9
PRU	Pruhonice	123.48	329	*e*PKPDF		PKiKP		12 42 57.5	+0.9
FBE	Freiberg	123.49	331	*e*PKPdf		PKiKP		12 42 57.5	+1.0
	baz=49,slow=1.9								
FLTG	Flechtingen	123.55	333	*e*PKPdf		PKiKP		12 42 57.1	+0.5
	baz=49,slow=1.9								
DIVS	Divibare	123.64	321	PKPdf		PKiKP		12 42 57.4	+0.2
NRDL	Niedersach Rie	123.94	334	*e*PKPdf		PKiKP		12 42 58.4	+1.1
	baz=49,slow=1.9								
PBCC	Pribram	123.95	329	*e*PKPDF		PKiKP		12 42 58.0	+0.5
CONA	Conrad Observa	124.02	327	*i* P		PKiKP		12 42 58.4	+0.5
	comp=Z,6.2nm,0.9s,SNR=7.3								
NEUB	Neuenburg	124.06	332	*e*PKPdf		PKiKP		12 42 58.3	+0.6
	baz=49,slow=1.9								
TANN	Tannenbergstha	124.25	331	*e*PKPdf		PKiKP		12 42 58.8	+0.7
	baz=49,slow=1.9								
CLZ	Clausthal	124.28	333	*e*PKPdf		PKiKP		12 42 59.1	+0.9
	baz=49,slow=1.9								
FNA	Florina	124.28	317	PKiKP		PKPdf		12 42 58.2	0.0
FNA	Florina	124.28	317	PKPdf		PKPdf		12 42 58.2	0.0
CKRC	Cesky Krumlov	124.32	328	*e*PKPDF		PKiKP		12 42 59.0	+0.7
GUNZ	Gunzen	124.34	331	*e*PKPdf		PKiKP		12 42 59.1	+0.8
	baz=49,slow=1.9								
PLN	Plauen	124.35	331	*e*PKPdf		PKiKP		12 42 58.9	+0.6
	baz=49,slow=1.9								
NKC	Novy Kostel	124.37	331	*e*PKiKP		PKiKP		12 42 59.4	+1.0
NKC	Novy Kostel	124.37	331	*e*PKPDF		PKiKP		12 42 59.4	+1.0
WERN	Wernitzgruen	124.37	331	*e*PKPdf		PKiKP		12 42 59.2	+0.8
	baz=49,slow=1.9								
KHC	Kasperske Hory	124.50	329	*e*PKiKP		PKiKP		12 42 59.2	+0.5
KHC	Kasperske Hory	124.50	329	*e*PKPDF		PKiKP		12 42 59.2	+0.5
MOX	Moxa	124.50	331	*e*PKPdf		PKiKP		12 42 59.2	+0.6
	baz=49,slow=1.9								
ARSA	Arzberg	124.60	326	*i* P		PKiKP		12 42 59.1	+0.2
	comp=Z,2.2nm,0.8s								
GEC2	GERESS Array S	124.62	329	PKPdf		PKiKP		12 42 59.0	+0.1
GEC2	GERESS Array S	124.62	329	*e*PKPdf		PKiKP		12 42 59.4	+0.4
	baz=49,slow=1.9								
GERES	GERESS Array B	124.62	329	PKP		PKiKP		12 42 59.3	+0.3
	comp=E,1.1nm,0.8s,baz=69,slow=1.9,SNR=46								
GERES	GERESS Array B	124.62	329	PKiKP		PKiKP		12 42 58.8	-0.2
GERES	GERESS Array B	124.62	329	PKPdf		PKiKP		12 42 58.8	-0.2
GTTG	Gottingen	124.66	333	*e*PKPdf		PKiKP		12 42 59.6	+0.7
	baz=49,slow=1.9								
MANZ	Manzenberg	124.70	330	*e*PKPdf		PKiKP		12 42 59.7	+0.7
	baz=49,slow=1.9								
WET	Wettzell	124.86	329	*e*PKPdf		PKiKP		12 43 00.1	+0.7
	baz=49,slow=1.9								
MOA	Molln	124.93	327	*e*P		PKiKP		12 42 59.6	+0.1
	comp=Z,3.5nm,0.8s								
IBBN	Ibbenburen	125.09	335	*e*PKPdf		PKiKP		12 43 00.4	+0.8
	baz=49,slow=1.9								
UBBA	Unterbreizbach	125.15	332	*e*PKPdf		PKiKP		12 43 00.5	+0.8
	baz=49,slow=1.9								
SOKA	Soboth	125.20	326	*i* P		PKiKP		12 43 00.2	0.0
	comp=Z,9.0nm,1.0s,SNR=6.6								
KASTN	Kahler Asten	125.60	334	*e*PKPdf		PKiKP		12 43 01.5	+0.7
	baz=49,slow=1.9								
RJOB	Jochberg	125.78	328	*e*PKPdf		PKiKP		12 43 01.2	-0.1
	baz=49,slow=1.9								
KBA	Koelnbreinsper	125.89	327	*e*P		PKPdf		12 43 01.0	-0.3
	comp=Z,4.2nm,0.6s								
BUG	Bochum--Univer	125.93	334	*e*PKPdf		PKiKP		12 43 01.8	+0.5
	baz=49,slow=1.9								
MYKA	Terra Mystica	126.00	326	*i* P		PKPdf		12 43 01.4	0.0
	comp=Z,1.7nm,0.4s								
MILB	Miltenberg	126.16	332	*e*PKPdf		PKiKP		12 43 02.5	+0.6
	baz=49,slow=1.9								
ZOU	Zoufplan	126.42	327	PKPdf		PKPdf		12 43 02.3	-0.1
ABTA	Abfaltersbach	126.55	327	*i* P		PKPdf		12 43 02.4	0.0
	comp=Z,23nm,1.7s,SNR=7.3								
AHRW	Bad Neuenahr-A	126.67	334	*e*PKPdf		PKiKP		12 43 03.6	+0.7
	baz=49,slow=1.9								
WATA	Walderalm	126.68	328	*e*P		PKiKP		12 43 03.0	-0.2
	comp=Z,30nm,1.9s,SNR=8.4								
WTTA	Wattenberg	126.69	328	*i* P		PKiKP		12 43 03.4	+0.1
	comp=Z,24nm,1.0s,SNR=12								
MOTA	Moosalm	126.92	329	*i* P		PKiKP		12 43 03.7	0.0
	comp=Z,17nm,0.9s,SNR=8.9								
STU	Stuttgart	126.93	331	*e*PKPdf		PKiKP		12 43 03.9	+0.4
	baz=49,slow=1.9								
SQTA	Sankt Quirin	126.94	328	*e*P		PKiKP		12 43 03.7	0.0
	comp=Z,16nm,0.9s,SNR=8.1								
RETA	Reutte	127.00	329	*i* P		PKiKP		12 43 03.9	+0.1
	comp=Z,10nm,1.1s,SNR=5.8								
BTNL	Ternell	127.05	334	*d*PKiKP		PKiKP		12 43 04.0	+0.3
MEM	Membach	127.08	334	*d*PKiKP		PKiKP		12 43 04.5	+0.8
UBR	Ueberruh	127.21	329	*e*PKPdf		PKiKP		12 43 04.2	+0.1
	baz=49,slow=1.9								
BHOU	Houvegnez	127.27	334	*d*PKiKP		PKiKP		12 43 04.8	+0.7
FETA	Feichten	127.32	328	*i* P		PKiKP		12 43 04.8	+0.3
	comp=Z,17nm,1.0s,SNR=10.0								
CTI	Castel Tesino	127.45	327	PKiKP		PKiKP		12 43 04.5	-0.3
CTI	Castel Tesino	127.45	327	PKPdf		PKiKP		12 43 04.5	-0.3
BCLA	Clavier	127.52	335	*d*PKiKP		PKiKP		12 43 05.0	+0.5
DAVA	Damuels	127.59	329	*i* P		PKiKP		12 43 05.1	+0.1
	comp=Z,11nm,0.8s,SNR=5.4								
BGES	Gesves	127.64	335	*d*PKiKP		PKiKP		12 43 04.7	-0.1
BFO	Black Forest	127.65	331	*e*PKPdf		PKiKP		12 43 05.0	+0.1
	baz=49,slow=1.9								
WLF	Walferdange	127.71	333	*d*PKiKP		PKiKP		12 43 06.1	+1.1
WLF	Walferdange	127.71	333	*e*PKPdf		PKiKP		12 43 06.2	+1.2
	baz=49,slow=1.9								
BMRD	Maredsous	127.84	335	*d*PKiKP		PKiKP		12 43 05.4	+0.2
ECH	Echery	128.29	332	PKiKP		PKPdf		12 43 05.8	+0.2
ECH	Echery	128.29	332	PKPdf		PKPdf		12 43 05.8	+0.2
TUE	Stuetta	128.40	329	PKPdf		PKPdf		12 43 05.8	-0.3
INTR	Introdacqua	128.53	322	PKPdf		PKiKP		12 43 06.8	-0.2
NRCA	Norcia	128.55	323			PKPdf		12 43 06.5	+0.1
MURB	Monte Urbino	128.65	324			PKiKP		12 43 07.2	0.0
SENIN	Lac Senin/Sane	129.52	330	PKPdf		PKPdf		12 43 08.0	-0.3
TSUM	Tsumeb	130.06	240	PKP		PKiKP		12 43 11.6	+0.8
	comp=Z,3.4nm,0.7s,baz=87,slow=3.0,SNR=4.7								
TSUM	Tsumeb	130.06	240			PKPdf		12 43 09.0	-0.9
BNI	Bardonecchia	130.74	329	PKiKP		PKiKP		12 43 11.1	-0.3
BNI	Bardonecchia	130.74	329	PKPdf		PKiKP		12 43 11.1	-0.3
LPAZ	La Paz	133.85	118	PKP		PKiKP		12 43 18.6	-0.5
	comp=Z,2.4nm,0.7s,baz=171,slow=2.4,SNR=8.0								
LPAZ				SKPbc		SKPab		12 46 47.6	+1.6
	comp=Z,3.7nm,0.9s,baz=282,slow=1.0,SNR=7.9								
LPAZ	La Paz	133.85	118	PKiKP		PKPdf		12 43 16.9	-0.9
LPAZ	La Paz	133.85	118	PKPdf		PKPdf		12 43 16.9	-0.9
CPUP	Villa Florida	136.88	138	PKP		PKiKP		12 43 24.1	-0.1
	comp=Z,3.0nm,0.8s,baz=310,slow=2.3,SNR=6.1								
CPUP				SKPbc		SKiKP		12 46 55.9	-1.3
	comp=Z,7.8nm,1.2s,baz=69,slow=3.0,SNR=4.2								
CPUP	Villa Florida	136.88	138	PKiKP		PKPdf		12 43 21.6	-0.8
CPUP	Villa Florida	136.88	138			PKPdf		12 43 21.6	-0.8
ESDC	Sonseca Array	139.98	332	PKPdf		PKPdf		12 43 28.1	+0.3
MVO	Moncorvo	140.07	337	*e*PKPdf		PKPdf		12 43 28.7	+0.8
MTE	Manteigas	140.92	336	*e*PKPdf		PKiKP		12 43 29.8	+0.3
PCBR	Castelo Branco	141.37	336	*e*PKPdf		PKiKP		12 43 31.6	-1.4
PCAS	Casmilo, Conde	141.59	337	*e*PKPdf		PKiKP		12 43 34.7	+1.2
PMRV	Marv??o	141.69	336	*e*PKPdf		PKPdf		12 43 27.4	-3.4
PESTR	Estremoz	142.24	335	*e*PKPdf		PKiKP		12 43 33.9	-0.9
PMTG	Montargil	142.33	336	*e*PKPdf		PKPdf		12 43 33.0	+1.0
PBAR	Barrancos	142.59	334	*e*PKPdf		PKPdf		12 43 29.3	-3.1
PBEJ	Beja	143.07	335	*e*PKPdf		PKPbc		12 43 31.4	+1.2
PNCL	Nicolau / Gran	143.27	336	*e*PKPdf		PKPbc		12 43 31.3	+0.6
MESJ	Messejana	143.37	335	*e*PKPdf		PKPbc		12 43 31.6	+0.6
PVAQ	Vaqueiros	143.53	334	*e*PKPdf		PKPdf		12 43 34.8	+0.7
MORF	Marmelete	144.01	335	*e*PKPdf		PKiKP		12 43 37.1	-1.5
PTGA	Pitinga	146.32	99			PKPdf		12 43 38.9	-0.8
BDFB	Brasilia	150.48	135	PKPbc		PKiKP		12 43 52.5	-0.1
	comp=Z,14nm,0.7s,baz=210,slow=2.2,SNR=9.4								
BDFB				PKPab		pPKPdf		12 43 58.9	0.0
	comp=Z,7.9nm,0.6s,baz=184,slow=5.9,SNR=7.0								
PMPST	Porto Santo, M	150.61	342	*e*PKPdf		PKiKP		12 43 53.6	+1.4
TOA0	Torodi Ar. Sit	150.84	288			PKPbc		12 43 50.7	-1.9
TORD	Torodi Ar. Bea	150.84	288	PKPbc		PKPbc		12 43 52.6	+0.1
	comp=Z,38nm,0.9s,baz=47,slow=2.8,SNR=112								
TORD				PKPab		pPKPdf		12 43 58.8	-0.8
	comp=Z,33nm,0.8s,baz=67,slow=2.0,SNR=16								
TORD				PP		PP		12 47 29.5	-0.5
	comp=Z,2.0nm,0.8s,baz=53,slow=5.2,SNR=3.9								
TORD	Torodi Ar. Bea	150.84	288

SSLB	**Suanglung**	**23.87**	**355**	P	**P**	**12 38 40.6**	**-0.4**
SSLB				IAmb	IAmb	12 38 45.0	
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**25.61**	**157**	P	**P**	**12 38 56.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=330,slow=7.7,SNR=9.6						
ASAR				PcP	**PcP**	**12 42 25.1**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=346,slow=2.1,SNR=8.9						
ASAR				ScP	**ScP**	**12 45 57.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=342,slow=2.4,SNR=2.1						
ASAR	**Alice Springs**	**25.61**	**157**	P	**P**	**12 38 57.9**	**+1.0**
ASAR				PcP	**PcP**	**12 42 25.2**	**-0.2**
CHAI	**Chaiyaphum**	**26.31**	**308**	P	**P**	**12 39 05.7**	**+2.5**
	comp=Z,31nm,0.8s						
CHAI	**Chaiyaphum**	**26.31**	**308**	P	**P**	**12 39 05.8**	**+2.5**
	comp=Z,7.7nm,0.8s						
NONG	**Nongkai**	**26.75**	**314**	P	**P**	**12 39 11.8**	**+4.6**
	comp=Z,17nm,0.9s						
NONG	**Nongkai**	**26.75**	**314**	P	**P**	**12 39 11.8**	**+4.6**
	comp=Z,17nm,0.9s						
CM05	**Chiang Mai Arr**	**30.12**	**309**	P	P	12 39 42.3	+5.1
	comp=Z,6.4nm,0.9s						
CM05	**Chiang Mai Arr**	**30.12**	**309**	P	P	12 39 42.4	+5.2
	comp=Z,6.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.15**	**309**	P	**P**	**12 39 39.9**	**+2.4**
	comp=Z,4.0nm,0.8s,baz=133,slow=7.1,SNR=20						
CMAR	**Chiang Mai Arr**	**30.15**	**309**	P	**P**	**12 39 37.1**	**-0.4**
CM13	**Chiang Mai Arr**	**30.16**	**309**	P	**P**	**12 39 41.0**	**+3.5**
	comp=Z,107nmcomp=Z,7.8nm,0.8s						
CM13	**Chiang Mai Arr**	**30.16**	**309**	P	**P**	**12 39 41.0**	**+3.5**
	comp=Z,107nmcomp=Z,7.8nm,0.8s						
CM15	**Chiang Mai Arr**	**30.17**	**309**	P	P	12 39 42.7	+5.1
	comp=Z,8.2nm,0.8s						
CM15	**Chiang Mai Arr**	**30.17**	**309**	P	P	12 39 42.7	+5.1
	comp=Z,8.2nm,0.8s						
CM32	**Chiang Mai Arr**	**30.34**	**309**	P	P	12 39 44.0	+4.9
CMMT	**Chiang Mai**	**30.36**	**310**	P	**P**	**12 39 40.9**	**+1.7**
	comp=Z,14nm,0.9s						
CMMT	**Chiang Mai**	**30.36**	**310**	P	P	**12 39 41.0**	**+1.7**
	comp=Z,14nm,0.9s						
CMMT	**Chiang Mai**	**30.36**	**310**	P	**P**	**12 39 39.9**	**+0.7**
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**30.36**	**310**	P	**P**	**12 39 41.9**	**+2.6**
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**30.36**	**310**	P	**P**	**12 39 39.5**	**+0.3**
CHTO				IAmb	IAmb	12 39 42.7	
	comp=Z,9.7nm,0.8s						
CHTO	**Chiang Mai**	**30.36**	**310**	P	**P**	**12 39 40.8**	**+1.5**
	comp=Z,7.9nm,0.9s						
FORT	**Forrest**	**30.84**	**172**	P	**P**	**12 39 43.0**	**-0.3**
BBOO	**Buckleboo**	**34.70**	**161**	P	**P**	**12 40 16.4**	**-0.5**
BBOO				IAmb	IAmb	12 40 19.5	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**36.06**	**153**	P	**P**	**12 40 28.9**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=357,slow=2.3,SNR=5.8						
STKA				PcP	**PcP**	**12 42 53.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=339,slow=2.6,SNR=4.1						
STKA	**Stephens Creek**	**36.06**	**153**	P	**P**	**12 40 29.3**	**+0.7**
JWT	**Wachi**	**37.02**	**17**	P	**P**	**12 40 36.5**	**-0.2**
KSRS	**Korea Array**	**37.64**	**6**	P	**P**	**12 40 43.2**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=189,slow=9.7,SNR=3.5						
MJAR	**Matsushiro Arr**	**39.05**	**19**	P	**P**	**12 40 52.9**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=190,slow=9.7,SNR=7.6						
MJAR	**Matsushiro Arr**	**39.05**	**19**	P	**P**	**12 40 52.8**	**-1.0**
ARMA	**Armidale**	**40.47**	**141**	P	**P**	**12 41 06.9**	**+1.1**
ARMA				IAmb	IAmb	12 41 08.0	
	comp=Z,6.9nm,0.9s						
JMM	**Marumori**	**41.13**	**21**	P	**P**	**12 41 11.0**	**+0.1**
CAN	**Canberra**	**42.48**	**148**	P	**P**	**12 41 23.4**	**+1.3**
USRK	**Ussuriysk Ar.**	**44.82**	**9**	P	**P**	**12 41 40.8**	**+0.2**
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**12 42 21.7**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=158,slow=8.8,SNR=6.1						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**12 42 21.3**	**+0.7**
MK31	**Makanchi Array**	**58.82**	**328**	P	**P**	**12 43 25.1**	**+0.4**
MK31				IAmb	IAmb	12 43 34.7	
	comp=Z,4.2nm,1.4s						
MKAR	**Makanchi Array**	**58.82**	**328**	P	**P**	**12 43 25.0**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=121,slow=8.7,SNR=15						
MKAR				PcP	**PcP**	**12 44 12.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=134,slow=3.5,SNR=5.3						
MKAR	**Makanchi Array**	**58.82**	**328**	P	**P**	**12 43 24.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**60.31**	**23**	P	**P**	**12 43 36.0**	**+1.2**
PETK	**Petropavlovsk-**	**60.31**	**23**	P	**P**	**12 43 35.6**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=206,slow=4.0,SNR=8.6						
PETK	**Petropavlovsk-**	**60.31**	**23**	P	**P**	**12 43 35.3**	**+0.6**
KBL	**Kabul**	**61.18**	**310**	P	**P**	**12 43 41.8**	**+0.5**
ZALV	**Zalesovo Beam**	**62.51**	**336**	P	**P**	**12 43 49.2**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=132,slow=6.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**62.51**	**336**	P	**P**	**12 43 48.7**	**-0.8**
CASY	**Casey**	**66.63**	**186**	P	**P**	**12 44 16.5**	**+0.4**
CASY				IAmb	IAmb	12 44 17.1	
	comp=Z,4.7nm,1.2s						
ABKAR	**Akbulak array**	**72.95**	**322**	P	**P**	**12 44 54.4**	**-0.9**
MAW	**Mawson**	**76.96**	**200**	P	**P**	**12 45 28.6**	**-0.3**
VNDA	**Vanda**	**80.10**	**172**	P	**P**	**12 45 35.0**	**0.0**
	comp=Z,1.3nm,0.7s,baz=320,slow=5.9,SNR=11						
VNDA	**Vanda**	**80.10**	**172**	P	**P**	**12 45 35.5**	**+0.4**
SBA	**Scott Base**	**81.05**	**172**	P	**P**	**12 45 41.2**	**+1.2**
QSPA	**South Pole Qui**	**89.81**	**180**	P	**P**	**12 46 24.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=282,slow=1.2,SNR=7.3						
QSPA	**South Pole Qui**	**89.81**	**180**	P	**P**	**12 46 24.1**	**+0.1**
BMAR	**Burnt Mountain**	**90.96**	**23**	P	**P**	**12 46 29.9**	**+0.7**
ARCES	**ARCESS Array B**	**92.81**	**340**	P	**P**	**12 46 36.6**	**-1.1**
	comp=Z,1.8nm,1.1s,baz=82,slow=7.6,SNR=5.7						
ARCES	**ARCESS Array B**	**92.81**	**340**	P	**P**	**12 46 37.2**	**-0.5**
NVAR	**Mina Array Bea**	**112.08**	**48**	PKiKP	**PKiKP**	**12 52 01.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=268,slow=1.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.64**	**285**	PKP	**PKPdf**	**12 52 16.6**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=62,slow=1.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**120.64**	**285**		**PKPdf**	**12 52 16.8**	**-1.1**

KRSC 27 12:54:18.3±2.2, 51°24N×159°94E, h62km±31km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.30**	**297**	*e*P	Pn	12 54 41.9	+1.6
KDTR				*e*S	Sn	12 54 57.3	+0.6
RUS	**Russkaya**	**1.49**	**324**	*e*P	Pn	12 54 44.6	+1.8
RUS				*e*S	Sn	12 55 01.9	+0.6
MTVR	**Mutnovka**	**1.65**	**319**	*e*P	Pn	12 54 47.5	+2.3
MTVR				*e*S	Sn	12 55 07.2	+1.7
GRL	**Gorelyy**	**1.75**	**319**	*e*P	Pn	12 54 49.3	+2.8
SPN	**Mys Shipunski**	**1.86**	**1**	*e*P	Pn	12 54 50.2	+2.4
SPN				*e*S	Sn	12 55 11.8	+1.5
DALK	**Dalny**	**1.94**	**338**	*e*P	Pn	12 54 50.9	+2.0
KRMR	**Karymshinskiy**	**1.94**	**326**	*e*P	Pn	12 54 51.8	+2.8
PET	**Petropavlovsk**	**1.95**	**336**	*e*P	Pn	12 54 51.6	+2.5
NLC	**Nalytchevo**	**1.97**	**349**	*e*P	Pn	12 54 51.6	+2.3
UGLR	**Uglovaya**	**2.09**	**341**	*e*P	Pn	12 54 53.9	+2.9
AVH	**Avacha**	**2.16**	**340**	*e*P	Pn	12 54 54.9	+2.9
KOK	**Koryaka**	**2.20**	**339**	*e*P	Pn	12 54 56.0	+3.4
MIPR	**Malaya Ipel'ka**	**2.23**	**299**	*e*P	Pn	12 54 56.2	+3.2
KRX	**Arik**	**2.26**	**340**	*e*P	Pn	12 54 56.5	+3.0
SKR	**Severo-Kuril's**	**2.48**	**258**	*e*P	Pn	12 54 58.8	+2.5
SKR				*e*S	Sn	12 55 27.5	+2.0
GNL	**Ganaly**	**2.74**	**334**	*e*P	Pn	12 55 03.0	+3.0
ALID	**Alaid**	**2.80**	**264**	*e*P	Pn	12 55 03.7	+2.9
KII	**Karymskiy**	**2.81**	**354**	*e*P	Pn	12 55 04.7	+3.8
KZV	**Kizimen**	**3.88**	**3**	*e*P	Pn	12 55 18.8	+3.2
TUMD	**Tumrok D**	**3.98**	**4**	*e*P	Pn	12 55 21.2	+4.5
TUMD				*e*S	Sn	12 56 04.7	+2.6
TUMR	**Tumrok**	**4.05**	**2**	*e*P	Pn	12 55 22.1	+4.3
BKI	**Bering**	**5.37**	**40**	*e*S	Sn	12 56 34.0	-2.1

ECX 27 12:58:37.4±0.5, 31°50N×115°68W, h10km±11km, MD2.4, ML2.6

MEX 27 12:58:38.0±0.5, 31°47N×115°61W, h10km, MD3.6

ISC 27 12:58:36.2±1.1, 31°50N±0°05×115°67W±0°04, h23km±16km, n15, σ0°48/28, 4C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.48**	**159**	*i*P	**Pb**	**12 58 46.3**	**+0.1**
SPIG				*e*S	**Sb**	**12 58 52.8**	**-0.2**
SPIG	**San Pedro Mart**	**0.48**	**159**	⇓*i*P	**Pb**	**12 58 46.3**	**+0.1**
SPIG				*e*S	**Sb**	**12 58 53.5**	**+0.5**
SPX	**San Pedro Mart**	**0.49**	**159**	*e*P	**Pb**	**12 58 45.8**	**-0.6**
SPX				*e*S	**Sb**	**12 58 52.8**	**-0.4**
SPX	**San Pedro Mart**	**0.49**	**159**	⇓*i*P	**Pb**	**12 58 46.3**	**0.0**
SPX				*e*S	**Sb**	**12 58 53.3**	**+0.1**
SVX	**San Vicente**	**0.53**	**252**	⇑*i*P	**Pb**	**12 58 46.8**	**+0.1**
SVX				*e*S	**Sb**	**12 58 53.7**	**-0.2**
SFX	**San Felipe**	**0.84**	**123**	⇑*e*P	**Pb**	**12 58 52.3**	**+0.3**
SFX				*e*S	**Sb**	**12 59 03.6**	**+0.7**
SFX				IAML		12 59 05.1	
	comp=N,217nm,0.1s						
SFX				⇓*e*		12 59 05.1	
SFX				IAML		12 59 05.6	
	comp=E,197nm,0.1s						
SFX				⇓*e*		12 59 05.6	
CCX	**Cicese**	**0.93**	**294**	⇑*i*P	**Pb**	**12 58 53.5**	**-0.1**
CCX				*e*S	**Sb**	**12 59 05.9**	**+0.4**
GUVIX	**Guadalupe Vict**	**0.95**	**32**	*e*P	**Pn**	**12 58 54.5**	**+0.4**
GUVIX				*e*S	**Sn**	**12 59 07.9**	**+0.9**
YUH2	**Yuha Desert**	**1.17**	**349**	⇓*e*P	**Pn**	**12 58 57.1**	**0.0**
YUH2				*e*S	**Sb**	**12 59 12.4**	**0.0**
CBX	**Cerro Bola**	**1.18**	**314**	*e*P	**Pb**	**12 58 57.9**	**0.0**
CBX				*e*S	**Sn**	**12 59 13.0**	**+0.2**
CBX				⇑*e*		12 59 15.6	
IKP	**In-Ko-Pah, Jac**	**1.21**	**342**	⇓*i*P	**Pb**	**12 58 58.2**	**-0.2**
IKP				*e*S	**Sn**	**12 59 13.3**	**-0.2**
TJIG	**Tijuana**	**1.27**	**318**	*e*P	**Pb**	**12 58 59.2**	**-0.2**
TJIG				*e*S	**Sn**	**12 59 15.0**	**+0.1**
TJIG	**Tijuana**	**1.27**	**318**	*e*P	**Pb**	**12 58 59.1**	**-0.2**
BAR	**Barrett**	**1.46**	**324**	*e*P	**Pb**	**12 59 02.2**	**-0.4**
214A	**Organ Pipe Nat**	**2.48**	**79**	*e*P	**Pn**	**12 59 15.2**	**0.0**
214A				*e*S	**Sn**	**12 59 43.2**	**-1.6**

NEIC 27 13:03:03.3±1.0, 36°52N±0°01×97°72W±0°01, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=293.0

TUL 27 13:03:03.2±1.4, 36°54N±0°01×97°73W±0°01, h5km±7km, ML3.0, mb_Lg3.0/83(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=186.0

ANF 27 13:03:03.3±0.3, 36°52N×97°72W, h5km, ML3.7/8, Error ellipse: s-maj=2.8km s-min=2.0km az=154.0

ISC 27 13:03:03.4±1.1, 36°52N±0°02×97°72W±0°02, h5km±11km, n74, σ0°46/53, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.21**	**267**	Pg	**Pg**	**13 03 07.6**	**+0.1**
CROK				Sg	**Sg**	**13 03 11.0**	**+0.7**
BLOK	**Blackwell**	**0.48**	**59**		**Pg**	**13 03 12.6**	**+0.1**
BLOK				Sg	**Sg**	**13 03 19.3**	**+0.5**
OK032	**Salt Plains WL**	**0.48**	**306**	Pg	**Pg**	**13 03 12.6**	**-0.2**
KAN17	**Caldwell West**	**0.53**	**356**		**Pg**	**13 03 13.4**	**-0.2**
KAN13	**South Haven SW**	**0.53**	**22**		**Pg**	**13 03 13.5**	**-0.1**
KAN09	**Caldwell North**	**0.62**	**8**		**Pg**	**13 03 15.1**	**-0.3**
KAN09				Sg	**Sg**	**13 03 23.5**	**0.0**
KAN10	**Anthony SW Sta**	**0.68**	**334**	Pg	**Pg**	**13 03 16.0**	**-0.4**
KS20	**Mayfield South**	**0.72**	**11**		**Pg**	**13 03 16.9**	**-0.4**
KAN08	**Anthony NE Sta**	**0.74**	**344**		**Pg**	**13 03 17.1**	**-0.4**
OK029	**Liberty Lake**	**0.75**	**163**		**Pg**	**13 03 18.0**	**+0.2**
KAN12	**Harper NE Stat**	**0.81**	**344**		**Pg**	**13 03 18.4**	**-0.5**
BCOK	**Bluff Creek, N**	**0.86**	**174**		**Pg**	**13 03 19.9**	**0.0**
BCOK				IAmb_Lg		13 03 32.7	
	comp=Z,141nm,0.7s						
QUOK	**Quay**	**0.89**	**113**		**Pg**	**13 03 20.4**	**0.0**
OK031	**S. Brethren Rd**	**0.91**	**128**		**Pg**	**13 03 20.8**	**0.0**
OK030	**Cody Creek RV**	**0.96**	**127**		**Pg**	**13 03 21.7**	**-0.1**
OK025	**Westminster Rd**	**0.98**	**161**		**Pg**	**13 03 22.2**	**0.0**
U32A	**Winter Ranch,**	**1.04**	**263**	Pg	**Pg**	**13 03 22.7**	**-0.6**
U32A	**Winter Ranch,**	**1.04**	**263**	P	**Pg**	**13 03 22.7**	**-0.6**
	baz=81,SNR=37						
U32A				S	**Sg**	**13 03 37.0**	**+0.2**
	baz=81						
U32A	**Winter Ranch,**	**1.04**	**263**	P		13 03 22.7	
	baz=81,SNR=37						
U32A				S		13 03 37.0	
	baz=81						
T35A	**Sooner Cattle**	**1.05**	**67**		**Pg**	**13 03 23.1**	**-0.5**
T35B	**Sooner Cattle**	**1.05**	**67**	P	**Pg**	**13 03 23.1**	**-0.5**
	baz=249,SNR=160						
T35B				S	**Sg**	**13 03 37.0**	**-0.2**
	baz=249						
T35B	**Sooner Cattle**	**1.05**	**67**	P		13 03 23.1	
	baz=249,SNR=160						
T35B				S		13 03 37.0	
	baz=249						
OKCFA	**Oklahoma City**	**1.12**	**169**		**Pg**	**13 03 24.6**	**-0.3**
OKCFA	**Oklahoma City**	**1.12**	**169**	P	**Pg**	**13 03 24.5**	**-0.3**
	baz=349,SNR=12						
OKCFA				S	**Sb**	**13 03 40.7**	**+0.5**
	baz=349						
OKCFA	**Oklahoma City**	**1.12**	**169**	P		13 03 24.5	
	baz=349,SNR=12						
OKCFA				S		13 03 40.7	
	baz=349						
OKCSW	**OKLAHOMA CITY**	**1.13**	**168**		**Pg**	**13 03 24.9**	**-0.2**
FNO	**Franklin**	**1.28**	**168**		**Pn**	**13 03 27.5**	**-0.6**
W35A	**Tecumseh**	**1.53**	**153**		**Pn**	**13 03 31.4**	**0.0**
W35A				IAmb_Lg		13 03 52.0	
	comp=Z,58nm,0.7s						
TUL1	**Leonard**	**1.68**	**111**	P	**Pn**	**13 03 33.6**	**+0.2**
	baz=292,SNR=48						
TUL1				S	**Sb**	**13 03 56.4**	**+0.3**
	baz=292						
TUL1	**Leonard**	**1.68**	**111**	P		13 03 33.6	
	baz=292,SNR=48						
TUL1				S		13 03 56.4	
	baz=292						
X34A	**Smith Ranch, M**	**1.91**	**183**		**Pb**	**13 03 38.1**	**-0.7**
X34A				IAmb_Lg		13 04 08.7	
	comp=Z,75nm,0.9s						
WMOK	**Wichita Mounta**	**1.97**	**206**		**Pn**	**13 03 37.9**	**+0.3**
WMOK				IAmb_Lg		13 04 07.8	
	comp=Z,62nm,0.7s						
WMOK	**Wichita Mounta**	**1.97**	**206**	P	**Pn**	**13 03 37.8**	**+0.3**
	baz=25,SNR=100						
WMOK				S	**Sb**	**13 04 04.4**	**-0.4**
	baz=25						
WMOK	**Wichita Mounta**	**1.97**	**206**	P		13 03 37.8	
	baz=25,SNR=100						
WMOK				S		13 04 04.4	
	baz=25						
R32A	**Long Quarter,**	**2.06**	**338**		**Pn**	**13 03 39.4**	**+0.7**
R32A	**Long Quarter,**	**2.06**	**338**	P	**Pn**	**13 03 39.3**	**+0.6**
	baz=157						
R32A				S	**Sb**	**13 04 07.0**	**-0.2**
	baz=157						
R32A	**Long Quarter,**	**2.06**	**338**	P		13 03 39.3	
	baz=157						
R32A				S		13 04 07.0	
	baz=157						
U38A	**Gravette**	**2.69**	**91**		**Pn**	**13 03 47.8**	**+0.4**
X37A	**Clayton**	**2.72**	**134**		**Pn**	**13 03 48.8**	**+1.1**
X37A				IAmb_Lg		13 04 36.9	
	comp=Z,38nm,0.8s						
W39A	**Magazine**	**3.46**	**111**	IAmb_Lg		13 05 02.7	
	comp=Z,30nm,0.7s						
AMTX	**Amarillo**	**3.61**	**244**		**Pn**	**13 04 01.0**	**+0.9**
AMTX				IAmb_Lg		13 05 01.4	
	comp=Z,42nm,0.8s						
S39A	**Bolivar**	**3.71**	**70**		**Pn**	**13 04 01.8**	**+0.3**
S39A				IAmb_Lg		13 05 05.1	
	comp=Z,44nm,0.9s						
S39A	**Bolivar**	**3.71**	**70**	P	**Pn**	**13 04 01.7**	**+0.3**
	baz=253,SNR=14						
S39A				S	**Sn**	**13 04 45.6**	**+0.1**
	baz=253						
S39A	**Bolivar**	**3.71**	**70**	P		13 04 01.7	
	baz=253,SNR=14						
S39A				S		13 04 45.6	
	baz=253						
MIAR	**Mount Ida**	**3.91**	**119**	IAmb_Lg		13 05 11.5	
	comp=Z,36nm,0.7s						
U40A	**Yellville**	**3.93**	**91**		**Pn**	**13 04 04.2**	**-0.3**
U40A				IAmb_Lg		13 05 09.5	
	comp=Z,40nm,0.8s						
U40A	**Yellville**	**3.93**	**91**	P	**Pn**	**13 04 04.1**	**-0.3**
	baz=274,SNR=12						
U40A	**Yellville**	**3.93**	**91**	P		13 04 04.1	
	baz=274,SNR=12						
U40A				P		13 04 04.1	
	baz=274,SNR=12						
ABTX	**Abilene, Hawle**	**4.19**	**203**	IAmb_Lg		13 05 20.6	
	comp=Z,29nm,1.0s						
MGMO	**Mountain Grove**	**4.42**	**80**		**Pn**	**13 04 11.9**	**+0.8**
MGMO				IAmb_Lg		13 05 28.8	
	comp=Z,21nm,0.7s						
X40A	**Basin Creek Fa**	**4.47**	**115**	IAmb_Lg		13 05 32.1	
	comp=Z,22nm,0.8s						
P38A	**Dawn**	**4.53**	**46**		**Pn**	**13 04 13.8**	**+1.0**
P38A				IAmb_Lg		13 05 28.0	
	comp=Z,35nm,0.8s						
WHAR	**Wooly Hollow**	**4.58**	**104**	IAmb_Lg		13 05 32.3	
	comp=Z,37nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.62**	**304**	IAmb_Lg		13 05 36.0	
	comp=Z,37nm,0.8s						
N35A	**Tabor**	**4.63**	**20**	Pn	**Pn**	**13 04 14.7**	**+0.6**
R40A	**Maddies Statio**	**4.69**	**66**		**Pn**	**13 04 15.0**	**+0.1**
R40A				IAmb_Lg		13 05 32.3	
	comp=Z,21nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**66**	P	**Pn**	**13 04 14.9**	**+0.1**
	baz=250						
R40A	**Maddies Statio**	**4.69**	**66**	P		13 04 14.9	
	baz=250						
WLAR	**White Oak Lake**	**4.72**	**125**	IAmb_Lg		13 05 41.5	
	comp=Z,37nm,0.8s						
BGNE	**Belgrade**	**4.90**	**356**	IAmb_Lg		13 05 43.7	
	comp=Z,43nm,0.7s						
NATX	**Nacogdoches**	**5.38**	**151**	IAmb_Lg		13 05 59.6	
	comp=Z,19nm,0.9s						
CCM	**Cathedral Cave**	**5.39**	**72**	IAmb_Lg		13 06 02.4	
	comp=Z,21nm,0.8s						
P40A	**Paris**	**5.40**	**54**	IAmb_Lg		13 05 54.3	
	comp=Z,22nm,0.9s						
T25A	**Trinidad**	**5.40**	**279**	IAmb_Lg		13 05 56.4	
	comp=Z,15nm,0.8s						
OGNE	**Ogallala**	**5.56**	**324**	IAmb_Lg		13 06 07.1	
	comp=Z,30nm,0.8s						
435B	**Jarrell**	**5.72**	**179**	IAmb_Lg		13 06 13.4	
	comp=Z,19nm,0.8s						
PBMO	**Poplar Bluff**	**5.87**	**85**	IAmb_Lg		13 06 16.0	
	comp=Z,20nm,0.8s						
JCT	**Junction City**	**6.27**	**197**	IAmb_Lg		13 06 33.3	
	comp=Z,22nm,0.9s						
S44A	**Carbondale**	**6.87**	**78**	IAmb_Lg		13 06 41.1	
	comp=Z,24nm,0.8s						
SIUC	**Southern Illin**	**6.90**	**77**	IAmb_Lg		13 06 40.7	
	comp=Z,28nm,0.8s						
W45A	**Hickory Valley**	**7.07**	**99**	IAmb_Lg		13 06 50.4	
	comp=Z,24nm,1.0s						
L40A	**Anamosa**	**7.49**	**40**	IAmb_Lg		13 07 03.8	
	comp=Z,20nm,0.9s						
PHWY	**Pilot Hill**	**7.69**	**311**	IAmb_Lg		13 07 17.4	
	comp=Z,16nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.91**	**255**	IAmb_Lg		13 07 32.8	
	comp=Z,24nm,0.8s						
SUSD	**Miller**	**7.97**	**354**	IAmb_Lg		13 07 34.5	
	comp=Z,21nm,1.2s						
USIN	**University of**	**8.15**	**77**	IAmb_Lg		13 07 44.1	
	comp=Z,16nm,0.8s						
T47A	**Sharon Grove**	**8.54**	**84**	IAmb_Lg		13 07 35.1	
	comp=Z,8.7nm,0.7s						
JFWS	**Jewell Farm**	**8.60**	**40**	IAmb_Lg		13 07 50.1	
	comp=Z,19nm,0.8s						
RWWY	**Rawlins**	**9.00**	**308**	IAmb_Lg		13 08 11.4	
	comp=Z,8.5nm,0.7s						
K22A	**Casper**	**9.14**	**315**	IAmb_Lg		13 08 07.1	
	comp=Z,13nm,0.8s						
SFIN	**Lafayette**	**9.18**	**62**	IAmb_Lg		13 08 02.2	
	comp=Z,19nm,0.8s						
WCI	**Wyandotte Cave**	**9.26**	**76**	IAmb_Lg		13 07 57.4	
	comp=Z,10nm,0.8s						
W18A	**Petrified Fore**	**9.86**	**265**	IAmb_Lg		13 08 36.1	
	comp=Z,9.4nm,0.8s						

NNC 27 14:09:19.1±2.7, 44°26N×84°24E, h28km±15km, mb3.9, mpv3.5, Error ellipse: s-maj=21.3km s-min=7.5km az=119.0

SOME 27 14:09:21.9, 44°10N×84°22E, h20km

ISC 27 14:09:15.4±1.9, 44°08N±0°08×84°35E±0°09, h10km, n24, σ1°53/32, 7C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.96**	**259**	*e*P	**Pg**	**14 10 12.4**	**+0.2**
	31nm,0.3s						
KTMS				*e*S	**Sg**	**14 10 48.6**	**-2.0**
	72nm,0.3s						
KTMS	**Ketmen**	**2.96**	**259**	Pg	**Pg**	**14 10 12.4**	**+0.2**
	31nm,0.3s						
KTMS				Lg	Lg	14 10 48.6	
	72nm,0.3s						
MK31	**Makanchi Array**	**3.08**	**333**	Pn	**Pn**	**14 10 02.7**	**-1.3**
	0.2nm,0.2s,baz=145,slow=14,SNR=135						
MK31				⇑Pg	**Pb**	**14 10 09.9**	**-0.3**
	3.5nm,0.4s,baz=142,slow=17,SNR=32						
MK31				⇑Lg	Lg	14 10 51.7	
	9.7nm,0.3s,baz=145,slow=29,SNR=5.2						
MAKZ	**Makanchi**	**3.20**	**329**	⇑Pn	**Pn**	**14 10 05.6**	**-0.1**
	0.5nm,0.3s						
MAKZ				⇓Pg	**Pb**	**14 10 12.8**	**+0.5**
	2.9nm,0.5s

4.0nm,0.8s

SKO ***27*** *14:23:59.7, 40.77N× 20.04E, h75km*
TIR ***27*** *14:24:00.9, 40.67N× 20.07E, h35km± 1km, Md3.1, Ml3.0*
PDG ***27*** *14:24:01.6± 0.7, 40.69N× 20.00E, h28km± 1km, ML3.0/11, Error ellipse: s-maj=0.9km s-min=1.7km az=0.0*
BEO ***27*** *14:24:02.4± 1.0, 40.68N× 20.01E, h42km± 4km, ML2.8/15*
THE ***27*** *14:24:03.1, 40.67N× 20.05E, h24km± 2km, ML3.0/5, Error ellipse: s-maj=2.2km s-min=1.2km az=286.0*

ISC 27 14:24:01.7± 1.0, 40.68N± 0.02× 20.03E± 0.02, h29km± 11km, n90, σ1§06/119, 9C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.46**	**242**	P	**Pn**	**14 24 13.1**	**+0.9**
VLO	**Vlora**	**0.46**	**242**	AMP			
	comp=E,19nm,0.2s,baz=246						
VLO	**Vlora**	**0.46**	**242**	P	**Pb**	**14 24 11.8**	**+0.4**
	baz=246						
VLO	**Vlora**	**0.46**	**242**	S	**Sn**	**14 24 19.8**	**+0.4**
	baz=246						
KBN	**Korca**	**0.58**	**95**	P	**Pb**	**14 24 13.5**	**0.0**
KBN				S	**Sn**	**14 24 23.5**	**+0.9**
	comp=E,2μm,0.6s						
KBN	**Korca**	**0.58**	**95**	S	**Sb**	**14 24 21.3**	**-0.3**
	baz=94						
KBN	**Korca**	**0.58**	**95**	AMP			
	comp=N,3.7nm,0.5s,baz=94						
KBN	**Korca**	**0.58**	**95**	P	**Pb**	**14 24 13.3**	**-0.2**
	baz=94						
TIR	**Tirane**	**0.68**	**350**	P	**Pn**	**14 24 16.6**	**+1.3**
TIR	**Tirane**	**0.68**	**350**	*e*Pg	**Pn**	**14 24 16.6**	**+1.3**
TIR				*e*Sg	**Sn**	**14 24 27.9**	**+3.0**
TIR	**Tirane**	**0.68**	**350**	S	**Sn**	**14 24 25.8**	**+0.9**
	baz=347						
TIR	**Tirane**	**0.68**	**350**	*i* Pg	**Pn**	**14 24 16.5**	**+1.3**
TIR	**Tirane**	**0.68**	**350**	AMP			
	comp=N,2.0nm,0.3s,baz=347						
TIR	**Tirane**	**0.68**	**350**	P	**Pn**	**14 24 16.5**	**+1.3**
	baz=347						
LSK	**Leskovik**	**0.69**	**140**	P	**Pb**	**14 24 14.9**	**-0.4**
LSK	**Leskovik**	**0.69**	**140**	S	**Sb**	**14 24 25.0**	**+0.5**
	baz=142						
LSK	**Leskovik**	**0.69**	**140**	AMP			
	comp=E,2.7nm,0.4s,baz=142						
LSK	**Leskovik**	**0.69**	**140**	P	**Pb**	**14 24 14.8**	**-0.5**
	baz=142						
OHR	**Ohrid**	**0.73**	**53**	*i* Pg	**Pb**	**14 24 16.2**	**+0.3**
OHR				*i* Sg	**Sn**	**14 24 27.6**	**+1.4**
OHR				*e*Lg	Lg	14 24 28.4	
	comp=E,324nm,0.5s						
SRN	**Sarande**	**0.80**	**181**	P	**Pn**	**14 24 17.5**	**+0.5**
SRN				S	**Sn**	**14 24 30.0**	**+2.1**
	comp=E,608nm,0.3s						
SRN	**Sarande**	**0.80**	**181**	S	**Sn**	**14 24 28.2**	**+0.4**
	baz=185						
SRN	**Sarande**	**0.80**	**181**	AMP			
	comp=N,1.9nm,0.2s,baz=185						
SRN	**Sarande**	**0.80**	**181**	P	**Pb**	**14 24 16.9**	**-0.2**
	baz=185						
NEST	**Nestorio**	**0.82**	**109**	P	**Pb**	**14 24 17.4**	**-0.1**
KEK	**Kerkira**	**0.98**	**190**	P	**Pb**	**14 24 20.0**	**-0.1**
KEK				S	**Sn**	**14 24 34.0**	**+1.6**
	comp=N,960nm,0.4s						
FNA	**Florina**	**1.03**	**84**	P	**Pb**	**14 24 20.7**	**-0.3**
FNA				S	**Sn**	**14 24 35.2**	**+1.5**
	comp=N,2μm,0.3s						
FNA	**Florina**	**1.03**	**84**	*i* Pg	**Pb**	**14 24 20.4**	**-0.6**
FNA				*i* Sg	**Sb**	**14 24 33.2**	**-1.0**
PHP	**Peshkopia**	**1.05**	**17**	P	**Pn**	**14 24 22.1**	**+1.6**
KPRO	**Kipourio**	**1.25**	**125**	P	**Pb**	**14 24 24.4**	**-0.4**
SCTE	**Santa Cesarea**	**1.34**	**243**	P	**Pb**	**14 24 26.5**	**+0.4**
	baz=245						
KZN	**Kozani**	**1.38**	**105**	P	**Pn**	**14 24 26.1**	**+1.0**
KZN				S	**Sb**	**14 24 45.4**	**+1.2**
	comp=N,422nm,0.4s						
ULC	**Ulcinj**	**1.41**	**336**	*i* Pg	**Pn**	**14 24 25.9**	**+0.5**
ULC	**Ulcinj**	**1.41**	**336**	⇑*i* Pg	**Pn**	**14 24 25.9**	**+0.5**
ULC				*i* Sg	**Sb**	**14 24 45.6**	**+0.6**
DRME	**Dracevica, Mon**	**1.63**	**337**	*e*Pn	**Pn**	**14 24 29.1**	**+0.7**
DRME	**Dracevica, Mon**	**1.63**	**337**	⇓*e*Pn	**Pn**	**14 24 29.2**	**+0.8**
DRME				*i* Sn	**Sb**	**14 24 50.7**	**-0.6**
SKO	**Skopje**	**1.67**	**39**	*i* Pg	**Pn**	**14 24 30.6**	**+1.6**
SKO				*i* Sg	**Sn**	**14 24 50.7**	**+1.2**
SKO				*e*Lg	Lg	14 24 50.9	
	comp=N,6.9nm,0.4s						
GRG	**Griva**	**1.82**	**81**	P	**Pn**	**14 24 31.3**	**+0.2**
GRG	**Griva**	**1.82**	**81**	*i* Pn	**Pn**	**14 24 30.1**	**-1.0**
GRG				*i* Sg	**Sn**	**14 24 53.8**	**+0.6**
BUM	**Brajici-Budva**	**1.83**	**333**	⇓*i* Pn	**Sn**	**14 24 31.4**	**+0.2**
BUM				*i* Sn	**Sn**	**14 24 55.4**	**+2.0**
PDG	**Podgorica**	**1.84**	**342**	*e*Pg	**Pb**	**14 24 35.7**	**+1.0**
PDG	**Podgorica**	**1.84**	**342**	*e*Pn	**Pn**	**14 24 32.1**	**+0.8**
PDG	**Podgorica**	**1.84**	**342**	*i* Pg	**Pn**	**14 24 32.4**	**+1.2**
PDG				*i* Sg	**Sb**	**14 24 57.1**	**-0.2**
TTG	**Podgorica**	**1.84**	**342**	⇑*i* Pn	**Pn**	**14 24 32.4**	**+0.9**
TTG				*i* Sn	**Sn**	**14 24 55.8**	**+2.2**
PVY	**Plav**	**1.91**	**359**	⇑*i* Pn	**Pn**	**14 24 34.4**	**+2.0**
PVY				*i* Sn	**Sb**	**14 24 58.4**	**-1.1**
STIP	**Stip**	**1.92**	**57**	*i* Pn	**Pb**	**14 24 34.8**	**-1.2**
LKD2	**Lefkada island**	**1.95**	**165**	P	**Pn**	**14 24 32.2**	**-0.6**
	baz=166						
LIT	**Litokhoron**	**1.97**	**106**	P	**Pn**	**14 24 33.8**	**+0.7**
CEME	**Cevo**	**2.04**	**336**	⇓*i* Pn	**Pn**	**14 24 34.4**	**+0.3**
CEME				*i* Sn	**Sn**	**14 25 00.4**	**+1.8**
HCY	**Herceg Novi**	**2.11**	**327**	*e*Pn	**Pn**	**14 24 33.2**	**-1.7**
HCY	**Herceg Novi**	**2.11**	**327**	⇑*i* Pn	**Pn**	**14 24 34.8**	**-0.1**
IVA	**Berane**	**2.19**	**357**	⇑*i* Pn	**Pn**	**14 24 37.3**	**+1.1**
IVA				*i* Sn	**Sn**	**14 25 03.9**	**+1.5**
KOME	**Kolasin**	**2.20**	**350**	⇑*i* Pn	**Pn**	**14 24 37.0**	**+0.7**
KOME				*i* Sn	**Sn**	**14 25 04.2**	**+1.6**
KNT	**Kendrikon**	**2.23**	**77**	*i* Pn	**Pn**	**14 24 36.3**	**-0.3**
NKME	**Niksic**	**2.23**	**339**	⇑*i* Pn	**Pn**	**14 24 37.6**	**+0.9**
NKME				*i* Sn	**Sn**	**14 25 05.4**	**+2.0**
TREB	**Trebinje**	**2.39**	**329**	*e*Pn	**Pn**	**14 24 38.4**	**-0.4**
TREB				*e*Sn	**Sn**	**14 25 06.7**	**-0.4**
TREB	**Trebinje**	**2.39**	**329**	*e*Pn	**Pn**	**14 24 38.3**	**-0.5**
BRY	**Bratogost**	**2.48**	**334**	*e*Pn	**Pn**	**14 24 39.4**	**-0.8**
BRY	**Bratogost**	**2.48**	**334**	⇑*i* Pn	**Pn**	**14 24 40.5**	**+0.3**
BRY				*i* Sn	**Sn**	**14 25 11.0**	**+1.4**
BARS	**Barje**	**2.52**	**32**	*e*Pn	**Pn**	**14 24 40.7**	**+0.1**
SJES	**Sjenica**	**2.58**	**359**	*e*Pn	**Pn**	**14 24 42.3**	**+0.8**
BOSS	**Bosilegrad**	**2.58**	**45**	*e*Pn	**Pn**	**14 24 41.7**	**+0.2**
UPM	**Unac-Piva**	**2.66**	**342**	⇑*i* Pn	**Pn**	**14 24 43.2**	**+0.5**
UPM				*i* Sn	**Sn**	**14 25 15.3**	**+1.3**
SELS	**Selova**	**2.66**	**17**	*e*Pn	**Pn**	**14 24 41.7**	**-0.9**
STON	**Ston**	**2.80**	**322**	*e*Pn	**Pn**	**14 24 43.0**	**-1.4**
STON	**Ston**	**2.80**	**322**	*e*Pn	**Pn**	**14 24 43.3**	**-1.1**
STON				*e*Sn	**Sn**	**14 25 15.8**	**-1.3**
RUDO	**Rudo**	**2.98**	**351**	*e*Pn	**Pn**	**14 24 47.3**	**+0.4**
VTS	**Vitosha**	**3.09**	**50**	*e*Pn	**Pn**	**14 24 48.5**	**-0.1**
VTS				*e*Sn	**Sn**	**14 25 22.5**	**-2.0**
LSTV	**Lastovo**	**3.14**	**313**	*e*Pn	**Pn**	**14 24 48.4**	**-0.7**
LSTV				Sn	**Sn**	**14 25 24.3**	**-1.3**
BOVS	**Bovan**	**3.21**	**22**	*e*Pn	**Pn**	**14 24 49.5**	**-0.5**
BBLS	**Lazići**	**3.22**	**352**	*e*Pn	**Pn**	**14 24 50.9**	**+0.6**
BBLS	**Lazići**	**3.22**	**352**	*e*Pn	**Pn**	**14 24 50.7**	**+0.4**
ZAPS	**Zavoj**	**3.24**	**36**	*e*Pn	**Pn**	**14 24 50.9**	**+0.4**
ZAPS				*e*Sn	**Sn**	**14 25 26.1**	**-2.0**
GRUS	**Gruza**	**3.25**	**9**	*e*Pn	**Pn**	**14 24 51.2**	**+0.6**
DIVS	**Divibare**	**3.42**	**360**	*e*Pn	**Pn**	**14 24 52.4**	**-0.6**
DIVS				*e*Sn	**Sn**	**14 25 31.2**	**-1.3**
DIVS	**Divibare**	**3.42**	**360**	*e*Pn	**Pn**	**14 24 51.5**	**-1.5**
HAPS	**Han Pijesak,BI**	**3.50**	**347**	*e*Pn	**Pn**	**14 24 53.7**	**-0.4**
HAPS	**Han Pijesak,BI**	**3.50**	**347**	*e*Pn	**Pn**	**14 24 53.4**	**-0.7**
ZAGS	**Zajecar**	**3.53**	**27**	*e*Pn	**Pn**	**14 24 54.1**	**-0.4**
KIJV	**Kijevo**	**4.27**	**322**	*e*Pn	**Pn**	**14 25 04.5**	**-0.1**
KIJV				Sn	**Sn**	**14 25 52.5**	**-1.0**
MGRS	**Mrkonjic Grad**	**4.32**	**331**	*e*Pn	**Pn**	**14 25 06.0**	**+0.6**
ZIRJ	**Zirje**	**4.41**	**314**	*e*Pn	**Pn**	**14 25 05.9**	**-0.7**
ZIRJ				Sn	**Sn**	**14 25 54.5**	**-2.3**
MORI	**Morici**	**4.52**	**316**	*e*Pn	**Pn**	**14 25 08.1**	**0.0**
MORI				Sn	**Sn**	**14 25 58.3**	**-1.2**
DUGI	**Dugi Otok**	**4.95**	**314**	*e*Pn	**Pn**	**14 25 13.9**	**-0.1**
DUGI				Sn	**Sn**	**14 26 09.1**	**-1.1**
UDBI	**Udbina**	**4.97**	**322**	*e*Pn	**Pn**	**14 25 15.2**	**+0.9**
UDBI				Sn	**Sn**	**14 26 10.1**	**-0.6**
NVLJ	**Novalja**	**5.43**	**317**	*e*Pn	**Pn**	**14 25 20.4**	**-0.2**
NVLJ				Sn	**Sn**	**14 26 19.8**	**-2.2**
CRES	**Cresnjev**	**6.13**	**329**	*e*Pn	**Pn**	**14 25 29.4**	**-0.8**
GBRS	**Gornja Briga**	**6.17**	**324**	*i* Pn	**Pn**	**14 25 31.0**	**+0.2**
CEY	**Cerknica**	**6.50**	**323**	*i* Pn	**Pn**	**14 25 35.0**	**-0.4**
CEY	**Cerknica**	**6.50**	**323**	*e*Pn	**Pn**	**14 25 34.9**	**-0.4**
PDKS	**Podkum**	**6.51**	**327**	*i* Pn	**Pn**	**14 25 34.9**	**-0.6**

NEIC ***27*** *14:42:25.7± 1.0, 18.6S± 0.1× 177.8W± 0.1, h550km± 8km, mb4.2/20, Error ellipse: s-maj=22.2km s-min=13.8km az=119.0*
IDC ***27*** *14:42:26.5± 1.6, 18.63S× 177.92W, h553km± 15km, mb3.2/11, mb1 3.5/12, mb1mx3.4/23, mbtmp4.1/12, Error ellipse: s-maj=25.5km s-min=13.5km az=143.0*

ISC 27 14:42:26.6± 0.6, 18.60S± 0.10× 177.9W± 0.1, h557km, n44, σ0§87/47, mb4.1/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.91**	**282**	P	**P**	**14 43 48.9**	**+0.4**
	14nm,0.3s,baz=135,slow=8.6,SNR=51						
MSVF	**Nonsavu**	**3.91**	**282**	P	**P**	**14 43 48.7**	**+0.2**
FUNA	**Funafuti**	**10.39**	**344**	P	**P**	**14 44 46.6**	**-2.2**
URZ	**Urewera**	**20.06**	**191**	P	**P**	**14 46 20.2**	**-2.6**
STKA	**Stephens Creek**	**38.70**	**242**	P	**P**	**14 49 03.8**	**+0.4**
	1.8nm,0.5s,baz=87,slow=8.7,SNR=5.9						
STKA	**Stephens Creek**	**38.70**	**242**	P	**P**	**14 49 03.8**	**+0.4**
WR0	**Warramunga Arr**	**44.76**	**260**	P	**P**	**14 49 51.2**	**-0.2**
WR0				IAmb	IAmb	14 49 52.2	
	comp=Z,4.9nm,0.9s						
WB0	**Warramunga Arr**	**44.92**	**260**	P	**P**	**14 49 52.4**	**-0.2**
WB2	**Warramunga Arr**	**44.94**	**260**	P	**P**	**14 49 52.2**	**-0.5**
WRAB	**Tennant Creek**	**44.94**	**260**	P	**P**	**14 49 52.0**	**-0.8**
WRAB				IAmb	IAmb	14 49 55.8	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**14 49 52.5**	**-0.3**
	comp=Z,5.1nm,0.4s,baz=97,slow=6.5,SNR=146						
WRA				PcP	**PcP**	**14 51 22.2**	**0.0**
	comp=Z,0.6nm,1.0s,baz=102,slow=3.1,SNR=1.6						
WRA	**Warramunga Arr**	**44.95**	**260**	P	**P**	**14 49 52.3**	**-0.6**
AS31	**Alice Springs**	**45.04**	**255**	P	**P**	**14 49 53.4**	**-0.1**
AS31				IAmb	IAmb	14 49 54.5	
	comp=Z,3.9nm,0.5s						
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**14 49 53.4**	**-0.1**
	comp=Z,11nm,0.6s,baz=92,slow=7.2,SNR=189						
ASAR				PcP	**PcP**	**14 51 21.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=86,slow=4.0,SNR=2.9						
ASAR				ScP	**ScP**	**14 54 24.9**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=109,slow=5.0,SNR=2.2						
ASAR				S	**S**	**14 55 52.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=87,slow=17,SNR=6.5						
ASAR	**Alice Springs**	**45.04**	**255**	P	**P**	**14 49 53.0**	**-0.4**
MTN	**Manton Dam**	**49.23**	**269**	P	**P**	**14 50 25.0**	**0.0**
MTN				IAmb	IAmb	14 50 26.5	
	comp=Z,6.6nm,0.7s						
KNRA	**Kununurra**	**50.87**	**265**	P	**P**	**14 50 36.9**	**0.0**
FITZ	**Fitzroy Crossi**	**53.36**	**261**	P	**P**	**14 50 55.4**	**+0.5**
PSA00	**Pilbara Seismi**	**58.17**	**256**	P	**P**	**14 51 27.4**	**-0.7**
SBA	**Scott Base**	**59.76**	**184**	P	**P**	**14 51 38.9**	**+1.2**
VNDA	**Vanda**	**59.80**	**185**	P	**P**	**14 51 37.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=6.0,slow=6.5,SNR=2.4						
VNDA	**Vanda**	**59.80**	**185**	P	**P**	**14 51 37.6**	**-0.4**
MJAR	**Matsushiro Arr**	**68.72**	**323**	P	**P**	**14 52 35.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=156,slow=6.2,SNR=9.1						
MJAR	**Matsushiro Arr**	**68.72**	**323**	P	**P**	**14 52 35.0**	**-0.2**
MJAR				IAmb	IAmb	14 52 36.1	
	comp=Z,1.7nm,0.7s						
ADK	**Adak**	**70.19**	**1**	P	**P**	**14 52 43.0**	**-0.4**
ADK				IAmb	IAmb	14 53 00.9	
	comp=Z,13nm,1.0s						
QSPA	**South Pole Qui**	**71.46**	**180**	P	**P**	**14 52 50.9**	**-0.1**
YULB	**Yu-li**	**72.52**	**303**	P	**P**	**14 52 56.9**	**-0.9**
YULB				IAmb	IAmb	14 53 13.1	
	comp=Z,11nm,1.0s						
SSLB	**Suanglung**	**72.98**	**303**	P	**P**	**14 52 59.9**	**-0.6**
SSLB				IAmb	IAmb	14 53 14.9	
	comp=Z,14nm,1.1s						
TPUB	**Ta-pu**	**73.00**	**302**	P	**P**	**14 52 59.8**	**-0.8**
PEA0B	**Petropavlovsk-**	**74.46**	**345**	P	**P**	**14 53 08.4**	**+0.3**
PEA0B				IAmb	IAmb	14 53 20.5	
	comp=Z,8.4nm,1.0s						
PETK	**Petropavlovsk-**	**74.46**	**345**	P	**P**	**14 53 08.5**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=134,slow=7.4,SNR=6.2						
PETK	**Petropavlovsk-**	**74.46**	**345**	P	**P**	**14 53 08.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**77.43**	**326**	P	**P**	**14 53 26.6**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=111,slow=8.2,SNR=1.9						
OHAK	**Old Harbor**	**78.29**	**13**	P	**P**	**14 53 29.2**	**+0.1**
OHAK				IAmb	IAmb	14 53 32.2	
	comp=Z,8.6nm,1.0s						
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**14 53 37.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=256,slow=7.3,SNR=2.1						
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**14 54 09.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=218,slow=7.8,SNR=6.7						
ILAR	**Eielson Array**	**86.45**	**13**	P	**P**	**14 54 09.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=212,slow=5.2,SNR=18						
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P	**P**	**14 54 26.9**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=94,slow=2.3,SNR=5.6						
ARCES	**ARCESS Array B**	**127.07**	**350**	PKP	**PKPdf**	**15 00 27.0**	**-0.2**
	comp=Z,1.7nm,1.0s,baz=15,slow=1.0,SNR=5.8						
FINES	**FINESS Array B**	**133.97**	**344**	PKP	**PKPdf**	**15 00 40.7**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=100,slow=5.8,SNR=5.6						
AKASG	**Malin Array Be**	**141.38**	**332**	PKhKP	PKPpre	15 00 48.9	
	comp=Z,0.7nm,0.4s,baz=43,slow=4.0,SNR=5.0						
BRTR	**Keskin Array B**	**145.58**	**314**	PKPbc	**PKPbc**	**15 01 03.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=119,slow=2.2,SNR=2.7						
CLL	**Collm**	**146.23**	**348**	*i* PKPbc	**PKPbc**	**15 01 05.2**	**+0.3**
	comp=Z,7.0nm,0.9s						
GERES	**GERESS Array B**	**148.39**	**345**	PKPbc	**PKPbc**	**15 01 09.8**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=82,slow=2.8,SNR=8.1						

NNC ***27*** *14:50:46.7± 0.5, 43.54N× 78.45E, h11km± 4km, mb3.0, mpv2.6, Error ellipse: s-maj=4.9km s-min=2.5km az=0.0*
SOME ***27*** *14:50:47.7, 43.57N× 78.42E, h15km*

ISC 27 14:50:47.2± 1.6, 43.56N± 0.08× 78.44E± 0.03, h13km± 13km, n9, σ0§51/18, 3C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.20**	**118**	⇑*e*P	**Pb**	**14 50 53.0**	**+0.1**
	10nm,0.1s						
KPKS				*e*S	**Sb**	**14 50 56.7**	**0.0**
	48nm,0.2s						
KURS	**Kuram**	**0.21**	**249**	*e*P	**Pb**	**14 50 52.6**	**-0.4**
	1.8nm,0.0s						
KURS				*e*S	**Sb**	**14 50 56.1**	**-0.6**
	4.9nm,0.1s						
KURS	**Kuram**	**0.21**	**249**	P	**Pb**	**14 50 52.6**	**-0.4**
	1.8nm,0.0s						
KURS				S	**Sb**	**14 50 56.1**	**-0.6**
	4.9nm,0.1s						
SATY	**Saty**	**0.50**	**183**	*e*P	**Pg**	**14 50 57.2**	**+0.1**
	7.6nm,0.1s						
SATY				*e*S	**Sg**	**14 51 04.0**	**+0.1**
	8.6nm,0.1s						
SATY	**Saty**	**0.50**	**183**	P	**Pg**	**14 50 57.2**	**+0.1**
	7.6nm,0.1s						
SATY				S	**Sg**	**14 51 04.0**	**+0.1**
	8.6nm,0.1s						
UZB	**Uzynbulak**	**0.59**	**134**	*e*P	**Pb**	**14 50 59.2**	**-0.4**
	1.9nm,0.1s						
UZB				*e*S	**Sb**	**14 51 07.3**	**-0.7**
	8.0nm,0.1s						
UZB	**Uzynbulak**	**0.59**	**134**	P	**Pb**	**14 50 59.2**	**-0.4**
	1.9nm,0.1s						
UZB				S	**Sb**	**14 51 07.3**	**-0.7**
	8.0nm,0.1s						
PDGK	**Podgornoye**	**0.80**	**106**	⇓P	**Pg**	**14 51 02.4**	**-0.3**
	1.0nm,0.6s						
PDGK				⇓S	**Sg**	**14 51 13.4**	**+0.2**
	2.1nm,0.5s						
MDOK	**Medeo**	**1.09**	**249**	⇑P	**Pn**	**14 51 09.4**	**+1.0**
	1.0nm,0.4s						
MDOK				⇑S	**Sg**	**14 51 22.4**	**0.0**
	2.1nm,0.7s						

IDC ***27*** *14:52:59.7± 2.2, 10.78S× 161.51E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/28, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=51.6km s-min=23.7km az=56.0*

ISC 27 14:53:04.2± 1.7, 10.8S± 0.2× 161.5E± 0.3, h28km, n6, σ0§74/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.04**	**312**	Pn	**Pn**	**14 53 36.9**	**+0.2**
	15nm,0.3s,baz=183,slow=17,SNR=11						
HNR				Sn	**Sn**	**14 54 02.0**	**+0.8**
	144nm,0.3s,baz=94,slow=13,SNR=9.9						
DZM	**Mont Dzumac**	**12.17**	**158**	Pn	**Pn**	**14 55 56.4**	**+0.6**
	0.1nm,0.3s,baz=354,slow=19,SNR=1.1						
WRA	**Warramunga Arr**	**27.68**	**248**	P	**P**	**14 58 50.2**	**+0.1**
	0.5nm,0.7s,baz=77,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**29.22**	**240**	P	**P**	**14 59 03.1**	**-0.7**
	0.3nm,0.5s,baz=64,slow=10,SNR=8.9						
QSPA	**South Pole Qui**	**79.20**	**180**	P	**P**	**15 05 06.7**	**+0.2**
	0.7nm,0.9s,baz=18,slow=3.2,SNR=1.4						
MKAR	**Makanchi Array**	**90.50**	**318**	P	**P**	**15 06 02.8**	**-0.8**
	0.2nm,0.4s,baz=94,slow=6.2,SNR=1.8						

IDC ***27*** *15:00:09.6± 0.7, 5.21S× 153.23E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.4/39, mbtmp4.4/21, ML2.3/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/29, Error ellipse: s-maj=21.3km s-min=13.6km az=88.0*
BJI ***27*** *15:00:10.2± 0.0, 5.18S× 153.83E, h28km, mB5.2/21, mb4.8/34, Ms4.9/6, Ms7 4.7/4*
NEIC ***27*** *15:00:12.8± 1.9, 5.3S± 0.1× 153.4E± 0.1, h22km± 5km, mb4.7/25, Error ellipse: s-maj=20.5km s-min=12.8km az=54.0*
DJA ***27*** *15:00:17.5± 1.0, 5°S± 4°× 15°E± 1°0, h60km± 8km, M4.7/13, mB6.4/1, mb4.5/13, MLv4.8/2, Mw(mB)6.2/1*

ISC 27 15:00:15.4± 0.5, 5.30S± 0.06× 153.33E± 0.09, h43km, n74, σ1§62/69, mb4.6/41, MS3.9/3, 3C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.60**	**313**		**Pn**	**15 00 40.6**	**-0.6**
PMG	**Port Moresby**	**7.35**	**236**	Pn	**Pn**	**15 01 59.3**	**-1.0**
	2.9nm,0.3s,baz=70,slow=18,SNR=3.8						
PMG				Sn	**Sn**	**15 03 23.8**	**+1.3**
	3.0nm,0.3s,baz=106,slow=19,SNR=3.4						
PMG				LR	LR	15 04 42.6	
	comp=Z,253nm,19.4s,baz=30,slow=37						
LIFNC	**LIFOU**	**20.48**	**140**	P	**P**	**15 04 48.7**	**-1.0**
DZM	**Mont Dzumac**	**20.96**	**144**	P	Pn	15 04 57.6	-0.3
	31nm,0.7s,baz=292,slow=11,SNR=28						
DZM				LR	LR	15 12 27.0	
	comp=Z,425nm,18.2s,baz=304,slow=35						
DZM	**Mont Dzumac**	**20.96**	**144**	P	**P**	**15 04 55.7**	**+0.8**
DZM				IAmb	IAmb	15 05 00.1	
	comp=Z,35nm,0.9s						
FAKI	**Fak Fak**	**21.16**	**276**	P	**P**	**15 04 56.1**	**-1.0**
FAKI				IAmb	IAmb	15 05 01.0	
	comp=Z,32nm,1.0s						
SIJI	**Sorong**	**22.46**	**281**	P	**P**	**15 05 09.9**	**-1.2**
	comp=Z,27nm,0.5s,baz=142,slow=19,SNR=6.7						
MTN	**Manton Dam**	**23.15**	**250**	P	**P**	**15 05 17.5**	**-0.7**
MTN				IAmb	IAmb	15 05 24.5	
	comp=Z,38nm,1.2s						
WR0	**Warramunga Arr**	**23.38**	**230**	P	**P**	**15 05 20.1**	**-0.3**
WR0				IAmb	IAmb	15 05 43.2	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**23.38**	**230**	P	**P**	**15 05 19.3**	**-1.1**
WB0				IAmb	IAmb	15 05 37.0	
	comp=Z,27nm,1.4s						
WB2	**Warramunga Arr**	**23.51**	**230**	P	**P**	**15 05 20.9**	**-0.8**
WB2				IAmb	IAmb	15 05 23.3	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**23.52**	**230**	P	**P**	**15 05 20.9**	**-0.9**
	comp=Z,4.0nm,0.5s,baz=53,slow=9.8,SNR=50						
WRA	**Warramunga Arr**	**23.52**	**230**	P	**P**	**15 05 20.6**	**-1.3**
ARMA	**Armidale**	**25.04**	**183**	P	**P**	**15 05 34.0**	**-1.8**
ARMA				IAmb	IAmb	15 05 39.5	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**26.14**	**224**	P	**P**	**15 05 44.3**	**-1.5**
ASAR	**

comp=Z,1.3nm,0.5s,baz=101,slow=3.0,SNR=5.3
ZALV Zalesovo Beam 81.86 326 P **P** 15 12 29.5 -0.5
ILAR Eielson Array 82.42 22 P **P** 15 12 30.1 -2.7
comp=Z,0.5nm,0.9s,baz=271,slow=5.1,SNR=3.4
KURBB Kurchatov Arra 84.51 322 P **P** 15 12 43.8 -0.1
comp=Z,2.2nm,0.8s,baz=101,slow=3.5,SNR=10
QSPA South Pole Qui 84.67 180 P **P** 15 12 45.5 +1.0
comp=Z,3.5nm,0.6s,baz=254,slow=0.4,SNR=47
QSPA South Pole Qui 84.67 180 P **P** 15 12 45.7 +1.2
QSPA IAmb IAmb 15 12 46.0
comp=Z,5.6nm,0.8s
MAW Mawson 85.31 203 P **P** 15 12 48.0 +0.5
comp=Z,1.4nm,0.5s,baz=91,slow=2.7,SNR=3.2
AAK Ala-Archa 85.39 313 P **P** 15 12 49.5 +0.8
comp=Z,1.3nm,0.3s,baz=112,slow=5.6,SNR=7.0
AAK Ala-Archa 85.39 313 IAmb IAmb 15 12 50.5
comp=Z,5.2nm,0.8s
NRIK Noril'sk 86.60 341 P **P** 15 12 53.5 -0.3
comp=Z,1.4nm,0.5s,baz=84,slow=1.7,SNR=3.9
BVAR Borovoye Array 89.95 323 P **P** 15 13 08.5 -1.6
comp=Z,2.6nm,0.7s,baz=114,slow=3.6,SNR=21
BRVK Borovoye 90.02 323 P **P** 15 13 09.9 -0.6
BRVK IAmb IAmb 15 13 19.8
comp=Z,9.6nm,1.4s
SYO Syowa Base 93.38 199⇓*e*PcP **PcP** 15 13 27.5 +1.3
GERES GERESS Array B 124.75 329 PKP **PKiKP** 15 19 11.3 +0.2
comp=Z,0.9nm,0.7s,baz=82,slow=2.8,SNR=9.0
BDFB Brasilia 150.31 135 PKPbc **PKiKP** 15 20 04.0 -0.1
comp=Z,2.9nm,0.8s,baz=102,slow=6.0,SNR=3.3
TORD Torodi Ar. Bea 150.96 288 PKPbc **PKPbc** 15 20 04.5 -0.1
comp=Z,8.2nm,0.8s,baz=28,slow=3.0,SNR=30
TORD Torodi Ar. Bea 150.96 288 **PKPbc** 15 20 04.7 0.0

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*IDC **27** 15:12:07.5±0.9,27.58N×65.90E,h0km,mb3.7/17,*
mb1 3.8/18,mb1mx3.7/55,mbtmp3.7/18,ML3.6/1,MS3.0/2,
Ms1 3.0/2,ms1mx2.6/59,Error ellipse: s-maj=20.5km
s-min=18.0km az=7.0
ISC 27 15:12:11.5±0.8,27.6N±0.1×65.9E±0.1,h25km,n20,
σ0.97/19,mb3.9/17,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.84**	**238**	Pn		**Pn**	**15 14 05.1**	**+1.1**
	0.9nm,0.3s,baz=38,slow=3.1,SNR=18							
WSAR				Sn		**Sn**	**15 15 30.6**	**-1.5**
	1.3nm,0.3s,baz=301,slow=17,SNR=5.9							
GEYT	**Alibeck**	**12.19**	**330**	LR		LR	15 19 39.2	
	comp=Z,48nm,18.9s,baz=75,slow=37							
AAK	**Ala-Archa**	**16.57**	**23**	LR		LR	15 24 06.5	
	comp=Z,82nm,21.0s,baz=206,slow=43							
MKAR	**Makanchi Array**	**23.12**	**30**	P		**P**	**15 17 14.7**	**-1.0**
	3.9nm,0.8s,baz=211,slow=9.4,SNR=18							
AKTO	**Aktyubinsk**	**23.59**	**347**	P		**P**	**15 17 20.1**	**0.0**
	1.0nm,0.5s,baz=154,slow=7.5,SNR=7.2							
KURBB	**Kurchatov Arra**	**24.94**	**19**	P		**P**	**15 17 32.4**	**-0.3**
	1.9nm,0.7s,baz=212,slow=8.9,SNR=15							
BVAR	**Borovoye Array**	**25.63**	**6**	P		**P**	**15 17 38.6**	**-0.3**
	1.0nm,0.7s,baz=188,slow=2.9,SNR=5.8							
ZALV	**Zalesovo Beam**	**29.80**	**23**	P		**P**	**15 18 17.6**	**+1.4**
	0.9nm,0.5s,baz=237,slow=7.9,SNR=1.7							
SONM	**Songino Array**	**37.35**	**46**	P		**P**	**15 19 22.9**	**+0.9**
	0.9nm,0.6s,baz=247,slow=8.5,SNR=5.9							
FINES	**FINESS Array B**	**42.97**	**333**	P		**P**	**15 20 07.7**	**-0.5**
	2.1nm,0.8s,baz=123,slow=14,SNR=5.5							
GERES	**GERESS Array B**	**45.13**	**313**	P		**P**	**15 20 26.1**	**+0.2**
	0.3nm,0.5s,baz=101,slow=10,SNR=2.0							
HFS	**Hagfors**	**47.83**	**328**	P		**P**	**15 20 45.9**	**-0.9**
	1.1nm,0.8s,baz=120,slow=8.5,SNR=2.4							
ARCES	**ARCESS Array B**	**48.00**	**342**	P		**P**	**15 20 48.2**	**+0.2**
	1.6nm,0.8s,baz=125,slow=7.8,SNR=3.1							
NOA	**NORSAR Array B**	**49.28**	**328**	P		**P**	**15 20 56.2**	**-1.8**
	0.1nm,0.5s,baz=108,slow=7.5,SNR=1.6							
KSRS	**Korea Array**	**52.41**	**63**	P		**P**	**15 21 21.6**	**-0.3**
	1.2nm,0.7s,baz=269,slow=7.3,SNR=5.7							
EKA	**Eskdalemuir Ar**	**55.97**	**320**	P		**P**	**15 21 47.0**	**-0.6**
	0.7nm,0.6s,baz=99,slow=9.5,SNR=3.6							
ESDC	**Sonseca Array**	**58.05**	**301**	P		**P**	**15 22 02.9**	**+0.3**
	0.3nm,0.6s,baz=64,slow=6.0,SNR=2.1							
TORD	**Torodi Ar. Bea**	**61.26**	**270**	P		**P**	**15 22 26.2**	**+1.2**
	0.6nm,0.6s,baz=55,slow=6.7,SNR=2.7							
WRA	**Warramunga Arr**	**81.36**	**118**	P		**P**	**15 24 25.4**	**-0.9**
	0.8nm,0.8s,baz=316,slow=4.3,SNR=5.5							
ASAR	**Alice Springs**	**83.08**	**121**	P		**P**	**15 24 34.9**	**-0.4**
	0.5nm,0.5s,baz=310,slow=5.2,SNR=14							

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*INET **27** 15:15:50.6,13.66N×90.37W,h159km,MW4.2*
*UCR **27** 15:15:58.0±2.0,13.42N×90.54W,h5km,ML4.1,MW3.8*
*SNET **27** 15:16:00.5±1.0,13.80N×90.32W,h96km±4km,ML4.3*
*NEIC **27** 15:16:01.9±2.2,13.92N±0.09×90.21W±0.07,h108km±6km,*
mb4.7/93,Md4.3(SNET),Error ellipse: s-maj=14.0km
s-min=8.2km az=212.0
*IDC **27** 15:16:01.9±0.9,14.11N×89.91W,h118km±7km,mb3.9/19,*
mb1 4.1/21,mb1mx3.9/45,mbtmp4.3/21,MS3.3/4,
Ms1 3.2/4,ms1mx3.0/27,Error ellipse: s-maj=21.6km
s-min=9.6km az=58.0
*GCG **27** 15:16:02.3±0.3,13.73N×90.44W,h81km±28km,MD4.2*
ISC 27 15:16:00.4±0.6,13.89N±0.05×90.27W±0.05,h109km±4km,
n174,σ1.9/17/172,mb4.6/55,2C-4D,Near coast of
Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.60**	**327**	⇓*iP*		**Pn**	**15 16 18.7**	**+0.5**
RTR	**El Retiro**	**0.61**	**89**	*eP*		**Pn**	**15 16 18.0**	**-0.2**
RTR	**El Retiro**	**0.61**	**89**	*eP*		**Pn**	**15 16 18.0**	**-0.2**
CEVE	**Cerro Verde**	**0.63**	**95**	⇑*iP*		**Pn**	**15 16 18.2**	**-0.2**
CEVE				*eS*		**Sn**	**15 16 31.9**	**-0.1**
CEVE	**Cerro Verde**	**0.63**	**95**	⇑*iP*		**Pn**	**15 16 18.2**	**-0.2**
CEVE				*eS*		**Sn**	**15 16 31.9**	**-0.1**
SBLS	**San Blas**	**0.63**	**94**	*eP*		**Pn**	**15 16 18.1**	**-0.3**
SBLS	**San Blas**	**0.63**	**94**	*eP*		**Pn**	**15 16 18.1**	**-0.3**
SNJE	**San Jose**	**0.65**	**92**	*eP*		**Pn**	**15 16 18.2**	**-0.3**
SNJE				*eS*		**Sn**	**15 16 32.0**	**-0.1**
SNJE	**San Jose**	**0.65**	**92**	*eP*		**Pn**	**15 16 18.2**	**-0.3**
SNJE				*eS*		**Sn**	**15 16 32.0**	**-0.1**
NBG	**Las Nubes**	**0.70**	**354**	⇓*iP*		**Pn**	**15 16 20.7**	**+1.6**
NBG				*eS*		**Sn**	**15 16 35.1**	**+2.1**
FUG	**Fuego 3**	**0.79**	**315**	*eP*		**Pn**	**15 16 19.9**	**+0.2**
JAYA	**Jayaque - finc**	**0.83**	**106**	*eP*		**Pn**	**15 16 19.5**	**-0.6**
JAYA				*eS*		**Sn**	**15 16 34.3**	**-0.6**
JAYA	**Jayaque - finc**	**0.83**	**106**	*eP*		**Pn**	**15 16 19.5**	**-0.6**
JAYA				*eS*		**Sn**	**15 16 34.3**	**-0.6**
CEDA	**San Andres**	**0.85**	**96**	*eP*		**Pn**	**15 16 19.9**	**-0.3**
CEDA				*eS*		**Sn**	**15 16 35.3**	**+0.2**
CEDA				IAML			15 16 44.7	
	comp=Z,7μm,0.7s							
CEDA	**San Andres**	**0.85**	**96**	*eP*		**Pn**	**15 16 19.9**	**-0.3**
CEDA				*eS*		**Sn**	**15 16 35.3**	**+0.2**
CEDA				IAML			15 16 44.7	
	comp=Z,7μm,0.7s							
TACO	**Tacachico**	**0.89**	**85**	*eP*		**Pn**	**15 16 20.3**	**-0.2**
TACO	**Tacachico**	**0.89**	**85**	*eP*		**Pn**	**15 16 20.3**	**-0.2**
TACO				*eS*		**Sn**	**15 16 35.5**	**-0.2**
BOQS	**Boqueron**	**0.97**	**99**	*eP*		**Pn**	**15 16 21.8**	**+0.2**
BOQS				*eS*		**Sn**	**15 16 38.5**	**+1.0**
BOQS	**Boqueron**	**0.97**	**99**	*eP*		**Pn**	**15 16 21.8**	**+0.2**
BOQS				*eS*		**Sn**	**15 16 38.5**	**+1.0**
UEES	**Universidad Ev**	**1.02**	**100**	IAML			15 16 45.2	
	comp=Z,4μm,0.3s							
UEES	**Universidad Ev**	**1.02**	**100**	IAML			15 16 45.2	
	comp=Z,4μm,0.3s							
MTO3	**Montecristo**	**1.02**	**60**	⇓*iP*		**Pn**	**15 16 22.6**	**+0.5**
MTO3				*eS*		**Sn**	**15 16 39.4**	**+1.1**
MTO3	**Montecristo**	**1.02**	**60**			**Pn**	**15 16 22.5**	**+0.5**
SNET	**Serv Nac Est T**	**1.03**	**101**	*eS*		**Sn**	**15 16 37.8**	**-0.4**
SNET				IAML			15 16 42.3	
	comp=Z,4μm,0.2s							
SNET	**Serv Nac Est T**	**1.03**	**101**			**Pn**	**15 16 22.1**	**+0.2**
ESQI	**Esquipulas**	**1.12**	**53**	⇓*iP*		**Pn**	**15 16 24.1**	**+1.1**
ESQI				*eS*		**Sn**	**15 16 42.0**	**+2.0**
ESQI	**Esquipulas**	**1.12**	**53**			**Pn**	**15 16 24.3**	**+1.3**
LFU	**La Fuente**	**1.13**	**97**	*eP*		**Pn**	**15 16 23.3**	**+0.3**
LFU	**La Fuente**	**1.13**	**97**	*eP*		**Pn**	**15 16 23.3**	**+0.3**
LFRS	**El Faro**	**1.20**	**102**	*eP*		**Pn**	**15 16 23.8**	**-0.1**
LFRS	**El Faro**	**1.20**	**102**	*eP*		**Pn**	**15 16 23.8**	**-0.1**
SJTE	**Alcalda de S**	**1.26**	**102**	*eP*		**Pn**	**15 16 23.9**	**-0.6**
SJTE	**Alcalda de S**	**1.26**	**102**	*eP*		**Pn**	**15 16 23.9**	**-0.6**
PAVA	**Las Pavas**	**1.31**	**97**	*eP*		**Pn**	**15 16 25.3**	**+0.3**
PAVA	**Las Pavas**	**1.31**	**97**	*eP*		**Pn**	**15 16 25.3**	**+0.3**
PAVA				*eS*		**Sn**	**15 16 45.3**	**+1.6**
COEG	**Centro de Oper**	**1.38**	**101**	*eP*		**Pn**	**15 16 26.1**	**+0.3**
COEG				IAML			15 16 50.8	
	comp=Z,3μm,0.4s							
COEG	**Centro de Oper**	**1.38**	**101**	*eP*		**Pn**	**15 16 26.1**	**+0.3**
COEG				IAML			15 16 50.8	
	comp=Z,3μm,0.4s							
RTAL	**Retalhuleu**	**1.52**	**295**	*eP*		**Pn**	**15 16 26.9**	**-0.6**
RTAL				*eS*		**Sn**	**15 16 47.2**	**-0.8**
RTAL	**Retalhuleu**	**1.52**	**295**			**Pn**	**15 16 26.9**	**-0.6**
PQSS	**Presa 15 de Se**	**1.68**	**99**	*eP*		**Pn**	**15 16 29.7**	**+0.3**
COEB	**Comit de Eme**	**1.73**	**103**	*eP*		**Pn**	**15 16 30.6**	**+0.4**
COEB	**Comit de Eme**	**1.73**	**103**	*eP*		**Pn**	**15 16 30.6**	**+0.4**
COEB				*eS*		**Sn**	**15 16 53.2**	**+0.3**
TECA	**Tecapa**	**1.76**	**103**	*eP*		**Pn**	**15 16 31.0**	**+0.4**
TECA	**Tecapa**	**1.76**	**103**	*eP*		**Pn**	**15 16 31.0**	**+0.4**
HUEH	**Huehuetenango**	**1.86**	**320**	*eP*		**Pn**	**15 16 32.8**	**+1.0**
HUEH	**Huehuetenango**	**1.86**	**320**			**Pn**	**15 16 32.8**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.92**	**86**	Pn		**Pn**	**15 16 45.5**	**+0.1**
CCIG	**Comitan**	**2.99**	**323**			**Pn**	**15 16 48.1**	**+1.7**
PETF	**Flores**	**3.04**	**7**			**Pn**	**15 16 49.2**	**+2.3**
CRIN	**San Cristobal**	**3.35**	**110**			**Pn**	**15 16 52.1**	**+1.0**
CNGN	**Cerro Negro**	**3.74**	**111**			**Pn**	**15 16 56.9**	**+0.5**
BOAB	**BOACO BROADBAN**	**3.71**	**107**			**Pn**	**15 17 08.8**	**-0.5**
ACON	**Acoyapa**	**5.32**	**110**			**Pn**	**15 17 16.1**	**-1.6**
CMIG	**Matias Romero**	**5.47**	**306**	P		**Pn**	**15 17 20.0**	**+0.4**
	comp=Z,3.5nm,0.3s,baz=124,slow=11,SNR=32							
CMIG				S		**Sn**	**15 18 18.6**	**-2.7**
	comp=Z,5.5nm,0.3s,baz=82,slow=17,SNR=2.2							
HZTE	**Horizontes, Gu**	**5.55**	**124**			**Pn**	**15 17 22.1**	**+1.3**
GBS3	**Finca Las Img**	**5.63**	**123**	*eP*		**Pn**	**15 17 22.4**	**+0.6**
LAPC	**Finca la Perla**	**5.65**	**123**	*eP*		**Pn**	**15 17 21.9**	**-0.3**
LIM1	**Limonal**	**5.84**	**122**	*eP*		**Pn**	**15 17 25.9**	**+1.2**
ORTG	**Ortega, Santa**	**5.87**	**126**	Pn		**Pn**	**15 17 26.2**	**+1.2**
GUAI	**GUAI**	**5.88**	**127**	*eP*		**Pn**	**15 17 26.6**	**+1.4**
COLC	**Colonia**	**5.90**	**122**	*eP*		**Pn**	**15 17 26.8**	**+1.3**
CUI	**Cuipilapa**	**5.93**	**122**	*eP*		**Pn**	**15 17 25.9**	**-0.1**
DUNO	**Dulce Nombre,**	**6.01**	**128**			**Pn**	**15 17 28.1**	**+1.0**
PTEN	**Parque Tenorio**	**6.05**	**121**	*eP*		**Pn**	**15 17 28.8**	**+1.2**
ACAL	**Aguas Claras**	**6.05**	**122**	*eP*		**Pn**	**15 17 28.9**	**+1.3**
ESPN	**Las Esperanzas**	**6.06**	**105**			**Pn**	**15 17 28.2**	**+0.7**
JTS	**Las Juntas de**	**6.31**	**124**	P		**Pn**	**15 17 32.1**	**+1.1**
	comp=Z,10nm,0.3s,baz=19,slow=23,SNR=39							
JTS				S		**Sn**	**15 18 37.0**	**-4.8**
	comp=Z,8.2nm,0.3s,baz=349,slow=22,SNR=3.1							
JTS	**Las Juntas de**	**6.31**	**124**	Pn		**Pn**	**15 17 31.9**	**+0.9**
CAO2	**Cobano, Puntar**	**6.56**	**129**			**Pn**	**15 17 35.5**	**+1.2**
JACO	**JACO, Garabito**	**6.92**	**127**	*eP*		**Pn**	**15 17 41.1**	**+1.9**
JACO	**JACO, Garabito**	**6.92**	**127**	Pn		**Pn**	**15 17 40.9**	**+1.7**
OCM	**Ochomogo**	**7.34**	**122**	*eP*		**Pn**	**15 17 46.1**	**+0.9**
LCR2	**La Lucha 2**	**7.39**	**123**	*eP*		**Pn**	**15 17 46.6**	**+0.7**
RIMA	**Rio Macho**	**7.49**	**122**	*eP*		**Pn**	**15 17 47.7**	**+0.4**
CDM	**Cerro de Muert**	**7.69**	**123**	*eP*		**Pn**	**15 17 52.1**	**+1.9**
PEZE	**Perez Zeledon,**	**7.86**	**124**			**Pn**	**15 17 54.0**	**+1.8**
SRBA	**San Rafael, Bu**	**8.20**	**124**	*eP*		**Pn**	**15 17 57.8**	**+1.0**
SRBA	**San Rafael, Bu**	**8.20**	**124**			**Pn**	**15 17 58.2**	**+1.4**
PIRO	**Carate, Puerto**	**8.72**	**128**	*eP*		**Pn**	**15 18 06.3**	**+2.6**
TLIG	**Tlapa**	**8.78**	**296**	Pn		**Pn**	**15 18 06.6**	**+1.9**
DWPF	**Disney Wildern**	**16.37**	**29**	P			15 19 44.9	
	baz=212							
833A	**Chaparral WMA,**	**16.68**	**331**	P			15 19 48.3	
	baz=148							
ROSC	**El Rosal**	**18.11**	**118**	LR		LR	15 29 03.0	
	comp=Z,95nm,18.0s,baz=228,slow=44							
435B	**Jarrell**	**18.11**	**339**	P		**Pn**	**15 20 04.6**	**-0.3**
435B				IAmb		IAmb	15 20 06.9	
	comp=Z,37nm,0.6s							
435B	**Jarrell**	**18.11**	**339**	P			15 20 05.2	
	baz=156							
NATX	**Nacogdoches**	**18.24**	**348**	P			15 20 07.2	
	baz=166							
VBMS	**Vicksburg**	**18.25**	**359**	P			15 20 07.3	
	baz=179,SNR=6.7							
VBMS	**Vicksburg**	**18.25**	**359**	P		**Pn**	**15 20 08.9**	**+2.3**
250A	**Grady**	**18.38**	**11**	P		**Pn**	**15 20 07.4**	**-0.7**
250A				IAmb		IAmb	15 20 12.5	
	comp=Z,59nm,1.4s							
TIGA	**Tifton**	**18.51**	**18**	P			15 20 09.3	
	baz=201							
JCT	**Junction City**	**18.70**	**334**	P			15 20 11.6	
	baz=150							
237A	**Washetta, Mont**	**18.73**	**345**	P		**P**	**15 20 10.1**	**-0.5**
WHTX	**Lake Whitney,**	**19.18**	**341**	P			15 20 16.1	
	baz=158,SNR=5.5							
Z41A	**Richland Creek**	**19.42**	**354**	P			15 20 19.6	
	baz=172,SNR=5.2							
TXAR	**Lajitas Array**	**19.75**	**323**	P		**Pn**	**15 20 24.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=149,slow=11,SNR=46							
TXAR				PcP		**PcP**	**15 24 35.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=146,slow=2.4,SNR=6.4							
TXAR				pPcP			15 25 18.8	
	comp=Z,0.0nm,0.3s,baz=93,slow=2.8,SNR=3.5							
TXAR	**Lajitas Array**	**19.75**	**323**			**Pn**	**15 20 23.8**	**-0.7**
TX31	**Lajitas Ar. Si**	**19.75**	**323**	P		**Pn**	**15 20 23.7**	**-0.7**
TX31				IAmb		IAmb	15 20 26.0	
	comp=Z,26nm,1.0s							
TX32	**Lajitas Array**	**19.75**	**323**	P		**Pn**	**15 20 23.7**	**-0.8**
Z38A	**Mt. Pleasant**	**19.76**	**348**			**Pn**	**15 20 22.8**	**-1.5**
Z38A				IAmb		IAmb	15 20 24.8	
	comp=Z,52nm,0.8s							
GOGA	**Godfrey**	**20.40**	**17**	P			15 20 30.1	
	baz=199							
GOGA	**Godfrey**	**20.40**	**17**	P		**P**	**15 20 29.7**	**+1.0**
ABTX	**Abilene, Hawle**	**20.52**	**337**			**P**	**15 20 30.7**	**+0.7**
ABTX	**Abilene, Hawle**	**20.52**	**337**	P			15 20 31.1	
	baz=153							
OXF	**Oxford**	**20.55**	**2**	P			15 20 31.6	
	baz=182							
X40A	**Basin Creek Fa**	**20.64**	**354**	P			15 20 32.6	
	baz=173							
X48A	**Hartselle**	**20.68**	**8**	P		Pn	15 20 33.6	-1.4
X48A				IAmb		IAmb	15 20 36.0	
	comp=Z,39nm,0.7s							
MIAR	**Mount Ida**	**20.78**	**352**	P			15 20 33.5	
	baz=171,SNR=5.6							
LOOK	**Love County**	**20.97**	**344**	P		**P**	**15 20 35.7**	**+0.8**
FPAL	**Fort Paine**	**20.99**	**11**	P		Pn	15 20 36.6	-2.1
FPAL				IAmb		IAmb	15 20 39.1	
	comp=Z,29nm,1.0s							
X37A	**Clayton**	**21.12**	**348**	P		**P**	**15 20 35.9**	**-0.6**
NHSC	**New Hope**	**21.23**	**24**	P			15 20 37.7	
	baz=208							
W39A	**Magazine**	**21.45**	**352**	P			15 20 40.4	
	baz=171							
HODGE	**Hodges**	**21.52**	**18**	P		**P**	**15 20 41.1**	**+0.4**
SWET	**Sewanee**	**21.59**	**10**	IAmb		IAmb	15 20 44.8	
	comp=Z,35nm,0.7s							
X34A	**Smith Ranch, M**	**21.73**	**343**			**P**	**15 20 42.6**	**-0.3**
X34A				IAmb		IAmb	15 20 44.7	
	comp=Z,29nm,0.8s							
V48A	**Smith Brothers**	**21.98**	**8**	IAmb		IAmb	15 20 48.1	
	comp=Z,42nm,1.1s							
CPCT	**Cooper Cave**	**22.09**	**13**	P		**P**	**15 20 48.1**	**+1.4**
CPCT				IAmb		IAmb	15 20 48.3	
	comp=Z,15nm,0.6s							
LCAR	**Lake Charles**	**22.10**	**358**	P		**P**	**15 20 47.1**	**+0.3**
WMOK	**Wichita Mounta**	**22.14**	**341**	P			15 20 46.7	
	baz=158,SNR=6.8							
WVT	**Waverly**	**22.25**	**5**	P			15 20 49.3	
	baz=186							
CLTN	**Cedars of Leba**	**22.39**	**8**	IAmb		IAmb	15 20 52.0	
	comp=Z,74nm,1.3s							
TKL	**Tuckaleechee C**	**22.45**	**14**	P		**P**	**15 20 51.0**	**+0.6**
	comp=Z,17nm,0.6s,baz=184,slow=10,SNR=17							
TKL				LR		LR	15 30 07.4	
	comp=Z,47nm,19.9s,baz=169,slow=38							
TKL	**Tuckaleechee C**	**22.45**	**14**	IAmb		IAmb	15 20 52.5	
	comp=Z,24nm,0.7s							
TUL1	**Leonard**	**22.48**	**348**	P			15 20 50.6	
	baz=166							
U40A	**Yellville**	**22.49**	**355**	P			15 20 51.0	
	baz=173							
MNTX	**Cornudas Mount**	**22.50**	**324**	P			15 20 51.5	
	baz=139							
OK025	**Westminster Rd**	**22.52**	**345**	P		**P**	**15 20 50.4**	**-0.8**
KMSC	**Kings Mountain**	**22.65**	**19**	P			15 20 52.4	
	baz=203							
OK031	**S. Brethren Rd**	**22.75**	**346**	P		**P**	**15 20 51.8**	**-1.6**
OK031				IAmb		IAmb	15 20 53.1	
	comp=Z,33nm,0.6s							
OK029	**Liberty Lake**	**22.75**	**345**	P		**P**	**15 20 52.3**	**-1.2**
U49A	**Red Boiling Sp**	**22.89**	**9**	IAmb		IAmb	15 20 56.8	
	comp=Z,34nm,0.8s							
MSTX	**Muleshoe**	**22.99**	**333**	P			15 20 55.2	
	baz=147							
TZTN	**Tazewell**	**23.35**	**14**	P			15 20 59.4	
	baz=196,SNR=6.3							
T50A	**Nancy**	**23.54**	**11**	IAmb		IAmb	15 21 02.9	
	comp=Z,24nm,0.7s							
T35A	**Sooner Cattle**	**23.60**	**347**	IAmb		IAmb	15 21 03.2	
	comp=Z,17nm,0.8s							
SIUC	**Southern Illin**	**23.75**	**2**	P		**P**	**15 21 02.3**	**-0.4**
SIUC				IAmb		IAmb	15 21 05.1	
	comp=Z,34nm,0.8s							
U54A	**Nelsons Funny**	**23.77**	**17**	P		**P**	**15 21 03.0**	**0.0**
OK032	**Salt Plains WL**	**23.90**	**344**	P		**P**	**15 21 03.0**	**-1.1**
OK032				IAmb		IAmb	15 21 04.5	
	comp=Z,33nm,0.7s							
ATAH	**Atahualpa**	**23.98**	**150**	P		**P**	**15 21 08.1**	**+2.6**
	comp=Z,18nm,0.8s,baz=334,slow=4.4,SNR=9.2							
V58A	**Windy Hill, Pi**	**24.01**	**23**	IAmb		IAmb	15 21 06.1	
	comp=Z,22nm,0.7s							
KAN09	**Caldwell North**	**24.06**	**345**	IAmb		IAmb	15 21 06.3	
	comp=Z,39nm,0.8s							
CCM	**Cathedral Cave**	**24.09**	**358**	P			15 21 06.1	
	baz=178							
KS20	**Mayfield South**	**24.14**	**346**	IAmb		IAmb	15 21 07.0	
	comp=Z,34nm,0.7s							
WCI	**Wyandotte Cave**	**24.50**	**8**	P			15 21 09.8	
	baz=189							
121A	**Cookes Peak, D**	**24.50**	**322**	P			15 21 10.8	
	baz=135,SNR=12							
WCI	**Wyandotte Cave**	**24.50**	**8**	P		**P**	**15 21 09.8**	**+0.3**
R49A	**Shelbyville**	**24.72**	**10**	IAmb		IAmb	15 21 12.5	
	comp=Z,15nm,0.7s							
OLIL	**Olney**	**24.82**	**4**	P		**P**	**15 21 12.6**	**+0.2**
BLA	**Blacksburg**	**24.84**	**19**	P			15 21 13.1	
	baz=203							
ANMO	**Albuquerque**	**25.56**	**328**	P		**P**	**15 21 20.6**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=165,slow=6.9,SNR=5.6							
ANMO				PcP		**PcP**	**15 24 48.4**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=149,slow=5.9,SNR=2.6							
ANMO	**Albuquerque**	**25.56**	**328**	P			15 21 19.4	
	baz=141							
P40A	**Paris**	**25.59**	**357**	IAmb		IAmb	15 21 20.8	
	comp=Z,15nm,0.8s							
Q51A	**Peebles**	**25.78**	**12**	IAmb		IAmb	15 21 23.7	
	comp=Z,25nm,0.6s							
P48A	**Milroy**	**25.83**	**9**	P		**P**	**15 21 20.8**	**-0.7**
P48A				IAmb		IAmb	15 21 21.8	
	comp=Z,15nm,0.7s							
P49A	**Miami Univ. Ec**	**26.01**	**10**	P			15 21 22.9	
	baz=192							
TUC	**Tucson**	**26.22**	**318**	P			15 21 23.8	
	baz=130							
T25A	**Trinidad**	**26.37**	**334**	P			15 21 24.7	
	baz=148							
SFIN	**Lafayette**	**26.54**	**5**	P			15 21 27.4	
	baz=187							
HDIL	**Hopedale**	**26.58**	**2**	P			15 21 28.1	
	baz=182							
MCWV	**Mont Chateau**	**27.26**	**18**	P			15 21 33.4	
	baz=202							
214A	**Organ Pipe Nat**	**27.37**	**315**	P			15 21 35.0	
	baz=126							
S22A	**4UR Ranch, Cre**	**27.96**	**331**	P			15 21 41.0	
	baz=144							
O56A	**Blue Knob Stat**	**28.21**	**19**	P			15 21 43.1	
	baz=204							
MVCO	**Mesa Verde**	**28.35**	**328**	P			15 21 44.2	
	baz=140							
N54A	**Moraine State**	**28.43**	**16**	P			15 21 44.7	
	baz=201							
M53A	**WI Miller and**	**28.69**	**15**	P			15 21 46.6	
	baz=200							

DUG	Dugway, Tooele	32.82	327	P			15 22 24.7	
	baz=137							
MPMC	Manual Prospec	32.91	317	P			15 22 25.4	
	baz=125							
H57A	Richville	33.01	20	P			15 22 24.4	
	baz=207							
J61A	Chester	33.07	24	P			15 22 25.7	
	baz=213							
D41A	Chassel	33.10	2	IAmb		IAmb	15 22 25.8	
	comp=Z,9.6nm,0.6s							
R11A	Troy Canyon, C	33.11	322	P			15 22 28.0	
	baz=131,SNR=5.8							
I60A	Shoreham	33.21	23	P			15 22 27.1	
	baz=211							
PDAR	Pinedale Array	33.24	334	P		P	15 22 27.7	+0.3
	comp=Z,0.2nm,0.4s,baz=121,slow=11,SNR=2.1							
PDAR				PcP		PcP	15 25 07.2	-0.2
	comp=Z,0.5nm,0.6s,baz=116,slow=2.1,SNR=3.8							
J62A	Henniker	33.27	25	P			15 22 27.1	
	baz=214							
SCZ2	Santa Cruz Isl	33.29	312	P			15 22 28.3	
	baz=120							
ISA	Isabella, Lake	33.35	316	P			15 22 29.2	
	baz=123							
GRAC	Grapevine Rang	33.38	318	P			15 22 29.7	
	baz=126							
H58A	Gabriels	33.38	21	P			15 22 27.4	
	baz=209							
LONY	Lake Ozonia	33.42	21	P			15 22 28.0	
	baz=208							
CWC	Cottonwood Cre	33.52	317	P			15 22 30.7	
	baz=125							
ALGO	Algonquin Park	33.59	15	P			15 22 29.7	
	baz=202							
J63A	Strafford	33.62	26	P			15 22 30.1	
	baz=215							
G57A	Newington	33.71	20	P			15 22 30.2	
	baz=207							
VES	Vestal, Richgr	33.86	315	P			15 22 33.3	
	baz=123							
PKM	Mcpherson Peak	33.87	313	P			15 22 33.3	
	baz=121,SNR=7.0							
TIN	Tinemaha, Big	33.97	318	P			15 22 34.5	
	baz=126							
EYMN	Ely	33.97	359	IAmb		IAmb	15 22 32.6	
	comp=Z,6.3nm,0.7s							
EYMN	Ely	33.97	359	P			15 22 31.8	
	baz=178,SNR=7.2							
I62A	Tamworth	34.00	25	P			15 22 33.1	
	baz=214							
SMMC	Simmler	34.21	314	P			15 22 36.6	
	baz=121							
REDW	Red Top Meadow	34.28	333	P		P	15 22 37.0	+0.5
REDW				IAmb		IAmb	15 22 39.8	
	comp=Z,14nm,1.4s							
I63A	Otisfield	34.45	25	P			15 22 37.7	
	baz=215							
ELK	Elko	34.52	326	P		P	15 22 40.0	+1.5
	comp=Z,1.3nm,0.7s,baz=145,slow=9.2,SNR=6.5							
AGMN	Agassiz Nation	34.62	353	P			15 22 38.0	
	baz=170,SNR=17							
G60A	Masonville	34.64	23	P			15 22 39.8	
	baz=212							
NV11	Mina Array Sit	34.73	320	IAmb		IAmb	15 22 44.0	
	comp=Z,8.9nm,0.8s							
NV11						PcP	15 25 13.1	+1.4
MDND	Maddock	34.74	349	P			15 22 39.8	
	baz=164							
NVAR	Mina Array Bea	34.83	320	P		P	15 22 43.3	+2.1
	comp=Z,10nm,0.7s,baz=133,slow=8.2,SNR=95							
NVAR				PcP		PcP	15 25 12.1	0.0
	comp=Z,2.3nm,0.7s,baz=139,slow=3.9,SNR=13							
NVAR				ScP		ScP	15 28 49.7	+2.0
	comp=Z,0.7nm,0.8s,baz=129,slow=5.6,SNR=4.8							
NVAR	Mina Array Bea	34.83	320	P		P	15 22 43.8	+2.6
NVAR				PcP		PcP	15 25 13.5	+1.4
MDPB	Devils Postpil	34.85	318	IAmb		IAmb	15 22 45.3	
	comp=Z,6.9nm,0.7s							
E56A	St. Veronique	34.98	18	P			15 22 42.1	
	baz=206							
RLMT	Red Lodge	35.06	336	P			15 22 41.7	
	baz=147							
KVN	Kaiserville	35.08	321	IAmb		IAmb	15 22 47.0	
	comp=Z,4.6nm,0.7s							
RYN	Ryan	35.08	320	IAmb		IAmb	15 22 46.7	
	comp=Z,4.9nm,0.9s							
G61A	St-Isidore-de-	35.10	23	P			15 22 41.9	
	baz=213							
D55A	Sainte-Anne-du	35.28	18	P			15 22 43.9	
	baz=205,SNR=5.2							
G62A	West of Eustis	35.43	24	P			15 22 45.6	
	baz=214							
H64A	Troy	35.51	26	P			15 22 44.9	
	baz=217							
D56A	ZEC Mazanza, M	35.52	18	P			15 22 46.7	
	baz=206							
F60A	Warwick	35.52	22	P			15 22 46.3	
	baz=212							
WAKR	Walker	35.59	319	P		P	15 22 50.2	+2.5
WAKR				IAmb		IAmb	15 22 51.3	
	comp=Z,5.5nm,0.8s							
G63A	Kingsbury	35.72	25	P			15 22 48.2	
	baz=216							
YERR	Yerington	35.75	320	IAmb		IAmb	15 22 52.4	
	comp=Z,6.5nm,0.9s							
H65A	Eastbrook	35.98	27	P			15 22 50.3	
	baz=218							
PKME	Peaks-Kenny Pk	35.98	25	P			15 22 50.2	
	baz=216							
PNTR	Pine Nut	36.03	320	P		P	15 22 54.5	+3.0
PNTR				IAmb		IAmb	15 22 55.4	
	comp=Z,10nm,0.7s							
E60A	Ste Agathe de	36.04	22	P			15 22 49.7	
	baz=212							
HLID	Hailey	36.10	330	P			15 22 52.6	
	baz=138							
D58A	Chemin du LacG	36.16	20	P			15 22 51.7	
	baz=209							
G64A	Maxfield	36.20	26	P			15 22 51.7	
	baz=217							
DGMT	Dagmar	36.36	344	P			15 22 54.6	
	baz=157							
BOZ	Bozeman (W)	36.41	334	P			15 22 54.9	
	baz=143,SNR=5.9							
F63A	Nahmakanta, Br	36.41	25	P			15 22 53.5	
	baz=216							
ULM	Lac du Bonnet	36.55	354	P		P	15 22 54.2	-1.3
	comp=Z,11nm,0.5s,baz=171,slow=8.9,SNR=14							
ULM				LR		LR	15 40 04.3	
	comp=Z,46nm,18.5s,baz=295,slow=40							
G65A	Princeton	36.67	27	P			15 22 55.8	
	baz=219							
D60A	Saint Jean D'O	36.70	22	P			15 22 55.8	
	baz=212							
LSQQ	Lebel-sur-Quev	36.74	15	P			15 22 56.7	
	baz=202							
F64A	Sherman	36.85	26	P			15 22 58.1	
	baz=217							
BEKR	Beckworth	36.97	320	P		P	15 23 01.1	+1.7
BEKR				IAmb		IAmb	15 23 03.0	
	comp=Z,7.4nm,0.9s							
E62A	Clayton Lake	36.99	24	P			15 22 58.7	
	baz=215							
LPAZ	La Paz	37.12	143	P		P	15 23 01.6	+0.3
	comp=Z,2.4nm,0.6s,baz=330,slow=9.0,SNR=8.9							
LPAZ	La Paz	37.12	143	P		P	15 23 01.5	+0.2
D61A	St Aubert, Com	37.21	23	P			15 23 00.5	
	baz=213							
MATQ	Matagami	37.24	14	P			15 23 00.5	
	baz=200,SNR=13							
E63A	Oxbow	37.27	25	P			15 23 00.7	
	baz=216							
E64A	Bridgewater	37.52	26	P			15 23 02.5	
	baz=217							
D62A	Allapoint, All	37.55	24	P			15 23 03.3	
	baz=215							
EGMT	Eagleton	37.69	339	P			15 23 05.1	
	baz=148							
D63A	Stockholm	37.89	25	P			15 23 06.3	
	baz=216							
O03E	Paynes Creek	38.12	320	P			15 23 09.4	
	baz=125							
CHGQ	Chibougamau	38.20	17	P			15 23 08.5	
	baz=205							
MSO	Missoula	38.36	334	P			15 23 11.6	
	baz=141							
O02D	Mt. Diablo Mer	38.67	319	P			15 23 14.5	
	baz=123							
N02D	Trinity Center	39.07	320	P			15 23 16.9	
	baz=124							
M02C	Callahan	39.39	320	P			15 23 19.6	
	baz=124							
YBH	Yreka Blue Hor	39.50	321	P		P	15 23 20.9	+0.4
	comp=Z,2.0nm,0.7s,baz=138,slow=4.8,SNR=9.3							
L04D	Klamath Falls	39.53	322	P			15 23 21.1	
	baz=126							
J04D	Umpqua Nationa	40.03	323	P			15 23 25.8	
	baz=127							
L02E	Cave Junction	40.29	321	P			15 23 27.2	
	baz=124							
G05D	Wamic, OR	40.83	326	P			15 23 31.0	
	baz=130							
I03D	Drain, OR	41.02	323	P			15 23 33.3	
	baz=126							
J01E	Myrtle Point	41.06	322	P			15 23 32.8	
	baz=125							
SIV	San Ignacio	41.41	135	P		P	15 23 36.2	-0.2
	comp=Z,2.3nm,0.7s,baz=319,slow=10,SNR=9.2							
SIV				PcP		PcP	15 25 32.3	-0.3
	comp=Z,1.3nm,0.5s,baz=344,slow=3.5,SNR=5.9							
FFC	Flin Flon	41.76	350	P		P	15 23 37.6	-1.2
SCHQ	Schefferville	44.76	19	P		P	15 24 01.2	-1.6
	comp=Z,11nm,0.6s,baz=222,slow=6.5,SNR=19							
SCHQ	Schefferville	44.76	19	P		P	15 24 01.9	-1.0
SCHQ				IAmb		IAmb	15 24 02.7	
	comp=Z,12nm,0.8s							
YKA	Yellowknife Ar	51.53	346	P		P	15 24 53.9	-0.9
	comp=Z,2.9nm,1.0s,baz=144,slow=8.1,SNR=9.4							
YKA				pP		pP	15 25 20.4	-0.9
	comp=Z,1.1nm,0.9s,baz=142,slow=8.7,SNR=2.4							
PLCA	Paso Flores	57.34	162	P		P	15 25 37.5	+0.3
	comp=Z,1.8nm,0.9s,baz=336,slow=8.9,SNR=4.1							
L27K	Beaver Creek,	60.83	336	P			15 26 00.5	
	baz=119							
SEW	Seward	62.89	331	P			15 26 14.5	
	baz=110							
SML	Sawmill	63.01	333	P			15 26 15.4	
	baz=112							
WAT6	Susitna Watana	63.05	334	P			15 26 15.7	
	baz=113							
ILAR	Eielson Array	63.61	336	P		P	15 26 18.8	-0.6
	comp=Z,0.7nm,0.7s,baz=145,slow=4.4,SNR=6.6							
TRF	Thorofare Moun	64.46	334	P			15 26 25.3	
	baz=111							
SKT	Skwentna	64.48	333	P			15 26 25.5	
	baz=109							
I23K	Minto, Yukon-K	64.72	336	P			15 26 25.9	
	baz=113							
BPAW	Bear Paw Mtn.	64.98	335	P			15 26 27.5	
	baz=111							
H23K	Yukon River	65.06	337	P			15 26 28.2	
	baz=113							
PPLA	Purkeypile	65.08	334	P			15 26 28.7	
	baz=109							
MLY	Manley	65.22	336	P			15 26 29.4	
	baz=111							
N19K	Bonanza Creek	65.48	331	P			15 26 31.6	
	baz=106							
I21K	Tanana	65.77	336	P			15 26 33.2	
	baz=110							
COLD	Coldfoot	65.85	338	P			15 26 33.5	
	baz=113							
EKA	Eskdalemuir Ar	77.07	36	P		P	15 27 38.7	-2.8
	comp=Z,0.8nm,0.6s,baz=270,slow=4.8,SNR=4.7							
EKA				pP		pP	15 28 09.2	-0.4
	comp=Z,0.6nm,0.5s,baz=263,slow=4.0,SNR=2.4							
ESDC	Sonseca Array	78.47	52	P		P	15 27 47.0	-2.7
	comp=Z,0.6nm,0.9s,baz=294,slow=5.0,SNR=4.9							
ESDC				pP		pP	15 28 18.8	+0.9
	comp=Z,0.1nm,0.4s,baz=308,slow=6.3,SNR=2.5							
ARCES	ARCESS Array B	85.71	19	P		P	15 28 27.6	+0.7
	comp=Z,0.3nm,0.5s,baz=343,slow=3.8,SNR=4.5							
PETK	Petropavlovsk-	91.68	326	P		P	15 28 55.1	-0.3
	comp=Z,1.4nm,0.8s,baz=91,slow=9.2,SNR=4.1							
KURBB	Kurchatov Arra	115.02	8	PKP		PKiKP	15 34 27.9	-0.7
	comp=Z,0.4nm,0.4s,baz=1.2,slow=1.8,SNR=4.7							
BOSA	Boshof	118.79	115	PKP		PKPdf	15 34 35.8	-0.9
	comp=Z,3.2nm,0.9s,baz=200,slow=5.9,SNR=3.2							
MKAR	Makanchi Array	119.23	6	PKP		PKPdf	15 34 35.6	-1.3
	comp=Z,0.5nm,0.8s,baz=52,slow=3.4,SNR=2.9							
WRA	Warramunga Ar	136.99	256	PKP		PKPdf	15 35 11.0	-0.3
	comp=Z,3.0nm,0.9s,baz=81,slow=2.0,SNR=7.9							
FITZ	Fitzroy Crossi	145.26	258	PKPbc		PKPab	15 35 27.6	+1.2
	comp=Z,4.1nm,1.0s,baz=360,slow=4.5,SNR=12							
CMAR	Chiang Mai Arr	146.60	344	PKPbc		PKPdf	15 35 28.8	+0.3
	comp=Z,1.6nm,0.5s,baz=338,slow=3.2,SNR=11							

IDC ***27*** *15:21:53.5±1.0,33.°60N×69.°53E,h0km,mb3.7/10, mb1 3.9/15,mb1mx3.7/59,mbtmp3.8/15,ML3.7/5,MS3.5/4, Ms1 3.5/4,ms1mx3.0/55,Error ellipse: s-maj=24.9km s-min=19.7km az=79.0*

NNC ***27*** *15:21:56.8±3.6,33.°34N×69.°79E,h48km±50km,mb4.1, Error ellipse: s-maj=39.7km s-min=25.3km az=59.0*

ISC 27 15:21:56.6±0.9,33°46N±0.°08×69.7°E±0.°1,h26km,n31, σ1s37°/31,mb3.7/10,MS3.8/3,3C-3D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	9.65	4	P		Pn	15 24 13.1	-0.7
	3.8nm,0.6s,baz=195,slow=11,SNR=55							
KK31				S		Sn	15 26 03.7	+2.4
	4.7nm,0.6s,baz=192,slow=24,SNR=4.0							
AAK	Ala-Archa	9.91	21	Pn		Pn	15 24 18.5	+1.0
	1.2nm,0.3s,baz=202,slow=7.6,SNR=13							
AAK				Sn		Sn	15 26 06.6	-1.4
	0.7nm,0.3s,baz=355,slow=17,SNR=4.1							
AAK	Ala-Archa	9.91	21	↑P		Pn	15 24 18.6	+1.1
	8.8nm,0.8s							
AAK				↓S		Sn	15 26 09.1	+1.1
	20nm,0.8s							
GEYT	Alibeck	10.41	299	LR		LR	15 29 07.9	
	comp=Z,103nm,18.5s,baz=65,slow=42							
TKM2	Tokmak 2	10.53	24	↑P		Pn	15 24 26.9	+1.0
	6.6nm,0.9s							
MDOK	Medeo	11.28	29	↓P		Pn	15 24 36.9	+0.7
	7.2nm,1.0s							
PDGK	Podgornoye	12.49	35	↑P		Pn	15 24 52.0	-0.7
	4.8nm,0.8s							
DANN	Dangsing	13.11	109	eP		Pn	15 25 02.2	+0.8
GKN	Gorkha	13.96	109	eP		Pn	15 25 13.3	+0.4
	28nm,0.6s							
KKN	Kakani	14.56	109	eP		Pn	15 25 19.7	-1.5
	54nm,0.6s							
PKIN	Phulchoki	14.75	109	eP		Pn	15 25 22.1	-1.7
	50nm,0.7s							
PKI	Pulchoki	14.76	109	eP		Pn	15 25 22.2	-1.8
	58nm,0.7s							
OTUK	Ortayu	14.90	7	↓P		Pn	15 25 25.5	0.0
	6.3nm,1.2s							
MK31	Makanchi Array	16.41	32	P		Pn	15 25 43.1	-2.0
	0.9nm,0.6s,baz=221,slow=17,SNR=31							
MKAR	Makanchi Array	16.41	32	Pn		Pn	15 25 43.7	-1.3
	0.2nm,0.3s,baz=210,slow=9.9,SNR=22							
AB31	Akbulak array	17.37	338	P		P	15 25 58.5	+0.3
	0.6nm,0.4s,baz=153,slow=14,SNR=16							
KURBB	Kurchatov Arra	18.34	18	P		P	15 26 07.0	-1.9
	0.1nm,0.3s,baz=209,slow=11,SNR=13							
AKTO	Aktyubinsk	19.01	337	P		P	15 26 16.4	+0.1
	0.2nm,0.3s,baz=154,slow=12,SNR=8.0							
BVAR	Borovoye Array	19.56	1	P		P	15 26 21.7	-0.6
	0.7nm,0.3s,baz=133,slow=11,SNR=13							
ZALV	Zalesovo Beam	23.13	23	P		P	15 26 58.9	-1.6
	2.1nm,0.5s,baz=213,slow=11,SNR=5.6							
ARU	Arti	24.22	345	P		P	15 27 10.7	-0.2
	0.6nm,0.4s,baz=118,slow=12,SNR=4.5							
ARU				LR		LR	15 36 49.6	
	comp=Z,59nm,18.7s,baz=133,slow=37							
PALK	Pallekele	27.99	156	LR		LR	15 40 10.7	
	comp=Z,227nm,18.5s,baz=190,slow=39							
FINES	FINESS Array B	39.45	329	P		P	15 29 24.6	+0.3
	0.3nm,0.7s,baz=123,slow=15,SNR=4.3							
ARCES	ARCESS Array B	43.57	339	P		P	15 29 57.8	-0.1
	1.5nm,0.7s,baz=121,slow=8.9,SNR=6.3							
NOA	NORSAR Array B	46.20	325	P		P	15 30 17.5	-1.5
	1.0nm,0.8s,baz=99,slow=7.9,SNR=7.0							
MA2	Magadan	57.43	37	LR		LR	15 57 02.9	
	comp=Z,80nm,18.4s,baz=303,slow=37							
TORD	Torodi Ar. Bea	64.58	269	P		P	15 32 30.6	-1.3
	1.5nm,1.1s,baz=32,slow=7.0,SNR=4.2							
ILAR	Eielson Array	77.99	15	P		P	15 33 52.4	+0.2
	0.4nm,0.8s,baz=287,slow=4.2,SNR=4.4							
WRA	Warramunga Ar	81.34	121	P		P	15 34 13.9	+2.8
	0.5nm,0.8s,baz=323,slow=4.9,SNR=7.3							
ASAR	Alice Springs	83.44	124	P		P	15 34 24.1	+2.2
	0.3nm,0.7s,baz=304,slow=4.8,SNR=5.9							
YKA	Yellowknife Ar	84.32	2	P		P	15 34 26.5	+0.6
	0.3nm,0.3s,baz=351,slow=4.7,SNR=3.0							

IDC ***27*** *15:29:42.0±4.2,5.°29S×153.°24E,h46km±37km,mb3.7/8, mb1 3.8/9,mb1mx3.6/43,mbtmp3.9/9,ML1.8/1,MS4.0/1, Ms1 4.0/1,ms1mx3.0/32,Error ellipse: s-maj=26.7km s-min=22.9km az=62.0*

ISC 27 15:29:40.7±0.9,5.°2S±0.°1×153.°3E±0.°1,h35km,n13, σ0s89°/13,mb4.0/8,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.39	235	P		Pn	15 31 27.1	+1.0
	0.9nm,0.3s,baz=255,slow=18,SNR=1.6							
PMG				S		Sn	15 32 48.7	0.0
	1.1nm,0.3s,baz=73,slow=24,SNR=2.3							
DZM	Mont Dzumac	21.03	144	P		P	15 34 22.4	+0.8
	7.4nm,0.5s,baz=289,slow=11,SNR=15							
DZM				LR		LR	15 41 03.6	
	comp=Z,378nm,20.5s,baz=120,slow=32							
WRA	Warramunga Arr	23.56	230	P		P	15 34 46.8	-1.4
	0.8nm,0.4s,baz=54,slow=9.8,SNR=15							
WRA				PcP		PcP	15 38 33.8	+0.7
	0.6nm,1.0s,baz=55,slow=2.2,SNR=5.4							
ASAR	Alice Springs	26.20	224	P		P	15 35 11.3	-1.0
	0.5nm,0.7s,baz=56,slow=9.7,SNR=13							
ASAR				PcP		PcP	15 38 38.6	-0.2
	0.6nm,1.0s,baz=62,slow=1.7,SNR=5.8							
H11S3	WAKE ISLAND Hy	27.00	29	T		T	16 03 37.8	
	baz=210,slow=76,SNR=3.2							
H11S2	WAKE ISLAND Hy	27.00	29	T		T	16 03 39.1	
	baz=210,slow=76,SNR=3.7							
H11S1	WAKE ISLAND Hy	27.02	29	T		T	16 03 37.5	
	baz=210,slow=76,SNR=3.4							
FITZ	Fitzroy Crossi	29.91	242	P		P	15 35 44.4	-1.1
	3.8nm,0.9s,baz=71,slow=10,SNR=7.4							
PETK	Petropavlovsk-	58.22	3	P		P	15 39 30.8	-0.5
	1.1nm,0.7s,baz=186,slow=12,SNR=2.9							
CMAR	Chiang Mai Arr	58.51	295	P		P	15 39 34.8	+0.8
	1.7nm,0.7s,baz=126,slow=5.4,SNR=8.1							
SONM	Songino Array	66.94	328	P		P	15 40 30.2	+0.4
	0.7nm,0.6s,baz=145,slow=5.3,SNR=4.1							
VNDA	Vanda	72.40	178	P		P	15 41 02.6	-0.2
	0.6nm,0.8s,baz=334,slow=7.8,SNR=3.8							
TORD	Torodi Ar. Bea	150.92	288	PKPbc		PKPbc	15 49 30.1	-0.6
	1.9nm,0.5s,baz=42,slow=2.2,SNR=11							

GRAL ***27*** *15:33:58.2±1.2,28.°45N×34.°81E,h19km±999km,MD5.1*

MOS ***27*** *15:33:59.8±1.1,28.°89N×34.°73E,h12km,mb5.3/55, MS4.8/32,Error ellipse: s-maj=5.4km s-min=3.0km az=87.4*

GII ***27*** *15:33:59.6±0.0,28.°88N×34.°71E,h4km,mb5.3/2,MD5.5/3, Mm5.5/3*

BJI ***27*** *15:34:00.0±0.0,28.°90N×34.°70E,h10km,mB5.3/49, mb4.9/62,Ms5.3/54,Ms7 5.0/52*

SGS ***27*** *15:34:02.2,28.°94N×34.°66E,h21km,Ml5.8*

MED_RC ***27*** *15:34:02.0±0.2,28.°82N×34.°57E,h25km,MW5.5/44, Moment Tensor Solution. Body waves: s27,c32;Mantle waves: s44,c90; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr=0.26±.04; Mθθ-1.55±.04; Mφφ 1.81±.04; Mrθ 0.01±.05; Mθφ-1.93±.04; Mφr 0.24±.06; Best double couple: M=2.57000×10^17 NP1:φ=290.00000°,δ85.00000°, λ179.00000°. NP2:φ=21.00000°,δ89.00000°,λ5.00000°. Principal axes: T 2.7000, Plg4.0000°, Azm246.0000°; N -0.2700, Plg85.0000°, Azm29.0000°; P -2.4300, Plg3.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

BGR ***27*** *15:34:02.1±0.0,28.°52N×34.°47E,h33km,mb5.1,Ms4.5*

NEIC ***27*** *15:34:03.7,29.°02N×34.°69E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.09; Mθθ-1.34; Mφφ 1.25; Mrθ=0.10; Mθφ-1.74; Mφr=0.13; Fault plane solution: M=2.18000×10^17 NP1:φ=288.37000°, δ86.02000°,λ-178.70000°. NP2:φ=198.28000°, δ88.70000°,λ-3.98000°. Principal axes: T 2.1301, Plg2.0000°, Azm243.0000°; N 0.0954, Plg86.0000°, Azm0.0000°; P -2.2256, Plg4.0000°, Azm153.0000°;*

NEIC ***27*** *15:34:04.0±1.6,29.°04N±0.°07×34.°67E±0.°09,h22km±1km, mb5.2/61,Ms_20 5.0/507,Mwb5.5/40,Mwc5.6(GCMT) Error ellipse: s-maj=13.2km s-min=11.9km az=247.0*

IDC ***27*** *15:34:03.7±1.9,29.°00N×34.°72E,h24km±12km,mb4.4/40, mb1 4.5/46,mb1mx4.5/64,mbtmp4.6/46,ML4.3/6,MS4.8/41, Ms1 4.8/41,ms1mx4.8/49,Error ellipse: s-maj=10.5km s-min=8.8km az=120.0*

GCMT ***27*** *15:34:03.0±0.1,28.°83N±0.°01×34.°62E±0.°01,h28km, MW5.6/145,Moment Tensor Solution. s120,c213; s145,c288; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=0.10±.03; Mθθ-1.69±.03; Mφφ 1.80±.03; Mrθ 0.30±.06; Mθφ-2.04±.03; Mφr-0.25±.06; Best double couple: M=2.71100×10^17 NP1:φ=200.00000°,δ82.00000°, λ2.00000°. NP2:φ=110.00000°,δ88.00000°,λ172.00000°. Principal axes: T 2.7820, Plg7.0000°, Azm65.0000°; N -0.1330, Plg82.0000°, Azm274.0000°; P -2.6410, Plg4.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

JSO ***27*** *15:34:03.9±1.1,29.°N±7.°×3.°5E±.°,h11km±5km,mb5.2/10, mB5.5/10,MlV6.1/12,Mw5.5/7,Mw(mB)5.0/10, MwMwp5.2/7*

NEIC ***27*** *15:34:05,28.°83N×34.°62E,h26km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.27; Mθθ-1.62; Mφφ 1.89; Mrθ=0.30; Mθφ-2.04; Mφr=0.15; Fault plane solution: M=2.72000×10^17 NP1:φ=291.00000°, δ84.00000°,λ-174.00000°. NP2:φ=200.00000°, δ84.00000°,λ-6.00000°. Principal axes: T 2.8274, Plg0.0000°, Azm245.0000°; N -0.2249, Plg82.0000°, Azm337.0000°; P -2.6025, Plg8.0000°, Azm155.0000°;*

ISC 27 15:34:02.6±0.5,28.°97N±0.°02×34.°70E±0.°03,h14km±2km, n1043,σ1s90°/960,mb5.1/183,MS5.0/327,52C-72D,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAQS	Haql	0.21	66	P		Pb	15 34 08.2	0.0
HQLS		0.46	43	P		Pb	15 34 12.1	-0.5
HQLS				S		Sb	15 34 19.1	-0.1
BDAS	Al Bad`	0.64	147	P		Pg	15 34 14.1	-1.0
RSHS		0.67	173	P		Pg	15 34 14.5	-1.2
RSHS				S		Sg	15 34 23.3	-1.2
EIL	Elat	0.73	17	Pg		Pb	15 34 16.9	-0.3
	baz=188,slow=11							
EIL	Elat	0.73	17	Pg		Pg	15 34 16.2	-0.8
EIL				Sg		Sb	15 34 27.2	+0.1
EIL	Elat	0.73	17	P		Pg	15 34 16.5	-0.5

DSI	Dead Sea	2.66	13	P		Pn	15 34 44.5	-0.6	
WJHS		2.68	146	P		Pn	15 34 43.2	-2.1	
BIDS	Bi'r al Bayda'	2.89	136	P		Pn	15 34 46.5	-1.7	
QLABS	Al Qalibar	3.05	110	P		Pn	15 34 49.3	-1.2	
SLTI	Sal'it	3.28	5	Pn		Pn	15 34 53.2	-0.4	
SLTI	Sal'it	3.28	5	P		Pn	15 34 53.5	-0.1	
EWJHS	Al Wajh	3.29	148	P		Pn	15 34 51.3	-2.4	
URD03	Al Ula	3.34	133	P		Pn	15 34 54.3	-0.1	
HMDT	Nahal Hemdat	3.35	12	Pn		Pn	15 34 53.8	-0.8	
HMDT	Nahal Hemdat	3.35	12	P		Pn	15 34 53.9	-0.7	
JOFS	JOFS	3.44	82	P		Pn	15 34 55.6	-0.2	
MMLI	Mount Malkishu	3.52	10	*eP*		Pn	15 34 56.3	-0.6	
MMLI	Mount Malkishu	3.52	10	Pn		Pn	15 34 56.5	-0.4	
OFRI	`Ofer	3.65	4	Pn		Pn	15 34 58.5	-0.2	
OFRI	`Ofer	3.65	4	P		Pn	15 34 59.0	+0.3	
OLAS	OLAS	3.75	136	P		Pn	15 34 58.9	-1.3	
BLGI	Bet Lehem HaGe	3.78	6	Pn		Pn	15 35 00.2	-0.2	
BLGI	Bet Lehem HaGe	3.78	6	P		Pn	15 35 01.0	+0.6	
BLGI						P	Pn	15 35 01.0	+0.6
HANO	Al Hamad	3.96	52	P		Pn	15 35 00.9	-2.2	
MMAI	Mount Meron Ar	4.08	8	Pn		Pn	15 35 04.5	-0.1	
	64nm,0.3s,baz=176,slow=14,SNR=213								
MMAI				Pg		Pg	15 35 19.2	-1.7	
	805nm,0.3s,baz=173,slow=15,SNR=42								
MMAI				Lg		Lg	15 36 10.8		
	1µm,0.3s,baz=180,slow=27,SNR=7.0								
MMAI				LR		LR	15 36 26.4		
	comp=Z,6µm,21.6s,baz=110,slow=35								
HNTI	Hanita	4.12	6	P		Pn	15 35 05.5	+0.3	
HNTI				P		Pb	15 35 05.6	-9.4	
GEM	Giv'at Ha'Em	4.31	11	Pn		Pn	15 35 07.0	-0.8	
GEM	Giv'at Ha'Em	4.31	11	P		Pn	15 35 08.0	+0.2	
GEM				P		Pn	15 35 08.0	+0.2	
NATI	Neve Ativ	4.38	11	Pn		Pn	15 35 08.5	-0.1	
NATI	Neve Ativ	4.38	11	P		Pn	15 35 08.7	+0.1	
NATI				P		Pn	15 35 08.7	+0.1	
SHBL	Chebaa	4.46	11	*eP*		Pn	15 35 10.0	0.0	
LNY04	LNY04	4.52	144	P		Pn	15 35 08.8	-1.9	
LNY11	LNY11	4.55	142	P		Pn	15 35 08.9	-2.2	
LNY07	LNY07	4.60	146	P		Pn	15 35 09.6	-2.1	
QRWL	Qaraoun	4.64	10	*eP*		Pn	15 35 12.8	+0.4	
LNY01	LNY01	4.73	141	P		Pn	15 35 12.0	-1.5	
LNY05	LNY05	4.73	145	P		Pn	15 35 12.3	-1.3	
LNY02	LNY02	4.74	143	P		Pn	15 35 11.7	-2.1	
DQRL	Deir Qamar	4.78	9	*eP*		Pn	15 35 14.6	+0.3	
DQRL				*eS*		Sn	15 36 11.2	+1.6	
LNY08	LNY08	4.82	144	P		Pn	15 35 13.3	-1.6	
KBR13	Birmah	4.87	130	P		Pn	15 35 14.7	-0.8	
BEYL	Beirut	4.94	8	*eP*		Pn	15 35 17.1	+0.8	
BHL	Bhannes	4.99	9	*eP*		Pn	15 35 17.5	+0.3	
BHL				*eS*		Sn	15 36 16.8	+2.1	
KBR12	Shajwa	5.19	132	P		Pn	15 35 18.7	-1.1	
KBR08	Khaybar	5.34	126	P		Pn	15 35 21.8	-0.1	
HWQ	Hawqa	5.40	11	*eP*		Pn	15 35 23.8	+1.0	
HWQ				*eS*		Sn	15 36 25.3	+0.4	
KBR11	Shajwa	5.58	134	P		Pn	15 35 24.4	-0.9	
KBR03	Khaybar	5.62	123	P		Pn	15 35 25.8	-0.1	
KBR07	Khaybar	5.62	130	P		Pn	15 35 25.6	-0.3	
HIL03	Ash Shuqayq	5.64	106	P		Pn	15 35 25.4	-0.8	
KBR01	Khaybar	5.71	127	P		Pn	15 35 27.7	+0.5	
KBR04	Khaybar	5.78	120	P		Pn	15 35 27.5	-0.6	
KBR05	Khaybar	6.02	123	P		Pn	15 35 31.6	+0.2	
CSS	Mathiatis	6.09	349	*eP*		Pn	15 35 31.2	-1.0	
CSS	Mathiatis	6.09	349	Pn		Pn	15 35 30.7	-1.5	
CSS	Mathiatis	6.09	349	Pn		Pn	15 35 29.4	-2.9	
CSS	Mathiatis	6.09	349	P		Pn	15 35 31.7	-0.5	
	3.2nm30µm6µm313nm,0.5s								
AKIN	Akıncılar- Kıb	6.12	350	*eP*		Pn	15 35 31.8	-0.9	
BADR	Badr	6.18	144	P		Pn	15 35 32.9	-0.5	
LEF	Lefka	6.33	346	*eP*		Pn	15 35 34.8	-0.6	
LFK	Lefkose	6.37	351	*eP*		Pn	15 35 35.6	-0.5	
AKDN	Akdeniz- Kıbrı	6.48	347	*eP*		Pn	15 35 36.5	-1.1	
EREN	Erenkoy	6.56	356	*eP*		Pn	15 35 37.7	-1.0	
YAYL	Yayladag	7.15	9	*eP*		Pn	15 35 47.9	+1.1	
HIL01	Al Amaaer	7.19	114	P		Pn	15 35 47.9	+0.5	
HIL04	Ash Shaalaniya	7.20	98	P		Pn	15 35 47.2	-0.3	
AKKU	Akkuyu-Mersin	7.24	353	*eP*		Pn	15 35 47.6	-0.4	
TEKE	Tekeli-Mersin	7.28	350	*eP*		Pn	15 35 47.8	-0.8	
IKL	Isikli	7.30	354	*eP*		Pn	15 35 48.2	-0.6	
SILI	Silifke-Mersin	7.41	355	*eP*		Pn	15 35 50.0	-0.3	
BERE	Bereket-Mersin	7.47	351	*eP*		Pn	15 35 50.8	-0.4	
TAHT	Tahtakopru-Hat	7.50	9	*eP*		Pn	15 35 52.2	+0.7	
KEBE	Keben-Mersin	7.51	354	*eP*		Pn	15 35 51.5	-0.2	
KIZK	Mersin	7.51	357	*eP*		Pn	15 35 50.3	-1.4	
TEVE	Tevekalti-Mers	7.53	352	*eP*		Pn	15 35 51.6	-0.4	
KRTS	Karatas	7.61	4	*eP*		Pn	15 35 53.5	+0.5	
MERS	Mersin	7.88	359	*eP*		Pn	15 35 56.5	-0.4	
CEYT	Ceyhan	8.07	6	*eP*		Pn	15 36 00.1	+0.7	
ARSS	Ar Rass	8.18	110	P		Pn	15 36 01.2	+0.3	
KRMN	Karaman	8.28	352	*eP*		Pn	15 36 01.6	-0.7	
KARA	Karaisali	8.28	2	*eP*		Pn	15 36 02.3	+0.1	
AKAS	Kas	8.43	331	*eP*		Pn	15 36 01.8	-2.6	
GAZ	Gaziantep	8.45	14	*eP*		Pn	15 36 05.7	+1.0	
GAZ	Gaziantep	8.45	14	Pn		Pn	15 36 03.0	+1.7	
KOZT	Kozan	8.54	6	*eP*		Pn	15 36 06.3	+0.4	
ANTB	Antalya	8.61	338	*eP*		Pn	15 36 04.9	-1.9	
CMRD	Camardi-Nigde	8.68	2	*eP*		Pn	15 36 07.9	+0.1	
KMRS	Kahramanmaras	8.71	12	*eP*		Pn	15 36 09.6	+1.4	
ELL	Elmali	8.74	334	*eP*		Pn	15 36 06.3	-2.5	
ELL	Elmali	8.74	334	P		Pn	15 36 07.4	-1.4	
ELL	Elmali	8.74	334	Pn		Pn	15 36 07.4	-1.4	
SEYD	Seydisehir-KON	8.75	345	*eP*		Pn	15 36 07.7	-1.1	
KORT	Korkueli	8.81	337	*eP*		Pn	15 36 07.6	-2.0	
FETY	Fethiye	8.99	330	P		Pn	15 36 09.6	-2.4	
FETY	Fethiye	8.99	330	*eP*		Pn	15 36 09.1	-2.9	
BCK	Bucak	9.15	339	*eP*		Pn	15 36 12.7	-1.5	
CAME	Cameli-Denizli	9.16	332	*eP*		Pn	15 36 12.3	-2.1	
KONT	Konya--Tatoy	9.17	348	*eP*		Pn	15 36 12.9	-1.6	
SULT	Sultanhani-AKS	9.26	354	*eP*		Pn	15 36 14.6	-1.2	
DALY	Dalyan (Mula)	9.34	329	*eP*		Pn	15 36 13.8	-2.9	
GULA	Gulagac	9.36	358	*eP*		Pn	15 36 16.8	-0.6	
LADK	Ladik-KONYA	9.41	349	*eP*		Pn	15 36 16.7	-1.2	
ISP	Isparta	9.50	340	P		Pn	15 36 17.8	-1.3	
ISP	Isparta	9.50	340	Pn		Pn	15 36 17.8	-1.3	
SARI	SarD1z-Kayseri	9.53	8	*eP*		Pn	15 36 19.7	+0.2	
YER	Yerkesik	9.77	328	P		Pn	15 36 22.6	-0.1	
DAT	Datca	9.79	324	P		Pn	15 36 20.1	-2.9	
LAST	Lasithi	9.97	311	P		Pn	15 36 26.0	+0.5	
BODT	Bodrum	10.18	324	P		Pn	15 36 23.6	-4.7	
IDI	Anoyia	10.44	310	Pn		Pn	15 36 29.7	-2.1	
	6.6nm,0.3s,baz=126,slow=13,SNR=23								
IDI				Sn		Sn	15 38 21.4	-7.2	
	6.2nm,0.3s,baz=29,slow=22,SNR=5.7								
IDI	Anoyia	10.44	310	P		Pn	15 36 32.4	+0.5	
IDI	Anoyia	10.44	310	Pn		Pn	15 36 30.5	-1.3	
IDI	Anoyia	10.44	310	P		Pn	15 36 31.5	-0.4	
	12µm2µm195nm,0.6s								
IDI	Anoyia	10.44	310	P		Pn	15 36 30.6	-1.3	
SANT	Santorini	10.73	316	Pn		Pn	15 36 33.3	-2.5	
GVD	Gavdhos	10.75	306	P		Pn	15 36 34.9	-1.2	
GVDS	Gavdos	10.75	306	P		Pn	15 36 38.8	+2.7	
RST	Umm Al-Ruwaisa	10.75	84	*eP*		Pn	15 36 35.5	-0.7	
KULA	Kula-Manisa	10.77	334	P		Pn	15 36 34.4	-2.0	
BR131	Keskin Array S	10.77	356	P		Pn	15 36 37.4	+0.9	
BR131	Keskin Array S	10.77	356	Pn		Pn	15 36 37.4	+0.9	
BR131	Keskin Array S	10.77	356	P		Pn	15 36 38.1	+1.5	
	SNR=16								
BR131				P		Pn	15 36 38.1	+1.5	
	SNR=16								
BR131				S		Sn	15 38 41.1	+4.2	
BR131				S		Sn	15 38 41.1	+4.2	
BRTR	Keskin Array B	10.77	356	Pn		Pn	15 36 36.9	+0.4	
	0.6nm,0.3s,baz=170,slow=15,SNR=23								
BRTR				LR		LR	15 41 13.8		
	comp=Z,9µm,18.8s,baz=180,slow=40								
BRTR	Keskin Array B	10.77	356	P		Pn	15 36 36.7	+0.2	
BRTR	Keskin Array B	10.77	356	Pn		Pn	15 36 36.7	+0.2	
THR3	Thira Island,	10.79	316	P		Pn	15 36 36.4	-0.2	
THR5	Thira Island,	10.83	316	P		Pn	15 36 33.7	-3.5	
SMG	Samos	10.92	325	P		Pn	15 36 35.9	-2.5	
MIB	Mutribah	11.05	83	*eP*		Pn	15 36 39.7	-0.6	
RAYN	Ar Rayn	11.10	117	P		Pn	15 36 41.5	+0.4	
RAYN	Ar Rayn	11.10	117			P	15 36 41.5	+0.4	
APE	Apeiranthos	11.16	319	P		Pn	15 36 38.4	-3.3	
RDF	Al-Radifah	11.25	87	*eP*		Pn	15 36 42.9	-0.1	
BLCB	Balcova	11.35	328	P		Pn	15 36 41.8	-2.5	
MHLO	Agia Marina, M	11.59	314	P		Pn	15 36 53.5	+5.9	
QRN	Al-Qurain	11.59	88	*eP*		Pn	15 36 47.1	-0.5	
CHOS	Chios island	11.83	325	P		Pn	15 36 52.4	+1.4	
ANKY	Antikythira Is	11.83	308	P		Pn	15 36 52.6	+1.7	
BALB	Balikesir	12.04	334	Pn		Pn	15 36 55.7	+1.9	
PRK	Paraskevi	12.40	328	P		Pn	15 36 58.0	-0.7	
PRK	Paraskevi	12.40	328	P		Pn	15 36 57.6	-1.1	
VLI	Veliai	12.55	311	P		Pn	15 36 58.9	-1.8	
VLY	Voula,Athens	12.70	317	P		Pn	15 37 01.5	-1.3	
DION	Dionisos Attik	12.77	318	P		Pn	15 37 02.5	-1.3	
ATHU	Athens Univers	12.79	317	P		Pn	15 37 02.4	-1.5	
PTL	Penteli	12.79	318	P		Pn	15 37 02.6	-1.5	
KRND	KRANIDI	12.80	314	P		Pn	15 37 02.9	-1.3	
BZK	Bozkurt	12.98	358	Pn		Pn	15 37 07.2	+0.6	
EREA	Eretria	13.00	319	P		Pn	15 37 05.5	-1.4	
KYMI	Kymi, Euboea I	13.06	320	P		Pn	15 37 05.1	-2.5	
LTK	Loutraki	13.31	316	P		Pn	15 37 08.6	-2.6	
GADA	Gukgeada	13.33	329	P		Pn	15 37 10.3	-1.1	
SMTH	Samothraki Isl	13.72	329	P		Pn	15 37 12.9	-3.9	
AMT	Artemida-Makis	13.82	312	P		P	15 37 25.9	-0.6	
KLV	Kalavryta, Ach	13.83	314	P		Pn	15 37 16.5	-1.8	
ALN	Alexandroupoli	13.85	332	P		Pn	15 37 19.3	+0.9	
ALN	Alexandroupoli	13.85	332	P		Pn	15 37 17.5	-1.0	
ALN	Alexandroupoli	13.85	332	Pn		Pn	15 37 17.4	-1.0	
GNI	Garni	13.88	34	Pn		Pn	15 37 21.4	+2.5	
	0.8nm,0.3s,baz=164,slow=0.3,SNR=33								
GNI				Sn		S	15 40 04.0	-11	
	1.0nm,0.3s,baz=350,slow=22,SNR=0.8								
GNI				Lg		Lg	15 41 25.8		
	0.7nm,0.3s,baz=48,slow=20,SNR=1.5								
GNI				LR		LR	15 42 45.0		
	comp=Z,4µm,21.4s,baz=214,slow=38								
GNI	Garni	13.88	34	P		Pn	15 37 20.6	+1.6	
GNI	Garni	13.88	34	*c iP*		Pn	15 37 21.1	+2.1	
GNI	Garni	13.88	34	P		Pn	15 37 20.0	+1.0	
GNI				P		Pn	15 37 20.0	+1.0	
GNI				S		Sn	15 39 58.5	+5.6	
GNI				S		Sn	15 39 58.5	+5.6	
LAKA	Lakka	14.06	314	P		Pn	15 37 19.6	-1.8	
XOR	Xorichti	14.07	320	P		Pn	15 37 19.9	-1.7	
TRIZ	Trizonia	14.08	315	P		Pn	15 37 21.2	-0.4	
PAIG	Paliouri	14.21	323	P		P	15 37 32.8	+2.0	
RDO	Rodhopi	14.27	331	P		Pn	15 37 25.7	+1.5	
AGG	Agios Georgios	14.34	318	P		Pn	15 37 23.6	-1.6	
AGG	Agios Georgios	14.34	318	P		Pn	15 37 23.8	-1.4	
AGG	Agios Georgios	14.34	318	Pn		Pn	15 37 23.8	-1.4	
CHVG	Ch'k'valeri	14.96	22	*ljP*		P	15 37 37.3	-1.9	
CHVG	Ch'k'valeri	14.96	22	*ljP*		P	15 37 37.3	-1.9	
LIT	Litokhoron	14.97	321	P		Pn	15 37 31.5	-2.3	
LIT	Litokhoron	14.97	321	Pn		Pn	15 37 31.5	-2.3	
SOC	Sochi	15.13	14	*eP*		Pn	15 37 32.2	-3.7	
SOC				*eS*		Sn	15 40 21.3	-1.9	
SOC				pmax		pmax			
	comp=Z,48nm,1.5s								
SOC				MLR		MLR			
	comp=Z,7µm,15.0s								
TRNA	Turayna	15.32	102	P		Pn	15 37 38.8	+0.3	
TRNA				S		Sn	15 40 28.8	+0.7	
ONI	Oni	15.32	25	P		Pn	15 37 39.7	+1.2	
ONI				pmax		pmax			
	comp=Z,142nm,1.4s								
ONI	Oni	15.32	25	Pn		Pn	15 37 39.7	+1.2	
ONI				IAmb		IAmb	15 37 41.9		
	comp=Z,142nm,1.4s								
NEY	Neytrino	15.65	22	*d iP*		Pn	15 37 44.3	+1.5	
ZEI	Tsey	15.66	26	*eP*		Pn	15 37 43.5	+0.4	
ZEI				pmax		pmax			
	comp=Z,42nm,1.2s								
VAY	Valandovo	15.80	324	*i* P		Pn	15 37 46.2	+1.5	
ANN	Anapa	15.95	7	*eP*		Pn	15 37 42.9	-3.6	
ANN				*eS*		Sn	15 40 44.3	+1.2	
ANN				pmax		pmax			
	comp=Z,97nm,1.1s								
ANN				MLR		MLR			
	comp=Z,8µm,16.0s								
ANN				MLR		MLR			
	comp=N,3µm,13.0s								
ANN				MLR		MLR			
	comp=E,2µm,12.0s								
SIM	Simferopol'	15.96	358	*i* P		P	15 37 48.3	-1.9	
SIM				*eS*		Sn	15 40 46.0	+2.6	
SIM				pmax		pmax			
	comp=Z,621nm,2.2s								
SLWR	Sila	15.96	104	P		Pn	15 37 47.2	+0.4	
SLWR				P		Pn	15 37 47.2	+0.4	
SLWR				S		Sn	15 40 45.4	+1.7	
SLWR				S		Sn	15 40 45.4	+1.7	
MFTR	Murfatlar	15.99	343	*i*P		P	15 37 52.1	+1.6	
FNA	Florina	16.06	321	P		Pn	15 37 46.9	-1.1	
FNA				pmax		pmax			
	comp=Z,83nm,0.9s								
FNA	Florina	16.06	321	Pn		Pn	15 37 46.9	-1.1	
SHA1	Shidzhatmaz	16.06	21	*i* P		Pn	15 37 48.5	+0.3	
ICOR	Ion Corvin	16.10	342	*ljP*		P	15 37 53.4	+1.7	
KBZ	Khabaz	16.13	22	Pn		Pn	15 37 49.6	+0.8	
	comp=Z,0.4nm,0.3s,baz=217,slow=9.0,SNR=37								
KBZ				Sn		S	15 40 56.3	-4.4	
	comp=Z,0.2nm,0.3s,baz=76,slow=21,SNR=0.9								
KBZ				LR		LR	15 43 54.9		
	comp=Z,8µm,18.9s,baz=206,slow=37								
KBZ	Khabaz	16.13	22	*ceP*		Pn	15 37 49.8	+1.0	
NCK	Nalchik	16.16	24	*i* P		P	15 37 50.9	-1.6	
NCK				pmax		pmax			
	comp=Z,147nm,1.1s								
TIRR	Tirgusor	16.26	344	*i*P		P	15 37 54.5	+1.1	
TIRR	Tirgusor	16.26	344	P		P	15 37 51.9	-1.5	
TIRR				pmax		pmax			
	comp=Z,710nm,1.4s								
TIRR	Tirgusor	16.26	344			P	15 37 51.9	-1.5	
KIV	Kislovodsk	16.27	21	*ljP*		Pn	15 37 51.7	+1.0	
KIV	Kislovodsk	16.27	21	*i* P		Pn	15 37 50.2	-0.5	
	SNR=18								
KIV	Kislovodsk	16.27	21	*eP*		Pn	15 37 50.0	-0.7	
KIV				*eS*		Sn	15 40 50.7	-0.2	
KIV				pmax		pmax			
	comp=Z,361nm,1.1s								
KIV				MLR		MLR			
	comp=Z,12µm,13.0s								
KIV	Kislovodsk	16.27	21	P		Pn	15 37 51.7	+1.0	
KIV				P		Pn	15 37 51.7	+1.0	
KIV				S		Sn	15 40 55.1	+4.2	
KIV				S		Sn	15 40 55.1	+4.2	
KVAR	Kislovodsk Arr	16.27	21	Sn		S	15 40 57.8	-6.0	
	baz=152,slow=21,SNR=2.0								
KVAR				LR		LR	15 44 03.5		
	comp=Z,11µm,19.0s,baz=98,slow=37								
STIP	Stip	16.27	325	*i* P		Pn	15 37 49.3	-1.4	
AKT	Akhty	16.38	37	*eP*		Pn	15 37 52.8	+0.6	
AKT				pmax		pmax			
	comp=Z,51nm,1.6s								
TLBR	Topalu	16.43	343	*ljP*		P	15 37 57.0	+1.7	
VTS	Vitosha	16.48	329	*ljP*		Pn	15 37 53.5	+0.1	
VTS	Vitosha	16.48	329	*ljP*		Pn	15 37 53.5	+0.1	
PYA1	Pyatigorsk	16.49	22	*i* P		Pn	15 37 54.1	+0.6	
HARR	Harsova	16.59	343	*i*P		P	15 37 59.3	+2.1	
HARR	Harsova	16.59	343	*i*P		P	15 37 59.3	+2.1	
OHR	Ohrid	16.60	321	*i* P		Pn	15 37 53.5	-1.5	
TPGR	Topolog	16.63	344	*i*P		P	15 37 58.5	+0.9	
GROC	Groznyy	16.78	29	*eP*		Pn	15 37 57.5	+0.4	
GROC				*eS*		Sn	15 41 03.3	+0.1	
GROC				pmax		pmax			
	comp=Z,318nm,1.3s								
GROC				MLR		MLR			
	comp=Z,284nm,7.0s								
SKO	Skopje	16.86	324	*i* P		Pn	15 37 58.8	+0.6	
COPA	Copaceanca	16.93	336	*i*P		P	15 38 02.9	+2.0	
CFR	Carcaliu	17.00	344	*ljP*		P	15 38 03.1	+1.5	
CFR	Carcaliu	17.00	344	*ljP*		P	15 38 03.1	+1.5	
GHWR	Ruwais	17.01	103	P		Pn	15 38 00.0	-0.1	
GHWR				S		Sn	15 41 10.2	+1.0	
TIR	Tirane	17.29	320	P		Pn	15 38 00.1	-3.4	
TIR	Tirane	17.29	320	Pn		Pn	15 38 00.1	-3.4	
SCTE	Santa Cesarea	17.34	314	P		Pn	15 38 04.4	+0.2	
SCTE				IAmb		IAmb	15 38 24.7		
	comp=Z,157nm,0.7s								
MAK	Makhachkala	17.36	33	*eP*		Pn	15 37 59.8	-4.6	
MAK				*eS*		Sn	15 41 11.4	-5.9	
MAK				pmax		pmax			
	comp=Z,620nm,1.6s								
MAK				MLR		MLR			
	comp=Z,3µm,7.0s								
GOF	Gofitskoye	17.37	20	*ljP*		Pn	15 38 04.4	-0.1	
GOF				pmax		pmax			
	comp=Z,234nm,1.5s								
ISR	Istrita	17.37	340	*ljP*		P	15 38 08.7	+2.8	
ISR	Istrita	17.37	340	*ljP*		P	15 38 08.7	+2.8	
MLR	Muntele Rosu	17.89	340	P		P	15 38 11.6	-0.1	
	comp=Z,0.2nm,0.3s,baz=136,slow=3.5,SNR=15								
MLR				S		Sn	15 41 33.0	+2.7	
	comp=Z,0.1nm,0.3s,baz=280,slow=8.9,SNR=1.7								
MLR				LR		LR	15 47 44.7		
	comp=Z,2µm,19.0s,baz=171,slow=46								
MLR	Muntele Rosu	17.89	340	*ljP*		P	15 38 14.0	+2.3	
MLR	Muntele Rosu	17.89	340	*ljP*		P	15 38 14.0	+2.3	
BOVS	Bovan	17.97	328	*ljP*		P	15 38 13.6	+1.2	
VRI	Vrincioaia	18.00	342	*ljP*		P	15 38 14.8	+2.0	
VRI	Vrincioaia	18.00	342	*ljP*		P	15 38 14.8	+2.0	
PLOR	Plostina	18.01	342	*ljP*		P	15 38 15.0	+2.1	
PLOR	Plostina	18.01	342	*ljP*		P	15 38 15.0	+2.1	
ULC	Ulcinj	18.04	320	*ljiP*		Pn	15 38 11.4	-1.4	
TEND	Ethiopian Broa	18.07	160	*eP*		P	15 38 15.2	+1.5	
PVY	Plav	18.08	323	*ljiP*		Pn	15 38 12.2	-1.2	
VOIR		18.13	338	*ljP*		P	15 38 15.6	+1.4	
VOIR		18.13	338	*ljP*		P	15 38 15.6	+1.4	
ARR	Arges	18.21	337	*ljP*		P	15 38 16.3	+1.2	
DRME	Dracevica, Mon	18.22	321	*eP*		Pn	15 38 13.1	-1.9	
DRME	Dracevica, Mon	18.22	321	*ljiP*		Pn	15 38 13.5	-1.5	
IVA	Berane	18.30	323	*ljiP*		Pn	15 38 15.1	-1.0	
PDG	Podgorica	18.34	321	*eP*		Pn	15 38 13.4	-3.1	
PDG	Podgorica	18.34	321			Pn	15 38 14.9	-1.6	
TTG	Podgorica	18.34	321	*ljiP*		Pn	15 38 14.1	-2.4	
BUM	Brajici-Budva	18.46	320	*ljiP*		P	15 38 16.2	-1.7	
KOME	Kolasin	18.49	323	*ljiP*		P	15 38 17.3	-1.0	
DOPR	Dopca	18.49	339	*ljP*		Pn	15 38 19.5	+1.2	
KIS	Kishinev	18.58	347	*eP*		P	15 38 16.2	-2.9	
	comp=Z,500nm,9.0s								
KIS				*eS*		Sn	15 41 47.0	+0.2	
	comp=Z,1µm,15.5s								
KIS				LQM			15 47 55.8		
	comp=Z,900nm,16.0s								
KIS				LRM		MLR	15 50 20.6		
	comp=Z,800nm,14.0s								
KIS	Kishinev	18.58	347	*eP*		P	15 38 16.2	-2.9	
KIS				*eS*		Sn	15 41 47.0	+0.2	
KIS				pmax		pmax			
	comp=Z,500nm,9.0s								
KIS				smax		smax			
	comp=N,1µm,15.5s								
LOT	Lotru	18.59	335	*i*P		Pn	15 38 21.0	+1.5	
CEME	Cevo	18.61	321	*ljiP*		P	15 38 18.3	-1.2	
HERR	Herculane	18.64	332	*i*P		Pn	15 38 21.1	+0.9	
NKME	Niksic	18.73	322	*ljiP*		P	15 38 20.1	-0.8	
HCY	Herceg Novi	18.78	320	*eP*		Pn	15 38 22.4	+0.6	
HCY	Herceg Novi	18.78	320	*ljiP*		P	15 38 20.4	-0.9	
MDVR	Moldovita	18.86	330	*i*P		Pn	15 38 23.3	+0.4	
PLE	Pljevlja	18.89	323	*ljiP*		P	15 38 22.0	-0.7

BLY	**Banja Luka**	**21.02**	**323**	⇓*iP*		**P**		**15**	**38**	**45.7**	**0.0**
BSY	**Bisya**	**21.16**	**102**	P		**P**		**15**	**38**	**47.3**	**-0.1**
	SNR=6.9										
BSY				S		**S**		**15**	**42**	**42.4**	**0.0**
HARA	**HARA**	**21.17**	**156**	*eP*		**P**		**15**	**38**	**45.4**	**-2.4**
MORH	**Mrgy, Hungar**	**21.34**	**328**	⇓P		**P**		**15**	**38**	**49.8**	**+0.6**
MORH	**Mrgy, Hungar**	**21.34**	**328**	⇓*iP*		**P**		**15**	**38**	**48.6**	**-0.6**
GEYT	**Alibeck**	**21.44**	**59**	P		**P**		**15**	**38**	**50.5**	**+0.1**
	comp=Z,223nm,0.8s,baz=257,slow=10,SNR=73										
GEYT				S		**S**		**15**	**42**	**44.8**	**-3.2**
	comp=Z,3.8nm,0.8s,baz=132,slow=2.2,SNR=1.5										
GEYT				LR		LR		15	48	58.4	
	comp=Z,4μm,18.4s,baz=265,slow=42										
GYA0	**ALIBECK ARRAY**	**21.44**	**59**	P		**P**		**15**	**38**	**49.9**	**-0.5**
GYA0B	**ALIBECK ARRAY**	**21.44**	**59**	P		**P**		**15**	**38**	**49.9**	**-0.5**
GYA0B				IAmb		IAmb		15	38	51.9	
	comp=Z,132nm,1.1s										
BIDO	**Bidbid**	**21.68**	**99**	P		**P**		**15**	**38**	**53.0**	**-0.1**
BIDO				S		**S**		**15**	**42**	**52.9**	**+0.1**
SMDO	**Samad**	**21.77**	**100**	P		**P**		**15**	**38**	**53.6**	**-0.6**
	SNR=18										
SMDO				P		**P**		**15**	**38**	**53.6**	**-0.6**
	SNR=18										
SMDO				S		**S**		**15**	**42**	**54.9**	**+0.1**
SMDO				S		**S**		**15**	**42**	**54.9**	**+0.1**
AQU	**L'Aquila**	**21.79**	**313**	P		**P**		**15**	**38**	**54.9**	**+0.8**
AQU				pmax		pmax					
	comp=Z,175nm,1.1s										
AQU	**L'Aquila**	**21.79**	**313**	⇓*iP*		**P**		**15**	**38**	**55.1**	**+1.0**
AQU	**L'Aquila**	**21.79**	**313**	P		**P**		**15**	**38**	**54.9**	**+0.8**
UZH	**Uzhgorod**	**21.84**	**337**	*eP*		**P**		**15**	**38**	**54.3**	**-0.2**
UZH				*e*				15	38	58.9	
UZH				*e*				15	39	19.1	
UZH				*e*				15	39	32.3	
UZH				*eS*		**S**		**15**	**42**	**49.3**	**-6.1**
JMDO	**Jabal Madar**	**22.07**	**102**	P		**P**		**15**	**38**	**56.6**	**-0.6**
	SNR=9.6										
JMDO				P		**P**		**15**	**38**	**56.6**	**-0.6**
	SNR=9.6										
JMDO				S		**S**		**15**	**42**	**57.6**	**-2.7**
JMDO				S		**S**		**15**	**42**	**57.6**	**-2.7**
AKASG	**Malin Array Be**	**22.10**	**351**	P		**P**		**15**	**38**	**56.1**	**-1.1**
	comp=Z,18nm,0.6s,baz=176,slow=9.7,SNR=55										
AKASG				S		**S**		**15**	**42**	**52.2**	**-8.2**
	comp=Z,1.0nm,0.5s,baz=357,slow=36,SNR=1.3										
AKASG				LR		LR		15	50	00.6	
	comp=Z,851nm,18.7s,baz=155,slow=43										
AKASG	**Malin Array Be**	**22.10**	**351**	P		**P**		**15**	**38**	**56.2**	**-1.1**
AKASG				pmax		pmax					
	comp=Z,300nm,1.6s										
AKASG	**Malin Array Be**	**22.10**	**351**	P		**P**		**15**	**38**	**56.2**	**-1.1**
KOLS	**Kolonicke sedl**	**22.10**	**338**	*eP*		**P**		**15**	**38**	**58.8**	**+1.4**
KOLS				pmax		pmax					
	comp=Z,968nm,1.3s										
KOLS	**Kolonicke sedl**	**22.10**	**338**	*eP*		**P**		**15**	**38**	**58.8**	**+1.4**
KOLS				*eS*		**S**		**15**	**43**	**04.0**	**+3.4**
PSZ	**Piszkesteto**	**22.12**	**333**	⇓P		**P**		**15**	**38**	**58.1**	**+0.4**
PSZ	**Piszkesteto**	**22.12**	**333**	P		**P**		**15**	**38**	**57.5**	**-0.2**
PSZ				pmax		pmax					
	comp=Z,102nm,1.0s										
PSZ	**Piszkesteto**	**22.12**	**333**	P		**P**		**15**	**38**	**57.5**	**-0.2**
PSZ				IAmb		IAmb		15	39	20.4	
	comp=Z,102nm,1.0s										
WSAR	**Wadi Sarin**	**22.21**	**99**	P		**P**		**15**	**38**	**57.7**	**-1.1**
	comp=Z,15nm,0.6s,baz=276,slow=8.4,SNR=25										
WSAR				LR		LR		15	49	10.4	
	comp=Z,4μm,19.8s,baz=288,slow=41										
VORD	**Divnogorie**	**22.25**	**8**	*eP*		**P**		**15**	**38**	**57.9**	**-0.9**
VORD				*eS*		**S**		**15**	**42**	**59.2**	**-3.9**
VORD				pmax		pmax					
	comp=Z,50nm,1.0s										
VORD				smax		smax					
	comp=N,70nm,2.6s										
CRVS	**Cervenica-Dubn**	**22.35**	**337**	*eP*		**P**		**15**	**39**	**00.9**	**+0.8**
CRVS				pmax		pmax					
	comp=Z,134nm,1.4s										
CRVS	**Cervenica-Dubn**	**22.35**	**337**	*eP*		**P**		**15**	**39**	**00.9**	**+0.8**
CRVS				*eS*		**S**		**15**	**43**	**06.2**	**+0.9**
KECS	**Kecovo**	**22.36**	**335**	*eP*		**P**		**15**	**39**	**01.1**	**+1.0**
KECS	**Kecovo**	**22.36**	**335**	*eP*		**P**		**15**	**39**	**01.0**	**+1.0**
LVV	**L'vov**	**22.36**	**342**	*eP*		**P**		**15**	**38**	**58.0**	**-2.1**
LVV				*eS*		**S**		**15**	**42**	**56.0**	**-9.3**
BEHE	**Becsehely**	**22.42**	**326**	*eP*		**P**		**15**	**38**	**59.8**	**-0.9**
KEST	**Kesra**	**22.43**	**294**	P		**P**		**15**	**39**	**03.3**	**+2.2**
	comp=Z,62nm,1.3s,baz=14,slow=0.6,SNR=12										
KEST				S		**S**		**15**	**43**	**06.2**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=235,slow=16,SNR=1.2										
KEST				LR		LR		15	50	14.4	
	comp=Z,5μm,18.4s,baz=52,slow=43										
KEST	**Kesra**	**22.43**	**294**	P		**P**		**15**	**39**	**03.0**	**+2.0**
	SNR=26										
KEST				P		**P**		**15**	**39**	**03.0**	**+2.0**
	SNR=26										
KEST				S		**S**		**15**	**43**	**09.4**	**+2.4**
KEST				*S*		**S**		**15**	**43**	**09.4**	**+2.4**
KWP	**Kalwaria Pacla**	**22.58**	**339**	*eP*		**P**		**15**	**39**	**03.5**	**+1.1**
KWP				*eS*		**S**		**15**	**43**	**15.3**	**+6.0**
KWP				*eL*		L		15	51	50.6	
	comp=Z,2μm,17.3s										
GCIS	**Gornji Cirnik**	**22.58**	**324**	*i* P		**P**		**15**	**39**	**01.4**	**-1.1**
GCIS				*eS*		**S**		**15**	**43**	**11.7**	**+2.1**
SRO2	**Moca**	**22.63**	**330**	*eP*		**P**		**15**	**39**	**02.8**	**-0.1**
SRO2	**Moca**	**22.63**	**330**	*eP*		**P**		**15**	**39**	**02.8**	**-0.1**
CRES	**Cresnjev**	**22.64**	**323**	⇓*iP*		**P**		**15**	**39**	**02.0**	**-1.2**
DILA	**Dilla**	**22.66**	**171**	*eP*		**P**		**15**	**39**	**05.7**	**+1.9**
SRO	**Srobarova**	**22.70**	**330**	*eP*		**P**		**15**	**39**	**04.6**	**+0.9**
SRO				pmax		pmax					
	comp=Z,44nm,1.2s										
SRO	**Srobarova**	**22.70**	**330**	*eP*		**P**		**15**	**39**	**04.6**	**+0.9**
WBK	**Wadi Bani Khal**	**22.73**	**101**	P		**P**		**15**	**39**	**04.2**	**-0.1**
WBK				*S*		**S**		**15**	**43**	**10.2**	**-2.4**
GBRS	**Gornja Briga**	**22.80**	**322**	*eP*		**P**		**15**	**39**	**03.9**	**-1.0**
LEGS	**Legarje**	**22.80**	**323**	*eP*		**P**		**15**	**39**	**03.5**	**-1.3**
VRH	**Novokhopyorsk**	**22.83**	**11**	*eP*		**P**		**15**	**39**	**04.6**	**-0.4**
VRH				*eS*		**S**		**15**	**43**	**04.9**	**-8.9**
VRH				pmax		pmax					
	comp=Z,70nm,1.7s										
VRH				smax		smax					
	comp=N,300nm,4.4s										
VORR	**Voronezh**	**22.93**	**7**	P		**P**		**15**	**39**	**06.0**	**-0.1**
VORR				pmax		pmax					
	comp=Z,250nm,1.2s										
VYHS	**Vyhne**	**23.01**	**332**	*eP*		**P**		**15**	**39**	**07.1**	**+0.1**
VYHS				pmax		pmax					
	comp=Z,199nm,1.6s										
VYHS	**Vyhne**	**23.01**	**332**	*eP*		**P**		**15**	**39**	**07.1**	**+0.1**
VYHS				*eS*		**S**		**15**	**43**	**18.3**	**+1.2**
CEY	**Cerknica**	**23.14**	**322**	*eP*		**P**		**15**	**39**	**07.0**	**-1.3**
CEY				*eS*		**S**		**15**	**43**	**21.1**	**+1.8**
CEY	**Cerknica**	**23.14**	**322**	⇓*iP*		**P**		**15**	**39**	**06.9**	**-1.4**
LANS	**Liptovska Anna**	**23.29**	**334**	*eP*		**P**		**15**	**39**	**11.0**	**+1.1**
LANS				pmax		pmax					
	comp=Z,26nm,1.1s										
LANS	**Liptovska Anna**	**23.29**	**334**	*eP*		**P**		**15**	**39**	**11.0**	**+1.1**
VSL	**Villasalto**	**23.35**	**303**	P		**P**		**15**	**39**	**11.9**	**+1.3**
VSL				IAmb		IAmb		15	39	30.9	
	comp=Z,65nm,0.9s										
SOKA	**Soboth**	**23.43**	**324**	*eP*		**P**		**15**	**39**	**10.6**	**-0.7**
	comp=Z,84nm,1.4s,SNR=56										
TRI	**Trieste**	**23.48**	**321**	P		**P**		**15**	**39**	**10.7**	**-1.0**
TRI				pmax		pmax					
	comp=Z,116nm,1.2s										
TRI	**Trieste**	**23.48**	**321**	P		**P**		**15**	**39**	**10.7**	**-1.0**
TRI				IAmb		IAmb		15	39	14.9	
	comp=Z,116nm,1.2s										
ZST	**Bratislava**	**23.52**	**330**	*eP*		**P**		**15**	**39**	**14.0**	**+1.9**
ZST				pmax		pmax					
	comp=Z,392nm,1.5s										
ZST	**Bratislava**	**23.52**	**330**	*eP*		**P**		**15**	**39**	**14.0**	**+1.9**
ZST				*eS*		**S**		**15**	**43**	**26.6**	**+1.1**
OBKA	**Obir**	**23.57**	**323**	*eP*		**P**		**15**	**39**	**12.5**	**-0.2**
	comp=Z,73nm,1.3s,SNR=24										
ARSA	**Arzberg**	**23.58**	**326**	*eP*		**P**		**15**	**39**	**12.2**	**-0.5**
	comp=Z,95nm,1.2s,SNR=55										
SMOL	**Smolenice**	**23.62**	**330**	*eP*		**P**		**15**	**39**	**13.7**	**+0.6**
SMOL				pmax		pmax					
	comp=Z,35nm,1.3s										
SMOL	**Smolenice**	**23.62**	**330**	*eP*		**P**		**15**	**39**	**13.7**	**+0.6**
CASP	**Castiglione de**	**23.64**	**312**	P		**P**		**15**	**39**	**12.4**	**-0.9**
CASP				IAmb		IAmb		15	39	30.4	
	comp=Z,90nm,1.2s										
JAVC	**Velka Javorina**	**23.78**	**331**	⇓*iP*		**P**		**15**	**39**	**14.7**	**0.0**
JAVC				*eS*		**S**		**15**	**43**	**28.3**	**-1.4**
LPSR	**Galich'ya Gora**	**23.82**	**6**	*eP*		**P**		**15**	**39**	**13.5**	**-1.4**
LPSR				*eS*		**S**		**15**	**43**	**25.8**	**-4.3**
LPSR				pmax		pmax					
	comp=Z,100nm,1.4s										
LPSR				smax		smax					
	comp=N,910nm,7.0s										
CONA	**Conrad Observa**	**23.89**	**328**	*i* P		**P**		**15**	**39**	**15.1**	**-0.7**
	comp=N,70nm,1.3s,SNR=49										
ABSA	**Djebel Ababsia**	**24.01**	**295**	P		P		15	39	29.7	+13
OJC	**Ojcow**	**24.05**	**336**	*eP*		**P**		**15**	**39**	**17.0**	**-0.2**
OJC				*eS*		**S**		**15**	**43**	**37.8**	**+3.9**
OJC				*eL*		L		15	52	23.6	
	comp=N,2μm,18.4s										
CMAH	**Djebel Manchou**	**24.12**	**296**	P		**P**		**15**	**39**	**22.4**	**+4.3**
MYKA	**Terra Mystica**	**24.12**	**323**	*eP*		**P**		**15**	**39**	**18.3**	**+0.3**
	comp=N,70nm,1.4s,SNR=34										
OKC	**Ostrava-Krasne**	**24.35**	**333**	*eP*		**P**		**15**	**39**	**20.4**	**+0.4**
OKC				*eS*		**S**		**15**	**43**	**39.3**	**+0.5**
OKC				MLR		MLR					
	comp=Z,2μm,16.4s										
OKC	**Ostrava-Krasne**	**24.35**	**333**	*eP*		**P**		**15**	**39**	**20.4**	**+0.4**
OKC				*ex*		x		15	39	33.7	
OKC				*eS*		**S**		**15**	**43**	**39.3**	**+0.5**
OKC				AMS		AMS		15	56	00.0	
	comp=Z,2μm,16.4s										
KRUC	**Moravsky**	**24.48**	**330**	⇓*iP*		**P**		**15**	**39**	**20.1**	**-1.1**
KRUC				*eS*		**S**		**15**	**43**	**42.1**	**+1.3**
MORC	**Moravsky Berou**	**24.55**	**333**	⇓*iP*		**P**		**15**	**39**	**21.6**	**-0.2**
MORC				*eS*		**S**		**15**	**43**	**43.7**	**+1.7**
KBA	**Koelnbreinsper**	**24.57**	**323**	*eP*		**P**		**15**	**39**	**22.9**	**+0.7**
	comp=Z,87nm,1.5s,SNR=18										
VRAC	**Vranov**	**24.58**	**331**	P		**P**		**15**	**39**	**22.0**	**-0.1**
	comp=Z,39nm,1.0s,baz=139,slow=8.3,SNR=72										
VRAC				S		**S**		**15**	**43**	**37.9**	**-4.5**
	comp=Z,2.6nm,0.8s,baz=161,slow=13,SNR=1.1										
VRAC				LR		LR		15	51	30.4	
	comp=Z,914nm,20.8s,baz=144,slow=43										
VRAC	**Vranov**	**24.58**	**331**	⇓*iP*		**P**		**15**	**39**	**21.7**	**-0.4**
VRAC				*eS*		**S**		**15**	**43**	**44.1**	**+1.6**
VRAC	**Vranov**	**24.58**	**331**	P		**P**		**15**	**39**	**22.0**	**-0.1**
MOA	**Molln**	**24.61**	**326**	*eP*		**P**		**15**	**39**	**22.6**	**+0.3**
	comp=Z,46nm,1.4s,SNR=25										
CKFL	**Kef-Lekhel**	**24.64**	**295**	P		P		15	39	36.5	+14
ABTA	**Abfaltersbach**	**24.80**	**322**	*eP*		**P**		**15**	**39**	**26.0**	**+1.8**
	comp=Z,44nm,1.0s,SNR=31										
CTEI	**Djebel Teioual**	**24.83**	**294**	P		P		15	39	33.8	+9.2
KRLC	**Kraliky**	**25.09**	**332**	*eP*		**P**		**15**	**39**	**28.0**	**+1.3**
KRLC				*eS*		**S**		**15**	**43**	**57.8**	**+7.1**
KRLC				MLR		MLR					
	comp=Z,1μm,15.9s										
KRLC	**Kraliky**	**25.09**	**332**	*eP*		**P**		**15**	**39**	**28.0**	**+1.3**
KRLC				*eS*		**S**		**15**	**43**	**57.8**	**+7.1**
KRLC				AMS		AMS		15	52	10.0	
	comp=Z,1μm,15.9s										
BEL	**Belsk**	**25.10**	**339**	*eP*		**P**		**15**	**39**	**27.0**	**+0.3**
BEL				*eS*		**S**		**15**	**43**	**54.1**	**+3.4**
BEL				*eL*		L		15	52	19.3	
	comp=Z,3μm,20.9s										
CKRC	**Cesky Krumlov**	**25.25**	**327**	*eP*		**P**		**15**	**39**	**29.1**	**+0.9**
CKRC				*ex*		x		15	39	37.4	
CKRC				*eS*		**S**		**15**	**43**	**50.8**	**-2.5**
CKRC				AMS		AMS		15	56	10.0	
	comp=Z,1μm,17.9s										
RJOB	**Jochberg**	**25.28**	**324**	*eP*		**P**		**15**	**39**	**28.6**	**+0.2**
	comp=Z,140nm,1.5s,baz=132,slow=8.9										
BELG	**Belogornoye**	**25.30**	**19**	P		**P**		**15**	**39**	**27.2**	**-1.2**
	comp=Z,35nm,1.0s,baz=22,slow=8.9,SNR=17										
BELG				S		**S**		**15**	**43**	**49.3**	**-4.5**
	comp=Z,48nm,1.2s,baz=22,slow=16,SNR=1.7										
BELG				LR		LR		15	50	05.6	
	comp=Z,2μm,21.6s,baz=215,slow=38										
BELG	**Belogornoye**	**25.30**	**19**	*i* P		**P**		**15**	**39**	**27.0**	**-1.4**
BELG				pmax		pmax					
	comp=Z,17nm,1.4s										
DFRA	**Djebel Bou Aff**	**25.33**	**295**	P		P		15	39	43.8	+15
LODK	**Lodwar**	**25.41**	**178**	P		**P**		**15**	**39**	**29.9**	**0.0**
LODK				IAmb		IAmb		15	40	26.4	
	comp=Z,115nm,1.9s										
LODK	**Lodwar**	**25.41**	**178**	P		**P**		**15**	**39**	**31.7**	**+1.8**
	SNR=14										
DPC	**Dobruska-Polom**	**25.49**	**332**	*eP*		**P**		**15**	**39**	**30.7**	**+0.4**
DPC				*eS*		**S**		**15**	**44**	**00.7**	**+3.6**
DPC				MLR		MLR					
	comp=Z,1μm,15.2s										
DPC	**Dobruska-Polom**	**25.49**	**332**	*eP*		**P**		**15**	**39**	**30.7**	**+0.4**
DPC				*eS*		**S**		**15**	**44**	**00.7**	**+3.6**
DPC				AMS		AMS		15	52	10.0	
	comp=Z,1μm,15.2s										
GEC2	**GERESS Array S**	**25.56**	**327**	*eP*		**P**		**15**	**39**	**31.6**	**+0.6**
	comp=Z,77nm,1.2s,baz=132,slow=8.9										
GERES	**GERESS Array B**	**25.56**	**327**	P		**P**		**15**	**39**	**31.6**	**+0.6**
	comp=Z,47nm,1.2s,baz=125,slow=8.3,SNR=104										
GERES				S		**S**		**15**	**43**	**54.9**	**-3.4**
	comp=Z,1.4nm,0.8s,baz=157,slow=12,SNR=1.1										
GERES	**GERESS Array B**	**25.56**	**327**	P		**P**		**15**	**39**	**31.3**	**+0.2**
WTTA	**Wattenberg**	**25.59**	**322**	*i* P		**P**		**15**	**39**	**32.9**	**+1.4**
	comp=Z,59nm,1.1s,SNR=23										
SET	**Setif**	**25.66**	**294**	P		P		15	39	48.0	+16
WATA	**Walderalm**	**25.67**	**322**	*i* P		**P**		**15**	**39**	**33.3**	**+1.2**
	comp=Z,112nm,1.7s,SNR=31										
OSTC	**Ostas**	**25.69**	**332**	*eP*		**P**		**15**	**39**	**32.3**	**+0.2**
OSTC				*eS*		**S**		**15**	**44**	**07.0**	**+6.8**
OSTC				AMS		AMS		15	52	30.0	
	comp=Z,2μm,15.9s										
UPC	**Upice**	**25.74**	**332**	*eP*		**P**		**15**	**39**	**33.4**	**+0.9**
UPC				*eS*		**S**		**15**	**44**	**06.7**	**+5.8**
UPC				MLR		MLR					
	comp=Z,2μm,16.5s										
UPC	**Upice**	**25.74**	**332**	*eP*		**P**		**15**	**39**	**33.4**	**+0.9**
UPC				*eS*		**S**		**15**	**44**	**06.7**	**+5.8**
UPC				AMS		AMS		15	52	30.0	
	comp=Z,2μm,16.5s										
CHVC	**Chvalec**	**25.78**	**332**	*eP*		**P**		**15**	**39**	**33.2**	**+0.3**
CHVC				AMS		AMS		15	52	40.0	
	comp=Z,1μm,16.3s										
SQTA	**Sankt Quirin**	**25.80**	**321**	*eP*		**P**		**15**	**39**	**34.6**	**+1.3**
	comp=Z,68nm,1.2s,SNR=32										
KHC	**Kasperske Hory**	**25.82**	**327**	*eP*		**P**		**15**	**39**	**33.6**	**+0.3**
KHC				*eS*		**S**		**15**	**44**	**00.7**	**-1.6**
KHC				MLR		MLR					
	comp=Z,1μm,15.3s										
KHC	**Kasperske Hory**	**25.82**	**327**	*eP*		**P**		**15**	**39**	**33.6**	**+0.3**
KHC				*ex*		x		15	39	49.0	
KHC				*eS*		**S**		**15**	**44**	**00.7**	**-1.6**
KHC				AMS		AMS		15	56	30.0	
	comp=Z,1μm,15.3s										
KSP	**Ksiaz**	**25.88**	**333**	*eP*		**P**		**15**	**39**	**34.2**	**+0.4**
KSP				*eL*		L		15	54	24.7	
	comp=Z,2μm,20.2s										
MOTA	**Moosalm**	**25.93**	**321**	*i* P		**P**		**15**	**39**	**35.5**	**+1.0**
	comp=Z,99nm,1.5s,SNR=44										
FETA	**Feichten**	**25.95**	**321**	*i* P		**P**		**15**	**39**	**36.4**	**+1.7**
	comp=Z,194nm,1.4s,SNR=89										
PRU	**Pruhonice**	**25.98**	**329**	*eP*		**P**		**15**	**39**	**34.9**	**+0.2**
PRU				*eS*		**S**		**15**	**44**	**03.4**	**-1.3**
PRU				MLR		MLR					
	comp=Z,1μm,14.5s										
PRU	**Pruhonice**	**25.98**	**329**	*eP*		**P**		**15**	**39**	**34.9**	**+0.2**
PRU				*eS*		**S**		**15**	**44**	**03.4**	**-1.3**
PRU				AMS		AMS		15	55	20.0	
	comp=Z,1μm,14.5s										
MNK	**Minsk**	**26.00**	**351**	*i* P		**P**		**15**	**39**	**34.0**	**-0.8**
MNK				*i*				15	40	12.6	
MNK				*i*				15	43	03.7	
MNK				*i* S		**S**		**15**	**44**	**05.2**	**+0.4**
MNK				*i* SS		**SnSn**		**15**	**45**	**04.2**	**+2.0**
MNK				pmax		pmax					
	comp=N,54nm,1.1s										
MNK				pmax		pmax					
	comp=E,3.0nm,1.1s										
MNK				pmax		pmax					
	comp=Z,47nm,1.1s										
MNK				MLR		MLR					
	comp=E,226nm,16.0s										
MNK				MLR		MLR					
	comp=N,3μm,18.0s										
MNK				MLR		MLR					
	comp=Z,1μm,17.0s										
MNK	**Minsk**	**26.00**	**351**	*i* P		**P**		**15**	**39**	**34.0**	**-0.8**
	comp=E,3.0nm,1.1s										
MNK				*i* P		**P**		**15**	**39**	**34.0**	**-0.8**
	comp=N,54nm,1.1s										
MNK				*i* P		**P**		**15**	**39**	**34.0**	**-0.8**
	comp=Z,47nm,1.1s,baz=167										
MNK				*i* PP		sP		15	40	12.7	+32
MNK				*i* PPP		PPP		15	40	20.7	
MNK				*i* PcP		**PcP**		**15**	**43**	**03.7**	**+1.0**
MNK				*i* S		**S**		**15**	**44**	**05.2**	**+0.4**
MNK				*i* S		**S**		**15**	**44**	**05.2**	**+0.4**
MNK				*i* S		**S**		**15**	**44**	**05.2**	**+0.4**
MNK				*i* SS		**SnSn**		**15**	**45**	**04.3**	**+2.1**
MNK				*i* SSS		SSS		15	45	18.1	
MNK				*i* LQ		LQ		15	47	46.5	
MNK				*i* LR		LR		15	49	44.9	
MNK				*i* LRM		MLR		15	52	09.4	
	comp=E,226nm,16.1s										
MNK				*i* LRM		MLR		15	52	27.4	
	comp=N,3μm,18.1s										
MNK				*i* LRM		MLR		15	52	30.7	
	comp=Z,1μm,16.8s										
PBCC	**Pribram**	**26.01**	**328**	*eP*		**P**		**15**	**39**	**34.9**	**-0.1**
PRA	**Prague**	**26.09**	**329**	*eP*		**P**		**15**	**39**	**33.9**	**-1.8**
PRA				*eS*		**S**		**15**	**44**	**00.8**	**-5.6**
PRA				MLR		MLR					
	comp=Z,1μm,19.2s										
PRA	**Prague**	**26.09**	**329**	*eP*		**P**		**15**	**39**	**33.9**	**-1.8**
PRA				*eS*		**S**		**15**	**44**	**00.8**	**-5.6**
PRA				AMS		AMS		15	51	40.0	
	comp=Z,1μm,19.2s										
WET	**Wettzell**	**26.16**	**326**	*eP*		**P**		**15**	**39**	**36.2**	**-0.3**
	comp=Z,51nm,1.5s,baz=132,slow=8.9										
OBN	**Obninsk**	**26.17**	**2**	P		**P**		**15**	**39**	**35.9**	**-0.4**
	comp=Z,6.8nm,0.4s,baz=182,slow=7.3,SNR=25										
OBN				S		**S**		**15**	**44**	**03.4**	**-4.0**
	comp=Z,4.0nm,0.4s,baz=50,slow=19,SNR=2.0										
OBN				LR		LR		15	52	28.6	
	comp=Z,386nm,21.4s,baz=188,slow=42										
OBN	**Obninsk**	**26.17**	**2**	*d iP*		**P**		**15**	**39**	**35.9**	**-0.4**
OBN				*e*				15	39	41.3	
OBN				*i* S		**S**		**15**	**44**	**06.8**	**-0.7**
OBN				*e*	SSS	SSS		15	45	32.8	
OBN				pmax		pmax					
	comp=Z,196nm,1.6s										
OBN				MLR		MLR					
	comp=Z,2μm,20.0s										
RETA	**Reutte**	**26.20**	**321**	*i* P		**P**		**15**	**39**	**37.7**	**+0.8**
	comp=Z,43nm,1.1s,SNR=22										
DAVOX	**Davos/Dischmat**	**26.29**	**319**	P		**P**		**15**	**39**	**38.2**	**+0.4**
	comp=Z,39nm,1.1s,baz=129,slow=5.9,SNR=26										
DAVOX				S		**S**		**15**	**44**	**16.3**	**+6.2**
	comp=Z,3.2nm,0.8s,baz=321,slow=23,SNR=1.4										
DAVOX				LR		LR		15	53	58.0	
	comp=Z,2μm,20.9s,baz=97,slow=46										
PVCC	**Panska Ves**	**26.36**	**330**	*eP*		**P**		**15**	**39**	**40.4**	**+2.2**
PVCC				*eS*		**S**		**15**	**44**	**09.1**	**-1.7**
PVCC				MLR		MLR					
	comp=Z,1μm,17.7s										
PVCC	**Panska Ves**	**26.36**	**330**	*eP*		**P**		**15**	**

BFO Black Forest 28.03 321 P P 15 39 52.2 -1.0
BFO Black Forest 28.03 321 *e*P **P 15 39 53.7 +0.5**
comp=Z,122nm,1.5s,baz=132,slow=8.9
NEUB Neuenburg 28.09 329 *e*P **P 15 39 53.8 +0.1**
comp=Z,54nm,1.1s,baz=132,slow=8.9
RUE Ruedersdorf 28.14 332 *e*P **P 15 39 53.6 -0.4**
comp=Z,68nm,1.4s,baz=132,slow=8.9
MILB Miltenberg 28.39 324 *e*P **P 15 39 56.2 -0.2**
comp=Z,59nm,1.3s,baz=132,slow=8.9
LNIZ Loecknitz 28.75 334 *e*P **P 15 39 58.7 -0.7**
comp=Z,65nm,1.3s,baz=132,slow=8.9
FLTG Flechtingen 29.11 330 *e*P **P 15 40 02.2 -0.5**
comp=Z,46nm,1.3s,baz=132,slow=8.9
GTTG Gottingen 29.16 328 *e*P **P 15 40 03.3 +0.1**
comp=Z,52nm,1.4s,baz=132,slow=8.9
CLZ Clausthal 29.16 328 *e*P **P 15 40 03.0 -0.3**
comp=Z,37nm,1.4s,baz=132,slow=8.9
KBL Kabul 29.63 70 P **P 15 40 05.6 -2.2**
KBL pmax pmax
comp=Z,34nm,1.5s
KBL MLR MLR
comp=Z,3µm,20.0s
KBL Kabul 29.63 70 P **P 15 40 05.6 -2.2**
KBL IAMs_20 IAMs_20 15 53 15.8
comp=Z,3µm,20.0s
KBL Kabul 29.63 70 P **P 15 40 07.2 -0.6**
SNR=8.0
KBL P **P 15 40 07.2 -0.6**
SNR=8.0
MBAR Mbarara 29.64 188 P **P 15 40 07.2 -0.8**
comp=Z,3.8nm,0.2s,baz=319,slow=10,SNR=4.5
MBAR LR LR 15 51 32.7
comp=Z,2µm,18.2s,baz=0.0,slow=35
KASTN Kahler Asten 29.68 326 *e*P **P 15 40 07.3 -0.6**
comp=Z,38nm,1.4s,baz=132,slow=8.9
NRDL Niedersach Rie 29.73 329 *e*P **P 15 40 08.3 +0.2**
comp=Z,40nm,1.3s,baz=132,slow=8.9
BSD Bornholm Skovb 29.77 337 *e*P **P 15 40 09.0 +0.5**
BSD Bornholm Skovb 29.77 337 *e*P **P 15 40 09.0 +0.5**
RGN Rugen 29.89 335 *e*P **P 15 40 09.4 -0.2**
comp=Z,106nm,1.5s,baz=132,slow=8.9
WLF Walferdange 29.96 322 *d*P **P 15 40 10.6 +0.3**
WLF Walferdange 29.96 322 *e*P **P 15 40 10.6 +0.3**
comp=Z,15nm,1.1s,baz=132,slow=8.9
VSU Vasula 30.00 352 *i*P **P 15 40 08.9 -1.6**
VSU pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 30.02 175 P **P 15 40 12.2 +0.8**
comp=Z,4.8nm,1.0s,baz=341,slow=6.7,SNR=7.0
KMBO LR LR 15 53 24.8
comp=Z,719nm,18.4s,baz=280,slow=39
BHOU Houvegnez 30.42 323 *d*P **P 15 40 15.0 +0.6**
BLEU Blekinge 30.45 339 *i*P **P 15 40 13.4 -1.0**
BTNL Terneli 30.48 323 *d*P **P 15 40 15.9 +0.9**
MEM Membach 30.56 323 *d*P **P 15 40 16.5 +0.9**
BSEG Bad Segeberg 30.63 331 *e*P **P 15 40 15.7 -0.4**
comp=Z,24nm,1.2s,baz=132,slow=8.9
BCLA Clavier 30.83 322 *d*P **P 15 40 18.9 +0.9**
comp=Z,28nm,1.8s
CART Cartagena 30.92 296 IAMs_20 IAMs_20 15 52 59.9
comp=Z,3µm,21.0s
BGES Gesves 30.93 322 *d*P **P 15 40 19.7 +0.9**
comp=Z,22nm,1.8s
DOU Dourbes 31.04 321 *dx* x 15 40 30.2
BMRD Maredsous 31.06 322 *d*P **P 15 40 20.5 +0.5**
BJUU Bjuv 31.18 336 *e*P **P 15 40 21.2 +0.2**
DEL Delary 31.21 338 *i*P **P 15 40 20.6 -0.7**
KIRV Kirov 31.31 15 P **P 15 40 20.9 -1.1**
comp=Z,4.8nm,0.5s,baz=60,slow=3.1,SNR=4.7
KIRV Kirov 31.31 15*c**e*P **P 15 40 20.8 -1.3**
SNF Seneffe 31.43 322 *d*P **P 15 40 23.2 -0.1**
KK31 Karatay Array 31.95 54 *i*P **P 15 40 27.0 -1.0**
KKAR Karatay Array 31.95 54 P **P 15 40 28.0 0.0**
KKAR Karatay Array 31.95 54 P **P 15 40 28.0 0.0**
KKAR Karatay Array 31.95 54 IAmb IAmb 15 40 29.9
comp=Z,72nm,1.2s
FABU Falkenberg 32.02 337 *i*P **P 15 40 28.1 -0.2**
MEF Metsahovi 32.02 350 *e*P **P 15 40 27.5 -0.8**
KLMR Klimovskoe 32.05 4 *e*P **P 15 40 24.7 -3.9**
KLMR *e*S **S 15 45 35.9 -4.0**
KLMR pmax pmax
comp=Z,94nm,1.4s
KLMR MLR MLR
comp=Z,568nm,11.0s
KLMR Klimovskoe 32.05 4 *e*P **P 15 40 24.7 -3.9**
KLMR AMP 15 40 29.2
comp=Z,94nm,1.4s
KLMR *e*S **S 15 45 35.9 -4.0**
KLMR *e*S **S 15 45 35.9 -4.0**
KLMR LQ LQ 15 50 50.4
KLMR LQ LQ 15 50 50.4
KLMR LR LR 15 52 28.2
KLMR AMP 15 56 52.6
comp=Z,568nm,11.2s
ARU Arti 32.24 25*c**i*P **P 15 40 29.5 -0.8**
ARU 15 41 31.4
ARU 15 43 11.4
ARU S **S 15 45 43.8 +0.9**
ARU SSS SSS 15 47 57.2
ARU pmax pmax
comp=Z,35nm,1.1s
ARU MLR MLR
comp=Z,2µm,20.0s
ARU Arti 32.24 25 P **P 15 40 30.0 -0.3**
ARU IAmb IAmb 15 40 31.0
comp=Z,32nm,1.1s
DZA Taraz 32.48 55 *e*P **P 15 40 30.2 -2.5**
baz=54
DZA *e*S **S 15 45 49.3 +2.2**
baz=54
DZA Taraz 32.48 55 *e*P **P 15 40 30.2 -2.5**
DZA *e*S **S 15 45 49.3 +2.2**
BORU Boraas 32.50 338 *i*P **P 15 40 32.6 0.0**
ONAU Onsala 32.60 337 *i*P **P 15 40 33.4 0.0**
AAL Aland 32.76 346 *e*P **P 15 40 34.8 0.0**
MUD Monsted U'grnd 32.89 334 *i*P **P 15 40 36.1 +0.1**
MUD Monsted U'grnd 32.89 334 *i*P **P 15 40 36.0 +0.1**
FIA1 FINESS Array S 32.98 352 IAmb IAmb 15 41 14.6
comp=Z,59nm,1.6s
FINES FINESS Array B 32.98 352 P **P 15 40 35.4 -1.4**
comp=Z,3.6nm,0.7s,baz=154,slow=10,SNR=20
FINES LR LR 15 56 02.2
comp=Z,1µm,19.5s,baz=154,slow=40
FINES FINESS Array B 32.98 352 P **P 15 40 35.1 -1.7**
UPP Uppsala 33.00 344 *e*P **P 15 40 36.1 -0.8**
NIL Nilore 33.13 72 P **P 15 40 38.7 +0.2**
NIL pmax pmax
comp=Z,21nm,1.1s
NIL MLR MLR
comp=Z,4µm,22.0s
NIL Nilore 33.13 72 P **P 15 40 38.6 +0.2**
NIL Nilore 33.13 72 IAMs_20 IAMs_20 15 56 22.4
comp=Z,4µm,22.0s
TJOU Tjoern 33.19 338 *i*P **P 15 40 38.5 -0.1**
RAF Rauma 33.21 349 *e*P **P 15 40 39.6 +0.9**
GOET G??ttrup 33.29 335 *i*P **P 15 40 40.9 +1.4**
ESDC Sonseca Array 33.45 299 P **P 15 40 40.8 -0.4**
comp=Z,2.6nm,0.7s,baz=86,slow=8.5,SNR=9.2
ESDC LR LR 15 55 39.3
comp=Z,2µm,20.1s,baz=125,slow=39
PRGR Permogore 33.47 9 *e*P P 15 40 30.9 -10
PRGR pmax pmax
comp=Z,34nm,1.3s
EMAL Malaga-Limoner 33.60 294 P P 15 40 36.1 -6.3
EMAL S **S 15 46 05.7 +1.2**
MDT Midelt 33.82 287 P **P 15 40 45.7 +1.1**
comp=Z,2.1nm,0.8s,baz=103,slow=8.5,SNR=6.7
AML Almayashu 34.04 57 *i*P **P 15 40 47.0 +0.2**
SNR=7.1
STRU Stroemstad 34.12 338 *i*P **P 15 40 45.3 -1.4**
TOC2 Torodi Ar. Sit 34.41 250 IAMs_20 IAMs_20 15 56 08.3
comp=Z,2µm,20.0s
TOC1 Torodi Ar. Sit 34.42 250 IAMs_20 IAMs_20 15 56 08.5
comp=Z,3µm,20.0s
TOA0 Torodi Ar. Sit 34.44 250 P **P 15 40 49.4 -0.5**
TOA0 IAmb IAmb 15 41 06.8
comp=Z,58nm,1.6s
TOA0 IAMs_20 IAMs_20 15 56 10.0
comp=Z,2µm,19.0s
TORD Torodi Ar. Bea 34.44 250 P **P 15 40 49.0 -0.9**
comp=Z,4.9nm,0.9s,baz=46,slow=10,SNR=24
TORD LR LR 15 57 04.2
comp=Z,2µm,19.8s,baz=75,slow=40
TORD Torodi Ar. Bea 34.44 250 P **P 15 40 49.8 -0.2**
TORD IAmb IAmb 15 40 50.9
comp=Z,81nm,2.0s
TOC7 Torodi Ar. Sit 34.44 250 IAMs_20 IAMs_20 15 56 10.1
comp=Z,2µm,19.0s
TOB5 Torodi Ar. Sit 34.45 250 IAMs_20 IAMs_20 15 56 09.5
comp=Z,2µm,19.0s
TOB4 Torodi Ar. Sit 34.45 250 IAMs_20 IAMs_20 15 56 51.3
comp=Z,3µm,19.0s
OTUK Ortayu 34.69 46 P **P 15 40 51.3 -0.6**
AAK Ala-Archa 34.71 56 P **P 15 40 52.7 +0.5**
comp=Z,14nm,1.1s,baz=256,slow=9.4,SNR=26
AAK Ala-Archa 34.71 56 P **P 15 40 53.6 +1.4**
SNR=6.9
AAK Ala-Archa 34.71 56 *i*P **P 15 40 53.1 +0.8**
SNR=9.0
AAK Ala-Archa 34.71 56*c**e*P **P 15 40 52.9 +0.6**
AAK pmax pmax
comp=Z,128nm,1.7s
AAK MLR MLR
comp=Z,5µm,17.0s
USP Ospenovka 34.83 55 P **P 15 40 53.7 +0.6**
SNR=47
BTLS Baital 34.89 52⇑*i*P **P 15 40 52.9 -0.7**
comp=Z,33nm,1.2s,baz=52
BTLS *i*S **S 15 46 25.7 +1.4**
comp=Z,33nm,3.0s,baz=52
BTLS Baital 34.89 52*c**i*P **P 15 40 52.9 -0.7**
BTLS *i*S **S 15 46 25.7 +1.4**
BTLS pmax pmax
comp=Z,33nm,1.2s
BTLS smax smax
comp=N,33nm,3.0s
SGDS Sogindy 34.96 55⇑*i*P **P 15 40 53.8 -0.5**
comp=N,27nm,1.1s,baz=54
SGDS *e*S **S 15 46 27.1 +1.5**
baz=54
SGDS Sogindy 34.96 55*c**i*P **P 15 40 53.7 -0.5**
SGDS *e*S **S 15 46 27.1 +1.5**
SGDS pmax pmax
comp=Z,27nm,1.1s
CHMS Chumysh 34.96 55 P **P 15 40 55.4 +1.1**
SNR=16
OSL Oslo 34.98 339 *e*P **P 15 40 54.0 -0.1**
KBK Karagaybulak 35.05 56 P **P 15 40 56.9 +1.7**
SNR=13
KONO Kongsberg 35.12 338*c**e*P **P 15 40 54.7 -0.6**
KONO pmax pmax
comp=Z,41nm,2.5s
KONO Kongsberg 35.12 338 *e*P **P 15 40 55.3 0.0**
KONO Kongsberg 35.12 338 P **P 15 40 53.7 -1.6**
NC602 NORSAR Array S 35.37 340 *e*P **P 15 40 56.4 -1.1**
KSH Kashi 35.43 62 P **P 15 40 56.3 -2.1**
KSH sP pP 15 41 02.0 -0.8
KSH S **S 15 46 27.5 -5.5**
KSH pmax pmax
comp=Z,20nm,1.8s
KSH pmax pmax
comp=Z,160nm,2.7s
KSH L L
comp=Z,780nm,7.6s
KSH L L
comp=Z,1µm,8.1s
KSH L L
comp=Z,750nm,8.0s
BRVK Borovoye 35.48 37 P **P 15 40 57.8 -0.7**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK MLR MLR
comp=Z,2µm,19.0s
BRVK Borovoye 35.48 37 P **P 15 40 57.8 -0.7**
BRVK Borovoye 35.48 37 P **P 15 40 58.9 +0.4**
BVAR Borovoye Array 35.52 37 P **P 15 40 56.5 -2.4**
comp=Z,5.0nm,1.0s,baz=238,slow=22,SNR=22
BRZS Berezniki 35.52 43⇑*i*P **P 15 40 58.3 -0.7**
comp=Z,40nm,1.3s,baz=43
BRZS *e*S **S 15 46 35.7 +1.7**
comp=Z,88nm,4.2s,baz=43
BRZS Berezniki 35.52 43*c**i*P **P 15 40 58.3 -0.7**
BRZS *e*S **S 15 46 35.6 +1.7**
BRZS pmax pmax
comp=Z,40nm,1.3s
BRZS smax smax
comp=N,88nm,4.2s
TKM2 Tokmak 2 35.56 56 P **P 15 41 00.2 +0.6**
SNR=70
TKM2 Tokmak 2 35.56 56 P **P 15 40 59.4 -0.2**
NC405 NORSAR Array S 35.62 341 IAmb IAmb 15 41 14.4
comp=Z,26nm,0.8s
NB2 NORSAR Subarra 35.71 341 P **P 15 40 59.3 -1.1**
baz=143,slow=8.6
NOA NORSAR Array B 35.71 341 P **P 15 40 59.2 -1.1**
comp=Z,9.1nm,0.9s,baz=137,slow=9.1,SNR=34
NOA LR LR 15 59 32.3
comp=Z,954nm,18.9s,baz=140,slow=43
PBAR Barrancos 35.72 296 *e*P **P 15 41 00.1 -0.7**
comp=Z,23nm,1.8s
PBAR *i*LQ LQ 15 41 10.1
BOOM Boomskoye usch 35.74 57 P **P 15 41 01.4 +0.3**
BOOM pmax pmax
comp=Z,74nm,1.3s
BOOM Boomskoye usch 35.74 57 P **P 15 41 01.4 +0.3**
PBRG Braganca 35.80 302 *e*P **P 15 41 01.4 -0.1**
comp=Z,20nm,1.6s
PBRG *i*LQ LQ 15 41 08.5
MVO Moncorvo 35.94 301 *e*P **P 15 41 03.1 +0.4**
comp=Z,21nm,1.5s
MVO *i*LQ LQ 15 41 10.2
MVO *e*S **S 15 46 41.8 +1.2**
MVO *e*LR LR 15 49 11.3
comp=Z,2µm,20.0s
PMRV Marv??o 36.06 298 *e*P **P 15 41 04.2 +0.5**
comp=Z,22nm,1.6s
PMRV *i*LQ LQ 15 41 10.6
PMRV *e*S **S 15 46 42.4 -0.1**
PMRV *e*LR LR 15 49 06.3
comp=Z,2µm,20.0s
PCBR Castelo Branco 36.16 299 *e*P P 15 41 10.5 +6.0
comp=Z,16nm,1.9s
PESTR Estremoz 36.19 297 *i*LQ LQ 15 41 13.1
PESTR *e*S **S 15 46 48.5 +4.1**
PVAQ Vaqueiros 36.24 295 *e*P **P 15 41 04.5 -0.7**
comp=Z,35nm,1.7s
PVAQ *i*LQ LQ 15 41 12.1
PVAQ *e*S **S 15 46 43.4 -1.8**
PVAQ *e*LR LR 15 50 31.8
comp=Z,2µm,20.0s
PVAQ Vaqueiros 36.24 295 IAMs_20 IAMs_20 15 56 33.9
comp=Z,3µm,21.0s
MTE Manteigas 36.25 300 *e*S **S 15 46 48.6 +3.1**
MTE *e*LR LR 15 50 05.9
comp=Z,1µm,20.0s
KUU Kurty 36.26 54⇑*i*P **P 15 41 05.5 +0.1**
comp=Z,74nm,1.4s,baz=54
KUU *e*S **S 15 46 48.0 +2.5**
baz=54
KUU Kurty 36.26 54*c**i*P **P 15 41 05.4 +0.1**
KUU *e*S **S 15 46 47.9 +2.5**
KUU pmax pmax
comp=Z,74nm,1.4s
SKAR Skarslia 36.32 338 *e*P **P 15 41 05.8 +0.1**
PBEJ Beja 36.37 296 *i*LQ LQ 15 41 15.8
PBDV Barranco-do-Ve 36.41 294 *e*P **P 15 41 08.7 +2.0**
comp=Z,93nm,1.6s
PBDV *i*LQ LQ 15 41 14.8
PBDV *e*S **S 15 46 53.3 +5.5**
PVRL Vila Real 36.47 301 *e*P **P 15 41 10.2 +3.0**
comp=Z,19nm,1.8s
PVRL *i*LQ LQ 15 41 16.2
PCVE Castro Verde 36.50 295 *e*P P 15 41 02.4 -5.1
PCVE *i*LQ LQ 15 41 20.4
PCVE *e*S **S 15 46 50.4 +1.3**
EVO Evora 36.50 297 *e*P **P 15 41 08.1 +0.6**
comp=Z,54nm,1.6s
EVO *i*LQ LQ 15 41 14.9
POLO Lamas de Olo 36.53 301 *e*P **P 15 41 08.1 +0.3**
comp=Z,12nm,1.8s
POLO *i*LQ LQ 15 41 15.1
POLO *e*S **S 15 46 49.7 -0.1**
PVIS Viseu 36.55 300 *i*LQ LQ 15 41 15.1
AAA Alma-Ata 36.56 56 *e*P **P 15 41 06.6 -1.4**
baz=55
AAA *e*S **S 15 46 51.5 +1.4**
baz=55
AAA Alma-Ata 36.56 56 *e*P **P 15 41 06.6 -1.4**
AAA *e*S **S 15 46 51.5 +1.4**
MDOK Medeo 36.65 56 *e*P **P 15 41 08.1 -0.8**
baz=55
MDOK *e*PP **PnPn 15 42 31.3 -0.7**
baz=55
MDOK *e*S **S 15 46 53.4 +1.7**
baz=55
MDOK Medeo 36.65 56 *e*P **P 15 41 08.0 -0.8**
MDOK *e* 15 42 31.3
MDOK *e*S **S 15 46 53.3 +1.7**
PMTG Montargil 36.69 297 *e*S **S 15 46 53.3 +1.3**
CHKK Chushkaly 36.72 55⇑*i*P **P 15 41 09.7 +0.4**
baz=54
CHKK Chushkaly 36.72 55⇑*i*P **P 15 41 09.6 +0.4**
PNCL Nicolau / Gran 36.90 296 *e*S **S 15 46 54.1 -1.0**
COI Coimbra 36.90 299 *e*S **S 15 46 47.9 -7.3**
PGAV Gavieira, Arco 36.95 302 *e*S **S 15 47 04.9 +8.7**
PCAS Casmilo, Conde 36.95 299 *e*S **S 15 46 59.2 +3.1**
MORF Marmelete 36.98 295 *e*S **S 15 46 56.3 -0.3**
PFVI Vila Bisbo 37.12 294 *e*S **S 15 47 05.8 +7.1**
DOMB Dombas 37.13 340 *e*P **P 15 41 12.8 +0.2**
PSBE So Bento 37.15 298 *e*S **S 15 47 01.8 +2.7**
PMAFR Mafra 37.51 297 *e*S **S 15 47 00.6 -3.9**
SATY Saty 37.62 56⇑*i*P **P 15 41 17.8 +0.6**
comp=Z,103nm,1.8s,baz=56
SATY *e*PP **PnPn 15 42 43.9 +0.1**
baz=56
SATY *e*S **S 15 47 05.8 -0.6**
comp=Z,123nm,3.9s,baz=56
SATY Saty 37.62 56*c**i*P **P 15 41 17.7 +0.6**
SATY *e* 15 42 43.8
SATY *e*S **S 15 47 05.8 -0.6**
SATY pmax pmax
comp=Z,103nm,1.8s
SATY smax smax
comp=N,123nm,3.9s
KPKS Kokpek 37.88 55⇑*i*P **P 15 41 19.0 -0.3**
comp=N,72nm,1.3s,baz=55
KPKS *e*PP **PP 15 42 45.4 -0.2**
baz=55
KPKS *i*S **S 15 47 13.2 +3.0**
comp=N,48nm,2.4s,baz=55
KPKS Kokpek 37.88 55*c**i*P **P 15 41 18.9 -0.3**
KPKS *e* 15 42 45.4
KPKS *i*S **S 15 47 13.1 +3.0**
KPKS pmax pmax
comp=Z,72nm,1.3s
KPKS smax smax
comp=E,48nm,2.4s
TDK Taldyqorghan 37.91 53 *i*P **P 15 41 19.1 -0.3**
comp=E,120nm,1.0s,baz=53
TDK *e*S **S 15 47 11.7 +1.1**
baz=53
TDK Taldyqorghan 37.91 53 *i*P **P 15 41 19.0 -0.3**
TDK *e*S **S 15 47 11.6 +1.1**
TDK pmax pmax
comp=Z,120nm,1.0s
UZB Uzynbulak 38.08 56⇑*i*P **P 15 41 20.6 -0.4**
comp=Z,41nm,1.8s,baz=56
UZB *e*S **S 15 47 13.2 -0.3**
comp=Z,62nm,4.2s,baz=56
UZB Uzynbulak 38.08 56*c**i*P **P 15 41 20.5 -0.4**
UZB *e*S **S 15 47 13.1 -0.3**
UZB pmax pmax
comp=Z,41nm,1.8s
UZB smax smax
comp=N,62nm,4.2s
NSS Namsos 38.38 344 *e*P **P 15 41 22.8 -0.2**
SHLS Shalkode 38.40 56⇑*i*P **P 15 41 26.0 +2.3**
comp=N,51nm,1.7s,baz=56
SHLS *e*S **S 15 47 25.6 +7.3**
comp=N,75nm,2.5s,baz=56
SHLS Shalkode 38.40 56*c**i*P **P 15 41 25.9 +2.3**
SHLS *e*S **S 15 47 25.5 +7.3**
SHLS pmax pmax
comp=Z,51nm,1.7s
SHLS smax smax
comp=N,75nm,2.5s
PDGK Podgornoye 38.44 56 P **P 15 41 23.0 -1.0**
KOWA Kowa 38.55 256 P **P 15 41 24.5 -0.5**
comp=N,9.4nm,0.5s,baz=51,slow=7.9,SNR=14
KOWA Kowa 38.55 256 P **P 15 41 25.1 +0.1**
KOWA IAmb IAmb 15 41 50.8
comp=Z,27nm,0.7s
LVZ Lovozero 38.96 360*c**e*P **P 15 41 27.3 -0.6**
LVZ pmax pmax
comp=Z,81nm,2.5s
LVZ Lovozero 38.96 360 P **P 15 41 27.3 -0.6**
LVZ IAmb IAmb 15 41 52.4
comp=Z,109nm,1.7s
MOR8 Moi Rana 39.27 347 *e*P **P 15 41 29.8 -0.6**
KURBB Kurchatov Arra 39.28 44 P **P 15 41 31.1 +0.4**
comp=Z,21nm,0.9s,baz=262,slow=8.6,SNR=143
KURBB S **S 15 47 27.0 -3.9**
comp=Z,0.3nm,0.4s,baz=265,slow=7.3,SNR=1.1
KURBB Kurchatov Arra 39.28 44 P **P 15 41 30.6 -0.1**
KURK Kurchatov 39.36 44 P **P 15 41 31.2 -0.2**
KONS Konsvik 39.81 347 *e*P **P 15 41 34.5 -0.4**
FAUS Fauske 40.19 349 *e*P **P 15 41 37.4 -0.6**
SEM Semipalatinsk 40.28 45⇑*i*P **P 15 41 39.5 +0.1**
comp=Z,34nm,1.2s,baz=45
SEM Semipalatinsk 40.28 45*c**i*P **P 15 41 39.4 +0.1**
SEM pmax pmax
comp=Z,34nm,1.2s
KTK1 Kautokeino 40.64 354 *e*P **P 15 41 42.0 +0.2**
MAKZ Makanchi 40.66 51 P **P 15 41 42.5 +0.1**
MAKZ pmax pmax
comp=Z,86nm,1.5s
MAKZ MLR MLR
comp=Z,2µm,18.0s
MAKZ Makanchi 40.66 51 P **P 15 41 42.5 +0.1**
MAKZ IAmb IAmb 15 41 44.2
comp=Z,86nm,1.5s
STEI Steigen 40.69 349 *e*P **P 15 41 41.9 -0.2**
MK31 Makanchi Array 40.88 51 P **P 15 41 44.4 +0.3**
MK31 pmax pmax
comp=Z,72nm,1.5s
MK31 Makanchi Array 40.88 51 P **P 15 41 44.4 +0.3**
MK31 IAmb IAmb 15 41 45.9
comp=Z,72nm,1.5s
MKAR Makanchi Array 40.88 51 P **P 15 41 44.1 0.0**
comp=Z,16nm,1.0s,baz=258,slow=6.1,SNR=64
MKAR S **S 15 47 51.5 -3.5**
comp=Z,0.6nm,0.8s,baz=56,slow=15,SNR=1.9
MKAR LR LR 16 01 57.1
comp=Z,2µm,18.9s,baz=264,slow=41
MKAR Makanchi Array 40.88 51 P **P 15 41 44.3 +0.2**
ARA0 ARCESS Array S 40.95 355 *e*P **P 15 41 44.4 0.0**
ARCES ARCESS Array B 40.95 355 P **P 15 41 43.4 -1.1**
comp=Z,1.9nm,0.5s,baz=169,slow=7.0,SNR=18
ARCES LR LR 16 01 06.2
comp=Z,2µm,18.6s,baz=155,slow=40
ARCES ARCESS Array B 40.95 355 P **P 15 41 43.8 -0.6**
ARCES pmax pmax
comp=Z,53nm,1.6s
ARCES ARCESS Array B 40.95 355 P **P 15 41 43.8 -0.6**
LOF Lofoten 41.16 348 *e*P **P 15 41 46.5 +0.4**
JETT Jettan, Norway 41.46 352 *e*P **P 15 41 49.4 +0.8**
HYB Hyderabad 41.70 96 *i*P **P 15 41 51.5 +0.3**
TRO Tromso 41.71 352 *e*P **P 15 41 50.5 -0.1**
HAMF Hammerfest 42.18 355 *e*P **P 15 41 54.2 -0.2**
ZSN Zaisan 42.71 50 *e*P **P 15 42 01.1 +2.0**
comp=Z,80nm,3.1s,baz=50
ZSN *e*S **S 15 48 27.9 +5.7**
baz=50
ZSN Zaisan 42.71 50 *e*P **P 15 42 01.1 +2.0**
ZSN *e*S **S 15 48 27.8 +5.7**
ZSN pmax pmax
comp=Z,80nm,3.1s
DBIC Dimbokro 43.39 247 P **P 15 42 04.0 -0.9**
comp=Z,22nm,1.2s,baz=19,slow=11,SNR=4.5
DBIC LR LR 16 01 59.4
comp=Z,2µm,20.0s,baz=38,slow=39
KIC Kosan Boka 43.48 247 *e*P **P 15 42 04.3 -1.4**
comp=Z,56nm,1.0s
TIC Toumodi 43.54 247 *e*P **P 15 42 04.6 -1.6**
LIC Lamto 43.79 247 *e*P **P 15 42 06.7 -1.5**
comp=Z,190nm,1.7s
ZALV Zalesovo Beam 43.88 41 P **P 15 42 07.8 -0.6**
comp=Z,8.6nm,0.9s,baz=260,slow=8.7,SNR=24
ZALV LR LR 16 02 51.1
comp=Z,648nm,18.6s,baz=252,slow=39
ZALV Zalesovo Beam 43.88 41 P **P 15 42 07.5 -0.9**
PMOZ Porto Moniz, M 44.34 289 *e*LR LR 15 54 55.5
comp=Z,1µm,18.0s
WMQ Urumqi 44.42 56 *e*P **P 15 42 13.5 +0.5**
WMQ sP sP 15 42 20.8 +1.6
WMQ PP **PcP 15 43 57.0 +0.4**

WMQ S **S** **15 48 49.3 +1.9**
WMQ pmax pmax
comp=Z,39nm,1.3s
WMQ pmax pmax
comp=Z,420nm,3.6s
WMQ L L
comp=Z,3µm,15.9s
WMQ L L
comp=Z,2µm,19.9s
WMQ L L
comp=Z,1µm,19.1s
LSZ Lusaka 44.43 189 P **P** **15 42 13.0 -0.3**
comp=Z,6.0nm,0.7s,baz=319,slow=11,SNR=7.8
LSZ Lusaka 44.43 189 P **P** **15 42 12.3 -1.0**
LSZ pmax pmax
comp=Z,20nm,0.9s
LSZ Lusaka 44.43 189 P **P** **15 42 12.3 -1.0**
LSZ Lusaka 44.43 189 IAMs_20 IAMs_20 15 58 16.3
comp=Z,2µm,18.0s
DGZ Jazzator, Alta 44.69 47*c i*P **P** **15 42 15.0 -0.1**
DGZ pmax pmax
comp=Z,38nm,2.0s
PALK Pallekele 48.36 107 LR LR 16 01 27.2
comp=Z,3µm,21.2s,baz=39,slow=34
OPO Ambohidratompo 48.77 164 P **P** **15 42 47.9 +0.5**
comp=Z,16nm,1.0s,baz=328,slow=8.5,SNR=8.5
LSA Lhasa 48.78 75 P **P** **15 42 47.7 -0.2**
LSA Lhasa 48.78 75 IAMs_20 IAMs_20 16 06 48.5
comp=Z,2µm,20.0s
MATP Matopo 49.47 188 P **P** **15 42 52.6 0.0**
comp=Z,9.2nm,1.1s,baz=19,slow=12,SNR=7.3
SPA0 Spitsbergen Ar 49.99 355 *e*P **P** **15 42 56.2 +0.4**
NRIK Noril'sk 50.34 22 P **P** **15 42 58.1 -0.5**
comp=Z,3.3nm,0.7s,baz=230,slow=7.3,SNR=7.2
NRIK LR LR 16 05 55.5
comp=Z,2µm,21.9s,baz=236,slow=38
NRIK Noril'sk 50.34 22*ce*P **P** **15 42 58.5 -0.1**
NRIK pmax pmax
comp=Z,12nm,1.1s
SHL Shillong 50.52 80 P **P** **15 43 00.2 -0.7**
SNR=5.4
KBS Kingsbay 51.03 354 *i* P **P** **15 43 04.3 +0.7**
VOI Vohitsoka 51.90 166 IAMs_20 IAMs_20 16 03 31.0
comp=Z,1µm,20.0s
SCO Scoresbysund 52.00 339 IAMs_20 IAMs_20 16 08 12.0
comp=Z,1µm,18.0s
DBG Daneborg 53.08 344 *i* P **P** **15 43 20.1 +1.1**
MOY Mondy 53.39 45 *e*P **P** **15 43 22.3 +0.5**
MOY pmax pmax
comp=Z,61nm,3.2s
GTA Gaotai 53.82 61 ⇑P **P** **15 43 25.0 -0.1**
GTA pP sP 15 43 32.5 +1.1
GTA sP pP 15 43 36.0 +6.3
GTA S **S** **15 50 58.8 -0.8**
GTA SS **SS** **15 54 41.0 +0.6**
GTA pmax pmax
comp=Z,18nm,1.2s
GTA pmax pmax
comp=Z,210nm,7.8s
GTA L L
comp=Z,920nm,18.5s
GTA L L
comp=Z,1µm,18.2s
GTA L L
comp=Z,2µm,17.4s
DAG Danmarks Havn 53.90 347 *e*P **P** **15 43 24.2 -0.7**
DAG Danmarks Havn 53.90 347 *e*P **P** **15 43 24.2 -0.7**
LBTB Lobatse 54.38 190 P **P** **15 43 29.6 +0.4**
LBTB Lobatse 54.38 190 P **P** **15 43 29.6 +0.4**
ZAK Zakamensk 54.90 47 *e*P **P** **15 43 32.4 -0.4**
ZAK pmax pmax
comp=Z,20nm,1.2s
TLY Talaya 55.04 45 *e*P **P** **15 43 34.2 +0.5**
TLY *e*S S 15 51 25.9 +10
TLY pmax pmax
comp=Z,45nm,1.4s
TLY MLR MLR
comp=Z,2µm,15.0s
TLY Talaya 55.04 45 IAMs_20 IAMs_20 16 10 07.5
comp=Z,879nm,19.0s
IRK Irkutsk 55.39 44 *e*P **P** **15 43 35.0 -1.2**
IRK pmax pmax
comp=Z,52nm,2.2s
NOR Nord 56.15 352 *i* P **P** **15 43 40.7 -0.6**
NOR *i* 15 43 48.1
NOR Nord 56.15 352 *i* P **P** **15 43 40.6 -0.6**
NOR *i* 15 43 48.0
SONM Songino Array 57.22 50 P **P** **15 43 49.5 +0.1**
comp=Z,10nm,1.1s,baz=270,slow=7.6,SNR=41
SONM LR LR 16 11 42.2
comp=Z,2µm,19.2s,baz=275,slow=40
SONM Songino Array 57.22 50 P **P** **15 43 48.7 -0.8**
SONM pmax pmax
comp=Z,23nm,1.2s
SONM Songino Array 57.22 50 P **P** **15 43 48.7 -0.8**
SONM IAmb IAmb 15 43 57.9
comp=Z,23nm,1.2s
SUMG Summit 57.60 340 *i* P **P** **15 43 51.5 -0.5**
SUMG IAmb IAmb 15 43 53.2
comp=Z,24nm,1.2s
SUMG Summit 57.60 340 P **P** **15 43 51.9 -0.1**
SUMG pmax pmax
comp=Z,40nm,1.3s
SUMG Summit 57.60 340 P **P** **15 43 51.9 -0.1**
SUMG IAmb IAmb 15 44 10.2
comp=Z,40nm,1.3s
LZH Lanzhou 57.64 64 *e*P **P** **15 43 53.3 +0.7**
LZH sP sP 15 44 03.5 +4.5
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,210nm,6.0s
LZH L L
comp=Z,390nm,16.0s
LZH L L
comp=Z,500nm,17.4s
LZH L L
comp=Z,420nm,17.3s
ULN Ulaanbaatar 57.65 49 *i* P **P** **15 43 51.6 -0.9**
ULN pmax pmax
comp=Z,25nm,1.4s
ULN Ulaanbaatar 57.65 49 P **P** **15 43 52.3 -0.2**
ULN IAmb IAmb 15 44 00.8
comp=Z,25nm,1.3s
ULN Ulaanbaatar 57.65 49 P **P** **15 43 52.8 +0.3**
comp=Z,64nm,1.6s
ICESG Greenland Ices 57.69 336 *i* P **P** **15 43 52.8 +0.1**
BOSA Boshof 57.96 190 P **P** **15 43 54.2 -0.5**
comp=Z,12nm,1.2s,baz=27,slow=8.0,SNR=5.5
BOSA LR LR 16 06 30.6
comp=Z,1µm,18.1s,baz=6.5,slow=34
CD2 Chengdu 58.97 70 P **P** **15 44 00.5 -1.4**
CD2 S **S** **15 52 10.0 +2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 L L
comp=Z,3µm,28.4s
CD2 L L
comp=Z,1µm,21.6s
CD2 L L
comp=Z,2µm,21.6s
CMAR Chiang Mai Arr 59.13 85 P **P** **15 44 01.8 -1.3**
comp=Z,2.1nm,1.0s,baz=295,slow=7.5,SNR=8.6
CMAR LR LR 16 12 27.2
comp=Z,847nm,21.6s,baz=328,slow=39
CMAR Chiang Mai Arr 59.13 85 P **P** **15 44 01.5 -1.6**
CMAR Chiang Mai Arr 59.13 85 P **P** **15 44 01.5 -1.6**
KMI Kunming 59.97 76 ⇑P **P** **15 44 10.5 +1.4**
KMI pP sP 15 44 19.0 +3.6
KMI sP pP 15 44 22.3 +8.6
KMI S **S** **15 52 25.0 +3.6**
KMI SS **SS** **15 56 22.0 +4.2**
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI pmax pmax
comp=Z,88nm,5.7s
KMI L L
comp=Z,680nm,20.0s
KMI L L
comp=Z,560nm,20.5s
KMI L L
comp=Z,560nm,21.8s
DY2G Dye2 60.23 333 *i* P **P** **15 44 10.7 +0.5**
DY2G *i* 15 44 25.8
BOD Bodaibo 60.39 37 *e*P **P** **15 44 10.3 -0.9**
BOD pmax pmax
comp=Z,44nm,1.5s
NEEM North Greenlan 61.04 346 *e*P **P** **15 44 15.2 -0.4**
CIT Chita 61.09 44 *e*P P 15 44 23.1 +7.0
CIT *e* 15 46 39.1
XAN Xi'an 62.20 65 ⇑P **P** **15 44 23.0 -0.9**
XAN S **S** **15 52 48.5 -0.8**
XAN ScS **SKKSac** **15 54 14.3 -1.6**
XAN pmax pmax
comp=Z,16nm,1.3s
XAN pmax pmax
comp=Z,380nm,11.6s
XAN L L
comp=Z,2µm,22.8s
XAN L L
comp=Z,510nm,20.6s
XAN L L
comp=Z,2µm,20.6s
XAN Xi'an 62.20 65 P **P** **15 44 23.3 -0.6**
XAN Xi'an 62.20 65 P **P** **15 44 23.3 -0.6**
HHC Hu-ho-hao-te 62.29 57 *e*P **P** **15 44 25.0 +0.5**
HHC sP sP 15 44 32.5 +1.7
HHC S **S** **15 52 52.8 +2.5**
HHC sS pS 15 52 56.3 +0.5
HHC pmax pmax
comp=Z,26nm,1.2s
HHC pmax pmax
comp=Z,380nm,6.8s
HHC L L
comp=Z,1µm,15.4s
HHC L L
comp=Z,350nm,14.9s
HHC L L
comp=Z,1µm,17.9s
GYA Guiyang 62.82 73 P **P** **15 44 26.8 -1.4**
GYA pP pP 15 44 34.0 +1.1
GYA S **S** **15 52 52.8 -4.6**
GYA SS **SS** **15 57 03.5 +1.2**
GYA pmax pmax
comp=Z,4.0nm,1.4s
GYA pmax pmax
comp=Z,32nm,3.5s
GYA L L
comp=Z,110nm,18.9s
GYA L L
comp=Z,130nm,19.0s
GYA L L
comp=Z,170nm,20.2s
NONG Nongkai 62.95 83 P P 15 44 41.1 +12
TIY Taiyuan 63.82 60 *e*P P 15 44 41.5 +6.8
TIY sP **PcP** **15 45 07.5 -3.0**
TIY S **S** **15 53 10.5 +1.0**
TIY sS sS 15 53 37.8 +21
TIY Taiyuan 63.82 60 SS SS 15 57 13.3 -4.0
TIY pmax pmax
comp=Z,210nm,7.1s
TIY L L
comp=Z,440nm,11.1s
TIY L L
comp=Z,1µm,20.3s
TIY L L
comp=Z,750nm,16.3s
TIXI Tiksi 64.10 21 *i* P **P** **15 44 34.4 -1.4**
TIXI Tiksi 64.10 21 IAMs_20 IAMs_20 16 15 43.7
comp=Z,923nm,19.0s
BJI Beijing 65.89 56 P **P** **15 44 47.3 -0.7**
BJI S **S** **15 53 36.5 +1.8**
BJI pmax pmax
comp=Z,10.0nm,1.1s
BJI L L
comp=Z,2µm,17.0s
BJI L L
comp=Z,960nm,16.8s
BJI L L
comp=Z,1µm,19.9s
BJT Baijiatuau 65.89 56 IAMs_20 IAMs_20 16 17 26.9
comp=Z,751nm,19.0s
UBPT Khong Chiam 66.12 85 P P 15 45 01.6 +12
UBPT Khong Chiam 66.12 85 P P 15 45 01.6 +12
EUNU Eureka 66.69 351 IAmb IAmb 15 45 01.0
comp=Z,14nm,0.8s
YAK Yakutsk 67.11 31 *e*P **P** **15 44 55.5 +0.2**
YAK *e**PP **sP** **15 45 05.0 +3.4**
YAK *e* 15 45 26.6
YAK *e* 15 47 21.6
YAK *e*PPP PPP 15 48 55.9
YAK *e*S **S** **15 53 51.2 +2.5**
YAK *e**SS sS 15 54 05.6 +9.3
YAK *e*SS **SS** **15 58 10.7 +3.7**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,59nm,2.8s
YAK pmax pmax
comp=E,36nm,2.5s
YAK pmax pmax
comp=N,32nm,2.5s
YAK smax smax
comp=E,208nm,11.6s
YAK smax smax
comp=N,169nm,10.9s
YAK MLR MLR
comp=Z,770nm,16.0s
YAK MLR MLR
comp=N,486nm,18.0s
YAK MLR MLR
comp=E,728nm,15.0s
YAK Yakutsk 67.11 31 IAMs_20 IAMs_20 16 18 15.5
comp=Z,849nm,19.0s
WHN Wuhan 67.70 67 ⇑P **P** **15 44 59.0 -0.6**
WHN S **S** **15 53 59.8 +2.9**
WHN pmax pmax
comp=Z,50nm,1.0s
WHN L L
comp=Z,1µm,11.2s
WHN L L
comp=Z,1µm,11.8s
WHN L L
comp=Z,3µm,16.6s
MNSI Mandailing Nat 67.75 102 P P 15 45 11.5 +11
TIA Tai'an 67.86 60 P **P** **15 44 59.8 -0.8**
TIA pmax pmax
comp=Z,9.0nm,0.9s
QIZ Qiongzhong 68.36 80 P **P** **15 45 03.5 -0.5**
QIZ PP **PP** **15 47 34.5 -0.3**
QIZ S **S** **15 54 08.0 +2.9**
QIZ SS **SS** **15 58 33.0 +4.5**
QIZ pmax pmax
comp=Z,14nm,0.9s
QIZ pmax pmax
comp=Z,350nm,9.8s
QIZ L L
comp=Z,780nm,26.5s
QIZ L L
comp=Z,370nm,24.5s
QIZ L L
comp=Z,430nm,16.5s
ZEA Zeya 68.63 40 *e*P **P** **15 45 05.7 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
DL2 Dalian 70.24 56 P **P** **15 45 13.5 -1.8**
DL2 sP **sP** **15 45 22.0 +0.3**
DL2 S **S** **15 54 26.5 -0.3**
DL2 pmax pmax
comp=Z,17nm,1.3s
DL2 pmax pmax
comp=Z,290nm,5.3s
DL2 L L
comp=Z,980nm,17.9s
DL2 L L
comp=Z,710nm,17.7s
DL2 L L
comp=Z,880nm,21.1s
NJ2 Nanjing 70.71 64 *e*P **P** **15 45 17.8 -0.5**
NJ2 S **S** **15 54 37.0 +4.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
NJ2 pmax pmax
comp=Z,270nm,4.1s
NJ2 L L
comp=Z,2µm,17.1s
NJ2 L L
comp=Z,750nm,19.9s
NJ2 L L
comp=Z,620nm,17.5s
KLR Kul'dur 72.94 43 P **P** **15 45 30.4 -1.0**
comp=Z,2.8nm,0.9s,baz=281,slow=7.2,SNR=6.0
KLR Kul'dur 72.94 43 *i* P **P** **15 45 29.4 -2.0**
KLR pmax pmax
comp=Z,12nm,1.3s
SCHQ Schefferville 73.05 324 P **P** **15 45 31.3 -0.7**
comp=Z,2.8nm,0.7s,baz=60,slow=8.1,SNR=4.4
SCHQ LR LR 16 20 21.3
comp=Z,225nm,18.1s,baz=85,slow=38
KNMB Chin-men Tao 73.37 71 IAMs_20 IAMs_20 16 21 03.9
comp=Z,712nm,21.0s
MDSI Maura Dua 74.40 104 P **P** **15 45 41.0 +0.5**
GRNR Gornyy 74.98 40⇓ *i* P **P** **15 45 43.2 -0.1**
GRNR pmax pmax
comp=Z,3.0nm,1.2s
GRNR MLR MLR
comp=E,410nm,15.0s
GRNR MLR MLR
comp=N,580nm,18.0s
GRNR MLR MLR
comp=Z,670nm,14.0s
USRK Ussuriysk Ar. 75.24 48 P **P** **15 45 43.6 -1.3**
comp=Z,1.8nm,0.7s,baz=314,slow=4.8,SNR=3.7
USRK LR LR 16 23 46.0
comp=Z,989nm,19.0s,baz=288,slow=40
KSRS Korea Array 75.37 55 P **P** **15 45 44.7 -1.1**
comp=Z,2.5nm,0.9s,baz=304,slow=5.8,SNR=6.6
KSRS LR LR 16 23 38.1
comp=Z,1µm,18.8s,baz=300,slow=40
HAL Halifax 75.69 313 IAMs_20 IAMs_20 16 18 57.9
comp=Z,542nm,18.0s
SEY Seymchan 75.98 25 P **P** **15 45 48.3 -0.6**
comp=Z,4.5nm,0.9s,baz=230,slow=3.8,SNR=9.1
SEY Seymchan 75.98 25 *i* P **P** **15 45 47.7 -1.1**
BATG Bathurst New B 76.03 316 IAMs_20 IAMs_20 16 19 10.6
comp=Z,609nm,20.0s
TWG Pinlang 76.29 71 IAMs_20 IAMs_20 16 23 52.6
comp=Z,660nm,18.0s
BILL Bilibino 76.84 17⇑ *i* P **P** **15 45 52.9 -0.7**
BILL *e**PP **pP** **15 45 56.7 -1.5**
BILL *e* 15 46 02.0
BILL *e*S **S** **15 55 47.3 +6.9**
BILL pmax pmax
comp=Z,17nm,1.4s
BILL MLR MLR
comp=Z,857nm,22.0s
BILL Bilibino 76.84 17 IAMs_20 IAMs_20 16 22 25.8
comp=Z,689nm,21.0s
MA2 Magadan 77.36 28 IAMs_20 IAMs_20 16 23 13.5
comp=Z,822nm,21.0s
D63A Stockholm 77.38 317 P 15 45 56.5
baz=61
E64A Bridgewater 77.51 316 P 15 45 55.7
baz=61
E63A Oxbow 77.86 316 IAMs_20 IAMs_20 16 20 40.0
comp=Z,692nm,19.0s
E63A Oxbow 77.86 316 P 15 45 59.4
baz=61
D62A Allapoint, All 77.92 317 P **P** **15 46 00.7 +0.6**
D62A IAmb IAmb 15 46 17.1
comp=Z,31nm,1.4s
D62A IAMs_20 IAMs_20 16 19 40.4
comp=Z,741nm,22.0s
D62A Allapoint, All 77.92 317 P 15 45 58.6
baz=60
H66A Whiting 77.97 315 P 15 46 03.0
baz=61
F64A Sherman 78.09 316 P 15 46 02.1
baz=61
EMMW East Machias 78.10 315 IAMs_20 IAMs_20 16 20 58.6
comp=Z,649nm,19.0s
E62A Clayton Lake 78.43 317 IAMs_20 IAMs_20 16 20 05.9
comp=Z,702nm,22.0s
E62A Clayton Lake 78.43 317 P 15 46 03.0
baz=60
F62A Pittston Farm, 79.06 317 IAMs_20 IAMs_20 16 21 56.6
comp=Z,538nm,20.0s
G62A West of Eustis 79.74 316 IAMs_20 IAMs_20 16 25 39.8
comp=Z,620nm,19.0s
F60A Warwick 80.21 317 P 15 46 13.4
baz=58
JOW Kunigami 80.36 65 IAMs_20 IAMs_20 16 27 54.5
comp=Z,627nm,20.0s
I63A Otisfield 80.37 315 IAMs_20 IAMs_20 16 25 42.5
comp=Z,630nm,19.0s
YSS Yuzh-Sakhalins 80.50 41 *e*P P 15 46 29.8 +16
YSS *e* 16 01 32.6
YSS pmax pmax
comp=Z,20nm,0.6s
YSS pmax pmax
comp=Z,300nm,4.9s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS MLR MLR
comp=E,700nm,19.0s
YSS Yuzh-Sakhalins 80.50 41 IAMs_20 IAMs_20 16 26 14.5
comp=Z,812nm,21.0s
C36M Paulatuk 80.76 353 IAMs_20 IAMs_20 16 25 25.4
comp=Z,528nm,20.0s
I62A Tamworth 80.93 315 P 15 46 16.6
baz=58
H61A Lyndonville 80.95 316 P 15 46 16.1
baz=58
LBNH Lisbon 81.10 316 IAMs_20 IAMs_20 16 22 12.7
comp=Z,620nm,20.0s
D56A ZEC Mazanza, M 81.26 319 P 15 46 18.3
baz=57
D55A Sainte-Anne-du 81.69 320 P 15 46 19.3
baz=56
FRNY Flat Rock 81.79 317 IAMs_20 IAMs_20 16 25 31.8
comp=Z,603nm,20.0s
VLDQ Val d'Or 82.18 321 IAMs_20 IAMs_20 16 23 51.0
comp=Z,750nm,21.0s
RDOG Red Dog Mine 82.39 7 P **P** **15 46 23.2 -0.6**
RDOG IAMs_20 IAMs_20 16 28 56.5
comp=Z,480nm,19.0s
RDOG Red Dog Mine 82.39 7 P 15 46 23.6
baz=344
LONY Lake Ozonia 82.50 317 IAMs_20 IAMs_20 16 24 54.6
comp=Z,553nm,21.0s
ACCN Adirondack Com 82.62 316 IAMs_20 IAMs_20 16 27 09.0
comp=Z,538nm,19.0s
INK Inuvik 82.63 356 P **P** **15 46 22.9 -2.1**
comp=Z,1.4nm,0.6s,baz=305,slow=2.4,SNR=4.2
INK Inuvik 82.63 356 P 15 46 23.3
baz=10
TOLK Tooik Lake Re 82.64 2 P 15 46 25.5
baz=356
TRY Troy 82.98 315 IAMs_20 IAMs_20 16 27 31.5
comp=Z,525nm,20.0s
MAT Matsushiro 83.06 52 P **P** **15 46 30.7 +2.8**
MAT *e*S **S** **15 56 44.6 -2.5**
MJAR Matsushiro Arr 83.06 52 P **P** **15 46 26.5 -1.4**
comp=Z,3.5nm,0.9s,baz=303,slow=3.4,SNR=4.5
J58A Remsen 83.62 316 IAMs_20 IAMs_20 16 26 26.4
comp=Z,535nm,18.0s
J58A Remsen 83.62 316 P 15 46 28.5
baz=56
PLVO Plevna 83.73 319 IAMs_20 IAMs_20 16 23 52.0
comp=Z,727nm,21.0s
BMAR Burnt Mountain 83.90 360 P **P** **15 46 32.4 +0.7**
COLD Coldfoot 84.04 2 IAMs_20 IAMs_20 16 28 02.1
comp=Z,544nm,21.0s
COLD Coldfoot 84.04 2 P 15 46 30.9
baz=356
TNA Tin City 84.17 9 IAMs_20 IAMs_20 16 29 21.6
comp=Z,681nm,21.0s
PECO Prince Edward 84.31 318 IAMs_20 IAMs_20 16 24 10.7
comp=Z,600nm,21.0s
DELO Deloro Mine 84.34 318 IAMs_20 IAMs_20 16 23 50.4
comp=Z,684nm,21.0s
BINY Binghamton 84.70 316 IAMs_20 IAMs_20 16 24 42.0
comp=Z,662nm,22.0s
EPYK Eagle Plains 84.74 357 IAmb IAmb 15 46 55.2
comp=Z,14nm,0.7s
EPYK Eagle Plains 84.74 357 P 15 46 35.1
baz=7.5
PET Petropavlovsk 84.93 30 *e*P **P** **15 46 37.4 +0.3**
PET *e*S **S** **15 57 00.8 -4.4**
PET *e*PPS PPS 15 58 16.4
PET *e*SS **SS** **16 02 34.5 -2.2**

PET MLR MLR
comp=Z,700nm,19.0s
PET MLR MLR
comp=Z,900nm,18.0s
PET Petropavlovsk 84.93 30 IAMs_20 IAMs_20 16 25 45.8
comp=Z,681nm,20.0s
SADO Sadowa 85.08 319 IAMs_20 IAMs_20 16 30 43.7
comp=Z,559nm,20.0s
K56A Middlesex 85.23 317 P 15 46 38.2
baz=54
N59A State Game Lan 85.29 315 IAMs_20 IAMs_20 16 29 02.8
comp=Z,603nm,20.0s
N59A State Game Lan 85.29 315 P 15 46 39.2
baz=55
SKR Severo-Kuril's 85.34 33 *e*P P 15 46 33.7 -5.5
SKR *e*S S 15 56 59.7 -10
SKR pmax pmax
comp=Z,6.0nm,0.7s
SKR pmax pmax
comp=Z,100nm,3.8s
SKR MLR MLR
comp=Z,300nm,17.0s
SKR MLR MLR
comp=Z,300nm,21.0s
H23K Yukon River 85.46 2 P 15 46 40.2
baz=356
H24K Nodor Dome 85.48 1 P 15 46 39.4
baz=358
H21K Melozitna Rive 85.51 3 P 15 46 39.2
baz=353
MMNY Mt. Morris Dam 85.56 317 IAMs_20 IAMs_20 16 27 25.5
comp=Z,467nm,20.0s
YKA Yellowknife Ar 85.59 346 P **P 15 46 39.5 -0.7**
comp=Z,2.7nm,0.8s,baz=31,slow=4.8,SNR=13
MPSI Mapaga 85.63 92 P **P 15 46 43.4 +2.2**
PRP Porcupine Dome 85.83 0 P 15 46 41.0
baz=360
P60A Greenville 85.83 314 IAMs_20 IAMs_20 16 28 50.2
comp=Z,427nm,19.0s
I21K Tanana 86.02 3 P 15 46 43.4
baz=354
I23K Minto, Yukon-K 86.14 2 P 15 46 44.6
baz=356
WVNY West Valley, N 86.16 317 IAMs_20 IAMs_20 16 25 34.6
comp=Z,590nm,21.0s
MLY Manley 86.22 2 P 15 46 42.4
baz=355
PAGS Pennsylvania G 86.28 314 IAMs_20 IAMs_20 16 26 34.0
comp=Z,479nm,20.0s
MDM Murphy Dome 86.36 1 IAmb IAmb 15 48 00.1
comp=Z,18nm,1.2s
EGAK Eagle 86.51 358 IAmb IAmb 15 46 57.5
comp=Z,21nm,1.4s
ILAR Eielson Array 86.57 1 P **P 15 46 43.3 -1.7**
comp=Z,0.9nm,1.0s,baz=334,slow=4.2,SNR=5.8
ILAR LR LR 16 28 49.4
comp=Z,228nm,20.8s,baz=354,slow=38
HDA Harding Lake 86.93 1 P 15 46 46.2
baz=359
HDA P 15 46 46.2
baz=359
BPAW Bear Paw Mtn. 87.14 2 P **P 15 46 47.6 -0.2**
BPAW IAmb IAmb 15 47 18.6
comp=Z,15nm,1.3s
BPAW Bear Paw Mtn. 87.14 2 P 15 46 46.3
baz=355
ERPA Erie 87.16 317 IAMs_20 IAMs_20 16 25 58.0
comp=Z,582nm,20.0s
K27K Chicken 87.29 359 IAmb IAmb 15 47 29.7
comp=Z,16nm,1.2s
K27K Chicken 87.29 359 P 15 46 47.6
baz=2.8
M54A Oil Creek Stat 87.33 317 IAMs_20 IAMs_20 16 26 30.6
comp=Z,616nm,22.0s
SCRK Sand Creek 87.37 359 P **P 15 46 48.7 -0.4**
SCRK IAmb IAmb 15 47 21.4
comp=Z,16nm,1.2s
SCRK Sand Creek 87.37 359 P 15 46 48.3
baz=1.2
O56A Blue Knob Stat 87.41 315 P 15 46 49.9
baz=54
MCK McKinley 87.58 2 P 15 46 48.7
baz=357
I49A Point Hope 87.67 320 IAMs_20 IAMs_20 16 31 43.3
comp=Z,460nm,20.0s
DOT Dot Lake 87.70 359 IAmb IAmb 15 48 03.9
comp=Z,32nm,1.8s
TRF Thorofare Moun 87.82 2 P **P 15 46 51.4 +0.1**
TRF IAMs_20 IAMs_20 16 30 10.0
comp=Z,459nm,21.0s
TRF Thorofare Moun 87.82 2 P 15 46 50.5
baz=356
N54A Moraine State 87.86 316 IAMs_20 IAMs_20 16 26 31.5
comp=Z,618nm,21.0s
N54A Moraine State 87.86 316 P 15 46 52.1
baz=53
CBN Corbin Frederi 87.86 313 IAMs_20 IAMs_20 16 29 35.0
comp=Z,471nm,20.0s
M53A WI Miller and 87.98 317 IAMs_20 IAMs_20 16 26 49.6
comp=Z,438nm,20.0s
M53A WI Miller and 87.98 317 P 15 46 52.3
baz=52
TTA Tatalina 88.02 5 IAMs_20 IAMs_20 16 34 03.4
comp=Z,434nm,18.0s
T60A Surry 88.07 312 IAMs_20 IAMs_20 16 29 09.6
comp=Z,445nm,21.0s
BCAR Beaver Creek A 88.25 358 P **P 15 46 52.8 -0.4**
L27K Beaver Creek, 88.25 358 P **P 15 46 52.6 -0.6**
L27K Beaver Creek, 88.25 358 P 15 46 52.9
baz=3.0
M52A Chesterland 88.32 318 IAMs_20 IAMs_20 16 26 20.7
comp=Z,596nm,21.0s
E43A Lone Tree Farm 88.35 324 IAMs_20 IAMs_20 16 31 43.8
comp=Z,580nm,19.0s
PAX Paxson 88.39 0 P 15 46 53.2
baz=360
N53A Lisbon 88.46 317 IAMs_20 IAMs_20 16 27 14.5
comp=Z,552nm,20.0s
Q56A Snyder Ridge, 88.52 315 IAMs_20 IAMs_20 16 27 31.2
comp=Z,507nm,20.0s
G45A Suttons Bay 88.53 322 IAMs_20 IAMs_20 16 31 43.6
comp=Z,449nm,19.0s
FFC Flin Flon 88.70 337 IAMs_20 IAMs_20 16 31 06.3
comp=Z,567nm,19.0s
WAT6 Susitna Watana 88.75 1 P 15 46 55.2
baz=358
L19K White Mountain 88.85 4 P 15 46 56.6
baz=352
O53A New Philadelph 89.03 316 IAMs_20 IAMs_20 16 30 57.5
comp=Z,429nm,20.0s
S57A Dark Hollow, R 89.14 313 IAMs_20 IAMs_20 16 30 16.6
comp=Z,427nm,19.0s
AAM Ann Arbor 89.18 319 IAMs_20 IAMs_20 16 25 30.3
comp=Z,579nm,22.0s
SKT Skwentna 89.24 3 P 15 46 56.6
baz=355
J47A Sunmer 89.24 321 IAMs_20 IAMs_20 16 27 12.7
comp=Z,483nm,21.0s
N51A Ashland 89.31 318 IAMs_20 IAMs_20 16 27 12.8
comp=Z,624nm,21.0s
O52A Adamsville 89.49 317 IAMs_20 IAMs_20 16 30 21.6
comp=Z,480nm,19.0s
EYMN Ely 89.50 327 IAMs_20 IAMs_20 16 31 41.0
comp=Z,500nm,19.0s
R55A Marlinton 89.56 314 IAMs_20 IAMs_20 16 31 24.7
comp=Z,542nm,19.0s
COWI Conover 89.63 325 IAMs_20 IAMs_20 16 28 22.6
comp=Z,398nm,18.0s
ULM Lac du Bonnet 89.80 331 LR LR 16 28 46.0
comp=Z,366nm,21.6s,baz=54,slow=37
ULM Lac du Bonnet 89.80 331 IAMs_20 IAMs_20 16 28 02.7
comp=Z,561nm,22.0s
L48A N Adams 89.86 319 IAMs_20 IAMs_20 16 30 21.7
comp=Z,505nm,20.0s
H43A Windswept, Lux 90.03 323 IAMs_20 IAMs_20 16 31 57.0
comp=Z,475nm,19.0s
ACSO Alum Creek Sta 90.10 317 IAMs_20 IAMs_20 16 26 44.2
comp=Z,637nm,22.0s
BLA Blacksburg 90.40 314 IAMs_20 IAMs_20 16 32 24.0
comp=Z,435nm,20.0s
V58A Windy Hill, Pi 90.41 312 IAMs_20 IAMs_20 16 24 59.5
comp=Z,434nm,20.0s
SJG San Juan 90.46 291 IAMs_20 IAMs_20 16 22 31.1
comp=Z,491nm,22.0s
L46A Eue Claire 90.86 320 IAMs_20 IAMs_20 16 27 23.7
comp=Z,633nm,22.0s
Y60A Bolivia 90.88 310 IAMs_20 IAMs_20 16 28 32.1
comp=Z,475nm,19.0s

I42A Draeger Farm, 91.03 323 IAMs_20 IAMs_20 16 32 08.8
comp=Z,462nm,18.0s
Q51A Peebles 91.08 317 IAMs_20 IAMs_20 16 30 10.8
comp=Z,406nm,20.0s
AGMN Agassiz Nation 91.25 330 IAMs_20 IAMs_20 16 35 32.2
comp=Z,478nm,21.0s
BDFB Brasilia 91.27 253 LR LR 16 29 40.7
comp=Z,1µm,18.1s,baz=58,slow=37
N47A Urbana 91.27 319 IAMs_20 IAMs_20 16 26 53.5
comp=Z,506nm,21.0s
SMY Shemya 91.27 23 IAMs_20 IAMs_20 16 32 07.3
comp=Z,492nm,21.0s
X58A Rowland 91.30 311 IAMs_20 IAMs_20 16 28 21.1
comp=Z,488nm,19.0s
Y59A Loris 91.33 310 IAMs_20 IAMs_20 16 34 55.9
comp=Z,414nm,20.0s
W57A Gilead 91.37 312 IAMs_20 IAMs_20 16 30 48.1
comp=Z,482nm,19.0s
SKAG Skagway 91.52 355 IAMs_20 IAMs_20 16 35 05.9
comp=Z,428nm,20.0s
K43A Burlington 91.52 322 IAMs_20 IAMs_20 16 34 21.0
comp=Z,391nm,19.0s
P49A Miami Univ. Ec 91.57 318 IAMs_20 IAMs_20 16 27 38.7
comp=Z,697nm,22.0s
HQIL Hanson Quary C 91.87 321 IAMs_20 IAMs_20 16 31 41.3
comp=Z,478nm,18.0s
Y58A Scranton 91.90 311 IAMs_20 IAMs_20 16 36 37.2
comp=Z,564nm,20.0s
I40A Norwalk 91.92 324 IAMs_20 IAMs_20 16 33 36.2
comp=Z,538nm,19.0s
BIRD Birdtown, Kers 91.98 312 IAMs_20 IAMs_20 16 26 29.1
comp=Z,503nm,22.0s
DLBC Dease Lake 92.00 352 IAMs_20 IAMs_20 16 33 08.7
comp=Z,491nm,22.0s
M44A Midewin, Midew 92.25 321 IAMs_20 IAMs_20 16 33 13.5
comp=Z,463nm,18.0s
Y57A Sumter 92.32 311 IAMs_20 IAMs_20 16 28 43.1
comp=Z,400nm,20.0s
SFIN Lafayette 92.40 319 IAMs_20 IAMs_20 16 35 28.4
comp=Z,460nm,20.0s
JFWS Jewell Farm 92.40 323 IAMs_20 IAMs_20 16 29 50.2
comp=Z,375nm,19.0s
D32A Dogwood Acres, 92.64 329 IAMs_20 IAMs_20 16 36 22.0
comp=Z,599nm,21.0s
R49A Shelbyville 92.65 317 IAMs_20 IAMs_20 16 31 30.2
comp=Z,531nm,20.0s
L42A Oliver, Polo 92.72 322 IAMs_20 IAMs_20 16 28 43.8
comp=Z,447nm,20.0s
JSC Jenkinsville 92.72 312 IAMs_20 IAMs_20 16 32 33.8
comp=Z,454nm,21.0s
PAULI Pauline 92.75 313 IAMs_20 IAMs_20 16 29 28.5
comp=Z,413nm,20.0s
TZTN Tazewell 92.78 315 IAMs_20 IAMs_20 16 32 55.8
comp=Z,496nm,20.0s
MDND Maddock 93.22 331 IAMs_20 IAMs_20 16 34 30.1
comp=Z,372nm,18.0s
O44A Mansfield 93.33 320 IAMs_20 IAMs_20 16 28 23.9
comp=Z,578nm,22.0s
WCI Wyandotte Cave 93.36 317 IAMs_20 IAMs_20 16 28 43.9
comp=Z,597nm,20.0s
KDAK Kodiak Island 93.37 4 IAMs_20 IAMs_20 16 34 17.8
comp=Z,449nm,20.0s
TKL Tuckaleechee C 93.48 314 IAMs_20 IAMs_20 16 33 45.5
comp=Z,252nm,18.0s
SC01 Santiago de lo 93.48 294 IAMs_20 IAMs_20 16 35 45.8
comp=Z,394nm,19.0s
HDIL Hopedale 93.51 321 IAMs_20 IAMs_20 16 29 41.8
comp=Z,496nm,20.0s
V51A Loudon 93.75 315 IAMs_20 IAMs_20 16 32 28.6
comp=Z,501nm,21.0s
OHAK Old Harbor 93.89 4 IAMs_20 IAMs_20 16 36 19.4
comp=Z,496nm,22.0s
W52A Muny 93.93 314 IAMs_20 IAMs_20 16 26 05.6
comp=Z,480nm,22.0s
BATI Baumata 93.97 99 LR LR 16 33 23.9
comp=Z,1µm,19.4s,baz=282,slow=38
CPCT Cooper Cave 94.08 314 IAMs_20 IAMs_20 16 31 55.4
comp=Z,429nm,21.0s
WRAK Wrangell Islan 94.25 353 IAMs_20 IAMs_20 16 35 20.0
comp=Z,510nm,21.0s
N41A Harden Midland 94.27 322 IAMs_20 IAMs_20 16 31 31.6
comp=Z,433nm,22.0s
P43A Skaggs, Pawnee 94.27 320 IAMs_20 IAMs_20 16 36 09.8
comp=Z,416nm,20.0s
Q44A Meyer Farm, Va 94.49 319 IAMs_20 IAMs_20 16 31 58.7
comp=Z,488nm,20.0s
DGMT Dagmar 94.58 334 IAMs_20 IAMs_20 16 28 57.9
comp=Z,384nm,20.0s
T47A Sharon Grove 94.66 317 IAMs_20 IAMs_20 16 33 43.5
comp=Z,412nm,19.0s
E28A Huff 94.68 331 IAMs_20 IAMs_20 16 30 59.8
comp=Z,523nm,21.0s
GOGA Godfrey 94.70 312 IAMs_20 IAMs_20 16 28 56.1
comp=Z,396nm,21.0s
W50A Signal Mountai 94.73 315 IAMs_20 IAMs_20 16 32 36.7
comp=Z,471nm,22.0s
CLTN Cedars of Leba 94.78 316 IAMs_20 IAMs_20 16 33 55.9
comp=Z,414nm,20.0s
Y52A Lilburn 94.80 313 IAMs_20 IAMs_20 16 35 14.6
comp=Z,499nm,19.0s
X51A Calhoun 94.86 314 IAMs_20 IAMs_20 16 27 49.7
comp=Z,436nm,22.0s
ADK Adak 94.91 19 IAMs_20 IAMs_20 16 30 26.0
comp=Z,490nm,22.0s
154A Montrose 94.97 311 IAMs_20 IAMs_20 16 30 09.3
comp=Z,441nm,22.0s
ECSD EROS Data Cent 95.02 327 IAMs_20 IAMs_20 16 33 34.1
comp=Z,571nm,20.0s
SWET Sewanee 95.11 315 IAMs_20 IAMs_20 16 34 28.6
comp=Z,472nm,20.0s
ATKA Atka Island 95.30 17 IAMs_20 IAMs_20 16 32 11.3
comp=Z,641nm,22.0s
V48A Smith Brothers 95.31 316 IAMs_20 IAMs_20 16 34 19.2
comp=Z,432nm,18.0s
FPAL Fort Paine 95.35 314 IAMs_20 IAMs_20 16 28 19.0
comp=Z,431nm,21.0s
N38A Joes South For 95.48 323 IAMs_20 IAMs_20 16 34 53.6
comp=Z,439nm,19.0s
CNBA Chernabura Isl 95.66 8 IAMs_20 IAMs_20 16 35 50.0
comp=Z,588nm,21.0s
WVT Waverly 95.66 317 IAMs_20 IAMs_20 16 32 14.1
comp=Z,423nm,20.0s
P40A Paris 95.74 321 IAMs_20 IAMs_20 16 30 07.8
comp=Z,489nm,22.0s
TIGA Tifton 96.03 311 IAMs_20 IAMs_20 16 35 06.3
comp=Z,429nm,20.0s
L34A Svendsen Farm, 96.23 326 IAMs_20 IAMs_20 16 37 39.1
comp=Z,391nm,20.0s
Y49A Blount Mountai 96.30 314 IAMs_20 IAMs_20 16 29 08.1
comp=Z,601nm,22.0s
X48A Hartselle 96.30 315 IAMs_20 IAMs_20 16 33 25.1
comp=Z,376nm,20.0s
CCM Cathedral Cave 96.34 320 IAMs_20 IAMs_20 16 37 41.6
comp=Z,466nm,19.0s
P38A Dawn 96.48 322 IAMs_20 IAMs_20 16 33 00.1
comp=Z,499nm,21.0s
060A Indiantown 96.51 306 IAMs_20 IAMs_20 16 33 20.6
comp=Z,401nm,19.0s
PLAL Pickwick Lake 96.58 316 IAMs_20 IAMs_20 16 33 48.5
comp=Z,404nm,20.0s
656A Willston 96.60 309 IAMs_20 IAMs_20 16 26 03.9
comp=Z,605nm,22.0s
DWPF Disney Wildern 96.61 307 IAMs_20 IAMs_20 16 26 03.3
comp=Z,482nm,22.0s
HALT Halls 96.71 317 IAMs_20 IAMs_20 16 30 56.8
comp=Z,552nm,22.0s
R40A Maddies Statio 96.74 321 IAMs_20 IAMs_20 16 39 59.3
comp=Z,391nm,18.0s
LAO LASA Array 96.83 334 IAMs_20 IAMs_20 16 34 03.3
comp=Z,487nm,22.0s
352A Blakely 96.88 312 IAMs_20 IAMs_20 16 39 13.9
comp=Z,407nm,19.0s
WALA Waterton Lakes 97.42 340 IAMs_20 IAMs_20 16 37 22.7
comp=Z,519nm,20.0s
250A Grady 97.43 313 IAMs_20 IAMs_20 16 37 02.3
comp=Z,473nm,19.0s
061Z Ochoppi 97.60 305 IAMs_20 IAMs_20 16 39 55.6
comp=Z,386nm,20.0s
MET Memphis--Engin 97.61 317 IAMs_20 IAMs_20 16 31 24.4
comp=Z,409nm,22.0s
N33A J Bar K, Exete 97.68 325 IAMs_20 IAMs_20 16 40 09.7
comp=Z,372nm,19.0s
OXF Oxford 97.71 316 IAMs_20 IAMs_20 16 38 48.2
comp=Z,417nm,20.0s
S39A Bolivar 97.75 321 IAMs_20 IAMs_20 16 33 29.0
comp=Z,477nm,20.0s
Z47A Carrollton 97.77 315 IAMs_20 IAMs_20 16 34 43.0
comp=Z,525nm,21.0s

BBB Bella Bella 97.81 349 IAMs_20 IAMs_20 16 38 45.3
comp=Z,435nm,20.0s
Y45A Yeager Farm, C 98.23 316 IAMs_20 IAMs_20 16 29 48.1
comp=Z,456nm,21.0s
FCAR Ozark Folk Cen 98.36 319 IAMs_20 IAMs_20 16 34 56.2
comp=Z,590nm,22.0s
U40A Yellville 98.44 320 IAMs_20 IAMs_20 16 35 40.4
comp=Z,556nm,20.0s
KSU1 Kansas State U 98.48 324 IAMs_20 IAMs_20 16 35 49.0
comp=Z,378nm,20.0s
MAW Mawson 98.57 169 LR LR 16 27 47.3
comp=Z,272nm,20.7s,baz=331,slow=33
JTMT Jette 98.70 339 IAMs_20 IAMs_20 16 35 58.6
comp=Z,557nm,20.0s
SDV Santo Domingo 98.92 285 IAMs_20 IAMs_20 16 41 36.6
comp=Z,332nm,19.0s
NEW Newport 99.07 341 IAMs_20 IAMs_20 16 38 15.2
comp=Z,476nm,20.0s
B08A Colville Reser 99.58 343 IAMs_20 IAMs_20 16 36 01.6
comp=Z,531nm,21.0s
A05A Maple Falls 99.66 345 IAMs_20 IAMs_20 16 38 56.6
comp=Z,410nm,19.0s
OGNE Ogallala 99.72 328 IAMs_20 IAMs_20 16 34 19.4
comp=Z,562nm,22.0s
C09A Chrisman Ranch 99.81 342 IAMs_20 IAMs_20 16 36 06.8
comp=Z,422nm,20.0s
VBMS Vicksburg 99.95 315 IAMs_20 IAMs_20 16 31 42.7
comp=Z,516nm,20.0s
B06A Marblemount 99.97 344 IAMs_20 IAMs_20 16 34 53.8
comp=Z,437nm,22.0s
R32A Long Quarter, 100.07 325 IAMs_20 IAMs_20 16 39 08.0
comp=Z,437nm,18.0s
K22A Casper 100.30 332 IAMs_20 IAMs_20 16 38 50.4
comp=Z,465nm,19.0s
D08A Wollman Farm, 100.67 342 IAMs_20 IAMs_20 16 36 53.5
comp=Z,429nm,20.0s
FLWY Flagg Ranch 100.71 335 IAMs_20 IAMs_20 16 35 59.9
comp=Z,469nm,21.0s
LTY Liberty 100.94 343 IAMs_20 IAMs_20 16 36 21.7
comp=Z,381nm,20.0s
E09A Wood Farm, Sta 100.96 341 IAMs_20 IAMs_20 16 37 08.0
comp=Z,552nm,21.0s
OK032 Salt Plains WL 101.04 323 IAMs_20 IAMs_20 16 39 26.8
comp=Z,436nm,20.0s
X37A Clayton 101.14 320 IAMs_20 IAMs_20 16 35 07.7
comp=Z,490nm,20.0s
F10A Beach Ranch, E 101.18 340 IAMs_20 IAMs_20 16 40 05.1
comp=Z,401nm,20.0s
E08A Dider Farm, El 101.23 342 IAMs_20 IAMs_20 16 37 17.2
comp=Z,417nm,19.0s
TPAW Teton Pass 101.31 335 IAMs_20 IAMs_20 16 36 36.9
comp=Z,445nm,20.0s
D05A Enumclaw 101.34 344 IAMs_20 IAMs_20 16 36 46.9
comp=Z,450nm,22.0s
E07A Sunnyside 101.38 342 IAMs_20 IAMs_20 16 36 45.2
comp=Z,463nm,20.0s
RWWY Rawlins 101.38 332 IAMs_20 IAMs_20 16 37 01.0
comp=Z,532nm,21.0s
OK029 Liberty Lake 101.40 322 IAMs_20 IAMs_20 16 42 03.3
comp=Z,432nm,18.0s
BW06 Boulder Array 101.41 334 IAMs_20 IAMs_20 16 40 15.6
comp=Z,440nm,19.0s
OK025 Westminster Rd 101.49 322 IAMs_20 IAMs_20 16 39 23.9
comp=Z,346nm,18.0s
KSCO Kaye Shedlock' 101.53 327 IAMs_20 IAMs_20 16 39 15.4
comp=Z,416nm,20.0s
NLWA Neilton Lookou 101.58 345 IAMs_20 IAMs_20 16 38 21.3
comp=Z,473nm,22.0s
342A Flagon Creek P 101.64 316 IAMs_20 IAMs_20 16 35 27.5
comp=Z,485nm,20.0s
G08A Pilot Rock 102.31 341 IAMs_20 IAMs_20 16 43 23.7
comp=Z,410nm,21.0s
NATX Nacogdoches 102.77 318 IAMs_20 IAMs_20 16 41 03.3
comp=Z,540nm,22.0s
MFID Camas Ranch 103.06 338 IAMs_20 IAMs_20 16 38 03.9
comp=Z,353nm,19.0s
HWUT Hardware Ranch 103.17 335 IAMs_20 IAMs_20 16 43 08.0
comp=Z,476nm,20.0s
I07A Izee 103.57 341 IAMs_20 IAMs_20 16 44 33.2
comp=Z,388nm,19.0s
T25A Trinidad 103.87 327 IAMs_20 IAMs_20 16 40 38.4
comp=Z,495nm,20.0s
SDCO Great Sand Dun 103.89 328 IAMs_20 IAMs_20 16 37 03.7
comp=Z,501nm,20.0s
J08A Circle Bar Ran 103.93 340 IAMs_20 IAMs_20 16 39 48.9
comp=Z,409nm,20.0s
PINE Pine Mountain 104.23 342 IAMs_20 IAMs_20 16 38 34.7
comp=Z,447nm,19.0s
WVOR Wild Horse Val 104.83 340 IAMs_20 IAMs_20 16 38 54.5
comp=Z,482nm,22.0s
ABTX Abilene, Hawle 104.97 321 IAMs_20 IAMs_20 16 42 48.1
comp=Z,515nm,21.0s
MOD Modoc Plateau 105.80 341 IAMs_20 IAMs_20 16 45 51.8
comp=Z,296nm,18.0s
SPR3 Spring Creek 3 106.47 335 IAMs_20 IAMs_20 16 37 47.4
comp=Z,386nm,22.0s
ANMO Albuquerque 106.62 327 IAMs_20 IAMs_20 16 40 54.0
comp=Z,416nm,21.0s
YBH Yreka Blue Hor 106.62 343 IAMs_20 IAMs_20 16 40 25.9
comp=Z,458nm,20.0s
R11A Troy Canyon, C 107.50 336 IAMs_20 IAMs_20 16 43 40.6
comp=Z,341nm,20.0s
PAHR Pah Rah Range 107.55 339 IAMs_20 IAMs_20 16 42 55.5
comp=Z,429nm,21.0s
BEKR Beckworth 107.70 340 IAMs_20 IAMs_20 16 42 18.5
comp=Z,396nm,20.0s
KVN Kaiserville 107.73 338 IAMs_20 IAMs_20 16 40 50.7
comp=Z,427nm,21.0s
U15A North Rim 107.93 333 IAMs_20 IAMs_20 16 40 17.2
comp=Z,319nm,19.0s
W18A Petrified Fore 107.97 330 IAMs_20 IAMs_20 16 41 31.5
comp=Z,446nm,19.0s
VCNR Virginia City 108.00 339 IAMs_20 IAMs_20 16 43 10.7
comp=Z,324nm,21.0s
PRN Pahroc Range 108.14 335 IAMs_20 IAMs_20 16 41 13.7
comp=Z,517nm,22.0s
YERR Yerington 108.16 339 IAMs_20 IAMs_20 16 41 09.8
comp=Z,438nm,21.0s
PNTR Pine Nut 108.18 339 IAMs_20 IAMs_20 16 43 15.3
comp=Z,389nm,21.0s
RYN Ryan 108.25 338 IAMs_20 IAMs_20 16 40 54.4
comp=Z,374nm,21.0s
NV11 Mina Array Sit 108.31 338 IAMs_20 IAMs_20 16 39 46.9
comp=Z,484nm,22.0s
ORV Oroville 108.32 341 IAMs_20 IAMs_20 16 41 47.9
comp=Z,459nm,19.0s
RUBR Rubicon Trail 108.38 340 IAMs_20 IAMs_20 16 41 59.7
comp=Z,379nm,20.0s
LHV Little Huntoon 108.59 338 IAMs_20 IAMs_20 16 38 25.3
comp=Z,405nm,20.0s
WAKR Walker 108.66 339 IAMs_20 IAMs_20 16 43 42.1
comp=Z,474nm,21.0s
ASAR Alice Springs 108.71 107 PKiKP **PKiKP 15 52 33.8 +2.1**
comp=Z,0.6nm,1.0s,baz=273,slow=1.6,SNR=2.0
AFDM Forest Hills D 108.72 340 IAMs_20 IAMs_20 16 41 07.7
comp=Z,426nm,22.0s
SHPR Sheep Range 108.98 335 IAMs_20 IAMs_20 16 41 07.9
comp=Z,362nm,20.0s
TPNV Topopah Spring 108.99 336 IAMs_20 IAMs_20 16 43 14.0
comp=Z,453nm,20.0s
MDPB Devils Postpil 109.34 338 IAMs_20 IAMs_20 16 41 31.2
comp=Z,457nm,21.0s
W13A Hualapai Mount 109.72 333 IAMs_20 IAMs_20 16 45 04.7
comp=Z,411nm,19.0s
GSC Goldstone, Bar 110.66 335 IAMs_20 IAMs_20 16 45 31.2
comp=Z,450nm,20.0s
ESQI Esquipulas 110.77 301 IAMs_20 IAMs_20 16 35 46.2
comp=Z,492nm,21.0s
ISA Isabella, Lake 110.93 337 IAMs_20 IAMs_20 16 44 40.2
comp=Z,386nm,20.0s
GLA Glamis 111.89 333 IAMs_20 IAMs_20 16 41 59.1
comp=Z,361nm,22.0s
214A Organ Pipe Nat 112.00 331 IAMs_20 IAMs_20 16 42 51.2
comp=Z,353nm,20.0s
PFO Pinyon Flats O 112.03 334 IAMs_20 IAMs_20 16 41 12.7
comp=Z,418nm,20.0s
CPBX Cerro Prieto 112.63 333 IAMs_20 IAMs_20 16 37 39.8
comp=Z,410nm,22.0s
109C Camp Elliot, M 112.92 334 IAMs_20 IAMs_20 16 48 24.2
comp=Z,452nm,22.0s
BAR Barrett 112.94 334 IAMs_20 IAMs_20 16 41 47.8
comp=Z,416nm,19.0s
HSIG 113.65 327 IAMs_20 IAMs_20 16 45 17.2
comp=Z,433nm,21.0s
SFX San Felipe 113.66 332 IAMs_20 IAMs_20 16 42 56.0
comp=Z,304nm,21.0s
SPX San Pedro Mart 113.91 332 IAMs_20 IAMs_20 16 44 16.5
comp=Z,354nm,22.0s

VNDA Vanda 125.83 168 PKP **PKPdf 15 53 01.9 -1.0**
comp=Z,0.4nm,0.7s,baz=219,slow=3.0,SNR=6.1
TAOE Nuku Hiva Isla 159.42 345 *e*LR LR 16 47 55.7
comp=Z,433nm,26.5s
PPT2 Papeete2 168.02 20 *e*LR LR 16 51 54.8
comp=Z,818nm,31.5s
RKT Rikitea 169.05 300 *e*LR LR 16 52 28.2
comp=Z,667nm,32.8s
TBI Tubuai 173.27 35 *e*LR LR 16 54 23.2
comp=Z,598nm,25.5s

NEIC ***27*** *15:35:06.4±1.7,25°.11S±0°.07×179°.2W±0°.1, h404km±6km, mb4.7/36, Error ellipse: s-maj=18.6km s-min=8.8km az=68.0*
IDC ***27*** *15:35:06.4±0.7,25°.16S×179°.17W, h408km±7km, mb4.1/22, mb1 4.2/25, mb1mx4.1/33, mbtmp4.8/25, Error ellipse: s-maj=10.7km s-min=10.0km az=161.0*
ISC 27 15:35:05.3±0.3, 25°.26S±0°.04×179°.16W±0°.06, h400km, n277, σ1?55/302, mb4.7/55, 19C-14D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
RIZ	**Raoul Island**	**4.12**	**165**	P	**Pn**	**15 36 20.8**	**+2.4**
RIZ				S	**S**	**15 37 13.3**	**-4.6**
RAO	**Raoul Island**	**4.13**	**165**	P	**Pn**	**15 36 20.7**	**+2.2**
	835nm,0.3s,baz=26,slow=0.8,SNR=66						
RAO				S	**S**	**15 37 16.9**	**-1.1**
	440nm,0.3s,baz=252,slow=23,SNR=2.6						
RAO	**Raoul Island**	**4.13**	**165**	Pn	**Pn**	**15 36 21.0**	**+2.4**
GLKZ	**Green Lake**	**4.14**	**165**	P	**Pn**	**15 36 20.8**	**+2.2**
GLKZ				S	**S**	**15 37 14.1**	**-4.0**
MSVF	**Nonsavu**	**7.92**	**340**	P	**P**	**15 37 01.3**	**+1.2**
	9.1nm,0.3s,baz=258,slow=21,SNR=32						
MSVF	**Nonsavu**	**7.92**	**340**		**P**	**15 37 00.7**	**+0.6**
OUZ	**Omahuta**	**11.73**	**211**	P	**Pn**	**15 37 46.1**	**+2.8**
OUZ	**Omahuta**	**11.73**	**211**	P	**Pn**	**15 37 46.1**	**+2.8**
GRZ	**Great Barrier**	**11.89**	**202**	P	**Pn**	**15 37 46.8**	**+1.7**
WCZ	**Waipu Caves**	**12.02**	**206**	P	**Pn**	**15 37 49.4**	**+2.7**
KUZ	**Kuaotunu**	**12.26**	**200**	P	**Pn**	**15 37 51.3**	**+1.9**
MXZ	**Matakaoa Point**	**12.46**	**189**	P	**P**	**15 37 50.1**	**+0.3**
WIAZ	**Waiheke Island**	**12.49**	**202**	P	**Pn**	**15 37 53.9**	**+1.8**
RVAZ	**Riverhead Bore**	**12.67**	**204**	P	**Pn**	**15 37 55.7**	**+1.6**
WMGZ	**Waiomatatini S**	**12.69**	**189**	P	**P**	**15 37 52.6**	**+0.1**
HAZ	**Te Kaha**	**12.73**	**191**	P	**P**	**15 37 53.4**	**+0.6**
PKGZ	**Pakihiroa**	**12.81**	**190**	P	**P**	**15 37 54.2**	**+0.3**
RUGZ	**Raukumara Rang**	**12.95**	**191**	P	**P**	**15 37 55.6**	**+0.1**
PUZ	**Puketiti**	**12.96**	**189**	P	**P**	**15 37 53.9**	**-1.6**
AFI	**Afiamalu**	**13.25**	**33**	P	**P**	**15 37 59.3**	**+0.3**
	4.3nm,0.3s,baz=259,slow=3.1,SNR=6.9						
AFI				S	S	15 40 10.7	-12
	2.6nm,0.3s,baz=67,slow=23,SNR=2.0						
URZ	**Urewera**	**13.35**	**193**	P	**P**	**15 37 57.2**	**-2.4**
	22nm,0.3s,baz=120,slow=24,SNR=95						
URZ				S	**S**	**15 40 22.7**	**-1.1**
	34nm,0.3s,baz=198,slow=5.7,SNR=6.4						
DZM	**Mont Dzumac**	**13.57**	**281**	P	**Pn**	**15 38 06.2**	**+1.4**
	4.3nm,0.3s,baz=133,slow=23,SNR=35						
DZM	**Mont Dzumac**	**13.57**	**281**	*e*P	**Pn**	**15 38 04.7**	**-0.1**
	130nm,1.0s						
DZM	**Mont Dzumac**	**13.57**	**281**	P	**Pn**	**15 38 05.8**	**+1.0**
HIZ	**Hauiti**	**14.16**	**200**	P	**P**	**15 38 11.4**	**+2.9**
BFZ	**Birch Farm**	**15.86**	**193**	P	**P**	**15 38 27.2**	**+0.4**
BFZ				IAmb	IAmb	15 38 28.9	
	comp=Z,35nm,0.9s						
HOWZ	**Holdsworth Sta**	**16.22**	**195**	P	**P**	**15 38 30.0**	**-0.7**
HOWZ				S	**S**	**15 41 15.5**	**-5.4**
OGWZ	**Otaki Gorge**	**16.22**	**196**	P	**P**	**15 38 29.5**	**-1.3**
OGWZ				S	**S**	**15 41 15.5**	**-5.4**
KIW	**Kapiti Island**	**16.33**	**196**	P	**P**	**15 38 30.7**	**-1.3**
KIW				S	**S**	**15 41 20.7**	**-2.3**
TMWZ	**Te Maipa**	**16.34**	**193**	P	**P**	**15 38 33.6**	**+1.6**
TMWZ				S	**S**	**15 41 22.5**	**-0.7**
MTW	**Mount Morrison**	**16.47**	**194**	P	**P**	**15 38 32.1**	**-1.3**
MTW				S	**S**	**15 41 22.5**	**-3.2**
CAW	**Cannon Point**	**16.52**	**196**	P	**P**	**15 38 32.4**	**-1.6**
CAW				S	**S**	**15 41 23.6**	**-3.2**
DUWZ	**D'Urville Isla**	**16.54**	**199**	P	**P**	**15 38 33.4**	**-0.8**
DUWZ				S	**S**	**15 41 24.4**	**-2.7**
TRWZ	**Traveller**	**16.66**	**194**	P	**P**	**15 38 35.4**	**0.0**
TRWZ				S	**S**	**15 41 27.0**	**-2.3**
PAWZ	**Paruwai Farm**	**16.70**	**194**	P	**P**	**15 38 34.4**	**-1.5**
PAWZ				S	**S**	**15 41 29.7**	**-0.6**
MSWZ	**Moikau Station**	**16.77**	**195**	P	**P**	**15 38 35.1**	**-1.6**
MSWZ				S	**S**	**15 41 28.1**	**-3.5**
TCW	**Tory Channel**	**16.82**	**197**	P	**P**	**15 38 35.3**	**-1.9**
TCW				S	**S**	**15 41 29.4**	**-3.1**
PLWZ	**Palliser**	**16.92**	**195**	P	**P**	**15 38 37.4**	**-0.8**
PLWZ				S	**S**	**15 41 32.7**	**-1.8**
QRZ	**Quartz Range**	**17.00**	**202**	P	**P**	**15 38 40.1**	**+1.0**
QRZ				IAmb	IAmb	15 38 52.1	
	comp=Z,40nm,1.0s						
QRZ	**Quartz Range**	**17.00**	**202**	P	**P**	**15 38 39.4**	**+0.3**
NNZ	**Nelson**	**17.09**	**199**	P	**P**	**15 38 38.0**	**-2.0**
NNZ				S	**S**	**15 41 32.9**	**-4.7**
TUWZ	**Tuamarina**	**17.12**	**198**	P	**P**	**15 38 38.4**	**-1.9**
TUWZ				S	**S**	**15 41 33.4**	**-4.9**
CMWZ	**Cape Campbell**	**17.34**	**197**	P	**P**	**15 38 42.2**	**-0.5**
BSWZ	**Blackbirch Sta**	**17.40**	**198**	P	**P**	**15 38 43.4**	**+0.1**
RAR	**Rarotonga**	**18.26**	**81**	P	**P**	**15 38 53.1**	**+0.4**
	baz=89,slow=7.4,SNR=4.0						
LHI	**Lord Howe Isla**	**20.14**	**247**	P	**P**	**15 39 14.4**	**+3.4**
	baz=20,SNR=15						
LHI	**Lord Howe Isla**	**20.14**	**247**	P	**P**	**15 39 14.3**	**+3.4**
HNR	**Honiara**	**25.34**	**305**	P	**P**	**15 39 57.4**	**-0.8**
	comp=Z,232nm,0.7s,baz=118,slow=2.2,SNR=17						
HNR	**Honiara**	**25.34**	**305**	P	**P**	**15 39 57.3**	**-0.8**
ARMA	**Armidale**	**26.30**	**252**	P	**P**	**15 40 08.8**	**+2.2**
	baz=26,SNR=58						
ARMA	**Armidale**	**26.30**	**252**	P	**P**	**15 40 09.0**	**+2.3**
ARMA				IAmb	IAmb	15 40 09.7	
	comp=Z,38nm,0.7s						
EIDS	**Eidsvold**	**26.88**	**263**	P	**P**	**15 40 13.0**	**+1.3**
	baz=27,SNR=11						
EIDS	**Eidsvold**	**26.88**	**263**	P	**P**	**15 40 13.4**	**+1.7**
EIDS				IAmb	IAmb	15 40 13.9	
	comp=Z,55nm,0.9s						
MGCD	**Mangrove Creek**	**27.06**	**246**	P	**P**	**15 40 15.9**	**+2.6**
	baz=27,SNR=38						
TBI	**Tubuai**	**27.11**	**92**	*e*P	**P**	**15 40 12.9**	**-0.8**
	comp=Z,124nm,1.0s						
RIV	**Riverview**	**27.13**	**245**	P	**P**	**15 40 16.3**	**+2.5**
	baz=27,SNR=3.4						
PAE	**Paea**	**28.50**	**80**	*e*P	**P**	**15 40 24.6**	**-1.5**
	comp=Z,7.7nm,1.0s						
PPT2	**Papeete2**	**28.53**	**80**	*e*P	**P**	**15 40 25.3**	**-1.1**
	comp=Z,35nm,1.2s						
PPT	**Papeete**	**28.54**	**80**	P	**P**	**15 40 26.0**	**-0.4**
	comp=Z,23nm,0.8s,baz=323,slow=7.0,SNR=4.7						
TIAR	**Tiarei**	**28.75**	**80**	*e*P	**P**	**15 40 27.0**	**-1.3**
	comp=Z,7.7nm,0.9s						
RMQ	**Roma**	**28.86**	**261**	P	**P**	**15 40 31.3**	**+2.2**
	baz=29,SNR=29						
MILA	**Mila**	**29.42**	**239**	P	**P**	**15 40 36.2**	**+2.2**
	baz=30,SNR=3.9						
PMOR	**Pomariorio Ree**	**31.00**	**77**	*e*P	**P**	**15 40 46.4**	**-1.6**
	comp=Z,21nm,0.9s						
VAH	**Vaihoa**	**31.15**	**77**	*e*P	**P**	**15 40 47.6**	**-1.6**
	comp=Z,29nm,1.1s						
CMSA	**Cobar Meteorol**	**31.45**	**250**	P	**P**	**15 40 52.4**	**+0.7**
	baz=32,SNR=50						
CTA	**Charters Tower**	**32.27**	**272**	P	**P**	**15 41 00.1**	**+1.2**
	comp=Z,102nm,0.5s,baz=96,slow=11,SNR=117						
CTAO	**Charters Tower**	**32.27**	**272**	P	**P**	**15 41 00.2**	**+1.2**
TOO	**Toolangi**	**32.38**	**239**	P	**P**	**15 41 01.7**	**+2.0**
	baz=32,SNR=4.5						
QLP	**Quilpie**	**32.88**	**260**	P	**P**	**15 41 04.4**	**+0.4**
	baz=33,SNR=16						
MTSU	**Mount Surprise**	**34.59**	**274**	P	**P**	**15 41 19.9**	**+1.1**
	baz=34,SNR=143						
STKA	**Stephens Creek**	**34.95**	**250**	P	**P**	**15 41 22.7**	**+1.0**
	comp=Z,20nm,0.4s,baz=96,slow=9.7,SNR=129						
STKA	**Stephens Creek**	**34.95**	**250**	P	**P**	**15 41 22.2**	**+0.6**
	baz=35,SNR=114						
STKA	**Stephens Creek**	**34.95**	**250**	P	**P**	**15 41 22.6**	**+1.0**
ARPS	**Mount Arapiles**	**35.12**	**241**	P	**P**	**15 41 24.7**	**+1.8**
	baz=35,SNR=5.5						
HTT	**Hallett**	**37.24**	**247**	P	**P**	**15 41 40.9**	**+0.1**
	baz=37,SNR=68						
QIS	**Mount Isa**	**38.16**	**268**	P	**P**	**15 41 48.8**	**+0.2**
	baz=38,SNR=13						
BBOO	**Buckleboo**	**39.64**	**248**	P	**P**	**15 42 00.4**	**0.0**
	baz=40,SNR=28						
BBOO	**Buckleboo**	**39.64**	**248**	P	**P**	**15 42 00.6**	**+0.1**
BBOO				IAmb	IAmb	15 42 01.7	
	comp=Z,24nm,0.8s						
AS31	**Alice Springs**	**42.59**	**262**	P	**P**	**15 42 24.3**	**0.0**
AS31				IAmb	IAmb	15 42 25.4	
	comp=Z,10.0nm,0.4s						
ASAR	**Alice Springs**	**42.59**	**262**	P	**P**	**15 42 23.9**	**-0.4**
	comp=Z,13nm,0.3s,baz=93,slow=7.2,SNR=755						
ASAR				pP	**pP**	**15 43 44.0**	**+3.5**
	comp=Z,3.3nm,0.8s,baz=93,slow=7.9,SNR=3.0						
ASAR				ScP	**ScP**	**15 47 21.1**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=118,slow=4.4,SNR=4.3						
ASAR				S	**S**	**15 48 09.8**	**-7.0**
	comp=Z,1.0nm,0.8s,baz=107,slow=14,SNR=4.8						
ASAR	**Alice Springs**	**42.59**	**262**	P	**P**	**15 42 24.3**	**0.0**
WR0	**Warramunga Arr**	**42.91**	**267**	P	**P**	**15 42 26.1**	**-0.7**
WR0				IAmb	IAmb	15 42 27.3	
	comp=Z,22nm,0.7s						
WB2	**Warramunga Arr**	**43.08**	**267**	P	**P**	**15 42 27.2**	**-1.1**
WB2				IAmb	IAmb	15 42 28.8	
	comp=Z,41nm,0.8s						
WB0	**Warramunga Arr**	**43.09**	**268**	P	**P**	**15 42 27.4**	**-1.0**
WB0				IAmb	IAmb	15 42 28.8	
	comp=Z,47nm,0.7s						
WRA	**Warramunga Arr**	**43.09**	**267**	P	**P**	**15 42 27.8**	**-0.6**
	comp=Z,31nm,0.5s,baz=100,slow=7.3,SNR=320						
WRA				ScP	**ScP**	**15 47 24.2**	**+2.0**
	comp=Z,4.5nm,0.8s,baz=104,slow=4.2,SNR=8.4						
WRA				S	**S**	**15 48 20.6**	**-3.5**
	comp=Z,4.1nm,0.9s,baz=99,slow=14,SNR=12						
WRA	**Warramunga Arr**	**43.09**	**267**	P	**P**	**15 42 26.8**	**-1.5**
GENI	**Genyem**	**45.16**	**293**	P	**P**	**15 42 43.5**	**-1.0**
	comp=Z,160nm,0.8s						
FORT	**Forrest**	**46.57**	**251**	P	**P**	**15 42 54.7**	**-0.5**
	baz=46,SNR=34						
FORT	**Forrest**	**46.57**	**251**	P	**P**	**15 42 54.3**	**-1.0**
KDU	**Kakadu**	**47.18**	**276**	P	**P**	**15 42 59.1**	**-0.9**
	baz=47,SNR=20						
WRKA	**Warakurna**	**47.30**	**258**	P	**P**	**15 43 00.1**	**-0.8**
	baz=47,SNR=104						
MTN	**Manton Dam**	**48.33**	**275**	P	**P**	**15 43 08.3**	**-0.5**
	baz=48,SNR=14						
MTN	**Manton Dam**	**48.33**	**275**	P	**P**	**15 43 08.3**	**-0.5**
MTN				IAmb	IAmb	15 43 17.3	
	comp=Z,19nm,1.1s						
SRPI	**Serui, Papua**	**48.84**	**291**	P	**P**	**15 43 13.0**	**+0.4**
	comp=Z,4μmcomp=Z,260nm,0.8s						
BAKI	**Biak**	**49.32**	**292**	P	**P**	**15 43 16.7**	**+0.5**
	comp=Z,2μmcomp=Z,176nm,1.0s						
KNRA	**Kununurra**	**49.46**	**271**	P	**P**	**15 43 16.9**	**-0.3**
	baz=49,SNR=146						
KNRA	**Kununurra**	**49.46**	**271**	P	**P**	**15 43 17.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.50**	**266**	P	**P**	**15 43 32.7**	**+0.4**
	baz=51,SNR=36						
FITZ	**Fitzroy Crossi**	**51.50**	**266**	P	**P**	**15 43 32.6**	**+0.4**
FITZ				IAmb	IAmb	15 43 33.8	
	comp=Z,28nm,0.6s						
FAKI	**Fak Fak**	**51.71**	**287**	P	**P**	**15 43 33.5**	**-0.4**
FAKI				IAmb	IAmb	15 43 34.1	
	comp=Z,38nm,0.8s						
FAKI	**Fak Fak**	**51.71**	**287**	P	**P**	**15 43 33.3**	**-0.6**
	comp=Z,51nm,1.2s						
SBA	**Scott Base**	**53.08**	**184**	P	**P**	**15 43 46.0**	**+3.3**
VNDA	**Vanda**	**53.10**	**185**	P	**P**	**15 43 44.9**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=5.3,slow=7.7,SNR=22						
VNDA				ScP	**ScP**	**15 48 03.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=323,slow=5.2,SNR=7.9						
VNDA	**Vanda**	**53.10**	**185**	P	**P**	**15 43 44.6**	**+1.7**
SIJI	**Sorong**	**53.59**	**289**	P	**P**	**15 43 47.2**	**-0.3**
	comp=Z,1μmcomp=Z,100nm,0.6s						
SWI	**Sorong**	**53.60**	**289**	P	**P**	**15 43 47.3**	**-0.2**
	comp=Z,2μmcomp=Z,230nm,0.7s						
KLBR	**Kellerberrin**	**55.18**	**248**	P	**P**	**15 43 57.7**	**-0.8**
	baz=55,SNR=20						
MEEK	**Meekatharra**	**55.47**	**254**	P	**P**	**15 43 59.5**	**-1.1**
	baz=55,SNR=4.2						
SOEI	**Soe**	**55.73**	**275**	P	**P**	**15 44 03.9**	**+1.1**
SOEI				IAmb	IAmb	15 44 16.4	
	comp=Z,58nm,1.1s						
SOEI	**Soe**	**55.73**	**275**	P	**P**	**15 44 03.5**	**+0.8**
	comp=Z,48nm,1.4s						
NLAI	**Namlea**	**56.05**	**284**	P	**P**	**15 44 03.8**	**-1.0**
	comp=Z,36nm,0.9s						
MORW	**Morawa**	**57.14**	**251**	P	**P**	**15 44 12.1**	**-0.1**
	baz=57,SNR=4.7						
SANI	**Sanana**	**57.59**	**285**	P	**P**	**15 44 15.5**	**0.0**
	comp=Z,582nmcomp=Z,52nm,0.7s						
MMRI	**Maumere**	**58.01**	**276**	P	**P**	**15 44 17.7**	**-0.7**
EDFI	**Ende, Flores**	**58.46**	**275**	P	**P**	**15 44 20.2**	**-1.4**
	comp=Z,29nm,0.6s						
CASY	**Casey**	**59.24**	**206**	P	**P**	**15 44 26.7**	**+0.8**
TOLI2	**Tolitoli**	**63.66**	**285**	P	**P**	**15 44 55.5**	**-0.5**
TOLI2				IAmb	IAmb	15 44 57.6	
	comp=Z,23nm,0.8s						
JOW	**Kunigami**	**72.46**	**312**	P	**P**	**15 45 49.6**	**-0.2**
	comp=Z,30nm,0.6s,baz=228,slow=25,SNR=5.0						
MJAR	**Matsushiro Arr**	**73.44**	**325**	P	**P**	**15 45 54.0**	**-1.3**
	comp=Z,22nm,0.8s,baz=158,slow=5.2,SNR=12						
MJAR	**Matsushiro Arr**	**73.44**	**325**	P	**P**	**15 45 54.5**	**-0.8**
MAT	**Matsushiro**	**73.44**	**325**	P	**P**	**15 45 53.7**	**-1.6**
JSU	**Suzuyama**	**74.19**	**317**	P	**P**	**15 45 59.2**	**-0.4**
JNU	**Nakatsue**	**75.05**	**318**	P	**P**	**15 46 05.5**	**+0.9**
	comp=Z,33nm,0.8s,baz=335,slow=1.1,SNR=8.2						
TPUB	**Ta-pu**	**75.72**	**305**	P	**P**	**15 46 07.5**	**-1.0**
MAW	**Mawson**	**76.75**	**200**	P	**P**	**15 46 14.2**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=144,slow=7.1,SNR=13						
KIWB	**Kanaga Island**	**76.79**	**1**	P	**P**	**15 46 13.7**	**0.0**
ADK	**Adak**	**76.83**	**2**	P	**P**	**15 46 13.5**	**-0.5**
ASAJ	**Asahikawa**	**77.42**	**333**	P	**P**	**15 46 18.5**	**+1.2**
	comp=Z,12nm,0.8s,baz=79,slow=17,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**79.68**	**335**	P	**P**	**15 46 29.1**	**-0.4**
YSS				IAmb	IAmb	15 46 30.9	
	comp=Z,18nm,0.7s						
KSRS	**Korea Array**	**79.77**	**320**	P	**P**	**15 46 30.8**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=132,slow=5.8,SNR=19						
PET	**Petropavlovsk**	**80.31**	**347**	P	**P**	**15 46 32.1**	**-0.6**
PET				IAmb	IAmb	15 46 34.8	
	comp=Z,8.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**80.59**	**346**	P	**P**	**15 46 33.5**	**-0.7**
PEA0B				IAmb	IAmb	15 46 36.9	
	comp=Z,14nm,0.8s						
PETK	**Petropavlovsk-**	**80.59**	**346**	P	**P**	**15 46 33.8**	**-0.4**
	comp=Z,9.6nm,0.8s,baz=120,slow=5.8,SNR=22						
PETK	**Petropavlovsk-**	**80.59**	**346**	P	**P**	**15 46 34.3**	**+0.1**
NJ2	**Nanjing**	**82.12**	**311**	*e*P	**P**	**15 46 44.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USRK	**Ussuriysk Ar.**	**82.31**	**327**	P	**P**	**15 46 44.0**	**+0.6**
	comp=Z,4.2nm,0.5s,baz=147,slow=2.9,SNR=13						
SNAA	**Sanae**	**83.30**	**179**	P	**P**	**15 46 47.8**	**-0.3**
VNA3	**Neumayer Olymp**	**83.48**	**177**	P	**P**	**15 46 48.9**	**-0.1**
VNA1	**Neumayer--Stat**	**84.14**	**177**	P	**P**	**15 46 52.3**	**+0.1**
NVAR	**Mina Array Bea**	**85.20**	**44**	P	**P**	**15 46 58.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=222,slow=8.2,SNR=11						
TPNV	**Topopah Spring**	**85.62**	**46**	P	**P**	**15 46 59.9**	**-0.3**
KLR	**Kul'dur**	**86.08**	**330**	P	**P**	**15 47 02.9**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=237,slow=2.1,SNR=4.3						
PLCA	**Paso Flores**	**86.78**	**134**	P	**P**	**15 47 06.9**	**+1.1**
	comp=Z,7.5nm,0.9s,baz=223,slow=5.8,SNR=15						
PLCA	**Paso Flores**	**86.78**	**134**	P	**P**	**15 47 06.7**	**+0.9**
PLCA				IAmb	IAmb	15 47 08.3	
	comp=Z,11nm,1.1s						
G08A	**Pilot Rock**	**89.02**	**38**	P	**P**	**15 47 16.2**	**+0.2**
XAN	**Xi'an**	**90.18**	**308**	P	**P**	**15 47 22.0**	**+0.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CRAI	**Chiangrai**	**90.29**	**292**	P	**P**	**15 47 26.9**	**+4.5**
MNTX	**Cornudas Mount**	**90.36**	**55**	P	**P**	**15 47 21.7**	**-0.8**
TXAR	**Lajitas Array**	**90.50**	**58**	P	**P**	**15 47 24.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=210,slow=7.2,SNR=10						
TXAR				pP	**pwP**	**15 48 57.9**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=212,slow=4.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**90.71**	**290**	P	**P**	**15 47 25.7**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=137,slow=3.8,SNR=8.2						
CMAR	**Chiang Mai Arr**	**90.71**	**290**	P	**P**	**15 47 23.7**	**-0.7**
SEY	**Seymchan**	**90.75**	**347**	P	**P**	**15 47 22.9**	**-0.5**
	comp=Z,7.5nm,0.8s,baz=124,slow=8.0,SNR=5.2						
HHC	**Hu-ho-hao-te**	**91.92**	**315**	*e*P	**P**	**15 47 29.8**	**+0.2**
HHC				sP	PcP	15 47 37.3	+7.2
HHC	**Hu-ho-hao-te**	**91.92**	**315**	S	**S**	**15 47 48.8**	**-7.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,9.1s						
HHC				L	L		
	comp=Z,1μm,17.8s						
HHC				L	L		
	comp=Z,350nm,15.5s						
HHC				L	L		
	comp=Z,1μm,18.4s						
PDAR	**Pinedale Array 93.13 44**			P	**P**	**15 47 35.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=267,slow=3.0,SNR=3.8						
PDAR				pP	**pwP**	**15 49 10.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=240,slow=22,SNR=2.1						
ILAR	**Eielson Array 93.17 13**			P	**P**	**15 47 33.2**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=217,slow=6.2,SNR=7.3						
ILAR				PP	**PP**	**15 51 26.8**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=219,slow=7.0,SNR=4.1						
SONM	**Songino Array 98.62 319**			PP	**PP**	**15 52 04.4**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=123,slow=7.8,SNR=3.5						
INK	**Inuvik 99.12 16**			P	**Pdif**	**15 48 00.4**	**-0.9**
	comp=Z,2.6nm,0.5s,baz=203,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array 113.63 312**			PKiKP	**PKiKP**	**15 52 55.4**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=101,slow=1.5,SNR=7.4						
MKAR				PKKPbc	**PKKPbc**	**16 03 41.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=267,slow=4.2,SNR=4.5						
KURBB	**Kurchatov Arra 116.75 316**			PKP	**PKPdf**	**15 53 01.1**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=97,slow=1.9,SNR=16						
KURBB				PP	**PP**	**15 54 16.8**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=100,slow=6.4,SNR=5.2						
KKAR	**Karatay Array 121.29 307**				**PKPdf**	**15 53 11.0**	**-0.6**
BVAR	**Borovoye Array 121.96 318**			PKP	**PKPdf**	**15 53 10.3**	**-2.2**
	comp=Z,2.3nm,0.7s,baz=186,slow=10,SNR=12						
SPA0	**Spitsbergen Ar 126.52 356**			*e*PKPdf	**PKPdf**	**15 53 20.6**	**0.0**
HSPB	**Hornsund (broa 127.70 356**			*e*pPKPdf	pPKPdf	15 55 04.7	+4.4
ARU	**Arti 128.42 323**			PKP	**PKPdf**	**15 53 24.0**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=91,slow=2.5,SNR=11						
AKTO	**Aktyubinsk 129.80 316**			PKP	**PKPdf**	**15 53 27.2**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=127,slow=3.6,SNR=8.0						
AKTO				SKPbc	SKPab	15 56 11.6	-0.2
	comp=Z,1.9nm,0.7s,baz=108,slow=6.4,SNR=4.9						
GEYT	**Alibeck 130.30 299**			SKPbc	**SKPbc**	**15 56 14.7**	**+0.5**
	comp=Z,5.7nm,0.8s,baz=220,slow=8.3,SNR=8.8						
HAMF	**Hammerfest 132.71 350**			*e*PKPdf	**PKPdf**	**15 53 32.4**	**-0.1**
ARA0	**ARCESS Array S 133.36 348**			*e*PKPdf	**PKPdf**	**15 53 33.0**	**-0.7**
ARCES	**ARCESS Array B 133.36 348**			PKhKP	PKPpre	15 53 25.4	
	comp=Z,2.2nm,0.9s,baz=90,slow=2.9,SNR=6.1						
ARCES				PKP	**PKPdf**	**15 53 33.0**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=48,slow=1.8,SNR=16						
ARCES				SKPbc	**SKPbc**	**15 56 24.0**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=20,slow=2.8,SNR=14						
KTK1	**Kautokeino 134.22 349**			*e*PKPdf	**PKPdf**	**15 53 35.2**	**-0.2**
TRO	**Tromso 134.33 351**			*e*PKPdf	**PKPdf**	**15 53 35.6**	**+0.1**
KMBO	**Kilima Mbogo 136.08 239**			SKPbc	**SKPbc**	**15 56 35.7**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=154,slow=1.1,SNR=3.8						
FINES	**FINESS Array B 139.97 341**			PKhKP	PKPpre	15 53 37.6	
	comp=Z,1.5nm,0.5s,baz=64,slow=3.1,SNR=14						
FINES				SKPbc	**SKPbc**	**15 56 43.5**	**-0.1**
	comp=Z,6.0nm,0.9s,baz=111,slow=4.3,SNR=11						
DOMB	**Dombas 142.81 354**			*e*	**PKPdf**	**15 53 47.5**	**-3.8**
UPP	**Uppsala 143.50 346**			*e*P	PKPab	15 53 49.1	-1.3
NB2	**NORSAR Subarra1 43.53 352**			PKPab	PKPab	15 53 49.2	-1.4
	baz=16,slow=3.2						
NOA	**NORSAR Array B 143.53 352**			PKhKP	PKPpre	15 53 49.5	
	comp=Z,9.0nm,0.7s,baz=

JAVC	**Velka Javorina**	**153.00 335**	*e*PKP		**PKPab**	15 54 29.6	**+0.5**	
VRAC	**Vranov**	**153.03 337**	||P		**PKPab**	15 54 29.3	**+0.1**	
VRAC	**Vranov**	**153.03 337**	*e*PKP		**PKPab**	15 54 29.2	**0.0**	
PRU	**Pruhonice**	**153.12 340**⇑	*e*PKP		**PKPbc**	15 54 15.7	**-0.4**	
PRU			*e*PKPAB		**PKPab**	15 54 29.5	**0.0**	
KRUC	**Moravsky**	**153.30 337**	*e*PKP		**PKPab**	15 54 30.1	**-0.2**	
PLN	**Plauen**	**153.34 344**	*e*PKPbc		**PKPbc**	15 54 16.2	**-0.4**	
	baz=22,slow=2.2							
KASTN	**Kahler Asten**	**153.45 349**	*e*PKPbc		**PKPbc**	15 54 16.3	**-0.5**	
	baz=22,slow=2.2							
NKC	**Novy Kostel**	**153.49 343**⇑	*e*PKP		**PKPbc**	15 54 17.2	**+0.3**	
NKC			*e*PKPAB		**PKPab**	15 54 31.0	**-0.1**	
BZS	**Buzias**	**153.70 326**	||P		**PKPbc**	15 54 16.9	**-0.6**	
HERR	**Herculane**	**153.78 324**	⇑P		**PKPab**	15 54 15.2	**-2.4**	
KHC	**Kasperske Hory**	**154.17 341**⇑	*e*PKP		**PKPbc**	15 54 18.2	**-0.2**	
KHC			*e*PKPAB		**PKPab**	15 54 34.2	**+0.1**	
CKRC	**Cesky Krumlov**	**154.22 339**⇑	*e*PKP		**PKPbc**	15 54 18.1	**-0.4**	
CKRC			*e*PKPAB		**PKPab**	15 54 34.3	**0.0**	
GERES	**GERESS Array B**	**154.39 340**	PKP		**PKPdf**	15 54 10.0	**-0.3**	
	comp=N,0.3nm,0.5s,baz=100,slow=4.9,SNR=4.4							
GERES			PKPbc		**PKPbc**	15 54 17.8	**-1.1**	
	comp=N,0.9nm,0.7s,baz=29,slow=3.0,SNR=7.0							
GERES			PKPab		**PKPab**	15 54 36.2	**+1.2**	
	comp=N,1.1nm,0.6s,baz=35,slow=4.9,SNR=7.2							
CONA	**Conrad Observa**	**154.45 336**	*i* P		**PKPab**	15 54 35.7	**+0.3**	
	comp=N,5.1nm,0.7s							
MILB	**Miltenberg**	**154.60 347**	*e*PKPbc		**PKiKP**	15 54 18.9	**-0.4**	
	baz=22,slow=2.2							
VTS	**Vitosha**	**154.72 319**	⇑P		**PKPab**	15 54 38.3	**+1.4**	
BMRD	**Maredsous**	**154.81 354**	*d*PKPab		**PKPab**	15 54 35.9	**-0.8**	
MOA	**Molln**	**155.08 338**	*i* P		**PKPab**	15 54 38.0	**0.0**	
	comp=N,6.6nm,1.3s							
WLF	**Walferdange**	**155.28 352**	*d*PKPbc		PKPdf	15 54 20.0	+8.7	
WLF			*d*PKPab		**PKPab**	15 54 37.0	**-1.8**	
WLF	**Walferdange**	**155.28 352**	*e*PKPbc		PKPdf	15 54 20.2	+8.8	
	baz=22,slow=2.2							
SOKA	**Soboth**	**155.81 336**	*e*P		**PKPab**	15 54 40.8	**-0.5**	
	comp=N,4.2nm,1.0s							
MYKA	**Terra Mystica**	**156.35 338**	*e*P		**PKPab**	15 54 42.6	**-0.9**	
	comp=N,4.8nm,0.8s							
WATA	**Walderalm**	**156.37 342**	*i* P		**PKPab**	15 54 43.2	**-0.5**	
	comp=N,9.2nm,1.3s							
WTTA	**Wattenberg**	**156.42 341**	*i* P		**PKPab**	15 54 43.9	**0.0**	
	comp=N,5.6nm,0.5s							
RETA	**Reutte**	**156.46 343**	*i* P		**PKPab**	15 54 43.8	**-0.2**	
	comp=N,3.5nm,0.6s							
MOTA	**Moosalm**	**156.50 342**	*e*P		**PKPab**	15 54 43.8	**-0.5**	
	comp=N,5.1nm,0.8s							
SQTA	**Sankt Quirin**	**156.58 342**	*i* P		**PKPab**	15 54 44.3	**-0.3**	
	comp=N,4.5nm,0.7s							
ABTA	**Abfaltersbach**	**156.62 339**	*e*P		**PKPab**	15 54 43.7	**-1.0**	
	comp=N,5.0nm,0.7s							
DAVA	**Damuels**	**156.87 344**	*i* P		**PKPab**	15 54 45.6	**-0.3**	
	comp=N,3.8nm,0.6s							
ESDC	**Sonseca Array**	**165.07 15**	PKPab		**PKPab**	15 55 21.6	**-0.2**	
	comp=N,0.9nm,0.9s,baz=342,slow=4.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**167.93 184**	PKPab		**PKPab**	15 55 34.3	**-0.5**	
	comp=N,1.7nm,0.7s,baz=224,slow=3.5,SNR=9.1							

ATH 27 15:35:55.7, 35.77N×27.26E, h13km±31km, ML3.1/2, Error ellipse: s-maj=31.6km s-min=1.1km az=0.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.83**	**58**	P	Pg	15 36 11.5	-0.3
ARG	**Arkhangelos**	**0.83**	**58**	*e*P	Pg	15 36 10.5	-1.3
ARG	**Arkhangelos**	**0.83**	**58**	P	Pg	15 36 11.4	-0.5
ARG				S	Sg	15 36 22.6	-0.2
ZKR	**Zakros**	**1.07**	**233**	P	Pb	15 36 15.7	-0.5
ZKR				S	Sg	15 36 30.6	+0.2
NPS	**Neapolis**	**1.44**	**250**	P	Pb	15 36 22.2	-0.1
NPS				S	Sn	15 36 39.7	-0.4
NPS				AML	AML	15 36 50.6	
	comp=E,1328μm,0.5s						
NPS				AML	AML	15 36 57.4	
	comp=N,952μm,0.5s						
LAST	**Lasithi**	**1.57**	**248**	P	Pn	15 36 24.0	+0.6
LAST				S	Sb	15 36 44.8	+0.2
APE	**Apeiranthos**	**1.90**	**313**	P	Pn	15 36 28.6	+0.8
SMG	**Samos**	**1.96**	**350**	P	Pb	15 36 30.4	-0.9
SMG				S	Sb	15 36 56.4	+0.8
IDI	**Anoyia**	**1.99**	**257**	AML	AML	15 36 55.8	
	comp=E,741μm,0.7s						
IDI				S	Sb	15 36 57.8	+1.3
IDI				AML	AML	15 37 04.3	
	comp=N,514μm,0.5s						
SIVA	**Sivas**	**2.14**	**250**	P	Pb	15 36 33.1	-1.1
SIVA	**Sivas**	**2.14**	**250**	P	Pb	15 36 32.7	-1.5
SIVA				S	Sb	15 37 01.1	+0.4

*IDC **27** 15:40:45.9±2.8, 29.66N×141.42E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.5/57, mbtmp3.7/6, ML3.0/3, Error ellipse: s-maj=137.6km s-min=16.4km az=74.0*

ISC 27 15:40:47.9±2.5, 29.9N±0.1×142.4E±0.5, h35km, n6, σ0.48/9, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.81**	**183**	Pn	**Pn**	**15 41 30.1**	**-0.3**
	7.3nm,0.3s,baz=290,slow=23,SNR=1.7						
JCJ				Sn	**Sn**	**15 42 02.9**	**-0.1**
	14nm,0.3s,baz=279,slow=23,SNR=1.6						
JHJ	**Hachijo jima 2**	**3.88**	**326**	Pn	**Pn**	**15 41 45.9**	**+0.8**
	2.8nm,0.3s,baz=147,slow=22,SNR=1.6						
JHJ				Sn	**Sn**	**15 42 28.8**	**-0.7**
	3.2nm,0.3s,baz=41,slow=18,SNR=2.0						
MJAR	**Matsushiro Arr**	**7.47**	**333**	Pn	**Pn**	**15 42 34.0**	**-0.4**
	0.1nm,0.3s,baz=146,slow=12,SNR=10						
MJAR				Sn	**Sn**	**15 43 57.8**	**-0.1**
	0.1nm,0.3s,baz=169,slow=2.3,SNR=1.2						
WRA	**Warramunga Arr**	**50.16**	**190**	P	**P**	**15 49 40.3**	**+0.2**
	2.3nm,0.7s,baz=7.4,slow=7.8,SNR=12						
KURBB	**Kurchatov Arra**	**51.22**	**313**	P	**P**	**15 49 48.0**	**+0.3**
	0.2nm,0.5s,baz=93,slow=8.7,SNR=1.3						
ASAR	**Alice Springs**	**53.89**	**190**	P	**P**	**15 50 08.0**	**+0.1**
	0.5nm,0.5s,baz=4.6,slow=6.0,SNR=7.4						

PRU 27 15:44:06.8±0.0, 51.46N×16.08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**168**	*e*Pg	Pg	15 44 18.7	-0.2
KSP				*e*SG	Sg	15 44 27.3	+0.2
CHVC	**Chvalec**	**0.87**	**181**	*e*PG	Sg	15 44 23.5	0.0
CHVC				*e*SG	Sg	15 44 35.3	+0.5
	comp=Z,3.7nm,0.2s						
OSTC	**Ostas**	**0.91**	**175**	*e*PG	Pg	15 44 24.2	0.0
OSTC				*e*SG	Sg	15 44 35.5	-0.4
	comp=Z,6.3nm,0.2s						
UPC	**Upice**	**0.95**	**183**	*e*PG	Pg	15 44 24.7	-0.4
UPC				*e*SG	Sg	15 44 37.7	+0.3
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG	Pg	15 44 27.5	-0.8
DPC				*e*SG	Sg	15 44 41.3	-1.5
PVCC	**Panska Ves**	**1.33**	**226**	*e*PG	Pg	15 44 32.1	-0.3
PVCC				*e*SG	Sb	15 44 50.6	+0.3
BRG	**Berggiesshubel**	**1.47**	**247**	Pg	Pn	15 44 34.4	-0.1
BRG				Sg	Sn	15 44 54.7	+0.2
BRG				Amp		15 44 55.1	
	comp=Z,9.6nm,0.3s						
PRU	**Pruhonice**	**1.77**	**214**	*e*PG	Pn	15 44 39.3	+0.7
PRU				*e*SG	Sb	15 45 03.0	+0.2
	comp=Z,3.1nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**150**	*e*PN	Pn	15 44 39.5	-1.4
MORC				*e*SG	Sb	15 45 07.8	+0.4
CLL	**Collm**	**1.93**	**267**	*e*Pg	Pb	15 44 42.0	-0.9
CLL				*e*Sg	Sb	15 45 08.0	+0.4
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*SG	Sb	15 45 12.5	+0.4
NKC	**Novy Kostel**	**2.61**	**243**	*e*PG	Pb	15 44 55.5	+1.1
NKC				*e*SG	Sg	15 45 30.4	-0.2
	comp=Z,5.6nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**215**	*e*PN	Pn	15 44 52.8	-0.5
KHC				*e*PG	Pb	15 44 58.6	+0.4
KHC				*e*SN	Sn	15 45 26.5	-1.6
KHC				*e*SG	Sg	15 45 36.1	-1.6
	comp=Z,1.1nm,0.2s						

DDA 27 15:57:23.0, 40.38N×29.13E, h6km±1km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGD	**Bursa**	**0.12**	**155**	*i* P	Pg	15 57 26.1	+0.6
IGD				*i* S	Sg	15 57 28.4	+1.1
IGD				IAML		15 57 32.0	
	comp=E,162nm,1.1s						
IGD				IAML		15 57 33.0	
	comp=N,142nm,0.9s						
ULDT	**Uludag**	**0.23**	**180**	*i* P	Pg	15 57 28.4	+0.7
ULDT				*i* S	Sg	15 57 32.0	+1.3

ISK 27 15:58:22.3, 40.59N×29.78E, h0km, ML1.5/7, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADVT	**Abdulvahap**	**0.16**	**192**	PG	Pg	15 58 26.5	+1.1
ADVT				SG	Sg	15 58 29.1	+1.6
HRT	**Hereke**	**0.24**	**339**	PG	Pg	15 58 27.7	+0.7
HRT				SG	Sg	15 58 31.3	+1.1
YLV	**Yalova**	**0.31**	**265**	PG	Pb	15 58 29.6	-1.2
YLV				SG	Sg	15 58 34.3	+2.0
CAVI	**Cavuskoy**	**0.39**	**173**	PG	Pg	15 58 30.8	+1.0
GULT	**Gulveren**	**0.58**	**106**	PG	Pg	15 58 34.4	+1.0
SRCK	**Saricakaya, Es**	**0.85**	**130**	PG	Pb	15 58 39.9	0.0
SRCK				SG	Sb	15 58 51.7	-0.1
TVSB	**Tavsanli**	**1.17**	**192**	PN	Pb	15 58 45.6	+0.2

*IDC **27** 16:21:08.6±0.5, 5.20S×153.25E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.5/38, mbtmp4.6/24, ML3.1/2, MS4.0/3, Ms1 4.0/3, ms1mx3.5/27, Error ellipse: s-maj=17.9km s-min=12.2km az=95.0*

*GCMT **27** 16:21:12.5±0.5, 5.38S±0.04×153.53E±0.03, h22km±1km, MW4.9/66, Moment Tensor Solution. s17,c18; s66,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.52±.23; $M_{\theta\theta}$-0.57±.13; $M_{\phi\phi}$-1.95±.15; $M_{r\theta}$0.57±.25; $M_{r\phi}$-0.80±.09; $M_{\theta\phi}$1.00±.22; Best double couple: M_o2.67600×10^{16} NP1:ϕs203.00000°, δ32.00000°, λ87.00000°. NP2: ϕs27.00000°, δ58.00000°, λ92.00000°. Principal axes: T 2.7800, Plg77.0000°, Azm303.0000°; N -0.2080, Plg2.0000°, Azm205.0000°; P -2.5730, Plg13.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **27** 16:21:13.8±0.0, 4.74S×153.47E, h38km, mB5.1/32, mb4.8/51, Ms4.8/12, Ms7 4.4/8*

*NEIC **27** 16:21:14.5±1.5, 5.20S±0.09×153.2E±0.1, h35km±1km, mb4.9/29, Error ellipse: s-maj=21.7km s-min=8.8km az=50.0*

*DJA **27** 16:21:16.6±0.5, 5.3S±4.4×15.3E±.9, h56km±5km, M4.7/23, mb4.8/23, mB5.1/5, MLv4.8/3, Mw(mB)4.5/5, MwMwp6.3/1, Mwp6.2/1*

ISC 27 16:21:13.9±0.4, 5.21S±0.05×153.24E±0.06, h35km, n193, σ1.27/202, mb4.9/61, MS4.5/7, 3C-5D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.48**	**313**	Pn	**Pn**	**16 21 39.6**	**+1.6**
PMG	**Port Moresby**	**7.33**	**235**	Pn	**Pn**	**16 22 58.8**	**+0.3**
	6.7nm,0.3s,baz=81,slow=7.9,SNR=11						
PMG				Sn	**Sn**	**16 24 21.9**	**+1.4**
	5.9nm,0.3s,baz=133,slow=22,SNR=6.4						
HNR	**Honiara**	**7.86**	**123**	Pn	**Pn**	**16 23 09.9**	**+4.1**
	4.5nm,0.3s,baz=216,slow=7.0,SNR=4.7						
GENI	**Genyem**	**13.29**	**281**	P	**P**	**16 24 33.4**	**+3.9**
MTSU	**Mount Surprise**	**15.52**	**213**	P	**Pn**	**16 24 51.3**	**+1.0**
	baz=16,SNR=6.0						
CTA	**Charters Tower**	**16.27**	**204**	Pn	**P**	**16 25 00.9**	**-1.7**
	0.1nm,0.3s,baz=25,slow=16,SNR=2.3						
SRPI	**Serui, Papua**	**17.28**	**280**	P	**Pn**	**16 25 10.1**	**-2.6**
	41nm,0.7s						
BAKI	**Biak**	**17.56**	**283**	P	**P**	**16 25 16.9**	**0.0**
	63nm,1.1s						
QIS	**Mount Isa**	**20.20**	**220**	P	**P**	**16 25 46.1**	**+0.2**
	baz=20,SNR=7.6						
LIFNC	**LIFOU**	**20.60**	**140**	P	**P**	**16 25 51.1**	**+1.0**
DZM	**Mont Dzumac**	**21.08**	**144**	P	**P**	**16 25 56.3**	**+0.8**
	46nm,0.8s,baz=336,slow=10,SNR=17						
DZM				LR	LR	16 33 24.2	
	comp=Z,727nm,18.5s,baz=306,slow=35						
DZM	**Mont Dzumac**	**21.08**	**144**	P	**P**	**16 25 54.8**	**-0.7**
ONTNC	**Ouen Toro**	**21.27**	**144**	P	**P**	**16 25 57.4**	**+0.1**
OUENC	**Ouen Island, N**	**21.58**	**144**	P	**P**	**16 26 01.5**	**+0.8**
OUENC				IAmb	IAmb	16 26 05.3	
	comp=Z,80nm,1.0s						
RMQ	**Roma**	**21.58**	**191**	P	**P**	**16 26 00.8**	**+0.1**
	baz=22,SNR=6.5						
KDU	**Kakadu**	**21.80**	**249**	P	**P**	**16 26 02.4**	**-0.8**
	baz=22,SNR=31						
SIJI	**Sorong**	**22.36**	**280**	P	**P**	**16 26 09.2**	**0.0**
	comp=Z,37nm,0.7s,baz=62,slow=6.2,SNR=9.0						
SIJI	**Sorong**	**22.36**	**280**	P	**P**	**16 26 09.0**	**-0.2**
	comp=Z,347nmcomp=Z,29nm,0.9s						
SWI	**Sorong**	**22.36**	**280**	P	**P**	**16 26 09.0**	**-0.2**
	comp=Z,68nm,0.8s						
QLP	**Quilpie**	**22.93**	**201**	P	**P**	**16 26 14.4**	**-0.6**
	baz=23,SNR=6.4						
MTN	**Manton Dam**	**23.09**	**249**	P	**P**	**16 26 15.8**	**-1.1**
	baz=23,SNR=5.4						
MTN	**Manton Dam**	**23.09**	**249**	P	**P**	**16 26 15.8**	**-1.1**
MTN				IAmb	IAmb	16 26 26.9	
	comp=Z,28nm,0.8s						
BNDI	**Bandanaira**	**23.26**	**271**	P	**P**	**16 26 17.4**	**-1.1**
	comp=Z,181nm,0.7s						
WB0	**Warramunga Arr**	**23.36**	**230**	P	**P**	**16 26 18.4**	**-1.1**
WB0				IAmb	IAmb	16 26 44.9	
	comp=Z,78nm,1.3s						
WR0	**Warramunga Arr**	**23.36**	**230**	P	**P**	**16 26 18.6**	**-0.9**
WR0				IAmb	IAmb	16 26 44.9	
	comp=Z,45nm,1.1s						
WB2	**Warramunga Arr**	**23.50**	**230**	P	**P**	**16 26 20.1**	**-0.7**
WB2				IAmb	IAmb	16 26 45.7	
	comp=Z,34nm,1.1s						
WRA	**Warramunga Arr**	**23.51**	**230**	P	**P**	**16 26 19.8**	**-1.1**
	comp=Z,9.9nm,0.6s,baz=54,slow=9.9,SNR=40						
WRA				PcP	**PcP**	**16 30 07.6**	**+1.4**
	comp=Z,5.4nm,0.8s,baz=55,slow=1.9,SNR=6.7						
WRA	**Warramunga Arr**	**23.51**	**230**	P	**P**	**16 26 18.7**	**-2.3**
ARMA	**Armidale**	**25.12**	**183**	P	**P**	**16 26 36.5**	**+0.7**
	baz=25,SNR=7.7						
ARMA	**Armidale**	**25.12**	**183**	P	**P**	**16 26 35.6**	**-0.1**
AS31	**Alice Springs**	**26.14**	**224**	P	**P**	**16 26 44.4**	**-0.7**
ASAR	**Alice Springs**	**26.15**	**224**	P	**P**	**16 26 44.0**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=56,slow=9.9,SNR=49						
ASAR				PcP	**PcP**	**16 30 14.1**	**+2.1**
	comp=Z,2.9nm,0.8s,baz=57,slow=3.0,SNR=6.6						
ASAR	**Alice Springs**	**26.15**	**224**	P	**P**	**16 26 44.4**	**-0.7**
KNRA	**Kununurra**	**26.18**	**245**	P	**P**	**16 26 45.3**	**-0.1**
	baz=26,SNR=26						
KNRA	**Kununurra**	**26.18**	**245**	P	**P**	**16 26 45.2**	**-0.3**
KNRA				IAmb	IAmb	16 26 57.4	
	comp=Z,52nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**27.03**	**29**	T	T	16 55 15.8	
	baz=208,slow=73,SNR=25						
H11S2	**WAKE ISLAND Hy**	**27.04**	**29**	T	T	16 55 37.0	
	baz=208,slow=73,SNR=21						
H11S1	**WAKE ISLAND Hy**	**27.05**	**29**	T	T	16 55 15.1	
	baz=208,slow=73,SNR=14						
MSVF	**Nonsavu**	**27.27**	**119**	LR	LR	16 36 25.6	
	comp=Z,361nm,21.6s,baz=342,slow=34						
STKA	**Stephens Creek**	**28.68**	**201**	P	**P**	**16 27 06.3**	**-1.3**
	comp=Z,4.8nm,1.0s,baz=350,slow=7.4,SNR=7.5						
STKA	**Stephens Creek**	**28.68**	**201**	P	**P**	**16 27 06.4**	**-1.3**
	baz=29,SNR=5.1						
STKA	**Stephens Creek**	**28.68**	**201**	P	**P**	**16 27 04.8**	**-2.8**
BATI	**Baumata**	**29.71**	**259**	P	**P**	**16 27 17.5**	**+0.4**
	comp=Z,36nm,0.9s,baz=109,slow=4.6,SNR=4.4						
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**16 27 17.1**	**-1.1**
	comp=Z,26nm,0.8s,baz=84,slow=6.1,SNR=54						
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**16 27 17.5**	**-0.7**
	baz=30,SNR=34						
FITZ	**Fitzroy Crossi**	**29.85**	**242**	P	**P**	**16 27 17.5**	**-0.7**
FITZ				IAmb	IAmb	16 27 18.5	
	comp=Z,27nm,0.8s						
WRKA	**Warakurna**	**31.00**	**228**	P	**P**	**16 27 26.9**	**-1.5**
	baz=31,SNR=12						
HTT	**Hallett**	**31.08**	**204**	P	**P**	**16 27 28.0**	**-1.0**
	baz=31,SNR=3.6						
BBOO	**Buckleboo**	**31.80**	**208**	P	**P**	**16 27 33.5**	**-1.7**
BBOO				IAmb	IAmb	16 27 35.2	
	comp=Z,46nm,1.8s						
FORT	**Forrest**	**34.75**	**220**	P	**P**	**16 27 59.9**	**-1.1**
	baz=35,SNR=11						
FORT	**Forrest**	**34.75**	**220**	P	**P**	**16 27 60.0**	**-1.0**
PSA00	**Pilbara Seismi**	**36.20**	**240**	P	**P**	**16 28 12.9**	**-0.8**
MEEK	**Meekatharra**	**39.30**	**233**	P	**P**	**16 28 39.1**	**-0.7**
	baz=39,SNR=9.0						
LTZ	**Lake Taylor**	**41.04**	**159**	P	**P**	**16 28 54.2**	**+0.2**
JNU	**Nakatsue**	**43.63**	**332**	P	**P**	**16 29 14.5**	**-0.6**
	comp=Z,13nm,0.9s,baz=108,slow=4.9,SNR=8.0						
JNU	**Nakatsue**	**43.63**	**332**	P	**P**	**16 29 14.6**	**-0.6**
JNU				IAmb	IAmb	16 29 16.1	
	comp=Z,34nm,0.9s						
MJAR	**Matsushiro Arr**	**43.85**	**342**	P	**P**	**16 29 15.6**	**-1.3**
	comp=Z,2.8nm,1.0s,baz=159,slow=7.8,SNR=2.5						
MJAR				PcP	**PcP**	**16 31 03.3**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=168,slow=3.6,SNR=8.1						
MJAR	**Matsushiro Arr**	**43.85**	**342**	P	**P**	**16 29 15.1**	**-1.8**
KSRS	**Korea Array**	**48.56**	**333**	P	**P**	**16 29 54.1**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=152,slow=8.0,SNR=9.9						
MDSI	**Maura Dua**	**48.88**	**269**	P	**P**	**16 29 55.1**	**-1.7**
	comp=Z,12nm,1.4s						
QIZ	**Qiongzhong**	**49.05**	**301**	P	**P**	**16 29 57.5**	**-0.5**
QIZ				S	**S**	**16 37 03.0**	**+2.3**
QIZ				L	L		
	comp=Z,320nm,11.8s						
QIZ				L	L		
	comp=Z,300nm,14.2s						
QIZ				L	L		
	comp=Z,210nm,12.7s						
NJ2	**Nanjing**	**49.44**	**321**	*e*P	**P**	**16 30 03.0**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**52.78**	**341**	P	**P**	**16 30 25.8**	**+0.3**
	comp=Z,7.0nm,0.8s,baz=162,slow=7.9,SNR=16						
USRK	**Ussuriysk Ar.**	**52.78**	**341**	P	**P**	**16 30 25.6**	**0.0**
NONG	**Nongkai**	**54.55**	**296**	P	**P**	**16 30 40.1**	**+1.1**
	comp=Z,8μmcomp=Z,19nm,0.9s						
CN2	**Changchun**	**54.85**	**336**	*e*P	**P**	**16 30 40.8**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PHIT	**Phitsanulok**	**56.72**	**294**	P	**P**	**16 30 58.7**	**+4.1**
	comp=Z,52nm,1.0s						
UTTA	**Uttaradit**	**56.77**	**295**	P	**P**	**16 30 57.0**	**+2.1**
	comp=Z,21nm,0.8s						
XAN	**Xi'an**	**57.22**	**316**	⇑P	**P**	**16 30 57.8**	**-0.2**
XAN				PcP	**PcP**	**16 31 52.5**	**+0.3**
XAN				pmax	pmax		
	comp=Z,180nm,4.5s						
XAN				L	L		
	comp=Z,310nm,16.3s						
KMI	**Kunming**	**57.58**	**304**	⇑P	**P**	**16 31 03.8**	**+2.9**
KMI				pmax	pmax		
	comp=Z,11nm,1.7s						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**16 31 04.1**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=188,slow=9.0,SNR=6.5						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**16 31 03.1**	**-1.4**
CM04	**Chiang Mai Arr**	**58.40**	**295**	P	**P**	**16 31 10.1**	**+3.7**
	comp=Z,14nm,0.9s						
CM09	**Chiang Mai Arr**	**58.40**	**295**	P	**P**	**16 31 09.1**	**+2.6**
	comp=Z,16nm,0.9s						
CM01	**Chiang Mai Arr**	**58.42**	**295**	P	**P**	**16 31 09.0**	**+2.4**
	comp=Z,14nm,0.8s						
CM05	**Chiang Mai Arr**	**58.43**	**295**	P	**P**	**16 31 10.3**	**+3.6**
	comp=Z,9.9nm,0.9s						
CM02	**Chiang Mai Arr**	**58.44**	**295**	P	**P**	**16 31 08.7**	**+2.0**
	comp=Z,99nmcomp=Z,16nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.45**	**295**	P	**P**	**16 31 08.2**	**+1.5**
	comp=Z,9.7nm,0.8s,baz=122,slow=5.4,SNR=35						
CMAR				LR	LR	16 55 33.1	
	comp=Z,60nm,19.7s,baz=160,slow=35						
CMAR	**Chiang Mai Arr**	**58.45**	**295**	P	**P**	**16 31 08.5**	**+1.7**
CM15	**Chiang Mai Arr**	**58.46**	**295**	P	**P**	**16 31 09.0**	**+2.1**
	comp=Z,112nmcomp=Z,16nm,0.9s						
CM13	**Chiang Mai Arr**	**58.47**	**295**	P	**P**	**16 31 10.5**	**+3.6**
	comp=Z,10nm,0.9s						
CMMT	**Chiang Mai**	**58.55**	**296**	P	**P**	**16 31 05.6**	**-1.9**
	comp=Z,10nm,1.4s						
CHTO	**Chiang Mai**	**58.56**	**296**	P	**P**	**16 31 09.6**	**+2.0**
	comp=Z,9.5nm,1.0s						
CHTO	**Chiang Mai**	**58.56**	**296**	P	**P**	**16 31 06.8**	**-0.8**
CHTO				IAmb	IAmb	16 31 09.5	
	comp=Z,27nm,1.6s						
CHTO	**Chiang Mai**	**58.56**	**296**	P	**P**	**16 31 06.5**	**-1.1**
	comp=Z,5.3nm,1.0s						
CD2	**Chengdu**	**59.34**	**311**	*e*P	**P**	**16 31 13.5**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**59.63**	**324**	*e*P	**P**	**16 31 18.8**	**+4.0**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
H

baz=85,SNR=5.3
MAW Mawson 85.36 203 P **P** 16 33 46.8 -0.3
USP Ospenovka 85.39 314 P **P** 16 33 48.9 +0.9
SNR=15
EKS2 Erkin-Say 85.79 313 P **P** 16 33 51.7 +1.6
SNR=8.2
NRIK Noril'sk 86.49 341 P **P** 16 33 52.4 -0.3
comp=Z,4.2nm,0.8s,baz=130,slow=2.8,SNR=8.6
KKAR Karatay Array 88.23 313 P **P** 16 33 59.5 -2.3
BRVK Borovoye 89.90 323 P **P** 16 34 08.2 -1.1
NVAR Mina Array Bea 92.00 52 P **P** 16 34 19.3 -0.4
comp=Z,0.2nm,0.6s,baz=258,slow=7.4,SNR=4.2
ARU Arti 96.90 326 P **P** 16 34 39.6 -1.8
comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=1.1
AKTO Aktyubinsk 97.32 320 P **P** 16 34 42.0 -1.5
comp=Z,1.3nm,0.8s,baz=90,slow=6.1
MNK Minsk 114.17 329 *i* PKP **PKiKP** 16 39 49.3 -0.3
comp=E,5.0nm,0.4s
MNK *i* PKP **PKiKP** 16 39 49.3 -0.3
comp=N,6.0nm,0.7s,baz=243
MNK *i* PKP **PKiKP** 16 39 49.3 -0.3
comp=Z,1.0nm,0.7s
MNK *i* PP **PP** 16 40 44.2 -0.2
MNK *i* PPP PPP 16 43 08.9
MNK *i* SKP 16 43 23.3
MNK *i* PKS **PKSdf** **16 43 26.0 0.0**
MNK *i* SKS **SKSdf** **16 46 58.7 -0.3**
MNK *i* SS **SS** **16 56 34.2 +1.5**
MNK *i* SKKS **SKKSdf** **16 58 00.6 -3.9**
MNK *i* SSS SSS 17 00 48.9
MNK *i* LQ LQ 17 21 39.8
MNK *i* LR LR 17 25 30.9
MNK *i* LRM MLR 17 28 12.4
comp=N,227nm,20.4s
MNK *i* LRM MLR 17 28 16.3
comp=E,4.0nm,12.7s
MNK *i* LRM MLR 17 28 19.4
comp=Z,55nm,17.8s
AKASG **Malin Array Be 115.08 324** PKP **PKPdf** 16 39 51.1 -0.3
comp=Z,2.2nm,0.8s,baz=70,slow=2.3,SNR=6.5
NOA NORSAR Array B 117.45 340 PKP **PKiKP** 16 39 55.5 -0.3
comp=Z,0.8nm,0.7s,baz=45,slow=1.9,SNR=6.4
BOSA Boshof 119.73 233 PKP **PKPdf** 16 40 00.7 -0.6
comp=Z,1.8nm,0.6s,baz=222,slow=19,SNR=5.7
KOLS Kolonicke sedl 119.89 325 *e*PKP **PKiKP** **16 40 01.8 +0.9**
CRVS Cervenica-Dubn 120.37 325 *e*PKP **PKPdf** **16 40 01.1 -0.6**
MORC Moravsky Berou 122.06 328 *e*PKP **PKiKP** **16 40 05.2 +0.1**
KRLC Kraliky 122.28 328 *e*PKPDF **PKiKP** **16 40 06.2 +0.6**
DPC Dobruska-Polom 122.36 329 *e*PKPDF **PKiKP** **16 40 06.0 +0.3**
JAVC Velka Javorina 122.51 327 *e*PKP **PKiKP** **16 40 07.3 +1.2**
VRAC Vranov 122.83 328 PKP **PKiKP** **16 40 06.4 -0.2**
comp=Z,2.2nm,0.8s,baz=53,slow=4.7,SNR=4.8
VRAC Vranov 122.83 328 *e*PKP **PKiKP** **16 40 06.6 0.0**
BSEG Bad Segeberg 122.86 335 *e*PKPdf **PKiKP** **16 40 07.2 +0.8**
baz=49,slow=2.0
KRUC Moravsky 123.08 328 *e*PKP **PKiKP** **16 40 07.0 -0.1**
BRG Berggiesshubel 123.24 330 *i* PKP **PKiKP** **16 40 07.8 +0.5**
BRG Amp 16 40 10.1
comp=Z,7.8nm,1.0s
BRG Berggiesshubel 123.24 330 *e*PKPdf **PKiKP** **16 40 07.7 +0.3**
baz=49,slow=2.0
CLL Collm 123.42 331 *i* PKPdf **PKiKP** **16 40 07.3 -0.4**
comp=Z,7.0nm,0.9s
CLL Collm 123.42 331 *e*PKPdf **PKiKP** **16 40 07.8 +0.1**
baz=49,slow=2.0
PRU Pruhonice 123.49 329 *e*PKPDF **PKiKP** **16 40 07.9 0.0**
NRDL Niedersach Rie 123.95 334 *e*PKPdf **PKiKP** **16 40 09.5 +0.9**
baz=49,slow=2.0
CONA Conrad Observa 124.03 327 *e*P **PKiKP** **16 40 09.7 +0.5**
comp=Z,3.8nm,0.9s
TANN Tannenbergstha 124.26 331 *e*PKPdf **PKiKP** **16 40 09.7 +0.2**
baz=49,slow=2.0
CLZ Clausthal 124.29 333 *e*PKPdf **PKiKP** **16 40 10.1 +0.6**
baz=49,slow=2.0
CKRC Cesky Krumlov 124.33 328 *e*PKPDF **PKiKP** **16 40 10.0 +0.4**
GUNZ Gunzen 124.36 331 *e*PKPdf **PKiKP** **16 40 10.1 +0.4**
baz=49,slow=2.0
PLN Plauen 124.36 331 *e*PKPdf **PKiKP** **16 40 09.9 +0.3**
baz=49,slow=2.0
WERN Wernitzgruen 124.38 331 *e*PKPdf **PKiKP** **16 40 10.3 +0.6**
baz=49,slow=2.0
KHC Kasperske Hory 124.52 329 *e*PKPDF **PKiKP** **16 40 10.2 +0.2**
MOX Moxa 124.52 331 *e*PKPdf **PKiKP** **16 40 10.1 +0.2**
baz=49,slow=2.0
ARSA Arzberg 124.61 326 *i* P **PKiKP** **16 40 10.1 -0.1**
comp=Z,3.0nm,1.2s
GEC2 GERESS Array S 124.63 329 *e*PKPdf **PKiKP** **16 40 10.3 0.0**
baz=49,slow=2.0
GERES **GERESS Array B 124.63 329** PKP **PKiKP** **16 40 10.3 0.0**
comp=Z,2.5nm,0.8s,baz=64,slow=3.1,SNR=26
MANZ Manzenberg 124.71 330 *e*PKPdf **PKiKP** **16 40 10.6 +0.2**
baz=49,slow=2.0
WET Wettzell 124.87 329 *e*PKPdf **PKiKP** **16 40 11.0 +0.3**
baz=49,slow=2.0
SOKA Soboth 125.22 326 *e*P **PKiKP** **16 40 11.6 +0.1**
comp=Z,5.2nm,1.1s
OBKA Obir 125.59 326 *i* P **PKiKP** **16 40 12.2 -0.1**
comp=Z,5.1nm,1.2s
KASTN **Kahler Asten 125.61 334** *e*PKPdf **PKiKP** **16 40 12.5 +0.4**
baz=49,slow=2.0
RJOB Jochberg 125.79 328 *e*PKPdf **PKiKP** **16 40 12.2 -0.5**
baz=49,slow=2.0
KBA Koelnbreinsper 125.91 327 *i* P **PKiKP** **16 40 12.5 -0.5**
comp=Z,4.5nm,0.9s
MYKA Terra Mystica 126.02 326 *i* P **PKiKP** **16 40 12.8 -0.3**
comp=Z,0.8nm,0.5s
MILB Miltenberg 126.17 332 *e*PKPdf **PKiKP** **16 40 13.5 +0.3**
baz=49,slow=2.0
EKA Eskdalemuir Ar 126.55 343 PKP **PKiKP** **16 40 13.4 -0.4**
comp=Z,1.9nm,0.9s,baz=32,slow=4.9,SNR=4.9
ABTA Abfaltersbach 126.56 327 *i* P **PKiKP** **16 40 13.9 -0.3**
comp=Z,6.8nm,1.1s
WATA Walderalm 126.69 328 *i* P **PKiKP** **16 40 14.6 0.0**
comp=Z,9.2nm,1.6s
WTTA Wattenberg 126.70 328 *i* P **PKPdf** **16 40 13.8 -0.4**
comp=Z,13nm,1.0s
MOTA Moosalm 126.93 329 *i* P **PKiKP** **16 40 15.0 0.0**
comp=Z,7.5nm,0.8s
SQTA Sankt Quirin 126.95 328 *i* P **PKiKP** **16 40 15.3 +0.3**
comp=Z,9.8nm,1.0s
RETA Reutte 127.01 329 *i* P **PKiKP** **16 40 15.2 +0.1**
comp=Z,2.8nm,1.0s
MEM Membach 127.09 334 *d*PKiKP **PKiKP** **16 40 15.4 +0.4**
FETA Feichten 127.33 328 *i* P **PKiKP** **16 40 16.3 +0.5**
comp=Z,8.5nm,0.9s
BCLA Clavier 127.54 335 *d*PKiKP **PKiKP** **16 40 15.9 -0.1**
DAVA Damuels 127.60 329 *i* P **PKPdf** **16 40 15.6 -0.2**
comp=Z,5.7nm,1.1s
BGES Gesves 127.65 335 *d*PKiKP **PKPdf** **16 40 15.2 -0.4**
WLF Walferdange 127.72 333 *d*PKiKP **PKiKP** **16 40 17.1 +0.7**
WLF Walferdange 127.72 333 *e*PKPdf **PKiKP** **16 40 17.0 +0.7**
baz=49,slow=2.0
BMRD Maredsous 127.85 335 *d*PKiKP **PKiKP** **16 40 16.6 +0.1**
DAVOX **Davos/Dischmat 127.93 329** PKP **PKiKP** **16 40 16.6 -0.5**
comp=Z,3.4nm,0.8s,baz=228,slow=1.0,SNR=7.6
LPAZ La Paz 133.84 118 PKP **PKPdf** **16 40 28.9 -0.1**
comp=Z,1.7nm,0.8s,baz=235,slow=4.8,SNR=5.8
CPUP Villa Florida 136.87 138 PKP **PKPdf** **16 40 34.0 +0.3**
comp=Z,2.3nm,0.9s,baz=343,slow=1.0,SNR=4.1
ESDC Sonseca Array 139.99 332 PKhKP PKPpre 16 40 33.7
comp=Z,0.2nm,0.5s,baz=29,slow=3.2,SNR=5.1
BDFB Brasilia 150.47 135 PKP **PKPdf** **16 40 58.7 +1.0**
comp=Z,9.9nm,0.8s,baz=267,slow=16,SNR=3.7
BDFB PKPbc **PKPbc** **16 41 02.6 -0.5**
comp=Z,9.7nm,0.7s,baz=179,slow=4.6,SNR=7.5
BDFB Brasilia 150.47 135 PKPbc **PKiKP** **16 41 04.0 +0.2**
TOA0 Torodi Ar. Sit 150.85 288 **PKPbc** **16 41 03.8 -0.1**
TORD Torodi Ar. Bea 150.85 288 PKPbc **PKPbc** **16 41 03.5 -0.4**
comp=Z,17nm,0.9s,baz=45,slow=2.6,SNR=52
TORD Torodi Ar. Bea 150.85 288 **PKPbc** **16 41 03.7 -0.2**

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*IDC **27** 16:22:48.3±2.8, 22°.78N×11°.83W, h0km, mb3.7/3, mb1 3.7/7, mb1mx3.5/37, mbtmp3.7/7, ML3.7/4, Error ellipse: s-maj=88.1km s-min=25.6km az=81.0*
ISC 27 16:22:50.6±1.6, 22°.8N±0°.1×11°.6W±0°.2, h10km, n11, σ1§32/11, mb3.8/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**10.95**	**137**			Pn	**Pn**	**16 25 28.6**	**+1.1**
	0.6nm,0.3s,baz=318,slow=12,SNR=5.3								
KOWA						Sn	**Sn**	**16 27 29.5**	**-0.7**
	0.4nm,0.3s,baz=160,slow=15,SNR=2.2								
MDT	**Midelt**	**11.78**	**30**	Lg		Lg		16 29 02.9	
	0.2nm,0.3s,baz=320,slow=18,SNR=4.5								
TORD	**Torodi Ar. Bea**	**15.88**	**125**	Pn		**Pn**		**16 26 35.7**	**+1.3**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.2								
TORD				Sn		**Sn**		**16 29 30.7**	**0.0**
	0.1nm,0.3s,baz=306,slow=21,SNR=3.2								
DBIC	**Dimbokro**	**17.30**	**157**	P		**Pn**		**16 26 50.4**	**-2.0**
	0.3nm,0.3s,baz=326,slow=11,SNR=1.4								
ESDC	**Sonseca Array**	**18.07**	**19**	P		**Pn**		**16 27 01.4**	**-0.5**
	0.1nm,0.3s,baz=211,slow=11,SNR=2.8								
I42PT	**GRACIOSA ISLAN**	**21.39**	**323**	*i*				18 28 20.0	
	baz=139,slow=307,SNR=1.6								
GERES	**GERESS Array B**	**32.86**	**31**	P		**P**		**16 29 24.6**	**-0.2**
	0.5nm,0.6s,baz=235,slow=11,SNR=5.1								
FINES	**FINESS Array B**	**46.50**	**24**	P		**P**		**16 31 17.1**	**-0.7**
	0.8nm,0.6s,baz=227,slow=5.5,SNR=5.9								
MKAR	**Makanchi Array**	**76.34**	**45**	P		**P**		**16 34 40.2**	**+0.1**
	0.6nm,0.6s,baz=284,slow=4.9,SNR=0.8								
WRA	**Warramunga Arr**	**148.23**	**91**	PKPbc		**PKPdf**		**16 42 36.9**	**+2.4**
	0.6nm,0.7s,baz=291,slow=2.9,SNR=4.7								
ASAR	**Alice Springs**	**148.37**	**98**	PKPbc		**PKPbc**		**16 42 37.9**	**-0.2**
	0.6nm,0.7s,baz=266,slow=1.6,SNR=10								

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*IDC **27** 16:47:36.4±1.6, 3°.17S×139°.58E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/28, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=55.0km s-min=21.5km az=96.0*
*DJA **27** 16:47:39.7±1.5, 3°.S±4°×14°.0E±°, h11km±15km, M4.6/6, mb4.6/6, MLv4.6/5*
ISC 27 16:47:38.2±0.6, 3°.32S±0°.05×139°.50E±0°.07, h10km, n16, σ1§93/20, mb3.8/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.98**	**43**	P		P	**Pb**	**16 47 57.7**	**+0.4**
GENI				S		S	**Sb**	**16 48 10.0**	**-0.3**
SRPI	**Serui, Papua**	**3.56**	**294**	P		P	**Pn**	**16 48 35.0**	**+1.4**
SRPI				S		S	**Sn**	**16 49 16.6**	**+0.8**
BAKI	**Biak**	**3.99**	**302**	P		P	**Pn**	**16 48 41.0**	**+1.4**
MMPI	**Merauke**	**5.19**	**170**	P		P	**Pn**	**16 48 58.5**	**+2.5**
	2.5nm235nm,0.5s								
FAKI	**Fak Fak**	**7.25**	**273**	P		P	**Pn**	**16 49 25.4**	**+1.0**
	0.2nm32nm,1.6s								
GTOI	**Gorontalo**	**16.94**	**283**	P		P	**P**	**16 51 38.3**	**+0.7**
WRA	**Warramunga Arr**	**17.28**	**197**	P		P	**Pn**	**16 51 40.0**	**+0.3**
	0.4nm,0.3s,baz=19,slow=12,SNR=26								
WRA				S			**Sn**	**16 54 46.7**	**-5.5**
	0.5nm,0.3s,baz=8.4,slow=22,SNR=5.3								
FITZ	**Fitzroy Crossi**	**20.01**	**222**	P		P	**P**	**16 52 13.1**	**+1.8**
	3.2nm,0.5s,baz=33,slow=8.6,SNR=34								
FITZ				S		S		16 55 45.9	-10
	2.2nm,0.6s,baz=54,slow=23,SNR=2.3								
ASAR	**Alice Springs**	**20.94**	**194**	P		P	**P**	**16 52 22.9**	**+1.4**
	2.8nm,0.8s,baz=25,slow=10.0,SNR=33								
ASAR				S		S		**16 56 12.2**	**-2.9**
	0.6nm,0.7s,baz=8.7,slow=28,SNR=3.7								
CMAR	**Chiang Mai Arr**	**45.42**	**300**	P		P	**P**	**16 55 57.4**	**-0.3**
	0.5nm,0.5s,baz=113,slow=6.9,SNR=2.5								
SONM	**Songino Array**	**58.60**	**334**	P		P	**P**	**16 57 34.0**	**-1.5**
	0.3nm,0.4s,baz=168,slow=7.9,SNR=2.0								
MKAR	**Makanchi Array**	**70.75**	**322**	P		P	**P**	**16 58 54.8**	**0.0**
	1.0nm,0.4s,baz=107,slow=7.8,SNR=16								
ZALV	**Zalesovo Beam**	**72.85**	**330**	P		P	**P**	**16 59 05.2**	**-2.0**
	0.6nm,0.6s,baz=132,slow=8.0,SNR=1.9								
BVAR	**Borovoye Array**	**80.26**	**325**	P		P	**P**	**16 59 48.7**	**-0.5**
	1.0nm,0.5s,baz=173,slow=12,SNR=9.2								
ILAR	**Eielson Array**	**86.05**	**24**	P		P	**P**	**17 00 18.6**	**-0.3**
	0.3nm,0.6s,baz=257,slow=5.2,SNR=2.1								
DBIC	**Dimbokro**	**144.34**	**277**	PKP		**PKPab**		**17 07 14.4**	**+0.6**
	2.2nm,0.6s,baz=108,slow=6.4,SNR=1.2								

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*DJA **27** 17:01:28.7±0.3, 2°.S±2°×12°.9E±°, h10km, M3.7/9, mb4.2/3, mB5.0/1, MLv3.5/9, Mw(mB)4.3/1*
ISC 27 17:01:31.4±1.6, 2°.40S±0°.10×128°.89E±0°.08, h35km, n9, σ0§94/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.94**	**178**	P		P	**Pn**	**17 01 47.1**	**-1.0**
MSAI				S		S	**Sn**	**17 02 01.7**	**+1.4**
KRAI	**Karang Ratu**	**1.03**	**209**	P		P	**Pn**	**17 01 48.2**	**-1.2**
KRAI				S		S	**Sn**	**17 02 03.3**	**+0.6**
NLAI	**Namlea**	**1.97**	**245**	P		P	**Pn**	**17 02 02.6**	**+0.3**
SWI	**Sorong**	**2.82**	**57**	P		P	**Pn**	**17 02 14.2**	**+0.2**
SIJI	**Sorong**	**2.82**	**57**	P		P	**Pn**	**17 02 14.6**	**+0.6**
FAKI	**Fak Fak**	**3.39**	**99**	P		P	**Pn**	**17 02 21.4**	**-0.5**
LUWI	**Luwuk**	**6.26**	**282**	P		P	**Pn**	**17 03 00.5**	**-0.8**
	0.1nm1µm18nm,1.1s								
APSI	**Ampana**	**7.39**	**281**	P		P	**Pn**	**17 03 16.5**	**-0.3**
	0.1nm27nm,0.7s								
MRSI	**Marisa**	**7.51**	**292**	P		P	**Pn**	**17 03 17.7**	**-0.8**

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*ECX **27** 17:38:50.7±0.4, 31°.48N×115°.65W, h11km±12km, MD2.4, ML2.6*
*MEX **27** 17:38:51.4±0.5, 31°.46N×115°.58W, h10km, MD3.6*
ISC 27 17:38:48.2±1.4, 31°.53N±0°.04×115°.60W±0°.04, h11km±13km, n11, σ0§68/19, 3C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.49**	**167**	*e*P		**Pb**		**17 38 59.2**	**+0.1**
SPIG				*e*S		**Sb**		**17 39 05.9**	**-0.5**
SPIG	**San Pedro Mart**	**0.49**	**167**	⇓*i*P		**Pb**		**17 38 59.2**	**+0.1**
SPIG				*e*S		**Sb**		**17 39 06.1**	**-0.3**
SPX	**San Pedro Mart**	**0.50**	**167**	*i* P		**Pb**		**17 38 59.2**	**0.0**
SPX				*e*S		**Sb**		**17 39 06.3**	**-0.4**
SPX				⇓*e*				17 39 07.3	
SPX				IAML				17 39 07.3	
	comp=N,289nm,0.1s								
SVX	**San Vicente**	**0.59**	**250**	⇑*i*P		**Pb**		**17 39 00.5**	**0.0**
SVX				*e*S		**Sb**		**17 39 08.4**	**-0.5**
SFX	**San Felipe**	**0.81**	**127**	⇓*e*P		**Pb**		**17 39 05.0**	**+0.9**
SFX				*e*S		**Sg**		**17 39 15.5**	**+1.2**
SFX				IAML				17 39 17.2	
	comp=N,309nm,0.5s								
SFX				⇑*e*				17 39 17.2	
MBIG	**Mexicali**	**0.94**	**21**	*e*P		**Pg**		**17 39 05.4**	**-0.9**
MBIG				*e*S		**Sg**		**17 39 18.2**	**-0.3**
YUH2	**Yuha Desert**	**1.15**	**346**	⇓*e*P		**Pb**		**17 39 10.5**	**+0.4**
CBX	**Cerro Bola**	**1.20**	**311**	⇓*e*P		**Pb**		**17 39 11.6**	**+0.6**
CBX				IAML				17 39 27.9	
	comp=E,195nm,0.2s								
TJIG	**Tijuana**	**1.29**	**315**	*e*P		**Pn**		**17 39 13.0**	**+0.9**
TJIG				*e*S		**Sb**		**17 39 28.8**	**-0.1**
BAR	**Barrett**	**1.47**	**322**	⇑*e*P		**Pb**		**17 39 16.0**	**+0.5**
214A	**Organ Pipe Nat**	**2.41**	**79**	*e*P		**Pn**		**17 39 28.0**	**+0.4**
214A				*e*S		**Sn**		**17 39 56.1**	**-1.0**

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*IDC **27** 17:40:38.0±1.5, 23°.65N×121°.38E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=74.7km s-min=26.8km az=69.0*
*JMA **27** 17:40:42.5, 23°.97N×121°.53E, h50km, M4.1*
*TAP **27** 17:40:43.5, 24°.03N×121°.56E, h51km, ML4.2, B*
ISC 27 17:40:43.4±0.8, 24°.02N±0°.02×121°.61E±0°.02, h46km±4km, n170, σ1§34/295, mb3.4/3, 28C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.04**	**182**	*e*P		**Pn**		**17 40 51.9**	**+1.3**
	baz=139								
HWA				S		**Sn**		**17 40 57.8**	**+2.2**
	baz=139								
TWD	**Chiawan**	**0.06**	**351**	⇑*i*P		**Pn**		**17 40 51.2**	**+0.6**
	baz=39								
TWD				*i* S		**Sn**		**17 40 56.4**	**+0.6**
	baz=39								
ETM	**Tongmen**	**0.12**	**244**	P		**Pn**		**17 40 51.3**	**+0.4**
	baz=224								
ETM				*e*S		**Sn**		**17 40 56.4**	**+0.3**
	baz=224								
ETL	**Fush Village**	**0.14**	**6**	⇑*i*P		**Pn**		**17 40 51.5**	**+0.4**
	baz=24								
ETL				S		**Sn**		**17 40 57.0**	**+0.6**
	baz=24								
TEYL	**Yanliau Villag**	**0.15**	**183**	P		**Pn**		**17 40 52.0**	**+1.0**
	baz=163								
TEYL				S		**Sn**		**17 40 58.6**	**+2.2**
	baz=163								
NACB	**Ninganchiao**	**0.16**	**356**	⇑*i*P		**Pn**		**17 40 51.4**	**+0.3**
	baz=12								
NACB				*i* S		**Sn**		**17 40 56.6**	**+0.2**
	baz=12								
ETLH	**Xiulin Townshi**	**0.22**	**329**	⇑*i*P		**Pn**		**17 40 52.1**	**+0.4**
	baz=338								
ETLH				S		**Sn**		**17 40 57.6**	**+0.2**
	baz=338								
ESL	**Shilin**	**0.26**	**218**	P		**Pn**		**17 40 51.7**	**-0.1**
	baz=206								
ESL				*e*S		**Sn**		**17 40 57.4**	**-0.3**
	baz=206								
TEGC	**Jichi Village**	**0.31**	**191**	*e*P		**Pn**		**17 40 53.0**	**+0.7**
	baz=182								
TEGC				*e*S		**Sn**		**17 41 01.6**	**+3.0**
	baz=182								
EHP	**Heping Village**	**0.32**	**23**	*e*P		**Pn**		**17 40 52.7**	**+0.3**
	baz=24								
EHP				S		**Sn**		**17 40 59.0**	**+0.3**
	baz=24								
EGFH	**Guangfu**	**0.38**	**205**	*e*P		**Pn**		**17 40 52.6**	**-0.5**
	baz=202								
EGFH				*e*S		**Sn**		**17 40 59.3**	**-0.6**
	baz=202								
CHGB	**Renai**	**0.40**	**276**	⇓*i*P		**Pn**		**17 40 54.1**	**+0.7**
	baz=275								
CHGB				S		**Sn**		**17 41 00.7**	**+0.1**
	baz=275								
OWD	**Renai**	**0.40**	**261**	P		**Pn**		**17 40 53.8**	**+0.4**
	baz=254								
OWD				S		**Sn**		**17 41 00.7**	**+0.2**
	baz=254								
FUSS	**Fushou**	**0.40**	**305**	⇑*i*P		**Pn**		**17 40 54.2**	**+0.6**
	baz=311								
FUSS				S		**Sn**		**17 41 01.2**	**+0.5**
	baz=311								
EWUT	**Wuta**	**0.45**	**20**	*i* P		**Pn**		**17 40 54.3**	**+0.4**
	baz=20								
EWUT				*i* S		**Sn**		**17 41 01.6**	**+0.3**
	baz=20								
NNSB	**Datong**	**0.46**	**334**	⇑*i*P		**Pn**		**17 40 54.6**	**+0.5**
	baz=341								
NNSB				*i* S		**Sn**		**17 41 01.9**	**+0.2**
	baz=341								
NNSH	**Datong**	**0.46**	**334**	⇑*i*P		**Pn**		**17 40 54.6**	**+0.5**
	baz=340								
NNSH				S		**Sn**		**17 41 01.7**	**+0.1**
	baz=340								
TWT	**Tachien**	**0.46**	**301**	P		**Pn**		**17 40 54.9**	**+0.8**
	baz=301								
TWT				S		**Sn**		**17 41 02.5**	**+0.7**
	baz=301								
NNS	**Nan Shan**	**0.47**	**333**	⇑*i*P		**Pn**		**17 40 54.7**	**+0.5**
	baz=342								
NNS				*i* S		**Sn**		**17 41 02.8**	**+0.9**
	baz=342								
TDCB	**Techi**	**0.47**	**300**	⇑*i*P		**Pn**		**17 40 54.9**	**+0.6**
	baz=301								
TDCB				S		**Sn**		**17 41 02.4**	**+0.4**
	baz=301								
HGSD	**Ruisui**	**0.55**	**198**	P		**Pn**		**17 40 55.1**	**0.0**
	baz=200								
HGSD				S		**Sn**		**17 41 04.7**	**+1.3**
	baz=200								
EHY	**Hungye**	**0.57**	**207**	P		**Pn**		**17 40 54.4**	**-1.0**
	baz=195								
EHY				*e*S		**Sn**		**17 41 02.8**	**-1.1**
	baz=195								
NDT	**Datong Townshi**	**0.59**	**352**	⇑*i*P		**Pn**		**17 40 56.2**	**+0.5**
	baz=358								
NDT				S		**Sn**		**17 41 05.2**	**+0.8**
	baz=358								
WPL	**Puli Township**	**0.59**	**270**	P		**Pn**		**17 40 56.3**	**+0.6**
	baz=268								
ENTT	**Nioudou**	**0.62**	**357**	⇑*i*P		**Pn**		**17 40 56.5**	**+0.4**
	baz=5.0								
ENTT				*i* S		**Sn**		**17 41 05.7**	**+0.6**
	baz=5.0								
NDS	**Dongshan**	**0.62**	**9**	⇑*i*P		**Pn**		**17 40 56.2**	**+0.2**
	baz=13								
NDS				S		**Sn**		**17 41 03.9**	**-1.2**
	baz=13								
DPDB	**Guoxing**	**0.62**	**272**	*e*P		**Pn**		**17 40 56.9**	**+0.8**
	baz=270								
TWC	**Suao**	**0.63**	**21**	⇓*i*P		**Pn**		**17 40 56.8**	**+0.7**
	baz=19								
TWC				*i* S		**Sn**		**17 41 05.9**	**+0.7**
	baz=19								
WCS	**Beigang Elemen**	**0.64**	**274**	*e*P		**Pn**		**17 40 57.0**	**+0.8**
	baz=278								
WCS				*e*S		**Sn**		**17 41 06.8**	**+1.5**
	baz=278								
SSLB	**Suanglung**	**0.64**	**249**	*e*P		**Pn**		**17 40 57.1**	**+0.8**
	baz=246								
WHP	**Taichung City**	**0.66**	**293**	P		**Pn**		**17 40 57.8**	**+1.2**
	baz=294								
WHP				S		**Sn**		**17 41 07.4**	**+1.4**
	baz=294								
SMLT	**Sun Moon Lake**	**0.66**	**258**	⇓*i*P		**Pn**		**17 40 57.7**	**+1.1**
	baz=254								
SMLT				S		**Sn**		**17 41 07.7**	**+1.6**
	baz=254								
YHNB	**Yeheng**	**0.68**	**342**	⇑*i*P		**Pn**		**17 40 57.5**	**+0.5**
	baz=349								
YHNB				S		**Sn**		**17 41 06.6**	**0.0**
	baz=349								
YULB	**Yu-li**	**0.68**	**205**	⇑*i*P		**Pn**		**17 40 55.7**	**-1.1**
	baz=196								
YULB				S		**Sn**		**17 41 05.0**	**-1.5**
	baz=196								
TYC	**Yuchr**	**0.69**	**261**	⇓*i*P		**Pn**		**17 40 57.9**	**+1.0**
	baz=256								
TYC				S		**Sn**		**17 41 08.0**	**+1.3**
	baz=256								
TWE	**Neicheng**	**0.70**	**4**	⇑*i*P		**Pn**		**17 40 57.5**	**+0.4**
	baz=15								
TWE				*i* S		**Sn**		**17 41 07.2**	**+0.3**
	baz=15								
EYUL	**Yuli**	**0.72**	**202**	*e*P		**Pn**		**17 40 58.0**	**+0.7**
	baz=201								
TWF1	**Yuli**	**0.72**	**203**	⇑*i*P		**Pn**		**17 40 56.2**	**-1.1**
	baz=199								
TWF1				*e*S		**Sn**		**17 41 05.8**	**-1.6**
	baz=199								
ILA	**Ilan**	**0.76**	**10**	*i* P		**Pn**		**17 40 58.3**	**+0.5**
	baz=9.0								
ILA				S		**Sn**		**17 41 09.7**	**+1.5**
	baz=9.0								
WHYT	**Xinyi Township**	**0.76**	**245**	P		**Pn**		**17 40 59.3**	**+1.4**
	baz=237								
WHYT				S		**Sn**		**17 41 09.6**	**+1.2**
	baz

TCU				S	Sn	17 41 12.2	+1.6		
	baz=278								
FULB	**Fuli**	**0.86**	**199**	P	Pn	17 40 58.8	-0.5		
	baz=203								
FULB				*e*S	Sn	17 41 11.7	+0.9		
	baz=203								
NSY	**Sanyi**	**0.87**	**297**	⇓*i*P	Pn	17 40 60.0	+0.7		
	baz=298								
NSY				S	Sn	17 41 11.6	+0.7		
	baz=298								
ALS	**Alishan**	**0.89**	**236**	⇓*i*P	Pn	17 41 00.9	+1.0		
	baz=226								
ALS				S	Sn	17 41 12.8	+1.0		
	baz=226								
NMLH	**Miaoli**	**0.91**	**305**	P	Pn	17 41 00.1	+0.3		
	baz=305								
NMLH				S	Sn	17 41 12.3	+0.5		
	baz=305								
HSN1	**Hsinchu**	**0.93**	**325**	*e*P	Pn	17 41 01.0	+0.9		
	baz=326								
HSN1				*e*S	Sn	17 41 14.3	+2.0		
	baz=326								
CHKT	**Chengkung**	**0.94**	**194**	P	Pn	17 41 00.1	-0.2		
	baz=190								
CHKT				S	Sn	17 41 12.7	+0.1		
	baz=190								
WDJ	**Dajia District**	**0.94**	**291**	*e*P	Pn	17 41 00.8	+0.5		
	baz=291								
WDJ				*e*S	Sn	17 41 13.3	+0.7		
	baz=291								
NHDH	**Xindian Distri**	**0.94**	**356**	P	Pn	17 41 00.8	+0.5		
	baz=357								
NHDH				S	Sn	17 41 13.4	+0.7		
	baz=357								
NJN	**Zhunan**	**0.94**	**315**	*e*P	Pn	17 41 00.9	+0.6		
	baz=305								
NJN				*e*S	Sn	17 41 13.7	+1.0		
	baz=305								
CHN5	**Tsauling**	**0.95**	**244**	⇓*i*P	Pn	17 41 01.3	+0.9		
	baz=234								
CHN5				*i* S	Sn	17 41 14.7	+1.8		
	baz=234								
SBCB	**Hsinchu**	**0.96**	**324**	P	Pn	17 41 01.4	+0.9		
	baz=325								
SBCB				S	Sn	17 41 14.4	+1.4		
	baz=325								
TATO	**Taipei**	**0.96**	**354**	⇑P	Pn	17 41 01.0	+0.4		
	baz=6.0								
TATO				S	Sn	17 41 13.9	+0.8		
	baz=6.0								
WCHH	**Zhanghua**	**0.96**	**274**	P	Pn	17 41 01.2	+0.7		
	baz=283								
WCHH				*e*S	Sn	17 41 13.9	+0.8		
	baz=283								
TIPB	**Shuangxi**	**0.97**	**12**	⇑*i*P	Pn	17 41 01.5	+0.8		
	baz=14								
TIPB				S	Sn	17 41 13.8	+0.4		
	baz=14								
HSN	**Hsinchu**	**0.97**	**324**	P	Pn	17 41 01.5	+0.8		
	baz=327								
HSN				S	Sn	17 41 14.8	+1.4		
	baz=327								
ECS	**Chishang**	**0.98**	**201**	*e*P	Pn	17 40 59.2	-1.7		
	baz=187								
ELDTW	**Lidau**	**0.99**	**213**	⇑*i*P	Pn	17 41 00.3	-0.7		
	baz=202								
ELDTW				S	Sn	17 41 13.4	-0.5		
	baz=202								
BACT	**New Taipei Cit**	**0.99**	**351**	P	Pn	17 41 01.6	+0.7		
	baz=5.0								
BACT				*e*S	Sn	17 41 15.5	+1.7		
	baz=5.0								
WGK	**Gukeng**	**1.01**	**251**	P	Pn	17 41 02.4	+1.2		
	baz=249								
WGK				S	Sn	17 41 16.6	+2.3		
	baz=249								
NTY	**Taoyuan**	**1.02**	**344**	P	Pn	17 41 02.0	+0.7		
	baz=357								
NTY				S	Sn	17 41 16.0	+1.5		
	baz=357								
TAP1	**Taipei**	**1.02**	**356**	*e*P	Pn	17 41 01.6	+0.2		
	baz=357								
TAP1				*e*S	Sn	17 41 15.2	+0.7		
	baz=357								
NCUH	**Zhongli**	**1.02**	**338**	*e*P	Pn	17 41 02.2	+0.8		
	baz=339								
NCUH				*e*S	Sn	17 41 16.8	+2.2		
	baz=339								
TAP	**Taipei**	**1.02**	**355**	P	Pn	17 41 01.7	+0.3		
	baz=357								
TAP				S	Sn	17 41 15.4	+0.8		
	baz=357								
NCU	**National Centr**	**1.02**	**338**	P	Pn	17 41 02.0	+0.6		
	baz=340								
NCU				S	Sn	17 41 16.0	+1.3		
	baz=340								
WDLH	**Douliu**	**1.03**	**252**	P	Pn	17 41 02.8	+1.3		
	baz=250								
WDLH				S	Sn	17 41 16.6	+1.8		
	baz=250								
TWB1	**Santiao Chiao**	**1.05**	**19**	⇑*i*P	Pn	17 41 02.8	+1.1		
	baz=10.0								
TWB1				S	Sn	17 41 16.7	+1.6		
	baz=10.0								
NWF	**Wu-fen Shan**	**1.06**	**9**	⇑*i*P	Pn	17 41 02.6	+0.6		
	baz=358								
NWF				S	Sn	17 41 16.5	+0.8		
	baz=358								
WFSB	**Wu-fen Shan**	**1.06**	**9**	⇑*i*P	Pn	17 41 02.6	+0.7		
	baz=358								
WFSB				S	Sn	17 41 15.8	+0.2		
	baz=358								
EDH	**Donghe**	**1.08**	**195**	*e*P	Pn	17 41 01.6	-0.5		
	baz=192								
EDH				*e*S	Sn	17 41 16.1	+0.1		
	baz=192								
TWS1	**Kuangyinshan**	**1.09**	**351**	⇑*i*P	Pn	17 41 02.8	+0.4		
	baz=5.0								
TWS1				*e*S	Sn	17 41 17.3	+0.9		
	baz=5.0								
YM01	**YM01**	**1.12**	**358**	P	Pn	17 41 02.9	0.0		
	baz=360								
YM01				*e*S	Sn	17 41 16.6	-0.5		
	baz=360								
WRL	**Guolierlin Hig**	**1.13**	**264**	P	Pn	17 41 03.3	+0.5		
	baz=273								
WRL				S	Sn	17 41 18.9	+1.7		
	baz=273								
STYH	**Taoyuan**	**1.14**	**222**	P	Pn	17 41 03.6	+0.7		
	baz=220								
STYH				S	Sn	17 41 17.8	+0.5		
	baz=220								
TNOU	**National Taiwa**	**1.14**	**8**	*e*P	Pn	17 41 03.1	+0.1		
	baz=358								
TNOU				*e*S	Sn	17 41 16.8	-0.6		
	baz=358								
CHN2	**Minshiung**	**1.14**	**245**	P	Pn	17 41 04.7	+1.7		
	baz=235								
CHN2				S	Sn	17 41 20.7	+3.1		
	baz=235								
TPUB	**Ta-pu**	**1.15**	**232**	P	Pn	17 41 04.2	+1.1		
	baz=222								
TPUB				S	Sn	17 41 19.4	+1.8		
	baz=222								
NTST	**Danshui**	**1.15**	**353**	*e*P	Pn	17 41 03.2	+0.1		
	baz=6.0								
NTST				*e*S	Sn	17 41 18.7	+1.0		
	baz=6.0								
STYT	**Tauyuan**	**1.15**	**223**	⇑*i*P	Pn	17 41 04.2	+0.9		
	baz=220								
STYT				S	Sn	17 41 20.6	+2.7		
	baz=220								
WTK	**Tuku**	**1.16**	**254**	P	Pn	17 41 04.4	+1.1		
	baz=264								
WTK				S	Sn	17 41 20.4	+2.4		
	baz=264								
YM08	**YM08**	**1.17**	**359**	*e*P	Pn	17 41 03.1	-0.3		
	baz=2.0								
ANP	**Anpu**	**1.17**	**356**	*e*P	Pn	17 41 03.3	-0.1		
	baz=358								
ANP				*e*S	Sn	17 41 18.9	+0.6		
	baz=358								
LONT	**Longtian**	**1.19**	**202**	*e*P	Pn	17 41 02.5	-1.2		
	baz=191								
LONT				*e*S	Sn	17 41 16.8	-1.9		
	baz=191								
WTP	**Ta-pu**	**1.19**	**230**	⇑*i*P	Pn	17 41 04.9	+1.1		
	baz=227								
WTP				*i* S	Sn	17 41 21.0	+2.2		
	baz=227								
CHY	**Chiayi**	**1.20**	**245**	*e*P	Pn	17 41 05.0	+1.2		
	baz=233								
CHY				S	Sn	17 41 21.0	+2.1		
	baz=233								
WTCT	**Ta-ch'eng**	**1.22**	**263**	⇓*i*P	Pn	17 41 04.5	+0.4		
	baz=274								
WTCT				S	Sn	17 41 21.4	+1.9		
	baz=274								
TWY	**Chenhua**	**1.25**	**360**	*e*P	Pn	17 41 05.0	+0.5		
	baz=3.0								
TWK	**Hsinying**	**1.27**	**234**	P	Pn	17 41 06.0	+1.2		
	baz=232								
TWK				S	Sn	17 41 22.7	+2.0		
	baz=232								
WMLT	**Mailiao**	**1.28**	**261**	*e*P	Pn	17 41 05.7	+0.8		
	baz=270								
WMLT				*e*S	Sn	17 41 23.2	+2.2		
	baz=270								
TWG	**Pinlang**	**1.29**	**203**	*e*P	Pn	17 41 03.5	-1.5		
	baz=189								
TWG				*e*S	Sn	17 41 19.1	-2.0		
	baz=189								
TWGBT	**Beinan**	**1.29**	**202**	*e*P	Pn	17 41 03.4	-1.6		
	baz=189								
TWGBT				*e*S	Sn	17 41 18.9	-2.3		
	baz=189								
CHN1	**Nanshi**	**1.29**	**230**	P	Pn	17 41 06.2	+1.1		
	baz=228								
CHN1				S	Sn	17 41 23.0	+1.8		
	baz=228								
SNST	**Tainan City**	**1.29**	**232**	*e*P	Pn	17 41 06.4	+1.3		
	baz=230								
SNST				*e*S	Sn	17 41 23.0	+1.8		
	baz=230								
JYNG	**Yonagunijimaku**	**1.30**	**70**	P	Pn	17 41 06.0	+0.9		
JYNG				*e*S	Sn	17 41 22.4	+1.1		
SGST	**Jiashian**	**1.32**	**225**	⇑*i*P	Pn	17 41 05.9	+0.4		
	baz=223								
SGST				*i* S	Sn	17 41 23.6	+1.6		
	baz=223								
WSF	**Szhu**	**1.32**	**254**	⇓*i*P	Pn	17 41 06.1	+0.6		
	baz=264								
WSF				*i* S	Sn	17 41 24.4	+2.5		
	baz=264								
TTN	**Taitung**	**1.33**	**199**	*e*P	Pn	17 41 05.1	-0.4		
	baz=186								
LDUT	**Ludao**	**1.34**	**185**	*e*P	Pn	17 41 04.8	-0.9		
	baz=183								
LDUT				*e*S	Sn	17 41 22.2	-0.2		
	baz=183								
SLGT	**Liugui**	**1.35**	**221**	*e*P	Pn	17 41 07.7	+1.8		
	baz=219								
SLGT				*e*S	Sn	17 41 24.9	+2.3		
	baz=219								
YOJ	**Yonaguni jima**	**1.36**	**71**	P	Pn	17 41 06.8	+0.9		
YOJ				S	Sn	17 41 24.2	+1.4		
YOJ	**Yonaguni jima**	**1.36**	**71**	⇓*i*P	Pn	17 41 06.8	+0.9		
	baz=72								
YOJ				S	Sn	17 41 23.7	+0.9		
	baz=72								
ICHU	**Yijhu**	**1.38**	**242**	*e*P	Pn	17 41 07.2	+0.9		
	baz=229								
ICHU				*e*S	Sn	17 41 24.5	+1.1		
	baz=229								
CHN8	**Yiju**	**1.44**	**243**	P	Pn	17 41 07.9	+0.8		
	baz=231								
CHN8				S	Sn	17 41 26.9	+2.0		
	baz=231								
CHN3	**Shinhua**	**1.48**	**231**	*e*P	Pn	17 41 10.1	+2.5		
	baz=229								
CHN3				*e*S	Sn	17 41 29.0	+3.3		
	baz=229								
SCST	**Cishan**	**1.52**	**222**	P	Pn	17 41 10.0	+1.8		
	baz=220								
SCST				S	Sn	17 41 29.8	+3.0		
	baz=220								
ECL	**Taimali**	**1.54**	**203**	*e*P	Pn	17 41 07.1	-1.3		
	baz=191								
SCLT	**Jiali**	**1.54**	**237**	P	Pn	17 41 09.3	+0.9		
	baz=224								
SCLT				S	Sn	17 41 29.3	+2.0		
	baz=224								
SSD	**Sandimen**	**1.55**	**215**	*e*P	Pn	17 41 10.0	+1.4		
	baz=225								
SSD				*e*S	Sn	17 41 29.6	+2.0		
	baz=225								
TSMG	**Majia**	**1.58**	**214**	*e*P	Pn	17 41 10.4	+1.5		
	baz=224								
TSMG				*e*S	Sn	17 41 29.8	+1.6		
	baz=224								
TAI1	**Yung-k'ang**	**1.60**	**233**	*e*S	Sn	17 41 31.8	+3.2		
	baz=231								
TWM1	**Shoushan**	**1.61**	**223**	P	Pn	17 41 11.8	+2.4		
	baz=220								
TWM1				*e*S	Sn	17 41 34.5	+5.5		
	baz=220								
SGLT	**Jiouru**	**1.65**	**219**	*e*P	Pn	17 41 12.7	+2.8		
	baz=216								
PCYT	**Pengchaiyu**	**1.66**	**15**	P	Pn	17 41 10.3	+0.2		
	baz=18								
MASBT	**Mashibuluo**	**1.66**	**213**	*e*P	Pn	17 41 10.9	+0.7		
	baz=223								
MASBT				*e*S	Sn	17 41 32.0	+1.8		
	baz=223								
SNJT	**Kaohsiung City**	**1.72**	**223**	*e*P	Pn	17 41 12.8	+1.9		
	baz=221								
SNJT				*e*S	Sn	17 41 34.7	+3.1		
	baz=221								
EAST	**Anshuo**	**1.77**	**203**	*e*P	Pn	17 41 11.5	-0.1		
	baz=191								
TAW	**Tawu**	**1.78**	**202**	*e*P	Pn	17 41 12.3	+0.6		
	baz=189								
SSPT	**Xinbi**	**1.80**	**212**	*e*P	Pn	17 41 14.3	+2.2		
	baz=209								
SCZT	**Fangliau**	**1.87**	**209**	*e*P	Pn	17 41 14.6	+1.6		
	baz=220								
SCZT				*e*S	Sn	17 41 37.4	+2.0		
	baz=220								
PHUB	**P'eng-hu**	**1.93**	**255**	*e*P	Pn	17 41 13.2	-0.6		
	baz=267								
PHUB				*e*S	Sn	17 41 36.5	-0.3		
	baz=267								
PNG	**Penghu**	**1.93**	**257**	⇓*i*P	Pn	17 41 13.3	-0.5		
	baz=256								
PNG				S	Sn	17 41 35.7	-1.2		
	baz=256								
WDGT	**Dungji**	**1.94**	**247**	P	Pn	17 41 14.0	+0.1		
	baz=246								
WDGT				*e*S	Sn	17 41 35.7	-1.3		
	baz=246								
SLIU	**Shizi**	**1.94**	**203**	*e*P	Pn	17 41 15.8	+1.9		
	baz=191								
IRIF	**Iriomote-Funau**	**1.96**	**80**	P	Pn	17 41 15.1	+0.8		
IRIF				S	Sn	17 41 38.5	+0.8		
LAY	**Lan-yu**	**1.97**	**181**	*e*P	Pn	17 41 13.8	-0.6		
	baz=187								
LAY				*e*S	Sn	17 41 36.2	-1.7		
	baz=187								
HATJ	**Hateruma jima**	**2.01**	**88**	P	Pn	17 41 16.1	+1.2		
HATJ				*e*S	Sn	17 41 40.7	+1.9		
HEN	**Hengchun**	**2.16**	**202**	*e*P	Pn	17 41 18.9	+2.0		
	baz=188								
VWUC	**VWUC**	**2.19**	**297**	*e*P	Pn	17 41 16.4	-1.0		
	baz=297								
VWUC				*e*S	Sn	17 41 40.1	-3.2		
	baz=297								
TWK1	**Hengchun**	**2.19**	**200**	*e*P	Pn	17 41 17.4	0.0		
	baz=187								
TWKBT	**Hengchun**	**2.19**	**200**	*e*P	Pn	17 41 17.6	+0.2		
	baz=187								
JKRS	**Kuro-shima**	**2.21**	**84**	P	Pn	17 41 19.0	+1.4		
JKRS				*e*S	Sn	17 41 45.6	+2.0		
TSEB	**Hengchuen, Pin**	**2.21**	**197**	*e*P	Pn	17 41 17.8	+0.2		
	baz=187								
JIJ	**Ishigaki jima**	**2.34**	**81**	P	Pn	17 41 20.0	+0.6		
JIJ				*e*S	Sn	17 41 47.5	+0.5		
PTMZ	**Houxiangcun**	**2.48**	**295**	*e*P	Pn	17 41 20.3	-1.1		
	baz=294								
JISG	**Ishigakijimahi**	**2.53**	**77**	P	Pn	17 41 22.4	+0.4		
JISG				*e*S	Sn	17 41 52.4	+0.7		
MATB	**Ma-tsu**	**2.60**	**325**	*e*P	Pn	17 41 21.7	-1.3		
	baz=327								
MSUT	**Lienchiang**	**2.63**	**325**	*e*P	Pn	17 41 22.2	-1.2		
	baz=327								
JTJ	**Tarama**	**2.89**	**77**	P	Pn	17 41 27.9	+0.9		
JTJ				*e*S	Sn	17 42 02.0	+1.5		
KNM	**Kinmen**	**2.92**	**278**	*e*P	Pn	17 41 28.0	+0.6		
	baz=276								
KNMB	**Chin-men Tao**	**2.97**	**279**	*e*P	Pn	17 41 26.8	-1.2		
	baz=278								
LYJJ	**Jianjiangzhen**	**3.02**	**327**	*e*P	Pn	17 41 27.5	-1.3		
	baz=329								
MHZQ	**Yeshan**	**3.12**	**312**	*e*P	Pn	17 41 29.2	-1.0		
	baz=313								
XPSS	**Dashiqiu**	**3.17**	**336**	*e*P	Pn	17 41 29.5	-1.3		
	baz=350								
JIRB	**Irabujima**	**3.35**	**75**	P	Pn	17 41 34.1	+0.8		
JIRB				S	Sn	17 42 13.0	+1.2		
AXDP	**Jialang**	**3.43**	**286**	*e*P	Pn	17 41 33.1	-1.2		
	baz=284								
JIKM	**Ikemajima**	**3.44**	**74**	P	Pn	17 41 36.1	+1.6		
JIKM				S	Sn	17 42 14.5	+0.5		
JMJ	**Miyako jima 2**	**3.45**	**76**	*e*P	Pn	17 41 36.3	+1.6		
	baz=84								
JMJ				*e*S	Sn	17 42 15.8	+1.4		
	baz=84								
JMJ2	**Miyako jima3**	**3.47**	**77**	P	Pn	17 41 36.1	+1.2		
JMJ2				*e*S	Sn	17 42 16.6	+1.8		
ZPLA	**Ao Xicun**	**3.53**	**269**	*e*P	Pn	17 41 34.6	-1.1		
	baz=268								
ZPLA				*e*S	Sn	17 42 12.9	-3.3		
	baz=268								
APYP	**Conner**	**6.13**	**183**	⇓*i*P	Pn	17 42 12.3	+0.7		
APYP				*i* S	Sn	17 43 22.6	+2.2		
KSRS	**Korea Array**	**14.45**	**21**	Pn	P	17 44 09.3	-1.6		
	0.1nm,0.3s,baz=202,slow=12,SNR=9.4								
MKAR	**Makanchi Array**	**38.73**	**316**	P	P	17 48 04.7	+1.6		
	0.2nm,0.7s,baz=105,slow=9.1,SNR=2.5								
H11N1	**WAKE ISLAND Hy**	**42.11**	**87**	T	T	18 33 46.4			
	baz=283								
H11N2	**WAKE ISLAND Hy**	**42.11**	**87**	T	T	18 33 47.6			
	baz=283								
H11N3	**WAKE ISLAND Hy**	**42.13**	**87**	T	T	18 33 48.8			
	baz=283								
H11S3	**WAKE ISLAND Hy**	**42.24**	**89**	T	T	18 33 56.4			
	baz=284,slow=75,SNR=5.3								
H11S1	**WAKE ISLAND Hy**	**42.24**	**89**	T	T	18 33 59.7			
	baz=284,slow=75,SNR=3.9								
H11S2	**WAKE ISLAND Hy**	**42.26**	**89**	T	T	18 34 00.7			
	baz=284,slow=75,SNR=4.7								
WRA	**Warramunga Arr**	**45.42**	**163**	P	P	17 48 56.1	-1.7		
	0.4nm,0.5s,baz=345,slow=8.8,SNR=9.5								
ASAR	**Alice Springs**	**48.88**	**165**	P	P	17 49 23.5	-1.2		
	0.1nm,0.3s,baz=344,slow=6.7,SNR=12								

NNC 27 17:59:00.9±4.6, 36°.54N×70°.78E, h94km±114km, mb3.1, mpv3.5, 3D, Error ellipse: s-maj=43.0km s-min=36.5km az=108.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.56**	**358**	P		Pn		18 00 35.4	+0.6
	0.9nm,0.2s,baz=175,slow=11,SNR=40								
KK31				⇓S		Sn		18 01 48.3	+0.3
	1.0nm,0.3s,baz=182,slow=22,SNR=7.0								
AAK	**Ala-Archa**	**6.73**	**24**	⇓P		Pn		18 00 36.5	-0.7
	2.4nm,0.6s								
AAK				⇓S		Sn		18 01 53.3	+0.9
	3.6nm,1.1s								
AB31	**Akbulak array**	**14.96**	**332**	P		Pn		18 02 27.2	0.0
	0.3nm,0.3s,baz=163,slow=11,SNR=24								

*JMA **27** 18:19:34.3±0.1, 41°.48N×141°.97E, h65km±2km, M3.4*
Broadband fault plane solution: P waves. NP1: ϕs212.00000°, δ24.00000°, λ99.00000°. NP2: ϕs22.00000°, δ66.00000°, λ86.00000°. Principal axes: T Plg69.0000°, Azm284.0000°; N Plg4.0000°, Azm24.0000°; P Plg21.0000°, Azm115.0000°:
*IDC **27** 18:19:36.5±1.7, 41°.50N×142°.12E, h86km±14km, mb3.4/12, mb1 3.4/16, mb1mx3.3/52, mbtmp3.7/16, MS3.2/2, Ms1 3.3/2, ms1mx2.6/36 Error ellipse: s-maj=23.0km s-min=12.1km az=112.0*

ISC 27 18:19:34.4±0.8, 41°.46N±0°.04×141°.98E±0°.04, h63km±7km, n42, σ0°89/47, mb3.7/12, 2C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.53**	**248**	⇓P		Pn		18 19 47.2	+0.4
JAHD				S		Sn		18 19 56.7	+0.8
JARK	**Aomorirokkasho**	**0.65**	**226**	⇓P		Pn		18 19 48.2	0.0
JARK				S		Sn		18 19 58.1	-0.2
JOT	**Ohata**	**0.71**	**264**	P		Pn		18 19 48.9	0.0
JOT				S		Sn		18 19 59.7	+0.2
JKB	**Kayabe**	**0.83**	**301**	⇓P		Pn		18 19 50.0	-0.3
JKB				*e*S		Sn		18 20 01.7	-0.4
JTM	**Tenmabayashi**	**0.97**	**226**	⇓P		Pn		18 19 52.5	+0.4
JTM				S		Sn		18 20 05.6	+0.4
JNBK	**Urakawa-nobuka**	**1.00**	**35**	⇑P		Pn		18 19 51.9	-0.6
JNBK				*e*S		Sn		18 20 04.9	-1.0
JEM	**Erimo**	**1.04**	**58**	⇑P		Pn		18 19 53.0	0.0
JEM				*e*S		Sn		18 20 07.2	+0.4
JANG	**Nango**	**1.15**	**198**	P		Pn		18 19 54.5	0.0
JANG				S		Sn		18 20 09.0	-0.4
JIAM	**Iburiatsuma**	**1.16**	**358**	⇓P		Pn		18 19 55.2	+0.6
JIAM				*e*S		Sn		18 20 10.1	+0.5
JSR	**Shiriuchi**	**1.18**	**274**	P		Pn		18 19 55.1	+0.3
JSR				*e*S		Sn		18 20 10.7	+0.6
JNB	**Noboribetsu**	**1.23**	**325**	⇓P		Pn		18 19 54.9	-0.6
JNB				S		Sn		18 20 10.5	-0.7
JBT2	**Biratori 2**	**1.34**	**12**	⇓P		Pn		18 19 57.3	+0.2
JYM2	**Yakumo 2**	**1.37**	**299**	⇓P		Pn		18 19 57.9	+0.5
JEW	**Eniwo**	**1.43**	**344**	⇓P		Pn		18 19 58.4	+0.2
JEW				S		Sn		18 20 16.3	+0.2
JOMM	**Oshimamatsumae**	**1.48**	**273**	⇓P		Pn		18 19 59.0	+0.1
JCH	**Churui**	**1.54**	**41**	P		Pn		18 20 00.4	+0.7
JCH				*e*S		Sn		18 20 19.3	+0.5
JFR	**Furan**	**1.76**	**15**	P		Pn		18 20 02.8	+0.2
JOSM	**Okushiri--Mats**	**1.97**	**289**	P		Pn		18 20 05.3	-0.2
ASAJ	**Asahikawa**	**2.69**	**9**	P		Pn		18 20 16.3	+1.1
	7.5nm,0.3s,baz=243,slow=9.0,SNR=97								
ASAJ				S		Sn		18 20 48.9	+2.2
	7.6nm,0.3s,baz=8.9,slow=29,SNR=8.0								
ASAJ				LR		LR		18 21 21.9	
	comp=Z,14nm,20.2s,baz=234,slow=40								
MJAR	**Matsushiro Arr**	**5.73**	**212**	P		Pn		18 21 00.0	+3.2
	0.1nm,0.3s,baz=24,slow=12,SNR=6.5								
USRK	**Ussuryisk Ar.**	**7.84**	**294**	P		Pn		18 21 28.5	+2.8
	baz=100,slow=15,SNR=5.0								
KLR	**Kul'dur**	**10.58**	**321**	LR		LR		18 26 07.4	
	comp=Z,55nm,20.0s,baz=16,slow=37								
KSRS	**Korea Array**	**11.58**	**254**	P		Pn		18 22 21.9	+5.1
	0.2nm,0.3s,baz=61,slow=14,SNR=6.4								
SEY	**Seymchan**	**22.37**	**13**	P		P		18 24 26.0	-1.0
	1.0nm,0.8s,baz=191,slow=16,SNR=1.9								
SONM	**Songino Array**	**25.94**	**296**	P		P		18 25 01.4	+0.5
	0.8nm,0.7s,baz=82,slow=8.4,SNR=3.6								
H11N2	**WAKE ISLAND Hy**	**30.29**	**128**	T		T	

0.7nm,0.4s,baz=44,slow=6.6,SNR=7.5

SNET 27 18:23:05.6±0.7, 13.99N×90.86W, h81km±6km, ML3.7
GCG 27 18:23:06.5±0.3, 13.91N×90.89W, h70km±19km, MD3.6
UCR 27 18:23:06.9±1.4, 14.00N×90.84W, h29km±8km, ML3.5
ISC 27 18:23:04.8±2.3, 13.9N±0.1×90.91W±0.07, h94km±22km, n27, σ0.8s43/34, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.53**	**7**	*eP*		**Pn**	**18 23 20.3**	**-0.2**
PCG	**Pacaya**	**0.56**	**32**	*eP*		**Pn**	**18 23 20.7**	**0.0**
NBG	**Las Nubes**	**0.86**	**39**	*eP*		**Pn**	**18 23 24.2**	**+0.6**
NBG				*eS*		**Sn**	**18 23 38.0**	**+0.3**
RTAL	**Retalhuleu**	**0.97**	**309**	*eP*		**Pn**	**18 23 24.3**	**-0.1**
RTAL				*eS*		**Sn**	**18 23 38.7**	**-0.5**
RTR	**El Retiro**	**1.23**	**91**	*eP*		**Pn**	**18 23 27.8**	**+0.2**
RTR	**El Retiro**	**1.23**	**91**	*eP*		**Pn**	**18 23 27.8**	**+0.2**
CEVE	**Cerro Verde**	**1.25**	**94**	*eP*		**Pn**	**18 23 28.0**	**0.0**
CEVE				*eS*		**Sn**	**18 23 46.1**	**+0.7**
CEVE				IAML			18 23 49.0	
	comp=Z,2μm,0.2s							
CEVE	**Cerro Verde**	**1.25**	**94**	*eP*		**Pn**	**18 23 28.0**	**0.0**
CEVE				*eS*		**Sn**	**18 23 46.1**	**+0.7**
CEVE				IAML			18 23 49.0	
	comp=Z,2μm,0.2s							
SBLS	**San Blas**	**1.25**	**93**	*eP*		**Pn**	**18 23 28.0**	**+0.1**
SBLS	**San Blas**	**1.25**	**93**	*eP*		**Pn**	**18 23 28.0**	**+0.1**
SNJE	**San Jose**	**1.27**	**92**	*eP*		**Pn**	**18 23 28.1**	**0.0**
SNJE	**San Jose**	**1.27**	**92**	*eP*		**Pn**	**18 23 28.1**	**0.0**
JAYA	**Jayaque - finc**	**1.44**	**100**	*eP*		**Pn**	**18 23 30.1**	**-0.1**
JAYA				*eS*		**Sn**	**18 23 49.4**	**-0.1**
JAYA				IAML			18 23 51.7	
	comp=Z,1μm,0.2s							
JAYA	**Jayaque - finc**	**1.44**	**100**	*eP*		**Pn**	**18 23 30.1**	**-0.1**
JAYA				*eS*		**Sn**	**18 23 49.4**	**-0.1**
JAYA				IAML			18 23 51.7	
	comp=Z,1μm,0.2s							
HUEH	**Huehuetenango**	**1.51**	**338**	*eS*		**Sn**	**18 23 51.7**	**+0.7**
TACO	**Tacachico**	**1.51**	**88**	*eP*		**Pn**	**18 23 30.6**	**-0.4**
TACO				*eS*		**Sn**	**18 23 50.0**	**-0.8**
TACO	**Tacachico**	**1.51**	**88**	*eP*		**Pn**	**18 23 30.6**	**-0.4**
TACO				*eS*		**Sn**	**18 23 50.0**	**-0.8**
BOQS	**Boqueron**	**1.59**	**96**	*eP*		**Pn**	**18 23 32.2**	**+0.1**
BOQS	**Boqueron**	**1.59**	**96**	*eP*		**Pn**	**18 23 32.2**	**+0.1**
UEES	**Universidad Ev**	**1.64**	**97**	IAML			18 23 56.6	
	comp=Z,438nm,0.2s							
UEES	**Universidad Ev**	**1.64**	**97**	IAML			18 23 56.6	
	comp=Z,438nm,0.2s							
ESQI	**Esquipulas**	**1.65**	**67**	*eP*		**Pn**	**18 23 32.5**	**-0.3**
ESQI				*eS*		**Sn**	**18 23 53.3**	**-0.7**
LFRS	**El Faro**	**1.82**	**99**	*eP*		**Pn**	**18 23 35.5**	**+0.6**
LFRS	**El Faro**	**1.82**	**99**	*eP*		**Pn**	**18 23 35.5**	**+0.6**
SJTE	**Alcalda de S**	**1.87**	**99**	*eP*		**Pn**	**18 23 36.1**	**+0.4**
SJTE	**Alcalda de S**	**1.87**	**99**	*eP*		**Pn**	**18 23 36.1**	**+0.4**
TECO	**Alcaldia de Te**	**2.10**	**100**	*eS*		**Sn**	**18 24 04.0**	**-0.3**

JMA 27 18:32:53.9±0.1, 24.42N×122.94E, h67km±1km, M2.2
TAP 27 18:32:54.6, 24.43N×122.92E, h58km, ML2.7, C
ISC 27 18:32:54.8±1.3, 24.39N±0.04×122.95E±0.03, h58km±7km, n79, σ1.9s04/153, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.07**	**356**	P		**Pn**	**18 33 03.6**	**0.0**
JYNG				S		**Sn**	**18 33 10.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.09**	**36**	P		**Pn**	**18 33 03.6**	**0.0**
YOJ				*eS*		**Sn**	**18 33 10.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.09**	**36**	P		**Pn**	**18 33 03.6**	**0.0**
	baz=66							
YOJ				S		**Sn**	**18 33 10.0**	**+0.1**
	baz=66							
IRIF	**Iriomote-Funau**	**0.71**	**94**	P		**Pn**	**18 33 08.9**	**-0.2**
IRIF				S		**Sn**	**18 33 20.1**	**+0.5**
JKRS	**Kuro-shima**	**0.98**	**98**	P		**Pn**	**18 33 12.8**	**+0.3**
JKRS				S		**Sn**	**18 33 26.3**	**+0.7**
TWC	**Suao**	**1.03**	**283**	P		**Pn**	**18 33 12.2**	**-0.9**
	baz=280							
TWC				S		**Sn**	**18 33 25.4**	**-1.3**
	baz=280							
EWUT	**Wuta**	**1.07**	**273**	P		**Pn**	**18 33 13.2**	**-0.5**
	baz=278							
EWUT				S		**Sn**	**18 33 26.8**	**-1.0**
	baz=278							
JIJ	**Ishigaki jima**	**1.09**	**91**	P		**Pn**	**18 33 13.5**	**-0.5**
JIJ				S		**Sn**	**18 33 27.7**	**-0.5**
NTC	**Toucheng**	**1.12**	**295**	P		**Pn**	**18 33 13.7**	**-0.7**
	baz=293							
NTC				*eS*		**Sn**	**18 33 27.8**	**-1.2**
	baz=293							
NDS	**Dongshan**	**1.15**	**283**	P		**Pn**	**18 33 14.2**	**-0.6**
	baz=287							
NDS				*eS*		**Sn**	**18 33 28.1**	**-1.5**
	baz=287							
TIPB	**Shuangxi**	**1.18**	**300**	*eP*		**Pn**	**18 33 14.4**	**-0.8**
	baz=299							
TIPB				*eS*		**Sn**	**18 33 28.9**	**-1.4**
	baz=299							
TWE	**Neicheng**	**1.22**	**286**	*eP*		**Pn**	**18 33 14.9**	**-0.8**
	baz=291							
TWE				*eS*		**Sn**	**18 33 30.7**	**-0.5**
	baz=291							
ETL	**Fush Village**	**1.23**	**260**	*eP*		**Pn**	**18 33 15.7**	**-0.2**
	baz=257							
NACB	**Ninganchiao**	**1.25**	**261**	*eP*		**Pn**	**18 33 15.5**	**-0.6**
	baz=258							
NACB				*eS*		**Sn**	**18 33 31.6**	**-0.6**
	baz=258							
JISG	**Ishigakijimahi**	**1.26**	**81**	P		**Pn**	**18 33 15.4**	**-0.8**
JISG				S		**Sn**	**18 33 31.5**	**-0.6**
TWD	**Chiawan**	**1.27**	**256**	*eP*		**Pn**	**18 33 16.2**	**-0.2**
	baz=254							
TWD				*eS*		**Sn**	**18 33 32.0**	**-0.5**
	baz=254							
ENTT	**Nioudou**	**1.29**	**282**	P		**Pn**	**18 33 16.8**	**+0.2**
	baz=288							
ENTT				*eS*		**Sn**	**18 33 31.9**	**-1.0**
	baz=288							
NDT	**Datong Townshi**	**1.33**	**280**	P		**Pn**	**18 33 17.5**	**+0.4**
	baz=286							
NDT				*eS*		**Sn**	**18 33 33.5**	**-0.4**
	baz=286							
ETLH	**Xiulin Townshi**	**1.35**	**263**	*eP*		**Pn**	**18 33 16.8**	**-0.8**
	baz=261							
ETLH				*eS*		**Sn**	**18 33 33.9**	**-0.7**
	baz=261							
NWLT	**Wulai**	**1.37**	**287**	*eP*		**Pn**	**18 33 17.6**	**-0.2**
	baz=285							
NWLT				*eS*		**Sn**	**18 33 34.5**	**-0.6**
	baz=285							
ETM	**Tongmen**	**1.40**	**253**	*eP*		**Pn**	**18 33 17.3**	**-0.8**
	baz=242							
ETM				*eS*		**Sn**	**18 33 34.1**	**-1.4**
	baz=242							
NNSB	**Datong**	**1.43**	**272**	*eP*		**Pn**	**18 33 18.4**	**-0.3**
	baz=270							
NNSB				*eS*		**Sn**	**18 33 36.0**	**-0.5**
	baz=270							
NNSH	**Datong**	**1.43**	**272**	*eP*		**Pn**	**18 33 18.2**	**-0.4**
	baz=270							
NNSH				*eS*		**Sn**	**18 33 35.9**	**-0.6**
	baz=270							
NNS	**Nan Shan**	**1.44**	**272**	*eP*		**Pn**	**18 33 18.7**	**0.0**
	baz=271							
NNS				*eS*		**Sn**	**18 33 37.0**	**+0.3**
	baz=271							
YHNB	**Yeheng**	**1.46**	**281**	*eP*		**Pn**	**18 33 19.0**	**-0.1**
	baz=286							
YHNB				*eS*		**Sn**	**18 33 37.0**	**-0.2**
	baz=286							
YM01	**YM01**	**1.47**	**301**	*eP*		**Pn**	**18 33 18.7**	**-0.4**
	baz=300							
YM01				*eS*		**Sn**	**18 33 35.7**	**-1.6**
	baz=300							
ESL	**Shilin**	**1.50**	**248**	*eP*		**Pn**	**18 33 18.5**	**-1.0**
	baz=237							
ESL				*eS*		**Sn**	**18 33 36.1**	**-1.9**
	baz=237							
WHF	**Hehuan Shan**	**1.56**	**261**	*eP*		**Pn**	**18 33 19.8**	**-0.9**
	baz=260							
WHF				*eS*		**Sn**	**18 33 39.5**	**-0.5**
	baz=260							
EGFH	**Guangfu**	**1.56**	**243**	*eP*		**Pn**	**18 33 19.7**	**-0.6**
	baz=241							
EGFH				*eS*		**Sn**	**18 33 38.5**	**-1.1**
	baz=241							
JTJ	**Tarama**	**1.62**	**81**	P		**Pn**	**18 33 20.8**	**-0.2**
CHGB	**Renai**	**1.65**	**259**	*eP*		**Pn**	**18 33 21.5**	**-0.2**
	baz=247							
CHGB				*eS*		**Sn**	**18 33 42.2**	**+0.1**
	baz=247							
HGSD	**Ruisui**	**1.66**	**238**	*eP*		**Pn**	**18 33 20.2**	**-1.3**
	baz=236							
HGSD				*eS*		**Sn**	**18 33 41.4**	**-0.4**
	baz=236							
OWD	**Renai**	**1.68**	**256**	*eP*		**Pn**	**18 33 21.5**	**-0.5**
	baz=254							
OWD				*eS*		**Sn**	**18 33 41.8**	**-0.8**
	baz=254							
EHY	**Hungye**	**1.73**	**240**	*eP*		**Pn**	**18 33 22.0**	**-0.6**
	baz=249							
EHY				*eS*		**Sn**	**18 33 43.2**	**-0.4**
	baz=249							
LIOB	**Emei**	**1.78**	**279**	*eP*		**Pn**	**18 33 23.9**	**+0.6**
	baz=278							
LIOB				*eS*		**Sn**	**18 33 45.6**	**+0.7**
	baz=278							
NSTT	**Nanjuang**	**1.79**	**278**	*eP*		**Pn**	**18 33 23.9**	**+0.5**
	baz=277							
NSTT				*eS*		**Sn**	**18 33 45.3**	**+0.2**
	baz=277							
YULB	**Yu-li**	**1.81**	**237**	*eP*		**Pn**	**18 33 23.1**	**-0.6**
	baz=248							
YULB				*eS*		**Sn**	**18 33 44.2**	**-1.3**
	baz=248							
EYUL	**Yuli**	**1.82**	**236**	*eP*		**Pn**	**18 33 23.4**	**-0.4**
	baz=234							
EYUL				*eS*		**Sn**	**18 33 45.4**	**-0.4**
	baz=234							
TWF1	**Yuli**	**1.83**	**236**	*eP*		**Pn**	**18 33 23.5**	**-0.5**
	baz=234							
TWF1				*eS*		**Sn**	**18 33 45.5**	**-0.6**
	baz=234							
WHP	**Taichung City**	**1.83**	**267**	*eP*		**Pn**	**18 33 25.1**	**+1.0**
	baz=266							
WHP				*eS*		**Sn**	**18 33 47.0**	**+0.8**
	baz=266							
DPDB	**Guoxing**	**1.88**	**260**	*eP*		**Pn**	**18 33 24.9**	**+0.2**
	baz=251							
DPDB				*eS*		**Sn**	**18 33 46.7**	**-0.7**
	baz=251							
WCS	**Beigang Elemen**	**1.89**	**260**	*eP*		**Pn**	**18 33 24.9**	**+0.1**
	baz=252							
WCS				*eS*		**Sn**	**18 33 47.1**	**-0.4**
	baz=252							
SSLB	**Suanglung**	**1.92**	**252**	*eP*		**Pn**	**18 33 25.1**	**-0.1**
	baz=251							
SSLB				*eS*		**Sn**	**18 33 47.8**	**-0.5**
	baz=251							
FULB	**Fuli**	**1.92**	**232**	*eP*		**Pn**	**18 33 24.1**	**-1.1**
	baz=231							
FULB				*eS*		**Sn**	**18 33 48.5**	**+0.1**
	baz=231							
CHKT	**Chengkung**	**1.94**	**229**	*eS*		**Sn**	**18 33 46.8**	**-1.8**
	baz=227							
SMLT	**Sun Moon Lake**	**1.94**	**255**	*eP*		**Pn**	**18 33 25.9**	**+0.4**
	baz=254							
SMLT				*eS*		**Sn**	**18 33 48.2**	**-0.6**
	baz=254							
TYC	**Yuchr**	**1.97**	**256**	*eP*		**Pn**	**18 33 26.3**	**+0.4**
	baz=247							
TYC				*eS*		**Sn**	**18 33 48.7**	**-0.8**
	baz=247							
YUS	**Yu-Shan**	**2.03**	**244**	*eP*		**Pn**	**18 33 27.5**	**+0.3**
	baz=243							
YUS				*eS*		**Sn**	**18 33 51.2**	**-0.5**
	baz=243							
ECS	**Chishang**	**2.04**	**231**	*eP*		**Pn**	**18 33 27.2**	**+0.4**
	baz=222							
ECS				*eS*		**Sn**	**18 33 51.5**	**+0.3**
	baz=222							
EDH	**Donghe**	**2.06**	**227**	*eP*		**Pn**	**18 33 26.3**	**-0.8**
	baz=219							
EDH				*eS*		**Sn**	**18 33 49.4**	**-2.3**
	baz=219							
WWF	**Wufeng**	**2.08**	**261**	*eP*		**Pn**	**18 33 27.9**	**+0.5**
	baz=274							
WWF				*eS*		**Sn**	**18 33 54.6**	**+2.4**
	baz=274							
WJS	**Zhushan**	**2.11**	**255**	*eP*		**Pn**	**18 33 29.1**	**+1.4**
	baz=248							
WJS				*eS*		**Sn**	**18 33 54.7**	**+1.9**
	baz=248							
WNT1	**Nantou City**	**2.13**	**258**	*eP*		**Pn**	**18 33 29.5**	**+1.5**
	baz=256							
WNT1				*eS*		**Sn**	**18 33 56.0**	**+2.7**
	baz=256							
ELDTW	**Lidau**	**2.13**	**236**	P		**Pn**	**18 33 27.5**	**-0.7**
	baz=235							
ELDTW				*eS*		**Sn**	**18 33 50.7**	**-2.9**
	baz=235							
ALS	**Alishan**	**2.15**	**246**	*eP*		**Pn**	**18 33 29.1**	**+0.6**
	baz=245							
ALS				*eS*		**Sn**	**18 33 53.9**	**-0.3**
	baz=245							
LDUT	**Ludao**	**2.18**	**219**	*eP*		**Pn**	**18 33 27.8**	**-1.0**
	baz=210							
LDUT				*eS*		**Sn**	**18 33 52.0**	**-2.6**
	baz=210							
CHN5	**Tsauling**	**2.22**	**250**	*eP*		**Pn**	**18 33 30.1**	**+0.7**
	baz=249							
CHN5				*eS*		**Sn**	**18 33 57.6**	**+1.8**
	baz=249							
LONT	**Longtian**	**2.23**	**229**	*eP*		**Pn**	**18 33 29.3**	**0.0**
	baz=238							
LONT				*eS*		**Sn**	**18 33 55.2**	**-0.5**
	baz=238							
WDLH	**Douliu**	**2.31**	**253**	*eP*		**Pn**	**18 33 31.7**	**+1.2**
	baz=242							
WDLH				*eS*		**Sn**	**18 33 59.8**	**+2.0**
	baz=242							
TWGBT	**Beinan**	**2.32**	**228**	*eP*		**Pn**	**18 33 30.1**	**-0.5**
	baz=237							
TWGBT				*eS*		**Sn**	**18 33 56.6**	**-1.4**
	baz=237							
STYH	**Taoyuan**	**2.33**	**239**	*eP*		**Pn**	**18 33 31.3**	**+0.5**
	baz=238							
STYH				*eS*		**Sn**	**18 33 58.3**	**0.0**
	baz=238							
STYT	**Tauyuan**	**2.35**	**239**	*eP*		**Pn**	**18 33 31.6**	**+0.5**
	baz=238							
STYT				*eS*		**Sn**	**18 33 59.6**	**+0.8**
	baz=238							
TPUB	**Ta-pu**	**2.38**	**244**	*eP*		**Pn**	**18 33 32.4**	**+0.8**
	baz=242							
TPUB				*eS*		**Sn**	**18 34 00.3**	**+0.7**
	baz=242							
CHN4	**Tsaushan**	**2.39**	**245**	*eP*		**Pn**	**18 33 33.4**	**+1.8**
	baz=237							
CHN4				*eS*		**Sn**	**18 34 01.4**	**+1.6**
	baz=237							
WRL	**Guolierlin Hig**	**2.40**	**259**	*eP*		**Pn**	**18 33 31.8**	**+0.1**
	baz=258							
WRL				*eS*		**Sn**	**18 34 01.0**	**+1.1**
	baz=258							
WTP	**Ta-pu**	**2.42**	**243**	*eP*		**Pn**	**18 33 33.4**	**+1.3**
	baz=241							
WTP				*eS*		**Sn**	**18 34 01.5**	**+0.9**
	baz=241							
WTK	**Tuku**	**2.44**	**254**	*eP*		**Pn**	**18 33 33.5**	**+1.2**
	baz=253							
WTK				*eS*		**Sn**	**18 34 03.2**	**+2.2**
	baz=253							
TWK	**Hsinying**	**2.52**	**244**	*eP*		**Pn**	**18 33 34.4**	**+1.0**
	baz=243							
TWK				*eS*		**Sn**	**18 34 03.9**	**+1.0**
	baz=243							
CHN1	**Nanshi**	**2.52**	**242**	*eP*		**Pn**	**18 33 34.8**	**+1.4**
	baz=241							
CHN1				*eS*		**Sn**	**18 34 04.5**	**+1.5**
	baz=241							
SLGT	**Liugui**	**2.53**	**237**	*eP*		**Pn**	**18 33 34.9**	**+1.4**
	baz=230							
SLGT				*eS*		**Sn**	**18 34 04.3**	**+1.2**
	baz=230							
SGST	**Jiashian**	**2.53**	**240**	*eP*		**Pn**	**18 33 34.4**	**+0.9**
	baz=238							
SGST				*eS*		**Sn**	**18 34 04.8**	**+1.7**
	baz=238							
ECL	**Taimali**	**2.56**	**226**	*eP*		**Pn**	**18 33 33.3**	**-0.5**
	baz=234							
ECL				*eS*		**Sn**	**18 34 02.1**	**-1.7**
	baz=234							
WSF	**Szhu**	**2.60**	**254**	*eS*		**Sn**	**18 34 06.6**	**+1.6**
	baz=265							
SSD	**Sandimen**	**2.68**	**233**	*eP*		**Pn**	**18 33 36.2**	**+0.7**
	baz=229							
SSD				*eS*		**Sn**	**18 34 07.2**	**+0.3**
	baz=229							
TSMG	**Majia**	**2.70**	**232**	*eP*		**Pn**	**18 33 36.6**	**+0.9**
	baz=229							
TSMG				*eS*		**Sn**	**18 34 07.2**	**-0.1**
	baz=229							
SCST	**Cishan**	**2.70**	**237**	*eP*		**Pn**	**18 33 38.4**	**+2.6**
	baz=248							
SCST				*eS*		**Sn**	**18 34 10.6**	**+3.2**
	baz=248							
MASBT	**Mashibuluo**	**2.76**	**231**	*eP*		**Pn**	**18 33 37.4**	**+0.7**
	baz=227							
MASBT				*eS*		**Sn**	**18 34 09.4**	**+0.5**
	baz=227							
EAST	**Anshuo**	**2.77**	**225**	*eP*		**Pn**	**18 33 36.9**	**0.0**
	baz=230							
SLIU	**Shizi**	**2.93**	**223**	*eP*		**Pn**	**18 33 39.6**	**+0.6**
	baz=215							
SLIU				*eS*		**Sn**	**18 34 12.7**	**-0.3**
	baz=215							

TAP 27 18:34:04.1, 21.57N×121.87E, h123km, ML3.4, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.55**	**328**	*eP*		**Pn**	**18 34 22.7**	**-0.1**
	baz=328							
LAY				*eS*		Sn	18 34 36.4	-0.4
	baz=328							
TSEB	**Hengchuen, Pin**	**0.96**	**290**	*eP*		Pn	18 34 26.8	+0.8
	baz=284							
TSEB				*eS*		Sn	18 34 44.1	+1.6
	baz=284							
TWKBT	**Hengchun**	**1.05**	**291**	P		Pn	18 34 27.5	+0.6
	baz=287							
TWKBT				S		Sn	18 34 44.7	+0.6
	baz=287							
TWK1	**Hengchun**	**1.06**	**291**	P		Pn	18 34 27.8	+0.9
	baz=287							
TWK1				S		Sn	18 34 44.7	+0.5
	baz=287							
SNW	**Nanwan**	**1.11**	**291**	*eP*		Pn	18 34 27.9	+0.4
	baz=291							
SNW				*eS*		Sn	18 34 46.4	+1.2
	baz=291							
HEN	**Hengchun**	**1.14**	**293**	*eP*		Pn	18 34 28.6	+0.8
	baz=293							
HEN				*eS*		Sn	18 34 46.5	+0.8
	baz=293							
LDUT	**Ludao**	**1.16**	**341**	*eP*		Pn	18 34 28.1	+0.1
	baz=346							
LDUT				*eS*		Sn	18 34 47.3	+1.2
	baz=346							
SLIU	**Shizi**	**1.19**	**303**	P		Pn	18 34 28.6	+0.4
	baz=303							
SLIU				S		Sn	18 34 46.8	+0.2
	baz=303							
TAW	**Tawu**	**1.20**	**311**	*eP*		Pn	18 34 28.4	0.0
	baz=315							
TAW				*eS*		Sn	18 34 46.6	-0.1
	baz=315							
EAST	**Anshuo**	**1.25**	**311**	P		Pn	18 34 29.2	+0.3
	baz=315							
EAST				S		Sn	18 34 46.7	-1.1
	baz=315							
ECL	**Taimali**	**1.33**	**320**	*eP*		Pn	18 34 29.7	-0.1
	baz=315							
ECL				*eS*		Sn	18 34 47.9	-1.4
	baz=315							
SCZT	**Fangliau**	**1.41**	**305**	P		Pn	18 34 31.1	+0.5
	baz=305							
SCZT				*eS*		Sn	18 34 50.6	-0.3
	baz=305							
TWGBT	**Beinan**	**1.44**	**330**	*eP*		Pn	18 34 31.5	+0.4
	baz=323							
TWGBT				*eS*		Sn	18 34 51.0	-0.6
	baz=323							
EDH	**Donghe**	**1.49**	**339**	*eP*		Pn	18 34 32.0	+0.4
	baz=332							
EDH				*eS*		Sn	18 34 53.0	+0.4
	baz=332							
LONT	**Longtian**	**1.50**	**333**	*eP*		Pn	18 34 32.0	+0.3
	baz=326							
LONT				*eS*		Sn	18 34 52.6	-0.1
	baz=326							
SSPT	**Xinbi**	**1.51**	**307**	*eP*		Pn	18 34 32.5	+0.7
	baz=307							
SSPT				*eS*		Sn	18 34 52.8	-0.2
	baz=307							
MASBT	**Mashibuluo**	**1.55**	**312**	P		Pn	18 34 32.8	+0.6
	baz=312							
MASBT				*eS*		Sn	18 34 53.5	-0.2
	baz=312							
TSMG	**Majia**	**1.60**	**315**	P		Pn	18 34 33.3	+0.4
	baz=315							
TSMG				*eS*		Sn	18 34 54.6	-0.3
	baz=315							
SSD	**Sandimen**	**1.64**	**316**	P		Pn	18 34 33.8	+0.4
	baz=309							
SSD				S		Sn	18 34 55.3	-0.3
	baz=309							
FULB	**Fuli**	**1.71**	**342**	*eP*		Pn	18 34 35.2	+1.0
	baz=337							
FULB				*eS*		Sn	18 34 58.5	+1.3
	baz=337							
SGLT	**Jiouru**	**1.72**	**312**	*eP*		Pn	18 34 35.0	+0.7
	baz=319							
ELDTW	**Lidau**	**1.80**	**334**	*eP*		Pn	18 34 35.9	+0.5
	baz=337							
ELDTW				*eS*		Sn	18 34 58.5	-0.7
	baz=337							
SLGT	**Liugui**	**1.82**	**322**	*eP*		Pn	18 34 36.5	+1.1
	baz=321							
SLGT				*eS*		Sn	18 34 59.7	+0.3
	baz=321							
SCST	**Cishan**	**1.83**	**316**	P		Pn	18 34 36.6	+1.1
	baz=316							
SCST				*eS*		Sn	18 35 00.3	+0.6
	baz=316							
TWM1	**Shoushan**	**1.83**	**313**	*eP*		Pn	18 34 37.4	+1.8
	baz=321							
TWM1				*eS*		Sn	18 35 01.3	+1.5
	baz=321							
EYUL	**Yuli**	**1.84**	**344**	*eP*		Pn	18 34 36.6	+0.9
	baz=338							
EYUL				*eS*		Sn	18 35 01.9	+2.0
	baz=338							
SNJT	**Kaohsiung City**	**1.85**	**310**	*eP*		Pn	18 34 37.3	+1.5
	baz=301							
SNJT				*eS*		Sn	18 35 01.2	+1.1
	baz=301							
TWF1	**Yuli**	**1.85**	**343**	*eP*		Pn	18 34 37.7	+1.8
	baz=337							
STYH	**Taoyuan**	**1.89**	**328**	*eP*		Pn	18 34 37.5	+1.2
	baz=319							
STYH				*eS*		Sn	18 35 01.4	+0.5
	baz=319							
YULB	**Yu-li**	**1.89**	**344**	*eP*		Pn	18 34 36.8	+0.4
	baz=336							
YULB				*eS*		Sn	18 35 03.0	+1.9
	baz=336							
STYT	**Tauyuan**	**1.89**	**327**	*eP*		Pn	18 34 37.3	+0.8
	baz=319							
STYT				*eS*		Sn	18 35 01.6	+0.5
	baz=319							
SGST	**Jiashian**	**1.92**	**322**	P		Pn	18 34 36.7	0.0
	baz=322							
SGST				S		Sn	18 35 00.9	-0.8
	baz=322							
HGSD	**Ruisui**	**1.96**	**348**	*eP*		Pn	18 34 37.4	+0.2
	baz=351							
HGSD				*eS*		Sn	18 35 03.7	+1

WTP	**Ta-pu**	**2.03 325**	*e*P	Pn	18 34 38.8	+0.7
	baz=317					
WTP			eS	Sn	18 35 05.1	+0.8
	baz=317					
TPUB	**Ta-pu**	**2.07 327**	*e*P	Pn	18 34 39.3	+0.7
	baz=318					
TPUB			eS	Sn	18 35 05.4	+0.4
	baz=318					
SNST	**Tainan City**	**2.08 323**	*e*P	Pn	18 34 39.1	+0.5
	baz=322					
SNST			eS	Sn	18 35 04.6	-0.5
	baz=322					
YUS	**Yu-Shan**	**2.09 336**	*e*P	Pn	18 34 40.8	+1.5
	baz=334					
YUS			eS	Sn	18 35 06.8	+0.6
	baz=334					
TWK	**Hsinying**	**2.12 323**	*e*P	Pn	18 34 39.8	+0.5
	baz=323					
TWK			eS	Sn	18 35 06.0	-0.2
	baz=323					
EGFH	**Guangfu**	**2.13 349**	*e*P	Pn	18 34 39.6	+0.3
	baz=350					
CHN4	**Tsaushan**	**2.13 327**	P	Pn	18 34 39.9	+0.5
	baz=318					
CHN4			eS	Sn	18 35 06.5	+0.1
	baz=318					
TEGC	**Jichi Village**	**2.15 352**	*e*P	Pn	18 34 39.6	+0.1
	baz=357					
ALS	**Alishan**	**2.17 333**	*e*P	Pn	18 34 41.1	+1.0
	baz=324					
ALS			eS	Sn	18 35 08.1	+0.5
	baz=324					
SCLT	**Jiali**	**2.23 316**	*e*P	Pn	18 34 41.0	+0.5
	baz=323					
SCLT			eS	Sn	18 35 09.1	+0.7
	baz=323					
ESL	**Shilin**	**2.27 350**	*e*P	Pn	18 34 42.4	+1.3
	baz=342					
ESL			eS	Sn	18 35 08.7	-0.8
	baz=342					
CHN5	**Tsauling**	**2.30 332**	*e*P	Pn	18 34 42.2	+0.7
	baz=324					
CHN5			eS	Sn	18 35 11.4	+1.2
	baz=324					
ICHU	**Yijhu**	**2.31 321**	*e*P	Pn	18 34 41.7	+0.1
	baz=321					
ICHU			eS	Sn	18 35 10.2	-0.2
	baz=321					
WHYT	**Xinyi Township**	**2.32 336**	*e*P	Pn	18 34 42.6	+0.9
	baz=326					
CHY	**Chiayi**	**2.34 325**	*e*P	Pn	18 34 42.3	+0.4
	baz=319					
CHY			eS	Sn	18 35 10.6	-0.4
	baz=319					
CHN8	**Yiju**	**2.34 319**	*e*P	Pn	18 34 42.3	+0.4
	baz=319					
CHN8			eS	Sn	18 35 11.1	0.0
	baz=319					
SSLB	**Suanglung**	**2.37 339**	*e*P	Pn	18 34 43.3	+1.0
	baz=329					
SSLB			eS	Sn	18 35 12.0	+0.3
	baz=329					
WGK	**Gukeng**	**2.43 330**	*e*P	Pn	18 34 43.9	+0.8
	baz=324					
WGK			eS	Sn	18 35 13.5	+0.5
	baz=324					
WDLH	**Douliu**	**2.44 330**	*e*P	Pn	18 34 43.6	+0.4
	baz=330					
WDLH			eS	Sn	18 35 13.9	+0.6
	baz=330					
OWD	**Renai**	**2.46 345**	*e*P	Pn	18 34 45.6	+1.9
	baz=351					
SMLT	**Sun Moon Lake**	**2.47 339**	*e*P	Pn	18 34 44.5	+0.8
	baz=330					
SMLT			eS	Sn	18 35 16.4	+2.2
	baz=330					
TYC	**Yuchr**	**2.50 338**	*e*P	Pn	18 34 44.3	+0.3
	baz=329					
TYC			eS	Sn	18 35 14.0	-0.8
	baz=329					
WTK	**Tuku**	**2.51 327**	*e*P	Pn	18 34 44.5	+0.3
	baz=321					
WTK			eS	Sn	18 35 14.6	-0.4
	baz=321					
WNT	**Mingjian**	**2.55 335**	*e*P	Pn	18 34 45.3	+0.7
	baz=335					
WNT			eS	Sn	18 35 17.5	+1.8
	baz=335					
CHGB	**Renai**	**2.56 346**	*e*P	Pn	18 34 46.3	+1.3
	baz=349					
CHGB			eS	Sn	18 35 17.3	+0.9
	baz=349					
WSF	**Szhu**	**2.56 324**	*e*P	Pn	18 34 44.8	0.0
	baz=318					
WSF			eS	Sn	18 35 15.9	-0.2
	baz=318					
DPDB	**Guoxing**	**2.60 341**	*e*P	Pn	18 34 45.8	+0.4
	baz=332					
DPDB			eS	Sn	18 35 16.1	-1.0
	baz=332					
NACB	**Ninganchiao**	**2.60 354**	*e*P	Pn	18 34 46.3	+1.0
WHF	**Hehuan Shan**	**2.62 348**	*e*P	Pn	18 34 47.6	+1.6
	baz=355					
WHF			eS	Sn	18 35 17.8	-0.4
	baz=355					
WCS	**Beigang Elemen**	**2.63 341**	*e*P	Pn	18 34 46.6	+0.9
	baz=331					
WCS			eS	Sn	18 35 16.5	-1.2
	baz=331					
WDGT	**Dungji**	**2.65 310**	*e*P	Pn	18 34 45.7	-0.2
	baz=317					
WDGT			eS	Sn	18 35 16.3	-1.8
	baz=317					
ETLH	**Xiulin Townshi**	**2.65 352**	*e*P	Pn	18 34 47.5	+1.5
	baz=352					
WWF	**Wufeng**	**2.69 336**	*e*P	Pn	18 34 46.8	+0.4
	baz=336					
WRL	**Guolierlin Hig**	**2.70 330**	*e*P	Pn	18 34 46.7	+0.1
	baz=329					
WRL			eS	Sn	18 35 18.1	-1.2
	baz=329					
WHP	**Taichung City**	**2.83 343**	*e*P	Pn	18 34 49.7	+1.4
	baz=333					
WHP			eS	Sn	18 35 24.6	+2.3
	baz=333					
PHUB	**P'eng-hu**	**2.87 313**	*e*P	Pn	18 34 48.3	-0.5
	baz=319					
PHUB			eS	Sn	18 35 21.1	-2.2
	baz=319					
NNSB	**Datong**	**2.88 351**	*e*P	Pn	18 34 49.9	+0.9
	baz=351					
NNSB			eS	Sn	18 35 23.6	-0.1
	baz=351					
NNSH	**Datong**	**2.88 351**	*e*P	Pn	18 34 49.9	+0.9
	baz=351					
NNSH			eS	Sn	18 35 23.7	0.0
	baz=351					
PNG	**Penghu**	**2.92 313**	*e*P	Pn	18 34 49.0	-0.5
	baz=313					
PNG			eS	Sn	18 35 22.5	-1.9
	baz=313					
YHNB	**Yeheng**	**3.12 352**	*e*P	Pn	18 34 52.8	+0.6
	baz=359					
YHNB			eS	Sn	18 35 29.2	0.0
	baz=359					
TIPB	**Shuangxi**	**3.39 359**	*e*P	Pn	18 34 56.6	+1.0
	baz=8.0					
VWUC	**VWUC**	**4.07 327**	*e*P	Pn	18 35 04.0	-0.6
	baz=327					
VWUC			eS	Sn	18 35 49.0	-2.5
	baz=327					
PTMZ	**Houxiangcun**	**4.28 324**	*e*P	Pn	18 35 07.2	-0.2
	baz=324					
PTMZ			eS	Sn	18 35 54.3	-2.3
	baz=324					
KNMB	**Chin-men Tao**	**4.31 313**	*e*P	Pn	18 35 08.1	+0.3
	baz=312					
KNMB			eS	Sn	18 35 55.4	-2.0
	baz=312					
MHZQ	**Yeshan**	**5.21 331**	*e*P	Pn	18 35 20.2	+0.4
	baz=330					

*IDC **27** 18:37:15.0±2.7,36°.11N×71°.28E,h59km±23km,mb3.7/16, mb1 3.9/22,mb1mx3.6/65,mbtmp4.0/22,ML4.0/6,Error ellipse: s-maj=17.6km s-min=14.2km az=147.0*
*BJI **27** 18:37:17.3±0.0,36°.52N×71°.16E,h68km,mB4.6/14, mb4.3/20,ML4.2/3,Ms3.6/3,Ms7 3.5/2*
*MOS **27** 18:37:19.3±1.0,36°.50N×71°.32E,h96km,mb4.3/7,Error ellipse: s-maj=10.0km s-min=5.0km az=87.2*
*NNC **27** 18:37:20.0±2.5,36°.65N×70°.86E,h101km±28km,mb3.6, mpv4.0,Error ellipse: s-maj=26.4km s-min=12.4km az=161.0*
*NEIC **27** 18:37:20.0±2.3,36°.49N±0°.04×71°.17E±0°.08,h85km±6km, mb4.3/25,Error ellipse: s-maj=9.7km s-min=5.6km az=74.0*

ISC 27 18:37:20.5±0.4,36°.41N±0°.04×71°.34E±0°.05,h100km,n144, σ1§**84**/148,**mb4.2**/28,**10C-7D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.63**	**170**	P	**Pn**	**18 38 02.0**	**+0.6**
KBL	**Kabul**	**2.65**	**226**	Pn	**Pn**	**18 38 01.1**	**-0.6**
KBL				Sn	**Sn**	**18 38 32.6**	**-0.8**
DRK	**Karamyk**	**3.08**	**7**	Pn	**Pn**	**18 38 08.2**	**+0.6**
CHCP	**Chirah Chowk**	**3.17**	**150**	P	**Pn**	**18 38 09.8**	**+1.3**
NIL	**Nilore**	**3.17**	**150**	PN	**Pn**	**18 38 10.1**	**+1.6**
NIL	**Nilore**	**3.17**	**150**	Pn	**Pn**	**18 38 10.1**	**+1.6**
THW	**Thamme Wali**	**3.63**	**175**	P	**Pn**	**18 38 14.4**	**-0.3**
BTK	**Batken**	**3.66**	**354**	PN	**Pn**	**18 38 14.8**	**-0.4**
BTK	**Batken**	**3.66**	**354**	Pn	**Pn**	**18 38 14.8**	**-0.4**
JMU	**Jammu**	**4.71**	**140**	*e*P	Pn	18 38 24.0	-5.3
JMU				*e*S	**Sn**	**18 39 17.0**	**-5.8**
KSH	**Kashi**	**4.79**	**48**	P	**Pn**	**18 38 26.5**	**-4.0**
TAS	**Tashkent**	**5.16**	**343**	PN	**Pn**	**18 38 31.0**	**-4.3**
TAS	**Tashkent**	**5.16**	**343**	Pn	**Pn**	**18 38 31.0**	**-4.3**
THN	**Thein Dam**	**5.37**	**136**	*e*P	**Pn**	**18 38 37.5**	**-0.7**
THN				*e*S	**Sn**	**18 39 34.5**	**-4.2**
AML	**Almayashu** SNR=17	**5.99**	**17**	P	**Pn**	**18 38 46.5**	**-0.5**
EKS2	**Erkin-Say** SNR=15	**6.52**	**16**	P	**Pn**	**18 38 53.6**	**-0.2**
AAK	**Ala-Archa** 6.5nm,0.3s,baz=178,slow=6.0,SNR=24	**6.67**	**20**	P	**Pn**	**18 38 55.6**	**-0.5**
AAK	2.2nm,0.3s,baz=142,slow=19,SNR=2.1			S	**Sn**	**18 40 08.5**	**-2.1**
AAK	**Ala-Archa** SNR=12	**6.67**	**20**	P	**Pn**	**18 38 56.0**	**-0.1**
AAK	**Ala-Archa** 11nm,0.5s	**6.67**	**20**	⇓P	**Pn**	**18 38 55.5**	**-0.5**
AAK	20nm,0.5s			⇑S	**Sn**	**18 40 08.8**	**-1.8**
AAK	**Ala-Archa**	**6.67**	**20**	*i* PN	**Pn**	**18 38 54.8**	**-1.2**
AAK	**Ala-Archa**	**6.67**	**20**	Pn	**Pn**	**18 38 55.8**	**-0.2**
KK31	**Karatay Array** 2.7nm,0.3s,baz=175,slow=12,SNR=235	**6.71**	**355**	P	**Pn**	**18 38 54.4**	**-2.1**
KK31	8.0nm,0.4s,baz=185,slow=22,SNR=3.7			⇑S	**Sn**	**18 40 03.2**	**-8.1**
KK31	**Karatay Array**	**6.71**	**355**	PN	**Pn**	**18 38 54.3**	**-2.1**
KK31	**Karatay Array**	**6.71**	**355**	Pn	**Pn**	**18 38 54.3**	**-2.1**
KKAR	**Karatay Array**	**6.71**	**355**	PN	**Pn**	**18 38 54.4**	**-2.0**
KKAR	**Karatay Array**	**6.71**	**355**		**Pn**	**18 38 54.4**	**-2.2**
KKAR	**Karatay Array**	**6.71**	**355**	Pn	**Pn**	**18 38 54.4**	**-2.0**
FRU1	**Bishkek**	**6.87**	**21**	PN	**Pn**	**18 38 58.0**	**-0.6**
FRU1	**Bishkek**	**6.87**	**21**	Pn	**Pn**	**18 38 58.0**	**-0.6**
ULHL	**Ulahol** SNR=5.7	**6.95**	**32**	P	Pn	18 38 50.8	-9.0
BOOM	**Boomskoye usch**	**7.03**	**29**	PN	**Pn**	**18 39 00.3**	**-0.6**
BOOM	**Boomskoye usch**	**7.03**	**29**	Pn	**Pn**	**18 39 00.3**	**-0.6**
CHMS	**Chumysh** SNR=12	**7.08**	**21**	P	**Pn**	**18 39 01.2**	**-0.2**
SMLA	**Simla**	**7.16**	**136**	*e*P	**Pn**	**18 39 00.2**	**-2.4**
SMLA				*e*S	**Sn**	**18 40 17.2**	**-5.2**
SMLA	comp=E,273nm,0.6s			IAML		18 40 22.4	
SMLA	comp=N,240nm,0.5s			IAML		18 40 23.4	
USP	**Ospenovka** SNR=7.8	**7.26**	**19**	P	**Pn**	**18 39 03.3**	**-0.6**
TKM2	**Tokmak 2** SNR=21	**7.28**	**25**	P	**Pn**	**18 39 04.0**	**-0.3**
TKM2	**Tokmak 2** comp=N,6.8nm,0.5s	**7.28**	**25**	⇑P	**Pn**	**18 39 03.6**	**-0.7**
KDJ	**Kajisay**	**7.29**	**37**	PN	**Pn**	**18 39 04.9**	**+0.6**
KDJ	**Kajisay**	**7.29**	**37**	Pn	**Pn**	**18 39 04.9**	**+0.6**
TARG	**Taragay, Kyrgy**	**7.31**	**41**	Pn	**Pn**	**18 39 05.5**	**+0.6**
HRA	**Herat**	**7.70**	**257**	Pn	**Pn**	**18 39 07.7**	**-2.3**
MDOK	**Medeo** comp=N,1.9nm,0.6s	**8.04**	**31**	⇓P	**Pn**	**18 39 14.2**	**-0.4**
PRZ	**Przheval'sk**	**8.16**	**40**	PN	**Pn**	**18 39 16.6**	**+0.4**
PRZ	**Przheval'sk**	**8.16**	**40**	Pn	**Pn**	**18 39 16.6**	**+0.4**
PDGK	**Podgornoye** comp=N,4.1nm,0.9s	**9.32**	**40**	⇑P	**Pn**	**18 39 31.1**	**-0.9**
GEYT	**Alibeck** comp=N,4.8nm,0.3s,baz=126,slow=8.9,SNR=31	**10.66**	**282**	P	Pn	18 39 43.9	-6.3
GEYT	comp=N,2.3nm,0.3s,baz=81,slow=19,SNR=6.6			S	Sn	18 41 34.1	-13
GYA0B	**ALIBECK ARRAY**	**10.66**	**282**	⇑P	Pn	18 39 43.1	-7.0
GYA0B				⇑S	Sn	18 41 36.1	-11
GYA0B	**ALIBECK ARRAY**	**10.66**	**282**		Pn	18 39 43.5	-6.6
OTUK	**Ortayu** comp=N,1.5nm,0.8s	**11.85**	**3**	⇑P	**Pn**	**18 40 02.5**	**-3.4**
MAKZ	**Makanchi** comp=N,2.1nm,0.5s	**13.07**	**34**	⇑P	**Pn**	**18 40 20.7**	**-1.5**
MAKZ	**Makanchi**	**13.07**	**34**	P	**Pn**	**18 40 20.7**	**-1.5**
MAKZ	**Makanchi**	**13.07**	**34**		**Pn**	**18 40 20.7**	**-1.5**
MK31	**Makanchi Array** comp=N,1.7nm,0.6s,baz=216,slow=13,SNR=14	**13.20**	**35**	P	**Pn**	**18 40 22.5**	**-1.4**
MK31	**Makanchi Array**	**13.20**	**35**	P	**Pn**	**18 40 22.6**	**-1.3**
MK31	**Makanchi Array**	**13.20**	**35**		**Pn**	**18 40 22.6**	**-1.3**
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=224,slow=15,SNR=9.1	**13.20**	**35**	P	**Pn**	**18 40 23.2**	**-0.7**
MKAR	**Makanchi Array**	**13.20**	**35**	*i* P	**Pn**	**18 40 22.8**	**-1.1**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**13.20**	**35**	Pn	**Pn**	**18 40 23.4**	**-0.4**
WMQ	**Urumqi**	**14.52**	**54**	*e*P	**P**	**18 40 44.8**	**0.0**
WMQ	comp=Z,14nm,0.7s			pmax	pmax		
WMQ	comp=Z,84nm,3.9s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=206,slow=11,SNR=17	**15.12**	**18**	P	**P**	**18 40 49.9**	**-1.4**
KURBB	**Kurchatov Arra** comp=Z,4.2nm,0.8s	**15.12**	**18**	⇑P	**Pn**	**18 40 49.3**	**+0.8**
KURK	**Kurchatov**	**15.23**	**18**	P	**Pn**	**18 40 49.9**	**+0.1**
KURK	**Kurchatov**	**15.23**	**18**	P	**Pn**	**18 40 49.9**	**+0.1**
AB31	**Akbulak array** comp=Z,1.2nm,0.4s,baz=141,slow=12,SNR=56	**15.29**	**331**	P	**Pn**	**18 40 46.0**	**-4.7**
AB31	comp=Z,2.5nm,0.6s,baz=152,slow=24,SNR=2.8			⇓S	Sn	18 43 27.2	-12
ABKAR	**Akbulak array**	**15.29**	**331**		**Pn**	**18 40 46.2**	**-4.4**
ABKAR	**Akbulak array**	**15.29**	**331**		**Pn**	**18 40 47.1**	**-3.6**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.3s,baz=198,slow=18,SNR=6.4	**16.62**	**358**	P	**P**	**18 41 07.7**	**-0.3**
BRVK	**Borovoye**	**16.66**	**358**	P	**Pn**	**18 41 07.7**	**+0.1**
BRVK	comp=Z,4.0nm,0.7s			pmax	pmax		
BRVK	**Borovoye**	**16.66**	**358**		**Pn**	**18 41 07.7**	**+0.1**
AKTO	**Aktyubinsk** comp=Z,1.4nm,0.3s,baz=132,slow=11,SNR=13	**16.99**	**330**	P	**Pn**	**18 41 10.6**	**-1.1**
AKTO	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=2.4			S	Sn	18 44 08.4	-12
AKTO	**Aktyubinsk** comp=Z,12nm,0.6s	**16.99**	**330**	⇓P	**Pn**	**18 41 10.5**	**-1.3**
DGZ	**Jazzator, Alta**	**17.68**	**36**	*i* P	**P**	**18 41 18.5**	**-1.4**
DGZ	comp=Z,6.0nm,0.5s			pmax	pmax		
LSA	**Lhasa**	**17.89**	**106**	P	**Pn**	**18 41 24.6**	**+1.3**
LSA	comp=Z,4.0nm,0.5s			pmax	pmax		
LSA	**Lhasa**	**17.89**	**106**	P	**Pn**	**18 41 24.6**	**+1.3**
LSA	comp=Z,4.0nm,0.5s			IAmb	IAmb	18 41 29.7	
ZAA0	**Zalesovo Array** comp=Z,2.6nm,0.7s	**19.88**	**24**	⇑P	**P**	**18 41 42.2**	**-1.4**
ZAA0	**Zalesovo Array** comp=Z,15nm,0.8s	**19.88**	**24**	P	**P**	**18 41 43.2**	**-0.4**
ZAA0				IAmb	IAmb	18 41 44.7	
ZALV	**Zalesovo Beam** comp=Z,13nm,0.5s,baz=224,slow=10,SNR=50	**19.88**	**24**	P	**P**	**18 41 43.1**	**-0.4**
ZALV	comp=Z,2.6nm,0.9s,baz=212,slow=19,SNR=5.0			S	**Sn**	**18 45 28.0**	**-1.6**
ZALV	**Zalesovo Beam**	**19.88**	**24**	*i* P	**P**	**18 41 42.9**	**-0.7**
ZALV	comp=Z,16nm,0.6s			pmax	pmax		
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	**P**	**18 41 43.0**	**-0.6**
SHL	**Shillong**	**20.62**	**116**	P	**P**	**18 41 52.5**	**+0.5**
SHL	comp=Z,5.0nm,0.8s			pmax	pmax		
SHL	**Shillong**	**20.62**	**116**	P	**P**	**18 41 52.5**	**+0.5**
SHL				IAmb	IAmb	18 42 08.8	
GNI	**Garni** comp=Z,4.8nm,0.8s	**21.18**	**288**	*i* P	**P**	**18 41 58.2**	**+0.3**
GNI	comp=Z,17nm,1.3s			pmax	pmax		
GNI	**Garni**	**21.18**	**288**	P	**P**	**18 41 55.0**	**-2.9**
GNI	comp=Z,16nm,1.2s			IAmb	IAmb	18 42 06.4	
ARU	**Arti** comp=Z,3.2nm,0.5s,baz=151,slow=9.9,SNR=16	**21.80**	**341**	P	**P**	**18 42 05.7**	**+1.6**
ARU	**Arti**	**21.80**	**341**	*d* P	**P**	**18 42 06.8**	**+2.6**
ARU						18 42 34.0	
ARU				S	**S**	**18 46 04.6**	**+5.4**
ARU				SS	**SnSn**	**18 46 36.5**	**+3.1**
ARU	comp=Z,19nm,1.0s			pmax	pmax		
ARU	**Arti**	**21.80**	**341**	P	**P**	**18 42 04.8**	**+0.6**
ARU	comp=Z,15nm,0.9s			IAmb	IAmb	18 42 09.4	
NCK	**Nalchik**	**22.35**	**297**	*i* P	**P**	**18 42 09.8**	**-0.3**
NCK	comp=Z,9.0nm,0.9s			pmax	pmax		
GTA	**Gaotai**	**22.62**	**74**	⇓P	**P**	**18 42 16.0**	**+2.9**
GTA	comp=Z,15nm,1.2s			pmax	pmax		
KBZ	**Khabaz** comp=Z,1.0nm,0.6s,baz=90,slow=14,SNR=2.2	**22.88**	**297**	P	**P**	**18 42 14.3**	**-1.1**
KIV	**Kislovodsk**	**23.07**	**298**	*e*P	**P**	**18 42 16.5**	**-0.9**
KIV	comp=Z,11nm,1.0s			pmax	pmax		
KIV	comp=Z,55nm,14.0s			MLR	MLR		
BELG	**Belogornoye** comp=Z,15nm,1.1s,baz=147,slow=6.9,SNR=4.3	**23.13**	**321**	P	**P**	**18 42 17.5**	**-0.2**
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=266,slow=9.1,SNR=4.1	**28.16**	**55**	P	**P**	**18 43 04.4**	**+1.1**
KMI	**Kunming**	**29.11**	**104**	⇓P	**P**	**18 43 16.0**	**+3.9**
KMI	comp=Z,10.0nm,0.8s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**31.54**	**69**	*e*P	**P**	**18 43 37.0**	**+3.8**
HHC	comp=Z,9.0nm,0.8s			pmax	pmax		
HHC	comp=Z,86nm,6.2s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,1.0nm,0.5s,baz=81,slow=7.4,SNR=4.6	**33.21**	**309**	P	**P**	**18 43 48.1**	**+0.5**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.8s	**33.21**	**309**	IAmb	IAmb	18 43 51.5	
NRIK	**Noril'sk** comp=Z,4.4nm,0.5s,baz=193,slow=5.6,SNR=5.0	**34.16**	**10**	P	**P**	**18 43 55.6**	**+0.1**
NRIK	**Noril'sk**	**34.16**	**10**	*i* P	**P**	**18 43 54.8**	**-0.8**
NRIK	comp=Z,3.0nm,0.6s			pmax	pmax		
LVZ	**Lovozero**	**37.64**	**338**	P	**P**	**18 44 27.5**	**+2.2**
LVZ	comp=Z,27nm,1.2s			pmax	pmax		
LVZ	**Lovozero**	**37.64**	**338**	P	**P**	**18 44 27.5**	**+2.2**
FIA1	**FINESS Array S**	**37.71**	**326**	P	**P**	**18 44 26.6**	**+0.7**
FIA1	comp=Z,8.1nm,1.2s			IAmb	IAmb	18 44 36.0	
FINES	**FINESS Array B** comp=Z,1.3nm,0.4s,baz=121,slow=9.2,SNR=18	**37.71**	**326**	P	**P**	**18 44 26.5**	**+0.6**
FINES	**FINESS Array B**	**37.71**	**326**	*i* P	**P**	**18 44 26.3**	**+0.4**
FINES	comp=Z,1.0nm,0.4s			pmax	pmax		
FINES	**FINESS Array B**	**37.71**	**326**	P	**P**	**18 44 26.3**	**+0.4**
ARA0	**ARCESS Array S**	**41.33**	**338**	*e*P	**P**	**18 44 56.6**	**+0.7**
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.3s,baz=116,slow=8.0,SNR=26	**41.33**	**338**	P	**P**	**18 44 56.9**	**+1.0**
ARCES	**ARCESS Array B**	**41.33**	**338**	P	**P**	**18 44 56.5**	**+0.6**
ARCES	comp=Z,10.0nm,1.4s			pmax	pmax		
ARCES	**ARCESS Array B**	**41.33**	**338**	P	**P**	**18 44 56.5**	**+0.6**
ARCES	comp=Z,10nm,1.4s			IAmb	IAmb	18 45 14.2	
KTK1	**Kautokeino**	**41.80**	**336**	*e*P	**P**	**18 44 59.9**	**+0.1**
HAMF	**Hammerfest**	**42.41**	**339**	*e*P	**P**	**18 45 04.7**	**+0.1**
JETT	**Jettan, Norway**	**42.95**	**336**	*e*P	**P**	**18 45 09.4**	**+0.3**
HFS	**Hagfors** comp=Z,2.4nm,0.4s,baz=103,slow=11,SNR=27	**43.30**	**322**	P	**P**	**18 45 12.6**	**+0.6**
TRO	**Tromso**	**43.46**	**336**	*e*P	**P**	**18 45 13.5**	**+0.4**
MOR8	**Moi Rana**	**44.03**	**331**	*e*P	**P**	**18 45 17.4**	**-0.3**
STEI	**Steigen**	**44.17**	**333**	*e*P	**P**	**18 45 19.1**	**+0.3**
NC405	**NORSAR Array S**	**44.38**	**323**	P	**P**	**18 45 22.1**	**+1.5**
NC602	**NORSAR Array S**	**44.43**	**323**	*e*P	**P**	**18 45 20.7**	**-0.3**
NC602	**NORSAR Array S**	**44.43**	**323**	P	**P**	**18 45 21.1**	**+0.2**
NC303	**NORSAR Array S**	**44.56**	**323**	P	**P**	**18 45 22.9**	**+0.8**
NC303	comp=Z,8.5nm,1.2s			IAmb	IAmb	18 45 27.2	
NB201	**NORSAR Array S**	**44.58**	**323**	P	**P**	**18 45 22.9**	**+0.7**
NB2	**NORSAR Subarra** baz=98,slow=7.9	**44.61**	**323**	P	**P**	**18 45 22.4**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.4s,baz=96,slow=7.7,SNR=21	**44.61**	**323**	P	**P**	**18 45 22.5**	**-0.1**
NBO00	**NORSAR Array S**	**44.83**	**323**	P	**P**	**18 45 24.0**	**-0.2**
NC204	**NORSAR Array S**	**44.85**	**323**	P	**P**	**18 45 24.6**	**+0.2**
NC204	comp=Z,13nm,1.2s			IAmb	IAmb	18 45 27.0	
HOPEN	**Hopen**	**45.15**	**346**	*e*P	**P**	**18 45 27.0**	**+0.5**
BJO1	**Bjornoya**	**45.43**	**343**	*e*P	**P**	**18 45 28.6**	**-0.1**
TIXI	**Tiksi**	**45.75**	**22**	P	**P**	**18 45 31.5**	**+0.2**
TIXI	comp=Z,3.0nm,0.8s			pmax	pmax		
TIXI	**Tiksi**	**45.75**	**22**	P	**P**	**18 45 31.5**	**+0.2**
TIXI	comp=Z,2.6nm,0.8s			IAmb	IAmb	18 45 33.6	
SPA0	**Spitsbergen Ar**	**47.64**	**347**	*e*P	**P**	**18 45 45.8**	**-0.2**
KBS	**Kingsbay**	**48.76**	**347**	*e*P	**P**	**18 45 55.5**	**+1.0**
SUMG	**Summit**	**61.23**	**341**	P	**P**	**18 47 26.1**	**+1.3**
SUMG	comp=Z,7.0nm,0.7s			pmax	pmax		
SUMG	**Summit**	**61.23**	**341**	P	**P**	**18 47 26.1**	**+1.3**
TOA0	**Torodi Ar. Sit**	**65.99**	**269**	P	**P**	**18 47 55.2**	**-1.3**
TOA0	comp=Z,5.9nm,1.2s			IAmb	IAmb	18 48 09.5	
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.5s,baz=47,slow=6.1,SNR=13	**65.99**	**269**	P	**P**	**18 47 54.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**65.99**	**269**	P	**P**	**18 47 55.1**	**-1.4**
TOLK	**Toolik Lake Re**	**70.94**	**15**	P	**P**	**18 48 27.8**	**+1.3**
TOLK	comp=Z,5.9nm,1.4s			IAmb	IAmb	18 48 31.2	
BMAR	**Burnt Mountain**	**72.96**	**14**	P	**P**	**18 48 40.1**	**+1.5**
C36M	**Paulatuk**	**73.94**	**6**	P	**P**	**18 48 45.4**	**+1.2**
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,baz=303,slow=5.0,SNR=3.3	**74.79**	**16**	P	**P**	**18 48 49.5**	**+0.3**
LBTB	**Lobatse**	**74.80**	**222**	P	**P**	**18 48 50.3**	**+0.3**
LBTB	**Lobatse**	**74.80**	**222**	P	**P**	**18 48 50.3**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.6s,baz=348,slow=4.8,SNR=8.4	**81.32**	**3**	P	**P**	**18 49 26.2**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.9s,baz=319,slow=5.0,SNR=5.6	**81.71**	**122**	P	**P**	**18 49 26.2**	**-1.9**
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=311,slow=5.1,SNR=7.2	**83.98**	**125**	P	**P**

SNR=12
AAK Ala-Archa 5.68 19 P Pn 18 45 56.5 +1.0
4.0nm,0.3s,baz=204,slow=8.1,SNR=33
AAK S **Sn 18 46 59.2 -1.5**
1.1nm,0.3s,baz=0.8,slow=21,SNR=10
AAK Ala-Archa 5.68 19 P Pn 18 45 56.5 +1.0
SNR=16
AAK Ala-Archa 5.68 19 ⇓P Pn 18 45 56.5 +1.0
14nm,0.5s
AAK ⇑S **Sn 18 46 59.1 -1.5**
20nm,0.7s
THN Thein Dam 5.72 147 *e*P **Pn 18 45 55.0 -0.9**
THN *e*S **Sn 18 46 56.0 -5.4**
KBK Karagaybulak 5.83 22 P **Pn 18 45 59.4 +2.0**
SNR=8.8
FRU1 Bishkek 5.88 19 Pn 18 45 59.0 +1.0
KK31 Karatay Array 5.92 349 P **Pn 18 45 59.4 +0.9**
7.6nm,0.3s,baz=158,slow=11,SNR=402
KK31 ⇑S **Sn 18 47 02.2 -3.9**
58nm,0.6s,baz=173,slow=21,SNR=19
KK31 Karatay Array 5.92 349 Pn **Pn 18 45 59.2 +0.7**
KKAR Karatay Array 5.92 349 Pn **Pn 18 45 59.1 +0.6**
KKAR Karatay Array 5.92 349 Pn 18 45 59.3 +0.8
ULHL Ulahol 5.94 32 P **Pn 18 45 59.2 +0.3**
SNR=24
BOOM Boomskoye usch 6.02 29 Pn 18 46 00.2 +0.2
CHMS Chumysh 6.09 19 P **Pn 18 46 01.7 +1.0**
SNR=22
TKM2 Tokmak 2 6.27 25 P **Pn 18 46 03.7 +0.4**
SNR=12
TKM2 Tokmak 2 6.27 25 ⇓P Pn 18 46 03.6 +0.4
7.4nm,0.8s
USP Ospenovka 6.28 17 P **Pn 18 46 03.4 +0.3**
SNR=6.0
KDJ Kajisay 6.28 38 Pn **Pn 18 46 03.3 0.0**
TARG Taragay, Kyrgy 6.32 44 Pn 18 46 04.1 0.0
MDOK Medeo 7.03 32 P **Pn 18 46 13.5 +0.3**
17nm,0.6s
KNDC Almaty 7.04 31 ⇑P Pn 18 46 13.6 +0.3
28nm,0.5s
PRZ Przheval'sk 7.16 41 Pn **Pn 18 46 16.4 +1.5**
SMLA Simla 7.49 144 *e*P **Pn 18 46 17.5 -1.6**
SMLA *e*S Sn 18 47 34.2 -9.0
SMLA IAML 18 47 39.8
comp=E,124nm,0.4s
DDI Dehra Dun 8.58 142 *e*P **Pn 18 46 31.0 -2.7**
DDI *e*S Sn 18 48 00.7 -8.8
DDI IAML 18 48 05.2
comp=N,189nm,0.3s
OTUK Ortayu 10.96 1 ⇓P Pn 18 47 03.9 -0.7
comp=N,2.4nm,0.6s
GEYT Alibeck 11.03 278 P **Pn 18 47 04.3 -1.3**
comp=N,0.4nm,0.3s,baz=81,slow=19,SNR=3.4
GEYT S **Sn 18 49 07.8 -0.3**
comp=N,0.9nm,0.3s,baz=172,slow=24,SNR=4.3
MAKZ Makanchi 12.06 35 Pn **Pn 18 47 18.3 -0.6**
MK31 Makanchi Array 12.19 36 ⇑P Pn 18 47 20.7 +0.1
comp=N,0.6nm,0.6s,baz=217,slow=12,SNR=7.2
MK31 Makanchi Array 12.19 36 Pn **Pn 18 47 20.7 +0.1**
MKAR Makanchi Array 12.19 36 P **Pn 18 47 21.2 +0.6**
comp=N,0.1nm,0.3s,baz=217,slow=12,SNR=6.1
MKAR Makanchi Array 12.19 36 Pn **Pn 18 47 20.9 +0.4**
PYUN Piuthan 13.01 132 *e*P **Pn 18 47 28.7 -2.7**
comp=N,42nm,0.3s
DANN Dangsing 13.30 129 *e*P **Pn 18 47 33.0 -2.1**
comp=N,28nm,0.3s
GKN Gorkha 14.10 127 *e*P **Pn 18 47 43.3 -1.7**
comp=N,28nm,0.3s
KURBB Kurchatov Arra 14.13 17 P **P 18 47 48.7 +1.4**
comp=N,0.1nm,0.3s,baz=201,slow=11,SNR=13
KURK Kurchatov 14.24 17 P **P 18 47 48.7 +0.2**
KKN Kakani 14.65 126 *e*P **Pn 18 47 50.1 -1.8**
comp=N,9.0nm,0.3s
AB31 Akbulak array 14.82 328 P **Pn 18 47 54.6 +1.2**
comp=N,2.6nm,0.4s,baz=137,slow=12,SNR=126
AB31 S **Sn 18 50 31.7 -6.8**
comp=N,3.0nm,0.7s,baz=154,slow=23,SNR=7.1
ABKAR Akbulak array 14.82 328 P **Pn 18 47 54.5 +1.0**
ABKAR Akbulak array 14.82 328 P **Pn 18 47 54.7 +1.2**
PKIN Phulchoki 14.88 127 *e*P **Pn 18 47 53.1 -1.6**
comp=N,16nm,0.4s
PKI Pulchoki 14.89 127 *e*P **Pn 18 47 53.8 -1.1**
comp=N,15nm,0.3s
BVAR Borovoye Array 15.78 356 P **Pn 18 48 05.2 -0.1**
comp=N,0.7nm,0.3s,baz=167,slow=20,SNR=8.3
BRVK Borovoye 15.82 356 ⇑P Pn 18 48 06.8 +1.0
comp=N,4.7nm,0.7s
BRVK Borovoye 15.82 356 Pn 18 48 06.5 +0.7
BRVK IAmb IAmb 18 48 07.6
comp=Z,5.3nm,0.7s
AKTO Aktyubinsk 16.53 327 P **Pn 18 48 16.2 +1.9**
comp=Z,0.7nm,0.3s,baz=129,slow=12,SNR=10
AKTO S **S 18 51 11.1 -5.8**
comp=Z,0.2nm,0.3s,baz=195,slow=20,SNR=2.8
AKTO Aktyubinsk 16.53 327 ⇓P Pn 18 48 16.1 +1.7
comp=Z,7.0nm,1.0s
AKTO ⇑S **S 18 51 17.4 +0.5**
comp=Z,3.3nm,0.8s
ZAA0 Zalesovo Array 18.88 24 P **P 18 48 41.0 +1.5**
ZAA0 IAmb IAmb 18 48 42.1
comp=Z,3.8nm,0.5s
ZALV Zalesovo Beam 18.88 24 P **P 18 48 41.1 +1.7**
comp=Z,1.2nm,0.3s,baz=221,slow=9.9,SNR=21
ZALV S **Sn 18 52 13.1 -2.0**
comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=3.5
ZALV Zalesovo Beam 18.88 24 P **P 18 48 40.9 +1.4**
SONM Songino Array 27.24 56 P **P 18 50 01.0 +0.5**
comp=Z,0.5nm,0.5s,baz=270,slow=9.4,SNR=3.7
BRTR Keskin Array B 29.96 287 LR LR 19 04 45.0
comp=Z,45nm,18.2s,baz=131,slow=40
ARCES ARCESS Array B 40.73 337 P **P 18 51 59.0 +3.1**
comp=Z,0.5nm,0.7s,baz=103,slow=9.0,SNR=3.7
ARCES ARCESS Array B 40.73 337 IAmb IAmb 18 52 23.1
comp=Z,12nm,1.6s
GSI Gunungsitoli 42.87 141 P **P 18 52 15.6 +1.7**
KLR Kul'dur 44.04 55 LR LR 19 11 54.8
comp=Z,114nm,18.2s,baz=194,slow=37
NOA NORSAR Array B 44.24 322 P **P 18 52 26.4 +2.1**
comp=Z,0.3nm,0.8s,baz=90,slow=7.8,SNR=1.7
TIXI Tiksi 44.75 22 P **P 18 52 29.3 +1.1**
TIXI IAmb IAmb 18 52 38.9
comp=Z,6.2nm,1.4s
JSD Sado 51.42 68 P **P 18 53 21.1 +1.4**
TORD Torodi Ar. Bea 66.53 269 P **P 18 55 03.8 -0.3**
comp=Z,0.3nm,0.5s,baz=32,slow=5.3,SNR=1.9
YKA Yellowknife Ar 80.43 3 P **P 18 56 25.9 +1.5**
comp=Z,0.4nm,0.5s,baz=352,slow=5.4,SNR=2.6

IDC ***27*** *18:56:23.4±1.3,3.˝44S×130.˝21E,h0km,mb3.7/3, mb1 3.8/6,mb1mx3.5/54,mbtmp3.7/6,ML3.4/3,Error ellipse: s-maj=43.7km s-min=20.5km az=89.0*
ISC 27 18:56:28.0±1.0,**3.˝51S**±0.˝08×**130.˝3E**±0.˝2,**h35**km,**n6,** σ**1**§**08/8,Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.79**	**20**	Pn		**Pn**		**18 57 09.2**	**-1.0**
	4.7nm,0.3s,baz=201,slow=23,SNR=26								
SIJI				Sn		**Sn**		**18 57 43.7**	**+1.1**
	5.7nm,0.3s,baz=256,slow=23,SNR=5.7								
FITZ	**Fitzroy Crossi**	**15.21**	**197**	Pn		**Pn**		**19 00 00.4**	**+0.2**
	0.1nm,0.3s,baz=29,slow=13,SNR=1.7								
WRA	**Warramunga Arr**	**16.80**	**167**	Pn		**Pn**		**19 00 21.1**	**+0.5**
	0.3nm,0.3s,baz=350,slow=12,SNR=23								
WRA				Sn		Sn		19 03 16.7	-10
	0.0nm,0.3s,baz=342,slow=21,SNR=2.9								
ASAR	**Alice Springs**	**20.33**	**171**	P		**P**		**19 01 02.4**	**+1.0**
	1.2nm,0.5s,baz=352,slow=10,SNR=48								
ASAR				S		**S**		**19 04 46.0**	**-1.5**
	0.5nm,0.8s,baz=352,slow=17,SNR=3.6								
MKAR	**Makanchi Array**	**65.52**	**326**	P		**P**		**19 07 08.0**	**+0.1**
	0.6nm,0.7s,baz=122,slow=8.4,SNR=5.1								
KURBB	**Kurchatov Arra**	**69.73**	**328**	P		**P**		**19 07 34.2**	**-0.1**
	0.9nm,0.7s,baz=129,slow=6.0,SNR=10								

BGR ***27*** *19:03:34.7±0.0,23.˝29S×178.˝42W,h33km*
IDC ***27*** *19:03:43.9±1.6,23.˝69S×177.˝42W,h167km,13km, mb4.1/21,mb1 4.2/23,mb1mx4.1/43,mbtmp4.5/23,MS3.6/3, Ms1 3.6/3,ms1mx3.0/44,Error ellipse: s-maj=17.6km s-min=11.0km az=153.0*
NEIC ***27*** *19:03:46.9±1.7,23.˝69S±0.˝09×177.˝4W±0.˝1,h186km,6km, mb4.5/55,Error ellipse: s-maj=16.1km s-min=11.8km az=119.0*

ISC 27 19:03:47.3±0.4,**23.˝79S**±0.˝06×**177.˝40W**±0.˝07,**h200**km, **n191,**σ**2**§**07/198,mb4.4/52,16C-5D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.46**	**185**	S		**Sn**		**19 06 05.5**	**-5.5**
	88nm,0.3s,baz=98,slow=23,SNR=5.6								
MSVF	**Nonsavu**		**7.38**	**324**	P	**Pn**		**19 05 30.9**	**-1.6**
	15nm,0.3s,baz=142,slow=13,SNR=52								
MSVF	**Nonsavu**		**7.38**	**324**	Pn	**Pn**		**19 05 31.5**	**-1.1**
AFI	**Afiamalu**	**11.17**	**29**	P		Pn		19 06 14.1	-7.7
	3.2nm,0.3s,baz=270,slow=5.1,SNR=1.6								
AFI				S		Sn		19 08 02.6	-24
	9.8nm,0.3s,baz=216,slow=19,SNR=8.0								
PINNC	**Pines Island,**	**13.98**	**272**			**P**		**19 07 01.8**	**+2.9**
LIFNC	**LIFOU**	**14.53**	**279**			**P**		**19 07 04.8**	**-0.2**
URZ	**Urewera**	**15.17**	**197**	P		**Pn**		**19 07 08.8**	**-2.6**
	1.4nm,0.3s,baz=307,slow=20,SNR=8.0								
URZ				S		S		19 09 43.7	-16
	1.3nm,0.3s,baz=301,slow=24,SNR=1.8								
URZ	**Urewera**	**15.17**	**197**	Pn		**Pn**		**19 07 10.4**	**-0.9**
URZ				IAmb		IAmb		19 07 43.7	
	comp=Z,20nm,1.1s								
RAR	**Rarotonga**	**16.49**	**85**	P		**P**		**19 07 23.9**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=287,slow=4.0,SNR=3.0								
RAR				LR		LR		19 12 23.8	
	comp=Z,105nm,20.0s,baz=315,slow=32								
KNTN	**Kanton**	**21.60**	**16**	P		**P**		**19 08 19.5**	**-2.2**
PPT	**Papeete**	**26.73**	**82**	LR		LR		19 17 20.8	
	comp=Z,66nm,20.8s,baz=228,slow=31								
ARMA	**Armidale**	**28.29**	**250**	P		**P**		**19 09 20.8**	**-1.6**
ARMA				IAmb		IAmb		19 09 24.8	
	comp=Z,8.4nm,1.1s								
EIDS	**Eidsvold**	**28.67**	**260**	P		**P**		**19 09 25.2**	**-0.4**
CAN	**Canberra**	**31.26**	**241**	P		**P**		**19 09 50.0**	**+1.6**
CAN				IAmb		IAmb		19 10 14.2	
	comp=Z,27nm,1.5s								
CTA	**Charters Tower**	**33.86**	**269**	P		**P**		**19 10 11.6**	**+0.5**
	comp=Z,22nm,0.4s,baz=97,slow=9.7,SNR=71								
CTAO	**Charters Tower**	**33.86**	**269**	P		**P**		**19 10 11.4**	**+0.3**
TOO	**Toolangi**	**34.51**	**238**	P		**P**		**19 10 16.7**	**+0.1**
TOO				IAmb		IAmb		19 10 39.8	
	comp=Z,26nm,1.4s								
PMG	**Port Moresby**	**36.72**	**287**	P		**P**		**19 10 34.4**	**-1.1**
	comp=Z,57nm,0.8s,baz=86,slow=6.8,SNR=18								
STKA	**Stephens Creek**	**36.97**	**248**	P		**P**		**19 10 37.5**	**0.0**
	comp=Z,2.9nm,0.5s,baz=83,slow=11,SNR=12								
STKA				PcP		**PcP**		**19 12 55.6**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=59,slow=8.0,SNR=3.1								
STKA	**Stephens Creek**	**36.97**	**248**	P		**P**		**19 10 37.7**	**+0.2**
BBOO	**Buckleboo**	**41.68**	**247**	P		**P**		**19 11 16.6**	**+0.2**
BBOO				IAmb		IAmb		19 11 16.9	
	comp=Z,9.8nm,1.1s								
AS31	**Alice Springs**	**44.40**	**260**	P		**P**		**19 11 38.7**	**+0.3**
ASAR	**Alice Springs**	**44.40**	**260**	P		**P**		**19 11 38.0**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=90,slow=8.4,SNR=18								
ASAR				PcP		**PcP**		**19 13 19.2**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=107,slow=4.3,SNR=5.2								
ASAR				ScP		**ScP**		**19 16 57.1**	**+5.5**
	comp=Z,1.1nm,0.9s,baz=89,slow=3.7,SNR=5.3								
ASAR				S		**S**		**19 17 57.3**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=95,slow=15,SNR=2.2								
WB2	**Warramunga Arr**	**44.78**	**265**	P		**P**		**19 11 40.3**	**-1.1**
WB2				IAmb		IAmb		19 11 41.3	
	comp=Z,14nm,0.8s								
WRAB	**Tennant Creek**	**44.78**	**265**	P		**P**		**19 11 40.5**	**-0.9**
WRAB				IAmb		IAmb		19 11 41.2	
	comp=Z,9.7nm,0.8s								
WRA	**Warramunga Arr**	**44.79**	**265**	P		**P**		**19 11 40.7**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=90,slow=8.5,SNR=79								
WRA				PcP		**PcP**		**19 13 18.2**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=102,slow=3.5,SNR=8.9								
WRA				ScP		**ScP**		**19 16 58.6**	**+5.4**
	comp=Z,1.3nm,0.7s,baz=96,slow=3.7,SNR=7.6								
WRA				S		**S**		**19 17 57.9**	**-5.7**
	comp=Z,0.2nm,0.6s,baz=74,slow=13,SNR=1.8								
WRA	**Warramunga Arr**	**44.79**	**265**	P		**P**		**19 11 40.3**	**-1.2**
MTN	**Manton Dam**	**49.82**	**273**	P		**P**		**19 12 19.6**	**-0.6**
MTN				IAmb		IAmb		19 12 34.5	
	comp=Z,26nm,1.1s								
KNRA	**Kununurra**	**51.07**	**269**	P		**P**		**19 12 29.3**	**-0.3**
KNRA				IAmb		IAmb		19 12 30.5	
	comp=Z,17nm,0.7s								
FAKI	**Fak Fak**	**52.84**	**285**	P		**P**		**19 12 42.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.21**	**265**	LR		LR		19 35 06.7	
	comp=Z,188nm,18.1s,baz=323,slow=35								
FITZ	**Fitzroy Crossi**	**53.21**	**265**	P		**P**		**19 12 45.6**	**+0.2**
FITZ				IAmb		IAmb		19 12 47.1	
	comp=Z,9.1nm,0.9s								
SBA	**Scott Base**	**54.64**	**184**	P		**P**		**19 12 57.4**	**+2.6**
SIJI	**Sorong**	**54.67**	**287**	P		**P**		**19 12 55.0**	**-1.0**
	comp=Z,119nm,0.8s,baz=76,slow=6.6,SNR=11								
SOEI	**Soe**	**57.21**	**274**	P		**P**		**19 13 14.8**	**+0.7**
PSA00	**Pilbara Seismi**	**57.52**	**259**	P		**P**		**19 13 16.7**	**+0.6**
PSA00				IAmb		IAmb		19 13 53.8	
	comp=Z,7.0nm,1.3s								
MMRI	**Maumere**	**59.49**	**274**	P		**P**		**19 13 29.4**	**-0.3**
CASY	**Casey**	**61.25**	**206**	P		**P**		**19 13 41.3**	**+0.4**
TOLI2	**Tolitoli**	**64.86**	**283**	P		**P**		**19 14 05.0**	**-0.5**
TOLI2				IAmb		IAmb		19 14 05.7	
	comp=Z,14nm,1.1s								
QSPA	**South Pole Qui**	**66.29**	**180**	P		**P**		**19 14 15.3**	**+1.3**
MJAR	**Matsushiro Arr**	**73.18**	**324**	P		**P**		**19 14 55.0**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=160,slow=5.4,SNR=8.6								
MJAR	**Matsushiro Arr**	**73.18**	**324**	P		**P**		**19 14 55.5**	**-0.7**
MAT	**Matsushiro**	**73.18**	**324**	P		**P**		**19 14 55.2**	**-1.0**
JWT	**Wachi**	**73.83**	**321**	P		**P**		**19 15 00.9**	**+1.0**
JHS	**Saijyo**	**74.96**	**320**	P		**P**		**19 15 07.1**	**+0.6**
KIWB	**Kanaga Island**	**75.31**	**0**	P		**P**		**19 15 07.4**	**-0.7**
ADK	**Adak**	**75.35**	**0**	P		**P**		**19 15 07.3**	**-0.9**
ADK				IAmb		IAmb		19 15 38.7	
	comp=Z,15nm,1.1s								
YULB	**Yu-li**	**75.77**	**304**	P		**P**		**19 15 09.8**	**-1.6**
YULB				IAmb		IAmb		19 15 47.9	
	comp=Z,14nm,1.0s								
TPUB	**Ta-pu**	**76.23**	**303**	P		**P**		**19 15 12.7**	**-1.3**
MAW	**Mawson**	**78.67**	**200**	P		**P**		**19 15 28.3**	**+1.7**
	comp=Z,17nm,0.4s,baz=45,slow=7.1,SNR=150								
MAW	**Mawson**	**78.67**	**200**	P		**P**		**19 15 28.4**	**+1.7**
MAW				IAmb		IAmb		19 15 30.0	
	comp=Z,4.3nm,0.5s								
PEA0B	**Petropavlovsk-**	**79.58**	**345**	P		**P**		**19 15 32.8**	**+1.1**
PEA0B				IAmb		IAmb		19 15 35.5	
	comp=Z,23nm,1.4s								
PETK	**Petropavlovsk-**	**79.58**	**345**	P		**P**		**19 15 30.9**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=111,slow=8.1,SNR=18								
PETK	**Petropavlovsk-**	**79.58**	**345**	P		**P**		**19 15 31.7**	**0.0**
KSRS	**Korea Array**	**79.71**	**319**	P		**P**		**19 15 32.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=153,slow=19,SNR=2.8								
ISA	**Isabella, Lake**	**81.25**	**45**	P		**P**		**19 15 41.8**	**+0.6**
ISA				IAmb		IAmb		19 15 42.8	
	comp=Z,8.6nm,1.1s								
USRK	**Ussuriysk Ar.**	**81.99**	**326**	P		**P**		**19 15 45.0**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=108,slow=5.1,SNR=5.9								
NJ2	**Nanjing**	**82.40**	**310**	*e*P		**P**		**19 15 49.0**	**+1.9**
NJ2				pmax		pmax			
	comp=Z,21nm,1.1s								
YBH	**Yreka Blue Hor**	**82.51**	**38**	P		**P**		**19 15 48.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=249,slow=8.6,SNR=4.6								
PNTR	**Pine Nut**	**82.65**	**42**	P		**P**		**19 15 48.9**	**+0.3**
PNTR				IAmb		IAmb		19 15 50.1	
	comp=Z,8.9nm,0.9s								
HSIG		**82.71**	**54**	P		**P**		**19 15 48.5**	**-0.3**
HSIG				IAmb		IAmb		19 15 49.8	
	comp=Z,5.1nm,0.6s								
NVAR	**Mina Array Bea**	**83.04**	**43**	P		**P**		**19 15 51.2**	**+0.6**
	comp=Z,4.5nm,1.0s,baz=222,slow=8.5,SNR=15								
NVAR	**Mina Array Bea**	**83.04**	**43**	P		**P**		**19 15 50.9**	**+0.3**
TPH	**Tonopah**	**83.50**	**44**	P		**P**		**19 15 53.4**	**+0.5**
H03S2	**Juan Fernandez**	**83.69**	**124**	T		T		20 48 13.4	
	baz=245,slow=74,SNR=5.0								
H03S1	**Juan Fernandez**	**83.70**	**124**	T		T		20 48 12.8	
	baz=245,slow=74,SNR=4.4								
H03S3	**Juan Fernandez**	**83.70**	**124**	T		T		20 48 12.6	
	baz=245,slow=74,SNR=4.3								
H03N3	**Juan Fernandez**	**83.84**	**124**	T		T		20 48 12.2	
	baz=251,slow=74,SNR=3.0								
H03N1	**Juan Fernandez**	**83.86**	**124**	T		T		20 48 19.9	
	baz=138,slow=74,SNR=5.7								
KDAK	**Kodiak Island**	**83.88**	**13**	P		**P**		**19 15 54.7**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=150,slow=13,SNR=1.5								
KDAK	**Kodiak Island**	**83.88**	**13**	P		**P**		**19 15 55.6**	**+1.6**
KDAK				IAmb		IAmb		19 16 21.1	
	comp=Z,11nm,1.1s								
Y14A	**Wickenburg**	**83.90**	**49**	P		**P**		**19 15 55.5**	**+0.7**
Y14A				IAmb		IAmb		19 15 56.6	

comp=Z,5.6nm,0.9s
TUC Tucson 84.58 51 P **P 19 15 59.0 +0.7**
TUC IAmb IAmb 19 16 00.6
comp=Z,7.4nm,0.8s
SNAA Sanae 84.72 178 P **P 19 15 58.7 +0.3**
SNAA IAmb IAmb 19 15 59.5
comp=Z,6.1nm,1.1s
X16A Lo Mia Camp, P 85.25 49 P **P 19 16 02.4 +0.7**
WVOR Wild Horse Val 85.30 39 P **P 19 16 01.9 +0.2**
KLR Kul'dur 85.63 329 P **P 19 16 03.4 +0.4**
comp=Z,2.4nm,0.9s,baz=275,slow=4.9,SNR=7.7
CCUT Cedar City 85.68 46 P **P 19 16 04.7 +0.8**
CNPM China Poot 85.76 13 P **P 19 16 03.1 -0.3**
GSI Gunungsitoli 85.97 273 P **P 19 16 06.3 +0.8**
GSI IAmb IAmb 19 16 22.9
comp=Z,10nm,0.9s
ELK Elko 86.32 42 P **P 19 16 06.6 -0.3**
comp=Z,1.6nm,0.8s,baz=292,slow=0.5,SNR=5.4
MSU Marysvale 87.00 46 P **P 19 16 11.1 +0.9**
D08A Wollman Farm, 88.01 36 P **P 19 16 15.2 +0.7**
D08A IAmb IAmb 19 16 16.1
comp=Z,4.7nm,0.8s
MNTX Cornudas Mount 88.21 54 P **P 19 16 16.5 +0.6**
ENH Enshi 88.34 304 P **P 19 16 17.9 +1.4**
TX32 Lajitas Array 88.36 57 P **P 19 16 17.5 +0.7**
TXAR Lajitas Array 88.36 57 P **P 19 16 17.4 +0.6**
comp=Z,1.6nm,0.9s,baz=216,slow=7.3,SNR=13
TXAR Lajitas Array 88.36 57 P **P 19 16 17.3 +0.5**
BJI Beijing 88.61 315 P **P 19 16 19.8 +2.3**
BJI PcP **PcP 19 16 21.3 +2.4**
BJI pmax pmax
comp=Z,6.0nm,0.7s
ANMO Albuquerque 89.03 51 P **P 19 16 20.0 +0.1**
comp=Z,3.0nm,1.0s,baz=211,slow=5.1,SNR=6.4
ANMO Albuquerque 89.03 51 P **P 19 16 20.2 +0.3**
N25K Chitina, Valde 89.10 15 P **P 19 16 20.0 +0.6**
N25K IAmb IAmb 19 16 38.7
comp=Z,9.7nm,1.2s
XAN Xi'an 90.56 307 P **P 19 16 28.0 +1.2**
XAN pmax pmax
comp=Z,4.0nm,0.8s
DLBC Dease Lake 90.85 23 P **P 19 16 28.4 +0.8**
comp=Z,0.7nm,0.3s,baz=138,slow=14,SNR=3.5
PDAR Pinedale Array 90.97 43 P **P 19 16 28.7 -0.1**
comp=Z,2.1nm,0.8s,baz=205,slow=3.1,SNR=9.8
BOZ Bozeman (W) 91.24 40 P **P 19 16 30.5 +0.6**
BOZ IAmb IAmb 19 16 31.3
comp=Z,6.3nm,0.8s
ILAR Eielson Array 91.39 13 P **P 19 16 29.4 -0.5**
comp=Z,1.3nm,0.6s,baz=235,slow=5.5,SNR=10
ILAR Eielson Array 91.39 13 P **P 19 16 29.7 -0.2**
CMAR Chiang Mai Arr 91.73 289 P **P 19 16 33.0 +0.5**
comp=Z,3.2nm,0.9s,baz=146,slow=3.2,SNR=17
CMAR Chiang Mai Arr 91.73 289 P **P 19 16 33.7 +1.1**
CHTO Chiang Mai 91.87 290 P **P 19 16 34.3 +1.1**
CHTO IAmb IAmb 19 16 37.1
comp=Z,5.4nm,0.8s
YNE Yellowstone No 91.89 41 P **P 19 16 33.8 +0.8**
YNE IAmb IAmb 19 16 34.8
comp=Z,4.7nm,0.9s
HHC Hu-ho-hao-te 92.04 314 *e*P **P 19 16 36.3 +2.7**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,140nm,7.9s
MKAR Makanchi Array 113.83 312 PKiKP **PKiKP 19 22 00.8 -1.2**
comp=Z,0.5nm,0.6s,baz=104,slow=1.7,SNR=6.4
SPA0 Spitsbergen Ar 125.17 357 *e*PKPdf **PKiKP 19 22 23.6 +0.3**
HOPEN Hopen 126.07 354 *e*PKPdf **PKiKP 19 22 25.6 +0.5**
GEYT Alibeck 130.97 300 SKPbc **SKPab 19 25 44.7 +3.5**
comp=Z,3.5nm,0.8s,baz=131,slow=8.6,SNR=6.3
ARCES ARCESS Array B 132.24 349 PKhKP PKPpre 19 22 26.8
comp=Z,0.6nm,0.7s,baz=57,slow=4.5,SNR=4.7
ARCES PKP **PKiKP 19 22 37.5 -0.2**
comp=Z,1.8nm,0.9s,baz=48,slow=1.8,SNR=6.9
ARCES SKPbc **SKPab 19 25 47.3 +1.7**
comp=Z,3.7nm,1.0s,baz=54,slow=6.3,SNR=5.4
KTK1 Kautokeino 133.08 350 *e*PKPdf **PKiKP 19 22 38.7 -0.7**
TRO Tromso 133.12 352 *e*PKPdf **PKiKP 19 22 38.9 -0.5**
TSUM Tsumeb 134.84 200 SKPbc **SKPab 19 25 58.6 0.0**
comp=Z,1.1nm,0.4s,baz=218,slow=9.8,SNR=2.3
STEI Steigen 135.17 353 *e*PKPdf **PKPdf 19 22 42.0 0.0**
NSS Namsos 138.81 354 *e*PKPdf **PKPdf 19 22 47.6 -1.3**
FINES FINESS Array B 139.07 343 PKhKP PKPpre 19 22 39.8
comp=Z,1.2nm,0.7s,baz=57,slow=3.6,SNR=11
FINES PKP **PKiKP 19 22 50.7 -1.0**
comp=Z,1.8nm,0.5s,baz=111,slow=4.2,SNR=4.6
FINES SKPbc **SKPbc 19 26 06.2 +0.5**
comp=Z,1.8nm,0.8s,baz=333,slow=0.4,SNR=4.6
DOMB Dombas 141.51 355 *e*PKPdf **PKPdf 19 22 53.5 -0.4**
NOA NORSAR Array B 142.30 353 PKhKP PKPpre 19 22 51.1
comp=Z,0.6nm,0.5s,baz=2.5,slow=2.2,SNR=10
NC602 NORSAR Array S 142.56 353 *e* **PKPdf 19 22 51.6 -4.2**
NC602 *e*PKPdf **PKiKP 19 22 55.9 -3.0**
SKAR Skarslia 142.92 355 *e*PKPdf **PKPdf 19 22 56.3 -0.2**
ODD1 Odda 143.79 357 *e*PKPdf PKPbc 19 22 55.7 -0.6
KONO Kongsberg 143.83 354 *e*PKPdf PKPbc 19 22 56.0 -0.3
BLS5 Blasjo 144.29 357 *e*PKPbc PKPbc 19 22 57.1 -0.6
HOMB Homorsund 145.29 355 *e*PKPdf **PKPab 19 23 00.8 -0.3**
SNART Snartemo 145.32 356 *e*PKPdf **PKPab 19 23 00.8 -0.5**
AKASG Malin Array Be 146.13 329 PKPbc **PKPbc 19 23 02.8 -0.8**
comp=Z,9.3nm,0.5s,baz=44,slow=4.2,SNR=59
AKASG SKP 19 26 19.5
comp=Z,0.2nm,0.3s,baz=344,slow=2.4,SNR=1.6
AKASG Malin Array Be 146.13 329 PKPdf **PKPbc 19 23 02.4 -1.2**
SORM Soroca 148.27 326 ⇑P **PKiKP 19 23 09.8 -1.2**
LNIZ Loecknitz 149.07 346 *e*PKPbc **PKPab 19 23 16.7 +0.5**
baz=18,slow=2.5
BSEG Bad Segeberg 149.34 351 *e*PKPbc **PKPab 19 23 18.5 +1.2**
baz=18,slow=2.5
BRTR Keskin Array B 149.39 309 PKPbc **PKiKP 19 23 12.8 -1.0**
comp=Z,1.6nm,0.5s,baz=138,slow=5.4,SNR=7.3
RUE Ruedersdorf 150.11 346 *e*PKPbc **PKPab 19 23 20.2 -0.3**
baz=18,slow

PRA	**Prague**	**152.19 344**	*e*PKPAB	**PKPab**	**19 23 25.2**	**-4.1**
PRU	**Pruhonice**	**152.23 343**	*e*PKPAB	**PKPab**	**19 23 25.0**	**-4.5**
VRAC	**Vranov**	**152.25 340**	⇓P	**PKPab**	**19 23 26.2**	**-3.5**
KASTN	**Kahler Asten**	**152.27 352**	*e*PKPbc	**PKPab**	**19 23 25.6**	**-4.1**
	baz=18,slow=2.5					
MOX	**Moxa**	**152.29 348**	*e*PKPbc	**PKPab**	**19 23 25.5**	**-4.2**
	baz=18,slow=2.5					
PLN	**Plauen**	**152.33 347**	*e*PKPbc	**PKPab**	**19 23 25.7**	**-4.2**
	baz=18,slow=2.5					
TANN	**Tannenbergstha**	**152.33 346**	*e*PKPbc	**PKPab**	**19 23 25.8**	**-4.1**
	baz=18,slow=2.5					
WERD	**Werda**	**152.34 347**	*e*PKPbc	**PKPab**	**19 23 25.8**	**-4.2**
	baz=18,slow=2.5					
LOT	**Lotru**	**152.40 327**	⇑P	**PKiKP**	**19 23 20.6**	**+0.7**
GUNZ	**Gunzen**	**152.41 346**	*e*PKPbc	**PKPab**	**19 23 26.1**	**-4.2**
	baz=18,slow=2.5					
WERN	**Wernitzgruen**	**152.47 346**	*e*PKPbc	**PKPab**	**19 23 26.3**	**-4.2**
	baz=18,slow=2.5					
KRUC	**Moravsky**	**152.53 340**	*e*PKIKP	**PKiKP**	**19 23 19.8**	**-0.1**
KRUC			*e*		19 23 26.1	
PBCC	**Pribram**	**152.65 344**	*e*PKPAB	**PKPab**	**19 23 26.3**	**-5.0**
SIRR	**Siria**	**152.81 330**	⇑P	**PKiKP**	**19 23 21.1**	**+0.6**
MANZ	**Manzenberg**	**152.81 347**	*e*PKPbc	**PKPab**	**19 23 26.9**	**-5.1**
	baz=18,slow=2.5					
GZR	**Gura Zlata**	**152.93 328**	⇑P	**PKiKP**	**19 23 21.3**	**+0.4**
ROTZ	**Rotzenmuhle**	**153.00 346**	*e*PKPbc	**PKPab**	**19 23 27.1**	**-5.6**
	baz=18,slow=2.5					
TNS	**Taunus Mts**	**153.22 352**	*e*PKPbc	**PKPab**	**19 23 27.9**	**-5.8**
	baz=18,slow=2.5					
KHC	**Kasperske Hory**	**153.27 344**	*e*PKP	**PKiKP**	**19 23 21.3**	**-0.1**
KHC			*ex*	x	19 23 27.2	
BZS	**Buzias**	**153.32 329**	⇑P	**PKiKP**	**19 23 22.5**	**+0.9**
CKRC	**Cesky Krumlov**	**153.36 343**	*e*PKP	**PKPbc**	**19 23 20.8**	**-0.7**
CKRC			*ex*	x	19 23 27.8	
HERR	**Herculane**	**153.48 327**	⇓P	**PKiKP**	**19 23 22.6**	**+0.7**
MILB	**Miltenberg**	**153.49 350**	*e*PKPbc	**PKPab**	**19 23 28.4**	**-6.4**
	baz=18,slow=2.5					
GEC2	**GERESS Array S**	**153.50 343**	*e*PKPbc	**PKPab**	**19 23 28.1**	**-6.9**
	baz=18,slow=2.5					
GERES	**GERESS Array B**	**153.50 343**	PKPbc	**PKiKP**	**19 23 22.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=35,slow=4.9,SNR=4.7					
CONA	**Conrad Observa**	**153.70 340**	*i* P	**PKPab**	**19 23 29.1**	**-6.8**
	comp=Z,3.7nm,0.8s					
CONA			*i* P	PKiKP	19 23 37.7	+15
	comp=Z,2.6nm,0.7s					
MOA	**Molln**	**154.25 342**	*e*P	**PKPab**	**19 23 39.5**	**+1.3**
	comp=Z,4.6nm,1.2s					
KBA	**Koelnbreinsper**	**155.22 342**	*e*P	PKPab	19 23 31.3	-11
	comp=Z,3.9nm,1.2s					
KBA			*e*P	**PKPab**	**19 23 43.3**	**+0.8**
	comp=Z,1.8nm,0.6s					
WATA	**Walderalm**	**155.43 345**	*i* P	PKPab	19 23 32.2	-11
	comp=Z,1.2nm,0.5s					
WATA			*i* P	**PKPab**	**19 23 44.3**	**+1.0**
	comp=Z,2.4nm,0.7s					
WTTA	**Wattenberg**	**155.48 345**	*i* P	PKPab	19 23 32.8	-11
	comp=Z,2.1nm,0.6s					
WTTA			*e*P	**PKPab**	**19 23 44.5**	**+0.9**
	comp=Z,5.3nm,1.0s					
MOTA	**Moosalm**	**155.53 346**	*i* P	PKPab	19 23 32.6	-11
	comp=Z,2.2nm,0.8s					
MOTA			*e*P	**PKPab**	**19 23 43.6**	**-0.2**
	comp=Z,3.4nm,1.0s					
ABTA	**Abfaltersbach**	**155.75 343**	*i* P	PKPab	19 23 32.6	-12
	comp=Z,2.1nm,0.7s					
ABTA			*i* P	**PKPab**	**19 23 44.0**	**-0.7**
	comp=Z,1.4nm,0.7s					
ESDC	**Sonseca Array**	**163.22 18**	PKPab	**PKPab**	**19 24 17.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=320,slow=2.6,SNR=4.5					
TORD	**Torodi Ar. Bea**	**169.38 175**	PKP	**PKPdf**	**19 23 30.2**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=159,slow=4.5,SNR=3.6					
TORD			PKPab	**sPKPdf**	**19 24 43.4**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=178,slow=4.3,SNR=4.3					
TORD	**Torodi Ar. Bea**	**169.38 175**	PKPdf	**PKPdf**	**19 23 31.0**	**-0.4**
TORD				**PKPab**	**19 24 46.0**	**+1.1**

*IDC **27** 19:04:47.7±6.9, 16°.99S×167°.92E, h292km±73km, mb3.6/4, mb1 3.7/5, mb1mx3.1/43, mbtmp4.1/5, Error ellipse: s-maj=90.8km s-min=37.1km az=173.0*

ISC 27 19:04:48.2±2.4, 17°.0S±0°.1×167°.9E±0°.3, h300km, n7, σ0s77/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.19**	**195**	P	**Pn**	**19 06 08.5**	**+0.4**
	1.8nm,0.3s,baz=39,slow=6.5,SNR=17						
DZM				S	**S**	**19 07 11.8**	**-0.4**
	2.8nm,0.3s,baz=63,slow=18,SNR=12						
DZM	**Mont Dzumac**	**5.19**	**195**	P	**S**	**19 07 11.9**	**-0.4**
CTA	**Charters Tower**	**20.77**	**258**	P	**P**	**19 09 07.1**	**+0.1**
	5.3nm,1.0s,baz=73,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**31.35**	**260**	P	**P**	**19 10 46.4**	**-0.6**
	0.3nm,0.3s,baz=92,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**32.52**	**253**	P	**P**	**19 10 52.7**	**+0.8**
	8.2nm,0.5s,baz=78,slow=8.9,SNR=210						
MKAR	**Makanchi Array**	**99.30**	**316**	P	**Pdif**	**19 17 55.2**	**-1.2**
	0.4nm,0.9s,baz=90,slow=5.8,SNR=3.0						
ARCES	**ARCESS Array B**	**122.64**	**345**	PKP	**PKiKP**	**19 23 07.9**	**0.0**
	0.7nm,0.5s,baz=48,slow=1.3,SNR=4.0						

*IDC **27** 19:14:42.6±1.6, 4°.56S×143°.75E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/47, mbtmp3.6/8, ML3.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=45.9km s-min=23.2km az=87.0*

ISC 27 19:14:53.1±1.1, 4°.9S±0°.1×144°.0E±0°.2, h100km, n9, σ0s66/9, mb3.5/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**145**	Pn	**Pn**	**19 16 13.3**	**+0.5**
	0.6nm,0.3s,baz=31,slow=21,SNR=1.8						
PMG				Sn	**Sn**	**19 17 14.5**	**-0.3**
	1.1nm,0.3s,baz=47,slow=7.5,SNR=1.8						
WRA	**Warramunga Arr**	**17.66**	**211**	P	**P**	**19 18 51.8**	**-0.6**
	0.1nm,0.3s,baz=41,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**21.04**	**206**	P	**P**	**19 19 28.9**	**-0.2**
	0.3nm,0.7s,baz=30,slow=9.6,SNR=2.3						
FITZ	**Fitzroy Crossi**	**22.20**	**232**	P	**P**	**19 19 41.5**	**0.0**
	1.8nm,0.9s,baz=96,slow=23,SNR=1.8						
MJAR	**Matsushiro Arr**	**41.55**	**353**	LR	LR	19 37 51.9	
	comp=Z,60nm,19.4s,baz=230,slow=34						
CMAR	**Chiang Mai Arr**	**50.05**	**299**	P	**P**	**19 23 38.9**	**+0.8**
	1.8nm,1.0s,baz=122,slow=6.2,SNR=8.0						
SONM	**Songino Array**	**61.98**	**332**	P	**P**	**19 25 02.9**	**+0.1**
	0.2nm,0.6s,baz=139,slow=5.3,SNR=2.1						
MKAR	**Makanchi Array**	**74.72**	**321**	P	**P**	**19 26 21.6**	**-0.5**
	0.3nm,0.3s,baz=96,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**76.46**	**329**	P	**P**	**19 26 30.8**	**-1.0**
	0.9nm,0.5s,baz=124,slow=5.2,SNR=4.9						

IDC 27 19:22:14.9±62.0, 17°.19S×178°.76W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/44, mbtmp3.8/3, Error ellipse: s-maj=1125.0km s-min=162.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.69**	**240**	P	P	19 29 40.1	-0.6
	2.0nm,0.5s,baz=15,slow=16,SNR=7.3						
WRA	**Warramunga Arr**	**44.44**	**259**	P	P	19 30 27.9	-0.1
	0.6nm,1.0s,baz=90,slow=8.4,SNR=2.0						
ASAR	**Alice Springs**	**44.67**	**254**	P	P	19 30 30.1	+0.2
	0.6nm,0.5s,baz=89,slow=7.9,SNR=19						

IDC 27 19:31:21.3±7.4, 6°.07S×127°.39E, h455km±103km, mb2.4/1, mb1 2.6/4, mb1mx2.4/47, mbtmp3.4/4, Error ellipse: s-maj=81.1km s-min=42.3km az=57.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.08**	**188**	P	P	19 34 01.3	+0.3
	0.2nm,0.3s,baz=21,slow=13,SNR=14						
FITZ				S	S	19 36 11.2	-1.6
	0.1nm,0.3s,baz=280,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**15.36**	**155**	P	P	19 34 36.5	+0.2
	0.1nm,0.3s,baz=329,slow=12,SNR=5.8						
WRA				S	S	19 37 16.0	-1.3
	0.1nm,0.3s,baz=340,slow=20,SNR=1.5						
ASAR	**Alice Springs**	**18.59**	**161**	P	P	19 35 09.9	+0.3
	0.2nm,0.3s,baz=329,slow=9.4,SNR=15						
MKAR	**Makanchi Array**	**66.04**	**328**	P	P	19 41 21.7	-0.2
	0.2nm,0.7s,baz=145,slow=5.3,SNR=1.2						

*TUL **27** 20:09:16.4±1.0, 36°.95N±0°.04×97°.63W±0°.05, h5km±7km, ML3.0, mb_Lg2.9/60(NEIC), Error ellipse: s-maj=7.2km s-min=2.6km az=223.0*

NEIC 27 20:09:16.8±0.8, 36°.92N±0°.03×97°.62W±0°.05, h3km±7km, Error ellipse: s-maj=7.1km s-min=2.6km az=52.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN13	**South Haven SW**	**0.15**	**51**	Pg	Pg	20 09 19.8	0.0
KAN13				Sg	Sg	20 09 22.0	+0.2
KAN17	**Caldwell West**	**0.17**	**319**	Pg	Pg	20 09 19.9	-0.2
KAN17				Sg	Sg	20 09 22.3	-0.1
KAN09	**Caldwell North**	**0.22**	**1**	Pg	Pg	20 09 20.8	-0.3
KAN09				Sg	Sg	20 09 23.8	-0.2
KS20	**Mayfield South**	**0.32**	**10**	Pg	Pg	20 09 22.6	-0.3
KS20				Sg	Sg	20 09 26.8	-0.3
BLOK	**Blackwell**	**0.36**	**115**	Pg	Pg	20 09 24.0	+0.2
BLOK				Sg	Sg	20 09 29.2	+0.7
KAN08	**Anthony NE Sta**	**0.42**	**318**	Pg	Pg	20 09 24.6	-0.3
KAN08				Sg	Sg	20 09 30.1	-0.1
KAN10	**Anthony SW Sta**	**0.43**	**299**		Pg	20 09 24.9	-0.2
KAN12	**Harper NE Stat**	**0.48**	**322**		Pg	20 09 25.8	-0.4
OK032	**Salt Plains WL**	**0.48**	**257**	Pg	Pg	20 09 26.0	-0.1
CROK	**Carrier**	**0.50**	**215**	Pg	Pg	20 09 26.6	+0.2
T35A	**Sooner Cattle**	**0.89**	**90**		Pg	20 09 33.5	-0.5
QUOK	**Quay**	**1.05**	**135**	Pg	Pg	20 09 36.6	-0.3
OK029	**Liberty Lake**	**1.13**	**173**	Pg	Pg	20 09 38.1	-0.3
OK031	**S. Brethren Rd**	**1.15**	**146**	Pg	Pg	20 09 38.6	-0.3
OK030	**Cody Creek RV**	**1.20**	**145**		Pg	20 09 39.4	-0.4
BCOK	**Bluff Creek, N**	**1.26**	**179**		Pg	20 09 40.4	-0.5
OK025	**Westminster Rd**	**1.35**	**170**		Pn	20 09 42.2	-0.4
OKCFA	**Oklahoma City**	**1.50**	**175**		Pn	20 09 44.8	0.0
OKCSW	**OKLAHOMA CITY**	**1.52**	**174**		Pn	20 09 45.0	+0.1
FNO	**Franklin**	**1.67**	**174**		Pn	20 09 46.9	-0.1
R32A	**Long Quarter,**	**1.73**	**330**		Pn	20 09 47.6	-0.3
W35A	**Tecumseh**	**1.86**	**161**		Pn	20 09 49.8	+0.2
X34A	**Smith Ranch, M**	**2.32**	**184**	Pn	Pn	20 09 57.3	+1.4
WMOK	**Wichita Mounta**	**2.37**	**204**	Pn	Pn	20 09 56.8	+0.2
CBKS	**Cedar Bluff**	**2.53**	**319**	Pn	Pn	20 09 58.9	0.0
U38A	**Gravette**	**2.65**	**99**		Pn	20 10 01.2	+0.7
LOOK	**Love County**	**2.94**	**173**		Pn	20 10 04.8	+0.3
X37A	**Clayton**	**2.96**	**141**		Pn	20 10 05.2	+0.5
X37A				lAmb_Lg		20 10 54.4	
	comp=Z,50nm,0.9s						
HHAR	**Hobbs**	**3.03**	**101**		Pn	20 10 06.5	+0.8
S39A	**Bolivar**	**3.52**	**76**	Pn	Pn	20 10 12.4	+0.1
S39A				lAmb_Lg		20 11 10.1	
	comp=Z,30nm,0.7s						
W39A	**Magazine**	**3.55**	**118**		Pn	20 10 13.2	+0.3
W39A				lAmb_Lg		20 11 10.0	
	comp=Z,24nm,0.7s						
Z35A	**Perchaven, San**	**3.59**	**175**	Pn	Pn	20 10 13.3	-0.1
U40A	**Yellville**	**3.88**	**97**	Pn	Pn	20 10 17.9	+0.5
MIAR	**Mount Ida**	**4.05**	**125**		Pn	20 10 18.5	-1.2
P38A	**Dawn**	**4.21**	**49**	Pn	Pn	20 10 21.4	-0.4
P38A				lAmb_Lg		20 11 30.2	
	comp=Z,33nm,0.7s						
N35A	**Tabor**	**4.23**	**21**		Pn	20 10 21.7	-0.5
Z38A	**Mt. Pleasant**	**4.24**	**149**	lAmb_Lg		20 11 36.9	
	comp=Z,40nm,0.9s						
MGMO	**Mountain Grove**	**4.29**	**85**	lAmb_Lg		20 11 30.4	
	comp=Z,21nm,0.9s						
R40A	**Maddies Statio**	**4.47**	**71**	Pn	Pn	20 10 25.5	+0.1
R40A				lAmb_Lg		20 11 43.3	
	comp=Z,24nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.47**	**299**		Pn	20 10 25.0	-0.7
KSCO				lAmb_Lg		20 11 39.8	
	comp=Z,16nm,0.7s						
BGNE	**Belgrade**	**4.50**	**355**	Pn	Pn	20 10 25.6	-0.4
FCAR	**Ozark Folk Cen**	**4.55**	**101**	Pn	Pn	20 10 27.0	+0.4
FCAR				lAmb_Lg		20 11 38.8	
	comp=Z,22nm,0.9s						
X40A	**Basin Creek Fa**	**4.59**	**120**		Pn	20 10 27.7	+0.6
X40A				lAmb_Lg		20 11 53.4	
	comp=Z,18nm,0.8s						
WHAR	**Wooly Hollow**	**4.62**	**109**		Pn	20 10 27.4	0.0
WLAR	**White Oak Lake**	**4.90**	**130**	lAmb_Lg		20 12 01.5	
	comp=Z,18nm,0.9s						
WHTX	**Lake Whitney,**	**4.92**	**178**	Pn	Pn	20 10 31.3	-0.3
P40A	**Paris**	**5.11**	**58**	Pn	Pn	20 10 34.8	+0.5
L34A	**Svendsen Farm,**	**5.13**	**10**	Pn	Pn	20 10 34.3	-0.3
L34A				lAmb_Lg		20 12 08.2	
	comp=Z,25nm,0.7s						
N38A	**Joes South For**	**5.17**	**40**	lAmb_Lg		20 12 08.6	
	comp=Z,34nm,0.8s						
CCM	**Cathedral Cave**	**5.20**	**75**	lAmb_Lg		20 12 06.8	
	comp=Z,19nm,1.0s						
LCAR	**Lake Charles**	**5.28**	**97**	Pn	Pn	20 10 37.5	+0.9
LCAR				lAmb_Lg		20 12 03.7	
	comp=Z,14nm,0.9s						
OGNE	**Ogallala**	**5.29**	**321**	lAmb_Lg		20 12 11.8	
	comp=Z,23nm,0.7s						
T25A	**Trinidad**	**5.43**	**274**		Pn	20 10 37.9	-1.1
K31A	**O'Neill**	**5.76**	**352**	lAmb_Lg		20 12 23.3	
	comp=Z,22nm,0.7s						
PBMO	**Poplar Bluff**	**5.77**	**89**	lAmb_Lg		20 12 21.3	
	comp=Z,24nm,0.8s						
435B	**Jarrell**	**6.12**	**180**	lAmb_Lg		20 12 46.1	
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**6.67**	**196**	lAmb_Lg		20 13 03.4	
	comp=Z,12nm,0.8s						
K38A	**Parkersburg**	**6.83**	**32**	lAmb_Lg		20 13 03.7	
	comp=Z,19nm,0.9s						
L40A	**Anamosa**	**7.13**	**42**	lAmb_Lg		20 13 01.5	
	comp=Z,19nm,0.8s						
SUSD	**Miller**	**7.59**	**353**	lAmb_Lg		20 13 19.7	
	comp=Z,11nm,0.9s						
O44A	**Mansfield**	**7.87**	**63**	lAmb_Lg		20 13 29.3	
	comp=Z,15nm,0.7s						
JFWS	**Jewell Farm**	**8.24**	**41**	lAmb_Lg		20 13 38.8	
	comp=Z,12nm,0.9s						
MNTX	**Cornudas Mount**	**8.26**	**233**	lAmb_Lg		20 13 45.7	
	comp=Z,8.7nm,1.2s						
RSSD	**Black Hills**	**8.69**	**328**	lAmb_Lg		20 14 05.3	
	comp=Z,6.8nm,1.0s						
K22A	**Casper**	**8.93**	**313**	lAmb_Lg		20 14 07.3	
	comp=Z,9.3nm,1.1s						
SFIN	**Lafayette**	**8.93**	**64**	lAmb_Lg		20 13 58.7	
	comp=Z,14nm,0.7s						
BLO	**Bloomington**	**9.04**	**72**	lAmb_Lg		20 14 03.7	
	comp=Z,11nm,0.7s						

*IDC **27** 20:11:44.5±1.3, 32°.02S×177°.88W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/30, mbtmp4.2/5, ML4.3/1, Error ellipse: s-maj=38.8km s-min=26.0km az=125.0*

*NEIC **27** 20:11:45.3±0.8, 32°.09S±0°.04×177°.8W±0°.2, h10km±2km, mb4.6/11, Error ellipse: s-maj=27.8km s-min=3.5km az=103.0*

ISC 27 20:11:47.2±0.9, 32°.14S±0°.07×177°.9W±0°.2, h24km, n33, σ1s49/34, mb4.5/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.88**	**359**	Pn	**Pn**	**20 12 29.7**	**-1.9**
	44nm,0.3s,baz=253,slow=19,SNR=1.9						
RAO				Sn	**Sn**	**20 13 03.9**	**-1.5**
	159nm,0.3s,baz=104,slow=19,SNR=6.0						
RAO	**Raoul Island**	**2.88**	**359**		**Pn**	**20 12 29.3**	**-2.2**
RAO	**Raoul Island**	**2.88**	**359**	Sn	**Sn**	**20 13 04.4**	**-1.0**
WMGZ	**Waiomatatini S**	**6.44**	**207**	P	**Sn**	**20 14 35.4**	**+2.1**
PKGZ	**Pakihiroa**	**6.64**	**209**	P	**Sn**	**20 14 36.5**	**-1.8**
HAZ	**Te Kaha**	**6.65**	**211**	P	**Sn**	**20 14 38.9**	**+0.4**
PUZ	**Puketiti**	**6.72**	**207**	P	**Sn**	**20 14 36.6**	**-3.7**
URZ	**Urewera**	**7.37**	**213**	Pn	**Pn**	**20 13 29.2**	**-4.1**
	1.3nm,0.3s,baz=307,slow=20,SNR=6.9						
URZ	**Urewera**	**7.37**	**213**		**Pn**	**20 13 31.5**	**-1.8**
CTAO	**Charters Tower**	**34.23**	**282**	P	**P**	**20 18 33.1**	**+1.8**
CTAO				lAmb	lAmb	20 18 44.8	
	comp=Z,31nm,1.4s						
STKA	**Stephens Creek**	**34.24**	**259**	P	**P**	**20 18 33.1**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=102,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**34.24**	**259**	P	**P**	**20 18 32.8**	**+1.5**
BBOO	**Buckleboo**	**38.65**	**256**	P	**P**	**20 19 08.7**	**-0.1**
BBOO				lAmb	lAmb	20 19 14.8	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**43.16**	**269**	P	**P**	**20 19 45.8**	**-0.5**
AS31				lAmb	lAmb	20 19 51.5	
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**43.16**	**269**	P	**P**	**20 19 46.5**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=106,slow=7.7,SNR=35						
ASAR	**Alice Springs**	**43.16**	**269**	P	**P**	**20 19 45.6**	**-0.7**
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	**20 19 55.7**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=112,slow=7.8,SNR=55						
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	**20 19 55.2**	**-0.3**
WB0	**Warramunga Arr**	**44.34**	**274**	P	**P**	**20 19 55.4**	**-0.3**
WB0				lAmb	lAmb	20 19 57.0	
	comp=Z,12nm,1.4s						
FORT	**Forrest**	**45.74**	**257**	P	**P**	**20 20 06.5**	**-0.3**
MTN	**Manton Dam**	**50.39**	**280**	P	**P**	**20 20 42.8**	**-0.1**
KNRA	**Kununurra**	**50.98**	**276**	P	**P**	**20 20 47.7**	**+0.5**
KNRA				lAmb	lAmb	20 20 59.1	
	comp=Z,8.1nm,1.1s						
CASY	**Casey**	**53.67**	**208**	P	**P**	**20 21 07.1**	**+0.6**
CASY				lAmb	lAmb	20 21 09.3	
	comp=Z,6.2nm,0.8s						
QSPA	**South Pole Qui**	**57.98**	**180**	P	**P**	**20 21 38.3**	**+0.7**
QSPA				lAmb	lAmb	20 21 53.7	
	comp=Z,5.8nm,0.8s						
PETK	**Petropavlovsk-**	**87.52**	**346**	P	**P**	**20 24 34.2**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=85,slow=8.8,SNR=1.7						
PETK	**Petropavlovsk-**	**87.52**	**346**	P	**P**	**20 24 33.4**	**+0.9**
KURBB	**Kurchatov Arra**	**122.36**	**313**	PKP	**PKiKP**	**20 30 40.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=92,slow=1.9,SNR=2.6						
KBZ	**Khabaz**	**146.15**	**302**	PKPbc	**PKPab**	**20 31 26.4**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=140,slow=1.1,SNR=4.7						
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	**PKPbc**	**20 31 27.0**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=47,slow=2.3,SNR=12						
FINES	**FINESS Array B**	**146.81**	**339**		**PKPbc**	**20 31 26.8**	**+0.3**
NOA	**NORSAR Array B**	**150.48**	**351**	PKPbc	**PKiKP**	**20 31 36.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=14,slow=4.3,SNR=2.3						
AKASG	**Malin Array Be**	**152.74**	**321**	PKPbc	**PKiKP**	**20 31 41.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=49,slow=2.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**161.09**	**179**	PKPab	**PKPab**	**20 32 29.9**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=207,slow=6.1,SNR=2.7						

WEL 27 20:14:24.7, 39°.5±2°×17°.7E±°, h35km±5km, M2.7/32, ML3.0/31, MLv2.7/32, Error ellipse: s-maj=0.0km s-min=0.0km az=93.8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NMHZ	**Naumai**	**0.11**	**259**	P	Pn	20 14 31.3	-2.8
ARHZ	**Aropaoanui**	**0.19**	**167**	P	Pn	20 14 31.9	-0.8
RAHZ	**Arahi**	**0.20**	**35**	P	Pn	20 14 31.7	-1.0
WHHZ	**Waihua**	**0.23**	**90**	P	Pn	20 14 32.2	-0.3
MTHZ	**Maungataniwha**	**0.24**	**341**	P	Pn	20 14 31.9	-0.7
BKZ	**Black Stump Fm**	**0.36**	**256**	P	Pn	20 14 33.3	0.0
MCHZ	**McNeill Hill**	**0.41**	**207**	P	Pn	20 14 34.6	+0.6
SNGZ	**Shannon Statio**	**0.43**	**47**	P	Pn	20 14 34.5	+0.3
RTZ	**Ruatahuna**	**0.46**	**4**	P	Pn	20 14 34.7	-0.1
MRHZ	**Matea Rd**	**0.48**	**301**	P	Pn	20 14 35.0	0.0
KWHZ	**Kaweka Forest**	**0.53**	**229**	P	Pn	20 14 35.8	0.0
KNZ	**Kokohu**	**0.57**	**85**	P	Pn	20 14 36.0	-0.4
CKHZ	**Cape Kidnapper**	**0.59**	**170**	P	Pn	20 14 36.7	0.0
MUGZ	**Mururupara**	**0.61**	**347**	P	Pn	20 14 36.7	-0.3
RAGZ	**Rawiri**	**0.69**	**33**	P	Pn	20 14 38.1	+0.1
ALRZ	**Allen Road**	**0.69**	**318**	P	Pn	20 14 38.1	+0.1
KAHZ	**Kahuranaki**	**0.72**	**184**	P	Pn	20 14 38.5	+0.2
KRHZ	**Kereru**	**0.72**	**218**	P	Pn	20 14 38.3	0.0
PRRZ	**Plateau Road**	**0.72**	**323**	P	Pn	20 14 38.4	+0.1
RIGZ	**Rimuhau**	**0.74**	**60**	P	Pn	20 14 38.7	+0.1
PRGZ	**Paritu Road**	**0.75**	**78**	P	Pn	20 14 38.4	-0.3
BHHZ	**Black Hill Sta**	**0.80**	**239**	P	Pn	20 14 39.5	+0.1
RRRZ	**Republican Roa**	**0.81**	**335**	P	Pn	20 14 39.6	0.0
URZ	**Urewera**	**0.83**	**9**	P	Pn	20 14 39.5	-0.3
RITZ	**Rihia Road**	**0.85**	**276**	P	Pn	20 14 40.5	+0.4
HRRZ	**Handcock Road**	**0.86**	**323**	P	Pn	20 14 40.6	+0.3
TARZ	**Mount Tarawera**	**0.91**	**338**	P	Pn	20 14 41.1	+0.1
RATZ	**Rangitukua**	**0.94**	**283**	P	Pn	20 14 41.

PMG	**Port Moresby**	**5.55**	**226**	P		**Pn**	**20 36 06.6**	**-0.4**
	1.4nm,0.3s,baz=39,slow=13,SNR=2.3							
PMG				S		**Sn**	**20 37 10.0**	**+0.5**
	1.2nm,0.3s,baz=63,slow=16,SNR=1.9							
WRA	**Warramunga Arr**	**21.76**	**227**	P		**P**	**20 39 33.3**	**-0.2**
	1.1nm,0.8s,baz=54,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**24.54**	**221**	P		**P**	**20 40 00.3**	**-0.4**
	1.6nm,0.8s,baz=53,slow=9.6,SNR=12							
ILAR	**Eielson Array**	**83.44**	**22**	P		**P**	**20 47 06.9**	**-0.2**
	0.2nm,0.6s,baz=236,slow=3.7,SNR=1.4							
LPAZ	**La Paz**	**135.47**	**120**	PKP		**PKiKP**	**20 54 03.4**	**+0.4**
	1.3nm,0.3s,baz=267,slow=2.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc		**PKiKP**	**20 54 30.6**	**+0.6**
	0.6nm,0.7s,baz=74,slow=2.8,SNR=2.5							

RSNC ***27*** *20:36:37.3±0.9, 8.25N×73.48W, h106km±4km, ML3.6, Mw4.0, Fault plane solution: NP1:*ϕ_S*112.00000°, δ77.00000°, λ-65.00000°.*

IDC ***27*** *20:36:40.1±7.1, 8.15N×73.80W, h147km±47km, mb3.0/2, mb1 3.3/3, mb1mx3.0/28, mbtmp3.5/3, Error ellipse: s-maj=113.1km s-min=28.8km az=64.0*

ISC 27 20:36:36.2±0.9, 8°27N±0.03×73°48W±0.03, h114km±6km, n39, σ1$ 37/65, 7C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.16**	**101**	⇓*i*P	**Pn**	**20 36 52.0**	**-0.3**
OCAC				*e*S	**Sn**	**20 37 03.7**	**-0.6**
OCAC				*i*		20 37 05.0	
	comp=Z,4μm,0.3s						
SMLC	**San Martn de**	**0.79**	**312**	⇑*i*P	**Pn**	**20 36 55.3**	**-0.4**
SMLC				*e*S	**Sn**	**20 37 09.7**	**-0.8**
BRRC	**Barranca, Sant**	**1.18**	**191**	⇓*i*P	**Pn**	**20 36 59.5**	**-0.1**
BRRC				*e*S	**Sn**	**20 37 16.7**	**-0.7**
BRRC				*i*		20 37 21.3	
	comp=Z,637nm,0.3s						
LL1C	**La Loma 1 Cana**	**1.27**	**356**	⇑*i*P	**Pn**	**20 37 02.4**	**+1.8**
LL1C				*e*S	**Sn**	**20 37 22.1**	**+3.0**
LL2C	**La Loma 2 Cana**	**1.28**	**2**	⇑*e*P	**Pn**	**20 37 01.3**	**+0.6**
LL2C				*e*S	**Sn**	**20 37 21.0**	**+1.7**
LL2C				*i*		20 37 22.6	
	comp=Z,2μm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.57**	**241**	⇓*e*P	**Pn**	**20 37 03.9**	**-0.3**
ZARC				*e*S	**Sn**	**20 37 25.2**	**-0.2**
ZARC				*i*		20 37 27.9	
	comp=Z,348nm,0.3s						
BARC	**Barichara**	**1.69**	**170**	⇑*e*P	**Pn**	**20 37 05.8**	**-0.1**
BARC				*e*S	**Sn**	**20 37 27.5**	**-0.9**
BARC				*i*		20 37 30.5	
	comp=Z,689nm,0.3s						
ARGC	**Ariguani, Magd**	**1.75**	**334**	⇑*e*P	**Pn**	**20 37 07.5**	**+1.1**
ARGC				*i*		20 37 09.5	
	comp=Z,537nm,0.2s						
ARGC				*e*S	**Sn**	**20 37 31.5**	**+2.2**
PTBC	**PUERTO BERRIO,**	**1.97**	**210**	*e*S	**Sn**	**20 37 33.7**	**-0.5**
UREC	**San Jos de Ur**	**2.10**	**256**	*e*P	**Pn**	**20 37 09.8**	**-0.9**
UREC				*e*S	**Sn**	**20 37 35.0**	**-2.1**
UREC				*i*		20 37 42.7	
	comp=Z,536nm,0.2s						
MOTC	**Monteria, Cord**	**2.22**	**283**	⇓*e*P	**Pn**	**20 37 11.5**	**-0.7**
MOTC				*e*S	**Sn**	**20 37 38.6**	**-1.2**
MOTC				*i*		20 37 39.7	
	comp=Z,102nm,0.2s						
SJCC	**San Jacinto, C**	**2.33**	**314**	⇑*e*P	**Pn**	**20 37 13.4**	**-0.2**
SJCC				*e*S	**Sn**	**20 37 41.5**	**-0.9**
SJCC				*i*		20 37 44.6	
	comp=Z,308nm,0.6s						
RUSC	**La Rusia**	**2.39**	**171**	*e*P	**Pn**	**20 37 15.0**	**+0.1**
RUSC				*e*S	**Sn**	**20 37 44.5**	**+0.1**
RUSC				*i*		20 37 50.4	
	comp=Z,114nm,0.3s						
SOCV	**Socops**	**2.59**	**89**	⇓*i*P	**Pn**	**20 37 17.8**	**+0.8**
SOCV				*e*S	**Sn**	**20 37 47.9**	**-0.5**
HELC	**Santa Helena**	**2.90**	**225**	*e*P	**Pn**	**20 37 21.7**	**+0.3**
HELC				*e*S	**Sn**	**20 37 55.6**	**-0.4**
HELC				*i*		20 38 07.6	
	comp=Z,102nm,0.4s						
SMRC	**Santa Marta, M**	**2.97**	**346**	*e*P	**Pn**	**20 37 21.8**	**-0.1**
SMRC				*e*S	**Sn**	**20 37 55.2**	**-2.0**
SMRC				*i*		20 38 00.5	
	comp=Z,94nm,0.5s						
DBBC	**Dabeiba**	**2.98**	**246**	*e*P	**Pn**	**20 37 21.3**	**-0.8**
DBBC				*i*		20 38 10.9	
	comp=Z,303nm,0.5s						
NORC	**Norcasia**	**3.02**	**207**	⇓*e*P	**Pn**	**20 37 23.0**	**+0.3**
NORC				*i*		20 38 03.7	
	comp=Z,118nm,0.2s						
CBOC	**Ciudad Bolivar**	**3.47**	**227**	*e*P	**Pn**	**20 37 29.2**	**+0.5**
CBOC				*i*		20 38 26.6	
	comp=Z,50nm,0.6s						
ROSC	**El Rosal**	**3.51**	**194**	P	**Pn**	**20 37 32.4**	**+2.9**
	comp=Z,15nm,0.3s,baz=317,slow=19,SNR=7.0						
ROSC				S	**Sn**	**20 38 12.5**	**+1.9**
	comp=Z,19nm,0.3s,baz=49,slow=20,SNR=3.8						
ROSC	**El Rosal**	**3.51**	**194**	*e*P	**Pn**	**20 37 30.7**	**+1.3**
ROSC				*e*S	**Sn**	**20 38 10.5**	**-0.1**
ROSC				*i*		20 38 21.6	
	comp=Z,86nm,0.3s						
GUY2C	**Guyana, Caldas**	**3.56**	**212**	*e*P	**Pn**	**20 37 30.9**	**+0.7**
GUY2C				*e*S	**Sn**	**20 38 12.6**	**+0.7**
GUY2C				*i*		20 38 23.2	
	comp=Z,99nm,0.5s						
CHIC	**Chingaza**	**3.62**	**184**	*e*P	**Pn**	**20 37 32.3**	**+1.3**
CHIC				*e*S	**Sn**	**20 38 13.3**	**0.0**
CHIC				*i*		20 38 30.4	
	comp=Z,51nm,0.4s						
URIC	**Uribia, Colomb**	**3.71**	**23**	*e*P	**Pn**	**20 37 31.5**	**-0.2**
URIC				*e*S	**Sn**	**20 38 10.5**	**-4.3**
URIC				*i*		20 38 19.2	
	comp=Z,71nm,0.3s						
DABV	**Dabajuro**	**3.85**	**47**	*e*P	**Pn**	**20 37 33.8**	**+0.2**
DABV				*e*S	**Sn**	**20 38 17.2**	**-0.8**
TOLC	**Tolima**	**4.09**	**207**	*e*P	**Pn**	**20 37 39.1**	**+1.9**
TOLC				*e*S	**Sn**	**20 38 24.2**	**-0.3**
TOLC				*i*		20 38 39.2	
	comp=Z,68nm,0.5s						
VILC	**Villavicencio,**	**4.14**	**183**	*e*P	**Pn**	**20 37 37.3**	**-0.3**
VILC				*e*S	**Sn**	**20 38 25.0**	**-0.2**
VILC				*i*		20 38 36.8	
	comp=Z,129nm,0.3s						
ELOV	**Elorza**	**4.15**	**107**	⇓*i*P	**Pn**	**20 37 37.4**	**-0.3**
ELOV				*e*S	Sn	20 38 17.9	-7.5
PTGC	**Puerto Gaitan,**	**4.26**	**162**	*e*P	**Pn**	**20 37 38.1**	**-1.1**
PTGC				*e*S	**Sn**	**20 38 24.0**	**-4.0**
PTGC				*i*		20 38 31.6	
	comp=Z,61nm,0.6s						
PLMC	**San Jos del P**	**4.35**	**220**	⇑*e*P	**Pn**	**20 37 40.9**	**+0.5**
PLMC				*i*		20 38 41.4	
	comp=Z,31nm,0.4s						
PTAC	**Punta Ardita,**	**4.43**	**256**	*e*P	**Pn**	**20 37 41.2**	**-0.3**
PTAC				*i*		20 37 42.3	
	comp=Z,64nm,0.2s						
ORTC	**Ortega, Tolima**	**4.67**	**202**	*e*P	**Pn**	**20 37 45.3**	**+0.5**
ORTC				*e*S	**Sn**	**20 38 38.9**	**+0.8**
ORTC				*i*		20 38 48.2	
	comp=Z,50nm,0.5s						
PRAC	**Prado**	**4.74**	**197**	*e*P	**Pn**	**20 37 46.2**	**+0.6**
PRAC				*e*S	**Sn**	**20 38 39.9**	**+0.3**
PRAC				*i*		20 38 54.6	
	comp=Z,54nm,0.3s						
YOTC	**Yotoco, Valle**	**5.12**	**214**	*e*P	**Pn**	**20 37 51.8**	**+0.9**
MACC	**Macarena, Meta**	**6.09**	**183**	*e*P	**Pn**	**20 38 02.4**	**-1.5**
MACC				*i*		20 39 24.0	
	comp=Z,30nm,0.4s						
LPAZ	**La Paz**	**24.97**	**168**	P	**P**	**20 41 50.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=333,slow=6.8,SNR=2.6						
TXAR	**Lajitas Array**	**35.25**	**310**	P	**P**	**20 43 19.0**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=128,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**149.64**	**237**	PKPbc	**PKPdf**	**20 56 12.1**	**+3.5**
	comp=Z,0.4nm,0.5s,baz=112,slow=3.1,SNR=5.4						
WRA	**Warramunga Arr**	**150.69**	**244**	PKPbc	**PKPbc**	**20 56 14.9**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=107,slow=2.8,SNR=21						

JMA ***27*** *20:44:40.9, 30.10N×130.24E, h68km±1km, M3.8*
JMA Felt I J1.
NIED ***27*** *20:44:40.9, 30.10N×130.24E, h68km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=3.24; Mθθ=6.97; Mφφ=-3.73; Mrθ=0.55; Mθφ=-4.28; Mφr=2.94; Fault plane solution: M0=7.93000×10^14 NP1:*
φs=148.00000°, δ67.00000°, λ-29.00000°. NP2:
φs=250.00000°, δ64.00000°, λ-155.00000°.

NEIC ***27*** *20:44:41.8±2.1, 30.10N±0.06×130.3E±0.1, h74km±7km, mb4.1/8 Error ellipse: s-maj=13.7km s-min=8.9km az=103.0*

IDC ***27*** *20:44:41.9±1.1, 30.11N×130.24E, h94km±10km, mb3.2/11, mb1 3.6/18, mb1mx3.4/38, mbtmp3.8/18, Error ellipse: s-maj=19.0km s-min=8.4km az=104.0*

ISC 27 20:44:40.6±0.7, 30.11N±0.04×130.27E±0.05, h73km±6km, n64, σ1$25/79, mb3.6/14, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.25**	**59**	P	**Pn**	**20 44 51.5**	**-0.2**
JYAK				*e*S	**Sn**	**20 44 59.3**	**-0.6**
JKC	**Kuchinoerabu**	**0.36**	**350**	P	**Pn**	**20 44 52.3**	**-0.2**
JKC				*e*S	**Sn**	**20 45 01.0**	**-0.1**
JNN	**Nakanoshima**	**0.43**	**232**	P	**Pn**	**20 44 52.6**	**-0.5**
JNN				*e*S	**Sn**	**20 45 01.7**	**-0.5**
JMTN	**Minamitane**	**0.62**	**62**	P	**Pn**	**20 44 55.1**	**+0.3**
JMTN				*e*S	**Sn**	**20 45 06.0**	**+0.7**
JTN	**Tanegashima 3**	**0.82**	**48**	P	**Pn**	**20 44 57.4**	**+0.3**
JTN				*e*S	**Sn**	**20 45 09.9**	**+0.6**
JTSR	**Tashiro 2**	**1.20**	**28**	P	**Pn**	**20 45 02.2**	**+0.5**
JTSR				S	**Sn**	**20 45 17.6**	**+0.1**
JTAJ	**Takarajima**	**1.33**	**224**	P	**Pn**	**20 45 03.5**	**+0.1**
JTAJ				*e*S	**Sn**	**20 45 20.4**	**-0.1**
JSU	**Suzuyama**	**1.40**	**7**	P	**Pn**	**20 45 05.0**	**+0.6**
JSU				*e*S	**Sn**	**20 45 22.8**	**+0.5**
JSU	**Suzuyama**	**1.40**	**7**	Pn	**Pn**	**20 45 05.0**	**+0.6**
JSU				Sn	**Sn**	**20 45 23.2**	**+0.9**
JSJ	**Shimokoshiki**	**1.63**	**343**	P	**Pn**	**20 45 07.5**	**+0.1**
JSJ				*e*S	**Sn**	**20 45 27.2**	**-0.5**
JNAR	**Kushima--Naru**	**1.66**	**31**	P	**Pn**	**20 45 08.8**	**+1.1**
JNAR				*e*S	**Sn**	**20 45 30.3**	**+2.1**
JAM	**Amami Oshima**	**1.79**	**199**	P	**Pn**	**20 45 09.3**	**-0.2**
JAM				*e*S	**Sn**	**20 45 31.3**	**-0.1**
JZK	**Kikaishima**	**1.81**	**188**	P	**Pn**	**20 45 11.9**	**+2.2**
JZK				*e*S	**Sn**	**20 45 34.6**	**+2.8**
JAMN	**Amaminishikomi**	**2.09**	**207**	P	**Pn**	**20 45 13.4**	**-0.1**
JAMN				*e*S	**Sn**	**20 45 38.9**	**+0.3**
JTK	**Tokunoshima**	**2.59**	**207**	P	**Pn**	**20 45 20.8**	**+0.6**
JTK				*e*S	**Sn**	**20 45 51.9**	**+1.2**
JNU	**Nakatsue**	**3.05**	**10**	P	**Pn**	**20 45 28.4**	**+1.9**
	79nm,0.3s,baz=162,slow=6.4,SNR=319						
JNU				S	**Sn**	**20 46 05.2**	**+3.3**
	6.7nm,0.3s,baz=128,slow=23,SNR=7.1						
JNU	**Nakatsue**	**3.05**	**10**		**Pn**	**20 45 28.6**	**+2.1**
JOW	**Kunigami**	**3.71**	**209**	P	**Pn**	**20 45 35.8**	**+0.3**
	39nm,0.3s,baz=64,slow=7.3,SNR=19						
JOW				S	**Sn**	**20 46 20.0**	**+2.0**
	38nm,0.3s,baz=337,slow=20,SNR=3.8						
JOW	**Kunigami**	**3.71**	**209**		**Pn**	**20 45 36.6**	**+1.1**
JTU	**Tsushima**	**4.46**	**351**	Pn	**Pn**	**20 45 47.1**	**+1.3**
JMN	**Monobe**	**4.74**	**39**		**Pn**	**20 45 50.3**	**+0.8**
JHS	**Saijyo**	**5.44**	**26**		**Pn**	**20 46 00.1**	**+1.0**
JWT	**Wachi**	**6.73**	**39**		**Pn**	**20 46 17.7**	**+0.9**
KSAR	**Wonju Array Be**	**7.58**	**345**	Pn	**Pn**	**20 46 30.2**	**+1.9**
KSRS	**Korea Array**	**7.58**	**346**	P	**Pn**	**20 46 28.8**	**+0.4**
	0.9nm,0.3s,baz=160,slow=14,SNR=14						
KS19	**Wonju Array Si**	**7.64**	**345**	Pn	**Pn**	**20 46 31.1**	**+2.0**
INU	**Inuyama**	**7.72**	**46**		**Pn**	**20 46 31.9**	**+1.6**
JGF	**Kuroka**	**8.10**	**46**		**Pn**	**20 46 36.9**	**+1.4**
JHJ	**Hachijo jima 2**	**8.65**	**67**	P	**Pn**	**20 46 44.5**	**+1.5**
	14nm,0.3s,baz=299,slow=10,SNR=1.4						
JHJ2	**Mitsune**	**8.68**	**67**	Pn	**Pn**	**20 46 44.2**	**+0.9**
MAJO	**Matsushiro**	**9.23**	**44**	Pn	**Pn**	**20 46 52.5**	**+1.6**
MAT	**Matsushiro**	**9.23**	**44**	P	**Pn**	**20 46 52.4**	**+1.5**
MJAR	**Matsushiro Arr**	**9.23**	**44**	P	**Pn**	**20 46 52.2**	**+1.3**
	0.5nm,0.3s,baz=241,slow=14,SNR=32						
MJAR	**Matsushiro Arr**	**9.23**	**44**		**Pn**	**20 46 51.9**	**+0.9**
MJB9	**Matsu-Tunnel**	**9.23**	**44**	Pn	**Pn**	**20 46 52.8**	**+1.8**
YNHB	**Yeheng**	**9.58**	**238**	Pn	**Pn**	**20 46 58.1**	**+2.3**
SSLB	**Suanglang**	**10.42**	**235**	Pn	**Pn**	**20 47 07.5**	**+0.3**
ASAJ	**Asahikawa**	**17.06**	**32**	P	**Pn**	**20 48 33.6**	**-0.7**
	0.7nm,0.3s,baz=240,slow=14,SNR=5.5						
JKA	**Kamikawa-asahi**	**17.07**	**32**	P	**Pn**	**20 48 34.4**	**+0.1**
ENH	**Enshi**	**17.97**	**276**	P	**Pn**	**20 48 47.2**	**+1.7**
ENH				IAmb	IAmb	20 48 48.9	
	comp=Z,7.5nm,0.6s						
XAN	**Xi'an**	**18.50**	**288**	P	**Pn**	**20 48 53.7**	**+1.7**
KLR	**Kul'dur**	**19.13**	**3**	P	**P**	**20 48 56.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=238,slow=16,SNR=2.8						
SONM	**Songino Array**	**25.48**	**321**	P	**P**	**20 50 01.5**	**-0.5**
	comp=Z,0.0nm,0.5s,baz=137,slow=9.9,SNR=17						
SONM	**Songino Array**	**25.48**	**321**	P	**P**	**20 50 03.1**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**34.66**	**99**	T	T	21 27 43.5	
	baz=296,slow=75,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**34.66**	**99**	T	T	21 27 48.2	
	baz=296,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**34.67**	**99**	T	T	21 27 45.2	
	baz=296,slow=75,SNR=7.3						
MKAR	**Makanchi Array**	**40.43**	**308**	P	**P**	**20 52 11.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=90,slow=11,SNR=1.8						
KURBB	**Songino Array**	**43.40**	**313**	P	**P**	**20 52 35.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=101,slow=9.1,SNR=3.2						
KURBB				PcP	**PcP**	**20 54 21.5**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=112,slow=3.0,SNR=2.1						
BRVK	**Borovoye**	**48.73**	**316**	P	**P**	**20 53 18.8**	**+1.1**
BRVK				IAmb	IAmb	20 53 19.9	
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**49.75**	**175**	P	**P**	**20 53 25.1**	**-0.7**
WRA	**Warramunga Arr**	**49.92**	**175**	P	**P**	**20 53 26.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=356,slow=8.2,SNR=4.7						
ASAR	**Alice Springs**	**53.58**	**176**	P	**P**	**20 53 53.3**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=4.5,slow=13,SNR=1.9						
ILAR	**Eielson Array**	**60.18**	**29**	P	**P**	**20 54 39.8**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=277,slow=7.1,SNR=3.1						
BMAR	**Burnt Mountain**	**60.74**	**26**	P	**P**	**20 54 45.6**	**+1.3**
SCRK	**Sand Creek**	**61.56**	**30**	P	**P**	**20 54 50.4**	**+0.3**
SCRK				IAmb	IAmb	20 54 51.7	
	comp=Z,1.4nm,0.8s						
DOT	**Dot Lake**	**61.58**	**30**	P	**P**	**20 54 50.2**	**+0.1**
DOT				IAmb	IAmb	20 55 15.3	
	comp=Z,1.7nm,1.0s						
STKA	**Stephens Creek**	**62.58**	**169**	P	**P**	**20 54 56.8**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=335,slow=4.8,SNR=5.4						
STKA	**Stephens Creek**	**62.58**	**169**	P	**P**	**20 54 57.0**	**+0.1**
FINES	**FINESS Array B**	**70.39**	**330**	P	**P**	**20 55 44.2**	**-2.3**
	comp=Z,1.6nm,1.0s,baz=78,slow=7.3,SNR=2.0						
FINES	**FINESS Array B**	**70.39**	**330**	P	**P**	**20 55 46.8**	**+0.4**
NOA	**NORSAR Array B**	**76.63**	**334**	P	**P**	**20 56 21.1**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=50,slow=5.6,SNR=2.4						
NVAR	**Mina Array Bea**	**86.54**	**47**	P	**P**	**20 57 15.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=237,slow=4.2,SNR=1.7						
PDAR	**Pinedale Array**	**89.03**	**40**	P	**P**	**20 57 26.1**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=290,slow=2.7,SNR=2.5						

MEX 27 20:47:18.0±0.8, 18.94N×104.43W, h5km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.48**	**62**	*e*P	Pg	20 47 26.8	-0.4
R15V				*e*S	Sg	20 47 33.5	0.0
COIG	**Colima**	**0.74**	**71**	*i* P	Pg	20 47 31.1	-1.0
COIG				*i* S	Sg	20 47 41.8	0.0
CJM	**Chamela**	**0.80**	**314**	*e*P	Pg	20 47 31.9	-1.5
CJM				*e*S	Sg	20 47 42.5	-1.4
EZ5V		**0.94**	**56**	*i* P	Pg	20 47 35.4	-0.8
EZ5V				*e*S	Sg	20 47 49.7	-0.3
MMIG	**Aquila**	**1.22**	**122**	*e*S	Sg	20 47 54.5	-2.7

IDC ***27*** *21:00:50.8±2.0, 6.95S×102.42E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/53, mbtmp4.0/9, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/38, Error ellipse: s-maj=54.8km s-min=18.7km az=43.0*

NEIC ***27*** *21:00:54.3±1.6, 6.7S±0.1×102.63E±0.04, h10km±1km, mb4.3/10, Error ellipse: s-maj=19.5km s-min=4.5km az=198.0*

DJA ***27*** *21:00:56.0±1.3, 7.5S±6°×10°3E±°, h22km±16km, M4.5/12, mb4.9/5, mB5.0/1, MLv4.3/12, Mw(mB)4.4/1*

ISC 27 21:00:56.1±0.8, 6.72S±0.06×102.60E±0.08, h24km, n50, σ1$43/45, mb4.1/13, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**1.40**	**347**	P	**Pn**	**21 01 19.3**	**-0.9**
KASI	**Kota Agung**	**2.23**	**58**	P	**Pn**	**21 01 31.1**	**-0.5**
KASI				S	**Sn**	**21 01 57.0**	**-1.4**
LWLI	**Liwa**	**2.23**	**41**	P	**Pn**	**21 01 31.8**	**+0.1**
MDSI	**Maura Dua**	**2.72**	**35**	P	**Pn**	**21 01 38.8**	**+0.5**
BLSI	**Bandar Lampung**	**2.95**	**63**	P	**Pn**	**21 01 41.9**	**+0.3**
LHSI	**Lahat**	**3.02**	**18**	P	**Pn**	**21 01 42.4**	**-0.1**
KSI	**Kapahiang**	**3.05**	**360**	P	**Pn**	**21 01 42.7**	**-0.2**
KSI				S	**Sn**	**21 02 17.9**	**-0.8**
CGJI	**Cibinong**	**3.07**	**88**	P	**Pn**	**21 01 41.9**	**-1.3**
DBJI	**Dramaga**	**4.12**	**88**	P	**Pn**	**21 01 57.6**	**-0.1**
CBJI	**Citeko**	**4.23**	**86**	P	**Pn**	**21 01 59.7**	**+0.5**
CNJI	**Cibinong**	**4.53**	**98**	P	**Pn**	**21 02 01.0**	**-2.3**
XMIS	**Christmas Isla**	**4.80**	**141**	Pn	**Pn**	**21 02 06.3**	**-0.7**
LEM	**Lembang**	**4.98**	**92**	Pn	**Pn**	**21 02 10.8**	**+1.1**
	19nm,0.3s,baz=297,slow=14,SNR=11						
LEM				Sn	**Sn**	**21 03 10.8**	**+4.2**
	5.9nm,0.3s,baz=192,slow=23,SNR=2.1						
CISI	**Cisompet, Garu**	**5.24**	**99**	Pn	**Pn**	**21 02 11.1**	**-2.0**
CISI	**Cisompet, Garu**	**5.24**	**99**	P	**Pn**	**21 02 10.9**	**-2.2**
	0.3nm2μm50nm,0.6s						
KPJI	**Karang Pucung**	**6.31**	**96**	P	**Pn**	**21 02 28.7**	**+0.9**
UGM	**Wanagama**	**7.95**	**99**	Pn	**Pn**	**21 02 48.4**	**-1.9**
UGM	**Wanagama**	**7.95**	**99**	P	**Pn**	**21 02 48.7**	**-1.6**
	1.4nm223nm,1.7s						
PCJI	**Pacitan**	**8.63**	**100**	P	**Pn**	**21 02 57.8**	**-1.8**
	64nm,0.4s						
PWJI	**Pagerwojo**	**9.22**	**99**	P	**Pn**	**21 03 06.1**	**-1.6**
	54nm,2.0s						
BATI	**Baumata**	**21.11**	**101**	P	**P**	**21 05 38.9**	**-0.5**
	25nm,0.6s,baz=290,slow=10,SNR=4.0						
SOEI	**Soe**	**21.65**	**99**	P	**P**	**21 05 43.9**	**-1.3**
SOEI	**Soe**	**21.65**	**99**	P	**P**	**21 05 48.3**	**+3.1**
FITZ	**Fitzroy Crossi**	**25.14**	**119**	P	**P**	**21 06 19.4**	**-0.3**
FITZ				IAmb	IAmb	21 06 29.1	
	comp=Z,6.4nm,1.3s						
CMAR	**Chiang Mai Arr**	**25.28**	**352**	P	**P**	**21 06 21.4**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=179,slow=8.2,SNR=14						
CMAR	**Chiang Mai Arr**	**25.28**	**352**	P	**P**	**21 06 20.5**	**-0.3**
H08S2	**Diego Garcia H**	**29.88**	**266**	T	T	21 39 00.8	
	baz=90						
H08S3	**Diego Garcia H**	**29.89**	**266**	T	T	21 39 32.8	
	baz=90						
H08S1	**Diego Garcia H**	**29.90**	**266**	T	T	21 39 32.0	
	baz=90						
H01W3	**Cape Leeuwin H**	**29.98**	**161**	T	T	21 38 48.1	
	baz=339,slow=76,SNR=5.8						
H01W2	**Cape Leeuwin H**	**29.99**	**161**	T	T	21 39 01.6	
	baz=339,slow=76,SNR=8.6						
H01W1	**Cape Leeuwin H**	**29.99**	**161**	T	T	21 38 52.9	
	baz=339,slow=76,SNR=7.8						
WB0	**Warramunga Arr**	**33.47**	**116**	P	**P**	**21 07 32.8**	**-1.0**
WB0				IAmb	IAmb	21 07 34.4	
	comp=Z,9.0nm,1.4s						
WRA	**Warramunga Arr**	**33.48**	**116**	P	**P**	**21 07 32.0**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=287,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**33.48**	**116**	P	**P**	**21 07 32.3**	**-1.6**
ASAR	**Alice Springs**	**34.46**	**123**	P	**P**	**21 07 41.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=291,slow=7.7,SNR=3.6						
AS31	**Alice Springs**	**34.46**	**123**	P	**P**	**21 07 42.9**	**+0.6**
KSRS	**Korea Array**	**49.90**	**26**	P	**P**	**21 09 47.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=224,slow=8.2,SNR=7.0						
SONM	**Songino Array**	**54.42**	**3**	P	**P**	**21 10 21.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=177,slow=9.1,SNR=5.0						
SONM				LR	LR	21 35 32.6	
	comp=Z,97nm,19.0s,baz=197,slow=38						
SONM	**Songino Array**	**54.42**	**3**	IAmb	IAmb	21 10 23.6	
	comp=Z,2.8nm,1.4s						
MK31	**Makanchi Array**	**56.25**	**343**	P	**P**	**21 10 33.9**	**-0.7**
MK31				IAmb	IAmb	21 10 44.0	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**56.25**	**343**	P	**P**	**21 10 34.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=139,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**56.25**	**343**	P	**P**	**21 10 33.5**	**-1.0**
ZAA0	**Zalesovo Array**	**62.27**	**348**	P	**P**	**21 11 15.9

0.9nm,0.5s,baz=104,slow=6.4,SNR=5.3
ILAR Eielson Array 82.43 22 P **P 21 21 47.6 -0.6**
0.3nm,0.5s,baz=239,slow=5.0,SNR=4.3
MAW Mawson 85.31 203 P **P 21 22 02.1 -0.8**
2.7nm,1.0s,baz=180,slow=4.0,SNR=3.1
NOA NORSAR Array B 117.45 340 PKP **PKPdf 21 28 10.5 -1.2**
0.2nm,0.6s,baz=53,slow=2.2,SNR=3.5
GERES GERESS Array B 124.62 329 PKP **PKiKP 21 28 26.0 -0.2**
0.9nm,0.8s,baz=64,slow=3.1,SNR=4.7
ESDC Sonseca Array 139.99 332 PKP **PKiKP 21 28 56.6 -0.9**
0.3nm,0.7s,baz=340,slow=5.6,SNR=2.6
BDFB Brasilia 150.49 135 PKPbc **PKPbc 21 29 18.6 -0.4**
2.0nm,0.6s,baz=239,slow=5.9,SNR=3.7
TORD Torodi Ar. Bea 150.80 288 PKPbc **PKPbc 21 29 18.9 -0.7**
5.0nm,0.7s,baz=62,slow=2.2,SNR=24

*IGIL **27** 21:13:57.6, 37.˚17N×13.˚23W, h0km, ML2.3*
*INMG **27** 21:13:58.7±1.1, 36.˚92N×13.˚59W, h10km, ML2.4, Error ellipse: s-maj=5.5km s-min=4.6km az=83.0*
*MDD **27** 21:13:59.7±1.8, 37.˚34N×12.˚86W, h0km, mb4.0/4, Error ellipse: s-maj=13.1km s-min=9.2km az=44.0, PRXIMO*
*CNRM **27** 21:14:02.1, 36.˚50N×12.˚76W, h30km, Hypocentre not reviewed by the ISC*

ISC 27 21:13:54.9±3.4, 37.˚15N±0.˚10×13.˚3W±0.˚2, h10km, n61, σ1§88/114, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.57**	**89**	P		**Pn**	**21 14 51.8**	**+1.5**
	2.7nm,0.2s,SNR=7.9							
PFVI				S		**Sn**	**21 15 30.8**	**-1.6**
	15nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.57**	**89**	*e*Pn		**Pn**	**21 14 51.9**	**+1.6**
PFVI				*e*Sn		**Sn**	**21 15 31.1**	**-1.4**
PFVI				A		A	21 15 34.5	
	8.3nm,0.1s							
PFVI	**Vila Bisbo**	**3.57**	**89**	P			21 14 49.4	
PMAFR	**Mafra**	**3.64**	**59**	P		**Pn**	**21 14 53.3**	**+2.0**
	4.0nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**21 15 33.7**	**-0.6**
	8.1nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.64**	**59**	*e*Pn		**Pn**	**21 14 53.8**	**+2.5**
PMAFR				*e*Sn		**Sn**	**21 15 34.9**	**+0.6**
PMAFR				A		A	21 15 38.7	
	12nm,0.2s							
PTEO	**Sao Teotonio**	**3.66**	**82**	P		**Pn**	**21 14 53.3**	**+1.7**
PTEO				S		**Sn**	**21 15 33.6**	**-1.2**
	3.9nm,0.4s							
PTEO	**Sao Teotonio**	**3.66**	**82**	*e*Pn		**Pn**	**21 14 53.3**	**+1.7**
PTEO				*e*Sn		**Sn**	**21 15 33.6**	**-1.2**
PTEO				A		A	21 15 40.3	
	7.8nm,0.4s							
MORF	**Marmelete**	**3.71**	**86**	*e*P		**Pn**	**21 14 53.5**	**+1.2**
MORF				*e*S		**Sn**	**21 15 34.3**	**-1.7**
MORF				IAML			21 15 35.4	
	comp=N,12nm,0.1s							
MORF	**Marmelete**	**3.71**	**86**	P		**Pn**	**21 14 53.5**	**+1.2**
MORF				S		**Sn**	**21 15 34.3**	**-1.7**
MORF	**Marmelete**	**3.71**	**86**	*e*Pn		**Pn**	**21 14 53.6**	**+1.3**
MORF				*e*Sn		**Sn**	**21 15 34.5**	**-1.5**
MORF				A		A	21 15 38.5	
	comp=N,9.8nm,0.1s							
PNCL	**Nicolau / Gran**	**3.90**	**74**	P		**Pn**	**21 14 56.4**	**+1.5**
PNCL				S		**Sn**	**21 15 40.2**	**-0.5**
	comp=N,5.1nm,0.3s							
PNCL	**Nicolau / Gran**	**3.90**	**74**	*e*Pn		**Pn**	**21 14 56.4**	**+1.5**
PNCL				*e*Sn		**Sn**	**21 15 40.2**	**-0.5**
PNCL				A		A	21 15 45.9	
	comp=N,5.1nm,0.3s							
MESJ	**Messejana**	**4.09**	**79**	*e*P		**Pn**	**21 14 58.7**	**+1.2**
MESJ				*e*S		**Sn**	**21 15 43.5**	**-1.9**
MESJ				IAML			21 15 46.6	
	comp=N,5.0nm,0.1s							
MESJ	**Messejana**	**4.09**	**79**	P		**Pn**	**21 14 58.7**	**+1.2**
MESJ				S		**Sn**	**21 15 43.5**	**-1.9**
MESJ	**Messejana**	**4.09**	**79**	*e*Pn		**Pn**	**21 14 59.2**	**+1.7**
MESJ				*e*Sn		**Sn**	**21 15 44.7**	**-0.7**
MESJ				A		A	21 15 49.8	
	comp=N,4.9nm,0.5s							
PCVE	**Castro Verde**	**4.21**	**82**	P		**Pn**	**21 15 00.7**	**+1.6**
PCVE				S		**Sn**	**21 15 46.8**	**-1.5**
	comp=N,3.6nm,0.3s							
PCVE	**Castro Verde**	**4.21**	**82**	*e*Pn		**Pn**	**21 15 00.7**	**+1.6**
PCVE				*e*Sn		**Sn**	**21 15 46.8**	**-1.5**
PCVE				A		A	21 15 53.1	
	comp=N,3.6nm,0.3s							
PSBE	**So Bento**	**4.25**	**55**	*e*Pn		**Pn**	**21 15 02.0**	**+2.3**
PSBE				*e*Sn		**Sn**	**21 15 51.2**	**+1.8**
PSBE				A		A	21 16 05.4	
	comp=N,6.7nm,0.7s							
PBDV	**Barranco-do-Ve**	**4.28**	**87**	P		**Pn**	**21 15 01.6**	**+1.5**
PBDV				S		**Sn**	**21 15 48.8**	**-1.3**
	comp=N,2.6nm,0.4s							
PBDV	**Barranco-do-Ve**	**4.28**	**87**	*e*Pn		**Pn**	**21 15 01.6**	**+1.5**
PBDV				*e*Sn		**Sn**	**21 15 48.8**	**-1.3**
PBDV				A		A	21 15 56.3	
	comp=N,2.6nm,0.4s							
PBEJ	**Beja**	**4.39**	**77**	S		**Sn**	**21 15 53.0**	**+0.1**
	comp=N,2.3nm,0.2s							
PBEJ	**Beja**	**4.39**	**77**	*e*Sn		**Sn**	**21 15 53.0**	**+0.1**
PBEJ				A		A	21 15 57.0	
	comp=N,4.6nm,0.2s							
EVO	**Evora**	**4.40**	**70**	P		**Pn**	**21 15 04.6**	**+2.9**
EVO				S		**Sn**	**21 15 52.0**	**-1.0**
	comp=N,6.3nm,0.3s							
EVO	**Evora**	**4.40**	**70**	*e*Pn		**Pn**	**21 15 04.6**	**+2.9**
EVO				*e*Sn		**Sn**	**21 15 52.0**	**-1.0**
EVO				A		A	21 15 59.7	
	comp=N,6.3nm,0.3s							
PMTG	**Montargil**	**4.43**	**63**	P		**Pn**	**21 15 04.3**	**+2.1**
PMTG				S		**Sn**	**21 15 53.5**	**-0.3**
	comp=N,2.5nm,0.4s							
PMTG	**Montargil**	**4.43**	**63**	*e*Pn		**Pn**	**21 15 04.3**	**+2.1**
PMTG				*e*Sn		**Sn**	**21 15 53.5**	**-0.3**
PMTG				A		A	21 16 02.6	
	comp=N,2.5nm,0.4s							
PVAQ	**Vaqueiros**	**4.45**	**85**	P		**Pn**	**21 15 04.0**	**+1.5**
PVAQ				S		**Sn**	**21 15 52.3**	**-2.0**
	comp=N,7.4nm,0.1s							
PVAQ	**Vaqueiros**	**4.45**	**85**	*e*Pn		**Pn**	**21 15 04.0**	**+1.5**
PVAQ				*e*Sn		**Sn**	**21 15 52.3**	**-2.0**
PVAQ				A		A	21 15 55.1	
	comp=N,7.4nm,0.1s							
PVAQ	**Vaqueiros**	**4.45**	**85**	P			21 15 04.6	
EGRO	**El Granado**	**4.64**	**84**	P		**Pn**	**21 15 06.3**	**+1.2**
	comp=N,0.9nm,0.3s,SNR=7.9							
EGRO				S		**Sn**	**21 15 56.6**	**-2.4**
	comp=N,8.9nm,0.3s,SNR=7.9							
PCAS	**Casmilo, Conde**	**4.74**	**51**	Pn		**Pn**	**21 15 08.8**	**+2.3**
PCAS				Sn		**Sn**	**21 16 01.5**	**0.0**
	comp=N,2.8nm,0.6s							
PCAS	**Casmilo, Conde**	**4.74**	**51**	*e*Pn		**Pn**	**21 15 08.8**	**+2.3**
PCAS				*e*Sn		**Sn**	**21 16 01.5**	**0.0**
PCAS				A		A	21 16 10.2	
	comp=N,2.8nm,0.6s							
PESTR	**Estremoz**	**4.82**	**67**	*e*Pn		**Pn**	**21 15 10.3**	**+2.8**
PESTR				*e*Sn		**Sn**	**21 16 01.8**	**-1.6**
PESTR				A		A	21 16 10.8	
	comp=N,2.2nm,0.4s							
PESTR	**Estremoz**	**4.82**	**67**	P			21 15 10.3	
PBAR	**Barrancos**	**5.06**	**76**	Pn		**Pn**	**21 15 12.7**	**+1.8**
PBAR				S		**Sn**	**21 16 08.3**	**-1.1**
	comp=N,2.9nm,0.8s							
PBAR	**Barrancos**	**5.06**	**76**	*e*Pn		**Pn**	**21 15 12.7**	**+1.8**
PBAR				*e*Sn		**Sn**	**21 16 08.3**	**-1.1**
PBAR				A		A	21 16 14.9	
	comp=N,2.9nm,0.8s							
PMRV	**Marv??o**	**5.17**	**62**	P		**Pn**	**21 15 14.4**	**+2.1**
PMRV				S		**Sn**	**21 16 11.4**	**-0.6**
PMRV	**Marv??o**	**5.17**	**62**	*e*Pn		**Pn**	**21 15 14.4**	**+2.1**
PMRV				*e*Sn		**Sn**	**21 16 11.4**	**-0.6**
EBAD	**Badajoz**	**5.21**	**70**	P		**Pn**	**21 15 14.8**	**+1.8**
	comp=N,0.7nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**21 16 10.7**	**-2.4**
	comp=N,1.4nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.30**	**81**	P		**Pn**	**21 15 15.8**	**+1.6**
	comp=N,0.4nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**21 16 12.4**	**-2.8**
	comp=N,2.1nm,0.3s,SNR=7.9							
PVIS	**Viseu**	**5.51**	**48**	P		**Pn**	**21 15 19.1**	**+2.0**
PVIS				S		**Sn**	**21 16 20.2**	**-0.3**
PVIS	**Viseu**	**5.51**	**48**	*e*Pn		**Pn**	**21 15 19.1**	**+2.0**
PVIS				*e*Sn		**Sn**	**21 16 20.2**	**-0.3**
MTE	**Manteigas**	**5.54**	**52**	S		**Sn**	**21 16 20.8**	**-0.4**
	comp=N,1.8nm,0.3s							
MTE	**Manteigas**	**5.54**	**52**	*e*Sn		**Sn**	**21 16 20.8**	**-0.4**
MTE				A		A	21 16 25.3	
	comp=N,3.5nm,0.3s							
ESPR	**Espera**	**5.96**	**90**	S		**Sn**	**21 16 29.9**	**-1.5**
	comp=N,1.5nm,0.5s,SNR=7.9							
POLO	**Lamas de Olo**	**6.00**	**44**	P		**Pn**	**21 15 25.9**	**+2.1**
POLO				S		**Sn**	**21 16 31.5**	**-1.1**
	comp=N,1.4nm,0.6s							
POLO	**Lamas de Olo**	**6.00**	**44**	*e*Pn		**Pn**	**21 15 25.9**	**+2.1**
POLO				*e*Sn		**Sn**	**21 16 31.5**	**-1.1**
POLO				A		A	21 16 39.0	
	comp=N,1.4nm,0.6s							
PCAB	**Cabril**	**6.11**	**40**	P		**Pn**	**21 15 27.3**	**+2.0**
PCAB	**Cabril**	**6.11**	**40**	*e*Pn		**Pn**	**21 15 27.3**	**+2.0**
EZAM	**Zamans**	**6.12**	**34**	P		**Pn**	**21 15 26.6**	**+1.2**
	comp=N,0.8nm,0.1s,SNR=7.9							
EZAM				S		**Sn**	**21 16 32.6**	**-3.0**
	comp=N,4.6nm,0.4s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.18**	**37**	P		**Pn**	**21 15 28.4**	**+2.1**
PGAV				S		**Sn**	**21 16 35.0**	**-2.0**
	comp=N,3.2nm,0.8s							
PGAV	**Gavieira, Arco**	**6.18**	**37**	*e*Pn		**Pn**	**21 15 28.4**	**+2.1**
PGAV				*e*Sn		**Sn**	**21 16 35.0**	**-2.0**
PGAV				A		A	21 16 41.0	
	comp=N,3.2nm,0.8s							
ELOB	**Lobios**	**6.21**	**39**	P		**Pn**	**21 15 28.0**	**+1.4**
	comp=N,0.4nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**21 16 35.4**	**-2.3**
	comp=N,0.7nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**6.30**	**49**	P		**Pn**	**21 15 29.6**	**+1.6**
	comp=N,0.7nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**21 16 39.1**	**-1.0**
	comp=N,1.2nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**6.30**	**49**	*e*Pn		**Pn**	**21 15 29.8**	**+1.8**
MVO				*e*Sn		**Sn**	**21 16 39.0**	**-1.0**
MVO				A		A	21 16 42.5	
	comp=N,2.6nm,0.8s							
ECAB	**El Cabril**	**6.32**	**79**	P		**Pn**	**21 15 29.7**	**+1.6**
	SNR=7.9							
ECAB				S		**Sn**	**21 16 37.1**	**-3.2**
	comp=N,2.3nm,0.4s,SNR=7.9							
EPLA	**Plasencia**	**6.35**	**61**	S		**Sn**	**21 16 39.2**	**-2.0**
	comp=N,0.3nm,0.3s,SNR=7.9							
ZHG	**ZHG**	**6.57**	**122**	P			21 15 29.9	
EMAZ	**Mazaricos**	**6.67**	**28**	P		**Pn**	**21 15 34.3**	**+1.4**
	comp=N,1.6nm,0.2s,SNR=7.9							
EMAZ				S		**Sn**	**21 16 43.8**	**-5.2**
	comp=N,0.1nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.91**	**34**	P		**Pn**	**21 15 37.5**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	**21 16 50.2**	**-4.8**
	comp=N,0.6nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**6.96**	**45**	P		**Pn**	**21 15 38.3**	**+1.2**
	comp=N,1.3nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**21 16 55.4**	**-0.9**
	comp=N,0.4nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**6.99**	**79**	P		**Pn**	**21 15 38.6**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**21 16 53.3**	**-3.5**
	comp=N,0.2nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**7.42**	**68**	P		**Pn**	**21 15 45.1**	**+1.8**
	comp=N,0.1nm,0.3s,SNR=7.9							
PAB				S		**Sn**	**21 17 05.2**	**-2.4**
	comp=N,0.2nm,0.2s,SNR=7.9							
OUK	**Oukaimeden**	**7.44**	**141**	P			21 15 40.1	
TTIG	**Tnine Tigouga,**	**7.72**	**147**	P			21 15 40.9	
ESDC	**Sonseca Array**	**7.74**	**68**	P		**Pn**	**21 15 49.6**	**+1.9**
	comp=N,0.3nm,0.5s,baz=256,slow=13,SNR=4.8							
ESDC				S		**Sn**	**21 17 11.7**	**-3.8**
	comp=N,0.2nm,0.3s,baz=256,slow=22,SNR=4.0							
EPON	**Pontenova**	**7.75**	**35**	P		**Pn**	**21 15 49.0**	**+1.2**
	comp=N,0.5nm,0.4s,SNR=7.9							
EPON				S		**Sn**	**21 17 12.4**	**-3.2**
	comp=N,1.5nm,0.4s,SNR=7.9							
MD31	**MD31**	**8.20**	**119**	P			21 15 50.8	
MDT	**Midelt**	**8.33**	**119**	P			21 15 52.1	

*IDC **27** 21:30:02.5±0.6, 5.˚30S×152.˚13E, h0km, mb4.3/16, mb1 4.5/18, mb1mx4.4/31, mbtmp4.3/18, ML3.0/2, MS4.0/18, Ms1 4.0/18, ms1mx3.8/35, Error ellipse: s-maj=21.5km s-min=12.3km az=118.0*
*NEIC **27** 21:30:08.3±1.6, 5.˚45S±0.˚06×152.˚24E±0.˚10, h35km±1km, mb4.9/61, Error ellipse: s-maj=16.8km s-min=9.2km az=96.0*
*DJA **27** 21:30:09.6±0.6, 5.˚5S±3.˚3×15.˚2E±.˚, h54km±6km, M5.1/15, mB5.3/2, mb4.6/15, MLv5.3/2, Mw(mB)4.7/2*
*BJI **27** 21:30:09.0±0.0, 5.˚40S×152.˚20E, h60km, mB4.9/24, mb4.6/30, Ms4.6/5, Ms7 4.4/4*
*GCMT **27** 21:30:11.3±0.3, 5.˚54S±0.˚02×152.˚14E±0.˚04, h29km, MW4.9/72, Moment Tensor Solution. s30,c37; s72,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.62±.17; $M_{\theta\theta}$-2.05±.11; $M_{\phi\phi}$-0.57±.11; $M_{r\theta}$1.00±.14; $M_{r\phi}$-0.75±.07; $M_{\theta\phi}$-0.08±.19; Best double couple: M_o2.68000×10^{16} NP1:ϕ240.00000°, δ36.00000°, λ76.00000°. NP2: ϕ76.00000°, δ55.00000°, λ100.00000°. Principal axes: T 2.8410, Plg77.0000°, Azm18.0000°; N -0.3240, Plg8.0000°, Azm251.0000°; P -2.5190, Plg10.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 21:30:08.8±0.4, 5.˚42S±0.˚05×152.˚20E±0.˚08, h45km, n124, σ1§69/130, mb4.8/57, MS4.0/21, 2C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.22**	**358**			**Pn**	**21 30 29.3**	**-0.1**
RABL				Sn		**Sn**	**21 30 47.7**	**+2.9**
MANU	**Manus Island**	**5.87**	**305**	Pn		**Pn**	**21 31 36.0**	**+2.6**
PMG	**Port Moresby**	**6.38**	**231**	Pn		**Pn**	**21 31 40.1**	**-0.2**
	6.7nm,0.3s,baz=42,slow=11,SNR=13							
PMG				Sn		**Sn**	**21 32 51.2**	**-0.7**
	28nm,0.3s,baz=342,slow=20,SNR=9.4							
PMG				LR		LR	21 34 22.7	
	comp=Z,725nm,19.2s,baz=22,slow=41							
HNR	**Honiara**	**8.66**	**118**	LR		LR	21 35 17.2	
	comp=Z,606nm,22.0s,baz=281,slow=36							
CTA	**Charters Tower**	**15.69**	**201**	Pn		**Pn**	**21 33 47.2**	**+0.3**
	0.1nm,0.3s,baz=23,slow=13,SNR=4.1							
CTA				LR		LR	21 39 22.4	
	comp=Z,674nm,20.4s,baz=52,slow=36							
CTAO	**Charters Tower**	**15.69**	**201**	Pn		**Pn**	**21 33 47.9**	**+0.9**
EIDS	**Eidsvold**	**19.87**	**183**	P		**P**	**21 34 36.1**	**-0.2**
DZM	**Mont Dzumac**	**21.54**	**142**	P		**P**	**21 34 54.7**	**+0.2**
	15nm,1.0s,baz=352,slow=13,SNR=2.7							
DZM				LR		LR	21 42 43.9	
	comp=Z,409nm,18.7s,baz=274,slow=35							
DZM	**Mont Dzumac**	**21.54**	**142**	*e*P		**P**	**21 34 52.7**	**-1.8**
	19nm,0.8s							
DZM				*e*LR		LR	21 39 57.1	
	comp=Z,861nm,26.5s							
DZM	**Mont Dzumac**	**21.54**	**142**	P		**P**	**21 34 54.5**	**0.0**
DZM				IAmb		IAmb	21 35 03.1	
	comp=Z,63nm,1.4s							
MTN	**Manton Dam**	**22.06**	**249**	P		**P**	**21 35 00.6**	**+0.6**
MTN				IAmb		IAmb	21 35 14.1	
	comp=Z,143nm,1.7s							
WB0	**Warramunga Arr**	**22.45**	**229**	P		**P**	**21 35 03.7**	**-0.4**
WRAB	**Tennant Creek**	**22.58**	**229**	P		**P**	**21 35 04.4**	**-1.2**
WRAB				IAmb		IAmb	21 35 18.8	
	comp=Z,72nm,1.6s							
WRA	**Warramunga Arr**	**22.59**	**229**	P		**P**	**21 35 04.7**	**-1.1**
	comp=Z,5.7nm,0.6s,baz=51,slow=9.8,SNR=32							
WRA				PcP		**PcP**	**21 38 58.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=40,slow=1.8,SNR=2.0							
WRA				S		**S**	**21 39 08.0**	**-2.5**
	comp=Z,5.0nm,1.1s,baz=55,slow=19,SNR=5.0							
WRA				ScP		**ScP**	**21 42 36.6**	**+4.5**
	comp=Z,0.6nm,0.8s,baz=46,slow=4.8,SNR=2.6							
WRA	**Warramunga Arr**	**22.59**	**229**	P		**P**	**21 35 04.3**	**-1.4**
KNRA	**Kununurra**	**25.17**	**244**	P		**P**	**21 35 29.8**	**-0.4**
AS31	**Alice Springs**	**25.29**	**222**	P		**P**	**21 35 30.6**	**-0.7**
ASAR	**Alice Springs**	**25.30**	**222**	P		**P**	**21 35 30.5**	**-0.8**
	comp=Z,6.7nm,0.8s,baz=56,slow=9.3,SNR=42							
ASAR				S		**S**	**21 40 00.6**	**+6.2**
	comp=Z,2.5nm,1.0s,baz=37,slow=17,SNR=5.8							
ASAR				ScP		**ScP**	**21 42 45.2**	**+5.7**
	comp=Z,0.4nm,0.8s,baz=30,slow=2.5,SNR=2.7							
ASAR				LR		LR	21 46 53.9	
	comp=Z,307nm,18.2s,baz=76,slow=40							
ASAR	**Alice Springs**	**25.30**	**222**	P		**P**	**21 35 31.7**	**+0.4**
MSVF	**Nonsavu**	**28.08**	**118**	LR		LR	21 47 53.4	
	comp=Z,261nm,18.2s,baz=91,slow=38							
STKA	**Stephens Creek**	**28.14**	**199**	P		**P**	**21 35 55.6**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=343,slow=9.3,SNR=6.3							
STKA				LR		LR	21 47 15.5	
	comp=Z,283nm,19.4s,baz=301,slow=37							
STKA	**Stephens Creek**	**28.14**	**199**	P		**P**	**21 35 56.0**	**-0.7**
BATI	**Baumata**	**28.66**	**259**	P		**P**	**21 36 02.0**	**+0.4**
	comp=Z,11nm,0.5s,baz=102,slow=9.3,SNR=1.6							
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P		**P**	**21 36 02.1**	**-1.1**
	comp=Z,4.2nm,0.5s,baz=53,slow=12,SNR=16							
FITZ	**Fitzroy Crossi**	**28.84**	**242**	P		**P**	**21 36 02.3**	**-0.9**
KAPI	**Kappang**	**32.31**	**269**	LR		LR	21 51 50.9	
	comp=Z,221nm,19.7s,baz=84,slow=41							
FORT	**Forrest**	**33.94**	**219**	P		**P**	**21 36 46.8**	**-1.1**
PSA00	**Pilbara Seismi**	**35.20**	**240**	P		**P**	**21 36 58.3**	**-0.7**
PSA00	**Pilbara Seismi**	**35.20**	**240**	P		**P**	**21 36 58.3**	**-0.7**
PSA00				IAmb		IAmb	21 38 00.6	
	comp=Z,39nm,1.4s							
MORW	**Morawa**	**41.50**	**231**	P		**P**	**21 37 52.7**	**+0.9**
MORW				IAmb		IAmb	21 37 59.7	
	comp=Z,71nm,1.6s							
YULB	**Yu-li**	**41.59**	**315**	P		**P**	**21 37 53.8**	**+1.1**
YULB				IAmb		IAmb	21 38 58.3	
	comp=Z,31nm,1.5s							
SSLB	**Suanglung**	**42.09**	**315**	P		**P**	**21 37 57.4**	**+0.7**
SSLB				IAmb		IAmb	21 37 59.5	
	comp=Z,25nm,1.3s							
NWAO	**Narrogin (SRO)**	**42.53**	**225**	LR		LR	21 55 58.9	
	comp=Z,422nm,19.1s,baz=88,slow=37							
MJAR	**Matsushiro Arr**	**43.74**	**344**	LR		LR	21 54 47.1	
	comp=Z,110nm,21.3s,baz=180,slow=34							
QIZ	**Qiongzhong**	**48.27**	**301**	P		**P**	**21 38 45.0**	**-0.8**
QIZ				pmax		pmax		
	comp=Z,230nm,7.1s							
QIZ				L		L		
	comp=Z,270nm,11.8s							
QIZ				L		L		
	comp=Z,280nm,16.7s							
QIZ				L		L		
	comp=Z,250nm,11.8s							
KSRS	**Korea Array**	**48.28**	**334**	P		**P**	**21 38 45.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=142,slow=6.6,SNR=2.5							
NJ2	**Nanjing**	**48.95**	**322**	*e*P		**P**	**21 38 53.5**	**+2.7**
NJ2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
WHN	**Wuhan**	**50.89**	**317**	⇓P		P	21 39 16.8	+11
ENH	**Enshi**	**54.14**	**314**	P		**P**	**21 39 29.3**	**-0.4**
ENH				IAmb		IAmb	21 39 30.4	
	comp=Z,14nm,1.1s							
XAN	**Xi'an**	**56.66**	**317**	P		**P**	**21 39 47.0**	**-0.8**
XAN				pP		pP	21 40 00.8	0.0
XAN				sP		sP	21 40 07.3	+1.2
XAN				pmax		pmax		
	comp=Z,7.0nm,1.7s							
XAN				pmax		pmax		
	comp=Z,320nm,9.8s							
XAN				L		L		
	comp=Z,280nm,20.6s							
KMI	**Kunming**	**56.84**	**305**	⇑P		**P**	**21 39 48.5**	**-0.9**
KMI				pP		pP	21 40 04.5	+2.2
KMI				sP		sP	21 40 12.5	+4.9
KMI				pmax		pmax		
	comp=Z,13nm,1.2s							
CM31	**Chiang Mai Arr**	**57.60**	**296**	P		**P**	**21 39 55.0**	**+0.3**
CM31				IAmb		IAmb	21 39 56.1	
	comp=Z,14nm,1.4s							
CMAR	**Chiang Mai Arr**	**57.60**	**296**	P		**P**	**21 39 53.7**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=120,slow=4.9,SNR=10							
CMAR	**Chiang Mai Arr**	**57.60**	**296**	P		**P**	**21 39 54.8**	**+0.1**
CMMT	**Chiang Mai**	**57.71**	**296**	P		**P**	**21 39 56.5**	**+1.0**
	comp=Z,5.2nm,1.3s							
CHTO	**Chiang Mai**	**57.72**	**296**	P		**P**	**21 39 55.1**	**-0.4**
	comp=Z,3.1nm,1.3s							
PPT2	**Papeete2**	**58.11**	**107**	*e*LR		LR	21 57 04.2	
	comp=Z,95nm,22.0s							
PETK	**Petropavlovsk-**	**58.49**	**4**	P		**P**	**21 39 59.3**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=168,slow=11,SNR=1.5							
PETK				LR		LR	22 01 13.9	
	comp=Z,92nm,20.8s,baz=204,slow=32							
PETK	**Petropavlovsk-**	**58.49**	**4**	P		**P**	**21 40 00.8**	**+0.6**
CD2	**Chengdu**	**58.69**	**311**	*e*P		**P**	**21 40 03.5**	**+1.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
TBI	**Tubuai**	**58.85**	**114**	*e*LR		LR	21 57 16.4	
	comp=Z,139nm,31.0s							
HHC	**Hu-ho-hao-te**	**59.20**	**325**	*e*P		**P**	**21 40 08.5**	**+3.0**
HHC				pmax		pmax		
	comp=Z,13nm,0.8s							
HHC				pmax		pmax		
	comp=Z,85nm,7.

comp=Z,74nm,21.9s,baz=100,slow=34
CUT Chulitna 80.45 23 P 21 42 14.7
baz=238
PWL Port Wells 80.45 25 P **P** **21 42 15.9 +0.2**
PMR Palmer 80.49 24 P 21 42 15.6
baz=240
PMR Palmer 80.49 24 P **P** **21 42 16.4 +0.7**
PMR IAmb IAmb 21 42 16.9
comp=Z,12nm,0.8s
KNK Knik Glacier 80.68 25 P 21 42 16.6
baz=240
SML Sawmill 80.93 24 P 21 42 18.3
baz=240,SNR=7.0
TRF Thorofare Moun 80.99 23 P **P** **21 42 17.9 -0.8**
TRF IAmb IAmb 21 42 18.4
comp=Z,23nm,1.5s
TRF Thorofare Moun 80.99 23 P 21 42 17.7
baz=238,SNR=5.3
GLI Glacier Island 80.99 26 P 21 42 18.6
baz=241
BPAW Bear Paw Mtn. 81.08 22 P **P** **21 42 18.0 -1.0**
BPAW Bear Paw Mtn. 81.08 22 P 21 42 18.4
baz=237,SNR=8.0
H21K Melozitna Rive 81.29 20 P 21 42 20.4
baz=236
I21K Tanana 81.31 21 P 21 42 20.8
baz=236,SNR=15
ZAA0 Zalesovo Array 81.33 326 P **P** **21 42 20.1 -0.4**
ZALV Zalesovo Beam 81.33 326 P **P** **21 42 18.9 -1.5**
comp=Z,0.6nm,0.3s,baz=111,slow=6.5,SNR=6.0
ZALV LR LR 22 17 28.7
comp=Z,70nm,20.7s,baz=134,slow=35
ZALV Zalesovo Beam 81.33 326 P **P** **21 42 19.5 -0.9**
WAT1 Susitna Watana 81.35 24 P 21 42 20.2
baz=240
WAT6 Susitna Watana 81.55 24 P 21 42 21.5
baz=241,SNR=7.4
MCK McKinley 81.66 23 P 21 42 21.3
baz=239,SNR=7.1
MCK McKinley 81.66 23 P **P** **21 42 21.8 -0.2**
MLY Manley 81.67 21 P **P** **21 42 22.2 +0.1**
MLY IAmb IAmb 21 42 23.5
comp=Z,16nm,1.0s
MLY Manley 81.67 21 P 21 42 22.2
baz=238,SNR=16
KLU Klutina 81.78 25 P 21 42 23.2
baz=242,SNR=7.0
KLU Klutina 81.78 25 P **P** **21 42 23.3 +0.5**
M24K Tolsona, Glenn 81.96 25 P 21 42 24.2
baz=242
NEA2 Nenana 82.05 22 P 21 42 23.2
baz=239,SNR=15
NEA2 Nenana 82.05 22 P **P** **21 42 23.4 -0.6**
NEA2 IAmb IAmb 21 42 24.5
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 82.23 21 P 21 42 24.4
baz=239
WRH Wood River Hil 82.35 22 P **P** **21 42 25.1 -0.5**
WRH IAmb IAmb 21 42 26.7
comp=Z,20nm,1.1s
N25K Chitina, Valde 82.40 25 P 21 42 26.7
baz=244
H23K Yukon River 82.51 21 P 21 42 26.6
baz=239,SNR=6.1
HARP HAARP 82.52 25 P 21 42 26.7
baz=243
MDM Murphy Dome 82.54 22 P **P** **21 42 26.2 -0.4**
MDM IAmb IAmb 21 42 27.8
comp=Z,18nm,1.4s
CCB Clear Creek Bu 82.55 22 P **P** **21 42 25.5 -1.1**
CCB IAmb IAmb 21 42 26.9
comp=Z,16nm,1.1s
COLA College 82.64 22 P **P** **21 42 26.6 -0.5**
COLA IAmb IAmb 21 42 28.0
comp=Z,18nm,0.9s
PAX Paxson 82.66 24 P 21 42 28.1
baz=243
GLB Gilahina Butte 82.67 26 P **P** **21 42 28.0 +0.6**
CRQE Cirque 82.69 27 P 21 42 27.9
baz=245
KSH Kashi 82.88 311 P **P** **21 42 30.8 +1.7**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,140nm,4.6s
IL31 82.95 22 P **P** **21 42 28.1 -0.5**
IL31 IAmb IAmb 21 42 28.9
comp=Z,14nm,1.1s
ILAR Eielson Array 82.95 22 P **P** **21 42 27.7 -1.0**
comp=Z,6.3nm,0.8s,baz=251,slow=5.1,SNR=43
ILAR LR LR 22 15 49.6
comp=Z,90nm,19.2s,baz=272,slow=33
ILAR Eielson Array 82.95 22 P **P** **21 42 27.8 -0.9**
COLD Coldfoot 83.03 19 P **P** **21 42 29.9 +0.8**
COLD IAmb IAmb 21 42 31.2
comp=Z,13nm,1.3s
COLD Coldfoot 83.03 19 P 21 42 29.8
baz=238,SNR=5.7
H24K Noodor Dome 83.11 21 P 21 42 30.0
baz=240
DOT Dot Lake 83.53 24 P **P** **21 42 32.1 +0.3**
CTG Chitna Glacier 83.56 27 P 21 42 32.8
baz=247
SCRK Sand Creek 83.70 23 P 21 42 33.0
baz=244
SCRK Sand Creek 83.70 23 P **P** **21 42 33.0 +0.2**
SCRK IAmb IAmb 21 42 34.2
comp=Z,9.9nm,1.1s
PINM Pinnacle 83.72 28 P 21 42 33.6
baz=248
PRP Porcupine Dome 83.81 22 P 21 42 34.0
baz=242
TOLK Toolik Lake Re 83.98 18 P **P** **21 42 34.7 +0.7**
TOLK IAmb IAmb 21 42 35.9
comp=Z,4.9nm,0.8s
TOLK Toolik Lake Re 83.98 18 P 21 42 35.1
baz=238
L27K Beaver Creek, 84.19 25 P **P** **21 42 36.1 +1.0**
L27K IAmb IAmb 21 42 37.3
comp=Z,12nm,1.1s
L27K Beaver Creek, 84.19 25 P 21 42 35.9
baz=246
BCAR Beaver Creek A 84.21 25 P **P** **21 42 36.1 +0.8**
K27K Chicken 84.49 24 P 21 42 37.3
baz=246
QSPA South Pole Qui 84.55 180 P **P** **21 42 37.6 +0.6**
QSPA IAmb IAmb 21 42 44.4
comp=Z,6.5nm,0.9s
AAK Ala-Archa 84.65 314 P **P** **21 42 38.5 +0.3**
MAW Mawson 84.78 203 P **P** **21 42 42.1 +4.1**
comp=Z,1.8nm,0.8s,baz=4.7,slow=5.6,SNR=3.6
MAW LR LR 22 18 22.0
comp=Z,131nm,19.3s,baz=122,slow=34
BMAR Burnt Mountain 85.03 20 P **P** **21 42 40.3 +1.0**
EGAK Eagle 85.16 23 P 21 42 40.4
baz=246
EGAK Eagle 85.16 23 P **P** **21 42 40.5 +0.5**
HYT Haines Junctio 85.25 28 P **P** **21 42 41.3 +0.7**
DAWY Dawson 85.59 24 P **P** **21 42 43.0 +0.8**
DRK Karamyk 86.03 310 P **P** **21 42 45.5 +0.2**
WHY Whitehorse 86.42 28 P 21 42 47.3
baz=252
WHY Whitehorse 86.42 28 P **P** **21 42 47.6 +1.1**
WHY IAmb IAmb 21 42 48.8
comp=Z,11nm,1.1s
WRAK Wrangell Islan 86.50 33 P 21 42 47.9
baz=255
WRAK Wrangell Islan 86.50 33 P **P** **21 42 47.9 +1.2**
EPYK Eagle Plains 87.46 22 P 21 42 51.7
baz=250
KK31 Karatay Array 87.62 314 P **P** **21 42 52.7 +0.2**
KK31 IAmb IAmb 21 42 53.5
comp=Z,7.8nm,1.4s
KKAR Karatay Array 87.62 314 P **P** **21 42 52.3 -0.3**
DLBC Dease Lake 88.21 31 P **P** **21 42 56.0 +0.9**
INK Inuvik 89.24 21 P 21 43 00.4
baz=253
H04D Lebanon 90.24 45 P 21 43 04.5
baz=263
L04D Klamath Falls 90.27 48 P 21 43 04.3
baz=263
A04D Lummi Island 90.79 41 P 21 43 07.8
baz=263
B05A Bryant 91.14 42 P 21 43 09.6
baz=263
J05D Fort Rock, OR 91.17 47 P 21 43 09.9
baz=264
I05D Terrebonne, OR 91.21 46 P 21 43 10.1
baz=264
G05D Wamic, OR 91.33 45 P 21 43 10.3
baz=264
PKM Mcpherson Peak 91.41 55 P 21 43 11.2
baz=264
PINE Pine Mountain 91.44 46 P **P** **21 43 11.5 +0.8**
PINE IAmb IAmb 21 43 13.0
comp=Z,10nm,1.1s
SYO Syowa Base 92.89 199 ⇑ *e*P **P** **21 43 16.4 -0.2**
NVAR Mina Array Bea 92.93 52 P **P** **21 43 19.0 +1.3**
comp=Z,1.1nm,0.8s,baz=266,slow=7.0,SNR=8.0
NVAR LR LR 22 17 46.3
comp=Z,107nm,20.7s,baz=272,slow=31
NVAR Mina Array Bea 92.93 52 P **P** **21 43 18.6 +0.9**
BFSC Mount Baldy Ra 93.13 56 P 21 43 19.3
baz=266
MPMC Manual Prospec 93.40 54 P 21 43 20.7
baz=266
E09A Wood Farm, Sta 93.65 44 P **P** **21 43 21.4 +0.8**
E09A IAmb IAmb 21 43 22.4
comp=Z,8.0nm,1.1s
FURC Furnace Creek, 93.93 54 P 21 43 22.7
baz=266
BMO Blue Mountains 94.13 45 P **P** **21 43 22.9 -0.1**
BMO IAmb IAmb 21 43 25.1
comp=Z,3.6nm,1.1s
NEW Newport 94.45 42 P 21 43 25.4
baz=267
TPNV Topopah Spring 94.46 53 P 21 43 25.0
baz=266
YKA Yellowknife Ar 96.25 28 P **P** **21 43 31.9 -0.1**
comp=Z,1.4nm,1.0s,baz=272,slow=4.1,SNR=4.6
PDAR Pinedale Array 99.70 48 P **Pdif** **21 43 49.0 +0.6**
comp=Z,0.6nm,1.0s,baz=258,slow=4.4,SNR=4.1
PDAR LR LR 22 29 01.9
comp=Z,72nm,18.1s,baz=275,slow=36
PDAR Pinedale Array 99.70 48 **Pdif** **21 43 48.6 +0.2**
RLMT Red Lodge 99.83 45 P 21 43 49.1
baz=272
WMOK Wichita Mounta 108.69 55 P 21 48 33.3
baz=276
MNK Minsk 113.80 328 *i* PKP **PKiKP** **21 48 39.5 -2.9**
comp=E,2.0nm,1.4s
MNK *i* PKP **PKiKP** **21 48 39.5 -2.9**
comp=N,14nm,0.8s
MNK *i* PKP **PKiKP** **21 48 39.5 -2.9**
comp=Z,4.0nm,1.0s,baz=244
MNK *i* PP **PP** **21 49 30.7 -5.0**
MNK *i* PPP PPP 21 51 54.9
MNK *i* SKP 21 52 10.3
MNK *i* PKS **PKSdf** **21 52 14.3 -4.6**
MNK *i* SKS **SKSdf** **21 55 47.0 -3.9**
MNK *i* PS **PS** **21 59 08.0 -5.2**
MNK *i* SS **SS** **22 05 18.4 -2.4**
MNK *i* SKKS SKKSdf 22 06 46.0 -12
MNK *i* SSS SSS 22 09 32.5
MNK *i* LQ LQ 22 30 17.5
MNK *i* LR LR 22 35 52.8
MNK *i* LRM MLR 22 38 44.6
comp=E,8.0nm,18.4s
MNK *i* LRM MLR 22 38 49.9
comp=N,30nm,13.1s
MNK *i* LRM MLR 22 39 12.2
comp=Z,101nm,20.3s
KOLS Kolonicke sedl 119.46 324 *e*PKP **PKiKP** **21 48 54.1 +0.4**
O53A New Philadelph 120.97 46 P 21 48 57.3
baz=291
TIGA Tifton 121.81 56 P 21 48 59.0
baz=284
K56A Middlesex 122.67 42 P 21 49 00.8
baz=296
CLL Collm 123.09 331 *e*PKPdf **PKiKP** **21 49 04.0 +3.3**
CLL *e*PP **PP** **21 50 36.0 -3.9**
I58A Old Forge 123.74 40 P 21 49 02.2
baz=299
H58A Gabriels 123.89 39 P 21 49 02.7
baz=300
GERES GERESS Array B 124.26 328 PKP **PKiKP** **21 49 03.6 +0.4**
comp=Z,0.2nm,0.5s,baz=45,slow=1.5,SNR=1.8
F60A Warwick 124.43 36 P 21 49 04.1
baz=303
G60A Masonville 124.67 37 P 21 49 04.7
baz=302
D61A St Aubert, Com 124.75 34 P 21 49 04.4
baz=305
F61A St Evariste 124.99 36 P 21 49 04.7
baz=304
E61A Lac Etchemin 125.02 35 P 21 49 05.1
baz=304
LBNH Lisbon 125.37 38 P 21 49 05.7
baz=302
D62A Allapoint, All 125.45 34 P 21 49 05.8
baz=306
E62A Clayton Lake 125.46 34 P 21 49 06.0
baz=306
E64A Bridgewater 126.52 34 P 21 49 07.1
baz=307
G64A Maxfield 126.69 35 P 21 49 07.2
baz=306
H64A Troy 126.77 36 P 21 49 07.5
baz=305
G65A Princeton 127.40 35 P 21 49 09.6
baz=307
H66A Whiting 127.79 35 P 21 49 09.8
baz=307
MDT Midelt 145.20 324 PKPbc **PKPbc** **21 49 41.6 -0.3**
comp=Z,7.0nm,1.1s,baz=108,slow=2.5,SNR=9.1
TOA0 Torodi Ar. Sit 149.92 287 **PKPbc** **21 49 54.6 -0.7**
TORD Torodi Ar. Bea 149.92 287 PKPbc **PKPbc** **21 49 54.2 -1.1**
comp=Z,9.8nm,1.2s,baz=41,slow=1.9,SNR=18
TORD Torodi Ar. Bea 149.92 287 **PKPbc** **21 49 54.8 -0.6**

*NEIC **27** 21:53:54.8±1.3,3.76N±0.09×122.4E±0.1,h597km±8km, mb4.4/40, Error ellipse: s-maj=17.2km s-min=12.7km az=79.0*
*IDC **27** 21:53:55.6±0.8,3.71N×122.40E,h612km±10km, mb3.2/14, mb1 3.4/17, mb1mx3.2/38, mbtmp4.3/17, Error ellipse: s-maj=18.2km s-min=7.0km az=74.0*
*DJA **27** 21:53:55.8±0.7,4.1N±9.1×12.3E±.1,h594km±4km, M4.3/12, mb4.6/12, mB4.8/6, MLv4.4/12, Mw(mB)4.0/6, MwMwp6.0/1, Mwp6.1/1*

ISC 27 21:53:54.6±0.4,**3.73N**±0.05×**122.34E**±0.07,**h602**km,**n96,** σ1°13/106,**mb4.3**/32,**1C-1D,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**3.03**	**211**	P		P	P	**21 55 13.7**	**-0.5**
TOLI2				S		S	S	**21 56 18.2**	**-0.7**
SGSI	**Sangihe**	**3.18**	**91**	P		P	P	**21 55 13.9**	**-1.1**
MRSI	**Marisa**	**3.25**	**187**	P		P	P	**21 55 15.6**	**+0.1**
MNI	**Manado**	**3.37**	**132**	P		P	P	**21 55 16.8**	**+0.6**
MNI				S		S	S	**21 56 20.6**	**-2.0**
DDMP	**Don Marcelino,**	**4.11**	**55**	*e*P		P	P	**21 55 19.1**	**-1.9**
MPSI	**Mapaga**	**4.16**	**216**	P		P	P	**21 55 21.6**	**+0.2**
KCP	**Kidapawan**	**4.26**	**40**	‖ *e*P		P	P	**21 55 21.8**	**-0.3**
DAV	**Davao City (W)**	**4.63**	**44**	P		P	P	**21 55 26.0**	**+1.2**
	29nm,0.3s,baz=197,slow=4.5,SNR=6.2								
DAV				S		S	S	**21 56 40.2**	**+1.8**
	31nm,0.3s,baz=279,slow=13,SNR=1.7								
DAV	**Davao City (W)**	**4.63**	**44**	P		P	P	**21 55 24.2**	**-0.7**
DAV				S		S	S	**21 56 39.9**	**+1.5**
APSI	**Ampana**	**4.66**	**189**	P		P	P	**21 55 26.5**	**+1.4**
LUWI	**Luwuk**	**4.76**	**175**	P		P	P	**21 55 25.1**	**-0.7**
LUWI	**Luwuk**	**4.76**	**175**	P		P	P	**21 55 25.1**	**-0.7**
MATI	**Mati**	**5.04**	**50**	*e*P		P	P	**21 55 26.7**	**-1.4**
GAMI	**Galela, Maluku**	**5.75**	**109**	P		P	P	**21 55 32.5**	**-1.4**
	1.3nm3µm163nm,0.8s								
TNTI	**Ternate**	**5.82**	**120**	P		P	P	**21 55 33.0**	**-1.4**
TNTI	**Ternate**	**5.82**	**120**	P		P	P	**21 55 33.2**	**-1.2**
	0.7nm1µm114nm,1.1s								
BATP	**Bataraza**	**6.76**	**318**	*e*P		P	P	**21 55 42.6**	**0.0**
SANI	**Sanana**	**6.80**	**148**	P		P	P	**21 55 40.7**	**-2.3**
	0.5nm2µm52nm,0.7s								
TTSI	**Tana Toraja**	**7.18**	**201**	P		P	P	**21 55 43.7**	**-2.8**
	0.2nm59nm,1.0s								
KKSI	**Kolaka, Sulawe**	**7.88**	**185**	P		P	P	**21 55 53.0**	**+0.1**
	0.3nm72nm,0.5s								
BNSI	**Bone**	**8.38**	**195**	P		P	P	**21 55 59.4**	**+1.7**
	34nm,1.0s								
NLAI	**Namlea**	**8.39**	**145**	P		P	P	21 55 52.9	-5.0
	71nm,1.0s								
KAPI	**Kappang**	**9.06**	**197**	P		P	P	**21 56 04.1**	**-0.1**
	3.5nm,0.3s,baz=60,slow=8.1,SNR=7.3								
LUBP	**Lubang**	**10.16**	**348**	*e*P		P	P	**21 56 13.6**	**-1.4**
PKKI	**Palangkaraya**	**10.25**	**235**	P		P	P	**21 56 16.0**	**0.0**
	117nm,1.0s								
MACP	**Maragondon, Ca**	**10.59**	**351**	*e*P		P	P	**21 56 16.9**	**-2.5**
MMRI	**Maumere**	**12.28**	**180**	P		P	P	**21 56 36.9**	**+0.6**
EDFI	**Ende, Flores**	**12.41**	**183**	P		P	P	**21 56 37.4**	**-0.3**
	821nm37nm,0.6s								
SMPP	**San Manuel, Pa**	**12.45**	**353**	*e*P		P	P	**21 56 35.2**	**-2.8**
SOEI	**Soe**	**13.53**	**172**	P		P	P	**21 56 48.9**	**-0.1**
BATI	**Baumata**	**13.90**	**175**	P		P	P	**21 56 52.6**	**0.0**
	98nm,0.3s,baz=256,slow=8.3,SNR=68								
BATI				S		S	S	**21 59 17.7**	**-0.5**
	2.7nm,0.3s,baz=0.7,slow=23,SNR=1.9								
BATI	**Baumata**	**13.90**	**175**	P		P	P	**21 56 51.9**	**-0.7**
	49µm3µm234nm,0.8s								
LEM	**Lembang**	**18.05**	**235**	P		P	P	**21 57 32.9**	**+1.9**
	1.4nm,0.3s,baz=98,slow=15,SNR=2.3								
QIZ	**Qiongzhong**	**19.51**	**322**	P		P	P	**21 57 44.0**	**+0.1**
QIZ				IAmb	IAmb	IAmb	IAmb	21 57 59.4	
	comp=Z,14nm,1.2s								
TPUB	**Ta-pu**	**19.53**	**355**	P		P	P	**21 57 43.7**	**-0.4**
YULB	**Yu-li**	**19.58**	**357**	P		P	P	**21 57 43.6**	**-0.9**
YULB				IAmb	IAmb	IAmb	IAmb	21 57 58.3	
	comp=Z,25nm,1.5s								
KNRA	**Kununurra**	**20.30**	**162**	P		P	P	**21 57 47.4**	**-3.6**
YOJ	**Yonaguni jima**	**20.63**	**2**	P		P	P	**21 57 52.0**	**-1.9**
BKNI	**Bangkinang**	**21.55**	**261**	P		P	P	**21 58 01.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.93**	**172**	P		P	P	**21 58 05.7**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=1.8,slow=9.4,SNR=8.5								
FITZ	**Fitzroy Crossi**	**21.93**	**172**	P		P	P	**21 58 05.0**	**-0.6**
FITZ				IAmb	IAmb	IAmb	IAmb	21 58 06.8	
	comp=Z,7.9nm,0.9s								
GSI	**Gunungsitoli**	**24.86**	**265**	P		P	P	**21 58 30.8**	**-1.0**
PSA00	**Pilbara Seismi**	**25.26**	**185**	P		P	P	**21 58 34.5**	**-0.6**
PSA00				IAmb	IAmb	IAmb	IAmb	21 58 56.0	
	comp=Z,4.9nm,1.4s								
PSA00	**Pilbara Seismi**	**25.26**	**185**	P		P	P	**21 58 34.8**	**-0.3**
PSA00				IAmb	IAmb	IAmb	IAmb	21 58 47.3	
	comp=Z,19nm,1.4s								
WB0	**Warramunga Arr**	**26.18**	**154**	P		P	P	**21 58 43.0**	**-0.3**
WRA	**Warramunga Arr**	**26.31**	**154**	P		P	P	**21 58 44.3**	**-0.1**
	comp=Z,32nm,0.5s,baz=336,slow=9.6,SNR=91								
WRA				S		S	S	**22 02 34.9**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=328,slow=13,SNR=1.6								
WRA				ScP		ScP	ScP	**22 04 32.8**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=338,slow=3.2,SNR=5.8								
WRA	**Warramunga Arr**	**26.31**	**154**	P		P	P	**21 58 42.9**	**-1.5**
WR0	**Warramunga Arr**	**26.41**	**153**	P		P	P	**21 58 44.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.17**	**304**	P		P	P	**21 58 53.7**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=132,slow=7.3,SNR=5.2								
CHTO	**Chiang Mai**	**27.35**	**305**	P		P	P	**21 58 54.1**	**+0.6**
CHTO				IAmb	IAmb	IAmb	IAmb	21 58 54.8	
	comp=Z,2.0nm,0.6s								
KMI	**Kunming**	**28.43**	**320**	⇑P		P	P	21 59 09.3	+6.3
KMI				pmax	pmax				
	comp=Z,7.0nm,1.1s								
AS31	**Alice Springs**	**29.47**	**158**	P		P	P	**21 59 12.3**	**+0.4**
AS31				IAmb	IAmb	IAmb	IAmb	21 59 13.4	
	comp=Z,6.3nm,0.6s								
ASAR	**Alice Springs**	**29.47**	**158**	P		P	P	**21 59 12.3**	**+0.5**
	comp=Z,13nm,0.5s,baz=334,slow=7.1,SNR=84								
ASAR				S		S	S	**22 03 24.1**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=341,slow=16,SNR=9.1								
ASAR				ScP		ScP	ScP	**22 04 42.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=338,slow=3.2,SNR=7.1								
JMN	**Monobe**	**31.73**	**18**	P		P	P	**21 59 30.5**	**-0.5**
XAN	**Xi'an**	**32.65**	**339**	P		P	P	**21 59 38.8**	**0.0**
XAN				pmax	pmax				
	comp=Z,5.0nm,1.7s								
MORW	**Morawa**	**33.16**	**190**	P		P	P	**21 59 43.7**	**+0.5**
MORW				IAmb	IAmb	IAmb	IAmb	21 59 51.8	
	comp=Z,30nm,1.4s								
CTA	**Charters Tower**	**33.34**	**136**	P		P	P	**21 59 46.1**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=322,slow=11,SNR=1.6								
CTAO	**Charters Tower**	**33.34**	**136**	P		P	P	**21 59 45.6**	**+0.8**
CTAO				IAmb	IAmb	IAmb	IAmb	21 59 56.6	
	comp=Z,24nm,1.3s								
KSRS	**Korea Array**	**33.95**	**8**	P		P	P	**21 59 50.5**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=188,slow=9.6,SNR=10								
FORT	**Forrest**	**34.74**	**171**	P		P	P	**21 59 57.1**	**+0.9**
SHL	**Shillong**	**36.42**	**310**	P		P	P	**22 00 10.2**	**-0.3**
SHL				IAmb	IAmb	IAmb	IAmb	22 00 11.4	
	comp=Z,3.2nm,0.7s								
NWAO	**Narrogin (SRO)**	**36.77**	**187**	P		P	P	**22 00 13.5**	**+0.5**
	comp=Z,6.7nm,0.5s,baz=16,slow=8.4,SNR=8.5								
NWAO	**Narrogin (SRO)**	**36.77**	**187**	P		P	P	**22 00 13.4**	**+0.5**
HHC	**Hu-ho-hao-te**	**38.21**	**347**	*e*P		P	P	**22 00 26.5**	**+1.9**
HHC				pmax	pmax				
	comp=Z,16nm,0.9s								
HHC				pmax	pmax				
	comp=Z,130nm,5.0s								
BBOO	**Buckleboo**	**38.59**	**161**	P		P	P	**22 00 28.6**	**+0.8**
BBOO				IAmb	IAmb	IAmb	IAmb	22 00 29.3	
	comp=Z,23nm,1.0s								
STKA	**Stephens Creek**	**39.86**	**154**	P		P	P	**22 00 39.0**	**+1.1**
	comp=Z,5.9nm,0.3s,baz=330,slow=8.6,SNR=20								
STKA	**Stephens Creek**	**39.86**	**154**	P		P	P	**22 00 38.8**	**+0.9**
EIDS	**Eidsvold**	**40.18**	**138**	P		P	P	**22 00 40.6**	**+0.1**
EIDS				IAmb	IAmb	IAmb	IAmb	22 00 53.4	
	comp=Z,23nm,1.3s								
USRK	**Ussuriysk Ar.**	**41.20**	**11**	P		P	P	**22 00 48.3**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=191,slow=6.2,SNR=9.3								
USRK	**Ussuriysk Ar.**	**41.20**	**11**	P		P	P	**22 00 48.2**	**0.0**
ARMA	**Armidale**	**44.00**	**143**	P		P	P	**22 01 12.6**	**+2.1**
ARMA				IAmb	IAmb	IAmb	IAmb	22 01 13.9	
	comp=Z,14nm,0.8s								
SONM	**Songino Array**	**46.04**	**345**	P		P	P	**22 01 26.4**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=158,slow=8.8,SNR=9.5								
SONM	**Songino Array**	**46.04**	**345**	P		P	P	**22 01 26.4**	**+0.7**
CAN	**Canberra**	**46.20**	**149**	P		P	P	**22 01 28.8**	**+1.7**
CAN				IAmb	IAmb	IAmb	IAmb	22 01 29.8	
	comp=Z,18nm,0.7s								
TOO	**Toolangi**	**46.38**	**154**	P		P	P	**22 01 29.5**	**+1.2**
TOO				IAmb	IAmb	IAmb	IAmb	22 01 43.0	
	comp=Z,29nm,1.5s								
WMQ	**Urumqi**	**50.30**	**328**	*e*P		P	P	**22 01 59.8**	**+2.5**
MK31	**Makanchi Array**	**55.13**	**327**	P		P	P	**22 02 32.0**	**+0.5**
MKAR	**Makanchi Array**	**55.13**	**327**	P		P	P	**22 02 32.1**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=128,slow=7.7,SNR=30								
MKAR				PcP		PcP	PcP	**22 03 23.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=122,slow=4.4,SNR=11								
MKAR				ScP		ScP	ScP	**22 06 25.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=134,slow=4.2,SNR=3.0								
MAKZ	**Makanchi**	**55.31**	**327**	P		P	P	**22 02 32.8**	**+0.1**
MAKZ				PcP		PcP	PcP	**22 03 23.6**	**-0.4**
ZALV	**Zalesovo Beam**	**58.67**	**335**	P		P	P	**22 02 54.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=151,slow=6.5,SNR=2.6								
GAR	**Garm**	**58.74**	**314**	P		P	P	**22 02 56.5**	**+0.1**
GAR				IAmb	IAmb	IAmb	IAmb	22 02 58.1	
	comp=Z,4.2nm,0.7s								
KK31	**Karatay Array**	**60.29**	**318**	P		P	P	**22 03 06.5**	**+0.1**
KKAR	**Karatay Array**	**60.29**	**318**	P		P	P	**22 03 06.7**	**+0.2**
BRVK	**Borovoye**	**65.05**	**328**	P		P	P	**22 03 36.6**	**-0.1**
BKZ	**Black Stump Fm**	**65.56**	**136**	P		P	P	**22 03 40.4**	**+0.2**
BKZ				IAmb	IAmb	IAmb	IAmb	22 03 50.7	
	comp=Z,28nm,1.4s								
URZ	**Urewera**	**65.58**	**135**	P		P	P	**22 03 40.5**	**+0.1**
URZ				IAmb	IAmb	IAmb	IAmb	22 03 44.5	
	comp=Z,25nm,1.1s								
TIXI	**Tiksi**	**67.96**	**2**	P		P	P	**22 03 53.6**	**-0.7**
ABKAR	**Akbulak array**	**69.41**	**322**	P		P	P	**22 04 03.2**	**-0.2**
ABKAR	**Akbulak array**	**69.41**	**322**	P		P	P	**22 04 03.4**	**-0.1**
ABKAR				IAmb	IAmb	IAmb	IAmb	22 04 03.8	
	comp=Z,0.9nm,0.6s								
CASY	**Casey**	**70.36**	**185**	P		P	P	**22 04 09.1**	**+0.5**
CASY				IAmb	IAmb	IAmb	IAmb	22 04 12.1	
	comp=Z,6.8nm,1.4s								
VNDA	**Vanda**	**84.00**	**172**	P		P	P	**22 05 22.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=326,slow=6.9,SNR=5.3								
VNDA	**Vanda**	**84.00**	**172**	P		P	P	**22 05 22.7**	**+0.5**
VNDA				IAmb	IAmb	IAmb	IAmb	22 05 23.0	
	comp=Z,4.0nm,1.5s								
ARCES	**ARCESS Array B**	**88.93**	**340**	P		P	P	**22 05 44.8**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=90,slow=5.4,SNR=4.5								
FINES	**FINESS Array B**	**89.75**	**331**	P		P	P	**22 05 48.3**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=87,slow=4.7,SNR=5.6								
FINES	**FINESS Array B**	**89.75**	**331**	P		P	P	**22 05 48.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**118.75**	**287**	PKP		**PKPdf**		**22 11 36.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=77,slow=1.6,SNR=11								

*IDC **27** 21:54:09.7±2.1,7.17S×130.38E,h72km±19km, mb3.6/1, mb1 3.9/6, mb1mx3.5/32, mbtmp4.0/6, Error ellipse: s-maj=37.7km s-min=18.0km az=82.0*

ISC 27 21:54:09.4±0.9, 7.11S±0.06×130.5E±0.2, h78km, n6, σ1.887/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.24**	**7**	P	**Pn**	**21 55 39.9**	**+0.9**
	2.8nm,0.3s,baz=180,slow=20,SNR=18						
SIJI				S	**Sn**	**21 56 45.8**	**-3.2**
	2.9nm,0.3s,baz=280,slow=24,SNR=6.1						
BATI	**Baumata**	**7.43**	**245**	P	**Pn**	**21 55 55.1**	**-0.2**
	3.8nm,0.3s,baz=114,slow=20,SNR=8.3						
FITZ	**Fitzroy Crossi**	**11.91**	**203**	P	**Pn**	**21 56 54.4**	**-2.0**
	0.5nm,0.3s,baz=28,slow=12,SNR=20						
FITZ				S	Sn	21 58 57.5	-10
	0.6nm,0.3s,baz=54,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	**13.29**	**164**	P	**Pn**	**21 57 15.5**	**+0.6**
	0.7nm,0.3s,baz=342,slow=13,SNR=34						
WRA				S	**Sn**	**21 59 40.2**	**-0.9**
	1.3nm,0.3s,baz=348,slow=17,SNR=4.7						
ASAR	**Alice Springs**	**16.78**	**169**	P	**P**	**21 58 01.7**	**+1.0**
	0.5nm,0.3s,baz=341,slow=9.7,SNR=29						
ASAR				S	**Sn**	**22 01 03.5**	**-2.2**
	0.2nm,0.3s,baz=350,slow=26,SNR=1.1						
ASAR				ScP	**ScP**	**22 06 13.4**	**+1.4**
	0.1nm,0.3s,baz=2.1,slow=2.3,SNR=1.7						
MKAR	**Makanchi Array**	**68.59**	**327**	P	**P**	**22 05 04.7**	**+0.6**
	0.6nm,0.4s,baz=126,slow=7.2,SNR=11						

PGC 27 22:17:34.0±66.0, 50.63N×130.55W, h21km±3km, MLSn2.9/27, Mw3.5/27, Mw3.5/27, 220km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.54**	**89**	Pn	Pn	22 17 58.2	-2.0
HOLB				Sn	Sn	22 18 15.8	-3.7
HG4B	**Hotspring**	**1.72**	**346**	Pn	Pn	22 18 00.7	-2.0
HG4B				Sn	Sn	22 18 21.9	-2.0
PACB	**Port Alice, BC**	**1.96**	**95**	Pn	Pn	22 18 04.1	-1.8
PACB				Sn	Sn	22 18 25.6	-4.2
PHC	**Port Hardy**	**1.98**	**87**	Pn	Pn	22 18 04.6	-1.6
PHC				Sn	Sn	22 18 26.9	-3.6
BNB	**Barry Inlet**	**2.09**	**339**	Pn	Pn	22 18 06.4	-1.5
MAYB	**Maynard**	**2.17**	**95**	Pn	Pn	22 18 07.3	-1.6
MAYB				Sn	Sn	22 18 31.0	-4.2
BBB	**Bella Bella**	**2.18**	**43**	Pn	Pn	22 18 07.2	-1.7
FHRB	**Fair Harbour**	**2.27**	**103**	Pn	Pn	22 18 08.4	-1.8
EDB	**Eliza Dome**	**2.33**	**108**	Pn	Pn	22 18 09.1	-1.9
TLCB	**Telegraph Cove**	**2.37**	**91**	Pn	Pn	22 18 10.5	-1.1
TLCB				Sn	Sn	22 18 37.3	-2.6
WOSB	**Woss**	**2.59**	**99**	Pn	Pn	22 18 13.6	-1.1
MOBC	**Moresby Island**	**2.67**	**341**	Pn	Pn	22 18 14.8	-1.0
BNKB	**Banks Island**	**2.74**	**8**	Pn	Pn	22 18 15.1	-1.6
BUTB	**Butedale**	**2.76**	**27**	Pn	Pn	22 18 16.4	-0.7
DIB	**Dawson Inlet,**	**2.84**	**336**	Pn	Pn	22 18 17.1	-1.0
BNAB	**Bonilla**	**2.87**	**359**	Pn	Pn	22 18 17.0	-1.5
NCRB	**Newcastle Ridg**	**2.88**	**93**	Pn	Pn	22 18 17.2	-1.5
GDR	**Gold River**	**3.02**	**105**	Pn	Pn	22 18 18.9	-1.7
HWKB	**Hawksbury Isla**	**3.10**	**16**	Pn	Pn	22 18 20.1	-1.5
HWKB				Sn	Sn	22 18 56.1	-1.9
GRNB	**Grenville Isla**	**3.24**	**6**	Pn	Pn	22 18 22.3	-1.4
CBB	**Campbell River**	**3.37**	**98**	Pn	Pn	22 18 24.6	-0.8
CBB				Sn	Sn	22 19 01.4	-3.4
BTB	**Buttle Lake**	**3.44**	**108**	Pn	Pn	22 18 25.0	-1.5
OZB	**Mount Ozzard**	**3.67**	**115**	Pn	Pn	22 18 28.1	-1.5
B928	**Bamfield**	**3.94**	**115**	Pn	Pn	22 18 33.3	+0.2
TXB	**Texada**	**4.04**	**101**	Pn	Pn	22 18 33.6	-0.9
MGB	**Mount Grey**	**4.13**	**111**	Pn	Pn	22 18 35.0	-0.9
SHB	**Sechelt**	**4.42**	**101**	Pn	Pn	22 18 39.1	-0.8
PFB	**Port Renfrew**	**4.47**	**115**	Pn	Pn	22 18 40.5	-0.1
OCP	**Olym-Cheeka Pk**	**4.51**	**119**	Pn	Pn	22 18 39.9	-1.1
UBRB	**Upper Baezaeko**	**4.61**	**58**	Pn	Pn	22 18 43.2	+0.7
UBRB				Sn	Sn	22 19 33.3	-2.1
GOBB	**Galiano Island**	**4.86**	**108**	Pn	Pn	22 18 45.4	-0.4
OBC	**Olympics--Boni**	**4.96**	**119**	Pn	Pn	22 18 48.8	+1.5
B009	**North Saanich**	**5.02**	**111**	Pn	Pn	22 18 48.0	0.0
PGC	**Sidney**	**5.02**	**111**	Pn	Pn	22 18 48.0	+0.1
FSB	**Fort Saint Jam**	**5.41**	**42**	Pn	Pn	22 18 53.4	0.0
MBW	**Mount Baker**	**5.90**	**105**	P	Pn	22 19 02.1	+1.8
CMW	**Cultus Mountai**	**5.91**	**109**	P	Pn	22 19 02.4	+2.0
JCW	**Jim Creek**	**6.13**	**110**	P	Pn	22 19 04.5	+1.2
B06A	**Marblemount**	**6.26**	**106**	P	Pn	22 19 06.5	+1.4
FMW	**Mount Fremont**	**6.93**	**119**	P	Pn	22 19 16.4	+2.0
B08A	**Colville Reser**	**7.65**	**103**	P	Pn	22 19 25.3	+1.2
NBC5	**NorthernBC 5**	**8.31**	**31**	P	Pn	22 19 33.3	+0.1
BESE	**Bessie Mountai**	**8.35**	**344**	P	Pn	22 19 36.0	+2.3

UPP 27 22:18:03.9±0.1, 67.18N×20.60E, h0km, ML1.6, Explosion
HEL 27 22:18:04.5±0.1, 67.17N×20.59E, h0km, ML1.3, ML1.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.05**	**189**	P	Pg	22 18 05.4	0.0
DUNU	**Dundret**	**0.05**	**189**	*i* P	Pg	22 18 05.4	0.0
MASU	**Masugnsbyn**	**0.62**	**62**	P	Pg	22 18 15.6	-0.7
MASU				S	Sg	22 18 23.2	-1.1
MASU	**Masugnsbyn**	**0.62**	**62**	*i* P	Pg	22 18 15.6	-0.7
MASU				*i* S	Sg	22 18 23.2	-1.1
KUA	**Kurravaara**	**0.79**	**353**	P	Pg	22 18 18.6	-1.1
KUA	**Kurravaara**	**0.79**	**353**	*i* P	Pg	22 18 18.6	-1.1
PAJU	**Pajala**	**1.00**	**97**	P	Pg	22 18 22.4	-1.2
PAJU				S	Sg	22 18 36.0	-0.6
PAJU	**Pajala**	**1.00**	**97**	*e*P	Pg	22 18 22.3	-1.3
LANU	**Lannavaara**	**1.03**	**31**	P	Pg	22 18 22.8	-1.5
LANU	**Lannavaara**	**1.03**	**31**	*e*P	Pg	22 18 22.7	-1.6
LANU				*e*S	Sg	22 18 36.5	-1.1
KOVU	**Salmi**	**1.07**	**351**	P	Pg	22 18 23.9	-1.1
KOVU	**Salmi**	**1.07**	**351**	*e*P	Pg	22 18 23.9	-1.1
KLF	**Kolari**	**1.32**	**86**	*e*P	Pg	22 18 27.8	-1.9
KLF				*e*SB	Sg	22 18 45.8	-0.9
HEF	**Hetta**	**1.71**	**42**	*e*P	Pn	22 18 34.5	-1.0
HEF				MSG		22 18 53.2	
	comp=Z,1.2nm,0.2s						
HEF				*e*SG	Sn	22 18 57.0	-0.9
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*PG	Pn	22 18 38.0	+0.7
KIF				MSG		22 18 55.5	
	comp=Z,1.4nm,0.2s						
KIF				*e*SG	Sb	22 19 02.9	+0.3
TOF	**Tornio**	**1.85**	**125**	*e*PG	Pn	22 18 37.7	+0.3
TOF				MSG		22 19 01.2	
	comp=Z,2.0nm,0.2s						
TOF				*e*SG	Sb	22 19 02.7	-0.1
RNF	**Rovaniemi**	**2.21**	**102**	*e*PG	Pb	22 18 43.9	-1.4
SGF	**Sodankyl**	**2.32**	**81**	*e*PB	Pn	22 18 45.1	+1.2
SGF				*e*SB	Sb	22 19 15.0	-1.2

SKO 27 22:18:38.5, 42.28N×21.13E, h17km
TIR 27 22:18:43.8, 41.98N×21.11E, h21km±5km, Md2.7, Ml2.3
BEO 27 22:18:43.1±0.3, 42.08N×21.33E, h8km±4km, ML1.9/14
ISC 27 22:18:42.2±0.8, 42.07N±0.02×21.27E±0.02, h13km±6km, n39, σ1.973/69, 8C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.16**	**128**	*e*Pg	**Pg**	**22 18 46.1**	**+0.1**
SKO				*e*Sg	**Sg**	**22 18 49.5**	**+0.9**
SKO	**Skopje**	**0.16**	**128**	*i* Pg	**Pg**	**22 18 46.0**	**+0.1**
SKO				*i* Sg	**Sg**	**22 18 48.8**	**+0.2**
SKO				*e*Lg	Lg	22 18 48.9	
	comp=E,32nm,0.4s						
PHP	**Peshkopia**	**0.73**	**238**	P	**Pg**	**22 18 55.7**	**-0.7**
	baz=240						
PHP				S	**Sg**	**22 19 04.7**	**-1.3**
	baz=240						
PHP				AMP			
	comp=N,0.3nm,0.2s,baz=240						
STIP	**Stip**	**0.78**	**119**	*i* Pg	**Pn**	**22 19 00.2**	**+1.3**
STIP				*i* Sg	**Sn**	**22 19 13.6**	**+3.1**
BARS	**Barje**	**0.85**	**28**	*e*Pg	**Pg**	**22 18 57.4**	**-1.2**
BARS				*e*Sg	**Sg**	**22 19 09.1**	**-0.6**
BARS	**Barje**	**0.85**	**28**	*i* Pg	**Pg**	**22 18 55.8**	**-2.8**
BARS				*i* Sg	**Sg**	**22 19 07.9**	**-1.8**
BCI	**Bajram Curri**	**0.94**	**289**	P	**Pn**	**22 19 00.8**	**-0.4**
	baz=297						
BCI				S	**Sn**	**22 19 13.4**	**-1.2**
	baz=297						
BCI				AMP			
	comp=N,0.5nm,0.6s,baz=297						
BOSS	**Bosilegrad**	**0.99**	**64**	*e*Pg	**Pb**	**22 19 01.0**	**-0.3**
BOSS				*e*Sg	**Sg**	**22 19 12.8**	**-1.5**
OHR	**Ohrid**	**1.02**	**200**	*i* Pg	**Pn**	**22 19 02.2**	**-0.1**
OHR				*i* Sg	**Sn**	**22 19 16.3**	**-0.3**
OHR				*e*Lg	Lg	22 19 16.9	
	comp=E,45nm,0.5s						
PUK	**Puka**	**1.03**	**269**	P	**Pg**	**22 19 01.4**	**-0.7**
	baz=275						
PUK				S	**Sb**	**22 19 14.6**	**-0.8**
	baz=275						
PUK				AMP			
	comp=N,0.4nm,0.3s,baz=275						
SELS	**Selova**	**1.15**	**354**	*e*Pg	**Pb**	**22 19 04.2**	**+0.1**
SELS				*e*Sg	**Sb**	**22 19 19.3**	**+0.3**
VAY	**Valandovo**	**1.23**	**127**	*e*Pg	**Pn**	**22 19 04.1**	**-1.0**
VAY				*e*Sg	**Sb**	**22 19 20.7**	**-0.3**
VAY	**Valandovo**	**1.23**	**127**	*i* Pg	**Pb**	**22 19 05.6**	**+0.3**
VAY				*i* Sg	**Sg**	**22 19 22.5**	**+0.8**
VAY				*e*Lg	Lg	22 19 25.0	
	comp=E,16nm,0.4s						
TIR	**Tirane**	**1.28**	**236**	*i* Pg	**Pn**	**22 19 04.0**	**-1.8**
FNA	**Florina**	**1.29**	**177**	P	**Pg**	**22 19 06.8**	**-0.3**
	baz=170						
FNA				S	**Sg**	**22 19 24.4**	**+0.6**
	baz=170						
FNA	**Florina**	**1.29**	**177**	*i* Pg	**Pg**	**22 19 06.6**	**-0.5**
FNA				*i* Sg	**Sg**	**22 19 24.6**	**+0.9**
GRG	**Griva**	**1.40**	**142**	*i* Pn	**Pg**	**22 19 09.0**	**-0.1**
ULC	**Ulcinj**	**1.52**	**267**	*i* Pn	**Pn**	**22 19 07.6**	**-1.5**
SJES	**Sjenica**	**1.53**	**322**	*e*Pg	**Pg**	**22 19 11.0**	**-0.6**
SJES				*e*Sg	**Sg**	**22 19 31.8**	**+0.4**
PDG	**Podgorica**	**1.54**	**284**	*e*Pg	**Pg**	**22 19 11.2**	**-0.6**
PDG				*e*Sg	**Sg**	**22 19 32.8**	**+1.0**
PDG	**Podgorica**	**1.54**	**284**	⇑P	**Pg**	**22 19 11.2**	**-0.6**
PDG				⇑S	**Sg**	**22 19 35.7**	**+3.8**
VTS	**Vitosha**	**1.55**	**69**	*e*Pg	**Pn**	**22 19 10.8**	**+1.0**
VTS				*e*Sg	**Sn**	**22 19 29.9**	**0.0**
VTS	**Vitosha**	**1.55**	**69**	⇑P	**Pn**	**22 19 06.6**	**-3.2**
VTS				⇓S	**Sn**	**22 19 26.5**	**-3.4**
VTS	**Vitosha**	**1.55**	**69**	*i* Pn	**Pn**	**22 19 10.7**	**+1.0**
ZAPS	**Zavoj**	**1.57**	**39**	*e*Pg	**Pb**	**22 19 11.5**	**+0.4**
ZAPS				*e*Sg	**Sg**	**22 19 32.7**	**+0.1**
BOVS	**Bovan**	**1.59**	**11**	*e*Pg	**Pn**	**22 19 11.0**	**+0.8**
BOVS				*e*Sg	**Sb**	**22 19 32.6**	**+0.9**
BOVS	**Bovan**	**1.59**	**11**	⇑P	**Pn**	**22 19 10.7**	**+0.5**
BOVS				⇓S	**Sg**	**22 19 34.1**	**+0.5**
BLKB	**Belogradchik**	**1.86**	**33**	⇓S	**Sn**	**22 19 38.7**	**+1.4**
GRUS	**Gruza**	**1.86**	**347**	*e*Pg	**Pb**	**22 19 17.0**	**+0.9**
GRUS				*e*Sg	**Sg**	**22 19 42.5**	**+0.4**
ZAGS	**Zajecar**	**1.88**	**22**	*e*Pg	**Pb**	**22 19 17.3**	**+0.9**
ZAGS				*e*Sg	**Sg**	**22 19 43.1**	**+0.5**
MDVR	**Moldovita**	**2.73**	**7**	⇓P	**Pn**	**22 19 26.5**	**+0.7**
MDVR				⇓S	**Sb**	**22 20 02.2**	**-2.2**
STON	**Ston**	**2.76**	**288**	*e*Pn	**Pn**	**22 19 29.1**	**-2.3**
STON				Sn	**Sb**	**22 20 04.5**	**-0.7**
FRGS	**Fruska Gora**	**3.26**	**342**	⇑P	**Pn**	**22 19 35.0**	**+1.8**
GZR	**Gura Zlata**	**3.50**	**18**	⇑P	**Pn**	**22 19 36.0**	**-0.4**
BZS	**Buzias**	**3.55**	**4**	⇑P	**Pn**	**22 19 38.2**	**+1.1**
BZS				⇓S	**Sn**	**22 20 23.2**	**+4.3**
KIJV	**Kijevo**	**4.06**	**300**	*e*Pn	**Pn**	**22 19 48.2**	**+4.2**
KIJV				Sn	**Sb**	**22 20 36.6**	**-6.0**
SIRR	**Siria**	**4.21**	**4**	⇓P	**Pn**	**22 19 46.4**	**+0.3**
ZIRJ	**Zirje**	**4.43**	**293**	*e*Pn	**Pn**	**22 19 51.9**	**+2.7**
ZIRJ				Sn	**Sn**	**22 20 44.1**	**+3.5**
MORH	**Mrgy, Hungar**	**4.55**	**336**	⇑P	**Pn**	**22 19 51.8**	**+1.0**

NEIC 27 22:42:12.6±1.4, 6.03S±0.08×147.24E±0.10, h56km±6km, mb4.5/43, Error ellipse: s-maj=14.8km s-min=10.4km az=113.0
IDC 27 22:42:12.9±2.0, 6.09S×147.21E, h63km±18km, mb4.0/19, mb1 4.2/23, mb1mx4.1/38, mbtmp4.4/23, MS3.7/7, Ms1 3.7/7, ms1mx3.4/32, Error ellipse: s-maj=19.3km s-min=9.7km az=98.0
DJA 27 22:42:13.4±0.5, 6˚S±4˚×14˚7E±˚, h69km±7km, M5.0/17, mB5.5/2, mb4.7/17, MLv5.2/3, Mw(mB)5.0/2
ISC 27 22:42:14.5±0.4, 6.12S±0.05×147.22E±0.07, h78km, n103, σ1.927/101, mb4.5/40, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.27**	**181**	P	**Pn**	**22 43 02.9**	**-0.6**
	23nm,0.3s,baz=48,slow=6.9,SNR=21						
PMG				S	**Sn**	**22 43 40.2**	**-1.0**
	28nm,0.3s,baz=320,slow=11,SNR=3.1						
RABL	**Rabaul**	**5.29**	**69**	Pn	**Pn**	**22 43 28.6**	**-2.4**
GENI	**Genyem**	**7.85**	**296**	P	**Pn**	**22 44 06.8**	**+0.8**
	0.5nm60nm,1.3s						
CTA	**Charters Tower**	**13.92**	**184**	P	**Pn**	**22 45 28.5**	**+0.2**
	0.5nm,0.3s,baz=12,slow=14,SNR=1.7						
CTAO	**Charters Tower**	**13.92**	**184**	Pn	**Pn**	**22 45 29.3**	**+1.1**
FAKI	**Fak Fak**	**15.26**	**281**		**Pn**	**22 45 46.5**	**+1.0**
FAKI				IAmb	IAmb	22 45 50.6	
	comp=Z,23nm,0.8s						
SIJI	**Sorong**	**16.75**	**288**	P	**Pn**	**22 46 04.0**	**-0.3**
	comp=Z,4.8nm,0.3s,baz=154,slow=9.9,SNR=9.2						
SIJI				LR	LR	22 54 17.6	
	comp=Z,104nm,20.7s,baz=207,slow=43						
SIJI	**Sorong**	**16.75**	**288**	P	**P**	**22 46 06.6**	**+1.3**
	comp=Z,18nm,0.6s						
SWI	**Sorong**	**16.76**	**288**	P	**P**	**22 46 08.0**	**+2.6**
	comp=Z,52nm,0.6s						
MTN	**Manton Dam**	**17.21**	**246**		**Pn**	**22 46 09.8**	**-0.1**
MTN				IAmb	IAmb	22 46 31.0	
	comp=Z,14nm,0.7s						
WB0	**Warramunga Arr**	**18.43**	**221**	P	**P**	**22 46 23.8**	**0.0**
WB2	**Warramunga Arr**	**18.58**	**221**	P	**P**	**22 46 24.9**	**-0.6**
WB2				IAmb	IAmb	22 46 40.7	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**18.59**	**221**	P	**P**	**22 46 25.0**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=47,slow=12,SNR=28						
WRA				S	**S**	**22 49 44.6**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=46,slow=21,SNR=2.7						
WRA				PcP	**PcP**	**22 50 53.5**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=30,slow=1.8,SNR=16						
WRA				LR	LR	22 55 10.4	
	comp=Z,130nm,21.2s,baz=50,slow=42						
WRA	**Warramunga Arr**	**18.59**	**221**	P	**P**	**22 46 24.4**	**-1.1**
KRAI	**Karang Ratu**	**18.96**	**278**	P	**P**	**22 46 29.7**	**0.0**
	comp=Z,60nm,0.8s						
EIDS	**Eidsvold**	**19.50**	**169**	P	P	**22 46 34.9**	**-0.5**
NLAI	**Namlea**	**20.25**	**277**	P	Pn	22 46 45.7	-0.6
	comp=Z,25nm,0.6s						
KNRA	**Kununurra**	**20.44**	**241**	P	**P**	**22 46 44.6**	**-1.2**
KNRA				IAmb	IAmb	22 47 07.9	
	comp=Z,22nm,0.9s						
AS31	**Alice Springs**	**21.64**	**215**	P	**P**	**22 46 58.4**	**-0.2**
ASAR	**Alice Springs**	**21.64**	**215**	P	**P**	**22 46 58.5**	**-0.2**
	comp=Z,5.1nm,0.6s,baz=47,slow=8.6,SNR=54						
ASAR				S	**S**	**22 50 55.0**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=39,slow=18,SNR=3.8						
SOEI	**Soe**	**23.01**	**259**	P	**P**	**22 47 12.6**	**-0.7**
SOEI				IAmb	IAmb	22 47 40.5	
	comp=Z,45nm,1.0s						
BATI	**Baumata**	**23.66**	**259**	P	**P**	**22 47 19.0**	**-0.2**
	comp=Z,17nm,0.6s,baz=108,slow=20,SNR=2.3						
FITZ	**Fitzroy Crossi**	**24.19**	**239**	P	**P**	**22 47 23.6**	**-0.2**
	comp=Z,38nm,0.9s,baz=78,slow=8.1,SNR=40						
FITZ	**Fitzroy Crossi**	**24.19**	**239**	P	**P**	**22 47 23.2**	**-0.6**
FITZ				IAmb	IAmb	22 47 25.9	
	comp=Z,30nm,0.8s						
ARMA	**Armidale**	**24.53**	**171**	P	**P**	**22 47 28.3**	**+1.4**
ARMA				IAmb	IAmb	22 47 35.3	
	comp=Z,36nm,1.5s						
LUWI	**Luwuk**	**24.91**	**281**	P	**P**	**22 47 29.3**	**-1.2**
LUWI	**Luwuk**	**24.91**	**281**	P	**P**	**22 47 30.7**	**+0.3**
	comp=Z,1μmcomp=Z,154nm,0.9s						
EDFI	**Ende, Flores**	**25.44**	**263**	P	**P**	**22 47 33.5**	**-1.9**
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**26.16**	**191**	P	**P**	**22 47 40.1**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=344,slow=15,SNR=1.7						
STKA				LR	LR	22 58 23.1	
	comp=Z,419nm,18.8s,baz=343,slow=37						
STKA	**Stephens Creek**	**26.16**	**191**	P	**P**	**22 47 41.4**	**-0.2**
TOLI2	**Tolitoli**	**27.35**	**284**	P	**P**	**22 47 51.8**	**-0.7**
TOLI2				IAmb	IAmb	22 48 03.5	
	comp=Z,7.4nm,0.9s						
KAPI	**Kappang**	**27.36**	**271**	LR	LR	23 00 53.6	
	comp=Z,200nm,18.5s,baz=121,slow=41						
BBOO	**Buckleboo**	**28.52**	**200**	P	**P**	**22 48 02.9**	**+0.1**
BBOO				IAmb	IAmb	22 48 17.7	
	comp=Z,13nm,1.1s						
FORT	**Forrest**	**30.42**	**214**	P	**P**	**22 48 19.7**	**+0.1**
FORT				IAmb	IAmb	22 48 27.5	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**30.61**	**237**	P	**P**	**22 48 21.0**	**-0.4**
PSA00				IAmb	IAmb	22 48 25.3	
	comp=Z,4.7nm,0.9s						
PSA00	**Pilbara Seismi**	**30.61**	**237**	P	**P**	**22 48 21.2**	**-0.2**
PSA00				IAmb	IAmb	22 48 25.3	
	comp=Z,38nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**32.15**	**37**	T	T	23 22 19.7	
	baz=218,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.17**	**37**	T	T	23 22 22.0	
	baz=218,slow=76						
H11N2	**WAKE ISLAND Hy**	**32.17**	**37**	T	T	23 22 22.0	
	baz=218,slow=76						
MORW	**Morawa**	**37.25**	**228**	P	**P**	**22 49 20.1**	**+1.3**
TPUB	**Ta-pu**	**39.11**	**319**	P	**P**	**22 49 32.9**	**-1.6**
TPUB				IAmb	IAmb	22 49 40.5	
	comp=Z,22nm,1.1s						
JHJ	**Hachijo jima 2**	**39.66**	**350**	LR	LR	23 05 51.0	
	comp=Z,233nm,18.8s,baz=90,slow=36						
TUWZ	**Tuamarina**	**42.47**	**150**	P	**P**	**22 50 02.2**	**+0.3**
RPZ	**Rata Peaks**	**42.91**	**155**	P	**P**	**22 50 06.3**	**+0.9**
LBZ	**Lake Benmore**	**43.09**	**156**	P	**P**	**22 50 07.5**	**+0.6**
MJAR	**Matsushiro Arr**	**43.27**	**349**	P	**P**	**22 50 07.8**	**-0.6**
	comp=Z,5.4nm,1.1s,baz=176,slow=7.2,SNR=5.3						
MJB9	**Matsu-Tunnel**	**43.27**	**349**	P	**P**	**22 50 07.3**	**-1.1**
MJB9				IAmb	IAmb	22 50 10.3	
	comp=Z,19nm,1.3s						
BKNI	**Bangkinang**	**46.53**	**276**	P	**P**	**22 50 34.6**	**-0.1**
NJ2	**Nanjing**	**46.60**	**326**	*e*P	**P**	**22 50 36.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**46.94**	**339**	P	**P**	**22 50 37.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=159,slow=9.6,SNR=7.7						
KSRS				LR	LR	23 09 05.1	
	comp=Z,68nm,18.4s,baz=170,slow=34						
JTM	**Tenmabayashi**	**47.02**	**354**	P	**P**	**22 50 39.0**	**+1.0**
GSI	**Gunungsitoli**	**50.11**	**277**	P	**P**	**22 51 01.6**	**-0.6**
USRK	**Ussuriysk Ar.**	**51.94**	**346**	P	**P**	**22 51 16.0**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=157,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**53.50**	**298**	P	**P**	**22 51 27.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=125,slow=5.9,SNR=6.2						
CMAR	**Chiang Mai Arr**	**53.50**	**298**	P	**P**	**22 51 27.2**	**-0.2**
XAN	**Xi'an**	**53.91**	**320**	P	**P**	**22 51 29.5**	**-0.7**
XAN				pP	pP	22 51 40.8	-8.7
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR	**Kul'dur**	**56.75**	**348**	P	**P**	**22 51 50.2**	**0.0**
	comp=Z,2.1nm,1.0s,baz=101,slow=4.1,SNR=4.5						
HHC	**Hu-ho-hao-te**	**57.05**	**328**	*e*P	**P**	**22 51 54.0**	**+1.4**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,99nm,8.8s						
PEA0B	**Petropavlovsk-**	**59.67**	**7**	P	**P**	**22 52 11.1**	**+0.6**
PETK	**Petropavlovsk-**	**59.67**	**7**	P	**P**	**22 52 10.2**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=160,slow=5.3,SNR=10						
PETK				LR	LR	23 13 13.0	
	comp=Z,75nm,21.7s,baz=197,slow=31						
PETK	**Petropavlovsk-**	**59.67**	**7**	P	**P**	**22 52 11.3**	**+0.8**
GTA	**Gaotai**	**62.97**	**320**	*e*P	**P**	**22 52 34.0**	**+0.7**
GTA				pP	PcP	22 53 11.3	+0.7
GTA				sP	sP	22 53 24.3	+22
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**64.32**	**331**	P	**P**	**22 52 41.4**	**-0.6**
ULN				IAmb	IAmb	22 52 44.7	
	comp=Z,2.7nm,0.6s						
ULN	**Ulaanbaatar**	**64.32**	**331**	P	**P**	**22 52 41.8**	**-0.2**
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**64.61**	**331**	P	**P**	**22 52 43.7**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=151,slow=4.7,SNR=6.5						
SONM	**Songino Array**	**64.61**	**331**	P	**P**	**22 52 43.6**	**-0.3**
CASY	**Casey**	**65.20**	**195**	P	**P**	**22 52

KUA	**Kurravaara**	**0.79**	**352**	*i*	P		Pg	22 45 46.1	-1.1
KUA				*i*	S		Sg	22 45 56.4	-0.9
NIKU	**Nikkaluokta**	**0.93**	**319**		P		Pg	22 45 48.8	-1.0
NIKU	**Nikkaluokta**	**0.93**	**319**	*e*	P		Pg	22 45 48.8	-1.0
PAJU	**Pajala**	**0.98**	**98**		P		Pg	22 45 49.5	-1.4
PAJU					S		Sg	22 46 02.7	-0.9
PAJU	**Pajala** baz=281	**0.98**	**98**	*e*	P		Pg	22 45 49.5	-1.4
PAJU				*e*	SB		Sb	22 46 05.9	+0.4
LANU	**Lannavaara**	**1.01**	**30**		P		Pg	22 45 50.0	-1.5
LANU	**Lannavaara**	**1.01**	**30**	*e*	P		Pg	22 45 50.0	-1.5
LANU				*e*	SB		Sg	22 46 04.9	+0.3
KOVU	**Salmi**	**1.06**	**350**		P		Pg	22 45 51.0	-1.5
KOVU					S		Sg	22 46 05.2	-0.9
KOVU	**Salmi**	**1.06**	**350**	*e*	P		Pg	22 45 51.0	-1.5
KOVU				*e*	S		Sg	22 46 05.2	-0.9
KLF	**Kolari**	**1.30**	**86**	*e*	P		Pg	22 45 55.0	-1.9
KLF				*e*	S		Sg	22 46 12.0	-1.7
HEF	**Hetta**	**1.69**	**42**	*e*	P		Pn	22 46 02.6	-0.2
HEF	**Hetta**	**1.69**	**42**	*e*	P		Pn	22 46 01.7	-1.1
HEF	comp=Z,3.3nm,0.2s				MSG			22 46 22.7	
HEF				*e*	SN		Sb	22 46 25.8	+0.1
SJUU	**Sjulsmark**	**1.73**	**166**		P		Pn	22 46 02.8	-0.5
SJUU	**Sjulsmark**	**1.73**	**166**	*e*	P		Pn	22 46 02.8	-0.5
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*	P		Pb	22 46 05.9	-0.6
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*	P		Pn	22 46 04.8	0.0
KIF	comp=Z,4.6nm,0.2s				MSG			22 46 27.6	
KIF				*e*	SG		Sg	22 46 30.7	-0.2
TOF	**Tornio**	**1.84**	**125**	*e*	P		Pn	22 46 04.6	-0.3
TOF	comp=Z,6.1nm,0.2s				MSG			22 46 26.6	
TOF				*e*	SN		Sn	22 46 29.3	+0.5
LILU	**Lilltraesk**	**1.93**	**190**		P		Pn	22 46 06.1	0.0
LILU	**Lilltraesk**	**1.93**	**190**	*e*	P		Pn	22 46 06.1	0.0
RNF	**Rovaniemi**	**2.20**	**103**	*e*	PB		Pn	22 46 10.2	+0.4
RNF				*e*	SG		Sb	22 46 39.5	-0.8
SGF	**Sodankyl**	**2.30**	**81**	*e*	PB		Pn	22 46 11.9	+0.7
SGF				*e*	SG		Sb	22 46 42.4	-0.9
OUF	**Merijarvi** baz=329	**3.29**	**147**	*e*	PG		Pb	22 46 30.5	-0.8
UMAU	**Umeaa** baz=358	**3.31**	**180**	*e*	P		Pn	22 46 25.5	+0.4
UMAU				*e*	S		Sn	22 47 05.0	-0.1
KEV	**Kevo**	**3.49**	**39**	*e*	PG		Pb	22 46 35.2	+0.5
OLKF	**Oulanka, Finla** baz=285	**3.58**	**100**	*e*	PG		Pb	22 46 37.5	+1.3
MSF	**Maaselka**	**3.59**	**107**	*e*	SG		Sb	22 47 22.6	+2.0
KU6	**Riekki**	**3.87**	**103**	*e*	SG		Sb	22 47 31.3	+2.9
VAF	**Ylistaro** baz=351	**4.24**	**167**	*e*	P		Pn	22 46 38.5	+0.7

*TUL **27** 22:49:06.8±1.7,36°.59N±0°.02×97°.57W±0°.03,h6km±7km, ML3.1,mb_Lg3.1/92(NEIC),Error ellipse: s-maj=3.9km s-min=1.6km az=47.0*

*ANF **27** 22:49:07.3±0.4,36°.58N×97°.54W,h6km,ML3.6/8,Error ellipse: s-maj=3.2km s-min=2.8km az=117.0*

*NEIC **27** 22:49:07.1±1.0,36°.58N±0°.02×97°.56W±0°.06,h1km±6km, Error ellipse: s-maj=7.1km s-min=2.3km az=75.0*

ISC 27 22:49:06.7±1.1,36°.58N±0°.02×97°.56W±0°.02,h5km±10km, n89,σ0ˢ93/73,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.33**	**57**		**Pg**	**22 49 13.6**	**+0.4**
CROK	**Carrier**	**0.35**	**258**		**Pg**	**22 49 13.8**	**+0.3**
CROK				Sg	**Sg**	**22 49 18.8**	**+0.7**
KAN13	**South Haven SW**	**0.44**	**8**		**Pg**	**22 49 15.4**	**+0.2**
KAN17	**Caldwell West**	**0.49**	**340**		**Pg**	**22 49 16.3**	**+0.1**
KAN17				Sg	**Sg**	**22 49 23.1**	**+0.4**
KAN09	**Caldwell North**	**0.56**	**355**		**Pg**	**22 49 17.5**	**0.0**
KAN09				Sg	**Sg**	**22 49 25.1**	**+0.4**
OK032	**Salt Plains WL**	**0.57**	**293**		**Pg**	**22 49 17.7**	**0.0**
OK032				Sg	**Sg**	**22 49 25.6**	**+0.4**
KS20	**Mayfield South**	**0.65**	**0**		**Pg**	**22 49 19.2**	**0.0**
KAN10	**Anthony SW Sta**	**0.69**	**322**		**Pg**	**22 49 19.8**	**-0.3**
KAN10				Sg	**Sg**	**22 49 29.4**	**+0.3**
KAN08	**Anthony NE Sta**	**0.73**	**333**		**Pg**	**22 49 20.6**	**0.0**
OK029	**Liberty Lake**	**0.79**	**174**	Pg	**Pg**	**22 49 21.9**	**+0.2**
OK029	comp=Z,156nm,0.8s			lAmb_Lg		22 49 32.0	
QUOK	**Quay**	**0.80**	**120**		**Pg**	**22 49 22.1**	**+0.1**
KAN12	**Harper NE Stat**	**0.80**	**334**		**Pg**	**22 49 21.9**	**-0.1**
OK031	**S. Brethren Rd**	**0.85**	**137**		**Pg**	**22 49 23.2**	**+0.1**
OK030	**Cody Creek RV**	**0.90**	**136**		**Pg**	**22 49 24.1**	**+0.1**
T35A	**Sooner Cattle**	**0.91**	**68**		**Pg**	**22 49 24.0**	**-0.1**
T35B	**Sooner Cattle** baz=249	**0.91**	**68**	P	**Pg**	**22 49 24.0**	**-0.1**
T35B	baz=249			S	**Sg**	**22 49 35.8**	**0.0**
T35B	**Sooner Cattle** baz=249	**0.91**	**68**	P		22 49 24.0	
T35B	baz=249			S		22 49 35.8	
BCOK	**Bluff Creek, N**	**0.92**	**183**		**Pg**	**22 49 24.4**	**0.0**
OK025	**Westminster Rd**	**1.01**	**170**		**Pg**	**22 49 26.1**	**0.0**
OKCFA	**Oklahoma City**	**1.16**	**176**		**Pb**	**22 49 28.8**	**-0.5**
OKCFA	**Oklahoma City** baz=356	**1.16**	**176**	P	**Pb**	**22 49 28.8**	**-0.5**
OKCFA	baz=356			S	**Sn**	**22 49 44.8**	**-1.0**
OKCFA	**Oklahoma City** baz=356	**1.16**	**176**	P		22 49 28.8	
OKCFA	baz=356			S		22 49 44.8	
OKCSW	**OKLAHOMA CITY**	**1.18**	**175**		**Pb**	**22 49 29.0**	**-0.5**
FNO	**Franklin**	**1.32**	**174**		**Pn**	**22 49 31.5**	**-0.3**
W35A	**Tecumseh**	**1.53**	**158**		**Pb**	**22 49 34.8**	**-0.7**
TUL1	**Leonard** baz=296,SNR=47	**1.58**	**115**	P	**Pn**	**22 49 35.5**	**+0.2**
TUL1	baz=296			S	**Sg**	**22 49 56.8**	**-0.5**
TUL1	**Leonard** baz=296,SNR=47	**1.58**	**115**	P		22 49 35.5	
TUL1	baz=296			S		22 49 56.8	
X34A	**Smith Ranch, M**	**1.99**	**187**	Pn	**Pb**	**22 49 42.3**	**-1.0**
X34A	comp=Z,144nm,0.8s			lAmb_Lg		22 50 13.1	
R32A	**Long Quarter,**	**2.06**	**334**		**Pb**	**22 49 43.0**	**-1.6**
R32A	comp=Z,93nm,0.7s			lAmb_Lg		22 50 15.1	
R32A	**Long Quarter,** baz=153	**2.06**	**334**	S	**Sb**	**22 50 09.1**	**-1.3**
R32A	**Long Quarter,** baz=153	**2.06**	**334**	S		22 50 09.1	
WMOK	**Wichita Mounta**	**2.09**	**209**		**Pn**	**22 49 43.0**	**+0.6**
WMOK	comp=Z,106nm,0.7s			lAmb_Lg		22 50 15.9	
WMOK	**Wichita Mounta** baz=28,SNR=105	**2.09**	**209**	P	**Pn**	**22 49 43.1**	**+0.8**
WMOK	baz=28			S	**Sb**	**22 50 10.7**	**-0.6**
WMOK	**Wichita Mounta** baz=28,SNR=105	**2.09**	**209**	P		22 49 43.1	
WMOK	baz=28			S		22 50 10.7	
U38A	**Gravette**	**2.56**	**92**		**Pn**	**22 49 50.2**	**+1.4**
U38A	comp=Z,52nm,0.7s			lAmb_Lg		22 50 35.2	
LOOK	**Love County**	**2.60**	**173**		**Pn**	**22 49 50.7**	**+1.3**
LOOK	comp=Z,53nm,0.9s			lAmb_Lg		22 50 31.9	
KSU1	**Kansas State U**	**2.63**	**16**		**Pn**	**22 49 50.6**	**+0.8**
X37A	**Clayton**	**2.67**	**137**		**Pn**	**22 49 51.5**	**+1.2**
X37A	comp=Z,45nm,0.7s			lAmb_Lg		22 50 39.1	
X37A	**Clayton** baz=319	**2.67**	**137**	S	**Sb**	**22 50 25.1**	**-2.8**
X37A	**Clayton** baz=319	**2.67**	**137**	S		22 50 25.1	
CBKS	**Cedar Bluff**	**2.82**	**323**		**Pn**	**22 49 53.6**	**+1.1**
HHAR	**Hobbs**	**2.93**	**95**		**Pn**	**22 49 55.0**	**+1.1**
W39A	**Magazine**	**3.36**	**113**		**Pn**	**22 50 01.2**	**+1.4**
W39A	comp=Z,65nm,0.8s			lAmb_Lg		22 51 00.1	
W39A	**Magazine** baz=296	**3.36**	**113**	S	**Sn**	**22 50 41.6**	**+1.5**
W39A	**Magazine** baz=296	**3.36**	**113**	S		22 50 41.6	
S39A	**Bolivar**	**3.56**	**71**		**Pn**	**22 50 03.2**	**+0.6**
S39A	**Bolivar** baz=253,SNR=31	**3.56**	**71**	P	**Pn**	**22 50 03.1**	**+0.6**
S39A	**Bolivar** baz=253,SNR=31	**3.56**	**71**	P		22 50 03.1	
AMTX	**Amarillo**	**3.76**	**244**	Pn	**Pn**	**22 50 06.6**	**+1.2**
AMTX	comp=Z,34nm,0.7s			lAmb_Lg		22 51 14.0	
U40A	**Yellville**	**3.80**	**92**		**Pn**	**22 50 07.2**	**+1.3**
U40A	comp=Z,55nm,0.9s			lAmb_Lg		22 51 10.9	
MIAR	**Mount Ida**	**3.83**	**121**		**Pn**	**22 50 07.3**	**+1.0**
MIAR	comp=Z,47nm,0.8s			lAmb_Lg		22 51 16.7	
N33A	**J Bar K, Exete**	**4.15**	**1**	Pn	**Pn**	**22 50 10.6**	**-0.2**
N33A	comp=Z,31nm,0.8s			lAmb_Lg		22 51 28.3	
MGMO	**Mountain Grove**	**4.28**	**81**		**Pn**	**22 50 14.0**	**+1.5**
MGMO	comp=Z,31nm,0.7s			lAmb_Lg		22 51 26.0	
ABTX	**Abilene, Hawle**	**4.30**	**204**		**Pn**	**22 50 13.6**	**+0.8**
X40A	**Basin Creek Fa**	**4.38**	**117**		**Pn**	**22 50 15.3**	**+1.5**
X40A	comp=Z,30nm,0.8s			lAmb_Lg		22 51 30.0	
P38A	**Dawn**	**4.40**	**45**		**Pn**	**22 50 15.0**	**+0.9**
WHAR	**Wooly Hollow**	**4.46**	**105**		**Pn**	**22 50 16.1**	**+1.1**
WHAR	comp=Z,40nm,0.7s			lAmb_Lg		22 51 31.4	
N35A	**Tabor**	**4.53**	**19**		**Pn**	**22 50 17.0**	**+1.1**
W41B	**Gary Mavity, V** baz=290	**4.53**	**106**	S	**Sn**	**22 51 10.8**	**+1.8**
W41B	**Gary Mavity, V** baz=290	**4.53**	**106**	S		22 51 10.8	
R40A	**Maddies Statio**	**4.54**	**66**		**Pn**	**22 50 16.9**	**+0.8**
R40A	comp=Z,28nm,1.0s			lAmb_Lg		22 51 35.7	
WLAR	**White Oak Lake** comp=Z,27nm,0.8s	**4.65**	**127**	lAmb_Lg		22 51 43.8	
KSCO	**Kaye Shedlock'**	**4.69**	**303**		**Pn**	**22 50 19.3**	**+1.0**
KSCO	comp=Z,38nm,0.7s			lAmb_Lg		22 51 42.5	
237A	**Washetta, Mont** comp=Z,24nm,0.9s	**4.79**	**162**	lAmb_Lg		22 51 48.9	
BGNE	**Belgrade**	**4.84**	**355**		**Pn**	**22 50 20.8**	**+0.6**
MSTX	**Muleshoe**	**5.00**	**240**		**Pn**	**22 50 23.2**	**+0.7**
T42A	**Van Buren**	**5.21**	**83**		**Pn**	**22 50 26.7**	**+1.5**
CCM	**Cathedral Cave**	**5.24**	**72**		**Pn**	**22 50 26.0**	**+0.3**
CCM	comp=Z,43nm,0.8s			lAmb_Lg		22 51 57.7	
P40A	**Paris**	**5.25**	**54**		**Pn**	**22 50 25.7**	**-0.1**
N38A	**Joes South For** comp=Z,52nm,0.8s	**5.40**	**37**	lAmb_Lg		22 52 04.0	
T25A	**Trinidad**	**5.52**	**278**	Pn	**Pn**	**22 50 29.7**	**0.0**
OGNE	**Ogallala**	**5.59**	**323**	Pn	**Pn**	**22 50 31.7**	**+1.2**
OGNE	comp=Z,43nm,0.9s			lAmb_Lg		22 52 09.7	
OGNE	**Ogallala** baz=140,SNR=6.4	**5.59**	**323**	P	**Pn**	**22 50 32.1**	**+1.6**
OGNE	**Ogallala** baz=140,SNR=6.4	**5.59**	**323**	P		22 50 32.1	
HBAR	**Harrisburg** comp=Z,50nm,0.8s	**5.68**	**98**	lAmb_Lg		22 52 07.5	
PBMO	**Poplar Bluff** comp=Z,21nm,0.8s	**5.73**	**86**	lAmb_Lg		22 52 25.1	
435B	**Jarrell**	**5.78**	**180**	Pn	**Pn**	**22 50 34.0**	**+0.9**
435B	comp=Z,33nm,0.9s			lAmb_Lg		22 52 15.5	
K31A	**O'Neill**	**6.11**	**352**	Pn	**Pn**	**22 50 37.3**	**-0.3**
JCT	**Junction City** comp=Z,34nm,0.9s	**6.37**	**198**	lAmb_Lg		22 52 36.6	
SDCO	**Great Sand Dun** comp=Z,23nm,1.2s	**6.45**	**283**	Pn	**Pn**	**22 50 44.1**	**+1.6**
SDCO				lAmb_Lg		22 52 34.2	
N41A	**Harden Midland** comp=Z,30nm,0.8s	**6.67**	**50**	lAmb_Lg		22 52 49.1	
S44A	**Carbondale** comp=Z,31nm,0.8s	**6.73**	**78**	lAmb_Lg		22 52 39.9	
SIUC	**Southern Illin** comp=Z,35nm,0.9s	**6.76**	**78**	lAmb_Lg		22 52 40.7	
K38A	**Parkersburg** comp=Z,37nm,0.7s	**7.10**	**30**	lAmb_Lg		22 53 02.6	
T45A	**Paducah** comp=Z,31nm,0.9s	**7.17**	**84**	lAmb_Lg		22 53 13.3	
L40A	**Anamosa** comp=Z,29nm,1.0s	**7.36**	**40**	lAmb_Lg		22 53 19.0	
PHWY	**Pilot Hill** comp=Z,14nm,1.0s	**7.75**	**310**	lAmb_Lg		22 53 21.5	
SUSD	**Miller** comp=Z,16nm,0.7s	**7.93**	**353**	lAmb_Lg		22 53 25.2	
O44A	**Mansfield** comp=Z,28nm,0.8s	**7.98**	**61**	lAmb_Lg		22 53 22.0	
I37A	**Lemond, Waseca** comp=Z,30nm,0.9s	**8.08**	**22**	lAmb_Lg		22 53 33.2	
L42A	**Oliver, Polo** comp=Z,30nm,0.9s	**8.17**	**46**	lAmb_Lg		22 53 36.3	
T47A	**Sharon Grove** comp=Z,26nm,1.2s	**8.40**	**84**	lAmb_Lg		22 53 46.1	
JFWS	**Jewell Farm** comp=Z,18nm,0.7s	**8.47**	**39**	lAmb_Lg		22 53 37.4	
I40A	**Norwalk** comp=Z,13nm,0.8s	**9.03**	**34**	lAmb_Lg		22 54 18.8	
RWWY	**Rawlins** comp=Z,9nm,1.1s	**9.07**	**307**	lAmb_Lg		22 54 05.9	
CLTN	**Cedars of Leba** comp=Z,10nm,0.9s	**9.07**	**90**	lAmb_Lg		22 54 01.8	
BLO	**Bloomington** comp=Z,20nm,0.7s	**9.10**	**70**	lAmb_Lg		22 54 06.4	
K22A	**Casper** comp=Z,24nm,1.0s	**9.20**	**314**	lAmb_Lg		22 54 19.1	
I42A	**Draeger Farm,** comp=Z,16nm,1.1s	**9.85**	**39**	lAmb_Lg		22 54 17.1	

JMA 27 22:51:30.3,37°.62N×141°.78E,h50km±1km,M3.6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.72**	**279**	P	Pn	22 51 44.3	+0.1
JMST				S	Sn	22 51 54.4	+0.1
JIKH	**Ishinomakikobu**	**0.73**	**340**	P	Pn	22 51 44.7	+0.2
JIKH				S	Sn	22 51 54.7	-0.1
JFK	**Kawauchi**	**0.76**	**251**	P	Pn	22 51 45.0	+0.1
JFK				S	Sn	22 51 55.2	-0.3
JMM	**Marumori**	**0.82**	**288**	P	Pn	22 51 45.9	+0.3
JMM				*e*S	Sn	22 51 57.0	+0.2
JIO	**Ouri**	**0.90**	**338**	P	Pn	22 51 46.9	+0.2
JIO				S	Sn	22 51 58.5	-0.2
ONAJ	**Iwakimizuishiy**	**0.94**	**237**	P	Pn	22 51 47.2	0.0
ONAJ				*e*S	Sn	22 51 59.4	-0.3
JFT	**Otama**	**1.15**	**265**	P	Pn	22 51 51.0	+0.9
JFT				S	Sn	22 52 05.7	+0.9
JOU	**Okura**	**1.15**	**311**	P	Pn	22 51 50.6	+0.5
JOU				S	Sn	22 52 05.8	+1.0
JKMT	**Kesennumamotoy**	**1.21**	**349**	P	Pn	22 51 51.1	+0.2
JKMT				*e*S	Sn	22 52 06.2	0.0
JMK	**Ichinoseki**	**1.40**	**342**	P	Pn	22 51 54.0	+0.6
JMK				S	Sn	22 52 11.1	+0.3
JYS	**Shirataka**	**1.48**	**294**	P	Pn	22 51 55.5	+0.9
JYS				*e*S	Sn	22 52 14.0	+1.2
JFY	**Yanaizu**	**1.66**	**263**	P	Pn	22 51 57.7	+0.6
JFY				S	Sn	22 52 18.3	+1.0
JYK	**Kaneyama**	**1.71**	**320**	P	Pn	22 51 58.5	+0.8
JYK				S	Sn	22 52 19.6	+1.2
JOM	**Ohasama**	**1.89**	**348**	P	Pn	22 52 00.8	+0.7
JYA	**Atsumi**	**1.90**	**301**	P	Pn	22 52 01.2	+1.0
MAT	**Matsushiro**	**3.05**	**250**	P	Pn	22 52 17.6	+1.5
MAT				*e*S	Sn	22 52 53.2	+1.8

*IDC **27** 22:53:60.0±1.0,9°.31S×125°.36E,h0km,mb4.0/6, mb1 4.3/9,mb1mx4.0/41,mbtmp4.2/9,ML4.4/3,Error ellipse: s-maj=36.5km s-min=19.2km az=75.0*

*DJA **27** 22:54:07.2±0.4,10°.5±5°×12°.5E±°,h64km±7km,M4.5/8, mb4.7/7,MLv4.4/8*

*NEIC **27** 22:54:07.1±2.8,9°.52S±0°.07×125°.15E±0°.05,h49km±8km, mb4.2/10,Error ellipse: s-maj=10.2km s-min=6.4km az=164.0*

ISC 27 22:54:05.3±0.5,9°.63S±0°.05×125°.23E±0°.05,h33km,n47, σ1ˢ99/53,mb4.2/12,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.95**	**262**	P	**Pb**	**22 54 23.3**	**-0.2**
SOEI				S	**Sb**	**22 54 37.6**	**+1.7**
SOEI	**Soe**	**0.95**	**262**	P	**Pb**	**22 54 23.4**	**-0.1**
SOEI				S	**Sb**	**22 54 37.1**	**+1.2**
BATI	**Baumata** 44nm,0.3s,baz=134,slow=1.8,SNR=34	**1.64**	**249**	Pn	**Pn**	**22 54 33.2**	**+1.3**
BATI	102nm,0.3s,baz=344,slow=17,SNR=15			Sn	**Sb**	**22 54 55.6**	**+0.1**
BATI	**Baumata**	**1.64**	**249**	P	**Pb**	**22 54 33.9**	**-1.2**
MMRI	**Maumere**	**3.11**	**288**		**Pn**	**22 54 52.2**	**+0.1**
MMRI	**Maumere**	**3.11**	**288**	P	**Pn**	**22 54 52.3**	**+0.1**
EDFI	**Ende, Flores**	**3.60**	**284**	P	**Pn**	**22 54 59.3**	**+0.4**
BASI	**Baing, Sumba**	**4.62**	**262**	P	**Pn**	**22 55 13.8**	**+0.9**
WBSI	**Waikabubak, Su** 0.3nm54nm,0.8s	**5.75**	**269**	P	**Pn**	**22 55 27.6**	**-0.9**
MTN	**Manton Dam**	**6.62**	**119**		**Pn**	**22 55 43.1**	**+2.8**
KNRA	**Kununurra**	**6.93**	**151**		**Pn**	**22 55 46.6**	**+1.9**
BNSI	**Bone** 0.1nm36nm,1.0s	**7.26**	**315**	P	**Pn**	**22 55 52.0**	**+2.7**
PLAI	**Plampang** 0.4nm68nm,0.6s	**7.40**	**276**	P	**Pn**	**22 55 51.6**	**+0.5**
TWSI	**Taliwang, Sumb** 11nm,1.0s	**8.29**	**275**	P	**Pn**	**22 56 02.2**	**-1.1**
FITZ	**Fitzroy Crossi** 3.8nm,0.3s,baz=352,slow=11,SNR=102	**8.43**	**177**	Pn	**Pn**	**22 56 06.7**	**+1.4**
FITZ	4.0nm,0.3s,baz=71,slow=8.5,SNR=8.2			Sn	**Sn**	**22 57 37.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**8.43**	**177**		**Pn**	**22 56 06.4**	**+1.2**
LUWI	**Luwuk**	**8.87**	**344**	Pn	**Pn**	**22 56 11.8**	**+0.5**
FAKI	**Fak Fak**	**9.65**	**47**	Pn	**Pn**	**22 56 23.1**	**+1.1**
PSA00	**Pilbara Seismi**	**12.96**	**203**	Pn	**Pn**	**22 57 06.6**	**-0.6**
PSA00	**Pilbara Seismi**	**12.96**	**203**	Pn	**Pn**	**22 57 07.1**	**-0.1**
WB0	**Warramunga Arr**	**13.42**	**140**		**Pn**	**22 57 11.6**	**-2.0**
WRA	**Warramunga Arr** 1.8nm,0.3s,baz=318,slow=13,SNR=81	**13.51**	**140**	Pn	**Pn**	**22 57 14.4**	**-0.4**
WRA	1.0nm,0.3s,baz=309,slow=24,SNR=6.9			Sn	**Sn**	**22 59 39.3**	**-4.7**
WRA	**Warramunga Arr**	**13.51**	**140**		**Pn**	**22 57 12.7**	**-2.2**
AS31	**Alice Springs**	**16.24**	**150**		**Pn**	**22 57 50.7**	**-0.5**
ASAR	**Alice Springs** 1.9nm,0.3s,baz=320,slow=11,SNR=126	**16.24**	**150**	Pn	**Pn**	**22 57 50.9**	**-0.2**
ASAR	0.3nm,0.3s,baz=309,slow=19,SNR=6.5			Sn	**Sn**	**23 00 45.4**	**-4.9**
ASAR	**Alice Springs**	**16.24**	**150**		**Pn**	**22 57 50.5**	**-0.6**
CBJI	**Citeko**	**18.47**	**279**	P	**P**	**22 58 16.2**	**-2.4**
MORW	**Morawa**	**21.17**	**203**	P	**P**	**22 58 49.0**	**+1.1**
FORT	**Forrest**	**21.21**	**173**		**P**	**22 58 49.9**	**+1.5**
BBOO	**Buckleboo**	**25.15**	**158**	P	**P**	**22 59 29.9**	**+2.3**
BBOO	comp=Z,14nm,1.3s			lAmb	lAmb	22 59 58.4	
STKA	**Stephens Creek** comp=Z,1.4nm,0.4s,baz=323,slow=12,SNR=6.0	**26.84**	**148**	P	**P**	**22 59 48.9**	**+6.0**
STKA	**Stephens Creek**	**26.84**	**148**	P	**P**	**22 59 44.8**	**+1.8**
SRDT	**SRDT**	**35.18**	**312**	P	**P**	**23 00 58.9**	**+2.3**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.4s,baz=150,slow=7.5,SNR=2.4	**38.10**	**317**	P	**P**	**23 01 19.5**	**-1.9**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=162,slow=8.2,SNR=3.0	**59.60**	**345**	P	**P**	**23 04 04.4**	**-1.6**
MK31	**Makanchi Array**	**67.96**	**330**	P	**P**	**23 04 59.6**	**-1.5**
MK31	comp=Z,2.2nm,1.1s			lAmb	lAmb	23 05 00.1	
MKAR	**Makanchi Array** comp=Z,1.1nm,0.6s,baz=125,slow=6.8,SNR=11	**67.96**	**330**	P	**P**	**23 04 59.0**	**-2.0**
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.5s,baz=141,slow=5.7,SNR=4.3	**71.95**	**336**	P	**P**	**23 05 22.9**	**-2.5**
ZALV	**Zalesovo Beam**	**71.95**	**336**	P	**P**	**23 05 23.0**	**-2.3**
QSPA	**South Pole Qui** comp=Z,0.8nm,0.7s,baz=292,slow=2.0,SNR=1.7	**80.37**	**180**	P	**P**	**23 06 15.3**	**+2.0**
QSPA	**South Pole Qui**	**80.37**	**180**	P	**P**	**23 06 15.7**	**+2.4**
QSPA	comp=Z,4.7nm,1.5s			lAmb	lAmb	23 06 38.7	
TIXI	**Tiksi**	**81.13**	**1**	P	**P**	**23 06 16.2**	**-0.7**
TIXI	comp=Z,5.8nm,1.5s			lAmb	lAmb	23 06 22.2	
ABKAR	**Akbulak array**	**81.68**	**323**	P	**P**	**23 06 18.5**	**-1.8**
ABKAR	**Akbulak array**	**81.68**	**323**	P	**P**	**23 06 18.8**	**-1.6**
ABKAR	comp=Z,1.2nm,0.7s			lAmb	lAmb	23 06 26.0	
RAYN	**Ar Rayn**	**84.52**	**295**	P	**P**	**23 06 35.1**	**-0.5**
RAYN	comp=Z,2.2nm,1.0s			lAmb	lAmb	23 06 36.9	
SNAA	**Sanae** comp=Z,0.8nm,0.7s,baz=180,slow=5.1	**91.99**	**194**	P	**P**	**23 07 12.9**	**+2.4**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.6s,baz=119,slow=2.8,SNR=1.9	**124.62**	**279**	PKP	**PKiKP**	**23 13 03.5**	**+0.7**

*JMA **27** 22:58:51.5±0.1,38°.56N×142°.08E,h43km±1km,M4.0 JMA Felt II J1.*

*NEIC **27** 22:58:51.8±1.8,38°.44N±0°.06×142°.3E±0°.1,h38km,9km, mb4.4/8,Error ellipse: s-maj=15.4km s-min=7.1km az=113.0*

*NIED **27** 22:58:51.6,38°.56N×142°.08E,h43km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.16; Mθθ0.15; Mϕϕ-0.32; Mrθ-0.88; Mθϕ0.25; Mϕr0.34; Fault plane solution: M₀1.01000×10¹⁵ NP1: ϕs294.00000°,δ86.00000°,λ70.00000°. NP2: ϕs193.00000°,δ20.00000°,λ167.00000°.*

*IDC **27** 22:58:52.4±2.2,38°.45N×142°.04E,h52km±21km,mb3.5/9, mb1 3.7/14,mb1mx3.5/49,mbtmp3.8/14,ML3.7/4,MS3.2/2, Ms1 3.3/2,ms1mx2.7/39 Error ellipse: s-maj=25.5km s-min=12.6km az=98.0*

ISC 27 22:58:50.8±1.5,38°.51N±0°.04×142°.15E±0°.07,h32km±10km, n60,σ1ˢ48/67,mb4.0/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.57**	**250**	P	**Pb**	**22 59 02.8**	**+0.4**
JIKH				S	**Sb**	**22 59 10.6**	**+0.2**
JKMT	**Kesennumamotoy**	**0.61**	**300**	P	**Pn**	**22 59 02.9**	**-0.2**
JKMT				S	**Sb**	**22 59 10.7**	**-0.8**
JIO	**Ouri**	**0.63**	**266**	P	**Pn**	**22 59 03.4**	**0.0**
JIO				S	**Sb**	**22 59 11.4**	**-0.6**
OFUJ	**Ofunato**	**0.69**	**327**	P	**Pn**	**22 59 03.8**	**-0.4**
OFUJ				S	**Sn**	**22 59 12.3**	**-1.5**
JMK	**Ichinoseki**	**0.85**	**302**	P	**Pn**	**22 59 06.2**	**-0.3**
JMK				S	**Sn**	**22 59 16.6**	**-1.2**
JOU	**Okura**	**1.17**	**264**	P	**Pn**	**22 59 11.1**	**+0.2**
JOU				*e*S	**Sn**	**22 59 25.4**	**-0.4**
JOM	**Ohasama**	**1.17**	**326**	P	**Pn**	**22 59

YULB	**Yu-li**	**23.30**	**236**	P	**P**	**23 03 55.4**	**-0.5**
YULB				IAmb	IAmb	23 04 03.8	
	comp=Z,27nm,1.5s						
SEY	**Seymchan**	**25.24**	**11**	P	**P**	**23 04 13.9**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=198,slow=6.0,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	23 35 02.3	
	baz=316,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	23 35 02.1	
	baz=316,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	23 35 03.8	
	baz=316,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	23 36 05.5	
	baz=318,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.21**	**126**	T	T	23 36 00.4	
	baz=318,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.23**	**126**	T	T	23 35 59.7	
	baz=318,slow=76						
ZALV	**Zalesovo Beam**	**41.37**	**311**	P	**P**	**23 06 32.7**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=80,slow=10,SNR=1.6						
CMAR	**Chiang Mai Arr**	**42.44**	**254**	P	**P**	**23 06 40.9**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=247,slow=12,SNR=1.3						
MK31	**Makanchi Array**	**43.85**	**301**	P	**P**	**23 06 54.9**	**+1.1**
MKAR	**Makanchi Array**	**43.85**	**301**	P	**P**	**23 06 52.7**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=81,slow=9.3,SNR=5.1						
MKAR	**Makanchi Array**	**43.85**	**301**	P	**P**	**23 06 54.8**	**+1.0**
ILAR	**Eielson Array**	**47.95**	**33**	P	**P**	**23 07 25.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=258,slow=5.3,SNR=4.5						
ILAR				LR	LR	23 29 04.7	
	comp=Z,34nm,18.9s,baz=240,slow=38						
ILAR	**Eielson Array**	**47.95**	**33**	P	**P**	**23 07 25.1**	**-0.7**
KNRA	**Kununurra**	**55.34**	**196**	P	**P**	**23 08 21.5**	**+0.1**
ARU	**Arti**	**55.65**	**318**	P	**P**	**23 08 26.6**	**+3.2**
ARU				IAmb	IAmb	23 08 41.5	
	comp=Z,4.7nm,1.3s						
ABKAR	**Akbulak array**	**57.44**	**310**	P	**P**	**23 08 35.7**	**-0.5**
ABKAR	**Akbulak array**	**57.44**	**310**	P	**P**	**23 08 36.3**	**+0.1**
ABKAR				IAmb	IAmb	23 08 51.3	
	comp=Z,1.4nm,0.9s						
WB0	**Warramunga Arr**	**58.42**	**189**	P	**P**	**23 08 42.7**	**-0.6**
WB0				IAmb	IAmb	23 08 43.4	
	comp=Z,4.2nm,0.8s						
WR0	**Warramunga Arr**	**58.59**	**188**	P	**P**	**23 08 43.6**	**-0.9**
WRA	**Warramunga Arr**	**58.60**	**189**	P	**P**	**23 08 42.5**	**-2.0**
	comp=Z,2.2nm,0.7s,baz=6.8,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**58.60**	**189**	P	**P**	**23 08 43.6**	**-0.9**
ASAR	**Alice Springs**	**62.33**	**189**	P	**P**	**23 09 09.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=356,slow=4.2,SNR=10						
FINES	**FINESS Array B**	**67.79**	**332**	P	**P**	**23 09 44.4**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=50,slow=9.3,SNR=1.4						
CLL	**Collm**	**80.11**	**330**	*e*P	**P**	**23 10 58.0**	**+0.8**
TXAR	**Lajitas Array**	**88.77**	**53**	P	**P**	**23 11 42.9**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=225,slow=4.6,SNR=2.7						

TIR 27 23:12:08.2,41°.86N×20°.51E,h7km±3km,Md2.0,Ml1.3, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.18**	**196**	P	Pg	23 12 12.4	+0.5
	baz=197						
PHP				S	Sg	23 12 15.1	+0.8
	baz=197						
PHP				AMP			
	comp=N,0.9nm,0.1s,baz=197						
PUK	**Puka**	**0.49**	**292**	P	Pg	23 12 18.4	+0.6
	baz=293						
PUK				S	Sb	23 12 25.9	-0.8
	baz=293						
PUK				AMP			
	comp=E,0.1nm,0.2s,baz=293						
BCI	**Bajram Curri**	**0.61**	**327**	P	Pg	23 12 20.3	+0.4
	baz=328						
BCI				S	Sb	23 12 29.4	-0.4
	baz=328						
BCI				AMP			
	comp=N,0.1nm,0.3s,baz=328						

ROM 27 23:13:52.0±0.1,43°.369N±0°.003×12°.551E±0°.005, h8km,ML1.0/5,Error ellipse: s-maj=0.4km s-min=0.1km az=61.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.01**	**98**	P	Pg	23 13 53.4	-0.3
ATFO				S	Sg	23 13 54.1	-0.7
ATVO	**AVT- Monte Val**	**0.11**	**277**	P	Pg	23 13 54.9	+0.3
ATVO				S	Sg	23 13 57.0	+0.6
ATVO				AML	AML		
	comp=E,61μm,0.6s						
ATVO				AML	AML		
	comp=N,97μm,0.4s						
ATVO				AML	AML		
	comp=E,61μm,0.6s						
ATVO				AML	AML		
	comp=N,97μm,0.4s						
MURB	**Monte Urbino**	**0.11**	**190**	P	Pg	23 13 55.1	+0.5
MURB				S	Sg	23 13 57.3	+0.9
MURB				AML	AML		
	comp=E,156μm,0.3s						
MURB				AML	AML		
	comp=N,216μm,0.3s						
ATPI	**Pietralunga -**	**0.14**	**307**	P	Pg	23 13 55.6	+0.5
ATPI				S	Sg	23 13 58.2	+1.0
PIEI	**Pieia**	**0.17**	**356**	P	Pg	23 13 56.2	+0.6
PIEI				S	Sg	23 13 59.3	+1.3
PIEI				AML	AML		
	comp=E,83μm,0.2s						
PIEI				AML	AML		
	comp=N,84μm,0.2s						
FOSV	**Fossato di Vic**	**0.17**	**116**	P	Pg	23 13 56.3	+0.7
FOSV				S	Sg	23 13 59.4	+1.3
SSFR	**Montelago di S**	**0.18**	**68**	P	Pg	23 13 56.4	+0.6
SSFR				S	Sg	23 13 59.7	+1.3
SSFR				AML	AML		
	comp=E,55μm,0.5s						
SSFR				AML	AML		
	comp=N,60μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.20**	**160**	P	Pg	23 13 56.8	+0.8
ATCC				S	Sg	23 14 00.8	+2.0
FRON	**Frontone**	**0.20**	**40**	P	Pg	23 13 56.7	+0.6
FRON				S	Sg	23 14 00.1	+1.3
APEC	**Apecchio**	**0.21**	**333**	P	Pg	23 13 57.1	+0.7
APEC				S	Sg	23 14 00.8	+1.5
NARO	**Abbazia di Nar**	**0.24**	**5**	P	Pg	23 13 57.5	+0.6
NARO				S	Sg	23 14 01.7	+1.4
BADI	**Badiali**	**0.26**	**302**	P	Pg	23 13 58.1	+0.8
BADI				S	Sb	23 14 02.7	-1.0
ASSB	**Assisi San Ben**	**0.34**	**166**	P	Pg	23 13 59.1	+0.5
ASSB				S	Sb	23 14 04.8	-1.0
FSSB	**Fossombrone**	**0.36**	**27**	P	Pb	23 14 00.2	-0.5
FSSB				AML	AML		
	comp=N,29μm,1.0s						
FSSB				AML	AML		
	comp=E,28μm,1.5s						

*IDC **27** 23:29:31.1±0.8,31°.285×177°.76W,h0km,mb4.4/7, mb1 4.5/10,mb1mx4.2/38,mbtmp4.4/10,ML3.9/3,MS3.9/6, Ms1 3.9/6,ms1mx3.6/28,Error ellipse: s-maj=26.5km s-min=17.6km az=104.0*

*NEIC **27** 23:29:33.9±1.7,31°.24S±0°.07×177°.7W±0°.2,h10km±1km, mb4.7/24,Error ellipse: s-maj=24.4km s-min=10.8km az=98.0*

ISC 27 23:29:37.0±0.6,31°.34S±0°.06×177°.8W±0°.1,h35km,n85, σ1§27/83,mb4.7/19,MS3.8/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.08**	**358**	Pn	**Pn**	**23 30 07.4**	**-1.9**
	256nm,0.3s,baz=87,slow=8.7,SNR=20						
RAO				Sn	**Sn**	**23 30 33.2**	**-0.9**
	592nm,0.3s,baz=101,slow=22,SNR=7.0						
RAO				LR	LR	23 30 33.3	
	comp=Z,572nm,18.7s,baz=182,slow=31						
RAO	**Raoul Island**	**2.08**	**358**		**Pn**	**23 30 06.8**	**-2.5**
MXZ	**Matakaoa Point**	**6.98**	**206**	Pn	**Pn**	**23 31 17.1**	**+0.4**
URZ	**Urewera**	**8.06**	**210**	Pn	**Pn**	**23 31 30.3**	**-1.2**
	1.0nm,0.3s,baz=123,slow=22,SNR=8.1						
URZ				Sn	**Sn**	**23 32 57.9**	**-3.5**
	5.4nm,0.3s,baz=220,slow=17,SNR=7.7						
URZ	**Urewera**	**8.06**	**210**	Pn	**Pn**	**23 31 30.4**	**-1.1**
KHZ	**Kahutara**	**13.03**	**210**	Pn	**Pn**	**23 32 38.3**	**-1.2**
LBZ	**Lake Benmore**	**16.08**	**213**	Pn	**P**	**23 33 22.2**	**-1.1**
LBZ				IAmb	IAmb	23 33 49.6	
	comp=Z,67nm,1.5s						
DZM	**Mont Dzumac**	**16.80**	**300**	Pn	**Pn**	**23 33 27.2**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=177,slow=16,SNR=1.8						
DZM	**Mont Dzumac**	**16.80**	**300**	*e*Pn	**P**	**23 33 35.2**	**+3.7**
	comp=Z,97nm,1.2s						
DZM				*e*LR	LR	23 37 31.6	
	comp=Z,1μm,23.1s						
DZM	**Mont Dzumac**	**16.80**	**300**	P	**P**	**23 33 31.1**	**-0.3**
DZM				IAmb	IAmb	23 33 37.6	
	comp=Z,53nm,1.2s						
ARMA	**Armidale**	**26.19**	**264**	P	**P**	**23 35 10.1**	**+1.6**
ARMA				IAmb	IAmb	23 35 38.0	
	comp=Z,21nm,1.4s						
TBI	**Tubuai**	**26.37**	**79**	*e*LR	LR	23 41 38.0	
	comp=Z,333nm,30.0s						
CAN	**Canberra**	**27.92**	**253**	P	**P**	**23 35 25.1**	**+1.1**
CAN				IAmb	IAmb	23 35 36.8	
	comp=Z,22nm,1.3s						
EIDS	**Eidsvold**	**27.94**	**274**	P	**P**	**23 35 25.2**	**+1.1**
PAE	**Paea**	**28.99**	**69**	*e*T	T	00 05 11.4	
	comp=Z,2.6nm,0.3s						
PPT2	**Papeete2**	**29.03**	**69**	*e*LR	LR	23 42 48.2	
	comp=Z,276nm,28.0s,baz=245						
PPT	**Papeete**	**29.04**	**68**	LR	LR	23 46 55.8	
	comp=Z,108nm,18.4s,baz=191,slow=36						
TOO	**Toolangi**	**30.74**	**248**	P	**P**	**23 35 49.0**	**0.0**
TOO				IAmb	IAmb	23 35 59.8	
	comp=Z,14nm,1.1s						
VAH	**Vaihoa**	**31.90**	**67**	*e*T	T	00 08 49.4	
	comp=Z,8.1nm,0.2s						
CTAO	**Charters Tower**	**34.10**	**280**	P	**P**	**23 36 19.7**	**+1.2**
STKA	**Stephens Creek**	**34.42**	**258**	P	**P**	**23 36 21.2**	**0.0**
	comp=Z,4.2nm,0.6s,baz=98,slow=10,SNR=8.6						
STKA				LR	LR	23 49 08.2	
	comp=Z,364nm,18.5s,baz=172,slow=34						
STKA	**Stephens Creek**	**34.42**	**258**	P	**P**	**23 36 22.4**	**+1.3**
BBOO	**Buckleboo**	**38.86**	**255**	P	**P**	**23 36 58.2**	**-0.8**
BBOO				IAmb	IAmb	23 36 59.6	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**43.21**	**268**	P	**P**	**23 37 35.1**	**+0.2**
ASAR	**Alice Springs**	**43.21**	**268**	P	**P**	**23 37 35.1**	**+0.2**
	comp=Z,11nm,0.8s,baz=104,slow=7.3,SNR=91						
ASAR				PcP	**PcP**	**23 39 22.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=120,slow=3.3,SNR=1.9						
ASAR				ScP	**ScP**	**23 43 15.8**	**+3.2**
	comp=Z,1.2nm,0.9s,baz=119,slow=4.0,SNR=6.2						
WR0	**Warramunga Arr**	**44.11**	**273**	P	**P**	**23 37 42.1**	**-0.1**
WR0				IAmb	IAmb	23 37 44.0	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**44.28**	**273**	P	**P**	**23 37 43.4**	**-0.2**
	comp=Z,14nm,0.9s,baz=115,slow=7.5,SNR=56						
WRA				LR	LR	23 55 46.6	
	comp=Z,384nm,18.4s,baz=75,slow=36						
WRA	**Warramunga Arr**	**44.28**	**273**	P	**P**	**23 37 43.7**	**+0.2**
FORT	**Forrest**	**45.95**	**256**	P	**P**	**23 37 57.4**	**+0.7**
FORT				IAmb	IAmb	23 37 59.6	
	comp=Z,12nm,0.8s						
SBA	**Scott Base**	**47.12**	**184**	P	**P**	**23 38 07.5**	**+2.4**
SBA				IAmb	IAmb	23 38 16.3	
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**47.18**	**186**	P	**P**	**23 38 05.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=17,slow=6.6,SNR=1.9						
VNDA	**Vanda**	**47.18**	**186**	P	**P**	**23 38 07.5**	**+1.9**
MTN	**Manton Dam**	**50.28**	**280**	P	**P**	**23 38 30.4**	**+0.2**
KNRA	**Kununurra**	**50.93**	**275**	P	**P**	**23 38 35.8**	**+0.7**
KNRA				IAmb	IAmb	23 39 00.5	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.51**	**271**	P	**P**	**23 38 46.9**	**0.0**
FITZ				IAmb	IAmb	23 38 48.0	
	comp=Z,8.7nm,1.1s						
QSPA	**South Pole Qui**	**58.78**	**180**	P	**P**	**23 39 32.6**	**+1.1**
RPN	**Rapa Nui**	**59.05**	**105**	LR	LR	23 59 51.4	
	comp=Z,76nm,20.3s,baz=210,slow=31						
MAW	**Mawson**	**71.48**	**201**	P	**P**	**23 40 54.0**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=126,slow=8.8,SNR=3.8						
MAW	**Mawson**	**71.48**	**201**	P	**P**	**23 40 54.9**	**+1.3**
SNAA	**Sanae**	**77.22**	**178**	P	**P**	**23 41 26.6**	**-0.4**
SNAA	**Sanae**	**77.22**	**178**	P	**P**	**23 41 27.4**	**+0.4**
SNAA				IAmb	IAmb	23 41 45.4	
	comp=Z,6.4nm,1.1s						
VNA3	**Neumayer Olymp**	**77.36**	**176**	P	**P**	**23 41 27.3**	**-0.5**
VNA1	**Neumayer~Stat**	**78.03**	**176**	P	**P**	**23 41 30.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**86.75**	**346**	P	**P**	**23 42 16.3**	**-0.6**
PETK	**Petropavlovsk-**	**86.75**	**346**	P	**P**	**23 42 16.3**	**-0.6**
	comp=Z,5.7nm,0.9s,baz=116,slow=6.8,SNR=10.0						
PETK	**Petropavlovsk-**	**86.75**	**346**		**P**	**23 42 16.7**	**-0.2**
NJ2	**Nanjing**	**86.96**	**311**	*e*P	**P**	**23 42 20.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NVAR	**Mina Array Bea**	**88.83**	**43**	P	**P**	**23 42 27.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=255,slow=3.5,SNR=5.4						
NVAR				LR	LR	00 18 09.6	
	comp=Z,124nm,18.0s,baz=269,slow=33						
NVAR	**Mina Array Bea**	**88.83**	**43**	P	**P**	**23 42 27.4**	**-0.2**
Y14A	**Wickenburg**	**89.14**	**49**	P	**P**	**23 42 29.3**	**+0.4**
TPH	**Tonopah**	**89.22**	**43**	P	**P**	**23 42 29.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**96.99**	**314**	*e*P	**P**	**23 43 07.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,95nm,6.7s						
MKAR	**Makanchi Array**	**118.48**	**310**	PKP	**PKPdf**	**23 48 19.2**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=90,slow=1.4,SNR=5.4						
ARCES	**ARCESS Array B**	**139.53**	**349**	PKhKP	PKPpre	23 48 52.9	
	comp=Z,0.9nm,0.8s,baz=25,slow=3.0,SNR=2.1						
KBZ	**Khabaz**	**145.75**	**303**	PKPbc	**PKPdf**	**23 49 11.5**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=45,slow=1.4,SNR=6.1						
FINES	**FINESS Array B**	**146.07**	**340**	PKPbc	**PKPdf**	**23 49 11.7**	**+0.1**
	comp=Z,23nm,0.9s,baz=46,slow=4.0,SNR=62						
FINES	**FINESS Array B**	**146.07**	**340**		**PKPdf**	**23 49 11.2**	**-0.3**
MEF	**Metsahovi**	**147.55**	**339**	*e*P	**PKPdf**	**23 49 14.0**	**0.0**
VSU	**Vasula**	**148.14**	**336**	*e*P	**PKPbc**	**23 49 16.9**	**-1.5**
NOA	**NORSAR Array B**	**149.70**	**351**	PKPbc	**PKPbc**	**23 49 21.6**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=16,slow=4.2,SNR=7.3						
IIGN	**Ignalina**	**150.58**	**332**	*e*P	**PKPbc**	**23 49 23.1**	**-1.5**
NACGM	**Naroch**	**150.66**	**331**	*i* PKP	**PKPbc**	**23 49 24.8**	**0.0**
PABE	**Paberze**	**151.35**	**334**	*e*P	**PKPbc**	**23 49 25.4**	**-1.0**
PBUR	**Paburge**	**151.69**	**336**	*e*P	**PKPbc**	**23 49 25.1**	**-2.0**
AKASG	**Malin Array Be**	**152.13**	**322**	PKPbc	**PKPbc**	**23 49 27.2**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=48,slow=3.0,SNR=15						
AKASG				PKPab	**PKPab**	**23 49 37.6**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=53,slow=2.7,SNR=7.3						
AKASG	**Malin Array Be**	**152.13**	**322**		**PKPbc**	**23 49 27.4**	**-0.9**
SUW	**Suwalki**	**152.77**	**332**	*e*P	**PKPbc**	**23 49 28.2**	**-1.4**
BRTR	**Keskin Array B**	**153.16**	**297**	PKPbc	**PKPbc**	**23 49 30.4**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=146,slow=2.4,SNR=7.8						
KOLS	**Kolonicke sedl**	**156.77**	**325**	*e*PKP	**PKPab**	**23 49 57.7**	**-0.1**
OSTC	**Ostas**	**158.13**	**335**	*e*PKPAB	**PKPab**	**23 50 03.6**	**0.0**
DPC	**Dobruska-Polom**	**158.26**	**335**	*e*PKPAB	**PKPab**	**23 50 01.8**	**-2.5**
KRLC	**Kraliky**	**158.32**	**334**	*e*PKPAB	**PKPab**	**23 50 03.7**	**-0.8**
CLL	**Collm**	**158.50**	**341**	*e*PKPab	**PKPab**	**23 50 04.0**	**-1.1**
BRG	**Berggiesshubel**	**158.61**	**339**	*e*PKP	**PKPab**	**23 50 04.9**	**-0.8**
BRG				Amp		23 50 06.5	
	comp=Z,7.3nm,1.3s						
KHC	**Kasperske Hory**	**160.25**	**337**	*e*PKPAB	**PKPab**	**23 50 12.4**	**-0.5**
CKRC	**Cesky Krumlov**	**160.26**	**336**	*e*PKPAB	**PKPab**	**23 50 11.2**	**-1.8**
CONA	**Conrad Observa**	**160.41**	**332**	*e*P	**PKPab**	**23 50 15.3**	**+1.6**
	comp=Z,1.8nm,1.0s						
GERES	**GERESS Array B**	**160.45**	**337**	PKPab	**PKPab**	**23 50 12.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=26,slow=4.7,SNR=6.0						
ARSA	**Arzberg**	**161.09**	**331**	*e*P	**PKPab**	**23 50 16.3**	**-0.4**
	comp=Z,2.3nm,1.0s						
MOA	**Molln**	**161.10**	**334**	*e*P	**PKPab**	**23 50 16.6**	**0.0**
	comp=Z,3.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**161.89**	**179**	PKPab	**PKPab**	**23 50 20.4**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=183,slow=3.8,SNR=6.7						
RETA	**Reutte**	**162.58**	**340**	*i* P	**PKPab**	**23 50 22.0**	**-1.1**
	comp=Z,3.7nm,0.9s						
MOTA	**Moosalm**	**162.60**	**339**	*i* P	**PKPab**	**23 50 23.3**	**-0.1**
	comp=Z,6.4nm,1.1s						
SQTA	**Sankt Quirin**	**162.68**	**339**	*e*P	**PKPab**	**23 50 22.6**	**-1.1**
	comp=Z,3.8nm,1.0s						
DAVA	**Damuels**	**163.01**	**342**	*i* P	**PKPab**	**23 50 24.9**	**-0.3**
	comp=Z,5.1nm,1.5s						

*IDC **27** 23:37:43.0±0.7,29°.51N×138°.65E,h485km±14km, mb2.8/8, mb1 3.0/14,mb1mx2.8/55,mbtmp3.8/14,Error ellipse: s-maj=28.8km s-min=11.5km az=70.0*

*JMA **27** 23:37:42.4±0.4,29°.55N×138°.90E,h518km,M3.5*

*NEIC **27** 23:37:43.5±2.1,29°.4N±0°.1×138°.5E±0°.2,h482km±17km, mb4.2/9,Error ellipse: s-maj=23.4km s-min=18.0km az=85.0*

ISC 27 23:37:42.6±0.7,29°.50N±0°.07×138°.59E±0°.08,h478km,n43, σ1§85/47,mb3.5/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.75**	**16**	P	**P**	**23 38 57.2**	**-0.1**
	15nm,0.3s,baz=67,slow=14,SNR=2.0						
JHJ				S	**S**	**23 39 59.1**	**+0.8**
	17nm,0.3s,baz=29,slow=17,SNR=2.3						
JHJ2	**Mitsune**	**3.75**	**16**	P	**P**	**23 38 57.0**	**-0.3**
CBIJ	**Chichi jima**	**3.97**	**126**	*e*S	**S**	**23 40 02.4**	**+0.6**
JCJ	**Chichijima**	**3.97**	**126**	P	**P**	**23 39 00.5**	**+1.1**
	7.8nm,0.3s,baz=274,slow=19,SNR=1.7						
JCJ				S	**S**	**23 40 02.9**	**+1.0**
	20nm,0.3s,baz=285,slow=20,SNR=2.7						
JCJ	**Chichijima**	**3.97**	**126**	P	**P**	**23 39 01.0**	**+1.6**
JTNC	**Tanabenakahech**	**5.00**	**330**	P	**P**	**23 39 11.8**	**+3.6**
JOD2	**Odawara 2**	**5.76**	**4**	P	**P**	**23 39 17.6**	**+2.1**
JMN	**Monobe**	**5.82**	**318**	P	**P**	**23 39 19.6**	**+3.4**
JAO	**Obara**	**5.86**	**349**	P	**P**	**23 39 20.1**	**+3.6**
JTO	**Tosashimizu**	**5.98**	**305**	P	**P**	**23 39 20.9**	**+3.2**
JHU	**Hanno**	**6.36**	**5**	P	**P**	**23 39 22.5**	**+1.1**
JHU				*e*S	**S**	**23 40 40.3**	**-2.0**
JWT	**Wachi**	**6.36**	**336**	P	**P**	**23 39 24.6**	**+3.1**
JRY	**Ryogami san**	**6.50**	**2**	P	**P**	**23 39 25.2**	**+2.4**
JYT	**Yasato**	**6.84**	**11**	*e*S	**S**	**23 40 48.7**	**-2.5**
JAG	**Ashikaga**	**6.94**	**6**	P	**P**	**23 39 28.1**	**+0.9**
JAG				*e*S	**S**	**23 40 49.6**	**-3.6**
MJAR	**Matsushiro Arr**	**7.03**	**357**	P	**P**	**23 39 29.5**	**+1.3**
	0.2nm,0.3s,baz=170,slow=11,SNR=8.3						
JHS	**Saijyo**	**7.18**	**321**	P	**P**	**23 39 32.7**	**+3.0**
JHS	**Saijyo**	**7.18**	**321**	P	**P**	**23 39 31.3**	**+1.5**
JNU	**Nakatsue**	**7.52**	**301**	P	**P**	**23 39 35.9**	**+2.6**
	1.4nm,0.3s,baz=107,slow=9.9,SNR=3.6						
JMM	**Marumori**	**8.54**	**12**	P	**P**	**23 39 46.5**	**+2.5**
JTM	**Tenmabayashi**	**11.44**	**10**	P	**P**	**23 40 17.6**	**+2.7**
KSRS	**Korea Array**	**11.92**	**314**	P	**P**	**23 40 20.9**	**+0.7**
	0.3nm,0.3s,baz=128,slow=10,SNR=18						
USA0B	**Ussuriysk Arra**	**15.58**	**342**	P	**P**	**23 41 00.6**	**+1.6**
USA0B				IAmb	IAmb	23 41 03.1	
	comp=Z,13nm,1.4s						
USRK	**Ussuriysk Ar.**	**15.58**	**342**	P	**P**	**23 41 00.0**	**+1.0**
	baz=149,slow=7.9,SNR=12						
USRK	**Ussuriysk Ar.**	**15.58**	**342**	P	**P**	**23 41 00.2**	**+1.2**
NACB	**Ninganchiao**	**16.07**	**255**	P	**P**	**23 41 02.1**	**-2.4**
NACB				IAmb	IAmb	23 41 04.4	
	comp=Z,12nm,1.1s						
YULB	**Yu-li**	**16.63**	**253**	P	**P**	**23 41 08.7**	**-1.8**
SSLB	**Suanglung**	**16.76**	**254**	P	**P**	**23 41 10.3**	**-1.4**
KLR	**Kul'dur**	**20.38**	**347**	P	**P**	**23 41 46.4**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=160,slow=8.5,SNR=5.6						
SONM	**Songino Array**	**30.79**	**315**	P	**P**	**23 43 17.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=111,slow=7.9,SNR=2.3						
SLVN	**Son La**	**32.27**	**264**	P	**P**	**23 43 31.1**	**+0.1**
SLVN				IAmb	IAmb	23 43 31.5	
	comp=Z,4.3nm,0.6s						
CHTO	**Chiang Mai**	**37.55**	**263**	P	**P**	**23 44 14.5**	**-0.7**
CHTO				IAmb	IAmb	23 44 15.4	
	comp=Z,3.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**37.69**	**262**	P	**P**	**23 44 16.1**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=86,slow=3.8,SNR=4.4						
MKAR	**Makanchi Array**	**46.50**	**308**	P	**P**	**23 45 26.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=109,slow=30,SNR=1.2						
KURK	**Kurchatov**	**49.04**	**313**	P	**P**	**23 45 44.3**	**-0.3**
KURBB	**Kurchatov Arra**	**49.09**	**313**	P	**P**	**23 45 44.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=91,slow=8.4,SNR=6.3						
WB0	**Warramunga Arr**	**49.15**	**185**	P	**P**	**23 45 45.7**	**-0.1**
WB0				IAmb	IAmb	23 46 12.8	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**49.33**	**185**	P	**P**	**23 45 47.0**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=0.2,slow=7.8,SNR=7.1						
WRA	**Warramunga Arr**	**49.33**	**185**	P	**P**	**23 45 47.3**	**+0.1**
ASAR	**Alice Springs**	**53.06**	**185**	P	**P**	**23 46 14.5**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=24,slow=11,SNR=2.0						
KK31	**Karatay Array**	**55.11**	**304**	P	**P**	**23 46 28.3**	**-0.4**
KKAR	**Karatay Array**	**55.11**	**304**	P	**P**	**23 46 27.9**	**-0.8**
ARCES	**ARCESS Array B**	**70.22**	**340**	P	**P**	**23 48 05.8**	**-0.3**
	comp=Z,1.9nm,1.1s,baz=58,slow=8.6,SNR=4.3						

*IDC **27** 23:48:41.

baz=279,slow=75
H01W1 Cape Leeuwin H 46.37 121 T T 00 46 43.0
baz=279,slow=75
NWAO Narrogin (SRO) 48.69 118 P **P** **23 57 26.8 -1.2**
comp=Z,16nm,1.0s,baz=307,slow=7.9,SNR=3.9
NWAO Narrogin (SRO) 48.69 118 P **P** **23 57 27.9 0.0**
STKI Sintang 48.73 73 P **P** **23 57 29.0 +0.5**
CM31 Chiang Mai Arr 48.98 44 P **P** **23 57 29.7 -0.5**
CMAR Chiang Mai Arr 48.98 44 P **P** **23 57 28.4 -1.8**
comp=Z,14nm,0.9s,baz=236,slow=8.0,SNR=16
CMAR LR LR 00 15 17.2
comp=Z,288nm,19.2s,baz=260,slow=33
CMAR Chiang Mai Arr 48.98 44 P **P** **23 57 29.8 -0.4**
KLBR Kellerberrin 49.04 116 P **P** **23 57 29.9 -0.8**
baz=49,SNR=4.7
CHTO Chiang Mai 49.23 44 P **P** **23 57 31.8 -0.4**
CHTO IAmb IAmb 23 57 35.9
comp=Z,14nm,1.1s
CHTO Chiang Mai 49.23 44 P **P** **23 57 31.8 -0.4**
comp=Z,7.1nm,1.2s
CMMT Chiang Mai 49.23 44 P **P** **23 57 32.0 -0.2**
comp=Z,13nm,1.2s
CMMT Chiang Mai 49.23 44 P **P** **23 57 32.9 +0.7**
comp=Z,12nm,1.2s
CM33 Chiang Mai Arr 49.24 44 P **P** **23 57 34.0 +1.8**
CHAI Chaiyaphum 49.33 49 P **P** **23 57 33.0 +0.1**
comp=Z,178nmcomp=Z,11nm,1.0s
MAW Mawson 49.65 181 P **P** **23 57 34.1 -0.6**
comp=Z,4.1nm,0.9s,baz=341,slow=14,SNR=3.7
MAW LR LR 00 15 23.3
comp=Z,222nm,18.3s,baz=52,slow=32
MAW Mawson 49.65 181 P **P** **23 57 35.8 +1.1**
SHL Shillong 50.37 32 P **P** **23 57 39.9 -1.1**
SBUM Sibu 50.40 71 P **P** **23 57 42.0 +0.8**
BBKI Banjar Baru 50.52 79 P **P** **23 57 39.0 -3.1**
comp=Z,5µmcomp=Z,48nm,1.0s
PSA00 Pilbara Seismi 51.19 104 P **P** **23 57 46.6 -0.5**
PSA00 IAmb IAmb 23 57 48.1
comp=Z,11nm,1.1s
NONG Nongkai 51.59 48 P **P** **23 57 50.0 0.0**
NIL Nilore 51.87 8 P **P** **23 57 51.2 -0.6**
HRA Herat 52.14 357 P **P** **23 57 53.0 -1.0**
KBL Kabul 52.32 4 P **P** **23 57 55.0 -0.5**
KBL IAmb IAmb 23 57 56.1
comp=Z,11nm,1.1s
LSA Lhasa 53.51 28 P **P** **23 58 04.2 -0.4**
SLVN Son La 54.31 46 P **P** **23 58 09.8 -0.4**
KAPI Kappang 54.63 83 P **P** **23 58 11.7 -0.9**
KAPI Kappang 54.63 83 P **P** **23 58 13.1 +0.5**
comp=Z,25nm,1.3s
EDFI Ende, Flores 55.38 88 P **P** **23 58 17.8 -0.4**
comp=Z,30nm,1.1s
MMRI Maumere 55.93 88 P **P** **23 58 21.1 -0.9**
GEYT Alibeck 56.00 353 LR LR 00 21 03.4
comp=Z,83nm,18.9s,baz=195,slow=35
KMI Kunming 56.20 41 ⇑P **P** **23 58 23.5 -0.4**
KMI S **S** **00 06 17.5 +4.5**
KMI SS **SS** **00 10 00.3 +0.2**
KMI pmax pmax
comp=Z,11nm,1.3s
KMI L L
comp=Z,160nm,20.8s
KMI L L
comp=Z,330nm,18.8s
KMI L L
comp=Z,300nm,23.6s
CHGR Chuyangaron 56.43 4 P **P** **23 58 24.1 -1.0**
CHGR IAmb IAmb 23 58 48.3
comp=Z,11nm,0.9s
CASY Casey 56.51 160 P **P** **23 58 26.6 +1.3**
CASY IAmb IAmb 23 58 37.6
comp=Z,30nm,1.8s
MPSI Mapaga 56.59 77 P **P** **23 58 26.3 -0.4**
comp=Z,16nm,1.0s
GAR Garm 56.84 5 P **P** **23 58 27.5 -0.6**
GAR IAmb IAmb 23 58 29.3
comp=Z,16nm,1.3s
FITZ Fitzroy Crossi 57.07 100 P **P** **23 58 30.0 -0.1**
baz=57,SNR=8.2
FITZ Fitzroy Crossi 57.07 100 P **P** **23 58 29.5 -0.6**
FITZ IAmb IAmb 23 58 31.0
comp=Z,17nm,0.9s
DRK Karamyk 57.45 6 P **P** **23 58 31.4 -1.2**
TOLI2 Tolitoli 57.70 77 P **P** **23 58 33.6 -0.9**
FORT Forrest 57.87 115 P **P** **23 58 35.1 -0.4**
BTK Batken 57.94 5 P **P** **23 58 35.3 -0.5**
BTK IAmb IAmb 23 58 44.8
comp=Z,25nm,1.8s
KSH Kashi 58.02 10 P **P** **23 58 32.3 -4.1**
KSH pmax pmax
comp=Z,8.0nm,1.6s
KSH pmax pmax
comp=Z,190nm,4.2s
KSH L L
comp=Z,170nm,8.0s
KSH L L
comp=Z,210nm,10.0s
KSH L L
comp=Z,100nm,6.1s
WRKA Warakurna 58.54 109 P **P** **23 58 40.3 0.0**
baz=59,SNR=11
LUWI Luwuk 58.78 80 P **P** **23 58 42.1 0.0**
GYA Guiyang 59.65 43 P **P** **23 58 47.8 -0.2**
GYA pP pwP 23 58 55.8 -1.0
GURO Guroymak-BITLI 60.32 339 P **P** **23 58 52.5 +0.1**
GURO IAmb IAmb 23 59 14.3
comp=Z,6.5nm,1.0s
KNRA Kununurra 60.47 98 P **P** **23 58 53.6 -0.1**
baz=60,SNR=5.3
KNRA Kununurra 60.47 98 P **P** **23 58 53.3 -0.4**
AAK Ala-Archa 60.88 8 P **P** **23 58 55.3 -0.8**
AAK IAmb IAmb 23 59 13.9
comp=Z,8.5nm,1.1s
GNI Garni 60.92 342 P **P** **23 58 56.4 -0.1**
BOOM Boomskoye usch 60.93 9 P **P** **23 58 58.0 +1.5**
BOOM IAmb IAmb 23 59 12.7
comp=Z,8.1nm,1.1s
KK31 Karatay Array 60.94 4 P **P** **23 58 55.5 -0.8**
KKAR Karatay Array 60.94 4 P **P** **23 58 55.3 -1.0**
FRU1 Bishkek 61.06 8 P **P** **23 58 56.9 -0.4**
FRU1 IAmb IAmb 23 59 14.4
comp=Z,7.5nm,0.7s
PRZ Przheval'sk 61.33 11 P **P** **23 58 59.4 +0.2**
PRZ IAmb IAmb 23 59 18.3
comp=Z,9.8nm,1.0s
ONI Oni 63.54 342 P **P** **23 59 16.8 +2.9**
ONI IAmb IAmb 23 59 31.5
comp=Z,16nm,1.5s
ASAR Alice Springs 63.79 108 P **P** **23 59 15.1 -0.9**
comp=Z,10nm,1.0s,baz=261,slow=6.2,SNR=47
ASAR LR LR 00 22 44.5
comp=Z,1µm,21.9s,baz=278,slow=32
AS31 Alice Springs 63.79 108 P **P** **23 59 14.3 -1.7**
ENH Enshi 64.06 42 P **P** **23 59 16.9 -0.6**
BRTR Keskin Array B 64.57 333 LR LR 00 25 52.6
comp=Z,227nm,19.7s,baz=148,slow=35
KDU Kakadu 64.64 96 P **P** **23 59 21.6 0.0**
baz=65,SNR=6.0
KBZ Khabaz 64.75 342 P **P** **23 59 21.6 -0.1**
comp=Z,1.1nm,0.7s,baz=162,slow=6.2,SNR=1.9
KBZ LR LR 00 26 46.5
comp=Z,123nm,19.0s,baz=163,slow=35
WMQ Urumqi 64.79 18 *eP* **P** **23 59 24.0 +1.9**
WMQ pP pwP 23 59 30.0 -0.9
WMQ sP sP 23 59 33.3 +4.8
WMQ PP **PP** **00 01 49.8 +4.9**
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ L L
comp=Z,700nm,19.1s
WMQ L L
comp=Z,380nm,19.1s
WMQ L L
comp=Z,550nm,16.5s
WRA Warramunga Arr 64.83 104 P **P** **23 59 22.5 -0.4**
comp=Z,26nm,1.0s,baz=263,slow=6.2,SNR=62
WRA LR LR 00 26 09.1
comp=Z,321nm,18.0s,baz=250,slow=35
WRA Warramunga Ar 64.83 104 P **P** **23 59 22.5 -0.4**
WB2 Warramunga Arr 64.84 104 P **P** **23 59 22.6 -0.4**
WRAB Tennant Creek 64.84 104 P **P** **23 59 22.3 -0.7**
KIV Kislovodsk 65.02 342 P **P** **23 59 23.6 0.0**
KIV IAmb IAmb 23 59 33.1
comp=Z,13nm,1.1s
GTA Gaotai 65.52 29 ⇓P **P** **23 59 29.0 +2.0**
GTA pP sP 23 59 33.3 -0.1
GTA sP pwP 23 59 36.5 +0.7
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,8.4s
GTA L L
comp=Z,170nm,22.5s
GTA L L
comp=Z,170nm,20.7s
GTA L L
comp=Z,250nm,18.2s
MAKZ Makanchi 66.18 12 P **P** **23 59 30.2 -0.7**
MK31 Makanchi Array 66.23 13 P **P** **23 59 31.4 +0.1**
MKAR Makanchi Array 66.23 13 P **P** **23 59 29.1 -2.2**
comp=Z,1.2nm,0.7s,baz=210,slow=7.0,SNR=9.7
MKAR LR LR 00 26 27.8
comp=Z,153nm,21.3s,baz=174,slow=34
MKAR Makanchi Array 66.23 13 P **P** **23 59 29.7 -1.6**
SNAA Sanae 66.27 199 P **P** **23 59 32.1 +0.8**
comp=Z,1.6nm,0.9s,baz=81,slow=7.2,SNR=3.7
SNAA Sanae 66.27 199 P **P** **23 59 31.7 +0.4**
SNAA IAmb IAmb 00 01 47.2
comp=Z,15nm,1.7s
XAN Xi'an 66.29 39 P **P** **23 59 31.3 -0.6**
XAN pP pwP 23 59 43.3 +2.5
XAN sP sP 23 59 49.0 +11
XAN pmax pmax
comp=Z,24nm,1.2s
XAN L L
comp=Z,420nm,20.6s
XAN L L
comp=Z,290nm,20.6s
HTT Hallett 66.83 119 P **P** **23 59 34.5 -1.1**
baz=67,SNR=3.9
ABKAR Akbulak array 67.08 356 P **P** **23 59 35.8 -0.8**
ABKAR IAmb IAmb 23 59 45.9
comp=Z,17nm,1.4s
ABKAR Akbulak array 67.08 356 P **P** **23 59 35.3 -1.3**
STKA Stephens Creek 69.28 118 P **P** **23 59 49.2 -1.7**
comp=Z,9.7nm,1.1s,baz=285,slow=4.7,SNR=7.2
STKA LR LR 00 26 18.7
comp=Z,273nm,18.8s,baz=232,slow=33
STKA Stephens Creek 69.28 118 P **P** **23 59 51.2 +0.3**
baz=69,SNR=6.9
STKA Stephens Creek 69.28 118 P **P** **23 59 50.4 -0.6**
QIS Mount Isa 69.56 106 P **P** **23 59 53.1 +0.2**
baz=70,SNR=5.0
TORD Torodi Ar. Bea 70.00 292 P **P** **23 59 55.4 -0.2**
comp=Z,0.9nm,1.1s,baz=108,slow=4.7,SNR=2.5
TORD LR LR 00 29 23.5
comp=Z,146nm,18.6s,baz=100,slow=35
TORD Torodi Ar. Bea 70.00 292 P **P** **23 59 54.8 -0.8**
BRVK Borovoye 70.84 3 P **P** **23 59 58.7 -1.2**
NJ2 Nanjing 71.39 46 *eP* **P** **00 00 05.0 +1.3**
NJ2 pmax pmax
comp=Z,19nm,1.0s
QSPA South Pole Qui 72.14 180 P **P** **00 00 08.2 +0.3**
QSPA IAmb IAmb 00 00 29.9
comp=Z,18nm,1.2s
HHC Hu-ho-hao-te 72.53 35 *eP* **P** **00 00 12.8 +2.3**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.8s
PLOR Plostina 72.55 333 ⇑P **P** **00 00 12.1 +1.7**
CMSA Cobar Meteorol 72.78 118 P **P** **00 00 13.0 +0.8**
baz=73,SNR=7.3
VOIR 72.94 332 ⇓P P 00 00 18.6 +5.9
DBIC Dimbokro 73.47 283 LR LR 00 31 19.6
comp=Z,154nm,19.4s,baz=104,slow=35
ZAA0 Zalesovo Array 73.54 12 P **P** **00 00 15.8 -0.2**
ZAA0 IAmb IAmb 00 00 23.8
comp=Z,8.2nm,1.0s
ZALV Zalesovo Beam 73.54 12 P **P** **00 00 14.0 -2.0**
comp=Z,3.5nm,0.7s,baz=208,slow=6.2,SNR=10
ZALV LR LR 00 31 00.8
comp=Z,153nm,20.0s,baz=207,slow=35
ZALV Zalesovo Beam 73.54 12 P **P** **00 00 14.7 -1.3**
GZR Gura Zlata 73.96 330 ⇑P P 00 00 27.1 +8.4
VNDA Vanda 74.00 167 P **P** **00 00 18.9 +0.4**
comp=Z,1.6nm,1.0s,baz=274,slow=6.4,SNR=6.8
VNDA LR LR 00 29 05.6
comp=Z,253nm,20.0s,baz=256,slow=33
VNDA Vanda 74.00 167 P **P** **00 00 19.3 +0.8**
VNDA IAmb IAmb 00 00 29.6
comp=Z,12nm,1.6s
ARU Arti 74.32 356 P **P** **00 00 19.9 -0.6**
ARU IAmb IAmb 00 00 29.1
comp=Z,19nm,1.3s
DIVS Divibare 74.38 328 P **P** **00 00 21.2 -0.1**
DIVS IAmb IAmb 00 00 32.8
comp=Z,12nm,1.2s
MTSU Mount Surprise 74.44 104 P **P** **00 00 23.0 +0.8**
baz=74,SNR=6.6
BUR01 Bucovina Ar. S 74.54 333 ⇑P P 00 00 32.6 +10
BURAR Bucovina Array 74.54 333 P **P** **00 00 22.7 +0.5**
BJT Baijiatuan 74.59 38 P **P** **00 00 23.0 +0.5**
SBA Scott Base 74.95 168 P **P** **00 00 25.7 +1.6**
SBA IAmb IAmb 00 01 14.8
comp=Z,32nm,1.8s
SONM Songino Array 75.08 27 P **P** **00 00 24.8 -0.5**
comp=Z,5.7nm,1.1s,baz=256,slow=6.0,SNR=12
SONM LR LR 00 32 09.6
comp=Z,253nm,20.5s,baz=210,slow=35
SONM Songino Array 75.08 27 P **P** **00 00 25.4 +0.1**
SONM IAmb IAmb 00 00 34.2
comp=Z,8.3nm,1.0s
KEST Kesra 75.25 316 LR LR 00 35 57.5
comp=Z,178nm,18.1s,baz=306,slow=38
AKASG Malin Array Be 75.39 337 P **P** **00 00 26.0 -0.8**
comp=Z,0.5nm,0.5s,baz=148,slow=4.8,SNR=7.8
AKASG Malin Array Be 75.39 337 P **P** **00 00 26.3 -0.5**
AKBB Malin Array Si 75.39 337 P **P** **00 00 27.1 +0.3**
AKBB IAmb IAmb 00 00 36.3
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 75.40 28 P **P** **00 00 26.6 -0.6**
ULN IAmb IAmb 00 00 35.7
comp=Z,8.3nm,1.0s
INTR Introdacqua 76.25 323 P **P** **00 00 32.1 0.0**
INTR IAmb IAmb 00 00 49.2
comp=Z,19nm,1.2s
MORH Mrgy, Hungar 76.55 329 ⇓P **P** **00 00 33.1 -0.4**
OBN Obninsk 76.80 343 P **P** **00 00 34.7 0.0**
OBN IAmb IAmb 00 00 44.0
comp=Z,21nm,1.2s
KWP Kalwaria Pacla 77.15 333 P **P** **00 00 36.7 -0.2**
SOKA Soboth 78.69 327 *eP* **P** **00 00 48.4 +2.8**
comp=Z,14nm,1.5s
EIDS Eidsvold 78.76 113 P **P** **00 00 46.1 -0.5**
baz=79,SNR=4.4
ARSA Arzberg 78.82 328 *eP* **P** **00 00 48.0 +1.7**
comp=Z,9.1nm,1.6s
OBKA Obir 78.83 327 *eP* **P** **00 00 48.9 +2.5**
comp=Z,11nm,1.6s
OJC Ojcow 78.86 332 P **P** **00 00 46.4 0.0**
OJC IAmb IAmb 00 00 56.3
comp=Z,21nm,1.7s
JAVC Velka Javorina 78.87 330 *eP* P 00 00 56.0 +9.4
MNK Minsk 78.95 339 *i* P **P** **00 00 44.9 -1.9**
comp=E,0.0nm,0.9s
MNK *i* P **P** **00 00 44.9 -1.9**
comp=N,5.0nm,0.9s,baz=144
MNK *i* P **P** **00 00 44.9 -1.9**
comp=Z,3.0nm,0.8s
MNK *i* PcP **sP** **00 00 53.1 -0.1**
MNK *i* PP **PP** **00 03 43.5 -2.5**
MNK *i* PPP PPP 00 05 32.0
MNK *i* S **S** **00 10 44.5 0.0**
MNK *i* ScS **ScS** **00 11 06.9 -0.9**
MNK *i* SS **SS** **00 15 50.8 +0.4**
MNK *i* SSS SSS 00 19 16.2
MNK *i* LQ LQ 00 30 31.0
MNK *i* LR LR 00 36 32.4
MNK *i* LRM MLR 00 41 20.3
comp=Z,56nm,12.5s
MNK *i* LRM MLR 00 41 31.5
comp=E,6.0nm,13.8s
MNK *i* LRM MLR 00 42 07.6
comp=N,42nm,11.2s
CONA Conrad Observa 79.11 329 *eP* **P** **00 00 48.2 +0.3**
comp=N,10nm,1.1s
MORC Moravsky Berou 79.57 331 *eP* **P** **00 00 53.7 +3.3**
MORC Moravsky Berou 79.57 331 P **P** **00 00 50.1 -0.2**
MORC IAmb IAmb 00 01 01.5
comp=Z,14nm,1.6s
KRUC Moravsky 79.62 330 *eP* **P** **00 00 51.0 +0.4**
NACGM Naroch 79.66 339 *i* P **P** **00 00 52.2 +1.7**
VRAC Vranov 79.69 330 *eP* **P** **00 00 52.4 +1.4**
MOA Molln 79.86 328 *eP* **P** **00 00 52.5 +0.6**
comp=Z,3.1nm,0.9s
ABTA Abfaltersbach 80.05 326 *eP* **P** **00 00 52.9 -0.2**
comp=Z,10nm,1.5s
KRLC Kraliky 80.13 331 *eP* **P** **00 00 52.7 -0.7**
CKRC Cesky Krumlov 80.48 329 *eP* P 00 00 50.5 -4.7
DPC Dobruska-Polom 80.54 331 *eP* **P** **00 00 56.0 +0.4**
KSAR Wonju Array Be 80.55 46 P **P** **00 00 55.7 -0.2**
KSRS Korea Array 80.58 46 P **P** **00 00 55.0 -1.1**
comp=Z,0.4nm,0.3s,baz=150,slow=11,SNR=1.4
KSRS LR LR 00 35 39.7
comp=Z,115nm,18.8s,baz=232,slow=35
OSTC Ostas 80.73 331 *eP* **P** **00 00 58.9 +2.4**
GERES GERESS Array B 80.80 328 P **P** **00 00 55.8 -1.2**
comp=Z,0.2nm,0.7s,baz=142,slow=5.0,SNR=1.8
GERES GERESS Array B 80.80 328 P **P** **00 00 57.2 +0.2**
WTTA Wattenberg 80.84 326 *eP* **P** **00 00 55.8 -1.6**
comp=Z,0.8nm,0.5s
WATA Walderalm 80.92 326 *eP* **P** **00 00 57.0 -0.8**
comp=Z,0.3nm,0.4s
SQTA Sankt Quirin 81.04 326 *eP* **P** **00 00 58.5 0.0**
comp=Z,3.7nm,0.8s
KHC Kasperske Hory 81.04 329 *eP* **P** **00 00 59.7 +1.4**
KHC *ex* x 00 01 04.4
FETA Feichten 81.17 326 *eP* **P** **00 00 57.4 -1.8**
comp=Z,5.8nm,1.2s
MOTA Moosalm 81.18 326 *eP* **P** **00 00 57.4 -1.8**
comp=Z,3.2nm,1.3s
KLMR Klimovskoe 81.25 348 *eP* **P** **00 00 57.8 -1.2**
KLMR AMP 00 01 10.2
comp=Z,28nm,1.6s
RETA Reutte 81.45 326 *eP* **P** **00 00 59.0 -1.5**
comp=Z,1.3nm,1.0s
TUE Stuetta 81.59 325 P **P** **00 01 02.2 +0.7**
TUE IAmb IAmb 00 01 28.3
comp=Z,21nm,1.6s
CN2 Changchun 82.39 39 *eP* P 00 01 11.5 +6.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SENIN Lac Senin/Sane 82.67 324 P **P** **00 01 07.1 -0.1**
SENIN IAmb IAmb 00 01 28.7
comp=Z,19nm,1.8s
CLL Collm 82.74 330 *e*(P) P 00 01 12.0 +4.9
CLL *i* 00 01 22.2
comp=Z,13nm,1.4s
FINES FINESS Array B 85.11 342 P **P** **00 01 18.8 -0.1**
comp=Z,2.3nm,1.1s,baz=120,slow=5.6,SNR=2.2
FINES FINESS Array B 85.11 342 P **P** **00 01 19.9 +1.0**
ESDC Sonseca Array 86.31 314 P **P** **00 01 24.9 -0.6**
comp=Z,1.6nm,0.8s,baz=113,slow=4.3,SNR=10
ESDC LR LR 00 39 39.1
comp=Z,98nm,20.4s,baz=175,slow=35
ESDC Sonseca Array 86.31 314 P **P** **00 01 25.4 -0.1**
ESDC IAmb IAmb 00 01 35.5
comp=Z,13nm,1.6s
PAB San Pablo 86.51 313 P **P** **00 01 26.8 +0.2**
PAB IAmb IAmb 00 01 43.4
comp=Z,8.5nm,1.2s
USRK Ussuriysk Ar. 86.63 41 P **P** **00 01 24.9 -2.0**
comp=Z,1.1nm,0.7s,baz=297,slow=0.3,SNR=1.8
USRK LR LR 00 38 46.8
comp=Z,85nm,19.8s,baz=225,slow=35
MAT Matsushiro 87.45 50 P **P** **00 01 32.9 +1.8**
MAT *e*S **S** **00 12 06.0 -5.5**
MJAR Matsushiro Arr 87.45 50 P **P** **00 01 30.6 -0.6**
comp=Z,17nm,1.1s,baz=239,slow=5.0,SNR=16
MJAR LR LR 00 39 50.3
comp=Z,81nm,20.7s,baz=120,slow=35
MJAR Matsushiro Arr 87.45 50 P **P** **00 01 31.9 +0.7**
NRIK Noril'sk 88.49 8 LR LR 00 40 21.4
comp=Z,140nm,20.3s,baz=205,slow=35
ARCES ARCESS Array B 91.71 347 P **P** **00 01 50.9 +0.5**
comp=Z,1.0nm,0.8s,baz=119,slow=5.4,SNR=2.1
ILAR Eielson Array 128.45 17 PKP **PKPdf** **00 07 48.8 -0.9**
comp=Z,1.0nm,1.0s,baz=311,slow=3.2,SNR=7.2
PDAR Pinedale Array 154.90 351 PKP **PKPdf** **00 08 35.3 -1.5**
comp=Z,0.8nm,1.1s,baz=38,slow=4.6,SNR=2.2
PDAR PKPbc **PKiKP** **00 08 46.2 +0.8**
comp=Z,0.5nm,0.6s,baz=78,slow=3.5,SNR=5.0
NVAR Mina Array Bea 159.35 8 PKPab **PKPab** **00 09 19.4 -0.5**
comp=Z,0.2nm,0.3s,baz=325,slow=4.5,SNR=2.0
TXAR Lajitas Array 164.87 320 PKP **PKPdf** **00 08 46.9 -1.3**
comp=Z,0.2nm,0.8s,baz=90,slow=4.5,SNR=2.2
TXAR PKPab **PKPab** **00 09 43.1 -1.1**
comp=Z,0.8nm,0.9s,baz=76,slow=3.8,SNR=3.5

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*IASPEI **28** 00:17:60.0±0.9, 35.77N±0.02×97.37W±0.03, h10km±7km, Error ellipse: s-maj=4.2km s-min=3.5km az=105.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ANF **28** 00:17:59.8±0.4, 35.81N×97.39W, h6km, ML3.5/11, Error ellipse: s-maj=4.6km s-min=2.6km az=128.0*

*NEIC **28** 00:18:00.3±0.8, 35.77N±0.01×97.37W±0.01, h5km±7km, Error ellipse: s-maj=2.1km s-min=1.3km az=165.0*

*TUL **28** 00:18:00±0.9, 35.75N±0.01×97.36W±0.02, h6km±7km, ML2.9, mb_Lg3.1/89(NEIC), Error ellipse: s-maj=2.5km s-min=1.8km az=107.0*

ISC 28 00:18:00.2±0.9, 35.77N±0.02×97.37W±0.02, h8km±6km, n92, σ0961/73, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.08**	**289**		**Pg**	**00 18 02.2**	**-0.1**
OK029				Sg	**Sg**	**00 18 03.9**	**+0.3**
OK005	**Luther M Schoo**	**0.18**	**129**		**Pg**	**00 18 03.9**	**-0.1**
OK005				Sg	**Sg**	**00 18 06.7**	**+0.1**
OK025	**Westminster Rd**	**0.19**	**173**		**Pg**	**00 18 03.8**	**-0.3**
OK009	**Oakdale Elemen**	**0.20**	**193**		**Pg**	**00 18 04.2**	**0.0**
BCOK	**Bluff Creek, N**	**0.23**	**240**		**Pg**	**00 18 04.6**	**-0.2**
BCOK				Sg	**Sg**	**00 18 08.2**	**+0.3**
OKCFA	**Oklahoma City**	**0.36**	**191**		**Pg**	**00 18 07.0**	**-0.3**
OKCFA				Sg	**Sg**	**00 18 12.2**	**+0.1**
OKCFA	**Oklahoma City** baz=12	**0.36**	**191**	S	**Sg**	**00 18 12.3**	**+0.1**
OKCFA	**Oklahoma City** baz=12	**0.36**	**191**	S		00 18 12.3	
OKCSW	**OKLAHOMA CITY**	**0.37**	**189**		**Pg**	**00 18 07.2**	**-0.3**
OKCSW				Sg	**Sg**	**00 18 12.6**	**+0.2**
OK031	**S. Brethren Rd**	**0.47**	**67**	Pg	**Pg**	**00 18 09.3**	**0.0**
OK030	**Cody Creek RV**	**0.50**	**72**		**Pg**	**00 18 09.8**	**0.0**
OK030				Sg	**Sg**	**00 18 16.7**	**+0.3**
FNO	**Franklin**	**0.52**	**183**		**Pg**	**00 18 09.8**	**-0.4**
FNO				Sg	**Sg**	**00 18 17.1**	**+0.2**
QUOK	**Quay**	**0.67**	**53**		**Pg**	**00 18 13.1**	**0.0**
QUOK				Sg	**Sg**	**00 18 22.3**	**+0.5**
CROK	**Carrier**	**0.89**	**326**		**Pg**	**00 18 17.2**	**-0.1**
CROK				Sg	**Sb**	**00 18 29.4**	**-0.5**
BLOK	**Blackwell**	**0.99**	**7**		**Pg**	**00 18 19.1**	**-0.2**
X34A	**Smith Ranch, M**	**1.23**	**198**		**Pg**	**00 18 23.1**	**-0.7**
OK032	**Salt Plains WL**	**1.23**	**327**		**Pg**	**00 18 23.3**	**-0.6**
KAN13	**South Haven SW**	**1.24**	**356**		**Pg**	**00 18 23.5**	**-0.6**
TUL1	**Leonard** baz=263	**1.29**	**83**	P	**Pn**	**00 18 23.1**	**-1.4**
TUL1				S	**Sg**	**00 18 40.9**	**-0.7**
TUL1	**Leonard** baz=263	**1.29**	**83**	P		00 18 23.1	
TUL1				S		00 18 40.9	
KAN17	**Caldwell West**	**1.31**	**346**		**Pn**	**00 18 24.7**	**-0.2**
T35A	**Sooner Cattle**	**1.33**	**31**		**Pn**	**00 18 24.7**	**-0.5**
T35B	**Sooner Cattle** baz=211,SNR=66	**1.33**	**31**	P	**Pn**	**00 18 24.8**	**-0.5**
T35B				S	**Sb**	**00 18 42.9**	**0.0**
T35B	**Sooner Cattle** baz=211	**1.33**	**31**	P		00 18 24.8	
T35B	**Sooner Cattle** baz=211,SNR=66			S		00 18 42.9	
KAN09	**Caldwell North**	**1.38**	**352**		**Pn**	**00 18 25.7**	**-0.1**
KS20	**Mayfield South**	**1.46**	**354**		**Pn**	**00 18 27.3**	**+0.3**
KAN10	**Anthony SW Sta**	**1.47**	**337**		**Pn**	**00 18 27.2**	**+0.1**
KAN08	**Anthony NE Sta**	**1.53**	**342**		**Pb**	**00 18 28.6**	**-0.3**
WMOK	**Wichita Mounta**	**1.55**	**229**		**Pn**	**00 18 28.2**	**0.0**
WMOK	**Wichita Mounta** baz=48,SNR=90	**1.55**	**229**	P	**Pn**	**00 18 28.0**	**-0.2**

WMOK			S	Sn	00 18 48.7	+0.1
	baz=48					
WMOK	**Wichita Mounta**	**1.55 229**	P		00 18 28.0	
	baz=48,SNR=90					
WMOK			S		00 18 48.7	
	baz=48					
KAN12	**Harper NE Stat**	**1.60 342**		Pb	00 18 29.5	-0.7
LOOK	**Love County**	**1.78 175**	Pn	Pn	00 18 31.7	+0.4
LOOK			IAmb_Lg		00 19 00.3	
	comp=E,78nm,0.9s					
X37A	**Clayton**	**2.02 125**		Pn	00 18 35.5	+1.0
X37A			IAmb_Lg		00 19 07.4	
	comp=E,98nm,1.1s					
X37A	**Clayton**	**2.02 125**	P	Pn	00 18 35.0	+0.4
	baz=306,SNR=30					
X37A			S	Sb	00 19 01.8	-0.7
	baz=306					
X37A	**Clayton**	**2.02 125**	P		00 18 35.0	
	baz=306,SNR=30					
X37A			S		00 19 01.8	
	baz=306					
Z35A	**Perchaven, San**	**2.44 178**		Pn	00 18 40.9	+0.6
Z35A	**Perchaven, San**	**2.44 178**	P	Pn	00 18 41.0	+0.6
	baz=358,SNR=7.1					
Z35A			S	Sb	00 19 13.0	-1.5
	baz=358					
Z35A	**Perchaven, San**	**2.44 178**	P		00 18 41.0	
	baz=358,SNR=7.1					
Z35A			S		00 19 13.0	
	baz=358					
U38A	**Gravette**	**2.50 74**		Pn	00 18 41.8	+0.5
U38A	**Gravette**	**2.50 74**	P	Pn	00 18 41.8	+0.5
	baz=255,SNR=37					
U38A	**Gravette**	**2.50 74**	P		00 18 41.8	
	baz=255,SNR=37					
HHAR	**Hobbs**	**2.82 79**		Pn	00 18 46.4	+0.6
R32A	**Long Quarter,**	**2.85 338**		Pn	00 18 48.1	+1.9
W39A	**Magazine**	**2.98 100**		Pn	00 18 48.2	+0.4
W39A	**Magazine**	**2.98 100**	P	Pn	00 18 48.1	+0.3
	baz=282,SNR=16					
W39A	**Magazine**	**2.98 100**	P		00 18 48.1	
	baz=282,SNR=16					
Z38A	**Mt. Pleasant**	**3.19 141**	IAmb_Lg		00 19 48.8	
	comp=E,40nm,0.8s					
MIAR	**Mount Ida**	**3.34 110**	Pn	Pn	00 18 53.5	+0.8
MIAR			IAmb_Lg		00 19 51.2	
	comp=E,56nm,1.1s					
MIAR	**Mount Ida**	**3.34 110**	P	Pn	00 18 53.2	+0.4
	baz=292,SNR=19					
MIAR			S	Sn	00 19 34.7	+2.1
	baz=292					
MIAR	**Mount Ida**	**3.34 110**	P		00 18 53.2	
	baz=292,SNR=19					
MIAR			S		00 19 34.7	
	baz=292					
KSU1	**Kansas State U**	**3.38 10**	Pn	Pn	00 18 53.6	+0.3
CBKS	**Cedar Bluff**	**3.58 329**	IAmb_Lg		00 19 55.5	
	comp=E,61nm,0.9s					
AMTX	**Amarillo**	**3.64 257**	Pn	Pn	00 18 57.9	+0.9
ABTX	**Abilene, Hawle**	**3.66 212**		Pn	00 18 58.4	+1.2
U40A	**Yellville**	**3.70 80**		Pn	00 18 57.7	-0.1
U40A			IAmb_Lg		00 19 58.3	
	comp=E,40nm,0.8s					
U40A	**Yellville**	**3.70 80**	P	Pn	00 18 58.1	+0.3
	baz=262,SNR=18					
U40A	**Yellville**	**3.70 80**	P		00 18 58.1	
	baz=262,SNR=18					
U40A			P		00 18 58.1	
	baz=262,SNR=18					
S39A	**Bolivar**	**3.77 58**	Pn	Pn	00 18 59.6	+0.8
S39A	**Bolivar**	**3.77 58**	P	Pn	00 18 59.3	+0.6
	baz=240					
S39A	**Bolivar**	**3.77 58**	P		00 18 59.3	
	baz=240					
WHTX	**Lake Whitney,**	**3.77 181**	Pn	Pn	00 18 58.8	+0.1
X40A	**Basin Creek Fa**	**3.93 108**		Pn	00 19 01.4	+0.5
X40A			IAmb_Lg		00 20 10.1	
	comp=E,56nm,0.8s					
237A	**Washetta, Mont**	**3.98 161**	IAmb_Lg		00 20 15.9	
	comp=E,28nm,0.9s					
WLAR	**White Oak Lake**	**4.07 119**	IAmb_Lg		00 20 18.2	
	comp=E,27nm,0.7s					
WHAR	**Wooly Hollow**	**4.17 95**	Pn	Pn	00 19 04.4	+0.2
WHAR			IAmb_Lg		00 20 17.3	
	comp=E,42nm,0.9s					
W41B	**Gary Mavity, V**	**4.22 97**	P	Pn	00 19 05.0	+0.2
	baz=279,SNR=8.4					
W41B	**Gary Mavity, V**	**4.22 97**	P		00 19 05.0	
	baz=279,SNR=8.4					
FCAR	**Ozark Folk Cen**	**4.26 87**		Pn	00 19 05.5	+0.1
FCAR			IAmb_Lg		00 20 16.6	
	comp=E,27nm,0.7s					
MGMO	**Mountain Grove**	**4.33 70**	IAmb_Lg		00 20 18.1	
	comp=E,60nm,1.0s					
R40A	**Maddies Statio**	**4.79 57**	Pn	Pn	00 19 13.0	+0.3
R40A			IAmb_Lg		00 20 44.6	
	comp=E,44nm,1.2s					
MSTX	**Muleshoe**	**4.79 250**	Pn	Pn	00 19 13.2	+0.3
P38A	**Dawn**	**4.90 37**	IAmb_Lg		00 20 34.9	
	comp=E,24nm,0.8s					
CCAR	**Cane Creek**	**4.96 110**	IAmb_Lg		00 20 45.5	
	comp=E,38nm,1.2s					
N33A	**J Bar K, Exete**	**4.96 359**	IAmb_Lg		00 20 49.4	
	comp=E,35nm,0.9s					
435B	**Jarrell**	**4.98 182**	IAmb_Lg		00 20 44.8	
	comp=E,29nm,0.7s					
LCAR	**Lake Charles**	**5.05 85**		Pn	00 19 15.7	-0.6
LCAR			IAmb_Lg		00 20 41.9	
	comp=E,22nm,0.9s					
T42A	**Van Buren**	**5.21 74**	Pn	Pn	00 19 17.9	-0.6
T42A			IAmb_Lg		00 20 51.2	
	comp=E,22nm,0.9s					
N35A	**Tabor**	**5.26 14**	Pn	Pn	00 19 19.3	+0.2
N35A			IAmb_Lg		00 20 57.6	
	comp=E,52nm,0.7s					
KSCO	**Kaye Shedlock'**	**5.29 309**	IAmb_Lg		00 21 00.4	
	comp=E,32nm,0.7s					
CCM	**Cathedral Cave**	**5.41 63**	IAmb_Lg		00 21 03.2	
	comp=E,27nm,0.8s					
JCT	**Junction City**	**5.66 202**	IAmb_Lg		00 21 07.7	
	comp=E,32nm,1.0s					
PBMO	**Poplar Bluff**	**5.69 78**	IAmb_Lg		00 21 10.6	
	comp=E,25nm,0.8s					
T25A	**Trinidad**	**5.84 286**	IAmb_Lg		00 21 14.5	
	comp=E,37nm,1.0s					
L34A	**Svendsen Farm,**	**6.23 7**	IAmb_Lg		00 21 24.9	
	comp=E,44nm,1.0s					
S44A	**Carbondale**	**6.79 71**	IAmb_Lg		00 21 45.2	
	comp=E,28nm,0.8s					
SIUC	**Southern Illin**	**6.82 71**	IAmb_Lg		00 21 43.8	
	comp=E,40nm,0.8s					
K31A	**O'Neill**	**6.93 351**	IAmb_Lg		00 21 59.9	
	comp=E,28nm,0.7s					
SCIA	**State Center**	**6.93 27**	IAmb_Lg		00 21 53.3	
	comp=E,37nm,0.9s					
K38A	**Parkersburg**	**7.74 26**	IAmb_Lg		00 22 15.3	
	comp=E,22nm,0.8s					
L40A	**Anamosa**	**7.90 35**	IAmb_Lg		00 22 12.0	
	comp=E,20nm,0.8s					
Y22D	**IRIS PASSCAL I**	**8.03 261**	IAmb_Lg		00 22 29.5	
	comp=E,24nm,0.8s					
PHWY	**Pilot Hill**	**8.40 313**	IAmb_Lg		00 22 45.4	
	comp=E,14nm,0.9s					
L42A	**Oliver, Polo**	**8.64 42**	IAmb_Lg		00 22 36.1	
	comp=E,25nm,0.9s					
JFWS	**Jewell Farm**	**9.01 36**	IAmb_Lg		00 22 55.7	
	comp=E,27nm,1.1s					
WCI	**Wyandotte Cave**	**9.19 71**	IAmb_Lg		00 22 57.1	
	comp=E,24nm,0.9s					
121A	**Cookes Peak, D**	**9.22 252**	IAmb_Lg		00 23 13.6	
	comp=E,11nm,1.1s					
SFIN	**Lafayette**	**9.31 57**	IAmb_Lg		00 23 06.5	
	comp=E,22nm,0.8s					
PV11	**David Mesa, Pa**	**9.54 289**	IAmb_Lg		00 23 10.7	
	comp=E,12nm,1.2s					
I40A	**Norwalk**	**9.62 31**	IAmb_Lg		00 23 14.6	
	comp=E,9.9nm,0.9s					
PV14	**Lion Creek, Pa**	**9.67 289**	IAmb_Lg		00 23 16.5	
	comp=E,16nm,1.1s					
RWWY	**Rawlins**	**9.69 310**	IAmb_Lg		00 23 18.0	
	comp=E,10.0nm,1.1s					
RSSD	**Black Hills**	**9.78 331**	IAmb_Lg		00 23 14.9	
	comp=E,8.1nm,0.8s					
K22A	**Casper**	**9.88 317**	IAmb_Lg		00 23 26.9	
	comp=Z,14nm,0.9s					

NEIC ***28*** *00:24:18.9±1.1,43.71°N±0.03°×105.29°W±0.04°,h0km±2km, ML3.2/54,Error ellipse: s-maj=6.7km s-min=3.1km az=52.0*

IDC ***28*** *00:24:19.3±0.9,44.14°N×105.86°W,h0km,mb3.7/2, mb1 3.6/6,mb1mx3.4/39,mbtmp3.4/6,ML2.9/3,MS3.8/1, Ms1 3.8/1,ms1mx2.4/59,Error ellipse: s-maj=26.7km s-min=8.5km az=144.0*

ISC 28 00:24:18.1±0.9,43.74N±0.05°×105.28W±0.07°,h0km,n44,σ1§16/43,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**67**		**Pb**	**00 24 37.6**	**-0.5**
K22A	**Casper**	**1.42**	**220**		**Pn**	**00 24 43.5**	**-1.9**
K22A				IAML		00 25 07.6	
	comp=E,434nm,0.3s						
PHWY	**Pilot Hill**	**2.44**	**183**	Pn	**Pn**	**00 24 59.7**	**+0.1**
RWWY	**Rawlins**	**2.50**	**215**		**Pn**	**00 25 00.3**	**0.0**
LAO	**LASA Array**	**3.02**	**348**		**Pn**	**00 25 08.2**	**+1.0**
RLMT	**Red Lodge**	**3.17**	**297**	Pn	**Pn**	**00 25 10.0**	**+0.6**
RLMT				IAML		00 26 03.3	
	comp=E,54nm,0.3s						
RLMT				IAML		00 26 05.9	
	comp=E,58nm,0.7s						
BW06	**Boulder Array**	**3.27**	**254**		**Pn**	**00 25 11.1**	**+0.2**
BW06				IAML		00 25 58.2	
	comp=E,38nm,0.3s						
BW06				IAML		00 25 59.6	
	comp=E,57nm,0.4s						
PD31	**Pinedale Array**	**3.27**	**254**		**Pn**	**00 25 11.3**	**+0.4**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**00 25 11.3**	**+0.4**
	comp=E,12nm,0.3s,baz=69,slow=17,SNR=49						
PDAR				Lg	Lg	00 25 54.1	
	comp=E,8.2nm,0.3s,baz=63,slow=34,SNR=2.2						
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**00 25 11.2**	**+0.3**
YNE	**Yellowstone No**	**3.62**	**292**		**Pn**	**00 25 16.1**	**+0.5**
YNE				IAML		00 26 15.4	
	comp=N,51nm,0.3s						
YNE				IAML		00 26 17.2	
	comp=E,51nm,0.3s						
YMP	**Mirror Lake Pl**	**3.64**	**288**		**Pn**	**00 25 16.6**	**+0.6**
OGNE	**Ogallala**	**3.69**	**138**		**Pn**	**00 25 17.4**	**+0.9**
GCMT	**Greycliff**	**3.73**	**305**		**Pn**	**00 25 17.9**	**+0.8**
LOHW	**Long Hollow**	**3.86**	**270**		**Pn**	**00 25 21.6**	**+2.6**
H17A	**Grant Village**	**3.87**	**282**		**Pn**	**00 25 21.5**	**+2.4**
FLWY	**Flagg Ranch**	**3.93**	**277**		**Pn**	**00 25 20.0**	**+0.1**
FLWY				IAML		00 26 35.1	
	comp=E,22nm,1.8s						
ISCO	**Idaho Springs**	**3.95**	**184**		**Pn**	**00 25 20.9**	**+0.7**
REDW	**Red Top Meadow**	**4.07**	**267**		**Pn**	**00 25 22.7**	**+0.9**
REDW				IAML		00 26 36.4	
	comp=E,31nm,0.8s						
REDW				IAML		00 26 41.3	
	comp=E,29nm,0.8s						
TPAW	**Teton Pass**	**4.12**	**268**		**Pn**	**00 25 23.1**	**+0.4**
TPAW				IAML		00 26 54.6	
	comp=E,26nm,0.9s						
YHH	**Holmes Hill**	**4.13**	**287**		**Pn**	**00 25 23.6**	**+0.8**
O20A	**White River Ci**	**4.23**	**212**		**Pn**	**00 25 24.3**	**+0.3**
O20A				IAML		00 26 43.9	
	comp=N,26nm,0.9s						
O20A				IAML		00 26 50.9	
	comp=E,30nm,1.1s						
E28A	**Huff**	**4.31**	**47**	Pn	**Pn**	**00 25 26.5**	**+1.6**
AHID	**Auburn Hatcher**	**4.36**	**259**		**Pn**	**00 25 26.9**	**+1.1**
AHID				IAML		00 26 39.4	
	comp=N,26nm,0.8s						
AHID				IAML		00 26 40.7	
	comp=E,32nm,0.6s						
RDMU	**Red Mountain**	**4.50**	**227**		**Pn**	**00 25 29.3**	**+1.6**
RDMU				IAML		00 26 44.6	
	comp=E,22nm,0.8s						
RDMU				IAML		00 26 46.9	
	comp=N,22nm,0.8s						
SMCO	**Snowmass**	**4.74**	**196**		**Pn**	**00 25 32.0**	**+0.8**
SMCO				IAML		00 26 48.7	
	comp=N,28nm,0.3s						
SMCO				IAML		00 26 56.8	
	comp=N,15nm,0.3s						
DGMT	**Dagmar**	**4.79**	**9**		**Pn**	**00 25 33.7**	**+2.2**
BOZ	**Bozeman (W)**	**4.89**	**294**		**Pn**	**00 25 32.8**	**-0.2**
BOZ				IAML		00 26 55.3	
	comp=N,10nm,0.8s						
HWUT	**Hardware Ranch**	**5.10**	**247**	Pn	**Pn**	**00 25 36.2**	**+0.2**
HWUT				IAML		00 27 15.3	
	comp=N,17nm,0.8s						
HWUT				IAML		00 27 15.6	
	comp=N,15nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.13**	**156**	Pn	**Pn**	**00 25 36.1**	**-0.3**
EGMT	**Eagleton**	**5.30**	**325**		**Pn**	**00 25 38.7**	**+0.1**
HRY	**Holter Researc**	**5.49**	**305**	Pn	**Pn**	**00 25 42.2**	**+1.0**
SPUT	**South Promonto**	**5.83**	**248**		**Pn**	**00 25 46.4**	**+0.5**
PV22	**Blue Mesa, Par**	**5.84**	**208**		**Pn**	**00 25 46.5**	**+0.5**
ECSD	**EROS Data Cent**	**6.28**	**87**	Pn	**Pn**	**00 25 52.9**	**+0.9**
DUG	**Dugway, Tooele**	**6.64**	**240**		**Pn**	**00 25 57.4**	**+0.4**
ELK	**Elko**	**7.97**	**251**	Pn	**Pn**	**00 26 16.4**	**+1.0**
	comp=N,0.1nm,0.3s,baz=54,slow=18,SNR=1.9						
AGMN	**Agassiz Nation**	**7.98**	**52**	Pn	**Pn**	**00 26 13.8**	**-1.5**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**00 26 30.3**	**-0.9**
	comp=N,1.1nm,0.3s,baz=228,slow=12,SNR=8.6						
ULM				Lg	Lg	00 29 03.5	
	comp=N,0.3nm,0.3s,baz=308,slow=18,SNR=1.4						
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**00 26 56.0**	**-3.1**
	comp=N,0.1nm,0.3s,baz=55,slow=11,SNR=1.7						
TXAR	**Lajitas Array**	**14.44**	**174**	Pn	**P**	**00 27 52.0**	**+1.1**
	comp=N,0.0nm,0.3s,baz=357,slow=13,SNR=2.3						
BORG	**Borgarnes**	**49.07**	**34**	LR	LR	00 55 10.9	
	comp=N,84nm,18.5s,baz=87,slow=38						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**00 34 34.4**	**-1.2**
	comp=N,0.3nm,0.4s,baz=335,slow=6.0,SNR=8.7						
FINES	**FINESS Array B**	**68.03**	**23**	P	**P**	**00 35 18.8**	**0.0**
	comp=N,0.6nm,0.8s,baz=319,slow=7.7,SNR=1.6						

TUL ***28*** *01:04:38.7±1.4,36.47°N±0.02°×98.14W±0.05,h6km±7km, ML2.9,mb_Lg2.6/41(NEIC),Error ellipse: s-maj=5.5km s-min=2.6km az=92.0*

NEIC 28 01:04:38.9±1.3,36.45N±0.02°×98.11W±0.01,h5km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=7.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.12**	**63**		Pg	01 04 41.9	+0.5
CROK				Sg	Sg	01 04 44.2	+1.2
OK032	**Salt Plains WL**	**0.36**	**348**		Pg	01 04 45.6	-0.3
OK032				Sg	Sg	01 04 50.9	+0.3
KAN17	**Caldwell West**	**0.66**	**25**		Pg	01 04 51.2	-0.3
KAN17				Sg	Sg	01 05 00.1	+0.1
KAN10	**Anthony SW Sta**	**0.67**	**1**		Pg	01 04 51.4	-0.5
KAN10				Sg	Sg	01 05 00.8	+0.3
KAN13	**South Haven SW**	**0.76**	**42**		Pg	01 04 53.3	-0.2
KAN08	**Anthony NE Sta**	**0.78**	**8**		Pg	01 04 53.4	-0.6
BLOK	**Blackwell**	**0.79**	**67**		Pg	01 04 54.0	0.0
KAN09	**Caldwell North**	**0.79**	**30**		Pg	01 04 53.2	-0.9
OK029	**Liberty Lake**	**0.84**	**141**	Pg	Pg	01 04 54.9	-0.2
BCOK	**Bluff Creek, N**	**0.89**	**153**		Pg	01 04 55.6	-0.5
KS20	**Mayfield South**	**0.90**	**30**		Pg	01 04 55.6	-0.5
OK025	**Westminster Rd**	**1.07**	**144**		Pg	01 04 59.2	-0.3
OK031	**S. Brethren Rd**	**1.15**	**115**		Pg	01 05 00.4	-0.5
OKCFA	**Oklahoma City**	**1.17**	**152**	Pg	Pg	01 05 00.7	-0.6
QUOK	**Quay**	**1.17**	**103**		Pg	01 05 01.0	-0.3
OKCSW	**OKLAHOMA CITY**	**1.18**	**152**		Pg	01 05 01.0	-0.5
OK030	**Cody Creek RV**	**1.20**	**116**		Pg	01 05 01.7	-0.2
FNO	**Franklin**	**1.32**	**154**		Pn	01 05 03.0	-1.1
T35A	**Sooner Cattle**	**1.37**	**70**		Pn	01 05 04.5	-0.2
WMOK	**Wichita Mounta**	**1.79**	**198**		Pn	01 05 10.5	-0.1
X34A	**Smith Ranch, M**	**1.86**	**173**		Pn	01 05 12.0	+0.5
R32A	**Long Quarter,**	**2.02**	**347**		Pn	01 05 14.2	+0.4
LOOK	**Love County**	**2.57**	**162**		Pn	01 05 21.3	+0.1
CBKS	**Cedar Bluff**	**2.69**	**332**	Pn	Pn	01 05 23.6	+0.7
X37A	**Clayton**	**2.91**	**129**		Pn	01 05 26.4	+0.5
X37A				IAmb_Lg		01 06 17.5	
	comp=Z,17nm,0.7s						
U38A	**Gravette**	**3.01**	**89**		Pn	01 05 27.7	+0.5
Z35A	**Perchaven, San**	**3.19**	**167**	Pn	Pn	01 05 30.1	+0.3
AMTX	**Amarillo**	**3.30**	**243**	Pn	Pn	01 05 31.9	+0.6
HHAR	**Hobbs**	**3.37**	**92**		Pn	01 05 32.9	+0.6
W39A	**Magazine**	**3.73**	**108**		Pn	01 05 37.8	+0.6
W39A				IAmb_Lg		01 06 45.9	
	comp=Z,15nm,0.8s						
ABTX	**Abilene, Hawle**	**4.02**	**199**		Pn	01 05 41.2	0.0
ABTX				IAmb_Lg		01 06 47.1	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**4.03**	**71**	Pn	Pn	01 05 40.4	-0.8
MIAR	**Mount Ida**	**4.16**	**116**	Pn	Pn	01 05 42.8	-0.3
MIAR				IAmb_Lg		01 06 54.9	
	comp=E,16nm,0.8s						
U40A	**Yellville**	**4.24**	**90**	Pn	Pn	01 05 42.8	-1.4
N33A	**J Bar K, Exete**	**4.31**	**7**	Pn	Pn	01 05 44.1	-1.1
KSCO	**Kaye Shedlock'**	**4.40**	**307**	IAmb_Lg		01 07 02.9	
	comp=Z,11nm,0.7s						
WHTX	**Lake Whitney,**	**4.48**	**173**	Pn	Pn	01 05 47.5	0.0
MSTX	**Muleshoe**	**4.55**	**238**	Pn	Pn	01 05 48.6	+0.1
X40A	**Basin Creek Fa**	**4.73**	**113**	Pn	Pn	01 05 50.9	0.0
X40A				IAmb_Lg		01 07 21.9	
	comp=E,15nm,0.9s						
MGMO	**Mountain Grove**	**4.74**	**80**	IAmb_Lg		01 07 18.8	
	comp=E,8.9nm,0.8s						
P38A	**Dawn**	**4.81**	**47**	Pn	Pn	01 05 51.9	0.0
P38A				IAmb_Lg		01 07 21.4	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.87**	**102**	Pn	Pn	01 05 53.4	+0.5
WHAR				IAmb_Lg		01 07 17.6	
	comp=Z,12nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.88**	**95**	Pn	Pn	01 05 52.9	0.0
WLAR	**White Oak Lake**	**4.94**	**122**	IAmb_Lg		01 07 19.2	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**5.00**	**67**	IAmb_Lg		01 07 24.4	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**5.10**	**280**	Pn	Pn	01 05 55.9	-0.3
T25A				IAmb_Lg		01 07 30.5	
	comp=Z,17nm,1.1s						
OGNE	**Ogallala**	**5.43**	**327**	Pn	Pn	01 06 00.8	+0.1
OGNE				IAmb_Lg		01 07 33.0	
	comp=Z,17nm,0.8s						
LCAR	**Lake Charles**	**5.64**	**92**	IAmb_Lg		01 07 39.9	
	comp=Z,7.0nm,0.9s						
T42A	**Van Buren**	**5.67**	**82**	IAmb_Lg		01 07 44.5	
	comp=Z,8.1nm,0.9s						
L34A	**Svendsen Farm,**	**5.67**	**13**	Pn	Pn	01 06 03.2	-0.6
P40A	**Paris**	**5.69**	**55**	Pn	Pn	01 06 04.1	0.0
P40A				IAmb_Lg		01 07 51.1	
	comp=Z,9.3nm,0.8s						
CCM	**Cathedral Cave**	**5.71**	**72**	Pn	Pn	01 06 04.6	+0.2
CCM				IAmb_Lg		01 07 50.2	
	comp=Z,7.2nm,0.7s						
N38A	**Joes South For**	**5.78**	**40**	IAmb_Lg		01 07 44.3	
	comp=Z,15nm,0.8s						
SDCO	**Great Sand Dun**	**6.04**	**285**	Pn	Pn	01 06 09.4	+0.2
PBMO	**Poplar Bluff**	**6.19**	**85**	IAmb_Lg		01 08 06.6	
	comp=Z,7.4nm,0.9s						
ISCO	**Idaho Springs**	**6.79**	**302**	Pn	Pn	01 06 18.9	-0.6
PHWY	**Pilot Hill**	**7.50**	**312**	IAmb_Lg		01 08 49.4	
	comp=Z,4.9nm,0.9s						
K22A	**Casper**	**8.97**	**316**	IAmb_Lg		01 09 48.0	
	comp=Z,7.0nm,1.2s						

IDC ***28*** *01:05:23.2±0.4,26.50N×90.34E,h0km,mb4.7/48, mb1 4.7/49,mb1mx4.7/61,mbtmp4.7/49,ML4.6/1,MS4.6/27, Ms1 4.6/27,ms1mx4.5/40,Error ellipse: s-maj=11.9km s-min=9.7km az=23.0*

MOS ***28*** *01:05:25.2±1.1,26.60N×90.39E,h23km,mb5.6/81, MS4.7/37,Error ellipse: s-maj=6.0km s-min=3.2km az=120.0*

NDI ***28*** *01:05:25.6±3.5,26.40N×90.25E,h5km,mb5.6,ML5.6, mb5.5(NEIC)*

BJI ***28*** *01:05:25.6±0.0,26.59N×90.41E,h22km,mB5.2/60, mb5.2/76,ML5.3/3,Ms5.3/86,Ms7 4.9/81*

DMN ***28*** *01:05:27.8±0.4,26.55N×90.58E,h50km,Ml5.9/3,Error ellipse: s-maj=31.2km s-min=8.0km az=17.0*

NEIC ***28*** *01:05:28.6,26.64N×90.43E,h15km,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.12; Mθθ-4.46; Mφφ2.33; Mrθ-0.34; Mθφ0.94; Mφr-2.55; Fault plane solution: M₀4.73000×10¹⁶ NP1:φs133.83000°, δ61.16000°,λ146.43000°. NP2:φs241.58000°,δ61.03000°, λ33.46000°. Principal axes: T 4.8691, Plg43.0000°, Azm98.0000°; N -0.2855, Plg47.0000°, Azm278.0000°; P -4.5837, Plg0.0000°, Azm188.0000°;*

NEIC ***28*** *01:05:28.6±2.0,26.64N±0.06°×90.41E±0.06°,h26km±1km, mb5.5/231,Ms_20 4.8/224,Mwb5.1/14,Mwc5.3(GCMT) Error ellipse: s-maj=11.5km s-min=9.1km az=210.0*

GCMT ***28*** *01:05:29.5±0.2,26.38N±0.01°×90.59E±0.01°,h40km±1km, MW5.3/132,Moment Tensor Solution. s81,c112; s132,c239; Duration: 1§1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.15±.02; Mθθ-1.20±.02; Mφφ1.04±.02; Mrθ-0.02±.03; Mθφ0.33±.02; Mφr-0.31±.03; Best double couple: M₀1.21300×10¹⁷ NP1:φs234.00000°,δ78.00000°, λ11.00000°. NP2:φs142.00000°,δ79.00000°,λ167.00000°. Principal axes: T 1.1800, Plg17.0000°, Azm98.0000°; N 0.0600, Plg73.0000°, Azm281.0000°; P -1.2470, Plg1.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***28*** *01:05:31.4±0.0,26.29N×89.87E,h33km,mb5.5,Ms4.8*

NEIC ***28*** *01:05:31,26.40N×90.57E,h39km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.07; Mθθ-1.26; Mφφ 1.19; Mrθ-0.01; Mθφ0.34; Mφr-0.34; Fault plane solution: M₀1.32000×10¹⁷ NP1:φs234.00000°, δ78.00000°,λ10.00000°. NP2:φs142.00000°,δ81.00000°, λ168.00000°. Principal axes: T 1.3233, Plg15.0000°, Azm97.0000°; N -0.0158, Plg75.0000°, Azm283.0000°; P -1.3075, Plg1.0000°, Azm188.0000°;*

ISC 28 01:05:27.8±0.3,26.57N±0.02°×90.35E±0.02°,h24km±1km, h24km:pP-P,n1115,σ1§77/986,mb5.4/295,MS4.8/181, 129C-154D,Fault plane solution: NP1:φs210.93796°, δ88.80678°,λ2.73501°. **NP2:φs120.88097°,δ87.26559°,** λ178.80542°. **Principal axes:** T Plg2.7776°, Azm75.9359°; N Plg87.0162°, Azm234.4910°; P Plg1.0892°, Azm345.8831°; **Fault plane solution: NP1:φs227.31564°,δ67.55197°,λ10.09907°. NP2:** φs133.42491°,δ80.67329°,λ157.23448°. **Principal axes:** T Plg22.6190°, Azm88.3637°; N Plg65.4924°, Azm292.3091°; P Plg8.9405°, Azm182.1220°;

Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.70**	**125**	P	**Pn**	**01 05 56.2**	**+0.1**
SH

VIS Vishakhapatnam 10.94 218 *e*P Pn **01 08 00.8 -2.1**
CM33 Chiang Mai Arr 11.06 132 P Pn **01 08 03.0 -1.6**
CHTO Chiang Mai 11.06 132 P Pn **01 08 03.1 -1.5**
CHTO Chiang Mai 11.06 132 Pn Pn **01 08 03.1 -1.5**
CHTO Chiang Mai 11.06 132 P Pn **01 08 03.3 -1.3**
CHTO P Pn **01 08 03.3 -1.3**
CHTO S Sn **01 10 12.5 +4.9**
CHTO S Sn **01 10 12.5 +4.9**
CHTO Chiang Mai 11.06 132 P Pn **01 08 03.6 -1.0**
comp=E,49nm,0.9s
CMMT Chiang Mai 11.07 132 P Pn **01 08 02.6 -2.0**
comp=E,0.4nmcomp=E,1µmcomp=E,86nm,0.9s
CMMT Chiang Mai 11.07 132 P Pn **01 08 02.6 -2.0**
comp=E,964nmcomp=E,82nm,0.9s
CM32 Chiang Mai Arr 11.12 133 P Pn **01 08 04.0 -1.3**
CRAI Chiangrai 11.16 122 P Pn **01 08 06.0 +0.1**
comp=E,41nm,1.6s
CM34 Chiang Mai Arr 11.18 132 P Pn **01 08 05.0 -1.1**
KMI Kunming 11.26 95 ⇑P Pn **01 08 08.0 +0.6**
KMI pP 01 08 13.3
KMI S Sn **01 10 11.3 -1.3**
KMI pmax pmax
comp=E,170nm,0.9s
KMI pmax pmax
comp=E,750nm,3.5s
KMI L L
comp=E,5µm,13.5s
KMI L L
comp=E,5µm,15.4s
KMI L L
comp=E,7µm,17.0s
KMI Kunming 11.26 95 P Pn **01 08 08.4 +1.0**
KMI Kunming 11.26 95 Pn Pn **01 08 08.4 +1.0**
CM35 Chiang Mai Arr 11.30 132 P Pn **01 08 07.0 -0.8**
CM15 Chiang Mai Arr 11.31 134 P Pn **01 08 07.7 -0.3**
comp=E,708nmcomp=E,73nm,0.7s
CM31 Chiang Mai Arr 11.32 134 P Pn **01 08 07.8 -0.2**
comp=E,21µmcomp=E,2µm,0.9s
CM31 Chiang Mai Arr 11.32 134 Pn **01 08 07.1 -1.0**
CM31 Chiang Mai Arr 11.32 134 P Pn **01 08 08.1 0.0**
SNR=10
CMAR Chiang Mai Arr 11.32 134 Pn Pn **01 08 06.0 -2.0**
comp=E,1.1nm,0.3s,baz=313,slow=13,SNR=41
CMAR Sn **Sn 01 10 09.5 -4.4**
baz=306,slow=12,SNR=2.3
CMAR LR LR 01 13 54.1
comp=E,2µm,20.2s,baz=356,slow=45
CMAR Chiang Mai Arr 11.32 134 Pn Pn **01 08 06.3 -1.8**
CM13 Chiang Mai Arr 11.32 134 P Pn **01 08 07.6 -0.5**
comp=E,619nmcomp=E,69nm,0.7s
CM02 Chiang Mai Arr 11.34 134 P Pn **01 08 07.0 -1.4**
comp=E,867nmcomp=E,116nm,0.9s
CM01 Chiang Mai Arr 11.36 134 P Pn **01 08 08.2 -0.5**
comp=E,835nmcomp=E,69nm,0.9s
CM09 Chiang Mai Arr 11.36 134 P Pn **01 08 08.4 -0.3**
comp=E,708nmcomp=E,88nm,0.8s
CM05 Chiang Mai Arr 11.36 134 P Pn **01 08 08.4 -0.3**
comp=E,642nmcomp=E,54nm,0.7s
CM36 Chiang Mai Arr 11.38 133 P Pn **01 08 08.0 -0.9**
CM04 Chiang Mai Arr 11.39 134 P Pn **01 08 08.8 -0.2**
comp=E,640nmcomp=E,76nm,1.1s
DDI Dehra Dun 11.44 292 *e*P Pn **01 08 08.5 -1.2**
DDI *e*S Sn **01 10 09.6 -7.3**
DDI IAML 01 10 17.7
comp=N,4µm,0.6s
NDI New Delhi 11.83 283 *e*P Pn **01 08 12.0 -3.0**
BHPL Bhopal 12.19 257 *e*P Pn 01 08 15.8 -4.1
BHPL IAML 01 10 42.3
comp=E,856nm,0.7s
BHPL IAML 01 10 44.1
comp=N,1µm,0.7s
SMLA Simla 12.41 295 *e*P Pn **01 08 20.7 -2.2**
SMLA *e*S Sn **01 10 32.6 -7.9**
SMLA IAML 01 10 39.6
comp=E,2µm,0.6s
SMLA IAML 01 10 40.9
comp=N,2µm,0.7s
CD2 Chengdu 12.54 67⇑*i*P Pn **01 08 25.0 +0.3**
CD2 S Sn **01 10 41.3 -2.3**
CD2 pmax pmax
comp=N,190nm,1.0s
CD2 pmax pmax
comp=N,820nm,4.2s
CD2 L L
comp=N,19µm,12.7s
CD2 L L
comp=N,5µm,10.3s
CD2 L L
comp=N,4µm,8.4s
UTTA Uttaradit 12.90 131 P Pn **01 08 28.5 -1.1**
comp=N,234nmcomp=N,21nm,1.1s
UMPA Umpang Tak 13.00 141 P Pn 01 08 36.3 +5.2
comp=N,878nmcomp=N,22nm,0.7s
PHIT Phitsanulok 13.20 133 P Pn **01 08 33.0 -0.8**
comp=N,651nmcomp=N,72nm,0.9s
SLVN Son La 13.44 110 Pn Pn **01 08 35.5 -1.7**
DHRM DHARAMSHALA 13.49 298 *e*P Pn 01 08 33.7 -4.2
DHRM *e*S Sn 01 10 57.1 -10
DHRM IAML 01 11 06.0
comp=E,2µm,1.1s
UTHA Uthaitani 13.85 140 P Pn **01 08 42.8 +0.1**
comp=E,182nmcomp=E,18nm,0.9s
THN Thein Dam 14.01 298 *e*S Sn 01 11 10.0 -10
PBKT Sadao Pong 14.01 133 P Pn **01 08 45.2 +0.3**
comp=E,50nm,0.7s
PBKT Sadao Pong 14.01 133 Pn **01 08 41.1 -3.8**
KHLT Khaolaem Dam 14.02 145 P P **01 08 55.0 +2.4**
AJM Ajmer 14.06 273⇓*i*P Pn 01 08 41.0 -4.5
AJM *i* S Sn 01 11 07.0 -14
HYB Hyderabad 14.22 233 *i* P Pn 01 08 43.0 -4.8
HYB *e*S Sn 01 11 12.0 -13
HYB *e* 01 11 25.0
NONG Nongkai 14.55 123 P Pn **01 08 51.7 -0.5**
comp=E,320nm,1.0s
GYA Guiyang 14.61 87 ⇑P Pn **01 08 51.5 -1.6**
GYA pP P 01 09 00.0 +0.7
GYA S Sn **01 11 32.8 -1.6**
GYA SS S **01 11 49.5 -3.7**
GYA pmax pmax
comp=E,67nm,0.9s
GYA pmax pmax
comp=E,160nm,3.5s
LZH Lanzhou 14.92 47 *e*P Pn **01 08 55.8 -1.5**
LZH sP P 01 09 03.5 +0.7
LZH pmax pmax
comp=E,51nm,1.3s
LZH pmax pmax
comp=E,330nm,4.9s
LZH L L
comp=E,8µm,12.5s
LZH L L
comp=E,5µm,12.0s
LZH L L
comp=E,7µm,12.8s
PBA Port Blair 15.01 171 *e*P Pn 01 08 56.7 -1.7
PBA IAmb IAmb 01 09 04.6
comp=Z,254nm,0.6s
PBA Port Blair 15.01 171 Pn Pn 01 08 56.0 -2.3
PBA IAmb IAmb 01 09 04.5
comp=Z,315nm,0.7s
GTA Gaotai 15.06 29 ⇑P Pn **01 08 56.5 -2.6**
GTA pP P 01 09 05.3 +1.1
GTA sP sP 01 09 09.3 -4.8
GTA S Sn **01 11 40.3 -4.9**
GTA SS S **01 11 57.5 -4.7**
GTA L L
comp=E,4µm,15.6s
GTA L L
comp=E,8µm,14.5s
GTA L L
comp=E,3µm,16.0s
CHAI Chaiyaphum 15.17 132 P Pn **01 09 00.3 -0.2**
comp=Z,619nmcomp=Z,81nm,0.9s
PHET Kaeng Krachan 16.14 146 P Pn **01 09 15.1 +2.0**
comp=Z,712nmcomp=Z,87nm,1.0s
SARP Sargodha 16.32 293 P Pn **01 09 11.2 -4.1**
CHCP Chirah Chowk 16.37 300 P Pn **01 09 12.1 -4.0**
NIL Nilore 16.38 300 P Pn **01 09 12.7 -3.4**
NIL pmax pmax
comp=Z,1µm,1.2s
NIL Nilore 16.38 300 Pn **01 09 12.7 -3.4**
PATY Pattaya 16.79 142 P P **01 09 25.0 +1.6**
comp=Z,2µmcomp=Z,62nm,1.1s
POO Poona 17.20 246 *e*P Pn **01 09 22.9 -3.6**
POO IAmb IAmb 01 09 29.4
comp=Z,220nm,0.9s
ENH Enshi 17.24 73 Pn Pn **01 09 24.9 -2.1**
ENH IAmb IAmb 01 09 29.6
comp=Z,652nm,0.9s
THW Thamme Wali 17.31 295 P Pn **01 09 23.0 -4.8**
WMQ Urumqi 17.35 354 *e*P Pn **01 09 28.3 0.0**
WMQ sP sP 01 09 38.8 -0.6
WMQ PP PnPn **01 09 43.5 +4.9**
WMQ S Sn **01 12 43.8 +3.1**
WMQ SS SnSn **01 12 59.5 +5.2**
WMQ pmax pmax
comp=Z,330nm,1.1s
WMQ pmax pmax
comp=Z,980nm,3.9s
WMQ L L
comp=Z,2µm,13.7s
WMQ L L
comp=Z,6µm,14.9s
WMQ L L
comp=Z,3µm,16.3s
WMQ Urumqi 17.35 354 P Pn **01 09 27.6 -0.7**
WMQ Urumqi 17.35 354 P Pn **01 09 27.6 -0.7**
CEP Cherat 17.49 299 P Pn **01 09 25.0 -5.2**
KSH Kashi 17.63 321 P Pn **01 09 31.3 -0.6**
KSH sP pP 01 09 37.5 -2.0
KSH S Sn **01 12 46.5 -1.2**
KSH sS S 01 12 51.3 -3.6
KSH pmax pmax
comp=Z,72nm,1.1s
KSH L L
comp=Z,3µm,9.0s
KSH L L
comp=Z,5µm,9.1s
KSH L L
comp=Z,750nm,6.3s
XAN Xi'an 17.67 61⇑P Pn **01 09 28.5 -3.8**
XAN pP P 01 09 35.0 +1.9
XAN sP pP 01 09 39.0 -0.8
XAN PP PnPn **01 09 42.0 -1.0**
XAN S Sn **01 12 48.5 0.0**
XAN sS S 01 12 54.3 -1.2
XAN SS SnSn **01 13 02.3 +0.2**
XAN pmax pmax
comp=Z,120nm,1.6s
XAN pmax pmax
comp=Z,620nm,2.8s
XAN L L
comp=Z,8µm,12.8s
XAN L L
comp=Z,3µm,12.3s
XAN L L
comp=Z,2µm,22.8s
XAN Xi'an 17.67 61 P Pn **01 09 29.2 -3.1**
XAN Xi'an 17.67 61 P Pn **01 09 29.2 -3.1**
TARG Taragay, Kyrgy 18.31 329 P Pn **01 09 38.7 -1.8**
PRZ Przheval'sk 18.65 331 P P **01 09 44.0 0.0**
PRZ pmax pmax
comp=Z,211nm,0.8s
PRZ Przheval'sk 18.65 331 P P **01 09 44.0 0.0**
PRZ IAmb IAmb 01 10 04.5
comp=Z,211nm,0.8s
SHLS Shalkode 18.78 335⇓*i*P P **01 09 42.5 -2.8**
comp=Z,132nm,1.4s,baz=336
SHLS *e*S Sn **01 13 10.2 -5.1**
baz=336
SHLS Shalkode 18.78 335*d i*P P **01 09 42.5 -2.8**
SHLS *e*S Sn **01 13 10.2 -5.1**
SHLS pmax pmax
comp=Z,132nm,1.4s
PDGK Podgornoye 18.91 335 P P **01 09 45.3 -1.5**
KDJ Kajisay 18.91 328 P P **01 09 46.8 -0.1**
KDJ pmax pmax
comp=Z,157nm,0.8s
KDJ Kajisay 18.91 328 P P **01 09 46.8 -0.1**
KDJ IAmb IAmb 01 09 59.2
comp=Z,157nm,0.8s
UZB Uzynbulak 18.94 334⇓*i*P P **01 09 45.9 -1.3**
baz=334
UZB *e*S Sn **01 13 16.4 -3.0**
baz=334
UZB Uzynbulak 18.94 334*d i*P P **01 09 45.8 -1.3**
UZB *e*S Sn **01 13 16.3 -3.0**
SATY Saty 19.12 332⇓*i*P P **01 09 48.1 -1.0**
baz=333
SATY *e*S Sn **01 13 20.6 -2.9**
baz=333
SATY Saty 19.12 332*d i*P P **01 09 48.0 -1.0**
SATY *e*S Sn **01 13 20.6 -2.9**
SURT Suratani 19.26 154 P Pn **01 09 54.7 +3.0**
comp=Z,42nmcomp=Z,5.5nm,1.1s
KPKS Kokpek 19.34 334⇓*i*P P **01 09 50.7 -0.8**
baz=334
KPKS *e*S Sn **01 13 25.4 -3.5**
baz=334
KPKS Kokpek 19.34 334*d i*P P **01 09 50.7 -0.8**
KPKS *e*S Sn **01 13 25.4 -3.5**
ULHL Ulahol 19.45 327 P Pn **01 09 54.1 0.0**
SNR=96
QIZ Qiongzhong 19.46 109 P P **01 09 52.8 -0.1**
QIZ S Sn **01 13 31.8 -0.2**
QIZ L L
comp=Z,229µm,2.9s
BOOM Boomskoye usch 19.78 327 P P **01 09 56.8 +0.4**
BOOM pmax pmax
comp=Z,223nm,1.0s
BOOM Boomskoye usch 19.78 327 P P **01 09 56.8 +0.4**
BOOM IAmb IAmb 01 10 11.6
comp=Z,223nm,0.9s
MDOK Medeo 19.79 330 *i* P P **01 09 56.3 -0.1**
baz=331
MDOK *e*S S **01 13 35.8 -2.4**
baz=331
MDOK Medeo 19.79 330 *i* P P **01 09 56.3 -0.1**
MDOK *e*S S **01 13 35.7 -2.4**
KNDC Almaty 19.87 330 P P **01 09 57.8 +0.6**
AAA Alma-Ata 19.88 330 *e*P P **01 09 58.0 +0.7**
comp=Z,516nm,1.6s,baz=331
AAA *e*S S **01 13 38.8 -1.2**
baz=331
AAA Alma-Ata 19.88 330 *e*P P **01 09 58.0 +0.7**
AAA *e*S S **01 13 38.8 -1.2**
AAA pmax pmax
comp=Z,516nm,1.6s
KBL Kabul 19.97 299 P P **01 09 57.2 -1.4**
KBL pmax pmax
comp=Z,321nm,1.0s
KBL Kabul 19.97 299 P P **01 09 57.2 -1.4**
KBL IAmb IAmb 01 10 15.4
comp=Z,321nm,1.0s
KBL Kabul 19.97 299 P P **01 09 58.6 +0.1**
SNR=127
KBL P P **01 09 58.6 +0.1**
SNR=127
PKDT Phuket 20.07 156 P Pn 01 10 07.1 +5.8
KRAB Krabi 20.09 154 P Pn 01 10 11.4 +10
comp=Z,268nm,0.8s
TKM2 Tokmak 2 20.27 327 P P **01 10 02.8 +1.1**
SNR=123
TKM2 Tokmak 2 20.27 327 P P **01 10 02.1 +0.3**
CHKK Chushkaly 20.36 331⇓*e*P P **01 10 02.5 0.0**
baz=332
CHKK Chushkaly 20.36 331⇓*e*P P **01 10 02.5 0.0**
KBK Karagaybulak 20.40 326 P Pn 01 10 04.5 -0.7
SNR=61
AAK Ala-Archa 20.61 325 P P **01 10 06.3 +0.8**
comp=Z,30nm,0.9s,baz=142,slow=8.1,SNR=44
AAK S S **01 13 54.0 -0.8**
comp=Z,14nm,0.9s,baz=237,slow=15,SNR=1.4
AAK LR LR 01 18 09.7
comp=Z,2µm,21.9s,baz=136,slow=37
AAK Ala-Archa 20.61 325 P P **01 10 06.8 +1.4**
SNR=19
AAK Ala-Archa 20.61 325*ce*P P **01 10 05.7 +0.3**
AAK pmax pmax
comp=Z,405nm,2.5s
AAK Ala-Archa 20.61 325 P P **01 10 05.2 -0.2**
AAK Ala-Archa 20.61 325 P P **01 10 06.7 +1.3**
AAK P P **01 10 06.7 +1.3**
AAK S Sn 01 13 58.6 -1.0
AAK S Sn 01 13 58.6 -1.0
FRU1 Bishkek 20.67 326 P P **01 10 06.4 +0.5**
FRU1 pmax pmax
comp=Z,153nm,1.0s
FRU1 MLR MLR
comp=Z,2µm,21.0s
FRU1 Bishkek 20.67 326 P P **01 10 06.3 +0.5**
FRU1 IAmb IAmb 01 10 30.1
comp=Z,153nm,1.0s
KUU Kurty 20.68 330⇓*i*P P **01 10 05.7 -0.2**
comp=Z,145nm,2.0s,baz=331
KUU *e*S S **01 13 53.7 -2.1**
baz=331
KUU Kurty 20.68 330*d i*P P **01 10 05.7 -0.2**
KUU *e*S S **01 13 53.7 -2.1**
KUU pmax pmax
comp=Z,145nm,2.0s
AML Almayashu 20.68 323 P Pn 01 10 07.9 -0.8
SNR=7.1
AML Almayashu 20.68 323 P P **01 10 07.2 +0.9**
CHMS Chumysh 20.75 326 P P **01 10 07.1 +0.4**
SNR=14
TDK Taldyqorghan 20.75 336 *i* P P **01 10 06.7 0.0**
comp=Z,211nm,1.2s,baz=336
TDK *e*S S **01 13 55.8 -1.4**
baz=336
TDK *e*LR LR 01 18 32.5
comp=Z,1µm,14.7s,baz=336
TDK Taldyqorghan 20.75 336 *i* P P **01 10 06.6 0.0**
TDK *e*S S **01 13 55.7 -1.4**
TDK pmax pmax
comp=Z,211nm,1.2s
TDK MLR MLR
comp=Z,1µm,15.0s
GAR Garm 20.86 311 P P **01 10 07.7 -0.4**
GAR IAMs_20 IAMs_20 01 18 49.5
comp=Z,5µm,20.0s
EKS2 Erkin-Say 21.00 324 P P **01 10 11.0 +1.4**
SNR=50
USP Ospenovka 21.07 326 P P **01 10 10.6 +0.4**
SNR=37
SGDS Sogindy 21.14 327⇓*i*P P **01 10 11.1 0.0**
baz=328
SGDS *e*S S **01 14 01.7 -3.3**
baz=328
SGDS Sogindy 21.14 327*d i*P P **01 10 11.0 0.0**
SGDS *e*S S **01 14 01.7 -3.3**
GZH Guangzhou 21.15 94 P P **01 10 12.3 +1.1**
GZH S S **01 14 07.0 +1.6**
GZH L L
comp=Z,810nm,7.7s
GZH L L
comp=Z,3µm,12.9s
MK31 Makanchi Array 21.17 345*d i*P P **01 10 10.8 -0.5**
MK31 Makanchi Array 21.17 345 P P **01 10 10.2 -1.1**
MK31 IAmb IAmb 01 10 27.2
comp=Z,140nm,0.7s
MKAR Makanchi Array 21.17 345 P P **01 10 10.8 -0.5**
comp=Z,90nm,0.8s,baz=157,slow=10,SNR=470
MKAR S S **01 14 02.5 -3.0**
comp=Z,9.9nm,0.8s,baz=177,slow=8.1,SNR=1.9
MKAR Makanchi Array 21.17 345 P P **01 10 10.6 -0.7**
MAKZ Makanchi 21.26 344 P P **01 10 10.6 -1.6**
MAKZ pmax pmax
comp=Z,151nm,1.1s
MAKZ Makanchi 21.26 344 P P **01 10 10.6 -1.6**
MAKZ IAmb IAmb 01 10 16.7
comp=Z,151nm,1.1s
PALK Pallekele 21.27 207 P P **01 10 12.0 -0.5**
comp=Z,13nm,0.6s,baz=121,slow=18,SNR=3.1
PALK S S **01 14 03.3 -4.5**
comp=Z,16nm,0.8s,baz=40,slow=23,SNR=2.0
PALK LR LR 01 18 11.4
comp=Z,1µm,21.3s,baz=133,slow=36
PALK Pallekele 21.27 207 P P **01 10 11.4 -1.1**
PALK pmax pmax
comp=Z,92nm,1.1s
PALK Pallekele 21.27 207 P P **01 10 11.4 -1.1**
WHN Wuhan 21.44 74⇑*i*P P **01 10 14.0 -0.2**
WHN sP sP **01 10 24.5 +0.3**
WHN S S **01 14 09.5 -1.5**
WHN pmax pmax
comp=Z,670nm,1.0s
WHN L L
comp=Z,4µm,8.8s
WHN L L
comp=Z,5µm,12.4s
WHN L L
comp=Z,8µm,15.8s
CHGR Chuyangaron 21.48 309 P P **01 10 13.8 -0.9**
BTO Baotou 21.49 44 *e*P P **01 10 12.0 -2.8**
SKLT Songkhla 21.63 151 P P **01 10 20.3 +4.0**
TIY Taiyuan 21.70 54 *e*P P **01 10 15.8 -1.3**
TIY pP pP **01 10 25.5 +1.6**
TIY sP sP **01 10 28.8 +1.8**
TIY PP PnPn **01 10 42.5 +4.3**
TIY S S **01 14 10.8 -5.4**
TIY SS SnSn **01 14 43.3 +2.2**
TIY pmax pmax
comp=Z,140nm,0.8s
TIY pmax pmax
comp=Z,370nm,3.5s
TIY L L
comp=Z,9µm,15.9s
TIY L L
comp=Z,3µm,8.2s
TIY L L
comp=Z,3µm,8.4s
LHMI Lhok Sumawe 22.14 162 P P **01 10 22.2 +0.4**
LHMI Lhok Sumawe 22.14 162 P P **01 10 22.5 +0.7**
comp=Z,7µmcomp=Z,571nm,1.3s
DZA Taraz 22.49 321 *e*P P **01 10 25.1 -0.4**
baz=322
DZA Taraz 22.49 321 *e*P P **01 10 25.0 -0.4**
HHC Hu-ho-hao-te 22.60 46 *e*P P **01 10 26.5 -0.2**
HHC pP pP 01 10 30.8 -2.7
HHC sP sP 01 10 33.5 -3.2
HHC S S **01 14 27.5 -5.6**
HHC pmax pmax
comp=Z,67nm,1.3s
HHC pmax pmax
comp=Z,380nm,5.2s
HHC L L
comp=Z,8µm,13.3s
HHC L L
comp=Z,7µm,13.7s
HHC L L
comp=Z,2µm,12.5s
BTLS Baital 22.61 329 *e*P P **01 10 25.3 -1.4**
comp=Z,28nm,1.3s,baz=329
BTLS *i* S S **01 14 30.6 -2.4**
baz=329
BTLS Baital 22.61 329 *e*P P **01 10 25.2 -1.4**
BTLS *i* S S **01 14 30.5 -2.4**
BTLS pmax pmax
comp=Z,28nm,1.3s
KK31 Karatay Array 23.09 321 P P **01 10 30.7 -1.0**
KK31 pmax pmax
comp=Z,79nm,0.9s
KK31 Karatay Array 23.09 321 P P **01 10 30.7 -1.0**
KKAR Karatay Array 23.09 321 P P **01 10 30.7 -1.0**
KKAR Karatay Array 23.09 321 P P **01 10 30.7 -1.0**
DGZ Jazzator, Alta 23.21 355*d i*P P **01 10 32.9 -0.1**
DGZ pmax pmax
comp=Z,323nm,1.5s
IPM Ipoh 24.22 153 P P **01 10 45.0 +2.2**
TSI Tuntungan 24.25 160 P P **01 10 44.3 +1.3**
comp=Z,306nm,1.1s
SONM Songino Array 24.68 26 P P **01 10 47.9 +1.0**
comp=Z,20nm,0.7s,baz=208,slow=8.8,SNR=40
SONM S S **01 15 04.9 -2.3**
comp=Z,7.1nm,1.3s,baz=161,slow=6.4,SNR=1.4
SONM ScP ScP **01 18 04.9 +3.8**
comp=Z,0.9nm,0.8s,baz=238,slow=3.4,SNR=1.2
SONM LR LR 01 21 24.8
comp=Z,3µm,18.7s,baz=214,slow=39
SONM Songino Array 24.68 26 P P **01 10 46.6 -0.3**
SONM pmax pmax
comp=Z,143nm,0.8s
SONM Songino Array 24.68 26 P P **01 10 46.6 -0.3**
SONM IAmb IAmb 01 10 59.4
comp=Z,143nm,0.8s
TIA Tai'an 24.73 61 P P **01 10 47.3 0.0**
TIA pP pP **01 10 51.8 -2.8**
TIA S S **01 15 07.0 -1.0**
TIA sS pS **01 15 14.5 -1.5**
TIA SS SnSn **01 16 02.8 +7.6**
TIA pmax pmax
comp=Z,71nm,1.2s
TIA pmax pmax
comp=Z,550nm,3.8s

TIA L L
comp=Z,980nm,12.8s
TIA L L
comp=Z,730nm,10.0s
TIA L L
comp=Z,650nm,11.4s
ULN Ulaanbaatar 24.98 27 *ce* P **P 01 10 49.9 +0.3**
ULN pmax pmax
comp=Z,420nm,0.8s
ULN Ulaanbaatar 24.98 27 P **P 01 10 49.5 0.0**
ULN IAmb IAmb 01 11 01.4
comp=Z,123nm,0.7s
ULN Ulaanbaatar 24.98 27 IAMs_20 IAMs_20 01 21 33.9
comp=Z,3µm,20.0s
ULN Ulaanbaatar 24.98 27 P **P 01 10 48.5 -1.0**
ULN S **S 01 15 10.2 -1.8**
ULN Ulaanbaatar 24.98 27 P **P 01 10 49.9 +0.3**
comp=Z,8µmcomp=Z,685nm,0.7s
SEM Semipalatinsk 25.04 345 ⇓ *i* P **P 01 10 49.1 -1.1**
comp=Z,31nm,0.8s,baz=345
SEM Semipalatinsk 25.04 345 *d i* P **P 01 10 49.0 -1.1**
SEM pmax pmax
comp=Z,31nm,0.8s
BJT Baijiatuau 25.30 51 P **P 01 10 52.3 -0.1**
BJT pmax pmax
comp=Z,69nm,1.1s
BJT MLR MLR
comp=Z,4µm,18.0s
BJT Baijiatuau 25.30 51 P **P 01 10 52.3 -0.1**
BJI Beijing 25.32 51 P **P 01 10 53.3 +0.8**
BJI pP **pP 01 10 59.0 -0.8**
BJI sP **sP 01 11 01.0 -1.8**
BJI S **S 01 15 16.0 -1.2**
BJI pmax pmax
comp=Z,31nm,0.9s
BJI pmax pmax
comp=Z,500nm,8.6s
BJI L L
comp=Z,10µm,15.2s
BJI L L
comp=Z,7µm,14.7s
BJI L L
comp=Z,5µm,15.1s
KNMB Chin-men Tao 25.38 89 P **P 01 10 52.4 -0.8**
KNMB IAmb IAmb 01 10 54.6
comp=Z,77nm,0.9s
HRA Herat 25.39 295 IAmb IAmb 01 11 08.0
comp=Z,71nm,0.8s
NJ2 Nanjing 25.41 71 ⇑ P **P 01 10 53.0 -0.5**
NJ2 pP **pP 01 10 58.0 -2.7**
NJ2 sP **sP 01 11 04.0 +0.2**
NJ2 PP **PnPn 01 11 30.5 +1.6**
NJ2 S **S 01 15 17.0 -1.9**
NJ2 sS **sS 01 15 29.5 -1.5**
NJ2 SS **SnSn 01 16 19.5 +7.7**
NJ2 pmax pmax
comp=Z,120nm,0.9s
NJ2 pmax pmax
comp=Z,360nm,4.3s
NJ2 L L
comp=Z,2µm,10.0s
NJ2 L L
comp=Z,1µm,9.5s
NJ2 L L
comp=Z,2µm,14.2s
QZH Quanzhou 25.47 87 ⇓ *i* P **P 01 10 54.5 +0.4**
QZH S **S 01 15 19.8 -0.2**
QZH sS **sS 01 15 30.3 -1.6**
QZH pmax pmax
comp=Z,390nm,4.3s
QZH L L
comp=Z,5µm,12.3s
QZH L L
comp=Z,900nm,11.8s
QZH L L
comp=Z,3µm,15.6s
KURBB Kurchatov Arra 25.67 342 P **P 01 10 55.5 -0.1**
comp=Z,68nm,1.0s,baz=158,slow=9.0,SNR=174
KURBB S **S 01 15 20.8 -1.7**
comp=Z,1.8nm,0.8s,baz=360,slow=32,SNR=1.8
KURBB ScP **ScP 01 18 07.3 +3.7**
comp=Z,0.8nm,0.7s,baz=165,slow=2.2,SNR=1.0
KURBB Kurchatov Arra 25.67 342 P **P 01 10 54.7 -0.9**
KURK Kurchatov 25.73 343 P **P 01 10 55.5 -0.7**
KURK Kurchatov 25.73 343 P **P 01 10 55.5 -0.7**
ZAK Zakamensk 25.77 19 *e* P **P 01 10 57.4 +0.7**
ZAK pmax pmax
comp=Z,74nm,1.2s
OTUK Ortayu 25.82 332 P **P 01 10 56.7 -0.3**
GSI Gunungsitoli 26.06 163 P **P 01 11 00.1 +0.6**
GSI IAmb IAmb 01 11 13.0
comp=Z,210nm,1.1s
GSI Gunungsitoli 26.06 163 P **P 01 10 59.5 0.0**
comp=Z,168nm,0.8s
MOY Mondy 26.33 15 *e* P **P 01 11 06.0 +4.2**
MOY pmax pmax
comp=Z,140nm,2.3s
TLY Talaya 27.03 18 P **P 01 11 07.4 -0.6**
comp=Z,8.0nm,0.6s,baz=266,slow=15,SNR=3.1
TLY S **S 01 15 49.7 +5.5**
comp=Z,2.3nm,0.5s,baz=309,slow=0.5,SNR=1.2
TLY Talaya 27.03 18 *e* P **P 01 11 10.7 +2.8**
TLY *e* S **S 01 15 44.1 0.0**
TLY pmax pmax
comp=Z,65nm,1.0s
TLY MLR MLR
comp=Z,2µm,14.0s
TLY Talaya 27.03 18 P **P 01 11 06.9 -1.0**
TLY Talaya 27.03 18 P **P 01 11 06.5 -1.4**
TLY S **S 01 15 43.7 -0.4**
BRZS Berezniki 27.05 334 ⇓ *i* P **P 01 11 08.2 +0.1**
comp=Z,23nm,1.2s,baz=335
BRZS *e* S **S 01 15 43.5 -1.0**
baz=335
BRZS Berezniki 27.05 334 *d i* P **P 01 11 08.2 +0.1**
BRZS *e* S **S 01 15 43.4 -1.0**
BRZS pmax pmax
comp=Z,23nm,1.2s
MNSI Mandailing Nat 27.12 159 P **P 01 11 09.6 +0.6**
comp=Z,2µmcomp=Z,106nm,0.7s
SSE Sheshan 27.34 73 P **P 01 11 10.8 -0.1**
SSE S **S 01 15 48.3 -1.1**
SSE pmax pmax
comp=Z,30nm,1.2s
SSE pmax pmax
comp=Z,260nm,4.5s
SSE L L
comp=Z,2µm,15.3s
SSE L L
comp=Z,1µm,12.5s
SSE Sheshan 27.34 73 IAMs_20 IAMs_20 01 23 04.0
comp=Z,3µm,22.0s
TPUB Ta-pu 27.62 90 P **P 01 11 12.9 -0.7**
TPUB IAmb IAmb 01 11 18.2
comp=Z,94nm,1.3s
ZALV Zalesovo Beam 27.66 353 P **P 01 11 12.9 -0.6**
comp=Z,44nm,1.1s,baz=168,slow=7.6,SNR=64
ZALV S **S 01 16 03.0 +9.1**
comp=Z,3.1nm,0.9s,baz=178,slow=5.5,SNR=1.3
ZALV LR LR 01 23 52.3
comp=Z,1µm,18.3s,baz=160,slow=40
ZALV Zalesovo Beam 27.66 353 P **P 01 11 12.6 -0.8**
IRK Irkutsk 27.71 19 *e* P **P 01 11 19.2 +5.2**
IRK pmax pmax
comp=Z,185nm,2.4s
SSLB Suanglung 27.81 89 P **P 01 11 14.4 -0.8**
YHNB Yeheng 28.01 87 P **P 01 11 16.7 -0.3**
YHNB IAmb IAmb 01 11 37.3
comp=Z,127nm,1.4s
YHNB IAMs_20 IAMs_20 01 23 42.6
comp=Z,3µm,20.0s
BKNI Bangkinang 28.05 157 P **P 01 11 17.7 +0.3**
BKNI IAmb IAmb 01 11 34.2
comp=Z,58nm,0.7s
TATO Taipei 28.06 86 IAMs_20 IAMs_20 01 23 44.0
comp=Z,2µm,20.0s
YULB Yu-li 28.20 90 P **P 01 11 18.5 -0.2**
JLN Jalan Bani Buh 28.48 268 P P 01 11 28.7 +7.4
SNR=6.2
JLN P P 01 11 28.7 +7.4
SNR=6.2
DL2 Dalian 28.90 57 P **P 01 11 25.0 +0.2**
DL2 S **S 01 16 15.8 +2.0**
DL2 pmax pmax
comp=Z,44nm,0.6s
DL2 pmax pmax
comp=Z,330nm,6.8s
DL2 L L
comp=Z,2µm,19.1s
DL2 L L
comp=Z,1µm,15.5s
DL2 L L
comp=Z,1µm,16.2s
WSAR Wadi Sarin 28.92 270 P **P 01 11 25.6 +0.5**
comp=Z,3.8nm,0.9s,baz=25,slow=9.8,SNR=1.0
WSAR LR LR 01 24 05.0
comp=Z,976nm,18.0s,baz=110,slow=39
SZP Santa 29.25 102 P **P 01 11 27.9 -0.2**
SZP IAmb IAmb 01 11 53.0
comp=Z,65nm,0.8s
BIDO Bidbid 29.31 271 P P 01 11 36.2 +7.7
BIDO P P 01 11 36.2 +7.7
GEYT Alibeck 29.38 301 P **P 01 11 27.6 -1.5**
comp=Z,11nm,0.7s,baz=281,slow=18,SNR=3.3
GEYT LR LR 01 25 33.1
comp=Z,798nm,18.2s,baz=210,slow=41
GYA0 ALIBECK ARRAY 29.38 301 P P 01 11 37.4 +8.3
GYA0B ALIBECK ARRAY 29.38 301 P **P 01 11 29.3 +0.2**
GYA0B IAmb IAmb 01 11 39.8
comp=Z,111nm,1.3s
SMDO Samad 29.48 270 P P 01 11 37.7 +7.5
SMDO P P 01 11 37.7 +7.5
HOQ Hoqain 30.02 272 P P 01 11 41.8 +6.9
HOQ P P 01 11 41.8 +6.9
MHTO MHTO 30.10 266 P P 01 11 42.5 +7.0
MHTO P P 01 11 42.5 +7.0
BVAR Borovoye Array 30.34 336 P **P 01 11 35.3 -2.1**
comp=Z,4.1nm,0.7s,baz=216,slow=16,SNR=27
BRVK Borovoye 30.41 336 *ce* P **P 01 11 37.0 -0.9**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 30.41 336 P **P 01 11 37.6 -0.3**
BRVK Borovoye 30.41 336 P **P 01 11 38.0 0.0**
BRVK P **P 01 11 38.0 0.0**
UOSS Minazif 30.74 275 P P 01 11 48.4 +7.1
ASHO Ashiyiah 30.92 274 P P 01 11 50.0 +7.1
ASHO P P 01 11 50.0 +7.1
SNY Shenyang 31.19 52 ⇑ P **P 01 11 44.5 -0.5**
SNY S **S 01 16 43.3 -6.3**
SNY pmax pmax
comp=Z,30nm,1.0s
SNY pmax pmax
comp=Z,350nm,3.7s
SNY L L
comp=Z,3µm,15.5s
SNY L L
comp=Z,920nm,17.8s
SNY L L
comp=Z,2µm,12.8s
KSM Kuching 31.47 139 P **P 01 11 49.0 +1.3**
SBUM Sibu 31.87 135 P **P 01 11 52.0 +0.8**
HIA Hailar 32.09 37 IAmb IAmb 01 12 04.3
comp=Z,46nm,1.1s
UMZA Um Al Zommool 32.15 271 P P 01 12 00.7 +7.1
UMZA P P 01 12 00.7 +7.1
INCN Inchon 32.45 61 P **P 01 11 55.1 -1.1**
INCN pmax pmax
comp=Z,28nm,0.9s
INCN MLR MLR
comp=Z,1µm,19.0s
INCN Inchon 32.45 61 P **P 01 11 55.1 -1.1**
INCN Inchon 32.45 61 IAMs_20 IAMs_20 01 26 55.5
comp=Z,1µm,19.0s
AB31 Akbulak array 32.63 322 *i* P **P 01 11 56.5 -1.0**
ABKAR Akbulak array 32.63 322 P **P 01 11 57.4 -0.2**
TJN Taejon 32.88 64 *ce* P **P 01 11 56.1 -3.8**
SPMM Sapulut 33.10 127 P **P 01 12 03.0 +1.0**
CN2 Changchun 33.14 50 *e* P **P 01 12 02.0 -0.1**
CN2 sP sP 01 12 13.3 +0.9
CN2 S **S 01 17 17.3 -2.7**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 L L
comp=Z,6µm,16.0s
CN2 L L
comp=Z,3µm,16.0s
CN2 L L
comp=Z,2µm,16.0s
STKI Sintang 33.29 139 P **P 01 12 04.8 +1.1**
KSAR Wonju Array Be 33.43 62 P **P 01 12 03.3 -1.4**
KSAR Wonju Array Be 33.43 62 P **P 01 12 03.3 -1.4**
KSRS Korea Array 33.46 62 P **P 01 12 03.4 -1.6**
comp=Z,8.6nm,0.6s,baz=257,slow=8.4,SNR=36
KSRS LR LR 01 27 37.0
comp=Z,925nm,21.0s,baz=265,slow=40
MDSI Maura Dua 33.65 155 P **P 01 12 08.2 +1.5**
comp=Z,9.8nm,1.6s
JOW Kunigami 33.80 81 IAMs_20 IAMs_20 01 27 38.8
comp=Z,2µm,18.0s
AKTO Aktyubinsk 34.31 323 P **P 01 12 11.6 -0.7**
comp=Z,3.8nm,0.7s,baz=122,slow=7.6,SNR=12
RBK Rabkut 34.60 262 P P 01 12 23.2 +8.1
SNR=5.4
RBK P P 01 12 23.2 +8.1
SNR=5.4
WHFO Wadi Hawf 34.83 263 P P 01 12 24.5 +7.4
SNR=8.5
WHFO P P 01 12 24.5 +7.4
SNR=8.5
TRNA Turayna 35.23 276 P P 01 12 27.4 +7.0
JSU Suzuyama 35.27 72 IAMs_20 IAMs_20 01 28 30.5
comp=Z,2µm,18.0s
BOD Bodaibo 35.43 22 *e* P **P 01 12 22.3 +0.6**
BOD pmax pmax
comp=Z,94nm,1.3s
JNU Nakatsue 35.59 70 P **P 01 12 23.1 -0.4**
comp=Z,60nm,1.0s,baz=350,slow=3.6,SNR=9.4
JNU Nakatsue 35.59 70 IAmb IAmb 01 12 24.6
comp=Z,68nm,1.0s
JNU IAMs_20 IAMs_20 01 27 52.0
comp=Z,2µm,21.0s
MDJ Mudanjiang 36.22 50 P **P 01 12 28.5 -0.2**
MDJ pmax pmax
comp=Z,19nm,1.4s
MDJ pmax pmax
comp=Z,210nm,4.9s
MDJ L L
comp=Z,3µm,14.1s
MDJ L L
comp=Z,2µm,15.0s
MDJ L L
comp=Z,650nm,19.2s
MDJ Mudanjiang 36.22 50 P **P 01 12 27.9 -0.8**
SOCY Socotra 37.01 254 IAMs_20 IAMs_20 01 26 31.0
comp=Z,2µm,20.0s
VLA Vladivostok 37.45 53 *i* P **P 01 12 37.4 -1.8**
VLA pmax pmax
comp=Z,107nm,1.4s
JHS Saijyo 37.46 66 IAmb IAmb 01 12 41.6
comp=Z,140nm,1.5s
ARU Arti 37.55 331 P **P 01 12 39.7 -0.2**
comp=Z,6.6nm,0.7s,baz=148,slow=5.3,SNR=31
ARU Arti 37.55 331 *d i* P **P 01 12 39.6 -0.2**
ARU 01 14 07.6
ARU 01 14 21.9
ARU 01 14 55.3
ARU PPP PPP
ARU S **S 01 18 31.9 +4.4**
ARU SSS SSS 01 21 28.8
ARU pmax pmax
comp=Z,59nm,1.7s
ARU MLR MLR
comp=Z,830nm,17.0s
ARU Arti 37.55 331 P **P 01 12 39.4 -0.4**
ARU IAmb IAmb 01 12 51.2
comp=Z,57nm,0.6s
UMR Umm Al-Rimmam 37.59 285 *e* P P 01 12 45.5 +5.0
USA0B Ussuriysk Arra 37.77 51 P **P 01 12 41.7 -0.2**
USA0B pmax pmax
comp=Z,22nm,0.9s
USA0B MLR MLR
comp=Z,1µm,19.0s
USA0B Ussuriysk Arra 37.77 51 P **P 01 12 41.7 -0.2**
USRK Ussuriysk Ar. 37.77 51 P **P 01 12 41.7 -0.2**
comp=Z,6.9nm,0.6s,baz=263,slow=7.7,SNR=19
USRK Ussuriysk Ar. 37.77 51 P **P 01 12 40.9 -1.0**
RDF Al-Radifah 37.80 284 *e* P P 01 12 47.7 +5.3
MIB Mutribah 37.89 285 *e* P P 01 12 47.9 +4.9
AKT Akhty 37.93 304 *e* P **P 01 12 44.0 +0.6**
AKT *e* *e* 01 14 11.7
AKT *e* *e* 01 14 59.3
AKT *e* S **S 01 18 42.1 +8.2**
AKT pmax pmax
comp=Z,179nm,0.8s
CTJI Waduk Cacaban 38.05 149 P **P 01 12 44.7 +0.2**
comp=Z,59nm,1.3s
JMN Monobe 38.09 68 P **P 01 12 43.3 -1.5**
BBKI Banjar Baru 38.11 138 P **P 01 12 46.0 +1.0**
comp=Z,56nm,0.9s
RST Umm Al-Ruwaisa 38.22 285 ⇓ *e* P P 01 12 50.8 +4.9
KPJI Karang Pucung 38.22 149 P P 01 12 56.5 +11
MAK Makhachkala 38.36 306 *e* P P 01 12 40.7 -6.1
MAK *e* S **S 01 18 32.1 -7.9**
MAK *e* SS **SnSn 01 21 18.5 -7.7**
MAK pmax pmax
comp=Z,104nm,0.8s
MAK MLR MLR
comp=Z,1µm,19.0s
ZEA Zeya 38.44 35 *e* P **P 01 12 48.3 +0.9**
ZEA *e* 01 12 58.4
ZEA *e* 01 14 21.0
ZEA *e* S **S 01 18 39.6 -1.4**
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA pmax pmax
comp=Z,200nm,7.5s
ZEA smax smax
comp=N,200nm,6.0s
ZEA smax smax
comp=E,200nm,8.5s
ZEA MLR MLR
comp=E,900nm,13.0s
ZEA MLR MLR
comp=N,500nm,17.0s
ZEA MLR MLR
comp=Z,900nm,13.0s
TOLI2 Tolitoli 38.68 126 P **P 01 12 48.9 -0.9**
SMRI Semarang 38.69 147 P **P 01 12 50.3 +0.5**
SMRI Semarang 38.69 147 P P 01 13 00.6 +11
KLR Kul'dur 39.08 43 P **P 01 12 52.7 -0.1**
comp=Z,16nm,1.2s,baz=259,slow=9.3,SNR=16
KLR Kul'dur 39.08 43 *ce* P **P 01 12 52.1 -0.7**
KLR pmax pmax
comp=Z,95nm,1.4s
JWT Wachi 39.34 66 P **P 01 12 54.8 -0.4**
JWT IAmb IAmb 01 12 56.7
comp=Z,89nm,1.0s
GROC Groznyy 39.63 306 *e* P **P 01 12 54.8 -2.7**
GROC *e* 01 15 01.9
GROC *e* S **S 01 18 59.6 +0.4**
GROC pmax pmax
comp=Z,217nm,0.8s
SJI Sawahan 39.94 146 P **P 01 12 59.9 -0.5**
comp=Z,69nm,0.6s
MRSI Marisa 39.96 125 P **P 01 13 00.7 +0.2**
comp=Z,52nm,0.8s
GNI Garni 40.01 302 *i* P **P 01 12 59.3 -1.6**
GNI pmax pmax
comp=Z,174nm,1.1s
GNI Garni 40.01 302 P **P 01 13 02.4 +1.5**
GNI IAmb IAmb 01 13 13.1
comp=Z,124nm,1.0s
GNI Garni 40.01 302 P **P 01 13 04.0 +3.1**
RAYN Ar Rayn 40.59 276 P **P 01 13 06.6 +0.8**
RAYN pmax pmax
comp=Z,27nm,0.9s
RAYN MLR MLR
comp=Z,500nm,20.0s
RAYN Ar Rayn 40.59 276 P **P 01 13 06.6 +0.8**
JGF Kuroka 40.93 65 IAMs_20 IAMs_20 01 29 44.2
comp=Z,1µm,18.0s
ZEI Tsey 40.94 305 *e* P **P 01 13 10.3 +1.7**
ZEI pmax pmax
comp=Z,186nm,1.3s
TTSI Tana Toraja 40.96 131 P **P 01 13 10.0 +1.2**
comp=Z,39nm,0.8s
BELG Belogornoye 41.00 321 P **P 01 13 08.1 -0.5**
comp=Z,17nm,0.8s,baz=244,slow=0.1,SNR=8.8
BELG Belogornoye 41.00 321 *i* P **P 01 13 05.5 -3.1**
BELG pmax pmax
comp=Z,35nm,1.0s
NCK Nalchik 41.27 307 *i* P **P 01 13 11.5 +0.4**
NCK pmax pmax
comp=Z,100nm,0.6s
MJB9 Matsu-Tunnel 41.61 64 P **P 01 13 13.2 -0.8**
MJB9 IAmb IAmb 01 13 35.2
comp=Z,65nm,0.8s
MAJO Matsushiro 41.61 64 *i* P **P 01 13 11.6 -2.4**
MAJO pmax pmax
comp=Z,148nm,1.6s
MAJO Matsushiro 41.61 64 P **P 01 13 12.8 -1.2**
MAJO IAmb IAmb 01 13 14.3
comp=Z,187nm,1.5s
MAT Matsushiro 41.61 64 P **P 01 13 13.0 -1.0**
MAT *e* S **S 01 19 32.8 +3.8**
MJAR Matsushiro Arr 41.62 64 P **P 01 13 13.6 -0.4**
comp=Z,45nm,1.0s,baz=276,slow=9.5,SNR=55
MJAR LR LR 01 31 23.1
comp=Z,407nm,21.2s,baz=245,slow=37
MJAR Matsushiro Arr 41.62 64 P **P 01 13 13.6 -0.4**
MJAR IAmb IAmb 01 13 34.9
comp=Z,61nm,0.9s
SIRT Sirnak 41.66 297 P **P 01 13 14.8 +0.3**
KBZ Khabaz 41.80 307 P **P 01 13 15.4 0.0**
comp=Z,3.2nm,0.9s,baz=73,slow=9.2,SNR=3.5
KBZ LR LR 01 33 30.5
comp=Z,909nm,18.7s,baz=86,slow=40
KBZ Khabaz 41.80 307 *i* P **P 01 13 13.8 -1.6**
KBZ pmax pmax
comp=Z,24nm,1.0s
NEY Neytrino 41.86 306 *i* P **P 01 13 15.2 -0.9**
NEY pmax pmax
comp=Z,23nm,0.8s
GOF Gofitskoye 41.90 309 ⇑ *i* P P 01 13 24.0 +7.8
GOF pmax pmax
comp=Z,97nm,0.9s
SHA1 Shidzhatmaz 41.97 307 *i* P **P 01 13 14.8 -2.3**
KVAR Kislovodsk Arr 41.98 307 P **P 01 13 16.4 -0.6**
comp=Z,1.2nm,0.5s,baz=141,slow=6.5,SNR=1.5
KIV Kislovodsk 41.98 307 *e* P **P 01 13 15.6 -1.4**
KIV *e* S **S 01 19 35.0 +0.6**
KIV pmax pmax
comp=Z,45nm,4.2s
KIV pmax pmax
comp=Z,104nm,1.1s
KIV MLR MLR
comp=Z,2µm,16.0s
KIV Kislovodsk 41.98 307 P **P 01 13 17.5 +0.5**
KIV Kislovodsk 41.98 307 P **P 01 13 18.6 +1.6**
GRNR Gornyy 42.42 43 *e* P **P 01 13 20.3 -0.1**
GRNR MLR MLR
comp=E,750nm,16.0s
GRNR MLR MLR
comp=N,410nm,11.0s
NRIK Noril'sk 42.83 359 P **P 01 13 23.0 -0.4**
comp=N,12nm,0.6s,baz=162,slow=6.1,SNR=34
NRIK Noril'sk 42.83 359 *ce* P **P 01 13 22.4 -1.0**
NRIK pmax pmax
comp=Z,49nm,0.9s
NRIK Noril'sk 42.83 359 P **P 01 13 22.5 -1.0**
KIRV Kirov 42.83 330 P **P 01 13 23.3 -0.2**
comp=Z,22nm,0.6s,baz=99,slow=3.6,SNR=8.5
KIRV Kirov 42.83 330 *ce* P **P 01 13 23.1 -0.4**
YAK Yakutsk 44.04 25 P P **P 01 13 33.5 +0.3**
comp=Z,12nm,0.5s,baz=186,slow=1.2,SNR=2.6
YAK Yakutsk 44.04 25 *e* P P 01 13 40.5 +7.3
YAK *e* 01 15 22.2
YAK *e* S S 01 20 12.3 +8.5
YAK *e* SS **ScS 01 23 27.2 -2.9**
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,35nm,1.1s
YAK smax smax
comp=N,74nm,3.3s
YAK smax smax
comp=E,94nm,4.0s
YAK MLR MLR
comp=Z,1µm,16.0s
YAK MLR MLR
comp=N,526nm,16.0s
YAK MLR MLR

comp=E,790nm,20.0s
YAK Yakutsk 44.04 25 P **P** **01 13 33.5 +0.3**
YAK IAmb IAmb 01 13 49.7
comp=Z,47nm,0.7s
YAK IAMs_20 IAMs_20 01 33 01.0
comp=Z,2µm,21.0s
SOC Sochi 44.08 306 *e*P P 01 13 41.1 +7.3
SOC *e* 01 15 17.5
SOC *e*PPP PPP 01 16 00.5
SOC *e*S **S** **01 20 01.8 -3.1**
SOC *e*SS SS 01 23 08.7 -14
SOC pmax pmax
comp=Z,109nm,1.5s
SOC MLR MLR
comp=Z,548nm,15.0s
VRH Novokhopyorsk 44.09 317 *e*P **P** **01 13 32.9 -0.9**
VRH pmax pmax
comp=Z,160nm,0.8s
ASAJ Asahikawa 45.29 53 P **P** **01 13 44.4 +0.8**
comp=Z,4.6nm,0.5s,baz=265,slow=21,SNR=2.8
VORD Divnogorie 45.52 316 *e*P **P** **01 13 43.8 -1.4**
VORD pmax pmax
comp=Z,80nm,1.1s
UGL Uglegorsk 45.57 46⇑ *i*P P 01 13 56.2 +11
UGL *e*S S 01 20 15.3 -11
UGL pmax pmax
comp=Z,210nm,0.9s
UGL MLR MLR
comp=E,1µm,15.0s
UGL MLR MLR
comp=N,3µm,17.0s
UGL MLR MLR
comp=Z,2µm,15.0s
YSS Yuzh-Sakhalins 45.71 49*ce*P **P** **01 13 46.6 -0.1**
YSS *e**SP **sP** **01 13 57.2 0.0**
YSS *e* 01 15 30.4
YSS *e*S **S** **01 20 26.3 -2.1**
YSS *e*SS **ScS** **01 23 40.5 -0.8**
YSS pmax pmax
comp=Z,300nm,3.5s
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=Z,900nm,15.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS Yuzh-Sakhalins 45.71 49 P **P** **01 13 46.2 -0.6**
YSS IAMs_20 IAMs_20 01 34 02.4
comp=Z,889nm,21.0s
VORR Voronezh 45.73 317 *e*P **P** **01 13 45.0 -1.9**
VORR pmax pmax
comp=Z,300nm,1.4s
ANN Anapa 45.82 308 *e*P **P** **01 13 44.0 -3.7**
ANN *e**PP pP 01 13 47.7 -7.5
ANN *e* 01 15 30.8
ANN *e*S **S** **01 20 27.8 -2.4**
ANN pmax pmax
comp=Z,123nm,1.9s
PRGR Permogore 45.99 332 *e*P **P** **01 13 45.6 -3.2**
PRGR *e*S **S** **01 20 25.6 -6.5**
PRGR pmax pmax
comp=Z,19nm,1.0s
LPSR Galich'ya Gora 46.12 319 *e*P **P** **01 13 48.6 -1.3**
LPSR pmax pmax
comp=Z,150nm,0.7s
BNN Bunyan 46.84 299 IAmb IAmb 01 14 06.5
comp=Z,77nm,1.1s
ATD Arta Tunnel 47.05 261 P **P** **01 13 59.8 +2.0**
ATD Arta Tunnel 47.05 261 P P 01 14 05.5 +7.6
SNR=11
DIKM Dikmen 47.26 303 ⇓P P 01 14 04.1 +5.0
MOS Moscow 47.65 322 *e*P **P** **01 14 00.6 -1.2**
MOS *e* 01 15 52.9
MOS *e*S **S** **01 20 52.0 -4.0**
MOS pmax pmax
comp=Z,132nm,1.0s
MOS smax smax
comp=E,400nm,3.0s
MOS smax smax
comp=N,1µm,3.9s
MOS MLR MLR
comp=Z,1µm,16.0s
GHAJ Ghor Haditha 47.77 289 IAMs_20 IAMs_20 01 37 29.9
comp=Z,958nm,21.0s
OBN Obninsk 48.08 321 P **P** **01 14 04.7 -0.4**
comp=Z,1.3nm,0.3s,baz=226,slow=1.9,SNR=7.3
OBN Obninsk 48.08 321⇑ *e*P **P** **01 14 03.2 -1.9**
OBN Obninsk 48.08 321*de*P **P** **01 14 04.3 -0.8**
OBN *i* 01 14 13.1
OBN *e* 01 15 29.3
OBN *e* 01 15 57.0
OBN *e*PPP PPP 01 16 44.2
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,469nm,18.0s
OBN Obninsk 48.08 321 P **P** **01 14 04.8 -0.3**
SIM Simferopol' 48.19 308 *e*P P 01 14 13.4 +7.2
SIM *e**PP sP 01 14 18.0 +1.3
SIM *e*S S 01 21 17.0 +13
SIM pmax pmax
comp=Z,124nm,1.3s
BZK Bozkurt 48.20 304 ⇓P **P** **01 14 10.5 +4.2**
BZK Bozkurt 48.20 304 P **P** **01 14 07.5 +1.2**
KLMR Klimovskoe 48.33 329 *e*P **P** **01 14 06.1 -0.9**
KLMR pmax pmax
comp=Z,126nm,1.1s
KLMR Klimovskoe 48.33 329 *e*P **P** **01 14 06.1 -0.9**
KLMR AMP 01 14 17.3
comp=Z,126nm,1.1s
KLMR LQ LQ 01 30 47.5
KLMR LQ LQ 01 30 47.5
KLMR LR LR 01 32 59.9
BR131 Keskin Array S 48.52 301 P **P** **01 14 11.0 +2.0**
SNR=10
BRTR Keskin Array B 48.52 301 P **P** **01 14 08.8 -0.3**
comp=Z,2.5nm,0.7s,baz=92,slow=8.8,SNR=10
BRTR Keskin Array B 48.52 301 P **P**
SOEI Soe 48.88 133 P **P** **01 14 12.3 +0.4**
SOEI IAmb IAmb 01 14 34.4
comp=Z,56nm,0.8s
ANTO Ankara 49.17 301 P **P** **01 14 13.5 -0.4**
ANTO pmax pmax
comp=Z,35nm,0.9s
ANTO Ankara 49.17 301 P **P** **01 14 13.4 -0.4**
ANTO IAmb IAmb 01 14 23.4
comp=Z,35nm,0.9s
BR231 Keskin MP Arra 49.18 301 P **P** **01 14 15.1 +1.0**
BR231 IAmb IAmb 01 14 23.5
comp=Z,38nm,1.0s
LEF Lefka 49.48 295⇑ P P 01 14 24.7 +8.5
TIXI Tiksi 49.92 15 P **P** **01 14 18.6 -0.4**
comp=Z,9.8nm,0.5s,baz=222,slow=4.7,SNR=30
TIXI Tiksi 49.92 15 P **P** **01 14 17.8 -1.2**
TIXI pmax pmax
comp=Z,53nm,0.6s
TIXI Tiksi 49.92 15 P **P** **01 14 17.8 -1.2**
TIXI IAmb IAmb 01 14 29.9
comp=Z,53nm,0.6s
AKASG Malin Array Be 51.80 315 P **P** **01 14 32.2 -1.3**
comp=Z,1.8nm,0.3s,baz=75,slow=7.7,SNR=14
AKASG LR LR 01 39 05.3
comp=Z,807nm,19.8s,baz=80,slow=39
AKASG Malin Array Be 51.80 315 P **P** **01 14 33.9 +0.4**
AKASG pmax pmax
comp=Z,39nm,0.9s
AKASG Malin Array Be 51.80 315 P **P** **01 14 33.9 +0.4**
AKASG IAmb IAmb 01 14 42.2
comp=Z,39nm,0.9s
AKBB Malin Array Si 51.80 315*ce*P **P** **01 14 31.9 -1.6**
AKBB Malin Array Si 51.80 315 IAmb IAmb 01 14 42.9
comp=Z,50nm,0.8s
AKBB IAMs_20 IAMs_20 01 38 55.1
comp=Z,873nm,20.0s
FURI Furi 51.89 260 P **P** **01 14 35.9 +0.9**
JURR Jurilovca 51.91 307 ⇓P **P** **01 14 36.0 +1.6**
MILM Milestii Mici 51.94 310 ⇓P **P** **01 14 34.0 -0.6**
TLCR 51.94 308⇑ P **P** **01 14 35.7 +1.0**
TLCR 51.94 308⇑ P **P** **01 14 35.7 +1.0**
EFOR EFORIE 52.10 306⇑ P **P** **01 14 39.0 +3.1**
TPGR Topolog 52.23 307⇑ P **P** **01 14 38.4 +1.5**
TIRR Tirgusor 52.25 307⇑ P **P** **01 14 39.3 +2.4**
TIRR Tirgusor 52.25 307⇑ P **P** **01 14 39.3 +2.4**
TIRR Tirgusor 52.25 307⇑ P **P** **01 14 39.3 +2.4**
SORM Soroca 52.27 312⇑ P **P** **01 14 35.9 -1.1**
SORM Soroca 52.27 312⇑ P **P** **01 14 35.9 -1.1**
CFR Carcaliu 52.42 308⇑ P **P** **01 14 39.0 +0.7**
CFR Carcaliu 52.42 308⇑ P **P** **01 14 39.0 +0.7**
TLBR Topalu 52.51 307⇑ P **P** **01 14 39.8 +0.9**
MA2 Magadan 52.56 34*ce*P **P** **01 14 37.1 -1.9**
MA2 pmax pmax
comp=Z,22nm,1.7s
MA2 Magadan 52.56 34 P **P** **01 14 38.6 -0.4**
MA2 IAmb IAmb 01 14 50.4
comp=Z,72nm,0.9s
MA2 IAMs_20 IAMs_20 01 38 24.4
comp=Z,1µm,19.0s
HARR Harsova 52.58 307⇑ P **P** **01 14 39.9 +0.5**
HARR Harsova 52.58 307⇑ P **P** **01 14 39.9 +0.5**
ICOR Ion Corvin 52.70 307⇑ P **P** **01 14 41.7 +1.4**
IAS Iasi 52.79 310⇑ P **P** **01 14 42.6 +1.7**
IAS Iasi 52.79 310⇑ P **P** **01 14 42.6 +1.7**
GHRR 52.91 309⇓ P **P** **01 14 43.7 +1.8**
MNK Minsk 52.93 320 *i* P **P** **01 14 41.4 -0.4**
MNK *i* 01 15 50.3
MNK *i* 01 16 41.0
MNK *i* PPP PPP 01 17 45.2
MNK *i* S **S** **01 22 11.2 +1.7**
MNK *i* 01 24 31.2
MNK *i* SS **SS** **01 25 51.5 +3.2**
MNK *i* SSS SSS 01 27 38.7
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK MLR MLR
comp=Z,422nm,14.0s
MNK MLR MLR
comp=E,52nm,14.0s
MNK MLR MLR
comp=N,251nm,13.0s
MNK Minsk 52.93 320 *i* P **P** **01 14 41.5 -0.3**
comp=E,2.0nm,0.9s
MNK *i* P **P** **01 14 41.5 -0.3**
comp=N,4.0nm,0.9s
MNK *i* P **P** **01 14 41.5 -0.3**
comp=Z,17nm,0.9s,baz=95
MNK *i* PcP **PcP** **01 15 50.4 -0.2**
MNK *i* PP **PP** **01 16 41.0 -0.3**
MNK *i* PPP PPP 01 17 45.2
MNK *i* S **S** **01 22 11.2 +1.8**
MNK *i* ScS **ScS** **01 24 31.3 +1.5**
MNK *i* SS **SS** **01 25 51.5 +3.3**
MNK *i* SSS SSS 01 27 38.8
MNK *i* LQ LQ 01 33 15.2
MNK *i* LR LR 01 36 13.0
MNK *i* LRM MLR 01 40 38.6
comp=Z,422nm,14.4s
MNK *i* LRM MLR 01 40 40.6
comp=E,52nm,14.4s
MNK *i* LRM MLR 01 40 58.9
comp=N,251nm,13.1s
LVZ Lovozero 52.93 337 *e*P **P** **01 14 39.5 -2.2**
LVZ pmax pmax
comp=Z,76nm,1.3s
LVZ Lovozero 52.93 337 P **P** **01 14 41.0 -0.7**
LVZ IAmb IAmb 01 14 57.9
comp=Z,74nm,0.9s
BALB Balikesir 52.96 301 IAmb IAmb 01 14 51.5
comp=Z,120nm,1.2s
AMRR Amara 53.01 307 ⇓P **P** **01 14 45.7 +3.1**
AMRR Amara 53.01 307 ⇓P **P** **01 14 45.7 +3.1**
ODBI Odobesti 53.17 309⇑ P **P** **01 14 45.2 +1.4**
LEHL Lehliu 53.39 307 ⇓P **P** **01 14 47.1 +1.8**
VRI Vrincioaia 53.40 309 ⇓P **P** **01 14 46.4 +0.9**
VRI Vrincioaia 53.40 309 ⇓P **P** **01 14 46.4 +0.9**
BISRR Bisoca 53.42 308⇑ P **P** **01 14 47.8 +2.1**
TESR Tescani 53.43 310⇑ P **P** **01 14 45.5 -0.2**
PLOR Plostina 53.45 309⇑ P **P** **01 14 46.6 +0.7**
PLOR Plostina 53.45 309⇑ P **P** **01 14 46.6 +0.7**
ISR Istrita 53.55 308⇑ P **P** **01 14 49.0 +2.3**
ISR Istrita 53.55 308⇑ P **P** **01 14 49.0 +2.3**
NACGM Naroch 53.60 320 *i* P **P** **01 14 46.8 +0.1**
IDID Didziasalis 53.66 321 *e*P **P** **01 14 47.5 +0.4**
PRAR RASCA 53.70 311⇑ P **P** **01 14 48.8 +1.1**
NEHR Nehoiu 53.71 308⇑ P **P** **01 14 48.6 +0.8**
SULR 53.78 307 ⇓P **P** **01 14 50.4 +2.1**
IIGN Ignalina 53.96 321 *e*P **P** **01 14 49.5 +0.2**
MLR Muntele Rosu 53.96 308⇑ P **P** **01 14 50.5 +0.8**
MLR Muntele Rosu 53.96 308⇑ P **P** **01 14 50.5 +0.8**
MLR Muntele Rosu 53.96 308 IAMs_20 IAMs_20 01 40 24.2
comp=Z,880nm,22.0s
SEY Seymchan 54.01 30*c* *i*P **P** **01 14 49.1 -0.5**
SGRR Singureni 54.01 307⇑ P **P** **01 14 51.8 +1.9**
VSU Vasula 54.01 324 *e*P **P** **01 14 49.9 +0.2**
VSU Vasula 54.01 324 *i*P **P** **01 14 48.5 -1.2**
VSU pmax pmax
comp=Z,269nm,1.0s
ISAL Salakas 54.03 321 *e*P **P** **01 14 50.6 +0.7**
OZUR 54.04 309⇑ P **P** **01 14 50.6 +0.4**
ALN Alexandroupoli 54.23 303 P P 01 15 00.7 +9.1
DOPR Dopca 54.33 309 ⇓P **P** **01 14 53.0 +0.8**
BURAR Bucovina Array 54.38 311 P **P** **01 14 52.4 -0.4**
BURAR pP **pP** **01 15 00.7 +0.3**
BURAR **sP** **01 15 04.4 +1.1**
BUR01 Bucovina Ar. S 54.38 311⇑ P **P** **01 14 53.3 +0.5**
ZIMR 54.48 306⇑ P **P** **01 14 54.5 +1.1**
ZIMR 54.48 306⇑ P **P** **01 14 54.5 +1.1**
COPA Copaceanca 54.56 307⇑ P **P** **01 14 54.9 +1.0**
RDO Rodhopi 54.59 303 P P 01 15 03.1 +8.9
VOIR 54.59 308 ⇓P **P** **01 14 55.9 +1.6**
VOIR 54.59 308 ⇓P **P** **01 14 55.9 +1.6**
SKR Severo-Kuril's 54.76 45 *e*P P 01 15 09.5 +14
SKR pmax pmax
comp=Z,100nm,3.5s
SKR pmax pmax
comp=Z,17nm,1.2s
SKR MLR MLR
comp=Z,300nm,14.0s
SKR MLR MLR
comp=Z,400nm,15.0s
FIA1 FINESS Array S 54.76 328 P **P** **01 14 54.0 -1.1**
FIA1 IAmb IAmb 01 15 09.8
comp=Z,28nm,0.7s
FINES FINESS Array B 54.76 328 P **P** **01 14 54.7 -0.4**
comp=Z,5.9nm,0.7s,baz=100,slow=7.8,SNR=31
FINES LR LR 01 38 33.6
comp=Z,929nm,21.8s,baz=100,slow=36
ARR Arges 54.89 308⇑ P **P** **01 14 57.2 +0.8**
ARCR ARCALIA 54.99 310 ⇓P **P** **01 14 57.4 +0.4**
LVV L'vov 55.11 314 *e*P P 01 15 05.7 +7.8
LVV *e* 01 15 53.2
LVV *e* 01 16 56.6
LVV *e*S **S** **01 22 45.7 +6.5**
LVV *e* 01 22 59.3
LVV pmax pmax
comp=Z,100nm,1.4s
LVV MLR MLR
comp=Z,600nm,17.0s
APE Apeiranthos 55.12 298⇑ P P 01 15 04.4 +6.2
APE Apeiranthos 55.12 298⇑ P P 01 15 04.4 +6.2
PABE Paberze 55.25 321 *e*P **P** **01 14 58.8 0.0**
PABE Paberze 55.25 321 IAMs_20 IAMs_20 01 41 57.8
comp=Z,977nm,18.0s
THAS Thassos island 55.26 302 P P 01 15 08.9 +10
SANT Santorini 55.29 297⇑ P P 01 15 05.5 +6.1
MEF Metsahovi 55.41 326 *e*P **P** **01 15 00.2 +0.4**
LOT Lotru 55.49 308⇑ P **P** **01 15 02.5 +1.6**
CJR Cluj-Napoca 55.52 310 ⇓P **P** **01 15 01.9 +1.0**
CJR Cluj-Napoca 55.52 310 ⇓P **P** **01 15 01.9 +1.0**
BMR Baia Mare 55.54 311 ⇓P **P** **01 15 01.9 +0.9**
BMR Baia Mare 55.54 311 ⇓P **P** **01 15 01.9 +0.9**
CBBR Cluj-Babes-Bol 55.55 310⇑ P **P** **01 15 02.4 +1.3**
SUW Suwalki 55.65 319 *e*P **P** **01 15 01.3 -0.3**
SUW Suwalki 55.65 319 IAMs_20 IAMs_20 01 41 59.6
comp=Z,953nm,20.0s
PSA00 Pilbara Seismi 55.74 146 P **P** **01 15 02.1 -0.6**
PEA0B Petropavlovsk- 55.75 42 *i*P **P** **01 15 01.8 -0.6**
PETK Petropavlovsk- 55.75 42 P **P** **01 15 01.9 -0.5**
comp=Z,1.9nm,0.5s,baz=241,slow=4.2,SNR=5.5
PETK LR LR 01 40 39.1
comp=Z,1µm,19.0s,baz=268,slow=38
NVR Nevrokopi 55.82 303 P P 01 15 11.6 +8.5
OUR Ouranopolis 55.86 302 P P 01 15 12.3 +9.0
MESR Meseseni 55.94 310⇑ P **P** **01 15 05.2 +1.3**
SRE Strehaia 55.95 307⇑ P **P** **01 15 06.1 +2.1**
SRE Strehaia 55.95 307⇑ P **P** **01 15 06.1 +2.1**
KWP Kalwaria Pacla 55.98 313 *e*P **P** **01 15 03.8 -0.3**
KWP *ep*P **pP** **01 15 12.6 +0.8**
SRS Serrai 56.05 303 P P 01 15 13.2 +8.4
DEV Deva 56.06 309 ⇓P **P** **01 15 05.5 +0.8**
DEV Deva 56.06 309 ⇓P **P** **01 15 05.5 +0.8**
DRGR 56.13 310⇑ P **P** **01 15 05.6 +0.3**
DRGR 56.13 310⇑ P **P** **01 15 05.6 +0.3**
VTS Vitosha 56.13 305⇑ P **P** **01 15 06.8 +1.2**
VTS Vitosha 56.13 305⇑ P **P** **01 15 06.8 +1.2**
VTS Vitosha 56.13 305 P **P** **01 15 05.3 -0.3**
VTS pP **pP** **01 15 13.9 +0.7**
PAIG Paliouri 56.14 302 P P 01 15 14.3 +8.9
KEV Kevo 56.16 338 P **P** **01 15 05.1 +0.1**
KEV pmax pmax
comp=Z,53nm,1.0s
KEV MLR MLR
comp=Z,600nm,18.0s
KEV Kevo 56.16 338 P **P** **01 15 05.1 +0.1**
KEV IAmb IAmb 01 15 16.8
comp=Z,54nm,1.0s
KEV IAMs_20 IAMs_20 01 42 04.8
comp=Z,563nm,18.0s
EREA Eretria 56.17 300 P P 01 15 13.4 +7.7
PUNG Punghina 56.18 307 ⇓P **P** **01 15 07.7 +2.1**
KNRA Kununurra 56.19 134 P **P** **01 15 05.4 -0.5**
KNRA IAmb IAmb 01 15 17.1
comp=Z,22nm,0.6s
GZR Gura Zlata 56.19 308⇑ P **P** **01 15 05.5 -0.3**
PLG Polygyros 56.26 302 P P 01 15 15.0 +8.7
SLIT Slitere, Latvi 56.29 323 *e*P **P** **01 15 06.4 +0.3**
KOLS Kolonicke sedl 56.29 313 *e*P P 01 15 14.9 +8.5
KOLS pmax pmax
comp=Z,171nm,0.9s
KOLS Kolonicke sedl 56.29 313 *e*P P 01 15 14.9 +8.5
UZH Uzhgorod 56.30 312 *e*P P 01 15 13.5 +7.1
UZH *e* 01 15 20.6
UZH *i* 01 15 26.9
UZH *e* 01 17 20.1
UZH *e*S **S** **01 23 02.1 +7.2**
UZH *e*SS **SS** **01 26 42.4 +0.8**
UZH MLR MLR
comp=N,70nm,17.0s
UZH MLR MLR
comp=E,90nm,17.0s
UZH MLR MLR
comp=Z,60nm,17.0s
PET Petropavlovsk 56.32 42 *e*P P 01 15 00.6 -5.9
PET *e*S S 01 22 46.2 -9.0
PET pmax pmax
comp=Z,13nm,1.2s
PET MLR MLR
comp=Z,1µm,18.0s
PET MLR MLR
comp=Z,1µm,17.0s
PET Petropavlovsk 56.32 42 IAMs_20 IAMs_20 01 40 57.2
comp=Z,878nm,20.0s
VLY Voula,Athens 56.36 299 P P 01 15 13.9 +6.9
PBUR Paburge 56.42 321 *e*P **P** **01 15 07.5 +0.4**
HORT Hortiatis 56.49 303 P P 01 15 17.7 +10
HERR Herculane 56.49 308 ⇓P **P** **01 15 09.4 +1.6**
KNT Kendrikon 56.56 303 P P 01 15 16.8 +8.4
NEO Neokhori 56.58 301 P P 01 15 17.7 +9.1
XOR Xorichti 56.59 301 P P 01 15 17.5 +8.8
ARA0 ARCESS Array S 56.61 338 *e*P **P** **01 15 08.3 0.0**
ARCES ARCESS Array B 56.61 338 P **P** **01 15 08.1 -0.3**
comp=Z,4.1nm,0.6s,baz=93,slow=7.5,SNR=41
ARCES LR LR 01 41 28.7
comp=Z,368nm,19.8s,baz=130,slow=38
ARCES ARCESS Array B 56.61 338 P **P** **01 15 08.0 -0.3**
ARCES pmax pmax
comp=Z,26nm,0.7s
ARCES ARCESS Array B 56.61 338 P **P** **01 15 08.0 -0.3**
ARCES IAmb IAmb 01 15 24.4
comp=Z,26nm,0.7s
IMMV Iera Moni Meta 56.63 296 P P 01 15 16.9 +7.9
SMIA Simia 56.66 301 P P 01 15 19.8 +11
VILL Villia 56.69 300 P P 01 15 20.1 +11
RAF Rauma 56.78 327 *e*P **P** **01 15 09.8 +0.2**
VAY Valandovo 56.79 304 *i*P P 01 15 17.6 +7.6
CRVS Cervenica-Dubn 56.83 313 *e*P P 01 15 18.9 +8.7
CRVS pmax pmax
comp=Z,39nm,0.9s
CRVS Cervenica-Dubn 56.83 313 *e*P P 01 15 18.9 +8.7
SIRR Siria 56.89 310 ⇓P **P** **01 15 11.8 +1.1**
STHS Stebnicka Huta 56.94 313 *e*P P 01 15 18.1 +7.1
STHS Stebnicka Huta 56.94 313 *e*P P 01 15 18.1 +7.1
GRG Griva 56.96 303 P P 01 15 18.8 +8.5
LTK Loutraki 56.98 300 P P 01 15 16.3 +4.8
BZS Buzias 56.98 309 ⇓P **P** **01 15 12.1 +0.8**
BZS Buzias 56.98 309 ⇓P **P** **01 15 12.1 +0.8**
MDVR Moldovita 57.00 308 ⇓P **P** **01 15 12.2 +0.7**
LIT Litokhoron 57.02 302 P P 01 15 19.8 +8.1
LIT Litokhoron 57.02 302 IAmb IAmb 01 15 20.3
comp=Z,81nm,1.0s
STIP Stip 57.02 304 *i*P **P** **01 15 10.2 -1.5**
BOVS Bovan 57.13 306⇑ P **P** **01 15 13.4 +1.0**
THAL Thalero 57.22 300 P P 01 15 18.9 +5.8
VLI Veliai 57.23 298 P P 01 15 23.9 +11
KTK1 Kautokeino 57.28 337 *e*P **P** **01 15 12.9 -0.2**
AGG Agios Georgios 57.31 301 P P 01 15 21.2 +7.4
AGG Agios Georgios 57.31 301 IAmb IAmb 01 15 21.8
comp=Z,81nm,0.9s
BANR Banloc 57.34 309⇑ P **P** **01 15 15.5 +1.7**
LODK Lodwar 57.36 256 P P 01 15 22.3 +7.8
SNR=8.0
KLNR Kaliningrad 57.39 319 *i*P **P** **01 15 13.7 -0.3**
KLNR pmax pmax
comp=Z,34nm,1.0s
MAKR Makrakomi, Fth 57.46 301 P P 01 15 22.6 +7.7
THL Klokotos Trika 57.46 302 P **P** **01 15 15.6 +0.8**
HAMF Hammerfest 57.47 339 *e*P **P** **01 15 14.7 +0.4**
AMBH Ambrzfalva 57.53 310⇑ P **P** **01 15 16.9 +1.8**
KZN Kozani 57.53 302 P P **01 15 16.8 +1.4**
SKP Skopje 57.54 304 *i*P P 01 15 23.1 +7.8
VLX Viachokerasia 57.55 299 P P 01 15 24.3 +8.7
AAL Aland 57.60 326 *e*P **P** **01 15 16.5 +1.1**
KLV Kalavryta, Ach 57.61 300 P P 01 15 24.4 +8.4
TRIZ Trizonia 57.62 300 P P 01 15 21.6 +5.7
SERG Sergoula 57.62 300 P P 01 15 21.3 +5.3
ANX Ano Chora 57.70 300 P P 01 15 24.6 +8.0
LAKA Lakka 57.71 300 P P 01 15 24.8 +8.2
EVR Evrytania 57.73 301 P P 01 15 25.0 +8.2
EFP Efpalio 57.74 300 P P 01 15 21.9 +5.2
FNA Florina 57.76 303 P P 01 15 24.9 +8.0
FNA Florina 57.76 303 IAmb IAmb 01 15 28.5
comp=Z,33nm,0.8s
OJC Ojcow 57.82 314 IAMs_20 IAMs_20 01 41 45.4
comp=Z,603nm,20.0s
KPRO Kipourio 57.90 302 P P 01 15 24.5 +6.5
PSZ Piszkesteto 57.95 312⇑ P **P** **01 15 18.9 +0.7**
PSZ Piszkesteto 57.95 312⇑ P **P** **01 15 18.9 +0.7**
PSZ Piszkesteto 57.95 312 P P **01 15 17.4 -0.7**
PSZ IAmb IAmb 01 15 27.7
comp=Z,32nm,1.0s
DRO Drossia 57.97 300 P P 01 15 25.8 +7.4
AMT Artemida-Makis 58.05 299 P P 01 15 25.1 +6.1
KIBK Kibwezi 58.05 249 P **P** **01 15 21.5 +2.2**
KMBO Kilima Mbogo 58.06 250 P **P** **01 15 19.5 -0.1**
comp=Z,1.0nm,0.6s,baz=37,slow=10,SNR=3.6
NEST Nestorio 58.06 303 P **P** **01 15 20.0 +0.9**
LANS Liptovska Anna 58.12 313 *e*P P 01 15 27.2 +7.9
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 58.12 313 *e*P P 01 15 27.2 +7.9
OHR Ohrid 58.14 304 *i*P P 01 15 26.2 +6.6
PYL PYLOS 58.14 298 P P 01 15 31.5 +12
KBN Korca 58.23 303 P P 01 15 27.9 +7.7
FRGS Fruska Gora 58.30 308⇑ P **P** **01 15 21.2 +0.6**
FRGS Fruska Gora 58.30 308 *e*P **P** **01 15 20.2 -0.4**
DIVS Divibare 58.30 307 *e*P **P** **01 15 19.9 -0.9**
DIVS Divibare 58.30 307 IAmb IAmb 01 15 31.2
comp=Z,31nm,0.9s
PHP Peshkopia 58.32 304 P P 01 15 28.1 +7.2
JETT Jettan, Norway 58.37 337 *e*P **P** **01 15 20.9 +0.2**
LSK Leskovik 58.44 302 P **P** **01 15 23.8 +2.0**
VYHS Vyhne 58.59 312 *e*P P 01 15 31.0 +8.4
VYHS pmax pmax
comp=Z,27nm,1.2s
VYHS Vyhne 58.59 312 *e*P P 01 15 31.0 +8.4
NYDR Nydri-Lefkada 58.62 301 P P 01 15 33.4 +11
LKD2 Lefkada island 58.63 301 P P 01 15 29.8 +6.7

HOPEN **Hopen** 58.66 346 *e*P P 01 15 23.1 +0.6
EVGI Lefkada island 58.67 301 P P 01 15 29.6 +6.3
IGT Igoumenitsa 58.75 302 P P 01 15 31.1 +7.2
BBLS Lazići 58.75 307 *e*P **P** 01 15 23.8 -0.1
UPP Uppsala 58.78 326 *e*P **P** 01 15 23.6 -0.1
TIR Tirane 58.80 304 ⇓P **P** 01 15 27.9 +3.8
TIR Tirane 58.80 304 ⇓P **P** 01 15 27.9 +3.8
TIR Tirane 58.80 304 P P 01 15 23.8 -0.3
RUDO Rudo 58.81 307 *e*P **P** 01 15 23.0 -1.2
KOME Kolasin 58.82 306 ⇓*i*P P 01 15 31.3 +6.9
PLE Pljevlja 58.84 306 ⇓*i*P P 01 15 32.2 +7.6
KEF5 Kardakata, Kep 58.87 300 P P 01 15 30.9 +6.2
TRO Tromso 58.90 337 *e*P **P** 01 15 24.3 0.0
KEF4 Livadi, Kephal 58.91 300 P P 01 15 31.3 +6.4
OKC Ostrava-Krasne 58.92 314 AMS AMS 01 41 10.0
comp=Z,600nm,23.6s
DMLN Damoulianata-K 58.95 300 P P 01 15 37.6 +12
SRO2 Moca 58.97 312 *e*P P 01 15 32.7 +7.5
SRO2 pmax pmax
comp=Z,77nm,1.0s
SRO2 Moca 58.97 312 *e*P P 01 15 32.7 +7.5
MORH Mrgy, Hungar 58.98 310 ⇑P **P** 01 15 25.6 +0.3
MORH Mrgy, Hungar 58.98 310 *e*P **P** 01 15 22.7 -2.6
SRO Srobarova 59.01 312 *e*P P 01 15 33.9 +8.4
SRO pmax pmax
comp=Z,57nm,1.0s
SRO Srobarova 59.01 312 *e*P P 01 15 33.9 +8.4
HAPS Han Pijesak,BI 59.05 307 *e*P **P** 01 15 29.3 +3.3
PDG Podgorica 59.08 305 ⇑P **P** 01 15 29.0 +3.0
PDG Podgorica 59.08 305 *e*P **P** 01 15 25.0 -1.0
TTG Podgorica 59.08 305 ⇓*i*P P 01 15 33.4 +7.4
KEK Kerkira 59.12 302 P P 01 15 32.6 +6.2
ULC Ulcinj 59.16 305 ⇑*i*P P 01 15 33.5 +6.8
DRME Dracevica, Mon 59.17 305 *e*P **P** 01 15 26.6 -0.1
DRME Dracevica, Mon 59.17 305 ⇓*i*P P 01 15 33.6 +6.9
GKP Gorka Klasztor 59.21 318 *e*P **P** 01 15 26.1 -0.6
GKP *e*pP **pP** 01 15 34.9 +0.4
GKP Gorka Klasztor 59.21 318 *e*P **P** 01 15 26.6 -0.1
NKY Niksic 59.21 306 ⇓*i*P P 01 15 34.2 +7.1
UPM Unac-Piva 59.21 306 *e*P **P** 01 15 31.6 +4.4
UPM Unac-Piva 59.21 306 ⇓*i*P P 01 15 34.0 +6.8
NKME Niksic 59.24 306 ⇓*i*P P 01 15 34.2 +6.9
CEME Cevo 59.30 305 ⇓*i*P P 01 15 34.5 +6.8
MORC Moravsky Berou 59.31 314 ⇓P **P** 01 15 27.9 +0.3
MORC Moravsky Berou 59.31 314 *e*P **P** 01 15 27.4 -0.2
MORC *e*pP **pP** 01 15 35.8 +0.5
MORC Moravsky Berou 59.31 314 ⇓P **P** 01 15 27.9 +0.3
JAVC Velka Javorina 59.33 313 *e*P **P** 01 15 29.4 +1.7
JAVC *e*pP **pP** 01 15 36.7 +1.3
BUM Brajici-Budva 59.36 305 ⇑*i*P P 01 15 35.4 +7.3
BRY Bratogost 59.52 306 *e*P **P** 01 15 28.1 -1.2
SMOL Smolenice 59.52 312 *e*P P 01 15 37.6 +8.6
SMOL pmax pmax
comp=Z,9.0nm,1.1s
SMOL Smolenice 59.52 312 *e*P P 01 15 37.6 +8.6
HCY Herceg Novi 59.63 305 *e*P **P** 01 15 32.2 +2.3
HCY Herceg Novi 59.63 305 ⇓*i*P P 01 15 37.1 +7.2
BJO1 Bjornoya 59.64 343 *e*P **P** 01 15 28.2 -1.2
MODS Modra-Piesok 59.64 312 *e*P P 01 15 37.6 +7.7
MODS pmax pmax
comp=Z,29nm,1.2s
MODS Modra-Piesok 59.64 312 *e*P P 01 15 37.6 +7.7
TREB Trebinje 59.69 306 *e*P P 01 15 36.6 +6.3
KRLC Kraliky 59.77 314 *e*P **P** 01 15 29.8 -1.0
KRLC *e* 01 15 38.5
KRLC *e*S **S** 01 23 34.6 -5.9
KRLC MLR MLR
comp=Z,500nm,20.9s
KRLC Kraliky 59.77 314 *e*P **P** 01 15 29.8 -1.0
KRLC *e*pP **pP** 01 15 38.5 0.0
KRLC *e*S **S** 01 23 34.6 -5.9
KRLC AMS AMS 01 42 30.0
comp=Z,500nm,20.9s
ZST Bratislava 59.78 312 *e*P P 01 15 38.6 +7.8
ZST pmax pmax
comp=Z,52nm,0.9s
ZST Bratislava 59.78 312 *e*P P 01 15 38.6 +7.8
N2IH Innhavet 59.81 335 *e*P **P** 01 15 31.3 +0.6
BLEU Blekinge 59.84 322 *i*P P 01 15 38.7 +7.7
VRAC Vranov 59.98 313 ⇑P **P** 01 15 32.4 +0.2
VRAC Vranov 59.98 313 *e*P **P** 01 15 32.2 0.0
VRAC *e*pP **pP** 01 15 40.3 +0.4
VRAC Vranov 59.98 313 ⇑P **P** 01 15 32.4 +0.2
FAUS Fauske 60.03 334 *e*P **P** 01 15 31.8 -0.4
DPC Dobruska-Polom 60.03 315 *e*P **P** 01 15 32.5 -0.1
DPC *e* 01 15 41.5
DPC *e*S **S** 01 23 39.6 -4.3
DPC MLR MLR
comp=Z,500nm,21.5s
DPC Dobruska-Polom 60.03 315 *e*P **P** 01 15 32.5 -0.1
DPC *e*pP **pP** 01 15 41.5 +1.2
DPC *e*S **S** 01 23 39.6 -4.3
DPC AMS AMS 01 41 40.0
comp=Z,500nm,21.5s
N2NF Nordfold 60.07 335 *e*P **P** 01 15 32.9 +0.5
STEI Steigen 60.08 335 *e*P **P** 01 15 32.8 +0.4
OSTC Ostas 60.08 315 *e*P **P** 01 15 32.2 -0.7
OSTC *e*pP **pP** 01 15 41.0 +0.4
OSTC *e*S **S** 01 23 41.5 -2.9
OSTC AMS AMS 01 40 00.0
comp=Z,700nm,28.3s
STON Ston 60.14 306 *e*P **P** 01 15 31.0 -2.3
KRUC Moravsky 60.14 313 *e*P **P** 01 15 33.0 -0.2
KRUC *e*pP **pP** 01 15 41.4 +0.4
CHVC Chvalec 60.18 315 *e*P **P** 01 15 33.3 -0.2
CHVC *e*pP **pP** 01 15 41.9 +0.7
CHVC AMS AMS 01 40 00.0
comp=Z,700nm,26.8s
BLY Banja Luka 60.20 308 *e*P **P** 01 15 34.3 +0.6
UPC Upice 60.21 315 *e*P **P** 01 15 34.8 +1.0
UPC *e* 01 15 42.2
UPC MLR MLR
comp=Z,600nm,22.7s
UPC Upice 60.21 315 *e*P **P** 01 15 34.8 +1.0
UPC *e*pP **pP** 01 15 42.2 +0.7
UPC AMS AMS 01 41 50.0
comp=Z,600nm,22.7s
BEHE Becsehely 60.23 310 *e*P **P** 01 15 34.5 +0.6
MGRS Mrkonjic Grad 60.32 308 *e*P **P** 01 15 35.1 +0.5
MOR8 Moi Rana 60.32 333 *e*P **P** 01 15 32.6 -1.6
BILL Bilibino 60.39 25*ce*P **P** 01 15 34.3 -0.3
BILL *e* 01 16 18.7
BILL *e*PPP PPP 01 19 10.4
BILL pmax pmax
comp=Z,29nm,1.0s
BILL Bilibino 60.39 25 P P **01 15 34.9 +0.3**
BILL IAMs_20 IAMs_20 01 44 21.1
comp=Z,867nm,20.0s
BSD Bornholm Skovb 60.43 320 *e*P **P** 01 15 35.1 +0.1
BSD Bornholm Skovb 60.43 320 IAmb IAmb 01 15 43.3
comp=Z,34nm,0.8s
BSD Bornholm Skovb 60.43 320 ⇓*i*P P 01 15 42.5 +7.4
BSD pmax pmax
comp=Z,34nm,0.8s
BSD Bornholm Skovb 60.43 320 ⇓*i*P P 01 15 42.5 +7.4
NBB17 Glomfjord B¥r 60.53 334 *e*P **P** 01 15 35.7 +0.1
KOGS Kog 60.59 310 *i*P **P** 01 15 36.8 +0.4
KOGS *e*pP **pP** 01 15 44.5 +0.4
KOGS *e*S S 01 24 03.9 +13
NBB30 Finnes 60.62 334 *e*P **P** 01 15 36.2 0.0
CONA Conrad Observa 60.64 312 *e*P **P** 01 15 36.7 -0.1
comp=Z,2.2nm,0.8s,SNR=5.9
CONA *e*P **pP** 01 15 45.0 +0.5
comp=Z,36nm,1.0s,SNR=14
TREC Trest 60.70 314 *e*P **P** 01 15 37.2 +0.1
TREC *e* 01 15 45.6
TREC MLR MLR
comp=Z,700nm,26.7s
TREC Trest 60.70 314 *e*P **P** 01 15 37.2 +0.1
TREC *e*pP **pP** 01 15 45.6 +0.8
TREC AMS AMS 01 42 10.0
comp=Z,700nm,26.7s
LOF Lofoten 60.72 335 *e*P **P** 01 15 36.6 -0.3
KONS Konsvik 60.86 333 *e*P **P** 01 15 38.2 +0.3
STOK Stokkvaagen 60.90 333 *e*P **P** 01 15 38.5 +0.4
DEL Delary 60.90 322 *i*P P 01 15 46.6 +8.3
SPA0 Spitsbergen Ar 60.90 347 *e*P **P** 01 15 38.5 +0.5
N2SV S¸rvÿgen 60.92 335 *e*P **P** 01 15 38.0 -0.2
ARSA Arzberg 60.96 311 *e*P **P** 01 15 39.6 +0.6
comp=Z,0.7nm,0.5s
ARSA *i*P **pP** 01 15 46.9 +0.3
comp=Z,16nm,0.9s,SNR=8.4

PVCC Panska Ves 61.12 315 *e*P **P** 01 15 39.1 -0.8
PVCC *e* 01 15 48.4
PVCC Panska Ves 61.12 315 *e*P **P** 01 15 39.1 -0.8
PVCC *e*pP **pP** 01 15 48.4 +0.7
PVCC AMS AMS 01 40 40.0
comp=Z,800nm,30.4s
PRU Pruhonice 61.22 314 *e*P **P** 01 15 41.0 +0.4
PRU *e* 01 15 49.4
PRU *e*S **S** 01 24 01.3 +2.4
PRU MLR MLR
comp=Z,600nm,20.6s
PRU Pruhonice 61.22 314 *e*P **P** 01 15 41.0 +0.4
PRU *e*pP **pP** 01 15 49.4 +1.1
PRU *e*S **S** 01 24 01.3 +2.4
PRU AMS AMS 01 42 20.0
comp=Z,600nm,20.6s
LUNU Lund 61.22 321 *i*P P 01 15 49.0 +8.6
CRES Cresnjev 61.23 310 *e*P **P** 01 15 39.8 -1.0
PRA Prague 61.27 315 *e*P P 01 15 48.9 +8.0
PRA MLR MLR
comp=Z,600nm,19.2s
PRA Prague 61.27 315 *e*pP **pP** 01 15 48.9 +0.2
PRA AMS AMS 01 42 20.0
comp=Z,600nm,19.2s
PERS Pernice 61.33 311 *i*P **P** 01 15 40.9 -0.6
PERS *i*pP **pP** 01 15 49.6 +0.3
PERS *e*sP **sP** 01 15 52.6 +0.4
RUE Ruedersdorf 61.37 317 *e*P **P** 01 15 42.2 +0.7
comp=Z,43nm,0.7s,baz=80,slow=6.6
RUE Ruedersdorf 61.37 317 *e*P **P** 01 15 42.2 +0.7
comp=Z,43nm,0.7s,baz=80,slow=6.6
NSS Namsos 61.37 331 *e*P **P** 01 15 41.0 -0.4
SOKA Soboth 61.38 311 *e*P **P** 01 15 42.1 +0.2
comp=Z,2.6nm,0.6s
SOKA *e*P **pP** 01 15 50.1 +0.5
comp=Z,31nm,1.0s,SNR=10
RGN Rugen 61.40 320 IAMs_20 IAMs_20 01 43 25.5
comp=Z,798nm,20.0s
BORU Boraas 61.40 323 *i*P P 01 15 50.1 +8.4
BJUU Bjuv 61.41 321 *i*P P 01 15 50.3 +8.5
BRG Berggiesshubel 61.47 315 *e*P **P** 01 15 42.2 -0.1
BRG Amp 01 15 43.5
comp=Z,7.8nm,1.2s
BRG *i*x x 01 15 51.1
BRG Amp 01 15 52.0
comp=Z,53nm,1.2s
BRG Amp 01 41 01.0
comp=N,1.5nm,22.4s
BRG Amp 01 41 15.0
comp=Z,0.8nm,24.3s
BRG Amp 01 41 20.0
comp=E,0.6nm,26.0s
BRG Berggiesshubel 61.47 315 *e*P **P** 01 15 43.1 +0.8
comp=E,18nm,0.6s,baz=80,slow=6.6
BRG Berggiesshubel 61.47 315 *e*P **P** 01 15 43.1 +0.8
comp=E,18nm,0.6s,baz=80,slow=6.6
FABU Falkenberg 61.49 323 *i*P P 01 15 50.6 +8.3
CKRC Cesky Krumlov 61.53 313 *e*P P 01 15 48.3 +5.5
CKRC *e*pP pP 01 15 50.4 -0.1
CKRC *e*S S 01 23 54.1 -8.9
PBCC Pribram 61.61 314 *e*P **P** 01 15 45.1 +1.8
PBCC *e*pP **pP** 01 15 51.1 +0.1
MOA Molln 61.71 312 *e*P **P** 01 15 43.4 -0.6
comp=E,2.5nm,0.7s,SNR=7.2
MOA *e*P **pP** 01 15 51.9 +0.2
comp=E,27nm,0.8s,SNR=11
OBKA Obir 61.74 311 *e*P **P** 01 15 44.9 +0.6
comp=E,5.3nm,1.0s
OBKA *e*P **pP** 01 15 52.5 +0.5
comp=E,26nm,1.0s,SNR=11
NC602 NORSAR Array S 61.78 327 *e*P **P** 01 15 43.8 -0.4
COP Copenhagen 61.78 321 IAmb IAmb 01 15 54.5
comp=Z,38nm,0.8s
COP Copenhagen 61.78 321 *e*P P 01 15 53.8 +10
COP pmax pmax
comp=Z,38nm,0.8s
COP Copenhagen 61.78 321 *e*P P 01 15 53.8 +10
NC303 NORSAR Array S 61.83 327 IAmb IAmb 01 15 54.5
comp=Z,38nm,0.8s
LJU Ljubljana 61.84 310 *e*P **P** 01 15 45.4 +0.5
LJU *e*pP **pP** 01 15 53.0 +0.4
LJU *e*sP **sP** 01 15 56.4 +0.9
FBE Freiberg 61.84 316 *e*P **P** 01 15 45.7 +1.0
baz=80,slow=6.6
FBE Freiberg 61.84 316 *e*P **P** 01 15 45.7 +1.0
comp=Z,64nm,1.1s,baz=80,slow=6.6
ONAU Onsala 61.88 323 *i*P P 01 15 53.2 +8.3
KBS Kingsbay 61.88 348 *e*P **P** 01 15 45.2 +0.6
KBS Kingsbay 61.88 348 IAMs_20 IAMs_20 01 45 19.5
comp=Z,555nm,21.0s
NB2 NORSAR Subarra 61.91 327 P **P** 01 15 43.9 -1.3
baz=84,slow=6.5
NOA NORSAR Array B 61.91 327 P **P** 01 15 44.1 -1.1
comp=Z,1.0nm,0.7s,baz=102,slow=7.2,SNR=23
NOA LR LR 01 43 55.1
comp=Z,610nm,18.9s,baz=90,slow=37
GEC2 GERESS Array S 61.92 313 IAmb IAmb 01 15 55.0
comp=Z,45nm,0.9s
GEC2 IAMs_20 IAMs_20 01 44 05.0
comp=Z,550nm,21.0s
GEC2 GERESS Array S 61.92 313 *e*P **P** 01 15 46.2 +0.6
comp=Z,26nm,0.8s,baz=80,slow=6.6
GEC2 GERESS Array S 61.92 313 *e*P **P** 01 15 46.2 +0.6
comp=Z,26nm,0.8s,baz=80,slow=6.6
GERES GERESS Array B 61.92 313 P **P** 01 15 45.3 -0.2
comp=Z,3.5nm,0.6s,baz=79,slow=6.2,SNR=40
GERES GERESS Array B 61.92 313 P **P** 01 15 44.3 -1.2
CEY Cerknica 61.96 310 *e*P **P** 01 15 44.7 -1.0
KHC Kasperske Hory 61.96 314 *e*P **P** 01 15 45.2 -0.5
KHC *e* 01 15 53.4
KHC *e* 01 16 22.5
KHC *e*S **S** 01 24 11.2 +2.7
KHC MLR MLR
comp=Z,700nm,24.9s
KHC Kasperske Hory 61.96 314 *e*P **P** 01 15 45.2 -0.5
KHC *e*pP **pP** 01 15 53.4 0.0
KHC *e*x x 01 16 22.5
KHC *e*S **S** 01 24 11.2 +2.7
KHC AMS AMS 01 43 00.0
comp=Z,700nm,24.9s
TJOU Tjoern 61.98 324 *i*P P 01 15 53.7 +8.2
CLL Collm 62.00 316 *e*P **P** 01 15 46.0 +0.2
CLL ⇓*i*pP **pP** 01 15 53.8 +0.2
comp=Z,28nm,1.1s
CLL LmV 01 45 00.0
comp=Z,900nm,20.1s
CLL Collm 62.00 316 *e*P **P** 01 15 46.0 +0.2
CLL pmax pmax
comp=Z,28nm,1.1s
NAO01 NORSAR Array S 62.09 327 IAmb IAmb 01 15 55.9
comp=Z,51nm,0.9s
STRU Stroemstad 62.11 325 *i*P P 01 15 54.8 +8.5
NC204 NORSAR Array S 62.11 327 P **P** 01 15 45.7 -0.8
NB000 NORSAR Array S 62.13 327 IAmb IAmb 01 15 55.8
comp=Z,56nm,1.1s
OSL Oslo 62.25 326 *e*P **P** 01 15 47.8 +0.4
VOJS Vojsko 62.28 310 *e*P **P** 01 15 46.7 -1.2
VOJS *i*pP **pP** 01 15 55.5 -0.1
MYKA Terra Mystica 62.34 311 *i*P **P** 01 15 49.2 +0.9
comp=Z,0.7nm,0.5s
MYKA *i*P **pP** 01 15 55.8 -0.2
comp=Z,8.6nm,0.9s
WET Wettzell 62.41 314 *e*P **P** 01 15 49.4 +0.7
comp=Z,19nm,0.9s,baz=80,slow=6.6
WET Wettzell 62.41 314 *e*P **P** 01 15 49.4 +0.7
comp=Z,19nm,0.9s,baz=80,slow=6.6
KBA Koelnbreinsper 62.46 311 *e*P **P** 01 15 48.2 -1.0
comp=Z,5.6nm,1.1s
KBA *e*P **pP** 01 15 56.9 -0.1
comp=Z,13nm,0.7s
NKC Novy Kostel 62.51 315 *e*P **P** 01 15 49.2 -0.1
NKC *e* 01 15 57.9
NKC MLR MLR
comp=Z,800nm,17.5s
NKC Novy Kostel 62.51 315 *e*P **P** 01 15 49.2 -0.1
NKC *e*pP **pP** 01 15 57.9 +0.8
NKC AMS AMS 01 45 00.0
comp=Z,800nm,17.5s
WERN Wernitzgruen 62.55 315 *e*P **P** 01 15 50.3 +0.7
baz=80,slow=6.6
WERN Wernitzgruen 62.55 315 *e*P **P** 01 15 50.3 +0.7
comp=Z,25nm,1.0s,baz=80,slow=6.6
GUNZ Gunzen 62.56 315 *e*P **P** 01 15 50.3 +0.6
baz=80,slow=6.6
GUNZ Gunzen 62.56 315 *e*P **P** 01 15 50.3 +0.6

comp=Z,46nm,1.0s,baz=80,slow=6.6
RJOB Jochberg 62.71 312 *e*P **P** 01 15 51.8 +1.0
comp=Z,71nm,0.8s,baz=80,slow=6.6
RJOB Jochberg 62.71 312 *e*P **P** 01 15 51.8 +1.0
comp=Z,71nm,0.8s,baz=80,slow=6.6
ROTZ Rotzenmuhle 62.74 314 *e*P **P** 01 15 50.9 +0.1
comp=Z,31nm,0.8s,baz=80,slow=6.6
ROTZ Rotzenmuhle 62.74 314 *e*P **P** 01 15 50.9 +0.1
comp=Z,31nm,0.8s,baz=80,slow=6.6
MANZ Manzenberg 62.77 315 *e*P **P** 01 15 52.0 +1.0
comp=Z,22nm,1.0s,baz=80,slow=6.6
MANZ Manzenberg 62.77 315 *e*P **P** 01 15 52.0 +1.0
comp=Z,22nm,1.0s,baz=80,slow=6.6
NEUB Neuenburg 62.78 316 *e*P **P** 01 15 51.8 +0.8
comp=Z,28nm,0.7s,baz=80,slow=6.6
NEUB Neuenburg 62.78 316 *e*P **P** 01 15 51.8 +0.8
comp=Z,28nm,0.7s,baz=80,slow=6.6
ZOU Zoufplan 62.80 311 P **P** 01 15 51.0 -0.6
WB0 Warramunga Arr 62.83 133 P **P** 01 15 51.0 -0.7
WB0 IAmb IAmb 01 16 03.2
comp=Z,24nm,0.6s
KONO Kongsberg 62.85 326*ce*P **P** 01 15 50.6 -0.7
KONO pmax pmax
comp=Z,17nm,2.5s
KONO Kongsberg 62.85 326 *e*P **P** 01 15 51.8 +0.4
KONO Kongsberg 62.85 326 P **P** 01 15 51.7 +0.4
KONO IAmb IAmb 01 16 16.6
comp=Z,46nm,1.1s
KONO Kongsberg 62.85 326 IAMs_20 IAMs_20 01 44 13.4
comp=Z,731nm,20.0s
DOMB Dombas 62.85 328 *e*P **P** 01 15 50.7 -0.7
WRA Warramunga Arr 62.91 133 P **P** 01 15 51.4 -1.0
comp=Z,6.6nm,0.7s,baz=321,slow=6.9,SNR=59
WRA PKP2bc 01 44 59.0
comp=Z,0.6nm,0.9s,baz=115,slow=36,SNR=2.4
WRA LR LR 01 48 15.2
comp=Z,151nm,18.0s,baz=260,slow=41
WRA Warramunga Arr 62.91 133 P **P** 01 15 51.2 -1.2
WRA Warramunga Arr 62.91 133 P **P** 01 15 51.1 -1.2
WRAB Tennant Creek 62.91 133*ce*P **P** 01 15 50.9 -1.4
WRAB pmax pmax
comp=Z,15nm,1.3s
WB2 Warramunga Arr 62.92 133 IAmb IAmb 01 16 04.0
comp=Z,24nm,0.6s
FLTG Flechtingen 62.93 317 *e*P **P** 01 15 52.3 +0.3
comp=Z,23nm,0.8s,baz=80,slow=6.6
FLTG Flechtingen 62.93 317 *e*P **P** 01 15 52.3 +0.3
comp=Z,23nm,0.8s,baz=80,slow=6.6
MOX Moxa 62.97 315 *e*P **P** 01 15 52.0 -0.3
comp=Z,17nm,0.8s,baz=80,slow=6.6
MOX *e*L L 01 45 29.7
comp=Z,665nm,21.1s
MOX Moxa 62.97 315 *e*P **P** 01 15 52.0 -0.3
comp=Z,17nm,0.8s,baz=80,slow=6.6
MOX *e*L L 01 45 29.7
comp=Z,665nm,21.1s
WR0 Warramunga Arr 63.06 133 P **P** 01 15 52.3 -0.9
ABTA Abfaltersbach 63.08 311 *i*P **P** 01 15 52.3 -0.9
comp=Z,2.3nm,0.9s
ABTA *e*P **pP** 01 16 00.2 -0.8
comp=Z,19nm,1.0s,SNR=11
BSEG Bad Segeberg 63.23 319 *e*P **P** 01 15 55.0 +1.1
comp=Z,83nm,0.9s,baz=80,slow=6.6
BSEG Bad Segeberg 63.23 319 *e*P **P** 01 15 55.0 +1.1
comp=Z,83nm,0.9s,baz=80,slow=6.6
AQU L'Aquila 63.35 306 *e*P P 01 16 02.2 +7.1
AQU L'Aquila 63.35 306 IAMs_20 IAMs_20 01 47 21.1
comp=Z,624nm,22.0s
MBAR Mbarara 63.36 255 P **P** 01 15 57.1 +1.4
MBAR pmax pmax
comp=Z,37nm,0.8s
MBAR Mbarara 63.36 255 P **P** 01 15 57.0 +1.4
MBAR IAmb IAmb 01 16 07.4
comp=Z,37nm,0.8s
MBAR Mbarara 63.36 255 IAMs_20 IAMs_20 01 40 53.4
comp=Z,544nm,22.0s
MBAR Mbarara 63.36 255 P P 01 16 03.0 +7.3
SKAR Skarslia 63.37 327 *e*P **P** 01 15 54.8 -0.1
GOET G??ttrup 63.38 323 *i*P P 01 16 04.6 +10
GOET G??ttrup 63.38 323 IAmb IAmb 01 16 05.0
comp=Z,77nm,0.9s
GOET G??ttrup 63.38 323 *i*P P 01 16 04.7 +10
GRA1 Grafenberg Arr 63.38 314 IAmb IAmb 01 16 05.3
comp=Z,73nm,1.4s
GRA1 IAMs_20 IAMs_20 01 45 20.4
comp=Z,670nm,21.0s
GRF Grafenberg Arr 63.38 314 *e*P **P** 01 15 56.2 +1.1
comp=Z,27nm,1.0s,baz=80,slow=6.6
GRF *e*L L 01 45 20.7
comp=Z,607nm,20.2s
GRF Grafenberg Arr 63.38 314 *e*P **P** 01 15 56.2 +1.1
comp=Z,27nm,1.0s,baz=80,slow=6.6
GRF *e*L L 01 45 20.7
comp=Z,607nm,20.2s
GRFO Grafenberg 63.38 314 P **P** 01 15 56.4 +1.3
GRFO pmax pmax
comp=Z,61nm,1.3s
GRFO MLR MLR
comp=Z,700nm,21.0s
GRFO Grafenberg 63.38 314 P **P** 01 15 56.4 +1.3
GRFO IAmb IAmb 01 16 05.3
comp=Z,61nm,1.3s
GRFO IAMs_20 IAMs_20 01 45 20.5
comp=Z,682nm,21.0s
MUD Monsted U'grnd 63.49 322 ⇓*i*P P 01 16 04.7 +9.0
MUD Monsted U'grnd 63.49 322 ⇓*i*P P 01 16 04.6 +9.0
MUD pmax pmax
comp=Z,87nm,1.2s
MUD Monsted U'grnd 63.49 322 IAmb IAmb 01 16 05.7
comp=Z,87nm,1.2s
MOL Molde 63.50 329 *e*P **P** 01 15 56.1 +0.5
CLZ Clausthal 63.54 317 *e*P **P** 01 15 57.1 +1.0
comp=Z,49nm,0.8s,baz=80,slow=6.6
CLZ Clausthal 63.54 317 *e*P **P** 01 15 57.1 +1.0
comp=Z,49nm,0.8s,baz=80,slow=6.6
WTTA Wattenberg 63.57 312 *i*P **P** 01 15 55.4 -1.2
comp=Z,4.9nm,0.7s
WTTA *e*P **pP** 01 16 04.0 -0.4
comp=Z,37nm,0.9s,SNR=13
NRDL Niedersach Rie 63.59 318 *e*P **P** 01 15 57.7 +1.5
comp=Z,90nm,0.9s,baz=80,slow=6.6
NRDL Niedersach Rie 63.59 318 *e*P **P** 01 15 57.7 +1.5
comp=Z,90nm,0.9s,baz=80,slow=6.6
HOMB Homborsund 63.59 324 *e*P P 01 16 05.4 +9.2
HOMB Homborsund 63.59 324 *e*P **P** 01 15 57.2 +1.0
WATA Walderalm 63.59 312 *e*P **P** 01 15 55.3 -1.4
comp=Z,2.5nm,0.7s
WATA *e*P **pP** 01 16 03.8 -0.7
comp=Z,20nm,0.9s,SNR=15
FUR Furstenfeldbru 63.63 313 *e*P **P** 01 15 57.5 +0.7
comp=Z,52nm,1.0s,baz=80,slow=6.6
FUR Furstenfeldbru 63.63 313 *e*P **P** 01 15 57.5 +0.7
comp=Z,52nm,1.0s,baz=80,slow=6.6
AKN Aaknes 63.80 329 *e*P **P** 01 15 58.5 +0.8
CTI Castel Tesino 63.80 310 IAmb IAmb 01 16 06.7
comp=Z,28nm,0.9s
SQTA Sankt Quirin 63.86 312 *e*P **P** 01 15 57.4 -1.1
comp=Z,3.2nm,0.5s
SQTA *i*P **pP** 01 16 05.7 -0.5
comp=Z,30nm,0.8s,SNR=12
MOTA Moosalm 63.91 312 *e*P **P** 01 15 57.7 -1.1
comp=Z,6.1nm,0.8s
MOTA *e*P **pP** 01 16 06.0 -0.6
comp=Z,50nm,0.9s
VOI Vohitsoka 64.04 225 P **P** 01 16 02.2 +2.3
VOI IAmb IAmb 01 16 10.9
comp=Z,29nm,0.8s
RETA Reutte 64.11 312 *i*P **P** 01 15 58.9 -1.1
comp=Z,2.2nm,0.6s
RETA *e*P **pP** 01 16 07.7 -0.1
comp=Z,29nm,0.9s,SNR=12
FETA Feichten 64.22 312 *e*P **P** 01 16 00.5 -0.4
comp=Z,3.5nm,1.1s
FETA *e*P **pP** 01 16 08.0 -0.6
comp=Z,30nm,0.9s,SNR=13
SNART Snartemo 64.25 324 *i*P P 01 16 09.3 +8.7
SNART Snartemo 64.25 324 *e*P **P** 01 16 01.3 +0.6
HYA Hoyanger 64.33 328 *e*P **P** 01 16 01.7 +0.7
BLS5 Blasjo 64.47 326 *e*P **P** 01 16 01.6 -0.5
UBR Ueberruh 64.50 312 *e*P **P** 01 16 02.4 -0.1
comp=Z,29nm,1.0s,baz=80,slow=6.6
UBR Ueberruh 64.50 312 *e*P **P** 01 16 02.4 -0.1
comp=Z,29nm,1.0s,baz=80,slow=6.6
OSSC Osservatorio P 64.63 308 IAmb IAmb 01 16 24.1
comp=Z,41nm,1.0s
ZCCA Zocca 64.63 309 IAMs_20 IAMs_20 01 46 21.9
comp=Z,514nm,19.0s

SALO Salr 64.66 310 P **P** **01 16 04.2 +0.6**
DAVA Damuels 64.73 312 *e*P **P** **01 16 03.2 -1.1**
comp=Z,7,3nm,1.1s
DAVA *e*P **pP** **01 16 11.8 -0.2**
comp=Z,70nm,1.1s,SNR=13
FOO Floro 64.80 328 *e*P **P** **01 16 04.8 +0.6**
BER Bergen 64.86 327 *e*P **P** **01 16 04.5 -0.1**
STU Stuttgart 64.87 314 P **P** **01 16 05.0 +0.1**
STU pmax pmax
comp=Z,50nm,0.9s
STU MLR MLR
comp=Z,500nm,22.0s
STU Stuttgart 64.87 314 P **P** **01 16 05.0 +0.1**
STU IAmb IAmb 01 16 14.5
comp=Z,50nm,0.9s
STU IAMs_20 IAMs_20 01 44 48.7
comp=Z,514nm,22.0s
ASK Askoy 64.92 327 *e*P **P** **01 16 04.8 -0.1**
SUE Sulen 65.03 328 *e*P **P** **01 16 05.6 0.0**
IBBN Ibbenburen 65.04 318 *e*P **P** **01 16 06.5 +0.7**
baz=80,slow=6.6
IBBN Ibbenburen 65.04 318 *e*P **P** **01 16 06.5 +0.7**
baz=80,slow=6.6
TNS Taunus Mts 65.04 315 *e*P **P** **01 16 06.7 +0.7**
comp=Z,30nm,0.8s,baz=80,slow=6.6
TNS Taunus Mts 65.04 315 *e*P **P** **01 16 06.7 +0.7**
comp=Z,30nm,0.8s,baz=80,slow=6.6
VLC Villacollemand 65.09 309 IAmb IAmb 01 16 26.9
comp=Z,38nm,0.8s
VLC IAMs_20 IAMs_20 01 47 42.0
comp=Z,525nm,21.0s
KMY Karmoy 65.11 326 *e*P **P** **01 16 06.5 +0.3**
TUE Stuetta 65.27 311 P **P** **01 16 08.7 +0.9**
TUE IAmb IAmb 01 16 23.6
comp=Z,63nm,0.9s
TUE IAMs_20 IAMs_20 01 49 45.6
comp=Z,733nm,19.0s
ASAR Alice Springs 65.32 136 P **P** **01 16 07.3 -0.8**
comp=Z,5.3nm,0.7s,baz=319,slow=6.3,SNR=60
ASAR PKP2bc 01 44 56.4
comp=Z,1.6nm,0.8s,baz=138,slow=3.2,SNR=8.9
ASAR Alice Springs 65.32 136 P **P** **01 16 06.5 -1.6**
BUG Bochum--Univer 65.51 317 *e*P **P** **01 16 09.9 +0.9**
comp=Z,46nm,0.9s,baz=80,slow=6.6
BUG Bochum--Univer 65.51 317 *e*P **P** **01 16 09.9 +0.9**
comp=Z,46nm,0.9s,baz=80,slow=6.6
MSSA Maissana 65.66 309 IAmb IAmb 01 16 18.8
comp=Z,36nm,0.9s
PMG Port Moresby 65.70 115 LR LR 01 47 27.7
comp=Z,159nm,19.0s,baz=325,slow=38
BERGE Lenzkirch (DE) 65.73 313 *e*P **P** **01 16 10.5 -0.1**
baz=80,slow=6.6
BERGE Lenzkirch (DE) 65.73 313 *e*P **P** **01 16 10.5 -0.1**
baz=80,slow=6.6
AHRW Bad Neuenahr-A 65.83 316 *e*P **P** **01 16 11.9 +0.9**
comp=Z,39nm,0.9s,baz=80,slow=6.6
AHRW Bad Neuenahr-A 65.83 316 *e*P **P** **01 16 11.9 +0.9**
comp=Z,39nm,0.9s,baz=80,slow=6.6
ECH Echery 66.31 314 IAMs_20 IAMs_20 01 45 33.0
comp=Z,586nm,22.0s
ECH Echery 66.31 314 *e*P **P** **01 16 14.3 +0.1**
baz=80,slow=6.6
ECH Echery 66.31 314 *e*P **P** **01 16 14.3 +0.1**
baz=80,slow=6.6
NOR Nord 66.33 351 *i* P P 01 16 20.3 +6.5
NOR Nord 66.33 351 *i* P P 01 16 20.2 +6.4
BTNL Ternell 66.40 316 *d*P **P** **01 16 14.9 +0.1**
comp=Z,43nm,1.0s
BTNL *d*pP **pP** **01 16 23.1 +0.6**
MEM Membach 66.47 316 *d*P **P** **01 16 14.9 -0.3**
comp=Z,36nm,1.1s
MEM *d*PcP **pP** **01 16 23.0 0.0**
BHOU Houvegnez 66.54 316 *d*P **P** **01 16 15.3 -0.4**
BHOU *d*pP **pP** **01 16 24.0 +0.6**
WLF Walferdange 66.61 315 *d*P **P** **01 16 15.7 -0.4**
comp=Z,83nm,1.2s
WLF *d*PcP **pP** **01 16 25.0 +1.2**
WLF Walferdange 66.61 315 IAMs_20 IAMs_20 01 47 41.7
comp=Z,711nm,21.0s
WLF Walferdange 66.61 315 *e*P **P** **01 16 17.5 +1.4**
comp=Z,64nm,0.9s,baz=80,slow=6.6
WLF Walferdange 66.61 315 *e*P **P** **01 16 17.5 +1.4**
comp=Z,64nm,0.9s,baz=80,slow=6.6
SENIN Lac Senin/Sane 66.67 312 IAmb IAmb 01 16 30.2
comp=Z,30nm,0.9s
SENIN IAMs_20 IAMs_20 01 46 06.7
comp=Z,640nm,22.0s
BSTI Sart Tilman 66.75 316 *d*pP pP 01 16 25.9 +1.1
BCLA Clavier 66.96 316 *d*P **P** **01 16 18.1 -0.2**
comp=Z,35nm,1.2s
BCLA *d*pP **pP** **01 16 26.7 +0.6**
BGES Gesves 67.10 316 *d*pP pP 01 16 28.0 +1.0
comp=Z,33nm,1.3s
BMRD Maredsous 67.32 316 *d*P **P** **01 16 21.1 +0.6**
comp=Z,24nm,1.1s
BMRD *d*pP **pP** **01 16 28.7 +0.4**
BNI Bardonecchia 67.43 310 P **P** **01 16 22.3 +0.7**
BNI pmax pmax
comp=Z,29nm,0.9s
BNI MLR MLR
comp=Z,600nm,20.0s
BNI Bardonecchia 67.43 310 P **P** **01 16 22.3 +0.7**
BNI IAmb IAmb 01 16 38.9
comp=Z,29nm,0.9s
BNI IAMs_20 IAMs_20 01 46 29.9
comp=Z,634nm,20.0s
UCC Uccle 67.44 317 *d*pP **pP** **01 16 29.5 +0.4**
UCC *d*PcP **PcP** **01 16 48.0 -0.6**
UCC Uccle 67.44 317 IAmb IAmb 01 16 41.2
comp=Z,32nm,1.1s
UCC IAMs_20 IAMs_20 01 47 41.0
comp=Z,481nm,22.0s
FORT Forrest 67.46 145 P **P** **01 16 23.6 +1.9**
FORT IAmb IAmb 01 16 37.0
comp=Z,69nm,1.4s
DOU Dourbes 67.48 316 *d*pP **pP** **01 16 30.0 +0.6**
comp=Z,20nm,1.2s
DOU *d*PcP **PcP** **01 16 49.7 +0.9**
SNF Seneffe 67.57 316 *d*P **P** **01 16 21.8 -0.3**
comp=Z,42nm,1.1s
SNF *d*pP **pP** **01 16 30.6 +0.7**
LRW Lerwick 68.09 327 *e*P P 01 16 34.9 +10
KEST Kesra 68.12 300 P **P** **01 16 25.5 -0.5**
comp=Z,14nm,0.9s,baz=347,slow=2.1,SNR=17
KEST LR LR 01 50 38.7
comp=Z,220nm,20.8s,baz=260,slow=40
KEST Kesra 68.12 300 P **P** **01 16 27.6 +1.6**
DAG Danmarks Havn 68.55 346 *i* P P 01 16 32.8 +4.9
DAG IAmb IAmb 01 16 41.3
comp=Z,9.1nm,0.8s
DAG Danmarks Havn 68.55 346 *i* P P 01 16 37.8 +10
DAG pmax pmax
comp=Z,9.0nm,0.8s
WACR West Acre 69.16 319 *e*P P 01 16 40.6 +8.5
WACR IAmb IAmb 01 16 41.8
comp=Z,129nm,1.0s
GDLE Glaisdale, N Y 69.49 321 *e*P P 01 16 42.4 +8.3
GDLE IAmb IAmb 01 16 43.2
comp=Z,46nm,1.1s
LMK Market Rasen 69.50 320 *e*P P 01 16 43.0 +8.8
LMK IAmb IAmb 01 16 44.6
comp=Z,89nm,0.8s
GAMB Gambell 69.91 28 P 01 16 35.5
baz=289
DBG Daneborg 69.97 344 *i* P P 01 16 46.2 +9.5
DBG IAmb IAmb 01 16 48.3
comp=Z,23nm,0.8s
LBWR Ladybower, Pea 70.31 321 *e*P P 01 16 47.0 +7.8
LBWR IAmb IAmb 01 16 49.0
comp=Z,43nm,1.2s
EKA Eskdalemuir Ar 70.50 323 P **P** **01 16 39.7 -0.6**
comp=Z,1.0nm,0.3s,baz=84,slow=5.6,SNR=9.6
ESK Eskdalemuir 70.53 323 *e*P P 01 16 48.2 +7.7
ESK IAmb IAmb 01 16 49.8
comp=Z,66nm,1.2s
ESK Eskdalemuir 70.53 323 P **P** **01 16 40.4 0.0**
ESK pmax pmax
comp=Z,58nm,1.1s
ESK Eskdalemuir 70.53 323 P **P** **01 16 40.4 0.0**
ESK IAmb IAmb 01 16 50.0
comp=Z,58nm,1.1s
KESW Keswick, Cumbr 70.71 322 *e*P P 01 16 50.3 +8.8
KESW IAmb IAmb 01 16 51.6
comp=Z,85nm,1.1s
TNA Tin City 70.81 26 P 01 16 41.4
baz=292

SET Setif 71.01 302 P **P** **01 16 45.0 +1.1**
FOEL Foel Wylfa 71.32 320 *e*P P 01 16 52.2 +6.9
FOEL IAmb IAmb 01 16 55.8
comp=Z,77nm,1.0s
RDOG Red Dog Mine 71.62 22 IAMs_20 IAMs_20 01 51 51.1
comp=Z,645nm,18.0s
RDOG Red Dog Mine 71.63 22 P 01 16 45.5
baz=295
WLF1 Llynfaes 71.86 321 *e*P P 01 16 56.3 +7.8
WLF1 IAmb IAmb 01 16 58.1
comp=Z,173nm,1.1s
WPS Cemaes, Angles 71.88 321 *e*P P 01 16 57.5 +8.9
WPS IAmb IAmb 01 16 58.6
comp=Z,76nm,1.1s
A21K Barrow 72.05 18 IAMs_20 IAMs_20 01 47 22.3
comp=Z,381nm,20.0s
SCO Scoresbysund 72.25 341 *i* P P 01 17 00.8 +10
SCO IAmb IAmb 01 17 03.6
comp=Z,42nm,1.2s
SCO Scoresbysund 72.25 341 P **P** **01 16 52.3 +1.7**
SCO pmax pmax
comp=Z,43nm,1.2s
SCO Scoresbysund 72.25 341 P **P** **01 16 52.3 +1.7**
SCO IAmb IAmb 01 17 03.9
comp=Z,43nm,1.2s
RSBS Rosebush, Pemb 72.53 320 *e*P P 01 17 00.5 +7.9
LSZ Lusaka 73.31 243 P **P** **01 16 57.3 -0.5**
LSZ pmax pmax
comp=Z,65nm,0.9s
LSZ Lusaka 73.31 243 P **P** **01 16 57.3 -0.5**
LSZ IAmb IAmb 01 17 10.0
comp=Z,64nm,0.9s
LSZ Lusaka 73.31 243 IAMs_20 IAMs_20 01 46 08.4
comp=Z,685nm,21.0s
EUNU Eureka 73.58 359 IAmb IAmb 01 17 18.1
comp=Z,47nm,0.8s
NEEM North Greenlan 73.68 352 *i* P **P** **01 16 58.8 -0.5**
SUMG Summit 75.22 346 *i* P **P** **01 17 08.0 -0.5**
SUMG Summit 75.22 346 P **P** **01 17 07.0 -1.4**
SUMG pmax pmax
comp=Z,44nm,0.8s
SUMG Summit 75.22 346 P **P** **01 17 07.0 -1.4**
SUMG IAmb IAmb 01 17 20.2
comp=Z,44nm,0.8s
CART Cartagena 75.32 305 IAmb IAmb 01 17 18.9
comp=Z,41nm,0.8s
TOLK Toolik Lake Re 75.55 19 IAmb IAmb 01 17 22.5
comp=Z,113nm,1.5s
TOLK IAMs_20 IAMs_20 01 56 03.9
comp=Z,590nm,20.0s
TOLK Toolik Lake Re 75.55 19 P 01 17 10.0
baz=307,SNR=15
STKA Stephens Creek 75.93 137 P **P** **01 17 10.7 -1.8**
comp=Z,4.8nm,0.8s,baz=311,slow=6.6,SNR=8.5
STKA LR LR 01 54 45.2
comp=Z,549nm,18.3s,baz=300,slow=39
STKA Stephens Creek 75.93 137 P **P** **01 17 12.5 -0.1**
STKA Stephens Creek 75.93 137 P **P** **01 17 12.5 -0.1**
COLD Coldfoot 76.21 20 P 01 17 13.7
baz=307,SNR=15
H21K Melozitna Rive 76.28 22 P 01 17 14.4
baz=305,SNR=33
TTA Tatalina 76.63 26 IAmb IAmb 01 17 29.9
comp=Z,58nm,1.2s
TTA Tatalina 76.63 26 P 01 17 16.3
baz=302,SNR=11
ESDC Sonseca Array 76.65 308 P **P** **01 17 16.0 -0.8**
comp=Z,2.4nm,0.9s,baz=58,slow=6.4,SNR=19
ESDC LR LR 01 58 02.9
comp=Z,123nm,18.8s,baz=60,slow=41
ESDC Sonseca Array 76.65 308 P **P** **01 17 14.9 -1.9**
ESDC pP **pP** **01 17 25.0 +0.3**
ESDC **PcP** **01 17 28.7 +0.5**
I21K Tanana 76.84 23 P 01 17 17.5
baz=306,SNR=9.8
KULLO Kullorsuaq 76.92 352 *i* P P 01 17 24.6 +7.0
KULLO IAmb IAmb 01 17 29.4
comp=Z,56nm,0.9s
KULLO Kullorsuaq 76.92 352 *i* P P 01 17 24.5 +7.0
KULLO pmax pmax
comp=Z,56nm,0.9s
PAB San Pablo 76.97 308 P **P** **01 17 19.7 +1.0**
PAB pmax pmax
comp=Z,24nm,1.2s
PAB San Pablo 76.97 308 P **P** **01 17 19.7 +1.0**
H23K Yukon River 77.27 21 P 01 17 20.3
baz=307,SNR=15
MLY Manley 77.35 22 IAmb IAmb 01 17 33.7
comp=Z,54nm,1.0s
MLY IAMs_20 IAMs_20 01 54 22.4
comp=Z,420nm,18.0s
MLY Manley 77.35 22 P 01 17 20.4
baz=306,SNR=30
FALS False Pass 77.40 35 P 01 17 20.6
baz=298
PBRG Braganca 77.71 311 *e*P **P** **01 17 22.9 +0.2**
comp=Z,23nm,1.7s
PBRG *e*pP **pP** **01 17 31.3 +0.7**
I23K Minto, Yukon-K 77.75 22 IAmb IAmb 01 17 35.9
baz=307,SNR=19
I23K Minto, Yukon-K 77.75 22 P 01 17 22.6
baz=308,SNR=19
BMAR Burnt Mountain 77.78 19 P **P** **01 17 23.1 +0.5**
SVW2 Sparrevohn 77.80 27 IAMs_20 IAMs_20 01 53 51.8
comp=Z,684nm,22.0s
H24K Noodor Dome 77.80 21 P 01 17 23.2
baz=309,SNR=14
BPAW Bear Paw Mtn. 77.82 23 IAmb IAmb 01 17 35.5
comp=Z,65nm,1.0s
BPAW IAMs_20 IAMs_20 01 53 31.9
comp=Z,541nm,20.0s
BPAW Bear Paw Mtn. 77.82 23 P 01 17 23.0
baz=306,SNR=20
N18K Kilae Creek 77.90 27 P 01 17 23.7
baz=303,SNR=5.9
ICESG Greenland Ices 77.96 344 *i* P P 01 17 33.0 +9.1
ICESG IAmb IAmb 01 17 42.8
comp=Z,60nm,0.8s
PPLA Purkeypile 78.10 25 P 01 17 24.7
baz=306,SNR=17
FYU Fort Yukon 78.16 20 IAmb IAmb 01 17 38.6
comp=Z,55nm,1.0s
FYU IAMs_20 IAMs_20 01 56 17.7
comp=Z,555nm,18.0s
KTH Kantishna Hill 78.17 24 IAmb IAmb 01 17 37.6
comp=Z,85nm,1.4s
KTH IAMs_20 IAMs_20 01 53 30.2
comp=Z,420nm,20.0s
MVO Moncorvo 78.18 310 *e*P **P** **01 17 26.1 +0.8**
comp=Z,51nm,1.0s
MVO *e*pP **pP** **01 17 34.1 +0.8**
MVO *i* LQ LQ 01 17 42.8
MVO Moncorvo 78.18 310 *e*LQ LQ 01 44 51.5
MVO A A 01 53 47.1
comp=Z,249nm,20.0s
NEA2 Nenana 78.19 22 P 01 17 24.8
baz=308,SNR=26
BWN Browne 78.31 23 P **P** **01 17 26.7 +1.2**
BWN IAMs_20 IAMs_20 01 55 01.3
comp=Z,371nm,19.0s
UPNV Upernavik 78.33 350 *i* P P 01 17 33.9 +8.4
UPNV IAmb IAmb 01 17 36.7
comp=Z,29nm,0.9s
N19K Bonanza Creek 78.40 27 P 01 17 26.3
baz=304
TCOL CIGO, UAF Yank 78.42 22 IAmb IAmb 01 17 38.4
comp=Z,66nm,1.0s
TCOL IAMs_20 IAMs_20 01 56 10.6
comp=Z,340nm,20.0s
TCOL CIGO, UAF Yank 78.42 22 P 01 17 25.8
baz=309
COLA College 78.42 22 P **P** **01 17 25.9 -0.2**
COLA pmax pmax
comp=Z,61nm,1.0s
COLA MLR MLR
comp=Z,300nm,20.0s
COLA College 78.42 22 P **P** **01 17 25.9 -0.2**
COLA IAmb IAmb 01 17 38.4
comp=Z,61nm,0.9s
COLA College 78.42 22 P 01 17 25.7
baz=309
TRF Thorofare Moun 78.46 24 IAMs_20 IAMs_20 01 53 49.8
comp=Z,449nm,20.0s
TRF Thorofare Moun 78.46 24 P 01 17 26.2
baz=307
PVRL Vila Real 78.60 310 *e*P **P** **01 17 27.8 +0.2**
comp=Z,29nm,1.7s

PVRL *e*pP **pP** **01 17 36.4 +0.8**
PVRL *i* LQ LQ 01 17 45.7
POLO Lamas de Olo 78.61 311 *e*P **P** **01 17 29.0 +1.2**
comp=Z,13nm,1.4s
POLO Lamas de Olo 78.61 311 *e*PcP **PcP** **01 17 36.5 -0.2**
POLO *i* LQ LQ 01 17 45.9
PCAB Cabril 78.62 311 *e*PcP **PcP** **01 17 36.5 -0.2**
PCAB A A 01 17 39.2
comp=Z,38nm,1.8s
PCAB *i* LQ LQ 01 17 45.9
SDPT Sand Point 78.63 33 IAMs_20 IAMs_20 01 50 44.7
comp=Z,576nm,18.0s
SDPT Sand Point 78.63 33 P 01 17 27.4
baz=300
PGAV Gavieira, Arco 78.68 311 *e*pP **pP** **01 17 37.2 +1.1**
PGAV A A 01 17 42.0
comp=Z,42nm,1.5s
PGAV *i* LQ LQ 01 17 46.5
PGAV Gavieira, Arco 78.68 311 *e*LQ LQ 01 44 15.2
PGAV *e*LR LR 01 47 35.2
comp=Z,147nm,20.0s
PRP Porcupine Dome 78.76 21 IAmb IAmb 01 17 41.0
comp=Z,48nm,0.9s
PRP IAMs_20 IAMs_20 01 55 11.6
comp=Z,359nm,20.0s
PRP Porcupine Dome 78.76 21 P 01 17 28.7
baz=311,SNR=17
MCK McKinley 78.77 23 IAmb IAmb 01 17 41.2
comp=Z,46nm,1.0s
MCK IAMs_20 IAMs_20 01 57 02.9
comp=Z,394nm,20.0s
MCK McKinley 78.77 23 P 01 17 27.7
baz=308,SNR=6.8
IL31 78.80 22 P **P** **01 17 27.5 -0.7**
ILAR Eielson Array 78.80 22 P **P** **01 17 26.7 -1.5**
comp=Z,1.0nm,0.8s,baz=320,slow=5.0,SNR=12
ILAR PP **PP** **01 20 24.4 -1.8**
comp=Z,2.5nm,0.9s,baz=299,slow=6.7,SNR=2.8
ILAR LR LR 01 56 42.1
comp=Z,272nm,19.0s,baz=308,slow=39
O19K Port Alsworth 78.82 27 P 01 17 28.0
baz=304
MTE Manteigas 78.86 310 *e*pP **pP** **01 17 38.3 +1.3**
MTE *i* LQ LQ 01 17 47.0
MTE A A 01 18 23.9
comp=Z,44nm,1.2s
MTE Manteigas 78.86 310 *e*LQ LQ 01 41 09.7
MTE *e*LR LR 01 44 40.1
comp=Z,222nm,22.0s
MTE Manteigas 78.86 310 P **P** **01 17 29.2 +0.2**
MTE IAmb IAmb 01 17 42.5
comp=Z,38nm,1.0s
SKT Skwentna 78.89 25 P 01 17 28.2
baz=306,SNR=28
RES Resolute Bay 78.94 1 P **P** **01 17 28.2 -0.6**
comp=Z,4.7nm,1.0s,baz=0.0,slow=3.0,SNR=2.4
PVIS Viseu 78.96 310 *e*P **P** **01 17 30.9 +1.3**
comp=Z,41nm,1.5s
PVIS *e*pP **pP** **01 17 38.5 +0.9**
PVIS *i* LQ LQ 01 17 48.1
RND Reindeer 79.00 23 IAmb IAmb 01 17 41.9
comp=Z,49nm,0.9s
RND IAMs_20 IAMs_20 01 56 34.0
comp=Z,407nm,18.0s
HDA Harding Lake 79.02 22 IAMs_20 IAMs_20 01 57 57.5
comp=Z,375nm,18.0s
HDA Harding Lake 79.02 22 P 01 17 27.9
baz=310,SNR=7.1
HDA P 01 17 27.9
baz=310,SNR=7.1
PCBR Castelo Branco 79.05 309 *e*P **P** **01 17 31.2 +1.1**
comp=Z,25nm,1.3s
PCBR *e*pP **pP** **01 17 38.8 +0.8**
PCBR *i* LQ LQ 01 17 48.6
SPCR Spurr Chakacha 79.09 26 P 01 17 28.7
baz=306
CUT Chulitna 79.10 24 P **P** **01 17 29.7 -0.2**
CUT Chulitna 79.10 24 P 01 17 28.8
baz=307
PMRV Marv??o 79.16 309 *e*P **P** **01 17 31.1 +0.4**
comp=Z,34nm,1.6s
PMRV *e*pP **PcP** **01 17 39.2 +0.1**
PMRV *i* LQ LQ 01 17 49.1
PMRV Marv??o 79.16 309 *e*LQ LQ 01 42 53.8
PMRV *e*LR LR 01 46 58.4
comp=Z,197nm,22.0s
CHNA Chernabura Isl 79.34 34 P 01 17 29.7
baz=301
CNBA Chernabura Isl 79.34 34 P **P** **01 17 30.1 -1.2**
CNBA IAmb IAmb 01 17 42.4
comp=Z,58nm,1.0s
CNBA IAMs_20 IAMs_20 01 50 58.3
comp=Z,563nm,20.0s
PBAR Barrancos 79.45 307 *e*P **P** **01 17 32.7 +0.4**
comp=Z,42nm,1.4s
PBAR *e*pP **PcP** **01 17 41.0 +0.7**
PBAR *i* LQ LQ 01 17 50.4
WAT1 Susitna Watana 79.47 24 P 01 17 30.8
baz=309
SUA Susitna One 79.50 25 IAMs_20 IAMs_20 01 55 18.0
comp=Z,606nm,19.0s
SUA Susitna One 79.50 25 P 01 17 32.0
baz=307,SNR=6.9
COI Coimbra 79.54 310 *e*pP **pP** **01 17 42.2 +1.6**
COI A A 01 18 18.5
comp=Z,73nm,1.6s
PESTR Estremoz 79.54 308 *i* LQ LQ 01 17 49.3
PCAS Casmilo, Conde 79.66 310 *e*P **P** **01 17 34.5 +1.1**
comp=Z,43nm,1.6s
PCAS *i* LQ LQ 01 17 51.9
PMTG Montargil 79.90 309 *e*pP **pP** **01 17 43.2 +0.5**
PMTG *i* LQ LQ 01 17 52.7
PMTG A A 01 18 06.0
comp=Z,33nm,2.3s
WAT6 Susitna Watana 79.91 24 P 01 17 32.7
baz=310,SNR=12
EVO Evora 79.99 308 *e*P **P** **01 17 36.4 +1.2**
comp=Z,36nm,1.7s
EVO *e*pP **PcP** **01 17 43.6 +1.0**
GHO Glory Hole Cre 79.99 25 IAmb IAmb 01 17 55.1
comp=Z,42nm,0.8s
PMR Palmer 80.03 25 IAmb IAmb 01 17 47.3
comp=Z,83nm,1.0s
PMR Palmer 80.03 25 P 01 17 34.2
baz=308
INK Inuvik 80.04 15 P **P** **01 17 33.6 -1.2**
baz=316,slow=3.9
INK Inuvik 80.04 15 IAmb IAmb 01 17 51.6
comp=Z,42nm,1.1s
INK IAMs_20 IAMs_20 01 57 51.5
comp=Z,533nm,19.0s
INK Inuvik 80.04 15 P 01 17 34.3
baz=321,SNR=5.7
PBEJ Beja 80.10 307 *e*pP **pP** **01 17 44.4 +0.6**
PBEJ A A 01 18 20.8
comp=Z,39nm,1.6s
PSBE So Bento 80.11 309 *e*pP **pP** **01 17 42.8 -1.0**
PSBE A A 01 17 52.5
comp=Z,65nm,2.1s
PSBE *i* LQ LQ 01 17 54.5
RC01 Rabbit Creek A 80.11 25 IAMs_20 IAMs_20 01 55 49.5
comp=Z,583nm,19.0s
RC01 Rabbit Creek A 80.11 25 P 01 17 34.9
baz=308,SNR=7.2
SML Sawmill 80.19 24 P **P** **01 17 35.1 -0.8**
SML Sawmill 80.19 24 P 01 17 35.6
baz=309,SNR=17
PVAQ Vaqueiros 80.27 307 *e*P **P** **01 17 37.2 +0.5**
PVAQ *e*pP **pP** **01 17 45.3 +0.6**
PVAQ *i* LQ LQ 01 17 54.9
PVAQ Vaqueiros 80.27 307 *e*LQ LQ 01 46 11.3
PVAQ *e*LR LR 01 49 19.7
comp=Z,226nm,20.0s
SCRK Sand Creek 80.28 21 IAmb IAmb 01 17 53.9
comp=Z,43nm,0.8s
SCRK IAMs_20 IAMs_20 01 56 18.8
comp=Z,353nm,19.0s
SCRK Sand Creek 80.28 21 P 01 17 35.9
baz=312,SNR=30
KNK Knik Glacier 80.39 25 P 01 17 36.8
baz=309,SNR=7.9
PAX Paxson 80.46 23 IAmb IAmb 01 17 50.4
comp=Z,35nm,1.0s
PAX IAMs_20 IAMs_20 01 55 06.6
comp=Z,380nm,21.0s
PAX Paxson 80.46 23 P 01 17 36.6

baz=311,SNR=7.9
CNPM China Poot 80.47 27 IAmb IAmb 01 17 50.5
comp=Z,50nm,0.8s
PBDV Barranco-do-Ve 80.49 307 *e*pP **pP** **01 17 47.2 +1.3**
PBDV A A 01 17 53.9
comp=Z,74nm,1.6s
PNCL Nicolau / Gran 80.54 308 *e*pP **pP** **01 17 46.8 +0.7**
PNCL *i* LQ LQ 01 17 56.6
PNCL A A 01 18 08.9
comp=Z,43nm,1.4s
SCM Sheep Creek Mo 80.54 24 P **P** **01 17 37.6 -0.3**
SCM pmax pmax
comp=Z,100nm,1.0s
SCM MLR MLR
comp=Z,600nm,20.0s
SCM Sheep Creek Mo 80.54 24 P **P** **01 17 37.6 -0.3**
SCM IAMs_20 IAMs_20 01 56 03.8
comp=Z,593nm,20.0s
BRSE Bradley Lake S 80.54 27 P 01 17 36.9
baz=307
EGAK Eagle 80.61 20 P 01 17 37.4
baz=315,SNR=11
EPYK Eagle Plains 80.72 17 IAMs_20 IAMs_20 01 58 47.5
comp=Z,423nm,19.0s
EPYK Eagle Plains 80.72 17 P 01 17 37.9
baz=318
M24K Tolsona, Glenn 80.78 23 P 01 17 38.7
baz=311
LBTB Lobatse 80.82 236 P **P** **01 17 39.1 -0.8**
LBTB pmax pmax
comp=Z,39nm,0.7s
LBTB Lobatse 80.82 236 P **P** **01 17 39.1 -0.8**
LBTB IAmb IAmb 01 17 52.1
comp=Z,39nm,0.7s
LBTB Lobatse 80.82 236 *i* P **P** **01 17 39.9 0.0**
LBTB Lobatse 80.82 236 *i* P **P** **01 17 39.9 0.0**
SEW Seward 80.83 26 IAmb IAmb 01 17 51.5
comp=Z,100nm,1.1s
SEW Seward 80.83 26 P 01 17 38.7
baz=308,SNR=5.6
K27K Chicken 80.86 21 IAmb IAmb 01 17 57.6
comp=Z,33nm,0.9s
K27K IAMs_20 IAMs_20 01 57 58.4
comp=Z,544nm,21.0s
K27K Chicken 80.86 21 P 01 17 39.2
baz=314
HARP HAARP 80.94 23 P 01 17 39.2
baz=312
KDAK Kodiak Island 80.95 29 P **P** **01 17 39.1 -0.9**
KDAK pmax pmax
comp=Z,86nm,1.4s
KDAK MLR MLR
comp=Z,1μm,19.0s
KDAK Kodiak Island 80.95 29 P **P** **01 17 39.1 -0.9**
KDAK IAmb IAmb 01 17 52.2
comp=Z,86nm,1.4s
KDAK Kodiak Island 80.95 29 P 01 17 39.4
baz=306
OHAK Old Harbor 80.97 30 IAmb IAmb 01 17 53.6
comp=Z,51nm,0.8s
OHAK Old Harbor 80.97 30 P 01 17 39.4
baz=306
C36M Paulatuk 81.15 12 P 01 17 41.2
baz=329
GLI Glacier Island 81.24 25 IAmb IAmb 01 17 53.3
comp=Z,63nm,0.8s
GLI Glacier Island 81.24 25 P 01 17 41.1
baz=310
KLU Klutina 81.27 24 IAmb IAmb 01 17 55.3
comp=Z,83nm,1.0s
KLU IAMs_20 IAMs_20 01 56 28.2
comp=Z,529nm,19.0s
KLU Klutina 81.27 24 P 01 17 41.3
baz=311,SNR=9.1
FID Port Fidalgo 81.56 25 IAmb IAmb 01 17 57.8
comp=Z,59nm,0.9s
DY2G Dye2 81.59 344 *i* P P 01 17 52.8 +9.3
L27K Beaver Creek, 81.61 21 IAmb IAmb 01 17 57.3
comp=Z,40nm,1.1s
L27K IAMs_20 IAMs_20 01 57 08.1
comp=Z,364nm,19.0s
L27K Beaver Creek, 81.61 21 P 01 17 43.2
baz=314,SNR=21
BCAR Beaver Creek A 81.62 21 P **P** **01 17 42.6 -0.9**
N25K Chitina, Valde 81.67 23 P **P** **01 17 43.8 -0.1**
N25K IAmb IAmb 01 17 56.6
comp=Z,60nm,0.8s
N25K IAMs_20 IAMs_20 01 56 44.7
comp=Z,426nm,20.0s
N25K Chitina, Valde 81.67 23 P 01 17 44.1
baz=312,SNR=8.9
EYAK Cordova Ski Ar 81.96 24 IAmb IAmb 01 17 58.4
comp=Z,74nm,1.1s
EYAK Cordova Ski Ar 81.96 24 P 01 17 45.3
baz=311
GLB Gilahina Butte 82.06 23 IAMs_20 IAMs_20 01 58 42.0
comp=Z,343nm,18.0s
BMRM Bremner River 82.10 24 IAmb IAmb 01 17 59.6
comp=Z,75nm,1.0s
BMRM Bremner River 82.10 24 P 01 17 45.7
baz=312,SNR=5.5
SFJD Kangerlussuaq 82.20 346 P **P** **01 17 45.1 -1.3**
comp=Z,3.6nm,0.5s,baz=32,slow=4.9,SNR=1.8
SFJD Kangerlussuaq 82.20 346 *i* P P 01 17 53.4 +7.0
SFJD Kangerlussuaq 82.20 346 *i* P P 01 17 53.4 +7.0
MCARA McCarthy VSAT 82.38 23 IAMs_20 IAMs_20 01 56 07.3
comp=Z,353nm,22.0s
MCARA McCarthy VSAT 82.38 23 P 01 17 47.7
baz=314,SNR=6.2
CRQM Cirque 82.77 23 IAMs_20 IAMs_20 01 55 47.3
comp=Z,402nm,18.0s
CRQE Cirque 82.79 23 P 01 17 49.7
baz=314,SNR=5.7
TGL Tana Glacier 82.88 23 IAMs_20 IAMs_20 01 57 21.7
comp=Z,415nm,19.0s
TOA0 Torodi Ar. Sit 83.05 281 P **P** **01 17 50.6 -1.1**
TORD Torodi Ar. Bea 83.05 281 P **P** **01 17 50.6 -1.1**
comp=Z,1.0nm,0.6s,baz=68,slow=4.2,SNR=10
TORD LR LR 01 58 20.1
comp=Z,428nm,19.6s,baz=105,slow=38
TORD Torodi Ar. Bea 83.05 281 P **P** **01 17 51.1 -0.6**
TORD pP **pP** **01 17 59.5 -0.2**
BARN Barnard Glacie 83.08 23 IAmb IAmb 01 18 11.0
comp=Z,31nm,0.9s
BARN IAMs_20 IAMs_20 01 56 28.8
comp=Z,373nm,21.0s
BOSA Boshof 83.12 233 P **P** **01 17 50.7 -1.3**
comp=Z,4.3nm,0.9s,baz=75,slow=7.0,SNR=5.4
BOSA LR LR 01 51 16.2
comp=Z,283nm,20.5s,baz=61,slow=33
BOSA Boshof 83.12 233 P **P** **01 17 53.0 +1.1**
BOSA pmax pmax
comp=Z,17nm,0.8s
BOSA Boshof 83.12 233 P **P** **01 17 53.0 +1.1**
BOSA Boshof 83.12 233 *i* P **P** **01 17 48.9 -3.1**
BOSA Boshof 83.12 233 *i* P **P** **01 17 48.9 -3.1**
ISLE Juniper Island 83.16 23 IAMs_20 IAMs_20 02 00 01.1
comp=Z,325nm,21.0s
CTG Chitna Glacier 83.26 23 P 01 17 52.4
baz=315
CTGM Chitina Glacie 83.26 23 IAmb IAmb 01 18 10.9
comp=Z,30nm,0.8s
CTGM IAMs_20 IAMs_20 02 00 41.5
comp=Z,381nm,19.0s
GRNC Granite Creek 83.28 23 IAmb IAmb 01 18 10.8
comp=Z,26nm,0.8s
LOGN Logan Glacier 83.47 23 IAMs_20 IAMs_20 01 56 44.2
comp=Z,349nm,21.0s
MESA MESA 83.60 23 P 01 17 53.8
baz=314
TABL Table Mountain 83.70 23 IAMs_20 IAMs_20 01 55 03.2
comp=Z,383nm,21.0s
TSUM Tsumeb 83.95 245 pP pP 01 18 06.5 +2.1
TSUM Tsumeb 83.95 245 *i* P **P** **01 17 58.1 +1.7**
TSUM Tsumeb 83.95 245 *i* P **P** **01 17 58.1 +1.7**
PINM Pinnacle 84.25 23 P 01 17 57.1
baz=316
BCPM Bancas Point 84.57 23 IAMs_20 IAMs_20 01 57 17.3
comp=Z,375nm,20.0s
HYT Haines Junctio 84.65 21 IAmb IAmb 01 18 17.5
comp=Z,33nm,0.9s
HYT IAMs_20 IAMs_20 01 57 38.3
comp=Z,353nm,20.0s
NUUK Nuuk 84.81 344 *i* P P 01 18 07.7 +7.9
NUUK IAmb IAmb 01 18 11.4
comp=Z,42nm,1.0s
WHY Whitehorse 85.61 21 IAmb IAmb 01 18 15.8
comp=Z,17nm,0.7s
WHY IAMs_20 IAMs_20 02 00 46.8
comp=Z,380nm,18.0s
WHY Whitehorse 85.61 21 P 01 18 03.7
baz=320
KOWA Kowa 87.44 285 P **P** **01 18 14.8 +1.0**
KOWA IAmb IAmb 01 18 32.3
comp=Z,49nm,1.2s
JIS Juneau Island 87.62 22 P **P** **01 18 13.5 -0.2**
JIS IAmb IAmb 01 18 26.9
comp=Z,27nm,0.8s
JIS IAMs_20 IAMs_20 02 01 28.0
comp=Z,337nm,18.0s
SIT Sitka 88.25 23 P 01 18 16.9
baz=320
FRB Frobisher Bay 88.46 351 P **P** **01 18 16.9 -0.8**
comp=Z,2.9nm,0.6s,baz=23,slow=7.7,SNR=2.1
DLBC Dease Lake 88.89 20 IAmb IAmb 01 18 33.0
comp=Z,17nm,0.9s
YKA Yellowknife Ar 89.03 11 P **P** **01 18 18.5 -1.9**
comp=Z,1.3nm,0.8s,baz=330,slow=4.8,SNR=4.7
YKA PP **PP** **01 21 50.1 +0.6**
comp=Z,2.2nm,1.0s,baz=335,slow=7.5,SNR=2.6
YKA LR LR 02 04 56.7
comp=Z,235nm,18.1s,baz=0.0,slow=40
DBIC Dimbokro 91.68 278 P **P** **01 18 32.9 -0.8**
comp=Z,4.4nm,0.9s,baz=44,slow=6.3,SNR=4.2
DBIC LR LR 02 02 29.9
comp=Z,339nm,18.5s,baz=51,slow=37
DBIC Dimbokro 91.68 278 P **P** **01 18 32.4 -1.2**
KIC Kosan Boka 91.72 278 *e*PKP2 P 01 18 41.9 +8.0
comp=Z,26nm,0.7s
TIC Toumodi 91.84 278 *e*PKP2 P 01 18 42.4 +8.0
LIC Lamto 92.03 278 *e*PKP2 P 01 18 43.2 +7.9
comp=Z,65nm,1.1s
MAW Mawson 96.11 190 LR LR 01 58 54.0
comp=Z,176nm,19.4s,baz=34,slow=33
SCHQ Schefferville 96.59 347 PP **PP** **01 22 53.5 +4.6**
comp=Z,1.4nm,0.8s,baz=6.3,slow=9.2,SNR=1.7
SCHQ LR LR 02 07 53.1
comp=Z,334nm,18.9s,baz=25,slow=39
SCHQ Schefferville 96.59 347 P **P** **01 18 56.8 +1.3**
PGC Sidney 99.24 22 IAMs_20 IAMs_20 02 06 24.1
comp=Z,321nm,19.0s
B08A Colville Reser 100.81 20 IAMs_20 IAMs_20 02 07 41.5
comp=Z,368nm,20.0s
C09A Krisman Ranch 101.62 19 IAMs_20 IAMs_20 02 11 19.0
comp=Z,326nm,19.0s
MOD Modoc Plateau 106.21 23 IAMs_20 IAMs_20 02 10 44.6
comp=Z,361nm,20.0s
FLWY Flagg Ranch 107.10 16 IAMs_20 IAMs_20 02 10 51.7
comp=Z,337nm,21.0s
AHID Auburn Hatcher 108.23 16 IAMs_20 IAMs_20 02 09 44.9
comp=Z,302nm,21.0s
PAHR Pah Rah Range 108.47 24 IAMs_20 IAMs_20 02 10 19.4
comp=Z,310nm,21.0s
PDAR Pinedale Array 108.61 15 PKiKP **PKiKP** **01 23 55.5 +0.5**
comp=Z,0.2nm,0.7s,baz=38,slow=3.7,SNR=1.2
RUBR Rubicon Trail 108.77 25 IAMs_20 IAMs_20 02 11 22.3
comp=Z,364nm,21.0s
ELK Elko 108.94 20 IAMs_20 IAMs_20 02 13 19.6
comp=Z,311nm,18.0s
PNTR Pine Nut 108.94 24 IAMs_20 IAMs_20 02 11 41.8
comp=Z,325nm,19.0s
RYN Ryan 109.74 24 IAMs_20 IAMs_20 02 11 56.4
comp=Z,296nm,19.0s
ECSD EROS Data Cent 109.75 5 IAMs_20 IAMs_20 02 15 38.0
comp=Z,342nm,19.0s
NV11 Mina Array Sit 110.05 24 IAMs_20 IAMs_20 02 11 38.4
comp=Z,337nm,20.0s
LHV Little Huntoon 110.08 24 IAMs_20 IAMs_20 02 12 39.4
comp=Z,346nm,19.0s
DUG Dugway, Tooele 110.17 19 IAMs_20 IAMs_20 02 12 21.5
comp=Z,273nm,22.0s
RWWY Rawlins 110.17 14 IAMs_20 IAMs_20 02 13 43.5
comp=Z,347nm,21.0s
MDPB Devils Postpil 110.42 25 IAMs_20 IAMs_20 02 16 14.3
comp=Z,237nm,19.0s
PHWY Pilot Hill 110.90 13 IAMs_20 IAMs_20 02 10 17.4
comp=Z,211nm,18.0s
L48A N Adams 111.66 356 IAMs_20 IAMs_20 02 16 22.0
comp=Z,340nm,20.0s
PV18 Skein Mesa, Pa 113.05 16 IAMs_20 IAMs_20 02 09 02.4
comp=Z,234nm,21.0s
PV03 Paradox Valley 113.06 16 IAMs_20 IAMs_20 01 55 34.6
comp=Z,184nm,18.0s
PV13 Radium Mtn., P 113.15 16 IAMs_20 IAMs_20 02 13 01.2
comp=Z,352nm,22.0s
PV05 Paradox Valley 113.16 17 IAMs_20 IAMs_20 02 15 00.5
comp=Z,353nm,21.0s
SDMD Soldier's Deli 113.28 349 IAMs_20 IAMs_20 02 15 33.3
comp=Z,194nm,20.0s
SNAA Sanae 115.96 201 PKPdf **PKiKP** **01 24 09.5 +1.8**
RMX La Rumorosa 116.00 25 IAMs_20 IAMs_20 02 23 28.6
comp=Z,217nm,19.0s
SIUC Southern Illin 116.06 360 IAMs_20 IAMs_20 02 16 38.3
comp=Z,310nm,21.0s
CLTN Cedars of Leba 117.60 357 IAMs_20 IAMs_20 02 21 16.1
comp=Z,261nm,20.0s
VNA3 Neumayer Olymp 118.12 201 PKPdf **PKiKP** **01 24 13.7 +1.9**
154A Montrose 120.82 354 IAMs_20 IAMs_20 02 15 46.5
comp=Z,323nm,21.0s
TX31 Lajitas Ar. Si 122.81 15 **PKPdf** **01 24 21.0 -1.4**
TX32 Lajitas Array 122.81 15 **PKPdf** **01 24 21.1 -1.2**
TXAR Lajitas Array 122.81 15 PKP **PKPdf** **01 24 21.6 -0.7**
comp=Z,0.5nm,0.5s,baz=58,slow=1.4,SNR=16
TXAR Lajitas Array 122.81 15 PKPdf **PKPdf** **01 24 21.4 -0.9**
HPIG 124.62 17 PKPdf **PKPdf** **01 24 24.6 -1.4**
NBPA Parau_RN 125.89 283 *e*P **PKiKP** **01 24 33.1 +4.2**
NBAN Anadia - AL 126.94 278 *e*P **PKiKP** **01 24 32.6 +1.7**
NBPS Pedro II - PI 128.97 287 *e*P **PKiKP** **01 24 39.3 +4.2**
ZAIG Zacatecas 129.39 15 PKPdf **PKiKP** **01 24 36.6 +0.6**
ROSB Rosrio 130.46 290 *e*P **PKiKP** **01 24 42.1 +4.1**
MCPB Macapa, AP 135.43 300 *e*P **PKiKP** **01 24 51.0 +2.9**
VAS01 Vassouras-RJ 137.88 266 *e*P **PKiKP** **01 24 54.8 +2.0**
PEXB Peixe 138.61 282 *e*P **PKiKP** **01 24 57.1 +2.7**
ESAR Angra dos Reis 138.96 265 *e*P **PKiKP** **01 24 58.3 +3.4**
ITTB Itaituba 140.78 299 *e*P **PKiKP** **01 24 58.6 -0.4**
PTGA Pitinga 141.59 307 PKP **PKPdf** **01 24 58.9 +1.1**
comp=Z,1.4nm,0.6s,baz=360,slow=22,SNR=2.2
SPB Sao Paulo 141.77 265 *e*P **PKiKP** **01 25 03.5 +2.8**
MOTC Monteria, Cord 142.33 337 *e*P **PKiKP** **01 25 02.9 +0.8**
ZARC Zaragoza, Cauc 143.22 335 *e*P PKPab 01 24 57.1 +0.7
FRTB Fartura 143.61 266 *e*P **PKiKP** **01 25 05.9 +1.4**
RUSC La Rusia 143.96 331 *e*P **PKiKP** **01 25 09.5 +3.4**
HELC Santa Helena 144.67 335 *e*P **PKPdf** **01 25 05.4 +1.7**
PCMB Pacaembu 144.69 270 *e*P **PKiKP** **01 25 07.1 +0.3**
NORC Norcasia 144.99 334 *e*P **PKPab** **01 25 02.1 -1.0**
PTGC Puerto Gaitan, 145.03 328 *e*P **PKPab** **01 25 00.5 -2.7**
SOLC Bahia Solano 145.31 338 *e*P **PKiKP** **01 25 12.4 +4.1**
CHIC Chingaza 145.37 331 *e*P **PKPdf** **01 25 06.7 +1.7**
CROSA EL ROSAL, CUNDI 145.42 332 *e*P **PKiKP** **01 25 08.6 -0.4**
ROSC El Rosal 145.43 332 PKPbc **PKPbc** **01 25 05.0 +0.1**
comp=Z,20nm,0.6s,baz=69,slow=4.5,SNR=10
ROSC El Rosal 145.43 332 **PKPbc** **01 25 04.5 -0.4**
ROSC El Rosal 145.43 332 *e*P **PKiKP** **01 25 09.2 +0.1**
GUY2C Guyana, Caldas 145.50 334 *e*P **PKPbc** **01 25 04.6 -0.7**
TOLC Tolima 146.06 334 *e*P **PKiKP** **01 25 13.3 +3.1**
PLMC San Jos del P 146.14 336 *e*P **PKPdf** **01 25 06.2 +0.3**
ITAB Concordia 146.61 260 **PKPab** **01 25 09.1 +0.3**
ORTC Ortega, Tolima 146.65 333 *e*P **PKiKP** **01 25 13.6 +2.5**
PP1B Ponte de Pedra 146.65 278 *e*P **PKiKP** **01 25 10.8 -0.1**
PRAC Prado 146.68 332 *e*P **PKPdf** **01 25 06.2 -0.5**
GUVC San Jose del G 146.71 328 *e*P **PKiKP** **01 25 13.6 +2.4**
SALV Santo Antonio 146.71 282 *e*P **PKiKP** **01 25 11.0 0.0**
YOTC Yotoco, Valle 147.01 335 *e*P **PKPdf** **01 25 08.6 +1.1**
MACC Macarena, Meta 147.63 329 *e*P **PKiKP** **01 25 15.3 +2.2**
MARP Paez Belalcaza 147.90 334 *e*P **PKPab** **01 25 18.8 +4.3**
PLTB Pedras Altas 148.19 252 **PKPbc** **01 25 11.2 -0.8**
AQDB Aquidauana 148.34 274 **PKPbc** **01 25 12.2 -0.5**
POPC Popayan, Colom 148.46 335 *e*P **PKPdf** **01 25 06.2 -3.7**
FLOC Florencia 148.92 332 *e*P **PKPab** **01 25 20.2 +1.9**
BBAC Balboa, Cauca 149.16 335 *e*P **PKPab** **01 25 19.1 -0.4**
CRUC La Cruz 149.46 334 *e*P **PKPab** **01 25 23.8 +2.9**
PTLC Puerto Leguiza 149.81 329 *e*P **PKPab** **01 25 20.2 -1.7**
TULM Tulcn-Chalpat 150.56 335 *e*P **PKPdf** **01 25 08.6 -5.1**
ITQB Itaqui 150.76 256 **PKPbc** **01 25 17.4 -1.0**
CPUP Villa Florida 151.10 263 PKPbc **PKPbc** **01 25 17.7 -1.6**
comp=Z,1.9nm,0.5s,baz=97,slow=2.1,SNR=8.9
OTAV Otavalo 151.25 336 PKiKP **PKPbc** **01 25 20.1 -0.5**
OTAV Otavalo 151.25 336 **PKPbc** **01 25 20.1 -0.5**
OTAV Otavalo 151.25 336 *e*P **PKiKP** **01 25 22.7 +1.6**
PAC1 Pacto, Paraso 151.34 337 *e*P **PKPbc** **01 25 18.6 -1.8**
SIV San Ignacio 151.43 286 PKPbc **PKPbc** **01 25 19.0 -1.4**
comp=Z,2.0nm,0.7s,baz=76,slow=2.8,SNR=11
CZSB Cruzeiro do Su 155.29 316 *e*P **PKPdf** **01 25 23.2 +3.4**
LPAZ La Paz 157.54 293 PKPbc PKPbc 01 25 33.8
comp=Z,1.9nm,0.8s,baz=295,slow=4.2,SNR=9.0
LPAZ La Paz 157.54 293 PKIKP **PKPdf** **01 25 25.2 +1.7**
LPAZ La Paz 157.54 293 PKPdf **PKPdf** **01 25 25.2 +1.7**
LPAZ La Paz 157.54 293 *e*P PKPbc 01 25 33.9
LPAZ La Paz 157.54 293 *e*P **PKPdf** **01 25 25.5 +2.1**
ATAH Atahualpa 157.90 329 PKPab **PKPab** **01 25 57.5 +1.0**
comp=Z,5.3nm,0.8s,baz=57,slow=6.7,SNR=2.6
LVC Limon Verde 160.73 277 *e*P **PKPdf** **01 25 29.7 +3.0**
NNA Nana 161.14 318 PKPab **PKPab** **01 26 11.4 +1.2**
comp=Z,14nm,0.9s,baz=213,slow=11,SNR=2.2

PRU 28 01:13:55.0±0.0, 49°83N×18°54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*PG		Pg	01 14 00.2	+0.3
OKC				*e*SG		Sg	01 14 03.7	+0.5
	comp=Z,9.5nm,0.5s							
MORC	**Moravsky Berou**	**0.65**	**266**	*e*PG		Pg	01 14 08.2	+0.8
MORC				*e*SG		Sg	01 14 16.0	+0.2
KRLC	**Kraliky**	**1.16**	**283**	*e*PG		Pg	01 14 16.0	-1.3
KRLC				*e*SG		Sg	01 14 32.4	+0.1
	comp=Z,0.7nm,0.3s							
VRAC	**Vranov**	**1.37**	**248**	*e*PG		Pg	01 14 21.0	-0.2
VRAC				*e*SG		Sg	01 14 38.7	-0.3
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG		Pn	01 14 23.0	-0.5
DPC				*e*SG		Sg	01 14 42.8	-1.0
	comp=Z,2.9nm,1.4s							
KRUC	**Moravsky**	**1.60**	**242**	*e*PG		Pn	01 14 24.6	+0.1
KRUC				*e*SG		Sn	01 14 45.3	-0.5
OSTC	**Ostas**	**1.66**	**297**	*e*PG		Pn	01 14 25.9	+0.5
OSTC				*e*SG		Sb	01 14 47.9	-0.1
CHVC	**Chvalec**	**1.77**	**296**	*e*PG		Pb	01 14 28.0	-0.3
CHVC				*e*SG		Sb	01 14 51.1	+0.1

*NEIC **28** 01:16:42.7±1.3, 29°9S±0°1×179°1W±0°2, h325km±7km, mb4.0/8, Error ellipse: s-maj=32.6km s-min=11.2km az=116.0*
*IDC **28** 01:16:42.2±1.2, 29°94S×179°09W, h327km±11km, mb3.5/4, mb1 3.6/7, mb1mx3.4/26, mbtmp4.3/7, Error ellipse: s-maj=26.8km s-min=18.5km az=145.0*

ISC 28 01:16:42.1±0.6, 30°03S±0°08×178°9W±0°1, h350km, n44, σ2s17/44, mb3.9/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.13**	**47**	P		**Pn**	**01 17 26.5**	**-1.9**
	401nm,0.3s,baz=100,slow=5.9,SNR=23							
RAO				S		**S**	**01 17 58.5**	**-7.0**
	256nm,0.3s,baz=102,slow=23,SNR=8.5							
MXZ	**Matakaoa Point**	**7.88**	**197**	Pn		**Pn**	**01 18 36.8**	**+2.1**
MXZ	**Matakaoa Point**	**7.88**	**197**	P		**Pn**	**01 18 35.6**	**+1.0**
WMGZ	**Waiomatatini S**	**8.10**	**196**	P		**P**	**01 18 40.1**	**-0.1**
HAZ	**Te Kaha**	**8.20**	**199**	P		**Pn**	**01 18 38.4**	**0.0**
PKGZ	**Pakihiroa**	**8.24**	**197**	P		**P**	**01 18 39.5**	**-2.5**
PUZ	**Puketiti**	**8.37**	**196**	P		**P**	**01 18 43.0**	**-0.3**
RUGZ	**Raukumara Rang**	**8.42**	**199**	P		**P**	**01 18 42.0**	**-2.0**
WHRZ	**Whale Island**	**8.54**	**203**	P		**P**	**01 18 45.6**	**+0.5**
TWGZ	**Tauwhareparae**	**8.54**	**197**	P		**P**	**01 18 46.0**	**+0.8**
CNGZ	**Carnagh Statio**	**8.78**	**195**	P		**P**	**01 18 48.6**	**+0.8**
TKGZ	**Te Karaka**	**8.82**	**197**	P		**P**	**01 18 47.7**	**-0.6**
URZ	**Urewera**	**8.86**	**201**	P		**P**	**01 18 46.3**	**-2.5**
	4.5nm,0.3s,baz=300,slow=23,SNR=28							
URZ				S		**S**	**01 20 23.5**	**-4.4**
	7.9nm,0.3s,baz=121,slow=24,SNR=123							
URZ	**Urewera**	**8.86**	**201**			**P**	**01 18 46.7**	**-2.1**
URZ	**Urewera**	**8.86**	**201**	P		**P**	**01 18 47.7**	**-1.0**
BKZ	**Black Stump Fm**	**9.89**	**202**	Pn		**P**	**01 18 59.2**	**-1.0**
MSVF	**Nonsavu**	**12.56**	**346**	P		**Pn**	**01 19 29.1**	**-1.5**
	2.0nm,0.3s,baz=157,slow=8.4,SNR=9.8							
DZM	**Mont Dzumac**	**15.39**	**298**	P		**Pn**	**01 20 01.7**	**-1.9**
	0.4nm,0.3s,baz=112,slow=23,SNR=1.3							
STKA	**Stephens Creek**	**33.84**	**257**	P		**P**	**01 22 53.7**	**+0.9**
	1.4nm,0.6s,baz=85,slow=11,SNR=2.0							
ASAR	**Alice Springs**	**42.38**	**267**	P		**P**	**01 24 04.0**	**+0.5**
	1.0nm,0.5s,baz=103,slow=7.2,SNR=16							
ASAR				PcP		**sP**	**01 25 51.1**	**+0.2**
	0.4nm,0.5s,baz=124,slow=3.9,SNR=5.8							
WR0	**Warramunga Arr**	**43.16**	**272**	P		**P**	**01 24 09.6**	**-0.1**
WB2	**Warramunga Ar**	**43.33**	**272**	P		**P**	**01 24 11.2**	**+0.2**
WB2				IAmb		IAmb	01 24 12.3	
	comp=Z,5.1nm,0.6s							
WRA	**Warramunga Ar**	**43.34**	**272**	P		**P**	**01 24 11.0**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=111,slow=7.5,SNR=36							
WRA	**Warramunga Ar**	**43.34**	**272**	IAmb		IAmb	01 24 12.4	
	comp=Z,0.3nm,0.7s							
WB0	**Warramunga Ar**	**43.36**	**272**	P		**P**	**01 24 11.7**	**+0.4**
WB0				IAmb		IAmb	01 24 12.8	
	comp=Z,7.2nm,1.0s							
KNRA	**Kununurra**	**49.93**	**274**	P		P	01 25 03.5	+1.7
RPSI	**Rantau Prapat**	**84.60**	**276**	P		**P**	**01 28 38.2**	**+0.9**
PETK	**Petropavlovsk-**	**85.27**	**346**	P		**P**	**01 28 41.6**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=130,slow=6.2,SNR=3.8							
NV11	**Mina Array Sit**	**88.56**	**43**	P		**P**	**01 28 56.8**	**+0.8**
NV11				IAmb		IAmb	01 29 00.3	
	comp=Z,3.0nm,1.4s							
BOZ	**Bozeman (W)**	**96.83**	**41**	P		**P**	**01 29 36.5**	**+2.8**
BOZ				IAmb		IAmb	01 29 54.3	
	comp=Z,1.2nm,0.8s							
MKAR	**Makanchi Array**	**116.96**	**310**	PKiKP		**PKiKP**	**01 34 46.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=81,slow=2.6,SNR=1.7							
ARCES	**ARCESS Array B**	**138.06**	**347**	PKiKP		PKPpre	01 35 18.6	
	comp=Z,1.0nm,0.8s,baz=48,slow=1.3,SNR=6.0							
FIA1	**FINESS Array S**	**144.54**	**340**	PKPbc		**PKiKP**	**01 35 37.6**	**-2.6**
FINES	**FINESS Array B**	**144.54**	**340**	PKP		**PKiKP**	**01 35 37.6**	**-2.6**
	comp=Z,5.4nm,0.3s,baz=52,slow=4.2,SNR=113							
SIRT	**Sirnak**	**145.08**	**294**	PKPbc		**PKiKP**	**01 35 41.3**	**-1.0**
NC303	**NORSAR Array S**	**148.07**	**351**			**PKPab**	**01 35 48.0**	**-2.1**
NOA	**NORSAR Array B**	**148.27**	**351**	PKPbc		**PKPab**	**01 35 49.0**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=17,slow=4.2,SNR=13							
HFS	**Hagfors**	**148.73**	**348**	PKPbc		**PKPab**	**01 35 49.7**	**-3.1**
	comp=Z,2.5nm,0.6s,baz=72,slow=4.8,SNR=8.8							
AKASG	**Malin Array Be**	**150.55**	**322**	PKPbc		**PKiKP**	**01 35 54.2**	**+1.2**
	comp=Z,1.9nm,0.5s,baz=49,slow=3.1,SNR=7.8							
AKASG	**Malin Array Be**	**150.55**	**322**			**PKiKP**	**01 35 54.6**	**+1.6**
CLL	**Collm**	**156.97**	**341**	*e*PKPab		**PKPab**	**01 36 31.0**	**+3.1**
GERES	**GERESS Array B**	**158.90**	**336**	PKPab		**PKPab**	**01 36 38.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=78,slow=5.2,SNR=2.3							
GERES	**GERESS Array B**	**158.90**	**336**	PKPdf		**PKPdf**	**01 36 01.0**	**+2.7**
TORD	**Torodi Ar. Bea**	**163.20**	**182**	PKPab		**PKPab**	**01 36 59.4**	**+3.5**
	comp=Z,0.5nm,1.0s,baz=174,slow=2.1,SNR=2.1							

*AZER **28** 01:26:41.1±0.1, 40°56N×51°70E, h57km±21km, ml3.3/26, Error ellipse: s-maj=3.2km s-min=1.4km az=265.0*

ISC 28 01:26:40.4±3.4, 40°56N±0°07×51°7E±0°2, h10km, n28, σ19s54/50, 2C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NDR	**Nardaran**	**1.31**	**272**	P		**Pg**	**01 27 08.4**	**+2.8**
GBS	**Qobustan**	**2.10**	**270**	Pn		**Pn**	**01 27 15.9**	**+0.1**
GBS				Sn		**Sb**	**01 27 44.2**	**-0.8**
ATGJ	**Altiaghaj**	**2.12**	**279**	Pn		**Pn**	**01 27 16.8**	**+0.7**
ATGJ				Sn		**Sn**	**01 27 44.2**	**+1.6**
SIZA	**Siyzn**	**2.19**	**285**	Pn		**Pn**	**01 27 17.9**	**+0.9**
	SNR=4.2							
SIZA				Sn		**Sn**	**01 27 45.9**	**+1.7**
PQL	**Pirkuli**	**2.38**	**277**	Pn		**Pn**	**01 27 20.1**	**+0.5**
	SNR=2.9							
PQL				Sn		**Sn**	**01 27 50.4**	**+1.5**
QUBA	**Quba, Azerbaij**	**2.56**	**289**	Pn		**Pn**	**01 27 21.6**	**-0.4**
QUBA				Sn		**Sn**	**01 27 52.6**	**-0.7**
IML	**Ismayilli**	**2.69**	**276**	Pn		**Pn**	**01 27 24.0**	**+0.2**

ASTR				Sn		**Sn**	**01 28 03.1**	**-1.2**
ZRD	**Zardab**	**3.08**	**266**	Pn		**Pn**	**01 27 29.0**	**-0.2**
ZRD				Sn		**Sn**	**01 28 07.0**	**+1.0**
YRD	**Yardimli**	**3.13**	**240**	Pn		**Pn**	**01 27 29.3**	**-0.7**
	SNR=57							
YRD				Sn		**Sn**	**01 28 05.7**	**-1.9**
LRK	**Lerik**	**3.23**	**235**	Pn		**Pn**	**01 27 30.6**	**-0.7**
	SNR=34							
LRK				Sn		**Sn**	**01 28 08.3**	**-1.6**
BRDA	**Brd**	**3.47**	**267**	Sn		**Sn**	**01 28 17.1**	**+1.5**
SEKA	**Sheki**	**3.48**	**282**	Pn		**Pn**	**01 27 33.9**	**-0.8**
	SNR=6.4							
SEKA				Sn		**Sn**	**01 28 14.9**	**-1.0**
QRD	**Qoradiz**	**3.54**	**253**	Pn		**Pn**	**01 27 35.0**	**-0.5**
QRD				Sn		**Sn**	**01 28 16.4**	**-1.0**
AGDM	**Agdam**	**3.54**	**264**	Pn		**Pn**	**01 27 34.8**	**-0.8**
AGDM				Sn		**Sn**	**01 28 16.7**	**-0.8**
ZKTA	**Zakatala**	**3.99**	**287**	Pn		**Pn**	**01 27 41.1**	**-0.5**
	SNR=3.5							
ZKTA				Sn		**Sn**	**01 28 25.6**	**-2.9**
GANJ	**Ganja**	**4.10**	**273**	Pn		**Pn**	**01 27 40.7**	**-2.5**
GANJ				Sn		**Sn**	**01 28 26.5**	**-4.7**
GDB	**GEDABAY**	**4.53**	**274**	Pn		**Pn**	**01 27 47.9**	**-1.3**
	SNR=7.7							
GDB				Sn		**Sn**	**01 28 38.4**	**-3.6**
ORD	**Ordubad**	**4.69**	**252**	Pn		**Pn**	**01 27 51.7**	**+0.3**
	SNR=3.7							
ORD				Sn		**Sn**	**01 28 44.6**	**-1.3**
QZX	**Qazax, Azerbai**	**4.83**	**278**	Pn		**Pn**	**01 27 51.5**	**-1.8**
	SNR=9.9							
QZX				Sn		**Sn**	**01 28 45.7**	**-3.6**
SBZ	**Shahbuz**	**4.87**	**258**	Pn		**Pn**	**01 27 53.3**	**-0.5**
	SNR=3.1							
SBZ				Sn		**Sn**	**01 28 50.1**	**-0.1**
NAX	**Nakhchivan**	**4.97**	**256**	Pn		**Pn**	**01 27 54.5**	**-0.8**
	SNR=5.6							
NAX				Sn		**Sn**	**01 28 53.4**	**+0.5**
AB31	**Akbulak array**	**10.47**	**31**	Pn		Pn	01 29 00.9	-10
	0.1nm,0.2s,baz=212,slow=13,SNR=19							
AB31				⇓Sn		Sn	01 30 49.5	-18
	0.6nm,0.4s,baz=218,slow=23,SNR=4.9							
AKTO	**Aktyubinsk**	**10.82**	**22**	⇑Pn		Pn	01 29 05.6	-10
	1.1nm,0.5s							
AKTO				⇑Sn		Sn	01 30 58.7	-18
	2.3nm,0.6s							

TUL ***28*** *01:35:19.7±1.3,36˚.68N±0˚.02×98˚.16W±0˚.03,h5km±7km, ML3.6,mb_Lg3.6/145(NEIC),Mwr3.4/27(NEIC),Error ellipse: s-maj=3.4km s-min=1.9km az=52.0*

ANF ***28*** *01:35:20.4±0.9,36˚.67N×98˚.13W,h6km±6km,ML4.4/18, Error ellipse: s-maj=3.1km s-min=2.3km az=81.0*

NEIC ***28*** *01:35:20,36˚.66N×98˚.14W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.15; $M_{\theta\theta}$1.29; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.06; $M_{r\phi}$0.50; $M_{\theta\phi}$0.54; Fault plane solution: $M_0$1.43000×10^{14} NP1:ϕ_s216.01000°, δ75.56000°,λ-162.55000°. NP2:ϕ_s121.53000°, δ73.12000°,λ-15.11000°. Principal axes: T 1.3894, Plg2.0000°, Azm348.0000°; N 0.0750, Plg67.0000°, Azm254.0000°; P -1.4644, Plg22.0000°, Azm79.0000°;*

NEIC ***28*** *01:35:20.0±1.1,36˚.66N±0˚.01×98˚.15W±0˚.04,h5km±8km Error ellipse: s-maj=4.8km s-min=2.1km az=88.0*

IDC ***28*** *01:35:21.1±1.5,36˚.88N×98˚.70W,h0km,mb3.4/1, mb1 3.7/4,mb1mx3.4/47,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=33.6km s-min=10.3km az=107.0*

ISC 28 01:35:20.0±1.0,36˚.66N±0˚.02×98˚.16W±0˚.04,h9km±7km, n161,σ0ᵗ79/154,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.15**	**344**			**Pg**	**01 35 23.2**	**-0.2**
CROK	**Carrier**	**0.21**	**137**			**Pg**	**01 35 24.6**	**+0.3**
CROK					Sg	**Sg**	**01 35 27.9**	**+0.7**
KAN10	**Anthony SW Sta**	**0.47**	**6**			**Pg**	**01 35 28.9**	**-0.2**
KAN10					Sg	**Sg**	**01 35 35.3**	**0.0**
KAN17	**Caldwell West**	**0.50**	**39**			**Pg**	**01 35 29.5**	**-0.2**
KAN17					Sg	**Sg**	**01 35 36.2**	**0.0**
KAN08	**Anthony NE Sta**	**0.59**	**15**			**Pg**	**01 35 31.1**	**-0.3**
KAN08					Sg	**Sg**	**01 35 39.0**	**-0.2**
KAN09	**Caldwell North**	**0.65**	**42**			**Pg**	**01 35 32.2**	**-0.3**
KAN12	**Harper NE Stat**	**0.65**	**11**			**Pg**	**01 35 32.3**	**-0.3**
KAN12					Sg	**Sg**	**01 35 40.8**	**-0.3**
KAN13	**South Haven SW**	**0.65**	**57**			**Pg**	**01 35 31.2**	**-1.4**
KS20	**Mayfield South**	**0.75**	**40**			**Pg**	**01 35 34.0**	**-0.5**
BLOK	**Blackwell**	**0.77**	**82**			**Pg**	**01 35 34.4**	**-0.4**
OK029	**Liberty Lake**	**1.03**	**146**	Pg		**Pg**	**01 35 39.4**	**-0.4**
OK029					Sg	**Sg**	**01 35 53.5**	**+0.3**
BCOK	**Bluff Creek, N**	**1.09**	**156**			**Pg**	**01 35 40.4**	**-0.6**
BCOK				IAmb_Lg			01 35 55.0	
	comp=Z,715nm,0.9s							
BCOK					Sg	**Sg**	**01 35 55.5**	**+0.3**
OK025	**Westminster Rd**	**1.26**	**148**	Pn		**Pg**	**01 35 43.6**	**-0.7**
QUOK	**Quay**	**1.27**	**112**			**Pg**	**01 35 43.7**	**-0.7**
OK031	**S. Brethren Rd**	**1.28**	**123**			**Pg**	**01 35 43.6**	**-0.9**
OK030	**Cody Creek RV**	**1.33**	**123**			**Pn**	**01 35 44.5**	**-0.2**
T35A	**Sooner Cattle**	**1.35**	**78**	Pn		**Pn**	**01 35 44.8**	**-0.2**
T35B	**Sooner Cattle**	**1.35**	**78**	P		**Pn**	**01 35 44.8**	**-0.2**
	baz=260							
T35B				S		**Sg**	**01 36 02.8**	**-0.6**
	baz=260							
T35B	**Sooner Cattle**	**1.35**	**78**	P			01 35 44.8	
	baz=260							
T35B				S			01 36 02.8	
	baz=260							
OKCFA	**Oklahoma City**	**1.37**	**155**			**Pn**	**01 35 45.0**	**-0.2**
OKCFA	**Oklahoma City**	**1.37**	**155**	P		**Pn**	**01 35 45.2**	**0.0**
	baz=336,SNR=12							
OKCFA				S		**Sb**	**01 36 04.1**	**+0.8**
	baz=336							
OKCFA	**Oklahoma City**	**1.37**	**155**	P			01 35 45.2	
	baz=336,SNR=12							
OKCFA				S			01 36 04.1	
	baz=336							
OKCSW	**OKLAHOMA CITY**	**1.38**	**155**			**Pn**	**01 35 45.2**	**-0.2**
FNO	**Franklin**	**1.53**	**156**			**Pn**	**01 35 47.4**	**-0.1**
FNO				IAmb_Lg			01 36 10.9	
	comp=Z,451nm,0.7s							
R32A	**Long Quarter,**	**1.82**	**346**			**Pn**	**01 35 52.5**	**+1.0**
R32A				IAmb_Lg			01 36 17.4	
	comp=Z,211nm,0.8s							
R32A	**Long Quarter,**	**1.82**	**346**	P		**Pn**	**01 35 52.6**	**+1.2**
	baz=166,SNR=142							
R32A				S		**Sb**	**01 36 16.8**	**+0.5**
	baz=166							
R32A	**Long Quarter,**	**1.82**	**346**	P			01 35 52.6	
	baz=166,SNR=142							
R32A				S			01 36 16.8	
	baz=166							
WMOK	**Wichita Mounta**	**1.98**	**195**			**Pn**	**01 35 54.8**	**+1.0**
WMOK				IAmb_Lg			01 36 22.1	
	comp=Z,170nm,1.0s							
WMOK	**Wichita Mounta**	**1.98**	**195**	P		**Pn**	**01 35 54.7**	**+1.0**
	baz=14,SNR=210							
WMOK				S		**Sb**	**01 36 21.8**	**+0.8**
	baz=14							
WMOK	**Wichita Mounta**	**1.98**	**195**	P			01 35 54.7	
	baz=14,SNR=210							
WMOK				S			01 36 21.8	
	baz=14							
TUL1	**Leonard**	**2.05**	**111**	P		**Pn**	**01 35 55.9**	**+1.2**
	baz=293,SNR=63							
TUL1				S		**Sb**	**01 36 24.2**	**+1.1**
	baz=293							
TUL1	**Leonard**	**2.05**	**111**	P			01 35 55.9	
	baz=293,SNR=63							
TUL1				S			01 36 24.2	
	baz=293							
X34A	**Smith Ranch, M**	**2.07**	**173**			**Pn**	**01 35 56.8**	**+1.8**
X34A				IAmb_Lg			01 36 29.1	
	comp=Z,345nm,0.8s							
CBKS	**Cedar Bluff**	**2.49**	**330**	Pn		**Pn**	**01 36 02.1**	**+1.3**
CBKS				IAmb_Lg			01 36 39.6	
	comp=Z,144nm,0.9s							
CBKS	**Cedar Bluff**	**2.49**	**330**	P		**Pn**	**01 36 02.0**	**+1.3**
	baz=149							
CBKS				S		**Sn**	**01 36 33.4**	**+2.1**
	baz=149							
CBKS	**Cedar Bluff**	**2.49**	**330**	P			01 36 02.0	
	baz=149							
CBKS				S			01 36 33.4	
	baz=149							
LOOK	**Love County**	**2.78**	**163**	Pn		**Pn**	**01 36 06.2**	**+1.6**
LOOK				IAmb_Lg			01 36 51.6	
	comp=Z,126nm,0.8s							
U38A	**Gravette**	**3.05**	**93**			**Pn**	**01 36 09.2**	**+0.9**
X37A	**Clayton**	**3.07**	**131**			**Pn**	**01 36 09.2**	**+0.6**
X37A				IAmb_Lg			01 37 03.6	
	comp=Z,268nm,0.9s							
X37A	**Clayton**	**3.07**	**131**	P		**Pn**	**01 36 09.7**	**+1.0**
	baz=313,SNR=21							
X37A	**Clayton**	**3.07**	**131**	P			01 36 09.7	
	baz=313,SNR=21							
AMTX	**Amarillo**	**3.37**	**239**	Pn		**Pn**	**01 36 13.8**	**+1.0**
AMTX				IAmb_Lg			01 37 14.4	
	comp=Z,182nm,0.9s							
AMTX	**Amarillo**	**3.37**	**239**	P		**Pn**	**01 36 14.3**	**+1.5**
	baz=57							
AMTX	**Amarillo**	**3.37**	**239**	P			01 36 14.3	
	baz=57							
Z35A	**Perchaven, San**	**3.40**	**167**			**Pn**	**01 36 13.6**	**+0.3**
Z35A				IAmb_Lg			01 37 10.2	
	comp=Z,93nm,1.1s							
Z35A	**Perchaven, San**	**3.40**	**167**	P		**Pn**	**01 36 14.2**	**+1.0**
	baz=348,SNR=16							
Z35A				S		**Sn**	**01 36 54.9**	**+1.2**
	baz=348							
Z35A	**Perchaven, San**	**3.40**	**167**	P			01 36 14.2	
	baz=348,SNR=16							
Z35A				S			01 36 54.9	
	baz=348							
HHAR	**Hobbs**	**3.42**	**95**			**Pn**	**01 36 13.8**	**+0.3**
HHAR				IAmb_Lg			01 37 10.9	
	comp=Z,162nm,1.0s							
W39A	**Magazine**	**3.84**	**111**			**Pn**	**01 36 20.1**	**+0.9**
W39A				IAmb_Lg			01 37 31.5	
	comp=Z,135nm,0.8s							
W39A	**Magazine**	**3.84**	**111**	P		**Pn**	**01 36 20.3**	**+1.1**
	baz=294,SNR=14							
W39A				S		**Sn**	**01 37 05.4**	**+0.9**
	baz=294							
W39A	**Magazine**	**3.84**	**111**	P			01 36 20.3	
	baz=294,SNR=14							
W39A				S			01 37 05.4	
	baz=294							
S39A	**Bolivar**	**4.00**	**74**	Pn		**Pn**	**01 36 22.2**	**+0.8**
S39A				IAmb_Lg			01 37 29.2	
	comp=Z,203nm,1.1s							
S39A	**Bolivar**	**4.00**	**74**	P		**Pn**	**01 36 21.9**	**+0.5**
	baz=257,SNR=36							
S39A	**Bolivar**	**4.00**	**74**	P			01 36 21.9	
	baz=257,SNR=36							
ABTX	**Abilene, Hawle**	**4.21**	**197**	Pn		**Pn**	**01 36 25.0**	**+0.7**
ABTX				IAmb_Lg			01 37 32.3	
	comp=Z,131nm,1.0s							
KSCO	**Kaye Shedlock˚**	**4.25**	**305**	Pn		**Pn**	**01 36 25.1**	**+0.1**
KSCO				IAmb_Lg			01 37 42.2	
	comp=Z,181nm,1.1s							
Z38A	**Mt. Pleasant**	**4.28**	**142**	Pn		**Pn**	**01 36 25.0**	**-0.2**
U40A	**Yellville**	**4.29**	**92**	Pn		**Pn**	**01 36 25.7**	**+0.3**
U40A				IAmb_Lg			01 37 36.5	
	comp=Z,158nm,0.7s							
U40A	**Yellville**	**4.29**	**92**	P		**Pn**	**01 36 26.6**	**+1.2**
	baz=276,SNR=20							
U40A	**Yellville**	**4.29**	**92**	P			01 36 26.6	
	baz=276,SNR=20							
U40A				P			01 36 26.6	
	baz=276,SNR=20							
MIAR	**Mount Ida**	**4.29**	**118**	Pn		**Pn**	**01 36 26.1**	**+0.7**
MIAR				IAmb_Lg			01 37 41.0	
	comp=Z,87nm,0.9s							
MSTX	**Muleshoe**	**4.63**	**236**	Pn		**Pn**	**01 36 30.6**	**+0.4**
MSTX	**Muleshoe**	**4.63**	**236**	P		**Pn**	**01 36 31.5**	**+1.3**
	baz=53							
MSTX	**Muleshoe**	**4.63**	**236**	P			01 36 31.5	
	baz=53							
N35A	**Tabor**	**4.63**	**24**	Pn		**Pn**	**01 36 30.5**	**+0.3**
N35A	**Tabor**	**4.63**	**24**	S		**Sn**	**01 37 25.4**	**+1.3**
	baz=206							
N35A	**Tabor**	**4.63**	**24**	S			01 37 25.4	
	baz=206							
WHTX	**Lake Whitney,**	**4.69**	**173**	Pn		**Pn**	**01 36 31.3**	**+0.4**
WHTX	**Lake Whitney,**	**4.69**	**173**	P		**Pn**	**01 36 32.1**	**+1.1**
	baz=353,SNR=14							
WHTX	**Lake Whitney,**	**4.69**	**173**	P			01 36 32.1	
	baz=353,SNR=14							
P38A	**Dawn**	**4.70**	**50**	Pn		**Pn**	**01 36 31.9**	**+0.9**
P38A				IAmb_Lg			01 37 50.2	
	comp=Z,126nm,0.7s							
P38A	**Dawn**	**4.70**	**50**	P		**Pn**	**01 36 32.2**	**+1.2**
	baz=232,SNR=13							
P38A	**Dawn**	**4.70**	**50**	P			01 36 32.2	
	baz=232,SNR=13							
BGNE	**Belgrade**	**4.74**	**0**	Pn		**Pn**	**01 36 31.8**	**+0.1**
BGNE	**Belgrade**	**4.74**	**0**	P		**Pn**	**01 36 32.3**	**+0.6**
	baz=180							
BGNE				S		**Sn**	**01 37 28.1**	**+1.3**
	baz=180							
BGNE	**Belgrade**	**4.74**	**0**	P			01 36 32.3	
	baz=180							
BGNE				S			01 37 28.1	
	baz=180							
MGMO	**Mountain Grove**	**4.75**	**82**			**Pn**	**01 36 32.0**	**+0.3**
MGMO				IAmb_Lg			01 37 55.8	
	comp=Z,72nm,1.0s							
X40A	**Basin Creek Fa**	**4.85**	**115**			**Pn**	**01 36 34.0**	**+0.8**
X40A				IAmb_Lg			01 37 59.6	
	comp=Z,113nm,1.0s							
FCAR	**Ozark Folk Cen**	**4.94**	**97**	Pn		**Pn**	**01 36 34.6**	**+0.3**
FCAR				IAmb_Lg			01 38 06.0	
	comp=Z,79nm,0.8s							
WHAR	**Wooly Hollow**	**4.95**	**104**	Pn		**Pn**	**01 36 34.6**	**0.0**
WHAR				IAmb_Lg			01 38 08.0	
	comp=Z,144nm,0.8s							
R40A	**Maddies Statio**	**4.96**	**69**			**Pn**	**01 36 34.9**	**+0.3**
R40A				IAmb_Lg			01 38 02.7	
	comp=Z,127nm,0.9s							
W41B	**Gary Mavity, V**	**5.02**	**105**	P		**Pn**	**01 36 35.4**	**-0.1**
	baz=289							
W41B	**Gary Mavity, V**	**5.02**	**105**	P			01 36 35.4	
	baz=289							
T25A	**Trinidad**	**5.03**	**277**	Pn		**Pn**	**01 36 36.2**	**+0.3**
237A	**Washetta, Mont**	**5.04**	**157**			**Pn**	**01 36 35.8**	**+0.1**
237A	**Washetta, Mont**	**5.04**	**157**	P		**Pn**	**01 36 35.9**	**+0.2**
	baz=338							
237A	**Washetta, Mont**	**5.04**	**157**	P			01 36 35.9	
	baz=338							
WLAR	**White Oak Lake**	**5.09**	**124**	Pn		**Pn**	**01 36 37.0**	**+0.6**
WLAR				IAmb_Lg			01 38 04.8	
	comp=Z,107nm,0.8s							
OGNE	**Ogallala**	**5.24**	**326**	Pn		**Pn**	**01 36 39.3**	**+0.7**
OGNE				IAmb_Lg			01 38 11.6	
	comp=Z,140nm,0.7s							
L34A	**Svendsen Farm,**	**5.48**	**14**	Pn		**Pn**	**01 36 42.2**	**+0.4**
P40A	**Paris**	**5.61**	**57**	Pn		**Pn**	**01 36 43.9**	**+0.3**
P40A	**Paris**	**5.61**	**57**	P		**Pn**	**01 36 44.3**	**+0.7**
	baz=241,SNR=11							
P40A	**Paris**	**5.61**	**57**	P			01 36 44.3	
	baz=241,SNR=11							
N38A	**Joes South For**	**5.64**	**41**			**Pn**	**01 36 44.4**	**+0.4**
NATX	**Nacogdoches**	**5.68**	**148**	IAmb_Lg			01 38 30.3	
	comp=Z,53nm,1.1s							
T42A	**Van Buren**	**5.68**	**84**			**Pn**	**01 36 44.3**	**-0.2**
T42A				IAmb_Lg			01 38 27.6	
	comp=Z,60nm,0.8s							
CCM	**Cathedral Cave**	**5.68**	**74**			**Pn**	**01 36 44.9**	**+0.3**
CCM				IAmb_Lg			01 38 25.6	
	comp=Z,75nm,0.9s							
LCAR	**Lake Charles**	**5.68**	**94**	Pn		**Pn**	**01 36 45.1**	**+0.6**
LCAR				IAmb_Lg			01 38 19.4	
	comp=Z,85nm,0.8s							
435B	**Jarrell**	**5.88**	**175**			**Pn**	**01 36 47.7**	**+0.4**
435B				IAmb_Lg			01 38 40.5	
	comp=Z,102nm,0.8s							
CCAR	**Cane Creek**	**5.90**	**116**	IAmb_Lg			01 38 39.2	
	comp=Z,118nm,0.8s							
SDCO	**Great Sand Dun**	**5.96**	**283**	Pn		**Pn**	**01 36 49.2**	**+0.5**
SDCO				IAmb_Lg			01 38 41.5	
	comp=Z,47nm,0.8s							
K31A	**O'Neill**	**5.97**	**356**	Pn		**Pn**	**01 36 48.0**	**-0.7**
PBMO	**Poplar Bluff**	**6.21**	**87**	Pn		**Pn**	**01 36 51.6**	**-0.2**
PBMO				IAmb_Lg			01 38 45.1	
	comp=Z,84nm,0.8s							
JCT	**Junction City**	**6.31**	**193**	Pn		**Pn**	**01 36 53.1**	**-0.2**
LPAR	**Lepanto**	**6.45**	**97**	Pn		**Pn**	**01 36 55.1**	**0.0**
SCIA	**State Center**	**6.49**	**35**	Pn		**Pn**	**01 36 54.8**	**-1.0**
SLM	**Saint Louis**	**6.59**	**70**	IAmb_Lg			01 38 53.8	
	comp=Z,83nm,0.7s							
GNAR	**Gosnell**	**6.61**	**94**	Pn		**Pn**	**01 36 58.4**	**+1.1**
ISCO	**Idaho Springs**	**6.65**	**300**	Pn		**Pn**	**01 36 57.6**	**-0.6**
ISCO				IAmb_Lg			01 38 57.5	
	comp=Z,54nm,1.0s							
PEBM	**Pemiscott Bayo**	**6.71**	**92**	Pn		**Pn**	**01 36 58.5**	**-0.2**
PARMO	**Parma**	**6.76**	**87**	Pn		**Pn**	**01 36 59.4**	**0.0**
143A	**Socs Landing,**	**6.82**	**123**	IAmb_Lg			01 39 15.5	
	comp=Z,57nm,0.8s							
ANMO	**Albuquerque**	**6.96**	**258**	Pn		**Pn**	**01 37 01.8**	**-0.5**
HENM	**Henderson Moun**	**6.98**	**87**	Pn		**Pn**	**01 37 01.9**	**-0.5**
N41A	**Harden Midland**	**7.00**	**52**	Pn		**Pn**	**01 37 03.0**	**+0.3**
342A	**Flagon Creek P**	**7.16**	**136**	IAmb_Lg			01 39 14.7	
	comp=Z,53nm,0.7s							
HALT	**Halls**	**7.16**	**93**	IAmb_Lg			01 39 23.0	
	comp=Z,89nm,0.7s							
ECSD	**EROS Data Cent**	**7.17**	**9**	Pn		**Pn**	**01 37 04.1**	**-0.9**
ECSD				IAmb_Lg			01 39 10.6	
	comp=Z,47nm,0.9s							
ECSD	**EROS Data Cent**	**7.17**	**9**	P		**Pn**	**01 37 04.6**	**-0.4**
	baz=190,SNR=6.6							
ECSD	**EROS Data Cent**	**7.17**	**9**	P			01 37 04.6	
	baz=190,SNR=6.6							
S44A	**Carbondale**	**7.18**	**79**	Pn		**Pn**	**01 37 05.5**	**+0.3**
S44A				IAmb_Lg			01 39 09.9	
	comp=Z,76nm,0.7s							
HICK	**Hickman**	**7.18**	**88**	Pn		**Pn**	**01 37 06.3**	**+1.1**
SIUC	**Southern Illin**	**7.22**	**79**	Pn		**Pn**	**01 37 05.4**	**-0.2**
K38A	**Parkersburg**	**7.28**	**33**	Pn		**Pn**	**01 37 07.4**	**+0.9**
PHWY	**Pilot Hill**	**7.33**	**311**	Pn		**Pn**	**01 37 07.8**	**+0.2**
PHWY				IAmb_Lg			01 39 25.5	
	comp=Z,81nm,0.8s							
SMCO	**Snowmass**	**7.41**	**293**	Pn		**Pn**	**01 37 09.1**	**+0.4**
P43A	**Skaggs, Pawnee**	**7.43**	**64**			**Pn**	**01 37 08.9**	**+0.3**
W45A	**Hickory Valley**	**7.43**	**99**	IAmb_Lg			01 39 16.9	
	comp=Z,90nm,0.8s							
OXF	**Oxford**	**7.44**	**104**	IAmb_Lg			01 39 23.6	
	comp=Z,96nm,1.1s							
Y45A	**Yeager Farm, C**	**7.58**	**109**	IAmb_Lg			01 39 31.9	
	comp=Z,68nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.58**	**70**			**Pn**	**01 37 10.4**	**-0.2**
Q44A				IAmb_Lg			01 39 22.7	
	comp=Z,101nm,0.9s							
L40A	**Anamosa**	**7.62**	**43**			**Pn**	**01 37 11.4**	**+0.3**
MNTX	**Cornudas Mount**	**7.76**	**233**	Pn		**Pn**	**01 37 13.1**	**-0.1**
MNTX				IAmb_Lg			01 39 32.7	
	comp=Z,36nm,0.7s							
735A	**Kenedy**	**7.79**	**178**	IAmb_Lg			01 39 49.1	
	comp=Z,48nm,0.7s							
SUSD	**Miller**	**7.80**	**356**	IAmb_Lg			01 39 42.9	
	comp=Z,89nm,0.8s							
HDIL	**Hopedale**	**7.96**	**58**	Pn		**Pn**	**01 37 16.1**	**+0.3**
HDIL	**Hopedale**	**7.96**	**58**	P		**Pn**	**01 37 15.9**	**+0.1**
	baz=244,SNR=18							
HDIL	**Hopedale**	**7.96**	**58**	P			01 37 15.9	
	baz=244,SNR=18							
OLIL	**Olney**	**8.24**	**72**	IAmb_Lg			01 39 55.0	
	comp=Z,79nm,1.1s							
MVCO	**Mesa Verde**	**8.30**	**277**	Pn		**Pn**	**01 37 20.8**	**0.0**
WVT	**Waverly**	**8.35**	**91**	Pn		**Pn**	**01 37 20.6**	**-0.5**
PLAL	**Pickwick Lake**	**8.36**	**99**	Pn		**Pn**	**01 37 21.6**	**+0.3**
O44A	**Mansfield**	**8.37**	**62**	Pn		**Pn**	**01 37 21.5**	**+0.1**
O44A				IAmb_Lg			01 39 46.9	
	comp=Z,78nm,0.8s							
PV15	**Paradox Valley**	**8.38**	**285**	Pn		**Pn**	**01 37 21.5**	**-0.3**
PV01	**Paradox Valley**	**8.42**	**283**	Pn		**Pn**	**01 37 22.1**	**-0.2**
USIN	**University of**	**8.46**	**78**	Pn		**Pn**	**01 37 24.1**	**+1.4**
USIN				IAmb_Lg			01 40 03.4	
	comp=Z,57nm,0.9s							
L42A	**Oliver, Polo**	**8.47**	**48**			**Pn**	**01 37 22.4**	**-0.5**
PV02	**Paradox Valley**	**8.56**	**284**	IAmb_Lg			01 40 05.2	
	comp=Z,36nm,1.1s							
PV12	**Saucer Basin,**	**8.62**	**284**	Pn		**Pn**	**01 37 25.7**	**+0.6**
PV12				IAmb_Lg			01 40 08.9	
	comp=Z,31nm,0.9s							
RWWY	**Rawlins**	**8.64**	**308**	Pn		**Pn**	**01 37 25.9**	**+0.5**
RWWY				IAmb_Lg			01 40 00.6	
	comp=Z,33nm,0.8s							
PV22	**Blue Mesa, Par**	**8.64**	**286**	Pn		**Pn**	**01 37 26.2**	**+0.9**
O20A	**White River Ci**	**8.64**	**297**	Pn		**Pn**	**01 37 25.1**	**-0.2**
O20A				IAmb_Lg			01 40 18.1	
	comp=Z,29nm,1.2s							
TX31	**Lajitas Ar. Si**	**8.64**	**214**			**Pn**	**01 37 24.9**	**-0.5**
TX32	**Lajitas Array**	**8.64**	**214**			**Pn**	**01 37 24.9**	**-0.5**
TXAR	**Lajitas Array**	**8.64**	**214**	Pn		**Pn**	**01 37 25.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=33,slow=11,SNR=35							
TXAR				Pg		Pg	01 37 58.5	-7.0
	comp=Z,0.7nm,0.3s,baz=30,slow=12,SNR=5.5							
TXAR				Sn		**Sn**	**01 38 59.5**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=31,slow=16,SNR=3.8							
TXAR				Lg		Lg	01 39 47.5	
	comp=Z,2.6nm,0.3s,baz=43,slow=26,SNR=7.0							
TXAR	**Lajitas Array**	**8.64**	**214**	Pn		**Pn**	**01 37 25.7**	**+0.3**
PV03	**Paradox Valley**	**8.65**	**284**	Pn		**Pn**	**01 37 25.0**	**-0.5**
PV11	**David Mesa, Pa**

JIO				S	Sn	01 40 03.1	-0.5	
OFUJ	**Ofunato**	**0.61**	**329**	P	Pn	01 39 55.7	+0.1	
OFUJ				*e*S	Sn	01 40 04.1	-0.3	
JMK	**Ichinoseki**	**0.77**	**301**	P	Pn	01 39 58.0	+0.2	
JMK				S	Sn	01 40 08.5	+0.2	
JOM	**Ohasama**	**1.09**	**327**	P	Pn	01 40 02.7	+0.4	
JOM				*e*S	Sn	01 40 16.7	+0.5	
JOU	**Okura**	**1.12**	**260**	P	Pn	01 40 03.0	+0.4	
JOU				*e*S	Sn	01 40 17.5	+0.6	
JMM	**Marumori**	**1.22**	**236**	P	Pn	01 40 03.7	-0.3	
JMM				*e*S	Sn	01 40 18.6	-0.7	
JYK	**Kaneyama**	**1.39**	**285**	P	Pn	01 40 07.0	+0.8	
JYK				*e*S	Sn	01 40 24.4	+1.1	
JRG	**Rokugo**	**1.40**	**307**	P	Pn	01 40 07.3	+0.9	
JFK	**Kawauchi**	**1.52**	**219**	P	Pn	01 40 08.0	-0.1	
MAT	**Matsushiro**	**3.67**	**238**	P	Pn	01 40 39.7	+2.0	
MAT				*e*S	Sn	01 41 21.9	+2.2	

*IDC **28** 01:42:49.1±1.4,7.°01S×124.°94E, h0km, mb3.6/2, mb1 4.0/5, mb1mx3.6/38, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=63.4km s-min=23.8km az=73.0*
*NEIC **28** 01:43:06.5±0.9,8.°3S±0.°2×123.°9E±0.°1, h181km±13km, mb4.1/6, Error ellipse: s-maj=26.7km s-min=12.4km az=214.0*

ISC 28 01:43:07.4±0.9,**8.°42S**±0.°08×**123.°9E**±0.°1,**h200**km,**n19,** σ1°**93**/**23,Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.39**	**163**		**Pn**	**01 43 39.4**	**-0.9**
MMRI	**Maumere**	**1.61**	**262**		**Pn**	**01 43 40.1**	**-2.0**
BATI	**Baumata**	**1.79**	**186**	Pn	**Pn**	**01 43 44.2**	**+0.4**
	84nm,0.3s,baz=170,slow=1.1,SNR=54						
BATI				Sn	**Sn**	**01 44 12.9**	**+0.6**
	44nm,0.3s,baz=58,slow=23,SNR=8.5						
MTN	**Manton Dam**	**8.40**	**122**		**Pn**	**01 45 05.5**	**-0.4**
KNRA	**Kununurra**	**8.67**	**147**		**Pn**	**01 45 09.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**9.78**	**170**	Pn	**Pn**	**01 45 24.3**	**+0.5**
	0.6nm,0.3s,baz=5.1,slow=9.7,SNR=26						
FITZ				Sn	**Sn**	**01 47 09.3**	**-3.8**
	3.0nm,0.3s,baz=290,slow=11,SNR=13						
WB0	**Warramunga Arr**	**15.22**	**139**		**P**	**01 46 33.9**	**+1.2**
WB0				IAmb	IAmb	01 46 50.0	
	comp=Z,22nm,1.6s						
WRA	**Warramunga Arr**	**15.31**	**140**	Pn	**Pn**	**01 46 33.7**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=317,slow=12,SNR=21						
WRA				Sn	**S**	**01 49 18.8**	**-4.8**
	comp=Z,0.6nm,0.3s,baz=314,slow=24,SNR=6.1						
WRA	**Warramunga Arr**	**15.31**	**140**	P	**P**	**01 46 35.5**	**+1.7**
WB2	**Warramunga Arr**	**15.32**	**140**		**P**	**01 46 34.8**	**+0.9**
WB2				IAmb	IAmb	01 47 17.2	
	comp=Z,26nm,1.8s						
WR0	**Warramunga Arr**	**15.45**	**139**		**P**	**01 46 37.3**	**+2.0**
WR0				IAmb	IAmb	01 46 44.6	
	comp=Z,18nm,1.6s						
AS31	**Alice Springs**	**17.96**	**149**	P	**P**	**01 47 02.8**	**-0.1**
AS31				IAmb	IAmb	01 47 11.0	
	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**17.96**	**149**	P	**Pn**	**01 47 08.0**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=330,slow=12,SNR=23						
ASAR				S	**S**	**01 50 21.9**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=306,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**17.96**	**149**	P	**P**	**01 47 03.6**	**+0.7**
KSAR	**Wonju Array Be**	**45.78**	**4**	P	**P**	**01 51 07.9**	**-1.1**
USA0B	**Usuriysk Arra**	**52.89**	**7**	P	**P**	**01 52 02.1**	**-0.6**
MKAR	**Makanchi Array**	**66.24**	**330**	P	**P**	**01 53 35.1**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=128,slow=7.8,SNR=14						
KURBB	**Kurchatov Arra**	**70.67**	**331**	P	**P**	**01 54 01.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=145,slow=6.4,SNR=2.1						
KURK	**Kurchatov**	**70.69**	**331**	P	**P**	**01 54 01.5**	**+0.1**

*NNC **28** 03:00:38.4±5.0,38.°96N×72.°93E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=45.6km s-min=27.0km az=153.0*
*KRNET **28** 03:00:38.5±0.1,39.°00N×73.°24E, mb3.2*

ISC 28 03:00:37.3±2.1,**39.°0N**±0.°1×**73.°18E**±0.°06,**h10**km,**n16,** σ2°**08**/**30**,**23C-5D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.20**	**297**	⇓*i*P	**Pg**	**03 01 01.0**	**+0.7**
DRK	baz=94			⇓*i*S	**Sn**	**03 01 17.0**	**+0.2**
	baz=94						
OHH	**Osh**	**1.60**	**349**	⇑*i*P	**Pb**	**03 01 07.1**	**0.0**
OHH	baz=47			⇑*i*S	**Sb**	**03 01 27.8**	**+0.4**
	baz=47						
BTK	**Batken**	**2.14**	**302**	⇑*i*P	**Pb**	**03 01 15.6**	**-0.5**
BTK	baz=0.0			⇑*i*S	**Sb**	**03 01 43.0**	**+0.3**
	baz=0.0						
TRKS	**Terek-Say**	**3.02**	**330**	⇑*i*P	**Pn**	**03 01 26.5**	**+1.2**
TRKS	baz=28			⇑*i*S	**Sn**	**03 02 01.6**	**+0.1**
	baz=28						
ARLS	**Aral**	**3.04**	**16**	⇑*i*P	**Pn**	**03 01 27.2**	**+1.6**
ARLS	baz=16			⇑*i*S	**Sn**	**03 02 02.5**	**+0.3**
	baz=16						
AML	**Almayashu**	**3.21**	**7**	⇑*i*P	**Pn**	**03 01 29.7**	**+1.6**
AML	baz=6.0			⇑*i*S	**Sn**	**03 02 06.8**	**+0.2**
	baz=6.0						
MNAS	**Manas**	**3.58**	**352**	⇑*i*P	**Pn**	**03 01 35.0**	**+2.1**
MNAS	baz=51			⇑*i*S	**Sn**	**03 02 16.1**	**+0.8**
	baz=51						
EKS2	**Erkin-Say**	**3.74**	**7**	⇓*i*P	**Pn**	**03 01 36.9**	**+1.7**
EKS2	baz=6.0			⇓*i*S	**Sn**	**03 02 19.7**	**+0.4**
	baz=6.0						
AAK	**Ala-Archa**	**3.82**	**15**	⇑*i*P	**Pn**	**03 01 38.1**	**+1.8**
AAK	baz=14			⇑*i*S	**Sn**	**03 02 21.5**	**+0.1**
	baz=14						
AAK	**Ala-Archa**	**3.82**	**15**	⇑Pn	**Pn**	**03 01 40.2**	**+3.9**
AAK	1.6nm,0.4s			⇑Sn	**Sb**	**03 02 27.0**	**-4.2**
	15nm,0.6s						
ULHL	**Ulahol**	**4.04**	**34**	⇑*i*P	**Pn**	**03 01 40.9**	**+1.5**
ULHL	baz=34			⇑*i*S	**Sn**	**03 02 26.0**	**-0.8**
	baz=34						
BOOM	**Boomskoye usch**	**4.12**	**30**	⇑*e*P	**Pn**	**03 01 42.1**	**+1.7**
BOOM	baz=30			⇑*i*S	**Sn**	**03 02 28.2**	**-0.5**
	baz=30						
TKM2	**Tokmak 2**	**4.37**	**24**	⇑Pn	**Pn**	**03 01 47.2**	**+3.3**
TKM2	0.4nm,0.2s			⇑Sn	**Sn**	**03 02 39.5**	**+4.4**
	3.0nm,0.5s						
KK31	**Karatay Array**	**4.62**	**335**	Pn	**Pn**	**03 01 49.5**	**+2.4**
KK31	3.0nm,0.2s,baz=130,slow=10,SNR=67			⇑Sn	**Sn**	**03 02 42.9**	**+2.1**
	9.5nm,0.5s,baz=143,slow=22,SNR=10.0						
AB31	**Akbulak array**	**14.00**	**322**	P	**Pn**	**03 03 52.0**	**-3.6**
	0.8nm,0.4s,baz=129,slow=14,SNR=30						
AKTO	**Aktyubinsk**	**15.72**	**322**	⇓P	**Pn**	**03 04 16.6**	**-2.1**
	1.8nm,0.6s						

*IDC **28** 03:19:26.5±2.4,21.°04S×178.°53W, h582km±24km, mb2.8/5, mb1 3.1/7, mb1mx2.9/40, mbtmp3.8/7, Error ellipse: s-maj=38.4km s-min=21.0km az=142.0*

ISC 28 03:19:26.3±1.0,**21.°1S**±0.°2×**178.°6W**±0.°2,**h579**km,**n10,** σ0°**64**/**10**,**mb3.3**/**5,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.61**	**315**	P	**P**	**03 20 55.1**	**+0.1**
	0.8nm,0.3s,baz=232,slow=22,SNR=1.8						
URZ	**Urewera**	**17.55**	**191**	P	**P**	**03 22 58.2**	**-0.2**
	1.0nm,0.3s,baz=121,slow=24,SNR=1.9						
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	**03 26 43.3**	**+0.5**
	0.7nm,0.5s,baz=92,slow=8.2,SNR=17						
ASAR				PcP	**PcP**	**03 28 16.2**	**+0.2**
	0.3nm,0.5s,baz=107,slow=4.1,SNR=5.7						
WRA	**Warramunga Arr**	**44.02**	**263**	P	**P**	**03 26 43.6**	**-0.2**
	0.3nm,0.3s,baz=97,slow=7.3,SNR=18						
FITZ	**Fitzroy Crossi**	**52.44**	**263**	P	**P**	**03 27 46.2**	**-0.1**
	6.6nm,1.3s,baz=84,slow=7.5,SNR=1.9						
NVAR	**Mina Array Bea**	**81.78**	**44**	P	**P**	**03 30 46.8**	**+1.1**
	0.2nm,0.6s,baz=225,slow=8.6,SNR=2.7						
ILAR	**Eielson Array**	**88.97**	**13**	P	**P**	**03 31 18.6**	**-0.9**
	0.2nm,0.5s,baz=223,slow=5.7,SNR=5.8						
ARCES	**ARCESS Array B**	**129.38**	**349**	PKP	**PKPdf**	**03 37 28.4**	**-0.6**
	0.4nm,0.6s,baz=46,slow=3.5,SNR=3.8						
AKASG	**Malin Array Be**	**143.25**	**330**	PKP	PKPab	03 37 52.3	-0.9
	1.6nm,0.5s,baz=44,slow=4.2,SNR=6.9						
GERES	**GERESS Array B**	**150.59**	**343**	PKPbc	**PKPbc**	**03 38 13.1**	**-0.4**
	0.2nm,0.4s,baz=29,slow=3.0,SNR=3.5						

*VAO **28** 03:19:06.2±0.6,24.°27S×70.°19W, h10km, mb4.4*
*SJA **28** 03:19:46.9±0.5,24.°26S×67.°16W, h200km±3km, ML4.0, MW3.8*
*NEIC **28** 03:19:47.5±2.5,24.°25S±0.°06×67.°09W±0.°10, h182km±7km, Error ellipse: s-maj=13.0km s-min=8.3km az=102.0*
*IDC **28** 03:19:47.4±1.3,24.°19S×66.°97W, h168km±11km, mb3.6/7, mb1 3.7/13, mb1mx3.5/23, mbtmp4.0/13, Error ellipse: s-maj=19.3km s-min=14.4km az=24.0*
*GUC **28** 03:19:48.9±1.1,24.°17S×67.°40W, h192km±17km, ML4.1*

ISC 28 03:19:47.5±0.6,**24.°19S**±0.°04×**67.°16W**±0.°04,**h186**km±6km, **n114,** σ1°**43**/**143**,**mb3.7**/**7,9C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.60**	**110**	*e*P	**Pn**	**03 20 22.3**	**+1.1**
SLA				*e*S	**Sn**	**03 20 48.1**	**+0.9**
HJA	**Humahuaca**	**1.88**	**59**	*e*P	**Pn**	**03 20 26.0**	**+1.8**
FSA	**Cafayete**	**2.19**	**151**	*e*P	**Pn**	**03 20 27.8**	**+0.5**
FSA				*e*S	**Sn**	**03 20 57.6**	**-0.7**
LVC	**Limon Verde**	**2.25**	**314**	P	**Pn**	**03 20 29.8**	**+1.6**
	43nm,0.3s,baz=150,slow=6.7,SNR=912						
LVC				S	**Sn**	**03 20 59.8**	**+0.3**
	62nm,0.3s,baz=211,slow=24,SNR=9.5						
LVC	**Limon Verde**	**2.25**	**314**	*e*P	**Pn**	**03 20 29.8**	**+1.6**
LVC				*i*S	**Sn**	**03 21 00.2**	**+0.6**
LVC	**Limon Verde**	**2.25**	**314**	*e*P	**Pn**	**03 20 29.8**	**+1.6**
LVC				*e*S	**Sn**	**03 21 00.9**	**+1.3**
PB15	**IPOC Station P**	**2.33**	**294**	*e*P	**Pn**	**03 20 29.4**	**+0.6**
PB15				*e*S	**Sn**	**03 21 00.8**	**-0.2**
PB15	**IPOC Station P**	**2.33**	**294**	Pn	**Pn**	**03 20 30.2**	**+1.4**
PB15	**IPOC Station P**	**2.33**	**294**	*e*P	**Pn**	**03 20 30.2**	**+1.4**
PB15				*e*S	**Sn**	**03 21 01.8**	**+0.8**
PB15				IAML		03 21 04.9	
	comp=Z,2μm,0.2s						
GO02	**Mina Guanaco**	**2.41**	**246**	⇑*i*P	**Pn**	**03 20 30.8**	**+1.0**
GO02				*i*S	**Sn**	**03 21 02.9**	**+0.1**
GO02	**Mina Guanaco**	**2.41**	**246**		**Pn**	**03 20 30.2**	**+0.3**
PB06	**IPOC Station P**	**2.66**	**303**	⇑*i*P	**Pn**	**03 20 34.0**	**+1.4**
PB06				*i*S	**Sn**	**03 21 07.4**	**-0.3**
PB06				IAML		03 21 09.5	
	comp=E,723nm,0.2s						
PB06	**IPOC Station P**	**2.66**	**303**		**Pn**	**03 20 34.0**	**+1.4**
PB06	**IPOC Station P**	**2.66**	**303**	*e*P	**Pn**	**03 20 33.8**	**+1.1**
PB06				*e*S	**Sn**	**03 21 07.8**	**+0.1**
PB06				IAML		03 21 13.5	
	comp=Z,343nm,0.3s						
PB14	**IPOC Station P**	**2.99**	**261**	*i*P	**Pn**	**03 20 37.4**	**+0.7**
PB14				*i*S	**Sn**	**03 21 12.6**	**-2.2**
PB14				IAML		03 21 16.0	
	comp=N,144nm,0.2s						
PB14	**IPOC Station P**	**2.99**	**261**		**Pn**	**03 20 37.0**	**+0.4**
PB14	**IPOC Station P**	**2.99**	**261**	*e*P	**Pn**	**03 20 37.3**	**+0.7**
PB14				*e*S	**Sn**	**03 21 14.5**	**-0.3**
PB14				IAML		03 21 24.1	
	comp=Z,138nm,1.1s						
PB09	**IPOC Station P**	**3.06**	**321**	⇑*e*P	**Pn**	**03 20 39.2**	**+1.8**
PB09				*e*S	**Sn**	**03 21 16.2**	**0.0**
PB09				IAML		03 21 19.3	
	comp=N,359nm,0.5s						
PB09	**IPOC Station P**	**3.06**	**321**		**Pn**	**03 20 38.9**	**+1.5**
PB09	**IPOC Station P**	**3.06**	**321**	*e*P	**Pn**	**03 20 39.1**	**+1.8**
PB09				*e*S	**Sn**	**03 21 17.0**	**+0.8**
PB09				IAML		03 21 17.8	
	comp=Z,379nm,0.8s						
AHML	**Horco Molle**	**3.07**	**148**	*e*P	Pn	03 20 50.2	+13
PB05	**IPOC Station P**	**3.09**	**295**	⇑*i*P	**Pn**	**03 20 38.5**	**+0.8**
PB05				*e*S	**Sn**	**03 21 14.9**	**-1.9**
PB05				IAML		03 21 18.9	
	comp=E,271nm,0.3s						
PB05	**IPOC Station P**	**3.09**	**295**	*e*P	**Pn**	**03 20 38.7**	**+1.0**
PB05				*e*S	**Sn**	**03 21 17.1**	**+0.3**
PB05				IAML		03 21 21.5	
	comp=Z,152nm,0.6s						
PB10	**IPOC Station P**	**3.18**	**282**	⇑*i*P	**Pn**	**03 20 39.6**	**+0.9**
PB10				*e*S	**Sn**	**03 21 18.2**	**-0.2**
PB10				IAML		03 21 24.1	
	comp=E,214nm,0.4s						
PB10	**IPOC Station P**	**3.18**	**282**		**Pn**	**03 20 38.9**	**+0.3**
PB10	**IPOC Station P**	**3.18**	**282**	*e*P	**Pn**	**03 20 39.4**	**+0.7**
PB10				*e*S	**Sn**	**03 21 19.4**	**+0.9**
PB10				IAML		03 21 22.5	
	comp=Z,219nm,0.7s						
AC02	**Maricunga**	**3.18**	**214**		**Pn**	**03 20 40.0**	**+0.9**
PB03	**IPOC Station P**	**3.20**	**311**	⇑*e*P	**Pn**	**03 20 40.1**	**+1.0**
PB03				*e*S	**Sn**	**03 21 18.0**	**-1.3**
PB03				IAML		03 21 19.2	
	comp=E,351nm,0.2s						
PB03	**IPOC Station P**	**3.20**	**311**	*e*P	**Pn**	**03 20 40.2**	**+1.1**
PB03				*e*S	**Sn**	**03 21 18.3**	**-1.0**
PB03				IAML		03 21 20.9	
	comp=Z,356nm,0.4s						
PB04	**IPOC Station P**	**3.31**	**303**	⇓*i*P	**Pn**	**03 20 41.6**	**+1.2**
PB04				*e*S	**Sn**	**03 21 20.2**	**-1.4**
PB04				IAML		03 21 23.0	
	comp=N,493nm,0.3s						
PB04	**IPOC Station P**	**3.31**	**303**		**Pn**	**03 20 41.2**	**+0.7**
PB04	**IPOC Station P**	**3.31**	**303**	*e*P	**Pn**	**03 20 41.4**	**+1.0**
PB04				*e*S	**Sn**	**03 21 21.9**	**+0.2**
PB04				IAML		03 21 24.4	
	comp=Z,310nm,0.9s						
PB07	**IPOC Station P**	**3.51**	**314**	⇑*i*P	**Pn**	**03 20 43.8**	**+0.9**
PB07				*i*S	**Sn**	**03 21 24.4**	**-1.7**
PB07	**IPOC Station P**	**3.51**	**314**		**Pn**	**03 20 43.7**	**+0.9**
PB07	**IPOC Station P**	**3.51**	**314**	*e*P	**Pn**	**03 20 43.8**	**+0.9**
PB07				*e*S	**Sn**	**03 21 25.1**	**-1.0**
PB07				IAML		03 21 28.7	
	comp=Z,261nm,0.5s						
AC01	**Pan de Azucar**	**3.67**	**237**	Pn	**Pn**	**03 20 44.2**	**-0.5**
PB01	**IPOC Station P**	**3.80**	**325**	⇑*i*P	**Pn**	**03 20 46.8**	**+0.5**
PB01				*e*S	**Sn**	**03 21 30.9**	**-1.6**
PB01				IAML		03 21 34.8	
	comp=E,192nm,0.3s						
PB01	**IPOC Station P**	**3.80**	**325**		**Pn**	**03 20 46.9**	**+0.5**
PB01	**IPOC Station P**	**3.80**	**325**	*e*P	**Pn**	**03 20 47.0**	**+0.6**
PB01				*e*S	**Sn**	**03 21 32.2**	**-0.3**
PB01				IAML		03 21 37.4	
	comp=Z,99nm,0.3s						
GO03	**Copiap**	**4.38**	**219**		**Pn**	**03 20 52.9**	**-0.7**
GO03	**Copiap**	**4.38**	**219**	*e*P	**Pn**	**03 20 53.2**	**-0.5**
GO03				*e*S	**Sn**	**03 21 42.9**	**-2.7**
CYA	**Choya**	**4.41**	**164**	*e*P	**Pn**	**03 20 55.5**	**+1.5**
PB08	**IPOC Station P**	**4.43**	**335**	⇑*i*P	**Pn**	**03 20 55.9**	**+1.1**
PB08				*i*S	**Sn**	**03 21 46.8**	**-0.6**
PB08	**IPOC Station P**	**4.43**	**335**		**Pn**	**03 20 56.0**	**+1.2**
PB08	**IPOC Station P**	**4.43**	**335**	*e*P	**Pn**	**03 20 55.8**	**+1.1**
PB08				*e*S	**Sn**	**03 21 47.8**	**+0.4**
PB08				IAML		03 21 55.9	
	comp=Z,56nm,0.4s						
TA01	**Diego Aracena**	**4.56**	**322**	Pn	**Pn**	**03 20 56.6**	**+0.6**
VCA	**Vinchina**	**4.62**	**191**	*e*P	**Pn**	**03 20 59.2**	**+2.3**
PB11	**IPOC Station P**	**4.98**	**332**	Pn	**Pn**	**03 21 01.1**	**-0.4**
PB11	**IPOC Station P**	**4.98**	**332**	*e*P	**Pn**	**03 21 01.3**	**-0.2**
PB11				*e*S	**Sn**	**03 21 58.0**	**-1.7**
AC04	**Llanos de Chal**	**5.32**	**220**	Pn	**Pn**	**03 21 04.2**	**-1.6**
PSGCX	**Pisagua**	**5.33**	**328**		**Pn**	**03 21 05.1**	**-1.0**
PSGCX	**Pisagua**	**5.33**	**328**	*e*P	**Pn**	**03 21 04.9**	**-1.2**
PSGCX				*e*S	**Sn**	**03 22 00.0**	**-7.9**
MNMC	**Minye Minye**	**5.52**	**335**	Pn	**Pn**	**03 21 08.3**	**-0.3**
MNMCX	**Minye Minye**	**5.52**	**335**	*e*P	**Pn**	**03 21 08.8**	**+0.1**
MNMCX				*e*S	**Sn**	**03 22 11.2**	**-1.3**
GO04	**Tololo Observa**	**6.78**	**208**	Pn	**Pn**	**03 21 24.1**	**-0.9**
CO03	**El Pedregal**	**7.33**	**205**	Pn	**Pn**	**03 21 31.5**	**-0.6**
TCA	**Tanti**	**7.47**	**163**	*e*P	**Pn**	**03 21 32.8**	**-1.2**
LPAZ	**La Paz**	**7.91**	**353**	P	**Pn**	**03 21 41.8**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=167,slow=8.5,SNR=56						
LPAZ				S	**Sn**	**03 23 08.3**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=56,slow=12,SNR=2.2						
LPAZ	**La Paz**	**7.91**	**353**		**Pn**	**03 21 41.0**	**+0.7**
LPAZ	**La Paz**	**7.91**	**353**	*e*P	**Pn**	**03 21 41.9**	**+1.6**
CPUP	**Villa Florida**	**9.15**	**106**	P	**Pn**	**03 21 53.2**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=290,slow=11,SNR=6.1						
SIV	**San Ignacio**	**9.96**	**36**	P	**Pn**	**03 22 05.2**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=269,slow=6.7,SNR=16						
RFA	**San Rafael**	**10.61**	**186**	*e*P	**Pn**	**03 22 13.4**	**-1.5**
AQDB	**Aquidauana**	**11.23**	**73**	Pn	**Pn**	**03 22 23.7**	**+0.6**
TRCB	**Terra Rica**	**13.40**	**87**	*e*P	**P**	**03 22 54.7**	**+1.0**
SALV	**Santo Antonio**	**13.56**	**55**	*e*P	**Pn**	**03 22 51.4**	**-1.3**
PTGB	**Pitanga**	**13.76**	**95**	*e*P	**P**	**03 22 59.0**	**+1.2**
ITAB	**Concordia**	**13.89**	**106**	*e*P	**P**	**03 22 59.1**	**+0.1**
PLTB	**Pedras Altas**	**14.15**	**125**	*e*P	**Pn**	**03 22 56.6**	**-3.3**
PCMB	**Pacaembu**	**14.88**	**83**	*e*P	**P**	**03 23 11.6**	**+1.5**
ITRB	**Iturama**	**16.21**	**77**	*e*P	**Pn**	**03 23 27.1**	**+1.9**
TIJ01	**Guaruva-PR**	**16.54**	**98**	*e*P	**Pn**	**03 23 31.9**	**+2.7**
ARAG	**Araguaiana, MT**	**16.71**	**62**	*e*P	**Pn**	**03 23 31.0**	**-0.1**
TER01	**Tubaro-SC**	**16.73**	**109**	*e*P	**P**	**03 23 30.6**	**+0.2**
PLCA	**Paso Flores**	**16.74**	**189**	P	**Pn**	**03 23 31.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=41,slow=18,SNR=1.5						
PLCA	**Paso Flores**	**16.74**	**189**	IAmb	IAmb	03 23 39.8	
	comp=Z,3.5nm,0.7s						
CLDB	**Colider**	**17.10**	**41**	*e*P	**P**	**03 23 29.8**	**-4.8**
RCLB	**Rio Claro- Sao**	**18.12**	**88**	*e*P	**Pn**	**03 23 48.4**	**+0.5**
IPMB	**Ipameri, GO**	**18.72**	**74**	*e*P	**P**	**03 23 52.9**	**+0.5**
SNDB	**Serra Nova Dou**	**19.34**	**54**	*e*P	**P**	**03 23 58.7**	**-0.3**
LL02	**Futaleuf**	**19.34**	**190**	P	**Pn**	**03 24 00.9**	**-1.0**
LL02				IAmb	IAmb	03 24 03.2	
	comp=Z,7.0nm,0.8s						
BDFB	**Brasilia**	**19.89**	**68**	P	**P**	**03 24 04.8**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=242,slow=9.7,SNR=12						
BDFB	**Brasilia**	**19.89**	**68**	P	**P**	**03 24 04.9**	**-0.1**
PEXB	**Peixe**	**21.55**	**59**	*e*P	**P**	**03 24 21.3**	**-1.2**
DUB01	**Friburgo-RJ**	**22.89**	**90**	*e*P	**P**	**03 24 35.2**	**-0.1**
MC01	**Montes Claros**	**22.98**	**75**	*e*P	**P**	**03 24 35.3**	**-0.8**
JANB	**Januaria**	**23.33**	**71**	*e*P	**P**	**03 24 38.8**	**-0.5**
SDBA	**SAO DESIDERIO**	**24.12**	**65**	*e*P	**P**	**03 24 46.4**	**-0.2**
SJMB	**Sao Joao De Ma**	**24.77**	**82**	*e*P	**P**	**03 24 54.0**	**+1.7**
BSFB	**Barra de Sao F**	**25.04**	**83**	*e*P	**P**	**03 24 55.4**	**+0.6**
RIB01	**Linhares ES**	**25.31**	**84**	*e*P	**P**	**03 24 57.7**	**+0.4**
CMC01	**Camacan, BA**	**27.41**	**76**	*e*P	**P**	**03 25 15.7**	**-0.4**
GDU01	**Guandu, BA**	**28.04**	**73**	*e*P	**P**	**03 25 20.8**	**-0.9**
NBPN	**Ponto Novo - B**	**28.86**	**67**	*e*P	**P**	**03 25 28.1**	**-0.9**
NBPS	**Pedro II - PI**	**31.54**	**56**	*e*P	**P**	**03 25 51.0**	**-2.4**
NBPB	**Pedra_Branca-C**	**32.35**	**59**	*e*P	**P**	**03 25 59.3**	**-0.3**
NBAN	**Anadia - AL**	**32.79**	**69**	*e*P	**P**	**03 26 03.2**	**-0.2**
NBPA	**Parau_RN**	**34.20**	**62**	*e*P	**P**	**03 26 14.9**	**-0.7**
NBRF	**Rio Formoso -**	**34.26**	**69**	*e*P	**P**	**03 26 15.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P	**P**	**03 31 19.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=259,slow=5.2,SNR=13						
TORD	**Torodi Ar. Bea**	**76.78**	**69**	IAmb	IAmb	03 31 27.7	
	comp=Z,2.8nm,1.4s						
PDAR	**Pinedale Array**	**77.23**	**329**	P	**P**	**03 31 23.9**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=149,slow=3.5,SNR=4.2						
PDAR	**Pinedale Array**	**77.23**	**329**	P	**P**	**03 31 21.0**	**-0.2**
ULM	**Lac du Bonnet**	**78.36**	**342**	P	**P**	**03 31 28.8**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=146,slow=3.6,SNR=2.2						
ULM	**Lac du Bonnet**	**78.36**	**342**	IAmb	IAmb	03 31 29.3	
	comp=Z,2.3nm,0.5s						
NVAR	**Mina Array Bea**	**78.59**	**321**	P	**P**	**03 31 31.6**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=135,slow=6.3,SNR=3.6						
BOSA	**Boshof**	**80.78**	**117**	P	**P**	**03 31 41.7**	**+0.8**
	comp=Z,2.9nm,1.1s,baz=211,slow=5.9,SNR=5.2						
BOSA	**Boshof**	**80.78**	**117**	P	**P**	**03 31 38.3**	**-2.6**
BOSA				IAmb	IAmb	03 31 38.6	
	comp=Z,9.0nm,1.3s						
MAW	**Mawson**	**81.30**	**163**	P	**P**	**03 31 44.4**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=198,slow=3.2,SNR=1.8						
YKA	**Yellowknife Ar**	**94.25**	**340**	P	**P**	**03 32 47.1**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=132,slow=5.4,SNR=2.8						
**

comp=Z,1.8nm,0.6s,baz=302,slow=7.8,SNR=23
BBOO Buckleboo 44.84 136 P P 03 47 28.9 -0.6
CHGR Chuyangaron 50.19 328 P P 03 48 10.1 -0.9
SONM Songino Array 50.33 5 P P 03 48 11.7 -0.3
comp=Z,0.4nm,0.5s,baz=181,slow=5.7,SNR=21
SONM Songino Array 50.33 5 IAmb IAmb 03 48 13.1
comp=Z,0.6nm,0.8s
MK31 Makanchi Array 51.65 344 P P 03 48 21.4 -0.4
MK31 IAmb IAmb 03 48 22.2
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 51.65 344 P P 03 48 21.7 -0.1
comp=Z,3.0nm,0.6s,baz=149,slow=8.1,SNR=34
MKAR Makanchi Array 51.65 344 P P 03 48 21.3 -0.6
ZAA0 Zalesovo Array 57.74 349 P P 03 49 03.9 -1.8
ZAA0 IAmb IAmb 03 49 05.8
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 57.74 349 P P 03 49 05.0 -0.7
comp=Z,1.2nm,0.3s,baz=164,slow=4.9,SNR=13
ZALV Zalesovo Beam 57.74 349 P P 03 49 05.2 -0.5
ABKAR Akbulak array 62.37 331 P P 03 49 38.0 +0.4
ABKAR IAmb IAmb 03 49 39.8
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 87.13 340 P P 03 52 00.5 +0.1
comp=Z,1.3nm,0.9s,baz=106,slow=4.3,SNR=8.4
ARCES ARCESS Array B 87.13 340 IAmb IAmb 03 52 09.6
comp=Z,2.6nm,1.1s
TXAR Lajitas Array 144.63 38 PKP PKPab 03 58 51.0 +0.3
comp=Z,0.7nm,0.6s,baz=327,slow=1.5,SNR=6.2
JCT Junction City 146.03 33 PKPbc PKPdf 03 58 55.0 +0.7

GCMT 28 03:46:04.0±0.3, 41°32S±0.02×89°45W±0.02, h16km±1km, MW5.0/100, Moment Tensor Solution. s34,c38; s100,c144; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.47±.12; $M_{\theta\theta}$0.88±.12; $M_{\phi\phi}$-0.40±.10; $M_{r\theta}$-1.26±.33; $M_{\theta\phi}$-3.00±.08; $M_{\phi r}$0.44±.27; **Best double couple:** $M_0$3.30600×10^{16} **NP1:**ϕ_s355.00000°,δ70.00000°, λ4.00000°. **NP2:**ϕ_s264.00000°,δ86.00000°,λ160.00000°. **Principal axes:** T 3.6880, Plg17.0000°, Azm218.0000°; N -0.7650, Plg69.0000°, Azm74.0000°; P -2.9230, Plg12.0000°, Azm311.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island**

IDC 28 04:01:00.3±4.5, 9°99S×152°06E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/25, mbtmp3.3/3, ML3.2/1 Error ellipse: s-maj=321.8km s-min=34.3km az=134.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.75**	**238**	P	P	04 05 31.8	-0.2
	0.1nm,0.3s,baz=63,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**22.03**	**230**	P	P	04 05 56.9	+0.2
	0.3nm,0.6s,baz=61,slow=9.6,SNR=2.0						
ILAR	**Eielson Array**	**87.22**	**22**	P	P	04 13 48.3	0.0
	0.2nm,0.8s,baz=261,slow=3.6,SNR=1.3						
TORD	**Torodi Ar. Bea**	**150.81**	**279**	PKPbc	PKPbc	04 20 55.5	-0.3
	0.5nm,0.9s,baz=84,slow=3.6,SNR=1.7						

GUC 28 04:05:49.4±0.7, 19°92S×69°28W, h92km±3km, ML3.7, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.25**	**152**	*e*P	Pn	04 06 02.9	-0.4
PB08				*i* S	Sn	04 06 13.9	+0.3
PB08				IAML		04 06 14.4	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**0.39**	**293**	*e*P	Pn	04 06 03.0	-0.8
PB11				*i* S	Sn	04 06 14.1	-0.3
PB11				IAML		04 06 14.5	
	comp=N,6μm,0.1s						
MNMC	**Minye Minye**	**0.84**	**339**	*e*P	Pn	04 06 07.6	-0.2
MNMC				*i* S	Sn	04 06 22.1	+0.7
MNMC				IAML		04 06 24.6	
	comp=N,4μm,0.2s						
PSGC	**Pisagua**	**0.86**	**292**	*e*P	Pn	04 06 06.8	-1.0
PSGC				*i* S	Sn	04 06 20.5	-1.0
TA02	**Huaiquique**	**0.88**	**246**	*e*P	Pn	04 06 06.8	-1.0
TA02				*i* S	Sn	04 06 20.8	-0.9
TA02				IAML		04 06 24.6	
	comp=N,5μm,0.4s						
TA01	**Diego Aracena**	**1.06**	**232**	*e*P	Pn	04 06 08.8	-1.2
TA01				*i* S	Sn	04 06 24.2	-1.2
PB01	**IPOC Station P**	**1.14**	**190**	*e*P	Pn	04 06 10.3	-0.7
PB01				*i* S	Sn	04 06 26.8	-0.3
PB01				IAML		04 06 27.7	
	comp=N,3μm,0.3s						
PB07	**IPOC Station P**	**1.89**	**197**	*e*P	Pn	04 06 20.1	-0.4
PB07				*i* S	Sn	04 06 44.3	+0.3
PB07				IAML		04 06 49.9	
	comp=E,649nm,0.5s						
PB06	**IPOC Station P**	**2.79**	**186**	*i*P	Pn	04 06 32.1	-0.2
PB06				IAML		04 07 12.2	
	comp=E,216nm,0.3s						
PB05	**IPOC Station P**	**3.05**	**196**	*e*P	Pn	04 06 35.2	-0.5
PB05				*e*S	Sn	04 07 14.0	+2.6
PB05				IAML		04 07 27.0	
	comp=N,138nm,0.4s						

VAO 28 04:07:08.0±0.3, 21°41S×68°52W, h200km, mb3.9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.25**	**197**	*e*P	Pn	04 07 40.2	+0.2
VILB	**Vilhena**	**11.57**	**45**	*e*P	Pn	04 09 45.8	-1.7
ETMB	**Extrema**	**11.74**	**11**	*e*P	Pn	04 09 49.5	-0.2
AQDB	**Aquidauana**	**12.02**	**88**	*e*P	Pn	04 09 53.8	+0.6
ITQB	**Itaqui**	**13.52**	**130**	*e*P	Pn	04 10 10.8	-1.1
PTGB	**Pitanga**	**15.50**	**105**	*e*P	P	04 10 36.7	+0.2
PCMB	**Pacaembu**	**16.06**	**94**	*e*P	P	04 10 42.8	+0.1
CLDB	**Colider**	**16.08**	**51**	*e*P	P	04 10 43.1	+0.1
CPSB	**Cacapava Do Su**	**16.24**	**127**	*e*P	P	04 10 43.4	-1.2
ARAG	**Araguaiana, MT**	**16.82**	**73**	*e*P	P	04 10 51.6	+0.5
TRQA	**Tornquist**	**17.52**	**163**	*e*P	P	04 10 57.3	-1.3
FRTB	**Fartura**	**17.64**	**100**	*e*P	P	04 10 59.8	-0.2
IPMB	**Ipameri, GO**	**19.42**	**83**	*e*P	P	04 11 18.7	-0.7
RCLB	**Rio Claro- Sao**	**19.50**	**97**	*e*P	P	04 11 19.4	-0.8
PEXB	**Peixe**	**21.43**	**68**	*e*P	P	04 11 40.9	+0.2
BSCB	**Bom Sucesso**	**22.14**	**93**	*e*P	P	04 11 46.9	-0.9
VAS01	**Vassouras-RJ**	**23.29**	**97**	*e*P	P	04 11 58.7	+0.6
DIAM	**Diamantina, MG**	**23.57**	**87**	*e*P	P	04 12 01.2	+0.3
MC01	**Montes Claros**	**23.68**	**83**	*e*P	P	04 12 01.9	+0.1
SMTB	**Santa Maria do**	**23.70**	**61**	*e*P	P	04 12 02.1	+0.1
JANB	**Januaria**	**23.83**	**79**	*e*P	P	04 12 03.2	+0.1
MALB	**Monte Alegre**	**23.89**	**37**	*e*P	P	04 12 03.4	-0.1
SDBA	**SAO DESIDERIO**	**24.27**	**72**	*e*P	P	04 12 07.4	+0.3
DUB01	**Friburgo-RJ**	**24.29**	**96**	*e*P	P	04 12 07.0	-0.3
BOAV	**Boa Vista**	**24.92**	**19**	*e*P	P	04 12 12.5	-0.4
CAM01	**Campos-RJ**	**24.97**	**96**	*e*P	P	04 12 14.4	+1.1
BSFB	**Barra de Sao F**	**26.10**	**89**	*e*P	P	04 12 24.3	+0.8
MCPB	**Macapa, AP**	**26.38**	**40**	*e*P	P	04 12 25.8	-0.2
RIB01	**Linhares ES**	**26.44**	**91**	*e*P	P	04 12 26.9	+0.3
TMAB	**Tom-Au,PA,Br**	**27.45**	**49**	*e*P	P	04 12 36.0	+0.4
GDU01	**Guandu, BA**	**28.60**	**79**	*e*P	P	04 12 46.3	+0.5

*RSNC **28** 04:10:59.1±0.9, 6°96N×76°67W, h5km±3km, ML2.9, Mw3.3*
*UPA **28** 04:10:59.9±0.7, 6°95N×76°70W, h35km±37km, MW4.7*
ISC 28 04:10:56.3±1.3, 6°99N±0.02×76°70W±0.02, h6km±11km, n30,σ1°50/55, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.49**	**86**	*e*P	**Pb**	**04 11 07.6**	**+0.1**
DBBC				*e*S	**Sb**	**04 11 14.8**	**-0.1**
SOLC	**Bahia Solano**	**1.03**	**223**	*e*P	**Pb**	**04 11 17.6**	**+1.0**
PTAC	**Punta Ardita,**	**1.11**	**278**	*e*P	**Pb**	**04 11 19.0**	**+1.1**
PTAC				*e*S	**Sg**	**04 11 34.2**	**+2.3**
PTAC				*i*		04 11 36.4	
	comp=Z,527nm,0.1s						
CBOC	**Ciudad Bolivar**	**1.31**	**148**	*e*P	**Pg**	**04 11 21.4**	**0.0**
CBOC				*e*S	**Sg**	**04 11 38.2**	**-0.3**
CBOC				*i*		04 11 44.5	
	comp=Z,280nm,0.6s						
UREC	**San Jos de Ur**	**1.39**	**57**	*e*P	**Pb**	**04 11 22.6**	**-0.1**
UREC				*e*S	**Sn**	**04 11 41.2**	**+0.2**
UREC				*i*		04 11 43.8	
	comp=Z,160nm,0.4s						
HELC	**Santa Helena**	**1.41**	**124**	*e*P	**Pn**	**04 11 23.1**	**+0.2**
HELC				*e*S	**Sb**	**04 11 41.3**	**-0.4**
HELC	**Santa Helena**	**1.41**	**124**	*e*P	**Pg**	**04 11 22.9**	**-0.5**
HELC				*e*S	**Sb**	**04 11 41.7**	**0.0**
HELC				*i*		04 11 44.9	
	comp=Z,119nm,0.4s						
LCBC	**Los crdobas,**	**1.89**	**10**	*e*P	**Pb**	**04 11 31.4**	**+0.2**
LCBC				*e*S	**Sg**	**04 11 56.1**	**-0.9**
LCBC				*i*		04 12 03.8	
	comp=Z,73nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.90**	**75**	*e*P	**Pb**	**04 11 30.4**	**-1.1**
ZARC				*e*S	**Sb**	**04 11 54.3**	**-1.2**
ZARC				*i*		04 11 55.9	
	comp=Z,204nm,0.3s						
MONA	**Monteria**	**2.05**	**30**	*e*P	**Pb**	**04 11 32.8**	**-1.3**
MONA				*e*S	**Sn**	**04 11 57.6**	**+0.1**
MOTC	**Monteria, Cord**	**2.06**	**30**	*e*P	**Pn**	**04 11 32.1**	**+0.6**
MOTC				*e*S	**Sb**	**04 11 59.1**	**-0.9**
PLMC	**San Jos del P**	**2.11**	**169**	*e*P	**Pn**	**04 11 30.9**	**-1.3**
PLMC				*i*		04 11 57.7	
	comp=Z,159nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.20**	**143**	*e*P	**Pb**	**04 11 36.2**	**-0.6**
GUY2C				*e*S	**Sn**	**04 12 03.4**	**+1.7**
GUY2C				*i*		04 12 10.7	
	comp=Z,56nm,0.5s						
NORC	**Norcasia**	**2.31**	**128**	*e*P	**Pb**	**04 11 37.4**	**-1.1**
NORC				*e*S	**Sb**	**04 12 06.0**	**-1.3**
NORC				*i*		04 12 10.6	
	comp=Z,49nm,0.5s						
TOLC	**Tolima**	**2.75**	**150**	*e*P	**Pb**	**04 11 46.6**	**+0.4**
TOLC				*e*S	**Sn**	**04 12 15.4**	**+0.2**
TOLC				*i*		04 12 26.4	
	comp=Z,27nm,0.5s						
BRRC	**Barranca, Sant**	**2.97**	**87**	*e*P	**Pn**	**04 11 45.2**	**+1.2**
BRRC				*e*S	**Sn**	**04 12 21.4**	**+1.2**
BRRC				*i*		04 12 36.9	
	comp=Z,24nm,0.5s						
YOTC	**Yotoco, Valle**	**3.00**	**173**	*e*P	**Pn**	**04 11 43.8**	**-0.9**
YOTC				*e*S	**Sn**	**04 12 16.2**	**-4.9**
YOTC				*i*		04 12 19.6	
	comp=Z,29nm,0.8s						
SMLC	**San Martn de**	**3.17**	**55**	*e*P	**Pn**	**04 11 48.2**	**+1.4**
SMLC				*e*S	**Sn**	**04 12 26.9**	**+1.9**
SMLC				*i*		04 12 38.3	
	comp=Z,15nm,0.4s						
ROSC	**El Rosal**	**3.19**	**132**	*e*P	**Pb**	**04 11 52.2**	**-1.4**
ROSC				*e*S	**Sn**	**04 12 28.9**	**+2.9**
ROSC				*i*		04 12 46.3	
	comp=Z,27nm,0.6s						
SJCC	**San Jacinto, C**	**3.26**	**27**	*e*P	**Pb**	**04 11 52.5**	**-2.2**
SJCC				*e*S	**Sn**	**04 12 26.2**	**-1.2**
SJCC	**San Jacinto, C**	**3.26**	**27**	*e*P	**Pn**	**04 11 49.7**	**+1.6**
SJCC				*e*S	**Sn**	**04 12 26.7**	**-0.7**
ORTC	**Ortega, Tolima**	**3.38**	**155**	*e*P	**Pn**	**04 11 52.1**	**+2.3**
ORTC				*e*S	**Sn**	**04 12 31.2**	**+0.8**
ORTC				*i*		04 12 41.9	
	comp=Z,20nm,0.5s						
BARC	**Barichara**	**3.52**	**96**	*e*P	**Pn**	**04 11 53.5**	**+1.7**
BARC				*e*S	**Sn**	**04 12 34.9**	**+0.9**
BARC				*i*		04 12 50.1	
	comp=Z,44nm,0.6s						
OCAC	**Ocana**	**3.58**	**69**	*e*P	**Pn**	**04 11 53.8**	**+1.2**
OCAC				*e*S	**Sn**	**04 12 36.1**	**+0.8**
OCAC				*i*		04 12 50.2	
	comp=Z,50nm,0.5s						
AZU	**Azuero**	**3.63**	**283**	*e*P	**Pn**	**04 11 54.2**	**+1.1**
AZU				*e*S	**Sn**	**04 12 35.1**	**-1.3**
PRAC	**Prado**	**3.72**	**151**	*e*P	**Pn**	**04 11 56.1**	**+1.7**
PRAC				*e*S	**Sn**	**04 12 39.3**	**+0.7**
PRAC				*i*		04 13 06.0	
	comp=Z,17nm,0.5s						
RUSC	**La Rusia**	**3.76**	**107**	*e*P	**Pn**	**04 11 56.5**	**+1.1**
BCIP	**Isla Barro Col**	**3.78**	**305**	*e*P	**Pn**	**04 11 56.6**	**+1.4**
BCIP				*e*S	**Sn**	**04 12 40.9**	**+0.8**
CACAO	**El Cacao, Vera**	**4.14**	**275**	*e*P	**Pn**	**04 12 00.7**	**+0.5**
CACAO				*e*S	**Sn**	**04 12 44.7**	**-4.3**
POPC	**Popayan, Colom**	**4.42**	**180**	*e*P	Pn	04 11 58.6	-5.5
POPC				*e*S	Sn	04 12 47.5	-8.6

*ISN **28** 04:17:37.4±1.4, 32°67N×47°83E, h17km±7km, ML3.0*
*THR **28** 04:17:39.5±0.5, 32°79N×47°80E, h18km±6km, ML3.3*
*TEH **28** 04:17:39.3, 32°66N×47°80E, h20km, ML3.3*
*KISR **28** 04:17:41.8±0.9, 32°12N×47°39E, h0km±560km, ML3.5*
ISC 28 04:17:39.7±1.6, 32°62N±0.03×47°75E±0.04, h17km±13km, n51,σ0°93/60, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.91**	**5**	*e*Pg	**Pb**	**04 17 55.2**	**-1.9**
IKFM				*e*		04 18 11.0	
	comp=Z,12μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.02**	**119**	*e*Pg	**Pg**	**04 18 00.1**	**+0.5**
SHGR				*e*Sg	**Sn**	**04 18 14.4**	**+1.2**
SHGR				IAML		04 18 18.5	
	comp=E,648nm,0.4s						
SHGR				IAML		04 18 36.5	
	comp=N,655nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.02**	**119**	*e*Pg	**Pg**	**04 18 00.1**	**+0.5**
IDOB	**Doab**	**1.22**	**17**	*e*Pg	**Pn**	**04 18 01.7**	**-0.6**
BMDN	**Meydan**	**1.39**	**40**	*e*		04 18 30.6	
	comp=Z,4μm,0.6s						
BMDN				*e*Pg	**Pn**	**04 18 04.4**	**-0.1**
AHWZ	**Ahwaz**	**1.49**	**149**	*e*Pg	**Pn**	**04 18 06.8**	**+1.1**
IBDR	**Badra**	**1.61**	**288**	*e*Pg	**Pn**	**04 18 08.0**	**+0.7**
IBDR				*e*Sg	**Sb**	**04 18 29.0**	**0.0**
IBDR				AML	AML	04 18 35.1	
	comp=N,235nm,0.8s						
IBDR				AML	AML	04 18 45.4	
	comp=E,170nm,0.6s						
HSAM	**Samen**	**1.75**	**24**	*e*Pn	**Pn**	**04 18 10.6**	**+1.1**
HSAM				*e*		04 18 39.5	
	comp=Z,2μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.76**	**340**	*e*		04 18 46.0	
	comp=Z,2μm,0.4s						
KCHF				*e*Pn	**Pn**	**04 18 09.9**	**+0.3**
KER	**Kermanshah**	**1.84**	**344**	*e*Pn	**Pn**	**04 18 11.5**	**+0.9**
IBZA	**Bozab**	**1.85**	**3**	*e*Pn	**Pb**	**04 18 12.5**	**-0.8**
IBZA				*e*		04 18 40.8	
	comp=Z,2μm,0.6s						
IGHG	**Ghaleghazi**	**1.97**	**330**	*e*Pn	**Pn**	**04 18 13.6**	**+1.0**
IGHG				*e*		04 18 49.9	
	comp=Z,3μm,1.0s						
NSR	**Nassriya**	**2.11**	**221**	*e*Pn	**Pn**	**04 18 14.0**	**-0.2**
NSR				*e*Sn	**Sn**	**04 18 41.0**	**+1.1**
IALM	**Almabolaq**	**2.27**	**9**	*e*Pn	**Pn**	**04 18 18.1**	**+1.4**
IDHR	**Dehrash**	**2.37**	**332**	*e*Pn	**Pn**	**04 18 18.7**	**+0.7**
IDHR				*e*		04 18 59.7	
	comp=Z,2μm,0.5s						
ILIN	**Lien**	**2.39**	**344**	*e*Pn	**Pn**	**04 18 18.9**	**+0.6**
ILIN				*e*		04 19 04.8	
	comp=Z,768nm,0.8s						
HAGD	**Aghdareh**	**2.49**	**27**	*e*Pn	**Pn**	**04 18 21.4**	**+1.7**
HAGD				*e*		04 19 03.1	
	comp=Z,1μm,1.2s						
IPIR	**Pirpir**	**2.65**	**88**	*e*Pn	**Pn**	**04 18 22.8**	**+0.8**
IPIR				*e*		04 19 15.1	
	comp=Z,1μm,0.6s						
SHK1	**Shahrekord**	**2.67**	**95**	*e*Pn	**Pn**	**04 18 22.4**	**+0.3**
SHK1				*e*		04 19 10.0	
	comp=Z,2μm,0.5s						
MIB	**Mutribah**	**2.83**	**187**	*e*P	**Pn**	**04 18 24.6**	**+0.5**
MIB				*e*S	**Sn**	**04 18 56.4**	**-1.3**
BHD	**Baghdad**	**2.91**	**284**	*e*Pn	**Pn**	**04 18 25.0**	**-0.2**
BHD				*e*Sn	**Sn**	**04 19 01.0**	**+1.3**
RST	**Umm Al-Ruwaisa**	**3.17**	**192**	*e*P	**Pn**	**04 18 29.2**	**+0.4**
RST				*e*S	**Sn**	**04 19 05.0**	**-1.3**
QAMS	**Qamsar**	**3.26**	**69**	*e*Pn	**Pn**	**04 18 32.0**	**+1.8**
IKLH	**Kolahrood**	**3.29**	**77**	*e*Pn	**Pn**	**04 18 29.7**	**-1.1**
IKLH				*e*		04 19 30.6	
	comp=Z,609nm,0.4s						
IRAZ	**Razeghan**	**3.32**	**32**	*e*Pn	**Pn**	**04 18 32.8**	**+1.7**
GHVR	**GHOM**	**3.50**	**57**	*e*Pn	**Pn**	**04 18 33.1**	**-0.3**
GHVR				*e*Sg	**Sb**	**04 19 23.4**	**0.0**
GHVR	**GHOM**	**3.50**	**57**	*e*Pn	**Pn**	**04 18 33.1**	**-0.3**
IQOM	**Qom**	**3.55**	**50**	*e*Pn	**Pn**	**04 18 35.2**	**+0.9**
IGAR	**Gharneh**	**3.63**	**92**	*e*Pn	**Pn**	**04 18 35.5**	**+0.1**
KLNJ	**Kolanjah**	**3.64**	**115**	*e*Pn	**Pn**	**04 18 36.1**	**+0.5**
KLNJ				*e*		04 19 48.8	
	comp=Z,885nm,0.7s						
RDF	**Al-Radifah**	**3.68**	**183**	*e*P	**Pn**	**04 18 36.5**	**+0.6**
RDF				*e*S	**Sn**	**04 19 18.7**	**-0.1**
RDF				IAML		04 19 21.6	
	comp=Z,132nm,0.5s						
IZEF	**Zefreh**	**3.87**	**85**	*e*Pn	**Pn**	**04 18 39.2**	**+0.5**
KRSH	**Karshahi**	**3.91**	**69**	*e*Pn	**Pn**	**04 18 39.5**	**+0.3**
IKRK	**Kirkuk**	**3.97**	**315**	*e*Pn	**Pn**	**04 18 39.0**	**-0.8**
IKRK				*e*Sn	**Sn**	**04 19 26.0**	**+0.1**
IRAM	**Ramesheh**	**4.01**	**100**	*e*Pn	**Pn**	**04 18 40.2**	**-0.3**
QSDN	**Sirdan**	**4.05**	**16**	*e*Pn	**Pn**	**04 18 42.6**	**+1.4**
IVRN	**Varamin**	**4.08**	**53**	*e*Pn	**Pn**	**04 18 42.7**	**+1.4**
ZNJK	**Zanjan**	**4.12**	**11**	*e*Pn	**Pn**	**04 18 41.3**	**-0.8**
ZNJK	**Zanjan**	**4.12**	**11**	*e*Pn	**Pn**	**04 18 41.3**	**-0.8**
ISFB	**Sefidab**	**4.13**	**64**	*e*Pn	**Pn**	**04 18 42.3**	**+0.2**
NASN	**Na'in**	**4.27**	**86**	*e*Pn	**Pn**	**04 18 45.3**	**+1.1**
NASN	**Na'in**	**4.27**	**86**	*e*Pn	**Pn**	**04 18 45.3**	**+1.1**
IGZV	**Ghazvin**	**4.28**	**28**	*e*Pn	**Pn**	**04 18 46.0**	**+1.7**
CHTH	**Charan**	**4.31**	**39**	*e*Pn	**Pn**	**04 18 44.7**	**-0.1**
CHTH	**Charan**	**4.31**	**39**	*e*Pn	**Pn**	**04 18 44.7**	**-0.1**
DAMV	**Damavand**	**4.62**	**48**	*e*Pn	**Pn**	**04 18 48.9**	**0.0**
DAMV	**Damavand**	**4.62**	**48**	*e*Pn	**Pn**	**04 18 48.9**	**0.0**
ANAR	**Anarak**	**5.06**	**82**	*e*Pn	**Pn**	**04 18 54.8**	**-0.2**
ISHM	**Shahmirzad**	**5.59**	**54**	*e*Pn	**Pn**	**04 19 04.1**	**+1.8**
ICHK	**Chekchek**	**5.64**	**92**	*e*Pn	**Pn**	**04 19 02.7**	**-0.3**
TPRV	**Parvadeh(Tabas**	**7.53**	**84**	*e*Pn	**Pn**	**04 19 29.2**	**+0.3**

*NEIC **28** 04:27:27.2±2.6, 35°2S±0°1×179°8E±0°1, h54km±6km, mb4.5/14, ML4.3(WEL), Error ellipse: s-maj=18.0km s-min=15.2km az=195.0*
*IDC **28** 04:27:28.0±5.9, 35°12S×179°38E, h71km±47km, mb4.1/4, mb1 4.3/5, mb1mx3.8/34, mbtmp4.4/5, ML4.6/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/25, Error ellipse: s-maj=43.5km s-min=23.0km az=58.0*
*WEL **28** 04:27:28.4±0.8, 36°3S±7°×18°0W±°, h158km±13km, M4.3/71, mB4.8/7, ML4.7/65, MLv4.5/71, Mw(mB)4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=67.4*
ISC 28 04:27:30.5±0.7, 35°52S±0°07×179°91E±0°08, h100km, n135,σ1°73/143, mb4.5/12, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.42**	**212**		**Pn**	**04 28 07.8**	**-0.7**
MXZ	**Matakaoa Point**	**2.42**	**212**	P	**Pn**	**04 28 07.8**	**-0.7**
MXZ				S	**Sn**	**04 28 37.9**	**+0.3**
WMGZ	**Waiomatatini S**	**2.59**	**207**	P	**Pn**	**04 28 11.3**	**+0.4**
PKGZ	**Pakihiroa**	**2.79**	**211**	P	**Pn**	**04 28 13.1**	**-0.4**
PKGZ				S	**Sn**	**04 28 47.6**	**+1.1**
HAZ	**Te Kaha**	**2.82**	**217**	P	**Pn**	**04 28 12.6**	**-1.2**
HAZ				S	**Sn**	**04 28 49.8**	**+2.8**
PUZ	**Puketiti**	**2.88**	**207**	P	**Pn**	**04 28 14.3**	**-0.3**
PUZ				S	**Sn**	**04 28 49.3**	**+0.7**
WIZ	**White Island**	**2.97**	**227**	P	**Pn**	**04 28 15.4**	**-0.5**
WIZ				S	**Sn**	**04 28 48.3**	**-2.5**
WSRZ	**White Island S**	**2.97**	**227**	P	**Pn**	**04 28 15.5**	**-0.4**
RUGZ	**Raukumara Rang**	**3.03**	**216**	P	**Pn**	**04 28 16.0**	**-0.8**
TWGZ	**Tauwhareparae**	**3.07**	**210**	P	**Pn**	**04 28 17.2**	**-0.1**
TWGZ				S	**Sn**	**04 28 55.4**	**+2.0**
CNGZ	**Carnagh Statio**	**3.26**	**204**	P	**Pn**	**04 28 19.6**	**-0.1**
WHRZ	**Whale Island**	**3.32**	**224**	P	**Pn**	**04 28 19.9**	**-0.7**
WHRZ				S	**Sn**	**04 29 00.0**	**+0.9**
TKGZ	**Te Karaka**	**3.35**	**209**	P	**Pn**	**04 28 19.9**	**-1.0**
TKGZ				S	**Sn**	**04 29 00.5**	**+0.6**
MWZ	**Matawai**	**3.40**	**213**	P	**Pn**	**04 28 20.7**	**-0.9**
MYRZ	**Mayor Island**	**3.44**	**238**	P	**Pn**	**04 28 22.0**	**-0.2**
URZ	**Urewera**	**3.54**	**219**	P	**Pn**	**04 28 21.5**	**-1.9**
	46nm,0.3s,baz=239,slow=2.2,SNR=272						
URZ				S	**Sn**	**04 29 03.6**	**-0.8**
	22nm,0.3s,baz=52,slow=19,SNR=6.6						
URZ	**Urewera**	**3.54**	**219**		**Pn**	**04 28 22.0**	**-1.5**
URZ	**Urewera**	**3.54**	**219**	P	**Pn**	**04 28 21.9**	**-1.6**
URZ				S	**Sn**	**04 28 55.0**	**-0.8**
OPRZ	**Ohinepanea**	**3.56**	**228**	P	**Pn**	**04 28 22.5**	**-1.2**
OPRZ				S	**Sn**	**04 29 06.5**	**+1.6**
MARZ	**Manawahe**	**3.58**	**226**	P	**Pn**	**04 28 23.3**	**-0.8**
RAGZ	**Rawiri**	**3.58**	**213**	P	**Pn**	**04 28 23.0**	**-1.1**
KUZ	**Kuaotunu**	**3.61**	**249**	P	**Pn**	**04 28 22.9**	**-1.5**
RIGZ	**Rimuhau**	**3.62**	**208**	P	**Pn**	**04 28 23.1**	**-1.5**
EDRZ	**Edgecumbe**	**3.63**	**224**	P	**Pn**	**04 28 24.0**	**-0.8**
TGRZ	**Tauranga**	**3.67**	**232**	P	**Pn**	**04 28 24.5**	**-0.8**
LIRZ	**Lichensteins R**	**3.77**	**228**	P	**Pn**	**04 28 26.8**	**+0.3**
PRGZ	**Paritu Road**	**3.77**	**205**	P	**Pn**	**04 28 24.9**	**-1.7**
OMRZ	**Omania**	**3.84**	**227**	P	**Pn**	**04 28 27.4**	**-0.1**
TARZ	**Mount Tarawera**	**3.85**	**224**	P	**Pn**	**04 28 27.4**	**-0.3**
SNGZ	**Shannon Statio**	**3.85**	**211**	P	**Pn**	**04 28 26.5

STKA	**Stephens Creek**	**31.95**	**265**	P		**P**	**04 33 47.2**	**+0.3**
	1.2nm,0.4s,baz=95,slow=10,SNR=6.9							
STKA				LR		LR	04 44 53.6	
	comp=Z,212nm,18.3s,baz=204,slow=33							
BBOO	**Buckleboo**	**36.17**	**261**	P		**P**	**04 34 22.6**	**-0.7**
BBOO				IAmb		IAmb	04 34 34.1	
	comp=Z,8.0nm,1.3s							
AS31	**Alice Springs**	**41.38**	**274**	P		**P**	**04 35 05.0**	**-2.0**
ASAR	**Alice Springs**	**41.38**	**274**	P		**P**	**04 35 03.7**	**-3.3**
	comp=Z,3.3nm,0.6s,baz=116,slow=7.4,SNR=38							
WR0	**Warramunga Arr**	**42.66**	**279**	P		**P**	**04 35 16.7**	**-0.8**
WR0				IAmb		IAmb	04 35 36.3	
	comp=Z,6.9nm,1.2s							
WB2	**Warramunga Arr**	**42.82**	**279**	P		**P**	**04 35 16.9**	**-1.8**
WB2				IAmb		IAmb	04 35 19.3	
	comp=Z,10nm,0.5s							
WRAB	**Tennant Creek**	**42.83**	**279**	P		**P**	**04 35 17.5**	**-1.3**
WRAB				IAmb		IAmb	04 35 19.6	
	comp=Z,6.6nm,0.7s							
WRA	**Warramunga Arr**	**42.83**	**279**	P		**P**	**04 35 15.5**	**-3.3**
	comp=Z,5.7nm,0.4s,baz=118,slow=7.7,SNR=69							
WRA	**Warramunga Arr**	**42.83**	**279**	IAmb		IAmb	04 35 19.4	
	comp=Z,0.2nm,0.6s							
FORT	**Forrest**	**43.27**	**261**	P		**P**	**04 35 21.4**	**-0.8**
FORT				IAmb		IAmb	04 35 21.4	
	comp=Z,15nm,1.0s							
MTN	**Manton Dam**	**49.30**	**285**	P		**P**	**04 36 09.0**	**-0.6**
KNRA	**Kununurra**	**49.59**	**280**	P		**P**	**04 36 10.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**50.83**	**275**	P		**P**	**04 36 20.5**	**-0.5**
FITZ				IAmb		IAmb	04 36 38.2	
	comp=Z,9.6nm,1.4s							
MORW	**Morawa**	**53.55**	**258**	P		**P**	**04 36 40.2**	**-1.0**
QSPA	**South Pole Qui**	**54.61**	**180**	P		**P**	**04 36 53.0**	**+4.5**
	comp=Z,1.8nm,0.6s,baz=45,slow=5.3,SNR=16							
QSPA	**South Pole Qui**	**54.61**	**180**	IAmb		IAmb	04 36 53.5	
	comp=Z,3.2nm,0.9s							
SNAA	**Sanae**	**73.09**	**179**	P		**P**	**04 38 51.2**	**+1.8**
SNAA				IAmb		IAmb	04 38 55.2	
	comp=Z,2.7nm,1.3s							
H03S2	**Juan Fernandez**	**79.10**	**124**	T		T	06 07 49.2	
	baz=233,slow=74,SNR=6.7							
H03S1	**Juan Fernandez**	**79.11**	**124**	T		T	06 07 39.1	
	baz=233,slow=74,SNR=7.5							
H03S3	**Juan Fernandez**	**79.12**	**124**	T		T	06 07 47.7	
	baz=233,slow=74,SNR=7.9							
H03N3	**Juan Fernandez**	**79.32**	**123**	T		T	06 07 54.1	
	baz=237,slow=72,SNR=12							
H03N2	**Juan Fernandez**	**79.33**	**123**	T		T	06 07 52.3	
	baz=237,slow=72,SNR=14							
H03N1	**Juan Fernandez**	**79.34**	**123**	T		T	06 07 53.1	
	baz=237,slow=72,SNR=14							
PETK	**Petropavlovsk-**	**90.35**	**347**	P		**P**	**04 40 19.6**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=116,slow=6.9,SNR=8.1							
MKAR	**Makanchi Array**	**119.64**	**308**	PKP		**PKPdf**	**04 46 06.4**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=97,slow=1.1,SNR=3.1							
CBYP	**Canovanas**	**119.89**	**88**	PKPdf		**PKiKP**	**04 46 11.7**	**+2.0**
ARCES	**ARCESS Array B**	**143.15**	**345**	PKhKP		PKPpre	04 46 48.5	
	comp=Z,1.2nm,0.6s,baz=60,slow=3.2,SNR=9.5							
ARCES	**ARCESS Array B**	**143.15**	**345**	PKPdf		**PKiKP**	**04 46 53.9**	**-1.1**
ONI	**Oni**	**145.76**	**295**			**PKPbc**	**04 46 57.4**	**-0.4**
SIRT	**Sirnak**	**145.97**	**286**	PKPbc		**PKiKP**	**04 47 01.0**	**-0.9**
FINES	**FINESS Array B**	**149.21**	**336**	PKPbc		**PKPbc**	**04 47 05.4**	**-1.1**
	comp=Z,4.3nm,0.5s,baz=56,slow=3.2,SNR=49							
FINES	**FINESS Array B**	**149.21**	**336**			**PKPbc**	**04 47 05.5**	**-1.0**
DBIC	**Dimbokro**	**150.96**	**170**	PKPbc		**PKiKP**	**04 47 13.0**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=270,slow=1.6,SNR=5.5							
NOA	**NORSAR Array B**	**153.45**	**348**	PKPbc		**PKiKP**	**04 47 16.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=15,slow=3.7,SNR=10.0							
AKASG	**Malin Array Be**	**153.99**	**315**	PKPbc		**PKPbc**	**04 47 16.0**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=59,slow=2.4,SNR=4.6							
AKASG				PKPab		**PKPab**	**04 47 29.8**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=45,slow=4.1,SNR=2.5							
AKASG	**Malin Array Be**	**153.99**	**315**	PKPdf		**PKPdf**	**04 47 13.2**	**+3.5**
TORD	**Torodi Ar. Bea**	**157.67**	**185**	PKPab		**PKPab**	**04 47 50.7**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=165,slow=3.6,SNR=5.1							

*DJA **28** 04:41:40.9±0.4, 7°S×3°×12°9E±°, h268km±11km, M4.6/9, mb4.5/7, mB5.0/5, MLv4.8/9, Mw(mB)4.3/5*
*NEIC **28** 04:41:41.6±1.8, 6°.71S±0°.10×128°.54E±0°.04, h254km±10km, mb4.1/7, Error ellipse: s-maj=15.3km s-min=3.0km az=161.0*
*IDC **28** 04:41:41.3±1.5, 6°.70S×128°.59E, h251km±16km, mb3.5/8, mb1 3.8/13, mb1mx3.5/35, mbtmp4.3/13, Error ellipse: s-maj=26.7km s-min=14.6km az=92.0*

ISC 28 04:41:40.4±0.5, 6°.71S±0°.05×128°.54E±0°.07, h250km, n38, σ1§70/44, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.56**	**32**	P	**Pn**	**04 42 31.1**	**+2.8**
SAUI	**Saumlaki**	**3.02**	**115**	Pn	**Pn**	**04 42 34.7**	**+1.6**
SAUI	**Saumlaki**	**3.02**	**115**	P	**Pn**	**04 42 35.5**	**+2.4**
SAUI				S	**S**	**04 43 15.7**	**+0.9**
SOEI	**Soe**	**5.20**	**234**		**Pn**	**04 42 59.9**	**+1.1**
SOEI	**Soe**	**5.20**	**234**	P	**Pn**	**04 42 59.6**	**+0.8**
	1.3nm84nm,0.8s						
FAKI	**Fak Fak**	**5.28**	**45**		**Pn**	**04 42 59.2**	**-0.5**
FAKI	**Fak Fak**	**5.28**	**45**	P	**Pn**	**04 42 59.3**	**-0.4**
	0.7nm3µm79nm,0.8s						
BATI	**Baumata**	**5.94**	**234**	P	**Pn**	**04 43 09.1**	**+1.2**
	52nm,0.3s,baz=100,slow=3.0,SNR=26						
BATI				S	**S**	**04 44 16.4**	**-1.5**
	30nm,0.3s,baz=52,slow=3.6,SNR=21						
BATI	**Baumata**	**5.94**	**234**	P	**Pn**	**04 43 09.1**	**+1.2**
	1.0nm151nm,0.6s						
KMPI	**Kaimana, Papua**	**5.97**	**60**	P	**Pn**	**04 43 08.8**	**+0.6**
	2.7nm5µm175nm,0.4s						
SIJI	**Sorong**	**6.41**	**25**	P	**Pn**	**04 43 13.4**	**-0.3**
	7.8nm,0.3s,baz=237,slow=17,SNR=16						
SIJI				S	**S**	**04 44 22.9**	**-5.5**
	8.4nm,0.3s,baz=261,slow=23,SNR=9.1						
SIJI	**Sorong**	**6.41**	**25**	P	**Pn**	**04 43 13.4**	**-0.3**
SWI	**Sorong**	**6.41**	**25**	P	**Pn**	**04 43 13.6**	**-0.1**
	0.5nm2µm28nm,0.5s						
MTN	**Manton Dam**	**6.61**	**157**		**Pn**	**04 43 17.0**	**+0.7**
EDFI	**Ende, Flores**	**7.08**	**253**	P	**Pn**	**04 43 24.2**	**+1.9**
	0.1nm9.4nm,1.4s						
KNRA	**Kununurra**	**8.92**	**179**		**Pn**	**04 43 46.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.67**	**194**	P	**Pn**	**04 44 20.1**	**+0.2**
	2.7nm,0.3s,baz=26,slow=11,SNR=36						
FITZ				S	**S**	**04 46 25.3**	**-5.1**
	1.2nm,0.3s,baz=91,slow=20,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.67**	**194**	Pn	**Pn**	**04 44 18.8**	**-1.2**
WB0	**Warramunga Arr**	**14.18**	**157**		**Pn**	**04 44 50.6**	**-0.2**
WRA	**Warramunga Arr**	**14.31**	**157**	P	**Pn**	**04 44 52.1**	**-0.4**
	0.9nm,0.3s,baz=332,slow=12,SNR=35						
WRA				S	**S**	**04 47 27.9**	**-3.1**
	0.8nm,0.3s,baz=315,slow=23,SNR=6.0						
WB2	**Warramunga Arr**	**14.32**	**157**		**Pn**	**04 44 51.7**	**-0.8**
WR0	**Warramunga Arr**	**14.41**	**157**		**Pn**	**04 44 52.4**	**-1.2**
PSA00	**Pilbara Seismi**	**17.00**	**209**	P	**P**	**04 45 22.9**	**+0.7**
PSA00				IAmb	IAmb	04 45 27.1	
	comp=Z,83nm,1.9s						
AS31	**Alice Springs**	**17.63**	**164**	P	**P**	**04 45 30.5**	**+1.3**
AS31				IAmb	IAmb	04 45 31.9	
	comp=Z,6.6nm,0.6s						
ASAR	**Alice Springs**	**17.64**	**164**	P	**P**	**04 45 31.2**	**+2.0**
	comp=Z,2.9nm,0.3s,baz=342,slow=11,SNR=261						
ASAR				S	**S**	**04 48 37.4**	**-1.9**
	baz=342,slow=20,SNR=5.7						
ASAR				ScP	**ScP**	**04 53 05.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=339,slow=1.8,SNR=3.1						
GIRL	**Giralia**	**21.00**	**220**	P	**P**	**04 46 06.3**	**+1.2**
KSRS	**Korea Array**	**43.93**	**359**	P	**P**	**04 49 23.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=177,slow=8.4,SNR=5.5						
SONM	**Songino Array**	**57.72**	**343**	P	**P**	**04 51 07.1**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=148,slow=6.3,SNR=6.7						
SONM	**Songino Array**	**57.72**	**343**	P	**P**	**04 51 05.4**	**+0.1**
PETK	**Petropavlovsk-**	**64.51**	**19**	P	**P**	**04 51 51.5**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=178,slow=4.5,SNR=6.3						
MK31	**Makanchi Array**	**67.19**	**327**	P	**P**	**04 52 07.5**	**-0.3**
MK31				IAmb	IAmb	04 53 17.3	
	comp=Z,6.2nm,1.9s						
MKAR	**Makanchi Array**	**67.19**	**327**	P	**P**	**04 52 08.8**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=116,slow=8.6,SNR=13						
ZAA0	**Zalesovo Array**	**70.69**	**334**	P	**P**	**04 52 29.4**	**+0.4**
ZAA0				IAmb	IAmb	04 53 10.2	
	comp=Z,2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**70.69**	**334**	P	**P**	**04 52 29.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=111,slow=7.9,SNR=2.9						
SEY	**Seymchan**	**71.79**	**11**	P	**P**	**04 52 36.6**	**+1.2**
	comp=Z,1.0nm,0.4s,baz=204,slow=2.1,SNR=6.8						
TIXI	**Tiksi**	**78.20**	**0**	P	**P**	**04 53 11.7**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=163,slow=3.6,SNR=2.1						
TIXI	**Tiksi**	**78.20**	**0**	IAmb	IAmb	04 53 11.8	
	comp=Z,3.1nm,1.2s						
ILAR	**Eielson Array**	**93.70**	**25**	P	**P**	**04 54 27.3**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=266,slow=5.2,SNR=2.5						

*IDC **28** 05:18:49.0±9.8, 16°.68N×93°.77W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/33, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=295.1km s-min=128.6km az=32.0*
*MEX **28** 05:18:55.6±0.8, 15°.89N×94°.98W, h40km, MD4.3*

ISC 28 05:18:53.6±1.5, 15°.86N±0°.08×94°.98W±0°.04, h39km±6km, n10, σ1§41/17, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.09**	**265**	*i* P	**Pn**	**05 19 12.6**	**+0.3**
HUIG				*i* S	**Sn**	**05 19 25.8**	**-0.5**
CMIG	**Matias Romero**	**1.23**	**4**	*e*P	**Pn**	**05 19 14.2**	**-0.1**
CMIG				*e*S	**Sn**	**05 19 28.1**	**-1.5**
PCIG		**1.70**	**95**	*e*P	**Pn**	**05 19 21.5**	**+0.8**
PCIG				*e*S	**Sn**	**05 19 40.7**	**-0.5**
TGIG		**2.00**	**63**	*e*P	**Pn**	**05 19 25.1**	**+0.2**
TGIG				*e*S	**Sn**	**05 19 49.9**	**+1.0**
VHO	**Vista Hermosa**	**2.07**	**306**	*e*P	**Pn**	**05 19 28.2**	**+2.1**
VHO				*e*S	**Sn**	**05 19 51.6**	**+0.9**
PEIG	**Puerto Escondi**	**2.09**	**274**	*i* P	**Pn**	**05 19 26.4**	**+0.2**
PEIG				*e*S	**Sn**	**05 19 48.8**	**-2.1**
YOIG	**Yosondua**	**2.66**	**292**	*e*P	**Pn**	**05 19 35.8**	**+1.7**
YOIG				*e*S	**Sn**	**05 20 04.7**	**-0.6**
TXAR	**Lajitas Array**	**15.62**	**331**	Pn	**P**	**05 22 32.7**	**-2.0**
	0.1nm,0.3s,baz=148,slow=12,SNR=2.3						
NVAR	**Mina Array Bea**	**30.44**	**322**	P	**P**	**05 25 04.5**	**+1.8**
	0.9nm,0.7s,baz=133,slow=9.0,SNR=7.6						
ILAR	**Eielson Array**	**60.01**	**337**	P	**P**	**05 28 55.0**	**-1.0**
	0.4nm,0.8s,baz=128,slow=6.9,SNR=3.5						

JMA 28 06:31:43.7±0.2, 38°.23N×144°.25E, h34km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.19**	**294**	P	Pn	06 32 19.4	+1.7
OFUJ				*e*S	Sn	06 32 45.6	+2.0
JIKH	**Ishinomakikobu**	**2.19**	**273**	P	Pn	06 32 18.9	+1.2
JKMT	**Kesennumamotoy**	**2.25**	**286**	P	Pn	06 32 20.0	+1.5
JKMT				S	Sn	06 32 47.0	+1.9
JIO	**Ouri**	**2.29**	**277**	P	Pn	06 32 20.6	+1.5
JIO				S	Sn	06 32 47.5	+1.4
MIYJ	**Miyakonagasawa**	**2.33**	**306**	P	Pn	06 32 20.8	+1.3
MIYJ				S	Sn	06 32 48.9	+2.0
JMK	**Ichinoseki**	**2.48**	**288**	P	Pn	06 32 23.6	+1.9
JMK				S	Sn	06 32 52.9	+2.1
JOM	**Ohasama**	**2.62**	**299**	P	Pn	06 32 25.8	+2.2
JOM				*e*S	Sn	06 32 56.8	+2.5
JANG	**Nango**	**3.01**	**316**	P	Pn	06 32 30.6	+1.6
JANG				*e*S	Sn	06 33 05.8	+1.9
JYK	**Kaneyama**	**3.13**	**284**	P	Pn	06 32 33.1	+2.5
JYK				S	Sn	06 33 10.2	+3.5
JFT	**Otama**	**3.18**	**258**	*e*S	Sn	06 33 09.9	+1.9
JKB	**Kayabe**	**4.41**	**327**	*e*S	Sn	06 33 38.7	+0.4
JCH	**Churui**	**4.43**	**351**	P	Pn	06 32 49.0	+0.5
JCH				*e*S	Sn	06 33 38.0	-0.9
JRY	**Ryogami san**	**4.81**	**244**	*e*S	Sn	06 33 46.4	-1.9
JOD2	**Odawara 2**	**5.09**	**236**	*e*S	Sn	06 33 52.7	-2.6
NEM2	**Nemuro 2**	**5.25**	**12**	P	Pn	06 32 58.3	-1.4
NEM2				*e*S	Sn	06 33 54.4	-4.7

*NEIC **28** 06:46:37.6±1.8, 22°.14S±0°.08×67°.5W±0°.1, h197km±13km, Error ellipse: s-maj=18.8km s-min=11.0km az=91.0*
*GUC **28** 06:46:38.4±0.8, 22°.17S×67°.48W, h196km±8km, ML3.6*
*IDC **28** 06:46:41.9±9.3, 21°.78S×66°.98W, h203km±64km, mb4.0/1, mb1 3.4/3, mb1mx3.1/18, mbtmp4.0/3, Error ellipse: s-maj=110.4km s-min=48.9km az=32.0*

ISC 28 06:46:37.2±0.8, 22°.14S±0°.04×67°.6W±0°.1, h209km±12km, n42, σ0§97/60, 3C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.29**	**248**	*e*P	**Pn**	**06 47 10.5**	**0.0**
LVC				*e*S	**Sn**	**06 47 35.5**	**-0.7**
LVC	**Limon Verde**	**1.29**	**248**		**Pn**	**06 47 10.4**	**0.0**
LVC				Sn	**Sn**	**06 47 35.5**	**-0.7**
PB09	**IPOC Station P**	**1.55**	**282**		**Pn**	**06 47 13.1**	**+0.7**
PB06	**IPOC Station P**	**1.90**	**252**	*e*P	**Pn**	**06 47 16.0**	**+0.4**
PB06				*i* S	**Sn**	**06 47 45.6**	**+0.1**
PB06				IAML		06 47 47.7	
	comp=E,401nm,0.1s						
PB06	**IPOC Station P**	**1.90**	**252**		**Pn**	**06 47 16.0**	**+0.4**
PB03	**IPOC Station P**	**1.99**	**272**	*e*P	**Pn**	**06 47 17.2**	**+0.7**
PB03				*i* S	**Sn**	**06 47 46.9**	**-0.1**
PB03				IAML		06 47 48.1	
	comp=E,385nm,0.2s						
PB15	**IPOC Station P**	**2.02**	**238**	*e*P	**Pn**	**06 47 17.4**	**+0.5**
PB15				*i* S	**Sn**	**06 47 48.4**	**+0.6**
PB15	**IPOC Station P**	**2.02**	**238**	Pn	**Pn**	**06 47 17.0**	**+0.2**
PB01	**IPOC Station P**	**2.06**	**302**	*e*P	**Pn**	**06 47 18.1**	**+0.6**
PB01				*i* S	**Sn**	**06 47 48.3**	**0.0**
PB01				IAML		06 47 49.8	
	comp=E,157nm,0.5s						
PB01	**IPOC Station P**	**2.06**	**302**	Pn	**Pn**	**06 47 18.0**	**+0.8**
PB07	**IPOC Station P**	**2.15**	**281**	*e*P	**Pn**	**06 47 18.9**	**+0.7**
PB07				*i* S	**Sn**	**06 47 49.9**	**-0.2**
PB07				IAML		06 47 51.1	
	comp=N,267nm,0.2s						
PB07	**IPOC Station P**	**2.15**	**281**		**Pn**	**06 47 19.3**	**+1.1**
PB04	**IPOC Station P**	**2.36**	**265**	*e*P	**Pn**	**06 47 21.2**	**+0.9**
PB04				*i* S	**Sn**	**06 47 53.8**	**-0.2**
PB04				IAML		06 47 56.3	
	comp=N,346nm,0.1s						
PB04	**IPOC Station P**	**2.36**	**265**		**Pn**	**06 47 21.6**	**+1.3**
PB08	**IPOC Station P**	**2.45**	**324**	*i*P	**Pn**	**06 47 22.8**	**+1.1**
PB08				*i* S	**Sn**	**06 47 56.9**	**+0.6**
PB08				IAML		06 47 58.4	
	comp=N,66nm,0.2s						
PB08	**IPOC Station P**	**2.45**	**324**		**Pn**	**06 47 23.0**	**+1.3**
PB05	**IPOC Station P**	**2.50**	**253**	*e*P	**Pn**	**06 47 22.8**	**+1.0**
PB05				*i* S	**Sn**	**06 47 56.2**	**-0.4**
PB05				IAML		06 47 57.6	
	comp=N,115nm,0.4s						
TA01	**Diego Aracena**	**2.86**	**303**	*e*P	**Pn**	**06 47 26.1**	**+0.3**
TA01				*i* S	**Sn**	**06 48 02.9**	**-0.9**
TA01	**Diego Aracena**	**2.86**	**303**	Pn	**Pn**	**06 47 25.8**	**+0.1**
TA02	**Huaiquique**	**3.00**	**308**	Pn	**Pn**	**06 47 27.3**	**0.0**
PB10	**IPOC Station P**	**3.04**	**243**	*i*P	**Pn**	**06 47 28.7**	**+0.9**
PB10				*i* S	**Sn**	**06 48 06.3**	**-1.1**
PB10				IAML		06 48 09.8	
	comp=E,98nm,0.3s						
PB11	**IPOC Station P**	**3.04**	**321**	*i*P	**Pn**	**06 47 28.3**	**+0.2**
PB11				*i* S	**Sn**	**06 48 06.7**	**-1.1**
PB11	**IPOC Station P**	**3.04**	**321**	Pn	**Pn**	**06 47 28.4**	**+0.4**
PSGC	**Pisagua**	**3.45**	**317**	*i* P	**Pn**	**06 47 32.3**	**-0.5**
PSGC				*i* S	**Sn**	**06 48 13.6**	**-2.8**
PSGC				IAML		06 48 17.9	
	comp=N,42nm,0.2s						
PSGCX	**Pisagua**	**3.45**	**317**	Pn	**Pn**	**06 47 32.6**	**-0.2**
GO02	**Mina Guanaco**	**3.51**	**211**	*i*P	**Pn**	**06 47 34.4**	**+0.6**
GO02				*i* S	**Sn**	**06 48 16.6**	**-1.6**
GO02	**Mina Guanaco**	**3.51**	**211**	Pn	**Pn**	**06 47 34.6**	**+0.9**
MNMC	**Minye Minye**	**3.52**	**328**	*i*P	**Pn**	**06 47 34.4**	**+0.6**
MNMC				*i* S	**Sn**	**06 48 17.6**	**-0.7**
MNMC	**Minye Minye**	**3.52**	**328**	Pn	**Pn**	**06 47 34.8**	**+0.9**
PB14	**IPOC Station P**	**3.56**	**225**	*i*P	**Pn**	**06 47 35.8**	**+1.5**
PB14				*i* S	**Sn**	**06 48 17.8**	**-1.4**
PB14				IAML		06 48 19.9	
	comp=N,37nm,0.2s						
AC01	**Pan de Azucar**	**4.83**	**214**	Pn	**Pn**	**06 47 49.3**	**-0.4**
AC02	**Maricunga**	**4.88**	**196**	Pn	**Pn**	**06 47 50.9**	**+0.2**
LPAZ	**La Paz**	**5.84**	**355**	P	**Pn**	**06 48 04.1**	**+0.9**
	comp=N,1.1nm,0.3s,baz=147,slow=5.9,SNR=45						
LPAZ				S	**Sn**	**06 49 09.9**	**-1.4**
	comp=N,0.1nm,0.3s,baz=214,slow=22,SNR=1.9						
LPAZ	**La Paz**	**5.84**	**355**	Pn	**Pn**	**06 48 04.3**	**+1.0**
GO03	**Copiap**	**5.93**	**203**	Pn	**Pn**	**06 48 02.9**	**-0.8**
AC04	**Llanos de Chal**	**6.80**	**207**	Pn	**Pn**	**06 48 12.7**	**-2.3**
ITAB	**Concordia**	**14.96**	**113**		**P**	**06 49 59.1**	**0.0**
TRQA	**Tornquist**	**16.59**	**164**		**P**	**06 50 17.1**	**+0.1**
TRQA				IAmb	IAmb	06 50 38.0	
	comp=Z,9.9nm,1.4s						
BDFB	**Brasilia**	**19.63**	**74**	P	**P**	**06 50 48.4**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=246,slow=10.0,SNR=3.5						
BDFB	**Brasilia**	**19.63**	**74**	P	**P**	**06 50 49.5**	**-0.8**
BDFB				IAmb	IAmb	06 50 58.1	
	comp=Z,12nm,1.5s						
TORD	**Torodi Ar. Bea**	**76.44**	**70**	P	**P**	**06 58 05.9**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=259,slow=5.6,SNR=33						
TORD	**Torodi Ar. Bea**	**76.44**	**70**	P	**P**	**06 58 05.4**	**+1.1**

*SNET **28** 06:50:09.1±0.8, 14°.10N×91°.29W, h13km±4km, ML3.8*
*GCG **28** 06:50:09.3±0.3, 14°.05N×91°.50W, h22km±3km, MD3.9*

ISC 28 06:50:04.2±3.8, 13°.9N±0°.1×91°.6W±0°.2, h9km±23km, n22, σ1§26/30, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.90**	**51**	*e*P	**Pn**	**06 50 23.8**	**+0.6**
PCG	**Pacaya**	**1.06**	**61**	*e*P	**Pn**	**06 50 27.0**	**+1.5**
NBG	**Las Nubes**	**1.38**	**59**	*e*P	**Pn**	**06 50 32.0**	**+2.2**
NBG				*e*S	**Sn**	**06 50 49.8**	**+1.4**
HUEH	**Huehuetenango**	**1.43**	**2**	*e*P	**Pn**	**06 50 30.9**	**+0.4**
HUEH				*e*S	**Sg**	**06 50 49.3**	**-1.0**
RTR	**El Retiro**	**1.87**	**89**	*e*P	**Pn**	**06 50 37.6**	**+1.1**
CEVE	**Cerro Verde**	**1.89**	**91**	*e*P	**Pn**	**06 50 37.7**	**+0.8**
CEVE				IAML		06 51 06.9	
	comp=Z,2µm,0.3s						
SBLS	**San Blas**	**1.89**	**91**	*e*P	**Pn**	**06 50 37.8**	**+0.9**
SNJE	**San Jose**	**1.91**	**90**	*e*P	**Pn**	**06 50 38.1**	**+1.0**
JAYA	**Jayaque - finc**	**2.07**	**96**	*e*P	**Pn**	**06 50 39.7**	**+0.4**
JAYA				*e*S	**Sn**	**06 51 03.7**	**-1.6**
JAYA				IAML		06 51 09.6	
	comp=Z,2µm,0.2s						
CEDA	**San Andres**	**2.11**	**92**	*e*P	**Pn**	**06 50 40.6**	**+0.8**
CEDA				*e*S	**Sn**	**06 51 04.6**	**-1.6**
CEDA				IAML		06 51 18.1	
	comp=Z,744nm,0.3s						
TACO	**Tacachico**	**2.15**	**87**	*e*P	**Pn**	**06 50 40.7**	**+0.4**
TACO				*e*S	**Sn**	**06 51 05.2**	**-1.9**
MTO3	**Montecristo**	**2.20**	**76**	*e*P	**Pn**	**06 50 41.4**	**+0.3**
BOQS	**Boqueron**	**2.23**	**93**	*e*P	**Pn**	**06 50 42.6**	**+1.2**
SNET	**Serv Nac Est T**	**2.28**	**95**	*e*P	**Pn**	**06 50 43.2**	**+1.1**
SNET				*e*S	**Sn**	**06 51 09.9**	**-0.4**
SNET				IAML		06 51 16.3	
	comp=Z,711nm,0.2s						
LFRS	**El Faro**	**2.45**	**96**	*e*P	**Pn**	**06 50 45.8**	**+1.4**
LBRS	**Las Brisas**	**2.46**	**93**	*e*P	**Pn**	**06 50 45.8**	**+1.3**
SJTE	**Alcalda de S**	**2.50**	**96**	*e*P	**Pn**	**06 50 46.6**	**+1.5**
SJTE				*e*S	**Sn**	**06 51 14.9**	**-1.0**
SJTE				IAML		06 51 26.8	
	comp=Z,252nm,0.3s						
PAVA	**Las Pavas**	**2.56**	**93**	*e*P	**Pn**	**06 50 46.7**	**+0.7**
COEG	**Centro de Oper**	**2.62**	**95**	*e*P	**Pn**	**06 50 48.2**	**+1.3**
COEG				IAML		06 51 30.9	
	comp=Z,484nm,0.3s						
TECO	**Alcaldia de Te**	**2.73**	**97**	*e*P	**Pn**	**06 50 48.8**	**+0.6**
TECO				*e*S	**Sn**	**06 51 20.0**	**-1.4**
COEB	**Comit de Eme**	**2.98**	**97**	*e*P	**Pn**	**06 50 53.2**	**+1.5**
COEB				IAML		06 51 36.3	
	comp=Z,246nm,0.4s						
LCND	**La Caada**	**3.62**	**99**	*e*P	**Pn**	**06 51 01.3**	**+0.9**

IDC 28 07:11:50.6±2.4, 4°.50S×153°.16E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=181.7km s-min=31.2km az=128.0, New Ireland region

| Code | Station Name | Δ° | AZ

mb4.1/21, Error ellipse: s-maj=18.6km s-min=8.6km az=48.0

ISC 28 07:45:25.3±0.8, 14°05N±0°07×91°71W±0°06, h67km±6km, n74, σ1§41/95, mb4.1/15, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.48**	**2**	Pn	**Pn**	**07 45 37.0**	**-0.7**
RTAL				Sn	**Sn**	**07 45 45.4**	**-1.4**
FUG	**Fuego 3**	**0.93**	**64**	*eP*	**Pn**	**07 45 43.5**	**+0.5**
PCG	**Pacaya**	**1.12**	**72**	*eP*	**Pn**	**07 45 46.3**	**+0.8**
HUEH	**Huehuetenango**	**1.28**	**9**	*eP*	**Pn**	**07 45 48.5**	**+0.9**
HUEH				*eS*	**Sn**	**07 46 05.4**	**+1.2**
HUEH				IAML		07 46 12.2	
	comp=Z,6μm,0.5s						
HUEH	**Huehuetenango**	**1.28**	**9**	Pn	**Pn**	**07 45 48.2**	**+0.7**
NBG	**Las Nubes**	**1.43**	**68**	*eP*	**Pn**	**07 45 51.6**	**+2.1**
NBG				*eS*	**Sn**	**07 46 12.3**	**+4.7**
CEVE	**Cerro Verde**	**2.04**	**96**	*eP*	**Pn**	**07 45 58.6**	**+0.9**
CEVE				*eS*	**Sn**	**07 46 22.1**	**-0.1**
CEVE				IAML		07 46 26.4	
	comp=Z,4μm,0.3s						
CEVE	**Cerro Verde**	**2.04**	**96**	*eP*	**Pn**	**07 45 58.6**	**+0.9**
CEVE				*eS*	**Sn**	**07 46 22.1**	**-0.1**
CEVE				IAML		07 46 26.4	
	comp=Z,4μm,0.3s						
JAYA	**Jayaque - finc**	**2.23**	**100**	*eP*	**Pn**	**07 46 00.7**	**+0.5**
JAYA				*eS*	**Sn**	**07 46 26.4**	**-0.4**
JAYA				IAML		07 46 30.4	
	comp=Z,3μm,0.2s						
JAYA	**Jayaque - finc**	**2.23**	**100**	*eP*	**Pn**	**07 46 00.7**	**+0.5**
JAYA				*eS*	**Sn**	**07 46 26.4**	**-0.4**
JAYA				IAML		07 46 30.4	
	comp=Z,3μm,0.2s						
CEDA	**San Andres**	**2.26**	**96**	*eP*	**Pn**	**07 46 01.5**	**+1.1**
CEDA				*eS*	**Sn**	**07 46 26.8**	**-0.5**
CEDA				IAML		07 46 42.9	
	comp=Z,1μm,0.4s						
CEDA	**San Andres**	**2.26**	**96**	*eP*	**Pn**	**07 46 01.5**	**+1.1**
CEDA				*eS*	**Sn**	**07 46 26.8**	**-0.5**
CEDA				IAML		07 46 42.9	
	comp=Z,1μm,0.4s						
CCIG	**Comitan**	**2.26**	**350**		**Pn**	**07 46 02.2**	**+1.5**
MTO3	**Montecristo**	**2.30**	**81**	*eP*	**Pn**	**07 46 01.4**	**+0.1**
MTO3				IAML		07 46 34.9	
	comp=Z,168nm,0.4s						
MTO3	**Montecristo**	**2.30**	**81**	*eP*	**Pn**	**07 46 01.4**	**+0.1**
MTO3				IAML		07 46 34.9	
	comp=Z,168nm,0.4s						
MTO3	**Montecristo**	**2.30**	**81**		**Pn**	**07 46 01.2**	**0.0**
ESQI	**Esquipulas**	**2.35**	**77**		**Pn**	**07 46 02.2**	**+0.4**
BOQS	**Boqueron**	**2.38**	**97**	*eP*	**Pn**	**07 46 03.9**	**+1.6**
BOQS	**Boqueron**	**2.38**	**97**	*eP*	**Pn**	**07 46 03.9**	**+1.6**
SNET	**Serv Nac Est T**	**2.43**	**98**	Pn	**Pn**	**07 46 03.5**	**+0.6**
LFRS	**El Faro**	**2.60**	**99**	*eP*	**Pn**	**07 46 06.9**	**+1.6**
LFRS	**El Faro**	**2.60**	**99**	*eP*	**Pn**	**07 46 06.9**	**+1.6**
PAVA	**Las Pavas**	**2.71**	**97**	*eP*	**Pn**	**07 46 07.1**	**+0.4**
PAVA				*eS*	**Sn**	**07 46 38.4**	**-0.1**
PAVA	**Las Pavas**	**2.71**	**97**	*eP*	**Pn**	**07 46 07.1**	**+0.4**
PAVA				*eS*	**Sn**	**07 46 38.4**	**-0.1**
COEG	**Centro de Oper**	**2.78**	**98**	*eP*	**Pn**	**07 46 08.6**	**+1.0**
COEG				*eS*	**Sn**	**07 46 38.9**	**-1.1**
COEG				IAML		07 46 47.7	
	comp=Z,676nm,0.3s						
COEG	**Centro de Oper**	**2.78**	**98**	*eP*	**Pn**	**07 46 08.6**	**+1.0**
COEG				*eS*	**Sn**	**07 46 38.9**	**-1.1**
COEG				IAML		07 46 47.7	
	comp=Z,676nm,0.3s						
COEB	**Comit de Eme**	**3.13**	**100**	*eP*	**Pn**	**07 46 13.5**	**+1.1**
COEB				*eS*	**Sn**	**07 46 48.3**	**-0.6**
COEB	**Comit de Eme**	**3.13**	**100**	*eP*	**Pn**	**07 46 13.5**	**+1.1**
COEB				*eS*	**Sn**	**07 46 48.3**	**-0.6**
PETF	**Flores**	**3.36**	**32**	*eP*	**Pn**	**07 46 16.4**	**+1.0**
PETF	**Flores**	**3.36**	**32**		**Pn**	**07 46 16.1**	**+0.7**
TGUH	**Tegucigalpa,Un**	**4.30**	**89**	Pn	**Pn**	**07 46 28.5**	**0.0**
CMIG	**Matias Romero**	**4.30**	**315**	P	**Pn**	**07 46 28.4**	**0.0**
	comp=Z,4.8nm,0.3s,baz=150,slow=13,SNR=39						
CMIG				S	**Sn**	**07 47 16.9**	**-0.4**
	comp=Z,24nm,0.3s,baz=75,slow=23,SNR=8.5						
CMIG				LR	LR	07 48 30.6	
	comp=Z,109nm,21.9s,baz=135,slow=42						
CRIN	**San Cristobal**	**4.73**	**106**		**Pn**	**07 46 36.0**	**+1.8**
CNGN	**Cerro Negro**	**5.11**	**107**		**Pn**	**07 46 40.9**	**+1.4**
ORTG	**Ortega, Santa**	**7.12**	**120**	Pn	**Pn**	**07 47 09.3**	**+2.3**
DUNO	**Dulce Nombre,**	**7.24**	**122**		**Pn**	**07 47 11.2**	**+2.5**
JTS	**Las Juntas de**	**7.59**	**119**	P	**Pn**	**07 47 15.1**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=11,slow=9.1,SNR=14						
JTS				S	**Sn**	**07 48 34.1**	**-3.8**
	baz=299,slow=23,SNR=1.2						
JTS				LR	LR	07 49 56.4	
	comp=Z,97nm,21.4s,baz=17,slow=37						
CAO2	**Cobano, Puntar**	**7.78**	**123**	Pn	**Pn**	**07 47 18.2**	**+2.3**
JACO	**JACO, Garabito**	**8.16**	**122**	Pn	**Pn**	**07 47 24.3**	**+3.2**
RIMA	**Rio Macho**	**8.78**	**118**		**Pn**	**07 47 32.6**	**+2.9**
PEZE	**Perez Zeledon,**	**9.13**	**120**	Pn	**Pn**	**07 47 37.3**	**+2.8**
SRBA	**San Rafael, Bu**	**9.47**	**119**		**Pn**	**07 47 41.5**	**+2.4**
DRKO	**Durika**	**9.55**	**119**		**Pn**	**07 47 42.6**	**+2.2**
SOR	**Soroa**	**11.99**	**42**	Pn	**Pn**	**07 48 13.7**	**+0.3**
TXAR	**Lajitas Array**	**18.82**	**326**	P	**P**	**07 49 39.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=10,SNR=7.5						
TXAR				LR	LR	07 58 54.3	
	comp=Z,64nm,21.3s,baz=0.0,slow=43						
TXAR	**Lajitas Array**	**18.82**	**326**	P	**Pn**	**07 49 42.4**	**+1.5**
TX31	**Lajitas Ar. Si**	**18.82**	**326**	P	**Pn**	**07 49 42.1**	**+1.2**
TX32	**Lajitas Array**	**18.82**	**326**	P	**Pn**	**07 49 42.1**	**+1.2**
OTAV	**Otavalo**	**18.98**	**135**	P	**Pn**	**07 49 45.4**	**+2.0**
152A	**Waverly Hall**	**19.61**	**18**	P	**P**	**07 49 48.8**	**+0.6**
152A				IAmb	IAmb	07 49 49.1	
	comp=Z,4.9nm,0.7s						
154A	**Montrose**	**20.08**	**22**	P	**P**	**07 49 54.0**	**+0.7**
PLAL	**Pickwick Lake**	**21.10**	**8**	P	**P**	**07 50 05.0**	**+0.7**
PLAL				IAmb	IAmb	07 50 08.7	
	comp=Z,10nm,1.4s						
SWET	**Sewanee**	**21.71**	**13**	P	**P**	**07 50 10.2**	**-0.7**
SWET				IAmb	IAmb	07 50 34.7	
	comp=Z,6.2nm,1.0s						
FCAR	**Ozark Folk Cen**	**21.75**	**359**	P	**P**	**07 50 10.7**	**-0.7**
FCAR				IAmb	IAmb	07 50 30.9	
	comp=Z,4.2nm,0.4s						
HODGE	**Hodges**	**21.84**	**21**	P	**P**	**07 50 12.5**	**+0.2**
HODGE				IAmb	IAmb	07 50 30.6	
	comp=Z,8.7nm,1.0s						
V48A	**Smith Brothers**	**22.05**	**11**	P	**P**	**07 50 13.2**	**-1.2**
W52A	**Murphy**	**22.10**	**17**	P	**P**	**07 50 15.4**	**+0.3**
W52A				IAmb	IAmb	07 50 18.6	
	comp=Z,14nm,1.4s						
U40A	**Yellville**	**22.24**	**358**	P	**P**	**07 50 15.8**	**-0.8**
WVT	**Waverly**	**22.27**	**8**	P	**P**	**07 50 14.7**	**-2.1**
WVT				IAmb	IAmb	07 50 39.5	
	comp=Z,5.8nm,1.1s						
AMTX	**Amarillo**	**22.62**	**338**	P	**P**	**07 50 20.2**	**-0.6**
V51A	**Loudon**	**22.65**	**16**	P	**P**	**07 50 21.0**	**0.0**
V51A				IAmb	IAmb	07 50 26.8	
	comp=Z,14nm,1.4s						
PBMO	**Poplar Bluff**	**22.67**	**3**	P	**P**	**07 50 18.9**	**-2.2**
TKL	**Tuckaleechee C**	**22.67**	**17**	P	**P**	**07 50 21.1**	**-0.1**
V53A	**Saluda**	**22.97**	**19**	P	**P**	**07 50 23.6**	**-0.7**
V53A				IAmb	IAmb	07 50 42.5	
	comp=Z,10nm,1.1s						
U49A	**Red Boiling Sp**	**23.00**	**12**	P	**P**	**07 50 23.0**	**-1.5**
U49A				IAmb	IAmb	07 50 49.8	
	comp=Z,9.6nm,1.2s						
S44A	**Carbondale**	**23.65**	**5**	P	**P**	**07 50 30.4**	**-0.2**
PDAR	**Pinedale Array**	**32.50**	**335**	pPcP		07 54 54.2	
	comp=Z,0.3nm,0.6s,baz=180,slow=7.1,SNR=3.6						
NVAR	**Mina Array Bea**	**33.81**	**321**	P	**P**	**07 52 03.2**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=132,slow=8.9,SNR=13						
NVAR				pP	**pP**	**07 52 17.5**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=134,slow=8.8,SNR=32						
NVAR				PcP	**PcP**	**07 54 39.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=90,slow=1.8,SNR=2.0						
NVAR				pPcP		07 54 59.0	
	comp=Z,0.4nm,0.5s,baz=127,slow=3.9,SNR=3.7						
LPAZ	**La Paz**	**38.09**	**141**	P	**P**	**07 52 38.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=338,slow=3.9,SNR=6.8						
SCHQ	**Schefferville**	**45.08**	**20**	P	**P**	**07 53 31.7**	**-2.9**
	comp=Z,1.7nm,0.6s,baz=226,slow=6.9,SNR=5.5						
YKA	**Yellowknife Ar**	**51.05**	**347**	P	**P**	**07 54 19.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=134,slow=9.3,SNR=7.3						
YKA				pP	**pP**	**07 54 36.5**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=154,slow=7.5,SNR=2.4						
CPUP	**Villa Florida**	**52.24**	**140**	P	**P**	**07 54 28.3**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=318,slow=8.6,SNR=3.5						
ILAR	**Eielson Array**	**62.91**	**337**	P	**P**	**07 55 43.7**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=118,slow=4.7,SNR=5.8						
ILAR				pP	**pP**	**07 56 02.3**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=118,slow=4.2,SNR=6.2						
CMAR	**Chiang Mai Arr**	**146.04**	**342**	PKPbc	**PKPdf**	**08 04 58.1**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=341,slow=4.1,SNR=8.4						
CMAR				pPKPbc	**pPKPdf**	**08 05 16.6**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=335,slow=3.2,SNR=5.2						

*IDC **28** 07:52:25.1±1.8, 33°30N×75°91E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/49, mbtmp3.6/9, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.6/49, Error ellipse: s-maj=51.2km s-min=28.6km az=62.0*

ISC 28 07:52:29.3±1.1, 33°4N±0°1×75°9E±0°2, h26km, n11, σ1§92/12, mb3.6/6, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMU	**Jammu**	**1.10**	**230**	*eP*	**Pn**	**07 52 48.0**	**-1.0**
JMU				*eS*	**Sn**	**07 53 03.0**	**-0.4**
MKAR	**Makanchi Array**	**14.20**	**18**	Pn	**Pn**	**07 55 51.2**	**+2.5**
	0.2nm,0.3s,baz=197,slow=13,SNR=9.5						
MKAR				Sn	**Sn**	**07 58 20.8**	**-4.6**
	0.1nm,0.3s,baz=201,slow=20,SNR=2.9						
KURBB	**Kurchatov Arra**	**17.28**	**6**	P	**Pn**	**07 56 28.2**	**-0.4**
	0.1nm,0.3s,baz=190,slow=11,SNR=4.0						
BVAR	**Borovoye Array**	**19.98**	**350**	P	**P**	**07 56 59.7**	**+0.1**
	0.9nm,0.8s,baz=168,slow=15,SNR=3.4						
ZALV	**Zalesovo Beam**	**21.46**	**15**	P	**P**	**07 57 16.1**	**+0.5**
	1.0nm,0.4s,baz=215,slow=8.7,SNR=3.7						
AKTO	**Aktyubinsk**	**21.48**	**328**	P	**P**	**07 57 17.2**	**+1.5**
	1.6nm,0.6s,baz=118,slow=19,SNR=3.6						
FINES	**FINESS Array B**	**42.25**	**327**	P	**P**	**08 00 19.9**	**-0.1**
	0.2nm,0.4s,baz=98,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**45.50**	**338**	P	**P**	**08 00 47.5**	**+1.4**
	2.2nm,1.0s,baz=120,slow=7.2,SNR=5.9						
KMBO	**Kilima Mbogo**	**50.04**	**235**	LR	LR	08 23 44.9	
	comp=Z,61nm,18.2s,baz=93,slow=38						
WRA	**Warramunga Arr**	**76.95**	**125**	P	**P**	**08 04 19.4**	**-0.4**
	0.5nm,0.9s,baz=312,slow=5.5,SNR=2.2						
YKA	**Yellowknife Ar**	**84.03**	**5**	P	**P**	**08 04 57.4**	**+0.3**
	0.2nm,0.4s,baz=8.1,slow=4.6,SNR=2.7						

*IDC **28** 08:01:54.3±1.4, 51°42S×140°43E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/25, mbtmp3.8/5, ML3.9/1, MS3.9/2, Ms1 3.8/2, ms1mx3.3/20, Error ellipse: s-maj=105.4km s-min=20.7km az=86.0*

ISC 28 08:01:55.6±1.3, 51°4S±0°1×140°6E±0°7, h10km, n19, σ0§99/8, mb3.9/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**19.53**	**3**	P	**Pn**	**08 06 25.1**	**+0.8**
	0.2nm,0.3s,baz=182,slow=8.9,SNR=4.9						
NWAO	**Narrogin (SRO)**	**25.14**	**308**	LR	LR	08 14 21.7	
	comp=Z,268nm,21.5s,baz=141,slow=30						
H01W1	**Cape Leeuwin H**	**25.19**	**301**	T	T	08 33 07.7	
	baz=140,slow=75,SNR=102						
H01W2	**Cape Leeuwin H**	**25.20**	**301**	T	T	08 33 08.1	
	baz=140,slow=75,SNR=129						
H01W3	**Cape Leeuwin H**	**25.21**	**301**	T	T	08 33 09.1	
	baz=140,slow=75,SNR=125						
VNDA	**Vanda**	**27.39**	**170**	P	**P**	**08 07 40.1**	**-0.5**
	1.0nm,0.8s,baz=329,slow=8.0,SNR=4.7						
ASAR	**Alice Springs**	**28.18**	**347**	P	**P**	**08 07 47.3**	**-0.8**
	0.5nm,0.8s,baz=162,slow=9.8,SNR=2.5						
WRA	**Warramunga Arr**	**31.79**	**349**	P	**P**	**08 08 19.2**	**-0.8**
	4.6nm,0.8s,baz=174,slow=7.3,SNR=17						
MAW	**Mawson**	**39.55**	**216**	LR	LR	08 25 03.1	
	comp=Z,147nm,18.8s,baz=74,slow=35						
SNAA	**Sanae**	**54.52**	**193**	P	**P**	**08 11 23.0**	**0.0**
	2.3nm,1.2s,baz=144,slow=19,SNR=3.1						
H08S2	**Diego Garcia H**	**70.45**	**283**	T	T	09 29 21.8	
	baz=142,slow=76,SNR=7.9						
H08S1	**Diego Garcia H**	**70.47**	**283**	T	T	09 29 23.1	
	baz=142,slow=76,SNR=8.1						
H08S3	**Diego Garcia H**	**70.47**	**283**	T	T	09 29 18.3	
	baz=142,slow=76,SNR=11						
H03S2	**Juan Fernandez**	**88.28**	**148**	T	T	09 53 37.8	
	baz=196,slow=74,SNR=4.9						
H03S1	**Juan Fernandez**	**88.28**	**148**	T	T	09 53 44.8	
	baz=196,slow=74,SNR=4.8						
H03S3	**Juan Fernandez**	**88.30**	**148**	T	T	09 53 43.9	
	baz=196,slow=74,SNR=6.1						
ARCES	**ARCESS Array B**	**145.41**	**326**	PKPbc	**PKPab**	**08 21 32.5**	**+0.1**
	2.1nm,0.6s,baz=56,slow=0.4,SNR=22						
GERES	**GERESS Array B**	**146.47**	**287**	PKPbc	**PKPdf**	**08 21 34.4**	**-0.3**
	0.5nm,0.5s,baz=128,slow=2.8,SNR=6.8						
ESDC	**Sonseca Array**	**152.81**	**258**	PKPbc	**PKiKP**	**08 21 54.0**	**+1.6**
	0.4nm,0.9s,baz=104,slow=1.6,SNR=4.5						

*BJI **28** 08:10:09.7±0.0, 19°75N×155°37W, h6km, mB5.4/37, mb5.2/57, Ms5.0/14, Ms7 4.7/13*

*IDC **28** 08:10:09.8±0.6, 19°30N×155°23W, h0km, mb4.8/25, mb1 4.9/25, mb1mx4.8/34, mbtmp4.8/25, MS3.9/24, Ms1 3.9/24, ms1mx3.8/49, Error ellipse: s-maj=17.0km s-min=8.5km az=12.0*

*MOS **28** 08:10:09.8±1.4, 19°51N×155°27W, h10km, mb5.4/40, MS4.5/5, Error ellipse: s-maj=7.5km s-min=6.3km az=105.9*

*NEIC **28** 08:10:10.5, 19°33N×155°21W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=1.35; Mθθ=0.42; Mϕϕ=0.94; Mrθ=1.28; Mθϕ=-2.43; Mrϕ=0.90; Fault plane solution: M0 3.13000×10^16^ NP1:ϕs175.00000°, δ60.00000°, λ-30.00000°. NP2:ϕs281.00000°, δ64.00000°, λ-146.00000°. Principal axes: T 3.1282, Plg3.0000°, Azm47.0000°; N -0.0005, Plg49.0000°, Azm314.0000°; P -3.1277, Plg41.0000°, Azm140.0000°;*

*HVO **28** 08:10:10.5±0.9, 19°34N±0°08×155°21W±0°10, h9km±3km, ML5.2/21, mb5.1/126(NEIC), ML5.0/39(NEIC), Mwr4.9/16(SLM) Error ellipse: s-maj=16.3km s-min=6.2km az=49.0*

*NEIC **28** 08:10:11.2±1.5, 19°45N±0°08×155°26W±0°08, h10km±5km, Error ellipse: s-maj=13.7km s-min=7.8km az=221.0*

*GCMT **28** 08:10:17.5±0.5, 19°23N±0°03×155°44W±0°05, h22km±1km, MW4.9/77, Moment Tensor Solution. s12,c12; s77,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.16±.28; Mθθ-2.29±.16; Mϕϕ-0.87±.15; Mrθ-0.01±.20; Mϕθ-1.22±.09; Mϕr-0.93±.27; Best double couple: M0 3.20200×10^16^ NP1:ϕs72.00000°, δ42.00000°, λ109.00000°. NP2: ϕs227.00000°, δ51.00000°, λ74.00000°. Principal axes: T 3.3750, Plg77.0000°, Azm78.0000°; N -0.3500, Plg13.0000°, Azm238.0000°; P -3.0290, Plg4.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 08:10:11.0±0.6, 19°40N±0°04×155°23W±0°03, h10km±3km, n358, σ1§43/339, mb5.1/129, MS4.1/40, 20C-10D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.03**	**150**		**Pg**	**08 10 12.5**	**-0.5**
BYL	**Byron's Ledge**	**0.03**	**299**		**Pg**	**08 10 13.0**	**-0.1**
BYL				IAML		08 10 16.1	
	comp=E,487μm,0.5s						
KKO	**Keanakako`i**	**0.04**	**274**		**Pg**	**08 10 12.8**	**-0.3**
KKO				Sg	**Sg**	**08 10 15.1**	**+0.5**
HATHI	**Halema'uma'u T**	**0.04**	**312**		**Pg**	**08 10 13.2**	**+0.1**
HATHI				IAML		08 10 16.1	
	comp=N,776μm,1.1s						
HATHI				IAML		08 10 16.5	
	comp=E,753μm,1.1s						
RIM	**Rim**	**0.04**	**270**		**Pg**	**08 10 13.2**	**0.0**
SBLHI	**Steaming Bluff**	**0.05**	**311**		**Pg**	**08 10 13.3**	**+0.1**
SBLHI				IAML		08 10 16.6	
	comp=E,476μm,0.6s						
NPH	**North Pit**	**0.05**	**289**		**Pg**	**08 10 13.3**	**+0.1**
NPH				Sg	**Sg**	**08 10 16.0**	**+1.2**
UWB	**Uwekahuna B**	**0.05**	**302**		**Pg**	**08 10 13.3**	**+0.1**
UWB				IAML		08 10 16.4	
	comp=N,560μm,1.5s						
OBL	**Observatory Le**	**0.06**	**293**		**Pg**	**08 10 13.3**	**+0.1**
OBL				IAML		08 10 15.7	
	comp=E,733μm,0.8s						
SDHHI	**Sand Hill**	**0.06**	**264**		**Pg**	**08 10 13.1**	**-0.2**
SDHHI				Sg	**Sg**	**08 10 15.4**	**+0.5**
UWE	**Uwekahuna**	**0.07**	**293**		**Pg**	**08 10 13.5**	**+0.2**

WRMHI	**West Rim**	**0.07**	**279**		**Pg**	**08 10 13.3**	**0.0**
RSD	**Rainshed**	**0.08**	**326**		**Pg**	**08 10 13.8**	**+0.2**
STCH	**Steam Cracks**	**0.10**	**96**		**Pg**	**08 10 13.1**	**-0.6**
STCH				Sg	**Sg**	**08 10 15.2**	**-0.4**
NPOC	**North of Pu'u**	**0.11**	**91**	Pg	**Pg**	**08 10 13.5**	**-0.4**
JCUZ	**Jacuzzi**	**0.12**	**95**		**Pg**	**08 10 13.6**	**-0.4**
JCUZ				IAML		08 10 17.6	
	comp=E,631μm,0.6s						
HLP	**Hilina Pali**	**0.12**	**217**		**Pg**	**08 10 13.4**	**-0.6**
MLH	**Mauna Loa**	**0.18**	**304**		**Pg**	**08 10 15.6**	**+0.6**
AIN	**Ainahou**	**0.22**	**264**		**Pg**	**08 10 15.7**	**0.0**
HMH	**Humu'ula Sheep**	**0.32**	**311**		**Pb**	**08 10 18.3**	**-0.7**
HMH				IAML		08 10 25.4	
	comp=E,221μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.36**	**293**		**Pg**	**08 10 18.3**	**0.0**
MWH	**Moku'aweowe**	**0.36**	**284**		**Pg**	**08 10 18.4**	**0.0**
KHU	**Kahuku**	**0.39**	**248**	P	**Pg**	**08 10 18.3**	**-0.6**
KHU	**Kahuku**	**0.39**	**248**		**Pg**	**08 10 18.3**	**-0.6**
KHU				IAML		08 10 25.1	
	comp=N,170μm,1.0s						
POHA	**Pohakuloa**	**0.46**	**322**	Pg	**Pg**	**08 10 20.2**	**+0.1**
POHA	**Pohakuloa**	**0.46**	**322**	IAML		08 10 29.0	
	comp=N,76μm,0.3s						
HUH	**Hualalai**	**0.64**	**297**		**Pg**	**08 10 23.3**	**-0.2**
I59US	**HAWAII INFRASO**	**0.66**	**287**	Pg	**Pg**	**08 10 22.7**	**-1.0**
	baz=118,slow=23,SNR=3.0						
I59US				Lg	Lg	08 10 33.1	
	baz=122,slow=21						
KHLU	**Kahalu`u**	**0.66**	**287**		**Pg**	**08 10 22.9**	**-0.9**
KHLU				IAML		08 10 35.1	
	comp=N,80μm,0.6s						
HPAH	**Hawaii Prepara**	**0.77**	**325**		**Pg**	**08 10 24.4**	**-1.5**
HPAH				IAML		08 10 44.8	
	comp=N,52μm,1.4s						
HPAH				IAML		08 10 44.9	
	comp=E,57μm,1.0s						
HLK	**Haleakala**	**1.66**	**325**	Pn	**Pn**	**08 10 37.0**	**-3.5**
HLK				IAML		08 11 32.3	
	comp=N,10μm,0.9s						
HLK				IAML		08 11 41.0	
	comp=E,12μm,1.0s						
WMR	**Waimanalo Ridg**	**2.99**	**310**		**Pn**	**08 10 54.5**	**-4.1**
DHH	**Diamond Head**	**3.04**	**308**	P	**Pn**	**08 10 55.2**	**-4.0**
DHH	**Diamond Head**	**3.04**	**308**		**Pn**	**08 10 55.2**	**-4.0**
HON	**Honolulu**	**3.23**	**307**	P	**Pn**	**08 10 58.1**	**-3.7**
HON	**Honolulu**	**3.23**	**307**	Pn	**Pn**	**08 10 58.1**	**-3.7**
HON				IAML		08 11 51.5	
	comp=E,4μm,2.0s						
HON				IAML		08 12 03.0	
	comp=N,5μm,1.6s						
KIP	**Kipapa**	**3.30**	**308**	*ceP*	**Pn**	**08 10 58.8**	**-4.0**
KIP	**Kipapa**	**3.30**	**308**		**Pn**	**08 10 58.8**	**-4.0**
KIP				IAML		08 11 38.9	
	comp=N,3μm,1.0s						
TAOE	**Nuku Hiva Isla**	**31.76**	**151**	*e*LR	LR	08 24 52.5	
	comp=N,889nm,24.3s,baz=336						
TAOE	**Nuku Hiva Isla**	**31.76**	**151**	*eT*	T	08 49 44.0	
	comp=N,433nm,0.2s						
SAO	**San Andreas Ge**	**34.23**	**53**	P	**P**	**08 16 58.2**	**+1.1**
SAO				pmax	pmax		
	comp=Z,16nm,1.1s						
SAO	**San Andreas Ge**	**34.23**	**53**	P	**P**	**08 16 58.2**	**+1.1**
PMPB	**Monarch Peak**	**34.53**	**54**	P	**P**	**08 17 00.9**	**+1.2**
PMPB				IAmb	IAmb	08 17 13.6	
	comp=Z,34nm,1.2s						
O02D	**Mt. Diablo Mer**	**34.66**	**46**	P		08 17 01.5	
	baz=243,SNR=9.5						
PAGB	**Antelope Grade**	**34.80**	**55**	P	**P**	**08 17 00.7**	**-1.2**
PKM	**Mcpherson Peak**	**34.88**	**56**	P		08 17 01.6	
	baz=253						
PMOR	**Pomariorio Ree**	**34.94**	**168**	*eT*	T	08 53 42.3	
	comp=Z,670nm,0.2s						
L02E	**Cave Junction**	**35.08**	**43**	P		08 17 03.9	
	baz=239						
N02D	**Trinity Center**	**35.09**	**45**	P		08 17 04.0	
	baz=242						
M02C	**Callahan**	**35.19**	**44**	P		08 17 04.6	
	baz=241						
VAH	**Vaihoa**	**35.22**	**167**	*eT*	T	08 54 05.0	
	comp=Z,124nm,0.4s						
ORV	**Oroville**	**35.28**	**48**	P	**P**	**08 17 05.4**	**-0.7**
ORV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ORV	**Oroville**	**35.28**	**48**	P	**P**	**08 17 05.4**	**-0.7**
K02D	**Willamette Mer**	**35.31**	**42**	P		08 17 05.5	
	baz=239						
O03E	**Paynes Creek**	**35.39**	**47**	P		08 17 07.8	
	baz=244,S

NVAR	Mina Array Bea	37.16	51	P		P	08 17 20.8	-1.6
PPT2	Papeete2	37.17	171	*e*LR		LR	08 27 19.9	
	comp=Z,986nm,25.2s,baz=342							
PPT2	Papeete2	37.17	171	*e*T		T	08 56 27.3	
	comp=Z,46nm,0.2s							
TIAR	Tiarei	37.17	171	*e*P		P	08 17 20.8	-1.6
	comp=Z,6.1nm,1.0s							
TIAR	Tiarei	37.17	171	*e*T		T	08 56 29.6	
	comp=Z,46nm,0.2s							
PAE	Paea	37.24	171	*e*T		T	08 56 28.9	
	comp=Z,14nm,0.2s							
PFO	Pinyon Flats O	37.24	60	P			08 17 23.4	
	baz=257							
TPFO	Pinon Flats	37.25	60	P			08 17 23.5	
	baz=257							
NV11	Mina Array Sit	37.27	51	P		P	08 17 22.3	-0.9
IKP	In-Ko-Pah, Jac	37.34	61	P			08 17 24.2	
	baz=259							
GSC	Goldstone, Bar	37.36	57	P		P	08 17 21.7	-2.3
GSC				pmax		pmax		
	comp=Z,19nm,1.3s							
GSC	Goldstone, Bar	37.36	57	P		P	08 17 21.7	-2.3
GRAC	Grapevine Rang	37.40	54	P			08 17 23.9	
	baz=252							
I05D	Terrebonne, OR	37.61	41	P			08 17 27.4	
	baz=239,SNR=6.0							
HEC	Hector,Ludlow	37.62	58	P			08 17 26.4	
	baz=256							
SWSC	Sam W. Stewart	37.65	61	P			08 17 26.9	
	baz=259							
AMKA	Amchitka	37.69	334	P		P	08 17 25.4	-1.0
MEH	Mehetia	37.70	169	*e*T		T	08 57 11.2	
	comp=Z,43nm,0.3s							
BELC	Belle Mtn. Jos	37.70	59	P			08 17 28.0	
	baz=257,SNR=19							
OHAK	Old Harbor	37.80	2	P			08 17 29.6	
	baz=183,SNR=6.0							
SHOC	Shoshone, Teco	37.94	56	P			08 17 29.2	
	baz=255							
H02S1	DAWSON INLET T	38.06	22	T		T	08 57 26.3	
E04D	Cinebar	38.07	37	P			08 17 29.6	
	baz=236							
BC3	Big Chuckawall	38.08	60	P			08 17 31.2	
	baz=258							
G05D	Wamic, OR	38.09	40	P			08 17 30.8	
	baz=238							
TUQ	Turquoise Moun	38.09	57	P			08 17 30.7	
	baz=256							
GMRC	Granite Mounta	38.15	58	P			08 17 31.1	
	baz=257							
TPNV	Topopah Spring	38.24	55	P			08 17 32.4	
	baz=253,SNR=16							
D04E	Lakebay	38.31	36	P			08 17 32.4	
	baz=235							
D03D	Eldon	38.34	36	P			08 17 32.8	
	baz=234							
F05D	White Salmon	38.34	39	P			08 17 33.0	
	baz=238							
KDAK	Kodiak Island	38.38	2	P		P	08 17 34.5	+2.3
	comp=Z,16nm,0.7s,baz=207,slow=6.9,SNR=17							
KDAK	Kodiak Island	38.38	2	P		P	08 17 34.5	+2.3
KDAK	Kodiak Island	38.38	2	P			08 17 34.1	
	baz=184							
IRM	Iron Mountain	38.43	59	P			08 17 33.3	
	baz=258							
WVOR	Wild Horse Val	38.47	45	P		P	08 17 32.5	-0.8
WVOR				pmax		pmax		
	comp=Z,7.0nm,1.0s							
WVOR	Wild Horse Val	38.47	45	P		P	08 17 32.5	-0.8
GLA	Glamis	38.47	61	P			08 17 34.1	
	baz=259							
NEE2	Needles Airpor	38.98	58	P			08 17 37.8	
	baz=257							
R11A	Troy Canyon, C	39.15	53	P			08 17 40.0	
	baz=252,SNR=13							
A04D	Lummi Island	39.25	34	P			08 17 41.2	
	baz=233							
PDMC	Parker Dam,Lak	39.27	59	P			08 17 40.7	
	baz=258							
PRN	Pahroc Range	39.29	54	P		P	08 17 39.3	-1.0
B05A	Bryant	39.31	35	P			08 17 41.9	
	baz=234,SNR=12							
SPIA	Saint Paul Isl	39.34	347	P			08 17 42.7	
	baz=157							
CRAG	Craig	39.70	20	P			08 17 45.3	
	baz=214							
HAWA	Hanford	39.75	39	P		P	08 17 43.6	-0.3
214A	Organ Pipe Nat	39.98	63	P			08 17 47.1	
	baz=262,SNR=5.4							
HOM	Homer	40.30	3	P			08 17 50.0	
	baz=185							
SIT	Sitka	40.41	17	P			08 17 51.2	
	baz=210							
BRSE	Bradley Lake S	40.43	4	P			08 17 50.7	
	baz=186							
WRAK	Wrangell Islan	40.74	19	P			08 17 54.1	
	baz=214							
MFID	Camas Ranch	40.75	45	P		P	08 17 52.2	-0.1
SEW	Seward	40.87	4	P			08 17 55.2	
	baz=188							
B08A	Colville Reser	40.89	37	P		P	08 17 52.9	-0.4
F10A	Beach Ranch, E	40.95	41	P		P	08 17 53.5	-0.4
C09A	Chrisman Ranch	41.21	38	P		P	08 17 56.6	+0.7
O22K	Cooper Landing	41.23	4	P			08 17 57.5	
	baz=188							
N18K	Kilae Creek	41.24	360	P			08 17 57.7	
	baz=179,SNR=18							
HSIG		41.30	68	P		P	08 17 55.5	-1.5
N19K	Bonanza Creek	41.38	1	P			08 17 58.8	
	baz=181,SNR=45							
EYAK	Cordova Ski Ar	41.66	7	P			08 18 01.1	
	baz=194							
TUC	Tucson	41.73	63	P			08 18 01.0	
	baz=263							
WUAZ	Wupatki	41.74	58	P			08 18 01.9	
	baz=259,SNR=18							
DUG	Dugway, Tooele	41.75	51	P			08 18 01.6	
	baz=253							
H06S1	SOCORRO T	41.76	83	T		T	09 02 30.6	
	SNR=23							
H06E1	SOCORRO T-PHAS	41.79	83	T		T	09 02 25.2	
	SNR=28							
SPCR	Spurr Chakacha	41.82	2	P			08 18 02.1	
	baz=184							
MESA	MESA	41.83	10	P			08 18 02.0	
	baz=199							
RC01	Rabbit Creek A	41.83	4	P			08 18 02.6	
	baz=188,SNR=9.5							
GLI	Glacier Island	41.84	6	P		P	08 17 59.5	-1.4
GLI				IAmb		IAmb	08 18 03.0	
	comp=Z,49nm,1.0s							
GLI	Glacier Island	41.84	6	P			08 18 02.3	
	baz=192							
BCPM	Bancas Point	42.03	12	P		P	08 18 00.5	-2.0
BCPM				IAmb		IAmb	08 18 06.1	
	comp=Z,71nm,1.2s							
PINM	Pinnacle	42.05	11	P			08 18 04.4	
	baz=201							
NEW	Newport	42.11	38	P			08 18 04.1	
	baz=240,SNR=7.4							
SUA	Susitna One	42.15	3	P			08 18 05.1	
	baz=186,SNR=12							
CRQE	Cirque	42.20	9	P			08 18 05.6	
	baz=197							
BMRM	Bremner River	42.21	8	P			08 18 05.4	
	baz=195							
KNK	Knik Glacier	42.25	5	P			08 18 05.5	
	baz=190,SNR=6.5							
PMR	Palmer	42.37	4	P		P	08 18 05.1	-0.1
PMR				pmax		pmax		
	comp=Z,55nm,1.2s							
PMR	Palmer	42.37	4	P		P	08 18 05.1	-0.1
PMR				IAmb		IAmb	08 18 11.0	
	comp=Z,55nm,1.2s							
PMR	Palmer	42.37	4	P			08 18 06.5	
	baz=188,SNR=11							
SKAG	Skagway	42.52	15	P			08 18 07.9	
	baz=208							
KLU	Klutina	42.56	7	P			08 18 08.0	
	baz=193,SNR=9.0							
SKT	Skwentna	42.62	3	P			08 18 08.0	
	baz=185,SNR=20							
SML	Sawmill	42.65	5	P			08 18 08.9	
	baz=190,SNR=14							
CTG	Chitna Glacier	42.68	10	P			08 18 09.9	
	baz=200							
SCM	Sheep Creek Mo	42.76	6	P		P	08 18 07.6	-0.8
SCM				pmax		pmax		
	comp=Z,39nm,0.8s							
SCM	Sheep Creek Mo	42.76	6	P		P	08 18 07.6	-0.8
SCM				IAmb		IAmb	08 18 10.4	
	comp=Z,39nm,0.8s							
MCARA	McCarthy VSAT	42.82	9	P			08 18 10.4	
	baz=197							
N25K	Chitina, Valde	42.83	7	P			08 18 10.4	
	baz=195							
TBI	Tubuai	42.86	172	*e*LQ		LQ	08 28 04.5	
	comp=Z,237nm,29.8s							
TBI				*e*LR		LR	08 30 03.6	
	comp=Z,745nm,28.0s,baz=346							
TBI	Tubuai	42.86	172	*e*T		T	09 03 37.0	
	comp=Z,897nm,0.3s							
W18A	Petrified Fore	42.99	59	P			08 18 11.5	
	baz=261							
CUT	Chulitna	43.11	3	P			08 18 11.7	
	baz=187,SNR=9.0							
M24K	Tolsona, Glenn	43.14	6	P			08 18 12.3	
	baz=192							
MSO	Missoula	43.37	41	P		P	08 18 13.3	-0.3
MSO	Missoula	43.37	41	P			08 18 13.8	
	baz=245,SNR=16							
WAT6	Susitna Watana	43.46	5	P			08 18 15.2	
	baz=190,SNR=37							
TTA	Tatalina	43.50	359	P		P	08 18 14.2	-0.2
TTA				pmax		pmax		
	comp=Z,30nm,1.1s							
TTA	Tatalina	43.50	359	P		P	08 18 14.2	-0.2
TTA				IAmb		IAmb	08 18 20.8	
	comp=Z,30nm,1.1s							
TTA	Tatalina	43.50	359	P			08 18 15.2	
	baz=179,SNR=18							
PPLA	Purkeypile	43.52	2	P		P	08 18 13.8	-0.8
PPLA				IAmb		IAmb	08 18 16.2	
	comp=Z,68nm,1.3s							
PPLA	Purkeypile	43.52	2	P			08 18 14.6	
	baz=184,SNR=13							
HARP	HAARP	43.53	7	P			08 18 15.7	
	baz=194							
DLMT	Dillon	43.64	44	P		P	08 18 15.8	-0.1
DLMT				IAmb		IAmb	08 18 22.9	
	comp=Z,28nm,1.2s							
WAT1	Susitna Watana	43.64	4	P			08 18 16.7	
	baz=189							
WHY	Whitehorse	43.68	14	P			08 18 17.7	
	baz=208							
PAX	Paxson	44.05	6	P			08 18 20.0	
	baz=193,SNR=40							
TRF	Thorofare Moun	44.15	3	P			08 18 20.5	
	baz=187,SNR=21							
KTH	Kantishna Hill	44.22	3	P		P	08 18 19.2	-1.0
121A	Cookes Peak, D	44.28	63	P			08 18 21.8	
	baz=265							
MVCO	Mesa Verde	44.33	56	P			08 18 23.0	
	baz=260,SNR=15							
BOZ	Bozeman (W)	44.36	44	P			08 18 22.5	
	baz=248,SNR=23							
MCK	McKinley	44.51	4	P		P	08 18 22.5	0.0
MCK				pmax		pmax		
	comp=Z,64nm,1.1s							
MCK	McKinley	44.51	4	P		P	08 18 22.4	0.0
MCK	McKinley	44.51	4	P			08 18 23.2	
	baz=188,SNR=28							
L27K	Beaver Creek,	44.59	9	P			08 18 24.6	
	baz=198,SNR=29							
H17A	Grant Village	44.64	46	P			08 18 24.4	
	baz=251							
BPAW	Bear Paw Mtn.	44.77	3	P		P	08 18 24.1	-0.4
BPAW				IAmb		IAmb	08 18 29.1	
	comp=Z,38nm,1.0s							
BPAW	Bear Paw Mtn.	44.77	3	P			08 18 24.4	
	baz=186,SNR=32							
BW06	Boulder Array	44.84	48	P			08 18 25.7	
	baz=253,SNR=15							
PDAR	Pinedale Array	44.84	48	P		P	08 18 26.2	+0.6
	comp=Z,3.2nm,0.8s,baz=243,slow=5.8,SNR=33							
PDAR				PcP		PcP	08 20 07.5	+0.1
	comp=Z,0.4nm,0.5s,baz=222,slow=2.2,SNR=3.9							
PDAR				LR		LR	08 32 50.6	
	comp=Z,35nm,21.4s,baz=267,slow=30							
O20A	White River Ci	45.12	52	P			08 18 28.3	
	baz=257,SNR=7.8							
Y22D	IRIS PASSCAL I	45.15	61	P			08 18 28.4	
	baz=264							
SCRK	Sand Creek	45.20	7	P		P	08 18 27.9	-0.1
SCRK				IAmb		IAmb	08 18 33.7	
	comp=Z,28nm,1.0s							
SCRK	Sand Creek	45.20	7	P			08 18 28.9	
	baz=195,SNR=29							
WRH	Wood River Hil	45.30	4	P		P	08 18 29.0	+0.3
HDA	Harding Lake	45.33	5	P		P	08 18 28.8	-0.1
HDA	Harding Lake	45.33	5	P			08 18 29.5	
	baz=191,SNR=23							
HDA				P			08 18 29.5	
	baz=191,SNR=23							
NEA2	Nenana	45.36	4	P		P	08 18 29.5	+0.3
NEA2	Nenana	45.36	4	P			08 18 29.4	
	baz=188,SNR=28							
K27K	Chicken	45.48	8	P			08 18 31.4	
	baz=198							
CCB	Clear Creek Bu	45.50	4	P		P	08 18 30.6	+0.3
ANMO	Albuquerque	45.63	60	*e*P		P	08 18 33.3	+1.3
ANMO				pmax		pmax		
	comp=Z,21nm,1.6s							
ANMO	Albuquerque	45.63	60	P			08 18 31.8	
	baz=263							
ANM	Nome	45.65	354	P			08 18 33.0	
	baz=167							
IL31		45.69	5	P		P	08 18 31.8	+0.1
IL31				IAmb		IAmb	08 18 36.8	
	comp=Z,37nm,0.9s							
ILAR	Eielson Array	45.69	5	P		P	08 18 32.2	+0.4
	comp=Z,20nm,0.7s,baz=194,slow=7.3,SNR=215							
ILAR				PcP		PcP	08 20 10.2	+0.5
	comp=Z,3.5nm,0.9s,baz=206,slow=4.7,SNR=5.0							
ILAR				LR		LR	08 34 49.9	
	comp=Z,148nm,18.8s,baz=189,slow=32							
ILAR	Eielson Array	45.69	5	P		P	08 18 32.2	+0.4
ILAR							08 20 10.2	
ILAR	Eielson Array	45.69	5	P		P	08 18 31.7	-0.1
MLY	Manley	45.71	3	P		P	08 18 31.9	0.0
MLY				IAmb		IAmb	08 18 36.5	
	comp=Z,38nm,1.0s							
MLY	Manley	45.71	3	P			08 18 31.8	
	baz=186,SNR=47							
TCOL	CIGO, UAF Yank	45.72	4	P		P	08 18 32.0	+0.1
TCOL				IAmb		IAmb	08 18 37.1	
	comp=Z,31nm,0.9s							
TCOL	CIGO, UAF Yank	45.72	4	P			08 18 32.7	
	baz=190,SNR=9.8							
COLA	College	45.72	4	*e*P		P	08 18 32.8	+0.9
COLA				pmax		pmax		
	comp=Z,61nm,1.8s							
COLA	College	45.72	4	P		P	08 18 32.2	+0.2
COLA				IAmb		IAmb	08 18 37.1	
	comp=Z,29nm,0.9s							
COLA	College	45.72	4	P			08 18 32.6	
	baz=190							
S22A	4UR Ranch, Cre	45.73	56	P			08 18 33.7	
	baz=260,SNR=18							
GAMB	Gambell	45.74	350	P			08 18 33.1	
	baz=158							
RLMT	Red Lodge	45.76	45	P			08 18 34.1	
	baz=251,SNR=14							
MDM	Murphy Dome	45.77	4	P		P	08 18 32.4	-0.1
I21K	Tanana	45.81	2	P			08 18 32.0	
	baz=194,SNR=11							
SMCO	Snowmass	45.88	54	P		P	08 18 33.0	-1.2
SMCO				IAmb		IAmb	08 18 41.6	
	comp=Z,19nm,0.9s							
I23K	Minto, Yukon-K	45.89	3	P			08 18 34.1	
	baz=188							
I23K	Minto, Yukon-K	45.89	3	P		P	08 18 33.7	+0.4
I23K				IAmb		IAmb	08 18 34.6	
	comp=Z,24nm,0.8s							
DAWY	Dawson	45.91	10	P		P	08 18 34.6	+1.0
HPIG		45.95	71	P		P	08 18 34.8	+0.1
RWWY	Rawlins	46.24	50	P		P	08 18 35.8	-1.1
RWWY				IAmb		IAmb	08 18 39.7	
	comp=Z,14nm,1.1s							
MNTX	Cornudas Mount	46.26	64	P			08 18 37.9	
	baz=267,SNR=19							
H21K	Melozitna Rive	46.27	1	P			08 18 37.4	
	baz=183							
EGAK	Eagle	46.32	8	P		P	08 18 37.6	+0.9
EGAK	Eagle	46.32	8	P			08 18 38.3	
	baz=198,SNR=38							
EGMT	Eagleton	46.45	41	P		P	08 18 37.6	-0.5
EGMT	Eagleton	46.45	41	P			08 18 38.7	
	baz=248,SNR=20							
PRP	Porcupine Dome	46.54	6	P			08 18 39.5	
	baz=193,SNR=41							
PRP	Porcupine Dome	46.54	6	P		P	08 18 38.5	-0.1
H23K	Yukon River	46.56	3	P			08 18 38.8	
	baz=187,SNR=38							
H24K	Noodor Dome	46.67	4	P			08 18 40.1	
	baz=190,SNR=63							
SDCO	Great Sand Dun	46.77	56	P			08 18 42.0	
	baz=261,SNR=21							
TNA	Tin City	46.90	353	P			08 18 42.6	
	baz=164							
K22A	Casper	46.97	49	P			08 18 42.3	
	baz=256,SNR=9.5							
N23A	Red Feather La	47.00	52	P			08 18 43.7	
	baz=258,SNR=22							
ISCO	Idaho Springs	47.03	53	P		P	08 18 42.5	-0.6
ISCO				pmax		pmax		
	comp=Z,18nm,1.5s							
ISCO	Idaho Springs	47.03	53	P		P	08 18 42.5	-0.6
ISCO				IAmb		IAmb	08 18 48.0	
	comp=Z,18nm,1.5s							
ISCO	Idaho Springs	47.03	53	P			08 18 44.0	
	baz=259,SNR=8.6							
Q24A	Divide	47.24	55	P			08 18 45.1	
	baz=260							
T25A	Trinidad	47.55	57	P			08 18 47.3	
	baz=262,SNR=10							
TXAR	Lajitas Array	47.68	68	P		P	08 18 49.9	+1.8
	comp=Z,8.5nm,0.7s,baz=254,slow=8.3,SNR=59							
TXAR				LR		LR	08 36 43.5	
	comp=Z,53nm,18.4s,baz=0.0,slow=33							
TXAR	Lajitas Array	47.68	68	P		P	08 18 49.9	+1.8
COLD	Coldfoot	47.92	3	P		P	08 18 49.2	-0.1
COLD				IAmb		IAmb	08 18 54.4	
	comp=Z,16nm,1.0s							
COLD	Coldfoot	47.92	3	P			08 18 50.0	
	baz=186,SNR=19							
LAO	LASA Array	48.26	44	P			08 18 53.5	
	baz=253,SNR=16							
EPYK	Eagle Plains	48.48	10	P			08 18 54.2	
	baz=204,SNR=23							
BMAR	Burnt Mountain	48.50	5	P		P	08 18 55.0	+1.2
MSTX	Muleshoe	48.58	61	P			08 18 55.6	
	baz=266,SNR=16							
PET	Petropavlovsk	48.83	325	*e*P		P	08 18 56.2	-0.2
PET				*e*S		S	08 25 56.6	-2.9
PET				pmax		pmax		
	comp=Z,29nm,1.1s							
PET				pmax		pmax		
	comp=Z,200nm,7.1s							
PET				MLR		MLR		
	comp=Z,200nm,16.0s							
PET				MLR		MLR		
	comp=Z,200nm,15.0s							
RDOG	Red Dog Mine	48.89	356	P			08 18 58.8	
	baz=170,SNR=12							
RSSD	Black Hills	49.08	48	P		P	08 18 58.3	-0.4
RSSD				pmax		pmax		
	comp=Z,29nm,1.1s							
RSSD	Black Hills	49.08	48	P		P	08 18 58.3	-0.4
RSSD				IAmb		IAmb	08 19 03.4	
	comp=Z,29nm,1.1s							
RSSD	Black Hills	49.08	48	P			08 18 58.9	
	baz=257							
KSCO	Kaye Shedlock'	49.19	55	P		P	08 19 00.1	+0.5
KSCO	Kaye Shedlock'	49.19	55	P			08 19 00.4	
	baz=262,SNR=16							
SKR	Severo-Kuril's	49.35	321	*e*P		P	08 19 01.6	+1.2
SKR				*e*			08 19 04.8	
SKR				*e*S		S	08 26 12.0	+5.0
SKR				*e*SSS		SSS	08 30 55.9	
SKR				pmax		pmax		
	comp=Z,100nm,4.7s							
SKR				pmax		pmax		
	comp=Z,100nm,4.7s							
SKR				pmax		pmax		
	comp=Z,18nm,1.1s							
SKR				MLR		MLR		
	comp=Z,100nm,17.0s							
SKR				MLR		MLR		
	comp=Z,100nm,18.0s							
TOLK	Toolik Lake Re	49.36	3	P		P	08 19 00.5	+0.2
TOLK				IAmb		IAmb	08 19 06.2	
	comp=Z,15nm,1.1s							
TOLK	Toolik Lake Re	49.36	3	P			08 19 01.4	
	baz=187,SNR=12							
PEA0B	Petropavlovsk-	49.39	324	*ce*P		P	08 19 02.0	+1.3
PETK	Petropavlovsk-	49.39	324	P		P	08 19 02.0	+1.3
	comp=Z,19nm,0.9s,baz=110,slow=13,SNR=28							
PETK				LR		LR	08 36 58.6	
	comp=Z,136nm,20.4s,baz=111,slow=32							
PETK	Petropavlovsk-	49.39	324	P		P	08 19 02.0	+1.3
AMTX	Amarillo	49.53	60	P			08 19 01.5	
	baz=266							
OGNE	Ogallala	49.92	52	P			08 19 04.9	
	baz=261							
DGMT	Dagmar	50.10	42	P			08 19 07.5	
	baz=253,SNR=15							
INK	Inuvik	50.76	10	P		P	08 19 11.3	+0.4
	comp=Z,41nm,0.9s,baz=195,slow=8.2,SNR=22							
INK				LR		LR	08 37 25.6	
	comp=Z,183nm,19.4s,baz=194,slow=32							
INK	Inuvik	50.76	10	P		P	08 19 10.8	-0.1
INK				pmax		pmax		
	comp=Z,60nm,1.1s							
INK	Inuvik	50.76	10	P		P	08 19 10.8	-0.1
INK	Inuvik	50.76	10	P			08 19 11.1	
	baz=207,SNR=26							
JCT	Junction City	51.02	66	P		P	08 19 12.4	-1.1
JCT				pmax		pmax		
	comp=Z,10.0nm,0.7s							
JCT	Junction City	51.02	66	P		P	08 19 12.4	-1.1
JCT	Junction City	51.02	66	P			08 19 13.1	
	baz=271,SNR=10							
ABTX	Abilene, Hawle	51.15	63	P			08 19 14.4	
	baz=269,SNR=20							
YKA	Yellowknife Ar	51.32	23	P		P	08 19 15.8	+0.6
	comp=Z,9.0nm,0.8s,baz=228,slow=7.6,SNR=59							
YKA				LR		LR	08 37 22.6	
	comp=Z,104nm,21.0s,baz=0.0,slow=32							
YKA	Yellowknife Ar	51.32	23	P		P	08 19 15.8	+0.6
CBKS	Cedar Bluff	51.40	55	P			08 19 16.4	
	baz=264							
833A	Chaparral WMA,	51.45	69	P			08 19 17.2	
	baz=273							
WMOK	Wichita Mounta	51.91	61	P			08 19 19.6	
	baz=268							
A21K	Barrow	51.94	359	P			08 19 20.5	
	baz=178							
X34A	Smith Ranch, M	52.69	61	P		P	08 19 23.9	-1.9
X34A				IAmb		IAmb	08 19 31.1	
	comp=Z,33nm,1.3s							
SUSD	Miller	52.72	48	P			08 19 26.0	
	baz=261,SNR=5.5							
BGNE	Belgrade	52.89	52	P			08 19 27.2	
	baz=263							
MDND	Maddock	52.92	44	P		P	08 19 26.6	-0.8
MDND	Maddock	52.92	44	P			08 19 27.9	
	baz=258							
435B	Jarrell	52.92	66	P			08 19 28.2	
	baz=272							
KAN09	Caldwell North	52.95	58	P		P	08 19 26.7	-1.1
KAN09				IAmb		IAmb	08 19 29.9	
	comp=Z,26nm,1.1s							
KUR	Kuril'sk	53.29	312	*e*P		P	08 19 29.1	-1.0
FFC	Flin Flon	53.38	35	P		P	08 19 29.5	-1.1
FFC				pmax		pmax		
	comp=Z,9.0nm,1.1s							
FFC	Flin Flon	53.38	35	P		P	08 19 29.5	-1.1
KSU1	Kansas State U	53.86	55	P			08 19 34.8	
	baz=266							
L34A	Svendsen Farm,	54.27	52	P		P	08 19 36.9	-0.4
BILL	Bilibino	54.29	343	*d*		P	08 19 37.9	+0.9
BILL				*e*			08 20 38.9	
BILL				*e*			08 21 38.6	
BILL				*e*PPP		PPP	08 22 46.3	
BILL				pmax		pmax		
	comp=Z,77nm,1.3s							
BILL	Bilibino	54.29	343	P		P	08 19 36.9	-0.1
ECSD	EROS Data Cent	54.29	50	P		P	08 19 36.6	-0.9
ECSD				IAmb		IAmb	08 19 41.7	

comp=Z,32nm,1.2s
ECSD EROS Data Cent 54.29 50 P 08 19 37.0
baz=263,SNR=22
TUL1 Leonard 54.38 59 P 08 19 38.2
baz=269
YUK Yuzh-Kuril'sk 54.53 311↓ *e*P **P** **08 19 39.2 0.0**
NATX Nacogdoches 55.39 64 P 08 19 45.8
baz=273
AGMN Agassiz Nation 55.47 44 P **P** **08 19 45.5 -0.4**
AGMN IAmb IAmb 08 19 50.0
comp=Z,48nm,1.4s
AGMN Agassiz Nation 55.47 44 P 08 19 45.6
baz=260,SNR=18
MA2 Magadan 55.49 330 LR LR 08 39 20.0
comp=Z,126nm,21.6s,baz=111,slow=32
MA2 Magadan 55.49 330 *c i*P **P** **08 19 46.6 +0.7**
MA2 pmax pmax
comp=Z,19nm,1.0s
U38A Gravette 55.52 59 P **P** **08 19 46.0 -0.5**
U38A IAmb IAmb 08 19 51.9
comp=Z,19nm,1.1s
ULM Lac du Bonnet 55.81 42 P **P** **08 19 47.9 -0.4**
comp=Z,17nm,1.0s,baz=274,slow=7.1,SNR=15
ULM LR LR 08 39 08.5
comp=Z,74nm,21.6s,baz=254,slow=31
ULM Lac du Bonnet 55.81 42 P **P** **08 19 47.6 -0.7**
ULM pmax pmax
comp=Z,38nm,1.2s
ULM Lac du Bonnet 55.81 42 P **P** **08 19 47.6 -0.7**
ULM IAmb IAmb 08 19 52.2
comp=Z,38nm,1.1s
W39A Magazine 56.02 60 P 08 19 49.5
baz=271
SEY Seymchan 56.15 334 *c i*P **P** **08 19 51.4 +0.9**
MIAR Mount Ida 56.20 61 P 08 19 50.7
baz=271
P38A Dawn 56.27 55 P **P** **08 19 51.6 -0.2**
P38A IAmb IAmb 08 19 55.8
comp=Z,19nm,1.0s
S39A Bolivar 56.38 57 P **P** **08 19 52.2 -0.5**
S39A IAmb IAmb 08 19 57.0
comp=Z,35nm,1.5s
SCIA State Center 56.61 52 P 08 19 53.9
baz=267
I37A Lemond, Waseca 56.63 50 P **P** **08 19 53.5 -0.8**
F36A Milaca 56.72 47 P **P** **08 19 53.0 -1.9**
F36A IAmb IAmb 08 19 59.3
comp=Z,35nm,1.3s
U40A Yellville 56.76 59 P 08 19 54.7
baz=270,SNR=15
X40A Basin Creek Fa 56.81 61 P 08 19 54.9
baz=272
ASAJ Asahikawa 56.88 310 LR LR 08 38 35.8
comp=Z,194nm,21.8s,baz=156,slow=30
B35A Bob, Littlefor 56.88 44 P **P** **08 19 55.5 -0.5**
B35A IAmb IAmb 08 19 59.9
comp=Z,30nm,1.1s
Z41A Richland Creek 56.89 62 P 08 19 55.4
baz=272
K38A Parkersburg 56.98 51 P **P** **08 19 56.1 -0.8**
YSS Yuzh-Sakhalins 57.05 314↑ *e*P **P** **08 19 58.3 +1.1**
YSS *e**SP **pP** **08 20 01.3 +0.3**
YSS *e* 08 20 53.2
YSS *e*S **S** **08 27 51.4 -0.5**
YSS *e*SS **SS** **08 31 37.8 -2.6**
YSS MLR MLR
comp=Z,300nm,14.0s
SPMN Marine on St. 57.16 48 P **P** **08 19 57.5 -0.6**
SPMN IAmb IAmb 08 20 02.5
comp=Z,39nm,1.3s
SPMN Marine on St. 57.16 48 P 08 19 58.1
baz=265,SNR=8.5
MGMO Mountain Grove 57.22 58 P **P** **08 19 57.7 -1.0**
MGMO IAmb IAmb 08 20 05.2
comp=Z,14nm,1.1s
R40A Maddies Statio 57.22 56 P **P** **08 19 57.7 -0.9**
R40A IAmb IAmb 08 20 03.7
comp=Z,22nm,0.9s
W41B Gary Mavity, V 57.28 60 P 08 19 58.1
baz=272
FCAR Ozark Folk Cen 57.36 59 P **P** **08 19 58.4 -1.2**
FCAR IAmb IAmb 08 20 03.6
comp=Z,22nm,1.3s
P40A Paris 57.41 55 P **P** **08 19 58.5 -1.4**
P40A IAmb IAmb 08 20 04.9
comp=Z,15nm,0.8s
UGL Uglegorsk 57.77 316 *e*P **P** **08 20 03.8 +1.6**
UGL pmax pmax
comp=Z,100nm,0.9s
CCM Cathedral Cave 58.03 57 P **P** **08 20 03.7 -0.6**
CCM pmax pmax
comp=Z,23nm,1.4s
CCM Cathedral Cave 58.03 57 P **P** **08 20 03.7 -0.6**
CCM IAmb IAmb 08 20 10.3
comp=Z,23nm,1.4s
CCM Cathedral Cave 58.03 57 P 08 20 02.9
baz=270
EYMN Ely 58.32 45 P **P** **08 20 05.4 -0.8**
EYMN IAmb IAmb 08 20 08.8
comp=Z,17nm,1.1s
EYMN Ely 58.32 45 P 08 20 04.9
baz=264,SNR=9.9
I40A Norwalk 58.62 50 P **P** **08 20 06.8 -1.6**
I40A IAmb IAmb 08 20 08.1
comp=Z,8.1nm,0.6s
PBMO Poplar Bluff 58.70 58 P **P** **08 20 08.2 -0.8**
PBMO IAmb IAmb 08 20 13.8
comp=Z,14nm,1.0s
FCC Fort Churchill 58.72 32 P **P** **08 20 07.1 -1.7**
FCC pmax pmax
comp=Z,48nm,1.2s
FCC Fort Churchill 58.72 32 P **P** **08 20 07.0 -1.7**
JFWS Jewell Farm 58.85 51 P **P** **08 20 08.9 -1.1**
JFWS pmax pmax
comp=Z,42nm,1.2s
JFWS Jewell Farm 58.85 51 P **P** **08 20 08.9 -1.1**
JFWS Jewell Farm 58.85 51 P 08 20 09.3
baz=268,SNR=9.9
VBMS Vicksburg 58.87 64 P 08 20 10.3
baz=274
G40A Rib Lake 58.99 48 P **P** **08 20 10.0 -0.9**
JHJ Hachijo jima 2 59.04 298 LR LR 08 44 50.1
comp=Z,86nm,18.2s,baz=77,slow=35
L42A Oliver, Polo 59.26 52 P **P** **08 20 10.6 -2.2**
HDIL Hopedale 59.53 54 P 08 20 14.5
baz=270,SNR=8.5
OXF Oxford 59.64 61 P 08 20 15.3
baz=274
MJAR Matsushiro Arr 60.13 302 P **P** **08 20 20.0 +1.1**
comp=Z,19nm,1.0s,baz=100,slow=4.4,SNR=15
MJAR LR LR 08 41 51.5
comp=Z,69nm,21.4s,baz=110,slow=32
MJAR Matsushiro Arr 60.13 302 P **P** **08 20 20.0 +1.1**
MAJO Matsushiro 60.13 302↓ *e*P **P** **08 20 20.7 +1.8**
MAJO pmax pmax
comp=Z,48nm,1.6s
MAT Matsushiro 60.13 302 P **P** **08 20 19.5 +0.6**
MAT *e*S **S** **08 28 28.2 -4.2**
L44A Lake County Fo 60.57 52 P 08 20 21.4
baz=270
H43A Windswept, Lux 60.69 49 P **P** **08 20 22.0 -0.6**
WVT Waverly 60.83 59 P 08 20 23.2
baz=274
SFIN Lafayette 61.21 54 P 08 20 26.1
baz=272
WCI Wyandotte Cave 61.93 56 P 08 20 30.0
baz=273
CLTN Cedars of Leba 62.04 59 P **P** **08 20 31.3 -0.6**
CLTN IAmb IAmb 08 20 35.8
comp=Z,9.1nm,1.0s
FPAL Fort Paine 62.76 60 P **P** **08 20 35.3 -1.5**
FPAL IAmb IAmb 08 20 40.3
comp=Z,9.3nm,0.8s
R49A Shelbyville 62.80 56 P **P** **08 20 36.3 -0.6**
R49A IAmb IAmb 08 20 44.2
comp=Z,19nm,1.2s
GLMI Grayling 62.94 49 P 08 20 37.3
baz=271
P49A Miami Univ. Ec 63.08 55 P 08 20 38.4
baz=274
E46A Sault Ste Mari 63.14 47 P **P** **08 20 38.3 -0.7**
T50A Nancy 63.16 58 P **P** **08 20 38.3 -1.1**
T50A IAmb IAmb 08 20 43.6
comp=Z,17nm,1.4s
O49A Covington 63.33 54 P **P** **08 20 38.4 -2.0**
AAM Ann Arbor 63.72 52 P 08 20 42.3
baz=273
RES Resolute Bay 63.74 15 P **P** **08 20 41.8 -0.7**
RES pmax pmax
comp=Z,33nm,1.5s
RES Resolute Bay 63.74 15 P **P** **08 20 41.8 -0.7**
RES IAmb IAmb 08 20 47.0
comp=Z,33nm,1.5s
TZTN Tazewell 64.24 58 P 08 20 45.4
baz=276
USRK Ussuriysk Ar. 64.51 310 P **P** **08 20 48.8 +0.7**
comp=Z,13nm,1.1s,baz=99,slow=4.7,SNR=9.2
USRK LR LR 08 44 12.2
comp=Z,104nm,21.1s,baz=105,slow=32
USRK Ussuriysk Ar. 64.51 310 P **P** **08 20 48.8 +0.7**
KLR Kul'dur 64.53 316 LR LR 08 48 29.8
comp=Z,76nm,18.4s,baz=180,slow=36
KLR Kul'dur 64.53 316 *ce*P **P** **08 20 48.3 +0.1**
KLR pmax pmax
comp=Z,14nm,1.1s
GOGA Godfrey 64.66 62 P 08 20 48.5
baz=277
TIGA Tifton 64.82 64 P 08 20 49.8
baz=278
P52A Corning 65.06 55 P 08 20 51.3
baz=275
R53A Hurricane 65.32 56 P **P** **08 20 52.6 -0.9**
R53A IAmb IAmb 08 20 57.1
comp=Z,16nm,0.9s
O53A New Philadelph 65.71 54 P 08 20 55.4
baz=275
YAK Yakutsk 66.07 330 LR LR 08 46 52.0
comp=Z,135nm,20.6s,baz=89,slow=33
YAK Yakutsk 66.07 330 *e*P **P** **08 20 57.6 -0.3**
YAK pmax pmax
comp=Z,50nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK Yakutsk 66.07 330 P **P** **08 20 57.5 -0.3**
KMSC Kings Mountain 66.19 59 P 08 20 58.4
baz=278
MDJ Mudanjiang 66.20 311 P **P** **08 20 59.5 +0.4**
MDJ pmax pmax
comp=E,27nm,1.3s
MDJ pmax pmax
comp=E,300nm,6.0s
N54A Moraine State 66.57 53 P 08 21 01.5
baz=276
BLA Blacksburg 66.66 57 P 08 21 01.5
baz=277
ZEA Zeya 67.25 321 *e*P **P** **08 21 06.0 +0.4**
ZEA *e* 08 21 32.7
ZEA *e*S **S** **08 30 03.5 +3.1**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=Z,100nm,7.6s
ZEA smax smax
comp=E,100nm,11.7s
TIXI Tiksi 67.30 341 *ce*P **P** **08 21 06.4 +0.9**
EUNU Eureka 67.39 10 P **P** **08 21 06.8 +0.6**
ALGO Algonquin Park 67.50 47 P 08 21 06.7
baz=275
O56A Blue Knob Stat 67.72 54 P 08 21 08.3
baz=277
LSQQ Lebel-sur-Quev 67.97 44 P 08 21 09.9
baz=274
JTS Las Juntas de 68.16 86↑ *e*P **P** **08 21 16.0 +4.0**
JTS pmax pmax
comp=Z,20nm,1.1s
SSPA Standing Stone 68.19 53 P 08 21 11.1
baz=277
KSRS Korea Array 68.23 303 P **P** **08 21 13.8 +1.7**
comp=Z,11nm,1.1s,baz=89,slow=6.3,SNR=13
KSRS LR LR 08 46 47.3
comp=Z,63nm,19.5s,baz=160,slow=32
KSRS Korea Array 68.23 303 P **P** **08 21 13.8 +1.7**
KSAR Wonju Array Be 68.27 303 P **P** **08 21 11.8 -0.5**
KSAR Wonju Array Be 68.27 303 P **P** **08 21 11.8 -0.5**
KS19 Wonju Array Si 68.27 304 P **P** **08 21 12.0 -0.3**
KS19 IAmb IAmb 08 21 18.7
comp=Z,25nm,1.2s
K56A Middlesex 68.36 51 P 08 21 12.2
baz=277
PECO Prince Edward 68.45 50 P **P** **08 21 13.6 +0.3**
PECO IAmb IAmb 08 21 17.1
comp=Z,23nm,1.0s
R58B Mineral 68.56 56 P **P** **08 21 12.2 -1.9**
R58B IAmb IAmb 08 21 22.2
comp=Z,17nm,1.2s
E55A Montcerf-Lytto 68.83 47 P 08 21 15.3
baz=276
TJN Taejon 68.84 302↓ *e*P **P** **08 21 15.2 -0.7**
D55A Sainte-Anne-du 69.17 46 P 08 21 17.1
baz=276
CN2 Changchun 69.25 310 *e*P **P** **08 21 18.3 0.0**
CN2 PcP **PcP** **08 21 43.3 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 L L
comp=Z,200nm,13.0s
CN2 L L
comp=Z,200nm,13.0s
CN2 L L
comp=Z,300nm,16.0s
BINY Binghamton 69.40 51 P 08 21 18.8
baz=278
I57A Carthage 69.41 49 P 08 21 17.7
baz=277
L58A Harry Jones Me 69.52 51 P 08 21 19.1
baz=278
E56A St. Veronique 69.53 47 P 08 21 19.4
baz=277
H57A Richville 69.53 49 P 08 21 19.2
baz=277
CHGQ Chibougamau 69.58 43 P 08 21 19.4
baz=276
D56A ZEC Mazanza, M 69.65 46 P 08 21 20.0
baz=277
G57A Newington 69.74 48 P 08 21 20.5
baz=277
N59A State Game Lan 69.74 53 P 08 21 20.4
baz=278
J58A Remsen 69.75 50 P 08 21 20.5
baz=278
I58A Old Forge 69.93 50 P 08 21 21.6
baz=278
LONY Lake Ozonia 70.08 49 P 08 21 22.5
baz=278
G58A Ormstown 70.38 48 P 08 21 24.5
baz=278
H58A Gabriels 70.40 49 P 08 21 24.4
baz=278
E58A La Victoria 70.75 47 P 08 21 27.0
baz=276
FRNY Flat Rock 70.76 48 P **P** **08 21 26.1 -1.4**
FRNY IAmb IAmb 08 21 30.8
comp=Z,25nm,1.1s
D58A Chemin du LacG 70.92 46 P 08 21 28.0
baz=278
LATQ La Tuque 70.94 45 P 08 21 28.6
baz=278
I60A Shoreham 71.12 49 P 08 21 29.5
baz=279
J60A Lant Hill Farm 71.12 50 P 08 21 29.1
baz=279
PAL Palisades 71.12 52 P 08 21 29.0
baz=280
F59A Saint Guilaume 71.17 47 P 08 21 29.1
baz=279
K61A Williamstown 71.32 50 P 08 21 30.6
baz=279
VT1 Waterbury 71.42 49 P **P** **08 21 29.1 -2.6**
VT1 IAmb IAmb 08 21 35.1
comp=Z,17nm,1.2s
H60A Morristown 71.42 48 P 08 21 31.0
baz=279
G60A Masonville 71.60 48 P 08 21 32.3
baz=279
D59A Saint-Raymond 71.64 46 P 08 21 32.7
baz=279
F60A Warwick 71.72 47 P 08 21 33.2
baz=279
H61A Lyndonville 71.97 48 P 08 21 34.3
baz=280
E60A Ste Agathe de 72.00 46 P 08 21 34.5
baz=279
G61A St-Isidore-de- 72.13 48 P 08 21 34.1
baz=280
D60A Saint Jean D'O 72.27 46 P 08 21 35.3
baz=280
J62A Henniker 72.28 50 P 08 21 36.0
baz=280
F61A St Evariste 72.38 47 P 08 21 37.3
baz=280
I62A Tamworth 72.51 49 P 08 21 37.7
baz=280
H62A Milan 72.51 48 P 08 21 38.7
baz=280
LMQ La Malbaie 72.56 45 P **P** **08 21 37.4 -1.0**
LMQ IAmb IAmb 08 21 42.4
comp=Z,16nm,1.1s
HRV Adam Dziewonsk 72.59 50 P 08 21 38.5
baz=280
E61A Lac Etchemin 72.65 46 P 08 21 38.7
baz=280
D61A St Aubert, Com 72.72 45 P 08 21 38.9
baz=280
G62A West of Eustis 72.83 47 P 08 21 39.5
baz=280
I63A Otisfield 73.01 49 P 08 21 40.8
baz=281
M64A Tiverton 73.03 51 P 08 21 40.9
baz=281
F62A Pittston Farm, 73.10 47 P **P** **08 21 40.2 -1.4**
F62A IAmb IAmb 08 21 46.1
comp=Z,18nm,1.1s
F62A Pittston Farm, 73.10 47 P 08 21 41.0
baz=280
L64A Middleborough 73.22 51 P 08 21 41.3
baz=281
E62A Clayton Lake 73.27 46 P **P** **08 21 42.8 +0.2**
E62A IAmb IAmb 08 21 46.8
comp=Z,13nm,0.9s
E62A Clayton Lake 73.27 46 P 08 21 42.0
baz=281
H63A New Sharon 73.28 48 P 08 21 41.6
baz=281
SCHQ Schefferville 73.47 37 P **P** **08 21 43.5 -0.1**
comp=Z,2.8nm,0.8s,baz=294,slow=8.3,SNR=3.8
SCHQ Schefferville 73.47 37 P **P** **08 21 42.7 -1.0**
G63A Kingsbury 73.49 47 P 08 21 43.5
baz=281
D62A Allapoint, All 73.50 45 P **P** **08 21 43.0 -1.0**
D62A IAmb IAmb 08 21 47.8
comp=Z,25nm,1.2s
D62A Allapoint, All 73.50 45 P 08 21 43.9
baz=281
PKME Peaks-Kenny Pk 73.68 47 P 08 21 45.0
baz=281
I64A Boothbay 73.71 49 P 08 21 44.6
baz=281
F63A Nahmakanta, Br 73.73 47 P 08 21 45.1
baz=281
H64A Troy 73.86 48 P 08 21 45.8
baz=281
E63A Oxbow 74.05 46 P **P** **08 21 46.5 -0.7**
E63A IAmb IAmb 08 21 51.4
comp=Z,22nm,0.9s
E63A Oxbow 74.05 46 P 08 21 46.6
baz=281
G64A Maxfield 74.06 47 P 08 21 46.0
baz=282
D63A Stockholm 74.14 45 P 08 21 46.5
baz=281
BOD Bodaibo 74.21 326 *e*P **P** **08 21 48.6 +0.7**
BOD pmax pmax
comp=Z,83nm,1.3s
F64A Sherman 74.22 46 P 08 21 47.4
baz=282
NEEM North Greenlan 74.24 13↑ *i*P **P** **08 21 48.3 +0.2**
NEEM IAmb IAmb 08 21 51.9
comp=Z,54nm,1.4s
PQI Presque Isle 74.28 46 P **P** **08 21 47.4 -1.1**
PQI IAmb IAmb 08 21 51.9
comp=Z,20nm,1.2s
E64A Bridgewater 74.46 46 P 08 21 48.5
baz=282
G65A Princeton 74.89 47 P 08 21 51.7
baz=282
H66A Whiting 75.16 47 P 08 21 52.6
baz=283
BATG Bathurst New B 75.46 45 P **P** **08 21 54.6 -0.7**
BATG IAmb IAmb 08 21 59.4
comp=Z,25nm,1.1s
NJ2 Nanjing 76.62 299 *e*P **P** **08 22 03.0 +0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
LMN Caledonia Moun 76.63 46 P **P** **08 22 00.6 -1.5**
LMN IAmb IAmb 08 22 05.5
comp=Z,27nm,1.3s
BJI Beijing 76.75 308 P **P** **08 22 03.8 +1.0**
BJI pmax pmax
comp=Z,24nm,1.1s
BJI pmax pmax
comp=Z,200nm,6.3s
BJT Baijiatuan 76.75 308 P **P** **08 22 01.4 -1.4**
BJT pmax pmax
comp=Z,43nm,1.2s
BJT Baijiatuan 76.75 308 P **P** **08 22 01.4 -1.4**
TIA Tai'an 76.97 304 P **P** **08 22 04.5 +0.4**
TIA pmax pmax
comp=Z,21nm,0.7s
OTAV Otavalo 77.45 94 *e*P **P** **08 22 06.9 -0.9**
UREC San Jos de Ur 77.79 86 *e*P **P** **08 22 09.8 +0.7**
TULM Tulcn-Chalpat 77.92 94 *e*P P 08 22 16.4 +6.0
CBOC Ciudad Bolivar 77.92 88 *e*P **P** **08 22 09.8 -0.3**
PLMC San Jos del P 77.97 89 *e*P **P** **08 22 09.8 -0.5**
SMRC Santa Marta, M 77.97 82 *e*P **P** **08 22 13.6 +3.5**
BBAC Balboa, Cauca 78.00 92 *e*P **P** **08 22 11.7 +1.2**
YOTC Yotoco, Valle 78.21 90 *e*P **P** **08 22 13.6 +2.0**
POPC Popayan, Colom 78.36 91 *e*P P 08 22 05.0 -7.6
ZARC Zaragoza, Cauc 78.50 86 *e*P **P** **08 22 13.6 +0.5**
GUY2C Guyana, Caldas 78.74 88 *e*P **P** **08 22 15.5 +0.6**
SMLC San Martn de 78.84 85 *e*P **P** **08 22 16.4 +1.5**
TOLC Tolima 78.98 89 *e*P **P** **08 22 17.4 +1.3**
NORC Norcasia 79.10 88 *e*P **P** **08 22 15.5 -0.9**
STKA Stephens Creek 79.11 231 P **P** **08 22 16.1 +0.1**
comp=Z,4.8nm,0.8s,baz=40,slow=6.6,SNR=8.9
STKA Stephens Creek 79.11 231 P **P** **08 22 16.1 +0.1**
SUMG Summit 79.24 16↑ *i*P **P** **08 22 17.4 +0.8**
SUMG Summit 79.24 16↑ *i*P **P** **08 22 17.3 +0.8**
SUMG Summit 79.24 16 P **P** **08 22 16.5 -0.1**
SUMG IAmb IAmb 08 22 21.8
comp=Z,40nm,1.2s
ORTC Ortega, Tolima 79.27 90 *e*P **P** **08 22 19.3 +2.0**
WRA Warramunga Arr 79.31 244 P **P** **08 22 16.4 -0.9**
comp=Z,2.6nm,1.0s,baz=62,slow=5.7,SNR=7.7
WRA Warramunga Arr 79.31 244 P **P** **08 22 16.5 -0.9**
PRAC Prado 79.67 90 *e*P **P** **08 22 20.3 +0.7**
DY2G Dye2 79.68 23 *i*P **P** **08 22 19.5 +0.7**
ROSC El Rosal 79.85 88 P **P** **08 22 22.9 +2.0**
comp=Z,6.8nm,0.6s,baz=104,slow=3.6,SNR=8.2
ROSC El Rosal 79.85 88 P **P** **08 22 22.9 +2.0**
HHC Hu-ho-hao-te 79.92 310 *e*P **P** **08 22 20.5 0.0**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,180nm,5.7s
ATAH Atahualpa 80.06 101 P **P** **08 22 24.3 +2.3**
comp=Z,5.3nm,0.9s,baz=297,slow=2.3,SNR=3.7
CHIC Chingaza 80.47 88 *e*P **P** **08 22 23.1 -1.2**
DAG Danmarks Havn 80.60 9 *i*P **P** **08 22 23.0 -0.3**
DAG IAmb IAmb 08 22 27.5
comp=Z,30nm,1.2s
DAG Danmarks Havn 80.60 9 *i*P **P** **08 22 23.0 -0.3**
DAG pmax pmax
comp=Z,30nm,1.2s
ICESG Greenland Ices 80.69 19 *i*P **P** **08 22 24.2 -0.2**
ICESG IAmb IAmb 08 22 29.0
comp=Z,12nm,0.7s
WHN Wuhan 80.74 299 ↓P **P** **08 22 26.0 +1.1**
ULN Ulaanbaatar 80.87 317 *c i*P **P** **08 22 26.4 +0.9**
ULN pmax pmax
comp=Z,51nm,1.0s
NRIK Noril'sk 81.06 341 P **P** **08 22 27.2 +1.3**
comp=Z,18nm,1.0s,baz=67,slow=4.9,SNR=12
NRIK LR LR 08 58 56.5
comp=Z,97nm,20.1s,baz=20,slow=36
NRIK Noril'sk 81.06 341 *c i*P **P** **08 22 27.0 +1.1**

NRIK				pmax	pmax			
	comp=Z,31nm,1.0s							
NRIK	**Noril'sk**	**81.06**	**341**	P	**P**	**08**	**22**	**26.3 +0.4**
NRIK				IAmb	IAmb	08	22	31.9
	comp=Z,30nm,1.1s							
AS31	**Alice Springs**	**81.26**	**241**	P	**P**	**08**	**22**	**25.9 -1.9**
ASAR	**Alice Springs**	**81.26**	**241**	P	**P**	**08**	**22**	**27.6 -0.1**
	comp=Z,7.4nm,1.1s,baz=61,slow=6.2,SNR=20							
ASAR	**Alice Springs**	**81.26**	**241**	P	**P**	**08**	**22**	**27.7 -0.1**
ASAR	**Alice Springs**	**81.26**	**241**	P	**P**	**08**	**22**	**26.5 -1.4**
SONM	**Songino Array**	**81.30**	**318**	P	**P**	**08**	**22**	**29.0 +1.2**
	comp=Z,19nm,1.0s,baz=88,slow=4.1,SNR=49							
SONM				LR	LR	08	56	22.0
	comp=Z,88nm,20.6s,baz=81,slow=34							
SONM	**Songino Array**	**81.30**	**318**	P	**P**	**08**	**22**	**27.4 -0.4**
SONM				pmax	pmax			
	comp=Z,33nm,1.1s							
SONM	**Songino Array**	**81.30**	**318**	P	**P**	**08**	**22**	**27.4 -0.4**
SONM				IAmb	IAmb	08	22	33.3
	comp=Z,33nm,1.1s							
TLY	**Talaya**	**81.67**	**322**	*e*P	**P**	**08**	**22**	**30.9 +1.4**
TLY				pmax	pmax			
	comp=Z,47nm,1.0s							
TLY				MLR	MLR			
	comp=Z,231nm,11.0s							
TLY	**Talaya**	**81.67**	**322**	P	**P**	**08**	**22**	**29.1 -0.4**
TLY				IAmb	IAmb	08	22	35.4
	comp=Z,18nm,1.0s							
DBG	**Daneborg**	**82.19**	**11**	*i* P	**P**	**08**	**22**	**31.7 0.0**
DBG				IAmb	IAmb	08	22	36.0
	comp=Z,15nm,1.3s							
ZAK	**Zakamensk**	**82.34**	**321**	*e*P	**P**	**08**	**22**	**33.6 +0.4**
ZAK				pmax	pmax			
	comp=Z,17nm,1.2s							
ELOV	**Elorza**	**83.72**	**85**	*e*P	**P**	**08**	**22**	**43.1 +2.3**
XAN	**Xi'an**	**84.03**	**304**	P	**P**	**08**	**22**	**41.5 -0.7**
XAN				pP	sP	08	22	48.8 +1.7
XAN				pmax	pmax			
	comp=Z,26nm,1.3s							
XAN				L	L			
	comp=Z,290nm,15.2s							
XAN	**Xi'an**	**84.03**	**304**	P	**P**	**08**	**22**	**42.5 +0.3**
XAN	**Xi'an**	**84.03**	**304**	P	**P**	**08**	**22**	**42.5 +0.3**
ENH	**Enshi**	**84.81**	**300**	P	**P**	**08**	**22**	**44.7 -1.5**
LZH	**Lanzhou**	**87.21**	**307**	*e*P	**P**	**08**	**23**	**02.8 +4.7**
LZH				pP	sP	08	23	07.5 +4.4
LZH				pmax	pmax			
	comp=Z,37nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,5.4s							
LZH				L	L			
	comp=Z,200nm,11.9s							
LZH				L	L			
	comp=Z,230nm,15.2s							
LZH				L	L			
	comp=Z,270nm,15.0s							
QIZ	**Qiongzhong**	**88.27**	**289**	P	**P**	**08**	**23**	**02.8 -0.5**
QIZ				S	**S**	**08**	**33**	**52.5 +3.9**
QIZ				pmax	pmax			
	comp=Z,180nm,4.9s							
QIZ				L	L			
	comp=Z,260nm,10.8s							
QIZ				L	L			
	comp=Z,250nm,13.7s							
QIZ				L	L			
	comp=Z,170nm,16.7s							
GYA	**Guiyang**	**88.45**	**297**	⇑P	**P**	**08**	**23**	**05.3 +1.1**
GYA				pP	pP	08	23	08.3 +0.4
GTA	**Gaotai**	**88.85**	**312**	⇑P	**P**	**08**	**23**	**07.0 +1.1**
GTA				pP	sP	08	23	10.5 -0.3
GTA				sP	pP	08	23	13.8 +4.3
GTA				pmax	pmax			
	comp=Z,18nm,1.2s							
GTA				pmax	pmax			
	comp=Z,67nm,6.7s							
GTA				L	L			
	comp=Z,140nm,16.7s							
GTA				L	L			
	comp=Z,100nm,18.2s							
GTA				L	L			
	comp=Z,140nm,18.2s							
CD2	**Chengdu**	**89.21**	**302**	*e*P	**P**	**08**	**23**	**07.0 -0.6**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
H03N2	**Juan Fernandez**	**89.66**	**126**	T	T	10	02	14.2
	baz=299,slow=76,SNR=1605							
H03N3	**Juan Fernandez**	**89.67**	**126**	T	T	10	02	12.4
	baz=299,slow=76,SNR=2233							
H03N1	**Juan Fernandez**	**89.68**	**126**	T	T	10	02	14.2
	baz=299,slow=76,SNR=2002							
H03S2	**Juan Fernandez**	**89.82**	**126**	T	T	10	02	30.6
	baz=298,slow=79,SNR=20							
H03S3	**Juan Fernandez**	**89.83**	**126**	T	T	10	02	30.4
	baz=298,slow=79,SNR=12							
H03S1	**Juan Fernandez**	**89.84**	**126**	T	T	10	02	31.7
	baz=298,slow=79,SNR=9.5							
ZAA0	**Zalesovo Array**	**90.70**	**329**	P	**P**	**08**	**23**	**14.6 +0.6**
ZALV	**Zalesovo Beam**	**90.70**	**329**	P	**P**	**08**	**23**	**15.4 +1.4**
	comp=Z,17nm,1.1s,baz=57,slow=5.5,SNR=16							
ZALV				LR	LR	09	02	01.9
	comp=Z,104nm,20.4s,baz=152,slow=34							
ZALV	**Zalesovo Beam**	**90.70**	**329**	P	**P**	**08**	**23**	**15.4 +1.4**
ZALV	**Zalesovo Beam**	**90.70**	**329**	P	**P**	**08**	**23**	**13.8 -0.2**
ARCES	**ARCESS Array B**	**91.31**	**360**	P	**P**	**08**	**23**	**16.5 -0.1**
	comp=Z,7.6nm,1.0s,baz=343,slow=7.9,SNR=5.3							
ARCES				LR	LR	09	00	00.8
	comp=Z,55nm,21.9s,baz=65,slow=33							
ARCES	**ARCESS Array B**	**91.31**	**360**	P	**P**	**08**	**23**	**16.5 -0.1**
DGZ	**Jazzator, Alta**	**91.74**	**325**	⇑*i*P	**P**	**08**	**23**	**20.5 +1.4**
DGZ				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KMI	**Kunming**	**92.23**	**297**	⇓P	**P**	**08**	**23**	**22.8 +0.8**
KMI				pmax	pmax			
	comp=Z,11nm,0.8s							
LPAZ	**La Paz**	**92.64**	**106**	P	**P**	**08**	**23**	**23.6 -0.8**
	comp=Z,0.9nm,0.7s,baz=316,slow=4.9,SNR=3.1							
LPAZ	**La Paz**	**92.64**	**106**	P	**P**	**08**	**23**	**23.6 -0.8**
WMQ	**Urumqi**	**94.77**	**320**	*e*P	**P**	**08**	**23**	**32.0 -1.1**
WMQ				pmax	pmax			
	comp=Z,25nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,210nm,5.5s							
MK31	**Makanchi Array**	**96.22**	**324**	⇓*i*P	**P**	**08**	**23**	**40.2 +0.6**
MK31	**Makanchi Array**	**96.22**	**324**	P	**P**	**08**	**23**	**39.3 -0.3**
MK31				IAmb	IAmb	08	23	52.1
	comp=Z,4.1nm,1.0s							
MKAR	**Makanchi Array**	**96.22**	**324**	P	**P**	**08**	**23**	**40.0 +0.4**
	comp=Z,3.3nm,0.9s,baz=57,slow=4.5,SNR=12							
MKAR				LR	LR	09	04	05.6
	comp=Z,77nm,21.7s,baz=96,slow=34							
MKAR	**Makanchi Array**	**96.22**	**324**	P	**P**	**08**	**23**	**39.3 -0.3**
MKAR	**Makanchi Array**	**96.22**	**324**	P	**P**	**08**	**23**	**39.3 -0.3**
MAKZ	**Makanchi**	**96.39**	**324**	P	**P**	**08**	**23**	**39.9 -0.4**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,1.3s							
MAKZ	**Makanchi**	**96.39**	**324**	P	**P**	**08**	**23**	**39.9 -0.4**
BRVK	**Borovoye**	**97.82**	**334**	⇓*i*P	Pdif	08	23	47.2 +0.5
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**98.08**	**293**	LR	LR	09	04	26.3
	comp=Z,33nm,20.2s,baz=195,slow=33							
NOA	**NORSAR Array B**	**99.11**	**7**	LR	LR	09	06	07.4
	comp=Z,35nm,21.0s,baz=335,slow=34							
KLMR	**Klimovskoe**	**99.15**	**353**	*e*P	**Pdif**	**08**	**23**	**50.8 -1.6**
KLMR				*e*		08	27	54.7
KLMR				pmax	pmax			
	comp=Z,13nm,1.4s							
KLMR	**Klimovskoe**	**99.15**	**353**	*e*P	**Pdif**	**08**	**23**	**50.9 -1.5**
KLMR				AMP		08	23	56.7
	comp=Z,13nm,1.4s							
KLMR				*e*PP	**PP**	**08**	**27**	**54.7 +0.8**
ARU	**Arti**	**99.28**	**342**	*d* *i*P	**Pdif**	**08**	**23**	**53.5 +0.4**
ARU						08	27	58.0
ARU				S	**SKSac**	**08**	**34**	**32.8 +1.2**
ARU				pmax	pmax			
	comp=Z,5.0nm,1.3s							
FINES	**FINESS Array B**	**99.44**	**359**	P	**Pdif**	**08**	**23**	**52.7 -0.9**
	comp=Z,1.8nm,0.8s,baz=87,slow=9.7,SNR=4.1							
FINES	**FINESS Array B**	**99.44**	**359**	*i* P	**Pdif**	**08**	**23**	**53.2 -0.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**99.89**	**189**	LR	LR	09	01	37.0
	comp=Z,109nm,19.7s,baz=358,slow=31							
MNK	**Minsk**	**106.36**	**358**	*i* P	**Pdif**	**08**	**24**	**19.5 -5.1**
MNK				*i*		08	28	45.9
MNK				*i* PPP	PPP	08	31	00.1
MNK				*i*		08	35	46.0
MNK				*i* SS	SS	08	43	50.1 +0.6
MNK				*i* SSS	SSS	08	47	50.0
MNK				pmax	pmax			
	comp=N,16nm,1.1s							
MNK				pmax	pmax			
	comp=E,2.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MNK				MLR	MLR			
	comp=E,19nm,27.0s							
MNK				MLR	MLR			
	comp=Z,163nm,28.0s							
MNK				MLR	MLR			
	comp=N,231nm,15.0s							
MNK	**Minsk**	**106.36**	**358**	*i* P	**Pdif**	**08**	**24**	**19.5 -5.1**
	comp=E,2.0nm,0.9s							
MNK				*i* P	**Pdif**	**08**	**24**	**19.5 -5.1**
	comp=N,16nm,1.1s							
MNK				*i* P	**Pdif**	**08**	**24**	**19.5 -5.1**
	comp=Z,3.0nm,0.7s,baz=186							
MNK				*i* PP	**PP**	**08**	**28**	**46.0 -1.9**
MNK				*i* PPP	PPP	08	31	00.2
MNK				*i* SKS	**SKSdf**	**08**	**35**	**46.0 -1.7**
MNK				*i* SS	**SS**	**08**	**43**	**50.2 +0.7**
MNK				*i* SKKS	**SKKSdf**	**08**	**47**	**18.0 -1.6**
MNK				*i* SSS	SSS	08	47	50.1
MNK				*i* LQ	LQ	09	06	24.3
MNK				*i* LR	LR	09	11	08.5
MNK				*i* LRM	MLR	09	13	38.0
	comp=E,19nm,26.8s							
MNK				*i* LRM	MLR	09	13	49.5
	comp=Z,163nm,28.1s							
MNK				*i* LRM	MLR	09	13	54.6
	comp=N,231nm,15.3s							
AKASG	**Malin Array Be**	**110.10**	**357**	PP	**PP**	**08**	**29**	**15.6 +0.3**
	comp=N,0.1nm,0.2s,baz=360,slow=7.1,SNR=4.4							
GERES	**GERESS Array B**	**111.36**	**8**	PP	**PP**	**08**	**29**	**27.2 +2.7**
	comp=N,0.3nm,0.7s,baz=264,slow=4.0,SNR=3.9							
KIS	**Kishinev**	**113.82**	**357**	*e*P	PKiKP	08	28	40.0 -10
KIS				M	M	09	00	23.0
	comp=N,700nm,27.0s							
KIV	**Kislovodsk**	**114.86**	**346**	*i* PKIKP	**PKiKP**	**08**	**28**	**51.0 -1.3**
KIV				pmax	pmax			
	comp=Z,11nm,0.9s							
KIV				MLR	MLR			
	comp=Z,197nm,22.0s							
ESDC	**Sonseca Array**	**115.40**	**24**	PP	**PP**	**08**	**29**	**52.3 -1.1**
	comp=Z,3.1nm,1.2s,baz=331,slow=6.9,SNR=7.5							
SOC	**Sochi**	**115.85**	**348**	*i* PKIKP	**PKiKP**	**08**	**28**	**49.9 -4.2**
SOC				*e*PS	**PKKPbc**	**08**	**39**	**28.8 +2.2**
SOC				*e*SS	SS	08	45	54.9 -1.5
SOC				*e*SSS	SSS	08	50	17.6
SOC				MLR	MLR			
	comp=Z,93nm,20.0s							
BRTR	**Keskin Array B**	**120.61**	**352**	PP	PP	08	30	23.4 -6.0
	comp=Z,0.4nm,0.7s,baz=352,slow=7.5,SNR=3.6							
SNAA	**Sanae**	**125.30**	**170**	PKiKP	**PKPdf**	**08**	**29**	**10.8 -0.6**
SYO	**Syowa Base**	**129.55**	**187**	⇑*e*pPKPdf	pPKPdf	08	29	21.8 -1.4
SYO	**Syowa Base**	**129.55**	**187**	⇑*e*pPKiKP	**PKiKP**	**08**	**29**	**23.2 +3.0**
TORD	**Torodi Ar. Bea**	**140.47**	**37**	PKhKP	PKPpre	08	29	32.7
	comp=Z,0.8nm,0.9s,baz=342,slow=3.6,SNR=3.0							

*SJA **28** 08:15:34.0±0.7, 26.°64S×70.°52W, h71km±7km, ML4.0, MW3.9*
*GUC **28** 08:15:34.6±0.5, 26.°68S×70.°22W, h60km±2km, ML3.8*
*IDC **28** 08:15:35.4±1.1, 26.°72S×70.°15W, h64km±6km, mb3.7/1, mb1 3.5/5, mb1mx3.3/26, mbtmp3.6/5, Error ellipse: s-maj=40.6km s-min=30.3km az=114.0*
*NEIC **28** 08:15:35.8±0.9, 26.°71S±0.°05×70.°32W±0.°06, h68km±8km, Error ellipse: s-maj=7.8km s-min=5.9km az=51.0*

ISC 28 08:15:34.9±0.6, 26.°70S±0.°03×70.°29W±0.°04, h63km±5km, n87, σ2s39/105, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.61**	**333**	*e*P		**Pn**		**08 15 49.1**	**+0.8**
AC01				*i* S		**Sn**		**08 15 59.4**	**+1.3**
AC01				IAML				08 16 02.7	
	comp=E,4μm,0.1s								
AC01	**Pan de Azucar**	**0.61**	**333**			**Pn**		**08 15 49.4**	**+1.0**
AC01						**Sn**		**08 15 59.5**	**+1.3**
GO03	**Copiap**	**0.89**	**177**	*e*P		**Pn**		**08 15 52.5**	**+0.8**
GO03				*i* S		**Sn**		**08 16 06.3**	**+2.2**
GO03	**Copiap**	**0.89**	**177**			**Pn**		**08 15 53.0**	**+1.3**
GO03	**Copiap**	**0.89**	**177**	*e*P		**Pn**		**08 15 53.1**	**+1.3**
GO03				*e*S		**Sn**		**08 16 06.4**	**+2.2**
AC02	**Maricunga**	**1.04**	**98**	*e*P		**Pn**		**08 15 55.3**	**+1.2**
AC02				*i* S		**Sn**		**08 16 10.2**	**+2.0**
AC02				IAML				08 16 10.7	
	comp=E,6μm,0.2s								
AC02	**Maricunga**	**1.04**	**98**	Pn		**Pn**		**08 15 55.4**	**+1.3**
AC02						**Sn**		**08 16 09.9**	**+1.7**
GO02	**Mina Guanaco**	**1.65**	**22**	*e*P		**Pn**		**08 16 03.1**	**+1.1**
GO02				*i* S		**Sn**		**08 16 24.9**	**+2.5**
GO02				IAML				08 16 26.3	
	comp=N,2μm,0.4s								
GO02	**Mina Guanaco**	**1.65**	**22**			**Pn**		**08 16 03.2**	**+1.2**
AC04	**Llanos de Chal**	**1.66**	**205**	*i* S		**Sn**		**08 16 25.6**	**+3.6**
AC04	**Llanos de Chal**	**1.66**	**205**			**Pn**		**08 16 02.8**	**+1.0**
PB14	**IPOC Station P**	**2.07**	**357**	*e*P		**Pn**		**08 16 07.9**	**+0.3**
PB14				*i* S		**Sn**		**08 16 35.9**	**+3.4**
PB14	**IPOC Station P**	**2.07**	**357**	Pn		**Pn**		**08 16 07.9**	**+0.3**
PB14	**IPOC Station P**	**2.07**	**357**	*e*P		**Pn**		**08 16 08.0**	**+0.3**
PB14				IAML				08 16 43.5	
	comp=Z,601nm,0.7s								
LCO	**Las Campanas**	**2.33**	**189**			**Pn**		**08 16 12.4**	**+1.2**
VCA	**Vinchina**	**2.74**	**138**	*e*P		**Pn**		**08 16 20.8**	**+4.1**
VCA				*e*S		**Sn**		**08 16 43.4**	**-5.3**
VCA				IAML				08 17 07.0	
	comp=Z,191nm,0.3s								
TINO	**Tinogasta**	**2.77**	**120**	*e*P		**Pn**		**08 16 21.0**	**+4.0**
TINO				*e*S		**Sn**		**08 16 41.4**	**-8.0**
PB10	**IPOC Station P**	**3.18**	**356**	*e*P		**Pn**		**08 16 22.0**	**-0.5**
PB10				*e*S		**Sn**		**08 17 01.3**	**+2.0**
PB10				IAML				08 17 15.8	
	comp=E,155nm,0.7s								
PB10	**IPOC Station P**	**3.18**	**356**	*e*P		**Pn**		**08 16 22.2**	**-0.3**
AGUA	**GUANDACOL**	**3.20**	**151**	*e*P		**Pn**		**08 16 26.6**	**+3.8**
AGUA				*e*S		Sn		08 17 10.3	+10
AGUA				IAML				08 17 16.4	
	comp=Z,199nm,0.3s								
CO05	**La Serena**	**3.32**	**194**	⇑*i*P		**Pn**		**08 16 24.3**	**0.0**
CO05				*i* S		**Sn**		**08 17 05.3**	**+2.8**
GO04	**Tololo Observa**	**3.49**	**187**	⇑*i*P		**Pn**		**08 16 27.8**	**+0.9**
GO04				*i* S		**Sn**		**08 17 10.8**	**+3.6**
GO04	**Tololo Observa**	**3.49**	**187**	Pn		**Pn**		**08 16 27.9**	**+0.9**
GO04	**Tololo Observa**	**3.49**	**187**	*e*P		**Pn**		**08 16 28.0**	**+1.0**
AROD	**Rodeo**	**3.53**	**168**	*e*P		**Pn**		**08 16 31.6**	**+4.0**
PB15	**IPOC Station P**	**3.55**	**12**	*e*P		**Pn**		**08 16 29.2**	**+1.4**
PB15				*e*S		**Sn**		**08 17 11.4**	**+2.7**
PB15	**IPOC Station P**	**3.55**	**12**			**Pn**		**08 16 29.1**	**+1.4**
PB15	**IPOC Station P**	**3.55**	**12**	*e*P		**Pn**		**08 16 29.1**	**+1.4**
PB15				IAML				08 17 24.9	
	comp=Z,1μm,0.2s								
ACDV	**Cuesta del Vie**	**3.61**	**164**	*e*P		**Pn**		**08 16 33.0**	**+4.4**
PB05	**IPOC Station P**	**3.83**	**1**	⇓*i*P		**Pn**		**08 16 30.0**	**-1.5**
PB05				*i* S		**Sn**		**08 17 17.6**	**+2.2**
PB05				IAML				08 17 32.7	
	comp=E,201nm,0.5s								
PB05	**IPOC Station P**	**3.83**	**1**	*e*P		**Pn**		**08 16 30.2**	**-1.3**
PB05				IAML				08 17 39.2	
	comp=Z,165nm,0.7s								
FSA	**Cafayete**	**3.91**	**82**	*e*P		**Pn**		**08 16 36.6**	**+4.0**
ACLC	**CERRO LA CRUZ**	**4.01**	**133**	*e*P		**Pn**		**08 16 36.6**	**+2.6**
ACLC				IAML				08 17 32.2	
	comp=Z,74nm,0.6s								
ACCO	**Cerro Coronel**	**4.02**	**165**	*e*P		**Pn**		**08 16 37.9**	**+3.6**
ACCO				IAML				08 17 48.3	
	comp=Z,91nm,1.0s								
PB06	**IPOC Station P**	**4.03**	**9**	*e*P		**Pn**		**08 16 35.0**	**+0.8**
PB06				*i* S		**Sn**		**08 17 22.3**	**+2.1**
PB06	**IPOC Station P**	**4.03**	**9**	Pn		**Pn**		**08 16 35.0**	**+0.8**
PB06	**IPOC Station P**	**4.03**	**9**	*e*P		**Pn**		**08 16 34.6**	**+0.4**
PB06				IAML				08 17 46.9	
	comp=Z,184nm,1.0s								
CO03	**El Pedregal**	**4.14**	**185**	⇑*i*P		**Pn**		**08 16 36.4**	**+0.7**
CO03				*e*S		**Sn**		**08 17 26.3**	**+3.4**
CO03	**El Pedregal**	**4.14**	**185**			**Pn**		**08 16 36.3**	**+0.7**
LVC	**Limon Verde**	**4.26**	**17**	P		**Pn**		**08 16 38.1**	**+0.6**
	comp=Z,5.0nm,0.3s,baz=169,slow=6.9,SNR=44								
LVC				S		**Sn**		**08 17 33.5**	**+7.3**
	comp=Z,13nm,0.3s,baz=158,slow=23,SNR=15								
LVC	**Limon Verde**	**4.26**	**17**	Pn		**Pn**		**08 16 39.0**	**+1.4**
LVC	**Limon Verde**	**4.26**	**17**	*e*P		**Pn**		**08 16 38.2**	**+0.6**
LVC				IAML				08 17 48.4	
	comp=Z,71nm,0.5s								
CYA	**Choya**	**4.34**	**115**	*e*P		**Pn**		**08 16 40.6**	**+2.2**
PB04	**IPOC Station P**	**4.35**	**2**	*e*P		**Pn**		**08 16 37.6**	**-1.0**
PB04				*i* S		**Sn**		**08 17 30.0**	**+1.9**
PB04	**IPOC Station P**	**4.35**	**2**	*e*P		**Pn**		**08 16 37.5**	**-1.1**
PB04				IAML				08 17 45.6	
	comp=Z,179nm,0.7s								
CO02	**Combarbal**	**4.53**	**188**	Pn		**Pn**		**08 16 41.0**	**-0.1**
AVFE	**Valle Fertil**	**4.67**	**148**	*e*P		**Pn**		**08 16 45.6**	**+2.7**
AVFE				*e*S		**Sn**		**08 17 38.4**	**+2.7**
AVFE				IAML				08 17 45.7	
	comp=Z,190nm,0.5s								
SLA	**San Lorenzo**	**4.74**	**67**	*e*P		Pn		08 16 50.2	+6.2
RTLL	**Cerro Villicun**	**4.88**	**161**	*e*P		Pn		08 16 52.2	+6.4
RTLL				*e*S		**Sn**		**08 17 43.0**	**+2.0**
RTLL				IAML				08 17 53.5	
	comp=Z,145nm,0.5s								
APLL	**PUNTA DE LOS L**	**4.95**	**139**	*e*P		**Pn**		**08 16 50.8**	**+4.1**
PB07	**IPOC Station P**	**4.96**	**4**	*e*P		**Pn**		**08 16 45.8**	**-1.3**
PB07				IAML				08 18 08.9	
	comp=Z,130nm,0.5s								
RTLS	**Leoncito**	**5.16**	**171**	*e*P		**Pn**		**08 16 52.2**	**+2.4**
RTLS				IAML				08 18 05.2	
	comp=Z,105nm,0.7s								
RTCV	**Cerro Valdivia**	**5.37**	**164**	*e*P		**Pn**		**08 16 55.7**	**+3.3**
RTCV				*e*S		**Sn**		**08 17 58.7**	**+5.8**
RTCV				IAML				08 18 08.6	
	comp=Z,33nm,0.9s								
ACHE	**Chepes**	**5.46**	**145**	*e*P		**Pn**		**08 16 56.2**	**+2.3**
ACHE				*e*S		**Sn**		**08 17 57.6**	**+2.2**
AUSP	**Uspallata**	**5.56**	**172**	*e*P		**Pn**		**08 16 57.8**	**+2.5**
HJA	**Humahuaca**	**5.63**	**53**	*e*P		Pn		08 17 03.1	+6.8
PB01	**IPOC Station P**	**5.68**	**8**	*e*P		**Pn**		**08 16 55.4**	**-1.4**
PB01				IAML				08 18 27.7	
	comp=Z,62nm,0.3s								
ASAL	**Salagasta**	**6.01**	**168**	*e*P		**Pn**		**08 17 03.8**	**+2.6**
ASAL				IAML				08 18 26.4	
	comp=Z,41nm,0.7s								
VA03	**San Esteban**	**6.05**	**182**			**Pn**		**08 17 02.4**	**+0.6**
ROC1	**El Roble**	**6.29**	**186**	*e*P		**Pn**		**08 17 04.8**	**-0.4**
MT05	**Renca**	**6.68**	**183**	Pn		**Pn**		**08 17 11.6**	**+1.2**
MT03	**Universidad Ad**	**6.78**	**182**	Pn		**Pn**		**08 17 12.5**	**+0.7**
PB11	**IPOC Station P**	**6.93**	**5**	*e*P		Pn		08 17 26.0	+12
PB11				IAML				08 18 56.8	
	comp=Z,37nm,0.9s								
MRA	**San Martin**	**6.95**	**146**	*e*S		**Sn**		**08 18 30.3**	**-1.6**
MRA				*e*S		**Sn**		**08 18 30.3**	**-1.6**
MT09	**Talagante**	**7.08**	**185**	Pn		**Pn**		**08 17 14.9**	**-1.1**
MT01	**Popeta**	**7.19**	**186**	Pn		**Pn**		**08 17 15.8**	**-1.6**
BO01	**Tunca**	**7.70**	**185**	Pn		**Pn**		**08 17 22.3**	**-2.0**
GO05	**Huala**	**8.40**	**189**	Pn		**Pn**		**08 17 30.6**	**-3.3**
H03N1	**Juan Fernandez**	**10.05**	**226**	T		T		08 27 40.8	
	baz=52,slow=72,SNR=54								
H03N2	**Juan Fernandez**	**10.06**	**226**	T		T		08 27 39.4	
	baz=52,slow=72,SNR=51								
H03N3	**Juan Fernandez**	**10.06**	**226**	T		T		08 27 35.5	
	baz=52,slow=72,SNR=45								
LPAZ	**La Paz**	**10.55**	**11**	P		**Pn**		**08 18 04.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=188,slow=3.7,SNR=3.5								
LPAZ	**La Paz**	**10.55**	**11**	Pn		**Pn**		**08 18 04.7**	**+0.7**
CPUP	**Villa Florida**	**11.61**	**91**	P		**Pn**		**08 18 16.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=240,slow=14,SNR=1.9								
TRQA	**Tornquist**	**13.32**	**150**	Pn		**Pn**		**08 18 40.8**	**-0.2**
SIV	**San Ignacio**	**13.67**	**41**	P		**Pn**		**08 18 42.0**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=233,slow=15,SNR=2.9								
PLTB	**Pedras Altas**	**15.41**	**113**	Pn		**Pn**		**08 19 06.3**	**-2.2**
PLTB				IAmb	IAmb	08	19	29.4	
	comp=Z,13nm,1.3s								
SNAA	**Sanae**	**57.83**	**160**	P		**P**		**08 25 19.9**	**+0.3**
QSPA	**South Pole Qui**	**63.52**	**180**	P		**P**		**08 25 59.6**	**+1.2**
QSPA				IAmb	IAmb	08	26	04.6	
	comp=Z,3.6nm,1.4s								
TORD	**Torodi Ar. Bea**	**80.30**	**70**	P		**P**		**08 27 39.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=276,slow=5.4,SNR=7.3								
TORD				pP		**pP**		**08 27 57.2**	**-0.1**
	comp=

s-maj=77.3km s-min=23.1km az=125.0

ISC 28 08:41:02.8±1.2,**5.7S**×0.3×**151.4E**±0.3,**h57**km,**n8,**
σ0**75**/10,**mb3.8/5,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.61**	**229**	Pn	**Pn**	**08 42 23.7**	**0.0**
	1.9nm,0.3s,baz=38,slow=8.4,SNR=12						
PMG				Sn	**Sn**	**08 43 27.9**	**+1.0**
	5.8nm,0.3s,baz=328,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	**21.83**	**228**	P	**P**	**08 45 49.5**	**-1.1**
	1.4nm,0.7s,baz=53,slow=10,SNR=11						
WRA				PcP	**PcP**	**08 49 49.2**	**+0.2**
	0.4nm,0.6s,baz=57,slow=2.0,SNR=1.5						
ASAR	**Alice Springs**	**24.57**	**222**	P	**P**	**08 46 17.0**	**-0.6**
	3.4nm,0.8s,baz=53,slow=9.5,SNR=30						
STKA	**Stephens Creek**	**27.61**	**198**	P	**P**	**08 46 45.1**	**+0.2**
	0.7nm,0.3s,baz=27,slow=3.6,SNR=3.1						
FITZ	**Fitzroy Crossi**	**28.03**	**242**	P	**P**	**08 46 48.0**	**-0.8**
	1.8nm,0.7s,baz=69,slow=8.6,SNR=6.7						
ILAR	**Eielson Array**	**83.51**	**22**	P	**P**	**08 53 24.4**	**+0.1**
	1.5nm,0.7s,baz=251,slow=5.3,SNR=17						
GERES	**GERESS Array B**	**124.11**	**328**	PKP	**PKiKP**	**08 59 56.0**	**+0.5**
	0.6nm,0.7s,baz=92,slow=2.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.28**	**286**	PKPbc	**PKPbc**	**09 00 46.6**	**+0.3**
	2.8nm,0.7s,baz=68,slow=3.0,SNR=12						

*IDC **28** 08:51:07.4±8.4,25.35S×177.67W,h144km±70km, mb3.8/7, mb1 3.9/8, mb1mx3.6/26, mbtmp4.2/8, Error ellipse: s-maj=39.9km s-min=26.5km az=55.0*

*NEIC **28** 08:51:09.7±1.2,25.5S±0.2×177.6W±0.1, h162km±8km, mb4.2/17, Error ellipse: s-maj=22.7km s-min=17.5km az=174.0*

ISC 28 08:51:09.4±0.8,**25.5S**±0.1×**177.7W**±0.2,**h160**km,**n39,**
σ0**92**/37,**mb4.1**/14,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.46**	**198**	P	**Pn**	**08 54 14.1**	**+0.1**
	0.3nm,0.3s,baz=301,slow=24,SNR=124						
URZ				S	Sn	08 56 29.4	-14
	0.3nm,0.3s,baz=299,slow=24,SNR=1.8						
CTA	**Charters Tower**	**33.59**	**272**	P	**P**	**08 57 34.8**	**+0.2**
	4.0nm,0.6s,baz=94,slow=11,SNR=9.0						
CTAO	**Charters Tower**	**33.59**	**272**	P	**P**	**08 57 34.7**	**+0.1**
STKA	**Stephens Creek**	**36.11**	**250**	P	**P**	**08 57 56.9**	**+0.9**
	0.8nm,0.4s,baz=98,slow=14,SNR=6.0						
STKA	**Stephens Creek**	**36.11**	**250**	P	**P**	**08 57 57.1**	**+1.0**
AS31	**Alice Springs**	**43.85**	**262**	P	**P**	**08 59 00.1**	**0.0**
ASAR	**Alice Springs**	**43.85**	**262**	P	**P**	**08 58 60.0**	**-0.1**
	1.4nm,0.4s,baz=89,slow=7.0,SNR=45						
WR0	**Warramunga Arr**	**44.21**	**267**	P	**P**	**08 59 03.7**	**+0.8**
WR0				IAmb	IAmb	08 59 06.2	
	comp=Z,6.3nm,1.3s						
WB2	**Warramunga Arr**	**44.39**	**267**	P	**P**	**08 59 04.1**	**-0.2**
WB2				IAmb	IAmb	08 59 24.6	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**44.39**	**267**	P	**P**	**08 59 04.2**	**-0.1**
WRAB				IAmb	IAmb	08 59 16.2	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**44.40**	**267**	P	**P**	**08 59 03.4**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=99,slow=7.0,SNR=46						
WRA	**Warramunga Arr**	**44.40**	**267**	P	**P**	**08 59 03.8**	**-0.6**
WB0	**Warramunga Arr**	**44.40**	**267**	P	**P**	**08 59 03.8**	**-0.6**
WB0				IAmb	IAmb	08 59 08.1	
	comp=Z,9.4nm,1.4s						
FORT	**Forrest**	**47.74**	**251**	P	**P**	**08 59 29.2**	**-1.1**
KNRA	**Kununurra**	**50.78**	**270**	P	**P**	**08 59 53.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.80**	**266**	P	**P**	**09 00 08.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=103,slow=7.9,SNR=1.5						
FITZ	**Fitzroy Crossi**	**52.80**	**266**	P	**P**	**09 00 08.8**	**+0.3**
FITZ				IAmb	IAmb	09 00 33.3	
	comp=Z,8.6nm,1.2s						
MORW	**Morawa**	**58.30**	**250**	P	**P**	**09 00 46.9**	**-0.7**
CASY	**Casey**	**59.61**	**206**	P	**P**	**09 00 55.1**	**-0.9**
CASY				IAmb	IAmb	09 00 57.9	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**64.59**	**180**	P	**P**	**09 01 30.1**	**+0.6**
MAW	**Mawson**	**76.98**	**200**	P	**P**	**09 02 44.8**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=101,slow=5.2,SNR=10						
MAW	**Mawson**	**76.98**	**200**	P	**P**	**09 02 44.9**	**+1.0**
ADK	**Adak**	**77.05**	**1**	P	**P**	**09 02 43.8**	**-0.6**
PEA0B	**Petropavlovsk-**	**81.15**	**345**	P	**P**	**09 03 06.8**	**+0.2**
PEA0B				IAmb	IAmb	09 03 14.3	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**81.15**	**345**	P	**P**	**09 03 06.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=147,slow=6.7,SNR=4.8						
PETK	**Petropavlovsk-**	**81.15**	**345**	P	**P**	**09 03 06.9**	**+0.3**
SNAA	**Sanae**	**83.03**	**178**	P	**P**	**09 03 15.8**	**-0.7**
SNAA	**Sanae**	**83.03**	**178**	P	**P**	**09 03 16.3**	**-0.2**
SNAA				IAmb	IAmb	09 03 16.7	
	comp=Z,2.8nm,1.0s						
VNA3	**Neumayer Olymp**	**83.16**	**176**	P	**P**	**09 03 16.6**	**-0.5**
VNA1	**Neumayer--Stat**	**83.83**	**176**	P	**P**	**09 03 19.9**	**-0.5**
ARCES	**ARCESS Array B**	**133.86**	**349**	PKP	**PKPdf**	**09 10 05.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=339,slow=3.0,SNR=8.3						
ARCES	**ARCESS Array B**	**133.86**	**349**		**PKPdf**	**09 10 06.2**	**-0.4**
BELG	**Belogornoye**	**136.69**	**321**	PKP	**PKPdf**	**09 10 12.0**	**-0.3**
	comp=Z,7.0nm,0.6s,baz=360,slow=5.5,SNR=4.4						
FINES	**FINESS Array B**	**140.61**	**342**	PKhKP	PKPpre	09 10 11.7	
	comp=Z,0.8nm,0.9s,baz=99,slow=4.8,SNR=4.1						
NOA	**NORSAR Array B**	**143.95**	**353**	PKhKP	PKPpre	09 10 21.9	
	comp=Z,0.7nm,0.7s,baz=1.9,slow=2.2,SNR=6.2						
AKASG	**Malin Array Be**	**147.44**	**328**	PKPbc	**PKPbc**	**09 10 32.7**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=44,slow=4.6,SNR=5.2						
BRTR	**Keskin Array B**	**150.20**	**306**	PKPbc	**PKPbc**	**09 10 40.8**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=176,slow=4.3,SNR=2.7						
CLL	**Collm**	**152.96**	**345**	*e*PKPab	**PKPab**	**09 11 03.0**	**+3.8**
TORD	**Torodi Ar. Bea**	**167.70**	**177**	PKPab	**PKPab**	**09 12 04.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=147,slow=2.9,SNR=1.7						

*IDC **28** 08:58:16.3±3.0, 14.32S×76.21W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/22, mbtmp3.8/5, MS2.4/1, Ms1 2.5/1, ms1mx2.5/20, Error ellipse: s-maj=121.2km s-min=27.6km az=38.0*

ISC 28 08:58:16.1±2.3,**14.8S**±0.5×**76.7W**±0.3,**h10**km,**n15,**
σ1**97**/6,**mb3.7**/5,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.41**	**101**	Pn	**Pn**	**09 00 20.2**	**+1.6**
	1.4nm,0.3s,baz=281,slow=7.2,SNR=61						
LPAZ				LR	LR	09 03 01.9	
	comp=Z,24nm,19.2s,baz=276,slow=36						
H03N1	**Juan Fernandez**	**18.69**	**186**	T	T	09 22 10.0	
	baz=8.1,slow=74,SNR=2487						
H03N2	**Juan Fernandez**	**18.69**	**186**	T	T	09 22 09.3	
	baz=8.1,slow=74,SNR=1919						
H03N3	**Juan Fernandez**	**18.71**	**186**	T	T	09 22 08.8	
	baz=8.1,slow=74,SNR=2381						
CPUP	**Villa Florida**	**21.45**	**125**	P	**P**	**09 03 05.0**	**+0.3**
	1.9nm,0.8s,baz=307,slow=12,SNR=4.1						
BDFB	**Brasilia**	**27.70**	**96**	P	**P**	**09 04 02.0**	**-2.9**
	1.5nm,0.6s,baz=246,slow=12,SNR=1.9						
TXAR	**Lajitas Array**	**50.99**	**329**	P	**P**	**09 07 19.1**	**+0.7**
	0.2nm,0.6s,baz=143,slow=9.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.41**	**74**	P	**P**	**09 10 38.6**	**-0.5**
	2.6nm,0.6s,baz=264,slow=5.3,SNR=17						
YKA	**Yellowknife Ar**	**82.53**	**343**	P	**P**	**09 10 38.7**	**0.0**
	0.4nm,0.6s,baz=143,slow=5.6,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**19.33**	**285**	T	T	11 28 03.7	
	baz=96,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**19.35**	**285**	T	T	11 27 58.2	
	baz=96,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy**	**19.35**	**284**	T	T	11 28 03.3	
	baz=96,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**19.39**	**283**	T	T	11 28 03.1	
	baz=97,slow=74,SNR=61						
H11S1	**WAKE ISLAND Hy**	**19.39**	**283**	T	T	11 28 03.6	
	baz=97,slow=74,SNR=63						
H11S3	**WAKE ISLAND Hy**	**19.40**	**283**	T	T	11 28 04.0	
	baz=97,slow=74,SNR=70						

*JMA **28** 09:02:39.2±0.2, 41.91N×142.47E, h66km±2km, M3.3*

*IDC **28** 09:02:43.4±4.5, 41.92N×142.43E, h97km±42km, mb3.2/7, mb1 3.3/8, mb1mx3.1/49, mbtmp3.5/8, Error ellipse: s-maj=32.2km s-min=20.3km az=78.0*

ISC 28 09:02:39.9±0.9,**41.93N**±0.04×**142.43E**±0.04,**h60**km±7km,
n34,σ0**98**/41,**mb3.7**/7,**4C-8D,Hokkaido region**

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

JNBK	**Urakawa-nobuka**	**0.42**	**35**	⇑P	**Pn**	**09 02 50.5**	**-0.6**
JNBK				*e*S	**Sn**	**09 02 59.5**	**+0.3**
JSHD	**Hidakashinhida**	**0.48**	**3**	⇓P	**Pn**	**09 02 51.7**	**+0.1**
JSHD				*e*S	**Sn**	**09 03 01.3**	**+1.2**
JEM	**Erimo**	**0.55**	**81**	⇑P	**Pn**	**09 02 52.0**	**-0.4**
JTHR	**Tokachihiroo**	**0.74**	**61**	⇑P	**Pn**	**09 02 54.4**	**-0.2**
JTHR				*e*S	**Sn**	**09 03 05.7**	**+0.3**
JIAM	**Iburiatsuma**	**0.79**	**331**	⇓P	**Pn**	**09 02 56.0**	**+0.8**
JIAM				*e*S	**Sn**	**09 03 08.7**	**+2.3**
JBT2	**Biratori 2**	**0.84**	**357**	⇓P	**Pn**	**09 02 55.7**	**-0.3**
JBT2				*e*S	**Sn**	**09 03 08.6**	**+0.8**
JCH	**Churui**	**0.97**	**45**	P	**Pn**	**09 02 57.4**	**-0.2**
JKB	**Kayabe**	**1.05**	**268**	⇓P	**Pn**	**09 02 58.3**	**-0.2**
JKB				*e*S	**Sn**	**09 03 12.4**	**+0.1**
JEW	**Eniwo**	**1.16**	**322**	⇓P	**Pn**	**09 03 00.4**	**+0.3**
JNB	**Noboribetsu**	**1.17**	**298**	⇓P	**Pn**	**09 02 59.6**	**-0.5**
JNB				*e*S	**Sn**	**09 03 15.1**	**-0.1**
JOT	**Ohata**	**1.18**	**242**	⇓P	**Pn**	**09 03 00.1**	**-0.1**
JOT				*e*S	**Sn**	**09 03 14.9**	**-0.5**
JFR	**Furan**	**1.23**	**5**	P	**Pn**	**09 03 01.0**	**-0.1**
JFR				*e*S	**Sn**	**09 03 17.1**	**+0.2**
JOB	**Onbets**	**1.42**	**47**	P	**Pn**	**09 03 04.4**	**+0.9**
JOB				*e*S	**Sn**	**09 03 23.2**	**+2.0**
JISS	**Ishikarishitsu**	**1.54**	**331**	⇓P	**Pn**	**09 03 05.4**	**+0.3**
JISS				*e*S	**Sn**	**09 03 25.2**	**+1.2**
JTM	**Tenmabayashi**	**1.54**	**222**	P	**Pn**	**09 03 05.9**	**+0.8**
JYM2	**Yakumo 2**	**1.55**	**277**	P	**Pn**	**09 03 05.3**	**+0.1**
JSR	**Shiriuchi**	**1.56**	**256**	P	**Pn**	**09 03 05.8**	**+0.4**
JSR				*e*S	**Sn**	**09 03 25.5**	**+0.9**
JAB	**Ashibetsu**	**1.58**	**354**	P	**Pn**	**09 03 06.2**	**+0.6**
JAB				*e*S	**Sn**	**09 03 27.2**	**+2.2**
JAR	**Ashorobuto**	**1.68**	**35**	P	**Pn**	**09 03 07.8**	**+0.7**
JANG	**Nango**	**1.71**	**204**	⇑P	**Pn**	**09 03 07.4**	**0.0**
MJAR	**Matsushiro Arr**	**6.30**	**213**	P	**Pn**	**09 04 13.6**	**+3.3**
	0.1nm,0.3s,baz=32,slow=13,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**30.32**	**129**	T	T	09 40 18.2	
	baz=323,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**30.33**	**129**	T	T	09 40 22.6	
	baz=323,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.34**	**129**	T	T	09 40 23.1	
	baz=323,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**31.18**	**131**	T	T	09 41 25.9	
	baz=324,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**31.18**	**131**	T	T	09 41 25.0	
	baz=324,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**31.20**	**131**	T	T	09 41 21.3	
	baz=324,slow=76,SNR=5.2						
MKAR	**Makanchi Array**	**42.35**	**298**	P	**P**	**09 10 27.8**	**-0.3**
	0.7nm,0.8s,baz=76,slow=8.1,SNR=6.2						
KURBB	**Kurchatov Arra**	**43.75**	**304**	P	**P**	**09 10 38.5**	**-0.7**
	0.8nm,0.5s,baz=77,slow=8.9,SNR=7.0						
ILAR	**Eielson Array**	**44.98**	**35**	P	**P**	**09 10 48.5**	**-0.3**
	0.2nm,0.4s,baz=255,slow=5.5,SNR=5.0						
BVAR	**Borovoye Array**	**47.97**	**309**	P	**P**	**09 11 12.4**	**0.0**
	0.3nm,0.4s,baz=147,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**62.02**	**189**	P	**P**	**09 12 52.9**	**-1.0**
	0.5nm,0.8s,baz=5.3,slow=7.1,SNR=6.2						
FINES	**FINESS Array B**	**64.87**	**332**	P	**P**	**09 13 11.5**	**-0.8**
	0.6nm,0.5s,baz=48,slow=8.5,SNR=8.2						
ASAR	**Alice Springs**	**65.75**	**189**	P	**P**	**09 13 18.3**	**-0.2**
	0.1nm,0.4s,baz=359,slow=6.5,SNR=1.7						

*NEIC **28** 09:15:02.9±1.2, 47.41N±0.02×70.10W±0.05, h8km±6km, Error ellipse: s-maj=4.7km s-min=2.6km az=76.0*

*ANF **28** 09:15:03.2±0.3, 47.37N×70.14W, h11km±1km, ML3.9/51, Error ellipse: s-maj=2.5km s-min=1.3km az=8.0, Hypocentre not reviewed by the ISC*

*OTT **28** 09:15:03.6±0.1, 47.39N×70.09W, h7km, MN3.8/33*

OTT 5km northwest from La Pocatiere, Qc. Felt Charlevoix Seismic Zone, Qc. Felt at La Malbaie, Ile aux Coudes, St Pascal, Qc.

ISC 28 09:15:02.8±0.8,**47.39N**±0.02×**70.11W**±0.02,**h13**km±5km,
n143,σ0**94**/187,**4C-4D,Southern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A16	**Riviere Ouelle**	**0.10**	**40**	⇓PG	**Pg**	**09 15 05.7**	**-0.2**
A16				SG	**Sg**	**09 15 07.3**	**-0.7**
A16				Trac		09 15 07.3	
	comp=Z,10μm,0.1s						
A11	**Saint Roch-des**	**0.16**	**203**	⇑PG	**Pg**	**09 15 06.8**	**+0.2**
A11				SG	**Sg**	**09 15 09.2**	**0.0**
A11				Trac		09 15 10.0	
	comp=Z,2μm,0.1s						
D61A	**St Aubert, Com**	**0.20**	**196**	⇑PG	**Pg**	**09 15 07.5**	**+0.3**
D61A				SG	**Sg**	**09 15 10.5**	**+0.3**
D61A	**St Aubert, Com**	**0.20**	**196**	P		09 15 07.5	
	baz=18,SNR=1000						
D61A				S		09 15 10.2	
	baz=18						
LMQ	**La Malbaie**	**0.22**	**317**	⇓PG	**Pg**	**09 15 07.8**	**+0.2**
LMQ				SG	**Sg**	**09 15 10.8**	**0.0**
LMQ				Trac		09 15 11.2	
	comp=Z,2μm,0.0s						
A54	**Misere**	**0.22**	**288**	⇓PG	**Pg**	**09 15 07.9**	**+0.3**
A54				SG	**Sg**	**09 15 11.2**	**+0.3**
A54				Trac		09 15 11.4	
	comp=Z,1μm,0.0s						
A61	**Sainte Mathild**	**0.30**	**2**	⇑PG	**Pg**	**09 15 09.2**	**+0.1**
A61				SG	**Sg**	**09 15 13.2**	**0.0**
A61				Trac		09 15 14.3	
	comp=Z,349nm,0.0s						
A21	**Saint Andre**	**0.42**	**42**	⇓PG	**Pg**	**09 15 11.3**	**+0.1**
A21				SG	**Sg**	**09 15 17.1**	**+0.3**
A21				Trac		09 15 17.7	
	comp=Z,419nm,0.1s						
A64	**Saint Simeon**	**0.46**	**18**	⇑PG	**Pg**	**09 15 11.7**	**-0.2**
A64				SG	**Sg**	**09 15 17.9**	**-0.2**
A64				Trac		09 15 20.4	
	comp=Z,227nm,0.0s						
D60A	**Saint Jean D'O**	**0.73**	**230**	PG	**Pg**	**09 15 16.6**	**-0.5**
D60A				SG	**Sg**	**09 15 26.3**	**-0.4**
D60A				Trac		09 15 27.0	
	comp=Z,802nm,0.2s						
D60A	**Saint Jean D'O**	**0.73**	**230**	P		09 15 16.6	
	baz=49,SNR=733						
D60A				S		09 15 26.4	
	baz=49						
D62A	**Allapoint, All**	**0.78**	**113**		**Pb**	**09 15 18.2**	**-0.1**
D62A	**Allapoint, All**	**0.78**	**113**	P		09 15 17.9	
	baz=294,SNR=1000						
D62A				S		09 15 29.4	
	baz=294						
E62A	**Clayton Lake**	**0.87**	**152**		**Pb**	**09 15 19.7**	**0.0**
E62A	**Clayton Lake**	**0.87**	**152**	P		09 15 19.7	
	baz=334,SNR=1000						
E62A				S		09 15 31.5	
	baz=334						
E61A	**Lac Etchemin**	**0.99**	**195**	P		09 15 21.6	
	baz=16,SNR=793						
E61A				S		09 15 34.8	
	baz=16						
QCQ	**Quebec**	**1.01**	**233**	PG	**Pb**	**09 15 21.2**	**-0.9**
QCQ				SG	**Sb**	**09 15 35.0**	**-0.2**
QCQ				Trac		09 15 35.2	
	comp=Z,258nm,0.1s						
QCQ	**Quebec**	**1.01**	**233**		**Pb**	**09 15 21.0**	**-1.1**
QCQ					**Sb**	**09 15 34.7**	**-0.5**
D59A	**Saint-Raymond**	**1.24**	**253**	P		09 15 25.0	
	baz=71,SNR=239						
D59A				S		09 15 41.5	
	baz=71						
E60A	**Ste Agathe de**	**1.38**	**222**	P		09 15 27.2	
	baz=42,SNR=140						
E60A				S		09 15 46.8	
	baz=42						
D63A	**Stockholm**	**1.41**	**104**	P		09 15 28.8	
	baz=286,SNR=1000						
D63A				S		09 15 48.6	
	baz=286						
F62A	**Pittston Farm,**	**1.50**	**176**		**Pb**	**09 15 30.5**	**0.0**
F62A	**Pittston Farm,**	**1.50**	**176**	P		09 15 30.2	
	baz=357,SNR=275						
F62A				S		09 15 49.3	
	baz=357						
E63A	**Oxbow**	**1.51**	**129**	Pn	**Pb**	**09 15 30.1**	**-0.5**
E63A	**Oxbow**	**1.51**	**129**	P		09 15 30.0	
	baz=312,SNR=1000						
E63A				S		09 15 50.4	
	baz=312						
F61A	**St Evariste**	**1.54**	**204**	P		09 15 30.3	
	baz=23,SNR=326						
PQI	**Presque Isle**	**1.60**	**116**		**Pb**	**09 15 31.8**	**-0.4**
PQI				Sn	**Sg**	**09 15 53.4**	**-0.9**
PQI				IAmb_Lg		09 15 55.1	
	comp=Z,169nm,0.8s						
LATQ	**La Tuque**	**1.82**	**271**	PN	**Pb**	**09 15 35.0**	**-1.0**
LATQ				SN	**Sb**	**09 15 58.9**	**+0.4**
LATQ				Trac		09 16 00.8	
	comp=Z,1μm,0.2s						
LATQ	**La Tuque**	**1.82**	**271**		**Pn**	**09 15 34.9**	**+1.1**
LATQ				Sn	**Sb**	**09 15 58.6**	**0.0**
LATQ	**La Tuque**	**1.82**	**271**	P		09 15 34.7	
	baz=89,SNR=165						
F63A	**Nahmakanta, Br**	**1.82**	**157**		**Pb**	**09 15 34.9**	**-1.1**
F63A				IAmb_Lg		09 16 05.0	
	comp=Z,166nm,0.7s						
F63A	**Nahmakanta, Br**	**1.82**	**157**	P		09 15 34.8	
	baz=338,SNR=325						
F63A				S		09 15 58.0	
	baz=338						
E64A	**Bridgewater**	**1.84**	**121**	P		09 15 34.7	
	baz=303,SNR=462						
E64A				S		09 15 58.7	
	baz=303						
E59A	**St. Maurice**	**1.88**	**242**	P		09 15 35.6	
	baz=60						
F60A	**Warwick**	**1.91**	**222**	P		09 15 35.6	
	baz=41,SNR=231						
D58A	**Chemin du LacG**	**1.91**	**262**	P		09 15 35.7	
	baz=80,SNR=810						
D58A				S		09 16 00.1	
	baz=80						
F64A	**Sherman**	**1.95**	**141**	Pn	**Pn**	**09 15 36.4**	**+0.8**
F64A	**Sherman**	**1.95**	**141**	P		09 15 36.2	
	baz=323,SNR=432						
F64A				S		09 16 01.7	
	baz=323						
DPQ	**Saint Jean**	**1.96**	**250**	PN	**Pn**	**09 15 37.0**	**+1.3**
DPQ				SN	**Sb**	**09 16 02.2**	**-0.5**
DPQ				Trac		09 16 04.2	
	comp=Z,339nm,0.1s						
G62A	**West of Eustis**	**2.19**	**188**	Pn	**Pn**	**09 15 40.1**	**+1.2**
G62A	**West of Eustis**	**2.19**	**188**	P		09 15 39.9	
	baz=7.8,SNR=94						
PKME	**Peaks-Kenny Pk**	**2.20**	**165**	PN	**Pn**	**09 15 40.0**	**+1.0**
PKME				SN	**Sn**	**09 16 07.5**	**+1.5**
PKME				LG	Lg	09 16 12.6	
PKME				Trac		09 16 14.9	
	comp=Z,111nm,0.2s						
PKME	**Peaks-Kenny Pk**	**2.20**	**165**		**Pn**	**09 15 40.0**	**+1.0**
PKME				IAmb_Lg		09 16 13.2	
	comp=Z,149nm,1.1s						
PKME	**Peaks-Kenny Pk**	**2.20**	**165**	P		09 15 39.8	
	baz=346,SNR=96						
PKME				S		09 16 07.8	
	baz=346						
G63A	**Kingsbury**	**2.30**	**171**	P		09 15 41.3	
	baz=352,SNR=138						
STUQ	**Sainte-Ursule**	**2.32**	**243**	PN	**Pn**	**09 15 42.5**	**+1.8**
STUQ				SN	**Sn**	**09 16 10.8**	**+1.7**
STUQ				Trac		09 16 14.1	
	comp=Z,162nm,0.2s						
STUQ				LG	Lg	09 16 16.6	
G61A	**St-Isidore-de-**	**2.33**	**206**	P		09 15 42.5	
	baz=25,SNR=170						
G64A	**Maxfield**	**2.33**	**156**	P		09 15 41.7	
	baz=337,SNR=63						
CNQ	**Baie Comeau**	**2.34**	**35**	PN	**Pn**	**09 15 41.5**	**+0.5**
CNQ				SN	**Sn**	**09 16 10.6**	**+1.0**
CNQ				Trac		09 16 15.0	
	comp=Z,152nm,0.1s						
E58A	**La Victoria**	**2.40**	**246**	P		09 15 42.4	
	baz=64,SNR=205						
F59A	**Saint Guillaume**	**2.40**	**231**	P		09 15 42.6	
	baz=49,SNR=21						
MOQ	**Mont Orford**	**2.56**	**216**	PN	**Pn**	**09 15 45.1**	**+1.2**
MOQ				SN	**Sn**	**09 16 16.0**	**+1.0**
MOQ				Trac		09 16 27.4	
	comp=Z,74nm,0.2s						
MOQ	**Mont Orford**	**2.56**	**216**		**Pn**	**09 15 45.0**	**+1.0**
H63A	**New Sharon**	**2.73**	**179**	P		09 15 47.0	
	baz=359,SNR=12						
HANN	**Hanwell**	**2.75**	**122**	PN	**Pn**	**09 15 47.2**	**+0.7**
HANN				SN	**Sn**	**09 16 20.4**	**+0.8**
HANN				Trac		09 16 36.9	
	comp=Z,234nm,0.4s						
BATG	**Bathurst New B**	**2.75**	**91**	PN	**Pn**	**09 15 46.8**	**+0.1**
BATG				SN	**Sn**	**09 16 19.8**	**0.0**
BATG				Trac		09 16 20.4	
	comp=Z,58nm,0.1s						
BATG	**Bathurst New B**	**2.75**	**91**	Pn	**Pn**	**09 15 47.0**	**+0.4**
G60A	**Masonville**	**2.77**	**215**	P		09 15 48.0	
	baz=33,SNR=138						
G65A	**Princeton**	**2.81**	**140**		**Pn**	**09 15 47.8**	**+0.4**
G65A				IAmb_Lg		09 16 34.5	
	comp=Z,112nm,0.8s						
G65A	**Princeton**	**2.81**	**140**	P		09 15 47.5	
	baz=322,SNR=63						
H64A	**Troy**	**2.82**	**167**	P		09 15 48.1	
	baz=348,SNR=52						
H64A				S		09 16 21.6	
	baz=348						
WVL	**Waterville**	**2.84**	**174**		**Pn**	**09 15 49.1**	**+1.3**
ICQ	**Pointe Anglais**	**2.85**	**40**	PN	**Pn**	**09 15 48.8**	**+0.9**
ICQ				SN	**Sn**	**09 16 22.2**	**+0.2**
ICQ			

comp=Z,99nm,0.2s
VT1 Waterbury 3.58 212 Pn 09 15 59.0 +1.1
VT1 IAmb_Lg 09 16 59.2
comp=Z,86nm,1.1s
SMQ Clarke City 3.62 37 PN Pn 09 15 58.9 +0.4
SMQ Trac 09 16 55.7
comp=Z,47nm,0.2s
I62A Tamworth 3.62 194 Pn 09 15 59.4 +0.8
I62A IAmb_Lg 09 17 05.2
comp=Z,80nm,1.0s
I62A Tamworth 3.62 194 P 09 15 59.3
baz=13,SNR=17
WCNB Wards Creek 3.62 117 PN Pn 09 15 58.9 +0.4
WCNB SN Sn **09 16 41.7 +0.6**
WCNB LG Lg 09 16 57.7
WCNB Trac 09 17 01.8
comp=Z,128nm,0.4s
D55A Sainte-Anne-du 3.68 266 P 09 15 58.7
baz=82,SNR=24
H59A Cadyville 3.71 224 P 09 16 00.3
baz=41,SNR=27
ALFO Alfred 3.74 244 PN Pn 09 16 01.7 +1.5
ALFO SN Sn **09 16 44.6 +0.6**
ALFO Trac 09 16 59.9
comp=Z,59nm,0.2s
ALFO LG Lg 09 17 01.0
ELNB Elgin, New Bru 3.75 112 PN Pn 09 16 00.3 +0.1
ELNB SN Sn **09 16 44.0 -0.2**
ELNB LG Lg 09 17 01.3
ELNB Trac 09 17 03.6
comp=Z,38nm,0.4s
CHGQ Chibougamau 3.79 313 PN Pn 09 16 01.4 +0.5
CHGQ SN Sn **09 16 45.6 +0.3**
CHGQ LG Lg 09 17 01.8
CHGQ Trac 09 17 04.6
comp=Z,64nm,0.2s
CHGQ Chibougamau 3.79 313 P 09 16 01.1
baz=130,SNR=51
SVNB Stilesville Qu 3.80 107 PN Pn 09 16 01.6 +0.6
SVNB SN Sn **09 16 45.0 -0.5**
SVNB Trac 09 17 03.6
comp=Z,173nm,0.3s
SVNB LG Lg 09 17 04.0
LMN Caledonia Moun 3.96 111 PN Pn 09 16 03.3 0.0
LMN SN Sn **09 16 48.6 -1.0**
LMN LG Lg 09 17 07.6
LMN Trac 09 17 15.9
comp=Z,45nm,0.5s
LMN Caledonia Moun 3.96 111 Pn 09 16 03.4 0.0
HNH Hanover 3.99 203 Pn Pn **09 16 05.0 +1.4**
HNH IAmb_Lg 09 17 17.1
comp=Z,77nm,1.1s
GRQ Grand Remous 4.01 261 PN Pn 09 16 04.8 +0.9
GRQ SN Sn **09 16 50.1 -0.7**
GRQ LG Lg 09 17 08.2
GRQ Trac 09 17 11.7
comp=Z,117nm,0.3s
FFD Franklin Falls 4.07 196 Pn 09 16 06.0 +1.3
VABQ Val Des Bois 4.07 251 PN Pn 09 16 05.0 +0.3
GAC Glen Almond 4.07 247 PN Pn 09 16 05.5 +0.8
GAC PN Pn **09 16 06.0 +1.2**
GAC SN Sn **09 16 52.5 +0.3**
GAC SN Sn **09 16 52.5 +0.3**
GAC Trac 09 17 09.5
comp=Z,213nm,0.5s
GAC Trac 09 17 10.7
comp=Z,57nm,0.2s
GAC LG Lg 09 17 11.5
G57A Newington 4.08 238 P 09 16 05.8
baz=54
H58A Gabriels 4.11 225 P 09 16 05.8
baz=42,SNR=32
J63A Strafford 4.17 190 P 09 16 07.1
baz=9.2,SNR=36
LONY Lake Ozonia 4.17 230 Pn 09 16 06.4 +0.3
LONY Lake Ozonia 4.17 230 P 09 16 06.4
baz=47,SNR=13
ORIO Orleans, Innes 4.21 245 PN Pn 09 16 07.8 +1.1
ORIO SN Sn **09 16 55.7 0.0**
ORIO LG Lg 09 17 13.1
ORIO Trac 09 17 15.0
comp=Z,132nm,0.3s
WBO Williamsburg 4.31 238 PN Pn 09 16 09.4 +1.4
WBO SN Sn **09 16 58.1 0.0**
WBO LG Lg 09 17 16.6
WBO Trac 09 17 22.2
comp=Z,46nm,0.2s
J62A Henniker 4.33 197 P 09 16 09.1
baz=16,SNR=13
OTT Ottawa 4.37 245 PN Pn 09 16 10.2 +1.5
OTT SN Sn **09 16 59.5 0.0**
OTT Trac 09 17 16.1
comp=Z,197nm,0.3s
OTT LG Lg 09 17 18.9
NCB Newcomb 4.47 222 Pn Pn **09 16 10.9 +0.6**
NCB IAmb_Lg 09 17 27.7
comp=Z,49nm,0.8s
KB1O Rock site, Kin 4.65 247 PN Pn 09 16 14.3 +1.7
KB1O SN Sn **09 17 03.0 -3.5**
KB1O LG Lg 09 17 28.2
KB1O Trac 09 17 34.3
comp=Z,135nm,0.3s
H57A Richville 4.71 233 P 09 16 14.0
baz=50
ACCN Adirondack Com 4.73 213 Pn Pn **09 16 14.9 +1.1**
ACCN IAmb_Lg 09 17 39.6
comp=Z,53nm,1.1s
K63A Dunstable 4.81 193 Pn Pn **09 16 15.5 +0.6**
K63A IAmb_Lg 09 17 36.7
comp=Z,60nm,1.1s
K62A Royalston 4.96 198 Pn Pn **09 16 17.8 +0.8**
HRV Adam Dziewonsk 4.99 192 Pn Pn **09 16 18.1 +0.7**
VLDQ Val d'Or 5.01 281 PN Pn 09 16 20.0 +2.4
VLDQ SN Sn **09 17 18.5 +3.2**
VLDQ Trac 09 17 45.1
comp=Z,74nm,0.6s
VLDQ LG Lg 09 17 48.3
VLDQ Val d'Or 5.01 281 Pn Pn 09 16 21.1 +3.5
I58A Old Forge 5.04 224 P 09 16 18.5
baz=41,SNR=12
WES Weston 5.08 190 Pn Pn **09 16 19.2 +0.6**
CRLO Chalk River 5.18 258 PN Pn 09 16 18.7 -1.3
CRLO SN Sn **09 17 19.2 -0.4**
CRLO Trac 09 17 43.0
comp=Z,61nm,0.2s
PEMO Pembroke 5.22 253 PN Pn 09 16 20.3 -0.1
PEMO SN Sn **09 17 18.5 -2.0**
PEMO Trac 09 17 43.2
comp=Z,48nm,0.2s
PEMO LG Lg 09 17 44.9
L61B Northampton 5.27 201 P 09 16 21.6
baz=19
TRY Troy 5.30 210 Pn Pn **09 16 22.4 +0.8**
TRY IAmb_Lg 09 17 54.0
comp=Z,50nm,1.0s
HAL Halifax 5.31 119 Pn Pn **09 16 22.7 +1.0**
PLVO Plevna 5.38 247 PN Pn 09 16 23.2 +0.5
PLVO SN Sn **09 17 22.5 -2.0**
PLVO LG Lg 09 17 49.4
PLVO Trac 09 17 49.6
comp=Z,31nm,0.2s
PLVO Plevna 5.38 247 Pn Pn **09 16 23.9 +1.2**
PLVO IAmb_Lg 09 17 51.7
comp=Z,46nm,0.7s
J58A Remsen 5.43 224 Pn Pn **09 16 24.5 +1.0**
J58A IAmb_Lg 09 17 51.5
comp=Z,40nm,0.8s
L64A Middleborough 5.48 186 Pn Pn **09 16 25.1 +1.1**
BRYW Bryant College 5.57 191 Pn Pn **09 16 25.9 +0.6**
BRYW IAmb_Lg 09 18 01.1
comp=Z,48nm,0.8s
L63A North Scituate 5.63 192 Pn Pn **09 16 27.0 +0.9**
ALGO Algonquin Park 5.65 258 P 09 16 27.0
baz=72,SNR=7.9
UCCT U. Connecticut 5.80 196 Pn Pn **09 16 28.6 +0.1**
M65A Busby, Falmout 5.84 184 Pn Pn **09 16 30.5 +1.5**
M64A Tiverton 5.89 188 Pn Pn **09 16 30.6 +0.9**
PECO Prince Edward 5.94 237 Pn Pn **09 16 31.5 +1.2**
PECO IAmb_Lg 09 18 14.0
comp=Z,36nm,1.0s
DELO Deloro Mine 5.97 244 Pn Pn **09 16 30.8 -0.1**
DELO IAmb_Lg 09 18 11.4
comp=Z,52nm,0.7s
M63A Gales Ferry 6.14 194 Pn Pn **09 16 33.7 +0.4**

KSCT Kent School, K 6.16 204 Pn Pn **09 16 33.2 -0.2**
GBN Guysborough 6.26 105 Pn Pn **09 16 34.9 +0.1**
GBN IAmb_Lg 09 18 27.4
comp=Z,44nm,1.0s
L59A Walton 6.27 216 Pn Pn **09 16 36.3 +1.3**
L59A IAmb_Lg 09 18 17.8
comp=Z,47nm,1.2s
K57A Scipio Center 6.50 227 Pn Pn **09 16 39.1 +0.9**
WSPT Westport, CT 6.63 202 Pn Pn **09 16 41.2 +1.3**
BINY Binghamton 6.67 221 Pn Pn **09 16 41.5 +1.1**
SADO Sadowa 6.81 251 Pn Pn **09 16 42.6 +0.3**
SADO IAmb_Lg 09 18 34.6
comp=Z,38nm,0.8s
J55A Hilton 6.82 236 Pn Pn **09 16 43.7 +1.2**
J55A IAmb_Lg 09 18 45.7
comp=Z,45nm,0.8s
TRNY Table Rock, Ra 6.91 207 Pn Pn **09 16 45.0 +1.3**
PAL Palisades 6.94 205 Pn Pn **09 16 45.3 +1.1**
ODNJ Ogdensburg 7.08 209 Pn Pn **09 16 47.4 +1.3**
KSPA Keystone Colle 7.10 217 Pn Pn **09 16 47.4 +1.1**
KSPA IAmb_Lg 09 18 58.9
comp=Z,41nm,1.1s
MMNY Mt. Morris Dam 7.22 233 Pn Pn **09 16 49.2 +1.1**
MMNY IAmb_Lg 09 18 59.3
comp=Z,40nm,0.7s
MEDO Medina 7.25 237 Pn Pn **09 16 49.3 +1.0**
L56A Greenwood 7.46 228 Pn Pn **09 16 51.5 +0.2**
L56A IAmb_Lg 09 18 56.9
comp=Z,37nm,0.8s
N59A State Game Lan 7.64 214 Pn Pn **09 16 53.9 0.0**
SCHQ Schefferville 7.73 14 Pn Pn **09 16 55.1 +0.2**
SCHQ IAmb_Lg 09 19 08.6
comp=Z,27nm,0.8s
WYNY West Valley, N 7.82 234 Pn Pn **09 16 56.6 +0.3**
M57A Sunshine Farm, 7.87 222 Pn Pn **09 16 56.9 +0.1**
N58A Sunbury 8.09 218 Pn Pn **09 17 00.2 +0.3**
WUPA West Chester U 8.45 210 Pn Pn **09 17 05.3 +0.4**
M55A Ridgway 8.57 229 Pn Pn **09 17 06.7 +0.3**
M55A IAmb_Lg 09 19 34.2
comp=Z,30nm,0.9s
P60A Greenville 8.57 210 Pn Pn **09 17 06.1 -0.4**
DRLN Deer Lake 8.61 73 Pn Pn **09 17 06.8 -0.2**
MVL Millersville 8.66 214 Pn Pn **09 17 08.0 +0.3**
SSPA Standing Stone 8.77 222 Pn Pn **09 17 09.5 +0.2**
SSPA IAmb_Lg 09 19 40.3
comp=Z,20nm,0.9s
ERPA Erie 8.79 237 IAmb_Lg 09 20 05.2
comp=Z,27nm,0.8s
M54A Oil Creek Stat 9.01 233 Pn Pn **09 17 12.7 +0.1**
ALLY Alegheny Colle 9.18 235 Pn Pn **09 17 15.2 +0.3**
O56A Blue Knob Stat 9.38 224 Pn Pn **09 17 18.3 +0.6**
N54A Moraine State 9.57 231 Pn Pn **09 17 21.8 +1.6**
N54A IAmb_Lg 09 20 16.5
comp=Z,24nm,0.9s
M53A WI Miller and 9.62 236 Pn Pn **09 17 21.2 +0.3**
P57A Homestead Farm 9.77 219 Pn Pn **09 17 22.9 0.0**
E46A Sault Ste Mari 9.78 269 Pn Pn **09 17 23.2 +0.1**
M52A Chesterland 9.94 238 Pn Pn **09 17 26.0 +0.7**
N53A Lisbon 10.14 233 Pn Pn **09 17 28.7 +0.7**
O54A Avella 10.34 230 Pn Pn **09 17 31.3 +0.5**
Q56A Snyder Ridge, 10.65 222 Pn Pn **09 17 36.5 +1.5**
O53A New Philadelph 10.73 232 Pn Pn **09 17 36.5 +0.4**
AAM Ann Arbor 10.88 247 Pn Pn **09 17 39.5 +1.4**
G45A Suttons Bay 11.03 263 Pn Pn **09 17 41.4 +1.2**
O52A Adamsville 11.16 234 Pn Pn **09 17 43.3 +1.2**
P53A Whipple 11.38 230 Pn Pn **09 17 44.9 -0.1**
E43A Lone Tree Farm 11.61 271 Pn Pn **09 17 47.9 -0.1**
S57A Dark Hollow, R 11.62 217 Pn Pn **09 17 49.3 +1.1**
P52A Corning 11.67 233 Pn Pn **09 17 49.9 +1.0**
R55A Marlinton 11.69 222 Pn Pn **09 17 49.2 -0.1**
ACSO Alum Creek Sta 11.73 237 Pn Pn **09 17 49.3 -0.4**
Q52A Bidwell 12.22 231 Pn Pn **09 17 57.6 +1.1**
O49A Covington 12.54 240 Pn Pn **09 18 00.2 -0.7**
N47A Urbana 12.94 245 Pn Pn **09 18 06.8 +0.5**
COWI Conover 13.12 271 Pn Pn **09 18 10.2 +1.5**
I42A Draeger Farm, 13.61 262 Pn Pn **09 18 15.9 +0.5**
G40A Rib Lake 14.04 269 Pn Pn **09 18 21.2 -0.1**

*IDC **28** 09:27:15.2±4.5,37°.51N×71°.47E,h95^{km}±31^{km},mb3.2/3, mb1 3.3/9,mb1mx3.1/55,mbtmp3.6/9,Error ellipse: s-maj=58.4km s-min=22.1km az=143.0*
*NNC **28** 09:27:21.1±6.7,37°.92N×71°.64E,h163^{km}±110^{km},mb2.8, mpv3.5,Error ellipse: s-maj=66.0km s-min=37.5km az=16.0*
ISC 28 09:27:14.4±0.8,37°.45N±0°.06×71°.54E±0°.07,h109^{km},n15, σ2^{s}40/22,mb3.5/3,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.65**	**23**	P	**Pn**	**09 28 37.2**	**+1.1**
	2.5nm,0.3s,baz=201,slow=5.8,SNR=9.4						
AAK				S	**Sn**	09 29 38.2	-1.6
	1.4nm,0.3s,baz=346,slow=22,SNR=9.7						
AAK	**Ala-Archa**	**5.65**	**23**	⇓P	**Pn**	**09 28 36.9**	**+0.7**
AAK	4.0nm,0.5s			⇓S	**Sn**	09 29 37.8	-2.1
	6.4nm,0.4s						
KK31	**Karatay Array**	**5.70**	**352**	P	**Pn**	**09 28 38.1**	**+1.4**
	3.3nm,0.2s,baz=171,slow=12,SNR=124						
KK31				⇑S	**Sn**	09 29 39.7	-1.2
	9.5nm,0.4s,baz=183,slow=25,SNR=14						
THN	**Thein Dam**	**6.07**	**144**	*e*P	**Pn**	**09 28 42.5**	**+0.9**
THN				*e*S	**Sn**	09 29 45.0	-4.7
TKM2	**Tokmak 2**	**6.28**	**28**	⇑P	**Pn**	**09 28 44.9**	**+0.2**
	1.3nm,0.5s						
TKM2				⇑S	**Sn**	09 29 52.7	-2.5
	1.8nm,0.5s						
GEYT	**Alibeck**	**10.65**	**277**	P	**Pn**	**09 29 43.8**	**-0.1**
	1.1nm,0.3s,baz=118,slow=13,SNR=12						
GEYT				S	**Sn**	09 31 39.0	-2.2
	0.9nm,0.3s,baz=79,slow=30,SNR=4.1						
MKAR	**Makanchi Array**	**12.27**	**37**	P	**Pn**	**09 30 07.7**	**+2.4**
	0.1nm,0.3s,baz=227,slow=11,SNR=1.6						
KURBB	**Kurchatov Arra**	**14.09**	**19**	P	**Pn**	**09 30 30.7**	**+1.8**
	0.0nm,0.3s,baz=208,slow=10,SNR=2.6						
AB31	**Akbulak array**	**14.48**	**328**	⇓P	**Pn**	**09 30 34.1**	**+0.1**
	0.2nm,0.3s,baz=138,slow=14,SNR=20						
AB31				⇑S	Sn	09 33 02.8	-11
	3.5nm,0.8s,baz=128,slow=25,SNR=8.8						
AKTO	**Aktyubinsk**	**16.19**	**328**	P	**P**	**09 30 57.7**	**+1.2**
	0.9nm,0.3s,baz=128,slow=11,SNR=18						
AKTO				S	**Sn**	09 33 48.7	-6.2
	0.2nm,0.3s,baz=46,slow=22,SNR=2.7						
AKTO	**Aktyubinsk**	**16.19**	**328**	⇑P	**P**	**09 30 59.5**	**+3.0**
	5.1nm,0.7s						
ZALV	**Zalesovo Beam**	**18.87**	**25**	P	**Pn**	**09 31 28.2**	**+0.5**
	0.2nm,0.3s,baz=224,slow=12,SNR=2.1						
FINES	**FINESS Array B**	**36.95**	**325**	P	**P**	**09 34 14.6**	**+2.1**
	0.4nm,0.4s,baz=109,slow=12,SNR=5.6						
NOA	**NORSAR Array B**	**43.89**	**322**	P	**P**	**09 35 11.0**	**+1.2**
	0.3nm,0.7s,baz=96,slow=8.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**66.18**	**269**	P	**P**	**09 37 51.4**	**+0.8**
	0.7nm,1.0s,baz=46,slow=6.0,SNR=1.9						

*IDC **28** 10:01:09.7±1.6,43°.80N×128°.46W,h0^{km},mb3.7/6, mb1 3.8/13,mb1mx3.6/64,mbtmp3.6/13,ML3.5/6,MS3.4/12, Ms1 3.4/12,ms1mx3.2/49,Error ellipse: s-maj=31.0km s-min=13.3km az=44.0*
*NEIC **28** 10:01:10.8±1.5,43°.82N±0°.09×128°.3W±0°.1,h10^{km}±2^{km}, ML3.2/22, Error ellipse: s-maj=20.8km s-min=10.3km az=235.0*
*ANF **28** 10:01:13.8±1.9,43°.91N×127°.96W,h10^{km},ML3.5/14, Error ellipse: s-maj=21.1km s-min=6.1km az=70.0, Hypocentre not reviewed by the ISC*
ISC 28 10:01:10.9±1.1,43°.9N±0°.1×128°.3W±0°.1,h13^{km},n96, σ1^{s}32/86,mb3.9/5,MS3.3/5,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.10**	**108**		**Pn**	**10 01 57.5**	**-2.0**
KEBM				IAML		10 02 50.5	
	comp=N,84nm,2.4s						
KEBM				IAML		10 03 29.9	
	comp=E,80nm,2.2s						
J01E	**Myrtle Point**	**3.29**	**102**	P		10 02 00.4	
	baz=283,SNR=12						
J01E				S		10 02 38.6	
	baz=283						
KBO	**Bosley Butte**	**3.46**	**118**	Pn	**Pn**	**10 02 03.6**	**-0.9**
KBO				IAML		10 02 34.7	
	comp=N,54nm,2.4s						
I03D	**Drain, OR**	**3.62**	**92**	P		10 02 05.3	
	baz=274,SNR=63						
K02D	**Willamette Mer**	**3.62**	**108**	P		10 02 05.0	
	baz=290,SNR=21						
K02D				S		10 02 47.0	
	baz=290						
COR	**Corvallis**	**3.68**	**78**	Pn	**Pn**	**10 02 07.3**	**-0.2**
COR				IAML		10 03 38.0	
	comp=N,44nm,2.0s						
G03D	**McMinnville, O**	**3.85**	**69**	P		10 02 09.3	
	baz=250,SNR=11						
L02E	**Cave Junction**	**3.89**	**115**	S		10 02 54.0	
	baz=298						
KRMB	**Red Mountain**	**4.04**	**125**	Pn	**Pn**	**10 02 12.2**	**-0.4**
H04D	**Lebanon**	**4.07**	**79**	P		10 02 12.7	
	baz=262,SNR=21						
HUMO	**Hull Mountain**	**4.14**	**106**	Pn	**Pn**	**10 02 13.4**	**-0.5**
HUMO				IAML		10 03 09.5	
	comp=N,20nm,1.9s						
E03A	**Lebam**	**4.28**	**50**	Pn	**Pn**	**10 02 15.8**	**+0.1**
I04A	**Tendick Farm,**	**4.29**	**90**	P		10 02 14.9	
	baz=272,SNR=15						
F04D	**Rainier, OR**	**4.36**	**58**	P		10 02 16.8	
	baz=240						
JCC	**Jacoby Creek,**	**4.44**	**133**	Pn	**Pn**	**10 02 17.6**	**-0.3**
JCC				IAML		10 04 25.4	
	comp=N,22nm,2.4s						
JCC				IAML		10 04 30.7	
	comp=E,24nm,4.2s						
H04A	**Detroit Lake**	**4.48**	**78**	Pn	**Pn**	**10 02 18.4**	**-0.1**
H04A				IAML		10 02 52.0	
	comp=E,19nm,1.8s						
H04A				IAML		10 03 25.1	
	comp=N,20nm,0.9s						
J04D	**Umpqua Nationa**	**4.58**	**96**	P		10 02 19.9	
	baz=280,SNR=21						
YBH	**Yreka Blue Hor**	**4.68**	**116**	Pn	**Pn**	**10 02 21.6**	**+0.4**
	comp=N,0.3nm,0.3s,baz=305,slow=9.5,SNR=9.8						
YBH				Sn	**Sn**	**10 03 17.0**	**+1.5**
	comp=N,0.1nm,0.3s,baz=153,slow=2.7,SNR=3.2						
YBH				LR	LR	10 03 45.7	
	comp=N,173nm,20.5s,baz=332,slow=33						
YBH	**Yreka Blue Hor**	**4.68**	**116**	Pn	**Pn**	**10 02 20.9**	**-0.3**
NLWA	**Neilton Lookou**	**4.68**	**40**	Pn	**Pn**	**10 02 21.4**	**+0.1**
NLWA				IAML		10 04 24.3	
	comp=N,14nm,2.0s						
NLWA				IAML		10 04 29.0	
	comp=N,14nm,2.6s						
L04D	**Klamath Falls**	**4.73**	**109**	P		10 02 22.2	
	baz=292,SNR=13						
E04D	**Cinebar**	**4.86**	**55**	P		10 02 24.3	
	baz=238						
D04E	**Lakebay**	**5.10**	**48**	P		10 02 27.8	
	baz=231						
D03D	**Eldon**	**5.16**	**44**	P		10 02 28.1	
	baz=226,SNR=12						
J05D	**Fort Rock, OR**	**5.20**	**94**	P		10 02 28.6	
	baz=278						
F05D	**White Salmon**	**5.27**	**66**	P		10 02 29.6	
	baz=249						
PINE	**Pine Mountain**	**5.35**	**89**	Pn	**Pn**	**10 02 30.7**	**0.0**
PINE				IAML		10 04 25.0	
	comp=N,13nm,3.2s						
LON	**Longmire**	**5.41**	**56**		**Pn**	**10 02 31.1**	**-0.1**
D05A	**Enumclaw**	**5.53**	**51**		**Pn**	**10 02 33.4**	**+0.4**
K05A	**Summer Lake**	**5.56**	**100**		**Pn**	**10 02 33.2**	**-0.3**
PGC	**Sidney**	**5.83**	**34**	Pn	**Pn**	**10 02 36.1**	**-0.8**
O03E	**Paynes Creek**	**6.06**	**124**	P		10 02 40.5	
	baz=308						
B05A	**Bryant**	**6.15**	**43**	P		10 02 41.8	
	baz=226,SNR=5.2						
F07A	**Phinny Hill Vi**	**6.29**	**69**		**Pn**	**10 02 42.5**	**-0.8**
LTY	**Liberty**	**6.34**	**55**		**Pn**	**10 02 44.1**	**+0.1**
I07A	**Izee**	**6.38**	**85**	Pn	**Pn**	**10 02 44.1**	**-0.5**
A05A	**Maple Falls**	**6.67**	**38**	Pn	**Pn**	**10 02 48.3**	**-0.2**
HAWA	**Hanford**	**6.70**	**65**		**Pn**	**10 02 48.2**	**-0.8**
ORV	**Oroville**	**6.71**	**128**	Pn	**Pn**	**10 02 47.8**	**-1.3**
G08A	**Pilot Rock**	**6.84**	**75**	Pn	**Pn**	**10 02 50.3**	**-0.6**
E08A	**Dider Farm, El**	**7.04**	**65**	Pn	**Pn**	**10 02 53.5**	**-0.2**
J08A	**Circle Bar Ran**	**7.18**	**91**	Pn	**Pn**	**10 02 55.3**	**-0.4**
WVOR	**Wild Horse Val**	**7.24**	**98**	Pn	**Pn**	**10 02 54.8**	**-1.7**
D08A	**Wollman Farm,**	**7.33**	**61**	Pn	**Pn**	**10 02 57.7**	**+0.1**
AFDM	**Forest Hills D**	**7.43**	**129**	Pn	**Pn**	**10 02 57.9**	**-1.1**
E09A	**Wood Farm, Sta**	**7.65**	**67**	Pn	**Pn**	**10 03 01.4**	**-0.6**
PAHR	**Pah Rah Range**	**7.90**	**119**		**Pn**	**10 03 04.7**	**-0.9**
BMO	**Blue Mountains**	**7.96**	**79**		**Pn**	**10 03 05.3**	**-1.1**
C09A	**Chrisman Ranch**	**8.03**	**58**	Pn	**Pn**	**10 03 06.0**	**-1.2**
PNTR	**Pine Nut**	**8.13**	**123**		**Pn**	**10 03 08.4**	**-0.5**
F10A	**Beach Ranch, E**	**8.15**	**71**	Pn	**Pn**	**10 03 09.6**	**+0.7**
BBB	**Bella Bella**	**8.28**	**1**	Pn	**Pn**	**10 03 13.0**	**+2.4**
	comp=N,0.2nm,0.3s,baz=199,slow=4.7,SNR=2.0						
BBB	**Bella Bella**	**8.28**	**1**	Pn	**Pn**	**10 03 11.9**	**+1.3**
CMB	**Columbia Colle**	**8.40**	**132**		**Pn**	**10 03 12.3**	**-0.1**
YERR	**Yerington**	**8.42**	**123**		**Pn**	**10 03 12.9**	**+0.2**
WAKR	**Walker**	**8.61**	**126**	Pn	**Pn**	**10 03 14.7**	**-0.7**
NEW	**Newport**	**8.93**	**57**	Pn	**Pn**	**10 03 21.2**	**+1.7**
	comp=N,0.4nm,0.3s,baz=251,slow=14,SNR=6.7						
NEW				LR	LR	10 06 52.3	
	comp=N,227nm,18.2s,baz=264,slow=38						
NEW	**Newport**	**8.93**	**57**		**Pn**	**10 03 19.6**	**0.0**
NVAR	**Mina Array Bea**	**9.34**	**122**	Pn	**Pn**	**10 03 27.9**	**+2.6**
	comp=N,0.0nm,0.3s,baz=300,slow=15,SNR=4.2						
NVAR				LR	LR	10 07 03.3	
	comp=N,205nm,19.9s,baz=288,slow=38						
MDPB	**Devils Postpil**	**9.41**	**129**		**Pn**	**10 03 25.3**	**-1.2**
NV11	**Mina Array Sit**	**9.43**	**122**		**Pn**	**10 03 25.9**	**-0.6**
ELK	**Elko**	**10.20**	**104**	Pn	**Pn**	**10 03 40.8**	**+3.6**
	comp=N,0.0nm,0.3s,baz=304,slow=14,SNR=3.8						
ELK				LR	LR	10 07 51.1	
	comp=N,245nm,18.5s,baz=313,slow=39						
ELK	**Elko**	**10.20**	**104**		**Pn**	**10 03 35.8**	**-1.4**
PAGB	**Antelope Grade**	**10.26**	**140**	Pn	**Pn**	**10 03 36.5**	**-1.4**
JTMT	**Jette**	**10.53**	**64**	Pn	**Pn**	**10 03 42.2**	**+0.6**
MSO	**Missoula**	**10.54**	**69**	Pn	**Pn**	**10 03 42.1**	**+0.3**
BCYI	**Bear Canyon**	**10.75**	**83**		**Pn**	**10 03 44.1**	**-0.6**
R11A	**Troy Canyon, C**	**11.10**	**116**	Pn	**Pn**	**10 03 48.0**	**-1.5**
MCMT	**McKenzie Canyo**	**11.13**	**80**	Pn	**Pn**	**10 03 48.0**	**-1.9**
WALA	**Waterton Lakes**	**11.20**	**58**		**Pn**	**10 03 49.4**	**-1.2**
DLMT	**Dillon**	**11.31**	**77**		**Pn**	**10 03 51.4**	**-0.9**
HWUT	**Hardware Ranch**	**12.54**	**95**		**Pn**	**10 04 09.6**	**+0.4**
YHH	**Holmes Hill**	**12.55**	**80**		**Pn**	**10 04 09.0**	**-0.4**
TPAW	**Teton Pass**	**12.59**	**86**		**Pn**	**10 04 09.3**	**-0.6**
H17A	**Grant Village**	**12.77**	**82**		**Pn**	**10 04 12.0**	**-0.3**
WRAK	**Wrangell Islan**	**12.78**	**350**	Pn	**Pn**	**10 04 11.4**	**-0.7**
LOHW	**Long Hollow**	**12.83**	**85**		**Pn**	**10 04 14.3**	**+1.3**
MSU	**Marysvale**	**13.30**	**108**	Pn	**Pn**	**10 04 18.6**	**-1.0**
GCMT	**Greycliff**	**13.38**	**75**	Pn	**Pn**	**10 04 19.7**	**-0.8**
LCMT	**Little Creek M**	**13.39**	**116**	Pn	**Pn**	**10 04 20.1**	**-0.6**
MTPU	**Mount Pierson**	**13.53**	**110**	Pn	**Pn**	**10 04 22.3**	**-0.5**
EGMT	**Eagleton**	**13.56**	**66**	Pn	**Pn**	**10 04 23.1**	**+0.2**
TMUT	**Trail Mountain**	**13.62**	**104**	Pn	**Pn**	**10 04 22.1**	**-1.9**
KNB	**Kanab**	**13.66**	**115**	Pn	**Pn**	**10 04 23.4**	**-1.0**
PDAR	**Pinedale Array**	**13.72**	**88**	Pn	**P**	**10 04 33.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=284,slow=11,SNR=2.3						
PDAR				LR	LR	10 09 57.7	
	comp=N,242nm,19.5s,baz=266,slow=38						
PDAR	**Pinedale Array**	**13.72**	**88**	Pn	**Pn**	**10 04 23.6**	**-1.7**
PKCU	**Pink Cliffs**	**13.76**	**113**	Pn	**Pn**	**10 04 24.4**	**-1.6**
PFO	**Pinyon Flats O**	**13.83**	**134**	LR	LR	10 09 29.0	
	comp=N,70nm,20.8s,baz=332,slow=36						
P17A	**Butcher Ranch,**	**13.87**	**103**	Pn	**Pn**	**10 04 27.0**	**-0.3**
W13A	**Hualapai Mount**	**14.19**	**123**	Pn	**Pn**	**10 04 30.0**	**-1.8**
DLBC	**Dease Lake**	**14.59**	**356**	Pn	**P**	**10 04 40.5**	**-2.8**
	comp=N,0.1nm,0.3s,baz=202,slow=13,SNR=2.6						
GLA	**Glamis**	**15.13**	**131**	Pn	**Pn**	**10 04 42.3**	**-2.0**
113A	**Mohawk Valley,**	**15.93**	**129**	Pn	**Pn**	**10 04 51.5**	**-3.1**
X16A	**Lo Mia Camp, P**	**16.15**	**120**	Pn	**Pn**	**10 04 54.0**	**-3.6**
W18A	**Petrified Fore**	**16.80**	**115**	Pn	**Pn**	**10 05 04.3**	**-1.7**
X18A	**Snowflake**	**17.02**	**117**	Pn	**Pn**	**10 05 07.0**	**-1.8**
PHWY	**Pilot Hill**	**17.04**	**91**	Pn	**Pn**	**10 05 07.5**	**-1.5**
ANMO	**Albuquerque**	**19.08**	**111**	P	**Pn**	**10 05 36.2**	**+2.0**
	comp=N,0.1nm,0.3s,baz=321,slow=13,SNR=5.8						
ANMO				LR	LR	10 13 21.9	
	comp=N,192nm,21.2s,baz=300,slow=38						
YKA	**Yellowknife Ar**	**20.27**	**19**	P	Pn	10 05 47.6	-0.2
	comp=N,5.2nm,1.0s,baz=204,slow=10						
KDAK	**Kodiak

ILAR	**Eielson Array**	**23.35**	**340**	P	**P**	**10 06 21.1**	**+2.4**	
	comp=N,0.1nm,0.5s,baz=138,slow=8.2,SNR=3.2							
TXAR	**Lajitas Array**	**24.45**	**118**	P	**P**	**10 06 30.5**	**+1.0**	
	comp=N,2.3nm,1.0s,baz=318,slow=5.2,SNR=6.8							
TXAR				LR	LR	10 15 13.9		
	comp=N,46nm,19.9s,baz=0.0,slow=34							
LPIG	**La Paz**	**24.68**	**137**	LR	LR	10 15 46.9		
	comp=N,76nm,19.3s,baz=328,slow=36							
H11N3	**WAKE ISLAND Hy**	**58.52**	**268**	T	T	11 14 14.0		
	baz=49,slow=75,SNR=77							
H11N2	**WAKE ISLAND Hy**	**58.52**	**268**	T	T	11 14 17.3		
	baz=49,slow=75,SNR=76							
H11N1	**WAKE ISLAND Hy**	**58.54**	**268**	T	T	11 14 12.5		
	baz=49,slow=75,SNR=63							
H11S1	**WAKE ISLAND Hy**	**59.45**	**267**	T	T	11 15 30.5		
	baz=44,slow=74							
H11S2	**WAKE ISLAND Hy**	**59.45**	**267**	T	T	11 15 25.4		
	baz=44,slow=74							
H11S3	**WAKE ISLAND Hy**	**59.47**	**267**	T	T	11 15 27.3		
	baz=44							
FINES	**FINESS Array B**	**72.97**	**13**	P	**P**	**10 12 41.5**	**+1.9**	
	comp=N,2.1nm,0.9s,baz=328,slow=2.9,SNR=4.4							
SONM	**Songino Array**	**76.73**	**326**	P	**P**	**10 13 01.8**	**0.0**	
	comp=N,0.4nm,0.4s,baz=73,slow=5.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**78.47**	**341**	LR	LR	10 52 24.8		
	comp=N,48nm,18.4s,baz=231,slow=39							

*NEIC **28** 10:04:38.6±1.5, 43.°97N±0.°07×128.°0W±0.°2, h16km±7km, mb4.2/23, Error ellipse: s-maj=18.4km s-min=9.7km az=84.0*

*IDC **28** 10:04:39.9±5.0, 43.°74N×128.°65W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/53, mbtmp3.2/4, ML3.9/1, Error ellipse: s-maj=82.3km s-min=32.8km az=66.0*

ISC 28 10:04:37.6±1.4, 43.°98N±0.°07×128.°0W±0.°1, h10km, n55, σ1§38/46, mb4.1/10, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COR	**Corvallis**	**3.42**	**78**	Pn	**Pn**	**10 05 31.7**	**+0.7**
KRMB	**Red Mountain**	**3.88**	**128**	Pn	**Pn**	**10 05 38.0**	**+0.5**
HUMO	**Hull Mountain**	**3.92**	**109**	Pn	**Pn**	**10 05 39.2**	**+1.3**
E03A	**Lebam**	**4.04**	**49**	Pn	**Pn**	**10 05 40.3**	**+0.8**
H04A	**Detroit Lake**	**4.22**	**78**	Pn	**Pn**	**10 05 43.8**	**+1.8**
JCC	**Jacoby Creek,**	**4.31**	**136**	Pn	**Pn**	**10 05 44.3**	**+1.1**
NLWA	**Neilton Lookou**	**4.47**	**39**		**Pn**	**10 05 46.9**	**+1.5**
PINE	**Pine Mountain**	**5.10**	**90**	Pn	**Pn**	**10 05 54.2**	**0.0**
LON	**Longmire**	**5.16**	**55**	Pn	**Pn**	**10 05 56.3**	**+1.3**
D05A	**Enumclaw**	**5.29**	**51**	Pn	**Pn**	**10 05 57.7**	**+1.0**
K05A	**Summer Lake**	**5.32**	**101**	Pn	**Pn**	**10 05 58.5**	**+1.2**
LTY	**Liberty**	**6.09**	**55**	Pn	**Pn**	**10 06 07.8**	**0.0**
I07A	**Izee**	**6.12**	**86**	Pn	**Pn**	**10 06 09.2**	**+1.0**
HOPS	**Hopland Field**	**6.20**	**142**		**Pg**	**10 06 36.6**	**+0.3**
HAWA	**Hanford**	**6.45**	**65**	Pn	**Pn**	**10 06 12.9**	**+0.4**
A05A	**Maple Falls**	**6.46**	**37**	Pn	**Pn**	**10 06 13.6**	**+0.8**
G08A	**Pilot Rock**	**6.58**	**75**	Pn	**Pn**	**10 06 15.0**	**+0.6**
C09A	**Chrisman Ranch**	**7.78**	**57**		**Pn**	**10 06 31.5**	**+0.7**
CMB	**Columbia Colle**	**8.26**	**133**		**Pn**	**10 06 36.8**	**-0.7**
NVAR	**Mina Array Bea**	**9.16**	**124**	Pn	Pn	10 06 58.7	+8.7
	0.0nm,0.3s,baz=293,slow=14,SNR=4.1						
MDPB	**Devils Postpil**	**9.26**	**130**		**Pn**	**10 06 52.0**	**+0.6**
PDAR	**Pinedale Array**	**13.47**	**89**	Pn	P	10 08 03.6	+5.2
	0.1nm,0.3s,baz=279,slow=12,SNR=1.9						
PDAR	**Pinedale Array**	**13.47**	**89**		**Pn**	**10 07 48.6**	**-0.2**
WUAZ	**Wupatki**	**15.30**	**118**		**Pn**	**10 08 12.8**	**-1.0**
WUAZ				IAmb	IAmb	10 08 30.5	
	comp=Z,9.0nm,1.2s						
PV01	**Paradox Valley**	**15.76**	**105**		**Pn**	**10 08 20.0**	**+0.2**
X16A	**Lo Mia Camp, P**	**15.97**	**121**		**Pn**	**10 08 23.0**	**+0.5**
SDCO	**Great Sand Dun**	**18.09**	**102**	P	**Pn**	**10 08 48.4**	**-0.9**
SDCO				IAmb	IAmb	10 09 01.8	
	comp=Z,14nm,1.5s						
T25A	**Trinidad**	**19.14**	**103**	P	**P**	**10 08 59.9**	**-1.2**
121A	**Cookes Peak, D**	**19.50**	**119**	P	**P**	**10 09 04.2**	**-0.8**
FFC	**Flin Flon**	**19.95**	**48**	P	**P**	**10 09 09.0**	**-0.6**
FFC				IAmb	IAmb	10 09 19.8	
	comp=Z,6.5nm,1.1s						
YKA	**Yellowknife Ar**	**20.12**	**18**	P	Pn	10 09 19.0	+5.8
	comp=Z,1.4nm,0.9s,baz=201,slow=10,SNR=5.3						
MNTX	**Cornudas Mount**	**21.58**	**117**	P	**P**	**10 09 26.6**	**-0.8**
AMTX	**Amarillo**	**22.18**	**105**	P	**P**	**10 09 33.0**	**-1.0**
AMTX				IAmb	IAmb	10 09 44.2	
	comp=Z,6.9nm,0.8s						
CUT	**Chulitna**	**22.56**	**333**	P	**P**	**10 09 37.2**	**-0.5**
TX31	**Lajitas Ar. Si**	**24.26**	**119**	P	**P**	**10 09 53.6**	**-1.3**
TX31				IAmb	IAmb	10 10 04.2	
	comp=Z,12nm,1.3s						
TX32	**Lajitas Array**	**24.26**	**119**	P	**P**	**10 09 54.4**	**-0.6**
TX32				IAmb	IAmb	10 10 04.2	
	comp=Z,4.1nm,1.3s						
TXAR	**Lajitas Array**	**24.26**	**119**	P	**P**	**10 10 01.6**	**+6.6**
	comp=Z,2.0nm,1.2s,baz=289,slow=5.4,SNR=5.8						
TXAR	**Lajitas Array**	**24.26**	**119**	P	**P**	**10 09 55.0**	**0.0**
WMOK	**Wichita Mounta**	**24.29**	**102**	P	**P**	**10 09 52.5**	**-2.7**
WMOK				IAmb	IAmb	10 10 05.7	
	comp=Z,12nm,1.0s						
BCOK	**Bluff Creek, N**	**24.66**	**99**	P	**P**	**10 09 58.5**	**0.0**
OK029	**Liberty Lake**	**24.71**	**99**	P	**P**	**10 09 58.0**	**-0.9**
OK029				IAmb	IAmb	10 10 13.7	
	comp=Z,9.9nm,0.8s						
HPIG		**24.77**	**126**	P	**P**	**10 09 59.3**	**-0.4**
HPIG				IAmb	IAmb	10 10 09.4	
	comp=Z,5.6nm,1.2s						
OKCFA	**Oklahoma City**	**24.89**	**100**	P	**P**	**10 10 00.4**	**-0.2**
FNO	**Franklin**	**25.01**	**100**	P	**P**	**10 10 01.2**	**-0.4**
BMAR	**Burnt Mountain**	**25.12**	**345**	P	**P**	**10 10 02.3**	**0.0**
OK030	**Cody Creek RV**	**25.12**	**98**	P	**P**	**10 10 01.8**	**-0.8**
LOOK	**Love County**	**25.81**	**102**	P	**P**	**10 10 08.2**	**-0.6**
LOOK				IAmb	IAmb	10 10 20.3	
	comp=Z,14nm,1.0s						
JCT	**Junction City**	**26.03**	**112**	P	**P**	**10 10 09.6**	**-1.4**
JCT				IAmb	IAmb	10 10 13.8	
	comp=Z,3.7nm,1.1s						
G40A	**Rib Lake**	**26.77**	**74**	P	**P**	**10 10 17.8**	**+0.4**
G40A				IAmb	IAmb	10 10 42.4	
	comp=Z,3.9nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**58.77**	**268**	T	T	11 17 42.3	
	baz=49,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**58.77**	**268**	T	T	11 17 42.4	
	baz=49,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**58.79**	**268**	T	T	11 17 42.6	
	baz=49,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**59.70**	**267**	T	T	11 18 53.0	
	baz=38						
H11S2	**WAKE ISLAND Hy**	**59.71**	**267**	T	T	11 18 50.4	
	baz=38						
H11S3	**WAKE ISLAND Hy**	**59.72**	**267**	T	T	11 18 55.3	
	baz=38						

*ECX **28** 10:08:24.3±0.5, 32.°12N×115.°04W, h20km±6km, MD2.6, ML2.8*

*MEX **28** 10:08:26.5±1.2, 32.°21N×115.°01W, h36km±17km, MD3.7*

ISC 28 10:08:24.7±1.1, 32.°14N±0.°03×115.°17W±0.°03, h33km±2km, n17, σ0§80/31, 1C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUVIX	**Guadalupe Vict**	**0.18**	**27**	⇑*eP*	**Pn**	**10 08 30.5**	**+0.5**
GUVIX				*i* S	**Sb**	**10 08 34.7**	**-0.8**
MBIG	**Mexicali**	**0.27**	**355**	*i* P	**Pb**	**10 08 32.2**	**+0.1**
MBIG				*eS*	**Sb**	**10 08 37.5**	**+0.4**
MBIG	**Mexicali**	**0.27**	**355**	⇓*eP*	**Pb**	**10 08 32.2**	**+0.1**
MBIG				*eS*	**Sb**	**10 08 38.0**	**+0.9**
CPBX	**Cerro Prieto**	**0.30**	**338**	*eP*	**Pn**	**10 08 33.7**	**+1.0**
CPBX				⇓*e*		10 08 39.5	
CPBX				IAML		10 08 39.5	
	comp=E,2μm,0.3s						
CPBX				IAML		10 08 42.9	
	comp=N,3μm,0.2s						
CPBX				⇓*e*		10 08 42.9	
CTLX	**Tlaxcala, TLX**	**0.33**	**4**	*eP*	**Pb**	**10 08 32.5**	**-0.4**
CTLX				*eS*	**Sb**	**10 08 38.8**	**+0.2**
ECBX	**El Chinero**	**0.67**	**171**	⇓*eP*	**Pn**	**10 08 36.7**	**-1.2**
ECBX				*eS*	**Sn**	**10 08 46.2**	**-1.0**
YUH2	**Yuha Desert**	**0.81**	**309**	*eP*	**Pb**	**10 08 40.2**	**-0.2**
RMX	**La Rumorosa**	**0.90**	**301**	*eP*	**Pn**	**10 08 40.9**	**-0.2**
RMX				*eS*	**Sn**	**10 08 52.6**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.94**	**303**	*eP*	**Pb**	**10 08 42.2**	**-0.5**
IKP				*eS*	**Sb**	**10 08 55.4**	**+0.4**
SPIG	**San Pedro Mart**	**1.12**	**193**	*eP*	**Pb**	**10 08 46.5**	**+0.6**
SPIG				*eS*	**Sb**	**10 09 00.1**	**-0.1**
SPX	**San Pedro Mart**	**1.13**	**193**	*eP*	**Pb**	**10 08 46.3**	**+0.3**
SPX				*eS*	**Sn**	**10 08 59.6**	**+0.6**
SPX	**San Pedro Mart**	**1.13**	**193**	*eP*	**Pn**	**10 08 45.1**	**+0.6**
SPX				*eS*	**Sn**	**10 08 59.9**	**+0.9**
CBX	**Cerro Bola**	**1.28**	**278**	*eP*	**Pb**	**10 08 47.4**	**-0.9**
CBX				*eS*	**Sb**	**10 09 05.2**	**+0.7**
TJIG	**Tijuana**	**1.31**	**283**	*eP*	**Pb**	**10 08 47.7**	**-1.0**
TJIG				*eS*	**Sb**	**10 09 05.3**	**0.0**
TJIG	**Tijuana**	**1.31**	**283**	*eP*	**Pb**	**10 08 47.7**	**-1.0**
TJIG				*eS*	**Sb**	**10 09 05.2**	**0.0**
BAR	**Barrett**	**1.38**	**293**	⇓*e*	**Sb**	**10 09 09.5**	**+2.2**
BAR				IAML		10 09 09.5	
	comp=N,118nm,0.1s						
214A	**Organ Pipe Nat**	**2.01**	**95**	*eP*	**Pn**	**10 08 56.9**	**+0.5**
214A				*eS*	**Sb**	**10 09 25.7**	**+0.3**

*IDC **28** 10:15:24.2±1.6, 2.°83S×129.°36E, h0km, mb3.8/2, mb1 4.2/5, mb1mx3.7/35, mbtmp3.9/5, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/33, Error ellipse: s-maj=38.2km s-min=22.3km az=100.0*

*DJA **28** 10:15:27.5±1.4, 3.°5S×12.°9E±.°, h14km±13km, M3.6/6, MLv3.6/6*

ISC 28 10:15:29.1±1.1, 2.°80S±0.°09×129.°4E±0.°1, h35km, n10, σ1§06/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.72**	**221**	P	**Pn**	**10 15 43.5**	**+0.7**
SIJI	**Sorong**	**2.68**	**44**	Pn	**Pn**	**10 16 09.8**	**0.0**
	23nm,0.3s,baz=217,slow=23,SNR=114						
SIJI				Sn	**Sn**	**10 16 42.6**	**+1.7**
	18nm,0.3s,baz=30,slow=20,SNR=7.5						
SIJI				LR	LR	10 17 24.5	
	comp=Z,206nm,19.7s,baz=83,slow=44						
SIJI	**Sorong**	**2.68**	**44**	P	**Pn**	**10 16 09.2**	**-0.5**
SWI	**Sorong**	**2.68**	**44**	P	**Pn**	**10 16 09.7**	**0.0**
SWI				S	**Sn**	**10 16 40.6**	**-0.3**
FAKI	**Fak Fak**	**2.85**	**92**	P	**Pn**	**10 16 13.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**15.64**	**193**	Pn	**Pn**	**10 19 06.0**	**-1.0**
	0.1nm,0.3s,baz=15,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**17.71**	**165**	P	**Pn**	**10 19 31.3**	**-1.8**
	0.5nm,0.3s,baz=344,slow=13,SNR=31						
ASAR	**Alice Springs**	**21.20**	**169**	P	**P**	**10 20 12.1**	**+0.3**
	9.6nm,0.7s,baz=351,slow=10,SNR=147						
MKAR	**Makanchi Array**	**64.42**	**326**	P	**P**	**10 26 02.1**	**+0.2**
	0.3nm,0.8s,baz=125,slow=7.5,SNR=2.4						
FINES	**FINESS Array B**	**98.81**	**332**	LR	LR	11 18 56.4	
	comp=Z,59nm,18.8s,baz=96,slow=39						

*IDC **28** 10:16:50.7±1.0, 15.°70S×74.°55W, h0km, mb4.0/5, mb1 4.1/8, mb1mx3.9/34, mbtmp4.0/8, ML3.8/2, MS4.0/17, Ms1 4.0/17, ms1mx3.8/32, Error ellipse: s-maj=28.1km s-min=18.4km az=55.0*

*ARE **28** 10:16:52.3±3.1, 15.°93S±0.°08×74.°69W±0.°08, h27km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0*

*NEIC **28** 10:16:57.6±1.9, 15.°86S±0.°08×74.°48W±0.°10, h35km±8km, mb4.2/9, ML4.9(ARE), Error ellipse: s-maj=14.8km s-min=9.3km az=57.0*

*VAO **28** 10:17:05.8±0.3, 15.°37S×74.°13W, h98km, mb4.3*

ISC 28 10:16:56.5±0.7, 15.°81S±0.°07×74.°56W±0.°09, h35km, n102, σ1§68/80, mb4.1/4, MS4.0/16, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.40**	**330**	Pn	**Pn**	**10 17 59.3**	**-1.6**
	4.2nm,0.3s,baz=206,slow=10,SNR=19						
NNA				Lg	Lg	10 19 00.2	
	175nm,0.3s,baz=246,slow=17,SNR=8.2						
NNA	**Nana**	**4.40**	**330**	Pn	**Pn**	**10 18 00.7**	**-0.2**
PSGCX	**Pisagua**	**5.66**	**132**	Pn	**Pn**	**10 18 17.4**	**-0.9**
MNMC	**Minye Minye**	**5.78**	**126**	Pn	**Pn**	**10 18 19.8**	**-0.2**
PB11	**IPOC Station P**	**6.11**	**131**	Pn	**Pn**	**10 18 24.0**	**-0.5**
TA02	**Huaiquique**	**6.12**	**137**	Pn	**Pn**	**10 18 23.1**	**-1.5**
LPAZ	**La Paz**	**6.20**	**95**	Pn	**Pn**	**10 18 30.2**	**+4.0**
	4.5nm,0.3s,baz=272,slow=7.5,SNR=129						
LPAZ				LR	LR	10 21 06.4	
	comp=Z,2μm,19.1s,baz=273,slow=41						
LPAZ	**La Paz**	**6.20**	**95**	Pn	**Pn**	**10 18 28.3**	**+2.1**
LPAZ	**La Paz**	**6.20**	**95**	*eP*	Pn	10 18 31.1	+4.9
TA01	**Diego Aracena**	**6.30**	**139**	Pn	**Pn**	**10 18 27.2**	**+0.2**
PB08	**IPOC Station P**	**6.71**	**131**		**Pn**	**10 18 33.1**	**+0.1**
PB01	**IPOC Station P**	**7.09**	**138**	Pn	**Pn**	**10 18 37.7**	**-0.2**
CZSB	**Cruzeiro do Su**	**8.23**	**13**	*eP*	**Pn**	**10 18 54.8**	**+1.1**
LVC	**Limon Verde**	**8.62**	**143**	Pn	**Pn**	**10 19 00.3**	**+1.1**
	1.8nm,0.3s,baz=322,slow=9.4,SNR=15						
LVC				Sn	**Sn**	**10 20 30.4**	**-4.9**
	0.9nm,0.3s,baz=0.9,slow=16,SNR=1.6						
LVC				Lg	Lg	10 21 28.6	
	0.4nm,0.3s,baz=194,slow=17,SNR=5.9						
LVC				LR	LR	10 22 24.2	
	comp=Z,564nm,18.3s,baz=308,slow=38						
LVC	**Limon Verde**	**8.62**	**143**	Pn	**Pn**	**10 18 59.8**	**+0.7**
ATAH	**Atahualpa**	**9.40**	**336**	Pn	**Pn**	**10 19 14.1**	**+4.1**
	0.3nm,0.3s,baz=129,slow=22,SNR=2.0						
ATAH				Sn	Sn	10 21 10.3	+16
	1.6nm,0.3s,baz=115,slow=8.9,SNR=3.6						
ATAH				LR	LR	10 23 18.7	
	comp=Z,302nm,21.6s,baz=194,slow=42						
ETMB	**Extrema**	**10.09**	**55**	*eP*	**Pn**	**10 19 19.7**	**+0.6**
GO02	**Mina Guanaco**	**10.40**	**154**		**Pn**	**10 19 23.1**	**-0.5**
AC01	**Pan de Azucar**	**10.93**	**161**	Pn	**Pn**	**10 19 28.6**	**-1.9**
AC02	**Maricunga**	**12.08**	**156**	Pn	**Pn**	**10 19 46.8**	**+0.1**
SIV	**San Ignacio**	**12.98**	**93**	Pn	**Pn**	**10 19 55.5**	**-3.1**
	baz=316,slow=12,SNR=3.3						
SIV				LR	LR	10 25 41.4	
	comp=Z,766nm,20.7s,baz=282,slow=41						
VILB	**Vilhena**	**14.20**	**80**	*eP*	**Pn**	**10 20 14.7**	**-0.6**
PTLB	**Pontes e Lacer**	**14.87**	**91**	*eP*	**Pn**	**10 20 26.0**	**+1.7**
OTAV	**Otavalo**	**16.40**	**346**	*eP*	**Pn**	**10 20 45.7**	**+1.1**
H03N1	**Juan Fernandez**	**17.99**	**192**	T	T	10 39 41.5	
	baz=14,slow=74,SNR=6437						
H03N2	**Juan Fernandez**	**17.99**	**192**	T	T	10 39 39.7	
	baz=14,slow=74,SNR=7613						
H03N3	**Juan Fernandez**	**18.00**	**192**	T	T	10 39 39.0	
	baz=14,slow=74,SNR=6762						
SALV	**Santo Antonio**	**18.16**	**93**	*eP*	**Pn**	**10 21 07.1**	**+1.1**
AQDB	**Aquidauana**	**18.51**	**107**	*eP*	**P**	**10 21 10.9**	**+0.8**
CLDB	**Colider**	**18.91**	**77**	*eP*	**P**	**10 21 13.6**	**-0.7**
PP1B	**Ponte de Pedra**	**18.94**	**98**	*eP*	**P**	**10 21 16.0**	**+1.3**
CPUP	**Villa Florida**	**19.17**	**126**	*eP*	**Pn**	**10 21 19.8**	**+1.6**
BO02	**Sierra Bellavi**	**19.20**	**170**	P	**P**	**10 21 18.9**	**+1.3**
BO02				IAmb	IAmb	10 21 36.3	
	comp=Z,11nm,0.9s						
GO05	**Huala**	**19.26**	**173**	P	**P**	**10 21 18.6**	**+0.5**
GO05				IAmb	IAmb	10 21 29.5	
	comp=Z,18nm,1.1s						
NPGB	**Novo Progresso**	**20.73**	**67**	*eP*	**P**	**10 21 32.3**	**-1.9**
PTGA	**Pitinga**	**20.78**	**45**	P	**P**	**10 21 33.5**	**-1.3**
	comp=Z,3.9nm,0.3s,baz=16,slow=22,SNR=10						
PTGA				LR	LR	10 30 43.0	
	comp=Z,368nm,19.1s,baz=227,slow=40						
PTGA	**Pitinga**	**20.78**	**45**	P	**P**	**10 21 33.9**	**-0.9**
PTGA				IAmb	IAmb	10 21 42.5	
	comp=Z,6.3nm,0.7s						
ITQB	**Itaqui**	**21.50**	**133**	*eP*	**P**	**10 21 46.9**	**+4.5**
ITTB	**Itaituba**	**21.72**	**60**	*eP*	**P**	**10 21 42.8**	**-2.2**
TRCB	**Terra Rica**	**21.82**	**112**	*eP*	**P**	**10 21 48.0**	**+2.0**
ARAG	**Araguaiana, MT**	**21.90**	**93**	*eP*	**P**	**10 21 48.1**	**+1.3**
PCMB	**Pacaembu**	**22.80**	**108**	*eP*	**P**	**10 21 57.3**	**+0.9**
BOAV	**Boa Vista**	**22.80**	**39**	*eP*	**P**	**10 21 55.6**	**-0.9**
PTGB	**Pitanga**	**22.86**	**116**	*eP*	**P**	**10 21 59.4**	**+2.3**
SNDB	**Serra Nova Dou**	**22.90**	**83**	*eP*	**P**	**10 21 55.4**	**-2.2**
ITRB	**Iturama**	**23.37**	**103**	*eP*	**P**	**10 22 02.3**	**+0.1**
FRTB	**Fartura**	**24.59**	**112**	*eP*	**P**	**10 22 16.5**	**+2.0**
TRQA	**Tornquist**	**24.79**	**156**	*eP*	**P**	**10 22 19.2**	**+4.0**
PLTB	**Pedras Altas**	**24.83**	**133**	*eP*	**P**	**10 22 17.9**	**+2.3**
PLCA	**Paso Flores**	**25.07**	**173**	P	**P**	**10 22 17.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=344,slow=10,SNR=7.7						
PLCA	**Paso Flores**	**25.07**	**173**	P	**P**	**10 22 18.4**	**+0.5**
PLCA				IAmb	IAmb	10 22 33.5	
	comp=Z,6.1nm,1.2s						
BB19B	**Bebedouro**	**25.23**	**106**	*eP*	**P**	**10 22 21.4**	**+2.0**
IPMB	**Ipameri, GO**	**25.30**	**99**	*eP*	**P**	**10 22 19.6**	**-0.5**
BDFB	**Brasilia**	**25.55**	**93**	P	**P**	**10 22 21.8**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=255,slow=9.9,SNR=7.0						
BDFB				LR	LR	10 33 03.7	
	comp=Z,264nm,18.2s,baz=235,slow=38						
BDFB	**Brasilia**	**25.55**	**93**	P	**P**	**10 22 21.6**	**-0.9**
PEXB	**Peixe**	**25.74**	**85**	*eP*	**P**	**10 22 23.4**	**-0.7**
PRPB	**Parauapebas**	**26.09**	**71**	*eP*	**P**	**10 22 26.5**	**-0.7**
RCLB	**Rio Claro- Sao**	**26.35**	**109**	*eP*	**P**	**10 22 30.4**	**+0.8**
PET01	**Itanhaem-SP**	**26.95**	**113**	*eP*	**P**	**10 22 37.0**	**+2.1**
MCPB	**Macapa, AP**	**27.00**	**57**	*eP*	**P**	**10 22 34.2**	**-1.2**
SMTB	**Santa Maria do**	**27.22**	**79**	*eP*	**P**	**10 22 34.9**	**-2.6**
JTS	**Las Juntas de**	**27.90**	**338**	LR	LR	10 33 13.4	
	comp=Z,305nm,20.7s,baz=206,slow=35						
SDBA	**SAO DESIDERIO**	**28.95**	**87**	*eP*	**P**	**10 22 52.0**	**-0.9**
JANB	**Januaria**	**29.16**	**93**	*eP*	**P**	**10 22 54.0**	**-0.8**
MDP	**Montagnes des**	**30.05**	**48**	LR	LR	10 35 29.1	
	comp=Z,378nm,18.1s,baz=274,slow=37						
VAS01	**Vassouras-RJ**	**30.07**	**107**	*eP*	**P**	**10 23 03.1**	**+0.3**
SJMB	**Sao Joao De Ma**	**31.98**	**100**	*eP*	**P**	**10 23 21.3**	**+1.6**
BSFB	**Barra de Sao F**	**32.30**	**100**	*eP*	**P**	**10 23 23.5**	**+1.0**
ROSB	**Rosrio**	**32.59**	**70**	*eP*	**P**	**10 23 23.8**	**-1.2**
RIB01	**Linhares ES**	**32.73**	**101**	*eP*	**P**	**10 23 26.1**	**-0.1**
GUA01	**Guaratinga, BA**	**33.36**	**96**	*eP*	**P**	**10 23 32.0**	**+0.3**
NBPB	**Pedra_Branca-C**	**35.80**	**77**	*eP*	**P**	**10 23 50.9**	**-2.0**
NBMA	**Muriti-CE**	**36.01**	**81**	*eP*	**P**	**10 23 54.6**	**-0.1**
NBMO	**Morrinhos-CE**	**36.16**	**74**	*eP*	**P**	**10 23 55.3**	**-0.6**
NBAN	**Anadia - AL**	**37.80**	**85**	*eP*	**P**	**10 24 08.7**	**-1.2**
NBPV	**Pedro Velho**	**39.59**	**81**	*eP*	**P**	**10 24 24.8**	**-0.1**
TXAR	**Lajitas Array**	**52.95**	**328**	P	**P**	**10 26 08.3**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=160,slow=8.6,SNR=7.6						
TXAR				LR	LR	10 46 42.8	
	comp=Z,100nm,19.8s,baz=0.0,slow=34						
TXAR	**Lajitas Array**	**52.95**	**328**	P	**P**	**10 26 09.6**	**-0.2**
TX31	**Lajitas Ar. Si**	**52.95**	**328**	P	**P**	**10 26 09.3**	**-0.5**
TX32	**Lajitas Array**	**52.95**	**328**	P	**P**	**10 26 09.3**	**-0.5**
TAOE	**Nuku Hiva Isla**	**64.24**	**268**	*eLR*	LR	10 46 00.2	
	comp=Z,373nm,24.9s						
PDAR	**Pinedale Array**	**66.58**	**333**	LR	LR	10 57 04.3	
	comp=Z,54nm,21.6s,baz=146,slow=36						
ULM	**Lac du Bonnet**	**68.40**	**345**	LR	LR	11 00 12.9	
	comp=Z,51nm,18.7s,baz=148,slow=38						
TBI	**Tubuai**	**70.29**	**250**	*eLR*	LR	10 48 51.8	
	comp=Z,133nm,28.8s						
PPT2	**Papete2**	**71.41**	**256**	*eLR*	LR	10 49 22.5	
	comp=Z,136nm,22.5s						
DBIC	**Dimbokro**	**72.52**	**78**	LR	LR	10 58 51.1	
	comp=Z,255nm,19.4s,baz=214,slow=35						
TORD	**Torodi Ar. Bea**	**80.70**	**74**	P	**P**	**10 29 05.3**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=263,slow=5.6,SNR=25						
TORD				LR	LR	11 03 57.9	
	comp=Z,184nm,19.6s,baz=210,slow=35						
TORD	**Torodi Ar. Bea**	**80.70**	**74**	P	**P**	**10 29 06.1**	**-0.6**
TORD				IAmb	IAmb	10 29 07.8	
	comp=Z,4.3nm,1.0s						
MDT	**Midelt**	**82.43**	**53**	LR	LR	11 03 09.4	
	comp=Z,92nm,21.2s,baz=257,slow=34						
YKA	**Yellowknife Ar**	**84.13**	**343**	LR	LR	11 11 45.8	
	comp=Z,38nm,18.6s,baz=0.0,slow=39						
ESDC	**Sonseca Array**	**85.72**	**47**	LR	LR	11 04 54.3	
	comp=Z,90nm,21.1s,baz=230,slow=34						
BOSA	**Boshof**	**90.88**	**120**	LR	LR	11 09 40.3	
	comp=Z,84nm,18.2s,baz=188,slow=35						
H11N3	**WAKE ISLAND Hy**	**21.59**	**284**	T	T	12 48 52.8	
	baz=97,slow=74,SNR=59						
H11N2	**WAKE ISLAND Hy**	**21.61**	**284**	T	T	12 48 54.2	
	baz=97,slow=74,SNR=80

KPKS	**Kokpek**	**2.22**	**23**	*e*P		**Pb**	**10 21 23.3**	**-0.7**
	22nm,0.2s							
KPKS				*e*S		**Sg**	**10 21 53.8**	**-0.7**
	44nm,0.2s							
DGS	**Degeres**	**2.23**	**325**	*e*P		**Pb**	**10 21 24.0**	**-0.2**
	10nm,0.5s							
DGS				*e*S		**Sg**	**10 21 54.9**	**+0.1**
	24nm,0.5s							
DGS	**Degeres**	**2.23**	**325**	Pg		**Pb**	**10 21 24.0**	**-0.2**
	10nm,0.5s							
DGS				Lg	Lg		10 21 54.9	
	24nm,0.5s							
SHLS	**Shalkode**	**2.26**	**39**	*e*P		**Pg**	**10 21 27.7**	**+1.3**
	17nm,0.2s							
SHLS				*e*S		**Sg**	**10 22 01.1**	**+5.4**
	37nm,0.3s							
SHLS	**Shalkode**	**2.26**	**39**	Pg		**Pg**	**10 21 27.7**	**+1.3**
	17nm,0.2s							
SHLS				Lg	Lg		10 22 01.1	
	37nm,0.3s							
PDGK	**Podgornoye**	**2.40**	**37**	Pg		**Pb**	**10 21 25.8**	**-1.4**
	2.4nm,0.3s							
PDGK				Lg	Lg		10 21 58.6	
	12nm,0.4s							
PDGK	**Podgornoye**	**2.40**	**37**	⇑Pn		**Pb**	**10 21 25.8**	**-1.4**
	2.3nm,0.4s							
PDGK				⇓Sn		**Sg**	**10 21 59.2**	**-1.2**
	13nm,0.6s							
CHKK	**Chushkaly**	**2.46**	**351**	*e*P		**Pb**	**10 21 27.3**	**-0.8**
	4.5nm,0.4s							
CHKK				*e*S		**Sg**	**10 22 00.3**	**-1.9**
	14nm,0.2s							
AAK	**Ala-Archa**	**2.55**	**299**	⇑Pn		**Pb**	**10 21 30.9**	**+1.1**
	0.9nm,0.3s							
AAK				⇓Sn		**Sg**	**10 22 03.7**	**-1.5**
	6.4nm,0.7s							
KUU	**Kurty**	**2.62**	**341**	*e*P		**Pb**	**10 21 29.9**	**-0.8**
	2.3nm,0.4s							
KUU				*e*S		**Sb**	**10 22 05.1**	**+1.8**
	16nm,0.5s							
KUU	**Kurty**	**2.62**	**341**	Pg		**Pb**	**10 21 29.9**	**-0.8**
	2.3nm,0.4s							
KUU				Lg	Lg		10 22 05.1	
	16nm,0.5s							
KRBS	**Karabastau**	**2.65**	**330**	*e*P		**Pb**	**10 21 30.6**	**-0.7**
	5.3nm,0.4s							
KRBS				*e*S		**Sg**	**10 22 06.3**	**-1.9**
	7.7nm,0.3s							
KRBS	**Karabastau**	**2.65**	**330**	Pg		**Pb**	**10 21 30.6**	**-0.7**
	5.3nm,0.4s							
KRBS				Lg	Lg		10 22 06.3	
	7.7nm,0.3s							
ARXS	**Arharly**	**2.80**	**5**	*e*P		**Pb**	**10 21 33.6**	**-0.3**
	8.3nm,0.2s							
ARXS				*e*S		**Sg**	**10 22 11.5**	**-1.6**
	16nm,0.3s							
ARXS	**Arharly**	**2.80**	**5**	Pg		**Pb**	**10 21 33.6**	**-0.3**
	8.3nm,0.2s							
ARXS				Lg	Lg		10 22 11.5	
	16nm,0.3s							
USP	**Ospenovka**	**2.89**	**311**	⇓*i*P		**Pn**	**10 21 31.5**	**+1.2**
	baz=11							
USP				⇓*i*S		**Sn**	**10 22 06.8**	**+1.2**
	baz=11							
KTMS	**Ketmen**	**2.92**	**45**	*e*P		**Pb**	**10 21 35.0**	**-1.0**
	1.6nm,0.3s							
KTMS				*e*S		**Sg**	**10 22 13.8**	**-3.1**
	11nm,0.5s							
KTMS	**Ketmen**	**2.92**	**45**	Pg		**Pb**	**10 21 35.0**	**-1.0**
	1.6nm,0.3s							
KTMS				Lg	Lg		10 22 13.8	
	11nm,0.5s							
SGDS	**Sogindy**	**2.94**	**315**	Pg		**Pb**	**10 21 36.5**	**+0.2**
	0.8nm,0.2s							
SGDS				Lg	Lg		10 22 16.2	
	6.3nm,0.5s							
BTLS	**Baital**	**4.41**	**326**	*e*P		**Pb**	**10 22 02.5**	**+1.1**
	1.5nm,0.6s							
BTLS				*e*S		**Sg**	**10 23 00.9**	**-4.0**
	2.5nm,0.5s							
BTLS	**Baital**	**4.41**	**326**	Pg		**Pb**	**10 22 02.5**	**+1.1**
	1.5nm,0.6s							
BTLS				Lg	Lg		10 23 00.9	
	2.5nm,0.5s							
KK31	**Karatay Array**	**5.46**	**290**	⇓Lg		Lg	10 23 35.5	
	0.3nm,0.3s,baz=109,slow=28,SNR=7.3							

IDC 28 10:33:42.6±2.2,5.°07S×128.°46E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.3/36,mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=130.9km s-min=31.4km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.86**	**159**	Pn	Pn	10 37 28.2	+0.9
	0.1nm,0.3s,baz=338,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**19.22**	**165**	P	P	10 38 08.1	-0.4
	0.1nm,0.3s,baz=348,slow=10,SNR=13						
MKAR	**Makanchi Array**	**65.78**	**327**	P	P	10 44 29.6	0.0
	0.2nm,0.4s,baz=117,slow=7.3,SNR=2.4						

*LDG **28** 10:34:41.0±0.1,43.°45N×0.°61W,h2km,MI1.8/4,Error ellipse: s-maj=1.4km s-min=0.8km az=120.0*

MDD 28 10:34:47.3±0.8,43.°18N×0.°33W,h0km,mbLg1.5/4,Error ellipse: s-maj=7.7km s-min=3.7km az=9.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.29**	**251**	Pg	Pg	10 34 48.0	-4.8
	11nm,0.2s,SNR=7.9						
ATE				Lg	Lg	10 34 56.6	
	22nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.33**	**211**	Pg	Pg	10 34 51.5	-2.1
ETSF				Lg	Lg	10 34 59.0	
	5.1nm,0.2s						
ETSF	**Etsaut**	**0.33**	**211**	*e*Pg	Pg	10 34 51.5	-2.1
ETSF				*e*Sg	Sg	10 34 59.0	+1.1
	10nm,0.2s						
EPF	**Esparros**	**0.51**	**107**	Pg	Pg	10 34 56.6	-0.4
EPF				Lg	Lg	10 35 07.2	
	1.4nm,0.2s						
EPF	**Esparros**	**0.51**	**107**	*e*Pg	Pg	10 34 56.6	-0.4
EPF				*e*Sg	Sb	10 35 07.2	+0.1
	2.8nm,0.2s						
ECHI	**Chisagues Biel**	**0.64**	**143**	Pg	Pg	10 34 59.3	-0.3
	0.8nm,0.1s,SNR=7.9						
ECHI				Lg	Lg	10 35 08.6	
	2.1nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.66**	**264**	*e*Pg	Pg	10 34 51.5	-8.4
SJPF				*e*Sg	Sg	10 34 59.3	-9.2
	6.4nm,0.2s						
EORO	**Oroz-Betelu**	**0.78**	**248**	Pg	Pg	10 35 02.6	+0.5
	1.0nm,0.1s,SNR=10.0						
EORO				Lg	Lg	10 35 12.6	
	6.9nm,0.2s,SNR=15						
EALK	**Alkurruntz**	**0.86**	**273**	Pg	Pg	10 35 02.9	-1.0
	SNR=7.9						
EALK				Lg	Lg	10 35 13.6	
	20nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**1.86**	**84**	*e*Pg	Pn	10 35 19.2	-1.3
MTLF				*e*Sg	Sb	10 35 46.1	0.0
	1.4nm,0.4s						
LFF	**La Frestale**	**1.92**	**23**	*e*Pg	Pn	10 35 14.2	-7.0
LFF				*e*Sg	Sn	10 35 36.5	-10
	2.2nm,0.3s						
CAF	**Calviac**	**2.45**	**44**	*e*Pg	Pn	10 35 26.3	-2.3
CAF				*e*Sg	Sn	10 35 57.4	-1.9
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**31**	*e*Pg	Pn	10 35 25.5	-3.7
RJF				*e*Sg	Sn	10 35 56.6	-3.8
	1.0nm,0.2s						
MFF	**Saint Martin d**	**3.42**	**2**	*e*Pg	Pn	10 35 40.0	-1.9

*MDD **28** 10:34:50.1±0.6,43.°47N×0.°61W,h0km,mbLg1.7/2,Error ellipse: s-maj=5.9km s-min=3.9km az=111.0,PRXIMO*

LDG 28 10:34:49.5±0.1,43.°46N×0.°62W,h10km,Md1.8/2,MI2.0/6, Error ellipse: s-maj=1.5km s-min=1.0km az=114.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.38**	**189**	Lg	Lg	10 35 02.6	
	21nm,0.2s,SNR=7.9						

SJPF	**Ste Jean**	**0.56**	**232**	*e*Pg		Pg	10 35 00.4	0.0
SJPF				*e*Sg		Sg	10 35 07.9	+0.1
	5.9nm,0.2s							
ETSF	**Etsaut**	**0.56**	**175**	Pg		Pg	10 35 00.4	-0.1
ETSF				Lg		Lg	10 35 08.5	
	7.8nm,0.3s							
ETSF	**Etsaut**	**0.56**	**175**	*e*Pg		Pg	10 35 00.4	-0.1
ETSF				*e*Sg		Sg	10 35 08.5	+0.6
	16nm,0.3s							
EPF	**Esparros**	**0.82**	**121**	Pg		Pg	10 35 05.0	-0.4
EPF				Lg		Lg	10 35 16.4	
	7.1nm,0.3s							
EPF	**Esparros**	**0.82**	**121**	*e*Pg		Pg	10 35 05.0	-0.4
EPF				*e*Sg		Sg	10 35 16.4	+0.3
	14nm,0.3s							
CSOR	**Sort**	**1.69**	**130**	Pg		Pg	10 35 21.6	-0.2
	1.6nm,0.1s,SNR=7.9							
CSOR				Lg		Lg	10 35 44.7	
	2.6nm,0.3s,SNR=7.2							
LFF	**La Frestale**	**1.77**	**33**	Pg		Pb	10 35 22.7	+0.6
LFF				Lg		Lg	10 35 45.4	
	3.2nm,0.3s							
LFF	**La Frestale**	**1.77**	**33**	*e*Pg		Pb	10 35 22.7	+0.6
LFF				*e*Sg		Sg	10 35 45.4	-1.0
	6.4nm,0.3s							
ELAN	**Lanestosa**	**2.07**	**265**	Pg		Pg	10 35 28.3	-0.8
	1.3nm,0.2s,SNR=7.9							
ELAN				Lg		Lg	10 35 54.9	
	0.5nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**2.07**	**92**	Pg		Pb	10 35 27.8	+0.6
MTLF				Lg		Lg	10 35 55.1	
	0.8nm,0.3s							
MTLF	**Montolieu**	**2.07**	**92**	*e*Pg		Pb	10 35 27.8	+0.6
MTLF				*e*Sg		Sg	10 35 55.1	-0.9
	1.6nm,0.3s							
CLLI	**Llivia**	**2.14**	**116**	Pg		Pb	10 35 27.4	-1.1
	0.2nm,0.1s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.40**	**39**	Pg		Pb	10 35 33.7	+1.0
RJF				Lg		Lg	10 36 05.0	
	0.7nm,0.2s							
RJF	**Les Rejaudoux**	**2.40**	**39**	*e*Pg		Pb	10 35 33.7	+1.0
RJF				*e*Sg		Sg	10 36 05.0	-1.4
	1.4nm,0.2s							
CAF	**Calviac**	**2.42**	**52**	Pg		Pb	10 35 34.5	+1.3
CAF				Lg		Lg	10 36 05.4	
CAF	**Calviac**	**2.42**	**52**	*e*Pg		Pb	10 35 34.5	+1.3
CAF				*e*Sg		Sg	10 36 05.4	-1.9
EPOB	**Poblet**	**2.45**	**149**	Pg		Pb	10 35 34.5	+0.7
	0.7nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.60**	**164**	Pg		Pg	10 35 37.8	-1.5
	1.8nm,0.3s,SNR=7.9							
MFF	**Saint Martin d**	**3.16**	**6**	Pg		Pg	10 35 48.4	-1.6
MFF				Lg		Lg	10 36 28.5	
	0.4nm,0.2s							
MFF	**Saint Martin d**	**3.16**	**6**	*e*Pg		Pg	10 35 48.4	-1.6
MFF				*e*Sg		Sg	10 36 28.5	-2.4
	0.8nm,0.2s							
LASF	**Ste Croix**	**3.30**	**78**	Pg		Pg	10 35 51.6	-1.1
LASF	**Ste Croix**	**3.30**	**78**	*e*Pg		Pg	10 35 51.6	-1.1
LASF				*e*Sg		Sg	10 36 33.4	-2.1
	1.1nm,0.3s							
VIVF	**Saint-Julien-l**	**4.05**	**68**	Pg		Pg	10 36 05.6	-1.6
VIVF	**Saint-Julien-l**	**4.05**	**68**	*e*Pg		Pg	10 36 05.6	-1.6
VIVF				*e*Sg		Sg	10 36 56.6	-3.1
	0.3nm,0.2s							
SGMF	**Saint Gilles**	**4.98**	**345**	*e*Pg		Pg	10 36 21.5	-3.3

*DJA **28** 10:43:51.8±0.4,5.°5S×2.°×10.°2E±.°,h10km,M3.5/6,MLv3.5/6*
*IDC **28** 10:43:51.4±3.9,5.°36S×102.°14E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/41,mbtmp3.4/4,Error ellipse: s-maj=164.0km s-min=24.8km az=54.0*

ISC 28 10:43:51.6±1.3,4.°66S±0.°05×102.°3E±0.°2,h10km,n15, σ0s84/8,mb3.5/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**0.69**	**185**	P	**Pg**	**10 44 04.5**	**-0.5**
EGSI				S	**Sb**	**10 44 16.9**	**+1.5**
UBSI	**University, Be**	**0.89**	**356**	P	**Pg**	**10 44 08.6**	**-0.2**
KSI	**Kapahiang**	**1.03**	**14**	P	**Pg**	**10 44 11.5**	**0.0**
MDSI	**Maura Dua**	**1.84**	**85**	P	**Pn**	**10 44 23.6**	**+0.3**
H08S2	**Diego Garcia H**	**29.82**	**263**	T	T	11 20 12.7	
	baz=86,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**29.82**	**263**	T	T	11 20 14.5	
	baz=86,slow=75,SNR=42						
H08S1	**Diego Garcia H**	**29.84**	**263**	T	T	11 20 15.9	
	baz=86,slow=75,SNR=22						
H01W3	**Cape Leeuwin H**	**32.00**	**162**	T	T	11 24 01.1	
	baz=338,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**32.01**	**162**	T	T	11 24 02.2	
	baz=338,slow=76,SNR=5.6						
H01W1	**Cape Leeuwin H**	**32.01**	**161**	T	T	11 24 03.1	
	baz=338,slow=76,SNR=5.4						
WRA	**Warramunga Arr**	**34.66**	**119**	P	**P**	**10 50 41.1**	**-0.5**
	0.2nm,0.6s,baz=286,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**35.82**	**125**	P	**P**	**10 50 50.8**	**-0.8**
	0.2nm,0.4s,baz=296,slow=7.3,SNR=13						
SONM	**Songino Array**	**52.39**	**3**	P	P	10 53 10.1	+5.9
	0.5nm,0.4s,baz=186,slow=8.7,SNR=2.1						
MKAR	**Makanchi Array**	**54.22**	**343**	P	P	10 53 22.9	+5.5
	0.5nm,0.5s,baz=157,slow=8.1,SNR=5.3						
TXAR	**Lajitas Array**	**145.24**	**42**	PKPbc	**PKiKP**	**11 03 34.5**	**+0.1**
	0.2nm,0.5s,baz=318,slow=1.2,SNR=2.9						

*NEIC **28** 11:37:41.0±1.1,8.°38S±0.°07×116.°04E±0.°05,h10km±1km, mb4.3/19,Error ellipse: s-maj=12.1km s-min=8.0km az=12.0*
*DJA **28** 11:37:42.3±0.3,8.°5S×11.°6E±.°,h10km,M4.5/8,mb4.6/2, MLv4.5/8*
*IDC **28** 11:37:45.2±2.3,8.°32S×116.°24E,h38km±19km,mb4.0/10, mb1 4.2/14,mb1mx3.9/44,mbtmp4.3/14,ML4.2/4,MS3.7/7, Ms1 3.7/7,ms1mx3.3/39,Error ellipse: s-maj=21.4km s-min=12.5km az=64.0*

ISC 28 11:37:40.7±0.4,8.°38S±0.°05×116.°10E±0.°03,h10km,n71, σ1s74/76,mb4.3/19,MS3.9/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**0.49**	**272**	P	**Pn**	**11 37 51.9**	**-1.8**
KHKI				S	**Sb**	**11 37 59.5**	**+0.9**
TWSI	**Taliwang, Sumb**	**0.85**	**115**	P	**Pb**	**11 37 59.1**	**+1.5**
TWSI				S	**Sb**	**11 38 11.5**	**+2.4**
SRBI	**Singaraja**	**0.93**	**289**	P	**Pn**	**11 37 59.2**	**-0.6**
SRBI				S	**Sn**	**11 38 11.8**	**-1.4**
DNP	**Denpasar**	**0.93**	**251**	P	**Pn**	**11 38 00.8**	**+1.0**
DNP				S	**Sn**	**11 38 15.7**	**+2.5**
PLAI	**Plampang**	**1.72**	**105**	P	**Pb**	**11 38 12.9**	**+0.5**
PLAI				S	**Sn**	**11 38 34.9**	**+2.2**
JAGI	**Jajag, Banyuwa**	**1.93**	**267**		**Pn**	**11 38 12.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.93**	**267**	P	**Pn**	**11 38 12.6**	**-1.0**
ABJI	**Asem Bagus**	**1.94**	**287**	P	**Pg**	**11 38 19.2**	**+1.3**
KMMI	**Kalianget**	**2.49**	**302**	P	Pg	11 38 45.4	+17
WBSI	**Waikabubak, Su**	**3.48**	**111**	P	**Pn**	**11 38 38.4**	**+3.3**
KRKI	**Karangkates**	**3.62**	**273**	P	**Pg**	**11 38 49.8**	**-0.3**
PWJI	**Pagerwojo**	**4.27**	**274**	P	**Pg**	**11 39 02.8**	**+0.3**
SJI	**Sawahan**	**4.34**	**278**	P	**Pg**	**11 39 00.3**	**-3.6**
KAPI	**Kappang**	**4.93**	**48**	Pn	**Pn**	**11 38 55.0**	**+0.1**
	21nm,0.3s,baz=207,slow=3.5,SNR=51						
KAPI				Sn	**Sn**	**11 39 49.4**	**-2.8**
	8.5nm,0.3s,baz=241,slow=22,SNR=8.9						
KAPI				LR	LR	11 41 10.8	
	comp=Z,477nm,21.6s,baz=165,slow=43						
KAPI	**Kappang**	**4.93**	**48**		**Pn**	**11 38 55.6**	**+0.7**
KAPI	**Kappang**	**4.93**	**48**	P	**Pn**	**11 38 55.1**	**+0.1**
BKSI	**Bulukumba**	**5.02**	**53**	P	**Pn**	**11 38 55.8**	**-0.3**
UGM	**Wanagama**	**5.54**	**274**	Pn	**Pn**	**11 39 02.5**	**-0.8**
BNSI	**Bone**	**5.61**	**45**	P	**Pn**	**11 39 06.2**	**+1.9**
	0.5nm75nm,0.6s						
MMRI	**Maumere**	**6.08**	**93**	Pn	**Pn**	**11 39 12.1**	**+1.4**
MMRI	**Maumere**	**6.08**	**93**	P	**Pb**	**11 39 24.2**	**-2.5**
TTSI	**Tana Toraja**	**6.46**	**35**	P	**Pn**	**11 39 17.9**	**+1.9**
BATI	**Baumata**	**7.68**	**104**	Pn	**Pn**	**11 39 34.1**	**+1.3**
	3.9nm,0.3s,baz=281,slow=14,SNR=1.9						
BATI				Sn	**Sn**	**11 41 00.7**	**+0.7**
	3.3nm,0.3s,baz=307,slow=22,SNR=2.2						
SOEI	**Soe**	**8.18**	**100**		**Pn**	**11 39 40.9**	**+1.2**
CISI	**Cisompet, Garu**	**8.25**	**275**	Pn	**Pn**	**11 39 39.1**	**-1.4**
LEM	**Lembang**	**8.55**	**280**	LR	LR	11 44 10.3	
	comp=Z,280nm,20.2s,baz=25,slow=44						
FITZ	**Fitzroy Crossi**	**13.39**	**137**	Pn	**Pn**	**11 40 50.0**	**-0.9**
	0.3nm,0.3s,baz=341,slow=6.8,SNR=14						

FITZ				Sn		**Sn**	**11 43 14.1**	**-6.0**
	0.3nm,0.3s,baz=206,slow=17,SNR=4.0							
FITZ				LR		LR	11 45 22.9	
	comp=Z,173nm,21.4s,baz=326,slow=34							
FITZ	**Fitzroy Crossi**	**13.39**	**137**	Pn		**Pn**	**11 40 50.8**	**-0.1**
PSA00	**Pilbara Seismi**	**13.60**	**165**	Pn		**Pn**	**11 40 52.9**	**-0.9**
PSA00	**Pilbara Seismi**	**13.60**	**165**	Pn		**Pn**	**11 40 52.7**	**-1.1**
GIRL	**Giralia**	**14.29**	**187**	Pn		**Pn**	**11 41 02.5**	**-0.8**
KNRA	**Kununurra**	**14.35**	**122**	Pn		**Pn**	**11 41 03.3**	**-0.7**
MTN	**Manton Dam**	**15.43**	**108**	Pn		**Pn**	**11 41 18.8**	**+0.2**
MTN				IAmb		IAmb	11 41 24.6	
	comp=Z,16nm,1.2s							
SIJI	**Sorong**	**16.85**	**64**	Pn		**Pn**	**11 41 35.8**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=131,slow=21,SNR=1.5							
SIJI				Sn		**Sn**	**11 44 44.4**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=149,slow=22,SNR=2.5							
FAKI	**Fak Fak**	**16.96**	**72**	P		**P**	**11 41 40.8**	**+0.6**
FAKI				IAmb		IAmb	11 41 41.2	
	comp=Z,50nm,1.3s							
WB0	**Warramunga Arr**	**21.02**	**124**	P		**P**	**11 42 25.1**	**+0.3**
WB0				IAmb		IAmb	11 42 25.8	
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**21.06**	**125**	P		**P**	**11 42 25.2**	**0.0**
	comp=Z,12nm,0.8s,baz=302,slow=12,SNR=53							
WRA				S		**S**	**11 46 13.7**	**-6.2**
	comp=Z,1.0nm,0.8s,baz=296,slow=26,SNR=3.0							
WRA				ScP		**ScP**	**11 50 04.3**	**-4.9**
	comp=Z,1.2nm,1.0s,baz=313,slow=2.2,SNR=4.4							
WRA	**Warramunga Arr**	**21.06**	**125**	P		**P**	**11 42 25.3**	**0.0**
WRAB	**Tennant Creek**	**21.07**	**125**	P		**P**	**11 42 25.8**	**+0.5**
WRAB				IAmb		IAmb	11 42 26.4	
	comp=Z,16nm,0.8s							
WB2	**Warramunga Arr**	**21.07**	**125**	P		**P**	**11 42 25.4**	**+0.1**
WB2				IAmb		IAmb	11 42 26.4	
	comp=Z,14nm,0.8s							
WR0	**Warramunga Arr**	**21.24**	**125**	P		**P**	**11 42 27.5**	**+0.4**
WR0				IAmb		IAmb	11 42 28.3	
	comp=Z,19nm,0.9s							
AS31	**Alice Springs**	**22.84**	**134**	P		**P**	**11 42 44.2**	**-0.1**
ASAR	**Alice Springs**	**22.84**	**134**	P		**P**	**11 42 44.4**	**+0.1**
	comp=Z,8.4nm,0.7s,baz=306,slow=8.6,SNR=146							
ASAR				S		**S**	**11 46 52.9**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=323,slow=20,SNR=6.1							
ASAR	**Alice Springs**	**22.84**	**134**	P		**P**	**11 42 44.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**24.45**	**178**	P		**P**	**11 43 00.5**	**+0.6**
	comp=Z,9.7nm,0.8s,baz=350,slow=11,SNR=5.6							
NWAO	**Narrogin (SRO)**	**24.45**	**178**	P		**P**	**11 42 59.7**	**-0.1**
FORT	**Forrest**	**24.93**	**155**	P		**P**	**11 43 04.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.59**	**328**	P		**P**	**11 44 06.0**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=172,slow=7.3,SNR=1.3							
CMAR				LR		LR	11 58 46.8	
	comp=Z,167nm,20.9s,baz=240,slow=40							
STKA	**Stephens Creek**	**33.29**	**138**	P		**P**	**11 44 19.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=289,slow=7.5,SNR=4.5							
STKA				LR		LR	11 59 05.6	
	comp=Z,188nm,18.2s,baz=201,slow=38							
STKA	**Stephens Creek**	**33.29**	**138**	P		**P**	**11 44 18.4**	**-0.2**
ARMA	**Armidale**	**39.78**	**128**	P		**P**	**11 45 14.1**	**-0.1**
ARMA				IAmb		IAmb	11 45 21.0	
	comp=Z,7.1nm,1.2s							
KSRS	**Korea Array**	**46.92**	**13**	P		**P**	**11 46 11.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=197,slow=2.6,SNR=4.7							
HHC	**Hu-ho-hao-te**	**49.16**	**355**	*e*P		**P**	**11 46 32.3**	**+3.3**
HHC				pmax		pmax		
	comp=Z,27nm,1.1s							
HHC				pmax		pmax		
	comp=Z,80nm,6.1s							
MJAR	**Matsushiro Arr**	**49.28**	**24**	P		**P**	**11 46 29.0**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=200,slow=8.9,SNR=4.9							
MJAR	**Matsushiro Arr**	**49.28**	**24**	IAmb		IAmb	11 46 35.1	
	comp=Z,3.9nm,1.3s							
GTA	**Gaotai**	**49.89**	**343**	*e*P		**P**	**11 46 37.3**	**+2.7**
GTA				pP		sP	11 46 43.3	+4.2
GTA				sP		pP	11 46 46.3	+8.4
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
SONM	**Songino Array**	**56.63**	**352**	P		**P**	**11 47 23.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=191,slow=4.5,SNR=3.8							
SONM	**Songino Array**	**56.63**	**352**	IAmb		IAmb	11 47 42.7	
	comp=Z,3.7nm,1.4s							
CASY	**Casey**	**57.94**	**183**	P		**P**	**11 47 33.2**	**+0.3**
CASY				IAmb		IAmb	11 47 33.8	
	comp=Z,4.1nm,0.8s							
WMQ	**Urumqi**	**57.99**	**336**	*e*P		P	11 47 39.8	+6.1
MKAR	**Makanchi Array**	**62.64**	**335**	P		**P**	**11 48 05.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=142,slow=7.3,SNR=2.9							
SOCY	**Socotra**	**65.03**	**288**	P		**P**	**11 48 21.1**	**-0.8**
MAW	**Mawson**	**68.86**	**199**	P		**P**	**11 48 46.6**	**+1.5**
	comp=Z,6.4nm,1.1s,baz=54,slow=6.9,SNR=7.1							
MAW	**Mawson**	**68.86**	**199**	P		**P**	**11 48 46.5**	**+1.3**
VNDA	**Vanda**	**73.05**	**171**	P		**P**	**11 49 11.3**	**+0.8**
	comp=Z,2.5nm,1.1s,baz=284,slow=5.0,SNR=8.7							
VNDA	**Vanda**	**73.05**	**171**	P		**P**	**11 49 11.3**	**+0.8**
VNDA				IAmb		IAmb	11 49 12.3	
	comp=Z,2.5nm,1.0s							
QSPA	**South Pole Qui**	**81.61**	**180**

σ1^{s}11/26, **mb4.1**/13, **Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**0.55**	**337**		**P**	**12 19 26.8**	**-2.9**
PINNC	**Pines Island,**	**11.05**	**245**	P	**P**	**12 20 56.0**	**-1.6**
NIUE	**Niue**	**11.21**	**96**	P	**P**	**12 20 58.7**	**-0.6**
KNTN	**Kanton**	**18.23**	**34**	P	**P**	**12 22 12.4**	**+0.6**
KHZ	**Kahutara**	**24.43**	**189**	P	**P**	**12 23 08.8**	**+1.4**
LTZ	**Lake Taylor**	**24.99**	**191**	P	**P**	**12 23 11.3**	**-1.1**
MQZ	**McQueen's Vall**	**25.83**	**189**	P	**P**	**12 23 19.2**	**-0.5**
RPZ	**Rata Peaks**	**26.12**	**192**	P	**P**	**12 23 22.4**	**0.0**
RPZ				IAmb	IAmb	12 23 28.8	
	comp=Z,27nm,1.1s						
STKA	**Stephens Creek**	**35.72**	**241**	P	**P**	**12 24 46.8**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=97,slow=9.4,SNR=9.7						
STKA	**Stephens Creek**	**35.72**	**241**	P	**P**	**12 24 45.2**	**+0.2**
BBOO	**Buckleboo**	**40.49**	**241**	P	**P**	**12 25 23.8**	**-0.2**
BBOO				IAmb	IAmb	12 25 31.7	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**41.28**	**260**	P	**P**	**12 25 30.5**	**-0.1**
WR0				IAmb	IAmb	12 25 47.6	
	comp=Z,10nm,1.5s						
WB0	**Warramunga Arr**	**41.44**	**261**	P	**P**	**12 25 32.2**	**+0.4**
WB0				IAmb	IAmb	12 25 44.8	
	comp=Z,9.3nm,1.4s						
WB2	**Warramunga Arr**	**41.46**	**260**	P	**P**	**12 25 31.3**	**-0.7**
WB2				IAmb	IAmb	12 25 37.8	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**41.46**	**260**	P	**P**	**12 25 31.2**	**-0.8**
WRAB				IAmb	IAmb	12 25 42.6	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**41.47**	**260**	P	**P**	**12 25 31.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=92,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**41.47**	**260**	P	**P**	**12 25 32.0**	**-0.1**
AS31	**Alice Springs**	**41.67**	**255**	P	**P**	**12 25 34.0**	**+0.4**
ASAR	**Alice Springs**	**41.67**	**255**	P	**P**	**12 25 32.8**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=89,slow=7.8,SNR=131						
ASAR	**Alice Springs**	**41.67**	**255**	P	**P**	**12 25 33.3**	**-0.3**
KNRA	**Kununurra**	**47.32**	**265**	P	**P**	**12 26 17.0**	**-0.3**
KNRA				IAmb	IAmb	12 26 20.0	
	comp=Z,9.3nm,1.3s						
FITZ	**Fitzroy Crossi**	**49.87**	**261**	P	**P**	**12 26 35.3**	**-0.9**
FITZ				IAmb	IAmb	12 26 36.5	
	comp=Z,13nm,1.4s						
SOEI	**Soe**	**52.93**	**271**	P	**P**	**12 26 59.4**	**+0.7**
SOEI				IAmb	IAmb	12 27 10.1	
	comp=Z,29nm,1.2s						
CASY	**Casey**	**64.52**	**205**	P	**P**	**12 28 16.9**	**+1.0**
CASY				IAmb	IAmb	12 28 36.3	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**12 29 01.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**75.16**	**327**	P	**P**	**12 29 21.5**	**+1.8**

*ANF **28** 12:36:29.5±0.2, 60.˚63N×151.˚95W, h84^{km}±3^{km}, ML3.8/43, Error ellipse: s-maj=1.8km s-min=1.6km az=101.0, Hypocentre not reviewed by the ISC*

*NEIC **28** 12:36:29.6±1.2, 60.˚66N±0.˚03×152.˚04W±0.˚07, h85^{km}±5^{km}, Error ellipse: s-maj=5.3km s-min=3.7km az=130.0*

AEIC 28 12:36:30±1.3, **60.˚65N**±0.˚03×**151.˚98W**±0.˚07, **h79**^{km}±5^{km}, **ML3.4, ML3.6**/116(NEIC), **Error ellipse: s-maj=5.2km s-min=3.9km az=129.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFR	**Drift River**	**0.35**	**261**		Pn	12 36 42.5	-0.1
DFR					Sn	12 36 52.3	+0.5
RDSO	**Redoubt South**	**0.42**	**243**		Pn	12 36 43.1	0.0
RDSO					Sn	12 36 53.3	+0.4
CAPN	**Captain Cook N**	**0.42**	**73**		Pn	12 36 44.4	+1.5
CAPN	**Captain Cook N**	**0.42**	**73**	IAML		12 36 57.2	
	comp=N,4µm,0.5s						
CAPN	**Captain Cook N**	**0.42**	**73**	P		12 36 44.4	
	baz=254,SNR=23						
CAPN				S		12 36 53.3	
	baz=254						
RSO	**Redoubt South**	**0.42**	**245**		Pn	12 36 43.3	+0.1
RED	**Redoubt Volcan**	**0.45**	**240**		Pn	12 36 43.3	0.0
RED					Sn	12 36 53.6	+0.5
NCT	**North Crescent**	**0.48**	**260**		Pn	12 36 43.5	-0.1
NCT					Sn	12 36 53.8	+0.2
SPU	**Mount Spurr**	**0.54**	**356**		Pn	12 36 44.0	-0.1
SPCR	**Spurr Chakacha**	**0.57**	**349**		Pn	12 36 44.1	-0.2
SPCR					Sn	12 36 55.2	+0.3
SPCR	**Spurr Chakacha**	**0.57**	**349**	P		12 36 44.2	
	baz=168,SNR=89						
SPCR				S		12 36 55.2	
	baz=168						
SPCN	**Chakachatna No**	**0.59**	**350**		Pn	12 36 44.6	+0.1
SPCN					Sn	12 36 56.0	+0.8
SPCP	**Crater Peak Br**	**0.63**	**352**		Pn	12 36 45.1	+0.1
SPCP					Sn	12 36 56.6	+0.5
SPBG	**Spurr Blockage**	**0.65**	**343**		Pn	12 36 45.2	+0.1
SPCG	**Spurr Capps Gl**	**0.65**	**358**		Pn	12 36 45.3	+0.1
O20K	**Slope Mountain**	**0.65**	**210**		Pn	12 36 45.3	+0.2
O20K					Sn	12 36 57.5	+1.2
IVE	**Iliamna Volcan**	**0.81**	**220**		Pn	12 36 46.7	-0.2
STLK	**Strandline Lak**	**0.86**	**5**		Pn	12 36 47.5	+0.1
ILS	**Iliamna Low So**	**0.88**	**219**		Pn	12 36 47.6	0.0
SLKM	**Skilak Lake**	**0.88**	**98**		Pn	12 36 47.1	-0.4
FIS	**Fire Island**	**0.99**	**59**		Pn	12 36 49.6	+0.8
FIS	**Fire Island**	**0.99**	**59**	IAML		12 37 07.2	
	comp=N,1µm,0.7s						
FIS				IAML		12 37 07.2	
	comp=E,2µm,1.0s						
HOM	**Homer**	**1.00**	**170**		Pn	12 36 49.3	+0.3
HOM	**Homer**	**1.00**	**170**	P		12 36 49.3	
	baz=351,SNR=19						
HOM				S		12 37 03.9	
	baz=351						
SUA	**Susitna One**	**1.02**	**36**		Pn	12 36 49.6	+0.3
SUA					Sn	12 37 04.5	+0.8
SUA	**Susitna One**	**1.02**	**36**	IAML		12 37 05.4	
	comp=E,1µm,0.4s						
SUA	**Susitna One**	**1.02**	**36**	P		12 36 49.4	
	baz=217,SNR=30						
SUA				S		12 37 04.1	
	baz=217						
BRLK	**Bradley Lake**	**1.04**	**148**		Pn	12 36 49.3	-0.1
BRLK	**Bradley Lake**	**1.04**	**148**	IAML		12 37 06.1	
	comp=E,2µm,0.4s						
BRLK				IAML		12 37 07.4	
	comp=N,2µm,0.2s						
BRSE	**Bradley Lake S**	**1.10**	**145**		Pn	12 36 49.9	-0.2
BRSE	**Bradley Lake S**	**1.10**	**145**	P		12 36 50.0	
	baz=326,SNR=53						
BRSE				S		12 37 05.9	
	baz=326						
O22K	**Cooper Landing**	**1.13**	**97**		Pn	12 36 51.0	+0.5
O22K	**Cooper Landing**	**1.13**	**97**	P		12 36 50.8	
	baz=279,SNR=49						
O22K				S		12 37 05.2	
	baz=279						
OPT	**Oil Point**	**1.18**	**213**		Pn	12 36 51.5	+0.4
P19K	**Oil Pt**	**1.18**	**213**		Pn	12 36 51.5	+0.4
CNPM	**China Poot**	**1.18**	**161**		Pn	12 36 51.1	-0.1
CNPM	**China Poot**	**1.18**	**161**	IAML		12 37 08.2	
	comp=E,2µm,0.6s						
CNPM				IAML		12 37 10.6	
	comp=N,1µm,0.4s						
RC01	**Rabbit Creek A**	**1.18**	**67**		Pn	12 36 51.0	-0.2
RC01	**Rabbit Creek A**	**1.18**	**67**	IAML		12 37 09.1	
	comp=N,752nm,0.3s						
RC01				IAML		12 37 09.5	
	comp=E,767nm,0.3s						
RC01	**Rabbit Creek A**	**1.18**	**67**	P		12 36 51.0	
	baz=249,SNR=21						
RC01				S		12 37 07.0	
	baz=249						
N19K	**Bonanza Creek**	**1.24**	**279**		Pn	12 36 51.9	-0.1
N19K					Sn	12 37 08.1	-0.4
N19K	**Bonanza Creek**	**1.24**	**279**	P		12 36 51.9	
	baz=97,SNR=16						
N19K				S		12 37 08.7	
	baz=97						
SKT	**Skwentna**	**1.36**	**9**		Pn	12 36 53.2	-0.2
SKT	**Skwentna**	**1.36**	**9**	IAML		12 37 13.0	
	comp=N,728nm,0.5s						
SKT				IAML		12 37 13.7	
	comp=E,776nm,0.4s						
SKT	**Skwentna**	**1.36**	**9**	P		12 36 53.2	
	baz=189,SNR=41						
SKT				S		12 37 11.1	
	baz=189						
SEW	**Seward**	**1.37**	**112**		Pn	12 36 53.1	-0.4
SEW	**Seward**	**1.37**	**112**	P		12 36 52.5	
	baz=294,SNR=17						
SEW				S		12 37 10.3	
	baz=294						
AU22	**Augustine Moun**	**1.46**	**209**		Pn	12 36 54.8	+0.1
AU2	**Augustine Isla**	**1.46**	**209**		Pn	12 36 54.9	+0.2
AUL	**Augustine Lava**	**1.46**	**211**		Pn	12 36 55.0	+0.3
AUQ	**Augustine Qik'**	**1.48**	**210**		Pn	12 36 55.3	+0.2
AUCH	**Augustine Cone**	**1.48**	**210**		Pn	12 36 54.8	-0.3
AUW	**Augustine West**	**1.48**	**211**		Pn	12 36 55.3	+0.3
PMR	**Palmer**	**1.68**	**54**		Pn	12 36 56.9	-0.6
PMR	**Palmer**	**1.68**	**54**	IAML		12 37 21.9	
	comp=N,468nm,0.4s						
PMR				IAML		12 37 23.3	
	comp=E,551nm,0.5s						
PMR	**Palmer**	**1.68**	**54**	P		12 36 56.9	
	baz=237,SNR=12						
PMR				S		12 37 18.0	
	baz=237						
O18K	**Koktuh Hills**	**1.79**	**245**		Pn	12 36 58.8	-0.3
PWL	**Port Wells**	**1.80**	**82**		Pn	12 36 58.2	-1.0
PWL	**Port Wells**	**1.80**	**82**	IAML		12 37 27.1	
	comp=N,666nm,0.4s						
PWL				IAML		12 37 28.7	
	comp=E,437nm,0.6s						
SVW2	**Sparrevohn**	**1.82**	**286**		Pn	12 36 58.8	-0.6
GHO	**Glory Hole Cre**	**1.86**	**51**		Pn	12 36 59.5	-0.5
GHO	**Glory Hole Cre**	**1.86**	**51**	IAML		12 37 27.5	
	comp=N,746nm,0.6s						
KNK	**Knik Glacier**	**1.88**	**64**		Pn	12 36 59.6	-0.6
KNK	**Knik Glacier**	**1.88**	**64**	P		12 36 59.6	
	baz=247,SNR=22						
KNK				S		12 37 22.0	
	baz=247						
N18K	**Kilae Creek**	**1.93**	**273**		Pn	12 37 00.6	-0.2
N18K	**Kilae Creek**	**1.93**	**273**	P		12 37 00.6	
	baz=89,SNR=7.1						
N18K				S		12 37 23.9	
	baz=89						
CUT	**Chulitna**	**1.95**	**24**		Pn	12 37 01.6	+0.5
CUT	**Chulitna**	**1.95**	**24**	P		12 37 01.3	
	baz=206,SNR=39						
CUT				S		12 37 26.0	
	baz=206						
SML	**Sawmill**	**2.11**	**55**		Pn	12 37 02.7	-0.7
SML	**Sawmill**	**2.11**	**55**	IAML		12 37 35.5	
	comp=E,588nm,0.7s						
SML				IAML		12 37 36.2	
	comp=N,458nm,0.6s						
SML	**Sawmill**	**2.11**	**55**	P		12 37 02.5	
	baz=238,SNR=8.3						
SML				S		12 37 28.1	
	baz=238						
PPLA	**Purkeypile**	**2.26**	**358**		Pn	12 37 06.0	+0.5
PPLA	**Purkeypile**	**2.26**	**358**	P		12 37 05.9	
	baz=177,SNR=63						
PPLA				S		12 37 32.5	
	baz=177						
GLI	**Glacier Island**	**2.41**	**82**		Pn	12 37 05.2	-2.1
GLI				IAML		12 37 47.0	
	comp=E,238nm,0.5s						
GLI				IAML		12 37 47.0	
	comp=N,253nm,0.7s						
GLI	**Glacier Island**	**2.41**	**82**	P		12 37 05.2	
	baz=267						
GLI				S		12 37 33.5	
	baz=267						
SCM	**Sheep Creek Mo**	**2.54**	**60**		Pn	12 37 08.4	-0.8
SCM	**Sheep Creek Mo**	**2.54**	**60**	IAML		12 37 48.7	
	comp=E,345nm,0.6s						
HUR	**Hurricane**	**2.59**	**24**		Pn	12 37 10.2	+0.4
WAT7	**Susitna Watana**	**2.65**	**33**		Pn	12 37 10.3	-0.4
JPK	**Jack Peak**	**2.67**	**79**		Pn	12 37 09.3	-1.5
FID	**Port Fidalgo**	**2.71**	**85**		Pn	12 37 08.6	-2.7
FID	**Port Fidalgo**	**2.71**	**85**	IAML		12 37 55.0	
	comp=E,216nm,0.5s						
HIN	**Hinchinbrook I**	**2.72**	**93**	Pn	Pn	12 37 08.4	-3.1
HIN				IAML		12 37 58.6	
	comp=E,155nm,1.2s						
WAT1	**Susitna Watana**	**2.73**	**35**		Pn	12 37 11.6	-0.1
WAT1	**Susitna Watana**	**2.73**	**35**	P		12 37 11.3	
	baz=218						
WAT6	**Susitna Watana**	**2.81**	**44**		Pn	12 37 12.2	-0.6
WAT6	**Susitna Watana**	**2.81**	**44**	P		12 37 12.2	
	baz=228,SNR=23						
WAT6				S		12 37 44.3	
	baz=228						
KDAK	**Kodiak Island**	**2.89**	**186**		Pn	12 37 12.6	-1.2
KDAK	**Kodiak Island**	**2.89**	**186**	IAML		12 37 58.5	
	comp=E,164nm,0.8s						
KDAK				IAML		12 38 00.3	
	comp=E,218nm,0.8s						
KDAK	**Kodiak Island**	**2.89**	**186**	P		12 37 12.5	
	baz=5.9						
KDAK				S		12 37 46.4	
	baz=5.9						
KABU	**Katmai Buttres**	**2.92**	**217**		Pn	12 37 14.7	+0.5
TRF	**Thorofare Moun**	**2.92**	**15**		Pn	12 37 13.7	-0.6
TRF	**Thorofare Moun**	**2.92**	**15**	P		12 37 14.0	
	baz=196,SNR=144						
KTH	**Kantishna Hill**	**2.96**	**9**		Pn	12 37 15.0	+0.2
KTH	**Kantishna Hill**	**2.96**	**9**	IAML		12 37 55.8	
	comp=E,216nm,0.6s						
TT01	**Tatalina**	**2.97**	**322**		Pn	12 37 14.9	0.0
TTA	**Tatalina**	**2.99**	**322**		Pn	12 37 15.2	0.0
TTA	**Tatalina**	**2.99**	**322**	P		12 37 15.1	
	baz=138,SNR=17						
KLU	**Klutina**	**3.06**	**71**		Pn	12 37 14.9	-1.3
KLU	**Klutina**	**3.06**	**71**	IAML		12 38 07.0	
	comp=N,155nm,0.8s						
KLU	**Klutina**	**3.06**	**71**	P		12 37 14.8	
	baz=257,SNR=10						
KLU				S		12 37 49.3	
	baz=257						
DIV	**Divide**	**3.07**	**78**		Pn	12 37 14.8	-1.6
EYAK	**Cordova Ski Ar**	**3.07**	**89**	Pn	Pn	12 37 16.6	+0.4
MID	**Middleton Isla**	**3.08**	**111**		Pn	12 37 15.5	-0.9
MID	**Middleton Isla**	**3.08**	**111**	IAML		12 38 45.1	
	comp=E,238nm,2.4s						
MID				IAML		12 39 20.9	
	comp=N,230nm,1.9s						
RND	**Reindeer**	**3.14**	**27**		Pn	12 37 17.1	-0.1
RND	**Reindeer**	**3.14**	**27**	IAML		12 38 14.5	
	comp=E,113nm,0.6s						
M24K	**Tolsona, Glenn**	**3.15**	**60**		Pn	12 37 17.2	-0.1
M24K	**Tolsona, Glenn**	**3.15**	**60**	P		12 37 17.1	
	baz=245,SNR=9.8						
MCK	**McKinley**	**3.41**	**23**		Pn	12 37 21.1	+0.3
MCK	**McKinley**	**3.41**	**23**	IAML		12 38 05.0	
	comp=E,169nm,0.5s						
MCK				IAML		12 38 06.2	
	comp=N,135nm,0.8s						
MCK	**McKinley**	**3.41**	**23**	P		12 37 21.1	
	baz=206,SNR=37						
BPAW	**Bear Paw Mtn.**	**3.50**	**7**		Pn	12 37 21.6	-0.5
BPAW	**Bear Paw Mtn.**	**3.50**	**7**	IAML		12 38 06.9	
	comp=E,88nm,0.4s						
BPAW	**Bear Paw Mtn.**	**3.50**	**7**	P		12 37 21.6	
	baz=188,SNR=48						
OHAK	**Old Harbor**	**3.50**	**192**		Pn	12 37 20.7	-1.3
OHAK	**Old Harbor**	**3.50**	**192**	IAML		12 38 14.8	
	comp=E,151nm,0.7s						
OHAK				IAML		12 38 15.9	
	comp=N,104nm,0.6s						
OHAK	**Old Harbor**	**3.50**	**192**	P		12 37 20.4	
	baz=11,SNR=24						
BMRM	**Bremner River**	**3.63**	**82**	Pn	Pn	12 37 24.2	+0.3
BMRM				IAML		12 38 26.4	
	comp=E,82nm,0.5s						
BMRM				IAML		12 38 28.1	
	comp=N,103nm,0.6s						
N25K	**Chitina, Valde**	**3.71**	**72**		Pn	12 37 23.6	-1.3
N25K	**Chitina, Valde**	**3.71**	**72**	P		12 37 23.6	
	baz=258						
HARP	**HAARP**	**3.71**	**59**		Pn	12 37 24.6	-0.3
HARP	**HAARP**	**3.71**	**59**	P		12 37 24.3	
	baz=245						
BWN	**Browne**	**3.73**	**17**		Pn	12 37 25.6	+0.5
HMT	**Hamilton**	**3.83**	**91**	Pn	Pn	12 37 25.9	-0.7
HMT				IAML		12 38 40.2	
	comp=N,135nm,0.7s						
PAX	**Paxson**	**3.87**	**50**		Pn	12 37 27.3	+0.2
PAX	**Paxson**	**3.87**	**50**	P		12 37 27.0	
	baz=236,SNR=27						
GLB	**Gilahina Butte**	**4.05**	**75**	Pn	Pn	12 37 28.6	-0.9
GLB				IAML		12 38 37.0	
	comp=N,58nm,0.9s						
SUCK	**Suckling Hills**	**4.12**	**94**	Pn	Pn	12 37 31.4	+1.0
NEA2	**Nenana**	**4.18**	**17**		Pn	12 37 30.3	-1.0
NEA2	**Nenana**	**4.18**	**17**	P		12 37 31.0	
	baz=200,SNR=60						
VRDI	**Verde Repeater**	**4.20**	**78**	Pn	Pn	12 37 30.9	-0.9
WRH	**Wood River Hil**	**4.24**	**23**		Pn	12 37 31.9	-0.1
CRQM	**Cirque**	**4.35**	**85**	Pn	Pn	12 37 34.7	+1.0
CRQM				IAML		12 38 42.8	
	comp=E,54nm,1.1s						
CRQM				IAML		12 38 53.2	
	comp=N,53nm,0.8s						
CRQE	**Cirque**	**4.37**	**85**	P		12 37 33.4	
	baz=272						
MCARA	**McCarthy VSAT**	**4.42**	**76**	Pn	Pn	12 37 35.2	+0.6
MCARA				IAML		12 38 53.2	
	comp=N,94nm,0.8s						
MCARA				IAML		12 38 56.4	
	comp=E,73nm,0.7s						
MCARA	**McCarthy VSAT**	**4.42**	**76**	P		12 37 33.8	
	baz=264						
HDA	**Harding Lake**	**4.44**	**29**		Pn	12 37 34.8	0.0
HDA	**Harding Lake**	**4.44**	**29**	IAML		12 38 47.9	
	comp=E,69nm,1.0s						
HDA	**Harding Lake**	**4.44**	**29**	P		12 37 34.7	
	baz=214,SNR=44						
HDA				P		12 37 34.7	
	baz=214,SNR=44						
MLY	**Manley**	**4.44**	**7**		Pn	12 37 34.4	-0.4
MLY	**Manley**	**4.44**	**7**	P		12 37 34.5	
	baz=188,SNR=36						
CCB	**Clear Creek Bu**	**4.45**	**24**		Pn	12 37 34.3	-0.7
TGL	**Tana Glacier**	**4.50**	**85**	Pn	Pn	12 37 35.6	-0.1
TGL				IAML		12 38 51.1	
	comp=N,39nm,0.5s						
TGL				IAML		12 38 55.4	
	comp=E,45nm,1.5s						
WAX	**Waxell Ridge**	**4.51**	**89**	Pn	Pn	12 37 35.1	-0.7
WAX				IAML		12 38 31.5	
	comp=E,52nm,2.3s						
WAX				IAML		12 38 59.7	
	comp=N,86nm,0.7s						
MENT	**Mentasta**	**4.54**	**56**		Pn	12 37 35.2	-1.1
I21K	**Tanana**	**4.55**	**360**		Pn	12 37 35.5	-0.8
I21K	**Tanana**	**4.55**	**360**	P		12 37 35.9	
	baz=180,SNR=42						
PS08	**TAPS Pump Stn8**	**4.58**	**29**		Pn	12 37 36.5	-0.2
TCOL	**CIGO, UAF Yank**	**4.65**	**22**		Pn	12 37 37.5	-0.1
TCOL	**CIGO, UAF Yank**	**4.65**	**22**	P		12 37 37.2	
	baz=206,SNR=30						
COLA	**College**	**4.65**	**22**		Pn	12 37 36.1	-1.5
COLA	**College**	**4.65**	**22**	P		12 37 37.1	
	baz=206						
MDM	**Murphy Dome**	**4.66**	**20**		Pn	12 37 37.4	-0.4
I23K	**Minto, Yukon-K**	**4.67**	**14**		Pn	12 37 37.7	-0.2
I23K	**Minto, Yukon-K**	**4.67**	**14**	P		12 37 37.6	
	baz=196,SNR=29						
ISLE	**Juniper Island**	**4.75**	**86**	Pn	Pn	12 37 39.0	-0.2
ISLE				IAML		12 38 59.7	
	comp=E,35nm,0.7s						
ISLE				IAML		12 39 16.2	
	comp=N,55nm,1.9s						
IL31		**4.76**	**27**		Pn	12 37 38.8	-0.3
ILAR	**Eielson Array**	**4.76**	**27**	Pn	Pn	12 37 38.8	-0.3
DOT	**Dot Lake**	**4.78**	**48**		Pn	12 37 38.5	-0.9
PS07	**TAPS Pump Stn7**	**4.98**	**18**		Pn	12 37 41.9	-0.2
MESA	**MESA**	**4.99**	**91**	Pn	Pn	12 37 41.7	-0.8
MESA				IAML		12 39 27.9	
	comp=E,61nm,2.7s						
MESA				IAML		12 40 47.4	
	comp=N,54nm,2.4s						
MESA	**MESA**	**4.99**	**91**	P		12 37 41.9	
	baz=280						
SCRK	**Sand Creek**	**5.01**	**45**		Pn	12 37 41.9	-0.7
SCRK	**Sand Creek**	**5.01**	**45**	IAML		12 39 01.2	
	comp=N,42nm,0.9s						
SCRK				IAML		12 39 03.9	
	comp=E,39nm,1.3s						
SCRK	**Sand Creek**	**5.01**	**45**	P		12 37 41.9	
	baz=232,SNR=10						
GRNC	**Granite Creek**	**5.03**	**85**	Pn	Pn	12 37 41.9	-1.1
GRNC				IAML		12 39 12.3	
	comp=N,28nm,1.7s						
H21K	**Melozitna Rive**	**5.04**	**356**		Pn	12 37 42.6	-0.4
H21K	**Melozitna Rive**	**5.04**	**356**	P		12 37 42.7	
	baz=175						
BARN	**Barnard Glacie**	**5.06**	**81**	Pn	Pn	12 37 43.3	-0.2
YAH	**Yahtse**	**5.07**	**89**	Pn	Pn	12 37 44.4	+0.8
YAH				IAML		12 38 43.7	
	comp=N,38nm,2.8s						
YAH				IAML		12 41 08.9	
	comp=E,31nm,3.1s						
H23K	**Yukon River**	**5.32**	**11**		Pn	12 37 46.5	-0.2
H23K	**Yukon River**	**5.32**	**11**	P		12 37 46.5	
	baz=193,SNR=30						
TABL	**Table Mountain**	**5.36**	**87**	Pn	Pn	12 37 49.0	+1.5
L27K	**Beaver Creek,**	**5.38**	**59**		Pn	12 37 47.0	-0.7
L27K	**Beaver Creek,**	**5.38**	**59**	P		12 37 46.8	
	baz=248						
LOGN	**Logan Glacier**	**5.39**	**83**	Pn	Pn	12 37 47.7	-0.2
BC03		**5.40**	**59**		Pn	12 37 47.4	-0.5
BCAR	**Beaver Creek A**	**5.40**	**59**	Pn	Pn	12 37 46.6	-1.4
H24K	**Noodor Dome**	**5.53**	**18**		Pn	12 37 49.6	0.0
H24K	**Noodor Dome**	**5.53**	**18**	P		12 37 49.3	
	baz=201,SNR=27						
PRP	**Porcupine Dome**	**5.70**	**28**		Pn	12 37 51.9	-0.2
PRP	**Porcupine Dome**	**5.70**	**28**	P		12 37 52.0	
	baz=214,SNR=18						
K27K	**Chicken**	**5.73**	**49**		Pn	12 37 51.3	-1.0
K27K	**Chicken**	**5.73**	**49**	P		12 37 51.5	
	baz=238						
PCA	**Pinnacle**	**5.84**	**90**	Pn	Pn	12 37 53.5	-0.5
PINM	**Pinnacle**	**5.84**	**90**	P		12 37 53.0	
	baz=280						
EGAK	**Eagle**	**6.47**	**46**		Pn	12 38 01.8	-0.7
EGAK	**Eagle**	**6.47**	**46**	P		12 38 01.7	
	baz=235,SNR=7.4						
COLD	**Coldfoot**	**6.65**	**6**		Pn	12 38 03.3	-1.7
COLD	**Coldfoot**	**6.65**	**6**	P		12 38 05.1	
	baz=188,SNR=15						
FYU	**Fort Yukon**	**6.66**	**24**	Pn	Pn	12 38 04.7	-0.2
DAWY	**Dawson**	**6.78**	**54**		Pn	12 38 07.0	+0.2
SDPT	**Sand Point**	**6.97**	**224**	Pn	Pn	12 38 09.5	+0.2
SDPT	**Sand Point**	**6.97**	**224**	P		12 38 09.0	
	baz=37						
HYT	**Haines Junctio**	**7.10**	**82**	Pn

AAK LR LR 13 00 44.3
comp=E,123nm,19.1s,baz=198,slow=40
GEYT Alibeck 11.29 305 Pn **Pn 12 56 02.0 +0.6**
comp=E,0.3nm,0.3s,baz=151,slow=9.5,SNR=2.5
GEYT LR LR 13 01 25.6
comp=E,122nm,18.3s,baz=190,slow=44
MKAR Makanchi Array 17.61 29 P **Pn 12 57 24.5 -0.9**
comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=9.0
KURBB Kurchatov Arra 19.71 17 P **P 12 57 47.0 -2.4**
comp=E,0.0nm,0.3s,baz=206,slow=10,SNR=4.7
AKTO Aktyubinsk 20.42 338 P **P 12 57 57.4 +0.3**
comp=E,6.1nm,0.7s,baz=152,slow=12,SNR=17
AKTO LR LR 13 06 40.0
comp=E,72nm,18.1s,baz=127,slow=40
BVAR Borovoye Array 21.03 1 P **P 12 58 01.3 -2.4**
comp=E,1.2nm,0.8s,baz=182,slow=23,SNR=4.9
ZALV Zalesovo Beam 24.44 22 P **P 12 58 38.1 -0.5**
comp=E,1.0nm,0.6s,baz=212,slow=7.8,SNR=1.6
BELG Belogornoye 26.02 328 LR LR 13 11 17.6
comp=E,64nm,18.1s,baz=77,slow=42
CMAR Chiang Mai Arr 29.47 110 P **P 12 59 26.4 +2.1**
comp=E,0.7nm,0.3s,baz=302,slow=9.7,SNR=1.3
SONM Songino Array 31.85 50 P **P 12 59 46.5 +1.3**
comp=E,0.8nm,0.8s,baz=240,slow=12,SNR=2.7
OBN Obninsk 32.89 325 LR LR 13 16 55.2
comp=E,25nm,18.9s,baz=184,slow=43
AKASG Malin Array Be 35.21 314 P **P 13 00 14.2 0.0**
comp=E,2.4nm,0.7s,baz=99,slow=7.4,SNR=9.8
GERES GERESS Array B 44.88 309 P **P 13 01 34.8 +0.2**
comp=E,0.6nm,0.9s,baz=92,slow=4.0,SNR=5.4
ARCES ARCESS Array B 44.99 340 LR LR 13 20 56.9
comp=E,67nm,18.3s,baz=100,slow=37
HFS Hagfors 46.10 325 LR LR 13 22 36.0
comp=E,61nm,21.0s,baz=109,slow=38
NOA NORSAR Array B 47.48 326 P **P 13 01 53.9 -0.9**
comp=E,0.8nm,0.9s,baz=100,slow=8.0,SNR=3.3
NOA LR LR 13 25 26.6
comp=E,48nm,18.2s,baz=95,slow=41
KEST Kesra 49.68 292 P **P 13 02 13.3 +1.1**
comp=E,2.3nm,0.7s,baz=63,slow=4.5,SNR=2.8
TORD Torodi Ar. Bea 64.70 270 P **P 13 03 58.0 -0.6**
comp=E,1.4nm,1.0s,baz=67,slow=6.8,SNR=4.1
ILAR Eielson Array 79.38 15 P **P 13 05 24.6 -1.2**
comp=E,0.8nm,1.0s,baz=314,slow=6.3,SNR=6.6
WRA Warramunga Arr 80.48 121 P **P 13 05 33.5 +1.1**
comp=E,2.3nm,0.9s,baz=324,slow=4.9,SNR=3.5
YKA Yellowknife Ar 85.78 2 P **P 13 05 59.7 +0.6**
comp=E,0.4nm,0.6s,baz=0.3,slow=4.9,SNR=2.8
STKA Stephens Creek 92.91 126 LR LR 13 52 17.1
comp=E,207nm,18.1s,baz=195,slow=38
ULM Lac du Bonnet 97.15 351 LR LR 13 57 39.9
comp=E,237nm,18.3s,baz=254,slow=40

NEIC ***28*** *12:53:42.1±1.1,32°.23S±0°.07×177°.6W±0°.1, h10km±1km, mb5.1/35, Error ellipse: s-maj=19.2km s-min=10.5km az=105.0*

BJI ***28*** *12:53:47.7±0.0,32°.16S×177°.96W, h5km, mB5.9/15, mb5.2/22, Ms5.2/5, Ms7 5.0/5*

IDC ***28*** *12:53:48.1±0.4,32°.09S×178°.12W, h0km, mb4.7/18, mb1 4.8/22, mb1mx4.8/35, mbtmp4.7/22, ML5.0/3, MS4.6/26, Ms1 4.6/26, ms1mx4.5/34, Error ellipse: s-maj=16.0km s-min=13.0km az=94.0*

MOS ***28*** *12:53:49.1±1.3,32°.04S×178°.16W, h10km, mb5.4/12, Error ellipse: s-maj=15.7km s-min=10.2km az=105.3*

GCMT ***28*** *12:53:53.1±0.3,32°.20S±0°.02×177°.58W±0°.03, h30km±1km, MW5.1/78, Moment Tensor Solution. s48,c65; s78,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_rr3.97±.23; $M_{\theta\theta}$-0.40±.14; $M_{\phi\phi}$-3.57±.14; $M_{r\theta}$0.82±.21; $M_{r\phi}$-0.70±.09; $M_{\theta\phi}$3.46±.18; Best double couple: M_o5.23600×10^{16} NP1:ϕ_s191.00000°, δ24.00000°, λ88.00000°. NP2: ϕ_s13.00000°, δ66.00000°, λ91.00000°. Principal axes: T 5.3630, Plg69.0000°, Azm284.0000°; N -0.2500, Plg1.0000°, Azm193.0000°; P -5.1090, Plg21.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 12:53:50.7±0.3,32°.23S±0°.05×178°.31W±0°.06,h10km, n460,σ2ŝ17/358,mb5.1/57,MS4.8/31,49C-17D,Fault plane solution: NP1:ϕ_s15.26501°, δ51.73467°, λ72.84590°. **NP2:**ϕ_s221.75763°, δ41.39023°, λ110.50214°. **Principal axes:** T Plg75.5584°, Azm228.5183°; N Plg13.3898°, Azm26.0873°; P Plg5.3117°, Azm117.3554°;

South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.98**	**6**	P	Pn	12 54 33.1	-5.0
GLKZ				S	Sn	12 55 08.3	-5.5
RAO	**Raoul Island**	**2.99**	**7**	Pn	Pn	12 54 34.1	-4.1
	177nm,0.3s,baz=124,slow=12,SNR=12						
RAO				Sn	Sn	12 55 09.6	-4.5
	797nm,0.3s,baz=86,slow=22,SNR=6.5						
RAO	**Raoul Island**	**2.99**	**7**	P	Pn	12 54 34.1	-4.1
RAO						12 55 09.6	
RAO	**Raoul Island**	**2.99**	**7**		Pn	12 54 29.9	-8.3
RIZ	**Raoul Island**	**2.99**	**6**	P	Pn	12 54 34.5	-3.8
MXZ	**Matakaoa Point**	**6.00**	**207**		Pn	12 55 15.8	-3.7
MXZ	**Matakaoa Point**	**6.00**	**207**	P	Pn	12 55 16.5	-3.1
MXZ				S	**Sn**	**12 56 26.9**	**-1.5**
WMGZ	**Waiomatatini S**	**6.19**	**205**	P	**Pn**	**12 55 20.0**	**-2.2**
WMGZ				S	**Sn**	**12 56 33.9**	**+0.9**
PKGZ	**Pakihiroa**	**6.38**	**207**	P	Pn	12 55 22.2	-2.6
PKGZ				S	**Sn**	**12 56 36.0**	**-1.7**
HAZ	**Te Kaha**	**6.38**	**209**	P	**Pn**	**12 55 22.8**	**-2.0**
HAZ				S	**Sn**	**12 56 38.8**	**+1.2**
PUZ	**Puketiti**	**6.47**	**205**	P	Pn	12 55 23.0	-3.0
PUZ				S	**Sn**	**12 56 37.1**	**-2.9**
RUGZ	**Raukumara Rang**	**6.60**	**209**	P	Pn	12 55 25.3	-2.6
RUGZ				S	**Sn**	**12 56 43.3**	**0.0**
TWGZ	**Tauwhareparae**	**6.67**	**206**	P	**Pn**	**12 55 29.5**	**+0.7**
TWGZ				S	**Sn**	**12 56 45.4**	**+0.6**
KUZ	**Kuaotunu**	**6.68**	**226**	P	**Pn**	**12 55 31.1**	**+2.3**
WHRZ	**Whale Island**	**6.82**	**213**	P	**Pn**	**12 55 31.0**	**+0.2**
WHRZ				S	**Sn**	**12 56 50.4**	**+2.0**
CNGZ	**Carnagh Statio**	**6.86**	**204**	P	Pn	12 55 28.5	-2.8
CNGZ				S	**Sn**	**12 56 50.6**	**+1.2**
TKGZ	**Te Karaka**	**6.95**	**206**	P	**Pn**	**12 55 32.5**	**0.0**
MWZ	**Matawai**	**6.98**	**208**	P	Pn	12 55 29.7	-3.3
MWZ				S	**Sn**	**12 56 52.4**	**-0.1**
OPRZ	**Ohinepanea**	**7.01**	**216**	P	**Pn**	**12 55 33.3**	**-0.1**
OPRZ				S	**Sn**	**12 56 53.5**	**+0.4**
TGRZ	**Tauranga**	**7.07**	**218**	P	**Pn**	**12 55 35.1**	**+0.9**
WIAZ	**Waiheke Island**	**7.07**	**228**	P	Pn	12 55 43.7	+9.4
URZ	**Urewera**	**7.09**	**211**	Pn	Pn	12 55 31.9	-2.6
	5.7nm,0.3s,baz=300,slow=23,SNR=47						
URZ				Sn	**Sn**	**12 56 54.3**	**-0.8**
	67nm,0.3s,baz=230,slow=19,SNR=8.1						
URZ	**Urewera**	**7.09**	**211**		Pn	12 55 30.2	-4.3
URZ	**Urewera**	**7.09**	**211**	P	Pn	12 55 31.6	-2.9
URZ				S	**Sn**	**12 56 54.3**	**-0.8**
RAGZ	**Rawiri**	**7.16**	**208**	P	Pn	12 55 30.3	-5.3
RAGZ				S	**Sn**	**12 56 56.3**	**-0.7**
RIGZ	**Rimuhau**	**7.21**	**205**	P	**Pn**	**12 55 35.8**	**-0.5**
RIGZ				S	**Sn**	**12 56 56.2**	**-2.0**
ETAZ	**East Tamaki Re**	**7.30**	**228**	P	Pn	12 55 47.2	+10
OMRZ	**Omania**	**7.30**	**215**	P	**Pn**	**12 55 39.7**	**+2.2**
PRGZ	**Paritu Road**	**7.36**	**204**	P	Pn	12 55 34.1	-4.2
OUZ	**Omahuta**	**7.38**	**244**		**Pn**	**12 55 36.8**	**-1.6**
RVAZ	**Riverhead Bore**	**7.42**	**230**	P	Pb	12 55 54.4	-5.0
MUGZ	**Murupara**	**7.42**	**211**	P	Pn	12 55 36.0	-3.0
RRRZ	**Republican Roa**	**7.42**	**213**	P	**Pn**	**12 55 42.8**	**+3.7**
SNGZ	**Shannon Statio**	**7.44**	**207**	P	Pn	12 55 36.9	-2.4
SNGZ				S	**Sn**	**12 57 02.3**	**-1.5**
RTZ	**Ruatahuna**	**7.44**	**210**	P	**Pn**	**12 55 39.0**	**-0.4**
RTZ				S	**Sn**	**12 57 01.1**	**-2.9**
TOZ	**Tahuroa Road**	**7.48**	**221**	P	**Pn**	**12 55 41.8**	**+1.9**
KNZ	**Kokohu**	**7.52**	**205**	P	Pn	12 55 37.4	-3.1
HSRZ	**Hossack Road**	**7.53**	**215**	P	**Pn**	**12 55 45.1**	**+4.6**
MHGZ	**Mahia Peninsul**	**7.56**	**203**	P	Pn	12 55 37.0	-4.0
PRRZ	**Plateau Road**	**7.61**	**213**	P	**Pn**	**12 55 41.2**	**-0.4**
RAHZ	**Arahi**	**7.65**	**208**	P	**Pn**	**12 55 42.0**	**-0.3**
MTHZ	**Maungataniwha**	**7.70**	**210**	P	**Pn**	**12 55 43.7**	**+0.8**
WHHZ	**Waihua**	**7.73**	**207**	P	**Pn**	**12 55 41.5**	**-1.8**
MRHZ	**Matea Rd**	**7.87**	**212**	P	**Pn**	**12 55 44.8**	**-0.5**
NMHZ	**Naumai**	**7.92**	**209**	P	**Pn**	**12 55 45.8**	**-0.2**
ARHZ	**Aropaoanui**	**7.99**	**207**	P	**Pn**	**12 55 45.8**	**-1.1**
BKZ	**Black Stump Fm**	**8.11**	**210**		Pn	12 55 44.7	-3.9
BKZ	**Black Stump Fm**	**8.11**	**210**	P	**Pn**	**12 55 46.4**	**-2.2**
RATZ	**Rangitukua**	**8.19**	**214**	P	**Pn**	**12 55 54.0**	**+4.4**
MCHZ	**McNeill Hill**	**8.26**	**208**	P	**Pn**	**12 55 49.0**	**-1.6**
CKHZ	**Cape Kidnapper**	**8.30**	**205**	P	Pn	12 55 46.3	-4.9
HIZ	**Hauiti**	**8.39**	**220**	Pn	Pn	12 55 49.2	-3.3
HIZ	**Hauiti**	**8.39**	**220**	P	**Pn**	**12 55 53.0**	**+0.6**
NNVZ	**North Ngauruho**	**8.47**	**214**	P	**Pn**	**12 55 57.7**	**+4.0**
KAHZ	**Kahuranaki**	**8.49**	**206**	P	Pn	12 55 50.7	-3.2
NGZ	**Ngauruhoe**	**8.52**	**214**	P	**Pn**	**12 55 54.9**	**+0.7**
BHHZ	**Black Hill Sta**	**8.56**	**211**	P	**Pn**	**12 55 54.4**	**-0.4**
KRHZ	**Kereru**	**8.56**	**209**	P	Pn	12 55 51.1	-3.6
FWVZ	**Far West T-bar**	**8.60**	**214**	P	**Pn**	**12 55 56.2**	**+0.7**
MOVZ	**Moawhango**	**8.63**	**212**	P	**Pn**	**12 55 55.5**	**-0.3**
PNHZ	**Pukenui**	**8.86**	**209**	P	Pn	12 55 56.5	-2.4
VRZ	**Vera Road**	**8.89**	**217**	P	Pn	12 56 05.4	+6.1
TSZ	**Takapari Road**	**9.08**	**209**	P	Pn	12 55 58.4	-3.5
BFZ	**Birch Farm**	**9.50**	**206**	Pn	Pn	12 56 03.0	-4.6
MRZ	**Mangatainoka R**	**9.74**	**209**	P	**Pn**	**12 56 12.5**	**+1.6**
TMWZ	**Te Maipa**	**10.01**	**206**	P	Pn	12 56 10.3	-4.2
OGWZ	**Otaki Gorge**	**10.04**	**210**	P	**Pn**	**12 56 13.4**	**-1.7**
MSWZ	**Moikau Station**	**10.52**	**208**	Pn	Pn	12 56 17.2	-4.3
PLWZ	**Palliser**	**10.65**	**207**	Pn	Pn	12 56 18.1	-5.3
SNZO	**South Karori**	**10.65**	**210**	Pn	Pn	12 56 19.0	-4.3
BHW	**Baring Head**	**10.66**	**209**	Pn	Pn	12 56 18.7	-4.8
TCW	**Tory Channel**	**10.75**	**211**	P	Pn	12 56 21.4	-3.4
TUWZ	**Tuamarina**	**11.08**	**212**	Pn	Pn	12 56 24.9	-4.3
TUWZ	**Tuamarina**	**11.08**	**212**	P	**Pn**	**12 56 28.5**	**-0.7**
NNZ	**Nelson**	**11.17**	**214**	Pn	Pn	12 56 26.1	-4.3
CMWZ	**Cape Campbell**	**11.22**	**210**	Pn	Pn	12 56 26.9	-4.3
QRZ	**Quartz Range**	**11.30**	**218**	Pn	Pn	12 56 29.1	-3.1
BSWZ	**Blackbirch Sta**	**11.34**	**211**	Pn	Pn	12 56 28.4	-4.4
THZ	**Tophouse**	**11.82**	**214**	Pn	Pn	12 56 35.8	-3.6
THZ	**Tophouse**	**11.82**	**214**	P	Pn	12 56 34.3	-5.1
KHZ	**Kahutara**	**12.05**	**210**	Pn	Pn	12 56 37.8	-4.7
KHZ	**Kahutara**	**12.05**	**210**	P	Pn	12 56 37.9	-4.6
DSZ	**Denniston Nort**	**12.35**	**217**	P	**Pn**	**12 56 45.6**	**-0.9**
GVZ	**Greta Valley S**	**12.72**	**210**	P	Pn	12 56 48.7	-2.9
LTZ	**Lake Taylor**	**12.91**	**213**	Pn	Pn	12 56 49.3	-5.0
LTZ	**Lake Taylor**	**12.91**	**213**	P	Pn	12 56 51.5	-2.7
INZ	**Inchbonnie**	**13.25**	**215**	P	Pn	12 56 56.3	-2.6
OXZ	**Oxford**	**13.44**	**212**	Pn	Pn	12 56 56.7	-4.8
OXZ	**Oxford**	**13.44**	**212**	P	Pn	12 56 58.4	-3.1
MQZ	**McQueen's Vall**	**13.48**	**209**	Pn	Pn	12 56 56.8	-5.2
MHCZ	**Mount Hutt**	**13.81**	**212**	P	**Pn**	**12 57 06.8**	**+0.1**
WVZ	**Waitaha Valley**	**13.86**	**216**	P	**Pn**	**12 57 09.5**	**+2.4**
RPZ	**Rata Peaks**	**14.19**	**213**	Pn	Pn	12 57 08.2	-3.6
RPZ	**Rata Peaks**	**14.19**	**213**	P	Pn	12 57 07.4	-4.3
GCSZ	**Gaunt Creek Bo**	**14.24**	**216**	P	**Pn**	**12 57 10.4**	**-2.0**
ARCZ	**Arundel**	**14.32**	**212**	P	**Pn**	**12 57 11.8**	**-1.7**
FOZ	**Fox Glacier**	**14.65**	**216**	Pn	Pn	12 57 13.8	-4.2
FOZ				lAmb	lAmb	12 57 35.8	
	comp=Z,103nm,1.2s						
FOZ	**Fox Glacier**	**14.65**	**216**	P	Pn	12 57 14.3	-3.8
TMZ	**Timaru**	**14.73**	**212**	P	Pn	12 57 13.8	-5.4
MSVF	**Nonsavu**	**14.81**	**346**	Pn	Pn	12 57 19.2	-1.1
	comp=Z,0.6nm,0.3s,baz=139,slow=14,SNR=4.6						
MSVF				LR	LR	13 02 07.6	
	comp=Z,3μm,18.1s,baz=172,slow=34						
MSVF	**Nonsavu**	**14.81**	**346**	P	Pn	12 57 19.2	-1.1
MSVF	**Nonsavu**	**14.81**	**346**		Pn	12 57 13.6	-6.8
LBZ	**Lake Benmore**	**15.11**	**213**	Pn	Pn	12 57 19.1	-5.2
LBZ	**Lake Benmore**	**15.11**	**213**	P	**Pn**	**12 57 19.9**	**-4.3**
ODZ	**Otahua Downs**	**15.41**	**211**	Pn	Pn	12 57 23.3	-4.9
ODZ	**Otahua Downs**	**15.41**	**211**	P	Pn	12 57 23.0	-5.2
PINNC	**Pines Island,**	**15.85**	**304**		**Pn**	**12 57 31.0**	**-3.1**
PINNC				lAmb	lAmb	12 57 54.4	
	comp=Z,165nm,1.1s						
WKZ	**Wanaka**	**15.99**	**215**	Pn	Pn	12 57 30.8	-5.0
OUENC	**Ouen Island, N**	**16.41**	**303**		**Pn**	**12 57 39.7**	**-1.4**
OUENC				lAmb	lAmb	12 57 55.4	
	comp=Z,259nm,1.4s						
MSZ	**Milford Sound**	**16.42**	**217**	P	**Pn**	**12 57 42.7**	**+1.5**
ONTNC	**Ouen Toro**	**16.75**	**302**	P	**Pn**	**12 57 43.6**	**-1.9**
ONTNC				lAmb	lAmb	12 57 55.0	
	comp=Z,120nm,1.0s						
MLZ	**Mavora Lakes**	**16.82**	**215**		**Pn**	**12 57 42.3**	**-4.0**
MLZ	**Mavora Lakes**	**16.82**	**215**	P	**Pn**	**12 57 48.3**	**+2.0**
DZM	**Mont Dzumac**	**16.91**	**303**	Pn	**Pn**	**12 57 49.5**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=83,slow=5.9,SNR=4.1						
DZM				LR	LR	13 03 22.5	
	comp=Z,7μm,18.6s,baz=127,slow=34						
DZM	**Mont Dzumac**	**16.91**	**303**	*e*Pn	**Pn**	**12 57 52.0**	**+4.3**
	comp=Z,313nm,1.2s						
DZM				*e*LR	LR	13 01 45.3	
	comp=Z,5μm,21.7s						
DZM	**Mont Dzumac**	**16.91**	**303**	P	**Pn**	**12 57 44.9**	**-2.8**
DZM				lAmb	lAmb	12 58 07.2	
	comp=Z,149nm,1.2s						
SYZ	**Scrubby Hill**	**17.24**	**210**	P	**Pn**	**12 57 52.1**	**+0.6**
AFI	**Afiamalu**	**19.19**	**20**	P	P	12 58 11.2	-3.6
	comp=Z,1.4nm,0.3s,baz=1.3,slow=8.0,SNR=4.7						
AFI	**Afiamalu**	**19.19**	**20**	P	P	12 58 04.5	-10
AFI				lAmb	lAmb	12 58 13.4	
	comp=Z,222nm,1.3s						
LHI	**Lord Howe Isla**	**19.23**	**266**	P	**P**	**12 58 12.3**	**-2.8**
LHI				lAmb	lAmb	12 58 32.1	
	comp=Z,131nm,1.4s						
RAR	**Rarotonga**	**19.83**	**61**	P	**P**	**12 58 18.7**	**-3.0**
	comp=Z,1.1nm,0.3s,baz=163,slow=17,SNR=2.6						
RAR				LR	LR	13 06 37.8	
	comp=Z,1μm,18.1s,baz=224,slow=39						
RAR	**Rarotonga**	**19.83**	**61**	P	**P**	**12 58 18.7**	**-3.0**
ARMA	**Armidale**	**25.71**	**266**	P	**P**	**12 59 22.6**	**+1.2**
	baz=26,SNR=8.5						
ARMA	**Armidale**	**25.71**	**266**	P	**P**	**12 59 17.9**	**-3.5**
ARMA				lAmb	lAmb	12 59 29.0	
	comp=Z,40nm,1.0s						
MGCD	**Mangrove Creek**	**25.71**	**260**	P	**P**	**12 59 22.5**	**+1.3**
	baz=26,SNR=12						
TBI	**Tubuai**	**26.94**	**78**	*e*S	**S**	**13 04 09.8**	**+0.3**
	comp=Z,699nm,25.8s						
TBI				*e*LR	LR	13 06 16.6	
	comp=Z,1μm,22.5s,baz=245						
TBI	**Tubuai**	**26.94**	**78**	*e*T	T	13 27 04.1	
	comp=Z,14nm,0.4s						
MILA	**Mila**	**27.12**	**251**	P	**P**	**12 59 34.7**	**+0.7**
	baz=27,SNR=4.6						
CAN	**Canberra**	**27.29**	**254**	P	P	12 59 30.3	-5.2
CAN				pmax	pmax		
	comp=Z,61nm,1.4s						
CAN	**Canberra**	**27.29**	**254**	P	P	12 59 30.3	-5.2
CAN				lAmb	lAmb	12 59 50.7	
	comp=Z,61nm,1.4s						
EIDS	**Eidsvold**	**27.62**	**276**	P	**P**	**12 59 40.6**	**+2.1**
	baz=28,SNR=5.5						
EIDS	**Eidsvold**	**27.62**	**276**	P	**P**	**12 59 35.7**	**-2.9**
EIDS				lAmb	lAmb	12 59 46.2	
	comp=Z,36nm,1.1s						
RMQ	**Roma**	**29.20**	**273**	P	**P**	**12 59 55.6**	**+3.0**
	baz=30,SNR=10						
PPT2	**Papeete2**	**29.74**	**68**	*e*LR	LR	13 07 31.8	
	comp=Z,821nm,22.5s,baz=239						
PPT	**Papeete**	**29.75**	**68**	LR	LR	13 11 15.2	
	comp=Z,1μm,18.1s,baz=239,slow=35						
TOO	**Toolangi**	**30.04**	**250**	P	**P**	**13 00 00.4**	**+0.5**
	baz=30,SNR=4.1						
CMSA	**Cobar Meteorol**	**30.49**	**262**	P	**P**	**13 00 06.4**	**+2.5**
	baz=31,SNR=11						
VAH	**Vaihoa**	**32.62**	**66**	*e*T	T	13 34 14.9	
	comp=Z,12nm,0.2s						
ARPS	**Mount Arapiles**	**32.99**	**251**	P	**P**	**13 00 27.6**	**+1.7**
	baz=33,SNR=15						
QLP	**Quilpie**	**33.00**	**270**	P	**P**	**13 00 27.6**	**+1.5**
	baz=33,SNR=7.2						
STKA	**Stephens Creek**	**33.85**	**260**	P	**P**	**13 00 34.5**	**+1.1**
	comp=Z,18nm,0.8s,baz=96,slow=9.2,SNR=39						
STKA				LR	LR	13 14 00.8	
	comp=Z,2μm,18.0s,baz=99,slow=36						
STKA	**Stephens Creek**	**33.85**	**260**	P	**P**	**13 00 34.8**	**+1.3**
	baz=34,SNR=14						
STKA	**Stephens Creek**	**33.85**	**260**	P	P	13 00 28.4	-5.1
STKA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**33.85**	**260**	P	P	13 00 28.4	-5.1
CTA	**Charters Tower**	**33.88**	**282**	P	**P**	**13 00 35.5**	**+1.7**
	comp=Z,37nm,0.8s,baz=110,slow=10,SNR=27						
CTA				LR	LR	13 13 28.8	
	comp=Z,1μm,18.9s,baz=116,slow=35						
CTA	**Charters Tower**	**33.88**	**282**	P	**P**	**13 00 35.5**	**+1.7**
CTAO	**Charters Tower**	**33.88**	**282**	P	P	13 00 29.8	-4.0
CTAO				pmax	pmax		
	comp=Z,149nm,1.4s						
CTAO	**Charters Tower**	**33.88**	**282**	P	P	13 00 29.8	-4.0
HTT	**Hallett**	**35.78**	**256**	P	**P**	**13 00 50.9**	**+0.8**
	baz=36,SNR=13						
MTSU	**Mount Surprise**	**36.42**	**284**	P	**P**	**13 00 57.8**	**+2.0**
	baz=37,SNR=6.0						
BBOO	**Buckleboo**	**38.25**	**257**	P	**P**	**13 01 10.9**	**-0.2**
	baz=38,SNR=21						
BBOO	**Buckleboo**	**38.25**	**257**	P	P	13 01 07.2	-4.0
BBOO				lAmb	lAmb	13 01 12.5	
	comp=Z,50nm,0.8s						
PMG	**Port Moresby**	**39.19**	**298**	P	**P**	**13 01 18.5**	**-0.6**
	comp=Z,13nm,0.9s,baz=90,slow=11,SNR=2.1						
PMG				LR	LR	13 16 01.0	
	comp=Z,831nm,18.4s,baz=127,slow=34						
PMG	**Port Moresby**	**39.19**	**298**	P	**P**	**13 01 18.5**	**-0.6**
QIS	**Mount Isa**	**39.23**	**277**	P	**P**	**13 01 20.1**	**+0.6**
	baz=40,SNR=7.6						
AS31	**Alice Springs**	**42.78**	**269**	P	P	13 01 43.6	-5.2
ASAR	**Alice Springs**	**42.78**	**269**	P	**P**	**13 01 48.6**	**-0.2**
	comp=Z,22nm,0.8s,baz=106,slow=7.5,SNR=148						
ASAR				ScP	**ScP**	**13 07 32.4**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=116,slow=6.5,SNR=3.0						
ASAR				S	**S**	**13 08 09.7**	**-3.3**
	comp=Z,5.5nm,1.0s,baz=105,slow=14,SNR=13						
ASAR				LR	LR	13 19 39.7	
	comp=Z,1μm,18.1s,baz=116,slow=36						
ASAR	**Alice Springs**	**42.78**	**269**	P	**P**	**13 01 48.6**	**-0.2**
ASAR	**Alice Springs**	**42.78**	**269**	P	P	13 01 43.9	-4.8
WR0	**Warramunga Arr**	**43.76**	**274**	P	P	13 01 52.0	-4.7
WR0				lAmb	lAmb	13 02 09.8	
	comp=Z,51nm,0.9s						
WRAB	**Tennant Creek**	**43.93**	**274**	*ce*P	**P**	**13 01 57.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,65nm,1.0s						
WRAB	**Tennant Creek**	**43.93**	**274**	P	P	13 01 53.3	-4.8
WRA	**Warramunga Arr**	**43.94**	**274**	P	**P**	**13 01 57.4**	**-0.7**
	comp=Z,60nm,1.0s,baz=112,slow=8.0,SNR=169						
WRA				ScP	**ScP**	**13 07 36.3**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=118,slow=4.0,SNR=10						
WRA				S	**S**	**13 08 26.8**	**-3.1**
	comp=Z,0.9nm,0.9s,baz=136,slow=11,SNR=3.2						
WRA				LR	LR	13 19 49.8	
	comp=Z,2μm,18.2s,baz=110,slow=35						
WRA	**Warramunga Arr**	**43.94**	**274**	P	P	13 01 53.0	-5.1
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**43.94**	**274**	P	P	13 01 53.0	-5.1
FORT	**Forrest**	**45.35**	**257**	P	**P**	**13 02 08.3**	**-0.9**
	baz=46,SNR=7.2						
FORT	**Forrest**	**45.35**	**257**	P	P	13 02 04.2	-5.1
SBA	**Scott Base**	**46.20**	**184**	P	P	13 02 07.5	-7.8
SBA				lAmb	lAmb	13 02 32.1	
	comp=Z,46nm,1.4s						
VNDA	**Vanda**	**46.25**	**186**	P	**P**	**13 02 16.8**	**+1.1**
	comp=Z,1.6nm,1.0s,baz=27,slow=6.7,SNR=5.9						
VNDA				LR	LR	13 18 15.2	
	comp=Z,596nm,19.0s,baz=17,slow=32						
VNDA	**Vanda**	**46.25**	**186**	P	P	13 02 07.2	-8.5
WRKA	**Warakurna**	**47.02**	**265**	P	P	13 02 21.0	-1.5
	baz=47,SNR=44						
GENI	**Genyem**	**48.88**	**298**	P	**P**	**13 02 37.8**	**+0.9**
	comp=Z,33nm,0.9s						
KDU	**Kakadu**	**49.00**	**282**	P	**P**	**13 02 39.0**	**+1.1**
	baz=49,SNR=8.2						
MTN	**Manton Dam**	**50.03**	**281**	P	**P**	**13 02 44.9**	**-0.9**
	baz=50,SNR=14						
MTN	**Manton Dam**	**50.03**	**281**	P	P	13 02 40.5	-5.2
MTN				lAmb	lAmb	13 02 49.0	
	comp=Z,29nm,0.7s						
KNRA	**Kununurra**	**50.61**	**276**	P	**P**	**13 02 49.7**	**-0.4**
	baz=51,SNR=13						
KNRA	**Kununurra**	**50.61**	**276**	P	P	13 02 44.7	-5.4
KNRA				lAmb	lAmb	13 02 53.8	
	comp=Z,33nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.12**	**271**	P	**P**	**13 03 00.4**	**-1.0**
	baz=52,SNR=17						
FITZ	**Fitzroy Crossi**	**52.12**	**271**	P	P	13 02 56.2	-5.2
FITZ				lAmb	lAmb	13 03 01

	baz=247								
H03N1	**Juan Fernandez**	**79.89**	**123**		T		T	14 33 29.6	
	baz=247								
PLCA	**Paso Flores**	**81.45**	**133**		P		**P**	**13 06 07.0**	**-1.3**
	comp=Z,8.2nm,1.2s,baz=212,slow=2.2,SNR=4.8								
PLCA					LR		LR	13 37 11.8	
	comp=Z,416nm,18.1s,baz=206,slow=32								
PLCA	**Paso Flores**	**81.45**	**133**		P		**P**	**13 06 07.0**	**-1.3**
BKNI	**Bangkinang**	**82.26**	**275**		P		P	13 06 05.1	-7.7
YUK	**Yuzh-Kuril'sk**	**82.65**	**335**		*e*P		**P**	**13 06 13.1**	**-0.9**
YUK					*e*			13 06 17.6	
YUK					*e*			13 09 22.0	
YUK					*e*	PPP	PPP	13 11 13.9	
YUK					*e*S		**S**	**13 16 31.7**	**+0.4**
YUK					*e*SS		**SS**	**13 21 56.3**	**+2.2**
YUK					*e*SSS		SSS	13 25 22.7	
YUK					pmax		pmax		
	comp=Z,204nm,1.7s								
YUK					pmax		pmax		
	comp=Z,140nm,0.9s								
YUK					pmax		pmax		
	comp=N,261nm,1.0s								
YUK					pmax		pmax		
	comp=E,79nm,1.1s								
NIKH	**Nikolski High**	**85.24**	**6**		P			13 06 27.6	
	baz=188								
SNCC	**San Nicolas Is**	**85.50**	**46**		P			13 06 27.5	
	baz=226								
QIZ	**Qiongzhong**	**85.54**	**296**		P		**P**	**13 06 29.8**	**+0.4**
QIZ					S		S	13 16 54.5	-6.9
QIZ					L		L		
	comp=E,230nm,9.8s								
QIZ					L		L		
	comp=E,270nm,10.3s								
QIZ					L		L		
	comp=E,230nm,8.8s								
KSRS	**Korea Array**	**85.57**	**320**		P		**P**	**13 06 28.5**	**-0.6**
	comp=E,1.0nm,0.7s,baz=136,slow=5.6,SNR=5.0								
KSRS					LR		LR	13 41 54.5	
	comp=E,175nm,19.5s,baz=133,slow=34								
KSRS	**Korea Array**	**85.57**	**320**		P		**P**	**13 06 28.5**	**-0.6**
SCZ2	**Santa Cruz Isl**	**85.94**	**45**		P			13 06 29.7	
	baz=226								
SBC	**Santa Barbara**	**86.20**	**45**		P			13 06 31.4	
	baz=226								
YSS	**Yuzh-Sakhalins**	**86.28**	**334**		*e*P		P	13 06 30.5	-1.8
YSS					*e**SP		pP	13 06 35.6	+1.4
YSS					*e*S		**S**	**13 17 06.4**	**-1.0**
YSS					pmax		pmax		
	comp=Z,20nm,0.9s								
YSS					smax		smax		
	comp=N,200nm,5.6s								
YSS					MLR		MLR		
	comp=Z,400nm,17.0s								
CIS	**Catalina Islan**	**86.28**	**46**		P			13 06 31.6	
	baz=227								
PKM	**Mcpherson Peak**	**86.45**	**45**		P			13 06 32.2	
	baz=226								
SMMC	**Simmler**	**86.64**	**44**		P			13 06 33.1	
	baz=226								
PMPB	**Monarch Peak**	**86.79**	**43**		P		P	13 06 23.6	-12
DECC	**Green Verdugo**	**86.91**	**46**		P			13 06 33.9	
	baz=227								
OSI	**Osito Audit: C**	**86.92**	**45**		P			13 06 34.1	
	baz=227								
MURC	**Murrieta**	**87.17**	**47**		P			13 06 35.4	
	baz=228								
MONP2	**Monument Peak**	**87.18**	**48**		P			13 06 35.2	
	baz=228								
ARVC	**Arvin**	**87.20**	**45**		P			13 06 34.7	
	baz=227								
IKP	**In-Ko-Pah, Jac**	**87.22**	**48**		P			13 06 34.9	
	baz=228								
NJ2	**Nanjing**	**87.24**	**311**		*e*P		**P**	**13 06 38.3**	**+0.9**
NJ2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
PET	**Petropavlovsk**	**87.24**	**346**		*e*P		**P**	**13 06 36.6**	**-0.3**
PET					*e*S		**S**	**13 17 14.2**	**-2.2**
PET					pmax		pmax		
	comp=Z,100nm,4.2s								
PET					MLR		MLR		
	comp=Z,500nm,19.0s								
PET					MLR		MLR		
	comp=Z,500nm,19.0s								
BFSC	**Mount Baldy Ra**	**87.31**	**46**		P			13 06 35.7	
	baz=227								
PEA0B	**Petropavlovsk-**	**87.52**	**346**	⇓	*i*P		**P**	**13 06 37.2**	**-1.1**
PETK	**Petropavlovsk-**	**87.52**	**346**		P		**P**	**13 06 37.1**	**-1.2**
	comp=Z,7.7nm,0.8s,baz=139,slow=7.1,SNR=26								
PETK					LR		LR	13 43 20.0	
	comp=Z,133nm,18.8s,baz=157,slow=34								
PETK	**Petropavlovsk-**	**87.52**	**346**		P		**P**	**13 06 37.1**	**-1.2**
VES	**Vestal, Richgr**	**87.54**	**44**		P			13 06 37.2	
	baz=226,SNR=5.3								
EDW2	**Edwards Air Fo**	**87.54**	**46**		P			13 06 37.1	
	baz=227,SNR=7.4								
SWSC	**Sam W. Stewart**	**87.61**	**48**		P			13 06 37.4	
	baz=228								
TPFO	**Pinon Flats**	**87.63**	**47**		P			13 06 37.8	
	baz=228								
PFO	**Pinyon Flats O**	**87.63**	**47**		P			13 06 37.4	
	baz=228								
PFO	**Pinyon Flats O**	**87.64**	**47**	*c*	*e*P		**P**	**13 06 39.6**	**+0.1**
VOG	**Valley Oaks Go**	**87.69**	**44**		P			13 06 37.4	
	baz=226								
ISA	**Isabella, Lake**	**87.78**	**45**		P			13 06 38.3	
	baz=227,SNR=12								
LRMC	**Laurel Mtn Rad**	**88.13**	**45**		P			13 06 40.0	
	baz=227								
RRX	**Edison Barstow**	**88.14**	**46**		P			13 06 40.1	
	baz=228								
BELC	**Belle Mtn. Jos**	**88.18**	**47**		P			13 06 41.1	
	baz=228,SNR=8.2								
CHNA	**Chernabura Isl**	**88.19**	**11**		P			13 06 42.2	
	baz=196								
BC3	**Big Chuckawall**	**88.29**	**48**		P			13 06 41.6	
	baz=229,SNR=6.8								
GLA	**Glamis**	**88.30**	**49**		P			13 06 40.9	
	baz=229								
O02D	**Mt. Diablo Mer**	**88.48**	**39**		P			13 06 42.6	
	baz=224,SNR=13								
HEC	**Hector,Ludlow**	**88.52**	**47**		P			13 06 42.1	
	baz=228,SNR=7.8								
CWC	**Cottonwood Cre**	**88.54**	**44**		P			13 06 41.8	
	baz=227								
USRK	**Ussuriysk Ar.**	**88.54**	**327**		P		**P**	**13 06 42.8**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=140,slow=3.1,SNR=8.6								
USRK					LR		LR	13 42 32.5	
	comp=Z,224nm,19.9s,baz=136,slow=33								
USRK	**Ussuriysk Ar.**	**88.54**	**327**		P		**P**	**13 06 42.8**	**-0.6**
GSC	**Goldstone, Bar**	**88.54**	**46**		P			13 06 42.4	
	baz=228,SNR=11								
SDPT	**Sand Point**	**88.56**	**10**		P			13 06 42.7	
	baz=195								
MPMC	**Manual Prospec**	**88.63**	**45**		P			13 06 42.6	
	baz=228,SNR=10								
IRM	**Iron Mountain**	**88.81**	**48**		P			13 06 44.0	
	baz=229,SNR=24								
TIN	**Tinemaha, Big**	**88.87**	**44**		P			13 06 43.9	
	baz=227								
214A	**Organ Pipe Nat**	**88.89**	**51**		P			13 06 43.0	
	baz=230								
MLAC	**Mammoth, Mammo**	**88.90**	**43**		P			13 06 44.2	
	baz=227								
GMRC	**Granite Mounta**	**88.90**	**47**		P			13 06 44.0	
	baz=229,SNR=6.3								
N02D	**Trinity Center**	**89.09**	**39**		P			13 06 44.2	
	baz=224								
O03E	**Paynes Creek**	**89.09**	**40**		P			13 06 44.5	
	baz=225,SNR=6.6								
TUQ	**Turquoise Moun**	**89.17**	**46**		P			13 06 44.1	
	baz=228,SNR=5.8								
SHOC	**Shoshone, Teco**	**89.26**	**46**		P			13 06 45.0	
	baz=228,SNR=5.8								
FURC	**Furnace Creek,**	**89.28**	**45**		P			13 06 45.3	
	baz=228								
M02C	**Callahan**	**89.31**	**38**		P			13 06 45.3	
	baz=224								
SPIA	**Saint Paul Isl**	**89.32**	**4**		P			13 06 46.4	
	baz=187								
GRAC	**Grapevine Rang**	**89.34**	**44**		P			13 06 45.5	
	baz=228,SNR=12								
L02E	**Cave Junction**	**89.47**	**37**		P			13 06 46.6	
	baz=224								
NEE2	**Needles Airpor**	**89.54**	**48**		P			13 06 46.0	
	baz=229								
PDMCI	**Parker Dam,Lak**	**89.54**	**48**		P			13 06 46.0	
	baz=229								
YBH	**Yreka Blue Hor**	**89.63**	**38**		LR		LR	13 42 02.0	
	comp=Z,379nm,18.7s,baz=218,slow=32								
NVAR	**Mina Array Bea**	**89.76**	**43**		P		**P**	**13 06 48.4**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=220,slow=7.9,SNR=29								
NVAR					LR		LR	13 42 12.7	
	comp=Z,371nm,18.8s,baz=230,slow=32								
K02D	**Willamette Mer**	**89.83**	**37**		P			13 06 47.7	
	baz=223								
TPNV	**Topopah Spring**	**89.97**	**45**		P			13 06 48.9	
	baz=228,SNR=8.0								
J01E	**Myrtle Point**	**90.03**	**36**		P			13 06 48.6	
	baz=223								
M04C	**Macdoel**	**90.12**	**39**		P			13 06 49.2	
	baz=225								
TUC	**Tucson**	**90.45**	**51**		P			13 06 50.7	
	baz=231								
I03D	**Drain, OR**	**90.71**	**36**		P			13 06 52.4	
	baz=224								
J04D	**Umpqua Nationa**	**91.02**	**37**		P			13 06 53.7	
	baz=224								
I04A	**Tendick Farm,**	**91.25**	**37**		P			13 06 54.7	
	baz=224								
R11A	**Troy Canyon, C**	**91.29**	**44**		P			13 06 54.9	
	baz=229								
CN2	**Changchun**	**91.44**	**323**		*e*P		P	13 06 55.5	-1.4
CN2					S		**S**	**13 17 53.0**	**-3.2**
CN2					pmax		pmax		
	comp=Z,10.0nm,1.0s								
CN2					L		L		
	comp=Z,300nm,18.0s								
CN2					L		L		
	comp=Z,300nm,18.0s								
CN2					L		L		
	comp=Z,500nm,20.0s								
J05D	**Fort Rock, OR**	**91.50**	**38**		P			13 06 55.8	
	baz=225								
H04D	**Lebanon**	**91.61**	**36**		P			13 06 56.6	
	baz=224								
GRNR	**Gornyy**	**91.79**	**333**	⇑	*i*P		**P**	**13 06 57.6**	**-0.8**
GRNR					pmax		pmax		
	comp=Z,4.0nm,0.9s								
WUAZ	**Wupatki**	**92.07**	**49**		P			13 06 58.5	
	baz=231								
I05D	**Terrebonne, OR**	**92.19**	**37**		P			13 06 59.3	
	baz=225								
GYA	**Guiyang**	**92.23**	**300**		*e*P		**P**	**13 07 00.5**	**-0.7**
GYA					pP		PcP	13 07 03.8	+1.8
KLR	**Kul'dur**	**92.48**	**330**	*c*	*i*P		P	13 07 00.1	-1.5
KLR					pmax		pmax		
	comp=Z,7.0nm,0.9s								
121A	**Cookes Peak, D**	**92.60**	**53**		P			13 07 01.2	
	baz=233								
ELK	**Elko**	**93.06**	**43**		LR		LR	13 43 38.6	
	comp=Z,476nm,18.6s,baz=254,slow=32								
TXAR	**Lajitas Array**	**93.59**	**58**		P		P	13 07 05.7	-1.7
	comp=Z,1.6nm,1.1s,baz=212,slow=4.4,SNR=8.2								
TXAR					LR		LR	13 43 45.4	
	comp=Z,319nm,18.0s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**93.59**	**58**		P		P	13 07 05.7	-1.7
CM09	**Chiang Mai Arr**	**93.71**	**289**		P		P	13 07 22.6	+15
CM01	**Chiang Mai Arr**	**93.72**	**289**		P		P	13 07 17.8	+10
CM05	**Chiang Mai Arr**	**93.73**	**289**		P		P	13 07 20.2	+12
CM02	**Chiang Mai Arr**	**93.74**	**289**		P		P	13 07 21.0	+13
CMAR	**Chiang Mai Arr**	**93.76**	**289**		PP		**PP**	**13 10 53.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=137,slow=6.8,SNR=1.8								
CMAR					LR		LR	13 51 53.5	
	comp=Z,125nm,19.1s,baz=185,slow=37								
CM13	**Chiang Mai Arr**	**93.77**	**289**		P		P	13 07 18.8	+11
CM15	**Chiang Mai Arr**	**93.77**	**289**		P		P	13 07 21.4	+13
CMMT	**Chiang Mai**	**93.94**	**290**		P		**P**	**13 07 13.2**	**+4.1**
CHTO	**Chiang Mai**	**93.95**	**290**		P		P	13 07 14.2	+5.1
BMO	**Blue Mountains**	**94.64**	**39**		P		P	13 07 00.3	-11
BMO					IAmb		IAmb	13 07 22.9	
	comp=Z,3.4nm,0.7s								
N19K	**Bonanza Creek**	**94.74**	**11**		P			13 07 12.1	
	baz=200								
BBB	**Bella Bella**	**94.83**	**28**		LR		LR	13 44 04.7	
	comp=Z,249nm,18.9s,baz=208,slow=32								
ANMO	**Albuquerque**	**94.92**	**52**		P			13 07 11.8	
	baz=234								
ANMO	**Albuquerque**	**94.92**	**52**	⇑	*e*P		P	13 07 11.5	-2.0
ANMO					pmax		pmax		
	comp=Z,5.0nm,1.3s								
HLID	**Hailey**	**95.36**	**41**		P			13 07 13.9	
	baz=230								
S22A	**4UR Ranch, Cre**	**96.32**	**49**		P			13 07 18.5	
	baz=234								
CD2	**Chengdu**	**96.84**	**302**		*e*P		**P**	**13 07 22.0**	**-0.1**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
NEW	**Newport**	**97.00**	**36**		LR		LR	13 44 34.9	
	comp=Z,703nm,19.8s,baz=222,slow=32								
HHC	**Hu-ho-hao-te**	**97.31**	**314**		*e*P		**P**	**13 07 25.0**	**+0.9**
HHC					pmax		pmax		
	comp=Z,31nm,1.1s								
HHC					pmax		pmax		
	comp=Z,100nm,5.6s								
LPAZ	**La Paz**	**97.63**	**115**		LR		LR	13 44 17.6	
	comp=Z,109nm,20.1s,baz=198,slow=31								
BW06	**Boulder Array**	**97.63**	**44**		P			13 07 24.4	
	baz=233								
PDAR	**Pinedale Array**	**97.64**	**44**		P		P	13 07 23.6	-2.0
	comp=Z,0.5nm,0.8s,baz=191,slow=2.4,SNR=4.4								
PDAR					LR		LR	13 44 19.7	
	comp=Z,289nm,20.0s,baz=248,slow=31								
SEY	**Seymchan**	**97.70**	**347**		P		P	13 07 23.6	-1.4
	comp=Z,2.5nm,0.7s,baz=152,slow=3.2,SNR=9.2								
SEY	**Seymchan**	**97.70**	**347**	⇑	*e*P		P	13 07 22.2	-2.9
TRF	**Thorofare Moun**	**97.93**	**12**		P			13 07 26.9	
	baz=203								
BOZ	**Bozeman (W)**	**98.18**	**41**		P			13 07 26.8	
	baz=232								
CPUP	**Villa Florida**	**99.05**	**129**		LR		LR	13 46 02.1	
	comp=Z,132nm,20.0s,baz=214,slow=32								
RLMT	**Red Lodge**	**99.22**	**42**		P			13 07 31.3	
	baz=233								
ILAR	**Eielson Array**	**99.76**	**13**		PKiKP		**PKiKP**	**13 12 02.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=275,slow=2.0,SNR=4.4								
BILL	**Bilibino**	**100.63**	**354**		*e*P		**Pdif**	**13 07 37.8**	**-0.3**
BILL					*e*			13 11 43.6	
BILL					*e*PPP		PPP	13 13 50.4	
BILL					pmax		pmax		
	comp=Z,2.0nm,1.0s								
BILL					MLR		MLR		
	comp=Z,226nm,18.0s								
YKA	**Yellowknife Ar**	**107.20**	**26**		PKKPbc		PKKPbc	13 23 31.6	-2.9
	comp=Z,1.2nm,0.9s,baz=40,slow=3.1,SNR=4.1								
JFWS	**Jewell Farm**	**109.81**	**51**		P			13 12 21.2	
	baz=244								
P52A	**Corning**	**114.05**	**57**		P			13 12 28.9	
	baz=247								
WMQ	**Urumqi**	**114.14**	**308**		*e*PKP		PKPdf	13 12 30.0	-0.2
DGZ	**Jazzator, Alta**	**116.40**	**314**	⇓	*i*PKIKP		**PKPdf**	**13 12 33.4**	**-1.1**
MK31	**Makanchi Array**	**118.74**	**309**	*d*	*i*PKIKP		**PKPdf**	**13 12 36.7**	**-2.2**
MKAR	**Makanchi Array**	**118.74**	**309**		PKP		**PKPdf**	**13 12 37.1**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=78,slow=2.7,SNR=15								
MKAR					SKP			13 16 14.9	
	comp=Z,2.2nm,1.1s,baz=96,slow=2.4,SNR=5.5								
MKAR	**Makanchi Array**	**118.74**	**309**		PKIKP		**PKPdf**	**13 12 37.1**	**-1.8**
ZALV	**Zalesovo Beam**	**119.22**	**318**		PKP		**PKPdf**	**13 12 38.5**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=108,slow=3.2,SNR=2.2								
ZALV	**Zalesovo Beam**	**119.22**	**318**		PKIKP		**PKPdf**	**13 12 38.5**	**-1.0**
KSH	**Kashi**	**120.93**	**300**		PKP		**PKPdf**	**13 12 46.3**	**+2.8**
NRIK	**Noril'sk**	**121.19**	**336**		PKP		**PKPdf**	**13 12 41.8**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=105,slow=2.8,SNR=3.9								
NRIK	**Noril'sk**	**121.19**	**336**	⇓	*i*PKIKP		**PKPdf**	**13 12 42.2**	**-0.7**
KURK	**Kurchatov**	**122.11**	**313**		PKIKP		**PKPdf**	**13 12 43.1**	**-2.1**
KURBB	**Kurchatov Arra**	**122.15**	**313**		PKP		**PKPdf**	**13 12 43.1**	**-2.1**
	comp=Z,3.7nm,0.7s,baz=106,slow=2.0,SNR=41								
KURBB					SKP			13 16 21.2	
	comp=Z,1.0nm,0.9s,baz=104,slow=2.6,SNR=4.3								
AAK	**Ala-Archa**	**122.90**	**303**		PKP		**PKPdf**	**13 12 48.4**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=103,slow=3.6,SNR=3.6								
AAK	**Ala-Archa**	**122.90**	**303**	⇓	*i*PKIKP		**PKPdf**	**13 12 47.8**	**+0.6**
E60A	**Ste Agathe de**	**123.58**	**53**		P			13 12 47.6	
	baz=257								
I64A	**Boothbay**	**124.26**	**56**		P			13 12 49.1	
	baz=256								
E62A	**Clayton Lake**	**124.93**	**53**		P			13 12 49.7	
	baz=258								
G64A	**Maxfield**	**125.17**	**55**		P			13 12 49.5	
	baz=258								
D62A	**Allapoint, All**	**125.34**	**52**		P			13 12 50.0	
	baz=259								
H65A	**Eastbrook**	**125.41**	**55**		P			13 12 50.5	
	baz=257								
G65A	**Princeton**	**125.98**	**55**		P			13 12 51.7	
	baz=258								
BVAR	**Borovoye Array**	**127.52**	**315**		PKP		**PKPdf**	**13 12 54.8**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=55,slow=6.2,SNR=10								
BVAR	**Borovoye Array**	**127.52**	**315**		PKIKP		**PKPdf**	**13 12 54.8**	**-0.7**
BRVK	**Borovoye**	**127.58**	**315**	⇑	*i*PKIKP		**PKPdf**	**13 12 55.3**	**-0.3**
KMBO	**Kilima Mbogo**	**132.76**	**232**		PKP		**PKPdf**	**13 13 06.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=322,slow=22,SNR=2.0								
KMBO					SKPbc		**SKPbc**	**13 16 35.0**	**+0.6**
	comp=Z,11nm,0.9s,baz=101,slow=4.1,SNR=14								
KMBO	**Kilima Mbogo**	**132.76**	**232**		PKIKP		**PKPdf**	**13 13 06.5**	**-0.5**
SPITS	**Spitsbergen Ar**	**133.50**	**356**		PKP		**PKPdf**	**13 13 03.7**	**-2.5**
	comp=Z,3.9nm,0.8s,baz=342,slow=9.1,SNR=2.0								
SPITS					SKPbc		**SKPbc**	**13 16 34.9**	**+0.2**
	comp=Z,8.3nm,0.8s,baz=4.8,slow=11,SNR=4.1								
SPITS	**Spitsbergen Ar**	**133.50**	**356**		PKIKP		**PKPdf**	**13 13 03.7**	**-2.5**
GEYT	**Alibeck**	**134.07**	**294**		PKP		**PKPdf**	**13 13 06.7**	**-1.8**
	comp=Z,9.6nm,0.8s,baz=216,slow=22,SNR=4.3								
GEYT					SKPbc		**SKPbc**	**13 16 37.0**	**-0.8**
	comp=Z,8.8nm,0.9s,baz=207,slow=6.2,SNR=12								
ARU	**Arti**	**134.32**	**319**		PKP		**PKPdf**	**13 13 07.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=35,slow=19,SNR=6.3								
ARU					SKPbc		**SKPbc**	**13 16 37.5**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=81,slow=2.9,SNR=14								
ARU	**Arti**	**134.32**	**319**	*i*	PKIKP		**PKPdf**	**13 13 07.8**	**-0.5**
ARU								13 15 38.7	
ARU					SS		SS	13 33 30.0	-0.4
AKTO	**Aktyubinsk**	**135.12**	**311**		PKP		**PKPdf**	**13 13 07.9**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=14,slow=1.0,SNR=11								
AKTO					SKPbc		**SKPbc**	**13 16 40.3**	**-0.4**
	comp=Z,11nm,1.2s,baz=64,slow=6.6,SNR=14								
AKTO	**Aktyubinsk**	**135.12**	**311**		PKIKP		**PKPdf**	**13 13 07.9**	**-2.1**
KIRV	**Kirov**	**138.66**	**324**		SKPbc		**SKPbc**	**13 16 51.7**	**+0.8**
	comp=Z,9.1nm,0.6s,baz=165,slow=4.9,SNR=5.3								
KIRV	**Kirov**	**138.66**	**324**	⇓	*e*PKIKP		**PKPdf**	**13 13 15.5**	**-0.7**
PRGR	**Permogore**	**139.27**	**329**		*e*PKIKP		**PKPdf**	**13 13 14.9**	**-2.3**
PRGR					pmax		pmax		
	comp=Z,5.0nm,0.5s								
ARCES	**ARCESS Array B**	**140.31**	**347**		PKhKP		PKPpre	13 13 13.6	
	comp=Z,1.3nm,0.7s,baz=46,slow=2.6,SNR=3.1								
ARCES					PKP		**PKPdf**	**13 13 18.3**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=45,slow=1.4,SNR=5.5								
ARCES					SKPbc		**SKPbc**	**13 16 54.6**	**-0.6**
	comp=Z,12nm,1.2s,baz=18,slow=4.3,SNR=8.5								
ARCES	**ARCESS Array B**	**140.31**	**347**		PKIKP		**PKPdf**	**13 13 18.3**	**-0.7**
BELG	**Belogornoye**	**141.32**	**315**		PKP		**PKPdf**	**13 13 20.5**	**-0.7**
	comp=Z,12nm,0.5s,baz=179,slow=8.0,SNR=2.6								
BELG					SKPbc		**SKPbc**	**13 16 59.0**	**+0.7**
	comp=Z,36nm,0.9s,baz=330,slow=2.2,SNR=10								
BELG	**Belogornoye**	**141.32**	**315**		PKIKP		**PKPdf**	**13 13 20.5**	**-0.7**
KLMR	**Klimovskoe**	**142.24**	**331**		*e*PKIKP		**PKPdf**	**13 13 24.9**	**+2.3**
KLMR					pmax		pmax		
	comp=Z,16nm,1.3s								
KLMR	**Klimovskoe**	**142.24**	**331**		*e*PKPdf		**PKPdf**	**13 13 24.9**	**+2.3**
KLMR					AMP			13 13 28.7	
	comp=Z,16nm,1.3s								
KLMR					*e*PP		**SKPbc**	**13 16 55.9**	**-4.4**
GROC	**Groznyy**	**143.81**	**300**		*e*PKIKP		PKPab	13 13 24.0	+1.0
GROC					pmax		pmax		
	comp=Z,21nm,0.4s								
GNI	**Garni**	**144.65**	**295**	*d*	*e*PKIKP		**PKPab**	**13 13 25.6**	**-0.9**
VRH	**Novokhopyorsk**	**145.17**	**315**		*e*PKP2		**PKPbc**	**13 13 24.9**	**-2.8**
VRH					pmax		pmax		
	comp=Z,20nm,1.1s								
ZEI	**Tsey**	**145.22**	**300**		*i* PKP2		**PKPbc**	**13 13 26.2**	**-2.2**
ZEI					pmax		pmax		
	comp=Z,29nm,1.3s								
NCK	**Nalchik**	**145.40**	**301**	⇓	*e*PKIKP		**PKPdf**	**13 13 27.8**	**-1.0**
GOF	**Gofitskoye**	**145.63**	**304**	⇓	*i*PKIKP		**PKPdf**	**13 13 28.6**	**-0.5**
GOF					pmax		pmax		
	comp=Z,56nm,0.9s								
MOS	**Moscow**	**145.68**	**324**		*i* PKP2		**PKPdf**	**13 13 25.4**	**-3.4**
MOS					pmax		pmax		
	comp=Z,94nm,0.8s								
KBZ	**Khabaz**	**145.88**	**302**		PKPbc		**PKPdf**	**13 13 28.8**	**-0.7**
	comp=Z,18nm,0.9s,baz=152,slow=1.5,SNR=24								
KBZ					SKPbc		**SKPbc**	**13 17 10.5**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=196,slow=2.2,SNR=2.7								
KBZ	**Khabaz**	**145.88**	**302**		PKP2		**PKPdf**	**13 13 28.8**	**-0.7**
KIV	**Kislovodsk**	**146.01**	**302**	⇑	P		**PKiKP**	**13 13 36.1**	**+2.1**
KIV	**Kislovodsk**	**146.01**	**302**	*i*	PKP2		**PKPdf**	**13 13 29.0**	**-0.9**
KIV					pmax		pmax		
	comp=Z,74nm,1.1s								
NEY	**Neytrino**	**146.05**	**301**	⇑	*e*PKP2		**PKPdf**	**13 13 30.7**	**+0.6**
LPSR	**Galich'ya Gora**	**146.32**	**318**		*e*PKP2		**PKPdf**	**13 13 29.7**	**-0.3**
LPSR					pmax		pmax		
	comp=Z,110nm,0.8s								
OBN	**Obninsk**	**146.50**	**323**		PKPbc		**PKPdf**	**13 13 29.6**	**-0.5**
	comp=Z,4.5nm,0.4s,baz=8.9,slow=1.6,SNR=14								
OBN	**Obninsk**	**146.50**	**323**	*c*	*i* PKP2		**PKPdf**	**13 13 29.7**	**-0.5**
OBN					pmax		pmax		
	comp=Z,103nm,1.5s			

EIL	**Elat**	**151.43**	**274**	PKPbc	**PKPdf**	**13 13 44.2**	**+5.2**
	baz=144,slow=4.2							
PABE	**Paberze**	**151.97**	**333**	*e*P	**PKPbc**	**13 13 45.7**	**+0.2**
AKASG	**Malin Array Be**	**152.57**	**320**	PKP	**PKPdf**	**13 13 38.2**	**-1.8**
	comp=Z,0.2nm,0.2s,baz=47,slow=4.2,SNR=7.8							
AKASG				PKPbc	**sPKPdf**	**13 13 45.7**	**+3.1**
	comp=Z,8.3nm,0.8s,baz=56,slow=2.6,SNR=16							
AKASG	**Malin Array Be**	**152.57**	**320**	PKIKP	**PKPdf**	**13 13 38.2**	**-1.8**
AKASG						13 13 45.7		
AKBB	**Malin Array Si**	**152.57**	**320***d*	*i*PKIKP	**PKPdf**	**13 13 45.9**	**+5.9**
BRTR	**Keskin Array B**	**153.19**	**295**	PKPbc	**PKPdf**	**13 13 47.5**	**+6.1**
	comp=Z,6.8nm,0.9s,baz=134,slow=3.6,SNR=19							
BRTR				PKPab	**sPKPbc**	**13 13 59.4**	**+7.8**
	comp=Z,8.7nm,0.8s,baz=139,slow=4.1,SNR=12							
BRTR	**Keskin Array B**	**153.19**	**295**	PKIKP	**PKPdf**	**13 13 47.6**	**+6.1**
BRTR						13 13 59.4		
SUW	**Suwalki**	**153.37**	**331**	*e*P	**PKPbc**	**13 13 48.6**	**0.0**
LIC	**Lamto**	**153.38**	**165**	*e*PKIKP	**PKPdf**	**13 13 48.9**	**+6.5**
	comp=Z,169nm,1.7s							
KIC	**Kosan Boka**	**153.57**	**166**	*e*PKIKP	**PKPdf**	**13 13 49.4**	**+6.7**
	comp=Z,49nm,1.3s							
TIC	**Toumodi**	**153.78**	**165**	*e*PKIKP	**PKPdf**	**13 13 49.0**	**+6.0**
DBIC	**Dimbokro**	**153.84**	**165**	PKPbc	**PKPdf**	**13 13 49.2**	**+6.2**
	comp=Z,5.7nm,0.7s,baz=177,slow=8.4,SNR=5.2							
DBIC				PKPab	**PKPab**	**13 14 02.2**	**-1.6**
	comp=Z,15nm,1.1s,baz=299,slow=1.0,SNR=4.3							
DBIC	**Dimbokro**	**153.84**	**165**	PKIKP	**PKPdf**	**13 13 49.2**	**+6.2**
DBIC						13 14 02.2		
SORM	**Soroca**	**154.35**	**316**	⇑P	**PKPdf**	**13 13 49.7**	**+7.1**
TPGR	**Topolog**	**155.71**	**309**	⇑P	**PKPab**	**13 14 10.8**	**-0.3**
LVV	**L'vov**	**155.81**	**323**	*e*PKP2	**PKPab**	**13 14 16.5**	**+5.2**
VRI	**Vrincioaia**	**156.39**	**312**	⇑P	**PKPab**	**13 14 12.1**	**-1.9**
VRI				⇑P	**pPKPab**	**13 14 15.6**	**-0.2**
VRI	**Vrincioaia**	**156.39**	**312**	⇑PKP2	**PKPab**	**13 14 12.1**	**-1.9**
BUR01	**Bucovina Ar. S**	**156.44**	**318**	⇑P	**PKPdf**	**13 13 52.2**	**+6.5**
PLOR	**Plostina**	**156.44**	**312**	⇑P	**PKPab**	**13 14 10.8**	**-3.4**
PLOR	**Plostina**	**156.44**	**312**	⇑PKP2	**PKPab**	**13 14 10.8**	**-3.4**
KWP	**Kalwaria Pacla**	**156.59**	**324**		PKPab	13 14 05.6	-9.1
MLR	**Muntele Rosu**	**157.04**	**312**	⇑P	PKPdf	13 13 54.5	+8.0
DOPR	**Dopca**	**157.17**	**314**	⇓P	**PKPab**	**13 14 13.9**	**-3.4**
KOLS	**Kolonicke sedl**	**157.25**	**323**	*e*PKP2	**PKPab**	**13 14 16.9**	**-0.7**
KOLS	**Kolonicke sedl**	**157.25**	**323**	*e*PKP	**PKPab**	**13 14 16.9**	**-0.7**
UZH	**Uzhgorod**	**157.44**	**323**	*e*PKP2	**PKPab**	**13 14 16.5**	**-1.8**
CRVS	**Cervenica-Dubn**	**157.68**	**324**	*e*PKP2	**PKPab**	**13 14 18.2**	**-1.2**
CRVS	**Cervenica-Dubn**	**157.68**	**324**	*e*PKP	**PKPab**	**13 14 18.2**	**-1.2**
DRGR		**158.31**	**318**	⇑P	**PKPab**	**13 14 21.1**	**-1.2**
DRGR		**158.31**	**318**	⇑PKP2	**PKPab**	**13 14 21.1**	**-1.2**
LANS	**Liptovska Anna**	**158.47**	**327**	*e*PKP2	**PKPab**	**13 14 22.5**	**-0.4**
LANS	**Liptovska Anna**	**158.47**	**327**	*e*PKP	**PKPab**	**13 14 22.5**	**-0.4**
KSP	**Ksiaz**	**158.50**	**334**	*e*PKP	**PKPab**	**13 14 21.6**	**-1.2**
OSTC	**Ostas**	**158.76**	**334**	*e*PKP	PKPab	13 14 15.5	-8.5
CHVC	**Chvalec**	**158.80**	**334**	*e*PKP	**PKPab**	**13 14 23.0**	**-1.2**
MORC	**Moravsky Berou**	**158.86**	**331**	*e*PKP	**PKPab**	**13 14 22.6**	**-1.9**
UPC	**Upice**	**158.88**	**334**	*e*PKP2	**PKPab**	**13 14 23.4**	**-1.1**
UPC	**Upice**	**158.88**	**334**	*e*PKP	**PKPab**	**13 14 23.4**	**-1.1**
DPC	**Dobruska-Polom**	**158.89**	**333**	*e*PKP2	**PKPab**	**13 14 22.1**	**-2.5**
DPC	**Dobruska-Polom**	**158.89**	**333**	*e*PKP	**PKPab**	**13 14 22.1**	**-2.5**
KRLC	**Kraliky**	**158.93**	**332**	*e*PKP2	**PKPab**	**13 14 23.0**	**-1.8**
KRLC	**Kraliky**	**158.93**	**332**	*e*PKP	**PKPab**	**13 14 23.0**	**-1.8**
CLL	**Collm**	**159.20**	**340**	*i* PKPab	**PKPab**	**13 14 22.0**	**-3.8**
	comp=Z,10.0nm,0.8s							
CLL				*i*		13 14 27.0		
CLL				Lm	MLR	14 28 00.0		
	comp=Z,200nm,21.0s							
CLL	**Collm**	**159.20**	**340**	*i* PKP2	**PKPab**	**13 14 23.2**	**-2.6**
CLL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CLL	**Collm**	**159.20**	**340**	*e*PKPab	**PKPab**	**13 14 22.4**	**-3.4**
	baz=20,slow=4.6							
VYHS	**Vyhne**	**159.23**	**326**	*e*PKP2	**PKPab**	**13 14 24.7**	**-1.4**
VYHS	**Vyhne**	**159.23**	**326**	*e*PKP	**PKPab**	**13 14 24.7**	**-1.4**
BRG	**Berggiesshubel**	**159.29**	**338**	*e*PKP	**PKPab**	**13 14 23.9**	**-2.4**
BRG				Amp		13 14 25.9		
	comp=Z,7.3nm,0.9s							
BRG				*ex*	x	13 14 32.1		
BRG				Amp		13 14 34.5		
	comp=Z,26nm,1.6s							
BRG	**Berggiesshubel**	**159.29**	**338**	*e*PKPab	**PKPab**	**13 14 24.5**	**-1.8**
	baz=20,slow=4.6							
CLZ	**Clausthal**	**159.40**	**345**	*e*PKPab	**PKPab**	**13 14 23.5**	**-3.3**
	baz=20,slow=4.6							
FBE	**Freiberg**	**159.44**	**339**	*e*PKPab	**PKPab**	**13 14 25.5**	**-1.3**
	baz=20,slow=4.6							
JAVC	**Velka Javorina**	**159.50**	**329**	*e*PKP	**PKPab**	**13 14 26.7**	**-0.6**
HERR	**Herculane**	**159.53**	**314**	⇓P	**PKPdf**	**13 13 48.5**	**-0.9**
BZS	**Buzias**	**159.60**	**317**	⇑P	**PKPab**	**13 14 25.0**	**-2.8**
BZS	**Buzias**	**159.60**	**317**	⇑PKP2	**PKPab**	**13 14 25.0**	**-2.8**
VRAC	**Vranov**	**159.61**	**331**	⇑P	PKPab	13 14 22.4	-5.3
VRAC	**Vranov**	**159.61**	**331**	*e*PKP	**PKPab**	**13 14 26.4**	**-1.3**
VRAC	**Vranov**	**159.61**	**331**	⇑PKP2	PKPab	13 14 22.4	-5.3
GTTG	**Gottingen**	**159.77**	**345**	*e*PKPab	**PKPab**	**13 14 26.4**	**-1.9**
	baz=20,slow=4.6							
PRU	**Pruhonice**	**159.84**	**335**	*e*PKP2	**PKPab**	**13 14 27.3**	**-1.4**
PRU	**Pruhonice**	**159.84**	**335**	*e*PKP	**PKPab**	**13 14 27.3**	**-1.4**
KRUC	**Moravsky**	**159.88**	**331**	*e*PKP	**PKPab**	**13 14 26.6**	**-2.3**
MDVR	**Moldovita**	**160.00**	**315**	⇑P	**PKPab**	**13 14 27.9**	**-1.8**
MODS	**Modra-Piesok**	**160.03**	**328**	*e*PKP2	**PKPab**	**13 14 28.1**	**-1.6**
MODS	**Modra-Piesok**	**160.03**	**328**	*e*PKP	**PKPab**	**13 14 28.0**	**-1.6**
TANN	**Tannenbergstha**	**160.15**	**339**	*e*PKPab	**PKPab**	**13 14 28.6**	**-1.5**
	baz=20,slow=4.6							
PLN	**Plauen**	**160.18**	**340**	*e*PKPab	**PKPab**	**13 14 28.3**	**-1.8**
	baz=20,slow=4.6							
MOX	**Moxa**	**160.19**	**341**	*e*PKPab	**PKPab**	**13 14 28.3**	**-1.9**
	baz=20,slow=4.6							
MOX				*e*L	L	14 38 30.6		
	comp=Z,193nm,18.3s							
GUNZ	**Gunzen**	**160.24**	**340**	*e*PKPab	**PKPab**	**13 14 28.9**	**-1.6**
	baz=20,slow=4.6							
ZST	**Bratislava**	**160.24**	**328**	*e*PKP2	**PKPab**	**13 14 28.3**	**-2.2**
ZST	**Bratislava**	**160.24**	**328**	*e*PKP	**PKPab**	**13 14 28.3**	**-2.2**
WERN	**Wernitzgruen**	**160.29**	**339**	*e*PKPab	**PKPab**	**13 14 29.2**	**-1.5**
	baz=20,slow=4.6							
NKC	**Novy Kostel**	**160.32**	**339**	*e*PKP2	**PKPab**	**13 14 29.3**	**-1.5**
NKC	**Novy Kostel**	**160.32**	**339**	*e*PKP	**PKPab**	**13 14 29.3**	**-1.5**
MANZ	**Manzenberg**	**160.64**	**339**	*e*PKPab	**PKPab**	**13 14 30.6**	**-1.6**
	baz=20,slow=4.6							
ROTZ	**Rotzenmuhle**	**160.80**	**339**	*e*PKPab	**PKPab**	**13 14 31.7**	**-1.2**
	baz=20,slow=4.6							
CKRC	**Cesky Krumlov**	**160.90**	**334**	*e*PKP	**PKPab**	**13 14 31.4**	**-2.0**
KHC	**Kasperske Hory**	**160.90**	**336**	*e*PKP2	**PKPab**	**13 14 31.7**	**-1.7**
KHC	**Kasperske Hory**	**160.90**	**336**	*e*PKP	**PKPab**	**13 14 31.7**	**-1.7**
FRGS	**Fruska Gora**	**160.91**	**318**	⇓P	**PKPab**	**13 14 31.5**	**-2.1**
CONA	**Conrad Observa**	**160.99**	**330**	*e*P	**PKPab**	**13 14 33.0**	**-0.9**
	comp=Z,5.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**161.00**	**180**	PKPab	**PKPab**	**13 14 33.5**	**-1.0**
	comp=Z,5.4nm,0.7s,baz=185,slow=2.8,SNR=13							
GEC2	**GERESS Array S**	**161.10**	**335**	*e*PKPab	**PKPab**	**13 14 32.5**	**-1.9**
	baz=20,slow=4.6							
GERES	**GERESS Array B**	**161.10**	**335**	PKPab	**PKPab**	**13 14 32.8**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=35,slow=4.9,SNR=14							
GERES	**GERESS Array B**	**161.10**	**335**	PKP2	**PKPab**	**13 14 32.8**	**-1.6**
WET	**Wettzell**	**161.13**	**337**	*e*PKPab	**PKPab**	**13 14 33.0**	**-1.4**
	baz=20,slow=4.6							
GRF	**Grafenberg Arr**	**161.16**	**341**	*e*L	L	14 32 15.0		
	comp=Z,212nm,19.7s							
ARSA	**Arzberg**	**161.66**	**329**	*e*P	**PKPab**	**13 14 34.4**	**-2.4**
	comp=Z,3.4nm,1.1s							
MOA	**Molln**	**161.71**	**332**	*e*P	**PKPab**	**13 14 34.7**	**-2.2**
	comp=Z,4.7nm,1.3s							
SOKA	**Soboth**	**162.31**	**328**	*i* P	**PKPab**	**13 14 37.7**	**-2.0**
	comp=Z,2.4nm,0.6s							
RJOB	**Jochberg**	**162.36**	**335**	*e*PKPab	**PKPab**	**13 14 38.6**	**-1.3**
	baz=20,slow=4.6							
FUR	**Furstenfeldbru**	**162.51**	**338**	*e*PKPab	**PKPab**	**13 14 39.1**	**-1.3**
	baz=20,slow=4.6							
MYKA	**Terra Mystica**	**162.94**	**331**	*i* P	**PKPab**	**13 14 40.2**	**-2.2**
	comp=Z,3.8nm,0.9s							
WATA	**Walderalm**	**163.13**	**336**	*e*P	**PKPab**	**13 14 41.8**	**-1.5**
	comp=Z,2.4nm,0.7s							
WTTA	**Wattenberg**	**163.18**	**336**	*e*P	**PKPab**	**13 14 42.5**	**-1.0**
	comp=Z,2.9nm,0.7s							
RETA	**Reutte**	**163.27**	**338**	*i* P	**PKPab**	**13 14 42.7**	**-1.1**
	comp=Z,9.7nm,0.9s							
MOTA	**Moosalm**	**163.28**	**337**	*e*P	**PKPab**	**13 14 42.8**	**-1.2**
	comp=Z,9.4nm,0.9s							
ABTA	**Abfaltersbach**	**163.30**	**333**	*e*P	**PKPab**	**13 14 41.8**	**-2.2**
	comp=Z,4.4nm,0.8s							
SQTA	**Sankt Quirin**	**163.36**	**337**	*e*P	**PKPab**	**13 14 43.1**	**-1.2**
	comp=Z,5.5nm,0.8s							
FETA	**Feichten**	**163.69**	**338**	*e*P	**PKPab**	**13 14 44.8**	**-1.0**
	comp=Z,4.1nm,0.8s							
DAVA	**Damuels**	**163.72**	**340**	*e*P	**PKPab**	**13 14 43.9**	**-2.0**
	comp=Z,8.6nm,1.1s							
ESDC	**Sonseca Array**	**171.27**	**30**	PKP	**PKPdf**	**13 13 59.9**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=343,slow=4.0,SNR=4.2							
ESDC				PKPab	**PKPab**	**13 15 17.5**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=309,slow=4.1,SNR=2.4							

TUL ***28*** *12:55:25.2±1.6,36°.29N±0°.01×97°.52W±0°.02,h7km±6km, ML2.9,mb_Lg2.6/39(NEIC) Error ellipse: s-maj=2.5km s-min=1.6km az=69.0*

NEIC 28 12:55:25.1±1.4,36°29N±0°.01×97°52W±0°.02,h5km±2km, Error ellipse: s-maj=2.6km s-min=1.6km az=69.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**300**				Pg	12 55 33.7	+0.3
CROK						Sg	Sg	12 55 39.7	+0.8
OK029	**Liberty Lake**	**0.50**	**174**				Pg	12 55 34.8	+0.2
OK029						Sg	Sg	12 55 41.7	+0.6
BLOK	**Blackwell**	**0.53**	**28**				Pg	12 55 35.6	+0.4
BLOK						Sg	Sg	12 55 43.2	+1.1
BCOK	**Bluff Creek, N**	**0.64**	**186**				Pg	12 55 37.4	+0.1
BCOK						Sg	Sg	12 55 45.9	+0.2
OK031	**S. Brethren Rd**	**0.65**	**121**				Pg	12 55 37.7	+0.2
OK031						Sg	Sg	12 55 45.5	-0.4
QUOK	**Quay**	**0.67**	**100**				Pg	12 55 38.0	+0.1
QUOK						Sg	Sg	12 55 46.0	-0.2
OK030	**Cody Creek RV**	**0.70**	**121**				Pg	12 55 38.7	+0.2
OK030						Sg	Sg	12 55 47.6	0.0
KAN13	**South Haven SW**	**0.72**	**3**				Pg	12 55 39.1	+0.2
KAN13						Sg	Sg	12 55 47.6	-0.6
OK025	**Westminster Rd**	**0.73**	**168**				Pg	12 55 39.0	0.0
OK025						Sg	Sg	12 55 48.4	0.0
OK032	**Salt Plains WL**	**0.75**	**313**				Pg	12 55 39.5	0.0
OK032						Sg	Sg	12 55 49.5	+0.1
KAN17	**Caldwell West**	**0.77**	**345**				Pg	12 55 40.0	0.0
KAN17						Sg	Sg	12 55 50.4	+0.3
KAN09	**Caldwell North**	**0.84**	**355**				Pg	12 55 41.3	0.0
KAN09						Sg	Sg	12 55 52.6	+0.3
OKCFA	**Oklahoma City**	**0.88**	**176**				Pg	12 55 41.7	-0.3
OKCFA						Sg	Sg	12 55 53.9	+0.6
OKCSW	**OKLAHOMA CITY**	**0.89**	**176**				Pg	12 55 42.0	-0.1
OKCSW						Sg	Sg	12 55 53.7	0.0
KS20	**Mayfield South**	**0.94**	**358**				Pg	12 55 42.9	-0.2
KS20						Sg	Sg	12 55 54.7	-0.4
KAN10	**Anthony SW Sta**	**0.95**	**331**				Pg	12 55 43.2	-0.1
KAN10						Sg	Sg	12 55 55.8	+0.2
KAN08	**Anthony NE Sta**	**1.00**	**339**				Pg	12 55 44.4	+0.1
KAN08						Sg	Sg	12 55 55.9	-1.3
T35A	**Sooner Cattle**	**1.02**	**52**				Pg	12 55 44.5	-0.2
T35A						Sg	Sg	12 55 57.5	-0.5
FNO	**Franklin**	**1.04**	**175**				Pg	12 55 44.5	-0.5
FNO						Sg	Sg	12 55 58.5	0.0
U32A	**Winter Ranch,**	**1.20**	**275**				Pg	12 55 47.5	-0.5
U32A						Sg	Sg	12 56 02.4	-1.2
X34A	**Smith Ranch, M**	**1.71**	**189**				Pn	12 55 55.8	+0.3
WMOK	**Wichita Mounta**	**1.86**	**214**	Pn	Pn		Pn	12 55 58.3	+0.7
LOOK	**Love County**	**2.31**	**173**				Pn	12 56 02.9	-0.8
R32A	**Long Quarter,**	**2.33**	**336**				Pb	12 56 06.5	-1.1
X37A	**Clayton**	**2.44**	**133**				Pn	12 56 06.3	+0.7
U38A	**Gravette**	**2.54**	**86**				Pn	12 56 07.2	+0.3
HHAR	**Hobbs**	**2.89**	**89**				Pn	12 56 09.5	-2.3
KSU1	**Kansas State U**	**2.89**	**14**	Pn	Pn		Pn	12 56 11.9	+0.1
Z35A	**Perchaven, San**	**2.96**	**176**	Pn	Pn		Pn	12 56 11.2	-1.5
CBKS	**Cedar Bluff**	**3.07**	**326**	Pn	Pn		Pn	12 56 13.0	-1.2
W39A	**Magazine**	**3.23**	**109**				Pn	12 56 19.5	+3.1
W39A					IAmb_Lg			12 57 12.5	
	comp=Z,26nm,0.8s								
S39A	**Bolivar**	**3.64**	**66**				Pn	12 56 21.1	-0.9
S39A					IAmb_Lg			12 57 26.5	
	comp=Z,13nm,0.8s								
MIAR	**Mount Ida**	**3.66**	**117**				Pn	12 56 23.1	+0.7
AMTX	**Amarillo**	**3.67**	**249**	Pn	Pn		Pn	12 56 20.5	-2.0
Z38A	**Mt. Pleasant**	**3.68**	**145**	Pn	Pn		Pn	12 56 22.4	-0.2
U40A	**Yellville**	**3.77**	**88**				Pn	12 56 25.2	+1.4
U40A					IAmb_Lg			12 57 26.5	
	comp=Z,23nm,0.7s								
ABTX	**Abilene, Hawle**	**4.06**	**206**	Pn	Pn		Pn	12 56 26.9	-0.9
ABTX					IAmb_Lg			12 57 36.5	
	comp=Z,11nm,0.9s								
X40A	**Basin Creek Fa**	**4.23**	**114**	Pn	Pn		Pn	12 56 30.0	-0.1
X40A					IAmb_Lg			12 57 42.3	
	comp=Z,12nm,0.7s								
MGMO	**Mountain Grove**	**4.31**	**77**	Pn	Pn		Pn	12 56 30.2	-1.0
MGMO					IAmb_Lg			12 57 41.4	
	comp=Z,15nm,0.8s								
WHAR	**Wooly Hollow**	**4.37**	**102**				Pn	12 56 32.8	+0.7
WHAR					IAmb_Lg			12 57 47.3	
	comp=Z,13nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.39**	**94**	Pn	Pn		Pn	12 56 32.0	-0.3
FCAR					IAmb_Lg			12 57 50.5	
	comp=Z,8.6nm,0.9s								
WLAR	**White Oak Lake**	**4.46**	**124**		IAmb_Lg			12 57 43.6	
	comp=Z,11nm,0.9s								
237A	**Washetta, Mont**	**4.51**	**161**	Pn			Pn	12 56 33.6	-0.4
P38A	**Dawn**	**4.58**	**42**				Pn	12 56 36.2	+1.2
R40A	**Maddies Statio**	**4.64**	**63**	Pn	Pn		Pn	12 56 36.1	+0.4
KSCO	**Kaye Shedlock'**	**4.88**	**305**	Pn	Pn		Pn	12 56 38.0	-1.1
KSCO					IAmb_Lg			12 58 05.2	
	comp=Z,11nm,0.7s								
MSTX	**Muleshoe**	**4.89**	**243**	Pn	Pn		Pn	12 56 38.8	-0.5
LCAR	**Lake Charles**	**5.16**	**91**		IAmb_Lg			12 58 12.3	
	comp=Z,9.5nm,1.0s								
CCAR	**Cane Creek**	**5.28**	**115**	Pn	Pn		Pn	12 56 43.1	-1.4
CCM	**Cathedral Cave**	**5.31**	**69**	Pn	Pn		Pn	12 56 43.6	-1.4
CCM					IAmb_Lg			12 58 18.9	
	comp=Z,9.9nm,0.7s								
P40A	**Paris**	**5.40**	**52**		IAmb_Lg			12 58 20.6	
	comp=Z,12nm,0.8s								
T25A	**Trinidad**	**5.60**	**281**	Pn	Pn		Pn	12 56 47.1	-2.1
T25A					IAmb_Lg			12 58 30.1	
	comp=Z,9.1nm,1.1s								
N38A	**Joes South For**	**5.61**	**35**		IAmb_Lg			12 58 38.3	
	comp=Z,9.4nm,0.7s								
PBMO	**Poplar Bluff**	**5.73**	**83**		IAmb_Lg			12 58 28.0	
	comp=Z,12nm,0.8s								
L34A	**Svendsen Farm,**	**5.74**	**9**		IAmb_Lg			12 58 40.3	
	comp=Z,11nm,0.9s								
JCT	**Junction City**	**6.10**	**199**	Pn	Pn		Pn	12 56 54.4	-1.5
JCT					IAmb_Lg			12 58 40.3	
	comp=Z,14nm,1.1s								
143A	**Socs Landing,**	**6.19**	**124**	Pn	Pn		Pn	12 56 54.6	-2.5
SDCO	**Great Sand Dun**	**6.55**	**285**	Pn	Pn		Pn	12 57 00.5	-1.7
S44A	**Carbondale**	**6.76**	**76**		IAmb_Lg			12 59 10.7	
	comp=Z,11nm,0.7s								
N41A	**Harden Midland**	**6.84**	**48**	Pn	Pn		Pn	12 57 06.5	+0.6
ISCO	**Idaho Springs**	**7.28**	**301**	Pn	Pn		Pn	12 57 10.6	-1.7
ANMO	**Albuquerque**	**7.40**	**262**	Pn	Pn		Pn	12 57 13.5	-0.4
ECSD	**EROS Data Cent**	**7.46**	**5**	Pn	Pn		Pn	12 57 14.9	+0.4
L40A	**Anamosa**	**7.56**	**38**		IAmb_Lg			12 59 31.4	
	comp=Z,5.2nm,0.8s								
HDIL	**Hopedale**	**7.73**	**54**	Pn	Pn		Pn	12 57 19.2	+1.0
WVT	**Waverly**	**7.84**	**88**	Pn	Pn		Pn	12 57 20.0	+0.3
PHWY	**Pilot Hill**	**7.96**	**311**		IAmb_Lg			12 59 48.8	
	comp=Z,5.3nm,1.0s								
TX31	**Lajitas Ar. Si**	**8.65**	**218**	Pn	Pn		Pn	12 57 29.2	-1.8
TX32	**Lajitas Array**	**8.65**	**218**	Pn	Pn		Pn	12 57 29.4	-1.6

TEH ***28*** *13:19:32.1,32°.82N×47°.68E,h8km,ML3.3*
ISN ***28*** *13:19:33.4±0.9,32°.91N×47°.67E,h14km±5km, ML3.0*

ISC 28 13:19:33.2±1.6,32°86N±0°.04×47°67E±0°.03,h5km±13km, n30,σ0°79/36,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.68**	**12**			*e*Pg	**Pg**	**13 19 45.3**	**-1.0**
IKFM						*e*Sg	**Sb**	**13 19 56.5**	**-0.8**
IDOB	**Doab**	**1.02**	**24**			*e*Pg	**Pg**	**13 19 52.3**	**-0.5**
IDOB						*e*Sg	**Sn**	**13 20 08.8**	**-0.4**
BMDN	**Meydan**	**1.26**	**50**			*e*Pg	**Pg**	**13 19 56.9**	**-0.5**
BMDN						*e*		13 20 24.6	
	comp=Z,5μm,0.9s								
IBDR	**Badra**	**1.49**	**280**			*e*Pg	**Pn**	**13 20 00.0**	**-0.6**
IBDR						*e*Sg	**Sb**	**13 20 20.0**	**-0.5**
IBDR					AML	AML		13 20 21.7	
	comp=E,224nm,0.4s								
IBDR					AML	AML		13 20 28.0	
	comp=N,336nm,0.7s								
KCHF	**Cheshme Sefid,**	**1.51**	**340**			*e*Pn	**Pn**	**13 20 00.8**	**-0.3**
KCHF						*e*		13 20 26.2	
	comp=Z,6μm,0.5s								
HSAM	**Samen**	**1.56**	**30**			*e*Pg	**Pb**	**13 20 02.5**	**-0.2**
HSAM						*e*		13 20 29.4	
	comp=Z,2μm,0.6s								
KER	**Kermanshah**	**1.59**	**344**			*e*Pn	**Pn**	**13 20 01.8**	**-0.4**
IBZA	**Bozab**	**1.62**	**5**			*e*Pn	**Pn**	**13 20 02.9**	**+0.3**
IBZA						*e*		13 20 34.3	
	comp=Z,3μm,0.8s								
AHWZ	**Ahwaz**	**1.73**	**151**			*e*Pn	**Pn**	**13 20 03.8**	**-0.1**
IGHG	**Ghaleghazi**	**1.74**	**328**			*e*		13 20 41.1	
	comp=Z,5μm,0.9s								
IGHG						*e*Pn	**Pb**	**13 20 05.4**	**-0.3**
IALM	**Almabolaq**	**2.04**	**11**			*e*Pn	**Pn**	**13 20 09.1**	**+0.6**
IDHR	**Dehrash**	**2.13**	**330**			*e*	**Sg**	**13 20 43.8**	**+2.1**
	comp=Z,3μm,0.4s								
NSR	**Nassriya**	**2.25**	**216**			*e*Pn	**Pn**	**13 20 12.0**	**+0.9**
NSR						*e*Sn	**Sn**	**13 20 40.0**	**+0.7**
HAGD	**Aghdareh**	**2.31**	**31**			*e*Pn	**Pn**	**13 20 13.4**	**+1.3**
HAGD						*e*		13 20 18.6	
	comp=Z,1μm,0.4s								
IPIR	**Pirpir**	**2.72**	**93**			*e*Pn	**Pn**	**13 20 18.8**	**+1.0**
SHK1	**Shahrekord**	**2.76**	**100**			*e*Pn	**Pn**	**13 20 18.1**	**-0.2**
SHK1						*e*		13 21 13.0	
	comp=Z,528nm,0.6s								
BHD	**Baghdad**	**2.80**	**279**			*e*Pn	**Pn**	**13 20 19.0**	**+0.4**
BHD						*e*Sn	**Sn**	**13 20 53.0**	**+0.3**
IRAZ	**Razeghan**	**3.16**	**36**			*e*Pn	**Pn**	**13 20 25.3**	**+1.5**
QAMS	**Qamsar**	**3.24**	**73**			*e*Pn	**Pn**	**13 20 25.7**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.26**	**29**			*e*Pn	**Pn**	**13 20 24.5**	**-0.6**
IKLH	**Kolahrood**	**3.31**	**81**			*e*Pn	**Pn**	**13 20 26.6**	**+0.7**
IQOM	**Qom**	**3.45**	**54**			*e*Pn	**Pn**	**13 20 28.6**	**+0.7**
IKRK	**Kirkuk**	**3.75**	**313**			*e*Pn	**Pn**	**13 20 32.0**	**+0.2**
IKRK						*e*Sn	**Sn**	**13 21 16.0**	**-0.3**
KLNJ	**Kolanjah**	**3.81**	**118**

comp=Z,4.4nm,0.8s,baz=321,slow=2.0,SNR=3.0
GERES GERESS Array B 161.07 335 PKPab **PKPab** **14 05 23.5 +0.6**
comp=Z,0.3nm,0.6s,baz=35,slow=5.4,SNR=2.5

IDC 28 13:58:00.3±999.0, 24.61N×81.04W, h0km, Error ellipse: s-maj=1662.0km s-min=347.8km az=159.0, Florida Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I10CA	**LAC DU BONNET**	**28.07**	**339**	*i*				16 46 30.0	
	baz=145,slow=322,SNR=2.4								
I56US	**NEWPORT INFRAS**	**36.90**	**319**	*i*				17 39 40.0	
	baz=116,slow=305,SNR=2.7								
I18DK	**QAANAAQ INFRAS**	**53.23**	**3**	*i*				19 28 50.0	
	baz=192,slow=323,SNR=1.4								
I53US	**FAIRBANKS INFR**	**58.16**	**332**	*i*				20 00 50.0	
	baz=99,slow=318,SNR=15								

*MOS **28** 14:03:03.5±0.9, 42.77N×139.08E, h229km, mb4.1/27, Error ellipse: s-maj=7.0km s-min=5.7km az=84.1*
*IDC **28** 14:03:04.2±0.8, 42.79N×139.04E, h216km±7km, mb3.6/20, mb1 3.7/27, mb1mx3.6/58, mbtmp4.1/27, Error ellipse: s-maj=10.3km s-min=8.6km az=129.0*
*NIED **28** 14:03:04.7, 42.78N×139.04E, h220km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.19; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.21; $M_{r\theta}$1.17; $M_{\theta\phi}$1.41; $M_{\phi r}$-0.67; Fault plane solution: $M_0$1.87000×10^{15} NP1: ϕ_s276.00000°, δ89.00000°, λ-41.00000°. NP2:ϕ_s7.00000°, δ49.00000°, λ-178.00000°.*
*NEIC **28** 14:03:04.2±1.4, 42.75N±0.03×139.00E±0.09, h217km±7km, mb4.1/84 Error ellipse: s-maj=10.5km s-min=2.4km az=109.0*
*SKHL **28** 14:03:04.0±0.7, 42.80N×139.10E, h211km±7km, mb5.1/8, msh4.8/2, msha5.5/7*
*JMA **28** 14:03:04.7±0.1, 42.78N×139.04E, h220km±1km, M3.8*
ISC 28 14:03:04.4±0.5, 42.71N±0.04×139.09E±0.04, h226km±5km, n275, σ1°22/311, mb4.1/73, 9C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHST	**Hiyamasetana**	**0.65**	**116**	P			**Pn**	**14 03 35.1**	**+0.1**
JHST					*e*	S	**S**	**14 03 58.0**	**-0.9**
JOSM	**Okushiri--Mats**	**0.69**	**155**	P			**Pn**	**14 03 35.2**	**0.0**
JOSM					*e*	S	**S**	**14 03 59.7**	**+0.4**
JSH	**Shimam**	**0.71**	**95**	P			**Pn**	**14 03 35.2**	**-0.1**
JSH					*e*	S	**S**	**14 03 58.4**	**-1.0**
JYM2	**Yakumo 2**	**1.12**	**121**	P			**Pn**	**14 03 38.0**	**+0.4**
JYM2					*e*	S	**S**	**14 04 03.3**	**-0.1**
JSK	**Shakotan**	**1.20**	**57**	P			**Pn**	**14 03 37.8**	**-0.3**
JSK					*e*	S	**S**	**14 04 03.6**	**-0.9**
JOMM	**Oshimamatsumae**	**1.36**	**150**	P			**Pn**	**14 03 39.7**	**+0.3**
JOMM					*e*	S	**S**	**14 04 06.9**	**+0.3**
JNB	**Noboribetsu**	**1.46**	**99**	P			**Pn**	**14 03 40.2**	**+0.1**
JNB					*e*	S	**S**	**14 04 07.6**	**-0.2**
JSR	**Shiriuchi**	**1.54**	**140**	P			**Pn**	**14 03 41.3**	**+0.6**
JSR					*e*	S	**S**	**14 04 09.7**	**+0.7**
JKB	**Kayabe**	**1.66**	**119**	P			**Pn**	**14 03 41.9**	**+0.2**
JKB					*e*	S	**S**	**14 04 11.2**	**+0.4**
JEW	**Eniwo**	**1.74**	**85**	P			**Pn**	**14 03 43.1**	**+0.6**
JEW					*e*	S	**S**	**14 04 13.3**	**+1.2**
JEW	**Eniwo**	**1.74**	**85**				**Pn**	**14 03 42.7**	**+0.3**
JISS	**Ishikarishitsu**	**1.80**	**71**	P			**Pn**	**14 03 43.0**	**+0.1**
JOT	**Ohata**	**1.97**	**132**	P			**Pn**	**14 03 44.7**	**+0.1**
JHR	**Hokuryu**	**2.19**	**61**	P			**Pn**	**14 03 47.2**	**+0.6**
JYG	**Yagishiri**	**2.42**	**44**	P			**Pn**	**14 03 48.7**	**-0.3**
JTM	**Tenmabayashi**	**2.42**	**142**	Pn			**Pn**	**14 03 49.1**	**-0.1**
JFR	**Furan**	**2.61**	**79**	P			**Pn**	**14 03 51.2**	**+0.1**
JFR					*e*	S	**S**	**14 04 26.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.74**	**98**	P			**Pn**	**14 03 52.5**	**0.0**
JNBK					*e*	S	**S**	**14 04 29.9**	**-0.2**
JKK2	**Kamakawa 2**	**2.91**	**65**	P			**Pn**	**14 03 54.9**	**+0.5**
JKK2					*e*	S	**S**	**14 04 33.2**	**-0.4**
ASAJ	**Asahikawa**	**2.92**	**60**	P			**Pn**	**14 03 54.7**	**+0.3**
	37nm,0.3s,baz=243,slow=12,SNR=532								
ASAJ					S		**S**	**14 04 32.0**	**-1.6**
	3.5nm,0.3s,baz=9.0,slow=27,SNR=8.7								
JKA	**Kamikawa-asahi**	**2.92**	**60**	Pn			**Pn**	**14 03 54.5**	**0.0**
JKA	**Kamikawa-asahi**	**2.92**	**60**				**S**	**14 04 32.0**	**-1.6**
JKA	**Kamikawa-asahi**	**2.92**	**60**	*e*P			**Pn**	**14 03 54.7**	**+0.3**
JANG	**Nango**	**2.96**	**141**	P			**Pn**	**14 03 54.3**	**-0.7**
JANG					*e*	S	**S**	**14 04 33.0**	**-1.5**
JRBN	**Rebuntou**	**3.07**	**27**	P			**Pn**	**14 03 55.6**	**-0.4**
JRBN					*e*	S	**S**	**14 04 34.4**	**-2.2**
ERM	**Erimo**	**3.09**	**102**	*de*PN			**Pn**	**14 03 56.7**	**+0.3**
ERM	**Erimo**	**3.09**	**102**	Pn			**Pn**	**14 03 57.0**	**+0.6**
JEM	**Erimo**	**3.09**	**102**				**Pn**	**14 03 56.9**	**+0.5**
JCH	**Churui**	**3.15**	**90**	P			**Pn**	**14 03 56.3**	**-0.8**
JCH					*e*	S	**S**	**14 04 35.4**	**-3.0**
JWK2	**Keihoku**	**3.30**	**37**	P			**Pn**	**14 03 59.7**	**+0.9**
JSE	**Soyaes**	**3.38**	**47**	P			**Pn**	**14 03 59.9**	**+0.2**
AKK	**Akkeshi**	**4.24**	**84**	*e*P			**Pn**	**14 04 08.9**	**-1.1**
RUSJ	**Misakicho**	**4.70**	**71**	*e*PN			**Pn**	**14 04 16.1**	**+0.5**
RUSJ					*e*	S	**S**	**14 05 11.5**	**-0.4**
JSD	**Sado**	**4.71**	**188**	Pn			**Pn**	**14 04 16.2**	**+0.4**
GLVR	**Golovnino**	**4.81**	**75**	*e*PN			**Pn**	**14 04 16.9**	**-0.1**
GLVR					*e*	S	**S**	**14 05 12.1**	**-2.3**
GLVR					smax	smax			
	comp=N,364nm,0.3s								
GLVR					smax	smax			
	comp=E,351nm,0.3s								
GLVR	**Golovnino**	**4.81**	**75**	*e*P			**Pn**	**14 04 16.9**	**-0.1**
GLVR					*e*	S	**S**	**14 05 12.5**	**-1.9**
GLVR					A		A	14 05 17.0	
	comp=E,360nm,0.3s								
GLVR					A		A	14 05 17.0	
	comp=E,350nm,0.3s								
NMR	**Nemuro--Hokkai**	**4.91**	**80**	*e*PN			**Pn**	**14 04 16.3**	**-1.9**
NMR					*e*	S	**S**	**14 05 10.6**	**-6.0**
NMR	**Nemuro--Hokkai**	**4.91**	**80**	*e*P			**Pn**	**14 04 16.9**	**-1.3**
YSS	**Yuzh-Sakhalins**	**4.98**	**30**	*i*PN			**Pn**	**14 04 19.3**	**+0.2**
YSS					*e*	S	**S**	**14 05 17.0**	**-1.3**
YSS					pmax	pmax			
	comp=Z,210nm,0.5s								
YSS					smax	smax			
	comp=N,200nm,2.0s								
YSS					smax	smax			
	comp=N,40nm,0.5s								
YSS	**Yuzh-Sakhalins**	**4.98**	**30**	Pn			**Pn**	**14 04 18.3**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.98**	**30**	*i*P			**Pn**	**14 04 19.3**	**+0.2**
YSS					AMB		AMB	14 04 19.9	
	comp=N,210nm,0.5s								
YSS					*e*S		**S**	**14 05 17.3**	**-1.0**
YSS					A		A	14 05 17.7	
	comp=N,200nm,2.0s								
YSS					A		A	14 05 17.7	
	comp=N,40nm,0.5s								
JMM	**Marumori**	**5.01**	**164**				**Pn**	**14 04 18.9**	**-0.7**
GRPR	**Tuman**	**5.04**	**73**	*e*PN			**Pn**	**14 04 20.0**	**+0.2**
GRPR					*e*S		**S**	**14 05 17.2**	**-2.4**
GRPR					pmax	pmax			
	comp=Z,403nm,0.4s								
GRPR					pmax	pmax			
	comp=N,139nm,0.3s								
GRPR					pmax	pmax			
	comp=E,315nm,0.5s								
GRPR					smax	smax			
	comp=N,232nm,0.3s								
GRPR					smax	smax			
	comp=E,298nm,0.4s								
GRPR	**Tuman**	**5.04**	**73**	*e*P			**Pn**	**14 04 19.6**	**-0.2**
GRPR					AMB		AMB	14 04 20.0	
	comp=E,400nm,0.4s								
GRPR					*e*S		**S**	**14 05 18.5**	**-1.1**
GRPR					A		A	14 05 20.0	
	comp=E,230nm,0.4s								
GRPR					A		A	14 05 20.0	
	comp=E,300nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.11**	**73**	*i*PN			**Pn**	**14 04 20.4**	**-0.3**
YUK					*e*S		**S**	**14 05 19.4**	**-1.8**
YUK					pmax	pmax			
	comp=N,178nm,0.4s								
YUK					pmax	pmax			
	comp=E,218nm,0.4s								
YUK					pmax	pmax			
	comp=Z,593nm,0.4s								
YUK					smax	smax			
	comp=N,249nm,0.7s								
YUK					smax	smax			
	comp=E,316nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.11**	**73**	*i*P			**Pn**	**14 04 20.4**	**-0.3**
YUK					AMB		AMB	14 04 21.0	
	comp=E,600nm,0.4s								
YUK					*e*S		**S**	**14 05 19.8**	**-1.4**
YUK					A		A	14 05 24.0	
	comp=E,250nm,0.5s								
YUK					A		A	14 05 24.0	
	comp=E,320nm,0.5s								
USRK	**Ussuriysk Ar.**	**5.38**	**289**	P			**Pn**	**14 04 23.0**	**-1.1**
	baz=92,slow=13,SNR=8.0								
USRK	**Ussuriysk Ar.**	**5.38**	**289**	PN			**Pn**	**14 04 23.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**5.38**	**289**	Pn			**Pn**	**14 04 23.1**	**-0.9**
USA0B	**Ussuriysk Arra**	**5.38**	**289**	PN			**Pn**	**14 04 23.1**	**-1.0**
USA0B	**Ussuriysk Arra**	**5.38**	**289**	Pn			**Pn**	**14 04 23.1**	**-1.0**
MSHR	**Mys Shultsa**	**5.85**	**271**	*e*PN			**Pn**	**14 04 30.1**	**0.0**
MSHR					pmax	pmax			
	comp=Z,36nm,0.9s								
MJB9	**Matsu-Tunnel**	**6.19**	**187**	Pn			**Pn**	**14 04 34.6**	**0.0**
MAJO	**Matsushiro**	**6.19**	**187**	*e*PN			**Pn**	**14 04 35.4**	**+0.8**
MAJO					pmax	pmax			
	comp=Z,23nm,0.7s								
MAJO	**Matsushiro**	**6.19**	**187**	Pn			**Pn**	**14 04 34.8**	**+0.2**
MAT	**Matsushiro**	**6.19**	**187**	P			**Pn**	**14 04 35.0**	**+0.4**
MAT					*e*S		**S**	**14 05 47.5**	**+1.2**
MJAR	**Matsushiro Arr**	**6.19**	**187**	P			**Pn**	**14 04 35.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=3.9,slow=14,SNR=28								
MJAR	**Matsushiro Arr**	**6.19**	**187**	Pn			**Pn**	**14 04 33.0**	**-1.6**
JYT	**Yasato**	**6.53**	**172**	Pn			**Pn**	**14 04 36.4**	**-2.3**
KUR	**Kuril'sk**	**6.82**	**65**	*d*iPN			**Pn**	**14 04 41.6**	**-0.7**
KUR					*e*S		**S**	**14 06 01.0**	**+0.5**
KUR					pmax	pmax			
	comp=N,16nm,0.4s								
KUR					pmax	pmax			
	comp=E,25nm,0.4s								
KUR					pmax	pmax			
	comp=Z,108nm,0.4s								
KUR					smax	smax			
	comp=N,30nm,0.3s								
KUR					smax	smax			
	comp=E,21nm,0.3s								
KUR	**Kuril'sk**	**6.82**	**65**	*i*P			**Pn**	**14 04 41.6**	**-0.7**
KUR					AMB		AMB	14 04 42.0	
	comp=E,110nm,0.4s								
KUR					AMB		AMB	14 04 45.2	
	comp=E,300nm,3.0s								
KUR					*e*S		**S**	**14 06 00.5**	**0.0**
KUR					A		A	14 06 02.0	
	comp=E,300nm,3.0s								
KUR					A		A	14 06 02.0	
	comp=E,300nm,3.0s								
KUR					A		A	14 06 05.0	
	comp=E,50nm,0.4s								
KUR					A		A	14 06 05.0	
	comp=E,40nm,0.4s								
JGF	**Kuroka**	**7.22**	**191**	Pn			**Pn**	**14 04 47.8**	**+0.1**
INU	**Inuyama**	**7.52**	**193**	Pn			**Pn**	**14 04 51.1**	**-0.4**
JWT	**Wachi**	**7.95**	**202**	Pn			**Pn**	**14 04 58.6**	**+1.7**
JSG	**Sagara**	**8.05**	**185**	Pn			**Pn**	**14 04 57.4**	**-0.9**
KLR	**Kul'dur**	**8.29**	**324**	P			**Pn**	**14 04 59.8**	**-1.3**
	comp=E,0.9nm,0.3s,baz=132,slow=13,SNR=33								
KLR	**Kul'dur**	**8.29**	**324**	*c*iPN			**Pn**	**14 04 59.9**	**-1.2**
KLR					pmax	pmax			
	comp=Z,21nm,1.0s								
KLR	**Kul'dur**	**8.29**	**324**	*e*P			**Pn**	**14 04 59.9**	**-1.2**
JHS	**Saijyo**	**8.99**	**213**	Pn			**Pn**	**14 05 09.1**	**-1.3**
JHJ	**Hachijo jima 2**	**9.59**	**177**	P			**Pn**	**14 05 15.9**	**-2.0**
	comp=Z,20nm,0.3s,baz=110,slow=22,SNR=9.6								
JHJ					S		**S**	**14 06 58.4**	**-7.3**
	comp=Z,13nm,0.3s,baz=233,slow=22,SNR=1.3								
JHJ2	**Mitsune**	**9.60**	**176**	Pn			**Pn**	**14 05 15.9**	**-2.2**
JMN	**Monobe**	**9.85**	**206**	Pn			**Pn**	**14 05 21.1**	**-0.4**
KSRS	**Korea Array**	**10.03**	**242**	P			**Pn**	**14 05 25.1**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=57,slow=12,SNR=51								
KS19	**Wonju Array Si**	**10.04**	**243**				**Pn**	**14 05 22.1**	**-1.7**
KSAR	**Wonju Array Be**	**10.07**	**242**	PN			**Pn**	**14 05 23.6**	**-0.4**
KSAR	**Wonju Array Be**	**10.07**	**242**	Pn			**Pn**	**14 05 23.6**	**-0.4**
EKMR	**Ekimchan**	**11.15**	**341**	*e*P			**Pn**	**14 05 37.4**	**-0.3**
EKMR					AMB		AMB	14 05 42.9	
	comp=Z,4.0nm,0.6s								
JNU	**Nakatsue**	**11.55**	**217**	P			**P**	**14 05 45.7**	**-1.7**
JSU	**Suzuyama**	**13.12**	**214**	P			**Pn**	**14 06 03.4**	**+0.8**
ZEA	**Zeya**	**13.55**	**329**	*e*P			**Pn**	**14 06 05.9**	**-1.6**
ZEA					pmax	pmax			
	comp=E,10.0nm,0.9s								
ZEA					pmax	pmax			
	comp=N,10.0nm,0.7s								
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.6s								
ZEA	**Zeya**	**13.55**	**329**	*e*P			**Pn**	**14 06 07.3**	**-0.2**
ZEA					AMB		AMB	14 06 08.7	
	comp=Z,10.0nm,0.6s								
BMKR	**Bomnak**	**13.77**	**334**	*e*P			**Pn**	**14 06 10.0**	**-0.2**
BMKR					AMB		AMB	14 06 12.7	
	comp=Z,20nm,1.0s								
SKR	**Severo-Kuril's**	**14.13**	**50**	*e*P			**P**	**14 06 17.4**	**+1.7**
SKR					*e*S		**S**	**14 08 49.9**	**-0.8**
SKR					pmax	pmax			
	comp=Z,21nm,0.6s								
SKR					MLR		MLR		
	comp=Z,100nm,14.0s								
SKR	**Severo-Kuril's**	**14.13**	**50**	*e*P			**Pn**	**14 06 14.9**	**+0.3**
SKR					AMB		AMB	14 06 18.2	
	comp=Z,20nm,0.6s								
KROS	**Kirovskiy**	**14.19**	**330**	*e*P			**Pn**	**14 06 15.0**	**-0.4**
KROS					AMB		AMB	14 06 15.8	
	comp=Z,40nm,0.8s								
PEA0B	**Petropavlovsk-**	**16.20**	**44**	P			**P**	**14 06 37.4**	**-1.1**
PEA0B					pmax	pmax			
	comp=Z,21nm,1.4s								
PEA0B	**Petropavlovsk-**	**16.20**	**44**	P			**P**	**14 06 37.4**	**-1.1**
PEA0B					IAmb		IAmb	14 06 54.2	
	comp=Z,22nm,1.4s								
PETK	**Petropavlovsk-**	**16.20**	**44**	P			**Pn**	**14 06 40.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=4.9								
PETK	**Petropavlovsk-**	**16.20**	**44**	P			**P**	**14 06 37.5**	**-1.0**
PET	**Petropavlovsk**	**16.64**	**45**	*i*eP			**Pn**	**14 06 45.7**	**+0.9**
PET	**Petropavlovsk**	**16.64**	**45**	*e*P			**Pn**	**14 06 45.7**	**+0.9**
MA2	**Magadan**	**18.36**	**19**	P			**P**	**14 07 01.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=211,slow=12,SNR=10.0								
MA2	**Magadan**	**18.36**	**19**	*i*eP			**P**	**14 07 01.3**	**-0.7**
MA2					pmax	pmax			
	comp=Z,8.0nm,0.8s								
MA2	**Magadan**	**18.36**	**19**	P			**P**	**14 07 00.6**	**-1.5**
MA2					IAmb		IAmb	14 07 02.1	
	comp=Z,7.8nm,0.7s								
MA2	**Magadan**	**18.36**	**19**	*e*P			**P**	**14 07 01.3**	**-0.7**
YAK	**Yakutsk**	**20.15**	**347**	P			**P**	**14 07 18.3**	**-2.9**
	comp=Z,8.3nm,0.3s,baz=136,slow=1.6,SNR=12								
YAK	**Yakutsk**	**20.15**	**347**	*de*P			**P**	**14 07 19.2**	**-1.9**
YAK					pmax	pmax			
	comp=Z,27nm,0.7s								
YAK	**Yakutsk**	**20.15**	**347**	P			**P**	**14 07 18.3**	**-2.9**
YAK	**Yakutsk**	**20.15**	**347**	*e*P			**P**	**14 07 19.2**	**-1.9**
HHC	**Hu-ho-hao-te**	**20.58**	**274**	*e*P			**P**	**14 07 25.0**	**-1.2**
HHC					pmax	pmax			
	comp=Z,11nm,1.2s								
HHC					pmax	pmax			
	comp=Z,130nm,5.7s								
SEY	**Seymchan**	**21.71**	**17**	P			**P**	**14 07 37.0**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=226,slow=6.7,SNR=12								
SEY	**Seymchan**	**21.71**	**17**	*i*eP			**P**	**14 07 36.5**	**-0.7**
SEY	**Seymchan**	**21.71**	**17**	*e*P			**P**	**14 07 36.5**	**-0.7**
YOJ	**Yonaguni jima**	**22.53**	**221**	P			**P**	**14 07 43.9**	**-1.2**
YOJ					pmax	pmax			
	comp=Z,71nm,1.1s								
YOJ	**Yonaguni jima**	**22.53**	**221**	P			**P**	**14 07 43.9**	**-1.2**
ULN	**Ulaanbaatar**	**23.02**	**294**	*ce*P			**P**	**14 07 50.1**	**+0.5**
ULN					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ULN	**Ulaanbaatar**	**23.02**	**294**	*e*P			**P**	**14 07 50.1**	**+0.5**
SONM	**Songino Array**	**23.46**	**294**	P			**P**	**14 07 54.3**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=90,slow=10,SNR=5.3								
SONM	**Songino Array**	**23.46**	**294**	P			**P**	**14 07 54.8**	**+1.2**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**23.46**	**294**	P			**P**	**14 07 54.8**	**+1.2**
NACB	**Ninganchiao**	**23.47**	**224**	P			**P**	**14 07 51.4**	**-2.3**
NACB					IAmb		IAmb	14 08 06.7	
	comp=Z,7.9nm,0.8s								
YULB	**Yu-li**	**24.27**	**223**	P			**P**	**14 07 59.9**	**-1.1**
TPUB	**Ta-pu**	**24.68**	**224**	P			**P**	**14 08 04.2**	**-0.5**
TWG	**Pinlang**	**24.86**	**223**	P			**P**	**14 08 06.2**	**-0.1**
XAN	**Xi'an**	**25.08**	**260**	P			**P**	**14 08 08.8**	**+0.5**
XAN					pmax	pmax			
	comp=Z,7.0nm,1.1s								
BILL	**Bilibino**	**29.22**	**21**	*i*eP			**P**	**14 08 46.0**	**+1.4**
BILL					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BILL	**Bilibino**	**29.22**	**21**	P			**P**	**14 08 43.7**	**-1.0**
BILL					IAmb		IAmb	14 08 47.1	
	comp=Z,3.4nm,0.9s								
BILL	**Bilibino**	**29.22**	**21**	*e*P			**P**	**14 08 46.0**	**+1.4**
TIXI	**Tiksi**	**29.45**	**353**	P			**P**	**14 08 45.2**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=139,slow=10.0,SNR=4.1								
TIXI	**Tiksi**	**29.45**	**353**	P			**P**	**14 08 45.0**	**-1.6**
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.2s								
TIXI	**Tiksi**	**29.45**	**353**	P			**P**	**14 08 45.0**	**-1.6**
DGZ	**Jazzator, Alta**	**35.82**	**300**	*i*P			**P**	**14 09 42.6**	**+0.3**
DGZ					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ZAA0	**Zalesovo Array**	**36.92**	**307**	P			**P**	**14 09 51.1**	**-0.1**
ZAA0					IAmb		IAmb	14 09 52.2	
	comp=Z,7.4nm,0.7s								
ZALV	**Zalesovo Beam**	**36.92**	**307**	P			**P**	**14 09 51.3**	**+0.1**
	comp=Z,7.0nm,0.5s,baz=85,slow=8.3,SNR=18								
ZALV					ScP		**ScP**	**14 15 33.5**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=78,slow=4.1,SNR=4.5								
ZALV	**Zalesovo Beam**	**36.92**	**307**	*i*P			**P**	**14 09 51.7**	**+0.4**
ZALV					pmax	pmax			
	comp=Z,7.0nm,0.5s								
ZALV	**Zalesovo Beam**	**36.92**	**307**	P			**P**	**14 09 51.0**	**-0.3**
WMQ	**Urumqi**	**36.95**	**290**	*e*P			**P**	**14 09 53.3**	**+1.5**
NRIK	**Noril'sk**	**37.39**	**333**	P			**P**	**14 09 56.2**	**+1.2**
	comp=Z,2.3nm,0.4s,baz=120,slow=8.1,SNR=2.9								
NRIK	**Noril'sk**	**37.39**	**333**	*i*eP			**P**	**14 09 56.1**	**+1.1**
NRIK	**Noril'sk**	**37.39**	**333**	IAmb			IAmb	14 09 56.5	
	comp=Z,2.9nm,0.6s								
NONG	**Nongkai**	**39.11**	**242**	P			**P**	**14 10 11.9**	**+2.0**
	comp=Z,4μmcomp=Z,20nm,0.9s								
MK31	**Makanchi Array**	**39.80**	**296**	P			**P**	**14 10 15.1**	**-0.3**
MK31					pmax	pmax			
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**39.80**	**296**	P			**P**	**14 10 15.1**	**-0.3**
MK31					IAmb		IAmb	14 10 16.4	
	comp=Z,2.4nm,0.7s								
MKAR	**Makanchi Array**	**39.80**	**296**	P			**P**	**14 10 15.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=83,slow=9.1,SNR=24								
MKAR					ScP		**ScP**	**14 15 44.5**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=63,slow=5.6,SNR=4.6								
MKAR	**Makanchi Array**	**39.80**	**296**	*i*P			**P**	**14 10 15.8**	**+0.4**
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**39.80**	**296**	P			**P**	**14 10 15.2**	**-0.2**
MKAR	**Makanchi Array**	**39.80**	**296**	*e*P			**P**	**14 10 15.8**	**+0.4**
MAKZ	**Makanchi**	**40.00**	**296**	P			**P**	**14 10 16.8**	**-0.2**
MAKZ					pmax	pmax			
	comp=Z,4.0nm,0.8s								
MAKZ	**Makanchi**	**40.00**	**296**	P			**P**	**14 10 16.8**	**-0.2**
MAKZ					IAmb		IAmb	14 10 18.1	
	comp=Z,4.1nm,0.8s								
KURK	**Kurchatov**	**41.18**	**303**	P			**P**	**14 10 27.3**	**+0.7**
KURK	**Kurchatov**	**41.18**	**303**	P			**P**	**14 10 27.2**	**+0.7**
KURK	**Kurchatov**	**41.18**	**303**	*e*P			**P**	**14 10 27.3**	**+0.7**
KURBB	**Kurchatov Arra**	**41.26**	**303**	P			**P**	**14 10 27.2**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=77,slow=8.8,SNR=45								
KURBB					ScP		**ScP**	**14 15 50.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=82,slow=4.2,SNR=4.9								
CHTO	**Chiang Mai**	**41.38**	**247**	P			**P**	**14 10 29.2**	**+0.6**
CHTO					pmax	pmax			
	comp=Z,5.0nm,0.5s								
CHTO	**Chiang Mai**	**41.38**	**247**	P			**P**	**14 10 29.2**	**+0.6**
CHTO					IAmb		IAmb	14 10 30.3	
	comp=Z,5.4nm,0.5s								
CMAR	**Chiang Mai Arr**	**41.63**	**247**	P			**P**	**14 10 31.8**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=40,slow=7.0,SNR=6.8								
CMAR	**Chiang Mai Arr**	**41.63**	**247**	*i*P			**P**	**14 10 32.0**	**+1.4**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SRAK	**Srakaew**	**42.81**	**239**	P			**P**	**14 10 39.0**	**-1.1**
OHAK	**Old Harbor**	**43.97**	**46**	P			**P**	**14 10 50.2**	**+1.4**
BPAW	**Bear Paw Mtn.**	**44.09**	**36**	P			**P**	**14 10 50.7**	**+1.0**
BPAW					IA

INK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
INK	**Inuvik**	**50.22**	**29**	P	**P**	**14 11 38.3**	**+1.5**
INK				IAmb	IAmb	14 11 41.7	
	comp=Z,7.9nm,1.2s						
HYT	**Haines Junctio**	**50.91**	**39**	P	**P**	**14 11 45.0**	**+2.7**
ARU	**Arti**	**51.00**	**315***d*	*i* P	**P**	**14 11 43.3**	**+0.5**
ARU						14 13 38.0	
ARU				S	**S**	**14 18 41.0**	**-0.9**
ARU				SS	**SS**	**14 22 12.9**	**-6.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ARU	**Arti**	**51.00**	**315**	P	**P**	**14 11 43.3**	**+0.5**
ARU				IAmb	IAmb	14 11 44.3	
	comp=Z,14nm,1.5s						
ARU	**Arti**	**51.00**	**315**	*e*P	**P**	**14 11 43.4**	**+0.5**
ABKAR	**Akbulak array**	**53.03**	**306**	P	**P**	**14 11 58.2**	**+0.4**
C36M	**Paulatuk**	**53.08**	**26**	P	**P**	**14 11 59.2**	**+1.3**
EUNU	**Eureka**	**54.85**	**9**	P	**P**	**14 12 11.0**	**+0.3**
EUNU				IAmb	IAmb	14 12 12.3	
	comp=Z,3.9nm,0.7s						
PRGR	**Permogore**	**55.08**	**324**	*e*P	**P**	**14 12 09.8**	**-2.6**
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DHH	**Diamond Head**	**56.32**	**91**	P	**P**	**14 12 21.0**	**-0.8**
DHH	**Diamond Head**	**56.32**	**91**	P	**P**	**14 12 21.0**	**-0.8**
KEV	**Kevo**	**57.52**	**338**	P	**P**	**14 12 29.3**	**-0.2**
KEV				pmax	pmax		
	comp=Z,15nm,1.4s						
KEV	**Kevo**	**57.52**	**338**	P	**P**	**14 12 29.3**	**-0.2**
RES	**Resolute Bay**	**57.57**	**15**	P	**P**	**14 12 30.1**	**+0.3**
RES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RES	**Resolute Bay**	**57.57**	**15**	P	**P**	**14 12 30.1**	**+0.3**
RES				IAmb	IAmb	14 12 30.7	
	comp=Z,3.0nm,0.6s						
KLMR	**Klimovskoe**	**58.04**	**325**	*e*P	**P**	**14 12 31.4**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KLMR	**Klimovskoe**	**58.04**	**325**	*e*P	**P**	**14 12 31.5**	**-1.8**
KLMR				AMP		14 12 44.1	
	comp=Z,7.0nm,1.3s						
ARCES	**ARCESS Array B**	**58.07**	**338**	P	**P**	**14 12 33.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=61,slow=7.5,SNR=17						
ARCES	**ARCESS Array B**	**58.07**	**338**	P	**P**	**14 12 33.5**	**+0.1**
BELG	**Belogornoye**	**58.50**	**314**‖	*e*P	**P**	**14 12 37.1**	**+0.5**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KKH	**Kailua Kona**	**58.62**	**92**	P	**P**	**14 12 37.0**	**-0.9**
KKH	**Kailua Kona**	**58.62**	**92**	P	**P**	**14 12 37.0**	**-0.9**
KNRA	**Kununurra**	**58.87**	**192**	P	**P**	**14 12 40.8**	**+1.4**
TULEG	**Thule**	**59.71**	**7**	P	**P**	**14 12 45.8**	**+1.3**
YKA	**Yellowknife Ar**	**59.84**	**31**	P	**P**	**14 12 46.6**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=304,slow=6.1,SNR=7.8						
FITZ	**Fitzroy Crossi**	**61.76**	**195**	P	**P**	**14 13 00.1**	**+1.2**
FITZ				IAmb	IAmb	14 13 22.3	
	comp=Z,4.8nm,1.3s						
WB0	**Warramunga Arr**	**62.31**	**185**	P	**P**	**14 13 03.3**	**+0.7**
WB0				IAmb	IAmb	14 13 04.7	
	comp=Z,8.2nm,1.2s						
WRAB	**Tennant Creek**	**62.48**	**185**	P	**P**	**14 13 04.4**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**62.48**	**185**	P	**P**	**14 13 04.4**	**+0.6**
WB2	**Warramunga Arr**	**62.49**	**185**	P	**P**	**14 13 04.3**	**+0.5**
WB2				IAmb	IAmb	14 13 25.1	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**62.49**	**185**	P	**P**	**14 13 04.6**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=1.8,slow=7.1,SNR=44						
WRA				PcP	**PcP**	**14 13 42.8**	**+1.9**
	comp=Z,0.5nm,1.1s,baz=358,slow=5.0,SNR=5.4						
WRA	**Warramunga Arr**	**62.49**	**185**	P	**P**	**14 13 04.0**	**+0.2**
WR0	**Warramunga Arr**	**62.49**	**185**	P	**P**	**14 13 04.4**	**+0.6**
WR0				IAmb	IAmb	14 13 05.2	
	comp=Z,5.5nm,1.1s						
OBN	**Obninsk**	**62.53**	**321**	*e*P	**P**	**14 13 04.3**	**+0.6**
OBN				*e**PP	**pP**	**14 13 53.8**	**-0.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	**Obninsk**	**62.53**	**321**	*e*P	**P**	**14 13 04.3**	**+0.6**
FIA1	**FINESS Array S**	**62.99**	**330**	P	**P**	**14 13 06.3**	**-0.3**
FINES	**FINESS Array B**	**62.99**	**330**	P	**P**	**14 13 06.8**	**+0.2**
	comp=Z,4.1nm,0.5s,baz=32,slow=8.6,SNR=32						
FINES	**FINESS Array B**	**62.99**	**330**	P	**P**	**14 13 06.5**	**-0.1**
VSU	**Vasula**	**64.69**	**327**‖	*e*P	**P**	**14 13 17.5**	**-0.2**
VSU				pmax	pmax		
	comp=Z,22nm,0.8s						
SUMG	**Summit**	**65.01**	**359**	P	**P**	**14 13 21.0**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SUMG	**Summit**	**65.01**	**359**	P	**P**	**14 13 21.0**	**+0.9**
SUMG				IAmb	IAmb	14 13 21.9	
	comp=Z,4.2nm,0.7s						
KIV	**Kislovodsk**	**65.92**	**308**	*e*P	**P**	**14 13 26.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
KIV	**Kislovodsk**	**65.92**	**308**	*e*P	**P**	**14 13 26.8**	**+0.8**
KBZ	**Khabaz**	**65.93**	**308**	P	**P**	**14 13 25.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=58,slow=9.4,SNR=4.1						
AS31	**Alice Springs**	**66.21**	**185**	P	**P**	**14 13 28.7**	**+0.8**
ASAR	**Alice Springs**	**66.21**	**185**	P	**P**	**14 13 29.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=358,slow=6.4,SNR=18						
ASAR	**Alice Springs**	**66.21**	**185**	P	**P**	**14 13 28.6**	**+0.7**
NC405	**NORSAR Array S**	**68.07**	**335**	P	**P**	**14 13 39.5**	**+0.4**
NC303	**NORSAR Array S**	**68.09**	**336**	P	**P**	**14 13 39.6**	**+0.4**
NC303				IAmb	IAmb	14 13 41.3	
	comp=Z,4.8nm,1.1s						
NC204	**NORSAR Array S**	**68.23**	**336**	P	**P**	**14 13 40.5**	**+0.3**
NB201	**NORSAR Array S**	**68.25**	**336**	P	**P**	**14 13 40.4**	**+0.1**
NOA	**NORSAR Array B**	**68.28**	**336**	P	**P**	**14 13 40.6**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=39,slow=6.2,SNR=14						
NC602	**NORSAR Array S**	**68.42**	**335**	P	**P**	**14 13 41.3**	**0.0**
NC602				IAmb	IAmb	14 14 05.4	
	comp=Z,9.2nm,1.1s						
NBO00	**NORSAR Array S**	**68.42**	**336**	P	**P**	**14 13 40.8**	**-0.5**
NAO01	**NORSAR Array S**	**68.53**	**336**	P	**P**	**14 13 42.2**	**+0.2**
AKASG	**Malin Array Be**	**68.76**	**320**	P	**P**	**14 13 43.8**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=44,slow=6.2,SNR=12						
AKASG	**Malin Array Be**	**68.76**	**320**	P	**P**	**14 13 43.7**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**68.76**	**320**	P	**P**	**14 13 43.7**	**+0.2**
AKBB	**Malin Array Si**	**68.76**	**320**‖	*e*P	**P**	**14 13 43.7**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKBB	**Malin Array Si**	**68.76**	**320**	P	**P**	**14 13 43.8**	**+0.2**
AKBB				IAmb	IAmb	14 13 44.5	
	comp=Z,3.0nm,0.8s						
GEVA	**Gevas**	**69.13**	**303**	P	**P**	**14 13 46.9**	**+0.6**
EGMT	**Eagleton**	**71.20**	**41**	P	**P**	**14 13 59.7**	**+1.1**
EGMT				IAmb	IAmb	14 14 00.7	
	comp=Z,1.9nm,0.8s						
BURAR	**Bucovina Array**	**72.80**	**320**	P	**P**	**14 14 08.9**	**+0.9**
BURAR				IAmb	IAmb	14 14 10.1	
	comp=Z,1.9nm,0.7s						
BR131	**Keskin Array S**	**73.82**	**309**	P	**P**	**14 14 14.2**	**0.0**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BR131	**Keskin Array S**	**73.82**	**309**	P	**P**	**14 14 14.2**	**0.0**
BR131				IAmb	IAmb	14 14 31.8	
	comp=Z,3.2nm,0.9s						
MORC	**Moravsky Berou**	**74.66**	**325**	P	**P**	**14 14 18.0**	**-0.7**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MORC	**Moravsky Berou**	**74.66**	**325**	P	**P**	**14 14 18.0**	**-0.7**
MORC				IAmb	IAmb	14 14 30.2	
	comp=Z,2.3nm,0.8s						
DPC	**Dobruska-Polom**	**74.73**	**326**	*e*P	**P**	**14 14 20.3**	**+1.1**
DPC				smax	smax		
	comp=N,2.0nm,1.0s						
DPC	**Dobruska-Polom**	**74.73**	**326**	*e*P	**P**	**14 14 20.3**	**+1.1**
PDAR	**Pinedale Array**	**74.96**	**45**	P	**P**	**14 14 22.3**	**+1.5**
	comp=N,0.2nm,0.5s,baz=344,slow=3.0,SNR=2.1						
PDAR	**Pinedale Array**	**74.96**	**45**	P	**P**	**14 14 21.5**	**+0.7**
CLL	**Collm**	**75.31**	**328**	*i* P	**P**	**14 14 23.1**	**+0.7**
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**75.31**	**328**	*i* P	**P**	**14 14 23.1**	**+0.7**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PRU	**Pruhonice**	**75.74**	**327**	*e*P	P	14 14 30.0	+5.2
PRU	**Pruhonice**	**75.74**	**327**	*e*P	P	14 14 30.0	+5.2
KHC	**Kasperske Hory**	**76.80**	**327**	*e*P	**P**	**14 14 31.2**	**+0.3**
KHC	**Kasperske Hory**	**76.80**	**327**	*e*P	**P**	**14 14 31.2**	**+0.3**
GERES	**GERESS Array B**	**76.98**	**326**	P	**P**	**14 14 32.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=44,slow=5.9,SNR=4.1						
GERES	**GERESS Array B**	**76.98**	**326**	P	**P**	**14 14 32.2**	**+0.3**
SNAA	**Sanae**	**145.55**	**200**	PKPdf	**PKPab**	**14 22 16.9**	**+1.4**

*NEIC **28** 14:23:31.6±2.1,29.8°S±0.2°×179.2°W±0.2°,h346km±11km, mb4.1/12, Error ellipse: s-maj=23.9km s-min=22.7km az=80.0*

*IDC **28** 14:23:42.8±8.2,30.81°S×179.43°W,h480km±102km, mb3.0/2,mb1 3.3/3,mb1mx2.9/38,mbtmp4.0/3, Error ellipse: s-maj=102.6km s-min=37.5km az=8.0*

ISC 28 14:23:33.5±0.9,29.91°S±0.08°×179.4°W±0.1,h350km,n46, σ1s61/53,mb3.9/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.47**	**64**	P	**Pn**	**14 24 25.8**	**+4.3**
GLKZ				S	**S**	**14 24 58.2**	**-1.8**
MXZ	**Matakaoa Point**	**7.86**	**193**	P	**Pn**	**14 25 29.6**	**+3.7**
MXZ				S	**S**	**14 26 58.2**	**+0.7**
WMGZ	**Waiomatatini S**	**8.09**	**192**	P	**P**	**14 25 32.1**	**+0.5**
HAZ	**Te Kaha**	**8.16**	**196**	P	**P**	**14 25 31.5**	**-0.8**
HAZ				S	**S**	**14 27 02.3**	**-1.7**
RUGZ	**Raukumara Rang**	**8.38**	**196**	P	**P**	**14 25 34.7**	**-0.4**
OPRZ	**Ohinepanea**	**8.59**	**202**	P	**P**	**14 25 40.4**	**+3.3**
MWZ	**Matawai**	**8.77**	**196**	P	**Pn**	**14 25 37.8**	**+1.1**
MWZ				S	**S**	**14 27 18.1**	**+0.6**
TKGZ	**Te Karaka**	**8.80**	**194**	P	**P**	**14 25 40.4**	**+0.9**
URZ	**Urewera**	**8.81**	**198**	P	**Pn**	**14 25 37.2**	**+0.1**
	4.7nm,0.3s,baz=122,slow=22,SNR=36						
URZ				S	**S**	**14 27 14.7**	**-3.4**
	1.0nm,0.3s,baz=302,slow=23,SNR=3.0						
URZ	**Urewera**	**8.81**	**198**		**Pn**	**14 25 36.8**	**-0.3**
URZ	**Urewera**	**8.81**	**198**	P	**P**	**14 25 39.5**	**-0.1**
URZ				S	**S**	**14 27 19.1**	**+1.0**
RAGZ	**Rawiri**	**8.95**	**196**	P	**P**	**14 25 42.9**	**+1.6**
MUGZ	**Murupara**	**9.11**	**199**	P	**P**	**14 25 43.1**	**+0.2**
WHHZ	**Waihua**	**9.55**	**196**	P	**P**	**14 25 49.9**	**+2.1**
WHHZ				S	**S**	**14 27 33.4**	**-1.0**
HIZ	**Hauiti**	**9.79**	**207**	P	P	14 25 55.9	+5.3
BKZ	**Black Stump Fm**	**9.82**	**199**	P	**Pn**	**14 25 49.6**	**+0.3**
BKZ	**Black Stump Fm**	**9.82**	**199**	P	**P**	**14 25 51.0**	**+0.1**
BKZ				S	**S**	**14 27 40.2**	**-0.4**
MCHZ	**McNeill Hill**	**10.03**	**197**	P	**P**	**14 25 55.5**	**+2.4**
NGZ	**Ngauruhoe**	**10.11**	**203**	P	**P**	**14 25 56.5**	**+2.3**
FWVZ	**Far West T-bar**	**10.19**	**203**	P	**P**	**14 25 57.1**	**+1.9**
WHVZ	**Whangaehu Hut**	**10.21**	**202**	P	**P**	**14 25 56.8**	**+1.4**
BHHZ	**Black Hill Sta**	**10.25**	**200**	P	**Pn**	**14 25 54.3**	**-0.1**
KRHZ	**Kereru**	**10.30**	**198**	P	**P**	**14 25 57.1**	**+0.9**
BFZ	**Birch Farm**	**11.31**	**197**	P	**Pn**	**14 26 06.4**	**-0.6**
MSWZ	**Moikau Station**	**12.26**	**199**	P	**P**	**14 26 18.3**	**+0.3**
BHW	**Baring Head**	**12.37**	**200**	P	**Pn**	**14 26 20.0**	**+0.6**
TUWZ	**Tuamarina**	**12.69**	**203**	P	**P**	**14 26 21.9**	**-0.7**
NNZ	**Nelson**	**12.70**	**205**	P	**P**	**14 26 22.5**	**-0.3**
THZ	**Tophouse**	**13.35**	**206**	P	**Pn**	**14 26 30.8**	**-0.3**
KHZ	**Kahutara**	**13.70**	**202**	P	**P**	**14 26 34.1**	**+0.4**
LHI	**Lord Howe Isla**	**18.55**	**260**	P	**P**	**14 27 28.4**	**+2.0**
CTAO	**Charters Tower**	**32.49**	**280**	P	**P**	**14 29 33.9**	**+1.1**
CTAO				IAmb	IAmb	14 30 01.3	
	comp=Z,34nm,1.5s						
STKA	**Stephens Creek**	**33.38**	**257**	P	**P**	**14 29 41.3**	**+1.0**
BBOO	**Buckleboo**	**37.90**	**254**	P	**P**	**14 30 17.0**	**-1.5**
BBOO				IAmb	IAmb	14 30 41.6	
	comp=Z,29nm,1.5s						
AS31	**Alice Springs**	**41.89**	**267**	P	**P**	**14 30 49.0**	**-2.1**
ASAR	**Alice Springs**	**41.89**	**267**	P	**P**	**14 30 50.1**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=105,slow=7.0,SNR=30						
ASAR	**Alice Springs**	**41.89**	**267**	P	**P**	**14 30 48.8**	**-2.2**
WR0	**Warramunga Arr**	**42.65**	**272**	P	**P**	**14 30 55.8**	**-1.4**
WR0				IAmb	IAmb	14 31 20.6	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**42.82**	**272**	P	**P**	**14 30 57.5**	**-1.1**
WB2				IAmb	IAmb	14 31 12.3	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**42.83**	**272**	P	**P**	**14 30 57.0**	**-1.6**
WRAB				IAmb	IAmb	14 31 25.8	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**42.83**	**272**	P	**P**	**14 30 57.6**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=113,slow=6.4,SNR=20						
WRA	**Warramunga Arr**	**42.83**	**272**	P	**P**	**14 30 57.4**	**-1.2**
WB0	**Warramunga Arr**	**42.85**	**273**	P	**P**	**14 30 57.3**	**-1.4**
KNRA	**Kununurra**	**49.42**	**275**	P	**P**	**14 31 48.9**	**-0.5**
KNRA				IAmb	IAmb	14 32 11.5	
	comp=Z,15nm,1.4s						
GO09	**Cerro Castillo**	**76.96**	**142**	P	**P**	**14 34 46.3**	**-1.8**
FINES	**FINESS Array B**	**144.25**	**339**	PKPbc	**PKPab**	**14 42 24.1**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=53,slow=4.5,SNR=14						

*IDC **28** 14:27:17.7±2.0,0.89°S×99.82°E,h0km,mb3.9/7,mb1 3.9/8, mb1mx3.6/38,mbtmp3.8/8,ML3.1/1, Error ellipse: s-maj=76.5km s-min=19.9km az=58.0*

*NEIC **28** 14:27:27.9±1.5,0.8°S±0.1°×99.78°E±0.04,h79km±9km, mb4.3/12, Error ellipse: s-maj=15.7km s-min=5.3km az=175.0*

*DJA **28** 14:27:28.6±0.4,1°S±4°×10°E±°,h61km±33km,M4.1/10, mb4.4/1,MLv4.0/10*

ISC 28 14:27:29.1±0.7,0.77S±0.06°×99.80E±0.06°,h100km,n37, σ1s24/33,mb4.2/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.57**	**352**	P	**Pn**	**14 27 54.9**	**-1.4**
MNSI				S	**Sn**	**14 28 15.5**	**-1.4**
BKNI	**Bangkinang**	**1.65**	**49**	Pn	**Pn**	**14 27 56.1**	**-1.2**
BKNI	**Bangkinang**	**1.65**	**49**	P	**Pn**	**14 27 56.5**	**-0.8**
BKNI				S	**Sn**	**14 28 17.0**	**-1.7**
RGRI	**Rengat**	**2.57**	**81**	P	**Pn**	**14 28 08.8**	**-0.4**
GSI	**Gunungsitoli**	**3.03**	**313**		**Pn**	**14 28 13.8**	**-1.5**
GSI	**Gunungsitoli**	**3.03**	**313**	P	**Pn**	**14 28 14.4**	**-0.9**
MASI	**Maura Aman, Be**	**3.39**	**134**	P	**Pn**	**14 28 19.7**	**-0.5**
RPSI	**Rantau Prapat**	**3.55**	**346**	Pn	**Pn**	**14 28 20.6**	**-1.7**
UBSI	**University, Be**	**3.87**	**140**	P	**Pn**	**14 28 25.7**	**-0.8**
KSI	**Kapahiang**	**4.00**	**136**	P	**Pn**	**14 28 27.3**	**-1.1**
BTDF	**Bukit Timah Da**	**4.50**	**62**	P	**Pn**	**14 28 35.3**	**+0.2**
TPTI		**4.78**	**327**	P	**Pn**	**14 28 37.9**	**-1.1**
EGSI	**Enggano, Bengk**	**5.18**	**152**	P	**Pn**	**14 28 41.9**	**-2.5**
PBA	**Port Blair**	**14.20**	**331**	P	P	14 30 49.1	-0.9
BKB	**Balikpapan**	**17.10**	**92**		**Pn**	**14 31 20.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**19.12**	**358**	P	**Pn**	**14 31 45.6**	**-0.7**
	0.0nm,0.3s,baz=188,slow=11,SNR=2.1						
H08S2	**Diego Garcia H**	**28.06**	**255**	T	T	15 01 21.3	
	baz=77,slow=75,SNR=25						
H08S3	**Diego Garcia H**	**28.07**	**255**	T	T	15 01 22.1	
	baz=77,slow=75,SNR=26						
H08S1	**Diego Garcia H**	**28.08**	**255**	T	T	15 01 22.9	
	baz=77,slow=75,SNR=21						
WRA	**Warramunga Arr**	**38.80**	**122**	P	**P**	**14 34 43.2**	**-1.3**
	0.2nm,0.4s,baz=304,slow=9.2,SNR=5.6						
WRAB	**Tennant Creek**	**38.80**	**122**	P	**P**	**14 34 43.4**	**-1.1**
WRAB				IAmb	IAmb	14 34 55.7	
	comp=Z,9.6nm,1.5s						
WB2	**Warramunga Arr**	**38.81**	**122**	P	**P**	**14 34 43.2**	**-1.4**
WB2				IAmb	IAmb	14 34 49.3	
	comp=Z,7.0nm,1.4s						
WR0	**Warramunga Arr**	**38.97**	**122**	P	**P**	**14 34 45.1**	**-0.9**
WR0				IAmb	IAmb	14 34 48.4	
	comp=Z,8.7nm,1.4s						
ASAR	**Alice Springs**	**40.14**	**127**	P	**P**	**14 34 55.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=300,slow=7.3,SNR=16						
AS31	**Alice Springs**	**40.14**	**127**	P	**P**	**14 34 55.5**	**-0.1**
KSRS	**Korea Array**	**46.08**	**31**	P	**P**	**14 35 43.7**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=229,slow=8.3,SNR=2.4						
SONM	**Songino Array**	**48.75**	**6**	P	**P**	**14 36 04.4**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=175,slow=8.9,SNR=3.9						
SONM	**Songino Array**	**48.75**	**6**	IAmb	IAmb	14 36 05.8	
	comp=Z,0.6nm,0.7s						
MK31	**Makanchi Array**	**49.80**	**344**	P	**P**	**14 36 12.8**	**+1.1**
MK31				IAmb	IAmb	14 36 15.1	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**49.80**	**344**	P	**P**	**14 36 13.5**	**+1.7**
	comp=Z,1.4nm,0.4s,baz=160,slow=8.4,SNR=24						
MKAR	**Makanchi Array**	**49.80**	**344**	P	**P**	**14 36 13.1**	**+1.4**
ZALV	**Zalesovo Beam**	**55.93**	**349**	P	**P**	**14 36 57.7**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=169,slow=7.5,SNR=3.8						
BRVK	**Borovoye**	**59.03**	**340**	P	**P**	**14 37 18.1**	**-0.4**
BRVK				IAmb	IAmb	14 37 19.2	
	comp=Z,1.4nm,0.8s						
TIXI	**Tiksi**	**74.68**	**9**	P	**P**	**14 38 58.9**	**+1.5**
BOSA	**Boshof**	**76.08**	**241**	P	**P**	**14 39 06.5**	**+0.1**
ARCES	**ARCESS Array B**	**85.25**	**340**	P	**P**	**14 39 56.3**	**+1.9**
	comp=Z,3.3nm,1.2s,baz=98,slow=6.5,SNR=3.6						
ARCES	**ARCESS Array B**	**85.25**	**340**	IAmb	IAmb	14 39 59.0	
	comp=Z,9.3nm,1.4s						

PRU 28 14:28:00.5±0.0,49.80N×18.72E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.37**	**276**	*e*SG	Sg	14 28 12.9	+0.4
	comp=Z,8.7nm,0.8s						
MORC	**Moravsky Berou**	**0.76**	**269**	*e*PG	Pb	14 28 16.2	-0.5
MORC				*e*SG	Sg	14 28 23.8	-1.2
KRLC	**Kraliky**	**1.28**	**283**	*e*PG	Pg	14 28 23.3	-1.8
KRLC				*e*SG	Sg	14 28 41.6	-0.1
	comp=Z,1.9nm,0.3s						
VRAC	**Vranov**	**1.47**	**251**	*e*SG	Sg	14 28 46.8	-0.9
DPC	**Dobruska-Polom**	**1.64**	**291**	*e*PG	Pn	14 28 30.8	+0.2
DPC				*e*SG	Sn	14 28 51.6	-0.9
	comp=Z,1.9nm,1.0s						
DPC	**Dobruska-Polom**	**1.64**	**291**	*e*	Pn	14 28 30.8	+0.2
KRUC	**Moravsky**	**1.69**	**245**	*e*PG	Pb	14 28 32.5	+0.1
KRUC				*e*SG	Sn	14 28 53.5	-0.1

*TUL **28** 14:37:15.4±0.8,36.29N±0.01°×97.52W±0.02,h6km±7km, ML3.3,mb_Lg3.4/125(NEIC), Error ellipse: s-maj=2.7km s-min=1.4km az=72.0*

*ANF **28** 14:37:15.5±0.4,36.29N×97.51W,h5km,ML4.0/14, Error ellipse: s-maj=4.3km s-min=3.1km az=110.0*

*NEIC **28** 14:37:15.3±0.7,36.295N±0.010°×97.50W±0.01,h5km±6km, Error ellipse: s-maj=1.9km s-min=1.4km az=120.0*

ISC 28 14:37:15.2±1.1,36.30N±0.02°×97.52W±0.02,h5km±10km, n114,σ0s53/89,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.43**	**299**		**Pg**	**14 37 23.9**	**+0.4**
CROK				Sg	**Sg**	**14 37 29.3**	**+0.1**
OK029	**Liberty Lake**	**0.50**	**174**	Pg	**Pg**	**14 37 25.1**	**+0.2**
OK029				Sg	**Sg**	**14 37 30.9**	**-0.4**
BLOK	**Blackwell**	**0.52**	**27**		**Pg**	**14 37 25.9**	**+0.6**
BLOK				Sg	**Sg**	**14 37 31.6**	**-0.5**
BCOK	**Bluff Creek, N**	**0.64**	**187**		**Pg**	**14 37 27.6**	**0.0**
BCOK				Sg	**Sg**	**14 37 36.3**	**+0.4**
OK031	**S. Brethren Rd**	**0.65**	**122**		**Pg**	**14 37 27.9**	**+0.3**
QUOK	**Quay**	**0.66**	**101**		**Pg**	**14 37 28.3**	**+0.3**
QUOK				Sg	**Sg**	**14 37 36.3**	**-0.2**
OK030	**Cody Creek RV**	**0.70**	**122**		**Pg**	**14 37 28.8**	**+0.3**
OK030				Sg	**Sg**	**14 37 37.9**	**+0.2**
KAN13	**South Haven SW**	**0.72**	**2**		**Pg**	**14 37 29.1**	**+0.2**
OK009	**Oakdale Elemen**	**0.72**	**174**		**Pg**	**14 37 29.0**	**+0.1**
OK025	**Westminster Rd**	**0.73**	**169**	Pg	**Pg**	**14 37 29.2**	**+0.1**
OK025				Sg	**Sg**	**14 37 38.2**	**-0.4**
OK032	**Salt Plains WL**	**0.76**	**312**		**Pg**	**14 37 29.7**	**0.0**
OK032				Sg	**Sg**	**14 37 40.0**	**+0.4**
KAN17	**Caldwell West**	**0.77**	**345**		**Pg**	**14 37 30.1**	**0.0**
KAN17				Sg	**Sg**	**14 37 40.3**	**+0.2**
KAN09	**Caldwell North**	**0.84**	**354**		**Pg**	**14 37 31.5**	**+0.1**
KAN09				Sg	**Sg**	**14 37 42.5**	**+0.1**
OKCFA	**Oklahoma City**	**0.88**	**177**		**Pg**	**14 37 31.9**	**-0.2**
OKCFA	**Oklahoma City**	**0.88**	**177**	P	**Pg**	**14 37 31.9**	**-0.2**
	baz=357,SNR=20						
OKCFA				S	**Sg**	**14 37 43.9**	**+0.5**
	baz=357						
OKCFA	**Oklahoma City**	**0.88**	**177**	P		14 37 31.9	
	baz=357,SNR=20						
OKCFA				S		14 37 43.9	
	baz=357						
OKCSW	**OKLAHOMA CITY**	**0.89**	**176**		**Pg**	**14 37 32.0**	**-0.2**
OKCSW				Sg	**Sg**	**14 37 43.8**	**0.0**
KS20	**Mayfield South**	**0.93**	**358**		**Pg**	**14 37 33.1**	**0.0**
KAN10	**Anthony SW Sta**	**0.95**	**331**		**Pg**	**14 37 33.3**	**-0.1**

S39A	**Bolivar**	**3.63**	**66**	P			14 38 12.8		
	baz=249,SNR=31								
MIAR	**Mount Ida**	**3.66**	**117**	Pn		**Pn**	**14 38 13.2**	**+0.8**	
MIAR				lAmb_Lg			14 39 20.0		
	comp=Z,49nm,0.7s								
MIAR	**Mount Ida**	**3.66**	**117**	P		**Pn**	**14 38 13.3**	**+0.8**	
	baz=300,SNR=87								
MIAR	**Mount Ida**	**3.66**	**117**	P			14 38 13.4		
	baz=300,SNR=35								
MIAR				S			14 38 56.4		
	baz=300								
MIAR	**Mount Ida**	**3.66**	**117**	P			14 38 13.3		
	baz=300,SNR=87								
Z38A	**Mt. Pleasant**	**3.67**	**145**	S		**Sn**	**14 38 57.0**	**+0.7**	
	baz=326								
Z38A	**Mt. Pleasant**	**3.67**	**145**	S			14 38 57.0		
	baz=326								
AMTX	**Amarillo**	**3.68**	**249**	Pn		**Pn**	**14 38 12.7**	**-0.1**	
AMTX				lAmb_Lg			14 39 17.0		
	comp=Z,118nm,0.9s								
AMTX	**Amarillo**	**3.68**	**249**	Sb			14 39 08.7		
	baz=66								
U40A	**Yellville**	**3.76**	**88**	Pn		**Pn**	**14 38 13.9**	**0.0**	
U40A	**Yellville**	**3.76**	**88**	P			14 38 15.0		
	baz=270,SNR=12								
U40A				Sb			14 39 12.7		
	baz=270								
ABTX	**Abilene, Hawle**	**4.06**	**206**	lAmb_Lg			14 39 24.9		
	comp=Z,58nm,0.8s								
ABTX	**Abilene, Hawle**	**4.06**	**206**	Sb			14 39 20.6		
	baz=25								
X40A	**Basin Creek Fa**	**4.23**	**114**			**Pn**	**14 38 20.5**	**+0.2**	
X40A				lAmb_Lg			14 39 34.2		
	comp=Z,74nm,0.8s								
X40A	**Basin Creek Fa**	**4.23**	**114**	P		**Pn**	**14 38 21.6**	**+1.3**	
	baz=297,SNR=16								
X40A	**Basin Creek Fa**	**4.23**	**114**	P			14 38 21.1		
	baz=297,SNR=10								
X40A				S			14 39 10.5		
	baz=297								
X40A	**Basin Creek Fa**	**4.23**	**114**	P			14 38 21.6		
	baz=297,SNR=16								
X40A				P			14 38 21.6		
	baz=297,SNR=16								
WHTX	**Lake Whitney,**	**4.29**	**179**	Pn		**Pn**	**14 38 21.8**	**+0.6**	
WHTX	**Lake Whitney,**	**4.29**	**179**	P			14 38 22.3		
	baz=359								
WHTX				S			14 39 11.4		
	baz=359								
MGMO	**Mountain Grove**	**4.30**	**77**			**Pn**	**14 38 21.8**	**+0.5**	
WHAR	**Wooly Hollow**	**4.37**	**102**	Pn		**Pn**	**14 38 22.6**	**+0.5**	
WHAR				lAmb_Lg			14 39 37.9		
	comp=Z,125nm,0.9s								
FCAR	**Ozark Folk Cen**	**4.38**	**94**	Pn		**Pn**	**14 38 22.7**	**+0.3**	
FCAR				lAmb_Lg			14 39 32.0		
	comp=Z,59nm,0.9s								
W41B	**Gary Mavity, V**	**4.43**	**103**	P		**Pn**	**14 38 24.3**	**+1.2**	
	baz=286								
W41B	**Gary Mavity, V**	**4.43**	**103**	P			14 38 24.1		
	baz=286								
W41B				Sb			14 39 33.2		
	baz=286								
W41B	**Gary Mavity, V**	**4.43**	**103**	P			14 38 24.3		
	baz=286								
N33A	**J Bar K, Exete**	**4.44**	**1**	Pn		**Pn**	**14 38 23.4**	**+0.2**	
N33A				lAmb_Lg			14 39 45.6		
	comp=Z,40nm,0.8s								
WLAR	**White Oak Lake**	**4.45**	**124**	lAmb_Lg			14 39 45.8		
	comp=Z,63nm,0.8s								
237A	**Washetta, Mont**	**4.51**	**161**	lAmb_Lg			14 39 40.8		
	comp=Z,59nm,1.2s								
P38A	**Dawn**	**4.58**	**42**	lAmb_Lg			14 39 43.2		
	comp=Z,76nm,0.8s								
R40A	**Maddies Statio**	**4.63**	**63**			**Pn**	**14 38 26.2**	**+0.3**	
R40A	**Maddies Statio**	**4.63**	**63**	P		**Pn**	**14 38 26.3**	**+0.5**	
	baz=246,SNR=8.3								
R40A	**Maddies Statio**	**4.63**	**63**	P			14 38 26.3		
	baz=246,SNR=8.3								
KSCO	**Kaye Shedlock'**	**4.88**	**305**	lAmb_Lg			14 39 59.0		
	comp=Z,54nm,0.7s								
Z41A	**Richland Creek**	**4.92**	**127**	P			14 38 30.9		
	baz=309								
Z41A				S			14 39 26.4		
	baz=309								
NATX	**Nacogdoches**	**5.11**	**152**	lAmb_Lg			14 40 11.6		
	comp=Z,49nm,0.8s								
BGNE	**Belgrade**	**5.13**	**355**	Pn		**Pn**	**14 38 32.9**	**+0.2**	
BGNE				lAmb_Lg			14 40 10.3		
	comp=Z,98nm,1.0s								
BGNE	**Belgrade**	**5.13**	**355**	P			14 38 32.9		
	baz=174								
LCAR	**Lake Charles**	**5.15**	**91**	Pn		**Pn**	**14 38 33.2**	**+0.3**	
LCAR				lAmb_Lg			14 40 02.6		
	comp=Z,62nm,0.8s								
CCAR	**Cane Creek**	**5.27**	**115**	lAmb_Lg			14 40 17.1		
	comp=Z,72nm,0.8s								
CCM	**Cathedral Cave**	**5.31**	**69**	Pn		**Pn**	**14 38 35.1**	**0.0**	
CCM				lAmb_Lg			14 40 01.7		
	comp=Z,79nm,0.8s								
CCM	**Cathedral Cave**	**5.31**	**69**	P			14 38 35.3		
	baz=252								
CCM				Sb			14 39 58.7		
	baz=252								
P40A	**Paris**	**5.39**	**52**	Pn		**Pn**	**14 38 36.6**	**+0.3**	
P40A				lAmb_Lg			14 40 10.5		
	comp=Z,92nm,0.8s								
435B	**Jarrell**	**5.50**	**181**	lAmb_Lg			14 40 17.0		
	comp=Z,40nm,0.7s								
T25A	**Trinidad**	**5.60**	**281**			**Pn**	**14 38 39.1**	**-0.3**	
T25A				lAmb_Lg			14 40 15.9		
	comp=Z,43nm,0.8s								
N38A	**Joes South For**	**5.60**	**35**	Pn		**Pn**	**14 38 38.5**	**-0.7**	
N38A				lAmb_Lg			14 40 17.1		
	comp=Z,90nm,0.7s								
T25A	**Trinidad**	**5.60**	**281**	P			14 38 39.4		
	baz=97,SNR=9.3								
OGNE	**Ogallala**	**5.84**	**324**	lAmb_Lg			14 40 35.7		
	comp=Z,39nm,0.8s								
LPAR	**Lepanto**	**5.89**	**95**	lAmb_Lg			14 40 24.6		
	comp=Z,68nm,0.8s								
JCT	**Junction City**	**6.11**	**199**	lAmb_Lg			14 40 33.5		
	comp=Z,76nm,0.9s								
143A	**Socs Landing,**	**6.19**	**124**	lAmb_Lg			14 40 37.4		
	comp=Z,41nm,0.8s								
SCIA	**State Center**	**6.52**	**30**	lAmb_Lg			14 40 54.5		
	comp=Z,70nm,0.8s								
HALT	**Halls**	**6.63**	**91**	lAmb_Lg			14 40 51.6		
	comp=Z,83nm,1.0s								
S44A	**Carbondale**	**6.76**	**76**	Pn		**Pn**	**14 38 54.7**	**-0.3**	
OXF	**Oxford**	**6.85**	**103**	lAmb_Lg			14 41 07.0		
	comp=Z,29nm,0.8s								
W45A	**Hickory Valley**	**6.87**	**97**	lAmb_Lg			14 40 54.1		
	comp=Z,86nm,1.2s								
Y45A	**Yeager Farm, C**	**6.97**	**108**	lAmb_Lg			14 41 08.3		
	comp=Z,27nm,0.8s								
K38A	**Parkersburg**	**7.33**	**29**	lAmb_Lg			14 41 26.6		
	comp=Z,70nm,0.8s								
ECSD	**EROS Data Cent**	**7.46**	**5**	Pn		**Pn**	**14 39 04.8**	**+0.1**	
ECSD	**EROS Data Cent**	**7.46**	**5**	P			14 39 04.3		
	baz=186								
L40A	**Anamosa**	**7.55**	**38**	Pn		**Pn**	**14 39 05.5**	**-0.5**	
L40A				lAmb_Lg			14 41 17.3		
	comp=Z,38nm,0.9s								
HDIL	**Hopedale**	**7.73**	**54**	Pn		**Pn**	**14 39 07.2**	**-1.2**	
HDIL	**Hopedale**	**7.73**	**54**	P			14 39 08.3		
	baz=239								
PLAL	**Pickwick Lake**	**7.80**	**97**	lAmb_Lg			14 41 29.8		
	comp=Z,19nm,0.8s								
PHWY	**Pilot Hill**	**7.96**	**311**	lAmb_Lg			14 41 39.9		
	comp=Z,23nm,0.7s								
MNTX	**Cornudas Mount**	**7.98**	**237**	Pn		**Pn**	**14 39 11.2**	**-0.6**	
Y22D	**IRIS PASSCAL I**	**8.01**	**257**	lAmb_Lg			14 41 37.7		
	comp=Z,62nm,0.9s								
O44A	**Mansfield**	**8.09**	**59**	lAmb_Lg			14 41 36.4		
	comp=Z,63nm,0.8s								
SUSD	**Miller**	**8.21**	**353**	lAmb_Lg			14 41 43.6		
	comp=Z,33nm,0.8s								
I37A	**Lemond, Waseca**	**8.33**	**21**	lAmb_Lg			14 41 43.7		
	comp=Z,38nm,0.9s								
L42A	**Oliver, Polo**	**8.34**	**45**	lAmb_Lg			14 41 48.0		
	comp=Z,49nm,0.9s								
TX31	**Lajitas Ar. Si**	**8.66**	**218**	Pn		**Pn**	**14 39 21.2**	**0.0**	
TX32	**Lajitas Array**	**8.66**	**218**	Pn		**Pn**	**14 39 21.3**	**+0.1**	
TXAR	**Lajitas Array**	**8.66**	**218**	Pn		**Pn**	**14 39 20.7**	**-0.5**	
JFWS	**Jewell Farm**	**8.66**	**38**	lAmb_Lg			14 41 51.4		
	comp=Z,43nm,0.8s								
M44A	**Midewin, Midew**	**8.97**	**53**	lAmb_Lg			14 42 07.7		
	comp=Z,46nm,0.9s								
CLTN	**Cedars of Leba**	**9.04**	**88**	lAmb_Lg			14 42 03.6		
	comp=Z,22nm,1.0s								
SFIN	**Lafayette**	**9.14**	**60**	lAmb_Lg			14 42 11.8		
	comp=Z,42nm,0.8s								
WCI	**Wyandotte Cave**	**9.15**	**74**	lAmb_Lg			14 42 08.9		
	comp=Z,30nm,0.8s								
I40A	**Norwalk**	**9.24**	**33**	Pn		**Pn**	**14 39 27.1**	**-2.0**	
I40A				lAmb_Lg			14 42 06.7		
	comp=Z,23nm,1.0s								
RSSD	**Black Hills**	**9.27**	**329**	lAmb_Lg			14 42 16.2		
	comp=Z,16nm,0.8s								
RWWY	**Rawlins**	**9.27**	**308**	lAmb_Lg			14 42 19.2		
	comp=Z,28nm,0.9s								
O20A	**White River Ci**	**9.27**	**298**	lAmb_Lg			14 42 30.9		
	comp=Z,16nm,1.3s								
121A	**Cookes Peak, D**	**9.28**	**249**	lAmb_Lg			14 42 19.8		
	comp=Z,19nm,1.0s								
HQIL	**Hanson Quary C**	**9.31**	**51**	lAmb_Lg			14 42 27.7		
	comp=Z,37nm,0.8s								
K22A	**Casper**	**9.42**	**315**	lAmb_Lg			14 42 34.5		
	comp=Z,46nm,1.1s								
SWET	**Sewanee**	**9.48**	**93**	lAmb_Lg			14 42 33.1		
	comp=Z,19nm,1.1s								
L44A	**Lake County Fo**	**9.48**	**49**	lAmb_Lg			14 42 24.2		
	comp=Z,52nm,0.8s								
SPMN	**Marine on St.**	**9.61**	**20**	lAmb_Lg			14 42 25.1		
	comp=Z,17nm,1.1s								
FPAL	**Fort Paine**	**9.87**	**97**	lAmb_Lg			14 42 39.1		
	comp=Z,25nm,1.2s								
W50A	**Signal Mountai**	**9.98**	**93**	lAmb_Lg			14 42 48.8		
	comp=Z,17nm,0.8s								

IDC 28 14:38:28.2±3.9, 36°22'N×69°61'E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.2/34, mbtmp3.4/4, ML3.0/1, MS4.0/2, Ms1 4.0/2, ms1mx3.0/39, Error ellipse: s-maj=86.3km s-min=33.8km az=141.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.19**	**38**	Pn	Pn	14 41 50.7	+0.2
	0.1nm,0.3s,baz=224,slow=16,SNR=2.9						
FINES	**FINESS Array B**	**37.10**	**327**	P	P	14 45 40.4	+0.4
	0.6nm,0.6s,baz=123,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**40.98**	**338**	P	P	14 46 11.8	-0.6
	0.7nm,0.6s,baz=119,slow=7.3,SNR=5.2						
ASAJ	**Asahikawa**	**54.66**	**58**	LR	LR	15 15 31.5	
	comp=Z,62nm,20.0s,baz=171,slow=41						
LEM	**Lembang**	**55.72**	**132**	LR	LR	15 13 49.2	
	comp=Z,304nm,18.0s,baz=321,slow=38						
TORD	**Torodi Ar. Bea**	**64.58**	**268**	P	P	14 49 07.7	0.0
	0.2nm,0.4s,baz=51,slow=4.9,SNR=4.2						

*BGR **28** 14:43:09.8±0.0, 19°27'S×176°09'W, h33km*
*IDC **28** 14:44:18.9±1.1, 18°13'S×178°44'W, h624km±14km, mb3.4/16, mb1 3.7/19, mb1mx3.6/26, mbtmp4.4/19, Error ellipse: s-maj=15.5km s-min=11.0km az=130.0*
*NEIC **28** 14:44:19.3±1.9, 18°1S±0°1×178°4W±0°1, h624km±6km, mb4.4/64, Error ellipse: s-maj=17.9km s-min=13.7km az=124.0*

ISC 28 14:44:18.7±0.4, 18°15S±0°07×178°49W±0°07, h624km, n216, σ1$01/227, mb4.4/62, 19C-20D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.32**	**277**	P	**P**	**14 45 43.9**	**+2.1**
	10nm,0.3s,baz=138,slow=3.2,SNR=59						
MSVF	**Nonsavu**	**3.32**	**277**	P	**P**	**14 45 43.6**	**+1.8**
AFI	**Afiamalu**	**7.71**	**58**	P	**P**	**14 46 14.6**	**-1.8**
	4.9nm,0.3s,baz=225,slow=13,SNR=5.9						
AFI	**Afiamalu**	**7.71**	**58**	P	**P**	**14 46 14.2**	**-2.2**
NIUE	**Niue**	**8.17**	**98**	P	**P**	**14 46 22.0**	**+1.5**
DZM	**Mont Dzumac**	**14.68**	**252**	P	**P**	**14 47 24.3**	**+1.2**
	0.5nm,0.3s,baz=103,slow=23,SNR=2.3						
KNTN	**Kanton**	**16.66**	**24**	P	**P**	**14 47 39.5**	**-1.7**
URZ	**Urewera**	**20.40**	**190**	P	**P**	**14 48 13.4**	**-1.3**
	4.2nm,0.4s,baz=122,slow=24,SNR=9.0						
URZ				S	**S**	**14 51 18.6**	**-6.3**
	6.3nm,0.9s,baz=304,slow=24,SNR=1.6						
URZ	**Urewera**	**20.40**	**190**	P	**P**	**14 48 13.6**	**-1.0**
URZ				lAmb	lAmb	14 48 41.0	
	comp=Z,23nm,1.2s						
BKZ	**Black Stump Fm**	**21.39**	**191**	P	**P**	**14 48 21.5**	**-2.1**
BKZ				lAmb	lAmb	14 48 44.2	
	comp=Z,23nm,1.3s						
QRZ	**Quartz Range**	**23.88**	**197**	P	**P**	**14 48 46.6**	**+1.0**
PLWZ	**Palliser**	**23.95**	**192**	P	**P**	**14 48 44.7**	**-1.5**
NNZ	**Nelson**	**24.02**	**195**	P	**P**	**14 48 46.3**	**-0.6**
TUWZ	**Tuamarina**	**24.09**	**194**	P	**P**	**14 48 46.2**	**-1.3**
THZ	**Tophouse**	**24.66**	**196**	P	**P**	**14 48 52.5**	**0.0**
KHZ	**Kahutara**	**25.12**	**194**	P	**P**	**14 48 55.6**	**-0.9**
FOZ	**Fox Glacier**	**27.16**	**199**	P	**P**	**14 49 13.8**	**-0.6**
EIDS	**Eidsvold**	**29.11**	**250**	P	**P**	**14 49 32.8**	**+1.2**
EIDS				lAmb	lAmb	14 49 33.5	
	comp=Z,18nm,0.9s						
MLZ	**Mavora Lakes**	**29.34**	**199**	P	**P**	**14 49 34.2**	**+0.9**
ARMA	**Armidale**	**29.75**	**240**	P	**P**	**14 49 38.1**	**+0.9**
ARMA				lAmb	lAmb	14 49 39.8	
	comp=Z,10nm,0.8s						
KWAJ	**Kwajalein Atol**	**30.09**	**332**	P	**P**	**14 49 41.1**	**+1.0**
CTAO	**Charters Tower**	**33.33**	**261**	P	**P**	**14 50 08.0**	**+0.5**
CTAO				lAmb	lAmb	14 50 08.7	
	comp=Z,12nm,0.8s						
CAN	**Canberra**	**33.50**	**233**	P	**P**	**14 50 09.9**	**+1.2**
TOO	**Toolangi**	**36.96**	**231**	P	**P**	**14 50 38.4**	**+1.2**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**14 50 50.7**	**+1.4**
	comp=Z,15nm,0.5s,baz=92,slow=10,SNR=41						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**14 50 50.5**	**+1.3**
STKA				lAmb	lAmb	14 50 51.7	
	comp=Z,5.2nm,1.0s						
BBOO	**Buckleboo**	**43.22**	**241**	P	**P**	**14 51 27.7**	**+0.8**
WMR	**Waimanalo Ridg**	**44.21**	**28**	P	**P**	**14 51 34.3**	**-0.3**
WR0	**Warramunga Arr**	**44.32**	**260**	P	**P**	**14 51 35.4**	**-0.2**
WR0				lAmb	lAmb	14 51 37.4	
	comp=Z,6.7nm,1.1s						
WB0	**Warramunga Arr**	**44.48**	**260**	P	**P**	**14 51 36.7**	**-0.1**
WB0				lAmb	lAmb	14 51 37.6	
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**44.50**	**260**	P	**P**	**14 51 36.8**	**-0.2**
WB2				lAmb	lAmb	14 51 37.9	
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**44.51**	**260**	P	**P**	**14 51 36.8**	**-0.2**
WRAB				lAmb	lAmb	14 51 37.8	
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	**14 51 37.0**	**0.0**
	comp=Z,12nm,0.6s,baz=95,slow=7.1,SNR=120						
WRA				PcP	**PcP**	**14 53 06.5**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=90,slow=3.1,SNR=7.1						
WRA				S	**S**	**14 57 24.1**	**-4.8**
	comp=Z,0.7nm,0.8s,baz=92,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**44.51**	**260**	P	**P**	**14 51 36.7**	**-0.3**
AS31	**Alice Springs**	**44.65**	**254**	P	**P**	**14 51 38.7**	**+0.6**
AS31				lAmb	lAmb	14 51 39.8	
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**14 51 38.7**	**+0.6**
	comp=Z,37nm,0.6s,baz=87,slow=8.5,SNR=603						
ASAR				PcP	**PcP**	**14 53 06.8**	**0.0**
	comp=Z,4.0nm,0.4s,baz=104,slow=3.8,SNR=16						
ASAR				S	**S**	**14 57 28.9**	**-1.9**
	comp=Z,2.6nm,0.9s,baz=91,slow=16,SNR=17						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**14 51 38.6**	**+0.5**
MTN	**Manton Dam**	**48.72**	**269**	P	**P**	**14 52 08.4**	**-0.2**
MTN				lAmb	lAmb	14 52 09.5	
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**49.84**	**245**	P	**P**	**14 52 16.3**	**-0.3**
KNRA	**Kununurra**	**50.39**	**264**	P	**P**	**14 52 20.7**	**-0.1**
KNRA				lAmb	lAmb	14 52 21.7	
	comp=Z,14nm,0.8s						
SIJI	**Sorong**	**52.22**	**283**	P	**P**	**14 52 33.3**	**-0.7**
	comp=Z,1μmcomp=Z,18nm,0.8s						
SWI	**Sorong**	**52.23**	**283**	P	**P**	**14 52 33.7**	**-0.3**
	comp=Z,36nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.91**	**261**	P	**P**	**14 52 39.3**	**+0.5**
FITZ				lAmb	lAmb	14 52 43.6	
	comp=Z,8.9nm,1.2s						
SOEI	**Soe**	**56.00**	**270**	P	**P**	**14 53 02.1**	**+1.6**
SOEI				lAmb	lAmb	14 53 07.6	
	comp=Z,27nm,0.7s						
SOEI	**Soe**	**56.00**	**270**	P	**P**	**14 52 59.9**	**-0.6**
	comp=Z,48nm,0.7s						
TNTI	**Ternate**	**56.44**	**283**	P	**P**	**14 53 02.2**	**-1.2**
	comp=Z,30nm,1.3s						
BATI	**Baumata**	**56.45**	**270**	P	**P**	**14 53 02.2**	**-1.3**
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**57.77**	**256**	P	**P**	**14 53 12.1**	**-0.2**
PSA00	**Pilbara Seismi**	**57.77**	**256**	P	**P**	**14 53 12.2**	**-0.2**
PSA00				lAmb	lAmb	14 53 13.3	
	comp=Z,13nm,0.8s						
MMRI	**Maumere**	**58.23**	**271**	P	**P**	**14 53 14.3**	**-1.2**
	comp=Z,2μmcomp=Z,35nm,1.3s						
EDFI	**Ende, Flores**	**58.72**	**271**	P	**P**	**14 53 18.6**	**-0.3**
	comp=Z,9.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.03**	**242**	P	**P**	**14 53 20.8**	**+0.1**
NWAO				lAmb	lAmb	14 53 38.5	
	comp=Z,29nm,1.4s						
SBA	**Scott Base**	**60.17**	**184**	P	**P**	**14 53 29.4**	**+2.1**
VNDA	**Vanda**	**60.20**	**185**	P	**P**	**14 53 28.6**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=359,slow=7.6,SNR=13						
VNDA	**Vanda**	**60.20**	**185**	P	**P**	**14 53 28.2**	**+0.7**
MORW	**Morawa**	**60.31**	**246**	P	**P**	**14 53 28.7**	**-0.5**
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**14 53 46.1**	**+1.1**
MPSI	**Mapaga**	**63.24**	**280**	P	**P**	**14 53 48.1**	**-0.2**
	comp=Z,13nm,0.9s						
TWSI	**Taliwang, Sumb**	**63.29**	**269**	P	**P**	**14 53 47.5**	**-1.1**
	comp=Z,23nm,1.0s						
KLNI	**Mataram**	**64.12**	**269**	P	**P**	**14 53 52.2**	**-1.7**
	comp=Z,18nm,1.9s						
CASY	**Casey**	**65.88**	**205**	P	**P**	**14 54 04.2**	**+0.3**
CASY				lAmb	lAmb	14 54 05.4	
	comp=Z,20nm,1.2s						
JAGI	**Jajag, Banyuwa**	**65.96**	**269**	P	**P**	**14 54 03.4**	**-2.0**
	comp=Z,73nm,1.3s						
KMMI	**Kalianget**	**66.53**	**270**	P	**P**	**14 54 08.1**	**-0.8**
	comp=Z,54nm,1.7s						
BBKI	**Banjar Baru**	**66.77**	**274**	P	**P**	**14 54 09.2**	**-1.2**
	comp=Z,10nm,1.7s						
MJAR	**Matsushiro Arr**	**68.06**	**323**	P	**P**	**14 54 17.6**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=166,slow=5.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**68.06**	**323**	P	**P**	**14 54 17.7**	**0.0**
PCJI	**Pacitan**	**68.86**	**268**	P	**P**	**14 54 21.7**	**-1.3**
	comp=Z,148nm,1.2s						
UGM	**Wanagama**	**69.56**	**268**	P	**P**	**14 54 27.2**	**0.0**
UGM	**Wanagama**	**69.56**	**268**	P	**P**	**14 54 26.2**	**-1.1**
	comp=Z,243nm,1.9s						
ADK	**Adak**	**69.75**	**1**	P	**P**	**14 54 26.5**	**-0.9**
ADK				lAmb	lAmb	14 54 44.3	
	comp=Z,29nm,1.4s						
YOGI	**Yogyakarta**	**69.81**	**268**	P	**P**	**14 54 26.9**	**-1.8**
	comp=Z,249nm,1.6s						
JHS	**Saijyo**	**70.03**	**319**	P	**P**	**14 54 30.3**	**+0.8**
TWG	**Pinlang**	**71.74**	**302**	P	**P**	**14 54 38.4**	**-1.4**
YULB	**Yu-li**	**71.84**	**303**	P	**P**	**14 54 39.2**	**-1.1**
YULB				lAmb	lAmb	14 54 54.9	
	comp=Z,22nm,1.3s						
SSLB	**Suanglung**	**72.31**	**303**	P	**P**	**14 54 42.1**	**-0.9**
SSLB				lAmb	lAmb	14 55 04.8	
	comp=Z,20nm,1.4s						
TPUB	**Ta-pu**	**72.33**	**303**	P	**P**	**14 54 42.4**	**-0.7**
TPUB				lAmb	lAmb	14 54 43.2	
	comp=Z,21nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**14 54 51.3**	**0.0**
PEA0B				lAmb	lAmb	14 55 10.1	
	comp=Z,14nm,1.4s						
PETK	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**14 54 51.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=115,slow=7.3,SNR=8.9						
PETK	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**14 54 50.8**	**-0.6**
CGJI	**Cibinong**	**74.52**	**268**	P	**P**	**14 54 55.2**	**-0.6**
KSRS	**Korea Array**	**74.83**	**318**	P	**P**	**14 54 57.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=125,slow=6.0,SNR=2.4						
MDPB	**Devils Postpil**	**78.70**	**44**	P	**P**	**14 55 18.7**	**+0.4**
SLBS	**Sierra La Lagu**	**78.75**	**60**	P	**P**	**14 55 19.6**	**+0.9**
SLBS				lAmb	lAmb	14 55 20.7	
	comp=Z,21nm,1.5s						
YBH	**Yreka Blue Hor**	**78.76**	**39**	P	**P**	**14 55 18.9**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=211,slow=4.1,SNR=7.6						
YBH	**Yreka Blue Hor**	**78.76**	**39**	P	**P**	**14 55 18.9**	**+0.5**
WAKR	**Walker**	**78.95**	**43**	P	**P**	**14 55 19.7**	**+0.1**
BEKR	**Beckworth**	**79.12**	**42**	P	**P**	**14 55 20.3**	**-0.1**
PNTR	**Pine Nut**	**79.17**	**43**	P	**P**	**14 55 21.1**	**+0.4**
YERR	**Yerington**	**79.34**	**43**	P	**P**	**14 55 22.0**	**+0.4**
YERR				lAmb	lAmb	14 55 22.4	
	comp=Z,2.5nm,0.6s						
LHV	**Little Huntoon**	**79.42**	**44**	P	**P**	**14 55 22.4**	**+0.7**
LHV				lAmb	lAmb	14 55 27.1	
	comp=Z,5.6nm,1.3s						
RYN	**Ryan**	**79.62**	**44**	P	**P**	**14 55 22.7**	**-0.3**
NVAR	**Mina Array Bea**	**79.65**	**44**	P	**P**	**14 55 23.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=223,slow=8.8,SNR=16						
**N

comp=Z,21nm,0.7s
CLL *e*PKPab **PKPab** 15 02 51.0 +0.2
comp=Z,6.0nm,0.8s
CLL *e*SKPdf **SKPdf** 15 05 24.0 +0.8
CLL Collm 145.68 347 PKPdf **PKPdf** 15 02 48.0 +0.9
CLL Collm 145.68 347 *e*PKPbc **PKPbc** 15 02 48.8 -0.1
baz=14,slow=2.7
UPC Upice 145.70 344 *e*PKP **PKPbc** 15 02 48.9 -0.1
DPC Dobruska-Polom 145.76 343 *e*PKP **PKPbc** 15 02 49.3 0.0
LANS Liptovska Anna 145.84 339 *e*PKP **PKPbc** 15 02 50.6 +1.1
KRLC Kraliky 145.88 342 *e*PKP **PKPbc** 15 02 49.4 -0.2
BRG Berggiesshubel 145.88 346 *i* PKP **PKPbc** 15 02 49.4 0.0
BRG Amp 15 02 50.2
comp=Z,8.7nm,0.7s
BRG Berggiesshubel 145.88 346 *e*PKPbc **PKPbc** 15 02 49.5 0.0
baz=14,slow=2.7
MORC Moravsky Berou 145.92 341 ⇑P **PKPbc** 15 02 50.1 +0.4
MORC Moravsky Berou 145.92 341 *e*PKP **PKPbc** 15 02 49.7 0.0
DOPR Dopca 145.93 330 ⇓P **PKPbc** 15 02 50.5 +0.6
FBE Freiberg 145.97 347 *e*PKPbc **PKPbc** 15 02 50.2 +0.5
baz=14,slow=2.7
MLR Muntele Rosu 146.00 329 ⇑P **PKPbc** 15 02 50.0 -0.2
MLR Muntele Rosu 146.00 329 PKPbc **PKPbc** 15 02 49.7 -0.5
NEUB Neuenburg 146.03 348 *e*PKPbc **PKPbc** 15 02 49.7 -0.1
baz=14,slow=2.7
CJR Cluj-Napoca 146.20 332 ⇑P **PKPbc** 15 02 51.2 +0.6
DRGR 146.52 333 ⇑P **PKPbc** 15 02 51.5 0.0
PRU Pruhonice 146.56 345 *e*PKP **PKPbc** 15 02 51.2 -0.2
KASTN Kahler Asten 146.57 352 *e*PKPbc **PKPbc** 15 02 51.2 -0.2
baz=14,slow=2.7
VRAC Vranov 146.62 342 ⇓P **PKPbc** 15 02 51.6 0.0
VRAC Vranov 146.62 342 *e*PKP **PKPbc** 15 02 51.8 +0.2
VYHS Vyhne 146.62 339 *e*PKP **PKPbc** 15 02 51.7 +0.1
PLN Plauen 146.64 348 *e*PKPbc **PKPbc** 15 02 51.5 -0.1
baz=14,slow=2.7
TANN Tannenbergstha 146.64 347 *e*PKPbc **PKPbc** 15 02 51.6 -0.1
baz=14,slow=2.7
WERD Werda 146.64 347 *e*PKPbc **PKPbc** 15 02 51.8 +0.1
baz=14,slow=2.7
JAVC Velka Javorina 146.69 340 *e*PKP **PKiKP** 15 02 53.1 -0.7
GUNZ Gunzen 146.72 347 *e*PKPbc **PKPbc** 15 02 52.0 +0.2
baz=14,slow=2.7
ARR Arges 146.73 330 ⇑P **PKPbc** 15 02 52.9 +0.8
PSZ Piszkesteto 146.73 337 ⇑P **PKPbc** 15 02 52.2 +0.1
PSZ Piszkesteto 146.73 337 **PKPbc** 15 02 51.9 -0.1
WERN Wernitzgruen 146.78 347 *e*PKPbc **PKPbc** 15 02 52.2 +0.1
baz=14,slow=2.7
KRUC Moravsky 146.90 342 *e*PKP **PKPbc** 15 02 52.4 +0.1
MANZ Manzenberg 147.12 347 *e*PKPbc **PKPbc** 15 02 53.0 +0.1
baz=14,slow=2.7
MODS Modra-Piesok 147.24 340 *e*PKP **PKPbc** 15 02 54.0 +0.7
ROTZ Rotzenmuhle 147.31 347 *e*PKPbc **PKPbc** 15 02 53.6 +0.2
baz=14,slow=2.7
SIRR Siria 147.38 334 ⇑P **PKPbc** 15 02 54.1 +0.4
MEM Membach 147.42 355 *d*PKPbc **PKPbc** 15 02 53.5 -0.1
MEM *d*PKPab **PKPab** 15 02 57.5 -0.3
BTNL Ternell 147.43 355 *d*PKPdf **PKPdf** 15 02 50.2 +0.1
BTNL *d*PKPbc **PKPbc** 15 02 53.6 -0.1
BSTI Sart Tilman 147.48 355 *d*PKPbc **PKPbc** 15 02 53.3 -0.5
TNS Taunus Mts 147.53 352 *e*PKPbc **PKPbc** 15 02 53.9 -0.1
baz=14,slow=2.7
GZR Gura Zlata 147.58 332 ⇓P **PKPbc** 15 02 54.0 -0.3
GRF Grafenberg Arr 147.58 348 *e*PKPbc **PKPbc** 15 02 54.3 +0.2
baz=14,slow=2.7
KHC Kasperske Hory 147.59 345 *e*PKP **PKPbc** 15 02 53.4 -0.8
SNF Seneffe 147.64 357 *d*PKPbc **PKPbc** 15 02 53.9 -0.3
SNF *d*PKPab **PKPab** 15 02 58.0 -0.8
CKRC Cesky Krumlov 147.70 344 *e*PKP **PKPbc** 15 02 54.4 0.0
BMRD Maredsous 147.82 356 *d*PKPbc **PKPbc** 15 02 54.5 -0.1
GEC2 GERESS Array S 147.83 345 **PKPbc** 15 02 54.4 -0.4
GEC2 GERESS Array S 147.83 345 *e*PKPbc **PKPbc** 15 02 54.4 -0.4
baz=14,slow=2.7
GERES GERESS Array B 147.83 345 PKPbc **PKPbc** 15 02 54.7 -0.1
comp=Z,4.2nm,0.6s,baz=33,slow=3.2,SNR=40
BZS Buzias 147.92 333 ⇑P **PKPbc** 15 02 55.2 +0.2
DOU Dourbes 148.04 356 *d*PKPbc **PKPbc** 15 02 54.6 -0.6
CONA Conrad Observa 148.07 342 *e*P **PKPbc** 15 02 55.6 +0.1
comp=Z,7.1nm,1.0s,SNR=6.3
HERR Herculane 148.13 331 ⇓P **PKPbc** 15 02 55.3 -0.3
WLF Walferdange 148.34 354 *d*PKPdf **PKPdf** 15 02 51.5 -0.1
WLF *d*PKPbc **PKPbc** 15 02 55.5 -0.5
WLF *d*PKiKP **PKiKP** 15 02 56.4 -0.7
WLF Walferdange 148.34 354 **PKPbc** 15 02 55.2 -0.8
MDVR Moldovita 148.53 332 ⇑P **PKPbc** 15 02 56.7 0.0
MOA Molln 148.60 343 *e*P **PKPbc** 15 02 56.0 -0.7
comp=Z,3.1nm,0.9s
MORH Mrgy, Hungar 148.63 337 ⇑P **PKPbc** 15 02 56.5 -0.3
ARSA Arzberg 148.78 341 *e*P **PKPbc** 15 02 56.1 -1.1
comp=Z,1.7nm,0.9s
FRGS Fruska Gora 149.04 334 ⇑P **PKPbc** 15 02 57.9 +0.1
RJOB Jochberg 149.08 345 *e*PKPbc **PKPbc** 15 02 57.8 -0.2
baz=14,slow=2.7
BFO Black Forest 149.39 351 **PKPbc** 15 02 58.2 -0.4
BFO Black Forest 149.39 351 *e*PKPbc **PKPbc** 15 02 58.3 -0.4
baz=14,slow=2.7
BOVS Bovan 149.41 330 ⇓P **PKPbc** 15 02 57.9 -0.8
VTS Vitosha 149.42 328 ⇓P **PKPbc** 15 02 58.7 -0.4
VTS Vitosha 149.42 328 **PKPbc** 15 02 58.3 -0.7
KBA Koelnbreinsper 149.55 344 *i* P **PKPbc** 15 02 57.9 -1.3
comp=Z,4.7nm,0.6s
UBR Ueberruh 149.72 348 *e*PKPbc **PKPbc** 15 02 59.2 -0.2
baz=14,slow=2.7
WATA Walderalm 149.74 346 *i* P **PKPbc** 15 02 59.2 -0.5
comp=Z,4.3nm,0.6s
RETA Reutte 149.78 347 *i* P **PKPbc** 15 02 59.1 -0.5
comp=Z,4.0nm,0.6s
WTTA Wattenberg 149.80 346 *e*P **PKPbc** 15 02 59.4 -0.4
comp=Z,9.6nm,0.5s,SNR=6.3
MOTA Moosalm 149.84 347 *e*P **PKPbc** 15 02 59.3 -0.6
comp=Z,6.7nm,0.8s,SNR=5.1
MYKA Terra Mystica 149.89 343 *i* P **PKPbc** 15 02 58.9 -0.9
comp=Z,6.4nm,0.7s
SQTA Sankt Quirin 149.93 347 *i* P **PKPbc** 15 02 59.7 -0.4
comp=Z,7.9nm,0.6s
ABTA Abfaltersbach 150.07 345 *e*P **PKPbc** 15 02 59.6 -0.7
comp=Z,9.9nm,0.6s,SNR=7.1
DAVA Damuels 150.14 349 *e*P **PKPbc** 15 03 00.3 -0.2
comp=Z,11nm,1.2s
FETA Feichten 150.23 347 *i* P **PKPbc** 15 03 00.5 -0.3
comp=Z,5.5nm,0.7s
SANT Santorini 152.15 315 ⇑P **PKiKP** 15 03 09.1 +3.7
MATE Matera 154.04 333 ⇑P **PKPdf** 15 02 59.1 -1.3
TORD Torodi Ar. Bea 175.02 182 PKP **PKPdf** 15 03 17.9 -1.2
comp=Z,1.3nm,0.8s,baz=199,slow=1.9,SNR=4.8
TORD PKPab **PKPab** 15 04 58.4 -0.3
comp=Z,0.5nm,0.6s,baz=201,slow=5.0,SNR=2.5

IDC 28 15:01:54.5±1.7,2°87′N×92°78′E,h0km,mb3.4/3,mb1 3.7/5, mb1mx3.4/44,mbtmp3.6/5,ML3.7/2,Error ellipse: s-maj=58.0km s-min=25.9km az=50.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PALK	**Pallekele**	**12.80**	**290**	Pn		Pn	15 04	57.0	-1.0
	1.4nm,0.3s,baz=211,slow=14,SNR=6.9								
PALK				Sn		Sn	15 07	07.6	-14
	1.6nm,0.3s,baz=314,slow=19,SNR=7.0								
CMAR	**Chiang Mai Arr**	**16.63**	**21**	Pn		Pn	15 05	48.6	-0.6
	0.1nm,0.3s,baz=211,slow=13,SNR=3.1								
MKAR	**Makanchi Array**	**44.70**	**350**	P		P	15 10	09.6	+0.3
	0.3nm,0.6s,baz=171,slow=10,SNR=4.4								
WRA	**Warramunga Arr**	**46.66**	**121**	P		P	15 10	25.0	-0.2
	0.3nm,0.5s,baz=300,slow=8.7,SNR=4.8								
ASAR	**Alice Springs**	**47.93**	**126**	P		P	15 10	35.0	-0.1
	0.1nm,0.3s,baz=300,slow=7.7,SNR=6.5								

*NEIC **28** 15:10:14.7±1.7,16°.0S±0°.1×176°.4W±0°.1,h343km±8km, mb4.4/36,Error ellipse: s-maj=21.9km s-min=12.7km az=139.0*
*IDC **28** 15:10:15.5±1.6,15°.94S×176°.47W,h353km±17km,mb3.3/7, mb1 3.6/9,mb1mx3.3/38,mbtmp4.1/9,Error ellipse: s-maj=81.1km s-min=13.7km az=153.0*

ISC 28 15:10:14.6±0.5,15°.9S±0°.1×176°.43W±0°.08,h350km,n53, σ1°32/56,mb4.2/24,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
AFI	**Afiamalu**	**4.93**	**66**	P		**Pn**	**15 11**	**33.9**	**+0.2**
	34nm,0.3s,baz=168,slow=1.9,SNR=31								
AFI				S		**S**	**15 12**	**35.7**	**-1.8**
	1.7nm,0.3s,baz=49,slow=20,SNR=1.2								
AFI Afiamalu 4.93 66 **Pn** 15 11 33.5 -0.1
MSVF Nonsavu 5.58 251 P **Pn** 15 11 43.1 +2.3
2.0nm,0.3s,baz=92,slow=18,SNR=7.5
MSVF Nonsavu 5.58 251 Pn Pn 15 11 45.9 +5.1
NIUE Niue 6.95 118 Pn **Pn** 15 11 56.5 +0.1
PINNC Pines Island, 16.60 244 P **P** 15 13 47.9 +1.3
DZM Mont Dzumac 17.30 247 P **P** 15 13 56.0 +1.7
DZM IAmb IAmb 15 14 11.4
comp=Z,27nm,1.2s
OUZ Omahuta 21.18 203 P **P** 15 14 34.1 +0.8
OUZ IAmb IAmb 15 14 58.3
comp=Z,66nm,1.5s
URZ Urewera 22.95 193 P **P** 15 14 45.7 -3.7
URZ IAmb IAmb 15 14 47.5
comp=Z,42nm,1.4s
BKZ Black Stump Fm 23.95 194 P **P** 15 14 56.0 -2.6
BKZ IAmb IAmb 15 15 12.3
comp=Z,43nm,1.5s
XMAS Kiritimati 25.91 48 P **P** 15 15 16.8 +0.5
QRZ Quartz Range 26.58 199 P **P** 15 15 20.0 -1.9
NNZ Nelson 26.69 197 P **P** 15 15 21.1 -1.8
TUWZ Tuamarina 26.73 196 P **P** 15 15 20.9 -2.3
THZ Tophouse 27.33 198 P **P** 15 15 26.7 -1.9
THZ IAmb IAmb 15 15 26.9
comp=Z,48nm,1.3s
KHZ Kahutara 27.76 196 P **P** 15 15 30.2 -2.0
KHZ IAmb IAmb 15 15 33.2
comp=Z,59nm,1.3s
MLZ Mavora Lakes 32.09 201 P **P** 15 16 09.4 -0.8
ARMA Armidale 32.57 238 P **P** 15 16 15.1 +0.4
ARMA IAmb IAmb 15 16 24.7
comp=Z,19nm,1.4s
WHZ Wether Hill Ro 32.60 200 P **P** 15 16 14.1 -0.5
CTA Charters Tower 35.67 258 P **P** 15 16 39.9 -1.2
comp=Z,43nm,0.8s,baz=80,slow=14,SNR=1.9
CTAO Charters Tower 35.67 258 P **P** 15 16 40.1 -1.0
CTAO IAmb IAmb 15 16 58.6
comp=Z,15nm,1.2s
CAN Canberra 36.40 231 P **P** 15 16 47.0 -0.1
CAN IAmb IAmb 15 17 09.6
comp=Z,20nm,1.4s
TOO Toolangi 39.88 230 P **P** 15 17 16.6 +0.8
TOO IAmb IAmb 15 17 17.0
comp=Z,16nm,1.2s
KHLU Kahalu`u 40.68 30 P **P** 15 17 21.6 -1.0
UWB Uwekahuna B 40.84 31 P **P** 15 17 23.3 -0.5
MLH Mauna Loa 40.84 31 P **P** 15 17 23.4 -0.7
STKA Stephens Creek 41.24 240 P **P** 15 17 27.0 +0.1
comp=Z,2.0nm,0.5s,baz=90,slow=14,SNR=7.3
STKA Stephens Creek 41.24 240 P **P** 15 17 27.0 +0.1
BBOO Buckleboo 46.02 240 P **P** 15 18 04.0 -0.6
BBOO IAmb IAmb 15 18 20.9
comp=Z,33nm,1.4s
WR0 Warramunga Arr 46.69 257 P **P** 15 18 09.6 -0.3
WB0 Warramunga Arr 46.84 258 P **P** 15 18 10.9 -0.1
WB0 IAmb IAmb 15 18 12.0
comp=Z,12nm,0.8s
WB2 Warramunga Arr 46.87 257 P **P** 15 18 11.1 -0.2
WB2 IAmb IAmb 15 18 12.3
comp=Z,11nm,0.7s
WRA Warramunga Arr 46.88 257 P **P** 15 18 11.3 -0.1
comp=Z,5.5nm,0.5s,baz=96,slow=7.7,SNR=163
WRA S **S** 15 24 32.0 -3.3
comp=Z,0.7nm,1.0s,baz=82,slow=12,SNR=2.2
WRA Warramunga Arr 46.88 257 P **P** 15 18 10.3 -1.1
AS31 Alice Springs 47.16 252 P **P** 15 18 13.4 -0.2
AS31 IAmb IAmb 15 18 14.5
comp=Z,8.3nm,0.6s
ASAR Alice Springs 47.17 252 P **P** 15 18 13.9 +0.4
comp=Z,25nm,0.5s,baz=88,slow=7.7,SNR=1087
ASAR PcP **PcP** 15 19 38.6 -0.3
comp=Z,0.5nm,0.6s,baz=95,slow=5.7,SNR=1.8
ASAR S **S** 15 24 36.0 -3.3
comp=Z,0.2nm,0.8s,baz=83,slow=14,SNR=1.3
ASAR Alice Springs 47.17 252 P **P** 15 18 13.6 0.0
MTN Manton Dam 50.78 266 P **P** 15 18 41.2 +0.4
MTN IAmb IAmb 15 18 42.5
comp=Z,11nm,0.9s
FORT Forrest 52.57 243 P **P** 15 18 53.1 -0.6
FORT IAmb IAmb 15 18 54.0
comp=Z,12nm,0.6s
KNRA Kununurra 52.60 262 P **P** 15 18 54.3 +0.3
FITZ Fitzroy Crossi 55.24 259 P **P** 15 19 13.8 +0.8
comp=Z,1.5nm,0.5s,baz=72,slow=5.7,SNR=9.7
FITZ Fitzroy Crossi 55.24 259 P **P** 15 19 13.2 +0.2
PSA00 Pilbara Seismi 60.25 254 P **P** 15 19 47.4 -0.1
NWAO Narrogin (SRO) 61.81 241 P **P** 15 19 57.5 -0.2
NWAO IAmb IAmb 15 20 19.5
comp=Z,27nm,1.4s
SBA Scott Base 62.50 184 P **P** 15 20 03.1 +1.7
VNDA Vanda 62.56 185 P **P** 15 20 02.8 +0.9
MORW Morawa 63.01 245 P **P** 15 20 05.9 +0.2
MORW IAmb IAmb 15 20 11.9
comp=Z,16nm,1.4s
QSPA South Pole Qui 74.10 180 P **P** 15 21 13.0 -0.1
NVAR Mina Array Bea 76.70 43 P **P** 15 21 29.4 +1.0
comp=Z,0.6nm,0.7s,baz=224,slow=9.0,SNR=6.2
NVAR Mina Array Bea 76.70 43 P **P** 15 21 28.4 +0.1
TXAR Lajitas Array 83.35 57 P **P** 15 22 05.2 +1.5
comp=Z,0.4nm,0.8s,baz=218,slow=5.6,SNR=3.0
TXAR Lajitas Array 83.35 57 P **P** 15 22 04.5 +0.8
ILAR Eielson Array 83.56 12 P **P** 15 22 04.0 +0.2
comp=Z,0.2nm,0.5s,baz=205,slow=6.5,SNR=1.8

*IDC **28** 15:16:56.6±1.5,3°.04N×93°.02E,h0km,mb3.9/8,mb1 4.0/9, mb1mx3.7/43,mbtmp3.9/9,ML3.7/1,Error ellipse: s-maj=44.2km s-min=20.4km az=51.0*
*NEIC **28** 15:17:00.5±1.2,2°.95N±0°.06×92°.8E±0°.1,h30km±5km, mb4.3/13,Error ellipse: s-maj=17.6km s-min=5.4km az=65.0*

ISC 28 15:17:00.1±0.9,2°.9N±0°.1×92°.79E±0°.10,h35km,n57, σ2°.900/52,mb4.2/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LHMI	**Lhok Sumawe**	**4.78**	**60**	Pn		**Pn**	**15 18**	**09.7**	**+0.1**
GSI	**Gunungsitoli**	**5.03**	**108**			**Pn**	**15 18**	**12.3**	**-0.8**
PSI	**Prapat**	**6.13**	**90**	Pn		**Pn**	**15 18**	**24.9**	**-3.5**
	4µm,0.3s,baz=254,slow=0.0,SNR=7.7								
RPSI	**Rantau Prapat**	**6.13**	**91**			**Pn**	**15 18**	**27.5**	**-0.8**
PBA	**Port Blair**	**8.74**	**360**	Pn		Pn	15 19	02.3	-1.9
PALK	**Pallekele**	**12.81**	**290**	Pn		**Pn**	**15 19**	**58.3**	**-1.6**
	2.5nm,0.3s,baz=213,slow=12,SNR=13								
PALK				Sn		Sn	15 22	08.3	-13
	1.8nm,0.3s,baz=239,slow=5.4,SNR=6.0								
CM05	**Chiang Mai Arr**	**16.59**	**21**	P		**P**	**15 20**	**53.5**	**+1.1**
	7.1nm,0.8s								
CM05	**Chiang Mai Arr**	**16.59**	**21**	P		**P**	**15 20**	**53.0**	**+0.6**
	7.1nm,0.8s								
CM13	**Chiang Mai Arr**	**16.59**	**21**	P		**P**	**15 20**	**57.5**	**+5.1**
	6.5nm,0.8s								
CM13	**Chiang Mai Arr**	**16.59**	**21**	P		**P**	**15 20**	**57.6**	**+5.1**
	6.5nm,0.8s								
CM04	**Chiang Mai Arr**	**16.60**	**21**	P		**P**	**15 20**	**53.5**	**+1.0**
	85nm8.9nm,1.1s								
CM04	**Chiang Mai Arr**	**16.60**	**21**	P		**P**	**15 20**	**53.0**	**+0.5**
	85nm8.9nm,1.1s								
CM01	**Chiang Mai Arr**	**16.61**	**21**	P		**P**	**15 20**	**53.7**	**+1.1**
	104nm12nm,0.9s								
CM01	**Chiang Mai Arr**	**16.61**	**21**	P		**P**	**15 20**	**53.8**	**+1.1**
	104nm12nm,0.9s								
CM02	**Chiang Mai Arr**	**16.62**	**21**	P		**P**	**15 20**	**54.3**	**+1.6**
	6.6nm,0.8s								
CM02	**Chiang Mai Arr**	**16.62**	**21**	P		**P**	**15 20**	**54.0**	**+1.3**
	6.6nm,0.8s								
CM15	**Chiang Mai Arr**	**16.63**	**21**	P		**P**	**15 20**	**58.4**	**+5.6**
	6.2nm,0.8s								
CM15	**Chiang Mai Arr**	**16.63**	**21**	P		**P**	**15 20**	**58.0**	**+5.2**
	6.2nm,0.8s								
CM31	**Chiang Mai Arr**	**16.64**	**21**	Pn		**Pn**	**15 20**	**48.6**	**-2.2**
CMAR	**Chiang Mai Arr**	**16.64**	**21**	Pn		**Pn**	**15 20**	**48.2**	**-2.6**
	0.1nm,0.3s,baz=217,slow=14,SNR=16								
CM09	**Chiang Mai Arr**	**16.64**	**21**	P		**P**	**15 20**	**54.0**	**+1.0**
	8.0nm,0.8s								
CM09	**Chiang Mai Arr**	**16.64**	**21**	P		**P**	**15 20**	**54.0**	**+1.0**
	8.0nm,0.8s								
UTTA	**Uttaradit**	**16.64**	**27**	P		**P**	**15 20**	**53.3**	**+0.3**
	12nm,0.9s								
UTTA	**Uttaradit**	**16.64**	**27**	P		**P**	**15 20**	**53.3**	**+0.3**
	3.1nm,0.9s								
CM32	**Chiang Mai Arr**	**16.79**	**20**	P		**P**	**15 21**	**00.0**	**+5.4**
CM35	**Chiang Mai Arr**	**16.92**	**21**	P		**P**	**15 20**	**56.5**	**+0.4**
CHTO Chiang Mai 16.97 20 P **P** 15 20 56.9 +0.3
11nm,1.2s
CHTO Chiang Mai 16.97 20 P **P** 15 20 55.9 -0.6
CMMT Chiang Mai 16.97 20 P **P** 15 20 55.9 -0.7
11nm,1.1s
CMMT Chiang Mai 16.97 20 P **Pn** 15 20 55.0 0.0
11nm,1.1s
CM33 Chiang Mai Arr 16.97 20 P **P** 15 20 56.0 -0.6
CM34 Chiang Mai Arr 17.08 21 P **P** 15 20 58.0 +0.2
NONG Nongkai 18.21 33 P **Pn** 15 21 10.7 +0.5
17nm,0.9s
NONG Nongkai 18.21 33 P **Pn** 15 21 10.8 +0.5
CISI Cisompet, Garu 18.22 125 P **Pn** 15 21 11.4 +0.9
CISI IAmb IAmb 15 21 12.6
comp=Z,22nm,0.7s
SLVN Son La 21.32 30 P **P** 15 21 44.1 -0.1
SLVN IAmb IAmb 15 21 48.4
comp=Z,9.0nm,0.9s
SHL Shillong 22.60 358 P **P** 15 21 56.7 -1.3
SHL IAmb IAmb 15 22 13.4
comp=Z,12nm,0.8s
LSA Lhasa 26.75 357 P **P** 15 22 36.7 -0.4
SMLA Simla 31.75 334 *e*P **P** 15 23 20.6 -0.5
SMLA IAML 15 25 34.7
comp=E,32nm,0.4s
H01W3 Cape Leeuwin H 42.56 154 T T 16 11 58.5
baz=330,slow=76
H01W2 Cape Leeuwin H 42.57 154 T T 16 11 54.5
baz=330,slow=76
H01W1 Cape Leeuwin H 42.57 154 T T 16 11 56.9
baz=330,slow=76
MK31 Makanchi Array 44.71 350 P **P** 15 25 09.5 -0.3
MK31 IAmb IAmb 15 25 10.9
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 44.71 350 P **P** 15 25 09.6 -0.3
comp=Z,2.7nm,0.8s,baz=163,slow=7.9,SNR=12
SONM Songino Array 46.32 13 P **P** 15 25 23.0 +0.3
comp=Z,2.1nm,0.8s,baz=204,slow=8.3,SNR=5.8
SONM Songino Array 46.32 13 IAmb IAmb 15 25 24.4
comp=Z,2.3nm,0.8s
WRA Warramunga Arr 46.66 121 P **P** 15 25 26.5 +0.9
comp=Z,1.1nm,0.9s,baz=296,slow=8.9,SNR=4.7
WB2 Warramunga Arr 46.67 121 P **P** 15 25 25.9 +0.2
WB2 IAmb IAmb 15 25 49.3
comp=Z,6.7nm,1.4s
WR0 Warramunga Arr 46.84 121 P **P** 15 25 27.2 +0.2
KSRS Korea Array 47.16 39 P **P** 15 25 29.3 0.0
comp=Z,0.8nm,0.7s,baz=223,slow=10.0,SNR=2.9
ASAR Alice Springs 47.92 126 P **P** 15 25 36.1 +0.6
comp=Z,0.3nm,0.9s,baz=295,slow=7.5,SNR=4.3
KURBB Kurchatov Arra 49.10 348 P **P** 15 25 44.1 +0.1
comp=Z,1.6nm,0.7s,baz=171,slow=7.3,SNR=12
JMN Monobe 49.11 46 P **P** 15 25 44.6 +0.1
KURK Kurchatov 49.17 348 P **P** 15 25 44.1 -0.4
ZALV Zalesovo Beam 51.35 354 P **P** 15 26 01.4 +0.3
comp=Z,2.1nm,0.5s,baz=186,slow=8.7,SNR=3.9
TIXI Tiksi 72.39 11 P **P** 15 28 21.8 -0.4
TIXI IAmb IAmb 15 28 23.0
comp=Z,3.9nm,0.9s
GERES GERESS Array B 80.67 319 P **P** 15 29 12.5 +2.8
comp=Z,0.8nm,0.9s,baz=104,slow=8.2,SNR=5.8

*MOS **28** 15:21:07.4±1.4,81°.86N×118°.89E,h10km,mb4.5/34,Error ellipse: s-maj=41.1km s-min=7.4km az=90.7*
*IDC **28** 15:21:07.3±0.6,81°.97N×118°.94E,h0km,mb4.0/20, mb1 4.2/22,mb1mx4.0/50,mbtmp4.0/22,ML3.9/2,MS3.5/25, Ms1 3.5/25,ms1mx3.4/53,Error ellipse: s-maj=19.8km s-min=11.4km az=157.0*
*IEPN **28** 15:21:10.0,81°.85N×118°.00E,h10km*
*NEIC **28** 15:21:12.2±1.2,82°.6N±0°.1×119°.1E±0°.8,h10km±1km, mb4.4/100,Error ellipse: s-maj=19.6km s-min=16.1km az=157.0*

ISC 28 15:21:08.9±0.4,81°.99N±0°.06×117°.97E±0°.05,h10km,n257, σ1°81/236,mb4.4/91,MS3.6/28,4C-7D,East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
ZFI2	**Zemlya Franca-**	**9.99**	**299**	*e*P		**Pn**	**15 23**	**31.6**	**-0.6**
	37nm,0.6s								
ZFI2				*e*S		**Sn**	**15 25**	**18.1**	**-5.9**
TIXI	**Tiksi**	**10.65**	**161**	*i* P		**Pn**	**15 23**	**39.9**	**-1.3**
NRIK	**Noril'sk**	**14.40**	**226**	Pn		**Pn**	**15 24**	**31.3**	**-1.1**
	0.9nm,0.3s,baz=38,slow=14,SNR=14								
NRIK				Sn		Sn	15 26	59.7	-12
	0.3nm,0.3s,baz=229,slow=19,SNR=1.9								
NRIK				LR		LR	15 30	25.5	
	comp=Z,291nm,19.6s,baz=18,slow=38								
NRIK	**Noril'sk**	**14.40**	**226**	*e*P		**Pn**	**15 24**	**30.9**	**-1.4**
NRIK				pmax		pmax			
	comp=Z,9.0nm,0.7s								
NRIK	**Noril'sk**	**14.40**	**226**	*e*P		**Pn**	**15 24**	**31.3**	**-1.1**
NRIK				*e*S		Sn	15 26	59.7	-12
NOR	**Nord**	**15.24**	**337**	*i* P		**P**	**15 24**	**52.2**	**+3.7**
NOR				IAmb		IAmb	15 24	52.8	
	comp=Z,5.3nm,0.8s								
NOR	**Nord**	**15.24**	**337**	*i* P		**P**	**15 24**	**52.2**	**+3.7**
NOR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KBS	**Kingsbay**	**15.43**	**316**	P		**Pn**	**15 24**	**45.6**	**-0.6**
KBS				pmax		pmax			
	comp=Z,50nm,1.5s								
KBS	**Kingsbay**	**15.43**	**316**	*e*P		**Pn**	**15 24**	**47.0**	**+0.8**
KBS	**Kingsbay**	**15.43**	**316**	Pn		**Pn**	**15 24**	**45.5**	**-0.6**
KBS	**Kingsbay**	**15.43**	**316**	*e*P		**Pn**	**15 24**	**44.7**	**-1.5**
KBS				S		**Sn**	**15 27**	**29.4**	**-7.4**
SPA0	**Spitsbergen Ar**	**15.63**	**311**	*e*P		**Pn**	**15 24**	**50.0**	**+1.3**
SPA0	**Spitsbergen Ar**	**15.63**	**311**	*e*P		**Pn**	**15 24**	**49.3**	**+0.6**
SPA0				*e*S		Sn	15 27	31.6	-10
SPITS	**Spitsbergen Ar**	**15.63**	**311**	Pn		**Pn**	**15 24**	**49.4**	**+0.6**
	baz=40,slow=16,SNR=2.1								
HOPEN	**Hopen**	**16.11**	**302**	*e*P		**Pn**	**15 24**	**56.2**	**+1.3**
HOPEN	**Hopen**	**16.11**	**302**	*e*P		**Pn**	**15 24**	**54.9**	**0.0**
HOPEN				*e*S		**Sn**	**15 27**	**45.8**	**-7.4**
HSPB	**Hornsund (broa**	**16.75**	**310**	*e*P		**P**	**15 25**	**12.3**	**+7.0**
AMDE	**Amderma**	**17.19**	**258**	P		**Pn**	**15 25**	**03.1**	**-5.5**
	comp=Z,18nm,1.0s								
BILL	**Bilibino**	**17.73**	**113**	*e*P		**Pn**	**15 25**	**14.8**	**-0.6**
BILL				pmax		pmax			
	comp=Z,10.0nm,1.7s								
BJO1	**Bjornoya**	**18.60**	**304**	*e*P		**P**	**15 25**	**24.1**	**-1.6**
DAG	**Danmarks Havn**	**19.95**	**332**	*i* P		**Pn**	**15 25**	**42.8**	**+0.7**
DAG				IAmb		IAmb	15 25	43.8	
	comp=Z,8.2nm,0.9s								
DAG	**Danmarks Havn**	**19.95**	**332**	*i* P		**Pn**	**15 25**	**42.7**	**+0.7**
DAG				pmax		pmax			
	comp=Z,8.0nm,0.9s								
YAK	**Yakutsk**	**20.29**	**164**	*e*P		**P**	**15 25**	**42.8**	**-1.5**
YAK				pmax		pmax			
	comp=Z,43nm,0.9s								
YAK				pmax		pmax			
	comp=N,21nm,1.0s								
YAK				pmax		pmax			
	comp=E,5.0nm,1.0s								
NEEM	**North Greenlan**	**20.61**	**353**	*i* P		Pn	15 25	53.1	+2.9
NEEM				IAmb		IAmb	15 25	53.7	
	comp=Z,12n

JETT Jettan, Norway 23.00 297 *e*P **P** **15 26 11.9 -1.4**
KTK1 Kautokeino 23.15 294 *e*P **P** **15 26 13.3 -1.5**
LSH Leshukonskoye 23.99 270 *e*P **P** **15 26 23.9 +1.0**
comp=Z,15nm,0.8s
MA2 Magadan 24.18 138‖ *e*P **P** **15 26 23.4 -1.4**
MA2 pmax pmax
comp=Z,10.0nm,1.6s
JMIC Jan Mayen 24.76 321 LR LR 15 34 59.8
comp=Z,36nm,18.1s,baz=237,slow=34
BMAR Burnt Mountain 25.00 65 P **P** **15 26 32.1 -0.1**
SUMG Summit 25.13 344 *i* P **P** **15 26 37.0 +3.2**
SUMG IAmb IAmb 15 26 39.5
comp=Z,6.5nm,1.0s
SUMG Summit 25.13 344 P **P** **15 26 33.0 -0.8**
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 25.13 344 P **P** **15 26 33.0 -0.8**
STEI Steigen 25.18 300 *e*P **P** **15 26 32.3 -1.5**
LOF Lofoten 25.19 302 *e*P **P** **15 26 31.7 -2.2**
INK Inuvik 25.50 55 P **P** **15 26 36.1 -0.6**
comp=Z,8.3nm,0.9s,baz=356,slow=11,SNR=7.4
INK Inuvik 25.50 55 P **P** **15 26 36.3 -0.4**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 25.50 55 P **P** **15 26 36.3 -0.4**
INK IAmb IAmb 15 26 39.3
comp=Z,14nm,1.1s
C36M Paulatuk 25.53 47 P **P** **15 26 35.8 -1.2**
FYU Fort Yukon 25.73 66 P **P** **15 26 39.2 +0.4**
MLY Manley 26.47 72 P **P** **15 26 46.2 +0.6**
I23K Minto, Yukon-K 26.55 71 P **P** **15 26 45.5 -0.7**
I23K IAmb IAmb 15 26 58.9
comp=Z,6.6nm,1.0s
MDM Murphy Dome 26.87 70 P **P** **15 26 49.9 +0.6**
MDM IAmb IAmb 15 27 01.9
comp=Z,9.4nm,1.0s
EPYK Eagle Plains 26.98 59 P **P** **15 26 49.6 -0.5**
EPYK IAmb IAmb 15 26 53.7
comp=Z,17nm,1.4s
COLA College 27.01 70⇑ *e*P **P** **15 26 52.9 +2.6**
COLA pmax pmax
comp=Z,6.0nm,1.1s
PRGR Permogore 27.10 267 *e*P **P** **15 26 49.2 -2.0**
PRGR pmax pmax
comp=Z,28nm,1.4s
PRGR Permogore 27.10 267 *e*P **P** **15 26 53.0 +1.8**
comp=Z,118nm,1.8s
NEA2 Nenana 27.11 71 P **P** **15 26 51.4 +0.1**
NEA2 IAmb IAmb 15 27 04.4
comp=Z,6.3nm,0.9s
CCB Clear Creek Bu 27.23 70 P **P** **15 26 52.4 +0.1**
IL31 27.23 69 P **P** **15 26 51.7 -0.6**
IL31 IAmb IAmb 15 27 18.2
comp=Z,11nm,1.4s
ILAR Eielson Array 27.23 69 P **P** **15 26 51.9 -0.5**
comp=Z,2.2nm,0.8s,baz=341,slow=9.1,SNR=24
ILAR PcP **PcP** **15 30 09.8 -1.9**
comp=Z,0.4nm,0.8s,baz=335,slow=4.0,SNR=4.3
ILAR LR LR 15 37 34.2
comp=Z,127nm,19.5s,baz=330,slow=36
ILAR Eielson Array 27.23 69 *e*P **P** **15 26 53.1 +0.7**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 27.23 69 P **P** **15 26 52.3 -0.1**
BPAW Bear Paw Mtn. 27.33 73 P **P** **15 26 53.9 +0.5**
WRH Wood River Hil 27.36 70 P **P** **15 26 53.6 0.0**
KTH Kantishna Hill 27.86 73 P **P** **15 26 58.1 0.0**
KTH IAmb IAmb 15 27 04.9
comp=Z,13nm,1.4s
PPLA Purkeypile 28.32 75 P **P** **15 27 01.8 -0.5**
PPLA IAmb IAmb 15 27 07.5
comp=Z,6.1nm,1.0s
SCRK Sand Creek 28.37 67 P **P** **15 27 03.1 +0.4**
KLMR Klimovskoe 28.70 273 *e*P P 15 27 16.1 +11
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 28.70 273 *i* P **P** **15 27 07.2 +1.7**
comp=Z,19nm,1.8s
KLMR Klimovskoe 28.70 273 *e*P P 15 27 16.1 +11
KLMR AMP 15 27 30.8
comp=Z,10.0nm,1.1s
PAX Paxson 29.14 69 P **P** **15 27 11.0 +1.4**
PAX pmax pmax
comp=Z,10.0nm,1.4s
PAX Paxson 29.14 69 P **P** **15 27 11.0 +1.4**
PAX IAmb IAmb 15 27 23.9
comp=Z,10.0nm,1.4s
SKT Skwentna 29.29 75 P **P** **15 27 10.5 -0.3**
ZALV Zalesovo Beam 29.77 221 PcP **PcP** **15 30 17.8 -0.3**
comp=Z,1.1nm,0.6s,baz=350,slow=3.5,SNR=3.5
ZALV LR LR 15 39 53.2
comp=Z,147nm,21.2s,baz=7.0,slow=38
FIA1 FINESS Array S 29.99 286 P **P** **15 27 19.2 +2.3**
FIA1 IAmb IAmb 15 27 29.8
comp=Z,8.8nm,1.1s
FINES FINESS Array B 29.99 286 P **P** **15 27 18.6 +1.7**
comp=Z,2.6nm,0.8s,baz=19,slow=12,SNR=9.3
FINES FINESS Array B 29.99 286 *e*P **P** **15 27 18.9 +1.9**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 29.99 286 P **P** **15 27 18.9 +1.9**
ARU Arti 30.35 251 LR LR 15 41 09.3
comp=Z,153nm,18.8s,baz=358,slow=39
TLY Talaya 30.75 198 P **P** **15 27 32.1 +8.3**
TLY IAmb IAmb 15 27 56.5
comp=Z,6.0nm,1.0s
MOY Mondy 30.88 201 *e*P P 15 27 35.0 +10
NC303 NORSAR Array S 32.10 299 P **P** **15 27 37.2 +1.6**
NC303 IAmb IAmb 15 27 57.4
comp=Z,7.8nm,1.1s
NC204 NORSAR Array S 32.13 300 P **P** **15 27 37.7 +1.8**
HYT Haines Junctio 32.23 63 P **P** **15 27 37.6 +0.7**
HYT IAmb IAmb 15 27 39.5
comp=Z,5.0nm,1.0s
NB201 NORSAR Array S 32.28 299 P **P** **15 27 39.0 +1.8**
NB201 IAmb IAmb 15 27 51.4
comp=Z,5.2nm,0.8s
NB2 NORSAR Subarra 32.30 299 P **P** **15 27 39.1 +1.8**
baz=12,slow=9.3
NOA NORSAR Array B 32.30 299 P **P** **15 27 38.2 +0.9**
comp=Z,3.1nm,0.8s,baz=14,slow=8.2,SNR=7.2
NOA LR LR 15 41 35.6
comp=Z,18nm,19.0s,baz=50,slow=38
NOA NORSAR Array B 32.30 299 *e*P **P** **15 27 39.1 +1.8**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NC602 NORSAR Array S 32.56 299 P **P** **15 27 41.0 +1.5**
HFS Hagfors 32.87 297 LR LR 15 41 20.5
comp=Z,60nm,18.6s,baz=8.5,slow=37
YKA Yellowknife Ar 33.14 42 P **P** **15 27 42.8 -1.8**
comp=Z,0.9nm,0.8s,baz=349,slow=8.0,SNR=5.6
YKA LR LR 15 41 44.1
comp=Z,143nm,18.8s,baz=0.0,slow=37
KURK Kurchatov 33.57 227 P **P** **15 27 50.0 +1.6**
KURK Kurchatov 33.57 227 P **P** **15 27 50.0 +1.6**
KURBB Kurchatov Arra 33.67 227 P **P** **15 27 50.0 +0.7**
comp=Z,0.4nm,0.5s,baz=18,slow=9.1,SNR=2.3
SONM Songino Array 34.49 194 P **P** **15 27 57.2 +0.6**
comp=Z,0.4nm,0.3s,baz=348,slow=6.1,SNR=2.0
SONM LR LR 15 42 32.8
comp=Z,121nm,18.1s,baz=253,slow=37
OBN Obninsk 34.67 273 *e*P **P** **15 27 59.5 +1.6**
OBN *e* 15 29 15.1
OBN pmax pmax
comp=Z,3.0nm,1.0s
DLBC Dease Lake 35.47 57 P **P** **15 28 03.5 -1.5**
comp=Z,1.4nm,0.7s,baz=327,slow=17,SNR=3.3
BELG Belogornoye 35.77 261 LR LR 15 43 14.2
comp=Z,62nm,21.0s,baz=360,slow=37
AKTO Aktyubinsk 36.28 249 LR LR 15 44 36.5
comp=Z,139nm,19.8s,baz=358,slow=39
MK31 Makanchi Array 37.09 222 P P 15 28 27.5 +8.7
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 37.09 222 P P 15 28 27.5 +8.7
MKAR Makanchi Array 37.09 222 P **P** **15 28 19.7 +0.9**
comp=Z,1.0nm,0.7s,baz=20,slow=13,SNR=4.5
MKAR PcP **PcP** **15 30 38.3 -0.6**
comp=Z,0.8nm,0.7s,baz=348,slow=2.1,SNR=3.4
MKAR LR LR 15 44 18.9
comp=Z,104nm,19.4s,baz=344,slow=37
MKAR Makanchi Array 37.09 222 *i* P **P** **15 28 19.3 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 37.09 222 P 15 28 27.1 +8.3
MAKZ Makanchi 37.10 222 P P 15 28 26.6 +7.7
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 37.10 222 P P 15 28 26.6 +7.7
MAKZ IAmb IAmb 15 28 29.1
comp=Z,9.6nm,1.1s
WMQ Urumqi 39.57 215 *e*P P 15 28 49.0 +9.3
WMQ L L
comp=Z,350nm,20.9s
AKASG Malin Array Be 40.00 278 P **P** **15 28 43.8 +0.7**
comp=Z,1.2nm,0.6s,baz=14,slow=9.0,SNR=5.2
AKASG LR LR 15 46 57.8
comp=Z,66nm,21.7s,baz=75,slow=39
AKASG Malin Array Be 40.00 278 *e*P **P** **15 28 45.7 +2.6**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 41.34 187 *e*P P 15 29 02.8 +8.4
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.8s
CLL Collm 41.58 294⇑ *i*P **P** **15 28 58.5 +2.3**
comp=Z,5.0nm,0.9s
CLL Collm 41.58 294⇑ *i*P **P** **15 28 58.5 +2.3**
CLL pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 41.88 293 *e*P **P** **15 29 01.2 +2.5**
BRG Amp 15 29 02.6
comp=Z,3.6nm,1.2s
OSTC Ostas 41.90 291 *e*P **P** **15 29 02.4 +3.6**
DPC Dobruska-Polom 42.09 291 *e*P **P** **15 29 02.7 +2.3**
DPC Dobruska-Polom 42.09 291 *e*P **P** **15 29 02.7 +2.3**
KRLC Kraliky 42.30 290 *e*P **P** **15 29 04.6 +2.5**
KRLC MLR MLR
comp=Z,200nm,21.5s
KRLC Kraliky 42.30 290 *e*P **P** **15 29 04.6 +2.5**
MORC Moravsky Berou 42.49 289 *e*P **P** **15 29 06.1 +2.4**
PRU Pruhonice 42.67 292 *e*P **P** **15 29 07.8 +2.7**
PRU Pruhonice 42.67 292 *e*P **P** **15 29 07.8 +2.7**
NKC Novy Kostel 42.70 294 *e*P **P** **15 29 08.3 +2.9**
NKC Novy Kostel 42.70 294 *e*P **P** **15 29 08.3 +2.9**
CRVS Cervenica-Dubn 42.82 285 *e*P **P** **15 29 09.2 +2.9**
CRVS Cervenica-Dubn 42.82 285 *e*P **P** **15 29 09.2 +2.9**
VRAC Vranov 43.07 290 LR LR 15 47 05.7
comp=Z,28nm,21.7s,baz=54,slow=36
VRAC Vranov 43.07 290 *e*P **P** **15 29 10.7 +2.3**
GTA Gaotai 43.17 201‖ P P 15 29 19.5 +10
GTA pP pwP 15 29 26.5 +10
GTA sP sP 15 29 30.0 +18
GTA pmax pmax
comp=Z,2.0nm,1.0s
KRUC Moravsky 43.34 290 *e*P **P** **15 29 12.7 +2.2**
KHC Kasperske Hory 43.64 293 *e*P **P** **15 29 15.7 +2.7**
KHC Kasperske Hory 43.64 293 *e*P **P** **15 29 15.7 +2.7**
CKRC Cesky Krumlov 43.85 292 *e*P **P** **15 29 17.5 +2.8**
GEC2 GERESS Array S 43.91 293 P **P** **15 29 18.0 +2.8**
GERES GERESS Array B 43.91 293 *e*P **P** **15 29 18.0 +2.8**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 43.91 293 P **P** **15 29 18.0 +2.8**
PSZ Piszkesteto 44.00 287 P **P** **15 29 19.0 +3.1**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 44.00 287 P **P** **15 29 18.9 +3.1**
CONA Conrad Observa 44.52 290 *e*P **P** **15 29 22.9 +2.8**
comp=Z,2.2nm,0.6s
ANN Anapa 44.62 269 *e*P **P** **15 29 18.8 -2.0**
ANN *e**PP **pP** **15 29 22.4 -0.4**
ANN *e*S **S** **15 35 55.1 -1.3**
KIV Kislovodsk 44.72 263 *e*P **P** **15 29 22.0 +0.3**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,186nm,16.0s
KIV Kislovodsk 44.72 263 P **P** **15 29 26.5 +4.8**
KIV IAmb IAmb 15 29 28.7
comp=Z,7.1nm,0.9s
KSRS Korea Array 44.80 169 LR LR 15 48 01.1
comp=Z,59nm,18.9s,baz=241,slow=36
MOA Molln 44.81 292 *e*P **P** **15 29 24.7 +2.3**
comp=Z,3.0nm,0.9s
KBZ Khabaz 44.91 263 LR LR 15 50 54.6
comp=Z,97nm,18.1s,baz=346,slow=40
BTK Batken 44.93 233 pP pP 15 29 32.6 +7.2
ECH Echery 45.35 299 P **P** **15 29 27.6 +1.0**
ECH pmax pmax
comp=Z,4.0nm,0.8s
ECH Echery 45.35 299 P **P** **15 29 27.6 +1.0**
ECH IAmb IAmb 15 29 30.2
comp=Z,3.6nm,0.8s
SOC Sochi 45.50 266 *e*P **P** **15 29 27.7 -0.1**
SOC *e* 15 31 14.1
SOC *e*PPP PPP 15 31 54.8
SOC *e*S **S** **15 36 11.4 +2.4**
SOC *e*SS **SS** **15 39 31.2 -0.8**
SOC MLR MLR
comp=Z,128nm,14.0s
KBA Koelnbreinsper 45.69 292 *e*P **P** **15 29 32.8 +3.3**
comp=Z,4.2nm,0.6s
FETA Feichten 46.08 295 *e*P **P** **15 29 35.3 +2.8**
comp=Z,3.4nm,1.1s
MYKA Terra Mystica 46.09 292 *e*P **P** **15 29 33.5 +1.0**
comp=Z,3.9nm,0.9s
OBKA Obir 46.09 291 *e*P **P** **15 29 33.7 +1.2**
comp=Z,5.8nm,0.9s
ABTA Abfaltersbach 46.12 293 *e*P **P** **15 29 34.6 +1.8**
comp=Z,2.8nm,0.8s
ZOU Zoufplan 46.25 293 P **P** **15 29 36.4 +2.4**
ZOU IAmb IAmb 15 29 52.0
comp=Z,5.5nm,1.0s
DAVOX Davos/Dischmat 46.42 296 LR LR 15 52 11.1
comp=Z,34nm,18.1s,baz=258,slow=40
WALA Waterton Lakes 46.47 46 P **P** **15 29 34.7 -0.9**
WALA IAmb IAmb 15 29 45.5
comp=Z,6.2nm,1.1s
B08A Colville Reser 46.59 51 P **P** **15 29 36.4 -0.1**
B08A IAmb IAmb 15 29 37.5
comp=Z,3.9nm,1.0s
TUE Stuetta 46.79 296 P **P** **15 29 41.3 +3.1**
ULM Lac du Bonnet 46.82 29 LR LR 15 47 59.8
comp=Z,75nm,21.8s,baz=304,slow=34
NEW Newport 46.92 49 P **P** **15 29 39.0 0.0**
comp=Z,2.9nm,0.7s,baz=338,slow=5.6,SNR=7.5
NEW LR LR 15 50 35.2
comp=Z,46nm,19.0s,baz=326,slow=38
NEW Newport 46.92 49 P **P** **15 29 39.1 0.0**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 46.92 49 P **P** **15 29 39.1 0.0**
NEW IAmb IAmb 15 29 40.6
comp=Z,3.8nm,0.8s
LTY Liberty 47.53 52 P **P** **15 29 43.4 -0.5**
LTY IAmb IAmb 15 29 53.1
comp=Z,4.8nm,0.9s
JTMT Jette 47.73 46 P **P** **15 29 45.6 +0.2**
JTMT IAmb IAmb 15 29 47.5
comp=Z,4.6nm,0.8s
GEYT Alibeck 48.56 246 LR LR 15 53 11.4
comp=Z,85nm,18.4s,baz=200,slow=40
MSSA Maissana 48.89 295 P **P** **15 29 55.9 +1.5**
F10A Beach Ranch, E 49.17 49 P **P** **15 29 56.8 +0.3**
F10A IAmb IAmb 15 29 59.7
comp=Z,3.2nm,1.1s
G08A Pilot Rock 49.66 51 P **P** **15 30 00.9 +0.6**
G08A IAmb IAmb 15 30 02.0
comp=Z,3.4nm,0.9s
GCMT Greycliff 50.12 42 P **P** **15 30 04.0 +0.3**
BOZ Bozeman (W) 50.12 44 P **P** **15 30 03.2 -0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 50.12 44 P **P** **15 30 03.2 -0.6**
BRTR Keskin Array B 50.14 271 P **P** **15 30 06.3 +2.4**
comp=Z,1.1nm,0.5s,baz=20,slow=3.9,SNR=5.7
BRTR LR LR 15 53 23.8
comp=Z,70nm,20.2s,baz=48,slow=38
BRTR Keskin Array B 50.14 271 *e*P **P** **15 30 07.2 +3.2**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 50.14 271 P **P** **15 30 07.2 +3.2**
BMO Blue Mountains 50.27 49 P **P** **15 30 05.6 +0.7**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 50.27 49 P **P** **15 30 05.6 +0.7**
BMO IAmb IAmb 15 30 06.7
comp=Z,4.5nm,0.9s
KBL Kabul 50.59 234 pP pP 15 30 16.4 +6.9
MCMT McKenzie Canyo 50.76 45 P **P** **15 30 08.1 -0.7**
YNE Yellowstone No 50.86 43 P **P** **15 30 09.5 0.0**
YNE IAmb IAmb 15 30 11.0
comp=Z,4.8nm,0.9s
YHH Holmes Hill 50.99 44 P **P** **15 30 10.8 +0.2**
NIL Nilore 51.01 229 pP pP 15 30 20.1 +7.7
BCYI Bear Canyon 51.22 46 P **P** **15 30 12.4 +0.2**
MFID Camas Ranch 51.85 48 P **P** **15 30 16.7 -0.1**
MFID IAmb IAmb 15 30 18.1
comp=Z,3.5nm,0.8s
WVOR Wild Horse Val 52.52 51 P **P** **15 30 21.7 -0.1**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 52.52 51 P **P** **15 30 21.7 -0.1**
YBH Yreka Blue Hor 52.76 55 LR LR 15 53 33.5
comp=Z,47nm,20.8s,baz=342,slow=37
PDAR Pinedale Array 53.12 43 P **P** **15 30 26.1 -0.3**
comp=Z,0.8nm,0.7s,baz=20,slow=4.7,SNR=7.3
PDAR Pinedale Array 53.12 43 P **P** **15 30 25.9 -0.5**
SADO Sadowa 53.17 15 LR LR 15 52 55.8
comp=Z,36nm,18.6s,baz=143,slow=36
HVU Hansel Valley 53.78 46 P **P** **15 30 31.1 0.0**
HVU pmax pmax
comp=Z,4.0nm,1.0s
HVU Hansel Valley 53.78 46 P **P** **15 30 31.1 0.0**
HVU IAmb IAmb 15 30 32.4
comp=Z,4.2nm,1.0s
HWUT Hardware Ranch 54.08 45 P **P** **15 30 33.1 -0.2**
HWUT IAmb IAmb 15 30 34.7
comp=Z,4.8nm,1.1s
ELK Elko 54.56 48 P **P** **15 30 37.3 +0.4**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 54.56 48 P **P** **15 30 37.3 +0.4**
BEKR Beckworth 54.87 53 P **P** **15 30 38.8 -0.3**
ESDC Sonseca Array 55.09 307 P **P** **15 30 41.3 +0.8**
comp=Z,1.2nm,1.0s,baz=352,slow=6.5,SNR=6.1
ESDC Sonseca Array 55.09 307 P **P** **15 30 42.4 +1.9**
RDMU Red Mountain 55.30 43 P **P** **15 30 42.4 +0.2**
RDMU IAmb IAmb 15 30 43.2
comp=Z,3.9nm,0.7s
DUG Dugway, Tooele 55.35 46 P **P** **15 30 42.7 +0.2**
DUG pmax pmax
comp=Z,3.0nm,1.0s
DUG Dugway, Tooele 55.35 46 P **P** **15 30 42.7 +0.2**
DUG IAmb IAmb 15 30 56.0
comp=Z,3.2nm,1.0s
NLU North Lily Min 55.66 46 P **P** **15 30 45.1 +0.3**
YERR Yerington 55.86 52 P **P** **15 30 46.8 +0.5**
YERR IAmb IAmb 15 30 47.9
comp=Z,3.5nm,0.8s
KVN Kaiserville 55.92 51 P **P** **15 30 47.3 +0.6**
KVN pmax pmax
comp=Z,2.0nm,0.7s
KVN Kaiserville 55.92 51 P **P** **15 30 47.2 +0.6**
KVN IAmb IAmb 15 30 48.1
comp=Z,2.3nm,0.7s
P17A Butcher Ranch, 56.27 44 P **P** **15 30 49.4 +0.2**
RYN Ryan 56.30 52 P **P** **15 30 50.0 +0.6**
RYN IAmb IAmb 15 30 51.4
comp=Z,5.2nm,1.0s
WAKR Walker 56.32 53 P **P** **15 30 49.9 +0.4**
TMUT Trail Mountain 56.40 45 P **P** **15 30 50.3 +0.1**
NVAR Mina Array Bea 56.52 52 P **P** **15 30 51.5 +0.6**
comp=Z,0.9nm,0.7s,baz=352,slow=5.5,SNR=9.5
NV11 Mina Array Sit 56.53 51 P **P** **15 30 51.7 +0.7**
SRU San Rafael Swe 56.65 44 P **P** **15 30 51.9 0.0**
SRU pmax pmax
comp=Z,8.0nm,1.5s
SRU San Rafael Swe 56.65 44 P **P** **15 30 51.9 0.0**
SRU IAmb IAmb 15 30 53.0
comp=Z,7.9nm,1.5s
LHV Little Huntoon 56.67 52 P **P** **15 30 52.9 +1.1**
LHV IAmb IAmb 15 31 14.0
comp=Z,3.0nm,1.0s
PSUT Pine Spring 56.89 47 P **P** **15 30 54.2 +0.6**
PSUT IAmb IAmb 15 30 55.4
comp=Z,3.1nm,0.8s
R11A Troy Canyon, C 56.89 49 P **P** **15 30 53.3 -0.3**
SMCO Snowmass 56.92 41 P **P** **15 30 54.2 +0.2**
SMCO IAmb IAmb 15 30 55.4
comp=Z,3.8nm,0.9s
N53A Lisbon 57.06 17 P **P** **15 30 53.0 -1.6**
MSU Marysvale 57.08 46 P **P** **15 30 55.5 +0.5**
MSU Marysvale 57.08 46 P **P** **15 30 55.5 +0.5**
KEST Kesra 57.37 294 P **P** **15 30 58.4 +1.5**
comp=Z,3.6nm,0.9s,baz=317,slow=6.9,SNR=3.7
PV07 Paradox Valley 57.50 43 P **P** **15 30 57.6 -0.4**
PV07 IAmb IAmb 15 30 59.1
comp=Z,2.6nm,0.7s
MTPU Mount Pierson 57.55 46 P **P** **15 30 59.1 +0.6**
MTPU IAmb IAmb 15 31 00.5
comp=Z,4.5nm,1.1s
PV15 Paradox Valley 57.61 42 P **P** **15 30 58.6 -0.1**
PV17 East Wray Mesa 57.63 43 P **P** **15 30 59.1 +0.3**
PV17 IAmb IAmb 15 31 15.3
comp=Z,3.8nm,1.0s
PV02 Paradox Valley 57.72 43 P **P** **15 30 59.6 +0.1**
PV13 Radium Mtn., P 57.76 43 P **P** **15 30 59.5 -0.2**
PV01 Paradox Valley 57.81 43 P **P** **15 30 59.8 -0.3**
SZCU Shurtz Canyon 57.90 47 P **P** **15 31 01.0 +0.3**
SZCU IAmb IAmb 15 31 11.2
comp=Z,3.5nm,1.0s
PMPB Monarch Peak 58.42 54 P **P** **15 31 04.8 +0.6**
LCMT Little Creek M 58.46 47 P **P** **15 31 05.0 +0.5**
SDCO Great Sand Dun 58.48 40 P **P** **15 31 04.8 -0.1**
KNB Kanab 58.50 47 P **P** **15 31 04.7 -0.2**
KNB pmax pmax
comp=Z,11nm,1.3s
KNB Kanab 58.50 47 P **P** **15 31 04.7 -0.2**
OK032 Salt Plains WL 60.02 33 P **P** **15 31 14.8 -0.4**
ANMO Albuquerque 61.17 41‖ *e*P **P** **15 31 23.2 -0.1**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 61.17 41 P **P** **15 31 22.8 -0.5**
ANMO IAmb IAmb 15 31 24.1
comp=Z,2.8nm,0.9s
Y14A Wickenburg 61.52 47 P **P** **15 31 25.2 -0.3**
Y14A IAmb IAmb 15 31 47.7
comp=Z,2.6nm,1.1s
WMOK Wichita Mounta 62.03 34 P **P** **15 31 28.4 -0.5**
WMOK pmax pmax
comp=Z,3.0nm,1.0s
WMOK Wichita Mounta 62.03 34 P **P** **15 31 28.4 -0.5**
WMOK IAmb IAmb 15 31 29.4
comp=Z,2.9nm,0.9s
V53A Saluda 62.10 19 P **P** **15 31 29.0 -0.4**
OXF Oxford 62.90 25 P **P** **15 31 33.8 -0.8**
OXF pmax pmax
comp=Z,15nm,1.0s
OXF Oxford 62.90 25 P **P** **15 31 33.8 -0.8**
CMAR Chiang Mai Arr 64.06 200 P **P** **15 31 42.2 -0.2**
comp=Z,1.5nm,0.9s,baz=352,slow=7.5,SNR=7.4
CMAR LR LR 16 00 31.6
comp=Z,58nm,18.3s,baz=180,slow=37
CMAR Chiang Mai Arr 64.06 200 *e*P **P** **15 31 43.1 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
319A Douglas 64.44 44 P **P** **15 31 45.2 +0.2**
MNTX Cornudas Mount 64.48 40 P **P** **15 31 44.5 -0.6**
MNTX IAmb IAmb 15 31 45.8
comp=Z,2.8nm,0.9s
TX31 Lajitas Ar. Si 66.98 39 P **P** **15 32 00.6 -0.8**
TX32 Lajitas Array 66.98 39 P **P** **15 32 00.5 -0.9**
TXAR Lajitas Array 66.98 39 P **P** **15 31 59.7 -1.7**
comp=Z,1.8nm,0.9s,baz=348,slow=5.6,SNR=15
TXAR Lajitas Array 66.98 39 P **P** **15 32 00.4 -1.0**
TXAR Lajitas Array 66.98 39 P **P** **15 32 00.4 -1.0**
KVTX Kingsville 69.24 34 P **P** **15 32 15.3 -0.1**
SRIT Nakonsritamara 73.82 199 P **P** **15 32 48.8 +5.6**
TORD Torodi Ar. Bea 80.60 298 P **P** **15 33 21.9 +0.6**
comp=Z,4.4nm,0.9s,baz=2.2,slow=6.1,SNR=13
TORD Torodi Ar. Bea 80.60 298 P **P** **15 33 22.2 +0.9**
TORD IAmb IAmb 15 33 23.1
comp=Z,4.8nm,0.9s

*KRNET **28** 15:21:45.9±0.1,39°.13N×72°.69E,h15km,mb4.1*
*IDC **28** 15:21:45.6±0.9,38°.97N×72°.63E,h0km,mb3.8/11,*
mb1 3.9/15,mb1mx3.7/47,mbtmp3.8/15,ML3.5/4,Error
ellipse: s-maj=19.7km s-min=13.9km az=134.0
*BJI **28** 15:21:49.0±0.0,39°.30N×72°.40E,h25km,mB4.7/7,*

mb4.2/10,ML3.7/2,Ms3.8/2,Ms7 3.7/2
*NEIC **28** 15:21:50.8±2.7,39˚.26N×0˚.04×72˚.39E±0˚.05,h10km±1km, mb4.3/9,Error ellipse: s-maj=7.9km s-min=4.7km az=51.0*
*MOS **28** 15:21:50.2±1.3,39˚.21N×72˚.43E,h21km,mb4.5/4,Error ellipse: s-maj=11.0km s-min=6.1km az=77.0*
*NNC **28** 15:21:52.2±2.2,39˚.30N×72˚.65E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=17.3km s-min=10.7km az=179.0*
*SOME **28** 15:21:53.7,39˚.60N×72˚.53E,h5km*
*ISU **28** 15:22:48,39˚.38N×72˚.70E,h5km*

ISC 28 15:21:47.2±0.7,39˚.28N±0˚.03×72˚.70E±0˚.02,h4km±4km, n155,σ2^{2}47/189,mb3.9/19,35C-31D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.73**	**286**	⇑*i*P	**Pg**	**15 22 00.8**	**-0.4**
	baz=98						
DRK				⇑*i*S	**Sb**	**15 22 12.1**	**-0.9**
	baz=98						
DRK	**Karamyk**	**0.73**	**286**		**Pg**	**15 22 00.6**	**-0.6**
SFK	**Sufi-Kurgan**	**0.96**	**40**	⇑*i*P	**Pb**	**15 22 06.6**	**0.0**
	baz=35						
SFK				⇑*i*S	**Sn**	**15 22 21.6**	**-0.4**
	baz=35						
SFK	**Sufi-Kurgan**	**0.96**	**40**	*e*P	**Pn**	**15 22 07.0**	**-0.7**
SFK				*e*S	**Sn**	**15 22 21.0**	**-1.0**
OHH	**Osh**	**1.24**	**3**	⇑*i*P	**Pg**	**15 22 12.3**	**+1.2**
	baz=3.0						
OHH				⇑*i*S	**Sn**	**15 22 31.6**	**+2.8**
	baz=3.0						
OHH	**Osh**	**1.24**	**3**	*e*P	**Pg**	**15 22 12.0**	**+0.9**
OHH				*e*S	**Sn**	**15 22 32.0**	**+3.2**
FRG	**Fergana**	**1.61**	**334**	*e*P	**Pn**	**15 22 14.0**	**-2.5**
FRG				*e*S	**Sn**	**15 22 33.0**	**-4.8**
BTK	**Batken**	**1.65**	**299**	⇓*i*P	**Pg**	**15 22 18.1**	**-0.7**
	baz=3.0						
BTK				⇓*i*S	**Sg**	**15 22 41.6**	**+1.4**
	baz=3.0						
BTK	**Batken**	**1.65**	**299**	PG	**Pb**	**15 22 17.6**	**-0.6**
BTK	**Batken**	**1.65**	**299**		**Pb**	**15 22 17.6**	**-0.6**
MINT	**Mingtut**	**1.78**	**312**	*e*P	**Pg**	**15 22 24.0**	**+2.7**
MINT				*e*S	**Sg**	**15 22 49.0**	**+4.6**
GAR	**Garm**	**1.87**	**262**	⇓*i*P	**Pn**	**15 22 20.2**	**0.0**
	baz=67						
GAR				⇓*i*S	**Sb**	**15 22 45.6**	**-0.3**
	baz=67						
GAR	**Garm**	**1.87**	**262**	Pn	**Pn**	**15 22 20.1**	**-0.1**
TRKS	**Terek-Say**	**2.54**	**333**	⇓*i*P	**Pb**	**15 22 31.4**	**-2.1**
	baz=34						
TRKS				⇓*i*S	**Sb**	**15 23 04.6**	**-0.6**
	baz=34						
KSH	**Kashi**	**2.55**	**84**	Pn	**Pn**	**15 22 27.3**	**-2.1**
KSH				Sn	**Sn**	**15 23 00.0**	**-1.0**
CHGR	**Chuyangaron**	**2.83**	**258**	⇓*i*P	**Pn**	**15 22 33.8**	**+0.5**
	baz=62						
CHGR				⇓*i*S	**Sn**	**15 23 09.0**	**+1.1**
	baz=62						
CHGR	**Chuyangaron**	**2.83**	**258**		**Pn**	**15 22 35.1**	**+1.8**
ARLS	**Aral**	**2.86**	**25**	⇑*i*P	**Pb**	**15 22 37.2**	**-1.7**
	baz=24						
ARLS				⇑*i*S	**Sb**	**15 23 14.0**	**-0.3**
	baz=24						
AML	**Almayashu**	**2.95**	**15**	⇑*i*P	**Pb**	**15 22 38.4**	**-2.2**
	baz=14						
AML				⇑*i*S	**Sb**	**15 23 16.6**	**-0.5**
	baz=14						
AML	**Almayashu**	**2.95**	**15**	P	**Pb**	**15 22 40.7**	**+0.2**
	SNR=146						
CHRV	**Charvak**	**3.16**	**319**	*e*P	**Pb**	**15 22 44.0**	**+0.1**
CHRV				*e*S	**Sg**	**15 23 32.0**	**+3.4**
MNAS	**Manas**	**3.21**	**357**	⇓*i*P	**Pb**	**15 22 41.8**	**-3.0**
	baz=58						
MNAS				⇓*i*S	**Sb**	**15 23 22.7**	**-1.6**
	baz=58						
TAS	**Tashkent**	**3.31**	**309**	⇑*i*P	**Pb**	**15 22 42.4**	**-4.1**
	baz=11						
TAS				⇑*i*S	**Sb**	**15 23 23.5**	**-3.6**
	baz=11						
EKS2	**Erkin-Say**	**3.48**	**13**	⇑*i*P	**Pb**	**15 22 45.5**	**-3.9**
	baz=13						
EKS2				⇑*i*S	**Sb**	**15 23 28.9**	**-3.1**
	baz=13						
EKS2	**Erkin-Say**	**3.48**	**13**	P	**Pb**	**15 22 48.3**	**-1.1**
	SNR=20						
AAK	**Ala-Archa**	**3.62**	**21**	Pn	**Pb**	**15 22 50.5**	**-1.3**
	19nm,0.3s,baz=220,slow=16,SNR=73						
AAK				Sn	**Sb**	**15 23 38.2**	**+2.0**
	6.1nm,0.3s,baz=12,slow=13,SNR=11						
AAK	**Ala-Archa**	**3.62**	**21**	⇓*i*P	**Pb**	**15 22 47.5**	**-4.4**
	baz=21						
AAK				⇓*i*S	**Sb**	**15 23 32.3**	**-3.9**
	baz=21						
AAK	**Ala-Archa**	**3.62**	**21**	P	**Pb**	**15 22 50.3**	**-1.6**
	SNR=42						
AAK	**Ala-Archa**	**3.62**	**21**	⇑Pn	**Pb**	**15 22 50.0**	**-1.9**
	41nm,0.4s						
AAK				⇓Sn	**Sb**	**15 23 37.9**	**+1.7**
	70nm,0.6s						
AAK	**Ala-Archa**	**3.62**	**21**	Pn	**Pb**	**15 22 50.0**	**-1.9**
BXML	**Bakhmal**	**3.63**	**278**	*e*P	**Sg**	**15 22 56.0**	**-0.9**
BXML				*e*S	**Sg**	**15 23 47.0**	**+3.0**
DZA	**Taraz**	**3.75**	**344**	*e*P	**Pb**	**15 22 55.3**	**+1.2**
	164nm,0.2s						
DZA				*e*S	**Sb**	**15 23 39.4**	**-0.5**
	300nm,0.5s						
DZA	**Taraz**	**3.75**	**344**	Pg	**Pb**	**15 22 52.2**	**-1.9**
	554nm,0.4s						
DZA				Lg	Lg	15 23 35.1	
	300nm,0.5s						
DZA	**Taraz**	**3.75**	**344**	*e*PN	**Pb**	**15 22 55.3**	**+1.2**
DZA				*e*S	**Sb**	**15 23 39.4**	**-0.5**
KBK	**Karagaybulak**	**3.78**	**26**	⇑*i*P	**Pn**	**15 22 49.7**	**+3.3**
	baz=25						
KBK				⇑*i*S	**Sb**	**15 23 36.1**	**-4.7**
	baz=25						
KBK	**Karagaybulak**	**3.78**	**26**	P	**Pb**	**15 22 53.0**	**-1.6**
	SNR=18						
FRU1	**Bishkek**	**3.82**	**22**	⇑*i*P	Pb	15 22 50.4	-4.8
	baz=21						
FRU1				⇑*i*S	**Sb**	**15 23 37.3**	**-4.5**
	baz=21						
FRU1	**Bishkek**	**3.82**	**22**	PN	**Pb**	**15 22 52.3**	**-2.9**
FRU1	**Bishkek**	**3.82**	**22**		**Pb**	**15 22 52.3**	**-2.9**
ULHL	**Ulahol**	**4.00**	**41**	⇓*i*P	**Pn**	**15 22 52.5**	**+3.0**
	baz=40						
ULHL				⇓*i*S	**Sn**	**15 23 41.1**	**+4.1**
	baz=40						
ULHL	**Ulahol**	**4.00**	**41**	P	**Pb**	**15 22 55.7**	**-2.7**
	SNR=13						
CHMS	**Chumysh**	**4.03**	**22**	⇓*i*P	**Pn**	**15 22 52.9**	**+3.2**
	baz=21						
CHMS				⇓*i*S	**Sb**	**15 23 42.0**	**-5.7**
	baz=21						
CHMS	**Chumysh**	**4.03**	**22**	P	**Pb**	**15 22 55.9**	**-2.8**
	SNR=16						
BOOM	**Boomskoye usch**	**4.04**	**36**	⇑*i*P	**Pn**	**15 22 52.9**	**+2.9**
	baz=35						
BOOM				⇑*i*S	**Sb**	**15 23 42.0**	**-6.3**
	baz=35						
BOOM	**Boomskoye usch**	**4.04**	**36**	PN	**Pb**	**15 22 55.6**	**-3.5**
BOOM	**Boomskoye usch**	**4.04**	**36**	Pn	**Pb**	**15 22 55.5**	**-3.5**
KK31	**Karatay Array**	**4.16**	**337**	⇓Pn	Pb	15 22 56.4	-4.6
	14nm,0.4s,baz=150,slow=12,SNR=359						
KK31				⇑Sn	**Sb**	**15 23 48.8**	**-2.9**
	54nm,0.7s,baz=155,slow=20,SNR=4.8						
KK31	**Karatay Array**	**4.16**	**337**	PN	Pb	15 22 56.2	-4.8
KK31	**Karatay Array**	**4.16**	**337**	Pn	Pb	15 22 56.2	-4.8
KKAR	**Karatay Array**	**4.16**	**337**	PN	Pb	15 22 56.0	-5.0
KKAR	**Karatay Array**	**4.16**	**337**	Pn	Pb	15 22 56.0	-5.0
USP	**Ospenovka**	**4.21**	**18**	⇓*i*P	**Pn**	**15 22 55.3**	**+3.1**
	baz=18						
USP				⇓*i*S	**Sb**	**15 23 46.3**	**-6.7**
	baz=18						
USP	**Ospenovka**	**4.21**	**18**	P	**Pb**	**15 22 58.2**	**-3.6**
	SNR=6.0						
TKM2	**Tokmak 2**	**4.25**	**30**	⇑*i*P	**Pn**	**15 22 56.0**	**+3.1**
	baz=29						
TKM2				⇑*i*S	**Sb**	**15 23 47.5**	**-6.7**
	baz=29						
TKM2	**Tokmak 2**	**4.25**	**30**	P	**Pb**	**15 22 58.8**	**-3.8**
	SNR=6.2						
TKM2	**Tokmak 2**	**4.25**	**30**	⇓Pn	**Pb**	**15 22 58.3**	**-4.3**
	6.1nm,0.5s						
TKM2				⇓Pg	**Pg**	**15 23 08.1**	**-0.5**
	15nm,0.5s						
TKM2				⇑Lg	Lg	15 24 05.3	
	35nm,0.6s						
SGDS	**Sogindy**	**4.41**	**19**	Pg	**Pg**	**15 23 11.6**	**-0.2**
	22nm,1.0s						
SGDS				Lg	Lg	15 24 08.1	
	33nm,0.6s						
KDJ	**Kajisay**	**4.44**	**49**	⇓*i*P	**Pn**	**15 22 58.3**	**+2.8**
	baz=47						
KDJ				⇓*i*S	**Sn**	**15 23 51.3**	**+3.6**
	baz=47						
KDJ	**Kajisay**	**4.44**	**49**	PN	Pb	15 23 00.9	-4.9
KDJ	**Kajisay**	**4.44**	**49**		Pb	15 23 00.9	-4.9
KST	**Kastek**	**4.49**	**32**	*e*P	**Pg**	**15 23 14.2**	**+0.8**
	21nm,0.9s						
KST				*e*S	**Sg**	**15 24 13.3**	**+1.7**
	39nm,0.7s						
KST	**Kastek**	**4.49**	**32**	Pg	**Pg**	**15 23 14.1**	**+0.8**
	21nm,0.9s						
KST				Lg	Lg	15 24 13.3	
	39nm,0.7s						
DGS	**Degeres**	**4.58**	**29**	*e*P	**Pg**	**15 23 17.0**	**+1.9**
	46nm,0.6s						
DGS				*e*S	**Sg**	**15 24 16.7**	**+2.2**
	37nm,0.5s						
DGS	**Degeres**	**4.58**	**29**	Pg	**Pg**	**15 23 17.0**	**+1.9**
	46nm,0.6s						
DGS				Lg	Lg	15 24 16.7	
	37nm,0.5s						
IZV	**Izvestkoviy**	**4.78**	**37**	*e*P	**Pg**	**15 23 19.7**	**+1.0**
	18nm,0.5s						
IZV				*e*S	**Sg**	**15 24 21.6**	**+1.0**
	63nm,0.5s						
IZV	**Izvestkoviy**	**4.78**	**37**	Pg	**Pg**	**15 23 19.7**	**+1.0**
	18nm,0.5s						
IZV				Lg	Lg	15 24 21.6	
	63nm,0.5s						
KRBS	**Karabastau**	**4.95**	**26**	*e*P	**Pg**	**15 23 21.9**	**-0.1**
	11nm,0.3s						
KRBS				*e*S	**Sg**	**15 24 24.8**	**-1.2**
	13nm,0.8s						
KRBS	**Karabastau**	**4.95**	**26**	Pg	**Pg**	**15 23 21.9**	**-0.1**
	11nm,0.3s						
KRBS				Lg	Lg	15 24 24.8	
	13nm,0.8s						
AAA	**Alma-Ata**	**5.05**	**38**	*e*P	**Pg**	**15 23 25.0**	**+1.0**
	28nm,0.2s						
AAA				*e*S	**Sg**	**15 24 30.3**	**+0.9**
	99nm,0.6s						
AAA	**Alma-Ata**	**5.05**	**38**	Pg	**Pg**	**15 23 25.0**	**+1.0**
	28nm,0.2s						
AAA				Lg	Lg	15 24 30.3	
	99nm,0.6s						
MDOK	**Medeo**	**5.08**	**39**	*e*P	**Pg**	**15 23 25.2**	**+0.6**
	15nm,0.5s						
MDOK				*e*S	**Sg**	**15 24 31.6**	**+1.3**
	32nm,0.8s						
MDOK	**Medeo**	**5.08**	**39**	⇓Pn	Pb	15 23 10.8	-5.9
	8.7nm,0.8s						
MDOK				⇓Pg	**Pg**	**15 23 24.9**	**+0.4**
	12nm,0.6s						
MDOK				⇑Lg	Lg	15 24 32.4	
	68nm,0.9s						
MDOK	**Medeo**	**5.08**	**39**	Pg	**Pg**	**15 23 25.2**	**+0.6**
	15nm,0.5s						
MDOK				Lg	Lg	15 24 31.6	
	32nm,0.8s						
KTBS	**Karatobe**	**5.34**	**33**	*e*P	**Pg**	**15 23 30.5**	**+0.9**
	11nm,0.6s						
KTBS				*e*S	**Sg**	**15 24 39.5**	**+0.8**
	57nm,0.5s						
KTBS	**Karatobe**	**5.34**	**33**	Pg	**Pg**	**15 23 30.5**	**+0.9**
	11nm,0.6s						
KTBS				Lg	Lg	15 24 39.5	
	57nm,0.5s						
KUU	**Kurty**	**5.36**	**29**	*e*P	**Pg**	**15 23 29.9**	**+0.1**
	11nm,0.5s						
KUU				*e*S	**Sg**	**15 24 38.7**	**-0.5**
	49nm,1.0s						
KUU	**Kurty**	**5.36**	**29**	Pg	**Pg**	**15 23 29.9**	**+0.1**
	11nm,0.5s						
KUU				Lg	Lg	15 24 38.7	
	49nm,1.0s						
PRZ	**Przheval'sk**	**5.38**	**52**	⇑*i*P	**Pn**	**15 23 11.3**	**+2.9**
	baz=50						
PRZ				⇑*i*S	**Sn**	**15 24 13.5**	**+2.7**
	baz=50						
PRZ	**Przheval'sk**	**5.38**	**52**	PN	Pb	15 23 14.8	-7.0
PRZ	**Przheval'sk**	**5.38**	**52**		Pb	15 23 14.8	-7.0
KBL	**Kabul**	**5.56**	**213**	PN	**Pn**	**15 23 13.9**	**+2.9**
KBL	**Kabul**	**5.56**	**213**	Pn	**Pn**	**15 23 13.9**	**+2.9**
NIL	**Nilore**	**5.64**	**175**	PN	**Pn**	**15 23 15.3**	**+3.5**
NIL	**Nilore**	**5.64**	**175**	Pn	**Pn**	**15 23 15.3**	**+3.5**
SATY	**Saty**	**5.73**	**47**	*e*P	**Pg**	**15 23 36.9**	**0.0**
	9.0nm,0.6s						
SATY				*e*S	**Sg**	**15 24 50.5**	**-0.6**
	37nm,0.8s						
SATY	**Saty**	**5.73**	**47**	Pg	**Pg**	**15 23 36.9**	**0.0**
	9.0nm,0.6s						
SATY				Lg	Lg	15 24 50.5	
	37nm,0.8s						
BTLS	**Baital**	**5.84**	**9**	*e*P	**Pg**	**15 23 37.6**	**-1.5**
	13nm,0.4s						
BTLS				*e*S	**Sg**	**15 24 52.7**	**-2.1**
	21nm,0.6s						
BTLS	**Baital**	**5.84**	**9**	Pg	**Pg**	**15 23 37.6**	**-1.5**
	13nm,0.4s						
BTLS				Lg	Lg	15 24 52.7	
	21nm,0.6s						
KURS	**Kuram**	**5.88**	**43**	*e*P	**Pg**	**15 23 40.4**	**+0.6**
	11nm,0.4s						
KURS				*e*S	**Sg**	**15 24 56.7**	**+0.6**
	27nm,1.2s						
KURS	**Kuram**	**5.88**	**43**	Pg	**Pg**	**15 23 40.4**	**+0.6**
	11nm,0.4s						
KURS				Lg	Lg	15 24 56.7	
	27nm,1.2s						
UZB	**Uzynbulak**	**6.13**	**49**	*e*P	**Pg**	**15 23 45.1**	**+0.3**
	7.6nm,0.9s						
UZB				*e*S	**Sg**	**15 25 04.6**	**+0.3**
	13nm,0.5s						
UZB	**Uzynbulak**	**6.13**	**49**	Pg	**Pg**	**15 23 45.1**	**+0.3**
	7.6nm,0.9s						
UZB				Lg	Lg	15 25 04.6	
	13nm,0.5s						
KPKS	**Kokpek**	**6.14**	**45**	*e*P	**Pg**	**15 23 44.5**	**-0.4**
	8.8nm,0.5s						
KPKS				*e*S	**Sg**	**15 25 03.7**	**-0.8**
	25nm,0.4s						
ARXS	**Arharly**	**6.24**	**36**	*e*P	**Pg**	**15 23 45.7**	**-1.1**
	18nm,0.8s						
ARXS				*e*S	**Sg**	**15 25 05.9**	**-1.8**
	24nm,0.5s						
ARXS	**Arharly**	**6.24**	**36**	Pg	**Pg**	**15 23 45.7**	**-1.1**
	18nm,0.8s						
ARXS				Lg	Lg	15 25 05.9	
	24nm,0.5s						
SHLS	**Shalkode**	**6.40**	**51**	*e*P	**Pg**	**15 23 53.8**	**+3.9**
	21nm,0.8s						
SHLS				*e*S	**Sg**	**15 25 19.5**	**+6.7**
	35nm,0.7s						
SHLS	**Shalkode**	**6.40**	**51**	Pg	**Pg**	**15 23 53.8**	**+3.9**
	21nm,0.8s						
SHLS				Lg	Lg	15 25 19.5	
	35nm,0.7s						
PDGK	**Podgornoye**	**6.52**	**49**	Pg	**Pg**	**15 23 51.5**	**-0.6**
	3.0nm,0.6s						
PDGK				Lg	Lg	15 25 15.5	
	9.9nm,0.8s						
PDGK	**Podgornoye**	**6.52**	**49**	⇓Pn	**Pn**	**15 23 28.2**	**+4.2**
	5.0nm,0.8s						
PDGK				⇑Lg	Lg	15 25 14.0	
	33nm,0.8s						
DHRM	**DHARAMSHALA**	**7.60**	**156**	*e*P	**Pn**	**15 23 39.8**	**+0.9**
DHRM				*e*S	**Sn**	**15 24 59.5**	**-6.1**
DHRM				IAML		15 25 09.4	
	comp=E,49nm,0.4s						
SMLA	**Simla**	**8.91**	**154**	*e*S	**Sn**	**15 25 31.8**	**-5.9**
MAKZ	**Makanchi**	**10.13**	**39**	P	Pn	15 24 19.6	+6.2
MAKZ	**Makanchi**	**10.13**	**39**		Pn	15 24 19.6	+6.2
MK31	**Makanchi Array**	**10.27**	**40**	⇑*e*P	Pn	15 24 21.3	+5.9
MK31	**Makanchi Array**	**10.27**	**40**	Pn	Pn	15 24 21.4	+6.0
MKAR	**Makanchi Array**	**10.27**	**40**	Pn	Pn	15 24 20.3	+4.9
	comp=E,0.1nm,0.3s,baz=230,slow=12,SNR=13						
MKAR	**Makanchi Array**	**10.27**	**40**	*i*P	Pn	15 24 21.7	+6.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**10.27**	**40**	Pn	Pn	15 24 21.6	+6.2
GEYT	**Alibeck**	**11.49**	**268**	Pn	**Pn**	**15 24 30.9**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=94,slow=13,SNR=3.2						
GEYT				Sn	**Sn**	**15 26 39.0**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=50,slow=30,SNR=2.1						
GYA0B	**ALIBECK ARRAY**	**11.49**	**268**	Pn	**Pn**	**15 24 30.7**	**-1.4**
KURBB	**Kurchatov Arra**	**12.06**	**18**	Pn	**Pn**	**15 24 41.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=6.5						
WMQ	**Urumqi**	**12.11**	**63**	*e*P	Pn	15 24 50.5	+10
KURK	**Kurchatov**	**12.17**	**18**	P	**Pn**	**15 24 41.8**	**+0.5**
KURK	**Kurchatov**	**12.17**	**18**		**Pn**	**15 24 41.8**	**+0.5**
AB31	**Akbulak array**	**13.51**	**322**	⇑P	**Pn**	**15 24 59.7**	**+0.1**
	comp=Z,1.8nm,0.5s						
ABKAR	**Akbulak array**	**13.51**	**322**		**Pn**	**15 24 59.9**	**+0.3**
ABKAR	**Akbulak array**	**13.51**	**322**	Pn	**Pn**	**15 24 59.8**	**+0.3**
BRVK	**Borovoye**	**13.88**	**354**	⇓P	**P**	**15 25 14.0**	**+0.9**
	comp=Z,3.5nm,0.9s						
BRVK	**Borovoye**	**13.88**	**354**	⇑*e*P	**Pn**	**15 25 05.2**	**+0.6**
DGZ	**Jazzator, Alta**	**14.77**	**40**	⇓*e*P	**P**	**15 25 23.9**	**+0.7**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTO	**Aktyubinsk**	**15.22**	**322**	⇑P	**Pn**	**15 25 23.2**	**+0.3**
	comp=Z,8.2nm,0.6s						
ZAA0	**Zalesovo Array**	**16.83**	**25**	P	**P**	**15 25 49.6**	**+3.8**
ZALV	**Zalesovo Beam**	**16.83**	**25**	P	**P**	**15 25 46.8**	**+1.0**
	baz=212,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**16.83**	**25**	*i*P	**P**	**15 25 49.4**	**+3.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**16.83**	**25**	P	**P**	**15 25 49.2**	**+3.5**
ARU	**Arti**	**19.54**	**336**	*d*P	**Pn**	**15 26 18.7**	**+1.9**
ARU				S	**S**	**15 29 58.4**	**+1.9**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA	**Gaotai**	**20.95**	**81**	⇑P	Pn	15 26 32.5	-1.2
GTA				pP	sP	15 26 42.0	+7.2
GTA				sP	pP	15 26 46.5	+13
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,84nm,6.4s						
GTA				L	L		
	comp=Z,120nm,19.3s						
GTA				L	L		
	comp=Z,99nm,18.2s						
GTA				L	L		
	comp=Z,130nm,17.1s						
KIV	**Kislovodsk**	**22.85**	**292**	*e*P	**P**	**15 26 53.4**	**+1.9**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONM	**Songino Array**	**25.71**	**60**	P	**P**	**15 27 20.8**	**+2.3**
	comp=Z,0.7nm,0.4s,baz=265,slow=11,SNR=2.7						
ULN	**Ulaanbaatar**	**26.15**	**60**	⇓*e*P	**P**	**15 27 26.0**	**+3.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANN	**Anapa**	**26.62**	**293**	*e*P	**P**	**15 27 23.6**	**-3.1**
ANN				*e**PP	**pP**	**15 27 27.5**	**-1.9**
ANN				*e*PPP	PPP	15 28 12.3	
ANN				*e*		15 30 51.2	
ANN				*e*S	**S**	**15 31 55.6**	**-6.4**
ANN				pmax	pmax		
	comp=Z,50nm,1.1s						
OBN	**Obninsk**	**28.81**	**315**	⇑*e*P	**P**	**15 27 47.0**	**+0.9**
OBN				*e*		15 28 37.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**29.62**	**74**	*e*P	P	15 27 59.5	+5.8
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,95nm,5.7s						
FINES	**FINESS Array B**	**35.99**	**324**	P	**P**	**15 28 49.4**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=119,slow=8.6,SNR=1.7						
FINES	**FINESS Array B**	**35.99**	**324**	P	**P**	**15 28 50.0**	**+1.1**
FINES	**FINESS Array B**	**35.99**	**324**	P	**P**	**15 28 50.0**	**+1.1**
ARCES	**ARCESS Array B**	**39.13**	**336**	P	**P**	**15 29 16.5**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=106,slow=9.4,SNR=2.2						
ARCES	**ARCESS Array B**	**39.13**	**336**	IAmb	IAmb	15 29 19.6	
	comp=Z,7.9nm,1.4s						
TIXI	**Tiksi**	**42.70**	**23**	P	**P**	**15 29 47.7**	**+3.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	**Tiksi**	**42.70**	**23**	P	**P**	**15 29 47.7**	**+3.0**
TIXI				IAmb	IAmb	15 29 51.0	
	comp=Z,4.6nm,1.2s						
NOA	**NORSAR Array B**	**43.02**	**321**	P	**P**	**15 29 47.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=93,slow=8.1,SNR=1.9						
ESDC	**Sonseca Array**	**57.38**	**297**	P	**P**	**15 31 36.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=53,slow=7.1,SNR=2.0						
EUNU	**Eureka**	**60.34**	**356**	P	**P**	**15 31 57.5**	**+0.8**
TOA0	**Torodi Ar. Sit**	**67.13**	**268**	P	**P**	**15 32 41.8**	**-0.6**
TOA0				IAmb	IAmb	15 32 43.3	
	comp=Z,3.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**67.13**	**268**	P	**P**	**15 32 41.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=54,slow=5.5,SNR=9.2						
TORD	**Torodi Ar. Bea**	**67.13**	**268**	P	**P**	**15 32 41.3**	**-1.1**
TORD				IAmb	IAmb	15 32 46.8	
	comp=Z,2.6nm,1.2s						
BMAR	**Burnt Mountain**	**69.92**	**14**	P	**P**	**15 33 02.4**	**+3.3**
MDM	**Murphy Dome**	**71.28**	**17**	P	**P**	**15 33 08.6**	**+1.3**
MDM				IAmb	IAmb	15 33 13.2	
	comp=Z,5.7nm,1.4s						
ILAR	**Eielson Array**	**71.74**	**17**	P	**P**	**15 33 11.4**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=316,slow=3.8,SNR=4.8						
SKT	**Skwentna**	**72.95**	**20**	P	**P**	**15 33 18.6**	**+1.2**
YKA	**Yellowknife Ar**	**78.40**	**3**	P	**P**	**15 33 49.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=354,slow=4.9,SNR=2.9						
WRA	**Warramunga Arr**	**82.35**	**123**	P	**P**	**15 34 08.1**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=330,slow=5.0,SNR=14						
ASAR	**Alice Springs**	**84.77**	**126**	P	**P**	**15 34 20.7**	**-2.1**
	comp=Z,0.4nm,0.8s,baz=323,slow=5.0,SNR=5.8						
ULM	**Lac du Bonnet**	**90.28**	**353**	P	**P**	**15 34 49.0**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=

ARMA	**Armidale**	**35.78**	**239**	P	**P**	**15 33 50.5**	**-0.6**
ARMA				IAmb	IAmb	15 34 18.3	
	comp=Z,13nm,1.3s						
MIDW	**Midway**	**43.26**	**354**	P	**P**	**15 34 52.9**	**-0.3**
STKA	**Stephens Creek**	**44.48**	**240**	P	**P**	**15 35 02.3**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=58,slow=8.1,SNR=3.3						
STKA	**Stephens Creek**	**44.48**	**240**	IAmb	IAmb	15 35 02.9	
	comp=Z,0.6nm,0.9s						
WB0	**Warramunga Arr**	**50.20**	**257**	P	**P**	**15 35 47.4**	**-0.5**
WB0				IAmb	IAmb	15 36 03.2	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**50.23**	**256**	P	**P**	**15 35 47.6**	**-0.5**
WB2				IAmb	IAmb	15 36 13.6	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**50.24**	**256**	P	**P**	**15 35 47.4**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=92,slow=6.5,SNR=11						
AS31	**Alice Springs**	**50.52**	**252**	P	**P**	**15 35 49.4**	**-0.9**
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**15 35 49.7**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=89,slow=7.6,SNR=69						
ASAR				LR	LR	15 55 44.8	
	comp=Z,225nm,19.5s,baz=79,slow=34						
ASAR	**Alice Springs**	**50.52**	**252**	P	**P**	**15 35 49.3**	**-1.0**
ATKA	**Atka Island**	**67.03**	**359**	P	**P**	**15 37 45.6**	**+1.4**
PAGB	**Antelope Grade**	**71.06**	**43**	P	**P**	**15 38 08.8**	**-1.0**
PAGB				IAmb	IAmb	15 38 11.6	
	comp=Z,3.0nm,0.7s						
JEW	**Eniwo**	**71.18**	**326**	P	**P**	**15 38 09.7**	**-0.6**
RYN	**Ryan**	**73.85**	**42**	P	**P**	**15 38 26.3**	**-0.3**
NVAR	**Mina Array Bea**	**73.88**	**42**	P	**P**	**15 38 26.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=229,slow=9.6,SNR=9.7						
PAHR	**Pah Rah Range**	**73.93**	**40**	P	**P**	**15 38 27.1**	**+0.1**
NV11	**Mina Array Sit**	**73.98**	**42**	P	**P**	**15 38 27.3**	**0.0**
KVN	**Kaiserville**	**74.36**	**41**	P	**P**	**15 38 29.4**	**-0.2**
TPH	**Tonopah**	**74.38**	**43**	P	**P**	**15 38 29.9**	**+0.1**
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**15 38 32.0**	**-0.5**
Y14A	**Wickenburg**	**75.10**	**48**	P	**P**	**15 38 34.6**	**+0.8**
X16A	**Lo Mia Camp, P**	**76.47**	**48**	P	**P**	**15 38 41.9**	**+0.2**
X16A				IAmb	IAmb	15 38 43.8	
	comp=Z,2.5nm,0.9s						
LCMT	**Little Creek M**	**76.49**	**45**	P	**P**	**15 38 42.5**	**+0.7**
LCMT				IAmb	IAmb	15 38 45.1	
	comp=Z,3.4nm,1.3s						
U15A	**North Rim**	**76.85**	**46**	P	**P**	**15 38 44.3**	**+0.3**
U15A				IAmb	IAmb	15 38 45.9	
	comp=Z,2.9nm,1.0s						
PSUT	**Pine Spring**	**76.86**	**44**	P	**P**	**15 38 43.9**	**0.0**
ELK	**Elko**	**77.14**	**41**	P	**P**	**15 38 45.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=233,slow=9.2,SNR=3.5						
ELK	**Elko**	**77.14**	**41**	IAmb	IAmb	15 38 46.8	
	comp=Z,2.1nm,1.1s						
G08A	**Pilot Rock**	**77.49**	**36**	P	**P**	**15 38 47.9**	**+0.7**
KNMB	**Chin-men Tao**	**77.58**	**300**	P	**P**	**15 38 47.5**	**-0.5**
MTPU	**Mount Pierson**	**77.73**	**45**	P	**P**	**15 38 49.4**	**+0.3**
MTPU				IAmb	IAmb	15 38 51.4	
	comp=Z,2.3nm,0.9s						
MSU	**Marysvale**	**77.98**	**44**	P	**P**	**15 38 50.7**	**+0.5**
F10A	**Beach Ranch, E**	**78.88**	**36**	P	**P**	**15 38 55.2**	**+0.4**
F10A				IAmb	IAmb	15 38 58.0	
	comp=Z,5.4nm,1.2s						
TTA	**Tatalina**	**78.91**	**8**	P	**P**	**15 38 55.3**	**+0.7**
TTA				IAmb	IAmb	15 38 58.8	
	comp=Z,7.0nm,1.2s						
GHO	**Glory Hole Cre**	**78.97**	**11**	P	**P**	**15 38 56.2**	**+1.3**
TMUT	**Trail Mountain**	**79.02**	**44**	P	**P**	**15 38 56.2**	**+0.1**
TMUT				IAmb	IAmb	15 38 58.6	
	comp=Z,4.9nm,0.9s						
HLID	**Hailey**	**79.18**	**39**	P	**P**	**15 38 57.1**	**+0.5**
SRU	**San Rafael Swe**	**79.39**	**45**	P	**P**	**15 38 58.2**	**+0.3**
SRU				IAmb	IAmb	15 38 59.4	
	comp=Z,3.1nm,1.1s						
P17A	**Butcher Ranch,**	**79.43**	**44**	P	**P**	**15 38 58.9**	**+0.8**
P17A				IAmb	IAmb	15 39 00.5	
	comp=Z,4.1nm,1.1s						
GLB	**Gilahina Butte**	**79.75**	**14**	P	**P**	**15 38 59.8**	**+0.6**
GLB				IAmb	IAmb	15 39 01.2	
	comp=Z,5.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**80.17**	**56**	P	**P**	**15 39 02.5**	**+0.3**
TX32	**Lajitas Array**	**80.17**	**56**	P	**P**	**15 39 02.5**	**+0.3**
TX32				IAmb	IAmb	15 39 04.1	
	comp=Z,6.6nm,1.4s						
TXAR	**Lajitas Array**	**80.17**	**56**	P	**P**	**15 39 02.4**	**+0.1**
	comp=Z,1.7nm,1.0s,baz=220,slow=8.2,SNR=11						
TXAR	**Lajitas Array**	**80.17**	**56**	P	**P**	**15 39 02.0**	**-0.2**
PV12	**Saucer Basin,**	**80.20**	**46**	P	**P**	**15 39 02.7**	**+0.3**
PV12				IAmb	IAmb	15 39 04.4	
	comp=Z,5.9nm,1.1s						
PV01	**Paradox Valley**	**80.27**	**46**	P	**P**	**15 39 02.8**	**0.0**
ANMO	**Albuquerque**	**80.35**	**50**	P	**P**	**15 39 03.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=194,slow=12,SNR=2.7						
MCK	**McKinley**	**80.77**	**11**	P	**P**	**15 39 04.8**	**+0.2**
NEA2	**Nenana**	**81.53**	**10**	P	**P**	**15 39 09.3**	**+0.7**
NEA2				IAmb	IAmb	15 39 10.6	
	comp=Z,3.5nm,0.9s						
WRH	**Wood River Hil**	**81.59**	**11**	P	**P**	**15 39 09.5**	**+0.5**
DOT	**Dot Lake**	**81.64**	**13**	P	**P**	**15 39 09.7**	**+0.5**
DOT				IAmb	IAmb	15 39 11.7	
	comp=Z,5.3nm,1.0s						
MLY	**Manley**	**81.67**	**9**	P	**P**	**15 39 10.0**	**+0.6**
MLY				IAmb	IAmb	15 39 11.4	
	comp=Z,4.4nm,0.8s						
HDA	**Harding Lake**	**81.75**	**11**	P	**P**	**15 39 10.6**	**+0.9**
HDA				IAmb	IAmb	15 39 12.1	
	comp=Z,5.8nm,1.0s						
CCB	**Clear Creek Bu**	**81.81**	**11**	P	**P**	**15 39 10.6**	**+0.6**
CCB				IAmb	IAmb	15 39 12.2	
	comp=Z,6.3nm,0.8s						
PD31	**Pinedale Array**	**81.82**	**42**	P	**P**	**15 39 11.2**	**+0.2**
PDAR	**Pinedale Array**	**81.82**	**42**	P	**P**	**15 39 11.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=213,slow=3.8,SNR=11						
SMCO	**Snowmass**	**81.86**	**46**	P	**P**	**15 39 11.5**	**0.0**
SMCO				IAmb	IAmb	15 39 13.2	
	comp=Z,3.3nm,1.1s						
SCRK	**Sand Creek**	**81.94**	**12**	P	**P**	**15 39 11.4**	**+0.4**
SCRK				IAmb	IAmb	15 39 13.6	
	comp=Z,3.2nm,0.9s						
BOZ	**Bozeman (W)**	**81.95**	**39**	P	**P**	**15 39 11.7**	**+0.2**
I23K	**Minto, Yukon-K**	**82.00**	**10**	P	**P**	**15 39 11.6**	**+0.6**
I23K				IAmb	IAmb	15 39 13.4	
	comp=Z,3.3nm,0.9s						
TCOL	**CIGO, UAF Yank**	**82.00**	**11**	P	**P**	**15 39 11.9**	**+0.9**
COLA	**College**	**82.00**	**11**	P	**P**	**15 39 11.9**	**+0.9**
MDM	**Murphy Dome**	**82.02**	**10**	P	**P**	**15 39 11.5**	**+0.4**
MDM				IAmb	IAmb	15 39 13.6	
	comp=Z,5.1nm,1.0s						
IL31		**82.09**	**11**	P	**P**	**15 39 11.7**	**+0.2**
IL31				IAmb	IAmb	15 39 14.8	
	comp=Z,4.8nm,1.1s						
ILAR	**Eielson Array**	**82.09**	**11**	P	**P**	**15 39 11.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=218,slow=6.2,SNR=20						
YNE	**Yellowstone No**	**82.64**	**40**	P	**P**	**15 39 14.8**	**-0.4**
YNE				IAmb	IAmb	15 39 17.2	
	comp=Z,2.7nm,0.9s						
PRP	**Porcupine Dome**	**83.01**	**11**	P	**P**	**15 39 16.5**	**0.0**
PRP				IAmb	IAmb	15 39 18.8	
	comp=Z,6.4nm,0.8s						
DAWY	**Dawson**	**83.05**	**14**	P	**P**	**15 39 16.7**	**+0.1**
DAWY				IAmb	IAmb	15 39 19.1	
	comp=Z,5.4nm,0.9s						
BMAR	**Burnt Mountain**	**84.89**	**11**	P	**P**	**15 39 27.4**	**+1.5**
YKA	**Yellowknife Ar**	**89.69**	**23**	P	**P**	**15 39 49.8**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=232,slow=4.7,SNR=8.2						
ARCES	**ARCESS Array B**	**124.36**	**352**	PKP	**PKiKP**	**15 45 50.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=10,slow=1.4,SNR=9.2						
ARCES	**ARCESS Array B**	**124.36**	**352**	PKPdf	**PKPdf**	**15 45 49.8**	**-0.1**
DPC	**Dobruska-Polom**	**144.03**	**350**	*e*PKP	PKPbc	15 46 25.4	+0.4
MORC	**Moravsky Berou**	**144.35**	**348**	*e*PKP	PKPbc	15 46 26.8	+0.8
VRAC	**Vranov**	**144.98**	**349**	*e*PKP	**PKPdf**	**15 46 29.3**	**+0.6**
JAVC	**Velka Javorina**	**145.20**	**348**	*e*PKP	**PKiKP**	**15 46 31.1**	**-1.9**
KRUC	**Moravsky**	**145.25**	**349**	*e*PKP	**PKPdf**	**15 46 29.8**	**+0.6**
KHC	**Kasperske Hory**	**145.63**	**352**	*e*PKP	**PKPab**	**15 46 31.7**	**+1.3**
CKRC	**Cesky Krumlov**	**145.83**	**351**	*e*PKP	**PKPab**	**15 46 32.0**	**+0.9**
GERES	**GERESS Array B**	**145.89**	**352**	PKPbc	**PKPbc**	**15 46 30.9**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=41,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**146.13**	**322**	PKPbc	**PKPab**	**15 46 33.5**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=93,slow=3.7,SNR=8.0						
CONA	**Conrad Observa**	**146.44**	**349**	*e*P	**PKPab**	**15 46 34.1**	**+0.6**
	comp=Z,3.3nm,0.9s						
MOA	**Molln**	**146.78**	**351**	*e*P	**PKPab**	**15 46 34.6**	**-0.2**
	comp=Z,4.5nm,1.9s						
RETA	**Reutte**	**147.55**	**355**	*e*P	**PKiKP**	**15 46 37.0**	**-1.0**
	comp=Z,2.3nm,0.7s						
MOTA	**Moosalm**	**147.66**	**355**	*e*P	**PKPbc**	**15 46 36.6**	**+0.4**
	comp=Z,3.3nm,0.9s						
KBA	**Koelnbreinsper**	**147.67**	**352**	*e*P	**PKPdf**	**15 46 34.7**	**+1.2**
	comp=Z,4.0nm,1.0s						
WTTA	**Wattenberg**	**147.69**	**354**	*e*P	**PKPbc**	**15 46 35.7**	**-0.7**
	comp=Z,2.0nm,0.6s						
DAVA	**Damuels**	**147.81**	**356**	*e*P	**PKiKP**	**15 46 38.0**	**-0.6**
	comp=Z,5.6nm,1.0s						
ABTA	**Abfaltersbach**	**148.10**	**353**	*e*P	**PKPbc**	**15 46 36.0**	**-1.4**
	comp=Z,5.5nm,1.0s						
ESDC	**Sonseca Array**	**153.72**	**19**	PKPbc	**PKiKP**	**15 46 51.3**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=330,slow=3.2,SNR=6.3						
ESDC				PKPab	**PKPab**	**15 47 03.7**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=328,slow=4.1,SNR=5.0						

*NNC **28** 15:36:05.5±6.7,41.°43N×83.°61E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=53.5km s-min=46.7km az=116.0*
*SOME **28** 15:36:14.5,41.°02N×82.°07E,h25km*
ISC 28 15:36:08.4±2.9,41.°5N±0.°1×83.°01E±0.°09,h10km,n9,
σ1§61/16,4C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.76**	**315**	*e*P	**Pg**	**15 37 02.4**	**+1.0**
	9.9nm,0.3s						
KTMS				*e*S	**Sg**	**15 37 36.5**	**-0.6**
	23nm,0.4s						
SHLS	**Shalkode**	**3.11**	**303**	*e*P	**Pb**	**15 37 03.5**	**-0.3**
	6.5nm,0.3s						
SHLS				*e*S	**Sb**	**15 37 39.1**	**-2.7**
	30nm,0.4s						
UZB	**Uzynbulak**	**3.38**	**300**	*e*P	**Pg**	**15 37 10.7**	**-2.5**
	2.2nm,0.4s						
UZB				*e*S	**Sb**	**15 37 51.3**	**+1.6**
	9.9nm,0.5s						
SATY	**Saty**	**3.75**	**296**	*e*P	**Pb**	**15 37 16.4**	**+1.5**
	1.1nm,0.3s						
SATY				*e*S	**Sb**	**15 38 00.7**	**+0.2**
	25nm,0.4s						
MK31	**Makanchi Array**	**5.31**	**355**	⇑Pn	**Pn**	**15 37 28.3**	**+0.5**
	baz=184,slow=11,SNR=8.5						
MK31				⇓Pg	**Pg**	**15 37 47.7**	**-2.4**
	0.8nm,0.4s,baz=168,slow=15,SNR=3.6						
MK31				⇑Lg	Lg	15 39 04.4	
	2.6nm,0.5s,baz=164,slow=27,SNR=6.0						
MAKZ	**Makanchi**	**5.35**	**352**	⇑Pn	**Pn**	**15 37 28.6**	**+0.2**
	0.4nm,0.5s						
MAKZ				⇑Sn	**Sn**	**15 38 32.6**	**+2.6**
	0.7nm,0.4s						
KST	**Kastek**	**5.45**	**289**	*e*P	**Pb**	**15 37 44.2**	**+0.4**
	1.7nm,0.5s						
KST				*e*S	**Sb**	**15 38 49.5**	**+0.2**
	9.1nm,0.5s						
DGS	**Degeres**	**5.64**	**290**	*e*P	**Pb**	**15 37 47.4**	**+0.5**
	1.2nm,0.4s						
DGS				*e*S	**Sb**	**15 38 53.8**	**-0.8**
	3.5nm,0.6s						
TKM2	**Tokmak 2**	**5.69**	**287**	⇓Lg	Lg	15 39 20.7	
	9.5nm,0.6s						

*TUL **28** 15:36:50.7±0.6,36.°08N±0.°01×97.°59W±0.°02,h6km±7km, ML3.1,mb_Lg2.8/38(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=69.0*
NEIC 28 15:36:50.6±0.5,36.°085N±0.°010×97.°59W±0.°02,h5km±7km, Error ellipse: s-maj=1.8km s-min=1.3km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.31**	**160**		Pg	15 36 57.0	+0.4
BCOK	**Bluff Creek, N**	**0.43**	**182**		Pg	15 36 59.1	+0.2
CROK	**Carrier**	**0.53**	**323**		Pg	15 37 01.0	+0.3
CROK				Sg	Sg	15 37 08.3	+0.6
OK025	**Westminster Rd**	**0.54**	**158**		Pg	15 37 01.2	+0.1
OK025				Sg	Sg	15 37 08.2	+0.1
OK031	**S. Brethren Rd**	**0.62**	**102**		Pg	15 37 02.7	+0.2
OK031				Sg	Sg	15 37 10.5	-0.1
OK030	**Cody Creek RV**	**0.67**	**103**		Pg	15 37 03.7	+0.2
OKCFA	**Oklahoma City**	**0.68**	**171**		Pg	15 37 03.6	-0.1
OKCFA				Sg	Sg	15 37 12.1	-0.3
OKCSW	**OKLAHOMA CITY**	**0.69**	**170**		Pg	15 37 03.8	-0.1
OKCSW				Sg	Sg	15 37 12.4	-0.4
QUOK	**Quay**	**0.72**	**83**		Pg	15 37 04.5	+0.1
QUOK				Sg	Sg	15 37 13.4	-0.3
BLOK	**Blackwell**	**0.74**	**24**		Pg	15 37 05.0	+0.1
BLOK				Sg	Sg	15 37 14.2	-0.1
FNO	**Franklin**	**0.84**	**170**		Pg	15 37 06.5	-0.2
OK032	**Salt Plains WL**	**0.88**	**325**		Pg	15 37 07.3	-0.2
OK032				Sg	Sg	15 37 18.6	-0.2
KAN13	**South Haven SW**	**0.93**	**5**		Pg	15 37 08.4	0.0
KAN13				Sg	Sg	15 37 20.4	-0.1
KAN17	**Caldwell West**	**0.97**	**352**		Pg	15 37 09.1	-0.1
KAN17				Sg	Sg	15 37 21.9	+0.1
KAN09	**Caldwell North**	**1.05**	**359**	Pg	Pg	15 37 10.5	-0.2
KAN10	**Anthony SW Sta**	**1.11**	**339**		Pg	15 37 11.6	-0.4
KS20	**Mayfield South**	**1.14**	**1**	Pg	Pg	15 37 12.3	-0.2
KAN08	**Anthony NE Sta**	**1.18**	**345**	Pg	Pg	15 37 12.8	-0.5
T35A	**Sooner Cattle**	**1.20**	**46**		Pg	15 37 13.2	-0.4
X34A	**Smith Ranch, M**	**1.50**	**188**		Pn	15 37 18.2	+0.1
WMOK	**Wichita Mounta**	**1.66**	**216**	Pn	Pn	15 37 20.2	-0.2
LOOK	**Love County**	**2.12**	**171**	IAmb_Lg		15 37 58.0	
	comp=Z,32nm,1.3s						
X37A	**Clayton**	**2.35**	**129**	Pn	Pn	15 37 29.7	-0.1
X37A				IAmb_Lg		15 38 06.8	
	comp=Z,27nm,0.7s						
U38A	**Gravette**	**2.61**	**81**	Pn	Pn	15 37 33.4	-0.1
Z35A	**Perchaven, San**	**2.76**	**174**	Pn	Pn	15 37 35.4	-0.1
HHAR	**Hobbs**	**2.96**	**85**		Pn	15 37 38.2	0.0
KSU1	**Kansas State U**	**3.11**	**14**	Pn	Pn	15 37 40.6	+0.3
CBKS	**Cedar Bluff**	**3.22**	**329**	Pn	Pn	15 37 41.8	-0.1
W39A	**Magazine**	**3.22**	**105**	Pn	Pn	15 37 41.8	-0.1
Z38A	**Mt. Pleasant**	**3.54**	**142**	IAmb_Lg		15 38 49.3	
	comp=Z,25nm,0.9s						
AMTX	**Amarillo**	**3.55**	**251**	Pn	Pn	15 37 46.2	-0.3
S39A	**Bolivar**	**3.77**	**64**	IAmb_Lg		15 38 51.6	
	comp=Z,16nm,0.7s						
U40A	**Yellville**	**3.84**	**85**	Pn	Pn	15 37 50.2	-0.2
U40A				IAmb_Lg		15 38 52.5	
	comp=Z,20nm,0.9s						
WHTX	**Lake Whitney,**	**4.08**	**178**	Pn	Pn	15 37 53.9	+0.1
X40A	**Basin Creek Fa**	**4.20**	**111**	Pn	Pn	15 37 55.4	+0.1
X40A				IAmb_Lg		15 39 07.8	
	comp=Z,16nm,0.8s						
237A	**Washetta, Mont**	**4.33**	**160**	Pn	Pn	15 37 56.8	-0.4
WHAR	**Wooly Hollow**	**4.38**	**99**	Pn	Pn	15 37 57.7	-0.1
MGMO	**Mountain Grove**	**4.41**	**74**	IAmb_Lg		15 39 10.8	
	comp=Z,18nm,0.8s						
P38A	**Dawn**	**4.77**	**41**	IAmb_Lg		15 39 31.8	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**4.78**	**61**	IAmb_Lg		15 39 19.3	
	comp=Z,25nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.96**	**308**	IAmb_Lg		15 39 40.1	
	comp=Z,14nm,0.7s						
CCM	**Cathedral Cave**	**5.44**	**67**	IAmb_Lg		15 39 52.4	
	comp=Z,13nm,0.9s						
T25A	**Trinidad**	**5.59**	**283**	IAmb_Lg		15 40 02.3	
	comp=Z,9.5nm,1.0s						
N38A	**Joes South For**	**5.81**	**35**	IAmb_Lg		15 40 07.2	
	comp=Z,15nm,0.8s						
PBMO	**Poplar Bluff**	**5.81**	**81**	IAmb_Lg		15 39 58.0	
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**5.89**	**199**	IAmb_Lg		15 40 04.9	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**6.87**	**74**	IAmb_Lg		15 40 33.6	
	comp=Z,12nm,0.7s						
SIUC	**Southern Illin**	**6.90**	**74**	IAmb_Lg		15 40 25.7	
	comp=Z,16nm,1.0s						
N41A	**Harden Midland**	**7.02**	**47**	IAmb_Lg		15 40 42.9	
	comp=Z,15nm,0.9s						
HDIL	**Hopedale**	**7.90**	**53**	IAmb_Lg		15 41 10.4	
	comp=Z,12nm,0.7s						
L42A	**Oliver, Polo**	**8.54**	**44**	IAmb_Lg		15 41 37.9	
	comp=Z,7.8nm,0.8s						

*INET **28** 15:54:31.5,16.°41N×94.°59W,h157km,ML5.2,MW4.1*
*BGR **28** 15:54:35.0±0.0,16.°26N×94.°17W,h33km,mb5.7,Ms4.3*
*MOS **28** 15:54:38.5±0.9,16.°70N×94.°52W,h71km,mb5.3/48, MS4.5/6,Error ellipse: s-maj=7.8km s-min=4.5km az=98.6*
*IDC **28** 15:54:40.3±0.4,16.°63N×94.°59W,h80km±3km,mb4.4/27, mb1 4.6/30,mb1mx4.6/34,mbtmp4.8/30,MS4.1/27, Ms1 4.1/27,ms1mx4.1/35,Error ellipse: s-maj=13.5km s-min=7.9km az=57.0*
*UCR **28** 15:54:40.4±2.1,17.°68N×93.°61W,h9km±67km,ML4.7, mb5.4(NEIC)*

*NEIC **28** 15:54:42.0±1.9,16.°68N±0.°05×94.°63W±0.°05,h89km±3km, mb5.1/412,Mwb5.4/19,Md5.6/79(MEX),Error ellipse: s-maj=8.2km s-min=6.7km az=47.0*
*MEX **28** 15:54:41.4±0.7,16.°51N×94.°90W,h88km±6km,MD5.6*
*NEIC **28** 15:54:42.9,16.°74N×94.°52W,h82km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.95; Mθθ-0.28; Mφφ 1.23; Mrθ 1.06; Mθφ-0.71; Mφr-0.72; Fault plane solution: M₀1.84000×10¹⁷ NP1:φs311.28000°, δ71.24000°,λ-117.42000°. NP2:φs189.49000°, δ32.81000°,λ-36.41000°. Principal axes: T 1.9313, Plg22.0000°, Azm62.0000°; N -0.1939, Plg26.0000°, Azm321.0000°; P -1.7374, Plg55.0000°, Azm186.0000°;*
*GCMT **28** 15:54:42.9±0.1,16.°67N±0.°01×94.°68W±0.°01,h96km±1km, MW5.4/132,Moment Tensor Solution. s132,c212; s132,c249; Duration: 1§2 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.57±.02; Mθθ-0.98±.02; Mφφ 1.55±.02; Mrθ0.78±.01; Mθφ-0.29±.02; Mφr-0.25±.01; Best double couple: M₀1.61100×10¹⁷ NP1:φs213.00000°,δ57.00000°, λ-22.00000°. NP2:φs315.00000°,δ72.00000°, λ-145.00000°. Principal axes: T 1.6410, Plg10.0000°, Azm81.0000°; N -0.0590, Plg51.0000°, Azm339.0000°; P -1.5800, Plg37.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **28** 15:54:44.1±0.8,17.°01N×94.°11W,h112km±28km,ML5.3*
ISC 28 15:54:40.3±0.3,16.°55N±0.°03×94.°76W±0.°03,h86km±2km, h86km:pP-P,n1049,σ1§66/1151,mb5.1/283,149C-116D, Fault plane solution: NP1:φs234.20534°,δ68.44461°, λ-21.58758°. **NP2:φs332.47659°,δ69.98956°,** λ-156.98293°. **Principal axes:** T Plg1.0214°, Azm103.0873°; N Plg59.8627°, Azm11.3275°; P Plg30.1163°, Azm193.6799°; **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.55**	**347**	P	**Pn**	**15 54 55.2**	**+0.1**
	8μm,0.3s,baz=162,slow=6.3,SNR=7926						
CMIG				S	**Sn**	**15 55 06.5**	**+0.5**
	6μm,0.3s,baz=64,slow=22,SNR=23						
CMIG	**Matias Romero**	**0.55**	**347**	⇓*i*P	**Pn**	**15 54 55.4**	**+0.3**
CMIG				*i* S	**Sn**	**15 55 06.2**	**+0.2**
CMIG	**Matias Romero**	**0.55**	**347**	*e*P	**Pn**	**15 54 55.4**	**+0.3**
CMIG				*i* S	**Sn**	**15 55 06.2**	**+0.2**
CMIG	**Matias Romero**	**0.55**	**347**		**Pn**	**15 54 55.4**	**+0.3**
CMIG					**Sn**	**15 55 06.2**	**+0.2**
HUIG	**Huatulco**	**1.51**	**239**	⇑*i*P	**Pn**	**15 55 03.9**	**-2.1**
HUIG				*e*S	**Sn**	**15 55 23.1**	**-2.3**
HUIG	**Huatulco**	**1.51**	**239**	⇑*i*P	**Pn**	**15 55 03.9**	**-2.1**
HUIG				*e*S	**Sn**	**15 55 23.1**	**-2.3**
TUIG	**Tuzandepetl**	**1.51**	**12**	⇓*i*P	**Pn**	**15 55 06.8**	**+0.8**
TUIG				*i* S	**Sn**	**15 55 26.7**	**+1.2**
TUIG	**Tuzandepetl**	**1.51**	**12**	⇓*i*P	**Pn**	**15 55 06.8**	**+0.8**
TUIG				*i* S	**Sn**	**15 55 26.7**	**+1.2**
TUIG	**Tuzandepetl**	**1.51**	**12**		**Pn**	**15 55 06.8**	**+0.8**
TUIG					**Sn**	**15 55 26.7**	**+1.2**
TGIG		**1.58**	**81**	⇑*i*P	**Pn**	**15 55 08.2**	**+1.2**
TGIG				*e*S	**Sn**	**15 55 26.6**	**-0.6**
TGIG		**1.58**	**81**	⇑*i*P	**Pn**	**15 55 08.2**	**+1.2**
TGIG				*i* S	**Sn**	**15 55 30.1**	**+2.9**
TGIG		**1.58**	**81**		**Pn**	**15 55 08.2**	**+1.2**
TGIG					**Sn**	**15 55 26.6**	**-0.6**
PCIG		**1.70**	**119**	⇑*i*P	**Pn**	**15 55 09.9**	**+1.4**
PCIG				*i* S	**Sn**	**15 55 31.9**	**+2.2**
PCIG		**1.70**	**119**	⇑*i*P	**Pn**	**15 55 09.9**	**+1.4**
PCIG				*i* S	**Sn**	**15 55 31.9**	**+2.2**
PCIG		**1.70**	**119**		**Pn**	**15 55 09.9**	**+1.4**
PCIG					**Sn**	**15 55 31.9**	**+2.2**
PANG	**Puerto Angel**	**1.87**	**242**	*e*P	**Pn**	**15 55 08.3**	**-2.3**
PANG				*e*S	**Sn**	**15 55 30.2**	**-3.5**
PANG	**Puerto Angel**	**1.87**	**242**	*e*P	**Pn**	**15 55 08.3**	**-2.3**
PANG				*e*S	**Sn**	**15 55 30.2**	**-3.5**
PEIG	**Puerto Escondi**	**2.36**	**257**	⇑*i*P	**Pn**	**15 55 15.0**	**-2.1**
PEIG				*e*S	**Sn**	**15 55 39.8**	**-5.7**
PEIG	**Puerto Escondi**	**2.36**	**257**	⇑*

SBLS San Blas 5.64 118 *e*P Pn 15 56 03.6 +1.7
SBLS eS Sn 15 57 05.7 +0.2
SNJE San Jose 5.64 117 *e*P Pn 15 56 03.3 +1.4
SNJE San Jose 5.64 117 *e*P Pn 15 56 03.3 +1.4
CEVE Cerro Verde 5.65 118 *e*P Pn 15 56 04.2 +2.3
CEVE IAML 15 57 23.6
comp=Z,2µm,0.3s
CEVE Cerro Verde 5.65 118 *e*P Pn 15 56 04.2 +2.3
CEVE IAML 15 57 23.6
comp=Z,2µm,0.3s
CEDA San Andres 5.85 117 *e*P Pn 15 56 05.3 +0.8
CEDA San Andres 5.85 117 *e*P Pn 15 56 05.3 +0.8
JAYA Jayaque - finc 5.88 119 *e*P Pn 15 56 06.0 +1.0
JAYA IAML 15 57 20.1
comp=Z,1µm,0.4s
JAYA Jayaque - finc 5.88 119 *e*P Pn 15 56 06.0 +1.0
JAYA IAML 15 57 20.1
comp=Z,1µm,0.4s
ACIG Acambay 5.95 306 *e*P Pn 15 56 09.0 +3.0
ACIG *i* S Sn 15 57 13.5 +0.8
PMON Piamonte 5.96 117 *e*P Pn 15 56 08.1 +2.0
PMON Piamonte 5.96 117 *e*P Pn 15 56 08.1 +2.0
BOQS Boqueron 5.98 117 *e*P Pn 15 56 08.5 +2.0
BOQS Boqueron 5.98 117 *e*P Pn 15 56 08.5 +2.0
SNET Serv Nac Est T 6.05 117 *e*P Pn 15 56 08.1 +0.8
SNET Serv Nac Est T 6.05 117 *e*P Pn 15 56 08.1 +0.8
SNET Serv Nac Est T 6.05 117 Pn Pn 15 56 08.4 +1.1
LFRS El Faro 6.22 117 *e*P Pn 15 56 11.0 +1.3
LFRS eS Sn 15 57 18.2 -1.3
LFRS El Faro 6.22 117 *e*P Pn 15 56 11.0 +1.3
LFRS eS Sn 15 57 18.2 -1.3
SJTE Alcalda de S 6.27 117 *e*P Pn 15 56 11.5 +1.1
SJTE eS Sn 15 57 19.7 -1.0
SJTE Alcalda de S 6.27 117 *e*P Pn 15 56 11.5 +1.1
SJTE eS Sn 15 57 19.7 -1.0
MYIG Mrida 6.47 47⇑ *e*P Pn 15 56 12.7 -0.3
MYIG eS Sn 15 57 20.8 -4.5
MYIG Mrida 6.47 47⇑ *e*P Pn 15 56 12.7 -0.3
MYIG eS Sn 15 57 20.8 -4.5
MYIG Mrida 6.47 47 Pn 15 56 12.7 -0.3
MYIG Sn 15 57 20.8 -4.5
ZIIG Zihuatanejo 6.50 280⇑ *i*P Pn 15 56 13.7 +0.3
ZIIG eS Sn 15 57 23.0 -3.1
ZIIG Zihuatanejo 6.50 280⇑ *i*P Pn 15 56 13.7 +0.3
ZIIG eS Sn 15 57 23.0 -3.1
ZIIG Zihuatanejo 6.50 280 Pn 15 56 13.7 +0.3
ZIIG Sn 15 57 23.0 -3.1
PQSS Presa 15 de Se 6.65 115 *e*P Pn 15 56 16.4 +0.9
MOIG Morelia 6.86 298⇑ *i*P Pn 15 56 21.8 +3.2
MOIG eS Sn 15 57 41.1 +5.9
MOIG Morelia 6.86 298⇑ *i*P Pn 15 56 21.8 +3.2
MOIG eS Sn 15 57 41.1 +5.9
MOIG Morelia 6.86 298 Pn 15 56 21.6 +3.1
MOIG Morelia 6.86 298 Sn 15 57 41.1 +5.9
IGIG Irapuato, Guan 7.50 305 *e*P Pn 15 56 30.3 +3.1
IGIG *i* S Sn 15 57 49.5 -1.4
TGUH Tegucigalpa,Un 7.63 108 Pn Pn 15 56 29.2 +0.2
MMIG Aquila 8.38 283⇑ *i*P Pn 15 56 39.8 +0.8
MMIG eS Sn 15 58 06.8 -5.2
MMIG Aquila 8.38 283⇑ *i*P Pn 15 56 39.8 +0.8
MMIG eS Sn 15 58 06.8 -5.2
MMIG Aquila 8.38 283 Pn 15 56 39.8 +0.8
MMIG Sn 15 58 06.8 -5.2
CRIN San Cristobal 8.38 116 Pn 15 56 40.3 +1.1
CNGN Cerro Negro 8.78 116 Pn 15 56 45.3 +0.8
COIG Colima 8.90 288⇑ *i*P Pn 15 56 48.6 +2.4
COIG eS Sn 15 58 26.0 +1.2
COIG Colima 8.90 288⇑ *i*P Pn 15 56 48.6 +2.4
COIG eS Sn 15 58 26.0 +1.2
EZ5V 8.90 290 *i* P Pn 15 56 49.9 +3.4
EZ5V ⇑*e*S Sn 15 58 26.6 +1.3
EZ5V 8.90 290 *i* P Pn 15 56 49.9 +3.4
EZ5V ⇑*e*S Sn 15 58 26.6 +1.3
EZ5V 8.90 290 Pn 15 56 49.9 +3.4
AAIG Aguscalientes 8.99 308 *e*P Pn 15 56 50.8 +3.2
R15V 9.16 288 *i* P Pn 15 56 52.1 +2.3
R15V ⇑*e*S Sn 15 58 33.4 +2.2
R15V 9.16 288 *i* P Pn 15 56 52.1 +2.3
R15V ⇑*e*S Sn 15 58 33.4 +2.2
R15V 9.16 288 Pn 15 56 52.1 +2.3
MASN Masaya 9.49 117 Pn Pn 15 56 55.9 +1.6
ZAIG Zacatecas 9.61 311 Pn Pn 15 56 58.3 +2.2
CJM Chamela 10.22 288⇑ *i*P Pn 15 57 05.2 +1.2
CJM eS Sn 15 58 58.9 +2.0
CJM Chamela 10.22 288⇑ *i*P Pn 15 57 05.2 +1.2
CJM eS Sn 15 58 58.9 +2.0
ACON Acoyapa 10.34 115 Pn 15 57 06.8 +0.9
HZTE Horizontes, Gu 10.62 122 *e*P Pn 15 57 11.7 +2.0
HZTE Horizontes, Gu 10.62 122 Pn 15 57 10.8 +1.1
GPS2 Hotel Rincn d 10.80 121 *e*P Pn 15 57 13.7 +1.5
SAJU San Juanillo, 10.91 125 *e*P Pn 15 57 14.6 +1.1
ORTG Ortega, Santa 10.93 123 *e*P Pn 15 57 15.6 +1.6
ORTG Ortega, Santa 10.93 123 Pn Pn 15 57 15.2 +1.3
CUI Cuipilapa 11.01 121⇓ *i*P Pn 15 57 16.5 +1.5
ESPN Las Esperanzas 11.02 112 Pn 15 57 15.7 +0.7
PLVR Palo Verde 11.03 123 *e*P Pn 15 57 15.3 0.0
GRZA Playa Garza 11.06 125 *e*P Pn 15 57 17.5 +1.9
DUNO Dulce Nombre, 11.07 124 Pn 15 57 16.7 +0.9
KVTX Kingsville 11.32 346 Pn Pn 15 57 19.3 +0.2
JTS Las Juntas de 11.38 122 P Pn 15 57 19.8 -0.3
comp=Z,19nm,0.3s,baz=359,slow=6.1,SNR=54
JTS S Sn 15 59 22.7 -2.7
comp=Z,1.1nm,0.3s,baz=319,slow=19,SNR=1.4
JTS LR LR 16 02 02.0
comp=Z,608nm,20.3s,baz=360,slow=39
JTS Las Juntas de 11.38 122*c* *i*P Pn 15 57 20.8 +0.8
JTS Las Juntas de 11.38 122⇑ *i*P Pn 15 57 20.4 +0.3
JTS Las Juntas de 11.38 122 Pn Pn 15 57 20.3 +0.3
ARE1 Arenal 1 11.48 121 *e*P Pn 15 57 22.9 +1.6
CAO2 Cobano, Puntar 11.61 125 Pn 15 57 24.1 +1.0
COVE Coope Vega, Sa 11.61 119 Pn 15 57 22.6 -0.4
LAFE Finca La Fe, P 11.69 124 *i* P Pn 15 57 24.9 +0.7
SRA1 San Ramn 11.88 121 *e*P Pn 15 57 27.2 +0.3
JACO JACO, Garabito 11.98 124⇑ *i*P Pn 15 57 28.7 +0.7
JACO JACO, Garabito 11.98 124 Pn Pn 15 57 29.1 +1.0
CRPO Crater poas 12.03 120 *e*P Pn 15 57 29.1 0.0
RIFO Rio Frio, Sara 12.22 119 *e*P Pn 15 57 31.0 -0.4
HDC Heredia 12.23 121 *e*P Pn 15 57 32.2 +0.7
HDC3 Heredia 3 12.23 121 *e*P Pn 15 57 31.9 +0.3
OCM Ochomogo 12.41 121 *e*P Pn 15 57 34.2 +0.1
LCR2 La Lucha 2 12.46 122 *i* P Pn 15 57 35.1 +0.3
833A Chaparral WMA, 12.48 341 P 15 57 35.3
baz=158,SNR=821
CVTR Volcan Turrial 12.51 120 *e*P Pn 15 57 36.0 +0.4
CVTR Volcan Turrial 12.51 120 Pn 15 57 35.0 -0.6
RIMA Rio Macho 12.56 121 *e*P Pn 15 57 36.1 0.0
RIMA Rio Macho 12.56 121 Pn 15 57 36.1 0.0
735A Kenedy 12.57 348 Pn 15 57 37.0 +1.1
SOR Soroa 12.69 59 P Pn 15 57 33.4 -4.2
SOR Soroa 12.69 59 Pn Pn 15 57 33.4 -4.2
CDM Cerro de Muert 12.76 122⇑ *i*P Pn 15 57 39.2 +0.1
BATAN Batan 12.79 119 Pn 15 57 39.6 +0.6
PEZE Perez Zeledon, 12.93 122 Pn 15 57 40.7 -0.2
FSCY Frank Sound, G 13.21 76 Pn Pn 15 57 40.6 -3.9
SRBA San Rafael, Bu 13.27 122⇑ *i*P Pn 15 57 45.5 0.0
SRBA San Rafael, Bu 13.27 122 Pn Pn 15 57 45.3 -0.2
PRVC Isla de Provid 13.32 102 Pn Pn 15 57 45.4 -0.6
EDPN Palmar Norte 13.35 123 *e*P Pn 15 57 47.8 +1.5
DRK0 Durika 13.35 121 *e*P Pn 15 57 46.8 +0.2
DRK0 Durika 13.35 121 Pn 15 57 46.5 -0.1
EDBA Buenos Aires 13.38 122 *e*P Pn 15 57 47.4 +0.5
LPLA Las Palmas La 13.67 122 *e*P Pn 15 57 51.2 +0.4
CDITO Canoas 14.04 123 Pn 15 57 55.2 -0.3
441A DeRidder 14.21 6 Pn 15 57 56.3 -1.2
435B Jarrell 14.40 350 P 15 57 58.9
baz=168,SNR=286
435B Jarrell 14.40 350 Pn 15 58 00.2 +0.2
HPIG 14.47 317 Pn 15 58 02.0 +0.9
CBCY The Bluff, Cay 14.61 75 Pn Pn 15 58 01.3 -1.4
JCT Junction City 14.62 342 P Pn 15 58 03.3 +0.5
JCT Junction City 14.62 342 Pn Pn 15 58 03.3 +0.5
JCT Junction City 14.62 342 P 15 58 02.9
baz=160,SNR=78
342A Flagon Creek P 14.93 8 Pn Pn 15 58 05.0 -1.8
TXAR Lajitas Array 15.13 329 P P 15 58 11.3 -1.3
comp=Z,0.7nm,0.3s,baz=146,slow=14,SNR=48
TXAR Lajitas Array 15.13 329 P Pn 15 58 10.2 +0.7
TXAR Lajitas Array 15.13 329 Pn Pn 15 58 10.2 +0.7
TX31 Lajitas Ar. Si 15.13 329 Pn 15 58 10.5 +1.0
TX31 IAmb IAmb 15 58 34.1
comp=Z,77nm,0.8s
TX32 Lajitas Array 15.13 329 Pn Pn 15 58 10.8 +1.3
NATX Nacogdoches 15.14 0 P 15 58 07.5
baz=180,SNR=27
NATX Nacogdoches 15.15 0 Pn 15 58 08.3 -1.2
344A Westbrook Farm 15.29 13 Pn Pn 15 58 08.7 -2.6
344A IAmb IAmb 15 58 29.1
comp=Z,58nm,0.7s
237A Washetta, Mont 15.42 357 Pn Pn 15 58 12.5 -0.5
346A Big Creek Wild 15.54 17 Pn Pn 15 58 11.4 -3.1
346A IAmb IAmb 15 58 35.8
comp=Z,112nm,0.8s
WHTX Lake Whitney, 15.57 351 Pn Pn 15 58 14.8 -0.1
WHTX Lake Whitney, 15.57 351 P 15 58 14.8
baz=170,SNR=111
061Z Ochoppi 15.89 52 Pn Pn 15 58 16.7 -2.2
SLBS Sierra La Lagu 15.93 299 Pn P 15 58 21.3 -0.2
BRAL Brewton 16.16 24 P 15 58 20.1
baz=207,SNR=6.1
451A Vernon 16.25 29 P Pn 15 58 23.0 -0.3
451A IAmb IAmb 15 58 28.9
comp=Z,136nm,1.0s
BCIP Isla Barro Col 16.28 115 P Pn 15 58 22.7 -1.3
BCIP pmax pmax
comp=Z,169nm,1.4s
BCIP Isla Barro Col 16.28 115 Pn 15 58 22.7 -1.3
BCIP IAmb IAmb 15 58 30.4
comp=Z,169nm,1.4s
143A Socs Landing, 16.37 10 Pn Pn 15 58 24.0 -0.9
143A IAmb IAmb 15 58 46.8
comp=Z,116nm,0.8s
LPIG La Paz 16.40 300 P P 15 58 27.5 +0.9
comp=Z,5.6nm,0.3s,baz=98,slow=2.5,SNR=7.2
MTDJ Mount Denham 16.52 82 Pn 15 58 26.8 -0.2
553A Crawfordville 16.55 33 Pn Pn 15 58 25.6 -1.5
553A IAmb IAmb 15 58 50.9
comp=Z,136nm,0.8s
ABTX Abilene, Hawle 16.61 345 Pn 15 58 28.1 +0.2
ABTX Abilene, Hawle 16.61 345 P 15 58 28.5
baz=163,SNR=198
Z38A Mt. Pleasant 16.64 359 Pn Pn 15 58 26.9 -1.3
Z41A Richland Creek 16.73 6 P 15 58 28.8
baz=186,SNR=34
146A Union 16.83 17 Pn Pn 15 58 28.3 -2.3
DWPF Disney Wildern 16.85 45 Pn Pn 15 58 28.7 -2.1
DWPF Disney Wildern 16.85 45 P 15 58 28.6
baz=230
Z35A Perchaven, San 16.86 353 P P 15 58 31.8 +0.1
060A Indiantown 16.94 50 Pn Pn 15 58 29.9 -2.1
656A Willston 17.00 39 P Pn 15 58 31.5 -1.1
656A IAmb IAmb 15 58 57.6
comp=Z,165nm,1.1s
WLAR White Oak Lake 17.13 5 P Pn 15 58 33.7 -0.6
250A Grady 17.19 25 P Pn 15 58 33.9 -1.1
250A IAmb IAmb 15 58 56.5
comp=Z,274nm,1.4s
352A Blakely 17.35 29 P Pn 15 58 35.5 -1.4
352A IAmb IAmb 15 58 60.0
comp=Z,136nm,0.8s
LOOK Love County 17.51 353 Pn 15 58 39.3 +0.4
PAYG Puerto Ayora 17.67 165 Pn 15 58 42.9 +1.9
PAYG IAmb IAmb 15 58 48.0
comp=Z,280nm,1.4s
Y45A Yeager Farm, C 17.87 14 P 15 58 43.0 +0.2
Y45A IAmb IAmb 15 58 57.6
comp=Z,119nm,0.9s
MNTX Cornudas Mount 17.91 329 Pn 15 58 44.2 +0.4
MNTX Cornudas Mount 17.91 329 P 15 58 44.1
baz=144,SNR=30
X40A Basin Creek Fa 17.95 5 P 15 58 42.8
baz=185,SNR=21
X40A Basin Creek Fa 17.95 5 P P 15 58 43.2 -0.5
X40A IAmb IAmb 15 58 57.9
comp=Z,58nm,0.7s
MIAR Mount Ida 17.95 3 P 15 58 42.8
baz=183,SNR=26
MIAR Mount Ida 17.95 3 P P 15 58 43.3 -0.5
MIAR pmax pmax
comp=Z,98nm,0.8s
MIAR Mount Ida 17.95 3 P 15 58 43.2 -0.5
MIAR IAmb IAmb 15 59 04.3
comp=Z,98nm,0.8s
TIGA Tifton 17.98 32 P P 15 58 43.7 -0.3
TIGA IAmb IAmb 15 59 06.0
comp=Z,138nm,0.8s
TIGA Tifton 17.98 32 P 15 58 43.0
baz=217,SNR=12
X37A Clayton 17.98 358 P P 15 58 43.6 -0.3
X34A Smith Ranch, M 18.19 352 Pn Pn 15 58 47.4 +0.2
WMOK Wichita Mounta 18.47 349 P P 15 58 49.6 +0.2
WMOK pmax pmax
comp=Z,129nm,0.9s
WMOK Wichita Mounta 18.47 349 P P 15 58 49.6 +0.2
WMOK IAmb IAmb 15 59 19.1
comp=Z,129nm,0.8s
WMOK Wichita Mounta 18.47 349 P 15 58 49.9
baz=167,SNR=23
OXF Oxford 18.52 14 P P 15 58 48.5 -1.5
OXF pmax pmax
comp=Z,116nm,1.0s
OXF Oxford 18.52 14 P P 15 58 48.5 -1.5
OXF IAmb IAmb 15 59 10.2
comp=Z,116nm,0.9s
OXF Oxford 18.52 14 P 15 58 48.6
baz=196
W39A Magazine 18.59 3 P 15 58 50.8 +0.1
W39A Magazine 18.59 3 P 15 58 51.2
baz=182,SNR=25
W41B Gary Mavity, V 18.68 6 P 15 58 51.8
baz=187,SNR=11
FNO Franklin 18.78 353 Pn 15 58 53.8 -0.4
MSTX Muleshoe 18.79 339 Pn 15 58 54.6 +0.2
MSTX IAmb IAmb 15 58 57.5
comp=Z,146nm,0.9s
MSTX Muleshoe 18.79 339 P 15 58 55.3
baz=155,SNR=65
WHAR Wooly Hollow 18.80 6 P P 15 58 53.0 0.0
WHAR IAmb IAmb 15 59 22.0
comp=Z,68nm,0.8s
Y49A Blount Mountai 18.80 22 P P 15 58 52.0 -1.1
Z51A Franklin 18.80 26 P P 15 58 52.0 -1.0
OKCSW OKLAHOMA CITY 18.93 353 P P 15 58 54.0 -0.5
255A Hazlehurst 18.94 34 P P 15 58 52.9 -1.7
255A IAmb IAmb 15 59 00.6
comp=Z,147nm,1.0s
OKCFA Oklahoma City 18.95 353 P P 15 58 54.4 -0.2
GTBY Guantanamo Bay 18.96 77 P P 15 58 53.6 -1.3
OK025 Westminster Rd 19.10 354 P P 15 58 56.5 +0.2
X48A Hartselle 19.13 20 P P 15 58 54.9 -1.7
X48A IAmb IAmb 15 59 17.1
comp=Z,74nm,1.1s
154A Montrose 19.16 31 P P 15 58 55.5 -1.4
154A IAmb IAmb 15 59 18.3
comp=Z,173nm,0.9s
W45A Hickory Valley 19.19 14 Pn P 15 58 57.9 +0.7
W45A IAmb IAmb 15 59 18.0
comp=Z,84nm,0.7s
BCOK Bluff Creek, N 19.20 353 Pn 15 58 58.3 -0.9
AMTX Amarillo 19.28 343 P P 15 58 59.0 +0.6
AMTX Amarillo 19.28 343 P 15 58 59.2
baz=159
TUL1 Leonard 19.31 357 P 15 58 58.8
baz=176,SNR=18
PLAL Pickwick Lake 19.31 17 P P 15 58 57.0 -1.6
HSIG 19.39 313 P Pn 15 59 00.8 -0.6
OK030 Cody Creek RV 19.39 355 P P 15 58 59.2 -0.2
LPAR Lepanto 19.39 11 P P 15 58 58.6 -0.8
LPAR IAmb IAmb 15 59 16.5
comp=Z,82nm,0.9s
FCAR Ozark Folk Cen 19.41 6 P P 15 58 58.9 -0.7
FCAR IAmb IAmb 15 59 20.7
comp=Z,108nm,0.9s
OK031 S. Brethren Rd 19.42 355 P P 15 58 59.8 0.0
QUOK Quay 19.62 355 P P 15 59 01.3 -0.7
GOGA Godfrey 19.64 29 P 15 59 00.4
baz=214
GOGA Godfrey 19.64 29 P P 15 59 01.1 -1.1
GOGA pmax pmax
comp=Z,60nm,0.9s
GOGA Godfrey 19.64 29 P P 15 59 01.1 -1.1
GOGA IAmb IAmb 15 59 23.7
comp=Z,60nm,0.8s
HHAR Hobbs 19.67 2 P P 15 59 01.9 -0.5
HHAR IAmb IAmb 15 59 25.3
comp=Z,78nm,0.7s
FPAL Fort Paine 19.71 23 P P 15 59 01.3 -1.6
FPAL IAmb IAmb 15 59 24.7
comp=Z,84nm,1.1s
LCAR Lake Charles 19.71 9 P P 15 59 01.9 -0.9
LCAR IAmb IAmb 15 59 26.0
comp=Z,63nm,0.9s
Y52A Lilburn 19.75 27 P P 15 59 01.9 -1.4
Y52A IAmb IAmb 15 59 24.1
comp=Z,133nm,0.8s
GNAR Gosnell 19.80 11 P P 15 59 02.9 -1.0
GNAR IAmb IAmb 15 59 26.0
comp=Z,166nm,1.0s
U40A Yellville 19.80 5 P 15 59 04.0
baz=185,SNR=27
U40A Yellville 19.80 5 P P 15 59 03.3 -0.7
U40A IAmb IAmb 15 59 24.3
comp=Z,108nm,0.8s
121A Cookes Peak, D 19.81 326 Pn 15 59 06.9 +0.4
121A IAmb IAmb 15 59 25.7
comp=Z,78nm,0.8s
121A Cookes Peak, D 19.81 326 P 15 59 05.2
baz=140,SNR=23
U38A Gravette 19.82 1 P P 15 59 03.3 -0.8
U38A IAmb IAmb 15 59 29.3
comp=Z,59nm,0.8s
319A Douglas 19.82 321 Pn 15 59 07.5 +0.9
319A IAmb IAmb 15 59 33.7
comp=Z,54nm,0.8s
HALT Halls 19.88 13 P P 15 59 04.0 -0.7
HALT IAmb IAmb 15 59 26.2
comp=Z,97nm,0.8s
PEBM Pemiscott Bayo 19.97 12 P P 15 59 04.9 -0.8
PEBM IAmb IAmb 15 59 27.9
comp=Z,171nm,1.1s
X51A Calhoun 20.02 24 P P 15 59 04.5 -1.8
LNXT Lenox 20.03 13 P P 15 59 04.5 -1.9
CROK Carrier 20.08 352 P P 15 59 06.3 -0.6
SJCC San Jacinto, C 20.16 107 P P 15 59 07.6 -0.5
SJCC IAmb IAmb 15 59 17.0
comp=Z,147nm,1.1s
SJCC San Jacinto, C 20.16 107 *e*P P 15 59 05.7 -2.4
SWET Sewanee 20.20 21 P P 15 59 06.5 -1.8
SWET IAmb IAmb 15 59 30.0
comp=Z,69nm,0.9s
GLAT Glass 20.24 13 P P 15 59 07.4 -1.1
BLOK Blackwell 20.25 354 P P 15 59 08.3 -0.5
T35A Sooner Cattle 20.35 356 P P 15 59 09.0 -0.8
W50A Signal Mountai 20.41 23 P P 15 59 09.0 -1.5
W50A IAmb IAmb 15 59 30.9
comp=Z,84nm,0.8s
OK032 Salt Plains WL 20.41 352 P P 15 59 09.9 -0.5
WVT Waverly 20.45 16 P P 15 59 09.3 -1.6
WVT pmax pmax
comp=Z,27nm,0.7s
WVT Waverly 20.45 16 P P 15 59 09.3 -1.6
WVT Waverly 20.45 16 P 15 59 09.8
baz=199
DBBC Dabeiba 20.46 115 *e*P Pn 15 59 13.8 -0.4
PBMO Poplar Bluff 20.51 10 P P 15 59 10.3 -1.3
PBMO IAmb IAmb 15 59 31.1
comp=Z,65nm,0.8s
KAN17 Caldwell West 20.59 353 P P 15 59 11.9 -0.6
Y22D IRIS PASSCAL I 20.59 330 P 15 59 14.2
baz=144
SMRC Santa Marta, M 20.64 102 *e*P P 15 59 08.4 -4.7
MGMO Mountain Grove 20.64 6 P P 15 59 12.0 -1.0
MGMO IAmb IAmb 15 59 38.7
comp=Z,66nm,0.7s
KAN08 Anthony NE Sta 20.79 353 P P 15 59 14.5 -0.1
KAN08 IAmb IAmb 15 59 41.4
comp=Z,99nm,0.7s
W52A Murphy 20.86 26 P P 15 59 13.7 -1.7
W52A IAmb IAmb 15 59 36.2
comp=Z,51nm,0.8s
CLTN Cedars of Leba 20.86 19 P P 15 59 13.2 -2.1
HODGE Hodges 20.88 30 P P 15 59 13.9 -1.6
HODGE IAmb IAmb 15 59 36.9
comp=Z,102nm,0.9s
CPCT Cooper Cave 20.93 24 P P 15 59 14.2 -1.8
S39A Bolivar 21.10 3 P P 15 59 17.2 -0.7
S39A IAmb IAmb 15 59 38.6
comp=Z,75nm,0.7s
ANMO Albuquerque 21.10 332 P 15 59 19.3
baz=147
ANMO Albuquerque 21.10 332 P P 15 59 19.4 +1.2
comp=Z,26nm,0.7s,baz=140,slow=12,SNR=36
ANMO Albuquerque 21.10 332 *de*P P 15 59 20.0 +1.8
ANMO pmax pmax
comp=Z,38nm,1.0s
ANMO Albuquerque 21.10 332 P P 15 59 18.3 +0.1
BG3 Lake Jocassee 21.20 28 P P 15 59 17.3 -1.7
CBOC Ciudad Bolivar 21.21 118 *e*P P 15 59 18.8 -0.6
V51A Loudon 21.30 24 P P 15 59 18.0 -2.1
V51A IAmb IAmb 15 59 39.8
comp=Z,84nm,0.8s
TUC Tucson 21.38 320 P 15 59 22.5
baz=133
TUC Tucson 21.39 320 P P 15 59 21.9 +0.8
TUC pmax pmax
comp=Z,41nm,1.1s
TUC Tucson 21.39 320 P P 15 59 21.9 +0.8
TKL Tuckaleechee C 21.41 25 P P 15 59 20.5 -0.7
comp=Z,4.7nm,0.5s,baz=196,slow=10,SNR=13
TKL S S 16 03 11.9 -2.2
comp=Z,28nm,0.7s,baz=287,slow=19,SNR=2.6
TKL Tuckaleechee C 21.41 25 P P 15 59 19.6 -1.6
TKL pmax pmax
comp=Z,50nm,0.8s
TKL Tuckaleechee C 21.41 25 P P 15 59 19.6 -1.6
TKL IAmb IAmb 15 59 46.0
comp=Z,50nm,0.8s
JSC Jenkinsville 21.42 32 P P 15 59 19.5 -1.8
JSC pmax pmax
comp=Z,71nm,0.8s
JSC Jenkinsville 21.42 32 P P 15 59 19.5 -1.8
JSC IAmb IAmb 15 59 42.5
comp=Z,70nm,0.8s
U49A Red Boiling Sp 21.42 20 P P 15 59 19.2 -2.2
U49A IAmb IAmb 15 59 45.2
comp=Z,94nm,0.8s
ZARC Zaragoza, Cauc 21.42 112 *e*P P 15 59 19.2 -2.3
HELC Santa Helena 21.45 116 *e*P P 15 59 22.3 0.0
T47A Sharon Grove 21.46 17 P P 15 59 20.1 -1.6
T47A IAmb IAmb 15 59 44.4
comp=Z,104nm,0.7s
PLMC San Jos del P 21.50 121⇑ *e*P P 15 59 22.1 -0.4
TUMC Tumaco 21.52 131 P P 15 59 23.2 +0.7
PAULI Pauline 21.58 30 P P 15 59 20.6 -2.4
PAULI IAmb IAmb 15 59 44.8
comp=Z,62nm,0.9s
SMLC San Martn de 21.59 108 *e*P P 15 59 22.0 -1.3
S44A Carbondale 21.62 12 P P 15 59 22.6 -0.7
S44A IAmb IAmb 15 59 46.8
comp=Z,72nm,0.8s
V52A Sevierville 21.64 25 P P 15 59 22.2 -1.4
V52A IAmb IAmb 15 59 44.8
comp=Z,77nm,1.0s
SIUC Southern Illin 21.64 12 P P 15 59 22.2 -1.5
SIUC IAmb IAmb 15 59 46.5
comp=Z,141nm,1.2s
CCM Cathedral Cave 21.65 8 P 15 59 22.5
baz=189
CCM Cathedral Cave 21.65 8 P P 15 59 22.5 -1.2
CCM pmax pmax
comp=Z,62nm,0.8s
CCM Cathedral Cave 21.65 8 P P 15 59 22.5 -1.2
CCM IAmb IAmb 15 59 45.9
comp=Z,62nm,0.8s
R40A Maddies Statio 21.77 5 P P 15 59 24.4 -0.7
R40A IAmb IAmb 15 59 50.5
comp=Z,84nm,0.8s
V53A Saluda 21.82 27 P P 15 59 24.0 -1.7
V53A IAmb IAmb 15 59 46.2
comp=Z,116nm,1.1s
YOTC Yotoco, Valle 21.97 123 *e*P P 15 59 27.5 -0.1
KMSC Kings Mountain 22.07 30 P 15 59 25.6
baz=216
R32A Long Quarter, 22.07 352 P P 15 59 26.1 -2.2
R32A IAmb IAmb 15 59 50.0
comp=Z,107nm,0.8s
GUY2C Guyana, Caldas 22.09 118 *e*P P 15 59 27.1 -2.0
T50A Nancy 22.20 21 P P 15 59 26.5 -3.1
T25A Trinidad 22.22 339 P P 15 59 31.2 +1.1
T25A IAmb IAmb 15 59 55.4
comp=Z,61nm,0.8s

T25A Trinidad 22.22 339 P 15 59 31.3
baz=154,SNR=40
TZTN Tazewell 22.26 24 P 15 59 28.1
baz=209,SNR=5.7
TZTN Tazewell 22.26 24 P P **15 59 28.5 -1.9**
TZTN IAmb IAmb 15 59 50.3
comp=Z,98nm,0.9s
214A Organ Pipe Nat 22.45 316 P 15 59 34.1
baz=128
214A Organ Pipe Nat 22.45 316 P P **15 59 33.8 +1.4**
TOLC Tolima 22.47 120 eP P **15 59 31.5 -1.6**
SDDR Presa de Saban 22.48 80 P P **15 59 32.0 -0.8**
SDDR IAmb IAmb 15 59 59.2
comp=Z,62nm,1.1s
BBAC Balboa, Cauca 22.48 128 eP P **15 59 35.5 +2.5**
OCAC Ocana 22.49 109¶ eP P **15 59 34.0 +0.9**
X18A Snowflake 22.50 326 P P **15 59 34.5 +1.4**
X18A IAmb IAmb 15 59 54.7
comp=Z,57nm,0.8s
KSU1 Kansas State U 22.53 356 P P **15 59 32.5 -0.6**
POPC Popayan, Colom 22.58 126 eP P **15 59 27.8 -6.4**
URIC Uribia, Colomb 22.59 99 P P **15 59 32.8 -1.1**
URIC IAmb IAmb 16 00 01.1
comp=Z,114nm,1.2s
CBKS Cedar Bluff 22.61 350 P P **15 59 34.8 +0.8**
CBKS pmax pmax
comp=Z,172nm,0.9s
CBKS Cedar Bluff 22.61 350 P P **15 59 34.8 +0.8**
CBKS Cedar Bluff 22.61 350 P 15 59 34.0
baz=167
V55A Taylorsville 22.70 30 P P **15 59 32.7 -2.2**
V55A IAmb IAmb 15 59 55.2
comp=Z,90nm,0.9s
W57A Gilead 22.75 33 P P **15 59 33.4 -2.0**
W57A IAmb IAmb 15 59 56.0
comp=Z,96nm,0.8s
CUSE Cuicocha Este 22.82 133 eP P **15 59 36.0 -0.7**
OTAV Otavalo 22.83 134 P P **15 59 36.9 0.0**
OTAV pmax pmax
comp=Z,131nm,1.2s
OTAV Otavalo 22.83 134 P P **15 59 36.9 0.0**
OTAV IAmb IAmb 15 59 43.6
comp=Z,131nm,1.1s
OTAV Otavalo 22.83 134 eP P **15 59 39.7 +2.8**
OTAV Otavalo 22.83 134 eP P **15 59 36.0 -1.0**
W18A Petrified Fore 22.83 327 P 15 59 36.2
baz=140
Q44A Meyer Farm, Va 22.83 12 P P **15 59 33.2 -3.0**
Q44A IAmb IAmb 15 59 59.1
comp=Z,89nm,0.8s
WCI Wyandotte Cave 22.85 17 P P **15 59 33.2 -3.2**
WCI pmax pmax
comp=Z,66nm,0.7s
WCI Wyandotte Cave 22.85 17 P P **15 59 33.2 -3.2**
WCI IAmb IAmb 16 00 00.6
comp=Z,66nm,0.7s
WCI Wyandotte Cave 22.85 17 P 15 59 34.1
baz=201
OLIL Olney 22.86 13 P P **15 59 34.0 -2.5**
SOTA Rioblanco 22.89 127 eP P **15 59 34.2 -3.4**
ORTC Ortega, Tolima 22.91 121 eP P **15 59 37.1 -0.2**
GCUF Volcan Galeras 22.93 130 eP P **15 59 39.0 +1.0**
PCON Cinco Dias 22.93 126 eP P **15 59 40.2 +2.1**
MARP Paez Belalcaza 22.96 124 eP P **15 59 39.0 +0.9**
U54A Nelsons Funny 22.97 28 P P **15 59 35.0 -2.8**
U54A IAmb IAmb 15 59 57.3
comp=Z,165nm,1.1s
CRUC La Cruz 23.00 129 eP P **15 59 42.9 +4.4**
P38A Dawn 23.02 2 P P **15 59 36.1 -2.0**
P40A Paris 23.02 5 P P **15 59 36.0 -2.0**
P40A IAmb IAmb 16 00 01.5
comp=Z,67nm,0.7s
SDCO Great Sand Dun 23.14 338 P P **15 59 40.8 +1.2**
SDCO Great Sand Dun 23.14 338 P 15 59 39.4
baz=152,SNR=34
ROSC El Rosal 23.18 118 P P **15 59 40.4 +0.1**
comp=Z,37nm,0.9s,baz=85,slow=8.3,SNR=20
ROSC El Rosal 23.18 118 P P **15 59 39.6 -0.7**
ROSC pmax pmax
comp=Z,153nm,1.3s
ROSC El Rosal 23.18 118 P P **15 59 39.6 -0.7**
ROSC IAmb IAmb 15 59 46.5
comp=Z,153nm,1.2s
ROSC El Rosal 23.18 118 eP P **15 59 38.3 -2.0**
S51A Beattyville 23.20 23 P P **15 59 37.7 -2.2**
R49A Shelbyville 23.24 19 P P **15 59 38.0 -2.2**
R49A IAmb IAmb 16 00 03.8
comp=Z,40nm,0.8s
X16A Lo Mia Camp, P 23.25 323 P P **15 59 41.2 +0.6**
X16A IAmb IAmb 16 00 05.5
comp=Z,48nm,0.8s
BARC Barichara 23.31 113 eP P **15 59 39.3 -2.1**
PRAC Prado 23.32 121 eP P **15 59 41.8 +0.6**
KSCO Kaye Shedlock' 23.42 344 P P **15 59 41.5 -0.5**
KSCO IAmb IAmb 16 00 05.7
comp=Z,112nm,0.8s
KSCO Kaye Shedlock' 23.42 344 P 15 59 41.4
baz=160,SNR=6.3
P43A Skaggs, Pawnee 23.46 10 P P **15 59 40.9 -1.3**
P43A IAmb IAmb 16 00 05.0
comp=Z,60nm,0.8s
U56A King 23.49 30 P P **15 59 40.7 -1.8**
R50A Paris 23.51 21 P P **15 59 40.7 -2.0**
113A Mohawk Valley, 23.59 317 P P **15 59 44.7 +1.3**
S22A 4UR Ranch, Cre 23.65 336 P 15 59 44.4
baz=150,SNR=18
BLO Bloomington 23.66 16 P P **15 59 42.3 -1.8**
BLO pmax pmax
comp=Z,46nm,0.7s
BLO Bloomington 23.66 16 P P **15 59 42.2 -1.8**
BLO IAmb IAmb 16 00 11.9
comp=Z,46nm,0.7s
RUSC La Rusia 23.72 114 P P **15 59 43.5 -1.8**
RUSC IAmb IAmb 16 00 12.7
comp=Z,64nm,1.0s
GARC Garzon, Huila 23.73 125 eP P **15 59 44.9 -0.2**
SPX San Pedro Mart 23.75 311 P P **15 59 47.6 +2.3**
CHIC Chingaza 23.79 118 eP P **15 59 46.1 +0.3**
Y14A Wickenburg 23.86 320 P P **15 59 47.4 +1.5**
MVCO Mesa Verde 23.90 332 P P **15 59 48.1 +1.7**
MVCO Mesa Verde 23.90 332 P 15 59 48.4
baz=145,SNR=8.8
P46A Rosedale 23.91 15 P P **15 59 45.1 -1.1**
P46A IAmb IAmb 16 00 09.5
comp=Z,71nm,0.8s
FLOC Florencia 23.98 126 P P **15 59 48.2 +1.1**
FLOC IAmb IAmb 15 59 53.1
comp=Z,121nm,1.2s
FLOC Florencia 23.98 126 eP P **15 59 46.4 -0.7**
WUAZ Wupatki 24.01 325 P P **15 59 49.3 +1.9**
WUAZ IAmb IAmb 16 00 10.7
comp=Z,42nm,0.8s
WUAZ Wupatki 24.01 325 P 15 59 48.3
baz=137,SNR=26
VILC Villavicencio, 24.09 119 eP P **15 59 50.1 +1.9**
O44A Mansfield 24.15 12 P P **15 59 47.2 -1.2**
O44A IAmb IAmb 16 00 09.0
comp=Z,49nm,0.8s
BLA Blacksburg 24.17 29 P 15 59 47.6
baz=215
N38A Joes South For 24.20 3 P P **15 59 48.1 -0.6**
N33A J Bar K, Exete 24.22 355 P P **15 59 48.3 -0.7**
N33A IAmb IAmb 16 00 10.0
comp=Z,93nm,0.7s
P48A Milroy 24.24 18 P P **15 59 47.2 -2.0**
N35A Tabor 24.24 358 P P **15 59 48.7 -0.4**
S54A Dingess, Beckl 24.26 27 P P **15 59 46.9 -2.5**
S54A IAmb IAmb 16 00 11.5
comp=Z,150nm,1.4s
N41A Harden Midland 24.31 7 P P **15 59 49.2 -0.6**
N41A IAmb IAmb 16 00 17.2
comp=Z,90nm,1.0s
HDIL Hopedale 24.39 10 P P **15 59 49.5 -1.0**
HDIL IAmb IAmb 16 00 12.1
comp=Z,45nm,0.8s
HDIL Hopedale 24.39 10 P 15 59 48.3
baz=192
R53A Hurricane 24.45 25 P P **15 59 49.5 -1.6**
R53A IAmb IAmb 16 00 14.2
comp=Z,70nm,0.7s
P49A Miami Univ. Ec 24.52 19 P P **15 59 49.2 -2.5**
P49A IAmb IAmb 16 00 14.8
comp=Z,47nm,0.8s
P49A Miami Univ. Ec 24.52 19 P 15 59 48.8
baz=203
Q51A Peebles 24.52 22 P P **15 59 49.9 -1.9**
T57A Hurt 24.56 31 P P **15 59 50.0 -2.1**
SFIN Lafayette 24.66 14 P 15 59 50.0
baz=197
PV01 Paradox Valley 24.70 333 P P **15 59 54.4 +0.7**
SDV Santo Domingo 24.71 105 eP P **15 59 52.7 -1.3**
PV13 Radium Mtn., P 24.83 333 P P **15 59 56.2 +1.3**
PV13 IAmb IAmb 16 00 25.3
comp=Z,51nm,0.9s
PV02 Paradox Valley 24.83 333 P P **15 59 56.2 +1.3**
PV15 Paradox Valley 24.84 334 P P **15 59 56.2 +1.3**
Q52A Bidwell 24.86 24 P P **15 59 52.6 -2.3**
Q52A IAmb IAmb 16 00 17.2
comp=Z,79nm,0.8s
PV05 Paradox Valley 24.89 332 P P **15 59 55.9 +0.5**
PV03 Paradox Valley 24.92 333 P P **15 59 56.4 +0.7**
PV18 Skein Mesa, Pa 24.94 333 P P **15 59 56.7 +0.8**
PV18 IAmb IAmb 16 00 21.7
comp=Z,41nm,0.8s
BGNE Belgrade 24.95 354 P P **15 59 55.9 +0.2**
BGNE IAmb IAmb 16 00 22.6
comp=Z,83nm,0.9s
BGNE Belgrade 24.95 354 P 15 59 54.5
baz=172
SMCO Snowmass 24.95 337 P P **15 59 56.6 +0.5**
PV11 David Mesa, Pa 24.97 333 P P **15 59 57.1 +1.0**
PV11 IAmb IAmb 16 00 05.9
comp=Z,40nm,0.8s
PV16 Nyswonger Mesa 25.00 333 P P **15 59 57.7 +1.3**
ISCO Idaho Springs 25.02 340 P P **15 59 58.0 +1.3**
ISCO pmax pmax
comp=Z,26nm,0.9s
ISCO Idaho Springs 25.02 340 P P **15 59 58.0 +1.3**
ISCO Idaho Springs 25.02 340 P 15 59 57.5
baz=154
SWSC Sam W. Stewart 25.06 315 P 15 59 58.2
baz=125
PV04 Paradox Valley 25.06 333 P P **15 59 58.4 +1.5**
PV04 IAmb IAmb 16 00 20.7
comp=Z,58nm,0.9s
MACC Macarena, Meta 25.06 123 eP P **15 59 56.7 -0.2**
PV14 Lion Creek, Pa 25.09 333 P P **15 59 58.4 +1.1**
IKP In-Ko-Pah, Jac 25.10 314 P 15 59 59.2
baz=124
OGNE Ogallala 25.11 347 P P **15 59 58.4 +1.2**
OGNE IAmb IAmb 16 00 20.2
comp=Z,119nm,0.9s
OGNE Ogallala 25.11 347 P 15 59 57.7
baz=163
R55A Marlinton 25.19 28 P P **15 59 56.1 -1.8**
R55A IAmb IAmb 16 00 19.5
comp=Z,78nm,0.8s
U15A North Rim 25.19 325 P P **15 59 58.6 +0.5**
O49A Covington 25.24 19 P P **15 59 56.3 -2.0**
O49A IAmb IAmb 16 00 18.3
comp=Z,105nm,0.8s
BC3 Big Chuckawall 25.24 316 P 15 59 59.8
baz=127,SNR=9.9
SCIA State Center 25.31 3 P P **15 59 58.4 -0.5**
SCIA IAmb IAmb 16 00 00.2
comp=Z,55nm,0.7s
L34A Svendsen Farm, 25.37 357 P P **15 59 58.9 -0.6**
MONP2 Monument Peak 25.45 314 P 16 00 02.2
baz=124
Q54A Coxs Mills 25.46 26 P P **15 59 58.3 -2.0**
Q54A IAmb IAmb 16 00 23.0
comp=Z,78nm,0.8s
N47A Urbana 25.48 16 P P **15 59 58.5 -2.0**
N47A IAmb IAmb 16 00 23.1
comp=Z,41nm,0.7s
P52A Corning 25.50 23 P 15 59 58.5
baz=209
P52A Corning 25.50 23 P P **15 59 58.3 -2.3**
P52A IAmb IAmb 16 00 23.3
comp=Z,76nm,0.7s
PTLC Puerto Leguiza 25.54 128 eP P **16 00 05.3 +4.0**
L40A Anamosa 25.61 6 P P **15 59 60.0 -1.6**
L40A IAmb IAmb 16 00 26.4
comp=Z,61nm,0.8s
P53A Whipple 25.66 24 P P **16 00 00.3 -1.8**
L42A Oliver, Polo 25.75 9 P P **16 00 01.2 -1.6**
L42A IAmb IAmb 16 00 24.6
comp=Z,84nm,0.9s
BELC Belle Mtn. Jos 25.81 316 P 16 00 04.8
baz=127
HQIL Hanson Quary C 25.86 12 P P **16 00 02.5 -1.3**
HQIL IAmb IAmb 16 00 28.7
comp=Z,54nm,0.8s
TPFO Pinon Flats 25.89 315 P 16 00 04.9
baz=125
PFO Pinyon Flats O 25.89 315 P P **16 00 09.8 +5.3**
comp=Z,3.7nm,0.7s,baz=131,slow=4.6,SNR=5.5
PFO Pinyon Flats O 25.89 315 P 16 00 05.4
baz=125
KNB Kanab 25.91 325 P P **16 00 06.8 +2.2**
KNB pmax pmax
comp=Z,19nm,0.9s
KNB Kanab 25.91 325 P P **16 00 06.8 +2.2**
PKCU Pink Cliffs 25.95 327 P P **16 00 05.6 +0.4**
N49A Columbus Grove 25.95 19 P P **16 00 02.7 -2.1**
R58B Mineral 26.00 32 P P **16 00 02.7 -2.5**
O52A Adamsville 26.03 23 P P **16 00 03.8 -1.7**
O52A IAmb IAmb 16 00 29.2
comp=Z,69nm,0.8s
K38A Parkersburg 26.07 3 P P **16 00 04.7 -1.0**
K38A IAmb IAmb 16 00 25.5
comp=Z,61nm,0.7s
GMRC Granite Mounta 26.07 318 P 16 00 07.9
baz=128
N23A Red Feather La 26.12 340 P 16 00 07.1
baz=155
K31A O'Neill 26.21 353 P P **16 00 07.9 +0.8**
Q56A Snyder Ridge, 26.23 28 P P **16 00 05.2 -2.0**
Q56A IAmb IAmb 16 00 33.3
comp=Z,69nm,0.9s
O20A White River Ci 26.26 336 P P **16 00 08.7 +0.9**
O20A pP pP **16 00 28.5 +1.2**
O20A White River Ci 26.26 336 P 16 00 09.2
baz=149
PHWY Pilot Hill 26.34 342 P P **16 00 08.8 +0.3**
SRU San Rafael Swe 26.37 332 P P **16 00 10.2 +1.4**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 26.37 332 P P **16 00 10.2 +1.4**
O53A New Philadelph 26.39 24 P P **16 00 06.7 -1.9**
O53A pP pP **16 00 27.4 -0.9**
O53A IAmb IAmb 16 00 28.7
comp=Z,45nm,0.8s
O53A New Philadelph 26.39 24 P 16 00 06.7
baz=210
MCWV Mont Chateau 26.44 26 P P **16 00 07.8 -1.4**
MCWV pP **16 00 28.2 -0.7**
HEC Hector,Ludlow 26.54 317 P 16 00 12.0
baz=127
JFWS Jewell Farm 26.56 7 P P **16 00 08.9 -1.3**
JFWS pmax pmax
comp=Z,74nm,0.8s
JFWS Jewell Farm 26.56 7 P P **16 00 08.9 -1.3**
JFWS IAmb IAmb 16 00 36.1
comp=Z,74nm,0.8s
JFWS Jewell Farm 26.56 7 P 16 00 09.0
baz=189,SNR=9.8
CCUT Cedar City 26.59 325 P P **16 00 12.1 +1.3**
TUQ Turquoise Moun 26.65 319 P 16 00 12.3
baz=129
O54A Avella 26.66 25 P P **16 00 09.2 -1.9**
MSU Marysvale 26.69 328 P P **16 00 13.2 +1.5**
MSU Marysvale 26.69 328 P P **16 00 13.2 +1.5**
P17A Butcher Ranch, 26.76 332 P P **16 00 13.0 +0.7**
L48A N Adams 26.82 17 P P **16 00 10.8 -1.8**
L48A IAmb IAmb 16 00 38.6
comp=Z,94nm,1.2s
TMUT Trail Mountain 26.84 331 P P **16 00 14.1 +1.0**
S61A Accomac 26.95 35 P P **16 00 12.4 -1.3**
N53A Lisbon 27.01 24 P P **16 00 11.2 -3.0**
N53A IAmb IAmb 16 00 34.4
comp=Z,67nm,0.7s
P57A Homestead Farm 27.12 29 pP 16 00 35.3 +0.3
ECSD EROS Data Cent 27.14 357 P P **16 00 14.2 -1.2**
ECSD EROS Data Cent 27.14 357 P 16 00 14.2
baz=176,SNR=12
FMP Fort Macarthur 27.21 313 P 16 00 17.5
baz=123
RWWY Rawlins 27.25 339 P P **16 00 16.3 -0.4**
RWWY pP pP **16 00 37.0 +0.7**
RWWY IAmb IAmb 16 00 40.1
comp=Z,62nm,1.0s
SJG San Juan 27.34 82 P P **16 00 16.8 -0.7**
comp=Z,4.5nm,0.3s,baz=293,slow=15,SNR=2.1
I37A Lemond, Waseca 27.40 2 P P **16 00 16.8 -1.0**
I37A IAmb IAmb 16 00 40.6
comp=Z,20nm,0.6s
N54A Moraine State 27.48 25 P 16 00 17.1
baz=212
N54A Moraine State 27.48 25 P P **16 00 16.3 -2.1**
N54A pP **16 00 37.5 -0.6**
N54A IAmb IAmb 16 00 38.7
comp=Z,45nm,1.1s
I40A Norwalk 27.48 6 P P **16 00 17.6 -0.8**
I40A IAmb IAmb 16 00 42.0
comp=Z,31nm,0.8s
PSUT Pine Spring 27.57 326 P P **16 00 20.8 +1.2**
MPU Maple Canyon 27.61 331 P P **16 00 20.9 +1.0**
M53A WI Miller and 27.62 23 P P **16 00 17.5 -2.2**
M53A IAmb IAmb 16 00 42.6
comp=Z,66nm,1.1s
I42A Draeger Farm, 27.70 9 P P **16 00 19.8 -0.6**
TPNV Topopah Spring 27.83 321 P 16 00 23.8
baz=131
MPMC Manual Prospec 28.03 318 P 16 00 25.3
baz=128
SUSD Miller 28.03 354 P P **16 00 23.2 -0.2**
SUSD IAmb IAmb 16 00 45.0
comp=Z,51nm,0.8s
M54A Oil Creek Stat 28.07 25 P P **16 00 22.1 -1.6**
CUPR Culebra, Puert 28.16 82 P P **16 00 23.7 -1.1**
CUPR IAmb IAmb 16 00 37.2
comp=Z,35nm,1.0s
SPR3 Spring Creek 3 28.17 326 P P **16 00 25.5 +0.4**
R11A Troy Canyon, C 28.39 324 P 16 00 28.2
baz=134
M55A Ridgway 28.40 26 P P **16 00 24.6 -2.1**
H43A Windswept, Lux 28.45 11 P P **16 00 25.3 -1.8**
ATAH Atahualpa 28.56 144 P P **16 00 31.5 +2.7**
comp=Z,38nm,0.9s,baz=336,slow=5.8,SNR=20
SBC Santa Barbara 28.60 313 P 16 00 30.6
baz=122
SPMN Marine on St. 28.64 3 P P **16 00 28.2 -0.5**
SPMN IAmb IAmb 16 00 49.0
comp=Z,37nm,0.7s
SPMN Marine on St. 28.64 3 P 16 00 28.3
baz=184
CWC Cottonwood Cre 28.64 318 P 16 00 30.7
baz=127
HWUT Hardware Ranch 28.86 333 P P **16 00 32.1 +1.1**
G40A Rib Lake 28.89 7 P P **16 00 30.1 -0.9**
VES Vestal, Richgr 28.94 316 P 16 00 33.9
baz=125
BW06 Boulder Array 29.03 337 P 16 00 33.8
baz=149
PD31 Pinedale Array 29.03 337 P P **16 00 34.1 +1.5**
PDAR Pinedale Array 29.03 337 P P **16 00 34.5 +1.9**
comp=Z,0.8nm,0.6s,baz=142,slow=9.1,SNR=8.8
PDAR Pinedale Array 29.03 337 P P **16 00 33.6 +1.0**
BW06 Boulder Array 29.03 337 P P **16 00 33.8 +1.3**
F33A 5 Mile Ranch, 29.23 358 P P **16 00 33.0 -1.0**
F36A Milaca 29.25 2 P P **16 00 33.0 -1.1**
WVNY West Valley, N 29.25 25 P P **16 00 33.0 -1.3**
N59A State Game Lan 29.31 30 P P **16 00 32.9 -1.9**
N59A pP pP **16 00 55.1 +0.4**
HVU Hansel Valley 29.54 332 P P **16 00 38.2 +1.3**
HVU pmax pmax
comp=Z,19nm,0.8s
HVU Hansel Valley 29.54 332 P P **16 00 38.2 +1.3**
COWI Conover 29.84 8 P P **16 00 38.8 -0.6**
ELK Elko 29.93 328 P P **16 00 41.7 +1.2**
comp=Z,3.3nm,0.7s,baz=125,slow=6.7,SNR=16
ELK Elko 29.93 328 P P **16 00 41.4 +0.9**
ELK pmax pmax
comp=Z,12nm,0.8s
ELK Elko 29.93 328 P P **16 00 41.4 +0.9**
NV11 Mina Array Sit 29.94 321 P P **16 00 42.3 +1.7**
PCRV Puerto La Cruz 29.96 98 P P **16 00 40.1 -0.7**
comp=Z,6.2nm,0.4s,baz=359,slow=12,SNR=6.4
NVAR Mina Array Bea 30.03 321 P P **16 00 44.1 +2.7**
comp=Z,6.6nm,0.7s,baz=132,slow=9.0,SNR=52
NVAR LR LR 16 13 44.8
comp=Z,740nm,18.1s,baz=135,slow=38
NVAR Mina Array Bea 30.03 321 P P **16 00 43.3 +1.9**
REDW Red Top Meadow 30.03 336 P P **16 00 42.6 +1.2**
REDW pP pP **16 01 02.1 +1.0**
REDW IAmb IAmb 16 01 03.6
comp=Z,64nm,1.1s
LHV Little Huntoon 30.04 321 P P **16 00 44.0 +2.8**
SNOW Snow King Moun 30.08 336 P P **16 00 42.9 +1.1**
SNOW pP pP **16 01 02.5 +1.0**
E38A The Farm, Brul 30.09 4 P P **16 00 40.5 -1.0**
LOHW Long Hollow 30.15 337 P P **16 00 43.1 +0.7**
LOHW IAmb IAmb 16 01 04.6
comp=Z,35nm,1.2s
BINY Binghamton 30.21 28 pP 16 01 02.1 -0.5
RYN Ryan 30.29 321 P P **16 00 45.6 +1.9**
KVN Kaiserville 30.31 322 P P **16 00 45.9 +2.0**
KVN pmax pmax
comp=Z,8.0nm,0.9s
KVN Kaiserville 30.31 322 P P **16 00 45.9 +2.0**
E28A Huff 30.34 352 P P **16 00 43.7 -0.1**
E28A IAmb IAmb 16 01 07.3
comp=Z,49nm,0.8s
E43A Lone Tree Farm 30.44 11 P P **16 00 43.4 -1.2**
FLWY Flagg Ranch 30.59 337 P P **16 00 47.4 +1.1**
E46A Sault Ste Mari 30.98 14 P P **16 00 48.1 -1.3**
RLMT Red Lodge 30.99 340 P 16 00 50.6
baz=152
SADO Sadowa 31.06 22 P P **16 00 47.8 -2.3**
comp=Z,2.6nm,0.3s,baz=245,slow=9.2,SNR=11
SADO pP pP **16 01 07.9 -2.1**
comp=Z,1.1nm,0.7s,baz=242,slow=9.2,SNR=4.8
SADO Sadowa 31.06 22 P P **16 00 47.5 -2.6**
SADO pP pP **16 01 08.6 -1.4**
PECO Prince Edward 31.18 25 P P **16 00 49.5 -1.6**
PECO pP **16 01 10.7 -0.3**
PECO IAmb IAmb 16 01 12.1
comp=Z,33nm,0.7s
YHH Holmes Hill 31.25 338 pP 16 01 12.8 +0.9
DELO Deloro Mine 31.41 24 P P **16 00 50.6 -2.6**
DELO pP pP **16 01 11.8 -1.3**
DELO IAmb IAmb 16 01 13.0
comp=Z,29nm,0.7s
EYMN Ely 31.43 4 P P **16 00 51.8 -1.6**
EYMN Ely 31.43 4 P 16 00 51.9
baz=186,SNR=9.0
J58A Remsen 31.44 28 P P **16 00 52.4 -1.2**
MDND Maddock 31.47 354 P P **16 00 53.6 -0.1**
MDND Maddock 31.47 354 P 16 00 54.5
baz=171
PAHR Pah Rah Range 31.49 322 P P **16 00 55.3 +1.1**
QLMT Earthquake Lak 31.50 337 pP pP 16 01 15.3 +1.2
LAO LASA Array 31.53 345 P 16 00 55.3
baz=158
RUBR Rubicon Trail 31.55 320 P P **16 00 56.6 +1.9**
RUBR IAmb IAmb 16 01 23.4
comp=Z,35nm,1.0s
AGMN Agassiz Nation 31.68 359 P P **16 00 54.6 -0.9**
AGMN IAmb IAmb 16 00 56.0
comp=Z,38nm,0.7s
AGMN Agassiz Nation 31.68 359 P 16 00 54.7
baz=178,SNR=35
HLID Hailey 31.68 332 P P **16 00 57.5 +1.6**
HLID pP pP **16 01 16.4 +0.7**
HLID Hailey 31.68 332 P 16 00 57.9
baz=142
GCMT Greycliff 31.71 340 pP 16 01 16.5 +0.7
B35A Bob, Littlefor 31.74 1 P P **16 00 54.7 -1.3**
BCYI Bear Canyon 31.85 334 pP 16 01 18.4 +1.2
AFDM Forest Hills D 31.99 319 pP pP 16 01 19.5 +1.3
MCMT McKenzie Canyo 32.05 335 P P **16 01 00.8 +1.7**
BEKR Beckworth 32.18 321 P P **16 01 00.3 +0.1**
BEKR pP pP **16 01 21.5 +1.4**
BOZ Bozeman (W) 32.23 338 P 16 01 01.6
baz=148
BOZ Bozeman (W) 32.23 338 P P **16 01 02.0 +1.4**
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 32.23 338 P P **16 01 02.0 +1.4**
DLMT Dillon 32.39 336 P P **16 01 03.2 +1.1**
DLMT IAmb IAmb 16 01 24.9
comp=Z,57nm,1.2s

NCB	**Newcomb**	**32.40**	**28**	pP		pP		16 01 21.5	-0.4
CZSB	**Cruzeiro do Su**	**32.53**	**136**	*e*P		**P**		**16 01 03.9**	**+0.5**
ORV	**Oroville**	**32.68**	**320**			pP		16 01 26.1	+1.8
LRM	**Limekiln Ridge**	**32.72**	**337**	P		**P**		**16 01 06.2**	**+1.2**
LONY	**Lake Ozonia**	**32.75**	**27**			pP		16 01 24.1	-0.9
WVOR	**Wild Horse Val**	**32.91**	**327**	P		**P**		**16 01 08.0**	**+1.4**
WVOR				pP		**pP**		**16 01 27.3**	**+1.0**
WVOR				IAmb		IAmb		16 01 29.1	
	comp=Z,28nm,1.2s								
HRY	**Holter Researc**	**33.25**	**338**	P		**P**		**16 01 09.5**	**0.0**
HRY				pP		**pP**		**16 01 30.5**	**+1.2**
FRNY	**Flat Rock**	**33.36**	**28**	pP		pP		16 01 29.4	-0.9
NNA	**Nana**	**33.43**	**147**	*ce*P		**P**		**16 01 13.6**	**+2.4**
NNA				pmax		pmax			
	comp=Z,66nm,1.1s								
NNA	**Nana**	**33.43**	**147**	P		**P**		**16 01 11.5**	**+0.3**
MOD	**Modoc Plateau**	**33.45**	**324**			pP		16 01 31.8	+0.4
J08A	**Circle Bar Ran**	**33.48**	**328**			pP		16 01 32.1	+0.8
ULM	**Lac du Bonnet**	**33.63**	**359**	P		**P**		**16 01 11.2**	**-1.3**
	comp=Z,6.1nm,0.4s,baz=177,slow=9.1,SNR=10								
ULM				LR		LR		16 18 43.0	
	comp=Z,188nm,18.8s,baz=130,slow=43								
ULM	**Lac du Bonnet**	**33.63**	**359**	P		**P**		**16 01 11.0**	**-1.5**
ULM				pmax		pmax			
	comp=Z,14nm,1.0s								
ULM	**Lac du Bonnet**	**33.63**	**359**	P		**P**		**16 01 11.0**	**-1.5**
EGMT	**Eagleton**	**33.73**	**342**	P		**P**		**16 01 14.6**	**+1.1**
EGMT				IAmb		IAmb		16 01 39.4	
	comp=Z,18nm,0.8s								
EGMT	**Eagleton**	**33.73**	**342**	P				16 01 15.3	
	baz=153								
E56A	**St. Veronique**	**34.11**	**25**	P				16 01 14.9	
	baz=215								
D55A	**Sainte-Anne-du**	**34.33**	**24**	P				16 01 16.5	
	baz=214								
VLDQ	**Val d'Or**	**34.54**	**21**	P		**P**		**16 01 18.3**	**-2.1**
VLDQ				pP		**pP**		**16 01 38.5**	**-1.9**
M02C	**Callahan**	**34.61**	**321**	P				16 01 22.0	
	baz=127								
D56A	**ZEC Mazanza, M**	**34.63**	**24**	P				16 01 19.3	
	baz=215								
E58A	**La Victoria**	**34.70**	**26**	P				16 01 19.8	
	baz=218								
YBH	**Yreka Blue Hor**	**34.73**	**322**	P		**P**		**16 01 23.6**	**+1.2**
YBH				pP		**pP**		**16 01 42.5**	**+0.2**
F10A	**Beach Ranch, E**	**34.82**	**332**	P		**P**		**16 01 23.9**	**+0.9**
F10A				pP		**pP**		**16 01 43.3**	**+0.3**
KHMM	**Horse Mountain**	**34.84**	**320**			pP		16 01 45.2	+1.9
JTMT	**Jette**	**35.02**	**337**	P		**P**		**16 01 24.9**	**+0.1**
JTMT				IAmb		IAmb		16 01 47.4	
	comp=Z,22nm,0.8s								
PINE	**Pine Mountain**	**35.07**	**326**	pP		pP		16 01 45.3	+0.1
G62A	**West of Eustis**	**35.07**	**30**	P		**P**		**16 01 23.0**	**-2.1**
G62A						**pP**		**16 01 45.1**	**-0.2**
G62A				IAmb		IAmb		16 01 48.8	
	comp=Z,26nm,1.0s								
D58A	**Chemin du LacG**	**35.43**	**26**	P				16 01 25.9	
	baz=218								
LSQQ	**Lebel-sur-Quev**	**35.52**	**20**	P				16 01 26.7	
	baz=210								
LATQ	**La Tuque**	**35.70**	**26**			pP		16 01 49.8	-0.8
I04A	**Tendick Farm,**	**35.86**	**325**	P				16 01 32.3	
	baz=130								
KBO	**Bosley Butte**	**35.92**	**321**	P		**P**		**16 01 35.0**	**+2.4**
HAWA	**Hanford**	**36.19**	**331**	pP		pP		16 01 55.0	+0.3
G05D	**Wamic, OR**	**36.25**	**328**	P				16 01 36.8	
	baz=133								
J01E	**Myrtle Point**	**36.32**	**323**	P				16 01 34.7	
	baz=128								
I03D	**Drain, OR**	**36.32**	**324**	P				16 01 36.8	
	baz=129								
D08A	**Wollman Farm,**	**36.40**	**332**			pP		16 01 56.7	+0.2
BOAV	**Boa Vista**	**36.49**	**109**	*e*P		**P**		**16 01 35.5**	**-2.1**
H04D	**Lebanon**	**36.52**	**326**	P				16 01 38.4	
	baz=131								
G65A	**Princeton**	**36.55**	**33**	P		**P**		**16 01 35.1**	**-2.6**
G65A				IAmb		IAmb		16 02 02.7	
	comp=Z,16nm,0.9s								
NEW	**Newport**	**36.56**	**335**	P		**P**		**16 01 38.9**	**+1.1**
NEW				pmax		pmax			
	comp=Z,11nm,0.8s								
NEW	**Newport**	**36.56**	**335**	P		**P**		**16 01 38.9**	**+1.1**
NEW				IAmb		IAmb		16 02 01.7	
	comp=Z,11nm,0.8s								
NEW	**Newport**	**36.56**	**335**	P				16 01 38.4	
	baz=142								
F64A	**Sherman**	**36.61**	**31**	P		**P**		**16 01 35.3**	**-2.9**
F64A				IAmb		IAmb		16 01 55.5	
	comp=Z,28nm,1.4s								
C09A	**Chrisman Ranch**	**36.68**	**333**	P		**P**		**16 01 40.0**	**+1.2**
C09A				pP		**pP**		**16 01 59.5**	**+0.6**
C09A				IAmb		IAmb		16 02 03.4	
	comp=Z,11nm,0.6s								
F05D	**White Salmon**	**36.77**	**328**	P				16 01 40.4	
	baz=134								
I02D	**Swisshome**	**36.86**	**324**	P				16 01 42.3	
	baz=129								
E63A	**Oxbow**	**36.96**	**31**	P		**P**		**16 01 38.9**	**-2.3**
E63A				IAmb		IAmb		16 02 05.3	
	comp=Z,18nm,1.1s								
E63A	**Oxbow**	**36.96**	**31**	P				16 01 39.5	
	baz=225								
D62A	**Allapoint, All**	**37.13**	**29**	P		**P**		**16 01 40.5**	**-2.1**
D62A				IAmb		IAmb		16 02 06.4	
	comp=Z,24nm,1.0s								
D62A	**Allapoint, All**	**37.13**	**29**	P				16 01 40.3	
	baz=223								
CHGQ	**Chibougamau**	**37.14**	**22**	P				16 01 40.8	
	baz=213								
G03D	**McMinnville, O**	**37.25**	**326**	P				16 01 40.7	
	baz=131								
LON	**Longmire**	**37.55**	**329**	P		**P**		**16 01 48.3**	**+2.1**
LON				pmax		pmax			
	comp=Z,15nm,1.1s								
LON	**Longmire**	**37.55**	**329**	P		**P**		**16 01 48.3**	**+2.1**
D63A	**Stockholm**	**37.55**	**30**	P				16 01 43.5	
	baz=225								
D05A	**Enumclaw**	**37.94**	**329**			pP		16 02 10.7	+1.0
D04E	**Lakebay**	**38.32**	**329**	P				16 01 54.2	
	baz=133								
LMN	**Caledonia Moun**	**38.44**	**34**	P		**P**		**16 01 51.1**	**-2.6**
FFC	**Flin Flon**	**38.51**	**353**	P		**P**		**16 01 54.3**	**+0.2**
FFC				pmax		pmax			
	comp=Z,31nm,0.7s								
FFC	**Flin Flon**	**38.51**	**353**	P		**P**		**16 01 54.3**	**+0.2**
FFC				IAmb		IAmb		16 02 15.2	
	comp=Z,31nm,0.7s								
ETMB	**Extrema**	**38.52**	**131**	*e*P		**P**		**16 01 55.5**	**+0.8**
D03D	**Eldon**	**38.72**	**329**	P				16 01 58.0	
	baz=133								
BATG	**Bathurst New B**	**38.73**	**32**	P		**P**		**16 01 53.6**	**-2.4**
A04D	**Lummi Island**	**39.36**	**331**	P				16 02 01.8	
	baz=135								
GBN	**Guysborough**	**40.01**	**37**	P		**P**		**16 02 04.1**	**-2.6**
GBN				IAmb		IAmb		16 02 31.0	
	comp=Z,22nm,1.3s								
LPAZ	**La Paz**	**41.88**	**140**	P		**P**		**16 02 23.9**	**+0.7**
	comp=Z,33nm,0.9s,baz=332,slow=9.1,SNR=61								
LPAZ				LR		LR		16 18 43.0	
	comp=Z,408nm,21.1s,baz=312,slow=34								
LPAZ	**La Paz**	**41.88**	**140**	P		**P**		**16 02 23.3**	**+0.1**
LPAZ				pmax		pmax			
	comp=Z,41nm,1.0s								
LPAZ	**La Paz**	**41.88**	**140**	P		**P**		**16 02 23.3**	**+0.1**
LPAZ				IAmb		IAmb		16 02 28.6	
	comp=Z,41nm,1.0s								
LPAZ	**La Paz**	**41.88**	**140**	*e*P		**P**		**16 02 23.2**	**+0.1**
FCC	**Fort Churchill**	**42.15**	**1**	P		**P**		**16 02 23.9**	**-0.2**
FCC				pmax		pmax			
	comp=Z,18nm,1.0s								
FCC	**Fort Churchill**	**42.15**	**1**	P		**P**		**16 02 23.9**	**-0.2**
FCC				IAmb		IAmb		16 02 46.1	
	comp=Z,18nm,0.9s								
AP01	**Chacalluta**	**42.21**	**144**	P		**P**		**16 02 25.2**	**+0.1**
MNMC	**Minye Minye**	**43.24**	**144**	P		**P**		**16 02 34.8**	**+1.1**
PSGCX	**Pisagua**	**43.32**	**145**	P		**P**		**16 02 35.1**	**+1.0**
PSGCX				IAmb		IAmb		16 02 36.5	
	comp=Z,80nm,1.4s								
PB11	**IPOC Station P**	**43.71**	**145**	P		**P**		**16 02 38.1**	**+0.8**
ITTB	**Itaituba**	**43.82**	**115**	*e*P		**P**		**16 02 37.9**	**-0.3**
SCHQ	**Schefferville**	**43.85**	**23**	P		**P**		**16 02 36.2**	**-1.6**
	comp=Z,2.8nm,0.7s,baz=245,slow=7.2,SNR=7.3								
SCHQ				LR		LR		16 23 31.3	
	comp=Z,325nm,18.9s,baz=234,slow=40								
SCHQ	**Schefferville**	**43.85**	**23**	P		**P**		**16 02 35.6**	**-2.3**
MALB	**Monte Alegre**	**43.95**	**111**	*e*P		**P**		**16 02 37.5**	**-1.8**
TA01	**Diego Aracena**	**44.07**	**146**	P		**P**		**16 02 40.4**	**+0.3**
PB08	**IPOC Station P**	**44.29**	**144**	P		**P**		**16 02 42.5**	**+0.3**
PB08				IAmb		IAmb		16 02 44.5	
	comp=Z,52nm,1.2s								
PB01	**IPOC Station P**	**44.84**	**146**	P		**P**		**16 02 46.9**	**+0.7**
PB01				IAmb		IAmb		16 02 48.2	
	comp=Z,34nm,1.2s								
VILB	**Vilhena**	**45.01**	**129**	*e*P		**P**		**16 02 48.0**	**+0.3**
PB07	**IPOC Station P**	**45.18**	**147**	P		**P**		**16 02 49.5**	**+0.5**
PB07				IAmb		IAmb		16 02 51.6	
	comp=Z,48nm,1.0s								
MCPB	**Macapa, AP**	**45.33**	**108**	*e*P		**P**		**16 02 48.4**	**-1.8**
NPGB	**Novo Progresso**	**45.48**	**118**	*e*P		**P**		**16 02 49.5**	**-1.9**
PB09	**IPOC Station P**	**45.58**	**146**	P		**P**		**16 02 53.5**	**+1.3**
PB09				IAmb		IAmb		16 02 55.3	
	comp=Z,51nm,1.0s								
RPN	**Rapa Nui**	**45.66**	**198**	P		**P**		**16 02 52.6**	**+0.1**
	comp=Z,37nm,0.3s,baz=225,slow=2.9,SNR=1.5								
RPN	**Rapa Nui**	**45.66**	**198**	P		**P**		**16 02 52.6**	**+0.1**
RPN				pmax		pmax			
	comp=Z,379nm,1.3s								
RPN	**Rapa Nui**	**45.66**	**198**	IAmb		IAmb		16 02 56.5	
	comp=Z,379nm,1.3s								
PB06	**IPOC Station P**	**46.15**	**147**	P		**P**		**16 02 57.7**	**+1.1**
LVC	**Limon Verde**	**46.42**	**146**	P		**P**		**16 02 59.9**	**+0.9**
LVC				pmax		pmax			
	comp=Z,34nm,1.1s								
LVC	**Limon Verde**	**46.42**	**146**	P		**P**		**16 02 59.9**	**+0.9**
LVC				IAmb		IAmb		16 03 01.5	
	comp=Z,34nm,1.1s								
LVC	**Limon Verde**	**46.42**	**146**	*e*P		**P**		**16 02 59.4**	**+0.3**
PB15	**IPOC Station P**	**46.61**	**147**	P		**P**		**16 03 01.4**	**+1.1**
PB15				IAmb		IAmb		16 03 06.0	
	comp=Z,42nm,1.3s								
PB14	**IPOC Station P**	**47.32**	**149**	P		**P**		**16 03 06.0**	**+0.1**
PTLB	**Pontes e Lacer**	**47.40**	**130**	*e*P		**P**		**16 03 06.1**	**-0.2**
YKA	**Yellowknife Ar**	**47.97**	**348**	P		**P**		**16 03 10.0**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=151,slow=8.0,SNR=23								
YKA				LR		LR		16 24 26.6	
	comp=Z,150nm,21.8s,baz=0.0,slow=37								
YKA	**Yellowknife Ar**	**47.97**	**348**	P		**P**		**16 03 10.0**	**-0.1**
GO02	**Mina Guanaco**	**48.17**	**149**	P		**P**		**16 03 13.7**	**+1.2**
AC01	**Pan de Azucar**	**48.51**	**151**	P		**P**		**16 03 15.7**	**+0.9**
AC01				IAmb		IAmb		16 03 17.0	
	comp=Z,55nm,1.2s								
TMAB	**Tom-Au,PA,Br**	**49.76**	**108**	*e*P		**P**		**16 03 23.5**	**-1.0**
AC02	**Maricunga**	**49.79**	**150**	P		**P**		**16 03 26.6**	**+1.5**
PRPB	**Parauapebas**	**49.85**	**113**	*e*P		**P**		**16 03 24.5**	**-0.7**
GO03	**Copiap**	**49.91**	**151**	P		**P**		**16 03 26.9**	**+1.5**
GO03				IAmb		IAmb		16 03 33.7	
	comp=Z,15nm,0.9s								
AC04	**Llanos de Chal**	**50.05**	**152**	P		**P**		**16 03 26.2**	**-0.2**
AC04				IAmb		IAmb		16 03 28.0	
	comp=Z,34nm,1.2s								
SALV	**Santo Antonio**	**50.25**	**128**	*e*P		**P**		**16 03 28.2**	**0.0**
SNDB	**Serra Nova Dou**	**51.48**	**121**	*e*P		**P**		**16 03 37.3**	**-0.1**
TAOE	**Nuku Hiva Isla**	**51.51**	**244**	*e*LR		LR		16 18 16.6	
	comp=Z,1µm,30.4s								
GO04	**Tololo Observa**	**51.87**	**153**	P		**P**		**16 03 41.2**	**+0.8**
PP1B	**Ponte de Pedra**	**51.91**	**129**	*e*P		**P**		**16 03 40.9**	**+0.3**
CO03	**El Pedregal**	**52.49**	**154**	P		**P**		**16 03 45.9**	**+1.1**
CO02	**Combarbal**	**52.68**	**154**	P		**P**		**16 03 47.1**	**+0.9**
SMTB	**Santa Maria do**	**53.06**	**115**	*e*P		**P**		**16 03 48.8**	**-0.3**
ARAG	**Araguaiana, MT**	**53.13**	**125**	*e*P		**P**		**16 03 49.8**	**+0.2**
AQDB	**Aquidauana**	**53.14**	**132**	P		**P**		**16 03 49.4**	**-0.3**
AQDB				IAmb		IAmb		16 03 52.2	
	comp=Z,25nm,0.9s								
AQDB	**Aquidauana**	**53.14**	**132**	*e*P		**P**		**16 03 49.8**	**+0.2**
ROSB	**Rosrio**	**53.60**	**106**	*e*P		**P**		**16 03 51.9**	**-1.3**
ZON	**Zonda**	**53.98**	**152**	P		**P**		**16 03 57.1**	**+1.5**
ZON				pmax		pmax			
	comp=Z,98nm,1.3s								
ZON	**Zonda**	**53.98**	**152**	P		**P**		**16 03 57.1**	**+1.5**
PEXB	**Peixe**	**54.04**	**119**	*e*P		**P**		**16 03 56.4**	**0.0**
VA03	**San Esteban**	**54.23**	**155**	P		**P**		**16 03 58.5**	**+1.0**
MT05	**Renca**	**54.70**	**155**	P		**P**		**16 04 00.2**	**-0.7**
MT03	**Universidad Ad**	**54.88**	**155**	P		**P**		**16 04 02.9**	**+0.7**
MT01	**Popeta**	**54.91**	**156**	P		**P**		**16 04 02.5**	**+0.2**
MT01				IAmb		IAmb		16 04 03.9	
	comp=Z,21nm,0.9s								
MT09	**Talagante**	**54.94**	**156**	P		**P**		**16 04 03.0**	**+0.3**
BO01	**Tunca**	**55.44**	**156**	P		**P**		**16 04 06.5**	**+0.4**
GO05	**Huala**	**55.67**	**157**	P		**P**		**16 04 08.6**	**+0.9**
NUUK	**Nuuk**	**55.84**	**21**	*i* P		**P**		**16 04 08.2**	**-0.4**
NUUK				IAmb		IAmb		16 04 09.1	
	comp=Z,58nm,1.4s								
BO02	**Sierra Bellavi**	**55.91**	**156**	P		**P**		**16 04 10.7**	**+1.1**
BO02				IAmb		IAmb		16 04 11.2	
	comp=Z,37nm,1.1s								
CPUP	**Villa Florida**	**56.04**	**139**	P		**P**		**16 04 09.8**	**-0.7**
	comp=Z,19nm,0.9s,baz=324,slow=6.6,SNR=9.7								
CPUP				LR		LR		16 27 23.5	
	comp=Z,344nm,19.5s,baz=325,slow=35								
CPUP	**Villa Florida**	**56.04**	**139**	P		**P**		**16 04 10.6**	**+0.1**
CPUP				pmax		pmax			
	comp=Z,36nm,1.1s								
CPUP	**Villa Florida**	**56.04**	**139**	P		**P**		**16 04 10.6**	**+0.1**
CPUP				IAmb		IAmb		16 04 14.7	
	comp=Z,36nm,1.1s								
CPUP	**Villa Florida**	**56.04**	**139**	*e*P		**P**		**16 04 10.5**	**0.0**
BDFB	**Brasilia**	**56.13**	**122**	P		**P**		**16 04 11.5**	**0.0**
	comp=Z,52nm,0.9s,baz=293,slow=8.3,SNR=44								
BDFB				LR		LR		16 29 26.4	
	comp=Z,224nm,20.1s,baz=303,slow=37								
BDFB	**Brasilia**	**56.13**	**122**	P		**P**		**16 04 11.4**	**0.0**
BDFB				pmax		pmax			
	comp=Z,72nm,1.0s								
BDFB	**Brasilia**	**56.13**	**122**	P		**P**		**16 04 11.4**	**0.0**
MCARA	**McCarthy VSAT**	**56.26**	**334**	P				16 04 13.9	
	baz=120								
ITRB	**Iturama**	**56.58**	**128**	*e*P		**P**		**16 04 15.4**	**+0.9**
NRS	**Narsarsuaq**	**56.59**	**26**	P		**P**		**16 04 12.7**	**-1.3**
NRS				pmax		pmax			
	comp=Z,49nm,1.3s								
NRS	**Narsarsuaq**	**56.59**	**26**	P		**P**		**16 04 12.7**	**-1.3**
GLB	**Gilahina Butte**	**56.61**	**334**	P		**P**		**16 04 15.6**	**+1.3**
GLB				IAmb		IAmb		16 04 44.1	
	comp=Z,11nm,0.8s								
NBPS	**Pedro II - PI**	**56.65**	**107**	*e*P		**P**		**16 04 14.4**	**-0.8**
BCAR	**Beaver Creek A**	**56.65**	**336**	P		**P**		**16 04 15.9**	**+1.5**
L27K	**Beaver Creek,**	**56.67**	**336**	P		**P**		**16 04 15.8**	**+1.3**
L27K	**Beaver Creek,**	**56.67**	**336**	P				16 04 14.5	
	baz=122,SNR=5.4								
BMRM	**Bremner River**	**56.72**	**334**	P				16 04 15.7	
	baz=118								
TRCB	**Terra Rica**	**56.81**	**132**	*e*P		**P**		**16 04 15.8**	**-0.3**
EPYK	**Eagle Plains**	**56.87**	**341**	P				16 04 15.8	
	baz=130								
N25K	**Chitina, Valde**	**57.02**	**334**	P				16 04 20.6	
	baz=119								
PCMB	**Pacaembu**	**57.06**	**130**	*e*P		**P**		**16 04 18.1**	**+0.3**
SDBA	**SAO DESIDERIO**	**57.07**	**117**	*e*P		**P**		**16 04 17.9**	**-0.2**
IPMB	**Ipameri, GO**	**57.25**	**125**	*e*P		**P**		**16 04 19.8**	**+0.4**
INK	**Inuvik**	**57.26**	**344**	P		**P**		**16 04 19.1**	**+0.6**
INK				pmax		pmax			
	comp=Z,26nm,0.9s								
INK	**Inuvik**	**57.26**	**344**	P		**P**		**16 04 19.1**	**+0.6**
INK				IAmb		IAmb		16 04 41.4	
	comp=Z,26nm,0.8s								
INK	**Inuvik**	**57.26**	**344**	P				16 04 18.6	
	baz=134,SNR=7.5								
K27K	**Chicken**	**57.29**	**337**	P		**P**		**16 04 20.0**	**+1.1**
K27K				IAmb		IAmb		16 04 42.9	
	comp=Z,15nm,0.9s								
K27K	**Chicken**	**57.29**	**337**	P				16 04 19.1	
	baz=123								
EGAK	**Eagle**	**57.37**	**338**	P		**P**		**16 04 19.9**	**+0.5**
EGAK				pP		**pP**		**16 04 41.1**	**+0.2**
EGAK				IAmb		IAmb		16 04 42.2	
	comp=Z,11nm,0.9s								
EGAK	**Eagle**	**57.37**	**338**	P				16 04 19.2	
	baz=124,SNR=5.2								
KLU	**Klutina**	**57.53**	**334**	P				16 04 22.7	
	baz=117								
HARP	**HAARP**	**57.64**	**335**	P				16 04 19.1	
	baz=119								
DOT	**Dot Lake**	**57.83**	**336**	P		**P**		**16 04 23.9**	**+1.2**
DOT				IAmb		IAmb		16 04 48.2	
	comp=Z,18nm,1.0s								
SFJD	**Kangerlussuaq**	**57.94**	**19**	P		**P**		**16 04 22.2**	**-1.2**
SFJD				pmax		pmax			
	comp=Z,11nm,0.9s								
SFJD	**Kangerlussuaq**	**57.94**	**19**	P		**P**		**16 04 22.2**	**-1.2**
SFJD				IAmb		IAmb		16 04 22.6	
	comp=Z,11nm,0.8s								
SCRK	**Sand Creek**	**57.97**	**337**	P				16 04 25.7	
	baz=121								
PAX	**Paxson**	**58.05**	**335**	P				16 04 23.2	
	baz=119								
RES	**Resolute Bay**	**58.15**	**360**	P		**P**		**16 04 24.0**	**-0.7**
RES				pmax		pmax			
	comp=Z,8.0nm,0.7s								
RES	**Resolute Bay**	**58.15**	**360**	P		**P**		**16 04 24.0**	**-0.7**
RES				IAmb		IAmb		16 04 25.0	
	comp=Z,7.5nm,0.7s								
PTGB	**Pitanga**	**58.44**	**134**	*e*P		**P**		**16 04 27.4**	**-0.1**
SML	**Sawmill**	**58.70**	**333**	P				16 04 30.5	
	baz=115								
BB19B	**Bebedouro**	**58.77**	**128**	*e*P		**P**		**16 04 30.7**	**+0.8**
WAT6	**Susitna Watana**	**58.79**	**334**	P				16 04 30.6	
	baz=116								
NBPB	**Pedra_Branca-C**	**58.80**	**107**	*e*P		**P**		**16 04 30.3**	**+0.1**
ITQB	**Itaqui**	**58.86**	**141**	P		**P**		**16 04 31.9**	**+1.7**
ITQB	**Itaqui**	**58.86**	**141**	*e*P		**P**		**16 04 30.6**	**+0.3**
JANB	**Januaria**	**58.87**	**120**	*e*P		**P**		**16 04 31.0**	**+0.3**
GHO	**Glory Hole Cre**	**58.94**	**333**	P		**P**		**16 04 32.1**	**+1.6**
GHO				IAmb		IAmb		16 04 54.3	
	comp=Z,16nm,1.0s								
PMR	**Palmer**	**58.95**	**333**	P		**P**		**16 04 31.6**	**+1.1**
PMR				pmax		pmax			
	comp=Z,12nm,1.1s								
PMR	**Palmer**	**58.95**	**333**	P		**P**		**16 04 31.6**	**+1.1**
PMR				IAmb		IAmb		16 04 33.4	
	comp=Z,12nm,1.1s								
PMR	**Palmer**	**58.95**	**333**	P				16 04 32.1	
	baz=114								
DY2G	**Dye2**	**59.04**	**21** ⇑	*i* P		**P**		**16 04 30.1**	**-1.2**
DY2G				IAmb		IAmb		16 04 30.9	
	comp=Z,18nm,0.8s								
DY2G	**Dye2**	**59.04**	**21**	*i* P		**P**		**16 04 30.1**	**-1.2**
DY2G				IAmb		IAmb		16 04 31.1	
	comp=Z,16nm,0.6s								
CNPM	**China Poot**	**59.10**	**330**	P		**P**		**16 04 32.2**	**+0.6**
CNPM				IAmb		IAmb		16 04 59.3	
	comp=Z,40nm,1.4s								
WAT1	**Susitna Watana**	**59.23**	**334**	P				16 04 33.7	
	baz=116								
HDA	**Harding Lake**	**59.31**	**336**	P		**P**		**16 04 33.4**	**+0.5**
HDA				IAmb		IAmb		16 04 58.2	
	comp=Z,8.9nm,0.7s								
HDA	**Harding Lake**	**59.31**	**336**	P				16 04 32.7	
	baz=118								
HDA				P				16 04 32.7	
	baz=118								
FRTB	**Fartura**	**59.36**	**131**	*e*P		**P**		**16 04 33.6**	**-0.3**
IL31		**59.46**	**337**	P		**P**		**16 04 34.6**	**+0.7**
ILAR	**Eielson Array**	**59.46**	**337**	P		**P**		**16 04 34.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=122,slow=5.3,SNR=23								
ILAR				LR		LR		16 32 49.3	
	comp=Z,257nm,18.0s,baz=126,slow=38								
NBCL	**Cascavel-CE**	**59.49**	**105**	*e*P		**P**		**16 04 35.1**	**+0.1**
SUA	**Susitna One**	**59.61**	**333**	P				16 04 35.8	
	baz=113								
CCB	**Clear Creek Bu**	**59.75**	**337**	P		**P**		**16 04 36.5**	**+0.5**
WRH	**Wood River Hil**	**59.78**	**336**	P		**P**		**16 04 36.9**	**+0.7**
WRH				IAmb		IAmb		16 05 04.5	
	comp=Z,8.8nm,0.9s								
MCK	**McKinley**	**59.78**	**335**	P		**P**		**16 04 37.3**	**+1.1**
MCK				pmax		pmax			
	comp=Z,13nm,0.9s								
MCK	**McKinley**	**59.78**	**335**	P		**P**		**16 04 37.3**	**+1.1**
MCK				IAmb		IAmb		16 05 04.8	
	comp=Z,13nm,0.9s								
MCK	**McKinley**	**59.78**	**335**	P				16 04 37.2	
	baz=116								
COLA	**College**	**59.88**	**337** ⇓	*e*P		**P**		**16 04 37.6**	**+0.8**
COLA				pmax		pmax			
	comp=Z,8.0nm,1.2s								
COLA	**College**	**59.88**	**337**	P				16 04 37.1	
	baz=117								
TCOL	**CIGO, UAF Yank**	**59.88**	**337**	P		**P**		**16 04 37.4**	**+0.6**
TCOL						**pP**		**16 04 58.7**	**+0.2**
TCOL				IAmb		IAmb		16 05 04.0	
	comp=Z,11nm,0.8s				

comp=Z,9.5nm,0.9s
N18K Kilae Creek 61.69 331 P 16 04 49.2
baz=107
ANGG Ammassalik, Gr 61.73 23 *i* P **P** **16 04 48.0 -1.4**
ANGG IAmb IAmb 16 04 48.5
comp=Z,41nm,0.5s
ANGG Ammassalik, Gr 61.73 23 P **P** **16 04 47.8 -1.5**
COLD Coldfoot 61.80 339 P **P** **16 04 50.7 +0.8**
COLD IAmb IAmb 16 05 15.8
comp=Z,13nm,1.2s
COLD Coldfoot 61.80 339 P 16 04 51.0
baz=116
NBLV Livramento - P 61.94 108 *e*P **P** **16 04 52.6 +0.9**
H21K Melozitna Rive 62.10 337 P 16 04 51.5
baz=113,SNR=6.1
LL01 San Ignacio de 62.15 161 P **P** **16 04 52.7 +0.4**
PLTB Pedras Altas 62.17 141 P **P** **16 04 52.3 -0.5**
PLTB Pedras Altas 62.17 141 *e*P **P** **16 04 53.2 +0.3**
TOLK Toolik Lake Re 62.24 340 P **P** **16 04 52.8 0.0**
TOLK pP **pP** **16 05 15.5 +0.9**
TOLK IAmb IAmb 16 05 16.5
comp=Z,10nm,0.8s
TOLK Toolik Lake Re 62.24 340 P 16 04 53.8
baz=117
GDU01 Guandu, BA 62.26 116 *e*P **P** **16 04 54.3 +0.6**
PARB Paraibuna 62.27 128 *e*P **P** **16 04 55.9 +2.2**
RCBR Riachuelo 62.29 106 P **P** **16 04 53.0 -1.0**
RCBR pmax pmax
comp=Z,43nm,1.0s
RCBR Riachuelo 62.29 106 P **P** **16 04 53.0 -1.0**
RCBR Riachuelo 62.29 106 *e*P **P** **16 04 54.1 +0.1**
TRQA Tornquist 62.43 151 P **P** **16 04 54.5 +0.1**
TRQA pmax pmax
comp=Z,93nm,1.4s
TRQA Tornquist 62.43 151 P **P** **16 04 54.5 +0.1**
TRQA Tornquist 62.43 151 *e*P **P** **16 04 55.4 +0.9**
TTA Tatalina 62.44 333 P **P** **16 04 54.0 -0.2**
TTA pmax pmax
comp=Z,11nm,1.1s
TTA Tatalina 62.44 333 P **P** **16 04 54.0 -0.2**
TTA Tatalina 62.44 333 P 16 04 55.1
baz=108
ICESG Greenland Ices 62.54 19⇑ *i*P **P** **16 04 54.2 -1.0**
ICESG IAmb IAmb 16 04 55.0
comp=Z,39nm,0.8s
ICESG Greenland Ices 62.54 19 *i* P **P** **16 04 54.3 -0.8**
ICESG IAmb IAmb 16 04 55.0
comp=Z,39nm,0.8s
TER01 Tubaro-SC 62.89 135 *e*P **P** **16 04 58.2 +0.5**
NBIT Itapeh - BA 62.93 117 *e*P **P** **16 04 58.1 -0.1**
ESAR Angra dos Reis 62.99 127 *e*P **P** **16 04 59.0 +0.6**
LL02 Futaleuf 63.06 161 P **P** **16 04 58.5 0.0**
LL02 IAmb IAmb 16 05 00.6
comp=Z,38nm,1.4s
CMC01 Camacan, BA 63.06 117 *e*P **P** **16 04 59.6 +0.6**
NBPV Pedro Velho 63.08 106 *e*P **P** **16 04 59.9 +0.7**
SJMB Sao Joao De Ma 63.28 121 *e*P **P** **16 05 01.6 +1.2**
VAS01 Vassouras-RJ 63.35 126 *e*P **P** **16 05 02.6 +1.8**
GUA01 Guaratinga, BA 63.39 119 *e*P **P** **16 05 03.0 +1.8**
NBAN Anadia - AL 63.44 110 *e*P **P** **16 05 01.9 +0.3**
BSFB Barra de Sao F 63.62 121 *e*P **P** **16 05 03.8 +1.2**
EUNU Eureka 63.66 2 P **P** **16 05 02.1 0.0**
EUNU IAmb IAmb 16 05 03.7
comp=Z,27nm,0.8s
NAN01 Guarapari, ES 63.73 120 *e*P **P** **16 05 03.4 0.0**
PPT Papeete 63.75 240 LR LR 16 26 33.3
comp=Z,120nm,18.6s,baz=86,slow=30
PPT2 Papeete2 63.76 240 *e*S **S** **16 13 40.4 +8.1**
comp=Z,248nm,21.8s
PPT2 *e*LQ LQ 16 21 20.2
comp=Z,718nm,28.0s
PPT2 *e*LR LR 16 24 00.3
comp=Z,1µm,30.0s
DUB01 Friburgo-RJ 64.08 125 *e*P **P** **16 05 07.3 +1.7**
RIB01 Linhares ES 64.23 122 *e*P **P** **16 05 07.3 +0.6**
CAM01 Campos-RJ 64.50 125 *e*P **P** **16 05 09.9 +1.6**
SUMG Summit 64.52 16⇑ *i*P **P** **16 05 07.9 -0.3**
SUMG IAmb IAmb 16 05 08.7
comp=Z,9.9nm,0.7s
SUMG Summit 64.52 16 *i* P **P** **16 05 07.7 -0.6**
SUMG IAmb IAmb 16 05 08.7
comp=Z,10nm,0.8s
SUMG *i* 16 05 30.4
SUMG Summit 64.52 16 *i* P **P** **16 05 07.6 -0.6**
SUMG *i* 16 05 30.4
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 64.52 16 P **P** **16 05 06.9 -1.3**
ALF01 Guarapari-ES 64.62 123 *e*P **P** **16 05 10.6 +1.4**
NEEM North Greenlan 64.67 10⇑ *i*P **P** **16 05 08.6 -0.4**
NEEM IAmb IAmb 16 05 09.7
comp=Z,16nm,0.9s
NEEM North Greenlan 64.67 10 *i* P **P** **16 05 08.5 -0.5**
NEEM IAmb IAmb 16 05 09.7
comp=Z,20nm,1.0s
NEEM *i* 16 05 29.9
TBI Tubuai 66.56 235 *e*S **S** **16 14 15.0 +8.8**
comp=Z,352nm,27.0s
TBI *e*LQ LQ 16 22 39.3
comp=Z,468nm,34.2s
TBI *e*LR LR 16 25 27.3
comp=Z,832nm,30.5s
BORG Borgarnes 68.10 26 P **P** **16 05 31.0 +0.3**
BORG pmax pmax
comp=Z,52nm,1.4s
BORG Borgarnes 68.10 26 P **P** **16 05 31.0 +0.3**
BORG IAmb IAmb 16 05 40.6
comp=Z,52nm,1.4s
SCO Scoresbysund 68.78 20 *i* P **P** **16 05 34.6 -0.2**
SCO IAmb IAmb 16 05 36.1
comp=Z,7.8nm,0.8s
SCO Scoresbysund 68.78 20 *i* P **P** **16 05 34.8 -0.1**
SCO IAmb IAmb 16 05 36.1
comp=Z,7.5nm,0.7s
SCO Scoresbysund 68.78 20 *i* P **P** **16 05 34.7 -0.2**
SCO pmax pmax
comp=Z,8.0nm,0.7s
SCO Scoresbysund 68.78 20 P **P** **16 05 34.7 -0.2**
SCO IAmb IAmb 16 05 40.4
comp=Z,18nm,1.0s
DBG Daneborg 70.00 16 *i* P **P** **16 05 42.0 -0.2**
DBG IAmb IAmb 16 05 42.9
comp=Z,4.1nm,0.8s
DBG Daneborg 70.00 16⇑ *i*P **P** **16 05 42.1 -0.2**
DBG IAmb IAmb 16 05 42.9
comp=Z,3.8nm,0.8s
ATKA Atka Island 70.65 320 P **P** **16 05 47.1 +0.5**
ATKA IAmb IAmb 16 06 06.3
comp=Z,66nm,1.4s
DAG Danmarks Havn 70.82 14⇑ *i*P **P** **16 05 46.6 -0.7**
DAG IAmb IAmb 16 05 46.9
comp=Z,11nm,0.8s
DAG Danmarks Havn 70.82 14⇑ *i*P **P** **16 05 46.6 -0.7**
DAG IAmb IAmb 16 05 46.9
comp=Z,11nm,0.8s
DAG Danmarks Havn 70.82 14⇑ *i*P **P** **16 05 46.5 -0.7**
DAG pmax pmax
comp=Z,11nm,0.8s
NOR Nord 71.99 9 *i* P **P** **16 05 54.3 0.0**
NOR IAmb IAmb 16 05 55.1
comp=Z,5.7nm,0.8s
NOR Nord 71.99 9 *i* P **P** **16 05 54.3 0.0**
NOR pmax pmax
comp=Z,6.0nm,0.8s
ADK Adak 72.20 320 P **P** **16 05 56.5 +0.5**
ADK pmax pmax
comp=Z,32nm,1.1s
ADK Adak 72.20 320 P **P** **16 05 56.5 +0.5**
ADK IAmb IAmb 16 06 21.0
comp=Z,32nm,1.1s
AMKA Amchitka 74.75 320 P **P** **16 06 12.0 +1.1**
KPL Plockton 75.76 34 *e*P **P** **16 06 16.1 -0.5**
DSB Dublin 75.97 38 P **P** **16 06 17.6 -0.3**
DSB IAmb IAmb 16 06 46.3
comp=Z,64nm,1.5s
PGAV Gavieira, Arco 76.56 50 *e*P **P** **16 06 21.8 +0.1**
comp=Z,45nm,1.5s
PCAS Casmilo, Conde 76.73 52 *e*P **P** **16 06 22.3 -0.2**
comp=Z,80nm,1.3s
PCAS *ep*P **pP** **16 06 45.7 +0.5**
NEWG New Galloway 76.90 36 *e*P **P** **16 06 21.9 -1.2**
NEWG IAmb IAmb 16 06 24.0
comp=Z,78nm,1.2s
POLO Lamas de Olo 77.02 50 *e*P **P** **16 06 23.5 -0.7**
comp=Z,21nm,1.6s
POLO *ep*P **pP** **16 06 47.1 +0.2**
PFVI Vila Bisbo 77.03 55 *e*P **P** **16 06 24.4 +0.2**
PVIS Viseu 77.07 51 *e*P **P** **16 06 24.2 -0.3**
comp=Z,49nm,1.4s
PNCL Nicolau / Gran 77.07 54 *e*P **P** **16 06 23.7 -0.7**
PNCL Nicolau / Gran 77.07 54 *e*PP PP 16 09 18.5 -0.3
PVRL Vila Real 77.10 51 *e*P **P** **16 06 24.6 0.0**
comp=Z,22nm,1.6s
PMTG Montargil 77.12 53 *e*P **P** **16 06 24.6 -0.1**
comp=Z,49nm,1.8s
MORF Marmelete 77.13 55 *e*P **P** **16 06 25.2 +0.3**
MORF IAmb IAmb 16 06 27.0
comp=Z,59nm,1.4s
MORF *e*S **S** **16 16 06.1 -1.3**
MORF Marmelete 77.13 55 *e*P **P** **16 06 25.2 +0.3**
MORF *e*S **S** **16 16 06.1 -1.3**
MORF Marmelete 77.13 55 *e*P **P** **16 06 25.3 +0.4**
RSBS Rosebush, Pemb 77.16 39 *e*P **P** **16 06 24.4 -0.3**
RSBS IAmb IAmb 16 06 25.2
comp=Z,63nm,1.1s
MESJ Messejana 77.36 54 *e*P **P** **16 06 26.3 +0.3**
MESJ IAmb IAmb 16 06 27.4
comp=Z,15nm,1.1s
MESJ *e*S **S** **16 16 08.4 -1.4**
MESJ Messejana 77.36 54 *e*P **P** **16 06 26.3 +0.3**
MESJ *e*S **S** **16 16 08.4 -1.4**
MESJ Messejana 77.36 54 *e*P **P** **16 06 26.4 +0.3**
MTE Manteigas 77.39 51 *e*P **P** **16 06 26.1 -0.2**
comp=Z,66nm,1.6s
MTE Manteigas 77.39 51 P **P** **16 06 25.0 -1.3**
MTE IAmb IAmb 16 06 27.1
comp=Z,32nm,0.8s
EVO Evora 77.39 53 *e*P **P** **16 06 26.2 0.0**
comp=Z,42nm,1.3s
ESK Eskdalemuir 77.44 36 *e*P **P** **16 06 26.1 -0.1**
ESK IAmb IAmb 16 06 26.9
comp=Z,104nm,1.3s
ESK Eskdalemuir 77.44 36 P **P** **16 06 25.5 -0.7**
ESK pmax pmax
comp=Z,96nm,1.3s
ESK Eskdalemuir 77.44 36 P **P** **16 06 25.5 -0.7**
HTL Hartland 77.50 40 *e*P **P** **16 06 26.7 +0.1**
HTL IAmb IAmb 16 06 27.4
comp=Z,40nm,0.7s
DRUM Mains of Drumt 77.54 34 *e*P **P** **16 06 26.8 +0.1**
PCBR Castelo Branco 77.55 52 *e*P **P** **16 06 27.3 +0.2**
comp=Z,54nm,1.5s
PCBR *ep*P **pP** **16 06 50.7 +1.0**
PBEJ Beja 77.60 54 *e*P **P** **16 06 27.9 +0.5**
comp=Z,32nm,1.6s
MVO Moncorvo 77.63 51 *e*P **P** **16 06 27.1 -0.5**
comp=Z,55nm,1.4s
MVO *ep*P **pP** **16 06 51.4 +1.1**
PESTR Estremoz 77.65 53 *e*P **P** **16 06 27.2 -0.5**
comp=Z,31nm,1.6s
PESTR *ep*P **pP** **16 06 51.1 +0.7**
PESTR Estremoz 77.65 53 P **P** **16 06 26.7 -1.0**
PMRV Marv??o 77.69 52 *e*P **P** **16 06 28.1 +0.2**
comp=Z,50nm,1.9s
PBDV Barranco-do-Ve 77.70 55 *e*P **P** **16 06 28.9 +0.8**
comp=Z,86nm,1.7s
PBRG Braganca 77.71 50 *e*P **P** **16 06 28.2 +0.2**
comp=Z,59nm,1.6s
PBRG Braganca 77.71 50 *e*PP PP 16 09 20.1 -4.1
PVAQ Vaqueiros 77.84 54 *e*P **P** **16 06 28.7 -0.1**
comp=Z,48nm,1.8s
FOEL Foel Wylfa 77.91 38 *e*P **P** **16 06 27.4 -1.4**
BILL Bilibino 78.11 338 *de*P **P** **16 06 31.2 +1.5**
BILL *i* 16 06 52.2
BILL *e* 16 09 24.2
BILL pmax pmax
comp=Z,15nm,1.7s
BILL Bilibino 78.11 338 P **P** **16 06 29.9 +0.3**
BILL pP **pP** **16 06 53.0 +0.8**
BILL IAmb IAmb 16 06 55.4
comp=Z,28nm,1.1s
SPITS Spitsbergen Ar 78.13 11 LR LR 16 43 17.0
comp=Z,169nm,21.9s,baz=310,slow=37
HLM1 Long Mynd 78.18 39 *e*P **P** **16 06 30.2 -0.1**
HLM1 IAmb IAmb 16 06 31.1
comp=Z,50nm,0.9s
PBAR Barrancos 78.21 54 *e*P **P** **16 06 30.6 -0.2**
comp=Z,40nm,1.5s
MCH1 Michaelchurch 78.21 39 *e*P **P** **16 06 30.1 -0.5**
EDMD Edmundbyers 78.24 36 *e*P **P** **16 06 30.3 -0.3**
EDMD IAmb IAmb 16 06 31.7
comp=Z,109nm,1.1s
MONM Monmouth 78.36 39 *e*P **P** **16 06 31.3 0.0**
MONM IAmb IAmb 16 06 32.1
comp=Z,50nm,0.8s
HPK Haverah Park 78.62 37 *e*P **P** **16 06 32.9 +0.2**
HPK IAmb IAmb 16 06 33.8
comp=Z,182nm,1.6s
LBWR Ladybower, Pea 78.68 38 *e*P **P** **16 06 33.5 +0.4**
LBWR IAmb IAmb 16 06 34.4
comp=Z,196nm,1.2s
SRHM Skhour des Reh 78.72 59 P 16 06 35.1
GDLE Glaisdale, N Y 78.98 36 *e*P **P** **16 06 35.2 +0.6**
OUK Oukaimeden 79.02 61 P 16 06 37.0
ZHG ZHG 79.53 58 P 16 06 39.0
PAB San Pablo 79.97 52 P **P** **16 06 40.0 -0.5**
PAB pmax pmax
comp=Z,59nm,1.2s
PAB San Pablo 79.97 52 P **P** **16 06 40.0 -0.5**
PAB IAmb IAmb 16 06 41.9
comp=Z,59nm,1.1s
PAB San Pablo 79.97 52 P 16 06 41.2
OUZM OUZ 80.01 61 P 16 06 42.0
SMIR Smir Dam 80.05 56 P 16 06 42.0
CHEFC Chefchaouen 80.21 56 P 16 06 44.0
WACR West Acre 80.22 38 *e*P **P** **16 06 41.6 +0.2**
WACR IAmb IAmb 16 06 42.4
comp=Z,194nm,1.0s
ESDC Sonseca Array 80.23 52 P **P** **16 06 42.1 +0.2**
comp=Z,20nm,0.8s,baz=294,slow=5.4,SNR=124
ESDC LR LR 16 39 11.0
comp=Z,153nm,19.7s,baz=250,slow=33
ESDC Sonseca Array 80.23 52 P **P** **16 06 41.4 -0.5**
ESDC IAmb IAmb 16 06 43.3
comp=Z,38nm,1.1s
ESBB Sonseca Array 80.23 52 P **P** **16 06 41.4 -0.4**
ESBB IAmb IAmb 16 06 43.2
comp=Z,42nm,1.1s
LCRM LCR 80.93 58 P 16 06 47.0
CZD Col de Zad 80.94 58 P 16 06 47.0
TZRR Tazzarine 81.03 61 P 16 06 47.3
PALE Palemas 81.30 56 P 16 06 49.0
MDT Midelt 81.34 58 P 16 06 49.1
LOF Lofoten 81.40 21 *e*P **P** **16 06 48.1 +0.8**
DOMB Dombas 81.86 28 *e*P **P** **16 06 51.0 +0.9**
KONS Konsvik 81.88 23 *e*P **P** **16 06 51.1 +1.2**
SKAR Skarslia 81.97 29 *e*P **P** **16 06 51.1 +0.5**
STEI Steigen 82.06 21 *e*P **P** **16 06 52.3 +1.4**
NSS Namsos 82.19 25 *e*P **P** **16 06 52.4 +0.8**
FAUS Fauske 82.31 22 *e*P **P** **16 06 52.9 +0.7**
CLF Chambon-Foret 82.47 42 P **P** **16 06 53.3 -0.1**
MOR8 Moi Rana 82.50 23 *e*P **P** **16 06 54.5 +1.3**
TRO Tromso 82.52 19 *e*P **P** **16 06 54.5 +1.3**
TAF Taforalt 82.61 56 P 16 06 56.0
JBK JBK 82.61 56 P 16 06 55.2
NC204 NORSAR Array S 82.89 28 P **P** **16 06 55.2 -0.2**
NC204 IAmb IAmb 16 06 57.1
comp=Z,27nm,0.8s
KONO Kongsberg 82.93 30 *ce*P **P** **16 06 56.8 +1.2**
KONO pmax pmax
comp=Z,39nm,1.7s
KONO Kongsberg 82.93 30 *e*P **P** **16 06 56.7 +1.2**
KONO Kongsberg 82.93 30 P **P** **16 06 56.2 +0.6**
KONO IAmb IAmb 16 06 58.1
comp=Z,36nm,1.3s
UCC Uccle 82.97 39 P **P** **16 06 55.6 -0.4**
UCC pmax pmax
comp=Z,64nm,0.9s
UCC Uccle 82.97 39 P **P** **16 06 55.6 -0.4**
NBO00 NORSAR Array S 82.98 28 P **P** **16 06 56.6 +0.7**
NBO00 IAmb IAmb 16 06 57.8
comp=Z,41nm,0.9s
NBO00 **pP** **16 07 19.4 +0.6**
JETT Jettan, Norway 83.01 19 *e*P **P** **16 06 57.0 +1.1**
SNF Seneffe 83.02 39 *d*P **P** **16 06 56.6 +0.4**
NAO01 NORSAR Array S 83.10 28 P **P** **16 06 57.0 +0.5**
NB2 NORSAR Subarra 83.18 28 P **P** **16 06 58.0 +1.1**
baz=293,slow=5.3
NOA NORSAR Array B 83.18 28 P **P** **16 06 58.2 +1.3**
comp=Z,6.7nm,0.6s,baz=295,slow=5.3,SNR=43
NOA pP **pP** **16 07 19.2 -0.7**
comp=Z,7.9nm,0.8s,baz=292,slow=5.2,SNR=9.1
NOA LR LR 16 44 13.2
comp=Z,99nm,19.9s,baz=285,slow=36
NC303 NORSAR Array S 83.18 28 P **P** **16 06 56.7 -0.2**
NC303 IAmb IAmb 16 07 00.0
comp=Z,28nm,1.2s
NB201 NORSAR Array S 83.21 28 P **P** **16 06 57.8 +0.8**
DOU Dourbes 83.33 40 *bP* **P** **16 06 58.5 +0.6**
OSL Oslo 83.36 29 *e*P **P** **16 06 58.6 +0.9**
BMRD Maredsous 83.37 40 *dP* **P** **16 06 58.8 +0.7**
comp=Z,48nm,1.0s
NC405 NORSAR Array S 83.38 28 P **P** **16 06 58.3 +0.4**
NC405 **pP** **16 07 21.2 +0.4**
TDRA Tendrara 83.38 58 P 16 06 60.0
NC602 NORSAR Array S 83.44 28 *e*P **P** **16 06 59.2 +1.0**
NC602 NORSAR Array S 83.44 28 P **P** **16 06 58.6 +0.4**
NC602 **pP** **16 07 21.8 +0.6**
BGES Gesves 83.54 39 *dP* **P** **16 06 59.7 +0.8**
comp=Z,88nm,0.7s
BCLA Clavier 83.66 39 *bP* **P** **16 07 00.3 +0.7**
RCHB Rochefort 83.70 40 *dP* **P** **16 06 60.0 +0.2**
BEBN Eben Emael 83.77 39 *dP* **P** **16 07 00.7 +0.7**
BSTI Sart Tilman 83.77 39 *dP* **P** **16 07 00.7 +0.6**
MEM Membach 84.03 39 *dP* **P** **16 07 02.3 +0.9**
comp=Z,43nm,0.9s
BHOU Houvegnez 84.11 39 *bP* **P** **16 07 02.5 +0.7**
comp=Z,46nm,1.4s
BTNL Ternell 84.11 39 *dP* **P** **16 07 02.3 +0.4**
comp=Z,30nm,1.3s
KTK1 Kautokeino 84.16 19 *eP* **P** **16 07 02.8 +1.1**
FIGM Figuig 84.25 58 P 16 07 05.0
WLF Walferdange 84.42 40 *dP* **P** **16 07 03.9 +0.5**
WLF Walferdange 84.42 40 P **P** **16 07 04.1 +0.7**
WLF pmax pmax
comp=Z,60nm,0.7s
WLF Walferdange 84.42 40 P **P** **16 07 04.1 +0.7**
WLF Walferdange 84.42 40 *eP* **P** **16 07 04.2 +0.7**
comp=Z,60nm,0.9s,baz=292,slow=5.0
IBBN Ibbenburen 84.50 37 *eP* **P** **16 07 04.4 +0.7**
comp=Z,91nm,1.1s,baz=292,slow=5.0
BUG Bochum--Univer 84.51 38 *eP* **P** **16 07 04.3 +0.5**
comp=Z,106nm,1.6s,baz=292,slow=5.0
ARA0 ARCESS Array S 84.55 18 *eP* **P** **16 07 04.2 +0.5**
ARCES ARCESS Array B 84.55 18 P **P** **16 07 04.0 +0.3**
comp=Z,6.2nm,0.7s,baz=299,slow=4.4,SNR=29
ARCES pP **pP** **16 07 26.6 0.0**
comp=Z,3.4nm,0.5s,baz=293,slow=5.0,SNR=4.7
ARCES LR LR 16 46 39.2
comp=Z,70nm,18.4s,baz=105,slow=37
ARCES ARCESS Array B 84.55 18 P **P** **16 07 04.0 +0.3**
ARCES pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 84.55 18 P **P** **16 07 04.0 +0.3**
HFS Hagfors 84.66 28 LR LR 16 45 05.7
comp=Z,123nm,19.4s,baz=280,slow=36
AHRW Bad Neuenahr-A 84.70 39 *eP* **P** **16 07 05.7 +0.9**
comp=Z,105nm,1.2s,baz=292,slow=5.0
ONAU Onsala 84.89 31 *i* P **P** **16 07 06.2 +0.7**
KASTN Kahler Asten 85.27 38 *eP* **P** **16 07 08.3 +0.6**
comp=Z,55nm,1.3s,baz=292,slow=5.0
SEY Seymchan 85.34 335 *ij* P **P** **16 07 09.1 +1.4**
BSEG Bad Segeberg 85.37 35 *eP* **P** **16 07 08.9 +0.8**
comp=Z,79nm,1.3s,baz=292,slow=5.0
ECH Echery 85.53 41 P **P** **16 07 09.0 0.0**
ECH pmax pmax
comp=Z,48nm,1.1s
ECH Echery 85.53 41 P **P** **16 07 09.0 0.0**
TNS Taunus Mts 85.63 39 *eP* **P** **16 07 10.1 +0.6**
comp=Z,92nm,1.0s,baz=292,slow=5.0
NRDL Niedersach Rie 85.78 36 *eP* **P** **16 07 11.1 +1.0**
comp=Z,39nm,1.0s,baz=292,slow=5.0
GTTG Gottingen 86.05 37 *eP* **P** **16 07 12.5 +1.0**
comp=Z,57nm,1.0s,baz=292,slow=5.0
CLZ Clausthal 86.18 37 *eP* **P** **16 07 13.2 +1.0**
comp=Z,74nm,1.4s,baz=292,slow=5.0
BFO Black Forest 86.22 41 P **P** **16 07 12.5 0.0**
BFO pmax pmax
comp=Z,29nm,1.1s
BFO Black Forest 86.22 41 P **P** **16 07 12.5 0.0**
BFO IAmb IAmb 16 07 13.9
comp=Z,29nm,1.1s
BFO Black Forest 86.22 41 *eP* **P** **16 07 12.5 0.0**
comp=Z,64nm,1.5s,baz=292,slow=5.0
ASSE Asse, Remlinge 86.24 37 *eP* **P** **16 07 13.4 +1.1**
comp=Z,18nm,1.1s,baz=292,slow=5.0
SENIN Lac Senin/Sane 86.25 43 P **P** **16 07 12.9 0.0**
MILB Miltenberg 86.28 39 *eP* **P** **16 07 13.4 +0.7**
comp=Z,81nm,0.9s,baz=292,slow=5.0
BNI Bardonecchia 86.28 44 P **P** **16 07 13.3 +0.3**
BNI pmax pmax
comp=Z,49nm,1.3s
BNI Bardonecchia 86.28 44 P **P** **16 07 13.3 +0.3**
UBBA Unterbreizbach 86.34 38 *eP* **P** **16 07 13.8 +1.0**
comp=Z,69nm,1.7s,baz=292,slow=5.0
FLTG Flechtingen 86.49 36 *eP* **P** **16 07 14.0 +0.4**
comp=Z,35nm,1.0s,baz=292,slow=5.0
PET Petropavlovsk 86.55 325 *eP* **P** **16 07 17.5 +3.6**
PET *e**PP **pP** **16 07 40.9 +4.1**
PET *eS* **S** **16 17 44.6 +1.1**
PET pmax pmax
comp=Z,100nm,11.0s
STU Stuttgart 86.60 40 P **P** **16 07 14.7 +0.4**
STU pmax pmax
comp=Z,43nm,0.7s
STU Stuttgart 86.60 40 P **P** **16 07 14.7 +0.4**
STU Stuttgart 86.60 40 *eP* **P** **16 07 14.7 +0.4**
comp=Z,52nm,0.8s,baz=292,slow=5.0
KOWA Kowa 86.65 76 P **P** **16 07 15.2 +0.1**
PETK Petropavlovsk- 87.05 325 P **P** **16 07 17.9 +1.6**
comp=Z,2.6nm,1.1s,baz=57,slow=11,SNR=4.2
PETK pP **pP** **16 07 39.4 +0.1**
comp=Z,2.3nm,0.8s,baz=71,slow=8.8,SNR=4.6
TIXI Tiksi 87.22 347⇑ *eP* **P** **16 07 16.6 -0.2**
TIXI Tiksi 87.22 347 P **P** **16 07 16.8 0.0**
TIXI pP **pP** **16 07 39.0 -0.8**
MOX Moxa 87.36 38 *eL* L 16 47 47.4
comp=Z,146nm,20.9s
GRA1 Grafenberg Arr 87.49 39 P **P** **16 07 18.6 0.0**
GRF Grafenberg Arr 87.49 39 P **P** **16 07 18.6 0.0**
GRF pmax pmax
comp=Z,44nm,1.3s
GRF Grafenberg Arr 87.49 39 *eL* L 16 44 41.1
comp=Z,137nm,21.5s
GRFO Grafenberg 87.49 39 P **P** **16 07 18.5 -0.1**
GRFO pmax pmax
comp=Z,45nm,1.3s
GRFO Grafenberg 87.49 39 P **P** **16 07 18.5 -0.1**
TUE Stuetta 87.53 42 P **P** **16 07 19.4 +0.3**
TUE IAmb IAmb 16 07 21.6
comp=Z,34nm,1.1s
UBR Ueberruh 87.57 41 *eP* **P** **16 07 19.5 +0.5**
comp=Z,39nm,1.1s,baz=292,slow=5.0
DAVA Damuels 87.57 41 *eP* **P** **16 07 19.3 +0.1**
comp=Z,34nm,1.2s,SNR=16
DAVA *eP* **pP** **16 07 42.2 -0.2**
comp=Z,17nm,1.1s
MA2 Magadan 87.63 332 *d* *iP* **P** **16 07 19.8 +0.8**
MA2 pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 87.63 332 P **P** **16 07 20.2 +1.3**
MA2 pP **pP** **16 07 43.1 +1.2**
MA2 IAmb IAmb 16 07 45.3
comp=Z,18nm,0.9s
DAVOX Davos/Dischmat 87.76 42 LR LR 16 45 01.0
comp=Z,99nm,19.0s,baz=260,slow=34
TIC Toumodi 87.89 84 *eP* **P** **16 07 20.6 -0.5**
CLL Collm 87.90 37 *ij* *iP* **P** **16 07 21.0 +0.6**
comp=Z,13nm,1.1s
CLL *i* pP **pP** **16 07 43.1 -0.4**
CLL *es*P **sP** **16 07 51.0 -1.8**
CLL *es*PP 16 11 12.0
CLL *e* 16 14 00.0
CLL *eS* **S** **16 18 02.0 +5.5**
CLL *es*S **sS** **16 18 37.0 +0.8**
CLL *e*PS **PnS** **16 19 06.0 -2.5**
CLL *e*SSS SSS 16 27 18.0
CLL *e*SSSS 16 30 24.0
CLL Collm 87.90 37 *ij* *iP* **P** **16 07 21.0 +0.6**
CLL *i* *PP **pP** **16 07 43.1 -0.4**
CLL *eS* **S** **16 18 02.0 +5.5**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 87.90 37 P **P** **16 07 20.6 +0.1**

LIC	**Lamto**	**88.00**	**84**	*e*P	**P**	**16 07 21.4**	**-0.2**
	comp=Z,191nm,1.4s						
NKC	**Novy Kostel**	**88.01**	**38**	*e*P	**P**	**16 07 21.8**	**+0.8**
NKC				*e*		16 17 55.0	
NKC				MLR	MLR		
	comp=Z,200nm,20.4s						
NKC	**Novy Kostel**	**88.01**	**38**	*e*P	**P**	**16 07 21.8**	**+0.8**
NKC				*e*S	**S**	**16 17 55.0**	**-2.7**
NKC				AMS	AMS	16 39 10.0	
	comp=Z,200nm,20.4s						
DBIC	**Dimbokro**	**88.03**	**84**	P	**P**	**16 07 22.1**	**+0.3**
	comp=Z,15nm,1.0s,baz=270,slow=6.3,SNR=11						
DBIC				LR	LR	16 39 54.6	
	comp=Z,105nm,21.9s,baz=258,slow=31						
DBIC	**Dimbokro**	**88.03**	**84**	P	**P**	**16 07 22.4**	**+0.6**
DBIC				pmax	pmax		
	comp=Z,81nm,1.5s						
DBIC	**Dimbokro**	**88.03**	**84**	P	**P**	**16 07 22.4**	**+0.6**
APA	**Apatity**	**88.06**	**18**	⇓*i*P	**P**	**16 07 16.4**	**-4.4**
APA				*i*		16 10 51.0	
APA				*i* S	**SKSac**	**16 17 46.0**	**+4.6**
APA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,200nm,21.0s						
RETA	**Reutte**	**88.06**	**41**	*e*P	**P**	**16 07 21.4**	**0.0**
	comp=Z,19nm,0.9s,SNR=16						
RETA				*e*P	**pP**	**16 07 44.4**	**-0.2**
	comp=Z,18nm,1.3s						
FETA	**Feichten**	**88.21**	**41**	*e*P	**P**	**16 07 23.4**	**+1.2**
	comp=Z,9.4nm,0.6s,SNR=9.8						
KIC	**Kosan Boka**	**88.23**	**84**	*e*P	**P**	**16 07 22.7**	**-0.1**
	comp=Z,120nm,1.4s						
MOTA	**Moosalm**	**88.32**	**41**	*e*P	**P**	**16 07 23.0**	**+0.3**
	comp=Z,16nm,0.8s,SNR=16						
MOTA				*e*P	**pP**	**16 07 45.6**	**-0.2**
	comp=Z,24nm,1.6s						
SQTA	**Sankt Quirin**	**88.44**	**41**	*e*P	**P**	**16 07 24.2**	**+1.0**
	comp=Z,28nm,1.2s,SNR=9.1						
BRG	**Berggiesshubel**	**88.62**	**37**	*e*P	**P**	**16 07 24.5**	**+0.6**
BRG				Amp		16 07 29.0	
	comp=Z,8.1nm,1.1s						
BRG				*ex*	x	16 07 47.1	
BRG				Amp		16 07 49.1	
	comp=Z,30nm,2.0s						
BRG	**Berggiesshubel**	**88.62**	**37**	S	**S**	**16 18 08.0**	**+4.7**
WATA	**Walderalm**	**88.62**	**41**	*e*P	**P**	**16 07 24.8**	**+0.6**
	comp=Z,20nm,1.5s,SNR=9.4						
WATA				*e*P	**pP**	**16 07 47.0**	**-0.3**
	comp=Z,13nm,1.3s						
WTTA	**Wattenberg**	**88.69**	**41**	*e*P	**P**	**16 07 25.4**	**+0.9**
	comp=Z,25nm,1.7s,SNR=7.8						
WTTA				*e*P	**pP**	**16 07 47.5**	**-0.1**
	comp=Z,20nm,1.9s						
PVCC	**Panska Ves**	**89.12**	**37**	AMS	AMS	16 41 40.0	
	comp=Z,300nm,25.9s						
KHC	**Kasperske Hory**	**89.13**	**39**	*e*P	**P**	**16 07 26.1**	**-0.3**
KHC				*e*		16 07 50.0	
KHC				*e*		16 17 44.8	
KHC				MLR	MLR		
	comp=Z,200nm,16.0s						
KHC	**Kasperske Hory**	**89.13**	**39**	*e*P	**P**	**16 07 26.1**	**-0.3**
KHC				*e*pP	**pP**	**16 07 50.0**	**+0.5**
KHC				*e*SKS	**SKSac**	**16 17 44.8**	**-3.9**
KHC				AMS	AMS	16 40 30.0	
	comp=Z,200nm,16.0s						
CTI	**Castel Tesino**	**89.17**	**42**	P	**P**	**16 07 26.6**	**-0.1**
CTI				pmax	pmax		
	comp=Z,11nm,0.9s						
CTI	**Castel Tesino**	**89.17**	**42**	P	**P**	**16 07 26.6**	**-0.1**
CTI				IAmb	IAmb	16 07 29.1	
	comp=Z,11nm,0.9s						
PRA	**Prague**	**89.24**	**37**	*e*S	**S**	**16 18 09.7**	**+0.5**
PRA				AMS	AMS	16 41 20.0	
	comp=Z,300nm,23.7s						
FINES	**FINESS Array B**	**89.31**	**24**	P	**P**	**16 07 26.8**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=254,slow=3.6,SNR=12						
FINES				LR	LR	16 46 56.5	
	comp=Z,88nm,21.7s,baz=302,slow=35						
GEC2	**GERESS Array S**	**89.32**	**39**	P	**P**	**16 07 27.1**	**-0.3**
GERES	**GERESS Array B**	**89.32**	**39**	P	**P**	**16 07 27.6**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=318,slow=3.6,SNR=20						
GERES				pP	**pP**	**16 07 49.9**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=318,slow=3.6,SNR=6.2						
GERES				LR	LR	16 48 26.1	
	comp=Z,93nm,19.0s,baz=305,slow=36						
GERES	**GERESS Array B**	**89.32**	**39**	P	**P**	**16 07 27.0**	**-0.3**
GERES				pP	**pP**	**16 07 50.4**	**-0.1**
PRU	**Pruhonice**	**89.34**	**38**	*e*P	**P**	**16 07 27.5**	**+0.2**
PRU				*e*		16 07 50.3	
PRU				*e*		16 18 04.1	
PRU				MLR	MLR		
	comp=Z,300nm,25.3s						
PRU	**Pruhonice**	**89.34**	**38**	*e*P	**P**	**16 07 27.5**	**+0.2**
PRU				*e*pP	**pP**	**16 07 50.3**	**-0.1**
PRU				*e*S	**S**	**16 18 04.1**	**-6.0**
PRU				AMS	AMS	16 41 20.0	
	comp=Z,300nm,25.3s						
ABTA	**Abfaltersbach**	**89.44**	**41**	*e*P	**P**	**16 07 27.8**	**-0.2**
	comp=Z,11nm,1.0s,SNR=6.1						
ABTA				*e*P	**pP**	**16 07 50.3**	**-0.7**
	comp=Z,10nm,1.6s						
TEOL	**Teolo**	**89.46**	**43**	P	**P**	**16 07 26.1**	**-1.9**
TEOL				IAmb	IAmb	16 07 30.8	
	comp=Z,18nm,0.9s						
CKRC	**Cesky Krumlov**	**89.69**	**39**	*e*SKS	**SKSac**	**16 17 45.5**	**-6.5**
KBA	**Koelnbreinsper**	**89.83**	**41**	*e*P	**P**	**16 07 30.7**	**+0.8**
	comp=Z,2.8nm,0.7s						
KBA				*e*P	**pP**	**16 07 52.3**	**-0.7**
	comp=Z,5.5nm,1.3s						
CHVC	**Chvalec**	**89.95**	**37**	*e*P	**P**	**16 07 30.5**	**+0.3**
CHVC				*e*pP	**pP**	**16 07 53.2**	**-0.1**
CHVC				AMS	AMS	16 42 30.0	
	comp=Z,300nm,27.1s						
UPC	**Upice**	**89.96**	**37**	*e*P	**P**	**16 07 30.7**	**+0.5**
UPC				MLR	MLR		
	comp=Z,300nm,30.5s						
UPC	**Upice**	**89.96**	**37**	*e*P	**P**	**16 07 30.7**	**+0.5**
UPC				AMS	AMS	16 38 20.0	
	comp=Z,300nm,30.5s						
OSTC	**Ostas**	**90.06**	**37**	*e*P	**P**	**16 07 30.7**	**+0.1**
OSTC				*e*pP	**pP**	**16 07 53.8**	**0.0**
OSTC				AMS	AMS	16 42 30.0	
	comp=Z,300nm,25.1s						
MOA	**Molln**	**90.08**	**40**	*e*P	**P**	**16 07 30.7**	**-0.1**
	comp=Z,5.3nm,0.8s,SNR=5.3						
MOA				*e*P	**pP**	**16 07 53.3**	**-0.6**
	comp=Z,6.3nm,1.1s						
VSL	**Villasalto**	**90.11**	**49**	P	**P**	**16 07 31.2**	**+0.1**
TREC	**Trest**	**90.19**	**38**	AMS	AMS	16 42 00.0	
	comp=Z,200nm,21.3s						
MYKA	**Terra Mystica**	**90.20**	**41**	*e*P	pP	16 07 53.9	-0.7
	comp=Z,6.1nm,1.2s						
DPC	**Dobruska-Polom**	**90.21**	**37**	*e*P	**P**	**16 07 31.6**	**+0.2**
DPC				*e*		16 07 53.4	
DPC				*e*		16 17 51.0	
DPC				MLR	MLR		
	comp=Z,200nm,24.9s						
DPC	**Dobruska-Polom**	**90.21**	**37**	*e*P	**P**	**16 07 31.6**	**+0.2**
DPC				*e*pP	**pP**	**16 07 53.4**	**-1.1**
DPC				*e*SKS	**SKSac**	**16 17 51.0**	**-4.0**
DPC				AMS	AMS	16 38 30.0	
	comp=Z,200nm,24.9s						
KRLC	**Kraliky**	**90.60**	**37**	*e*SKS	**SKSac**	**16 18 03.5**	**+6.3**
KRLC				AMS	AMS	16 42 30.0	
	comp=Z,200nm,21.5s						
OBKA	**Obir**	**90.82**	**41**	*e*P	**P**	**16 07 34.5**	**+0.2**
	comp=Z,5.4nm,0.7s						
OBKA				*e*P	**pP**	**16 07 56.6**	**-0.9**
	comp=Z,10nm,1.2s						
KRUC	**Moravsky**	**90.83**	**38**	*e*P	**P**	**16 07 34.3**	**+0.1**
KRUC				*e*pP	**pP**	**16 07 56.6**	**-0.8**
VRAC	**Vranov**	**90.83**	**38**	LR	LR	16 47 38.3	
	comp=Z,98nm,20.0s,baz=290,slow=35						
VRAC	**Vranov**	**90.83**	**38**	*e*P	**P**	**16 07 34.7**	**+0.4**
VRAC				*e*pP	**pP**	**16 07 57.2**	**-0.2**
CONA	**Conrad Observa**	**91.01**	**39**	*e*P	**P**	**16 07 35.7**	**+0.4**
	comp=Z,2.6nm,0.7s						
CONA				*e*P	**pP**	**16 07 58.1**	**-0.2**
	comp=Z,6.1nm,0.9s						
SOKA	**Soboth**	**91.05**	**40**	*e*P	**P**	**16 07 35.3**	**-0.1**
	comp=Z,2.6nm,0.6s,SNR=5.1						
SOKA				*e*P	**pP**	**16 07 57.7**	**-0.9**
	comp=Z,8.3nm,1.3s						
ARSA	**Arzberg**	**91.10**	**40**	*e*P	**P**	**16 07 35.8**	**+0.2**
	comp=Z,3.5nm,0.8s						
ARSA				*e*P	**pP**	**16 07 58.1**	**-0.7**
	comp=Z,4.0nm,0.8s						
MORC	**Moravsky Berou**	**91.17**	**37**	⇑P	**P**	**16 07 36.8**	**+0.9**
MORC	**Moravsky Berou**	**91.17**	**37**	*e*P	**P**	**16 07 36.1**	**+0.2**
MORC				*e*pP	**pP**	**16 07 58.9**	**-0.1**
MORC	**Moravsky Berou**	**91.17**	**37**	⇑P	**P**	**16 07 36.8**	**+0.9**
KEST	**Kesra**	**91.47**	**52**	P	**P**	**16 07 37.2**	**-0.4**
	comp=Z,7.3nm,1.0s,baz=231,slow=5.5,SNR=5.9						
KEST				LR	LR	16 49 09.1	
	comp=Z,103nm,18.3s,baz=274,slow=36						
KEST	**Kesra**	**91.47**	**52**	P	**P**	**16 07 37.4**	**-0.2**
KEST				IAmb	IAmb	16 07 39.3	
	comp=Z,14nm,1.1s						
OKC	**Ostrava-Krasne**	**91.49**	**37**	AMS	AMS	16 40 50.0	
	comp=Z,200nm,28.0s						
MODS	**Modra-Piesok**	**91.66**	**38**	*e*P	**P**	**16 07 37.6**	**-0.5**
MODS	**Modra-Piesok**	**91.66**	**38**	*e*P	**P**	**16 07 37.6**	**-0.5**
OJC	**Ojcow**	**92.24**	**36**	*e*P	**P**	**16 07 40.8**	**0.0**
OJC				*e*pP	**pP**	**16 08 03.9**	**0.0**
OJC	**Ojcow**	**92.24**	**36**	P	**P**	**16 07 40.6**	**-0.2**
OJC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
OJC	**Ojcow**	**92.24**	**36**	P	**P**	**16 07 40.6**	**-0.2**
OJC				IAmb	IAmb	16 08 04.9	
	comp=Z,7.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**92.35**	**76**	P	**P**	**16 07 40.7**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=302,slow=5.7,SNR=12						
TORD				LR	LR	16 45 02.6	
	comp=Z,131nm,21.7s,baz=285,slow=33						
TORD	**Torodi Ar. Bea**	**92.35**	**76**	P	**P**	**16 07 40.6**	**-1.4**
CRVS	**Cervenica-Dubn**	**93.84**	**36**	*e*P	**P**	**16 07 49.7**	**+1.5**
CRVS	**Cervenica-Dubn**	**93.84**	**36**	*e*P	**P**	**16 07 49.7**	**+1.5**
YAK	**Yakutsk**	**94.20**	**341**	⇑*e*P	**P**	**16 07 50.8**	**+1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KOLS	**Kolonicke sedl**	**94.28**	**36**	*e*P	**P**	**16 07 50.7**	**+0.5**
KOLS	**Kolonicke sedl**	**94.28**	**36**	*e*P	**P**	**16 07 50.7**	**+0.5**
NRIK	**Noril'sk**	**94.33**	**359**	LR	LR	16 54 32.3	
	comp=Z,67nm,20.0s,baz=8.0,slow=38						
UZH	**Uzhgorod**	**94.45**	**36**	*e*P	**P**	**16 07 53.6**	**+2.7**
UZH				*e*		16 08 20.2	
SIRR	**Siria**	**95.29**	**39**	⇑P	**P**	**16 07 56.1**	**+1.2**
DIVS	**Divibare**	**95.34**	**41**		pP	16 08 18.4	0.0
BZS	**Buzias**	**95.59**	**39**	⇑P	**P**	**16 07 56.9**	**+0.7**
BZS	**Buzias**	**95.59**	**39**	⇑P	**P**	**16 07 56.9**	**+0.7**
DRGR		**95.64**	**38**	⇑P	**P**	**16 07 56.6**	**+0.1**
DRGR		**95.64**	**38**	⇑P	**P**	**16 07 56.6**	**+0.1**
MDVR	**Moldovita**	**96.07**	**40**	⇑P	**P**	**16 07 58.8**	**+0.3**
GZR	**Gura Zlata**	**96.41**	**39**	⇑P	**P**	**16 08 00.5**	**+0.5**
GZR	**Gura Zlata**	**96.41**	**39**	⇑P	**P**	**16 08 00.5**	**+0.5**
AKASG	**Malin Array Be**	**97.03**	**32**	P	**P**	**16 08 01.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=291,slow=4.3,SNR=2.1						
AKASG				LR	LR	16 50 20.0	
	comp=Z,90nm,22.0s,baz=310,slow=34						
PRAR	**RASCA**	**97.36**	**36**	⇑P	P	16 07 57.4	-6.8
OBN	**Obninsk**	**97.60**	**26**	LR	LR	16 53 15.3	
	comp=Z,30nm,20.0s,baz=355,slow=36						
OBN	**Obninsk**	**97.60**	**26**	*e*P	Pdif	16 08 05.7	+0.6
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FNA	**Florina**	**97.85**	**43**	P	Pdif	16 08 06.8	+0.1
FNA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FNA	**Florina**	**97.85**	**43**	P	Pdif	16 08 06.8	+0.1
FNA				IAmb	IAmb	16 08 08.3	
	comp=Z,5.4nm,0.8s						
MLR	**Muntele Rosu**	**98.24**	**38**	LR	LR	16 53 50.0	
	comp=Z,55nm,18.4s,baz=298,slow=36						
MLR	**Muntele Rosu**	**98.24**	**38**	⇓P	Pdif	16 08 09.0	+0.6
MLR	**Muntele Rosu**	**98.24**	**38**	⇓P	Pdif	16 08 09.0	+0.6
MLR	**Muntele Rosu**	**98.24**	**38**	P	**P**	**16 08 08.0**	**-0.4**
MLR				pP	**pP**	**16 08 30.8**	**-0.8**
DZM	**Mont Dzumac**	**103.99**	**251**	eLR	LR	16 42 49.0	
	comp=Z,317nm,25.9s						
KURK	**Kurchatov**	**112.78**	**5**		PKKPbc	16 23 53.6	-3.2
KURBB	**Kurchatov Arra**	**112.86**	**5**	PKKPbc	PKKPbc	16 23 53.6	-2.9
	comp=Z,0.9nm,1.0s,baz=196,slow=2.6,SNR=6.0						
SONM	**Songino Array**	**113.17**	**345**	PKKPbc	PKKPbc	16 23 53.5	-2.1
	comp=Z,1.0nm,0.9s,baz=201,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**116.90**	**2**	PKP	**PKPdf**	**16 13 15.2**	**0.0**
	comp=Z,0.5nm,0.8s,baz=45,slow=3.6,SNR=4.7						
MKAR				pPKP	pPKPdf	16 13 38.6	-0.6
	comp=Z,0.3nm,0.6s,baz=20,slow=3.9,SNR=3.1						
MKAR				PKKPbc	**PKKPbc**	**16 23 40.3**	**-2.4**
	comp=Z,1.0nm,1.0s,baz=122,slow=6.3,SNR=5.0						
HHC	**Hu-ho-hao-te**	**117.89**	**338**	*e*P	**PKPdf**	**16 13 16.5**	**-0.9**
WMQ	**Urumqi**	**119.89**	**358**	*e*P	**PKiKP**	**16 13 21.3**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,210nm,4.7s						
AAK	**Ala-Archa**	**120.28**	**9**	⇑*i*PKIKP	**PKiKP**	**16 13 22.9**	**+0.8**
NJ2	**Nanjing**	**121.92**	**326**	*e*P	**PKPdf**	**16 13 25.3**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA	**Gaotai**	**122.69**	**347**	⇑PKP	**PKiKP**	**16 13 27.0**	**+0.1**
GTA				sPKP		16 13 51.8	
GTA				L	L		
	comp=Z,110nm,19.3s						
GTA				L	L		
	comp=Z,110nm,17.4s						
GTA				L	L		
	comp=Z,140nm,17.5s						
KSH	**Kashi**	**123.56**	**9**	PKP	**PKPdf**	**16 13 27.3**	**-1.1**
BOSA	**Boshof**	**123.83**	**114**	PKP	**PKPdf**	**16 13 28.8**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=236,slow=2.0,SNR=5.1						
XAN	**Xi'an**	**124.87**	**336**	PKP	**PKPdf**	**16 13 30.3**	**-0.6**
STKA	**Stephens Creek**	**126.93**	**242**	PKP	**PKPdf**	**16 13 34.9**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=122,slow=3.8,SNR=15						
STKA	**Stephens Creek**	**126.93**	**242**	PKIKP	**PKiKP**	**16 13 35.3**	**0.0**
STKA	**Stephens Creek**	**126.93**	**242**	PKPdf	**PKiKP**	**16 13 35.3**	**0.0**
MAW	**Mawson**	**126.96**	**169**	PKP	**PKPdf**	**16 13 33.6**	**-0.1**
	comp=Z,5.7nm,0.9s,baz=234,slow=3.0,SNR=8.7						
MAW	**Mawson**	**126.96**	**169**	PKIKP	**PKiKP**	**16 13 34.1**	**-0.1**
MAW	**Mawson**	**126.96**	**169**	PKPdf	**PKiKP**	**16 13 34.1**	**-0.1**
CD2	**Chengdu**	**129.57**	**339**	PKP	**PKPdf**	**16 13 39.0**	**-1.0**
WR0	**Warramunga Arr**	**133.19**	**258**	PKPdf	**PKPdf**	**16 13 47.3**	**+0.3**
WRAB	**Tennant Creek**	**133.36**	**258**	⇓*e*PKIKP	**PKPdf**	**16 13 47.1**	**-0.2**
WRAB	**Tennant Creek**	**133.36**	**258**		**PKPdf**	**16 13 47.1**	**-0.2**
WRA	**Warramunga Arr**	**133.38**	**258**	PKhKP	PKPpre	16 13 40.4	
	comp=Z,0.4nm,0.7s,baz=91,slow=3.0,SNR=7.0						
WRA				PKP	**PKPdf**	**16 13 47.8**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=87,slow=2.8,SNR=58						
WRA	**Warramunga Arr**	**133.38**	**258**	PKIKP	**PKPdf**	**16 13 47.4**	**+0.1**
WRA	**Warramunga Arr**	**133.38**	**258**	PKPdf	**PKPdf**	**16 13 47.4**	**+0.1**
AS31	**Alice Springs**	**133.93**	**253**	PKPdf	**PKPdf**	**16 13 48.6**	**+0.2**
ASAR	**Alice Springs**	**133.93**	**253**	PKhKP	PKPpre	16 13 41.5	
	comp=Z,0.5nm,0.8s,baz=106,slow=3.6,SNR=4.1						
ASAR				PKP	**PKPdf**	**16 13 48.4**	**0.0**
	comp=Z,2.1nm,0.5s,baz=80,slow=2.1,SNR=32						
ASAR	**Alice Springs**	**133.93**	**253**	PKHKP	PKPpre	16 13 41.6	
ASAR						16 13 48.1	
ASAR	**Alice Springs**	**133.93**	**253**	PKPdf	**PKPdf**	**16 13 48.0**	**-0.3**
KMI	**Kunming**	**135.21**	**337**	⇓PKP	**PKPdf**	**16 13 51.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**141.46**	**262**	PKPdf	**PKPdf**	**16 14 02.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**142.69**	**338**	PKhKP	PKPpre	16 14 01.0	
	comp=Z,1.5nm,0.9s,baz=352,slow=2.8,SNR=8.1						
CMAR				PKP	**PKiKP**	**16 14 06.1**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=307,slow=0.9,SNR=7.8						
CMAR	**Chiang Mai Arr**	**142.69**	**338**	PKHKP	PKPpre	16 13 59.4	
CMAR	**Chiang Mai Arr**	**142.69**	**338**		PKPpre	16 13 59.4	
SRAK	**Srakaew**	**145.40**	**330**	PKP	**PKPab**	**16 14 10.0**	**+0.5**
HYB	**Hyderabad**	**145.61**	**11**	*i* PKP	**PKPdf**	**16 14 08.0**	**-1.7**
HYB				*ep*PKP	**pPKPdf**	**16 14 33.0**	**-0.7**
HYB				*es*PKP		16 14 43.5	
NWAO	**Narrogin (SRO)**	**146.85**	**235**	PKIKP	**PKPbc**	**16 14 12.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**146.85**	**235**		**PKPbc**	**16 14 12.9**	**-0.3**
PSA00	**Pilbara Seismi**	**146.96**	**256**		**PKPbc**	**16 14 13.8**	**-0.1**

*IDC **28** 16:16:19.9±1.4,27.76N×85.49E,h0km,mb3.5/6, mb1 3.6/8,mb1mx3.4/42,mbtmp3.5/8,ML3.6/2 Error ellipse: s-maj=55.2km s-min=19.3km az=59.0*

ISC 28 16:16:22.8±1.6,27.8N±0.2×85.5E±0.3,h18km,n8,σ0s48/8, mb3.7/6,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.49**	**124**	Pn	**Pn**	**16 20 01.1**	**+0.6**
	0.1nm,0.3s,baz=312,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**19.13**	**353**	P	**P**	**16 20 44.7**	**-0.2**
	0.1nm,0.3s,baz=171,slow=11,SNR=9.6						
KURBB	**Kurchatov Arra**	**23.40**	**349**	P	**P**	**16 21 30.4**	**-0.1**
	0.4nm,0.5s,baz=170,slow=10,SNR=4.6						
SONM	**Songino Array**	**25.81**	**34**	P	**P**	**16 21 52.9**	**-0.1**
	0.6nm,0.4s,baz=219,slow=11,SNR=4.3						
FINES	**FINESS Array B**	**51.42**	**328**	P	**P**	**16 25 26.8**	**+0.4**
	0.5nm,0.5s,baz=98,slow=10.0,SNR=6.5						
ARCES	**ARCESS Array B**	**53.83**	**338**	P	**P**	**16 25 44.5**	**+0.3**
	1.6nm,1.0s,baz=92,slow=5.4,SNR=8.0						
WRA	**Warramunga Arr**	**67.00**	**130**	P	**P**	**16 27 14.4**	**-0.5**
	0.3nm,0.4s,baz=324,slow=6.5,SNR=6.7						
ASAR	**Alice Springs**	**69.29**	**133**	P	**P**	**16 27 28.8**	**-0.5**
	0.3nm,0.6s,baz=317,slow=6.5,SNR=5.2						

IDC 28 16:28:20.4±6.3,21.13S×169.91E,h158km±35km,mb3.1/2, mb1 3.2/3,mb1mx3.0/27,mbtmp3.4/3,Error ellipse: s-maj=188.5km s-min=50.4km az=156.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.35**	**253**	P	Pn	16 29 13.0	+0.3
	0.8nm,0.3s,baz=110,slow=14,SNR=9.2						
DZM				S	Sn	16 29 53.4	+0.1
	2.9nm,0.3s,baz=144,slow=18,SNR=8.0						
WRA	**Warramunga Arr**	**33.29**	**266**	P	P	16 34 43.1	-0.2
	0.3nm,0.4s,baz=98,slow=8.4,SNR=7.3						
ASAR	**Alice Springs**	**33.33**	**259**	P	P	16 34 43.8	+0.2
	0.2nm,0.4s,baz=92,slow=8.6,SNR=8.1						
GERES	**GERESS Array B**	**146.44**	**331**	PKPbc	PKPdf	16 47 42.0	+0.6
	0.2nm,0.3s,baz=46,slow=4.2,SNR=4.6						

*IDC **28** 16:28:53.9±2.6,16.10S×174.80W,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.5/32,mbtmp3.9/4,ML4.1/1,MS3.9/1, Ms1 3.9/1,ms1mx2.8/45,Error ellipse: s-maj=186.6km s-min=29.7km az=149.0*

*NEIC **28** 16:29:02.9±1.3,16.20S±0.06×174.1W±0.2,h108km±22km, mb4.2/6,Error ellipse: s-maj=33.8km s-min=5.8km az=78.0*

ISC 28 16:29:01.6±0.9,16.1S±0.1×174.1W±0.1,h100km,n13, σ1s42/12,mb4.0/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.16**	**46**	Pn	**Pn**	**16 29 51.7**	**+2.1**
	16nm,0.3s,baz=225,slow=5.7,SNR=23						
AFI				Sn	**Sn**	**16 30 24.1**	**-2.5**
	68nm,0.3s,baz=46,slow=22,SNR=16						
AFI	**Afiamalu**	**3.16**	**46**		**Pn**	**16 29 51.0**	**+1.4**
NIUE	**Niue**	**4.96**	**127**	Pn	**Pn**	**16 30 14.2**	**+0.4**
URZ	**Urewera**	**23.36**	**198**	LR	LR	16 40 44.5	
	comp=Z,286nm,20.9s,baz=31,slow=31						
URZ	**Urewera**	**23.36**	**198**	P	**P**	**16 34 02.4**	**+1.2**
URZ				IAmb	IAmb	16 34 24.7	
	comp=Z,25nm,1.2s						
BHW	**Baring Head**	**26.93**	**198**	P	**P**	**16 34 34.6**	**+1.2**
STKA	**Stephens Creek**	**43.07**	**240**	P	**P**	**16 36 52.0**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=64,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**43.07**	**240**	IAmb	IAmb	16 36 55.8	
	comp=Z,1.3nm,1.4s						
WB0	**Warramunga Arr**	**48.96**	**258**	P	**P**	**16 37 38.2**	**0.0**
WB0				IAmb	IAmb	16 37 40.1	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**49.00**	**257**	P	**P**	**16 37 37.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=96,slow=6.8,SNR=6.4						
AS31	**Alice Springs**	**49.22**	**253**	P	**P**	**16 37 39.7**	**-0.5**
AS31				IAmb	IAmb	16 37 41.8	
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**49.22**	**252**	P	**P**	**16 37 39.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=87,slow=8.5,SNR=18						
PSA00	**Pilbara Seismi**	**62.33**	**254**	P	**P**	**16 39 12.8**	**-1.0**

*IDC **28** 16:37:24.4±1.0,67.09N×21.09E,h0km,mb1 2.7/4, mb1mx2.7/47,mbtmp2.7/4,ML1.9/3,Error ellipse: s-maj=16.3km s-min=7.7km az=115.0*

*HEL **28** 16:37:25.5,67.22N×20.81E,h0km,ML1.9,Explosion*

ISC 28 16:37:24.0±1.2,67.21N±0.02×20.51E±0.03,h2km±10km, n30,σ1s51/49,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.10**	**165**	*i* P	**Pg**	**16 37 26.2**

ML3.0/22, Error ellipse: s-maj=16.0km s-min=7.9km az=263.0

ISC 28 17:04:18.4±0.7, 44°00'N±0'08×128°23W±0'08, h10km, n51, σ1§89/45, mb4.0/15, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.05**	**110**	Pn	**Pn**	**17 05 04.7**	**-2.0**
KEBM				Sn	**Sn**	**17 05 43.1**	**-0.2**
KEBM				IAML		17 05 48.0	
	comp=E,50nm,0.9s						
KEBM				IAML		17 05 48.6	
	comp=N,47nm,2.2s						
KBO	**Bosley Butte**	**3.43**	**120**	Pn	**Pn**	**17 05 13.3**	**+1.3**
KBO				IAML		17 05 54.1	
	comp=E,44nm,2.6s						
KBO				IAML		17 06 56.6	
	comp=N,47nm,2.4s						
COR	**Corvallis**	**3.59**	**79**	Pn	**Pn**	**17 05 11.0**	**-3.0**
COR				Sn	**Sn**	**17 05 51.7**	**-4.7**
COR				IAML		17 06 07.1	
	comp=N,26nm,2.5s						
COR				IAML		17 06 51.5	
	comp=N,30nm,2.5s						
HUMO	**Hull Mountain**	**4.09**	**108**		**Pn**	**17 05 19.1**	**-1.9**
H04A	**Detroit Lake**	**4.39**	**79**		**Pn**	**17 05 26.5**	**+1.4**
H04A				IAML		17 06 23.4	
	comp=N,12nm,0.8s						
NLWA	**Neilton Lookou**	**4.57**	**40**	Pn	**Pn**	**17 05 28.1**	**+0.5**
YBH	**Yreka Blue Hor**	**4.64**	**117**	Pn	**Pn**	**17 05 30.6**	**+1.9**
	comp=N,0.1nm,0.3s,baz=283,slow=12,SNR=2.4						
YBH				LR	LR	17 06 29.9	
	comp=N,49nm,18.3s,baz=316,slow=28						
YBH	**Yreka Blue Hor**	**4.64**	**117**		**Pn**	**17 05 29.1**	**+0.4**
PINE	**Pine Mountain**	**5.27**	**90**		**Pn**	**17 05 38.4**	**+1.0**
PINE				IAML		17 06 39.7	
	comp=N,8.6nm,4.1s						
PINE				IAML		17 08 06.7	
	comp=E,11nm,3.3s						
LON	**Longmire**	**5.29**	**56**		**Pn**	**17 05 38.0**	**+0.5**
LON				IAML		17 06 22.3	
	comp=E,6.9nm,2.5s						
LON				IAML		17 06 36.8	
	comp=N,9.4nm,2.3s						
D05A	**Enumclaw**	**5.42**	**52**		**Pn**	**17 05 40.5**	**+1.4**
K05A	**Summer Lake**	**5.50**	**101**		**Pn**	**17 05 40.7**	**+0.2**
K05A				IAML		17 07 10.1	
	comp=E,8.5nm,4.2s						
LTY	**Liberty**	**6.22**	**56**		**Pn**	**17 05 52.5**	**+2.2**
I07A	**Izee**	**6.29**	**86**		**Pn**	**17 05 52.9**	**+1.6**
HOPS	**Hopland Field**	**6.32**	**140**	Pn	**Pn**	**17 05 52.1**	**+0.5**
HAWA	**Hanford**	**6.59**	**66**	Pn	**Pn**	**17 05 56.0**	**+0.6**
G08A	**Pilot Rock**	**6.74**	**76**		**Pn**	**17 05 58.0**	**+0.6**
B08A	**Colville Reser**	**7.56**	**52**	Pn	**Pn**	**17 06 09.5**	**+0.9**
BBB	**Bella Bella**	**8.19**	**1**	Pn	**Pn**	**17 06 19.8**	**+2.6**
	comp=E,0.3nm,0.3s,baz=172,slow=4.5,SNR=5.4						
BBB				LR	LR	17 08 55.2	
	comp=E,139nm,18.9s,baz=156,slow=34						
BBB	**Bella Bella**	**8.19**	**1**	Pn	**Pn**	**17 06 21.3**	**+4.1**
NEW	**Newport**	**8.81**	**57**	Pn	**Pn**	**17 06 27.8**	**+2.0**
	comp=E,0.1nm,0.3s,baz=260,slow=17,SNR=2.8						
NEW				LR	LR	17 09 50.8	
	comp=E,135nm,18.2s,baz=234,slow=37						
NEW	**Newport**	**8.81**	**57**	Pn	**Pn**	**17 06 28.4**	**+2.6**
NVAR	**Mina Array Bea**	**9.32**	**123**	Pn	**Pn**	**17 06 35.9**	**+3.0**
	comp=E,0.2nm,0.3s,baz=286,slow=14,SNR=5.6						
NVAR	**Mina Array Bea**	**9.32**	**123**	Pn	**Pn**	**17 06 34.9**	**+2.0**
ELK	**Elko**	**10.15**	**104**	Pn	Pn	17 06 49.6	+5.3
	comp=E,0.1nm,0.3s,baz=312,slow=14,SNR=4.1						
PDAR	**Pinedale Array**	**13.64**	**89**	Pn	**P**	**17 07 37.5**	**-3.5**
	comp=E,0.1nm,0.3s,baz=276,slow=11,SNR=4.1						
DLBC	**Dease Lake**	**14.50**	**356**	Pn	**Pn**	**17 07 44.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=180,slow=14,SNR=2.0						
DLBC				LR	LR	17 12 45.7	
	comp=E,98nm,19.2s,baz=118,slow=35						
DLBC	**Dease Lake**	**14.50**	**356**		**Pn**	**17 07 41.8**	**-1.9**
ANMO	**Albuquerque**	**19.04**	**111**	P	**Pn**	**17 08 43.9**	**+2.4**
	comp=E,0.1nm,0.3s,baz=286,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**20.16**	**18**	P	Pn	17 08 54.3	-0.2
	comp=E,4.5nm,0.8s,baz=206,slow=11,SNR=14						
ULM	**Lac du Bonnet**	**22.76**	**63**	P	**P**	**17 09 22.9**	**+2.2**
	comp=E,4.5nm,0.8s,baz=260,slow=9.4,SNR=4.7						
ILAR	**Eielson Array**	**23.30**	**340**	P	**P**	**17 09 26.4**	**+0.4**
	comp=E,0.5nm,0.7s,baz=147,slow=10.0,SNR=5.4						
ILAR				LR	LR	17 18 09.6	
	comp=E,48nm,18.0s,baz=22,slow=36						
TXAR	**Lajitas Array**	**24.42**	**119**	P	**P**	**17 09 39.1**	**+1.9**
	comp=E,0.5nm,0.8s,baz=309,slow=7.9,SNR=7.2						
RES	**Resolute Bay**	**34.15**	**15**	P	**P**	**17 11 04.5**	**+1.5**
	comp=E,1.3nm,0.7s,baz=201,slow=8.6,SNR=1.7						
SADO	**Sadowa**	**34.66**	**71**	P	**P**	**17 11 08.9**	**+1.0**
	comp=E,4.5nm,0.9s,baz=300,slow=14						
SADO				LR	LR	17 23 38.8	
	comp=E,39nm,19.1s,baz=325,slow=33						
SEY	**Seymchan**	**47.44**	**322**	P	**P**	**17 12 51.3**	**-1.4**
	comp=E,1.1nm,0.8s,baz=36,slow=22,SNR=3.5						
PETK	**Petropavlovsk-**	**47.80**	**309**	P	**P**	**17 12 54.2**	**-1.5**
	comp=E,2.3nm,0.8s,baz=86,slow=11,SNR=5.6						
TIXI	**Tiksi**	**52.73**	**337**	P	**P**	**17 13 31.2**	**-1.6**
	comp=E,1.1nm,0.3s,baz=78,slow=1.0,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**58.60**	**268**	T	T	18 17 23.2	
	baz=49,slow=75,SNR=300						
H11N2	**WAKE ISLAND Hy**	**58.60**	**268**	T	T	18 17 19.7	
	baz=49,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**58.62**	**268**	T	T	18 17 20.9	
	baz=49,slow=75,SNR=89						
H11S1	**WAKE ISLAND Hy**	**59.53**	**267**	T	T	18 18 30.8	
	baz=50,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**59.54**	**267**	T	T	18 18 28.5	
	baz=50,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hy**	**59.55**	**267**	T	T	18 18 32.7	
	baz=50,slow=75,SNR=30						
FINES	**FINESS Array B**	**72.87**	**13**	P	**P**	**17 15 46.4**	**-0.6**
	comp=E,0.9nm,0.8s,baz=3.8,slow=8.4,SNR=2.1						
PTGA	**Pitinga**	**75.02**	**106**	P	**P**	**17 16 00.6**	**+0.3**
	comp=E,1.3nm,0.5s,baz=315,slow=20,SNR=2.4						
SONM	**Songino Array**	**76.70**	**326**	P	**P**	**17 16 09.5**	**-0.1**
	comp=E,1.2nm,0.7s,baz=64,slow=3.4,SNR=6.0						
LPAZ	**La Paz**	**81.22**	**123**	P	**P**	**17 16 35.7**	**+0.4**
	comp=E,0.8nm,0.7s,baz=356,slow=6.1,SNR=3.5						
GERES	**GERESS Array B**	**81.70**	**24**	P	**P**	**17 16 37.6**	**+0.7**
	comp=E,0.1nm,0.3s,baz=7.8,slow=7.9,SNR=1.4						
ESDC	**Sonseca Array**	**82.73**	**40**	P	**P**	**17 16 43.2**	**+0.8**
	comp=E,0.4nm,0.8s,baz=330,slow=4.9,SNR=2.9						
KURBB	**Kurchatov Array**	**82.93**	**343**	P	**P**	**17 16 42.4**	**-0.8**
	comp=E,0.9nm,0.7s,baz=20,slow=4.6,SNR=4.4						

*IDC **28** 17:19:43.2±1.8, 57°.43S×147°.57E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/18, mbtmp3.9/5, MS3.6/1, Ms1 3.6/1, ms1mx3.2/16, Error ellipse: s-maj=141.6km s-min=20.0km az=79.0*

ISC 28 17:19:44.9±1.9, 57°.4S±0°.3×14°7E±°, h10km, n15, σ1§15/7, mb4.0/4, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**20.79**	**171**	P	**P**	**17 24 24.7**	**-1.0**
	1.5nm,0.9s,baz=333,slow=10,SNR=6.1						
VNDA				LR	LR	17 32 06.8	
	comp=Z,143nm,18.2s,baz=282,slow=36						
STKA	**Stephens Creek**	**25.86**	**349**	P	**P**	**17 25 16.1**	**-0.4**
	2.2nm,0.7s,baz=153,slow=10,SNR=6.0						
H01W1	**Cape Leeuwin H**	**31.65**	**301**	T	T	17 59 46.9	
	baz=145,slow=75,SNR=64						
H01W2	**Cape Leeuwin H**	**31.65**	**301**	T	T	17 59 46.4	
	baz=145,slow=75,SNR=59						
H01W3	**Cape Leeuwin H**	**31.66**	**301**	T	T	17 59 46.6	
	baz=145,slow=75,SNR=53						
QSPA	**South Pole Qui**	**32.86**	**180**	P	**P**	**17 26 17.9**	**+1.0**
	3.0nm,1.1s,baz=2.1,slow=5.7,SNR=3.7						
ASAR	**Alice Springs**	**35.10**	**338**	P	**P**	**17 26 39.0**	**+0.7**
	1.1nm,0.6s,baz=162,slow=9.1,SNR=24						
WRA	**Warramunga Arr**	**38.65**	**340**	P	**P**	**17 27 08.8**	**+0.4**
	2.4nm,0.7s,baz=166,slow=7.5,SNR=22						
H08S2	**Diego Garcia H**	**75.41**	**279**	T	T	18 54 35.1	
	baz=147,slow=76,SNR=36						
H08S1	**Diego Garcia H**	**75.42**	**279**	T	T	18 54 34.2	
	baz=147,slow=76,SNR=50						
H08S3	**Diego Garcia H**	**75.43**	**279**	T	T	18 54 36.5	
	baz=147,slow=76,SNR=51						
H03S1	**Juan Fernandez**	**81.10**	**143**	T	T	19 01 44.0	
	baz=201,slow=74,SNR=6.8						
H03S2	**Juan Fernandez**	**81.10**	**143**	T	T	19 01 46.9	
	baz=201,slow=74,SNR=8.0						
H03S3	**Juan Fernandez**	**81.11**	**143**	T	T	19 01 44.9	
	baz=201,slow=74,SNR=7.0						

FINES	**FINESS Array B**	**150.73**	**303**	PKPbc	**PKPbc**	**17 39 36.0**	**+0.3**
	1.4nm,0.9s,baz=177,slow=3.6,SNR=4.4						
FINES				PKPab	**PKPab**	**17 39 41.4**	**-1.5**
	1.0nm,0.8s,baz=29,slow=3.2,SNR=5.2						

NNC 28 17:34:54.8±13.0, 36°.96N×70°.25E, h0km, mb4.0, mpv3.7, 4C-2D, Error ellipse: s-maj=102.2km s-min=80.8km az=174.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.14**	**2**	⇑P	Pn	17 36 28.0	+1.2
	0.5nm,0.2s,baz=176,slow=13,SNR=66						
KK31				⇓S	Sn	17 37 40.4	+2.7
	2.5nm,0.6s,baz=187,slow=29						
AAK	**Ala-Archa**	**6.54**	**29**	⇑P	Pn	17 36 32.7	+0.3
	1.3nm,0.2s						
AAK				⇓S	Sn	17 37 50.0	+2.1
	1.1nm,0.3s						
TKM2	**Tokmak 2**	**7.23**	**33**	⇑P	Pn	17 36 41.4	-0.6
	8.1nm,0.5s						
TKM2				⇑S	Sn	17 38 01.8	-3.0
	0.5nm,0.5s						

*NEIC **28** 17:42:33.6±0.6, 32°.38S±0°.06×177°.2W±0°.2, h10km±2km, mb4.1/5, Error ellipse: s-maj=32.5km s-min=7.1km az=101.0*
*IDC **28** 17:42:37.8±1.8, 32°.16S×178°.19W, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.7/21, mbtmp4.0/4, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=45.7km s-min=24.9km az=110.0*

ISC 28 17:42:37.9±1.6, 32°.3S±0°.1×178°.0W±0°.3, h10km, n15, σ1§15/16, mb4.1/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.00**	**2**	Pn	**Pn**	**17 43 24.2**	**-1.2**
	61nm,0.3s,baz=68,slow=19,SNR=5.2						
RAO				Sn	**Sn**	**17 44 02.8**	**+1.4**
	90nm,0.3s,baz=264,slow=22,SNR=2.1						
URZ	**Urewera**	**7.19**	**212**	Pn	**Pn**	**17 44 22.3**	**-0.6**
	0.7nm,0.3s,baz=121,slow=23,SNR=9.4						
URZ				Sn	**Sn**	**17 45 43.9**	**-0.7**
	3.2nm,0.3s,baz=121,slow=24,SNR=93						
BKZ	**Black Stump Fm**	**8.21**	**211**	Pn	**Pn**	**17 44 37.7**	**+0.7**
MSVF	**Nonsavu**	**14.89**	**345**	LR	LR	17 50 23.7	
	comp=Z,177nm,19.5s,baz=136,slow=32						
AS31	**Alice Springs**	**43.01**	**269**	P	**P**	**17 50 38.9**	**+1.2**
AS31				IAmb	IAmb	17 50 43.7	
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**43.01**	**269**	P	**P**	**17 50 38.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=106,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**43.01**	**269**	P	**P**	**17 50 37.1**	**-0.7**
WR0	**Warramunga Arr**	**43.99**	**274**	P	**P**	**17 50 46.3**	**+0.6**
WR0				IAmb	IAmb	17 50 57.7	
	comp=Z,6.2nm,1.4s						
WB2	**Warramunga Arr**	**44.16**	**274**	P	**P**	**17 50 47.4**	**+0.4**
WB2				IAmb	IAmb	17 51 04.9	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**44.17**	**274**	P	**P**	**17 50 47.5**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=114,slow=7.7,SNR=33						
WRA	**Warramunga Arr**	**44.17**	**274**	P	**P**	**17 50 47.5**	**+0.4**
WB0	**Warramunga Arr**	**44.20**	**274**	P	**P**	**17 50 47.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.35**	**271**	P	**P**	**17 51 50.5**	**+0.3**
FINES	**FINESS Array B**	**146.87**	**339**	PKPbc	**PKiKP**	**18 02 20.2**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=27,slow=2.1,SNR=9.2						
TORD	**Torodi Ar. Bea**	**160.98**	**179**	PKPab	**PKPab**	**18 03 23.7**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=174,slow=3.2,SNR=2.0						

IDC 28 18:14:19.5±2.7, 2°.85N×128°.61E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, Error ellipse: s-maj=191.4km s-min=28.8km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.33**	**166**	P	P	18 19 29.9	+0.4
	0.3nm,0.3s,baz=345,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**26.85**	**169**	P	P	18 20 01.0	-1.0
	0.1nm,0.5s,baz=359,slow=7.4,SNR=1.7						
MKAR	**Makanchi Array**	**59.35**	**325**	P	P	18 24 24.0	+0.4
	0.1nm,0.4s,baz=126,slow=7.9,SNR=1.6						

WEL 28 18:17:21.0, 44°S±7°×16°8E±1°5, h36km±13km, M3.6/23, mB4.9/2, ML3.6/23, MLv3.6/23, Mw(mB)4.2/2, Error ellipse: s-maj=0.0km s-min=0.0km az=82.2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.40**	**139**	P	Pn	18 17 31.0	+0.9
JCZ				S	Sn	18 17 38.6	+1.7
MSZ	**Milford Sound**	**0.97**	**202**	P	Pn	18 17 36.9	-1.1
MSZ				S	Sn	18 17 48.5	-1.9
FOZ	**Fox Glacier**	**1.04**	**77**	P	Pn	18 17 39.3	+0.3
FOZ				S	Sn	18 17 52.3	0.0
WKZ	**Wanaka**	**1.14**	**158**	P	Pn	18 17 42.1	+1.7
WKZ				S	Sn	18 17 57.4	+2.7
LBZ	**Lake Benmore**	**1.41**	**116**	P	Pn	18 17 46.7	+2.6
GCSZ	**Gaunt Creek Bo**	**1.46**	**72**	P	Pn	18 17 44.6	-0.2
EAZ	**Earnscleugh**	**1.59**	**157**	P	Pn	18 17 48.2	+1.6
MLZ	**Mavora Lakes**	**1.61**	**188**	P	Pn	18 17 48.1	+1.2
WVZ	**Waitaha Valley**	**1.83**	**68**	P	Pn	18 17 49.4	-0.4
TMZ	**Timaru**	**1.96**	**109**	P	Pn	18 17 53.8	+2.1
ARCZ	**Arundel**	**2.00**	**96**	P	Pn	18 17 53.9	+1.6
ODZ	**Otahua Downs**	**2.04**	**129**	P	Pn	18 17 54.8	+2.1
WHZ	**Wether Hill Ro**	**2.14**	**189**	P	Pn	18 17 55.0	+0.8
WHZ				P	Sn	18 18 20.9	+1.3
MHCZ	**Mount Hutt**	**2.29**	**85**	P	Pn	18 17 57.5	+1.2
TUZ	**Tuapeka**	**2.34**	**159**	P	Pn	18 18 00.1	+3.2
INZ	**Inchbonnie**	**2.44**	**66**	P	Pn	18 17 57.9	-0.4
INZ				S	Sn	18 18 25.1	-1.9
WACZ	**Wakanui South**	**2.48**	**95**	P	Pn	18 18 00.2	+1.4
LTZ	**Lake Taylor**	**2.98**	**72**	P	Pn	18 18 03.9	-1.9
MQZ	**McQueen's Vall**	**3.07**	**90**	P	Pn	18 18 07.0	+0.1
DSZ	**Denniston Nort**	**3.21**	**52**	P	Pn	18 18 08.0	-1.0
THZ	**Tophouse**	**3.87**	**60**	P	Pn	18 18 18.1	+0.1
KHZ	**Kahutara**	**3.98**	**72**	P	Pn	18 18 20.4	+1.0
QRZ	**Quartz Range**	**4.24**	**47**	P	Pn	18 18 21.7	-1.3
NNZ	**Nelson**	**4.47**	**57**	P	Pn	18 18 26.1	-0.1
TUWZ	**Tuamarina**	**4.70**	**62**	P	Pn	18 18 30.2	+0.9
TCW	**Tory Channel**	**5.03**	**61**	P	Pn	18 18 34.0	+0.1
DUWZ	**D'Urville Isla**	**5.05**	**56**	P	Pn	18 18 34.5	+0.4
KHEZ	**Kahui Hut**	**6.13**	**45**	P	Pn	18 18 48.3	-0.9
NEZ	**North Egmont**	**6.19**	**45**	P	Pn	18 18 49.3	-0.7
PKVZ	**Pokaka**	**6.86**	**52**	P	Pn	18 18 59.3	+0.3
WCZ	**Waipu Caves**	**9.05**	**32**	P	Pn	18 19 27.6	-1.5
PKGZ	**Pakihiroa**	**9.38**	**54**	P	Pn	18 19 33.9	+0.3

IDC 28 18:52:41.8±4.6, 20°.71S×168°.21E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/38, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=125.2km s-min=44.0km az=131.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.13**	**230**	Pn	Pn	18 53 19.2	+0.4
	3.3nm,0.3s,baz=109,slow=19,SNR=19						
DZM				Sn	Sg	18 53 53.0	+2.6
	6.0nm,0.3s,baz=58,slow=21,SNR=5.8						
WRA	**Warramunga Arr**	**31.74**	**265**	P	P	18 59 07.8	0.0
	0.3nm,0.4s,baz=97,slow=8.4,SNR=6.2						
ASAR	**Alice Springs**	**31.86**	**258**	P	P	18 59 08.6	-0.3
	0.6nm,0.8s,baz=89,slow=10,SNR=8.4						
GERES	**GERESS Array B**	**145.30**	**330**	PKPbc	PKPbc	19 12 20.7	-0.7
	0.1nm,0.3s,baz=7.6,slow=3.0,SNR=2.4						

*KRSC **28** 19:07:28.3±1.8, 49°.21N×156°.41E, h16km±23km, ML4.1*
*SKHL **28** 19:07:28.9±0.6, 49°.00N×155°.80E, h52km±3km, mb4.2/4*

ISC 28 19:07:26.9±1.6, 49°.2N±0°.1×155°.7E±0°.2, h10km, n31, σ1§86/44, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.55**	**9**	*e*P	**Pn**	**19 07 54.5**	**0.0**
SKR				*e*S	**Sn**	**19 08 13.4**	**-1.2**
SKR	**Severo-Kuril's**	**1.55**	**9**	*e*P	**Pn**	**19 07 54.6**	**0.0**
SKR				AMB	AMB	19 07 56.7	
	50nm,0.3s						
SKR				*e*S	**Sn**	**19 08 13.0**	**-1.2**
SKR				A	A	19 08 18.8	
	190nm,0.3s						
SKR				A	A	19 08 18.8	
	340nm,0.3s						
ALID	**Alaid**	**1.71**	**356**	*e*P	**Pb**	**19 07 57.8**	**-0.8**
PAU	**Pauzhetka**	**2.41**	**16**	*e*P	**Pn**	**19 08 08.1**	**+1.7**
PAU				*e*S	**Sn**	**19 08 36.8**	**+0.8**
PAU	**Pauzhetka**	**2.41**	**16**	*e*P	**Pn**	**19 08 07.2**	**+0.8**
PAU				AMB	AMB	19 08 08.7	
	60nm,0.3s						
PAU				*e*S	**Sn**	**19 08 36.4**	**+0.4**
PAU				A	A	19 08 38.2	
	380nm,0.5s						
PAU				A	A	19 08 38.2	
	410nm,0.5s						
KDTR	**Khodutka, Kamc**	**3.05**	**29**	*e*P	**Pn**	**19 08 15.3**	**+0.1**
KDTR				*e*S	**Sn**	**19 08 49.6**	**-2.1**
MIPR	**Malaya Ipel'ka**	**3.19**	**12**	*e*P	**Pn**	**19 08 18.1**	**+1.0**
MTVR	**Mutnovka**	**3.68**	**24**	*e*P	**Pn**	**19 08 25.8**	**+1.9**
MTVR				*e*S	**Sn**	**19 09 07.7**	**+0.3**
GRL	**Gorelyy**	**3.71**	**23**	*e*P	**Pn**	**19 08 25.7**	**+1.3**
RUS	**Russkaya**	**3.73**	**27**	*e*P	**Pn**	**19 08 24.9**	**+0.4**
RUS				*e*S	**Sn**	**19 09 06.8**	**-1.5**
APC	**Apacha**	**3.88**	**13**	*e*P	**Pn**	**19 08 29.0**	**+2.5**
KRMR	**Karymshinskiy**	**3.98**	**22**	*e*P	**Pn**	**19 08 29.4**	**+1.5**
KRMR				*e*S	**Sn**	**19 09 13.2**	**-1.4**
PET	**Petropavlovsk**	**4.29**	**24**	*e*P	**Pn**	**19 08 33.8**	**+1.6**
PET				*e*S	**Sn**	**19 09 21.6**	**-0.6**
PET	**Petropavlovsk**	**4.29**	**24**	*e*P	**Pn**	**19 08 34.2**	**+2.0**
PET				AMB	AMB	19 08 35.1	
	20nm,0.5s						
PET				*e*S	**Sn**	**19 09 20.7**	**-1.5**
PET				A	A	19 09 36.5	
	60nm,0.5s						
PET				A	A	19 09 36.5	
	90nm,0.5s						
DALK	**Dalny**	**4.32**	**25**	*e*P	**Pn**	**19 08 34.4**	**+1.8**
DALK				*e*S	**Sn**	**19 09 22.5**	**-0.5**
UGLR	**Uglovaya**	**4.50**	**25**	*e*P	**Pn**	**19 08 37.4**	**+2.2**
KOK	**Koryaka**	**4.53**	**23**	*e*P	**Pn**	**19 08 38.8**	**+3.3**
AVH	**Avacha**	**4.53**	**24**	*e*P	**Pn**	**19 08 38.6**	**+3.0**
SMAR	**Somma**	**4.54**	**24**	*e*P	**Pn**	**19 08 38.4**	**+2.5**
KRER	**Koryakskii**	**4.56**	**23**	*e*P	**Pn**	**19 08 38.9**	**+2.7**
SDLR	**Sedlovina**	**4.58**	**25**	*e*P	**Pn**	**19 08 38.1**	**+1.8**
KRX	**Arik**	**4.59**	**23**	*e*P	**Pn**	**19 08 39.5**	**+3.0**
NLC	**Nalytchevo**	**4.62**	**28**	*e*P	**Pn**	**19 08 37.5**	**+0.8**
GNL	**Ganaly**	**4.75**	**16**	*e*P	**Pn**	**19 08 42.1**	**+3.5**
SPN	**Mys Shipunski**	**4.78**	**33**	*e*P	**Pn**	**19 08 39.9**	**+0.9**
SPN				*e*S	**Sn**	**19 09 31.7**	**-2.7**
KII	**Karymskiy**	**5.41**	**24**	*e*P	**Pn**	**19 08 49.5**	**+1.9**
KZV	**Kizimen**	**6.59**	**24**	*e*P	**Pn**	**19 09 05.9**	**+1.9**
KUR	**Kuril'sk**	**6.63**	**237**	*e*P	**Pn**	**19 09 05.4**	**+1.0**
KUR				AMB	AMB	19 09 10.0	
	10.0nm,0.5s						
KUR				*e*S	**Sn**	**19 10 17.1**	**-2.9**
KUR				A	A	19 10 29.0	
	10.0nm,0.5s						
KUR				A	A	19 10 29.0	
	10.0nm,0.5s						
TUMR	**Tumrok**	**6.71**	**22**	*e*P	**Pn**	**19 09 07.7**	**+2.2**
KMNR	**Kamenistaya**	**7.16**	**21**	*e*P	**Pn**	**19 09 13.8**	**+2.1**
NMR	**Nemuro--Hokkai**	**9.02**	**234**	*e*P	**Pn**	**19 09 36.2**	**-0.9**

*TEH **28** 19:38:51.0, 28°.28N×57°.54E, h12km, ML3.1*
*OMAN **28** 19:38:54.1±0.8, 27°.90N×57°.98E, h10km, ml3.3/7, Error ellipse: s-maj=10.7km s-min=8.6km az=2.0*

ISC 28 19:38:50.4±1.1, 28°.19N±0°.04×57°.80E±0°.06, h10km, n28, σ1§72/39, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.25**	**200**	*e*Pg	**Pb**	**19 38 58.1**	**+1.0**
KBAM	**BAM**	**1.10**	**31**	*e*Pg	**Pn**	**19 39 13.6**	**+1.5**
IBND	**Bandar-abas**	**1.34**	**237**	*e*Pg	**Pn**	**19 39 14.7**	**-0.5**
IBND				*e*		19 39 44.7	
	comp=Z,7μm,0.5s						
GENO	**Geno**	**1.64**	**242**	*e*Pg	**Pn**	**19 39 18.6**	**-0.9**
CHMN	**Cheshme madani**	**1.68**	**352**	*e*Pg	**Pn**	**19 39 20.3**	**0.0**
CHMN				*e*		19 39 55.4	
	comp=Z,1μm,0.5s						
NGRK	**Negar Kerman**	**1.73**	**327**	*e*Pn	**Pn**	**19 39 19.4**	**-1.5**
NGRK				*e*		19 39 55.5	
	comp=Z,3μm,0.3s			

*IDC **28** 20:18:39.2±2.6,23.˚58N×142.˚44E,h57km±24km,mb3.6/11, mb1 3.7/14,mb1mx3.4/52,mbtmp3.8/14,ML3.6/3,MS3.1/1, Ms1 3.1/1,ms1mx2.4/34,Error ellipse: s-maj=39.6km s-min=13.9km az=86.0*

ISC 28 20:18:38.0±0.7,23.˚57N±0.˚07×142.˚7E±0.˚2,h50km,n34, σ1°13/29,mb4.0/16,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.53**	**353**	P	**Pn**		**20 19 32.9**	**+2.5**
	20nm,0.3s,baz=204,slow=20,SNR=14							
JCJ				S	**Sn**		**20 20 11.4**	**+0.5**
	38nm,0.3s,baz=133,slow=23,SNR=6.3							
JHJ2	**Mitsune**	**9.82**	**346**	Pn	**Pn**		**20 20 55.4**	**-1.2**
MJAR	**Matsushiro Arr**	**13.48**	**344**	P	**Pn**		**20 21 45.4**	**-1.2**
	0.1nm,0.3s,baz=158,slow=10.0,SNR=2.4							
JNU	**Nakatsue**	**14.06**	**315**		**Pn**		**20 21 56.6**	**+2.1**
JHS	**Saijyo**	**14.09**	**326**	P	**P**		**20 22 02.1**	**+0.8**
JMM	**Marumori**	**14.34**	**354**	Pn	**Pn**		**20 21 56.8**	**-1.3**
KSRS	**Korea Array**	**18.74**	**321**	P	**P**		**20 22 52.0**	**-0.7**
	0.3nm,0.3s,baz=139,slow=12,SNR=2.3							
KSRS				LR	LR		20 29 18.1	
	comp=Z,51nm,19.2s,baz=190,slow=34							
INCN	**Inchon**	**19.52**	**319**	P	**P**		**20 23 00.0**	**-1.2**
JKA	**Kamikawa-asahi**	**20.49**	**360**	P	**P**		**20 23 09.0**	**-2.8**
JKA				IAmb	IAmb		20 23 22.0	
	comp=Z,24nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**22.85**	**95**	T	T		20 48 16.6	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**22.85**	**95**	T	T		20 48 13.6	
	baz=283,slow=74							
H11N3	**WAKE ISLAND Hy**	**22.87**	**95**	T	T		20 48 08.6	
	baz=283,slow=74							
H11S3	**WAKE ISLAND Hy**	**22.99**	**98**	T	T		20 49 32.0	
	baz=289							
H11S1	**WAKE ISLAND Hy**	**23.00**	**98**	T	T		20 49 17.5	
	baz=289							
H11S2	**WAKE ISLAND Hy**	**23.00**	**98**	T	T		20 49 18.8	
	baz=289							
KLR	**Kul'dur**	**27.01**	**344**	P	**P**		**20 24 15.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=178,slow=9.8,SNR=4.2							
SONM	**Songino Array**	**37.59**	**319**	P	**P**		**20 25 47.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=131,slow=5.5,SNR=1.9							
SEY	**Seymchan**	**39.89**	**7**	P	**P**		**20 26 08.7**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=211,slow=18,SNR=1.8							
CTAO	**Charters Tower**	**43.54**	**175**	P	**P**		**20 26 36.7**	**-0.3**
WB0	**Warramunga Arr**	**43.82**	**191**	P	**P**		**20 26 39.7**	**+0.3**
WB0				IAmb	IAmb		20 26 41.7	
	comp=Z,3.6nm,1.1s							
WR0	**Warramunga Arr**	**43.98**	**191**	P	**P**		**20 26 40.7**	**+0.1**
WR0				IAmb	IAmb		20 26 57.5	
	comp=Z,8.4nm,1.5s							
WRAB	**Tennant Creek**	**43.99**	**191**	P	**P**		**20 26 40.9**	**+0.2**
WRAB				IAmb	IAmb		20 26 47.1	
	comp=Z,11nm,1.2s							
WB2	**Warramunga Arr**	**44.00**	**191**	P	**P**		**20 26 41.0**	**+0.3**
WB2				IAmb	IAmb		20 26 43.3	
	comp=Z,4.2nm,1.1s							
WRA	**Warramunga Arr**	**44.00**	**191**	P	**P**		**20 26 41.0**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=18,slow=8.7,SNR=47							
WRA	**Warramunga Arr**	**44.00**	**191**	P	**P**		**20 26 40.5**	**-0.3**
AS31	**Alice Springs**	**47.72**	**191**	P	**P**		**20 27 10.4**	**+0.4**
AS31				IAmb	IAmb		20 27 17.9	
	comp=Z,1.1nm,1.2s							
ASAR	**Alice Springs**	**47.72**	**191**	P	**P**		**20 27 10.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=15,slow=7.0,SNR=7.7							
ASAR	**Alice Springs**	**47.72**	**191**	P	**P**		**20 27 09.9**	**-0.2**
MKAR	**Makanchi Array**	**53.08**	**312**	P	**P**		**20 27 49.9**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=88,slow=9.2,SNR=7.1							
STKA	**Stephens Creek**	**55.15**	**181**	P	**P**		**20 28 05.5**	**0.0**
	comp=Z,1.0nm,0.4s,baz=17,slow=8.2,SNR=9.7							
ILAR	**Eielson Array**	**60.61**	**28**	P	**P**		**20 28 44.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=274,slow=5.7,SNR=2.7							
ARCES	**ARCESS Array B**	**76.99**	**341**	P	**P**		**20 30 24.4**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=70,slow=7.1,SNR=6.3							
KBZ	**Khabaz**	**80.72**	**314**	P	**P**		**20 30 46.9**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=86,slow=6.0,SNR=3.7							
FINES	**FINESS Array B**	**81.28**	**334**	P	**P**		**20 30 48.2**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=67,slow=5.3,SNR=12							

*ATH **28** 20:36:49.6,36.˚55N×24.˚13E,h101km±3km,ML3.3/19, Error ellipse: s-maj=3.6km s-min=1.7km az=329.0*
*IDC **28** 20:36:52.0±1.2,36.˚54N×24.˚40E,h101km±20km,mb3.3/6, mb1 3.4/10,mb1mx3.1/51,mbtmp3.7/10,Error ellipse: s-maj=23.9km s-min=17.5km az=17.0*
*THE **28** 20:36:54.0,36.˚54N×24.˚18E,h92km±3km,ML3.2/9,Error ellipse: s-maj=3.2km s-min=0.6km az=212.0*
*HLW **28** 20:36:57.8,36.˚05N×24.˚91E,h25km±23km,Md4.3,Ml4.0*

ISC 28 20:36:51.2±0.7,36.˚55N±0.˚04×24.˚20E±0.˚04,h107km±7km, n110,σ2°01/124,mb3.4/6,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.21**	**50**	P	**Pn**		**20 37 07.1**	**+0.8**
MHLO	**Agia Marina, M**	**0.21**	**50**	P	**Pn**		**20 37 07.2**	**+0.9**
MHLO				S	**Sn**		**20 37 17.4**	**-0.3**
MHLO				AML	AML		20 37 18.9	
	comp=N,6415μm,0.6s							
MHLO				AML	AML		20 37 19.6	
	comp=E,3751μm,0.6s							
SAP3	**Santorini-Thir**	**0.93**	**97**	P	**Pn**		**20 37 13.1**	**+1.6**
THR5	**Thira Island,**	**0.94**	**98**	P	**Pn**		**20 37 13.1**	**+1.6**
MNVA	**Monemvasia**	**0.94**	**279**	P	**Pn**		**20 37 13.1**	**+1.5**
MNVA				S	**Sn**		**20 37 26.2**	**-0.7**
MNVA				AML	AML		20 37 27.0	
	comp=N,2250μm,0.2s							
MNVA				AML	AML		20 37 28.0	
	comp=E,1743μm,0.3s							
THR9	**Santorini-Faro**	**0.95**	**101**	P	**Pn**		**20 37 13.5**	**+1.8**
KTHA	**Kythira Island**	**0.96**	**253**	P	**Pn**		**20 37 13.4**	**+1.6**
KTHA				S	**Sn**		**20 37 27.4**	**+0.1**
	comp=E,3μm,0.4s							
KTHA	**Kythira Island**	**0.96**	**253**	P	**Pn**		**20 37 13.3**	**+1.6**
KTHA				AML	AML		20 37 28.3	
	comp=N,4893μm,0.3s							
KTHA				AML	AML		20 37 28.6	
	comp=E,7732μm,0.5s							
CMBO	**Columbo, Santo**	**0.98**	**94**	P	**Pn**		**20 37 13.8**	**+1.9**
CMBO	**Columbo, Santo**	**0.98**	**94**	P	**Pn**		**20 37 13.7**	**+1.8**
SNT5	**Nea Kammeni, S**	**0.98**	**98**	P	**Pn**		**20 37 13.7**	**+1.7**
SNT5	**Nea Kammeni, S**	**0.98**	**98**	P	**Pn**		**20 37 13.6**	**+1.7**
THR3	**Thira Island,**	**0.98**	**98**	P	**Pn**		**20 37 13.7**	**+1.7**
THR6	**Thira Island,**	**0.99**	**101**	P	**Pn**		**20 37 13.8**	**+1.8**
YDRA	**Hydra**	**0.99**	**324**	P	**Pn**		**20 37 13.5**	**+1.5**
YDRA				S	**Sn**		**20 37 28.0**	**+0.2**
YDRA				AML	AML		20 37 28.5	
	comp=N,2994μm,0.5s							
YDRA				AML	AML		20 37 28.9	
	comp=E,2897μm,0.4s							
ANKY	**Antikythira Is**	**0.99**	**227**	P	**Pn**		**20 37 13.6**	**+1.4**
ANKY				S	**Sn**		**20 37 27.1**	**-0.8**
	comp=E,888nm,0.3s							
ANKY	**Antikythira Is**	**0.99**	**227**	P	**Pn**		**20 37 13.5**	**+1.4**
ANKY				AML	AML		20 37 28.4	
	comp=N,1614μm,0.4s							
ANKY				AML	AML		20 37 28.6	
	comp=E,1966μm,0.3s							
KTHR	**Kythira**	**1.00**	**254**	P	**Pn**		**20 37 14.0**	**+1.8**
KTHR				S	**Sn**		**20 37 28.8**	**+0.7**
	comp=E,2μm,0.3s							
VLI	**Veliai**	**1.03**	**280**	P	**Pn**		**20 37 13.6**	**+1.1**
VLI	**Veliai**	**1.03**	**280**	P	**Pn**		**20 37 13.6**	**+1.1**
VLI				AML	AML		20 37 28.3	
	comp=E,1550μm,0.2s							
VLI				AML	AML		20 37 28.6	
	comp=N,3024μm,0.3s							
SANT	**Santorini**	**1.03**	**100**	P	**Pn**		**20 37 14.2**	**+1.6**
SANT	**Santorini**	**1.03**	**100**	P	**Pn**		**20 37 14.2**	**+1.6**
SANT				AML	AML		20 37 30.5	
	comp=E,1481μm,0.3s							
SANT				AML	AML		20 37 30.8	
	comp=N,578μm,0.3s							
THR8	**Santorini-Mono**	**1.04**	**98**	P	**Pn**		**20 37 14.3**	**+1.7**
IMMV	**Iera Moni Meta**	**1.10**	**189**	P	**Pn**		**20 37 14.7**	**+1.4**
IMMV				S	**Sn**		**20 37 30.1**	**+0.1**
	comp=N,2μm,0.5s							
IMMV	**Iera Moni Meta**	**1.10**	**189**	P	**Pn**		**20 37 14.6**	**+1.4**
VAM	**Vamos**	**1.14**	**180**	P	**Pn**		**20 37 14.9**	**+1.1**
VAM	**Vamos**	**1.14**	**180**	P	**Pn**		**20 37 14.8**	**+1.1**
VAM				AML	AML		20 37 33.0	
	comp=E,2507μm,0.3s							
VAM				AML	AML		20 37 33.2	
	comp=N,3326μm,0.2s							
KRND	**KRANIDI**	**1.18**	**315**	P	**Pn**		**20 37 15.6**	**+1.5**
KRND	**KRANIDI**	**1.18**	**315**	P	**Pn**		**20 37 15.6**	**+1.5**
KRND				AML	AML		20 37 33.0	
	comp=E,1289μm,0.3s							
KRND				AML	AML		20 37 33.3	
	comp=N,1855μm,0.3s							
APE	**Apeiranthos**	**1.19**	**64**	P	**Pn**		**20 37 15.8**	**+1.5**
APE	**Apeiranthos**	**1.19**	**64**	P	**Pn**		**20 37 15.7**	**+1.4**
APE				AML	AML		20 37 32.8	
	comp=N,565μm,0.4s							
APE				AML	AML		20 37 33.4	
	comp=E,1272μm,0.6s							
PRNS	**Prines Rethymn**	**1.21**	**168**	P	**Pn**		**20 37 15.9**	**+1.4**
TNSA	**Tinos**	**1.25**	**38**	P	**Pn**		**20 37 16.6**	**+1.6**
VLY	**Voula,Athens**	**1.34**	**346**	P	**Pn**		**20 37 17.5**	**+1.5**
VLY	**Voula,Athens**	**1.34**	**346**	P	**Pn**		**20 37 17.5**	**+1.5**
KNDR	**Palaiochora Ch**	**1.38**	**198**	P	**Pn**		**20 37 18.8**	**+2.4**
KNDR				S	**Sn**		**20 37 37.7**	**+2.2**
	comp=E,232nm,0.2s							
IDI	**Anoyia**	**1.38**	**156**	P	**Pn**		**20 37 17.4**	**+0.8**
	comp=E,48nm,0.3s,baz=278,slow=17,SNR=996							
IDI				S	**Sn**		**20 37 34.2**	**-1.5**
	comp=E,73nm,0.3s,baz=299,slow=21,SNR=19							
IDI	**Anoyia**	**1.38**	**156**	P	**Pn**		**20 37 17.4**	**+0.8**
IDI				S	**Sn**		**20 37 35.2**	**-0.5**
	comp=E,745nm,0.3s							
IDI	**Anoyia**	**1.38**	**156**	P	**Pn**		**20 37 17.3**	**+0.8**
IDI				AML	AML		20 37 37.1	
	comp=E,1662μm,0.3s							
IDI				AML	AML		20 37 37.2	
	comp=N,974μm,0.1s							
KSTL	**Kastelli Herak**	**1.43**	**150**	P	**Pn**		**20 37 21.1**	**+4.0**
HRKL	**Herakleio**	**1.44**	**149**	P	**Pn**		**20 37 18.7**	**+1.6**
ATHU	**Athens Univers**	**1.45**	**347**	P	**Pn**		**20 37 19.0**	**+1.7**
ATHU	**Athens Univers**	**1.45**	**347**	P	**Pn**		**20 37 18.9**	**+1.7**
ATHU				AML	AML		20 37 37.7	
	comp=N,490μm,0.5s							
ATHU				AML	AML		20 37 37.7	
	comp=E,349μm,0.5s							
ATH	**Athens Observa**	**1.47**	**345**	P	**Pn**		**20 37 19.3**	**+1.9**
ATH	**Athens Observa**	**1.47**	**345**	P	**Pn**		**20 37 19.4**	**+1.9**
ATH				AML	AML		20 37 38.5	
	comp=N,1332μm,0.5s							
ATH				AML	AML		20 37 38.8	
	comp=E,1291μm,0.5s							
KARY	**Karystos**	**1.49**	**7**	P	**Pn**		**20 37 19.6**	**+1.8**
PTL	**Penteli**	**1.52**	**350**	P	**Pn**		**20 37 19.9**	**+1.8**
PTL	**Penteli**	**1.52**	**350**	P	**Pn**		**20 37 19.9**	**+1.8**
PTL				AML	AML		20 37 39.6	
	comp=N,828μm,0.6s							
PTL				AML	AML		20 37 40.0	
	comp=E,1632μm,0.6s							
DION	**Dionisos Attik**	**1.54**	**352**	P	**Pn**		**20 37 20.3**	**+1.9**
DION	**Dionisos Attik**	**1.54**	**352**	P	**Pn**		**20 37 20.2**	**+1.9**
DION				AML	AML		20 37 40.9	
	comp=N,2142μm,0.6s							
DION				AML	AML		20 37 41.6	
	comp=E,1235μm,0.9s							
SIVA	**Sivas**	**1.61**	**162**	P	**Pn**		**20 37 20.8**	**+1.6**
SIVA	**Sivas**	**1.61**	**162**	P	**Pn**		**20 37 20.8**	**+1.6**
VLX	**Vlachokerasia**	**1.67**	**300**	P	**Pn**		**20 37 21.7**	**+1.7**
VLX	**Vlachokerasia**	**1.67**	**300**	P	**Pn**		**20 37 21.7**	**+1.7**
VLX				AML	AML		20 37 43.6	
	comp=N,880μm,0.3s							
VLX				AML	AML		20 37 44.4	
	comp=E,765μm,0.4s							
GVDS	**Gavdos**	**1.71**	**183**	P	**Pn**		**20 37 22.7**	**+2.3**
GVD	**Gavdhos**	**1.71**	**183**	P	**Pn**		**20 37 22.2**	**+1.7**
GVD	**Gavdhos**	**1.71**	**183**	P	**Pn**		**20 37 22.3**	**+1.8**
GVD				AML	AML		20 37 49.2	
	comp=E,1439μm,0.3s							
GVD				AML	AML		20 37 49.4	
	comp=N,935μm,0.4s							
NPS	**Neapolis**	**1.73**	**138**	P	**Pn**		**20 37 21.7**	**+1.0**
NPS				S	**Sn**		**20 37 43.8**	**+0.8**
	comp=N,270nm,0.2s							
NPS	**Neapolis**	**1.73**	**138**	P	**Pn**		**20 37 21.7**	**+1.0**
LOUT	**Loutraki**	**1.73**	**326**	P	**Pn**		**20 37 22.4**	**+1.7**
LOUT	**Loutraki**	**1.73**	**326**	P	**Pn**		**20 37 22.4**	**+1.7**
LAST	**Lasithi**	**1.73**	**143**	P	**Pn**		**20 37 22.3**	**+1.4**
LAST	**Lasithi**	**1.73**	**143**	P	**Pn**		**20 37 22.2**	**+1.4**
VILL	**Villia**	**1.76**	**337**	P	**Pn**		**20 37 22.9**	**+1.8**
LTK	**Loutraki**	**1.77**	**327**	P	**Pn**		**20 37 22.9**	**+1.8**
VIL2	**Platees**	**1.81**	**336**	P	**Pn**		**20 37 22.7**	**+1.0**
VIL2				AML	AML		20 37 49.7	
	comp=E,505μm,0.7s							
VIL2				AML	AML		20 37 50.4	
	comp=N,380μm,0.5s							
EREA	**Eretria**	**1.88**	**354**	P	**Pn**		**20 37 24.6**	**+2.1**
THAL	**Thalero**	**1.92**	**321**	P	**Pn**		**20 37 24.7**	**+1.6**
THAL	**Thalero**	**1.92**	**321**	P	**Pn**		**20 37 24.7**	**+1.6**
THAL				AML	AML		20 37 56.3	
	comp=N,631μm,0.5s							
THAL				AML	AML		20 38 15.3	
	comp=E,654μm,0.5s							
PYL	**PYLOS**	**2.00**	**281**	P	**Pn**		**20 37 25.4**	**+1.3**
KYMI	**Kymi, Euboea I**	**2.08**	**358**	P	**Pn**		**20 37 26.9**	**+1.8**
ZKR	**Zakros**	**2.18**	**131**	P	**Pn**		**20 37 28.4**	**+2.0**
KLV	**Kalavryta, Ach**	**2.21**	**313**	P	**Pn**		**20 37 28.3**	**+1.5**
KLV				S	**Sn**		**20 37 54.9**	**+0.8**
	comp=E,88nm,0.5s							
AMT	**Artemida-Makis**	**2.22**	**297**	P	**Pn**		**20 37 29.7**	**+2.8**
AMT	**Artemida-Makis**	**2.22**	**297**	P	**Pn**		**20 37 29.5**	**+2.6**
LKR	**Lokris**	**2.30**	**336**	P	**Pn**		**20 37 29.8**	**+1.9**
DRO	**Drossia**	**2.43**	**306**	P	**Pn**		**20 37 33.2**	**+3.6**
DRO				S	**Sn**		**20 38 02.6**	**+3.6**
	comp=E,320nm,0.4s							
LAKA	**Lakka**	**2.44**	**314**	P	**Pn**		**20 37 32.0**	**+2.2**
SMIA	**Simia**	**2.45**	**342**	P	**Pn**		**20 37 32.4**	**+2.5**
TRIZ	**Trizonia**	**2.48**	**318**	P	**Pn**		**20 37 31.8**	**+1.6**
SERG	**Sergoula**	**2.52**	**318**	P	**Pn**		**20 37 32.1**	**+1.3**
EFP	**Efpalio**	**2.61**	**316**	P	**Pn**		**20 37 33.8**	**+1.8**
ANX	**Ano Chora**	**2.72**	**319**	P	**Pn**		**20 37 35.2**	**+1.6**
AGG	**Agios Georgios**	**2.88**	**330**	P	**Pn**		**20 37 37.7**	**+2.2**
SLUM	**Salum**	**5.12**	**170**	P	**Pn**		**20 38 05.5**	**-0.1**
	baz=176							
SLUM				S	Sn		20 38 54.2	-9.2
	baz=176							
SLUM				AMP			20 39 00.0	
	baz=176							
STIP	**Stip**	**5.37**	**344**	*i* Pn	**Pn**		**20 38 10.4**	**+1.5**
SWA2		**7.36**	**171**	P	**Pn**		**20 38 35.9**	**-0.2**
	baz=175							
SWA2				S	Sn		20 39 47.8	-10
	baz=175							
SWA2				AMP			20 40 00.0	
	baz=175							
VAE	**Valguarnera**	**7.88**	**280**	P	Pn		20 38 47.9	+4.8
	comp=E,1.6nm,0.3s,baz=176,slow=20,SNR=2.6							
VAE				S	**Sn**		**20 40 04.4**	**-6.3**
	comp=E,1.6nm,0.3s,baz=93,slow=20,SNR=3.2							
STON	**Ston**	**8.05**	**324**	*e*Pn	**Pn**		**20 38 42.0**	**-3.3**
STON				Sn	Sn		20 40 04.6	-10
LSTV	**Lastovo**	**8.38**	**320**	*e*Pn	**Pn**		**20 38 47.2**	**-2.6**
RYAN	**Fayoum**	**9.03**	**144**	P	**Pn**		**20 38 57.1**	**-1.6**
	baz=145							
RYAN				AMP			20 40 00.0	
	baz=145							
KOT	**Kottamia**	**9.19**	**134**	P	Pn		**20 38 59.4**	**-1.5**
	baz=134							
HSAF	**As Saff**	**9.27**	**136**	P	Pn		**20 39 00.4**	**-1.5**
	baz=137							
GLL	**Jalalah**	**9.38**	**136**	P	Pn		**20 39 01.4**	**-2.1**
	baz=136							
KIJV	**Kijevo**	**9.53**	**324**	*e*Pn	**Pn**		**20 39 02.1**	**-3.2**
KIJV				Sn	**Sn**		**20 40 41.8**	**-8.7**
ZIRJ	**Zirje**	**9.65**	**320**	*e*Pn	**Pn**		**20 39 04.6**	**-2.4**
ZIRJ				Sn	Sn		20 40 43.9	-10
MORI	**Morici**	**9.77**	**321**	*e*Pn	**Pn**		**20 39 06.5**	**-2.0**
MORI				Sn	Sn		20 40 47.2	-9.1
MMAI	**Mount Meron Ar**	**9.87**	**108**	P	**Pn**		**20 39 07.7**	**-2.4**
	comp=E,1.0nm,0.3s,baz=298,slow=12,SNR=9.4							
MMAI				S	Sn		20 40 52.0	-7.0
	comp=E,1.2nm,0.3s,baz=311,slow=25,SNR=1.8							
NBNS	**Bani Suef**	**9.91**	**141**	P	**Pn**		**20 39 09.1**	**-1.6**
	baz=142							
HFRF	**Wahat Farafira**	**10.00**	**158**	P	**Pn**		**20 39 10.9**	**-1.0**
	baz=161							
DUGI	**Dugi Otok**	**10.19**	**320**	*e*Pn	**Pn**		**20 39 12.2**	**-2.1**
DUGI				Sn	Sn		20 40 57.3	-9.3
EIL	**Elat**	**11.33**	**124**	P	**Pn**		**20 39 27.6**	**-2.1**
	comp=E,1.0nm,0.3s,baz=235,slow=4.9,SNR=13							
EIL				S	Sn		20 41 23.9	-10
	comp=E,0.5nm,0.3s,baz=213,slow=19,SNR=1.8							
GERES	**GERESS Array B**	**14.49**	**331**	P	**Pn**		**20 40 16.9**	**+2.2**
	comp=E,0.1nm,0.3s,baz=143,slow=13,SNR=8.4							
DAVOX	**Davos/Dischmat**	**14.77**	**318**	P	**P**		**20 40 19.2**	**+1.2**
	comp=E,0.2nm,0.3s,baz=82,slow=7.6,SNR=6.0							
HFS	**Hagfors**	**24.55**	**347**	P	**P**		**20 42 00.8**	**+0.3**
	comp=E,0.7nm,0.4s,baz=144,slow=12,SNR=1.8							
FINES	**FINESS Array B**	**24.94**	**2**	P	**P**		**20 42 04.5**	**+0.3**
	comp=E,0.9nm,0.7s,baz=168,slow=9.7,SNR=6.4							
EKA	**Eskdalemuir Ar**	**26.46**	**324**	P	**P**		**20 42 20.1**	**+2.2**
	comp=E,0.5nm,0.4s,baz=119,slow=9.1,SNR=8.4							
TORD	**Torodi Ar. Bea**	**30.83**	**227**	P	**P**		**20 42 59.2**	**+2.1**
	comp=E,0.3nm,0.6s,baz=23,slow=9.2,SNR=4.2							
MKAR	**Makanchi Array**	**43.68**	**58**	P	**P**		**20 44 46.9**	**+1.6**
	comp=E,0.3nm,0.3s,baz=270,slow=8.0,SNR=14							
ZALV	**Zalesovo Beam**	**44.62**	**47**	P	**P**		**20 44 52.8**	**+0.2**
	comp=E,0.4nm,0.3s,baz=270,slow=8.6,SNR=2.6							

*IDC **28** 20:41:20.4±6.1,20.˚01S×178.˚38W,h575km±41km,mb2.6/4, mb1 2.9/5,mb1mx2.7/24,mbtmp3.5/5,Error ellipse: s-maj=161.8km s-min=26.8km az=146.0*

ISC 28 20:41:23.5±1.9,19.˚5S±0.˚5×178.˚8W±0.˚3,h600km,n7, σ1°70/8,mb3.0/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.43**	**299**	P	**P**		**20 42 44.4**	**-1.1**
	5.8nm,0.3s,baz=121,slow=5.4,SNR=16							
WRA	**Warramunga Arr**	**43.99**	**261**	P	**P**		**20 48 40.3**	**+0.8**
	0.4nm,0.9s,baz=97,slow=7.6,SNR=4.6							
ASAR	**Alice Springs**	**44.02**	**256**	P	**P**		**20 48 40.4**	**+0.7**
	0.2nm,0.5s,baz=93,slow=8.0,SNR=1.6							
ASAR				PcP	**PcP**		**20 50 12.4**	**+0.7**
	0.2nm,0.5s,baz=106,slow=3.7,SNR=4.1							
ILAR	**Eielson Array**	**87.48**	**13**	P	**P**		**20 53 10.1**	**+2.2**
	0.5nm,0.6s,baz=213,slow=5.2,SNR=6.8							
PDAR	**Pinedale Array**	**88.73**	**44**	P	**P**		**20 53 14.4**	**-0.2**
	0.1nm,0.3s,baz=214,slow=4.4,SNR=1.9							
AKASG	**Malin Array Be**	**141.74**	**331**	PKP	**PKPdf**		**20 59 45.7**	**-1.8**
	0.4nm,0.3s,baz=43,slow=4.1,SNR=6.7							
GERES	**GERESS Array B**	**149.00**	**344**	PKPbc	**PKiKP**		**21 00 03.9**	**-1.9**
	0.2nm,0.3s,baz=66,slow=1.2,SNR=2.7							

*IDC **28** 20:45:45.1±2.7,5.˚00N×93.˚85E,h0km,mb3.7/4,mb1 3.7/5, mb1mx3.4/33,mbtmp3.6/5,ML3.9/1,Error ellipse: s-maj=98.2km s-min=28.7km az=64.0*
*NEIC **28** 20:45:46.0±1.8,4.˚50N±0.˚08×93.˚9E±0.˚1,h28km±7km, mb4.1/10,Error ellipse: s-maj=18.5km s-min=6.2km az=55.0*

ISC 28 20:45:41.9±0.9,4.˚5N±0.˚1×93.˚9E±0.˚1,h10km,n22, σ1°21/18,mb3.8/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.16**	**76**	Pn	**Pn**		**20 46 32.4**	**+0.6**
PALK	**Pallekele**	**13.38**	**283**	Pn	**Pn**		**20 48 51.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**14.74**	**19**	Pn	**Pn**		**20 49 10.6**	**0.0**
	0.2nm,0.3s,baz=211,slow=12,SNR=8.7							
SHL	**Shillong**	**21.04**	**355**	P	**P**		**20 50 25.5**	**-0.8**
SHL				IAmb	IAmb		20 50 43.7	
	comp=Z,2.9nm,0.7s							
H08S2	**Diego Garcia H**	**24.50**	**241**	T	T		21 16 43.1	
	baz=56							
H08S3	**Diego Garcia H**	**24.50**	**241**	T	T		21 16 37.6	
	baz=56,slow=74							
H08S1	**Diego Garcia H**	**24.51**	**241**	T	T		21 16 34.8	
	baz=56,slow=74							
SOEI	**Soe**	**33.44**	**115**	P	**P**		**20 52 19.5**	**-2.0**
GIRL	**Giralia**	**33.52**	**144**	P	**P**		**20 52 22.1**	**+0.1**
MK31	**Makanchi Array**	**43.31**	**348**	P	**P**		**20 53 45.4**	**+1.4**
MK31				IAmb	IAmb		20 53 48.1	
	comp=Z,1.5nm,1.1s							
MKAR	**Makanchi Array**	**43.31**	**348**	P	**P**		**20 53 45.2**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=167,slow=9.3,SNR=10							
MKAR	**Makanchi Array**	**43.31**	**348**	P	**P**		**20 53 44.9**	**+0.9**
MAKZ	**Makanchi**	**43.39**	**348**	P	**P**		**20 53 45.6**	**+1.0**
MAKZ				IAmb

WR0	**Warramunga Arr**	**43.34**	**263**	P	**P**	**21 23 17.4**	**-0.3**
WR0				IAmb	IAmb	21 23 18.4	
	comp=Z,6.4nm,0.3s						
AS31	**Alice Springs**	**43.41**	**257**	P	**P**	**21 23 18.7**	**+0.5**
AS31				IAmb	IAmb	21 23 19.2	
	comp=Z,3.7nm,0.7s						
ASAR	**Alice Springs**	**43.41**	**257**	P	**P**	**21 23 18.6**	**+0.4**
	comp=Z,11nm,0.5s,baz=96,slow=7.7,SNR=177						
ASAR				PcP	**PcP**	**21 24 52.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=101,slow=4.7,SNR=3.8						
ASAR				ScP	**ScP**	**21 27 48.6**	**+3.0**
	comp=Z,0.7nm,0.6s,baz=102,slow=5.3,SNR=7.1						
ASAR				S	**S**	**21 29 01.2**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=89,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**43.41**	**257**	P	**P**	**21 23 18.8**	**+0.5**
WB0	**Warramunga Arr**	**43.51**	**263**	P	**P**	**21 23 18.6**	**-0.3**
WB2	**Warramunga Arr**	**43.52**	**263**	P	**P**	**21 23 19.0**	**-0.1**
WB2				IAmb	IAmb	21 23 19.6	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**	**21 23 18.8**	**-0.3**
	comp=Z,4.2nm,0.3s,baz=96,slow=7.5,SNR=277						
WRA				ScP	**ScP**	**21 27 48.2**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=90,slow=3.9,SNR=2.5						
WRA				S	**S**	**21 29 00.1**	**-4.9**
	comp=Z,0.6nm,1.0s,baz=98,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**43.53**	**263**	P	**P**	**21 23 18.2**	**-1.0**
FORT	**Forrest**	**48.15**	**247**	P	**P**	**21 23 53.8**	**0.0**
FORT				IAmb	IAmb	21 24 04.2	
	comp=Z,15nm,1.1s						
MTN	**Manton Dam**	**48.17**	**271**	P	**P**	**21 23 53.9**	**-0.3**
KNRA	**Kununurra**	**49.63**	**267**	P	**P**	**21 24 05.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.96**	**263**	P	**P**	**21 24 22.3**	**+0.6**
PSA00	**Pilbara Seismi**	**56.56**	**258**	P	**P**	**21 24 53.4**	**-0.5**
PSA00	**Pilbara Seismi**	**56.56**	**258**	P	**P**	**21 24 53.9**	**0.0**
PSA00				IAmb	IAmb	21 24 54.6	
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**57.22**	**244**	P	**P**	**21 24 57.6**	**-0.5**
VNDA	**Vanda**	**57.25**	**185**	P	**P**	**21 24 58.8**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=359,slow=6.7,SNR=17						
VNDA	**Vanda**	**57.25**	**185**	P	**P**	**21 24 58.2**	**+0.7**
MORW	**Morawa**	**58.69**	**248**	P	**P**	**21 25 08.2**	**+0.2**
GIRL	**Giralia**	**61.44**	**255**	P	**P**	**21 25 27.3**	**+1.1**
QSPA	**South Pole Qui**	**68.99**	**180**	P	**P**	**21 26 13.9**	**+1.2**
QSPA				IAmb	IAmb	21 26 15.3	
	comp=Z,12nm,1.1s						
MJAR	**Matsushiro Arr**	**70.09**	**324**	P	**P**	**21 26 18.9**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=160,slow=6.0,SNR=6.9						
PETK	**Petropavlovsk-**	**76.58**	**346**	P	**P**	**21 26 55.5**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=116,slow=6.8,SNR=4.0						
USRK	**Ussuriysk Ar.**	**78.88**	**326**	P	**P**	**21 27 08.9**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=74,slow=8.1,SNR=4.4						
NVAR	**Mina Array Bea**	**82.13**	**44**	P	**P**	**21 27 26.3**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=235,slow=6.4,SNR=1.3						
NVAR	**Mina Array Bea**	**82.13**	**44**	P	**P**	**21 27 25.6**	**-0.1**
SNAA	**Sanae**	**87.46**	**179**	P	**P**	**21 27 50.3**	**-0.4**
VNA3	**Neumayer Olymp**	**87.63**	**177**	P	**P**	**21 27 51.4**	**-0.1**
VNA1	**Neumayer--Stat**	**88.29**	**177**	P	**P**	**21 27 55.0**	**+0.5**
CCB	**Clear Creek Bu**	**88.80**	**13**	P	**P**	**21 27 55.0**	**-1.8**
CCB				IAmb	IAmb	21 27 56.5	
	comp=Z,2.2nm,0.9s						
ILAR	**Eielson Array**	**89.10**	**13**	P	**P**	**21 27 56.8**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=218,slow=5.5,SNR=7.6						
ILAR	**Eielson Array**	**89.10**	**13**	P	**P**	**21 27 57.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**89.37**	**290**	P	**P**	**21 28 02.0**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=130,slow=2.5,SNR=7.6						
PLCA	**Paso Flores**	**89.60**	**134**	P	**P**	**21 28 01.8**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=248,slow=3.8,SNR=3.0						
PLCA	**Paso Flores**	**89.60**	**134**	P	**P**	**21 28 01.3**	**0.0**
PLCA				IAmb	IAmb	21 28 21.0	
	comp=Z,2.1nm,1.1s						
PDAR	**Pinedale Array**	**90.07**	**44**	PKKPbc	PKKPbc	21 45 32.6	+1.1
	comp=Z,0.1nm,0.5s,baz=104,slow=6.6,SNR=1.6						
MKAR	**Makanchi Array**	**110.86**	**313**	PKiKP	**PKiKP**	**21 33 30.5**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=76,slow=1.1,SNR=1.9						
ARCES	**ARCESS Array B**	**129.30**	**349**	PKP	**PKPdf**	**21 34 05.0**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=343,slow=1.3,SNR=6.1						
ARCES	**ARCESS Array B**	**129.30**	**349**		**PKPdf**	**21 34 06.5**	**0.0**
FINES	**FINESS Array B**	**136.03**	**343**	PKP	**PKPdf**	**21 34 19.8**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=93,slow=3.8,SNR=4.1						
FINES				SKPbc	**SKPbc**	**21 36 55.0**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=72,slow=6.2,SNR=6.3						
AKASG	**Malin Array Be**	**143.02**	**330**	PKP	**PKPdf**	**21 34 29.5**	**-2.8**
	comp=Z,5.9nm,0.5s,baz=44,slow=4.2,SNR=40						
AKASG	**Malin Array Be**	**143.02**	**330**		**PKPdf**	**21 34 29.1**	**-3.2**
AKBB	**Malin Array Si**	**143.02**	**330**		**PKPdf**	**21 34 29.4**	**-3.0**
BRTR	**Keskin Array B**	**146.47**	**311**	PKPbc	**PKPdf**	**21 34 41.0**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=90,slow=2.9,SNR=4.8						
OSTC	**Ostas**	**148.21**	**341**⇑*e*	PKP	**PKPbc**	**21 34 45.7**	**+0.3**
DPC	**Dobruska-Polom**	**148.36**	**341**⇑*e*	PKP	**PKPbc**	**21 34 46.1**	**+0.3**
CLL	**Collm**	**148.38**	**346** *i*	PKPbc	**PKPbc**	**21 34 45.2**	**-0.5**
	comp=Z,3.0nm,0.7s						
KRLC	**Kraliky**	**148.46**	**340**⇑*e*	PKP	**PKPbc**	**21 34 46.0**	**-0.1**
KHC	**Kasperske Hory**	**150.24**	**343**⇑*e*	PKP	**PKPbc**	**21 34 50.4**	**+0.1**
CKRC	**Cesky Krumlov**	**150.32**	**342**⇑*e*	PKP	**PKPbc**	**21 34 50.4**	**-0.1**
GERES	**GERESS Array B**	**150.47**	**343**	PKPbc	**PKPbc**	**21 34 50.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=33,slow=3.2,SNR=7.6						
GERES	**GERESS Array B**	**150.47**	**343**		**PKPbc**	**21 34 51.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**172.08**	**185**	PKPab	**PKPab**	**21 36 35.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=174,slow=2.7,SNR=1.5						

YARS 28 21:20:10.5±0.0, 62°35N×145°28E, h10km, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUUS	**Susuman**	**1.41**	**71**	*e*Pg	Pb	21 20 36.8	0.0
	40nm,0.2s						
SUUS				*e*Sg	Sg	21 20 55.3	-0.3
	320nm,0.4s						
UNR	**Ust'-Nera**	**2.42**	**338**	*e*Pn	Pn	21 20 51.5	+1.4
UNR				*e*Pg	Pg	21 20 55.8	-0.9
	19nm,0.2s						
UNR				*e*Sg	Sg	21 21 27.8	-0.2
	105nm,0.3s						
UNR	**Ust'-Nera**	**2.42**	**338**	*e*Pn	Pn	21 20 51.1	+1.0
UNR				*e*Pg	Pb	21 20 55.3	+1.3
	12nm,0.3s						
UNR				*e*Lg	Lg	21 21 28.1	
UNR				*e*Sg	Sg	21 21 30.0	+2.0
	74nm,0.6s						
UNR				*e*Sg	Sg	21 21 30.0	+2.0
	17nm,0.3s						
SEY	**Seymchan**	**3.33**	**77**	*e*Pn	Pn	21 21 03.9	+1.3
SEY				*i* Pg	Pg	21 21 12.7	-1.5
	40nm,0.3s						
SEY				*e*Sg	Sg	21 21 54.8	-2.5
	40nm,0.2s						
MGD	**Magadan 1**	**3.50**	**129**	*e*Sg	Sb	21 21 58.4	+3.4
	30nm,0.2s						
MA2	**Magadan**	**3.86**	**134**	*e*Pg	Pb	21 21 18.4	-0.1
MA2				*e*Sg	Sb	21 22 08.2	+2.9
MA2				*e*Sg	Sb	21 22 08.2	+2.9
MA2	**Magadan**	**3.86**	**134**	*e*Pg	Pb	21 21 20.8	+2.3
MA2				*e*Sg	Sb	21 22 07.8	+2.6
	20nm,0.4s						
MOMR	**Moma**	**4.23**	**349**	*e*Pn	Pn	21 21 16.6	+1.7
MOMR				*e*Pg	Pb	21 21 28.1	+3.2
	4.8nm,0.7s						
MOMR				*e*Sn	Sn	21 22 06.5	+2.2
MOMR				*e*Sn	Sn	21 22 06.5	+2.2
MOMR				*e*Sn	Sn	21 22 06.5	+2.2
MOMR				*e*Sg	Sg	21 22 25.1	-1.1
	22nm,0.9s						
MOMR	**Moma**	**4.23**	**349**	*i* Pn	Pn	21 21 15.5	+0.6
	3.2nm,0.2s						
MOMR				*i* Sn	Sn	21 22 05.2	+0.8
MOMR				*i* Lg	Lg	21 22 24.2	
MOMR				*i* Sg	Sg	21 22 29.7	+3.4
	10.0nm,0.4s						
MOMR				*i* Sg	Sg	21 22 29.7	+3.4
	22nm,0.8s						
BTGS	**Batagay**	**6.97**	**324**	*e*Pn	Pn	21 21 54.8	+2.3
BTGS				*e*Pg	Pg	21 22 17.8	-6.0
	3.3nm,0.3s						
BTGS				*e*Sn	Sn	21 23 13.7	+2.1
BTGS				*e*Sn	Sn	21 23 13.7	+2.1
BTGS				*e*Sn	Sn	21 23 13.7	+2.1
BTGS				*e*Sg	Sg	21 23 51.3	-2.6
	8.2nm,0.4s						
BTGS	**Batagay**	**6.97**	**324**	*i* Lg	Lg	21 23 52.8	
TBGR	**Tabaga**	**7.36**	**273**	*e*Lg	Lg	21 24 04.0	
CGD	**Chagda**	**8.07**	**250**	*e*Pn	Pn	21 22 09.4	+1.8
CGD				*e*Pg	Pb	21 22 36.8	+6.6
	0.6nm,0.6s						
CGD				*e*Sn	Sn	21 23 39.4	+0.6
CGD				*e*Sn	Sn	21 23 39.4	+0.6
CGD				*e*Sn	Sn	21 23 39.4	+0.6
CGD				*e*Sg	Sg	21 24 23.8	-5.4
	8.8nm,0.9s						
CGD	**Chagda**	**8.07**	**250**	*e*Lg	Lg	21 24 26.1	

*IDC **28** 21:46:08.3±4.2, 23°54S×67°21W, h185km±32km, mb2.9/3, mb1 3.3/6, mb1mx3.2/18, mbtmp3.5/6, Error ellipse: s-maj=54.5km s-min=23.1km az=32.0*
*GUC **28** 21:46:08.1±0.6, 23°98S×67°61W, h220km±7km, ML3.9*
ISC 28 21:46:07.8±0.9, 24°19S±0.05×67°42W±0°09, h204km±9km, n22, σ1s00/35, mb3.1/3, 11C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.08**	**319**	*e*P	**Pn**	**21 46 47.9**	**0.0**
LVC				*e*S	**S**	**21 47 18.2**	**-0.3**
PB15	**IPOC Station P**	**2.12**	**297**⇑	*i*P	**Pn**	**21 46 48.5**	**+0.4**
PB15				*i* S	**S**	**21 47 19.6**	**+0.8**
GO02	**Mina Guanaco**	**2.20**	**243**	*e*P	**Pn**	**21 46 48.8**	**-0.2**
GO02				*i* S	**S**	**21 47 20.9**	**+0.3**
PB06	**IPOC Station P**	**2.46**	**306**⇑	*i*P	**Pn**	**21 46 52.2**	**+0.4**
PB06				*i* S	**S**	**21 47 25.4**	**0.0**
PB06				IAML		21 47 27.9	
	comp=N,332nm,0.1s						
PB14	**IPOC Station P**	**2.75**	**260**	*e*P	**Pn**	**21 46 55.1**	**-0.1**
PB14				*i* S	**S**	**21 47 30.8**	**-0.7**
PB05	**IPOC Station P**	**2.88**	**297**⇑	*i*P	**Pn**	**21 46 56.7**	**+0.2**
PB05				*i* S	**S**	**21 47 33.0**	**-0.7**
PB09	**IPOC Station P**	**2.91**	**324**⇑	*i*P	**Pn**	**21 46 57.2**	**+0.3**
PB09				*i* S	**S**	**21 47 34.1**	**-0.4**
PB09				IAML		21 47 39.9	
	comp=E,199nm,0.5s						
PB10	**IPOC Station P**	**2.95**	**282**⇑	*i*P	**Pn**	**21 46 57.6**	**+0.5**
PB10				*i* S	**S**	**21 47 35.3**	**+0.4**
PB10				IAML		21 47 42.2	
	comp=E,96nm,0.6s						
PB03	**IPOC Station P**	**3.02**	**314**⇑	*i*P	**Pn**	**21 46 58.2**	**+0.1**
PB03				*i* S	**S**	**21 47 36.3**	**-0.6**
PB03				IAML		21 47 42.5	
	comp=N,188nm,0.3s						
PB04	**IPOC Station P**	**3.11**	**306**⇑	*i*P	**Pn**	**21 46 59.3**	**+0.1**
PB04				*i* S	**S**	**21 47 38.4**	**-0.4**
PB04				IAML		21 47 41.9	
	comp=E,174nm,0.4s						
PB07	**IPOC Station P**	**3.34**	**317**⇑	*i*P	**Pn**	**21 47 01.9**	**0.0**
PB07				*i* S	**S**	**21 47 42.5**	**-1.1**
AC01	**Pan de Azucar**	**3.48**	**235**⇑	*i*P	**Pn**	**21 47 02.1**	**-1.3**
AC01				*i* S	**S**	**21 47 44.8**	**-1.7**
AC01				IAML		21 47 45.8	
	comp=E,176nm,0.3s						
PB01	**IPOC Station P**	**3.66**	**328**⇑	*i*P	**Pn**	**21 47 05.1**	**-0.7**
PB01				*i* S	**S**	**21 47 49.9**	**-0.8**
PB01				IAML		21 47 51.9	
	comp=N,112nm,0.4s						
PB08	**IPOC Station P**	**4.33**	**338**⇑	*i*P	**Pn**	**21 47 14.2**	**-0.2**
PB08				*e*S	**S**	**21 48 04.9**	**-1.2**
PB08				IAML		21 48 10.6	
	comp=N,54nm,0.3s						
LPAZ	**La Paz**	**7.88**	**355**	P	Pn	21 47 52.0	-8.2
	comp=N,0.4nm,0.3s,baz=313,slow=6.2,SNR=2.9						
CPUP	**Villa Florida**	**9.38**	**105**	P	**Pn**	**21 48 20.5**	**+1.5**
	comp=N,0.2nm,0.3s,baz=280,slow=11,SNR=4.6						
BDFB	**Brasilia**	**20.11**	**69**	P	**P**	**21 50 23.4**	**-3.0**
	comp=N,0.7nm,0.3s,baz=244,slow=10,SNR=6.8						
TXAR	**Lajitas Array**	**63.60**	**325**	P	**P**	**21 56 18.0**	**+0.8**
	comp=N,0.1nm,0.4s,baz=140,slow=5.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.99**	**69**	P	**P**	**21 57 38.1**	**-0.5**
	comp=N,0.3nm,0.5s,baz=267,slow=6.0,SNR=1.4						
PDAR	**Pinedale Array**	**77.11**	**330**	P	**P**	**21 57 38.0**	**-1.0**
	comp=N,0.2nm,0.5s,baz=150,slow=5.8,SNR=2.1						
WRA	**Warramunga Arr**	**131.29**	**208**	PKP	**PKPdf**	**22 04 58.5**	**+2.0**
	comp=N,0.5nm,0.9s,baz=172,slow=1.8,SNR=1.5						
MKAR	**Makanchi Array**	**146.91**	**39**	PKPbc	**PKPbc**	**22 05 27.7**	**+1.6**
	comp=N,0.4nm,0.6s,baz=286,slow=2.6,SNR=4.6						

NNC 28 22:01:18.9±11.0, 37°04N×70°76E, h0km, mb3.8, mpv3.5, 4C-2D, Error ellipse: s-maj=92.1km s-min=73.2km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.06**	**358**	⇑P	Pn	22 02 51.0	+1.1
	1.0nm,0.3s,baz=179,slow=13,SNR=23						
KK31				⇑S	Sn	22 04 02.2	+2.3
	1.8nm,0.3s,baz=184,slow=21,SNR=12						
AAK	**Ala-Archa**	**6.29**	**26**	⇑P	Pn	22 02 53.1	0.0
	1.3nm,0.5s						
AAK				⇓S	Sn	22 04 08.8	+3.1
	5.1nm,0.6s						
TKM2	**Tokmak 2**	**6.95**	**31**	⇓P	Pn	22 03 01.9	-0.3
	2.5nm,0.5s						
TKM2				⇑S	Sn	22 04 19.2	-2.9
	0.4nm,0.3s						

*UPP **28** 22:03:55.3±0.1, 67°19N×20°69E, h0km, ML1.7, Explosion*
HEL 28 22:03:55.9±0.0, 67°18N×20°70E, h0km, ML1.3, ML1.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**222**	P	Pg	22 03 57.2	-0.2
DUNU				S	Sg	22 03 58.3	0.0
DUNU	**Dundret**	**0.08**	**222**	*i* P	Pg	22 03 57.2	-0.2
DUNU				*i* S	Sg	22 03 58.3	0.0
RATU	**Laukkuluspa**	**0.78**	**327**	P	Pg	22 04 09.7	-1.1
RATU				S	Sg	22 04 19.9	-0.9
RATU	**Laukkuluspa**	**0.78**	**327**	*i* P	Pg	22 04 09.7	-1.1
RATU				*i* S	Sg	22 04 19.9	-0.9
KUA	**Kurravaara**	**0.79**	**350**	P	Pg	22 04 09.8	-1.2
KUA				S	Sg	22 04 20.4	-0.9
KUA	**Kurravaara**	**0.79**	**350**	*i* P	Pg	22 04 09.8	-1.2
KUA				*i* S	Sg	22 04 20.4	-0.9
NIKU	**Nikkaluokta**	**0.94**	**318**	P	Pg	22 04 12.7	-1.3
NIKU				S	Sg	22 04 25.2	-1.0
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	Pg	22 04 12.7	-1.3
NIKU				*e*S	Sg	22 04 25.2	-1.0
PAJU	**Pajala**	**0.96**	**98**	P	Pg	22 04 13.2	-1.0
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	22 04 13.2	-1.0
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	22 04 14.0	-1.1
KOVU	**Salmi**	**1.07**	**349**	P	Pg	22 04 15.3	-1.1
KOVU	**Salmi**	**1.07**	**349**	*e*P	Pg	22 04 15.3	-1.1
KLF	**Kolari**	**1.27**	**86**	*e*PB	Pg	22 04 18.8	-1.4
	baz=273						
KLF				*e*SB	Sg	22 04 36.8	+0.1
HEF	**Hetta**	**1.67**	**41**	*e*P	Pn	22 04 25.5	-0.9
	baz=222						
HEF				MSG		22 04 46.4	
	comp=Z,1.1nm,0.2s						
HEF				*e*SG	Sn	22 04 47.2	-1.3
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	22 04 26.5	-0.4
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	22 04 26.5	-0.4
TOF	**Tornio**	**1.82**	**126**	*e*PG	Pn	22 04 28.7	+0.4
TOF				MSG		22 04 50.3	
	comp=Z,1.7nm,0.2s						
TOF				*e*SN	Sb	22 04 53.2	0.0
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*PN	Pn	22 04 29.0	+0.4
KIF				MSG		22 04 51.3	
	comp=Z,1.9nm,0.2s						
KIF				*e*SG	Sb	22 04 54.2	+0.4
RNF	**Rovaniemi**	**2.17**	**103**	*e*PB	Pn	22 04 34.2	+1.0
RNF				*e*SG	Sb	22 05 03.7	+0.2
SGF	**Sodankyl**	**2.27**	**81**	*e*PG	Pn	22 04 36.1	+1.4
SGF				*e*SG	Sb	22 05 06.0	-0.4
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*PB	Pn	22 04 46.4	+2.3

IDC 28 22:05:02.9±2.7, 5°61N×123°09E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/41, mbtmp3.5/3, Error ellipse: s-maj=353.3km s-min=28.9km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.70**	**157**	P	P	22 10 53.2	+0.1
	0.5nm,0.4s,baz=336,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**30.96**	**160**	P	P	22 11 21.8	-0.2
	0.2nm,0.4s,baz=339,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**53.97**	**326**	P	P	22 14 28.6	-0.1
	0.3nm,0.5s,baz=132,slow=6.8,SNR=2.1						

*MEX **28** 22:06:37.0±0.7, 31°55N×114°95W, h5km±10km, MD3.6*
*ECX **28** 22:06:38.3±0.5, 31°55N×115°17W, h0km, MD2.0, ML1.9, Explosion*
ISC 28 22:06:34.8±1.3, 31°65N±0°04×114°98W±0°08, h0km, n12, σ0s93/18, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.18**	**198**⇑	*i*P	**Pg**	**22 06 38.9**	**+0.5**
ECBX				*e*S	**Sg**	**22 06 41.1**	**+0.5**
SFX	**San Felipe**	**0.62**	**169**	*e*P	**Pb**	**22 06 48.7**	**+0.2**
SFX				IAML		22 06 59.5	
	comp=N,77nm,0.4s						
SFX				IAML		22 07 00.2	
	comp=E,78nm,0.2s						
SFX			⇑	*e*		22 07 00.2	
SPIG	**San Pedro Mart**	**0.73**	**215**	*e*P	**Pg**	**22 06 49.1**	**+0.3**
SPIG				*e*S	**Sg**	**22 06 57.9**	**-0.2**
SPIG	**San Pedro Mart**	**0.73**	**215**	*e*P	**Pg**	**22 06 49.1**	**+0.3**
SPX	**San Pedro Mart**	**0.73**	**214**	*e*P	**Pg**	**22 06 49.0**	**+0.2**
SPX				*e*S	**Sg**	**22 06 57.7**	**-0.7**
SPX	**San Pedro Mart**	**0.73**	**214**	*e*P	**Pg**	**22 06 49.1**	**+0.2**
MBIG	**Mexicali**	**0.78**	**347**	*e*P	**Pn**	**22 06 52.0**	**-1.1**
MBIG				*e*S	**Sn**	**22 07 05.2**	**-0.3**
YUH2	**Yuha Desert**	**1.28**	**322**	*e*P	**Pn**	**22 07 00.8**	**+0.8**
IKP	**In-Ko-Pah, Jac**	**1.38**	**317**	*e*P	**Pb**	**22 07 02.3**	**+0.6**
CBX	**Cerro Bola**	**1.57**	**295**	*e*P	**Pn**	**22 07 03.3**	**-0.9**
CBX				*e*S	**Sg**	**22 07 23.6**	**-1.9**
CBX	**Cerro Bola**	**1.57**	**295**	*e*	**Sg**	**22 07 27.5**	**+2.1**
CBX				IAML		22 07 27.5	
	comp=E,21nm,0.3s						
CBX				IAML		22 07 27.8	
	comp=N,29nm,0.5s						
CBX			⇓	*e*		22 07 27.8	
TJIG	**Tijuana**	**1.64**	**299**	*e*P	**Pn**	**22 07 04.7**	**-0.2**
TJIG				*e*S	**Sn**	**22 07 25.9**	**-0.8**

*IDC **28** 22:08:02.0±1.4, 29°29N×94°50E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/45, mbtmp3.5/8, ML4.0/1, Error ellipse: s-maj=47.0km s-min=27.4km az=62.0*
ISC 28 22:08:07.4±1.2, 29°4N±0°2×94°5E±0°2, h35km, n8, σ0s54/8, mb3.6/6, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.84**	**335**	P	**Pn**	**22 12 36.2**	**-0.7**
	0.4nm,0.3s,baz=141,slow=13,SNR=22						
SONM	**Songino Array**	**20.59**	**23**	P	**P**	**22 12 43.7**	**+0.3**
	0.3nm,0.6s,baz=212,slow=12,SNR=2.0						
ZALV	**Zalesovo Beam**	**25.55**	**347**	P	**P**	**22 13 32.7**	**0.0**
	0.4nm,0.4s,baz=156,slow=11,SNR=2.4						
AKASG	**Malin Array Be**	**52.52**	**313**	P	**P**	**22 17 17.4**	**+0.4**
	0.2nm,0.3s,baz=89,slow=8.8,SNR=2.4						
FINES	**FINESS Array B**	**54.41**	**327**	P	**P**	**22 17 31.2**	**+0.6**
	1.4nm,0.9s,baz=96,slow=8.5,SNR=10						
NOA	**NORSAR Array B**	**61.59**	**327**	P	**P**	**22 18 20.4**	**-0.6**
	0.4nm,0.7s,baz=78,slow=6.4,SNR=3.3						
ASAR	**Alice Springs**	**64.92**	**140**	P	**P**	**22 18 43.4**	**-0.2**
	0.2nm,0.4s,baz=324,slow=10,SNR=2.1						
TORD	**Torodi Ar. Bea**	**86.09**	**283**	P	**P**	**22 20 45.2**	**+0.1**
	0.8nm,0.8s,baz=33,slow=4.4,SNR=3.7						

*TUL **28** 22:38:25.4±1.0, 36°32N±0°01×96°82W±0°02, h3km±7km, ML3.1, mb_Lg2.7/34(NEIC), Error ellipse: s-maj=2.3km s-min=1.6km az=76.0*
NEIC 28 22:38:25.8±0.9, 36°33N±0°01×96°82W±0°02, h4km±7km, Error ellipse: s-maj=2.5km s-min=1.6km az=74.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QUOK	**Quay**	**0.18**	**149**		Pg	22 38 29.3	0.0
QUOK				Sg	Sg	22 38 31.9	+0.3
OK031	**S. Brethren Rd**	**0.37**	**182**		Pg	22 38 32.9	0.0
OK031				Sg	Sg	22 38 38.0	+0.2
OK030	**Cody Creek RV**	**0.40**	**175**		Pg	22 38 33.4	0.0
OK030				Sg	Sg	22 38 38.8	+0.2
BLOK	**Blackwell**	**0.54**	**324**		Pg	22 38 36.2	+0.1
BLOK				Sg	Sg	22 38 43.5	+0.4
T35A	**Sooner Cattle**	**0.64**	**23**		Pg	22 38 38.0	-0.1
T35A				Sg	Sg	22 38 46.5	0.0
OK029

24nm,0.3s,baz=156,slow=6.7,SNR=64
MSVF S **S** **22 40 44.8 +1.9**
baz=114,slow=20,SNR=1.4
MSVF Nonsavu 4.25 257 P 22 39 43.8 +1.7
AFI Afiamalu 6.31 64 P 22 40 01.4 -2.0
AFI Sn **S** **22 41 21.3 -0.9**
RAO Raoul Island 12.41 181 P **P** **22 41 13.5 +2.1**
107nm,0.3s,baz=15,slow=20,SNR=3.2
RAO Raoul Island 12.41 181 P P 22 41 14.9 +3.5
DZM Mont Dzumac 15.93 248 P P 22 41 50.7 +0.7
0.2nm,0.3s,baz=74,slow=20,SNR=2.3
RAR Rarotonga 17.43 107 P **P** **22 42 05.3 -0.5**
2.3nm,0.3s,baz=78,slow=6.3,SNR=1.9
RAR Rarotonga 17.43 107 P P 22 42 07.4 +1.5
RAR IAmb IAmb 22 42 22.1
comp=Z,8.5nm,0.8s
OUZ Omahuta 19.96 202 P P 22 42 30.7 -0.5
URZ Urewera 21.88 191 P P 22 42 45.3 -3.5
comp=Z,8.3nm,0.8s,baz=307,slow=20,SNR=240
MLZ Mavora Lakes 30.90 200 P P 22 44 06.7 -2.0
WHZ Wether Hill Ro 31.42 200 P P 22 44 12.6 -0.6
STKA Stephens Creek 39.84 240 P P 22 45 23.2 -0.8
comp=Z,4.6nm,0.9s,baz=110,slow=6.8,SNR=6.2
STKA Stephens Creek 39.84 240 P P 22 45 23.5 -0.6
BBOO Buckleboo 44.62 240 P P 22 46 01.2 -0.8
WRA Warramunga Arr 45.60 258 P P 22 46 07.8 -2.0
comp=Z,0.8nm,0.3s,baz=90,slow=7.7,SNR=33
WRA Warramunga Arr 45.60 258 P P 22 46 07.8 -2.0
AS31 Alice Springs 45.84 253 P P 22 46 10.9 -0.7
ASAR Alice Springs 45.84 253 P P 22 46 10.2 -1.5
comp=Z,8.2nm,0.4s,baz=88,slow=8.0,SNR=115
ASAR S **S** **22 52 22.7 -2.3**
comp=Z,0.7nm,0.9s,baz=80,slow=19,SNR=4.6
ASAR Alice Springs 45.84 253 P P 22 46 09.8 -1.8
FORT Forrest 51.18 244 P P 22 46 50.5 -1.2
FORT IAmb IAmb 22 47 09.8
comp=Z,15nm,1.1s
FITZ Fitzroy Crossi 53.97 260 P P 22 47 11.9 -0.2
comp=Z,1.2nm,0.5s,baz=72,slow=8.9,SNR=8.1
FITZ Fitzroy Crossi 53.97 260 P P 22 47 12.2 +0.1
MORW Morawa 61.63 246 P P 22 48 03.5 -1.0
PETK Petropavlovsk- 72.81 345 P P 22 49 13.7 +0.5
comp=Z,1.3nm,0.6s,baz=120,slow=8.8,SNR=4.7
CMB Columbia Colle 76.51 43 P P 22 49 35.6 +1.0
WAKR Walker 77.39 43 P P 22 49 40.4 +0.7
WAKR IAmb IAmb 22 49 41.9
comp=Z,4.8nm,1.1s
LHV Little Huntoon 77.86 44 P P 22 49 42.4 +0.4
LHV IAmb IAmb 22 49 44.4
comp=Z,4.7nm,1.0s
RYN Ryan 78.06 43 P P 22 49 44.1 +0.8
NVAR Mina Array Bea 78.09 44 P P 22 49 44.2 +0.7
comp=Z,2.4nm,0.8s,baz=226,slow=9.3,SNR=21
NV11 Mina Array Sit 78.19 44 P P 22 49 44.8 +0.8
NV11 IAmb IAmb 22 49 46.0
comp=Z,5.5nm,1.1s
KVN Kaiserville 78.56 43 P P 22 49 46.9 +0.9
KVN IAmb IAmb 22 49 47.8
comp=Z,3.3nm,0.9s
TPNV Topopah Spring 78.70 46 P P 22 49 47.0 +0.3
TPNV IAmb IAmb 22 49 48.6
comp=Z,3.7nm,0.7s
PINE Pine Mountain 79.44 38 P P 22 49 51.2 +0.6
TUC Tucson 80.42 52 P P 22 49 56.7 +0.8
TUC IAmb IAmb 22 49 58.8
comp=Z,5.3nm,1.1s
X16A Lo Mia Camp, P 80.88 50 P P 22 49 59.5 +1.0
X16A IAmb IAmb 22 50 01.1
comp=Z,3.5nm,1.0s
319A Douglas 81.15 54 P P 22 50 01.1 +1.3
ELK Elko 81.32 43 P P 22 50 01.0 +0.4
G08A Pilot Rock 81.46 38 P P 22 50 02.0 +0.9
MTPU Mount Pierson 82.05 46 P P 22 50 04.6 0.0
MTPU IAmb IAmb 22 50 07.0
comp=Z,4.6nm,1.1s
BMO Blue Mountains 82.20 39 P P 22 50 05.3 +0.5
MSU Marysvale 82.28 46 P P 22 50 06.6 +1.0
MFID Camas Ranch 82.33 40 P P 22 50 06.5 +0.9
MFID IAmb IAmb 22 50 07.5
comp=Z,4.4nm,1.1s
TRF Thorofare Moun 82.76 12 P P 22 50 07.0 -0.4
TRF IAmb IAmb 22 50 09.0
comp=Z,6.8nm,1.0s
F10A Beach Ranch, E 82.85 38 P P 22 50 08.6 +0.4
F10A IAmb IAmb 22 50 09.5
comp=Z,7.5nm,1.1s
TMUT Trail Mountain 83.31 46 P P 22 50 11.8 +0.9
HVU Hansel Valley 83.45 43 P P 22 50 12.5 +1.1
HVU IAmb IAmb 22 50 13.2
comp=Z,3.8nm,0.8s
SRU San Rafael Swe 83.70 46 P P 22 50 13.5 +0.8
SRU IAmb IAmb 22 50 14.5
comp=Z,4.4nm,0.8s
WRH Wood River Hil 84.12 12 P P 22 50 13.9 0.0
WRH IAmb IAmb 22 50 15.3
comp=Z,6.7nm,1.0s
IL31 84.64 13 P P 22 50 16.5 +0.1
IL31 IAmb IAmb 22 50 17.6
comp=Z,4.4nm,1.0s
ILAR Eielson Array 84.64 13 P P 22 50 16.2 -0.3
comp=Z,3.3nm,0.9s,baz=227,slow=6.1,SNR=25
TX31 Lajitas Ar. Si 84.75 57 P P 22 50 19.6 +1.5
TX32 Lajitas Array 84.75 57 P P 22 50 19.8 +1.8
TXAR Lajitas Array 84.75 57 P P 22 50 19.6 +1.5
comp=Z,4.0nm,0.8s,baz=223,slow=6.4,SNR=37
TXAR Lajitas Array 84.75 57 P P 22 50 18.9 +0.9
MCMT McKenzie Canyo 84.90 40 P P 22 50 19.4 +0.8
DLMT Dillon 85.32 40 P P 22 50 21.2 +0.6
DLMT IAmb IAmb 22 50 22.5
comp=Z,3.4nm,0.8s
REDW Red Top Meadow 85.45 42 P P 22 50 22.3 +1.0
REDW IAmb IAmb 22 50 23.4
comp=Z,4.4nm,1.1s
PDAR Pinedale Array 86.02 43 P P 22 50 24.3 +0.2
comp=Z,0.7nm,0.6s,baz=194,slow=2.0,SNR=6.3
BOZ Bozeman (W) 86.03 40 P P 22 50 24.8 +0.9
BOZ IAmb IAmb 22 50 26.0
comp=Z,4.3nm,1.1s
YKA Yellowknife Ar 93.00 24 P P 22 50 55.6 -0.3
comp=Z,0.2nm,0.3s,baz=264,slow=4.9,SNR=1.9
ARCES ARCESS Array B 125.35 350 PKP PKPdf 22 56 40.1 -0.5
comp=Z,1.6nm,0.7s,baz=335,slow=6.0,SNR=4.1
BRTR Keskin Array B 144.52 316 PKP PKPbc 22 57 16.5 -0.3
comp=Z,0.4nm,0.4s,baz=172,slow=2.7,SNR=3.2
BRTR Keskin Array B 144.52 316 PKPbc 22 57 16.8 +0.1
OSTC Ostas 144.53 345 *e*PKP PKPbc 22 57 16.4 +0.1
CLL Collm 144.54 349 *i* PKPbc PKPbc 22 57 15.6 -0.6
comp=Z,8.0nm,1.2s
CHVC Chvalec 144.54 345 *e*PKP PKPbc 22 57 16.1 -0.2
UPC Upice 144.63 345 *e*PKP PKPbc 22 57 17.0 +0.4
DPC Dobruska-Polom 144.69 345 PKPdf 22 57 16.2 -0.8
KRLC Kraliky 144.82 344 *e*PKP **PKPdf 22 57 15.0 -2.2**
MORC Moravsky Berou 144.89 343 *e*PKP **PKPdf 22 57 17.9 +0.6**
PVCC Panska Ves 144.95 346 *e*PKP **PKPdf 22 57 17.9 +0.6**
PRU Pruhonice 145.46 346 *e*PKP **PKPbc 22 57 19.5 +0.4**
VRAC Vranov 145.57 343 *e*PKP **PKPbc 22 57 20.8 +1.3**
KRUC Moravsky 145.85 344 *e*PKP **PKPdf 22 57 20.3 +1.4**
KHC Kasperske Hory 146.48 347 *e*PKP **PKPbc 22 57 22.1 -0.1**
CKRC Cesky Krumlov 146.61 346 *e*PKP **PKPbc 22 57 22.5 0.0**
GERES GERESS Array B 146.72 346 PKPbc **PKPdf 22 57 22.0 +1.4**
comp=Z,0.4nm,0.5s,baz=31,slow=3.1,SNR=6.2
GERES GERESS Array B 146.72 346 PKPdf **PKPdf 22 57 21.7 +1.2**
CONA Conrad Observa 147.03 343 *e*P **PKPbc 22 57 24.0 +0.2**
comp=Z,2.3nm,0.7s
WLF Walferdange 147.07 356 PKPbc **PKPbc 22 57 24.8 +1.1**
WTTA Wattenberg 148.67 348 *e*P **PKPbc 22 57 27.9 -0.3**
comp=Z,3.5nm,0.7s
ABTA Abfaltersbach 148.97 346 *e*P **PKPbc 22 57 28.2 -0.6**
comp=Z,3.0nm,0.7s

ATH 28 22:54:00.0, 37.˚93N×21.˚45E, h10km±3km, ML1.5/6, Error ellipse: s-maj=3.4km s-min=0.9km az=49.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.13**	**6**	P	Pg	22 54 02.6	-0.4
RLS				S	Sg	22 54 04.9	-0.2
RLS				AML	AML	22 54 05.2	
	comp=E,724μm,0.1s						
RLS				AML	AML	22 54 05.2	
	comp=N,2076μm,0.1s						
DRO	**Drossia**	**0.21**	**84**	P	Pg	22 54 03.9	-0.4
DRO				S	Sg	22 54 07.6	+0.3
DRO				AML	AML	22 54 08.6	
	comp=E,522μm,0.2s						
DRO				AML	AML	22 54 12.1	
	comp=N,418μm,0.3s						
AMT	**Artemida-Makis**	**0.45**	**153**	P	Pg	22 54 09.4	+0.6
AMT				S	Sg	22 54 14.8	+0.1
AMT				AML	AML	22 54 18.8	
	comp=E,158μm,0.5s						
AMT				AML	AML	22 54 20.2	
	comp=N,142μm,0.5s						
LAKA	**Lakka**	**0.52**	**53**	P	Pg	22 54 10.6	+0.4
LAKA				S	Sg	22 54 17.6	+0.6
LTHK	**Lithakia**	**0.53**	**246**	P	Pg	22 54 10.9	+0.5
KLV	**Kalavryta, Ach**	**0.57**	**78**	P	Pg	22 54 10.7	-0.4
KLV				S	Sg	22 54 18.3	-0.2
EFP	**Efpalio**	**0.61**	**36**	P	Pg	22 54 11.4	-0.5
EFP				S	Sg	22 54 19.8	-0.2
EFP				AML	AML	22 54 21.3	
	comp=N,66μm,0.4s						
EFP				AML	AML	22 54 22.0	
	comp=E,56μm,0.2s						
TRIZ	**Trizonia**	**0.66**	**48**	P	Pg	22 54 12.2	-0.6
TRIZ				S	Sg	22 54 21.8	+0.5
SERG	**Sergoula**	**0.68**	**45**	P	Pg	22 54 12.8	-0.4
SERG				S	Sg	22 54 22.6	+0.5
SERG				AML	AML	22 54 24.6	
	comp=N,98μm,0.2s						
SERG				AML	AML	22 54 25.8	
	comp=E,70μm,0.3s						
PVO	**Paravola**	**0.69**	**5**	P	Pg	22 54 12.6	-0.7
ANX	**Ano Chora**	**0.76**	**29**	P	Pg	22 54 14.2	-0.5
ANX				S	Sb	22 54 25.3	-0.6
ANX				AML	AML	22 54 27.6	
	comp=E,65μm,0.3s						
ANX				AML	AML	22 54 28.8	
	comp=N,74μm,0.5s						
FSK	**Fiskardo**	**0.88**	**307**	P	Pg	22 54 16.2	-0.7
VLX	**Vlachokerasia**	**0.93**	**127**	P	Pg	22 54 16.8	-1.0
VLX				S	Sg	22 54 29.4	-0.5
EVGI	**Lefkada island**	**0.93**	**318**	P	Pg	22 54 17.0	-0.9
DRAG	**Dragano-Lefkad**	**1.02**	**318**	P	Pg	22 54 19.5	-0.2
EVR	**Evrytania**	**1.02**	**16**	P	Pg	22 54 18.9	-0.8
PYL	**PYLOS**	**1.06**	**167**	P	Pg	22 54 19.7	-0.7

BUC 28 22:56:01.8±0.2, 45.˚28N×23.˚62E, h11km±1km, ml1.4/4, 28C-6D, Error ellipse: s-maj=2.1km s-min=1.2km az=146.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOT	**Lotru**	**0.20**	**32**	↑P	Pg	22 56 06.1	0.0
LOT				↑S	Sg	22 56 09.5	+0.4
LOT	**Lotru**	**0.20**	**32**	↑P	Pg	22 56 06.1	0.0
LOT				↑S	Sg	22 56 09.5	+0.4
GZR	**Gura Zlata**	**0.61**	**281**	↑P	Pg	22 56 13.4	-0.2
GZR				↑S	Sg	22 56 22.0	+0.3
GZR	**Gura Zlata**	**0.61**	**281**	↑P	Pg	22 56 13.4	-0.2
GZR				↑S	Sg	22 56 22.0	+0.3
DEV	**Deva**	**0.79**	**320**	↑P	Pb	22 56 17.2	-0.2
DEV				↑S	Sb	22 56 28.4	+0.3
DEV	**Deva**	**0.79**	**320**	↑P	Pb	22 56 17.2	-0.2
DEV				↑S	Sb	22 56 28.4	+0.3
HERR	**Herculane**	**0.94**	**245**	↑P	Pb	22 56 20.2	+0.1
HERR				↑S	Sb	22 56 33.2	+0.6
HERR	**Herculane**	**0.94**	**245**	↑P	Pb	22 56 20.2	+0.1
HERR				↑S	Sb	22 56 33.2	+0.6
VOIR		**1.02**	**81**	↑P	Pg	22 56 21.1	-0.3
VOIR		**1.02**	**81**	↑P	Pg	22 56 21.1	-0.3
CJR	**Cluj-Napoca**	**1.43**	**359**	↑P	Pn	22 56 27.1	-0.7
CJR				↑S	Sg	22 56 47.9	0.0
CJR	**Cluj-Napoca**	**1.43**	**359**	↑P	Pn	22 56 27.1	-0.7
CJR				↑S	Sg	22 56 47.9	0.0
MDVR	**Moldovita**	**1.44**	**250**	↑P	Pb	22 56 28.4	-0.3
MDVR				↓S	Sb	22 56 47.6	+0.5
MDVR	**Moldovita**	**1.44**	**250**	↑P	Pb	22 56 28.4	-0.3
MDVR				↓S	Sb	22 56 47.6	+0.5
BZS	**Buzias**	**1.45**	**284**	↑P	Pn	22 56 27.2	-0.7
BZS				↑S	Sn	22 56 46.9	0.0
BZS	**Buzias**	**1.45**	**284**	↑P	Pn	22 56 27.2	-0.7
BZS				↑S	Sn	22 56 46.9	0.0
DRGR		**1.64**	**338**	↓P	Pn	22 56 30.9	+0.3
DRGR				↓S	Sb	22 56 52.5	-0.3
DRGR		**1.64**	**338**	↓P	Pn	22 56 30.9	+0.3
DRGR				↓S	Sb	22 56 52.5	-0.3

*IDC **28** 22:58:13.3±1.6, 37.˚18N×136.˚04E, h326km±26km, mb2.7/2, mb1 3.1/3, mb1mx2.6/43, mbtmp3.7/3, Error ellipse: s-maj=53.2km s-min=25.3km az=75.0*
*JMA **28** 22:58:13.4±0.1, 37.˚06N×136.˚05E, h325km, M2.6*
ISC 28 22:58:13.8±1.2, 37.˚1N±0.˚1×136.˚4E±0.˚1, h350km, n7, σ1°29/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**1.52**	**118**	P	**Pn**	**22 59 01.4**	**-0.8**
MAT	**Matsushiro**	**1.54**	**112**	P	**Pn**	**22 59 01.2**	**-1.0**
MJAR	**Matsushiro Arr**	**1.54**	**112**	P	**Pn**	**22 59 01.7**	**-0.5**
	0.4nm,0.3s,baz=283,slow=7.9,SNR=32						
JFK	**Kawauchi**	**3.55**	**85**	*e*S	**S**	**23 00 09.7**	**-0.6**
ASAJ	**Asahikawa**	**8.40**	**32**	P	**Pn**	**23 00 13.1**	**+0.5**
	3.7nm,0.3s,baz=221,slow=14,SNR=13						
MKAR	**Makanchi Array**	**40.68**	**301**	P	**P**	**23 05 20.2**	**-1.0**
	0.8nm,1.1s,baz=72,slow=9.1,SNR=2.2						
WRA	**Warramunga Arr**	**56.80**	**182**	P	**P**	**23 07 24.5**	**+1.8**
	0.2nm,0.4s,baz=358,slow=7.4,SNR=6.7						

*IDC **28** 23:03:20.8±1.1, 38.˚53N×120.˚79E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.5/38, mbtmp3.6/9, ML3.8/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/36, Error ellipse: s-maj=35.6km s-min=15.0km az=28.0*
*NEIC **28** 23:03:23.9±1.5, 38.˚8N±0.˚1×120.˚90E±0.˚09, h15km±5km, mb4.3/8, ML4.3(BJI), Error ellipse: s-maj=19.3km s-min=7.9km az=203.0*
*BJI **28** 23:03:25.5±0.0, 38.˚59N×120.˚79E, h14km, mB4.4/6, mb4.0/10, ML4.1/16, Ms3.8/8, Ms7 3.6/8*
ISC 28 23:03:23.0±0.4, 38.˚60N±0.˚04×120.˚77E±0.˚03, h10km, n62, σ1°59/67, mb3.9/7, 2C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**0.74**	**66**	↓*i*P	**Pg**	**23 03 38.5**	**+1.2**
DL2				Sg	**Sg**	**23 03 47.8**	**+0.9**
DL2				SMN			
	16μm,0.5s						
DL2				SME			
	10μm,0.4s						
KSBAR	**Backryungdo** SNR=9.6	**3.17**	**100**	P	**Pn**	**23 04 13.6**	**+0.7**
KSBAR	**Backryungdo** SNR=9.6	**3.17**	**100**	P	**Pn**	**23 04 12.7**	**-0.2**
KSBAR	**Backryungdo** SNR=9.6	**3.17**	**100**	P	**Pn**	**23 04 13.6**	**+0.7**
KSBAR	**Backryungdo** SNR=9.6	**3.17**	**100**	P	**Pn**	**23 04 12.7**	**-0.2**
KSBAR				S	**Sb**	**23 05 01.4**	**+3.4**
DACB	**Daecheong-do R** SNR=52	**3.20**	**103**	P	**Pn**	**23 04 13.8**	**+0.5**
DACB	**Daecheong-do R** SNR=52	**3.20**	**103**	P	**Pn**	**23 04 13.8**	**+0.5**
TIA	**Tai'an**	**3.76**	**232**	Pn	**Pn**	**23 04 21.8**	**+0.8**
TIA				Pg	**Pb**	**23 04 33.5**	**+4.1**
TIA				Sg	**Sg**	**23 05 23.5**	**-0.2**
TIA				SMN			
	260nm,0.6s						
TIA				SME			
	240nm,0.5s						
BJT	**Baijiatuan**	**3.84**	**293**		**Pn**	**23 04 22.7**	**+0.6**
BJI	**Beijing**	**3.84**	**293**	Pn	**Pn**	**23 04 23.0**	**+0.9**
BJI				Sn	**Sn**	**23 05 04.8**	**-2.5**
BJI				SMN			
	190nm,1.1s						
BJI				SME			
	270nm,1.0s						
SNY	**Shenyang**	**3.87**	**33**	↑Pn	Pn	23 04 27.8	+5.2
SNY				Pg	**Pb**	**23 04 32.3**	**+0.9**
SNY				Sg	**Sb**	**23 05 20.5**	**+2.2**
SNY				SMN			
	490nm,0.6s						
SNY				SME			
	430nm,0.8s						
KSGBI	**Gyogryolbido** SNR=10	**4.29**	**116**	P	**Pn**	**23 04 28.5**	**+0.2**
KSGBI	**Gyogryolbido** SNR=10	**4.29**	**116**	P	**Pn**	**23 04 28.5**	**+0.2**
INCN	**Inchon**	**4.76**	**102**	Pn	**Pn**	**23 04 34.0**	**-0.9**
HUK2	**Heuksan-myeon** SNR=11	**5.43**	**135**	P	**Pn**	**23 04 44.7**	**+0.7**
HUK2	**Heuksan-myeon** SNR=11	**5.43**	**135**	P	**Pn**	**23 04 44.7**	**+0.7**
KSCHC	**Chuncheon** SNR=13	**5.61**	**96**	P	**Pn**	**23 04 47.6**	**+1.1**
KSCHC	**Chuncheon** SNR=13	**5.61**	**96**	P	**Pn**	**23 04 47.6**	**+1.1**
KS19	**Wonju Array Si**	**5.71**	**99**		**Pn**	**23 04 48.6**	**+0.7**
KSAR	**Wonju Array Be**	**5.74**	**99**		**Pn**	**23 04 48.0**	**-0.2**
KSRS	**Korea Array**	**5.76**	**99**	Pn	**Pn**	**23 04 48.4**	**-0.2**
	5.8nm,0.3s,baz=283,slow=13,SNR=58						
KSRS				Pg	Pb	23 05 09.3	+5.6
	6.4nm,0.3s,baz=283,slow=17,SNR=12						
KSRS				Sn	**Sn**	**23 05 51.1**	**-3.7**
	6.2nm,0.3s,baz=280,slow=18,SNR=4.6						
KSRS				Lg	Lg	23 06 20.7	
	38nm,0.3s,baz=283,slow=30,SNR=4.4						
KSRS				LR	LR	23 07 30.8	
	comp=Z,152nm,18.4s,baz=265,slow=44						
KSJEU	**Jeongeup** SNR=7.1	**5.83**	**120**	P	**Pn**	**23 04 50.0**	**+0.6**
KSJEU	**Jeongeup** SNR=7.1	**5.83**	**120**	P	**Pn**	**23 04 50.0**	**+0.6**
KSWJU	**Wonju** SNR=14	**5.88**	**100**	P	**Pn**	**23 04 51.0**	**+0.8**
SEHB	**SEOHWA** SNR=9.7	**5.89**	**91**	P	**Pn**	**23 04 51.7**	**+1.4**
SEHB	**SEOHWA** SNR=9.7	**5.89**	**91**	P	**Pn**	**23 04 51.7**	**+1.4**
KSBON	**Boeun** SNR=9.8	**5.97**	**108**	P	**Pn**	**23 04 52.0**	**+0.5**
KSMGY	**Mungyeong** SNR=8.2	**6.11**	**106**	P	**Pn**	**23 04 54.2**	**+0.9**
KSCPR	**CHUPUNGNYEONG** SNR=7.2	**6.21**	**110**	P	**Pn**	**23 04 55.4**	**+0.7**
CN2	**Changchun**	**6.28**	**33**	*e*Pg	**Pg**	**23 05 22.5**	**-0.7**
CN2				*e*Sg	**Sg**	**23 06 39.8**	**-4.7**
CN2				SMN			
	280nm,0.8s						
CN2				SME			
	250nm,0.8s						
NJ2	**Nanjing**	**6.72**	**194**	*e*Pg	**Pg**	**23 05 30.5**	**-1.2**
NJ2				Sg	**Sg**	**23 06 54.8**	**-4.0**
NJ2				SMN			
	290nm,0.8s						
NJ2				SME			
	270nm,0.7s						
KSADO	**Andong** SNR=6.3	**6.86**	**106**	P	**Pn**	**23 05 05.0**	**+1.3**
KSNAH	**Namhae** SNR=8.2	**6.88**	**121**	P	**Pn**	**23 05 04.6**	**+0.6**
JTU	**Tsushima**	**8.05**	**118**	Pn	**Pn**	**23 05 19.9**	**-0.1**
BTO	**Baotou**	**8.53**	**287**	*e*P	**Pg**	**23 06 05.3**	**-1.0**
WHN	**Wuhan**	**9.62**	**215**	*e*P	Pn	23 05 48.5	+7.0
JNU	**Nakatsue**	**9.86**	**121**	Pn	**Pn**	**23 05 44.5**	**-0.3**
	1.0nm,0.3s,baz=326,slow=2.2,SNR=1.6						
JNU				Sn	**Sn**	**23 07 35.4**	**-0.2**
	baz=262,slow=10,SNR=1.3						
JNU				Lg	Lg	23 08 31.6	
	0.5nm,0.3s,baz=11,slow=7.6,SNR=2.6						
USRK	**Ussuriysk Ar.**	**10.11**	**53**	Pn	**Pn**	**23 05 49.0**	**+0.8**
	baz=236,slow=13,SNR=2.6						
USRK				Lg	Lg	23 08 41.9	
	baz=236,slow=27,SNR=16						
KLR	**Kul'dur**	**13.23**	**33**	Lg	Lg	23 10 22.1	
	0.3nm,0.3s,baz=291,slow=16,SNR=10						
ULN	**Ulaanbaatar**	**13.61**	**317**	Pn	**Pn**	**23 06 35.7**	**-0.4**
SONM	**Songino Array**	**13.94**	**316**	Pn	**Pn**	**23 06 39.1**	**-1.6**
	0.1nm,0.3s,baz=143,slow=15,SNR=2.2						
SONM				Lg	Lg	23 10 46.7	
	0.1nm,0.3s,baz=126,slow=30,SNR=5.9						
SONM				LR	LR	23 12 53.4	
	comp=Z,118nm,20.1s,baz=186,slow=41						
MJAR	**Matsushiro Arr**	**13.99**	**93**	LR	LR	23 11 43.4	
	comp=Z,78nm,18.5s,baz=290,slow=36						
KNMB	**Chin-men Tao**	**14.24**	**189**	Pn	**Pn**	**23 06 47.5**	**+2.8**
GTA	**Gaotai**	**16.31**	**279**	↑P	**Pn**	**23 07 14.8**	**+2.6**
GTA				pP	pP	23 07 20.0	+2.0
GTA				sP	sP	23 07 22.8	+3.5
GTA				pmax	pmax		
	comp=E,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,47nm,5.1s						
GTA				L	L		
	comp=N,170nm,14.2s						
GTA				L	L		
	comp=E,210nm,13.5s						
GTA				L	L		
	comp=Z,250nm,15.3s						
ERM	**Erimo**	**17.41**	**72**	Pn	**Pn**	**23 07 23.6**	**-2.2**
ERM				IAmb	IAmb	23 07 27.7	
	comp=Z,23nm,1.1s						
JEM	**Erimo**	**17.41**	**72**		**Pn**	**23 07 22.8**	**-3.0**
JEM				IAmb	IAmb	23 07 27.8	
	comp=Z,24nm,1.1s						
TLY	**Talaya**	**17.74**	**323**	LR	LR	23 15 16.7	
	comp=Z,62nm,18.9s,baz=146,slow=40						
WMQ	**Urumqi**	**25.31**	**293**	*e*P	**P**	**23 08 52.3**	**+2.5**
MKAR	**Makanchi Array**	**29.20**	**299**	P	**P**	**23 09 23.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=105,slow=8.1,SNR=2.0						
MKAR	**Makanchi Array**	**29.20**	**299**	P	**P**	**23 09 23.8**	**-0.9**
PRZ	**Przheval'sk**	**32.18**	**291**	P	**P**	**23 09 51.2**	**0.0**
TARG	**Taragay, Kyrgy**	**32.73**	**289**	P	**P**	**23 09 56.0**	**-0.3**
TARG				IAmb	IAmb	23 10 14.7	
	comp=Z,3.4nm,0.9s						
KK31	**Karatay Array**	**37.82**	**293**	P	**P**	**23 10 40.0**	**+0.4**
KKAR	**Karatay Array**	**37.82**	**293**	P	**P**	**23 10 40.1**	**+0.5**
KKAR	**Karatay Array**	**37.82**	**293**	P	**P**	**23 10 40.2**	**+0.6**
KKAR				IAmb	IAmb	23 10 47.8	
	comp=Z,2.0nm,0.8s						
TNTI	**Ternate**	**38.13**	**169**	P	**P**	**23 10 42.8**	**+0.3**
NIL	**Nilore**	**38.36**	**278**	P	**P**	**23 10 44.1**	**-0.2**
NIL				IAmb	IAmb	23 10 47.2	
	comp=Z,7.9nm,0.9s						
FINES	**FINESS Array B**	**59.06**	**326**	P	**P**	**23 13 22.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=69,slow=9.1,SNR=2.6						
FINES				LR	LR	23 41 32.2	
	comp=Z,57nm,18.9s,baz=65,slow=39						
WRA	**Warramunga Arr**	**59.61**	**165**	P	**P**	**23 13 25.8**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=350,slow=7.2,SNR=1.4						
AKASG	**Malin Array Be**	**62.22**	**314**	P	**P**	**23 13 45.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=60,slow=6.7,SNR=1.8						
NOA	**NORSAR Array B**	**65.47**	**330**	LR	LR	23 45 31.4	
	comp=Z,28nm,18.7s,baz=105,slow=39						
NVAR	**Mina Array Bea**	**86.08**	**42**	P	**P**	**23 16 02.4**	**-2.0**
	comp=Z,0.1nm,0.4s,baz=318,slow=5.3,SNR=1.4						

*IDC **28** 23:32:03.4±1.8, 32.˚30S×177.˚76W, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.8/31, mbtmp4.0/4, ML3.3/2, Error ellipse: s-maj=64.5km s-min=28.7km az=153.0*
*NEIC **28** 23:32:04.4±0.9, 32.˚4S±0.˚2×177.˚6W±0.˚1, h10km±2km, mb4.2/7, Error ellipse: s-maj=28.2km s-min=18.8km az=154.0*
ISC 28 23:32:04.6±1.2, 32.˚5S±0.˚1×177.˚5W±0.˚2, h21km, n14, σ0°69/14, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.24**	**216**	Pn	**Pn**	**23 33 49.3**	**+0.1**
	0.3nm,0.3s,baz=121,slow=23,SNR=1.4						
URZ				Sn	**Sn**	**23 35 10.5**	**-0.3**
	0.6nm,0.3s,baz=304,slow=23,SNR=1.6						
OUZ	**Omahuta**	**7.91**	**248**	Pn	**Pn**	**23 33 59.9**	**+1.5**
BKZ	**Black Stump Fm**	**8.25**	**215**	Pn	**Pn**	**23 34 03.5**	**+0.4**

RAR	**Rarotonga**	**19.36**	**59**	P		**Pn**	**23 36 31.0**	**+0.9**
	1.6nm,0.3s,baz=243,slow=14,SNR=3.7							
RAR	**Rarotonga**	**19.36**	**59**	IAmb		IAmb	23 36 46.9	
	comp=Z,25nm,1.0s							
ARMA	**Armidale**	**26.40**	**266**	P		**P**	**23 37 39.7**	**-0.1**
ARMA				IAmb		IAmb	23 37 45.3	
	comp=Z,10nm,1.1s							
ASAR	**Alice Springs**	**43.49**	**269**	P		**P**	**23 40 06.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=105,slow=7.4,SNR=6.2							
WR0	**Warramunga Arr**	**44.49**	**274**	P		**P**	**23 40 14.1**	**-0.6**
WR0				IAmb		IAmb	23 40 15.0	
	comp=Z,2.0nm,1.1s							
WB2	**Warramunga Arr**	**44.65**	**274**	P		**P**	**23 40 15.5**	**-0.5**
WB2				IAmb		IAmb	23 40 30.1	
	comp=Z,1.8nm,0.9s							
WRA	**Warramunga Arr**	**44.66**	**274**	P		**P**	**23 40 15.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=112,slow=7.9,SNR=19							
WB0	**Warramunga Arr**	**44.70**	**274**	P		**P**	**23 40 16.0**	**-0.4**
WB0				IAmb		IAmb	23 40 17.3	
	comp=Z,6.1nm,1.1s							
PATS	**Pohnpei**	**45.42**	**325**	P		**P**	**23 40 21.1**	**-0.9**
FORT	**Forrest**	**45.98**	**257**	P		**P**	**23 40 26.2**	**-0.2**
FINES	**FINESS Array B**	**147.28**	**339**	PKPbc		**PKPab**	**23 51 47.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=64,slow=4.4,SNR=5.7							

*ECX **28** 23:52:23.0±0.5, 31°.35N×115°.35W, h10km±5km, MD1.9, ML2.1*
*MEX **28** 23:52:24.1±0.7, 31°.29N×115°.28W, h11km±39km, MD3.5*
ISC 28 23:52:21.9±1.1,**31°.33N**±0°.05×**115°.39W**±0°.04,
h12km±11km,**n11**,σ0°**48**/20,**5C-2D, Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPIG	**San Pedro Mart**	**0.29**	**193**	*i* P		**Pb**	**23 52 29.4**	**+0.2**
SPIG				*i* S		**Sb**	**23 52 34.2**	**+0.1**
SPIG	**San Pedro Mart**	**0.29**	**193**	⇓*e*P		**Pb**	**23 52 29.4**	**+0.2**
SPIG				*e*S		**Sb**	**23 52 34.1**	**+0.1**
SPX	**San Pedro Mart**	**0.29**	**193**	*i* P		**Pb**	**23 52 29.4**	**0.0**
SPX				*i* S		**Sb**	**23 52 33.8**	**-0.5**
SPX	**San Pedro Mart**	**0.29**	**193**	⇓*e*P		**Pb**	**23 52 29.4**	**0.0**
SPX				*e*S		**Sb**	**23 52 33.9**	**-0.5**
SPX				IAML			23 52 34.5	
	comp=E,247nm,0.4s							
SPX				⇑*e*			23 52 34.5	
SPX				⇑*e*			23 52 34.6	
SPX				IAML			23 52 34.6	
	comp=N,225nm,0.1s							
ECBX	**El Chinero**	**0.32**	**63**	⇑*e*P		**Pg**	**23 52 28.1**	**-0.4**
ECBX				*e*S		**Sg**	**23 52 32.5**	**-0.4**
SFX	**San Felipe**	**0.54**	**122**	⇑*e*P		**Pb**	**23 52 33.9**	**+0.5**
SFX				*e*S		**Sb**	**23 52 41.6**	**+0.4**
SFX				IAML			23 52 44.1	
	comp=N,114nm,0.4s							
SFX				⇑*e*			23 52 44.1	
SVX	**San Vicente**	**0.74**	**270**	*e*P		**Pg**	**23 52 36.8**	**+0.6**
MBIG	**Mexicali**	**1.09**	**9**	*e*P		**Pn**	**23 52 43.6**	**+0.6**
MBIG				*e*S		**Sg**	**23 52 57.3**	**+0.1**
CCX	**Cicese**	**1.22**	**297**	*e*P		**Pn**	**23 52 44.3**	**-0.4**
CBX	**Cerro Bola**	**1.47**	**313**	*e*P		**Pn**	**23 52 48.8**	**+0.5**
CBX				*e*S		**Sn**	**23 53 06.6**	**-0.9**
TJIG	**Tijuana**	**1.56**	**316**	*i* P		**Pn**	**23 52 49.8**	**+0.3**
TJIG				*i* S		**Sn**	**23 53 08.9**	**-0.6**

*IDC **28** 23:57:10.4±0.6, 27°.63N×86°.21E, h0km, mb4.3/24, mb1 4.4/27, mb1mx4.3/49, mbtmp4.3/27, ML4.6/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/39, Error ellipse: s-maj=17.5km s-min=12.4km az=36.0*
*DMN **28** 23:57:12.5±0.0, 27°.53N×86°.29E, h55km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **28** 23:57:13.2±3.3, 27°.50N×86°.21E, h10km, ML4.4, mb4.7(NEIC)*
*MOS **28** 23:57:13.5±1.1, 27°.87N×85°.92E, h16km, mb4.7/26, Error ellipse: s-maj=9.4km s-min=3.9km az=120.5*
*BJI **28** 23:57:13.5±0.0, 27°.90N×86°.00E, h15km, mB4.6/13, mb4.4/26, ML4.3/1, Ms4.0/18, Ms7 3.8/15*
*NEIC **28** 23:57:15.5±2.5, 28°.03N±0°.08×86°.06E±0°.06, h10km±1km, mb4.7/78, Error ellipse: s-maj=13.2km s-min=8.2km az=164.0*
ISC 28 23:57:13.6±0.8,**27°.49N**±0°.04×**86°.08E**±0°.03,**h24**km±6km,
n297,σ1°**91**/310,**mb4.6**/89,**MS3.6**/13,**32C-13D, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PKI	**Pulchoki**	**0.60**	**278**	*e*Pg		**Pn**	**23 57 28.3**	**+1.4**
PKIN	**Phulchoki**	**0.61**	**278**	*e*Pg		**Pn**	**23 57 28.7**	**+1.7**
PKIN				*e*Sg		**Sn**	**23 57 41.0**	**+4.7**
	34μm,0.3s							
RAMN	**Ramite**	**0.71**	**139**	*e*Pg		**Pb**	**23 57 26.9**	**-0.7**
RAMN	**Ramite**	**0.71**	**139**	*e*Pg		**Pb**	**23 57 27.4**	**-0.2**
RAMN				*e*Sg		**Sn**	**23 57 38.2**	**-0.5**
KKN	**Kakani**	**0.77**	**293**	*e*Pg		**Pn**	**23 57 30.3**	**+1.1**
KKN				*e*Sg		**Sn**	**23 57 44.6**	**+4.5**
	4μm,0.2s							
GKN	**Gorkha**	**1.38**	**292**	*e*Pb		**Pb**	**23 57 40.9**	**+2.1**
GKN				*e*Sb		**Sb**	**23 58 00.9**	**+4.9**
	2μm,0.2s							
KOLN	**Koldanda**	**2.22**	**278**	*e*Pb		**Pb**	**23 57 52.4**	**-0.7**
DANN	**Dangsing**	**2.22**	**293**	*e*Pb		**Pb**	**23 57 52.7**	**-0.6**
PYUN	**Piuthan**	**2.80**	**283**	*e*Pb		**Pb**	**23 58 00.8**	**-2.3**
PYUN				*e*Sn		**Sn**	**23 58 31.4**	**+1.1**
	790nm,0.2s							
LSA	**Lhasa**	**4.97**	**63**	Pn		**Pn**	**23 58 27.3**	**+0.1**
LSA				Sn		**Sn**	**23 59 21.5**	**-2.7**
LSA				SMN				
	470nm,1.7s							
LSA				SME				
	400nm,1.6s							
LSA	**Lhasa**	**4.97**	**63**	P		**Pn**	**23 58 27.3**	**+0.1**
LSA	**Lhasa**	**4.97**	**63**	Pn		**Pn**	**23 58 27.3**	**+0.1**
LGTI	**Lohaghat**	**5.49**	**292**	*e*P		**Pn**	**23 58 38.2**	**+4.3**
LGTI				*e*S		**Sn**	**23 59 41.7**	**+5.4**
SHL	**Shillong**	**5.54**	**109**	*e*P		**Pn**	**23 58 34.2**	**-0.6**
SHL				*e*S		**Sn**	**23 59 33.5**	**-4.4**
SHL				IAML			23 59 36.6	
	comp=N,248nm,0.4s							
BRDH	**Bariadhala**	**6.96**	**132**	Pn		**Pn**	**23 58 57.0**	**+3.0**
	comp=N,26nm,0.3s,baz=242,slow=19,SNR=2.0							
BRDH				Sn		**Sn**	**00 00 11.2**	**-1.3**
	comp=N,23nm,0.3s,baz=254,slow=22,SNR=1.2							
SMLA	**Simla**	**8.58**	**297**	*e*P		**Pn**	**23 59 17.7**	**+1.4**
SMLA				*e*S		**Sn**	**00 00 52.1**	**-0.3**
SMLA				IAML			00 00 54.5	
	comp=E,481nm,0.5s							
BHPL	**Bhopal**	**8.89**	**244**	*e*P		**Pn**	**23 59 20.9**	**+0.2**
BHPL				*e*S		**Sn**	**00 00 57.8**	**-2.4**
BHPL				IAML			00 01 02.2	
	comp=E,150nm,0.3s							
DHRM	**DHARAMSHALA**	**9.72**	**302**	*e*P		**Pn**	**23 59 31.8**	**-0.4**
DHRM				*e*S		**Sn**	**00 01 15.0**	**-5.7**
DHRM				IAML			00 01 26.4	
	comp=N,250nm,0.5s							
VIS	**Vishakhapatnam**	**10.05**	**195**	*e*P		**Pn**	**23 59 39.5**	**+3.0**
VIS				*e*S		**Sn**	**00 01 21.8**	**-6.7**
THN	**Thein Dam**	**10.24**	**301**	*e*P		**Pn**	**23 59 43.0**	**+3.9**
THN				*e*S		**Sn**	**00 01 28.5**	**-4.7**
HYB	**Hyderabad**	**12.20**	**216**	*i* P		**Pn**	**00 00 07.0**	**+1.0**
HYB				*e*S		**Sn**	**00 02 17.0**	**-4.3**
CHCP	**Chirah Chowk**	**12.63**	**302**	P		**Pn**	**00 00 11.0**	**-0.8**
NIL	**Nilore**	**12.64**	**302**	P		**Pn**	**00 00 10.1**	**-1.8**
NIL	**Nilore**	**12.64**	**302**			**Pn**	**00 00 10.1**	**-1.8**
THW	**Thamme Wali**	**13.48**	**297**	P		**Pn**	**00 00 22.9**	**-0.5**
CEP	**Cherat**	**13.73**	**301**	P		**Pn**	**00 00 24.3**	**-2.6**
POO	**Poona**	**14.35**	**234**	*e*P		**Pn**	**00 00 34.7**	**-0.7**
CHTO	**Chiang Mai**	**14.64**	**123**	P		**P**	**00 00 47.5**	**+2.1**
CHTO	**Chiang Mai**	**14.64**	**123**			**P**	**00 00 47.5**	**+2.1**
KSH	**Kashi**	**14.64**	**328**	P		**Pn**	**00 00 35.3**	**-4.1**
KSH				S		Sn	00 03 10.8	-10
CM31	**Chiang Mai Arr**	**14.86**	**125**	Pn		**P**	**00 00 50.1**	**+2.2**
CMAR	**Chiang Mai Arr**	**14.86**	**125**	Pn		**Pn**	**00 00 41.6**	**-0.7**
	comp=N,0.9nm,0.3s,baz=302,slow=14,SNR=9.5							
CMAR				LR		LR	00 07 44.5	
	comp=N,152nm,19.6s,baz=17,slow=43							
CMAR	**Chiang Mai Arr**	**14.86**	**125**	P		**P**	**00 00 49.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**14.86**	**125**	Pn		**P**	**00 00 49.7**	**+1.8**
TARG	**Taragay, Kyrgy**	**15.74**	**337**	Pn		**Pn**	**00 00 51.6**	**-2.5**
TARG				IAmb		IAmb	00 01 10.2	
	comp=Z,28nm,0.8s							
KBL	**Kabul**	**16.20**	**300**	P		**Pn**	**00 00 58.5**	**-1.3**
KBL				pmax		pmax		
	comp=Z,27nm,0.8s							
KBL	**Kabul**	**16.20**	**300**			**Pn**	**00 00 58.5**	**-1.3**
KBL				IAmb		IAmb	00 01 05.1	
	comp=Z,27nm,0.8s							
PRZ	**Przheval'sk**	**16.21**	**339**	P		**Pn**	**00 00 56.5**	**-3.5**
PRZ				pmax		pmax		
	comp=Z,45nm,1.5s							
PRZ	**Przheval'sk**	**16.21**	**339**			**Pn**	**00 00 56.5**	**-3.5**
PRZ				IAmb		IAmb	00 01 15.9	
	comp=Z,45nm,1.4s							
KDJ	**Kajisay**	**16.31**	**336**	P		**Pn**	**00 00 58.9**	**-2.4**
KDJ				pmax		pmax		
	comp=Z,26nm,0.6s							
KDJ	**Kajisay**	**16.31**	**336**	P		**Pn**	**00 00 58.9**	**-2.4**
KDJ				IAmb		IAmb	00 01 07.1	
	comp=Z,26nm,0.6s							
WMQ	**Urumqi**	**16.35**	**4**	*e*P		**P**	**00 01 03.0**	**-1.3**
WMQ				pmax		pmax		
	comp=Z,17nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,150nm,4.1s							
GTA	**Gaotai**	**16.49**	**40**	⇑P		**Pn**	**00 01 04.0**	**+0.5**
GTA				pP		P	00 01 09.0	+3.0
GTA				sP		pP	00 01 12.3	-0.9
GTA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
GTA				pmax		pmax		
	comp=Z,56nm,5.5s							
GTA				L		L		
	comp=Z,160nm,16.7s							
GTA				L		L		
	comp=Z,170nm,15.3s							
GTA				L		L		
	comp=Z,150nm,13.8s							
PDGK	**Podgornoye**	**16.68**	**343**	P		**Pn**	**00 01 02.7**	**-3.1**
DRK	**Karamyk**	**16.85**	**319**	P		**Pn**	**00 01 04.0**	**-4.2**
DRK				IAmb		IAmb	00 01 11.3	
	comp=Z,29nm,0.5s							
BOOM	**Boomskoye usch**	**17.09**	**334**	P		**Pn**	**00 01 08.7**	**-2.4**
BOOM				pmax		pmax		
	comp=Z,18nm,0.7s							
BOOM	**Boomskoye usch**	**17.09**	**334**			**Pn**	**00 01 08.7**	**-2.4**
MDOK	**Medeo**	**17.27**	**337**	P		**Pn**	**00 01 11.7**	**-1.5**
LZH	**Lanzhou**	**17.35**	**56**	*e*P		**P**	**00 01 19.8**	**+4.3**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,110nm,4.3s							
LZH				L		L		
	comp=Z,300nm,10.8s							
LZH				L		L		
	comp=Z,270nm,11.9s							
LZH				L		L		
	comp=Z,310nm,12.6s							
GAR	**Garm**	**17.45**	**315**			**Pn**	**00 01 11.8**	**-3.8**
GAR				IAmb		IAmb	00 01 18.1	
	comp=Z,36nm,0.5s							
PBKT	**Sadao Pong**	**17.55**	**125**	Pn		**P**	**00 01 21.7**	**+4.0**
TKM2	**Tokmak 2**	**17.59**	**334**	P		**Pn**	**00 01 15.4**	**-1.9**
BTK	**Batken**	**17.80**	**319**	P		**Pn**	**00 01 17.3**	**-2.5**
BTK				pmax		pmax		
	comp=Z,55nm,0.7s							
BTK	**Batken**	**17.80**	**319**	P		**Pn**	**00 01 17.3**	**-2.5**
BTK				IAmb		IAmb	00 01 19.7	
	comp=Z,55nm,0.7s							
AAK	**Ala-Archa**	**17.81**	**331**	P		**Pn**	**00 01 18.2**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=154,slow=11,SNR=23							
AAK				LR		LR	00 08 02.3	
	comp=Z,91nm,18.1s,baz=156,slow=37							
AAK	**Ala-Archa**	**17.81**	**331**	⇑*e*P		**Pn**	**00 01 16.6**	**-3.4**
AAK	**Ala-Archa**	**17.81**	**331**	P		**Pn**	**00 01 17.8**	**-2.1**
FRU1	**Bishkek**	**17.89**	**332**	P		**Pn**	**00 01 19.3**	**-1.6**
FRU1				pmax		pmax		
	comp=Z,24nm,1.0s							
FRU1	**Bishkek**	**17.89**	**332**			**Pn**	**00 01 19.3**	**-1.6**
CHGR	**Chuyangaron**	**18.00**	**312**	Pn		**Pn**	**00 01 18.9**	**-3.4**
GYA	**Guiyang**	**18.38**	**88**	*e*P		**P**	**00 01 23.5**	**-3.4**
GYA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MK31	**Makanchi Array**	**19.50**	**352**	P		**P**	**00 01 38.1**	**-0.8**
MK31				pmax		pmax		
	comp=Z,12nm,0.8s							
MK31	**Makanchi Array**	**19.50**	**352**	P		**P**	**00 01 38.1**	**-0.8**
MKAR	**Makanchi Array**	**19.50**	**352**	P		**P**	**00 01 38.5**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=177,slow=12,SNR=89							
MKAR				LR		LR	00 10 22.7	
	comp=Z,87nm,18.4s,baz=172,slow=41							
MKAR	**Makanchi Array**	**19.50**	**352**	P		**P**	**00 01 38.1**	**-0.8**
TAS	**Tashkent**	**19.50**	**319**	P		**P**	**00 01 37.5**	**-1.5**
TAS				pmax		pmax		
	comp=Z,123nm,1.4s							
TAS	**Tashkent**	**19.50**	**319**	P		**P**	**00 01 37.5**	**-1.5**
TAS				IAmb		IAmb	00 01 40.3	
	comp=Z,123nm,1.4s							
MAKZ	**Makanchi**	**19.55**	**352**	P		**P**	**00 01 38.4**	**-1.1**
MAKZ				pmax		pmax		
	comp=Z,21nm,0.7s							
MAKZ	**Makanchi**	**19.55**	**352**	P		**P**	**00 01 38.4**	**-1.1**
MAKZ				IAmb		IAmb	00 01 40.4	
	comp=Z,21nm,0.7s							
KK31	**Karatay Array**	**20.05**	**325**	P		**P**	**00 01 44.7**	**-0.3**
KK31				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KK31	**Karatay Array**	**20.05**	**325**			**P**	**00 01 44.7**	**-0.3**
KKAR	**Karatay Array**	**20.05**	**325**	P		**P**	**00 01 44.7**	**-0.3**
KKAR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KKAR	**Karatay Array**	**20.05**	**325**			**P**	**00 01 44.7**	**-0.3**
KKAR	**Karatay Array**	**20.05**	**325**			**P**	**00 01 44.3**	**-0.7**
XAN	**Xi'an**	**20.66**	**66**	P		Pn	00 01 55.5	+1.3
XAN				pP		sP	00 02 02.5	+0.1
XAN				pmax		pmax		
	comp=Z,11nm,1.2s							
XAN				L		L		
	comp=Z,550nm,16.3s							
XAN				L		L		
	comp=Z,230nm,11.9s							
XAN				L		L		
	comp=Z,270nm,16.3s							
ENH	**Enshi**	**20.68**	**77**	P		Pn	00 01 53.4	-1.0
ENH				IAmb		IAmb	00 02 02.8	
	comp=Z,21nm,1.1s							
PALK	**Pallekele**	**20.75**	**195**	P		Pn	00 02 01.8	+6.6
	comp=Z,8.8nm,0.8s,baz=68,slow=1.5,SNR=1.8							
PALK				S		**S**	**00 05 41.7**	**-1.6**
	comp=Z,7.2nm,0.6s,baz=5.7,slow=10,SNR=1.8							
HRA	**Herat**	**21.54**	**294**	P		**P**	**00 02 03.5**	**+2.1**
DGZ	**Jazzator, Alta**	**22.20**	**2**	⇑*e*P		**P**	**00 02 07.4**	**-0.9**
DGZ				pmax		pmax		
	comp=Z,12nm,0.7s							
OTUK	**Ortayu**	**23.32**	**336**	P		**P**	**00 02 19.6**	**-0.2**
KURBB	**Kurchatov Arra**	**23.81**	**348**	P		**P**	**00 02 23.6**	**-0.8**
	comp=Z,19nm,0.7s,baz=169,slow=9.4,SNR=159							
KURK	**Kurchatov**	**23.88**	**348**	P		**P**	**00 02 23.7**	**-1.4**
HHC	**Hu-ho-hao-te**	**24.84**	**51**	*e*P		**P**	**00 02 37.8**	**+3.6**
HHC				pmax		pmax		
	comp=Z,17nm,1.1s							
HHC				pmax		pmax		
	comp=Z,66nm,5.2s							
GEYT	**Alibeck**	**25.64**	**301**	P		**P**	**00 02 42.6**	**+1.2**
	comp=Z,5.3nm,0.6s,baz=105,slow=11,SNR=9.4							
GEYT				LR		LR	00 14 47.6	
	comp=Z,62nm,18.6s,baz=60,slow=41							
GEYT	**Alibeck**	**25.64**	**301**	P		**P**	**00 02 44.0**	**+2.6**
GEYT				IAmb		IAmb	00 02 47.0	
	comp=Z,7.3nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**25.64**	**301**	P		**P**	**00 02 43.6**	**+2.2**
GYA0B				IAmb		IAmb	00 02 47.0	
	comp=Z,9.2nm,0.8s							
SONM	**Songino Array**	**25.76**	**33**	P		**P**	**00 02 42.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=221,slow=11,SNR=12							
SONM	**Songino Array**	**25.76**	**33**	P		**P**	**00 02 44.4**	**+1.8**
SONM				pmax		pmax		
	comp=Z,8.0nm,0.8s							
SONM	**Songino Array**	**25.76**	**33**	P		**P**	**00 02 44.4**	**+1.8**
SONM				IAmb		IAmb	00 02 55.8	
	comp=Z,7.5nm,0.8s							
ULN	**Ulaanbaatar**	**26.10**	**33**	⇓*i*P		**P**	**00 02 48.7**	**+3.1**
ULN				pmax		pmax		
	comp=Z,11nm,2.5s							
ULN	**Ulaanbaatar**	**26.10**	**33**	P		**P**	**00 02 47.2**	**+1.6**
ZAK	**Zakamensk**	**26.36**	**25**	*e*P		**P**	**00 02 47.6**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ZAA0	**Zalesovo Array**	**26.45**	**358**	P		**P**	**00 02 47.2**	**-1.3**
ZALV	**Zalesovo Beam**	**26.45**	**358**	P		**P**	**00 02 47.6**	**-0.8**
	comp=Z,4.8nm,0.4s,baz=184,slow=9.5,SNR=18							
ZALV				LR		LR	00 15 00.8	
	comp=Z,111nm,19.5s,baz=217,slow=41							
ZALV	**Zalesovo Beam**	**26.45**	**358**	*i* P		**P**	**00 02 48.0**	**-0.5**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.4s							
MOY	**Mondy**	**26.64**	**21**	*e*P		**P**	**00 02 53.4**	**+3.0**
TLY	**Talaya**	**27.55**	**24**	LR		LR	00 14 59.4	
	comp=Z,80nm,18.6s,baz=221,slow=39							
BVAR	**Borovoye Array**	**28.05**	**340**	P		**P**	**00 03 01.7**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=92,slow=11,SNR=16							
BRVK	**Borovoye**	**28.11**	**340**	⇑*i*P		**P**	**00 03 03.6**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BRVK	**Borovoye**	**28.11**	**340**	P		**P**	**00 03 02.9**	**-0.6**
NJ2	**Nanjing**	**28.75**	**73**	*e*P		**P**	**00 03 12.3**	**+3.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.7s							
AB31	**Akbulak array**	**29.61**	**324**	*e*P		**P**	**00 03 18.0**	**+1.2**
ABKAR	**Akbulak array**	**29.61**	**324**	P		**P**	**00 03 17.9**	**+1.1**
ABKAR	**Akbulak array**	**29.61**	**324**	P		**P**	**00 03 17.8**	**+1.0**
ABKAR				IAmb		IAmb	00 03 18.9	
	comp=Z,20nm,0.6s							
BKNI	**Bangkinang**	**30.59**	**150**	P		P	00 03 36.0	+10
AKTO	**Aktyubinsk**	**31.32**	**325**	P		**P**	**00 03 32.5**	**+0.6**
AKT	**Akhty**	**34.26**	**304**	*e*P		**P**	**00 04 00.2**	**+2.3**
AKT				*e*			00 05 12.3	
AKT				*e*			00 06 42.1	
AKT				pmax		pmax		
	comp=Z,7.0nm,0.7s							
ARU	**Arti**	**34.97**	**333**	*d i*P		**P**	**00 04 04.0**	**+0.4**
ARU							00 05 14.0	
ARU							00 06 36.0	
ARU				S		**S**	**00 09 34.1**	**+0.3**
ARU				SS		**SnSn**	**00 11 45.1**	**-4.6**
ARU				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ARU	**Arti**	**34.97**	**333**	P		**P**	**00 04 03.7**	**+0.1**
ARU				IAmb		IAmb	00 04 05.0	
	comp=Z,12nm,0.6s							
GROC	**Groznyy**	**36.02**	**306**	*e*P		**P**	**00 04 13.6**	**+0.7**
GROC				pmax		pmax		
	comp=Z,27nm,0.8s							
GNI	**Garni**	**36.28**	**301**	P		**P**	**00 04 17.2**	**+1.9**
GNI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
GNI	**Garni**	**36.28**	**301**	P		**P**	**00 04 17.2**	**+1.9**
GNI				IAmb		IAmb	00 04 32.2	
	comp=Z,9.6nm,1.1s							
KSRS	**Korea Array**	**36.42**	**63**	P		**P**	**00 04 14.3**	**-2.0**
	comp=Z,3.1nm,0.5s,baz=262,slow=8.4,SNR=16							
ZEI	**Tsey**	**37.31**	**305**	*e*P		**P**	**00 04 25.9**	**+1.8**
ZEI				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KARS	**Kars**	**37.60**	**302**	P		**P**	**00 04 28.5**	**+2.0**
KARS				pmax		pmax		
	comp=Z,31nm,0.8s							
KARS	**Kars**	**37.60**	**302**	P		**P**	**00 04 28.5**	**+2.0**
ONI	**Oni**	**37.60**	**305**	P		**P**	**00 04 28.1**	**+1.7**
ONI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ONI	**Oni**	**37.60**	**305**	P		**P**	**00 04 28.1**	**+1.7**
NCK	**Nalchik**	**37.66**	**306**	⇑*i*P		**P**	**00 04 25.8**	**-1.0**
NCK				pmax		pmax		
	comp=Z,4.0nm,0.2s							
KBZ	**Khabaz**	**38.20**	**307**	P		**P**	**00 04 31.4**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=112,slow=9.2,SNR=5.0							
KBZ				LR		LR	00 24 18.1	
	comp=Z,33nm,19.4s,baz=48,slow=43							
KBZ	**Khabaz**	**38.20**	**307**	⇓*e*P		**P**	**00 04 30.4**	**-0.9**
KBZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NEY	**Neytrino**	**38.24**	**306**	⇓*e*P		**P**	**00 04 30.5**	**-1.4**
NEY				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KIV	**Kislovodsk**	**38.39**	**307**	*e*P		**P**	**00 04 31.5**	**-1.6**
KIV				pmax		pmax		
	comp=Z,11nm,1.1s							
KIV				MLR		MLR		
	comp=Z,58nm,16.0s							
JNU	**Nakatsue**	**38.86**	**70**	P		**P**	**00 04 40.1**	**+3.0**
JNU				IAmb		IAmb	00 04 42.9	
	comp=Z,27nm,1.1s							
KIRV	**Kirov**	**40.15**	**331**	*de*P		**P**	**00 04 48.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**40.22**	**53**	P		**P**	**00 04 51.1**	**+2.9**
USRK	**Ussuriysk Ar.**	**40.22**	**53**	P		**P**	**00 04 51.1**	**+2.9**
KLR	**Kul'dur**	**41.09**	**46**	P		**P**	**00 04 53.7**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=248,slow=11,SNR=4.9							
NRIK	**Noril'sk**	**41.89**	**1**	P		**P**	**00 05 01.2**	**-0.4**
	comp=Z,6.2nm,0.5s,baz=180,slow=6.4,SNR=16							
NRIK	**Noril'sk**	**41.89**	**1**	P		**P**	**00 05 01.3**	**-0.4**
NRIK				IAmb		IAmb	00 05 02.9	
	comp=Z,6.2nm,0.7s							
VORD	**Divnogorie**	**42.24**	**317**	*e*P		**P**	**00 05 03.9**	**-0.8**
VORD				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ANN	**Anapa**

	comp=E,1.0nm,1.1s						
MNK				*i* P		**P**	**00 06 03.5 -0.4**
	comp=N,2.0nm,1.1s						
MNK				*i* P		**P**	**00 06 03.5 -0.4**
	comp=Z,9.0nm,1.1s,baz=98						
MNK				*i* S		**S**	**00 13 06.3 -5.3**
MNK				*i* ScS		**ScS**	**00 15 54.6 +0.9**
MNK				*i* SS		**SS**	**00 16 39.4 -4.5**
MNK				*i* LRM		MLR	00 30 21.5
	comp=E,7.0nm,17.6s						
MNK				*i* LRM		MLR	00 30 24.9
	comp=Z,87nm,15.3s						
MNK				*i* LRM		MLR	00 30 30.0
	comp=N,21nm,11.5s						
VRI	**Vrincioaia**	**49.84**	**308**	⇑P		**P**	**00 06 06.7 +2.0**
PLOR	**Plostina**	**49.89**	**308**	⇑P		**P**	**00 06 07.0 +1.8**
TESR	**Tescani**	**49.90**	**309**	⇑P		**P**	**00 06 05.8 +0.6**
TIXI	**Tiksi**	**50.06**	**16**	⇓*e*P		**P**	**00 06 04.6 -1.3**
TIXI	**Tiksi**	**50.06**	**16**	P		**P**	**00 06 04.6 -1.3**
TIXI				IAmb		IAmb	00 06 05.7
	comp=Z,3.8nm,0.5s						
NEHR	**Nehoiu**	**50.14**	**308**	⇓P		**P**	**00 06 09.1 +2.0**
MLR	**Muntele Rosu**	**50.39**	**308**	⇓P		**P**	**00 06 11.0 +2.0**
MLR	**Muntele Rosu**	**50.39**	**308**	P		**P**	**00 06 11.1 +2.0**
MLR				pmax		pmax	
	comp=Z,18nm,0.6s						
MLR	**Muntele Rosu**	**50.39**	**308**	P		**P**	**00 06 11.1 +2.1**
NACGM	**Naroch**	**50.44**	**320**	*i* P		**P**	**00 06 10.0 +0.9**
	baz=93						
ALN	**Alexandroupoli**	**50.52**	**302**	P		**P**	**00 06 11.2 +1.3**
ALN				pmax		pmax	
	comp=Z,3.0nm,0.7s						
ALN	**Alexandroupoli**	**50.52**	**302**	P		**P**	**00 06 11.2 +1.3**
DOPR	**Dopca**	**50.77**	**308**	⇑P		**P**	**00 06 12.9 +1.1**
BURAR	**Bucovina Array**	**50.89**	**310**	⇑P		**P**	**00 06 13.9 +1.1**
BURAR	**Bucovina Array**	**50.89**	**310**	IAmb		IAmb	00 06 14.5
	comp=Z,7.9nm,0.6s						
VOIR		**51.02**	**308**	⇑P		**P**	**00 06 14.6 +0.9**
HUMR	**Humele**	**51.10**	**306**	⇑P		**P**	**00 06 15.4 +1.2**
ARR	**Arges**	**51.32**	**308**	⇑P		**P**	**00 06 17.2 +1.3**
ARCR	**ARCALIA**	**51.48**	**310**	⇑P		**P**	**00 06 19.2 +2.1**
SIJI	**Sorong**	**51.75**	**115**	P		**P**	**00 06 20.7 +1.2**
	comp=Z,15nm,0.6s,baz=270,slow=20,SNR=1.7						
FIA1	**FINESS Array S**	**51.97**	**328**	P		**P**	**00 06 21.3 +0.9**
FIA1				IAmb		IAmb	00 06 28.3
	comp=Z,13nm,1.5s						
FINES	**FINESS Array B**	**51.97**	**328**	P		**P**	**00 06 20.5 +0.1**
	comp=Z,3.4nm,0.5s,baz=104,slow=8.4,SNR=36						
FINES				LR		LR	00 27 58.4
	comp=Z,70nm,18.6s,baz=88,slow=36						
FINES	**FINESS Array B**	**51.97**	**328**	P		**P**	**00 06 20.7 +0.3**
PABE	**Paberze**	**52.12**	**320**	P		**P**	**00 06 22.2 +0.6**
SUW	**Suwalki**	**52.44**	**318**	P		**P**	**00 06 24.4 +0.3**
SUW				pmax		pmax	
	comp=Z,9.0nm,1.0s						
SUW	**Suwalki**	**52.44**	**318**	P		**P**	**00 06 24.4 +0.3**
SUW				IAmb		IAmb	00 06 24.9
	comp=Z,9.5nm,1.0s						
VTS	**Vitosha**	**52.48**	**304**	IAmb		IAmb	00 06 27.3
	comp=Z,7.4nm,0.8s						
DEV	**Deva**	**52.51**	**308**	⇑P		**P**	**00 06 26.5 +1.7**
KWP	**Kalwaria Pacla**	**52.57**	**313**	*e*P		**P**	**00 06 26.6 +1.4**
KWP	**Kalwaria Pacla**	**52.57**	**313**	P		**P**	**00 06 26.3 +1.1**
KWP				pmax		pmax	
	comp=Z,128nm,0.7s						
KWP	**Kalwaria Pacla**	**52.57**	**313**	P		**P**	**00 06 26.3 +1.1**
DRGR		**52.61**	**309**	⇑P		**P**	**00 06 27.1 +1.5**
UZH	**Uzhgorod**	**52.85**	**312**	*e*P		**P**	**00 06 28.3 +1.1**
UZH				*e*			00 06 31.9
UZH				*e*			00 06 34.3
HERR	**Herculane**	**52.91**	**307**	⇑P		**P**	**00 06 28.3 +0.6**
STIP	**Stip**	**53.34**	**303**	*i* P		**P**	**00 06 30.4 -0.5**
MDVR	**Moldovita**	**53.41**	**307**	⇑P		**P**	**00 06 33.0 +1.5**
BZS	**Buzias**	**53.42**	**308**	⇑P		**P**	**00 06 32.9 +1.4**
AGG	**Agios Georgios**	**53.56**	**300**	IAmb		IAmb	00 06 33.3
	comp=Z,8.4nm,0.8s						
BANR	**Banloc**	**53.78**	**308**	⇓P		**P**	**00 06 35.8 +1.7**
FNA	**Florina**	**54.05**	**302**	IAmb		IAmb	00 06 38.1
	comp=Z,4.4nm,0.6s						
ARA0	**ARCESS Array S**	**54.31**	**338**	*e*P		**P**	**00 06 38.0 +0.4**
ARCES	**ARCESS Array B**	**54.31**	**338**	P		**P**	**00 06 37.9 +0.3**
	comp=Z,3.6nm,0.6s,baz=79,slow=6.3,SNR=15						
ARCES				PcP		**PcP**	**00 07 42.3 +0.9**
	comp=Z,1.9nm,0.7s,baz=77,slow=4.0,SNR=1.7						
ARCES				LR		LR	00 33 05.8
	comp=Z,44nm,18.2s,baz=120,slow=40						
OJC	**Ojcow**	**54.45**	**314**	*e*P		**P**	**00 06 39.9 +1.0**
OJC	**Ojcow**	**54.45**	**314**	IAmb		IAmb	00 06 40.7
	comp=Z,4.9nm,0.7s						
PSZ	**Piszkesteto**	**54.47**	**311**	⇑P		**P**	**00 06 40.3 +1.1**
PSZ	**Piszkesteto**	**54.47**	**311**	P		**P**	**00 06 40.2 +0.9**
PSZ				pmax		pmax	
	comp=Z,4.0nm,0.7s						
PSZ	**Piszkesteto**	**54.47**	**311**	P		**P**	**00 06 40.1 +0.9**
PSZ				IAmb		IAmb	00 06 41.1
	comp=Z,4.1nm,0.7s						
FRGS	**Fruska Gora**	**54.73**	**308**	⇑P		**P**	**00 06 42.1 +1.0**
KTK1	**Kautokeino**	**54.94**	**337**	*e*P		**P**	**00 06 42.4 +0.2**
TIR	**Tirane**	**55.11**	**303**	⇓P		**P**	**00 06 44.2 +0.3**
TIR	**Tirane**	**55.11**	**303**	P		**P**	**00 06 44.1 +0.3**
TIR				pmax		pmax	
	comp=Z,23nm,1.1s						
TIR	**Tirane**	**55.11**	**303**	P		**P**	**00 06 44.1 +0.3**
HAMF	**Hammerfest**	**55.24**	**339**	*e*P		**P**	**00 06 44.7 +0.5**
PDG	**Podgorica**	**55.42**	**304**	⇑P		**P**	**00 06 46.6 +0.6**
MORH	**Mrgy, Hungar**	**55.45**	**309**	⇑P		**P**	**00 06 46.9 +0.7**
MORC	**Moravsky Berou**	**55.92**	**313**	*e*P		**P**	**00 06 50.2 +0.7**
MORC	**Moravsky Berou**	**55.92**	**313**	P		**P**	**00 06 50.3 +0.7**
MORC				pmax		pmax	
	comp=Z,3.0nm,0.8s						
MORC	**Moravsky Berou**	**55.92**	**313**	P		**P**	**00 06 50.3 +0.7**
MORC				IAmb		IAmb	00 06 51.4
	comp=Z,3.2nm,0.8s						
JETT	**Jettan, Norway**	**56.05**	**337**	*e*P		**P**	**00 06 50.6 +0.4**
KRLC	**Kraliky**	**56.39**	**314**	*e*P		**P**	**00 06 53.0 0.0**
KRLC				*e*			00 07 01.2
KRLC	**Kraliky**	**56.39**	**314**	*e*P		**P**	**00 06 53.0 0.0**
KRLC				*ex*		x	00 07 01.2
VRAC	**Vranov**	**56.57**	**313**	*e*P		**P**	**00 06 55.0 +0.8**
TRO	**Tromso**	**56.57**	**337**	*e*P		**P**	**00 06 53.9 +0.1**
DPC	**Dobruska-Polom**	**56.67**	**314**	*e*P		**P**	**00 06 55.7 +0.8**
DPC	**Dobruska-Polom**	**56.67**	**314**	*e*P		**P**	**00 06 55.7 +0.8**
KRUC	**Moravsky**	**56.72**	**312**	*e*P		**P**	**00 06 55.9 +0.7**
OSTC	**Ostas**	**56.72**	**314**	*e*P		**P**	**00 06 56.0 +0.7**
CHVC	**Chvalec**	**56.82**	**314**	*e*P		**P**	**00 06 56.8 +0.8**
CHVC				*ex*		x	00 07 05.8
UPC	**Upice**	**56.85**	**314**	*e*P		**P**	**00 06 57.9 +1.7**
UPC	**Upice**	**56.85**	**314**	*e*P		**P**	**00 06 57.9 +1.7**
CONA	**Conrad Observa**	**57.18**	**311**	*i* P		**P**	**00 06 59.2 +0.6**
	comp=Z,2.4nm,0.7s,SNR=6.8						
TREC	**Trest**	**57.29**	**313**	*e*P		**P**	**00 06 59.8 +0.5**
TREC	**Trest**	**57.29**	**313**	*e*P		**P**	**00 06 59.8 +0.5**
ARSA	**Arzberg**	**57.48**	**310**	*i* P		**P**	**00 07 01.1 +0.4**
	comp=Z,2.4nm,0.6s						
FAUS	**Fauske**	**57.55**	**334**	*e*P		**P**	**00 07 00.9 +0.1**
GROS	**Grobnik**	**57.59**	**309**	*i* P		**P**	**00 07 02.2 +0.6**
STEI	**Steigen**	**57.63**	**335**	*e*P		**P**	**00 07 02.1 +0.7**
MOR8	**Moi Rana**	**57.77**	**333**	*e*P		**P**	**00 07 01.7 -0.8**
PRU	**Pruhonice**	**57.84**	**314**	*e*P		**P**	**00 07 03.6 +0.5**
PRU				*e*			00 07 12.0
PRU	**Pruhonice**	**57.84**	**314**	*e*P		**P**	**00 07 03.6 +0.5**
PRU				*ex*		x	00 07 12.0
SOKA	**Soboth**	**57.88**	**310**	*i* P		**P**	**00 07 04.5 +0.9**
	comp=Z,3.0nm,0.6s,SNR=8.4						
CKRC	**Cesky Krumlov**	**58.11**	**312**	*e*P		**P**	**00 07 05.2 +0.1**
BRG	**Berggiesshubel**	**58.13**	**315**	*e*P		**P**	**00 07 05.8 +0.6**
BRG				Amp			00 07 07.0
	comp=Z,4.3nm,0.9s						
OBKA	**Obir**	**58.23**	**310**	*e*P		**P**	**00 07 07.1 +1.0**
	comp=Z,4.1nm,0.8s,SNR=5.7						
MOA	**Molln**	**58.25**	**311**	*e*P		**P**	**00 07 06.4 +0.3**
	comp=Z,2.8nm,0.6s,SNR=6.7						
LJU	**Ljubljana**	**58.31**	**309**	*i* P		**P**	**00 07 07.7 +1.2**
KONS	**Konsvik**	**58.33**	**333**	*e*P		**P**	**00 07 06.7 +0.5**
STOK	**Stokkvaagen**	**58.36**	**333**	*e*P		**P**	**00 07 06.7 +0.2**
CEY	**Cerknica**	**58.42**	**309**	*i* P		**P**	**00 07 08.3 +1.0**
GEC2	**GERESS Array S**	**58.51**	**312**	P		**P**	**00 07 09.0 +1.0**
GEC2				IAmb		IAmb	00 07 09.6
	comp=Z,4.5nm,1.2s						
GERES	**GERESS Array B**	**58.51**	**312**	P		**P**	**00 07 08.7 +0.7**
	comp=Z,1.1nm,0.5s,baz=84,slow=7.2,SNR=18						
GERES				LR		LR	00 34 22.1
	comp=Z,46nm,20.2s,baz=198,slow=38						
KHC	**Kasperske Hory**	**58.55**	**313**	*e*P		**P**	**00 07 08.6 +0.4**
KHC				*e*			00 07 14.3
KHC	**Kasperske Hory**	**58.55**	**313**	*e*P		**P**	**00 07 08.6 +0.4**
KHC				*ex*		x	00 07 14.3
CLL	**Collm**	**58.68**	**315**	⇓*i*P		**P**	**00 07 09.3 +0.3**
CLL				LmV			00 35 00.0
	comp=Z,100nm,19.1s						
CLL	**Collm**	**58.68**	**315**	⇓*i*P		**P**	**00 07 09.3 +0.3**
CLL	**Collm**	**58.68**	**315**	P		**P**	**00 07 09.6 +0.6**
NSS	**Namsos**	**58.72**	**331**	*e*P		**P**	**00 07 09.2 +0.2**
NC602	**NORSAR Array S**	**58.91**	**326**	*e*P		**P**	**00 07 10.3 -0.1**
ROBS	**Robic**	**58.98**	**309**	*i* P		**P**	**00 07 11.4 +0.2**
NB2	**NORSAR Subarra**	**59.07**	**327**	P		**P**	**00 07 11.1 -0.4**
	baz=89,slow=6.9						
NOA	**NORSAR Array B**	**59.07**	**327**	P		**P**	**00 07 11.2 -0.4**
	comp=Z,1.5nm,0.6s,baz=88,slow=6.8,SNR=14						
NOA				LR		LR	00 33 42.7
	comp=Z,42nm,21.5s,baz=85,slow=37						
SPA0	**Spitsbergen Ar**	**59.15**	**347**	*e*P		**P**	**00 07 12.6 +0.7**
INTR	**Introdacqua**	**59.41**	**304**	IAmb		IAmb	00 07 16.5
	comp=Z,9.3nm,0.8s						
WTTA	**Wattenberg**	**60.10**	**311**	*i* P		**P**	**00 07 18.8 -0.4**
	comp=Z,4.1nm,0.7s,SNR=4.8						
WATA	**Walderalm**	**60.13**	**311**	*i* P		**P**	**00 07 18.6 -0.7**
	comp=Z,2.0nm,0.6s						
CTI	**Castel Tesino**	**60.29**	**309**	IAmb		IAmb	00 07 21.2
	comp=Z,4.1nm,0.6s						
SQTA	**Sankt Quirin**	**60.39**	**311**	*e*P		**P**	**00 07 20.7 -0.4**
	comp=Z,3.5nm,0.5s,SNR=7.0						
MOTA	**Moosalm**	**60.44**	**311**	*e*P		**P**	**00 07 20.8 -0.7**
	comp=Z,4.3nm,0.6s,SNR=10						
RETA	**Reute**	**60.65**	**311**	*e*P		**P**	**00 07 22.6 -0.1**
	comp=Z,3.8nm,0.5s,SNR=6.8						
FETA	**Feichten**	**60.75**	**311**	*i* P		**P**	**00 07 23.2 -0.3**
	comp=Z,3.1nm,0.6s,SNR=5.6						
OSSC	**Osservatorio P**	**61.04**	**307**	P		**P**	**00 07 26.8 +1.4**
OSSC				IAmb		IAmb	00 07 32.4
	comp=Z,4.2nm,0.9s						
SALO	**Salr**	**61.14**	**309**	P		**P**	**00 07 26.9 +0.8**
BILL	**Bilibino**	**61.16**	**25**	*i* P		**P**	**00 07 28.4 +2.7**
BILL				pmax		pmax	
	comp=Z,4.0nm,1.3s						
DAVA	**Damuels**	**61.27**	**311**	*i* P		**P**	**00 07 27.1 0.0**
	comp=Z,5.7nm,0.6s,SNR=6.7						
SNART	**Snartemo**	**61.28**	**324**	*e*P		**P**	**00 07 27.4 +0.8**
VLC	**Villacollemand**	**61.52**	**307**	P		**P**	**00 07 30.0 +1.4**
VLC				IAmb		IAmb	00 07 38.2
	comp=Z,5.2nm,0.7s						
BLS5	**Blasjo**	**61.55**	**325**	*e*P		**P**	**00 07 29.6 +1.1**
TUE	**Stuetta**	**61.78**	**310**	P		**P**	**00 07 30.7 +0.1**
TUE				IAmb		IAmb	00 07 32.0
	comp=Z,4.5nm,0.6s						
SUE	**Sulen**	**62.20**	**327**	*e*P		**P**	**00 07 33.9 +1.1**
SENIN	**Lac Senin/Sane**	**63.19**	**310**	P		**P**	**00 07 40.3 +0.3**
SENIN				IAmb		IAmb	00 07 42.4
	comp=Z,4.5nm,0.7s						
BNI	**Bardonecchia**	**63.91**	**309**	P		**P**	**00 07 46.3 +1.6**
BNI				pmax		pmax	
	comp=Z,7.0nm,1.2s						
BNI	**Bardonecchia**	**63.91**	**309**	P		**P**	**00 07 46.3 +1.6**
BNI				IAmb		IAmb	00 07 53.4
	comp=Z,7.3nm,1.2s						
KEST	**Kesra**	**64.35**	**299**	P		**P**	**00 07 49.3 +1.6**
	comp=Z,9.5nm,0.9s,baz=71,slow=1.8,SNR=12						
KEST	**Kesra**	**64.35**	**299**	P		**P**	**00 07 49.2 +1.6**
WRA	**Warramunga Arr**	**66.38**	**130**	P		**P**	**00 08 01.6 +0.8**
	comp=Z,1.0nm,0.4s,baz=323,slow=6.5,SNR=26						
WRA	**Warramunga Arr**	**66.38**	**130**	P		P	00 08 05.7 +4.9
WRA	**Warramunga Arr**	**66.38**	**130**	P		P	00 08 05.7 +4.9
WRAB	**Tennant Creek**	**66.38**	**130**	⇑*e*P		**P**	**00 08 01.9 +1.1**
WRAB				pmax		pmax	
	comp=Z,15nm,1.7s						
ASAR	**Alice Springs**	**68.68**	**133**	P		**P**	**00 08 16.1 +0.8**
	comp=Z,2.0nm,0.8s,baz=312,slow=6.3,SNR=7.6						
ESDC	**Sonseca Array**	**73.05**	**306**	P		**P**	**00 08 42.5 +0.7**
	comp=Z,1.7nm,0.8s,baz=56,slow=6.1,SNR=18						
BMAR	**Burnt Mountain**	**78.10**	**18**	P		**P**	**00 09 10.8 +0.6**
NEA2	**Nenana**	**78.74**	**21**	P		**P**	**00 09 13.8 +0.1**
NEA2				IAmb		IAmb	00 09 33.4
	comp=Z,4.6nm,1.0s						
MDM	**Murphy Dome**	**78.76**	**21**	P		**P**	**00 09 14.3 +0.4**
MDM				IAmb		IAmb	00 09 28.5
	comp=Z,10.0nm,1.4s						
COLA	**College**	**78.94**	**21**	⇓*e*P		**P**	**00 09 16.8 +2.0**
TORD	**Torodi Ar. Bea**	**79.14**	**279**	P		**P**	**00 09 16.7 -0.1**
	comp=Z,0.5nm,0.6s,baz=51,slow=5.0,SNR=5.5						
STKA	**Stephens Creek**	**79.25**	**134**	LR		LR	00 52 36.2
	comp=Z,194nm,19.1s,baz=169,slow=42						
ILAR	**Eielson Array**	**79.31**	**20**	P		**P**	**00 09 16.3 -0.6**
	comp=Z,0.9nm,0.7s,baz=298,slow=4.2,SNR=11						
BOSA	**Boshof**	**80.68**	**231**	P		**P**	**00 09 26.3 +1.4**
	comp=Z,1.3nm,0.5s,baz=16,slow=7.4,SNR=3.4						
SCRK	**Sand Creek**	**80.76**	**20**	P		**P**	**00 09 25.1 +0.2**
YKA	**Yellowknife Ar**	**88.81**	**9**	P		**P**	**00 10 03.4 -1.8**
	comp=Z,0.8nm,0.7s,baz=343,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**88.81**	**9**	*i* P		**P**	**00 10 04.8 -0.4**
YKA				pmax		pmax	
	comp=Z,1.0nm,0.7s						
CPUP	**Villa Florida**	**147.42**	**263**	PKPbc		**PKPbc**	**00 16 55.5 -0.4**
	comp=Z,1.0nm,0.7s,baz=108,slow=3.2,SNR=2.1						

*IDC **29** 00:09:08.4±2.0,6°.64S×129°.11E,h192km±25km,mb3.5/1, mb1 3.6/6,mb1mx3.3/34,mbtmp4.2/6,Error ellipse: s-maj=34.4km s-min=19.1km az=94.0*

ISC 29 00:09:06.9±0.9,6°.74S±0°.06×129°.2E±0°.1,h200km,n6, σ3§50/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.18**	**19**	P	**Pn**	**00 10 37.2**	**+0.6**
	7.6nm,0.3s,baz=229,slow=19,SNR=4.0						
SIJI				S	**Sn**	**00 11 42.6**	**-5.1**
	2.3nm,0.3s,baz=253,slow=19,SNR=1.9						
BATI	**Baumata**	**6.48**	**238**	P	**Pn**	**00 10 41.5**	**+1.1**
	7.1nm,0.3s,baz=86,slow=5.5,SNR=4.1						
BATI				S	**Sn**	**00 11 51.9**	**-2.5**
	6.0nm,0.3s,baz=148,slow=9.8,SNR=1.9						
FITZ	**Fitzroy Crossi**	**11.81**	**197**	P	**Pn**	**00 11 51.3**	**+1.9**
	0.5nm,0.3s,baz=19,slow=10,SNR=17						
FITZ				S	**Sn**	**00 13 55.9**	**-5.3**
	0.9nm,0.3s,baz=99,slow=23,SNR=6.3						
WRA	**Warramunga Arr**	**14.04**	**160**	P	**Pn**	**00 12 20.8**	**+3.4**
	0.7nm,0.3s,baz=339,slow=11,SNR=37						
WRA				S	**S**	**00 14 50.6**	**-3.1**
	0.5nm,0.3s,baz=321,slow=26,SNR=7.7						
ASAR	**Alice Springs**	**17.42**	**165**	P	**Pn**	**00 13 00.9**	**+2.6**
	0.6nm,0.3s,baz=345,slow=10,SNR=33						
ASAR				S	**S**	**00 16 08.3**	**+0.9**
	0.1nm,0.3s,baz=343,slow=24,SNR=1.7						
MKAR	**Makanchi Array**	**67.58**	**327**	P	**P**	**00 19 43.6**	**+1.7**
	0.6nm,0.4s,baz=122,slow=7.2,SNR=8.7						

*AEIC **29** 00:15:49.5±0.8,53°.44N±0°.02×165°.64W±0°.08, h41km±10km,ML3.0/42,ML3.2/6(NEIC),Error ellipse: s-maj=6.8km s-min=3.1km az=97.0*

NEIC 29 00:15:49.9±0.9,53°.42N±0°.08×165°.63W±0°.10, h41km±56km,Error ellipse: s-maj=13.2km s-min=5.9km az=148.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKBBA	**Akutan Broad B**	**0.71**	**345**		Pn	00 16 03.0	-0.4
AKBBA					Sn	00 16 12.2	-0.9
ZRO	**Akutan Zero**	**0.71**	**343**		Pn	00 16 03.2	-0.3
AKMO	**Akutan Morgan**	**0.71**	**342**		Pn	00 16 03.3	-0.2
AKMO					Sn	00 16 14.0	+0.7
AKSA	**Akutan Strait**	**0.72**	**357**		Pn	00 16 03.0	-0.7
AKSA					Sn	00 16 13.3	-0.2
AKSA	**Akutan Strait**	**0.72**	**357**		Pn	00 16 03.0	-0.6
AKSA					Sn	00 16 13.6	+0.1
AKUT	**Akutan**	**0.72**	**353**		Pn	00 16 03.2	-0.4
AKUT				Sn	Sn	00 16 13.2	-0.3
AKUT				IAML		00 16 18.0	
	comp=E,852nm,0.1s						
AKRB	**Akutan Reef Bi**	**0.76**	**340**		Pn	00 16 04.0	-0.1
AKLV	**Akutan Long Va**	**0.77**	**346**		Pn	00 16 03.8	-0.6
AKLV					Sn	00 16 15.0	+0.2
MREP	**Makushin Rep't**	**0.77**	**301**		Pn	00 16 04.3	-0.1
MNAT	**Makushin Natee**	**0.78**	**307**		Pn	00 16 04.5	0.0
MNAT					Sn	00 16 15.7	+0.7
AKGG	**Akutan Green G**	**0.81**	**345**		Pn	00 16 04.5	-0.3
AKGG					Sn	00 16 17.3	+1.6
MGOD	**Makushin Gods**	**0.83**	**298**		Pn	00 16 05.0	-0.2
MTBL	**Makushin Table**	**0.83**	**312**		Pn	00 16 05.4	+0.1
MSW	**Makushin Switc**	**0.85**	**306**		Pn	00 16 05.4	0.0
MSW					Sn	00 16 17.4	+0.8
MAPS	**Pakushin South**	**0.87**	**297**		Pn	00 16 05.6	-0.1
MAPS					Sn	00 16 17.8	+0.6
WESP	**Westdahl Peak**	**1.20**	**26**		Pn	00 16 10.5	+0.2
WESP					Sn	00 16 26.9	+1.5
WECS	**Westdahl Cape**	**1.22**	**24**		Pn	00 16 10.8	+0.3
WESE	**West Dahl East**	**1.22**	**30**		Pn	00 16 10.7	+0.1
OKFG	**Magazine Ridge**	**1.36**	**271**		Pn	00 16 12.6	+0.2
OKFG					Sn	00 16 30.2	+1.0
OKTU	**Okmok Mt. Tuli**	**1.44**	**270**		Pn	00 16 13.9	+0.3
OKSO	**Okmok South**	**1.52**	**269**		Pn	00 16 14.7	+0.1
OKSP	**Okmok Steeple**	**1.60**	**265**		Pn	00 16 15.9	+0.2
SSLS	**Shishaldin Sou**	**1.61**	**36**		Pn	00 16 16.3	+0.3
SSLN	**Shishaldin Nor**	**1.70**	**34**		Pn	00 16 17.9	+0.9
ISLZ	**Isanotski Laza**	**1.73**	**40**		Pn	00 16 17.5	0.0
FALS	**False Pass**	**1.94**	**41**		Pn	00 16 20.3	0.0
FALS					Sn	00 16 44.3	+0.8
NIKH	**Nikolski High**	**1.99**	**258**		Pn	00 16 21.3	+0.3
NIKH	**Nikolski High**	**1.99**	**258**		Sn	00 16 44.2	-0.5
DT1	**Dutton Round H**	**2.59**	**48**		Pn	00 16 29.8	+0.5
SDPT	**Sand Point**	**3.58**	**55**		Pn	00 16 42.3	-0.5
SDPT				IAML		00 17 38.4	
	comp=N,47nm,2.3s						
CNBA	**Chernabura Isl**	**3.82**	**66**		Pn	00 16 45.6	-0.6
CNBA	**Chernabura Isl**	**3.82**	**66**	IAML		00 17 38.2	
	comp=N,32nm,2.2s						
CNBA				IAML		00 17 39.4	
	comp=E,27nm,2.5s						

*KISR **29** 00:33:17.4±0.7,32°.45N×47°.77E,h256km±35km,ML3.6*
*TEH **29** 00:33:18.2,32°.82N×48°.51E,h12km,ML3.2*
*ISN **29** 00:33:19.9±1.8,32°.89N×48°.54E,h34km±15km,ML2.7*

ISC 29 00:33:20.3±0.9,32°.83N±0°.03×48°.51E±0°.03,h19km,n45, σ1§13/50,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMDN	**Meydan**	**0.88**	**17**	*e*Pg	**Pb**	**00 33 34.7**	**-2.4**
BMDN				*e*		00 33 50.3	
	comp=Z,10μm,0.3s						
IKFM	**Kafar-mosalman**	**0.89**	**321**	*e*Pg	**Pb**	**00 33 35.1**	**-2.0**
IKFM				*e*Sg	**Sg**	**00 33 49.4**	**0.0**
IKFM				*e*		00 33 53.4	
	comp=Z,12μm,0.4s						
IDOB	**Doab**	**0.99**	**344**	*e*Pg	**Pb**	**00 33 36.3**	**-2.7**
HSAM	**Samen**	**1.38**	**3**	*e*Pg	**Pn**	**00 33 43.7**	**-1.1**
HSAM				*e*		00 33 46.5	
	comp=Z,3μm,0.3s						
AHWZ	**Ahwaz**	**1.50**	**176**	*e*Pg	**Pb**	**00 33 47.1**	**-0.4**
KHMZ	**Khomeyn**	**1.52**	**53**	*e*Pg	**Pb**	**00 33 47.9**	**0.0**
IBZA	**Bozab**	**1.72**	**342**	*e*Pn	**Pn**	**00 33 50.5**	**+1.0**
IBZA				*e*		00 34 21.8	
	comp=Z,2μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.89**	**320**	*e*Pn	**Pn**	**00 33 52.0**	**+0.2**
KCHF				*e*		00 34 29.7	
	comp=Z,2μm,0.4s						
KER	**Kermanshah**	**1.93**	**324**	*e*Pn	**Pn**	**00 33 53.3**	**+1.1**
IPIR	**Pirpir**	**2.01**	**94**	*e*Pn	**Pb**	**00 33 55.1**	**-1.4**
IPIR				*e*		00 34 28.6	
	comp=Z,1μm,0.6s						
IALM	**Almabolaq**	**2.04**	**352**	*e*Pn	**Pn**	**00 33 55.3**	**+1.4**
HAGD	**Aghdareh**	**2.06**	**15**	*e*Pn	**Pb**	**00 33 55.8**	**-1.4**
HAGD				*e*		00 34 28.0	
	comp=Z,2μm,0.3s						
SHK1	**Shahrekord**	**2.07**	**103**	*e*Pn	**Pn**	**00 33 54.6**	**+0.4**
SHK1				*e*		00 34 31.6	
	comp=Z,1μm,0.4s

JKDJ				S	Sn	00 35 28.7	-2.9	
SIJI	Sorong	26.84	174	LR	LR	00 49 33.6		
	comp=Z,123nm,20.1s,baz=127,slow=34							
SONM	Songino Array	27.94	327	P	P	00 40 15.9	+2.1	
	1.0nm,0.9s,baz=144,slow=11,SNR=5.9							
CMAR	Chiang Mai Arr	28.45	261	LR	LR	00 52 37.5		
	comp=Z,26nm,19.7s,baz=180,slow=38							
MKAR	Makanchi Array	41.95	312	P	P	00 42 15.3	+1.1	
	0.4nm,0.5s,baz=96,slow=11,SNR=4.6							
WRA	Warramunga Arr	46.01	173	P	P	00 42 47.5	+0.5	
	1.3nm,0.7s,baz=353,slow=8.4,SNR=8.7							
ASAR	Alice Springs	49.64	174	P	P	00 43 15.9	+0.9	
	0.5nm,0.7s,baz=0.6,slow=9.3,SNR=6.3							
FINES	FINESS Array B	73.24	331	P	P	00 45 55.3	+1.2	
	1.0nm,0.8s,baz=67,slow=11,SNR=1.6							

ECX ***29*** *00:49:52.9±0.4, 31°.36N×115°.42W, h6km±7km, MD2.0, ML2.1*
MEX ***29*** *00:49:53.6±0.6, 31°.28N×115°.29W, h12km±38km, MD3.7*
ISC 29 00:49:51.9±1.0, 31°.36N±0°.04×115°.38W±0°.05, h14km±10km, n9, σ0s66/17, 4C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	El Chinero	0.30	68	⇑*i* P	Pg	00 49 57.5	-0.7
ECBX				*e* S	Sg	00 50 02.0	-0.5
SPIG	San Pedro Mart	0.32	193	*i* P	Pg	00 49 58.8	+0.2
SPIG				*i* S	Sg	00 50 03.4	+0.1
SPIG	San Pedro Mart	0.32	193	⇓*i* P	Pg	00 49 58.8	+0.2
SPIG				*e* S	Sg	00 50 03.5	+0.3
SPX	San Pedro Mart	0.33	193	*i* P	Pg	00 49 58.5	-0.3
SPX				*i* S	Sg	00 50 03.2	-0.3
SPX	San Pedro Mart	0.33	193	⇓*i* P	Pg	00 49 58.9	+0.1
SPX				*e* S	Sg	00 50 03.6	+0.1
SPX				IAML		00 50 03.9	
	comp=E,223nm,0.4s						
SPX				⇓*e*		00 50 04.2	
SPX				IAML		00 50 04.2	
	comp=N,232nm,0.1s						
SFX	San Felipe	0.55	125	⇑*i* P	Pg	00 50 03.4	+0.5
SFX				*e* S	Sb	00 50 11.3	+0.1
SFX				⇑*e*		00 50 13.5	
SFX				IAML		00 50 13.5	
	comp=E,96nm,0.4s						
SFX				⇑*e*		00 50 13.6	
SFX				IAML		00 50 13.6	
	comp=N,130nm,0.7s						
GUVIX	Guadalupe Vict	0.98	15	*e* S	Sg	00 50 25.4	+1.7
CBX	Cerro Bola	1.45	311	*e* P	Pn	00 50 17.8	-0.1
CBX				*e* S	Sn	00 50 36.0	-0.8
TJIG	Tijuana	1.54	315	*e* P	Pn	00 50 19.3	+0.4
TJIG				*i* S	Sn	00 50 38.1	-0.7

IDC ***29*** *00:57:48.5±3.2, 30°.26S×177°.79W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/27, mbtmp4.3/3, Error ellipse: s-maj=68.4km s-min=22.4km az=109.0*
ISC 29 00:57:52.2±3.1, 30°.4S±0°.1×177°.7W±0°.4, h35km, n6, σ1s59/7, mb4.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.13	348	Pn	Pn	00 58 11.4	-0.2
	54nm,0.3s,baz=98,slow=23,SNR=1.7						
RAO				Sn	Sn	00 58 24.6	-1.2
	469nm,0.3s,baz=24,slow=23,SNR=14						
URZ	Urewera	8.98	207	Sn	Sn	01 01 37.4	-2.0
	0.7nm,0.3s,baz=128,slow=20,SNR=1.2						
STKA	Stephens Creek	34.78	257	P	P	01 04 41.6	+2.1
	1.7nm,0.7s,baz=104,slow=8.3,SNR=3.5						
ASAR	Alice Springs	43.41	267	P	P	01 05 51.6	-0.2
	6.3nm,0.5s,baz=103,slow=7.6,SNR=4.4						
WRA	Warramunga Arr	44.39	272	P	P	01 05 59.4	-0.3
	0.8nm,0.3s,baz=110,slow=8.1,SNR=18						
FINES	FINESS Array B	145.21	340	PKPbc	PKPbc	01 17 25.1	+0.1
	1.1nm,0.6s,baz=51,slow=4.4,SNR=7.0						

ISK ***29*** *01:01:59.6, 38°.38N×39°.22E, h10km, ML3.5/17*
DDA ***29*** *01:02:00.0, 38°.39N×39°.26E, h7km±2km, MW3.5*
ISC 29 01:02:00.2±0.9, 38°.39N±0°.02×39°.24E±0°.02, h13km±8km, n32, σ0s75/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.23	298	*i* P	Pg	01 02 05.5	+0.3
ELZG				*i* S	Sg	01 02 09.2	+0.5
ELZG				IAML		01 02 10.0	
	comp=N,17μm,0.6s						
ELZG				IAML		01 02 10.0	
	comp=E,10μm,0.2s						
KOVA	Elazig, Kovanc	0.55	55	*i* P	Pg	01 02 10.1	-0.9
KOVA				IAML		01 02 23.0	
	comp=E,2μm,0.7s						
KOVA				IAML		01 02 29.0	
	comp=N,1μm,1.6s						
MALT	Malatya	0.64	263	PG	Pg	01 02 11.7	-1.1
MALT				SG	Sb	01 02 21.7	-0.6
TNCL	Tunceli-Merkez	0.76	18	*i* P	Pg	01 02 14.0	-1.1
TNCL				*i* S	Sb	01 02 26.8	+1.0
TNCL				IAML		01 02 27.0	
	comp=N,1μm,0.6s						
TNCL				IAML		01 02 30.0	
	comp=E,2μm,0.4s						
DYBB	Diyarbakir	0.83	121	PG	Pb	01 02 16.3	-0.3
DYBB				SG	Sb	01 02 28.2	+0.4
DIYA	Diyarbakir	0.84	124	*i* P	Pb	01 02 16.1	-0.5
DIYA				*i* S	Sb	01 02 28.4	+0.6
DIYA				IAML		01 02 32.0	
	comp=N,908nm,0.4s						
DIYA				IAML		01 02 38.0	
	comp=E,499nm,0.3s						
HANI	Diyarbakir_Han	0.91	88	*i* P	Pg	01 02 16.5	-1.4
HANI				*i* S	Sg	01 02 29.5	-0.3
HANI				IAML		01 02 30.0	
	comp=E,722nm,0.5s						
HANI				IAML		01 02 33.0	
	comp=N,930nm,0.4s						
ARPR	Arapgir-MALATY	1.00	315	PG	Pg	01 02 19.2	-0.3
ARPR				SG	Sn	01 02 33.9	-0.2
URFA	Urfa	1.00	199	PG	Pg	01 02 18.9	-0.7
URFA				SG	Sn	01 02 33.6	-0.6
AKCD	Akcadag	1.04	265	*i* P	Pg	01 02 19.6	-0.6
AKCD				*i* S	Sb	01 02 34.6	+0.8
AKCD				IAML		01 02 39.0	
	comp=N,2μm,0.5s						
AKCD				IAML		01 02 39.0	
	comp=E,1μm,0.4s						
KEMA	Kemaliye	1.05	327	*i* P	Pg	01 02 19.4	-1.1
KEMA				*i* S	Sn	01 02 35.6	+0.2
KEMA				IAML		01 02 38.0	
	comp=N,664nm,0.5s						
KEMA				IAML		01 02 38.0	
	comp=E,616nm,0.4s						
ILIC	ilic-Erzincan	1.18	334	PN	Pb	01 02 21.8	-0.8
ATAB	Bozova	1.18	219	*i* P	Pn	01 02 23.0	+0.5
ATAB				*i* S	Sn	01 02 40.0	+1.4
ATAB				IAML		01 02 42.0	
	comp=E,532nm,0.5s						
SANL	SANLIURFA_Merk	1.23	189	*i* P	Pg	01 02 23.4	-0.6
SANL				*i* S	Sn	01 02 39.7	-0.1
SANL				IAML		01 02 45.0	
	comp=E,1μm,0.4s						
SANL				IAML		01 02 46.0	
	comp=N,1μm,0.4s						
ERZN	Erzincan	1.25	17	PN	Pn	01 02 22.3	-1.3
BNGB	Bingl	1.28	62	PN	Pg	01 02 24.5	-0.3
MAZI	Mazidag	1.33	134	PN	Pn	01 02 24.2	-0.5
EUZM	Uzumlu	1.36	15	*i* P	Pn	01 02 25.2	+0.1
EUZM				*i* S	Sg	01 02 45.6	+1.4
EUZM				IAML		01 02 49.0	
	comp=N,136nm,0.7s						
EUZM				IAML		01 02 51.0	
	comp=E,140nm,1.4s						
DARE	Darende-Malaty	1.39	278	PN	Pn	01 02 25.3	-0.2
YEDI	Yedisu-Bingol	1.46	44	PN	Pb	01 02 27.2	-0.2
SLHN	Bingol, Solhan	1.51	67	*i* P	Pb	01 02 28.1	-0.1
SLHN				*i* S	Sg	01 02 49.6	+0.8
SLHN				IAML		01 02 50.0	
	comp=N,459nm,0.7s						
SLHN				IAML		01 02 53.0	
	comp=E,634nm,1.1s						
SVAN	Silvan-Diyarba	1.56	98	*i* P	Pn	01 02 27.4	-0.4
SVAN				IAML		01 02 49.0	
	comp=E,461nm,0.8s						
SVAN				*i* S	Sb	01 02 49.2	+0.5
SVAN				IAML		01 02 50.0	
	comp=N,344nm,0.5s						
SVAN	Silvan-Diyarba	1.56	98	PN	Pb	01 02 28.5	-0.5
SURC	SANLIURFA_SURC	1.59	198	*i* P	Pn	01 02 28.1	0.0
SURC				*i* S	Sg	01 02 52.4	+1.1
SURC				IAML		01 02 56.0	
	comp=N,412nm,0.5s						
SURC				IAML		01 02 56.0	
	comp=E,757nm,0.5s						
MARD	Mardin	1.62	131	*i* P	Pn	01 02 28.3	-0.4
MARD				*i* S	Sn	01 02 50.1	+0.5
MARD				IAML		01 02 54.0	
	comp=E,784nm,0.4s						
MARD				IAML		01 02 58.0	
	comp=N,1μm,0.6s						
KARO	Karliova-Bingo	1.69	56	PN	Pb	01 02 30.5	-0.7
VRTB	Varto-Mus	1.90	65	PN	Pn	01 02 33.5	+1.0
GAZ	Gaziantep	2.02	234	PN	Pn	01 02 33.7	-0.3
KMRS	Kahramanmaras	2.05	245	PN	Pn	01 02 35.0	+0.5
GURO	Guroymak-BITLI	2.20	85	PN	Pn	01 02 37.2	+0.6
MLAZ	Malazgirt-MUS	2.69	73	PN	Pn	01 02 44.5	+1.0
AKDM	Akdamar-Van	2.94	90	PN	Pn	01 02 47.7	+0.8

JMA ***29*** *01:03:50.8±0.2, 35°.45N×142°.26E, h55km, M3.1*
IDC ***29*** *01:03:54.4±3.1, 34°.83N×141°.45E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/42, mbtmp3.4/5, ML2.2/1, Error ellipse: s-maj=111.3km s-min=31.4km az=62.0*
ISC 29 01:03:56.1±1.8, 35°.43N±0°.06×141°.9E±0°.1, h22km±10km, n20, σ2s32/20, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.91	288	P	Pn	01 04 11.5	-2.1
CHOJ				*e* S	Sb	01 04 26.4	+1.6
BSO1	Boso 1	1.09	225	P	Pn	01 04 13.3	-2.3
BSO1				*e* S	Sn	01 04 29.9	+0.1
BSO3	Boso 3	1.31	242	P	Pn	01 04 17.4	-1.5
JHYU	Hitachinakayam	1.42	310	P	Pn	01 04 17.8	-2.8
JHYU				*e* S	Sn	01 04 37.4	-1.2
JIM2	Oshima 3	2.16	252	P	Pn	01 04 28.4	-2.5
JIM2				*e* S	Sn	01 04 57.0	0.0
JAG	Ashikaga	2.24	297	P	Pn	01 04 29.5	-2.4
JFT	Otama	2.45	329	P	Pn	01 04 32.4	-2.4
JFT				S	Sn	01 05 02.4	-1.7
JRY	Ryogami san	2.53	284	P	Pn	01 04 34.5	-1.4
MJAR	Matsushiro Arr	3.21	291	Pn	Pn	01 04 44.2	-1.0
	0.3nm,0.3s,baz=110,slow=7.2,SNR=6.6						
MAT	Matsushiro	3.21	291	P	Pn	01 04 44.3	-1.0
MAT				*e* S	Sn	01 05 19.8	-3.1
H11N2	WAKE ISLAND Hy	26.99	119	T	T	01 37 45.9	
	baz=311,slow=75,SNR=5.6						
H11N1	WAKE ISLAND Hy	27.00	119	T	T	01 37 46.5	
	baz=311,slow=75,SNR=5.0						
H11N3	WAKE ISLAND Hy	27.00	119	T	T	01 37 47.6	
	baz=311,slow=75,SNR=4.6						
H11S1	WAKE ISLAND Hy	27.66	121	T	T	01 38 43.3	
	baz=313,slow=76,SNR=6.9						
H11S3	WAKE ISLAND Hy	27.66	121	T	T	01 38 37.1	
	baz=313,slow=76,SNR=4.2						
H11S2	WAKE ISLAND Hy	27.68	121	T	T	01 38 36.3	
	baz=313,slow=76,SNR=3.4						
SONM	Songino Array	29.05	306	P	P	01 09 56.5	+1.8
	0.6nm,0.8s,baz=94,slow=9.4,SNR=1.9						
MKAR	Makanchi Array	45.33	304	P	P	01 12 14.8	+2.3
	0.4nm,0.7s,baz=95,slow=9.6,SNR=2.6						
WRA	Warramunga Arr	55.53	189	P	P	01 13 26.5	-3.2
	0.9nm,1.0s,baz=5.9,slow=6.9,SNR=3.2						
AKASG	Malin Array Be	75.82	323	P	P	01 15 43.5	+3.1
	0.3nm,0.3s,baz=55,slow=5.7,SNR=2.2						

IDC ***29*** *01:22:15.1±5.0, 17°.32S×174°.30W, h98km±42km, mb3.9/7, mb1 4.1/8, mb1mx3.7/37, mbtmp4.2/8, Error ellipse: s-maj=31.2km s-min=24.1km az=112.0*
NEIC ***29*** *01:22:16.7±1.9, 17°.35S±0°.04×174°.27W±0°.10, h104km±7km, mb4.4/14, Error ellipse: s-maj=13.8km s-min=3.9km az=75.0*
ISC 29 01:22:19.9±0.7, 17°.4S±0°.1×174°.5W±0°.1, h139km, n39, σ1s43/35, mb4.3/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.32	37		Pn	01 23 18.8	-5.4
NIUE	Niue	4.61	112		Pn	01 23 22.8	-5.2
MSVF	Nonsavu	7.16	266	P	Pn	01 24 00.5	-1.7
	0.3nm,0.3s,baz=96,slow=9.2,SNR=2.4						
MSVF	Nonsavu	7.16	266	Pn	Pn	01 24 02.3	+0.2
URZ	Urewera	22.06	198	P	P	01 27 01.7	-1.8
	6.4nm,0.3s,baz=307,slow=20,SNR=108						
URZ				S	S	01 30 52.1	-5.1
	3.3nm,0.5s,baz=299,slow=23,SNR=1.5						
URZ	Urewera	22.06	198	P	P	01 27 02.8	-0.7
URZ				IAmb	IAmb	01 27 13.4	
	comp=Z,27nm,1.1s						
QRZ	Quartz Range	25.91	203	P	P	01 27 42.5	+3.5
THZ	Tophouse	26.59	201	P	P	01 27 44.5	-0.7
ARMA	Armidale	33.47	241	P	P	01 28 47.6	+1.5
ARMA				IAmb	IAmb	01 29 09.0	
	comp=Z,17nm,1.5s						
STKA	Stephens Creek	42.18	242	P	P	01 29 59.8	+0.7
	comp=Z,3.2nm,0.7s,baz=75,slow=8.8,SNR=5.6						
STKA	Stephens Creek	42.18	242	P	P	01 30 00.3	+1.3
BBOO	Buckleboo	46.95	241	P	P	01 30 37.1	+0.2
WR0	Warramunga Arr	48.24	259	P	P	01 30 47.1	+0.1
WR0				IAmb	IAmb	01 30 48.7	
	comp=Z,8.2nm,1.4s						
WB0	Warramunga Arr	48.40	259	P	P	01 30 48.6	+0.3
WB0				IAmb	IAmb	01 30 49.1	
	comp=Z,4.2nm,0.7s						
WB2	Warramunga Arr	48.42	259	P	P	01 30 48.5	+0.1
WB2				IAmb	IAmb	01 30 48.9	
	comp=Z,6.2nm,0.8s						
WRA	Warramunga Arr	48.43	259	P	P	01 30 48.6	+0.1
	comp=Z,2.3nm,0.5s,baz=97,slow=6.8,SNR=77						
WRA	Warramunga Arr	48.43	259	P	P	01 30 48.6	+0.1
AS31	Alice Springs	48.55	254	P	P	01 30 50.1	+0.7
AS31				IAmb	IAmb	01 30 50.8	
	comp=Z,4.0nm,0.6s						
ASAR	Alice Springs	48.56	254	P	P	01 30 49.9	+0.4
	comp=Z,13nm,0.5s,baz=89,slow=8.4,SNR=163						
ASAR	Alice Springs	48.56	254	P	P	01 30 50.0	+0.5
FITZ	Fitzroy Crossi	56.83	259	P	P	01 31 51.1	+0.9
SBA	Scott Base	61.19	184	P	P	01 32 21.8	+2.5
SBA				IAmb	IAmb	01 32 30.2	
	comp=Z,2.3nm,1.3s						
VNDA	Vanda	61.30	186	P	P	01 32 21.5	+1.4
	comp=Z,0.6nm,0.6s,baz=5.8,slow=6.9,SNR=7.0						
VNDA	Vanda	61.30	186	P	P	01 32 21.3	+1.2
QSPA	South Pole Qui	72.66	180	P	P	01 33 32.8	+0.5
QSPA				IAmb	IAmb	01 33 33.2	
	comp=Z,7.1nm,1.4s						
PDAR	Pinedale Array	84.42	42	P	P	01 34 36.0	-1.1
	comp=Z,0.6nm,0.6s,baz=207,slow=3.0,SNR=6.1						
PDAR	Pinedale Array	84.42	42	P	P	01 34 36.7	-0.4
ILAR	Eielson Array	84.59	11	P	P	01 34 36.3	-0.8
	comp=Z,0.2nm,0.5s,baz=230,slow=7.0,SNR=4.6						
H03S2	Juan Fernandez	84.94	124	T	T	03 07 53.2	
	baz=250,slow=74,SNR=9.9						
H03S1	Juan Fernandez	84.95	124	T	T	03 07 55.6	
	baz=250,slow=74,SNR=10						
H03S3	Juan Fernandez	84.96	124	T	T	03 07 55.3	
	baz=250,slow=74,SNR=8.6						
MKAR	Makanchi Array	111.49	314	PKiKP	PKiKP	01 40 37.0	-0.8
	comp=Z,0.3nm,0.6s,baz=79,slow=0.7,SNR=2.3						
MKAR	Makanchi Array	111.49	314		PKiKP	01 40 36.5	-1.2
ARCES	ARCESS Array B	126.43	351	PKP	PKPdf	01 41 05.8	+0.1
	comp=Z,1.1nm,0.7s,baz=45,slow=1.9,SNR=4.6						
ARCES	ARCESS Array B	126.43	351		PKiKP	01 41 06.1	-0.1
CLL	Collm	145.65	352	*e* PKPbc	PKPbc	01 41 42.0	-0.2
CLL	Collm	145.65	352	*e*	PKPbc	01 41 42.0	-0.2
BRTR	Keskin Array B	147.01	318	PKPbc	PKPbc	01 41 47.1	+0.3
	comp=Z,1.0nm,0.5s,baz=185,slow=4.1,SNR=3.6						
BRTR	Keskin Array B	147.01	318		PKPbc	01 41 47.2	+0.5

PRU 29 01:40:51.4±0.0, 51°.53N×16°.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	170	*e*Pg	Pg	01 41 04.7	0.0
KSP				*e*Sg	Sg	01 41 14.4	+0.6
CHVC	Chvalec	0.94	182	*e*PG	Pg	01 41 09.4	-0.1
CHVC				*e*SG	Sg	01 41 22.5	+0.8
	comp=Z,4.4nm,0.4s						
OSTC	Ostas	0.98	176	*e*PG	Pg	01 41 10.3	+0.2
OSTC				*e*SG	Sg	01 41 23.4	+0.6
	comp=Z,5.8nm,0.5s						
UPC	Upice	1.03	183	*e*PG	Pg	01 41 10.9	-0.1
UPC				*e*SG	Sg	01 41 24.5	+0.2
	comp=Z,12nm,0.3s						
DPC	Dobruska-Polom	1.19	173	*e*PG	Pg	01 41 13.5	-0.7
DPC				*e*SG	Sg	01 41 29.9	+0.3
	comp=Z,3.2nm,0.4s						
PVCC	Panska Ves	1.39	225	*e*PG	Pg	01 41 18.0	-0.1
PVCC				*e*SG	Sn	01 41 37.0	-0.2
	comp=Z,23nm,0.4s						
BRG	Berggiesshubel	1.51	245	Pg	Pn	01 41 19.7	0.0
BRG				Sg	Sn	01 41 40.2	+0.2
BRG				Amp		01 41 40.9	
	comp=Z,20nm,0.3s						
KRLC	Kraliky	1.52	163	*e*PG	Pn	01 41 19.0	-0.9
KRLC				*e*SG	Sg	01 41 39.7	-0.5
	comp=Z,3.0nm,0.2s						
PRU	Pruhonice	1.83	213	*e*SG	Sb	01 41 49.5	+0.2
CLL	Collm	1.95	265	*e*Pg	Pb	01 41 27.0	-0.8
CLL				*e*Sg	Sb	01 41 53.0	+0.3
	comp=Z,4.0nm,0.4s						
MORC	Moravsky Berou	1.98	152	*e*PN	Pn	01 41 25.1	-1.1
MORC				*e*SG	Sb	01 41 53.2	-0.4
VRAC	Vranov	2.25	172	*e*PN	Pn	01 41 28.6	-1.2
VRAC				*e*SG	Sb	01 42 01.7	+0.5
KRUC	Moravsky	2.48	176	*e*PN	Pn	01 41 33.1	+0.1
KRUC				*e*SG	Sg	01 42 10.6	-0.4
NKC	Novy Kostel	2.65	242	*e*PN	Pn	01 41 36.3	+0.9
NKC				*e*SG	Sg	01 42 15.9	-0.7
	comp=Z,10nm,0.7s						
KHC	Kasperske Hory	2.90	215	*e*PG	Pb	01 41 44.0	+0.1
KHC				*e*SG	Sg	01 42 23.7	-0.6

IDC ***29*** *01:51:48.0±1.9, 19°.58S×177°.53W, h530km±20km, mb3.5/8, mb1 3.7/11, mb1mx3.4/25, mbtmp4.5/11, Error ellipse: s-maj=18.6km s-min=13.7km az=95.0*
NEIC ***29*** *01:51:50.3±1.6, 19°.6S±0°.1×177°.5W±0°.1, h553km±8km, mb4.5/33, Error ellipse: s-maj=19.6km s-min=17.3km az=113.0*
ISC 29 01:51:49.4±0.5, 19°.50S±0°.08×177°.51W±0°.08, h550km, n94, σ1s06/99, mb4.4/28, 6C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.57	292	P	P	01 53 15.2	-0.6
NIUE	Niue	7.17	88	P	P	01 53 40.4	+1.4
AFI	Afiamalu	7.81	45	P	P	01 53 44.6	-0.8
	4.9nm,0.3s,baz=114,slow=3.2,SNR=4.1						
AFI				S	S	01 55 17.1	-3.4
	11nm,0.3s,baz=42,slow=23,SNR=8.5						
AFI	Afiamalu	7.81	45	P	P	01 53 46.2	+0.8
PINNC	Pines Island,	14.38	255	P	P	01 54 52.0	-0.5
DZM	Mont Dzumac	15.23	258	P	P	01 55 00.0	-1.3
	1.0nm,0.3s,baz=80,slow=18,SNR=3.3						
DZM	Mont Dzumac	15.23	258	P	P	01 55 01.6	+0.3
DZM				IAmb	IAmb	01 55 09.1	
	comp=Z,12nm,0.8s						
OUZ	Omahuta	17.52	205	P	P	01 55 23.2	+0.5
URZ	Urewera	19.27	193	P	P	01 55 35.5	-3.1
	comp=Z,4.9nm,0.3s,baz=121,slow=23,SNR=17						
BKZ	Black Stump Fm	20.27	194	P	P	01 55 45.3	-2.5
BKZ				IAmb	IAmb	01 55 52.4	
	comp=Z,18nm,1.1s						
NNZ	Nelson	23.00	198	P	P	01 56 11.6	-0.6
THZ	Tophouse	23.64	198	P	P	01 56 17.1	-0.8
FOZ	Fox Glacier	26.22	201	P	P	01 56 39.9	-0.8
MLZ	Mavora Lakes	28.41	202	P	P	01 57 00.7	+0.9
WHZ	Wether Hill Ro	28.93	201	P	P	01 57 04.5	+0.1
EIDS	Eidsvold	29.57	253	P	P	01 57 09.9	-0.3
EIDS				IAmb	IAmb	01 57 25.6	
	comp=Z,32nm,1.5s						
ARMA	Armidale	29.93	243	P	P	01 57 14.0	+0.6
ARMA				IAmb	IAmb	01 57 33.2	
	comp=Z,9.9nm,1.4s						
CTAO	Charters Tower	34.06	263	P	P	01 57 48.6	0.0
TOO	Toolangi	36.86	233	P	P	01 58 11.7	+0.2
TOO				IAmb	IAmb	01 58 15.4	
	comp=Z,13nm,1.2s						
STKA	Stephens Creek	38.65	243	P	P	01 58 26.2	+0.1
	comp=Z,1.9nm,0.4s,baz=77,slow=8.3,SNR=7.4						
STKA	Stephens Creek	38.65	243	P	P	01 58 26.2	+0.1
BBOO	Buckleboo	43.41	243	P	P	01 59 03.5	-0.4
BBOO				IAmb	IAmb	01 59 04.3	
	comp=Z,15nm,0.7s						
WR0	Warramunga Arr	45.02	261	P	P	01 59 15.6	-0.9
WR0				IAmb	IAmb	01 59 16.6	
	comp=Z,5.6nm,0.5s						
WB0	Warramunga Arr	45.18	261	P	P	01 59 16.8	-1.0
WB0				IAmb	IAmb	01 59 18.2	
	comp=Z,9.9nm,0.6s						
WB2	Warramunga Arr	45.20	261	P	P	01 59 17.1	-0.8
WB2				IAmb	IAmb	01 59 18.0	
	comp=Z,30nm,1.4s						
WRAB	Tennant Creek	45.20	261	P	P	01 59 17.2	-0.7
WRAB				IAmb	IAmb	01 59 18.0	
	comp=Z,23nm,1.4s						
AS31	Alice Springs	45.20	256	P	P	01 59 17.6	-0.4
AS31				IAmb	IAmb	01 59 18.8	
	comp=Z,6.8nm,0.3s						
ASAR	Alice Springs	45.21	256	P	P	01 59 17.5	-0.4
	comp=Z,7.1nm,0.4s,baz=91,slow=7.5,SNR=121						
ASAR				PcP	PcP	02 00 46.3	-0.1
	comp=Z,1.1nm,0.7s,baz=101,slow=4.8,SNR=3.0						
ASAR				S	S	02 05 15.3	-2.9
	comp=Z,0.6nm,0.6s,baz=93,slow=16,SNR=6.0						
ASAR	Alice Springs	45.21	256	P	P	01 59 17.1	-0.9
ASAR				PcP	PcP	02 00 45.8	-0.6
WRA	Warramunga Arr	45.21	261	P	P	01 59 17.1	-0.8
	comp=Z,5.8nm,0.3s,baz=98,slow=7.6,SNR=183						
WRA				PcP	PcP	02 00 45.8	-0.7
	comp=Z,0.4nm,0.5s,baz=77,slow=3.8,SNR=1.7						
WRA	Warramunga Arr	45.

HHC				pmax	pmax			
	comp=Z,24nm,1.2s							
HHC				pmax	pmax			
	comp=Z,65nm,5.8s							
VNA3	**Neumayer Olymp**	**89.10**	**176**	P	**P**	**02**	**03**	**45.5 -0.4**
KMI	**Kunming**	**89.31**	**297**	⇑P	**P**	**02**	**03**	**49.8 +1.8**
KMI				pmax	pmax			
	comp=Z,12nm,1.1s							
VNA1	**Neumayer--Stat**	**89.77**	**176**	P	**P**	**02**	**03**	**48.9 0.0**
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	**P**	**02**	**03**	**53.8 +1.8**
	comp=Z,12nm,0.3s,baz=123,slow=3.1,SNR=6.8							
MKAR	**Makanchi Array**	**110.85**	**314**	PKiKP	**PKiKP**	**02**	**09**	**19.4 -0.8**
	comp=Z,0.2nm,0.6s,baz=242,slow=3.1,SNR=1.9							
MKAR	**Makanchi Array**	**110.85**	**314**		**PKiKP**	**02**	**09**	**19.8 -0.4**
KURK	**Kurchatov**	**113.58**	**318**		**PKiKP**	**02**	**09**	**23.9 -1.2**
KURBB	**Kurchatov Arra**	**113.63**	**318**	PKiKP	**PKiKP**	**02**	**09**	**23.9 -1.4**
	comp=Z,0.2nm,0.4s,baz=74,slow=2.4,SNR=4.3							
BVAR	**Borovoye Array**	**118.61**	**320**	PKP	**PKPdf**	**02**	**09**	**34.3 -0.5**
	comp=Z,0.3nm,0.4s,baz=54,slow=7.5,SNR=4.1							
ARCES	**ARCESS Array B**	**128.03**	**350**	PKP	**PKiKP**	**02**	**09**	**52.6 -0.4**
	comp=Z,2.0nm,1.0s,baz=349,slow=1.2,SNR=8.2							
ARCES	**ARCESS Array B**	**128.03**	**350**		**PKPdf**	**02**	**09**	**52.3 -0.1**
FINES	**FINESS Array B**	**134.95**	**344**	PKP	**PKPdf**	**02**	**10**	**04.1 -1.5**
	comp=Z,1.0nm,0.9s,baz=74,slow=2.0,SNR=3.6							
AKASG	**Malin Array Be**	**142.36**	**332**	PKhKP	PKPpre	02	10	15.8
	comp=Z,0.2nm,0.3s,baz=44,slow=4.7,SNR=4.0							
EKA	**Eskdalemuir Ar**	**143.97**	**5**	PKP	**PKPdf**	**02**	**10**	**21.6 -0.5**
	comp=Z,0.5nm,0.4s,baz=326,slow=2.5,SNR=4.5							
BURAR	**Bucovina Array**	**146.41**	**332**		**PKiKP**	**02**	**10**	**30.8 -0.6**
BRTR	**Keskin Array B**	**146.50**	**314**	PKPbc	**PKPbc**	**02**	**10**	**29.8 +0.1**
	comp=Z,1.2nm,0.5s,baz=130,slow=3.9,SNR=4.5							
OSTC	**Ostas**	**147.15**	**344**	⇑*e*PKP	**PKiKP**	**02**	**10**	**32.1 -0.5**
CLL	**Collm**	**147.19**	**348**	⇓*i*PKPbc	**PKPbc**	**02**	**10**	**31.3 +0.4**
	comp=Z,4.0nm,0.8s							
CLL	**Collm**	**147.19**	**348**		**PKPbc**	**02**	**10**	**31.1 +0.2**
DPC	**Dobruska-Polom**	**147.31**	**344**	⇑*e*PKP	**PKPbc**	**02**	**10**	**31.2 -0.1**
BRG	**Berggiesshubel**	**147.41**	**346**	*i* PKP	**PKiKP**	**02**	**10**	**32.0 -1.1**
BRG				Amp		02	10	33.7
	comp=Z,2.8nm,0.8s							
BRG				*ex*	x	02	10	35.8
BRG				Amp		02	10	36.7
	comp=Z,2.0nm,0.7s							
KRLC	**Kraliky**	**147.44**	**343**	⇑*e*PKP	**PKiKP**	**02**	**10**	**32.2 -1.1**
MLR	**Muntele Rosu**	**147.63**	**328**	PKPbc	**PKPbc**	**02**	**10**	**32.7 +0.3**
	comp=Z,1.3nm,0.5s,baz=342,slow=13,SNR=3.5							
MMAI	**Mount Meron Ar**	**147.71**	**301**	PKPbc	**PKPbc**	**02**	**10**	**32.7 -0.2**
	comp=Z,2.9nm,0.5s,baz=74,slow=6.2,SNR=5.7							
VRAC	**Vranov**	**148.18**	**342**	*e*PKP	**PKiKP**	**02**	**10**	**33.8 -1.0**
KRUC	**Moravsky**	**148.46**	**342**	*e*PKP	**PKiKP**	**02**	**10**	**34.4 -0.9**
KRUC				*e*		02	10	40.4
CSS	**Mathiatis**	**148.71**	**306**	PKPbc	**PKPbc**	**02**	**10**	**35.1 -0.2**
KHC	**Kasperske Hory**	**149.12**	**346**	⇑*e*PKP	**PKiKP**	**02**	**10**	**36.5 -0.3**
KHC				*e*PKPAB	**PKPab**	**02**	**10**	**42.1 -0.4**
CKRC	**Cesky Krumlov**	**149.24**	**345**	⇑*e*PKP	**PKiKP**	**02**	**10**	**36.7 -0.3**
GERES	**GERESS Array B**	**149.36**	**345**	PKPbc	**PKiKP**	**02**	**10**	**36.8 -0.5**
	comp=Z,1.5nm,0.8s,baz=37,slow=3.3,SNR=14							
GERES	**GERESS Array B**	**149.36**	**345**		**PKiKP**	**02**	**10**	**36.9 -0.4**
CONA	**Conrad Observa**	**149.63**	**342**	*e*P	**PKiKP**	**02**	**10**	**37.8 -0.1**
	comp=Z,1.4nm,0.6s							
MOA	**Molln**	**150.15**	**344**	*e*P	**PKiKP**	**02**	**10**	**38.5 -0.4**
	comp=Z,0.9nm,0.5s							
ELL	**Elmali**	**150.49**	**311**	PKPbc	**PKiKP**	**02**	**10**	**39.8 -0.3**
VTS	**Vitosha**	**151.05**	**327**	PKPbc	**PKiKP**	**02**	**10**	**40.9 -0.2**
WATA	**Walderalm**	**151.26**	**347**	*e*P	**PKiKP**	**02**	**10**	**40.9 -0.5**
	comp=Z,1.7nm,0.7s							
WTTA	**Wattenberg**	**151.32**	**347**	*i* P	**PKiKP**	**02**	**10**	**41.4 -0.1**
	comp=Z,1.0nm,0.4s							
SQTA	**Sankt Quirin**	**151.45**	**348**	*i* P	**PKiKP**	**02**	**10**	**41.5 -0.2**
	comp=Z,1.0nm,0.5s							
ABTA	**Abfaltersbach**	**151.61**	**345**	*e*P	**PKPbc**	**02**	**10**	**41.2 -0.6**
	comp=Z,2.7nm,0.8s							
DAVOX	**Davos/Dischmat**	**152.13**	**349**	PKPbc	**PKiKP**	**02**	**10**	**43.5 +0.3**
	comp=Z,1.2nm,0.6s,baz=252,slow=6.4,SNR=5.7							

*ATH **29** 02:03:50.8,36.62N×29.10E,h10km±31km,ML3.1/4,Error ellipse: s-maj=31.6km s-min=1.1km az=0.0*
*ISK **29** 02:03:51.9,36.36N×29.09E,h21km,ML3.3/17*
*NIC **29** 02:03:53.2±0.0,36.03N×29.08E,h31km±1km,MI3.3/4*
*DDA **29** 02:03:53.0,36.39N×29.10E,h7km±4km,ML2.9*
*THE **29** 02:03:53.2,36.36N×29.06E,h12km±3km,ML2.9/2,Error ellipse: s-maj=3.5km s-min=0.8km az=51.0*
*HLW **29** 02:04:03.2,35.40N×29.04E,h31km±30km,Md4.1,MI3.6*
ISC 29 02:03:52.0±0.9,36.36N±0.03×29.12E±0.02,h29km±7km, n59,σ1$06/81,3C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FETY	**Fethiye**	**0.27**	**354**	P		**Pb**	**02 03 58.6**	**-0.4**
FETY				S		**Sn**	**02 04 04.2**	**-1.2**
FETY	**Fethiye**	**0.27**	**354**	*i* P		**Pb**	**02 03 58.7**	**-0.4**
FETY				*i* S		**Sb**	**02 04 03.5**	**-0.3**
FETY	**Fethiye**	**0.27**	**354**	PG		**Pb**	**02 03 58.7**	**-0.4**
FETY				SG		**Sb**	**02 04 03.7**	**-0.1**
AKAS	**Kas**	**0.42**	**108**	*i* P		**Pn**	**02 04 01.3**	**-0.9**
AKAS				*i* S		**Sn**	**02 04 09.1**	**+0.1**
AKAS				IAML			02 04 10.0	
	comp=N,1μm,0.3s							
AKAS				IAML			02 04 10.0	
	comp=E,789nm,0.3s							
AKAS	**Kas**	**0.42**	**108**	PG		**Pn**	**02 04 01.4**	**-0.8**
AKAS				SG		**Sn**	**02 04 08.2**	**-0.9**
KSL	**Kastellorizon**	**0.43**	**119**	P		**Pn**	**02 04 02.6**	**+0.3**
KSL				S		**Sn**	**02 04 10.4**	**+1.1**
	comp=E,3μm,0.4s							
KSL	**Kastellorizon**	**0.43**	**119**	P		**Pn**	**02 04 02.4**	**+0.1**
KSL				S		**Sn**	**02 04 10.5**	**+1.2**
KSL				AML	AML		02 04 10.9	
	comp=N,3342μm,0.5s							
KSL				AML	AML		02 04 11.1	
	comp=E,6903μm,0.4s							
KSL	**Kastellorizon**	**0.43**	**119**	⇑P		**Pn**	**02 04 02.6**	**+0.3**
KSL				S		**Sn**	**02 04 10.3**	**+1.0**
DALY	**Dalyan (Mula)**	**0.59**	**321**	*i* P		**Pn**	**02 04 04.2**	**-0.2**
DALY				*i* S		**Sn**	**02 04 12.8**	**-0.3**
DALY				IAML			02 04 14.0	
	comp=N,759nm,0.4s							
DALY				IAML			02 04 15.0	
	comp=E,583nm,0.4s							
DALY	**Dalyan (Mula)**	**0.59**	**321**	PG		**Pn**	**02 04 04.2**	**-0.2**
DALY				SG		**Sn**	**02 04 12.9**	**-0.2**
CAME	**Cameli-Denizli**	**0.60**	**14**	PG		**Pn**	**02 04 04.4**	**-0.4**
DEMR	**Demre-Antalya**	**0.65**	**101**	PG		**Pn**	**02 04 05.3**	**0.0**
ELL	**Elmali**	**0.74**	**59**	PG		**Pb**	**02 04 07.4**	**+0.9**
CAEL	**Denizli, Camel**	**0.78**	**12**	*i* P		**Pb**	**02 04 07.4**	**+0.3**
CAEL				*i* S		**Sn**	**02 04 18.2**	**+0.2**
CAEL				IAML			02 04 22.0	
	comp=N,529nm,0.5s							
CAEL				IAML			02 04 23.0	
	comp=E,576nm,0.3s							
ARG	**Arkhangelos**	**0.81**	**260**	P		**Pb**	**02 04 07.9**	**+0.2**
ARG				S		**Sb**	**02 04 19.6**	**+1.3**
	comp=E,672nm,0.2s							
ARG	**Arkhangelos**	**0.81**	**260**	P		**Pb**	**02 04 07.8**	**+0.2**
ARG				S		**Sb**	**02 04 19.4**	**+1.2**
ARG				AML	AML		02 04 20.1	
	comp=E,1504μm,0.2s							
ARG				AML	AML		02 04 20.1	
	comp=N,1089μm,0.2s							
ARG	**Arkhangelos**	**0.81**	**260**	PG		**Pb**	**02 04 07.9**	**+0.2**
ARG				SG		**Sb**	**02 04 19.5**	**+1.3**
ARG	**Arkhangelos**	**0.81**	**260**	P		**Pb**	**02 04 07.8**	**+0.2**
ARG				S		**Sb**	**02 04 19.6**	**+1.3**
TURN	**Turunc**	**0.81**	**301**	*i* P		**Pb**	**02 04 08.1**	**+0.6**
TURN				*i* S		**Sb**	**02 04 19.6**	**+1.3**
TURN				IAML			02 04 20.0	
	comp=E,290nm,0.2s							
TURN				IAML			02 04 20.0	
	comp=N,766nm,0.4s							
TURN	**Turunc**	**0.81**	**301**	PG		**Pb**	**02 04 08.2**	**+0.6**
MRSB	**Marmaris-Mugla**	**0.82**	**296**	PG		**Pb**	**02 04 08.1**	**+0.4**
GOLH	**Golhisar**	**0.94**	**22**	*i* P		**Pb**	**02 04 09.0**	**-0.9**
GOLH				*i* S		**Sb**	**02 04 23.9**	**+1.9**
AKUM	**Antalya-Kumluc**	**0.99**	**92**	*i* P		**Pb**	**02 04 11.3**	**+0.7**
AKUM				*i* S		**Sb**	**02 04 26.9**	**+3.7**
AKUM				IAML			02 04 29.0	
	comp=N,275nm,0.2s							
AKUM				IAML			02 04 29.0	
	comp=E,345nm,0.3s							
YER	**Yerkesik**	**1.02**	**319**	P		**Pb**	**02 04 11.6**	**+0.5**
YER	**Yerkesik**	**1.02**	**319**	PG		**Pb**	**02 04 11.9**	**+0.8**
MULA	**Mugla, Merkez-**	**1.10**	**325**	*i* P		**Pb**	**02 04 13.0**	**+0.5**
MULA				*i* S		**Sb**	**02 04 27.8**	**+1.4**
MULA				IAML			02 04 29.0	
	comp=N,469nm,0.3s							
MULA				IAML			02 04 29.0	
	comp=E,484nm,0.3s							
TAVA	**DENIZLI_Tavas**	**1.11**	**352**	*i* P		**Pb**	**02 04 13.1**	**+0.3**
TAVA				*i* S		**Sb**	**02 04 28.0**	**+1.1**
TAVA				IAML			02 04 29.0	
	comp=N,535nm,0.4s							
TAVA				IAML			02 04 29.0	
	comp=E,432nm,0.4s							
KORT	**Korkueli**	**1.18**	**57**	PN		**Pb**	**02 04 14.0**	**+0.2**
DAT	**Datca**	**1.29**	**287**	P		**Pb**	**02 04 15.2**	**-0.6**
DAT	**Datca**	**1.29**	**287**	PN		**Pb**	**02 04 15.2**	**-0.6**
ANTB	**Antalya**	**1.35**	**66**	PN		**Pb**	**02 04 17.4**	**+0.8**
MLSB	**Milas**	**1.42**	**311**	PN		**Pb**	**02 04 17.3**	**-0.6**
NIS1	**Nisyros Isl.**	**1.58**	**279**	P		**Pn**	**02 04 18.7**	**+0.6**
NIS1				AML	AML		02 04 45.6	
	comp=E,1738μm,0.5s							
NIS1				AML	AML		02 04 50.3	
	comp=N,1205μm,0.6s							
BCK	**Bucak**	**1.61**	**47**	PN		**Pb**	**02 04 20.5**	**-0.6**
BODT	**Bodrum**	**1.61**	**296**	P		**Pn**	**02 04 18.4**	**-0.1**
BODT	**Bodrum**	**1.61**	**296**	PN		**Pn**	**02 04 18.5**	**-0.1**
BASM	**Basmaki-Afyon**	**1.72**	**25**	PN		**Pb**	**02 04 21.1**	**-2.0**
ISP	**Isparta**	**1.84**	**37**	P		**Pn**	**02 04 20.5**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**329**	PN		**Pn**	**02 04 22.6**	**+0.5**
KULA	**Kula-Manisa**	**2.18**	**351**	P		**Pn**	**02 04 26.9**	**+0.5**
SMG	**Samos**	**2.27**	**307**	P		**Pn**	**02 04 28.0**	**+0.4**
SMG	**Samos**	**2.27**	**307**	P		**Pn**	**02 04 28.4**	**+0.9**
SMG				S		**Sn**	**02 04 55.4**	**+0.8**
SMG				AML	AML		02 05 01.3	
	comp=E,385μm,0.3s							
SMG				AML	AML		02 05 05.1	
	comp=N,430μm,0.5s							
AKMS	**Akamas**	**2.94**	**116**	⇑P		**Pn**	**02 04 36.6**	**-0.3**
AKMS				AML	AML		02 05 08.5	
	comp=N,0.2nm,0.3s							
AKMS				AML	AML		02 05 08.5	
	comp=N,0.2nm,0.3s							
AKMS				S		**Sn**	**02 05 10.0**	**-1.3**
AKMS				AML	AML		02 05 10.1	
	comp=N,0.4nm,0.3s							
AKMS				AML	AML		02 05 10.1	
	comp=N,0.4nm,0.3s							
ALFC	**Alefka**	**3.08**	**112**	P		**Pn**	**02 04 38.4**	**-0.4**
ALFC				AML	AML		02 05 14.6	
	comp=N,0.2nm,0.2s							
ALFC				AML	AML		02 05 14.7	
	comp=N,0.3nm,0.3s							
NATA	**Nata**	**3.23**	**118**	P		**Pn**	**02 04 40.5**	**-0.3**
OSC1	**CSNet OBS 1**	**3.36**	**148**	S		**Sn**	**02 05 17.4**	**-4.1**
SZAC	**Souni**	**3.46**	**117**	⇓P		**Pn**	**02 04 43.6**	**-0.5**
SZAC				AML	AML		02 05 23.5	
	comp=N,0.3nm,0.5s							
SZAC				AML	AML		02 05 24.0	
	comp=N,0.2nm,0.2s							
CSS	**Mathiatis**	**3.71**	**111**	P		**Pn**	**02 04 47.7**	**+0.3**
ASGA	**Asgata**	**3.72**	**114**	⇑P		**Pn**	**02 04 47.4**	**-0.1**
ASGA				AML	AML		02 05 29.9	
	comp=N,0.1nm,0.2s							
ASGA				AML	AML		02 05 30.3	
	comp=N,0.1nm,0.4s							
MVOU	**Mavrovouni**	**3.91**	**109**	P		**Pn**	**02 04 49.8**	**-0.4**
MATC	**Matruh**	**5.25**	**198**	P		**Pn**	**02 05 07.4**	**-1.2**
	baz=201							
SLUM	**Salum**	**5.84**	**215**	P		**Pn**	**02 05 16.6**	**-0.2**
	baz=221							
SLUM				AMP			02 06 00.0	
	baz=221							
SLUM				S		Sn	02 06 10.3	-12
	baz=221							
HNAT	**Natroun**	**6.83**	**169**	P		**Pn**	**02 05 29.2**	**-1.1**
	baz=166							
HSAF	**As Saff**	**7.03**	**162**	P		**Pn**	**02 05 32.0**	**-1.0**
	baz=159							
GLL	**Jalalah**	**7.11**	**161**	P		**Pn**	**02 05 33.0**	**-1.2**
	baz=158							
RYAN	**Fayoum**	**7.33**	**172**	P		**Pn**	**02 05 35.6**	**-1.5**
	baz=170							
RYAN				AMP			02 06 00.0	
	baz=170							
SWA2		**7.74**	**204**	P		**Pn**	**02 05 41.7**	**-1.1**
	baz=208							
SWA2				S		Sn	02 06 53.8	-16
	baz=208							
SWA2				AMP			02 07 00.0	
	baz=208							
NBNS	**Bani Suef**	**7.94**	**166**	P		**Pn**	**02 05 44.0**	**-1.5**
	baz=163							
HFRF	**Wahat Farafira**	**9.21**	**184**	P		**Pn**	**02 06 00.8**	**-2.2**
	baz=185							

*TUL **29** 02:46:07.9±1.4,36.95N±0.02×97.69W±0.02,h5km±2km, ML3.1,mb_Lg2.9/59(NEIC),Error ellipse: s-maj=3.3km s-min=3.1km az=51.0*
NEIC 29 02:46:08.4±1.2,36.94N±0.02×97.66W±0.02,h2km±7km, Error ellipse: s-maj=2.8km s-min=1.9km az=49.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAN17	**Caldwell West**	**0.13**	**322**			Pg	02 46 10.8	-0.3
KAN17				Sg		Sg	02 46 12.6	-0.2
KAN13	**South Haven SW**	**0.17**	**64**	Pg		Pg	02 46 11.8	+0.2
KAN13				Sg		Sg	02 46 14.6	+0.8
KAN09	**Caldwell North**	**0.20**	**10**	Pg		Pg	02 46 12.3	-0.1
KAN09				Sg		Sg	02 46 15.3	+0.4
KS20	**Mayfield South**	**0.30**	**17**	Pg		Pg	02 46 14.2	-0.1
KS20				Sg		Sg	02 46 18.6	+0.4
KAN08	**Anthony NE Sta**	**0.38**	**319**	Pg		Pg	02 46 15.4	-0.3
KAN08				Sg		Sg	02 46 20.6	-0.1
KAN10	**Anthony SW Sta**	**0.39**	**298**			Pg	02 46 15.6	-0.3
KAN10				Sg		Sg	02 46 20.8	-0.3
BLOK	**Blackwell**	**0.40**	**116**	Pg		Pg	02 46 16.3	+0.1
BLOK				Sg		Sg	02 46 22.2	+0.8
KAN12	**Harper NE Stat**	**0.45**	**323**	Pg		Pg	02 46 16.5	-0.5
KAN12				Sg		Sg	02 46 22.8	0.0
OK032	**Salt Plains WL**	**0.46**	**253**			Pg	02 46 16.7	-0.6
CROK	**Carrier**	**0.51**	**211**			Pg	02 46 17.9	-0.2
CROK				Sg		Sg	02 46 24.9	+0.2
T35A	**Sooner Cattle**	**0.92**	**91**			Pg	02 46 25.8	-0.3
T35A				Sg		Sg	02 46 38.1	0.0
QUOK	**Quay**	**1.09**	**135**	Pg		Pg	02 46 28.7	-0.6
QUOK				Sg		Sg	02 46 43.3	-0.1
OK029	**Liberty Lake**	**1.15**	**172**	Pg		Pg	02 46 29.8	-0.7
OK029				Sg		Sg	02 46 45.5	0.0
OK031	**S. Brethren Rd**	**1.19**	**146**			Pg	02 46 30.6	-0.6
OK030	**Cody Creek RV**	**1.23**	**145**			Pg	02 46 31.4	-0.7
BCOK	**Bluff Creek, N**	**1.28**	**178**			Pg	02 46 32.0	-1.0
OK025	**Westminster Rd**	**1.38**	**169**			Pn	02 46 33.9	-0.8
OKCFA	**Oklahoma City**	**1.53**	**174**	Pn		Pn	02 46 36.3	-0.5
OKCSW	**OKLAHOMA CITY**	**1.54**	**173**	Pn		Pn	02 46 36.4	-0.6
FNO	**Franklin**	**1.69**	**173**	Pn		Pn	02 46 38.7	-0.3
R32A	**Long Quarter,**	**1.70**	**331**	Pn		Pn	02 46 39.2	+0.1
KSU1	**Kansas State U**	**2.31**	**21**	Pn		Pn	02 46 48.3	+0.8
KSU1				IAmb_Lg			02 47 22.5	
	comp=Z,47nm,0.7s							
X34A	**Smith Ranch, M**	**2.34**	**183**	Pn		Pn	02 46 48.1	+0.2
WMOK	**Wichita Mounta**	**2.38**	**203**	Pn		Pn	02 46 49.1	+0.7
U38A	**Gravette**	**2.68**	**100**	Pn		Pn	02 46 53.2	+0.6
LOOK	**Love County**	**2.97**	**172**	Pn		Pn	02 46 57.4	+0.9
X37A	**Clayton**	**3.00**	**141**	Pn		Pn	02 46 57.0	+0.1
X37A				IAmb_Lg			02 47 47.4	
	comp=Z,43nm,0.8s							
HHAR	**Hobbs**	**3.07**	**101**	Pn		Pn	02 46 58.3	+0.4
S39A	**Bolivar**	**3.54**	**76**	Pn		Pn	02 47 04.6	+0.1
W39A	**Magazine**	**3.59**	**118**	Pn		Pn	02 47 06.8	+1.7
Z35A	**Perchaven, San**	**3.62**	**175**	Pn		Pn	02 47 05.8	+0.4
Z35A				IAmb_Lg			02 48 05.5	
	comp=Z,24nm,1.2s							
N33A	**J Bar K, Exete**	**3.80**	**2**	Pn		Pn	02 47 07.5	-0.5
AMTX	**Amarillo**	**3.85**	**239**	IAmb_Lg			02 48 15.8	
	comp=Z,39nm,0.9s							
U40A	**Yellville**	**3.91**	**97**	Pn		Pn	02 47 09.4	-0.1
MIAR	**Mount Ida**	**4.09**	**125**	Pn		Pn	02 47 12.9	+0.8
MIAR				IAmb_Lg			02 48 19.6	
	comp=Z,28nm,1.1s							
P38A	**Dawn**	**4.21**	**49**	IAmb_Lg			02 48 20.8	
	comp=Z,18nm,0.8s							
Z38A	**Mt. Pleasant**	**4.28**	**148**	IAmb_Lg			02 48 29.1	
	comp=Z,31nm,0.8s							
MGMO	**Mountain Grove**	**4.32**	**86**	Pn		Pn	02 47 15.6	+0.4
KSCO	**Kaye Shedlock'**	**4.43**	**299**	Pn		Pn	02 47 17.3	+0.5
BGNE	**Belgrade**	**4.48**	**355**	Pn		Pn	02 47 18.2	+0.8
BGNE				IAmb_Lg			02 48 41.0	
	comp=Z,35nm,0.8s							
R40A	**Maddies Statio**	**4.49**	**71**	Pn		Pn	02 47 17.2	-0.2
FCAR	**Ozark Folk Cen**	**4.59**	**102**	Pn		Pn	02 47 20.2	+1.4
FCAR				IAmb_Lg			02 48 35.9	
	comp=Z,23nm,0.8s							
ABTX	**Abilene, Hawle**	**4.60**	**201**	Pn		Pn	02 47 17.6	-1.5
X40A	**Basin Creek Fa**	**4.63**	**120**	IAmb_Lg			02 48 43.9	
	comp=Z,16nm,0.7s							
WHAR	**Wooly Hollow**	**4.65**	**109**	Pn		Pn	02 47 19.1	-0.6
WHAR				IAmb_Lg			02 48 42.8	
	comp=Z,23nm,0.8s							
WLAR	**White Oak Lake**	**4.94**	**130**	IAmb_Lg			02 48 59.8	
	comp=Z,15nm,0.8s							
WHTX	**Lake Whitney,**	**4.94**	**178**	Pn		Pn	02 47 23.4	-0.3
MSTX	**Muleshoe**	**5.12**	**236**	IAmb_Lg			02 48 54.5	
	comp=Z,10nm,1.1s							
L34A	**Svendsen Farm,**	**5.12**	**11**	IAmb_Lg			02 48 57.2	
	comp=Z,31nm,0.8s							
P40A	**Paris**	**5.12**	**58**	IAmb_Lg			02 49 01.7	
	comp=Z,21nm,0.8s							
N38A	**Joes South For**	**5.17**	**41**	IAmb_Lg			02 49 01.1	
	comp=Z,23nm,0.7s							
CCM	**Cathedral Cave**	**5.22**	**76**	IAmb_Lg			02 49 01.2	
	comp=Z,10nm,0.8s							
OGNE	**Ogallala**	**5.25**	**321**	Pn		Pn	02 47 28.7	+0.7
OGNE				IAmb_Lg			02 48 53.5	
	comp=Z,26nm,0.8s							
LCAR	**Lake Charles**	**5.32**	**97**	Pn		Pn	02 47 28.4	-0.4
PBMO	**Poplar Bluff**	**5.80**	**89**	IAmb_Lg			02 49 10.8	
	comp=Z,9.8nm,0.7s							
435B	**Jarrell**	**6.14**	**179**	IAmb_Lg			02 49 34.9	
	comp=Z,9.9nm,0.7s							
SDCO	**Great Sand Dun**	**6.30**	**280**	Pn		Pn	02 47 43.6	+1.0
N41A	**Harden Midland**	**6.51**	**53**	IAmb_Lg			02 49 44.3	
	comp=Z,23nm,0.8s							
143A	**Socs Landing,**	**6.66**	**128**	IAmb_Lg			02 49 43.3	
	comp=Z,19nm,0.8s							
JCT	**Junction City**	**6.69**	**196**	IAmb_Lg			02 49 57.2	
	comp=Z,17nm,1.1s							
S44A	**Carbondale**	**6.74**	**81**	Pn		Pn	02 47 48.6	+0.2
S44A				IAmb_Lg			02 49 39.8	
	comp=Z,14nm,0.8s							
SIUC	**Southern Illin**	**6.78**	**81**	IAmb_Lg			02 49 40.3	
	comp=Z,18nm,0.9s							
K38A	**Parkersburg**	**6.83**	**32**	IAmb_Lg			02 50 00.7	
	comp=Z,15nm,0.9s							
ECSD	**EROS Data Cent**	**6.83**	**6**	Pn		Pn	02 47 49.1	-0.5
ISCO	**Idaho Springs**	**6.87**	**297**	IAmb_Lg			02 49 55.6	
	comp=Z,9.4nm,0.7s							
Q44A	**Meyer Farm, Va**	**7.11**	**71**	Pn		Pn	02 47 53.8	+0.3
Q44A				IAmb_Lg			02 50 03.3	
	comp=Z,21nm,1.0s							
OXF	**Oxford**	**7.14**	**107**	Pn		Pn	02 47 53.8	0.0
L40A	**Anamosa**	**7.14**	**42**	IAmb_Lg			02 49 54.8	
	comp=Z,14nm,0.7s							
PHWY	**Pilot Hill**	**7.46**	**308**	IAmb_Lg			02 50 07.5	
	comp=Z,8.5nm,0.7s							
F33A	**5 Mile Ranch,**	**8.95**	**6**	IAmb_Lg			02 50 58.5	
	comp=Z,9.4nm,1.2s							
TX31	**Lajitas Ar. Si**	**9.10**	**215**	Pn		Pn	02 48 21.2	+0.3
TX32	**Lajitas Array**	**9.10**	**215**	Pn		Pn	02 48 21.2	+0.3
TXAR	**Lajitas Array**	**9.10**	**215**	Pn		Pn	02 48 22.6	+1.7

ROM 29 02:49:01.8±0.1,36.237N±0.005×12.72E±0.01,h10km, ML2.7/10,1D,Error ellipse: s-maj=1.2km s-min=0.5km az=284.0,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPDG	**Lampedusa Capo**	**0.72**	**186**	P		Pg	02 49 15.7	+0

*IDC **29** 02:58:13.4±1.3,54˚.25N×160˚.44E, h0km,mb3.8/10, mb1 4.0/10,mb1mx3.7/54,mbtmp3.8/10,Error ellipse: s-maj=35.6km s-min=18.8km az=155.0*
*KRSC **29** 02:58:16.5±0.8,53˚.71N×160˚.85E,h54km±16km,ML4.5*
*MOS **29** 02:58:18.2±0.9,53˚.74N×160˚.70E,h81km,mb4.0/7,Error ellipse: s-maj=9.3km s-min=4.2km az=76.3*
*NEIC **29** 02:58:21.6±1.5,53˚.7N±0˚.1×160˚.4E±0˚.2,h86km±9km, mb4.2/10,Error ellipse: s-maj=19.4km s-min=13.7km az=153.0*

ISC 29 02:58:17.9±0.9,53˚.75N±0˚.03×160˚.80E±0˚.04,h50km±9km, n134,σ1§63/168,mb3.9/18,2C-2D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SPN	**Mys Shipunski**	**0.80**	**216**	PN	**Pn**		**02 58 32.9**	**-0.1**
SPN				S	**Sn**		**02 58 43.4**	**-0.5**
SPN	**Mys Shipunski**	**0.80**	**216**	*i* P	**Pn**		**02 58 32.9**	**-0.1**
SPN				*e*S	**Sn**		**02 58 43.4**	**-0.5**
KII	**Karymskiy**	**0.85**	**290**	PN	**Pn**		**02 58 34.0**	**+0.3**
KII	**Karymskiy**	**0.85**	**290**	*e*P	**Pn**		**02 58 34.0**	**+0.3**
MKZ	**Mys Kozlova**	**0.97**	**34**	PN	**Pn**		**02 58 36.2**	**+1.0**
MKZ	**Mys Kozlova**	**0.97**	**34**	*e*P	**Pn**		**02 58 36.2**	**+1.0**
NLC	**Nalytchevo**	**1.04**	**237**	PN	**Pn**		**02 58 36.5**	**+0.3**
NLC				S	**Sn**		**02 58 50.0**	**+0.3**
NLC	**Nalytchevo**	**1.04**	**237**	*e*P	**Pn**		**02 58 36.5**	**+0.3**
NLC				*e*S	**Sn**		**02 58 50.0**	**+0.3**
SDLR	**Sedlovina**	**1.24**	**248**	PN	**Pn**		**02 58 39.8**	**+0.9**
SDLR				S	**Sn**		**02 58 55.0**	**+0.4**
SDLR	**Sedlovina**	**1.24**	**248**	*e*P	**Pn**		**02 58 39.8**	**+0.9**
SDLR				*e*S	**Sn**		**02 58 55.0**	**+0.4**
SMAR	**Somma**	**1.29**	**249**	PN	**Pn**		**02 58 40.4**	**+0.7**
SMAR				S	**Sn**		**02 58 56.1**	**+0.1**
SMAR	**Somma**	**1.29**	**249**	*e*P	**Pn**		**02 58 40.4**	**+0.7**
SMAR				*e*S	**Sn**		**02 58 56.1**	**+0.1**
UGLR	**Uglovaya**	**1.30**	**246**	PN	**Pn**		**02 58 40.7**	**+1.0**
UGLR	**Uglovaya**	**1.30**	**246**	*e*P	**Pn**		**02 58 40.7**	**+1.0**
KRER	**Koryakskii**	**1.30**	**251**	PN	**Pn**		**02 58 57.4**	**+1.1**
KRER				S	**Sn**		**02 58 57.4**	**+1.1**
KRER	**Koryakskii**	**1.30**	**251**	*e*P	**Pn**		**02 58 41.0**	**+1.1**
KRER				*e*S	**Sn**		**02 58 57.4**	**+1.1**
AVH	**Avacha**	**1.32**	**249**	PN	**Pn**		**02 58 41.3**	**+1.2**
AVH				S	**Sn**		**02 58 57.7**	**+1.1**
AVH	**Avacha**	**1.32**	**249**	*e*P	**Pn**		**02 58 41.3**	**+1.2**
AVH				*e*S	**Sn**		**02 58 57.7**	**+1.1**
KRX	**Arik**	**1.34**	**254**	PN	**Pn**		**02 58 41.2**	**+0.8**
KRX				S	**Sn**		**02 58 57.5**	**+0.4**
KRX	**Arik**	**1.34**	**254**	*e*P	**Pn**		**02 58 41.2**	**+0.8**
KRX				*e*S	**Sn**		**02 58 57.5**	**+0.4**
KOK	**Koryaka**	**1.37**	**251**	PN	**Pn**		**02 58 41.6**	**+0.9**
KOK				S	**Sn**		**02 58 58.4**	**+0.6**
KOK	**Koryaka**	**1.37**	**251**	*e*P	**Pn**		**02 58 41.6**	**+0.9**
KOK				*e*S	**Sn**		**02 58 58.4**	**+0.6**
KZV	**Kizimen**	**1.40**	**348**	PN	**Pn**		**02 58 42.2**	**+1.1**
KZV				S	**Sn**		**02 58 59.8**	**+1.3**
KZV	**Kizimen**	**1.40**	**348**	*e*P	**Pn**		**02 58 42.2**	**+1.1**
KZV				*e*S	**Sn**		**02 58 59.8**	**+1.3**
DALK	**Dalny**	**1.42**	**240**	PN	**Pn**		**02 58 42.0**	**+0.7**
DALK				S	**Sn**		**02 58 59.3**	**+0.5**
DALK	**Dalny**	**1.42**	**240**	*e*P	**Pn**		**02 58 42.0**	**+0.7**
DALK				*e*S	**Sn**		**02 58 59.3**	**+0.5**
TUMD	**Tumrok D**	**1.47**	**351**	*i* P	**Pn**		**02 58 42.9**	**+0.8**
TUMD				*e*S	**Sn**		**02 59 00.6**	**+0.4**
PET	**Petropavlovsk**	**1.48**	**241**	*c i*PN	**Pn**		**02 58 42.9**	**+0.9**
PET	**Petropavlovsk**	**1.48**	**241**	*e*P	**Pn**		**02 58 42.9**	**+0.9**
PET				*e*S	**Sn**		**02 59 00.8**	**+0.6**
PET	**Petropavlovsk**	**1.48**	**241**		**Pn**		**02 58 42.9**	**+0.9**
PET				Sn	**Sn**		**02 59 00.5**	**+0.3**
TUMR	**Tumrok**	**1.58**	**346**	PN	**Pn**		**02 58 42.9**	**-0.7**
TUMR				S	**Sn**		**02 59 00.6**	**-2.4**
TUMR	**Tumrok**	**1.58**	**346**	*i* P	**Pn**		**02 58 45.3**	**+1.7**
GNL	**Ganaly**	**1.70**	**269**	PN	**Pn**		**02 58 46.1**	**+0.9**
GNL	**Ganaly**	**1.70**	**269**	*e*P	**Pn**		**02 58 46.1**	**+0.9**
KRMR	**Karymshinskiy**	**1.85**	**241**	PN	**Pn**		**02 58 48.4**	**+1.3**
KRMR				S	**Sn**		**02 59 10.6**	**+1.3**
KRMR	**Karymshinskiy**	**1.85**	**241**	*e*P	**Pn**		**02 58 48.4**	**+1.3**
KRMR				*e*S	**Sn**		**02 59 10.6**	**+1.3**
RUS	**Russkaya**	**1.91**	**227**	PN	**Pn**		**02 58 48.2**	**+0.3**
RUS				S	**Sn**		**02 59 10.0**	**-0.7**
RUS	**Russkaya**	**1.91**	**227**	*e*P	**Pn**		**02 58 48.2**	**+0.3**
RUS				*e*S	**Sn**		**02 59 10.0**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.96**	**252**	*ce*PN	**Pn**		**02 58 49.8**	**+1.1**
PEA0B	**Petropavlovsk-**	**1.96**	**252**		**Pn**		**02 58 49.8**	**+1.1**
PETK	**Petropavlovsk-** 31nm,0.3s,baz=75,slow=19,SNR=178	**1.96**	**252**	Pn	**Pn**		**02 58 49.8**	**+1.1**
PETK				Sn	**Sn**		**02 59 15.0**	**+2.8**
	65nm,0.3s,baz=224,slow=10,SNR=21							
PETK				LR	LR		02 59 33.1	
	comp=Z,80nm,19.7s,baz=130,slow=40							
MTVR	**Mutnovka**	**2.02**	**232**	PN	**Pn**		**02 58 50.6**	**+0.9**
MTVR				S	**Sn**		**02 59 14.4**	**+0.6**
MTVR	**Mutnovka**	**2.02**	**232**	*e*P	**Pn**		**02 58 50.6**	**+0.9**
MTVR				*e*S	**Sn**		**02 59 14.4**	**+0.6**
GRL	**Gorelyy**	**2.03**	**235**	PN	**Pn**		**02 58 51.2**	**+1.4**
GRL				S	**Sn**		**02 59 14.7**	**+0.7**
GRL	**Gorelyy**	**2.03**	**235**	*e*P	**Pn**		**02 58 51.2**	**+1.4**
GRL				*e*S	**Sn**		**02 59 14.7**	**+0.7**
KMNR	**Kamenistaya**	**2.04**	**351**	PN	**Pn**		**02 58 52.0**	**+2.2**
KMNR	**Kamenistaya**	**2.04**	**351**	*e*P	**Pn**		**02 58 52.0**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	PN	**Pn**		**02 58 54.2**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**2.19**	**359**	*e*P	**Pn**		**02 58 54.2**	**+2.2**
KIRR	**Kirishev**	**2.22**	**353**	PN	**Pn**		**02 58 54.2**	**+1.8**
KIRR	**Kirishev**	**2.22**	**353**	*e*P	**Pn**		**02 58 54.2**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.23**	**356**	PN	**Pn**		**02 58 54.5**	**+2.1**
BZWR	**Bezymyannyi-We**	**2.23**	**356**	*e*P	**Pn**		**02 58 54.5**	**+2.1**
APC	**Apacha**	**2.33**	**251**	PN	**Pn**		**02 58 55.6**	**+1.8**
APC				S	**Sn**		**02 59 23.4**	**+2.2**
APC	**Apacha**	**2.33**	**251**	*e*P	**Pn**		**02 58 55.6**	**+1.8**
APC				*e*S	**Sn**		**02 59 23.4**	**+2.2**
LGNR	**Loginova**	**2.34**	**359**	PN	**Pn**		**02 58 57.1**	**+3.0**
LGNR	**Loginova**	**2.34**	**359**	*e*P	**Pn**		**02 58 57.1**	**+3.0**
CIRR	**Tsirk**	**2.37**	**359**	PN	**Pn**		**02 58 57.1**	**+2.7**
CIRR	**Tsirk**	**2.37**	**359**	*e*P	**Pn**		**02 58 57.1**	**+2.7**
KOZ	**Kozyrevsk**	**2.37**	**347**	PN	**Pn**		**02 58 56.2**	**+1.9**
KOZ	**Kozyrevsk**	**2.37**	**347**	*e*P	**Pn**		**02 58 56.2**	**+1.9**
ESO	**Esso**	**2.49**	**332**	PN	**Pn**		**02 58 58.1**	**+2.1**
ESO	**Esso**	**2.49**	**332**	*e*P	**Pn**		**02 58 58.1**	**+2.1**
KDTR	**Khodutka, Kamc**	**2.55**	**221**	PN	**Pn**		**02 58 58.1**	**+1.3**
KDTR				S	**Sn**		**02 59 27.9**	**+1.4**
KDTR	**Khodutka, Kamc**	**2.55**	**221**	*e*P	**Pn**		**02 58 58.1**	**+1.3**
KDTR				*e*S	**Sn**		**02 59 27.9**	**+1.4**
KLY	**Klyuchi**	**2.57**	**358**	PN	**Pn**		**02 58 59.2**	**+2.2**
KLY	**Klyuchi**	**2.57**	**358**	*e*P	**Pn**		**02 58 59.2**	**+2.2**
SRDR	**Sredinnyy**	**2.65**	**347**	PN	**Pn**		**02 58 59.2**	**+1.1**
SRDR	**Sredinnyy**	**2.65**	**347**	*e*P	**Pn**		**02 58 59.2**	**+1.1**
KBTR	**Krutoberegovo**	**2.72**	**25**	PN	**Pn**		**02 59 01.1**	**+2.0**
KBTR	**Krutoberegovo**	**2.72**	**25**	*e*P	**Pn**		**02 59 01.1**	**+2.0**
KBG	**Krutoberegovo**	**2.74**	**23**	PN	**Pn**		**02 59 01.6**	**+2.3**
KBG	**Krutoberegovo**	**2.74**	**23**	*e*P	**Pn**		**02 59 01.6**	**+2.3**
BDR	**Baidarnaya**	**2.83**	**5**	PN	**Pn**		**02 59 03.2**	**+2.5**
BDR	**Baidarnaya**	**2.83**	**5**	*e*P	**Pn**		**02 59 03.2**	**+2.5**
MIPR	**Malaya Ipel'ka**	**2.85**	**240**	PN	**Pn**		**02 59 03.0**	**+2.1**
MIPR	**Malaya Ipel'ka**	**2.85**	**240**	*e*P	**Pn**		**02 59 03.0**	**+2.1**
SMKR	**Semkarok**	**2.86**	**7**	PN	**Pn**		**02 59 03.4**	**+2.3**
SMKR	**Semkarok**	**2.86**	**7**	*e*P	**Pn**		**02 59 03.4**	**+2.3**
SRKR	**Sorokina**	**2.92**	**4**	PN	**Pn**		**02 59 04.1**	**+2.3**
SRKR	**Sorokina**	**2.92**	**4**	*e*P	**Pn**		**02 59 04.1**	**+2.3**
PAU	**Pauzhetka**	**3.34**	**228**	PN	**Pn**		**02 59 10.5**	**+3.0**
PAU	**Pauzhetka**	**3.34**	**228**	*e*P	**Pn**		**02 59 10.5**	**+3.0**
BKI	**Bering**	**3.35**	**62**	PN	**Pn**		**02 59 09.0**	**+1.3**
BKI				S	**Sn**		**02 59 44.7**	**-1.5**
BKI	**Bering**	**3.35**	**62**	*e*P	**Pn**		**02 59 09.0**	**+1.3**
BKI				*e*S	**Sn**		**02 59 44.7**	**-1.5**
SKR	**Severo-Kuril's**	**4.21**	**225**	*e*PN	**Pn**		**02 59 16.6**	**-2.9**
SKR				*e*S	**Sn**		**03 00 10.5**	**+3.2**
SKR				smax	smax			
	comp=N,68nm,0.5s							
SKR				smax	smax			
	comp=E,84nm,0.9s							
ALID	**Alaid**	**4.32**	**230**	PN	**Pn**		**02 59 24.6**	**+3.4**
ALID	**Alaid**	**4.32**	**230**	*e*P	**Pn**		**02 59 24.6**	**+3.4**
SEY	**Seymchan**	**10.20**	**338**	*e*PN	**Pn**		**03 00 38.2**	**-3.3**
BILL	**Bilibino**	**14.57**	**8**	*i* P	**Pn**		**03 01 41.3**	**+0.5**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ERM	**Erimo**	**16.61**	**232**	‖*e*P	**Pn**		**03 02 07.2**	**+0.1**
TIXI	**Tiksi**	**22.66**	**334**	P	**P**		**03 03 11.0**	**-3.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TIXI	**Tiksi**	**22.66**	**334**	P	**P**		**03 03 11.0**	**-3.5**
TTA	**Tatalina**	**24.00**	**50**	P	**P**		**03 03 30.2**	**+2.6**
TTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
TTA	**Tatalina**	**24.00**	**50**	P	**P**		**03 03 30.2**	**+2.6**
ILAR	**Eielson Array**	**28.05**	**46**	P	**P**		**03 04 04.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=268,slow=9.1,SNR=7.2							
ILAR	**Eielson Array**	**28.05**	**46**	*e*P	**P**		**03 04 04.8**	**+0.7**
BMAR	**Burnt Mountain**	**28.96**	**41**	P	**P**		**03 04 14.2**	**+2.0**
L27K	**Beaver Creek,**	**30.45**	**49**	P	**P**		**03 04 27.5**	**+2.1**
L27K				IAmb	IAmb		03 04 29.1	
	comp=Z,2.3nm,1.1s							
BCAR	**Beaver Creek A**	**30.47**	**49**	P	**P**		**03 04 27.8**	**+2.3**
H11N2	**WAKE ISLAND Hy** baz=354,slow=76,SNR=204	**34.28**	**170**	T	T		03 41 47.0	
H11N3	**WAKE ISLAND Hy** baz=354,slow=76,SNR=203	**34.30**	**170**	T	T		03 41 21.8	
H11N1	**WAKE ISLAND Hy** baz=354,slow=76,SNR=175	**34.30**	**170**	T	T		03 41 48.3	
H11S1	**WAKE ISLAND Hy** baz=352,slow=76,SNR=5.7	**35.47**	**170**	T	T		03 42 52.4	
H11S3	**WAKE ISLAND Hy** baz=352,slow=76,SNR=26	**35.48**	**170**	T	T		03 42 56.4	
H11S2	**WAKE ISLAND Hy** baz=352,slow=76,SNR=5.8	**35.49**	**170**	T	T		03 43 02.1	
YKA	**Yellowknife Ar**	**42.39**	**43**	P	**P**		**03 06 07.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=300,slow=7.3,SNR=2.2							
PATS	**Pohnpei**	**46.82**	**183**	P	**P**		**03 06 40.8**	**-1.8**
MK31	**Makanchi Array**	**48.25**	**296**	P	**P**		**03 06 51.1**	**-2.4**
MK31				pmax	pmax			
	comp=Z,3.0nm,1.4s							
MK31	**Makanchi Array**	**48.25**	**296**	P	**P**		**03 06 51.1**	**-2.4**
MK31				IAmb	IAmb		03 07 01.1	
	comp=Z,3.1nm,1.4s							
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**		**03 06 50.7**	**-2.8**
	comp=Z,0.3nm,0.5s,baz=57,slow=6.2,SNR=6.1							
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**		**03 06 50.6**	**-2.9**
MKAR	**Makanchi Array**	**48.25**	**296**	P	**P**		**03 06 50.6**	**-2.9**
ARCES	**ARCESS Array B**	**52.79**	**342**	P	**P**		**03 07 26.3**	**-1.1**
	comp=Z,3.3nm,1.0s,baz=22,slow=10.0,SNR=2.1							
SUMG	**Summit**	**53.25**	**7**	P	**P**		**03 07 31.8**	**+0.6**
SUMG	**Summit**	**53.25**	**7**	P	**P**		**03 07 31.8**	**+0.6**
FIA1	**FINESS Array S**	**59.68**	**337**	P	**P**		**03 08 16.6**	**+0.1**
FIA1				IAmb	IAmb		03 08 33.8	
	comp=Z,5.9nm,1.2s							
FINES	**FINESS Array B**	**59.68**	**337**	P	**P**		**03 08 15.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=40,slow=6.8,SNR=13							
FINES	**FINESS Array B**	**59.68**	**337**	*i* P	**P**		**03 08 16.5**	**0.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NC405	**NORSAR Array S**	**62.87**	**344**	P	**P**		**03 08 37.8**	**-0.4**
NOA	**NORSAR Array B**	**63.03**	**344**	P	**P**		**03 08 38.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=21,slow=6.9,SNR=6.2							
NOA	**NORSAR Array B**	**63.03**	**344**	*e*P	**P**		**03 08 38.6**	**-0.6**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**68.26**	**329**	P	**P**		**03 09 11.2**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=29,slow=6.6,SNR=3.9							
TXAR	**Lajitas Array**	**69.99**	**68**	P	**P**		**03 09 26.1**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=297,slow=4.8,SNR=8.8							
TXAR	**Lajitas Array**	**69.99**	**68**	P	**P**		**03 09 26.0**	**+1.8**
MLR	**Muntele Rosu**	**73.91**	**329**	P	**P**		**03 09 47.5**	**0.0**
MLR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MLR	**Muntele Rosu**	**73.91**	**329**	P	**P**		**03 09 47.5**	**0.0**
MLR				IAmb	IAmb		03 09 49.0	
	comp=Z,2.4nm,1.0s							
GERES	**GERESS Array B**	**74.06**	**338**	P	**P**		**03 09 47.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=5.8,SNR=4.2							
GERES	**GERESS Array B**	**74.06**	**338**	*e*P	**P**		**03 09 48.5**	**+0.2**
GERES	**GERESS Array B**	**74.06**	**338**	P	**P**		**03 09 48.3**	**+0.1**
TUE	**Stuetta**	**77.24**	**340**	P	**P**		**03 10 07.3**	**+0.7**
TUE				IAmb	IAmb		03 10 18.5	
	comp=Z,9.0nm,1.5s							
VTS	**Vitosha**	**77.33**	**329**	P	**P**		**03 10 06.8**	**-0.3**
VTS				pmax	pmax			
	comp=Z,6.0nm,1.5s							
VTS	**Vitosha**	**77.33**	**329**	P	**P**		**03 10 06.8**	**-0.3**
VTS				IAmb	IAmb		03 10 07.9	
	comp=Z,6.2nm,1.5s							
ESDC	**Sonseca Array**	**86.02**	**348**	P	**P**		**03 10 53.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=354,slow=4.5,SNR=3.5							

*IDC **29** 03:00:27.3±1.2, 10˚.96S×165˚.92E, h0km,mb3.8/5, mb1 4.1/6,mb1mx3.7/41,mbtmp3.9/6,ML4.5/1,Error ellipse: s-maj=48.0km s-min=27.3km az=121.0*
ISC 29 03:00:33.3±1.1,11˚.3S±0˚.1×165˚.9E±0˚.3,h35km,n8, σ2§82/9,mb3.8/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**10.77**	**178**	Pn	**Pn**		**03 03 07.8**	**+2.6**
	3.2nm,0.3s,baz=17,slow=19,SNR=30							
DZM				Sn	**Sn**		**03 05 01.0**	**-3.6**
	0.6nm,0.3s,baz=330,slow=20,SNR=1.8							
WRA	**Warramunga Arr**	**31.52**	**250**	P	**P**		**03 06 52.3**	**-0.7**
	1.4nm,0.3s,baz=81,slow=9.3,SNR=4.7							
ASAR	**Alice Springs**	**32.87**	**244**	P	**P**		**03 07 04.1**	**-0.2**
	0.6nm,0.7s,baz=77,slow=9.1,SNR=6.9							
ILAR	**Eielson Array**	**83.65**	**18**	P	**P**		**03 12 56.1**	**-1.8**
	0.3nm,0.7s,baz=233,slow=5.2,SNR=7.7							
MAW	**Mawson**	**84.60**	**202**	P	**P**		**03 13 03.7**	**+0.9**
	0.7nm,0.6s,baz=100,slow=6.1,SNR=2.0							
MKAR	**Makanchi Array**	**93.80**	**317**	P	**P**		**03 13 46.9**	**-0.1**
	0.6nm,0.6s,baz=85,slow=5.4,SNR=5.6							
ARCES	**ARCESS Array B**	**116.58**	**345**	PKP	**PKPdf**		**03 19 10.6**	**-2.6**
	5.1nm,1.2s,baz=57,slow=3.3,SNR=6.3							
ESDC	**Sonseca Array**	**150.31**	**344**	PKPbc	**PKPdf**		**03 20 20.2**	**+4.1**
	0.5nm,0.9s,baz=348,slow=5.4,SNR=2.1							

IDC 29 03:09:29.1±12.0,31˚.03S×179˚.95E,h276km±144km, mb3.0/3,mb1 3.2/4,mb1mx3.0/29,mbtmp3.7/4,Error ellipse: s-maj=161.0km s-min=48.3km az=179.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**7.58**	**197**	P	Pn		03 11 17.1	0.0
	0.6nm,0.3s,baz=301,slow=23,SNR=14							
URZ				S	S		03 12 33.0	-11
	0.8nm,0.3s,baz=124,slow=22,SNR=1.6							
STKA	**Stephens Creek**	**32.61**	**258**	P	P		03 15 35.5	+0.2
	0.6nm,0.6s,baz=108,slow=9.6,SNR=2.9							
ASAR	**Alice Springs**	**41.32**	**259**	P	P		03 16 47.9	-0.5
	0.2nm,0.3s,baz=109,slow=7.3,SNR=2.4							
WRA	**Warramunga Arr**	**42.36**	**274**	P	P		03 16 56.8	-0.1
	0.3nm,0.3s,baz=114,slow=8.0,SNR=9.2							
FINES	**FINESS Array B**	**145.10**	**338**	PKPbc	PKPdf		03 28 32.1	-0.7
	1.3nm,0.9s,baz=60,slow=3.4,SNR=1.9							

*NEIC **29** 03:20:37.7±2.6, 60˚.82S±0˚.06×33˚.7W±0˚.3, h15km±5km, mb4.3/8, Error ellipse: s-maj=24.9km s-min=7.4km az=76.0*
*IDC **29** 03:20:37.2±0.7, 60˚.99S×32˚.53W, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, ML3.5/1, MS3.5/9, Ms1 3.5/9, ms1mx3.4/18, Error ellipse: s-maj=26.2km s-min=22.4km az=58.0*
ISC 29 03:20:37.2±0.6, 60˚.86S±0˚.10×33˚.1W±0˚.1, h10km, n39, σ2§28/27, mb4.1/10, MS3.5/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HOPE	**Hope Point**	**6.84**	**343**	Pn	**Pn**		**03 22 14.8**	**-2.7**
VNA3	**Neumayer Olymp**	**13.97**	**148**	P	**Pn**		**03 23 51.8**	**-3.1**
VNA1	**Neumayer--Stat**	**14.02**	**145**	P	**Pn**		**03 23 52.9**	**-2.7**
PMSA	**Palmer Station**	**14.58**	**241**	LR	LR		03 28 29.6	
	comp=Z,205nm,20.0s,baz=78,slow=32							
SNAA	**Sanae**	**16.06**	**145**	P	**Pn**		**03 24 21.1**	**-1.7**
SNAA	**Sanae**	**16.06**	**145**	Pn	**Pn**		**03 24 19.8**	**-3.0**
	0.2nm,0.3s,baz=315,slow=13,SNR=5.1							
SNAA				LR	LR		03 29 25.2	
	comp=Z,206nm,19.2s,baz=338,slow=33							
SNAA	**Sanae**	**16.06**	**145**	Pn	**Pn**		**03 24 20.8**	**-2.0**
EFI	**East Falkland**	**16.53**	**293**	Pn	**Pn**		**03 24 25.5**	**-3.4**
QSPA	**South Pole Qui**	**29.38**	**180**	P	**P**		**03 26 40.2**	**0.0**
	2.3nm,0.9s,baz=179,slow=4.8,SNR=4.9							
QSPA	**South Pole Qui**	**29.38**	**180**	P	**P**		**03 26 40.3**	**+0.1**
QSPA				IAmb	IAmb		03 26 48.0	
	comp=Z,7.4nm,1.1s							
PLCA	**Paso Flores**	**30.44**	**294**	P	**P**		**03 26 52.6**	**+2.9**
	comp=Z,2.9nm,1.1s,baz=110,slow=7.8,SNR=3.0							
PLCA				LR	LR		03 37 18.0	
	comp=Z,107nm,20.7s,baz=140,slow=32							
PLTB	**Pedras Altas**	**32.08**	**326**	P	**P**		**03 27 00.5**	**-3.6**
PLTB				IAmb	IAmb		03 27 02.8	
	comp=Z,8.0nm,1.2s							
MAW	**Mawson**	**38.19**	**142**	LR	LR		03 42 17.7	
	comp=Z,97nm,19.5s,baz=240,slow=34							
CPUP	**Villa Florida**	**38.25**	**324**	LR	LR		03 44 01.6	
	comp=Z,67nm,19.3s,baz=204,slow=36							
CPUP	**Villa Florida**	**38.25**	**324**	P	**P**		**03 27 53.8**	**-3.4**
CPUP				IAmb	IAmb		03 27 54.3	
	comp=Z,3.3nm,0.8s							
VNDA	**Vanda**	**41.56**	**185**	P	**P**		**03 28 23.2**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=67,slow=4.2,SNR=2.4							
BOSA	**Boshof**	**50.12**	**77**	P	**P**		**03 29 32.0**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=230,slow=4.0,SNR=3.6							
BOSA				LR	LR		03 46 10.1	
	comp=Z,52nm,19.3s,baz=186,slow=31							
BOSA	**Boshof**	**50.12**	**77**	P	**P**		**03 29 33.8**	**+1.3**
LPAZ	**La Paz**	**51.10**	**315**	P	**P**		**03 29 44.0**	**+3.4**
	comp=Z,1.5nm,0.8s,baz=102,slow=11,SNR=5.5							
LPAZ				LR	LR		03 53 35.8	
	comp=Z,50nm,18.7s,baz=143,slow=38							
LBTB	**Lobatse**	**53.32**	**75**	P	**P**		**03 29 56.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=206,slow=9.3,SNR=2.4							
LBTB	**Lobatse**	**53.32**	**75**	P	**P**		**03 29 57.7**	**+1.3**
H10S2	**ASCENSION HYDR** baz=192,slow=74,SNR=21	**53.59**	**23**	T	T		04 28 09.4	
H10S3	**ASCENSION HYDR** baz=28,slow=74,SNR=72	**53.59**	**23**	T	T		04 28 10.0	
H10N1	**ASCENSION HYDR** baz=199,slow=27	**54.71**	**23**	T	T		04 29 43.7	
H10N3	**ASCENSION HYDR** baz=199,slow=27	**54.71**	**23**	T	T		04 29 42.7	
H10N2	**ASCENSION HYDR** baz=199,slow=27	**54.72**	**23**	T	T		04 29 41.9	
ROSC	**El Rosal**	**72.91**	**317**	LR	LR		04 05 40.3	
	comp=Z,19nm,21.9s,baz=322,slow=37							
TOA0	**Torodi Ar. Sit**	**78.79**	**35**	P	**P**		**03 32 41.5**	**+1.6**
TORD	**Torodi Ar. Bea**	**78.79**	**35**	P	**P**		**03 32 39.9**	**0.0**
	comp=Z,1.2nm,0.8s,baz=201,slow=4.4,SNR=6.0							
TORD				LR	LR		04 01 59.3	
	comp=Z,36nm,20.2s,baz=95,slow=32							
TORD	**Torodi Ar. Bea**	**78.79**	**35**	P	**P**		**03 32 41.3**	**+1.4**
TORD				IAmb	IAmb		03 32 54.1	
	comp=Z,2.9nm,1.1s							
H08S1	**Diego Garcia H** baz=200	**90.86**	**107**	T	T		05 15 39.9	
H08S2	**Diego Garcia H** baz=200	**90.87**	**107**	T	T		05 15 45.0	
H08S3	**Diego Garcia H** baz=200	**90.88**	**107**	T	T		05 15 45.0	
ASAR	**Alice Springs**	**95.12**	**168**	P	**P**		**03 34 03.2**	**+2.7**
	comp=Z,1.1

OK030 Cody Creek RV 1.30 138 Pg 04 13 02.2 -0.8
OK025 Westminster Rd 1.39 162 Pn 04 13 03.7 -0.6
OKCFA Oklahoma City 1.52 167 Pn 04 13 05.9 -0.3
OKCFA Oklahoma City 1.52 167 P **Pn 04 13 06.1 0.0**
baz=348,SNR=13
OKCFA S **Sg 04 13 27.1 +0.3**
baz=348
OKCFA Oklahoma City 1.52 167 P 04 13 06.1
baz=348,SNR=13
OKCFA S 04 13 27.1
baz=348
OKCSW OKLAHOMA CITY 1.53 167 Pn 04 13 06.3 0.0
R32A Long Quarter, 1.66 336 Pn **Pn 04 13 08.1 -0.1**
R32A Long Quarter, 1.66 336 P **Pn 04 13 08.0 -0.1**
baz=156,SNR=92
R32A S **Sn 04 13 30.0 0.0**
baz=156
R32A Long Quarter, 1.66 336 P 04 13 08.0
baz=156,SNR=92
R32A S 04 13 30.0
baz=156
FNO Franklin 1.68 167 Pn **Pn 04 13 08.3 -0.1**
TUL1 Leonard 1.94 120 P **Pn 04 13 11.9 0.0**
baz=302,SNR=108
TUL1 S **Sb 04 13 39.0 +0.3**
baz=302
TUL1 Leonard 1.94 120 P 04 13 11.9
baz=302,SNR=108
TUL1 S 04 13 39.0
baz=302
WMOK Wichita Mounta 2.29 199 Pn 04 13 16.7 0.0
WMOK Wichita Mounta 2.29 199 P **Pn 04 13 16.7 0.0**
baz=19,SNR=53
WMOK Wichita Mounta 2.29 199 P 04 13 16.7
baz=19,SNR=53
X34A Smith Ranch, M 2.30 179 Pn **Pn 04 13 17.6 +0.8**
X34A IAmb_Lg 04 13 51.4
comp=Z,79nm,0.8s
KSU1 Kansas State U 2.41 24 Pn **Pn 04 13 18.1 -0.3**
KSU1 Kansas State U 2.41 24 S **Sn 04 13 49.0 +0.5**
baz=205
KSU1 Kansas State U 2.41 24 S 04 13 49.0
baz=205
CBKS Cedar Bluff 2.42 323 Pn 04 13 19.1 +0.6
CBKS Cedar Bluff 2.42 323 P **Pn 04 13 18.7 +0.2**
baz=141,SNR=24
CBKS S **Sn 04 13 50.1 +1.3**
baz=141
CBKS Cedar Bluff 2.42 323 P 04 13 18.7
baz=141,SNR=24
CBKS S 04 13 50.1
baz=141
U38A Gravette 2.83 98 Pn **Pn 04 13 24.6 +0.4**
U38A Gravette 2.83 98 P **Pn 04 13 24.6 +0.4**
baz=281,SNR=44
U38A Gravette 2.83 98 P 04 13 24.6
baz=281,SNR=44
LOOK Love County 2.96 169 Pn **Pn 04 13 26.4 +0.6**
X37A Clayton 3.07 138 Pn **Pn 04 13 27.6 +0.1**
X37A Clayton 3.07 138 P **Pn 04 13 28.0 +0.5**
baz=320,SNR=29
X37A Clayton 3.07 138 P 04 13 28.0
baz=320,SNR=29
HHAR Hobbs 3.22 100 Pn **Pn 04 13 29.9 +0.4**
HHAR IAmb_Lg 04 14 21.0
comp=Z,60nm,0.8s
HHAR Hobbs 3.22 100 P **Pn 04 13 30.1 +0.6**
baz=283
HHAR Hobbs 3.22 100 P 04 13 30.1
baz=283
Z35A Perchaven, San 3.60 172 Pn **Pn 04 13 34.8 +0.1**
Z35A Perchaven, San 3.60 172 P **Pn 04 13 34.9 +0.1**
baz=352,SNR=5.6
Z35A S **Sn 04 14 18.4 +0.7**
baz=352
Z35A Perchaven, San 3.60 172 P 04 13 34.9
baz=352,SNR=5.6
Z35A S 04 14 18.4
baz=352
AMTX Amarillo 3.70 238 Pn **Pn 04 13 37.2 +1.0**
AMTX IAmb_Lg 04 14 35.1
comp=Z,46nm,0.8s
S39A Bolivar 3.70 76 Pn **Pn 04 13 35.9 -0.2**
S39A IAmb_Lg 04 14 39.1
comp=Z,43nm,0.7s
S39A Bolivar 3.70 76 P **Pn 04 13 36.0 -0.2**
baz=259,SNR=30
S39A S **Sn 04 14 20.6 +0.2**
baz=259
S39A Bolivar 3.70 76 P 04 13 36.0
baz=259,SNR=30
S39A S 04 14 20.6
baz=259
W39A Magazine 3.72 116 Pn **Pn 04 13 36.5 +0.1**
W39A IAmb_Lg 04 14 38.9
comp=Z,57nm,0.8s
N33A J Bar K, Exete 3.84 5 IAmb_Lg 04 14 45.2
comp=Z,45nm,0.8s
U40A Yellville 4.07 96 Pn **Pn 04 13 41.1 -0.1**
U40A IAmb_Lg 04 14 53.7
comp=Z,50nm,0.9s
U40A Yellville 4.07 96 P **Pn 04 13 41.1 -0.1**
baz=280,SNR=13
U40A Yellville 4.07 96 P 04 13 41.1
baz=280,SNR=13
U40A P 04 13 41.1
baz=280,SNR=13
MIAR Mount Ida 4.21 123 Pn **Pn 04 13 43.8 +0.8**
MIAR IAmb_Lg 04 15 02.1
comp=Z,39nm,0.9s
MIAR Mount Ida 4.21 123 P **Pn 04 13 43.1 0.0**
baz=306,SNR=15
MIAR Mount Ida 4.21 123 P 04 13 43.1
baz=306,SNR=15
KSCO Kaye Shedlock' 4.32 301 Pn **Pn 04 13 45.5 +0.8**
KSCO IAmb_Lg 04 15 00.0
comp=Z,32nm,0.8s
KSCO Kaye Shedlock' 4.32 301 P **Pn 04 13 45.0 +0.3**
baz=118,SNR=7.8
KSCO Kaye Shedlock' 4.32 301 P 04 13 45.0
baz=118,SNR=7.8
N35A Tabor 4.32 23 Pn **Pn 04 13 44.4 -0.2**
Z38A Mt. Pleasant 4.33 146 Pn **Pn 04 13 45.4 +0.6**
Z38A IAmb_Lg 04 15 00.8
comp=Z,48nm,0.9s
Z38A Mt. Pleasant 4.33 146 P **Pn 04 13 44.5 -0.3**
baz=328
Z38A Mt. Pleasant 4.33 146 P 04 13 44.5
baz=328
P38A Dawn 4.36 50 Pn **Pn 04 13 44.8 -0.4**
P38A Dawn 4.36 50 P **Pn 04 13 44.8 -0.4**
baz=233,SNR=18
P38A Dawn 4.36 50 P 04 13 44.8
baz=233,SNR=18
MGMO Mountain Grove 4.48 85 Pn **Pn 04 13 47.2 +0.3**
MGMO IAmb_Lg 04 15 04.1
comp=Z,60nm,0.8s
BGNE Belgrade 4.51 357 Pn **Pn 04 13 47.3 +0.1**
BGNE Belgrade 4.51 357 P **Pn 04 13 47.4 +0.2**
baz=177,SNR=8.5
BGNE Belgrade 4.51 357 P 04 13 47.4
baz=177,SNR=8.5
ABTX Abilene, Hawle 4.51 199 Pn **Pn 04 13 48.4 +1.0**
ABTX IAmb_Lg 04 15 05.6
comp=Z,32nm,0.9s
R40A Maddies Statio 4.65 71 **Pn 04 13 48.8 -0.4**
R40A IAmb_Lg 04 15 06.4
comp=Z,31nm,0.8s
X40A Basin Creek Fa 4.75 119 Pn **Pn 04 13 51.6 +1.1**
X40A IAmb_Lg 04 15 14.8
comp=Z,44nm,0.7s
WHAR Wooly Hollow 4.79 108 Pn **Pn 04 13 52.0 +0.9**
WHAR IAmb_Lg 04 15 17.2
comp=Z,47nm,1.0s
WHTX Lake Whitney, 4.91 176 P **Pn 04 13 52.4 -0.3**
baz=356,SNR=6.7
WHTX Lake Whitney, 4.91 176 P 04 13 52.4
baz=356,SNR=6.7
MSTX Muleshoe 4.96 235 Pn **Pn 04 13 53.6 0.0**
WLAR White Oak Lake 5.04 128 Pn **Pn 04 13 55.9 +1.4**
WLAR IAmb_Lg 04 15 29.9
comp=Z,53nm,1.1s
OGNE Ogallala 5.18 322 Pn **Pn 04 13 58.2 +1.6**
OGNE IAmb_Lg 04 15 35.4
comp=Z,38nm,0.7s
L34A Svendsen Farm, 5.19 12 IAmb_Lg 04 15 30.3
comp=Z,36nm,0.9s

T25A Trinidad 5.25 275 Pn **Pn 04 13 58.5 +0.9**
T25A IAmb_Lg 04 15 27.4
comp=Z,44nm,0.8s
P40A Paris 5.28 58 Pn **Pn 04 13 57.7 -0.1**
P40A IAmb_Lg 04 15 27.3
comp=Z,38nm,0.9s
N38A Joes South For 5.30 41 **Pn 04 13 57.5 -0.7**
N38A IAmb_Lg 04 15 38.7
comp=Z,54nm,0.8s
N38A Joes South For 5.30 41 P **Pn 04 13 57.7 -0.5**
baz=224,SNR=8.3
N38A Joes South For 5.30 41 P 04 13 57.7
baz=224,SNR=8.3
CCM Cathedral Cave 5.39 76 Pn **Pn 04 13 59.0 -0.3**
CCM IAmb_Lg 04 15 32.5
comp=Z,55nm,0.9s
T42A Van Buren 5.42 87 Pn **Pn 04 14 00.2 +0.4**
T42A IAmb_Lg 04 15 42.6
comp=Z,33nm,1.0s
LCAR Lake Charles 5.47 97 Pn **Pn 04 14 00.7 +0.3**
LCAR IAmb_Lg 04 15 35.4
comp=Z,36nm,1.1s
NATX Nacogdoches 5.77 152 IAmb_Lg 04 15 56.5
comp=Z,21nm,1.1s
CCAR Cane Creek 5.80 119 IAmb_Lg 04 15 57.3
comp=Z,40nm,0.8s
435B Jarrell 6.11 178 IAmb_Lg 04 16 03.1
comp=Z,31nm,0.7s
SDCO Great Sand Dun 6.15 280 Pn **Pn 04 14 11.9 +1.9**
SCIA State Center 6.16 34 Pn **Pn 04 14 09.8 -0.1**
SCIA IAmb_Lg 04 15 58.9
comp=Z,48nm,0.9s
SLM Saint Louis 6.28 72 IAmb_Lg 04 16 04.7
comp=Z,28nm,0.8s
GNAR Gosnell 6.39 96 IAmb_Lg 04 16 11.8
comp=Z,47nm,0.8s
JCT Junction City 6.61 195 IAmb_Lg 04 16 20.5
comp=Z,38nm,0.7s
N41A Harden Midland 6.66 53 IAmb_Lg 04 16 20.8
comp=Z,28nm,0.8s
ISCO Idaho Springs 6.74 298 Pn **Pn 04 14 19.6 +1.4**
ISCO IAmb_Lg 04 16 20.6
comp=Z,19nm,0.8s
143A Socs Landing, 6.76 126 IAmb_Lg 04 16 25.9
comp=Z,23nm,0.7s
ECSD EROS Data Cent 6.89 8 Pn **Pn 04 14 19.1 -0.8**
ECSD IAmb_Lg 04 16 18.3
comp=Z,23nm,0.8s
P43A Skaggs, Pawnee 7.11 65 Pn **Pn 04 14 21.4 -1.5**
L40A Anamosa 7.27 43 Pn **Pn 04 14 24.0 -1.2**
L40A IAmb_Lg 04 16 37.0
comp=Z,31nm,0.9s
OXF Oxford 7.28 107 Pn **Pn 04 14 24.2 -1.1**
OXF IAmb_Lg 04 16 31.6
comp=Z,38nm,0.8s
PHWY Pilot Hill 7.36 309 Pn **Pn 04 14 26.9 +0.2**
PHWY IAmb_Lg 04 16 45.0
comp=Z,21nm,0.9s
Y45A Yeager Farm, C 7.44 112 IAmb_Lg 04 16 53.5
comp=Z,37nm,0.8s
SUSD Miller 7.58 354 IAmb_Lg 04 16 50.1
comp=Z,39nm,1.0s
HDIL Hopedale 7.62 59 Pn **Pn 04 14 29.3 -0.8**
O44A Mansfield 8.05 63 IAmb_Lg 04 16 53.9
comp=Z,21nm,0.7s
MNTX Cornudas Mount 8.10 232 Pn **Pn 04 14 36.0 -0.6**
WVT Waverly 8.11 92 Pn **Pn 04 14 36.5 -0.3**
WVT IAmb_Lg 04 16 53.6
comp=Z,17nm,0.9s
L42A Oliver, Polo 8.13 49 Pn **Pn 04 14 36.5 -0.5**
L42A IAmb_Lg 04 17 09.1
comp=Z,26nm,1.0s
PLAL Pickwick Lake 8.16 101 IAmb_Lg 04 17 03.0
comp=Z,16nm,0.8s
USIN University of 8.18 79 IAmb_Lg 04 17 08.4
comp=Z,34nm,1.0s
JFWS Jewell Farm 8.38 42 Pn **Pn 04 14 38.7 -1.7**
JFWS IAmb_Lg 04 17 19.1
comp=Z,21nm,0.7s
RSSD Black Hills 8.61 329 Pn **Pn 04 14 44.0 +0.3**
RSSD IAmb_Lg 04 17 17.4
comp=Z,13nm,0.9s
K22A Casper 8.80 313 IAmb_Lg 04 17 36.2
comp=Z,19nm,1.1s
PV13 Radium Mtn., P 8.80 282 IAmb_Lg 04 17 29.2
comp=Z,14nm,1.1s
P46A Rosedale 8.81 69 IAmb_Lg 04 17 16.5
comp=Z,30nm,0.9s
M44A Midewin, Midew 8.84 57 Pn **Pn 04 14 46.6 -0.1**
PV04 Paradox Valley 8.89 283 IAmb_Lg 04 17 24.4
comp=Z,12nm,1.1s
I40A Norwalk 8.90 36 Pn **Pn 04 14 46.3 -1.2**
TX31 Lajitas Ar. Si 8.98 214 Pn **Pn 04 14 48.5 -0.3**
TX32 Lajitas Array 8.98 214 Pn **Pn 04 14 48.5 -0.2**
TXAR Lajitas Array 8.98 214 Pn **Pn 04 14 47.9 -0.9**
V48A Smith Brothers 8.98 94 IAmb_Lg 04 17 24.0
comp=Z,13nm,1.0s
F33A 5 Mile Ranch, 9.01 7 IAmb_Lg 04 17 20.7
comp=Z,13nm,0.9s
SFIN Lafayette 9.11 64 Pn **Pn 04 14 51.0 +0.6**
SFIN IAmb_Lg 04 17 35.9
comp=Z,15nm,0.8s
X48A Hartselle 9.13 102 IAmb_Lg 04 17 35.7
comp=Z,15nm,0.8s
BLO Bloomington 9.23 72 Pn **Pn 04 14 51.6 -0.4**
BLO IAmb_Lg 04 17 47.6
comp=Z,21nm,0.8s
WCI Wyandotte Cave 9.28 78 IAmb_Lg 04 17 40.2
comp=Z,21nm,0.8s
CLTN Cedars of Leba 9.32 92 IAmb_Lg 04 17 37.1
comp=Z,21nm,1.1s
K43A Burlington 9.34 49 Pn **Pn 04 14 53.3 -0.2**
K43A IAmb_Lg 04 17 45.8
comp=Z,15nm,0.8s
F36A Milaca 9.52 19 IAmb_Lg 04 17 35.1
comp=Z,11nm,1.1s
U49A Red Boiling Sp 9.71 89 IAmb_Lg 04 17 51.0
comp=Z,15nm,0.9s
I42A Draeger Farm, 9.76 42 Pn **Pn 04 14 57.6 -1.6**
SWET Sewanee 9.80 96 IAmb_Lg 04 17 54.7
comp=Z,10nm,0.7s
Y49A Blount Mountai 9.83 105 IAmb_Lg 04 18 01.8
comp=Z,12nm,0.7s
E28A Huff 9.89 349 IAmb_Lg 04 17 58.3
comp=Z,21nm,0.9s
G40A Rib Lake 10.16 32 Pn **Pn 04 15 03.9 -0.8**
H43A Windswept, Lux 10.76 42 Pn **Pn 04 15 11.4 -1.5**
CPCT Cooper Cave 10.88 94 Pn **Pn 04 15 15.4 +0.8**
COWI Conover 11.27 33 Pn **Pn 04 15 18.9 -1.1**
E43A Lone Tree Farm 12.46 37 Pn **Pn 04 15 33.1 -3.1**

*IDC **29** 04:15:12.5$_{\pm}$2.0, 19.64N$_{\times}$70.38W, h0^{km}, mb3.8/9, mb1 4.1/10, mb1mx3.7/41, mbtmp3.8/10, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=62.0km s-min=19.2km az=14.0*
*NEIC **29** 04:15:14.9$_{\pm}$2.6, 19.95N$_{\pm}$0.04$_{\times}$70.37W$_{\pm}$0.05, h10$^{km}_{\pm}$1^{km}, mb4.2/29, Error ellipse: s-maj=7.4km s-min=6.1km az=103.0*
*OSPL **29** 04:15:15.9$_{\pm}$2.9, 19.89N$_{\times}$70.44W, h0$^{km}_{\pm}$12^{km}, ML3.7*

ISC 29 04:15:14.7$_{\pm}$1.4, 19.85N$_{\pm}$0.04$_{\times}$70.39W$_{\pm}$0.04, h12$^{km}_{\pm}$9^{km}, n91, σ1°28/98, mb4.1/15, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SC01	**Santiago de lo**	**0.52**	**217**		**Pg**	**04 15 25.4**	**+0.5**
SC01				Sg	**Sn**	**04 15 35.0**	**-2.0**
SC01	**Santiago de lo**	**0.52**	**217**	*i* P	**Pg**	**04 15 25.4**	**+0.5**
SC01				*e*S	**Sn**	**04 15 34.8**	**-2.2**
SC01				IAML		04 15 48.6	
	comp=Z,5μm,0.4s						
SDDR	**Presa de Saban**	**1.21**	**225**		**Pn**	**04 15 36.5**	**-1.0**
SDDR	**Presa de Saban**	**1.21**	**225**	*i* P	**Pn**	**04 15 36.6**	**-1.0**
SDDR				IAML		04 15 57.9	
	comp=Z,1μm,0.7s						
DR12	**Loma Pena Alta**	**1.42**	**138**		**Pn**	**04 15 39.7**	**-0.8**
BANI	**BANI**	**1.45**	**179**		**Pb**	**04 15 41.1**	**-0.6**
BANI	**BANI**	**1.45**	**179**	*i* P	**Pb**	**04 15 41.3**	**-0.5**
BANI				*e*S	**Sg**	**04 16 01.1**	**-0.2**
SDD	**Santo Domingo**	**1.45**	**162**		**Pn**	**04 15 40.6**	**-0.3**
SDD	**Santo Domingo**	**1.45**	**162**	*i* P	**Pn**	**04 15 40.8**	**-0.1**
SDD				*e*S	**Sg**	**04 16 01.5**	**-0.1**
SDD				IAML		04 16 03.4	
	comp=Z,673nm,0.3s						

LOSC1 San Cristbal 1.46 169 *i* P **Pb 04 15 41.5 -0.3**
LOSC1 *e*S **Sg 04 16 01.2 -0.4**
LOSC1 IAML 04 16 11.0
comp=Z,4μm,0.6s
GRTK Grand Turk 1.80 337 Pn **Pn 04 15 44.8 -0.8**
GRTK Grand Turk 1.80 337 *i* P **Pn 04 15 45.0 -0.6**
GRTK *e*S **Sn 04 16 08.7 +0.3**
GRTK IAML 04 16 09.1
comp=Z,2μm,0.5s
PCDR Punta Cana, DR 2.32 125 Pn **Pn 04 15 53.7 +0.9**
PCDR Punta Cana, DR 2.32 125 *i* P **Pn 04 15 53.8 +1.1**
PCDR *e*S **Sb 04 16 24.1 -1.1**
PCDR IAML 04 16 33.3
comp=Z,1μm,0.7s
LGNH Logne 2.48 238 Pn **Pn 04 15 56.4 +1.4**
LGNH Logne 2.48 238 *i* P **Pn 04 15 56.5 +1.4**
LGNH *e*S **Sn 04 16 23.9 -1.2**
JAKH Jacmel 2.57 232 Pn **Pn 04 15 58.1 +1.9**
JAKH Jacmel 2.57 232 *i* P **Pn 04 15 58.3 +2.1**
JAKH IAML 04 16 46.7
comp=Z,196nm,1.3s
AGPR Aguadilla, PR 3.39 113 Pn **Pn 04 16 07.8 +0.2**
AGPR Aguadilla, PR 3.39 113 *i* P **Pn 04 16 08.3 +0.8**
AGPR *e*S **Sn 04 16 48.8 +1.0**
MPR Mayaguez 3.48 117 *i* P **Pn 04 16 10.3 +1.6**
MLPR Magueyes Islan 3.68 120 Pn **Pn 04 16 11.9 +0.4**
AOPR Arecibo Observ 3.75 113 Pn **Pn 04 16 11.4 -1.1**
EMPR Esperanza - Ma 3.90 110 Pn **Pn 04 16 14.9 +0.4**
OBIP Obispado Ponce 4.01 116 Pn **Pn 04 16 16.1 0.0**
GCPR Guaynabo City 4.35 110 Pn **Pn 04 16 20.2 -0.6**
SJG San Juan 4.37 113 Pn **Pn 04 16 19.7 -1.4**
comp=Z,5.9nm,0.3s,baz=338,slow=19,SNR=12
SJG Sn **Sn 04 17 09.1 -2.8**
comp=Z,25nm,0.3s,baz=190,slow=22,SNR=14
GTBY Guantanamo Bay 4.44 272 Pn **Pn 04 16 19.8 -2.3**
GTBY Guantanamo Bay 4.44 272 *i* P **Pn 04 16 19.7 -2.3**
PDPR Patillas Dam, 4.52 113 Pn **Pn 04 16 22.7 -0.4**
CBYP Canovanas 4.57 109 Pn **Pn 04 16 22.3 -1.5**
HUMP Col San Antoni 4.62 111 Pn **Pn 04 16 23.3 -1.2**
CUPR Culebra, Puert 5.07 107 Pn **Pn 04 16 28.7 -2.0**
STVI Saint Thomas 5.35 105 Pn **Pn 04 16 33.4 -1.1**
CDVI St. Croix 5.72 110 Pn **Pn 04 16 40.8 +1.2**
MTDJ Mount Denham 6.95 258 Pn **Pn 04 16 55.4 -1.1**
SKI Saint Kitts 7.68 108 Pn **Pn 04 17 07.2 +0.7**
URIC Uribia, Colomb 8.24 191 Pn **Pn 04 17 15.1 +0.8**
MPOM Morne Pois Mar 10.58 119 Pn **Pn 04 17 49.5 +3.2**
PCRV Puerto La Cruz 11.10 149 Pn **Pn 04 17 55.8 +2.3**
comp=Z,1.2nm,0.3s,baz=269,slow=3.5,SNR=7.8
PLCV Puerto La Cruz 11.14 149 **Pn 04 17 55.8 +1.8**
BBSR BB Station 13.48 21 Pn **Pn 04 18 22.4 -3.4**
BCIP Isla Barro Col 14.00 222 Pn **Pn 04 18 33.2 0.0**
656A Willston 14.54 313 Pn **Pn 04 18 39.4 -1.1**
ESPN Las Esperanzas 15.37 242 P **P 04 18 57.9 +1.5**
ESPN IAmb IAmb 04 19 09.5
comp=Z,44nm,1.5s
RGRS Roger Stewart 15.68 328 P **P 04 18 59.2 -0.5**
CSU Charleston Sou 15.68 328 **P 04 18 58.6 -1.1**
V61A Roper 16.79 342 P **P 04 19 11.2 -0.7**
JTS Las Juntas de 16.95 238 LR LR 04 25 39.4
comp=Z,42nm,18.2s,baz=120,slow=37
BIRD Birdtown, Kers 17.23 331 Pn **Pn 04 19 13.8 -1.6**
JSC Jenkinsville 17.31 328 **Pn 04 19 15.9 -0.5**
W57A Gilead 17.45 333 **P 04 19 20.0 +0.8**
W57A IAmb IAmb 04 19 28.3
comp=Z,21nm,1.4s
V58A Windy Hill, Pi 17.65 336 **P 04 19 21.1 -0.4**
PAULI Pauline 18.02 328 P **P 04 19 27.1 +1.5**
PAULI IAmb IAmb 04 19 35.5
comp=Z,14nm,1.0s
KMSC Kings Mountain 18.04 330 P **P 04 19 26.5 +0.6**
KMSC IAmb IAmb 04 19 33.5
comp=Z,15nm,1.3s
T59A Double "B" Far 18.18 341 P **P 04 19 28.5 +1.2**
T59A IAmb IAmb 04 19 34.7
comp=Z,23nm,1.4s
S61A Accomac 18.36 347 P **Pn 04 19 31.9 +2.7**
V55A Taylorsville 18.57 331 P **Pn 04 19 32.7 +0.8**
V55A IAmb IAmb 04 19 47.2
comp=Z,11nm,0.8s
R58B Mineral 19.19 342 P **Pn 04 19 40.6 +1.2**
R58B IAmb IAmb 04 19 54.0
comp=Z,9.9nm,1.1s
SDMD Soldier's Deli 20.27 345 P Pn 04 19 53.0 +0.7
SDMD IAmb IAmb 04 19 57.9
comp=Z,7.1nm,0.8s
CCIG Comitan 20.97 264 P **P 04 19 58.9 +0.7**
CCIG IAmb IAmb 04 20 00.2
comp=Z,7.2nm,0.7s
PLAL Pickwick Lake 21.71 318 P **P 04 20 04.5 -1.3**
PLAL IAmb IAmb 04 20 11.9
comp=Z,8.2nm,0.7s
NATX Nacogdoches 24.80 303 P **P 04 20 38.1 +1.3**
ATAH Atahualpa 27.94 197 LR LR 04 34 09.1
comp=Z,50nm,18.6s,baz=283,slow=41
WMOK Wichita Mounta 29.14 306 P **P 04 21 15.4 -0.4**
WMOK IAmb IAmb 04 21 21.2
comp=Z,3.6nm,0.7s
TXAR Lajitas Array 31.61 294 P **P 04 21 38.0 +0.2**
comp=Z,1.2nm,0.7s,baz=110,slow=10,SNR=9.5
TXAR Lajitas Array 31.61 294 P **P 04 21 38.0 +0.2**
TX31 Lajitas Ar. Si 31.61 294 P **P 04 21 38.2 +0.4**
TX32 Lajitas Array 31.61 294 P **P 04 21 38.1 +0.3**
TX32 IAmb IAmb 04 21 44.6
comp=Z,4.3nm,1.0s
MNTX Cornudas Mount 33.51 298 P **P 04 21 54.5 +0.2**
MNTX IAmb IAmb 04 22 01.0
comp=Z,7.0nm,1.0s
BNM Barren Site 35.09 301 P **P 04 22 09.2 +0.9**
LPAZ La Paz 35.98 176 P **P 04 22 18.0 +1.6**
MNMC Minye Minye 38.74 179 P **P 04 22 36.2 -3.2**
MNMC IAmb IAmb 04 22 47.0
comp=Z,11nm,1.3s
SZCU Shurtz Canyon 41.01 305 P **P 04 22 57.5 -0.7**
NV11 Mina Array Sit 45.10 305 P **P 04 23 31.7 +0.5**
NV11 IAmb IAmb 04 23 38.3
comp=Z,4.6nm,1.1s
NVAR Mina Array Bea 45.22 305 P **P 04 23 32.5 +0.3**
comp=Z,0.4nm,0.6s,baz=94,slow=6.7,SNR=5.7
NVAR Mina Array Bea 45.22 305 P **P 04 23 32.2 0.0**
YKA Yellowknife Ar 52.25 336 P **P 04 24 27.4 +1.7**
comp=Z,0.2nm,0.3s,baz=113,slow=7.0,SNR=3.1
ESDC Sonseca Array 59.66 55 P **P 04 25 19.5 +0.3**
comp=Z,1.3nm,0.8s,baz=272,slow=7.0,SNR=10
BCAR Beaver Creek A 64.07 331 P **P 04 25 50.6 +2.1**
SCRK Sand Creek 65.16 332 P **P 04 25 55.4 -0.3**
BMAR Burnt Mountain 65.77 336 P **P 04 25 60.0 +0.5**
ILAR Eielson Array 66.48 333 P **P 04 26 04.7 +0.7**
comp=Z,0.6nm,0.7s,baz=111,slow=4.0,SNR=3.7
ILAR Eielson Array 66.48 333 P **P 04 26 04.1 +0.1**
NOA NORSAR Array B 68.80 31 P **P 04 26 19.0 +0.2**
comp=Z,0.5nm,0.8s,baz=274,slow=6.4,SNR=3.0
PPLA Purkeypile 68.81 331 P **P 04 26 17.8 -1.1**
KEST Kesra 70.57 58 P **P 04 26 30.9 +0.7**
comp=Z,2.9nm,0.7s,baz=229,slow=3.9,SNR=4.8
GERES GERESS Array B 71.50 44 P **P 04 26 36.1 +0.5**
comp=Z,0.2nm,0.3s,baz=274,slow=3.7,SNR=2.7
FINES FINESS Array B 75.82 30 P **P 04 27 00.8 +0.3**
comp=Z,0.8nm,0.6s,baz=316,slow=5.3,SNR=3.4
FINES FINESS Array B 75.82 30 P **P 04 26 60.0 -0.6**
CTAO Charters Tower 145.60 263 PKPdf **PKPdf 04 34 52.6 -1.3**

*VAO **29** 04:46:38.8$_{\pm}$0.5, 24.36S$_{\times}$67.74W, h246$^{km}_{\pm}$4^{km}, mb4.2*
*NEIC **29** 04:46:39.7$_{\pm}$2.4, 24.30S$_{\pm}$0.07$_{\times}$67.08W$_{\pm}$0.09, h166$^{km}_{\pm}$5^{km}, mb4.0/15, Error ellipse: s-maj=12.4km s-min=10.1km az=88.0*
*IDC **29** 04:46:39.9$_{\pm}$1.2, 24.16S$_{\times}$67.03W, h174$^{km}_{\pm}$9^{km}, mb3.4/7, mb1 3.7/13, mb1mx3.5/25, mbtmp3.9/13, Error ellipse: s-maj=18.9km s-min=13.2km az=17.0*
*GUC **29** 04:46:40.4$_{\pm}$0.6, 24.25S$_{\times}$67.19W, h183$^{km}_{\pm}$6^{km}, ML4.3*

ISC 29 04:46:39.3$_{\pm}$0.6, 24.22S$_{\pm}$0.04$_{\times}$67.15W$_{\pm}$0.04, h179$^{km}_{\pm}$6^{km}, n124, σ1°37/136, mb3.9/13, 7C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.58**	**109**	⇓*i* P	**Pn**	**04 47 13.8**	**+1.7**
SLA				*i* S	**Sn**	**04 47 38.6**	**+1.1**
LVC	**Limon Verde**	**2.28**	**314**	P	**Pn**	**04 47 21.4**	**+1.7**
	70nm,0.3s,baz=143,slow=5.2,SNR=61						
LVC				S	**Sn**	**04 47 51.8**	**+0.7**
	105nm,0.3s,baz=18,slow=22,SNR=34						
LVC	**Limon Verde**	**2.28**	**314**	⇑*i* P	**Pn**	**04 47 21.4**	**+1.7**

LVC				*i* S		**Sn**	**04 47 51.8 +0.7**
LVC	**Limon Verde**	**2.28**	**314**	*e*P		**Pn**	**04 47 21.5 +1.7**
PB15	**IPOC Station P**	**2.35**	**295**	⇑*i*P		**Pn**	**04 47 22.0 +1.5**
PB15				*i* S		**Sn**	**04 47 52.7 +0.3**
PB15	**IPOC Station P**	**2.35**	**295**	Pn		**Pn**	**04 47 21.9 +1.5**
GO02	**Mina Guanaco**	**2.41**	**247**	⇑*i*P		**Pn**	**04 47 22.3 +1.1**
GO02				*i* S		**Sn**	**04 47 54.5 +0.9**
GO02				IAML			04 47 55.5
	comp=N,1μm,0.4s						
GO02	**Mina Guanaco**	**2.41**	**247**			**Pn**	**04 47 22.3 +1.1**
PB06	**IPOC Station P**	**2.69**	**304**	⇑*i*P		**Pn**	**04 47 25.6 +1.3**
PB06				*i* S		**Sn**	**04 47 58.9 -0.4**
PB06				IAML			04 48 01.9
	comp=N,897nm,0.4s						
PB06	**IPOC Station P**	**2.69**	**304**	Pn		**Pn**	**04 47 25.6 +1.3**
PB14	**IPOC Station P**	**2.99**	**262**	*e*P		**Pn**	**04 47 28.5 +0.4**
PB14				*i* S		**Sn**	**04 48 05.3 -0.7**
PB14				IAML			04 48 08.1
	comp=E,268nm,0.3s						
PB14	**IPOC Station P**	**2.99**	**262**			**Pn**	**04 47 28.4 +0.4**
PB05	**IPOC Station P**	**3.11**	**295**	⇑*i*P		**Pn**	**04 47 30.3 +0.9**
PB05				*i* S		**Sn**	**04 48 06.7 -1.8**
PB05				IAML			04 48 10.8
	comp=N,468nm,0.4s						
AC02	**Maricunga**	**3.16**	**214**			**Pn**	**04 47 31.4 +1.1**
PB10	**IPOC Station P**	**3.19**	**282**	⇑*i*P		**Pn**	**04 47 31.1 +0.9**
PB10				*i* S		**Sn**	**04 48 08.5 -1.5**
PB10				IAML			04 48 12.1
	comp=E,329nm,0.2s						
PB10	**IPOC Station P**	**3.19**	**282**			**Pn**	**04 47 31.0 +0.8**
PB03	**IPOC Station P**	**3.23**	**312**	⇓*i*P		**Pn**	**04 47 32.0 +1.2**
PB04	**IPOC Station P**	**3.34**	**304**	⇓*i*P		**Pn**	**04 47 33.2 +1.0**
PB04				*i* S		**Sn**	**04 48 11.7 -1.7**
PB04	**IPOC Station P**	**3.34**	**304**	Pn		**Pn**	**04 47 32.7 +0.5**
PB07	**IPOC Station P**	**3.54**	**314**	Pn		**Pn**	**04 47 35.8 +1.1**
AC01	**Pan de Azucar**	**3.67**	**238**			**Pn**	**04 47 35.5 -0.6**
GO03	**Copiap**	**4.36**	**219**	⇑*i*P		**Pn**	**04 47 44.0 -0.9**
GO03				*i* S		**Sn**	**04 48 34.1 -2.4**
GO03	**Copiap**	**4.36**	**219**			**Pn**	**04 47 43.9 -1.1**
AC04	**Llanos de Chal**	**5.30**	**221**			**Pn**	**04 47 54.9 -2.2**
GO04	**Tololo Observa**	**6.76**	**208**	Pn		**Pn**	**04 48 14.6 -1.8**
CO03	**El Pedregal**	**7.30**	**205**	Pn		**Pn**	**04 48 22.5 -1.0**
CO02	**Combarbal**	**7.75**	**205**	Pn		**Pn**	**04 48 27.8 -1.5**
LPAZ	**La Paz**	**7.95**	**353**	P		**Pn**	**04 48 33.8 +1.3**
	comp=E,0.9nm,0.3s,baz=158,slow=5.8,SNR=13						
LPAZ				S		**Sn**	**04 50 01.1 -0.9**
	baz=339,slow=25,SNR=2.2						
LPAZ	**La Paz**	**7.95**	**353**	Pn		**Pn**	**04 48 33.3 +0.8**
LPAZ	**La Paz**	**7.95**	**353**	*e*P		**Pn**	**04 48 33.0 +0.5**
VA03	**San Esteban**	**9.02**	**199**	Pn		**Pn**	**04 48 44.7 -1.3**
CPUP	**Villa Florida**	**9.13**	**105**	P		**Pn**	**04 48 48.2 +0.7**
	comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=4.4						
CPUP	**Villa Florida**	**9.13**	**105**	Pn		**Pn**	**04 48 48.6 +1.1**
SIV	**San Ignacio**	**9.98**	**36**	P		**Pn**	**04 48 57.0 -1.7**
	comp=E,0.8nm,0.3s,baz=225,slow=12,SNR=26						
SIV				S		Sn	04 50 37.3 -13
	comp=E,0.0nm,0.3s,baz=230,slow=18,SNR=2.5						
AQDB	**Aquidauana**	**11.23**	**73**	Pn		**Pn**	**04 49 16.6 +1.7**
PTLB	**Pontes e Lacer**	**11.53**	**42**	*e*P		**P**	**04 49 22.8 -2.3**
VILB	**Vilhena**	**13.00**	**32**	*e*P		**Pn**	**04 49 39.5 +1.9**
TRCB	**Terra Rica**	**13.40**	**87**	P		**P**	**04 49 46.5 +0.6**
TRCB	**Terra Rica**	**13.40**	**87**	*e*P		**P**	**04 49 46.8 +0.9**
SALV	**Santo Antonio**	**13.57**	**55**	*e*P		**P**	**04 49 48.4 +0.6**
CPSB	**Cacapava Do Su**	**13.65**	**120**	*e*P		**P**	**04 49 48.2 -0.3**
ITAB	**Concordia**	**13.87**	**106**			**P**	**04 49 50.7 -0.3**
ITAB	**Concordia**	**13.87**	**106**	*e*P		**P**	**04 49 51.0 0.0**
PLTB	**Pedras Altas**	**14.12**	**125**			**P**	**04 49 53.3 +0.5**
PLTB	**Pedras Altas**	**14.12**	**125**	*e*P		**P**	**04 49 53.3 -0.5**
ETMB	**Extrema**	**14.35**	**4**	*e*P		**Pn**	**04 49 53.1 -1.4**
TRQA	**Tornquist**	**14.48**	**163**			**P**	**04 49 56.9 -0.8**
PCMB	**Pacaembu**	**14.87**	**83**	*e*P		**P**	**04 50 03.6 +1.4**
FRTB	**Fartura**	**16.12**	**90**	*e*P		**Pn**	**04 50 16.8 +0.6**
ITRB	**Iturama**	**16.21**	**77**	*e*P		**Pn**	**04 50 18.7 +1.5**
TIJ01	**Guaruva-PR**	**16.52**	**98**	*e*P		**Pn**	**04 50 21.1 0.0**
TER01	**Tubaro-SC**	**16.71**	**109**	*e*P		**P**	**04 50 22.2 -0.2**
PLCA	**Paso Flores**	**16.71**	**189**	P		**Pn**	**04 50 23.4 +0.3**
	comp=E,0.1nm,0.3s,baz=6.3,slow=10,SNR=4.5						
PLCA	**Paso Flores**	**16.71**	**189**			**Pn**	**04 50 23.4 +0.3**
ARAG	**Araguaiana, MT**	**16.71**	**62**	*e*P		**Pn**	**04 50 24.2 +0.9**
CLDB	**Colider**	**17.11**	**41**	*e*P		**P**	**04 50 26.7 -0.2**
CZSB	**Cruzeiro do Su**	**17.24**	**341**	*e*P		**P**	**04 50 23.2 -5.1**
BB19B	**Bebedouro**	**17.48**	**83**	*e*P		**Pn**	**04 50 31.9 -0.5**
SPB	**Sao Paulo**	**18.04**	**92**	*e*P		**P**	**04 50 37.1 +0.1**
RCLB	**Rio Claro- Sao**	**18.11**	**88**	*e*P		**P**	**04 50 37.8 0.0**
PET01	**Itanhaem-SP**	**18.13**	**94**	*e*P		**P**	**04 50 38.4 +0.5**
VAO	**Valinhos**	**18.54**	**90**	*e*P		**P**	**04 50 42.3 -0.3**
LL01	**San Ignacio de**	**18.63**	**192**	P		**Pn**	**04 50 48.0 +2.3**
IPMB	**Ipameri, GO**	**18.72**	**74**	*e*P		**P**	**04 50 45.0 +0.5**
LL02	**Futaleuf**	**19.31**	**190**	P		**Pn**	**04 50 54.2 +0.5**
SNDB	**Serra Nova Dou**	**19.35**	**54**	*e*P		**P**	**04 50 50.4 -0.9**
BDFB	**Brasilia**	**19.90**	**68**	P		**P**	**04 50 57.0 -0.2**
	comp=E,2.4nm,0.3s,baz=241,slow=11,SNR=36						
BDFB	**Brasilia**	**19.90**	**68**	P		**P**	**04 50 57.1 -0.2**
NPGB	**Novo Progresso**	**20.48**	**35**	*e*P		**P**	**04 51 01.5 -2.0**
ESAR	**Angra dos Reis**	**20.84**	**91**	*e*P		**P**	**04 51 07.3 +0.2**
BSCB	**Bom Sucesso**	**20.90**	**86**	*e*P		**P**	**04 51 07.8 -0.1**
PEXB	**Peixe**	**21.55**	**59**	*e*P		**P**	**04 51 13.7 -1.2**
VA901	**Vassouras-RJ**	**21.87**	**90**	*e*P		**P**	**04 51 17.9 -0.1**
ITTB	**Itatiuba**	**22.60**	**31**	*e*P		**P**	**04 51 22.4 -2.6**
DIAM	**Diamantina, MG**	**22.65**	**79**	*e*P		**P**	**04 51 23.5 -2.1**
DUB01	**Friburgo-RJ**	**22.88**	**90**	*e*P		**P**	**04 51 25.9 -1.6**
MC01	**Montes Claros**	**22.97**	**75**	*e*P		**P**	**04 51 27.1 -1.3**
JANB	**Januaria**	**23.33**	**71**	*e*P		**P**	**04 51 30.7 -1.0**
SDBA	**SAO DESIDERIO**	**24.13**	**65**	*e*P		**P**	**04 51 38.0 -0.9**
SMTB	**Santa Maria do**	**24.13**	**54**	*e*P		**P**	**04 51 38.2 -0.8**
PTGA	**Pitinga**	**24.37**	**18**	P		**P**	**04 51 40.9 -0.1**
	comp=E,0.9nm,0.3s,baz=163,slow=17,SNR=4.6						
PTGA	**Pitinga**	**24.37**	**18**	P		**P**	**04 51 40.3 -0.7**
PTGA				IAmb		IAmb	04 51 51.6
	comp=Z,5.1nm,1.2s						
ALF01	**Guarapari-ES**	**24.68**	**87**	*e*P		**P**	**04 51 43.5 -0.3**
BSFB	**Barra de Sao F**	**25.03**	**83**	*e*P		**P**	**04 51 46.4 -0.6**
RIB01	**Linhares ES**	**25.30**	**84**	*e*P		**P**	**04 51 48.5 -1.1**
MALB	**Monte Alegre**	**25.49**	**31**	*e*P		**P**	**04 51 49.7 -1.5**
NAN01	**Guarapari, ES**	**25.98**	**81**	*e*P		**P**	**04 51 54.5 -1.2**
GDU01	**Guandu, BA**	**28.04**	**73**	*e*P		**P**	**04 52 12.7 -1.3**
TMAB	**Tom-Au,PA,Br**	**28.48**	**43**	*e*P		**P**	**04 52 14.6 -3.2**
NBPN	**Ponto Novo - B**	**28.87**	**67**	*e*P		**P**	**04 52 18.4 -2.9**
NBPS	**Pedro II - PI**	**31.65**	**56**	*e*P		**P**	**04 52 43.8 -2.1**
NBMA	**Muriti-CE**	**31.94**	**63**	*e*P		**P**	**04 52 47.4 -1.0**
NBPB	**Pedra_Branca-C**	**32.35**	**59**	*e*P		**P**	**04 52 51.5 -0.6**
NBPA	**Parau_RN**	**34.20**	**62**	*e*P		**P**	**04 53 07.6 -0.4**
NBRF	**Rio Formoso -**	**34.26**	**69**	*e*P		**P**	**04 53 06.8 -1.7**
NBPV	**Pedro Velho**	**35.32**	**65**	*e*P		**P**	**04 53 16.7 -0.9**
PMSA	**Palmer Station**	**40.60**	**178**	*e*P		P	04 53 52.2 -8.8
TXAR	**Lajitas Array**	**63.78**	**325**	P		**P**	**04 56 53.9 +1.5**
	comp=Z,0.2nm,0.5s,baz=156,slow=9.6,SNR=4.6						
QSPA	**South Pole Qui**	**65.98**	**180**	P		**P**	**04 57 07.9 +1.7**
QSPA				IAmb		IAmb	04 57 10.6
	comp=Z,2.6nm,1.1s						
E46A	**Sault Ste Mari**	**71.95**	**348**	P		**P**	**04 57 44.0 +1.1**
E46A				IAmb		IAmb	04 57 48.4
	comp=Z,3.8nm,1.0s						
KOWA	**Kowa**	**72.66**	**65**	P		**P**	**04 57 48.4 +0.6**
KOWA				IAmb		IAmb	04 57 48.7
	comp=Z,3.1nm,0.8s						
MSU	**Marysvale**	**75.33**	**325**	P		**P**	**04 58 06.5 +3.3**
TOA0	**Torodi Ar. Sit**	**76.78**	**69**	P		**P**	**04 58 11.5 0.0**
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P		**P**	**04 58 11.5 0.0**
	comp=Z,2.0nm,0.8s,baz=260,slow=5.2,SNR=18						
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P		**P**	**04 58 11.7 +0.2**
TORD				IAmb		IAmb	04 58 12.4
	comp=Z,2.4nm,0.8s						
PDAR	**Pinedale Array**	**77.27**	**329**	P		**P**	**04 58 14.9 +1.0**
	comp=Z,0.2nm,0.5s,baz=124,slow=5.6,SNR=2.4						
PDAR	**Pinedale Array**	**77.27**	**329**	P		**P**	**04 58 14.3 +0.4**
NVAR	**Mina Array Bea**	**78.62**	**321**	P		**P**	**04 58 23.4 +2.0**
	comp=Z,0.4nm,0.7s,baz=143,slow=5.2,SNR=4.2						
NVAR	**Mina Array Bea**	**78.62**	**321**	P		**P**	**04 58 24.0 +2.5**
KVN	**Kaiserville**	**78.94**	**322**	P		**P**	**04 58 25.9 +2.8**
KVN				IAmb		IAmb	04 58 26.1
	comp=Z,2.0nm,0.8s						
BOSA	**Boshof**	**80.75**	**117**	P		**P**	**04 58 33.9 +0.7**
	comp=Z,2.8nm,0.9s,baz=231,slow=0.6,SNR=7.9						
BOSA	**Boshof**	**80.75**	**117**	P		**P**	**04 58 34.0 +0.7**
LBTB	**Lobatse**	**82.42**	**114**	P		**P**	**04 58 42.7 +0.6**
K05A	**Summer Lake**	**82.99**	**323**	P		**P**	**04 58 47.6 +3.1**
K05A				IAmb		IAmb	04 58 52.5
	comp=Z,4.9nm,1.1s						
PINE	**Pine Mountain**	**83.73**	**324**	P		**P**	**04 58 51.5 +3.3**
PINE				IAmb		IAmb	04 58 51.6
	comp=Z,1.5nm,0.7s						

YKA	**Yellowknife Ar**	**94.28**	**340**	P		**P**	**04 59 39.0 +1.3**
	comp=Z,0.4nm,0.6s,baz=128,slow=4.0,SNR=4.1						
SMY	**Shemya**	**126.22**	**319**	PKPdf		**PKiKP**	**05 05 21.6 +1.1**
ASAR	**Alice Springs**	**128.20**	**205**	PKP		**PKiKP**	**05 05 25.7 +0.1**
	comp=Z,0.5nm,0.6s,baz=111,slow=2.2,SNR=4.8						
WB2	**Warramunga Arr**	**131.36**	**207**	PKPdf		**PKiKP**	**05 05 32.2 +0.2**
WRA	**Warramunga Arr**	**131.37**	**207**	PKP		**PKiKP**	**05 05 32.0 0.0**
	comp=Z,0.4nm,0.5s,baz=156,slow=1.8,SNR=12						
WRA				SKPbc		**SKPab**	**05 08 40.5 +0.5**
	comp=Z,0.3nm,0.5s,baz=150,slow=3.4,SNR=8.1						
WRA	**Warramunga Arr**	**131.37**	**207**	PKPdf		**PKiKP**	**05 05 31.9 0.0**
MK31	**Makanchi Array**	**146.78**	**40**	PKPbc		**PKPab**	**05 06 01.9 0.0**
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc		**PKPab**	**05 06 01.5 -0.3**
	comp=Z,0.5nm,0.5s,baz=289,slow=4.6,SNR=5.2						
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc		**PKPab**	**05 06 01.4 -0.5**

INET ***29*** *05:15:05.4, 9.°81N×84.°76W, h20km, ML3.3*
UCR 29 05:15:08.9±1.3, 9.°76N×84.°81W, h21km±3km, MW3.7, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAFE	**Finca La Fe, P**	**0.11**	**297**	*e*P		Pb	05 15 13.7	-1.8
LAFE				*e*S		Sb	05 15 17.6	-2.5
JACO	**JACO, Garabito**	**0.18**	**122**	*e*P		Pb	05 15 13.9	-0.9
JACO				*e*S		Sb	05 15 18.1	-0.8
SRA1	**San Ramn**	**0.46**	**45**	*e*P		Pb	05 15 18.2	-0.2
JTS	**Las Juntas de**	**0.55**	**346**	*e*P		Pb	05 15 19.2	-0.7
ARE1	**Arenal 1**	**0.70**	**8**	*e*P		Pb	05 15 22.6	0.0
FORC	**Fortuna**	**0.72**	**11**	*i* P		Pb	05 15 22.7	-0.1
HDC	**Heredia**	**0.73**	**71**	*e*P		Pb	05 15 22.8	-0.2
HDC				*e*S		Sb	05 15 33.4	+0.7
LCR2	**La Lucha 2**	**0.80**	**91**	*e*P		Pb	05 15 23.3	-0.9
GRZA	**Playa Garza**	**0.82**	**281**	*e*P		Pb	05 15 23.7	-0.9
OCM	**Ochomogo**	**0.85**	**81**	*e*P		Pb	05 15 24.2	-0.9
GUAI	**GUAI**	**0.85**	**307**	*i* P		Pb	05 15 24.4	-0.7
ACAL	**Aguas Claras**	**0.90**	**346**	⇓*i*P		Pb	05 15 25.4	-0.5
SAJU	**San Juanillo,**	**0.94**	**289**	*e*P		Pb	05 15 25.4	-1.1
RIMA	**Rio Macho**	**0.94**	**89**	*e*P		Pb	05 15 25.5	-1.1
CUI	**Cuipilapa**	**0.96**	**339**	*i* P		Pb	05 15 26.3	-0.6
CUI				*i* S		Sb	05 15 39.2	+0.1
PTEN	**Parque Tenorio**	**0.96**	**350**	*i* P		Pb	05 15 26.6	-0.4
COLC	**Colonia**	**0.98**	**337**	*i* P		Pb	05 15 26.6	-0.6
HORNC	**Hornillas**	**1.01**	**339**	*i* P		Pb	05 15 26.9	-0.9
LIM1	**Limonal**	**1.03**	**335**	*i* P		Pb	05 15 27.3	-0.7
COVE	**Coope Vega, Sa**	**1.04**	**23**	*e*P		Pb	05 15 27.3	-0.9
RIFO	**Rio Frio, Sara**	**1.04**	**58**	*e*P		Pb	05 15 27.6	-0.6
CDM	**Cerro de Muert**	**1.06**	**101**	*e*P		Pb	05 15 28.5	-0.2
CVTR	**Volcan Turrial**	**1.07**	**76**	*e*P		Pb	05 15 28.5	-0.5
GPS2	**Hotel Rincn d**	**1.12**	**332**	*e*P		Pn	05 15 28.6	-0.8
LAPC	**Finca la Peria**	**1.17**	**329**	*i* P		Pn	05 15 29.4	-0.7
PEZE	**Perez Zeledon,**	**1.18**	**108**	*e*P		Pn	05 15 29.8	-0.4
BUEV	**Buena Vista**	**1.19**	**331**	*e*P		Pn	05 15 29.6	-0.7
EDPN	**Palmar Norte**	**1.56**	**120**	*e*P		Pn	05 15 34.6	-0.7
DRK0	**Durika**	**1.62**	**108**	*e*P		Pn	05 15 36.2	-0.2
EDBA	**Buenos Aires**	**1.63**	**111**	*e*P		Pb	05 15 37.5	-0.8

ISK ***29*** *05:29:03.4, 38.°70N×43.°20E, h22km, ML2.5/5*
DDA ***29*** *05:29:04.6, 38.°70N×43.°16E, h7km±5km, ML1.9*
ISC 29 05:29:04.3±1.1, 38.°71N±0.°03×43.°19E±0.°03, h14km±10km, n13, σ0.°79/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**127**	PG		**Pb**	**05 29 09.8**	**+0.1**
VANB				SG		**Sb**	**05 29 14.4**	**+1.1**
TVAN	**Van**	**0.25**	**137**	*i* P		**Pg**	**05 29 09.8**	**-0.1**
TVAN				IAML			05 29 14.0	
	comp=N,1μm,0.3s							
TVAN				IAML			05 29 14.0	
	comp=E,1μm,0.3s							
TVAN				*i* S		**Sb**	**05 29 14.4**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.38**	**285**	*i* P		**Pb**	**05 29 12.3**	**-0.6**
ADCV				IAML			05 29 19.0	
	comp=N,369nm,0.7s							
ADCV				IAML			05 29 20.0	
	comp=E,204nm,0.3s							
VMUR	**Van-Muradiye**	**0.41**	**47**	*i* P		**Pb**	**05 29 13.2**	**-0.2**
VMUR				*i* S		**Sb**	**05 29 20.5**	**+0.9**
VMUR				IAML			05 29 22.0	
	comp=N,180nm,0.3s							
VMUR				IAML			05 29 22.0	
	comp=E,221nm,0.3s							
GEVA	**Gevas**	**0.41**	**195**	*i* P		**Pg**	**05 29 12.1**	**-0.5**
GEVA				*i* S		**Sb**	**05 29 19.9**	**+0.2**
GEVA				IAML			05 29 20.0	
	comp=N,157nm,0.5s							
GEVA				IAML			05 29 22.0	
	comp=E,205nm,0.6s							
AKDM	**Akdamar-Van**	**0.42**	**204**	PG		**Pg**	**05 29 12.1**	**-0.6**
AKDM				SG		**Sb**	**05 29 18.8**	**-1.0**
CLDR	**Caldiran**	**0.71**	**52**	*i* P		**Pg**	**05 29 17.4**	**-0.9**
CLDR				IAML			05 29 29.0	
	comp=E,43nm,0.4s							
CLDR				*i* S		**Sb**	**05 29 29.3**	**+0.9**
CLDR				IAML			05 29 37.0	
	comp=N,29nm,0.6s							
CLDR	**Caldiran**	**0.71**	**52**	PG		**Pg**	**05 29 17.6**	**-0.7**
CLDR				SG		**Sb**	**05 29 28.7**	**+0.3**
AGRB	**Hanur-Agry**	**0.88**	**350**	PG		**Pg**	**05 29 21.2**	**-0.2**
AGRB				SG		**Sb**	**05 29 34.0**	**+0.8**
GURO	**Guroymak-BITLI**	**0.92**	**260**	PG		**Pb**	**05 29 21.5**	**-0.7**
KOTA	**Agri, Merkez-K**	**1.09**	**1**	*i* P		**Pn**	**05 29 25.1**	**-0.3**
KOTA				*i* S		**Sn**	**05 29 40.5**	**+0.1**
KOTA				IAML			05 29 45.0	
	comp=N,22nm,0.9s							
KOTA				IAML			05 29 46.0	
	comp=E,13nm,0.5s							
SRTM	**Siirt_Merkez**	**1.23**	**235**	*i* P		**Pg**	**05 29 29.1**	**+1.0**
SRTM				*i* S		**Sg**	**05 29 45.9**	**+1.8**
SRTM				IAML			05 29 48.0	
	comp=E,47nm,0.5s							
SRTM				IAML			05 29 49.0	
	comp=N,44nm,0.8s							
MUSM	**Mu-Merkez**	**1.31**	**271**	*i* P		**Pb**	**05 29 28.6**	**-0.3**
MUSM				*i* S		**Sg**	**05 29 46.8**	**0.0**
MUSM				IAML			05 29 48.0	
	comp=E,11nm,0.5s							
MUSM				IAML			05 29 48.0	
	comp=N,7.5nm,0.3s							

IDC 29 05:37:00.2±3.4, 4.°97S×151.°77E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/35, mbtmp3.7/3, Error ellipse: s-maj=129.1km s-min=44.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**227**	P		P	05 42 01.7	-0.6
	1.2nm,0.9s,baz=53,slow=9.9,SNR=10.0							
ASAR	**Alice Springs**	**25.34**	**221**	P		P	05 42 29.6	+0.6
	1.7nm,0.7s,baz=54,slow=9.4,SNR=18							
FITZ	**Fitzroy Crossi**	**28.68**	**241**	P		P	05 42 58.6	-0.5
	1.3nm,0.8s,baz=70,slow=12,SNR=1.5							
TORD	**Torodi Ar. Bea**	**149.38**	**287**	PKPbc		PKPbc	05 56 51.9	-0.4
	1.2nm,0.9s,baz=85,slow=2.1,SNR=12							

BEO ***29*** *05:38:36.1±0.3, 42.°88N×18.°36E, h26km±3km, ML2.3/11*
PDG ***29*** *05:38:36.4±0.1, 42.°95N×18.°39E, h19km, MD2.7/3, ML2.7/14, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
RHSSO ***29*** *05:38:37.0±0.2, 42.°98N×18.°36E, h7km±2km, ML2.5/11*
ISC 29 05:38:36.4±1.0, 42.°96N±0.°02×18.°36E±0.°02, h19km±2km, n46, σ0.°98/89, 10C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.14**	**114**	⇓*i*Pg		**Pg**	**05 38 40.8**	**0.0**
BRY				*e*Sg		**Sg**	**05 38 44.0**	**+0.2**
BRY	**Bratogost**	**0.14**	**114**	⇓*i*Pg		**Pg**	**05 38 40.5**	**-0.3**
BRY				*e*Sg		**Sg**	**05 38 43.7**	**-0.1**
TREB	**Trebinje**	**0.24**	**182**	*e*Pg		**Pg**	**05 38 42.3**	**+0.2**
TREB				*e*Sg		**Sg**	**05 38 46.9**	**+1.0**
TREB	**Trebinje**	**0.24**	**182**	⇑*i*Pg		**Pg**	**05 38 42.3**	**+0.2**
TREB				*e*Sg		**Sg**	**05 38 47.0**	**+1.0**
UPM	**Unac-Piva**	**0.47**	**58**	⇓*i*Pg		**Pg**	**05 38 45.3**	**-0.7**
UPM				*e*Sg		**Sg**	**05 38 52.4**	**-0.1**
UPM	**Unac-Piva**	**0.47**	**58**	⇓*i*Pg		**Pg**	**05 38 45.3**	**-0.7**
UPM				*i* Sg		**Sg**	**05 38 52.3**	**-0.2**
NKME	**Niksic**	**0.47**	**114**	⇑*i*Pg		**Pg**	**05 38 45.3**	**-0.8**
NKME				*i* Sg		**Sb**	**05 38 53.2**	**+0.4**
NKY	**Niksic**	**0.48**	**107**	⇓*i*Pg		**Pg**	**05 38 45.9**	**-0.4**
NKY				*i* Sg		**Sb**	**05 38 53.3**	**+0.1**
STON	**Ston**	**0.50**	**260**	*e*Pg		**Pg**	**05 38 45.7**	**-0.7**
STON				*e*Sg		**Sb**	**05 38 54.6**	**+1.3**
STON	**Ston**	**0.50**	**260**	⇓*i*Pg		**Pg**	**05 38 45.8**	**-0.7**
STON				*e*Sg		**Sb**	**05 38 54.3**	**+1.0**
STON	**Ston**	**0.50**	**260**	*i* Pg		**Pg**	**05 38 45.6**	**-0.7**
STON				Sg		**Sg**	**05 38 52.5**	**-0.7**
HCY	**Herceg Novi**	**0.52**	**169**	⇓*i*Pg		**Pb**	**05 38 46.7**	**-0.2**
HCY				*e*Sg		**Sn**	**05 38 55.4**	**-1.7**
HCY	**Herceg Novi**	**0.52**	**169**	⇑*i*Pg		**Pb**	**05 38 46.5**	**-0.4**
HCY				*i* Sg		**Sb**	**05 38 54.8**	**+0.8**
CEME	**Cevo**	**0.58**	**135**	⇑*i*Pg		**Pb**	**05 38 47.1**	**-0.8**
CEME				*i* Sg		**Sg**	**05 38 56.6**	**+0.8**
BUM	**Brajici-Budva**	**0.77**	**149**	⇑*i*Pg		**Pb**	**05 38 50.3**	**-0.8**
BUM				*i* Sg		**Sn**	**05 39 02.6**	**-0.7**
PLE	**Pljevlja**	**0.84**	**63**	⇑*i*Pg		**Pb**	**05 38 52.1**	**-0.3**
PLE				*i* Sg		**Sn**	**05 39 05.3**	**+0.2**
PDG	**Podgorica**	**0.84**	**129**	*e*Pg		**Pb**	**05 38 51.6**	**-0.8**
PDG				*e*Sg		**Sg**	**05 39 03.9**	**-0.2**
PDG	**Podgorica**	**0.84**	**129**	*e*Pg		**Pb**	**05 38 52.2**	**-0.2**
PDG				*e*Sg		**Sn**	**05 39 05.2**	**+0.1**
TTG	**Podgorica**	**0.84**	**129**	⇑*i*Pg		**Pb**	**05 38 51.9**	**-0.5**
TTG				*i* Sg		**Sn**	**05 39 05.1**	**0.0**
KOME	**Kolasin**	**0.85**	**97**	⇓*i*Pg		**Pb**	**05 38 52.3**	**-0.3**
KOME				*i* Sg		**Sn**	**05 39 05.6**	**+0.1**
DRME	**Dracevica, Mon**	**0.98**	**142**	⇓*i*Pg		**Pn**	**05 38 54.9**	**-0.3**
DRME				*e*Sg		**Sn**	**05 39 09.2**	**+0.7**
DRME	**Dracevica, Mon**	**0.98**	**142**	⇓*i*Pg		**Pn**	**05 38 54.9**	**-0.3**
DRME				*i* Sg		**Sn**	**05 39 10.0**	**+1.5**
RUDO	**Rudo**	**0.99**	**48**	*e*Pg		**Pb**	**05 38 54.5**	**-0.4**
RUDO				*e*Sg		**Sb**	**05 39 08.1**	**+0.6**
LSTV	**Lastovo**	**1.10**	**261**	*e*Pg		**Pb**	**05 38 57.1**	**+0.4**
LSTV				Sg		**Sg**	**05 39 13.7**	**+1.6**
IVA	**Berane**	**1.13**	**94**	⇑*i*Pg		**Pn**	**05 38 57.2**	**0.0**
IVA				*i* Sg		**Sg**

NNS				*i* S	**Sg**	05 44 17.1	+0.2		
	baz=304								
ESL	**Shilin**	**0.51**	**226**	*i* P	**Pg**	05 44 10.3	0.0		
	baz=235								
ESL				S	**Sb**	05 44 18.4	-1.1		
	baz=235								
WHF	**Hehuan Shan**	**0.52**	**268**⇑	*i* P	**Pg**	05 44 10.5	-0.2		
	baz=269								
WHF				*i* S	**Sg**	05 44 17.9	+0.4		
	baz=269								
NDT	**Datong Townshi**	**0.52**	**326**⇓	*i* P	**Pg**	05 44 11.0	+0.2		
	baz=327								
NDT				*e*S	**Sb**	05 44 19.1	-1.0		
	baz=327								
TEGC	**Jichi Village**	**0.53**	**210**	*e*P	**Pb**	05 44 11.9	-0.4		
	baz=211								
TEGC				*e*S	**Sn**	05 44 23.2	-0.7		
	baz=211								
ENTT	**Nioudou**	**0.53**	**333**⇓	*i* P	**Pg**	05 44 11.0	+0.2		
	baz=334								
ENTT				*i* S	**Sg**	05 44 17.9	+0.1		
	baz=334								
TWE	**Neicheng**	**0.57**	**345**⇓	*i* P	**Pg**	05 44 11.8	+0.2		
	baz=346								
TWE				*i* S	**Sg**	05 44 20.3	+1.2		
	baz=346								
ILA	**Ilan**	**0.60**	**353**	*e*S	**Sb**	05 44 21.7	-0.6		
	baz=348								
TWT	**Tachien**	**0.60**	**278**⇓	*i* P	**Pg**	05 44 13.1	+0.8		
	baz=286								
TWT				S	**Sb**	05 44 21.7	-0.9		
	baz=286								
CHGB	**Renai**	**0.61**	**260**⇑	*e*P	**Pg**	05 44 12.5	+0.1		
	baz=253								
CHGB				*e*S	**Sb**	05 44 21.5	-1.2		
	baz=253								
EGFH	**Guangfu**	**0.62**	**217**	*e*P	**Pg**	05 44 13.2	+0.7		
	baz=232								
EGFH				*e*S	**Sn**	05 44 23.5	-2.7		
	baz=232								
TDCB	**Techi**	**0.62**	**278**	*e*P	**Pg**	05 44 13.1	+0.4		
	baz=279								
TDCB				*e*S	**Sg**	05 44 20.9	+0.1		
	baz=279								
OWD	**Renai**	**0.64**	**251**	*e*P	**Pg**	05 44 12.5	-0.3		
	baz=251								
YHNB	**Yeheng**	**0.65**	**320**⇓	*e*P	**Pg**	05 44 13.5	+0.3		
	baz=321								
YHNB				*e*S	**Sg**	05 44 21.4	-0.3		
	baz=321								
NWLT	**Wulai**	**0.68**	**334**⇓	*e*P	**Pb**	05 44 13.9	-1.0		
	baz=334								
NWLT				*e*S	**Sg**	05 44 22.9	+0.4		
	baz=334								
EGS		**0.68**	**8**	P	**Pb**	05 44 14.1	-0.8		
	baz=8.0								
NTC	**Toucheng**	**0.69**	**360**	*e*P	**Pb**	05 44 13.9	-1.1		
	baz=359								
NTC				*e*S	**Sb**	05 44 23.3	-1.4		
	baz=359								
HGSD	**Ruisui**	**0.77**	**209**	*e*P	**Pb**	05 44 15.9	-0.5		
	baz=199								
TIPB	**Shuangxi**	**0.80**	**360**	P	**Pb**	05 44 16.2	-0.8		
	baz=6.0								
EHY	**Hungye**	**0.81**	**215**	*i* P	**Pb**	05 44 15.6	-1.5		
	baz=229								
EHY				S	**Sn**	05 44 29.6	-1.2		
	baz=229								
WPL	**Puli Township**	**0.81**	**259**	*e*P	**Pb**	05 44 16.6	-0.6		
	baz=261								
WPL				*e*S	**Sn**	05 44 28.4	-2.6		
	baz=261								
WHP	**Taichung City**	**0.82**	**278**	*i* P	**Pg**	05 44 16.9	+0.5		
	baz=279								
WHP				*i* S	**Sg**	05 44 27.5	+0.5		
	baz=279								
DPDB	**Guoxing**	**0.84**	**261**	*e*P	**Pb**	05 44 17.1	-0.5		
	baz=262								
DPDB				*e*S	**Sn**	05 44 29.4	-2.3		
	baz=262								
NHDH	**Xindian Distri**	**0.84**	**341**	*e*P	**Pb**	05 44 17.0	-0.6		
	baz=333								
WCS	**Beigang Elemen**	**0.85**	**263**	*e*P	**Pb**	05 44 17.0	-0.7		
	baz=264								
WCS				*e*S	**Sg**	05 44 28.3	+0.4		
	baz=264								
TWB1	**Santiao Chiao**	**0.85**	**10**	*e*S	**Sg**	05 44 29.9	+1.8		
	baz=9.0								
TATO	**Taipei**	**0.86**	**339**⇓	*e*P	**Pb**	05 44 17.5	-0.6		
	baz=338								
TATO				*e*S	**Sb**	05 44 29.1	-0.7		
	baz=338								
NJD	**Zhudong**	**0.88**	**310**	*e*P	**Pn**	05 44 19.2	-0.4		
	baz=316								
LIOB	**Emei**	**0.88**	**303**	*i* P	**Pg**	05 44 18.5	+0.8		
	baz=304								
NSTT	**Nanjuang**	**0.89**	**302**	*i* P	**Pg**	05 44 18.4	+0.8		
	baz=302								
NSTT				*e*S	**Sg**	05 44 29.9	+0.6		
	baz=302								
SSLB	**Suanglung**	**0.89**	**245**⇑	*e*P	**Pb**	05 44 17.4	-1.1		
	baz=255								
SSLB				*e*S	**Sn**	05 44 30.7	-2.2		
	baz=255								
SMLT	**Sun Moon Lake**	**0.90**	**252**	P	**Pb**	05 44 18.0	-0.7		
	baz=253								
SMLT				*e*S	**Sn**	05 44 31.8	-1.4		
	baz=253								
NWF	**Wu-fen Shan**	**0.90**	**357**⇓	*i* P	**Pb**	05 44 18.4	-0.3		
	baz=349								
NWF				*e*S	**Sg**	05 44 31.1	+1.3		
	baz=349								
WFSB	**Wu-fen Shan**	**0.90**	**357**	*e*P	**Pb**	05 44 18.5	-0.2		
	baz=349								
WFSB				*e*S	**Sb**	05 44 30.4	-0.6		
	baz=349								
TAP1	**Taipei**	**0.91**	**342**	*e*S	**Sg**	05 44 30.8	+0.8		
	baz=333								
YULB	**Yu-li**	**0.91**	**213**	*e*P	**Pb**	05 44 17.2	-1.6		
	baz=226								
YULB				*e*S	**Sn**	05 44 32.2	-1.3		
	baz=226								
TYC	**Yuchr**	**0.93**	**254**	*i* P	**Pb**	05 44 18.5	-0.6		
	baz=255								
TYC				S	**Sn**	05 44 32.2	-1.6		
	baz=255								
EYUL	**Yuli**	**0.94**	**210**	*e*P	**Pb**	05 44 18.9	-0.4		
	baz=228								
TWF1	**Yuli**	**0.95**	**211**	P	**Pb**	05 44 18.3	-1.2		
	baz=227								
HSN1	**Hsinchu**	**0.96**	**310**	*e*P	**Pn**	05 44 20.7	0.0		
	baz=310								
TNOU	**National Taiwa**	**0.98**	**357**	*e*P	**Pn**	05 44 20.0	-0.9		
	baz=356								
TWQ1	**Liyutan**	**0.98**	**281**	P	**Pg**	05 44 20.8	+1.3		
	baz=282								
TWQ1				S	**Sn**	05 44 34.9	-0.4		
	baz=282								
SBCB	**Hsinchu**	**0.99**	**309**	*e*P	**Pg**	05 44 21.6	+1.9		
	baz=310								
NCU	**National Centr**	**0.99**	**324**	P	**Pg**	05 44 21.1	+1.4		
	baz=323								
NCU				S	**Sn**	05 44 36.4	+0.9		
	baz=323								
NCUH	**Zhongli**	**0.99**	**324**	*e*P	**Pg**	05 44 20.7	+1.0		
	baz=323								
TWS1	**Kuangyinshan**	**1.00**	**338**	*e*P	**Pg**	05 44 21.1	+1.2		
	baz=338								
TWS1				*e*S	**Sn**	05 44 35.7	0.0		
	baz=338								
YM01	**YM01**	**1.00**	**346**⇓	*e*P	**Pn**	05 44 20.5	-0.9		
	baz=330								
NSY	**Sanyi**	**1.01**	**284**	P	**Pg**	05 44 21.6	+1.6		
	baz=286								
NSY				*e*S	**Sn**	05 44 34.8	-1.1		
	baz=286								
WHYT	**Xinyi Township**	**1.01**	**243**	*e*P	**Pg**	05 44 21.0	+0.9		
	baz=251								
WHYT				*e*S	**Sn**	05 44 36.0	+0.1		
	baz=251								
NMLH	**Miaoli**	**1.02**	**291**	P	**Pg**	05 44 23.1	+3.0		
	baz=292								
NMLH				S	**Sn**	05 44 36.6	+0.5		
	baz=292								
YM08	**YM08**	**1.04**	**348**	*e*P	**Pb**	05 44 20.9	-0.2		
	baz=330								
WWF	**Wufeng**	**1.04**	**263**	*e*P	**Pg**	05 44 22.8	+2.2		
	baz=261								
WWF				*e*S	**Sn**	05 44 38.6	+1.9		
	baz=261								
ANP	**Anpu**	**1.05**	**344**	P	**Pn**	05 44 21.3	-0.8		
	baz=344								
JYNG	**Yonagunijimaku**	**1.05**	**74**	P	**Pg**	05 44 22.1	+1.2		
TCU	**Taichung**	**1.06**	**269**	P	**Pg**	05 44 22.5	+1.6		
	baz=271								
TCU				S	**Sn**	05 44 37.4	+0.4		
	baz=271								
WJS	**Zhushan**	**1.07**	**251**	*e*P	**Pg**	05 44 22.4	+1.3		
	baz=254								
WJS				*e*S	**Sg**	05 44 39.1	+4.2		
	baz=254								
FULB	**Fuli**	**1.08**	**207**	*i* P	**Pb**	05 44 21.2	-0.5		
	baz=224								
WNT1	**Nantou City**	**1.08**	**256**	*e*P	**Pg**	05 44 23.4	+1.9		
	baz=256								
WNT1				*e*S	**Sg**	05 44 39.7	+4.2		
	baz=256								
WNT	**Mingjian**	**1.09**	**255**	P	**Pg**	05 44 23.0	+1.5		
	baz=257								
WNT				S	**Sg**	05 44 40.5	+4.8		
	baz=257								
WDJ	**Dajia District**	**1.10**	**280**	P	**Pg**	05 44 23.4	+1.7		
	baz=281								
WDJ				S	**Sg**	05 44 40.0	+3.9		
	baz=281								
YOJ	**Yonaguni jima**	**1.11**	**74**	P	**Pg**	05 44 23.0	+1.0		
YOJ				S	**Sg**	05 44 39.4	+2.9		
YOJ	**Yonaguni jima**	**1.11**	**74**⇑	*e*P	**Pb**	05 44 22.6	+0.3		
	baz=62								
ALS	**Alishan**	**1.14**	**235**	P	**Pn**	05 44 22.8	-0.7		
	baz=237								
CHKT	**Chengkung**	**1.15**	**202**	P	**Pb**	05 44 22.4	-0.4		
	baz=185								
CHKT				*e*S	**Sg**	05 44 39.7	+2.2		
	baz=185								
WCHH	**Zhanghua**	**1.17**	**266**	*e*P	**Pg**	05 44 24.5	+1.5		
	baz=267								
WCHH				*e*S	**Sg**	05 44 39.9	+1.7		
	baz=267								
CHN5	**Tsauling**	**1.20**	**242**	P	**Pg**	05 44 24.1	+0.5		
	baz=243								
CHN5				S	**Sg**	05 44 43.4	+4.2		
	baz=243								
ELDTW	**Lidau**	**1.23**	**218**	*e*P	**Pn**	05 44 22.6	-1.8		
	baz=205								
WGK	**Gukeng**	**1.26**	**248**	*e*S	**Sg**	05 44 45.5	+4.5		
	baz=249								
WDLH	**Douliu**	**1.27**	**248**	P	**Pg**	05 44 25.4	+0.3		
	baz=249								
WDLH				*e*S	**Sg**	05 44 45.0	+3.3		
	baz=249								
EDH	**Donghe**	**1.28**	**202**	*e*P	**Pn**	05 44 23.9	-1.1		
	baz=188								
EDH				*e*S	**Sg**	05 44 43.3	+1.4		
	baz=188								
WRL	**Guolierlin Hig**	**1.36**	**259**	*i* P	**Pg**	05 44 26.9	+0.3		
	baz=261								
WRL				*i* S	**Sg**	05 44 45.5	+1.3		
	baz=261								
STYH	**Taoyuan**	**1.39**	**225**	*i* P	**Pn**	05 44 25.9	-0.6		
	baz=216								
STYH				*i* S	**Sg**	05 44 45.7	+0.5		
	baz=216								
CHN2	**Minshiung**	**1.39**	**243**	*e*P	**Pg**	05 44 29.2	+1.9		
	baz=245								
CHN2				S	**Sg**	05 44 51.7	+6.3		
	baz=245								
CHN4	**Tsaushan**	**1.40**	**235**	*i* P	**Pg**	05 44 27.3	-0.1		
	baz=236								
CHN4				*i* S	**Sg**	05 44 50.2	+4.7		
	baz=236								
TPUB	**Ta-pu**	**1.40**	**232**	*e*P	**Pb**	05 44 26.9	-0.3		
	baz=223								
TPUB				*e*S	**Sg**	05 44 48.8	+3.2		
	baz=223								
STYT	**Tauyuan**	**1.40**	**225**⇑	*i* P	**Pb**	05 44 26.5	-0.7		
	baz=211								
WTK	**Tuku**	**1.40**	**250**	*e*P	**Pg**	05 44 27.8	+0.3		
	baz=252								
WTK				*e*S	**Sg**	05 44 47.7	+1.9		
	baz=252								
LONT	**Longtian**	**1.41**	**207**	P	**Pn**	05 44 24.9	-1.9		
	baz=209								
WTP	**Ta-pu**	**1.44**	**231**	*i* P	**Pb**	05 44 27.8	-0.2		
	baz=232								
WTP				*i* S	**Sg**	05 44 50.9	+3.8		
	baz=232								
CHY	**Chiayi**	**1.45**	**243**	*e*P	**Pg**	05 44 28.9	+0.5		
	baz=244								
CHY				*e*S	**Sg**	05 44 51.0	+3.7		
	baz=244								
PCYT	**Pengchaiyu**	**1.47**	**8**	*e*P	**Pb**	05 44 28.8	+0.4		
	baz=6.0								
TWGBT	**Beinan**	**1.51**	**207**	*e*P	**Pn**	05 44 26.0	-2.2		
	baz=209								
TWG	**Pinlang**	**1.51**	**208**	*e*P	**Pn**	05 44 26.1	-2.2		
	baz=209								
TWK	**Hsinying**	**1.52**	**234**⇑	*i* P	**Pb**	05 44 29.3	0.0		
	baz=235								
TWK				*i* S	**Sg**	05 44 53.0	+3.4		
	baz=235								
CHN1	**Nanshi**	**1.54**	**231**	*i* P	**Pb**	05 44 29.6	-0.1		
	baz=232								
CHN1				*i* S	**Sg**	05 44 52.6	+2.4		
	baz=232								
SNST	**Tainan City**	**1.54**	**233**	*e*P	**Pg**	05 44 30.7	+0.5		
	baz=233								
WSF	**Szhu**	**1.56**	**251**	*e*S	**Sg**	05 44 53.3	+2.4		
	baz=252								
SGST	**Jiashian**	**1.57**	**227**	*e*P	**Pb**	05 44 29.5	-0.7		
	baz=212								
SGST				*e*S	**Sg**	05 44 54.0	+2.8		
	baz=212								
SLGT	**Liugui**	**1.59**	**223**	*e*S	**Sg**	05 44 54.1	+2.1		
	baz=224								
ICHU	**Yijhu**	**1.63**	**241**	*e*P	**Pb**	05 44 30.3	-0.9		
	baz=241								
ICHU				*e*S	**Sg**	05 44 56.1	+3.0		
	baz=241								
CHN8	**Yiju**	**1.69**	**242**	S	**Sg**	05 44 57.2	+2.1		
	baz=241								
IRIF	**Iriomote-Funau**	**1.74**	**84**	P	**Pb**	05 44 33.0	0.0		
IRIF				*e*S	**Sg**	05 44 57.3	+0.7		
SCST	**Cishan**	**1.77**	**224**	*e*P	**Pb**	05 44 33.3	-0.2		
	baz=224								
SCST				*i* S	**Sg**	05 45 00.1	+2.6		
	baz=224								
SSD	**Sandimen**	**1.79**	**218**	P	**Pb**	05 44 33.1	-0.7		
	baz=219								
SSD				*e*S	**Sg**	05 44 57.9	-0.3		
	baz=219								
HATJ	**Hateruma jima**	**1.81**	**93**	P	**Pb**	05 44 34.1	0.0		
HATJ				*e*S	**Sg**	05 44 58.5	-0.2		
TSMG	**Majia**	**1.82**	**217**	P	**Pb**	05 44 33.7	-0.6		
	baz=218								
TSMG				*e*S	**Sg**	05 44 59.4	+0.3		
	baz=218								
MASBT	**Mashibuluo**	**1.90**	**216**	*e*P	**Pn**	05 44 33.1	-0.5		
	baz=216								
MASBT				*e*S	**Sg**	05 45 01.7	0.0		
	baz=216								
JKRS	**Kuro-shima**	**1.99**	**88**	P	**Pb**	05 44 37.5	+0.3		
JKRS				*e*S	**Sg**	05 45 04.4	-0.2		
EAST	**Anshuo**	**1.99**	**207**	*e*P	**Pb**	05 44 35.6	-1.7		
	baz=198								
SCZT	**Fangliau**	**2.10**	**212**	*e*P	**Pn**	05 44 37.0	+0.6		
	baz=215								
JIJ	**Ishigaki jima**	**2.12**	**84**	P	**Pn**	05 44 36.8	+0.2		
SLIU	**Shizi**	**2.16**	**206**	*e*P	**Pb**	05 44 40.1	-0.1		
	baz=199								
PNG	**Penghu**	**2.17**	**254**	P	**Pn**	05 44 37.5	+0.3		
	baz=254								
PHUB	**P'eng-hu**	**2.17**	**253**	*e*P	**Pb**	05 44 38.2	-2.1		
	baz=252								
PHUB				*e*S	**Sb**	05 45 06.6	-0.8		
	baz=252								
WDGT	**Dungji**	**2.19**	**246**	*i* P	**Pn**	05 44 37.9	+0.4		
	baz=244								
WDGT				S	**Sb**	05 45 06.4	-1.5		
	baz=244								
JISG	**Ishigakijimahi**	**2.30**	**79**	P	**Pn**	05 44 39.4	+0.3		
PTMZ	**Houxiangcun**	**2.62**	**290**	*e*P	**Pn**	05 44 43.4	0.0		
	baz=291								
PTMZ				*e*S	**Sn**	05 45 15.0	-0.5		
	baz=291								
XPSS	**Dashiqiu**	**3.13**	**332**	*e*P	**Pn**	05 44 50.9	+0.4		
	baz=327								
KNMB	**Chin-men Tao**	**3.15**	**276**	*e*P	**Pn**	05 44 51.1	+0.2		
	baz=276								
MHZQ	**Yeshan**	**3.19**	**308**	*e*P	**Pn**	05 44 51.2	0.0		
	baz=305								
AXDP	**Jialang**	**3.59**	**283**	*e*P	**Pn**	05 44 57.4	+0.5		
	baz=283								
ZPLA	**Ao Xicun**	**3.74**	**267**	*e*P	**Pn**	05 44 58.4	-0.5		
	baz=268								

IDC ***29*** *05:46:01.9±1.6,0°.87N×121°.71E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.6/30,mbtmp3.7/5,ML3.9/1,Error ellipse: s-maj=138.4km s-min=25.4km az=63.0*
DJA ***29*** *05:46:14.0±1.4,0°.N±8°×12°.1E±°,h29km±23km,M4.0/6, MLv4.0/6*

ISC 29 05:46:13.7±1.2,0°.5N±0°.1×121°.1E±0°.1,h100km,n12, σ0.86/11,mb3.6/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.85**	**90**	P		**Pn** 05 46 32.0	-0.5
MPSI	**Mapaga**	**1.20**	**263**	P		Pn 05 46 33.5	-2.9
APSI	**Ampana**	**1.49**	**158**	P		**Pn** 05 46 38.7	-1.1
GTOI	**Gorontalo**	**1.93**	**85**	P		**Pn** 05 46 44.5	-0.8
LUWI	**Luwuk**	**2.26**	**132**	P		**Pn** 05 46 49.6	-0.1
TTSI	**Tana Toraja**	**3.73**	**200**	P		**Pn** 05 47 08.2	-1.0
BNSI	**Bone**	**4.95**	**191**	P		**Pn** 05 47 25.7	0.0
FITZ	**Fitzroy Crossi**	**19.00**	**167**	P		**P** 05 50 28.0	+0.5
	0.3nm,0.3s,baz=358,slow=9.1,SNR=9.1						
WRA	**Warramunga Arr**	**24.09**	**148**	P		**P** 05 51 19.1	-1.0
	1.7nm,0.7s,baz=326,slow=10,SNR=20						
ASAR	**Alice Springs**	**27.04**	**153**	P		**P** 05 51 46.4	-0.4
	0.4nm,0.5s,baz=341,slow=13,SNR=8.6						
STKA	**Stephens Creek**	**37.58**	**151**	P		**P** 05 53 19.7	+1.1
	0.7nm,0.5s,baz=326,slow=9.8,SNR=3.5						
MKAR	**Makanchi Array**	**57.22**	**329**	P		**P** 05 55 50.7	+0.2
	0.4nm,0.5s,baz=133,slow=8.1,SNR=3.4						

ANF ***29*** *06:08:42.0±0.2,36°.72N×117°.25W,h10km±1km,ML3.4/30, Error ellipse: s-maj=1.6km s-min=1.3km az=146.0, Hypocentre not reviewed by the ISC*
SCEDC ***29*** *06:08:42.5,36°.73N×117°.25W,h3km,Hypocentre not reviewed by the ISC*
PAS ***29*** *06:08:42.5±1.3,36°.73N±0°.03×117°.25W±0°.01,h3km±6km, ML3.3/41,ML3.1/98(NEIC),Error ellipse: s-maj=4.0km s-min=0.7km az=198.0*

NEIC 29 06:08:42.4±1.3,36.72N±0°.03×117°.26W±0°.03,h4km±6km, Error ellipse: s-maj=5.0km s-min=3.4km az=216.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAC	**Grapevine Rang**	**0.29**	**342**	P		06 08 48.4	
	baz=160,SNR=1000						
GRAC				S		06 08 53.0	
	baz=160						
FURC	**Furnace Creek,**	**0.41**	**129**	P		06 08 50.7	
	baz=311,SNR=604						
FURC				S		06 08 56.7	
	baz=311						
MPMC	**Manual Prospec**	**0.69**	**196**	P		06 08 55.8	
	baz=16,SNR=728						
MPMC				S		06 09 05.1	
	baz=16						
CWC	**Cottonwood Cre**	**0.72**	**247**	P		06 08 56.3	
	baz=66						
CWC				S		06 09 06.2	
	baz=66						
TPNV	**Topopah Spring**	**0.84**	**74**		Pg	06 08 58.6	+0.1
TPNV	**Topopah Spring**	**0.84**	**74**	Sg	Sg	06 09 10.2	+0.7
TPNV	**Topopah Spring**	**0.84**	**74**	P		06 08 58.4	
	baz=255,SNR=774						
TPNV				S		06 09 10.0	
	baz=255						
TIN	**Tinemaha, Big**	**0.85**	**293**	P		06 08 58.4	
	baz=112,SNR=30						
TIN				S		06 09 10.6	
	baz=112						
SHOC	**Shoshone, Teco**	**1.14**	**136**	P		06 09 03.5	
	baz=317,SNR=63						
SHOC				S		06 09 19.3	
	baz=317						
MTUM	**Tungsten Hills**	**1.22**	**301**		Pg	06 09 05.8	0.0
LRMC	**Laurel Mtn Rad**	**1.29**	**196**	P		06 09 05.9	
	baz=16,SNR=146						
LRMC				S		06 09 24.0	
	baz=16						
TPH	**Tonopah**	**1.35**	**1**		Pn	06 09 07.2	-1.0
TPH					Sn	06 09 27.3	+0.5
TPH				IAML		06 09 28.2	
	comp=E,443nm,0.3s						
TPH				IAML		06 09 28.6	
	comp=N,463nm,0.3s						
HELL	**Mitchell Peak,**	**1.42**	**269**		Pn	06 09 08.6	-0.5
HELL					Sb	06 09 27.0	-1.0
ISA	**Isabella, Lake**	**1.44**	**223**	Pn	Pn	06 09 09.5	+0.1
ISA				Sn	Sb	06 09 28.7	+0.1
ISA				IAML		06 09 32.8	
	comp=E,151nm,0.3s						
ISA	**Isabella, Lake**	**1.44**	**223**	P		06 09 08.3	
	baz=42,SNR=130						
ISA				Sb		06 09 28.7	
	baz=42						
GSC	**Goldstone, Bar**	**1.46**	**165**		Pn	06 09 08.5	-1.2
GSC				Sn	Sg	06 09 30.1	+0.7
GSC				IAML		06 09 35.0	
	comp=N,417nm,0.7s						
GSC	**Goldstone, Bar**	**1.46**	**165**	P		06 09 08.5	
	baz=346,SNR=98						
GSC				S		06 09 27.8	
	baz=346						
TUQ	**Turquoise Moun**	**1.68**	**140**	P		06 09 11.2	
	baz=321,SNR=46						
TUQ				S		06 09 33.8	
	baz=321						
SHPR	**Sheep Range**	**1.70**	**97**		Pn	06 09 12.5	-0.5
SHPR				IAML		06 09 44.4	
	comp=E,114nm,0.8s						
MDPB	**Devils Postpil**	**1.72**	**303**		Pn	06 09 13.0	-0.4
VES	**Vestal, Richgr**	**1.72**	**240**	Sb		06 09 37.3	
	baz=58						
VOG	**Valley Oaks Go**	**1.76**	**258**	Sb		06 09 37.9	
	baz=76						
LHV	**Little Huntoon**	**1.82**	**327**		Pn	06 09 14.4	-0.1
LHV				IAML		06 09 43.6	
	comp=N,226nm,0.6s						
NV11	**Mina Array Sit**	**1.85**	**338**		Pn	06 09 14.4	-0.7
RRX	**Edison Barstow**	**1.85**	**173**	Sb		06 09 41.6	
	baz=354						
PRN	**Pahroc Range**	**1.89**	**68**		Pn	06 09 15.1	-0.6
NVAR	**Mina Array Bea**	**1.90**	**334**		Pn	06 09 15.1	-0.7
EDW2	**Edwards Air Fo**	**1.93**	**198**	Sg		06 09 45.5	
	baz=18						
HEC	**Hector,Ludlow**	**2.03**	**158**	P		06 09 16.2	
	baz=339,SNR=14						
HEC				Sb		06 09 46.8	
	baz=339						
ARVC	**Arvin**	**2.04**	**219**	Pb		06 09 19.7	
	baz=38						
ARVC				Sb		06 09 47.1	
	baz=38						
R11A	**Troy Canyon, C**	**2.10**	**39**		Pn	06 09 17.6	-0.9
R11A				IAML		06 09 49.3	
	comp=N,186nm,0.2s						
R11A	**Troy Canyon, C**	**2.10**	**39**	P		06 09

KVN			IAML		06 10 03.5		
	comp=N,61nm,0.7s						
KVN			IAML		06 10 07.9		
	comp=E,69nm,0.6s						
BBRC	**Big Bear Solar**	**2.47 174**	Pg		06 09 28.9		
	baz=354						
WAKR	**Walker**	**2.48 316**		Pn	06 09 23.8	0.0	
BFSC	**Mount Baldy Ra**	**2.50 188**	Pg		06 09 29.6		
	baz=7.5						
BFSC			Sb		06 10 01.8		
	baz=7.5						
DECC	**Green Verdugo**	**2.61 200**	Pg		06 09 31.8		
	baz=19						
PAGB	**Antelope Grade**	**2.61 249**	Pn	Pn	06 09 25.3	-0.2	
PAGB			IAML		06 10 08.7		
	comp=E,94nm,0.8s						
PAGB			IAML		06 10 11.7		
	comp=N,78nm,0.9s						
PASC	**Pasadena Art C**	**2.66 197**	Pn	Pn	06 09 27.3	+1.3	
PASC			IAML		06 10 14.8		
	comp=E,41nm,0.7s						
YERR	**Yerington**	**2.75 326**		Pn	06 09 27.4	-0.1	
YERR			IAML		06 10 15.2		
	comp=E,67nm,0.4s						
YERR			IAML		06 10 15.3		
	comp=N,62nm,0.7s						
CMB	**Columbia Colle**	**2.82 299**		Pn	06 09 28.1	-0.1	
CMB			IAML		06 10 17.7		
	comp=N,43nm,0.7s						
NEE2	**Needles Airpor**	**2.90 131**	Pg		06 09 36.8		
	baz=313						
BELC	**Belle Mtn. Jos**	**2.90 159**	P		06 09 28.6		
	baz=340,SNR=20						
PNTR	**Pine Nut**	**3.00 323**		Pn	06 09 31.0	0.0	
PNTR			IAML		06 10 25.9		
	comp=N,43nm,0.9s						
PNTR			IAML		06 10 30.0		
	comp=E,44nm,1.0s						
IRM	**Iron Mountain**	**3.08 145**	P		06 09 30.5		
	baz=327						
MURC	**Murrieta**	**3.11 179**	Pg		06 09 40.5		
	baz=359						
PFO	**Pinyon Flats O**	**3.17 168**	Pn	Pn	06 09 32.8	-0.4	
PFO	**Pinyon Flats O**	**3.17 168**	P		06 09 32.5		
	baz=349						
W13A	**Hualapai Mount**	**3.18 120**	Pn	Pn	06 09 33.5	+0.1	
VCNR	**Virginia City**	**3.19 324**		Pn	06 09 33.5	0.0	
VCNR			IAML		06 10 27.7		
	comp=E,62nm,0.6s						
VCNR			IAML		06 10 28.1		
	comp=N,42nm,0.6s						
CCUT	**Cedar City**	**3.22 74**		Pn	06 09 34.2	+0.2	
CCUT			IAML		06 10 27.6		
	comp=N,51nm,0.5s						
CCUT			IAML		06 10 33.7		
	comp=E,44nm,0.8s						
LCMT	**Little Creek M**	**3.23 84**		Pn	06 09 34.3	+0.3	
LCMT			IAML		06 10 26.6		
	comp=N,31nm,0.8s						
SPR3	**Spring Creek 3**	**3.25 45**	Pn	Pn	06 09 35.4	+1.0	
PSUT	**Pine Spring**	**3.25 55**	Pn	Pn	06 09 34.5	+0.2	
RUBR	**Rubicon Trail**	**3.27 316**	Pn	Pn	06 09 34.6	0.0	
RUBR			IAML		06 10 28.9		
	comp=E,44nm,0.6s						
RUBR			IAML		06 10 30.4		
	comp=N,27nm,0.7s						
SAO	**San Andreas Ge**	**3.37 272**	Pn	Pn	06 09 36.8	+1.0	
BC3	**Big Chuckawall**	**3.40 154**	P		06 09 34.9		
	baz=335						
PAHR	**Pah Rah Range**	**3.42 331**		Pn	06 09 36.6	0.0	
SZCU	**Shurtz Canyon**	**3.44 74**		Pn	06 09 36.8	-0.3	
SZCU			IAML		06 10 37.6		
	comp=E,51nm,0.3s						
SZCU			IAML		06 10 41.5		
	comp=N,35nm,0.4s						
CIS	**Catalina Islan**	**3.44 196**	Pg		06 09 47.0		
	baz=16						
KNB	**Kanab**	**3.57 84**		Pn	06 09 39.2	+0.5	
KNB			IAML		06 10 42.1		
	comp=E,25nm,1.2s						
KNB			IAML		06 10 42.5		
	comp=N,28nm,0.7s						
AFDM	**Forest Hills D**	**3.69 308**	Pn	Pn	06 09 40.9	+0.7	
BEKR	**Beckworth**	**3.98 323**		Pn	06 09 44.6	+0.3	
U15A	**North Rim**	**4.01 93**		Pn	06 09 43.1	-1.7	
U15A			IAML		06 10 59.9		
	comp=N,23nm,1.1s						
U15A			IAML		06 11 00.3		
	comp=E,27nm,0.8s						
PKCU	**Pink Cliffs**	**4.02 78**		Pn	06 09 46.0	+0.9	
PKCU			IAML		06 10 50.8		
	comp=N,33nm,0.5s						
BAR	**Barrett**	**4.06 173**	Pn	Pn	06 09 45.4	+0.1	
BAR			IAML		06 10 52.0		
	comp=N,16nm,0.7s						
BAR			IAML		06 10 53.4		
	comp=E,22nm,0.7s						
GLA	**Glamis**	**4.17 151**	Pn	Pn	06 09 45.3	-1.5	
GLA			IAML		06 10 59.9		
	comp=N,31nm,0.7s						
RMX	**La Rumorosa**	**4.22 166**	Pn	Pn	06 09 47.9	+0.2	
MTPU	**Mount Pierson**	**4.25 70**	Pn	Pn	06 09 50.1	+1.9	
MTPU			IAML		06 10 58.2		
	comp=E,16nm,1.2s						
MTPU			IAML		06 11 01.8		
	comp=N,30nm,1.0s						
TCRU	**Three Creeks R**	**4.26 62**	Pn	Pn	06 09 49.1	+0.9	
TCRU			IAML		06 11 01.4		
	comp=N,34nm,0.9s						
ELK	**Elko**	**4.32 21**		Pn	06 09 48.8	-0.2	
ELK			IAML		06 11 00.7		
	comp=N,25nm,0.5s						
ELK			IAML		06 11 01.3		
	comp=N,14nm,0.6s						
MSU	**Marysvale**	**4.41 65**	Pn	Pn	06 09 50.8	+0.5	
WUAZ	**Wupatki**	**4.91 102**	Pn	Pn	06 09 55.5	-1.6	
WUAZ			IAML		06 11 22.4		
	comp=N,16nm,0.5s						
WUAZ			IAML		06 11 43.1		
	comp=N,14nm,0.8s						
DUG	**Dugway, Tooele**	**4.92 44**	Pn	Pn	06 09 56.5	-0.7	
HOPS	**Hopland Field**	**5.13 298**	Pn	Pn	06 09 59.6	-0.4	
HOPS			IAML		06 11 54.3		
	comp=N,15nm,3.6s						
HOPS			IAML		06 12 03.5		
	comp=E,14nm,3.9s						
X16A	**Lo Mia Camp, P**	**5.27 114**	Pn	Pn	06 10 01.7	-0.4	
BGU	**Big Grassy Mou**	**5.34 37**	Pn	Pn	06 10 02.1	-0.9	
BGU			IAML		06 11 36.5		
	comp=E,11nm,1.7s						
BGU			IAML		06 11 37.4		
	comp=N,7.8nm,0.9s						
P17A	**Butcher Ranch,**	**5.83 60**	Pn	Pn	06 10 09.6	-0.2	

IDC 29 06:15:02.1±2.6, 30°24S×138°52E, h0km, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=74.6km s-min=14.7km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.10**	**122**	Pn	Pn	06 15 50.7	-1.7
	0.6nm,0.3s,baz=304,slow=13,SNR=10						
STKA				Pg	Pb	06 15 59.3	+1.1
	2.3nm,0.3s,baz=302,slow=14,SNR=22						
STKA				Sn	Sn	06 16 30.2	0.0
	0.9nm,0.3s,baz=321,slow=18,SNR=3.2						
STKA				Lg	Lg	06 16 42.1	
	3.3nm,0.3s,baz=194,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**7.73**	**327**	Pn	Pn	06 16 57.1	+1.0
	0.2nm,0.3s,baz=151,slow=11,SNR=7.0						
ASAR				Sn	Sn	06 18 25.1	+0.7
	0.2nm,0.3s,baz=153,slow=22,SNR=5.2						
WRA	**Warramunga Arr**	**10.93**	**339**	Pn	Pn	06 17 38.7	-1.2
	0.2nm,0.3s,baz=156,slow=13,SNR=10						
FITZ	**Fitzroy Crossi**	**16.84**	**313**	Pn	P	06 19 00.8	-0.8
	0.1nm,0.3s,baz=165,slow=12,SNR=2.6						

*ECX **29** 06:19:05.6±0.6, 31°.19N×115°.62W, h5km±5km, MD2.3, ML2.5*
*MEX **29** 06:19:05.2±0.3, 31°.13N×115°.59W, h24km±9km, MD3.8*
ISC 29 06:19:03.0±1.0, 31°.16N±0°.06×115°.59W±0°.04, h26km±6km, n11, σ0s60/21, 1C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.15**	**136**	⇓*iP*	**Pn**	**06 19 09.3**	**-0.6**
	baz=308,slow=12						
SPIG				*i* S	**Sn**	**06 19 12.6**	**+0.1**
SPIG	**San Pedro Mart**	**0.15**	**136**	⇓*i*P	**Pn**	**06 19 09.4**	**-0.6**
SPIG				*e*S	**Sn**	**06 19 12.6**	**+0.1**
SPX	**San Pedro Mart**	**0.16**	**139**	*i* P	**Pb**	**06 19 08.9**	**+0.2**
SPX				*i* S	**Sn**	**06 19 12.2**	**-0.3**
SPX	**San Pedro Mart**	**0.16**	**139**	⇓*i*P	**Pn**	**06 19 09.4**	**-0.7**
SPX				*e*S	**Sn**	**06 19 12.6**	**+0.1**
SPX				IAML		06 19 13.0	
	comp=N,2μm,0.1s						
SPX				IAML		06 19 13.3	
	comp=E,986nm,0.1s						
SPX				⇓*e*		06 19 13.3	
ECBX	**El Chinero**	**0.56**	**55**	⇑*i*P	**Pb**	**06 19 14.0**	**-0.2**
ECBX				*e*S	**Sb**	**06 19 21.2**	**-0.6**
SVX	**San Vicente**	**0.59**	**287**	*e*P	**Pn**	**06 19 15.6**	**-0.2**
SVX				*e*S	**Sb**	**06 19 22.9**	**0.0**
SFX	**San Felipe**	**0.64**	**100**	*e*P	**Pn**	**06 19 17.6**	**+1.2**
SFX				*e*S	**Sn**	**06 19 26.8**	**+1.0**
SFX				⇓*e*		06 19 28.0	
SFX				IAML		06 19 28.0	
	comp=N,196nm,0.2s						
SFX				⇓*e*		06 19 28.2	
SFX				IAML		06 19 28.2	
	comp=E,145nm,0.1s						
CCX	**Cicese**	**1.16**	**308**	*e*P	**Pb**	**06 19 25.2**	**+0.8**
MBIG	**Mexicali**	**1.29**	**15**	*i* P	**Pb**	**06 19 26.8**	**+0.1**
MBIG				*e*S	**Sn**	**06 19 41.5**	**-0.3**
CBX	**Cerro Bola**	**1.48**	**322**	*e*P	**Pn**	**06 19 28.1**	**+0.1**
CBX				*i* S	**Sn**	**06 19 45.5**	**-1.0**
TJIG	**Tijuana**	**1.58**	**324**	*i* P	**Pn**	**06 19 29.2**	**-0.1**
TJIG				*i* S	**Sn**	**06 19 49.0**	**+0.1**

*MAN **29** 06:30:34.4, 4°.40N×127°.30E, h87km, mb5.1, ML4.0, MS4.1*
*DJA **29** 06:30:36.9±0.5, 5°.N±5°×12°.7E±°, h115km±4km, M4.6/18, mb4.6/18, mB5.1/7, MLv4.8/10, Mw(mB)4.5/7, MwMwp5.2/1, Mwp5.5/1*
*NEIC **29** 06:30:37.4±1.5, 4°.68N±0°.03×127°.52E±0°.09, h112km±6km, mb4.5/38, Error ellipse: s-maj=13.0km s-min=4.0km az=97.0*
*IDC **29** 06:30:38.3±2.1, 4°.67N×127°.53E, h128km±19km, mb4.0/13, mb1 4.1/15, mb1mx3.9/37, mbtmp4.4/15, MS2.5/2, Ms1 2.5/2, ms1mx2.4/27, Error ellipse: s-maj=28.2km s-min=10.4km az=71.0*
ISC 29 06:30:36.0±0.4, 4°.71N±0°.05×127°.56E±0°.08, h104km, n90, σ1s63/98, mb4.5/30, 3C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.26**	**243**	P	**Pn**	**06 31 11.6**	**-0.5**
DDMP	**Don Marcelino,**	**2.31**	**307**	*e*P	**Pn**	**06 31 11.3**	**-1.3**
DDMP				*e*S	**Sn**	**06 31 39.1**	**-1.7**
MATI	**Mati**	**2.58**	**330**	*e*P	**Pn**	**06 31 17.2**	**+1.0**
MATI				*e*S	**Sn**	**06 31 46.8**	**-0.3**
GAMI	**Galela, Maluku**	**2.86**	**175**	P	**Pn**	**06 31 20.2**	**+0.2**
DAV	**Davao City (W)**	**3.06**	**320**	P	**Pn**	**06 31 26.1**	**+3.3**
	49nm,0.3s,baz=253,slow=9.7,SNR=1.5						
DAV				S	**Sn**	**06 32 07.6**	**+8.9**
	163nm,0.3s,baz=98,slow=23,SNR=7.8						
DAV				LR	LR	06 32 23.2	
	comp=Z,20nm,20.4s,baz=328,slow=34						
DAV	**Davao City (W)**	**3.06**	**320**	Pn	**Pn**	**06 31 24.4**	**+1.7**
DAV	**Davao City (W)**	**3.06**	**320**	P	**Pn**	**06 31 23.9**	**+1.2**
KCP	**Kidapawan**	**3.36**	**313**	⇑*i*P	Pn	06 31 37.0	+10
KCP				*i* S	**Sn**	**06 32 08.6**	**+2.7**
SKMP	**Bagumbayan, Su**	**3.50**	**301**	*e*P	**Pn**	**06 31 27.8**	**-0.8**
SKMP				*e*S	**Sn**	**06 32 07.7**	**-1.5**
TNTI	**Ternate**	**3.91**	**183**		**Pn**	**06 31 35.9**	**+1.7**
TNTI	**Ternate**	**3.91**	**183**	P	**Pn**	**06 31 34.8**	**+0.7**
BUKP	**Musuan**	**4.01**	**322**	*e*P	**Pn**	**06 31 35.9**	**+0.4**
BUKP				*e*S	**Sn**	**06 32 23.4**	**+1.9**
CGP	**Cagayan de Oro**	**4.69**	**323**	⇑*i*P	**Pn**	**06 31 47.3**	**+2.8**
CGP				*i* S	**Sn**	**06 32 40.7**	**+2.9**
PAGZ	**Pagadian**	**5.19**	**307**	*e*P	**Pn**	**06 31 49.5**	**-1.9**
GLSP	**General Luna,**	**5.24**	**344**	*e*P	**Pn**	**06 31 50.4**	**-1.6**
GLSP				*e*S	**Sn**	**06 32 44.2**	**-7.0**
LBMI	**Labuha**	**5.31**	**181**	P	**Pn**	**06 31 53.5**	**+0.5**
	0.9nm16μm2μm171nm,0.9s						
GTOI	**Gorontalo**	**6.08**	**228**	P	**Pn**	**06 32 03.2**	**-0.2**
	0.1nm574nm31nm,0.5s						
SIJI	**Sorong**	**6.66**	**146**	P	**Pn**	**06 32 14.2**	**+2.8**
	7.0nm,0.3s,baz=244,slow=24,SNR=7.5						
SIJI				S	**Sn**	**06 33 25.6**	**-0.3**
	4.3nm,0.3s,baz=36,slow=24,SNR=2.1						
SIJI	**Sorong**	**6.66**	**146**	P	**Pn**	**06 32 13.0**	**+1.6**
	0.2nm2μm18nm,0.8s						
SANI	**Sanana**	**6.89**	**193**	P	**Pn**	**06 32 13.0**	**-1.5**
	0.3nm2μm55nm,0.8s						
MRSI	**Marisa**	**7.01**	**233**	P	**Pn**	**06 32 17.0**	**+0.9**
	0.5nm2μm136nm,0.6s						
LUWI	**Luwuk**	**7.45**	**220**	Pn	**Pn**	**06 32 22.3**	**+0.3**
TOLI2	**Tolitoli**	**7.65**	**242**	Pn	**Pn**	**06 32 24.3**	**-0.5**
NLAI	**Namlea**	**7.91**	**183**	P	**Pn**	**06 32 28.5**	**+0.3**
	0.2nm26nm,0.4s						
FAKI	**Fak Fak**	**8.91**	**148**	Pn	**Pn**	**06 32 42.6**	**+0.8**
FAKI	**Fak Fak**	**8.91**	**148**	P	**Pn**	**06 32 42.2**	**+0.3**
	30nm,1.2s						
MTN	**Manton Dam**	**17.79**	**169**	P	**Pn**	**06 34 37.3**	**+0.2**
MTN				IAmb	IAmb	06 34 45.3	
	comp=Z,33nm,1.4s						
YULB	**Yu-li**	**19.54**	**343**	P	**P**	**06 34 54.4**	**-1.1**
YULB				IAmb	IAmb	06 34 59.1	
	comp=Z,13nm,0.5s						
TPUB	**Ta-pu**	**19.66**	**341**	P	**P**	**06 34 55.9**	**-0.9**
SSLB	**Suanglung**	**20.01**	**342**		**P**	**06 35 01.0**	**+0.4**
SSLB				IAmb	IAmb	06 35 04.3	
	comp=Z,19nm,0.7s						
NACB	**Ninganchiao**	**20.19**	**344**	P	**P**	**06 35 02.1**	**-0.4**
KNRA	**Kununurra**	**20.29**	**177**	P	**P**	**06 35 03.0**	**-0.6**
YHNB	**Yeheng**	**20.72**	**344**	P	Pn	06 35 10.7	-0.9
FITZ	**Fitzroy Crossi**	**22.74**	**185**	P	**P**	**06 35 29.7**	**+0.2**
	comp=Z,10nm,0.5s,baz=17,slow=8.4,SNR=52						
FITZ	**Fitzroy Crossi**	**22.74**	**185**	P	**P**	**06 35 29.7**	**+0.2**
FITZ				IAmb	IAmb	06 35 31.5	
	comp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**25.23**	**165**	P	**P**	**06 35 51.7**	**-0.7**
WRAB	**Tennant Creek**	**25.38**	**165**	P	**P**	**06 35 53.2**	**-0.5**
WRA	**Warramunga Arr**	**25.39**	**165**	P	**P**	**06 35 53.0**	**-0.8**
	comp=Z,21nm,0.6s,baz=344,slow=10,SNR=105						
WRA	**Warramunga Arr**	**25.39**	**165**	P	**P**	**06 35 52.0**	**-1.8**
WB2	**Warramunga Arr**	**25.39**	**165**	P	**P**	**06 35 52.9**	**-0.9**
WR0	**Warramunga Arr**	**25.45**	**165**	P	**P**	**06 35 53.8**	**-0.6**
WR0				IAmb	IAmb	06 35 57.2	
	comp=Z,15nm,0.7s						
PSA00	**Pilbara Seismi**	**27.19**	**196**	P	**P**	**06 36 09.9**	**-0.1**
PSA00				IAmb	IAmb	06 36 20.7	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**28.87**	**168**	P	**P**	**06 36 24.4**	**-0.6**
ASAR	**Alice Springs**	**28.87**	**168**	P	**P**	**06 36 24.3**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=355,slow=8.3,SNR=46						
ASAR				PcP	**PcP**	**06 39 31.6**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=348,slow=2.3,SNR=10						
ASAR	**Alice Springs**	**28.87**	**168**	P	**P**	**06 36 24.9**	**-0.1**
ENH	**Enshi**	**30.62**	**328**	P	**P**	**06 36 40.9**	**+0.5**
ENH				IAmb	IAmb	06 36 41.3	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.12**	**298**	P	**P**	**06 36 44.4**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=117,slow=7.5,SNR=5.6						
KMI	**Kunming**	**31.30**	**313**	⇓P	**P**	**06 36 50.3**	**+3.6**
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
XAN	**Xi'an**	**33.94**	**332**	P	**P**	**06 37 09.0**	**-0.4**
XAN				pP	pwP	06 37 35.8	-1.8
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
CD2	**Chengdu**	**34.37**	**322**	P	**P**	**06 37 13.3**	**+0.1**
FORT	**Forrest**	**35.29**	**179**	P	**P**	**06 37 20.8**	**-0.1**
MORW	**Morawa**	**35.36**	**198**	P	**P**	**06 37 21.3**	**-0.3**
MORW				IAmb	IAmb	06 37 49.9	
	comp=Z,8.7nm,1.3s						
EIDS	**Eidsvold**	**37.63**	**144**		**P**	**06 37 42.2**	**+1.2**
EIDS				IAmb	IAmb	06 37 50.6	
	comp=Z,7.9nm,1.1s						
BBOO	**Buckleboo**	**38.17**	**168**	P	**P**	**06 37 45.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**38.75**	**340**	*e*P	**P**	**06 37 52.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,31nm,1.2s						
HHC				pmax	pmax		

	comp=Z,120nm,5.7s						
STKA	**Stephens Creek**	**38.76**	**161**	P	**P**	**06 37 49.9**	**-0.4**
	comp=Z,18nm,0.4s,baz=338,slow=8.6,SNR=74						
STKA				PcP	**PcP**	**06 39 59.9**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=317,slow=8.5,SNR=3.2						
STKA	**Stephens Creek**	**38.76**	**161**	P	**P**	**06 37 50.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**39.53**	**5**	LR	LR	06 57 37.3	
	comp=Z,23nm,18.5s,baz=311,slow=41						
SHL	**Shillong**	**39.98**	**305**	P	**P**	**06 37 59.7**	**-1.2**
GTA	**Gaotai**	**42.70**	**328**	⇑P	**P**	**06 38 23.5**	**+0.6**
GTA				pP	pP	06 38 42.8	-2.9
GTA				sP	pwP	06 38 50.5	-0.8
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**46.65**	**340**	P	**P**	**06 38 54.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=151,slow=9.8,SNR=6.3						
SONM	**Songino Array**	**46.65**	**340**	P	**P**	**06 38 54.6**	**+0.5**
WMQ	**Urumqi**	**52.41**	**324**	*e*P	**P**	**06 39 40.8**	**+2.9**
PETK	**Petropavlovsk-**	**54.22**	**22**	P	**P**	**06 39 51.5**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=186,slow=6.3,SNR=8.6						
PETK	**Petropavlovsk-**	**54.22**	**22**	P	**P**	**06 39 52.0**	**+1.1**
MK31	**Makanchi Array**	**57.24**	**325**	P	**P**	**06 40 12.8**	**+0.2**
MKAR	**Makanchi Array**	**57.24**	**325**	P	**P**	**06 40 12.8**	**+0.2**
	comp=Z,5.4nm,0.4s,baz=115,slow=7.6,SNR=106						
MKAR	**Makanchi Array**	**57.24**	**325**	P	**P**	**06 40 12.9**	**+0.3**
KDJ	**Kajisay**	**58.18**	**318**	P	**P**	**06 40 20.1**	**+0.6**
KDJ				IAmb	IAmb	06 40 20.6	
	comp=Z,4.9nm,0.8s						
BOOM	**Boomskoye usch**	**59.16**	**318**	P	**P**	**06 40 26.4**	**+0.2**
ZAA0	**Zalesovo Array**	**60.10**	**332**	P	**P**	**06 40 31.8**	**-0.4**
ZALV	**Zalesovo Beam**	**60.10**	**332**	P	**P**	**06 40 31.5**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=120,slow=6.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**60.10**	**332**	P	**P**	**06 40 31.8**	**-0.5**
AAK	**Ala-Archa**	**60.20**	**317**	P	**P**	**06 40 34.9**	**+1.5**
AAK				IAmb	IAmb	06 40 35.0	
	comp=Z,2.2nm,0.6s						
BTK	**Batken**	**61.85**	**313**	P	**P**	**06 40 44.3**	**-0.1**
BTK				IAmb	IAmb	06 40 45.2	
	comp=Z,4.1nm,1.0s						
GAR	**Garm**	**61.88**	**312**	P	**P**	**06 40 44.4**	**-0.4**
KK31	**Karatay Array**	**63.09**	**316**	P	**P**	**06 40 52.6**	**0.0**
KK31				IAmb	IAmb	06 40 53.2	
	comp=Z,4.1nm,0.8s						
KKAR	**Karatay Array**	**63.09**	**316**	P	**P**	**06 40 52.5**	**-0.1**
BRVK	**Borovoye**	**67.03**	**327**	P	**P**	**06 41 17.5**	**-0.3**
BRVK				IAmb	IAmb	06 41 18.6	
	comp=Z,5.9nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**70.93**	**308**	P	**P**	**06 41 43.0**	**+0.5**
GYA0B				IAmb	IAmb	06 41 43.6	
	comp=Z,6.5nm,0.9s						
CASY	**Casey**	**71.88**	**187**	P	**P**	**06 41 47.6**	**+0.3**
CASY				IAmb	IAmb	06 41 48.4	
	comp=Z,5.2nm,0.7s						
ABKAR	**Akbulak array**	**71.93**	**320**	P	**P**	**06 41 47.9**	**-0.1**
RAYN	**Ar Rayn**	**80.86**	**293**	P	**P**	**06 42 39.0**	**-0.2**
RAYN				IAmb	IAmb	06 42 39.4	
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**83.87**	**25**	P	**P**	**06 42 53.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=243,slow=5.2,SNR=6.2						
VNDA	**Vanda**	**84.29**	**173**	P	**P**	**06 42 56.0**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=318,slow=6.0,SNR=5.4						
VNDA	**Vanda**	**84.29**	**173**	P	**P**	**06 42 55.5**	**-0.2**
MAW	**Mawson**	**84.95**	**200**	P	**P**	**06 42 59.3**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=86,slow=14,SNR=3.7						
ARCES	**ARCESS Array B**	**89.82**	**340**	P	**P**	**06 43 21.2**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=84,slow=6.2,SNR=6.6						
ARCES	**ARCESS Array B**	**89.82**	**340**	P	**P**	**06 43 21.8**	**-0.9**
ARCES				IAmb	IAmb	06 43 41.9	
	comp=Z,4.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**123.39**	**289**	PKP	**PKPdf**	**06 49 21.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=56,slow=2.1,SNR=5.8						

MAN 29 06:41:01.5, 13°.28N×121°.10E, h50km, mb3.7, ML2.5, MS2.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.95**	**299**	*e*P	Pn	06 41 19.7	+1.1
LUBP				*e*S	Sn	06 41 32.6	+1.5
MACP	**Maragondon, Ca**	**1.05**	**339**	*e*P	Pn	06 41 20.4	+0.4
MACP				*e*S	Sn	06 41 35.1	+1.6

IDC 29 07:22:58.9±47.0, 12°.71S×174°.96E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/24, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=834.9km s-min=142.6km az=68.0, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.82**	**150**	LR	LR	07 26 33.4	
	comp=Z,224nm,18.9s,baz=157,slow=37						
STKA	**Stephens Creek**	**36.07**	**233**	P	P	07 30 02.0	-0.5
	1.5nm,0.9s,baz=54,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**39.56**	**254**	P	P	07 30 32.2	+0.1
	0.2nm,0.3s,baz=86,slow=8.4,SNR=8.9						
ASAR	**Alice Springs**	**40.36**	**248**	P	P	07 30 38.6	-0.1
	4.4nm,0.6s,baz=78,slow=8.8,SNR=82						

IDC 29 08:02:20.6±3.0, 53°.41N×87°.14E, h0km, mb1 2.9/2, mb1mx2.9/49, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=30.4km s-min=16.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**292**	*i*		08 11 30.0	
	baz=110,slow=307,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.48**	**292**

PETK	**Petropavlovsk-**	**71.11**	**345**	P	**P**	**08 27 07.4**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=137,slow=8.9,SNR=5.0						
PETK	**Petropavlovsk**	**71.11**	**345**	P	**P**	**08 27 07.7**	**+0.1**
QSPA	**South Pole Qui**	**74.77**	**180**	P	**P**	**08 27 28.9**	**0.0**
NVAR	**Mina Array Bea**	**77.62**	**44**	P	**P**	**08 27 45.4**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=229,slow=9.1,SNR=8.5						
ILAR	**Eielson Array**	**83.36**	**13**	P	**P**	**08 28 13.0**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=232,slow=5.4,SNR=15						
ILAR	**Eielson Array**	**83.36**	**13**	P	**P**	**08 28 14.1**	**-0.4**
TXAR	**Lajitas Array**	**84.69**	**58**	P	**P**	**08 28 23.1**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=214,slow=6.3,SNR=10						
PDAR	**Pinedale Array**	**85.53**	**44**	P	**P**	**08 28 25.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=213,slow=3.9,SNR=8.8						
PDAR	**Pinedale Array**	**85.53**	**44**	P	**P**	**08 28 26.0**	**-0.1**
MAW	**Mawson**	**86.29**	**200**	P	**P**	**08 28 28.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=127,slow=6.4,SNR=6.1						

WEL 29 08:20:01.6±1.3, 32°S±33″×18°0W±5″8, h439km±53km, M4.5/9, mB4.5/4, MLv4.7/9, Mw(mB)3.7/4, Error ellipse: s-maj=0.1km s-min=0.0km az=116.1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.97**	**195**	P	P	08 21 34.6	-0.5
MXZ				S	S	08 22 50.4	-1.1
WMGZ	**Waiomatatini S**	**6.20**	**194**	P	P	08 21 37.4	0.0
WMGZ				S	S	08 22 56.0	+0.2
HAZ	**Te Kaha**	**6.29**	**198**	P	P	08 21 38.6	+0.3
HAZ				S	S	08 22 59.2	+1.7
PKGZ	**Pakihiroa**	**6.34**	**196**	P	P	08 21 40.1	+1.2
PKGZ				S	S	08 22 59.0	+0.4
PUZ	**Puketiti**	**6.47**	**194**	P	P	08 21 40.8	+0.5
PUZ				S	S	08 23 02.9	+1.7
RUGZ	**Raukumara Rang**	**6.51**	**198**	P	P	08 21 41.1	+0.1
RUGZ				S	S	08 23 03.1	+1.0
MWZ	**Matawai**	**6.90**	**198**	P	P	08 21 45.0	0.0
MWZ				S	S	08 23 07.4	-2.1
URZ	**Urewera**	**6.95**	**201**	P	P	08 21 44.5	-0.9
URZ				S	S	08 23 12.1	+1.7
MUGZ	**Murupara**	**7.25**	**202**	P	P	08 21 48.1	-0.6
RAHZ	**Arahi**	**7.56**	**199**	P	P	08 21 52.0	-0.1
ARHZ	**Aropaoanui**	**7.91**	**199**	P	P	08 21 56.5	+0.7

*DJA **29** 08:30:44.3±0.3, 9°S±4°×11°1E±°, h10km, M4.2/13, mb4.4/4, MLv4.1/13*

ISC 29 08:30:49.2±2.0, 8°9S±0°1×110°99E±0°06, h55km, n14, σ1§14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.68**	**16**	P	**Pn**	**08 31 01.8**	**-1.1**
UGM	**Wanagama**	**1.04**	**334**	P	**Pn**	**08 31 06.9**	**-0.7**
PWJI	**Pagerwojo**	**1.16**	**44**	P	**Pn**	**08 31 08.7**	**-0.4**
YOGI	**Yogyakarta**	**1.24**	**326**	P	**Pn**	**08 31 09.6**	**-0.6**
SJI	**Sawahan**	**1.35**	**35**	P	**Pn**	**08 31 11.9**	**0.0**
SMRI	**Semarang**	**1.87**	**343**	P	**Pn**	**08 31 20.2**	**+1.3**
TBJI	**Tambak Boyo**	**2.20**	**23**	P	**Pn**	**08 31 24.6**	**+1.3**
KPJI	**Karang Pucung**	**2.53**	**306**	P	**Pn**	**08 31 28.4**	**+0.5**
CTJI	**Waduk Cacaban**	**2.56**	**316**	P	**Pn**	**08 31 29.3**	**+1.1**
JAGI	**Jajag, Banyuwa**	**3.15**	**83**	P	**Pn**	**08 31 36.5**	**+0.1**
ABJI	**Asem Bagus**	**3.38**	**72**	P	**Pn**	**08 31 40.4**	**+0.9**
CISI	**Cisompet, Garu**	**3.39**	**292**	P	**Pn**	**08 31 38.0**	**-1.7**
CNJI	**Cibinong**	**4.11**	**292**	P	**Pn**	**08 31 48.7**	**-0.8**
TWSI	**Taliwang, Sumb**	**5.83**	**89**	P	**Pn**	**08 32 11.5**	**-1.6**
	0.1nm19nm,1.4s						

*IDC **29** 09:09:11.5±0.4, 15°.94S×74°.24W, h0km, mb5.3/21, mb1 5.3/25, mb1mx5.3/29, mbtmp5.2/25, ML4.3/4, MS5.5/22, Ms1 5.5/22, ms1mx5.4/25, Error ellipse: s-maj=16.6km s-min=12.1km az=62.0*

*MOS **29** 09:09:13.4±1.3, 15°.94S×74°.23W, h20km, mb5.7/40, MS5.4/36, Error ellipse: s-maj=9.5km s-min=5.7km az=105.0*

*VAO **29** 09:09:14.5±0.2, 15°.98S×74°.04W, h10km, mb5.5*

*NEIC **29** 09:09:15.3, 16°.01S×74°.19W, h27km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.10; $M_{\theta\theta}$-0.54; $M_{\phi\phi}$-3.57; $M_{r\theta}$-0.15; $M_{\theta\phi}$0.83; $M_{\phi r}$-2.72; Fault plane solution: M_o4.80000×10^{17} NP1:ϕ_s174.88000°, δ62.29000°, λ98.02000°. NP2:ϕ_s338.03000°, δ28.76000°, λ75.13000°. Principal axes: T 4.9987, Plg72.0000°, Azm103.0000°; N -0.4238, Plg7.0000°, Azm351.0000°; P -4.5748, Plg17.0000°, Azm259.0000°;*

*BJI **29** 09:09:16.5±0.0, 16°.00S×74°.20W, h35km, mB5.6/41, Ms5.8/48, Ms7 5.7/49*

*NEIC **29** 09:09:16.1±2.0, 16°.03S±0°.06×74°.26W±0°.08, h28km±1km, mb5.5/610, Ms_20 5.4/733, Mwb5.7/69, Mww5.8, ML5.8(ARE), Mwc5.9(GCMT), Error ellipse: s-maj=13.1km s-min=9.7km az=240.0*

*ARE **29** 09:09:16±3.8, 16°.28S±0°.06×74°.52W±0°.08, h23km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=151.0*

*GCMT **29** 09:09:21.1±0.1, 16°.09S±0°.01×74°.51W±0°.01, h38km, MW5.8/147, Moment Tensor Solution. s147,c298; s143,c396; Duration: 2s1 Moment tensor: Scale 10^{17} Nm; M_{rr}5.40±.06; $M_{\theta\theta}$-0.86±.05; $M_{\phi\phi}$-4.54±.06; $M_{r\theta}$0.73±.06; $M_{\theta\phi}$3.26±.04; $M_{\phi r}$-4.61±.08; Best double couple: M_o7.57200×10^{17} NP1:ϕ_s313.00000°, δ29.00000°, λ63.00000°. NP2:ϕ_s164.00000°, δ65.00000°, λ104.00000°. Principal axes: T 7.2450, Plg67.0000°, Azm100.0000°; N 0.6550, Plg13.0000°, Azm338.0000°; P -7.8990, Plg18.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **29** 09:09:22, 16°.11S×74°.31W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.08; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$-2.70; $M_{r\theta}$1.96; $M_{\theta\phi}$2.33; $M_{\phi r}$-5.17; Fault plane solution: M_o7.00000×10^{17} NP1:ϕ_s309.00000°, δ20.00000°, λ65.00000°. NP2:ϕ_s156.00000°, δ72.00000°, λ99.00000°. Principal axes: T 6.9256, Plg62.0000°, Azm80.0000°; N 0.1451, Plg9.0000°, Azm333.0000°; P -7.0707, Plg26.0000°, Azm239.0000°;*

*NEIC **29** 09:09:22, 16°.03S×74°.54W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.39; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-4.95; $M_{r\theta}$1.07; $M_{\theta\phi}$3.06; $M_{\phi r}$-5.00; Fault plane solution: M_o7.90000×10^{17} NP1:ϕ_s320.00000°, δ26.00000°, λ68.00000°. NP2:ϕ_s164.00000°, δ66.00000°, λ100.00000°. Principal axes: T 7.4147, Plg68.0000°, Azm93.0000°; N 0.8914, Plg9.0000°, Azm340.0000°; P -8.3061, Plg20.0000°, Azm246.0000°;*

ISC 29 09:09:16.5±0.2, 15°.99S±0°.04×74°.18W±0°.04, h35km, n1163, σ1§94/686, mb5.5/360, MS5.5/428, 38C-11D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**4.37**	**123**	*eP*	**Pn**	**09 10 19.2**	**-1.2**
AP01				*eS*	**Sn**	**09 11 10.4**	**+0.3**
AP01	**Chacalluta**	**4.37**	**123**		**Pn**	**09 10 21.1**	**+0.7**
NNA	**Nana**	**4.74**	**327**	Pn	**Pn**	**09 10 25.1**	**-0.6**
	47nm,0.3s,baz=167,slow=11,SNR=46						
NNA				LR	LR	09 12 11.4	
	comp=Z,23μm,20.1s,baz=156,slow=38						
NNA	**Nana**	**4.74**	**327**	*ceP*	**Pn**	**09 10 27.9**	**+2.2**
NNA				pmax	pmax		
	comp=Z,664nm,0.8s						
NNA	**Nana**	**4.74**	**327**	Pn	**Pn**	**09 10 25.8**	**+0.1**
NNA	**Nana**	**4.74**	**327**		Pn	09 10 31.8	+6.1
PB16	**IPOC Station P**	**5.04**	**118**		**Pn**	**09 10 31.9**	**+1.7**
PSGCX	**Pisagua**	**5.28**	**133**	Pn	**Pn**	**09 10 33.1**	**+0.1**
MNMC	**Minye Minye**	**5.38**	**126**	*eP*	**Pn**	**09 10 35.0**	**+0.5**
MNMC				*eS*	**Sn**	**09 11 30.5**	**-4.9**
MNMC	**Minye Minye**	**5.38**	**126**	Pn	**Pn**	**09 10 35.9**	**+1.3**
I08BO	**LAS PENAS INFR**	**5.51**	**93**	*i*		09 43 50.0	
	baz=274,slow=317,SNR=1.3						
PB11	**IPOC Station P**	**5.71**	**132**	Pn	**Pn**	**09 10 39.7**	**+0.6**
TA02	**Huaiquique**	**5.74**	**138**	*eP*	**Pn**	**09 10 40.2**	**+0.9**
TA02				*eS*	**Sn**	**09 11 45.7**	**+1.7**
TA02	**Huaiquique**	**5.74**	**138**		**Pn**	**09 10 39.2**	**-0.1**
LPAZ	**La Paz**	**5.82**	**94**	Pn	Pn	09 10 46.3	+5.3
	comp=Z,19nm,0.3s,baz=272,slow=11,SNR=216						
LPAZ				Sn	Sn	09 11 57.1	+10
	baz=347,slow=12,SNR=1.0						
LPAZ				LR	LR	09 13 16.7	
	comp=Z,70μm,19.0s,baz=273,slow=42						
LPAZ	**La Paz**	**5.82**	**94**	P	**Pn**	**09 10 43.8**	**+2.8**
LPAZ						09 11 57.1	
LPAZ	**La Paz**	**5.82**	**94**	Pn	**Pn**	**09 10 43.8**	**+2.8**
LPAZ	**La Paz**	**5.82**	**94**	*eP*	Pn	09 10 46.4	+5.4
TA01	**Diego Aracena**	**5.93**	**141**	Pn	**Pn**	**09 10 41.8**	**-0.1**
PB08	**IPOC Station P**	**6.32**	**132**		**Pn**	**09 10 48.6**	**+1.0**
PB01	**IPOC Station P**	**6.71**	**139**	Pn	**Pn**	**09 10 52.8**	**+0.1**
PB07	**IPOC Station P**	**7.01**	**145**		**Pn**	**09 10 56.2**	**-0.7**
PB04	**IPOC Station P**	**7.37**	**149**		**Pn**	**09 11 00.6**	**-1.3**
PB09	**IPOC Station P**	**7.43**	**142**		**Pn**	**09 11 03.9**	**+1.2**
PB06	**IPOC Station P**	**7.97**	**148**		**Pn**	**09 11 09.4**	**-0.7**
PB10	**IPOC Station P**	**8.23**	**156**	Pn	**Pn**	**09 11 11.9**	**-1.6**
LVC	**Limon Verde**	**8.25**	**144**	Pn	**Pn**	**09 11 14.8**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=230,slow=3.6,SNR=3.1						
LVC				Sn	**Sn**	**09 12 44.6**	**-1.8**
	comp=Z,15nm,0.3s,baz=146,slow=7.9,SNR=3.2						
LVC	**Limon Verde**	**8.25**	**144**	P	**Pn**	**09 11 15.1**	**+0.9**
LVC	**Limon Verde**	**8.25**	**144**	Pn	**Pn**	**09 11 15.1**	**+0.9**
LVC	**Limon Verde**	**8.25**	**144**	*eP*	**Pn**	**09 11 14.7**	**+0.6**
CZSB	**Cruzeiro do Su**	**8.34**	**10**	*eP*	**Pn**	**09 11 15.8**	**+0.8**
PB15	**IPOC Station P**	**8.44**	**149**		**Pn**	**09 11 16.0**	**-0.6**
PB14	**IPOC Station P**	**9.29**	**158**	Pn	**Pn**	**09 11 26.3**	**-2.1**
ATAH	**Atahualpa**	**9.72**	**334**	Pn	**Pn**	**09 11 36.1**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=180,slow=5.4,SNR=16						
ATAH				Sn	Sn	09 13 32.8	+10
	comp=Z,25nm,0.3s,baz=126,slow=10,SNR=1.6						
GO02	**Mina Guanaco**	**10.09**	**156**		**Pn**	**09 11 39.1**	**-0.2**
AC01	**Pan de Azucar**	**10.64**	**162**	Pn	**Pn**	**09 11 45.0**	**-1.6**
AC02	**Maricunga**	**11.77**	**157**		**Pn**	**09 12 02.7**	**+0.3**
GO03	**Copiap**	**12.11**	**163**		**Pn**	**09 12 06.3**	**-0.4**
AC04	**Llanos de Chal**	**12.49**	**167**		**Pn**	**09 12 10.4**	**-1.4**
SIV	**San Ignacio**	**12.61**	**92**	Pn	**Pn**	**09 12 13.3**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=281,slow=12,SNR=91						
SIV				LR	LR	09 16 39.3	
	comp=Z,4μm,19.5s,baz=280,slow=35						
SAML	**Samuel**	**12.81**	**58**	P	**Pn**	**09 12 17.2**	**+0.9**
SAML	**Samuel**	**12.81**	**58**		**Pn**	**09 12 17.2**	**+0.9**
LCO	**Las Campanas**	**13.35**	**167**	P	**Pn**	**09 12 26.6**	**+2.7**
LCO	**Las Campanas**	**13.35**	**167**	Pn	**Pn**	**09 12 26.6**	**+2.7**
VILB	**Vilhena**	**13.87**	**79**	*eP*	**Pn**	**09 12 29.3**	**-1.5**
GO04	**Tololo Observa**	**14.45**	**168**		**Pn**	**09 12 37.4**	**-1.5**
PTLB	**Pontes e Lacer**	**14.50**	**90**	*eP*	**Pn**	**09 12 37.6**	**-1.7**
CO03	**El Pedregal**	**15.12**	**168**	Pn	**Pn**	**09 12 45.8**	**-1.9**
CO03				IAmb	IAmb	09 12 56.0	
	comp=Z,134nm,0.8s						
CO02	**Combarbal**	**15.42**	**170**	Pn	**Pn**	**09 12 50.7**	**-0.9**
CO02				IAmb	IAmb	09 13 13.0	
	comp=Z,208nm,0.9s						
ZON	**Zonda**	**16.28**	**163**	P	**P**	**09 13 05.0**	**-0.3**
ZON				pmax	pmax		
	comp=Z,129nm,1.0s						
ZON	**Zonda**	**16.28**	**163**	P	**P**	**09 13 05.0**	**-0.3**
OTAV	**Otavalo**	**16.67**	**345**	P	**P**	**09 13 09.7**	**-0.4**
OTAV				pmax	pmax		
	comp=Z,73nm,0.8s						
OTAV	**Otavalo**	**16.67**	**345**	P	**P**	**09 13 09.7**	**-0.4**
OTAV	**Otavalo**	**16.67**	**345**	*eP*	**P**	**09 13 10.3**	**+0.3**
OTAV	**Otavalo**	**16.67**	**345**	*eP*	**Pn**	**09 13 08.5**	**+0.6**
CUSE	**Cuicocha Este**	**16.72**	**345**	*eP*	**Pn**	**09 13 07.2**	**-1.5**
PAC1	**Pacto, Paraso**	**16.78**	**344**	*eP*	**Pn**	**09 13 06.1**	**-3.0**
VA03	**San Esteban**	**17.02**	**169**	P	**P**	**09 13 12.9**	**-0.6**
VA01	**Torpederas**	**17.11**	**173**	P	**P**	**09 13 13.3**	**-1.1**
GCUF	**Vulcan Galeras**	**17.39**	**345**	*eP*	**Pn**	**09 13 10.3**	**-6.7**
FLOC	**Florencia**	**17.52**	**355**	P	**Pn**	**09 13 16.4**	**+0.9**
FLOC	**Florencia**	**17.52**	**355**	*eP*	Pn	09 13 10.3	-7.9
MT05	**Renca**	**17.60**	**170**	P	**P**	**09 13 19.2**	**-0.8**
CRUC	**La Cruz**	**17.66**	**351**	*eP*	**Pn**	**09 13 14.6**	**-5.7**
MT03	**Universidad Ad**	**17.74**	**170**	P	**P**	**09 13 21.3**	**-0.2**
VA05	**Santo Domingo**	**17.74**	**173**	P	**P**	**09 13 20.5**	**-0.9**
SALV	**Santo Antonio**	**17.78**	**92**	*eP*	**Pn**	**09 13 20.0**	**-1.4**
H03N1	**Juan Fernandez**	**17.89**	**193**	T	T	09 31 53.1	
	baz=15,slow=74						
H03N2	**Juan Fernandez**	**17.90**	**193**	T	T	09 31 52.6	
	baz=15,slow=74						
H03N3	**Juan Fernandez**	**17.91**	**193**	T	T	09 31 56.9	
	baz=15,slow=74						
MT09	**Talagante**	**17.94**	**171**	P	**P**	**09 13 23.8**	**0.0**
MT01	**Popeta**	**17.99**	**172**	P	**P**	**09 13 23.4**	**-0.7**
AQDB	**Aquidauana**	**18.11**	**107**	P	**Pn**	**09 13 23.4**	**-2.1**
AQDB	**Aquidauana**	**18.11**	**107**	*eP*	**Pn**	**09 13 24.7**	**-0.8**
BBAC	**Balboa, Cauca**	**18.15**	**350**	*eP*	**Pn**	**09 13 24.8**	**-1.4**
H03S3	**Juan Fernandez**	**18.26**	**193**	P	**Pn**	**09 13 29.9**	**+2.9**
	baz=0.3,slow=79,SNR=4.7						
H03S2	**Juan Fernandez**	**18.28**	**193**	P	**Pn**	**09 13 30.0**	**+2.9**
	baz=0.3,slow=79,SNR=5.5						
H03S1	**Juan Fernandez**	**18.28**	**193**	P	**Pn**	**09 13 29.8**	**+2.7**
	baz=0.3,slow=79,SNR=5.7						
PCON	**Cinco Dias**	**18.33**	**353**	*eP*	**Pn**	**09 13 31.5**	**+2.8**
BO01	**Tuca**	**18.54**	**172**	P	**P**	**09 13 29.4**	**-0.7**
PP1B	**Ponte de Pedra**	**18.55**	**98**	*eP*	**P**	**09 13 29.9**	**-0.6**
POPC	**Popayan, Colom**	**18.58**	**352**	*eP*	P	09 13 23.4	-7.6
CLDB	**Colider**	**18.59**	**76**	*eP*	**P**	**09 13 30.7**	**-0.2**
CPUP	**Villa Florida**	**18.77**	**126**	P	**P**	**09 13 32.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=304,slow=12,SNR=24						
CPUP				LR	LR	09 22 08.8	
	comp=Z,16μm,19.3s,baz=302,slow=41						
CPUP	**Villa Florida**	**18.77**	**126**	P	**P**	**09 13 31.9**	**-0.8**
CPUP				pmax	pmax		
	comp=Z,111nm,1.3s						
CPUP	**Villa Florida**	**18.77**	**126**	P	**P**	**09 13 31.9**	**-0.8**
CPUP	**Villa Florida**	**18.77**	**126**	*eP*	**P**	**09 13 32.8**	**+0.1**
MARP	**Paez Belalcaza**	**18.79**	**354**	*eP*	P	09 13 23.0	-10
BO02	**Sierra Bellavi**	**18.97**	**171**	P	**Pn**	**09 13 34.9**	**-1.0**
GO05	**Huala**	**19.05**	**174**	P	**Pn**	**09 13 36.5**	**-0.2**
PRAC	**Prado**	**19.59**	**358**	*eP*	**Pn**	**09 13 44.2**	**+0.8**
ORTC	**Ortega, Tolima**	**19.80**	**357**	*eP*	**Pn**	**09 13 52.7**	**+6.8**
PTGC	**Puerto Gaitan,**	**20.16**	**6**	*eP*	**P**	**09 13 44.2**	**-3.8**
NPGB	**Novo Progresso**	**20.46**	**66**	*eP*	**P**	**09 13 51.0**	**-0.3**
CHIC	**Chingaza**	**20.49**	**1**	*eP*	**P**	**09 13 49.9**	**-2.1**
PTGA	**Pitinga**	**20.65**	**44**	P	**P**	**09 13 53.7**	**+0.3**
	comp=Z,90nm,0.6s,baz=220,slow=13,SNR=97						
PTGA				S	**S**	**09 17 40.8**	**-1.7**
	comp=Z,78nm,0.9s,baz=316,slow=19,SNR=4.5						
PTGA	**Pitinga**	**20.65**	**44**	P	**P**	**09 13 53.6**	**+0.2**
PTGA				IAmb	IAmb	09 14 02.0	
	comp=Z,167nm,0.8s						
ROSC	**El Rosal**	**20.70**	**360**	P	Pn	09 13 57.7	+1.0
	comp=Z,106nm,0.9s,baz=18,slow=5.2,SNR=23						
ROSC				LR	LR	09 24 09.2	
	comp=Z,28μm,18.3s,baz=211,slow=44						
ROSC	**El Rosal**	**20.70**	**360**	P	**P**	**09 13 55.3**	**+1.0**
ROSC				pmax	pmax		
	comp=Z,214nm,0.9s						
ROSC				MLR	MLR		
	comp=Z,20μm,18.0s						
ROSC	**El Rosal**	**20.70**	**360**	P	**P**	**09 13 55.3**	**+1.0**
ROSC				IAmb	IAmb	09 14 21.0	
	comp=Z,214nm,0.8s						
ROSC				IAMs_20	IAMs_20	09 22 30.9	
	comp=Z,20μm,18.0s						
ROSC	**El Rosal**	**20.70**	**360**	*eP*	Pn	09 13 56.9	+0.2
GUY2C	**Guyana, Caldas**	**21.11**	**357**	*eP*	**P**	**09 13 56.9**	**-1.9**
ITQB	**Itaqui**	**21.11**	**133**	*eP*	**P**	**09 13 58.9**	**+0.7**
TRCB	**Terra Rica**	**21.41**	**112**	P	**P**	**09 14 02.0**	**+0.5**
TRCB	**Terra Rica**	**21.41**	**112**	*eP*	**P**	**09 14 02.0**	**+0.5**
NQRC	**Norcasia**	**21.43**	**358**	*eP*	**P**	**09 14 05.4**	**+3.6**
ITTB	**Itaituba**	**21.49**	**59**	*eP*	**P**	**09 14 02.3**	**-0.1**
ARAG	**Araguaiana, MT**	**21.52**	**92**	*eP*	**P**	**09 14 02.6**	**-0.2**
RUSC	**La Rusia**	**21.77**	**3**	P	**P**	**09 14 06.5**	**+0.7**
CBOC	**Ciudad Bolivar**	**21.79**	**355**	*eP*	**P**	**09 14 04.7**	**-1.1**
PAYG	**Puerto Ayora**	**22.00**	**312**	P	**P**	**09 14 07.8**	**-0.1**
PAYG	**Puerto Ayora**	**22.00**	**312**	IAMs_20	IAMs_20	09 20 32.5	
	comp=Z,15μm,21.0s						
HELC	**Santa Helena**	**22.08**	**356**	*eP*	**P**	**09 14 05.4**	**-3.7**
PCMB	**Pacaembu**	**22.39**	**108**	*eP*	**P**	**09 14 12.0**	**-0.1**
PTGB	**Pitanga**	**22.46**	**116**	*eP*	**P**	**09 14 12.5**	**-0.3**
BARC	**Barichara**	**22.46**	**3**	*eP*	**P**	**09 14 13.6**	**+0.5**
SNDB	**Serra Nova Dou**	**22.56**	**83**	*eP*	**P**	**09 14 12.4**	**-1.5**
BOAV	**Boa Vista**	**22.72**	**38**	*eP*	**P**	**09 14 16.1**	**+0.5**
DBBC	**Dabeiba**	**22.95**	**355**	*eP*	P	09 14 09.6	-8.4
BRRC	**Barranca, Sant**	**22.95**	**1**	*eP*	**P**	**09 14 16.5**	**-1.5**
ITRB	**Iturama**	**22.97**	**103**	*eP*	**P**	**09 14 17.9**	**-0.3**
PTAC	**Puntu Ardita,**	**23.27**	**351**	*eP*	**P**	**09 14 18.1**	**-3.1**
ELOV	**Elorza**	**23.31**	**12**	*eP*	**P**	**09 14 22.3**	**+0.7**
ITAB	**Concordia**	**23.32**	**122**	P	**P**	**09 14 21.2**	**-0.4**
ITAB				IAmb	IAmb	09 14 41.1	
	comp=Z,185nm,1.0s						
ITAB	**Concordia**	**23.32**	**122**	*eP*	**P**	**09 14 21.4**	**-0.2**
CPSB	**Cacapava Do Su**	**23.80**	**131**	*eP*	**P**	**09 14 26.4**	**+0.2**
OCAC	**Ocana**	**24.09**	**2**	*eP*	**P**	**09 14 22.3**	**-6.8**
MALB	**Monte Alegre**	**24.13**	**56**	*eP*	**P**	**09 14 30.2**	**+0.8**
FRTB	**Fartura**	**24.29**	**111**	*eP*	**P**	**09 14 31.0**	**+0.2**
PLTB	**Pedras Altas**	**24.44**	**134**	P	**P**	**09 14 32.1**	**0.0**
PLTB				IAMs_20	IAMs_20	09 25 10.1	
	comp=Z,12μm,19.0s						
PLTB	**Pedras Altas**	**24.44**	**134**	*eP*	**P**	**09 14 32.2**	**+0.1**
TRQA	**Tornquist**	**24.47**	**156**	P	**P**	**09 14 32.1**	**-0.3**
TRQA				pmax	pmax		
	comp=Z,49nm,0.9s						
TRQA				MLR	MLR		
	comp=Z,11μm,22.0s						
TRQA	**Tornquist**	**24.47**	**156**	P	**P**	**09 14 32.1**	**-0.3**
TRQA	**Tornquist**	**24.47**	**156**	IAMs_20	IAMs_20	09 23 29.5	
	comp=Z,11μm,22.0s						
TRQA	**Tornquist**	**24.47**	**156**	*eP*	**P**	**09 14 32.2**	**-0.2**
MOTC	**Monteria, Cord**	**24.65**	**356**	*eP*	**P**	**09 14 30.8**	**-3.3**
BB19B	**Bebedouro**	**24.83**	**106**	*eP*	**P**	**09 14 36.3**	**+0.5**
PLCA	**Paso Flores**	**24.86**	**173**	P	**P**	**09 14 36.4**	**+0.5**
	comp=Z,54nm,0.9s,baz=345,slow=10,SNR=56						
PLCA				PcP	**PcP**	**09 18 12.9**	**+1.6**
	comp=Z,14nm,1.0s,baz=335,slow=3.6,SNR=3.6						
PLCA				LR	LR	09 22 40.0	
	comp=Z,4μm,20.6s,baz=14,slow=32						
PLCA	**Paso Flores**	**24.86**	**173**	P	**P**	**09 14 36.4**	**+0.5**
PLCA				pmax	pmax		
	comp=Z,104nm,1.0s						
PLCA	**Paso Flores**	**24.86**	**173**	P	**P**	**09 14 36.4**	**+0.5**
PLCA				IAmb	IAmb	09 14 49.1	
	comp=Z,104nm,0.9s						
PLCA	**Paso Flores**	**24.86**	**173**	*eP*	**P**	**09 14 36.7**	**+0.8**
IPMB	**Ipameri, GO**	**24.91**	**98**	*eP*	**P**	**09 14 36.7**	**+0.1**
SDV	**Santo Domingo**	**24.96**	**8**	P	**P**	**09 14 37.5**	**+0.4**
	comp=Z,222nm,0.9s,baz=238,slow=7.8,SNR=13						
SDV	**Santo Domingo**	**24.96**	**8**	P	**P**	**09 14 39.2**	**+2.1**
SDV	**Santo Domingo**	**24.96**	**8**	IAMs_20	IAMs_20	09 25 18.9	
	comp=Z,13μm,20.0s						
SDV	**Santo Domingo**	**24.96**	**8**	*eP*	**P**	**09 14 37.9**	**+0.7**
LL03	**Petrohue**	**25.11**	**177**	P	**P**	**09 14 38.2**	**+0.2**
LL03				IAmb	IAmb	09 15 05.8	
	comp=Z,230nm,1.3s						
BDFB	**Brasilia**	**25.18**	**93**	P	**P**	**09 14 39.8**	**+0.7**
	comp=Z,112nm,1.0s,baz=263,slow=12,SNR=63						
BDFB				LR	LR	09 26 12.8	
	comp=Z,8μm,19.6s,baz=266,slow=40						
BDFB	**Brasilia**	**25.18**	**93**	P	**P**	**09 14 39.2**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,155nm,1.1s						
BDFB	**Brasilia**	**25.18**	**93**	P	**P**	**09 14 39.2**	**+0.2**
BDFB				IAmb	IAmb	09 14 41.1	
	comp=Z,155nm,1.1s						
TIJ01	**Guaruva-PR**	**25.29**	**116**	*eP*	**P**	**09 14 41.4**	**+1.5**
PEXB	**Peixe**	**25.39**	**85**	*eP*	**P**	**09 14 41.1**	**+0.2**
BAUV	**El Baul**	**25.51**	**14**	*eP*	**P**	**09 14 35.7**	**-6.2**
BCIP	**Isla Barro Col**	**25.61**	**347**	P	**P**	**09 14 43.2**	**+0.4**
BCIP				pmax	pmax		
	comp=Z,134nm,1.2s						
BCIP				MLR	MLR		
	comp=Z,10μm,20.0s						
BCIP	**Isla Barro Col**	**25.61**	**347**	P	**P**	**09 14 43.2**	**+0.4**
BCIP				IAmb	IAmb	09 15 03.7	
	comp=Z,134nm,1.2s						
BCIP				IAMs_20	IAMs_20	09 25 49.9	
	comp=Z,10μm,20.0s	

MTDJ Mount Denham 34.16 354 P **P** 09 15 59.8 +1.1
MTDJ IAmb IAmb 09 16 19.9
comp=Z,97nm,1.0s
CBE Ff, Capester 34.19 22 *e*P **P** 09 15 54.8 -4.0
MAGL Barre de l'ile 34.20 22 *e*P **P** 09 15 58.8 -0.1
BANI BANI 34.37 6 P **P** 09 16 01.5 +1.0
MLPR Magueyes Islan 34.47 12 P **P** 09 16 01.2 0.0
ABD La Joyeuse, An 34.60 22 *e*P P 09 15 55.3 -7.1
OBIP Obispado Ponce 34.63 13 P **P** 09 16 01.6 -1.1
PDPR Patillas Dam, 34.74 14 P **P** 09 16 02.7 -0.8
PDPR IAmb IAmb 09 16 18.3
comp=Z,51nm,0.8s
CDVI St. Croix 34.79 16 *e*P **P** 09 16 08.5 +4.5
CDVI St. Croix 34.79 16 P **P** 09 16 02.9 -1.1
SJG San Juan 34.80 13 P **P** 09 16 04.0 0.0
SJG pmax pmax
comp=Z,114nm,1.1s
SJG MLR MLR
comp=Z,6µm,20.0s
SJG San Juan 34.80 13 P **P** 09 16 04.0 0.0
SJG IAmb IAmb 09 16 19.9
comp=Z,114nm,1.1s
SJG San Juan 34.80 13 IAMs_20 IAMs_20 09 32 45.5
comp=Z,6µm,20.0s
SDDR Presa de Saban 34.87 5 IAMs_20 IAMs_20 09 31 25.4
comp=Z,9µm,21.0s
AOPR Arecibo Observ 34.90 12 P **P** 09 16 04.3 -0.7
HUMP Col San Antoni 34.90 14 IAmb IAmb 09 16 21.8
comp=Z,50nm,1.1s
SKI Saint Kitts 34.98 19 *e*P **P** 09 16 02.8 -2.9
GCPR Guaynabo City 35.00 13 IAmb IAmb 09 16 24.7
comp=Z,55nm,0.8s
CBYP Canovanas 35.02 14 P **P** 09 16 05.2 -0.8
CBYP IAmb IAmb 09 16 20.6
comp=Z,94nm,0.9s
ANBD Bethesda, Anti 35.04 21 *e*P **P** 09 16 02.8 -3.3
NBPB Pedra_Branca-C 35.48 77 *e*P **P** 09 16 10.5 +0.4
ANWB Willy Bob 35.61 21 *e*P **P** 09 16 09.3 -1.7
NBMA Muriti-CE 35.68 80 *e*P **P** 09 16 11.8 -0.1
GTBY Guantanamo Bay 35.70 359 IAMs_20 IAMs_20 09 32 33.4
comp=Z,6µm,20.0s
NBMO Morrinhos-CE 35.86 73 *e*P **P** 09 16 13.1 -0.3
NBCL Cascavel-CE 37.14 76 *e*P **P** 09 16 24.5 +0.2
GRTK Grand Turk 37.39 5 IAMs_20 IAMs_20 09 33 16.2
comp=Z,7µm,20.0s
NBLV Livramento - P 37.43 81 *e*P **P** 09 16 27.1 +0.3
NBAN Anadia - AL 37.45 85 *e*P **P** 09 16 26.9 0.0
NBPA Parau_RN 37.73 79 *e*P **P** 09 16 29.5 +0.2
EFI East Falkland 37.85 164 IAMs_20 IAMs_20 09 31 27.5
comp=Z,6µm,21.0s
NBRF Rio Formoso - 38.79 84 *e*P **P** 09 16 37.9 -0.3
RCBR Riachuelo 38.85 79 P **P** 09 16 38.7 -0.1
RCBR pmax pmax
comp=Z,102nm,1.1s
RCBR MLR MLR
comp=Z,20µm,20.0s
RCBR Riachuelo 38.85 79 P **P** 09 16 38.7 -0.1
RCBR IAmb IAmb 09 16 41.8
comp=Z,102nm,1.1s
RCBR Riachuelo 38.85 79 *e*P **P** 09 16 39.5 +0.7
NBPV Pedro Velho 39.25 80 *e*P **P** 09 16 42.4 +0.3
SOR Soroa 39.50 347 P **P** 09 16 44.6 +0.7
SOR pmax pmax
comp=Z,54nm,1.0s
SOR MLR MLR
comp=Z,4µm,19.0s
SOR Soroa 39.50 347 P **P** 09 16 44.6 +0.7
061Z Ochoppi 42.12 351 IAmb IAmb 09 17 08.5
comp=Z,126nm,0.9s
061Z IAMs_20 IAMs_20 09 34 23.2
comp=Z,5µm,22.0s
060A Indiantown 43.19 352 IAMs_20 IAMs_20 09 37 23.6
comp=Z,4µm,20.0s
DWPF Disney Wildern 44.40 351 P 09 17 24.0
baz=170
DWPF Disney Wildern 44.40 351 IAMs_20 IAMs_20 09 35 42.7
comp=Z,5µm,21.0s
656A Willston 45.81 350 IAMs_20 IAMs_20 09 36 23.0
comp=Z,5µm,22.0s
553A Crawfordville 46.96 348 IAMs_20 IAMs_20 09 38 36.9
comp=Z,6µm,20.0s
456A Hilliard 47.05 351 IAMs_20 IAMs_20 09 37 13.7
comp=Z,5µm,22.0s
451A Vernon 47.66 346 IAMs_20 IAMs_20 09 36 06.6
comp=Z,4µm,22.0s
TIGA Tifton 48.01 349 P 09 17 51.5
baz=168,SNR=5.2
TIGA S 09 24 45.8
baz=168
TIGA Tifton 48.01 349 IAmb IAmb 09 17 53.2
comp=Z,41nm,0.9s
TIGA IAMs_20 IAMs_20 09 37 40.1
comp=Z,5µm,22.0s
257A Skidaway Islan 48.14 352 IAMs_20 IAMs_20 09 40 23.5
comp=Z,5µm,20.0s
255A Hazlehurst 48.30 351 IAMs_20 IAMs_20 09 38 02.8
comp=Z,5µm,22.0s
352A Blakely 48.31 348 IAMs_20 IAMs_20 09 39 19.0
comp=Z,4µm,20.0s
545A Edgard 48.39 341 IAMs_20 IAMs_20 09 38 47.1
comp=Z,5µm,20.0s
KVTX Kingsville 49.01 332 IAMs_20 IAMs_20 09 42 25.3
comp=Z,4µm,19.0s
154A Montrose 49.08 350 IAMs_20 IAMs_20 09 38 14.3
comp=Z,6µm,22.0s
250A Grady 49.08 346 IAmb IAmb 09 18 02.0
comp=Z,79nm,1.1s
250A IAMs_20 IAMs_20 09 37 01.4
comp=Z,5µm,22.0s
NHSC New Hope 49.15 353 P 09 18 00.8
baz=172
NHSC New Hope 49.16 353 P **P** 09 18 01.3 +0.3
NHSC IAMs_20 IAMs_20 09 40 27.4
comp=Z,6µm,22.0s
PMSA Palmer Station 49.23 174 P **P** 09 18 01.5 +0.4
PMSA IAmb IAmb 09 18 16.2
comp=Z,80nm,1.4s
PMSA Palmer Station 49.23 174 *e*P **P** 09 18 02.9 +1.7
346A Big Creek Wild 49.34 343 P **P** 09 18 02.5 0.0
152A Waverly Hall 49.42 348 P **P** 09 18 02.5 -0.6
152A IAmb IAmb 09 18 04.4
comp=Z,79nm,0.9s
152A IAMs_20 IAMs_20 09 40 14.4
comp=Z,6µm,20.0s
Y60A Bolivia 49.86 356 IAMs_20 IAMs_20 09 41 18.1
comp=Z,4µm,20.0s
Y58A Scranton 49.89 354 IAMs_20 IAMs_20 09 42 18.9
comp=Z,3µm,19.0s
Y59A Loris 49.90 355 IAMs_20 IAMs_20 09 40 18.1
comp=Z,6µm,22.0s
GOGA Godfrey 49.92 350 P 09 18 06.4
baz=168,SNR=26
GOGA S 09 25 10.6
baz=168
GOGA Godfrey 49.92 350 IAmb IAmb 09 18 08.2
comp=Z,59nm,0.9s
Y57A Sumter 50.08 353 IAMs_20 IAMs_20 09 40 53.8
comp=Z,5µm,22.0s
Z51A Franklin 50.14 348 IAmb IAmb 09 18 10.0
comp=Z,63nm,1.0s
Z51A IAMs_20 IAMs_20 09 40 35.4
comp=Z,6µm,20.0s
833A Chaparral WMA, 50.36 331 P 09 18 10.4
baz=148,SNR=18
833A S 09 25 19.5
baz=148
VBMS Vicksburg 50.42 342 P 09 18 10.5
baz=160
VBMS S 09 25 22.0
baz=160
VBMS Vicksburg 50.42 342 IAmb IAmb 09 18 29.1
comp=Z,40nm,0.9s
Y52A Lilburn 50.46 349 IAmb IAmb 09 18 12.2
comp=Z,50nm,0.9s
Y52A IAMs_20 IAMs_20 09 38 52.9
comp=Z,6µm,22.0s
X58A Rowland 50.50 354 IAmb IAmb 09 18 13.4
comp=Z,80nm,1.0s
X58A IAMs_20 IAMs_20 09 40 48.1
comp=Z,6µm,22.0s
HODGE Hodges 50.53 351 IAmb IAmb 09 18 13.8
comp=Z,42nm,0.9s
HODGE IAMs_20 IAMs_20 09 39 31.8
comp=Z,5µm,21.0s
BIRD Birdtown, Kers 50.71 353 IAmb IAmb 09 18 14.8
comp=Z,57nm,0.9s
BIRD IAMs_20 IAMs_20 09 41 11.5
comp=Z,5µm,21.0s
PAULI Pauline 51.05 352 IAmb IAmb 09 18 17.9
comp=Z,65nm,0.9s
PAULI IAMs_20 IAMs_20 09 41 30.5
comp=Z,5µm,22.0s
CNNC Cliffs of the 51.07 356 P 09 18 15.6
baz=176
CNNC S 09 25 29.8
baz=176
CNNC Cliffs of the 51.07 356 IAmb IAmb 09 18 17.7
comp=Z,73nm,0.9s
CNNC IAMs_20 IAMs_20 09 39 56.0
comp=Z,3µm,22.0s
143A Socs Landing, 51.15 341 IAmb IAmb 09 18 23.3
comp=Z,52nm,1.1s
W57A Gilead 51.16 354 IAMs_20 IAMs_20 09 43 06.4
comp=Z,3µm,19.0s
X51A Calhoun 51.29 349 IAmb IAmb 09 18 18.5
comp=Z,83nm,0.9s
X51A IAMs_20 IAMs_20 09 41 40.9
comp=Z,5µm,20.0s
KMSC Kings Mountain 51.30 352 P 09 18 16.9
baz=171,SNR=15
KMSC S 09 25 31.5
baz=171
KMSC Kings Mountain 51.30 352 IAmb IAmb 09 18 19.1
comp=Z,40nm,0.9s
KMSC IAMs_20 IAMs_20 09 42 18.2
comp=Z,5µm,21.0s
BG3 Lake Jocassee 51.38 351 IAMs_20 IAMs_20 09 39 46.2
comp=Z,5µm,22.0s
NATX Nacogdoches 51.38 338 P 09 18 18.5
baz=155,SNR=12
NATX S 09 25 32.8
baz=155
FPAL Fort Paine 51.41 348 IAmb IAmb 09 18 19.1
comp=Z,91nm,0.9s
FPAL IAMs_20 IAMs_20 09 41 15.1
comp=Z,5µm,20.0s
X48A Hartselle 51.63 346 IAmb IAmb 09 18 20.9
comp=Z,55nm,1.2s
W52A Murphy 51.64 350 IAmb IAmb 09 18 21.3
comp=Z,55nm,0.9s
435B Jarrell 51.67 334 P 09 18 20.1
baz=151,SNR=17
435B S 09 25 37.4
baz=151
435B Jarrell 51.67 334 IAmb IAmb 09 18 22.1
comp=Z,83nm,0.9s
Y45A Yeager Farm, C 51.70 344 IAmb IAmb 09 18 22.1
comp=Z,80nm,0.9s
V58A Windy Hill, Pi 51.71 355 IAmb IAmb 09 18 22.2
comp=Z,68nm,1.0s
V58A IAMs_20 IAMs_20 09 41 33.1
comp=Z,5µm,21.0s
V55A Taylorsville 51.99 353 IAMs_20 IAMs_20 09 41 40.3
comp=Z,5µm,22.0s
W50A Signal Mountai 51.99 348 IAmb IAmb 09 18 23.7
comp=Z,91nm,1.0s
W50A IAMs_20 IAMs_20 09 41 53.5
comp=Z,5µm,19.0s
CPCT Cooper Cave 52.09 349 IAmb IAmb 09 18 24.4
comp=Z,40nm,1.0s
CPCT IAMs_20 IAMs_20 09 41 13.0
comp=Z,3µm,20.0s
Z41A Richland Creek 52.10 340 P 09 18 23.0
baz=157,SNR=24
Z41A S 09 25 44.8
baz=157
SWET Sewanee 52.13 348 IAmb IAmb 09 18 24.4
comp=Z,92nm,1.0s
SWET IAMs_20 IAMs_20 09 41 47.1
comp=Z,5µm,20.0s
TKL Tuckaleechee C 52.16 350 IAmb IAmb 09 18 24.9
comp=Z,48nm,1.1s
TKL IAMs_20 IAMs_20 09 40 21.0
comp=Z,5µm,22.0s
U59A Littleton 52.17 356 IAmb IAmb 09 18 25.6
comp=Z,55nm,1.0s
U59A IAMs_20 IAMs_20 09 40 38.2
comp=Z,4µm,22.0s
OXF Oxford 52.27 344 P 09 18 24.0
baz=162
OXF S 09 25 42.7
baz=162
OXF Oxford 52.27 344 IAmb IAmb 09 18 25.1
comp=Z,64nm,1.1s
V52A Sevierville 52.31 350 IAmb IAmb 09 18 26.1
comp=Z,82nm,1.0s
JCT Junction City 52.37 332 P 09 18 25.0
baz=148,SNR=22
JCT S 09 25 46.6
baz=148
U56A King 52.38 354 IAmb IAmb 09 18 27.7
comp=Z,60nm,1.0s
U56A IAMs_20 IAMs_20 09 42 09.8
comp=Z,4µm,22.0s
CCAR Cane Creek 52.38 342 IAmb IAmb 09 18 28.7
comp=Z,66nm,0.9s
V51A Loudon 52.40 350 IAmb IAmb 09 18 26.6
comp=Z,58nm,0.9s
V51A IAMs_20 IAMs_20 09 41 23.3
comp=Z,3µm,21.0s
HPIG 52.49 324 IAMs_20 IAMs_20 09 37 46.5
comp=Z,4µm,22.0s
WLAR White Oak Lake 52.60 340 IAMs_20 IAMs_20 09 40 45.4
comp=Z,3µm,22.0s
WHTX Lake Whitney, 52.67 335 P 09 18 27.5
baz=152,SNR=24
WHTX S 09 25 51.4
baz=152
SLBS Sierra La Lagu 52.69 318 P **P** 09 18 28.4 +0.5
U54A Nelsons Funny 52.72 352 P **P** 09 18 27.0 -0.9
U54A IAmb IAmb 09 18 48.9
comp=Z,46nm,1.1s
U54A IAMs_20 IAMs_20 09 42 39.8
comp=Z,5µm,21.0s
T59A Double "B" Far 52.77 357 P **P** 09 18 28.2 +0.1
T59A IAMs_20 IAMs_20 09 41 51.1
comp=Z,4µm,21.0s
V48A Smith Brothers 52.82 347 IAmb IAmb 09 18 29.6
comp=Z,75nm,1.3s
W45A Hickory Valley 52.82 345 P **P** 09 18 27.1 -1.4
W45A IAmb IAmb 09 18 29.1
comp=Z,76nm,0.9s
W45A IAMs_20 IAMs_20 09 42 06.4
comp=Z,3µm,20.0s
T57A Hurt 52.92 355 IAmb IAmb 09 18 31.3
comp=Z,98nm,0.9s
T57A IAMs_20 IAMs_20 09 42 19.0
comp=Z,4µm,20.0s
TZTN Tazewell 52.99 351 P 09 18 28.9
baz=169,SNR=9.0
TZTN S 09 25 54.1
baz=169
TZTN Tazewell 52.99 351 IAmb IAmb 09 18 58.6
comp=Z,94nm,1.3s
CLTN Cedars of Leba 53.06 348 IAMs_20 IAMs_20 09 42 15.7
comp=Z,4µm,20.0s
BLA Blacksburg 53.24 354 P 09 18 30.3
baz=173
BLA S 09 25 60.0
baz=173
BLA Blacksburg 53.24 354 IAmb IAmb 09 18 48.7
comp=Z,40nm,1.0s
BLA IAMs_20 IAMs_20 09 42 35.5
comp=Z,3µm,22.0s
X40A Basin Creek Fa 53.24 341 P 09 18 31.5
baz=158
X40A S 09 25 57.8
baz=158
TXAR Lajitas Array 53.30 328 P **P** 09 18 32.0 -0.4
comp=Z,16nm,0.8s,baz=148,slow=8.0,SNR=110
TXAR LR LR 09 40 16.6
comp=Z,4µm,19.7s,baz=0.0,slow=35
TXAR PKP2bc 09 49 05.0
comp=Z,0.6nm,0.9s,baz=50,slow=2.0,SNR=3.8
TXAR Lajitas Array 53.30 328 P **P** 09 18 32.2 -0.1
TXAR Lajitas Array 53.30 328 P **P** 09 18 32.2 -0.1
TX31 Lajitas Ar. Si 53.30 328 IAmb IAmb 09 18 34.4
comp=Z,86nm,1.1s
U49A Red Boiling Sp 53.36 348 IAMs_20 IAMs_20 09 42 44.5
comp=Z,4µm,20.0s
S61A Accomac 53.40 359 IAMs_20 IAMs_20 09 41 19.8
comp=Z,3µm,22.0s
WVT Waverly 53.42 346 P 09 18 31.1
baz=164
WVT S 09 25 58.3
baz=164
WVT Waverly 53.42 346 P **P** 09 18 31.2 -1.7
WVT pmax pmax
comp=Z,30nm,1.0s
WVT Waverly 53.42 346 P **P** 09 18 31.2 -1.7
JSRW J. Sargeant Re 53.51 356 P **P** 09 18 33.9 +0.4
MIAR Mount Ida 53.53 340 P 09 18 33.5
baz=157,SNR=61
MIAR S 09 26 02.3
baz=157
MIAR Mount Ida 53.53 340 P **P** 09 18 33.9 +0.1
MIAR pmax pmax
comp=Z,91nm,1.0s
MIAR MLR MLR
comp=Z,2µm,21.0s
MIAR Mount Ida 53.53 340 P **P** 09 18 33.9 +0.1
LPAR Lepanto 53.54 344 P **P** 09 18 33.2 -0.6
HALT Halls 53.58 345 IAMs_20 IAMs_20 09 42 49.4
comp=Z,3µm,21.0s
S57A Dark Hollow, R 53.65 355 IAmb IAmb 09 18 36.3
comp=Z,58nm,1.0s
S57A IAMs_20 IAMs_20 09 40 49.4
comp=Z,4µm,22.0s
T50A Nancy 53.67 349 IAmb IAmb 09 18 35.7
comp=Z,31nm,0.8s
T50A IAMs_20 IAMs_20 09 42 12.0
comp=Z,4µm,20.0s
W41B Gary Mavity, V 53.69 342 P 09 18 34.2
baz=158,SNR=37
W41B S 09 26 03.5
baz=158
R58B Mineral 53.78 356 IAMs_20 IAMs_20 09 42 08.8
comp=Z,4µm,22.0s
LNXT Lenox 53.80 345 IAMs_20 IAMs_20 09 42 56.1
comp=Z,3µm,21.0s
GNAR Gosnell 53.80 344 IAmb IAmb 09 18 37.4
comp=Z,66nm,1.1s
WHAR Wooly Hollow 53.81 342 IAmb IAmb 09 18 37.4
comp=Z,68nm,0.9s
UTMT University of 53.87 345 IAmb IAmb 09 18 37.6
comp=Z,71nm,1.1s
GLAT Glass 53.90 345 IAMs_20 IAMs_20 09 42 59.0
comp=Z,3µm,20.0s
S54A Dingess, Beckl 53.92 353 IAmb IAmb 09 18 50.4
comp=Z,39nm,0.8s
S54A IAMs_20 IAMs_20 09 42 36.5
comp=Z,5µm,22.0s
CBN Corbin Frederi 53.99 357 P 09 18 37.4
baz=176,SNR=12
CBN S 09 26 11.1
baz=176
R61A Willards 54.04 359 IAMs_20 IAMs_20 09 42 24.8
comp=Z,3µm,21.0s
T47A Sharon Grove 54.08 347 IAmb IAmb 09 18 38.5
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 54.13 333 P 09 18 38.3
baz=150,SNR=50
ABTX S 09 26 10.5
baz=150
PENMO Penman 54.16 345 IAMs_20 IAMs_20 09 43 16.8
comp=Z,3µm,21.0s
W39A Magazine 54.20 340 P 09 18 38.7
baz=157,SNR=43
W39A S 09 26 11.7
baz=157
LCAR Lake Charles 54.21 343 IAmb IAmb 09 18 39.8
comp=Z,44nm,1.0s
R55A Marlinton 54.27 354 IAmb IAmb 09 19 02.9
comp=Z,34nm,0.9s
R55A IAMs_20 IAMs_20 09 42 40.8
comp=Z,4µm,22.0s
FCAR Ozark Folk Cen 54.32 342 IAmb IAmb 09 18 40.7
comp=Z,38nm,1.0s
HENM Henderson Moun 54.37 345 IAMs_20 IAMs_20 09 43 11.4
comp=Z,3µm,20.0s
PARMO Parma 54.39 345 IAMs_20 IAMs_20 09 43 23.0
comp=Z,4µm,21.0s
R53A Hurricane 54.52 352 IAMs_20 IAMs_20 09 43 44.5
comp=Z,4µm,22.0s
PBMO Poplar Bluff 54.68 344 IAmb IAmb 09 18 43.1
comp=Z,49nm,0.9s
R50A Paris 54.82 350 IAmb IAmb 09 19 11.9
comp=Z,42nm,1.1s
Q56A Snyder Ridge, 54.94 355 IAMs_20 IAMs_20 09 41 39.6
comp=Z,3µm,22.0s
R49A Shelbyville 54.97 349 IAmb IAmb 09 19 12.7
comp=Z,72nm,1.2s
U40A Yellville 54.97 342 P 09 18 43.7
baz=158,SNR=56
U40A S 09 26 20.3
baz=158
Q54A Coxs Mills 55.04 354 IAmb IAmb 09 19 06.1
comp=Z,73nm,1.4s
Q54A IAMs_20 IAMs_20 09 43 41.1
comp=Z,4µm,21.0s
WCI Wyandotte Cave 55.12 348 P 09 18 44.3
baz=166
WCI S 09 26 22.0
baz=166
WCI Wyandotte Cave 55.12 348 P **P** 09 18 44.6 -0.7
WCI pmax pmax
comp=Z,151nm,0.9s
WCI MLR MLR
comp=Z,4µm,20.0s
WCI Wyandotte Cave 55.12 348 P **P** 09 18 44.6 -0.7
WCI Wyandotte Cave 55.12 348 IAMs_20 IAMs_20 09 43 30.2
comp=Z,3µm,20.0s
USIN University of 55.14 347 P **P** 09 18 44.3 -1.2
USIN IAMs_20 IAMs_20 09 45 19.9
comp=Z,3µm,19.0s
SDMD Soldier's Deli 55.17 357 P **P** 09 18 45.1 -0.5
Q52A Bidwell 55.18 352 P **P** 09 18 46.7 +1.0
Q52A IAmb IAmb 09 19 15.5
comp=Z,58nm,1.3s
Q52A IAMs_20 IAMs_20 09 44 05.0
comp=Z,5µm,22.0s
HHAR Hobbs 55.24 341 P **P** 09 18 45.4 -0.8
HHAR IAmb IAmb 09 18 47.8
comp=Z,63nm,1.0s
SIUC Southern Illin 55.26 346 IAMs_20 IAMs_20 09 45 38.9
comp=Z,3µm,20.0s
P57A Homestead Farm 55.30 356 IAmb IAmb 09 18 49.7
comp=Z,40nm,1.1s
P57A IAMs_20 IAMs_20 09 44 53.0
comp=Z,3µm,19.0s
Q51A Peebles 55.40 351 IAmb IAmb 09 19 15.2
comp=Z,36nm,1.1s
TUL1 Leonard 55.52 339 P 09 18 47.7
baz=155,SNR=126
TUL1 S 09 26 28.2
baz=155
P60A Greenville 55.53 359 P 09 18 48.4
baz=178,SNR=14
P60A S 09 26 32.6
baz=178
P60A Greenville 55.53 359 IAmb IAmb 09 18 50.6
comp=Z,78nm,0.9s
P60A IAMs_20 IAMs_20 09 42 56.1
comp=Z,3µm,21.0s
U38A Gravette 55.53 340 IAmb IAmb 09 18 49.9
comp=Z,52nm,1.0s
MGMO Mountain Grove 55.54 342 IAmb IAmb 09 18 49.8
comp=Z,57nm,1.0s
P53A Whipple 55.60 353 IAmb IAmb 09 19 16.2
comp=Z,40nm,1.1s
P53A IAMs_20 IAMs_20 09 43 58.9
comp=Z,4µm,20.0s
WMOK Wichita Mounta 55.60 335 P 09 18 48.0
baz=151,SNR=32
WMOK S 09 26 29.9
baz=151
MCWV Mont Chateau 55.61 355 P 09 18 48.4
baz=174,SNR=7.8
MCWV S 09 26 32.0
baz=174
MCWV Mont Chateau 55.61 355 IAmb IAmb 09 18 50.8
comp=Z,30nm,0.9s
MCWV IAMs_20 IAMs_20 09 43 42.3
comp=Z,3µm,20.0s
WUPA West Chester U 55.65 359 IAmb IAmb 09 18 51.7
comp=Z,60nm,1.0s
P51A Williamsport 55.80 352 IAMs_20 IAMs_20 09 44 14.3
comp=Z,4µm,21.0s
P52A Corning 55.83 353 P 09 18 49.2
baz=171,SNR=8.8
P52A Corning 55.83 353 IAmb IAmb 09 19 17.5
comp=Z,39nm,1.0s

P52A IAMs_20 IAMs_20 09 44 34.0
comp=Z,4µm,22.0s
BCOK Bluff Creek, N 55.96 337 IAMs_20 IAMs_20 09 43 16.4
comp=Z,3µm,21.0s
PAGS Pennsylvania G 55.98 358 IAMs_20 IAMs_20 09 44 01.0
comp=Z,4µm,22.0s
BLO Bloomington 56.07 348 IAmb IAmb 09 19 20.5
comp=Z,68nm,1.3s
BLO IAMs_20 IAMs_20 09 44 19.5
comp=Z,3µm,20.0s
MNTX Cornudas Mount 56.07 328 P 09 18 51.3
baz=143,SNR=54
MNTX S 09 26 37.1
baz=143
MNTX Cornudas Mount 56.08 328 IAmb IAmb 09 18 53.8
comp=Z,33nm,1.1s
MNTX IAMs_20 IAMs_20 09 40 58.5
comp=Z,4µm,19.0s
CCM Cathedral Cave 56.10 344 P 09 18 51.2
baz=160
CCM S 09 26 34.2
baz=160
CCM Cathedral Cave 56.10 344 P **P** **09 18 51.7 -0.6**
CCM pmax pmax
comp=Z,20nm,1.0s
CCM MLR MLR
comp=Z,2µm,19.0s
CCM Cathedral Cave 56.10 344 P **P** **09 18 51.7 -0.6**
P49A Miami Univ. Ec 56.10 350 P 09 18 50.7
baz=168,SNR=10
P49A S 09 26 32.0
baz=168
P49A Miami Univ. Ec 56.10 350 P **P** **09 18 50.9 -1.4**
P49A IAmb IAmb 09 19 19.6
comp=Z,56nm,1.2s
O56A Blue Knob Stat 56.12 356 P 09 18 52.0
baz=175,SNR=21
O56A S 09 26 38.0
baz=175
O56A Blue Knob Stat 56.12 356 P **P** **09 18 52.5 +0.1**
O56A IAmb IAmb 09 18 55.0
comp=Z,72nm,0.9s
O56A IAMs_20 IAMs_20 09 42 24.7
comp=Z,3µm,21.0s
P48A Milroy 56.15 350 P **P** **09 18 51.9 -0.7**
P48A IAmb IAmb 09 19 19.9
comp=Z,57nm,1.4s
P48A IAMs_20 IAMs_20 09 44 51.6
comp=Z,5µm,20.0s
O54A Avella 56.18 354 IAMs_20 IAMs_20 09 43 04.3
comp=Z,4µm,22.0s
O52A Adamsville 56.27 353 IAMs_20 IAMs_20 09 44 10.7
comp=Z,4µm,22.0s
LUPA Lehigh Univers 56.31 359 IAmb IAmb 09 18 56.4
comp=Z,32nm,0.9s
O53A New Philadelph 56.33 354 P 09 18 53.3
baz=172
O53A New Philadelph 56.33 354 IAMs_20 IAMs_20 09 44 20.3
comp=Z,4µm,21.0s
S39A Bolivar 56.35 342 IAmb IAmb 09 18 55.5
comp=Z,55nm,0.9s
SSPA Standing Stone 56.44 357 P 09 18 54.9
baz=176
SSPA Standing Stone 56.44 357 P **P** **09 18 55.1 +0.4**
SSPA IAmb IAmb 09 18 56.6
comp=Z,45nm,0.8s
SSPA Standing Stone 56.44 357 IAMs_20 IAMs_20 09 43 41.2
comp=Z,3µm,22.0s
ACSO Alum Creek Sta 56.53 352 IAMs_20 IAMs_20 09 44 46.0
comp=Z,4µm,21.0s
N58A Sunbury 56.59 358 P **P** **09 18 55.9 +0.2**
R40A Maddies Statio 56.60 343 P **P** **09 18 55.1 -0.8**
R40A IAmb IAmb 09 19 21.1
comp=Z,37nm,0.9s
N59A State Game Lan 56.63 359 P 09 18 56.2
baz=178,SNR=21
N59A S 09 26 45.1
baz=178
N59A State Game Lan 56.63 359 IAMs_20 IAMs_20 09 43 08.4
comp=Z,3µm,22.0s
P46A Rosedale 56.64 348 IAmb IAmb 09 18 56.6
comp=Z,66nm,0.9s
P46A IAMs_20 IAMs_20 09 44 16.4
comp=Z,3µm,21.0s
MSTX Muleshoe 56.66 332 P 09 18 55.5
baz=147,SNR=24
MSTX S 09 26 44.2
baz=147
MSTX Muleshoe 56.66 332 IAmb IAmb 09 19 07.8
comp=Z,55nm,1.1s
T35A Sooner Cattle 56.68 339 IAMs_20 IAMs_20 09 43 26.5
comp=Z,3µm,22.0s
O49A Covington 56.68 351 IAmb IAmb 09 19 16.6
comp=Z,47nm,1.1s
PAL Palisades 56.70 0 P 09 18 55.8
baz=180
PAL Palisades 56.70 0 P **P** **09 18 57.0 +0.5**
PAL pmax pmax
comp=Z,48nm,1.0s
PAL MLR MLR
comp=Z,2µm,22.0s
PAL Palisades 56.70 0 P **P** **09 18 57.0 +0.5**
PAL IAmb IAmb 09 18 58.2
comp=Z,48nm,1.0s
SRIG Santa Rosalia 56.72 319 P **P** **09 18 57.8 +0.9**
ODNJ Ogdensburg 56.78 360 P **P** **09 18 57.3 +0.2**
BLOK Blackwell 56.79 338 P **P** **09 18 56.9 -0.4**
N53A Lisbon 56.84 354 P **P** **09 18 56.9 -0.7**
N53A IAMs_20 IAMs_20 09 46 12.9
comp=Z,3µm,20.0s
TRNY Table Rock, Ra 56.84 360 IAmb IAmb 09 18 59.8
comp=Z,63nm,1.0s
CROK Carrier 56.85 337 IAMs_20 IAMs_20 09 44 43.9
comp=Z,3µm,21.0s
N54A Moraine State 56.91 355 P 09 18 57.9
baz=173,SNR=12
N54A S 09 26 49.4
baz=173
N54A Moraine State 56.92 355 IAmb IAmb 09 19 00.1
comp=Z,80nm,1.3s
AMTX Amarillo 56.94 333 P 09 18 57.2
baz=148
AMTX S 09 26 46.3
baz=148
N51A Ashland 57.12 353 IAmb IAmb 09 19 15.8
comp=Z,29nm,0.9s
N51A IAMs_20 IAMs_20 09 45 23.4
comp=Z,3µm,21.0s
HSIG 57.13 321 IAMs_20 IAMs_20 09 42 34.5
comp=Z,5µm,20.0s
P43A Skaggs, Pawnee 57.16 346 IAmb IAmb 09 19 02.0
comp=Z,73nm,0.9s
P43A IAMs_20 IAMs_20 09 45 58.2
comp=Z,3µm,20.0s
KAN17 Caldwell West 57.24 338 IAmb IAmb 09 19 02.0
comp=Z,77nm,0.9s
KSPA Keystone Colle 57.27 359 IAmb IAmb 09 19 03.3
comp=Z,62nm,0.9s
KSPA IAMs_20 IAMs_20 09 43 38.3
comp=Z,3µm,22.0s
M64A Tiverton 57.31 3 P 09 19 00.3
baz=183
M64A Tiverton 57.31 3 IAMs_20 IAMs_20 09 44 28.4
comp=Z,4µm,21.0s
M55A Ridgway 57.32 356 IAMs_20 IAMs_20 09 43 34.6
comp=Z,4µm,21.0s
SFIN Lafayette 57.35 348 P 09 18 59.0
baz=165,SNR=17
SFIN S 09 26 46.6
baz=165
SFIN Lafayette 57.35 348 IAmb IAmb 09 19 01.2
comp=Z,45nm,1.0s
SFIN IAMs_20 IAMs_20 09 45 00.3
comp=Z,3µm,20.0s
M65A Busby, Falmout 57.35 3 IAMs_20 IAMs_20 09 44 10.5
comp=Z,4µm,22.0s
N49A Columbus Grove 57.38 351 IAmb IAmb 09 19 04.0
comp=Z,51nm,0.9s
KSCT Kent School, K 57.43 1 IAmb IAmb 09 19 05.0
comp=Z,74nm,1.4s
M54A Oil Creek Stat 57.43 355 P 09 19 00.8
baz=174,SNR=19
M54A S 09 26 54.2
baz=174
M54A Oil Creek Stat 57.43 355 IAmb IAmb 09 19 03.4
comp=Z,74nm,0.9s
KAN10 Anthony SW Sta 57.44 337 IAmb IAmb 09 19 04.1
comp=Z,60nm,0.8s

M53A WI Miller and 57.45 354 P 09 19 00.9
baz=173,SNR=9.7
M53A WI Miller and 57.45 354 IAmb IAmb 09 19 03.4
comp=Z,47nm,1.1s
M53A IAMs_20 IAMs_20 09 46 30.0
comp=Z,3µm,20.0s
UCCT U. Connecticut 57.52 2 IAMs_20 IAMs_20 09 44 28.9
comp=Z,4µm,20.0s
N47A Urbana 57.58 350 IAmb IAmb 09 19 30.7
comp=Z,66nm,0.9s
L63A North Scituate 57.61 2 P 09 19 02.4
baz=183
L63A North Scituate 57.61 2 IAMs_20 IAMs_20 09 43 26.2
comp=Z,4µm,20.0s
ALLY Alegheny Colle 57.61 355 IAmb IAmb 09 19 04.6
comp=Z,89nm,1.1s
M52A Chesterland 57.62 354 IAMs_20 IAMs_20 09 44 58.5
comp=Z,4µm,22.0s
BRYW Bryant College 57.67 2 IAMs_20 IAMs_20 09 43 28.7
comp=Z,3µm,20.0s
M50A Fremont 57.69 352 IAmb IAmb 09 19 06.1
comp=Z,44nm,0.9s
M50A IAMs_20 IAMs_20 09 45 30.3
comp=Z,4µm,20.0s
L64A Middleborough 57.72 3 P 09 19 03.1
baz=184
L64A Middleborough 57.72 3 IAMs_20 IAMs_20 09 44 51.1
comp=Z,3µm,20.0s
L58A Harry Jones Me 57.76 359 P 09 19 04.3
baz=178,SNR=47
L58A S 09 27 01.2
baz=178
319A Douglas 57.91 325 IAmb IAmb 09 19 08.2
comp=Z,73nm,0.9s
BINY Binghamton 57.92 358 P 09 19 05.5
baz=178,SNR=38
BINY S 09 27 05.7
baz=178
HDIL Hopedale 57.98 346 P 09 19 03.5
baz=163,SNR=12
121A Cookes Peak, D 57.98 327 P 09 19 06.5
baz=141,SNR=44
121A S 09 27 04.4
baz=141
HDIL Hopedale 57.98 346 IAmb IAmb 09 19 05.9
comp=Z,47nm,0.9s
121A Cookes Peak, D 57.98 327 IAmb IAmb 09 19 08.9
comp=Z,56nm,0.9s
ERPA Erie 58.06 355 P 09 19 05.2
baz=174,SNR=8.1
BCX Boston College 58.10 3 IAMs_20 IAMs_20 09 43 41.2
comp=Z,3µm,21.0s
WES Weston 58.14 2 IAmb IAmb 09 19 08.9
comp=Z,60nm,1.0s
WES IAMs_20 IAMs_20 09 43 31.3
comp=Z,3µm,21.0s
L61B Northampton 58.16 1 P 09 19 06.8
baz=182,SNR=6.5
P38A Dawn 58.20 342 IAmb IAmb 09 19 27.6
comp=Z,36nm,0.8s
WVNY West Valley, N 58.25 356 IAMs_20 IAMs_20 09 44 25.0
comp=Z,3µm,22.0s
HRV Adam Dziewonsk 58.25 2 P 09 19 07.4
baz=183
HRV Adam Dziewonsk 58.25 2 P **P** **09 19 08.2 +0.7**
HRV pmax pmax
comp=Z,75nm,1.1s
HRV MLR MLR
comp=Z,4µm,22.0s
HRV Adam Dziewonsk 58.25 2 P **P** **09 19 08.2 +0.7**
HRV IAmb IAmb 09 19 09.5
comp=Z,75nm,1.1s
HRV Adam Dziewonsk 58.25 2 IAMs_20 IAMs_20 09 44 28.3
comp=Z,4µm,22.0s
K61A Williamstown 58.37 1 P 09 19 08.2
baz=181,SNR=7.9
K62A Royalston 58.39 2 P 09 19 09.1
baz=182
K62A Royalston 58.39 2 IAMs_20 IAMs_20 09 44 52.9
comp=Z,3µm,21.0s
TRY Troy 58.43 0 P **P** **09 19 09.3 +0.6**
K63A Dunstable 58.44 2 P 09 19 08.8
baz=183
K63A Dunstable 58.44 2 IAMs_20 IAMs_20 09 44 33.1
comp=Z,4µm,21.0s
K56A Middlesex 58.47 357 P 09 19 08.5
baz=176,SNR=12
N41A Harden Midland 58.50 345 IAmb IAmb 09 19 38.3
comp=Z,66nm,1.1s
M44A Midewin, Midew 58.51 348 P **P** **09 19 07.2 -2.1**
MMNY Mt. Morris Dam 58.53 357 P **P** **09 19 09.7 +0.3**
MMNY IAMs_20 IAMs_20 09 44 56.5
comp=Z,4µm,22.0s
AAM Ann Arbor 58.65 352 P 09 19 09.8
baz=169
AAM S 09 27 07.9
baz=169
AAM Ann Arbor 58.65 352 P **P** **09 19 09.8 -0.4**
AAM pmax pmax
comp=Z,69nm,1.5s
AAM MLR MLR
comp=Z,5µm,22.0s
AAM Ann Arbor 58.65 352 P **P** **09 19 09.8 -0.4**
AAM IAmb IAmb 09 19 11.1
comp=Z,69nm,1.4s
BNM Barren Site 58.66 329 P **P** **09 19 10.8 +0.1**
SACV Santiago Islan 58.66 61 P **P** **09 19 10.3 -0.5**
SACV Santiago Islan 58.66 61 IAMs_20 IAMs_20 09 42 34.9
comp=Z,4µm,22.0s
KSU1 Kansas State U 58.68 340 P 09 19 10.1
baz=155
KSU1 S 09 27 08.5
baz=155
Y22D IRIS PASSCAL I 58.74 328 P 09 19 11.2
baz=143
Y22D S 09 27 16.1
baz=143
Y22D IRIS PASSCAL I 58.74 328 IAmb IAmb 09 19 26.1
comp=Z,57nm,1.1s
Y22D IAMs_20 IAMs_20 09 42 45.2
comp=Z,3µm,21.0s
L46A Eue Claire 58.78 349 IAmb IAmb 09 19 11.2
comp=Z,57nm,0.8s
HQIL Hanson Quary C 58.87 348 IAmb IAmb 09 19 11.8
comp=Z,31nm,0.9s
HQIL IAMs_20 IAMs_20 09 45 57.5
comp=Z,3µm,21.0s
ASCN Ascension 58.91 90 IAMs_20 IAMs_20 09 45 11.7
comp=Z,3µm,19.0s
J60A Lant Hill Farm 58.94 1 P 09 19 12.6
baz=181,SNR=8.5
J60A S 09 27 19.2
baz=181
J62A Henniker 58.96 2 P 09 19 12.8
baz=183
MEDO Medina 58.99 356 IAmb IAmb 09 19 14.4
comp=Z,50nm,1.0s
MEDO IAMs_20 IAMs_20 09 44 04.8
comp=Z,3µm,21.0s
J63A Strafford 59.04 3 P 09 19 13.3
baz=184
J55A Hilton 59.06 357 IAMs_20 IAMs_20 09 45 11.5
comp=Z,4µm,22.0s
J61A Chester 59.06 1 P 09 19 13.0
baz=182,SNR=5.9
J58A Remsen 59.06 359 P 09 19 12.6
baz=179,SNR=7.9
J58A S 09 27 17.8
baz=179
J58A Remsen 59.06 359 IAmb IAmb 09 19 14.9
comp=Z,33nm,0.9s
J58A IAMs_20 IAMs_20 09 46 34.7
comp=Z,3µm,20.0s
ACCN Adirondack Com 59.08 0 IAmb IAmb 09 19 15.9
comp=Z,35nm,0.9s
ACCN IAMs_20 IAMs_20 09 48 52.2
comp=Z,2µm,19.0s
J54A Appleton 59.11 356 IAMs_20 IAMs_20 09 44 50.9
comp=Z,4µm,22.0s
N38A Joes South For 59.20 343 IAmb IAmb 09 19 25.7
comp=Z,45nm,1.1s
ANMO Albuquerque 59.21 329 P 09 19 14.2
baz=143
ANMO S 09 27 18.8
baz=143
ANMO Albuquerque 59.21 329*ce* P **P** **09 19 14.7 +0.2**
ANMO pmax pmax
comp=Z,47nm,1.1s

ANMO Albuquerque 59.21 329 P **P** **09 19 13.8 -0.7**
ANMO IAmb IAmb 09 19 16.8
comp=Z,39nm,1.0s
ANMO Albuquerque 59.21 329 IAMs_20 IAMs_20 09 43 04.4
comp=Z,3µm,20.0s
FFD Franklin Falls 59.21 2 P **P** **09 19 15.2 +1.1**
FFD IAmb IAmb 09 19 16.2
comp=Z,50nm,0.9s
FFD IAMs_20 IAMs_20 09 45 17.6
comp=Z,4µm,21.0s
L44A Lake County Fo 59.25 348 P 09 19 13.6
baz=165,SNR=6.7
L44A Lake County Fo 59.25 348 P **P** **09 19 13.7 -0.7**
L44A IAmb IAmb 09 19 16.0
comp=Z,36nm,1.0s
L44A IAMs_20 IAMs_20 09 46 08.5
comp=Z,4µm,21.0s
I58A Old Forge 59.39 359 P 09 19 15.0
baz=179,SNR=16
HNH Hanover 59.43 2 P **P** **09 19 15.4 -0.2**
HNH IAmb IAmb 09 19 18.5
comp=Z,54nm,1.0s
HNH IAMs_20 IAMs_20 09 45 45.3
comp=Z,3µm,21.0s
L42A Oliver, Polo 59.45 347 P **P** **09 19 15.1 -0.7**
L42A IAmb IAmb 09 19 16.2
comp=Z,24nm,0.9s
TUC Tucson 59.45 324 P 09 19 16.3
baz=138
TUC S 09 27 24.4
baz=138
TUC Tucson 59.46 324 P **P** **09 19 15.9 -0.2**
TUC pmax pmax
comp=Z,26nm,1.0s
TUC MLR MLR
comp=Z,6µm,18.0s
TUC Tucson 59.46 324 P **P** **09 19 15.9 -0.2**
TUC IAmb IAmb 09 19 18.6
comp=Z,26nm,1.0s
CBKS Cedar Bluff 59.54 337 P 09 19 15.8
baz=151,SNR=52
CBKS S 09 27 19.5
baz=151
CBKS Cedar Bluff 59.54 337 P **P** **09 19 16.3 -0.2**
CBKS pmax pmax
comp=Z,117nm,1.0s
CBKS MLR MLR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 59.54 337 P **P** **09 19 16.3 -0.2**
I60A Shoreham 59.55 1 P 09 19 17.0
baz=181,SNR=13
I60A S 09 27 26.3
baz=181
I62A Tamworth 59.63 2 P 09 19 17.1
baz=183
I62A S 09 27 27.4
baz=183
I62A Tamworth 59.63 2 IAMs_20 IAMs_20 09 45 07.6
comp=Z,4µm,21.0s
I57A Carthage 59.65 359 P 09 19 17.3
baz=178,SNR=15
I57A S 09 27 27.6
baz=178
I61A Oroboro, Fairl 59.66 2 P 09 19 17.9
baz=182,SNR=10
NCB Newcomb 59.67 360 P **P** **09 19 17.5 +0.2**
NCB IAmb IAmb 09 19 19.2
comp=Z,38nm,1.2s
PECO Prince Edward 59.69 358 P **P** **09 19 17.1 -0.2**
PECO IAMs_20 IAMs_20 09 46 04.2
comp=Z,4µm,22.0s
I64A Boothbay 59.76 4 P 09 19 19.1
baz=185
I64A S 09 27 30.7
baz=185
I63A Otisfield 59.84 3 P 09 19 19.3
baz=184
K43A Burlington 59.84 348 IAMs_20 IAMs_20 09 46 15.1
comp=Z,3µm,21.0s
I63A Otisfield 59.84 3 IAMs_20 IAMs_20 09 44 43.2
comp=Z,3µm,21.0s
L40A Anamosa 59.87 345 IAmb IAmb 09 19 19.3
comp=Z,29nm,0.9s
L40A IAMs_20 IAMs_20 09 47 40.8
comp=Z,3µm,20.0s
LBNH Lisbon 59.97 2 P 09 19 20.0
baz=182,SNR=5.6
LBNH Lisbon 59.97 2 IAmb IAmb 09 19 22.2
comp=Z,58nm,1.0s
LBNH IAMs_20 IAMs_20 09 45 29.8
comp=Z,3µm,20.0s
T25A Trinidad 60.03 332 P 09 19 20.0
baz=146,SNR=46
T25A S 09 27 30.3
baz=146
T25A Trinidad 60.03 332 IAmb IAmb 09 19 22.5
comp=Z,56nm,1.0s
VT1 Waterbury 60.04 1 IAmb IAmb 09 19 25.9
comp=Z,34nm,1.0s
H58A Gabriels 60.11 0 P 09 19 20.6
baz=180,SNR=13
H57A Richville 60.17 359 P 09 19 20.6
baz=179,SNR=36
H57A S 09 27 30.6
baz=179
SCIA State Center 60.23 344 P 09 19 20.8
baz=159
SCIA State Center 60.23 344 IAmb IAmb 09 19 37.5
comp=Z,20nm,0.6s
H61A Lyndonville 60.26 2 P 09 19 21.6
baz=182,SNR=5.7
H60A Morristown 60.27 1 P 09 19 22.3
baz=182
H60A S 09 27 34.7
baz=182
DELO Deloro Mine 60.30 357 IAMs_20 IAMs_20 09 46 22.3
comp=Z,4µm,22.0s
LONY Lake Ozonia 60.32 360 P 09 19 21.9
baz=180,SNR=9.9
LONY S 09 27 36.8
baz=180
LONY Lake Ozonia 60.32 360 IAmb IAmb 09 19 23.0
comp=Z,29nm,0.8s
H62A Milan 60.33 2 P 09 19 22.4
baz=183
H62A Milan 60.33 2 IAMs_20 IAMs_20 09 45 39.3
comp=Z,4µm,21.0s
H59A Cadyville 60.34 0 P 09 19 22.0
baz=181,SNR=10.0
H59A S 09 27 36.4
baz=181
214A Organ Pipe Nat 60.36 322 P 09 19 22.8
baz=136,SNR=32
214A S 09 27 36.9
baz=136
214A Organ Pipe Nat 60.36 322 IAmb IAmb 09 19 25.2
comp=Z,35nm,0.9s
WVL Waterville 60.40 4 IAMs_20 IAMs_20 09 44 24.1
comp=Z,3µm,22.0s
JFWS Jewell Farm 60.44 346 P 09 19 22.2
baz=162
JFWS S 09 27 32.3
baz=162
JFWS Jewell Farm 60.45 346 IAMs_20 IAMs_20 09 49 50.2
comp=Z,3µm,20.0s
H63A New Sharon 60.48 3 P 09 19 23.6
baz=185,SNR=11
H64A Troy 60.51 4 P 09 19 23.4
baz=186
FRNY Flat Rock 60.53 0 IAMs_20 IAMs_20 09 49 43.6
comp=Z,2µm,19.0s
H65A Eastbrook 60.63 5 P 09 19 24.3
baz=187
SADO Sadowa 60.63 356 IAMs_20 IAMs_20 09 45 36.2
comp=Z,4µm,22.0s
X18A Snowflake 60.67 326 IAmb IAmb 09 19 27.4
comp=Z,32nm,1.1s
EMMW East Machias 60.71 5 IAMs_20 IAMs_20 09 48 09.4
comp=Z,3µm,19.0s
PLVO Plevna 60.79 358 IAMs_20 IAMs_20 09 46 46.4
comp=Z,4µm,22.0s
G57A Newington 60.80 359 P 09 19 25.1
baz=179,SNR=16
H66A Whiting 60.80 6 P 09 19 25.9
baz=188
H66A S 09 27 39.5
baz=188
G60A Masonville 60.82 2 P 09 19 25.6

baz=182
KSCO Kaye Shedlock' **60.84 335** P 09 19 25.3
baz=148,SNR=33
KSCO S 09 27 38.8
baz=148
G58A Ormstown **60.84 0** P 09 19 25.4
baz=180,SNR=8.3
G58A S 09 27 39.8
baz=180
SFX San Felipe **60.94 320** IAmb IAmb 09 19 29.0
comp=Z,31nm,1.0s
G63A Kingsbury **60.95 4** P 09 19 26.9
baz=185,SNR=6.3
G62A West of Eustis **61.00 3** P 09 19 27.2
baz=184,SNR=12
G62A West of Eustis **61.01 3** IAMs_20 IAMs_20 09 45 18.1
comp=Z,3µm,22.0s
W18A Petrified Fore **61.01 327** P 09 19 27.0
baz=140
W18A S 09 27 45.5
baz=140
W18A Petrified Fore **61.01 327** IAmb IAmb 09 19 29.6
comp=Z,76nm,1.1s
SDCO Great Sand Dun **61.02 332** P 09 19 27.3
baz=145,SNR=176
SDCO S 09 27 44.0
baz=145
G61A St-Isidore-de- **61.02 2** P 09 19 27.3
baz=183,SNR=19
I42A Draeger Farm, **61.09 348** IAmb IAmb 09 19 28.1
comp=Z,29nm,0.9s
I42A IAMs_20 IAMs_20 09 47 25.4
comp=Z,4µm,21.0s
PKME Peaks-Kenny Pk **61.12 4** P 09 19 27.3
baz=185,SNR=5.8
PKME Peaks-Kenny Pk **61.12 4** IAMs_20 IAMs_20 09 44 45.2
comp=Z,3µm,21.0s
G64A Maxfield **61.15 4** P 09 19 27.6
baz=186
G65A Princeton **61.19 5** P 09 19 27.9
baz=187,SNR=6.5
G65A Princeton **61.19 5** IAMs_20 IAMs_20 09 48 25.1
comp=Z,3µm,20.0s
GLMI Grayling **61.26 352** P 09 19 27.4
baz=169
GLMI Grayling **61.26 352** IAmb IAmb 09 19 28.9
comp=Z,56nm,1.1s
BGNE Belgrade **61.27 340** P 09 19 27.6
baz=154,SNR=9.5
SPX San Pedro Mart **61.32 320** P **P** **09 19 29.9 +0.7**
SPX IAMs_20 IAMs_20 09 41 01.5
comp=Z,3µm,22.0s
X16A Lo Mia Camp, P **61.39 325** P **P** **09 19 30.2 +0.8**
X16A IAmb IAmb 09 19 32.5
comp=Z,53nm,0.9s
H43A Windswept, Lux **61.43 349** P **P** **09 19 28.2 -1.1**
H43A IAmb IAmb 09 19 30.2
comp=Z,36nm,0.9s
I40A Norwalk **61.46 347** P **P** **09 19 29.0 -0.5**
I40A IAmb IAmb 09 19 30.5
comp=Z,32nm,0.9s
113A Mohawk Valley, **61.51 322** P **P** **09 19 30.4 +0.3**
113A IAMs_20 IAMs_20 09 44 59.3
comp=Z,4µm,20.0s
F59A Saint Guilaume **61.56 1** P 09 19 30.6
baz=182
F59A S 09 27 52.1
baz=182
F63A Nahmakanta, Br **61.57 4** P 09 19 30.4
baz=186
F63A Nahmakanta, Br **61.57 4** IAMs_20 IAMs_20 09 47 40.1
comp=Z,3µm,21.0s
G45A Suttons Bay **61.63 351** IAmb IAmb 09 19 48.4
comp=Z,28nm,0.8s
S22A 4UR Ranch, Cre **61.63 331** P 09 19 31.1
baz=144,SNR=55
S22A S 09 27 50.4
baz=144
F60A Warwick **61.70 2** P 09 19 30.9
baz=182,SNR=9.9
F62A Pittston Farm, **61.71 3** P 09 19 31.5
baz=185,SNR=6.3
F62A Pittston Farm, **61.71 3** IAmb IAmb 09 19 33.9
comp=Z,48nm,1.0s
F62A IAMs_20 IAMs_20 09 45 14.8
comp=Z,3µm,22.0s
F61A St Evariste **61.74 3** P 09 19 30.7
baz=184
ALGO Algonquin Park **61.75 357** P 09 19 31.0
baz=176,SNR=34
ALGO S 09 27 49.3
baz=176
F64A Sherman **61.78 5** P 09 19 32.2
baz=186,SNR=7.6
F64A Sherman **61.79 5** IAmb IAmb 09 19 34.4
comp=Z,59nm,1.0s
Q24A Divide **61.87 333** P 09 19 32.8
baz=146,SNR=13
Q24A S 09 27 55.5
baz=146
Y14A Wickenburg **61.91 324** IAmb IAmb 09 19 35.6
comp=Z,44nm,1.0s
Y14A IAMs_20 IAMs_20 09 46 09.0
comp=Z,3µm,18.0s
MVCO Mesa Verde **62.01 329** P 09 19 33.3
baz=142,SNR=38
MVCO S 09 27 55.8
baz=142
MVCO Mesa Verde **62.01 329** IAmb IAmb 09 19 35.9
comp=Z,37nm,0.9s
MVCO IAMs_20 IAMs_20 09 46 22.5
comp=Z,3µm,18.0s
E58A La Victoria **62.07 1** P 09 19 33.5
baz=181,SNR=9.4
E58A S 09 27 56.7
baz=181
E60A Ste Agathe de **62.11 2** P 09 19 33.8
baz=183
LMN Caledonia Moun **62.13 7** P **P** **09 19 34.0 0.0**
LMN IAMs_20 IAMs_20 09 45 53.0
comp=Z,3µm,22.0s
E55A Montcerf-Lytto **62.17 359** P 09 19 33.8
baz=178,SNR=14
E55A S 09 27 58.5
baz=178
CPBX Cerro Prieto **62.18 321** P **P** **09 19 35.1 +0.5**
CPBX IAmb IAmb 09 19 48.5
comp=Z,35nm,1.0s
GBN Guysborough **62.18 10** P **P** **09 19 35.3 +1.1**
WUAZ Wupatki **62.18 326** P 09 19 35.2
baz=139,SNR=42
WUAZ S 09 28 00.3
baz=139
WUAZ Wupatki **62.18 326** P **P** **09 19 35.3 +0.6**
WUAZ IAmb IAmb 09 19 37.7
comp=Z,59nm,1.0s
E59A St. Maurice **62.19 1** P 09 19 34.5
baz=182
E61A Lac Etchemin **62.22 3** P 09 19 35.2
baz=184,SNR=6.7
E56A St. Veronique **62.24 359** P 09 19 34.5
baz=179,SNR=33
E56A S 09 27 59.6
baz=179
I37A Lemond, Waseca **62.24 344** P **P** **09 19 34.5 -0.3**
I37A IAmb IAmb 09 19 35.9
comp=Z,45nm,1.2s
I37A IAMs_20 IAMs_20 09 49 17.8
comp=Z,2µm,20.0s
OGNE Ogallala **62.26 336** P 09 19 34.8
baz=150,SNR=14
OGNE S 09 27 59.4
baz=150
GLA Glamis **62.33 322** P 09 19 35.9
baz=135
GLA S 09 28 04.1
baz=135
E63A Oxbow **62.34 4** P 09 19 35.6
baz=186
GLA Glamis **62.34 322** IAMs_20 IAMs_20 09 45 22.2
comp=Z,2µm,20.0s
E63A Oxbow **62.34 4** IAmb IAmb 09 19 38.6
comp=Z,40nm,0.9s
E64A Bridgewater **62.38 5** P 09 19 36.3
baz=187,SNR=6.0
E62A Clayton Lake **62.46 4** P 09 19 37.0
baz=185,SNR=10.0
E62A S 09 28 03.4
baz=185
E62A Clayton Lake **62.46 4** IAmb IAmb 09 19 39.2
comp=Z,58nm,0.9s
E62A IAMs_20 IAMs_20 09 45 37.6
comp=Z,2µm,21.0s
PQI Presque Isle **62.62 5** IAmb IAmb 09 19 39.9
comp=Z,59nm,1.0s
PQI IAMs_20 IAMs_20 09 49 38.7
comp=Z,2µm,19.0s
D60A Saint Jean D'O **62.68 3** P 09 19 39.0
baz=184
G40A Rib Lake **62.68 347** IAMs_20 IAMs_20 09 48 26.3
comp=Z,3µm,22.0s
D55A Sainte-Anne-du **62.73 359** P 09 19 37.9
baz=179,SNR=36
D55A S 09 28 02.8
baz=179
E46A Sault Ste Mari **62.73 352** IAmb IAmb 09 19 38.6
comp=Z,67nm,1.0s
F42A Maple Grove Fa **62.74 349** IAmb IAmb 09 19 39.1
comp=Z,40nm,1.1s
D56A ZEC Mazanza, M **62.75 360** P 09 19 37.8
baz=179,SNR=21
D56A S 09 28 04.7
baz=179
ISCO Idaho Springs **62.76 333** P 09 19 38.5
baz=146,SNR=25
ISCO S 09 28 04.4
baz=146
ISCO Idaho Springs **62.76 333** IAMs_20 IAMs_20 09 47 54.5
comp=Z,3µm,22.0s
PV01 Paradox Valley **62.77 330** IAmb IAmb 09 19 41.3
comp=Z,42nm,1.0s
PV01 IAMs_20 IAMs_20 09 46 57.7
comp=Z,3µm,18.0s
D58A Chemin du LacG **62.80 1** P 09 19 38.8
baz=181,SNR=30
D58A S 09 28 08.0
baz=181
PDMCI Parker Dam,Lak **62.82 323** P 09 19 38.7
baz=136
PDMCI S 09 28 08.6
baz=136
IKP In-Ko-Pah, Jac **62.83 321** P 09 19 38.4
baz=134,SNR=6.1
IKP S 09 28 10.8
baz=134
SWSC Sam W. Stewart **62.84 321** P 09 19 40.1
baz=134,SNR=7.3
SWSC S 09 28 10.9
baz=134
SMCO Snowmass **62.86 332** IAmb IAmb 09 19 42.0
comp=Z,31nm,1.0s
ECSD EROS Data Cent **62.88 342** P 09 19 38.3
baz=156,SNR=23
ECSD S 09 28 03.6
baz=156
ECSD EROS Data Cent **62.88 342** IAmb IAmb 09 20 06.1
comp=Z,64nm,1.3s
ECSD EROS Data Cent **62.88 342** IAMs_20 IAMs_20 09 48 35.6
comp=Z,2µm,21.0s
PV15 Paradox Valley **62.89 330** IAMs_20 IAMs_20 09 47 38.9
comp=Z,3µm,18.0s
PV02 Paradox Valley **62.91 330** IAmb IAmb 09 19 52.6
comp=Z,35nm,1.1s
PV13 Radium Mtn., P **62.91 330** IAmb IAmb 09 19 41.9
comp=Z,42nm,0.9s
PV13 IAMs_20 IAMs_20 09 45 40.5
comp=Z,2µm,20.0s
D62A Allapoint, All **62.95 4** P 09 19 39.8
baz=186,SNR=19
D62A Allapoint, All **62.95 4** IAMs_20 IAMs_20 09 48 40.5
comp=Z,2µm,21.0s
D63A Stockholm **62.97 5** P 09 19 40.1
baz=187,SNR=9.0
D63A S 09 28 10.2
baz=187
PV05 Paradox Valley **62.98 330** IAmb IAmb 09 19 43.5
comp=Z,33nm,1.0s
D61A St Aubert, Com **63.00 3** P 09 19 40.2
baz=184,SNR=9.9
D61A S 09 28 09.8
baz=184
PV18 Skein Mesa, Pa **63.02 330** IAmb IAmb 09 19 51.6
comp=Z,26nm,0.8s
PV18 IAMs_20 IAMs_20 09 44 46.4
comp=Z,3µm,21.0s
PV12 Saucer Basin, **63.03 330** IAmb IAmb 09 19 43.9
comp=Z,31nm,0.9s
PV11 David Mesa, Pa **63.05 330** IAmb IAmb 09 19 50.2
comp=Z,26nm,0.8s
PV17 East Wray Mesa **63.07 330** IAMs_20 IAMs_20 09 45 44.8
comp=Z,4µm,20.0s
TKX Tecate **63.08 320** IAmb IAmb 09 19 55.1
comp=Z,24nm,0.9s
PV16 Nyswonger Mesa **63.08 330** IAMs_20 IAMs_20 09 45 45.9
comp=Z,3µm,22.0s
LATQ La Tuque **63.09 1** P 09 19 40.7
baz=182
PV19 Morning Glory **63.11 330** IAMs_20 IAMs_20 09 45 46.7
comp=Z,3µm,21.0s
BC3 Big Chuckawall **63.13 322** P 09 19 41.9
baz=135,SNR=20
BC3 S 09 28 11.1
baz=135
E43A Lone Tree Farm **63.14 350** IAmb IAmb 09 19 41.0
comp=Z,31nm,0.9s
MONP2 Monument Peak **63.18 321** P 09 19 42.5
baz=134,SNR=9.4
PV10 Paradox Valley **63.19 330** IAmb IAmb 09 19 58.4
comp=Z,27nm,0.9s
BAR Barrett **63.19 320** IAmb IAmb 09 19 44.4
comp=Z,39nm,1.1s
BAR IAMs_20 IAMs_20 09 46 55.9
comp=Z,2µm,18.0s
PV22 Blue Mesa, Par **63.19 330** IAMs_20 IAMs_20 09 48 10.9
comp=Z,3µm,19.0s
SPMN Marine on St. **63.23 345** P 09 19 40.3
baz=160,SNR=42
SPMN S 09 28 07.2
baz=160
SPMN Marine on St. **63.23 345** IAMs_20 IAMs_20 09 48 25.8
comp=Z,2µm,20.0s
W13A Hualapai Mount **63.25 324** IAMs_20 IAMs_20 09 47 19.5
comp=Z,2µm,19.0s
IRM Iron Mountain **63.30 323** P 09 19 42.9
baz=135,SNR=42
IRM S 09 28 14.0
baz=135
U15A North Rim **63.35 326** IAmb IAmb 09 19 45.8
comp=Z,33nm,1.0s
BATG Bathurst New B **63.40 6** IAmb IAmb 09 19 44.5
comp=Z,60nm,1.1s
BATG IAMs_20 IAMs_20 09 47 23.4
comp=Z,3µm,21.0s
NEE2 Needles Airpor **63.43 323** P 09 19 43.0
baz=136
NEE2 S 09 28 15.5
baz=136
109C Camp Elliot, M **63.60 320** P 09 19 44.2
baz=133
109C S 09 28 17.6
baz=133
109C Camp Elliot, M **63.60 320** IAmb IAmb 09 19 47.0
comp=Z,35nm,1.1s
109C IAMs_20 IAMs_20 09 47 08.7
comp=Z,2µm,18.0s
TPFO Pinon Flats **63.70 321** P 09 19 45.6
baz=134,SNR=33
TPFO S 09 28 22.3
baz=134
BELC Belle Mtn. Jos **63.70 322** P 09 19 45.8
baz=134,SNR=12
BELC S 09 28 19.5
baz=134
PFO Pinyon Flats O **63.70 321** P 09 19 45.6
baz=134,SNR=26
PFO S 09 28 22.4
baz=134
PFO Pinyon Flats O **63.70 321** P **P** **09 19 45.8 +1.0**
PFO pmax pmax
comp=Z,55nm,1.0s
PFO Pinyon Flats O **63.70 321** P **P** **09 19 45.8 +1.0**
PFO IAmb IAmb 09 19 48.0
comp=Z,55nm,1.0s
PFO Pinyon Flats O **63.70 321** IAMs_20 IAMs_20 09 42 20.4
comp=Z,3µm,20.0s
N23A Red Feather La **63.81 334** P 09 19 45.8
baz=146,SNR=13
N23A S 09 28 18.8
baz=146
VLDQ Val d'Or **63.88 358** IAMs_20 IAMs_20 09 49 03.4
comp=Z,3µm,20.0s
PHWY Pilot Hill **63.94 334** P **P** **09 19 45.9 -0.5**
F36A Milaca **64.00 345** IAMs_20 IAMs_20 09 49 00.3
comp=Z,2µm,20.0s
GMRC Granite Mounta **64.05 323** P 09 19 47.7
baz=135,SNR=15
PKCU Pink Cliffs **64.12 327** IAmb IAmb 09 19 50.9
comp=Z,53nm,1.0s
MURC Murrieta **64.14 321** P 09 19 48.7
baz=133,SNR=9.1
O20A White River Ci **64.21 332** P 09 19 48.3
baz=143,SNR=29
O20A S 09 28 25.4
baz=143
O20A White River Ci **64.21 332** IAmb IAmb 09 20 00.3
comp=Z,60nm,1.2s
O20A IAMs_20 IAMs_20 09 46 49.8
comp=Z,3µm,20.0s
E38A The Farm, Brul **64.24 347** IAmb IAmb 09 19 49.2
comp=Z,41nm,0.9s
E38A IAMs_20 IAMs_20 09 49 37.7
comp=Z,3µm,22.0s
SUSD Miller **64.25 341** P 09 19 47.4
baz=154
LCMT Little Creek M **64.30 326** IAmb IAmb 09 19 51.7
comp=Z,31nm,1.0s
BBRC Big Bear Solar **64.43 321** P 09 19 50.7
baz=134
HEC Hector,Ludlow **64.47 322** P 09 19 51.0
baz=134,SNR=12
HEC S 09 28 30.9
baz=134
SRU San Rafael Swe **64.49 329** IAmb IAmb 09 19 52.3
comp=Z,48nm,1.0s
SCI2 San Clemente I **64.56 319** S 09 28 32.6
baz=132
TAOE Nuku Hiva Isla **64.60 268** *e*S **S** **09 28 29.0 +0.1**
comp=Z,2µm,28.0s
TAOE Nuku Hiva Isla **64.60 268** *e*LR LR 09 39 21.0
comp=Z,15µm,25.0s,baz=106
TAOE Nuku Hiva Isla **64.60 268** *e*T T 10 29 36.4
comp=Z,22nm,0.2s
SZCU Shurtz Canyon **64.65 326** IAmb IAmb 09 19 54.1
comp=Z,27nm,1.0s
Q16A Castle Valley **64.66 329** IAmb IAmb 09 20 03.8
comp=Z,58nm,1.0s
TUQ Turquoise Moun **64.66 323** P 09 19 51.8
baz=135,SNR=22
TUQ S 09 28 31.6
baz=135
F33A 5 Mile Ranch, **64.71 343** IAmb IAmb 09 20 06.4
comp=Z,33nm,0.8s
CIS Catalina Islan **64.75 320** P 09 19 51.6
baz=132
CIS S 09 28 33.9
baz=132
CCUT Cedar City **64.76 326** IAmb IAmb 09 19 55.4
comp=Z,47nm,1.0s
LSQQ Lebel-sur-Quev **64.80 358** P 09 19 51.0
baz=177
BFSC Mount Baldy Ra **64.86 321** P 09 19 53.1
baz=133,SNR=9.8
BFSC S 09 28 35.1
baz=133
P17A Butcher Ranch, **64.87 329** IAmb IAmb 09 19 54.8
comp=Z,66nm,1.0s
FMP Fort Macarthur **64.89 320** P 09 19 53.5
baz=132
FMP S 09 28 35.3
baz=132
RRX Edison Barstow **64.90 322** S 09 28 34.3
baz=134
TMUT Trail Mountain **64.97 329** IAmb IAmb 09 19 56.9
comp=Z,26nm,0.8s
SHPR Sheep Range **64.98 324** IAmb IAmb 09 19 56.2
comp=Z,32nm,1.0s
RWWY Rawlins **65.00 333** IAmb IAmb 09 20 04.8
comp=Z,49nm,1.1s
RWWY IAMs_20 IAMs_20 09 47 42.8
comp=Z,2µm,22.0s
GSC Goldstone, Bar **65.08 322** P 09 19 54.8
baz=134,SNR=16
GSC S 09 28 37.2
baz=134
GSC Goldstone, Bar **65.08 322** IAMs_20 IAMs_20 09 47 17.9
comp=Z,3µm,20.0s
MWC Mount Wilson **65.09 321** IAmb IAmb 09 19 57.0
comp=Z,34nm,1.1s
PASC Pasadena Art C **65.13 321** IAmb IAmb 09 20 14.7
comp=Z,38nm,1.2s
RDMU Red Mountain **65.17 331** IAmb IAmb 09 19 56.5
comp=Z,36nm,1.0s
SHOC Shoshone, Teco **65.19 323** P 09 19 54.9
baz=135,SNR=16
SHOC S 09 28 37.9
baz=135
DECC Green Verdugo **65.28 321** P 09 19 55.8
baz=133,SNR=10
DECC S 09 28 39.0
baz=133
SNCC San Nicolas Is **65.35 319** P 09 19 55.9
baz=131
SHEL Horse Pasture **65.49 101** IAMs_20 IAMs_20 09 46 48.7
comp=Z,3µm,20.0s
EDW2 Edwards Air Fo **65.50 321** P 09 19 56.7
baz=133,SNR=19
EDW2 S 09 28 40.4
baz=133
K22A Casper **65.50 334** P 09 19 56.2
baz=146,SNR=10
K22A S 09 28 40.3
baz=146
K22A Casper **65.50 334** IAmb IAmb 09 20 07.8
comp=Z,25nm,0.8s
EYMN Ely **65.50 347** P 09 19 55.0
baz=162,SNR=48
EYMN S 09 28 35.3
baz=162
EYMN Ely **65.50 347** IAmb IAmb 09 19 57.3
comp=Z,52nm,1.0s
EYMN Ely **65.50 347** IAMs_20 IAMs_20 09 50 22.0
comp=Z,3µm,21.0s
PRN Pahroc Range **65.57 325** IAmb IAmb 09 20 00.3
comp=Z,28nm,1.0s
PRN IAMs_20 IAMs_20 09 48 11.9
comp=Z,3µm,20.0s
CHGQ Chibougamau **65.61 360** P 09 19 56.0
baz=180,SNR=23
CHGQ S 09 28 38.4
baz=180
LRMC Laurel Mtn Rad **65.72 322** P 09 19 58.5
baz=134,SNR=12
LRMC S 09 28 46.5
baz=134
MPU Maple Canyon **65.73 329** IAmb IAmb 09 20 00.6
comp=Z,32nm,1.0s
RSSD Black Hills **65.74 337** P 09 19 58.3
baz=148
RSSD S 09 28 43.0
baz=148
RSSD Black Hills **65.74 337** P **P** **09 19 57.7 -0.4**
RSSD pmax pmax
comp=Z,53nm,1.5s
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills **65.74 337** P **P** **09 19 57.7 -0.4**
RSSD IAmb IAmb 09 20 09.5
comp=Z,53nm,1.5s
PSUT Pine Spring **65.75 327** IAmb IAmb 09 20 01.3
comp=Z,43nm,1.0s
OSI Osito Audit: C **65.76 321** P 09 19 58.0
baz=132
OSI S 09 28 45.6
baz=132
OSI Osito Audit: C **65.76 321** IAmb IAmb 09 20 21.3
comp=Z,29nm,0.9s
TPNV Topopah Spring **65.91 324** P 09 20 00.0
baz=135,SNR=68
TPNV S 09 28 47.8
baz=135
TPNV Topopah Spring **65.91 324** IAmb IAmb 09 20 02.5
comp=Z,42nm,0.9s
TPNV IAMs_20 IAMs_20 09 48 10.9
comp=Z,3µm,20.0s

FURC	**Furnace Creek,**	**65.92**	**323**	P			09 19 60.0	
	baz=135,SNR=40							
MPMC	**Manual Prospec**	**66.00**	**323**	P			09 20 00.6	
	baz=134,SNR=19							
MPMC				S			09 28 49.5	
	baz=134							
JLU	**Jordanelle**	**66.09**	**330**	IAmb	IAmb		09 20 03.1	
	comp=Z,52nm,1.0s							
ARVC	**Arvin**	**66.17**	**321**	P			09 20 01.3	
	baz=132							
ARVC				S			09 28 49.4	
	baz=132							
SBC	**Santa Barbara**	**66.25**	**320**	P			09 20 02.1	
	baz=132							
ISA	**Isabella, Lake**	**66.31**	**322**	P			09 20 02.8	
	baz=133,SNR=21							
ISA				S			09 28 52.6	
	baz=133							
ISA	**Isabella, Lake**	**66.31**	**322**	IAmb	IAmb		09 20 04.8	
	comp=Z,28nm,1.0s							
ISA				IAMs_20	IAMs_20		09 48 53.6	
	comp=Z,2µm,19.0s							
SPR3	**Spring Creek 3**	**66.34**	**327**	IAmb	IAmb		09 20 04.8	
	comp=Z,46nm,1.0s							
B35A	**Bob, Littlefor**	**66.39**	**346**	IAMs_20	IAMs_20		09 50 34.5	
	comp=Z,3µm,22.0s							
DUG	**Dugway, Tooele**	**66.45**	**329**	P			09 20 03.6	
	baz=139,SNR=108							
DUG				S			09 28 52.0	
	baz=139							
DUG	**Dugway, Tooele**	**66.45**	**329**	IAMs_20	IAMs_20		09 50 05.2	
	comp=Z,3µm,18.0s							
R11A	**Troy Canyon, C**	**66.54**	**325**	P			09 20 04.5	
	baz=136,SNR=31							
R11A				S			09 28 54.2	
	baz=136							
R11A	**Troy Canyon, C**	**66.54**	**325**	IAMs_20	IAMs_20		09 47 45.6	
	comp=Z,3µm,21.0s							
GRAC	**Grapevine Rang**	**66.58**	**323**	P			09 20 04.4	
	baz=134,SNR=14							
GRAC				S			09 28 55.6	
	baz=134							
PKM	**Mcpherson Peak**	**66.61**	**320**	P			09 20 04.7	
	baz=132,SNR=11							
PKM				S			09 28 55.1	
	baz=132							
CWC	**Cottonwood Cre**	**66.61**	**322**	P			09 20 04.3	
	baz=134							
CWC				S			09 28 56.9	
	baz=134							
DRLN	**Deer Lake**	**66.62**	**12**	P	**P**		**09 20 03.6**	**+0.4**
E28A	**Huff**	**66.70**	**340**	IAMs_20	IAMs_20		09 51 07.7	
	comp=Z,2µm,20.0s							
VES	**Vestal, Richgr**	**66.80**	**321**	P			09 20 05.9	
	baz=133,SNR=18							
VES				S			09 28 56.9	
	baz=133							
AGMN	**Agassiz Nation**	**66.86**	**344**	P			09 20 04.2	
	baz=157,SNR=30							
AGMN				S			09 28 53.8	
	baz=157							
AGMN	**Agassiz Nation**	**66.86**	**344**	IAmb	IAmb		09 20 06.3	
	comp=Z,37nm,0.9s							
VNA3	**Neumayer Olymp**	**66.86**	**161**	P	**P**		**09 20 05.6**	**+0.9**
BW06	**Boulder Array**	**66.90**	**332**	P			09 20 05.1	
	baz=143,SNR=14							
BW06				S			09 28 54.4	
	baz=143							
PDAR	**Pinedale Array**	**66.90**	**332**	P	**P**		**09 20 04.7**	**-0.9**
	comp=Z,5.8nm,1.0s,baz=142,slow=7.5,SNR=33							
PDAR				PKPPKP	**P'P'df**		**09 48 30.4**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=140,slow=3.3,SNR=3.9							
PDAR				PKP2bc			09 48 37.3	
	comp=Z,0.8nm,1.0s,baz=321,slow=2.1,SNR=5.4							
PDAR				LR	LR		09 49 38.3	
	comp=Z,2µm,21.7s,baz=146,slow=36							
BW06	**Boulder Array**	**66.90**	**332**	IAMs_20	IAMs_20		09 49 37.1	
	comp=Z,3µm,21.0s							
HWUT	**Hardware Ranch**	**66.92**	**330**	IAmb	IAmb		09 20 07.7	
	comp=Z,52nm,1.0s							
SMMC	**Simmler**	**67.00**	**320**	P			09 20 07.2	
	baz=132,SNR=13							
SMMC				S			09 29 01.6	
	baz=132							
BGU	**Big Grassy Mou**	**67.11**	**329**	IAmb	IAmb		09 20 36.5	
	comp=Z,54nm,1.4s							
VNA1	**Neumayer--Stat**	**67.11**	**161**	P	**P**		**09 20 07.6**	**+1.4**
SPUT	**South Promonto**	**67.12**	**330**	IAmb	IAmb		09 20 09.3	
	comp=Z,38nm,1.0s							
TIN	**Tinemaha, Big**	**67.12**	**323**	P			09 20 07.9	
	baz=134,SNR=11							
TIN				S			09 29 03.0	
	baz=134							
VOG	**Valley Oaks Go**	**67.30**	**322**	P			09 20 07.7	
	baz=132							
PAGB	**Antelope Grade**	**67.43**	**321**	IAmb	IAmb		09 20 29.7	
	comp=Z,31nm,1.0s							
MDND	**Maddock**	**67.49**	**342**	P			09 20 08.9	
	baz=154,SNR=14							
MDND				S			09 29 02.9	
	baz=154							
AHID	**Auburn Hatcher**	**67.60**	**331**	IAmb	IAmb		09 20 11.9	
	comp=Z,30nm,1.0s							
AHID				IAMs_20	IAMs_20		09 48 58.6	
	comp=Z,3µm,22.0s							
MLAC	**Mammoth, Mammo**	**67.87**	**323**	P			09 20 12.5	
	baz=133							
REDW	**Red Top Meadow**	**67.95**	**332**	IAmb	IAmb		09 20 24.5	
	comp=Z,34nm,1.1s							
REDW				IAMs_20	IAMs_20		09 51 06.9	
	comp=Z,2µm,20.0s							
SNOW	**Snow King Moun**	**67.99**	**332**	IAMs_20	IAMs_20		09 48 52.9	
	comp=Z,4µm,22.0s							
MDPB	**Devils Postpil**	**68.01**	**323**	IAmb	IAmb		09 20 15.6	
	comp=Z,31nm,1.0s							
MDPB				IAMs_20	IAMs_20		09 49 04.4	
	comp=Z,3µm,20.0s							
NV11	**Mina Array Sit**	**68.03**	**324**	IAMs_20	IAMs_20		09 46 14.0	
	comp=Z,3µm,22.0s							
LOHW	**Long Hollow**	**68.04**	**332**	IAMs_20	IAMs_20		09 48 56.2	
	comp=Z,4µm,21.0s							
PMPB	**Monarch Peak**	**68.09**	**321**	IAmb	IAmb		09 20 34.5	
	comp=Z,76nm,1.2s							
TPAW	**Teton Pass**	**68.10**	**332**	IAMs_20	IAMs_20		09 48 54.8	
	comp=Z,3µm,22.0s							
LHV	**Little Huntoon**	**68.10**	**324**	IAmb	IAmb		09 20 16.4	
	comp=Z,38nm,1.0s							
LHV				IAMs_20	IAMs_20		09 45 38.9	
	comp=Z,3µm,22.0s							
NVAR	**Mina Array Bea**	**68.11**	**324**	P	**P**		**09 20 14.1**	**+0.8**
	comp=Z,13nm,0.9s,baz=146,slow=6.1,SNR=66							
NVAR				PKPPKP	**P'P'df**		**09 48 30.4**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=275,slow=2.5,SNR=7.9							
NVAR				LR	LR		09 49 56.7	
	comp=Z,2µm,18.5s,baz=132,slow=36							
NVAR	**Mina Array Bea**	**68.11**	**324**	P	**P**		**09 20 13.9**	**+0.7**
RYN	**Ryan**	**68.37**	**324**	IAMs_20	IAMs_20		09 46 01.0	
	comp=Z,3µm,22.0s							
KVN	**Kaiserville**	**68.43**	**324**	IAMs_20	IAMs_20		09 46 31.5	
	comp=Z,3µm,22.0s							
FLWY	**Flagg Ranch**	**68.45**	**333**	IAmb	IAmb		09 20 17.9	
	comp=Z,55nm,1.0s							
FLWY				IAMs_20	IAMs_20		09 49 11.1	
	comp=Z,3µm,22.0s							
H17A	**Grant Village**	**68.64**	**333**	P			09 20 16.8	
	baz=142							
H17A				S			09 29 18.6	
	baz=142							
H17A	**Grant Village**	**68.64**	**333**	IAMs_20	IAMs_20		09 53 33.2	
	comp=Z,3µm,19.0s							
RLMT	**Red Lodge**	**68.66**	**334**	P			09 20 16.5	
	baz=144,SNR=22							
RLMT				S			09 29 17.0	
	baz=144							
RLMT	**Red Lodge**	**68.66**	**334**	IAmb	IAmb		09 20 38.1	
	comp=Z,28nm,1.1s							
RLMT				IAMs_20	IAMs_20		09 50 33.6	
	comp=Z,2µm,20.0s							
ULM	**Lac du Bonnet**	**68.67**	**345**	P	**P**		**09 20 15.2**	**-1.0**
	comp=Z,33nm,0.9s,baz=158,slow=6.2,SNR=24							
ULM				LR	LR		09 53 22.8	
	comp=Z,2µm,19.5s,baz=151,slow=39							
ULM	**Lac du Bonnet**	**68.67**	**345**	IAmb	IAmb		09 20 17.3	
	comp=Z,48nm,1.0s							
ULM				IAMs_20	IAMs_20		09 53 02.7	
	comp=Z,2µm,19.0s							
LKWY	**Lake**	**68.70**	**333**	IAmb	IAmb		09 20 43.4	
	comp=Z,26nm,0.9s							
LKWY				IAMs_20	IAMs_20		09 49 57.7	
	comp=Z,3µm,22.0s							
LAO	**LASA Array**	**68.73**	**337**	P			09 20 16.7	
	baz=147,SNR=12							
LAO				S			09 29 16.4	
	baz=147							
LAO	**LASA Array**	**68.74**	**337**	IAmb	IAmb		09 20 44.8	
	comp=Z,32nm,1.1s							
LAO				IAMs_20	IAMs_20		09 50 10.6	
	comp=Z,2µm,22.0s							
YMP	**Mirror Lake Pl**	**68.74**	**333**	IAmb	IAmb		09 20 47.9	
	comp=Z,28nm,1.0s							
WAKR	**Walker**	**68.81**	**323**	IAmb	IAmb		09 20 21.1	
	comp=Z,28nm,1.1s							
WAKR				IAMs_20	IAMs_20		09 49 43.6	
	comp=Z,3µm,20.0s							
SAO	**San Andreas Ge**	**68.84**	**321**	IAMs_20	IAMs_20		09 49 04.4	
	comp=Z,2µm,19.0s							
YNE	**Yellowstone No**	**68.89**	**334**	IAmb	IAmb		09 20 20.4	
	comp=Z,69nm,1.0s							
YERR	**Yerington**	**69.02**	**324**	IAmb	IAmb		09 20 37.6	
	comp=Z,43nm,1.2s							
YERR				IAMs_20	IAMs_20		09 46 33.3	
	comp=Z,3µm,22.0s							
CMB	**Columbia Colle**	**69.04**	**322**	IAMs_20	IAMs_20		09 50 46.8	
	comp=Z,2µm,18.0s							
SNAA	**Sanae**	**69.08**	**161**	P	**P**		**09 20 19.5**	**+0.8**
SNAA	**Sanae**	**69.08**	**161**	*c*eP	**P**		**09 20 19.4**	**+0.8**
SNAA				pmax	pmax			
	comp=Z,82nm,0.8s							
SNAA	**Sanae**	**69.08**	**161**	IAMs_20	IAMs_20		09 47 29.6	
	comp=Z,3µm,20.0s							
PNTR	**Pine Nut**	**69.30**	**324**	IAmb	IAmb		09 20 24.0	
	comp=Z,42nm,0.9s							
PNTR				IAMs_20	IAMs_20		09 50 09.6	
	comp=Z,2µm,19.0s							
ROSA	**Rosais**	**69.35**	**37**	*e*P	**P**		**09 20 22.8**	**+2.1**
VCNR	**Virginia City**	**69.47**	**324**	IAmb	IAmb		09 20 25.0	
	comp=Z,40nm,1.1s							
DGMT	**Dagmar**	**69.52**	**339**	P			09 20 21.7	
	baz=149,SNR=12							
DGMT				S			09 29 26.5	
	baz=149							
DGMT	**Dagmar**	**69.52**	**339**	IAmb	IAmb		09 20 50.1	
	comp=Z,47nm,1.0s							
RUBR	**Rubicon Trail**	**69.59**	**323**	IAmb	IAmb		09 20 54.1	
	comp=Z,34nm,1.1s							
PAHR	**Pah Rah Range**	**69.60**	**324**	IAMs_20	IAMs_20		09 47 04.6	
	comp=Z,2µm,22.0s							
PGRA	**Graciosa**	**69.71**	**37**	*e*P	**P**		**09 20 22.4**	**-0.5**
PAGU	**Agualva, Azore**	**70.00**	**37**	*e*P	**P**		**09 20 26.2**	**+1.5**
BOZ	**Bozeman (W)**	**70.05**	**333**	P			09 20 25.2	
	baz=142,SNR=21							
BOZ				S			09 29 31.9	
	baz=142							
BOZ	**Bozeman (W)**	**70.05**	**333**	IAMs_20	IAMs_20		09 50 25.4	
	comp=Z,3µm,21.0s							
PSMN	**Pico do Norte,**	**70.13**	**40**	*e*P	**P**		**09 20 22.4**	**-3.1**
BEKR	**Beckworth**	**70.26**	**324**	IAMs_20	IAMs_20		09 51 01.0	
	comp=Z,2µm,19.0s							
DLMT	**Dillon**	**70.30**	**332**	IAMs_20	IAMs_20		09 50 41.9	
	comp=Z,2µm,20.0s							
CMLA	**Cha da Macela**	**70.33**	**39**	*e*P	**P**		**09 20 27.4**	**+0.6**
MFID	**Camas Ranch**	**70.35**	**329**	IAmb	IAmb		09 20 30.0	
	comp=Z,63nm,0.9s							
TBI	**Tubuai**	**70.58**	**250**	*e*S	**S**		**09 29 38.0**	**-2.2**
	comp=Z,2µm,28.0s							
TBI	**Tubuai**	**70.58**	**250**	*e*LR	LR		09 41 59.5	
	comp=Z,5µm,27.5s,baz=95							
TBI	**Tubuai**	**70.58**	**250**	*e*T	T		10 36 56.6	
	comp=Z,17nm,0.3s							
MCCM	**Marconi Confer**	**70.60**	**321**	IAmb	IAmb		09 20 41.3	
	comp=Z,40nm,0.9s							
SCHQ	**Schefferville**	**70.82**	**4**	P	**P**		**09 20 29.0**	**-0.3**
	comp=Z,61nm,0.9s,baz=177,slow=4.7,SNR=46							
SCHQ				LR	LR		09 52 16.9	
	comp=Z,1µm,20.6s,baz=206,slow=36							
WVOR	**Wild Horse Val**	**71.08**	**327**	IAMs_20	IAMs_20		09 48 08.7	
	comp=Z,3µm,22.0s							
EGMT	**Eagleton**	**71.20**	**336**	P			09 20 32.3	
	baz=144,SNR=13							
EGMT				S			09 29 43.6	
	baz=144							
EGMT	**Eagleton**	**71.20**	**336**	IAmb	IAmb		09 20 59.9	
	comp=Z,61nm,1.2s							
EGMT				IAMs_20	IAMs_20		09 52 31.8	
	comp=Z,2µm,20.0s							
HOPS	**Hopland Field**	**71.26**	**322**	IAmb	IAmb		09 20 47.4	
	comp=Z,48nm,1.4s							
HOPS				IAMs_20	IAMs_20		09 48 25.6	
	comp=Z,2µm,21.0s							
O03E	**Paynes Creek**	**71.37**	**323**	P			09 20 32.8	
	baz=132,SNR=28							
O03E				S			09 29 48.9	
	baz=132							
TIAR	**Tiarei**	**71.52**	**256**	*e*T	T		10 38 09.4	
	comp=Z,3.0nm,0.3s							
MOD	**Modoc Plateau**	**71.61**	**325**	IAmb	IAmb		09 20 37.6	
	comp=Z,33nm,1.0s							
MOD				IAMs_20	IAMs_20		09 51 52.7	
	comp=Z,2µm,19.0s							
PPT2	**Papeete2**	**71.73**	**256**	*e*S	**S**		**09 29 52.0**	**-1.9**
	comp=Z,2µm,26.2s							
PPT2	**Papeete2**	**71.73**	**256**	*e*LR	LR		09 42 39.8	
	comp=Z,7µm,23.5s,baz=103							
PPT	**Papeete**	**71.73**	**256**	LR	LR		09 44 13.0	
	comp=Z,3µm,21.1s,baz=104,slow=29							
O02D	**Mt. Diablo Mer**	**71.86**	**323**	P			09 20 35.9	
	baz=131,SNR=16							
O02D				S			09 29 54.7	
	baz=131							
LIC	**Lanto**	**71.89**	**78**	*e*P	**P**		**09 20 36.1**	**-0.6**
	comp=Z,124nm,0.9s							
KCPM	**Cahto Peak**	**72.01**	**322**	IAmb	IAmb		09 21 05.8	
	comp=Z,75nm,1.4s							
KCPM				IAMs_20	IAMs_20		09 48 59.3	
	comp=Z,2µm,21.0s							
MSO	**Missoula**	**72.02**	**333**	P			09 20 37.2	
	baz=140,SNR=18							
MSO	**Missoula**	**72.02**	**333**	IAMs_20	IAMs_20		09 51 54.6	
	comp=Z,3µm,20.0s							
TIC	**Tomodi**	**72.04**	**77**	*e*P	**P**		**09 20 36.9**	**-0.7**
DBIC	**Dimbokro**	**72.20**	**77**	P	**P**		**09 20 38.2**	**-0.3**
	comp=Z,58nm,1.0s,baz=232,slow=5.8,SNR=26							
DBIC				LR	LR		09 51 13.3	
	comp=Z,9µm,19.2s,baz=226,slow=35							
DBIC	**Dimbokro**	**72.20**	**77**	IAmb	IAmb		09 20 39.4	
	comp=Z,62nm,0.9s							
KIC	**Kosan Boka**	**72.21**	**78**	*e*P	**P**		**09 20 38.2**	**-0.4**
	comp=Z,131nm,0.9s							
N02D	**Trinity Center**	**72.33**	**323**	P			09 20 38.4	
	baz=131,SNR=22							
N02D				S			09 29 59.9	
	baz=131							
M04C	**Macdoel**	**72.37**	**325**	P			09 20 39.8	
	baz=132,SNR=22							
M04C				S			09 30 03.6	
	baz=132							
K05A	**Summer Lake**	**72.49**	**326**	IAmb	IAmb		09 20 56.0	
	comp=Z,77nm,1.4s							
K05A				IAMs_20	IAMs_20		09 49 19.0	
	comp=Z,2µm,22.0s							
M02C	**Callahan**	**72.69**	**324**	P			09 20 41.1	
	baz=131,SNR=14							
M02C				S			09 30 03.7	
	baz=131							
YBH	**Yreka Blue Hor**	**72.83**	**324**	IAMs_20	IAMs_20		09 52 42.0	
	comp=Z,2µm,19.0s							
KHMM	**Horse Mountain**	**72.86**	**323**	IAmb	IAmb		09 21 10.7	
	comp=Z,69nm,1.3s							
KHMM				IAMs_20	IAMs_20		09 52 35.8	
	comp=Z,2µm,19.0s							
JTMT	**Jette**	**72.87**	**333**	IAMs_20	IAMs_20		09 51 58.1	
	comp=Z,2µm,21.0s							
K04D	**Chiloquin, OR**	**72.89**	**325**	P			09 20 42.2	
	baz=132							
K04D				S			09 30 07.3	
	baz=132							
F10A	**Beach Ranch, E**	**72.90**	**330**	IAmb	IAmb		09 20 47.0	
	comp=Z,37nm,0.9s							
F10A				IAMs_20	IAMs_20		09 52 46.9	
	comp=Z,3µm,20.0s							
L04D	**Klamath Falls**	**72.92**	**325**	P			09 20 42.8	
	baz=132,SNR=18							
L04D				S			09 30 08.0	
	baz=132							
PMOZ	**Porto Moniz, M**	**72.93**	**48**	*e*P	**P**		**09 20 46.0**	**+3.4**
PMOZ	**Porto Moniz, M**	**72.93**	**48**	*e*PP	PP		09 23 26.9	+1.4
PMOZ				*e*S	**SKiKP**		**09 30 16.4**	**+3.1**
PMOZ	**Porto Moniz, M**	**72.93**	**48**	*e*LR	LR		09 46 22.1	
	comp=Z,3µm,20.0s							
JCC	**Jacoby Creek,**	**73.00**	**323**	IAmb	IAmb		09 20 46.0	
	comp=Z,49nm,1.1s							
JCC				IAMs_20	IAMs_20		09 49 45.4	
	comp=Z,2µm,21.0s							
J05D	**Fort Rock, OR**	**73.05**	**326**	P			09 20 43.5	
	baz=133,SNR=19							
J05D				S			09 30 12.3	
	baz=133							
FUL	**Funchal**	**73.05**	**48**	*e*P	**P**		**09 20 47.4**	**+4.2**
	comp=Z,88nm,0.4s							
PMAR	**Madeira**	**73.08**	**48**	*e*P	**P**		**09 20 45.3**	**+1.7**
PMAR				*e*S	**S**		**09 30 10.9**	**+2.0**
PINE	**Pine Mountain**	**73.24**	**327**	IAmb	IAmb		09 20 47.7	
	comp=Z,37nm,1.0s							
PINE				IAMs_20	IAMs_20		09 52 43.8	
	comp=Z,3µm,20.0s							
KRMB	**Red Mountain**	**73.38**	**323**	IAMs_20	IAMs_20		09 53 05.5	
	comp=Z,2µm,20.0s							
J04D	**Umpqua Nationa**	**73.49**	**326**	P			09 20 46.5	
	baz=132,SNR=12							
J04D				S			09 30 15.5	
	baz=132							
HUMO	**Hull Mountain**	**73.54**	**325**	IAMs_20	IAMs_20		09 53 34.9	
	comp=Z,2µm,19.0s							
L02E	**Cave Junction**	**73.61**	**324**	P			09 20 47.0	
	baz=131,SNR=14							
L02E				S			09 30 16.1	
	baz=131							
PMPS	**Porto Santo**	**73.67**	**48**	*e*P	**P**		**09 20 51.6**	**+4.8**
PMPST	**Porto Santo, M**	**73.68**	**48**	*e*P	**P**		**09 20 48.8**	**+1.9**
I05D	**Terrebonne, OR**	**73.82**	**327**	P			09 20 48.6	
	baz=133,SNR=30							
I05D				S			09 30 18.6	
	baz=133							
K02D	**Willamette Mer**	**74.00**	**324**	P			09 20 49.7	
	baz=131,SNR=13							
K02D				S			09 30 19.5	
	baz=131							
KBO	**Bosley Butte**	**74.00**	**324**	IAmb	IAmb		09 21 11.0	
	comp=Z,66nm,1.4s							
I04A	**Tendick Farm,**	**74.03**	**326**	P			09 20 48.9	
	baz=132,SNR=9.8							
I04A				S			09 30 18.0	
	baz=132							
QSPA	**South Pole Qui**	**74.17**	**180**	P	**P**		**09 20 50.6**	**+1.2**
QSPA				IAmb	IAmb		09 20 51.9	
	comp=Z,51nm,0.8s							
FFC	**Flin Flon**	**74.30**	**344**	P	**P**		**09 20 50.4**	**+0.3**
FFC				pmax	pmax			
	comp=Z,13nm,1.0s							
FFC				MLR	MLR			
	comp=Z,2µm,21.0s							
FFC	**Flin Flon**	**74.30**	**344**	P	**P**		**09 20 50.4**	**+0.3**
FFC	**Flin Flon**	**74.30**	**344**	IAMs_20	IAMs_20		09 55 06.8	
	comp=Z,2µm,21.0s							
HAWA	**Hanford**	**74.32**	**329**	P	**P**		**09 20 50.9**	**+0.5**
G05D	**Wamic, OR**	**74.42**	**327**	P			09 20 52.4	
	baz=133,SNR=16							
G05D				S			09 30 26.7	
	baz=133							
J01E	**Myrtle Point**	**74.45**	**325**	P			09 20 52.5	
	baz=130							
J01E				S			09 30 24.5	
	baz=130							
I03D	**Drain, OR**	**74.47**	**325**	P			09 20 52.1	
	baz=131,SNR=12							
I03D				S			09 30 23.5	
	baz=131							
KEBM	**Edson Butte**	**74.49**	**324**	IAmb	IAmb		09 21 04.8	
	comp=Z,60nm,1.1s							
KEBM				IAMs_20	IAMs_20		09 54 01.9	
	comp=Z,2µm,19.0s							
D08A	**Wollman Farm,**	**74.50**	**330**	IAMs_20	IAMs_20		09 53 44.0	
	comp=Z,3µm,20.0s							
H04A	**Detroit Lake**	**74.50**	**327**	IAMs_20	IAMs_20		09 54 49.2	
	comp=Z,3µm,18.0s							
NEW	**Newport**	**74.53**	**332**	P			09 20 52.0	
	baz=137,SNR=14							
NEW				S			09 30 26.2	
	baz=137							
NEW	**Newport**	**74.53**	**332**	IAMs_20	IAMs_20		09 53 06.8	
	comp=Z,3µm,22.0s							
E07A	**Sunnyside**	**74.60**	**329**	IAmb	IAmb		09 20 55.4	
	comp=Z,40nm,1.1s							
H04D	**Lebanon**	**74.69**	**326**	P			09 20 52.2	
	baz=132							
C09A	**Chrisman Ranch**	**74.72**	**331**	IAMs_20	IAMs_20		09 53 38.0	
	comp=Z,2µm,20.0s							
F05D	**White Salmon**	**74.94**	**328**	P			09 20 55.1	
	baz=133							
I02D	**Swisshome**	**75.01**	**325**	P			09 20 55.2	
	baz=131							
I02D				S			09 30 32.4	
	baz=131							
COR	**Corvallis**	**75.03**	**326**	P	**P**		**09 20 55.1**	**+0.6**
COR				pmax	pmax			
	comp=Z,68nm,1.1s							
COR				MLR	MLR			
	comp=Z,2µm,20.0s							
COR	**Corvallis**	**75.03**	**326**	P	**P**		**09 20 55.1**	**+0.6**
COR				IAmb	IAmb		09 20 58.0	
	comp=Z,68nm,1.1s							
COR	**Corvallis**	**75.03**	**326**	IAMs_20	IAMs_20		09 53 32.3	
	comp=Z,2µm,20.0s							
G03D	**McMinnville, O**	**75.42**	**327**	P			09 20 57.7	
	baz=132							
G03D				S			09 30 34.2	
	baz=132							
LTY	**Liberty**	**75.48**	**329**	P	**P**		**09 20 58.0**	**+0.9**
B08A	**Colville Reser**	**75.62**	**331**	IAMs_20	IAMs_20		09 54 03.7	
	comp=Z,2µm,20.0s							
KOWA	**Kowa**	**75.64**	**70**	P	**P**		**09 20 58.4**	**-0.2**
KOWA				IAmb	IAmb		09 20 60.0	
	comp=Z,39nm,0.8s							
F04D	**Rainier, OR**	**75.87**	**327**	P			09 21 00.7	
	baz=132							
F04D				S			09 30 40.8	
	baz=132							
E04D	**Cinebar**	**75.96**	**328**	P			09 21 00.4	
	baz=132,SNR=5.9							
E04D				S			09 30 41.9	
	baz=132							
D05A	**Enumclaw**	**76.09**	**329**	IAmb	IAmb		09 21 03.3	
	comp=Z,77nm,1.0s							
E03A	**Lebam**	**76.46**	**327**	IAmb	IAmb		09 21 06.0	
	comp=Z,59nm,1.1s							
D04E	**Lakebay**	**76.48**	**328**	P			09 21 02.3	
	baz=132							
B06A	**Marblemount**	**76.75**	**330**	IAmb	IAmb		09 21 06.5	
	comp=Z,40nm,1.0s							
B05A	**Bryant**	**76.88**	**329**	P			09 21 05.0	
	baz=133,SNR=17							
B05A				S			09 30 50.0	
	baz=133							
D03D	**Eldon**

comp=Z,6µm,20.0s,baz=250,slow=35
TORD Torodi Ar. Bea 80.40 73 P **P** **09 21 25.2 +0.1**
TZRR Tazzarine 80.65 54 P 09 21 28.1
ZHG ZHG 80.97 51 P 09 21 29.0
PFVI Vila Bisbo 81.03 47 *eP* **P** **09 21 29.5 +1.5**
comp=Z,111nm,1.9s
PFVI Vila Bisbo 81.03 47 *eS* **S** **09 31 33.2 -1.7**
PFVI Vila Bisbo 81.03 47 IAmb IAmb 09 21 30.9
comp=Z,41nm,0.9s
MORF Marmelete 81.23 47 *eP* **P** **09 21 29.8 +0.7**
MORF *eS* **S** **09 31 39.6 +2.4**
MORF IAMs_20 IAMs_20 09 54 53.5
comp=Z,5µm,23.7s
MORF Marmelete 81.23 47 *eP* **P** **09 21 29.8 +0.7**
MORF *eS* **S** **09 31 39.6 +2.4**
MORF Marmelete 81.23 47 *eP* **P** **09 21 30.8 +1.7**
comp=Z,105nm,1.2s
MORF Marmelete 81.23 47 *eS* S 09 31 51.5 +14
PTEO Sao Teotonio 81.29 47 *eP* **P** **09 21 31.3 +1.9**
comp=Z,132nm,1.0s
VNDA Vanda 81.35 191 P **P** **09 21 30.9 +1.8**
comp=Z,11nm,1.0s,baz=123,slow=4.8,SNR=38
VNDA LR LR 09 51 29.9
comp=Z,3µm,19.6s,baz=126,slow=31
PMST Lisbon--Monsan 81.53 46 *eP* P 09 21 36.8 +6.2
LIS Lisbon 81.54 46 *eP* **P** **09 21 31.5 +0.8**
LIS IAMs_20 IAMs_20 09 54 57.6
comp=Z,5µm,13.0s
LIS Lisbon 81.54 46 *eP* **P** **09 21 31.5 +0.8**
PMAFR Mafra 81.56 46 *eP* **P** **09 21 32.1 +1.3**
comp=Z,82nm,1.2s
PMAFR *eS* S 09 31 31.2 -9.3
PNCL Nicolau / Gran 81.69 47 *eP* **P** **09 21 33.1 +1.6**
comp=Z,47nm,0.9s
PNCL Nicolau / Gran 81.69 47 *eS* S 09 31 53.1 +11
PBDV Barranco-do-Ve 81.71 48 *eP* **P** **09 21 34.4 +2.7**
PBDV Barranco-do-Ve 81.71 48 *eS* **S** **09 31 42.6 +0.5**
NUUK Nuuk 81.77 10 *i* P **P** **09 21 31.3 +0.1**
NUUK IAmb IAmb 09 21 33.0
comp=Z,40nm,1.1s
MESJ Messejana 81.78 47 *eP* **P** **09 21 32.7 +0.8**
MESJ *ePP* **PP** **09 24 39.6 0.0**
MESJ *eS* **S** **09 31 45.1 +2.4**
MESJ IAMs_20 IAMs_20 09 54 56.9
comp=Z,3µm,17.5s
MESJ Messejana 81.78 47 *eP* **P** **09 21 32.7 +0.8**
MESJ *e* 09 24 39.6
MESJ *eS* **S** **09 31 45.1 +2.4**
MESJ Messejana 81.78 47 *eP* **P** **09 21 33.8 +1.8**
comp=Z,51nm,0.9s
PCVE Castro Verde 81.81 47 *eP* **P** **09 21 34.0 +1.9**
comp=Z,80nm,0.9s
PCVE Castro Verde 81.81 47 *eS* **S** **09 31 46.0 +2.9**
PVAQ Vaqueiros 81.94 48 *eP* **P** **09 21 34.7 +1.9**
comp=Z,38nm,1.7s
PVAQ Vaqueiros 81.94 48 *ePP* PP 09 24 51.6 +11
PVAQ *eS* **S** **09 31 50.1 +5.7**
PVAQ Vaqueiros 81.94 48 *eLR* LR 09 50 17.9
comp=Z,4µm,20.0s
PVAQ Vaqueiros 81.94 48 IAmb IAmb 09 21 40.9
comp=Z,44nm,1.4s
CZD Col de Zad 82.00 52 P 09 21 36.0
PBEJ Beja 82.12 47 *eP* **P** **09 21 35.4 +1.7**
comp=Z,39nm,0.9s
PSBE So Bento 82.16 45 *eP* **P** **09 21 35.6 +1.6**
comp=Z,44nm,1.4s
PSBE So Bento 82.16 45 *eS* **S** **09 31 47.7 +1.1**
MDT Midelt 82.24 53 P 09 21 36.2
EVO Evora 82.25 46 *eP* **P** **09 21 36.7 +2.3**
comp=Z,24nm,1.8s
PMTG Montargil 82.35 46 *eP* **P** **09 21 36.2 +1.3**
comp=Z,68nm,1.0s
PMTG Montargil 82.35 46 *eS* **S** **09 31 56.4 +7.9**
BBB Bella Bella 82.36 330 IAmb IAmb 09 21 37.5
comp=Z,30nm,0.9s
PCAS Casmilo, Conde 82.62 45 *eP* **P** **09 21 37.8 +1.5**
comp=Z,49nm,1.3s
PCAS Casmilo, Conde 82.62 45 *eS* **S** **09 32 00.2 +9.0**
CHEFC Chefchaouen 82.65 50 P 09 21 39.0
PESTR Estremoz 82.69 46 P 09 21 38.7
PESTR Estremoz 82.69 46 *eP* **P** **09 21 38.2 +1.5**
comp=Z,50nm,1.0s
PESTR Estremoz 82.69 46 *eS* **S** **09 31 51.5 -0.6**
COI Coimbra 82.75 45 *eS* **S** **09 31 54.9 +2.4**
PBAR Barrancos 82.77 47 *eP* **P** **09 21 38.5 +1.4**
comp=Z,43nm,1.0s
PBAR Barrancos 82.77 47 *eS* S 09 31 43.1 -10
SMIR Smir Dam 82.87 50 P 09 21 40.0
PMRV Marv??o 83.09 46 *eP* **P** **09 21 39.6 +0.8**
comp=Z,34nm,1.0s
PMRV Marv??o 83.09 46 *ePP* PP 09 24 51.6 +1.3
PMRV *eS* **S** **09 31 59.7 +3.6**
PMRV Marv??o 83.09 46 *eLR* LR 09 49 16.6
comp=Z,5µm,20.0s
PCBR Castelo Branco 83.21 45 *eP* **P** **09 21 40.3 +0.9**
comp=Z,66nm,1.1s
PVIS Viseu 83.33 44 *eP* **P** **09 21 41.2 +1.1**
comp=Z,97nm,1.1s
SYO Syowa Base 83.36 161⇑ *eP* **P** **09 21 36.7 -2.9**
SYO Syowa Base 83.36 161⇓ *eX* **P** **09 21 39.7 +0.1**
MTE Manteigas 83.42 45 *eP* **P** **09 21 41.5 +0.9**
comp=Z,106nm,1.1s
MTE Manteigas 83.42 45 *eS* **S** **09 32 03.7 +4.1**
MTE Manteigas 83.42 45 *eLR* LR 09 53 04.4
comp=Z,6µm,22.0s
PGAV Gavieira, Arco 83.66 43 *eP* **P** **09 21 42.4 +0.6**
comp=Z,72nm,1.3s
PGAV Gavieira, Arco 83.66 43 *ePP* PP 09 24 57.9 +2.8
PGAV *eS* **S** **09 32 06.6 +4.6**
PGAV Gavieira, Arco 83.66 43 *eLR* LR 09 49 30.6
comp=Z,4µm,20.0s
POLO Lamas de Olo 83.70 44 *eP* **P** **09 21 43.0 +1.0**
comp=Z,40nm,1.2s
POLO Lamas de Olo 83.70 44 *eS* **S** **09 32 09.3 +6.9**
PCAB Cabril 83.70 44 *eP* **P** **09 21 42.7 +0.8**
comp=Z,118nm,1.2s
PVRL Vila Real 83.71 44 *eP* **P** **09 21 43.1 +1.1**
comp=Z,76nm,1.1s
PALE Palemas 83.74 51 P 09 21 44.0
MVO Moncorvo 84.12 44 *eP* **P** **09 21 45.2 +1.1**
comp=Z,103nm,1.0s
MVO Moncorvo 84.12 44 *ePP* PP 09 24 50.4 -8.4
MVO *eS* **S** **09 32 10.4 +3.9**
MVO Moncorvo 84.12 44 *eLR* LR 09 50 23.6
comp=Z,4µm,22.0s
TDRA Tendrara 84.32 53 P 09 21 47.0
YKA Yellowknife Ar 84.41 342 P **P** **09 21 44.2 -0.7**
comp=Z,37nm,0.9s,baz=136,slow=5.5,SNR=139
YKA LR LR 10 01 21.8
comp=Z,2µm,20.4s,baz=0.0,slow=37
JBK JBK 84.42 52 P 09 21 47.0
GOG Mont Gurugu 84.45 51 P 09 21 47.1
FIGM Figuig 84.56 55 P 09 21 48.1
SFJD Kangerlussuaq 84.56 9⇑ *iP* **P** **09 21 44.9 -0.7**
SFJD IAmb IAmb 09 21 47.2
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 84.56 9⇑ *iP* **P** **09 21 44.9 -0.7**
SFJD pmax pmax
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 84.56 9 P **P** **09 21 44.9 -0.7**
SFJD Kangerlussuaq 84.56 9 IAMs_20 IAMs_20 09 58 34.1
comp=Z,2µm,22.0s
PBRG Braganca 84.60 44 *eP* **P** **09 21 47.4 +0.9**
comp=Z,56nm,1.2s
TAF Taforalt 84.72 52 P 09 21 49.0
DY2G Dye2 84.81 11⇑ *iP* **P** **09 21 47.1 -0.2**
DY2G IAmb IAmb 09 21 49.0
comp=Z,58nm,1.0s
DIB Dawson Inlet, 85.10 329 IAmb IAmb 09 21 50.4
comp=Z,20nm,0.9s
H02S1 DAWSON INLET T 85.10 329 P **P** **09 21 49.6 +1.0**
PAB San Pablo 85.25 47 P 09 21 51.4
PAB San Pablo 85.25 47 P **P** **09 21 50.0 +0.1**
PAB pmax pmax
comp=Z,85nm,1.0s
PAB San Pablo 85.25 47 P **P** **09 21 50.0 +0.1**
ISOG Isortoq, Green 85.52 14 *i* P **P** **09 21 50.4 0.0**
ISOG IAmb IAmb 09 21 51.0
comp=Z,32nm,0.8s
ESDC Sonseca Array 85.58 47 P **P** **09 21 52.5 +1.1**
comp=Z,40nm,1.0s,baz=256,slow=5.3,SNR=91
ESDC LR LR 09 58 22.6
comp=Z,4µm,19.5s,baz=240,slow=34
ESDC Sonseca Array 85.58 47 P **P** **09 21 52.4 +1.0**
ESDC IAmb IAmb 09 21 55.0
comp=Z,42nm,1.1s
ESBB Sonseca Array 85.58 47 IAmb IAmb 09 21 55.0
comp=Z,42nm,1.0s
ANGG Ammassalik, Gr 85.89 14 *i* P **P** **09 21 52.5 +0.3**
TSUM Tsumeb 86.47 109 P **P** **09 21 57.0 +0.5**
ILULI Ilulissat 86.55 8⇑ *iP* **P** **09 21 55.1 -0.3**
ILULI IAmb IAmb 09 21 56.9
comp=Z,49nm,1.0s
ILULI Ilulissat 86.55 8⇑ *iP* **P** **09 21 55.1 -0.3**
ILULI pmax pmax
comp=Z,49nm,1.0s
ILULI Ilulissat 86.55 8 IAmb IAmb 09 21 57.2
comp=Z,49nm,1.0s
ILULI IAMs_20 IAMs_20 10 03 42.7
comp=Z,1µm,20.0s
CRAG Craig 86.70 331 P 09 21 55.9
baz=124
CRAG S 09 32 32.2
baz=124
CRAG Craig 86.70 331 IAmb IAmb 09 22 08.3
comp=Z,24nm,1.2s
CRAG IAMs_20 IAMs_20 10 01 27.9
comp=Z,2µm,20.0s
CART Cartagena 86.86 50 IAMs_20 IAMs_20 09 57 57.6
comp=Z,1µm,21.0s
WRAK Wrangell Islan 86.89 332 IAmb IAmb 09 21 59.7
comp=Z,32nm,0.9s
WRAK Wrangell Islan 86.89 332 P 09 21 57.6
baz=125,SNR=21
BYL Byron's Ledge 87.11 291 IAMs_20 IAMs_20 09 51 21.7
comp=Z,2µm,18.0s
KKO Keanakako`i 87.11 291 IAMs_20 IAMs_20 09 57 15.8
comp=Z,1µm,19.0s
HATHI Halema'uma'u T 87.12 291 IAMs_20 IAMs_20 09 59 58.8
comp=Z,1µm,19.0s
AIN Ainahou 87.28 291 IAMs_20 IAMs_20 09 49 54.1
comp=Z,2µm,19.0s
MWH Moku'aweowe 87.44 291 IAMs_20 IAMs_20 09 51 00.3
comp=Z,2µm,21.0s
KHLU Kahalu`u 87.74 291 IAMs_20 IAMs_20 09 50 35.2
comp=Z,1µm,20.0s
ICESG Greenland Ices 88.34 12 *i* P **P** **09 22 04.6 +0.1**
ICESG IAmb IAmb 09 22 08.0
comp=Z,47nm,1.0s
SIT Sitka 88.60 331 P 09 22 06.1
baz=123
SIT S 09 32 51.0
baz=123
SIT Sitka 88.61 331 IAMs_20 IAMs_20 10 04 20.2
comp=Z,1µm,19.0s
JIS Juneau Island 88.85 333 IAmb IAmb 09 22 08.7
comp=Z,19nm,1.0s
UPNV Upernavik 89.37 5 *i* P **P** **09 22 09.6 +0.8**
UPNV IAmb IAmb 09 22 10.4
comp=Z,25nm,0.9s
SKAG Skagway 89.91 333 P 09 22 11.8
baz=123,SNR=13
SKAG S 09 32 59.4
baz=123
SKAG Skagway 89.91 333 IAmb IAmb 09 22 26.4
comp=Z,24nm,1.0s
WHY Whitehorse 90.37 335 P 09 22 14.1
baz=123
WHY S 09 33 02.7
baz=123
WHY Whitehorse 90.37 335 IAMs_20 IAMs_20 10 04 33.7
comp=Z,2µm,19.0s
BOSA Boshof 90.47 120 P **P** **09 22 15.8 +0.5**
comp=Z,20nm,1.0s,baz=264,slow=3.4,SNR=16
BOSA LR LR 09 59 59.1
comp=Z,3µm,20.8s,baz=260,slow=34
BOSA Boshof 90.47 120 P **P** **09 22 15.2 -0.1**
BOSA pmax pmax
comp=Z,48nm,1.4s
BOSA Boshof 90.47 120 P **P** **09 22 15.2 -0.1**
BOSA IAmb IAmb 09 22 17.5
comp=Z,48nm,1.4s
MAW Mawson 90.97 165 P **P** **09 22 17.4 +0.8**
comp=Z,16nm,0.8s,baz=231,slow=5.9,SNR=30
MAW LR LR 10 00 38.0
comp=Z,3µm,21.4s,baz=228,slow=34
MAW Mawson 90.97 165 P **P** **09 22 17.1 +0.5**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 90.97 165 P **P** **09 22 17.1 +0.5**
RES Reoulte Bay 91.42 355 IAMs_20 IAMs_20 10 06 31.4
comp=Z,2µm,20.0s
SUMG Summit 91.48 10 *i* P **P** **09 22 20.2 +1.0**
SUMG IAmb IAmb 09 22 22.0
comp=Z,92nm,1.0s
SUMG Summit 91.48 10 *i* P **P** **09 22 20.2 +1.0**
SUMG pmax pmax
comp=Z,92nm,1.0s
SUMG Summit 91.48 10 IAMs_20 IAMs_20 10 04 35.9
comp=Z,2µm,21.0s
LBTB Lobatse 91.90 117 P **P** **09 22 22.4 +0.4**
LBTB Lobatse 91.90 117 P **P** **09 22 22.4 +0.4**
BCPM Bancas Point 92.03 333 IAMs_20 IAMs_20 10 06 47.8
comp=Z,2µm,20.0s
PINM Pinnacle 92.37 333 P 09 22 22.8
baz=118
PCA Pinnacle 92.38 333 IAmb IAmb 09 22 25.3
comp=Z,20nm,1.0s
PCA IAMs_20 IAMs_20 10 04 07.8
comp=Z,2µm,20.0s
TULEG Thule 92.39 1 *i* P **P** **09 22 23.3 +0.4**
TULEG IAmb IAmb 09 22 24.7
comp=Z,15nm,1.0s
TULEG Thule 92.39 1 IAmb IAmb 09 22 25.0
comp=Z,14nm,1.0s
TULEG IAMs_20 IAMs_20 10 06 17.0
comp=Z,1µm,20.0s
CLF Chambon-Foret 92.96 41 IAmb IAmb 09 22 28.6
comp=Z,26nm,0.9s
LOGN Logan Glacier 93.05 333 IAMs_20 IAMs_20 10 06 51.6
comp=Z,2µm,21.0s
MESA MESA 93.17 332 P 09 22 26.2
baz=117
CTGM Chitina Glacie 93.25 333 IAmb IAmb 09 22 42.5
comp=Z,15nm,1.1s
CTGM IAMs_20 IAMs_20 10 06 48.2
comp=Z,2µm,21.0s
CTG Chitna Glacier 93.26 333 P 09 22 27.1
baz=118
GRNC Granite Creek 93.33 333 IAmb IAmb 09 22 49.0
comp=Z,14nm,1.1s
GRNC IAMs_20 IAMs_20 10 07 38.1
comp=Z,2µm,21.0s
BARN Barnard Glacie 93.44 333 IAMs_20 IAMs_20 10 07 04.0
comp=Z,2µm,21.0s
WAX Waxell Ridge 93.69 332 IAMs_20 IAMs_20 10 07 51.6
comp=Z,2µm,21.0s
CRQE Cirque 93.93 333 P 09 22 29.7
baz=116
SUCK Suckling Hills 93.94 332 IAMs_20 IAMs_20 10 06 03.2
comp=Z,2µm,21.0s
CRQM Cirque 93.95 333 IAmb IAmb 09 23 00.2
comp=Z,23nm,1.0s
CRQM IAMs_20 IAMs_20 10 05 04.9
comp=Z,2µm,21.0s
KEST Kesra 94.07 54 P **P** **09 22 32.6 +0.9**
comp=Z,7.2nm,0.9s,baz=253,slow=3.4,SNR=10
KEST LR LR 10 04 52.7
comp=Z,3µm,20.5s,baz=219,slow=36
KEST Kesra 94.07 54 IAmb IAmb 09 22 50.0
comp=Z,14nm,1.1s
EPYK Eagle Plains 94.11 339 P 09 22 30.6
baz=121
EPYK Eagle Plains 94.11 339 IAMs_20 IAMs_20 10 06 36.6
comp=Z,2µm,19.0s
INK Inuvik 94.12 341 P 09 22 30.7
baz=124
INK Inuvik 94.12 341 IAmb IAmb 09 22 32.5
comp=Z,19nm,0.9s
MCARA McCarthy VSAT 94.17 333 P 09 22 30.5
baz=116
MCARA McCarthy VSAT 94.18 333 IAMs_20 IAMs_20 10 05 47.4
comp=Z,2µm,22.0s
NEEM North Greenlan 94.22 5 *i* P **P** **09 22 32.2 +0.6**
NEEM IAmb IAmb 09 22 35.0
comp=Z,12nm,0.8s
HMT Hamilton 94.27 332 IAMs_20 IAMs_20 10 03 52.0
comp=Z,2µm,22.0s
VRDI Verde Repeater 94.29 333 IAMs_20 IAMs_20 10 05 36.6
comp=Z,2µm,21.0s
BCAR Beaver Creek A 94.41 335 P **P** **09 22 32.0 -0.5**
L27K Beaver Creek, 94.42 335 P 09 22 31.7
baz=117
L27K S 09 33 41.5
baz=117
GLB Gilahina Butte 94.54 333 IAMs_20 IAMs_20 10 05 56.1
comp=Z,2µm,21.0s
MID Middleton Isla 94.86 331 IAMs_20 IAMs_20 10 02 46.5
comp=Z,1µm,20.0s
EGAK Eagle 94.94 337 P 09 22 34.1
baz=117
EGAK S 09 33 45.6
baz=117
N25K Chitina, Valde 94.95 333 IAMs_20 IAMs_20 10 05 57.0
comp=Z,2µm,22.0s
N25K Chitina, Valde 94.95 333 P 09 22 34.3
baz=115
N25K S 09 33 51.4
baz=115
K27K Chicken 94.96 336 P 09 22 35.1
baz=117
K27K Chicken 94.96 336 IAmb IAmb 09 23 00.0
comp=Z,16nm,1.1s
EYAK Cordova Ski Ar 95.03 332 IAMs_20 IAMs_20 10 10 10.1
comp=Z,2µm,19.0s
SNF Seneffe 95.04 39 *dP* **P** **09 22 36.3 +0.7**
DOU Dourbes 95.10 39 *dP* **P** **09 22 36.0 +0.1**
comp=Z,23nm,1.1s
VSL Villasalto 95.16 51 IAmb IAmb 09 22 38.5
comp=Z,15nm,1.0s
VSL IAMs_20 IAMs_20 10 03 42.4
comp=Z,1µm,20.0s
BMRD Maredsous 95.27 39 *bP* **P** **09 22 36.9 +0.2**
comp=Z,24nm,1.1s
HIN Hinchinbrook I 95.31 332 IAMs_20 IAMs_20 10 10 11.6
comp=Z,2µm,20.0s
FID Port Fidalgo 95.44 332 IAMs_20 IAMs_20 10 10 34.1
comp=Z,2µm,20.0s
KLU Klutina 95.49 333 IAmb IAmb 09 23 05.9
comp=Z,14nm,0.9s
KLU Klutina 95.49 333 P 09 22 36.9
baz=114
BGES Gesves 95.49 39 *dP* **P** **09 22 37.8 +0.1**
comp=Z,15nm,1.0s
BCLA Clavier 95.63 39 *dP* **P** **09 22 38.4 +0.1**
SCRK Sand Creek 95.69 335 P 09 22 37.4
baz=115
GLI Glacier Island 95.77 332 P 09 22 38.3
baz=112
GLI Glacier Island 95.77 332 IAMs_20 IAMs_20 10 06 39.6
comp=Z,1µm,20.0s
M24K Tolsona, Glenn 95.84 333 IAMs_20 IAMs_20 10 05 08.4
comp=Z,2µm,21.0s
M24K Tolsona, Glenn 95.84 333 P 09 22 38.3
baz=113
PAX Paxson 95.89 334 P 09 22 38.3
baz=114
PAX Paxson 95.89 334 IAMs_20 IAMs_20 10 05 33.6
comp=Z,2µm,21.0s
WLF Walferdange 95.92 40 *dP* **P** **09 22 40.7 +1.0**
comp=Z,28nm,1.1s
BHOU Houvegnez 96.04 39 *dP* **P** **09 22 40.7 +0.5**
comp=Z,18nm,1.1s
MEM Membach 96.12 39 *dP* **P** **09 22 40.5 0.0**
comp=Z,14nm,1.0s
ECH Echery 96.12 42 IAmb IAmb 09 22 43.0
comp=Z,18nm,1.1s
ECH IAMs_20 IAMs_20 10 01 45.3
comp=Z,1µm,20.0s
BTNL Ternell 96.19 39 *dP* **P** **09 22 40.9 0.0**
comp=Z,16nm,1.2s
SCM Sheep Creek Mo 96.24 333 IAMs_20 IAMs_20 10 09 41.0
comp=Z,2µm,21.0s
DBG Daneborg 96.28 13 *i* P **P** **09 22 41.4 +0.6**
DBG IAmb IAmb 09 22 43.1
comp=Z,2.0nm,0.8s
PWL Port Wells 96.33 332 IAMs_20 IAMs_20 10 09 42.3
comp=Z,1µm,20.0s
SEW Seward 96.57 331 P 09 22 41.4
baz=111
SEW Seward 96.57 331 IAMs_20 IAMs_20 10 15 14.8
comp=Z,2µm,19.0s
KNK Knik Glacier 96.58 332 P 09 22 40.9
baz=111
KNK Knik Glacier 96.58 332 IAMs_20 IAMs_20 10 06 07.1
comp=Z,2µm,22.0s
SML Sawmill 96.67 333 P 09 22 41.4
baz=111
SML Sawmill 96.67 333 IAMs_20 IAMs_20 10 09 55.4
comp=Z,2µm,22.0s
WAT6 Susitna Watana 96.70 333 P 09 22 41.6
baz=112
BFO Black Forest 96.91 42 P **P** **09 22 43.1 -1.1**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 96.91 42 P **P** **09 22 43.1 -1.1**
BFO IAmb IAmb 09 23 05.0
comp=Z,9.9nm,1.0s
BFO IAMs_20 IAMs_20 10 02 29.0
comp=Z,2µm,21.0s
GHO Glory Hole Cre 96.92 332 IAmb IAmb 09 22 58.7
comp=Z,11nm,1.0s
PRP Porcupine Dome 96.93 337 P 09 22 43.0
baz=113
PMR Palmer 96.95 332 IAMs_20 IAMs_20 10 09 19.8
comp=Z,2µm,22.0s
PMR Palmer 96.95 332 P 09 22 42.5
baz=111
RC01 Rabbit Creek A 97.05 332 P 09 22 42.8
baz=110
RC01 Rabbit Creek A 97.05 332 IAMs_20 IAMs_20 10 10 05.4
comp=Z,2µm,22.0s
HDA Harding Lake 97.06 335 P 09 22 43.9
baz=112
HDA P 09 22 43.9
baz=112
BRSE Bradley Lake S 97.06 330 P 09 22 43.3
baz=110
HDA Harding Lake 97.06 335 IAMs_20 IAMs_20 10 08 11.5
comp=Z,2µm,21.0s
TUE Stuetta 97.06 44 IAmb IAmb 09 23 08.9
comp=Z,16nm,1.1s
BRLK Bradley Lake 97.13 330 IAmb IAmb 09 22 46.7
comp=Z,27nm,1.0s
BRLK IAMs_20 IAMs_20 10 15 05.8
comp=Z,1µm,22.0s
WAT1 Susitna Watana 97.14 334 P 09 22 44.3
baz=111
VLC Villacollemand 97.15 46 IAmb IAmb 09 22 46.6
comp=Z,14nm,1.1s
ILAR Eielson Array 97.17 336 P **P** **09 22 43.3 -1.6**
comp=Z,2.5nm,0.9s,baz=149,slow=3.2,SNR=17
ILAR PP **PP** **09 26 36.8 -4.8**
comp=Z,4.3nm,0.9s,baz=110,slow=6.7,SNR=15
ILAR LR LR 10 11 49.4
comp=Z,1µm,18.8s,baz=117,slow=39
ILAR Eielson Array 97.17 336 P **P** **09 22 43.1 -1.9**
ILAR Eielson Array 97.17 336 P **P** **09 22 43.1 -1.9**
FYU Fort Yukon 97.24 338 IAmb IAmb 09 23 11.6
comp=Z,30nm,1.3s
FIS Fire Island 97.29 332 IAMs_20 IAMs_20 10 11 30.6
comp=Z,1µm,20.0s
BMAR Burnt Mountain 97.35 338 P Pdif 09 22 46.1 +0.2
HOM Homer 97.46 330 IAMs_20 IAMs_20 10 12 45.5
comp=Z,1µm,20.0s
RND Reindeer 97.47 334 IAmb IAmb 09 22 57.5
comp=Z,10.0nm,1.0s
RND IAMs_20 IAMs_20 10 09 00.6
comp=Z,2µm,20.0s
CCB Clear Creek Bu 97.49 335 IAMs_20 IAMs_20 10 08 57.9
comp=Z,2µm,22.0s
OHAK Old Harbor 97.52 327 P 09 22 45.2
baz=108
WRH Wood River Hil 97.54 335 IAMs_20 IAMs_20 10 09 00.3
comp=Z,1µm,20.0s
STU Stuttgart 97.58 42 IAMs_20 IAMs_20 10 02 27.8
comp=Z,1µm,20.0s
CAPN Captain Cook N 97.59 331 IAMs_20 IAMs_20 10 11 45.8
comp=Z,2µm,21.0s
COLA College 97.59 336 *c* *iP* Pdif 09 22 46.6 -0.3
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 97.59 336 P **P** **09 22 45.9 -1.0**
COLA IAmb IAmb 09 22 47.9
comp=Z,13nm,0.9s
COLA College 97.59 336 P 09 22 46.0
baz=111
OSSC Osservatorio P 97.59 47 IAmb IAmb 09 22 49.4
comp=Z,10nm,0.9s
TCOL CIGO, UAF Yank 97.59 336 P 09 22 46.2
baz=111

TCOL	**CIGO, UAF Yank**	**97.59**	**336**		IAmb	IAmb	09 22 47.9		
	comp=Z,13nm,0.9s								
MCK	**McKinley**	**97.62**	**334**		IAMs_20	IAMs_20	10 06 36.5		
	comp=Z,1µm,22.0s								
MCK	**McKinley**	**97.62**	**334**		P		09 22 46.2		
	baz=111								
DAVA	**Damuels**	**97.63**	**43**	*e*	P	Pdif	09 22 48.2	+0.4	
	comp=Z,18nm,0.9s,SNR=6.6								
SUA	**Susitna One**	**97.63**	**332**		P		09 22 46.6		
	baz=109								
SUA	**Susitna One**	**97.63**	**332**		IAMs_20	IAMs_20	10 07 26.9		
	comp=Z,2µm,22.0s								
CUT	**Chulitna**	**97.73**	**333**		IAMs_20	IAMs_20	10 06 49.4		
	comp=Z,1µm,20.0s								
MDM	**Murphy Dome**	**97.77**	**336**		IAmb	IAmb	09 23 11.6		
	comp=Z,13nm,1.0s								
CASY	**Casey**	**97.90**	**182**		IAMs_20	IAMs_20	10 09 11.4		
	comp=Z,2µm,18.0s								
H24K	**Noodor Dome**	**97.95**	**336**		P		09 22 47.8		
	baz=111								
NEA2	**Nenana**	**97.98**	**335**		IAMs_20	IAMs_20	10 12 38.9		
	comp=Z,1µm,20.0s								
NEA2	**Nenana**	**97.98**	**335**		P		09 22 47.9		
	baz=110								
BWN	**Browne**	**97.99**	**335**		IAmb	IAmb	09 22 51.7		
	comp=Z,22nm,0.8s								
BWN					IAMs_20	IAMs_20	10 06 47.5		
	comp=Z,2µm,21.0s								
TRF	**Thorofare Moun**	**98.09**	**334**		IAMs_20	IAMs_20	10 09 09.0		
	comp=Z,2µm,22.0s								
TRF	**Thorofare Moun**	**98.09**	**334**		P		09 22 48.3		
	baz=110								
DAG	**Danmarks Havn**	**98.11**	**11**	*e*	P	**P**	**09 22 48.1**	**-0.8**	
DAG	**Danmarks Havn**	**98.11**	**11**	*e*	P	**P**	**09 22 48.1**	**-0.8**	
FETA	**Feichten**	**98.12**	**44**	*e*	P	Pdif	09 22 50.3	+0.3	
	comp=Z,8.0nm,1.0s								
SKT	**Skwentna**	**98.15**	**332**		P		09 22 48.8		
	baz=109								
SKT	**Skwentna**	**98.16**	**332**		IAMs_20	IAMs_20	10 08 03.6		
	comp=Z,2µm,22.0s								
RETA	**Reutte**	**98.26**	**43**	*e*	P	Pdif	09 22 50.7	+0.3	
	comp=Z,7.7nm,0.8s								
I23K	**Minto, Yukon-K**	**98.29**	**336**		P		09 22 49.4		
	baz=110								
KTH	**Kantishna Hill**	**98.39**	**334**		IAmb	IAmb	09 22 54.3		
	comp=Z,8.7nm,0.9s								
KTH					IAMs_20	IAMs_20	10 09 17.9		
	comp=Z,1µm,22.0s								
MOTA	**Moosalm**	**98.45**	**43**	*e*	P	Pdif	09 22 51.6	+0.2	
	comp=Z,12nm,0.9s,SNR=7.4								
SQTA	**Sankt Quirin**	**98.49**	**43**	*e*	P	Pdif	09 22 51.6	+0.1	
	comp=Z,21nm,0.8s								
ALE	**Alert**	**98.50**	**2**		IAMs_20	IAMs_20	10 11 24.9		
	comp=Z,1µm,19.0s								
CTI	**Castel Tesino**	**98.50**	**45**		IAmb	IAmb	09 22 52.9		
	comp=Z,8.9nm,0.8s								
H23K	**Yukon River**	**98.59**	**336**		P		09 22 50.8		
	baz=110								
BPAW	**Bear Paw Mtn.**	**98.60**	**334**		P		09 22 50.3		
	baz=109								
BPAW	**Bear Paw Mtn.**	**98.60**	**334**		IAMs_20	IAMs_20	10 09 04.3		
	comp=Z,1µm,20.0s								
PPLA	**Purkeypile**	**98.73**	**333**		IAMs_20	IAMs_20	10 07 20.9		
	comp=Z,2µm,21.0s								
PPLA	**Purkeypile**	**98.73**	**333**		P		09 22 51.6		
	baz=108								
WATA	**Walderalm**	**98.76**	**43**	*e*	P	Pdif	09 22 53.1	+0.3	
	comp=Z,19nm,1.3s								
WTTA	**Wattenberg**	**98.78**	**43**	*e*	P	Pdif	09 22 53.4	+0.5	
	comp=Z,13nm,0.7s,SNR=8.0								
MLY	**Manley**	**98.80**	**335**		P		09 22 51.8		
	baz=109								
MLY	**Manley**	**98.80**	**335**		IAMs_20	IAMs_20	10 09 47.6		
	comp=Z,2µm,20.0s								
AQU	**L'Aquila**	**98.84**	**49**		IAMs_20	IAMs_20	10 06 59.7		
	comp=Z,1µm,22.0s								
O19K	**Port Alsworth**	**98.91**	**330**		P		09 22 52.2		
	baz=106								
GRFO	**Grafenberg**	**99.10**	**41**		IAMs_20	IAMs_20	10 04 16.9		
	comp=Z,2µm,21.0s								
GRA1	**Grafenberg Arr**	**99.10**	**41**		IAMs_20	IAMs_20	10 04 17.0		
	comp=Z,2µm,21.0s								
INTR	**Introdacqua**	**99.13**	**49**		IAmb	IAmb	09 22 56.1		
	comp=Z,13nm,0.8s								
N19K	**Bonanza Creek**	**99.16**	**331**		P		09 22 53.2		
	baz=106								
ABTA	**Abfaltersbach**	**99.24**	**44**	*e*	P	**Pdif**	**09 22 55.2**	**+0.4**	
	comp=Z,13nm,0.9s,SNR=6.4								
COLD	**Coldfoot**	**99.31**	**337**		P		09 22 53.9		
	baz=109								
I21K	**Tanana**	**99.34**	**335**		P		09 22 54.1		
	baz=108								
JOHN	**Johnston Islan**	**99.45**	**285**		IAMs_20	IAMs_20	09 56 09.7		
	comp=Z,2µm,21.0s								
TOLK	**Toolik Lake Re**	**99.55**	**339**		P		09 22 55.5		
	baz=109								
MUD	**Monsted U'grnd**	**99.55**	**34**	*i*	P	**Pdif**	**09 22 56.0**	**+0.2**	
MUD					IAmb	IAmb	09 22 57.2		
	comp=Z,23nm,1.1s								
MUD	**Monsted U'grnd**	**99.55**	**34**	*i*	P	**Pdif**	**09 22 56.0**	**+0.2**	
MUD					pmax	pmax			
	comp=Z,23nm,1.1s								
N18K	**Kilae Creek**	**99.79**	**330**		P		09 22 56.1		
	baz=105								
ROBS	**Robic**	**99.80**	**45**	*i*	P	**Pdif**	**09 22 56.7**	**-0.5**	
KBA	**Koelnbreinsper**	**99.87**	**44**	*e*	P	**Pdif**	**09 22 57.7**	**-0.1**	
	comp=Z,3.4nm,0.9s								
MYKA	**Terra Mystica**	**99.97**	**44**	*e*	P	**Pdif**	**09 22 58.3**	**+0.3**	
	comp=Z,5.6nm,0.6s								
NKC	**Novy Kostel**	**99.99**	**41**	*e*	P	**Pdif**	**09 23 00.0**	**+2.0**	
NKC				*e*			09 27 01.1		
NKC				*e*			09 36 09.6		
NKC					MLR	MLR			
	comp=Z,2µm,20.0s								
NKC	**Novy Kostel**	**99.99**	**41**	*e*	PDIFF	**Pdif**	**09 23 00.0**	**+2.0**	
NKC				*e*	PP	**PP**	**09 27 01.1**	**-2.5**	
NKC				*ex*	x		09 36 09.6		
NKC					AMS	AMS	10 04 30.0		
	comp=Z,2µm,20.0s								
CRNS	**Crni Vrh**	**100.28**	**45**	*i*	P	**Pdif**	**09 22 60.0**	**+0.6**	
CNBA	**Chernabura Isl**	**100.29**	**324**		IAMs_20	IAMs_20	10 06 58.6		
	comp=Z,1µm,20.0s								
KHC	**Kasperske Hory**	**100.47**	**42**	*e*	P	**Pdif**	**09 23 01.4**	**+1.2**	
KHC				*e*			09 27 07.1		
KHC					MLR	MLR			
	comp=Z,1µm,19.6s								
KHC	**Kasperske Hory**	**100.47**	**42**	*e*	PDIFF	**Pdif**	**09 23 01.4**	**+1.2**	
KHC				*e*	PP	**PP**	**09 27 07.1**	**-0.2**	
KHC				*ex*	x		09 35 57.4		
KHC					AMS	AMS	10 08 00.0		
	comp=Z,1µm,19.6s								
GERES	**GERESS Array B**	**100.49**	**42**		P	**Pdif**	**09 23 00.6**	**+0.2**	
	comp=Z,4.5nm,0.9s,baz=242,slow=2.9,SNR=22								
GERES					PKKPbc	**PKKPbc**	**09 39 17.0**	**-0.3**	
	comp=Z,0.7nm,0.3s,baz=145,slow=3.6,SNR=7.6								
GERES	**GERESS Array B**	**100.49**	**42**		P	**Pdif**	**09 23 00.3**	**0.0**	
GERES	**GERESS Array B**	**100.49**	**42**		Pdif	**Pdif**	**09 23 00.3**	**0.0**	
KONO	**Kongsberg**	**100.54**	**31**		IAMs_20	IAMs_20	10 06 19.4		
	comp=Z,1µm,22.0s								
CLL	**Collm**	**100.57**	**40**	*e*	Pdif	**Pdif**	**09 23 02.0**	**+1.5**	
	comp=Z,8.0nm,0.8s								
CLL				*e*			09 23 07.0		
CLL				*e*	PP	**PP**	**09 27 04.0**	**-3.9**	
CLL				*es*	SKSac	sSKSac	09 33 55.0	-0.8	
CLL				*e*	Sdif	**Sdif**	**09 34 37.0**	**+2.2**	
CLL				*e*	PS	**PS**	**09 36 08.0**	**-1.1**	
CLL				*e*	PPS	PPS	09 37 02.0		
CLL				*e*	SS	**SS**	**09 41 24.0**	**-7.9**	
CLL				*e*	SSS	SSS	09 45 18.0		
CLL				*e*	SSSS		09 48 48.0		
CLL					Lm	MLR	10 08 00.0		
	comp=N,1µm,19.3s								
CLL					Lm	MLR	10 08 00.0		
	comp=E,2µm,18.6s								
CLL					Lm	MLR	10 08 00.0		
	comp=Z,3µm,18.7s								
CLL	**Collm**	**100.57**	**40**	*e*	P	**Pdif**	**09 23 02.0**	**+1.5**	
CLL				*e*			09 27 04.0		
CLL				*e*	S	**Sdif**	**09 34 37.0**	**+2.2**	
CLL					pmax	pmax			
	comp=Z,8.0nm,0.8s								
CLL					MLR	MLR			
	comp=Z,3µm,18.7s								
MOA	**Molln**	**100.65**	**43**	*e*	P	**Pdif**	**09 23 01.6**	**+0.6**	
	comp=Z,6.5nm,0.8s								
PBCC	**Pribram**	**100.85**	**41**		AMS	AMS	10 08 50.0		
	comp=Z,1µm,26.4s								

CKRC	**Cesky Krumlov**	**100.88**	**42**	*e*	PDIFF	**Pdif**	**09 23 01.2**	**-0.8**	
CKRC				*e*	PP	**PP**	**09 27 16.0**	**+5.6**	
CKRC				*ex*	x		09 36 09.0		
CKRC					AMS	AMS	10 09 20.0		
	comp=Z,2µm,18.1s								
BRG	**Berggiesshubel**	**101.06**	**40**	*e*	Piff		09 23 03.7		
BRG					Amp		09 23 06.1		
	comp=Z,14nm,1.3s								
BRG	**Berggiesshubel**	**101.06**	**40**		PP	**PP**	**09 27 13.0**	**+1.3**	
BRG	**Berggiesshubel**	**101.06**	**40**		PS	PS	09 36 14.0	-0.4	
GROS	**Grobnik**	**101.20**	**45**	*i*	P	**Pdif**	**09 23 04.0**	**+0.5**	
PRA	**Prague**	**101.21**	**41**	*e*	PDIFF	**Pdif**	**09 23 16.5**	**+13**	
PRA				*e*	PP	**PP**	**09 27 12.1**	**-0.7**	
PRA				*es*	SP	SP	09 36 08.9	-2.2	
PRA					AMS	AMS	10 07 40.0		
	comp=Z,2µm,20.6s								
PRU	**Pruhonice**	**101.26**	**41**	*e*	P	**Pdif**	**09 23 05.9**	**+2.3**	
PRU				*e*			09 27 11.2		
PRU				*e*			09 36 11.8		
PRU					MLR	MLR			
	comp=Z,2µm,19.7s								
PRU	**Pruhonice**	**101.26**	**41**	*e*	PDIFF	**Pdif**	**09 23 05.9**	**+2.3**	
PRU				*e*	PP	**PP**	**09 27 11.2**	**-2.0**	
PRU				*ex*	x		09 36 11.8		
PRU					AMS	AMS	10 07 40.0		
	comp=Z,2µm,19.7s								
ARSA	**Arzberg**	**101.36**	**44**	*e*	P	**Pdif**	**09 23 04.4**	**+0.2**	
	comp=Z,4.8nm,0.9s								
PVCC	**Panska Ves**	**101.38**	**41**	*e*	P	**Pdif**	**09 23 09.3**	**+5.2**	
PVCC				*e*			09 27 14.7		
PVCC				*e*			09 36 13.5		
PVCC					MLR	MLR			
	comp=Z,2µm,20.2s								
PVCC	**Panska Ves**	**101.38**	**41**	*e*	PDIFF	**Pdif**	**09 23 09.3**	**+5.2**	
PVCC				*e*	PP	**PP**	**09 27 14.7**	**+0.6**	
PVCC				*es*	SP	SP	09 36 13.5	+0.5	
PVCC					AMS	AMS	10 05 20.0		
	comp=Z,2µm,20.2s								
NOA	**NORSAR Array B**	**101.63**	**30**		P	**Pdif**	**09 23 05.6**	**+0.6**	
	comp=Z,1.4nm,0.9s,baz=257,slow=4.9,SNR=3.3								
CONA	**Conrad Observa**	**101.72**	**43**	*e*	P	**Pdif**	**09 23 06.0**	**+0.2**	
	comp=Z,2.6nm,0.9s								
TREC	**Trest**	**101.73**	**42**	*e*	PP	**PKiKP**	**09 27 22.1**	**-6.9**	
TREC				*es*	SP	SP	09 36 17.8	+1.0	
TREC					AMS	AMS	10 11 00.0		
	comp=Z,1µm,18.7s								
KRUC	**Moravsky**	**102.27**	**42**	*e*	PDIFF	**Pdif**	**09 23 08.5**	**+0.4**	
UPC	**Upice**	**102.28**	**41**	*e*	PDIFF	**Pdif**	**09 23 10.3**	**+2.1**	
UPC				*e*	PP	**PKiKP**	**09 27 30.9**	**+0.9**	
UPC				*ex*	x		09 36 17.1		
UPC					AMS	AMS	10 08 20.0		
	comp=Z,2µm,19.0s								
CHVC	**Chvalec**	**102.33**	**41**	*e*	PDIF	**Pdif**	**09 23 10.4**	**+2.0**	
CHVC				*e*	PP	**PKiKP**	**09 27 31.3**	**+1.2**	
CHVC				*ex*	x		09 36 24.6		
CHVC					AMS	AMS	10 08 10.0		
	comp=Z,2µm,19.8s								
OSTC	**Ostas**	**102.42**	**41**	*e*	PDIFF	**Pdif**	**09 23 10.7**	**+1.9**	
OSTC				*e*	PP	**PKiKP**	**09 27 33.4**	**+3.2**	
OSTC				*ex*	x		09 36 22.2		
OSTC					AMS	AMS	10 08 20.0		
	comp=Z,2µm,20.0s								
VRAC	**Vranov**	**102.44**	**42**	*e*	PDIFF	**Pdif**	**09 23 09.4**	**+0.5**	
DPC	**Dobruska-Polom**	**102.45**	**41**	*e*	P	**Pdif**	**09 23 11.1**	**+2.1**	
DPC				*e*			09 27 31.1		
DPC					MLR	MLR			
	comp=Z,1µm,18.9s								
DPC	**Dobruska-Polom**	**102.45**	**41**	*e*	PDIF	**Pdif**	**09 23 11.1**	**+2.1**	
DPC				*e*	PP	**PKiKP**	**09 27 31.1**	**+0.8**	
DPC					AMS	AMS	10 08 20.0		
	comp=Z,1µm,18.9s								
KRLC	**Kraliky**	**102.70**	**41**	*e*	P	**Pdif**	**09 23 13.5**	**+3.4**	
KRLC				*e*			09 27 26.0		
KRLC				*e*			09 36 25.1		
KRLC					MLR	MLR			
	comp=Z,1µm,17.4s								
KRLC	**Kraliky**	**102.70**	**41**	*e*	PDIF	**Pdif**	**09 23 13.5**	**+3.4**	
KRLC				*e*	PP	**PP**	**09 27 26.0**	**+1.9**	
KRLC				*ex*	x		09 36 25.1		
KRLC					AMS	AMS	10 09 30.0		
	comp=Z,1µm,17.4s								
MODS	**Modra-Piesok**	**102.73**	**43**	*e*	P	**Pdif**	**09 23 09.8**	**-0.4**	
MODS	**Modra-Piesok**	**102.73**	**43**	*e*	PDIFF	**Pdif**	**09 23 09.8**	**-0.4**	
JAVC	**Velka Javorina**	**103.07**	**43**	*e*	PDIFF	**Pdif**	**09 23 13.0**	**+1.2**	
PDG	**Podgorica**	**103.11**	**49**		IAMs_20	IAMs_20	10 09 54.6		
	comp=Z,1µm,21.0s								
MORC	**Morvsky Berou**	**103.13**	**42**	*e*	PDIFF	**Pdif**	**09 23 12.3**	**+0.3**	
OKC	**Ostrava-Krasne**	**103.53**	**42**	*e*	PP	**PKiKP**	**09 27 35.9**	**+3.7**	
OKC				*ex*	x		09 36 51.3		
OKC					AMS	AMS	10 11 50.0		
	comp=Z,1µm,16.7s								
RDOG	**Red Dog Mine**	**104.22**	**337**		IAMs_20	IAMs_20	10 13 18.8		
	comp=Z,2µm,22.0s								
OJC	**Ojcow**	**104.64**	**41**		IAMs_20	IAMs_20	10 11 03.5		
	comp=Z,1µm,20.0s								
ANM	**Nome**	**104.81**	**333**		P		09 23 18.5		
	baz=96								
NIKH	**Nikolski High**	**105.39**	**321**		P		09 27 34.8		
	baz=96								
TNA	**Tin City**	**105.97**	**334**		P		09 27 36.6		
	baz=93								
TNA	**Tin City**	**105.97**	**334**		IAMs_20	IAMs_20	10 15 43.0		
	comp=Z,1µm,19.0s								
SPIA	**Saint Paul Isl**	**106.56**	**326**		IAMs_20	IAMs_20	10 18 25.1		
	comp=Z,1µm,20.0s								
GAMB	**Gambell**	**107.53**	**332**		IAMs_20	IAMs_20	10 17 52.4		
	comp=Z,1µm,21.0s								
PABE	**Paberze**	**107.62**	**36**		IAMs_20	IAMs_20	10 13 07.0		
	comp=Z,1µm,20.0s								
MLR	**Muntele Rosu**	**108.27**	**47**		IAMs_20	IAMs_20	10 19 14.1		
	comp=Z,1µm,21.0s								
ATKA	**Atka Island**	**108.58**	**320**		IAMs_20	IAMs_20	10 02 50.1		
	comp=Z,964nm,21.0s								
FINES	**FINESS Array B**	**108.81**	**30**		PP	**PP**	**09 28 06.4**	**-2.3**	
	comp=Z,2.8nm,1.0s,baz=327,slow=14,SNR=4.2								
FINES					PKKPbc	**PKKPbc**	**09 38 50.9**	**-1.5**	
	comp=Z,1.5nm,0.5s,baz=89,slow=4.8,SNR=7.8								
DZM	**Mont Dzumac**	**109.59**	**239**	*e*	SP	SP	09 37 32.0	-7.4	
	comp=Z,744nm,26.6s								
DZM				*e*	SS	**SS**	**09 43 31.2**	**-4.8**	
	comp=Z,3µm,27.2s								
DZM	**Mont Dzumac**	**109.59**	**239**	*e*	LR	LR	10 00 10.4		
	comp=Z,5µm,27.7s								
MNK	**Minsk**	**109.86**	**37**	*i*	P	**Pdif**	**09 23 39.0**	**-2.7**	
MNK				*i*			09 34 48.3		
MNK				*i*	PS	**PS**	**09 37 39.5**	**-6.0**	
MNK				*i*	SS	SS	09 43 35.7	-2.8	
MNK					pmax	pmax			
	comp=E,1.0nm,0.5s								
MNK					pmax	pmax			
	comp=Z,8.0nm,0.5s								
MNK					pmax	pmax			
	comp=N,11nm,0.7s								
MNK					MLR	MLR			
	comp=Z,1µm,18.0s								
MNK					MLR	MLR			
	comp=E,70nm,17.0s								
MNK					MLR	MLR			
	comp=N,618nm,19.0s								
MNK	**Minsk**	**109.86**	**37**	*i*	P	**Pdif**	**09 23 39.0**	**-2.7**	
	comp=E,1.0nm,0.5s								
MNK				*i*	P	**Pdif**	**09 23 39.0**	**-2.7**	
	comp=N,11nm,0.7s								
MNK				*i*	P	**Pdif**	**09 23 39.0**	**-2.7**	
	comp=Z,8.0nm,0.5s,baz=91								
MNK				*i*	PP	**PP**	**09 28 10.0**	**-6.5**	
MNK				*i*	PP	**PP**	**09 28 10.0**	**-6.5**	
MNK				*i*	PP	**PP**	**09 28 10.0**	**-6.5**	
MNK				*i*	PPP	PPP	09 30 28.8		
MNK				*i*	SKS	**SKSdf**	**09 34 48.3**	**-4.7**	
MNK				*i*	PS	**PS**	**09 37 39.5**	**-6.0**	
MNK				*i*	SS	**SS**	**09 43 35.8**	**-2.7**	
MNK				*i*	LQ	LQ	10 07 21.5		
MNK				*i*	LR	LR	10 13 03.8		
MNK				*i*	LRM	MLR	10 14 06.8		
	comp=E,70nm,16.6s								
MNK				*i*	LRM	MLR	10 14 06.8		
	comp=N,618nm,18.8s								
MNK				*i*	LRM	MLR	10 14 06.8		
	comp=Z,1µm,18.1s								
ADK	**Adak**	**110.11**	**320**		IAMs_20	IAMs_20	10 04 11.5		
	comp=Z,1µm,22.0s								
AKASG	**Malin Array Be**	**110.68**	**41**		PKiKP	**PKiKP**	**09 27 45.4**	**0.0**	
	comp=Z,1.9nm,0.6s,baz=267,slow=2.5,SNR=6.4								
AKASG					PP	**PP**	**09 28 19.4**	**-3.2**	

	comp=Z,0.3nm,0.3s,baz=267,slow=6.4,SNR=6.1								
AKBB	**Malin Array Si**	**110.68**	**41**	*c*	PKiKP	**PKiKP**	**09 27 45.9**	**+0.4**	
LVZ	**Lovozero**	**111.77**	**23**		IAMs_20	IAMs_20	10 10 46.7		
	comp=Z,1µm,22.0s								
CSS	**Mathiatis**	**113.20**	**58**		IAMs_20	IAMs_20	10 21 10.2		
	comp=Z,1µm,21.0s								
BRTR	**Keskin Array B**	**113.66**	**53**	*c*	PKiKP	**PKiKP**	**09 27 52.0**	**+0.3**	
	comp=Z,3.9nm,1.0s,baz=119,slow=1.5,SNR=7.7								
BRTR	**Keskin Array B**	**113.66**	**53**	*c*	PKiKP	**PKiKP**	**09 27 52.2**	**+0.5**	
BRTR					pmax	pmax			
	comp=Z,4.0nm,1.0s								
MMAI	**Mount Meron Ar**	**114.79**	**61**		PKP	**PKiKP**	**09 27 55.5**	**+1.5**	
	comp=Z,5.4nm,0.5s,baz=188,slow=18,SNR=8.9								
OBN	**Obninsk**	**114.83**	**36**	*c*	PKiKP	PKPdf	09 27 53.4	+0.2	
OBN				*i*			09 28 57.0		
OBN					pmax	pmax			
	comp=Z,12nm,1.1s								
OBN					MLR	MLR			
	comp=Z,1µm,17.0s								
KLMR	**Klimovskoe**	**115.34**	**30**	*e*	PKiKP	**PKiKP**	**09 27 53.3**	**-0.8**	
KLMR				*e*			09 38 27.8		
KLMR					pmax	pmax			
	comp=Z,17nm,1.4s								
KLMR					MLR	MLR			
	comp=Z,874nm,16.0s								
KLMR	**Klimovskoe**	**115.34**	**30**	*e*	PKPdf	**PKiKP**	**09 27 53.3**	**-0.8**	
KLMR					AMP		09 28 09.9		
	comp=Z,17nm,1.4s								
KLMR				*e*	PKKPbc	**PKKPbc**	**09 38 27.9**	**-2.6**	
KLMR					LQ	LQ	10 08 06.3		
KLMR					LQ	LQ	10 08 06.3		
KLMR					LR	LR	10 16 15.5		
KLMR					AMP		10 17 19.8		
	comp=Z,874nm,16.3s								
BILL	**Bilibino**	**115.60**	**339**	*i*	PKiKP	**PKPdf**	**09 27 55.4**	**+1.0**	
BILL				*i*			09 28 55.4		
BILL					pmax	pmax			
	comp=Z,2.0nm,1.2s								
BILL					MLR	MLR			
	comp=Z,944nm,20.0s								
BILL	**Bilibino**	**115.60**	**339**		IAMs_20	IAMs_20	10 18 55.5		
	comp=Z,1µm,22.0s								
SMY	**Shemya**	**115.71**	**321**		IAMs_20	IAMs_20	10 06 11.3		
	comp=Z,962nm,21.0s								
PRGR	**Permogore**	**117.96**	**28**	*e*	PKiKP	**PKPdf**	**09 27 58.6**	**-0.5**	
PRGR					pmax	pmax			
	comp=Z,26nm,1.2s								
SOC	**Sochi**	**118.11**	**49**	*e*	PKiKP	**PKiKP**	**09 28 00.6**	**+0.6**	
SOC				*e*			09 29 18.2		
SOC				*e*	PPP	PPP	09 31 45.9		
SOC				*e*			09 34 53.0		
SOC				*e*	PS	**PS**	**09 39 02.8**	**+1.1**	
SOC				*e*	SSS	SSS	09 49 50.6		
SOC					pmax	pmax			
	comp=Z,16nm,0.8s								
SOC					MLR	MLR			
	comp=Z,444nm,19.0s								
KIV	**Kislovodsk**	**120.22**	**48**	*i*	PKiKP	**PKPdf**	**09 28 03.1**	**-1.0**	
KIV				*e*			09 29 29.0		
KIV				*e*	PS	**PS**	**09 39 19.2**	**-1.6**	
KIV				*e*	SS	SS	09 46 01.0	+5.6	
KIV					pmax	pmax			
	comp=Z,23nm,1.1s								
KIV					MLR	MLR			
	comp=Z,2µm,22.0s								
KBZ	**Khabaz**	**120.40**	**48**		PKP	**PKiKP**	**09 28 05.5**	**+1.0**	
	comp=Z,17nm,0.9s,baz=254,slow=1.1,SNR=20								
KBZ	**Khabaz**	**120.40**	**48**	*c*	PKiKP	**PKiKP**	**09 28 05.4**	**+1.0**	
KBZ					MLR	MLR			
	comp=Z,859nm,22.0s								
KIRV	**Kirov**	**120.80**	**31**	*c*	PKiKP	**PKiKP**	**09 28 05.9**	**+1.2**	
ZEI	**Tsey**	**121.24**	**49**	*i*	PKiKP	**PKiKP**	**09 28 07.1**	**+0.7**	
ZEI					pmax	pmax			
	comp=Z,9.0nm,0.9s								
STKA	**Stephens Creek**	**121.33**	**216**		PKP	**PKiKP**	**09 28 06.7**	**-0.1**	
	comp=Z,4.2nm,0.6s,baz=74,slow=1.6,SNR=25								
STKA					PKKPbc	**PKKPbc**	**09 38 08.4**	**+0.1**	
	comp=Z,0.9nm,0.7s,baz=342,slow=6.4,SNR=2.8								
BELG	**Belogornoye**	**121.80**	**38**		PKP	**PKiKP**	**09 28 07.3**	**+0.4**	
	comp=Z,21nm,0.8s,baz=121,slow=4.6,SNR=5.9								
BELG					PKKPbc	**PKKPbc**	**09 38 06.2**	**-0.6**	
	comp=Z,8.7nm,0.7s,baz=259,slow=2.0,SNR=4.0								
H11N3	**WAKE ISLAND Hyl**	**121.99**	**283**		T	T	11 41 44.7		
	baz=98								
H11N2	**WAKE ISLAND Hyl**	**122.01**	**284**		T	T	11 41 59.5		
	baz=98,slow=74,SNR=741								
H11N1	**WAKE ISLAND Hyl**	**122.01**	**283**		T	T	11 41 50.5		
	baz=98,slow=74,SNR=148								
H11S2	**WAKE ISLAND Hyl**	**122.03**	**282**		T	T	11 41 53.8		
	baz=99,slow=75,SNR=1897								
H11S1	**WAKE ISLAND Hyl**	**122.04**	**282**		T	T	11 41 44.5		
	baz=99,slow=75,SNR=1330								
H11S3	**WAKE ISLAND Hyl**	**122.05**	**282**		T	T	11 41 55.1		
	baz=99,slow=75,SNR=2306					

	comp=Z,1μm,18.0s								
WRA	**Warramunga Arr**	**134.60**	**219**		PKP	**PKPdf**	**09 28 31.6**	**-0.7**
	comp=Z,13nm,0.7s,baz=143,slow=1.9,SNR=50								
WRA	**Warramunga Arr**	**134.60**	**219**			PKPpre	09 28 22.0		
WRAB	**Tennant Creek**	**134.60**	**219**	*c*	*i*PKIKP	**PKiKP**	**09 28 33.0**	**-0.6**
WRAB					pmax	pmax			
	comp=Z,14nm,0.8s								
WRAB	**Tennant Creek**	**134.60**	**219**			**PKPdf**	**09 28 29.4**	**-2.8**
WSAR	**Wadi Sarin**	**135.12**	**73**		PKP	**PKPdf**	**09 28 33.4**	**+0.4**
	comp=Z,16nm,0.9s,baz=277,slow=6.4,SNR=10								
YSS	**Yuzh-Sakhalins**	**136.56**	**323**		*i* PKIKP	**PKiKP**	**09 28 36.4**	**-0.3**
YSS					*e*		09 28 44.6		
YSS					*e*		09 31 19.0		
YSS					*e*SS	SS	09 49 23.0	+6.3	
YSS					pmax	pmax			
	comp=Z,20nm,1.1s								
YSS	**Yuzh-Sakhalins**	**136.56**	**323**		IAMs_20	IAMs_20	10 34 52.6		
	comp=Z,879nm,20.0s								
BRZS	**Berezniki**	**136.80**	**31**	*e*	PKP	**PKPdf**	**09 28 35.3**	**-0.1**
	baz=31								
BRZS	**Berezniki**	**136.80**	**31**	*e*	PKIKP	**PKPdf**	**09 28 35.3**	**-0.1**
ZALV	**Zalesovo Beam**	**138.73**	**19**		PKP	**PKPdf**	**09 28 38.5**	**-0.3**
	comp=Z,56nm,0.9s,baz=320,slow=3.9,SNR=9.5								
ZALV	**Zalesovo Beam**	**138.73**	**19**		PKIKP	**PKPdf**	**09 28 33.2**	**-5.5**
ZALV	**Zalesovo Beam**	**138.73**	**19**			PKPpre	09 28 33.2		
ZEA	**Zeya**	**138.77**	**341**	*e*	PKHKP	PKPpre	09 28 32.5		
ZEA				*e*			09 31 30.5		
ZEA					pmax	pmax			
	comp=E,100nm,3.8s								
ZEA					pmax	pmax			
	comp=Z,200nm,4.8s								
ZEA					pmax	pmax			
	comp=Z,200nm,15.8s								
KURK	**Kurchatov**	**139.04**	**26**		PKHKP	PKPpre	09 28 31.5		
KURK	**Kurchatov**	**139.04**	**26**			PKPpre	09 28 31.4		
KURBB	**Kurchatov Arra**	**139.07**	**26**		PKhKP	PKPpre	09 28 31.5		
	comp=Z,1.8nm,0.9s,baz=302,slow=2.9,SNR=9.8								
KURBB					PKP	**PKPdf**	**09 28 39.6**	**+0.1**	
	comp=Z,16nm,1.0s,baz=312,slow=2.8,SNR=33								
KURBB					PP	**PP**	**09 31 35.1**	**+3.2**	
	comp=Z,4.2nm,1.0s,baz=324,slow=6.3,SNR=5.2								
KKAR	**Karatay Array**	**139.58**	**41**		PKIKP	**PKPdf**	**09 28 38.8**	**-1.9**
KKAR	**Karatay Array**	**139.58**	**41**		PKPdf	**PKPdf**	**09 28 38.8**	**-1.9**
BTLS	**Baital**	**140.60**	**36**	*e*	PKP	**PKPdf**	**09 28 42.4**	**-0.1**
	baz=36								
BTLS	**Baital**	**140.60**	**36**	*e*	PKIKP	**PKPdf**	**09 28 42.3**	**-0.1**
SGDS	**Sogindy**	**141.89**	**38**	*e*	PKP	**PKPdf**	**09 28 43.7**	**-1.2**
	baz=38								
SGDS	**Sogindy**	**141.89**	**38**	*e*	PKIKP	**PKPdf**	**09 28 43.7**	**-1.2**
AAK	**Ala-Archa**	**142.28**	**39**		PKhKP	PKPpre	09 28 43.1		
	comp=Z,7.1nm,0.7s,baz=235,slow=3.6,SNR=9.6								
AAK	**Ala-Archa**	**142.28**	**39**		PKIKP	**PKPdf**	**09 28 43.4**	**-2.4**
AAK					MLR	MLR			
	comp=Z,1μm,22.0s								
AAK	**Ala-Archa**	**142.28**	**39**		PKPdf	**PKPdf**	**09 28 43.4**	**-2.4**
KUU	**Kurty**	**142.60**	**36**	*e*	PKP	**PKPdf**	**09 28 43.2**	**-3.0**
	baz=36								
KUU	**Kurty**	**142.60**	**36**	*e*	PKIKP	**PKPdf**	**09 28 43.1**	**-3.0**
MAKZ	**Makanchi**	**143.44**	**28**		PKIKP	PKPbc	09 28 45.6	+0.9	
MAKZ					MLR	MLR			
	comp=Z,1μm,21.0s								
MAKZ	**Makanchi**	**143.44**	**28**			PKPbc	09 28 45.6	+0.8	
MDOK	**Medeo**	**143.46**	**36**	*e*	PKP	PKPab	09 28 44.4	+0.3	
	baz=36								
MDOK	**Medeo**	**143.46**	**36**	*e*	PKIKP	PKPab	09 28 44.3	+0.2	
MKAR	**Makanchi Array**	**143.59**	**28**		PKhKP	PKPpre	09 28 44.4		
	comp=Z,11nm,0.8s,baz=336,slow=2.7,SNR=66								
MKAR	**Makanchi Array**	**143.59**	**28**		PKIKP	PKPbc	09 28 45.0	-0.2	
MKAR	**Makanchi Array**	**143.59**	**28**			PKPpre	09 28 45.0		
IRK	**Irkutsk**	**143.81**	**2**	*e*	PKIKP	PKPbc	09 28 45.6	0.0	
IRK					pmax	pmax			
	comp=Z,81nm,3.1s								
ZSN	**Zaisan**	**144.16**	**24**	*e*	PKP	**PKPdf**	**09 28 47.9**	**-0.9**
	baz=24								
ZSN	**Zaisan**	**144.16**	**24**	*e*	PKIKP	**PKPdf**	**09 28 47.8**	**-0.9**
KPKS	**Kokpek**	**144.18**	**35**	⇑	*i*PKP	**PKPdf**	**09 28 48.1**	**-1.0**
	baz=35								
KPKS	**Kokpek**	**144.18**	**35**	*c*	*i*PKIKP	**PKPdf**	**09 28 48.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**144.20**	**327**		PKP	PKPbc	09 28 46.7	-0.4	
	comp=Z,31nm,0.9s,baz=56,slow=2.2,SNR=50								
USRK	**Ussuriysk Ar.**	**144.20**	**327**		PKIKP	PKPbc	09 28 47.1	+0.1	
USRK	**Ussuriysk Ar.**	**144.20**	**327**		PKPdf	PKPbc	09 28 47.1	+0.1	
MOY	**Mondy**	**144.20**	**5**	*e*	PKIKP	**PKPdf**	**09 28 48.2**	**-0.6**
MOY					pmax	pmax			
	comp=Z,51nm,2.2s								
SATY	**Saty**	**144.29**	**35**	⇑	*i*PKP	**PKPdf**	**09 28 48.2**	**-1.1**
	baz=35								
SATY	**Saty**	**144.29**	**35**	*c*	*i*PKIKP	PKPbc	09 28 48.1	+0.5	
TLY	**Talaya**	**144.35**	**2**	*c*	*i*PKIKP	PKPbc	09 28 47.5	+0.2	
TLY					*i*		09 28 54.2		
TLY					*e*SS	SS	09 50 44.4	-2.0	
TLY					pmax	pmax			
	comp=Z,96nm,0.9s								
TLY	**Talaya**	**144.35**	**2**			**PKPdf**	**09 28 48.6**	**-0.4**
TLY					IAMs_20	IAMs_20	10 34 39.7		
	comp=Z,831nm,20.0s								
UZB	**Uzynbulak**	**144.58**	**35**	⇑	*i*PKP	**PKPdf**	**09 28 49.3**	**-0.5**
	baz=35								
UZB	**Uzynbulak**	**144.58**	**35**	*c*	*i*PKIKP	**PKPdf**	**09 28 49.3**	**-0.5**
MJAR	**Matsushiro Arr**	**144.72**	**312**		PKP	**PKPab**	**09 28 47.8**	**-1.0**
	comp=Z,26nm,0.9s,baz=119,slow=1.9,SNR=50								
MJAR	**Matsushiro Arr**	**144.72**	**312**		PKIKP	**PKPab**	**09 28 48.3**	**-0.6**
MJAR	**Matsushiro Arr**	**144.72**	**312**		PKPdf	**PKPab**	**09 28 48.3**	**-0.6**
MAJO	**Matsushiro**	**144.72**	**312**		PKIKP	PKPbc	09 28 48.5	-0.5	
MAJO	**Matsushiro**	**144.72**	**312**		PKPdf	PKPbc	09 28 48.5	-0.5	
MAT	**Matsushiro**	**144.72**	**312**		PKP	**PKPab**	**09 28 47.6**	**-1.3**
SHLS	**Shalkode**	**144.81**	**34**	⇑	*i*PKP	**PKPdf**	**09 28 51.4**	**+1.3**
	baz=34								
SHLS	**Shalkode**	**144.81**	**34**	*c*	*i*PKIKP	**PKPdf**	**09 28 51.4**	**+1.3**
KSH	**Kashi**	**144.97**	**42**		PKP	**PKPdf**	**09 28 51.3**	**+0.8**
KSH					PP	**PP**	**09 32 10.0**	**+1.6**	
KSH					PPMZ				
	comp=Z,430nm,4.6s								
MDJ	**Mudanjiang**	**145.11**	**330**		PKPbc	**PKPdf**	**09 28 49.8**	**-0.6**
MDJ					pPKP	pPKPab	09 29 00.3	-0.8	
MDJ					PP	**PP**	**09 32 10.5**	**+1.9**	
MDJ					SS	SS	09 51 00.5	+4.5	
MDJ					PPMZ				
	comp=Z,650nm,11.1s								
MDJ					L	L			
	comp=Z,630nm,22.9s								
MDJ					L	L			
	comp=Z,690nm,23.0s								
MDJ					L	L			
	comp=Z,1μm,22.2s								
ZAK	**Zakamensk**	**145.63**	**3**	*e*	PKHKP	PKPpre	09 28 47.6		
ZAK					pmax	pmax			
	comp=Z,84nm,1.0s								
NIL	**Nilore**	**145.81**	**53**		PKP2	**PKPab**	**09 28 52.8**	**-0.2**
NIL	**Nilore**	**145.81**	**53**		PKPab	**PKPab**	**09 28 52.8**	**-0.2**
CN2	**Changchun**	**147.65**	**333**		PKPbc	**PKPbc**	**09 28 55.8**	**-1.7**
CN2					PP	PP	09 32 31.0	+7.5	
CN2					SS	SS	09 51 29.8	+5.2	
CN2					PPMZ				
	comp=Z,300nm,10.0s								
CN2					L	L			
	comp=Z,500nm,26.0s								
CN2					L	L			
	comp=Z,500nm,26.0s								
CN2					L	L			
	comp=Z,700nm,25.0s								
ULN	**Ulaanbaatar**	**148.20**	**358**		PKIKP	**PKPbc**	**09 28 57.2**	**-1.8**
ULN	**Ulaanbaatar**	**148.20**	**358**			**PKPbc**	**09 28 57.2**	**-1.8**
SONM	**Songino Array**	**148.24**	**359**		PKP	**PKPdf**	**09 28 56.6**	**+0.8**
	comp=Z,66nm,0.9s,baz=328,slow=1.5,SNR=49								
SONM					PKPbc	**PKPbc**	**09 28 59.4**	**+0.3**	
	comp=Z,67nm,0.9s,baz=326,slow=1.4,SNR=98								
SONM	**Songino Array**	**148.24**	**359**		PKIKP	**PKPdf**	**09 28 56.7**	**+0.9**
SONM	**Songino Array**	**148.24**	**359**		PKPdf	**PKPdf**	**09 28 56.7**	**+0.9**
WMQ	**Urumqi**	**148.27**	**25**	*e*	PKPbc	**PKPbc**	**09 28 58.8**	**-0.5**
WMQ					pPKP	pPKPdf	09 29 06.8	-0.5	
WMQ					PP	PP	09 32 35.5	+8.3	
WMQ					SS	SS	09 51 33.0	+1.3	
WMQ					PPMZ				
	comp=Z,510nm,5.3s								
WMQ					L	L			
	comp=Z,1μm,22.3s								
WMQ					L	L			
	comp=Z,1μm,18.9s								
WMQ					L	L			
	comp=Z,3μm,18.7s								
SNY	**Shenyang**	**150.05**	**333**	⇑	PKPbc	**PKPbc**	**09 29 03.0**	**-0.6**
SNY					PP	**PP**	**09 32 36.5**	**-0.9**	
SNY					SS	SS	09 51 51.5	0.0	
SNY					L	L			
	comp=Z,670nm,19.3s								
SNY					L	L			
	comp=Z,590nm,20.8s								
SNY					L	L			
	comp=Z,1μm,19.1s								
NDI	**New Delhi**	**150.77**	**59**	*e*	P	**PKiKP**	**09 29 07.0**	**+0.5**
KSRS	**Korea Array**	**151.04**	**322**		PKP	**PKPdf**	**09 29 00.9**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=40,slow=1.2,SNR=25								
KSRS					PKPbc	**PKiKP**	**09 29 06.4**	**-0.3**	
	comp=Z,44nm,0.9s,baz=4.4,slow=1.3,SNR=48								
KSAR	**Wonju Array Be**	**151.07**	**322**		PKIKP	**PKPdf**	**09 29 00.4**	**0.0**
KSAR	**Wonju Array Be**	**151.07**	**322**		PKPdf	**PKPdf**	**09 29 00.3**	**0.0**
DL2	**Dalian**	**153.29**	**332**		PKPbc	**PKPbc**	**09 29 09.0**	**-2.2**
DL2					PP	**PP**	**09 33 00.0**	**+4.0**	
DL2					PPMZ				
	comp=Z,630nm,10.5s								
DL2					L	L			
	comp=Z,770nm,19.8s								
DL2					L	L			
	comp=Z,790nm,18.8s								
DL2					L	L			
	comp=Z,940nm,17.1s								
HYB	**Hyderabad**	**153.85**	**83**	*i*	PKP	**PKPdf**	**09 29 05.0**	**-0.1**
HYB				*e*			09 29 14.0		
BJI	**Beijing**	**154.39**	**341**		PKPbc	**PKPbc**	**09 29 11.5**	**-2.0**
BJI					PP	**PP**	**09 33 01.0**	**-0.9**
HHC	**Hu-ho-hao-te**	**154.73**	**350**	*e*	PKPbc	**PKPdf**	**09 29 03.5**	**-2.3**
HHC					PP	**PP**	**09 33 06.0**	**+2.2**
HHC					SS	SS	09 52 41.5	-1.0	
HHC					PPMZ				
	comp=Z,260nm,5.7s								
HHC					L	L			
	comp=Z,1μm,21.8s								
HHC					L	L			
	comp=Z,970nm,18.4s								
HHC					L	L			
	comp=Z,1μm,18.6s								
KAPI	**Kappang**	**154.99**	**215**			**PKiKP**	**09 29 17.0**	**+1.4**
GTA	**Gaotai**	**156.08**	**12**	⇑	PKP	**PKPdf**	**09 29 08.8**	**+1.1**
GTA					PP	**PP**	**09 33 14.3**	**+2.9**	
GTA					SS	SS	09 53 03.0	+5.8	
GTA					PPMZ				
	comp=Z,310nm,9.5s								
GTA					L	L			
	comp=Z,640nm,25.4s								
GTA					L	L			
	comp=Z,580nm,25.4s								
GTA					L	L			
	comp=Z,890nm,25.1s								
TIY	**Taiyuan**	**157.59**	**346**		PKP	**PKPdf**	**09 29 11.5**	**+1.9**
TIY					PKPab	**PKPab**	**09 29 41.0**	**-0.5**
TIY					PP	**PP**	**09 33 22.3**	**+2.7**
TIY					SS	SS	09 53 15.0	+1.7	
TIY					PPMZ				
	comp=Z,200nm,7.6s								
TIY					L	L			
	comp=Z,1μm,19.7s								
TIY					L	L			
	comp=Z,260nm,15.1s								
TIY					L	L			
	comp=Z,1μm,21.5s								
TOLI2	**Tolitoli**	**159.11**	**226**		IAMs_20	IAMs_20	10 33 53.0		
	comp=Z,583nm,19.0s								
LZH	**Lanzhou**	**159.91**	**5**	*e*	PKP	**PKPdf**	**09 29 14.8**	**+2.2**
LZH					pPKP	sPKPdf	09 29 27.0	-0.9	
LZH					PP	**PP**	**09 33 33.8**	**+1.5**
LZH					SKKS		09 40 17.0		
LZH					SS	**SS**	**09 53 38.3**	**+0.4**
LZH					PPMZ				
	comp=Z,420nm,9.8s								
LZH					L	L			
	comp=Z,870nm,14.6s								
LZH					L	L			
	comp=Z,1μm,16.3s								
LZH					L	L			
	comp=Z,1μm,16.8s								
NJ2	**Nanjing**	**160.09**	**326**	*e*	PKP	**PKPdf**	**09 29 13.0**	**+0.4**
NJ2					PKPab	**pPKPab**	**09 29 57.8**	**-5.8**
NJ2					SS	SS	09 53 46.0	+5.2	
NJ2					PPMZ				
	comp=Z,330nm,4.9s								
NJ2					L	L			
	comp=Z,610nm,19.6s								
NJ2					L	L			
	comp=Z,730nm,19.1s								
NJ2					L	L			
	comp=Z,1μm,19.6s								
LSA	**Lhasa**	**160.82**	**42**		PKP	**PKPdf**	**09 29 15.5**	**+1.3**
XAN	**Xi'an**	**161.81**	**352**		PKP	**PKPdf**	**09 29 15.3**	**+0.8**
XAN					pPKP	pPKPdf	09 29 25.0	-1.0	
XAN					PP	**PP**	**09 33 40.8**	**-1.6**
XAN					PPMZ				
	comp=Z,500nm,11.3s								
XAN					L	L			
	comp=Z,1μm,22.1s								
XAN					L	L			
	comp=Z,980nm,20.1s								
XAN					L	L			
	comp=Z,2μm,22.1s								
WHN	**Wuhan**	**163.54**	**333**	⇑	PKP	**PKPdf**	**09 29 13.3**	**-2.9**
WHN					PP	**PP**	**09 33 53.8**	**+1.9**	
WHN					L	L			
	comp=Z,4μm,22.1s								
WHN					L	L			
	comp=Z,3μm,24.7s								
CD2	**Chengdu**	**165.03**	**7**		PKP	**PKPdf**	**09 29 19.0**	**+1.4**
CD2					SKKS		09 40 43.5		
CD2					SS	**SS**	**09 54 34.3**	**+3.5**	
CD2					PPMZ				
	comp=Z,690nm,11.4s								
CD2					L	L			
	comp=Z,1μm,17.8s								
CD2					L	L			
	comp=Z,1μm,19.0s								
CD2					L	L			
	comp=Z,2μm,23.1s								
QZH	**Quanzhou**	**165.09**	**309**	*i*	PKP	**PKPdf**	**09 29 19.0**	**+1.2**
QZH					L	L			
	comp=Z,760nm,23.2s								
QZH					L	L			
	comp=Z,1μm,21.8s								
GYA	**Guiyang**	**169.55**	**356**	*e*	PKP	**PKPdf**	**09 29 21.8**	**+0.6**
GYA					PP	**PP**	**09 34 23.5**	**+0.9**
GYA					SKKS		09 41 02.5		
GYA					SS	**SS**	**09 55 15.0**	**-1.6**
GYA					PPMZ				
	comp=Z,57nm,12.7s								
GYA					L	L			
	comp=Z,140nm,22.3s								
GYA					L	L			
	comp=Z,74nm,17.1s								
GYA					L	L			
	comp=Z,210nm,24.3s								
KMI	**Kunming**	**170.47**	**17**		PKP	**PKPdf**	**09 29 22.5**	**+0.6**
KMI					pPKP	pPKPdf	09 29 28.3	-5.0	
KMI					sPKP		09 29 31.3		
CHTO	**Chiang Mai**	**172.86**	**66**		PKIKP	**PKPdf**	**09 29 20.5**	**-2.4**
CHTO	**Chiang Mai**	**172.86**	**66**		PKP	**PKPdf**	**09 29 24.3**	**+1.4**
CHTO	**Chiang Mai**	**172.86**	**66**			**PKPdf**	**09 29 20.5**	**-2.4**
CM33	**Chiang Mai Arr**	**172.86**	**66**		P	**PKPdf**	**09 29 23.0**	**+0.1**
CMMT	**Chiang Mai**	**172.87**	**66**		PKP	**PKPdf**	**09 29 23.2**	**+0.3**
CMMT	**Chiang Mai**	**172.87**	**66**		P	**PKPdf**	**09 29 23.0**	**+0.1**
	comp=Z,548nmcomp=Z,11nm,1.2s								
CM13	**Chiang Mai Arr**	**172.97**	**69**		PKP	**PKPdf**	**09 29 24.9**	**+2.0**
CM13	**Chiang Mai Arr**	**172.97**	**69**		P	**PKPdf**	**09 29 24.9**	**+2.0**
	comp=Z,4.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**172.99**	**69**		PKP	**PKPdf**	**09 29 22.5**	**-0.5**
	comp=Z,3.9nm,0.9s,baz=273,slow=1.9,SNR=18								
CMAR					PKPab	**PKPab**	**09 30 50.3**	**+0.4**	
	comp=Z,7.3nm,0.8s,baz=286,slow=5.7,SNR=17								
CMAR					PP	**PP**	**09 34 42.7**	**+1.0**	
	comp=Z,1.0nm,0.5s,baz=287,slow=5.4,SNR=4.6								
CMAR	**Chiang Mai Arr**	**172.99**	**69**		PKP2	**PKPab**	**09 30 50.7**	**+0.8**
CMAR							10 29 22.7		
CMAR	**Chiang Mai Arr**	**172.99**	**69**			**PKPdf**	**09 29 22.7**	**-0.2**
CMAR					PKPab	**PKPab**	**09 30 50.7**	**+0.8**
CM02	**Chiang Mai Arr**	**173.00**	**69**		PKP	**PKPdf**	**09 29 24.9**	**+2.0**
CM02	**Chiang Mai Arr**	**173.00**	**69**		P	**PKPdf**	**09 29 24.0**	**+1.1**
	comp=Z,5.7nm,0.9s								
CM05	**Chiang Mai Arr**	**173.01**	**69**		PKP	**PKPdf**	**09 29 24.9**	**+2.0**
CM05	**Chiang Mai Arr**	**173.01**	**69**		P	**PKPdf**	**09 29 24.0**	**+1.1**
	comp=Z,5.8nm,1.1s								
CM04	**Chiang Mai Arr**	**173.04**	**69**		PKP	**PKPdf**	**09 29 25.0**	**+2.0**
CM04	**Chiang Mai Arr**	**173.04**	**69**		P	**PKPdf**	**09 29 25.0**	**+2.0**
	comp=Z,79nmcomp=Z,6.5nm,1.1s								
CM35	**Chiang Mai Arr**	**173.10**	**66**		P	**PKPdf**	**09 29 23.0**	**0.0**
CM36	**Chiang Mai Arr**	**173.10**	**68**		P	**PKPdf**	**09 29 23.0**	**0.0**
UTTA	**Uttaradit**	**174.67**	**70**		PKP	**PKPdf**	**09 29 24.9**	**+1.4**
PHIT	**Phitsanulok**	**174.69**	**76**		PKP	**PKPdf**	**09 29 24.9**	**+1.4**
QIZ	**Qiongzhong**	**175.11**	**309**		PKP	**PKPdf**	**09 29 22.5**	**-1.1**
QIZ					PP	**PP**	**09 34 56.5**	**+5.1**
QIZ					SKKS		09 41 34.8		
QIZ					SS	**SS**	**09 56 16.0**	**+2.6**
QIZ					PPMZ				
	comp=Z,570nm,15.3s								
QIZ					L	L			
	comp=Z,650nm,21.1s								
QIZ					L	L			
	comp=Z,480nm,17.7s								
QIZ					L	L			
	comp=Z,1μm,24.0s								
NONG	**Nongkai**	**176.72**	**51**		PKP	**PKPdf**	**09 29 25.6**	**+1.6**

WEL ***29*** *09:27:33.2±0.8, 40°S±3°×17°6E±°, h57km±6km, M4.1/14, ML4.5/14, MLv4.1/14, Error ellipse: s-maj=0.0km s-min=0.0km az=97.7*

IDC ***29*** *09:27:33.5±6.8, 39°91S×175°70E, h84km±48km, mb3.9/3, mb1 4.0/3, mb1mx3.6/28, mbtmp4.2/3, MS3.9/2, Ms1 3.9/2, ms1mx3.4/26, Error ellipse: s-maj=102.2km s-min=35.2km az=151.0*

ISC 29 09:27:30.4±1.2, 40°13S±0°03×175°72E±0°04, h95km±6km, n165, σ0897/179, mb4.3/3, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSZ	**Takapari Road**	**0.20**	**70**	P	**Pn**	**09 27 44.0**	**0.0**
TSZ				S	**Sn**	**09 27 52.2**	**-2.0**
POWZ	**Post Office Ro**	**0.27**	**172**	P	**Pn**	**09 27 44.6**	**+0.4**
POWZ				S	**Sn**	**09 27 53.1**	**-1.5**
OHWZ	**Ohakea**	**0.32**	**256**	P	**Pn**	**09 27 45.2**	**+0.7**
OHWZ				S	**Sn**	**09 27 54.1**	**-0.9**
DVHZ	**Dannevirke**	**0.38**	**117**	P	**Pn**	**09 27 45.5**	**+0.6**
DVHZ				S	**Sn**	**09 27 54.6**	**-1.1**
PNHZ	**Pukenui**	**0.43**	**60**	P	**Pn**	**09 27 45.6**	**+0.4**
PNHZ				S	**Sn**	**09 27 55.2**	**-1.0**
PRWZ	**Pori Road**	**0.47**	**156**	P	**Pn**	**09 27 46.6**	**+1.2**
PRWZ				S	**Sn**	**09 27 56.5**	**-0.1**
MRZ	**Mangatainoka R**	**0.54**	**191**	P	**Pn**	**09 27 46.8**	**+0.8**
MRZ				S	**Sn**	**09 27 57.0**	**-0.6**
WPHZ	**Waipukurau**	**0.56**	**84**	P	**Pn**	**09 27 47.0**	**+0.9**
WPHZ				S	**Sn**	**09 27 57.8**	**0.0**
TIWZ	**Tintock**	**0.66**	**169**	P	**Pn**	**09 27 48.3**	**+1.2**
TIWZ				S	**Sn**	**09 27 59.4**	**-0.1**
ANWZ	**Angora Road**	**0.67**	**120**	P	**Pn**	**09 27 48.7**	**+1.6**
ANWZ				S	**Sn**	**09 28 00.1**	**+0.6**
WAZ	**Wanganui**	**0.68**	**303**	P	**Pn**	**09 27 48.1**	**+0.9**
WAZ				S	**Sn**	**09 27 59.3**	**-0.3**
BFZ	**Birch Farm**	**0.69**	**144**	P	**Pn**	**09 27 48.4**	**+1.2**
BFZ				S	**Sn**	**09 27 59.9**	**+0.1**
BHHZ	**Black Hill Sta**	**0.69**	**23**	P	**Pn**	**09 27 47.9**	**+0.6**
BHHZ				S	**Sn**	**09 27 58.8**	**-1.2**
KRHZ	**Kereru**	**0.70**	**46**	P	**Pn**	**09 27 47.8**	**+0.4**
KRHZ				S	**Sn**	**09 27 58.9**	**-1.2**
PRHZ	**Porangahau**	**0.72**	**101**	P	**Pn**	**09 27 49.0**	**+1.5**
PRHZ				S	**Sn**	**09 28 00.5**	**+0.2**
MOVZ	**Moawhango**	**0.72**	**2**	P	**Pn**	**09 27 48.2**	**+0.5**
MOVZ				S	**Sn**	**09 27 59.3**	**-1.2**
MTVZ	**Mangateitei**	**0.77**	**346**	P	**Pn**	**09 27 48.9**	**+0.8**
MTVZ				S	**Sn**	**09 27 59.8**	**-1.5**
HOWZ	**Holdsworth Sta**	**0.78**	**191**	P	**Pn**	**09 27 49.2**	**+1.0**
OGWZ	**Otaki Gorge**	**0.81**	**211**	P	**Pn**	**09 27 49.5**	**+1.1**
WNVZ	**Wahianoa**	**0.81**	**353**	P	**Pn**	**09 27 49.1**	**+0.5**
TRVZ	**Turoa**	**0.84**	**351**	P	**Pn**	**09 27 49.6**	**+0.5**
DRZ	**Dome Shelter**	**0.86**	**352**	P	**Pn**	**09 27 49.8**	**+0.5**
TUVZ	**Tukino**	**0.86**	**357**	P	**Pn**	**09 27 49.7**	**+0.5**
CPWZ	**Castlepoint**	**0.86**	**155**	P	**Pn**	**09 27 51.0**	**+2.0**
PXZ	**Pawanui**	**0.88**	**84**	P	**Pn**	**09 27 50.4**	**+1.3**
PKVZ	**Pokaka**	**0.89**	**341**	P	**Pn**	**09 27 50.0**	**+0.7**
KWHZ	**Kaweka Forest**	**0.89**	**38**	P	**Pn**	**09 27 50.0**	**+0.7**
SNVZ	**South Ngauruho**	**0.94**	**356**	P	**Pn**	**09 27 50.5**	**+0.5**
KAHZ	**Kahuranaki**	**0.95**	**70**	P	**Pn**	**09 27 51.3**	**+1.3**
NGZ	**Ngauruhoe**	**0.95**	**355**	P	**Pn**	**09 27 50.7**	**+0.6**
KIW	**Kapiti Island**	**0.96**	**220**	P	**Pn**	**09 27 51.0**	**+1.0**
OTVZ	**Oturere**	**0.96**	**358**	P	**Pn**	**09 27 50.8**	**+0.5**
OTVZ				P		**09 27 50.8**	**+0.5**
TMWZ	**Te Maipa**	**0.99**	**172**	P	**Pn**	**09 27 51.9**	**+1.5**
ETVZ	**East Tongariro**	**0.99**	**360**	P	**Pn**	**09 27 51.0**	**+0.5**
NNVZ	**North Ngauruho**	**1.00**	**355**	P	**Pn

QRZ	Quartz Range	2.53	253	P		Pn	09 28 09.8	+0.1	
CNGC	Carnagh Statio	2.54	50	P		Pn	09 28 10.3	+0.5	
TWGZ	Tauwhareparae	2.62	43	P		Pn	09 28 11.8	+0.7	
RUGZ	Raukumara Rang	2.64	36	P		Pn	09 28 11.5	+0.1	
THZ	Tophouse	2.68	232	P		Pn	09 28 12.2	+0.4	
KHZ	Kahutara	2.81	215	P		Pn	09 28 13.8	+0.3	
PUZ	Puketiti	2.85	45	P		Pn	09 28 14.0	0.0	
HAZ	Te Kaha	2.86	35	P		Pn	09 28 13.8	-0.4	
PKGZ	Pakihiroa	2.90	40	P		Pn	09 28 15.1	+0.4	
MKAZ	Moumakai	3.05	352	P		Pn	09 28 17.6	+0.9	
WMGZ	Waiomatatini S	3.12	43	P		Pn	09 28 17.6	-0.1	
AWAZ	Awhitu Peninsu	3.17	344	P		Pn	09 28 19.8	+1.4	
ETAZ	East Tamaki Re	3.23	349	P		Pn	09 28 20.3	+1.2	
MXZ	Matakaoa Point	3.25	39	P		Pn	09 28 19.9	+0.3	
WTAZ	Waiatarua	3.31	344	P		Pn	09 28 22.1	+1.8	
EPAZ	Eden Park BICE	3.34	346	P		Pn	09 28 21.9	+1.4	
WIAZ	Waiheke Island	3.36	352	P		Pn	09 28 22.0	+1.1	
HBAZ	Herne Bay Bore	3.36	346	P		Pn	09 28 22.3	+1.4	
DSZ	Dennistion Nort	3.38	240	P		Pn	09 28 21.7	+0.6	
KUZ	Kuaotunu	3.38	0	P		Pn	09 28 21.9	+0.8	
MBAZ	Motutapu North	3.42	349	P		Pn	09 28 22.7	+1.1	
RVAZ	Riverhead Bore	3.47	345	P		Pn	09 28 23.9	+1.6	
GVZ	Greta Valley S	3.48	214	P		Pn	09 28 22.3	-0.1	
ABAZ	Army Bay	3.59	349	P		Pn	09 28 25.4	+1.4	
LTZ	Lake Taylor	3.71	223	P		Pn	09 28 25.4	-0.1	
AMCZ	Amberley	3.81	216	P		Pn	09 28 27.1	+0.1	
GRZ	Great Barrier	3.88	357	P		Pn	09 28 28.6	+0.8	
OKCZ	Okains Bay	4.10	208	P		Pn	09 28 30.3	-0.6	
INZ	Inchbonnie	4.13	230	P		Pn	09 28 30.9	-0.3	
OXZ	Oxford	4.22	220	P		Pn	09 28 31.1	-1.4	
MQZ	McQueen's Vall	4.24	212	P		Pn	09 28 31.3	-1.4	
AKCZ	Akaroa Harbour	4.29	208	P		Pn	09 28 33.1	-0.2	
WCZ	Waipu Caves	4.32	345	P		Pn	09 28 35.6	+1.7	
RACZ	Rakaia	4.48	215	P		Pn	09 28 34.5	-1.4	
MHCZ	Mount Hutt	4.60	221	P		Pn	09 28 36.4	-1.3	
WVZ	Waitaha Valley	4.75	230	P		Pn	09 28 40.0	+0.3	
WACZ	Wakanui South	4.78	216	P		Pn	09 28 38.7	-1.3	
RPZ	Rata Peaks	5.00	223	P		Pn	09 28 43.3	+0.3	
ARCZ	Arundel	5.10	220	P		Pn	09 28 43.5	-0.9	
GCSZ	Gaunt Creek Bo	5.14	230	P		Pn	09 28 46.4	+1.5	
OUZ	Omahuta	5.18	340	P		Pn	09 28 47.1	+1.6	
TMZ	Timaru	5.50	218	P		Pn	09 28 48.5	-1.4	
FOZ	Fox Glacier	5.57	230	P		Pn	09 28 51.3	+0.6	
LBZ	Lake Benmore	5.91	222	P		Pn	09 28 55.6	+0.1	
ODZ	Otahua Downs	6.18	216	P		Pn	09 28 57.6	-1.4	
JCZ	Jackson Bay	6.49	230	P		Pn	09 29 03.2	-0.2	
CTZ	Chatham Island	6.76	125	P		Pn	09 29 09.4	+2.6	
WKZ	Wanaka	6.82	224	P		Pn	09 29 06.7	-1.2	
EAZ	Earnscleugh	6.95	221	P		Pn	09 29 09.2	-0.3	
TUZ	Tuapeka	7.33	215	P		Pn	09 29 14.8	+0.1	
MLZ	Mavora Lakes	7.66	224	P		Pn	09 29 19.4	+0.2	
SYZ	Scrubby Hill	8.00	215	P		Pn	09 29 24.4	+0.7	
MSVF	Nonsavu	22.41	6	LR		LR	09 39 31.5		
	comp=Z,354nm,21.7s,baz=4.9,slow=32								
STKA	Stephens Creek	28.67	276	P		P	09 33 22.9	+4.6	
	0.7nm,0.5s,baz=126,slow=9.5,SNR=3.4								
ASAR	Alice Springs	38.72	282	P		P	09 34 48.5	+3.1	
	1.2nm,0.3s,baz=122,slow=6.8,SNR=51								
ASAR				LR		LR	09 50 29.3		
	comp=Z,190nm,21.5s,baz=137,slow=36								
WRA	Warramunga Arr	40.63	287	P		P	09 35 04.3	+3.1	
	2.5nm,0.3s,baz=125,slow=8.2,SNR=77								
ARCES	ARCESS Array B	146.61	341	PKPbc		PKiKP	09 47 02.8	+0.3	
	0.9nm,0.6s,baz=354,slow=0.9,SNR=1.2								

*GUC **29** 09:40:33.7±0.5,20.7°S×68.8°W,h105km±3km, ML3.8*
*IDC **29** 09:40:34.6±1.6,20.8°S×68.3°W,h112km±17km,mb4.0/1, mb1 3.7/3,mb1mx3.3/26,mbtmp4.1/3, Error ellipse: s-maj=54.0km s-min=16.2km az=108.0*

ISC 29 09:40:32.4±0.8,20.7°S±0.0°×68.9°W±0.0°,h112km±9km, n32,σ1s44/43,5C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	0.63	241	eP	Pn	09 40 50.8	+0.2
PB01				eS	Sn	09 41 04.4	+0.1
PB01				IAML		09 41 06.0	
	comp=N,7μm,0.5s						
PB08	IPOC Station P	0.64	338↑	eP	Pn	09 40 51.4	+0.5
PB08				eS	Sn	09 41 05.2	+0.3
PB08				IAML		09 41 05.7	
	comp=E,5μm,0.4s						
PB11	IPOC Station P	1.21	323↑	eP	Pn	09 40 56.6	+0.5
PB11				eS	Sn	09 41 14.4	+0.3
TA01	Diego Aracena	1.22	278↑	eP	Pn	09 40 56.6	+0.5
TA01				eS	Sn	09 41 14.2	+0.2
TA01				IAML		09 41 15.1	
	comp=E,2μm,0.3s						
TA02	Huaiquique	1.25	292↑	eP	Pn	09 40 57.1	+0.7
TA02				eS	Sn	09 41 15.2	+0.6
PB07	IPOC Station P	1.35	223↓	eP	Pn	09 40 58.6	+0.8
PB07				eS	Sn	09 41 17.7	+0.6
PB07				IAML		09 41 19.6	
	comp=E,2μm,0.3s						
PSGC	Pisagua	1.62	314↑	eP	Pn	09 41 01.2	+0.3
PSGC				eS	Sn	09 41 22.1	-0.4
PSGC				IAML		09 41 23.9	
	comp=N,1μm,0.2s						
MNMC	Minye Minye	1.73	337	eP	Pn	09 41 03.4	+1.0
MNMC				eS	Sn	09 41 26.4	+1.2
LVC	Limon Verde	1.86	180	P	Pn	09 41 05.7	+1.6
	comp=N,22nm,0.3s,baz=6.8,slow=12,SNR=202						
LVC				S	Sn	09 41 30.6	+2.2
	comp=N,45nm,0.3s,baz=205,slow=16,SNR=26						
LVC	Limon Verde	1.86	180	eP	Pn	09 41 05.8	+1.6
PB04	IPOC Station P	1.97	216	eP	Pn	09 41 06.0	+0.7
PB04				eS	Sn	09 41 30.8	+0.3
PB04				IAML		09 41 42.1	
	comp=N,757nm,0.7s						
PB05	IPOC Station P	2.43	210	eP	Pn	09 41 12.0	+0.9
PB05				eS	Sn	09 41 38.9	-2.0
PB05				IAML		09 41 50.2	
	comp=E,303nm,0.4s						
LPAZ	La Paz	4.48	9	P	Pn	09 41 41.5	+2.6
	comp=E,1.9nm,0.3s,baz=172,slow=9.5,SNR=4.8						
SIV	San Ignacio	8.80	59	P	Pn	09 42 34.1	-2.7
	comp=E,1.2nm,0.3s,baz=253,slow=11,SNR=33						
PTLB	Pontes e Lacer	10.66	62	eP	Pn	09 43 13.6	+12
SALV	Santo Antonio	13.42	71	eP	P	09 43 45.0	+1.2
TRCB	Terra Rica	15.25	101	eP	P	09 44 05.3	+1.2
PCMB	Pacaembu	16.47	96	eP	P	09 44 18.8	+1.2
ITAB	Concordia	16.62	116	eP	P	09 44 19.8	+0.6
CPSB	Cacapava Do Su	16.93	128	eP	Pn	09 44 22.4	0.0
ARAG	Araguaiana, MT	16.98	76	eP	P	09 44 24.6	+1.4
PLTB	Pedras Altas	17.55	132	eP	Pn	09 44 24.9	-5.0
FRTB	Fartura	18.11	102	eP	Pn	09 44 37.4	+0.6
SNDB	Serra Nova Dou	18.99	65	eP	P	09 44 44.9	-0.4
BB19B	Bebedouro	19.03	95	eP	P	09 44 45.6	-0.2
IPMB	Ipameri, GO	19.70	86	eP	P	09 44 51.8	-1.3
RCLB	Rio Claro- Sao	19.94	99	eP	P	09 44 55.0	-0.7
SPB	Sao Paulo	20.08	102	eP	P	09 44 55.6	-1.5
VAO	Valinhos	20.48	100	eP	P	09 44 59.4	-2.0
TORD	Torodi Ar. Bea	77.09	70	P	P	09 52 13.6	-0.2
	comp=E,1.8nm,0.5s,baz=256,slow=5.4,SNR=18						
MKAR	Makanchi Array	145.01	35	PKP	PKPab	09 59 58.0	+1.9
	comp=E,0.8nm,0.7s,baz=336,slow=3.2,SNR=7.6						

IDC 29 09:41:24.1±6.2,1.6°S×99.7°E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/36,mbtmp3.6/4,MS3.2/1,Ms1 3.2/1, ms1mx3.1/43,Error ellipse: s-maj=318.5km s-min=24.7km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	Lembang	9.39	123	LR	LR	09 46 48.5	
	comp=Z,173nm,22.0s,baz=180,slow=35						
H08S2	Diego Garcia H	27.79	257	T	T	10 15 46.5	
	baz=79,slow=76,SNR=50						
H08S3	Diego Garcia H	27.80	257	T	T	10 15 41.1	
	baz=79,slow=76,SNR=73						
H08S1	Diego Garcia H	27.81	257	T	T	10 15 47.7	
	baz=79,slow=76,SNR=27						
H01W3	Cape Leeuwin H	35.68	159	T	T	10 26 15.2	
	baz=335,slow=76,SNR=12						
H01W2	Cape Leeuwin H	35.70	160	T	T	10 26 18.5	
	baz=335,slow=76,SNR=10						
H01W1	Cape Leeuwin H	35.70	159	T	T	10 26 16.3	
	baz=335,slow=76,SNR=9.6						
WRA	Warramunga Arr	38.39	121	P	P	09 48 47.4	-0.1
	0.5nm,0.3s,baz=281,slow=10,SNR=7.9						
ASAR	Alice Springs	39.67	126	P	P	09 48 58.3	+0.1
	0.2nm,0.8s,baz=307,slow=9.2,SNR=1.9						
MKAR	Makanchi Array	50.62	345	P	P	09 50 25.4	+0.4
	0.5nm,0.5s,baz=156,slow=7.3,SNR=2.4						
ZALV	Zalesovo Beam	56.78	350	P	P	09 51 09.2	-0.7
	0.5nm,0.3s,baz=156,slow=7.3,SNR=2.4						
TXAR	Lajitas Array	144.58	37	PKP	PKPbc	10 01 02.5	+0.3
	0.3nm,0.6s,baz=267,slow=1.1,SNR=6.4						

*IDC **29** 10:07:26.8±2.2,36.9°N×141.2°E,h47km±19km,mb3.8/9, mb1 4.0/14,mb1mx3.8/48,mbtmp4.2/14,ML3.8/4, Error ellipse: s-maj=31.9km s-min=12.8km az=80.0*
*NEIC **29** 10:07:27.9±2.4,36.8°N±0.0°×141.7°E±0.1°,h48km±7km, mb4.7/26,Error ellipse: s-maj=11.3km s-min=6.5km az=100.0*
*JMA **29** 10:07:27.6±0.1,36.8°N×141.0°E,h50km±1km,M3.9*
JMA Felt II J1.

ISC 29 10:07:26.3±1.0,36.8°N±0.0°×141.3°E±0.0°,h40km±9km, n75,σ1s39/70,mb4.5/24,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.41	309	P	Pn	10 07 36.7	+0.7
ONAJ				S	Sn	10 07 42.9	+0.1
JHO	Hitachi	0.56	246	P	Pn	10 07 38.6	+0.8
JHO				S	Sn	10 07 46.1	+0.1
JFFD	Fukushimafurud	0.57	296	P	Pn	10 07 38.4	+0.4
JFFD				S	Sn	10 07 45.6	-0.7
JFK	Kawauchi	0.58	333	P	Pn	10 07 38.7	+0.5
JFK				S	Sn	10 07 46.4	-0.3
JFT	Otama	0.96	314	P	Pn	10 07 44.3	+0.9
JFT				S	Sn	10 07 56.1	+0.2
JYT	Yasato	1.02	233		Pn	10 07 44.8	+0.8
JSB	Shiboa	1.03	277	P	Pn	10 07 45.0	+0.6
JSB				S	Sn	10 07 57.5	-0.2
JMM	Marumori	1.07	342	P	Pn	10 07 45.2	+0.4
JMM				eS	Sn	10 07 58.2	-0.3
JMM	Marumori	1.07	342		Pn	10 07 45.2	+0.4
JAG	Ashikaga	1.47	254	P	Pn	10 07 50.7	+0.4
JKT	Katashina	1.57	268	P	Pn	10 07 52.6	+0.9
JKT				S	Sn	10 08 10.9	0.0
MJAR	Matsushiro Arr	2.42	264	P	Pn	10 08 04.4	+1.0
	4.8nm,0.3s,baz=72,slow=9.9,SNR=151						
MAJO	Matsushiro	2.43	264		Pn	10 08 05.1	+1.6
MAT	Matsushiro	2.43	264	P	Pn	10 08 05.0	+1.6
MAT				S	Sn	10 08 32.9	+1.0
MJB9	Matsu-Tunnel	2.43	264		Pn	10 08 05.1	+1.7
JSD	Sado	2.63	298		Pn	10 08 05.9	-0.3
JGF	Kuroka	3.35	249		Pn	10 08 17.6	+1.5
INU	Inuyama	3.70	247		Pn	10 08 23.5	+2.5
JHJ	Hachijo jima 2	3.89	198	P	Pn	10 08 25.9	+2.3
	64nm,0.3s,baz=122,slow=21,SNR=1.5						
JHJ				S	Sn	10 09 09.9	+1.8
	88nm,0.3s,baz=86,slow=22,SNR=1.9						
JTM	Tenmabayashi	3.94	359		Pn	10 08 25.7	+1.5
JWT	Wachi	4.95	253		Pn	10 08 40.4	+2.3
ERM	Erimo	5.38	16	Pn	Pn	10 08 44.9	+0.9
JEW	Eniwo	5.99	2	Pn	Pn	10 08 54.4	+2.0
JHS	Saijyo	6.81	257		Pn	10 09 06.9	+3.2
ASAJ	Asahikawa	7.34	8	P	Pn	10 09 11.3	+0.4
	4.8nm,0.3s,baz=211,slow=13,SNR=48						
JKA	Kamikawa-asahi	7.34	8		Pn	10 09 11.2	+0.3
JCJ	Chichijima	9.76	175	P	Pn	10 09 43.5	-0.6
	17nm,0.3s,baz=86,slow=20,SNR=6.4						
JCJ				S	Sn	10 11 26.9	-5.4
	11nm,0.3s,baz=289,slow=21,SNR=1.7						
USRK	Ussuriysk Ar.	10.15	319	P	Pn	10 09 51.8	+2.4
	baz=130,slow=12,SNR=11						
KSRS	Korea Array	10.62	277	P	Pn	10 09 56.2	+0.4
	0.1nm,0.3s,baz=90,slow=15,SNR=2.3						
SEY	Seymchan	27.01	11	P	P	10 13 06.2	+2.0
	3.7nm,0.9s,baz=192,slow=8.6,SNR=8.8						
SONM	Songino Array	27.75	304	P	P	10 13 11.6	+0.4
	1.3nm,0.5s,baz=106,slow=9.0,SNR=4.4						
H11N2	WAKE ISLAND Hy	28.20	120	T	T	10 43 15.0	
	baz=313,slow=75,SNR=380						
H11N1	WAKE ISLAND Hy	28.20	120	T	T	10 43 15.6	
	baz=313,slow=75,SNR=470						
H11N3	WAKE ISLAND Hy	28.22	120	T	T	10 43 16.4	
	baz=313,slow=75,SNR=239						
H11S1	WAKE ISLAND Hy	28.90	122	T	T	10 44 10.3	
	baz=314,slow=75,SNR=435						
H11S3	WAKE ISLAND Hy	28.90	122	T	T	10 44 10.3	
	baz=314,slow=75,SNR=351						
H11S2	WAKE ISLAND Hy	28.92	122	T	T	10 44 11.4	
	baz=314,slow=75,SNR=207						
ZALV	Zalesovo Beam	41.92	313	P	P	10 15 12.1	-0.6
	3.0nm,0.5s,baz=93,slow=6.5,SNR=11						
MKAR	Makanchi Array	44.08	302	P	P	10 15 29.8	-0.5
	2.5nm,0.7s,baz=89,slow=10.0,SNR=18						
MKAR	Makanchi Array	44.08	302	P	P	10 15 29.6	-0.7
GAR	Garm	54.63	295	P	P	10 16 50.8	-0.3
GAR				IAmb	IAmb	10 16 57.6	
	comp=Z,4.5nm,0.5s						
WRAB	Tennant Creek	56.84	188	P	P	10 17 07.3	+0.5
WRAB				IAmb	IAmb	10 17 20.0	
	comp=Z,7.2nm,1.4s						
WR0	Warramunga Arr	56.84	187	P	P	10 17 07.2	+0.4
WR0				IAmb	IAmb	10 17 18.6	
	comp=Z,5.1nm,1.3s						
WB2	Warramunga Arr	56.85	188	P	P	10 17 08.0	+1.2
WRA	Warramunga Arr	56.85	188	P	P	10 17 07.3	+0.4
	comp=Z,1.1nm,0.6s,baz=3.9,slow=7.4,SNR=20						
WRA	Warramunga Arr	56.85	188	IAmb	IAmb	10 17 08.1	
	comp=Z,0.1nm,0.9s						
ABKAR	Akbulak array	57.93	310	P	P	10 17 13.2	-1.1
ASAR	Alice Springs	60.58	188	P	P	10 17 33.5	+0.7
	comp=Z,0.3nm,0.6s,baz=17,slow=6.3,SNR=11						
FINES	FINESS Array B	68.90	332	P	P	10 18 26.3	-0.3
	comp=Z,1.3nm,0.7s,baz=53,slow=7.4,SNR=4.4						
KCPM	Cahto Peak	71.13	54	IAmb	IAmb	10 18 38.4	
	comp=Z,16nm,1.2s						
ORV	Oroville	72.55	54	IAmb	IAmb	10 18 46.9	
	comp=Z,4.6nm,0.8s						
PAHR	Pah Rah Range	73.82	52	P	P	10 18 55.3	-1.6
PAHR				IAmb	IAmb	10 18 55.9	
	comp=Z,11nm,0.8s						
VCNR	Virginia City	73.88	53	P	P	10 18 56.5	-0.8
PNTR	Pine Nut	74.03	53	P	P	10 18 59.0	+0.8
NOA	NORSAR Array B	74.30	337	P	P	10 18 58.5	-0.6
	comp=Z,0.7nm,0.8s,baz=38,slow=5.7,SNR=2.7						
YERR	Yerington	74.32	53	P	P	10 19 00.6	+0.8
YERR				IAmb	IAmb	10 19 01.7	
	comp=Z,9.5nm,0.9s						
AKASG	Malin Array 2e	74.34	322	P	P	10 18 57.5	-1.9
	comp=Z,1.6nm,0.4s,baz=46,slow=6.1,SNR=10						
WAKR	Walker	74.47	53	IAmb	IAmb	10 19 03.9	
	comp=Z,8.9nm,1.0s						
RYN	Ryan	74.98	53	P	P	10 19 05.4	+1.8
RYN				IAmb	IAmb	10 19 07.1	
	comp=Z,7.2nm,0.8s						
BOZ	Bozeman (W)	75.00	44	P	P	10 19 04.9	+1.3
KVN	Kaiserville	75.01	52	P	P	10 19 05.4	+1.6
KVN	Kaiserville	75.01	52	P	P	10 19 05.4	+1.6
KVN				IAmb	IAmb	10 19 06.2	
	comp=Z,7.2nm,1.0s						
KVN	Kaiserville	75.01	52	pmax	pmax		
	comp=Z,7.0nm,1.0s						
ELK	Elko	75.80	50	P	P	10 19 07.1	-1.3
ELK	Elko	75.80	50	P	P	10 19 07.1	-1.3
ELK				IAmb	IAmb	10 19 08.0	
	comp=Z,13nm,1.2s						
ELK	Elko	75.80	50	pmax	pmax		
	comp=Z,13nm,1.3s						
BGU	Big Grassy Mou	77.03	48	P	P	10 19 15.6	+0.3
BGU				IAmb	IAmb	10 19 40.4	
	comp=Z,6.5nm,1.1s						
HWUT	Hardware Ranch	77.48	47	P	P	10 19 18.0	+0.2
DUG	Dugway, Tooele	77.61	49	IAmb	IAmb	10 19 41.9	
	comp=Z,10nm,1.1s						
PD31	Pinedale Array	77.92	45	P	P	10 19 18.9	-1.4
PD31				IAmb	IAmb	10 19 20.3	
	comp=Z,5.3nm,0.7s						
NRS	Narsarsuaq	82.19	3	P	P	10 19 44.4	+1.8
GERES	GERESS Array B	82.78	328	P	P	10 19 45.6	-0.5
	comp=Z,0.7nm,0.5s,baz=36,slow=7.0,SNR=5.1						
H03N2	Juan Fernandez	147.17	96	T	T	13 12 02.2	
	baz=292,slow=76,SNR=15						
H03N3	Juan Fernandez	147.18	96	T	T	13 12 03.4	
	baz=292,slow=76,SNR=12						
H03N1	Juan Fernandez	147.19	96	T	T	13 12 07.9	
	baz=292,slow=76,SNR=17						

*BGR **29** 10:12:49.1±0.0,56.2°N×156.0°W,h33km,mb4.9*
*MOS **29** 10:12:58.9±0.8,57.7°N×154.5°W,h45km,mb4.9/34, Error ellipse: s-maj=18.0km s-min=6.6km az=99.8*
*BJI **29** 10:12:58.4±0.0,57.6°N×154.2°W,h59km,mB5.0/17, mb4.8/30,Ms5.2/8,Ms7 5.1/6*
*IDC **29** 10:13:01.0±0.6,57.6°N×154.4°W,h52km±4km,mb4.3/38, mb1 4.4/41,mb1mx4.4/64,mbtmp4.6/41,MS4.0/7, Ms1 3.9/7,ms1mx3.6/48,Error ellipse: s-maj=14.4km s-min=9.1km az=23.0*
*NEIC **29** 10:13:01.1±2.5,57.5°N±0.0°×154.2°W±0.0°,h59km±6km, Error ellipse: s-maj=8.6km s-min=4.9km az=165.0*
*AEIC **29** 10:13:01.2±3.0,57.4°N±0.0°×154.1°W±0.0°,h60km±5km, ML4.5/182,mb4.9/228(NEIC),ML4.7/46(NEIC),Error ellipse: s-maj=8.2km s-min=6.5km az=161.0*

ISC 29 10:13:00.8±0.4,57.5°N±0.0°×154.2°W±0.0°,h60km±3km, h60km:pP-P,n578,σ1s21/518,mb4.8/208,22C-7D,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	0.59	120	Pn	Pn	10 13 13.2	-0.5
OHAK				IAML		10 13 23.7	
	comp=E,32μm,0.3s						
OHAK				IAML		10 13 25.8	
	comp=N,47μm,0.5s						
OHAK	Old Harbor	0.59	120		Sn	10 13 23.0	-0.1
OHAK	Old Harbor	0.59	120	P		10 13 13.0	
	baz=298,SNR=1000						
KABR	Katmai Barrier	0.73	327		Pn	10 13 15.8	+0.4
CAHL	Cahill	0.78	313		Pn	10 13 16.7	+0.6
KCE	Katmai Mt Cerb	0.89	325		Pn	10 13 18.4	+1.1
KJL	Kejulik	0.90	307		Pn	10 13 18.5	+1.0
KAWH	Katmai	0.92	341		Pn	10 13 18.3	+0.6
KDAK	Kodiak Island	0.92	73	P	Pn	10 13 17.0	-0.8
	comp=N,680nm,0.3s,baz=274,slow=8.1,SNR=8834						
KDAK				S	Sn	10 13 29.7	-0.6
	comp=N,2μm,0.3s,baz=314,slow=11,SNR=11						
KDAK				LR	LR	10 13 46.0	
	comp=N,1μm,19.7s,baz=202,slow=44						
KDAK	Kodiak Island	0.92	73		Pn	10 13 17.2	-0.6
KDAK	Kodiak Island	0.92	73	IAML		10 13 33.5	
	comp=N,14μm,0.7s						
KDAK				IAML		10 13 34.2	
	comp=N,14μm,0.4s						
KABU	Katmai Buttres	0.94	324		Pn	10 13 17.6	-0.5
ANCK	Angle Creek	0.96	316		Pn	10 13 19.0	+0.7
KVTA	Katmai Vly 10	1.03	327		Pn	10 13 19.8	+0.5
PLK3	Peulik 3	1.11	279		Pn	10 13 20.9	+0.6
KAHC	Katmai Hardscr	1.20	340		Pn	10 13 21.6	+0.1
PLK1	Peulik 1	1.31	283		Pn	10 13 23.7	+0.9
PLK5	Peulik 5	1.50	290		Pn	10 13 26.0	+0.7
AUQ	Augustine Qik'	1.89	13		Pn	10 13 30.9	+0.2
AUCH	Augustine Cone	1.89	12		Pn	10 13 31.0	+0.2
AUW	Augustine West	1.90	12		Pn	10 13 30.9	+0.2
AU22	Augustine Moun	1.91	14		Pn	10 13 31.1	+0.2
AU22					Sn	10 13 55.3	+1.5
AUL	Augustine Lava	1.91	12		Pn	10 13 31.6	+0.7
OPT	Oil Point	2.20	13		Pn	10 13 35.2	+0.3
P19K	Oil Pt	2.20	13		Pn	10 13 35.1	+0.2
P19K					Sn	10 14 03.3	+2.3
O18K	Koktuh Hills	2.39	348		Pn	10 13 36.9	-0.7
O18K					Sn	10 14 06.8	+1.1
ILS	Iliamna Low So	2.52	13		Pn	10 13 40.4	+1.1
HOM	Homer	2.53	31		Pn	10 13 40.5	+1.1
HOM					Sn	10 14 11.0	+2.0
HOM	Homer	2.53	31	IAML		10 14 16.1	
	comp=E,6μm,1.2s						
HOM				IAML		10 14 26.8	
	comp=N,7μm,0.7s						
HOM	Homer	2.53	31	P		10 13 39.5	
	baz=212,SNR=19						
CNPM	China Poot	2.55	37		Pn	10 13 39.5	-0.2
CNPM	China Poot	2.55	37	IAML		10 14 20.8	
	comp=E,3μm,0.7s						
CNPM				IAML		10 14 30.6	
	comp=N,2μm,0.9s						
IVE	Iliamna Volcan	2.58	14		Pn	10 13 40.8	+0.6
O19K	Port Alsworth	2.68	359		Pn	10 13 41.3	-0.1
O19K	Port Alsworth	2.68	359	S		10 13 41.1	
	baz=178						
O20K	Slope Mountain	2.70	17		Pn	10 13 42.4	+0.6
BRLK	Bradley Lake	2.85	36	Pn	Pn	10 13 42.9	-0.8
BRSE	Bradley Lake S	2.88	38		Pn	10 13 43.5	-0.6
BRSE	Bradley Lake S	2.88	38	P		10 13 43.2	
	baz=220,SNR=22						
RED	Redoubt Volcan	3.00	14		Pn	10 13 46.6	+0.7
RED					Sn	10 14 22.3	+1

PMR **Palmer** 4.83 30 Pn 10 14 09.8 -1.0
PMR **Palmer** 4.83 30 IAML 10 15 21.0
comp=N,370nm,0.9s
PMR IAML 10 15 21.2
comp=E,408nm,0.9s
PMR **Palmer** 4.83 30 P 10 14 09.8
baz=214,SNR=12
KNK **Knik Glacier** 4.88 35 Pn 10 14 11.3 -0.3
KNK **Knik Glacier** 4.88 35 IAML 10 15 24.4
comp=N,691nm,1.1s
KNK **Knik Glacier** 4.88 35 P 10 14 10.4
baz=219,SNR=12
HIN **Hinchinbrook I** 4.93 51 Pn 10 14 11.5 -0.7
HIN **Hinchinbrook I** 4.93 51 IAML 10 15 06.2
comp=N,475nm,0.6s
HIN IAML 10 15 38.6
comp=E,540nm,1.4s
GLI **Glacier Island** 4.97 44 Pn 10 14 11.2 -1.6
GLI **Glacier Island** 4.97 44 P 10 14 11.2
baz=230
GHO **Glory Hole Cre** 5.04 30 Pn 10 14 12.9 -0.8
DT1 **Dutton Round H** 5.09 245 Pn 10 14 14.3 -0.1
FID **Port Fidalgo** 5.14 48 Pn 10 14 12.9 -2.1
FID **Port Fidalgo** 5.14 48 IAML 10 15 16.8
comp=E,335nm,0.8s
SML **Sawmill** 5.23 32 Pn 10 14 15.7 -0.7
SML **Sawmill** 5.23 32 IAML 10 15 32.4
comp=N,519nm,0.9s
SML IAML 10 15 37.4
comp=E,619nm,1.2s
SML **Sawmill** 5.23 32 P 10 14 15.3
baz=217
JPK **Jack Peak** 5.28 45 Pn 10 14 15.8 -1.1
CUT **Chulitna** 5.29 20 Pn 10 14 16.9 -0.1
CUT **Chulitna** 5.29 20 P 10 14 15.7
baz=203
EYAK **Cordova Ski Ar** 5.33 52 Pn 10 14 16.5 -1.0
EYAK **Cordova Ski Ar** 5.33 52 P 10 14 16.2
baz=238,SNR=16
VMT **TAPS Tl Valdez** 5.38 45 Pn 10 14 17.5 -0.8
TT01 **Tatalina** 5.47 351 Pn 10 14 19.1 -0.6
PPLA **Purkeypile** 5.49 10 Pn 10 14 19.5 -0.4
PPLA **Purkeypile** 5.49 10 P 10 14 19.3
baz=191
TTA **Tatalina** 5.50 351 Pn 10 14 19.9 -0.1
TTA **Tatalina** 5.50 351 P 10 14 19.4
baz=170,SNR=62
SCM **Sheep Creek Mo** 5.56 36 Pn 10 14 19.8 -1.0
DIV **Divide** 5.64 47 Pn 10 14 20.8 -1.1
FALS **False Pass** 5.79 246 Pn 10 14 23.6 -0.3
FALS **False Pass** 5.79 246 P 10 14 23.3
baz=59
KLU **Klutina** 5.80 43 Pn 10 14 23.2 -1.0
KLU **Klutina** 5.80 43 P 10 14 23.0
baz=230,SNR=31
HMT **Hamilton** 5.88 57 Pn 10 14 24.1 -1.2
WAT7 **Susitna Watana** 5.96 24 Pn 10 14 25.5 -0.9
NICHA **Nichawak Mount** 5.97 59 Pn 10 14 25.5 -1.0
ISLZ **Isanotski Laza** 6.00 246 Pn 10 14 26.5 -0.3
SUCK **Suckling Hills** 6.00 60 Pn 10 14 25.8 -1.1
WAT6 **Susitna Watana** 6.02 30 Pn 10 14 26.1 -1.2
WAT6 **Susitna Watana** 6.02 30 P 10 14 26.1
baz=215,SNR=40
BMRM **Bremner River** 6.02 51 Pn 10 14 25.7 -1.5
BMRM **Bremner River** 6.02 51 P 10 14 25.6
baz=239,SNR=20
WAT1 **Susitna Watana** 6.03 26 Pn 10 14 26.4 -0.8
WAT1 **Susitna Watana** 6.03 26 P 10 14 26.1
baz=210
PS12 **TAPS Pump St12** 6.09 46 Pn 10 14 27.0 -1.0
M24K **Tolsona, Glenn** 6.13 38 Pn 10 14 28.1 -0.6
M24K **Tolsona, Glenn** 6.13 38 P 10 14 28.1
baz=224,SNR=9.3
BGLC **Bering Glacier** 6.25 61 Pn 10 14 29.6 -0.6
BGLC **Bering Glacier** 6.25 61 P 10 14 28.6
baz=250
TRF **Thorofare Moun** 6.26 16 Pn 10 14 29.9 -0.5
TRF **Thorofare Moun** 6.26 16 P 10 14 29.8
baz=199,SNR=31
KTH **Kantishna Hill** 6.26 14 Pn 10 14 30.7 +0.2
GRIN **Grindle Hills** 6.29 59 Pn 10 14 29.9 -1.0
PS11 **TAPS Pump St11** 6.35 40 Pn 10 14 32.5 +0.9
N25K **Chitina, Valde** 6.38 46 Pn 10 14 31.2 -0.8
N25K **Chitina, Valde** 6.38 46 P 10 14 31.1
baz=234,SNR=14
KHIT **Khitrov Hills** 6.38 58 Pn 10 14 30.9 -1.3
RND **Reindeer** 6.47 22 Pn 10 14 32.5 -0.8
KULT **Kultieth River** 6.56 61 Pn 10 14 33.5 -1.0
CRQM **Cirque** 6.56 56 Pn 10 14 33.6 -1.1
WAX **Waxell Ridge** 6.57 59 Pn 10 14 33.6 -1.0
CRQE **Cirque** 6.58 56 P 10 14 33.5
baz=245,SNR=38
GLB **Gilahina Butte** 6.60 49 Pn 10 14 34.1 -0.9
CYK **Cape Yakataga** 6.62 62 Pn 10 14 34.1 -1.2
WECS **Westdahl Cape** 6.63 248 Pn 10 14 35.3 -0.2
VRDI **Verde Repeater** 6.64 51 Pn 10 14 34.7 -1.1
HARP **HAARP** 6.68 39 Pn 10 14 36.3 +0.2
HARP **HAARP** 6.68 39 P 10 14 36.1
baz=226
TGL **Tana Glacier** 6.70 56 Pn 10 14 35.5 -1.0
MCK **McKinley** 6.75 20 Pn 10 14 36.9 -0.2
MCK **McKinley** 6.75 20 P 10 14 36.8
baz=205,SNR=23
BPAW **Bear Paw Mtn.** 6.79 12 Pn 10 14 37.5 -0.1
BPAW **Bear Paw Mtn.** 6.79 12 P 10 14 37.6
baz=194,SNR=101
ISLE **Juniper Island** 6.86 58 Pn 10 14 37.8 -1.0
MCARA **McCarthy VSAT** 6.90 51 P 10 14 38.7
baz=240,SNR=11
MESA **MESA** 6.90 62 Pn 10 14 38.6 -0.7
MESA **MESA** 6.90 62 P 10 14 38.2
baz=252,SNR=16
BAGL **Bagley Icefiel** 6.94 60 Pn 10 14 38.8 -0.8
KIAG **Kiagna River** 6.98 56 Pn 10 14 39.5 -0.8
PAX **Paxson** 6.98 35 Pn 10 14 39.6 -0.8
PAX **Paxson** 6.98 35 P 10 14 40.0
baz=222,SNR=28
BALM **Baldy** 7.03 55 Pn 10 14 40.1 -0.9
PTPK **Patty Peak** 7.04 54 Pn 10 14 40.5 -0.7
YAH **Yahtse** 7.06 61 Pn 10 14 40.6 -0.9
BWN **Browne** 7.06 17 Pn 10 14 41.2 -0.1
GRNC **Granite Creek** 7.18 58 Pn 10 14 42.3 -0.8
RKAV **Rock Avalanche** 7.23 62 Pn 10 14 42.9 -0.8
CHX **Chaix Hills** 7.27 64 Pn 10 14 43.5 -0.8
BARN **Barnard Glacie** 7.34 56 Pn 10 14 44.5 -0.9
TABL **Table Mountain** 7.37 61 Pn 10 14 44.9 -0.8
SAMH **Samovar Hills** 7.45 64 Pn 10 14 46.1 -0.6
CTG **Chitna Glacier** 7.45 57 P 10 14 45.9
baz=248,SNR=81
CTGM **Chitina Glacie** 7.46 57 Pn 10 14 46.1 -0.7
NEA2 **Nenana** 7.52 17 Pn 10 14 46.0 -1.6
NEA2 **Nenana** 7.52 17 P 10 14 46.7
baz=201,SNR=21
MENT **Mentasta** 7.53 40 Pn 10 14 47.5 -0.3
LOGN **Logan Glacier** 7.55 58 Pn 10 14 47.1 -1.1
WRH **Wood River Hil** 7.58 21 Pn 10 14 46.5 -1.9
PCA **Pinnacle** 7.70 65 Pn 10 14 49.0 -1.1
PINM **Pinnacle** 7.70 65 P 10 14 49.1
baz=256,SNR=50
MLY **Manley** 7.72 11 Pn 10 14 49.0 -1.3
MLY **Manley** 7.72 11 P 10 14 50.2
baz=194,SNR=58
HDA **Harding Lake** 7.76 24 Pn 10 14 49.8 -1.1
HDA **Harding Lake** 7.76 24 P 10 14 50.4
baz=210,SNR=25
HDA P 10 14 50.4
baz=210,SNR=25
I21K **Tanana** 7.76 7 Pn 10 14 49.9 -0.9
I21K **Tanana** 7.76 7 P 10 14 50.5
baz=189,SNR=46
CCB **Clear Creek Bu** 7.79 21 Pn 10 14 49.1 -2.2
MTBL **Makushin Table** 7.88 248 Pn 10 14 52.4 -0.1
YKU2 **Yakutat** 7.88 69 Pn 10 14 52.9 +0.5
DOT **Dot Lake** 7.92 35 Pn 10 14 53.0 0.0
MNAT **Makushin Natee** 7.92 248 Pn 10 14 52.5 -0.6
MSW **Makushin Switc** 7.96 248 Pn 10 14 53.0 -0.6
BCPM **Bancas Point** 7.97 66 Pn 10 14 52.4 -1.4
TCOL **CIGO, UAF Yank** 7.99 20 Pn 10 14 52.3 -1.6
TCOL **CIGO, UAF Yank** 7.99 20 P 10 14 53.5
baz=205,SNR=27
COLA **College** 7.99 20 *d* iP Pn 10 14 53.6 -0.3
COLA pmax pmax
comp=Z,31nm,0.8s
COLA **College** 7.99 20 Pn 10 14 53.6 -0.3
COLA **College** 7.99 20 P 10 14 53.1
baz=205
I23K **Minto, Yukon-K** 8.00 15 Pn 10 14 52.6 -1.5
I23K **Minto, Yukon-K** 8.00 15 P 10 14 52.7
baz=199,SNR=75
MDM **Murphy Dome** 8.00 19 Pn 10 14 52.5 -1.6
YUK2 **White River** 8.01 52 Pn 10 14 54.2 -0.2
PNL **Peninsula** 8.04 68 Pn 10 14 53.2 -1.5
MGOD **Makushin Gods** 8.06 248 Pn 10 14 54.8 -0.4
IL31 8.09 23 Pn 10 14 53.5 -1.7
ILAR **Eielson Array** 8.09 23 P Pn 10 14 53.3 -2.0
comp=Z,2.1nm,0.3s,baz=214,slow=14,SNR=76
ILAR **Eielson Array** 8.09 23 Pn Pn 10 14 53.8 -1.5
MAPS **Pakushin South** 8.09 248 Pn 10 14 54.8 -0.6
YUK3 **Moose Creek** 8.17 53 Pn 10 14 56.4 -0.2
SCRK **Sand Creek** 8.18 33 Pn 10 14 56.2 -0.5
SCRK **Sand Creek** 8.18 33 P 10 14 55.8
baz=222,SNR=13
H21K **Melozitna Rive** 8.19 4 Pn 10 14 56.3 -0.5
L27K **Beaver Creek,** 8.28 43 Pn 10 14 57.2 -0.8
L27K **Beaver Creek,** 8.28 43 P 10 14 57.3
baz=233,SNR=18
BVCY **Beaver Creek** 8.30 48 Pn 10 14 58.1 -0.1
BC03 8.30 43 Pn 10 14 58.0 -0.2
BCAR **Beaver Creek A** 8.30 43 Pn Pn 10 14 58.0 -0.3
H23K **Yukon River** 8.62 13 Pn 10 15 01.6 -1.1
H23K **Yukon River** 8.62 13 P 10 15 02.6
baz=197
SPIA **Saint Paul Isl** 8.67 274 Pn 10 15 04.0 +0.6
SPIA **Saint Paul Isl** 8.67 274 P 10 15 03.4
baz=81
OKFG **Magazine Ridge** 8.79 248 Pn 10 15 04.2 -0.9
YUK4 **Talbot Arm** 8.81 58 Pn 10 15 05.7 +0.3
K27K **Chicken** 8.81 37 Pn 10 15 05.2 0.0
K27K **Chicken** 8.81 37 P 10 15 04.9
baz=227
YUK6 **Outpost Mounta** 8.82 61 Pn 10 15 05.0 -0.5
YUK7 **Dusty Glacier** 8.82 63 Pn 10 15 05.3 -0.3
H24K **Noodor Dome** 8.87 17 Pn 10 15 05.1 -0.9
H24K **Noodor Dome** 8.87 17 P 10 15 05.3
baz=202,SNR=17
OKTU **Okmok Mt. Tuli** 8.87 248 Pn 10 15 05.2 -1.0
ANM **Nome** 8.88 327 Pn 10 15 06.6 +0.4
ANM **Nome** 8.88 327 P 10 15 06.6
baz=138,SNR=21
PRP **Porcupine Dome** 9.02 24 Pn 10 15 07.4 -0.8
PRP **Porcupine Dome** 9.02 24 P 10 15 07.7
baz=211,SNR=30
YUK5 **Granite Creek** 9.11 60 Pn 10 15 09.3 -0.1
HYT **Haines Junctio** 9.20 62 Pn 10 15 10.1 -0.5
NIKH **Nikolski High** 9.51 248 Pn 10 15 13.7 -1.1
NIKH **Nikolski High** 9.51 248 P 10 15 13.6
baz=56
EGAK **Eagle** 9.62 35 Pn 10 15 15.2 -0.9
EGAK **Eagle** 9.62 35 P 10 15 15.6
baz=226,SNR=16
DAWY **Dawson** 9.76 42 Pn 10 15 17.1 -1.1
COLD **Coldfoot** 9.91 9 Pn 10 15 18.9 -1.3
COLD **Coldfoot** 9.91 9 P 10 15 19.4
baz=192,SNR=19
FYU **Fort Yukon** 9.99 21 Pn Pn 10 15 19.6 -1.7
SKAG **Skagway** 10.08 71 Pn 10 15 21.5 -1.0
SKAG **Skagway** 10.08 71 P 10 15 21.6
baz=267,SNR=44
SIT **Sitka** 10.24 85 Pn 10 15 21.6 -3.1
SIT **Sitka** 10.24 85 P 10 15 21.4
baz=280,SNR=11
BESE **Bessie Mountai** 10.32 76 Pn 10 15 24.6 -1.3
TNA **Tin City** 10.35 327 P 10 15 25.9
baz=135
WHY **Whitehorse** 10.43 64 Pn 10 15 26.0 -1.4
WHY **Whitehorse** 10.43 64 P 10 15 25.6
baz=261,SNR=19
JIS **Juneau Island** 10.59 78 Pn 10 15 27.7 -1.7
GAMB **Gambell** 10.60 313 P 10 15 28.5
baz=118
BM05 **Burnt Mountain** 10.88 20 Pn 10 15 30.8 -2.7
BMAR **Burnt Mountain** 10.88 20 Pn Pn 10 15 31.2 -2.2
RDOG **Red Dog Mine** 11.27 343 P 10 15 37.4
baz=155
TOLK **Toolik Lake Re** 11.35 9 Pn Pn 10 15 39.6 -0.3
TOLK **Toolik Lake Re** 11.35 9 P 10 15 39.3
baz=193
CRAG **Craig** 11.83 91 Pn Pn 10 15 43.3 -3.2
CRAG **Craig** 11.83 91 P 10 15 43.6
baz=288,SNR=7.8
WRAK **Wrangell Islan** 11.98 86 Pn 10 15 46.0 -2.5
WRAK **Wrangell Islan** 11.98 86 P 10 15 46.4
baz=284
EPYK **Eagle Plains** 12.06 35 Pn 10 15 50.0 +0.5
EPYK **Eagle Plains** 12.06 35 P 10 15 48.7
baz=231
DLBC **Dease Lake** 12.86 76 P Pn 10 16 01.1 +0.6
comp=Z,2.2nm,0.3s,baz=259,slow=8.6,SNR=26
DLBC S Sn 10 18 18.1 -3.6
comp=Z,0.8nm,0.3s,baz=77,slow=23,SNR=2.6
DLBC LR LR 10 20 49.1
comp=Z,751nm,20.8s,baz=0.5,slow=36
DLBC **Dease Lake** 12.86 76 Pn 10 15 59.5 -1.0
DIB **Dawson Inlet,** 13.08 100 Pn Pn 10 16 04.9 +1.4
H02S1 **DAWSON INLET T** 13.08 100 P Pn 10 16 00.6 -2.9
H02S1 S Sn 10 18 21.2 -6.0
MOBC **Moresby Island** 13.38 100 Pn Pn 10 16 07.8 +0.1
RUBB **Prince Rupert** 13.79 93 Pn Pn 10 16 11.7 -1.4
ADK **Adak** 14.12 256 Pn Pn 10 16 16.3 -1.2
INK **Inuvik** 14.24 32 P Pn 10 16 18.1 -0.9
comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=5.0
INK **Inuvik** 14.24 32 Pn Pn 10 16 18.6 -0.4
INK **Inuvik** 14.24 32 P 10 16 18.2
baz=230
BBB **Bella Bella** 15.90 98 LR LR 10 21 39.0
comp=Z,467nm,20.0s,baz=320,slow=32
AMKA **Amchitka** 16.51 259 Pn Pn 10 16 46.7 -1.3
C36M **Paulatuk** 17.69 36 Pn Pn 10 17 01.4 -1.1
C36M IAmb IAmb 10 17 38.8
comp=Z,106nm,1.6s
C36M **Paulatuk** 17.69 36 P 10 17 01.3
baz=243
SMY **Shemya** 18.63 269 P 10 17 11.6 -1.5
SMY IAmb IAmb 10 17 45.7
comp=Z,133nm,1.2s
YKA **Yellowknife Ar** 20.17 59 P P 10 17 29.9 0.0
comp=Z,14nm,0.9s,baz=269,slow=9.9,SNR=31
YKA PcP PcP 10 21 42.4 +0.7
comp=Z,1.4nm,0.7s,baz=287,slow=1.5,SNR=5.2
YKA LR LR 10 25 32.5
comp=Z,311nm,21.9s,baz=0.0,slow=37
BILL **Bilibino** 20.49 317 *i* P P 10 17 32.0 -1.3
BILL *i* 10 17 47.6
BILL *i* 10 18 01.7
BILL pmax pmax
comp=Z,27nm,1.3s
BILL **Bilibino** 20.49 317 P P 10 17 32.9 -0.4
A04D **Lummi Island** 20.70 102 P 10 17 35.8
baz=307,SNR=6.6
A05A **Maple Falls** 20.86 100 P P 10 17 38.3 +0.9
D03D **Eldon** 21.23 105 P 10 17 39.9
baz=310,SNR=13
B05A **Bryant** 21.30 102 P 10 17 40.9
baz=308,SNR=14
B06A **Marblemount** 21.47 101 P P 10 17 45.5 +1.6
D04E **Lakebay** 21.63 105 P 10 17 45.4
baz=310
E03A **Lebam** 21.63 107 P P 10 17 46.6 +1.0
E03A IAmb IAmb 10 17 51.9
comp=Z,36nm,0.9s
D05A **Enumclaw** 22.03 104 P P 10 17 51.5 +1.6
D05A IAmb IAmb 10 17 55.9
comp=Z,57nm,1.0s
E04D **Cinebar** 22.14 106 P 10 17 48.1
baz=311,SNR=17
LON **Longmire** 22.41 105 P P 10 17 55.8 +1.7
LON IAmb IAmb 10 18 18.5
comp=Z,44nm,1.4s
LTY **Liberty** 22.68 102 P P 10 17 58.1 +1.1
G03D **McMinnville, O** 22.69 109 P 10 17 54.2
baz=314
B08A **Colville Reser** 22.71 99 P P 10 17 59.0 +1.8
COR **Corvallis** 23.11 111 P P 10 18 02.0 +0.7
COR IAmb IAmb 10 18 06.2
comp=Z,55nm,1.2s
F05D **White Salmon** 23.16 106 P 10 17 59.5
baz=312
I02D **Swisshome** 23.18 112 P 10 17 59.9
baz=316
H04D **Lebanon** 23.44 110 P 10 18 03.7
baz=315,SNR=12
E07A **Sunnyside** 23.55 103 P P 10 18 07.3 +1.8
E07A IAmb IAmb 10 18 28.9
comp=Z,48nm,1.3s
H04A **Detroit Lake** 23.61 109 P P 10 18 09.0 +2.9
H04A IAmb IAmb 10 18 10.2
comp=Z,33nm,1.0s
C09A **Chrisman Ranch** 23.61 99 P P 10 18 07.8 +1.8
C09A IAmb IAmb 10 18 29.0
comp=Z,45nm,1.8s
G05D **Wamic, OR** 23.67 107 P 10 18 08.8
baz=313
D08A **Wollman Farm,** 23.73 101 IAmb IAmb 10 18 31.1
comp=Z,65nm,1.6s
J01E **Myrtle Point** 23.83 114 P 10 18 05.5
baz=318,SNR=6.6
HAWA **Hanford** 23.83 103 IAmb IAmb 10 18 31.5
comp=Z,38nm,1.4s
NEW **Newport** 23.95 97 P P 10 18 11.3 +2.3
comp=Z,12nm,0.9s,baz=315,slow=7.7,SNR=28
NEW pP pP 10 18 24.7 +1.0
comp=Z,7.1nm,0.8s,baz=302,slow=5.5,SNR=7.7
NEW LR LR 10 27 11.7
comp=Z,198nm,19.5s,baz=338,slow=35
NEW **Newport** 23.95 97 P 10 18 09.1
baz=307,SNR=18
F07A **Phinny Hill Vi** 23.95 104 IAmb IAmb 10 18 13.1
comp=Z,23nm,0.7s
E08A **Dider Farm, El** 24.02 102 P P 10 18 11.6 +1.9
E08A IAmb IAmb 10 18 32.1
comp=Z,31nm,1.2s
I04A **Tendick Farm,** 24.13 111 P 10 18 10.2
baz=316,SNR=12
I05D **Terrebonne, OR** 24.28 109 P 10 18 11.4
baz=315,SNR=12
K02D **Willamette Mer** 24.30 114 P 10 18 13.3
baz=318,SNR=12
E09A **Wood Farm, Sta** 24.49 101 IAmb IAmb 10 18 18.5
comp=Z,36nm,1.2s
J04D **Umpqua Nationa** 24.68 111 P 10 18 15.5
baz=317,SNR=11
HUMO **Hull Mountain** 24.72 114 IAmb IAmb 10 18 22.6
comp=Z,24nm,1.1s
L02E **Cave Junction** 24.74 115 P 10 18 15.3
baz=319
PINE **Pine Mountain** 24.87 109 P P 10 18 20.4 +2.7
PINE IAmb IAmb 10 18 22.4
comp=Z,23nm,0.9s
KRMB **Red Mountain** 25.07 117 P P 10 18 20.8 +1.3
J05D **Fort Rock, OR** 25.09 110 P 10 18 20.7
baz=316,SNR=23
WALA **Waterton Lakes** 25.21 92 P P 10 18 20.1 -0.5
L04D **Klamath Falls** 25.33 113 P 10 18 21.3
baz=318,SNR=10
YBH **Yreka Blue Hor** 25.50 115 P P 10 18 27.1 +3.9
comp=Z,8.5nm,0.8s,baz=332,slow=4.1,SNR=28
YBH LR LR 10 26 09.2
comp=Z,354nm,22.0s,baz=12,slow=31
YBH **Yreka Blue Hor** 25.50 115 P P 10 18 26.0 +2.8
KHMM **Horse Mountain** 25.66 117 P P 10 18 26.3 +1.5
K05A **Summer Lake** 25.66 111 P P 10 18 28.6 +3.7
K05A IAmb IAmb 10 18 49.5
comp=Z,54nm,1.3s
M02C **Callahan** 25.68 115 P 10 18 25.3
baz=320,SNR=12
JTMT **Jette** 25.78 95 IAmb IAmb 10 18 48.6
comp=Z,26nm,1.2s
M04C **Macdoel** 25.89 113 P 10 18 27.5
baz=319,SNR=17
N02D **Trinity Center** 26.08 116 P 10 18 29.1
baz=320,SNR=17
SEY **Seymchan** 26.38 304 P P 10 18 30.2 -0.7
comp=Z,2.0nm,0.7s,baz=96,slow=8.8,SNR=5.3
SEY **Seymchan** 26.38 304 *i* P P 10 18 30.3 -0.6
J08A **Circle Bar Ran** 26.45 107 P P 10 18 32.6 +0.8
MSO **Missoula** 26.53 96 P 10 18 32.1
baz=309
O02D **Mt. Diablo Mer** 26.65 117 P 10 18 34.8
baz=321,SNR=13
PET **Petropavlovsk** 26.78 281 *i* P P 10 18 34.7 +0.1
PET pmax pmax
comp=Z,46nm,1.3s
O03E **Paynes Creek** 27.04 116 P 10 18 37.9
baz=320,SNR=25
PEA0B **Petropavlovsk-** 27.24 282 *i* P P 10 18 38.0 -0.8
PEA0B **Petropavlovsk-** 27.24 282 P P 10 18 38.9 +0.1
PEA0B IAmb IAmb 10 19 10.2
comp=Z,26nm,1.2s
PETK **Petropavlovsk-** 27.24 282 P P 10 18 37.4 -1.3
comp=Z,4.8nm,0.5s,baz=74,slow=13,SNR=24
MFID **Camas Ranch** 27.78 104 P P 10 18 45.4 +1.6
EGMT **Eagleton** 28.05 90 P 10 18 46.0
baz=306,SNR=9.2
BEKR **Beckworth** 28.07 114 P P 10 18 47.8 +1.3
MA2 **Magadan** 28.09 298 *i* P P 10 18 46.4 +0.2
MA2 pmax pmax
comp=Z,8.0nm,0.9s
BOZ **Bozeman (W)** 28.55 96 P 10 18 47.8
baz=310
CMB **Columbia Colle** 29.49 117 P P 10 19 00.4 +1.4
YHH **Holmes Hill** 29.50 97 P P 10 19 01.1 +1.9
YMR **Madison River** 29.51 97 IAmb IAmb 10 19 22.7
comp=Z,24nm,1.1s
YMP **Mirror Lake Pl** 29.90 96 IAmb IAmb 10 19 25.8
comp=Z,21nm,1.5s
H17A **Grant Village** 29.90 97 P 10 19 03.2
baz=312,SNR=10
FLWY **Flagg Ranch** 30.05 98 IAmb IAmb 10 19 22.8
comp=Z,18nm,0.8s
RLMT **Red Lodge** 30.13 95 P 10 19 04.5
baz=311
NVAR **Mina Array Bea** 30.20 114 P P 10 19 08.0 +2.6
comp=Z,6.5nm,0.7s,baz=304,slow=9.1,SNR=63
NVAR pP pP 10 19 22.5 +2.0
comp=Z,2.2nm,0.7s,baz=303,slow=6.9,SNR=7.4
NVAR sP sP 10 19 28.1 +0.5
comp=Z,2.6nm,0.8s,baz=310,slow=9.2,SNR=4.3
NVAR PcP PcP 10 22 06.3 +1.4
comp=Z,2.0nm,0.6s,baz=289,slow=2.3,SNR=11
NVAR LR LR 10 29 17.6
comp=Z,280nm,18.6s,baz=7.0,slow=32
MDPB **Devils Postpil** 30.44 116 IAmb IAmb 10 19 12.3
comp=Z,12nm,0.9s
MLAC **Mammoth, Mammc** 30.56 115 P 10 19 08.8
baz=322
LAO **LASA Array** 30.77 90 P 10 19 09.7
baz=308
DGMT **Dagmar** 30.79 85 P 10 19 10.6
baz=306
TPH **Tonopah** 31.01 113 IAmb IAmb 10 19 16.6
comp=Z,34nm,1.0s
TIN **Tinemaha, Big** 31.31 115 P 10 19 16.8
baz=322,SNR=5.9
PDAR **Pinedale Array** 31.55 98 P P 10 19 19.0 +1.7
comp=Z,5.3nm,0.7s,baz=311,slow=4.9,SNR=54
PDAR pP 10 19 33.9 +1.6
comp=Z,3.6nm,0.6s,baz=313,slow=5.0,SNR=12
PDAR sP sP 10 19 39.4 -0.1
comp=Z,2.5nm,0.8s,baz=324,slow=7.3,SNR=4.6
BW06 **Boulder Array** 31.55 98 P 10 19 17.0
baz=314,SNR=10
R11A **Troy Canyon, C** 31.62 111 P P 10 19 20.1 +2.3
R11A **Troy Canyon, C** 31.62 111 P 10 19 19.2
baz=320,SNR=17
DUG **Dugway, Tooele** 31.66 105 P 10 19 18.1
baz=317,SNR=8.9
SPR3 **Spring Creek 3** 31.76 108 P P 10 19 21.8 +2.5
SPR3 IAmb IAmb 10 19 24.2
comp=Z,12nm,1.1s
GRAC **Grapevine Rang** 31.78 114 P 10 19 17.5
baz=322,SNR=11
SMMC **Simmler** 31.86 119 P 10 19 18.2
baz=325,SNR=7.5
VES **Vestal, Richgr** 31.87 118 P 10 19 18.4
baz=324,SNR=5.3
CWC **Cottonwood Cre** 31.87 116 P 10 19 19.5
baz=323
JLU **Jordanelle** 32.08 103 IAmb IAmb 10 19 25.5
comp=Z,12nm,1.1s
PKM **Mcpherson Peak** 32.30 120 P 10 19 24.5
baz=325,SNR=8.6
ISA **Isabella, Lake** 32.30 117 P 10 19 23.9
baz=324,SNR=6.9
TPNV **Topopah Spring** 32.37 113 P 10 19 23.3
baz=322,SNR=11
FURC **Furnace Creek,** 32.44 114 P 10 19 23.4

baz=322
MPMC Manual Prospec 32.46 115 P 10 19 24.1
baz=323,SNR=10.0
LRMC Laurel Mtn Rad 32.83 116 P 10 19 27.0
baz=324,SNR=6.5
RDMU Red Mountain 33.09 101 lAmb lAmb 10 19 54.3
comp=Z,13nm,1.0s
TIXI Tiksi 33.14 326 P **P** **10 19 29.9 -0.7**
comp=Z,3.9nm,0.6s,baz=85,slow=6.5,SNR=10
TIXI PcP **PcP** **10 22 12.3 +0.2**
comp=Z,2.9nm,0.5s,baz=55,slow=1.6,SNR=7.0
TIXI Tiksi 33.14 326 *ce*P **P** **10 19 31.2 +0.6**
TIXI Tiksi 33.14 326 P **P** **10 19 29.4 -1.2**
SHOC Shoshone, Teco 33.18 114 P 10 19 32.6
baz=323,SNR=5.1
K22A Casper 33.25 96 P 10 19 30.9
baz=313
GSC Goldstone, Bar 33.40 115 lAmb lAmb 10 19 37.7
comp=Z,14nm,1.1s
GSC Goldstone, Bar 33.40 115 P 10 19 31.5
baz=324,SNR=5.9
RWWY Rawlins 33.55 98 P **P** **10 19 35.6 +0.7**
RSSD Black Hills 33.60 91 P **P** **10 19 37.0 +1.8**
RSSD lAmb lAmb 10 19 38.3
comp=Z,14nm,0.8s
RSSD Black Hills 33.60 91 P 10 19 35.8
baz=312
MDND Maddock 33.62 83 P 10 19 35.6
baz=307,SNR=7.8
MWC Mount Wilson 33.67 118 lAmb lAmb 10 19 40.2
comp=Z,35nm,1.4s
TUQ Turquoise Moun 33.72 114 P 10 19 37.2
baz=323
BFSC Mount Baldy Ra 33.85 118 P 10 19 37.2
baz=325,SNR=6.3
O20A White River Ci 34.11 100 P 10 19 39.7
baz=316,SNR=24
ULM Lac du Bonnet 34.18 77 P **P** **10 19 41.4 +1.5**
comp=Z,13nm,0.7s,baz=307,slow=7.8,SNR=16
ULM pP **pP** **10 19 54.5 -0.4**
comp=Z,7.0nm,0.8s,baz=313,slow=17,SNR=4.8
ULM LR LR 10 33 25.0
comp=Z,322nm,20.1s,baz=16,slow=36
ULM Lac du Bonnet 34.18 77 P **P** **10 19 40.3 +0.4**
ULM lAmb lAmb 10 19 42.0
comp=Z,15nm,0.8s
GMRC Granite Mounta 34.37 115 P 10 19 41.8
baz=324,SNR=8.3
U15A North Rim 34.77 109 lAmb lAmb 10 19 49.6
comp=Z,12nm,1.0s
N23A Red Feather La 34.79 97 P 10 19 45.0
baz=315
BELC Belle Mtn. Jos 34.84 116 P 10 19 45.3
baz=324,SNR=7.1
NEE2 Needles Airpor 34.90 113 P 10 19 45.2
baz=323
PFO Pinyon Flats O 34.93 117 *i* P **P** **10 19 46.1 -0.6**
PFO Pinyon Flats O 34.93 117 P **P** **10 19 48.1 +1.4**
PFO lAmb lAmb 10 19 50.5
comp=Z,39nm,1.7s
PFO Pinyon Flats O 34.93 117 P 10 19 47.7
baz=325,SNR=5.7
TPFO Pinon Flats 34.94 117 P 10 19 47.2
baz=325,SNR=6.5
W13A Hualapai Mount 35.00 112 lAmb lAmb 10 19 51.6
comp=Z,9.1nm,1.1s
IRM Iron Mountain 35.13 115 P 10 19 49.3
baz=324,SNR=16
109C Camp Elliot, M 35.22 118 P 10 19 46.9
baz=326
AGMN Agassiz Nation 35.34 79 P **P** **10 19 49.9 0.0**
AGMN Agassiz Nation 35.34 79 P 10 19 50.0
baz=307,SNR=25
BC3 Big Chuckawall 35.38 116 P 10 19 48.7
baz=324,SNR=5.1
PV01 Paradox Valley 35.40 103 P **P** **10 19 52.0 +1.2**
PV01 lAmb lAmb 10 19 54.2
comp=Z,18nm,0.9s
PDMCI Parker Dam,Lak 35.51 113 P 10 19 52.0
baz=323
MONP2 Monument Peak 35.54 117 P 10 19 51.2
baz=325,SNR=6.0
ISCO Idaho Springs 35.75 98 P 10 19 51.7
baz=316
SWSC Sam W. Stewart 35.79 117 P 10 19 53.8
baz=325,SNR=5.2
IKP In-Ko-Pah, Jac 35.89 117 P 10 19 54.8
baz=326
CBX Cerro Bola 35.90 118 P **P** **10 19 57.4 +2.4**
WUAZ Wupatki 35.94 109 lAmb lAmb 10 19 59.5
comp=Z,19nm,1.0s
WUAZ Wupatki 35.94 109 P 10 19 55.9
baz=321,SNR=13
MVCO Mesa Verde 36.13 104 lAmb lAmb 10 20 19.9
comp=Z,19nm,1.2s
MVCO Mesa Verde 36.13 104 P 10 19 57.9
baz=319,SNR=13
Y14A Wickenburg 36.36 112 lAmb lAmb 10 20 03.0
comp=Z,13nm,1.1s
B35A Bob, Littlefor 36.43 78 lAmb lAmb 10 20 01.1
comp=Z,14nm,0.7s
YAK Yakutsk 36.52 310 *i* P **P** **10 20 00.0 +0.2**
YAK pmax pmax
comp=Z,16nm,0.6s
Q24A Divide 36.60 99 P 10 20 01.7
baz=317,SNR=8.2
S22A 4UR Ranch, Cre 36.61 102 P 10 20 01.8
baz=318,SNR=8.0
F33A 5 Mile Ranch, 36.65 83 P **P** **10 20 00.6 -0.6**
F33A lAmb lAmb 10 20 03.1
comp=Z,14nm,1.1s
X16A Lo Mia Camp, P 36.77 110 lAmb lAmb 10 20 06.9
comp=Z,11nm,0.9s
113A Mohawk Valley, 36.93 114 lAmb lAmb 10 20 07.5
comp=Z,14nm,1.2s
W18A Petrified Fore 37.09 108 lAmb lAmb 10 20 09.0
comp=Z,9.5nm,0.8s
W18A Petrified Fore 37.09 108 P 10 20 04.8
baz=321,SNR=5.3
SDCO Great Sand Dun 37.31 101 P 10 20 08.0
baz=318,SNR=14
NEEM North Greenlan 37.37 21⇓ *i* P **P** **10 20 07.5 +0.3**
NEEM lAmb lAmb 10 20 08.1
comp=Z,15nm,1.0s
X18A Snowflake 37.44 109 lAmb lAmb 10 20 12.2
comp=Z,15nm,0.8s
SPX San Pedro Mart 37.53 118 lAmb lAmb 10 20 33.4
comp=Z,32nm,1.5s
ECSD EROS Data Cent 37.86 86 lAmb lAmb 10 20 12.8
comp=Z,7.3nm,0.8s
ECSD EROS Data Cent 37.86 86 P 10 20 11.6
baz=312,SNR=10
EYMN Ely 37.86 77 P **P** **10 20 11.8 +0.4**
EYMN Ely 37.87 77 P 10 20 12.0
baz=309,SNR=24
KSCO Kaye Shedlock' 37.91 96 P 10 20 11.2
baz=317,SNR=7.5
214A Organ Pipe Nat 38.06 114 lAmb lAmb 10 20 17.3
comp=Z,18nm,1.1s
214A Organ Pipe Nat 38.06 114 P 10 20 14.4
baz=325,SNR=17
F36A Milaca 38.12 81 lAmb lAmb 10 20 15.7
comp=Z,19nm,1.1s
T25A Trinidad 38.34 100 lAmb lAmb 10 20 19.4
comp=Z,11nm,1.1s
T25A Trinidad 38.34 100 P 10 20 16.2
baz=318,SNR=6.9
BGNE Belgrade 38.62 90 P 10 20 18.0
baz=314
E38A The Farm, Brul 38.68 79 P **P** **10 20 18.4 +0.2**
TUC Tucson 38.78 112 P **P** **10 20 20.9 +1.6**
TUC Tucson 38.78 112 P 10 20 17.6
baz=324
SPMN Marine on St. 38.92 81 P 10 20 20.1
baz=311,SNR=12
ANMO Albuquerque 38.92 104 *ce*P **P** **10 20 22.7 +2.1**
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 38.92 104 P **P** **10 20 23.2 +2.6**
ANMO Albuquerque 38.92 104 P 10 20 20.0
baz=321
L34A Svendsen Farm, 39.19 88 P **P** **10 20 22.9 +0.4**
Y22D IRIS PASSCAL I 39.36 106 P 10 20 25.6
baz=321
BNM Barren Site 39.45 105 P **P** **10 20 27.3 +2.2**
CBKS Cedar Bluff 39.61 94 lAmb lAmb 10 20 29.2
comp=Z,26nm,1.3s
CBKS Cedar Bluff 39.61 94 P 10 20 25.4
baz=316
121A Cookes Peak, D 40.12 108 lAmb lAmb 10 20 54.8
comp=Z,18nm,1.2s
121A Cookes Peak, D 40.12 108 P 10 20 29.7
baz=323,SNR=6.1
319A Douglas 40.28 111 P **P** **10 20 31.0 -0.9**
319A lAmb lAmb 10 21 04.8
comp=Z,11nm,1.0s
COWI Conover 40.28 77 lAmb lAmb 10 20 33.4
comp=Z,20nm,1.4s
R32A Long Quarter, 40.45 94 lAmb lAmb 10 20 35.8
comp=Z,18nm,1.2s
K38A Parkersburg 40.66 84 lAmb lAmb 10 20 36.6
comp=Z,17nm,0.9s
I40A Norwalk 40.97 81 lAmb lAmb 10 20 39.4
comp=Z,22nm,0.8s
E43A Lone Tree Farm 41.23 76 lAmb lAmb 10 20 41.6
comp=Z,24nm,0.7s
HSIG 41.38 115 lAmb lAmb 10 20 44.6
comp=Z,18nm,1.1s
AMTX Amarillo 41.49 100 lAmb lAmb 10 20 44.9
comp=Z,34nm,1.6s
AMTX Amarillo 41.49 100 P 10 20 42.6
baz=320
MSTX Muleshoe 41.61 102 P **P** **10 20 44.1 +1.4**
MSTX Muleshoe 41.61 102 P 10 20 42.4
baz=321
N38A Joes South For 41.70 86 lAmb lAmb 10 20 45.0
comp=Z,20nm,0.8s
JFWS Jewell Farm 41.83 82 lAmb lAmb 10 20 45.6
comp=Z,18nm,0.8s
JFWS Jewell Farm 41.83 82 P 10 20 43.4
baz=313,SNR=7.5
I42A Draeger Farm, 41.88 80 P **P** **10 20 45.7 +1.0**
I42A lAmb lAmb 10 20 46.7
comp=Z,15nm,0.8s
L40A Anamosa 41.90 84 lAmb lAmb 10 20 46.2
comp=Z,23nm,0.8s
MNTX Cornudas Mount 42.02 107 lAmb lAmb 10 20 49.7
comp=Z,12nm,0.8s
MNTX Cornudas Mount 42.02 107 P 10 20 46.8
baz=323,SNR=22
H43A Windswept, Lux 42.09 78 lAmb lAmb 10 20 48.4
comp=Z,24nm,0.8s
KAN13 South Haven SW 42.14 94 P **P** **10 20 47.1 +0.2**
KAN13 lAmb lAmb 10 20 49.0
comp=Z,48nm,1.6s
P38A Dawn 42.37 88 lAmb lAmb 10 20 50.5
comp=Z,25nm,0.9s
E46A Sault Ste Mari 42.63 74 lAmb lAmb 10 20 52.8
comp=Z,27nm,0.8s
G45A Suttons Bay 42.82 76 lAmb lAmb 10 20 54.3
comp=Z,23nm,0.9s
KLR Kul'dur 42.85 292 *ce*P **P** **10 20 51.4 -1.1**
KLR pmax pmax
comp=Z,3.0nm,0.4s
SUMG Summit 42.93 23 *i* P **P** **10 20 53.6 +0.2**
SUMG lAmb lAmb 10 20 54.6
comp=Z,7.3nm,0.6s
SUMG Summit 42.93 23 *i* P **P** **10 20 53.5 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,0.6s
SUMG Summit 42.93 23 P **P** **10 20 52.8 -0.5**
SUMG lAmb lAmb 10 20 54.8
comp=Z,13nm,1.0s
K43A Burlington 43.00 81 lAmb lAmb 10 20 55.2
comp=Z,20nm,0.8s
DAG Danmarks Havn 43.06 14 *i* P **P** **10 20 53.1 -0.8**
DAG lAmb lAmb 10 20 54.0
comp=Z,6.0nm,0.5s
DAG Danmarks Havn 43.06 14 *i* P **P** **10 20 53.1 -0.8**
DAG pmax pmax
comp=Z,6.0nm,0.5s
WMOK Wichita Mounta 43.15 97 P 10 20 55.5
baz=320,SNR=9.2
P40A Paris 43.24 87 lAmb lAmb 10 20 57.2
comp=Z,13nm,0.8s
GLMI Grayling 43.51 76 P 10 20 57.7
baz=313
L44A Lake County Fo 43.59 81 lAmb lAmb 10 21 00.1
comp=Z,23nm,0.9s
L44A Lake County Fo 43.59 81 P 10 20 57.9
baz=314
SFJD Kangerlussuaq 43.59 34 *i* P **P** **10 20 58.0 -0.2**
SFJD lAmb lAmb 10 20 59.8
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 43.59 34 *i* P **P** **10 20 58.0 -0.2**
SFJD pmax pmax
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 43.59 34 P **P** **10 20 56.9 -1.3**
SFJD lAmb lAmb 10 20 60.0
comp=Z,20nm,0.8s
TUL1 Leonard 43.87 94 P 10 21 00.6
baz=318
HDIL Hopedale 43.99 84 P 10 21 01.5
baz=315,SNR=11
R40A Maddies Statio 44.02 88 lAmb lAmb 10 21 03.0
comp=Z,20nm,0.8s
M44A Midewin, Midew 44.07 82 lAmb lAmb 10 21 04.5
comp=Z,42nm,1.4s
U38A Gravette 44.23 92 P **P** **10 21 03.8 0.0**
U38A lAmb lAmb 10 21 05.1
comp=Z,11nm,0.8s
ABTX Abilene, Hawle 44.31 100 P **P** **10 21 04.2 -0.2**
ABTX lAmb lAmb 10 21 06.9
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 44.31 100 P 10 21 04.0
baz=321,SNR=5.8
SPITS Spitsbergen Ar 44.43 3 P **P** **10 21 04.4 -0.4**
comp=Z,1.3nm,0.3s,baz=31,slow=5.0,SNR=31
P43A Skaggs, Pawnee 44.52 85 lAmb lAmb 10 21 07.5
comp=Z,24nm,0.8s
LSQQ Lebel-sur-Quev 44.56 66 P 10 21 05.9
baz=311
LOOK Love County 44.57 97 lAmb lAmb 10 21 10.0
comp=Z,21nm,1.1s
HHAR Hobbs 44.59 92 lAmb lAmb 10 21 07.7
comp=Z,37nm,1.9s
CCM Cathedral Cave 44.74 88 P **P** **10 21 08.0 +0.2**
CCM Cathedral Cave 44.74 88 P 10 21 06.4
baz=317
TX31 Lajitas Ar. Si 44.79 107 P **P** **10 21 10.1 +1.7**
TX31 lAmb lAmb 10 21 11.8
comp=Z,23nm,1.0s
TX32 Lajitas Array 44.79 107 P **P** **10 21 09.9 +1.5**
TXAR Lajitas Array 44.79 107 P **P** **10 21 10.5 +2.0**
comp=Z,3.9nm,0.8s,baz=317,slow=6.1,SNR=46
TXAR pP **pP** **10 21 25.4 +1.3**
comp=Z,2.0nm,0.8s,baz=316,slow=5.4,SNR=6.7
TXAR PcP **PcP** **10 22 50.4 +0.9**
comp=Z,2.6nm,0.9s,baz=183,slow=0.7,SNR=6.6
VLDQ Val d'Or 44.96 67 P **P** **10 21 08.7 -0.6**
VLDQ lAmb lAmb 10 21 10.1
comp=Z,42nm,1.4s
X37A Clayton 45.09 94 lAmb lAmb 10 21 13.1
comp=Z,12nm,1.0s
U40A Yellville 45.12 91 P 10 21 08.2
baz=318
ICESG Greenland Ices 45.15 27⇑ *i* P **P** **10 21 11.6 +0.5**
ICESG lAmb lAmb 10 21 12.0
comp=Z,22nm,0.8s
CHGQ Chibougamau 45.27 64 P 10 21 11.5
baz=312,SNR=6.0
SFIN Lafayette 45.29 82 lAmb lAmb 10 21 13.9
comp=Z,15nm,0.8s
SFIN Lafayette 45.29 82 P 10 21 11.6
baz=316,SNR=5.1
Q44A Meyer Farm, Va 45.32 85 lAmb lAmb 10 21 13.8
comp=Z,17nm,0.9s
W39A Magazine 45.49 92 lAmb lAmb 10 21 15.4
comp=Z,17nm,1.3s
W39A Magazine 45.49 92 P 10 21 12.3
baz=319
SCHQ Schefferville 45.50 54 P **P** **10 21 14.1 +0.5**
comp=Z,3.9nm,0.7s,baz=281,slow=9.8,SNR=3.8
T42A Van Buren 45.57 88 lAmb lAmb 10 21 14.7
comp=Z,7.2nm,0.8s
L48A N Adams 45.60 79 P **P** **10 21 14.8 +0.3**
L48A lAmb lAmb 10 21 16.3
comp=Z,16nm,0.8s
NRIK Noril'sk 45.84 334 P **P** **10 21 15.6 -0.5**
comp=Z,6.2nm,0.4s,baz=38,slow=6.3,SNR=9.5
NRIK Noril'sk 45.84 334 *i* P **P** **10 21 15.7 -0.5**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
JCT Junction City 45.90 102 P **P** **10 21 17.7 +0.6**
JCT Junction City 45.90 102 P 10 21 18.1
baz=322,SNR=14
S44A Carbondale 46.08 86 lAmb lAmb 10 21 19.7
comp=Z,26nm,1.4s
SIUC Southern Illin 46.08 86 lAmb lAmb 10 21 19.8
comp=Z,13nm,1.1s
MIAR Mount Ida 46.09 93 lAmb lAmb 10 21 20.4
comp=Z,12nm,1.0s
MIAR Mount Ida 46.09 93 P 10 21 18.8
baz=319,SNR=6.5
USRK Ussuriysk Ar. 46.11 287 P **P** **10 21 16.7 -1.8**
comp=Z,0.7nm,0.5s,baz=56,slow=9.2,SNR=4.4
PBMO Poplar Bluff 46.12 88 lAmb lAmb 10 21 20.4
comp=Z,11nm,0.9s
ALGO Algonquin Park 46.12 70 P 10 21 17.5
baz=313
SADO Sadowa 46.38 72 lAmb lAmb 10 21 22.7
comp=Z,19nm,1.0s
N49A Columbus Grove 46.45 79 P **P** **10 21 20.5 -0.8**
X40A Basin Creek Fa 46.53 92 P 10 21 21.9
baz=319
D55A Sainte-Anne-du 46.68 67 P 10 21 23.0
baz=313,SNR=10
E55A Montcerf-Lytto 46.78 68 P 10 21 23.2
baz=314
435B Jarrell 46.84 100 P **P** **10 21 25.7 +1.3**
435B Jarrell 46.84 100 P 10 21 24.0
baz=322
P48A Milroy 46.84 82 P **P** **10 21 23.7 -0.6**
VLA Vladivostok 46.91 286 *i* P **P** **10 21 25.2 +0.4**
VLA pmax pmax
comp=Z,20nm,0.8s
D56A ZEC Mazanza, M 47.02 67 P 10 21 25.1
baz=314,SNR=12
P49A Miami Univ. Ec 47.17 81 P 10 21 25.5
baz=316
E56A St. Veronique 47.23 67 P 10 21 26.7
baz=314
WCI Wyandotte Cave 47.27 83 P **P** **10 21 28.9 +1.2**
WCI lAmb lAmb 10 21 29.2
comp=Z,28nm,1.3s
DELO Deloro Mine 47.34 71 lAmb lAmb 10 21 29.9
comp=Z,17nm,1.0s
T47A Sharon Grove 47.75 85 lAmb lAmb 10 21 33.1
comp=Z,16nm,1.0s
LATQ La Tuque 47.76 65 lAmb lAmb 10 21 33.1
comp=Z,4.8nm,0.7s
LATQ La Tuque 47.76 65 P 10 21 30.6
baz=314
D58A Chemin du LacG 47.91 66 P 10 21 32.0
baz=314,SNR=5.4
M53A WI Miller and 47.94 76 P 10 21 32.7
baz=316
WVT Waverly 48.00 87 P **P** **10 21 34.5 +1.2**
WVT lAmb lAmb 10 21 35.2
comp=Z,17nm,0.8s
WVT Waverly 48.00 87 P 10 21 33.2
baz=318
E58A La Victoria 48.22 66 P 10 21 33.8
baz=314
G57A Newington 48.26 69 P 10 21 34.9
baz=315
MAT Matsushiro 48.32 275 P **P** **10 21 35.9 0.0**
OXF Oxford 48.36 89 P 10 21 34.9
baz=319
M54A Oil Creek Stat 48.41 75 P 10 21 36.0
baz=316
P52A Corning 48.47 79 P 10 21 36.7
baz=317
H57A Richville 48.51 70 P 10 21 36.4
baz=315
O53A New Philadelph 48.51 78 P 10 21 36.0
baz=316
HIA Hailar 48.65 299 *i* P **P** **10 21 38.6 +0.3**
HIA pmax pmax
comp=Z,9.0nm,1.5s
G58A Ormstown 48.70 68 P 10 21 37.3
baz=315
I57A Carthage 48.74 70 P 10 21 37.5
baz=315
K56A Middlesex 48.77 73 P 10 21 38.5
baz=316
LONY Lake Ozonia 48.80 69 P 10 21 38.3
baz=315
U49A Red Boiling Sp 48.82 85 lAmb lAmb 10 21 41.8
comp=Z,15nm,1.3s
F59A Saint Guilaume 48.83 67 P 10 21 38.9
baz=315
V48A Smith Brothers 48.83 86 lAmb lAmb 10 21 41.6
comp=Z,14nm,0.8s
T50A Nancy 48.95 83 lAmb lAmb 10 21 42.3
comp=Z,15nm,1.1s
D60A Saint Jean D'O 49.00 64 P 10 21 38.4
baz=315
L56A Greenwood 49.06 73 P **P** **10 21 41.9 +0.5**
E60A Ste Agathe de 49.13 65 P 10 21 38.8
baz=315
D61A St Aubert, Com 49.15 64 P 10 21 39.5
baz=315
H58A Gabriels 49.15 69 P 10 21 40.8
baz=315
F60A Warwick 49.16 66 P 10 21 40.8
baz=315
H59A Cadyville 49.23 68 P 10 21 42.2
baz=315,SNR=6.4
I58A Old Forge 49.27 70 P 10 21 41.5
baz=316
J58A Remsen 49.35 71 P 10 21 43.9
baz=316,SNR=5.1
VBMS Vicksburg 49.51 92 P 10 21 44.2
baz=321
G60A Masonville 49.59 67 P 10 21 43.7
baz=316
X48A Hartselle 49.68 87 lAmb lAmb 10 21 47.7
comp=Z,15nm,0.9s
CN2 Changchun 49.73 291 *e*P **P** **10 21 50.0 +3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
D62A Allapoint, All 49.78 63 P 10 21 46.1
baz=315
H60A Morristown 49.79 68 P 10 21 45.4
baz=316
BINY Binghamton 49.82 72 P 10 21 46.1
baz=316
G61A St-Isidore-de- 49.86 66 P 10 21 46.3
baz=316
E62A Clayton Lake 49.88 64 P 10 21 46.7
baz=315
O56A Blue Knob Stat 49.88 76 P 10 21 45.5
baz=317
SSPA Standing Stone 49.97 75 P 10 21 47.9
baz=317
146A Union 49.98 91 P **P** **10 21 50.0 +1.4**
TZTN Tazewell 49.99 83 P **P** **10 21 49.2 +0.6**
TZTN Tazewell 49.99 83 P 10 21 46.0
baz=318
L58A Harry Jones Me 50.00 72 P 10 21 47.1
baz=316
I60A Shoreham 50.01 69 P 10 21 47.3
baz=316
W50A Signal Mountai 50.05 85 lAmb lAmb 10 21 50.8
comp=Z,18nm,1.0s
F62A Pittston Farm, 50.19 65 P 10 21 48.8
baz=316
H61A Lyndonville 50.20 67 P 10 21 47.5
baz=316
D63A Stockholm 50.27 63 P 10 21 46.8
baz=316
CPCT Cooper Cave 50.29 85 lAmb lAmb 10 21 52.1
comp=Z,11nm,1.1s
J60A Lant Hill Farm 50.38 69 P 10 21 49.7
baz=316
FPAL Fort Paine 50.39 86 lAmb lAmb 10 21 53.2
comp=Z,17nm,1.0s
G62A West of Eustis 50.40 66 P 10 21 50.0
baz=316
LBNH Lisbon 50.41 68 P 10 21 50.1
baz=316
I61A Oroboro, Fairl 50.49 68 P 10 21 50.7
baz=316
H62A Milan 50.55 67 P 10 21 50.4
baz=316
E63A Oxbow 50.56 63 P 10 21 51.2
baz=316
F63A Nahmakanta, Br 50.74 64 P 10 21 52.4
baz=316
E64A Bridgewater 50.85 63 P 10 21 51.8
baz=316

W52A	**Murphy**	50.87	84	IAmb	IAmb	10 21 56.8			
	comp=Z,15nm,1.1s								
PKME	**Peaks-Kenny Pk**	50.97	65	P		10 21 53.9			
	baz=316								
F64A	**Sherman**	50.99	64	P		10 21 54.3			
	baz=316								
V53A	**Saluda**	51.04	83	IAmb	IAmb	10 21 58.4			
	comp=Z,15nm,0.8s								
BLA	**Blacksburg**	51.16	80	P		10 21 56.6			
	baz=318								
K62A	**Royalston**	51.39	69	P		10 21 59.1			
	baz=317								
H64A	**Troy**	51.46	65	P		10 21 58.5			
	baz=317								
BG3	**Lake Jocassee**	51.48	84	IAmb	IAmb	10 22 01.6			
	comp=Z,11nm,0.9s								
Z51A	**Franklin**	51.55	87	IAmb	IAmb	10 22 01.2			
	comp=Z,16nm,0.8s								
K63A	**Dunstable**	51.73	69	P		10 22 02.2			
	baz=317								
H65A	**Eastbrook**	51.89	65	P		10 22 01.2			
	baz=317								
KMSC	**Kings Mountain**	52.23	82	P		10 22 03.4			
	baz=319								
GOGA	**Godfrey**	52.40	85	IAmb	IAmb	10 22 07.5			
	comp=Z,13nm,1.1s								
GOGA	**Godfrey**	52.40	85	P		10 22 06.0			
	baz=320								
HODGE	**Hodges**	52.42	84	IAmb	IAmb	10 22 08.1			
	comp=Z,16nm,0.9s								
LMN	**Caledonia Moun**	52.70	61	P	P	10 22 08.8	0.0		
M64A	**Tiverton**	52.73	69	P		10 22 07.7			
	baz=318								
L65A	**Cape Cod Natio**	52.96	68	P		10 22 11.1			
	baz=318								
KSRS	**Korea Array**	53.11	283	P	P	10 22 11.8	0.0		
	comp=Z,1.1nm,0.5s,baz=44,slow=6.8,SNR=5.4								
KSRS				PcP	PcP	10 23 20.3	+1.0		
	comp=Z,1.4nm,0.9s,baz=43,slow=5.6,SNR=4.3								
ARCES	**ARCESS Array B**	53.24	0	P	P	10 22 11.8	-0.6		
	comp=Z,1.5nm,0.5s,baz=6.2,slow=7.2,SNR=12								
ARCES				PcP	PcP	10 23 20.0	+0.6		
	comp=Z,5.0nm,0.8s,baz=355,slow=5.2,SNR=5.7								
TLY	**Talaya**	53.96	311	*i* P	P	10 22 18.3	+0.4		
TLY				pmax	pmax				
	comp=Z,9.0nm,0.8s								
ULN	**Ulaanbaatar**	55.43	306	*ce*P	P	10 22 30.7	+1.9		
ULN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	55.74	306	P	P	10 22 30.8	-0.2		
	comp=Z,3.0nm,0.4s,baz=43,slow=5.8,SNR=15								
SONM				PcP	PcP	10 23 30.8	+1.3		
	comp=Z,3.0nm,0.5s,baz=38,slow=1.6,SNR=4.8								
SONM	**Songino Array**	55.74	306	P	P	10 22 30.8	-0.2		
SONM				IAmb	IAmb	10 23 31.3			
	comp=Z,4.6nm,0.7s								
HHC	**Hu-ho-hao-te**	58.77	298	*e*P	P	10 22 54.0	+1.7		
HHC				pmax	pmax				
	comp=Z,10.0nm,1.0s								
HHC				pmax	pmax				
	comp=Z,110nm,5.5s								
ZAA0	**Zalesovo Array**	59.00	324	P	P	10 22 53.8	+0.2		
ZALV	**Zalesovo Beam**	59.00	324	P	P	10 22 53.5	-0.1		
	comp=Z,3.8nm,0.5s,baz=42,slow=6.6,SNR=13								
NC204	**NORSAR Array S**	60.96	8	P	P	10 23 07.3	+0.3		
NC405	**NORSAR Array S**	61.19	8	P	P	10 23 09.0	+0.5		
NOA	**NORSAR Array S**	61.23	8	P	P	10 23 08.9	+0.1		
	comp=Z,3.7nm,0.8s,baz=352,slow=6.8,SNR=18								
FINES	**FINESS Array B**	61.37	360	P	P	10 23 09.4	-0.2		
	comp=Z,2.9nm,0.4s,baz=3.0,slow=8.5,SNR=24								
FINES	**FINESS Array B**	61.37	360	P	P	10 23 09.2	-0.5		
KLMR	**Klimovskoe**	61.47	352	*e*P	P	10 23 09.5	-0.8		
KLMR				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KLMR	**Klimovskoe**	61.47	352	*e*P	P	10 23 09.6	-0.8		
KLMR				AMP		10 23 11.3			
	comp=Z,7.0nm,1.1s								
SSE	**Sheshan**	61.55	284	P	P	10 23 11.8	+0.5		
SSE				S	S	10 31 27.3	-1.1		
SSE				pmax	pmax				
	comp=Z,11nm,0.8s								
SSE				pmax	pmax				
	comp=Z,250nm,4.3s								
SSE				L	L				
	comp=Z,410nm,21.8s								
SSE				L	L				
	comp=Z,490nm,19.6s								
DGZ	**Jazzator, Alta**	61.70	320	*i* P	P	10 23 13.3	+1.0		
DGZ				pmax	pmax				
	comp=Z,2.0nm,1.7s								
HFS	**Hagfors**	62.30	7	P	P	10 23 15.8	-0.2		
	comp=Z,9.7nm,0.7s,baz=19,slow=5.3,SNR=20								
KONO	**Kongsberg**	62.47	9	*i* P	P	10 23 17.9	+0.8		
KONO				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KIRV	**Kirov**	62.72	346	*ce*P	P	10 23 20.8	+2.1		
ARU	**Arti**	63.38	340	P	P	10 23 22.5	-0.7		
	comp=Z,2.2nm,0.3s,baz=46,slow=3.0,SNR=15								
ARU	**Arti**	63.38	340	*c i* P	P	10 23 22.1	-1.1		
ARU				*PP	pP	10 23 35.7	-3.6		
ARU				S	S	10 31 50.5	-0.1		
ARU				pmax	pmax				
	comp=Z,6.0nm,0.5s								
ARU	**Arti**	63.38	340	IAmb	IAmb	10 23 23.2			
	comp=Z,9.2nm,0.5s								
HOMB	**Homborsund**	63.73	10	*e*P	P	10 23 26.6	+1.1		
BRVK	**Borovoye**	63.95	332	*ce*P	P	10 23 26.8	-0.2		
BRVK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TJOU	**Tjoern**	64.24	8	*i* P	P	10 23 30.1	+1.4		
VSU	**Vasula**	64.36	359	*i* P	P	10 23 30.1	+0.6		
VSU				pmax	pmax				
	comp=Z,31nm,0.8s								
BORU	**Boraas**	64.72	8	*i* P	P	10 23 32.6	+0.6		
ONAU	**Onsala**	64.89	8	*i* P	P	10 23 33.6	+0.5		
EKA	**Eskdalemuir Ar**	65.09	18	P	P	10 23 34.9	+0.5		
	comp=Z,6.2nm,0.7s,baz=333,slow=5.3,SNR=16								
GTA	**Gaotai**	65.32	305	*e*P	P	10 23 34.5	-1.8		
GTA				pP	pP	10 23 54.3	+1.7		
GTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
FABU	**Falkenberg**	65.35	8	*i* P	P	10 23 36.4	+0.5		
XAN	**Xi'an**	65.44	295	P	P	10 23 36.8	-0.2		
XAN				pP	pP	10 23 52.8	-0.5		
XAN				pmax	pmax				
	comp=Z,11nm,0.9s								
DEL	**Delary**	65.96	7	*i* P	P	10 23 40.4	+0.5		
MK31	**Makanchi Array**	65.97	321	*d i* P	P	10 23 39.6	-0.6		
MKAR	**Makanchi Array**	65.97	321	P	P	10 23 39.6	-0.6		
	comp=Z,6.1nm,0.5s,baz=36,slow=6.6,SNR=85								
BLEU	**Blekinge**	66.24	6	*i* P	P	10 23 42.1	+0.4		
BJUU	**Bjuv**	66.29	8	*i* P	P	10 23 43.0	+0.9		
WMQ	**Urumqi**	66.60	316	*e*P	P	10 23 47.5	+3.1		
LUNU	**Lund**	66.76	8	*i* P	P	10 23 46.1	+1.1		
BSD	**Bornholm Skovb**	67.37	7	*i* P	P	10 23 50.0	+1.0		
BSD	**Bornholm Skovb**	67.37	7	*i* P	P	10 23 50.0	+1.0		
OBN	**Obninsk**	67.38	353	*i* P	P	10 23 47.6	-1.4		
OBN				*i*		10 24 14.2			
OBN				pmax	pmax				
	comp=Z,12nm,0.9s								
BSEG	**Bad Segeberg**	68.19	10	*e*P	P	10 23 56.2	+2.1		
	comp=Z,18nm,1.2s,baz=353,slow=6.0								
MNK	**Minsk**	68.32	359	*i* P	P	10 23 54.5	-0.4		
MNK				*i*		10 24 20.7			
MNK				*i*		10 26 24.4			
MNK				*i* PPP	PPP	10 28 02.5			
MNK				*i* S	S	10 32 48.3	-2.5		
MNK				*i*		10 33 45.7			
MNK				pmax	pmax				
	comp=N,20nm,0.9s								
MNK				pmax	pmax				
	comp=E,5.0nm,0.9s								
MNK				pmax	pmax				
	comp=Z,24nm,0.8s								
MNK				MLR	MLR				
	comp=N,108nm,20.0s								
MNK				MLR	MLR				
	comp=E,7.0nm,17.0s								
MNK				MLR	MLR				
	comp=Z,132nm,20.0s								
MNK	**Minsk**	68.32	359	*i* P	P	10 23 54.6	-0.3		
	comp=E,5.0nm,0.9s								
MNK				*i* P	P	10 23 54.6	-0.3		
	comp=N,20nm,0.9s								
MNK				*i* P	P	10 23 54.6	-0.3		
	comp=Z,24nm,0.8s,baz=182								
MNK				*i* PcP	PcP	10 24 20.7	+0.6		
MNK				*i* PP	PP	10 26 24.4	-1.1		
MNK				*i* PPP	PPP	10 28 02.6			
MNK				*i* S	S	10 32 48.4	-2.4		
MNK				*i* ScS	SKSac	10 33 45.8	-2.1		
MNK				*i* SS	SS	10 37 05.9	-7.8		
MNK				*i* SSS	SSS	10 40 27.1			
MNK				*i* LQ	LQ	10 48 30.8			
MNK				*i* LR	LR	10 54 05.6			
MNK				*i* LRM	MLR	10 56 07.1			
	comp=N,108nm,19.6s								
MNK				*i* LRM	MLR	10 56 42.6			
	comp=E,7.0nm,17.4s								
MNK				*i* LRM	MLR	10 56 50.5			
	comp=Z,132nm,19.6s								
BELG	**Belogornoye**	68.99	346	P	P	10 23 58.8	-0.3		
	comp=Z,14nm,0.4s,baz=288,slow=3.9,SNR=4.2								
BELG	**Belogornoye**	68.99	346	*i* P	P	10 23 58.4	-0.7		
BELG				pmax	pmax				
	comp=Z,2.0nm,0.8s								
AKTO	**Aktyubinsk**	69.18	339	P	P	10 24 00.1	-0.3		
	comp=Z,5.3nm,0.5s,baz=37,slow=7.4,SNR=22								
NRDL	**Niedersach Rie**	69.60	10	*e*P	P	10 24 03.8	+1.0		
	comp=Z,11nm,0.9s,baz=353,slow=6.0								
ARXS	**Arharly**	69.72	323	*e*P	P	10 24 03.5	-0.5		
KPKS	**Kokpek**	70.11	322	*e*P	P	10 24 06.0	-0.3		
SHLS	**Shalkode**	70.12	321	*e*P	P	10 24 05.8	-0.7		
BTLS	**Baital**	70.17	326	*e*P	P	10 24 05.5	-1.1		
UZB	**Uzynbulak**	70.28	321	*e*P	P	10 24 06.6	-0.8		
CD2	**Chengdu**	70.50	297	P	P	10 24 08.5	-0.3		
GTTG	**Gottingen**	70.52	10	*e*P	P	10 24 10.0	+1.4		
	comp=Z,12nm,0.6s,baz=353,slow=6.0								
KASTN	**Kahler Asten**	70.70	11	*e*P	P	10 24 10.7	+1.0		
	comp=Z,9.5nm,1.1s,baz=353,slow=6.0								
NEUB	**Neuburg**	71.02	9	*e*P	P	10 24 12.6	+1.0		
	comp=Z,18nm,1.0s,baz=353,slow=6.0								
CLL	**Collm**	71.03	8	*e*P	P	10 24 12.0	+0.4		
	comp=Z,8.0nm,1.0s								
CLL				*es*P	sP	10 24 36.0	+1.2		
CLL	**Collm**	71.03	8	*e*P	P	10 24 12.0	+0.4		
CLL				*e**SP	sP	10 24 36.0	+1.2		
CLL				pmax	pmax				
	comp=Z,8.0nm,1.0s								
BMRD	**Maredsous**	71.15	14	*d*P	P	10 24 13.4	+1.0		
SGDS	**Sogindy**	71.43	325	*e*P	P	10 24 14.0	-0.3		
BRG	**Berggiesshubel**	71.53	8	*e*P	P	10 24 15.6	+0.9		
BRG				Amp		10 24 16.5			
	comp=Z,10nm,1.1s								
BRG	**Berggiesshubel**	71.53	8	*e*P	P	10 24 15.1	+0.5		
	comp=Z,10.0nm,1.1s,baz=353,slow=6.0								
MOX	**Moxa**	71.57	9	*e*P	P	10 24 15.9	+0.9		
	comp=Z,19nm,1.2s,baz=353,slow=6.0								
TKM2	**Tokmak 2**	71.60	324	P	P	10 24 16.3	+0.8		
	SNR=21								
USP	**Ospenovka**	71.64	325	P	P	10 24 16.1	+0.6		
	SNR=9.9								
CHMS	**Chumysh**	71.80	324	P	P	10 24 17.3	+0.8		
	SNR=8.0								
WERD	**Werda**	71.82	9	*e*P	P	10 24 17.3	+0.8		
	comp=Z,3.8nm,0.7s,baz=353,slow=6.0								
TANN	**Tannenbergstha**	71.87	9	*e*P	P	10 24 17.6	+0.7		
	comp=Z,5.9nm,1.0s,baz=353,slow=6.0								
GUNZ	**Gunzen**	71.91	9	*e*P	P	10 24 17.8	+0.7		
	comp=Z,4.4nm,1.0s,baz=353,slow=6.0								
WLF	**Walferdange**	71.95	13	*e*P	P	10 24 18.4	+1.1		
	comp=Z,8.5nm,0.9s,baz=353,slow=6.0								
CHVC	**Chvalec**	71.95	6	*e*P	P	10 24 18.3	+1.0		
WERN	**Wernitzgruen**	71.99	9	*e*P	P	10 24 18.6	+1.1		
	baz=353,slow=6.0								
ULHL	**Ulahol**	72.00	323	P	P	10 24 16.7	-1.2		
	SNR=6.3								
KBK	**Karagaybulak**	72.05	324	P	P	10 24 19.1	+0.9		
	SNR=5.2								
NKC	**Novy Kostel**	72.05	9	*e*P	P	10 24 19.0	+1.2		
NKC	**Novy Kostel**	72.05	9	*e*P	P	10 24 19.0	+1.2		
AKASG	**Malin Array Be**	72.10	358	P	P	10 24 17.6	-0.5		
	comp=Z,12nm,0.5s,baz=7.1,slow=6.0,SNR=55								
AKBB	**Malin Array Si**	72.10	358	*ce*P	P	10 24 17.6	-0.5		
MILB	**Miltenberg**	72.15	11	*e*P	P	10 24 19.6	+1.1		
	comp=Z,17nm,0.8s,baz=353,slow=6.0								
AAK	**Ala-Archa**	72.21	324	P	P	10 24 19.9	+0.8		
	SNR=7.1								
AAK	**Ala-Archa**	72.21	324	*ce*P	P	10 24 19.9	+0.8		
AAK				pmax	pmax				
	comp=Z,34nm,0.7s								
DPC	**Dobruska-Polom**	72.21	6	*e*P	P	10 24 20.0	+1.2		
DPC	**Dobruska-Polom**	72.21	6	*e*P	P	10 24 20.0	+1.2		
EKS2	**Erkin-Say**	72.41	325	P	P	10 24 20.7	+0.4		
	SNR=14								
GRF	**Grafenberg Arr**	72.47	10	*e*P	P	10 24 21.6	+1.2		
	comp=Z,8.7nm,0.5s,baz=353,slow=6.0								
ROTZ	**Rotzenmuhle**	72.49	9	*e*P	P	10 24 21.5	+1.0		
	comp=Z,7.2nm,0.9s,baz=353,slow=6.0								
KRLC	**Kraliky**	72.51	6	*e*P	P	10 24 21.5	+0.9		
KRLC	**Kraliky**	72.51	6	*e*P	P	10 24 21.5	+0.9		
MORC	**Moravsky Berou**	72.85	6	⇑P	P	10 24 23.6	+1.0		
MORC	**Moravsky Berou**	72.85	6	*e*P	P	10 24 23.2	+0.5		
AML	**Almayashu**	72.92	325	P	P	10 24 25.0	+1.4		
	SNR=6.2								
LVV	**L'vov**	73.01	1	*e*P	P	10 24 23.7	+0.1		
WET	**Wettzell**	73.16	9	*e*P	P	10 24 25.4	+0.9		
	comp=Z,5.3nm,1.0s,baz=353,slow=6.0								
KHC	**Kasperske Hory**	73.23	8	*e*P	P	10 24 26.3	+1.4		
KHC	**Kasperske Hory**	73.23	8	*e*P	P	10 24 26.3	+1.4		
VRAC	**Vranov**	73.26	6	P	P	10 24 26.0	+1.0		
	comp=Z,2.3nm,0.4s,baz=1.6,slow=6.1,SNR=5.7								
VRAC	**Vranov**	73.26	6	*e*P	P	10 24 25.7	+0.6		
KRUC	**Moravsky**	73.50	6	*e*P	P	10 24 26.8	+0.4		
GEC2	**GERESS Array S**	73.53	8	*e*P	P	10 24 27.4	+0.7		
	comp=Z,7.7nm,1.1s,baz=353,slow=6.0								
GERES	**GERESS Array B**	73.53	8	P	P	10 24 27.4	+0.7		
	comp=Z,4.3nm,0.7s,baz=0.0,slow=4.4,SNR=32								
LANS	**Liptovska Anna**	73.56	4	*e*P	P	10 24 28.3	+1.4		
LANS				pmax	pmax				
	comp=Z,6.0nm,0.8s								
LANS	**Liptovska Anna**	73.56	4	*e*P	P	10 24 28.3	+1.4		
CKRC	**Cesky Krumlov**	73.60	8	*e*P	P	10 24 27.9	+0.8		
JAVC	**Velka Javorina**	73.77	6	*e*P	P	10 24 29.4	+1.3		
KOLS	**Kolonicke sedl**	73.87	2	*e*P	P	10 24 30.3	+1.7		
KOLS	**Kolonicke sedl**	73.87	2	*e*P	P	10 24 30.3	+1.7		
CRVS	**Cervenica-Dubn**	73.88	3	*e*P	P	10 24 29.6	+0.9		
CRVS	**Cervenica-Dubn**	73.88	3	*e*P	P	10 24 29.6	+0.9		
SMOL	**Smolenice**	74.10	6	*e*P	P	10 24 31.6	+1.6		
SMOL	**Smolenice**	74.10	6	*e*P	P	10 24 31.6	+1.6		
VYHS	**Vyhne**	74.19	5	*e*P	P	10 24 31.1	+0.6		
VYHS				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VYHS	**Vyhne**	74.19	5	*e*P	P	10 24 31.1	+0.6		
MODS	**Modra-Piesok**	74.23	6	*e*P	P	10 24 31.9	+1.1		
MODS				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MODS	**Modra-Piesok**	74.23	6	*e*P	P	10 24 31.9	+1.1		
RJOB	**Jochberg**	74.55	9	*e*P	P	10 24 33.6	+0.9		
	comp=Z,5.9nm,0.8s,baz=353,slow=6.0								
CONA	**Conrad Observa**	74.59	7	*i* P	P	10 24 33.9	+1.0		
	comp=Z,4.5nm,0.6s,SNR=6.4								
SORM	**Soroca**	74.69	358	⇑P	P	10 24 33.3	0.0		
MOTA	**Moosalm**	74.79	10	*i* P	P	10 24 34.9	+0.7		
	comp=Z,6.3nm,0.9s								
PSZ	**Piszkesteto**	74.81	4	⇑P	P	10 24 34.7	+0.5		
WATA	**Walderalm**	74.84	10	*i* P	P	10 24 35.4	+0.9		
	comp=Z,3.4nm,0.5s								
WTTA	**Wattenberg**	74.92	10	*i* P	P	10 24 35.9	+0.9		
	comp=Z,12nm,0.8s,SNR=5.2								
SQTA	**Sankt Quirin**	74.92	10	*e*P	P	10 24 36.0	+1.0		
	comp=Z,10nm,0.8s,SNR=5.4								
FETA	**Feichten**	75.07	11	*e*P	P	10 24 37.2	+1.4		
	comp=Z,11nm,1.1s,SNR=6.6								
DAVOX	**Davos/Dischmat**	75.22	11	P	P	10 24 38.2	+1.5		
	comp=Z,3.7nm,0.7s,baz=332,slow=9.9,SNR=9.6								
BURAR	**Bucovina Array**	75.23	0	⇑P	P	10 24 37.3	+0.6		
KBA	**Koelnbreinsper**	75.25	9	*e*P	P	10 24 37.9	+1.0		
	comp=Z,9.7nm,0.6s,SNR=14								
ABTA	**Abfaltersbach**	75.51	9	*i* P	P	10 24 39.2	+1.0		
	comp=Z,6.7nm,1.6s								
SOKA	**Soboth**	75.78	8	*i* P	P	10 24 40.7	+0.9		
	comp=Z,4.2nm,0.6s,SNR=5.1								
PERS	**Pernice**	75.83	8	*e*P	P	10 24 41.2	+1.1		
OBKA	**Obir**	75.91	8	*i* P	P	10 24 41.3	+0.7		
	comp=Z,17nm,0.6s,SNR=11								
GROS	**Grobnik**	76.03	7	*e*P	P	10 24 41.9	+0.7		
CRNS	**Crni Vrh**	76.32	8	*e*P	P	10 24 42.8	0.0		
GOF	**Gofitskoye**	76.77	348	⇓*e*P	P	10 24 46.0	+0.7		
VRI	**Vrincioaia**	76.97	359	⇓P	P	10 24 47.6	+1.1		
PCAB	**Cabril**	77.15	25	*e*P	P	10 24 50.8	+3.3		
BZS	**Buzias**	77.17	3	⇑P	P	10 24 47.0	-0.5		
PBRG	**Braganca**	77.35	24	*e*P	P	10 24 50.6	+1.9		
MLR	**Muntele Rosu**	77.35	360	P	P	10 24 50.1	+1.3		
	comp=Z,1.5nm,0.5s,baz=272,slow=2.3,SNR=4.9								
VOIR		77.41	1	⇓P	P	10 24 49.7	+0.7		
GZR	**Gura Zlata**	77.42	2	⇑P	P	10 24 49.8	+0.8		
MVO	**Moncorvo**	77.90	25	*e*P	P	10 24 54.1	+2.3		
KIV	**Kislovodsk**	77.90	348	⇑P	P	10 24 52.0	+0.2		
KIV	**Kislovodsk**	77.90	348	*e*P	P	10 24 52.4	+0.6		
KIV				pmax	pmax				
	comp=Z,44nm,1.1s								
TPGR	**Topolog**	77.96	358	⇓P	P	10 24 52.3	+0.3		
MDVR	**Moldovita**	78.01	3	⇑P	P	10 24 52.9	+0.6		
KBZ	**Khabaz**	78.10	347	P	P	10 24 54.0	+1.2		
	comp=Z,12nm,0.9s,baz=337,slow=4.0,SNR=20								
KBZ	**Khabaz**	78.10	347	*ce*P	P	10 24 53.8	+1.1		
KBZ				pmax	pmax				
	comp=Z,14nm,0.9s								
MTE	**Manteigas**	78.51	25	*e*P	P	10 24 55.2	+0.1		
	comp=Z,26nm,1.7s								
PCBR	**Castelo Branco**	79.06	25	*e*P	P	10 24 58.9	+0.8		
BOVS	**Bovan**	79.15	3	⇑P	P	10 24 58.2	-0.3		
AKT	**Akhty**	79.65	343	*e*P	P	10 25 01.0	-0.5		
AKT				*e*		10 25 08.5			
AKT				*e**PP	pP	10 25 16.9	-1.2		
AKT				pmax	pmax				
	comp=Z,9.0nm,0.9s								
ESDC	**Sonseca Array**	79.99	23	P	P	10 25 04.5	+1.2		
	comp=Z,3.9nm,0.8s,baz=339,slow=5.0,SNR=15								
ESDC				pP	pP	10 25 18.7	-1.3		
	comp=Z,4.2nm,1.0s,baz=343,slow=5.7,SNR=5.1								
PDG	**Podgorica**	80.26	5	⇑P	P	10 25 05.2	+0.6		
PNCL	**Nicolau / Gran**	80.45	27	*e*P	P	10 25 07.0	+1.4		
	comp=Z,15nm,1.6s								
PBAR	**Barrancos**	80.74	26	*e*P	P	10 25 09.3	+2.1		
	comp=Z,16nm,1.6s								
GEYT	**Alibeck**	81.09	335	P	P	10 25 09.8	+0.7		
	comp=Z,5.5nm,0.7s,baz=4.8,slow=3.6,SNR=6.9								
PBDV	**Barranco-do-Ve**	81.42	27	*e*P	P	10 25 12.7	+1.8		
BRTR	**Keskin Array B**	82.89	354	P	P	10 25 19.0	+0.3		
	comp=Z,3.4nm,0.8s,baz=354,slow=2.5,SNR=12								
BRTR	**Keskin Array B**	82.89	354	*i* P	P	10 25 19.3	+0.6		
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
CMAR	**Chiang Mai Arr**	83.30	294	P	P	10 25 20.7	-0.2		
	comp=Z,8.1nm,0.6s,baz=12,slow=5.5,SNR=26								
CMAR	**Chiang Mai Arr**	83.30	294	*i* P	P	10 25 21.1	+0.2		
CMAR				pmax	pmax				
	comp=Z,8.0nm,0.6s								
CM01	**Chiang Mai Arr**	83.32	294	P	P	10 25 21.4	+0.4		
	comp=Z,120nmcomp=Z,15nm,0.8s								
CM04	**Chiang Mai Arr**	83.33	294	P	P	10 25 21.4	+0.3		
	comp=Z,130nmcomp=Z,16nm,0.7s								
CM05	**Chiang Mai Arr**	83.35	294	P	P	10 25 21.3	+0.2		
	comp=Z,191nmcomp=Z,12nm,0.7s								
CM13	**Chiang Mai Arr**	83.35	294	P	P	10 25 21.3	+0.1		
SRAK	**Srakaew**	85.51	289	P	P	10 25 31.0	-1.1		
KEST	**Kesra**	86.07	13	P	P	10 25 36.7	+2.0		
	comp=Z,4.9nm,0.8s,baz=325,slow=6.2,SNR=7.7								
PKDT	**Phuket**	92.60	289	P	P	10 26 15.6	+10		
WRA	**Warramunga Arr**	97.11	244	P	P	10 26 25.6	-0.5		
	comp=Z,0.8nm,0.9s,baz=34,slow=5.7,SNR=5.2								
WRA	**Warramunga Arr**	97.11	244	*i* P	Pdif	10 26 27.3	+1.1		
WRA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ASAR	**Alice Springs**	100.49	242	P	Pdif	10 26 41.2	+0.1		
	comp=Z,0.3nm,1.0s,baz=26,slow=9.7,SNR=4.3								
BOSA	**Boshof**	151.10	1	PKPbc	PKPbc	10 32 46.8	+0.2		
	comp=Z,12nm,0.8

	comp=Z,8.5nm,1.2s					
T25A	**Trinidad**	**5.41**	**274**	IAmb_Lg		10 52 21.8
	comp=Z,5.9nm,1.1s					
PBMO	**Poplar Bluff**	**5.79**	**90**	IAmb_Lg		10 52 20.5

*LDG **29** 10:52:49.5±0.0,48°.55N×6°.10E,h11km,Md3.0/2,Ml2.8/55, Error ellipse: s-maj=0.9km s-min=0.7km az=11.0*
*BGR **29** 10:52:50.6±0.6,48°.62N×6°.24E,h10km,ML2.4/14, Error ellipse: s-maj=5.6km s-min=2.2km az=69.0*
*STR **29** 10:52:50.6±0.4,49°.N±2°.×°.±°.,h27km±3km,MLv2.4/12, smi:scs/0.6/LOCSAT earthModelID*
smi:scs/0.6/pyrenees_taup-2.11 preliminary

ISC 29 10:52:48.0±0.7,48°.53N±0°.02×6°.04E±0°.01,h13km,n102, σ1§58/183,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.56**	**159**	*e*Pg	**Pb**	**10 53 00.9**	**+1.1**
HAU	**Haudompre**	**0.56**	**159**	*e*Pn	**Pn**	**10 53 02.0**	**+0.2**
HAU				*e*Sg	**Sg**	**10 53 08.0**	**+1.5**
	235nm,0.2s						
SAVF	**Savonnieres en baz=96**	**0.62**	**278**	*e*Pg	**Pb**	**10 53 02.4**	**+1.8**
SAVF	**Savonnieres en**	**0.62**	**278**	*e*P	**Pn**	**10 53 03.2**	**+0.7**
SAVF				*e*Sg	**Sb**	**10 53 10.5**	**+1.3**
	76nm,0.2s,baz=94						
SAVF				*e*Sn	**Sn**	**10 53 13.1**	**+0.9**
	92nm,0.2s,baz=96						
MEZF	**Maizieres J'vi baz=84**	**0.66**	**268**	*e*Pg	**Pb**	**10 53 03.0**	**+1.6**
MEZF	**Maizieres J'vi**	**0.66**	**268**	*e*Pn	**Pn**	**10 53 03.9**	**+0.9**
MEZF				*e*Sg	**Sb**	**10 53 11.7**	**+1.3**
	50nm,0.2s,baz=82						
MEZF				*e*Sn	**Sn**	**10 53 14.1**	**+0.8**
	55nm,0.2s						
SFTF	**Sexfontaines baz=67**	**0.74**	**244**	*e*Pg	**Pn**	**10 53 04.6**	**+0.4**
SFTF	**Sexfontaines baz=63**	**0.74**	**244**	*e*Pn	**Pn**	**10 53 04.9**	**+0.7**
SFTF				*e*Sg	**Sb**	**10 53 14.9**	**+2.0**
	55nm,0.2s,baz=62						
ECH	**Echery**	**0.81**	**113**	Pg	**Pg**	**10 53 04.4**	**+0.7**
ECH				Sg	**Sg**	**10 53 14.2**	**-0.1**
ECH	**Echery**	**0.81**	**113**	Pg	**Pg**	**10 53 04.3**	**+0.7**
ECH				Sg	**Sg**	**10 53 14.2**	**-0.1**
ECH	**Echery**	**0.81**	**113**	Pg	**Pg**	**10 53 04.4**	**+0.7**
ECH				Sg	**Sg**	**10 53 14.2**	**-0.1**
ECH	**Echery**	**0.81**	**113**	*e*Pg	**Pg**	**10 53 04.3**	**+0.7**
ECH				*e*Sg	**Sg**	**10 53 14.3**	**0.0**
CDF	**Champ du Feu**	**0.83**	**98**	*e*Pg	**Pg**	**10 53 04.3**	**+0.2**
CDF	**Champ du Feu**	**0.83**	**98**	*e*Pn	**Pb**	**10 53 05.1**	**+0.8**
CDF				*e*Sg	**Sg**	**10 53 14.4**	**-0.5**
	192nm,0.2s						
WLS	**Welschbruch**	**0.88**	**97**	Pg	**Pg**	**10 53 05.1**	**+0.1**
WLS				Sg	**Sg**	**10 53 16.2**	**-0.4**
HINF	**Hinteralfeld**	**0.90**	**143**	*e*Pg	**Pg**	**10 53 06.0**	**+0.7**
HINF	**Hinteralfeld**	**0.90**	**143**	*e*Pn	**Pn**	**10 53 06.8**	**+0.4**
HINF				*e*Sg	**Sg**	**10 53 17.5**	**+0.4**
	56nm,0.2s						
HINF				*e*Sn	**Sb**	**10 53 18.7**	**+1.4**
	70nm,0.2s						
WLF	**Walferdange**	**1.14**	**4**	*e*Pg	**Pg**	**10 53 10.4**	**+0.5**
WLF				*e*Sg	**Sb**	**10 53 24.3**	**+0.1**
RIVT	**Riveris**	**1.27**	**22**	*e*Pg	**Pn**	**10 53 11.7**	**+0.2**
RIVT				*e*Sg	**Sb**	**10 53 26.2**	**-1.9**
CHMF	**Charmoille**	**1.35**	**162**	Pn	**Pb**	**10 53 14.2**	**+1.1**
KIZ	**Kirchzarten**	**1.38**	**114**	Pn	**Pn**	**10 53 12.8**	**-0.2**
BOURR	**Bourrignon**	**1.39**	**145**	Pn	**Pn**	**10 53 13.8**	**+0.7**
OPP	**Oppenau**	**1.43**	**91**	Pn	**Pn**	**10 53 12.4**	**-1.2**
OPP				Pg	**Pb**	**10 53 15.2**	**+0.7**
OPP				Sg	**Sn**	**10 53 32.6**	**+0.4**
BFO	**Black Forest**	**1.54**	**97**	Pn	**Pn**	**10 53 13.9**	**-1.2**
BFO	**Black Forest**	**1.54**	**97**	*e*Pg	**Pg**	**10 53 17.8**	**+0.3**
BFO				*e*Sg	**Sb**	**10 53 36.2**	**+0.5**
KTD	**Kalmit**	**1.56**	**59**	Pg	**Pb**	**10 53 17.0**	**+0.3**
KTD	**Kalmit**	**1.56**	**59**	Pn	**Pn**	**10 53 16.5**	**+1.0**
KTD	**Kalmit**	**1.56**	**59**	Pg	**Pb**	**10 53 17.0**	**+0.3**
BERGE	**Lenzkirch (DE)**	**1.57**	**114**	*e*Pg	**Pg**	**10 53 19.0**	**+0.8**
BERGE				*e*Sg	**Sb**	**10 53 37.8**	**+1.0**
BRANT	**Les Verrieres**	**1.62**	**170**	Pn	**Pn**	**10 53 17.3**	**+1.0**
BALST	**Balsthal**	**1.63**	**136**	Pn	**Pn**	**10 53 16.9**	**+0.4**
ABH	**Alteburg**	**1.67**	**36**	Pn	**Pn**	**10 53 17.7**	**+0.7**
ABH	**Alteburg**	**1.67**	**36**	*e*Pg	**Pb**	**10 53 19.4**	**+0.7**
ABH				*e*Sg	**Sn**	**10 53 38.7**	**+0.3**
METMA	**Mettma DE**	**1.69**	**118**	*e*Sg	**Sb**	**10 53 42.0**	**+1.8**
SULZ	**Cheisacher**	**1.71**	**125**	Pn	**Pn**	**10 53 17.7**	**+0.1**
SULZ	**Cheisacher**	**1.71**	**125**	*e*Pg	**Pg**	**10 53 21.9**	**+1.0**
SULZ				*e*Sg	**Sg**	**10 53 42.9**	**-0.2**
GIVF	**Givet**	**1.76**	**334**	*e*Pn	**Pn**	**10 53 18.7**	**+0.5**
GIVF	**Givet**	**1.76**	**334**	*e*Pg	**Pg**	**10 53 22.4**	**+0.6**
GIVF				*e*Sn	**Sn**	**10 53 39.2**	**-1.3**
	5.9nm,0.2s						
GIVF				*e*Sg	**Sg**	**10 53 45.2**	**+0.5**
	12nm,0.2s						
SLE	**Schleitheim**	**1.81**	**114**	Pn	**Pn**	**10 53 18.6**	**-0.3**
SLE	**Schleitheim**	**1.81**	**114**	*e*Pg	**Pg**	**10 53 23.4**	**+0.7**
SLE				*e*Sg	**Sb**	**10 53 45.5**	**+1.8**
DOU	**Dourbes**	**1.83**	**329**	Pn	**Pn**	**10 53 19.6**	**+0.5**
DOU				Pg	**Pg**	**10 53 23.7**	**+0.5**
CABF	**La Chapelle**	**1.92**	**179**	*e*Pn	**Pn**	**10 53 21.3**	**+0.8**
CABF	**La Chapelle**	**1.92**	**179**	*e*Pg	**Pg**	**10 53 26.5**	**+1.6**
CABF				*e*Sn	**Sn**	**10 53 43.3**	**-1.2**
	3.6nm,0.2s						
CABF				*e*Sg	**Sg**	**10 53 50.3**	**+0.5**
	20nm,0.3s						
LOR	**Lormes baz=53**	**1.94**	**230**	*e*Pn	**Pn**	**10 53 21.2**	**+0.6**
LOR	**Lormes baz=52**	**1.94**	**230**	*e*Pg	**Pg**	**10 53 26.7**	**+1.5**
LOR				*e*Sn	**Sn**	**10 53 44.6**	**-0.3**
	26nm,0.2s						
LOR				*e*Sg	**Sg**	**10 53 52.0**	**+1.7**
	45nm,0.2s,baz=52						
LOR	**Lormes**	**1.94**	**230**	Pn	**Pn**	**10 53 21.2**	**+0.6**
BAIF	**Baives**	**1.94**	**323**	*e*Pn	**Pn**	**10 53 21.3**	**+0.6**
BAIF	**Baives**	**1.94**	**323**	*e*Pg	**Pg**	**10 53 25.8**	**+0.5**
BAIF				*e*Sn	**Sn**	**10 53 43.9**	**-1.1**
	7.8nm,0.3s						
BAIF				*e*Sg	**Sg**	**10 53 50.7**	**+0.2**
	11nm,0.2s						
EMING	**Emmingen-Lipti**	**1.98**	**108**	*e*Pg	**Pg**	**10 53 27.4**	**+1.5**
EMING				*e*Sg	**Sg**	**10 53 50.9**	**-0.7**
BODE	**Bodenheim**	**2.02**	**46**	*e*Sg	**Sb**	**10 53 50.0**	**+0.3**
GUT	**Gutenstein**	**2.10**	**101**	Pn	**Pn**	**10 53 22.4**	**-0.5**
AHRW	**Bad Neuenahr-A**	**2.12**	**18**	*e*Sg	**Sb**	**10 53 54.4**	**+1.9**
WILA	**Wila**	**2.23**	**119**	*e*Sg	**Sg**	**10 53 59.4**	**-0.1**
SSF	**Saint Saulge**	**2.25**	**230**	*e*Pn	**Pn**	**10 53 25.5**	**+0.5**
SSF	**Saint Saulge**	**2.25**	**230**	*e*Pg	**Pg**	**10 53 32.0**	**+0.8**
SSF				*e*Sn	**Sn**	**10 53 52.1**	**-0.6**
	5.4nm,0.2s						
SSF				*e*Sg	**Sg**	**10 54 01.3**	**+0.8**
	34nm,0.3s						
TNS	**Taunus Mts**	**2.31**	**42**	*e*Sg	**Sb**	**10 53 57.9**	**-0.1**
SMF	**Signal de Mont**	**2.40**	**219**	*e*Pn	**Pn**	**10 53 27.2**	**+0.1**
SMF	**Signal de Mont**	**2.40**	**219**	*e*Pg	**Pg**	**10 53 34.7**	**+0.6**
SMF				*e*Sn	**Sn**	**10 53 55.7**	**-0.7**
	3.0nm,0.2s						
SMF				*e*Sg	**Sg**	**10 54 06.3**	**+1.1**
	26nm,0.2s						
MILB	**Miltenberg**	**2.50**	**57**	*e*Sg	**Sb**	**10 54 05.6**	**+2.3**
AVF	**Avril sur Loir**	**2.52**	**227**	*e*Pn	**Pn**	**10 53 28.7**	**+0.1**
AVF	**Avril sur Loir**	**2.52**	**227**	*e*Pg	**Pg**	**10 53 37.7**	**+1.5**
AVF				*e*Sn	**Sn**	**10 53 58.7**	**-0.4**
	3.0nm,0.3s						
AVF				*e*Sg	**Sg**	**10 54 10.0**	**+1.1**
	9.9nm,0.2s						
HYF	**Humbligny**	**2.62**	**242**	*e*Pn	**Pn**	**10 53 30.6**	**+0.7**
HYF	**Humbligny**	**2.62**	**242**	*e*Pg	**Pg**	**10 53 38.9**	**+0.8**
HYF				*e*Sn	**Sn**	**10 54 00.8**	**-0.8**
HYF				*e*Sg	**Sg**	**10 54 12.9**	**+0.9**
PLONS	**Plons/SG**	**2.69**	**122**	*e*Sg	**Sg**	**10 54 13.8**	**-0.8**
UBR	**Ueberruh**	**2.85**	**106**	*e*Sg	**Sg**	**10 54 18.8**	**-0.9**
BGF	**Bois d'Agland**	**2.93**	**229**	*e*Pn	**Pn**	**10 53 34.5**	**+0.2**
BGF	**Bois d'Agland**	**2.93**	**229**	*e*Pg	**Pg**	**10 53 44.5**	**+0.4**
BGF				*e*Sn	**Sn**	**10 54 08.2**	**-1.1**
BGF				*e*Sg	**Sg**	**10 54 22.1**	**0.0**
	19nm,0.2s						
LPG	**La Plagne**	**3.07**	**171**	*e*Pn	**Pn**	**10 53 37.5**	**+1.0**
LPG				*e*Sn	**Sn**	**10 54 10.8**	**-2.4**
	2.0nm,0.2s						
LPG				*e*Sg	**Sg**	**10 54 26.7**	**0.0**
	3.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.44**	**231**	*e*Pn	**Pn**	**10 53 42.2**	**+0.9**
TCF	**Toulx Ste Croi**	**3.44**	**231**	*e*P	**Pn**	**10 53 44.9**	**+3.6**
TCF	**Toulx Ste Croi**	**3.44**	**231**	*e*Pg	**Pg**	**10 53 54.0**	**+0.2**
TCF				*e*Sn	**Sn**	**10 54 20.5**	**-1.3**
TCF				*e*Sg	**Sg**	**10 54 38.3**	**0.0**
	8.1nm,0.2s						
PYM	**Petit Puy Mans**	**3.47**	**218**	Pn	**Pn**	**10 53 41.6**	**-0.1**
PYM				Pg	**Pg**	**10 53 56.3**	**+1.9**
ORIF	**Oris-en-Rattie**	**3.62**	**182**	*e*Pn	**Pn**	**10 53 44.4**	**+0.6**
ORIF	**Oris-en-Rattie**	**3.62**	**182**	*e*Pg	**Pg**	**10 53 56.9**	**-0.4**
ORIF				*e*Sn	**Sn**	**10 54 24.0**	**-2.4**
	1.3nm,0.2s						
ORIF				*e*Sg	**Sg**	**10 54 43.0**	**-1.1**
	6.1nm,0.4s						
VIVF	**Saint-Julien-l**	**3.79**	**195**	*e*Pn	**Pn**	**10 53 46.2**	**0.0**
VIVF	**Saint-Julien-l**	**3.79**	**195**	*e*Pg	**Pg**	**10 54 00.5**	**-0.2**
VIVF				*e*Sn	**Sn**	**10 54 28.2**	**-2.5**
	1.5nm,0.2s						
VIVF				*e*Sg	**Sg**	**10 54 49.5**	**-0.3**
	3.8nm,0.2s						
MBDF	**Montbardon**	**3.84**	**172**	*e*Pn	**Pn**	**10 53 47.8**	**+0.9**
MBDF				*e*Sn	**Sn**	**10 54 29.3**	**-2.6**
	1.4nm,0.2s						
MBDF				*e*Sg	**Sg**	**10 54 50.3**	**-0.9**
	1.0nm,0.4s						
LDF	**La Druitiere**	**4.09**	**273**	*e*Pn	**Pn**	**10 53 50.5**	**+0.2**
LDF	**La Druitiere**	**4.09**	**273**	*e*Pg	**Pg**	**10 54 05.9**	**-0.5**
LDF				*e*Sn	**Sn**	**10 54 35.4**	**-2.6**
	1.3nm,0.2s						
LDF				*e*Sg	**Sg**	**10 54 58.4**	**-1.0**
	3.9nm,0.2s						
FLN	**La Foliniere baz=95**	**4.33**	**276**	*e*Pn	**Pn**	**10 53 53.9**	**+0.4**
FLN				*e*Sn	**Sn**	**10 54 41.6**	**-2.3**
	2.0nm,0.2s,baz=96						
FLN				*e*Sg	**Sg**	**10 55 05.6**	**-1.4**
	baz=101						
RJF	**Les Rejaudoux**	**4.48**	**226**	*e*Pn	**Pn**	**10 53 55.6**	**+0.1**
RJF	**Les Rejaudoux**	**4.48**	**226**	*e*Pg	**Pg**	**10 54 13.1**	**-0.6**
RJF				*e*Sg	**Sg**	**10 55 09.9**	**-1.7**
	2.7nm,0.2s						
CAF	**Calviac**	**4.53**	**219**	*e*Pn	**Pn**	**10 53 55.9**	**-0.3**
CAF	**Calviac**	**4.53**	**219**	*e*Pg	**Pg**	**10 54 14.0**	**-0.7**
CAF				*e*Sn	**Sn**	**10 54 45.5**	**-3.2**
CAF				*e*Sg	**Sg**	**10 55 12.3**	**-1.0**
	3.5nm,0.3s						
SMRF	**Simiane la Rot**	**4.57**	**184**	*e*Pn	**Pn**	**10 53 56.7**	**-0.1**
GRR	**Gorron**	**4.59**	**271**	*e*Pn	**Pn**	**10 53 57.5**	**+0.4**
GRR				*e*Sn	**Sn**	**10 54 46.7**	**-3.6**
	3.8nm,0.2s						
GRR				*e*Sg	**Sg**	**10 55 15.1**	**-0.3**
	2.8nm,0.2s						
MFF	**Saint Martin d**	**4.61**	**248**	*e*Pn	**Pn**	**10 53 57.5**	**+0.1**
MFF	**Saint Martin d**	**4.61**	**248**	*e*Pg	**Pg**	**10 54 15.4**	**-0.9**
MFF				*e*Sn	**Sn**	**10 54 47.1**	**-3.7**
MFF				*e*Sg	**Sg**	**10 55 14.6**	**-1.4**
	2.2nm,0.3s						
LASF	**Ste Croix**	**4.71**	**200**	*e*Pn	**Pn**	**10 53 58.7**	**0.0**
LASF	**Ste Croix**	**4.71**	**200**	*e*Pg	**Pg**	**10 54 17.4**	**-0.7**
LASF				*e*Sn	**Sn**	**10 54 50.8**	**-2.3**
	0.5nm,0.2s						
LASF				*e*Sg	**Sg**	**10 55 17.5**	**-1.5**
	2.7nm,0.5s						
SBF	**Sospel**	**4.77**	**168**	*e*P	**Pn**	**10 54 03.2**	**+3.6**
SBF				*e*Sn	**Sn**	**10 54 51.7**	**-3.0**
	1.8nm,0.2s						
FRF	**La Foret Royal**	**4.99**	**175**	*e*Pn	**Pn**	**10 54 02.3**	**-0.3**
FRF				*e*Sn	**Sn**	**10 54 56.8**	**-3.3**
	2.4nm,0.2s						
FRF				*e*Sg	**Sg**	**10 55 26.6**	**-1.5**
	2.6nm,0.4s						
LFF	**La Frestale**	**5.12**	**227**	*e*Pn	**Pn**	**10 54 05.0**	**+0.7**
LFF	**La Frestale**	**5.12**	**227**	*e*Pg	**Pg**	**10 54 25.4**	**-0.6**
LFF				*e*Sn	**Sn**	**10 55 00.3**	**-2.9**
	1.5nm,0.3s						
LFF				*e*Sg	**Sg**	**10 55 31.1**	**-1.1**
	4.0nm,0.3s						
LMR	**La Mourre**	**5.21**	**176**	*e*Pn	**Pn**	**10 54 05.4**	**-0.2**
LMR				*e*Sn	**Sn**	**10 55 02.1**	**-3.4**
	5.5nm,0.8s						
LMR				*e*Sg	**Sg**	**10 55 33.2**	**-1.9**
	3.3nm,0.5s						
CLL	**Collm**	**5.29**	**56**	*e*Sg	**Sg**	**10 55 42.0**	**+4.5**
SGMF	**Saint Gilles**	**5.74**	**270**	*e*Pn	**Pn**	**10 54 12.9**	**+0.1**
SGMF				*e*Sn	**Sn**	**10 55 12.6**	**-5.8**
	0.6nm,0.2s						
SGMF				*e*Sg	**Sg**	**10 55 51.3**	**-0.7**
	3.5nm,0.5s						
MTLF	**Montolieu**	**5.83**	**209**	*e*Pn	**Pn**	**10 54 15.8**	**+1.6**
MTLF	**Montolieu**	**5.83**	**209**	*e*Pg	**Pg**	**10 54 37.8**	**-1.9**
MTLF				*e*Sn	**Sn**	**10 55 17.5**	**-3.4**
MTLF				*e*Sg	**Sg**	**10 55 53.3**	**-1.9**
	1.8nm,0.4s						
QUIF	**Quistinic**	**6.18**	**268**	*e*Pn	**Pn**	**10 54 18.5**	**-0.4**
QUIF				*e*Sn	**Sn**	**10 55 22.9**	**-6.6**
	0.9nm,0.2s						
ROSF	**Rostrenen**	**6.20**	**272**	*e*Pn	**Pn**	**10 54 19.0**	**-0.2**
ROSF				*e*Sn	**Sn**	**10 55 23.4**	**-6.6**
	0.6nm,0.2s						
ROSF				*e*Sg	**Sg**	**10 56 05.9**	**-1.1**
	1.2nm,0.3s						
ETSF	**Etsaut**	**7.28**	**222**	*e*P	**Pn**	**10 54 38.5**	**+4.4**

IDC 29 10:56:59.9±8.3,17°.11S×173°.25W,h195km±137km, mb3.4/3,mb1 3.6/4,mb1mx3.1/38,mbtmp3.9/4,Error ellipse: s-maj=135.3km s-min=32.4km az=32.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.48**	**24**	P	Pn	10 57 55.7	+0.4
	3.5nm,0.3s,baz=217,slow=5.1,SNR=11						
AFI				S	Sn	10 58 38.8	+0.2
	17nm,0.3s,baz=31,slow=19,SNR=11						
WRA	**Warramunga Arr**	**49.62**	**258**	P	P	11 05 31.6	-0.4
	0.3nm,0.4s,baz=98,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**49.74**	**253**	P	P	11 05 33.0	+0.1
	2.9nm,0.6s,baz=89,slow=8.6,SNR=73						
VNDA	**Vanda**	**61.70**	**186**	P	P	11 06 56.9	0.0
	0.5nm,0.3s,baz=12,slow=3.5,SNR=8.9						

ISC 29 10:58:48.1±1.0,50°.23N±0°.05×18°.78E±0°.03,h0km,n7, σ0§87/14,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.66**	**90**	*e*Pg	**Pg**	**10 59 00.0**	**-0.7**
OJC				*e*Sg	**Sg**	**10 59 10.0**	**+0.8**
MORC	**Moravsky Berou**	**0.92**	**241**	*e*PG	**Pg**	**10 59 05.6**	**-0.1**
MORC				*e*SG	**Sg**	**10 59 18.0**	**+0.5**
LANS	**Liptovska Anna**	**1.17**	**157**	*e*PG	**Pg**	**10 59 10.2**	**-0.3**
LANS				*e*SG	**Sg**	**10 59 26.0**	**+0.5**
LANS				*e*LG	Lg	10 59 26.8	
NIE	**Niedzica**	**1.27**	**129**	*e*Pg	**Pg**	**10 59 12.7**	**+0.2**
NIE				*e*Sg	**Sb**	**10 59 30.6**	**+0.6**
VRAC	**Vranov**	**1.69**	**238**	*e*PN	**Pn**	**10 59 19.4**	**+0.5**
VRAC				*e*SG	**Sn**	**10 59 40.5**	**-0.7**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg	**Pb**	**10 59 20.1**	**-0.2**
KSP				*e*Sg	**Sg**	**10 59 43.3**	**+0.5**
VYHS	**Vyhne**	**1.73**	**179**	*e*PN	**Pb**	**10 59 21.1**	**+0.3**
VYHS				*e*SN	**Sn**	**10 59 40.1**	**-2.2**

*DJA **29** 10:59:23.9±1.7,2°.N±4°.×9°.8E±°.,h25km±22km,M4.0/6, MLv4.0/6*
*IDC **29** 10:59:26.2±9.1,2°.13N×98°.00E,h77km±58km,mb3.7/5, mb1 3.8/6,mb1mx3.4/42,mbtmp4.0/6,ML4.3/1,Error ellipse: s-maj=148.8km s-min=17.9km az=59.0*

ISC 29 10:59:23.7±0.9,2°.13N±0°.05×97°.83E±0°.07,h50km,n17, σ1§12/15,mb4.0/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.86**	**197**	P	**Pn**	**10 59 40.2**	**+0.6**
GSI				S	**Sn**	**10 59 51.5**	**+0.4**
PSI	**Prapat**	**1.28**	**59**	P	**Pn**	**10 59 46.0**	**+0.6**
	2µm,0.3s,SNR=1.3						
PSI	**Prapat**	**1.28**	**59**	P	**Pn**	**10 59 45.7**	**+0.3**
TPTI		**1.30**	**330**	P	**Pn**	**10 59 46.6**	**+1.1**
TSI	**Tuntungan**	**1.55**	**28**	P	**Pn**	**10 59 50.3**	**+1.4**
MNSI	**Mandailing Nat**	**2.19**	**127**	P	**Pn**	**10 59 58.7**	**+1.0**
MLSI	**Meulaboh, Aceh**	**2.56**	**326**	P	**Pn**	**11 00 03.2**	**+0.5**
PDSI	**Padang**	**4.00**	**139**	P	**Pn**	**11 00 24.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**16.27**	**4**	P	**Pn**	**11 03 10.4**	**+1.5**
	0.5nm,0.3s,baz=196,slow=11,SNR=4.9						
H08S2	**Diego Garcia H**	**27.07**	**249**	T	T	11 32 25.6	
	baz=70,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**27.08**	**249**	T	T	11 32 16.9	
	baz=70,slow=76,SNR=10						
H08S1	**Diego Garcia H**	**27.09**	**249**	T	T	11 32 15.7	
	baz=70,slow=76,SNR=20						
WRA	**Warramunga Arr**	**42.00**	**123**	P	**P**	**11 07 09.1**	**-1.4**
	1.1nm,0.4s,baz=305,slow=8.9,SNR=21						
ASAR	**Alice Springs**	**43.46**	**128**	P	**P**	**11 07 20.9**	**-1.5**
	0.3nm,0.6s,baz=297,slow=7.8,SNR=6.0						
SONM	**Songino Array**	**46.13**	**8**	P	**P**	**11 07 42.6**	**-0.7**
	0.8nm,0.5s,baz=187,slow=10.0,SNR=3.9						
MKAR	**Makanchi Array**	**46.51**	**345**	P	**P**	**11 07 46.1**	**-0.1**
	2.3nm,0.7s,baz=159,slow=8.5,SNR=19						
ZALV	**Zalesovo Beam**	**52.75**	**350**	P	**P**	**11 08 33.2**	**-0.3**
	2.7nm,0.3s,baz=163,slow=7.7,SNR=13						

*JMA **29** 11:35:09.7±0.2,26°.20N×125°.48E,h13km,M3.3*
*IDC **29** 11:35:09.4±6.2,26°.18N×125°.42E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/43,mbtmp3.5/4,Error ellipse: s-maj=374.1km s-min=24.0km az=61.0*

ISC 29 11:35:09.4±2.0,26°.14N±0°.08×125°.49E±0°.08,h4km±13km, n17,σ0§82/22,mb3.4/4,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.18**	**81**	P	**Pb**	**11 35 31.2**	**-1.1**
JIKM	**Ikemajima**	**1.23**	**190**	P	**Pg**	**11 35 33.3**	**+0.4**
JIKM				*e*S	**Sn**	**11 35 49.8**	**-0.5**
JIRB	**Irabujima**	**1.34**	**192**	P	**Pg**	**11 35 34.6**	**-0.4**
JIRB				S	**Sg**	**11 35 52.7**	**+0.4**
JOGS	**Gusukube**	**1.38**	**183**	P	**Pg**	**11 35 35.7**	**0.0**
JOGS				*e*S	**Sg**	**11 35 54.2**	**+0.7**
JMJ2	**Miyako jima3**	**1.40**	**186**	P	**Pg**	**11 35 36.0**	**-0.2**
JMJ2				*e*S	**Sg**	**11 35 55.1**	**+0.8**
JTJ	**Tarama**	**1.65**	**206**	*e*S	**Sb**	**11 36 00.5**	**-1.0**
JISG	**Ishigakijimahi**	**1.88**	**215**	P	**Pb**	**11 35 42.8**	**-1.4**
JISG				*e*S	**Sn**	**11 36 05.7**	**-0.6**
JIJ	**Ishigaki jima**	**2.15**	**215**	P	**Pb**	**11 35 47.6**	**-1.2**
JNTH	**Nagotoyohara**	**2.30**	**80**	P	**Pn**	**11 35 48.6**	**+0.5**
JKRS	**Kuro-shima**	**2.32**	**216**	P	**Pb**	**11 35 51.2**	**-0.5**
JIH	**Iheya**	**2.39**	**68**	P	**Pb**	**11 35 51.9**	**-1.1**
IRIF	**Iriomote-Funau**	**2.40**	**222**	P	**Pb**	**11 35 53.4**	**+0.3**
JOW	**Kunigami**	**2.59**	**74**	P	**Pn**	**11 35 52.9**	**+0.9**
MKAR	**Makanchi Array**	**39.77**	**313**	P	**P**	**11 42 43.2**	**-0.2**
	0.4nm,0.7s,baz=94,slow=11,SNR=4.0						
KURBB	**Kurchatov Arra**	**43.23**	**317**	P	**P**	**11 43 11.6**	**0.0**
	0.2nm,0.3s,baz=107,slow=8.6,SNR=2.2						
WRA	**Warramunga Arr**	**46.60**	**169**	P	**P**	**11 43 39.3**	**+0.6**
	0.7nm,0.8s,baz=350,slow=8.7,SNR=5.6						
ASAR	**Alice Springs**	**50.18**	**170**	P	**P**	**11 44 07.5**	**+1.2**
	0.4nm,0.7s,baz=354,slow=8.5,SNR=9.6						

*TIR **29** 11:36:33.2,39°.03N×21°.72E,h27km±2km,Md4.0,Ml4.2*
*THE **29** 11:36:34.8,39°.08N×21°.61E,h5km±1km,ML4.0/7,Error ellipse: s-maj=1.4km s-min=0.6km az=139.0*
*PDG **29** 11:36:34.5±0.4,39°.07N×21°.66E,h10km,ML3.8/12,Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*ATH **29** 11:36:34.6,39°.08N×21°.63E,h16km±1km,ML3.8/17,Error ellipse: s-maj=1.8km s-min=0.8km az=148.0*
*MOS **29** 11:36:35.8±1.1,39°.08N×21°.66E,h24km,mb4.6/11,Error ellipse: s-maj=9.8km s-min=5.0km az=77.9*
*NEIC **29** 11:36:37.8±0.9,39°.16N±0°.03×21°.73E±0°.07,h22km±6km, mb4.5/22,ML3.8(ATH),Error ellipse: s-maj=7.5km s-min=3.7km az=95.0*
*IDC **29** 11:36:38.8±2.2,39°.10N×21°.72E,h36km±18km,mb3.7/10, mb1 3.8/16,mb1mx3.6/50,mbtmp3.8/16,ML3.9/6,MS3.1/3, Ms1 3.1/3,ms1mx2.6/56,Error ellipse: s-maj=16.4km s-min=15.3km az=74.0*

ISC 29 11:36:35.1±0.8,39°.09N±0°.02×21°.64E±0°.02,h11km±5km, n280,σ1§49/343,mb4.3/31,20C-20D,Greece

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

KPRO **Kipourio** 0.89 346 P **Pg** 11 36 50.9 -1.4
KPRO S **Sg** 11 37 03.2 -0.8
KPRO AML AML 11 37 08.0
comp=N,23209µm,0.3s
KPRO AML AML 11 37 08.1
comp=E,15694µm,0.4s
LAKA Lakka 0.89 162 P **Pg** 11 36 51.0 -1.3
EVGI Lefkada island 0.90 239 P **Pg** 11 36 51.3 -1.1
EVGI Lefkada island 0.90 239 P **Pg** 11 36 51.2 -1.1
ALIK Aliki, Aigiali 0.91 156 P **Pg** 11 36 51.5 -1.1
DLFA Delphi 0.91 132 P **Pg** 11 36 50.7 -1.9
DRAG Dragano-Lefkad 0.92 244 P **Pg** 11 36 51.6 -1.3
FSK Fiskardo 1.05 233 P **Pg** 11 36 53.5 -1.8
FSK Fiskardo 1.05 233 P **Pg** 11 36 53.6 -1.6
IGT Igoumenitsa 1.10 294 P **Pg** 11 36 55.6 -0.7
IGT Igoumenitsa 1.10 294 P **Pg** 11 36 55.7 -0.6
IGT AML AML 11 37 16.6
comp=N,3381µm,0.7s
IGT AML AML 11 37 17.1
comp=E,2751µm,0.4s
IGT Igoumenitsa 1.10 294 P **Pg** 11 36 55.6 -0.7
baz=296
IGT S **Sn** 11 37 13.2 +1.3
baz=296
DRO Drossia 1.14 177 P **Pg** 11 36 56.0 -1.0
LIT Litokhoron 1.21 33 P **Pg** 11 36 56.5 -1.8
LIT S **Sg** 11 37 13.0 -1.0
LIT AML AML 11 37 18.9
comp=N,12534µm,0.6s
LIT AML AML 11 37 21.4
comp=E,14386µm,0.4s
KEF5 Kardakata, Kep 1.22 229 P **Pg** 11 36 56.7 -1.9
KEF5 Kardakata, Kep 1.22 229 P **Pg** 11 36 56.5 -2.0
XOR Xorichti 1.24 77 P **Pg** 11 36 56.8 -2.2
XOR S **Sg** 11 37 13.0 -2.0
XOR AML AML 11 37 20.4
comp=N,7371µm,0.3s
XOR AML AML 11 37 20.5
comp=E,5526µm,0.7s
SMIA Simia 1.24 99 P **Pg** 11 36 57.6 -1.4
SMIA S **Sg** 11 37 14.0 -1.2
SMIA AML AML 11 37 26.6
comp=E,9936µm,0.7s
SMIA AML AML 11 37 27.4
comp=N,8066µm,0.5s
KEF4 Livadi, Kephal 1.26 229 P **Pg** 11 36 57.4 -1.9
KEF4 Livadi, Kephal 1.26 229 P **Pg** 11 36 57.3 -2.0
PSDA Pessada-Kefalo 1.28 221 P **Pg** 11 36 57.4 -2.2
DMLN Damoulianata-K 1.30 230 P **Pn** 11 36 58.0 -1.3
THAL Thalero 1.32 142 P **Pg** 11 36 59.1 -1.4
LSK Leskovik 1.33 323 P **Pn** 11 36 59.2 -0.5
LSK Leskovik 1.33 323 P **Pn** 11 36 59.3 -0.4
baz=323
LSK S **Sn** 11 37 19.7 +2.2
baz=323
LSK AMP
comp=N,19nm,0.7s,baz=323
KEF3 Kipouria, Keph 1.34 229 P **Pn** 11 36 58.2 -1.6
KEF3 Kipouria, Keph 1.34 229 P **Pn** 11 36 58.1 -1.8
NEST Nestorio 1.40 341 P **Pn** 11 37 00.7 0.0
NEST Nestorio 1.40 341 P **Pn** 11 37 00.5 -0.3
NEST AML AML 11 37 29.1
comp=N,8377µm,0.7s
NEST AML AML 11 37 29.1
comp=E,7740µm,0.5s
LTK Loutraki 1.49 135 P **Pn** 11 37 01.4 -0.5
LTK Loutraki 1.49 135 P **Pn** 11 37 01.3 -0.6
SRN Sarande 1.49 302 P **Pn** 11 37 02.9 +1.0
baz=304
SRN S **Sg** 11 37 24.3 +1.2
baz=304
SRN AMP
comp=N,5.7nm,0.6s,baz=304
LTHK Lithakia 1.51 205 P **Pn** 11 37 02.5 +0.3
LOUT Loutraki 1.52 136 P **Pn** 11 37 01.8 -0.5
VIL2 Platees 1.55 124 P **Pb** 11 37 04.1 +0.2
VIL2 AML AML 11 37 30.0
comp=N,3822µm,0.6s
VIL2 AML AML 11 37 33.1
comp=E,3381µm,0.5s
AMT Artemida-Makis 1.56 178 P **Pn** 11 37 02.7 -0.1
VILL Villia 1.60 125 P **Pn** 11 37 03.3 -0.2
KBN Korca 1.67 337 P **Pn** 11 37 04.9 +0.5
KBN Korca 1.67 337 P **Pn** 11 37 05.2 +0.8
baz=337
KBN S **Sb** 11 37 29.0 +2.1
baz=337
KBN AMP
comp=N,7.0nm,1.1s,baz=337
FNA Florina 1.70 353 P **Pn** 11 37 05.2 +0.2
FNA Florina 1.70 353 P **Pn** 11 37 05.1 +0.2
FNA Florina 1.70 353 P **Pn** 11 37 05.1 +0.2
FNA Florina 1.70 353 P **Pn** 11 37 05.1 +0.2
FNA Florina 1.70 353 Pn **Pn** 11 37 05.0 +0.2
FNA Florina 1.70 353 P **Pn** 11 37 05.2 +0.2
baz=352
PAIG Paliouri 1.79 61 P **Pn** 11 37 04.8 -1.2
VLX Vlachokerasia 1.81 161 P **Pn** 11 37 05.4 -1.0
THE Thessaloniki 1.85 33 P **Pn** 11 37 05.7 -1.2
baz=30
HORT Hortiatis 1.88 36 P **Pn** 11 37 06.0 -1.3
HORT Hortiatis 1.88 36 *eP* **Pn** 11 37 06.1 -1.3
EREA Eretria 1.92 110 P **Pn** 11 37 07.7 -0.1
EREA Eretria 1.92 110 P **Pn** 11 37 07.9 +0.1
ITM Ithomi 1.92 173 P **Pb** 11 37 10.2 0.0
ITM Ithomi 1.92 173 **Pb** 11 37 10.2 0.0
GRG Griva 1.96 17 P **Pn** 11 37 07.5 -0.8
GRG Griva 1.96 17 P **Pn** 11 37 08.0 -0.3
GRG Griva 1.96 17 P **Pn** 11 37 07.5 -0.8
ATHU Athens Univers 2.02 123 P **Pn** 11 37 09.3 +0.1
ATHU AML AML 11 37 37.5
comp=N,776µm,0.5s
ATHU AML AML 11 37 42.0
comp=E,345µm,0.3s
DION Dionisos Attik 2.06 119 P **Pn** 11 37 09.9 +0.1
DION AML AML 11 37 42.9
comp=N,2280µm,0.3s
DION AML AML 11 37 43.0
comp=E,2098µm,0.5s
KRND KRANIDI 2.08 145 P **Pn** 11 37 10.4 +0.4
OHR Ohrid 2.12 343 *i* Pn **Pn** 11 37 12.2 +1.6
SOH Sokhos 2.18 37 P **Pn** 11 37 10.9 -0.5
OUR Ouranopolis 2.19 55 P **Pn** 11 37 11.3 -0.3
KNT Kendrikon 2.29 25 P **Pn** 11 37 12.6 -0.2
VAY Valandovo 2.34 17 *i* Pn **Pn** 11 37 13.6 0.0
SRS Serrai 2.52 36 P **Pn** 11 37 15.7 -0.4
TIR Tirane 2.63 330 P **Pn** 11 37 18.1 +0.5
TIR Tirane 2.63 330 **Pn** 11 37 18.1 +0.5
TIR Tirane 2.63 330 P **Pn** 11 37 18.8 +1.2
baz=330
TIR S **Sn** 11 37 53.9 +4.3
baz=330
TIR AMP
comp=E,1.1nm,0.7s,baz=330
STIP Stip 2.64 9 *i* Pn **Pn** 11 37 18.8 +1.2
SCTE Santa Cesarea 2.64 293 Pn **Pn** 11 37 19.8 +2.1
SCTE Santa Cesarea 2.64 293 P **Pn** 11 37 19.3 +1.6
baz=294
PHP Peshkopia 2.75 341 P **Pn** 11 37 21.2 +1.9
baz=341
PHP S **Sn** 11 37 57.0 +4.5
baz=341
PHP AMP
comp=N,1.4nm,0.8s,baz=341
SKO Skopje 2.88 357 P **Pn** 11 37 22.4 +1.3
SKO Skopje 2.88 357 *i* Pn **Pn** 11 37 21.9 +0.8
KTHA Kythira Island 3.05 158 *eP* **Pn** 11 37 25.6 +2.3
PUK Puka 3.23 336 P **Pn** 11 37 28.7 +2.8
baz=336
PUK S **Sn** 11 38 09.2 +4.7
baz=336
PUK AMP
comp=E,1.5nm,1.2s,baz=336
SIGR SIGRI 3.28 87 *eP* **Pn** 11 37 26.5 0.0
ULC Ulcinj 3.40 328 ⇑ *i* Pn **Pn** 11 37 29.8 +1.6
ULC *i* Sn **Sn** 11 38 11.4 +2.9
BCI Bajram Curri 3.48 340 P **Pn** 11 37 32.6 +3.3
baz=340
BCI AMP
comp=N,2.1nm,1.0s,baz=340
BOZC Bozcaada 3.50 76 *eP* **Pn** 11 37 29.4 -0.1
CHOS Chios island 3.53 100 *eP* **Pn** 11 37 30.3 +0.3
DRME Dracevica, Mon 3.61 330 *eP* **Pn** 11 37 33.0 +1.9
DRME Dracevica, Mon 3.61 330 ⇓ *i* Pn **Pn** 11 37 32.9 +1.9

DRME *i* Sn **Sn** 11 38 16.8 +3.1
APE Apeiranthos 3.68 122 ⇑ P **Pn** 11 37 32.1 +0.1
PVY Plav 3.73 341 ⇑ *i* Pn **Pn** 11 37 34.0 +1.3
PVY *i* Sn **Sn** 11 38 19.2 +2.5
VTS Vitosha 3.73 18 ⇑ P **Pn** 11 37 32.5 -0.3
VTS ⇑ S **Sn** 11 38 14.7 -2.1
VTS Vitosha 3.73 18 P **Pn** 11 37 32.7 -0.1
VTS Vitosha 3.73 18 Pn **Pn** 11 37 32.7 -0.1
PDG Podgorica 3.79 332 ⇓ P **Pn** 11 37 35.4 +1.8
PDG ⇑ S **Sn** 11 38 19.7 +1.5
PDG Podgorica 3.79 332 *e*Pn **Pn** 11 37 35.5 +1.9
PDG Podgorica 3.79 332 Pn **Pn** 11 37 35.4 +1.8
TTG Podgorica 3.79 332 ⇑ *i* Pn **Pn** 11 37 34.7 +1.1
TTG *i* Sn **Sn** 11 38 20.9 +2.7
BUM Brajici-Budva 3.83 328 ⇑ *i* Pn **Pn** 11 37 35.4 +1.3
BUM *i* Sn **Sn** 11 38 21.7 +2.6
ALN Alexandroupoli 3.84 61 P **Pn** 11 37 33.5 -0.7
ALN Alexandroupoli 3.84 61 Pn **Pn** 11 37 33.5 -0.7
IVA Berane 4.00 341 ⇑ *i* Pn **Pn** 11 37 37.8 +1.3
IVA *i* Sn **Sn** 11 38 25.4 +1.9
CEME Cevo 4.02 330 ⇑ *i* Pn **Pn** 11 37 38.0 +1.2
CEME *i* Sn **Sn** 11 38 25.9 +2.0
KOME Kolasin 4.09 338 ⇓ *i* Pn **Pn** 11 37 38.8 +1.1
KOME *i* Sn **Sn** 11 38 27.4 +1.9
MATE Matera 4.10 294 ⇓ P **Pn** 11 37 40.6 +2.8
HCY Herceg Novi 4.12 326 *e*Pn **Pn** 11 37 39.0 +1.0
HCY Herceg Novi 4.12 326 ⇓ *i* Pn **Pn** 11 37 39.3 +1.3
HCY *e*Sn **Sn** 11 38 28.4 +2.2
NKME Niksic 4.20 332 ⇓ *i* Pn **Pn** 11 37 40.6 +1.4
NKME *i* Sn **Sn** 11 38 30.7 +2.5
TREB Trebinje 4.40 327 *e*Pn **Pn** 11 37 42.5 +0.7
BRY Bratogost 4.47 329 *e*Pn **Pn** 11 37 44.7 +1.7
BRY Bratogost 4.47 329 ⇓ *i* Pn **Pn** 11 37 44.4 +1.4
BRY *i* Sn **Sn** 11 38 36.7 +1.6
BOVS Bovan 4.54 1 ⇑ P **Pn** 11 37 42.4 -1.4
BOVS ⇓ S **Sn** 11 38 35.6 -1.1
PLE Pljevlja 4.56 339 ⇓ *i* Pn **Pn** 11 37 45.8 +1.6
PLE *i* Sn **Sn** 11 38 38.7 +1.4
CEL Celeste 4.57 261 Pn **Pn** 11 37 45.7 +1.5
BLKB Belogradchik 4.60 9 ⇑ S **Sn** 11 38 35.9 -2.2
IDI Anoyia 4.60 145 Pn **Pn** 11 37 46.2 +1.5
comp=N,2.1nm,0.3s,baz=318,slow=7.9,SNR=15
IDI Sn **Sn** 11 38 40.9 +2.7
comp=N,12nm,0.3s,baz=277,slow=22,SNR=9.0
IDI Anoyia 4.60 145 ⇑ P **Pn** 11 37 46.3 +1.5
IDI ⇓ S **Sn** 11 38 40.5 +2.3
IDI Anoyia 4.60 145 Pn **Pn** 11 37 45.4 +0.7
UPM Unac-Piva 4.60 334 *e*Pn **Pn** 11 37 47.3 +2.5
UPM Unac-Piva 4.60 334 ⇓ *i* Pn **Pn** 11 37 46.4 +1.6
UPM *i* Sn **Sn** 11 38 40.2 +1.9
STON Ston 4.81 323 *e*Pn **Pn** 11 37 46.1 -1.4
STON Ston 4.81 323 *e*Pn **Pn** 11 37 47.3 -0.2
STON Sn **Sn** 11 38 41.3 -1.9
RUDO Rudo 4.83 340 *e*Pn **Pn** 11 37 48.2 +0.3
BALB Balikesir 4.87 82 **Pn** 11 37 48.5 +0.2
BBLS Lazići 5.06 341 *e*Pn **Pn** 11 37 52.4 +1.4
LSTV Lastovo 5.14 317 *e*Pn **Pn** 11 37 52.0 0.0
LSTV Sn **Sn** 11 38 48.6 -2.8
DIVS Divibare 5.15 347 *e*Pn **Pn** 11 37 53.2 +0.9
DIVS Divibare 5.15 347 Pn **Pn** 11 37 52.9 +0.5
SGRT San Giovanni R 5.22 302 Pn **Pn** 11 37 54.9 +1.6
HAPS Han Pijesak,BI 5.38 339 *e*Pn **Pn** 11 37 56.0 +0.5
KARP Karpathos 5.65 127 Pn **Pn** 11 37 59.7 +0.7
MDVR Moldovita 5.69 1 ⇓ P **Pn** 11 38 00.4 +0.7
PAOL Paolisi 5.76 292 **Pn** 11 38 02.7 +2.1
RAFF Raffo Rosso 6.03 254 Pn **Pn** 11 38 07.3 +3.1
FRGS Fruska Gora 6.21 348 ⇓ P **Pn** 11 38 06.7 -0.1
FRGS ⇓ S **Sn** 11 39 17.8 -0.1
FRGS Fruska Gora 6.21 348 *e*Pn **Pn** 11 38 06.6 -0.2
KIJV Kijevo 6.29 323 *e*Pn **Pn** 11 38 08.3 +0.5
KIJV Sn **Sn** 11 39 18.0 -1.6
MGRS Mrkonjic Grad 6.32 329 *e*Pn **Pn** 11 38 09.8 +1.6
GZR Gura Zlata 6.36 7 ⇓ P **Pn** 11 38 08.4 -0.4
ZIRJ Zirje 6.41 317 *e*Pn **Pn** 11 38 09.5 0.0
ZIRJ Sn **Sn** 11 39 19.4 -3.3
WDD Wied Dalam 6.52 242 Pn **Pn** 11 38 11.9 +0.8
BZS Buzias 6.52 360 ⇓ P **Pn** 11 38 11.3 +0.3
MORI Morici 6.53 319 *e*Pn **Pn** 11 38 11.8 +0.8
BLY Banja Luka 6.56 331 *e*Pn **Pn** 11 38 12.8 +1.3
INTR Introdacqua 6.57 299 Pn **Pn** 11 38 13.7 +1.9
ARR Arges 6.66 19 P **Pn** 11 38 13.5 +0.6
VOIR 6.83 21 ⇑ P **Pn** 11 38 15.8 +0.4
DUGI Dugi Otok 6.95 317 *e*Pn **Pn** 11 38 17.6 +0.7
DUGI Sn **Sn** 11 39 33.6 -2.3
UDBI Udbina 6.98 323 *e*Pn **Pn** 11 38 18.8 +1.4
MLR Muntele Rosu 7.15 25 Pn **Pn** 11 38 21.1 +1.3
comp=N,1.5nm,0.3s,baz=178,slow=8.7,SNR=7.9
MLR Muntele Rosu 7.15 25 ⇑ P **Pn** 11 38 19.4 -0.3
MLR Muntele Rosu 7.15 25 Pn **Pn** 11 38 19.8 +0.1
NVLJ Novalja 7.44 319 *e*Pn **Pn** 11 38 23.8 +0.1
MORH Mrgy, Hungar 7.45 344 ⇓ P **Pn** 11 38 25.2 +1.4
MORH Mrgy, Hungar 7.45 344 *e*Pn **Pn** 11 38 25.1 +1.3
NRCA Norcia 7.45 303 **Pn** 11 38 25.5 +1.6
TPGR Topolog 7.66 39 ⇑ P **Pn** 11 38 27.0 +0.3
PLOR Plostina 7.71 27 ⇓ P **Pn** 11 38 27.7 +0.4
VRI Vrincioaia 7.75 27 ⇑ P **Pn** 11 38 28.6 +0.7
MURB Monte Urbino 8.04 304 **Pn** 11 38 34.2 +2.4
CRES Cresnjev 8.13 328 ⇑ *i* Pn **Pn** 11 38 34.3 +1.2
CEY Cerknica 8.52 324 ⇑ *i* Pn **Pn** 11 38 38.4 0.0
PSZ Piszkesteto 8.91 352 ⇓ P **Pn** 11 38 44.0 +0.1
PSZ Piszkesteto 8.91 352 P **Pn** 11 38 44.6 +0.7
PSZ Piszkesteto 8.91 352 **Pn** 11 38 44.5 +0.7
SOKA Soboth 9.00 330 *e*Pn **Pn** 11 38 45.4 +0.4
comp=N,3.0nm,0.3s
SOKA *e*Sn **Sn** 11 40 26.0 -0.4
comp=N,2.4nm,0.6s
OBKA Obir 9.06 327 *e*Pn **Pn** 11 38 46.4 +0.5
comp=N,1.2nm,0.2s
OBKA *i* Sn **Sn** 11 40 29.5 +1.6
comp=N,5.3nm,0.5s
BRTR Keskin Array B 9.31 82 Pn **Pn** 11 38 50.8 +1.3
comp=N,0.5nm,0.3s,baz=270,slow=13,SNR=6.1
BRTR Keskin Array B 9.31 82 *e*P **Pn** 11 38 53.2 +3.7
BRTR pmax pmax
comp=Z,1.0nm,0.3s
VSL Villasalto 9.51 276 Pn **Pn** 11 38 54.2 +2.1
UZH Uzhgorod 9.55 3 *e*P **Pn** 11 38 56.8 +4.3
VYHS Vyhne 9.62 349 *e*P **Pn** 11 38 55.4 +1.9
VYHS Vyhne 9.62 349 *e*PN **Pn** 11 38 55.4 +1.9
TEOL Teolo 9.69 314 Pn **Pn** 11 38 55.2 +0.8
MODS Modra-Piesok 9.80 343 *e*P Pn 11 39 04.4 +8.4
MODS Modra-Piesok 9.80 343 *e* Pn **Pn** 11 39 04.4 +8.4
ZOU Zoufplan 9.80 322 Pn **Pn** 11 38 56.9 +0.7
CTI Castel Tesino 10.12 317 P **Pn** 11 39 01.2 +0.7
CTI Castel Tesino 10.12 317 Pn **Pn** 11 39 01.2 +0.7
MSSA Maissana 10.45 304 Pn **Pn** 11 39 06.4 +1.3
WTTA Wattenberg 10.95 321 *e*Pn **Pn** 11 39 13.9 +2.0
comp=Z,1.5nm,0.2s
WTTA *e*Sn **Sn** 11 41 13.6 -0.8
comp=Z,7.4nm,0.4s
WATA Walderalm 11.03 322 *e*Pn **Pn** 11 39 14.4 +1.5
comp=Z,2.6nm,0.3s
FETA Feichten 11.24 318 *e*Pn **Pn** 11 39 16.9 +1.0
comp=Z,0.7nm,0.4s
FETA *e*Sn **Sn** 11 41 23.1 +1.6
comp=Z,3.1nm,0.7s
MOTA Moosalm 11.27 320 *e*Pn **Pn** 11 39 17.0 +0.8
comp=Z,3.7nm,0.5s
MOTA *e*Sn **Sn** 11 41 21.6 -0.6
comp=Z,3.2nm,0.4s
GERES GERESS Array B 11.30 332 Pn **Pn** 11 39 18.9 +2.4
comp=Z,0.2nm,0.3s,baz=155,slow=16,SNR=5.2
GERES LR LR 11 45 10.7
comp=Z,82nm,18.7s,baz=312,slow=45
GERES GERESS Array B 11.30 332 *e*P **Pn** 11 39 20.5 +4.0
TUE Stuetta 11.65 313 Pn **Pn** 11 39 22.7 +1.2
AKASG Malin Array Be 12.79 22 Pn **Pn** 11 39 37.4 +0.6
comp=Z,0.4nm,0.3s,baz=204,slow=12,SNR=2.5
AKBB Malin Array Si 12.79 22 *i* P **Pn** 11 39 40.3 +3.5
SENIN Lac Senin/Sane 12.79 309 Pn **Pn** 11 39 39.5 +2.3
ANN Anapa 13.06 59 *e*P Pn 11 39 45.9 +5.3
ANN *e*S **Sn** 11 42 13.8 +7.9
ANN pmax pmax
comp=Z,86nm,0.9s
CLL Collm 13.64 336 *e*pP Pn 11 39 54.0 +5.6
CLL *e*PP **P** 11 39 59.0 +1.7
CLL Collm 13.64 336 *e*P Pn 11 39 54.0 +5.6
MNK Minsk 15.99 13 *i* P **Pn** 11 40 17.1 -2.8
MNK *i* S **Sn** 11 43 14.9 -2.1
MNK pmax pmax
comp=E,2.0nm,0.7s

MNK pmax pmax
comp=Z,21nm,0.7s
MNK pmax pmax
comp=N,13nm,0.7s
MNK MLR MLR
comp=N,112nm,22.0s
MNK MLR MLR
comp=E,10.0nm,14.0s
MNK MLR MLR
comp=Z,84nm,20.0s
MNK Minsk 15.99 13 *i* P **Pn** 11 40 17.2 -2.7
comp=E,2.0nm,0.7s
MNK *i* P **Pn** 11 40 17.2 -2.7
comp=N,13nm,0.7s
MNK *i* P **Pn** 11 40 17.2 -2.7
comp=Z,21nm,0.7s,baz=20
MNK *i* PP **pP** 11 40 25.8 -0.9
MNK *i* PPP PPP 11 40 33.4
MNK *i* S **Sn** 11 43 14.9 -2.1
MNK *i* SS **S** 11 43 29.1 -1.8
MNK *i* SSS SSS 11 43 41.7
MNK *i* LQ LQ 11 44 59.1
MNK *i* PcP **PcP** 11 45 14.5 -2.2
MNK *i* LR LR 11 46 11.9
MNK *i* LRM MLR 11 47 01.4
comp=N,112nm,21.7s
MNK *i* LRM MLR 11 47 05.7
comp=E,10.0nm,14.5s
MNK *i* LRM MLR 11 47 28.1
comp=Z,84nm,20.2s
MNK *i* ScS **ScS** 11 52 27.7 -1.7
KIV Kislovodsk 16.48 66 *eP* **P** 11 40 29.3 +0.2
KIV pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 16.60 67 *i* P **P** 11 40 32.7 +2.5
KBZ pmax pmax
comp=Z,3.0nm,1.0s
OBN Obninsk 18.91 27 *i* P **Pn** 11 40 57.9 +1.6
OBN pmax pmax
comp=Z,5.0nm,0.8s
ESDC Sonseca Array 19.78 280 P **P** 11 41 07.0 +1.6
comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=5.6
PUL Pulkovo 21.42 12 *i* P **P** 11 41 24.6 +1.7
PUL pmax pmax
comp=Z,59nm,0.8s
HFS Hagfors 21.65 349 P **P** 11 41 26.3 +0.9
comp=Z,1.5nm,0.6s,baz=152,slow=13,SNR=5.4
HFS LR LR 11 51 44.6
comp=Z,71nm,19.2s,baz=51,slow=42
BELG Belogornoye 22.34 45 *i* P **P** 11 41 35.5 +2.7
BELG pmax pmax
comp=Z,2.0nm,1.2s
FINES FINESS Array B 22.55 6 P **P** 11 41 35.0 0.0
comp=Z,1.2nm,0.5s,baz=186,slow=9.4,SNR=4.4
FINES FINESS Array B 22.55 6 *eP* **P** 11 41 36.4 +1.4
FINES pmax pmax
comp=Z,1.0nm,0.5s
NC602 NORSAR Array S 22.57 347 P **P** 11 41 34.9 -0.3
NC602 lAmb lAmb 11 41 52.1
comp=Z,21nm,1.3s
NAO01 NORSAR Array S 22.79 346 P **P** 11 41 37.6 +0.1
NAO01 lAmb lAmb 11 41 52.2
comp=Z,38nm,1.5s
NC405 NORSAR Array S 22.89 348 P **P** 11 41 38.3 -0.3
NC405 lAmb lAmb 11 41 57.4
comp=Z,21nm,1.3s
NOA NORSAR Array B 22.91 347 P **P** 11 41 39.0 +0.1
comp=Z,0.5nm,0.5s,baz=155,slow=9.4,SNR=8.9
NOA LR LR 11 52 09.7
comp=Z,27nm,18.2s,baz=65,slow=41
NOA NORSAR Array B 22.91 347 *eP* **P** 11 41 38.8 -0.1
NOA pmax pmax
comp=Z,1.0nm,0.5s
KLMR Klimovskoe 24.47 21 *eP* **P** 11 41 51.5 -2.4
KLMR pmax pmax
comp=Z,13nm,1.5s
KLMR Klimovskoe 24.47 21 *eP* **P** 11 41 51.5 -2.4
KLMR AMP 11 42 04.9
comp=Z,13nm,1.5s
ABKAR Akbulak array 29.01 57 P **P** 11 42 35.2 +0.3
ARU Arti 29.80 42 *d i* P **P** 11 42 43.2 +1.4
ARU 11 43 35.3
ARU S **S** 11 47 39.7 +1.6
ARU SS **SnSn** 11 49 07.2 -0.6
ARU pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 30.58 3 P **P** 11 42 47.7 -0.9
comp=Z,1.6nm,0.7s,baz=192,slow=9.9,SNR=6.1
ARCES ARCESS Array B 30.58 3 *eP* **P** 11 42 46.7 -1.9
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 30.58 3 P **P** 11 42 47.7 -0.9
TOA0 Torodi Ar. Sit 31.29 220 P **P** 11 42 56.2 +0.9
TOA0 lAmb lAmb 11 42 59.6
comp=Z,5.9nm,1.2s
TORD Torodi Ar. Bea 31.29 220 P **P** 11 42 55.4 +0.1
comp=Z,0.8nm,0.4s,baz=32,slow=9.5,SNR=18
TORD Torodi Ar. Bea 31.29 220 P **P** 11 42 56.1 +0.8
BRVK Borovoye 35.80 51 *i* P **P** 11 43 35.1 +0.8
BRVK pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 36.64 68 P **P** 11 43 41.4 -0.2
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 36.64 68 P **P** 11 43 41.4 -0.2
KKAR Karatay Array 36.64 68 P **P** 11 43 40.9 -0.7
KKAR Karatay Array 36.64 68 P **P** 11 43 40.9 -0.7
AAK Ala-Archa 39.60 67 *i* P **P** 11 44 07.1 +0.4
AAK pmax pmax
comp=Z,4.0nm,0.8s
BOOM Boomskoye usch 40.67 67 P **P** 11 44 15.6 0.0
BOOM pmax pmax
comp=Z,3.0nm,0.7s
BOOM Boomskoye usch 40.67 67 P **P** 11 44 15.6 0.0
KURBB Kurchatov Arra 40.99 54 P **P** 11 44 17.3 -0.6
comp=Z,1.4nm,0.6s,baz=283,slow=9.2,SNR=8.1
KURK Kurchatov 41.03 54 P **P** 11 44 17.3 -1.0
KURK Kurchatov 41.03 54 P **P** 11 44 17.3 -1.0
MK31 Makanchi Array 44.08 59 P **P** 11 44 43.2 0.0
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 44.08 59 P **P** 11 44 43.2 0.0
MK31 lAmb lAmb 11 44 43.5
comp=Z,3.5nm,0.6s
MKAR Makanchi Array 44.08 59 P **P** 11 44 43.0 -0.2
comp=Z,4.5nm,0.5s,baz=276,slow=7.5,SNR=64
MKAR Makanchi Array 44.08 59 P **P** 11 44 43.2 0.0
ZAA0 Zalesovo Array 44.43 49 P **P** 11 44 45.5 -0.3
ZAA0 lAmb lAmb 11 44 45.9
comp=Z,5.9nm,0.6s
ZALV Zalesovo Beam 44.43 49 P **P** 11 44 45.2 -0.7
comp=Z,6.1nm,0.5s,baz=278,slow=8.8,SNR=17
ZALV Zalesovo Beam 44.43 49 *eP* **P** 11 44 45.3 -0.5
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 44.43 49 P **P** 11 44 45.5 -0.3
YKA Yellowknife Ar 72.83 340 P **P** 11 48 03.5 0.0
comp=Z,0.4nm,0.7s,baz=38,slow=5.5,SNR=5.7
YKA Yellowknife Ar 72.83 340 *i* P **P** 11 48 04.0 +0.5
BMAR Burnt Mountain 73.29 354 P **P** 11 48 07.1 +0.9
MLY Manley 76.04 357 P **P** 11 48 22.8 +0.5
ILAR Eielson Array 76.08 355 P **P** 11 48 23.0 +0.6
comp=Z,0.5nm,0.6s,baz=342,slow=3.3,SNR=9.0
ILAR Eielson Array 76.08 355 P **P** 11 48 22.7 +0.3
DAWY Dawson 76.09 352 P **P** 11 48 23.3 +0.8
DAWY lAmb lAmb 11 48 24.0
comp=Z,3.2nm,0.7s
SCRK Sand Creek 76.64 354 P **P** 11 48 25.9 +0.2
DOT Dot Lake 76.97 354 P **P** 11 48 28.4 +0.9
DOT lAmb lAmb 11 48 29.2
comp=Z,2.9nm,0.8s
BPAW Bear Paw Mtn. 76.98 357 P **P** 11 48 27.8 +0.3
BPAW lAmb lAmb 11 48 28.2
comp=Z,2.0nm,0.6s
MCK McKinley 77.25 356 P **P** 11 48 29.3 +0.3
MCK pmax pmax
comp=Z,7.0nm,1.1s
MCK McKinley 77.25 356 P **P** 11 48 29.3 +0.3
MCK lAmb lAmb 11 48 30.3
comp=Z,7.1nm,1.1s
BCAR Beaver Creek A 77.33 352 P **P** 11 48 30.2 +0.7
PPLA Purkeypile 78.24 357 P **P** 11 48 35.3 +0.6
PPLA lAmb lAmb 11 48 35.5
comp=Z,7.5nm,1.3s
SUA Susitna One 79.61 356 P **P** 11 48 43.1 +0.9

SVW2	**Sparrevohn**	**80.14**	**359**	P	**P**	**11 48 45.5**	**+0.5**
SVW2				IAmb	IAmb	11 48 46.6	
	comp=Z,4.4nm,1.0s						
KDAK	**Kodiak Island**	**83.37**	**357**	P	**P**	**11 49 02.1**	**+0.1**
KDAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KDAK	**Kodiak Island**	**83.37**	**357**	P	**P**	**11 49 02.1**	**+0.1**
OHAK	**Old Harbor**	**83.96**	**357**	P	**P**	**11 49 05.4**	**+0.4**
SDPT	**Sand Point**	**85.91**	**1**	P	**P**	**11 49 15.0**	**+0.2**
WRA	**Warramunga Arr**	**119.70**	**92**	PKP	**PKPdf**	**11 55 24.3**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=314,slow=1.6,SNR=7.5						
ASAR	**Alice Springs**	**121.40**	**96**	PKP	**PKPdf**	**11 55 27.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=303,slow=1.2,SNR=12						

*IDC **29** 11:37:53.7±0.9, 46.°19N×119.°07E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.5/50, mbtmp3.6/10, ML2.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/39, Error ellipse: s-maj=28.1km s-min=17.3km az=18.0*

*BJI **29** 11:37:54.0±0.0, 46.°40N×119.°15E, h10km, mB4.3/4, mb4.0/2, ML4.4/13, Ms3.8/4, Ms7 3.4/3*

ISC 29 11:37:55.4±0.8, 46.°19N±0.°08×119.°1E±0.°1, h10km, n16, σ0°75/12, mb3.7/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Beijing**	**6.51**	**200**	Pg	**Pg**	**11 39 59.3**	**-0.7**
BJI				Sg	**Sg**	**11 41 25.0**	**+0.8**
BJI				SMN			
	210nm,1.0s						
BJI				SME			
	290nm,0.8s						
SONM	**Songino Array**	**8.85**	**285**	Pn	Pn	11 39 58.4	-5.0
	0.5nm,0.3s,baz=98,slow=13,SNR=3.3						
SONM				Lg	Lg	11 42 28.2	
	15nm,0.3s,baz=93,slow=26,SNR=15						
USRK	**Ussuriysk Ar.**	**9.31**	**98**	Pn	**Pn**	**11 40 09.4**	**-0.2**
	baz=296,slow=15,SNR=6.2						
USRK				Lg	Lg	11 42 47.6	
	baz=291,slow=16,SNR=5.0						
KSRS	**Korea Array**	**10.92**	**140**	Lg	Lg	11 43 40.5	
	0.1nm,0.3s,baz=177,slow=24,SNR=4.1						
KSRS				LR	LR	11 45 25.3	
	comp=Z,86nm,18.3s,baz=220,slow=41						
TLY	**Talaya**	**11.56**	**304**	Lg	Lg	11 43 53.3	
	0.0nm,0.3s,baz=42,slow=13,SNR=8.6						
WMQ	**Urumqi**	**22.27**	**275**	*e*P	**P**	**11 42 53.5**	**+1.0**
MKAR	**Makanchi Array**	**25.21**	**285**	P	**P**	**11 43 21.5**	**+0.3**
	0.9nm,0.9s,baz=88,slow=10,SNR=5.8						
PETK	**Petropavlovsk-**	**25.68**	**60**	P	**P**	**11 43 25.2**	**0.0**
	1.0nm,0.7s,baz=259,slow=6.8,SNR=4.6						
KURBB	**Kurchatov Arra**	**27.05**	**294**	P	**P**	**11 43 37.1**	**-0.7**
	1.7nm,0.9s,baz=82,slow=9.4,SNR=7.9						
ARCES	**ARCESS Array B**	**48.86**	**332**	LR	LR	12 10 22.1	
	comp=Z,47nm,19.1s,baz=125,slow=40						
ILAR	**Eielson Array**	**51.02**	**33**	P	**P**	**11 46 57.9**	**+0.8**
	0.4nm,0.8s,baz=286,slow=8.3,SNR=6.7						
FINES	**FINESS Array B**	**52.19**	**323**	P	P	11 47 04.1	-1.7
	1.3nm,0.6s,baz=55,slow=7.2,SNR=4.1						
FINES				LR	LR	12 12 23.1	
	comp=Z,50nm,18.9s,baz=194,slow=40						
AKASG	**Malin Array Be**	**56.22**	**310**	P	**P**	**11 47 34.2**	**-1.2**
	0.5nm,0.5s,baz=46,slow=8.2,SNR=4.7						
GERES	**GERESS Array B**	**65.29**	**315**	P	**P**	**11 48 37.9**	**+0.6**
	0.4nm,0.6s,baz=347,slow=4.7,SNR=3.5						
WRA	**Warramunga Arr**	**67.25**	**164**	P	**P**	**11 48 50.0**	**+0.1**
	0.5nm,0.8s,baz=350,slow=4.8,SNR=2.0						
ASAR	**Alice Springs**	**70.80**	**166**	P	**P**	**11 49 12.0**	**0.0**
	0.4nm,1.0s,baz=1.2,slow=6.8,SNR=2.8						

IDC 29 12:12:45.8±96.0, 49.°86S×124.°42E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, MS3.7/1, Ms1 3.6/1, ms1mx3.1/8, Error ellipse: s-maj=1598.0km s-min=121.9km az=6.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.74**	**329**	T	T	12 33 53.1	
	baz=153,slow=74,SNR=28						
H01W2	**Cape Leeuwin H**	**16.74**	**329**	T	T	12 34 05.9	
	baz=153,slow=74,SNR=28						
H01W3	**Cape Leeuwin H**	**16.75**	**329**	T	T	12 33 55.4	
	baz=153,slow=74,SNR=28						
STKA	**Stephens Creek**	**22.07**	**42**	P	P	12 17 42.2	0.0
	2.1nm,0.9s,baz=204,slow=12,SNR=5.0						
STKA				LR	LR	12 24 34.1	
	comp=Z,174nm,18.8s,baz=38,slow=32						
ASAR	**Alice Springs**	**27.18**	**19**	P	P	12 18 31.0	0.0
	0.5nm,0.7s,baz=197,slow=8.7,SNR=6.4						
WRA	**Warramunga Arr**	**30.88**	**18**	P	P	12 19 03.9	0.0
	0.3nm,0.8s,baz=195,slow=10,SNR=0.8						

*IPEC **29** 13:00:42.1±0.1, 50.°19N×19.°13E, h0km±1km, ML2.5/3, Error ellipse: s-maj=2.4km s-min=0.8km az=166.0*

*PRU **29** 13:00:42.0±0.0, 50.°17N×19.°12E, h0km*

ISC 29 13:00:42.1±0.8, 50.°08N±0.°04×19.°12E±0.°02, h0km, n24, σ0°58/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**72**	*e*Pg	**Pg**	**13 00 50.3**	**-0.5**
OJC				*e*Sg	**Sg**	**13 00 56.1**	**-0.6**
OKC	**Ostrava-Krasne**	**0.68**	**249**	*e*PG	**Pb**	**13 00 56.3**	**-0.5**
OKC				*e*SG	**Sb**	**13 01 06.1**	**-0.6**
	comp=Z,44nm,0.7s						
LANS	**Liptovska Anna**	**0.96**	**166**	*e*PG	**Pb**	**13 01 01.4**	**-0.3**
LANS				*e*SG	**Sb**	**13 01 15.1**	**+0.2**
LANS				*e*LG	Lg	13 01 17.0	
NIE	**Niedzica**	**1.01**	**131**	*e*Pg	**Pg**	**13 01 01.7**	**+0.2**
NIE				*e*Sg	**Sb**	**13 01 17.0**	**+0.5**
MORC	**Moravsky Berou**	**1.07**	**254**	*e*PG	**Pb**	**13 01 03.5**	**0.0**
MORC				*e*SG	**Sg**	**13 01 16.7**	**+0.4**
MORC	**Moravsky Berou**	**1.07**	**254**	*e*Pg	**Pb**	**13 01 03.4**	**0.0**
	baz=67						
MORC				*e*Sg	**Sg**	**13 01 16.7**	**+0.4**
	63nm,0.4s,baz=67						
KRLC	**Kraliky**	**1.51**	**271**	*e*PG	**Pn**	**13 01 09.3**	**-1.1**
KRLC				*e*SG	**Sg**	**13 01 30.3**	**-0.2**
	comp=Z,42nm,0.8s						
JAVC	**Velka Javorina**	**1.55**	**218**	*e*PG	**Pb**	**13 01 11.8**	**+0.1**
JAVC	**Velka Javorina**	**1.55**	**218**	*e*Pg	**Pb**	**13 01 11.7**	**+0.1**
	baz=35						
VYHS	**Vyhne**	**1.60**	**187**	*e*PN	**Pn**	**13 01 11.5**	**-0.2**
VYHS				*e*SN	**Sn**	**13 01 32.7**	**-0.4**
VYHS				*e*LG	Lg	13 01 34.9	
VRAC	**Vranov**	**1.82**	**246**	*e*PN	**Pn**	**13 01 15.4**	**+0.8**
VRAC				*e*SG	**Sg**	**13 01 40.6**	**+0.1**
VRAC	**Vranov**	**1.82**	**246**	*e*Pn	**Pn**	**13 01 15.3**	**+0.7**
	baz=61						
VRAC				*e*Sg	**Sg**	**13 01 40.5**	**+0.1**
	28nm,0.4s,baz=61						
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG	**Pn**	**13 01 14.6**	**-0.1**
DPC				*e*SG	**Sn**	**13 01 38.4**	**-0.1**
	comp=Z,26nm,0.4s						
KECS	**Kecovo**	**1.83**	**150**	*e*SN	**Sn**	**13 01 38.2**	**-0.6**
OSTC	**Ostas**	**1.92**	**285**	*e*PG	**Pn**	**13 01 16.3**	**+0.2**
OSTC				*e*SG	**Sb**	**13 01 42.3**	**-0.3**
	comp=Z,20nm,0.6s						
CRVS	**Cervenica-Dubn**	**1.93**	**127**	*e*PG	**Pb**	**13 01 18.8**	**+0.6**
CRVS				*e*SN	**Sg**	**13 01 44.4**	**+0.3**
KSP	**Ksiaz**	**1.96**	**294**	*e*Pg	**Pb**	**13 01 19.1**	**+0.4**
KSP				*e*Sg	**Sg**	**13 01 45.8**	**+0.8**
CHVC	**Chvalec**	**2.03**	**286**	*e*PG	**Pn**	**13 01 17.6**	**0.0**
CHVC				*e*SG	**Sb**	**13 01 45.4**	**-0.3**
	comp=Z,13nm,0.5s						
KRUC	**Moravsky**	**2.05**	**241**	*e*PN	**Pn**	**13 01 18.3**	**+0.5**
KRUC				*e*SG	**Sg**	**13 01 47.8**	**-0.1**
KRUC	**Moravsky**	**2.05**	**241**	*e*Pn	**Pn**	**13 01 18.3**	**+0.5**
	baz=56						
KRUC				*e*Sg	**Sg**	**13 01 47.7**	**-0.1**
	24nm,0.6s,baz=56						
MODS	**Modra-Piesok**	**2.10**	**216**	*e*SN	**Sb**	**13 01 46.9**	**-0.6**
PRU	**Pruhonice**	**2.96**	**270**	*e*SG	**Sb**	**13 02 14.3**	**+2.1**
	comp=Z,8.7nm,0.4s						
CKRC	**Cesky Krumlov**	**3.38**	**250**	*e*SG	**Sg**	**13 02 29.8**	**-1.0**
	comp=Z,14nm,0.6s						
KHC	**Kasperske Hory**	**3.73**	**257**	*e*PN	**Pn**	**13 01 41.5**	**+0.5**
KHC				*e*SG	**Sg**	**13 02 41.3**	**-0.6**
	comp=Z,9.8nm,0.6s						

*NEIC **29** 13:06:32.0±1.2, 5.°8S±0.°1×156.°06E±0.°09, h15km±6km, mb4.3/12, Error ellipse: s-maj=21.6km s-min=11.1km az=203.0*

*IDC **29** 13:06:48.1±1.2, 7.°57S×154.°85E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/27, mbtmp3.9/10, Error ellipse: s-maj=40.7km s-min=19.3km az=119.0*

ISC 29 13:06:52.7±1.0, 7.°6S±0.°1×155.°0E±0.°2, h31km, n23, σ1§44/21, mb4.0/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.97**	**256**	Pn	**Pn**	**13 08 48.5**	**+2.0**
CTAO	**Charters Tower**	**15.04**	**213**	Pn	**P**	**13 10 29.7**	**+1.5**
CTAO				IAmb	IAmb	13 10 38.6	
	comp=Z,53nm,1.4s						
DZM	**Mont Dzumac**	**18.13**	**144**	P	Pn	13 10 52.0	-10
DZM				IAmb	IAmb	13 11 06.2	
	comp=Z,32nm,1.3s						
WR0	**Warramunga Arr**	**23.34**	**236**	P	**P**	**13 11 56.7**	**-1.8**
WR0				IAmb	IAmb	13 12 00.2	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**23.36**	**237**	P	**P**	**13 11 57.4**	**-1.5**
WB0				IAmb	IAmb	13 12 18.5	
	comp=Z,4.6nm,1.1s						
WRAB	**Tennant Creek**	**23.48**	**236**	P	**P**	**13 11 58.6**	**-1.4**
WRAB				IAmb	IAmb	13 12 00.1	
	comp=Z,4.7nm,1.1s						
WB2	**Warramunga Arr**	**23.48**	**236**	P	**P**	**13 11 58.6**	**-1.4**
WB2				IAmb	IAmb	13 12 03.1	
	comp=Z,8.6nm,1.2s						
WRA	**Warramunga Arr**	**23.49**	**236**	P	**P**	**13 11 58.4**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=61,slow=10,SNR=9.4						
WRA	**Warramunga Arr**	**23.49**	**236**	P	**P**	**13 11 58.4**	**-1.7**
AS31	**Alice Springs**	**25.79**	**229**	P	**P**	**13 12 20.2**	**-1.0**
ASAR	**Alice Springs**	**25.79**	**229**	P	**P**	**13 12 19.7**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=63,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**25.79**	**229**	P	**P**	**13 12 19.7**	**-1.5**
STKA	**Stephens Creek**	**27.20**	**206**	P	**P**	**13 12 33.4**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=8.1,slow=14,SNR=3.9						
STKA	**Stephens Creek**	**27.20**	**206**	P	**P**	**13 12 33.1**	**-0.8**
FORT	**Forrest**	**34.17**	**224**	P	**P**	**13 13 33.6**	**-1.7**
SMRI	**Semarang**	**44.19**	**268**	P	P	13 14 50.0	-9.3
KSRS	**Korea Array**	**51.47**	**332**	P	**P**	**13 15 54.3**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=148,slow=8.5,SNR=5.6						
USRK	**Ussuriysk Ar.**	**55.59**	**340**	P	**P**	**13 16 24.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=128,slow=9.3,SNR=2.7						
PETK	**Petropavlovsk-**	**60.51**	**2**	P	**P**	**13 16 59.9**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=148,slow=8.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**61.05**	**296**	P	**P**	**13 17 03.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=120,slow=5.5,SNR=2.4						
MKAR	**Makanchi Array**	**83.86**	**319**	P	**P**	**13 19 19.6**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=98,slow=7.5,SNR=13						
ILAR	**Eielson Array**	**83.92**	**21**	P	**P**	**13 19 18.6**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=250,slow=4.8,SNR=19						
NVAR	**Mina Array Bea**	**92.08**	**52**	P	**P**	**13 20 01.5**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=254,slow=5.8,SNR=6.9						

NNC 29 13:29:08.9±4.8, 36.°99N×71.°01E, h0km, mb4.1, mpv3.8, 3C-3D, Error ellipse: s-maj=38.2km s-min=35.6km az=131.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**357**	⇑P	Pn	13 30 39.8	-0.7
	5.8nm,0.4s,baz=180,slow=12,SNR=36						
KK31				⇓S	Sn	13 31 53.0	+1.8
	0.8nm,0.3s,baz=189,slow=22,SNR=4.0						
AAK	**Ala-Archa**	**6.24**	**24**	⇑P	Pn	13 30 41.4	-1.0
	1.8nm,0.3s						
AAK				⇑S	Sn	13 31 54.9	+0.4
	4.9nm,0.6s						
TKM2	**Tokmak 2**	**6.89**	**29**	⇓P	Pn	13 30 53.1	+1.8
	3.2nm,0.5s						
TKM2				⇓S	Sn	13 32 11.9	+1.3
	2.8nm,1.1s						

*IDC **29** 13:52:09.5±1.2, 23.°91N×45.°82W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.7/36, mbtmp3.6/7, MS3.3/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=32.5km s-min=28.0km az=12.0*

ISC 29 13:52:11.0±1.0, 23.°9N±0.°2×45.°8W±0.°2, h10km, n18, σ0§48/7, mb3.8/7, MS3.3/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**17.02**	**239**	T	T	14 13 13.0	
	SNR=5.4						
MDP	**Montagnes des**	**19.82**	**200**	LR	LR	14 02 18.5	
	comp=Z,76nm,21.3s,baz=26,slow=31						
SJG	**San Juan**	**19.83**	**257**	LR	LR	14 02 48.8	
	comp=Z,56nm,20.4s,baz=72,slow=32						
PTGA	**Pitinga**	**28.08**	**211**	LR	LR	14 07 02.0	
	comp=Z,105nm,20.9s,baz=111,slow=32						
SCHQ	**Schefferville**	**34.62**	**339**	LR	LR	14 10 33.2	
	comp=Z,51nm,19.7s,baz=214,slow=32						
ESDC	**Sonseca Array**	**38.52**	**56**	LR	LR	14 11 50.6	
	comp=Z,52nm,20.5s,baz=235,slow=31						
H10N2	**ASCENSION HYDR**	**43.93**	**132**	T	T	14 46 58.0	
	baz=316,slow=75,SNR=125						
H10N3	**ASCENSION HYDR**	**43.93**	**132**	T	T	14 46 58.0	
	baz=316,slow=75,SNR=99						
H10N1	**ASCENSION HYDR**	**43.95**	**132**	T	T	14 47 03.9	
	baz=316,slow=75,SNR=158						
H10S3	**ASCENSION HYDR**	**44.63**	**133**	T	T	14 47 49.9	
	baz=316,slow=74,SNR=179						
H10S2	**ASCENSION HYDR**	**44.65**	**133**	T	T	14 47 51.1	
	baz=264,slow=74,SNR=59						
LPAZ	**La Paz**	**45.51**	**211**	P	**P**	**14 00 31.2**	**-0.3**
	1.6nm,0.9s,baz=22,slow=12,SNR=3.5						
LPAZ				LR	LR	14 19 05.9	
	comp=Z,65nm,18.8s,baz=196,slow=36						
TORD	**Torodi Ar. Bea**	**46.11**	**95**	P	**P**	**14 00 36.1**	**+0.4**
	1.5nm,0.8s,baz=304,slow=8.5,SNR=4.1						
TXAR	**Lajitas Array**	**51.57**	**289**	P	**P**	**14 01 18.0**	**+0.4**
	0.2nm,0.6s,baz=94,slow=8.2,SNR=2.3						
NOA	**NORSAR Array B**	**53.53**	**31**	P	**P**	**14 01 31.2**	**-0.4**
	1.2nm,0.9s,baz=254,slow=7.7,SNR=3.6						
NOA				LR	LR	14 20 01.9	
	comp=Z,23nm,20.4s,baz=110,slow=31						
PDAR	**Pinedale Array**	**55.20**	**306**	P	**P**	**14 01 44.5**	**+0.1**
	0.7nm,0.7s,baz=73,slow=5.0,SNR=7.2						
YKA	**Yellowknife Ar**	**59.30**	**331**	P	**P**	**14 02 12.2**	**-0.5**
	0.5nm,0.8s,baz=96,slow=7.9,SNR=6.1						
ILAR	**Eielson Array**	**73.22**	**334**	P	**P**	**14 03 42.3**	**+0.4**
	0.5nm,0.7s,baz=82,slow=5.5,SNR=4.5						

*KRSC **29** 13:52:30.1±1.8, 53.°58N×163.°34E, h80km±32km, ML4.9*

*MOS **29** 13:52:31.5±0.8, 53.°54N×163.°42E, h38km, mb4.6/20, MS3.7/5, Error ellipse: s-maj=5.6km s-min=4.4km az=98.3*

*IDC **29** 13:52:33.8±2.9, 53.°67N×163.°18E, h39km±25km, mb3.7/16, mb1 4.0/19, mb1mx3.8/57, mbtmp4.0/19, ML4.3/4, MS3.5/12, Ms1 3.5/12, ms1mx3.3/37, Error ellipse: s-maj=21.8km s-min=13.2km az=146.0*

*NEIC **29** 13:52:33.7±1.7, 53.°57N±0.°10×163.°3E±0.°1, h37km±6km, mb4.4/71, Error ellipse: s-maj=14.2km s-min=9.0km az=174.0*

ISC 29 13:52:30.5±2.3, 53.°55N±0.°04×163.°38E±0.°04, h16km±14km, n250, σ1§36/288, mb4.4/61, MS3.6/12, 5C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.40**	**317**	PN	**Pn**	**13 52 55.4**	**0.0**
MKZ				S	**Sn**	**13 53 12.5**	**-1.0**
MKZ	**Mys Kozlova**	**1.40**	**317**	*e*P	**Pn**	**13 52 55.4**	**0.0**
MKZ				*e*S	**Sn**	**13 53 12.5**	**-1.0**
SPN	**Mys Shipunski**	**2.06**	**259**	PN	**Pn**	**13 53 04.6**	**+0.1**
SPN				S	**Sn**	**13 53 27.6**	**-2.3**
SPN	**Mys Shipunski**	**2.06**	**259**	*e*P	**Pn**	**13 53 04.6**	**+0.1**
SPN				*e*S	**Sn**	**13 53 27.6**	**-2.3**
BKI	**Bering**	**2.25**	**41**	PN	**Pn**	**13 53 06.7**	**-0.3**
BKI				S	**Sn**	**13 53 31.1**	**-3.3**
BKI	**Bering**	**2.25**	**41**	*e*P	**Pn**	**13 53 06.7**	**-0.3**
BKI				*e*S	**Sn**	**13 53 31.1**	**-3.3**
KII	**Karymskiy**	**2.38**	**283**	PN	**Pn**	**13 53 09.1**	**+0.1**
KII	**Karymskiy**	**2.38**	**283**	*e*P	**Pn**	**13 53 09.1**	**+0.1**
KZV	**Kizimen**	**2.39**	**312**	PN	**Pn**	**13 53 09.1**	**-0.1**
KZV				S	**Sn**	**13 53 36.0**	**-2.2**
KZV	**Kizimen**	**2.39**	**312**	*e*P	**Pn**	**13 53 09.1**	**-0.1**
KZV				*e*S	**Sn**	**13 53 36.0**	**-2.2**
TUMD	**Tumrok D**	**2.41**	**315**	*e*P	**Pn**	**13 53 08.8**	**-0.4**
TUMD				*e*S	**Sn**	**13 53 36.1**	**-2.3**
NLC	**Nalytchevo**	**2.45**	**263**	PN	**Pn**	**13 53 10.2**	**+0.4**
NLC				S	**Sn**	**13 53 37.5**	**-1.8**
NLC	**Nalytchevo**	**2.45**	**263**	*e*P	**Pn**	**13 53 10.2**	**+0.4**
NLC				*e*S	**Sn**	**13 53 37.5**	**-1.8**
TUMR	**Tumrok**	**2.57**	**314**	PN	**Pn**	**13 53 11.6**	**+0.1**
TUMR				S	**Sn**	**13 53 41.1**	**-1.4**
TUMR	**Tumrok**	**2.57**	**314**	*e*P	**Pn**	**13 53 11.6**	**+0.1**
TUMR				*e*S	**Sn**	**13 53 41.1**	**-1.4**
KBTR	**Krutoberegovo**	**2.68**	**353**	PN	**Pn**	**13 53 12.1**	**-0.9**
KBTR				S	**Sn**	**13 53 42.4**	**-2.8**
KBTR	**Krutoberegovo**	**2.68**	**353**	*e*P	**Pn**	**13 53 12.1**	**-0.9**
KBTR				*e*S	**Sn**	**13 53 42.4**	**-2.8**
SDLR	**Sedlovina**	**2.70**	**266**	PN	**Pn**	**13 53 14.1**	**+0.7**
SDLR				S	**Sn**	**13 53 44.3**	**-1.6**
SDLR	**Sedlovina**	**2.70**	**266**	*e*P	**Pn**	**13 53 14.1**	**+0.7**
SDLR				*e*S	**Sn**	**13 53 44.3**	**-1.6**
KBG	**Krutoberegovo**	**2.74**	**352**	PN	**Pn**	**13 53 12.9**	**-0.9**
KBG				S	**Sn**	**13 53 43.4**	**-3.1**
KBG	**Krutoberegovo**	**2.74**	**352**	*e*P	**Pn**	**13 53 12.9**	**-0.9**
KBG				*e*S	**Sn**	**13 53 43.4**	**-3.1**
UGLR	**Uglovaya**	**2.75**	**265**	PN	**Pn**	**13 53 15.0**	**+0.9**
UGLR				S	**Sn**	**13 53 45.7**	**-1.3**
UGLR	**Uglovaya**	**2.75**	**265**	*e*P	**Pn**	**13 53 15.0**	**+0.9**
UGLR				*e*S	**Sn**	**13 53 45.7**	**-1.3**
SMAR	**Somma**	**2.76**	**266**	PN	**Pn**	**13 53 14.9**	**+0.7**
SMAR	**Somma**	**2.76**	**266**	*e*P	**Pn**	**13 53 14.9**	**+0.7**
KRER	**Koryakskii**	**2.78**	**267**	PN	**Pn**	**13 53 15.5**	**+0.9**
KRER				S	**Sn**	**13 53 47.5**	**-0.4**
KRER	**Koryakskii**	**2.78**	**267**	*e*P	**Pn**	**13 53 15.5**	**+0.9**
KRER				*e*S	**Sn**	**13 53 47.5**	**-0.4**
AVH	**Avacha**	**2.79**	**266**	PN	**Pn**	**13 53 15.7**	**+1.1**
AVH	**Avacha**	**2.79**	**266**	*e*P	**Pn**	**13 53 15.7**	**+1.1**
DALK	**Dalny**	**2.83**	**261**	PN	**Pn**	**13 53 15.3**	**+0.3**
DALK				S	**Sn**	**13 53 47.6**	**-1.0**
DALK	**Dalny**	**2.83**	**261**	*e*P	**Pn**	**13 53 15.3**	**+0.3**
DALK				*e*S	**Sn**	**13 53 47.6**	**-1.0**
KRX	**Arik**	**2.83**	**268**	PN	**Pn**	**13 53 15.8**	**+0.5**
KRX				S	**Sn**	**13 53 47.1**	**-2.0**
KRX	**Arik**	**2.83**	**268**	*e*P	**Pn**	**13 53 15.8**	**+0.5**
KRX				*e*S	**Sn**	**13 53 47.1**	**-2.0**
KOK	**Koryaka**	**2.85**	**267**	PN	**Pn**	**13 53 16.3**	**+0.9**
KOK	**Koryaka**	**2.85**	**267**	*e*P	**Pn**	**13 53 16.3**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**2.86**	**328**	PN	**Pn**	**13 53 16.0**	**+0.5**
BZGR				S	**Sn**	**13 53 48.5**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**2.86**	**328**	*e*P	**Pn**	**13 53 16.0**	**+0.5**
BZGR				*e*S	**Sn**	**13 53 48.5**	**-1.1**
KMNR	**Kamenistaya**	**2.87**	**322**	PN	**Pn**	**13 53 16.7**	**+1.0**
KMNR				S	**Sn**	**13 53 49.2**	**-0.7**
KMNR	**Kamenistaya**	**2.87**	**322**	*e*P	**Pn**	**13 53 16.7**	**+1.0**
KMNR				*e*S	**Sn**	**13 53 49.2**	**-0.7**
PET	**Petropavlovsk**	**2.89**	**261**	*de*PN	**Pn**	**13 53 16.1**	**+0.3**
PET				pmax	pmax		
	comp=Z,247nm,0.6s						
PET	**Petropavlovsk**	**2.89**	**261**	*e*P	**Pn**	**13 53 16.2**	**+0.4**
PET				*e*S	**Sn**	**13 53 48.3**	**-1.8**
PET	**Petropavlovsk**	**2.89**	**261**		**Pn**	**13 53 16.0**	**+0.3**
BZMR	**Bezymyannaya**	**2.92**	**326**	P	**Pn**	**13 53 18.1**	**+1.7**
BZWR	**Bezymyannyi-We**	**2.94**	**327**	PN	**Pn**	**13 53 17.7**	**+1.0**
BZWR	**Bezymyannyi-We**	**2.94**	**327**	*e*P	**Pn**	**13 53 17.7**	**+1.0**
LGNR	**Loginova**	**2.98**	**330**	PN	**Pn**	**13 53 18.4**	**+1.1**
LGNR	**Loginova**	**2.98**	**330**	*e*P	**Pn**	**13 53 18.4**	**+1.1**
KIRR	**Kirishev**	**2.98**	**325**	PN	**Pn**	**13 53 18.6**	**+1.3**
KIRR				S	**Sn**	**13 53 53.4**	**+0.6**
KIRR	**Kirishev**	**2.98**	**325**	*e*P	**Pn**	**13 53 18.6**	**+1.3**
KIRR				*e*S	**Sn**	**13 53 53.4**	**+0.6**
CIRR	**Tsirk**	**2.99**	**330**	PN	**Pn**	**13 53 18.3**	**+0.9**
CIRR	**Tsirk**	**2.99**	**330**	*e*P	**Pn**	**13 53 18.3**	**+0.9**
RUS	**Russkaya**	**3.15**	**251**	PN	**Pn**	**13 53 19.6**	**+0.2**
RUS	**Russkaya**	**3.15**	**251**	*e*P	**Pn**	**13 53 19.6**	**+0.2**
RUS				*e*S	**Sn**	**13 53 54.3**	**-2.3**
KLY	**Klyuchi**	**3.19**	**331**	PN	**Pn**	**13 53 19.3**	**-0.6**
KLY	**Klyuchi**	**3.19**	**331**	P	**Pn**	**13 53 19.3**	**-0.6**
KLY				S	**Sn**	**13 53 53.7**	**-3.8**
KOZ	**Kozyrevsk**	**3.23**	**322**	PN	**Pn**	**13 53 21.9**	**+1.3**
KOZ				S	**Sn**	**13 53 57.2**	**-1.5**
KOZ	**Kozyrevsk**	**3.23**

BILL pmax pmax
comp=Z,20nm,1.8s
BILL MLR MLR
comp=Z,85nm,16.0s
YSS Yuzh-Sakhalins 14.72 252 *eP* **Pn 13 55 56.2 -1.7**
YSS MLR MLR
comp=Z,300nm,19.0s
JKA Kamikawa-asahi 16.57 244 Pn **Pn 13 56 22.5 +0.5**
JKA IAmb IAmb 13 56 46.9
comp=Z,36nm,1.2s
ASAJ Asahikawa 16.57 244 Pn **Pn 13 56 21.6 -0.4**
comp=Z,2.2nm,0.3s,baz=62,slow=14,SNR=21
ASAJ LR LR 14 03 57.7
comp=Z,108nm,18.1s,baz=48,slow=41
ASAJ Asahikawa 16.57 244 P **Pn 13 56 22.5 +0.5**
ASAJ pmax pmax
comp=Z,37nm,1.2s
NIKH Nikolski High 16.59 81 Pn **Pn 13 56 23.1 +0.9**
ERM Erimo 17.75 238 *i* P **Pn 13 56 33.7 -3.1**
ERM pmax pmax
comp=Z,33nm,1.1s
ERM Erimo 17.75 238 Pn **Pn 13 56 33.9 -2.9**
ERM IAmb IAmb 13 56 43.1
comp=Z,29nm,1.1s
YAK Yakutsk 19.66 309 P **P 13 56 54.9 -3.4**
comp=Z,0.2nm,0.3s,baz=90,slow=2.0,SNR=8.1
YAK LR LR 14 05 05.0
comp=Z,165nm,19.6s,baz=91,slow=38
YAK Yakutsk 19.66 309 *ceP* **P 13 56 55.4 -2.9**
YAK pmax pmax
comp=Z,19nm,0.6s
YAK Yakutsk 19.66 309 P **P 13 56 55.0 -3.3**
YAK IAmb IAmb 13 56 56.5
comp=Z,24nm,0.7s
JTM Tenmabayashi 19.72 239 P **P 13 56 55.3 -3.9**
JTM IAmb IAmb 13 57 06.9
comp=Z,38nm,1.1s
KLR Kul'dur 20.11 270 P **P 13 57 02.9 -0.4**
comp=Z,0.4nm,0.3s,baz=76,slow=8.4,SNR=7.0
KLR Kul'dur 20.11 270 *i* P Pn 13 57 05.9 +0.7
KLR pmax pmax
comp=Z,3.0nm,0.9s
RDOG Red Dog Mine 21.54 35 P **P 13 57 16.2 -2.4**
RDOG IAmb IAmb 13 57 35.4
comp=Z,11nm,0.8s
CNBA Chernabura Isl 21.55 72 P **P 13 57 19.9 +1.0**
CNBA IAmb IAmb 13 57 44.4
comp=Z,31nm,1.2s
USRK Ussuriysk Ar. 22.50 258 P **P 13 57 28.7 -0.5**
comp=Z,0.7nm,0.4s,baz=51,slow=13,SNR=4.9
USRK LR LR 14 06 59.0
comp=Z,221nm,20.2s,baz=57,slow=39
TTA Tatalina 22.96 50 P **P 13 57 35.7 +1.8**
TTA pmax pmax
comp=Z,6.0nm,1.0s
TTA Tatalina 22.96 50 P **P 13 57 35.7 +1.8**
JSD Sado 23.22 238 P **P 13 57 36.8 +0.1**
JSD IAmb IAmb 13 57 44.8
comp=Z,21nm,0.9s
TIXI Tiksi 23.53 333 P **P 13 57 38.0 -1.4**
comp=Z,3.9nm,0.7s,baz=118,slow=12,SNR=11
TIXI LR LR 14 08 04.9
comp=Z,99nm,18.4s,baz=168,slow=40
TIXI Tiksi 23.53 333 P **P 13 57 37.3 -2.1**
TIXI pmax pmax
comp=Z,18nm,1.4s
TIXI Tiksi 23.53 333 P **P 13 57 37.3 -2.1**
TIXI IAmb IAmb 13 57 40.2
comp=Z,18nm,1.4s
MJB9 Matsu-Tunnel 24.41 236 P **P 13 57 48.0 -0.1**
MAJO Matsushiro 24.41 236 P **P 13 57 48.2 +0.1**
MAJO pmax pmax
comp=Z,18nm,0.7s
MAJO Matsushiro 24.41 236 P **P 13 57 48.2 +0.1**
MJAR Matsushiro Arr 24.41 236 P **P 13 57 48.6 +0.5**
comp=Z,2.6nm,0.9s,baz=35,slow=9.8,SNR=6.3
MJAR Matsushiro Arr 24.41 236 P **P 13 57 47.8 -0.3**
MJAR pmax pmax
comp=Z,10.0nm,1.4s
MJAR Matsushiro Arr 24.41 236 P **P 13 57 47.8 -0.3**
RSO Redoubt South 24.47 56 P **P 13 57 50.4 +1.7**
OHAK Old Harbor 24.57 64 P **P 13 57 48.5 -0.8**
OHAK IAmb IAmb 13 58 09.7
comp=Z,15nm,1.0s
PPLA Purkeypile 24.70 50 P **P 13 57 49.5 -1.2**
A21K Barrow 24.91 29 P **P 13 57 53.7 +1.4**
SKT Skwentna 25.00 52 P **P 13 57 54.9 +1.6**
SKT IAmb IAmb 13 57 56.3
comp=Z,9.8nm,1.2s
BPAW Bear Paw Mtn. 25.29 47 P **P 13 57 55.7 -0.1**
KTH Kantishna Hill 25.29 49 P **P 13 57 56.4 +0.5**
KTH IAmb IAmb 13 58 10.6
comp=Z,8.3nm,1.2s
CNPM China Poot 25.31 58 P **P 13 57 55.7 -0.4**
MLY Manley 25.46 45 P **P 13 57 57.9 +0.5**
TRF Thorofare Moun 25.57 49 P **P 13 57 58.9 +0.3**
TRF IAmb IAmb 13 58 18.7
comp=Z,6.1nm,0.8s
COLD Coldfoot 25.93 40 P **P 13 58 01.2 -0.4**
I23K Minto, Yukon-K 26.05 45 P **P 13 58 02.6 0.0**
SEW Seward 26.14 56 P **P 13 58 02.8 -0.7**
SEW IAmb IAmb 13 58 13.4
comp=Z,15nm,1.1s
NEA2 Nenana 26.14 46 P **P 13 58 03.4 -0.1**
RND Reindeer 26.22 49 P **P 13 58 04.2 -0.2**
RND pmax pmax
comp=Z,9.0nm,1.2s
RND Reindeer 26.22 49 P **P 13 58 04.2 -0.2**
RND IAmb IAmb 13 58 17.9
comp=Z,9.3nm,1.2s
TOLK Toolik Lake Re 26.41 37 P **P 13 58 07.2 +1.2**
TOLK IAmb IAmb 13 58 21.2
comp=Z,7.0nm,0.9s
SML Sawmill 26.52 53 P **P 13 58 07.1 0.0**
SML IAmb IAmb 13 58 08.6
comp=Z,8.3nm,0.8s
WRH Wood River Hil 26.56 47 P **P 13 58 06.8 -0.6**
WRH IAmb IAmb 13 58 24.7
comp=Z,7.0nm,1.0s
COLA College 26.68 46 *i* P **P 13 58 08.7 +0.4**
COLA pmax pmax
comp=Z,12nm,2.7s
CCB Clear Creek Bu 26.69 46 P **P 13 58 08.5 +0.1**
CCB IAmb IAmb 13 58 22.7
comp=Z,8.5nm,1.2s
SCM Sheep Creek Mo 27.00 52 P **P 13 58 12.0 +0.6**
SCM pmax pmax
comp=Z,15nm,1.1s
SCM Sheep Creek Mo 27.00 52 P **P 13 58 12.0 +0.6**
SCM IAmb IAmb 13 58 28.5
comp=Z,15nm,1.1s
IL31 27.09 46 P **P 13 58 12.4 +0.4**
ILAR Eielson Array 27.09 46 P **P 13 58 11.8 -0.3**
comp=Z,1.0nm,0.8s,baz=259,slow=7.9,SNR=12
ILAR LR LR 14 09 58.0
comp=Z,70nm,18.1s,baz=290,slow=38
BMAR Burnt Mountain 28.12 40 P **P 13 58 21.9 +0.5**
DOT Dot Lake 28.36 48 P **P 13 58 22.9 -0.6**
KSRS Korea Array 29.22 251 P **P 13 58 32.3 +1.0**
comp=Z,1.3nm,0.7s,baz=43,slow=8.9,SNR=5.4
KSRS LR LR 14 09 31.2
comp=Z,131nm,20.9s,baz=71,slow=35
L27K Beaver Creek, 29.41 49 P **P 13 58 33.8 +0.9**
L27K IAmb IAmb 13 58 49.0
comp=Z,9.5nm,1.2s
BCAR Beaver Creek A 29.43 49 P **P 13 58 33.7 +0.7**
EGAK Eagle 29.54 46 P **P 13 58 32.6 -1.3**
INK Inuvik 32.29 38 LR LR 14 12 35.3
comp=Z,46nm,21.6s,baz=307,slow=37
H11N2 WAKE ISLAND Hy 33.87 174 T T 14 37 09.1
baz=355,slow=76,SNR=71
H11N3 WAKE ISLAND Hy 33.88 174 T T 14 37 05.9
baz=355,slow=76,SNR=21
H11N1 WAKE ISLAND Hy 33.88 174 T T 14 37 00.2
baz=355,slow=76,SNR=25
JIS Juneau Island 34.09 57 P **P 13 59 15.2 +1.3**
JIS IAmb IAmb 13 59 41.5
comp=Z,6.4nm,1.0s
C36M Paulatuk 35.54 36 P **P 13 59 26.8 +0.5**
SONM Songino Array 35.70 285 LR LR 14 14 30.5
comp=Z,99nm,21.4s,baz=86,slow=37
HHC Hu-ho-hao-te 36.61 271 *eP* **P 13 59 36.0 +0.1**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,86nm,5.6s
NRIK Noril'sk 36.67 325 *i* P **P 13 59 37.6 +1.6**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
EUNU Eureka 41.03 14 P **P 14 00 12.6 +0.2**
YKA Yellowknife Ar 41.48 44 P **P 14 00 16.9 +0.7**
comp=Z,0.2nm,0.5s,baz=298,slow=7.3,SNR=5.2
YKA Yellowknife Ar 41.48 44 *i* P **P 14 00 18.0 +1.8**
ZALV Zalesovo Beam 44.17 304 LR LR 14 20 26.5
comp=Z,112nm,19.2s,baz=74,slow=38
DGZ Jazzator, Alta 45.22 297 *i* P **P 14 00 46.7 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
WMQ Urumqi 48.66 291 *eP* **P 14 01 16.0 +2.4**
MK31 Makanchi Array 49.72 297 P **P 14 01 20.0 -1.6**
MK31 pmax pmax
comp=Z,3.0nm,1.4s
MK31 Makanchi Array 49.72 297 P **P 14 01 20.0 -1.6**
MKAR Makanchi Array 49.72 297 P **P 14 01 19.2 -2.4**
comp=Z,0.7nm,0.5s,baz=65,slow=5.5,SNR=10
MKAR Makanchi Array 49.72 297 *i* P **P 14 01 19.7 -2.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 49.72 297 P **P 14 01 19.6 -2.0**
JTMT Jette 49.77 61 P **P 14 01 22.8 +0.7**
JTMT IAmb IAmb 14 01 24.5
comp=Z,3.9nm,0.8s
BRVK Borovoye 51.66 310 *i* P **P 14 01 34.4 -1.7**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
FCC Fort Churchill 51.88 40 P **P 14 01 37.5 -0.1**
FCC pmax pmax
comp=Z,16nm,1.3s
FCC Fort Churchill 51.88 40 P **P 14 01 37.5 -0.1**
BCYI Bear Canyon 52.47 64 P **P 14 01 43.7 +1.2**
PNTR Pine Nut 52.54 73 P **P 14 01 45.3 +2.2**
PNTR IAmb IAmb 14 01 46.6
comp=Z,3.7nm,0.8s
WAKR Walker 53.03 73 P **P 14 01 48.0 +1.3**
KVN Kaiserville 53.42 72 P **P 14 01 49.7 +0.1**
KVN pmax pmax
comp=Z,2.0nm,0.8s
KVN Kaiserville 53.42 72 P **P 14 01 49.7 +0.1**
NVAR Mina Array Bea 53.73 73 P **P 14 01 52.8 +0.9**
comp=Z,1.3nm,0.7s,baz=301,slow=6.9,SNR=14
NVAR Mina Array Bea 53.73 73 P **P 14 01 52.9 +1.0**
NV11 Mina Array Sit 53.81 72 P **P 14 01 53.6 +1.2**
NV11 IAmb IAmb 14 01 55.5
comp=Z,4.2nm,1.4s
ARU Arti 54.38 319 *c i* P **P 14 01 56.2 +0.1**
ARU 14 02 55.4
ARU 14 03 54.1
ARU S **S 14 09 33.1 -0.2**
ARU SS **SKiKP 14 13 08.4 +3.2**
ARU pmax pmax
comp=Z,6.0nm,1.1s
ARU MLR MLR
comp=Z,119nm,21.0s
KDJ Kajisay 55.55 296 P **P 14 02 03.5 -1.5**
KDJ pmax pmax
comp=Z,3.0nm,0.7s
KDJ Kajisay 55.55 296 P **P 14 02 03.5 -1.5**
KDJ IAmb IAmb 14 02 05.2
comp=Z,2.8nm,0.7s
PD31 Pinedale Array 55.57 63 P **P 14 02 06.1 +0.9**
PDAR Pinedale Array 55.57 63 P **P 14 02 06.1 +0.9**
SPR3 Spring Creek 3 55.58 69 P **P 14 02 07.1 +1.6**
SPR3 IAmb IAmb 14 02 09.1
comp=Z,3.1nm,0.8s
DUG Dugway, Tooele 55.59 67 P **P 14 02 05.1 -0.2**
DUG pmax pmax
comp=Z,3.0nm,0.7s
DUG Dugway, Tooele 55.59 67 P **P 14 02 05.1 -0.2**
DUG IAmb IAmb 14 02 07.9
comp=Z,3.1nm,0.7s
TPNV Topopah Spring 55.93 72 P **P 14 02 08.1 +0.3**
TPNV pmax pmax
comp=Z,2.0nm,0.8s
TPNV Topopah Spring 55.93 72 P **P 14 02 08.1 +0.3**
TPNV IAmb IAmb 14 02 11.2
comp=Z,2.3nm,0.8s
KIRV Kirov 56.18 325 *ceP* **P 14 02 10.4 +1.4**
AAK Ala-Archa 56.62 298 *ceP* **P 14 02 12.8 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.5s
KLMR Klimovskoe 57.52 331 *eP* P 14 02 13.3 -5.2
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 57.52 331 *eP* P 14 02 13.4 -5.1
KLMR AMP 14 02 26.3
comp=Z,9.0nm,1.1s
ABKAR Akbulak array 58.98 312 P **P 14 02 27.2 -1.7**
PV17 East Wray Mesa 59.05 66 P **P 14 02 30.8 +0.9**
PV18 Skein Mesa, Pa 59.11 66 P **P 14 02 31.0 +0.7**
PV18 IAmb IAmb 14 02 32.6
comp=Z,3.9nm,0.8s
PV05 Paradox Valley 59.12 67 P **P 14 02 32.0 +1.6**
PV03 Paradox Valley 59.13 66 P **P 14 02 31.2 +0.8**
PV03 IAmb IAmb 14 02 32.9
comp=Z,3.1nm,0.9s
PV13 Radium Mtn., P 59.22 66 P **P 14 02 31.6 +0.6**
CMAR Chiang Mai Arr 60.20 261 P **P 14 02 37.6 -0.2**
comp=Z,1.6nm,0.7s,baz=32,slow=8.6,SNR=2.1
FINES FINESS Array B 60.46 338 P **P 14 02 38.6 -0.3**
comp=Z,1.5nm,0.5s,baz=28,slow=8.6,SNR=11
FINES LR LR 14 36 25.3
comp=Z,20nm,18.0s,baz=300,slow=44
FINES FINESS Array B 60.46 338 *i* P **P 14 02 42.0 +3.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
EYMN Ely 60.70 48 P **P 14 02 40.9 +0.1**
EYMN IAmb IAmb 14 02 42.1
comp=Z,3.8nm,0.7s
GAR Garm 61.44 298 P **P 14 02 45.1 -1.0**
OBN Obninsk 63.17 329 *i* P **P 14 02 58.6 +1.4**
OBN *i* 14 05 15.1
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,40nm,16.0s
NB201 NORSAR Array S 63.61 345 P **P 14 02 59.7 -0.4**
NOA NORSAR Array B 63.63 345 P **P 14 02 59.1 -1.2**
comp=Z,0.7nm,0.7s,baz=20,slow=6.5,SNR=3.5
SCHQ Schefferville 64.31 30 P **P 14 03 04.5 -0.3**
comp=Z,2.3nm,0.6s,baz=349,slow=8.8,SNR=4.0
MNTX Cornudas Mount 65.88 69 P **P 14 03 16.4 +1.1**
MNTX IAmb IAmb 14 03 17.9
comp=Z,2.3nm,0.9s
P40A Paris 66.88 54 P **P 14 03 21.6 0.0**
WMOK Wichita Mounta 67.16 62 P **P 14 03 23.5 0.0**
WMOK pmax pmax
comp=Z,3.0nm,0.8s
WMOK Wichita Mounta 67.16 62 P **P 14 03 23.5 0.0**
WMOK IAmb IAmb 14 03 25.7
comp=Z,3.2nm,0.8s
R40A Maddies Statio 67.74 55 P **P 14 03 26.0 -1.1**
R40A IAmb IAmb 14 03 45.7
comp=Z,6.9nm,1.4s
TX31 Lajitas Ar. Si 68.64 69 P **P 14 03 33.2 +0.2**
TX32 Lajitas Array 68.64 69 P **P 14 03 33.0 +0.1**
TX32 IAmb IAmb 14 03 35.1
comp=Z,2.6nm,0.8s
TXAR Lajitas Array 68.64 69 P **P 14 03 33.2 +0.3**
comp=Z,2.1nm,0.6s,baz=301,slow=4.6,SNR=34
TXAR Lajitas Array 68.64 69 P **P 14 03 32.7 -0.2**
TXAR Lajitas Array 68.64 69 P **P 14 03 32.7 -0.2**
AKASG Malin Array Be 69.21 331 P **P 14 03 34.5 -1.5**
comp=Z,0.6nm,0.3s,baz=27,slow=6.6,SNR=4.5
AKASG LR LR 14 37 55.6
comp=Z,62nm,18.5s,baz=235,slow=39
AKASG Malin Array Be 69.21 331 *i* P **P 14 03 38.2 +2.2**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIV Kislovodsk 70.42 319 *eP* **P 14 03 43.0 -0.8**
KIV pmax pmax
comp=Z,71nm,1.0s
KIV MLR MLR
comp=Z,94nm,17.0s
CLL Collm 72.60 341 *eP* **P 14 03 57.0 +0.4**
CLL Collm 72.60 341 *eP* **P 14 03 57.0 +0.4**
N58A Sunbury 72.72 44 P **P 14 03 59.6 +2.1**
UOSS Minazif 79.83 298 P **P 14 04 39.2 +1.1**
ASAR Alice Springs 81.03 207 P **P 14 04 43.5 -0.9**
comp=Z,0.9nm,0.5s,baz=18,slow=5.3,SNR=7.9
ESDC Sonseca Array 86.51 350 P **P 14 05 13.0 +0.5**
comp=Z,0.7nm,0.7s,baz=4.1,slow=4.8,SNR=7.1
ESDC Sonseca Array 86.51 350 IAmb IAmb 14 05 35.5
comp=Z,2.4nm,1.3s

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*IDC **29** 13:55:21.7±6.9, 17.56S×167.61E, h31km±49km, mb4.3/15, mb1 4.5/17, mb1mx4.2/40, mbtmp4.6/17, ML4.4/2, MS4.0/23, Ms1 4.0/23, ms1mx3.8/38, Error ellipse: s-maj=22.3km s-min=16.7km az=75.0*
*NEIC **29** 13:55:21.6±1.9, 17.55S±0.08×167.8E±0.1, h37km±8km, mb4.8/25, Error ellipse: s-maj=16.2km s-min=11.3km az=79.0*

ISC 29 13:55:19.2±0.5, 17.57S±0.06×167.7E±0.1, h19km, n97, σ1s38/81, mb4.9/38, MS4.0/24, 2C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**3.22**	**188**		**Pn**	**13 56 08.8**	**+0.1**
DZM	**Mont Dzumac**	**4.63**	**195**	Pn	**Pn**	**13 56 29.1**	**+0.9**
	8.9nm,0.3s,baz=74,slow=10,SNR=79						
DZM				Sn	**Sn**	**13 57 22.0**	**+0.3**
	44nm,0.3s,baz=145,slow=24,SNR=15						
DZM	**Mont Dzumac**	**4.63**	**195**	*e*Pn	**Pn**	**13 56 29.6**	**+1.3**
	133nm,0.4s						
DZM				*e*Sn	**Sn**	**13 57 18.4**	**-3.2**
	633nm,0.6s						
DZM				*e*LR	LR	13 57 32.0	
	comp=Z,2μm,23.3s						
DZM	**Mont Dzumac**	**4.63**	**195**	Pn	**Pn**	**13 56 29.0**	**+0.7**
ONTNC	**Ouen Toro**	**4.86**	**194**	Pn	**Pn**	**13 56 32.9**	**+1.6**
OUENC	**Ouen Island, N**	**4.89**	**189**		**Pn**	**13 56 32.7**	**+1.0**
PINNC	**Pines Island,**	**5.03**	**183**	Pn	**Pn**	**13 56 34.6**	**+1.0**
MSVF	**Nonsavu**	**9.87**	**93**	LR	LR	14 00 40.8	
	comp=Z,2μm,18.4s,baz=232,slow=32						
HNR	**Honiara**	**11.05**	**316**	Pn	**Pn**	**13 57 56.8**	**+0.4**
	4.5nm,0.3s,baz=242,slow=4.8,SNR=4.8						
HNR				LR	LR	14 01 48.1	
	comp=Z,623nm,18.8s,baz=150,slow=35						
HNR	**Honiara**	**11.05**	**316**	Pn	**Pn**	**13 57 57.0**	**+0.6**
EIDS	**Eidsvold**	**17.30**	**240**	P	**P**	**13 59 24.1**	**+3.0**
RAO	**Raoul Island**	**17.57**	**134**	LR	LR	14 04 44.1	
	comp=Z,337nm,18.9s,baz=312,slow=32						
ARMA	**Armidale**	**19.45**	**226**	P	**P**	**13 59 44.3**	**-0.6**
AFI	**Afiamalu**	**20.08**	**82**	LR	LR	14 05 27.7	
	comp=Z,372nm,19.7s,baz=228,slow=30						
CTA	**Charters Tower**	**20.45**	**260**	P	Pn	13 59 58.6	+0.6
	25nm,1.1s,baz=75,slow=13,SNR=4.2						
CTA				LR	LR	14 07 48.7	
	comp=Z,551nm,18.2s,baz=122,slow=37						
PMG	**Port Moresby**	**21.55**	**289**	LR	LR	14 07 27.0	
	comp=Z,442nm,20.0s,baz=138,slow=34						
URZ	**Urewera**	**22.20**	**160**	P	**P**	**14 00 16.3**	**+1.9**
	11nm,0.8s,baz=303,slow=23,SNR=7.8						
URZ	**Urewera**	**22.20**	**160**	P	**P**	**14 00 14.2**	**-0.2**
URZ				IAmb	IAmb	14 00 24.8	
	comp=Z,66nm,1.4s						
BKZ	**Black Stump Fm**	**22.84**	**162**	P	**P**	**14 00 21.8**	**+0.5**
BKZ				IAmb	IAmb	14 00 45.6	
	comp=Z,28nm,1.1s						
BFZ	**Birch Farm**	**24.19**	**164**	P	**P**	**14 00 34.4**	**0.0**
CAN	**Canberra**	**24.28**	**220**	P	**P**	**14 00 36.7**	**+1.3**
CAN				IAmb	IAmb	14 00 39.6	
	comp=Z,35nm,1.2s						
STKA	**Stephens Creek**	**27.57**	**234**	P	**P**	**14 01 06.8**	**+1.7**
	comp=Z,15nm,0.9s,baz=59,slow=8.3,SNR=28						
STKA				LR	LR	14 12 10.4	
	comp=Z,449nm,19.1s,baz=37,slow=37						
STKA	**Stephens Creek**	**27.57**	**234**	P	**P**	**14 01 06.4**	**+1.2**
GENI	**Genyem**	**30.85**	**296**	P	**P**	**14 01 33.8**	**-0.6**
	comp=Z,48nm,1.3s						
WRA	**Warramunga Arr**	**31.65**	**260**	P	**P**	**14 01 41.1**	**-0.4**
	comp=Z,9.6nm,0.9s,baz=88,slow=8.7,SNR=31						
AS31	**Alice Springs**	**32.16**	**253**	P	**P**	**14 01 45.8**	**-0.2**
ASAR	**Alice Springs**	**32.16**	**253**	P	**P**	**14 01 45.9**	**-0.1**
	comp=Z,17nm,0.9s,baz=80,slow=8.8,SNR=96						
ASAR				PcP	**PcP**	**14 04 33.5**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=83,slow=2.2,SNR=4.4						
ASAR				LR	LR	14 14 19.6	
	comp=Z,578nm,19.9s,baz=102,slow=36						
BBOO	**Buckleboo**	**32.25**	**236**	P	**P**	**14 01 47.3**	**+0.7**
BBOO				IAmb	IAmb	14 01 48.8	
	comp=Z,19nm,0.9s						
KNRA	**Kununurra**	**37.32**	**267**	P	**P**	**14 02 30.0**	**-0.5**
FORT	**Forrest**	**38.28**	**242**	P	**P**	**14 02 38.5**	**-0.1**
FORT				IAmb	IAmb	14 02 40.2	
	comp=Z,20nm,0.9s						
SIJI	**Sorong**	**39.48**	**291**	P	**P**	**14 02 47.9**	**-0.9**
	comp=Z,22nm,0.9s,baz=96,slow=14,SNR=4.8						
SIJI				LR	LR	14 18 15.1	
	comp=Z,235nm,20.2s,baz=216,slow=35						
FITZ	**Fitzroy Crossi**	**39.98**	**263**	P	**P**	**14 02 53.5**	**+0.5**
	comp=Z,29nm,0.8s,baz=102,slow=7.2,SNR=41						
FITZ				LR	LR	14 18 42.4	
	comp=Z,363nm,21.0s,baz=100,slow=35						
FITZ	**Fitzroy Crossi**	**39.98**	**263**	P	**P**	**14 02 53.0**	**+0.1**
TBI	**Tubuai**	**40.44**	**106**	*e*LR	LR	14 14 27.7	
	comp=Z,270nm,28.5s						
PPT2	**Papeete2**	**40.66**	**97**	*e*LR	LR	14 14 34.2	
	comp=Z,346nm,24.8s						
PPT	**Papeete**	**40.66**	**97**	LR	LR	14 16 25.0	
	comp=Z,95nm,20.8s,baz=308,slow=31						
BATI	**Baumata**	**43.29**	**274**	LR	LR	14 22 37.2	
	comp=Z,283nm,18.2s,baz=243,slow=38						
PSA00	**Pilbara Seismi**	**45.13**	**257**	P	**P**	**14 03 35.3**	**+0.5**
PSA00	**Pilbara Seismi**	**45.13**	**257**	P	**P**	**14 03 34.2**	**-0.6**
PSA00				IAmb	IAmb	14 03 36.6	
	comp=Z,21nm,1.2s						
NWAO	**Narrogin (SRO)**	**47.70**	**241**	P	**P**	**14 03 55.3**	**+0.4**
	comp=Z,19nm,0.8s,baz=88,slow=6.8,SNR=8.6						
NWAO				LR	LR	14 23 49.8	
	comp=Z,281nm,20.6s,baz=112,slow=36						
MORW	**Morawa**	**48.47**	**247**	P	**P**	**14 04 00.8**	**-0.1**
MORW				IAmb	IAmb	14 04 02.1	
	comp=Z,14nm,0.9s						
MPSI	**Mapaga**	**50.29**	**286**	P	**P**	**14 04 14.6**	**-0.3**
	comp=Z,28nm,1.0s						
TAOE	**Nuku Hiva Isla**	**51.37**	**87**	*e*LR	LR	14 19 33.5	
	comp=Z,381nm,23.1s						
VNDA	**Vanda**	**60.05**	**181**	P	**P**	**14 05 24.2**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=356,slow=3.7,SNR=6.9						
VNDA	**Vanda**	**60.05**	**181**	P	**P**	**14 05 23.4**	**-1.0**
SBA	**Scott Base**	**60.31**	**180**	P	**P**	**14 05 26.9**	**+0.7**
SBA				IAmb	IAmb	14 05 28.4	
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**60.60**	**333**	P	**P**	**14 05 29.7**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=160,slow=6.2,SNR=5.9						
MJAR				LR	LR	14 35 00.0	
	comp=Z,16nm,18.0s,baz=85,slow=39						
MAT	**Matsushiro**	**60.61**	**333**	P	**P**	**14 05 26.5**	**-2.3**
CASY	**Casey**	**61.08**	**203**	P	**P**	**14 05 31.8**	**+0.2**
CASY				IAmb	IAmb	14 05 32.1	
	comp=Z,4.8nm,0.9s						
TPUB	**Ta-pu**	**61.36**	**310**	P	**P**	**14 05 32.6**	**-1.5**
SSLB	**Suanglung**	**61.42**	**311**	P	**P**	**14 05 32.5**	**-2.1**
SSLB				IAmb	IAmb	14 05 52.6	
	comp=Z,13nm,1.1s						
ASAJ	**Asahikawa**	**65.54**	**340**	LR	LR	14 30 13.8	
	comp=Z,109nm,20.9s,baz=168,slow=32						
NJ2	**Nanjing**	**68.00**	**316**	*e*P	**P**	**14 06 18.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MNSI	**Mandailing Nat**	**69.43**	**278**	P	**P**	**14 06 25.7**	**-1.0**
	comp=Z,32nm,1.0s						
USA0B	**Ussuriysk Arra**	**69.59**	**333**	P	**P**	**14 06 25.5**	**-1.4**
USA0B				IAmb	IAmb	14 06 41.1	
	comp=Z,5.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**69.59**	**333**	P	**P**	**14 06 25.5**	**-1.4**
PETK	**Petropavlovsk-**	**70.91**	**354**	LR	LR	14 33 10.2	
	comp=Z,55nm,19.9s,baz=141,slow=32						
MDJ	**Mudanjiang**	**70.97**	**332**	P	**P**	**14 06 38.0**	**+2.6**
MDJ				pP	pwP	14 06 48.5	+3.9
MDJ				sP	PcP	14 06 53.0	-2.7
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.9s						
GSI	**Gunungsitoli**	**71.49**	**277**	P	**P**	**14 06 37.7**	**-1.6**
	comp=Z,38nm,1.0s						
QSPA	**South Pole Qui**	**72.48**	**180**	LR	LR	14 34 48.5	
	comp=Z,83nm,19.9s,baz=45,slow=33						
XAN	**Xi'an**	**75.91**	**313**	P	P	14 07 13.8	+9.0
XAN				pP	PcP	14 07 27.8	+11
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI	**Kunming**	**76.16**	**302**	||P	**P**	**14 07 07.3**	**+0.7**

KMI				pmax	pmax			
	comp=Z,15nm,0.8s							
CMAR	**Chiang Mai Arr**	**76.49**	**295**	P	**P**	**14 07 08.9**	**+0.6**	
	comp=Z,2.3nm,0.7s,baz=130,slow=4.3,SNR=14							
CMAR				LR	LR	14 45 22.8		
	comp=Z,21nm,18.1s,baz=65,slow=39							
CMAR	**Chiang Mai Arr**	**76.49**	**295**	P	**P**	**14 07 08.3**	**-0.1**	
CM15	**Chiang Mai Arr**	**76.50**	**294**	P	P	14 07 16.6	+8.1	
CHTO	**Chiang Mai**	**76.63**	**295**	P	**P**	**14 07 10.0**	**+0.8**	
	comp=Z,5.9nm,1.9s							
CHTO	**Chiang Mai**	**76.63**	**295**	P	**P**	**14 07 08.6**	**-0.6**	
	comp=Z,3.3nm,1.9s							
HHC	**Hu-ho-hao-te**	**78.01**	**320**	*e*P	**P**	**14 07 17.8**	**+1.2**	
HHC				pmax	pmax			
	comp=Z,23nm,1.1s							
HHC				pmax	pmax			
	comp=Z,77nm,5.6s							
MAW	**Mawson**	**79.42**	**202**	P	**P**	**14 07 24.4**	**+0.5**	
	comp=Z,4.4nm,0.9s,baz=102,slow=6.3,SNR=7.9							
MAW	**Mawson**	**79.42**	**202**	P	**P**	**14 07 24.3**	**+0.5**	
ULN	**Ulaanbaatar**	**84.66**	**324**	P	**P**	**14 07 50.0**	**-1.8**	
ULN				IAmb	IAmb	14 07 53.3		
	comp=Z,7.6nm,0.8s							
ULN	**Ulaanbaatar**	**84.66**	**324**	P	**P**	**14 07 48.5**	**-3.3**	
	comp=Z,49nm,1.3s							
GTA	**Gaotai**	**84.92**	**314**	⇑P	**P**	**14 07 58.0**	**+4.7**	
GTA				pP	pwP	14 08 08.8	+6.1	
GTA				sP	sP	14 08 13.5	+13	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,77nm,8.9s							
GTA				L	L			
	comp=Z,79nm,16.7s							
GTA				L	L			
	comp=Z,94nm,17.8s							
GTA				L	L			
	comp=Z,120nm,21.1s							
SONM	**Songino Array**	**85.02**	**324**	P	**P**	**14 07 52.5**	**-1.1**	
	comp=Z,2.8nm,0.7s,baz=151,slow=4.7,SNR=8.8							
SONM	**Songino Array**	**85.02**	**324**	P	**P**	**14 07 51.7**	**-1.9**	
SONM				IAmb	IAmb	14 07 53.4		
	comp=Z,10nm,1.2s							
SYO	**Syowa Base**	**86.12**	**197**	⇓*e*P	**P**	**14 07 56.8**	**-1.8**	
SYO	**Syowa Base**	**86.12**	**197**	⇑*e*PcP	**PcP**	**14 08 01.2**	**0.0**	
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**14 08 13.9**	**+1.6**	
	comp=Z,0.4nm,0.7s,baz=224,slow=6.2,SNR=4.1							
NVAR				LR	LR	14 39 11.7		
	comp=Z,101nm,22.0s,baz=254,slow=30							
ILAR	**Eielson Array**	**89.09**	**18**	P	**P**	**14 08 13.2**	**+0.4**	
	comp=Z,0.1nm,0.6s,baz=235,slow=4.3,SNR=5.5							
ILAR				LR	LR	14 41 16.4		
	comp=Z,70nm,20.1s,baz=239,slow=31							
SNAA	**Sanae**	**90.75**	**183**	P	**P**	**14 08 19.8**	**-0.9**	
SNAA	**Sanae**	**90.75**	**183**	P	**P**	**14 08 19.1**	**-1.6**	
VNA3	**Neumayer Olymp**	**91.40**	**181**	P	**P**	**14 08 22.4**	**-1.2**	
VNA1	**Neumayer--Stat**	**91.97**	**181**	P	**P**	**14 08 25.1**	**-1.1**	
TIXI	**Tiksi**	**92.82**	**349**	P	**P**	**14 08 29.3**	**-0.6**	
	comp=Z,0.7nm,0.3s,baz=318,slow=4.8,SNR=4.2							
WMQ	**Urumqi**	**95.00**	**314**	*e*P	**P**	**14 08 40.8**	**+0.1**	
WMQ				pmax	pmax			
	comp=Z,18nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,110nm,3.9s							
PDAR	**Pinedale Array**	**96.56**	**47**	LR	LR	14 45 28.2		
	comp=Z,42nm,20.7s,baz=266,slow=31							
TXAR	**Lajitas Array**	**97.26**	**62**	LR	LR	14 47 18.5		
	comp=Z,40nm,18.0s,baz=0.0,slow=32							
YKA	**Yellowknife Ar**	**99.86**	**27**	LR	LR	14 51 01.6		
	comp=Z,55nm,18.4s,baz=0.0,slow=33							
ARCES	**ARCESS Array B**	**123.09**	**345**	PKP	**PKiKP**	**14 14 15.3**	**+1.2**	
	comp=Z,1.3nm,0.4s,baz=51,slow=1.5,SNR=19							
KBA	**Koelnbreinsper**	**143.78**	**330**	*e*P	PKPbc	14 14 51.0	0.0	
	comp=Z,5.4nm,1.0s							
MYKA	**Terra Mystica**	**143.96**	**329**	*i* P	**PKPdf**	**14 14 53.1**	**-0.5**	
	comp=Z,2.4nm,0.6s							
ABTA	**Abfaltersbach**	**144.41**	**330**	*i* P	**PKPab**	**14 14 52.6**	**0.0**	
	comp=Z,5.4nm,0.5s							
MOTA	**Moosalm**	**144.62**	**332**	*i* P	**PKPab**	**14 14 52.3**	**-1.0**	
	comp=Z,4.2nm,0.7s							
RETA	**Reutte**	**144.66**	**333**	*e*P	**PKPab**	**14 14 50.9**	**-2.5**	
	comp=Z,3.3nm,0.6s							
FETA	**Feichten**	**145.03**	**332**	*i* P	**PKPbc**	**14 14 53.0**	**-1.9**	
	comp=Z,8.2nm,0.9s							
DAVA	**Damuels**	**145.20**	**333**	*i* P	**PKPbc**	**14 14 53.3**	**-2.1**	
	comp=Z,11nm,0.9s							
ESDC	**Sonseca Array**	**156.81**	**343**	PKPab	**PKPab**	**14 15 44.8**	**+1.7**	
	comp=Z,1.4nm,0.8s,baz=9.8,slow=4.1,SNR=6.5							

*IDC **29** 13:56:35.2±5.1, 1°.42N×127°.05E, h116km±56km, mb3.8/4, mb1 3.8/6, mb1mx3.4/46, mbtmp4.0/6, Error ellipse: s-maj=68.4km s-min=19.8km az=74.0*
*NEIC **29** 13:56:35.6±1.9, 1°.50N±0°.09×127°.18E±0°.08, h125km±5km, mb4.5/25, Error ellipse: s-maj=13.7km s-min=11.7km az=201.0*

ISC 29 13:56:32.3±0.7, 1°.55N±0°.08×127°.31E±0°.10, h100km, n39, σ1§17/36, mb4.3/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.78**	**175**	Pn	Pn	13 56 56.4	+6.0
SIJI	**Sorong**	**4.63**	**121**	P	Pn	13 57 46.8	+6.7
	2.4nm,0.3s,baz=321,slow=19,SNR=4.2						
LUWI	**Luwuk**	**5.21**	**240**	Pn	**Pn**	**13 57 49.8**	**+1.9**
TOLI2	**Tolitoli**	**6.54**	**266**	Pn	**Pn**	**13 58 07.7**	**+1.8**
FAKI	**Fak Fak**	**6.65**	**132**	Pn	Pn	13 58 13.9	+6.5
KAPI	**Kappang**	**9.97**	**229**	Pn	**Pn**	**13 58 55.6**	**+2.9**
MTN	**Manton Dam**	**14.80**	**165**	Pn	**Pn**	**13 59 56.2**	**-0.3**
JAGI	**Jajag, Banyuwa**	**16.46**	**233**	Pn	**Pn**	**14 00 15.2**	**-2.2**
KNRA	**Kununurra**	**17.18**	**175**	P	**P**	**14 00 26.8**	**+0.6**
KNRA				IAmb	IAmb	14 00 28.0	
	comp=Z,14nm,0.6s						
SZP	**Santa**	**17.26**	**337**	P	**P**	**14 00 26.0**	**-1.1**
SZP				IAmb	IAmb	14 00 33.2	
	comp=Z,38nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.60**	**185**	P	**P**	**14 00 52.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=14,slow=8.8,SNR=13						
FITZ	**Fitzroy Crossi**	**19.60**	**185**	P	**P**	**14 00 51.5**	**-1.2**
CISI	**Cisompet, Garu**	**21.45**	**245**	P	**P**	**14 01 11.4**	**-1.3**
CISI				IAmb	IAmb	14 01 20.3	
	comp=Z,17nm,0.8s						
WB0	**Warramunga Arr**	**22.30**	**162**	P	**P**	**14 01 21.3**	**-0.4**
WB0				IAmb	IAmb	14 01 41.8	
	comp=Z,19nm,0.9s						
WRAB	**Tennant Creek**	**22.44**	**162**	P	**P**	**14 01 22.7**	**-0.5**
WRAB				IAmb	IAmb	14 01 42.1	
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**22.45**	**162**	P	**P**	**14 01 22.9**	**-0.3**
	comp=Z,3.5nm,0.4s,baz=341,slow=11,SNR=54						
WRA	**Warramunga Arr**	**22.45**	**162**	P	**P**	**14 01 21.6**	**-1.6**
WB2	**Warramunga Arr**	**22.45**	**162**	P	**P**	**14 01 22.8**	**-0.4**
WB2				IAmb	IAmb	14 01 42.2	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**22.53**	**162**	P	**P**	**14 01 23.6**	**-0.4**
WR0				IAmb	IAmb	14 01 40.7	
	comp=Z,15nm,1.1s						
TPUB	**Ta-pu**	**22.57**	**344**	P	**P**	**14 01 25.9**	**+1.5**
TPUB				IAmb	IAmb	14 01 41.3	
	comp=Z,52nm,1.5s						
PSA00	**Pilbara Seismi**	**24.11**	**197**	P	**P**	**14 01 38.7**	**-0.2**
AS31	**Alice Springs**	**25.88**	**166**	P	**P**	**14 01 54.5**	**-0.4**
AS31				IAmb	IAmb	14 01 58.6	
	comp=Z,3.6nm,0.5s						
ASAR	**Alice Springs**	**25.88**	**166**	P	**P**	**14 01 57.5**	**+2.6**
	comp=Z,0.8nm,0.4s,baz=344,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**25.88**	**166**	P	**P**	**14 01 54.4**	**-0.5**
GIRL	**Giralia**	**27.22**	**207**	P	**P**	**14 02 06.7**	**-0.2**
RPSI	**Rantau Prapat**	**28.38**	**273**	P	**P**	**14 02 16.7**	**-0.7**
MORW	**Morawa**	**32.30**	**199**	P	**P**	**14 02 51.2**	**-0.6**
MORW				IAmb	IAmb	14 02 52.2	
	comp=Z,7.3nm,1.3s						
JHS	**Saiyo**	**33.71**	**9**	P	**P**	**14 03 04.7**	**+0.6**
INU	**Inuyama**	**34.82**	**14**	P	**P**	**14 03 13.1**	**-0.5**
BBOO	**Buckleboo**	**35.17**	**167**	P	**P**	**14 03 16.0**	**-0.6**
BBOO				IAmb	IAmb	14 03 30.2	
	comp=Z,12nm,1.4s						
NWAO	**Narrogin (SRO)**	**35.59**	**195**	P	**P**	**14 03 19.7**	**-0.5**
NWAO				IAmb	IAmb	14 03 45.1	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**35.90**	**159**	P	**P**	**14 03 23.2**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=355,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**35.90**	**159**	P	**P**	**14 03 23.1**	**+0.2**
ARMA	**Armidale**	**39.35**	**146**	P	**P**	**14 03 53.4**	**+1.3**
CAN	**Canberra**	**41.92**	**153**	P	**P**	**14 04 14.0**	**+0.9**
CAN				IAmb	IAmb	14 04 28.9	
	comp=Z,16nm,1.3s						
WAKE	**Wake Island**	**42.35**	**63**	P	**P**	**14 04 16.3**	**-0.6**
MK31	**Makanchi Array**	**59.66**	**326**	P	**P**	**14 06 27.1**	**+1.0**
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**14 06 27.1**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=118,slow=7.8,SNR=20						
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**14 06 26.9**	**+0.8**

*DRS **29** 14:01:05.9±0.0, 42°.85N×45°.80E, h14km*
*NORS **29** 14:01:06.1±0.0, 42°.80N×46°.00E, h11km, MPVA4.3*
*MOS **29** 14:01:06.6±0.0, 42°.84N×46°.01E, h10km, MPVA4.1*
*TIF **29** 14:01:06.8, 42°.96N×46°.09E, h25km±2km*

ISC 29 14:01:08.5±0.8, 42°.90N±0°.02×46°.04E±0°.01, h14km±5km, n113, σ1§59/197, 5C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.08**	**49**	*i*PG	**Pg**	**14 01 11.4**	**-0.2**
DVE	**Vedeno**	**0.08**	**49**	*i* Pg	**Pg**	**14 01 11.3**	**-0.2**
	2μm,0.2s						
DVE				*e*Sg	**Sg**	**14 01 14.8**	**+1.2**
	21μm,0.3s						
BTLR	**Botlikh**	**0.27**	**151**	⇑*i*PG	**Pg**	**14 01 12.8**	**-1.6**
BTLR				pmax	pmax		
	comp=Z,437nm,0.4s						
BTLR	**Botlikh**	**0.27**	**151**	*e*Pg	**Pg**	**14 01 12.7**	**-1.6**
	comp=Z,247nm,0.3s						
BTLR				*e*Sg	**Sg**	**14 01 17.0**	**-1.3**
	comp=Z,3μm,0.2s						
GROC	**Groznyy**	**0.35**	**329**	⇓*i*PG	**Pb**	**14 01 16.3**	**-0.2**
GROC				*e*		14 01 21.7	
GROC				pmax	pmax		
	comp=Z,2μm,0.6s						
GROC				smax	smax		
	comp=N,3μm,0.4s						
GROC				smax	smax		
	comp=E,4μm,0.5s						
GROC				smax	smax		
	comp=E,6μm,0.5s						
GROC	**Groznyy**	**0.35**	**329**	*i* Pg	**Pb**	**14 01 16.4**	**-0.1**
	comp=E,2μm,0.4s						
GROC				*e*Sg	**Sn**	**14 01 23.9**	**-2.1**
	comp=E,6μm,0.5s						
DLMR	**Dylym**	**0.46**	**69**	*e*PG	**Pb**	**14 01 18.5**	**0.0**
DLMR				*e*S	**Sn**	**14 01 27.0**	**-1.8**
DLMR				pmax	pmax		
	comp=Z,52nm,0.1s						
DLMR	**Dylym**	**0.46**	**69**	*e*Pg	**Pb**	**14 01 18.5**	**0.0**
DLMR				*e*Sg	**Sn**	**14 01 26.9**	**-2.0**
DBC	**Dubki**	**0.59**	**78**	⇑*i*PG	**Pb**	**14 01 20.4**	**-0.3**
DBC				*e*S	**Sn**	**14 01 30.7**	**-1.4**
DBC	**Dubki**	**0.59**	**78**	*i* Pg	**Pb**	**14 01 20.4**	**-0.3**
	comp=Z,53nm,0.5s						
DBC				*e*Sg	**Sn**	**14 01 30.7**	**-1.4**
	comp=Z,480nm,0.4s						
XNZR	**Khunzakh**	**0.61**	**126**	*e*PG	**Pg**	**14 01 20.2**	**-0.3**
XNZR				*e*S	**Sb**	**14 01 29.6**	**+0.1**
XNZR	**Khunzakh**	**0.61**	**126**	*e*Pg	**Pg**	**14 01 20.2**	**-0.3**
XNZR				*e*Sg	**Sb**	**14 01 29.6**	**+0.1**
KRNR	**Karanay**	**0.64**	**96**	*i* PG	**Pb**	**14 01 20.9**	**-0.7**
KRNR				*e*S	**Sn**	**14 01 31.8**	**-1.5**
KRNR	**Karanay**	**0.64**	**96**	*i* Pg	**Pb**	**14 01 20.9**	**-0.7**
KRNR				*e*Sg	**Sn**	**14 01 31.8**	**-1.5**
ARKR	**Arakani**	**0.76**	**113**	*e*PG	**Pg**	**14 01 22.8**	**-0.5**
ARKR				*e*S	**Sb**	**14 01 34.5**	**+0.7**
ARKR				pmax	pmax		
	comp=Z,123nm,0.4s						
ARKR	**Arakani**	**0.76**	**113**	*e*Pg	**Pg**	**14 01 22.8**	**-0.5**
ARKR				*e*Sg	**Sb**	**14 01 34.6**	**+0.7**
BUJR	**Buynaksk**	**0.79**	**95**	*e*PG	**Pn**	**14 01 24.7**	**-0.5**
BUJR				*e*S	**Sn**	**14 01 37.2**	**+0.3**
BUJR	**Buynaksk**	**0.79**	**95**	*e*Pg	**Pn**	**14 01 24.7**	**-0.5**
BUJR				*e*Sg	**Sn**	**14 01 37.2**	**+0.3**
GNBR	**Gunib**	**0.85**	**127**	*e*PG	**Pg**	**14 01 24.5**	**-0.5**
GNBR				*e*S	**Sn**	**14 01 37.6**	**-0.9**
GNBR	**Gunib**	**0.85**	**127**	*e*Pg	**Pg**	**14 01 24.5**	**-0.5**
GNBR				*e*Sg	**Sn**	**14 01 37.6**	**-0.9**
VLKR	**Vladikavkaz**	**1.01**	**279**	*e*PG	**Pb**	**14 01 27.4**	**-0.4**
VLKR				*e*S	**Sn**	**14 01 42.6**	**+0.2**
VLKR	**Vladikavkaz**	**1.01**	**279**	*e*Pg	**Pb**	**14 01 27.5**	**-0.4**
VLKR				*e*Sg	**Sn**	**14 01 42.8**	**+0.4**
LGD	**Lagodekhi**	**1.08**	**172**	P	**Pb**	**14 01 26.7**	**-2.3**
LGD				S	**Sb**	**14 01 40.5**	**-2.4**
LGD	**Lagodekhi**	**1.08**	**172**	PG	**Pb**	**14 01 26.6**	**-2.3**
LGD				S	**Sb**	**14 01 40.4**	**-2.4**
MAK	**Makhachkala**	**1.08**	**86**	*e*PG	**Pg**	**14 01 30.3**	**+1.0**
MAK				*e*		14 01 45.6	
MAK				pmax	pmax		
	comp=Z,197nm,0.5s						
MAK				smax	smax		
	comp=N,972nm,0.6s						
MAK				smax	smax		
	comp=N,1μm,0.6s						
MAK	**Makhachkala**	**1.08**	**86**	*e*Pg	**Pg**	**14 01 29.1**	**-0.2**
MAK				*e*Sg	**Sn**	**14 01 45.7**	**+1.8**
PNSH	**Pansheti**	**1.08**	**256**	P	Pn	14 01 38.7	+9.3
PNSH				S	**Sn**	**14 01 51.7**	**+7.4**
PNSH	**Pansheti**	**1.08**	**256**	PG	Pn	14 01 38.7	+9.2
KMKR	**Kumukh**	**1.10**	**134**	*e*PG	**Pb**	**14 01 29.0**	**-0.4**
KMKR				*e*S	**Sg**	**14 01 44.0**	**-0.1**
KMKR				pmax	pmax		
	comp=Z,500nm,2.0s						
KMKR	**Kumukh**	**1.10**	**134**	*e*Pg	**Pb**	**14 01 29.0**	**-0.4**
KMKR				*e*Sg	**Sg**	**14 01 44.0**	**-0.1**
KANR	**Karaman**	**1.10**	**74**	*e*PG	**Pg**	**14 01 29.8**	**+0.1**
KANR				*e*S	**Sn**	**14 01 47.5**	**+3.0**
KANR	**Karaman**	**1.10**	**74**	*e*Pg	**Pg**	**14 01 29.8**	**+0.1**
KANR				*e*Sg	**Sn**	**14 01 47.5**	**+3.0**
BTKR	**Batakoyurt**	**1.19**	**294**	*e*PG	**Pg**	**14 01 31.6**	**+0.1**
BTKR				*e*S	**Sg**	**14 01 49.0**	**+1.9**
BTKR	**Batakoyurt**	**1.19**	**294**	*e*Pg	**Pg**	**14 01 31.6**	**+0.1**
BTKR				*e*Sg	**Sg**	**14 01 49.0**	**+1.9**
GUDG	**Gudauri**	**1.23**	**250**	P	Pn	14 01 24.8	-6.7
GUDG				S	**Sb**	**14 01 40.9**	**-6.7**
GUDG	**Gudauri**	**1.23**	**250**	PG	Pn	14 01 24.8	-6.7
TRKR	**Terskaya**	**1.26**	**311**	*e*PG	**Pg**	**14 01 32.9**	**+0.1**
TRKR				*e*S	**Sg**	**14 01 51.0**	**+1.8**
TRKR	**Terskaya**	**1.26**	**311**	*e*Pg	**Pg**	**14 01 32.9**	**+0.1**
TRKR				*e*Sg	**Sg**	**14 01 51.0**	**+1.8**
SGKR	**Sergokala**	**1.27**	**110**	*e*PG	**Pg**	**14 01 33.0**	**0.0**
SGKR				*e*S	**Sg**	**14 01 49.7**	**+0.2**
SGKR	**Sergokala**	**1.27**	**110**	*e*Pg	**Pg**	**14 01 33.0**	**0.0**
SGKR				*e*Sg	**Sg**	**14 01 49.7**	**+0.2**
LACR	**Lac**	**1.28**	**267**	*e*PG	**Pn**	**14 01 30.2**	**-2.0**
LACR				pmax	pmax		
	comp=Z,166nm,0.3s						
LACR	**Lac**	**1.28**	**267**	*e*Pg	**Pn**	**14 01 30.2**	**-2.0**
LACR				*e*Sg	**Sb**	**14 01 47.7**	**-1.3**
ARNR	**Ardon**	**1.32**	**283**	*e*PG	**Pb**	**14 01 32.4**	**-0.6**
ARNR				*e*S	**Sg**	**14 01 51.9**	**+0.9**
ARNR	**Ardon**	**1.32**	**283**	*e*Pg	**Pb**	**14 01 32.4**	**-0.6**
ARNR				*e*Sg	**Sg**	**14 01 51.9**	**+0.9**
URKR	**Urkarakh**	**1.39**	**121**	*e*PG	**Pb**	**14 01 34.1**	**-0.2**
URKR				*e*S	**Sb**	**14 01 52.0**	**+0.1**
URKR	**Urkarakh**	**1.39**	**121**	*e*Pg	**Pb**	**14 01 34.1**	**-0.2**
URKR				*e*Sg	**Sb**	**14 01 52.0**	**+0.1**
DDFL	**Dedoflistskaro**	**1.46**	**178**	P	**Pg**	**14 01 37.3**	**+0.8**
DDFL				S	**Sg**	**14 02 01.1**	**+5.7**
DDFL	**Dedoflistskaro**	**1.46**	**178**	PG	**Pg**	**14 01 37.3**	**+0.8**
DDFL				S	**Sg**	**14 02 01.1**	**+5.7**
KORR	**Kora**	**1.46**	**278**	*e*PG	**Pb**	**14 01 35.1**	**-0.4**
KORR				*e*S	**Sg**	**14 01 55.9**	**+0.3**
KORR	**Kora**	**1.46**	**278**	*e*Pg	**Pb**	**14 01 35.1**	**-0.4**
KORR				*e*Sg	**Sg**	**14 01 55.9**	**+0.3**
STDR	**Stavd-Durt**	**1.52**	**289**	⇓*i*PG	**Pb**	**14 01 36.2**	**-0.3**
STDR				*e*S	**Sg**	**14 01 58.4**	**+0.9**
STDR	**Stavd-Durt**	**1.52**	**289**	*i* Pg	**Pb**	**14 01 36.0**	**-0.6**
STDR				*e*Sg	**Sg**	**14 01 58.4**	**+0.9**
BTNK	**Botanikuri**	**1.53**	**218**	P	Pn	14 01 34.0	-1.4
BTNK	**Botanikuri**	**1.53**	**218**	PG	Pn	14 01 34.0	-1.4
PRTR	**Priterechnaya**	**1.54**	**304**	*e*PG	**Pg**	**14 01 37.5**	**-0.6**
PRTR				*e*S	**Sg**	**14 01 58.0**	**-0.1**
PRTR	**Priterechnaya**	**1.54**	**304**	*e*Pg	**Pg**	**14 01 37.5**	**-0.6**
PRTR				*e*Sg	**Sg**	**14 01 58.0**	**-0.1**
ZEI	**Tsey**	**1.58**	**267**	*e*PG	**Pn**	**14 01 35.8**	**-0.5**
ZEI				*e*S	**Sn**	**14 01 55.5**	**-1.1**
ZEI	**Tsey**	**1.58**	**267**	*e*Pg	**Pn**	**14 01 35.8**	**-0.5**
ZEI				*e*Sg	**Sn**	**14 01 55.5**	**-1.1**
LSNR	**Lesken**	**1.67**	**284**	*e*PN	**Pb**	**14 01 37.8**	**-1.2**
LSNR				*e*S	**Sg**	**14 02 01.3**	**-0.8**
LSNR	**Lesken**	**1.67**	**284**	*e*Pg	**Pb**	**14 01 37.8**	**-1.2**
LSNR				*e*Sg	**Sg**	**14 02 01.3**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.81**	**271**	*e*PN	**Pn**	**14 01 39.4**	**0.0**
DIGR				pmax	pmax		
	comp=Z,33nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.81**	**271**	*e*Pg	**Pn**	**14 01 39.5**	**+0.1**
DIGR				*e*Sg	**Sn**	**14 02 02.5**	**+0.2**
NCK	**Nalchik**	**1.88**	**289**	*e*PN	**Pn**	**14 01 41.0**	**+0.7**
NCK				*e*S	**Sg**	**14 02 07.4**	**-1.7**
NCK	**Nalchik**	**1.88**	**289**	*e*Pg	**Pn**	**14 01 41.0**	**+0.7**
NCK				*e*Sg	**Sg**	**14 02 07.4**	**-1.7**
AKT	**Akhty**	**1.90**	**138**	*e*PN	**Pn**	**14 01 40.8**	**+0.2**
AKT				*e*		14 01 43.7	
AKT				*e*		14 01 44.5	
AKT				*e*		14 02 12.8	
AKT				pmax	pmax		
	comp=Z,52nm,0.4s						
AKT	**Akhty**	**1.90**	**138**	*e*Pg	**Pb**	**14 01 41.8**	**-1.1**
AKT				*e*Sg	**Sb**	**14 02 07.0**	**+0.5**
SEKA	**Sheki**	**1.90**	**153**	PN	**Pb**	**14 01 42.6**	**-0.4**
ONI	**Oni**	**1.93**	**262**	P	**Pb**	**14 01 42.5**	**-1.0**
ONI				S	**Sb**	**14 02 08.5**	**+1.0**
ONI	**Oni**	**1.93**	**262**	*i* PN	**Pb**	**14 01 42.5**	**-1.0**
ONI				*e*S	**Sb**	**14 02 07.9**	**+0.4**
ONI	**Oni**	**1.93**	**262**	*i* Pg	**Pb**	**14 01 42.5**	**-1.0**
ONI				*e*Sg	**Sb**	**14 02 07.9**	**+0.4**
KZRT	**Kazreti**	**1.95**	**219**	P	**Pn**	**14 01 40.9**	**-0.3**
KZRT				S	**Sn**	**14 02 05.2**	**-0.2**
KZRT	**Kazreti**	**1.95**	**219**	PN	**Pn**	**14 01 40.9**	**-0.3**
TRLG	**Trialeti**	**1.98**	**227**	P	**Pn**	**14 01 41.8**	**-0.1**
TRLG				S	**Sn**	**14 02 07.3**	**+0.8**
TRLG	**Trialeti**	**1.98**	**227**	PN	**Pn**	**14 01 41.7**	**-0.1**
KSMR	**Kasumkent**	**2.02**	**129**	*e*PN	**Pg**	**14 01 46.0**	**-1.3**
KSMR				*e*S	**Sg**	**14 02 11.7**	**-1.8**
KSMR	**Kasumkent**	**2.02**	**129**	*e*Pg	**Pg**	**14 01 46.0**	**-1.3**
KSMR				*e*Sg	**Sg**	**14 02 11.7**	**-1.8**
BRNG	**Burnasheti**	**2.08**	**233**	P	**Pn**	**14 01 43.9**	**+0.7**
BRNG				S	**Sb**	**14 02 11.4**	**-0.5**
DMNI	**Dmanisi**	**2.09**	**222**	P	**Pn**	**14 01 43.2**	**0.0**
DMNI				S	**Sn**	**14 02 09.6**	**+0.5**
DMNI	**Dmanisi**	**2.09**	**222**	PN	**Pn**	**14 01 43.2**	**0.0**
BKRG	**Bakuriani**	**2.19**	**239**	P	**Pn**	**14 01 45.4**	**+0.7**
BKRG				S	**Sb**	**14 02 13.8**	**-1.2**
BKRG	**Bakuriani**	**2.19**	**239**	PN	**Pn**	**14 01 45.4**	**+0.7**
BKRG				S	**Sb**	**14 02 13.8**	**-1.2**
GANJ	**Ganja**	**2.26**	**175**	PN	**Pn**	**14 01 46.7**	**+1.1**
TKB	**Tkibuli**	**2.31**	**257**	P	**Pn**	**14 01 46.8**	**+0.5**
TKB				S	**Sb**	**14 02 18.3**	**-0.2**
TKB	**Tkibuli**	**2.31**	**257**	PN	**Pn**	**14 01 46.7**	**+0.5**
TKB				S	**Sb**	**14 02 18.3**	**-0.2**
PYA1	**Pyatigorsk**	**2.44**	**299**	*e*PN	**Pn**	**14 01 47.4**	**-0.6**
PYA1				*e*S	**Sn**	**14 02 16.4**	**-1.2**
PYA1	**Pyatigorsk**	**2.44**	**299**	*e*Pn	**Pn**	**14 01 47.4**	**-0.6**
PYA1				*e*Sn	**Sn**	**14 02 16.4**	**-1.2**
KBZ	**Khabaz**	**2.44**	**291**	*e*PN	**Pn**	**14 01 47.5**	**-0.4**
KBZ				*e*S	**Sn**	**14 02 16.1**	**-1.4**
KBZ	**Khabaz**	**2.44**	**291**	*e*Pn	**Pn**	**14 01 47.5**	**-0.4**
KBZ				*e*Sn	**Sn**	**14 02 16.1**	**-1.4**
BGD	**Bogdanovka**	**2.45**	**229**	P	**Pn**	**14 01 49.6**	**+1.3**
BGD				S	**Sb**	**14 02 20.4**	**-2.1**
BGD	**Bogdanovka**	**2.45**	**229**	PN	**Pn**	**14 01 49.5**	**+1.3**
BGD				S	**Sb**	**14 02 20.3**	**-2.1**
NEY	**Neytrino**	**2.46**	**279**	*e*PN	**Pn**	**14 01 48.2**	**-0.1**
NEY				*e*S	**Sb**	**14 02 21.6**	**-1.1**
NEY	**Neytrino**	**2.46**	**279**	*e*Pn	**Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.14**	**19**	⇑P	Pn	14 04 49.9	+0.2
	2.7nm,0.3s						
AAK				⇓S	Sn	14 05 52.0	+2.1
	4.2nm,0.5s						
KK31	**Karatay Array**	**5.47**	**347**	⇓P	Pn	14 04 53.1	-0.9
	0.9nm,0.3s,baz=157,slow=11,SNR=15						
KK31				⇓S	Sn	14 05 57.1	-0.6
	7.4nm,0.3s,baz=161,slow=32,SNR=33						
TKM2	**Tokmak 2**	**5.74**	**26**	⇑P	Pn	14 04 57.2	-0.7
	3.4nm,0.5s						
TKM2				⇓S	Sn	14 06 07.6	+3.0
	2.0nm,0.7s						

NEIC ***29*** *14:11:18.6±2.8, 2.76N±0.05×31.2E±0.1, h10km±1km, mb4.5/7, Error ellipse: s-maj=17.1km s-min=8.6km az=99.0*
EAF ***29*** *14:11:21.6±4.2, 2.62N×31.17E, h0km±24km, MD3.3*
IDC ***29*** *14:11:30.2±1.5, 3.99N×33.13E, h0km, mb4.0/3, mb1 3.9/4, mb1mx3.6/40, mbtmp3.9/4, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=38.6km s-min=21.6km az=51.0*

ISC 29 14:11:17.7±0.7, 2.66N±0.05×31.15E±0.05, h10km, n37, σ1ℓ98/37, mb4.3/8, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIL	**Kilembe**	**2.70**	**205**	*eP*	**Pn**	**14 12 03.4**	**+2.0**
KIL				*eS*	**Sb**	**14 12 39.1**	**-0.4**
TEBE	**Entebbe**	**2.91**	**153**	*eP*	**Pb**	**14 12 11.1**	**+1.3**
TEBE				*eS*	**Sn**	**14 12 42.2**	**+2.9**
TEBE	**Entebbe**	**2.91**	**153**	*i* P	**Pg**	**14 12 14.3**	**+0.9**
TEBE				*i* S	**Sn**	**14 12 41.5**	**+2.2**
MBAR	**Mbarara**	**3.27**	**187**	Pn	**Pn**	**14 12 10.3**	**+1.2**
MBAR	**Mbarara**	**3.27**	**187**	*eP*	**Pn**	**14 12 10.4**	**+1.2**
MBAR				*eS*	**Sn**	**14 12 49.8**	**+1.5**
MBAR	**Mbarara**	**3.27**	**187**	*i* S	**Sn**	**14 12 49.0**	**+0.7**
MBAR				IAML		14 13 04.1	
	comp=Z,440nm,0.5s						
MBAR	**Mbarara**	**3.27**	**187**	*i* P	**Pn**	**14 12 10.5**	**+1.2**
MBAR	**Mbarara**	**3.27**	**187**	*i* P	**Pn**	**14 12 10.8**	**+1.6**
LODK	**Lodwar**	**4.27**	**80**	Pn	**Pn**	**14 12 22.3**	**-0.6**
RGB	**Rumangabo**	**4.36**	**204**	*i* P	**Pn**	**14 12 25.4**	**+1.1**
LBGA	**Luboga**	**4.40**	**208**	*i* P	**Pn**	**14 12 26.2**	**+1.4**
LBGA	**Luboga**	**4.40**	**208**	IAML		14 13 46.0	
	comp=Z,244nm,0.7s						
KTSH	**Kitshanga**	**4.41**	**208**	*i* P	**Pb**	**14 12 36.8**	**+1.4**
KTSH				IAML		14 13 39.2	
	comp=Z,747nm,0.4s						
BOBN	**Bobandana**	**4.84**	**206**	*i* P	**Pn**	**14 12 30.0**	**-0.8**
BOBN	**Bobandana**	**4.84**	**206**	IAML		14 13 56.0	
	comp=Z,236nm,0.6s						
LWI	**Lwiro**	**5.41**	**206**	*i* P	**Pn**	**14 12 40.9**	**+2.3**
LWI	**Lwiro**	**5.41**	**206**	IAML		14 14 15.7	
	comp=Z,384nm,0.5s						
KMBO	**Kilima Mbogo**	**7.17**	**122**	Pn	**Pn**	**14 13 06.2**	**+3.3**
	comp=Z,0.7nm,0.3s,baz=294,slow=15,SNR=6.0						
KMBO				Sn	**Sn**	**14 14 26.4**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=287,slow=20,SNR=3.8						
KMBO				Lg	Lg	14 14 59.8	
	comp=Z,4.0nm,0.3s,baz=203,slow=18,SNR=11						
KMBO				LR	LR	14 16 07.2	
	comp=Z,294nm,18.7s,baz=272,slow=42						
KMBO	**Kilima Mbogo**	**7.17**	**122**		**Pn**	**14 13 06.2**	**+3.3**
SINGT	**Singida**	**8.24**	**154**	*i* S	**Sg**	**14 15 36.9**	**-5.6**
KIBK	**Kibwezi**	**8.50**	**126**		**Pn**	**14 13 22.3**	**+1.3**
FURI	**Furi**	**9.72**	**50**	Pn	**Pn**	**14 13 34.3**	**-3.6**
JILO	**Lwanjilo**	**11.57**	**168**	*i* P	**Pn**	**14 14 00.7**	**-2.5**
ITUM	**Tunduma**	**12.15**	**170**	*i* P	**Pn**	**14 14 09.5**	**-1.7**
TORD	**Torodi Ar. Bea**	**30.94**	**291**	P	P	14 18 01.8	+27
	comp=Z,1.5nm,0.7s,baz=99,slow=10,SNR=4.5						
DBIC	**Dimbokro**	**36.10**	**278**	P	**P**	**14 18 18.3**	**-1.9**
DBIC				IAmb	IAmb	14 18 45.3	
	comp=Z,7.5nm,1.1s						
BURAR	**Bucovina Array**	**45.07**	**354**	P	**P**	**14 19 34.5**	**+0.6**
CART	**Cartagena**	**45.58**	**324**	P	**P**	**14 19 39.7**	**+1.6**
TUE	**Stuetta**	**47.59**	**340**	P	**P**	**14 19 55.1**	**+1.1**
TUE				IAmb	IAmb	14 20 00.1	
	comp=Z,3.9nm,0.9s						
GERES	**GERESS Array B**	**48.38**	**345**	LR	LR	14 44 27.5	
	comp=Z,26nm,18.1s,baz=12,slow=42						
ECH	**Echery**	**49.86**	**339**	P	**P**	**14 20 12.5**	**+1.4**
ECH				IAmb	IAmb	14 20 13.1	
	comp=Z,6.3nm,1.3s						
MK31	**Makanchi Array**	**62.34**	**37**	P	**P**	**14 21 40.3**	**-0.2**
MK31				IAmb	IAmb	14 21 42.1	
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**62.34**	**37**	P	**P**	**14 21 40.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=239,slow=5.5,SNR=9.6						
MKAR	**Makanchi Array**	**62.34**	**37**	P	**P**	**14 21 39.8**	**-0.8**
ZAA0	**Zalesovo Array**	**67.23**	**31**	P	**P**	**14 22 11.4**	**-0.7**
ZAA0				IAmb	IAmb	14 22 14.3	
	comp=Z,4.6nm,1.2s						
ZALV	**Zalesovo Beam**	**67.23**	**31**	P	**P**	**14 22 11.8**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=256,slow=6.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**67.23**	**31**	P	**P**	**14 22 11.4**	**-0.7**

IDC ***29*** *14:14:02.9±10.0, 0.44N×123.90E, h170km±112km, mb3.7/9, mb1 3.8/10, mb1mx3.5/39, mbtmp4.2/10, Error ellipse: s-maj=36.9km s-min=17.9km az=79.0*
NEIC ***29*** *14:14:08.1±1.9, 0.32N±0.10×123.9E±0.1, h224km±11km, mb4.4/13, Error ellipse: s-maj=18.5km s-min=14.2km az=84.0*
DJA ***29*** *14:14:08.0±0.5, 0°N±4°×12°4E±°, h197km±6km, M4.2/10, mb4.1/1, MLv4.2/10*

ISC 29 14:14:07.0±0.7, 0.34N±0.05×124.01E±0.05, h214km±6km, n39, σ1ℓ14/44, mb4.1/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.04**	**287**	P	**Pn**	**14 14 39.6**	**+1.1**
GTOI				S	**S**	**14 15 04.2**	**+1.4**
MNI	**Manado**	**1.38**	**37**	P	**Pn**	**14 14 41.1**	**+0.1**
MNI				S	**S**	**14 15 06.9**	**-0.4**
LUWI	**Luwuk**	**1.85**	**222**	Pn	**Pn**	**14 14 45.2**	**+0.2**
LUWI	**Luwuk**	**1.85**	**222**	P	**Pn**	**14 14 44.9**	**-0.2**
LUWI				S	**S**	**14 15 13.4**	**-1.1**
MRSI	**Marisa**	**2.08**	**274**	P	**Pn**	**14 14 47.3**	**0.0**
MRSI				S	**S**	**14 15 16.7**	**-1.7**
APSI	**Ampana**	**2.67**	**242**	P	**Pn**	**14 14 53.9**	**+0.3**
APSI				S	**S**	**14 15 28.8**	**-0.9**
SANI	**Sanana**	**3.09**	**140**	P	**Pn**	**14 14 57.7**	**-0.7**
TOLI2	**Tolitoli**	**3.32**	**283**	Pn	**Pn**	**14 15 01.1**	**0.0**
GAMI	**Galela, Maluku**	**4.06**	**68**	P	**Pn**	**14 15 10.1**	**0.0**
MPSI	**Mapaga**	**4.11**	**270**	P	**Pn**	**14 15 11.5**	**+0.8**
NLAI	**Namlea**	**4.71**	**139**	P	**Pn**	**14 15 18.3**	**+0.2**
TTSI	**Tana Toraja**	**5.37**	**231**	P	**Pn**	**14 15 26.6**	**+0.1**
MTN	**Manton Dam**	**14.88**	**152**		**Pn**	**14 17 27.8**	**+0.5**
KNRA	**Kununurra**	**16.59**	**164**	P	**Pn**	**14 17 48.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.39**	**175**	P	**P**	**14 18 07.1**	**+0.9**
	1.2nm,0.3s,baz=11,slow=7.5,SNR=43						
FITZ	**Fitzroy Crossi**	**18.39**	**175**	P	**P**	**14 18 07.1**	**+0.9**
FITZ				IAmb	IAmb	14 18 08.1	
	comp=Z,5.3nm,0.7s						
WB0	**Warramunga Arr**	**22.42**	**154**	P	**P**	**14 18 48.6**	**+0.6**
WB0				IAmb	IAmb	14 18 50.5	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**22.55**	**154**	P	**P**	**14 18 49.6**	**+0.4**
WRAB				IAmb	IAmb	14 18 51.8	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**22.55**	**154**	P	**P**	**14 18 50.1**	**+0.9**
	comp=Z,13nm,0.5s,baz=336,slow=10,SNR=148						
WRA	**Warramunga Arr**	**22.55**	**154**	P	**P**	**14 18 49.0**	**-0.3**
WB2	**Warramunga Arr**	**22.56**	**154**	P	**P**	**14 18 49.9**	**+0.6**
WR0	**Warramunga Arr**	**22.66**	**153**	P	**P**	**14 18 50.9**	**+0.7**
WR0				IAmb	IAmb	14 18 52.8	
	comp=Z,12nm,1.1s						
TPUB	**Ta-pu**	**23.06**	**352**	P	**P**	**14 18 53.4**	**-0.4**
YULB	**Yu-li**	**23.07**	**354**	P	**P**	**14 18 53.6**	**-0.2**
YULB				IAmb	IAmb	14 18 57.5	
	comp=Z,32nm,1.4s						
AS31	**Alice Springs**	**25.72**	**159**	P	**P**	**14 19 15.2**	**-2.7**
ASAR	**Alice Springs**	**25.72**	**159**	P	**P**	**14 19 18.5**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=344,slow=16,SNR=13						
ASAR	**Alice Springs**	**25.72**	**159**	P	**P**	**14 19 15.2**	**-2.7**
STKA	**Stephens Creek**	**36.10**	**154**	P	**P**	**14 20 49.8**	**+1.2**
	comp=Z,2.2nm,0.5s,baz=330,slow=9.0,SNR=8.9						
STKA	**Stephens Creek**	**36.10**	**154**	P	**P**	**14 20 49.5**	**+0.9**
MJAR	**Matsushiro Arr**	**38.36**	**19**	P	**P**	**14 21 05.8**	**-1.6**
	comp=Z,2.1nm,0.7s,baz=194,slow=8.6,SNR=6.0						
HHC	**Hu-ho-hao-te**	**41.88**	**346**	*e*P	**P**	**14 21 37.8**	**+1.4**
HHC				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC				pmax	pmax		
	comp=Z,53nm,5.9s						
CAN	**Canberra**	**42.45**	**149**	P	**P**	**14 21 43.7**	**+2.6**
CAN				IAmb	IAmb	14 21 47.9	
	comp=Z,21nm,1.5s						
USRK	**Ussuriysk Ar.**	**44.25**	**8**	P	**P**	**14 21 54.6**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=193,slow=6.0,SNR=9.2						
SONM	**Songino Array**	**49.73**	**344**	P	**P**	**14 22 38.4**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=161,slow=8.4,SNR=7.3						
WMQ	**Urumqi**	**54.04**	**328**	*e*P	**P**	**14 23 11.5**	**+2.0**
MKAR	**Makanchi Array**	**58.87**	**328**	P	**P**	**14 23 42.0**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=118,slow=8.9,SNR=14						
PETK	**Petropavlovsk-**	**59.58**	**23**	P	**P**	**14 23 48.6**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=228,slow=5.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**62.43**	**335**	P	**P**	**14 24 06.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=85,slow=8.8,SNR=3.9						
TIXI	**Tiksi**	**71.27**	**2**	P	**P**	**14 25 01.5**	**-1.0**
TIXI				IAmb	IAmb	14 25 02.6	
	comp=Z,6.1nm,1.4s						

IDC ***29*** *14:25:25.4±3.0, 37.33N×141.64E, h78km±28km, mb3.3/4, mb1 3.5/7, mb1mx3.2/47, mbtmp3.6/7, Error ellipse: s-maj=30.7km s-min=15.8km az=121.0*
JMA ***29*** *14:25:25.5±0.1, 37.36N×141.53E, h75km±1km, M3.8*
JMA Felt I J1.

ISC 29 14:25:24.4±1.4, 37.32N±0.06×141.68E±0.10, h68km±10km, n28, σ0ℓ55/35, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.64**	**274**	P	**Pn**	**14 25 39.1**	**+0.5**
JFK				S	**Sn**	**14 25 48.7**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.74**	**253**	P	**Pn**	**14 25 40.2**	**+0.5**
ONAJ				*e*S	**Sn**	**14 25 50.7**	**-0.2**
JMST	**Minamisoumatoc**	**0.75**	**303**	P	**Pn**	**14 25 40.1**	**+0.4**
JMST				*e*S	**Sn**	**14 25 50.8**	**-0.2**
JMM	**Marumori**	**0.89**	**308**	P	**Pn**	**14 25 41.9**	**+0.5**
JMM				S	**Sn**	**14 25 53.8**	**-0.2**
JFFD	**Fukushimafurud**	**0.92**	**256**	P	**Pn**	**14 25 42.3**	**+0.5**
JFFD				*e*S	**Sn**	**14 25 54.3**	**-0.5**
JFT	**Otama**	**1.09**	**281**	P	**Pn**	**14 25 44.4**	**+0.5**
JFT				S	**Sn**	**14 25 58.3**	**-0.2**
JIO	**Ouri**	**1.16**	**347**	P	**Pn**	**14 25 45.6**	**+0.8**
JIO				S	**Sn**	**14 25 59.9**	**-0.2**
JOU	**Okura**	**1.32**	**323**	P	**Pn**	**14 25 46.9**	**0.0**
JOU				*e*S	**Sn**	**14 26 03.3**	**-0.5**
JYS	**Shirataka**	**1.56**	**306**	P	**Pn**	**14 25 50.3**	**+0.2**
JYS				S	**Sn**	**14 26 09.6**	**0.0**
JFY	**Yanaizu**	**1.58**	**274**	P	**Pn**	**14 25 50.5**	**+0.2**
JFY				S	**Sn**	**14 26 09.1**	**-0.8**
JMK	**Ichinoseki**	**1.67**	**348**	P	**Pn**	**14 25 52.0**	**+0.5**
JYK	**Kaneyama**	**1.90**	**327**	P	**Pn**	**14 25 55.0**	**+0.3**
JYK				S	**Sn**	**14 26 18.1**	**+0.4**
JAG	**Ashikaga**	**2.00**	**244**	P	**Pn**	**14 25 56.3**	**+0.3**
JYA	**Atsumi**	**2.01**	**310**	P	**Pn**	**14 25 56.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.89**	**255**	P	**Pn**	**14 26 08.4**	**+0.3**
	0.9nm,0.3s,baz=82,slow=15,SNR=6.8						
MJAR				S	**Sn**	**14 26 42.8**	**+1.1**
	1.8nm,0.3s,baz=79,slow=26,SNR=5.2						
MAT	**Matsushiro**	**2.89**	**255**	P	**Pn**	**14 26 08.9**	**+0.8**
MAT				*e*S	**Sn**	**14 26 41.9**	**+0.2**
ASAJ	**Asahikawa**	**6.82**	**6**	P	**Pn**	**14 27 01.0**	**-0.8**
	0.8nm,0.3s,baz=207,slow=13,SNR=12						
USRK	**Ussuriysk Ar.**	**10.06**	**316**	P	**Pn**	**14 27 46.7**	**+0.8**
	baz=119,slow=14,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	15 01 36.2	
	baz=315,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	15 01 36.8	
	baz=315,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	15 01 37.5	
	baz=315,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	15 02 24.0	
	baz=316,slow=74,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	15 02 30.3	
	baz=316,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	15 02 38.5	
	baz=316,slow=74						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**14 33 25.2**	**-1.0**
	0.8nm,0.6s,baz=84,slow=9.5,SNR=9.3						
ILAR	**Eielson Array**	**49.14**	**32**	P	**P**	**14 34 05.9**	**+1.0**
	0.6nm,0.7s,baz=265,slow=6.6,SNR=8.9						
WRA	**Warramunga Arr**	**57.38**	**188**	P	**P**	**14 35 05.2**	**-0.5**
	0.4nm,0.5s,baz=6.2,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**61.10**	**188**	P	**P**	**14 35 31.4**	**-0.1**
	0.5nm,0.8s,baz=9.8,slow=9.4,SNR=6.3						

IDC ***29*** *14:25:27.6±6.1, 41.25S×85.73W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.1/22, mbtmp4.0/5, MS3.9/11, Ms1 3.9/11, ms1mx3.7/27, Error ellipse: s-maj=171.8km s-min=42.3km az=162.0*
NEIC ***29*** *14:25:28.9±1.8, 41.39S±0.10×85.5W±0.2, h10km±1km, mb4.6/25, Error ellipse: s-maj=20.8km s-min=16.8km az=271.0*

ISC 29 14:25:29.3±0.7, 41.29S±0.09×85.4W±0.1, h14km, n58, σ1ℓ25/48, mb4.4/16, MS3.9/10, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**8.99**	**95**	Pn	**Pn**	**14 27 39.2**	**+0.5**
H03S2	**Juan Fernandez**	**9.05**	**37**	Pn	**Pn**	**14 27 39.6**	**+0.4**
	baz=244,slow=8.1,SNR=7.1						
H03S2				T	T	14 37 19.0	
	baz=212,slow=73,SNR=552						
H03S1	**Juan Fernandez**	**9.05**	**37**	Pn	**Pn**	**14 27 39.4**	**+0.1**
	baz=244,slow=8.1,SNR=13						
H03S1				T	T	14 37 07.1	
	baz=212,slow=73,SNR=942						
H03S3	**Juan Fernandez**	**9.06**	**37**	Pn	**Pn**	**14 27 39.5**	**0.0**
	baz=244,slow=8.1,SNR=12						
H03S3				T	T	14 37 19.6	
	baz=212,slow=73,SNR=767						
H03N3	**Juan Fernandez**	**9.37**	**36**	Pn	**Pn**	**14 27 41.7**	**-1.9**
	baz=177,slow=24,SNR=11						
H03N3				T	T	14 37 37.3	
	baz=222,slow=26,SNR=81						
H03N2	**Juan Fernandez**	**9.38**	**35**	Pn	**Pn**	**14 27 41.3**	**-2.5**
	baz=177,slow=24,SNR=26						
H03N2				T	T	14 37 37.3	
	baz=222,slow=26,SNR=190						
H03N1	**Juan Fernandez**	**9.39**	**36**	Pn	**Pn**	**14 27 41.0**	**-2.9**
	baz=177,slow=24,SNR=11						
H03N1				T	T	14 37 37.3	
	baz=222,slow=26,SNR=93						
PLCA	**Paso Flores**	**11.26**	**92**	LR	LR	14 31 48.2	
	comp=Z,155nm,18.2s,baz=276,slow=33						
GO05	**Huala**	**12.33**	**64**	Pn	**Pn**	**14 28 24.1**	**-0.2**
BO02	**Sierra Bellavi**	**13.23**	**65**	Pn	**Pn**	**14 28 37.0**	**+0.3**
BO01	**Tunca**	**13.25**	**63**	Pn	**Pn**	**14 28 35.6**	**-1.4**
MT01	**Popeta**	**13.46**	**61**	Pn	**Pn**	**14 28 39.4**	**-0.4**
MT09	**Talagante**	**13.68**	**61**	Pn	**Pn**	**14 28 41.6**	**-1.3**
MT05	**Renca**	**14.08**	**61**	Pn	**Pn**	**14 28 48.5**	**+0.2**
GO04	**Tololo Observa**	**16.22**	**52**	Pn	**Pn**	**14 29 17.9**	**+0.9**
GO04				IAmb	IAmb	14 29 23.5	
	comp=Z,54nm,1.4s						
TRQA	**Tornquist**	**18.32**	**88**	P	**Pn**	**14 29 45.1**	**+2.1**
AC02	**Maricunga**	**19.70**	**48**	P	**Pn**	**14 30 00.8**	**+0.6**
GO02	**Mina Guanaco**	**20.78**	**44**	P	**P**	**14 30 10.7**	**+0.4**
GO02				IAmb	IAmb	14 30 16.6	
	comp=Z,40nm,1.4s						
LVC	**Limon Verde**	**23.23**	**42**	P	**P**	**14 30 37.6**	**+1.2**
	comp=Z,5.1nm,0.8s,baz=196,slow=11,SNR=3.3						
RPN	**Rapa Nui**	**24.20**	**298**	LR	LR	14 37 09.3	
	comp=Z,197nm,20.1s,baz=152,slow=29						
CPUP	**Villa Florida**	**27.55**	**66**	LR	LR	14 41 37.0	
	comp=Z,364nm,20.0s,baz=226,slow=35						
CPUP	**Villa Florida**	**27.55**	**66**	P	**P**	**14 31 12.9**	**-2.8**
LPAZ	**La Paz**	**29.05**	**36**	P	**P**	**14 31 31.6**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=202,slow=7.5,SNR=3.9						
LPAZ				LR	LR	14 40 46.2	
	comp=Z,159nm,19.4s,baz=185,slow=32						
LPAZ	**La Paz**	**29.05**	**36**	P	**P**	**14 31 28.8**	**-0.9**
NNA	**Nana**	**30.14**	**17**	LR	LR	14 41 01.2	
	comp=Z,159nm,18.2s,baz=208,slow=31						
BDFB	**Brasilia**	**41.16**	**63**	LR	LR	14 50 23.8	
	comp=Z,244nm,18.1s,baz=231,slow=36						
PTGA	**Pitinga**	**46.47**	**36**	LR	LR	14 51 48.8	
	comp=Z,188nm,19.4s,baz=170,slow=34						
VNA3	**Neumayer Olymp**	**47.00**	**155**	P	**P**	**14 33 60.0**	**+0.4**
ROSC	**El Rosal**	**47.02**	**15**	LR	LR	14 52 48.1	
	comp=Z,265nm,19.6s,baz=290,slow=35						
VNA1	**Neumayer--Stat**	**47.51**	**154**	P	**P**	**14 34 01.9**	**-1.5**
QSPA	**South Pole Qui**	**48.95**	**180**	P	**P**	**14 34 13.7**	**-1.2**
QSPA				IAmb	IAmb	14 34 36.5	
	comp=Z,9.7nm,1.4s						
SNAA	**Sanae**	**49.13**	**155**	P	**P**	**14 34 17.6**	**+1.5**
SNAA	**Sanae**	**49.13**	**155**	P	**P**	**14 34 15.7**	**-0.4**
SNAA				IAmb	IAmb	14 34 18.4	
	comp=Z,7.1nm,1.1s						
SDV	**Santo Domingo**	**51.75**	**19**	LR	LR	14 55 39.1	
	comp=Z,108nm,19.1s,baz=168,slow=35						
SBA	**Scott Base**	**53.59**	**195**	P	**P**	**14 34 47.8**	**-1.5**
VNDA	**Vanda**	**54.67**	**194**	LR	LR	14 54 15.2	
	comp=Z,120nm,19.8s,baz=120,slow=32						
VNDA	**Vanda**	**54.67**	**194**	P	**P**	**14 34 57.4**	**+0.2**
VNDA				IAmb	IAmb	14 34 58.3	
	comp=Z,1.8nm,0.5s						
TX31	**Lajitas Ar. Si**	**72.27**	**343**	P	**P**	**14 36 54.0**	**-0.1**
TX32	**Lajitas Array**	**72.27**	**343**	P	**P**	**14 36 54.1**	**0.0**
TXAR	**Lajitas Array**	**72.27**	**343**	P	**P**	**14 36 53.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=162,slow=9.2,SNR=14						
TXAR	**Lajitas Array**	**72.27**	**343**	P	**P**	**14 36 54.1**	**0.0**
319A	**Douglas**	**75.58**	**339**	P	**P**	**14 37 15.3**	**+1.8**
319A				IAmb	IAmb	14 37 18.1	
	comp=Z,5.0nm,0.9s						
U49A	**Red Boiling Sp**	**77.42**	**360**	P	**P**	**14 37 25.2**	**+1.5**
MGMO	**Mountain Grove**	**78.31**	**354**	P	**P**	**14 37 30.3**	**+1.7**
MGMO				IAmb	IAmb	14 37 30.9	
	comp=Z,8.0nm,1.1s						
CCUT	**Cedar City**	**82.52**	**338**	P	**P**	**14 37 51.9**	**+0.5**
CCUT				IAmb	IAmb	14 37 58.1	
	comp=Z,4.6nm,1.2s						
PRN	**Pahroc Range**	**82.87**	**337**	P	**P**	**14 37 54.2**	**+1.0**
TMUT	**Trail Mountain**	**83.57**	**340**	P	**P**	**14 37 58.2**	**+1.2**
TMUT				IAmb	IAmb	14 38 03.4	
	comp=Z,4.1nm,0.8s						
R11A	**Troy Canyon, C**	**83.90**	**337**	P	**P**	**14 37 59.2**	**+0.7**
R11A				IAmb	IAmb	14 38 19.4	
	comp=Z,2.7nm,1.1s						
SPR3	**Spring Creek 3**	**84.14**	**338**	P	**P**	**14 38 01.1**	**+1.2**
SPR3				IAmb	IAmb	14 38 23.2	
	comp=Z,5.0nm,1.3s						
TPH	**Tonopah**	**84.16**	**335**	P	**P**	**14 38 01.0**	**+1.1**
NVAR	**Mina Array Bea**	**84.82**	**335**	P	**P**	**14 38 03.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=165,slow=4.4,SNR=5.1						
BOSA	**Boshof**	**85.46**	**124**	LR	LR	15 10 28.4	
	comp=Z,40nm,18.6s,baz=184,slow=32						
K22A	**Casper**	**85.70**	**345**	P	**P**	**14 38 08.8**	**+1.3**
ELK	**Elko**	**86.02**	**338**	P	**P**	**14 38 10.2**	**+1.0**
ELK				IAmb	IAmb	14 38 12.2	
	comp=Z,2.5nm,1.0s						
PDAR	**Pinedale Array**	**86.46**	**342**	P	**P**	**14 38 11.5**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=152,slow=4.1,SNR=6.9						
YHH	**Holmes Hill**	**88.67**	**342**	P	**P**	**14 38 23.7**	**+1.7**
YHH				IAmb	IAmb	14 38 33.6	
	comp=Z,4.9nm,1.2s						
TIXI	**Tiksi**	**145.15**	**342**	PKPbc	**PKPbc**	**14 45 03.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=31,slow=4.3,SNR=3.9						
TIXI	**Tiksi**	**145.15**	**342**		**PKPdf**	**14 45 04.7**	**-0.3**

TUL ***29*** *14:37:23.5±0.7, 36.66N±0.02×98.45W±0.02, h5km±7km, ML2.7, mb_Lg2.3/18(NEIC), Error ellipse: s-maj=2.5km s-min=1.9km az=126.0*

NEIC 29 14:37:23.4±1.0, 36.66N±0.01×98.44W±0.02, h8km±4km, Error ellipse: s-maj=2.8km s-min=1.6km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.24**	**51**		Pg	14 37 28.6	+0.4
CROK	**Carrier**	**0.40**	**112**		Pg	14 37 31.6	+0.5
CROK				Sg	Sg	14 37 35.9	-0.5
U32A	**Winter Ranch,**	**0.53**	**239**	Pg	Pg	14 37 33.3	-0.4
U32A				Sg	Sg	14 37 40.7	0.0
KAN10	**Anthony SW Sta**	**0.54**	**30**	Pg	Pg	14 37 34.0	+0.1
KAN10				Sg	Sg	14 37 40.5	-0.6
KAN17	**Caldwell West**	**0.67**	**54**		Pg	14 37 36.1	-0.2
KAN08	**Anthony NE Sta**	**0.68**	**33

KU6				MSG			14 39 29.0	
	comp=Z,22nm,0.2s							
MSF	**Maaselka**	**2.58**	**229**	PN		**Pb**	**14 38 59.7**	**-2.0**
MSF				SN		**Sb**	**14 39 34.5**	**+1.2**
SGF	**Sodankyl**	**2.80**	**269**	PB		**Pn**	**14 39 02.3**	**+2.1**
SGF				SB		**Sb**	**14 39 40.6**	**+0.9**
RNF	**Rovaniemi**	**3.22**	**254**	PN		**Pn**	**14 39 06.5**	**+0.6**
RNF				SN		**Sn**	**14 39 46.8**	**+2.5**
KEV	**Kevo**	**3.25**	**313**	Pn		**Pn**	**14 39 07.4**	**+1.1**
KEV				Sn		**Sn**	**14 39 47.3**	**+2.2**
KEV				Lg		Lg	14 39 56.0	
KEV	**Kevo**	**3.25**	**313**	*eP*		**Pn**	**14 39 07.4**	**+1.1**
KEV	**Kevo**	**3.25**	**313**	PG		**Pn**	**14 39 07.3**	**+1.1**
	baz=117							
KEV				MSG			14 39 43.2	
	comp=Z,18nm,0.2s							
KEV				SG		**Sn**	**14 39 47.2**	**+2.2**
ARA0	**ARCESS Array S**	**3.58**	**306**	Pn		**Pn**	**14 39 11.3**	**+0.5**
	baz=122,slow=16							
ARA0				Lg		Lg	14 40 04.2	
	baz=106,slow=37							
ARA0	**ARCESS Array S**	**3.58**	**306**	Pn		**Pn**	**14 39 11.3**	**+0.5**
	baz=122,slow=16							
ARA0				Sg		**Sb**	**14 40 04.2**	**+2.2**
	baz=106,slow=37							
ARA0	**ARCESS Array S**	**3.58**	**306**	PB		**Pn**	**14 39 11.3**	**+0.5**
ARA0				SG		**Sb**	**14 39 57.5**	**-4.5**
ARCES	**ARCESS Array B**	**3.58**	**306**	Pn		**Pn**	**14 39 11.3**	**+0.4**
	baz=120,slow=15,SNR=98							
ARCES				Sn		**Sn**	**14 39 54.9**	**+1.8**
	baz=120,slow=23,SNR=5.8							
ARCES				Lg		Lg	14 40 06.0	
	baz=138,slow=31,SNR=14							
KLF	**Kolari**	**3.82**	**268**	PN		**Pn**	**14 39 15.7**	**+1.6**
KLF				SN		**Sn**	**14 40 00.7**	**+1.7**
HEF	**Hetta**	**3.88**	**286**	Pn		**Pn**	**14 39 15.1**	**+0.1**
HEF				Pg		**Pg**	**14 39 26.7**	**-3.0**
HEF				Sn		**Sn**	**14 40 01.5**	**+0.8**
HEF				Lg		Lg	14 40 15.5	
HEF	**Hetta**	**3.88**	**286**	*eP*		**Pn**	**14 39 15.1**	**+0.1**
HEF				*eS*		**Sn**	**14 39 59.2**	**-1.4**
HEF	**Hetta**	**3.88**	**286**	PB		**Pn**	**14 39 15.8**	**+0.7**
	baz=94							
TOF	**Tornio**	**4.06**	**251**	PG		**Pb**	**14 39 29.3**	**+2.4**
TOF				SN		**Sn**	**14 40 07.0**	**+1.9**
OUL	**Oulu**	**4.10**	**235**	Pn		**Pn**	**14 39 19.9**	**+1.9**
OUL				Pg		**Pb**	**14 39 29.4**	**+1.8**
OUL				Sn		**Sn**	**14 40 09.2**	**+3.3**
OUL				Lg		Lg	14 40 26.0	
OUL	**Oulu**	**4.10**	**235**	Pn		**Pn**	**14 39 19.9**	**+1.9**
OUL				Pg		**Pb**	**14 39 29.4**	**+1.8**
OUL				Sg		**Sg**	**14 40 26.0**	**-0.9**
KTK1	**Kautokeino**	**4.14**	**294**	*eP*		**Pn**	**14 39 19.2**	**+0.6**
KTK1				*eS*		**Sn**	**14 40 07.3**	**+0.2**
KTK1				IAML			14 40 30.4	
	comp=Z,28nm,0.6s							
PAJU	**Pajala**	**4.19**	**266**	PN		**Pn**	**14 39 20.1**	**+0.9**
PAJU				SN		**Sn**	**14 40 09.1**	**+1.0**
LANU	**Lannavaara**	**4.49**	**280**	SG		**Sb**	**14 40 33.3**	**+5.0**
KIF	**Kilpisjarvi**	**5.00**	**292**	Pn		**Pn**	**14 39 31.1**	**+0.8**
KIF				Sn		**Sn**	**14 40 27.6**	**-0.6**
KIF	**Kilpisjarvi**	**5.00**	**292**	Pn		**Pn**	**14 39 31.1**	**+0.8**
KIF				Sn		**Sn**	**14 40 27.6**	**-0.6**
FIA0	**FINESS Array S**	**7.07**	**212**	Pn		**Pn**	**14 39 58.1**	**-0.6**
FIA0				Sn		**Sn**	**14 41 16.5**	**-2.5**
	baz=40,slow=22							
FIA0				Lg		Lg	14 41 51.3	
	baz=41,slow=28							
FIA0	**FINESS Array S**	**7.07**	**212**	Pn		**Pn**	**14 39 58.1**	**-0.6**
FIA0				Sn		**Sn**	**14 41 16.5**	**-2.5**
	baz=40,slow=22							
FIA0				Sg		Sb	14 41 51.3	+8.9
	baz=41,slow=28							
FINES	**FINESS Array B**	**7.07**	**212**	Pn		**Pn**	**14 39 59.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=15,SNR=4.7							
FINES				Sn		**Sn**	**14 41 19.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=32,slow=21,SNR=3.6							
FINES				Lg		Lg	14 41 54.4	
	comp=Z,2.3nm,0.3s,baz=41,slow=26,SNR=3.7							
HFS	**Hagfors**	**11.58**	**239**	Pn		**Pn**	**14 40 59.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=39,slow=12,SNR=4.4							
SPA0	**Spitsbergen Ar**	**11.65**	**342**	Pn		**Pn**	**14 40 58.6**	**-2.8**
	baz=139,slow=14							
SPA0	**Spitsbergen Ar**	**11.65**	**342**	Pn		**Pn**	**14 40 58.6**	**-2.8**
	baz=139,slow=14							
SPITS	**Spitsbergen Ar**	**11.65**	**342**	Pn		**Pn**	**14 40 58.5**	**-2.8**
	baz=140,slow=11,SNR=11							
NB2	**NORSAR Subarra**	**11.76**	**246**	Pn		**Pn**	**14 41 03.1**	**+0.1**
NB2	**NORSAR Subarra**	**11.76**	**246**	Pn		**Pn**	**14 41 03.1**	**+0.1**
NOA	**NORSAR Array B**	**11.76**	**246**	Pn		**Pn**	**14 41 02.2**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=46,slow=11,SNR=4.0							
AKASG	**Malin Array Be**	**17.17**	**190**	Pn		**Pn**	**14 42 11.7**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=7.4,slow=12,SNR=2.4							
AKTO	**Aktyubinsk**	**21.04**	**133**	P		**P**	**14 43 00.7**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=340,slow=11,SNR=3.9							
KURBB	**Kurchatov Arra**	**27.71**	**105**	P		**P**	**14 44 04.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=323,slow=7.7,SNR=4.6							
MKAR	**Makanchi Array**	**32.28**	**106**	P		**P**	**14 44 47.4**	**+3.5**
	comp=Z,0.3nm,0.6s,baz=343,slow=8.0,SNR=2.7							

*DRS **29** 14:54:33.4±0.0, 42°.55N×44°.24E, h15km*
*MOS **29** 14:54:35.7±0.0, 42°.35N×44°.57E, h16km, MPVA3.7*
*TIF **29** 14:54:36.2, 42°.38N×44°.60E, h10km±2km*
*NORS **29** 14:54:36.1±0.0, 42°.37N×44°.55E, h15km, MPVA3.9*
*DDA **29** 14:54:38.2, 42°.25N×44°.38E, h8km±3km, ML2.5*

ISC 29 14:54:36.1±1.0, 42°.37N±0°.02×44°.52E±0°.02, h5km±8km,
n35, σ1°52/64, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUDG	**Gudauri**	**0.10**	**340**	P		**Pg**	**14 54 36.0**	**-2.4**
GUDG				S		**Sg**	**14 54 38.6**	**-1.3**
PNSH	**Pansheti**	**0.27**	**14**	P		Pn	14 54 54.9	+7.9
PNSH				S		Sb	14 54 59.0	+10
LACR	**Lac**	**0.48**	**340**	*ePg*		**Pb**	**14 54 46.8**	**-0.5**
	172nm,0.3s							
LACR				*eSg*		**Sb**	**14 54 53.9**	**-0.8**
	824nm,0.5s							
ZEI	**Tsey**	**0.62**	**312**	*ePg*		**Pb**	**14 54 50.0**	**+0.4**
	93nm,0.2s							
ZEI				*eSg*		**Sb**	**14 54 59.3**	**+0.6**
VLKR	**Vladikavkaz**	**0.68**	**9**	*ePg*		**Pb**	**14 54 50.9**	**+0.4**
VLKR				*eSg*		**Sn**	**14 55 02.2**	**-1.4**
BTNK	**Botanikuri**	**0.72**	**163**	P		**Pb**	**14 54 50.5**	**-0.6**
KMGR	**Komgaron**	**0.73**	**20**	*ePg*		**Pn**	**14 54 52.0**	**-1.2**
	132nm,0.5s							
KMGR				*eSg*		**Sn**	**14 55 04.1**	**-0.6**
	647nm,0.3s							
KORR	**Kora**	**0.79**	**335**	*ePg*		**Pn**	**14 54 53.4**	**-0.5**
	50nm,0.4s							
KORR				*eSg*		**Sn**	**14 55 06.1**	**-0.1**
	241nm,0.4s							
ONI	**Oni**	**0.82**	**286**	P		**Pn**	**14 54 54.8**	**+0.4**
ONI				S		**Sn**	**14 55 07.6**	**+0.7**
ONI	**Oni**	**0.82**	**286**	*ePg*		**Pn**	**14 54 54.8**	**+0.4**
	37nm,0.3s							
ONI				*eSg*		**Sn**	**14 55 07.7**	**+0.7**
	199nm,0.4s							
ARNR	**Ardon**	**0.83**	**348**	*ePg*		**Pn**	**14 54 54.6**	**+0.1**
	43nm,0.3s							
ARNR				*eSg*		**Sn**	**14 55 07.9**	**+0.9**
	125nm,0.3s							
DIGR	**Digorskoe uzhe**	**0.87**	**308**	*ePg*		**Pn**	**14 54 54.6**	**-0.6**
	20nm,0.3s							
DIGR				*eSg*		**Sn**	**14 55 07.9**	**-0.6**
	51nm,0.2s							
TRLG	**Trialeti**	**0.89**	**201**	P		**Pn**	**14 54 54.4**	**-1.0**
TRLG				S		**Sn**	**14 55 07.7**	**-1.0**
BRNG	**Burnasheti**	**0.91**	**215**	P		**Pn**	**14 54 55.4**	**-0.4**
BRNG				S		**Sn**	**14 55 09.6**	**+0.3**
BKRG	**Bakuriani**	**0.96**	**231**	P		**Pn**	**14 54 55.8**	**-0.7**
BKRG				S		**Sn**	**14 55 10.4**	**-0.2**
KZRT	**Kazreti**	**0.99**	**185**	P		**Pn**	**14 54 55.5**	**-1.2**
KZRT				S		**Sn**	**14 55 09.6**	**-1.5**
KZRT	**Kazreti**	**0.99**	**185**	*i* P		**Pn**	**14 54 55.1**	**-1.6**
KZRT				*i* S		**Sb**	**14 55 07.4**	**-1.7**
LSNR	**Lesken**	**1.04**	**331**	*ePg*		**Pn**	**14 54 58.2**	**+0.7**
	68nm,0.3s							
LSNR				*eSg*		**Sn**	**14 55 14.0**	**+1.6**
	110nm,0.5s							
TKB	**Tkibuli**	**1.13**	**269**	P		**Pg**	**14 54 59.3**	**+1.4**
TKB				S		**Sn**	**14 55 16.0**	**+1.4**
GROC	**Groznyy**	**1.25**	**48**	*ePg*		**Pg**	**14 55 01.8**	**+1.7**
	92nm,0.3s							
GROC				*eSg*		**Sn**	**14 55 19.4**	**+1.9**
	150nm,0.4s							
BTLR	**Botlikh**	**1.29**	**76**	*i* Pg		**Pg**	**14 55 00.3**	**-0.5**
	26nm,0.4s							
BTLR				*eSg*		**Sn**	**14 55 17.9**	**-0.6**
	48nm,0.3s							
DVE	**Vedeno**	**1.32**	**63**	*ePg*		**Pg**	**14 55 01.6**	**+0.2**
	44nm,0.3s							
DVE				*eSg*		**Sg**	**14 55 19.1**	**+0.6**
	87nm,0.6s							
LGD	**Lagodekhi**	**1.39**	**112**	P		**Pg**	**14 55 02.0**	**-0.7**
LGD				S		**Sg**	**14 55 20.9**	**+0.2**
DDFL	**Dedoflistskaro**	**1.51**	**127**	P		**Pg**	**14 55 07.5**	**+2.5**
DDFL				S		**Sg**	**14 55 31.2**	**+6.7**
DDFL	**Dedoflistskaro**	**1.51**	**127**	*i* P		**Pg**	**14 55 06.5**	**+1.5**
DDFL				*i* S		**Sg**	**14 55 29.2**	**+4.7**
DDFL				IAML			14 55 33.0	
	comp=E,172nm,0.7s							
DDFL				IAML			14 55 33.0	
	comp=N,112nm,0.6s							
NEY	**Neytrino**	**1.59**	**304**	*ePg*		**Pg**	**14 55 07.8**	**+1.2**
	comp=N,25nm,0.6s							
NEY				*eSg*		**Sg**	**14 55 29.4**	**+2.2**
	comp=N,46nm,0.6s							
EPOS	**Posof**	**1.60**	**238**	*i* P		**Pb**	**14 55 06.0**	**-0.2**
EPOS				*i* S		**Sb**	**14 55 25.9**	**-0.7**
EPOS				IAML			14 55 29.0	
	comp=N,22nm,0.5s							
GNBR	**Gunib**	**1.81**	**89**	*ePg*		**Pg**	**14 55 10.3**	**-0.5**
GNBR				*eSg*		**Sg**	**14 55 34.4**	**+0.1**
KRNR	**Karanay**	**1.82**	**75**	*ePg*		**Pb**	**14 55 09.1**	**-0.8**
KRNR				*eSg*		**Sg**	**14 55 32.4**	**-2.2**
EAK	**Akyaka**	**1.82**	**203**	*i* P		**Pn**	**14 55 07.8**	**-0.4**
DBC	**Dubki**	**1.82**	**68**	*ePg*		**Pg**	**14 55 10.0**	**-1.0**
	comp=N,16nm,0.5s							
DBC				*eSg*		**Sg**	**14 55 35.6**	**+1.0**
	comp=N,32nm,0.3s							
SHA1	**Shidzhatmaz**	**1.93**	**316**	*ePg*		**Pg**	**14 55 13.0**	**-0.2**
SHA1				*eSg*		**Sg**	**14 55 39.8**	**+1.6**
DAGI	**Agillar**	**2.34**	**237**	*i* P		**Pb**	**14 55 18.0**	**-0.8**
DBOC	**Borcka**	**2.37**	**245**	*i* P		**Pb**	**14 55 19.3**	**+0.1**
DBAD	**Bademkaya**	**2.51**	**238**	*i* P		**Pg**	**14 55 22.7**	**-1.5**
DBAD				*i* S		**Sg**	**14 55 55.6**	**-1.2**
DBAD				IAML			14 55 58.0	
	comp=N,34nm,0.7s							
DBAD				IAML			14 56 01.0	
	comp=E,29nm,0.5s							

*IDC **29** 14:55:51.5±0.9, 17°.75S×173°.02W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.2/30, mbtmp4.2/11, MS3.6/7, Ms1 3.6/7, ms1mx3.3/34, Error ellipse: s-maj=36.8km s-min=18.9km az=151.0*
*NEIC **29** 14:55:53.9±1.4, 17°.4S±0°.1×173°.2W±0°.2, h10km±1km, mb4.6/44, Error ellipse: s-maj=27.5km s-min=19.7km az=120.0*

ISC 29 14:55:53.3±0.5, 17°.27S±0°.09×173°.0W±0°.1, h10km, n106,
σ1°39/99, mb4.5/34, MS3.6/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIUE	**Niue**	**3.46**	**122**			Pn	14 56 38.2	-9.1
AFI	**Afiamalu**	**3.56**	**20**	Pn		**Pn**	**14 56 46.1**	**-2.6**
	18nm,0.3s,baz=126,slow=17,SNR=16							
AFI				Sn		**Sn**	**14 57 25.6**	**-5.3**
	24nm,0.3s,baz=267,slow=7.8,SNR=9.1							
AFI				LR		LR	14 58 28.9	
	comp=Z,327nm,19.4s,baz=192,slow=39							
AFI				T		T	15 00 38.0	
	19nm,0.3s,baz=68,slow=18,SNR=6.5							
AFI	**Afiamalu**	**3.56**	**20**			Pn	14 56 46.0	-2.7
MSVF	**Nonsavu**	**8.51**	**266**	LR		LR	15 00 58.3	
	comp=Z,979nm,18.3s,baz=153,slow=36							
MSVF	**Nonsavu**	**8.51**	**266**			Pn	14 58 04.6	+7.9
RAR	**Rarotonga**	**13.13**	**109**	LR		LR	15 03 10.6	
	comp=Z,153nm,19.8s,baz=274,slow=34							
DZM	**Mont Dzumac**	**19.89**	**253**	LR		LR	15 07 22.8	
	comp=Z,231nm,18.4s,baz=134,slow=35							
OUZ	**Omahuta**	**21.48**	**211**	P		**P**	**15 00 41.6**	**-0.4**
OUZ				IAmb		IAmb	15 00 42.2	
	comp=Z,44nm,1.4s							
PPT	**Papeete**	**22.39**	**94**	LR		LR	15 07 58.6	
	comp=Z,97nm,19.5s,baz=175,slow=33							
URZ	**Urewera**	**22.62**	**200**	P		**P**	**15 00 53.1**	**-1.2**
URZ				IAmb		IAmb	15 01 03.1	
	comp=Z,18nm,0.7s							
BKZ	**Black Stump Fm**	**23.64**	**201**	P		**P**	**15 01 01.9**	**-2.9**
BFZ	**Birch Farm**	**25.10**	**199**	P		**P**	**15 01 16.7**	**-1.5**
BHW	**Baring Head**	**26.20**	**201**	P		**P**	**15 01 27.5**	**-0.7**
TUWZ	**Tuamarina**	**26.55**	**202**	P		**P**	**15 01 30.0**	**-1.3**
TOO	**Toolangi**	**41.58**	**232**	P		**P**	**15 03 39.5**	**-2.0**
TOO				IAmb		IAmb	15 03 46.3	
	comp=Z,22nm,1.5s							
STKA	**Stephens Creek**	**43.43**	**242**	P		**P**	**15 03 54.6**	**-2.0**
	comp=Z,2.6nm,0.9s,baz=112,slow=11,SNR=5.0							
STKA	**Stephens Creek**	**43.43**	**242**	IAmb		IAmb	15 04 00.1	
	comp=Z,1.4nm,1.2s							
BBOO	**Buckleboo**	**48.19**	**241**	P		**P**	**15 04 32.4**	**-1.8**
WR0	**Warramunga Arr**	**49.58**	**258**	P		**P**	**15 04 43.0**	**-2.1**
WR0				IAmb		IAmb	15 04 56.8	
	comp=Z,6.5nm,1.2s							
WB0	**Warramunga Arr**	**49.74**	**258**	P		**P**	**15 04 44.7**	**-1.6**
WB0				IAmb		IAmb	15 04 48.3	
	comp=Z,6.5nm,0.8s							
WB2	**Warramunga Arr**	**49.76**	**258**	P		**P**	**15 04 44.7**	**-1.8**
WB2				IAmb		IAmb	15 04 45.4	
	comp=Z,5.0nm,0.8s							
WRAB	**Tennant Creek**	**49.77**	**258**	P		**P**	**15 04 44.6**	**-1.9**
WRAB				IAmb		IAmb	15 04 45.3	
	comp=Z,4.7nm,0.8s							
WRA	**Warramunga Arr**	**49.77**	**258**	P		**P**	**15 04 44.3**	**-2.2**
	comp=Z,4.0nm,0.8s,baz=96,slow=8.3,SNR=39							
WRA	**Warramunga Arr**	**49.77**	**258**	P		**P**	**15 04 44.9**	**-1.6**
AS31	**Alice Springs**	**49.88**	**253**	P		**P**	**15 04 45.8**	**-1.5**
AS31				IAmb		IAmb	15 04 47.3	
	comp=Z,4.4nm,0.7s							
ASAR	**Alice Springs**	**49.88**	**253**	P		**P**	**15 04 45.6**	**-1.7**
	comp=Z,16nm,0.7s,baz=88,slow=8.5,SNR=244							
ASAR	**Alice Springs**	**49.88**	**253**	P		**P**	**15 04 46.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**58.18**	**259**	P		**P**	**15 05 47.3**	**-0.6**
FITZ				IAmb		IAmb	15 06 12.5	
	comp=Z,4.0nm,1.1s							
SBA	**Scott Base**	**61.42**	**185**	P		**P**	**15 06 09.8**	**+0.5**
SBA				IAmb		IAmb	15 06 31.9	
	comp=Z,8.4nm,1.5s							
PSA00	**Pilbara Seismi**	**63.01**	**254**	P		**P**	**15 06 20.2**	**-0.8**
PSA00				IAmb		IAmb	15 06 22.3	
	comp=Z,5.8nm,1.1s							
MJAR	**Matsushiro Arr**	**70.58**	**320**	P		**P**	**15 07 11.3**	**+2.5**
	comp=Z,1.5nm,0.8s,baz=148,slow=5.8,SNR=4.2							
MJAR	**Matsushiro Arr**	**70.58**	**320**	P		**P**	**15 07 08.9**	**0.0**
QSPA	**South Pole Qui**	**72.78**	**180**	P		**P**	**15 07 20.6**	**-1.2**
QSPA				IAmb		IAmb	15 07 43.9	
	comp=Z,7.4nm,1.4s							
PEA0B	**Petropavlovsk-**	**74.51**	**342**	P		**P**	**15 07 33.2**	**+1.3**
PETK	**Petropavlovsk-**	**74.51**	**342**	P		**P**	**15 07 34.3**	**+2.5**
	comp=Z,3.0nm,0.8s,baz=135,slow=9.0,SNR=10							
PETK	**Petropavlovsk-**	**74.51**	**342**	P		**P**	**15 07 32.8**	**+1.0**
WAKR	**Walker**	**74.82**	**41**	P		**P**	**15 07 33.7**	**-0.5**
WAKR				IAmb		IAmb	15 07 36.3	
	comp=Z,4.7nm,1.1s							
NVAR	**Mina Array Bea**	**75.49**	**41**	P		**P**	**15 07 39.7**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=224,slow=9.9,SNR=11							
NVAR	**Mina Array Bea**	**75.49**	**41**	P		**P**	**15 07 39.0**	**+0.9**
NV11	**Mina Array Sit**	**75.59**	**42**	P		**P**	**15 07 39.8**	**+1.2**
KVN	**Kaiserville**	**75.99**	**41**	P		**P**	**15 07 41.4**	**+0.4**
PINE	**Pine Mountain**	**77.20**	**36**	P		**P**	**15 07 48.9**	**+1.2**
PINE				IAmb		IAmb	15 08 04.6	
	comp=Z,3.8nm,1.1s							
TUC	**Tucson**	**77.31**	**50**	P		**P**	**15 07 49.3**	**+0.8**
TUC				IAmb		IAmb	15 07 50.8	
	comp=Z,3.8nm,1.1s							
KSRS	**Korea Array**	**77.73**	**316**	P		**P**	**15 07 53.5**	**+3.0**
	comp=Z,1.9nm,1.0s,baz=134,slow=7.2,SNR=7.9							
X16A	**Lo Mia Camp, P**	**77.90**	**48**	P		**P**	**15 07 52.8**	**+1.0**
PSUT	**Pine Spring**	**78.42**	**43**	P		**P**	**15 07 55.4**	**+0.8**
ELK	**Elko**	**78.76**	**41**	P		**P**	**15 07 57.9**	**+1.4**
MSU	**Marysvale**	**79.52**	**44**	P		**P**	**15 08 02.2**	**+1.5**
MNTX	**Cornudas Mount**	**81.07**	**53**	P		**P**	**15 08 10.1**	**+1.2**
TX31	**Lajitas Ar. Si**	**81.37**	**56**	P		**P**	**15 08 10.3**	**-0.4**
TX31				IAmb		IAmb	15 08 12.7	
	comp=Z,6.4nm,1.1s							
TX32	**Lajitas Array**	**81.37**	**56**	P		**P**	**15 08 10.7**	**0.0**
TXAR	**Lajitas Array**	**81.37**	**56**	P		**P**	**15 08 11.5**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=210,slow=7.2,SNR=9.0							
YAH	**Yahtse**	**81.39**	**15**	P		**P**	**15 08 10.2**	**0.0**
TRF	**Thorofare Moun**	**82.40**	**10**	P		**P**	**15 08 15.0**	**-0.4**
RND	**Reindeer**	**82.60**	**11**	P		**P**	**15 08 18.2**	**+1.8**
RND				IAmb		IAmb	15 08 19.6	
	comp=Z,7.5nm,1.1s							
MCK	**McKinley**	**82.89**	**11**	P		**P**	**15 08 19.0**	**+1.2**
PDAR	**Pinedale Array**	**83.43**	**42**	P		**P**	**15 08 22.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=250,slow=3.0,SNR=4.8							
PDAR	**Pinedale Array**	**83.43**	**42**	P		**P**	**15 08 21.9**	**+0.5**
NEA2	**Nenana**	**83.66**	**10**	P		**P**	**15 08 22.9**	**+1.1**
NEA2				IAmb		IAmb	15 08 24.5	
	comp=Z,3.6nm,1.0s							
WRH	**Wood River Hil**	**83.72**	**11**	P		**P**	**15 08 23.3**	**+1.3**
MLY	**Manley**	**83.80**	**9**	P		**P**	**15 08 23.0**	**+0.5**
MLY				IAmb		IAmb	15 08 25.6	
	comp=Z,5.1nm,1.1s							
CCB	**Clear Creek Bu**	**83.93**	**11**	P		**P**	**15 08 23.6**	**+0.5**
CCB				IAmb		IAmb	15 08 25.4	
	comp=Z,7.4nm,1.2s							
I23K	**Minto, Yukon-K**	**84.13**	**10**	P		**P**	**15 08 25.0**	**+1.0**
MDM	**Murphy Dome**	**84.14**	**10**	P		**P**	**15 08 24.9**	**+0.7**
MDM				IAmb		IAmb	15 08 26.6	
	comp=Z,6.6nm,1.0s							
IL31		**84.21**	**11**	P		**P**	**15 08 25.2**	**+0.8**
IL31				IAmb		IAmb	15 08 30.7	
	comp=Z,4.0nm,1.1s							
ILAR	**Eielson Array**	**84.21**	**11**	P		**P**	**15 08 25.6**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=225,slow=5.9,SNR=13							
ILAR	**Eielson Array**	**84.21**	**11**	P		**P**	**15 08 24.9**	**+0.4**
POKR	**Poker Plat Res**	**84.43**	**11**	P		**P**	**15 08 26.1**	**+0.5**
PRP	**Porcupine Dome**	**85.13**	**11**	P		**P**	**15 08 29.0**	**+0.5**
BMAR	**Burnt Mountain**	**87.02**	**11**	P		**P**	**15 08 40.2**	**+1.7**
YKA	**Yellowknife Ar**	**91.67**	**23**	P		**P**	**15 09 01.9**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=225,slow=3.8,SNR=8.0							
CMAR	**Chiang Mai Arr**	**93.52**	**288**	P		**P**	**15 09 13.4**	**+3.4**
	comp=Z,1.9nm,0.9s,baz=86,slow=2.6,SNR=11							
CMAR				LR		LR	15 48 19.3	
	comp=Z,20nm,20.3s,baz=155,slow=34							
CMAR	**Chiang Mai Arr**	**93.52**	**288**	P		**P**	**15 09 09.1**	**-0.9**
ULM	**Lac du Bonnet**	**95.17**	**39**	LR		LR	15 48 14.2	
	comp=Z,56nm,18.2s,baz=280,slow=33							
KMBO	**Kilima Mbogo**	**144.99**	**242**	PKP		**PKPdf**	**15 15 32.9**	**+0.7**
	comp=Z,7.5nm,1.0s,baz=83,slow=4.0,SNR=11							
CLL	**Collm**	**145.70**	**353**	*i* PKPbc		**PKPab**	**15 15 33.7**	**+1.1**
	comp=Z,28nm,1.0s							
CHVC	**Chvalec**	**145.97**	**350**	*e*PKPAB		**PKiKP**	**15 15 36.2**	**-0.5**
OSTC	**Ostas**	**145.97**	**349**	*e*PKPAB		**PKiKP**	**15 15 36.3**	**-0.4**
UPC	**Upice**	**146.06**	**350**	*e*PKPAB		**PKiKP**	**15 15 36.4**	**-0.4**
DPC	**Dobruska-Polom**	**146.16**	**349**	*e*PKPAB		**PKPab**	**15 15 36.2**	**+1.8**
PVCC	**Panska Ves**	**146.27**	**351**	*e*PKPAB		**PKiKP**	**15 15 37.0**	**-0.2**
KRLC	**Kraliky**	**146.33**	**349**	*e*PKPAB		**PKPab**	**15 15 36.8**	**+1.7**
MORC	**Moravsky Berou**	**146.47**	**348**	*e*PKP		**PKPab**	**15 15 36.6**	**+1.0**
PRU	**Pruhonice**	**146.80**	**351**	*e*PKPAB		**PKiKP**	**15 15 38.6**	**+0.3**
VRAC	**Vranov**	**147.10**	**348**	*e*PKP		**PKPab**	**15 15 39.1**	**+1.0**
JAVC	**Velka Javorina**	**147.31**	**347**	*e*PKP		**PKiKP**	**15 15 40.4**	**+0.9**
TREC	**Trest**	**147.32**	**350**	*e*PKPAB		**PKPbc**	**15 15 37.1**	**-0.1**
KRUC	**Moravsky**	**147.38**	**348**	*e*PKP		**PKPab**	**15 15 39.1**	**0.0**
KHC	**Kasperske Hory**	**147.77**	**352**	*e*PKPAB		**PKiKP**	**15 15 40.8**	**+0.4**
KHC				*ep*PKP		**pPKPab**	**15 15 43.7**	**+0.4**
**BR

WNVZ	Wahianoa	0.16	189	P	Pn	15 24 42.3	+0.3
TWVZ	Taurewa	0.18	303	P	Pn	15 24 41.8	-0.2
MTVZ	Mangateitei	0.25	209	P	Pn	15 24 42.6	+0.3
PKVZ	Pokaka	0.25	241	P	Pn	15 24 42.3	0.0
MOVZ	Moawhango	0.26	158	P	Pn	15 24 42.4	+0.1
BHHZ	Black Hill Sta	0.47	134	P	Pn	15 24 43.6	0.0
BKZ	Black Stump Fm	0.67	90	P	Pn	15 24 45.0	-0.4
VRZ	Vera Road	0.68	273	P	Pn	15 24 45.2	-0.2
KUTZ	Kaahu Road	0.69	13	P	Pn	15 24 45.1	-0.5
MRHZ	Matea Rd	0.70	62	P	Pn	15 24 44.7	-0.9
KRHZ	Kereru	0.75	130	P	Pn	15 24 47.0	+0.9
PNHZ	Pukenui	0.87	150	P	Pn	15 24 48.0	+0.6
NMHZ	Naumai	0.92	86	P	Pn	15 24 50.1	+2.0
TSZ	Takapari Road	0.93	164	P	Pn	15 24 48.6	+0.5
HSRZ	Hossack Road	0.98	30	P	Pn	15 24 47.8	-0.9
MTHZ	Maungataniwha	0.99	72	P	Pn	15 24 53.2	+4.4
WPHZ	Waipukurau	1.09	145	P	Pn	15 24 52.0	+2.0
RAHZ	Arahi	1.16	78	P	Pn	15 24 52.4	+1.5
RTZ	Ruatahuna	1.19	63	P	Pn	15 24 50.1	-1.1
DVHZ	Dannevirke	1.20	160	P	Pn	15 24 51.3	-0.1
POWZ	Post Office Ro	1.23	175	P	Pn	15 24 51.7	+0.1
PRHZ	Porangahau	1.34	145	P	Pn	15 24 53.3	+0.3
PRWZ	Pori Road	1.41	169	P	Pn	15 24 54.0	0.0
ANWZ	Angora Road	1.45	153	P	Pn	15 24 54.5	+0.1
URZ	Urewera	1.47	52	P	Pn	15 24 53.0	-1.7
MRZ	Mangatainoka R	1.49	181	P	Pn	15 24 54.5	-0.4
BFZ	Birch Farm	1.59	163	P	Pn	15 24 55.8	-0.3
TIWZ	Tintock	1.62	173	P	Pn	15 24 56.2	-0.4
OGWZ	Otaki Gorge	1.69	192	P	Pn	15 24 57.0	-0.4
MWZ	Matawai	1.70	61	P	Pn	15 24 56.3	-1.4
HOWZ	Holdsworth Sta	1.73	183	P	Pn	15 24 57.2	-0.8
KIW	Kapiti Island	1.78	198	P	Pn	15 24 57.9	-0.8
TMWZ	Te Maipa	1.95	174	P	Pn	15 24 59.9	-1.0
CAW	Cannon Point	1.99	192	P	Pn	15 25 00.3	-1.1
MTW	Mount Morrison	1.99	183	P	Pn	15 25 00.2	-1.3
RUGZ	Raukumara Rang	2.00	54	P	Pn	15 24 59.7	-2.0
HAZ	Te Kaha	2.20	51	P	Pn	15 25 01.7	-2.5
PLWZ	Palliser	2.42	187	P	Pn	15 25 05.3	-1.9

WEL 29 15:25:26.1, 44°S±5°×17°0E±°, **h15**km±8km, **M4.0/8, ML4.2/8, MLv4.0/8, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	0.50	129	P	Pb	15 25 37.2	+0.6
LBZ				S	Sb	15 25 43.8	+0.1
FOZ	Fox Glacier	0.55	13	P	Pg	15 25 36.8	-0.1
FOZ				S	Sg	15 25 43.2	-1.0
JCZ	Jackson Bay	0.62	269	P	Pb	15 25 39.0	+0.3
JCZ				S	Sg	15 25 46.8	+0.2
WKZ	Wanaka	0.88	211	P	Pg	15 25 43.3	+0.1
GCSZ	Gaunt Creek Bo	0.90	33	P	Pb	15 25 42.7	-0.7
GCSZ				S	Sn	15 25 58.2	+1.2
TMZ	Timaru	1.03	108	P	Pn	15 25 46.8	+0.8
RPZ	Rata Peaks	1.08	71	P	Pg	15 25 47.1	+0.2
ARCZ	Arundel	1.11	84	P	Pg	15 25 48.0	+0.4
EAZ	Earnscleugh	1.19	192	P	Pg	15 25 48.8	-0.2
EAZ				S	Sg	15 26 05.1	+0.7
ODZ	Otahua Downs	1.21	144	P	Pg	15 25 49.5	+0.1
ODZ				S	Sg	15 26 05.7	+0.6
WVZ	Waitaha Valley	1.27	39	P	Pb	15 25 49.7	-0.1
WVZ				S	Sg	15 26 07.6	+0.5
MSZ	Milford Sound	1.37	243	P	Pg	15 25 52.0	-0.5
MSZ				S	Sb	15 26 09.1	+0.3
MHCZ	Mount Hutt	1.49	70	P	Pg	15 25 54.8	+0.1
MHCZ				S	Sg	15 26 14.8	+0.6
WACZ	Wakanui South	1.59	86	P	Pg	15 25 55.9	-0.7
WACZ				S	Sg	15 26 16.9	-0.3
MLZ	Mavora Lakes	1.69	219	P	Pb	15 25 57.6	+0.6
MLZ				S	Sg	15 26 21.5	+0.9
RACZ	Rakaia	1.83	80	P	Pb	15 26 00.1	+0.8
INZ	Inchbonnie	1.88	45	P	Pb	15 25 59.6	-0.5
INZ				S	Sb	15 26 24.7	+1.4
TUZ	Tuapeka	1.88	180	P	Pb	15 25 59.4	-0.7
OXZ	Oxford	1.89	68	P	Pb	15 25 59.6	-0.7
HHSZ	Highcliff Hill	1.94	160	P	Pg	15 26 02.9	-0.3
WHZ	Wether Hill Ro	2.19	213	P	Pb	15 26 03.8	-1.5
MQZ	McQueen's Vall	2.21	82	P	Pb	15 26 04.1	-1.5
DCZ	Deep Cove	2.26	231	P	Pb	15 26 05.4	-1.1
LTZ	Lake Taylor	2.31	57	P	Pb	15 26 06.0	-1.4
AMCZ	Amberley	2.36	69	P	Pb	15 26 06.6	-1.7
AKCZ	Akaroa Harbour	2.36	86	P	Pg	15 26 12.6	+1.2
OKCZ	Okains Bay	2.49	83	P	Pb	15 26 08.9	-1.7
SYZ	Scrubby Hill	2.49	188	P	Pn	15 26 07.8	+1.7
DSZ	Denniston Nort	2.81	35	P	Pn	15 26 11.6	+1.1
PYZ	Puysegur Point	2.97	224	P	Pb	15 26 17.8	-0.9
APZ	The Paps	3.00	202	P	Pn	15 26 14.7	+1.6
KHZ	Kahutara	3.29	61	P	Pn	15 26 20.2	+3.1
THZ	Tophouse	3.32	47	P	Pn	15 26 20.1	+2.5
QRZ	Quartz Range	3.88	34	P	Pn	15 26 26.7	+1.5
BSWZ	Blackbirch Sta	3.90	54	P	Pn	15 26 29.7	+4.3
NNZ	Nelson	3.96	45	P	Pb	15 26 28.6	+2.3
TUMZ	Tuamarina	4.12	52	P	Pb	15 26 34.4	-3.8
TCW	Tory Channel	4.45	62	P	Pb	15 26 39.7	-4.3
DUWZ	D'Urville Isla	4.55	46	P	Pn	15 26 38.4	+4.0
KIW	Kapiti Island	5.04	52	P	Pn	15 26 43.9	+2.7
OGWZ	Otaki Gorge	5.22	53	P	Pn	15 26 46.8	+3.2
MRZ	Mangatainoka R	5.56	54	P	Pn	15 26 49.8	+1.5
NBEZ	Newall Road No	5.75	35	P	Pn	15 26 53.0	+2.2
KHEZ	Kahui Hut	5.78	36	P	Pn	15 26 53.9	+2.5
PREZ	Palmer Road	5.81	37	P	Pn	15 26 54.7	+3.0
LREZ	Lake Rotokare	5.82	39	P	Pn	15 26 55.4	+3.6
NEZ	North Egmont	5.84	36	P	Pn	15 26 55.1	+2.9
PKE	Pukeiti	5.86	35	P	Pn	15 26 55.0	+2.6
DREZ	Durham Road	5.95	37	P	Pn	15 26 56.2	+2.6
VRZ	Vera Road	6.25	40	P	Pn	15 27 00.4	+2.7
TRVZ	Turoa	6.50	45	P	Pn	15 27 05.9	+4.5
WNVZ	Wahianoa	6.50	45	P	Pn	15 27 07.8	+6.5
HIZ	Hauiti	6.80	37	P	Pn	15 27 07.2	+2.0

*AEIC **29** 15:58:40.3±6.3, 52°1N±0°1×175°3E±0°1, h75km±8km, Error ellipse: s-maj=18.4km s-min=6.6km az=202.0*
NEIC 29 15:58:40.1±1.6, **52°0N±0°1×175°3E±0°1, h41**km±21km, **mb4.0**/18, **ML3.6**/16(AEIC), **Error ellipse: s-maj=18.4km s-min=6.0km az=207.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.04	315		Pn	15 58 57.6	-0.6
SMY					Sn	15 59 12.2	+0.8
LSSA	Little Sitkin	1.98	90		Pn	15 59 11.1	-0.1
LSNW	Little Sitkin	1.99	90		Pn	15 59 11.5	+0.3
LSPA	Little Sitkin	2.02	90		Pn	15 59 11.5	-0.1
LSPA					Sn	15 59 37.9	+2.3
AMKA	Amchitka	2.56	103		Pn	15 59 19.4	+0.3
AMKA					Sn	15 59 50.0	+1.0
CESW	Semis' Southwe	2.64	91		Pn	15 59 19.9	-0.2
TASE	Tanaga Southea	4.12	90		Pn	15 59 40.8	+0.2
KIMD	Kanaga Island	4.63	90		Pn	15 59 47.6	+0.2
KIWB	Kanaga Island	4.67	89		Pn	15 59 46.9	-1.1
ADK	Adak	4.96	88		Pn	15 59 51.2	-0.7
ADK					Sn	16 00 45.8	-2.1
GSIG	Igitkin Island	5.42	87		Pn	15 59 57.1	-1.2
ATKA	Atka Island	6.47	84		Pn	16 00 11.2	-1.5
NIKH	Nikolski High	9.71	78	Pn	Pn	16 00 54.5	-2.6
SPIA	Saint Paul Isl	9.85	53	Pn	Pn	16 00 57.0	-1.9
PET	Petropavlovsk	10.21	282	Pn	Pn	16 01 02.7	-1.1
SVW2	Sparrevohn	18.30	49	P	P	16 02 50.1	-0.2
KDAK	Kodiak Island	19.23	60	P	P	16 02 59.8	-0.6
KDAK				IAmb	IAmb	16 03 05.2	
	comp=Z,11nm,1.1s						
RSO	Redoubt South	19.49	52	P	P	16 03 02.0	-1.6
CNPM	China Poot	20.09	55	P	P	16 03 09.7	-0.2
KTH	Kantishna Hill	21.11	44	P	P	16 03 21.2	+0.3
BPAW	Bear Paw Mtn.	21.25	42	P	P	16 03 22.4	+0.1
BPAW				IAmb	IAmb	16 03 26.2	
	comp=Z,4.1nm,0.8s						
TRF	Thorofare Moun	21.35	44	P	P	16 03 23.9	+0.3
TRF				IAmb	IAmb	16 03 25.2	
	comp=Z,7.9nm,0.9s						
MLY	Manley	21.66	40	P	P	16 03 26.9	+0.1
SML	Sawmill	21.85	49	P	P	16 03 29.3	+0.4
SML				IAmb	IAmb	16 03 38.6	
	comp=Z,7.5nm,0.9s						
GLI	Glacier Island	22.31	52	P	P	16 03 32.0	-1.7
GLI				IAmb	IAmb	16 03 37.1	
	comp=Z,9.3nm,0.9s						
SCM	Sheep Creek Mo	22.33	49	P	P	16 03 32.6	-1.4
WRH	Wood River Hil	22.57	42	P	P	16 03 36.2	-0.2
TOLK	Toolik Lake Re	23.56	32	P	P	16 03 47.5	+1.0
DOT	Dot Lake	24.11	45	P	P	16 03 51.0	-0.6
MENT	Mentasta	24.15	47	P	P	16 03 51.1	-0.9
MENT				IAmb	IAmb	16 03 53.5	
	comp=Z,2.9nm,0.8s						
SCRK	Sand Creek	24.20	45	P	P	16 03 49.9	-2.7
SCRK				IAmb	IAmb	16 03 53.2	
	comp=Z,2.9nm,0.8s						
BMAR	Burnt Mountain	24.82	36	P	P	16 03 59.0	+1.0
L27K	Beaver Creek,	25.02	47	P	P	16 04 00.2	+0.3
L27K				IAmb	IAmb	16 04 10.6	
	comp=Z,5.1nm,1.4s						
K27K	Chicken	25.04	45	P	P	16 04 00.0	+0.1
K27K				IAmb	IAmb	16 04 05.0	
	comp=Z,2.6nm,0.9s						
BCAR	Beaver Creek A	25.04	47	P	P	16 04 00.5	+0.4
EGAK	Eagle	25.55	43	P	P	16 04 04.3	-0.2
EGAK				IAmb	IAmb	16 04 05.6	
	comp=Z,5.2nm,0.9s						

*SNET **29** 16:01:52.9±0.6, 14°.00N×90°.03W, h134km±3km, ML3.7*
*UCR **29** 16:01:53.1±0.9, 14°.00N×90°.03W, h134km±4km, ML3.6*
*INET **29** 16:01:54.7, 13°.88N×89°.30W, h140km, MW3.2*
ISC 29 16:01:50.0±2.4, **14°1N±0°1×90°2W±0°2, h150**km, **n38,** σ1**§03/42, 2C-13D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	El Retiro	0.57	108	ǁ *i* P	Pn	16 02 12.7	+0.8
RTR	El Retiro	0.57	108	ǁ *i* P	Pn	16 02 12.7	+0.8
SBLS	San Blas	0.61	113	ǁ *i* P	Pn	16 02 12.9	+0.6
SBLS	San Blas	0.61	113	ǁ *i* P	Pn	16 02 12.9	+0.6
CEVE	Cerro Verde	0.61	114	ǁ *i* P	Pn	16 02 13.0	+0.7
CEVE	Cerro Verde	0.61	114	ǁ *i* P	Pn	16 02 13.0	+0.7
SNJE	San Jose	0.61	110	*e*P	Pn	16 02 12.8	+0.6
SNJE	San Jose	0.61	110	*e*P	Pn	16 02 12.8	+0.6
CEDA	San Andres	0.83	109	*e*P	Pn	16 02 13.7	+0.2
CEDA				*e*S	Sn	16 02 29.6	-1.7
CEDA				IAML		16 02 33.3	
	comp=Z,931nm,0.6s						
CEDA	San Andres	0.83	109	*e*P	Pn	16 02 13.7	+0.2
CEDA				*e*S	Sn	16 02 29.6	-1.7
CEDA				IAML		16 02 33.3	
	comp=Z,931nm,0.6s						
TACO	Tacachico	0.83	97	ǁ *i* P	Pn	16 02 13.7	+0.2
TACO	Tacachico	0.83	97	ǁ *i* P	Pn	16 02 13.7	+0.2
JAYA	Jayaque - finc	0.84	120	*i* P	Pn	16 02 13.9	+0.1
JAYA				*e*S	Sn	16 02 29.9	-1.8
JAYA				IAML		16 02 34.3	
	comp=Z,5µm,0.2s						
JAYA	Jayaque - finc	0.84	120	*i* P	Pn	16 02 13.9	+0.1
JAYA				*e*S	Sn	16 02 29.9	-1.8
JAYA				IAML		16 02 34.3	
	comp=Z,5µm,0.2s						
MTO3	Montecristo	0.88	68	ǁ *i* P	Pn	16 02 14.9	+0.8
MTO3	Montecristo	0.88	68	ǁ *i* P	Pn	16 02 14.9	+0.8
BOQS	Boqueron	0.95	111	*e*P	Pn	16 02 14.9	+0.2
BOQS	Boqueron	0.95	111	*e*P	Pn	16 02 14.9	+0.2
ESQI	Esquipulas	0.96	60	ǁ *i* P	Pn	16 02 16.1	+1.6
LALI	Alcalda de L	1.03	124	*e*P	Pn	16 02 15.3	+0.2
LALI	Alcalda de L	1.03	124	*e*P	Pn	16 02 15.3	+0.2
LBRS	Las Brisas	1.17	106	*e*P	Pn	16 02 16.7	+0.2
LBRS	Las Brisas	1.17	106	*e*P	Pn	16 02 16.7	+0.2
LFRS	El Faro	1.19	112	ǁ *i* P	Pn	16 02 16.9	+0.3
LFRS	El Faro	1.19	112	ǁ *i* P	Pn	16 02 16.9	+0.3
SJTE	Alcalda de S	1.25	111	*e*P	Pn	16 02 17.2	+0.1
SJTE	Alcalda de S	1.25	111	*e*P	Pn	16 02 17.2	+0.1
PAVA	Las Pavas	1.28	106	ǁ *i* P	Pn	16 02 17.8	+0.3
PAVA	Las Pavas	1.28	106	ǁ *i* P	Pn	16 02 17.8	+0.3
COEG	Centro de Oper	1.36	109	*e*P	Pn	16 02 18.2	0.0
COEG	Centro de Oper	1.36	109	*e*P	Pn	16 02 18.2	0.0
COEB	Comit de Eme	1.72	109	*e*P	Pn	16 02 22.4	+0.3
COEB				IAML		16 02 57.0	
	comp=Z,570nm,0.3s						
COEB	Comit de Eme	1.72	109	*e*P	Pn	16 02 22.4	+0.3
COEB				IAML		16 02 57.0	
	comp=Z,570nm,0.3s						
GBS3	Finca Las Img	5.67	125	*e*P	Pn	16 03 13.7	+1.3
LAPC	Finca la Perla	5.70	125	*e*P	Pn	16 03 14.2	+1.3
GUAI	GUAI	5.94	129	*e*P	Pn	16 03 17.9	+1.9
CUI	Cuipilapa	5.98	124	*e*P	Pn	16 03 17.9	+1.3
ACAL	Aguas Claras	6.09	124	*e*P	Pn	16 03 21.6	+3.5

IDC 29 16:05:19.4±3.7, **4°21S×152°31E, h0**km, **mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=128.5km s-min=51.8km az=121.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.48	227	P	P	16 10 31.5	+0.5
	0.5nm,0.4s,baz=51,slow=9.8,SNR=13						
ASAR	Alice Springs	26.26	221	P	P	16 10 55.8	-0.9
	0.3nm,1.0s,baz=53,slow=8.9,SNR=1.5						
FITZ	Fitzroy Crossi	29.52	240	P	P	16 11 26.5	+0.8
	1.6nm,1.0s,baz=49,slow=12,SNR=1.5						
TORD	Torodi Ar. Bea	149.66	289	PKPbc	PKPbc	16 25 11.3	-0.9
	0.6nm,0.6s,baz=52,slow=1.9,SNR=2.4						

*NEIC **29** 16:09:41.1±0.8, 19°.8S±0°.2×177°.6W±0°.2, h464km±9km, mb4.3/13, Error ellipse: s-maj=27.2km s-min=12.6km az=137.0*
*IDC **29** 16:09:45.5±2.5, 18°.81S×178°.22W, h500km±23km, mb2.9/5, mb1 3.3/6, mb1mx3.0/27, mbtmp3.8/6, Error ellipse: s-maj=107.9km s-min=14.4km az=154.0*
ISC 29 16:09:42.7±0.6, **19°5S±0°1×177°8W±0°1, h500**km, **n26,** σ1**§60/28, mb3.7**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.30	294	P	P	16 11 01.2	-2.6
AFI	Afiamalu	8.04	47	P	P	16 11 40.5	+0.8
	3.3nm,0.3s,baz=57,slow=13,SNR=4.6						
AFI				S	S	16 13 13.4	-2.2
	2.1nm,0.3s,baz=70,slow=22,SNR=2.0						
AFI	Afiamalu	8.04	47	P	P	16 11 37.9	-1.9
URZ	Urewera	19.19	192	P	P	16 13 31.6	-2.2
URZ				IAmb	IAmb	16 13 58.3	
	comp=Z,35nm,1.3s						
BKZ	Black Stump Fm	20.19	193	P	P	16 13 40.8	-2.2
BKZ				IAmb	IAmb	16 13 55.6	
	comp=Z,49nm,1.4s						
NNZ	Nelson	22.90	197	P	P	16 14 06.4	-0.9
TUWZ	Tuamarina	22.95	196	P	P	16 14 05.5	-2.3
THZ	Tophouse	23.54	198	P	P	16 14 11.8	-1.4
KHZ	Kahutara	23.98	196	P	P	16 14 15.3	-1.6
STKA	Stephens Creek	38.38	243	P	P	16 16 21.5	+1.0
BBOO	Buckleboo	43.14	243	P	P	16 16 59.6	+0.9
BBOO				IAmb	IAmb	16 17 14.7	
	comp=Z,27nm,1.4s						
WR0	Warramunga Arr	44.72	261	P	P	16 17 13.1	+2.0
WR0				IAmb	IAmb	16 17 40.2	
	comp=Z,8.3nm,1.4s						
WB0	Warramunga Arr	44.88	261	P	P	16 17 13.5	+1.1
WB0				IAmb	IAmb	16 17 33.3	
	comp=Z,5.6nm,1.2s						
WB2	Warramunga Arr	44.90	261	P	P	16 17 13.4	+1.0
WB2				IAmb	IAmb	16 17 22.8	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	44.91	261	P	P	16 17 13.7	+1.1
	comp=Z,0.3nm,0.3s,baz=96,slow=7.6,SNR=20						
AS31	Alice Springs	44.91	256	P	P	16 17 14.5	+1.9
ASAR	Alice Springs	44.91	256	P	P	16 17 13.9	+1.3
	comp=Z,0.4nm,0.6s,baz=102,slow=7.5,SNR=11						
ASAR				S	S	16 23 12.7	-1.2
	comp=Z,0.6nm,0.8s,baz=89,slow=16,SNR=4.6						
FITZ	Fitzroy Crossi	53.33	262	P	P	16 18 15.7	+0.7
QSPA	South Pole Qui	70.55	180	P	P	16 20 06.9	+0.3
QSPA				IAmb	IAmb	16 20 19.7	
	comp=Z,5.4nm,1.3s						
TXAR	Lajitas Array	86.39	57	P	P	16 21 34.2	+2.2
	comp=Z,0.5nm,0.6s,baz=222,slow=7.6,SNR=7.7						
TXAR	Lajitas Array	86.39	57	P	P	16 21 33.1	+1.0
ILAR	Eielson Array	87.32	13	P	P	16 21 36.0	+0.5
	comp=Z,0.6nm,0.7s,baz=222,slow=5.6,SNR=5.5						
PDAR	Pinedale Array	88.13	43	P	P	16 21 41.4	+1.3
	comp=Z,0.4nm,0.6s,baz=240,slow=5.0,SNR=3.6						
PDAR	Pinedale Array	88.13	43	P	P	16 21 41.6	+1.5

CLL	Collm	147.14	347	*i* PKPbc	PKiKP	16 28 30.2	-0.8
GERES	GERESS Array B	149.30	345	PKPbc	PKiKP	16 28 35.4	-0.2
	comp=Z,0.9nm,0.6s,baz=46,slow=3.9,SNR=8.7						

*IDC **29** 16:10:55.6±2.0, 0°.61N×126°.11E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/12, Error ellipse: s-maj=177.5km s-min=26.5km az=65.0*
*DJA **29** 16:10:59.1±0.3, 0°.N±4°×12°.6E±°, h10km, M3.1/7, MLv3.1/7*
ISC 29 16:11:02.1±1.1, **0°49N±0°10×126°17E±0°05, h44**km, **n10,** σ1**§53/11, mb3.1/3, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.23	77	P	Pn	16 11 21.3	-1.5
TNTI				S	Sn	16 11 39.4	+1.2
MNI	Manado	1.64	306	P	Pn	16 11 27.1	-1.3
MNI				S	Sn	16 11 48.7	+0.4
GAMI	Galela, Maluku	2.10	50	P	Pn	16 11 35.0	+0.2
GAMI				S	Sn	16 12 02.0	+2.3
GTOI	Gorontalo	3.17	273	P	Pn	16 11 51.4	+2.0
LUWI	Luwuk	3.73	246	Pg	Pn	16 12 09.3	+12
APSI	Ampana	4.73	253	P	Pn	16 12 10.3	-0.6
KAPI	Kappang	8.43	229	LR	LR	16 16 29.9	
	comp=Z,111nm,21.3s,baz=246,slow=40						
WRA	Warramunga Arr	21.82	159	P	P	16 15 50.2	-0.6
	0.4nm,0.4s,baz=337,slow=11,SNR=9.1						
ASAR	Alice Springs	25.16	163	P	P	16 16 24.6	+1.2
	0.1nm,0.3s,baz=345,slow=12,SNR=12						
MKAR	Makanchi Array	59.91	327	P	P	16 21 02.4	-1.2
	0.2nm,0.5s,baz=122,slow=7.8,SNR=4.4						

*JMA **29** 16:25:41.9±0.2, 24°.02N×122°.48E, h21km±5km, M2.0*
*TAP **29** 16:25:42.1, 24°.03N×122°.51E, h34km±1km, ML2.6, D*
ISC 29 16:25:41.7±1.0, **23°99N±0°02×122°49E±0°02, h22**km±7km, **n85,** σ0**§77/152, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.62	42	P	Pb	16 25 53.6	-0.4
JYNG				S	Sb	16 26 01.3	-1.0
YOJ	Yonaguni jima	0.67	45	P	Pb	16 25 54.6	-0.2
YOJ				S	Sb	16 26 02.7	-1.0
YOJ	Yonaguni jima	0.67	45	P	Pb	16 25 54.7	-0.2
	baz=46						
YOJ				S	Sb	16 26 03.1	-0.6
	baz=46						
EWUT	Wuta	0.79	305	*e*P	Pn	16 25 57.1	-0.4
	baz=301						
EWUT				*e*S	Sn	16 26 07.9	-0.7
	baz=301						
ETL	Fush Village	0.81	282	*e*S	Sn	16 26 09.3	+0.3
	baz=264						
TWD	Chiawan	0.82	277	*e*P	Pb	16 25 57.2	0.0
	baz=273						
TWD				*e*S	Sb	16 26 08.2	+0.4
	baz=273						
TEYL	Yanliau Villag	0.82	262	*e*S	Sn	16 26 09.3	0.0
	baz=249						
NACB	Ninganchiao	0.83	283	*e*P	Pn	16 25 57.4	-0.7
	baz=267						
NACB				*e*S	Sb	16 26 08.7	+0.5
	baz=267						
TWC	Suao	0.85	317	P	Pb	16 25 57.4	-0.4
	baz=303						
TWC				*e*S	Sb	16 26 08.4	-0.3
	baz=303						
ETM	Tongmen	0.91	269	*e*P	Pn	16 25 59.2	0.0
	baz=256						
ETM				*e*S	Sb	16 26 10.7	+0.3
	baz=256						
TEGC	Jichi Village	0.91	252	*e*P	Pn	16 25 58.5	-0.6
	baz=249						
TEGC				*e*S	Sb	16 26 11.3	+0.9
	baz=249						
ETLH	Xiulin Townshi	0.94	284	*e*P	Pn	16 25 59.1	-0.6
	baz=268						
ETLH				*e*S	Sb	16 26 11.9	+0.4
	baz=268						
NDS	Dongshan	0.95	313	P	Pb	16 25 59.6	+0.1
	baz=309						
NDS				*e*S	Sn	16 26 12.2	-0.4
	baz=309						
ESL	Shilin	0.98	260	*e*P	Pn	16 25 59.1	-1.0
	baz=248						
ESL				*e*S	Sb	16 26 12.1	-1.2
	baz=248						
EGS		0.99	330	*e*P	Pb	16 26 00.3	+0.1
	baz=316						
EGS				*e*S	Sn	16 26 13.0	-0.7
	baz=316						
EGFH	Guangfu	1.02	252	*e*P	Pn	16 26 00.5	-0.1
	baz=249						
EGFH				*e*S	Sn	16 26 14.2	-0.1
	baz=249						
TWE	Neicheng	1.04	315	*e*P	Pb	16 26 01.4	+0.3
	baz=312						
TWE				*e*S	Sb	16 26 14.9	+0.6
	baz=312						
NTC	Toucheng	1.05	325	*e*P	Pb	16 26 01.6	+0.4
	baz=323						
NTC				*e*S

	baz=237								
WFSB	**Wu-fen Shan**	**1.26**	**329**	*eP*		**Pn**	**16 26 03.4**	**-0.5**
	baz=327								
WFSB				*eS*		**Sn**	**16 26 19.4**	**-0.8**
	baz=327								
TWF1	**Yuli**	**1.26**	**240**	*eP*		**Pn**	**16 26 04.0**	**0.0**
	baz=237								
TWF1				*eS*		**Sn**	**16 26 20.5**	**+0.3**
	baz=237								
NHDH	**Xindian Distri**	**1.31**	**318**	*eP*		**Pb**	**16 26 05.3**	**-0.2**
	baz=332								
NHDH				*eS*		**Sb**	**16 26 21.8**	**-0.1**
	baz=332								
TATO	**Taipei**	**1.34**	**318**	*eP*		**Pn**	**16 26 05.3**	**+0.3**
	baz=331								
TATO				*eS*		**Sb**	**16 26 23.2**	**+0.4**
	baz=331								
FULB	**Fuli**	**1.34**	**235**	*eP*		**Pn**	**16 26 04.5**	**-0.6**
	baz=223								
FULB				*eS*		**Sn**	**16 26 22.2**	**-0.1**
	baz=223								
CHKT	**Chengkung**	**1.35**	**230**	*eP*		**Pn**	**16 26 04.5**	**-0.8**
	baz=218								
CHKT				*eS*		**Sn**	**16 26 20.3**	**-2.3**
	baz=218								
WPL	**Puli Township**	**1.40**	**271**	*eP*		**Pn**	**16 26 06.5**	**+0.6**
	baz=269								
JKRS	**Kuro-shima**	**1.42**	**80**	P		**Pb**	**16 26 07.7**	**+0.3**
JKRS				S		**Sb**	**16 26 26.0**	**+1.0**
SSLB	**Suanglung**	**1.42**	**262**	*eP*		**Pn**	**16 26 05.8**	**-0.3**
	baz=259								
SSLB				*eS*		**Sn**	**16 26 24.4**	**+0.2**
	baz=259								
YM01	**YM01**	**1.42**	**324**	*eP*		**Pn**	**16 26 06.4**	**+0.1**
	baz=322								
YM01				*eS*		**Sb**	**16 26 24.4**	**-0.9**
	baz=322								
DPDB	**Guoxing**	**1.43**	**272**	*eP*		**Pn**	**16 26 06.9**	**+0.6**
	baz=262								
DPDB				*eS*		**Sn**	**16 26 25.0**	**+0.6**
	baz=262								
WHP	**Taichung City**	**1.44**	**282**	*eP*		**Pb**	**16 26 07.4**	**-0.4**
	baz=269								
WHP				*eS*		**Sb**	**16 26 25.8**	**+0.1**
	baz=269								
WCS	**Beigang Elemen**	**1.44**	**273**	*eP*		**Pb**	**16 26 07.5**	**-0.4**
	baz=263								
WCS				*eS*		**Sb**	**16 26 25.5**	**-0.2**
	baz=263								
YM08	**YM08**	**1.45**	**326**	*eP*		**Pn**	**16 26 06.6**	**0.0**
	baz=324								
SMLT	**Sun Moon Lake**	**1.45**	**266**	*eP*		**Pn**	**16 26 07.2**	**+0.5**
	baz=263								
SMLT				*eS*		**Sn**	**16 26 25.8**	**+0.6**
	baz=263								
ECS	**Chishang**	**1.46**	**233**	*eS*		**Sn**	**16 26 25.6**	**+0.3**
	baz=222								
TWS1	**Kuangyinshan**	**1.48**	**319**	*eP*		**Pn**	**16 26 06.9**	**0.0**
	baz=332								
EDH	**Donghe**	**1.48**	**227**	*eP*		**Pn**	**16 26 06.6**	**-0.4**
	baz=217								
EDH				*eS*		**Sn**	**16 26 23.5**	**-2.2**
	baz=217								
YUS	**Yu-Shan**	**1.49**	**251**	*eS*		**Sn**	**16 26 26.5**	**-0.1**
	baz=248								
LIOB	**Emei**	**1.49**	**296**	*eP*		**Pb**	**16 26 08.7**	**0.0**
	baz=294								
TYC	**Yuchr**	**1.49**	**267**	*eP*		**Pn**	**16 26 07.2**	**+0.1**
	baz=264								
TYC				*eS*		**Sn**	**16 26 26.1**	**+0.2**
	baz=264								
NSTT	**Nanjuang**	**1.50**	**296**	*eP*		**Pb**	**16 26 08.8**	**0.0**
	baz=293								
NSTT				*eS*		**Sb**	**16 26 27.7**	**+0.4**
	baz=293								
WHYT	**Xinyi Township**	**1.52**	**259**	*eP*		**Pn**	**16 26 07.9**	**+0.3**
	baz=246								
WHYT				*eS*		**Sn**	**16 26 27.4**	**+0.6**
	baz=246								
JIJ	**Ishigaki jima**	**1.56**	**76**	P		**Pn**	**16 26 08.1**	**0.0**
JIJ				S		**Sn**	**16 26 27.4**	**-0.2**
ELDTW	**Lidau**	**1.56**	**240**	*eP*		**Pn**	**16 26 07.8**	**-0.4**
	baz=237								
ELDTW				*eS*		**Sn**	**16 26 26.2**	**-1.7**
	baz=237								
LDUT	**Ludao**	**1.61**	**216**	*eP*		**Pn**	**16 26 07.8**	**-0.9**
	baz=214								
LDUT				*eS*		**Sn**	**16 26 26.6**	**-2.2**
	baz=214								
ALS	**Alishan**	**1.61**	**253**	*eP*		**Pn**	**16 26 09.9**	**+0.9**
	baz=250								
ALS				*eS*		**Sn**	**16 26 29.9**	**+0.6**
	baz=250								
WJS	**Zhushan**	**1.62**	**265**	*eS*		**Sb**	**16 26 32.1**	**+1.3**
	baz=261								
WWF	**Wufeng**	**1.64**	**272**	*eS*		**Sb**	**16 26 32.9**	**+1.6**
	baz=269								
LONT	**Longtian**	**1.65**	**229**	*eP*		**Pn**	**16 26 08.7**	**-0.6**
	baz=240								
LONT				*eS*		**Sn**	**16 26 28.9**	**-0.9**
	baz=240								
WNT1	**Nantou City**	**1.65**	**268**	*eS*		**Sb**	**16 26 33.3**	**+1.4**
	baz=265								
CHN5	**Tsauling**	**1.70**	**257**	*eS*		**Sb**	**16 26 32.9**	**-0.4**
	baz=246								
TWGBT	**Beinan**	**1.74**	**228**	*eP*		**Pn**	**16 26 10.6**	**+0.1**
	baz=238								
TWGBT				*eS*		**Sn**	**16 26 32.4**	**+0.4**
	baz=238								
STYH	**Taoyuan**	**1.77**	**243**	*eS*		**Sn**	**16 26 33.7**	**+1.0**
	baz=233								
JISG	**Ishigakijimahi**	**1.77**	**70**	P		**Pn**	**16 26 11.9**	**+0.9**
JISG				S		**Sn**	**16 26 32.6**	**-0.2**
STYT	**Tauyuan**	**1.79**	**243**	*eP*		**Pn**	**16 26 12.1**	**+0.8**
	baz=233								
STYT				*eS*		**Sn**	**16 26 34.3**	**+1.0**
	baz=233								
WDLH	**Douliu**	**1.81**	**261**	*eS*		**Sb**	**16 26 36.6**	**+0.3**
	baz=258								
TPUB	**Ta-pu**	**1.83**	**248**	*eP*		**Pn**	**16 26 12.9**	**+1.0**
	baz=246								
TPUB				*eS*		**Sn**	**16 26 36.3**	**+1.8**
	baz=246								
CHN4	**Tsaushan**	**1.85**	**250**	*eP*		**Pb**	**16 26 14.0**	**-0.7**
	baz=247								
CHN4				*eS*		**Sb**	**16 26 36.9**	**-0.5**
	baz=247								
WTP	**Ta-pu**	**1.87**	**247**	*eP*		**Pn**	**16 26 14.2**	**+1.8**
	baz=244								
WTP				*eS*		**Sb**	**16 26 38.1**	**+0.1**
	baz=244								
WTK	**Tuku**	**1.94**	**262**	*eP*		**Pb**	**16 26 15.6**	**-0.7**
	baz=259								
WTK				*eS*		**Sb**	**16 26 40.5**	**+0.3**
	baz=259								
SLGT	**Liugui**	**1.96**	**240**	*eS*		**Sn**	**16 26 39.5**	**+2.0**
	baz=230								
SGST	**Jiashian**	**1.96**	**243**	*eP*		**Pn**	**16 26 15.6**	**+2.0**
	baz=233								
SGST				*eS*		**Sb**	**16 26 40.2**	**-0.6**
	baz=233								
CHN1	**Nanshi**	**1.96**	**246**	*eS*		**Sb**	**16 26 40.8**	**0.0**
	baz=244								
TWK	**Hsinying**	**1.97**	**249**	*eP*		**Pb**	**16 26 15.8**	**-1.0**
	baz=246								
TWK				*eS*		**Sb**	**16 26 40.1**	**-0.8**
	baz=246								
SNST	**Tainan City**	**1.98**	**248**	*eS*		**Sb**	**16 26 41.3**	**+0.1**
	baz=245								
SSD	**Sandimen**	**2.10**	**234**	*eP*		**Pn**	**16 26 16.8**	**+1.2**
	baz=227								
SSD				*eS*		**Sn**	**16 26 42.4**	**+1.3**
	baz=227								
TSMG	**Majia**	**2.12**	**233**	*eP*		**Pn**	**16 26 16.4**	**+0.7**
	baz=226								
TSMG				*eS*		**Sn**	**16 26 42.6**	**+1.1**
	baz=226								
SCST	**Cishan**	**2.13**	**239**	*eP*		**Pb**	**16 26 18.7**	**-0.9**
	baz=226								
SCST				*eS*		**Sb**	**16 26 47.1**	**+1.4**
	baz=226								
MASBT	**Mashibuluo**	**2.18**	**232**	*eP*		**Pn**	**16 26 17.8**	**+1.1**
	baz=225								
MASBT				*eS*		**Sn**	**16 26 44.5**	**+1.4**
	baz=225								

*IDC **29** 16:26:23.9±1.2,29.°93S×179.°36W,h361km±12km, mb3.5/4, mb1 3.6/6,mb1mx3.3/22,mbtmp4.3/6,Error ellipse: s-maj=31.8km s-min=18.8km az=127.0*

*NEIC **29** 16:26:23.7±1.2,29.°9S±0.°1×179.°3W±0.°2,h360km±7km, mb4.1/16,Error ellipse: s-maj=23.6km s-min=12.0km az=119.0*

ISC 29 16:26:23.1±0.6,**29.°90S**±0.°06×**179.°4W**±0.°1,**h350**km,**n59,** σ1§**58**/84,**mb4.0**/12,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.42**	**64**	P	**Pn**	**16 27 12.7**	**+1.9**
GLKZ				S	**S**	**16 27 51.5**	**+2.4**
RIZ	**Raoul Island**	**1.42**	**63**	P	**Pn**	**16 27 13.6**	**+2.7**
RAO	**Raoul Island**	**1.43**	**64**	P	**Pn**	**16 27 13.7**	**+2.8**
	127nm,0.3s,baz=90,slow=9.7,SNR=7.2						
RAO				S	**S**	**16 27 42.8**	**-6.4**
	102nm,0.3s,baz=94,slow=22,SNR=2.7						
RAO	**Raoul Island**	**1.43**	**64**		**Pn**	**16 27 13.2**	**+2.3**
MXZ	**Matakaoa Point**	**7.88**	**194**	P	**Pn**	**16 28 18.9**	**+3.2**
MXZ				S	**S**	**16 29 45.6**	**-2.0**
WMGZ	**Waiomatatini S**	**8.11**	**192**	P	**P**	**16 28 23.7**	**+2.3**
WMGZ				S	**S**	**16 29 51.8**	**-0.7**
HAZ	**Te Kaha**	**8.19**	**196**	P	**Pn**	**16 28 20.8**	**+1.5**
HAZ				S	**S**	**16 29 54.8**	**+0.7**
PKGZ	**Pakihiroa**	**8.24**	**194**	P	**P**	**16 28 22.3**	**-0.7**
PKGZ				S	**S**	**16 29 53.6**	**-2.0**
PUZ	**Puketiti**	**8.38**	**193**	P	**Pn**	**16 28 23.1**	**+1.3**
PUZ				S	**S**	**16 29 56.0**	**-2.5**
RUGZ	**Raukumara Rang**	**8.41**	**196**	P	**P**	**16 28 24.0**	**-0.9**
RUGZ				S	**S**	**16 29 59.0**	**-0.2**
TWGZ	**Tauwhareparae**	**8.54**	**194**	P	**Pn**	**16 28 24.4**	**+0.7**
TWGZ				S	**S**	**16 30 00.9**	**-1.2**
CNGZ	**Carnagh Statio**	**8.79**	**192**	P	**P**	**16 28 28.4**	**-0.6**
MWZ	**Matawai**	**8.80**	**196**	P	**Pn**	**16 28 27.5**	**+0.9**
MWZ				S	**S**	**16 30 04.9**	**-2.7**
TKGZ	**Te Karaka**	**8.82**	**194**	P	**Pn**	**16 28 27.5**	**+0.6**
TKGZ				S	**S**	**16 30 06.5**	**-1.5**
URZ	**Urewera**	**8.83**	**198**	P	**Pn**	**16 28 27.7**	**+0.7**
	1.8nm,0.3s,baz=121,slow=23,SNR=19						
URZ				S	**S**	**16 30 07.7**	**-0.6**
	15nm,0.3s,baz=119,slow=23,SNR=8.9						
URZ	**Urewera**	**8.83**	**198**	Pn	**Pn**	**16 28 27.4**	**+0.4**
URZ	**Urewera**	**8.83**	**198**	P	**Pn**	**16 28 27.8**	**+0.8**
URZ				S	**S**	**16 30 06.8**	**-1.4**
RAGZ	**Rawiri**	**8.98**	**196**	P	**Pn**	**16 28 29.8**	**+1.0**
RAGZ				S	**S**	**16 30 10.1**	**-1.5**
RIGZ	**Rimuhau**	**9.10**	**194**	P	**P**	**16 28 31.9**	**-0.5**
RIGZ				S	**S**	**16 30 11.6**	**-2.6**
MUGZ	**Murupara**	**9.13**	**199**	P	**P**	**16 28 33.3**	**+0.6**
MUGZ				S	**S**	**16 30 14.5**	**-0.4**
RTZ	**Ruatahuna**	**9.20**	**198**	P	**Pn**	**16 28 32.3**	**+0.9**
RTZ				S	**S**	**16 30 13.9**	**-2.6**
SNGZ	**Shannon Statio**	**9.27**	**196**	P	**Pn**	**16 28 33.0**	**+0.8**
SNGZ				S	**S**	**16 30 15.0**	**-2.9**
RAHZ	**Arahi**	**9.46**	**197**	P	**P**	**16 28 36.6**	**+0.2**
RAHZ				S	**S**	**16 30 20.2**	**-1.8**
MTHZ	**Maungataniwha**	**9.46**	**198**	P	**P**	**16 28 37.5**	**+1.0**
MTHZ				S	**S**	**16 30 19.0**	**-3.2**
NMHZ	**Naumai**	**9.70**	**198**	P	**P**	**16 28 39.8**	**+0.6**
NMHZ				S	**S**	**16 30 26.8**	**-0.7**
BKZ	**Black Stump Fm**	**9.85**	**199**	Pn	**Pn**	**16 28 37.8**	**-1.4**
BKZ	**Black Stump Fm**	**9.85**	**199**	P	**P**	**16 28 40.6**	**-0.2**
BKZ				S	**S**	**16 30 28.7**	**-2.1**
BHHZ	**Black Hill Sta**	**10.28**	**200**	P	**P**	**16 28 45.4**	**-0.2**
BHHZ				S	**S**	**16 30 37.6**	**-2.5**
MSVF	**Nonsavu**	**12.33**	**348**	P	**P**	**16 29 08.6**	**0.0**
	1.8nm,0.3s,baz=183,slow=8.8,SNR=8.7						
MSVF	**Nonsavu**	**12.33**	**348**	P	**P**	**16 29 08.2**	**-0.4**
TUWZ	**Tuamarina**	**12.72**	**203**	P	**P**	**16 29 12.0**	**-0.5**
BSWZ	**Blackbirch Sta**	**12.99**	**203**	P	**P**	**16 29 15.8**	**+0.3**
THZ	**Tophouse**	**13.38**	**206**	P	**P**	**16 29 20.3**	**+0.4**
KHZ	**Kahutara**	**13.73**	**203**	P	**P**	**16 29 22.9**	**+0.3**
-NIUE	**Niue**	**13.78**	**41**	P	**P**	**16 29 23.0**	**-1.5**
EIDS	**Eidsvold**	**26.51**	**273**	P	**P**	**16 31 31.7**	**+1.7**
CAN	**Canberra**	**27.11**	**250**	P	**P**	**16 31 37.0**	**+1.7**
CAN					IAmb IAmb	16 31 55.0	
	comp=Z,14nm,1.3s						
CTAO	**Charters Tower**	**32.53**	**279**	P	**P**	**16 32 23.6**	**+0.8**
STKA	**Stephens Creek**	**33.43**	**257**	P	**P**	**16 32 31.6**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=103,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**33.43**	**257**	P	**P**	**16 32 31.2**	**+0.8**
BBOO	**Buckleboo**	**37.95**	**254**	P	**P**	**16 33 08.3**	**-0.1**
BBOO					IAmb IAmb	16 33 32.8	
	comp=Z,18nm,1.4s						
AS31	**Alice Springs**	**41.94**	**267**	P	**P**	**16 33 40.4**	**-0.6**
ASAR	**Alice Springs**	**41.94**	**267**	P	**P**	**16 33 40.5**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=102,slow=6.5,SNR=80						
ASAR				ScP	**ScP**	**16 38 44.7**	**-0.8**
	comp=Z,0.2nm,0.9s,baz=114,slow=3.4,SNR=4.2						
ASAR	**Alice Springs**	**41.94**	**267**	P	**P**	**16 33 40.1**	**-1.0**
WR0	**Warramunga Arr**	**42.70**	**272**	P	**P**	**16 33 46.5**	**-0.6**
WR0					IAmb IAmb	16 33 47.8	
	comp=Z,4.9nm,0.5s						
WB2	**Warramunga Arr**	**42.87**	**272**	P	**P**	**16 33 48.1**	**-0.3**
WRAB	**Tennant Creek**	**42.87**	**272**	P	**P**	**16 33 48.2**	**-0.3**
WRAB					IAmb IAmb	16 33 49.2	
	comp=Z,8.9nm,0.6s						
WRA	**Warramunga Arr**	**42.88**	**272**	P	**P**	**16 33 48.1**	**-0.5**
	comp=Z,7.3nm,0.4s,baz=112,slow=6.6,SNR=191						
WRA				ScP	**ScP**	**16 38 49.4**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=102,slow=3.6,SNR=5.4						
WRA	**Warramunga Arr**	**42.88**	**272**	P	**P**	**16 33 48.0**	**-0.6**
WB0	**Warramunga Arr**	**42.90**	**273**	P	**P**	**16 33 48.2**	**-0.5**
FORT	**Forrest**	**45.02**	**255**	P	**P**	**16 34 04.6**	**-0.7**
FORT					IAmb IAmb	16 34 14.6	
	comp=Z,11nm,1.1s						
MTN	**Manton Dam**	**48.72**	**279**	P	**P**	**16 34 33.1**	**-0.7**
MTN					IAmb IAmb	16 34 57.2	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**49.47**	**275**	P	**P**	**16 34 39.0**	**-0.3**
KNRA					IAmb IAmb	16 35 02.4	
	comp=Z,9.7nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.16**	**270**	P	**P**	**16 34 51.8**	**-0.1**
MORW	**Morawa**	**55.52**	**254**	P	**P**	**16 35 22.7**	**-0.5**
MORW					IAmb IAmb	16 35 28.7	
	comp=Z,8.7nm,1.4s						
QSPA	**South Pole Qui**	**60.21**	**180**	P	**P**	**16 35 57.5**	**+2.4**
PETK	**Petropavlovsk-**	**85.04**	**346**	P	**P**	**16 38 19.2**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=111,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**144.26**	**339**	PKP	**PKPab**	**16 45 14.9**	**-1.2**
	comp=Z,2.7nm,0.4s,baz=48,slow=4.0,SNR=24						
AKASG	**Malin Array Be**	**150.17**	**322**	PKPbc	**PKPbc**	**16 45 31.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=48,slow=3.2,SNR=6.7						

*IDC **29** 16:53:33.6±1.0,37.°83S×176.°51E,h149km±7km, mb3.8/6, mb1 4.0/6,mb1mx3.7/24,mbtmp4.3/6,Error ellipse: s-maj=47.2km s-min=17.1km az=43.0*

*NEIC **29** 16:53:34.4±1.4,38.°14S±0.°06×176.°34E±0.°08,h150km±5km, mb4.2/25,Error ellipse: s-maj=9.4km s-min=8.6km az=55.0*

*WEL **29** 16:53:36.0±0.6,38°S±4.°,17°6E±.°,h138km±5km,M3.8/68, ML3.1/9,MLv3.8/68,Error ellipse: s-maj=0.0km s-min=0.0km az=153.1*

ISC 29 16:53:34.8±0.6,**38.°18S**±0.°04×**176.°38E**±0.°04,**h161**km±5km, **n221,** σ1§**58**/229,**mb4.1**/18,**North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OMRZ	**Omania**	**0.07**	**354**	P	**Pn**	**16 53 55.4**	**-0.9**
HLRZ	**Highlands Stat**	**0.08**	**197**	P	**Pn**	**16 53 55.9**	**-0.5**
MKRZ	**Makatiti**	**0.08**	**60**	P	**Pn**	**16 53 56.2**	**-0.2**
TARZ	**Mount Tarawera**	**0.11**	**121**	P	**Pn**	**16 53 55.8**	**-0.6**
UTU	**Utuhina**	**0.15**	**270**	P	**Pn**	**16 53 55.9**	**-0.5**
NGRZ	**Ngongotaha**	**0.17**	**296**	P	**Pn**	**16 53 55.8**	**-0.7**
HSRZ	**Hossack Road**	**0.17**	**219**	P	**Pn**	**16 53 55.9**	**-0.5**
LIRZ	**Lichensteins R**	**0.17**	**1**	P	**Pn**	**16 53 55.5**	**-1.0**
KARZ	**Kaharoa**	**0.19**	**325**	P	**Pn**	**16 53 55.5**	**-1.0**
RRRZ	**Republican Roa**	**0.19**	**147**	P	**Pn**	**16 53 55.7**	**-0.8**
HRRZ	**Handcock Road**	**0.23**	**200**	P	**Pn**	**16 53 56.0**	**-0.5**
GRRZ	**Galatos Road**	**0.27**	**231**	P	**Pn**	**16 53 56.3**	**-0.4**
EDRZ	**Edgecumbe**	**0.29**	**76**	P	**Pn**	**16 53 55.7**	**-1.1**
MARZ	**Manawahe**	**0.30**	**50**	P	**Pn**	**16 53 55.7**	**-1.0**
PRRZ	**Plateau Road**	**0.32**	**178**	P	**Pn**	**16 53 56.2**	**-0.6**
OPRZ	**Ohinepanea**	**0.36**	**22**	P	**Pn**	**16 53 55.5**	**-1.4**
WPRZ	**Whakapapatarin**	**0.38**	**207**	P	**Pn**	**16 53 56.7**	**-0.3**
ALRZ	**Allen Road**	**0.39**	**184**	P	**Pn**	**16 53 56.3**	**-0.7**
MUGZ	**Murupara**	**0.43**	**134**	P	**Pn**	**16 53 56.3**	**-0.9**
MUGZ				S	**Sn**	**16 54 13.1**	**-1.2**
TGRZ	**Tauranga**	**0.46**	**348**	P	**Pn**	**16 53 56.0**	**-1.3**
KMRZ	**Kaimai**	**0.48**	**313**	P	**Pn**	**16 53 56.5**	**-0.9**
KUTZ	**Kaahu Road**	**0.54**	**234**	P	**Pn**	**16 53 57.4**	**-0.2**
WHRZ	**Whale Island**	**0.57**	**56**	P	**Pn**	**16 53 56.7**	**-1.2**
URZ	**Urewera**	**0.58**	**98**	P	**Pn**	**16 53 56.6**	**-1.2**
	1µm,0.3s,baz=231,slow=3.3,SNR=6134						
URZ				S	**Sn**	**16 54 13.0**	**-2.4**
	108nm,0.3s,baz=50,slow=11,SNR=4.5						
URZ	**Urewera**	**0.58**	**98**	P	**Pn**	**16 53 56.6**	**-1.2**
URZ				S	**Sn**	**16 54 13.2**	**-2.2**
WHTZ	**Whakaora**	**0.59**	**214**	P	**Pn**	**16 53 58.0**	**+0.1**
RTZ	**Ruatahuna**	**0.64**	**133**	P	**Pn**	**16 53 57.8**	**-0.5**
RTZ				S	**Sn**	**16 54 15.3**	**-1.0**
MRHZ	**Matea Rd**	**0.66**	**178**	P	**Pn**	**16 53 58.1**	**-0.2**
MRHZ				S	**Sn**	**16 54 14.7**	**-1.7**
TLZ	**Tolley Road**	**0.68**	**257**	P	**Pn**	**16 53 58.2**	**-0.3**
TLZ				S	**Sn**	**16 54 16.6**	**+0.1**
WATZ	**Wairara**	**0.73**	**224**	P	**Pn**	**16 53 58.8**	**0.0**
HATZ	**Hinemaiaia**	**0.75**	**198**	P	**Pn**	**16 53 58.7**	**-0.1**
MTHZ	**Maungataniwha**	**0.76**	**152**	P	**Pn**	**16 53 58.8**	**-0.2**
MTHZ				S	**Sn**	**16 54 16.7**	**-0.9**
TOZ	**Tahuroa Road**	**0.83**	**302**	P	**Pn**	**16 53 58.5**	**-0.8**
TOZ				S	**Sn**	**16 54 16.7**	**-1.3**
RATZ	**Rangitukua**	**0.84**	**215**	P	**Pn**	**16 53 59.5**	**0.0**
RAGZ	**Rawiri**	**0.87**	**112**	P	**Pn**	**16 53 59.4**	**-0.4**
RITZ	**Rihia Road**	**0.90**	**207**	P	**Pn**	**16 54 00.3**	**+0.5**
MYRZ	**Mayor Island**	**0.90**	**353**	P	**Pn**	**16 53 58.8**	**-1.1**
WSRZ	**White Island S**	**0.91**	**44**	P	**Pn**	**16 53 58.7**	**-1.3**
WIZ	**White Island**	**0.91**	**45**	P	**Pn**	**16 53 58.3**	**-1.7**
MWZ	**Matawai**	**0.92**	**100**	P	**Pn**	**16 53 59.2**	**-0.8**
MWZ				S	**Sn**	**16 54 17.6**	**-1.8**
RAHZ	**Arahi**	**0.92**	**143**	P	**Pn**	**16 54 00.3**	**+0.2**
KATZ	**Kakaramea**	**0.96**	**214**	P	**Pn**	**16 54 00.5**	**0.0**
SNGZ	**Shannon Statio**	**0.96**	**129**	P	**Pn**	**16 54 00.5**	**+0.1**
NMHZ	**Naumai**	**0.98**	**160**	P	**Pn**	**16 54 01.3**	**+0.7**
BKZ	**Black Stump Fm**	**0.99**	**175**		**Pn**	**16 54 00.4**	**-0.2**
BKZ	**Black Stump Fm**	**0.99**	**175**	P	**Pn**	**16 54 00.5**	**-0.2**
RUGZ	**Raukumara Rang**	**1.04**	**79**	P	**Pn**	**16 53 59.1**	**-2.0**
RUGZ				S	**Sn**	**16 54 17.3**	**-4.0**
NTVZ	**North Tongarir**	**1.07**	**211**	P	**Pn**	**16 54 01.6**	**+0.3**
TMVZ	**Te Maari**	**1.08**	**209**	P	**Pn**	**16 54 01.5**	**+0.1**
KRVZ	**Karewarewa**	**1.08**	**212**	P	**Pn**	**16 54 01.5**	**0.0**
ETVZ	**East Tongariro**	**1.09**	**209**	P	**Pn**	**16 54 01.7**	**+0.1**
WHHZ	**Waihua**	**1.12**	**144**	P	**Pn**	**16 54 02.0**	**+0.4**
WTVZ	**West Tongariro**	**1.12**	**213**	P	**Pn**	**16 54 01.9**	**+0.1**
NNVZ	**North Ngauruho**	**1.13**	**212**	P	**Pn**	**16 54 02.0**	**+0.1**
OTVZ	**Oturere**	**1.13**	**209**	P	**Pn**	**16 54 02.4**	**+0.5**
TWVZ	**Taurewa**	**1.16**	**219**	P	**Pn**	**16 54 02.2**	**+0.1**
SNVZ	**South Ngauruho**	**1.16**	**210**	P	**Pn**	**16 54 02.5**	**+0.3**
NGZ	**Ngauruhoe**	**1.17**	**211**	P	**Pn**	**16 54 02.4**	**+0.1**
TKGZ	**Te Karaka**	**1.18**	**103**	P	**Pn**	**16 54 01.9**	**-0.3**
HAZ	**Te Kaha**	**1.19**	**70**	P	**Pn**	**16 54 00.3**	**-1.9**
ARHZ	**Aropaoanui**	**1.19**	**156**	P	**Pn**	**16 54 02.8**	**+0.6**
RIGZ	**Rimuhau**	**1.21**	**116**	P	**Pn**	**16 54 02.4**	**0.0**
TUVZ	**Tukino**	**1.23**	**207**	P	**Pn**	**16 54 03.1**	**+0.3**
KWHZ	**Kaweka Forest**	**1.25**	**179**	P	**Pn**	**16 54 03.1**	**+0.3**
HIZ	**Hauiti**	**1.25**	**254**		**Pn**	**16 54 02.7**	**-0.1**
HIZ	**Hauiti**	**1.25**	**254**	P	**Pn**	**16 54 02.9**	**+0.1**
TWGZ	**Tauwhareparae**	**1.26**	**90**	P	**Pn**	**16 54 02.5**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.27**	**209**	P	**Pn**	**16 54 03.3**	**+0.1**
DRZ	**Dome Shelter**	**1.27**	**210**	P	**Pn**	**16 54 03.7**	**+0.4**
MCHZ	**McNeill Hill**	**1.29**	**169**	P	**Pn**	**16 54 04.0**	**+0.8**
TRVZ	**Turoa**	**1.30**	**210**	P	**Pn**	**16 54 03.6**	**+0.1**
WNVZ	**Wahianoa**	**1.30**	**208**	P	**Pn**	**16 54 03.6**	**+0.2**
KNZ	**Kokohu**	**1.32**	**130**	P	**Pn**	**16 54 03.4**	**0.0**
MOAZ	**Moawhango**	**1.32**	**202**	P	**Pn**	**16 54 03.3**	**-0.2**
BHHZ	**Black Hill Sta**	**1.33**	**191**	P	**Pn**	**16 54 03.6**	**0.0**
PKGZ	**Pakihiroa**	**1.37**	**78**	P	**Pn**	**16 54 02.8**	**-1.2**
PKVZ	**Pokaka**	**1.37**	**216**	P	**Pn**	**16 54 04.3**	**+0.2**
PRGZ	**Paritu Road**	**1.39**	**123**	P	**Pn**	**16 54 04.1**	**-0.1**
MTVZ	**Mangateitei**	**1.40**	**210**	P	**Pn**	**16 54 04.6**	**+0.3**
KRHZ	**Kereru**	**1.46**	**180**	P	**Pn**	**16 54 05.0**

MHCZ	**Mount Hutt**	**6.47**	**213**	P	**Pn**	**16 55 04.7**	**-3.2**
WVZ	**Waitaha Valley**	**6.51**	**219**	P	**Pn**	**16 55 05.9**	**-2.4**
WACZ	**Wakanui South**	**6.70**	**209**	P	**Pn**	**16 55 07.4**	**-3.5**
RPZ	**Rata Peaks**	**6.84**	**214**	Pn	**Pn**	**16 55 10.8**	**-2.0**
RPZ	**Rata Peaks**	**6.84**	**214**	P	**Pn**	**16 55 10.3**	**-2.5**
ARCZ	**Arundel**	**6.98**	**213**	P	**Pn**	**16 55 12.0**	**-2.5**
FOZ	**Fox Glacier**	**7.30**	**221**	Pn	**Pn**	**16 55 17.4**	**-1.4**
TMZ	**Timaru**	**7.40**	**211**	P	**Pn**	**16 55 16.9**	**-3.2**
LBZ	**Lake Benmore**	**7.76**	**215**	Pn	**Pn**	**16 55 22.5**	**-2.4**
LBZ	**Lake Benmore**	**7.76**	**215**	P	**Pn**	**16 55 22.3**	**-2.6**
ODZ	**Otahua Downs**	**8.09**	**210**	Pn	**Pn**	**16 55 26.1**	**-3.2**
ODZ	**Otahua Downs**	**8.09**	**210**	P	**Pn**	**16 55 26.1**	**-3.2**
JCZ	**Jackson Bay**	**8.22**	**222**	P	**Pn**	**16 55 28.2**	**-2.8**
WKZ	**Wanaka**	**8.64**	**217**	Pn	**Pn**	**16 55 33.3**	**-3.3**
MLZ	**Mavora Lakes**	**9.47**	**218**	Pn	**Pn**	**16 55 45.5**	**-2.0**
DZM	**Mont Dzumac**	**18.19**	**329**	P	**Pn**	**16 57 36.2**	**-1.1**
DZM				IAmb	IAmb	16 57 48.4	
	comp=Z,18nm,1.1s						
STKA	**Stephens Creek**	**29.05**	**272**	P	**P**	**16 59 21.5**	**+1.6**
	comp=Z,3.3nm,0.6s,baz=98,slow=9.4,SNR=9.8						
STKA	**Stephens Creek**	**29.05**	**272**	P	**P**	**16 59 21.2**	**+1.3**
CTAO	**Charters Tower**	**31.70**	**296**	P	**P**	**16 59 44.8**	**+1.5**
BBOO	**Buckleboo**	**33.08**	**267**	P	**P**	**16 59 55.2**	**0.0**
BBOO				IAmb	IAmb	17 00 13.3	
	comp=Z,9.4nm,1.4s						
KNTN	**Kanton**	**36.88**	**20**	P	**P**	**17 00 29.3**	**+1.4**
AS31	**Alice Springs**	**38.86**	**279**	P	**P**	**17 00 44.1**	**-0.5**
AS31				IAmb	IAmb	17 00 45.0	
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**38.86**	**279**	P	**P**	**17 00 44.1**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=125,slow=8.4,SNR=64						
ASAR	**Alice Springs**	**38.86**	**279**	P	**P**	**17 00 44.0**	**-0.6**
VNDA	**Vanda**	**39.94**	**185**	P	P	17 00 59.0	+6.3
	comp=Z,0.7nm,0.8s,baz=343,slow=6.6,SNR=6.8						
VNDA	**Vanda**	**39.94**	**185**	P	**P**	**17 00 56.0**	**+3.3**
SBA	**Scott Base**	**39.99**	**183**	P	**P**	**17 00 53.5**	**+0.3**
FORT	**Forrest**	**40.14**	**266**	P	**P**	**17 00 54.8**	**-0.2**
RABL	**Rabaul**	**40.40**	**321**	P	**P**	**17 00 56.5**	**-0.7**
WR0	**Warramunga Arr**	**40.43**	**285**	P	**P**	**17 00 56.8**	**-0.8**
WR0				IAmb	IAmb	17 01 08.0	
	comp=Z,5.6nm,1.2s						
WB2	**Warramunga Arr**	**40.59**	**285**	P	**P**	**17 00 58.1**	**-0.7**
WB2				IAmb	IAmb	17 00 59.0	
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**40.59**	**284**	P	**P**	**17 00 58.2**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=125,slow=7.9,SNR=29						
WRA	**Warramunga Arr**	**40.59**	**284**	P	**P**	**17 00 57.9**	**-1.0**
WB0	**Warramunga Arr**	**40.66**	**285**	P	**P**	**17 00 58.6**	**-0.7**
WB0				IAmb	IAmb	17 00 59.9	
	comp=Z,3.3nm,0.6s						
CASY	**Casey**	**46.10**	**211**	P	**P**	**17 01 42.4**	**+0.1**
CASY				IAmb	IAmb	17 01 43.9	
	comp=Z,8.6nm,1.5s						
MTN	**Manton Dam**	**47.38**	**290**	P	**P**	**17 01 51.9**	**-1.0**
MTN				IAmb	IAmb	17 01 57.8	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**47.39**	**285**	P	**P**	**17 01 52.7**	**-0.3**
KNRA				IAmb	IAmb	17 01 53.5	
	comp=Z,6.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**48.36**	**280**	P	**P**	**17 01 59.8**	**-0.6**
FITZ				IAmb	IAmb	17 02 02.3	
	comp=Z,4.3nm,1.1s						
MORW	**Morawa**	**50.29**	**261**	P	**P**	**17 02 14.2**	**-0.8**
MORW				IAmb	IAmb	17 02 20.0	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**50.99**	**272**	P	**P**	**17 02 18.9**	**-1.4**
PSA00				IAmb	IAmb	17 02 43.5	
	comp=Z,3.9nm,1.2s						
QSPA	**South Pole Qui**	**51.95**	**180**	P	**P**	**17 02 30.1**	**+3.2**
	comp=Z,1.7nm,0.4s,baz=182,slow=2.8,SNR=33						
QSPA	**South Pole Qui**	**51.95**	**180**	P	**P**	**17 02 30.1**	**+3.2**
QSPA				IAmb	IAmb	17 02 37.3	
	comp=Z,4.1nm,1.2s						
GIRL	**Giralia**	**54.85**	**267**	P	**P**	**17 02 48.2**	**-0.2**
MAW	**Mawson**	**63.38**	**203**	P	**P**	**17 03 44.4**	**-2.0**
CISI	**Cisompet, Garu**	**68.53**	**277**	P	**P**	**17 04 21.0**	**+0.7**
SNAA	**Sanae**	**70.45**	**180**	P	P	17 04 26.7	-4.4
SNAA	**Sanae**	**70.45**	**180**	P	**P**	**17 04 33.5**	**+2.4**
	comp=Z,0.7nm,0.4s,baz=202,slow=8.9,SNR=7.5						
SNAA	**Sanae**	**70.45**	**180**	P	**P**	**17 04 32.4**	**+1.3**
VNA3	**Neumayer Olymp**	**70.80**	**178**	P	**P**	**17 04 30.4**	**-2.8**
KSRS	**Korea Array**	**87.52**	**323**	P	**P**	**17 06 04.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=162,slow=4.6,SNR=4.9						
DBIC	**Dimbokro**	**148.62**	**178**	PKPbc	**PKPbc**	**17 13 02.7**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=159,slow=2.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**154.63**	**192**	PKPab	**PKPab**	**17 13 31.9**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=171,slow=3.9,SNR=6.7						

*NEIC **29** 16:54:25.6±2.4,23°.96S×0°.08×66°.7W±0°.1,h203km±12km, mb4.0/3,Md3.5(SJA),Error ellipse: s-maj=15.1km s-min=12.0km az=101.0*
*IDC **29** 16:54:26.3±1.3,23°.89S×66°.61W,h199km±15km,mb3.5/2, mb1 3.4/6,mb1mx3.2/34,mbtmp3.9/6,Error ellipse: s-maj=25.3km s-min=18.6km az=177.0*
*GUC **29** 16:54:27.1±0.5,23°.93S×66°.96W,h233km±8km,ML4.2*

ISC 29 16:54:25.6±0.8,23°.91S±0°.06×66°.72W±0°.08, h209km±10km,n55,σ1°29/69,12C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.39**	**302**	P	**Pn**	**16 55 10.8**	**+1.4**
	32nm,0.3s,baz=133,slow=6.6,SNR=438						
LVC				S	**S**	**16 55 44.2**	**+1.3**
	30nm,0.3s,baz=266,slow=20,SNR=24						
LVC	**Limon Verde**	**2.39**	**302**	*e*P	**Pn**	**16 55 10.8**	**+1.4**
LVC				*i* S	**S**	**16 55 43.5**	**+0.5**
LVC	**Limon Verde**	**2.39**	**302**		**Pn**	**16 55 10.6**	**+1.2**
PB15	**IPOC Station P**	**2.62**	**285**	⇑*i*P	**Pn**	**16 55 12.9**	**+1.2**
PB15				*i* S	**S**	**16 55 47.0**	**-0.1**
PB15	**IPOC Station P**	**2.62**	**285**		**Pn**	**16 55 12.8**	**+1.1**
PB06	**IPOC Station P**	**2.88**	**294**	⇑*i*P	**Pn**	**16 55 15.8**	**+1.2**
PB06				*i* S	**S**	**16 55 52.2**	**-0.2**
PB06				IAML		16 55 53.4	
	comp=N,357nm,0.4s						
PB06	**IPOC Station P**	**2.88**	**294**		**Pn**	**16 55 15.5**	**+0.9**
GO02	**Mina Guanaco**	**2.89**	**244**	⇑*i*P	**Pn**	**16 55 15.8**	**+0.9**
GO02				*i* S	**S**	**16 55 53.3**	**+0.4**
GO02				IAML		16 55 53.9	
	comp=N,622nm,0.2s						
GO02	**Mina Guanaco**	**2.89**	**244**	Pn	**Pn**	**16 55 15.7**	**+0.9**
PB09	**IPOC Station P**	**3.13**	**312**	⇑*i*P	**Pn**	**16 55 19.1**	**+1.5**
PB09				*i* S	**S**	**16 55 58.9**	**+1.2**
PB09				IAML		16 56 01.8	
	comp=N,118nm,0.3s						
PB09	**IPOC Station P**	**3.13**	**312**		**Pn**	**16 55 19.0**	**+1.5**
PB03	**IPOC Station P**	**3.35**	**303**	⇑*i*P	**Pn**	**16 55 20.9**	**+0.8**
PB03				*i* S	**S**	**16 56 01.6**	**-0.6**
PB03				IAML		16 56 02.6	
	comp=N,377nm,0.4s						
PB05	**IPOC Station P**	**3.37**	**288**	⇑*i*P	**Pn**	**16 55 20.7**	**+0.5**
PB05				*i* S	**S**	**16 56 01.6**	**-0.9**
PB05				IAML		16 56 05.6	
	comp=N,113nm,0.2s						
PB14	**IPOC Station P**	**3.43**	**257**	⇑*i*P	**Pn**	**16 55 21.6**	**+0.3**
PB14				*i* S	**S**	**16 56 02.7**	**-1.6**
PB14				IAML		16 56 04.8	
	comp=E,132nm,0.3s						
PB14	**IPOC Station P**	**3.43**	**257**		**Pn**	**16 55 21.5**	**+0.3**
PB04	**IPOC Station P**	**3.52**	**296**	⇑*i*P	**Pn**	**16 55 22.8**	**+0.7**
PB04				*i* S	**S**	**16 56 05.1**	**-0.9**
PB04				IAML		16 56 10.9	
	comp=N,261nm,0.3s						
PB04	**IPOC Station P**	**3.52**	**296**		**Pn**	**16 55 22.6**	**+0.5**
PB10	**IPOC Station P**	**3.53**	**276**	⇑*i*P	**Pn**	**16 55 22.8**	**+0.7**
PB10				*i* S	**S**	**16 56 04.8**	**-1.1**
PB10				IAML		16 56 07.9	
	comp=E,96nm,0.6s						
PB10	**IPOC Station P**	**3.53**	**276**		**Pn**	**16 55 22.6**	**+0.5**
AC02	**Maricunga**	**3.64**	**216**		**Pn**	**16 55 24.5**	**+0.7**
PB07	**IPOC Station P**	**3.64**	**306**	⇑*i*P	**Pn**	**16 55 24.2**	**+0.6**
PB07				*i* S	**S**	**16 56 07.0**	**-1.6**
PB07				IAML		16 56 11.4	
	comp=E,330nm,0.3s						
PB07	**IPOC Station P**	**3.64**	**306**		**Pn**	**16 55 23.7**	**+0.1**
PB01	**IPOC Station P**	**3.83**	**318**	⇑*i*P	**Pn**	**16 55 26.4**	**+0.5**
PB01				*i* S	**S**	**16 56 12.0**	**-0.6**
PB01	**IPOC Station P**	**3.83**	**318**	Pn	**Pn**	**16 55 26.4**	**+0.5**
AC01	**Pan de Azucar**	**4.16**	**237**	Pn	**Pn**	**16 55 29.0**	**-0.8**
PB08	**IPOC Station P**	**4.38**	**329**	⇑*e*P	**Pn**	**16 55 34.1**	**+1.3**
PB08				*i* S	**S**	**16 56 25.4**	**+0.1**
PB08				IAML		16 56 28.9	
	comp=E,66nm,0.4s						
PB08	**IPOC Station P**	**4.38**	**329**		**Pn**	**16 55 33.5**	**+0.6**
TA01	**Diego Aracena**	**4.62**	**315**	*e*P	**Pn**	**16 55 35.5**	**0.0**
TA01				*i* S	**S**	**16 56 27.7**	**-2.5**
TA01	**Diego Aracena**	**4.62**	**315**		**Pn**	**16 55 35.0**	**-0.5**
HMBC	**Humberstone**	**4.66**	**320**	*e*P	**Pn**	**16 55 36.1**	**0.0**
HMBC				*i* S	**S**	**16 56 28.0**	**-3.2**
TA02	**Huaiquique**	**4.81**	**318**	Pn	**Pn**	**16 55 38.1**	**+0.2**
GO03	**Copiap**	**4.85**	**220**	⇓*i*P	**Pn**	**16 55 37.7**	**-0.7**
GO03				IAML		16 56 36.9	
	comp=E,38nm,0.3s						
GO03	**Copiap**	**4.85**	**220**	Pn	**Pn**	**16 55 37.5**	**-0.9**
PB11	**IPOC Station P**	**4.95**	**326**	*e*P	**Pn**	**16 55 39.5**	**-0.3**
PB11				*i* S	**S**	**16 56 35.2**	**-2.8**
PB11	**IPOC Station P**	**4.95**	**326**		**Pn**	**16 55 39.2**	**-0.6**
PSGCX	**Pisagua**	**5.33**	**323**		**Pn**	**16 55 43.3**	**-1.3**
MNMC	**Minye Minye**	**5.46**	**330**	Pn	**Pn**	**16 55 46.3**	**-0.1**
AC04	**Llanos de Chal**	**5.80**	**222**	Pn	**Pn**	**16 55 50.0**	**-0.5**
GO04	**Tololo Observa**	**7.22**	**209**	Pn	**Pn**	**16 56 06.9**	**-2.1**
LPAZ	**La Paz**	**7.70**	**350**	P	**Pn**	**16 56 17.4**	**+1.8**
	comp=E,0.4nm,0.3s,baz=181,slow=6.4,SNR=6.9						
LPAZ	**La Paz**	**7.70**	**350**	Pn	**Pn**	**16 56 17.1**	**+1.5**
CO03	**El Pedregal**	**7.75**	**206**	Pn	**Pn**	**16 56 13.3**	**-2.3**
CPUP	**Villa Florida**	**8.85**	**108**	P	**Pn**	**16 56 29.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=280,slow=10,SNR=6.4						
CPUP	**Villa Florida**	**8.85**	**108**	Pn	**Pn**	**16 56 28.0**	**-1.9**
MT03	**Universidad Ad**	**10.11**	**198**	Pn	**Pn**	**16 56 43.1**	**-3.2**
TRCB	**Terra Rica**	**12.99**	**88**	Pn	**Pn**	**16 57 20.1**	**-2.7**
BDFB	**Brasilia**	**19.42**	**68**	P	**P**	**16 58 36.9**	**+0.5**
	comp=E,0.7nm,0.3s,baz=228,slow=12,SNR=6.4						
BDFB	**Brasilia**	**19.42**	**68**	IAmb	IAmb	16 58 42.3	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**66.30**	**180**	P	**P**	**17 04 53.7**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=101,slow=1.0,SNR=8.2						
QSPA	**South Pole Qui**	**66.30**	**180**	IAmb	IAmb	17 05 01.9	
	comp=Z,3.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**76.30**	**69**	P	**P**	**17 05 51.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=257,slow=6.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.30**	**69**	IAmb	IAmb	17 05 58.7	
	comp=Z,1.9nm,1.2s						
ASAR	**Alice Springs**	**128.64**	**204**	PKP	**PKiKP**	**17 13 10.0**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=147,slow=3.9,SNR=2.1						
WRA	**Warramunga Arr**	**131.82**	**207**	PKP	**PKPdf**	**17 13 15.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=1.7,SNR=6.4						
MKAR	**Makanchi Array**	**146.29**	**40**	PKPbc	**PKPab**	**17 13 43.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=310,slow=2.5,SNR=3.5						

*IDC **29** 17:07:47.0±1.0,67°.07N×20°.71E,h0km,mb1 3.2/4, mb1mx3.0/40,mbtmp3.2/4,ML2.3/4,Error ellipse: s-maj=10.7km s-min=4.7km az=154.0*
*HEL **29** 17:07:46.6±0.2,67°.06N×20°.86E,h0km,ML2.3,Explosion*
*NAO **29** 17:07:47.9±0.8,67°.05N×21°.36E, ML2.6*
*BER **29** 17:07:49.3±3.2,67°.02N×21°.13E,h0km,ML1.8,Suspected explosion*

ISC 29 17:07:46.7±0.8,67°.07N±0°.02×21°.03E±0°.03,h0km,n47, σ1°23/75,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.82**	**92**	PG	**Pg**	**17 08 02.5**	**+0.1**
	baz=278						
PAJU				SB	**Sb**	**17 08 14.4**	**-1.0**
LANU	**Lannavaara**	**1.05**	**20**	PG	**Pg**	**17 08 06.2**	**-0.8**
KLF	**Kolari**	**1.16**	**80**	PG	**Pg**	**17 08 08.8**	**-0.1**
	baz=264						
KLF				SB	**Sb**	**17 08 25.3**	**+0.2**
TOF	**Tornio**	**1.65**	**125**	PG	**Pb**	**17 08 17.3**	**-0.6**
TOF				MSG		17 08 37.4	
	comp=Z,31nm,0.2s						
TOF				SN	**Sg**	**17 08 40.2**	**+0.6**
HEF	**Hetta**	**1.68**	**35**	Pn	**Pn**	**17 08 17.5**	**+0.1**
HEF				Sn	**Sn**	**17 08 39.5**	**-0.1**
HEF	**Hetta**	**1.68**	**35**	Pn	**Pn**	**17 08 17.5**	**+0.1**
HEF				Sn	**Sn**	**17 08 39.5**	**-0.1**
HEF	**Hetta**	**1.68**	**35**	PG	**Pn**	**17 08 17.2**	**-0.2**
	baz=222						
HEF				MSG		17 08 38.2	
	comp=Z,28nm,0.2s						
HEF				SN	**Sn**	**17 08 40.0**	**+0.4**
KIF	**Kilpisjarvi**	**1.95**	**358**	Pn	**Pb**	**17 08 22.3**	**-0.8**
KIF				Sn	**Sg**	**17 08 49.2**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**358**	Pn	**Pb**	**17 08 22.3**	**-0.8**
KIF				Sn	**Sg**	**17 08 49.2**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**358**	PG	**Pb**	**17 08 22.4**	**-0.7**
KIF				MSG		17 08 46.0	
	comp=Z,48nm,0.2s						
KIF				SG	**Sg**	**17 08 49.4**	**+0.1**
RNF	**Rovaniemi**	**2.02**	**101**	PG	**Pb**	**17 08 23.4**	**-0.9**
RNF				SG	**Sg**	**17 08 50.9**	**-0.8**
KTK1	**Kautokeino**	**2.12**	**22**	Pn	**Pb**	**17 08 25.5**	**-0.6**
KTK1				Sn	**Sb**	**17 08 53.6**	**+0.6**
KTK1	**Kautokeino**	**2.12**	**22**	*e*P	**Pb**	**17 08 25.5**	**-0.6**
KTK1				*e*S	**Sn**	**17 08 51.7**	**+1.1**
KTK1				IAML		17 08 56.0	
	comp=Z,18nm,0.2s						
SGF	**Sodankyl**	**2.17**	**77**	PB	**Pb**	**17 08 25.5**	**-1.3**
	baz=263						
SGF				SG	**Sg**	**17 08 55.8**	**-0.6**
I37NO	**I37NO**	**2.21**	**337**	*i*		17 21 30.0	
	baz=158,slow=332,SNR=9.2						
STEI	**Steigen**	**2.39**	**294**	*e*P	**Pn**	**17 08 27.9**	**+0.8**
STEI				*e*S	**Sn**	**17 08 57.4**	**+0.4**
STEI				IAML		17 09 09.6	
	comp=Z,5.6nm,0.2s						
JETT	**Jettan, Norway**	**2.51**	**355**	Pn	**Pb**	**17 08 31.2**	**-1.5**
TRO	**Tromso**	**2.69**	**344**	*e*P	**Pn**	**17 08 32.5**	**+1.2**
TRO				IAML		17 09 16.0	
	comp=Z,8.6nm,0.3s						
OBF0	**Syolatti, Pyha**	**2.90**	**151**	PG	**Pb**	**17 08 39.1**	**-0.1**
	baz=333						
OBF0				SB	**Sb**	**17 09 14.6**	**-0.5**
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 08 35.8**	**+0.5**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**17 09 12.0**	**+0.2**
	baz=219,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**32**	Pn	**Pn**	**17 08 35.8**	**+0.5**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**17 09 12.0**	**+0.2**
	baz=219,slow=28						
ARA0	**ARCESS Array S**	**2.99**	**32**	PN	**Pn**	**17 08 35.8**	**+0.5**
	baz=215						
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**17 08 35.7**	**+0.4**
	baz=209,slow=14,SNR=42						
ARCES				Sn	**Sn**	**17 09 13.2**	**+1.5**
	baz=215,slow=22,SNR=3.7						
OUF	**Merijarvi**	**3.11**	**149**	PB	**Pn**	**17 08 39.5**	**+2.5**
OUF				MSG		17 09 18.8	
	comp=Z,3.1nm,0.2s						
UMAU	**Umeaa**	**3.20**	**183**	PG	**Pb**	**17 08 43.4**	**-0.9**
UMAU				SN	**Sn**	**17 09 18.1**	**+1.2**
VRF	**Varrio**	**3.38**	**74**	PN	**Pn**	**17 08 42.1**	**+1.4**
	baz=260						
VRF				SG	**Sg**	**17 09 34.1**	**-1.1**
OLKF	**Oulanka, Finla**	**3.41**	**99**	PN	**Pn**	**17 08 43.1**	**+2.0**
MSF	**Maaselka**	**3.41**	**106**	PN	**Pn**	**17 08 44.0**	**+2.9**
MSF				SG	**Sg**	**17 09 33.5**	**-2.7**
KEV	**Kevo**	**3.49**	**37**	Pn	**Pn**	**17 08 42.4**	**+0.2**
KEV				Sn	**Sn**	**17 09 25.8**	**+1.7**
KEV	**Kevo**	**3.49**	**37**	Pn	**Pn**	**17 08 42.4**	**+0.2**
KEV	**Kevo**	**3.49**	**37**	PN	**Pn**	**17 08 42.4**	**+0.2**
KU6	**Riekki**	**3.69**	**102**	PN	**Pn**	**17 08 47.1**	**+2.1**
HUSU	**Husum**	**3.82**	**192**	PN	**Pn**	**17 08 48.7**	**+2.0**
HUSU				SN	**Sn**	**17 09 32.2**	**+0.1**
VAF	**Ylistaro**	**4.10**	**169**	PN	**Pn**	**17 08 53.1**	**+2.6**
APA0	**Apatity Array**	**4.66**	**78**	Pn	**Pn**	**17 08 58.5**	**+0.3**
	baz=256,slow=11						
APA0				Sn	**Sn**	**17 09 52.2**	**-0.7**
	baz=275,slow=28						
APA0				Lg	Lg	17 10 10.6	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.66**	**78**	Pn	**Pn**	**17 08 58.5**	**+0.3**
	baz=256,slow=11						
APA0				Sn	**Sn**	**17 09 52.2**	**-0.7**
	baz=275,slow=28						
APA0				Sg	**Sb**	**17 10 10.6**	**+4.8**
	baz=274,slow=28						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**17 09 18.0**	**+0.6**
	baz=350,slow=16						
FIA0				Sn	**Sn**	**17 10 26.6**	**-0.7**
	baz=348,slow=22						
FIA0				Lg	Lg	17 10 57.4	
	baz=342,slow=28						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**17 09 18.0**	**+0.6**
	baz=350,slow=16						
FIA0				Sg	**Sg**	**17 10 57.4**	**-3.6**
	baz=342,slow=28						
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**17 09 18.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=5.4						
FINES				Sn	**Sn**	**17 10 27.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=346,slow=23,SNR=8.8						
NB2	**NORSAR Subarra**	**7.42**	**220**	Pn	**Pn**	**17 09 37.1**	**+1.0**
NB2	**NORSAR Subarra**	**7.42**	**220**	Pn	**Pn**	**17 09 37.1**	**+1.0**
HFS	**Hagfors**	**7.68**	**209**	Pn	**Pn**	**17 09 39.6**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=29,slow=12,SNR=1.4						
HFS	**Hagfors**	**7.68**	**209**	Pn	**Pn**	**17 09 39.5**	**-0.2**
	baz=37,slow=12						
HFS	**Hagfors**	**7.68**	**209**	Pn	**Pn**	**17 09 39.5**	**-0.2**
	baz=37,slow=12						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 10 27.9**	**-0.6**
	baz=159,slow=16						
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 10 27.9**	**-0.6**
	baz=159,slow=16						
SPITS	**Spitsbergen Ar**	**11.25**	**355**	Pn	**Pn**	**17 10 28.1**	**-0.4**
	baz=179,slow=13,SNR=1.3						

*IDC **29** 17:22:44.4±1.9,10°.61S×112°.97E,h0km,mb3.7/5, mb1 4.0/5,mb1mx3.6/28,mbtmp3.8/5,Error ellipse: s-maj=91.3km s-min=20.4km az=48.0*
*DJA **29** 17:22:45.3±0.9,11°.S±3°.×113°.3E±°,h14km±7km,M4.4/15, mb4.5/10,mB7.2/1,ML4.3/15,Mw(mB)7.2/1*

ISC 29 17:22:47.8±0.9,10°.68S±0°.08×113°.02E±0°.07,h28km,n33, σ1°06/32,mb3.7/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.46**	**27**	P	**Pn**	**17 23 25.1**	**-1.1**
JAGI				S	**Sn**	**17 23 54.1**	**-1.3**
KRKI	**Karangkates**	**2.57**	**347**	P	**Pn**	**17 23 28.1**	**+0.5**
KRKI				Pg	**Pb**	**17 23 33.6**	**+0.3**
BYJI	**Banyuwangi**	**2.78**	**28**	P	**Pn**	**17 23 31.1**	**+0.5**
PWJI	**Pagerwojo**	**2.90**	**335**	P	**Pn**	**17 23 30.7**	**-1.5**
DNP	**Denpasar**	**2.94**	**47**	P	**Pn**	**17 23 32.9**	**+0.2**
PCJI	**Pacitan**	**3.07**	**323**	P	**Pn**	**17 23 33.5**	**-1.0**
ABJI	**Asem Bagus**	**3.11**	**23**	P	**Pn**	**17 23 35.9**	**+0.9**
SJI	**Sawahan**	**3.18**	**337**	P	**Pn**	**17 23 35.5**	**-0.6**
SRBI	**Singaraja**	**3.37**	**40**	P	**Pn**	**17 23 39.2**	**+0.6**
KHKI	**Kahang-Kahang**	**3.44**	**48**	P	**Pn**	**17 23 40.0**	**+0.4**
UGM	**Wanagama**	**3.69**	**318**	P	**Pn**	**17 23 42.7**	**-0.5**
KMMI	**Kalianget**	**3.73**	**15**	P	**Pn**	**17 23 43.4**	**-0.2**
KLNI	**Mataram**	**3.77**	**54**	P	**Pn**	**17 23 43.9**	**-0.3**
TWSI	**Taliwang, Sumb**	**4.27**	**63**	P	**Pn**	**17 23 50.9**	**-0.1**
PLAI	**Plampang**	**5.04**	**69**	P	**Pn**	**17 24 01.0**	**-0.6**
	0.4nm48nm,0.7s						
KPJI	**Karang Pucung**	**5.23**	**309**	P	**Pn**	**17 24 03.6**	**-0.7**
	0.2nm32nm,0.5s						
CISI	**Cisompet, Garu**	**6.01**	**301**	P	**Pn**	**17 24 13.2**	**-1.8**
	0.2nm30nm,1.1s						
CNJI	**Cibinong**	**6.72**	**299**	P	**Pn**	**17 24 23.3**	**-1.4**
	0.4nm94nm,1.2s						
CGJI	**Cibinong**	**8.30**	**299**	P	**Pn**	**17 24 45.4**	**-1.0**
	32nm,0.5s						
EDFI	**Ende, Flores**	**8.76**	**78**	P	**Pn**	**17 24 52.0**	**-0.8**
	9.2nm,1.2s						
BKSI	**Bulukumba**	**8.82**	**53**	P	**Pn**	**17 24 53.2**	**-0.4**
	8.0nm,1.5s						
BATI	**Baumata**	**10.48**	**88**	P	**Pn**	**17 25 16.2**	**-0.1**
	17nm,1.2s						
EGSI	**Enggano, Bengk**	**11.88**	**296**	P	**Pn**	**17 25 35.0**	**-0.5**
	46nm,1.0s						
FITZ	**Fitzroy Crossi**	**14.27**	**123**	Pn	**Pn**	**17 26 05.3**	**-2.9**
	0.2nm,0

ENH	**Enshi**	**21.07**	**77**	P	**P**	**17 47 24.8**	**-1.1**
ENH				IAmb	IAmb	17 47 34.0		
	comp=Z,5.7nm,0.6s							
KURBB	**Kurchatov Arra**	**23.57**	**349**	P	**P**	**17 47 51.0**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=168,slow=10,SNR=15							
KURK	**Kurchatov**	**23.64**	**349**	P	**P**	**17 47 51.0**	**-1.7**
HHC	**Hu-ho-hao-te**	**25.08**	**52**	*eP*	**P**	**17 48 05.8**	**-0.5**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,100nm,5.6s							
SONM	**Songino Array**	**25.87**	**33**	P	**P**	**17 48 13.2**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=216,slow=11,SNR=9.0							
SONM	**Songino Array**	**25.87**	**33**	P	**P**	**17 48 12.7**	**-0.6**
SONM				IAmb	IAmb	17 48 16.0		
	comp=Z,2.2nm,1.0s							
ULN	**Ulaanbaatar**	**26.22**	**34**	P	**P**	**17 48 15.2**	**-1.3**
ULN				IAmb	IAmb	17 48 19.0		
	comp=Z,2.9nm,0.6s							
ZAA0	**Zalesovo Array**	**26.29**	**359**	P	**P**	**17 48 14.1**	**-2.8**
ZAA0				IAmb	IAmb	17 48 17.0		
	comp=Z,2.3nm,0.9s							
ZALV	**Zalesovo Beam**	**26.29**	**359**	P	**P**	**17 48 16.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=188,slow=11,SNR=8.3							
ZALV	**Zalesovo Beam**	**26.29**	**359**	P	**P**	**17 48 15.1**	**-1.8**
ABKAR	**Akbulak array**	**29.23**	**325**	P	**P**	**17 48 43.4**	**+0.1**
AKTO	**Aktyubinsk**	**30.94**	**325**	LR	LR	18 02 31.7		
	comp=Z,25nm,18.3s,baz=137,slow=39							
TIXI	**Tiksi**	**50.03**	**16**	P	**P**	**17 51 34.7**	**-1.0**
TIXI				IAmb	IAmb	17 51 35.7		
	comp=Z,1.4nm,0.6s							
FIA1	**FINESS Array S**	**51.61**	**328**	P	**P**	**17 51 47.6**	**-0.1**
FINES	**FINESS Array B**	**51.61**	**328**	P	**P**	**17 51 47.5**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=104,slow=6.9,SNR=12							
ARCES	**ARCESS Array B**	**54.01**	**338**	P	**P**	**17 52 05.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=92,slow=7.3,SNR=8.8							
SEY	**Seymchan**	**55.23**	**31**	P	**P**	**17 52 14.2**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=294,slow=7.2,SNR=5.6							
MTN	**Manton Dam**	**59.73**	**126**	P	**P**	**17 52 50.3**	**+3.6**
WB0	**Warramunga Arr**	**66.73**	**130**	P	**P**	**17 53 34.5**	**+1.4**
WRA	**Warramunga Arr**	**66.81**	**130**	P	**P**	**17 53 35.0**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=323,slow=6.4,SNR=9.9							
WRA	**Warramunga Arr**	**66.81**	**130**	P	**P**	**17 53 34.6**	**+1.1**
WB2	**Warramunga Arr**	**66.82**	**130**	P	**P**	**17 53 34.8**	**+1.2**
WR0	**Warramunga Arr**	**66.96**	**130**	P	**P**	**17 53 37.0**	**+2.5**
WR0				IAmb	IAmb	17 53 44.2		
	comp=Z,2.3nm,1.2s							
AS31	**Alice Springs**	**69.10**	**133**	P	**P**	**17 53 48.5**	**+0.6**
AS31				IAmb	IAmb	17 54 11.3		
	comp=Z,1.1nm,1.2s							
ASAR	**Alice Springs**	**69.10**	**133**	P	**P**	**17 53 49.4**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=317,slow=6.2,SNR=12							
COLD	**Coldfoot**	**76.65**	**19**	P	**P**	**17 54 33.6**	**+1.5**
COLD				IAmb	IAmb	17 54 43.5		
	comp=Z,4.5nm,1.3s							
BMAR	**Burnt Mountain**	**78.09**	**18**	P	**P**	**17 54 41.1**	**+0.9**
SKT	**Skwentna**	**79.67**	**24**	P	**P**	**17 54 48.8**	**-0.2**

IDC 29 17:48:55.9±2.0, 3°.02N×127°.89E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/56, mbtmp3.7/4, Error ellipse: s-maj=125.2km s-min=26.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**165**	P	P	17 54 09.0	-0.4
	1.0nm,0.6s,baz=345,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.16**	**168**	P	P	17 54 41.0	-0.2
	0.2nm,0.5s,baz=346,slow=7.2,SNR=9.9						
STKA	**Stephens Creek**	**37.07**	**160**	P	P	17 56 08.0	+0.2
	2.4nm,0.6s,baz=339,slow=9.9,SNR=5.5						
MKAR	**Makanchi Array**	**58.80**	**325**	P	P	17 58 56.4	+0.3
	0.3nm,0.7s,baz=114,slow=8.2,SNR=2.4						

*IDC **29** 17:49:41.2±1.6, 27°.78N×85°.57E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/66, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=57.9km s-min=22.5km az=62.0*

ISC 29 17:49:44.1±1.6, 27°.8N±0°.2×85°.6E±0°.4, h18km, n7, σ0s23/7, mb3.6/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.13**	**353**	P	**P**	**17 54 05.8**	**-0.4**
	0.2nm,0.3s,baz=173,slow=11,SNR=15						
KURBB	**Kurchatov Arra**	**23.41**	**349**	P	**P**	**17 54 51.9**	**0.0**
	0.9nm,0.7s,baz=170,slow=9.8,SNR=8.3						
SONM	**Songino Array**	**25.74**	**33**	P	**P**	**17 55 13.9**	**+0.2**
	1.2nm,0.9s,baz=217,slow=9.5,SNR=5.0						
FINES	**FINESS Array B**	**51.46**	**328**	P	**P**	**17 58 48.2**	**+0.1**
	0.5nm,0.5s,baz=106,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**53.85**	**338**	P	**P**	**17 59 05.8**	**+0.1**
	0.8nm,0.6s,baz=98,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**66.93**	**130**	P	**P**	**18 00 35.7**	**0.0**
	0.9nm,1.0s,baz=326,slow=6.2,SNR=3.3						
ASAR	**Alice Springs**	**69.22**	**133**	P	**P**	**18 00 50.0**	**-0.1**
	0.3nm,0.9s,baz=317,slow=6.7,SNR=2.1						

*NNC **29** 17:52:00.8±10.0, 40°.59N×52°.53E, h0km, mb3.6, Error ellipse: s-maj=116.7km s-min=35.3km az=68.0*
*IDC **29** 17:52:10.3±1.7, 41°.10N×52°.27E, h0km, mb3.4/3, mb1 3.6/7, mb1mx3.3/60, mbtmp3.5/7, ML3.5/5, MS2.8/2, Ms1 2.8/2, ms1mx2.2/32, Error ellipse: s-maj=40.6km s-min=15.7km az=6.0*
*TEH **29** 17:52:13.7, 40°.57N×52°.08E, h30km, ML4.0*
*AZER **29** 17:52:15.3±0.1, 40°.43N×51°.79E, h30km±4km, ml3.6/25, Error ellipse: s-maj=9.3km s-min=1.5km az=264.0*

ISC 29 17:52:11.4±1.5, 40°.80N±0°.05×52°.14E±0°.04, h24km±13km, n80, σ2s03/107, 4C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.65**	**263**	P	**Pb**	**17 52 42.3**	**+1.2**
	SNR=5.8						
NDR				S	**Sb**	**17 53 03.7**	**+2.4**
NDR	**Nardaran**	**1.65**	**263**	*eP*n	**Pb**	**17 52 42.2**	**+1.2**
ATGJ	**Altiaghaj**	**2.43**	**273**	P	**Pb**	**17 52 53.3**	**-1.1**
	SNR=12						
ATGJ				S	**Sb**	**17 53 23.3**	**-0.6**
ATGJ	**Altiaghaj**	**2.43**	**273**	*eP*n	**Pb**	**17 52 53.3**	**-1.1**
SIZA	**Siyzn**	**2.47**	**278**	P	**Pb**	**17 52 54.9**	**-0.2**
	SNR=38						
SIZA				S	**Sb**	**17 53 24.8**	**-0.2**
SIZA	**Siyzn**	**2.47**	**278**	*eP*n	**Pb**	**17 52 54.9**	**-0.2**
PQL	**Pirkuli**	**2.69**	**271**	P	**Pb**	**17 52 56.7**	**-2.2**
	SNR=17						
PQL				S	**Sb**	**17 53 29.2**	**-2.3**
PQL	**Pirkuli**	**2.69**	**271**	*eP*n	**Pb**	**17 52 56.7**	**-2.2**
QUBA	**Quba, Azerbaij**	**2.81**	**283**	P	**Pb**	**17 52 58.8**	**-2.1**
	SNR=5.1						
QUBA				S	**Sb**	**17 53 32.1**	**-2.7**
QSAR	**Qusar**	**3.01**	**285**	P	**Pb**	**17 53 01.5**	**-2.9**
	SNR=25						
QSAR				S	**Sn**	**17 53 36.7**	**+3.9**
QSAR	**Qusar**	**3.01**	**285**	*eP*n	**Pb**	**17 53 01.4**	**-2.9**
XNQ	**Khinaliq**	**3.05**	**278**	P	**Pn**	**17 53 01.3**	**+3.1**
	SNR=22						
XNQ				S	**Sn**	**17 53 37.1**	**+3.1**
XNQ	**Khinaliq**	**3.05**	**278**	*eP*n	**Pn**	**17 53 01.4**	**+3.1**
QBL	**Gabala**	**3.26**	**274**	P	**Pn**	**17 53 03.8**	**+2.8**
	SNR=4.6						
QBL				S	**Sn**	**17 53 41.5**	**+2.4**
QBL	**Gabala**	**3.26**	**274**	*eP*n	**Pn**	**17 53 03.8**	**+2.8**
GLBA	**Clilabad**	**3.27**	**243**	P	**Pn**	**17 53 02.6**	**+1.6**
	SNR=38						
GLBA				S	**Sn**	**17 53 38.9**	**-0.2**
GLBA	**Clilabad**	**3.27**	**243**	*eP*n	**Pn**	**17 53 02.6**	**+1.6**
LKRN	**Lenkeran, Azer**	**3.32**	**232**	P	**Pn**	**17 53 02.6**	**+0.8**
	SNR=5.6						
LKRN				S	**Sn**	**17 53 39.0**	**-1.5**
LKRN	**Lenkeran, Azer**	**3.32**	**232**	*eP*n	**Pn**	**17 53 02.5**	**+0.8**
ASTR	**Astara**	**3.41**	**230**	P	**Pn**	**17 53 03.7**	**+0.7**
	SNR=14						
ASTR				S	**Sn**	**17 53 40.1**	**-2.6**
ASTR	**Astara**	**3.41**	**230**	*eP*n	**Pn**	**17 53 03.8**	**+0.8**
ZRD	**Zardab**	**3.43**	**263**	P	**Pn**	**17 53 05.8**	**+2.5**
	SNR=22						
ZRD				S	**Sn**	**17 53 45.5**	**+2.4**
ZRD	**Zardab**	**3.43**	**263**	*eP*n	**Pn**	**17 53 05.7**	**+2.5**
YRD	**Yardimli**	**3.54**	**239**	P	**Pn**	**17 53 05.5**	**+0.6**
	SNR=33						
YRD				S	**Sn**	**17 53 43.9**	**-2.2**
YRD	**Yardimli**	**3.54**	**239**	*eP*n	**Pn**	**17 53 05.6**	**+0.6**
LRK	**Lerik**	**3.63**	**235**	P	**Pn**	**17 53 06.8**	**+0.6**
	SNR=69						
LRK				S	**Sn**	**17 53 45.4**	**-2.9**
LRK	**Lerik**	**3.63**	**235**	*eP*n	**Pn**	**17 53 06.9**	**+0.7**
BLQ	**Beylaqan**	**3.66**	**254**	P	**Pn**	**17 53 08.0**	**+1.5**
	SNR=7.8						
BLQ				S	**Sn**	**17 53 49.0**	**+0.1**
SEKA	**Sheki**	**3.76**	**278**	P	**Pn**	**17 53 11.1**	**+3.3**
	SNR=17						
SEKA				S	**Sn**	**17 53 54.6**	**+3.2**
AGDM	**Agdam**	**3.90**	**261**	P	**Pn**	**17 53 11.3**	**+1.6**
	SNR=5.5						
AGDM				S	**Sn**	**17 53 55.3**	**+0.6**
QRD	**Qoradiz**	**3.92**	**252**	P	**Pn**	**17 53 11.3**	**+1.2**
	SNR=6.3						
QRD				S	**Sn**	**17 53 53.7**	**-1.6**
ZKTA	**Zakatala**	**4.24**	**283**	P	**Pn**	**17 53 18.5**	**+4.0**
	SNR=3.0						
ZKTA				S	**Sn**	**17 54 07.7**	**+4.4**
IMND	**Minoodasht**	**4.36**	**143**	*eP*n	**Pn**	**17 53 17.3**	**+1.3**
IMND				*e*		17 53 18.8		
	comp=Z,808nm,0.3s							
MRVT	**Maraveh tapeh**	**4.39**	**134**	*eP*n	**Pn**	**17 53 18.1**	**+1.6**
GANJ	**Ganja**	**4.42**	**270**	P	**Pn**	**17 53 18.0**	**+1.1**
	SNR=10						
GANJ				S	**Sn**	**17 54 06.6**	**-1.0**
IGLO	**Ghaloghah**	**4.49**	**162**	*eP*n	**Pn**	**17 53 18.5**	**+0.5**
IPRN	**Peran**	**4.55**	**178**	*eP*n	**Pn**	**17 53 18.8**	**0.0**
ISRB	**Sarab**	**4.56**	**231**	*eP*n	**Pn**	**17 53 19.9**	**+0.9**
ISRB				*e*		17 54 15.1		
	comp=Z,1μm,0.4s							
IHRS	**Heris**	**4.65**	**239**	*eP*n	**Pn**	**17 53 20.8**	**+0.5**
IHRS				*e*		17 53 23.9		
	comp=Z,2μm,0.2s							
IGZV	**Ghazvin**	**4.65**	**199**	*eP*n	**Pn**	**17 53 20.6**	**+0.3**
IGZV				*e*		17 54 16.0		
	comp=Z,2μm,0.3s							
GDB	**GEDABAY**	**4.85**	**271**	P	**Pn**	**17 53 23.9**	**+1.0**
	SNR=7.5							
GDB				S	**Sn**	**17 54 16.7**	**-1.7**
ZNJK	**Zanjan**	**4.92**	**214**	*eP*n	**Pn**	**17 53 23.6**	**-0.5**
ISHM	**Shahmirzad**	**5.06**	**169**	*eP*n	**Pn**	**17 53 27.8**	**+1.8**
ORD	**Ordubad**	**5.08**	**250**	P	**Pn**	**17 53 28.2**	**+2.2**
	SNR=56							
ORD				S	**Sn**	**17 54 22.8**	**-1.1**
QZX	**Qazax, Azerbai**	**5.13**	**275**	P	**Pn**	**17 53 28.2**	**+1.5**
	SNR=3.8							
QZX				S	**Sn**	**17 54 25.4**	**+0.3**
IHSH	**Hashtrud**	**5.15**	**229**	*e*	**Sn**	**17 54 26.8**	**+0.8**
	comp=Z,667nm,0.3s							
IMHD	**Mahdasht**	**5.23**	**193**	*eP*n	**Pn**	**17 53 29.7**	**+1.5**
IMHD				*e*		17 54 31.2		
	comp=Z,927nm,0.2s							
SBZ	**Shahbuz**	**5.24**	**257**	P	**Pn**	**17 53 30.6**	**+2.4**
SBZ				S	**Sn**	**17 54 29.1**	**+1.2**
ITBZ	**Tabriz**	**5.29**	**243**	*eP*n	**Pn**	**17 53 30.2**	**+1.2**
ITBZ				*e*		17 53 33.1		
	comp=Z,567nm,0.2s							
NAX	**Nakhchivan**	**5.35**	**255**	P	**Pn**	**17 53 32.5**	**+2.7**
NAX				S	**Sn**	**17 54 33.3**	**+2.6**
IMRD	**Marand**	**5.38**	**249**	*eP*n	**Pn**	**17 53 32.3**	**+2.1**
IMRD				*e*		17 53 33.6		
	comp=Z,2μm,0.4s							
ILAS	**Lasjerd**	**5.44**	**173**	*eP*n	**Pn**	**17 53 32.9**	**+1.7**
ILAS				*e*		17 54 34.1		
	comp=Z,1μm,0.2s							
GEYT	**Alibeck**	**5.45**	**120**	Pn	**Pn**	**17 53 32.5**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=299,slow=15,SNR=16							
GEYT				Sn	**Sn**	**17 54 32.9**	**-0.1**
	comp=Z,4.8nm,0.3s,baz=292,slow=20,SNR=10.0							
GYA0B	**ALIBECK ARRAY**	**5.45**	**120**	⇑Pg	**Pn**	**17 53 32.8**	**+1.7**
GYA0B				⇑Lg	Lg	17 54 39.0		
IRAZ	**Razeghan**	**5.66**	**199**	*eP*n	**Pn**	**17 53 34.8**	**+0.7**
SHRO	**Shahrood**	**5.68**	**146**	*eP*n	**Pn**	**17 53 35.7**	**+1.3**
IVRN	**Varamin**	**5.80**	**183**	*eP*n	**Pn**	**17 53 37.4**	**+1.5**
ISFR	**Sfrayin**	**5.91**	**127**	*eP*n	**Pn**	**17 53 39.7**	**+2.1**
ISFR				*e*		17 54 48.9		
	comp=Z,1μm,0.6s							
IQOM	**Qom**	**6.00**	**188**	*eP*n	**Pn**	**17 53 39.8**	**+0.9**
IEMG	**Emamgholi**	**6.09**	**122**	*eP*n	**Pn**	**17 53 41.9**	**+1.8**
SBZV	**Sabzevar**	**6.14**	**134**	*eP*n	**Pn**	**17 53 43.1**	**+2.3**
HAGD	**Aghdareh**	**6.42**	**203**	*eP*n	**Pn**	**17 53 45.3**	**+0.7**
ISFB	**Sefidab**	**6.43**	**179**	*eP*n	**Pn**	**17 53 46.0**	**+1.3**
IAKL	**Akhelmad**	**6.66**	**127**	*eP*n	**Pn**	**17 53 50.2**	**+2.3**
KBZ	**Khabaz**	**7.45**	**296**	Pn	**Pn**	**17 54 00.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=110,slow=4.9,SNR=6.3							
KBZ				Sn	**Sn**	**17 55 17.6**	**-4.6**
	comp=Z,1.0nm,0.3s,baz=280,slow=11,SNR=4.5							
KVAR	**Kislovodsk Arr**	**7.67**	**297**	Pn	**Pn**	**17 54 03.4**	**+1.8**
	baz=131,slow=20,SNR=1.9							
KVAR				Sn	**Sn**	**17 55 23.4**	**-4.3**
	baz=343,slow=1.0,SNR=7.0							
JRKH	**Jarkhoshk**	**8.09**	**124**	*eP*n	**Pn**	**17 54 08.7**	**+1.3**
TKDS	**Koohdasht(Taba**	**8.20**	**149**	*eP*n	**Pn**	**17 54 10.2**	**+1.3**
TPRV	**Parvadeh(Tabas**	**8.56**	**153**	*eP*n	**Pn**	**17 54 15.4**	**+1.5**
AB31	**Akbulak array**	**10.10**	**31**	Pn	Pn	17 54 29.4	-5.3
AB31				⇑Sn	**Sn**	**17 56 22.4**	**-4.8**
	comp=Z,2.8nm,0.5s,baz=220,slow=23,SNR=6.6							
AKTO	**Aktyubinsk**	**10.48**	**21**	Pn	**Pn**	**17 54 41.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=206,slow=13,SNR=2.5							
AKTO	**Aktyubinsk**	**10.48**	**21**	⇓Pn	Pn	17 54 34.4	-5.5
	comp=Z,0.5nm,0.3s							
AKTO				⇑Sn	**Sn**	**17 56 32.1**	**-4.4**
	comp=Z,8.4nm,0.8s							
BRTR	**Keskin Array B**	**14.17**	**272**	Pn	**P**	**17 55 37.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=92,slow=14,SNR=4.1							
BVAR	**Borovoye Array**	**17.41**	**39**	P	**Pn**	**17 56 13.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=236,slow=26,SNR=3.2							
KIRV	**Kirov**	**17.89**	**355**	P	**Pn**	**17 56 19.8**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=167,slow=22,SNR=6.1							
KIRV				LR	LR	18 03 49.7		
	comp=Z,28nm,20.3s,baz=142,slow=40							
AKASG	**Malin Array Be**	**18.74**	**310**	P	**P**	**17 56 27.4**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=97,slow=8.5,SNR=5.8							
KURBB	**Kurchatov Arra**	**20.79**	**53**	P	**P**	**17 56 51.8**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=256,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**22.49**	**64**	P	**P**	**17 57 09.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=264,slow=11,SNR=4.8							
FINES	**FINESS Array B**	**26.04**	**331**	P	**P**	**17 57 41.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=132,slow=11,SNR=13							
VRAC	**Vranov**	**26.31**	**301**	LR	LR	18 09 06.3		
	comp=Z,27nm,18.9s,baz=5.5,slow=39							

*IDC **29** 17:59:05.7±2.1, 35°.66N×140°.06E, h66km±16km, mb3.3/4, mb1 3.4/6, mb1mx3.1/61, mbtmp3.6/6, Error ellipse: s-maj=38.9km s-min=11.0km az=77.0*
*JMA **29** 17:59:06.6±0.1, 35°.72N×139°.99E, h65km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs=278.00000°, δ69.00000°, λ170.00000°. NP2: φs=11.00000°, δ81.00000°, λ21.00000°. Principal axes: T Plg21.0000°, Azm236.0000°; N Plg67.0000°, Azm33.0000°; P Plg8.0000°, Azm143.0000°;*
JMA Felt I J1.

ISC 29 17:59:06.1±1.0, 35°.68N±0°.05×140°.02E±0°.06, h70km±8km, n27, σ0s55/28, mb3.5/4, 5C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.21**	**272**	P	**Pn**	**17 59 16.8**	**+0.1**
JCN	**Nagara**	**0.30**	**150**	⇑P	**Pn**	**17 59 18.3**	**+1.0**
JSMT	**Sammumatsuo**	**0.35**	**96**	⇑P	**Pn**	**17 59 18.4**	**+0.7**
JOD2	**Odawara 2**	**0.86**	**241**	⇑P	**Pn**	**17 59 22.9**	**-0.1**
JOD2				S	**Sn**	**17 59 34.8**	**-0.7**
JAG	**Ashikaga**	**0.87**	**329**	⇓P	**Pn**	**17 59 23.1**	**0.0**
JAG				S	**Sn**	**17 59 35.4**	**-0.2**
BSO3	**Boso 3**	**0.96**	**155**	⇓P	**Pn**	**17 59 23.9**	**-0.1**
JRY	**Ryogami san**	**0.96**	**291**	⇓P	**Pn**	**17 59 24.9**	**+0.7**
JIM2	**Oshima 3**	**1.07**	**207**	P	**Pn**	**17 59 24.9**	**-0.7**
JFNN	**Fujinakano**	**1.19**	**246**	P	**Pn**	**17 59 27.4**	**+0.4**
JFNN				S	**Sn**	**17 59 42.5**	**-0.2**
JYN	**Shimob**	**1.21**	**262**	⇑P	**Pn**	**17 59 27.6**	**+0.2**
JYN				S	**Sn**	**17 59 43.2**	**-0.1**
JKT	**Katashina**	**1.25**	**330**	⇓P	**Pn**	**17 59 27.9**	**0.0**
BSO1	**Boso 1**	**1.29**	**142**	P	**Pn**	**17 59 27.5**	**-0.4**
JIZS	**Izushimoda**	**1.34**	**224**	⇑P	**Pn**	**17 59 29.0**	**0.0**
JIZS				S	**Sn**	**17 59 45.6**	**-0.5**
MJAR	**Matsushiro Arr**	**1.70**	**301**	P	**Pn**	**17 59 33.1**	**-0.6**
	3.6nm,0.3s,baz=118,slow=14,SNR=141							
MAT	**Matsushiro**	**1.70**	**301**	P	**Pn**	**17 59 34.6**	**+0.8**
MAT				S	**Sn**	**17 59 54.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.56**	**184**	P	**Pn**	**17 59 45.5**	**+0.1**
	42nm,0.3s,baz=148,slow=22,SNR=13							
JHJ				S	**Sn**	**18 00 15.1**	**-0.4**
	74nm,0.3s,baz=45,slow=23,SNR=8.5							
ASAJ	**Asahikawa**	**8.66**	**12**	P	**Pn**	**18 01 07.3**	**-1.2**
	0.4nm,0.3s,baz=213,slow=15,SNR=7.2							
H11N2	**WAKE ISLAND Hy**	**28.49**	**117**	T	T	18 34 51.7		
	baz=308,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**28.49**	**117**	T	T	18 34 49.0		
	baz=308,slow=75,SNR=8.6							
H11N3	**WAKE ISLAND Hy**	**28.50**	**117**	T	T	18 35 04.6		
	baz=308,slow=75,SNR=8.6							
H11S1	**WAKE ISLAND Hy**	**29.13**	**119**	T	T	18 35 17.4		
	baz=311							
H11S3	**WAKE ISLAND Hy**	**29.13**	**119**	T	T	18 36 10.6		
	baz=311							
H11S2	**WAKE ISLAND Hy**	**29.15**	**119**	T	T	18 35 21.1		
	baz=311							
MKAR	**Makanchi Array**	**43.90**	**303**	P	**P**	**18 07 06.5**	**+0.8**
	0.4nm,0.5s,baz=79,slow=10,SNR=7.3							
KURBB	**Kurchatov Arra**	**45.96**	**309**	P	**P**	**18 07 22.4**	**+0.4**
	0.3nm,0.5s,baz=81,slow=7.6,SNR=6.8							
WRA	**Warramunga Arr**	**55.58**	**186**	P	**P**	**18 08 34.0**	**-0.5**
	0.9nm,0.5s,baz=0.1,slow=7.7,SNR=37							
ASAR	**Alice Springs**	**59.31**	**187**	P	**P**	**18 09 00.4**	**-0.3**
	0.2nm,0.5s,baz=0.9,slow=7.0,SNR=12							

*IDC **29** 18:06:09.4±2.5, 43°.53N×105°.39W, h0km, mb4.3/1, mb1 3.9/4, mb1mx3.5/43, mbtmp3.7/4, ML3.0/2, MS2.9/2, Ms1 2.9/2, ms1mx2.3/52, Error ellipse: s-maj=62.5km s-min=9.5km az=151.0*
*NEIC **29** 18:06:10.9±1.7, 43°.74N±0°.05×105°.26W±0°.08, h0km±2km, ML3.4/52, Error ellipse: s-maj=9.4km s-min=8.9km az=284.0*

ISC 29 18:06:10.6±0.8, 43°.71N±0°.07×105°.23W±0°.05, h0km, n84, σ0s98/82, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**64**		**Pb**	**18 06 30.4**	**+0.2**
K22A	**Casper**	**1.42**	**222**		**Pn**	**18 06 36.3**	**-1.6**
K22A				IAML		18 07 01.5		
	comp=N,724nm,0.3s							
K22A				IAML		18 07 02.5		
	comp=E,470nm,0.3s							
PHWY	**Pilot Hill**	**2.41**	**184**		**Pn**	**18 06 52.5**	**+0.9**
RWWY	**Rawlins**	**2.49**	**217**		**Pn**	**18 06 53.1**	**+0.4**
RWWY				IAML		18 07 28.7		
	comp=E,192nm,0.7s							
LAO	**LASA Array**	**3.06**	**347**		**Pn**	**18 07 00.2**	**-0.2**
RLMT	**Red Lodge**	**3.22**	**297**		**Pn**	**18 07 02.8**	**+0.2**
RLMT				IAML		18 07 51.7		
	comp=E,73nm,0.3s							
RLMT				IAML		18 07 56.0		
	comp=E,70nm,0.3s							
BW06	**Boulder Array**	**3.30**	**255**		**Pn**	**18 07 03.9**	**+0.1**
BW06				IAML		18 07 49.7		
	comp=E,49nm,0.5s							
PD31	**Pinedale Array**	**3.30**	**255**		**Pn**	**18 07 04.1**	**+0.3**
PDAR	**Pinedale Array**	**3.30**	**255**	Pn	**Pn**	**18 07 03.7**	**-0.1**
	comp=E,6.1nm,0.3s,baz=71,slow=17,SNR=44							
PDAR				Lg	Lg	18 07 47.6		
	comp=E,11nm,0.3s,baz=71,slow=25,SNR=2.9							
PDAR				LR	LR	18 07 50.0		
	comp=E,25nm,21.2s,baz=334,slow=32							
OGNE	**Ogallala**	**3.64**	**138**		**Pn**	**18 07 10.0**	**+1.7**
YNE	**Yellowstone No**	**3.67**	**292**		**Pn**	**18 07 08.7**	**-0.1**
YNE				IAML		18 08 09.0		
	comp=N,61nm,0.7s							
YNE				IAML		18 08 10.0		
	comp=E,73nm,0.3s							
YMP	**Mirror Lake Pl**	**3.69**	**288**		**Pn**	**18 07 09.0**	**-0.2**
GCMT	**Greycliff**	**3.79**	**305**		**Pn**	**18 07 10.5**	**+0.1**
LOHW	**Long Hollow**	**3.90**	**270**		**Pn**	**18 07 12.1**	**0.0**
H17A	**Grant Village**	**3.92**	**282**		**Pn**	**18 07 12.8**	**+0.6**
H17A				IAML		18 08 22.3		
	comp=E,61nm,0.1s							
H17A				IAML		18 08 25.9		
	comp=N,61nm,0.1s							
ISCO	**Id

T25A	Trinidad	6.59	174	Pn		Pn	18 07 48.0	-1.0
DUG	Dugway, Tooele	6.66	241			Pn	18 07 49.9	+0.2
F33A	5 Mile Ranch,	6.71	68			Pn	18 07 50.4	+0.1
MSO	Missoula	6.89	300	Pn		Pn	18 07 51.4	-1.6
MSU	Marysvale	7.38	228	Pn		Pn	18 07 59.8	0.0
JTMT	Jette	7.51	306	Pn		Pn	18 07 59.6	-1.9
MTPU	Mount Pierson	7.73	225	Pn		Pn	18 08 04.7	-0.1
PSUT	Pine Spring	8.31	234	Pn		Pn	18 08 12.1	-0.5
CCUT	Cedar City	8.72	228	Pn		Pn	18 08 18.0	-0.2
U15A	North Rim	9.06	219	Pn		Pn	18 08 22.7	-0.2
ULM	Lac du Bonnet	9.14	41	Pn		Pn	18 08 23.7	0.0
	comp=E,1.6nm,0.3s,baz=228,slow=13,SNR=7.4							
ULM				Lg		Lg	18 10 55.9	
	comp=E,0.5nm,0.3s,baz=318,slow=17,SNR=1.5							
B35A	Bob, Littlefor	9.25	56	Pn		Pn	18 08 25.0	-0.2
I56US	NEWPORT INFRAS	9.45	303	*i*			18 58 37.8	
	baz=116,slow=312,SNR=1.8							
WUAZ	Wupatki	9.45	212	Pn		Pn	18 08 28.6	+0.4
YKA	Yellowknife Ar	19.60	347	P		Pn	18 10 41.4	0.0
	comp=E,0.1nm,0.3s,baz=178,slow=8.0,SNR=4.0							
ARCES	ARCESS Array B	61.44	18	P		P	18 16 27.4	-0.8
	comp=E,2.8nm,0.8s,baz=334,slow=6.0,SNR=4.7							
PLCA	Paso Flores	89.68	154	LR		LR	18 59 11.3	
	comp=E,53nm,18.1s,baz=250,slow=36							

IDC 29 18:09:51.8±4.3,5°.04S×153°.46E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/28,mbtmp3.4/3,Error ellipse: s-maj=154.5km s-min=38.8km az=112.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.78	230	P	P	18 15 05.2	-1.2
	0.6nm,1.0s,baz=55,slow=10.0,SNR=1.8						
ASAR	Alice Springs	26.42	224	P	P	18 15 31.7	+1.2
	0.4nm,0.9s,baz=58,slow=8.8,SNR=4.8						
MKAR	Makanchi Array	80.94	319	P	P	18 22 08.7	+0.5
	0.5nm,0.9s,baz=96,slow=6.1,SNR=3.7						
TORD	Torodi Ar. Bea	151.01	288	PKPbc	PKPbc	18 29 46.8	-1.0
	0.4nm,0.6s,baz=64,slow=2.4,SNR=3.6						

IDC 29 18:51:14.3±1.9,7°.81S×123°.99E,h0km,mb3.3/1, mb1 3.4/5,mb1mx3.3/49,mbtmp3.3/5,ML3.2/4,Error ellipse: s-maj=64.5km s-min=23.8km az=77.0
DJA 29 18:51:17.2±1.3,8°.5±.4°×12°.3E±°,h11km±10km,M3.4/6, mb3.8/1,MLv3.2/6
ISC 29 18:51:16.3±1.1,8°.06S±0°.06×123°.28E±0°.07,h10km,n11, σ2s61/14,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.18	241	P	Pb	18 51 38.1	-0.7
MMRI				S	Sn	18 51 55.4	+0.4
EDFI	Ende, Flores	1.72	246	P	Pn	18 51 46.6	+0.2
EDFI				S	Sn	18 52 08.3	-0.1
SOEI	Soe	1.95	150	P	Pn	18 51 50.8	+1.2
BATI	Baumata	2.17	170	Pn	Pn	18 51 55.8	+3.3
	18nm,0.3s,baz=346,slow=3.7,SNR=25						
BATI				Sn	Sb	18 52 26.6	+4.0
	4.5nm,0.3s,baz=352,slow=22,SNR=7.1						
BATI	Baumata	2.17	170	P	Pn	18 51 55.5	+3.0
BKSI	Bulukumba	4.15	311	P	Pn	18 52 19.5	-0.3
NLAI	Namlea	6.11	39	P	Pn	18 52 47.5	+0.7
FITZ	Fitzroy Crossi	10.24	167	Pn	Pn	18 53 42.5	-0.9
	0.1nm,0.3s,baz=11,slow=14,SNR=1.9						
FITZ				Sn	Sn	18 55 32.6	-5.8
	0.2nm,0.3s,baz=74,slow=9.1,SNR=3.4						
WRA	Warramunga Arr	15.95	139	Pn	Pn	18 54 55.3	-5.7
	0.1nm,0.3s,baz=313,slow=15,SNR=5.1						
ASAR	Alice Springs	18.56	148	P	P	18 55 32.2	-1.3
	0.1nm,0.3s,baz=323,slow=13,SNR=7.4						
MKAR	Makanchi Array	65.65	330	P	P	19 02 01.2	+0.4
	0.2nm,0.5s,baz=140,slow=7.0,SNR=2.4						

ATH 29 18:55:58.6,34°.40N×23°.97E,h17km±2km,ML3.1/10,Error ellipse: s-maj=2.9km s-min=2.1km az=237.0
THE 29 18:55:59.7,34°.45N×24°.23E,h13km±1km,ML3.1/4,Error ellipse: s-maj=3.4km s-min=1.5km az=190.0
IDC 29 18:56:04.0±1.7,34°.68N×24°.09E,h63km±14km,mb3.3/7, mb1 3.3/8,mb1mx3.2/48,mbtmp3.6/8,MS3.2/1,Ms1 3.2/1, ms1mx2.2/33,Error ellipse: s-maj=31.7km s-min=20.0km az=143.0
ISC 29 18:55:59.3±1.5,34°.44N±0°.07×24°.12E±0°.04,h26km±10km, n37,σ1s70/47,mb3.6/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.40	356	P	Pb	18 56 07.9	0.0
GVD	Gavdhos	0.40	356	P	Pb	18 56 07.9	0.0
GVD				S	Sb	18 56 13.8	0.0
GVD				AML	AML	18 56 14.3	
	comp=N,21286µm,0.4s						
GVD				AML	AML	18 56 15.5	
	comp=E,18458µm,0.4s						
GVDS	Gavdos	0.40	356	P	Pb	18 56 07.9	-0.1
SIVA	Sivas	0.81	44	P	Pn	18 56 16.1	+1.1
SIVA				S	Sn	18 56 28.8	+2.6
SIVA				AML	AML	18 56 32.7	
	comp=E,6699µm,0.6s						
SIVA				AML	AML	18 56 35.4	
	comp=N,5174µm,0.8s						
KNDR	Palaiochora Ch	0.87	336	P	Pn	18 56 17.1	+1.2
KNDR				S	Sn	18 56 30.5	+2.8
	comp=N,1µm,0.4s						
VAM	Vamos	0.97	4	P	Pb	18 56 16.7	-0.7
VAM				S	Sn	18 56 31.2	+1.0
	comp=N,1µm,0.5s						
VAM	Vamos	0.97	4	P	Pb	18 56 16.9	-0.5
VAM				S	Sn	18 56 30.9	+0.8
VAM				AML	AML	18 56 34.4	
	comp=N,2578µm,0.5s						
VAM				AML	AML	18 56 36.7	
	comp=E,2400µm,0.4s						
PRNS	Prines Rethymn	0.97	19	P	Pb	18 56 16.6	-0.9
IMMV	Iera Moni Meta	1.02	354	P	Pn	18 56 17.7	-0.3
IMMV				S	Sn	18 56 32.8	+1.2
	comp=E,3µm,0.4s						
IMMV	Iera Moni Meta	1.02	354	P	Pn	18 56 17.8	-0.3
IMMV				S	Sn	18 56 32.0	+0.5
IMMV				AML	AML	18 56 35.5	
	comp=E,5352µm,0.4s						
IMMV				AML	AML	18 56 35.5	
	comp=N,6881µm,0.4s						
IDI	Anoyia	1.06	37	P	Pb	18 56 19.6	+0.6
	comp=N,17nm,0.3s,baz=231,slow=12,SNR=56						
IDI				S	Sn	18 56 34.5	+2.1
	comp=N,25nm,0.3s,baz=311,slow=18,SNR=7.0						
IDI				LR	LR	18 57 01.8	
	comp=N,107nm,18.2s,baz=257,slow=65						
IDI	Anoyia	1.06	37	P	Pn	18 56 18.8	+0.3
IDI				S	Sb	18 56 32.0	-0.4
	comp=N,402nm,0.6s						
IDI	Anoyia	1.06	37	P	Pb	18 56 19.3	+0.3
IDI				S	Sn	18 56 35.0	+2.5
IDI				AML	AML	18 56 37.8	
	comp=N,858µm,0.6s						
IDI				AML	AML	18 56 40.2	
	comp=E,781µm,0.6s						
LAST	Lasithi	1.33	57	P	Pb	18 56 24.6	+1.0
LAST				AML	AML	18 56 47.5	
	comp=N,412µm,0.7s						
LAST				AML	AML	18 56 53.2	
	comp=E,380µm,0.7s						
NPS	Neapolis	1.48	56	P	Pb	18 56 26.7	+0.6
NPS				AML	AML	18 57 00.9	
	comp=E,412µm,0.6s						
NPS				AML	AML	18 57 03.3	
	comp=N,532µm,1.0s						
ANKY	Antikythira Is	1.57	335	P	Pb	18 56 27.3	-0.4
ANKY				S	Sb	18 56 48.1	+0.9
ANKY	Antikythira Is	1.57	335	P	Pb	18 56 27.2	-0.6
ANKY				AML	AML	18 56 53.6	
	comp=N,446µm,0.4s						
ANKY				AML	AML	18 56 56.0	
	comp=E,616µm,0.7s						
KTHA	Kythira Island	2.01	335	P	Pn	18 56 33.4	+1.8
KTHA				AML	AML	18 57 11.7	
	comp=E,597µm,0.6s						
KTHA				AML	AML	18 57 20.2	
	comp=N,264µm,0.7s						
VLI	Veliai	2.47	337	P	Pn	18 56 39.4	+1.5
VLI	Veliai	2.47	337	P	Pn	18 56 40.6	+2.7
VLI				AML	AML	18 57 35.6	
	comp=N,200µm,0.9s						
VLI				AML	AML	18 57 36.8	
	comp=E,200µm,1.0s						
VLY	Voula,Athens	3.42	356	P	Pn	18 56 51.1	+0.2
LTK	Loutraki	3.69	346	P	Pn	18 56 55.1	+0.3
STON	Ston	9.80	331	*e*Pn	Pn	18 58 14.3	-4.2
STON				Sn	Sn	18 59 54.5	-13
LSTV	Lastovo	10.05	328	*e*Pn	Pn	18 58 18.9	-3.1
LSTV				Sn	Sn	19 00 02.0	-12
EIL	Elat	10.35	114	P	Pn	18 58 26.5	+0.5
	comp=E,0.2nm,0.3s,baz=164,slow=2.3,SNR=6.5						
EIL				S	Sn	19 00 15.8	-5.3
	comp=E,0.2nm,0.3s,baz=74,slow=15,SNR=1.3						
KIJV	Kijevo	11.26	330	*e*Pn	Pn	18 58 35.4	-3.1
KIJV				Sn	Sn	19 00 30.9	-13
MORI	Morici	11.45	328	*e*Pn	Pn	18 58 38.6	-2.5
MORI				Sn	Sn	19 00 35.7	-12
GERES	GERESS Array B	16.34	335	P	P	18 59 50.3	+0.6
	comp=E,0.1nm,0.3s,baz=149,slow=14,SNR=8.5						
AKASG	Malin Array Be	16.67	11	P	Pn	18 59 51.1	0.0
	comp=E,0.6nm,0.3s,baz=203,slow=10,SNR=4.5						
ESDC	Sonseca Array	22.96	291	P	P	19 01 03.7	+1.8
	comp=E,0.4nm,0.7s,baz=81,slow=9.5,SNR=4.3						
MDT	Midelt	23.95	274	LR	LR	19 12 44.5	
	comp=E,51nm,18.2s,baz=192,slow=42						
HFS	Hagfors	26.59	348	P	P	19 01 33.7	-1.5
	comp=E,0.8nm,0.5s,baz=158,slow=12,SNR=8.1						
FINES	FINESS Array B	27.05	2	P	P	19 01 36.7	-2.6
	comp=E,1.1nm,0.8s,baz=170,slow=9.9,SNR=2.0						
NOA	NORSAR Array B	27.89	347	P	P	19 01 45.0	-1.9
	comp=E,0.1nm,0.3s,baz=152,slow=8.6,SNR=3.9						
TORD	Torodi Ar. Bea	29.37	229	P	P	19 02 02.6	+2.2
	comp=E,0.6nm,0.5s,baz=38,slow=9.1,SNR=5.6						
MKAR	Makanchi Array	44.88	56	P	P	19 04 11.4	-0.2
	comp=E,0.3nm,0.6s,baz=262,slow=7.7,SNR=5.5						
ZALV	Zalesovo Beam	46.12	46	P	P	19 04 20.9	-0.3
	comp=E,0.5nm,0.4s,baz=250,slow=9.9,SNR=4.1						

IDC 29 18:58:31.9±2.3,10°.21S×160°.99E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/32,mbtmp3.7/4,MS3.4/3,Ms1 3.4/3, ms1mx3.0/23,Error ellipse: s-maj=51.1km s-min=24.2km az=60.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.28	307	Pn	Pn	18 58 57.6	+0.4
	302nm,0.3s,baz=171,slow=1.4,SNR=72						
HNR				LR	LR	18 59 13.7	
	comp=Z,42nm,21.1s,baz=138,slow=32						
HNR				Sn	Sn	18 59 15.5	+0.4
	1µm,0.3s,baz=6.5,slow=23,SNR=27						
PMG	Port Moresby	13.65	272	LR	LR	19 06 26.2	
	comp=Z,114nm,21.3s,baz=71,slow=35						
AFI	Afiamalu	26.88	101	LR	LR	19 12 02.5	
	comp=Z,102nm,19.9s,baz=204,slow=30						
WRA	Warramunga Arr	27.45	246	P	P	19 04 19.8	-0.1
	0.5nm,0.5s,baz=75,slow=8.9,SNR=2.0						
H11S2	WAKE ISLAND Hy	29.07	11	T	T	19 33 48.8	
	baz=194,slow=76,SNR=9.0						
H11S3	WAKE ISLAND Hy	29.07	11	T	T	19 33 51.3	
	baz=194,slow=76,SNR=7.4						
H11S1	WAKE ISLAND Hy	29.09	11	T	T	19 33 52.7	
	baz=194,slow=76,SNR=6.7						
ASAR	Alice Springs	29.09	239	P	P	19 04 34.3	-0.2
	0.5nm,0.9s,baz=63,slow=10,SNR=3.1						
H11N1	WAKE ISLAND Hy	30.30	11	T	T	19 35 36.8	
	baz=193,slow=76,SNR=8.4						
H11N3	WAKE ISLAND Hy	30.30	11	T	T	19 35 20.4	
	baz=193,slow=76,SNR=9.4						
H11N2	WAKE ISLAND Hy	30.31	11	T	T	19 35 28.1	
	baz=193,slow=76,SNR=9.7						
PETK	Petropavlovsk-	63.13	358	LR	LR	19 36 33.2	
	comp=Z,26nm,18.6s,baz=135,slow=36						
SONM	Songino Array	75.28	325	P	P	19 10 16.8	-0.2
	0.4nm,0.6s,baz=142,slow=4.3,SNR=3.5						
MAW	Mawson	83.72	202	P	P	19 11 02.7	+0.2
	1.5nm,0.6s,baz=107,slow=11,SNR=6.9						

AEIC 29 19:22:15.3±1.3,53°.8N±0°.1×148°.8W±0°.2,h25km±9km, Error ellipse: s-maj=18.9km s-min=14.3km az=171.0
NEIC 29 19:22:14.7±1.6,54°.1N±0°.1×148°.7W±0°.2,h10km±2km, ML3.5/48(AEIC),Error ellipse: s-maj=18.6km s-min=15.6km az=174.0,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	4.03	322		Pn	19 23 15.8	-0.7
OHAK					Sn	19 24 02.8	-0.8
KDAK	Kodiak Island	4.25	331	Pn	Pn	19 23 18.6	-0.8
ANCK	Angle Creek	5.56	320		Pn	19 23 37.5	0.0
CNPM	China Poot	5.57	347		Pn	19 23 37.2	-0.4
CNPM					Sn	19 24 40.7	-0.9
BRSE	Bradley Lake S	5.72	350		Pn	19 23 39.1	-0.6
BRSE					Sn	19 24 46.3	+1.0
HIN	Hinchinbrook I	6.38	10		Pn	19 23 48.4	-0.3
CNBA	Chernabura Isl	6.39	280		Pn	19 23 43.2	-5.5
CNBA					Sn	19 24 53.5	-8.1
SLKM	Skilak Lake	6.43	353		Pn	19 23 49.3	-0.1
SLKM					Sn	19 25 02.8	-0.1
SUCK	Suckling Hills	6.52	22		Pn	19 23 51.1	+0.6
SUCK	Suckling Hills	6.52	22		Sn	19 25 02.4	-2.4
NICHA	Nichawak Mount	6.62	21		Pn	19 23 52.6	+0.6
HMT	Hamilton	6.66	19		Pn	19 23 52.8	+0.3
FID	Port Fidalgo	6.73	9		Pn	19 23 53.5	+0.1
O18K	Koktuh Hills	6.74	331		Pn	19 23 54.0	+0.4
PWL	Port Wells	6.74	1		Pn	19 23 53.5	-0.1
GLI	Glacier Island	6.81	7		Pn	19 23 54.4	-0.1
GRIN	Grindle Hills	6.81	23		Pn	19 23 54.6	+0.1
GRIN					Sn	19 25 13.1	+1.1
KULT	Kultieth River	6.92	26		Pn	19 23 56.6	+0.5
KULT					Sn	19 25 14.7	-0.2
WAX	Waxell Ridge	7.07	24		Pn	19 23 58.3	+0.2
MESA	MESA	7.07	28	Pn	Pn	19 23 57.2	-1.1
BMRM	Bremner River	7.19	16		Pn	19 24 00.5	+0.7
CHX	Chaix Hills	7.22	32		Pn	19 24 00.3	+0.1
YAH	Yahtse	7.28	28		Pn	19 24 00.9	-0.3
BAGL	Bagley Icefiel	7.29	27		Pn	19 24 01.5	+0.3
ISLE	Juniper Island	7.33	25		Pn	19 24 01.9	+0.1
RKAV	Rock Avalanche	7.34	30		Pn	19 24 02.0	0.0
N19K	Bonanza Creek	7.38	337		Pn	19 24 02.9	+0.5
SAMH	Samovar Hills	7.38	32		Pn	19 24 02.4	0.0
KLU	Klutina	7.51	10	Pn	Pn	19 24 04.5	+0.2
PNL	Peninsula	7.52	39		Pn	19 24 02.9	-1.4
TABL	Table Mountain	7.52	30		Pn	19 24 04.5	0.0
PCA	Pinnacle	7.53	34		Pn	19 24 03.7	-0.7
GRNC	Granite Creek	7.59	27		Pn	19 24 04.9	-0.5
KIAG	Kiagna River	7.60	24		Pn	19 24 05.4	-0.1
BCPM	Bancas Point	7.63	37	Pn	Pn	19 24 04.9	-0.9
VRDI	Verde Repeater	7.64	19	Pn	Pn	19 24 04.3	-1.7
GHO	Glory Hole Cre	7.65	359	Pn	Pn	19 24 05.2	-0.9
SML	Sawmill	7.69	1	Pn	Pn	19 24 04.8	-1.8
BALM	Baldy	7.70	24		Pn	19 24 06.8	-0.1
SCM	Sheep Creek Mo	7.75	5		Pn	19 24 07.3	-0.2
GLB	Gilahina Butte	7.77	18	Pn	Pn	19 24 08.0	+0.3
N25K	Chitina, Valde	7.79	15		Pn	19 24 08.2	+0.1
N25K	Chitina, Valde	7.79	15	Sn	Sn	19 25 35.4	-0.9
LOGN	Logan Glacier	7.87	29	Pn	Pn	19 24 06.9	-2.3
SVW2	Sparrevohn	7.89	335	Pn	Pn	19 24 04.2	-5.1
BARN	Barnard Glacie	7.89	26		Pn	19 24 09.8	+0.3
M24K	Tolsona, Glenn	8.10	8		Pn	19 24 13.2	+1.0
WAT6	Susitna Watana	8.48	3		Pn	19 24 18.6	+1.1
HARP	HAARP	8.48	11		Pn	19 24 18.9	+1.3
YUK2	White River	8.72	25		Pn	19 24 21.1	+0.3
BESE	Bessie Mountai	8.87	54		Pn	19 24 19.5	-3.4
KTH	Kantishna Hill	9.51	354	Pn	Pn	19 24 28.9	-2.6
WHY	Whitehorse	9.89	43		Pn	19 24 35.5	-1.4
MOBC	Moresby Island	9.98	89		Pn	19 24 29.0	-9.1
BPAW	Bear Paw Mtn.	10.05	354	Pn	Pn	19 24 38.8	-0.2

IDC 29 20:11:24.3±19.0,17°.72S×179°.65E,h532km±80km, mb3.0/4,mb1 3.2/4,mb1mx2.8/44,mbtmp3.9/4,Error ellipse: s-maj=435.2km s-min=111.1km az=86.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.53	269	P	P	20 12 30.5	0.0
	0.8nm,0.3s,baz=122,slow=9.5,SNR=4.6						
STKA	Stephens Creek	37.11	240	P	P	20 17 50.1	+0.5
	0.9nm,0.5s,baz=70,slow=7.0,SNR=3.9						
WRA	Warramunga Arr	42.85	260	P	P	20 18 35.0	-0.9
	0.4nm,0.6s,baz=98,slow=6.9,SNR=10						
ASAR	Alice Springs	43.06	254	P	P	20 18 37.2	-0.3
	3.0nm,0.6s,baz=88,slow=8.1,SNR=57						
FITZ	Fitzroy Crossi	51.23	261	P	P	20 19 39.8	+0.7
	2.6nm,1.2s,baz=124,slow=7.3,SNR=1.8						

IDC 29 20:14:38.4±1.0,24°.24N×122°.23E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.6/51,mbtmp3.7/9,MS3.4/10, Ms1 3.4/10,ms1mx3.1/49,Error ellipse: s-maj=34.1km s-min=19.7km az=72.0
JMA 29 20:14:40.1±0.1,24°.12N×121°.77E,h9km±2km,M3.8
TAP 29 20:14:40.1,24°.17N×121°.78E,h8km,ML4.0,C
NIED 29 20:14:40.2,24°.12N×121°.77E,h9km,MW4.0,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=0.12; Mθθ=0.62; Mφφ=0.74; Mrθ=0.64; Mθφ=-0.53; Mφr=-0.02; Fault plane solution: M0=1.06000×10¹⁵ NP1: φs=299.00000°,δ79.00000°,λ-147.00000°. NP2: φs=202.00000°,δ58.00000°,λ-13.00000°.
ISC 29 20:14:39.9±1.0,24°.15N±0°.01×121°.85E±0°.02,h7km±6km, n144,σ0s91/216,mb3.6/9,MS3.3/8,9C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.19	328	*i* P	Pg	20 14 43.7	-0.1
	baz=347						
EHP				S	Sg	20 14 46.9	+0.5
	baz=347						
ETL	Fush Village	0.21	273	P	Pg	20 14 43.8	-0.3
	baz=268						
ETL				*e*S	Sg	20 14 48.0	+1.1
	baz=268						
NACB	Ninganchiao	0.23	276	⇑*i* P	Pg	20 14 44.1	-0.5
	baz=274						
TWD	Chiawan	0.24	254	⇑*i* P	Pg	20 14 44.5	-0.2
	baz=252						
TWD				*e*S	Sg	20 14 48.5	+0.6
	baz=252						
HWA	Hwalien	0.28	233	P	Pb	20 14 46.5	-0.7
	baz=235						
ENA	Nanau	0.29	340	*e*P	Pg	20 14 45.3	-0.5
	baz=352						
ENA				*e*S	Sg	20 14 49.7	0.0
	baz=352						
EWUT	Wuta	0.30	348	⇓*i* P	Pg	20 14 46.0	+0.1
	baz=358						
EWUT				*i* S	Sg	20 14 50.0	+0.1
	baz=358						
ETLH	Xiulin Townshi	0.34	280	⇑*i* P	Pg	20 14 46.2	-0.4
	baz=274						
ETLH				*i* S	Sg	20 14 50.8	-0.4
	baz=274						
TEYL	Yanliau Villag	0.36	220	*i* P	Pb	20 14 48.1	-0.5
	baz=229						
ETM	Tongmen	0.37	241	P	Pg	20 14 47.2	0.0
	baz=236						
ETM				*e*S	Sb	20 14 55.0	+0.2
	baz=236						
TWC	Suao	0.46	360	⇓*i* P	Pg	20 14 49.1	+0.2
TWC				*e*S	Sg	20 14 55.6	+0.8
NDS	Dongshan	0.50	346	⇓*i* P	Pg	20 14 49.7	+0.1
	baz=352						
NDS				*e*S	Sg	20 14 56.6	+0.5
	baz=352						
ESL	Shilin	0.51	229	*i* P	Pg	20 14 49.8	+0.1
	baz=235						
ESL				S	Sb	20 14 58.6	0.0
	baz=235						
NNSB	Datong	0.51	303	⇓*i* P	Pg	20 14 49.7	-0.1
	baz=307						
NNSB				S	Sg	20 14 56.0	-0.5
	baz=307						
NNSH	Datong	0.51	303	⇓*i* P	Pg	20 14 49.7	-0.1
	baz=307						
NNSH				*e*S	Sg	20 14 55.9	-0.6
	baz=307						
TEGC	Jichi Village	0.52	213	*e*P	Pb	20 14 51.4	0.0
	baz=209						
NNS	Nan Shan	0.52	304	⇓*i* P	Pg	20 14 49.9	-0.2
	baz=308						
NNS				S	Sg	20 14 56.6	-0.3
	baz=308						
WHF	Hehuan Shan	0.53	270	⇑*i* P	Pg	20 14 50.0	-0.3
	baz=270						
WHF				*e*S	Sg	20 14 57.1	-0.3
	baz=270						
NDT	Datong Townshi	0.55	326	⇓*i* P	Pg	20 14 50.7	+0.2
	baz=332						
NDT				*e*S	Sb	20 14 59.1	-0.8
	baz=332						
ENTT	Nioudou	0.55	332	⇓*i* P	Pg	20 14 50.8	+0.1
	baz=339						
ENTT				*e*S	Sg	20 14 58.5	+0.6
	baz=339						
TWE	Neicheng	0.59	344	⇓*i* P	Pg	20 14 51.6	+0.2
	baz=350						
TWE				*e*S	Sg	20 14 59.9	+0.7
	baz=350						
EGFH	Guangfu	0.61	219	⇓*i* P	Pg	20 14 52.4	+0.6
	baz=226						
EGFH				*e*S	Sb	20 15 02.7	+0.9
	baz=226						
ILA	Ilan	0.62	351	*e*P	Pg	20 14 52.2	+0.3
	baz=349						
ILA				*e*S	Sb	20 15 01.8	-0.2
	baz=349						
CHGB	Renai	0.62	262	⇑*i* P	Pg	20 14 51.9	-0.1
	baz=253						
CHGB				*e*S	Sg	20 15 00.7	+0.5
	baz=253						
TWT	Tachien	0.62	280	P	Pb	20 14 52.8	-0.5
	baz=279						
TWT				*e*S	Sb	20 15 02.0	-0.3
	baz=279						
TDCB	Techi	0.64	280	*e*P	Pg	20 14 52.5	+0.2
	baz=281						
TDCB				*e*S	Sg	20 15 00.5	-0.1
	baz=281						
OWD	Renai	0.65	253	⇑*i* P	Pg	20 14 52.2	-0.2
	baz=252						
OWD				*e*S	Sb	20 15 03.5	+0.7
	baz=252						
YHNB	Yeheng	0.68	320	⇓*i* P	Pg	20 14 53.2	+0.2
	baz=324						
YHNB				*e*S	Sb	20 15 02.3	-1.4
	baz=324						
NSK	Sanguang	0.69	320	⇓*i* P	Pg	20 14 53.4	+0.1
	baz=324						
NSK				*e*S	Sg	20 15 02.6	+0.4
	baz=324						
EGS		0.70	6	P	Pg	20 14 53.9	+0.5

DPDB				*e*S	**Sb**	**20 15 08.9 +0.2**	TPUB			*e*S	**Sg**	**20 15 25.8 +0.8**
	baz=254							baz=236				
WCS	**Beigang Elemen**	**0.86**	**264**	⇑P	**Pg**	**20 14 56.6 +0.1**	**LONT**	**Longtian**	**1.40**	**208**	*e*P	**Pn**	**20 15 04.1 -1.8**
	baz=256							baz=212						
WCS				*e*S	**Sg**	**20 15 07.7 0.0**	**STYT**	**Tauyuan**	**1.40**	**226**	*e*P	**Pn**	**20 15 05.6 -0.3**
	baz=256							baz=228						
NHDH	**Xindian Distri**	**0.86**	**340**	*e*P	**Pb**	**20 14 57.0 -0.3**	STYT				*e*S	**Sg**	**20 15 27.1 +2.1**
	baz=343							baz=228						
NHDH				*e*S	**Sg**	**20 15 07.6 -0.1**	**WTK**	**Tuku**	**1.41**	**251**	*e*P	**Pg**	**20 15 07.4 +0.4**
	baz=343							baz=255						
TWA	**Mucha**	**0.86**	**344**	*e*P	**Pg**	**20 14 56.9 +0.4**	WTK				*e*S	**Sg**	**20 15 29.0 +3.6**
	baz=347							baz=255						
TWA				*e*S	**Sb**	**20 15 08.7 -0.3**	**WTP**	**Ta-pu**	**1.45**	**232**	*e*P	**Pb**	**20 15 07.0 -0.1**
	baz=347							baz=235						
TWB1	**Santiao Chiao**	**0.86**	**8**	*e*P	**Pg**	**20 14 56.9 +0.3**	WTP				*e*S	**Sg**	**20 15 28.3 +1.8**
	baz=9.0							baz=235						
TWB1				*e*S	**Sg**	**20 15 07.8 -0.1**	**CHY**	**Chiayi**	**1.46**	**244**	*e*P	**Pg**	**20 15 07.9 0.0**
	baz=9.0							baz=251						
TATO	**Taipei**	**0.89**	**338**⇓	*e*P	**Pb**	**20 14 57.4 -0.2**	**PCYT**	**Pengchaiyu**	**1.49**	**8**	*e*P	**Pb**	**20 15 07.6 -0.3**
	baz=341							baz=7.0						
TATO				*e*S	**Sb**	**20 15 08.3 -0.2**	TWGBT	**Beinan**	**1.50**	**208**	*e*P	**Pn**	**20 15 05.6 -1.7**
	baz=341							baz=213						
SSLB	**Suanglung**	**0.90**	**246**⇑	*i*P	**Pg**	**20 14 57.0 -0.2**	**TWG**	**Pinlang**	**1.50**	**209**	*e*P	**Pn**	**20 15 05.2 -2.1**
	baz=258							baz=213						
SSLB				*e*S	**Sb**	**20 15 09.5 -0.5**	**LDUT**	**Ludao**	**1.51**	**193**	*e*P	**Pn**	**20 15 05.2 -2.1**
	baz=258							baz=178						
LIOB	**Emei**	**0.91**	**303**	*e*P	**Pb**	**20 14 57.9 -0.1**	**TWK**	**Hsinying**	**1.53**	**235**	*e*P	**Pb**	**20 15 08.7 +0.2**
	baz=306							baz=239						
LIOB				*e*S	**Sb**	**20 15 10.0 -0.2**	TWK				*e*S	**Sb**	**20 15 28.1 -0.1**
	baz=306							baz=239						
NJD	**Zhudong**	**0.91**	**310**	*e*P	**Pn**	**20 14 58.3 -0.7**	**CHN1**	**Nanshi**	**1.54**	**232**	*e*P	**Pb**	**20 15 09.2 +0.3**
	baz=313							baz=235						
NJD				*e*S	**Sn**	**20 15 11.1 -1.3**	CHN1				*e*S	**Sg**	**20 15 31.7 +2.1**
	baz=313							baz=235						
YULB	**Yu-li**	**0.91**	**214**	P	**Pg**	**20 14 56.6 -0.8**	**SNST**	**Tainan City**	**1.55**	**234**	*e*P	**Pb**	**20 15 08.6 -0.3**
	baz=226							baz=242						
YULB				*e*S	**Sb**	**20 15 10.6 +0.3**	**SGST**	**Jiashian**	**1.57**	**228**	*e*P	**Pn**	**20 15 08.4 +0.1**
	baz=226							baz=232						
SMLT	**Sun Moon Lake**	**0.91**	**253**⇑	P	**Pg**	**20 14 57.4 0.0**	SGST				*e*S	**Sg**	**20 15 31.8 +1.3**
	baz=253							baz=232						
SMLT				*e*S	**Sb**	**20 15 10.4 0.0**	**SLGT**	**Liugui**	**1.59**	**224**	*e*P	**Pb**	**20 15 09.3 -0.4**
	baz=253							baz=232						
NSTT	**Nanjuang**	**0.91**	**302**	*e*P	**Pb**	**20 14 57.9 -0.2**	**ICHU**	**Yijhu**	**1.64**	**242**	*e*P	**Pb**	**20 15 10.3 -0.1**
	baz=305							baz=250						
NSTT				*e*S	**Sg**	**20 15 08.2 -1.1**	**IRIF**	**Iriomote-Funau**	**1.73**	**83**	P	**Pb**	**20 15 11.8 -0.1**
	baz=305						IRIF				*e*S	**Sn**	**20 15 33.1 +0.5**
BACT	**New Taipei Cit**	**0.92**	**336**	*e*P	**Pn**	**20 14 59.1 -0.2**	**ECL**	**Taimali**	**1.75**	**208**	*e*P	**Pn**	**20 15 09.2 -1.5**
	baz=340							baz=195						
EYUL	**Yuli**	**0.93**	**211**	*e*P	**Pg**	**20 14 57.7 -0.2**	**SCST**	**Cishan**	**1.77**	**225**	*e*P	**Pb**	**20 15 12.6 -0.1**
	baz=225							baz=235						
TAP1	**Taipei**	**0.94**	**342**	*e*P	**Pn**	**20 14 59.0 -0.5**	**HATJ**	**Hateruma jima**	**1.79**	**93**	P	**Pb**	**20 15 13.0 0.0**
	baz=345						**SSD**	**Sandimen**	**1.79**	**219**	*e*P	**Pn**	**20 15 11.7 +0.5**
TAP	**Taipei**	**0.94**	**341**	*e*P	**Pn**	**20 14 59.0 -0.6**		baz=225						
	baz=344						SSD				*e*S	**Sb**	**20 15 36.1 +0.5**
TAP				*e*S	**Sb**	**20 15 11.2 -0.1**		baz=225						
	baz=344						**TSMG**	**Majia**	**1.81**	**218**	*e*P	**Pb**	**20 15 13.0 -0.4**
TYC	**Yuchr**	**0.94**	**255**	P	**Pg**	**20 14 57.8 -0.2**		baz=227						
	baz=256						**TWM1**	**Shoushan**	**1.86**	**225**	*e*P	**Pb**	**20 15 14.6 +0.4**
TYC				*e*S	**Sn**	**20 15 11.6 -1.6**		baz=226						
	baz=256						MASBT	**Mashibuluo**	**1.90**	**216**	*e*P	**Pn**	**20 15 12.5 -0.2**
TWF1	**Yuli**	**0.94**	**213**	P	**Pg**	**20 14 57.2 -0.8**		baz=206						
	baz=226						**JKRS**	**Kuro-shima**	**1.97**	**87**	P	**Pb**	**20 15 15.6 -0.6**
TWF1				*e*S	**Sn**	**20 15 14.3 +1.1**	**EAST**	**Anshuo**	**1.98**	**208**	*e*P	**Pn**	**20 15 12.7 -1.2**
	baz=226							baz=196						
HSN1	**Hsinchu**	**0.98**	**310**	*e*P	**Pn**	**20 15 00.3 +0.2**	**SCZT**	**Fangliau**	**2.10**	**213**	*e*P	**Pn**	**20 15 16.7 +1.2**
	baz=314							baz=219						
TNOU	**National Taiwa**	**1.00**	**356**	*e*P	**Pb**	**20 14 59.5 0.0**	SCZT				*e*S	**Sg**	**20 15 46.4 -1.0**
	baz=359							baz=219						
NCUH	**Zhongli**	**1.02**	**324**	*e*P	**Pn**	**20 15 00.4 -0.2**	**JIJ**	**Ishigaki jima**	**2.10**	**84**	P	**Pn**	**20 15 16.4 +0.9**
	baz=326						**SLIU**	**Shizi**	**2.15**	**207**	*e*P	**Pn**	**20 15 16.6 +0.4**
WHYT	**Xinyi Township**	**1.02**	**244**	*e*P	**Pn**	**20 15 00.1 -0.5**		baz=196						
	baz=253						**JISG**	**Ishigakijimahi**	**2.29**	**78**	P	**Pn**	**20 15 18.7 +0.7**
WHYT				*e*S	**Sn**	**20 15 15.7 +0.5**	**VWUC**	**VWUC**	**2.34**	**291**	*e*P	**Pn**	**20 15 19.2 +0.5**
	baz=253							baz=296						
TWS1	**Kuangyinshan**	**1.03**	**338**	*e*P	**Pn**	**20 15 00.4 -0.3**	**TWK1**	**Hengchun**	**2.40**	**204**	*e*P	**Pb**	**20 15 22.1 -1.3**
	baz=341							baz=193						
TWS1				*e*S	**Sn**	**20 15 16.6 +1.3**	**PTMZ**	**Houxiangcun**	**2.64**	**290**	*e*P	**Pn**	**20 15 23.0 +0.1**
	baz=341							baz=292						
NSY	**Sanyi**	**1.03**	**285**	*e*P	**Pn**	**20 15 01.0 +0.3**	PTMZ				*e*S	**Sn**	**20 15 54.6 -0.5**
	baz=289							baz=292						
HSN	**Hsinchu**	**1.03**	**309**	*e*P	**Pn**	**20 15 01.2 +0.4**	**JTJ**	**Tarama**	**2.65**	**79**	P	**Pn**	**20 15 24.9 +1.9**
	baz=315						**LYJJ**	**Jianjiangzhen**	**3.05**	**322**	*e*P	**Pn**	**20 15 28.9 +0.3**
HSN				*e*S	**Sn**	**20 15 16.0 +0.5**		baz=325						
	baz=315						**XPSS**	**Dashigiu**	**3.15**	**332**	*e*P	**Pn**	**20 15 29.5 -0.4**
NJN	**Zhunan**	**1.04**	**301**	*e*P	**Pn**	**20 15 01.5 +0.6**		baz=335						
	baz=305						**KNMB**	**Chin-men Tao**	**3.17**	**276**	*e*P	**Pn**	**20 15 30.9 +0.6**
NMLH	**Miaoli**	**1.04**	**292**	*e*P	**Pn**	**20 15 01.6 +0.7**		baz=282						
	baz=294						**MHZQ**	**Yeshan**	**3.21**	**308**	*e*P	**Pn**	**20 15 30.9 +0.1**
NMLH				*e*S	**Sn**	**20 15 15.8 +0.1**		baz=311						
	baz=294						**AXDP**	**Jialang**	**3.61**	**283**	*e*P	**Pn**	**20 15 36.9 +0.6**
JYNG	**Yonagunijimaku**	**1.04**	**73**	P	**Pn**	**20 15 01.4 +0.5**		baz=288						
JYNG				S	**Sn**	**20 15 15.6 -0.2**	**KSRS**	**Korea Array**	**14.25**	**20**	Pn	**P**	**20 18 07.6 -1.9**
YUS	**Yu-Shan**	**1.05**	**232**	P	**Pg**	**20 15 00.3 +0.1**		0.2nm,0.3s,baz=202,slow=12,SNR=4.5						
	baz=233						KSRS				LR	LR	20 24 25.2	
YUS				*e*S	**Sn**	**20 15 15.9 -0.8**		comp=Z,152nm,18.2s,baz=200,slow=42						
	baz=233						**MJAR**	**Matsushiro Arr**	**18.73**	**45**	LR	LR	20 26 33.2	
WWF	**Wufeng**	**1.06**	**265**	*e*P	**Pn**	**20 15 01.9 +0.8**		comp=Z,30nm,18.2s,baz=205,slow=39						
	baz=262						**CMAR**	**Chiang Mai Arr**	**22.07**	**260**	P	**P**	**20 19 39.6 +4.1**
YM08	**YM08**	**1.06**	**347**	*e*P	**Pb**	**20 15 00.7 +0.1**		0.7nm,0.6s,baz=48,slow=7.3,SNR=4.9						
	baz=336						CMAR				LR	LR	20 28 49.6	
TCU	**Taichung**	**1.07**	**270**	*e*P	**Pn**	**20 15 02.3 +0.9**		comp=Z,34nm,19.5s,baz=195,slow=38						
	baz=272						**ASAJ**	**asahikawa**	**26.17**	**35**	LR	LR	20 31 28.9	
TCU				*e*S	**Sn**	**20 15 16.6 +0.2**		comp=Z,77nm,18.1s,baz=172,slow=39						
	baz=272						**KLR**	**Kul'dur**	**26.22**	**15**	LR	LR	20 30 28.9	
FULB	**Fuli**	**1.07**	**208**	*e*P	**Pg**	**20 15 00.1 -0.5**		comp=Z,80nm,19.3s,baz=198,slow=36						
	baz=226						**SONM**	**Songino Array**	**26.64**	**336**	P	**P**	**20 20 20.2 +1.0**
FULB				*e*S	**Sn**	**20 15 18.3 +1.7**		2.7nm,1.0s,baz=145,slow=11,SNR=7.8						
	baz=226						SONM				LR	LR	20 32 13.0	
NTST	**Danshui**	**1.07**	**340**	*e*P	**Pn**	**20 15 01.4 0.0**		comp=Z,120nm,19.5s,baz=107,slow=40						
	baz=344						**TLY**	**Talaya**	**30.84**	**338**	LR	LR	20 33 06.3	
WJS	**Zhushan**	**1.08**	**253**	*e*P	**Pn**	**20 15 01.5 +0.1**		comp=Z,42nm,19.2s,baz=133,slow=36						
	baz=254						**MKAR**	**Makanchi Array**	**38.79**	**316**	P	**P**	**20 22 05.6 +0.5**
WJS				*e*S	**Sn**	**20 15 18.0 +1.4**		0.6nm,0.7s,baz=104,slow=10.0,SNR=7.5						
	baz=254						**ZALV**	**Zalesovo Beam**	**40.60**	**327**	P	**P**	**20 22 20.0 -0.1**
WNT1	**Nantou City**	**1.10**	**258**	*e*P	**Pn**	**20 15 02.9 +1.2**		1.4nm,0.6s,baz=111,slow=8.1,SNR=6.2						
	baz=255						**WRA**	**Warramunga Arr**	**45.48**	**163**	P	**P**	**20 22 58.8 -1.2**
WNT1				*e*S	**Sn**	**20 15 20.1 +3.1**		0.6nm,0.8s,baz=345,slow=8.6,SNR=6.7						
	baz=255						**TIXI**	**Tiksi**	**47.70**	**3**	P	**P**	**20 23 15.2 -1.6**
WNT	**Mingjian**	**1.10**	**256**	*e*P	**Pn**	**20 15 02.3 +0.6**		2.4nm,0.9s,baz=150,slow=5.4,SNR=10.0						
	baz=253						**ASAR**	**Alice Springs**	**48.95**	**165**	P	**P**	**20 23 27.0 0.0**
WNT				*e*S	**Sn**	**20 15 17.9 +0.8**		0.4nm,0.7s,baz=339,slow=7.0,SNR=2.2						
	baz=253						**CTA**	**Charters Tower**	**49.98**	**150**	LR	LR	20 43 46.2	
YOJ	**Yonaguni jima**	**1.10**	**73**	P	**Pn**	**20 15 02.6 +0.8**		comp=Z,262nm,19.2s,baz=63,slow=35						
YOJ	**Yonaguni jima**	**1.10**	**73**	*e*P	**Pn**	**20 15 02.6 +0.8**	**FINES**	**FINESS Array B**	**71.78**	**330**	LR	LR	21 00 35.6	
	baz=60							comp=Z,41nm,19.7s,baz=67,slow=38						
YOJ				*e*S	**Sn**	**20 15 19.6 +2.3**	**NOA**	**NORSAR Array B**	**78.54**	**332**	LR	LR	21 03 48.8	
	baz=60							comp=Z,15nm,19.1s,baz=95,slow=38						
WDJ	**Dajia District**	**1.12**	**280**	*e*P	**Pn**	**20 15 02.7 +0.7**	**YKA**	**Yellowknife Ar**	**82.77**	**23**	P	**P**	**20 27 03.4 -1.0**
	baz=283							0.5nm,0.7s,baz=314,slow=4.9,SNR=6.0						
WDJ				*e*S	**Sn**	**20 15 20.6 +2.9**	**GERES**	**GERESS Array B**	**83.25**	**321**	P	**P**	**20 27 07.3 0.0**
	baz=283							0.1nm,0.3s,baz=33,slow=3.8,SNR=4.1						
CHKT	**Chengkung**	**1.14**	**203**	*e*P	**Pb**	**20 15 00.8 -1.1**								
	baz=204													
CHKT				*e*S	**Sn**	**20 15 18.1 +0.2**								
	baz=204													
TWY	**Chenhua**	**1.15**	**349**	*e*P	**Pn**	**20 15 03.1 +0.8**								
	baz=337													
ALS	**Alishan**	**1.15**	**237**⇓	*e*P	**Pb**	**20 15 02.2 -0.1**								
	baz=238													
ALS				*e*S	**Sn**	**20 15 18.5 -0.3**								
	baz=238													
WCHH	**Zhanghua**	**1.18**	**267**	*e*P	**Pn**	**20 15 04.2 +1.3**								
	baz=269													
WCHH				*e*S	**Sn**	**20 15 20.9 +1.7**								
	baz=269													
ECS	**Chishang**	**1.20**	**209**	*e*P	**Pb**	**20 15 02.3 -0.6**								
	baz=211													
CHN5	**Tsauling**	**1.21**	**243**	*e*P	**Pg**	**20 15 03.4 +0.3**								
	baz=245													
CHN5				*e*S	**Sn**	**20 15 22.3 +2.4**								
	baz=245													
ELDTW	**Lidau**	**1.22**	**219**	*e*P	**Pb**	**20 15 01.6 -1.8**								
	baz=203													
EDH	**Donghe**	**1.27**	**203**	*e*P	**Pn**	**20 15 02.4 -1.7**								
	baz=187													
WDLH	**Douliu**	**1.28**	**249**	*e*P	**Pg**	**20 15 05.1 +0.5**								
	baz=252													
WDLH				*e*S	**Sn**	**20 15 24.0 +2.3**								
	baz=252													
WRL	**Guolierlin Hig**	**1.37**	**260**	*e*P	**Pg**	**20 15 06.3 +0.1**								
	baz=263													
WRL				*e*S	**Sg**	**20 15 25.0 +1.1**								
	baz=263													
STYH	**Taoyuan**	**1.39**	**226**⇓	*e*P	**Pn**	**20 15 05.3 -0.3**								
	baz=228													
STYH				*e*S	**Sg**	**20 15 24.8 +0.4**								
	baz=228													
TPUB	**Ta-pu**	**1.40**	**233**⇓	*e*P	**Pb**	**20 15 06.4 0.0**								

THE ***29*** *20:18:38.5,40˚.13N×19˚.88E,h3km±31km,ML2.8/6, Error ellipse: s-maj=31.7km s-min=0.9km az=146.0*
TIR ***29*** *20:18:38.3,40˚.08N×19˚.95E,h15km±1km,Md3.1,Ml3.1*
PDG ***29*** *20:18:38.9±0.5,40˚.17N×19˚.79E,h10km±1km,ML2.9/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
ATH ***29*** *20:18:39.3,40˚.09N×19˚.88E,h12km±4km,ML2.7/8, Error ellipse: s-maj=4.4km s-min=1.4km az=168.0*
BEO ***29*** *20:18:41.8±0.8,40˚.06N×20˚.30E,h23km±4km,ML2.8/10*
ISC 29 20:18:38.9±0.9,**40.08N**±0.02×**19.88E**±0.02,**h12**km±7km,
n90,σ1.9**33**/140,**22C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.22**	**155**	P	**Pg**	**20 18 43.2**	**-0.4**
SRN				S	**Sg**	**20 18 47.4**	**+0.6**
	3µm,0.3s						
SRN	**Sarande**	**0.22**	**155**	P	**Pg**	**20 18 43.2**	**-0.4**
	baz=169						
SRN				S	**Sg**	**20 18 46.8**	**0.0**
	baz=169						
SRN				AMP			
	comp=N,12nm,0.3s,baz=169						
KEK	**Kerkira**	**0.37**	**189**	P	**Pg**	**20 18 46.1**	**-0.2**
KEK				S	**Sb**	**20 18 53.4**	**+0.2**
	comp=N,2µm,0.3s						
KEK	**Kerkira**	**0.37**	**189**	P	**Pg**	**20 18 46.5**	**+0.2**
KEK				S	**Sb**	**20 18 52.7**	**-0.4**
KEK				AML	AML	20 18 55.1	
	comp=E,3136µm,0.3s						
KEK				AML	AML	20 18 55.5	
	comp=N,3316µm,0.3s						
VLO	**Vlora**	**0.48**	**323**	P	**Pb**	**20 18 48.9**	**-0.4**
	baz=319						
VLO				S	**Sb**	**20 18 57.3**	**+0.9**
	baz=319						
VLO				AMP			
	comp=N,11nm,0.2s,baz=319						
LSK	**Leskovik**	**0.56**	**83**	P	**Pg**	**20 18 48.3**	**-1.5**
LSK				S	**Sg**	**20 18 57.4**	**+0.2**
	comp=N,2µm,0.4s						
LSK	**Leskovik**	**0.56**	**83**	P	**Pg**	**20 18 48.3**	**-1.5**
	baz=81						
LSK				S	**Sg**	**20 18 56.6**	**-0.7**
	baz=81						
LSK				AMP			
	comp=N,6.8nm,0.3s,baz=81						
IGT	**Igoumenitsa**	**0.65**	**147**	P	**Pg**	**20 18 51.0**	**-0.5**
IGT	**Igoumenitsa**	**0.65**	**147**	P	**Pg**	**20 18 51.1**	**-0.5**
IGT				S	**Sb**	**20 19 01.3**	**+0.1**
IGT				AML	AML	20 19 07.4	
	comp=N,1065µm,0.4s						
IGT				AML	AML	20 19 07.9	
	comp=E,1190µm,0.6s						
IGT	**Igoumenitsa**	**0.65**	**147**	P	**Pg**	**20 18 51.1**	**-0.5**
	baz=151						
IGT				S	**Sg**	**20 19 00.1**	**-0.1**
	baz=151						
JAN	**Janina**	**0.86**	**119**	P	**Pg**	**20 18 55.7**	**+0.2**
JAN	**Janina**	**0.86**	**119**	P	**Pg**	**20 18 55.5**	**0.0**
JAN				AML	AML	20 19 12.6	
	comp=E,2329µm,0.4s						
JAN				AML	AML	20 19 13.4	
	comp=N,1958µm,0.4s						
KBN	**Korca**	**0.88**	**52**	P	**Pg**	**20 18 55.1**	**-0.8**
KBN	**Korca**	**0.88**	**52**	P	**Pg**	**20 18 55.0**	**-0.8**
	baz=49						
KBN				S	**Sg**	**20 19 07.3**	**-0.1**
	baz=49						
KBN				AMP			
	comp=E,1.6nm,0.4s,baz=49						
NEST	**Nestorio**	**0.96**	**69**	P	**Pg**	**20 18 56.0**	**-1.3**
NEST	**Nestorio**	**0.96**	**69**	P	**Pg**	**20 18 56.8**	**-0.6**
NEST				S	**Sb**	**20 19 10.8**	**+0.7**
NEST				AML	AML	20 19 14.2	
	comp=N,877µm,0.5s						
NEST				AML	AML	20 19 14.9	
	comp=E,655µm,0.4s						
PENT	**Pentalofos**	**0.97**	**83**	P	**Pg**	**20 18 56.7**	**-1.0**
PENT				S	**Sn**	**20 19 11.5**	**-0.8**
PENT				AML	AML	20 19 19.0	
	comp=E,620µm,0.6s						
PENT				AML	AML	20 19 19.2	
	comp=N,875µm,0.3s						
SCTE	**Santa Cesarea**	**1.08**	**270**	P	**Pb**	**20 18 59.6**	**+0.1**
SCTE				AML	AML	20 19 17.2	
	comp=E,494µm,0.3s						
SCTE				AML	AML	20 19 17.7	
	comp=N,355µm,0.2s						
SCTE	**Santa Cesarea**	**1.08**	**270**	P	**Pn**	**20 19 00.1**	**+0.3**
	baz=271						
KPRO	**Kipourio**	**1.15**	**96**	P	**Pb**	**20 18 59.7**	**-1.0**
KPRO	**Kipourio**	**1.15**	**96**	P	**Pb**	**20 18 59.7**	**-1.0**
KPRO				AML	AML	20 19 22.5	
	comp=E,980µm,0.4s						
KPRO				AML	AML	20 19 22.8	
	comp=N,997µm,0.4s						
OHR	**Ohrid**	**1.25**	**34**	*i* Pn	**Pn**	**20 19 00.9**	**-1.2**
TIR	**Tirane**	**1.26**	**360**	*e*Pg	**Pg**	**20 19 05.2**	**+2.0**
TIR				*e*Sg	**Sg**	**20 19 24.0**	**+4.4**
TIR	**Tirane**	**1.26**	**360**	P	**Pg**	**20 19 02.8**	**-0.4**
TIR	**Tirane**	**1.26**	**360**	P	**Pn**	**20 19 02.4**	**0.0**
	baz=358						
TIR				S	**Sg**	**20 19 20.6**	**+0.9**
	baz=358						
TIR				AMP			
	comp=N,0.7nm,0.6s,baz=358						
FNA	**Florina**	**1.34**	**58**	P	**Pn**	**20 19 03.3**	**-0.2**
FNA	**Florina**	**1.34**	**58**	P	**Pn**	**20 19 03.3**	**-0.2**
	baz=56						
LKD2	**Lefkada island**	**1.43**	**155**	P	**Pb**	**20 19 05.4**	**0.0**
LKD2				S	**Sg**	**20 19 27.0**	**+2.2**
	comp=N,342nm,0.6s						
LKD2	**Lefkada island**	**1.43**	**155**	P	**Pb**	**20 19 05.6**	**+0.2**
LKD2				AML	AML	20 19 28.7	
	comp=E,625µm,0.5s						
LKD2				AML	AML	20 19 30.3	
	comp=N,736µm,0.7s						
LKD2	**Lefkada island**	**1.43**	**155**	P	**Pb**	**20 19 05.5**	**+0.2**
	baz=156						
LKD2				S	**Sg**	**20 19 25.1**	**+0.3**
	baz=156						
KZN	**Kozani**	**1.47**	**81**	P	**Pb**	**20 19 06.3**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.51**	**155**	P	**Pn**	**20 19 06.3**	**+0.6**
NYDR				S	**Sg**	**20 19 28.2**	**+0.8**
	comp=N,232nm,0.4s						
EVGI	**Lefkada island**	**1.58**	**157**	P	**Pn**	**20 19 07.2**	**+0.5**
PHP	**Peshkopia**	**1.66**	**15**	P	**Pb**	**20 19 08.8**	**-0.5**
	baz=12						
FSK	**Fiskardo**	**1.71**	**162**	P	**Pn**	**20 19 08.9**	**+0.5**
THL	**Klokotos Trika**	**1.73**	**107**	P	**Pb**	**20 19 10.0**	**-0.5**
THL				S	**Sb**	**20 19 32.5**	**+0.4**
	comp=N,138nm,0.7s						
ULC	**Ulcinj**	**1.94**	**346**⇑	*i* Pn	**Pn**	**20 19 11.5**	**-0.2**
ULC				*i* Sn	**Sn**	**20 19 36.8**	**+0.8**
PUK	**Puka**	**1.96**	**0**	P	**Pn**	**20 19 13.2**	**+1.2**
	baz=359						
PUK				S	**Sg**	**20 19 42.5**	**+0.6**
	baz=359						
PUK				AMP			
	comp=E,0.4nm,0.5s,baz=359						
LIT	**Litokhoron**	**2.00**	**89**	P	**Pn**	**20 19 13.8**	**+1.2**
DRME	**Dracevica, Mon**	**2.17**	**346**⇓	*i* Pn	**Pn**	**20 19 15.1**	**+0.3**
DRME				*i* Sn	**Sn**	**20 19 42.0**	**+0.4**
AGG	**Agios Georgios**	**2.17**	**118**	P	**Pb**	**20 19 16.8**	**-1.3**
SKO	**Skopje**	**2.23**	**32**	*i* Pn	**Pn**	**20 19 16.8**	**+1.2**
EFP	**Efpalio**	**2.28**	**136**	P	**Pn**	**20 19 18.3**	**+2.0**
BCI	**Bajram Curri**	**2.29**	**4**	P	**Pn**	**20 19 17.9**	**+1.5**
	baz=2.0						
BUM	**Brajici-Budva**	**2.34**	**342**⇓	*i* Pn	**Pn**	**20 19 17.0**	**-0.2**
BUM				*i* Sn	**Sn**	**20 19 46.4**	**+0.5**
STIP	**Stip**	**2.38**	**47**	*i* Pn	**Pb**	**20 19 21.6**	**0.0**
PDG	**Podgorica**	**2.39**	**349**	*e*Pn	**Pb**	**20 19 20.7**	**-1.2**
PDG				*e*Sn	**Sb**	**20 19 50.9**	**-0.4**
PDG	**Podgorica**	**2.39**	**349**	⇑P	**Pn**	**20 19 18.9**	**+1.1**
PDG				⇑S	**Sn**	**20 19 48.5**	**+1.4**
TTG	**Podgorica**	**2.39**	**349**⇑	*i* Pn	**Pn**	**20 19 18.2**	**+0.4**
TTG				*i* Sn	**Sn**	**20 19 47.5**	**+0.4**
VAY	**Valandovo**	**2.39**	**58**	*i* Pn	**Pb**	**20 19 20.4**	**-1.5**
MATE	**Matera**	**2.49**	**284**	⇓P	**Pb**	**20 19 22.8**	**-0.7**
MATE				⇑S	**Sb**	**20 19 55.3**	**+1.2**
PVY	**Plav**	**2.51**	**1**⇑	*i* Pn	**Pn**	**20 19 19.8**	**+0.2**
PVY				*i* Sn	**Sn**	**20 19 50.9**	**+0.7**
CEME	**Cevo**	**2.57**	**344**⇓	*i* Pn	**Pn**	**20 19 19.9**	**-0.4**
CEME				*i* Sn	**Sn**	**20 19 51.9**	**+0.4**
HCY	**Herceg Novi**	**2.58**	**337**⇑	*i* Pn	**Pn**	**20 19 20.7**	**+0.2**
HCY				*i* Sn	**Sn**	**20 19 52.3**	**+0.5**
KLV	**Kalavryta, Ach**	**2.70**	**138**	P	**Pn**	**20 19 24.0**	**+1.9**
NKME	**Niksic**	**2.77**	**346**⇑	*i* Pn	**Pn**	**20 19 23.4**	**+0.3**
NKME				*i* Sn	**Sn**	**20 19 57.3**	**+0.8**
KOME	**Kolasin**	**

BOVS	**Bovan**	**3.80**	**20**	⇑P		**Pn**	**20 19 37.5**	**+0.2**
BOVS				⇑S		**Sn**	**20 20 22.1**	**+0.2**
DIVS	**Divibare**	**4.01**	**1**	*e*Pn		**Pn**	**20 19 42.4**	**+2.2**
BLKB	**Belogradchik**	**4.11**	**30**	⇑S		**Sn**	**20 20 30.6**	**+1.1**
ZAGS	**Zajecar**	**4.12**	**24**	*e*Pn		**Pn**	**20 19 42.6**	**+1.0**
KIJV	**Kijevo**	**4.70**	**328**	*e*Pn		**Pn**	**20 19 49.1**	**-0.5**
KIJV				Sn		**Sn**	**20 20 41.7**	**-2.3**
ZIRJ	**Zirje**	**4.77**	**320**	*e*Pn		**Pn**	**20 19 49.6**	**-0.9**
ZIRJ				Sn		**Sn**	**20 20 42.8**	**-2.8**
MDVR	**Moldovita**	**4.89**	**16**	⇓P		**Pn**	**20 19 53.1**	**+0.9**
MDVR				⇑S		**Sn**	**20 20 49.5**	**+0.8**
MORI	**Morici**	**4.89**	**322**	*e*Pn		**Pn**	**20 19 51.8**	**-0.4**
MORI				Sn		**Sn**	**20 20 45.8**	**-3.0**
HERR	**Herculane**	**5.15**	**21**	⇓P		**Pn**	**20 19 57.1**	**+1.4**
DUGI	**Dugi Otok**	**5.30**	**319**	*e*Pn		**Pn**	**20 19 57.6**	**-0.3**
DUGI				Sn		**Sn**	**20 20 56.1**	**-2.8**
UDBI	**Udbina**	**5.39**	**327**	*e*Pn		**Pn**	**20 19 59.5**	**+0.5**
UDBI				Sn		**Sn**	**20 20 58.2**	**-2.9**
BZS	**Buzias**	**5.68**	**12**	⇓P		**Pn**	**20 20 04.1**	**+1.1**
BZS				⇑S		**Sn**	**20 21 08.4**	**+0.3**
GZR	**Gura Zlata**	**5.72**	**21**	⇑P		**Pn**	**20 20 04.2**	**+0.6**
GZR				⇑S		**Sn**	**20 21 10.4**	**+1.1**
NVLJ	**Novalja**	**5.81**	**322**	*e*Pn		**Pn**	**20 20 04.1**	**-0.8**
NVLJ				Sn		**Sn**	**20 21 07.8**	**-3.6**
MLR	**Muntele Rosu**	**7.01**	**38**	⇑P		**Pn**	**20 20 22.5**	**+1.1**
DOPR	**Dopca**	**7.13**	**33**	P		**Pn**	**20 20 23.7**	**+0.6**

NIC ***29*** *20:38:48.5±0.0, 35°.22N×29°.61E, h1km±1km, Ml2.8/2*
DDA ***29*** *20:38:54.5, 35°.66N×29°.70E, h49km, ML1.8*

ISC 29 20:38:52.6±1.4, 35°.37N±0°.08×29°.68E±0°.04, h49km±40km, n15,σ1§54/20, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.78**	**354**	P	**Pn**	**20 39 06.9**	**-0.5**
KSL				S	**Sn**	**20 39 21.1**	**+2.9**
AKAS	**Kas**	**0.86**	**356**	*i* P	**Pn**	**20 39 07.4**	**-1.2**
AKUM	**Antalya-Kumluc**	**1.09**	**29**	*i* P	**Pn**	**20 39 11.6**	**+0.1**
AKUM				*i* S	**Sn**	**20 39 24.0**	**-1.5**
DALY	**Dalyan (Mula)**	**1.67**	**330**	*i* P	Pn	20 39 23.3	+4.0
GOLH	**Golhisar**	**1.87**	**357**	*i* P	**Pn**	**20 39 23.4**	**+1.2**
KARP	**Karpathos**	**2.07**	**276**	P	**Pn**	**20 39 23.6**	**-1.2**
KARP				S	**Sn**	**20 39 51.2**	**+1.8**
KEPZ	**Antalya-Kepez**	**2.18**	**45**	*i* P	**Pn**	**20 39 26.9**	**+0.5**
KEPZ				*i* S	**Sn**	**20 39 51.8**	**-0.4**
KEPZ				IAML		20 40 17.0	
	comp=E,8.2nm,1.3s						
TAVA	**DENIZLI_Tavas**	**2.18**	**344**	*i* P	**Pn**	**20 39 28.2**	**+1.7**
TAVA				*i* S	**Sn**	**20 39 49.9**	**-2.4**
TAVA				IAML		20 39 56.0	
	comp=N,7.1nm,0.6s						
AKMS	**Akamas**	**2.20**	**98**	P	**Pn**	**20 39 26.8**	**+0.1**
ALFC	**Alefka**	**2.40**	**94**	P	**Pn**	**20 39 29.5**	**+0.2**
ALFC				AML	AML	20 40 02.7	
	comp=N,0.1nm,0.6s						
ALFC				AML	AML	20 40 09.6	
	comp=N,0.1nm,0.4s						
BDRM	**Kayabasi**	**2.48**	**314**	*i* P	**Pn**	**20 39 31.9**	**+1.4**
BDRM				*i* S	**Sn**	**20 39 57.0**	**-2.6**
BDRM				IAML		20 40 02.0	
	comp=N,12nm,0.9s						
SZAC	**Souni**	**2.69**	**102**	P	**Pn**	**20 39 33.7**	**+0.3**
SZAC				AML	AML	20 40 07.8	
	comp=N,0.1nm,0.6s						
SZAC				AML	AML	20 40 07.9	
	comp=N,0.1nm,0.2s						
ASGA	**Asgata**	**2.98**	**100**	P	**Pn**	**20 39 37.5**	**+0.2**
CSS	**Mathiatis**	**3.02**	**97**	P	**Pn**	**20 39 37.5**	**-0.4**
MVOU	**Mavrovouni**	**3.25**	**95**	P	**Pn**	**20 39 42.0**	**+0.9**

IDC 29 20:58:20.1±2.6, 2°.44S×134°.07E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/42, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=99.6km s-min=27.4km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.39**	**179**	P	P	21 02 25.2	-0.6
	0.1nm,0.3s,baz=359,slow=11,SNR=8.6						
FITZ	**Fitzroy Crossi**	**17.62**	**207**	P	Pn	21 02 25.9	-1.2
	0.1nm,0.3s,baz=29,slow=13,SNR=1.3						
ASAR	**Alice Springs**	**21.10**	**180**	P	P	21 03 06.5	+0.1
	1.4nm,0.9s,baz=6.4,slow=13,SNR=16						
MKAR	**Makanchi Array**	**66.80**	**324**	P	P	21 09 13.7	+0.1
	0.2nm,0.4s,baz=109,slow=7.5,SNR=5.4						

IDC ***29*** *21:00:39.6±1.0, 2°.72S×27°.65E, h0km, mb3.9/7, mb1 3.9/11, mb1mx3.6/51, mbtmp3.9/11, ML3.9/4, Error ellipse: s-maj=25.9km s-min=19.2km az=111.0*
NEIC ***29*** *21:00:42.0±1.9, 2°.75S±0°.10×27°.8E±0°.1, h10km±2km, mb4.2/9, Error ellipse: s-maj=23.1km s-min=14.9km az=296.0*

ISC 29 21:00:43.0±2.1, 2°.83S±0°.06×27°.79E±0°.09, h26km±15km, n40,σ1§81/50, mb4.1/10, 1D, Zaire

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LWI	**Lwiro**	**1.17**	**60**	⇓*i* P	**Pn**	**21 01 02.6**	**-1.4**
LWI				*i* S	**Sn**	**21 01 17.7**	**-1.4**
LWI				IAML		21 01 22.2	
	comp=Z,3μm,0.3s						
BOBN	**Bobandana**	**1.66**	**48**	*i* P	**Pn**	**21 01 09.3**	**-1.2**
BOBN				*i* S	**Sn**	**21 01 30.3**	**-0.8**
BOBN				IAML		21 01 32.6	
	comp=Z,3μm,0.4s						
GOM	**Goma**	**1.83**	**52**	*i* P	**Pn**	**21 01 13.9**	**+0.8**
GOM				*i* S	**Sn**	**21 01 37.2**	**+1.7**
GOM				IAML		21 01 43.5	
	comp=Z,951nm,0.7s						
KTSH	**Kitshanga**	**2.02**	**39**	*i* P	**Pn**	**21 01 14.5**	**-1.1**
KTSH				*i* S	**Sn**	**21 01 39.7**	**-0.5**
KTSH				IAML		21 01 40.8	
	comp=Z,948nm,0.3s						
LBGA	**Luboga**	**2.04**	**40**	*i* P	**Pn**	**21 01 16.9**	**+0.9**
LBGA				*i* S	**Sn**	**21 01 39.8**	**-0.9**
LBGA				IAML		21 01 43.1	
	comp=Z,644nm,0.3s						
RGB	**Rumangabo**	**2.16**	**47**	*i* P	**Pn**	**21 01 17.3**	**-0.2**
RGB				IAML		21 01 49.3	
	comp=Z,619nm,0.4s						
MBAR	**Mbarara**	**3.69**	**53**	Pn	**Pn**	**21 01 39.0**	**+0.5**
	comp=Z,13nm,0.3s,baz=222,slow=0.5,SNR=38						
MBAR				Pg	**Pb**	**21 01 47.4**	**-0.2**
	comp=Z,52nm,0.3s,baz=234,slow=23,SNR=26						
MBAR				Lg	Lg	21 02 31.3	
	comp=Z,107nm,0.3s,baz=317,slow=21,SNR=8.8						
MBAR	**Mbarara**	**3.69**	**53**		**Pn**	**21 01 39.1**	**+0.6**
MBAR	**Mbarara**	**3.69**	**53**	*e*P	**Pn**	**21 01 40.7**	**+2.2**
MBAR				*e*S	**Sb**	**21 02 32.8**	**+0.9**
MBAR	**Mbarara**	**3.69**	**53**	*i* P	**Pn**	**21 01 40.0**	**+1.5**
MBAR				*i* S	**Sb**	**21 02 28.2**	**-3.7**
MBAR				IAML		21 02 41.1	
	comp=Z,119nm,0.3s						
KIL	**Kilembe**	**3.74**	**36**	*e*P	**Pn**	**21 01 38.9**	**-0.3**
KIL				*e*S	**Sb**	**21 02 32.3**	**-1.2**
GETA	**Geita**	**5.44**	**91**	*i* P	Pn	21 01 51.5	-11
GETA				IAML		21 03 04.3	
	comp=Z,93nm,0.4s						
TEBE	**Entebbe**	**5.49**	**59**	*e*P	Pn	21 02 11.0	+7.7
TEBE				*e*S	**Sb**	**21 03 25.5**	**+1.7**
KMBO	**Kilima Mbogo**	**9.61**	**80**	Pn	**Pn**	**21 03 01.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=220,slow=17,SNR=3.5						
KMBO				Lg	Lg	21 05 38.3	
	comp=Z,0.3nm,0.3s,baz=336,slow=21,SNR=9.1						
LODK	**Lodwar**	**9.79**	**51**	Pn	**Pn**	**21 03 01.4**	**-0.9**
KIBK	**Kibwezi**	**10.26**	**88**	Pn	**Pn**	**21 03 07.3**	**-1.4**
LSZ	**Lusaka**	**12.38**	**178**	Pn	**Pn**	**21 03 38.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=0.6,slow=13,SNR=7.8						
LSZ	**Lusaka**	**12.38**	**178**		**Pn**	**21 03 39.0**	**+1.2**
BLWY	**Bulawayo**	**17.22**	**177**	*i* P	**P**	**21 04 47.1**	**+3.6**
BLWY				*i* S	**Sn**	**21 07 47.6**	**-5.5**
BLWY	**Bulawayo**	**17.22**	**177**	*i* P	**P**	**21 04 47.1**	**+3.6**
BLWY				*i* S	**Sn**	**21 07 47.6**	**-5.5**
MATP	**Matopo**	**17.50**	**178**	P	**P**	**21 04 46.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=349,slow=14,SNR=7.6						
BOSA	**Boshof**	**25.75**	**185**	P	**P**	**21 06 13.5**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=338,slow=8.0,SNR=2.5						
BOSA	**Boshof**	**25.75**	**185**	P	**P**	**21 06 12.9**	**+1.0**
BOSA				IAmb	IAmb	21 06 25.6	
	comp=Z,5.5nm,1.2s						

TOA0	**Torodi Ar. Sit**	**30.38**	**302**	P	**P**		**21 06 54.0**	**+0.7**
TOA0				IAmb	IAmb		21 07 21.2	
	comp=Z,6.3nm,1.3s							
TORD	**Torodi Ar. Bea**	**30.38**	**302**	P	**P**		**21 06 52.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=108,slow=7.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**30.38**	**302**	P	**P**		**21 06 52.3**	**-0.9**
BR131	**Keskin Array S**	**42.69**	**7**	P	**P**		**21 08 38.6**	**+0.7**
BR131				IAmb	IAmb		21 08 38.7	
	comp=Z,4.8nm,1.1s							
BRTR	**Keskin Array B**	**42.69**	**7**	P	**P**		**21 08 38.0**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=185,slow=9.8,SNR=6.3							
LIT	**Litokhoron**	**43.00**	**354**	P	**P**		**21 08 38.9**	**-1.4**
FNA	**Florina**	**43.80**	**353**	P	**P**		**21 08 46.2**	**-0.5**
FNA				IAmb	IAmb		21 09 03.7	
	comp=Z,5.9nm,1.4s							
FINES	**FINESS Array B**	**64.11**	**359**	P	**P**		**21 11 14.0**	**-0.6**
	comp=Z,2.2nm,1.1s,baz=186,slow=6.8,SNR=5.3							
FINES	**FINESS Array B**	**64.11**	**359**	P	**P**		**21 11 15.0**	**+0.3**
ARU	**Arti**	**64.15**	**18**	P	**P**		**21 11 16.1**	**+1.0**
MAKZ	**Makanchi**	**68.54**	**37**	P	**P**		**21 11 44.8**	**+1.3**
MAKZ				IAmb	IAmb		21 11 47.3	
	comp=Z,2.3nm,1.3s							
KURBB	**Kurchatov Arra**	**68.60**	**32**	P	**P**		**21 11 44.8**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=238,slow=6.4,SNR=4.4							
KURK	**Kurchatov**	**68.70**	**32**	P	**P**		**21 11 44.8**	**+0.5**
MK31	**Makanchi Array**	**68.72**	**37**	P	**P**		**21 11 45.8**	**+1.2**
MKAR	**Makanchi Array**	**68.72**	**37**	P	**P**		**21 11 45.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=241,slow=5.8,SNR=13							
MKAR	**Makanchi Array**	**68.72**	**37**	P	**P**		**21 11 45.6**	**+1.0**
ARCES	**ARCESS Array B**	**72.24**	**359**	P	**P**		**21 12 04.9**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=188,slow=6.2,SNR=1.4							

IDC ***29*** *21:04:03.4±0.9, 1°.52S×26°.40E, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.7/48, mbtmp4.0/10, ML2.1/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/43, Error ellipse: s-maj=19.7km s-min=17.5km az=121.0*
NEIC ***29*** *21:04:05.6±0.8, 1°.53S±0°.08×26°.39E±0°.10, h10km±2km, mb4.1/7, Error ellipse: s-maj=19.1km s-min=10.4km az=235.0*

ISC 29 21:04:04.6±0.6, 1°.63S±0°.07×26°.37E±0°.06, h10km, n32, σ1§15/34, mb4.2/11, MS3.5/4, Zaire

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LWI	**Lwiro**	**2.51**	**104**	*i* P	**Pn**	**21 04 47.1**	**+1.4**
LWI				*i* S	**Sn**	**21 05 15.2**	**-1.2**
LWI				IAML		21 05 39.1	
	comp=Z,1μm,1.3s						
BOBN	**Bobandana**	**2.65**	**92**	*i* P	**Pb**	**21 04 50.5**	**-1.7**
BOBN				*i* S	**Sn**	**21 05 18.9**	**-1.0**
BOBN				IAML		21 05 22.1	
	comp=Z,1μm,0.7s						
KTSH	**Kitshanga**	**2.71**	**82**	*i* P	**Pn**	**21 04 48.3**	**-0.2**
KTSH				*i* S	**Sn**	**21 05 18.7**	**-2.7**
KTSH				IAML		21 05 31.1	
	comp=Z,721nm,0.7s						
GOM	**Goma**	**2.86**	**91**	*i* P	**Pb**	**21 04 55.1**	**-0.8**
GOM				*i* S	**Sn**	**21 05 27.2**	**+2.1**
GOM				IAML		21 05 45.0	
	comp=Z,523nm,0.5s						
RGB	**Rumangabo**	**3.01**	**85**	*i* P	**Pb**	**21 04 57.6**	**-0.9**
RGB				*i* S	**Sn**	**21 05 31.1**	**+2.2**
RGB				IAML		21 05 47.0	
	comp=Z,551nm,0.7s						
KIL	**Kilembe**	**4.07**	**63**	*e*P	**Pb**	**21 05 16.8**	**+0.2**
KIL				*e*S	**Sb**	**21 06 07.3**	**+1.4**
MBAR	**Mbarara**	**4.49**	**77**	Pn	**Pn**	**21 05 13.9**	**+1.0**
	comp=Z,12nm,0.3s,baz=81,slow=22,SNR=2.2						
MBAR				Lg	Lg	21 06 21.9	
	comp=Z,60nm,0.3s,baz=305,slow=22,SNR=6.6						
MBAR				LR	LR	21 06 51.8	
	comp=Z,139nm,21.1s,baz=192,slow=38						
MBAR	**Mbarara**	**4.49**	**77**		**Pn**	**21 05 13.7**	**+0.8**
KMBO	**Kilima Mbogo**	**10.89**	**87**	Lg	Lg	21 09 44.1	
	comp=Z,0.4nm,0.3s,baz=291,slow=2.7,SNR=9.0						
LSZ	**Lusaka**	**13.68**	**173**	LR	LR	21 12 52.8	
	comp=Z,38nm,20.5s,baz=352,slow=38						
LSZ	**Lusaka**	**13.68**	**173**	Pn	**Pn**	**21 07 17.2**	**-1.7**
MATP	**Matopo**	**18.79**	**174**	P	**Pn**	**21 08 26.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=352,slow=14,SNR=7.0						
TSUM	**Tsumeb**	**19.46**	**206**	P	**Pn**	**21 08 33.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=5.8						
TSUM				LR	LR	21 16 21.7	
	comp=Z,104nm,20.7s,baz=3.0,slow=38						
TSUM	**Tsumeb**	**19.46**	**206**	P	**Pn**	**21 08 33.5**	**+0.5**
TSUM				IAmb	IAmb	21 08 36.3	
	comp=Z,10nm,1.1s						
LBTB	**Lobatse**	**23.26**	**182**	P	**P**	**21 09 13.8**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=354,slow=13,SNR=3.2						
BOSA	**Boshof**	**26.85**	**182**	P	**P**	**21 09 46.5**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=10,slow=7.6,SNR=4.4						
BOSA				LR	LR	21 20 47.6	
	comp=Z,62nm,20.6s,baz=22,slow=37						
BOSA	**Boshof**	**26.85**	**182**	P	**P**	**21 09 46.5**	**+0.9**
TOA0	**Torodi Ar. Sit**	**28.54**	**302**	P	**P**	**21 10 00.6**	**-0.3**
TOA0				IAmb	IAmb	21 10 08.7	
	comp=Z,5.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**28.54**	**302**	P	**P**	**21 10 00.7**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=107,slow=7.7,SNR=18						
TORD				LR	LR	21 21 23.6	
	comp=Z,62nm,20.4s,baz=170,slow=36						
TORD	**Torodi Ar. Bea**	**28.54**	**302**	P	**P**	**21 10 00.5**	**-0.4**
DBIC	**Dimbokro**	**32.24**	**285**	P	**P**	**21 10 33.5**	**0.0**
	comp=Z,4.7nm,0.8s,baz=97,slow=8.8,SNR=3.9							
DBIC	**Dimbokro**	**32.24**	**285**	P	**P**	**21 10 33.9**	**+0.4**
BRTR	**Keskin Array B**	**41.70**	**8**	P	**P**	**21 11 53.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=187,slow=8.3,SNR=2.9							
PALK	**Pallekele**	**54.93**	**80**	LR	LR	21 35 10.9		
	comp=Z,192nm,21.0s,baz=245,slow=34							
ABKAR	**Akbulak array**	**58.38**	**25**	P	**P**	**21 13 59.6**	**-0.6**
ABKAR				IAmb	IAmb	21 14 26.5		
	comp=Z,1.2nm,1.1s							
KK31	**Karatay Array**	**59.60**	**36**	P	**P**	**21 14 08.3**	**-0.5**
KK31				IAmb	IAmb	21 14 10.2		
	comp=Z,2.8nm,1.2s							
KKAR	**Karatay Array**	**59.60**	**36**	P	**P**	**21 14 08.5**	**-0.3**
KKAR				IAmb	IAmb	21 14 10.2		
	comp=Z,2.8nm,1.2s							
FINES	**FINESS Array B**	**62.91**	**360**	P	**P**	**21 14 30.3**	**-0.5**
	comp=Z,16nm,1.4s,baz=158,slow=6.2,SNR=3.8							
FINES	**FINESS Array B**	**62.91**	**360**	P	**P**	**21 14 30.2**	**-0.6**
MKAR	**Makanchi Array**	**68.64**	**38**	P	**P**	**21 15 08.0**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=250,slow=2.9,SNR=4.0							
MKAR	**Makanchi Array**	**68.64**	**38**	P	**P**	**21 15 08.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**74.03**	**70**	LR	LR	21 49 18.4		
	comp=Z,53nm,18.0s,baz=228,slow=37							

DJA ***29*** *21:05:33.5±0.4, 2°.5S×112°.9E±°, h52km±16km, M3.8/10, mb4.3/3, mB4.7/1, MLv3.6/10, Mw(mB)3.9/1*

ISC 29 21:05:33.4±1.5, 2°.39S±0°.10×128°.50E±0°.07, h35km, n9, σ0§79/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRAI	**Karang Ratu**	**0.93**	**187**	P	**Pn**	**21 05 50.0**	**0.0**
MSAI	**Masohi**	**1.04**	**156**	P	**Pn**	**21 05 51.6**	**+0.1**
MSAI				S	**Sn**	**21 06 05.1**	**+0.3**
NLAI	**Namlea**	**1.63**	**239**	P	**Pn**	**21 05 59.7**	**0.0**
NLAI				S	**Sn**	**21 06 19.0**	**-0.5**
SANI	**Sanana**	**2.53**	**278**	P	**Pn**	**21 06 11.2**	**-0.9**
SWI	**Sorong**	**3.15**	**61**	P	**Pn**	**21 06 21.0**	**+0.5**
SIJI	**Sorong**	**3.15**	**61**	P	**Pn**	**21 06 20.8**	**+0.2**
FAKI	**Fak Fak**	**3.78**	**98**	P	**Pn**	**21 06 27.9**	**-1.3**
APSI	**Ampana**	**7.01**	**282**	P	**Pn**	**21 07 14.7**	**+1.1**
	0.1nm471nm27nm,0.4s						
MRSI	**Marisa**	**7.15**	**293**	P	**Pn**	**21 07 16.4**	**+0.8**

IDC ***29*** *21:27:29.8±3.3, 42°.16N×143°.38E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/57, mbtmp3.3/4, ML2.3/2, Error ellipse: s-maj=76.0km s-min=32.9km az=61.0*
JMA ***29*** *21:27:48.8±0.1, 41°.47N×141°.35E, h86km±1km, M2.6*

ISC 29 21:27:48.5±1.0, 41°.46N±0°.04×141°.32E±0°.05, h89km±7km, n24,σ0§98/36, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.19**	**176**	P	**Pn**	**21 28 01.2**	**-0.1**
JOT	**Ohata**	**0.22**	**251**	P	**Pn**	**21 28 01.5**	**+0.1**
JOT				*e*S	**Sn**	**21 28 11.2**	**+0.2**
JARK	**Aomorirokkasho**	**0.45**	**176**	P	**Pn**	**21 28 02.8**	**0.0**
JARK				*e*S	**Sn**	**21 28 13.5**	**+0.2**

JKB	**Kayabe**	**0.48**	**334**	P	**Pn**		**21 28 02.9**	**-0.1**
JKB				*e*S	**Sn**		**21 28 13.9**	**+0.1**
JSR	**Shiriuchi**	**0.68**	**277**	P	**Pn**		**21 28 05.0**	**+0.3**
JSR				S	**Sn**		**21 28 16.8**	**0.0**
JTM	**Tenmabayashi**	**0.69**	**196**	P	**Pn**		**21 28 05.0**	**+0.1**
JTM				S	**Sn**		**21 28 17.2**	**+0.2**
JYM2	**Yakumo 2**	**0.97**	**313**	P	**Pn**		**21 28 08.3**	**+0.5**
JYM2				S	**Sn**		**21 28 22.8**	**+0.6**
JOMM	**Oshimamatsumae**	**0.99**	**275**	P	**Pn**		**21 28 08.3**	**+0.3**
JOMM				*e*S	**Sn**		**21 28 22.5**	**-0.1**
JNB	**Noboribetsu**	**1.03**	**348**	P	**Pn**		**21 28 08.5**	**0.0**
JANG	**Nango**	**1.09**	**172**	P	**Pn**		**21 28 09.0**	**-0.2**
JANG				*e*S	**Sn**		**21 28 23.8**	**-0.9**
JIAM	**Iburiatsuma**	**1.25**	**21**	P	**Pn**		**21 28 11.9**	**+0.8**
JIAM				*e*S	**Sn**		**21 28 29.1**	**+1.0**
JIW	**Iwasaki**	**1.31**	**230**	P	**Pn**		**21 28 12.5**	**+0.6**
JIW				S	**Sn**		**21 28 30.1**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.35**	**52**	P	**Pn**		**21 28 12.3**	**0.0**
JAH	**Hinai**	**1.37**	**203**	P	**Pn**		**21 28 13.3**	**+0.8**
JAH				*e*S	**Sn**		**21 28 32.2**	**+1.6**
JEW	**Eniwo**	**1.39**	**4**	P	**Pn**		**21 28 13.3**	**+0.5**
JHST	**Hiyamasetana**	**1.45**	**312**	P	**Pn**		**21 28 13.7**	**+0.2**
JEM	**Erimo**	**1.48**	**67**	P	**Pn**		**21 28 14.5**	**+0.5**
JOSM	**Okushiri--Mats**	**1.52**	**295**	P	**Pn**		**21 28 14.2**	**-0.2**
JOSM				*e*S	**Sn**		**21 28 33.8**	**-0.2**
JSH	**Shimam**	**1.52**	**322**	P	**Pn**		**21 28 14.8**	**+0.4**
JBT2	**Biratori 2**	**1.53**	**30**	P	**Pn**		**21 28 15.1**	**+0.5**
MJAR	**Matsushiro Arr**	**5.47**	**207**	Pn	**Pn**		**21 29 11.5**	**+4.0**
	0.1nm,0.3s,baz=47,slow=25,SNR=4.3							
USRK	**Ussurisyk Ar.**	**7.39**	**295**	Pn	**Pn**		**21 29 35.8**	**+2.3**
	baz=98,slow=14,SNR=5.0							
MKAR	**Makanchi Array**	**41.84**	**298**	P	**P**		**21 35 29.3**	**-0.2**
	0.4nm,0.6s,baz=87,slow=9.2,SNR=6.6							
WRA	**Warramunga Arr**	**61.43**	**187**	P	**P**		**21 37 54.1**	**-1.2**
	0.3nm,0.6s,baz=6.3,slow=6.8,SNR=5.4							

NSSP ***29*** *21:33:10.9, 38°.47N×44°.47E, h12km, Ms3.5*
DDA ***29*** *21:33:10.7, 38°.64N×44°.50E, h4km±2km, ML3.6*
ISK ***29*** *21:33:12.4, 38°.64N×44°.33E, h5km, ML3.7/15*
TEH ***29*** *21:33:12.8, 38°.53N×44°.43E, h6km, ML3.3*
AZER ***29*** *21:33:13.7±0.4, 38°.78N×44°.56E, h4km±3km, ml3.7/29, Error ellipse: s-maj=5.9km s-min=5.4km az=330.0*
IDC ***29*** *21:33:15.5±2.2, 38°.84N×44°.38E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.3/35, mbtmp3.3/5, ML2.2/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/41, Error ellipse: s-maj=39.3km s-min=18.0km az=165.0*

ISC 29 21:33:13.8±1.2, 38°.61N±0°.02×44°.35E±0°.02, h1km±9km, n107,σ1§80/146, mb3.3/5, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.28**	**280**	*i* P	**Pg**	**21 33 19.3**	**0.0**
OZAP				*i* S	**Sb**	**21 33 25.3**	**-1.8**
OZAP				IAML		21 33 26.0	
	comp=N,8μm,1.0s						
OZAP				IAML		21 33 27.0	
	comp=E,9μm,0.9s						
CLDR	**Caldiran**	**0.63**	**328**	*i* P	**Pg**	**21 33 23.8**	**-2.1**
CLDR				*i* S	**Sb**	**21 33 33.8**	**-3.3**
CLDR				IAML		21 33 35.0	
	comp=E,3μm,0.4s						
CLDR				IAML		21 33 36.0	
	comp=N,2μm,0.2s						
CLDR	**Caldiran**	**0.63**	**328**	PG	**Pg**	**21 33 24.3**	**-1.6**
CLDR				SG	**Sb**	**21 33 34.5**	**-2.6**
CLDR	**Caldiran**	**0.63**	**328**	*e*Pg	**Pg**	**21 33 24.3**	**-1.6**
VMUR	**Van-Muradiye**	**0.72**	**302**	*i* P	**Pg**	**21 33 27.1**	**-0.4**
TVAN	**Van**	**0.74**	**264**	*i* P	**Pg**	**21 33 27.2**	**-0.8**
VANB	**Van**	**0.75**	**269**	PG	**Pg**	**21 33 27.1**	**-1.1**
VANB				SG	**Sb**	**21 33 39.0**	**-1.6**
VANB

GDB	**GEDABAY**	**2.37**	**27**	P		**Pn**	**21 33 54.7**	**+0.8**
	SNR=16								
GDB				S		**Sb**	**21 34 26.6**	**-0.5**
QRD	**Qoradiz**	**2.46**	**69**	P		**Pn**	**21 33 54.9**	**-0.1**
	SNR=28								
QRD				S		**Sb**	**21 34 29.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.52**	**260**	*i* P		**Pb**	**21 33 58.7**	**-1.1**
SVAN	**Silvan-Diyarba**	**2.52**	**260**	PN		**Pn**	**21 33 55.9**	**0.0**
GANJ	**Ganja**	**2.54**	**36**	P		**Pn**	**21 33 56.1**	**0.0**
	SNR=44								
GANJ				S		**Sb**	**21 34 32.3**	**+0.4**
QZX	**Qazax, Azerbai**	**2.57**	**18**	P		**Pn**	**21 33 57.0**	**+0.5**
	SNR=35								
QZX				S		**Sg**	**21 34 33.6**	**-2.6**
AGDM	**Agdam**	**2.61**	**54**	P		**Pn**	**21 33 57.0**	**0.0**
	SNR=66								
AGDM				S		**Sb**	**21 34 34.0**	**+0.1**
IHSH	**Hashtrud**	**2.65**	**119**	*e*Pn		**Pn**	**21 33 57.1**	**-0.8**
IHSH				*e*			21 34 45.8		
	comp=Z,2μm,0.6s								
ERZM	**Erzurum**	**2.65**	**300**	*i* P		**Pg**	**21 34 03.3**	**-1.4**
KARO	**Karliova-Bingo**	**2.67**	**286**	PN		**Pn**	**21 33 57.9**	**-0.1**
ISRB	**Sarab**	**2.73**	**106**	*e*Pn		**Pn**	**21 33 58.9**	**0.0**
ISRB				*e*			21 34 15.7		
	comp=Z,2μm,0.5s								
BLQ	**Beylaqan**	**2.73**	**65**	P		**Pn**	**21 33 58.9**	**+0.2**
BLQ				S		**Sb**	**21 34 36.1**	**-1.2**
BRDA	**Brd**	**2.74**	**52**	P		**Pn**	**21 33 58.9**	**0.0**
BRDA				S		**Sb**	**21 34 36.2**	**-1.4**
BNGB	**Bingl**	**2.89**	**279**	PN		**Pn**	**21 34 00.9**	**-0.2**
MNGR	**Mingechevir, A**	**3.02**	**43**	P		**Pn**	**21 34 02.8**	**+0.2**
MNGR				S		**Sb**	**21 34 43.6**	**-2.0**
YRD	**Yardimli**	**3.06**	**83**	P		**Pn**	**21 34 04.0**	**+0.6**
	SNR=17								
YRD				S		**Sb**	**21 34 46.8**	**-0.2**
ZRD	**Zardab**	**3.07**	**56**	P		**Pn**	**21 34 03.4**	**+0.1**
	SNR=21								
ZRD				S		**Sb**	**21 34 45.6**	**-1.6**
YEDI	**Yedisu-Bingol**	**3.08**	**287**	PN		**Pn**	**21 34 03.8**	**+0.2**
LRK	**Lerik**	**3.12**	**88**	P		**Pn**	**21 34 04.8**	**+0.6**
	SNR=30								
LRK				S		**Sb**	**21 34 49.5**	**+0.6**
GLBA	**Clilabad**	**3.21**	**77**	P		**Pn**	**21 34 06.0**	**+0.7**
	SNR=36								
GLBA				S		**Sb**	**21 34 50.6**	**-0.7**
SEKA	**Sheki**	**3.40**	**39**	P		**Pn**	**21 34 08.8**	**+0.9**
	SNR=10								
SEKA				S		**Sb**	**21 34 55.8**	**-0.7**
LKRN	**Lenkeran, Azer**	**3.47**	**87**	P		**Pn**	**21 34 09.8**	**+0.9**
LKRN				S		**Sb**	**21 34 57.3**	**-1.2**
LKRN				S		**Sn**	**21 34 57.5**	**+7.0**
ASTR	**Astara**	**3.48**	**89**	P		**Pn**	**21 34 09.7**	**+0.7**
	SNR=30								
ASTR				S		**Sb**	**21 34 57.7**	**-1.2**
ZKTA	**Zakatala**	**3.49**	**29**	P		**Pn**	**21 34 09.1**	**-0.1**
	SNR=22								
ZKTA				S		**Sb**	**21 34 57.0**	**-2.2**
QBL	**Gabala**	**3.56**	**48**	P		**Pn**	**21 34 10.5**	**+0.4**
	SNR=6.8								
QBL				S		**Sb**	**21 34 59.3**	**-1.9**
IML	**Ismayilli**	**3.67**	**52**	P		**Pn**	**21 34 12.0**	**+0.3**
IML				S		**Sb**	**21 35 02.4**	**-2.0**
ALIB	**Äli-Bayra**	**3.85**	**68**	S		**Sb**	**21 35 06.1**	**-3.6**
XNQ	**Khinaliq**	**3.88**	**48**	P		**Pn**	**21 34 15.1**	**+0.5**
	SNR=5.2								
XNQ				S		**Sb**	**21 35 06.5**	**-4.0**
PQL	**Pirkuli**	**3.93**	**55**	P		**Pn**	**21 34 16.1**	**+0.7**
	SNR=12								
PQL				S		**Sb**	**21 35 08.4**	**-3.6**
QSAR	**Qusar**	**4.17**	**45**	P		**Pn**	**21 34 19.6**	**+1.1**
QSAR				S		**Sb**	**21 35 15.2**	**-3.7**
ATGJ	**Altiaghaj**	**4.19**	**56**	P		**Pn**	**21 34 20.1**	**+1.2**
ATGJ				S		**Sb**	**21 35 14.3**	**-5.1**
QUBA	**Quba, Azerbaij**	**4.20**	**48**	P		**Pn**	**21 34 19.7**	**+0.8**
QUBA				S		**Sb**	**21 35 15.9**	**-3.8**
IDHR	**Dehrash**	**4.23**	**157**	*e*Pn		**Pn**	**21 34 18.8**	**-0.8**
IDHR				*e*			21 34 38.6		
	comp=Z,438nm,0.5s								
SIZA	**Siyzn**	**4.28**	**53**	P		**Pn**	**21 34 20.2**	**+0.1**
	SNR=5.4								
SIZA				S		**Sb**	**21 35 18.2**	**-3.8**
QSDN	**Sirdan**	**4.37**	**117**	*e*Pn		**Pn**	**21 34 21.7**	**+0.2**
QABG	**Abgarm-Qazvin**	**5.08**	**123**	*e*Pn		**Pn**	**21 34 29.9**	**-1.4**
KBZ	**Khabaz**	**5.23**	**348**	Pg		Pg	21 34 49.8	-4.1
	comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=2.3								
QALM	**Alamut, Qazvin**	**5.46**	**112**	*e*Pn		**Pn**	**21 34 36.0**	**-0.4**
QALM				*e*			21 35 02.7		
	comp=Z,275nm,1.2s								
IKFM	**Kafar-mosalman**	**5.81**	**150**	*e*Pn		**Pn**	**21 34 41.4**	**+0.3**
BRTR	**Keskin Array B**	**8.39**	**281**	Pn		Pn	21 35 20.8	+4.2
	comp=Z,0.0nm,0.3s,baz=89,slow=13,SNR=2.7								
BRTR				LR		LR	21 38 54.3		
	comp=Z,78nm,19.4s,baz=110,slow=40								
AKTO	**Aktyubinsk**	**15.29**	**35**	Pn		**Pn**	**21 36 50.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=236,slow=15,SNR=3.2								
AKTO				LR		LR	21 44 44.0		
	comp=Z,32nm,18.1s,baz=256,slow=46								
AKASG	**Malin Array Be**	**16.14**	**323**	Pn		**P**	**21 37 03.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=131,slow=11,SNR=1.6								
BVAR	**Borovoye Array**	**23.00**	**43**	P		**P**	**21 38 20.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=238,slow=33,SNR=5.7								
GERES	**GERESS Array B**	**24.24**	**305**	P		**P**	**21 38 33.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=110,slow=11,SNR=3.5								
FINES	**FINESS Array B**	**25.51**	**340**	P		**P**	**21 38 45.8**	**+2.4**
	comp=Z,1.9nm,0.9s,baz=147,slow=4.5,SNR=4.8								
KURBB	**Kurchatov Arra**	**26.88**	**52**	P		**P**	**21 38 56.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=263,slow=8.8,SNR=7.4								
MKAR	**Makanchi Array**	**28.83**	**61**	P		**P**	**21 39 14.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=282,slow=6.1,SNR=4.3								
NOA	**NORSAR Array B**	**30.44**	**328**	LR		LR	21 53 38.9		
	comp=Z,23nm,18.6s,baz=125,slow=40								

*IDC **29** 21:46:21.7±0.8,27°.49**N**×85°.71**E**,h0**km**,mb4.0/13, mb1 4.1/15,mb1mx3.8/44,mbtmp4.0/15,ML3.9/2,MS3.6/5, Ms1 3.6/5,ms1mx3.1/65,Error ellipse: s-maj=28.9km s-min=15.9km az=58.0*

*BJI **29** 21:46:23.2±0.0,27°.67**N**×85°.79**E**,h13**km**,mB4.6/16, mb4.3/24,ML3.9/1,Ms3.8/9,Ms7 3.7/8*

*NEIC **29** 21:46:23.9±1.9,27°.5**N**±0°.1×85°.75**E**±0°.07,h10**km**±1**km**, mb4.3/35,Error ellipse: s-maj=20.0km s-min=5.4km az=210.0*

*NDI **29** 21:46:25.6±2.0,27°.40**N**×85°.72**E**,h10**km**,ML4.5, mb4.3(NEIC)*

ISC 29 21:46:24.4±0.5,**27°.45N**±0°.05×**85°.75E**±0°.04,**h19**km,**n75,** σ1**38**/80,**mb4.2**/24,**MS3.4**/4,**1C**,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**2.54**	**92**	*e*P	**Pb**	**21 47 07.6**	**-1.8**
GTK				*e*S	**Sb**	**21 47 38.9**	**-1.5**
GTK				IAML		21 47 42.6	
	comp=E,538nm,0.2s						
BOK	**Bokaro**	**3.64**	**178**	*i* P	**Pn**	**21 47 23.0**	**+3.2**
BOK				*i* S	**Sn**	**21 48 02.5**	**+0.3**
LGTI	**Lohaghat**	**5.24**	**294**	*e*P	**Pn**	**21 47 45.1**	**+3.3**
LGTI				*e*S	Sn	21 48 24.9	-17
LSA	**Lhasa**	**5.25**	**63**	Pn	**Pn**	**21 47 43.5**	**+1.2**
LSA				Pg	Pb	21 47 49.0	-6.9
LSA				Sn	**Sn**	**21 48 42.3**	**-0.3**
LSA				SMN			
	comp=E,140nm,0.9s						
LSA				SME			
	comp=E,110nm,0.8s						
LSA	**Lhasa**	**5.25**	**63**		**Pn**	**21 47 43.6**	**+1.3**
SHL	**Shillong**	**5.80**	**107**	*e*P	**Pn**	**21 47 50.1**	**+0.4**
SHL				*e*S	**Sn**	**21 48 54.2**	**-1.6**
SHL				IAML		21 48 57.1	
	comp=N,737nm,0.3s						
SHL	**Shillong**	**5.80**	**107**	Pn	**Pn**	**21 47 50.4**	**+0.7**
DDI	**Dehra Dun**	**7.33**	**295**	*e*P	**Pn**	**21 48 12.1**	**+1.6**
DDI				*e*S	**Sn**	**21 49 31.0**	**-2.3**
DDI				IAML		21 49 34.9	
	comp=E,784nm,0.3s						
DDI				IAML		21 49 35.1	
	comp=N,1μm,0.3s						
SMLA	**Simla**	**8.35**	**298**	*e*P	**Pn**	**21 48 25.9**	**+1.6**
SMLA				*e*S	**Sn**	**21 49 54.9**	**-3.2**
SMLA				IAML		21 49 56.9	
	comp=E,347nm,0.5s						
BHPL	**Bhopal**	**8.62**	**243**	*e*P	**Pn**	**21 48 27.2**	**-1.0**
BHPL				*e*S	**Sn**	**21 49 59.1**	**-5.9**
BHPL				IAML		21 50 07.3	
	comp=N,693nm,0.2s						
HYB	**Hyderabad**	**11.99**	**215**	*i* P	**Pn**	**21 49 14.5**	**0.0**
NIL	**Nilore**	**12.42**	**303**	Pn	**Pn**	**21 49 17.9**	**-2.3**
THW	**Thamme Wali**	**13.24**	**297**	P	**Pn**	**21 49 28.5**	**-3.0**
CEP	**Cherat**	**13.50**	**301**	P	**Pn**	**21 49 35.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**15.08**	**124**	Pn	**Pn**	**21 49 55.9**	**-0.6**
	comp=N,0.1nm,0.3s,baz=304,slow=15,SNR=5.6						
TARG	**Taragay, Kyrgy**	**15.67**	**337**		**Pn**	**21 50 02.3**	**-2.2**
TARG				IAmb	IAmb	21 50 04.9	
	comp=Z,7.6nm,0.8s						
KBL	**Kabul**	**15.97**	**300**		**P**	**21 50 11.9**	**+0.1**
KDJ	**Kajisay**	**16.24**	**337**	Pn	**Pn**	**21 50 10.5**	**-1.1**
WMQ	**Urumqi**	**16.41**	**5**	*e*P	**P**	**21 50 15.0**	**-1.4**
GTA	**Gaotai**	**16.71**	**41**	⇑P	**P**	**21 50 19.0**	**-0.8**
GTA				pP	pP	21 50 22.3	-3.4
GTA				sP	sP	21 50 25.5	-2.4
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,53nm,6.0s						
GTA				L	L		
	comp=Z,54nm,13.5s						
GTA				L	L		
	comp=Z,110nm,12.4s						
GTA				L	L		
	comp=Z,120nm,12.0s						
BOOM	**Boomskoye usch**	**17.01**	**334**		**Pn**	**21 50 20.5**	**-0.8**
GAR	**Garm**	**17.28**	**316**	Pn	**Pn**	**21 50 22.8**	**-2.0**
GAR				IAmb	IAmb	21 50 39.8	
	comp=Z,11nm,0.8s						
BTK	**Batken**	**17.64**	**319**	Pn	**Pn**	**21 50 27.9**	**-1.3**
CHGR	**Chuyangaron**	**17.82**	**313**	P	**Pn**	**21 50 31.3**	**0.0**
CHGR				IAmb	IAmb	21 50 49.1	
	comp=Z,20nm,0.9s						
MK31	**Makanchi Array**	**19.50**	**353**	P	**P**	**21 50 50.0**	**-0.5**
MKAR	**Makanchi Array**	**19.50**	**353**	P	**P**	**21 50 49.6**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=179,slow=11,SNR=44						
MKAR				LR	LR	21 59 49.1	
	comp=Z,70nm,18.1s,baz=192,slow=42						
MKAR	**Makanchi Array**	**19.50**	**353**	P	**P**	**21 50 50.0**	**-0.5**
MAKZ	**Makanchi**	**19.55**	**352**	P	**P**	**21 50 50.9**	**-0.1**
PALK	**Pallekele**	**20.63**	**194**	LR	LR	21 58 19.8	
	comp=Z,113nm,18.4s,baz=123,slow=35						
XAN	**Xi'an**	**20.95**	**66**	P	**P**	**21 51 06.0**	**-0.3**
XAN				sP	sP	21 51 15.5	+1.0
XAN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KURBB	**Kurchatov Arra**	**23.79**	**349**	P	**P**	**21 51 35.6**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=172,slow=9.7,SNR=27						
KURK	**Kurchatov**	**23.86**	**349**	P	**P**	**21 51 35.6**	**-0.9**
HHC	**Hu-ho-hao-te**	**25.09**	**51**	*e*P	**P**	**21 51 49.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,34nm,5.4s						
SONM	**Songino Array**	**25.95**	**33**	P	**P**	**21 51 56.2**	**+0.4**
	comp=Z,8.6nm,0.8s,baz=212,slow=11,SNR=16						
SONM				LR	LR	22 03 26.6	
	comp=Z,92nm,20.0s,baz=255,slow=40						
SONM	**Songino Array**	**25.95**	**33**	P	**P**	**21 51 56.4**	**+0.6**
SONM				IAmb	IAmb	21 52 02.1	
	comp=Z,8.4nm,0.9s						
ULN	**Ulaanbaatar**	**26.30**	**34**	P	**P**	**21 52 00.2**	**+1.3**
ULN				IAmb	IAmb	21 52 05.5	
	comp=Z,12nm,0.8s						
ZAA0	**Zalesovo Array**	**26.48**	**359**	P	**P**	**21 52 00.9**	**+0.6**
ZAA0				IAmb	IAmb	21 52 07.3	
	comp=Z,4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**26.48**	**359**	P	**P**	**21 51 59.8**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=189,slow=9.2,SNR=14						
ZALV	**Zalesovo Beam**	**26.48**	**359**	P	**P**	**21 52 00.6**	**+0.3**
BVAR	**Borovoye Array**	**27.99**	**340**	P	**P**	**21 52 13.4**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=191,slow=23,SNR=4.5						
BRVK	**Borovoye**	**28.05**	**340**	P	**P**	**21 52 15.5**	**+1.1**
BRVK				IAmb	IAmb	21 52 20.2	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**29.48**	**325**	P	**P**	**21 52 28.0**	**+0.9**
ABKAR				IAmb	IAmb	21 52 33.3	
	comp=Z,2.7nm,0.7s						
ARU	**Arti**	**34.88**	**334**	P	**P**	**21 53 15.0**	**+0.7**
ARU				IAmb	IAmb	21 53 19.5	
	comp=Z,3.1nm,0.9s						
NRIK	**Noril'sk**	**41.93**	**1**	P	**P**	**21 54 14.0**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=100,slow=4.2,SNR=4.5						
NRIK	**Noril'sk**	**41.93**	**1**	P	**P**	**21 54 14.0**	**+0.5**
NRIK				IAmb	IAmb	21 54 18.5	
	comp=Z,7.4nm,1.1s						
ELL	**Elmali**	**47.63**	**296**	P	**P**	**21 55 00.8**	**+1.3**
TIXI	**Tiksi**	**50.18**	**16**	P	**P**	**21 55 17.8**	**-0.6**
TIXI				IAmb	IAmb	21 55 22.5	
	comp=Z,2.2nm,0.5s						
MLR	**Muntele Rosu**	**50.19**	**308**	P	**P**	**21 55 20.4**	**+1.4**
MLR				IAmb	IAmb	21 55 30.5	
	comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**51.85**	**328**	P	**P**	**21 55 31.0**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=111,slow=4.7,SNR=9.6						
FINES	**FINESS Array B**	**51.85**	**328**	P	**P**	**21 55 31.2**	**+0.1**
PABE	**Paberze**	**51.97**	**320**	P	**P**	**21 55 31.9**	**-0.2**
MA2	**Magadan**	**54.15**	**35**	LR	LR	22 18 25.0	
	comp=Z,50nm,21.1s,baz=92,slow=36						
ARCES	**ARCESS Array B**	**54.24**	**338**	P	**P**	**21 55 48.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=107,slow=7.6,SNR=10						
ARCES	**ARCESS Array B**	**54.24**	**338**	P	**P**	**21 55 48.0**	**-0.6**
CLL	**Collm**	**58.51**	**315**	*e*P	**P**	**21 56 20.0**	**+0.7**
NOA	**NORSAR Array B**	**58.95**	**327**	P	**P**	**21 56 21.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=90,slow=6.9,SNR=2.3						
KEST	**Kesra**	**64.12**	**298**	P	**P**	**21 56 58.6**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=159,slow=0.7,SNR=4.2						
KEST				LR	LR	22 30 25.1	
	comp=Z,296nm,20.6s,baz=314,slow=41						
KEST	**Kesra**	**64.12**	**298**	P	**P**	**21 56 58.6**	**+0.9**
KEST				IAmb	IAmb	21 57 06.7	
	comp=Z,5.4nm,1.0s						
WB0	**Warramunga Arr**	**66.49**	**130**	P	**P**	**21 57 13.9**	**+0.9**
WRA	**Warramunga Arr**	**66.57**	**130**	P	**P**	**21 57 14.3**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=323,slow=6.5,SNR=21						
WRA	**Warramunga Arr**	**66.57**	**130**	P	**P**	**21 57 14.2**	**+0.7**
WB2	**Warramunga Arr**	**66.58**	**130**	P	**P**	**21 57 15.0**	**+1.3**
WR0	**Warramunga Arr**	**66.72**	**130**	P	**P**	**21 57 15.5**	**+0.9**
ASAR	**Alice Springs**	**68.86**	**133**	P	**P**	**21 57 29.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=324,slow=6.3,SNR=8.7						
BBOO	**Buckleboo**	**76.66**	**138**	P	**P**	**21 58 14.8**	**+0.7**
MLY	**Manley**	**78.06**	**21**	P	**P**	**21 58 22.6**	**+0.9**
MLY				IAmb	IAmb	21 58 25.9	
	comp=Z,3.0nm,1.3s						
BMAR	**Burnt Mountain**	**78.23**	**18**	P	**P**	**21 58 23.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**78.86**	**279**	P	**P**	**21 58 26.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=41,slow=4.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**78.86**	**279**	P	**P**	**21 58 27.0**	**+0.1**
TORD				IAmb	IAmb	21 58 32.4	
	comp=Z,1.7nm,1.0s						
PPLA	**Purkeypile**	**78.96**	**23**	P	**P**	**21 58 27.5**	**+0.7**
ILAR	**Eielson Array**	**79.45**	**20**	P	**P**	**21 58 28.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=296,slow=4.2,SNR=3.8						
ILAR	**Eielson Array**	**79.45**	**20**	P	**P**	**21 58 29.1**	**-0.1**
SKT	**Skwentna**	**79.78**	**24**	P	**P**	**21 58 31.6**	**+0.4**
SKT				IAmb	IAmb	21 58 35.4	
	comp=Z,5.3nm,1.0s						
SCRK	**Sand Creek**	**80.90**	**20**	P	**P**	**21 58 38.1**	**+0.9**
SCRK				IAmb	IAmb	21 58 51.9	
	comp=Z,3.2nm,1.2s						
SCM	**Sheep Creek Mo**	**81.36**	**23**	P	**P**	**21 58 40.2**	**+0.6**

*IDC **29** 21:56:49.8±1.1,35°.18**N**×138°.98**E**,h0**km**,mb3.5/4, mb1 3.8/5,mb1mx3.4/44,mbtmp3.6/5,ML3.4/1,MS2.8/4, Ms1 2.8/4,ms1mx2.7/53,Error ellipse: s-maj=25.1km s-min=12.7km az=73.0*

*JMA **29** 21:56:51.0,35°.23**N**×139°.03**E**,h3**km**±1**km**,M3.3 Broadband fault plane solution: P waves. NP1: φs185.00000°,δ56.00000°,λ-15.00000°. NP2: φs283.00000°,δ78.00000°,λ-145.00000°. Principal axes: T Plg14.0000°, Azm50.0000°; N Plg53.0000°, Azm300.0000°; P Plg33.0000°, Azm149.0000°;*

JMA Felt III J1.

ISC 29 21:56:50.9±0.9,**35°.23N**±0°.03×**139°.05E**±0°.04,**h9**km±6**km**, **n26**,σ0**53**/25,**mb3.6**/4,**2C-4D**,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.05**	**47**	⇑P	**Pg**	**21 56 52.6**	**-0.2**
JOD2				S	**Sg**	**21 56 54.2**	**+0.1**
AJI	**Ajiro2**	**0.19**	**168**	⇓P	**Pg**	**21 56 54.9**	**+0.1**
KTJ3	**Kamata3**	**0.30**	**176**	⇓P	**Pg**	**21 56 56.7**	**-0.1**
KTJ3				S	**Sg**	**21 57 00.9**	**+0.1**
JFNN	**Fujinakano**	**0.30**	**263**	⇑P	**Pg**	**21 56 56.8**	**0.0**
JFNN				S	**Sg**	**21 57 01.1**	**+0.3**
JYN	**Shimob**	**0.49**	**303**	⇓P	**Pg**	**21 57 00.3**	**-0.1**
JYN				S	**Sg**	**21 57 07.1**	**+0.2**
JIZS	**Izushimoda**	**0.53**	**195**	P	**Pg**	**21 57 00.9**	**-0.3**
JIZS				S	**Sg**	**21 57 07.8**	**-0.3**
JIM2	**Oshima 3**	**0.60**	**148**	⇓P	**Pg**	**21 57 02.6**	**+0.1**
SHZ3	**Shizuoka 3**	**0.70**	**257**	P	**Pg**	**21 57 04.7**	**+0.2**
SHZ3				S	**Sb**	**21 57 14.7**	**-0.5**
JRY	**Ryogami san**	**0.79**	**352**	P	**Pg**	**21 57 06.0**	**-0.2**
JRY				S	**Sg**	**21 57 17.0**	**+0.4**
MJAR	**Matsushiro Arr**	**1.48**	**333**	Pg	**Pn**	**21 57 17.3**	**-0.4**
	10nm,0.3s,baz=158,slow=18,SNR=167						
MJAR				Lg	Lg	21 57 35.8	
	6.0nm,0.3s,baz=156,slow=28,SNR=3.9						
MAT	**Matsushiro**	**1.48**	**333**	P	**Pn**	**21 57 17.6**	**-0.1**
MAT				S	**Sn**	**21 57 37.1**	**-0.1**
JHJ	**Hachijo jima 2**	**2.19**	**164**	Pn	**Pn**	**21 57 28.3**	**+0.7**
	27nm,0.3s,baz=346,slow=1.6,SNR=2.7						
JHJ				Sn	**Sb**	**21 57 57.4**	**-0.7**
	17nm,0.3s,baz=232,slow=23,SNR=1.2						
JCJ	**Chichijima**	**8.54**	**161**	LR	LR	22 01 19.5	
	comp=Z,59nm,21.8s,baz=110,slow=32						
KSRS	**Korea Array**	**9.24**	**287**	LR	LR	22 01 59.3	
	comp=Z,38nm,21.1s,baz=109,slow=34						
ASAJ	**Asahikawa**	**9.29**	**16**	LR	LR	22 02 41.7	
	comp=Z,104nm,18.0s,baz=214,slow=38						
KLR	**Kul'dur**	**14.99**	**341**	LR	LR	22 05 48.8	
	comp=Z,50nm,20.1s,baz=143,slow=36						
H11N2	**WAKE ISLAND Hy 29.00**	**115**		T	T	22 33 07.4	
	baz=308,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy 29.01**	**115**		T	T	22 33 02.3	
	baz=308,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 29.02**	**115**		T	T	22 33 08.2	
	baz=308,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy 29.62**	**117**		T	T	22 34 11.7	
	baz=310,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy 29.62**	**117**		T	T	22 33 46.6	
	baz=310,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy 29.64**	**117**		T	T	22 33 49.1	
	baz=310,slow=75,SNR=3.8						
MKAR	**Makanchi Array**	**43.48**	**303**	P	**P**	**22 04 55.7**	**+1.3**
	0.3nm,0.7s,baz=87,slow=11,SNR=4.2						
ILAR	**Eielson Array**	**52.04**	**32**	P	**P**	**22 06 00.7**	**+0.2**
	0.5nm,0.9s,baz=281,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**55.05**	**185**	P	**P**	**22 06 21.7**	**-1.4**
	0.7nm,0.6s,baz=2.2,slow=7.2,SNR=3.9						
ASAR	**Alice Springs**	**58.78**	**186**	P	**P**	**22 06 49.1**	**-0.4**
	0.5nm,0.8s,baz=16,slow=10,SNR=5.8						

*BGR **29** 22:07:43.2±0.0,36°.15**N**×72°.10**E**,h196**km**±1**km**,mb5.7*

*MOS **29** 22:07:45.8±0.9,36°.63**N**×71°.43**E**,h185**km**,mb5.7/55, MS4.5/9,Error ellipse: s-maj=4.5km s-min=3.2km az=90.3*

*IDC **29** 22:07:48.0±0.3,36°.54**N**×71°.41**E**,h195**km**±2**km**,mb5.0/50, mb1 5.1/53,mb1mx5.1/55,mbtmp5.6/53,MS4.4/8, Ms1 4.4/8,ms1mx3.8/50,Error ellipse: s-maj=7.8km s-min=5.4km az=0.0*

*GCMT **29** 22:07:47.5±0.1,36°.68**N**±0°.01×71°.13**E**±0°.01,h196**km**, MW5.5/154,Moment Tensor Solution. s109,c169; s154,c293; Duration: 1ᵗˢ4 Moment tensor: Scale 10**17** Nm; Mrr1.84±.02; Mθθ-0.88±.03; Mφφ-0.95±.03; Mrθ0.40±.02; Mrφ-1.28±.02; Mθφ0.54±.02; Best double couple: M0**2**.13000×10**17** NP1:φs228.00000°,δ36.00000°, λ95.00000°. NP2:φs41.00000°,δ54.00000°,λ86.00000°. Principal axes: T 1.9530, Plg80.0000°, Azm294.0000°; N 0.3560, Plg3.0000°, Azm43.0000°; P -2.3080, Plg9.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **29** 22:07:47.4±0.0,36°.76**N**×71°.47**E**,h187**km**,mB5.2/50, mb5.4/79*

*NEIC **29** 22:07:48.5±2.5,36°.68**N**±0°.03×71°.30**E**±0°.07,h191**km**±1**km**, mb5.5/348,Mwb5.5/21,Mwc5.5(GCMT),Error ellipse: s-maj=10.2km s-min=3.6km az=64.0*

*NEIC **29** 22:07:48.4,36°.68**N**×71°.31**E**,h190**km**,Moment Tensor Solution. Moment tensor: Scale 10**17**Nm; Mrr1.83; Mθθ-1.28; Mφφ-0.56; Mrθ0.04; Mrφ-1.13; Mθφ0.18; Fault plane solution: M0 1.99000

SNR=1442
AAK Ala-Archa 6.45 21 ⇓P Pn 22 09 20.4 -0.1
944nm,0.4s
AAK ⇑S **Sn 22 10 32.0 -2.0**
5μm,0.8s
AAK Ala-Archa 6.45 21 *ce*PN **Pn 22 09 20.0 -0.4**
AAK pmax pmax
comp=Z,5μm,0.7s
AAK Ala-Archa 6.45 21 Pn **Pn 22 09 20.0 -0.4**
AAK Ala-Archa 6.45 21 P **Pn 22 09 21.2 +0.8**
AAK P **Pn 22 09 21.2 +0.8**
KK31 Karatay Array 6.49 354 ⇑P **Pn 22 09 20.2 -0.5**
comp=Z,900nm,0.3s,baz=176,slow=12
KK31 ⇑S **Sn 22 10 26.0 -8.7**
comp=Z,2μm,0.4s,baz=182,slow=23,SNR=14
KK31 Karatay Array 6.49 354 PN **Pn 22 09 20.1 -0.7**
KK31 Karatay Array 6.49 354 Pn **Pn 22 09 20.1 -0.7**
KKAR Karatay Array 6.49 354 PN **Pn 22 09 20.3 -0.5**
KKAR Karatay Array 6.49 354 **Pn 22 09 20.3 -0.5**
KBK Karagaybulak 6.61 23 P **Pn 22 09 22.1 -0.4**
SNR=1322
FRU1 Bishkek 6.65 21 PN **Pn 22 09 23.2 +0.3**
FRU1 Bishkek 6.65 21 Pn **Pn 22 09 23.2 +0.3**
ULHL Ulahol 6.74 32 P **Pn 22 09 23.4 -0.8**
SNR=701
BOOM Boomskoye usch 6.82 30 PN **Pn 22 09 24.7 -0.5**
BOOM Boomskoye usch 6.82 30 Pn **Pn 22 09 24.7 -0.5**
CHMS Chumysh 6.86 21 P **Pn 22 09 24.8 -0.8**
SNR=1454
USP Ospenovka 7.04 19 P **Pn 22 09 26.6 -1.4**
SNR=426
TKM2 Tokmak 2 7.06 26 P **Pn 22 09 27.6 -0.8**
SNR=2959
TKM2 Tokmak 2 7.06 26 ⇑P **Pn 22 09 27.9 -0.5**
comp=Z,1μm,0.6s
TKM2 ⇑S **Sn 22 10 43.7 -4.7**
comp=Z,1μm,0.8s
KDJ Kajisay 7.08 38 PN **Pn 22 09 28.1 -0.6**
KDJ Kajisay 7.08 38 **Pn 22 09 28.1 -0.6**
SGDS Sogindy 7.25 19 *e*P **Pn 22 09 29.1 -1.6**
comp=Z,220nm,0.6s,baz=20
SGDS *e*S **Sn 22 10 48.2 -4.3**
baz=20
SGDS Sogindy 7.25 19 *e*PN **Pn 22 09 29.1 -1.6**
SGDS pmax pmax
comp=Z,220nm,0.6s
KST Kastek 7.30 27 *e*P **Pn 22 09 33.6 +2.1**
comp=Z,816nm,0.4s
KST *e*S **Sn 22 10 52.2 -1.8**
comp=Z,1μm,1.0s
KST Kastek 7.30 27 *e*PN **Pn 22 09 33.6 +2.1**
KST *e*S **Sn 22 10 52.2 -1.8**
SMLA Simla 7.30 137 *e*P **Pn 22 09 30.9 -0.6**
SMLA *e*S **Sn 22 10 49.0 -4.9**
SMLA IAML 22 10 53.4
comp=E,15μm,0.3s
DGS Degeres 7.41 26 *e*P **Pn 22 09 36.3 +3.5**
comp=E,368nm,0.5s
DGS *e*S **Sn 22 10 57.2 +0.7**
comp=E,743nm,0.8s
DGS Degeres 7.41 26 *e*PN **Pn 22 09 36.3 +3.5**
DGS *e*S **Sn 22 10 57.2 +0.7**
HRA Herat 7.78 256 Pn **Pn 22 09 37.5 -0.5**
AAA Alma-Ata 7.82 31 *e*P **Pn 22 09 36.6 -1.5**
baz=33
AAA *e*S **Sn 22 11 03.3 -2.8**
baz=33
AAA Alma-Ata 7.82 31 *e*PN **Pn 22 09 36.6 -1.5**
MDOK Medeo 7.83 32 *i* P **Pn 22 09 38.0 -0.5**
baz=34
MDOK *e*S **Sn 22 11 04.6 -2.1**
baz=34
MDOK Medeo 7.83 32 ⇓P **Pn 22 09 38.2 -0.3**
comp=E,998nm,0.6s
MDOK Medeo 7.83 32 *i* PN **Pn 22 09 38.0 -0.5**
KNDC Almaty 7.84 31 ⇑P **Pn 22 09 38.2 -0.3**
comp=E,4μm,0.9s
KUU Kurty 8.17 26 *e*P **Pn 22 09 41.0 -1.8**
comp=E,116nm,0.5s,baz=27
KUU Kurty 8.17 26 *e*PN **Pn 22 09 41.0 -1.8**
KUU pmax pmax
comp=Z,116nm,0.5s
SATY Saty 8.38 38 *e*P **Pn 22 09 44.5 -1.2**
comp=Z,226nm,0.7s,baz=40
SATY *e*S **Sn 22 11 17.2 -2.5**
baz=40
SATY Saty 8.38 38 *e*PN **Pn 22 09 44.4 -1.2**
SATY pmax pmax
comp=Z,226nm,0.7s
DDI Dehra Dun 8.41 137 *e*P **Pn 22 09 45.2 -0.8**
DDI IAmb IAmb 22 10 03.7
comp=Z,5μm,0.5s
DDI *e*S **Sn 22 11 14.8 -5.6**
DDI IAML 22 11 18.1
comp=E,8μm,0.5s
BTLS Baital 8.63 13 *e*P **Pn 22 09 47.6 -1.2**
comp=E,164nm,0.6s,baz=13
BTLS *e*S **Sn 22 11 21.2 -4.2**
baz=13
BTLS Baital 8.63 13 *e*PN **Pn 22 09 47.5 -1.2**
BTLS pmax pmax
comp=Z,164nm,0.6s
UZB Uzynbulak 8.76 40 *e*P **Pn 22 09 49.2 -1.4**
comp=Z,123nm,0.3s,baz=41
UZB Uzynbulak 8.76 40 *e*PN **Pn 22 09 49.1 -1.4**
UZB pmax pmax
comp=Z,123nm,0.3s
KPKS Kokpek 8.82 37 *e*P **Pn 22 09 50.4 -0.9**
comp=Z,706nm,0.7s,baz=39
KPKS *e*S **Sn 22 11 27.4 -2.6**
baz=39
KPKS Kokpek 8.82 37 *e*PN **Pn 22 09 50.4 -0.9**
KPKS pmax pmax
comp=Z,706nm,0.7s
PDGK Podgornoye 9.13 40 ⇓P **Pn 22 09 53.6 -1.8**
comp=Z,505nm,0.8s
NDI New Delhi 9.33 147 *e*P **Pn 22 09 57.0 -1.1**
TDK Taldyqorghan 9.90 30 *e*P **Pn 22 10 03.8 -1.6**
comp=Z,213nm,0.7s,baz=32
TDK Taldyqorghan 9.90 30 *e*P **Pn 22 10 03.7 -1.6**
TDK pmax pmax
comp=Z,213nm,0.7s
LGTI Lohaghat 10.33 131 *e*P **Pn 22 10 07.9 -3.1**
LGTI *e*S Sn 22 11 47.8 -18
ASHT Ashkhabad 10.44 281 P **Pn 22 10 10.2 -2.2**
ASHT Ashkhabad 10.44 281 **Pn 22 10 10.2 -2.2**
AJM Ajmer 10.50 164 ⇓*i*P **Pn 22 10 12.0 -1.4**
AJM *i* S **Sn 22 12 04.0 -6.4**
GEYT Alibeck 10.65 281 P **Pn 22 10 11.9 -3.3**
comp=Z,27nm,0.3s,baz=103,slow=13,SNR=227
GEYT S **Sn 22 12 08.0 -5.7**
comp=Z,79nm,0.3s,baz=64,slow=44,SNR=2.8
GEYT Alibeck 10.65 281 Pn **Pn 22 10 11.5 -3.7**
GYA0B ALIBECK ARRAY 10.65 281 ⇓P **Pn 22 10 11.8 -3.4**
GYA0B ⇓S **Sn 22 12 06.8 -6.9**
GYA0B ALIBECK ARRAY 10.65 281 **Pn 22 10 11.3 -3.8**
MAKZ Makanchi 12.87 35 ⇓P **Pn 22 10 41.9 -1.4**
comp=Z,919nm,1.1s
MAKZ Makanchi 12.87 35 P **Pn 22 10 42.0 -1.4**
MAKZ Makanchi 12.87 35 **Pn 22 10 42.0 -1.3**
PYUN Piuthan 12.98 128 *e*P **Pn 22 10 43.1 -2.1**
MK31 Makanchi Array 13.00 35 ⇑P **Pn 22 10 43.7 -1.4**
comp=Z,283nm,0.8s,baz=203,slow=9.3,SNR=3657
MK31 Makanchi Array 13.00 35 *c i*P **Pn 22 10 43.4 -1.7**
MK31 Makanchi Array 13.00 35 Pn **Pn 22 10 43.8 -1.3**
MKAR Makanchi Array 13.00 35 P **Pn 22 10 42.6 -2.5**
comp=Z,12nm,0.3s,baz=223,slow=12,SNR=599
MKAR P3KP 22 46 55.8
comp=Z,0.0nm,0.3s,baz=298,slow=2.6,SNR=3.9
MKAR Makanchi Array 13.00 35 P **Pn 22 10 43.4 -1.7**
MKAR Makanchi Array 13.00 35 **Pn 22 10 43.4 -1.7**
DANN Dangsing 13.31 125 *e*P **Pn 22 10 47.2 -2.2**
BRZS Berezniki 13.37 4 *e*P **Pn 22 10 47.8 -1.9**
comp=Z,58nm,0.7s,baz=3.8
BRZS *i* S Sn 22 13 07.5 -11
baz=3.8
BRZS Berezniki 13.37 4 *e*P **Pn 22 10 47.8 -1.9**
BRZS *i* S Sn 22 13 07.4 -11
BRZS pmax pmax
comp=Z,58nm,0.7s
KOLN Koldanda 13.60 127 *e*P **Pn 22 10 51.0 -1.9**
GKN Gorkha 14.12 124 *e*P **Pn 22 10 57.3 -2.1**
comp=Z,139nm,0.7s
BHPL Bhopal 14.34 157 *e*P **Pn 22 11 00.1 -1.8**
WMQ Urumqi 14.37 55 *e*P **Pn 22 11 02.0 -0.2**

WMQ S **Sn 22 13 37.0 -5.4**
WMQ pmax pmax
comp=Z,630nm,0.9s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ L L
comp=Z,3μm,7.7s
WMQ L L
comp=Z,2μm,7.1s
WMQ L L
comp=Z,2μm,8.3s
KKN Kakani 14.69 123 *e*P **Pn 22 11 04.2 -2.3**
comp=Z,159nm,0.7s
ZSN Zaisan 14.71 39 *e*P **Pn 22 11 04.0 -2.3**
baz=40
ZSN *e*S **Sn 22 13 48.2 -2.3**
baz=40
ZSN Zaisan 14.71 39 *e*P **Pn 22 11 04.0 -2.3**
ZSN *e*S **Sn 22 13 48.2 -2.3**
KURBB Kurchatov Arra 14.89 18 P **Pn 22 11 06.0 -2.5**
comp=Z,3.2nm,0.3s,baz=206,slow=11,SNR=90
KURBB S **S 22 13 55.6 +0.5**
baz=204,slow=18,SNR=6.6
KURBB Kurchatov Arra 14.89 18 ⇓P **Pn 22 11 05.7 -2.8**
comp=Z,744nm,1.2s
PKIN Phulchoki 14.91 123 *e*P **Pn 22 11 07.2 -2.0**
comp=Z,385nm,0.5s
PKI Pulchoki 14.92 123 *e*P **Pn 22 11 07.3 -2.1**
KURK Kurchatov 15.00 18 P **Pn 22 11 06.0 -3.8**
KURK Kurchatov 15.00 18 P **Pn 22 11 06.0 -3.8**
AB31 Akbulak array 15.11 330 P **Pn 22 11 09.4 -1.8**
comp=Z,1μm,1.1s,baz=140,slow=12,SNR=7675
AB31 ⇓S **S 22 13 50.0 -10**
comp=Z,252nm,0.6s,baz=145,slow=23,SNR=12
ABKAR Akbulak array 15.11 330 Pn **Pn 22 11 09.3 -2.0**
SEM Semipalatinsk 15.17 22 *e*P **Pn 22 11 10.1 -2.1**
comp=Z,595nm,1.5s,baz=23
SEM *e*S **S 22 13 55.7 -6.0**
baz=23
SEM Semipalatinsk 15.17 22 *e*P **Pn 22 11 10.1 -2.1**
SEM *e*S **S 22 13 55.7 -6.0**
SEM pmax pmax
comp=Z,595nm,1.5s
RAMN Ramite 16.13 122 *e*P **P 22 11 23.0 -0.7**
comp=Z,450nm,0.5s
BVAR Borovoye Array 16.40 358 P **P 22 11 24.7 -1.5**
comp=Z,27nm,0.3s,baz=189,slow=26,SNR=262
BRVK Borovoye 16.44 358 ⇓P **Pn 22 11 27.0 -0.2**
comp=Z,208nm,0.9s
BRVK Borovoye 16.44 358 *ce*P **P 22 11 26.4 -0.2**
BRVK pmax pmax
comp=Z,189nm,0.8s
BRVK Borovoye 16.44 358 P **Pn 22 11 27.1 -0.2**
BRVK Borovoye 16.44 358 P **Pn 22 11 27.6 +0.4**
BRVK P **Pn 22 11 27.6 +0.4**
BANOM Banah 16.72 235 *i* P **P 22 11 29.2 -0.8**
SNR=38
BANOM Banah 16.72 235 P **P 22 11 29.7 -0.3**
SNR=26
BANOM P **P 22 11 29.7 -0.3**
SNR=26
AKTO Aktyubinsk 16.82 329 P **P 22 11 30.6 -0.2**
comp=Z,74nm,0.3s,baz=138,slow=10.0,SNR=982
AKTO S **S 22 14 35.3 -1.1**
comp=Z,14nm,0.3s,baz=339,slow=24,SNR=3.2
AKTO Aktyubinsk 16.82 329 ⇓P **P 22 11 31.2 +0.4**
comp=Z,848nm,1.0s
AKTO ⇓S **S 22 14 30.0 -6.4**
comp=Z,395nm,1.1s
AKTO Aktyubinsk 16.82 329 P **P 22 11 30.6 -0.2**
MDH Madha 17.15 233 *i* P **P 22 11 33.2 -1.6**
SNR=29
MDH Madha 17.15 233 P **P 22 11 34.4 -0.3**
SNR=37
MDH P **P 22 11 34.4 -0.3**
SNR=37
GTK Tadong 17.29 118 *ex* x 22 11 16.0
GTK *eP* **Pn 22 11 38.2 +0.4**
WSAR Wadi Sarin 17.31 223 P **P 22 11 34.2 -2.3**
comp=Z,0.1nm,0.3s,baz=76,slow=8.3,SNR=3.3
WSAR Wadi Sarin 17.31 223 P **Pn 22 11 38.7 +0.8**
SNR=14
BIDO Bidbid 17.37 225 P **Pn 22 11 38.8 +0.2**
SNR=13
BIDO P **Pn 22 11 38.8 +0.2**
SNR=13
UOSS Minazif 17.46 232 *i* P **P 22 11 37.3 -0.8**
SNR=25
UOSS Minazif 17.46 232 P **P 22 11 37.4 -0.8**
UOSS IAmb IAmb 22 11 42.8
comp=Z,185nm,1.1s
UOSS Minazif 17.46 232 P **P 22 11 38.7 +0.6**
UOSS P **P 22 11 38.7 +0.6**
DGZ Jazzator, Alta 17.48 37 *c i*P **Pn 22 11 39.4 -0.5**
DGZ pmax pmax
comp=Z,876nm,1.0s
HATD Hatta, Dubai 17.59 232 *i* P **P 22 11 39.0 -0.6**
SNR=52
HATD Hatta, Dubai 17.59 232 P **Pn 22 11 41.3 0.0**
SNR=31
HATD P **Pn 22 11 41.3 0.0**
SNR=31
WBK Wadi Bani Khal 17.64 221 P **Pn 22 11 42.2 +0.4**
SNR=12
WBK P **Pn 22 11 42.2 +0.4**
SNR=12
ASHO Ashiyiah 17.74 232 *i* P **P 22 11 41.3 +0.1**
SNR=176
ASHO Ashiyiah 17.74 232 P **Pn 22 11 42.2 -0.8**
SNR=88
ASHO P **Pn 22 11 42.2 -0.8**
SNR=88
SMDO Samad 17.77 224 P **Pn 22 11 43.8 +0.3**
SNR=9.2
SMDO P **Pn 22 11 43.8 +0.3**
SNR=9.2
NAZ Nazwa, Dubai 17.78 234 *i* P **P 22 11 41.3 -0.3**
SNR=31
NAZ Nazwa, Dubai 17.78 234 P **Pn 22 11 42.7 -0.7**
SNR=44
JLN Jalan Bani Buh 17.79 219 P **Pn 22 11 43.9 +0.4**
SNR=19
JLN S **S 22 14 59.6 +3.1**
HOQ Hoqain 17.79 227 P **Pn 22 11 43.7 +0.1**
SNR=6.7
HOQ P **Pn 22 11 43.7 +0.1**
SNR=6.7
SOHO SOHO 17.84 230 *i* P **P 22 11 40.8 -1.5**
SNR=10
SOHO SOHO 17.84 230 P **P 22 11 42.4 +0.1**
SOHO P **P 22 11 42.4 +0.1**
BOK Bokaro 17.89 132 *e*P **Pn 22 11 44.0 -0.7**
BOK IAmb IAmb 22 11 45.8
comp=Z,1μm,1.2s
LSA Lhasa 17.92 107 P **Pn 22 11 47.0 +1.5**
LSA S **S 22 14 59.5 -0.4**
LSA pmax pmax
comp=Z,1μm,1.6s
LSA pmax pmax
comp=Z,7μm,2.7s
LSA L L
comp=Z,3μm,6.4s
LSA L L
comp=Z,3μm,7.1s
LSA L L
comp=Z,3μm,8.5s
LSA Lhasa 17.92 107 *i* P **Pn 22 11 46.8 +1.2**
SNR=9.0
FAQ Al Faqa, Dubai 18.00 233 *i* P **P 22 11 44.0 +0.1**
SNR=30
FAQ Al Faqa, Dubai 18.00 233 P **P 22 11 44.6 +0.7**
SNR=28
FAQ P **P 22 11 44.6 +0.7**
SNR=28
POO Poona 18.17 172 ⇓*i*P **P 22 11 43.0 -2.9**
comp=Z,590nm,1.0s
POO *eP* **Pn 22 11 47.9 -0.2**
POO IAmb IAmb 22 11 51.0
comp=Z,530nm,0.9s
POO *i* S **S 22 15 03.0 -1.2**
ASUD Al Ashush, Dub 18.25 233 *i* P **P 22 11 46.9 +0.2**
SNR=20
ASUD Al Ashush, Dub 18.25 233 P **Pn 22 11 48.0 -0.9**
SNR=16
JMDO Jabal Madar 18.30 223 P **Pn 22 11 49.6 +0.1**
SNR=17
JMDO P **Pn 22 11 49.6 +0.1**
SNR=17
ARQ Araqi 18.45 228 P **Pn 22 11 50.8 -0.5**
SNR=16
BSY Bisya 18.50 225 P **Pn 22 11 51.7 -0.2**
SNR=14
BSY P **Pn 22 11 51.7 -0.2**
SNR=14
AKT Akhty 18.97 292 *e*P **P 22 11 55.3 +0.8**
AKT *e*S **S 22 15 21.9 +2.0**
AKT pmax pmax
comp=Z,303nm,0.4s
AKT smax smax
comp=E,81nm,0.8s
AKT smax smax
comp=N,159nm,0.6s
MAK Makhachkala 19.37 296 *d i*P **P 22 12 00.0 +1.4**
MAK *e*S **S 22 15 30.2 +2.8**
MAK pmax pmax
comp=Z,630nm,1.7s
MAK MLR MLR
comp=Z,1μm,10.0s
KAD Karad 19.42 172 ⇓*i*P **P 22 12 01.0 +1.6**
MHTO MHTO 19.50 221 P **Pn 22 12 02.1 -1.5**
SNR=20
ZAA0 Zalesovo Array 19.66 24 ⇑P **P 22 12 01.0 -0.7**
comp=Z,146nm,0.9s
ZAA0 Zalesovo Array 19.66 24 P **P 22 12 00.9 -0.7**
ZALV Zalesovo Beam 19.66 24 P **P 22 12 01.5 -0.1**
comp=Z,55nm,0.3s,baz=225,slow=10,SNR=778
ZALV Zalesovo Beam 19.66 24 P **P 22 12 01.0 -0.1**
ZALV Zalesovo Beam 19.66 24 P **P 22 12 01.7 0.0**
UMZA Um Al Zommool 19.74 230 P **P 22 12 03.0 +0.2**
HYB Hyderabad 20.17 160 *i* P **P 22 12 08.0 +0.5**
comp=Z,292nm,0.8s
HYB *e*S **S 22 15 44.0 +0.4**
HYB Hyderabad 20.17 160 *e*P **P 22 12 07.1 -0.4**
HYB IAmb IAmb 22 12 13.6
comp=Z,543nm,1.0s
KHOR Al-Khor Airpor 20.21 243 P **P 22 12 07.5 -0.3**
GHWR Ruwais 20.32 237 P **P 22 12 09.8 +0.8**
SHMA Al-Shehemyia 20.46 244 P **P 22 12 10.1 -0.3**
DQM DQM 20.59 220 P **P 22 12 13.4 +1.5**
SNR=8.1
GROC Groznyy 20.64 296 ⇑*i*P **P 22 12 13.8 +1.6**
GROC *e**PP **pP 22 12 44.3 +0.1**
GROC *e**SP **sP 22 13 11.3 +3.1**
GROC *e*S **S 22 15 54.1 +1.8**
GROC pmax pmax
comp=Z,630nm,0.6s
SHL Shillong 20.69 116 *e*P **P 22 12 13.6 +0.5**
SHL IAmb IAmb 22 12 24.3
comp=Z,396nm,0.9s
TRNA Turayna 20.97 241 P **P 22 12 15.7 -0.1**
UMR Umm Al-Rimmam 21.02 257 *e*P **P 22 12 15.5 -0.9**
SLWR Sila 21.06 239 P **P 22 12 16.9 +0.1**
SLWR P **P 22 12 16.9 +0.1**
GNI Garni 21.14 288 P **P 22 12 19.9 +2.1**
comp=Z,67nm,0.6s,baz=29,slow=0.9,SNR=86
GNI Garni 21.14 288 P **P 22 12 19.3 +1.6**
GNI Garni 21.14 288 *i* P **P 22 12 20.4 +2.6**
GNI Garni 21.14 288 *c i*P **P 22 12 19.6 +1.8**
GNI pmax pmax
comp=Z,650nm,1.7s
GNI Garni 21.14 288 P **P 22 12 19.5 +1.8**
ITAN ITANAGAR 21.16 110 *e*P **P 22 12 19.2 +1.3**
ITAN IAmb IAmb 22 12 34.3
comp=Z,665nm,0.9s
MIB Mutribah 21.21 258 *e*P **P 22 12 17.0 -1.3**
QRN Al-Qurain 21.22 255 *e*P **P 22 12 17.5 -1.1**
AGT Agartala 21.30 121 *e*P **P 22 12 21.6 +2.2**
AGT IAmb IAmb 22 12 41.2
comp=Z,2μm,1.2s
TASB TASBURUN-IGDIR 21.53 287 P **P 22 12 25.4 +3.7**
VIS Vishakhapatnam 21.60 148 *e*P **P 22 12 24.0 +1.5**
VIS IAmb IAmb 22 12 32.5
comp=Z,345nm,1.1s
ARU Arti 21.60 340 *d i*P **P 22 12 22.1 -0.1**
ARU *PP **pP 22 12 54.3 -0.8**
ARU *SP **sP 22 13 19.1 -0.2**
ARU S **S 22 16 09.8 +1.1**
ARU pmax pmax
comp=Z,305nm,1.4s
ARU MLR MLR
comp=Z,2μm,15.0s
ARU Arti 21.60 340 P **P 22 12 21.8 -0.4**
RST Umm Al-Ruwaisa 21.61 258 *e*P **P 22 12 21.2 -1.3**
JORH JORHAT 21.77 110 *e*P **P 22 12 24.9 +0.6**
JORH IAmb IAmb 22 12 34.4
comp=Z,1μm,1.0s
CLDR Caldiran 21.79 285 *e*P **P 22 12 27.2 +2.6**
ZEI Tsey 21.96 295 *e*P **P 22 12 25.8 -0.4**
ZEI pmax pmax
comp=Z,72nm,0.6s
CUKT Cukurca 22.18 280 P **P 22 12 28.9 +0.6**
VANB Van 22.23 284 *e*P **P 22 12 30.7 +2.0**
NCK Nalchik 22.28 296 *c i*P **P 22 12 29.5 +0.5**
NCK pmax pmax
comp=Z,175nm,0.6s
BRDH Bariadhala 22.38 123 P **P 22 12 29.8 -0.2**
comp=Z,112nm,0.3s,baz=344,slow=3.1,SNR=9.0
KARS Kars 22.42 289 *e*P **P 22 12 33.2 +2.7**
AGRB Hanur-Agry 22.49 286 *e*P **P 22 12 34.1 +2.9**
GTA Gaotai 22.53 74 ⇑P **P 22 12 33.3 +1.8**
GTA S **S 22 16 28.0 +3.7**
GTA pmax pmax
comp=Z,160nm,0.9s
GTA pmax pmax
comp=Z,890nm,7.8s
GTA L L
comp=Z,560nm,12.4s
GTA L L
comp=Z,890nm,13.4s
GTA L L
comp=Z,590nm,15.3s
AKDM Akdamar-Van 22.57 283 *e*P **P 22 12 33.9 +2.0**
LKP Lekhapani 22.68 107 *e*P **P 22 12 34.0 +1.2**
KBZ Khabaz 22.81 297 P **P 22 12 34.0 +0.2**
comp=Z,50nm,0.7s,baz=113,slow=10,SNR=99
KBZ pP **pP 22 13 05.5 -2.4**
comp=Z,101nm,0.8s,baz=92,slow=11,SNR=6.0
KBZ Khabaz 22.81 297 *ce*P **P 22 12 34.3 +0.5**
KBZ pmax pmax
comp=Z,16nm,0.5s
MLAZ Malazgirt-MUS 22.85 285 *e*P **P 22 12 37.3 +2.8**
NEY Neytrino 22.87 296 *c i*P **P 22 12 36.9 +2.3**
NEY pmax pmax
comp=Z,15nm,0.5s
GOF Gofitskoye 22.94 300 ⇑*i*P **P 22 12 36.4 +1.4**
GOF pmax pmax
comp=Z,294nm,0.6s
SENK Senkaya-Erzuru 22.98 289 *i* P **P 22 12 38.7 +3.1**
SHA1 Shidzhatmaz 22.98 297 *c i*P **P 22 12 36.6 +0.9**
KIV Kislovodsk 23.00 297 *i* P **P 22 12 36.2 +0.7**
SNR=100
KIV Kislovodsk 23.00 297 *i* P **P 22 12 36.7 +1.1**
KIV Kislovodsk 23.00 297 *e*P **P 22 12 36.3 +0.7**
KIV *e**PP **pP 22 13 08.8 -1.3**
KIV *e*S **S 22 16 33.3 +1.6**
KIV pmax pmax
comp=Z,453nm,1.0s
KIV pmax pmax
comp=Z,174nm,3.0s
KIV MLR MLR
comp=Z,3μm,14.0s
KIV Kislovodsk 23.00 297 P **P 22 12 36.1 +0.5**
KIV Kislovodsk 23.00 297 P **P 22 12 37.1 +1.5**
SHAO Shalim 23.17 221 *i* P **P 22 12 38.1 +0.8**
SNR=12
SHAO Shalim 23.17 221 P **P 22 12 39.3 +2.0**
GURO Guroymak-BITLI 23.29 284 *e*P **P 22 12 40.6 +2.2**
GURO Guroymak-BITLI 23.29 284 IAmb IAmb 22 13 40.5
comp=Z,142nm,1.5s
KOPR Koprukoy-ERZUR 23.36 287 *e*P **P 22 12 42.1 +3.0**
DOK Doka 23.51 225 P **P 22 12 41.2 +0.8**
SNR=5.7
VRTB Varto-Mus 23.70 285 *i* P **P 22 12 45.3 +3.2**
DMTO DMTO 23.79 222 P **P 22 12 44.1 +1.2**
SVAN Silvan-Diyarba 23.98 283 *e*P **P 22 12 46.9 +2.3**
KARO Karliova-Bingo 24.01 286 *e*P **P 22 12 47.5 +2.5**
CHOM Cayeli-Rize 24.19 290 *i* P **P 22 12 48.9 +2.5**
WHFO Wadi Hawf 24.27 224 P **P 22 12 47.7 +0.3**
BNGB Bingl 24.32 285 *e*P **P 22 12 50.2 +2.5**
RBK Rabkut 24.37 223 P **P 22 12 48.7 +0.4**
YEDI Yedisu-Bingol 24.39 286 *e*P **P 22 12 50.2 +1.8**

MAZI Mazidag 24.65 281 *i* P P 22 12 52.5 +1.7
MDRS Chennai 24.78 159 *e*P P 22 12 53.8 +1.9
DYBB Diyarbakir 24.83 283 *e*P P 22 12 54.8 +2.5
KTUT Trabzon 24.94 290 *e*P P 22 12 56.3 +3.1
ABTO Aybut 24.99 225 P P 22 12 54.2 +0.3
SNR=11
ABTO P P 22 12 54.2 +0.3
SNR=11
SOC Sochi 25.09 296 *c i*P P 22 12 54.2 -0.3
SOC *e*PP pP 22 13 26.0 -6.2
SOC *e* 22 13 37.7
SOC *e*SP sP 22 13 52.0 -2.9
SOC *e*S S 22 17 04.7 -0.1
SOC *e*S S 22 17 06.4 +1.6
SOC pmax pmax
comp=Z,64nm,0.7s
VRH Novokhopyorsk 25.63 314 *e*P P 22 12 59.3 0.0
VRH *e*S S 22 17 11.3 -1.9
VRH pmax pmax
comp=Z,140nm,1.0s
VRH smax smax
comp=N,950nm,10.9s
ESPY Espiye-Giresun 25.73 290 *e*P P 22 13 02.3 +2.0
MOY Mondy 25.79 45 *e*P P 22 13 02.7 +1.8
MOY pmax pmax
comp=Z,238nm,2.0s
RAYN Ar Rayn 25.84 247 P P 22 13 01.3 -0.2
ILIC ilic-Erzincan 25.92 286 *e*P P 22 13 05.0 +2.8
URFA Urfa 25.94 282 *e*P P 22 13 02.6 +0.3
LZH Lanzhou 26.08 81 ⇑P P 22 13 06.0 +2.3
LZH pP pP 22 13 46.3 +2.9
LZH sP PP 22 14 08.5 +2.0
LZH S S 22 17 24.5 +3.5
LZH pmax pmax
comp=Z,77nm,1.2s
ARPR Arapgir-MALATY 26.13 285 *i* P P 22 13 06.5 +2.4
MALT Malatya 26.13 284 *e*P P 22 13 05.7 +1.6
KIRV Kirov 26.25 334 P P 22 13 05.5 +0.8
comp=Z,105nm,0.7s,baz=125,slow=2.9,SNR=38
KIRV pP pP 22 13 42.5 -1.1
comp=Z,170nm,0.6s,baz=142,slow=4.7,SNR=5.6
KIRV Kirov 26.25 334 P P 22 13 05.5 +0.8
ZAK Zakamensk 26.67 49 *e*P P 22 13 09.8 +1.1
ZAK pmax pmax
comp=Z,92nm,1.5s
RSDY Resadiye-TOKAT 26.81 289 *i* P P 22 13 11.9 +1.9
ANN Anapa 26.84 298 *c i*P P 22 13 10.8 +0.7
ANN *i* *PP pP 22 13 50.7 +1.9
ANN *i* 22 14 02.5
ANN *e*S S 22 17 34.9 +2.6
ANN pmax pmax
comp=Z,170nm,0.6s
DARE Darende-Malaty 26.84 284 *e*P P 22 13 12.8 +2.4
SVSK Karacayir 27.09 287 *e*P P 22 13 14.8 +2.3
GAZ Gaziantep 27.25 281 P P 22 13 16.3 +2.3
GAZ Gaziantep 27.25 281 IAmb IAmb 22 14 16.8
comp=Z,108nm,1.2s
VORR Voronezh 27.27 314 *e*P P 22 13 08.0 -5.9
VORR pmax pmax
comp=Z,300nm,1.5s
TLY Talaya 27.32 46 P P 22 13 16.7 +2.3
comp=Z,26nm,0.7s,baz=251,slow=8.6,SNR=19
TLY Talaya 27.32 46 *c i*P P 22 13 16.5 +2.1
TLY *e* 22 13 55.0
TLY *e*S S 22 17 44.6 +4.7
TLY pmax pmax
comp=Z,95nm,1.1s
TLY Talaya 27.32 46 P P 22 13 16.1 +1.6
TLY Talaya 27.32 46 P P 22 13 17.0 +2.5
CD2 Chengdu 27.43 93 ⇓P P 22 13 17.8 +2.1
CD2 S S 22 17 44.5 +2.4
CD2 pmax pmax
comp=Z,150nm,1.2s
CD2 pmax pmax
comp=Z,130nm,4.9s
KMRS Kahramanmaras 27.44 282 *e*P P 22 13 17.4 +1.7
SARI SarD1z-Kayseri 27.69 284 *e*P P 22 13 19.2 +1.1
KVT Kavak 27.75 290 *e*P P 22 13 20.5 +2.1
LPSR Galich'ya Gora 27.77 315 *e*P P 22 13 18.7 +0.4
LPSR *e*S S 22 17 44.6 -2.2
LPSR pmax pmax
comp=Z,150nm,1.2s
LPSR smax smax
comp=E,700nm,11.8s
IRK Irkutsk 27.89 46 *e*P P 22 13 20.3 +0.9
IRK *e* 22 14 02.1
IRK pmax pmax
comp=Z,208nm,1.8s
SONM Songino Array 28.00 55 P P 22 13 22.5 +1.8
comp=Z,74nm,0.9s,baz=257,slow=9.8,SNR=185
SONM pP pP 22 13 59.6 -0.9
comp=Z,32nm,1.0s,baz=256,slow=12,SNR=3.5
SONM Songino Array 28.00 55 P P 22 13 22.5 +1.8
SONM *PP pP 22 13 59.6 -0.9
SONM Songino Array 28.00 55 P P 22 13 22.3 +1.6
SONM IAmb IAmb 22 13 23.6
comp=Z,94nm,0.9s
SONM pP 22 14 03.1 +2.6
BNN Bunyan 28.08 285 *e*P P 22 13 22.1 +0.6
BNN Bunyan 28.08 285 IAmb IAmb 22 14 24.1
comp=Z,153nm,1.1s
TAHT Tahtakopru-Hat 28.20 280 *e*P P 22 13 24.3 +1.9
KOZT Kozan 28.29 283 *e*P P 22 13 24.9 +1.8
DIKM Dikmen 28.32 291 *e*P P 22 13 25.3 +1.9
YAYL Yayladag 28.33 279 *e*P P 22 13 25.2 +1.5
SNOP Sinop 28.35 292 *e*P P 22 13 24.9 +1.3
CEYT Ceyhan 28.43 282 *e*P P 22 13 26.4 +2.0
ULN Ulaanbaatar 28.44 56 *c e*P P 22 13 26.0 +1.4
ULN pmax pmax
comp=Z,79nm,0.8s
ULN Ulaanbaatar 28.44 56 P P 22 13 25.8 +1.2
ULN IAmb IAmb 22 13 27.3
comp=Z,80nm,0.9s
ULN Ulaanbaatar 28.44 56 P P 22 13 26.2 +1.6
ULN Ulaanbaatar 28.44 56 P P 22 13 24.4 -0.2
comp=Z,6µmcomp=Z,5µmcomp=Z,389nm,1.2s
TRD Trivandrum 28.46 168 ⇑*e*P P 22 13 26.8 +2.0
CORM Corum 28.88 288 *e*P P 22 13 28.8 +0.3
KARA Karaisali 28.93 282 *e*P P 22 13 30.9 +2.1
SOCY Socotra 28.94 217 P P 22 13 28.1 -1.1
KMI Kunming 29.13 104 ⇓P P 22 13 32.3 +1.3
KMI pP pP 22 14 14.8 +3.9
KMI PP PnPn 22 14 35.5 +1.9
KMI sP PP 22 14 37.3 -3.3
KMI S S 22 18 08.8 -0.4
KMI pmax pmax
comp=Z,25nm,0.7s
KMI pmax pmax
comp=Z,160nm,6.1s
KMI L L
comp=Z,420nm,8.2s
KMI L L
comp=Z,320nm,7.3s
KMI L L
comp=Z,410nm,14.2s
SIM Simferopol' 29.20 298 *e*P P 22 13 30.6 -0.5
SIM *e*PP pP 22 14 11.8 +1.7
SIM pmax pmax
comp=Z,84nm,0.5s
BZK Bozkurt 29.25 292 P P 22 13 33.2 +1.6
MERS Mersin 29.42 282 *e*P P 22 13 33.9 +0.7
CANT Cankiri 29.62 289 *e*P P 22 13 36.0 +1.1
YAYX Yaylak 29.64 286 *e*P P 22 13 36.6 +1.3
MMAI Mount Meron Ar 29.65 274 P P 22 13 36.2 +0.9
comp=Z,4.5nm,0.6s,baz=68,slow=9.1,SNR=20
MMAI pP pP 22 14 17.2 +2.9
comp=Z,5.4nm,0.8s,baz=108,slow=8.0,SNR=3.0
MMAI PcP PcP 22 16 34.8 -0.1
comp=Z,6.3nm,0.6s,baz=76,slow=7.1,SNR=5.3
MMAI ScP ScP 22 19 57.6 -1.4
comp=Z,2.4nm,0.6s,baz=55,slow=4.4,SNR=5.5
BR131 Keskin Array S 29.68 288 IAmb IAmb 22 13 39.3
comp=Z,85nm,0.7s
BR131 Keskin Array S 29.68 288 P P 22 13 37.1 +1.5
SNR=28
BR131 P P 22 13 37.1 +1.5
SNR=28
BRTR Keskin Array B 29.68 288 P P 22 13 36.1 +0.5
comp=Z,41nm,0.6s,baz=96,slow=9.0,SNR=95
BRTR pP pP 22 14 17.4 +2.7
comp=Z,19nm,0.7s,baz=101,slow=8.8,SNR=4.7
BRTR Keskin Array B 29.68 288 *c e*P P 22 13 36.5 +0.9
BRTR pmax pmax
comp=Z,41nm,0.6s
BRTR Keskin Array B 29.68 288 P P 22 13 35.1 -0.6
BRTR pP 22 14 17.6 +3.0
MHMT Maesarieng 29.74 121 P P 22 13 36.8 +0.7
comp=Z,1µmcomp=Z,159nm,0.7s
MHMT Maesarieng 29.74 121 P P 22 13 36.9 +0.8
comp=Z,1µmcomp=Z,159nm,0.7s
MOS Moscow 29.75 321 *e*P P 22 13 32.6 -3.2
MOS *e* 22 14 34.4
MOS *e*S S 22 18 14.9 -2.8
MOS *e*SS sS 22 19 25.6 -2.4
MOS pmax pmax
comp=Z,200nm,1.0s
MOS pmax pmax
comp=Z,174nm,0.8s
PRGR Permogore 29.77 335 *e*P P 22 13 36.2 +0.3
PRGR *e*PP pP 22 14 15.9 +0.4
PRGR pmax pmax
comp=Z,163nm,0.8s
KIZK Mersin 29.79 281 *e*P P 22 13 36.3 -0.1
SERE Sereflikochisa 29.84 286 *e*P P 22 13 38.1 +1.1
YESY Yesilyurt 29.87 284 *e*P P 22 13 38.7 +1.4
EREN Erenkoy 29.98 279 *e*P P 22 13 38.7 +0.6
SULT Sultanhani-AKS 29.98 285 *e*P P 22 13 40.5 +2.3
SILI Silifke-Mersin 29.99 281 *e*P P 22 13 39.3 +1.1
CM33 Chiang Mai Arr 30.02 119 P P 22 13 40.0 +1.4
CHTO Chiang Mai 30.02 119 P P 22 13 39.0 +0.4
CHTO pmax pmax
comp=Z,170nm,1.3s
CHTO Chiang Mai 30.02 119 P P 22 13 40.4 +1.8
comp=Z,927nmcomp=Z,25nm,0.8s
CHTO Chiang Mai 30.02 119 P P 22 13 39.0 +0.4
CHTO IAmb IAmb 22 14 48.1
comp=Z,170nm,1.3s
CHTO Chiang Mai 30.02 119 P P 22 13 40.5 +1.9
CHTO Chiang Mai 30.02 119 P P 22 13 39.6 +1.0
comp=Z,1µmcomp=Z,518nmcomp=Z,14nm,0.8s
CMMT Chiang Mai 30.02 119 P P 22 13 39.4 +0.8
comp=Z,1µmcomp=Z,26nm,0.7s
CMMT Chiang Mai 30.02 119 P P 22 13 39.4 +0.8
comp=Z,1µmcomp=Z,26nm,0.7s
CMMT Chiang Mai 30.02 119 P P 22 13 39.0 +0.4
comp=Z,968nmcomp=Z,25nm,0.7s
OBN Obninsk 30.03 319 P P 22 13 38.9 +0.6
comp=Z,78nm,0.4s,baz=337,slow=0.3,SNR=78
OBN pP pP 22 14 18.9 +1.4
comp=Z,12nm,0.6s,baz=114,slow=9.5,SNR=1.1
OBN Obninsk 30.03 319 *d i*P P 22 13 38.8 +0.5
OBN *i* *PP pP 22 14 18.7 +1.2
OBN *i* 22 14 38.9
OBN pmax pmax
comp=Z,176nm,0.5s
OBN Obninsk 30.03 319 P P 22 13 38.6 +0.3
CM32 Chiang Mai Arr 30.05 119 P P 22 13 40.0 +1.1
GHAJ Ghor Haditha 30.06 270 P P 22 13 39.9 +1.0
CRAI Chiangrai 30.13 115 P P 22 13 41.8 +2.2
comp=Z,15nm,0.8s
CRAI Chiangrai 30.13 115 P P 22 13 41.8 +2.2
comp=Z,14nm,0.8s
CM34 Chiang Mai Arr 30.14 119 P P 22 13 41.0 +1.4
KEBE Keben-Mersin 30.14 281 *e*P P 22 13 39.9 +0.3
IKL Isikli 30.20 281 *e*P P 22 13 40.4 +0.3
CM15 Chiang Mai Arr 30.24 119 P P 22 13 42.1 +1.5
comp=Z,809nmcomp=Z,32nm,1.0s
CM15 Chiang Mai Arr 30.24 119 P P 22 13 42.2 +1.6
comp=Z,809nmcomp=Z,32nm,1.0s
CM13 Chiang Mai Arr 30.25 119 P P 22 13 42.2 +1.6
comp=Z,684nmcomp=Z,24nm,0.7s
CM13 Chiang Mai Arr 30.25 119 P P 22 13 42.2 +1.6
comp=Z,684nmcomp=Z,24nm,0.7s
CM31 Chiang Mai Arr 30.25 119 P P 22 13 42.4 +1.7
comp=Z,24µmcomp=Z,731nm,0.6s
CM31 Chiang Mai Arr 30.25 119 IAmb IAmb 22 14 33.6
comp=Z,152nm,1.0s
CM31 Chiang Mai Arr 30.25 119 P P 22 13 42.7 +2.1
SNR=11
CMAR Chiang Mai Arr 30.25 119 P P 22 13 41.2 +0.5
comp=Z,22nm,0.8s,baz=303,slow=8.5,SNR=87
CMAR PKiKP PKiKP 22 24 07.9 -0.2
comp=Z,0.3nm,0.3s,baz=264,slow=1.8,SNR=4.1
CMAR Chiang Mai Arr 30.25 119 *c e*P P 22 13 41.9 +1.2
CMAR pmax pmax
comp=Z,22nm,0.8s
CMAR Chiang Mai Arr 30.25 119 P P 22 13 40.6 -0.1
CM35 Chiang Mai Arr 30.25 119 P P 22 13 42.0 +1.3
CM02 Chiang Mai Arr 30.27 119 P P 22 13 42.3 +1.5
comp=Z,824nmcomp=Z,43nm,1.0s
CM02 Chiang Mai Arr 30.27 119 P P 22 13 42.4 +1.6
comp=Z,824nmcomp=Z,43nm,1.0s
BTO Baotou 30.28 71 *e*P P 22 13 40.8 0.0
CM01 Chiang Mai Arr 30.29 119 P P 22 13 42.6 +1.6
comp=Z,877nmcomp=Z,44nm,0.9s
CM01 Chiang Mai Arr 30.29 119 P P 22 13 42.7 +1.7
comp=Z,877nmcomp=Z,44nm,0.9s
CM05 Chiang Mai Arr 30.29 119 P P 22 13 42.6 +1.6
comp=Z,550nmcomp=Z,40nm,1.0s
CM05 Chiang Mai Arr 30.29 119 P P 22 13 42.0 +1.0
comp=Z,550nmcomp=Z,40nm,1.0s
CM09 Chiang Mai Arr 30.30 119 P P 22 13 42.6 +1.5
comp=Z,605nmcomp=Z,38nm,0.8s
CM09 Chiang Mai Arr 30.30 119 P P 22 13 42.7 +1.6
comp=Z,605nmcomp=Z,38nm,0.8s
DGPR DIGLIPUR 30.32 135 *e*P P 22 13 43.1 +1.9
DGPR IAmb IAmb 22 13 50.3
comp=Z,113nm,1.0s
ANTO Ankara 30.32 288 *e*P P 22 13 42.5 +1.3
ANTO Ankara 30.32 288 P P 22 13 42.4 +1.3
ANTO pmax pmax
comp=Z,49nm,0.7s
ANTO Ankara 30.32 288 P P 22 13 42.4 +1.3
ANTO IAmb IAmb 22 13 45.1
comp=Z,49nm,0.7s
CM04 Chiang Mai Arr 30.32 119 P P 22 13 42.8 +1.6
comp=Z,878nmcomp=Z,40nm,1.1s
CM04 Chiang Mai Arr 30.32 119 P P 22 13 42.9 +1.7
comp=Z,878nmcomp=Z,40nm,1.1s
AKKU Akkuyu-Mersin 30.33 281 *e*P P 22 13 41.5 +0.3
LOD Lodumlu 30.34 288 *e*P P 22 13 41.9 +0.6
TEVE Tevekalti-Mers 30.35 281 *e*P P 22 13 42.1 +0.6
PALK Pallekele 30.44 162 P P 22 13 42.7 +0.3
PALK pmax pmax
comp=Z,180nm,1.2s
PALK Pallekele 30.44 162 P P 22 13 42.7 +0.3
BERE Bereket-Mersin 30.55 281 *e*P P 22 13 44.2 +0.9
XAN Xi'an 30.61 84 ⇑P P 22 13 44.5 +0.8
XAN pP pP 22 14 27.5 +3.7
XAN sP sP 22 14 47.0 +1.0
XAN S S 22 18 33.0 +1.2
XAN sS sS 22 19 43.8 +1.6
XAN ScS ScS 22 23 57.5 -1.3
XAN pmax pmax
comp=Z,180nm,0.8s
XAN L L
comp=Z,990nm,9.8s
XAN L L
comp=Z,780nm,9.3s
XAN L L
comp=Z,610nm,10.8s
TEKE Tekeli-Mersin 30.68 281 *e*P P 22 13 44.5 +0.3
LAMP Lampang 30.70 118 P P 22 13 45.8 +1.3
comp=Z,916nmcomp=Z,78nm,0.8s
LAMP Lampang 30.70 118 P P 22 13 45.8 +1.3
comp=Z,229nmcomp=Z,20nm,0.8s
CSS Mathiatis 30.78 278 *e*P P 22 13 46.1 +0.9
CSS Mathiatis 30.78 278 P P 22 13 44.7 -0.5
LADK Ladik-KONYA 30.88 285 *e*P P 22 13 46.3 +0.2
KONT Konya--Tatoy 30.92 284 *i*P P 22 13 48.2 +1.8
HRFI Mount Harif 30.94 268 *i*P P 22 13 48.1 +1.5
LEF Lefka 31.09 279 ⇑P P 22 13 49.4 +1.6
LEF Lefka 31.09 279 *i*P P 22 13 48.4 +0.5
EIL Elat 31.15 268 P P 22 13 49.5 +1.1
comp=Z,14nm,0.9s,baz=139,slow=4.0,SNR=17
EIL pP pP 22 14 29.1 +1.4
comp=Z,9.6nm,0.7s,baz=100,slow=8.1,SNR=3.4
KIZT Kizilcal 31.15 286 *e*P P 22 13 49.8 +1.3
AUMIH MIHALICIK 31.32 288 P P 22 13 51.1 +1.1
SEYD Seydisehir-KON 31.43 283 P P 22 13 53.2 +2.3
HHC Hu-ho-hao-te 31.43 70 ⇑*i*P P 22 13 53.0 +2.1
HHC pP pP 22 14 32.5 +1.3
HHC S S 22 18 45.0 +0.4
HHC sS sS 22 19 54.8 -0.3
HHC PcS PcS 22 20 25.0 +0.9
HHC pmax pmax
comp=Z,41nm,1.2s
HHC pmax pmax
comp=Z,170nm,5.3s
KLMR Klimovskoe 31.51 330 *e*P P 22 13 47.9 -3.3
KLMR *e*PP pP 22 14 28.0 -2.9
KLMR *e*SP sP 22 14 45.6 -7.4
KLMR *e*S S 22 18 40.9 -4.2
KLMR Klimovskoe 31.51 330 *e*P P 22 13 48.0 -3.3
KLMR *e*pP pP 22 14 28.0 -2.9
KLMR AMP 22 14 32.6
comp=Z,79nm,0.9s
KLMR *e*sP sP 22 14 45.7 -7.3
KLMR *e*S S 22 18 40.9 -4.2
KLMR *e*S S 22 18 40.9 -4.2
GYA Guiyang 31.58 99 ⇑P P 22 13 54.0 +1.6
GYA pP pP 22 14 38.5 +6.1
GYA sP sP 22 14 55.0 +0.1
GYA PP PP 22 15 06.0 -1.6
GYA S S 22 18 43.3 -4.0
GYA sS sS 22 19 54.0 -3.8
GYA ScP ScP 22 20 01.8 -3.7
GYA pmax pmax
comp=Z,9.0nm,0.9s
CIFT Cifteler, Eski 31.71 287 *e*P P 22 13 54.1 +0.8
UMPA Umpang Tak 31.75 123 P P 22 13 57.0 +3.2
comp=Z,855nmcomp=Z,112nm,0.9s
UMPA Umpang Tak 31.75 123 P P 22 13 57.1 +3.2
comp=Z,212nmcomp=Z,28nm,0.9s
UTTA Uttaradit 31.86 118 P P 22 13 56.1 +1.3
comp=Z,1µmcomp=Z,170nm,0.8s
UTTA Uttaradit 31.86 118 P P 22 13 56.0 +1.3
comp=Z,361nmcomp=Z,43nm,0.8s
SRCK Saricakaya, Es 31.95 289 *e*P P 22 13 56.5 +1.1
GULT Gulveren 31.99 289 *e*P P 22 13 58.0 +2.2
SLVN Son La 32.09 109 P P 22 13 58.4 +1.5
SAUV Serdivan-Sakar 32.10 290 *e*P P 22 13 57.4 +0.8
BORA Eskisehir 32.10 288 *e*P P 22 13 58.2 +1.4
PHIT Phitsanulok 32.14 119 P P 22 13 59.0 +1.8
comp=Z,2µmcomp=Z,294nm,0.8s
PHIT Phitsanulok 32.14 119 P P 22 13 59.1 +1.8
comp=Z,495nmcomp=Z,73nm,0.8s
SHUT Suhut-Afyon 32.22 286 *e*P P 22 13 58.6 +0.7
ENH Enshi 32.27 90 P P 22 13 59.5 +1.2
ENH IAmb IAmb 22 14 01.4
comp=Z,140nm,1.0s
ISP Isparta 32.37 285 P P 22 14 00.3 +1.1
AUBOZ BOZOYUK 32.42 289 *e*P P 22 13 59.5 0.0
TIY Taiyuan 32.54 76 *e*P P 22 14 02.0 +1.4
TIY pP pP 22 14 42.5 +1.6
TIY sP sP 22 14 58.5 -4.6
TIY S S 22 19 04.3 +2.4
TIY sS ScP 22 20 06.5 -2.0
TIY pmax pmax
comp=Z,85nm,1.0s
TIY L L
comp=Z,330nm,5.4s
TIY L L
comp=Z,390nm,6.1s
TIY L L
comp=Z,440nm,7.9s
KHLT Khaolaem Dam 32.57 125 P P 22 14 02.8 +1.8
comp=Z,57nm,1.0s
KHLT Khaolaem Dam 32.57 125 P P 22 14 02.9 +1.9
comp=Z,57nm,1.0s
ADVT Abdulvahap 32.58 290 P P 22 14 01.9 +1.1
HRT Hereke 32.59 290 *e*P P 22 14 02.1 +1.2
UTHA Uthaitani 32.60 123 P P 22 14 03.3 +2.1
comp=Z,293nmcomp=Z,43nm,0.8s
KORT Korkueli 32.67 283 P P 22 14 01.6 -0.2
YLV Yalova 32.84 290 *e*P P 22 14 04.1 +0.9
TVSB Tavsanli 32.92 288 *e*P P 22 14 03.7 -0.2
JURR Jurilovca 32.92 298 ⇑P P 22 14 05.3 +1.6
PBKT Sadao Pong 32.95 119 P P 22 14 05.9 +1.7
comp=Z,67nm,0.5s
PBKT Sadao Pong 32.95 119 P P 22 14 05.0 +0.8
comp=Z,67nm,0.5s
PBKT Sadao Pong 32.95 119 P P 22 14 04.0 -0.2
comp=Z,64nm,0.5s
TLCR 32.96 298 ⇑P P 22 14 05.1 +1.0
GEMT Gemlik 32.99 290 *e*P P 22 14 05.9 +1.5
KIS Kishinev 33.00 302 ⇑*i*P P 22 14 04.5 +0.1
comp=Z,200nm,0.3s
KIS *e*pP pP 22 14 45.0 +1.3
KIS Kishinev 33.00 302 ⇓P P 22 14 05.4 +1.0
KIS Kishinev 33.00 302 *c i*P P 22 14 04.5 +0.1
KIS *e**PP pP 22 14 45.2 +1.3
KIS *e* 22 15 04.7
KIS *e*S S 22 19 06.6 -2.0
KIS pmax pmax
comp=Z,200nm,0.3s
MILM Milestii Mici 33.00 302 ⇑P P 22 14 05.2 +0.9
KLYT Kilyos 33.01 291 *e*P P 22 14 05.9 +1.4
KAVV Kandilli-Istan 33.02 291 *e*P P 22 14 05.9 +1.3
ISK Istanbul-Kandi 33.02 291 *e*P P 22 14 05.5 +0.9
GEDZ Gediz 33.02 287 *e*P P 22 14 05.9 +1.1
ELL Elmali 33.07 283 *e*P P 22 14 06.3 +1.0
AKASG Malin Array Be 33.10 309 P P 22 14 05.5 +0.3
comp=Z,141nm,0.6s,baz=80,slow=6.8,SNR=401
AKASG ScP ScP 22 20 09.6 -0.4
comp=Z,1.7nm,0.6s,baz=88,slow=7.7,SNR=4.1
AKASG Malin Array Be 33.10 309 *c e*P P 22 14 05.6 +0.4
AKASG pmax pmax
comp=Z,141nm,0.6s
AKASG Malin Array Be 33.10 309 P P 22 14 05.4 +0.3
AKASG IAmb IAmb 22 14 06.9
comp=Z,105nm,0.6s
AKBB Malin Array Si 33.10 309 *c e*P P 22 14 05.4 +0.2
AKBB Malin Array Si 33.10 309 P P 22 14 05.2 +0.1
MANR Mangalia 33.16 296 ⇓P P 22 14 07.0 +1.2
BGKT Bogazkoy 33.22 291 *e*P P 22 14 07.9 +1.6
ARMT Armutlu 33.22 290 *e*P P 22 14 07.1 +0.7
MDNY Mudanya-Bursa 33.23 290 *e*P P 22 14 07.4 +0.9
TPGR Topolog 33.25 298 ⇓P P 22 14 07.8 +1.2
TIRR Tirgusor 33.26 297 ⇓P P 22 14 07.3 +0.7
TIRR Tirgusor 33.26 297 IAmb IAmb 22 15 23.8
comp=Z,210nm,1.2s
MFTR Murfatlar 33.26 297 ⇑P P 22 14 08.3 +1.7
CIT Chita 33.33 49 *e*P P 22 14 08.3 +1.1
CIT *e* 22 14 50.2
CIT *e* 22 15 09.9
CIT *e* 22 15 26.4
CIT *e* 22 19 15.4
CIT pmax pmax
comp=Z,448nm,1.4s
SORM Soroca 33.38 304 ⇑P P 22 14 08.1 +0.5
CTKS Kestanelik-??a 33.41 291 *i*P P 22 14 08.9 +0.9
AKAS Kas 33.42 282 *e*P P 22 14 07.1 +1.2
CFR Carcaliu 33.44 298 ⇑P P 22 14 09.3 +1.1
KSL Kastellorizon 33.46 282 P P 22 14 07.8 -0.7
TLBR Topalu 33.52 297 ⇓P P 22 14 10.0 +1.1
NONG Nongkai 33.52 115 P P 22 14 09.9 +0.7
comp=Z,208nm,0.8s
NONG Nongkai 33.52 115 P P 22 14 09.0 -0.2
comp=Z,206nm,0.8s
CTYL Yalikoy Yolu 33.55 292 *i*P P 22 14 10.4 +1.2
HARR Harsova 33.60 298 ⇑P P 22 14 10.9 +1.3
SLVT Silivri 33.64 291 *e*P P 22 14 11.6 +1.6
VARL Varlezi 33.64 300 ⇑P P 22 14 12.0 +2.0
KCTX Karacabey (Bur 33.65 290 *i*P P 22 14 10.9 +0.8
SCHL Schela 33.66 299 ⇓P P 22 14 11.2 +1.1
KULA Kula-Manisa 33.69 286 P P 22 14 11.0 +0.4
KULA Kula-Manisa 33.69 286 *e*P P 22 14 11.6 +1.0
VASR Vaslui 33.69 301 ⇓P P 22 14 11.5 +1.2
ICOR Ion Corvin 33.71 297 ⇑P P 22 14 12.3 +1.8
FETY Fethiye 33.74 283 P P 22 14 08.4 -2.6
FETY Fethiye 33.74 283 *e*P P 22 14 09.8 -1.2
BIR Birlad 33.80 300 ⇓P P 22 14 13.2 +1.9
NRIK Noril'sk 33.94 10 P P 22 14 13.4 +1.3
comp=Z,181nm,0.8s,baz=202,slow=6.5,SNR=129
NRIK Noril'sk 33.94 10 *c e*P P 22 14 13.4 +1.3
NRIK pmax pmax
comp=Z,206nm,1.0s
NRIK Noril'sk 33.94 10 P P 22 14 13.4 +1.3
GHRR 33.95 300 ⇑P P 22 14 14.6 +2.0
CRLT Corlu 34.00 291 *e*P P 22 14 14.9 +1.8
EDC Edincik 34.01 290 *e*P P 22 14 14.9 +1.7
DALY Dalyan (Mula) 34.04 283 *e*P P 22 14 13.3 -0.1
BALB Balikesir 34.10 289 *e*P P 22 14 15.2 +1.2
BALB Balikesir 34.10 289 IAmb IAmb 22 14 57.1
comp=Z,88nm,1.1s
CHAI Chaiyaphum 34.11 119 P P 22 14 15.9 +1.6
comp=Z,1µmcomp=Z,134nm,0.8s
CHAI Chaiyaphum 34.11 119 P P 22 14 15.0 +0.7
comp=Z,320nmcomp=Z,33nm,0.8s
MRMT Marmara Adasi 34.18 290 *e*P P 22 14 16.1 +1.4
YER Yerkesik 34.26 284 *e*P P 22 14 15.2 -0.2

TURN	Turunc	34.37	283	eP		P		22 14 16.1	-0.2
AYDB	Zeytinkoy-Aydi	34.39	286	i P		P		22 14 17.3	+0.6
LEHL	Lehliu	34.40	297	⇑P		P		22 14 18.5	+2.1
VRI	Vrincioaia	34.42	300	⇓P		P		22 14 18.7	+2.0
VRI	Vrincioaia	34.42	300	eP		P		22 14 18.7	+2.0
KRBG	Karabiga-Canak	34.43	290	i P		P		22 14 17.6	+0.8
TESR	Tescani	34.48	301	⇑P		P		22 14 18.5	+1.3
PLOR	Plostina	34.48	300	⇓P		P		22 14 19.3	+2.1
ARG	Arkhangelos	34.59	283	P		P		22 14 17.9	-0.3
ARG	Arkhangelos	34.59	283	eP		P		22 14 18.5	+0.3
MLSB	Milas	34.62	284	eP		P		22 14 19.4	+0.9
MNK	Minsk	34.62	315	i P		P		22 14 18.9	+0.7
MNK				i *PP		pP		22 14 58.4	+0.5
MNK				i *SP		sP		22 15 20.5	+0.8
MNK				i				22 15 40.9	
MNK				i				22 16 49.6	
MNK				i S		S		22 19 33.3	0.0
MNK				i *SS		sS		22 20 44.0	-0.3
MNK				pmax		pmax			
	comp=Z,149nm,1.0s								
MNK				pmax		pmax			
	comp=E,20nm,1.0s								
MNK				pmax		pmax			
	comp=N,33nm,1.2s								
MNK				MLR		MLR			
	comp=N,421nm,22.0s								
MNK				MLR		MLR			
	comp=Z,441nm,14.0s								
MNK	Minsk	34.62	315	i P		P		22 14 18.9	+0.7
	comp=E,20nm,1.0s								
MNK				i P		P		22 14 18.9	+0.7
	comp=N,33nm,1.2s								
MNK				i P		P		22 14 18.9	+0.7
	comp=Z,149nm,1.0s,baz=283								
MNK				i pP		pP		22 14 58.5	+0.6
MNK				i sP		sP		22 15 20.5	+0.8
MNK				i PP		PnPn		22 15 40.9	-0.1
MNK				i PcP		PcP		22 16 49.7	+1.6
MNK				i S		S		22 19 33.4	+0.1
MNK				i sS		sS		22 20 44.0	-0.3
MNK				i SS		SnSn		22 22 08.5	-1.0
MNK				i ScS		ScS		22 24 35.7	+17
MNK				i LRM		MLR		22 30 09.7	
	comp=N,421nm,21.7s								
MNK				i LRM		MLR		22 30 27.0	
	comp=Z,441nm,13.8s								
MNK				i LRM		MLR		22 30 33.5	
	comp=E,59nm,21.7s								
PHET	Kaeng Krachan	34.64	126	P		P		22 14 21.0	+2.2
	comp=E,1µmcomp=E,112nm,0.8s								
PHET	Kaeng Krachan	34.64	126	P		P		22 14 21.1	+2.2
	comp=E,304nmcomp=E,29nm,0.8s								
PRAR	RASCA	34.78	302	⇑P		P		22 14 20.8	+1.1
DAT	Datca	34.90	284	P		P		22 14 20.2	-0.8
DAT	Datca	34.90	284	eP		P		22 14 20.8	-0.2
DKL	Dikili	34.94	288	eP		P		22 14 22.1	+0.9
GCAM	G?zelcaml?	34.95	285	eP		P		22 14 21.5	+0.2
BLCB	Balcova	34.96	287	P		P		22 14 21.1	-0.3
PUL	Pulkovo	34.98	325	ceP		P		22 14 21.4	+0.2
PUL				pmax		pmax			
	comp=Z,126nm,1.0s								
MLR	Muntele Rosu	34.98	299	P		P		22 14 23.7	+2.0
	comp=Z,114nm,0.7s,baz=24,slow=2.4,SNR=300								
MLR				pP		pP		22 15 03.8	+2.5
	comp=Z,64nm,0.8s,baz=307,slow=1.1,SNR=2.8								
MLR	Muntele Rosu	34.98	299	⇑P		P		22 14 24.0	+2.3
MLR	Muntele Rosu	34.98	299	P		P		22 14 23.7	+2.0
MLR				*PP		pP		22 15 03.8	+2.5
ERIK	Erikli-Kesan	34.98	291	eP		P		22 14 22.9	+1.4
BJT	Baijiatuao	35.02	71	P		P		22 14 23.6	+1.7
BJT				pmax		pmax			
	comp=Z,20nm,0.9s								
BJT	Baijiatuao	35.02	71	P		P		22 14 23.6	+1.7
SGRR	Singureni	35.02	297	⇑P		P		22 14 23.5	+1.8
BJI	Beijing	35.02	70	P		P		22 14 23.3	+1.5
BJI				PcP		PcP		22 16 49.5	0.0
BJI				S		S		22 19 41.8	+2.0
BJI				pmax		pmax			
	comp=Z,31nm,0.9s								
BJI				pmax		pmax			
	comp=Z,240nm,3.5s								
BJI				L		L			
	comp=Z,500nm,14.1s								
BJI				L		L			
	comp=Z,240nm,9.5s								
BJI				L		L			
	comp=Z,690nm,11.3s								
BODT	Bodrum	35.03	284	P		P		22 14 20.5	-1.5
BODT	Bodrum	35.03	284	eP		P		22 14 21.8	-0.2
BOD	Bodaibo	35.05	39	eP		P		22 14 22.5	+0.7
BOD				pmax		pmax			
	comp=Z,230nm,1.1s								
GELI	Tayfur-Gelibol	35.05	290	eP		P		22 14 23.6	+1.5
OZUR		35.08	300	⇑P		P		22 14 23.7	+1.4
ENEZ	Enez	35.24	291	P		P		22 14 24.8	+1.1
ENEZ	Enez	35.24	291	eP		P		22 14 25.3	+1.6
EZN	Ezine	35.25	289	P		P		22 14 24.8	+1.0
SMG	Samos	35.26	285	P		P		22 14 24.0	0.0
ALN	Alexandroupoli	35.30	291	P		P		22 14 24.8	+0.6
ALN	Alexandroupoli	35.30	291	eP		P		22 14 25.4	+1.2
URLA	Izmir	35.31	287	eP		P		22 14 24.2	-0.2
NACGM	Naroch	35.33	315	i P		P		22 14 25.3	+1.0
DOPR	Dopca	35.36	300	⇑P		P		22 14 26.5	+1.8
PRK	Paraskevi	35.39	288	P		P		22 14 25.6	+0.5
PATY	Pattaya	35.44	124	P		P		22 14 30.0	+4.4
	comp=Z,3µmcomp=Z,82nm,1.0s								
PATY	Pattaya	35.44	124	P		P		22 14 30.1	+4.4
	comp=Z,820nmcomp=Z,21nm,1.0s								
IDID	Didziasalis	35.45	316	eP		P		22 14 26.3	+1.0
BOZC	Bozcaada	35.46	289	eP		P		22 14 26.6	+1.0
SRAK	Srakaew	35.46	121	P		P		22 14 31.6	+5.8
	comp=Z,7µmcomp=Z,724nm,0.9s								
BURAR	Bucovina Array	35.47	303	⇑P		P		22 14 27.0	+1.3
BURAR	Bucovina Array	35.47	303	P		P		22 14 27.0	+1.3
BURAR				lAmb		lAmb		22 14 27.7	
	comp=Z,76nm,0.6s								
BURAR				sP		sP		22 15 32.4	+5.0
KARP	Karpathos	35.51	282	P		P		22 14 25.7	-0.5
KARP	Karpathos	35.51	282	eP		P		22 14 26.9	+0.7
GADA	Gvkgeada	35.52	290	P		P		22 14 26.9	+0.8
GADA	Gvkgeada	35.52	290	eP		P		22 14 27.5	+1.4
VOIR		35.61	299	⇓P		P		22 14 28.7	+1.7
RDO	Rodhopi	35.65	292	P		P		22 14 28.7	+0.5
RDO	Rodhopi	35.65	292	eP		P		22 14 28.4	+1.2
KDZ	Kurdzhali	35.67	292	i P		P		22 14 29.0	+1.6
HUMR	Humele	35.71	297	⇑P		P		22 14 29.2	+1.5
SIGR	SIGRI	35.72	288	eP		P		22 14 28.1	+0.3
CHOS	Chios island	35.72	287	P		P		22 14 28.7	+0.7
CHOS	Chios island	35.72	287	i P		P		22 14 29.0	+1.0
IIGN	Ignalina	35.74	316	eP		P		22 14 29.2	+1.4
SMTH	Samothraki Isl	35.75	290	P		P		22 14 28.6	+0.5
ATD	Arta Tunnel	35.85	233	P		P		22 14 30.7	+1.4
ATD				lAmb		lAmb		22 14 32.6	
	comp=Z,156nm,1.5s								
ARR	Arges	35.91	299	⇑P		P		22 14 31.0	+1.6
ARCR	ARCALIA	36.05	302	⇑P		P		22 14 32.9	+2.3
WHN	Wuhan	36.08	87	⇓P		P		22 14 32.8	+1.8
WHN				S		S		22 19 58.0	+1.9
WHN				pmax		pmax			
	comp=Z,320nm,1.0s								
WHN				L		L			
	comp=Z,2µm,8.5s								
WHN				L		L			
	comp=Z,1µm,12.8s								
WHN				L		L			
	comp=Z,1µm,12.2s								
LIA	Limnos Island	36.11	290	P		P		22 14 31.4	+0.3
PLD	Plovdiv	36.14	293	eP		P		22 14 32.4	+1.0
VLAD	Vladila	36.16	297	⇓P		P		22 14 33.0	+1.5
VSU	Vasula	36.27	321	eP		P		22 14 32.7	+0.5
LVV	L'vov	36.33	306	eP		P		22 14 32.7	-0.1
LVV				e				22 15 13.3	
LVV				eS		S		22 19 59.9	+0.4
LVV				pmax		pmax			
	comp=Z,400nm,1.3s								
LVV				MLR		MLR			
	comp=Z,600nm,17.0s								
THAS	Thassos island	36.34	291	P		P		22 14 33.8	+0.7
APE	Apeiranthos	36.42	285	P		P		22 14 34.6	+0.7
APE	Apeiranthos	36.42	285	⇑P		P		22 14 34.5	+0.7
KAVA	Kavala	36.43	292	P		P		22 14 34.2	+0.3
LOT	Lotru	36.51	299	⇑P		P		22 14 35.9	+1.3
LOT	Lotru	36.51	299	eP		P		22 14 35.9	+1.3
TIA	Tai'an	36.54	77	⇑P		P		22 14 36.8	+2.0
TIA				pP		pP		22 15 18.5	+2.7
TIA				S		S		22 20 04.0	+0.9
TIA				sS		sS		22 21 17.0	+2.5
TIA				pmax		pmax			
	comp=Z,84nm,1.2s								
TIA				L		L			
	comp=Z,370nm,13.1s								
TIA				L		L			
	comp=Z,320nm,11.8s								
TIA				L		L			
	comp=Z,360nm,17.7s								
CJR	Cluj-Napoca	36.58	301	⇑P		P		22 14 37.3	+2.2
BMR	Baia Mare	36.63	303	⇑P		P		22 14 37.3	+1.9
SANT	Santorini	36.64	284	lAmb		lAmb		22 14 37.0	
	comp=Z,234nm,1.5s								
NPS	Neapolis	36.81	282	P		P		22 14 37.7	+0.6
NVR	Nevrokopi	36.87	292	P		P		22 14 38.2	+0.6
OUR	Ouranopolis	36.94	291	P		P		22 14 38.6	+0.5
OUR	Ouranopolis	36.94	291	P		P		22 14 39.3	+1.2
LAST	Lasithi	36.94	282	P		P		22 14 38.9	+0.5
HIA	Hailar	36.96	55	ci P		P		22 14 39.7	+1.4
HIA	Hailar	36.96	55	P		P		22 14 39.5	+1.2
SRE	Strehaia	36.97	298	⇓P		P		22 14 39.1	+0.8
MESR	Meseseni	37.01	302	⇑P		P		22 14 40.6	+1.9
PABE	Paberze	37.03	316	eP		P		22 14 39.7	+1.0
KARY	Karystos	37.04	287	P		P		22 14 40.6	+1.5
DEV	Deva	37.09	300	⇓P		P		22 14 41.7	+2.3
SRS	Serrai	37.10	292	P		P		22 14 40.2	+0.6
SURT	Suratani	37.12	131	P		P		22 14 47.6	+7.7
VTS	Vitosha	37.16	294	⇑P		P		22 14 41.2	+1.1
VTS	Vitosha	37.16	294	P		P		22 14 41.2	+1.1
VTS				*PP		pP		22 15 22.3	+2.0
VTS	Vitosha	37.16	294	P		P		22 14 41.1	+1.1
VTS				pP		pP		22 15 22.3	+2.0
KWP	Kalwaria Pacla	37.18	306	eP		P		22 14 41.4	+1.4
KWP				ePP		PnPn		22 16 10.4	-1.3
KWP				eS		S		22 20 14.4	+2.0
KWP				eL		L		22 33 08.3	
	comp=Z,636nm,18.1s								
DRGR		37.19	301	⇑P		P		22 14 42.0	+1.7
PUNG	Punghina	37.19	297	⇓P		P		22 14 41.4	+1.2
GZR	Gura Zlata	37.21	299	⇑P		P		22 14 41.4	+0.9
PAIG	Paliouri	37.24	290	P		P		22 14 41.5	+0.8
SUW	Suwalki	37.24	313	eP		P		22 14 40.9	+0.4
SUW				eS		S		22 20 13.5	+0.3
SUW				eL		L		22 31 53.8	
	comp=Z,1µm,20.7s								
SUW	Suwalki	37.24	313	eP		P		22 14 40.6	+0.1
SUW	Suwalki	37.24	313	lAmb		lAmb		22 14 42.5	
	comp=Z,98nm,0.6s								
SOH	Sokhos	37.33	291	P		P		22 14 41.7	+0.2
PLG	Polygyros	37.34	291	P		P		22 14 42.9	+1.3
EREA	Eretria	37.35	287	P		P		22 14 42.2	+0.3
IDI	Anoyia	37.37	282	P		P		22 14 42.1	+0.2
	comp=Z,24nm,0.4s,baz=53,slow=13,SNR=50								
IDI	Anoyia	37.37	282	P		P		22 14 40.1	-1.8
IDI	Anoyia	37.37	282	eP		P		22 14 41.9	0.0
DION	Dionisos Attik	37.42	287	P		P		22 14 43.4	+1.1
UZH	Uzhgorod	37.43	304	eP		P		22 14 42.2	0.0
UZH				e*PP		pP		22 15 19.6	-2.8
UZH				eS		S		22 20 15.3	-0.9
UZH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
LVZ	Lovozero	37.44	338	ceP		P		22 14 42.6	+0.5
LVZ				pmax		pmax			
	comp=Z,146nm,0.9s								
LVZ	Lovozero	37.44	338	P		P		22 14 42.5	+0.5
LVZ				lAmb		lAmb		22 14 44.2	
	comp=Z,109nm,0.8s								
KOLS	Kolonicke sedl	37.45	305	eP		P		22 14 43.7	+1.4
KOLS				e				22 16 12.8	
KOLS	Kolonicke sedl	37.45	305	eP		P		22 14 43.7	+1.4
KOLS				ePP		PP		22 16 12.8	+1.1
PTL	Penteli	37.48	287	P		P		22 14 43.3	+0.5
SIVA	Sivas	37.51	282	P		P		22 14 42.9	-0.1
FIA1	FINESS Array S	37.54	326	P		P		22 14 43.2	+0.4
FINES	FINESS Array B	37.54	326	P		P		22 14 43.5	+0.6
	comp=Z,86nm,0.4s,baz=117,slow=9.6,SNR=952								
FINES				pP		pP		22 15 25.7	+2.3
	comp=Z,20nm,0.6s,baz=107,slow=6.4,SNR=2.1								
FINES	FINESS Array B	37.54	326	P		P		22 14 43.5	+0.6
FINES				*PP		pP		22 15 25.7	+2.3
HORT	Hortiatis	37.56	291	P		P		22 14 43.7	+0.2
HORT	Hortiatis	37.56	291	i P		P		22 14 44.4	+0.9
ATHU	Athens Univers	37.56	287	P		P		22 14 43.9	+0.5
VLY	Voula,Athens	37.58	287	P		P		22 14 44.3	+0.7
ATH	Athens Observa	37.61	287	P		P		22 14 44.4	+0.6
KNT	Kendrikon	37.62	292	P		P		22 14 44.1	+0.3
KNT	Kendrikon	37.62	292	i P		P		22 14 44.1	+0.3
APA	Apatity	37.63	337	⇓iP		P		22 14 43.6	+0.1
APA				i *PP		pP		22 15 19.0	-5.2
APA				i				22 15 46.0	
APA				i S		S		22 20 19.0	+0.3
APA				i *SS		sS		22 21 29.0	-1.4
APA				i SSS		SSS		22 23 12.0	
APA				pmax		pmax			
	comp=Z,32nm,1.0s								
APA				MLR		MLR			
	comp=Z,2µm,16.0s								
THE	Thessaloniki	37.65	291	P		P		22 14 43.8	-0.3
PKDT	Phuket	37.69	133	P		P		22 14 47.4	+2.7
	comp=Z,34nm,1.0s								
PKDT	Phuket	37.69	133	P		P		22 14 47.0	+2.3
	comp=Z,34nm,1.0s								
NEO	Neokhori	37.71	289	P		P		22 14 44.9	+0.2
LTVH	Ltavrtes, Hu	37.72	302	⇑P		P		22 14 46.9	+2.4
XOR	Xorichti	37.72	289	P		P		22 14 45.0	+0.2
SMIA	Simia	37.80	288	P		P		22 14 46.6	+1.1
VAY	Valandovo	37.83	292	i P		P		22 14 46.9	+1.3
VAM	Vamos	37.88	283	P		P		22 14 45.8	-0.3
VILL	Villia	37.88	287	P		P		22 14 46.0	-0.2
MEF	Metsahovi	37.93	324	eP		P		22 14 46.9	+0.8
SIRR	Siria	37.94	301	⇓P		P		22 14 48.7	+2.2
KRAB	Krabi	37.95	131	P		P		22 14 50.9	+4.1
	comp=Z,9µmcomp=Z,203nm,0.5s								
KRAB	Krabi	37.95	131	P		P		22 14 51.0	+4.1
	comp=Z,2µmcomp=Z,51nm,0.5s								
QIZ	Qiongzhong	37.96	107	P		P		22 14 47.5	+0.5
QIZ				sP		sP		22 15 47.3	-2.3
QIZ				PP		PP		22 16 18.8	+1.0
QIZ				S		S		22 20 16.8	-8.1
QIZ				sS		sS		22 21 33.3	-3.4
QIZ				pmax		pmax			
	comp=Z,17nm,1.2s								
CRVS	Cervenica-Dubn	37.98	305	eP		P		22 14 47.9	+1.1
CRVS				e				22 16 16.1	
CRVS	Cervenica-Dubn	37.98	305	eP		P		22 14 47.9	+1.1
CRVS				ePP		PP		22 16 16.1	-1.5
BZS	Buzias	38.01	300	⇑P		P		22 14 48.6	+1.5
LKR	Lokris	38.01	288	P		P		22 14 47.4	+0.2
MDVR	Moldovita	38.02	298	⇓P		P		22 14 48.5	+1.3
IMMV	Iera Moni Meta	38.04	283	P		P		22 14 48.1	+0.7
IMMV	Iera Moni Meta	38.04	283	eP		P		22 14 47.8	+0.4
STIP	Stip	38.06	293	i P		P		22 14 46.9	-0.7
LIT	Litokhoron	38.11	291	P		P		22 14 48.0	0.0
GVDS	Gavdos	38.12	282	P		P		22 14 47.9	-0.3
GVD	Gavdhos	38.13	282	P		P		22 14 47.5	-0.7
GVD	Gavdhos	38.13	282	eP		P		22 14 48.3	+0.1
BOVS	Bovan	38.14	296	⇑P		P		22 14 48.9	+0.7
LTK	Loutraki	38.18	287	P		P		22 14 47.6	-1.0
KRND	KRANIDI	38.19	286	P		P		22 14 47.3	-1.3
PBUR	Paburge	38.26	316	eP		P		22 14 49.8	+0.9
KNDR	Palaiochora Ch	38.33	283	P		P		22 14 50.3	+0.4
SLIT	Slitere, Latvi	38.35	319	eP		P		22 14 49.7	0.0
BANR	Banloc	38.37	299	⇑P		P		22 14 52.2	+2.2
THAL	Thalero	38.41	287	P		P		22 14 47.8	-2.7
AGG	Agios Georgios	38.44	289	P		P		22 14 50.5	-0.3
AGG	Agios Georgios	38.44	289	eP		P		22 14 51.0	+0.2
AGG	Agios Georgios	38.44	289	lAmb		lAmb		22 14 52.4	
	comp=Z,188nm,1.6s								
BEL	Belsk	38.48	310	eP		P		22 14 51.9	+0.9
BEL				eS		S		22 20 33.6	+1.7
BEL				eL		L		22 30 58.2	
	comp=Z,392nm,18.5s								
GZH	Guangzhou	38.52	99	P		P		22 14 52.8	+1.3
VLI	Veliai	38.52	285	P		P		22 14 49.6	-1.8
KTHA	Kythira Island	38.54	284	P		P		22 14 50.5	-1.1
KTHA	Kythira Island	38.54	284	eP		P		22 14 50.7	-0.9
SKO	Skopje	38.57	294	i P		P		22 14 52.5	+0.7
THL	Klokotos Trika	38.57	290	P		P		22 14 51.4	-0.4
KTHR	Kythira	38.58	284	P		P		22 14 51.0	-1.0
MAKR	Makrakomi, Fth	38.60	289	P		P		22 14 52.1	0.0
KZN	Kozani	38.61	291	P		P		22 14 52.1	-0.1
KECS	Kecovo	38.64	304	eP		P		22 14 53.8	+1.5
KECS				pmax		pmax			
	comp=Z,27nm,0.6s								
KECS	Kecovo	38.64	304	eP		P		22 14 53.8	+1.5
TRIZ	Trizonia	38.78	288	P		P		22 14 52.2	-1.4
VLX	Vlachokerasia	38.78	286	P		P		22 14 52.2	-1.6
SERG	Sergoula	38.79	288	P		P		22 14 52.2	-1.5
KLV	Kalavryta, Ach	38.80	287	P		P		22 14 52.4	-1.4
FNA	Florina	38.81	292	P		P		22 14 53.8	-0.1
FNA	Florina	38.81	292	eP		P		22 14 53.2	-0.7
FNA	Florina	38.81	292	P		P		22 14 53.9	-0.1
FNA				pmax		pmax			
	comp=Z,33nm,0.9s								
FNA	Florina	38.81	292	P		P		22 14 53.9	-0.1
BSZH	Besenyszg	38.83	302	⇑P		P		22 14 56.4	+2.5
ANX	Ano Chora	38.85	288	P		P		22 14 54.2	-0.1
EVR	Evrytania	38.86	289	P		P		22 14 54.3	-0.1
LAKA	Lakka	38.89	288	P		P		22 14 54.3	-0.2
EFP	Efpalio	38.90	288	P		P		22 14 53.9	-0.7
KPRO	Kipourio	38.98	291	P		P		22 14 55.5	+0.2
KLNR	Kaliningrad	39.04	314	i P		P		22 14 56.1	+0.6
KLNR				pmax		pmax			
	comp=Z,100nm,0.7s								
PSZ	Piszkesteto	39.05	303	⇑P		P		22 14 57.3	+1.5
OJC	Ojcow	39.06	307	eP		P		22 14 56.8	+1.0
OJC				epP		pP		22 15 38.1	+1.8
OJC				eS		S		22 20 42.2	+1.5
OJC				eL		L		22 32 22.6	
	comp=Z,334nm,21.8s								
OJC	Ojcow	39.06	307	lAmb		lAmb		22 14 57.3	
	comp=Z,65nm,0.6s								
LHMI	Lhok Sumawe	39.07	137	P		P		22 14 56.2	+0.1
LHMI				lAmb		lAmb		22 16 04.8	
	comp=Z,129nm,1.1s								
LHMI	Lhok Sumawe	39.07	137	P		P		22 14 56.1	-0.1
	comp=Z,53nm,0.5s								
PENT	Pentalofos	39.10	291	P		P		22 14 56.2	-0.2
NEST	Nestorio	39.13	291	P		P		22 14 56.6	0.0
PVO	Paravola	39.15	288	P		P		22 14 56.5	-0.1
NJ2	Nanjing	39.15	82	⇑P		P		22 14 58.8	+2.1
NJ2				pP		pP		22 15 35.0	-3.0
NJ2				sP		sP		22 16 00.5	+0.6
NJ2				S		S		22 20 45.0	+2.6
NJ2				sS		sS		22 21 51.8	-2.7
NJ2				pmax		pmax			
	comp=Z,70nm,0.8s								
DRO	Drossia	39.16	287	P		P		22 14 56.2	-0.6
ITM	Ithomi	39.18	286	P		P		22 14 55.4	-1.6
ITM	Ithomi	39.18	286	eP		P		22 14 55.6	-1.4
AMT	Artemida-Makis	39.26	287	P		P		22 14 55.5	-2.1
KBN	Korca	39.28	292	P		P		22 14 57.0	-0.8
LANS	Liptovska Anna	39.29	305	eP		P		22 14 59.7	+2.0
LANS				pmax		pmax			
	comp=Z,22nm,0.5s								
LANS	Liptovska Anna	39.29	305	eP		P		22 14 59.7	+2.0
DIVS	Divibare	39.31	297	⇑iP		P		22 14 58.9	+0.8
DIVS	Divibare	39.31	297	P		P		22 14 58.7	+0.7
DIVS				pP		pP		22 15 40.0	+1.4
DIVS				lAmb		lAmb		22 15 42.1	
	comp=Z,97nm,1.1s								
FRGS	Fruska Gora	39.32	299	⇑P		P		22 14 59.4	+1.4
FRGS	Fruska Gora	39.32	299	⇑iP		P		22 14 59.1	+1.1
RLS	Riolos of Patr	39.32	288	P		P		22 14 57.8	-0.3
DL2	Dalian	39.38	71	P		P		22 15 00.5	+2.0
DL2				sP		sP		22 16 03.0	+1.2
DL2				S		S		22 20 47.5	+1.9
DL2				sS		sS		22 22 00.8	+3.1
DL2				SS		SS		22 23 35.0	-12
DL2				pmax		pmax			
	comp=Z,93nm,1.1s								
DL2				pmax		pmax			
	comp=Z,190nm,4.7s								
PYL	PYLOS	39.40	286	P		P		22 14 56.8	-1.9
RAF	Rauma	39.40	324	eP		P		22 14 57.6	-0.7
JAN	Janina	39.43	290	P		P		22 14 59.1	+0.1
LSK	Leskovik	39.52	291	P		P		22 15 00.4	+0.6
SKLT	Songkhla	39.64	131	P		P		22 15 03.3	+2.5
	comp=Z,40nm,1.0s								
SKLT	Songkhla	39.64	131	P		P		22 15 03.4	+2.5
VYHS	Vyhne	39.73	304	eP		P		22 15 02.8	+1.4
VYHS				pmax		pmax			
	comp=Z,216nm,2.2s								
VYHS	Vyhne	39.73	304	eP		P		22 15 02.8	+1.4
NYDR	Nydri-Lefkada	39.75	289	P		P		22 15 01.0	-0.6
TSLK	Tsoukalades, L	39.76	289	P		P		22 15 01.9	+0.2
BBLS	Lazići	39.77	297	⇑iP		P		22 15 02.5	+0.7
LKD2	Lefkada island	39.77	289	P		P		22 15 01.3	-0.5
EVGI	Lefkada island	39.81	289	P		P		22 15 01.5	-0.6
RUDO	Rudo	39.

ARA0 ARCESS Array S 41.13 337⇑ *iP* **P 22 15 13.6 +1.1**
ARCES ARCESS Array B 41.13 337 P **P 22 15 13.6 +1.1**
comp=Z,67nm,0.4s,baz=114,slow=8.5,SNR=794
ARCES pP **pP 22 15 56.5 +2.5**
comp=Z,24nm,0.7s,baz=106,slow=8.9,SNR=2.1
ARCES sP **sP 22 16 15.3 -0.5**
comp=Z,51nm,1.0s,baz=120,slow=7.2,SNR=2.6
ARCES LR LR 22 33 30.5
comp=Z,2µm,18.1s,baz=125,slow=37
ARCES ARCESS Array B 41.13 337 P **P 22 15 12.9 +0.4**
ARCES *SP **sP 22 16 15.3 -0.5**
ARCES pmax pmax
comp=Z,167nm,1.0s
ARCES ARCESS Array B 41.13 337 P **P 22 15 12.9 +0.4**
ARCES IAmb IAmb 22 15 15.1
comp=Z,167nm,1.0s
ARCES sP **sP 22 16 15.3 -0.5**
KULM Kulim 41.14 132 P **P 22 15 16.0 +2.8**
STON Ston 41.15 296⇑ *iP* **P 22 15 11.3 -1.7**
UPP Uppsala 41.15 322 *eP* **P 22 15 13.1 +0.4**
VRAC Vranov 41.17 306 P **P 22 15 14.5 +1.4**
comp=Z,63nm,0.6s,baz=92,slow=8.9,SNR=130
VRAC pP **pP 22 15 55.9 +1.9**
comp=Z,46nm,1.0s,baz=82,slow=8.8,SNR=4.6
VRAC sP **sP 22 16 15.9 +0.4**
comp=Z,25nm,0.9s,baz=79,slow=13,SNR=1.8
VRAC Vranov 41.17 306⇑ *iP* **P 22 15 14.4 +1.3**
VRAC *epP* **pP 22 15 56.1 +2.1**
VRAC *esP* **sP 22 16 15.6 +0.1**
VRAC *eS* **S 22 21 13.9 +1.9**
VRAC Vranov 41.17 306 P **P 22 15 14.5 +1.4**
VRAC *PP **pP 22 15 55.9 +1.9**
VRAC *SP **sP 22 16 15.9 +0.4**
BLY Banja Luka 41.22 299⇑ *iP* **P 22 15 14.4 +0.8**
CN2 Changchun 41.27 63 *eP* **P 22 15 14.8 +0.8**
CN2 *eS* **S 22 21 14.0 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,300nm,13.0s
CN2 L L
comp=Z,500nm,13.0s
CN2 L L
comp=Z,600nm,16.0s
BEHE Becsehely 41.29 301⇑ *iP* **P 22 15 15.1 +1.0**
DPC Dobruska-Polom 41.29 307 *eP* **P 22 15 15.8 +1.7**
DPC *eS* **S 22 21 15.5 +1.6**
DPC Dobruska-Polom 41.29 307 *eP* **P 22 15 15.8 +1.7**
DPC *ex* x 22 17 51.1
DPC *eS* **S 22 21 15.5 +1.6**
DPC *eSS* **SS 22 24 33.2 +8.3**
KSP Ksiaz 41.29 308 *eP* **P 22 15 15.3 +1.2**
KSP *epP* **pP 22 15 56.7 +1.7**
KSP *eL* L 22 35 20.2
comp=Z,679nm,17.5s
KRUC Moravsky 41.31 305⇑ *iP* **P 22 15 15.4 +1.1**
KRUC *epP* **pP 22 15 57.2 +2.0**
KRUC *esP* **sP 22 16 16.6 -0.1**
KRUC *eS* **S 22 21 15.9 +1.8**
MGRS Mrkonjic Grad 41.34 298 *eP* **P 22 15 16.0 +1.4**
SSE Sheshan 41.35 83 P **P 22 15 17.0 +2.2**
SSE S **S 22 21 18.3 +3.2**
SSE pmax pmax
comp=Z,110nm,0.9s
SSE pmax pmax
comp=Z,180nm,3.5s
SSE L L
comp=Z,250nm,22.6s
SSE L L
comp=Z,230nm,23.6s
OSTC Ostas 41.35 308 *eP* **P 22 15 15.9 +1.3**
OSTC *ex* x 22 17 51.6
OSTC *eS* **S 22 21 17.1 +2.4**
OSTC *eSS* **SS 22 24 34.2 +8.2**
CHVC Chvalec 41.45 308 *eP* **P 22 15 16.9 +1.5**
CHVC *ex* x 22 17 52.6
CHVC *eS* **S 22 21 22.1 +5.9**
CHVC *eSS* **SS 22 24 35.4 +7.4**
UPC Upice 41.48 308 *eP* **P 22 15 17.2 +1.6**
UPC *ex* x 22 17 53.0
UPC *eS* **S 22 21 19.1 +2.5**
UPC *eSS* **SS 22 24 36.7 +8.1**
KTK1 Kautokeino 41.61 336⇑ *iP* **P 22 15 17.1 +0.6**
KOGS Kog 41.65 301 *iP* **P 22 15 18.0 +1.0**
KOGS *epP* **pP 22 16 00.3 +2.3**
KOGS *e* 22 17 35.2
BLEU Blekinge 41.68 316 *iP* **P 22 15 17.3 +0.2**
ZEA Zeya 41.75 48⇑ *eP* **P 22 15 20.0 +2.3**
ZEA pmax pmax
comp=E,70nm,1.2s
ZEA pmax pmax
comp=N,70nm,1.4s
ZEA pmax pmax
comp=Z,140nm,1.0s
ZEA MLR MLR
comp=N,400nm,18.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
CONA Conrad Observa 41.76 304 *iP* **P 22 15 19.2 +1.2**
comp=Z,150nm,1.2s,SNR=109
QZH Quanzhou 41.82 93 P **P 22 15 19.5 +0.8**
QZH S **S 22 21 25.3 +3.2**
QZH pmax pmax
comp=Z,59nm,0.8s
TREC Trest 41.89 306 *eP* **P 22 15 20.5 +1.5**
TREC *eS* **S 22 21 24.8 +2.1**
TREC Trest 41.89 306 *eP* **P 22 15 20.5 +1.5**
TREC *ex* x 22 18 02.5
TREC *eS* **S 22 21 24.8 +2.1**
TREC *eSS* **SS 22 24 47.1 +11**
ARSA Arzberg 42.05 303 *iP* **P 22 15 21.3 +1.0**
comp=Z,65nm,1.9s,SNR=26
BSD Bornholm Skovb 42.13 314 *eP* **P 22 15 20.1 -0.6**
BSD Bornholm Skovb 42.13 314⇑ *iP* **P 22 15 20.4 -0.4**
BSD IAmb IAmb 22 15 21.7
comp=Z,49nm,0.5s
BSD Bornholm Skovb 42.13 314⇑ *iP* **P 22 15 20.4 -0.4**
BSD pmax pmax
comp=Z,49nm,0.5s
GCIS Gornji Cirnik 42.15 301 *iP* **P 22 15 22.1 +1.0**
GCIS *epP* **pP 22 16 04.7 +2.5**
GCIS *esP* **sP 22 16 23.7 0.0**
GCIS *eS* **S 22 21 27.7 +1.1**
HAMF Hammerfest 42.21 338⇑ *iP* **P 22 15 22.6 +1.4**
CRES Cresnjev 42.28 301⇑ *iP* **P 22 15 22.9 +0.7**
PVCC Panska Ves 42.40 308 *eP* **P 22 15 24.7 +1.6**
PVCC *eS* **S 22 21 35.2 +5.1**
PVCC *eSS* **ScS 22 24 57.1 -6.9**
PVCC Panska Ves 42.40 308 *eP* **P 22 15 24.7 +1.6**
PVCC *ex* x 22 18 04.7
PVCC *eS* **S 22 21 35.2 +5.1**
PVCC *eSS* **ScS 22 24 57.1 -6.9**
PERS Pernice 42.41 302 *eP* **P 22 15 24.2 +1.0**
PERS *epP* **pP 22 16 06.8 +2.5**
PRU Pruhonice 42.45 307 *eP* **P 22 15 24.9 +1.4**
PRU *eS* **S 22 21 33.4 +2.6**
PRU Pruhonice 42.45 307 *eP* **P 22 15 24.9 +1.4**
PRU *ex* x 22 18 06.5
PRU *eS* **S 22 21 33.4 +2.6**
PRU *eSS* **SS 22 24 54.7 +7.2**
SOKA Soboth 42.46 302 *iP* **P 22 15 24.8 +1.1**
comp=Z,81nm,0.7s,SNR=110
BOJS Bojanci 42.47 300 *eP* **P 22 15 24.4 +0.8**
BOJS *esP* **sP 22 16 26.4 +0.2**
PRA Prague 42.52 307 *eP* **P 22 15 25.9 +1.9**
PRA *eS* **S 22 21 34.5 +2.7**
PRA *eSS* **ScS 22 24 59.0 -5.7**
PRA Prague 42.52 307 *eP* **P 22 15 25.9 +1.9**
PRA *ex* x 22 18 07.3
PRA *eS* **S 22 21 34.5 +2.7**
PRA *eSS* **ScS 22 24 59.0 -5.7**
GSI Gunungsitoli 42.70 139 P **P 22 15 26.7 +0.9**
GSI IAmb IAmb 22 16 48.0
comp=Z,87nm,0.8s
GSI Gunungsitoli 42.70 139 P **P 22 15 25.7 -0.1**
comp=Z,103nm,0.9s
CKRC Cesky Krumlov 42.70 305 *eP* **P 22 15 26.8 +1.3**
CKRC *ex* x 22 18 13.4
CKRC *eS* **S 22 21 37.5 +2.9**
CKRC *eSS* **ScS 22 25 01.5 -4.5**
JETT Jettan, Norway 42.76 336⇑ *iP* **P 22 15 26.6 +0.9**

BRG Berggiesshubel 42.78 308⇑ *iP* **P 22 15 27.4 +1.3**
BRG Amp 22 15 28.3
comp=Z,87nm,0.6s
BRG pP **pP 22 16 09.6 +2.3**
BRG Amp 22 16 11.1
comp=Z,59nm,1.1s
BRG Berggiesshubel 42.78 308 sP sP 22 16 27.0 -1.9
BRG Berggiesshubel 42.78 308 S **S 22 21 39.0 +3.5**
BRG Berggiesshubel 42.78 308 sS sS 22 22 52.0 +3.5
BRG Berggiesshubel 42.78 308 *eP* **P 22 15 27.3 +1.2**
comp=Z,87nm,0.6s,baz=85,slow=7.8
RUE Ruedersdorf 42.80 311 *eP* **P 22 15 26.8 +0.6**
comp=Z,81nm,0.6s,baz=85,slow=7.8
OBKA Obir 42.81 302 *iP* **P 22 15 27.7 +1.1**
comp=Z,64nm,1.0s,SNR=32
PBCC Pribram 42.83 306 *eP* **P 22 15 28.0 +1.5**
PBCC *ex* x 22 18 13.1
MOA Molln 42.83 304 *iP* **P 22 15 27.4 +0.8**
comp=Z,91nm,0.9s,SNR=65
LJU Ljubljana 42.89 301 *iP* **P 22 15 28.3 +1.2**
LJU *epP* **pP 22 16 09.8 +1.5**
LJU *esP* **sP 22 16 29.9 +0.1**
LJU *eS* **S 22 21 38.6 +1.3**
LJU *esS* **sS 22 22 50.3 0.0**
LUNU Lund 42.98 315 *iP* **P 22 15 28.3 +0.7**
CEY Cerknica 43.00 301⇑ *iP* **P 22 15 28.7 +0.7**
RGN Rugen 43.04 314 *eP* **P 22 15 29.6 +1.5**
comp=Z,200nm,0.5s,baz=85,slow=7.8
GEC2 GERESS Array S 43.10 305 *eP* **P 22 15 29.7 +0.8**
comp=Z,60nm,1.4s,baz=85,slow=7.8
GERES GERESS Array B 43.10 305 P **P 22 15 29.8 +1.0**
comp=Z,10nm,0.5s,baz=84,slow=7.6,SNR=159
GERES pP **pP 22 16 11.7 +1.7**
comp=Z,5.2nm,0.8s,baz=92,slow=9.6,SNR=2.1
GERES PP **PP 22 17 13.2 +0.4**
comp=Z,11nm,1.0s,baz=81,slow=7.0,SNR=2.5
GERES GERESS Array B 43.10 305 P **P 22 15 29.8 +1.0**
GERES *PP **pP 22 16 11.7 +1.7**
HFS Hagfors 43.15 322 P **P 22 15 29.3 +0.4**
comp=Z,202nm,0.4s,baz=99,slow=9.6,SNR=1370
HFS Hagfors 43.15 322 P **P 22 15 29.3 +0.4**
KHC Kasperske Hory 43.15 306 *eP* **P 22 15 30.2 +1.0**
KHC *e* 22 16 08.0
KHC *eS* **S 22 21 43.5 +2.4**
KHC *eSS* **ScS 22 25 09.3 +0.5**
KHC Kasperske Hory 43.15 306 *eP* **P 22 15 30.2 +1.0**
KHC *ex* x 22 15 39.5
KHC *epP* **pP 22 16 08.0 -2.4**
KHC *ex* x 22 18 18.4
KHC *eS* **S 22 21 43.5 +2.4**
KHC *eSS* **ScS 22 25 09.3 +0.5**
BJUU Bjuv 43.23 316 *iP* **P 22 15 30.5 +0.9**
TRO Tromso 43.27 336⇑ *iP* **P 22 15 30.4 +0.7**
CLL Collm 43.34 309⇑ *iP* **P 22 15 31.3 +0.7**
comp=Z,44nm,0.6s
CLL *i* pP **pP 22 16 13.4 +1.5**
CLL *eS* **sP 22 16 35.0 +1.6**
CLL *ePP* **PP 22 17 13.0 -2.1**
CLL *e* 22 17 26.0
CLL *e* 22 17 40.0
CLL *epPP* 22 17 50.0
CLL *esPP* 22 18 15.0
CLL *esPcP* 22 18 22.0
CLL *e(PcS)* 22 21 15.0
CLL *eS* **S 22 21 46.0 +2.3**
CLL *e* 22 22 42.0
CLL *esS* **sS 22 22 58.0 +1.2**
CLL *eSS* **ScS 22 25 08.0 -1.8**
CLL *esSS* 22 26 00.0
CLL Collm 43.34 309⇑ *iP* **P 22 15 31.3 +0.7**
CLL *i* *PP **pP 22 16 13.4 +1.5**
CLL pmax pmax
comp=Z,44nm,0.6s
CLL Collm 43.34 309 *eP* **P 22 15 31.3 +0.7**
comp=Z,43nm,0.7s,baz=85,slow=7.8
CLL *ep*P **pP 22 16 13.5 +1.5**
MYKA Terra Mystica 43.41 302 *iP* **P 22 15 32.0 +0.6**
comp=Z,44nm,0.6s,SNR=30
BORU Boraas 43.43 318 *iP* **P 22 15 31.8 +0.7**
FABU Falkenberg 43.43 317 *iP* **P 22 15 31.8 +0.7**
CEL Celeste 43.52 290 P **P 22 15 32.7 +0.4**
KBA Koelnbreinsper 43.55 303 *iP* **P 22 15 33.2 +0.7**
comp=Z,31nm,0.6s,SNR=22
INCN Inchon 43.55 72 P **P 22 15 33.7 +1.2**
INCN pmax pmax
comp=Z,264nm,2.0s
INCN Inchon 43.55 72 P **P 22 15 33.7 +1.2**
INCN IAmb IAmb 22 15 34.7
comp=Z,264nm,2.0s
COP Copenhagen 43.56 315⇑ *iP* **P 22 15 33.4 +1.2**
COP IAmb IAmb 22 15 34.5
comp=Z,56nm,0.6s
COP Copenhagen 43.56 315⇑ *iP* **P 22 15 33.4 +1.2**
COP pmax pmax
comp=Z,56nm,0.6s
YAK Yakutsk 43.67 36 P **P 22 15 32.9 -0.1**
comp=Z,89nm,0.2s,baz=70,slow=0.8,SNR=104
YAK Yakutsk 43.67 36 *iP* **P 22 15 33.3 +0.3**
YAK *e*PP **pP 22 16 15.8 +0.6**
YAK *e* 22 17 21.9
YAK *ePPP* PPP 22 18 08.4
YAK *eS* **S 22 21 47.1 -1.1**
YAK *e*SS **sS 22 23 02.7 +1.4**
YAK *e* 22 24 58.3
YAK *eSS* **ScS 22 25 11.2 -0.3**
YAK pmax pmax
comp=Z,391nm,0.9s
YAK pmax pmax
comp=N,35nm,1.1s
YAK pmax pmax
comp=E,98nm,1.4s
YAK pmax pmax
comp=Z,63nm,1.6s
YAK pmax pmax
comp=N,53nm,1.8s
YAK pmax pmax
comp=E,37nm,1.5s
YAK smax smax
comp=N,58nm,1.3s
YAK smax smax
comp=E,65nm,1.5s
YAK Yakutsk 43.67 36 P **P 22 15 33.0 -0.1**
N2ST Straumen 43.70 332⇑ *iP* **P 22 15 34.0 +0.9**
N2IH Innhavet 43.75 333⇑ *iP* **P 22 15 34.4 +0.8**
TANN Tannenbergstha 43.75 308 *eP* **P 22 15 35.1 +1.2**
comp=E,82nm,1.5s,baz=85,slow=7.8
NKC Novy Kostel 43.78 307 *eP* **P 22 15 35.7 +1.6**
NKC *eS* **S 22 21 52.8 +2.6**
NKC Novy Kostel 43.78 307 *eP* **P 22 15 35.7 +1.6**
NKC *ex* x 22 18 22.3
NKC *eS* **S 22 21 52.8 +2.6**
NKC *eSS* **ScS 22 25 19.3 +6.6**
PAOL Paolisi 43.81 294 IAmb IAmb 22 15 37.4
comp=Z,157nm,1.5s
WERN Wernitzgruen 43.82 307 *eP* **P 22 15 35.8 +1.3**
comp=Z,71nm,1.5s,baz=85,slow=7.8
FAUS Fauske 43.82 332⇑ *iP* **P 22 15 35.0 +0.8**
RJOB Jochberg 43.83 304 *eP* **P 22 15 35.3 +0.7**
comp=Z,180nm,0.8s,baz=85,slow=7.8
GUNZ Gunzen 43.84 308 *eP* **P 22 15 35.9 +1.3**
comp=Z,53nm,1.1s,baz=85,slow=7.8
MOR8 Moi Rana 43.85 331⇑ *iP* **P 22 15 34.5 +0.1**
WERD Werda 43.85 308 *eP* **P 22 15 35.8 +1.1**
comp=Z,36nm,0.9s,baz=85,slow=7.8
ONAU Onsala 43.88 318 *iP* **P 22 15 34.9 +0.2**
ZOU Zoufplan 43.88 302 IAmb IAmb 22 16 44.0
comp=Z,234nm,1.8s
N2TV TYrnvik 43.93 333⇑ *iP* **P 22 15 35.9 +0.9**
PLN Plauen 43.94 308 *eP* **P 22 15 36.5 +1.1**
comp=Z,34nm,0.9s,baz=85,slow=7.8
ROTZ Rotzenmuhle 43.98 307 *eP* **P 22 15 37.4 +1.7**
comp=Z,187nm,1.7s,baz=85,slow=7.8
STEI Steigen 43.99 333⇑ *iP* **P 22 15 36.2 +0.7**
MANZ Manzenberg 44.02 307 *eP* **P 22 15 37.6 +1.5**
comp=Z,50nm,1.0s,baz=85,slow=7.8
H08S3 Diego Garcia H 44.04 178 P **P 22 15 39.2 +3.0**
baz=357,slow=13,SNR=6.7
TJOU Tjoern 44.06 319 *iP* **P 22 15 36.0 -0.2**
H08S1 Diego Carcia H 44.06 178 P **P 22 15 38.2 +1.9**
baz=357,slow=13,SNR=4.1
H08S2 Diego Garcia H 44.06 178 P **P 22 15 37.7 +1.4**
baz=357,slow=13,SNR=3.5
MDJ Mudanjiang 44.07 61 P **P 22 15 37.3 +0.8**
MDJ sP sP 22 16 39.5 -0.8

MDJ S **S 22 21 55.8 +1.4**
MDJ sS sS 22 23 08.5 +0.8
MDJ pmax pmax
comp=Z,49nm,1.8s
MDJ L L
comp=Z,570nm,8.0s
MDJ L L
comp=Z,270nm,7.2s
MDJ L L
comp=Z,550nm,12.6s
NBB08 Skaug oppvekst 44.07 332⇑ *iP* **P 22 15 37.0 +0.9**
STAL STALIGIAL 44.10 302 P **P 22 15 36.8 0.0**
STAL IAmb IAmb 22 15 40.0
comp=Z,79nm,0.7s
NEUB Neuenburg 44.12 309 *eP* **P 22 15 37.7 +0.9**
comp=Z,70nm,0.7s,baz=85,slow=7.8
ABTA Abfaltersbach 44.16 302 *iP* **P 22 15 37.4 +0.1**
comp=Z,44nm,0.8s,SNR=39
NBB17 Glomfjord BWr 44.19 331 *eP* **P 22 15 37.8 +0.8**
YHNB Yeheng 44.19 91 IAmb IAmb 22 15 41.3
comp=Z,128nm,0.9s
MNSI Mandailing Nat 44.19 137 P **P 22 15 37.7 -0.1**
comp=Z,1µmcomp=Z,49nm,0.6s
TPUB Ta-pu 44.24 93 IAmb IAmb 22 15 41.6
comp=Z,266nm,1.8s
SSLB Suanglung 44.27 92 P **P 22 15 41.0 +2.6**
NC602 NORSAR Array S 44.27 323⇑ *iP* **P 22 15 37.9 +0.1**
MOX Moxa 44.27 308 *eP* **P 22 15 39.1 +1.1**
comp=Z,40nm,0.6s,baz=85,slow=7.8
STRU Stroemstad 44.33 320 *iP* **P 22 15 38.4 +0.1**
AQU L'Aquila 44.36 296⇑ *iP* **P 22 15 39.3 +0.4**
FLTG Flechtingen 44.37 310 *eP* **P 22 15 39.2 +0.5**
comp=Z,182nm,0.5s,baz=85,slow=7.8
KSCHC Chuncheon 44.37 71 P **P 22 15 40.0 +1.1**
SNR=19
NC303 NORSAR Array S 44.40 323 P **P 22 15 38.9 +0.1**
TJN Taejon 44.44 73*ceP* **P 22 15 39.6 +0.1**
KONS Konsvik 44.44 331⇑ *iP* **P 22 15 39.6 +0.5**
STOK Stokkvaagen 44.44 331 *eP* **P 22 15 40.0 +0.9**
NB2 NORSAR Subarra 44.45 323 P **P 22 15 39.4 0.0**
baz=96,slow=7.9
NOA NORSAR Array B 44.45 323 P **P 22 15 39.4 0.0**
comp=Z,62nm,0.5s,baz=96,slow=7.7,SNR=751
NOA pP **pP 22 16 21.0 0.0**
comp=Z,19nm,0.7s,baz=95,slow=8.0,SNR=2.2
NOA sP **sP 22 16 42.5 0.0**
comp=Z,34nm,0.8s,baz=96,slow=7.9,SNR=2.8
NOA S **S 22 21 59.0 -0.7**
comp=Z,2.8nm,0.8s,baz=85,slow=14,SNR=3.3
NOA LR LR 22 35 29.9
comp=Z,571nm,19.6s,baz=95,slow=37
NOA NORSAR Array B 44.45 323 P **P 22 15 39.4 0.0**
NOA *PP **pP 22 16 21.0 0.0**
NOA *SP **sP 22 16 42.5 0.0**
EMSB Eumseong 44.46 72 P **P 22 15 41.0 +1.3**
SNR=6.9
N2VI Vinje 44.47 334⇑ *iP* **P 22 15 39.7 +0.4**
NBB40 Tonnes 44.48 331⇑ *iP* **P 22 15 40.0 +0.6**
KSAR Wonju Array Be 44.52 71 P **P 22 15 41.0 +0.9**
KSAR *PP **pP 22 16 24.9 +2.6**
KSAR Wonju Array Be 44.52 71 P **P 22 15 41.0 +0.9**
KSAR **pP 22 16 24.9 +2.6**
KSAR sP **sP 22 16 48.4 +4.4**
KSIJA INJE 44.53 70 P **P 22 15 42.3 +2.1**
SNR=5.5
NSS Namsos 44.54 328⇑ *iP* **P 22 15 39.8 -0.1**
KSRS Korea Array 44.54 71 P **P 22 15 40.6 +0.3**
comp=Z,28nm,0.9s,baz=281,slow=6.8,SNR=91
KSRS Korea Array 44.54 71 P **P 22 15 40.6 +0.3**
NAO01 NORSAR Array S 44.60 323 IAmb IAmb 22 15 42.6
comp=Z,237nm,1.1s
OSL Oslo 44.62 321 *eP* **P 22 15 40.8 +0.2**
GRA1 Grafenberg Arr 44.62 307 IAmb IAmb 22 15 45.2
comp=Z,97nm,0.8s
GRF Grafenberg Arr 44.62 307 *eP* **P 22 15 42.6 +1.8**
comp=Z,118nm,0.8s,baz=85,slow=7.8
GRFO Grafenberg 44.62 307 P **P 22 15 42.6 +1.8**
GRFO pmax pmax
comp=Z,88nm,0.8s
GRFO Grafenberg 44.62 307 P **P 22 15 42.6 +1.8**
GRFO IAmb IAmb 22 15 45.1
comp=Z,88nm,0.8s
KSWJU Wonju 44.66 71 P **P 22 15 43.0 +1.7**
SNR=21
LOF Lofoten 44.66 333 *eP* **P 22 15 40.1 -0.6**
NBO00 NORSAR Array S 44.67 323 IAmb IAmb 22 15 42.6
comp=Z,210nm,0.9s
WTTA Wattenberg 44.68 303 *iP* **P 22 15 41.5 0.0**
comp=Z,78nm,0.8s,SNR=52
WATA Walderalm 44.71 303 *iP* **P 22 15 41.5 -0.2**
comp=Z,52nm,0.6s,SNR=50
YULB Yu-li 44.73 93 P **P 22 15 44.5 +2.4**
YULB IAmb IAmb 22 15 46.1
comp=Z,147nm,0.9s
KSBON Boeun 44.73 73 P **P 22 15 42.6 +0.7**
SNR=10
KSCHJ Chungju 44.76 72 P **P 22 15 42.9 +0.9**
SNR=12
KSCHJ Chungju 44.76 72 P **P 22 15 43.0 +0.9**
SNR=11
NAWB Namwon 44.76 74 P **P 22 15 43.0 +0.9**
SNR=8.6
OKCB Cheongsan-myeo 44.78 73 P **P 22 15 43.0 +0.8**
SNR=10
FUR Furstenfeldbru 44.78 305 *eP* **P 22 15 43.3 +1.2**
comp=Z,214nm,1.2s,baz=85,slow=7.8
N2SV S rvYgen 44.79 333⇑ *iP* **P 22 15 41.6 -0.2**
KLR Kul'dur 44.81 54*ceP* **P 22 15 43.1 +0.8**
KLR pmax pmax
comp=Z,71nm,1.1s
BSEG Bad Segeberg 44.82 313 *eP* **P 22 15 43.6 +1.3**
comp=Z,103nm,0.6s,baz=85,slow=7.8
BOSB Boseong-gun 44.83 75 P **P 22 15 44.0 +1.4**
SNR=12
VAE Valguarnera 44.86 289 P **P 22 15 44.0 +1.1**
comp=Z,25nm,0.8s,baz=253,slow=3.7,SNR=20
CTI Castel Tesino 44.87 301 IAmb IAmb 22 15 44.8
comp=Z,109nm,0.5s
KOHB KOHEUNG 44.93 75 P **P 22 15 44.4 +1.0**
SNR=16
HOPEN Hopen 44.94 346⇑ *iP* **P 22 15 45.0 +2.2**
CLZ Clausthal 44.94 310 *eP* **P 22 15 44.3 +1.0**
comp=Z,38nm,0.7s,baz=85,slow=7.8
CLZ *epP* **pP 22 16 27.1 +2.2**
SQTA Sankt Quirin 44.97 303 *iP* **P 22 15 43.7 -0.1**
comp=Z,56nm,0.6s,SNR=60
RAFF Raffo Rosso 44.98 289 IAmb IAmb 22 15 47.4
comp=Z,168nm,0.9s
TEOL Teolo 44.98 301 IAmb IAmb 22 15 46.7
comp=Z,223nm,1.4s
HAMB Hamyang 45.00 74 P **P 22 15 45.0 +1.0**
SNR=15
MOTA Moosalm 45.02 303 *iP* **P 22 15 44.0 -0.2**
comp=Z,56nm,0.7s,SNR=40
N2RO R st 45.04 332⇑ *iP* **P 22 15 43.9 +0.1**
NRDL Niedersach Rie 45.05 311 *eP* **P 22 15 45.4 +1.4**
comp=Z,52nm,0.7s,baz=85,slow=7.8
NRDL *epP* **pP 22 16 27.9 +2.4**
KSKCH Geochang 45.10 74 P **P 22 15 46.1 +1.3**
SNR=6.0
KONO Kongsberg 45.17 321*ceP* **P 22 15 45.3 +0.3**
KONO pmax pmax
comp=Z,72nm,0.6s
KONO Kongsberg 45.17 321⇑ *iP* **P 22 15 45.3 +0.3**
KONO Kongsberg 45.17 321 P **P 22 15 44.8 -0.2**
KONO IAmb IAmb 22 15 46.7
comp=Z,84nm,0.6s
GTTG Gottingen 45.22 309 *eP* **P 22 15 46.7 +1.2**
comp=Z,99nm,0.7s,baz=85,slow=7.8
GTTG *epP* **pP 22 16 29.1 +2.0**
BJO1 Bjornoya 45.23 343⇑ *iP* **P 22 15 44.4 -0.8**
RETA Reutte 45.23 304 *iP* **P 22 15 45.6 -0.2**
comp=Z,18nm,0.5s,SNR=26
UBBA Unterbreizbach 45.27 308 *eP* **P 22 15 46.7 +0.9**
comp=Z,48nm,0.6s,baz=85,slow=7.8
WDD Wied Dalam 45.28 287 IAmb IAmb 22 15 48.7
comp=Z,128nm,0.7s
FETA Feichten 45.33 303 *iP* **P 22 15 46.5 0.0**
comp=Z,51nm,0.7s,SNR=46
GOET G??ttrup 45.34 317 *eP* **P 22 15 47.7 +1.4**
GOET IAmb IAmb 22 15 50.0
comp=Z,96nm,0.7s
MUD Monsted U'grnd 45.38 316 *iP* **P 22 15 47.9 +1.2**
MUD IAmb IAmb 22 15 48.4
comp=Z,25nm,0.6s
MUD Monsted U'grnd 45.38 316 *iP* **P 22 15 47.8 +1.2**

MUD pmax pmax
comp=Z,25nm,0.6s
BKNI Bangkinang 45.39 136 P **P** **22 15 47.7 +0.5**
BKNI IAmb IAmb 22 16 57.9
comp=Z,230nm,1.1s
BKNI Bangkinang 45.39 136 P **P** **22 15 47.2 0.0**
comp=Z,1µmcomp=Z,126nm,0.9s
TIXI Tiksi 45.53 22 P **P** **22 15 47.9 +0.3**
comp=Z,154nm,0.3s,baz=291,slow=3.9,SNR=891
TIXI Tiksi 45.53 22 P **P** **22 15 47.8 +0.3**
TIXI pmax pmax
comp=Z,231nm,0.8s
TIXI Tiksi 45.53 22 P **P** **22 15 47.8 +0.3**
DOMB Dombas 45.56 324⇑*iP* **P** **22 15 48.5 +0.5**
MSHR Mys Shultsa 45.60 63*ceP* **P** **22 15 48.7 +0.1**
MSHR pmax pmax
comp=Z,77nm,1.7s
UBR Ueberruh 45.63 304 *eP* **P** **22 15 49.4 +0.5**
comp=Z,78nm,0.6s,baz=85,slow=7.8
OSSC Osservatorio P 45.65 298 IAmb IAmb 22 15 51.8
comp=Z,230nm,1.6s
ZCCA Zocca 45.66 299 IAmb IAmb 22 17 23.7
comp=Z,265nm,1.6s
HOMB Homborsund 45.72 319⇑*iP* **P** **22 15 49.7 +0.5**
HOMB IAmb IAmb 22 15 50.9
comp=Z,57nm,0.6s
HOMB Homborsund 45.72 319⇑*iP* **P** **22 15 49.5 +0.3**
USA0B Ussuriysk Arra 45.83 61 P **P** **22 15 50.3 -0.1**
USA0B pmax pmax
comp=Z,17nm,1.0s
USA0B Ussuriysk Arra 45.83 61 P **P** **22 15 50.3 -0.1**
USRK Ussuriysk Ar. 45.83 61 P **P** **22 15 50.6 +0.3**
comp=Z,8.8nm,0.7s,baz=279,slow=6.6,SNR=20
USRK LR LR 22 36 29.4
comp=Z,280nm,19.7s,baz=264,slow=38
USRK Ussuriysk Ar. 45.83 61 P **P** **22 15 50.7 +0.3**
DAVA Damuels 45.85 304 *iP* **P** **22 15 50.8 +0.1**
comp=Z,124nm,0.5s,SNR=116
SKAR Skarslia 45.85 322⇑*iP* **P** **22 15 51.3 +0.9**
DAVOX Davos/Dischmat 45.94 303 P **P** **22 15 51.7 +0.2**
comp=Z,5nm,0.5s,baz=115,slow=8.8,SNR=145
DAVOX Davos/Dischmat 45.94 303 P **P** **22 15 51.7 +0.2**
VLA Vladivostok 46.00 62 *iP* **P** **22 15 52.5 +0.8**
VLA pmax pmax
comp=Z,128nm,1.0s
PRMA PARMA 46.04 300 IAmb IAmb 22 15 55.9
comp=Z,194nm,1.4s
STU Stuttgart 46.06 306 *eP* **P** **22 15 53.2 +1.1**
comp=Z,78nm,0.7s,baz=85,slow=7.8
VLC Villacollemand 46.12 299 IAmb IAmb 22 15 56.5
comp=Z,235nm,1.6s
BTDF Bukit Timah Da 46.13 132 P **P** **22 15 53.0 0.0**
comp=Z,468nmcomp=Z,32nm,0.9s
HLG Helgoland 46.24 313 *eP* **P** **22 15 54.5 +1.2**
comp=Z,106nm,0.5s,baz=85,slow=7.8
MOL Molde 46.30 325 *eP* **P** **22 15 53.5 -0.2**
TNS Taunus Mts 46.33 308 *eP* **P** **22 15 55.3 +1.0**
comp=Z,38nm,0.9s,baz=85,slow=7.8
TUE Stuetta 46.36 302 P **P** **22 15 53.9 -0.8**
SNART Snartemo 46.40 319⇑*iP* **P** **22 15 55.4 +0.9**
SNART IAmb IAmb 22 15 56.2
comp=Z,94nm,0.7s
SNART Snartemo 46.40 319⇑*iP* **P** **22 15 55.4 +0.9**
IBBN Ibbenburen 46.50 311 *eP* **P** **22 15 56.4 +1.0**
comp=Z,88nm,0.7s,baz=85,slow=7.8
AKN Aaknes 46.54 324 *eP* **P** **22 15 56.2 +0.6**
ODD1 Odda 46.68 321⇑*iP* **P** **22 15 57.9 +1.1**
BFO Black Forest 46.70 305 P **P** **22 15 57.1 0.0**
BFO pmax pmax
comp=Z,105nm,1.5s
BFO Black Forest 46.70 305 P **P** **22 15 57.1 0.0**
BFO Black Forest 46.70 305 *eP* **P** **22 15 57.4 +0.3**
comp=Z,36nm,0.8s,baz=85,slow=7.8
BLS5 Blasjo 46.77 321⇑*iP* **P** **22 15 58.7 +1.2**
LODK Lodwar 46.79 234 P **P** **22 15 59.4 +1.1**
LODK Lodwar 46.79 234 P **P** **22 16 00.1 +1.8**
SNR=17
HYA Hoyanger 46.90 323⇑*iP* **P** **22 15 59.0 +0.6**
BUG Bochum--Univer 46.91 310 *eP* **P** **22 15 59.6 +1.0**
comp=Z,80nm,0.9s,baz=85,slow=7.8
HSPB Hornsund (broa 47.08 345 *eP* **P** **22 16 01.4 +1.8**
HSPB *eL* L 22 37 09.7
comp=Z,370nm,22.3s
AHRW Bad Neuenahr-A 47.15 308 *eP* **P** **22 16 01.7 +1.2**
comp=Z,80nm,0.7s,baz=85,slow=7.8
BER Bergen 47.32 322⇑*iP* **P** **22 16 02.3 +0.7**
ASK Askoy 47.39 322⇑*iP* **P** **22 16 02.7 +0.6**
SPA0 Spitsbergen Ar 47.43 347⇑*iP* **P** **22 16 03.9 +1.6**
SPITS Spitsbergen Ar 47.43 347 P **P** **22 16 03.7 +1.4**
comp=Z,65nm,0.6s,baz=111,slow=9.0,SNR=196
SPITS pP **pP** **22 16 44.9 +0.3**
comp=Z,42nm,0.9s,baz=138,slow=18,SNR=1.8
SPITS Spitsbergen Ar 47.43 347 P **P** **22 16 03.7 +1.4**
SPITS *PP **pP** **22 16 44.9 +0.3**
FOO Floro 47.45 324⇑*iP* **P** **22 16 03.3 +0.7**
GRNR Gornyy 47.58 51⇑*iP* **P** **22 16 05.3 +1.4**
GRNR pmax pmax
comp=E,40nm,0.9s
GRNR pmax pmax
comp=Z,90nm,1.0s
SUE Sulen 47.59 323⇑*iP* **P** **22 16 04.1 +0.4**
BTNL Ternell 47.74 309 *dP* **P** **22 16 06.0 +0.9**
SENIN Lac Senin/Sane 47.77 303 IAmb IAmb 22 16 07.4
comp=Z,75nm,0.6s
MEM Membach 47.82 309 *dP* **P** **22 16 06.5 +0.8**
comp=Z,40nm,0.7s
BHOU Houvegnez 47.86 308 *dP* **P** **22 16 07.1 +1.1**
comp=Z,43nm,2.0s
WLF Walferdange 47.88 307 *bP* **P** **22 16 07.7 +1.5**
WLF Walferdange 47.88 307 IAmb IAmb 22 16 10.0
comp=Z,464nm,1.8s
WLF Walferdange 47.88 307 *eP* **P** **22 16 07.5 +1.4**
comp=Z,104nm,0.9s,baz=85,slow=7.8
BEBN Eben Emael 47.99 309 *bP* **P** **22 16 07.6 +0.6**
VSL Villasalto 48.05 293 P **P** **22 16 07.4 -0.2**
BSTI Sart Tilman 48.10 309 *bP* **P** **22 16 08.8 +1.0**
JNU Nakatsue 48.26 76 IAmb IAmb 22 16 12.0
comp=Z,162nm,1.0s
BCLA Clavier 48.29 308 *bP* **P** **22 16 09.9 +0.6**
RCHB Rochefort 48.38 308 *dP* **P** **22 16 10.2 +0.2**
BGES Gesves 48.43 308 *bP* **P** **22 16 11.3 +0.9**
JSU Suzuyama 48.54 78 IAmb IAmb 22 17 57.1
comp=Z,91nm,0.4s
KBS Kingsbay 48.54 347⇑*iP* **P** **22 16 12.2 +1.4**
KBS *i* 22 16 55.0
KBS Kingsbay 48.54 347*ceP* **P** **22 16 12.1 +1.3**
KBS pmax pmax
comp=Z,109nm,0.8s
KBS Kingsbay 48.54 347⇑*iP* **P** **22 16 12.3 +1.5**
KBS Kingsbay 48.54 347 P **P** **22 16 11.8 +1.0**
KBS IAmb IAmb 22 16 13.7
comp=Z,160nm,0.7s
BMRD Maredsous 48.65 308 *bP* **P** **22 16 13.0 +1.0**
JOW Kunigami 48.75 85 P **P** **22 16 13.7 +0.6**
JOW IAmb IAmb 22 16 15.4
comp=Z,175nm,1.1s
DOU Dourbes 48.80 308 *dP* **P** **22 16 13.9 +0.8**
comp=Z,86nm,1.9s
UCC Uccle 48.82 309 *dP* **P** **22 16 13.7 +0.4**
SNF Seneffe 48.92 309 *bP* **P** **22 16 14.8 +0.8**
KMBO Kilima Mbogo 49.15 228 P **P** **22 16 17.5 +1.0**
comp=Z,21nm,0.7s,baz=34,slow=10,SNR=40
KMBO Kilima Mbogo 49.15 228 P **P** **22 16 17.5 +1.0**
KEST Kesra 49.28 289 P **P** **22 16 17.9 +0.7**
comp=Z,52nm,0.6s,baz=346,slow=0.7,SNR=100
KEST pP **pP** **22 17 00.8 +1.6**
comp=Z,44nm,1.1s,baz=23,slow=3.0,SNR=3.3
KEST Kesra 49.28 289 IAmb IAmb 22 16 20.5
comp=Z,265nm,1.4s
KEST Kesra 49.28 289 P **P** **22 16 18.6 +1.5**
SNR=38
KIBK Kibwezi 49.66 226 P **P** **22 16 21.2 +1.0**
KIBK Kibwezi 49.66 226 P **P** **22 16 21.9 +1.7**
SNR=15
KSM Kuching 50.16 125 P **P** **22 16 26.0 +2.2**
PPBI Pangkal Pinang 50.35 132 P **P** **22 16 25.3 0.0**
comp=Z,8µmcomp=Z,29nm,0.6s
LRW Lerwick 50.58 322⇑*eP* **P** **22 16 26.6 +0.3**
LRW IAmb IAmb 22 16 28.1
comp=Z,88nm,0.7s
SBUM Sibu 50.71 122 P **P** **22 16 31.0 +3.0**
WACR West Acre 50.74 312⇑*eP* **P** **22 16 28.2 +0.5**
WACR IAmb IAmb 22 16 28.8
comp=Z,272nm,0.6s
CLF Chambon-Foret 50.74 306 IAmb IAmb 22 16 30.5
comp=Z,106nm,0.9s
EGSI Enggano, Bengk 50.79 139 P **P** **22 16 28.6 +0.1**
comp=Z,70nm,0.8s
JWT Wachi 50.95 71 P **P** **22 16 30.8 +1.2**
MDSI Maura Dua 51.10 136 P **P** **22 16 29.5 -1.4**
LMK Market Rasen 51.16 313⇑*eP* **P** **22 16 31.1 +0.3**
GDLE Glaisdale, N Y 51.25 314 *eP* **P** **22 16 31.5 0.0**
HMNX Herstmonceux 51.30 310 *eP* **P** **22 16 31.5 -0.4**
TYV Tymovskoe 51.44 50 *eP* **P** **22 16 34.6 +1.6**
TYV *eS* **S** **22 23 41.3 +3.3**
TYV pmax pmax
comp=Z,400nm,4.5s
TYV pmax pmax
comp=Z,72nm,1.4s
TYV smax smax
comp=N,600nm,7.9s
UGL Uglegorsk 51.49 52 *eP* **P** **22 16 34.5 +1.1**
UGL pmax pmax
comp=Z,140nm,1.0s
DRUM Mains of Drumt 51.73 318⇑*eP* **P** **22 16 35.1 +0.1**
DRUM IAmb IAmb 22 16 36.2
comp=Z,54nm,0.7s
HPK Haverah Park 51.81 314⇑*eP* **P** **22 16 36.1 +0.4**
HPK IAmb IAmb 22 16 36.9
comp=Z,168nm,0.6s
EDMD Edmundbyers 51.83 315⇑*eP* **P** **22 16 36.1 +0.3**
EDMD IAmb IAmb 22 16 36.5
comp=Z,111nm,0.5s
MLA1 Latheron 51.95 320⇑*eP* **P** **22 16 36.9 +0.3**
STKI Sintang 51.98 125 P **P** **22 16 37.4 0.0**
comp=Z,4µmcomp=Z,40nm,1.2s
ESY Stoneypath 51.98 317⇑*eP* **P** **22 16 37.0 +0.1**
LBWR Ladybower, Pea 51.99 313⇑*eP* **P** **22 16 36.9 -0.1**
LBWR IAmb IAmb 22 16 38.4
comp=Z,62nm,1.0s
MCD Coleburn Disti 52.02 319⇑*eP* **P** **22 16 37.7 +0.6**
EDU Dundee 52.08 317⇑*eP* **P** **22 16 37.8 +0.2**
SPMM Sapulut 52.09 117 P **P** **22 16 41.0 +2.7**
SET Setif 52.11 291 P **P** **22 16 37.0 -1.3**
JSD Sado 52.12 67 IAmb IAmb 22 16 39.4
comp=Z,110nm,0.9s
WOL Wolverton 52.16 311⇑*eP* **P** **22 16 38.6 +0.3**
BIGH Upper Bighouse 52.20 320⇑*eP* **P** **22 16 38.9 +0.4**
BIGH IAmb IAmb 22 16 40.3
comp=Z,126nm,0.8s
EBL Broad Law 52.25 316⇑*eP* **P** **22 16 39.0 +0.1**
EDI Edinburgh 52.30 317⇑*eP* **P** **22 16 39.3 +0.1**
EDI IAmb IAmb 22 16 40.7
comp=Z,77nm,0.7s
EKA Eskdalemuir Ar 52.40 316 P **P** **22 16 40.1 +0.1**
comp=Z,23nm,0.5s,baz=91,slow=7.3,SNR=290
EKA pP **pP** **22 17 23.0 +0.1**
comp=Z,6.3nm,0.6s,baz=91,slow=7.6,SNR=1.8
EKA Eskdalemuir Ar 52.40 316 P **P** **22 16 40.1 +0.1**
EKA *PP **pP** **22 17 23.0 +0.1**
ESK Eskdalemuir 52.43 316⇑*eP* **P** **22 16 40.3 +0.1**
ESK IAmb IAmb 22 16 41.5
comp=Z,63nm,1.2s
ESK Eskdalemuir 52.43 316 P **P** **22 16 39.3 -0.9**
ESK pmax pmax
comp=Z,52nm,1.1s
ESK Eskdalemuir 52.43 316 P **P** **22 16 39.3 -0.9**
YSS Yuzh-Sakhalins 52.49 55⇑*eP* **P** **22 16 41.4 +0.6**
YSS *e*PP **pP** **22 17 26.7 +2.5**
YSS *e* 22 17 41.6
YSS *eS* **S** **22 23 46.4 -6.0**
YSS pmax pmax
comp=Z,190nm,1.2s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=E,800nm,16.0s
YSS Yuzh-Sakhalins 52.49 55 P **P** **22 16 41.1 +0.4**
KESW Keswick, Cumbr 52.53 315⇑*eP* **P** **22 16 41.3 +0.3**
JMIC Jan Mayen 52.58 336 P **P** **22 16 42.4 +1.3**
comp=E,38nm,0.7s,baz=111,slow=10,SNR=8.3
JMIC Jan Mayen 52.58 336⇑*iP* **P** **22 16 42.9 +1.8**
MJB9 Matsu-Tunnel 52.61 69 IAmb IAmb 22 16 43.3
comp=Z,106nm,1.0s
MAJO Matsushiro 52.62 69 P **P** **22 16 41.9 0.0**
MAJO pmax pmax
comp=Z,94nm,1.0s
MAJO Matsushiro 52.62 69 P **P** **22 16 41.9 0.0**
MAJO IAmb IAmb 22 16 43.3
comp=Z,94nm,0.9s
MAT Matsushiro 52.62 69 P **P** **22 16 42.0 +0.1**
MAT S **S** **22 23 55.4 +0.9**
MJAR Matsushiro Arr 52.62 69 P **P** **22 16 42.3 +0.4**
comp=Z,64nm,0.9s,baz=291,slow=9.2,SNR=126
MJAR Matsushiro Arr 52.62 69 P **P** **22 16 42.5 +0.6**
MJAR pmax pmax
comp=Z,93nm,1.1s
MJAR Matsushiro Arr 52.62 69 P **P** **22 16 42.5 +0.6**
MJAR IAmb IAmb 22 16 43.4
comp=Z,93nm,1.1s
MDO Dochfour 52.63 319⇑*eP* **P** **22 16 41.7 0.0**
INVG Invergeldie, C 52.66 317⇑*eP* **P** **22 16 41.9 0.0**
INVG IAmb IAmb 22 16 44.9
comp=Z,37nm,0.6s
MBAR Mbarara 52.84 235*ceP* **P** **22 16 44.2 +0.3**
MBAR Mbarara 52.84 235 P **P** **22 16 43.9 0.0**
MBAR IAmb IAmb 22 16 45.8
comp=Z,54nm,0.7s
MBAR Mbarara 52.84 235 P **P** **22 16 44.7 +0.8**
MBAR P **P** **22 16 44.7 +0.8**
HLM1 Long Mynd 52.87 312⇑*eP* **P** **22 16 43.6 +0.1**
OLDB Oldbury-Upon-S 52.88 311 *eP* **P** **22 16 43.5 0.0**
OLDB IAmb IAmb 22 16 45.0
comp=Z,68nm,0.6s
LINV Loch Inver, As 52.93 320⇑*eP* **P** **22 16 44.3 +0.5**
LINV IAmb IAmb 22 16 46.2
comp=Z,77nm,0.9s
FOEL Foel Wylfa 52.97 313⇑*eP* **P** **22 16 43.5 -0.7**
MONM Monmouth 52.99 312⇑*eP* **P** **22 16 44.2 -0.2**
MONM IAmb IAmb 22 16 46.2
comp=Z,320nm,1.6s
PGBU Glenifferbraes 53.03 317⇑*eP* **P** **22 16 45.0 +0.4**
PGBU IAmb IAmb 22 16 46.4
comp=Z,93nm,0.8s
NEWG New Galloway 53.05 316⇑*eP* **P** **22 16 45.0 +0.3**
NEWG IAmb IAmb 22 16 46.5
comp=Z,95nm,0.7s
MCH1 Michaelchurch 53.06 312⇑*eP* **P** **22 16 44.8 -0.1**
MCH1 IAmb IAmb 22 16 46.3
comp=Z,159nm,0.6s
JQE Queens East 53.20 308⇑*eP* **P** **22 16 45.7 -0.2**
JTM Tenmabayashi 53.22 63 IAmb IAmb 22 16 47.7
comp=Z,187nm,1.1s
JLP Les Platons 53.23 308⇑*eP* **P** **22 16 46.0 -0.2**
LLW Llanuwchllyn 53.25 313 *eP* **P** **22 16 46.5 +0.2**
JVM Valle D.L. Mar 53.30 308⇑*eP* **P** **22 16 46.4 -0.2**
KPL Plockton 53.34 319⇑*eP* **P** **22 16 47.1 +0.3**
KPL IAmb IAmb 22 16 47.4
comp=Z,58nm,0.6s
GAL1 Galloway 53.37 316⇑*eP* **P** **22 16 47.4 +0.3**
IOMK Kirk Michael 53.43 315⇑*eP* **P** **22 16 48.1 +0.5**
IOMK IAmb IAmb 22 16 49.0
comp=Z,177nm,0.6s
LAWE Loch Awe, Argy 53.44 317⇑*eP* **P** **22 16 47.7 +0.1**
LAWE IAmb IAmb 22 16 49.2
comp=Z,65nm,0.8s
YLL Llanberis 53.48 313⇑*eP* **P** **22 16 48.0 +0.1**
WME Myndd Eilian 53.49 314⇑*eP* **P** **22 16 48.1 +0.1**
WIM Isle of Man 53.52 315⇑*eP* **P** **22 16 48.7 +0.5**
WLF1 Llynfaes 53.57 314⇑*eP* **P** **22 16 48.6 +0.1**
WLF1 IAmb IAmb 22 16 50.2
comp=Z,115nm,1.0s
WPS Cemaes, Angles 53.60 314 *eP* **P** **22 16 49.2 +0.5**
WPS IAmb IAmb 22 16 50.4
comp=Z,160nm,1.6s
YRC Rhoscolyn 53.68 314⇑*eP* **P** **22 16 49.8 +0.4**
NOR Nord 53.72 349⇑*iP* **P** **22 16 50.3 +1.0**
NOR *i* 22 17 51.1
NOR Nord 53.72 349⇑*iP* **P** **22 16 50.3 +1.0**
NOR *i* 22 17 51.1
DYA Yadsworthy 54.04 310⇑*eP* **P** **22 16 51.8 -0.2**
DYA IAmb IAmb 22 16 53.1
comp=Z,267nm,1.7s
MA2 Magadan 54.06 38 P **P** **22 16 52.4 +0.3**
comp=Z,24nm,0.3s,baz=297,slow=8.2,SNR=30
MA2 Magadan 54.06 38*ceP* **P** **22 16 53.0 +0.9**
MA2 pmax pmax
comp=Z,182nm,1.7s
MA2 Magadan 54.06 38 P **P** **22 16 52.1 0.0**
MA2 IAmb IAmb 22 16 54.0
comp=Z,128nm,1.1s
RSBS Rosebush, Pemb 54.12 312⇑*eP* **P** **22 16 52.6 0.0**
RSBS IAmb IAmb 22 16 53.5
comp=Z,72nm,0.6s
SEY Seymchan 54.13 34 P **P** **22 16 53.0 +0.5**
comp=Z,112nm,1.0s,baz=277,slow=8.5,SNR=196
SEY Seymchan 54.13 34 P **P** **22 16 53.0 +0.5**
HTL Hartland 54.22 311 *eP* **P** **22 16 53.6 +0.3**
HTL IAmb IAmb 22 16 54.7
comp=Z,76nm,0.5s
ERM Erimo 54.29 61*ceP* **P** **22 16 56.0 +2.1**
ERM pmax pmax
comp=Z,115nm,1.7s
ERM Erimo 54.29 61 P **P** **22 16 54.7 +0.7**
DAG Danmarks Havn 54.68 344⇑*iP* **P** **22 16 57.3 +1.0**
DAG IAmb IAmb 22 16 57.9
comp=Z,70nm,0.6s
DAG *i* 22 17 40.5
DAG Danmarks Havn 54.68 344⇑*iP* **P** **22 16 57.2 +1.0**
DAG *i* 22 17 40.5
DAG pmax pmax
comp=Z,70nm,0.6s
DSB Dublin 54.73 314 IAmb IAmb 22 16 58.6
comp=Z,135nm,1.7s
CCA1 Carnmenellis 54.91 310 *eP* **P** **22 16 58.1 -0.1**
CCA1 IAmb IAmb 22 17 00.9
comp=Z,88nm,0.8s
MTKI Muara Teweh, K 55.00 123 P **P** **22 16 59.4 0.0**
comp=Z,2µmcomp=Z,29nm,0.9s
PKKI Palangkaraya 55.34 125 P **P** **22 17 01.9 +0.1**
comp=Z,105nm,0.9s
YUK Yuzh-Kuril'sk 55.47 58*diP* **P** **22 17 00.9 -1.5**
YUK *eS* **S** **22 24 28.8 -3.6**
YUK pmax pmax
comp=N,257nm,1.2s
YUK pmax pmax
comp=E,142nm,1.2s
YUK pmax pmax
comp=Z,481nm,1.2s
DBG Daneborg 55.55 341⇑*iP* **P** **22 17 04.0 +1.5**
DBG IAmb IAmb 22 17 04.6
comp=Z,24nm,0.5s
DBG *i* 22 18 07.1
CART Cartagena 56.34 295 P **P** **22 17 08.5 -0.2**
CART IAmb IAmb 22 17 10.7
comp=Z,103nm,0.8s
CART pP **pP** **22 17 52.5 +0.6**
CART Cartagena 56.34 295 P 22 17 09.1
BBKI Banjar Baru 56.83 125 P **P** **22 17 12.4 0.0**
comp=Z,72nm,1.0s
SCO Scoresbysund 57.05 336 *iP* **P** **22 17 14.8 +1.7**
SCO Scoresbysund 57.05 336 *iP* **P** **22 17 14.8 +1.7**
MPSI Mapaga 57.57 117 P **P** **22 17 17.6 0.0**
comp=Z,906nmcomp=Z,76nm,1.1s
ESBB Sonseca Array 57.66 298 IAmb IAmb 22 17 20.3
comp=Z,59nm,0.9s
ESDC Sonseca Array 57.66 298 P **P** **22 17 17.9 -0.2**
comp=Z,47nm,0.7s,baz=56,slow=7.5,SNR=425
ESDC pP **pP** **22 18 01.9 +0.3**
comp=Z,19nm,0.9s,baz=59,slow=7.5,SNR=4.2
ESDC sP **sP** **22 18 21.8 -0.6**
comp=Z,8.1nm,0.8s,baz=56,slow=6.5,SNR=1.7
ESDC Sonseca Array 57.66 298 P **P** **22 17 17.5 -0.5**
ESDC IAmb IAmb 22 17 20.3
comp=Z,68nm,1.0s
ESDC pP **pP** **22 18 02.0 +0.5**
ESDC sP **sP** **22 18 26.1 +3.7**
PAB San Pablo 57.99 298 P **P** **22 17 20.4 +0.1**
PAB pmax pmax
comp=Z,117nm,1.4s
PAB San Pablo 57.99 298 P **P** **22 17 20.4 +0.1**
PAB IAmb IAmb 22 17 22.8
comp=Z,118nm,1.4s
PAB San Pablo 57.99 298 P 22 17 20.6
BILL Bilibino 58.35 26*diP* **P** **22 17 23.0 +0.8**
BILL *i* *PP **pP** **22 18 06.8 +0.1**
BILL *i* 22 18 15.1
BILL *i* 22 19 32.1
BILL pmax pmax
comp=Z,206nm,1.0s
BILL Bilibino 58.35 26 P **P** **22 17 23.1 +0.9**
BORG Borgarnes 58.64 330 P **P** **22 17 27.2 +2.9**
comp=Z,32nm,0.6s,baz=92,slow=3.6,SNR=21
PBRG Braganca 58.78 301⇑*iP* **P** **22 17 25.3 -0.4**
comp=Z,99nm,1.6s
FIGM Figuig 58.80 289 P 22 17 27.0
JBK JBK 58.83 292 P 22 17 27.0
MRSI Marisa 58.94 116 P **P** **22 17 27.1 0.0**
comp=Z,2µmcomp=Z,170nm,1.0s
MVO Moncorvo 59.23 301⇑*iP* **P** **22 17 29.1 +0.3**
comp=Z,115nm,1.6s
RER Riviere de l'E 59.35 197 P **P** **22 17 31.1 +1.3**
PALE Palemas 59.47 293 P 22 17 31.0
SKR Severo-Kuril's 59.64 47 *eP* **P** **22 17 30.6 -0.7**
SKR *e*PP **pP** **22 18 14.4 -1.5**
SKR *eS* **S** **22 25 29.1 +2.6**
SKR pmax pmax
comp=Z,200nm,1.5s
SKR pmax pmax
comp=Z,71nm,1.0s
SKR MLR MLR
comp=Z,100nm,16.0s
SKR MLR MLR
comp=Z,200nm,15.0s
PEA0B Petropavlovsk- 59.65 44*ceP* **P** **22 17 31.4 0.0**
PEA0B Petropavlovsk- 59.65 44 IAmb IAmb 22 17 33.2
comp=Z,206nm,1.8s
PETK Petropavlovsk- 59.65 44 P **P** **22 17 30.2 -1.2**
comp=Z,19nm,0.8s,baz=303,slow=0.7,SNR=35
PETK pP **PcP** **22 18 17.2 +0.7**
comp=Z,14nm,1.0s,baz=336,slow=6.8,SNR=2.4
PETK ScP **ScP** **22 21 57.9 -1.3**
comp=Z,0.6nm,0.3s,baz=186,slow=26,SNR=5.7
PETK Petropavlovsk- 59.65 44 P **P** **22 17 30.2 -1.2**
PETK *PP **PcP** **22 18 17.2 +0.7**
PETK Petropavlovsk- 59.65 44 P **P** **22 17 30.5 -1.0**
PVRL Vila Real 59.66 301 *eP* **P** **22 17 31.9 +0.2**
comp=Z,98nm,1.5s
POLO Lamas de Olo 59.67 301 *eP* **P** **22 17 31.7 -0.2**
comp=Z,34nm,1.6s
APSI Ampana 59.69 117 P **P** **22 17 32.3 +0.1**
comp=Z,855nmcomp=Z,80nm,1.3s
PCAB Cabril 59.70 302⇑*iP* **P** **22 17 32.3 +0.3**
comp=Z,193nm,1.4s
PCAB *ep*P **PcP** **22 18 17.6 +0.7**
PGAV Gavieira, Arco 59.76 302⇑*eP* **P** **22 17 33.0 +0.5**
comp=Z,157nm,1.6s
ABPO Ambohimpanom 59.88 207 P **P** **22 17 33.6 +0.1**
ABPO pmax pmax
comp=Z,35nm,1.1s
ABPO Ambohimpanom 59.88 207 P **P** **22 17 33.5 +0.1**
MTE Manteigas 59.90 300 *eP* **P** **22 17 33.6 +0.2**
comp=Z,208nm,1.3s
MTE *ep*P **PcP** **22 18 17.5 -0.3**
MTE Manteigas 59.90 300 IAmb IAmb 22 17 36.4
comp=Z,116nm,0.9s
TTSI Tana Toraja 59.90 120 P **P** **22 17 33.7 +0.1**
comp=Z,2µmcomp=Z,45nm,1.5s
PVIS Viseu 60.01 300 *eP* **P** **22 17 33.4 -0.7**
comp=Z,174nm,1.4s
PCBR Castelo Branco 60.08 299 *eP* **P** **22 17 34.9 +0.4**
comp=Z,80nm,1.5s
PCBR *ep*P **PcP** **22 18 19.1 +0.7**
PET Petropavlovsk 60.22 44 *eP* **P** **22 17 33.2 -2.0**
PET *e*PP **PcP** **22 18 17.1 -1.6**
PET *eS* **S** **22 25 27.0 -6.8**
PET pmax pmax
comp=Z,300nm,6.8s
PET pmax pmax
comp=Z,109nm,1.1s
PET pmax pmax
comp=Z,100nm,12.1s
PET MLR MLR
comp=Z,200nm,14.0s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 60.22 44 P **P** **22 17 34.6 -0.7**
PET IAmb IAmb 22 17 35.2
comp=Z,88nm,1.1s
SMIR Smir Dam 60.33 294 P 22 17 36.3
PBAR Barrancos 60.46 297⇑*iP* **P** **22 17 37.4 +0.2**
comp=Z,196nm,1.5s
PBAR *ep*P **pP** **22 18 20.7 -0.4**
CHEFC Chefchaouen 60.55 294 P 22 17 38.1

PESTR Estremoz 60.56 298⇑ *i*P P 22 17 37.4 -0.5
comp=Z,95nm,1.3s
PESTR *ep*P **PcP** **22 18 20.1 -0.3**
PESTR Estremoz 60.56 298 P P 22 17 38.0 +0.1
PESTR Estremoz 60.56 298 P 22 17 38.3
PCAS Casmilo, Conde 60.70 300 *e*P P 22 17 39.1 +0.3
comp=Z,92nm,1.4s
PCAS *ep*P **PcP** **22 18 21.6 +0.6**
PCAS *e*LQ LQ 22 18 22.0
PMTG Montargil 60.93 299 *i*P P 22 17 40.5 +0.2
comp=Z,76nm,1.7s
PMTG *ep*P **PcP** **22 18 21.6 -0.3**
NEEM North Greenlan 60.96 348⇑ *i*P P 22 17 41.3 +1.0
NEEM *e* 22 18 17.6
NEEM *i* 22 18 45.3
RSA Sarsar 61.00 294 P 22 17 42.0
EVO Evora 61.01 298⇑ *e*P P 22 17 41.3 +0.5
comp=Z,135nm,1.5s
SUMG Summit 61.03 341⇑ *i*P P 22 17 42.4 +1.5
SUMG *i* 22 18 46.8
SUMG Summit 61.03 341⇑ *i*P P 22 17 42.4 +1.5
SUMG *i* 22 18 46.8
SUMG Summit 61.03 341 P P 22 17 42.4 +1.5
BNSI Bone 61.07 121 P P 22 17 41.6 +0.1
comp=Z,23nm,1.4s
PBEJ Beja 61.12 298 *e*P P 22 17 41.5 -0.1
comp=Z,118nm,1.5s
PBEJ *ep*P **pP** **22 18 26.4 +0.8**
PSBE So Bento 61.14 300⇑ *i*P P 22 17 42.2 +0.4
comp=Z,199nm,1.4s
PSBE *ep*P **PcP** **22 18 23.6 +0.8**
CZD Col de Zad 61.25 291 P 22 17 44.0
KAPI Kappang 61.27 122 P P 22 17 42.5 -0.3
KAPI pmax pmax
comp=Z,45nm,1.2s
KAPI Kappang 61.27 122 P P 22 17 42.5 -0.3
KAPI Kappang 61.27 122 P P 22 17 42.8 0.0
comp=Z,19nm,1.1s
PVAQ Vaqueiros 61.28 297⇑ *e*P P 22 17 42.8 +0.1
comp=Z,138nm,1.6s
PVAQ Vaqueiros 61.28 297 P P 22 17 42.5 -0.2
PVAQ Vaqueiros 61.28 297 P 22 17 43.3
PCVE Castro Verde 61.41 297⇑ *e*P P 22 17 43.8 +0.2
comp=Z,84nm,1.6s
MESJ Messejana 61.45 298 *e*P P 22 17 43.7 -0.1
MESJ IAmb IAmb 22 17 46.4
comp=Z,58nm,0.6s
MESJ Messejana 61.45 298 *e*P P 22 17 43.7 -0.1
MESJ Messejana 61.45 298⇑ *i*P P 22 17 43.0 -0.8
MESJ *ep*P **pP** **22 18 29.1 +1.3**
PBDV Barranco-do-Ve 61.50 297⇑ *i*P P 22 17 44.4 +0.1
comp=Z,174nm,1.3s
PBDV *ep*P **pP** **22 18 30.1 +1.8**
PNCL Nicolau / Gran 61.55 298⇑ *e*P P 22 17 45.0 +0.5
comp=Z,126nm,1.8s
PMAFR Mafra 61.72 299⇑ *e*P P 22 17 46.3 +0.7
comp=Z,182nm,1.0s
PMAFR *ep*P **pP** **22 18 30.4 +0.6**
LIS Lisbon 61.73 299 *e*P P 22 17 45.5 -0.2
LIS IAmb IAmb 22 17 48.3
comp=Z,121nm,1.2s
LIS Lisbon 61.73 299 *e*P P 22 17 45.5 -0.2
BKSI Bulukumba 61.74 122 P P 22 17 46.1 +0.1
comp=Z,19nm,0.9s
PTEO Sao Teotonio 61.94 297⇑ *i*P P 22 17 47.6 +0.5
comp=Z,170nm,1.5s
MORF Marmelete 61.99 297 *e*P P 22 17 47.4 -0.1
MORF IAmb IAmb 22 17 49.3
comp=Z,74nm,1.4s
MORF Marmelete 61.99 297 *e*P P 22 17 47.4 -0.1
MORF Marmelete 61.99 297⇑ *i*P P 22 17 47.7 +0.2
comp=Z,90nm,1.6s
PFVI Vila Bisbo 62.19 297⇑ *i*P P 22 17 49.5 +0.7
comp=Z,156nm,1.7s
PFVI Vila Bisbo 62.19 297 P P 22 17 50.0 +1.2
PFVI Vila Bisbo 62.20 297 P 22 17 49.4
ZHG ZHG 62.26 292 P 22 17 51.0
GAMI Galela, Maluku 62.37 110 P P 22 17 50.4 +0.1
comp=Z,3µcomp=Z,241nm,1.5s
VOI Vohitsoka 62.69 206 P P 22 17 52.7 +0.4
VOI IAmb IAmb 22 17 55.0
comp=Z,67nm,0.9s
TNTI Ternate 62.75 111 P P 22 17 54.8 +2.1
TNTI Ternate 62.75 111 P P 22 17 52.9 +0.1
comp=Z,2µcomp=Z,133nm,1.5s
EUNU Eureka 62.89 356 P P 22 17 53.5 +0.6
EUNU IAmb IAmb 22 17 57.4
comp=Z,182nm,1.7s
ICESG Greenland Ices 63.20 338⇑ *i*P P 22 17 56.7 +1.4
SANI Sanana 63.61 115 P P 22 17 58.5 +0.1
comp=Z,1µcomp=Z,67nm,0.8s
KULLO Kullorsuaq 64.01 347⇑ *i*P P 22 18 00.9 +0.8
KULLO IAmb IAmb 22 18 01.6
comp=Z,37nm,0.6s
KULLO Kullorsuaq 64.01 347⇑ *i*P P 22 18 00.9 +0.8
KULLO pmax pmax
comp=Z,37nm,0.6s
TULEG Thule 64.35 350⇑ *i*P P 22 18 02.8 +0.5
ANGG Ammassalik, Gr 64.42 334⇑ *i*P P 22 18 03.9 +1.1
ANGG IAmb IAmb 22 18 04.7
comp=Z,42nm,0.6s
WBSI Waikabubak, Su 64.42 126 P P 22 18 01.9 -1.8
comp=Z,101nm,0.9s
ISOG Isortoq, Green 64.92 334 *i*P P 22 18 06.5 +0.3
ISOG IAmb IAmb 22 18 07.7
comp=Z,47nm,1.0s
NLAI Namlea 65.23 115 P P 22 18 09.1 +0.2
comp=Z,4µcomp=Z,58nm,0.9s
LSZ Lusaka 65.77 226 *i*P P 22 18 13.0 +0.5
LSZ Lusaka 65.77 226 *i*P P 22 18 13.0 +0.5
TOA0 Torodi Ar. Sit 66.03 269 IAmb IAmb 22 18 13.7
comp=Z,74nm,0.7s
TOA0 Torodi Ar. Sit 66.03 269 P P 22 18 12.7 -1.3
SNR=11
TORD Torodi Ar. Bea 66.03 269 P P 22 18 12.2 -1.9
comp=Z,81nm,0.6s,baz=47,slow=5.6,SNR=708
TORD pP **pP** **22 18 58.5 -0.4**
comp=Z,16nm,0.7s,baz=40,slow=5.8,SNR=1.8
TORD Torodi Ar. Bea 66.03 269 P P 22 18 11.8 -2.3
TORD IAmb IAmb 22 18 13.7
comp=Z,79nm,0.7s
ILULI Ilulissat 66.37 341⇑ *i*P P 22 18 16.4 +1.1
ILULI IAmb IAmb 22 18 16.7
comp=Z,76nm,0.6s
ILULI Ilulissat 66.37 341 P P 22 18 16.2 +0.8
ILULI pmax pmax
comp=Z,245nm,1.1s
ILULI Ilulissat 66.37 341 P P 22 18 16.1 +0.8
MSAI Masohi 66.64 113 P P 22 18 20.2 +2.3
SWI Sorong 66.75 110 P P 22 18 18.1 -0.5
comp=Z,1µcomp=Z,116nm,1.0s
SIJI Sorong 66.76 110 P P 22 18 18.3 -0.4
comp=Z,758nmcomp=Z,59nm,1.2s
DY2G Dye2 66.77 337⇑ *i*P P 22 18 19.5 +1.3
DY2G IAmb IAmb 22 18 20.1
comp=Z,71nm,0.6s
A21K Barrow 67.10 15 IAmb IAmb 22 18 22.1
comp=Z,113nm,0.8s
A21K Barrow 67.10 15 P 22 18 20.7
baz=320
BATI Baumata 67.68 123 P P 22 18 24.0 -0.4
comp=Z,1µcomp=Z,42nm,0.7s
SFJD Kangerlussuaq 67.74 339 *i*P P 22 18 24.5 +0.5
SFJD Kangerlussuaq 67.74 339 P P 22 18 24.3 +0.3
SFJD pmax pmax
comp=Z,80nm,1.0s
SFJD Kangerlussuaq 67.74 339 P P 22 18 24.3 +0.3
SFJD IAmb IAmb 22 18 26.6
comp=Z,80nm,0.9s
SOEI Soe 67.77 122 P P 22 18 24.4 -0.7
SOEI Soe 67.77 122 P P 22 18 24.7 -0.4
comp=Z,2µcomp=Z,89nm,0.8s
RDOG Red Dog Mine 68.03 19 IAmb IAmb 22 18 28.1
comp=Z,180nm,1.4s
RDOG Red Dog Mine 68.03 19 P 22 18 26.5
baz=315
BNDI Bandanaira 68.15 114 P P 22 18 26.4 -1.0
comp=Z,11µcomp=Z,134nm,0.8s
GAMB Gambell 68.25 25 P 22 18 27.9
baz=310
TNA Tin City 68.31 23 P 22 18 28.3
baz=312
FAKI Fak Fak 68.84 111 P P 22 18 32.6 +0.9
FAKI IAmb IAmb 22 18 33.2
comp=Z,87nm,1.0s
FAKI Fak Fak 68.84 111 P P 22 18 31.9 +0.2
comp=Z,1µcomp=Z,104nm,1.3s
BLWY Bulawayo 69.43 223 *i*P P 22 18 34.9 -0.4
BLWY Bulawayo 69.43 223 *i*P P 22 18 34.9 -0.4
ANM Nome 69.79 23 P 22 18 37.8
baz=314
NRS Narsarsuaq 69.89 333⇑ *i*P P 22 18 37.9 +0.6
NRS Narsarsuaq 69.89 333⇑ *i*P P 22 18 37.9 +0.6
NUUK Nuuk 70.02 337 *i*P P 22 18 39.0 +1.0
NUUK IAmb IAmb 22 18 40.4
comp=Z,80nm,1.1s
PMAR Madeira 70.13 296⇑ *e*P P 22 18 39.1 -0.5
comp=Z,290nm,1.5s
PMOZ Porto Moniz, M 70.28 297⇑ *i*P P 22 18 40.5 +0.1
comp=Z,97nm,1.8s
TOLK Toolik Lake Re 70.71 15 P 22 18 43.0
baz=326,SNR=92
COLD Coldfoot 71.75 16 P P 22 18 48.5 0.0
COLD IAmb IAmb 22 18 50.7
comp=Z,134nm,1.0s
COLD pP **pP** **22 19 35.7 +1.4**
COLD Coldfoot 71.75 16 P 22 18 49.2
baz=326,SNR=111
AMKA Amchitka 72.07 39 P P 22 18 50.6 0.0
BMAR Burnt Mountain 72.73 14 P P 22 18 55.6 +1.2
BMAR pP **pP** **22 19 42.5 +2.2**
I21K Tanana 73.03 18 P 22 18 56.6
baz=325,SNR=66
SPIA Saint Paul Isl 73.13 30 IAmb IAmb 22 18 59.2
comp=Z,167nm,1.2s
SPIA Saint Paul Isl 73.13 30 P 22 18 57.7
baz=312,SNR=7.1
H24K Noodor Dome 73.43 16 P 22 18 59.5
baz=328,SNR=75
MLY Manley 73.45 17 P P 22 18 58.8 +0.2
MLY IAmb IAmb 22 19 00.7
comp=Z,93nm,1.0s
MLY pP **pP** **22 19 45.7 +0.9**
MLY Manley 73.46 17 P 22 18 59.1
baz=326,SNR=93
I23K Minto, Yukon-K 73.68 17 IAmb IAmb 22 19 02.2
comp=Z,156nm,1.1s
I23K Minto, Yukon-K 73.68 17 P 22 19 00.5
baz=327,SNR=164
C36M Paulatuk 73.71 6 P 22 19 00.2
baz=347,SNR=43
INK Inuvik 73.72 9 P 22 19 00.8
baz=339,SNR=112
TTA Tatalina 73.78 21 P P 22 19 00.9 +0.3
TTA pmax pmax
comp=Z,98nm,1.1s
TTA Tatalina 73.78 21 P P 22 19 00.9 +0.3
TTA IAmb IAmb 22 19 02.9
comp=Z,98nm,1.1s
TTA Tatalina 73.78 21 P 22 19 01.3
baz=322,SNR=53
PSA00 Pilbara Seismi 73.79 133 P P 22 19 01.2 +0.1
PSA00 pP **pP** **22 19 47.7 +0.6**
PSA00 Pilbara Seismi 73.79 133 IAmb IAmb 22 19 02.4
comp=Z,73nm,1.1s
POKR Poker Plat Res 74.14 16 P 22 19 03.6
baz=328,SNR=62
BPAW Bear Paw Mtn. 74.17 18 IAmb IAmb 22 19 04.4
comp=Z,120nm,1.1s
BPAW Bear Paw Mtn. 74.17 18 P 22 19 02.9
baz=326,SNR=83
PRP Porcupine Dome 74.21 15 IAmb IAmb 22 19 05.7
comp=Z,132nm,1.6s
PRP Porcupine Dome 74.21 15 P 22 19 03.8
baz=330,SNR=38
NEA2 Nenana 74.22 17 P 22 19 03.2
baz=327,SNR=43
TCOL CIGO, UAF Yank 74.26 16 P 22 19 03.7
baz=328,SNR=9.8
COLA College 74.26 16*c i*P P **22 19 03.4 +0.2**
COLA pmax pmax
comp=Z,138nm,0.9s
COLA College 74.26 16 P P 22 19 03.0 -0.2
COLA College 74.26 16 P 22 19 03.6
baz=328
CCB Clear Creek Bu 74.46 16 IAmb IAmb 22 19 05.8
comp=Z,267nm,1.9s
IL31 74.56 16 IAmb IAmb 22 19 06.2
comp=Z,92nm,1.1s
ILAR Eielson Array 74.56 16 P P 22 19 04.7 -0.3
comp=Z,52nm,1.0s,baz=325,slow=3.4,SNR=243
ILAR pP **pP** **22 19 51.6 +0.2**
comp=Z,47nm,1.1s,baz=318,slow=4.9,SNR=6.4
ILAR PP **PP** **22 21 53.9 +0.3**
comp=Z,7.4nm,0.8s,baz=322,slow=7.6,SNR=4.9
ILAR Eielson Array 74.56 16 P P 22 19 04.7 -0.3
ILAR *PP **pP** **22 19 51.6 +0.2**
ILAR Eielson Array 74.56 16 P P 22 19 04.4 -0.6
ILAR pP **pP** **22 19 51.8 +0.5**
GENI Genyem 74.69 105 P P 22 19 07.6 +1.1
comp=Z,174nm,1.2s
MTN Manton Dam 74.70 119 P P 22 19 06.3 -0.2
L19K White Mountain 74.71 21 P 22 19 06.8
baz=323,SNR=69
PPLA Purkeypile 74.86 19 P 22 19 07.1
baz=325,SNR=40
HDA Harding Lake 74.86 16 IAmb IAmb 22 19 07.4
comp=Z,92nm,1.3s
HDA Harding Lake 74.86 16 P 22 19 05.8
baz=329,SNR=40
HDA P 22 19 05.8
baz=329,SNR=40
TRF Thorofare Moun 74.88 18 P 22 19 06.7
baz=326,SNR=21
MCK McKinley 74.98 17 P 22 19 07.1
baz=329,SNR=17
LBTB Lobatse 74.99 222 P P 22 19 08.0 -0.1
LBTB Lobatse 74.99 222 P P 22 19 08.0 -0.1
LBTB Lobatse 74.99 222 *i*P P 22 19 08.5 +0.4
LBTB Lobatse 74.99 222 *i*P P 22 19 08.5 +0.4
DBIC Dimbokro 75.01 267 P P 22 19 07.0 -1.4
comp=Z,21nm,0.6s,baz=23,slow=7.0,SNR=52
DBIC Dimbokro 75.01 267 P P 22 19 06.5 -1.9
DBIC pmax pmax
comp=Z,152nm,1.6s
DBIC Dimbokro 75.01 267 P P 22 19 06.5 -1.9
DBIC IAmb IAmb 22 19 08.3
comp=Z,152nm,1.6s
EPYK Eagle Plains 75.06 11 IAmb IAmb 22 19 09.6
comp=Z,164nm,1.4s
EPYK Eagle Plains 75.06 11 P 22 19 08.0
baz=337,SNR=46
KIC Kosan Boka 75.10 267 *e*P P 22 19 07.6 -1.3
comp=Z,80nm,0.7s
TIC Toumodi 75.16 267 *e*P P 22 19 07.7 -1.6
TSUM Tsumeb 75.25 232 P P 22 19 09.1 -0.7
TSUM Tsumeb 75.25 232 *i*P P 22 19 10.1 +0.4
TSUM Tsumeb 75.25 232 *i*P P 22 19 10.1 +0.4
RND Reindeer 75.27 17 P P 22 19 08.5 -0.7
RND IAmb IAmb 22 19 10.2
comp=Z,78nm,0.8s
RND pP **pP** **22 19 55.5 -0.1**
SVW2 Sparrevohn 75.36 22 IAmb IAmb 22 19 12.3
comp=Z,77nm,1.1s
LIC Lamto 75.41 267 *e*P P 22 19 09.2 -1.5
comp=Z,225nm,1.4s
M20K Styx River 75.43 20 P 22 19 10.2
baz=324,SNR=14
N18K Kilae Creek 75.61 22 P 22 19 12.1
baz=322,SNR=22
EGAK Eagle 75.74 14 IAmb IAmb 22 19 13.7
comp=Z,110nm,1.1s
EGAK Eagle 75.74 14 P 22 19 12.1
baz=334,SNR=58
CUT Chulitna 75.76 19 IAmb IAmb 22 19 14.6
comp=Z,118nm,0.9s
CUT Chulitna 75.76 19 P 22 19 11.4
baz=327,SNR=6.4
SKT Skwentna 75.78 19 P P 22 19 11.1 -0.9
SKT pP **pP** **22 19 58.6 +0.1**
SKT Skwentna 75.78 19 P 22 19 11.7
baz=326,SNR=116
WAT1 Susitna Watana 75.83 18 P 22 19 11.5
baz=328
SCRK Sand Creek 75.88 15 IAmb IAmb 22 19 14.7
comp=Z,120nm,1.1s
SCRK Sand Creek 75.88 15 P 22 19 13.2
baz=331,SNR=128
N19K Bonanza Creek 75.91 21 P 22 19 13.9
baz=324,SNR=28
WAT6 Susitna Watana 76.24 18 P 22 19 14.3
baz=329,SNR=34
SPCR Spurr Chakacha 76.25 20 P 22 19 14.7
baz=325,SNR=7.6
SUA Susitna One 76.42 19 IAmb IAmb 22 19 17.1
comp=Z,103nm,1.0s
SUA Susitna One 76.42 19 P 22 19 15.6
baz=326,SNR=18
PAX Paxson 76.44 16 IAmb IAmb 22 19 17.4
comp=Z,120nm,1.0s
PAX Paxson 76.44 16 P 22 19 16.0
baz=330,SNR=32
O19K Port Alsworth 76.46 22 P 22 19 16.5
baz=324
O18K Koktuh Hills 76.47 22 P 22 19 17.2
baz=323,SNR=68
NIKH Nikolski High 76.60 33 P 22 19 17.5
baz=314
DAWY Dawson 76.72 13 P P **22 19 17.3 0.0**
DAWY IAmb IAmb 22 19 19.2
comp=Z,115nm,1.0s
PMR Palmer 76.74 19 IAmb IAmb 22 19 18.8
comp=Z,89nm,1.0s
PMR Palmer 76.74 19 P 22 19 17.2
baz=328,SNR=12
SML Sawmill 76.76 18 P P **22 19 17.0 -0.6**
SML pP **pP** **22 20 04.6 +0.4**
SML Sawmill 76.76 18 P 22 19 17.7
baz=328,SNR=71
CAPN Captain Cook N 76.89 20 P 22 19 18.9
baz=326
SCM Sheep Creek Mo 76.98 18 IAmb IAmb 22 19 20.5
comp=Z,109nm,0.8s
RC01 Rabbit Creek A 77.00 19 IAmb IAmb 22 19 20.2
comp=Z,92nm,0.9s
RC01 Rabbit Creek A 77.01 19 P 22 19 18.9
baz=327,SNR=21
HARP HAARP 77.01 17 P 22 19 20.1
baz=331,SNR=87
M24K Tolsona, Glenn 77.03 17 P 22 19 20.1
baz=330,SNR=65
KNK Knik Glacier 77.06 18 P P **22 19 19.8 +0.6**
KNK pP **pP** **22 20 06.7 +0.8**
KNK Knik Glacier 77.06 18 P 22 19 19.6
baz=328,SNR=28
L27K Beaver Creek, 77.14 15 IAmb IAmb 22 19 22.2
comp=Z,86nm,0.9s
L27K Beaver Creek, 77.15 15 P 22 19 20.6
baz=333,SNR=113
BCAR Beaver Creek A 77.15 15 P P **22 19 20.5 +0.7**
BCAR pP **pP** **22 20 08.3 +2.0**
FALS False Pass 77.48 29 P 22 19 21.2
baz=318
O22K Cooper Landing 77.52 19 IAmb IAmb 22 19 23.1
comp=Z,228nm,1.5s
O22K Cooper Landing 77.52 19 P 22 19 21.4
baz=327
PWL Port Wells 77.56 19 IAmb IAmb 22 19 23.5
comp=Z,82nm,0.9s
KLU Klutina 77.62 17 P P **22 19 22.8 +0.4**
KLU IAmb IAmb 22 19 24.6
comp=Z,108nm,1.0s
KLU Klutina 77.62 17 P 22 19 23.2
baz=330,SNR=44
MORW Morawa 77.66 141 P P **22 19 22.6 -0.3**
MORW IAmb IAmb 22 19 24.6
comp=Z,133nm,1.2s
HOM Homer 77.68 21 P 22 19 23.4
baz=326
BRLK Bradley Lake 77.80 20 IAmb IAmb 22 19 24.2
comp=Z,81nm,0.8s
N25K Chitina, Valde 77.83 17 P 22 19 24.3
baz=331,SNR=36
GLI Glacier Island 77.86 18 IAmb IAmb 22 19 25.2
comp=Z,111nm,0.9s
BRSE Bradley Lake S 77.86 20 P 22 19 23.2
baz=327,SNR=6.4
GLI Glacier Island 77.86 18 P 22 19 23.6
baz=329,SNR=31
SEW Seward 77.91 20 IAmb IAmb 22 19 25.3
comp=Z,204nm,1.5s
SEW Seward 77.91 20 P 22 19 23.7
baz=328,SNR=10
BOSA Boshof 78.05 220 P P **22 19 24.6 -0.6**
comp=Z,22nm,0.7s,baz=28,slow=5.2,SNR=36
BOSA Boshof 78.05 220 P P **22 19 24.7 -0.6**
BOSA Boshof 78.05 220 *i*P P **22 19 24.1 -1.2**
BOSA Boshof 78.05 220 *i*P P **22 19 24.1 -1.2**
GLB Gilahina Butte 78.16 16 IAmb IAmb 22 19 27.4
comp=Z,91nm,1.3s
SDPT Sand Point 78.23 27 P 22 19 23.7
baz=320
MCARA McCarthy VSAT 78.39 16 IAmb IAmb 22 19 28.7
comp=Z,80nm,1.1s
MCARA McCarthy VSAT 78.39 16 P 22 19 27.2
baz=332,SNR=18
BMRM Bremner River 78.39 17 P P **22 19 27.6 +0.9**
BMRM pP **pP** **22 20 15.0 +1.7**
BMRM Bremner River 78.39 17 P 22 19 27.3
baz=331,SNR=27
VRDI Verde Repeater 78.43 16 IAmb IAmb 22 19 29.0
comp=Z,143nm,1.2s
HIN Hinchinbrook I 78.43 18 IAmb IAmb 22 19 28.9
comp=Z,156nm,1.3s
EYAK Cordova Ski Ar 78.48 18 IAmb IAmb 22 19 29.4
comp=Z,118nm,0.9s
EYAK Cordova Ski Ar 78.48 18 P 22 19 27.9
baz=330,SNR=26
CHNA Chernabura Isl 78.95 27 P 22 19 29.5
baz=321,SNR=34
BARN Barnard Glacie 78.97 16 P P **22 19 30.5 +0.5**
BARN IAmb IAmb 22 19 33.0
comp=Z,132nm,1.0s
BARN pP **pP** **22 20 18.1 +1.4**
CTG Chitna Glacier 79.13 16 P 22 19 31.7
baz=334
CTGM Chitina Glacie 79.13 16 IAmb IAmb 22 19 33.2
comp=Z,136nm,1.0s
OHAK Old Harbor 79.20 23 P 22 19 31.4
baz=325,SNR=36
WAX Waxell Ridge 79.25 16 P P **22 19 32.1 +0.8**
WAX IAmb IAmb 22 19 33.9
comp=Z,120nm,1.1s
BGLC Bering Glacier 79.45 17 P 22 19 33.8
baz=332
MESA MESA 79.70 16 P 22 19 35.0
baz=333
HYT Haines Junctio 80.04 14 P P **22 19 36.2 +0.6**
HYT IAmb IAmb 22 19 38.3
comp=Z,115nm,1.0s
PINM Pinnacle 80.15 15 P 22 19 36.8
baz=335,SNR=28
BCPM Bancas Point 80.41 15 IAmb IAmb 22 19 40.0
comp=Z,132nm,1.0s
WHY Whitehorse 80.68 13 P 22 19 38.9
baz=339,SNR=33
YKA Yellowknife Ar 81.09 3 P P **22 19 41.4 +0.4**
comp=Z,78nm,0.7s,baz=353,slow=5.1,SNR=322
YKA pP **pP** **22 20 28.6 +0.8**
comp=Z,17nm,0.8s,baz=353,slow=4.9,SNR=3.0
YKA PKKPbc **PKKPbc** **22 38 13.8 -2.4**
comp=Z,1.2nm,0.7s,baz=162,slow=2.7,SNR=8.0
YKA LR LR 22 59 51.0
comp=Z,201nm,19.2s,baz=0.0,slow=38
YKA Yellowknife Ar 81.09 3 P P **22 19 41.4 +0.4**
YKA *PP **pP** **22 20 28.6 +0.8**
H01W3 Cape Leeuwin H 81.53 146 P P **22 19 45.0 +1.6**
H01W2 Cape Leeuwin H 81.54 146 P P **22 19 45.0 +1.6**
baz=357,slow=74,SNR=3.2
H01W1 Cape Leeuwin H 81.55 146 P P **22 19 43.6 +0.2**
baz=146,slow=74,SNR=3.7
SKAG Skagway 81.72 13 IAmb IAmb 22 19 47.0
comp=Z,139nm,1.1s
SKAG Skagway 81.72 13 P 22 19 45.5
baz=339,SNR=12
WRA Warramunga Arr 81.80 122 P P **22 19 44.2 -1.2**
comp=Z,58nm,0.8s,baz=323,slow=5.1,SNR=271
WRA pP **pP** **22 20 33.1 +0.7**
comp=Z,18nm,0.8s,baz=320,slow=4.9,SNR=4.2
WRA sP **sP** **22 20 53.6 +1.0**
comp=Z,26nm,1.0s,baz=322,slow=5.2,SNR=3.3
WRA PKKPbc **PKKPbc** **22 38 15.2 +0.4**
comp=Z,1.2nm,0.6s,baz=136,slow=2.1,SNR=12
WRA Warramunga Arr 81.80 122*ce*P P **22 19 44.4 -1.0**
WRA pmax pmax
comp=Z,58nm,0.8s
WRA Warramunga Arr 81.80 122 P P **22 19 44.4 -1.0**
WRA pP **pP** **22 20 31.9 -0.5**

WRAB Tennant Creek 81.81 122 *ce* P **P** 22 19 45.2 -0.2
WRAB pmax pmax
comp=Z,94nm,0.8s
WRAB Tennant Creek 81.81 122 P **P** 22 19 44.7 -0.7
WRAB IAmb IAmb 22 19 46.0
comp=Z,105nm,1.0s
WB2 Warramunga Arr 81.81 122 IAmb IAmb 22 19 45.9
comp=Z,111nm,1.0s
SCHQ Schefferville 82.09 337 P **P** 22 19 46.8 +0.3
comp=Z,33nm,0.7s,baz=29,slow=5.6,SNR=43
SCHQ pP **pP** 22 20 34.3 +1.0
comp=Z,10nm,0.8s,baz=58,slow=6.9,SNR=2.7
SCHQ LR LR 22 55 41.2
comp=Z,247nm,21.6s,baz=52,slow=35
BESE Bessie Mountai 82.64 14 IAmb IAmb 22 19 51.9
comp=Z,99nm,1.0s
JIS Juneau Island 83.01 13 P **P** 22 19 52.3 +1.3
JIS IAmb IAmb 22 19 54.5
comp=Z,128nm,1.2s
JIS pP **pP** 22 20 40.2 +2.1
DRLN Deer Lake 83.22 329 IAmb IAmb 22 19 54.7
comp=Z,140nm,1.4s
DLBC Dease Lake 83.60 11 P **P** 22 19 55.1 +0.8
comp=Z,68nm,1.0s,baz=351,slow=6.8,SNR=10
DLBC pP **pP** 22 20 42.2 +0.8
comp=Z,36nm,1.1s,baz=352,slow=7.4,SNR=3.8
DLBC Dease Lake 83.60 11 IAmb IAmb 22 19 56.7
comp=Z,116nm,1.1s
SIT Sitka 83.97 14 IAmb IAmb 22 19 58.6
comp=Z,83nm,1.0s
SIT Sitka 83.97 14 P 22 19 57.1
baz=339,SNR=15
ASAR Alice Springs 84.08 125 P **P** 22 19 55.9 -1.2
comp=Z,50nm,0.8s,baz=319,slow=5.3,SNR=278
ASAR pP **pP** 22 20 44.5 +0.3
comp=Z,5.1nm,0.8s,baz=307,slow=6.0,SNR=1.6
ASAR sP **sP** 22 21 05.2 +0.3
comp=Z,24nm,0.9s,baz=323,slow=5.4,SNR=2.1
ASAR PKKPbc **PKKPbc** 22 38 09.9 +0.2
comp=Z,0.7nm,0.6s,baz=115,slow=3.1,SNR=7.1
ASAR Alice Springs 84.08 125 P **P** 22 19 55.9 -1.2
ASAR *PP **pP** 22 20 44.5 +0.3
ASAR *SP **sP** 22 21 05.2 +0.3
FCC Fort Churchill 84.18 352 IAmb IAmb 22 19 59.3
comp=Z,119nm,1.1s
WRAK Wrangell Islan 85.13 13 IAmb IAmb 22 20 04.3
comp=Z,73nm,0.9s
WRAK Wrangell Islan 85.14 13 P 22 20 02.6
baz=341,SNR=24
CRAG Craig 85.89 14 P 22 20 06.3
baz=341,SNR=5.9
CHGQ Chibougamau 88.66 339 P 22 20 19.5
baz=27
D63A Stockholm 89.13 334 P 22 20 20.4
baz=32
D62A Allapoint, All 89.42 334 P 22 20 22.1
baz=31
E64A Bridgewater 89.56 333 P 22 20 22.7
baz=32
D61A St Aubert, Com 89.71 335 P 22 20 23.1
baz=30
E63A Oxbow 89.77 333 P 22 20 24.8
baz=31
BBB Bella Bella 89.92 12 P **P** 22 20 24.9 +0.2
comp=Z,22nm,0.9s,baz=337,slow=3.1,SNR=6.3
E62A Clayton Lake 89.99 334 P 22 20 25.9
baz=30
LSQQ Lebel-sur-Quev 90.17 340 P 22 20 26.8
baz=25
D60A Saint Jean D'O 90.21 335 P 22 20 26.9
baz=29
F64A Sherman 90.22 333 P 22 20 26.5
baz=31
CTAO Charters Tower 90.32 115 P **P** 22 20 26.9 -0.2
CTAO pmax pmax
comp=Z,40nm,0.9s
CTAO Charters Tower 90.32 115 P **P** 22 20 26.9 -0.2
CTAO IAmb IAmb 22 20 27.8
comp=Z,40nm,0.9s
LATQ La Tuque 90.41 337 P 22 20 27.6
baz=28
D59A Saint-Raymond 90.44 336 P 22 20 28.4
baz=29
E61A Lac Etchemin 90.49 335 P 22 20 28.3
baz=30
G65A Princeton 90.49 332 P 22 20 27.4
baz=32
F63A Nahmakanta, Br 90.63 334 P 22 20 28.4
baz=31
D58A Chemin du LacG 90.70 336 P 22 20 28.7
baz=28
H66A Whiting 90.75 332 P 22 20 28.8
baz=32
F62A Pittston Farm, 90.77 334 P 22 20 28.6
baz=30
E60A Ste Agathe de 90.87 335 P 22 20 29.0
baz=29
G64A Maxfield 90.89 333 P 22 20 29.1
baz=31
F61A St Evariste 91.06 335 P 22 20 30.1
baz=29
PKME Peaks-Kenny Pk 91.07 333 P 22 20 29.9
baz=31
VLDQ Val d'Or 91.16 340 IAmb IAmb 22 20 33.1
comp=Z,78nm,1.1s
G63A Kingsbury 91.32 334 P 22 20 31.9
baz=30
D56A ZEC Mazanza, M 91.33 338 P 22 20 31.8
baz=27,SNR=11
F60A Warwick 91.39 335 P 22 20 31.3
baz=29
E58A La Victoria 91.47 336 P 22 20 32.3
baz=28,SNR=7.0
G62A West of Eustis 91.55 334 P 22 20 32.9
baz=30
D55A Sainte-Anne-du 91.57 338 P 22 20 33.2
baz=26,SNR=21
H64A Troy 91.58 333 P 22 20 32.9
baz=31
F59A Saint Guilaume 91.77 336 P 22 20 34.0
baz=28
G61A St-Isidore-de- 91.84 335 P 22 20 34.6
baz=29
E56A St. Veronique 91.87 338 P 22 20 33.7
baz=26,SNR=6.9
I63A Otisfield 92.58 334 P 22 20 37.0
baz=30
H61A Lyndonville 92.64 335 P 22 20 37.7
baz=29
ULM Lac du Bonnet 92.75 352 P **P** 22 20 37.7 -0.3
comp=Z,26nm,0.8s,baz=7.9,slow=5.0,SNR=29
ULM pP **pP** 22 21 25.9 -0.1
comp=Z,23nm,1.0s,baz=7.1,slow=4.2,SNR=7.2
ULM LR LR 23 05 54.7
comp=Z,150nm,19.1s,baz=10.0,slow=38
ULM Lac du Bonnet 92.75 352 P **P** 22 20 37.7 -0.3
ULM *PP **pP** 22 21 25.9 -0.1
ULM Lac du Bonnet 92.75 352 P **P** 22 20 37.3 -0.7
ULM IAmb IAmb 22 20 39.2
comp=Z,39nm,0.9s
ULM pP **pP** 22 21 26.2 +0.2
G58A Ormstown 92.80 336 P 22 20 38.0
baz=27
H60A Morristown 92.88 335 P 22 20 37.6
baz=28
LBNH Lisbon 92.89 335 P 22 20 37.6
baz=29
I62A Tamworth 93.01 334 P 22 20 38.2
baz=29
H59A Cadyville 93.13 336 P 22 20 39.2
baz=27
G57A Newington 93.14 337 P 22 20 39.5
baz=26,SNR=6.0
ALGO Algonquin Park 93.29 339 P 22 20 40.3
baz=24,SNR=9.3
J63A Strafford 93.43 334 P 22 20 40.6
baz=29
LONY Lake Ozonia 93.44 336 P 22 20 41.0
baz=27
H58A Gabriels 93.49 336 P 22 20 41.3
baz=27
I60A Shoreham 93.71 335 P 22 20 42.5
baz=28
J62A Henniker 93.74 334 P 22 20 42.9
baz=29
PLVO Plevna 93.84 338 IAmb IAmb 22 20 45.7
comp=Z,74nm,1.6s
H57A Richville 93.84 337 P 22 20 43.1
baz=26
J61A Chester 93.89 335 P 22 20 43.2
baz=28
A04D Lummi Island 94.10 9 P 22 20 44.2
baz=349
J60A Lant Hill Farm 94.28 335 P 22 20 45.1
baz=28
K62A Royalston 94.38 334 P 22 20 46.1
baz=28
I57A Carthage 94.40 337 P 22 20 45.1
baz=26
I58A Old Forge 94.40 336 P 22 20 46.0
baz=26
EYMN Ely 94.41 349 P **P** 22 20 45.7 0.0
EYMN IAmb IAmb 22 20 47.9
comp=Z,48nm,1.1s
EYMN pP **pP** 22 21 33.9 +0.2
EYMN Ely 94.41 349 P 22 20 45.8
baz=14,SNR=27
B06A Marblemount 94.44 9 IAmb IAmb 22 20 47.1
comp=Z,28nm,1.0s
L64A Middleborough 94.52 333 P 22 20 46.3
baz=30
WALA Waterton Lakes 94.55 3 IAmb IAmb 22 20 48.1
comp=Z,37nm,0.9s
B05A Bryant 94.62 9 P 22 20 46.9
baz=349,SNR=12
STKA Stephens Creek 94.62 127 P **P** 22 20 45.5 -1.2
comp=Z,4.6nm,0.8s,baz=308,slow=6.5,SNR=11
STKA Stephens Creek 94.62 127 P **P** 22 20 45.5 -1.2
AGMN Agassiz Nation 94.68 351 IAmb IAmb 22 20 48.4
comp=Z,41nm,1.0s
AGMN Agassiz Nation 94.68 351 P 22 20 46.9
baz=10,SNR=23
SADO Sadowa 94.69 339 P **P** 22 20 47.3 +0.3
comp=Z,12nm,1.0s,baz=34,slow=4.4,SNR=7.1
SADO LR LR 23 03 36.6
comp=Z,126nm,20.8s,baz=17,slow=35
SADO Sadowa 94.69 339 IAmb IAmb 22 20 48.7
comp=Z,30nm,1.2s
L61B Northampton 94.73 334 P 22 20 47.2
baz=28
K61A Williamstown 94.74 335 P 22 20 47.2
baz=28
J58A Remsen 94.80 336 P 22 20 47.0
baz=26
B08A Colville Reser 94.84 7 P **P** 22 20 47.6 0.0
B08A IAmb IAmb 22 20 49.5
comp=Z,25nm,0.9s
L63A North Scituate 94.86 333 P 22 20 47.6
baz=29
M64A Tiverton 94.99 333 P 22 20 48.4
baz=29
NEW Newport 95.13 6 P **P** 22 20 49.4 +0.4
comp=Z,16nm,0.7s,baz=335,slow=4.6,SNR=27
NEW pP **pP** 22 21 37.4 +0.5
comp=Z,8.3nm,1.0s,baz=331,slow=5.7,SNR=3.5
NEW Newport 95.13 6 P **P** 22 20 49.4 +0.4
NEW *PP **pP** 22 21 37.4 +0.5
NEW Newport 95.13 6 IAmb IAmb 22 20 51.0
comp=Z,23nm,0.8s
NEW Newport 95.13 6 P 22 20 48.5
baz=353,SNR=19
DGMT Dagmar 95.18 357 P 22 20 49.5
baz=3.6
D03D Eldon 95.21 10 P 22 20 49.7
baz=348,SNR=9.1
NLWA Neilton Lookou 95.24 10 IAmb IAmb 22 20 52.2
comp=Z,28nm,1.1s
C09A Chrisman Ranch 95.49 7 IAmb IAmb 22 20 52.7
comp=Z,32nm,1.1s
MDND Maddock 95.50 354 P 22 20 50.7
baz=7.3
D04E Lakebay 95.60 10 P 22 20 51.5
baz=349
J55A Hilton 95.67 338 IAmb IAmb 22 20 53.1
comp=Z,34nm,1.2s
EGMT Eagleton 95.71 1 P 22 20 51.9
baz=359,SNR=29
COWI Conover 95.79 347 IAmb IAmb 22 20 53.3
comp=Z,18nm,0.9s
JTMT Jette 95.84 4 IAmb IAmb 22 20 54.4
comp=Z,42nm,1.3s
F42A Maple Grove Fa 95.92 346 IAmb IAmb 22 20 54.0
comp=Z,27nm,0.9s
K56A Middlesex 96.04 337 P 22 20 53.2
baz=25
GLMI Grayling 96.05 343 P 22 20 52.9
baz=19
BINY Binghamton 96.07 336 P 22 20 53.1
baz=26
E03A Lebam 96.11 10 IAmb IAmb 22 20 55.8
comp=Z,23nm,0.9s
LON Longmire 96.14 9 IAmb IAmb 22 20 55.9
comp=Z,14nm,0.8s
L58A Harry Jones Me 96.16 336 P 22 20 53.3
baz=26
D08A Wollman Farm, 96.17 7 IAmb IAmb 22 20 55.6
comp=Z,16nm,0.9s
MMNY Mt. Morris Dam 96.19 338 P **P** 22 20 54.6 +0.8
E04D Cinebar 96.24 10 P 22 20 54.8
baz=349,SNR=7.5
WVNY Wet Valley, N 96.69 338 IAmb IAmb 22 20 58.4
comp=Z,27nm,1.0s
E08A Dider Farm, El 96.72 7 IAmb IAmb 22 20 58.3
comp=Z,18nm,0.9s
F36A Milaca 96.75 349 P **P** 22 20 55.9 -0.5
F36A **pP** 22 21 44.7 +0.2
MSO Missoula 96.77 4 IAmb IAmb 22 20 58.2
comp=Z,26nm,1.4s
MSO Missoula 96.77 4 P 22 20 56.6
baz=356,SNR=8.4
E09A Wood Farm, Sta 96.78 7 IAmb IAmb 22 20 58.4
comp=Z,22nm,1.0s
G40A Rib Lake 96.79 347 P **P** 22 20 56.4 -0.1
G40A IAmb IAmb 22 20 58.0
comp=Z,20nm,0.9s
G40A **pP** 22 21 44.8 +0.2
HRY Holter Researc 96.97 2 P **P** 22 20 58.0 +0.5
LAO LASA Array 97.02 358 P 22 20 58.1
baz=2.0,SNR=7.8
F05D White Salmon 97.04 9 P 22 20 58.1
baz=350
F33A 5 Mile Ranch, 97.15 351 IAmb IAmb 22 20 59.8
comp=Z,19nm,0.9s
N59A State Game Lan 97.15 336 P 22 20 57.4
baz=26
M57A Sunshine Farm, 97.21 337 IAmb IAmb 22 21 01.2
comp=Z,13nm,0.8s
SPMN Marine on St. 97.27 349 IAmb IAmb 22 21 00.1
comp=Z,12nm,0.7s
SPMN Marine on St. 97.27 349 P 22 20 58.6
baz=13
ERPA Erie 97.37 339 P 22 20 59.0
baz=23
G03D McMinnville, O 97.46 10 P 22 20 59.0
baz=348
M54A Oil Creek Stat 97.83 338 IAmb IAmb 22 21 03.5
comp=Z,27nm,1.3s
M54A Oil Creek Stat 97.83 338 P 22 20 59.7
baz=23
I42A Draeger Farm, 97.87 346 IAmb IAmb 22 21 03.0
comp=Z,19nm,1.1s
SSPA Standing Stone 98.09 337 P Pdif 22 21 02.5 0.0
SSPA IAmb IAmb 22 21 03.8
comp=Z,40nm,1.5s
SSPA Standing Stone 98.09 337 P 22 21 02.0
baz=24
P60A Greenville 98.09 335 P 22 21 02.1
baz=26
BOZ Bozeman (W) 98.09 2 IAmb IAmb 22 21 04.8
comp=Z,34nm,1.5s
BOZ Bozeman (W) 98.10 2 P 22 21 03.2
baz=358,SNR=12
H04A Detroit Lake 98.13 10 IAmb IAmb 22 21 04.2
comp=Z,17nm,1.3s
M53A WI Miller and 98.19 339 P 22 21 02.4
baz=22
I40A Norwalk 98.19 347 IAmb IAmb 22 21 04.7
comp=Z,22nm,0.9s
H04D Lebanon 98.21 10 P 22 21 02.4
baz=349
DLMT Dillon 98.30 3 IAmb IAmb 22 21 05.7
comp=Z,45nm,1.6s
N54A Moraine State 98.43 338 Pdiff 22 21 03.9
baz=23
I05D Terrebonne, OR 98.58 9 Pdiff 22 21 05.1
baz=350
RLMT Red Lodge 98.61 0 P Pdif 22 21 05.3 +0.3
RLMT IAmb IAmb 22 21 08.3
comp=Z,30nm,1.2s
RLMT pP 22 21 54.7 +1.6
RLMT Red Lodge 98.61 0 Pdiff 22 21 05.3
baz=360
O56A Blue Knob Stat 98.64 337 IAmb IAmb 22 21 07.8
comp=Z,38nm,1.5s
O56A Blue Knob Stat 98.64 337 Pdiff 22 21 04.6
baz=24
I03D Drain, OR 98.93 11 Pdiff 22 21 06.0
baz=348
I04A Tendick Farm, 98.97 10 Pdiff 22 21 06.5
baz=349
YMP Mirror Lake Pl 98.98 1 IAmb IAmb 22 21 09.4
comp=Z,21nm,1.5s
JFWS Jewell Farm 99.07 346 P **Pdif** 22 21 07.5 +0.7
JFWS IAmb IAmb 22 21 10.1
comp=Z,15nm,0.8s
JFWS **pP** 22 21 54.6 -0.3
JFWS Jewell Farm 99.07 346 Pdiff 22 21 06.5
baz=15
ECSD EROS Data Cent 99.26 351 Pdif **Pdif** 22 21 07.4 -0.2
ECSD IAmb IAmb 22 21 09.5
comp=Z,16nm,0.9s
ECSD pP **pP** 22 21 56.2 +0.3
ECSD EROS Data Cent 99.26 351 Pdiff 22 21 07.2
baz=9.8
J01E Myrtle Point 99.36 11 Pdiff 22 21 07.7
baz=348
O53A New Philadelph 99.45 339 Pdiff 22 21 07.8
baz=22
RSSD Black Hills 99.51 357 P **Pdif** 22 21 09.3 +0.3
RSSD *PP **pP** 22 21 57.6 +0.5
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD Black Hills 99.51 357 Pdif **Pdif** 22 21 09.2 +0.3
RSSD IAmb IAmb 22 21 13.3
comp=Z,12nm,0.8s
RSSD pP **pP** 22 21 57.6 +0.5
RSSD Black Hills 99.51 357 Pdiff 22 21 09.4
baz=3.8
J04D Umpqua Nationa 99.55 10 Pdiff 22 21 09.9
baz=349
MCWV Mont Chateau 99.59 338 Pdiff 22 21 09.3
baz=23
J05D Fort Rock, OR 99.63 9 Pdiff 22 21 10.0
baz=350
K38A Parkersburg 99.78 348 Pdif **Pdif** 22 21 10.0 +0.1
K38A pP **pP** 22 21 58.5 +0.3
K38A IAmb IAmb 22 21 59.7
comp=Z,29nm,1.3s
K02D Willamette Mer 99.86 11 Pdiff 22 21 10.6
baz=348
P52A Corning 100.28 340 Pdiff 22 21 11.9
baz=21
L02E Cave Junction 100.39 11 Pdiff 22 21 12.4
baz=348
L04D Klamath Falls 100.53 10 Pdiff 22 21 13.0
baz=349
YBH Yreka Blue Hor 100.94 11 P **Pdif** 22 21 16.4 +1.1
comp=Z,2.4nm,0.9s,baz=298,slow=1.6,SNR=8.7
YBH Yreka Blue Hor 100.94 11 P **Pdif** 22 21 16.4 +1.1
PDAR Pinedale Array 100.97 1 P **Pdif** 22 21 16.4 +0.9
comp=Z,1.7nm,0.5s,baz=165,slow=12,SNR=9.6
PDAR PKKPbc **PKKPbc** 22 37 24.6 -1.8
comp=Z,0.4nm,0.6s,baz=191,slow=3.9,SNR=4.5
M04C Macdoel 101.02 10 Pdiff 22 21 15.5
baz=349
K22A Casper 101.06 358 Pdiff 22 21 15.5
baz=1.8
M02C Callahan 101.26 11 Pdiff 22 21 16.8
baz=348
CCM Cathedral Cave 103.96 346 Pdiff 22 21 28.4
baz=14
KMSC Kings Mountain 104.20 337 Pdiff 22 21 28.9
baz=22
NVAR Mina Array Bea 104.77 8 Pdiff **Pdif** 22 21 33.7 +1.2
comp=Z,1.4nm,0.7s,baz=352,slow=3.8,SNR=11
NVAR PKiKP **PKiKP** 22 25 47.3 +0.5
comp=Z,1.2nm,0.9s,baz=179,slow=0.8,SNR=3.5
NVAR PKKPbc **PKKPbc** 22 37 14.1 -1.1
comp=Z,0.9nm,0.7s,baz=188,slow=6.2,SNR=5.3
NVAR Mina Array Bea 104.77 8 Pdif **Pdif** 22 21 33.5 +1.0
WVT Waverly 105.07 343 Pdiff 22 21 32.7
baz=17
GMRC Granite Mounta 108.64 6 PKiKP 22 25 54.1
baz=354
ANMO Albuquerque 108.75 358 Pdiff **Pdif** 22 21 52.4 +2.1
comp=Z,1.6nm,0.9s,baz=65,slow=2.9,SNR=3.5
ANMO Albuquerque 108.75 358 P **Pdif** 22 21 51.8 +1.5
ANMO Albuquerque 108.75 358 **Pdif** 22 21 51.8 +1.5
ANMO Albuquerque 108.75 358 PKiKP 22 25 54.4
baz=1.9
IRM Iron Mountain 109.31 6 PKiKP 22 25 54.9
baz=354
BELC Belle Mtn. Jos 109.39 6 PKiKP 22 25 55.2
baz=354
BRAL Brewton 109.58 340 PKiKP 22 25 55.6
baz=18
CIS Catalina Islan 109.72 9 PKiKP 22 25 55.6
baz=352
PFO Pinyon Flats O 109.73 7 PKiKP 22 25 55.8
baz=353
TPFO Pinon Flats 109.73 7 PKiKP 22 25 55.6
baz=353
SWSC Sam W. Stewart 110.45 6 PKiKP 22 25 57.1
baz=354
IKP In-Ko-Pah, Jac 110.72 7 PKiKP 22 25 58.1
baz=354
121A Cookes Peak, D 111.18 359 PKiKP 22 25 58.8
baz=0.8
TUC Tucson 111.38 2 PKiKP 22 25 59.6
baz=358
214A Organ Pipe Nat 111.65 4 PKiKP 22 25 59.1
baz=356
MNTX Cornudas Mount 111.95 357 PKiKP 22 26 00.2
baz=2.9
JCT Junction City 112.72 352 PKiKP 22 26 01.5
baz=7.7
TXAR Lajitas Array 114.21 355 PKP PKPdf 22 26 05.0 +0.3
comp=Z,0.7nm,0.5s,baz=69,slow=1.5,SNR=7.3
TXAR PP **PP** 22 27 02.6 +1.4
comp=Z,3.3nm,1.0s,baz=29,slow=2.9,SNR=7.8
TXAR PKKPbc **PKKPbc** 22 36 44.0 -1.0
comp=Z,1.8nm,0.9s,baz=180,slow=5.2,SNR=13
TXAR PKKPab **PKKPab** 22 36 52.1 -3.6
comp=Z,1.4nm,0.9s,baz=183,slow=8.5,SNR=7.4
TXAR Lajitas Array 114.21 355 PKiKP PKPdf 22 26 05.1 +0.4
SNAA Sanae 119.64 201 P **PKPdf** 22 26 12.5 -1.1
SNAA Sanae 119.64 201 PKKPbc PKKPbc 22 36 25.3 -1.1
comp=Z,3.6nm,0.9s,baz=198,slow=0.9,SNR=9.4
SNAA Sanae 119.64 201 *c i* PKiKP **PKPdf** 22 26 13.5 -0.1
SNAA pmax pmax
comp=Z,13nm,1.0s
ZAIG Zacatecas 120.64 354 **PKiKP** 22 26 18.4 +0.9
VNA1 Neumayer--Stat 120.80 202 P **PKiKP** 22 26 16.4 +0.5
VNA3 Neumayer Olymp 121.45 202 P **PKiKP** 22 26 17.4 +0.2
PTGA Pitinga 122.61 297 PKP **PKPdf** 22 26 20.4 -0.6
comp=Z,1.0nm,0.3s,baz=276,slow=23,SNR=4.7
PTGA Pitinga 122.61 297 **PKPdf** 22 26 18.6 -2.5
CMIG Matias Romero 125.01 344 PKP **PKPdf** 22 26 24.9 -0.7
comp=Z,2.5nm,0.4s,baz=319,slow=19,SNR=6.5
VNDA Vanda 125.55 164 PKP **PKPdf** 22 26 23.3 -1.4
comp=Z,8.3nm,0.8s,baz=292,slow=4.3,SNR=38
VNDA Vanda 125.55 164 PKiKP **PKPdf** 22 26 23.3 -1.4
SBA Scott Base 126.63 165 PKiKP **PKPdf** 22 26 27.0 +0.2
SBA Scott Base 126.63 165 PKPdf **PKPdf** 22 26 27.0 +0.2
SIV San Ignacio 133.22 283 PKP **PKPdf** 22 26 40.2 -0.9
comp=Z,2.6nm,0.8s,baz=101,slow=3.4,SNR=11
SIV PP **PP** 22 29 07.9 -2.4
comp=Z,1.4nm,0.5s,baz=67,slow=6.7,SNR=4.3
OTAV Otavalo 133.86 316 PKiKP **PKPdf** 22 26 43.7 +0.6
OTAV Otavalo 133.86 316 **PKPdf** 22 26 43.7 +0.6
OTAV Otavalo 133.86 316 *e* P **PKiKP** 22 26 44.1 -0.3
CPUP Villa Florida 135.53 268 PKP **PKPdf** 22 26 43.8 -1.4
comp=Z,6.0nm,0.8s,baz=84,slow=2.4,SNR=17
CPUP PP **PP** 22 29 22.4 -2.6
comp=Z,4.7nm,1.0s,baz=20,slow=7.6,SNR=2.7
CPUP SKPbc **SKPbc** 22 29 56.8 -1.8
comp=Z,2.0nm,0.6s,baz=39,slow=5.1,SNR=3.4
CPUP Villa Florida 135.53 268 PKiKP **PKPdf** 22 26 43.8 -1.4
CPUP Villa Florida 135.53 268 PKPdf **PKPdf** 22 26 44.6 -0.5
LPAZ La Paz 138.86 289 PKP **PKPdf** 22 26 51.3 -1.1
comp=Z,2.0nm,0.7s,baz=42,slow=6.5,SNR=8.1
LPAZ La Paz 138.86 289 PKiKP **PKPdf** 22 26 51.3 -1.1
LVC Limon Verde 143.03 281 PKhKP PKPpre 22 26 54.9

comp=Z,13nm,0.7s,baz=49,slow=4.1,SNR=17
LVC PP **PP** 22 30 10.5 -0.9
comp=Z,3.1nm,0.7s,baz=93,slow=7.0,SNR=3.5
LVC Limon Verde 143.03 281 PKHKP PKPpre 22 26 55.1
LVC Limon Verde 143.03 281 PKPdf PKPab 22 26 55.1 0.0
TRQA Tornquist 143.20 253 PKIKP PKPab 22 26 55.6 +0.6
TRQA Tornquist 143.20 253 PKPdf PKPab 22 26 55.6 +0.6
PB10 IPOC Station P 144.79 281 PKPdf PKPbc 22 27 01.2 -0.3
AC02 Maricunga 145.23 275 PKPdf **PKPdf** 22 27 03.1 -0.2
GO03 Copiap 146.44 274 **PKPbc** 22 27 06.2 -0.2
VA03 San Esteban 148.60 266 **PKPdf** 22 27 08.3 +0.1
PLCA Paso Flores 150.16 250 PKPbc **PKPbc** 22 27 15.2 -0.5
comp=Z,36nm,0.9s,baz=121,slow=2.5,SNR=3.0
PLCA Paso Flores 150.16 250 PKIKP **PKPbc** 22 27 15.2 -0.5
PLCA Paso Flores 150.16 250 **PKPbc** 22 27 15.7 0.0
GO09 Cerro Castillo 150.42 229 **PKPbc** 22 27 16.0 +0.1
LL01 San Ignacio de 151.63 247 **PKPbc** 22 27 17.9 -1.0
GO07 Milladeo Hill, 152.55 246 **PKPbc** 22 27 20.1 -0.8

IDC ***29*** *22:20:54.8±2.9, 45.95N×27.22E, h14km±23km, mb3.9/5, mb1 3.9/12, mb1mx3.6/64, mbtmp4.1/12, ML3.8/7 Error ellipse: s-maj=10.5km s-min=9.1km az=122.0*
SIGU ***29*** *22:20:55.3, 46.04N×27.15E, h10km*
BUC ***29*** *22:20:56.1±0.2, 46.01N×27.18E, h19km±1km, ml4.0/66, Error ellipse: s-maj=1.1km s-min=1.0km az=32.0*
NEIC ***29*** *22:20:56.0±1.7, 46.03N±0.03×27.17E±0.03, h20km±6km, Error ellipse: s-maj=3.8km s-min=2.9km az=185.0*
CFUSG ***29*** *22:20:57.5, 45.97N×27.42E, h10km, mb3.5/6, MD4.0/5, Romania Magtype MSH 3.8 from 6 stations*
SOF ***29*** *22:20:57.1, 45.93N×27.14E, h60km, MD4.1*
PRU ***29*** *22:21:00.9±0.0, 46.08N×26.74E, h10km, M4.2*
ISC 29 22:20:55.9±0.7, 46.01N±0.01×27.19E±0.01, h23km±4km, n314, σ1$36/452, mb4.2/10, 142C-104D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
GHRR		**0.16**	**72**	⇓P		**Pb**	**22 21 01.1 +0.2**
GHRR				⇓S		**Sb**	**22 21 03.6 -0.2**
GHRR		**0.16**	**72**	⇓P		**Pb**	**22 21 01.1 +0.2**
GHRR				⇓S		**Sb**	**22 21 03.6 -0.6**
GHRR		**0.16**	**72**			**Pb**	**22 21 01.1 +0.2**
GHRR						**Sb**	**22 21 05.3 +1.0**
ODBI	**Odobesti**	**0.27**	**200**	⇓P		**Pb**	**22 21 02.6 +0.4**
ODBI				⇓S		**Sb**	**22 21 07.7 +1.1**
ODBI	**Odobesti**	**0.27**	**200**	⇓P		**Pb**	**22 21 02.6 +0.4**
ODBI				⇓S		**Sb**	**22 21 07.7 +1.1**
ODBI	**Odobesti**	**0.27**	**200**			**Pb**	**22 21 02.6 +0.4**
ODBI						**Sb**	**22 21 07.7 +1.1**
VRI	**Vrincioaia**	**0.35**	**246**	⇓P		**Pb**	**22 21 03.1 -0.5**
VRI				⇓S		**Sb**	**22 21 08.5 -0.3**
VRI	**Vrincioaia**	**0.35**	**246**	⇓P		**Pb**	**22 21 03.1 -0.5**
VRI				⇓S		**Sb**	**22 21 08.5 -0.3**
VRI	**Vrincioaia**	**0.35**	**246**			**Pb**	**22 21 03.1 -0.5**
VRI						**Sb**	**22 21 08.5 -0.3**
BIR	**Birlad**	**0.40**	**50**	⇓P		**Pb**	**22 21 04.7 +0.4**
BIR	**Birlad**	**0.40**	**50**	⇓P		**Pb**	**22 21 04.7 +0.4**
BIR	**Birlad**	**0.40**	**50**			**Pb**	**22 21 04.7 +0.4**
PLOR	**Plostina**	**0.41**	**247**	⇓P		**Pb**	**22 21 04.1 -0.4**
PLOR				⇓S		**Sb**	**22 21 10.6 +0.2**
PLOR	**Plostina**	**0.41**	**247**	⇓P		**Pb**	**22 21 04.1 -0.4**
PLOR				⇓S		**Sb**	**22 21 10.6 +0.2**
PLOR	**Plostina**	**0.41**	**247**			**Pb**	**22 21 04.1 -0.4**
PLOR						**Sb**	**22 21 10.6 +0.2**
VARL	**Varlezi**	**0.47**	**103**	⇓P		**Pb**	**22 21 05.7 +0.1**
VARL				⇓S		**Sb**	**22 21 13.5 +1.3**
VARL	**Varlezi**	**0.47**	**103**	⇓P		**Pb**	**22 21 05.7 +0.1**
VARL				⇓S		**Sb**	**22 21 13.5 +1.3**
VARL	**Varlezi**	**0.47**	**103**			**Pb**	**22 21 05.7 +0.1**
VARL						**Sb**	**22 21 13.5 +1.3**
TUDR		**0.54**	**141**	⇑P		**Pb**	**22 21 06.3 -0.3**
TUDR				⇓S		**Sb**	**22 21 15.1 +1.2**
TUDR		**0.54**	**141**	⇑P		**Pb**	**22 21 06.3 -0.3**
TUDR				⇓S		**Sb**	**22 21 15.1 +1.2**
TUDR		**0.54**	**141**			**Pb**	**22 21 06.3 -0.3**
TUDR						**Sb**	**22 21 15.1 +1.2**
BISRR	**Bisoca**	**0.57**	**216**	⇓P		**Pb**	**22 21 07.5 +0.2**
BISRR				⇓S		**Sn**	**22 21 16.5 -0.9**
BISRR	**Bisoca**	**0.57**	**216**	⇓P		**Pb**	**22 21 07.5 +0.2**
BISRR				⇓S		**Sn**	**22 21 16.5 -0.9**
TESR	**Tescani**	**0.62**	**323**	⇑P		**Pb**	**22 21 07.7 -0.5**
TESR				⇓S		**Sb**	**22 21 16.4 -0.2**
TESR	**Tescani**	**0.62**	**323**	⇑P		**Pb**	**22 21 07.7 -0.5**
TESR				⇓S		**Sb**	**22 21 16.4 -0.2**
TESR	**Tescani**	**0.62**	**323**			**Pb**	**22 21 07.7 -0.5**
TESR						**Sb**	**22 21 16.4 -0.2**
GRER		**0.65**	**193**	⇑P		**Pn**	**22 21 09.7 0.0**
GRER				⇓S		**Sn**	**22 21 19.1 -0.1**
GRER		**0.65**	**193**	⇑P		**Pn**	**22 21 09.7 0.0**
GRER				⇓S		**Sn**	**22 21 19.1 -0.1**
GRER		**0.65**	**193**			**Pn**	**22 21 09.7 0.0**
GRER						**Sn**	**22 21 19.1 -0.1**
SCHL	**Schela**	**0.68**	**138**	⇑P		**Pb**	**22 21 08.4 -0.6**
SCHL				⇓S		**Sb**	**22 21 18.5 +0.4**
SCHL	**Schela**	**0.68**	**138**	⇑P		**Pb**	**22 21 08.4 -0.6**
SCHL				⇓S		**Sb**	**22 21 18.5 +0.4**
VASR	**Vaslui**	**0.76**	**33**	⇑P		**Pn**	**22 21 10.9 -0.3**
VASR				⇓S		**Sn**	**22 21 21.3 -0.5**
VASR	**Vaslui**	**0.76**	**33**	⇑P		**Pn**	**22 21 10.9 -0.3**
VASR				⇓S		**Sn**	**22 21 21.3 -0.5**
GISR	**Galati**	**0.83**	**133**	⇑P		**Pb**	**22 21 11.2 -0.5**
GISR				⇓S		**Sb**	**22 21 22.7 +0.3**
GISR	**Galati**	**0.83**	**133**	⇑P		**Pb**	**22 21 11.2 -0.5**
GISR				⇓S		**Sb**	**22 21 22.7 +0.3**
NEHR	**Nehoiu**	**0.86**	**227**	⇓P		**Pn**	**22 21 12.5 0.0**
NEHR				⇓S		**Sn**	**22 21 24.8 +0.5**
NEHR	**Nehoiu**	**0.86**	**227**	⇓P		**Pn**	**22 21 12.5 0.0**
NEHR				⇓S		**Sn**	**22 21 24.8 +0.5**
NEHR	**Nehoiu**	**0.86**	**227**			**Pn**	**22 21 12.5 0.0**
NEHR						**Sn**	**22 21 24.8 +0.5**
GIUM	**Giurgiulesti**	**0.89**	**126**	⇑P		**Pb**	**22 21 12.5 -0.1**
GIUM				⇓S		**Sn**	**22 21 25.0 -0.1**
GIUM	**Giurgiulesti**	**0.89**	**126**	⇑P		**Pb**	**22 21 12.5 -0.1**
GIUM				⇓S		**Sn**	**22 21 25.0 -0.1**
GIUM	**Giurgiulesti**	**0.89**	**126**	P		**Pb**	**22 21 12.5 -0.1**
OZUR		**0.98**	**275**	⇑P		**Pn**	**22 21 14.6 +0.3**
OZUR				⇓S		**Sb**	**22 21 26.9 +0.2**
OZUR		**0.98**	**275**	⇑P		**Pn**	**22 21 14.6 +0.3**
OZUR				⇓S		**Sb**	**22 21 26.9 +0.2**
ISR	**Istrita**	**1.00**	**207**	⇑P		**Pb**	**22 21 15.6 +1.1**
ISR	**Istrita**	**1.00**	**207**	⇑P		**Pb**	**22 21 15.6 +1.1**
MLR	**Muntele Rosu**	**1.01**	**240**	⇓P		**Pb**	**22 21 15.0 +0.1**
MLR				⇓S		**Sn**	**22 21 29.3 +0.9**
MLR	**Muntele Rosu**	**1.01**	**240**	Pg		**Pb**	**22 21 14.9 +0.1**
	215nm,0.3s,baz=16,slow=6.4,SNR=27						
MLR				Lg		Lg	22 21 29.2
	397nm,0.3s,baz=174,slow=22,SNR=15						
MLR				LR		LR	22 21 51.0
	comp=Z,1μm,21.8s,baz=320,slow=56						
MLR	**Muntele Rosu**	**1.01**	**240**	⇓P		**Pb**	**22 21 15.0 +0.1**
MLR				⇓S		**Sn**	**22 21 29.3 +0.9**
MLR	**Muntele Rosu**	**1.01**	**240**	Pn		**Pb**	**22 21 15.2 +0.3**
MLR				Sn		**Sn**	**22 21 29.1 +0.7**
GIRR	**Girov**	**1.06**	**334**	⇑P		**Pb**	**22 21 15.5 0.0**
GIRR	**Girov**	**1.06**	**334**	⇑P		**Pb**	**22 21 15.5 0.0**
CFR	**Carcaliu**	**1.07**	**141**	⇑P		**Pn**	**22 21 14.6 -0.8**
CFR				⇓S		**Sn**	**22 21 29.4 -0.1**
CFR	**Carcaliu**	**1.07**	**141**	⇑P		**Pn**	**22 21 14.6 -0.8**
CFR				⇓S		**Sn**	**22 21 29.4 -0.1**
CFR	**Carcaliu**	**1.07**	**141**			**Pn**	**22 21 14.8 -0.6**
CFR						**Sn**	**22 21 30.7 +1.2**
IAS	**Iasi**	**1.21**	**12**	⇑P		**Pb**	**22 21 18.3 +0.2**
IAS				⇓S		**Sb**	**22 21 34.4 +1.1**
IAS	**Iasi**	**1.21**	**12**	⇑P		**Pb**	**22 21 18.3 +0.2**
IAS				⇓S		**Sb**	**22 21 34.4 +1.1**
SECR		**1.25**	**219**	⇑P		**Pb**	**22 21 19.5 +0.6**
SECR				⇓S		**Sb**	**22 21 37.1 +2.5**
SECR		**1.25**	**219**	⇑P		**Pb**	**22 21 19.5 +0.6**
SECR				⇓S		**Sb**	**22 21 37.1 +2.5**
DOPR	**Dopca**	**1.25**	**269**	⇑P		**Pn**	**22 21 18.0 0.0**
DOPR				⇓S		**Sb**	**22 21 36.3 +1.7**
DOPR	**Dopca**	**1.25**	**269**	⇑P		**Pn**	**22 21 18.0 0.0**
DOPR				⇓S		**Sb**	**22 21 36.3 +1.7**
DOPR	**Dopca**	**1.25**	**269**			**Pn**	**22 21 18.0 0.0**
JOSR	**Joseni**	**1.35**	**302**	⇓P		**Pb**	**22 21 20.1 -0.5**
JOSR				⇓S		**Sb**	**22 21 37.3 -0.1**
JOSR	**Joseni**	**1.35**	**302**	⇓P		**Pb**	**22 21 20.1 -0.5**
JOSR				⇓S		**Sb**	**22 21 37.3 -0.1**
PLAR	**PLOIESTI**	**1.37**	**217**	⇑P		**Pb**	**22 21 20.6 -0.2**
PLAR	**PLOIESTI**	**1.37**	**217**	⇑P		**Pb**	**22 21 20.6 -0.2**
AMRR	**Amara**	**1.41**	**176**	⇑P		**Pn**	**22 21 20.2 +0.1**
AMRR				⇑S		**Sb**	**22 21 39.2 +0.3**
AMRR	**Amara**	**1.41**	**176**	⇑P		**Pn**	**22 21 20.2 +0.1**
AMRR				⇑S		**Sb**	**22 21 39.2 +0.3**
AMRR	**Amara**	**1.41**	**176**			**Pn**	**22 21 20.2 +0.1**
AMRR						**Sb**	**22 21 39.2 +0.3**
TLCR		**1.41**	**125**	⇑P		**Pb**	**22 21 21.6 +0.1**
TLCR				⇓S		**Sb**	**22 21 40.6 +1.6**
TLCR		**1.41**	**125**	⇑P		**Pb**	**22 21 21.6 +0.1**
TLCR				⇓S		**Sb**	**22 21 40.6 +1.6**
MILM	**Milestii Mici**	**1.44**	**50**	⇓P		**Pb**	**22 21 21.5 -0.5**
MILM				⇓S		**Sb**	**22 21 41.2 +1.2**
MILM	**Milestii Mici**	**1.44**	**50**	⇓P		**Pb**	**22 21 21.5 -0.5**
MILM				⇓S		**Sb**	**22 21 41.2 +1.2**
TPGR	**Topolog**	**1.45**	**143**	⇑P		**Pn**	**22 21 21.1 +0.4**
TPGR				⇓S		**Sb**	**22 21 40.3 +0.2**
TPGR	**Topolog**	**1.45**	**143**	⇑P		**Pn**	**22 21 21.1 +0.4**
TPGR				⇓S		**Sb**	**22 21 40.3 +0.2**
TPGR	**Topolog**	**1.45**	**143**			**Pn**	**22 21 20.8 +0.2**
TPGR						**Sb**	**22 21 40.3 +0.2**
KIS	**Kishinev**	**1.50**	**48**	*e*P		**Pb**	**22 21 22.4 -0.6**
	480nm,0.2s						
KIS				*e*S		**Sb**	**22 21 43.0 +1.4**
	6μm,0.6s						
KIS	**Kishinev**	**1.50**	**48**	⇑P		**Pb**	**22 21 22.4 -0.6**
KIS				⇓S		**Sb**	**22 21 43.3 +1.8**
KIS	**Kishinev**	**1.50**	**48**	⇑P		**Pb**	**22 21 22.4 -0.6**
KIS				⇓S		**Sb**	**22 21 43.3 +1.8**
KIS	**Kishinev**	**1.50**	**48**	P		**Pb**	**22 21 22.4 -0.6**
KIS				Pm			22 21 23.5
KIS				S		**Sb**	**22 21 43.0 +1.4**
KIS				Sm			22 21 43.3
KIS				m			22 21 47.0
PRAR	**RASCA**	**1.50**	**334**	⇓P		**Pn**	**22 21 21.7 +0.3**
PRAR	**RASCA**	**1.50**	**334**	⇓P		**Pn**	**22 21 21.7 +0.3**
LEHL	**Lehliu**	**1.56**	**190**	⇑P		**Pn**	**22 21 22.6 +0.4**
LEHL				⇓S		**Sb**	**22 21 43.2 -0.2**
LEHL	**Lehliu**	**1.56**	**190**	⇑P		**Pn**	**22 21 22.6 +0.4**
LEHL				⇓S		**Sb**	**22 21 43.2 -0.2**
TLBR	**Topalu**	**1.59**	**157**	⇑P		**Pn**	**22 21 22.4 -0.2**
TLBR				⇓S		**Sb**	**22 21 44.6 +0.5**
TLBR	**Topalu**	**1.59**	**157**	⇑P		**Pn**	**22 21 22.4 -0.2**
TLBR				⇓S		**Sb**	**22 21 44.6 +0.5**
VOIR		**1.60**	**250**	⇓P		**Pn**	**22 21 23.1 +0.2**
VOIR				⇓S		**Sb**	**22 21 44.1 -0.6**
VOIR		**1.60**	**250**	⇓P		**Pn**	**22 21 23.1 +0.2**
VOIR				⇓S		**Sb**	**22 21 44.1 -0.6**
VOIR		**1.60**	**250**			**Pn**	**22 21 23.1 +0.2**
VOIR						**Sb**	**22 21 44.1 -0.6**
MTUR	**Matau**	**1.69**	**243**	⇑P		**Pn**	**22 21 24.8 +0.8**
MTUR	**Matau**	**1.69**	**243**	⇑P		**Pn**	**22 21 24.8 +0.8**
JURR	**Jurilovca**	**1.72**	**136**	⇓P		**Pb**	**22 21 26.0 -0.8**
JURR	**Jurilovca**	**1.72**	**136**	⇓P		**Pb**	**22 21 26.0 -0.8**
JURR	**Jurilovca**	**1.72**	**136**			**Pb**	**22 21 26.0 -0.8**
INCR	**INCERC-Sediu C**	**1.73**	**205**	⇑P		**Pn**	**22 21 25.1 +0.6**
INCR				⇓S		**Sb**	**22 21 47.1 -1.1**
INCR	**INCERC-Sediu C**	**1.73**	**205**	⇑P		**Pn**	**22 21 25.1 +0.6**
INCR				⇓S		**Sb**	**22 21 47.1 -1.1**
TIRR	**Tirgusor**	**1.78**	**150**	⇓P		**Pn**	**22 21 25.6 +0.4**
TIRR				⇓S		**Sb**	**22 21 49.8 +0.2**
TIRR	**Tirgusor**	**1.78**	**150**	⇓P		**Pn**	**22 21 25.6 +0.4**
TIRR				⇓S		**Sb**	**22 21 49.8 +0.2**
TIRR	**Tirgusor**	**1.78**	**150**	Pn		**Pn**	**22 21 25.2 0.4**
TIRR	**Tirgusor**	**1.78**	**150**			**Pn**	**22 21 25.6 +0.4**
TIRR						**Sb**	**22 21 49.8 +0.2**
CVDA	**Cernavoda**	**1.78**	**160**	⇓P		**Pn**	**22 21 26.2 +1.0**
CVDA				⇓S		**Sn**	**22 21 47.7 +0.6**
CVDA	**Cernavoda**	**1.78**	**160**	⇓P		**Pn**	**22 21 26.2 +1.0**
CVDA				⇓S		**Sn**	**22 21 47.7 +0.6**
RASA	**Rasa**	**1.80**	**181**	⇑P		**Pn**	**22 21 25.3 -0.1**
RASA				⇓S		**Sb**	**22 21 49.5 -0.6**
RASA	**Rasa**	**1.80**	**181**	⇑P		**Pn**	**22 21 25.3 -0.1**
RASA				⇓S		**Sb**	**22 21 49.5 -0.6**
BUC1	**Bucharest**	**1.85**	**207**	⇓P		**Pn**	**22 21 26.9 +0.7**
BUC1				⇓S		**Sb**	**22 21 51.1 -0.7**
BUC1	**Bucharest**	**1.85**	**207**	⇓P		**Pn**	**22 21 26.9 +0.7**
BUC1				⇓S		**Sb**	**22 21 51.1 -0.7**
ARR	**Arges**	**1.90**	**251**	⇓P		**Pn**	**22 21 27.7 +0.7**
ARR				⇓S		**Sn**	**22 21 51.5 +1.2**
ARR	**Arges**	**1.90**	**251**	⇓P		**Pn**	**22 21 27.7 +0.7**
ARR				⇓S		**Sn**	**22 21 51.5 +1.2**
ARR	**Arges**	**1.90**	**251**			**Pn**	**22 21 27.7 +0.7**
ARR						**Sn**	**22 21 51.5 +1.2**
ICOR	**Ion Corvin**	**1.94**	**167**	⇑P		**Pn**	**22 21 27.2 -0.2**
ICOR				⇓S		**Sn**	**22 21 52.1 +1.0**
ICOR	**Ion Corvin**	**1.94**	**167**	⇑P		**Pn**	**22 21 27.2 -0.2**
ICOR				⇓S		**Sn**	**22 21 52.1 +1.0**
MDB	**Medias**	**1.96**	**275**	⇓P		**Pn**	**22 21 28.6 +0.9**
MDB	**Medias**	**1.96**	**275**	⇓P		**Pn**	**22 21 28.6 +0.9**
TSSL	**Sulina**	**1.98**	**115**	⇓P		**Pn**	**22 21 29.1 +1.2**
TSSL	**Sulina**	**1.98**	**115**	⇓P		**Pn**	**22 21 29.1 +1.2**
SGRR	**Singureni**	**1.98**	**206**	⇑P		**Pn**	**22 21 28.2 +0.2**
SGRR	**Singureni**	**1.98**	**206**	⇑P		**Pn**	**22 21 28.2 +0.2**
MFTR	**Murfatlar**	**2.03**	**154**	⇑P		**Pn**	**22 21 28.9 +0.3**
MFTR	**Murfatlar**	**2.03**	**154**	⇑P		**Pn**	**22 21 28.9 +0.3**
BUR01	**Bucovina Ar. S**	**2.10**	**321**	⇓P		**Pn**	**22 21 31.1 +1.4**
BURAR	**Bucovina Array**	**2.10**	**321**	⇓P		**Pn**	**22 21 31.1 +1.4**
BURAR	**Bucovina Array**	**2.10**	**321**	Pn		**Pn**	**22 21 30.9 +0.9**
TSCT	**Constanta Port**	**2.12**	**150**	⇑P		**Pn**	**22 21 31.2 +1.3**
TSCT				⇓S		**Sb**	**22 21 58.5 -1.1**
TSCT	**Constanta Port**	**2.12**	**150**	⇑P		**Pn**	**22 21 31.2 +1.3**
TSCT				⇓S		**Sb**	**22 21 58.5 -1.1**
HUMR	**Humele**	**2.15**	**227**	⇑P		**Pn**	**22 21 30.8 +0.4**
HUMR	**Humele**	**2.15**	**227**	⇑P		**Pn**	**22 21 30.8 +0.4**
EFOR	**EFORIE**	**2.19**	**152**	⇓P		**Pn**	**22 21 31.9 +1.1**
EFOR				⇓S		**Sb**	**22 21 59.8 -1.5**
EFOR	**EFORIE**	**2.19**	**152**	⇓P		**Pn**	**22 21 31.9 +1.1**
EFOR				⇓S		**Sb**	**22 21 59.8 -1.5**
ARCR	**ARCALIA**	**2.23**	**300**	⇑P		**Pn**	**22 21 32.6 +1.1**
ARCR				⇓S		**Sn**	**22 21 59.0 +0.7**
ARCR	**ARCALIA**	**2.23**	**300**	⇑P		**Pn**	**22 21 32.6 +1.1**
ARCR				⇓S		**Sn**	**22 21 59.0 +0.7**
SORM	**Soroca**	**2.27**	**20**	⇓P		**Pn**	**22 21 32.5 +0.5**
SORM				⇓S		**Sb**	**22 22 01.7 -2.0**
SORM	**Soroca**	**2.27**	**20**	⇓P		**Pn**	**22 21 32.5 +0.5**
SORM				⇓S		**Sb**	**22 22 01.7 -2.0**
SORM	**Soroca**	**2.27**	**20**			**Pn**	**22 21 32.5 +0.5**
SORM						**Sn**	**22 21 59.7 +0.6**
SORM	**Soroca**	**2.27**	**20**	P		**Pn**	**22 21 32.4 +0.5**
COPA	**Copaceanca**	**2.34**	**217**	⇓P		**Pn**	**22 21 32.8 -0.1**
COPA	**Copaceanca**	**2.34**	**217**	⇓P		**Pn**	**22 21 32.8 -0.1**
MANR	**Mangalia**	**2.41**	**155**	⇓P		**Pn**	**22 21 34.1 +0.3**
MANR				⇓S		**Sn**	**22 22 04.8 +2.1**
MANR	**Mangalia**	**2.41**	**155**	⇓P		**Pn**	**22 21 34.1 +0.3**
MANR				⇓S		**Sn**	**22 22 04.8 +2.1**
TSMN	**Mangalia Port-**	**2.43**	**155**	⇑P		**Pn**	**22 21 34.7 +0.6**
TSMN				⇓S		**Sn**	**22 22 04.6 +1.6**
TSMN	**Mangalia Port-**	**2.43**	**155**	⇑P		**Pn**	**22 21 34.7 +0.6**
TSMN				⇓S		**Sn**	**22 22 04.6 +1.6**
PSN	**Preselentsi**	**2.44**	**163**	*i* P		**Pn**	**22 21 34.6 +0.4**
CHRU	**Chernivtsi**	**2.44**	**340**	*i* P		**Pn**	**22 21 32.7 -1.7**
CHRU					Pm		22 21 41.6
CHRU				*i* S		**Sn**	**22 21 59.3 -0.5**
CHRU					Sm		22 22 14.1
CJR	**Cluj-Napoca**	**2.58**	**287**	⇓P		**Pn**	**22 21 37.4 +1.1**
CJR				⇓S		**Sn**	**22 22 07.3 +0.4**
CJR	**Cluj-Napoca**	**2.58**	**287**	⇓P		**Pn**	**22 21 37.4 +1.1**
CJR				⇓S		**Sn**	**22 22 07.3 +0.4**
NDNU	**Novodnistrovsk**	**2.59**	**3**	*e*P		**Pn**	**22 21 37.0 +0.7**
NDNU					Pm		22 21 45.3
NDNU				*e*S		**Sn**	**22 22 08.4 +1.4**
NDNU					Sm		22 22 15.3
ZIMR		**2.69**	**209**	⇑P		**Pn**	**22 21 38.1 +0.5**
ZIMR		**2.69**	**209**	⇑P		**Pn**	**22 21 38.1 +0.5**
KSV	**Kosov**	**2.72**	**329**	*i* P		**Pn**	**22 21 39.0 +0.8**
KSV					Pm		22 21 50.0
KSV				*e*S		**Sn**	**22 22 12.3 +1.9**
KSV					Sm		22 22 22.2
KALB	**Balgarevo**	**2.75**	**161**	⇑P		**Pn**	**22 21 38.9 +0.4**
KALB				⇑S		**Sn**	**22 22 11.6 +0.6**
KALB	**Balgarevo**	**2.75**	**161**	⇑P		**Pn**	**22 21 38.9 +0.4**
KALB				⇑S		**Sn**	**22 22 11.6 +0.6**
PRD	**Provadia**	**2.81**	**177**	*i* P		**Pn**	**22 21 39.9 +0.5**
VLAD	**Vladila**	**2.82**	**225**	⇓P		**Pn**	**22 21 39.5 0.0**
VLAD	**Vladila**	**2.82**	**225**	⇓P		**Pn**	**22 21 39.5 0.0**
NSLU	**Nyzhne Selyshc**	**2.87**	**321**	*e*P		**Pb**	**22 21 48.8 +2.4**
RAKU	**Rahkiv**	**2.89**	**315**	*e*P		**Pn**	**22 21 41.9 +1.5**
SZH	**Strazhica**	**2.89**	**199**	*i* P		**Pn**	**22 21 40.0 -0.4**
ROIA	**ROIAK**	**2.92**	**177**	*i* P		**Pn**	**22 21 41.3 +0.4**
DEV	**Deva**	**2.99**	**269**	⇓P		**Pn**	**22 21 41.6 -0.3**
DEV	**Deva**	**2.99**	**269**	⇓P		**Pn**	**22 21 41.6 -0.3**
BMR	**Baia Mare**	**3.03**	**305**	⇑P		**Pn**	**22 21 43.5 +1.0**
BMR				⇓S		**Sn**	**22 22 18.8 +0.8**
BMR	**Baia Mare**	**3.03**	**305**	⇑P		**Pn**	**22 21 43.5 +1.0**
BMR				⇓S		**Sn**	**22 22 18.8 +0.8**
PVL	**Pavlikeni**	**3.09**	**206**	*i* P		**Pn**	**22 21 45.0 +1.8**
SRE	**Strehaia**	**3.12**	**246**	⇑P		**Pn**	**22 21 44.8 +1.2**
SRE	**Strehaia**	**3.12**	**246**	⇑P		**Pn**	**22 21 44.8 +1.2**
MESR	**Meseseni**	**3.14**	**293**	⇑P		**Pn**	**22 21 44.3 +0.4**
MESR	**Meseseni**	**3.14**	**293**	⇑P		**Pn**	**22 21 44.3 +0.4**
GZR	**Gura Zlata**	**3.15**	**260**	⇑P		**Pn**	**22 21 44.6 +0.5**
GZR	**Gura Zlata**	**3.15**	**260**	⇑P		**Pn**	**22 21 44.6 +0.5**
DRGR		**3.19**	**286**	⇓P		**Pn**	**22 21 45.4 +0.7**
DRGR				⇑S		**Sn**	**22 22 22.3 +0.2**
DRGR		**3.19**	**286**	⇓P		**Pn**	**22 21 45.4 +0.7**
DRGR				⇑S		**Sn**	**22 22 22.3 +0.2**
HORU	**Horodok**	**3.25**	**351**	*i* P		**Pn**	**22 21 45.3 -0.1**
HORU					Pm		22 21 59.8
HORU				*i* S		**Sn**	**22 22 23.1 -0.2**
HORU					Sm		22 22 42.0
STNU	**Starunia**	**3.26**	**327**	*i* P		**Pn**	**22 21 46.3 +0.7**
STNU				*i* S		**Sn**	**22 22 24.3 +0.7**
BAIL	**Bailesti**	**3.38**	**235**	⇓P		**Pn**	**22 21 48.5 +1.4**
BAIL				⇑S		**Sn**	**22 22 28.0 +1.6**
BAIL	**Bailesti**	**3.38**	**235**	⇓P		**Pn**	**22 21 48.5 +1.4**
BAIL				⇑S		**Sn**	**22 22 28.0 +1.6**
PUNG	**Punghina**	**3.47**	**242**	⇑P		**Pn**	**22 21 49.8 +1.3**
PUNG	**Punghina**	**3.47**	**242**	⇑P		**Pn**	**22 21 49.8 +1.3**
KORU	**Korolevo**	**3.50**	**309**	*e*P		**Pn**	**22 21 51.6 +2.7**
MEZ	**Mezhgor'ye**	**3.54**	**316**	*e*P		**Pn**	**22 21 50.6 +1.2**
HERR	**Herculane**	**3.54**	**253**	⇓P		**Pn**	**22 21 49.4 -0.1**
HERR	**Herculane**	**3.54**	**253**	⇓P		**Pn**	**22 21 49.4 -0.1**
TRSU	**Trosnyk**	**3.56**	**307**	*e*P		**Pn**	**22 21 52.2 +2.5**
BRIU	**Brid**	**3.67**	**311**	*e*P		**Pn**	**22 21 53.6 +2.4**
BERU	**Beregovo**	**3.81**	**307**	*e*P		**Pn**	**22 21 53.7 +0.5**
MORS	**Morshin**	**3.84**	**326**	*e*P		**Pn**	**22 21 55.6 +2.1**
MORS				*e*S		**Sn**	**22 22 40.5 +2.7**
SIRR	**Siria**	**3.85**	**276**	⇑P		**Pn**	**22 21 54.1

OJC	Ojcow	6.49	313		Pn		Pn	22 22 30.5	+0.5
KERU	Kerch	6.54	93		P		Pn	22 22 30.7	+0.2
PAIG	Paliouri	6.60	204		P		Pn	22 22 30.8	-0.7
FNA	Florina	6.72	221		Pn		Pn	22 22 32.8	-0.4
LIT	Litokhoron	6.83	212		Pn		Pn	22 22 35.0	+0.3
SNOP	Sinop	7.02	122		Pn		Pn	22 22 35.9	-1.4
MODS	Modra-Piesok	7.15	293	*e*PN	Pn			22 22 44.0	+5.0
XOR	Xorichti	7.26	205		P		Pn	22 22 40.0	-0.6
AGG	Agios Georgios	7.85	209		Pn		Pn	22 22 48.6	0.0
BR131	Keskin Array S	7.87	141		Pn		Pn	22 22 49.3	+0.3
BRTR	Keskin Array B	7.87	141		Pn		Pn	22 22 49.2	+0.3
	comp=E,0.6nm,0.3s,baz=318,slow=9.9,SNR=18								
BRTR	Keskin Array B	7.87	141		Pn		Pn	22 22 50.1	+1.1
SUW	Suwalki	8.41	344		Pn		Pn	22 22 55.3	-1.0
DPC	Dobruska-Polom	8.46	305	*e*PN			Pn	22 22 57.4	+0.5
MNK	Minsk	8.51	3	*i* P			Pn	22 23 01.1	+3.5
	comp=E,13nm,1.1s								
MNK				*i* P			Pn	22 23 01.1	+3.5
	comp=N,71nm,1.1s								
MNK				*i* P			Pn	22 23 01.1	+3.5
	comp=Z,39nm,1.0s,baz=183								
MNK				*i* PP			PnPn	22 23 08.8	+3.6
MNK				*i* S			Sn	22 24 37.8	+5.0
MNK				*i* SS			SnSn	22 24 50.4	+6.0
MNK				*i* LQ		LQ		22 22 29.9	
MNK				*i* LR		LR		22 22 58.8	
MNK				*i* LRM		MLR		22 26 28.5	
	comp=N,148nm,14.4s								
MNK				*i* LRM		MLR		22 26 30.1	
	comp=E,16nm,12.7s								
MNK				*i* LRM		MLR		22 26 32.2	
	comp=Z,69nm,11.9s								
MNK				*i* PcP		PcP		22 29 30.0	+3.4
OSTC	Ostas	8.61	306	*e*PN			Pn	22 23 01.0	+2.0
CHVC	Chvalec	8.72	306	*e*PN			Pn	22 23 03.0	+2.5
NACGM	Naroch	8.91	358	*i* P			Pn	22 23 05.7	+2.7
ELL	Elmali	9.48	167		Pn		Pn	22 23 12.4	+1.4
ITM	Ithomi	9.66	206		Pn		Pn	22 23 14.8	+1.3
PABE	Paberze	9.72	349		Pn		Pn	22 23 12.3	-1.9
OBN	Obninsk	10.88	30		Pn		Pn	22 23 27.7	-2.4
	comp=Z,3.1nm,0.3s,baz=198,slow=19,SNR=9.6								
OBN					Sn		Sn	22 25 24.1	-6.8
	comp=Z,3.5nm,0.3s,baz=36,slow=18,SNR=5.4								
FINES	FINESS Array B	15.48	358		Pn		Pn	22 24 25.7	-6.8
	comp=Z,0.6nm,0.3s,baz=172,slow=12,SNR=12								
FINES					Sn		Sn	22 27 07.6	-15
	comp=Z,1.1nm,0.3s,baz=170,slow=20,SNR=2.9								
FIA1	FINESS Array S	15.48	358		Pn		Pn	22 24 32.7	+0.3
FIA1					IAmb		IAmb	22 24 34.4	
	comp=Z,34nm,1.2s								
HFS	Hagfors	16.25	335		Pn		Pn	22 24 37.3	-5.2
	comp=Z,0.7nm,0.3s,baz=142,slow=14,SNR=16								
HFS					Sn		Sn	22 27 32.0	-10
	comp=Z,1.5nm,0.3s,baz=127,slow=31,SNR=7.2								
OSL	Oslo	17.04	331	*e*P			Pn	22 24 47.5	-4.8
KONO	Kongsberg	17.22	329	*e*P			P	22 24 55.3	-0.7
NC602	NORSAR Array S	17.38	334	*e*P			Pn	22 24 51.9	-4.8
NB201	NORSAR Array S	17.70	334	*e*P			Pn	22 24 56.3	-4.3
NOA	NORSAR Array B	17.72	334		Pn		Pn	22 24 56.6	-4.2
	comp=Z,0.1nm,0.3s,baz=144,slow=13,SNR=7.8								
SKAR	Skarslia	18.41	330	*e*P			P	22 25 06.8	-2.4
KIRV	Kirov	18.41	39		Pn		P	22 25 04.1	-5.0
	comp=Z,1.7nm,0.3s,baz=241,slow=9.4,SNR=2.4								
DOMB	Dombas	19.15	333	*e*P			P	22 25 15.9	-1.4
MOL	Molde	20.02	333	*e*P			P	22 25 27.3	+0.6
NSS	Namsos	20.38	341	*e*P			P	22 25 29.6	-1.0
AKTO	Aktyubinsk	20.93	67	P			P	22 25 35.9	-0.7
	comp=Z,3.3nm,0.5s,baz=283,slow=12,SNR=12								
MOR8	Moi Rana	21.34	346	*e*P			P	22 25 41.5	+0.6
KONS	Konsvik	21.87	345	*e*P			P	22 25 47.5	+1.0
ARU	Arti	22.05	55	P			P	22 25 47.6	-1.1
ABKAR	Akbulak array	22.21	70	P			P	22 25 49.9	-0.6
ABKAR					IAmb		IAmb	22 26 00.7	
	comp=Z,14nm,1.5s								
LVZ	Lovozero	22.28	7	P			P	22 25 52.3	+1.2
FAUS	Fauske	22.32	348	*e*P			P	22 25 51.5	+0.1
STEI	Steigen	22.83	348	*e*P			P	22 25 57.3	+0.4
KTK1	Kautokeino	23.15	356	*e*P			P	22 25 59.2	-0.9
LOF	Lofoten	23.27	347	*e*P			P	22 26 00.7	-0.7
ARA0	ARCESS Array S	23.60	359	*e*P			P	22 26 04.1	-0.6
ARCES	ARCESS Array B	23.60	359	P			P	22 26 03.9	-0.8
	comp=Z,0.7nm,0.3s,baz=174,slow=10,SNR=15								
ARCES	ARCESS Array B	23.60	359	P			P	22 26 04.1	-0.6
ARCES					IAmb		IAmb	22 26 23.8	
	comp=Z,13nm,1.1s								
KEV	Kevo	23.81	360	*e*P			P	22 26 07.8	+1.1
JETT	Jettan, Norway	23.85	354	*e*P			P	22 26 07.4	+0.3
TRO	Tromso	24.05	353	*e*P			P	22 26 07.2	-1.6
HAMF	Hammerfest	24.76	357	*e*P			P	22 26 17.0	+1.7
BRVK	Borovoye	28.48	60	P			P	22 26 49.6	+0.6
BRVK					IAmb		IAmb	22 26 51.5	
	comp=Z,4.7nm,0.9s								
ZAA0	Zalesovo Array	36.97	56	P			P	22 28 04.1	+1.1
ZAA0					IAmb		IAmb	22 28 04.6	
	comp=Z,3.9nm,0.7s								
ZALV	Zalesovo Beam	36.97	56	P			P	22 28 03.8	+0.7
	comp=Z,4.5nm,0.5s,baz=280,slow=9.1,SNR=13								
ZALV	Zalesovo Beam	36.97	56	P			P	22 28 04.0	+1.0
MAKZ	Makanchi	37.14	68	P			P	22 28 05.6	+1.0
MK31	Makanchi Array	37.34	68	P			P	22 28 07.1	+0.7
MKAR	Makanchi Array	37.34	68	P			P	22 28 07.3	+0.9
	comp=Z,0.8nm,0.5s,baz=273,slow=8.0,SNR=16								
TOA0	Torodi Ar. Sit	39.21	222	P			P	22 28 21.7	-0.5
TOA0					IAmb		IAmb	22 28 33.2	
	comp=Z,4.5nm,1.1s								
TORD	Torodi Ar. Bea	39.21	222	P			P	22 28 21.7	-0.5
	comp=Z,1.3nm,0.8s,baz=30,slow=8.6,SNR=5.6								
TORD	Torodi Ar. Bea	39.21	222	P			P	22 28 22.1	-0.1
WMQ	Urumqi	42.00	70	*e*P			P	22 28 47.8	+2.6
TLY	Talaya	48.49	54	P			P	22 29 36.3	-0.2
HHC	Hu-ho-hao-te	58.73	62	*e*P			P	22 30 53.8	+2.0
HHC					pmax		pmax		
	comp=Z,6.0nm,1.1s								
HHC					pmax		pmax		
	comp=Z,85nm,5.4s								
BMAR	Burnt Mountain	66.72	357	P			P	22 31 48.7	+4.2
PRP	Porcupine Dome	68.67	357	P			P	22 31 58.9	+2.0
PRP					IAmb		IAmb	22 31 59.8	
	comp=Z,1.7nm,1.0s								

IGIL ***29*** *22:23:07.9, 37.°22N×16.°13W, h10km, ML2.5*
CNRM ***29*** *22:23:11.9, 37.°01N×15.°90W, h50km, Hypocentre not reviewed by the ISC*
MDD ***29*** *22:23:11.7±2.4, 36.°51N×15.°20W, h0km, mb4.3/5, Error ellipse: s-maj=32.5km s-min=5.6km az=137.0, PRXIMO*
INMG ***29*** *22:23:11.5±2.5, 37.°31N×16.°22W, h10km, ML2.8, Error ellipse: s-maj=12.0km s-min=3.5km az=124.0*

ISC 29 22:23:05.1±1.1, 37.°26N±0.°05×15.°83W±0.°05, h10km, n76, σ3º22/95, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPST	Porto Santo, M	4.19	186	*e*Pn	Pn	22 24 09.9	+0.8
PMPST				*e*Sn	Sn	22 24 53.5	-4.6
PMPST				A	A	22 25 06.7	
	16nm,0.7s						
PMPS	Porto Santo	4.21	186	P	Pn	22 24 09.9	+0.5
PMPS				S	Sn	22 24 53.5	-5.1
	8.1nm,0.7s						
PMPS	Porto Santo	4.21	186	*e*Pn	Pn	22 24 10.3	+0.9
PMPS				*e*Sn	Sn	22 24 54.1	-4.5
PMOZ	Porto Moniz, M	4.57	195	P	Pn	22 24 14.4	0.0
	7.8nm,0.3s,SNR=7.9						
PMOZ				S	Sn	22 24 60.0	-7.5
	16nm,0.5s,SNR=7.9						
PMOZ	Porto Moniz, M	4.57	195	*e*Pn	Pn	22 24 14.5	+0.2
PMOZ				*e*Sn	Sn	22 25 02.1	-5.4
PMOZ				A	A	22 25 04.9	
	15nm,0.7s						
PMOZ	Porto Moniz, M	4.57	195	P		22 24 14.1	
PMOZ				S		22 25 03.1	
PMAR	Madeira	4.61	191	P	Pn	22 24 15.2	+0.2
PMAR				S	Sn	22 25 02.6	-6.2
	12nm,0.7s						
PMAR	Madeira	4.61	191	*e*Pn	Pn	22 24 15.2	+0.2
PMAR				*e*Sn	Sn	22 25 02.6	-6.2
PMAR				A	A	22 25 11.1	
	24nm,0.7s						
PMAR				A	A	22 25 11.6	
	14nm,0.2s						
FUL	Funchal	4.68	191	S	Sn	22 25 03.9	-6.3
FUL	Funchal	4.68	191	*e*Sn	Sn	22 25 03.9	-6.3
PMAFR	Mafra	5.43	70	P	Pn	22 24 30.0	+3.9
	6.4nm,0.2s,SNR=5.8						
PMAFR				S	Sn	22 25 28.1	-0.7
	25nm,0.2s,SNR=7.9						
PMAFR	Mafra	5.43	70	*e*Pn	Pn	22 24 30.1	+3.9
PMAFR				*e*Sn	Sn	22 25 29.1	+0.4
PMAFR				A	A	22 25 34.9	
	28nm,0.7s						
PFVI	Vila Bisbo	5.59	89	P	Pn	22 24 31.9	+3.5
	1.4nm,0.2s,SNR=7.9						
PFVI				S	Sn	22 25 33.2	+0.6
	3.6nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	5.59	89	*e*Pn	Pn	22 24 33.2	+4.9
PFVI				*e*Sn	Sn	22 25 33.4	+0.8
PFVI	Vila Bisbo	5.59	89	P		22 24 33.7	
PFVI				S		22 25 37.7	
PTEO	Sao Teotonio	5.66	85	P	Pn	22 24 33.4	+4.1
PTEO				S	Sn	22 25 34.7	+0.3
	3.0nm,0.3s						
PTEO	Sao Teotonio	5.66	85	*e*Pn	Pn	22 24 33.4	+4.1
PTEO				*e*Sn	Sn	22 25 34.7	+0.3
PTEO				A	A	22 25 39.7	
	5.9nm,0.3s						
MORF	Marmelete	5.72	87	*e*P	Pn	22 24 34.0	+3.8
MORF				*e*S	Sn	22 25 37.0	+1.0
MORF				IAML		22 25 40.5	
	comp=E,5.9nm,0.3s						
MORF	Marmelete	5.72	87	P	Pn	22 24 34.0	+3.8
MORF				S	Sn	22 25 37.0	+1.0
	comp=E,6.7nm,0.1s						
MORF	Marmelete	5.72	87	*e*Pn	Pn	22 24 34.1	+3.8
MORF				*e*Sn	Sn	22 25 37.0	+1.0
MORF				A	A	22 25 44.4	
	comp=E,6.7nm,0.1s						
PNCL	Nicolau / Gran	5.85	79	P	Pn	22 24 35.5	+3.6
PNCL				S	Sn	22 25 39.9	+0.9
	comp=E,3.9nm,0.1s						
PNCL	Nicolau / Gran	5.85	79	*e*Pn	Pn	22 24 35.5	+3.6
PNCL				*e*Sn	Sn	22 25 39.9	+0.9
PNCL				A	A	22 25 41.8	
	comp=E,3.9nm,0.1s						
PSBE	So Bento	5.97	66	*e*Sn	Sn	22 25 41.6	-0.3
MESJ	Messejana	6.07	82	*e*S	Sn	22 25 45.0	+0.5
MESJ				IAML		22 25 48.3	
	comp=N,4.9nm,0.3s						
MESJ	Messejana	6.07	82	P	Pn	22 24 40.1	+5.2
MESJ				S	Sn	22 25 46.4	+1.9
	comp=N,4.0nm,0.7s						
MESJ	Messejana	6.07	82	*e*Pn	Pn	22 24 40.1	+5.2
MESJ				*e*Sn	Sn	22 25 46.4	+1.9
MESJ				A	A	22 25 49.7	
	comp=N,4.0nm,0.7s						
PCVE	Castro Verde	6.21	84	P	Pn	22 24 41.4	+4.6
PCVE				S	Sn	22 25 47.7	-0.1
	comp=N,3.1nm,0.7s						
PCVE	Castro Verde	6.21	84	*e*Pn	Pn	22 24 41.4	+4.6
PCVE				*e*Sn	Sn	22 25 47.7	-0.1
PCVE				A	A	22 26 04.3	
	comp=N,3.1nm,0.7s						
PMTG	Montargil	6.26	71	P	Pn	22 24 42.1	+4.6
PMTG				S	Sn	22 25 48.2	-0.8
	comp=N,4.4nm,0.6s						
PMTG	Montargil	6.26	71	*e*Pn	Pn	22 24 42.1	+4.6
PMTG				*e*Sn	Sn	22 25 48.2	-0.8
PMTG				A	A	22 25 52.0	
	comp=N,4.4nm,0.6s						
PBDV	Barranco-do-Ve	6.30	88	P	Pn	22 24 42.5	+4.4
PBDV				S	Sn	22 25 52.4	+2.3
	comp=N,3.2nm,0.8s						
PBDV	Barranco-do-Ve	6.30	88	*e*Pn	Pn	22 24 42.5	+4.4
PBDV				*e*Sn	Sn	22 25 52.4	+2.3
PBDV				A	A	22 26 00.2	
	comp=N,3.2nm,0.8s						
EVO	Evora	6.31	76	S	Sn	22 25 50.6	+0.3
	comp=N,6.5nm,0.3s						
EVO	Evora	6.31	76	P	Pb	22 24 57.5	+2.5
EVO				S	Sn	22 25 50.0	-0.4
EVO	Evora	6.31	76	*e*Sn	Sn	22 25 50.6	+0.3
EVO				A	A	22 25 54.6	
	comp=N,6.5nm,0.3s						
PBEJ	Beja	6.37	81	S	Sn	22 25 52.2	+0.5
	comp=N,1.8nm,0.2s						
PBEJ	Beja	6.37	81	*e*Sn	Sn	22 25 52.2	+0.5
PBEJ				A	A	22 25 57.7	
	comp=N,3.5nm,0.2s						
PCAS	Casmilo, Conde	6.38	62	P	Pn	22 24 42.6	+3.5
PCAS				S	Sn	22 25 49.7	-2.3
	comp=N,3.7nm,0.2s						
PCAS	Casmilo, Conde	6.38	62	*e*Pn	Pn	22 24 42.6	+3.5
PCAS				*e*Sn	Sn	22 25 49.7	-2.3
PCAS				A	A	22 25 57.0	
	comp=N,3.7nm,0.2s						
PVAQ	Vaqueiros	6.46	86	P	Pn	22 24 45.1	+4.8
PVAQ				S	Sn	22 25 54.3	+0.2
	comp=N,2.3nm,0.2s						
PVAQ	Vaqueiros	6.46	86	*e*Pn	Pn	22 24 45.1	+4.8
PVAQ				*e*Sn	Sn	22 25 54.3	+0.2
PVAQ				A	A	22 26 08.7	
	comp=N,2.3nm,0.2s						
PVAQ	Vaqueiros	6.46	86	P		22 24 45.9	
PVAQ				S		22 25 58.3	
EGRO	El Granado	6.65	85	P	Pn	22 24 47.7	+4.9
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	22 25 58.2	-0.5
	comp=N,2.5nm,0.1s,SNR=5.9						
PESTR	Estremoz	6.70	74	*e*Sn	Sn	22 25 59.0	-0.8
PESTR				A	A	22 26 07.2	
	comp=N,3.2nm,0.4s						
PESTR	Estremoz	6.70	74	P		22 24 50.1	
PESTR				S		22 26 02.9	
PBAR	Barrancos	7.03	80	P	Pn	22 24 52.7	+4.7
PBAR				S	Sn	22 26 08.2	+0.2
	comp=N,2.4nm,0.3s						
PBAR	Barrancos	7.03	80	*e*Pn	Pn	22 24 52.7	+4.7
PBAR				*e*Sn	Sn	22 26 08.2	+0.2
PBAR				A	A	22 26 20.7	
	comp=N,2.4nm,0.3s						
PCBR	Castelo Branco	7.03	66	S	Sn	22 26 06.6	-1.5
	comp=N,1.6nm,0.4s						
PCBR	Castelo Branco	7.03	66	*e*Sn	Sn	22 26 06.6	-1.5
PCBR				A	A	22 26 09.1	
	comp=N,3.1nm,0.4s						
PVIS	Viseu	7.08	58	S	Sn	22 26 05.3	-4.0
	comp=N,4.0nm,0.1s						
PVIS	Viseu	7.08	58	*e*Sn	Sn	22 26 05.3	-4.0
PVIS				A	A	22 26 09.0	
	comp=N,8.0nm,0.1s						
MTE	Manteigas	7.19	62	S	Sn	22 26 08.6	-3.4
	comp=N,2.2nm,0.4s						
MTE	Manteigas	7.19	62	*e*Sn	Sn	22 26 08.6	-3.4
MTE				A	A	22 26 13.1	
	comp=N,4.5nm,0.4s						
EMIN	Mina Concepcio	7.30	83	P	Pn	22 24 56.3	+4.6
	comp=N,0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 26 13.3	-1.3
	comp=N,1.2nm,0.2s,SNR=7.9						
EZAM	Zamans	7.35	46	P	Pn	22 24 51.8	-0.7
	comp=N,1.8nm,0.2s,SNR=7.9						
EZAM				S	Sn	22 26 05.6	-10
	comp=N,2.1nm,0.1s,SNR=7.9						
POLO	Lamas de Olo	7.46	54	S	Sn	22 26 12.2	-6.6
	comp=N,1.6nm,0.6s						
POLO	Lamas de Olo	7.46	54	*e*Sn	Sn	22 26 12.2	-6.6
POLO				A	A	22 26 18.9	
	comp=N,1.6nm,0.6s						
PVRL	Vila Real	7.46	55	S	Sn	22 26 13.1	-5.6
PVRL	Vila Real	7.46	55	*e*Sn	Sn	22 26 13.1	-5.6
PGAV	Gavieira, Arco	7.49	49	P	Pn	22 24 56.9	+2.4
PGAV				S	Sn	22 26 12.7	-6.8
	comp=N,12nm,0.3s						
PGAV	Gavieira, Arco	7.49	49	*e*Pn	Pn	22 24 56.9	+2.4
PGAV				*e*Sn	Sn	22 26 12.7	-6.8
PGAV				A	A	22 26 16.9	
	comp=N,12nm,0.3s						
PCAB	Cabril	7.49	51	P	Pn	22 24 57.3	+2.9
PCAB				S	Sn	22 26 12.8	-6.7
PCAB	Cabril	7.49	51	*e*Pn	Pn	22 24 57.3	+2.9
PCAB				*e*Sn	Sn	22 26 12.8	-6.7
ELOB	Lobios	7.56	50	P	Pn	22 24 55.5	0.0
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	Sn	22 26 12.8	-8.5
	comp=N,6.8nm,0.1s,SNR=8.5						
EMAZ	Mazaricos	7.74	41	P	Pn	22 24 58.3	+0.6
	comp=N,1.7nm,0.1s,SNR=7.9						
EMAZ				S	Sn	22 26 13.6	-12
	comp=N,4.5nm,0.1s,SNR=7.9						
MVO	Moncorvo	7.87	58	S	Sn	22 26 23.1	-5.6
	comp=N,3.2nm,0.1s,SNR=7.5						
MVO	Moncorvo	7.87	58	*e*Sn	Sn	22 26 23.3	-5.4
EAGO	Agolada(Pontev	8.12	45	P	Pn	22 25 03.6	+0.6
	comp=N,0.6nm,0.1s,SNR=7.9						
EAGO				S	Sn	22 26 24.6	-10
	comp=N,3.8nm,0.1s,SNR=7.9						
EPLA	Plasencia	8.12	67	S	Sn	22 26 29.9	-5.2
	comp=N,1.2nm,0.1s,SNR=7.9						
ECAB	El Cabril	8.30	81	P	Pn	22 25 09.6	+4.1
	comp=N,0.0nm,0.1s,SNR=7.9						
ECAB				S	Sn	22 26 35.6	-3.6
	comp=N,1.3nm,0.2s,SNR=7.9						
PBRG	Braganca	8.36	54	S	Sn	22 26 35.2	-5.6
PBRG	Braganca	8.36	54	*e*Sn	Sn	22 26 35.2	-5.6
ZHG	ZHG	8.41	114	P		22 25 10.9	
ZHG				S		22 26 42.8	
ECAL	Calabor	8.43	54	S	Sn	22 26 34.8	-7.9
	comp=N,6.3nm,0.2s,SNR=6.9						
CFUE	Fuerteventura	8.73	169	S	Sn	22 26 44.9	-5.2
	comp=N,1.2nm,0.2s,SNR=4.0						
OUK	Oukaimeden	8.94	130	P		22 25 21.2	
OUK				S		22 26 56.8	
EADA	Adamuz	8.96	81	P	Pn	22 25 18.7	+4.0
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	22 26 54.6	-1.1
	comp=N,0.7nm,0.1s,SNR=7.9						
EPON	Pontenova	8.98	45	S	Sn	22 26 44.1	-12
	comp=N,1.4nm,0.1s,SNR=4.8						
PAB	San Pablo	9.30	72	P	Pn	22 25 21.8	+2.5
	comp=N,0.2nm,0.2s,SNR=7.9						
PAB				S	Sn	22 26 57.6	-6.3
	comp=N,0.7nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	9.61	72	P	Pn	22 25 26.6	+3.1
	comp=N,0.1nm,0.1s,baz=260,slow=13,SNR=4.0						
ESDC				S	Sn	22 27 06.3	-5.4
	comp=N,0.7nm,0.3s,baz=264,slow=24,SNR=4.9						
GUD	Guadarrama	9.70	66	S	Sn	22 27 09.5	-4.4
	comp=N,0.1nm,0.1s,SNR=7.9						
MD31	MD31	10.07	113	P		22 25 34.5	
MD31				S		22 27 24.8	
EARI	Arriondas	10.11	50	S	Sn	22 27 15.6	-8.1
	comp=N,0.4nm,0.2s,SNR=7.9						
MDT	Midelt	10.21	112	P		22 25 35.7	
MDT				S		22 27 28.9	

RSNC 29 22:24:07.6±0.9, 6.°82N×73.°12W, h142km±4km, ML3.6, Mw3.8, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.23	194	↓↓ *e*P	Pn	22 24 27.3	-0.1
BARC				*e*S	Sn	22 24 41.7	-0.6
BARC				*i*		22 24 43.5	
	comp=Z,675nm,0.2s						
RUSC	La Rusia	0.92	177	↑↓ *i*P	Pn	22 24 31.3	-0.3
RUSC				*e*S	Sn	22 24 49.5	-0.3
RUSC				*i*		22 24 51.9	
	comp=Z,148nm,0.2s						
PTBC	PUERTO BERRIO,	1.35	258	*e*P	Pn	22 24 34.3	-0.8
PTBC				*e*S	Sn	22 24 55.0	-0.9
OCAC	Ocana	1.42	352	↑ *i*P	Pn	22 24 35.1	-0.8
OCAC				*e*S	Sn	22 24 56.9	-0.7
OCAC				*i*		22 25 01.4	
	comp=Z,966nm,0.2s						
ZARC	Zaragoza, Cauc	1.85	291	*e*P	Pn	22 24 40.0	-0.5
ZARC				*e*S	Sn	22 25 06.0	+0.3
ZARC				*i*		22 25 15.5	
	comp=Z,315nm,0.3s						
NORC	Norcasia	2.14	234	*e*P	Pn	22 24 43.2	-0.8
NORC				*e*S	Sn	22 25 11.2	-0.7
NORC				*i*		22 25 18.3	
	comp=Z,299nm,0.2s						
SMLC	San Martn de	2.18	335	*e*P	Pn	22 24 43.1	-1.3
SMLC				*e*S	Sn	22 25 12.0	-0.8
SMLC				*i*		22 25 13.9	
	comp=Z,406nm,0.3s						
CHIC	Chingaza	2.26	196	*e*P	Pn	22 24 45.8	0.0
CHIC				*e*S	Sn	22 25 15.4	+0.2
CHIC				*i*		22 25 22.0	
	comp=Z,154nm,0.5s						
ROSC	El Rosal	2.30	211	*e*P	Pn	22 24 46.8	+0.5
ROSC				*e*S	Sn	22 25 16.2	+0.2
ROSC				*i*		22 25 22.6	
	comp=Z,381nm,0.4s						
HELC	Santa Helena	2.47	256	*e*P	Pn	22 24 48.8	+0.4
HELC				*e*S	Sn	22 25 20.0	+0.4
HELC				*i*		22 25 26.6	
	comp=Z,164nm,0.4s						
UREC	San Jos de Ur	2.56	291	*e*P	Pn	22 24 48.1	-1.0
UREC				*e*S	Sn	22 25 20.7	-0.4
UREC				*i*		22 25 29.2	
	comp=Z,327nm,0.2s						
GUY2C	Guyana, Caldas	2.73	235	*e*P	Pn	22 24 52.0	+0.2
GUY2C				*e*S	Sn	22 25 25.7	-0.1
GUY2C				*i*		22 25 35.4	
	comp=Z,206nm,0.7s						
LL2C	La Loma 2 Cana	2.74	353	*e*P	Pn	22 24 50.4	-1.0
LL2C				*e*S	Sn	22 25 25.9	+0.7
LL2C				*i*		22 25 30.5	
	comp=Z,221nm,0.4s						
VILC	Villavicencio,	2.75	192	*e*P	Pn	22 24 51.1	-0.5
VILC				*e*S	Sn	22 25 25.1	-0.5
VILC				*i*

FLOC			*e*S	Sn	22 26 35.7	-1.1
FLOC			*i*		22 27 05.0	
	comp=Z,43nm,0.9s					

NEIC ***29*** *22:25:12.9±1.1,9.5S±0.2×161.45E±0.09,h36km±10km, mb4.4/9, Error ellipse: s-maj=31.6km s-min=12.0km az=192.0*
IDC ***29*** *22:25:15.0±5.0,9.76S×161.30E,h44km±29km,mb3.6/3, mb1 3.9/4,mb1mx3.4/28,mbtmp4.0/4,ML4.1/1,MS3.5/1, Ms1 3.5/1,ms1mx2.9/29,Error ellipse: s-maj=95.9km s-min=21.2km az=28.0*

ISC 29 22:25:16.0±3.0,9.7S±0.4×161.3E±0.2,h65km,n25, σ1§53/20,mb4.3/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.32**	**281**	P	**Pn**	**22 25 36.8**	**-1.6**
	264nm,0.3s,baz=151,slow=2.2,SNR=44						
HNR				S	**Sn**	**22 25 54.8**	**-0.5**
	627nm,0.3s,baz=359,slow=22,SNR=12						
HNR	**Honiara**	**1.32**	**281**		**Pn**	**22 25 36.8**	**-1.6**
HNR				Sn	**Sn**	**22 25 55.1**	**-0.2**
LIFNC	**LIFOU**	**12.44**	**153**		**Pn**	**22 28 06.8**	**-3.4**
DZM	**Mont Dzumac**	**13.28**	**159**	P	**Pn**	**22 28 20.6**	**-1.2**
	0.9nm,0.3s,baz=144,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**13.28**	**159**	Pn	**Pn**	**22 28 20.8**	**-1.0**
MSVF	**Nonsavu**	**18.15**	**118**	LR	LR	22 35 11.2	
	comp=Z,159nm,21.1s,baz=157,slow=33						
WR0	**Warramunga Arr**	**27.74**	**245**	P	**P**	**22 31 00.5**	**+1.8**
WR0				IAmb	IAmb	22 31 18.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**27.81**	**246**	P	**P**	**22 31 00.2**	**+0.8**
WB2	**Warramunga Arr**	**27.90**	**246**		**P**	**22 31 01.6**	**+1.5**
WB2				IAmb	IAmb	22 31 22.1	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**27.91**	**246**	P	**P**	**22 31 01.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=76,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**27.91**	**246**	P	**P**	**22 31 01.4**	**+1.1**
H11S2	**WAKE ISLAND Hy**	**28.51**	**11**	T	T	23 00 01.6	
	baz=194,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**28.51**	**11**	T	T	23 00 10.0	
	baz=194,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**28.52**	**11**	T	T	23 00 11.8	
	baz=194,slow=76,SNR=4.7						
ASAR	**Alice Springs**	**29.59**	**239**	P	**P**	**22 31 15.7**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=59,slow=11,SNR=2.3						
H11N1	**WAKE ISLAND Hy**	**29.74**	**11**	T	T	23 01 32.9	
	baz=194,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**29.74**	**11**	T	T	23 01 40.4	
	baz=194,slow=76,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**29.75**	**11**	T	T	23 01 34.4	
	baz=194,slow=76,SNR=12						
BKZ	**Black Stump Fm**	**32.36**	**158**	P	**P**	**22 31 38.9**	**-0.4**
BBOO	**Buckleboo**	**32.72**	**222**	P	**P**	**22 31 41.8**	**-0.7**
BBOO				IAmb	IAmb	22 32 00.2	
	comp=Z,12nm,1.4s						
TUWZ	**Tuamarina**	**33.54**	**163**	P	**P**	**22 31 50.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**35.52**	**252**	P	**P**	**22 32 07.6**	**+0.6**
FITZ				IAmb	IAmb	22 32 19.2	
	comp=Z,4,6nm,1.2s						
ODZ	**Otahua Downs**	**36.15**	**169**	P	**P**	**22 32 14.4**	**+2.5**
QSPA	**South Pole Qui**	**80.31**	**180**	P	**P**	**22 37 21.1**	**+1.2**
QSPA				IAmb	IAmb	22 37 22.2	
	comp=Z,6.3nm,1.1s						
MAW	**Mawson**	**84.30**	**202**	P	**P**	**22 37 42.0**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=97,slow=5.8,SNR=7.2						

ISN ***29*** *22:46:19.5±0.5,32.79N×47.45E,h6km±2km,ML3.2*
TEH ***29*** *22:46:21.0,32.77N×47.52E,h6km,ML3.2*
KISR ***29*** *22:46:26.6±0.8,32.25N×47.51E,h21km±524km,ML3.1*

ISC 29 22:46:20.6±0.9,32.73N±0.03×47.46E±0.04,h10km,n39, σ1§43/46,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**0.85**	**22**	*e*Pg	**Pg**	**22 46 35.6**	**-1.5**
IKFM				*e*		22 46 49.8	
	comp=Z,13μm,0.3s						
IDOB	**Doab**	**1.21**	**29**	*e*Pg	**Pb**	**22 46 42.9**	**-0.9**
IBDR	**Badra**	**1.34**	**287**	*e*Pg	**Pn**	**22 46 44.9**	**-0.6**
IBDR				*e*Sg	**Sb**	**22 47 03.2**	**0.0**
IBDR				AML	AML	22 47 09.8	
	comp=N,568nm,0.4s						
IBDR				AML	AML	22 47 13.8	
	comp=E,281nm,0.5s						
BMDN	**Meydan**	**1.48**	**50**	*e*Pg	**Pn**	**22 46 47.9**	**+0.4**
BMDN				*e*		22 47 18.2	
	comp=Z,5μm,0.7s						
KCHF	**Cheshme Sefid,**	**1.58**	**347**	*e*Pg	**Pn**	**22 46 49.7**	**+0.8**
KCHF				*e*		22 46 52.2	
	comp=Z,5μm,0.3s						
KER	**Kermanshah**	**1.67**	**351**	*e*Pg	**Pb**	**22 46 51.8**	**+0.1**
AHWZ	**Ahwaz**	**1.72**	**144**	*e*Pg	**Pb**	**22 46 53.1**	**+0.8**
HSAM	**Samen**	**1.76**	**32**	*e*Pg	**Pn**	**22 46 52.6**	**+1.2**
HSAM				*e*		22 46 55.4	
	comp=Z,3μm,0.2s						
IGHG	**Ghaleghazi**	**1.76**	**335**	*e*Pn	**Pn**	**22 46 52.8**	**+1.3**
IGHG				*e*		22 47 34.5	
	comp=Z,4μm,0.9s						
IBZA	**Bozab**	**1.77**	**11**	*e*Pg	**Pn**	**22 46 52.9**	**+1.3**
IBZA				*e*		22 46 57.6	
	comp=Z,3μm,0.3s						
NSR	**Nassriya**	**2.05**	**214**	*e*Pn	**Pn**	**22 46 56.0**	**+0.8**
NSR				*e*Sn	**Sn**	**22 47 23.0**	**+2.2**
NSR				AML	AML	22 47 27.1	
	comp=E,208nm,0.5s						
IDHR	**Dehrash**	**2.16**	**336**	*e*Pn	**Pn**	**22 46 57.7**	**+0.8**
IALM	**Almabolaq**	**2.20**	**15**	*e*Pn	**Pn**	**22 46 59.5**	**+1.9**
ILIN	**Lien**	**2.22**	**349**	*e*Pn	**Pn**	**22 46 59.4**	**+1.6**
ILIN				*e*		22 47 05.7	
	comp=Z,1μm,0.2s						
HAGD	**Aghdareh**	**2.51**	**33**	*e*		22 47 11.5	
HAGD	comp=Z,1μm,0.3s						
				*e*Pn	**Pn**	**22 47 03.5**	**+1.7**
BHD	**Baghdad**	**2.65**	**283**	*e*Pn	**Pn**	**22 47 04.0**	**+0.6**
BHD				*e*Sn	**Sn**	**22 47 37.0**	**+1.5**
BHD				AML	AML	22 48 00.8	
	comp=E,208nm,0.5s						
IPIR	**Pirpir**	**2.89**	**90**	*e*		22 47 54.2	
IPIR	comp=Z,579nm,0.4s						
				*e*Pn	**Pn**	**22 47 08.6**	**+1.6**
SHK1	**Shahrekord**	**2.92**	**97**	*e*		22 47 57.2	
SHK1	comp=Z,468nm,0.6s						
				*e*Pn	**Pn**	**22 47 08.8**	**+1.5**
MIB	**Mutribah**	**2.92**	**182**	*e*P	**Pn**	**22 47 08.8**	**+1.7**
MIB				*e*S	**Sn**	**22 47 39.5**	**-2.8**
MIB				IAML		22 47 54.0	
	comp=Z,113nm,0.5s						
UMR	**Umm Al-Rimmam**	**3.18**	**176**	*e*P	**Pn**	**22 47 12.2**	**+1.6**
RST	**Umm Al-Ruwaisa**	**3.24**	**187**	*e*P	**Pn**	**22 47 12.8**	**+1.2**
RST				*e*S	**Sn**	**22 47 48.2**	**-2.1**
RST				IAML		22 47 59.5	
	comp=Z,65nm,0.3s						
IRAZ	**Razeghan**	**3.36**	**37**	*e*Pn	**Pn**	**22 47 14.3**	**+0.9**
QAMS	**Qamsar**	**3.44**	**72**	*e*Pn	**Pn**	**22 47 16.6**	**+2.0**
QAMS				*e*		22 48 05.4	
	comp=Z,618nm,0.5s						
QABG	**Abgarm-Qazvin**	**3.45**	**30**	*e*Pn	**Pn**	**22 47 14.4**	**-0.3**
IKLH	**Kolahrood**	**3.51**	**79**	*e*Pn	**Pn**	**22 47 17.7**	**+2.2**
IKLH				*e*		22 47 21.5	
	comp=Z,403nm,0.1s						
IQOM	**Qom**	**3.67**	**54**	*e*Pn	**Pn**	**22 47 18.9**	**+1.2**
IKRK	**Kirkuk**	**3.72**	**317**	*e*Pn	**Pn**	**22 47 19.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**22 48 02.0**	**0.0**
KLNJ	**Kolanjah**	**3.91**	**115**	*e*Pn	**Pn**	**22 47 21.8**	**+0.7**
KLNJ				*e*		22 48 39.7	
	comp=Z,364nm,1.0s						
QRN	**Al-Qurain**	**3.99**	**174**	*e*P	**Pn**	**22 47 23.1**	**+1.2**
QRN				*e*S	**Sn**	**22 48 06.4**	**-2.4**
QSDN	**Sirdan**	**4.02**	**20**	*e*Pn	**Pn**	**22 47 24.5**	**+2.0**
IZEF	**Zefreh**	**4.10**	**86**	*e*Pn	**Pn**	**22 47 25.2**	**+1.6**
KRSH	**Karshahi**	**4.10**	**71**	*e*Pn	**Pn**	**22 47 25.0**	**+1.4**
MAHB	**Mahabad**	**4.28**	**341**	*e*Pn	**Pn**	**22 47 27.3**	**+1.3**
IQZV	**Ghazvin**	**4.30**	**31**	*e*Pn	**Pn**	**22 47 27.5**	**+1.2**
ISFB	**Sefidab**	**4.30**	**67**	*e*Pn	**Pn**	**22 47 27.3**	**+1.0**
QALM	**Alamut, Qazvin**	**4.53**	**35**	*e*Pn	**Pn**	**22 47 30.3**	**+0.8**
ISRB	**Sarab**	**5.09**	**2**	*e*Pn	**Pn**	**22 47 38.5**	**+1.4**
ANAR	**Anarak**	**5.29**	**83**	*e*Pn	**Pn**	**22 47 40.4**	**+0.6**
ISHM	**Shahmirzad**	**5.72**	**56**	*e*Pn	**Pn**	**22 47 47.1**	**+1.2**

MAN	**29 22:46:52.4,9.69N×126.68E,h18km,mb4.5,ML3.4,MS3.2, 1C-1D,Mindanao**						
GLSP	**General Luna,**	**0.55**	**280**	*e*P	**Pb**	**22 47 04.0**	**+0.5**
GLSP				*e*S	Sn	22 47 14.9	+0.9
BUTP	**Butuan**	**1.27**	**235**	*e*P	**Pn**	**22 47 12.7**	**-2.5**
BUTP				*e*S	Sn	22 47 32.3	+0.6
CGP	**Cagayan de Oro**	**2.31**	**238**	*e*P	**Pn**	**22 47 30.4**	**+0.9**
CGP				*e*S	Sn	22 47 56.2	-1.3
BUKP	**Musuan**	**2.41**	**222**	*e*P	**Pn**	**22 47 29.3**	**-1.6**
BUKP				*e*S	Sn	22 48 01.4	+1.5
RCP	**Roxas**	**4.29**	**296**	*e*P	**Pn**	**22 48 00.5**	**+3.8**

IDC ***29*** *22:47:56.2±1.1,3.06N×91.84E,h0km,mb4.2/9, mb1 4.3/11,mb1mx3.9/46,mbtmp4.2/11,ML4.2/2,MS3.4/3, Ms1 3.4/3,ms1mx2.9/39,Error ellipse: s-maj=40.3km s-min=17.1km az=48.0*
NEIC ***29*** *22:47:58.6±2.3,2.8N±0.1×92.0E±0.1,h29km±5km, mb4.3/15,Error ellipse: s-maj=18.0km s-min=12.6km az=222.0*

ISC 29 22:47:59.7±1.0,2.8N±0.1×91.79E±0.08,h35km,n55, σ1§55/48,mb4.3/19,MS3.6/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**5.67**	**65**	Pn	**Pn**	**22 49 18.6**	**-2.9**
GSI	**Gunungsitoli**	**5.98**	**105**		Pn	22 49 18.6	-7.1
PBA	**Port Blair**	**8.82**	**6**	*e*P	Pn	22 50 03.2	-1.7
PBA				IAML		22 51 44.0	
	comp=E,73nm,0.3s						
PBA				IAML		22 51 44.3	
	comp=N,117nm,0.4s						
PBA	**Port Blair**	**8.82**	**6**	Pn	Pn	22 50 03.4	-1.5
PALK	**Pallekele**	**11.89**	**292**	Pn	**Pn**	**22 50 48.3**	**+1.3**
	comp=N,2.0nm,0.3s,baz=215,slow=14,SNR=12						
PALK				Sn	**Sn**	**22 52 53.7**	**-4.9**
	comp=N,7.7nm,0.3s,baz=319,slow=21,SNR=17						
PHIT	**Phitsanulok**	**16.60**	**30**	P	P	22 52 03.8	+12
CM05	**Chiang Mai Arr**	**16.99**	**24**	P	**P**	**22 51 57.2**	**+0.8**
	comp=N,71nmcomp=N,9.0nm,1.0s						
CM13	**Chiang Mai Arr**	**17.00**	**24**	P	**P**	**22 51 56.8**	**+0.4**
	comp=N,7.1nm,0.9s						
CM04	**Chiang Mai Arr**	**17.00**	**24**	P	**P**	**22 51 57.1**	**+0.5**
	comp=N,90nmcomp=N,10nm,1.0s						
CM01	**Chiang Mai Arr**	**17.02**	**24**	P	**P**	**22 51 57.1**	**+0.4**
	comp=N,109nmcomp=N,13nm,1.1s						
CM02	**Chiang Mai Arr**	**17.02**	**24**	P	**P**	**22 51 59.9**	**+3.1**
	comp=N,82nmcomp=N,9.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.04**	**24**	Pn	**Pn**	**22 51 54.0**	**-1.5**
	comp=N,0.2nm,0.3s,baz=215,slow=12,SNR=14						
CMAR				LR	LR	22 58 53.4	
	comp=N,70nm,18.2s,baz=234,slow=39						
CMAR	**Chiang Mai Arr**	**17.04**	**24**	P	**P**	**22 51 57.3**	**+0.3**
CM09	**Chiang Mai Arr**	**17.05**	**24**	P	**P**	**22 51 58.3**	**+1.2**
	comp=N,98nmcomp=N,11nm,0.9s						
UTTA	**Uttaradit**	**17.14**	**30**	P	P	22 52 05.8	+7.8
	comp=N,16nm,1.0s						
CHTO	**Chiang Mai**	**17.36**	**23**	P	**P**	**22 52 01.4**	**+0.9**
	comp=N,9.0nm,1.1s						
CHTO	**Chiang Mai**	**17.36**	**23**	P	**P**	**22 52 00.7**	**+0.2**
CMMT	**Chiang Mai**	**17.36**	**23**	P	**P**	**22 52 00.4**	**-0.2**
	comp=N,8.2nm,1.0s						
NONG	**Nongkai**	**18.80**	**36**	P	**Pn**	**22 52 20.0**	**+3.0**
	comp=N,18nm,1.2s						
H08S2	**Diego Garcia H**	**21.88**	**242**	T	T	23 16 02.5	
	baz=60,slow=74,SNR=6.3						
H08S3	**Diego Garcia H**	**21.88**	**242**	T	T	23 15 54.2	
	baz=60,slow=74,SNR=8.5						
H08S1	**Diego Garcia H**	**21.90**	**242**	T	T	23 16 03.8	
	baz=60,slow=74,SNR=6.7						
SHL	**Shillong**	**22.61**	**0**	P	**P**	**22 52 58.9**	**+1.2**
SHL				IAmb	IAmb	22 53 16.8	
	comp=Z,9.1nm,0.7s						
LSA	**Lhasa**	**26.73**	**359**	P	**P**	**22 53 38.4**	**+1.8**
LSA				IAmb	IAmb	22 53 39.2	
	comp=Z,5.0nm,0.7s						
CD2	**Chengdu**	**30.14**	**21**	P	**P**	**22 54 06.0**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN	**Xi'an**	**34.93**	**25**	P	**P**	**22 54 46.8**	**-1.6**
XAN				pP	sP	22 54 59.3	-1.6
XAN				sP	pwP	22 55 05.3	+2.6
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN				L	L		
	comp=Z,190nm,16.3s						
KBL	**Kabul**	**38.00**	**329**	P	**P**	**22 55 16.0**	**+1.2**
KBL				IAmb	IAmb	22 55 21.8	
	comp=Z,6.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.30**	**123**	P	**P**	**22 55 27.2**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=304,slow=8.4,SNR=3.9						
DRK	**Karamyk**	**40.76**	**336**	P	**P**	**22 55 39.8**	**+1.9**
KDJ	**Kajisay**	**41.26**	**343**	P	**P**	**22 55 41.9**	**+0.1**
BTK	**Batken**	**41.65**	**336**	P	**P**	**22 55 46.1**	**+1.2**
BTK				IAmb	IAmb	22 55 47.9	
	comp=Z,10.0nm,1.2s						
BOOM	**Boomskoye usch**	**41.96**	**342**	P	**P**	**22 55 46.9**	**-0.6**
BOOM				IAmb	IAmb	22 55 48.9	
	comp=Z,6.9nm,1.5s						
KK31	**Karatay Array**	**44.36**	**338**	P	**P**	**22 56 06.9**	**+0.2**
KK31				IAmb	IAmb	22 56 08.1	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**44.36**	**338**	P	**P**	**22 56 07.1**	**+0.5**
MK31	**Makanchi Array**	**44.57**	**351**	P	**P**	**22 56 08.3**	**0.0**
MK31				IAmb	IAmb	22 56 09.4	
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**44.57**	**351**	P	**P**	**22 56 08.4**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=164,slow=8.7,SNR=33						
MKAR	**Makanchi Array**	**44.57**	**351**	P	**P**	**22 56 08.2**	**-0.1**
MAKZ	**Makanchi**	**44.63**	**350**	P	**P**	**22 56 08.4**	**-0.4**
SONM	**Songino Array**	**46.58**	**14**	P	**P**	**22 56 24.1**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=194,slow=10,SNR=5.5						
SONM				LR	LR	23 17 58.8	
	comp=Z,64nm,18.4s,baz=247,slow=39						
SONM	**Songino Array**	**46.58**	**14**	P	**P**	**22 56 24.2**	**-0.2**
SONM				IAmb	IAmb	22 56 24.9	
	comp=Z,2.4nm,0.9s						
GEYT	**Alibeck**	**46.59**	**323**	P	**P**	**22 56 26.4**	**+1.9**
	comp=Z,6.8nm,0.6s,baz=52,slow=51,SNR=4.3						
WB0	**Warramunga Arr**	**47.47**	**120**	P	**P**	**22 56 30.2**	**-1.5**
WB0				IAmb	IAmb	22 56 41.0	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**47.50**	**120**	P	**P**	**22 56 34.5**	**+2.7**
	comp=Z,2.2nm,0.7s,baz=297,slow=8.6,SNR=16						
WB2	**Warramunga Arr**	**47.51**	**120**	P	**P**	**22 56 28.9**	**-3.0**
ASAR	**Alice Springs**	**48.72**	**125**	P	**P**	**22 56 43.8**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=182,slow=37,SNR=4.0						
ZAA0	**Zalesovo Array**	**51.28**	**355**	P	**P**	**22 56 59.5**	**-0.6**
ZALV	**Zalesovo Beam**	**51.28**	**355**	P	**P**	**22 57 00.0**	**-0.1**
	comp=Z,3.7nm,0.4s,baz=178,slow=7.4,SNR=21						
ZALV				LR	LR	23 19 59.8	
	comp=Z,35nm,21.1s,baz=103,slow=38						
ZALV	**Zalesovo Beam**	**51.28**	**355**	P	**P**	**22 56 59.6**	**-0.5**
ABKAR	**Akbulak array**	**53.64**	**335**	P	**P**	**22 57 17.7**	**0.0**
FINES	**FINESS Array B**	**76.09**	**333**	P	**P**	**22 59 43.0**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=66,slow=6.5,SNR=5.9						
FINES	**FINESS Array B**	**76.09**	**333**	P	**P**	**22 59 42.8**	**-0.8**
GERES	**GERESS Array B**	**80.04**	**319**	P	**P**	**23 00 06.5**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=79,slow=6.9,SNR=7.1						
GERES	**GERESS Array B**	**80.04**	**319**	P	**P**	**23 00 06.3**	**+0.3**
TXAR	**Lajitas Array**	**144.76**	**24**	PKP	**PKiKP**	**23 07 36.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=316,slow=3.5,SNR=5.4						
TXAR	**Lajitas Array**	**144.76**	**24**		**PKPab**	**23 07 31.9**	**-0.7**

NEIC ***29*** *22:51:15.4±1.2,19.6N±0.1×66.02W±0.05,h2km±18km, Error ellipse: s-maj=20.4km s-min=6.9km az=187.0*
RSPR ***29*** *22:51:19.0,19.64N×66.12W,h67km±12km,MD3.4/5*

ISC 29 22:51:17.9±2.3,19.6N±0.1×65.98W±0.06,h27km±15km, n37,σ0§61/44,12C-1D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.23**	**205**	*e*P	**Pn**	**22 51 39.2**	**-0.1**
EMPR	**Esperanza - Ma**	**1.23**	**205**		**Pn**	**22 51 39.0**	**-0.3**
EMPR				IAML		22 51 58.6	
	comp=N,256nm,0.7s						
GCPR	**Guaynabo City**	**1.28**	**184**	*e*P	**Pn**	**22 51 40.7**	**+0.6**
GCPR	**Guaynabo City**	**1.28**	**184**	Pn	**Pn**	**22 51 39.6**	**-0.5**
GCPR				IAML		22 51 55.4	
	comp=E,93nm,0.7s						
CBYP	**Canovanas**	**1.32**	**175**	*e*P	**Pb**	**22 51 41.9**	**-0.3**
CBYP	**Canovanas**	**1.32**	**175**	*e*S	**Sb**	**22 51 59.7**	**+0.9**
CBYP	**Canovanas**	**1.32**	**175**	Pn	**Pn**	**22 51 40.1**	**-0.6**
CBYP					**Sb**	**22 51 59.9**	**+1.1**
CBYP				IAML		22 52 05.8	
	comp=E,258nm,0.2s						
AOPR	**Arecibo Observ**	**1.44**	**210**	*e*P	**Pn**	**22 51 42.2**	**0.0**
AOPR	**Arecibo Observ**	**1.44**	**210**	*e*S	**Sn**	**22 51 59.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.44**	**210**		**Pn**	**22 51 41.7**	**-0.6**
AOPR					**Sn**	**22 51 59.8**	**-0.5**
CUPR	**Culebra, Puert**	**1.44**	**153**	*e*P	**Pb**	**22 51 43.3**	**-0.9**
CUPR	**Culebra, Puert**	**1.44**	**153**	Pn	**Pn**	**22 51 42.3**	**0.0**
HUMP	**Col San Antoni**	**1.45**	**175**	*e*P	**Pn**	**22 51 43.0**	**+0.6**
HUMP	**Col San Antoni**	**1.45**	**175**	*e*S	**Sb**	**22 52 02.7**	**+0.3**
HUMP	**Col San Antoni**	**1.45**	**175**		**Pn**	**22 51 41.9**	**-0.5**
HUMP					**Sn**	**22 52 00.8**	**+0.2**
HUMP				IAML		22 52 13.1	
	comp=E,64nm,0.5s						
SJG	**San Juan**	**1.49**	**186**		**Pn**	**22 51 42.8**	**-0.1**
SJG				IAML		22 52 02.9	
	comp=E,101nm,0.5s						
SJG				IAML		22 52 04.9	
	comp=E,102nm,0.8s						
MTP	**Monte Pirata**	**1.55**	**165**	*e*P	**Pn**	**22 51 44.4**	**+0.7**
MTP	**Monte Pirata**	**1.55**	**165**	*e*S	**Sb**	**22 52 05.0**	**-0.1**
MTP	**Monte Pirata**	**1.55**	**165**	Pn	**Pn**	**22 51 43.2**	**-0.6**
MTP					**Sn**	**22 52 04.2**	**+1.3**
MTP				IAML		22 52 13.9	
	comp=E,65nm,0.3s						
PDPR	**Patillas Dam,**	**1.57**	**181**	Pn	**Pn**	**22 51 44.2**	**+0.1**
PDPR				IAML		22 52 04.9	
	comp=E,86nm,0.8s						
STVI	**Saint Thomas**	**1.58**	**142**	*e*P	**Pb**	**22 51 46.2**	**-0.2**
STVI	**Saint Thomas**	**1.58**	**142**	Pn	**Pb**	**22 51 45.3**	**-1.1**
STVI				IAML		22 52 17.2	
	comp=N,54nm,0.7s						
CELP	**Cerrillos**	**1.61**	**201**	*e*P	**Pn**	**22 51 44.9**	**+0.3**
CELP	**Cerrillos**	**1.61**	**201**	*e*S	**Sn**	**22 52 04.7**	**+0.1**
CELP	**Cerrillos**	**1.61**	**201**		**Pn**	**22 51 44.9**	**+0.3**
CELP					**Sn**	**22 52 04.7**	**+0.1**
IGPR	**InterUniversit**	**1.63**	**184**	*e*P	**Pn**	**22 51 45.2**	**+0.4**
OBIP	**Obispado Ponce**	**1.65**	**201**	*e*P	**Pn**	**22 51 45.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.65**	**201**	*e*S	**Sn**	**22 52 05.3**	**-0.2**
OBIP	**Obispado Ponce**	**1.65**	**201**	Pn	**Pn**	**22 51 45.0**	**-0.2**
OBIP					**Sn**	**22 52 05.4**	**-0.2**
OBIP				IAML		22 52 07.8	
	comp=E,68nm,0.6s						
OBIP				IAML		22 52 11.7	
	comp=N,72nm,1.1s						
LSP	**Las Mesas**	**1.76**	**217**	*e*P	**Pn**	**22 51 46.3**	**-0.4**
LSP	**Las Mesas**	**1.76**	**217**	*e*S	**Sn**	**22 52 07.6**	**-0.5**
LSP	**Las Mesas**	**1.76**	**217**		**Pn**	**22 51 46.3**	**-0.4**
LSP					**Sn**	**22 52 07.6**	**-0.5**
MPR	**Mayaguez**	**1.76**	**219**	Pn	**Pn**	**22 51 45.1**	**-1.5**
ICMP	**Isla Caja de M**	**1.78**	**197**	Pn	**Pb**	**22 51 50.0**	**+0.2**
ICMP					**Sn**	**22 52 17.0**	
ICMP				IAML		22 52 17.0	
	comp=E,96nm,0.9s						
ICMP				IAML		22 52 30.3	
	comp=N,67nm,2.1s						
MLPR	**Magueyes Islan**	**1.91**	**212**	*e*P	**Pn**	**22 51 48.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.91**	**212**	Pn	**Pn**	**22 51 48.0**	**-0.7**
MLPR				IAML		22 52 19.7	
	comp=E,41nm,0.6s						
SDDR	**Presa de Saban**	**5.05**	**264**	Pn	**Pn**	**22 52 33.0**	**+1.1**

IDC ***29*** *22:55:41.4±1.9,7.95S×126.36E,h0km,mb3.6/1, mb1 3.8/5,mb1mx3.6/39,mbtmp3.7/5,ML3.9/4,MS3.5/2, Ms1 3.5/2,ms1mx2.8/29,Error ellipse: s-maj=39.7km s-min=27.3km az=84.0*
DJA ***29*** *22:55:41.5±0.4,7°S±4°×12°6E±°,h161km±14km,M4.2/7, mb4.3/7,MLv4.1/6*

ISC 29 22:55:41.4±1.0,7.50S±0.08×126.02E±0.10,h150km,n15, σ2§29/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.84**	**218**	P	**Pn**	**22 56 26.8**	**0.0**
BATI	**Baumata**	**3.56**	**221**	Pn	**Pn**	**22 56 36.8**	**+0.8**
	11nm,0.3s,baz=118,slow=1.3,SNR=6.8						
BATI				Sn	**Sn**	**22 57 20.9**	**+2.5**
	8.9nm,0.3s,baz=3.2,slow=23,SNR=4.0						
BATI	**Baumata**	**3.56**	**221**	P	**Pn**	**22 56 36.2**	**+0.2**
BATI				S	**Sn**	**22 57 19.3**	**+1.0**
MMRI	**Maumere**	**3.91**	**253**	P	**Pn**	**22 56

0.3nm,0.3s,baz=122,slow=8.3,SNR=9.4

IDC ***29*** *23:07:02.1±3.1,35˚.08S×179˚.41W,h0km,mb3.7/2, mb1 3.9/3,mb1mx3.6/34,mbtmp3.7/3,ML3.3/1,Error ellipse: s-maj=75.8km s-min=36.3km az=124.0*

WEL ***29*** *23:07:03.6±1.3,35˚.5S±29˚×17˚.9W±3˚.3,h33km,M3.9/10, ML4.2/10,MLv3.9/10,Error ellipse: s-maj=0.1km s-min=0.0km az=130.7*

ISC 29 23:07:03.4±2.4,35˚.2S±0˚.2×178˚.8W±0˚.3,h42km,n16, σ0s.94/25,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.30**	**223**	P		**Pn**	**23 07 52.0**	**-0.6**
MXZ				S		**Sn**	**23 08 29.4**	**-1.2**
PKGZ	**Pakihiroa**	**3.66**	**222**	P		**Pn**	**23 07 57.4**	**-0.2**
PKGZ				S		**Sn**	**23 08 39.3**	**-0.3**
PUZ	**Puketiti**	**3.71**	**218**	P		**Pn**	**23 07 59.2**	**+1.1**
PUZ				S		**Sn**	**23 08 39.9**	**-0.7**
HAZ	**Te Kaha**	**3.74**	**226**	P		**Pn**	**23 07 58.8**	**+0.3**
TWGZ	**Tauwhareparae**	**3.93**	**220**	P		**Pn**	**23 08 01.5**	**+0.2**
TWGZ				S		**Sn**	**23 08 48.0**	**+2.0**
RUGZ	**Raukumara Rang**	**3.94**	**224**	P		**Pn**	**23 08 01.5**	**+0.1**
RUGZ				S		**Sn**	**23 08 48.7**	**+2.2**
CNGZ	**Carnagh Statio**	**4.05**	**215**	P		**Pn**	**23 08 02.9**	**0.0**
TKGZ	**Te Karaka**	**4.19**	**218**	P		**Pn**	**23 08 04.7**	**-0.1**
TKGZ				S		**Sn**	**23 08 52.3**	**-0.2**
MWZ	**Matawai**	**4.28**	**222**	P		**Pn**	**23 08 04.6**	**-1.5**
MWZ				S		**Sn**	**23 08 53.8**	**-1.0**
RIGZ	**Rimuhau**	**4.44**	**217**	P		**Pn**	**23 08 07.8**	**-0.5**
RIGZ				S		**Sn**	**23 08 58.6**	**-0.1**
RAGZ	**Rawiri**	**4.46**	**221**	P		**Pn**	**23 08 08.3**	**-0.3**
URZ	**Urewera**	**4.47**	**225**	Pn		**Pn**	**23 08 07.8**	**-0.8**
	1.9nm,0.3s,baz=300,slow=23,SNR=19							
URZ				Sn		**Sn**	**23 08 58.6**	**-0.7**
	2.4nm,0.3s,baz=301,slow=24,SNR=179							
URZ	**Urewera**	**4.47**	**225**	P		**Pn**	**23 08 07.8**	**-0.8**
ASAR	**Alice Springs**	**42.38**	**273**	P		**P**	**23 14 54.7**	**+0.9**
	1.0nm,0.7s,baz=114,slow=7.4,SNR=9.4							
WRA	**Warramunga Arr**	**43.79**	**278**	P		**P**	**23 15 05.7**	**+0.4**
	0.3nm,0.5s,baz=119,slow=7.7,SNR=5.7							
FINES	**FINESS Array B**	**149.32**	**337**	PKPbc		**PKPab**	**23 26 50.7**	**-0.8**
	1.3nm,0.8s,baz=72,slow=4.5,SNR=5.6							

HEL ***29*** *23:31:53.0,67˚.86N×20˚.05E,h0km,ML1.7,Explosion*

UPP 29 23:31:53.5±0.0,67˚.85N×20˚.20E,h1km,ML1.9, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	P		Pg	23 31 56.0	+0.2
KUA				S		Sg	23 31 57.7	+0.4
KUA	**Kurravaara**	**0.12**	**25**	*i* P		Pg	23 31 56.0	+0.2
KUA				*i* S		Sg	23 31 57.7	+0.4
RATU	**Laukkuluspa**	**0.23**	**264**	P		Pg	23 31 58.1	+0.2
RATU				S		Sg	23 32 01.1	+0.2
RATU	**Laukkuluspa**	**0.23**	**264**	*i* P		Pg	23 31 58.1	+0.2
RATU				*i* S		Sg	23 32 01.1	+0.2
KOVU	**Salmi**	**0.38**	**358**	P		Pg	23 32 00.7	0.0
KOVU				S		Sg	23 32 05.7	+0.1
KOVU	**Salmi**	**0.38**	**358**	*i* P		Pg	23 32 00.7	0.0
KOVU				*i* S		Sg	23 32 05.7	+0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	P		Pg	23 32 02.0	+0.1
NIKU				S		Sg	23 32 08.0	+0.3
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P		Pg	23 32 02.0	+0.1
NIKU				*i* S		Sg	23 32 08.0	+0.3
LANU	**Lannavaara**	**0.70**	**72**	P		Pg	23 32 06.8	-0.2
LANU	**Lannavaara**	**0.70**	**72**	*e*P		Pg	23 32 06.7	-0.3
LANU				*e*S		Sg	23 32 16.1	0.0
DUNU	**Dundret**	**0.74**	**169**	P		Pg	23 32 07.4	-0.2
DUNU	**Dundret**	**0.74**	**169**	*i* P		Pg	23 32 07.4	-0.2
SALU	**Saltoluokta**	**0.80**	**235**	*e*P		Pg	23 32 08.1	-0.7
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*PB		Pb	23 32 16.9	+0.2
	baz=194							
KIF				MSG			23 32 29.8	
	comp=Z,7.8nm,0.2s							
KIF				*e*SN		Sn	23 32 34.4	+0.5
PAJU	**Pajala**	**1.40**	**125**	P		Pn	23 32 19.0	-1.2
PAJU	**Pajala**	**1.40**	**125**	*e*P		Pn	23 32 18.9	-1.3
	baz=306							
HEF	**Hetta**	**1.41**	**65**	*e*P		Pn	23 32 19.3	-1.1
HEF	**Hetta**	**1.41**	**65**	*e*PG		Pn	23 32 19.5	-0.9
	baz=247							
HEF				MSG			23 32 36.8	
	comp=Z,5.4nm,0.2s							
KLF	**Kolari**	**1.57**	**111**	*e*PG		Pn	23 32 22.2	-0.3
	baz=304							
TOF	**Tornio**	**2.40**	**136**	*e*PB		Pn	23 32 35.6	+1.6
	baz=316							
TOF				MSG			23 33 05.6	
	comp=Z,2.7nm,0.2s							
SGF	**Sodankyl**	**2.45**	**97**	*e*PB		Pb	23 32 36.7	-1.6
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*PB		Pn	23 32 38.3	+2.0
	baz=224							
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB		Pb	23 32 38.8	-1.8

IASPEI ***29*** *23:39:41.4±0.8,46˚.51N±0˚.02×12˚.75E±0˚.02,h8km±5km, Error ellipse: s-maj=3.1km s-min=2.3km az=11.1,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

LDG ***29*** *23:39:41.9±0.1,46˚.52N×12˚.75E,h4km,Ml2.5/10,Error ellipse: s-maj=2.2km s-min=1.5km az=1.0*

ROM ***29*** *23:39:41.9±0.1,46˚.57N±0˚.01×12˚.81E±0˚.01,h10km, ML2.3/12,Error ellipse: s-maj=1.3km s-min=0.8km az=22.0*

VIE ***29*** *23:39:42.1±0.1,46˚.54N×12˚.76E,h6km±1km,mb1.9/18, ml2.6/20,Error ellipse: s-maj=1.3km s-min=0.7km az=17.0 9 km WNW of Comeglians*

PRU ***29*** *23:39:44.4±0.0,46˚.60N×12˚.77E,h0km*

ISC 29 23:39:41.5±0.8,46˚.53N±0˚.02×12˚.75E±0˚.01,h9km±5km, n102,σ1s.77/148,8C-8D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CSMI	**Casera Mimoias**	**0.07**	**258**	⇓*e*Pg		**Pg**	**23 39 43.4**	**-0.3**
CSMI				*e*Sg		**Sg**	**23 39 44.9**	**-0.5**
FVI	**Forni Avoltri**	**0.07**	**17**	⇑P		**Pg**	**23 39 43.9**	**+0.1**
FVI				S		**Sg**	**23 39 45.5**	**+0.1**
FVI				AML		AML		
	comp=E,13700μm,0.4s							
FVI				AML		AML		
	comp=N,9250μm,1.6s							
CLUD	**Cludinico**	**0.11**	**127**	⇓*e*Pg		**Pg**	**23 39 43.8**	**-0.4**
ZOU	**Zoufplan**	**0.16**	**79**	⇑*e*Pg		**Pg**	**23 39 45.2**	**+0.2**
ZOU				*e*Sg		**Sg**	**23 39 47.9**	**+0.5**
FUSE	**Fusea**	**0.21**	**123**	⇓*e*Pg		**Pg**	**23 39 45.5**	**-0.2**
FUSE				*e*Sg		**Sg**	**23 39 48.8**	**+0.1**
STAL	**STALIGIAL**	**0.27**	**186**	AML		AML		
	comp=E,9715μm,0.8s							
STAL				AML		AML		
	comp=N,13500μm,0.2s							
STAL				AML		AML		
	comp=N,10365μm,0.2s							
STAL				AML		AML		
	comp=E,7555μm,0.2s							
ABTA	**Abfaltersbach**	**0.28**	**324**	*e*Pg		**Pg**	**23 39 47.6**	**+0.6**
	comp=E,17nm,0.1s,SNR=99							
ABTA				*i* Sg		**Sg**	**23 39 51.8**	**+1.0**
	comp=E,44nm,0.1s							
PLRO	**Paularo**	**0.28**	**85**	⇑*e*Pg		**Pg**	**23 39 47.2**	**+0.1**
PLRO				*e*Sg		**Sg**	**23 39 51.5**	**+0.7**
CIMO	**Cimolais**	**0.30**	**225**	⇑*e*Pg		**Pg**	**23 39 47.0**	**-0.5**
CIMO				*e*Sg		**Sg**	**23 39 51.5**	**-0.1**
BOO	**Bordano**	**0.32**	**130**	⇓*e*Pg		**Pg**	**23 39 47.5**	**-0.3**
MPRI	**Monte Prat**	**0.33**	**150**	⇑*e*Pg		**Pg**	**23 39 47.6**	**-0.4**
MPRI				*e*Sg		**Sg**	**23 39 52.7**	**+0.3**
CSO	**Casso**	**0.39**	**230**	⇑*e*Pg		**Pg**	**23 39 48.6**	**-0.5**
CSO				*e*Sg		**Sg**	**23 39 54.7**	**+0.4**
MLNI	**Malnisio**	**0.39**	**194**	⇓*e*Pg		**Pg**	**23 39 48.7**	**-0.4**
MLNI				*e*Sg		**Sg**	**23 39 54.4**	**+0.1**
BUA	**Buia**	**0.40**	**140**	⇓*e*Pg		**Pg**	**23 39 49.1**	**-0.3**
BUA				*e*Sg		**Sg**	**23 39 55.4**	**+0.7**
PTCC	**Patocco-Chiusa**	**0.43**	**106**	P		**Pg**	**23 39 49.8**	**-0.2**
PTCC				S		**Sb**	**23 39 57.4**	**-0.7**
PTCC				AML		AML		
	comp=N,231μm,0.9s							
PTCC				AML		AML		
	comp=E,269μm,1.2s							
BAD	**Bernadia**	**0.45**	**130**	⇓*e*Pg		**Pg**	**23 39 50.0**	**-0.2**
BAD				*e*Sg		**Sg**	**23 39 56.8**	**+0.7**
ACOM	**Acomizza, Ital**	**0.53**	**87**	⇑*e*Pg		**Pg**	**23 39 52.0**	**+0.2**
ACOM				*e*Sg		**Sb**	**23 40 00.1**	**-0.8**
ACOM	**Acomizza, Ital**	**0.53**	**87**	P		**Pg**	**23 39 52.0**	**+0.2**
ACOM				AML		AML		
	comp=N,592μm,0.7s							
ACOM				AML		AML		
	comp=E,500μm,0.7s							
LSR	**Lussari**	**0.54**	**95**	*e*Pg		**Pg**	**23 39 52.1**	**+0.1**
CAE	**Caneva**	**0.56**	**203**	*e*Pg		**Pg**	**23 39 51.9**	**-0.5**
PRED	**Cave del Predi**	**0.57**	**98**	*e*Pg		**Pg**	**23 39 52.3**	**-0.2**
PRED				*e*Sg		**Sg**	**23 40 01.0**	**+1.0**
COLI	**Coloredo**	**0.59**	**132**	*e*Pg		**Pg**	**23 39 52.6**	**-0.2**
ROBS	**Robic**	**0.60**	**118**	*i* Pg		**Pg**	**23 39 52.5**	**-0.5**
ROBS				IAML			23 40 04.3	
	comp=Z,5.5nm,0.1s							
FAU	**Forcella Aurin**	**0.61**	**241**	*e*Pg		**Pg**	**23 39 53.6**	**+0.3**
MYKA	**Terra Mystica**	**0.62**	**80**	*e*Pg		**Pg**	**23 39 53.3**	**-0.3**
	comp=Z,5.2nm,0.2s,SNR=6.4							
MYKA				*e*Sg		**Sg**	**23 40 02.1**	**+0.3**
	comp=Z,10nm,0.1s							
RISI	**Rein**	**0.62**	**313**	P		**Pg**	**23 39 54.1**	**+0.5**
RISI				S		**Sg**	**23 40 02.8**	**+1.0**
RISI				AML		AML		
	comp=E,501μm,0.1s							
RISI				AML		AML		
	comp=N,528μm,0.3s							
TLI	**Talmassons**	**0.65**	**158**	*e*Pg		**Pg**	**23 39 53.8**	**-0.3**
KBA	**Koelnbreinsper**	**0.69**	**36**	*e*Pg		**Pg**	**23 39 55.3**	**+0.5**
	comp=N,11nm,0.2s,SNR=6.3							
KBA				*e*Sg		**Sb**	**23 40 04.8**	**-0.7**
	comp=N,13nm,0.1s							
VARN	**Col Varnada, M**	**0.70**	**220**	*e*Pg		**Pg**	**23 39 55.1**	**+0.2**
DRE	**Drenchia**	**0.71**	**119**	*e*Pg		**Pg**	**23 39 54.8**	**-0.5**
BRES	**Bressanone**	**0.72**	**284**	P		**Pg**	**23 39 55.9**	**+0.4**
CADS	**Cadrg**	**0.75**	**113**	*i* Pg		**Pg**	**23 39 55.4**	**-0.4**
CADS				*i* Sg		**Sg**	**23 40 06.4**	**+0.8**
CADS				IAML			23 40 09.3	
	comp=Z,12nm,0.1s							
ED06	**Collalto TV**	**0.77**	**210**	*e*Pg		**Pg**	**23 39 56.4**	**+0.1**
SABO	**M.te Sabotino**	**0.80**	**132**	*e*Pg		**Pg**	**23 39 56.7**	**-0.2**
SABO	**M.te Sabotino**	**0.80**	**132**	P		**Pg**	**23 39 56.7**	**-0.2**
SABO				AML		AML		
	comp=N,198μm,0.4s							
SABO				AML		AML		
	comp=E,158μm,0.2s							
MTLO	**Montello**	**0.84**	**213**	*e*Pg		**Pg**	**23 39 57.4**	**-0.3**
GORS	**Gorjuse**	**0.89**	**103**	*i* Pg		**Pg**	**23 39 58.4**	**-0.2**
CTI	**Castel Tesino**	**0.90**	**238**	P		**Pg**	**23 39 59.1**	**+0.3**
CTI				S		**Sn**	**23 40 12.9**	**-0.8**
CGRP	**Cima Grappa**	**0.92**	**226**	*e*Pg		**Pg**	**23 39 59.2**	**0.0**
CGRP	**Cima Grappa**	**0.92**	**226**	P		**Pb**	**23 40 00.5**	**+0.7**
CGRP				AML		AML		
	comp=E,212μm,0.5s							
CGRP				AML		AML		
	comp=N,174μm,0.8s							
ASOL	**Asolo**	**0.94**	**219**	P		**Pn**	**23 40 01.4**	**+0.6**
ROSI	**Rosskopf**	**1.00**	**294**	P		**Pg**	**23 40 01.0**	**+0.2**
ROSI				AML		AML		
	comp=E,101μm,0.3s							
ROSI				AML		AML		
	comp=N,110μm,1.1s							
ABSI	**Aberstueckl**	**1.00**	**282**	P		**Pg**	**23 40 00.8**	**0.0**
ABSI				AML		AML		
	comp=N,196μm,0.5s							
ABSI				AML		AML		
	comp=E,151μm,0.7s							
APPI	**Appiano**	**1.05**	**268**	P		**Pg**	**23 40 01.9**	**+0.2**
APPI				AML		AML		
	comp=N,123μm,0.2s							
APPI				AML		AML		
	comp=E,110μm,1.5s							
WTTA	**Wattenberg**	**1.06**	**314**	*e*Pg		**Pb**	**23 40 02.3**	**+0.2**
	comp=E,6.3nm,0.1s,SNR=7.7							
WTTA				*e*Sg		**Sb**	**23 40 16.8**	**+0.5**
	comp=E,13nm,0.2s							
WTTA	**Wattenberg**	**1.06**	**314**	⇓P		**Pb**	**23 40 02.3**	**+0.2**
WTTA				S		**Sg**	**23 40 16.1**	**+0.4**
WTTA				AML		AML		
	comp=E,84μm,1.4s							
WTTA				AML		AML		
	comp=N,65μm,0.5s							
WATA	**Walderalm**	**1.14**	**316**	*e*Pg		**Pn**	**23 40 03.8**	**0.0**
	comp=N,3.2nm,0.1s							
WATA				*e*Sg		**Sn**	**23 40 19.4**	**-0.3**
	comp=N,24nm,0.3s							
OBKA	**Obir**	**1.24**	**90**	*e*Pg		**Pn**	**23 40 05.0**	**-0.2**
	comp=N,9.4nm,0.3s,SNR=7.4							
OBKA				*e*Sg		**Sn**	**23 40 23.4**	**+1.3**
	comp=N,14nm,0.3s							
SQTA	**Sankt Quirin**	**1.27**	**304**	*i* Pg		**Pg**	**23 40 06.1**	**+0.3**
	comp=N,1.4nm,0.1s							
SQTA				*e*Sg		**Sn**	**23 40 23.9**	**+1.2**
	comp=N,8.1nm,0.2s							
SKDS	**Skadanscina**	**1.32**	**138**	*i* Pg		**Pg**	**23 40 07.3**	**+0.6**
SKDS				*e*Sg		**Sn**	**23 40 26.4**	**+2.6**
SKDS				IAML			23 40 28.5	
	comp=Z,26nm,0.2s							
LJU	**Ljubljana**	**1.32**	**111**	AML		AML		
	comp=N,664μm,0.7s							
LJU				AML		AML		
	comp=E,698μm,0.4s							
TEOL	**Teolo**	**1.39**	**213**	⇑P		**Pg**	**23 40 08.3**	**+0.2**
TEOL				AML		AML		
	comp=N,636μm,0.6s							
TEOL				AML		AML		
	comp=E,925μm,0.6s							
MOTA	**Moosalm**	**1.39**	**307**	*e*Pn		**Pb**	**23 40 08.1**	**+0.3**
	comp=E,1.3nm,0.2s							
MOTA				*e*Sn		**Sg**	**23 40 27.1**	**+0.8**
	comp=E,7.2nm,0.3s							
ROVR	**Rover Verones**	**1.46**	**234**	P		**Pb**	**23 40 09.4**	**+0.4**
ROVR				AML		AML		
	comp=E,54μm,0.8s							
ROVR				AML		AML		
	comp=N,154μm,0.3s							
FETA	**Feichten**	**1.47**	**290**	*e*Pn		**Pb**	**23 40 09.3**	**+0.1**
	comp=N,1.4nm,0.1s							
FETA				*e*Sn		**Sg**	**23 40 29.7**	**+0.8**
	comp=N,3.4nm,0.2s							
MOSI	**Grossmontoni**	**1.52**	**274**	AML		AML		
	comp=E,196μm,0.8s							
MOSI				AML		AML		
	comp=N,276μm,0.4s							
SOKA	**Soboth**	**1.58**	**84**	*e*Pn		**Pb**	**23 40 10.6**	**-0.4**
	comp=N,1.4nm,0.2s,SNR=5.8							
SOKA				*e*Sn		**Sg**	**23 40 32.7**	**+0.4**
	comp=N,2.8nm,0.2s							
MABI	**Malga Bissina**	**1.62**	**254**	AML		AML		
	comp=N,76μm,1.1s							
MABI				AML		AML		
	comp=E,42μm,0.4s							
BRMO	**Bormio**	**1.64**	**269**	AML		AML		
	comp=N,45μm,1.6s							
BRMO				AML		AML		
	comp=E,76μm,0.3s							
MAGA	**Magasa**	**1.66**	**244**	AML		AML		
	comp=E,345μm,0.7s							
MAGA				AML		AML		
	comp=N,262μm,0.8s							
RETA	**Reutte**	**1.67**	**306**	*e*Pn		**Pg**	**23 40 13.3**	**-0.2**
	comp=N,0.9nm,0.1s,SNR=15							
RETA				Sg		**Sg**	**23 40 37.3**	**+2.3**
	comp=N,7.7nm,0.2s							
MOA	**Molln**	**1.68**	**37**	*e*Pg		**Pg**	**23 40 14.2**	**+0.5**
	comp=N,1.8nm,0.1s							
MOA				Sg		**Sg**	**23 40 36.9**	**+1.4**
	comp=N,20nm,0.4s							
DAVOX	**Davos/Dischmat**	**1.99**	**278**	AML		AML		
	comp=N,45μm,0.5s							
DAVOX				AML		AML		
	comp=E,45μm,0.5s							
BOJS	**Bojanci**	**2.02**	**119**	AML		AML		
	comp=E,109μm,1.1s							
BOJS				AML		AML		
	comp=N,102μm,0.5s							
ARSA	**Arzberg**	**2.04**	**68**	*e*Pn		**Pb**	**23 40 17.7**	**-1.0**
	comp=N,1.2nm,0.2s							
ARSA				*e*Sg		**Sg**	**23 40 48.1**	**+1.3**
	comp=N,1.9nm,0.3s							
DAVA	**Damuels**	**2.11**	**292**	*e*Pg		**Pg**	**23 40 22.8**	**+0.9**
	comp=N,2.9nm,0.2s							
DAVA				*e*Sg		**Sg**	**23 40 52.5**	**+3.2**
	comp=N,8.8nm,0.3s							
KOGS	**Kog**	**2.42**	**91**	AML		AML		
	comp=E,118μm,0.7s							
KOGS				AML		AML		
	comp=N,132μm,0.7s							
NVLJ	**Novalja**	**2.46**	**142**	*e*Pn		**Pn**	**23 40 23.1**	**+1.2**
NVLJ				Sn		**Sn**	**23 40 53.6**	**+1.6**
CKRC	**Cesky Krumlov**	**2.53**	**24**	*e*PN		**Pb**	**23 40 26.4**	**-0.6**
CKRC				*e*SN		**Sb**	**23 40 57.1**	**-1.1**
CONA	**Conrad Observa**	**2.54**	**55**	*e*Pn		**Pn**	**23 40 25.3**	**+2.3**
	comp=N,0.3nm,0.1s							
CONA				*e*Sn		**Sn**	**23 40 56.3**	**+2.1**
	comp=N,4.2nm,0.4s							
KHC	**Kasperske Hory**	**2.67**	**12**	*e*PN		**Pb**	**23 40 27.5**	**-1.9**
KHC				*e*PG		**Pg**	**23 40 35.0**	**+2.4**
KHC				*e*SN		**Sb**	**23 41 00.3**	**-1.9**
FSSB	**Fossombrone**	**2.83**	**180**	AML		AML		
	comp=N,32μm,1.4s							
FSSB				AML		AML		
	comp=E,34μm,0.9s							
DUGI	**Dugi Otok**	**3.01**	**146**	*e*Pn		**Pn**	**23 40 30.4**	**+1.0**
DUGI				Sn		**Sn**	**23 41 06.9**	**+1.3**
ZIRJ	**Zirje**	**3.53**	**143**	*e*Pn		**Pn**	**23 40 38.6**	**+2.1**
ZIRJ				Sn		**Sn**	**23 41 19.1**	**+0.8**
KRUC	**Moravsky**	**3.53**	**43**	*e*PN		**Pn**	**23 40 37.0**	**+0.5**
KRUC				*e*PG		**Pg**	**23 40 48.6**	**-0.5**
KRUC				*e*SG		**Sg**	**23 41 38.1**	**+3.2**
PRU	**Pruhonice**	**3.67**	**18**	*e*SG		**Sg**	**23 41 38.4**	**-0.8**
NKC	**Novy Kostel**	**3.71**	**357**	*e*SN		**Sn**	**23 41 24.2**	**+1.2**
VRAC	**Vranov**	**3.80**	**41**	*e*PN		**Pn**	**23 40 41.0**	**+0.8**
VRAC				*e*PG		**Pg**	**23 40 52.4**	**-1.8**
VRAC				*e*SG		**Sg**	**23 41 42.8**	**-0.6**
CDF	**Champ du Feu**	**4.16**	**299**	*e*P		**Pn**	**23 40 47.9**	**+2.6**
CDF				*e*Sn		**Sn**	**23 41 30.9**	**-3.2**
	comp=E,2.7nm,0.6s							
PVCC	**Panska Ves**	**4.18**	**16**	*e*PN		**Pn**	**23 40 47.3**	**+1.8**
HINF	**Hinteralfeld**	**4.22**	**290**	*e*P		**Pn**	**23 40 48.7**	**+2.6**
HINF				*e*Sn		**Sn**	**23 41 32.1**	**-3.4**
	comp=E,3.2nm,0.4s							
LPG	**La Plagne**	**4.30**	**258**	*e*P		**Pn**	**23 40 49.9**	**+2.5**
LPL	**La Plagne**	**4.31**	**259**	*e*P		**Pn**	**23 40 50.0**	**+2.6**
BRG	**Berggiesshubel**	**4.42**	**10**	*ex*		**Sn**	**23 41 37.6**	**-2.7**
BRG				Amp			23 41 39.3	
	comp=Z,1.5nm,0.5s							
BRG	**Berggiesshubel**	**4.42**	**10**	*e*(Sg)		**Sg**	**23 42 02.5**	**-0.9**
BRG				Amp			23 42 12.3	
	comp=Z,7.0nm,0.9s							
DPC	**Dobruska-Polom**	**4.50**	**31**	*e*PG		**Pg**	**23 41 05.2**	**-2.5**
DPC				*e*SN		**Sn**	**23 41 44.0**	**+1.5**
DPC				*e*SG		**Sg**	**23 42 04.1**	**-2.0**
CABF	**La Chapelle**	**4.60**	**273**	*e*P		**Pn**	**23 40 54.0**	**+2.8**
HAU	**Haudompre**	**4.60**	**291**	*e*P		**Pn**	**23 40 54.0**	**+2.7**
HAU				*e*Sn		**Sn**	**23 41 41.2**	**-3.6**
	comp=Z,5.0nm,0.4s							
SBF	**Sospel**	**4.60**	**237**	*e*P		**Pn**	**23 40 53.9**	**+2.6**
SBF				*e*Sn		**Sn**	**23 41 41.0**	**-3.9**
	comp=Z,1.5nm,0.3s							
CHVC	**Chvalec**	**4.62**	**27**	*e*PN		**Pn**	**23 40 53.4**	**+1.9**
CHVC				*e*SG		**Sg**	**23 42 06.3**	**-3.4**
CLL	**Collm**	**4.79**	**2**	*e*Sg		**Sg**	**23 42 13.0**	**-2.2**
	comp=Z,4.0nm,0.7s							
ORIF	**Oris-en-Rattie**	**5.07**	**254**	*e*P		**Pn**	**23 41 00.6**	**+2.8**
ORIF				*e*Sn		**Sn**	**23 41 52.3**	**-4.2**
	comp=Z,0.5nm,0.3s							
FRF	**La Foret Royal**	**5.24**	**238**	*e*Pn		**Pn**	**23 40 58.7**	**-1.3**
LMR	**La Mourre**	**5.46**	**236**	*e*Pn		**Pn**	**23 41 01.2**	**-1.8**
LMR				*e*Sn		**Sn**	**23 42 01.1**	**-4.8**
	comp=Z,0.8nm,0.3s							
SFTF	**Sexfontaines**	**5.50**	**291**	*e*P		**Pn**	**23 41 06.8**	**+3.2**
SFTF				*e*Sn		**Sn**	**23 42 02.5**	**-4.5**
	comp=Z,0.8nm,0.2s							
SMRF	**Simiane la Rot**	**5.67**	**246**	*e*P		**Pn**	**23 41 08.9**	**+3.0**
VIVF	**Saint-Julien-l**	**5.90**	**256**	*e*P		**Pn**	**23 41 12.2**	**+3.1**
SMF	**Signal de Mont**	**6.14**	**274**	*e*P		**Pn**	**23 41 15.6**	**+3.2**
SMF				*e*Sn		**Sn**	**23 42 17.8**	**-4.9**
	comp=Z,0.6nm,0.2s							
AVF	**Avril sur Loir**	**6.47**	**276**	*e*P		**Pn**	**23 41 20.3**	**+3.4**
LASF	**Ste Croix**	**6.73**	**252**	*e*P		**Pn**	**23 41 23.4**	**+2.9**
BGF	**Bois d'Agland**	**6.83**	**274**	*e*P		**Pn**	**23 41 25.3**	**+3.5**
BGF				*e*Sn		**Sn**	**23 42 34.4**	**-5.3**
	comp=Z,2.6nm,0.4s							
CAF	**Calviac**	**7.65**	**262**	*e*P		**Pn**	**23 41 36.4**	**+3.3**

IDC ***30*** *00:30:26.7±1.1,5˚.67S×152˚.90E,h0km,mb4.1/9, mb1 4.2/10,mb1mx4.0/30,mbtmp4.1/10,ML2.3/1,MS3.5/4, Ms1 3.6/4,ms1mx3.0/40,Error ellipse: s-maj=43.9km s-min=16.5km az=120.0*

NEIC ***30*** *00:30:28.8±0.9,5˚.66S±0˚.08×153˚.05E±0˚.04,h14km±5km, mb4.4/12,Error ellipse: s-maj=11.2km s-min=5.6km az=193.0*

ISC 30 00:30:28.4±0.7,5˚.71S±0˚.08×153˚.01E±0˚.10,h10km,n31, σ1s.27/25,mb4.2/15,MS3.4/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.73**	**331**			**Pn**	**00 30 58.0**	**-0.5**
PMG	**Port Moresby**	**6.87**	**237**	Pn		**Pn**

mb1 4.7/8,mb1mx4.2/39,mbtmp4.6/8,ML4.4/1,MS3.9/10, Ms1 3.9/10,ms1mx3.7/20,Error ellipse: s-maj=23.9km s-min=22.2km az=22.0

NEIC ***30*** *00:44:35.2±2.2,35°.4S±0°.1×179°.4W±0°.1, h35km±2km, mb4.6/15,Error ellipse: s-maj=20.1km s-min=18.1km az=100.0*

ISC 30 00:44:34.1±0.6,35°.31S±0°.09×179°.3W±0°.1,h35km,n65, σ1s50/56,mb4.6/16,MS3.9/11,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.96**	**220**	Pn	**Pn**	**00 45 17.8**	**-0.8**
URZ	**Urewera**	**4.12**	**223**	Pn	**Pn**	**00 45 33.6**	**-0.9**
	20nm,0.3s,baz=122,slow=23,SNR=72						
URZ				Sn	**Sn**	**00 46 23.7**	**+2.3**
	19nm,0.3s,baz=29,slow=21,SNR=4.5						
URZ	**Urewera**	**4.12**	**223**	Pn	**Pn**	**00 45 33.8**	**-0.7**
BKZ	**Black Stump Fm**	**5.10**	**220**	Pn	**Pn**	**00 45 47.6**	**-0.5**
HIZ	**Hauiti**	**5.67**	**234**	Pn	**Pn**	**00 45 55.8**	**0.0**
OUZ	**Omahuta**	**5.81**	**269**	Pn	**Pn**	**00 45 57.7**	**-0.1**
BFZ	**Birch Farm**	**6.41**	**212**	Pn	**Pn**	**00 46 04.0**	**-1.9**
NNZ	**Nelson**	**8.24**	**222**	Pn	**Pn**	**00 46 31.2**	**+0.2**
KHZ	**Kahutara**	**9.02**	**216**	Pn	**Pn**	**00 46 40.4**	**-1.4**
LTZ	**Lake Taylor**	**9.92**	**219**	Pn	**Pn**	**00 46 51.6**	**-2.7**
RPZ	**Rata Peaks**	**11.21**	**219**	Pn	**Pn**	**00 47 08.8**	**-3.0**
LBZ	**Lake Benmore**	**12.13**	**219**	Pn	**Pn**	**00 47 21.6**	**-2.8**
ODZ	**Otahua Downs**	**12.38**	**215**	Pn	**Pn**	**00 47 27.1**	**-0.7**
WKZ	**Wanaka**	**13.04**	**220**	Pn	**Pn**	**00 47 35.8**	**-1.0**
MLZ	**Mavora Lakes**	**13.87**	**220**	Pn	**Pn**	**00 47 47.0**	**-1.2**
MSVF	**Nonsavu**	**17.67**	**352**	LR	LR	00 53 28.2	
	comp=Z,218nm,19.3s,baz=121,slow=31						
DZM	**Mont Dzumac**	**18.15**	**313**	*e*P	Pn	00 48 36.9	-6.6
	13nm,0.8s						
DZM				*e*LR	LR	00 52 51.5	
	comp=Z,801nm,28.7s						
EIDS	**Eidsvold**	**27.33**	**283**	P	**P**	**00 50 16.1**	**+0.3**
EIDS				IAmb	IAmb	00 50 27.5	
	comp=Z,8.5nm,1.1s						
TBI	**Tubuai**	**28.50**	**73**	*e*LR	LR	00 57 28.8	
	comp=Z,340nm,28.2s						
PPT2	**Papeete2**	**31.76**	**64**	*e*LR	LR	00 58 54.0	
	comp=Z,298nm,27.8s						
STKA	**Stephens Creek**	**32.61**	**265**	P	**P**	**00 51 02.6**	**+0.1**
	comp=Z,5.7nm,1.1s,baz=84,slow=9.9,SNR=7.3						
STKA				LR	LR	01 02 27.5	
	comp=Z,195nm,20.6s,baz=51,slow=33						
CTAO	**Charters Tower**	**33.88**	**287**	P	**P**	**00 51 14.1**	**+0.6**
BBOO	**Buckleboo**	**36.83**	**261**	P	**P**	**00 51 38.5**	**-0.4**
AS31	**Alice Springs**	**42.01**	**273**	P	**P**	**00 52 20.9**	**-1.3**
ASAR	**Alice Springs**	**42.01**	**273**	P	**P**	**00 52 21.0**	**-1.2**
	comp=Z,9.2nm,0.6s,baz=116,slow=7.6,SNR=93						
ASAR				LR	LR	01 09 11.1	
	comp=Z,263nm,19.7s,baz=119,slow=35						
WR0	**Warramunga Arr**	**43.27**	**278**	P	**P**	**00 52 31.4**	**-1.0**
WR0				IAmb	IAmb	00 52 45.3	
	comp=Z,9.9nm,1.0s						
WB2	**Warramunga Arr**	**43.43**	**278**	P	**P**	**00 52 31.9**	**-1.8**
WB2				IAmb	IAmb	00 52 44.8	
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**43.44**	**278**	P	**P**	**00 52 31.7**	**-2.1**
	comp=Z,4.3nm,0.7s,baz=120,slow=7.6,SNR=22						
WRA				LR	LR	01 08 44.9	
	comp=Z,144nm,20.3s,baz=195,slow=34						
WRA	**Warramunga Arr**	**43.44**	**278**	P	**P**	**00 52 31.8**	**-2.1**
WB0	**Warramunga Arr**	**43.49**	**278**	P	**P**	**00 52 32.8**	**-1.4**
WB0				IAmb	IAmb	00 52 33.5	
	comp=Z,11nm,1.1s						
FORT	**Forrest**	**43.94**	**260**	P	**P**	**00 52 36.5**	**-1.1**
FORT				IAmb	IAmb	00 52 49.1	
	comp=Z,9.4nm,0.8s						
MTN	**Manton Dam**	**49.88**	**284**	P	**P**	**00 53 26.0**	**+1.8**
CASY	**Casey**	**50.32**	**210**	P	**P**	**00 53 28.0**	**+1.1**
CASY				IAmb	IAmb	00 53 44.6	
	comp=Z,7.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**51.45**	**274**	P	**P**	**00 53 34.5**	**-1.6**
	comp=Z,8.5nm,1.0s,baz=145,slow=8.1,SNR=5.4						
FITZ	**Fitzroy Crossi**	**51.45**	**274**	P	**P**	**00 53 35.4**	**-0.7**
FITZ				IAmb	IAmb	00 53 52.6	
	comp=Z,8.4nm,1.1s						
PSA00	**Pilbara Seismi**	**54.47**	**267**	P	**P**	**00 53 57.1**	**-1.3**
PSA00				IAmb	IAmb	00 54 07.5	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**54.81**	**180**	P	**P**	**00 54 01.5**	**+1.2**
	comp=Z,5.0nm,1.0s,baz=334,slow=1.5,SNR=14						
QSPA	**South Pole Qui**	**54.81**	**180**	P	**P**	**00 54 02.0**	**+1.7**
QSPA				IAmb	IAmb	00 54 03.2	
	comp=Z,10.0nm,1.1s						
SOEI	**Soe**	**57.14**	**282**	P	**P**	**00 54 15.1**	**-2.5**
LEM	**Lembang**	**72.29**	**274**	LR	LR	01 28 07.6	
	comp=Z,95nm,19.3s,baz=171,slow=36						
SNAA	**Sanae**	**73.28**	**178**	P	**P**	**00 56 02.1**	**+0.7**
VNA3	**Neumayer Olymp**	**73.48**	**177**	P	**P**	**00 56 02.5**	**-0.1**
VNA1	**Neumayer--Stat**	**74.14**	**177**	P	**P**	**00 56 07.4**	**+1.0**
PLCA	**Paso Flores**	**79.96**	**133**	P	**P**	**00 56 40.6**	**+0.9**
	comp=Z,2.0nm,1.0s,baz=186,slow=5.4,SNR=3.1						
PLCA				LR	LR	01 25 02.9	
	comp=Z,65nm,18.2s,baz=172,slow=30						
ASAJ	**Asahikawa**	**86.31**	**334**	LR	LR	01 28 36.9	
	comp=Z,43nm,21.2s,baz=171,slow=31						
NJ2	**Nanjing**	**88.64**	**312**	*e*P	**P**	**00 57 27.0**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PETK	**Petropavlovsk-**	**90.30**	**346**	P	**P**	**00 57 29.9**	**-0.9**
	comp=Z,13nm,0.9s,baz=116,slow=6.8,SNR=17						
CMAR	**Chiang Mai Arr**	**94.00**	**290**	LR	LR	01 46 31.3	
	comp=Z,64nm,18.0s,baz=208,slow=40						
KLR	**Kul'dur**	**94.73**	**330**	LR	LR	01 40 27.4	
	comp=Z,26nm,18.1s,baz=194,slow=36						
CPUP	**Villa Florida**	**97.74**	**130**	LR	LR	01 33 58.4	
	comp=Z,48nm,21.4s,baz=216,slow=30						
HHC	**Hu-ho-hao-te**	**98.86**	**314**	*e*P	Pdif	00 58 14.0	+3.6
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.7s						
MKAR	**Makanchi Array**	**120.02**	**308**	PKP	**PKPdf**	**01 03 18.9**	**-1.7**
	comp=Z,1.2nm,1.0s,baz=64,slow=2.8,SNR=6.8						
ARCES	**ARCESS Array B**	**143.11**	**346**	PKhKP	PKPpre	01 03 59.5	
	comp=Z,1.4nm,0.8s,baz=28,slow=5.5,SNR=1.0						
OBN	**Obninsk**	**148.40**	**320**	PKPbc	**PKPdf**	**01 04 14.9**	**+2.3**
	comp=Z,1.3nm,0.5s,baz=58,slow=5.5,SNR=9.2						
FINES	**FINESS Array B**	**149.28**	**336**	PKPbc	**PKPdf**	**01 04 16.2**	**+2.4**
	comp=Z,8.0nm,0.7s,baz=101,slow=3.9,SNR=33						
LIC	**Lamto**	**150.57**	**168**	*e*PKP1	**PKPbc**	**01 04 22.7**	**-0.1**
	comp=Z,77nm,1.2s						
EIL	**Elat**	**150.66**	**269**	PKPbc	**PKPbc**	**01 04 21.4**	**-1.2**
	comp=Z,9.0nm,1.1s,baz=144,slow=5.8,SNR=8.0						
KIC	**Kosan Boka**	**150.75**	**169**	*e*PKP1	**PKPbc**	**01 04 23.5**	**+0.2**
	comp=Z,12nm,0.6s						
TIC	**Toumodi**	**150.99**	**168**	*e*PKP1	**PKPbc**	**01 04 24.1**	**+0.3**
DBIC	**Dimbokro**	**151.04**	**169**	PKPbc	**PKPbc**	**01 04 23.4**	**-0.5**
	comp=Z,5.4nm,0.6s,baz=207,slow=3.1,SNR=9.6						
MMAI	**Mount Meron Ar**	**151.28**	**275**	PKPbc	**PKPbc**	**01 04 23.1**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=96,slow=5.9,SNR=4.9						
NOA	**NORSAR Array B**	**153.39**	**349**	PKPbc	**PKPbc**	**01 04 26.4**	**-1.4**
	comp=Z,1.9nm,1.0s,baz=14,slow=4.0,SNR=5.0						
BRTR	**Keskin Array B**	**153.59**	**289**	PKPbc	**PKPbc**	**01 04 27.6**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=107,slow=4.1,SNR=9.1						
AKASG	**Malin Array Be**	**154.30**	**316**	PKPbc	**PKPbc**	**01 04 29.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=64,slow=2.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**157.91**	**183**	PKP	**PKPdf**	**01 04 25.8**	**-1.8**
	comp=Z,1.0nm,1.0s,baz=302,slow=3.2,SNR=3.4						
TORD				PKPab	**PKPab**	**01 05 00.1**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=171,slow=3.5,SNR=6.4						

DJA ***30*** *00:48:12.3±1.2,1°.5S±3°.2×12°.7E±°, h22km±13km, M4.5/15, mb4.7/9,mB5.1/3,MLv4.4/15,Mw(mB)4.5/3*

NEIC ***30*** *00:48:13.6±1.8,1°.03S±0°.03×126°.81E±0°.06, h42km±8km, mb4.3/14,Error ellipse: s-maj=9.1km s-min=3.9km az=92.0*

IDC ***30*** *00:48:14.6±2.3,1°.04S×126°.75E, h56km±24km,mb3.9/9, mb1 4.1/11,mb1mx3.8/43,mbtmp4.2/11,ML4.3/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/43,Error ellipse: s-maj=16.6km s-min=14.3km az=164.0*

ISC 30 00:48:12.3±0.5,1°.00S±0°.04×126°.75E±0°.05,h34km,n58, σ1s47/64,mb4.3/16,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.29**	**216**	P	**Pn**	**00 48 33.9**	**-0.1**
SANI				S	**Sb**	**00 48 53.4**	**+1.0**
TNTI	**Ternate**	**1.86**	**19**		**Pn**	**00 48 43.0**	**+1.1**
TNTI				Sn	**Sn**	**00 49 05.4**	**+1.2**
TNTI	**Ternate**	**1.86**	**19**	P	**Pn**	**00 48 42.4**	**+0.5**
NLAI	**Namlea**	**2.25**	**171**	P	**Pn**	**00 48 47.9**	**+0.7**
NLAI				S	**Sn**	**00 49 14.5**	**+0.8**
KRAI	**Karang Ratu**	**2.83**	**145**	P	**Pn**	**00 48 57.2**	**+2.1**
GAMI	**Galela, Maluku**	**3.00**	**20**	P	**Pb**	**00 49 03.7**	**-1.5**
MSAI	**Masohi**	**3.19**	**137**	P	**Pn**	**00 49 02.8**	**+2.8**
LUWI	**Luwuk**	**3.98**	**269**		**Pn**	**00 49 11.7**	**+0.7**
LUWI				Sn	**Sn**	**00 49 58.7**	**+2.2**
LUWI	**Luwuk**	**3.98**	**269**	P	**Pn**	**00 49 11.8**	**+0.8**
SWI	**Sorong**	**4.51**	**88**	P	**Pn**	**00 49 19.7**	**+1.5**
SIJI	**Sorong**	**4.51**	**88**	P	**Pn**	**00 49 20.4**	**+2.1**
	13nm,0.3s,baz=142,slow=21,SNR=8.3						
SIJI				S	**Sn**	**00 50 13.2**	**+3.5**
	baz=178,slow=22,SNR=1.3						
SIJI	**Sorong**	**4.51**	**88**	P	**Pn**	**00 49 20.1**	**+1.8**
BNDI	**Bandanaira**	**4.71**	**138**	P	**Pn**	**00 49 22.0**	**+1.1**
APSI	**Ampana**	**5.11**	**271**	P	**Pn**	**00 49 27.8**	**+1.4**
	0.6nm3µm108nm,0.6s						
FAKI	**Fak Fak**	**5.81**	**109**		**Pn**	**00 49 35.9**	**-0.3**
FAKI	**Fak Fak**	**5.81**	**109**	P	**Pn**	**00 49 35.9**	**-0.3**
	0.4nm80nm,0.9s						
TOLI2	**Tolitoli**	**6.33**	**289**		**Pn**	**00 49 45.2**	**+1.9**
MPSI	**Mapaga**	**6.98**	**281**	P	**Pn**	**00 49 54.0**	**+1.7**
	0.1nm970nm20nm,0.9s						
TTSI	**Tana Toraja**	**7.22**	**254**	P	**Pn**	**00 49 56.6**	**+1.1**
	0.3nm1µm73nm,0.6s						
BNSI	**Bone**	**7.45**	**243**	P	**Pn**	**00 49 58.7**	**0.0**
	0.1nm19nm,0.6s						
BKSI	**Bulukumba**	**7.89**	**237**	P	**Pn**	**00 50 07.9**	**+3.2**
	0.2nm66nm,0.9s						
KAPI	**Kappang**	**8.05**	**240**	P	**Pn**	**00 50 09.8**	**+2.9**
	4.1nm,0.3s,baz=74,slow=3.5,SNR=17						
KAPI				S	**Sn**	**00 51 37.2**	**+0.4**
	2.1nm,0.3s,baz=94,slow=21,SNR=2.5						
KAPI				LR	LR	00 53 41.4	
	comp=Z,171nm,19.1s,baz=68,slow=41						
KAPI	**Kappang**	**8.05**	**240**	P	**Pn**	**00 50 08.6**	**+1.7**
	43nm,0.7s						
PMSI	**Majene**	**8.22**	**252**	P	**Pn**	**00 50 09.8**	**+0.6**
	61nm,0.8s						
MKS	**Makassar**	**8.39**	**240**	P	**Pn**	**00 50 12.3**	**+0.7**
	123nm,0.6s						
MMRI	**Maumere**	**8.82**	**211**	Pn	**Pn**	**00 50 17.3**	**-0.2**
EDFI	**Ende, Flores**	**9.20**	**213**	P	**Pn**	**00 50 24.9**	**+2.1**
MTN	**Manton Dam**	**12.54**	**160**	Pn	**Pn**	**00 51 08.7**	**+0.2**
KNRA	**Kununurra**	**14.72**	**172**	Pn	**Pn**	**00 51 38.1**	**0.0**
FITZ	**Fitzroy Crossi**	**17.03**	**184**	P	**Pn**	**00 52 05.0**	**-2.9**
	0.1nm,0.3s,baz=254,slow=8.9,SNR=2.0						
FITZ	**Fitzroy Crossi**	**17.03**	**184**	Pn	**Pn**	**00 52 05.2**	**-2.7**
WRA	**Warramunga Arr**	**20.24**	**159**	P	**P**	**00 52 42.0**	**-2.8**
	9.1nm,0.8s,baz=338,slow=11,SNR=25						
PMG	**Port Moresby**	**21.95**	**113**	P	**P**	**00 53 04.5**	**+1.2**
	7.5nm,0.4s,baz=282,slow=5.8,SNR=4.7						
AS31	**Alice Springs**	**23.57**	**163**	P	**P**	**00 53 19.4**	**-0.7**
ASAR	**Alice Springs**	**23.57**	**163**	P	**P**	**00 53 19.2**	**-0.8**
	8.8nm,0.9s,baz=342,slow=10,SNR=32						
SSLB	**Suanglung**	**25.28**	**347**	P	**P**	**00 53 36.2**	**+0.5**
SSLB				IAmb	IAmb	00 53 47.3	
	comp=Z,9.6nm,0.8s						
FORT	**Forrest**	**29.64**	**178**	P	**P**	**00 54 12.7**	**-2.0**
BBOO	**Buckleboo**	**32.83**	**165**	P	**P**	**00 54 42.7**	**-0.1**
BBOO				IAmb	IAmb	00 54 43.2	
	comp=Z,5.9nm,1.0s						
STKA	**Stephens Creek**	**33.76**	**157**	P	**P**	**00 54 50.6**	**-0.3**
	comp=Z,14nm,0.8s,baz=322,slow=8.6,SNR=23						
STKA	**Stephens Creek**	**33.76**	**157**	P	**P**	**00 54 50.2**	**-0.7**
STKA				IAmb	IAmb	00 54 52.3	
	comp=Z,3.6nm,0.9s						
JTU	**Tsushima**	**35.43**	**4**	P	**P**	**00 55 05.8**	**+0.5**
ARMA	**Armidale**	**37.60**	**143**	P	**P**	**00 55 23.3**	**-0.7**
ARMA				IAmb	IAmb	00 55 30.6	
	comp=Z,6.8nm,1.1s						
KSRS	**Korea Array**	**38.28**	**2**	P	**P**	**00 55 28.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=183,slow=11,SNR=5.4						
KS19	**Wonju Array Si**	**38.33**	**1**	P	**P**	**00 55 29.2**	**-0.7**
KS19				IAmb	IAmb	00 55 43.4	
	comp=Z,3.3nm,0.7s						
MJAR	**Matsushiro Arr**	**38.84**	**15**	P	**P**	**00 55 33.2**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=178,slow=9.3,SNR=1.4						
USRK	**Ussuriysk Ar.**	**45.24**	**5**	P	**P**	**00 56 25.6**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=183,slow=5.3,SNR=3.7						
USRK	**Ussuriysk Ar.**	**45.24**	**5**	P	**P**	**00 56 25.2**	**-1.2**
SONM	**Songino Array**	**51.78**	**343**	P	**P**	**00 57 17.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=147,slow=8.6,SNR=2.1						
NIL	**Nilore**	**60.89**	**310**	P	**P**	**00 58 21.6**	**-0.4**
MK31	**Makanchi Array**	**61.47**	**327**	P	**P**	**00 58 24.8**	**-0.8**
MKAR	**Makanchi Array**	**61.47**	**327**	P	**P**	**00 58 25.9**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=126,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**61.47**	**327**	P	**P**	**00 58 26.2**	**+0.6**
MAKZ	**Makanchi**	**61.65**	**327**	P	**P**	**00 58 27.7**	**+0.9**
MAKZ				IAmb	IAmb	00 58 43.1	
	comp=Z,1.8nm,0.9s						
KDJ	**Kajisay**	**61.92**	**320**	P	**P**	**00 58 30.4**	**+1.5**
KDJ				IAmb	IAmb	00 58 49.2	
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**64.81**	**334**	P	**P**	**00 58 49.6**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=72,slow=4.7,SNR=1.1						
KKAR	**Karatay Array**	**66.73**	**318**	P	**P**	**00 59 00.7**	**+0.5**
TIXI	**Tiksi**	**72.54**	**1**	P	**P**	**00 59 34.4**	**-1.0**
TIXI				IAmb	IAmb	00 59 38.3	
	comp=Z,3.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**124.29**	**285**	PKP	**PKPdf**	**01 07 08.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=100,slow=1.4,SNR=2.7						

NIED ***30*** *00:49:44.3,31°.16N×130°.29E,h160km±1km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr4.06; Mθθ1.84; Mϕϕ -5.90; Mrθ -1.31; Mθϕ -3.31; Mϕr -0.23; Fault plane solution: M₀6.00000×10¹⁴ NP1: ϕ228.00000°,δ57.00000°,λ130.00000°. NP2: ϕ351.00000°,δ51.00000°,λ45.00000°.*

JMA 30 00:49:44.3±0.1,31°.16N×130°.29E,h160km±1km,M3.7, 5C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.37**	**22**	⇑P	Pn	00 50 06.4	+0.1
JSU				*e*S	Sn	00 50 22.7	-0.5
JTSR	**Tashiro 2**	**0.54**	**89**	⇑P	Pn	00 50 06.9	-0.1
JTSR				S	Sn	00 50 24.0	-0.3
JKC	**Kuchinoerabu**	**0.70**	**187**	P	Pn	00 50 08.2	+0.3
JKC				*e*S	Sn	00 50 25.8	-0.1
JSJ	**Shimokoshiki**	**0.71**	**317**	⇑P	Pn	00 50 07.4	-0.5
JSJ				*e*S	Sn	00 50 25.6	-0.5
JTN	**Tanegashima 3**	**0.78**	**130**	⇓P	Pn	00 50 08.4	0.0
JTN				*e*S	Sn	00 50 26.8	0.0
JMTN	**Minamitane**	**0.92**	**145**	P	Pn	00 50 09.7	+0.2
JMTN				*e*S	Sn	00 50 28.8	+0.1
JYAK	**Yakushimahirau**	**0.94**	**168**	⇓P	Pn	00 50 09.5	-0.1
JYAK				*e*S	Sn	00 50 28.6	-0.3
JTZ	**Takazaki**	**1.00**	**42**	⇑P	Pn	00 50 10.2	+0.2
JTZ				*e*S	Sn	00 50 29.4	-0.5
JNN	**Nakanoshima**	**1.36**	**195**	P	Pn	00 50 13.3	0.0
JIU3	**Izumi3**	**1.46**	**18**	⇑P	Pn	00 50 14.6	+0.5
JIU3				S	Sn	00 50 37.3	+0.1

LDG ***30*** *01:03:35.0±0.1,50°.10N×18°.48E,h1km,Ml3.4/11,Error ellipse: s-maj=4.2km s-min=1.9km az=14.0,Suspected Mining induced.*

IDC ***30*** *01:03:37.0±0.9,49°.85N×18°.52E,h0km,mb3.3/1, mb1 3.3/7,mb1mx3.1/41,mbtmp3.2/7,ML2.8/6,MS3.0/2, Ms1 3.0/2,ms1mx2.2/37,Error ellipse: s-maj=16.2km s-min=7.8km az=148.0*

VIE ***30*** *01:03:36.1±0.2,50°.09N×18°.43E,h0km,mb2.6/10,ml2.9/8, ms3.5/2, Error ellipse: s-maj=3.9km s-min=1.7km az=155.0 32 km NNE of Ostrava Suspected Mining induced.*

IPEC ***30*** *01:03:36.8±0.2,50°.07N×18°.47E,h1km,ML3.1/3,Error ellipse: s-maj=1.8km s-min=1.0km az=163.0*

BGR ***30*** *01:03:37.7±0.3,50°.06N×18°.42E,h1km,ML3.4/11,Error ellipse: s-maj=10.0km s-min=5.6km az=3.0*

ISC 30 01:03:35.3±0.6,50°.11N±0°.02×18°.47E±0°.02,h0km,n101, σ1s85/163,11C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.18**	**263**	*i*PG	**Pg**	**01 03 41.1**	**+2.4**
RAC				*e*SG	**Sg**	**01 03 44.3**	**+3.3**
OKC	**Ostrava-Krasne**	**0.34**	**218**	*e*PG	**Pg**	**01 03 42.8**	**+1.0**
OKC				*e*SG	**Sg**	**01 03 46.9**	**+0.7**
	comp=Z,1µm,0.7s						
OKC	**Ostrava-Krasne**	**0.34**	**218**	*e*Pg	**Pg**	**01 03 43.2**	**+1.4**
OKC				*e*Sg	**Sg**	**01 03 48.2**	**+2.1**
MORC	**Moravsky Berou**	**0.69**	**242**	⇓P	**Pg**	**01 03 49.3**	**+0.9**
MORC				⇑S	**Sg**	**01 03 57.9**	**+0.7**
MORC	**Moravsky Berou**	**0.69**	**242**	*e*PG	**Pg**	**01 03 49.3**	**+0.9**
MORC				*e*SG	**Sg**	**01 03 57.7**	**+0.5**
MORC	**Moravsky Berou**	**0.69**	**242**	*e*Pg	**Pg**	**01 03 49.2**	**+0.8**
	baz=64						
MORC				*e*Sg	**Sg**	**01 03 57.7**	**+0.5**
	472nm,0.8s,baz=64						
MORC	**Moravsky Berou**	**0.69**	**242**	*e*Pg	**Pg**	**01 03 49.3**	**+0.9**
MORC				*e*Sg	**Sg**	**01 03 59.0**	**+1.7**
OJC	**Ojcow**	**0.86**	**82**	*e*Pg	**Pb**	**01 03 53.4**	**+0.3**
OJC				*e*Sg	**Sb**	**01 04 05.7**	**+0.5**
OJC	**Ojcow**	**0.86**	**82**	*e*Pg	**Pb**	**01 03 53.4**	**+0.3**
OJC				*e*Sg	**Sb**	**01 04 06.0**	**+0.8**
KRLC	**Kraliky**	**1.09**	**269**	*e*PG	**Pg**	**01 03 56.4**	**+0.3**
KRLC				*e*SG	**Sg**	**01 04 10.7**	**+0.5**
	comp=Z,304nm,0.6s						
LANS	**Liptovska Anna**	**1.15**	**145**	*e*PG	**Pb**	**01 03 58.6**	**+0.5**
LANS				*e*SG	**Sn**	**01 04 15.4**	**+0.2**
LANS				*e*LG	Lg	01 04 18.3	
JAVC	**Velka Javorina**	**1.35**	**203**	*e*PG	**Pg**	**01 04 01.8**	**+0.6**
JAVC	**Velka Javorina**	**1.35**	**203**	*e*Pg	**Pg**	**01 04 01.7**	**+0.6**
	baz=23						
NIE	**Niedzica**	**1.37**	**119**	Pb	**Pb**	**01 04 02.4**	**+0.6**
NIE				*e*Pg	**Pn**	**01 04 03.1**	**+1.5**
NIE				*e*Sg	**Sn**	**01 04 23.1**	**+2.6**
DPC	**Dobruska-Polom**	**1.40**	**281**	*e*PG	**Pn**	**01 04 02.8**	**+0.6**
DPC				*e*SG	**Sb**	**01 04 21.6**	**+0.8**
	comp=Z,447nm,0.6s						
DPC	**Dobruska-Polom**	**1.40**	**281**	*e*Pn	**Pn**	**01 04 02.6**	**+0.5**
DPC				*e*Sg	**Sn**	**01 04 22.6**	**+1.2**
VRAC	**Vranov**	**1.46**	**238**	Pg	**Pn**	**01 04 02.9**	**+0.1**
	11nm,0.3s,baz=61,slow=16,SNR=219						
VRAC				Lg	Lg	01 04 22.5	
	25nm,0.3s,baz=134,slow=20,SNR=23						
VRAC	**Vranov**	**1.46**	**238**	⇑P	**Pn**	**01 04 02.7**	**-0.1**
VRAC				⇑S	**Sg**	**01 04 20.1**	**-2.0**
VRAC	**Vranov**	**1.46**	**238**	*e*PG	**Pn**	**01 04 03.4**	**+0.5**
VRAC				*e*SG	**Sg**	**01 04 21.7**	**-0.4**
VRAC	**Vranov**	**1.46**	**238**	*e*Pg	**Pn**	**01 04 03.4**	**+0.5**
	baz=57						
VRAC				*e*Sg	**Sg**	**01 04 21.6**	**-0.5**
	174nm,0.9s,baz=57						
OSTC	**Ostas**	**1.52**	**288**	*e*PG	**Pn**	**01 04 04.0**	**+0.3**
OSTC				*e*SG	**Sb**	**01 04 25.0**	**+1.0**
	comp=Z,282nm,0.8s						
KSP	**Ksiaz**	**1.58**	**299**	*e*Pg	**Pn**	**01 04 04.9**	**+0.4**
KSP				*e*Sg	**Sg**	**01 04 27.2**	**+1.3**
KSP	**Ksiaz**	**1.58**	**299**	*e*Pn	**Pn**	**01 04 05.3**	**+0.8**
KSP				*e*Pg	**Pg**	**01 04 08.7**	**+3.2**
KSP				*e*Sg	**Sg**	**01 04 27.5**	**+1.6**
CHVC	**Chvalec**	**1.62**	**288**	*e*PG	**Pn**	**01 04 05.4**	**+0.2**
CHVC				*e*SG	**Sg**	**01 04 28.3**	**+0.9**
	comp=Z,523nm,1.4s						
UPC	**Upice**	**1.63**	**285**	*e*PG	**Pn**	**01 04 05.8**	**+0.6**
UPC				*e*SG	**Sg**	**01 04 28.7**	**+1.1**
	comp=Z,266nm,1.1s						
VYHS	**Vyhne**	**1.63**	**171**	*e*PN	**Pn**	**01 04 05.1**	**-0.1**
VYHS				*e*SN	**Sg**	**01 04 28.3**	**+0.7**
VYHS				*e*LG	Lg	01 04 36.3	
KRUC	**Moravsky**	**1.71**	**233**	*e*PN	**Pn**	**01 04 07.2**	**+0

BZS	**Buzias**	**4.96**	**154**	⇓P	**Pn**	**01 04 51.8**	**+0.7**
FRGS	**Fruska Gora**	**5.03**	**169**	⇑P	**Pn**	**01 04 52.4**	**+0.4**
BURAR	**Bucovina Array**	**5.10**	**117**	⇓P	**Pn**	**01 04 55.6**	**+2.6**
WTTA	**Wattenberg**	**5.34**	**240**	*e*Pn	**Pn**	**01 04 57.3**	**+0.9**
	comp=Z,0.8nm,0.3s						
WTTA				Sg	**Sg**	**01 06 27.0**	**+0.1**
	comp=Z,26nm,0.6s						
CLZ	**Clausthal**	**5.41**	**292**	*e*Sg	**Sg**	**01 06 29.9**	**+1.1**
BSD	**Bornholm Skovb**	**5.46**	**338**	*i* P	**Pn**	**01 04 58.0**	**+0.1**
GZR	**Gura Zlata**	**5.54**	**147**	⇓P	**Pn**	**01 05 00.9**	**+2.0**
RETA	**Reutte**	**5.73**	**246**	*i* Pn	**Pn**	**01 05 01.9**	**+0.3**
	comp=Z,1.5nm,0.4s						
RETA				Sg	**Sg**	**01 06 38.9**	**-0.3**
	comp=Z,23nm,0.7s						
MDVR	**Moldovita**	**5.76**	**156**	⇑P	**Pn**	**01 05 02.7**	**+0.7**
HERR	**Herculane**	**5.87**	**151**	⇓P	**Pn**	**01 05 05.0**	**+1.6**
LUNU	**Lund**	**6.32**	**333**	*i* P	**Pn**	**01 05 09.5**	**0.0**
DAVA	**Damuels**	**6.35**	**247**	*i* Pn	**Pn**	**01 05 10.3**	**+0.1**
	comp=Z,1.6nm,0.5s						
BLEU	**Blekinge**	**6.41**	**347**	*i* P	**Pn**	**01 05 11.7**	**+0.9**
DAVOX	**Davos/Dischmat**	**6.61**	**243**	Pn	**Pn**	**01 05 14.8**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=75,slow=11,SNR=12						
DAVOX				Lg	Lg	01 07 03.3	
	comp=Z,0.9nm,0.3s,baz=7.5,slow=3.7,SNR=7.7						
BJUU	**Bjuv**	**6.82**	**333**	*i* P	**Pn**	**01 05 18.0**	**+1.6**
AKASG	**Malin Array Be**	**6.90**	**81**	Pn	**Pn**	**01 05 16.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=266,slow=12,SNR=4.8						
AKASG				Pg	**Pg**	**01 05 43.6**	**-3.8**
	comp=Z,1.1nm,0.3s,baz=269,slow=15,SNR=7.0						
AKASG				Lg	Lg	01 07 17.4	
	comp=Z,0.6nm,0.3s,baz=278,slow=26,SNR=2.5						
DEL	**Delary**	**6.95**	**338**	*i* P	**Pn**	**01 05 18.9**	**+0.7**
STON	**Ston**	**7.25**	**184**	*i* Pg	**Pg**	**01 05 58.0**	**+3.8**
STON				Sg	Sn	01 06 01.6	-44
LSTV	**Lastovo**	**7.42**	**189**	*e*Pg	Pg	01 06 06.6	+9.3
LSTV				Sg	Sn	01 06 17.0	-33
CDF	**Champ du Feu**	**7.52**	**261**	*e*Pn	Pn	01 05 21.4	-4.8
CDF	**Champ du Feu**	**7.52**	**261**	*e*Pg	Pg	01 05 54.5	-4.8
CDF				*e*S	**Sn**	**01 06 55.0**	**+2.8**
CDF				*e*Sg	**Sg**	**01 07 31.6**	**-5.1**
	comp=Z,10.0nm,0.7s						
HINF	**Hinteralfeld**	**7.98**	**258**	*e*Sn	Sn	01 06 54.6	-8.9
HINF				*e*Sg	**Sg**	**01 07 45.6**	**-5.9**
	comp=Z,16nm,0.8s						
HAU	**Haudompre**	**8.24**	**260**	*e*Pn	**Pn**	**01 05 32.4**	**-3.6**
HAU				*e*Sg	**Sg**	**01 07 52.1**	**-7.5**
	comp=Z,20nm,0.8s						
SAVF	**Savonnieres en**	**8.84**	**265**	*e*Pn	**Pn**	**01 05 41.3**	**-2.9**
SFTF	**Sexfontaines**	**9.01**	**263**	*e*Sg	Sn	01 08 17.1	+48
	comp=Z,3.4nm,0.5s						
LPG	**La Plagne**	**9.13**	**244**	*e*Pn	**Pn**	**01 05 46.4**	**-2.1**
LPL	**La Plagne**	**9.13**	**244**	*e*P	**Pn**	**01 05 50.9**	**+2.4**
LPL				*e*Sn	Sn	01 07 22.3	-10
	comp=Z,1.6nm,0.5s						
BAIF	**Baives**	**9.18**	**275**	*e*Pn	Pn	01 05 44.5	-4.3
BAIF				*e*Sg	Sn	01 08 21.6	+49
	comp=Z,2.7nm,0.7s						
MBDF	**Montbardon**	**9.58**	**240**	*e*Pn	**Pn**	**01 05 52.3**	**-2.2**
MBDF				*e*Sg	Sn	01 08 33.8	+51
	comp=Z,0.6nm,0.3s						
ORIF	**Oris-en-Rattie**	**9.97**	**243**	*e*Pn	**Pn**	**01 05 57.0**	**-2.8**
LOR	**Lormes**	**10.07**	**259**	*e*Pn	**Pn**	**01 05 58.9**	**-2.2**
LOR				*e*Sg	Sn	01 08 50.8	+56
	comp=Z,0.6nm,0.2s						
SMF	**Signal de Mont**	**10.33**	**256**	*e*Pn	**Pn**	**01 06 00.8**	**-3.8**
SMF				*e*Sg	Sn	01 08 57.3	+56
	comp=Z,1.7nm,0.5s						
SSF	**Saint Saulge**	**10.37**	**259**	*e*Pn	**Pn**	**01 06 01.6**	**-3.6**
SSF				*e*Sn	**Sn**	**01 07 54.0**	**-8.1**
SSF				*e*Sg		01 08 58.0	
	comp=Z,6.1nm,0.8s						
HFS	**Hagfors**	**10.41**	**347**	Pn	**Pn**	**01 06 07.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=175,slow=17,SNR=1.5						
AVF	**Avril sur Loir**	**10.58**	**258**	*e*Pn	**Pn**	**01 06 05.5**	**-2.5**
AVF				*e*Sg	Sn	01 09 06.0	+59
	comp=Z,11nm,1.1s						
VIVF	**Saint-Julien-l**	**10.71**	**246**	*e*Pn	**Pn**	**01 06 06.1**	**-3.8**
NOA	**NORSAR Array B**	**11.69**	**342**	Pn	**Pn**	**01 06 22.6**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=167,slow=12,SNR=5.0						
FINES	**FINESS Array B**	**12.13**	**18**	Pn	**Pn**	**01 06 27.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=190,slow=12,SNR=7.3						
MFF	**Saint Martin d**	**12.87**	**261**	*e*Pn	Pn	01 06 34.7	-4.6
BRTR	**Keskin Array B**	**14.91**	**128**	LR	LR	01 13 58.8	
	comp=Z,26nm,19.6s,baz=162,slow=42						
TORD	**Torodi Ar. Bea**	**39.33**	**206**	P	**P**	**01 11 04.9**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=10,slow=7.5,SNR=1.4						
YAK	**Yakutsk**	**55.60**	**32**	LR	LR	01 40 17.6	
	comp=Z,26nm,19.0s,baz=90,slow=39						

*TAP **30** 01:18:53.9,24°.35N×122°.94E,h44km,ML3.4,D*
*JMA **30** 01:18:53.8±0.1,24°.35N×122°.97E,h49km±2km,M3.0*
ISC 30 01:18:54.0±1.2,24°32N±0°.04×122°97E±0°.02,h46km±7km,
n85,σ0°95/152,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.14**	**350**	P			**Pn**	**01 19 01.5**	**0.0**
JYNG				S			**Sn**	**01 19 06.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.15**	**14**	P			**Pn**	**01 19 01.6**	**0.0**
YOJ				S			**Sn**	**01 19 06.9**	**0.0**
YOJ	**Yonaguni jima**	**0.15**	**14**	P			**Pn**	**01 19 01.6**	**0.0**
	baz=25								
YOJ				S			**Sn**	**01 19 07.0**	**0.0**
	baz=25								
IRIF	**Iriomote-Funau**	**0.69**	**88**	P			**Pn**	**01 19 07.3**	**-0.2**
IRIF				S			**Sn**	**01 19 17.3**	**+0.1**
HATJ	**Hateruma jima**	**0.80**	**108**	P			**Pn**	**01 19 09.1**	**+0.1**
HATJ				S			**Sn**	**01 19 20.6**	**+0.7**
JKRS	**Kuro-shima**	**0.95**	**94**	P			**Pn**	**01 19 11.4**	**+0.4**
JKRS				S			**Sn**	**01 19 23.9**	**+0.5**
TWC	**Suao**	**1.06**	**286**	P			**Pn**	**01 19 11.8**	**-0.7**
	baz=285								
TWC				*i* S			**Sn**	**01 19 24.2**	**-2.0**
	baz=285								
JIJ	**Ishigaki jima**	**1.07**	**87**	P			**Pn**	**01 19 12.3**	**-0.3**
JIJ				S			**Sn**	**01 19 25.7**	**-0.6**
EGS		**1.08**	**299**	P			**Pn**	**01 19 12.0**	**-0.8**
	baz=306								
EGS				S			**Sn**	**01 19 25.2**	**-1.4**
	baz=306								
EWUT	**Wuta**	**1.09**	**277**	*e*P			**Pn**	**01 19 12.5**	**-0.4**
	baz=285								
EWUT				S			**Sn**	**01 19 25.8**	**-1.2**
	baz=285								
EHP	**Heping Village**	**1.12**	**270**	*e*P			**Pn**	**01 19 13.5**	**+0.2**
	baz=277								
TWB1	**Santiao Chiao**	**1.13**	**308**	P			**Pn**	**01 19 12.9**	**-0.5**
	baz=317								
TWB1				S			**Sn**	**01 19 26.0**	**-1.8**
	baz=317								
NTC	**Toucheng**	**1.17**	**298**	P			**Pn**	**01 19 13.8**	**-0.2**
	baz=297								
NTC				S			**Sn**	**01 19 27.6**	**-1.2**
	baz=297								
NDS	**Dongshan**	**1.19**	**286**	*e*P			**Pn**	**01 19 14.2**	**0.0**
	baz=294								
NDS				*i* S			**Sn**	**01 19 28.2**	**-1.0**
	baz=294								
ILA	**Ilan**	**1.20**	**292**	P			**Pn**	**01 19 14.4**	**0.0**
	baz=292								
ILA				*e*S			**Sn**	**01 19 29.3**	**-0.3**
	baz=292								
TIPB	**Shuangxi**	**1.23**	**302**	P			**Pn**	**01 19 14.5**	**-0.4**
	baz=311								
TIPB				S			**Sn**	**01 19 28.7**	**-1.6**
	baz=311								
ETL	**Fush Village**	**1.24**	**263**	*e*P			**Pn**	**01 19 14.1**	**-0.9**
	baz=248								
ETL				*e*S			**Sn**	**01 19 30.9**	**+0.4**
	baz=248								
JISG	**Ishigakijimahi**	**1.25**	**77**	P			**Pn**	**01 19 14.9**	**-0.2**
JISG				S			**Sn**	**01 19 30.1**	**-0.7**
TWE	**Neicheng**	**1.25**	**289**	P			**Pn**	**01 19 15.6**	**+0.5**
	baz=288								
TWE				S			**Sn**	**01 19 30.4**	**-0.5**
	baz=288								
NACB	**Ninganchiao**	**1.26**	**264**	P			**Pn**	**01 19 15.2**	**0.0**
	baz=263								
NACB				S			**Sn**	**01 19 31.2**	**+0.1**
	baz=263								
TWD	**Chiawan**	**1.28**	**260**	P			**Pn**	**01 19 15.8**	**+0.3**
	baz=244								
TWD				S			**Sn**	**01 19 31.2**	**-0.2**
	baz=244								

HWA	**Hwalien**	**1.29**	**255**	*e*P	**Pn**	**01 19 16.6**	**+0.9**
	baz=253						
NWF	**Wu-fen Shan**	**1.32**	**305**	P	**Pn**	**01 19 15.6**	**-0.5**
NWF	baz=305			S	**Sn**	**01 19 31.4**	**-1.2**
WFSB	**Wu-fen Shan**	**1.32**	**305**	*e*P	**Pn**	**01 19 15.8**	**-0.2**
	baz=305						
WFSB				*e*S	**Sn**	**01 19 31.7**	**-0.7**
	baz=305						
ENTT	**Nioudou**	**1.32**	**284**	*i* P	**Pn**	**01 19 17.5**	**+1.5**
	baz=291						
ENTT				S	**Sn**	**01 19 32.3**	**-0.2**
	baz=291						
TEYL	**Yanliau Villag**	**1.33**	**251**	*e*S	**Sn**	**01 19 33.2**	**+0.5**
	baz=239						
NDT	**Datong Townshi**	**1.36**	**282**	P	**Pn**	**01 19 18.1**	**+1.5**
	baz=288						
NDT				S	**Sn**	**01 19 33.6**	**+0.2**
	baz=288						
ETLH	**Xiulin Townshi**	**1.36**	**266**	*e*P	**Pn**	**01 19 16.6**	**-0.2**
	baz=265						
ETLH				S	**Sn**	**01 19 34.1**	**+0.4**
	baz=265						
ETM	**Tongmen**	**1.39**	**256**	*e*P	**Pn**	**01 19 17.0**	**0.0**
	baz=245						
ETM				S	**Sn**	**01 19 33.4**	**-1.0**
	baz=245						
NWLT	**Wulai**	**1.41**	**289**	P	**Pn**	**01 19 18.1**	**+0.7**
	baz=289						
NWLT				*e*S	**Sn**	**01 19 33.8**	**-1.0**
	baz=289						
TWA	**Mucha**	**1.43**	**298**	P	**Pn**	**01 19 17.8**	**+0.3**
	baz=308						
TWA				S	**Sn**	**01 19 34.2**	**-0.9**
	baz=308						
TEGC	**Jichi Village**	**1.44**	**246**	P	**Pn**	**01 19 17.3**	**-0.4**
	baz=244						
TEGC				S	**Sn**	**01 19 35.3**	**-0.1**
	baz=244						
NNSB	**Datong**	**1.45**	**275**	P	**Pn**	**01 19 18.4**	**+0.5**
	baz=274						
NNSB				*e*S	**Sn**	**01 19 36.1**	**+0.2**
	baz=274						
NNSH	**Datong**	**1.45**	**275**	*e*P	**Pn**	**01 19 18.3**	**+0.3**
	baz=274						
NNSH				*e*S	**Sn**	**01 19 36.5**	**+0.6**
	baz=274						
NNS	**Nan Shan**	**1.46**	**275**	*e*P	**Pn**	**01 19 18.4**	**+0.2**
	baz=274						
NNS				S	**Sn**	**01 19 36.5**	**+0.3**
	baz=274						
NHDH	**Xindian Distri**	**1.47**	**296**	*e*P	**Pn**	**01 19 18.1**	**+0.1**
	baz=296						
NHDH				*e*S	**Sn**	**01 19 35.4**	**-0.6**
	baz=296						
ESL	**Shilin**	**1.49**	**251**	P	**Pn**	**01 19 18.1**	**-0.3**
	baz=249						
ESL				S	**Sn**	**01 19 35.0**	**-1.7**
	baz=249						
YHNB	**Yeheng**	**1.50**	**284**	P	**Pn**	**01 19 19.8**	**+1.3**
	baz=292						
YHNB				*e*S	**Sn**	**01 19 35.9**	**-1.0**
	baz=292						
TATO	**Taipei**	**1.50**	**296**	*e*P	**Pn**	**01 19 19.5**	**+1.0**
	baz=296						
TATO				*e*S	**Sn**	**01 19 35.6**	**-1.3**
	baz=296						
TAP1	**Taipei**	**1.50**	**299**	*e*P	**Pn**	**01 19 18.6**	**+0.1**
	baz=307						
TAP1				*e*S	**Sn**	**01 19 37.6**	**+0.7**
	baz=307						
YM01	**YM01**	**1.52**	**303**	*e*P	**Pn**	**01 19 19.0**	**+0.2**
	baz=303						
YM01				S	**Sn**	**01 19 36.3**	**-1.1**
	baz=303						
PCYT	**Pengchaiyu**	**1.54**	**328**	P	**Pn**	**01 19 19.1**	**0.0**
	baz=318						
PCYT				S	**Sn**	**01 19 39.1**	**+1.2**
	baz=318						
EGFH	**Guangfu**	**1.55**	**246**	*e*P	**Pn**	**01 19 18.6**	**-0.6**
	baz=244						
EGFH				*e*S	**Sn**	**01 19 36.8**	**-1.4**
	baz=244						
WHF	**Hehuan Shan**	**1.57**	**264**	P	**Pn**	**01 19 19.8**	**0.0**
	baz=250						
WHF				S	**Sn**	**01 19 39.2**	**+0.1**
	baz=250						
HGSD	**Ruisui**	**1.64**	**240**	P	**Pn**	**01 19 19.8**	**-0.6**
	baz=238						
HGSD				*e*S	**Sn**	**01 19 39.1**	**-1.1**
	baz=238						
TDCB	**Techi**	**1.66**	**268**	*e*P	**Pn**	**01 19 21.9**	**+1.1**
	baz=267						
TDCB				*e*S	**Sn**	**01 19 40.8**	**-0.1**
	baz=267						
CHGB	**Renai**	**1.66**	**262**	P	**Pn**	**01 19 21.5**	**+0.6**
	baz=248						
CHGB				*e*S	**Sn**	**01 19 41.8**	**+0.6**
	baz=248						
OWD	**Renai**	**1.68**	**258**	*e*P	**Pn**	**01 19 20.9**	**-0.2**
	baz=257						
OWD				*e*S	**Sn**	**01 19 40.1**	**-1.4**
	baz=257						
EHY	**Hungye**	**1.71**	**242**	P	**Pn**	**01 19 20.8**	**-0.6**
	baz=241						
EHY				S	**Sn**	**01 19 42.0**	**-0.1**
	baz=241						
NCU	**National Centr**	**1.75**	**292**	*e*P	**Pn**	**01 19 22.1**	**+0.1**
	baz=303						
YULB	**Yu-li**	**1.79**	**239**	*e*P	**Pn**	**01 19 21.9**	**-0.6**
	baz=252						
YULB				*e*S	**Sn**	**01 19 42.4**	**-1.6**
	baz=252						
EYUL	**Yuli**	**1.79**	**238**	*e*P	**Pn**	**01 19 22.4**	**-0.1**
	baz=236						
EYUL				*e*S	**Sn**	**01 19 43.7**	**-0.4**
	baz=236						
TWF1	**Yuli**	**1.81**	**238**	P	**Pn**	**01 19 22.2**	**-0.5**
	baz=236						
TWF1				S	**Sn**	**01 19 43.9**	**-0.6**
	baz=236						
LIOB	**Emei**	**1.81**	**281**	*e*P	**Pn**	**01 19 23.5**	**+0.7**
	baz=292						
LIOB				*e*S	**Sn**	**01 19 45.4**	**+0.8**
	baz=292						
NSTT	**Nanjuang**	**1.82**	**280**	*e*P	**Pn**	**01 19 23.8**	**+0.8**
	baz=280						
WHP	**Taichung City**	**1.85**	**269**	P	**Pn**	**01 19 25.3**	**+1.9**
	baz=258						
WHP				*e*S	**Sn**	**01 19 46.1**	**+0.5**
	baz=258						
WPL	**Puli Township**	**1.86**	**261**	*e*P	**Pn**	**01 19 23.6**	**+0.1**
	baz=260						
DPDB	**Guoxing**	**1.89**	**262**	*e*P	**Pn**	**01 19 25.1**	**+1.2**
	baz=252						
FULB	**Puli**	**1.90**	**234**	*e*S	**Sn**	**01 19 45.4**	**-1.3**
	baz=222						
WCS	**Beigang Elemen**	**1.90**	**263**	*e*P	**Pn**	**01 19 24.7**	**+0.8**
	baz=253						
WCS				*e*S	**Sn**	**01 19 46.7**	**0.0**
	baz=253						
SSLB	**Suanglung**	**1.92**	**255**	*e*P	**Pn**	**01 19 24.9**	**+0.6**
	baz=253						
SSLB				*e*S	**Sn**	**01 19 46.0**	**-1.3**
	baz=253						
SMLT	**Sun Moon Lake**	**1.94**	**258**	*e*P	**Pn**	**01 19 25.3**	**+0.6**
	baz=247						
SMLT				S	**Sn**	**01 19 48.4**	**+0.5**
	baz=247						
TYC	**Yuchr**	**1.98**	**258**	*e*P	**Pn**	**01 19 25.7**	**+0.7**
	baz=248						
TYC				*e*S	**Sn**	**01 19 48.2**	**-0.3**
	baz=248						
ECS	**Chishang**	**2.01**	**233**	*e*P	**Pn**	**01 19 26.6**	**+1.0**
	baz=222						
ECS				*e*S	**Sn**	**01 19 50.1**	**+0.6**
	baz=222						
YUS	**Yu-Shan**	**2.02**	**246**	P	**Pn**	**01 19 26.4**	**+0.3**
	baz=245						
YUS				S	**Sn**	**01 19 49.6**	**-0.9**
	baz=245						
EDH	**Donghe**	**2.03**	**229**	*e*P	**Pn**	**01 19 24.9**	**-0.9**
	baz=219						
EDH				*e*S	**Sn**	**01 19 47.1**	**-2.8**
	baz=219						
WHYT	**Xinyi Township**	**2.03**	**253**	*e*P	**Pn**	**01 19 26.0**	**+0.2**
	baz=252						

WJS	**Zhushan**	**2.11**	**257**	*e*P	**Pn**	**01 19 28.5**	**+1.6**
	baz=247						
WJS				*e*S	**Sn**	**01 19 53.5**	**+1.7**
	baz=247						
ELDTW	**Lidau**	**2.11**	**238**	P	**Pn**	**01 19 26.2**	**-0.8**
	baz=237						
ELDTW				*e*S	**Sn**	**01 19 50.1**	**-2.0**
	baz=237						
ALS	**Alishan**	**2.14**	**248**	*e*S	**Sn**	**01 19 52.6**	**-0.4**
	baz=247						
LDUT	**Ludao**	**2.14**	**220**	*e*P	**Pn**	**01 19 25.9**	**-1.4**
	baz=219						
CHN5	**Tsauling**	**2.22**	**252**	*e*P	**Pn**	**01 19 29.8**	**+1.4**
	baz=242						
CHN5				*e*S	**Sn**	**01 19 55.8**	**+1.2**
	baz=242						
TWGBT	**Beinan**	**2.29**	**230**	*e*P	**Pn**	**01 19 29.1**	**-0.3**
	baz=240						
TWGBT				*e*S	**Sn**	**01 19 55.4**	**-0.8**
	baz=240						
WGK	**Gukeng**	**2.29**	**255**	*e*P	**Pn**	**01 19 29.6**	**+0.3**
	baz=254						
TWG	**Pinlang**	**2.29**	**230**	*e*S	**Sn**	**01 19 55.4**	**-0.9**
	baz=240						
WDLH	**Douliu**	**2.31**	**255**	*e*S	**Sn**	**01 19 59.6**	**+2.8**
	baz=243						
STYH	**Taoyuan**	**2.31**	**241**	*e*P	**Pn**	**01 19 30.6**	**+1.0**
	baz=232						
STYH				*e*S	**Sn**	**01 19 56.0**	**-0.8**
	baz=232						
STYT	**Tauyuan**	**2.33**	**241**	*e*P	**Pn**	**01 19 30.8**	**+0.8**
	baz=232						
STYT				*e*S	**Sn**	**01 19 57.7**	**+0.3**
	baz=232						
TPUB	**Ta-pu**	**2.37**	**245**	*e*P	**Pn**	**01 19 32.3**	**+1.8**
	baz=244						
TPUB				*e*S	**Sn**	**01 19 58.5**	**+0.1**
	baz=244						
WTP	**Ta-pu**	**2.41**	**244**	*e*P	**Pn**	**01 19 32.9**	**+1.9**
	baz=243						
WTP				*e*S	**Sn**	**01 19 58.9**	**-0.4**
	baz=243						
CHY	**Chiayi**	**2.47**	**251**	*e*P	**Pn**	**01 19 33.2**	**+1.5**
	baz=250						
WTCT	**Ta-ch'eng**	**2.50**	**260**	P	**Pn**	**01 19 33.6**	**+1.4**
	baz=260						
CHN1	**Nanshi**	**2.50**	**244**	*e*P	**Pn**	**01 19 33.4**	**+1.1**
	baz=242						
CHN1				*e*S	**Sn**	**01 20 03.8**	**+2.1**
	baz=242						
SLGT	**Liugui**	**2.50**	**239**	*e*P	**Pn**	**01 19 34.8**	**+2.4**
	baz=230						
SGST	**Jiashian**	**2.51**	**241**	*e*P	**Pn**	**01 19 33.8**	**+1.4**
	baz=240						

*IDC **30** 01:32:55.2±1.2,35°.14N×138°.95E,h0km,mb3.5/6,*
mb1 3.7/7,mb1mx3.5/58,mbtmp3.5/7,ML3.2/1,MS2.9/2,
Ms1 2.9/2,ms1mx2.5/39,Error ellipse: s-maj=41.8km
s-min=17.6km az=70.0
*JMA **30** 01:32:56.5,35°.24N×139°.03E,h2km,M3.2*
JMA Felt III J1.
ISC 30 01:32:55.8±0.9,35°22N±0°.03×139°05E±0°.04,h8km±6km,
n27,σ0°97/24,mb3.4/6,3C-2D,Near south coast of
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.05**	**33**	⇑P			**Pg**	**01 32 57.8**	**+0.3**
JOD2				S			**Sg**	**01 32 58.7**	**0.0**
KTJ3	**Kamata3**	**0.29**	**177**	⇓P			**Pb**	**01 33 02.7**	**-0.5**
KTJ3				S			**Sb**	**01 33 07.2**	**-1.0**
JFNN	**Fujinakano**	**0.30**	**265**	⇑P			**Pb**	**01 33 02.4**	**-1.1**
JFNN				*e*S			**Sg**	**01 33 06.5**	**+0.7**
JYN	**Shimob**	**0.50**	**304**	P			**Pg**	**01 33 05.5**	**0.0**
JYN				S			**Sg**	**01 33 12.4**	**+0.3**
JIZS	**Izushimoda**	**0.52**	**196**	⇑P			**Pb**	**01 33 06.6**	**-0.6**
JIM2	**Oshima 3**	**0.59**	**148**	P			**Pn**	**01 33 08.7**	**-1.8**
SHZ3	**Shizuoka 3**	**0.71**	**258**	P			**Pb**	**01 33 10.1**	**-0.4**
SHZ3				S			**Sb**	**01 33 19.8**	**-0.6**
JRY	**Ryogami san**	**0.80**	**351**	⇓P			**Pb**	**01 33 11.2**	**-0.9**
MJAR	**Matsushiro Arr**	**1.49**	**333**	Pn			**Pn**	**01 33 22.3**	**-0.6**
	14nm,0.3s,baz=158,slow=16,SNR=93								
MJAR						Sn	**Sn**	**01 33 41.3**	**-1.2**
	9.4nm,0.3s,baz=152,slow=12,SNR=3.5								
MJAR						LR	LR	01 34 14.2	
	comp=Z,216nm,18.4s,baz=155,slow=53								
MAT	**Matsushiro**	**1.49**	**333**	P			**Pb**	**01 33 22.9**	**-0.8**
MAT				S			**Sb**	**01 33 41.9**	**-0.9**
JHJ	**Hachijo jima 2**	**2.18**	**164**	Pn			**Pn**	**01 33 32.8**	**+0.4**
	18nm,0.3s,baz=62,slow=18,SNR=2.0								
JHJ						LR	LR	01 34 36.7	
	comp=Z,294nm,18.0s,baz=282,slow=47								
PETK	**Petropavlovsk-**	**22.21**	**31**	LR			LR	01 45 52.7	
	comp=Z,30nm,18.7s,baz=168,slow=35								
SONM	**Songino Array**	**27.29**	**308**	P			**P**	**01 38 42.5**	**+1.6**
	0.2nm,0.4s,baz=129,slow=2.0,SNR=1.6								
H11N2	**WAKE ISLAND Hy**	**28.99**	**115**	T			T	02 09 21.9	
	baz=308,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**29.00**	**115**	T			T	02 09 24.1	
	baz=308,slow=75,SNR=2.4								
H11N3	**WAKE ISLAND Hy**	**29.01**	**115**	T			T	02 09 13.1	
	baz=308,slow=75,SNR=2.5								
H11S3	**WAKE ISLAND Hy**	**29.61**	**117**	T			T	02 10 13.3	
H11S1	**WAKE ISLAND Hy**	**29.61**	**117**	T			T	02 10 09.8	
H11S2	**WAKE ISLAND Hy**	**29.63**	**117**	T			T	02 10 11.9	
	SNR=3.8								
MKAR	**Makanchi Array**	**43.49**	**303**	P			**P**	**01 41 00.3**	**+0.7**
	0.2nm,0.5s,baz=90,slow=9.7,SNR=3.6								
KURBB	**Kurchatov Arra**	**45.64**	**309**	P			**P**	**01 41 16.9**	**+0.3**
	1.5nm,0.8s,baz=82,slow=7.5,SNR=12								
ILAR	**Eielson Array**	**52.04**	**32**	P			**P**	**01 42 07.5**	**+1.8**
	0.3nm,0.7s,baz=269,slow=5.2,SNR=2.8								
WRA	**Warramunga Arr**	**55.04**	**185**	P			**P**	**01 42 27.4**	**-0.7**
	0.9nm,0.8s,baz=3.0,slow=7.6,SNR=6.2								
ASAR	**Alice Springs**	**58.77**	**186**	P			**P**	**01 42 54.4**	**-0.1**
	0.4nm,0.9s,baz=331,slow=3.5,SNR=2.6								
H03N2	**Juan

TUMR					S		Sn	01 35 01.1	-0.3
TUMR	**Tumrok**	**1.12**	**28**	*e*P			**Pn**	**01 34 38.8**	**+0.5**
TUMR					eS		**Sn**	**01 35 01.9**	**+0.5**
UGLR	**Uglovaya**	**1.12**	**192**		PN		**Pn**	**01 34 38.6**	**+0.2**
UGLR	**Uglovaya**	**1.12**	**192**		*e*P		**Pn**	**01 34 38.6**	**+0.2**
TUMD	**Tumrok D**	**1.13**	**37**		*e*P		**Pn**	**01 34 38.5**	**+0.3**
TUMD					eS		**Sn**	**01 35 01.1**	**-0.3**
NLC	**Nalytchevo**	**1.14**	**176**		PN		**Pn**	**01 34 38.3**	**0.0**
NLC					S		**Sn**	**01 35 00.7**	**-0.5**
NLC	**Nalytchevo**	**1.14**	**176**		*e*P		**Pn**	**01 34 38.3**	**0.0**
NLC					eS		**Sn**	**01 35 00.7**	**-0.5**
SPN	**Mys Shipunski**	**1.30**	**158**		PN		**Pn**	**01 34 39.0**	**-0.6**
SPN					S		**Sn**	**01 35 01.4**	**-2.2**
SPN	**Mys Shipunski**	**1.30**	**158**		*e*P		**Pn**	**01 34 39.0**	**-0.6**
SPN					eS		**Sn**	**01 35 01.4**	**-2.2**
DALK	**Dalny**	**1.30**	**193**		PN		**Pn**	**01 34 39.8**	**+0.1**
DALK					S		**Sn**	**01 35 03.3**	**-0.4**
DALK	**Dalny**	**1.30**	**193**		*e*P		**Pn**	**01 34 39.8**	**+0.1**
DALK					eS		**Sn**	**01 35 03.3**	**-0.4**
PET	**Petropavlovsk**	**1.32**	**195**		*e*PN		**Pn**	**01 34 39.8**	**0.0**
PET					eS		**Sn**	**01 35 03.2**	**-0.8**
PET					pmax	pmax			
	comp=Z,476nm,0.5s								
PET					smax	smax			
	comp=N,570nm,0.6s								
PET					smax	smax			
	comp=E,357nm,0.5s								
PET	**Petropavlovsk**	**1.32**	**195**		*e*P		**Pn**	**01 34 40.1**	**+0.3**
PET					eS		**Sn**	**01 35 04.0**	**0.0**
MKZ	**Mys Kozlova**	**1.49**	**79**		PN		**Pn**	**01 34 40.9**	**-0.3**
MKZ					S		**Sn**	**01 35 04.4**	**-2.1**
MKZ	**Mys Kozlova**	**1.49**	**79**		*e*P		**Pn**	**01 34 40.9**	**-0.3**
MKZ					eS		**Sn**	**01 35 04.4**	**-2.1**
PETK	**Petropavlovsk-**	**1.50**	**218**		P		**Pn**	**01 34 41.3**	**-0.1**
	comp=E,17nm,0.3s,baz=67,slow=13,SNR=125								
PETK					LR		LR	01 35 00.3	
	comp=E,26nm,21.4s,baz=112,slow=35								
PETK					S		**Sn**	**01 35 06.0**	**-0.8**
	comp=E,4.4nm,0.3s,baz=62,slow=16,SNR=7.6								
KMNR	**Kamenistaya**	**1.57**	**21**		PN		**Pn**	**01 34 42.2**	**+0.1**
KMNR					S		**Sn**	**01 35 07.3**	**-0.9**
KMNR	**Kamenistaya**	**1.57**	**21**		*e*P		**Pn**	**01 34 42.2**	**+0.1**
KMNR					eS		**Sn**	**01 35 07.3**	**-0.9**
KRMR	**Karymshinskiy**	**1.61**	**204**		PN		**Pn**	**01 34 41.9**	**-0.5**
KRMR					S		**Sn**	**01 35 07.1**	**-1.6**
KRMR	**Karymshinskiy**	**1.61**	**204**		*e*P		**Pn**	**01 34 41.9**	**-0.5**
KRMR					eS		**Sn**	**01 35 07.1**	**-1.6**
ESO	**Esso**	**1.65**	**350**		PN		**Pn**	**01 34 42.9**	**+0.1**
ESO	**Esso**	**1.65**	**350**		*e*P		**Pn**	**01 34 42.9**	**+0.1**
KIRR	**Kirishev**	**1.77**	**21**		PN		**Pn**	**01 34 43.9**	**-0.2**
KIRR					S		**Sn**	**01 35 11.3**	**-0.6**
KIRR	**Kirishev**	**1.77**	**21**		*e*P		**Pn**	**01 34 43.9**	**-0.2**
KIRR					eS		**Sn**	**01 35 11.3**	**-0.6**
BZMR	**Bezymyannaya**	**1.79**	**23**		PN		**Pn**	**01 34 44.5**	**+0.2**
BZMR					S		**Sn**	**01 35 12.4**	**+0.2**
BZMR	**Bezymyannaya**	**1.79**	**23**		*e*P		**Pn**	**01 34 44.5**	**+0.2**
BZMR					eS		**Sn**	**01 35 12.4**	**+0.2**
KOZ	**Kozyrevsk**	**1.80**	**12**		PN		**Pn**	**01 34 44.0**	**-0.2**
KOZ	**Kozyrevsk**	**1.80**	**12**		*e*P		**Pn**	**01 34 44.0**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.82**	**23**		PN		**Pn**	**01 34 44.7**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.82**	**23**		*e*P		**Pn**	**01 34 44.7**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.85**	**27**		PN		**Pn**	**01 34 45.2**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.85**	**27**		*e*P		**Pn**	**01 34 45.2**	**+0.4**
APC	**Apacha**	**1.85**	**223**		PN		**Pn**	**01 34 45.2**	**+0.4**
APC					S		**Sn**	**01 35 12.7**	**-0.1**
APC	**Apacha**	**1.85**	**223**		*e*P		**Pn**	**01 34 45.2**	**+0.4**
APC					eS		**Sn**	**01 35 12.7**	**-0.1**
GRL	**Gorelyy**	**1.88**	**202**		PN		**Pn**	**01 34 46.0**	**+0.7**
GRL					S		**Sn**	**01 35 14.2**	**+0.5**
GRL	**Gorelyy**	**1.88**	**202**		*e*P		**Pn**	**01 34 46.0**	**+0.7**
GRL					eS		**Sn**	**01 35 14.2**	**+0.5**
RUS	**Russkaya**	**1.92**	**193**		PN		**Pn**	**01 34 45.2**	**-0.3**
RUS					S		**Sn**	**01 35 12.6**	**-1.5**
RUS	**Russkaya**	**1.92**	**193**		*e*P		**Pn**	**01 34 45.2**	**-0.3**
RUS					eS		**Sn**	**01 35 12.6**	**-1.5**
MTVR	**Mutnovka**	**1.93**	**199**		PN		**Pn**	**01 34 46.6**	**+0.8**
MTVR					S		**Sn**	**01 35 15.8**	**+1.3**
MTVR	**Mutnovka**	**1.93**	**199**		*e*P		**Pn**	**01 34 46.6**	**+0.8**
MTVR					eS		**Sn**	**01 35 15.8**	**+1.3**
LGNR	**Loginova**	**1.97**	**25**		PN		**Pn**	**01 34 46.8**	**+0.5**
LGNR					S		**Sn**	**01 35 15.8**	**+0.1**
LGNR	**Loginova**	**1.97**	**25**		*e*P		**Pn**	**01 34 46.8**	**+0.5**
LGNR					eS		**Sn**	**01 35 15.8**	**+0.1**
CIRR	**Tsirk**	**2.02**	**25**		PN		**Pn**	**01 34 47.2**	**+0.6**
CIRR	**Tsirk**	**2.02**	**25**		*e*P		**Pn**	**01 34 47.2**	**+0.6**
SRDR	**Sredinnyy**	**2.04**	**8**		PN		**Pn**	**01 34 46.6**	**-0.1**
SRDR	**Sredinnyy**	**2.04**	**8**		*e*P		**Pn**	**01 34 46.6**	**-0.1**
KLY	**Klyuchi**	**2.17**	**21**		PN		**Pn**	**01 34 49.3**	**+1.2**
KLY					S		**Sn**	**01 35 20.6**	**+1.6**
KLY	**Klyuchi**	**2.17**	**21**		*e*P		**Pn**	**01 34 49.3**	**+1.2**
KLY					eS		**Sn**	**01 35 20.6**	**+1.6**
BDR	**Baidarnaya**	**2.54**	**26**		PN		**Pn**	**01 34 53.1**	**+0.8**
BDR	**Baidarnaya**	**2.54**	**26**		*e*P		**Pn**	**01 34 53.1**	**+0.8**
KDTR	**Khodutka, Kamc**	**2.59**	**196**		PN		**Pn**	**01 34 52.0**	**-0.9**
KDTR					S		**Sn**	**01 35 24.2**	**-3.2**
KDTR	**Khodutka, Kamc**	**2.59**	**196**		*e*P		**Pn**	**01 34 52.0**	**-0.9**
KDTR					eS		**Sn**	**01 35 24.2**	**-3.2**
SRKR	**Sorokina**	**2.60**	**24**		PN		**Pn**	**01 34 53.4**	**+0.4**
SRKR	**Sorokina**	**2.60**	**24**		*e*P		**Pn**	**01 34 53.4**	**+0.4**
SMKR	**Semkarok**	**2.62**	**28**		PN		**Pn**	**01 34 54.1**	**+0.9**
SMKR	**Semkarok**	**2.62**	**28**		*e*P		**Pn**	**01 34 54.1**	**+0.9**
KBG	**Krutoberegovo**	**2.79**	**44**		eS		**Sn**	**01 35 28.9**	**-2.6**
KBTR	**Krutoberegovo**	**2.81**	**46**		PN		**Pn**	**01 34 54.6**	**-0.7**
KBTR					S		**Sn**	**01 35 29.7**	**-2.2**
KBTR	**Krutoberegovo**	**2.81**	**46**		*e*P		**Pn**	**01 34 54.6**	**-0.7**
KBTR					eS		**Sn**	**01 35 29.7**	**-2.2**
PAU	**Pauzhetka**	**3.19**	**208**		PN		**Pn**	**01 35 00.4**	**+0.4**
PAU	**Pauzhetka**	**3.19**	**208**		P		**Pn**	**01 35 00.4**	**+0.4**
BKI	**Bering**	**4.01**	**74**		PN		**Pn**	**01 35 10.0**	**0.0**
BKI	**Bering**	**4.01**	**74**		P		**Pn**	**01 35 10.0**	**0.0**
BKI					eS		**Sn**	**01 35 54.8**	**-3.5**
SKR	**Severo-Kuril's**	**4.09**	**209**		*e*PN		**Pn**	**01 35 11.6**	**+0.5**
SKR					eS		**Sn**	**01 35 59.9**	**-0.2**
SKR					pmax	pmax			
	comp=Z,108nm,0.4s								
SKR					smax	smax			
	comp=E,443nm,0.7s								
SKR					smax	smax			
	comp=N,383nm,0.6s								
SKR	**Severo-Kuril's**	**4.09**	**209**		P		**Pn**	**01 35 11.0**	**-0.1**
ALID	**Alaid**	**4.10**	**215**		PN		**Pn**	**01 35 11.4**	**0.0**
ALID	**Alaid**	**4.10**	**215**		*e*P		**Pn**	**01 35 11.4**	**0.0**
PALN	**Palana**	**4.82**	**5**		PN		**Pn**	**01 35 20.2**	**0.0**
PALN	**Palana**	**4.82**	**5**		*e*P		**Pn**	**01 35 20.2**	**0.0**
SEY	**Seymchan**	**9.36**	**340**		P		**Pn**	**01 36 17.9**	**-1.5**
	comp=N,0.5nm,0.3s,baz=268,slow=22,SNR=4.7								
KLR	**Kul'dur**	**17.69**	**265**		P		**P**	**01 38 01.4**	**0.0**
	comp=N,0.3nm,0.3s,baz=76,slow=9.7,SNR=9.6								
USRK	**Ussuriysk Ar.**	**20.33**	**251**		P		**P**	**01 38 30.3**	**+0.4**
	comp=N,1.6nm,0.6s,baz=52,slow=17,SNR=2.5								
TIXI	**Tiksi**	**21.77**	**334**		P		**P**	**01 38 43.5**	**-1.3**
	comp=N,2.3nm,0.5s,baz=120,slow=10,SNR=8.5								
MJAR	**Matsushiro Arr**	**22.94**	**228**		P		**P**	**01 38 59.0**	**+2.9**
	comp=N,1.5nm,0.3s,baz=21,slow=10,SNR=1.8								
ILAR	**Eielson Array**	**28.35**	**47**		P		**P**	**01 39 45.7**	**+1.4**
	comp=N,0.8nm,0.7s,baz=268,slow=6.8,SNR=11								
SONM	**Songino Array**	**33.14**	**281**		P		**P**	**01 40 25.0**	**-1.7**
	comp=N,0.4nm,0.3s,baz=64,slow=10,SNR=3.8								
INK	**Inuvik**	**33.23**	**39**		P		**P**	**01 40 28.6**	**+1.6**
	comp=N,1.9nm,0.3s,baz=292,slow=8.3,SNR=16								
YKA	**Yellowknife Ar**	**42.63**	**43**		P		**P**	**01 41 47.5**	**+1.9**
	comp=N,1.1nm,0.7s,baz=306,slow=10.0,SNR=9.6								
SPITS	**Spitsbergen Ar**	**45.85**	**350**		P		**P**	**01 42 10.3**	**-0.8**
	comp=N,0.7nm,0.3s,baz=38,slow=7.3,SNR=1.7								
KURK	**Kurchatov**	**46.66**	**300**		P		**P**	**01 42 16.5**	**-1.1**
KURK								01 43 47.8	
KURBB	**Kurchatov Arra**	**46.77**	**300**		P		**P**	**01 42 16.5**	**-2.0**
	comp=N,2.0nm,0.4s,baz=59,slow=7.6,SNR=21								
KURBB					PcP		**PcP**	**01 43 47.8**	**-0.6**
	comp=N,0.5nm,0.5s,baz=53,slow=2.7,SNR=5.9								
MKAR	**Makanchi Array**	**47.18**	**294**		P		**P**	**01 42 20.1**	**-1.6**
	comp=N,1.0nm,0.5s,baz=54,slow=6.9,SNR=16								
BVAR	**Borovoye Array**	**49.24**	**307**		P		**P**	**01 42 35.7**	**-1.6**
	comp=N,0.6nm,0.3s,baz=155,slow=14,SNR=4.5								
BVAR					PcP		**PcP**	**01 43 56.3**	**-0.9**
	comp=N,0.6nm,0.3s,baz=60,slow=8.8,SNR=3.6								
ARCES	**ARCESS Array B**	**51.97**	**341**		P		**P**	**01 42 55.6**	**-1.9**
	comp=N,3.2nm,0.9s,baz=52,slow=15,SNR=1.7								
NVAR	**Mina Array Bea**	**55.82**	**70**		P		**P**	**01 43 29.9**	**+3.8**
	comp=N,0.4nm,0.4s,baz=282,slow=8.2,SNR=2.4								
PDAR	**Pinedale Array**	**57.38**	**61**		P		**P**	**01 43 40.2**	**+3.1**
	comp=N,1.0nm,0.7s,baz=328,slow=2.6,SNR=8.2								
FINES	**FINESS Array B**	**58.80**	**336**		P		**P**	**01 43 45.2**	**-1.1**
	comp=N,1.0nm,0.5s,baz=37,slow=7.9,SNR=8.5								
NOA	**NORSAR Array B**	**62.23**	**343**		P		**P**	**01 44 08.5**	**-1.1**
	comp=N,0.6nm,0.6s,baz=23,slow=6.7,SNR=4.0								
HFS	**Hagfors**	**62.64**	**341**		P		**P**	**01 44 10.6**	**-1.5**
	comp=N,1.2nm,0.8s,baz=52,slow=9.6,SNR=5.7								
SCHQ	**Schefferville**	**64.81**	**27**		P		**P**	**01 44 26.5**	**0.0**
	comp=N,1.7nm,0.6s,baz=329,slow=6.2,SNR=1.9								
AKASG	**Malin Array Be**	**67.31**	**328**		P		**P**	**01 44 40.2**	**-2.2**
	comp=N,0.2nm,0.3s,baz=46,slow=6.6,SNR=1.8								
EKA	**Eskdalemuir Ar**	**69.77**	**349**		P		**P**	**01 44 57.0**	**-0.6**
	comp=N,0.8nm,0.4s,baz=19,slow=5.4,SNR=16								
EKA	**Eskdalemuir Ar**	**69.77**	**349**		P		**P**	**01 44 57.0**	**-0.6**
TXAR	**Lajitas Array**	**70.64**	**67**		P		**P**	**01 45 05.7**	**+2.3**
	comp=N,0.7nm,0.4s,baz=294,slow=5.1,SNR=17								
GERES	**GERESS Array B**	**73.19**	**337**		P		**P**	**01 45 17.5**	**-0.8**
	comp=N,0.4nm,0.5s,baz=39,slow=6.8,SNR=5.9								
DAVOX	**Davos/Dischmat**	**75.99**	**339**		P		**P**	**01 45 34.1**	**-0.4**
	comp=N,1.2nm,0.5s,baz=357,slow=13,SNR=3.9								
WRA	**Warramunga Arr**	**76.97**	**204**		P		**P**	**01 45 40.8**	**+0.8**
	comp=N,0.6nm,0.8s,baz=16,slow=5.9,SNR=1.3								
ASAR	**Alice Springs**	**80.66**	**203**		P		**P**	**01 46 01.5**	**+1.5**
	comp=N,0.1nm,0.4s,baz=17,slow=5.1,SNR=4.1								
ESDC	**Sonseca Array**	**85.28**	**347**		P		**P**	**01 46 23.8**	**0.0**
	comp=N,1.1nm,0.7s,baz=0.1,slow=4.7,SNR=12								
KEST	**Kesra**	**86.64**	**336**		P		**P**	**01 46 30.3**	**-0.2**
	comp=N,1.1nm,0.5s,baz=328,slow=2.6,SNR=6.8								

*IDC **30** 01:40:10.9±1.2,25.°04N×128.°04E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/56, mbtmp3.7/4, Error ellipse: s-maj=48.6km s-min=17.7km az=80.0*
*JMA **30** 01:40:15.1±0.2,25.°04N×127.°83E, h65km, M3.6*
ISC 30 01:40:11.4±2.5,24.°96N±0.°05×127.°91E±0.°04, h10km±16km, n25,σ1°972/42, mb3.8/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.19**	**354**	P		**Pn**	**01 40 35.1**	**+0.9**
JJT3				eS		**Sg**	**01 40 48.6**	**-1.2**
JNTH	**Nagotoyohara**	**1.56**	**4**	P		**Pn**	**01 40 39.7**	**+0.4**
JNTH				eS		**Sn**	**01 40 57.9**	**-1.7**
JKE	**Kume jima 2**	**1.70**	**324**	P		**Pn**	**01 40 41.9**	**+0.7**
JAGN	**Aguni-jima**	**1.74**	**340**	P		**Pb**	**01 40 42.9**	**-0.5**
JAGN				eS		**Sn**	**01 41 02.3**	**-1.6**
JOW	**Kunigami**	**1.90**	**10**	Pn		**Pn**	**01 40 44.2**	**+0.3**
	46nm,0.3s,baz=142,slow=18,SNR=74							
JOW				Sn		**Sn**	**01 41 05.9**	**-2.0**
	44nm,0.3s,baz=152,slow=29,SNR=8.0							
JOW	**Kunigami**	**1.90**	**10**	P		**Pn**	**01 40 44.7**	**+0.8**
JIH	**Iheya**	**2.07**	**1**	P		**Pn**	**01 40 47.3**	**+1.0**
JIH				S		**Sn**	**01 41 10.9**	**-1.3**
JYRO	**Yoronjima**	**2.12**	**13**	P		**Pn**	**01 40 47.5**	**+0.6**
JYRO				eS		**Sn**	**01 41 12.1**	**-1.2**
JOGS	**Gusukube**	**2.28**	**266**	P		**Pn**	**01 40 50.4**	**+1.2**
JOGS				S		**Sn**	**01 41 16.3**	**-1.1**
JMJ2	**Miyako jima3**	**2.36**	**265**	P		**Pn**	**01 40 50.6**	**+0.4**
JMJ2				eS		**Sn**	**01 41 18.0**	**-1.2**
JIKM	**Ikemajima**	**2.42**	**270**	P		**Pn**	**01 40 51.9**	**+0.9**
JIKM				eS		**Sn**	**01 41 19.7**	**-1.0**
JOKE	**Okinoerabujima**	**2.47**	**14**	P		**Pn**	**01 40 53.4**	**+1.6**
JOKE				eS		**Sn**	**01 41 21.5**	**-0.5**
JIRB	**Irabujima**	**2.49**	**268**	P		**Pn**	**01 40 52.8**	**+0.8**
JIRB				S		**Sn**	**01 41 20.5**	**-2.0**
JTJ	**Tarama**	**2.93**	**265**	P		**Pn**	**01 40 58.9**	**+0.8**
JTJ				eS		**Sn**	**01 41 30.6**	**-2.8**
JTK	**Tokunoshima**	**2.97**	**18**	P		**Pn**	**01 40 59.5**	**+0.9**
JTK				S		**Sn**	**01 41 32.7**	**-1.7**
JKDJ	**Kitadaitoujima**	**3.22**	**71**	P		**Pn**	**01 41 01.9**	**-0.1**
JKDJ				S		**Sn**	**01 41 36.5**	**-3.9**
JISG	**Ishigakijimahi**	**3.29**	**264**	P		**Pn**	**01 41 02.8**	**-0.3**
JISG				S		**Sn**	**01 41 39.0**	**-3.3**
JAMN	**Amaminishikomi**	**3.46**	**19**	P		**Pn**	**01 41 07.2**	**+1.8**
JIJ	**Ishigaki jima**	**3.48**	**261**	P		**Pn**	**01 41 06.1**	**+0.5**
JIJ				S		**Sn**	**01 41 43.1**	**-3.8**
JKRS	**Kuro-shima**	**3.62**	**259**	P		**Pn**	**01 41 08.4**	**+0.8**
JAM	**Amami Oshima**	**3.76**	**23**	P		**Pn**	**01 41 11.2**	**+1.7**
JAM				eS		**Sn**	**01 41 50.0**	**-3.9**
MKAR	**Makanchi Array**	**42.18**	**313**	P		**P**	**01 48 05.3**	**+1.0**
	0.8nm,0.5s,baz=96,slow=10.0,SNR=15							
WRA	**Warramunga Arr**	**45.06**	**171**	P		**P**	**01 48 28.9**	**+1.2**
	0.9nm,0.5s,baz=353,slow=8.8,SNR=9.1							
KURBB	**Kurchatov Arra**	**45.58**	**317**	P		**P**	**01 48 32.6**	**+1.0**
	0.3nm,0.4s,baz=106,slow=9.1,SNR=4.9							
ASAR	**Alice Springs**	**48.68**	**173**	P		**P**	**01 48 57.8**	**+1.8**
	0.6nm,0.5s,baz=0.2,slow=7.2,SNR=8.2							

*IDC **30** 01:52:00.0±0.9,35.°11N×138.°64E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/42, mbtmp3.7/8, ML3.1/1, Error ellipse: s-maj=42.2km s-min=17.2km az=77.0*
*JMA **30** 01:52:01.2,35.°22N×139.°04E, h4km, M3.1 Broadband fault plane solution: P waves. NP1:φ=318.00000°, δ=45.00000°, λ=-123.00000°. NP2:φ=181.00000°, δ=54.00000°, λ=-62.00000°. Principal axes: T Plg5.0000°, Azm251.0000°; N Plg22.0000°, Azm343.0000°; P Plg67.0000°, Azm149.0000°;*
JMA Felt II J1.
ISC 30 01:52:00.5±0.8,35.°21N±0.°03×138.°99E±0.°04, h9km±6km, n25,σ1°927/26, mb3.6/7, 3C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOD2	**Odawara 2**	**0.10**	**55**	↑P		**Pg**	**01 52 02.8**	**-0.2**
JOD2				S		**Sg**	**01 52 03.9**	**-0.9**
AJI	**Ajiro2**	**0.18**	**153**	↓P		**Pg**	**01 52 05.0**	**+0.7**
AJI				S		**Sg**	**01 52 07.7**	**+0.8**
JFNN	**Fujinakano**	**0.25**	**267**	↑P		**Pb**	**01 52 07.0**	**-0.3**
JFNN				eS		**Sg**	**01 52 11.2**	**+2.2**
KTJ3	**Kamata3**	**0.28**	**167**	↓P		**Pg**	**01 52 06.8**	**+0.6**
KTJ3				S		**Sg**	**01 52 10.8**	**+0.9**
JYN	**Shimob**	**0.47**	**308**	↑P		**Pg**	**01 52 10.5**	**+0.8**
JIZS	**Izushimoda**	**0.50**	**191**	P		**Pb**	**01 52 10.8**	**-0.6**
JIM2	**Oshima 3**	**0.61**	**143**	↓P		**Pg**	**01 52 12.6**	**+0.3**
SHZ3	**Shizuoka 3**	**0.66**	**258**	P		**Pn**	**01 52 14.7**	**-1.4**
SHZ3				S		**Sn**	**01 52 24.0**	**-2.6**
MJAR	**Matsushiro Arr**	**1.48**	**335**	Pn		**Pn**	**01 52 27.5**	**+0.2**
	10.0nm,0.3s,baz=158,slow=14,SNR=212							
MJAR				Sn		**Sn**	**01 52 45.6**	**-1.1**
	3.8nm,0.3s,baz=162,slow=28,SNR=6.2							
MAT	**Matsushiro**	**1.48**	**335**	P		**Pn**	**01 52 28.0**	**+0.7**
MAT				S		**Sn**	**01 52 47.0**	**+0.2**
JHJ	**Hachijo jima 2**	**2.18**	**162**	Pn		**Pb**	**01 52 40.1**	**-0.1**
	14nm,0.3s,baz=61,slow=16,SNR=1.8							
USRK	**Ussuriysk Ar.**	**10.47**	**331**	Pn		**Pn**	**01 54 27.9**	**-2.8**
	baz=144,slow=13,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**29.04**	**115**	T		T	02 28 13.7	
	baz=308,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**29.04**	**115**	T		T	02 28 12.6	
	baz=308,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**29.05**	**115**	T		T	02 28 14.3	
	baz=308,slow=75,SNR=15							
H11S3	**WAKE ISLAND Hy**	**29.65**	**117**	T		T	02 28 58.7	
	baz=310,slow=75,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**29.65**	**117**	T		T	02 29 00.1	
	baz=310,slow=75,SNR=7.1							
H11S2	**WAKE ISLAND Hy**	**29.67**	**117**	T		T	02 28 58.0	
	baz=310,slow=75,SNR=6.9							
MKAR	**Makanchi Array**	**43.45**	**303**	P		**P**	**02 00 03.9**	**0.0**
	0.5nm,0.6s,baz=93,slow=10,SNR=5.9							
ILAR	**Eielson Array**	**52.08**	**32**	P		**P**	**02 01 12.8**	**+2.4**
	0.5nm,0.9s,baz=279,slow=6.2,SNR=4.4							
WRA	**Warramunga Arr**	**55.02**	**185**	P		**P**	**02 01 31.7**	**-0.8**
	0.6nm,0.6s,baz=0.6,slow=7.4,SNR=7.7							
ASAR	**Alice Springs**	**58.75**	**185**	P		**P**	**02 01 58.5**	**-0.4**
	0.3nm,0.5s,baz=9.8,slow=8.1,SNR=4.1							
FINES	**FINESS Array B**	**69.50**	**332**	P		**P**	**02 03 09.8**	**+0.7**
	2.6nm,1.1s,baz=7.8,slow=4.2,SNR=4.2							
AKASG	**Malin Array Be**	**74.52**	**322**	P		**P**	**02 03 40.2**	**+0.9**
	0.2nm,0.3s,baz=52,slow=6.0,SNR=1.4							
NOA	**NORSAR Array B**	**75.09**	**337**	P		**P**	**02 03 43.1**	**+0.6**
	0.5nm,0.9s,baz=46,slow=5.7,SNR=2.3							

IDC 30 02:21:46.1±2.1,21.°18N×127.°73E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.5/3, Error ellipse: s-maj=151.9km s-min=24.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.92**	**164**	P		P	02 26 52.8	+0.8
	0.6nm,0.4s,baz=344,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.39**	**167**	P		P	02 27 23.3	-1.1
	0.3nm,0.6s,baz=354,slow=8.3,SNR=6.0							
MKAR	**Makanchi Array**	**59.39**	**325**	P		P	02 31 50.6	+0.2
	0.4nm,0.4s,baz=118,slow=7.8,SNR=8.2							

KMA 30 02:52:45.8±1.4,37.°46N×127.°63E, h11km±8km, Error ellipse: s-maj=10.3km s-min=8.4km az=64.0, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSYOW	**Yeongwol**	**0.72**	**113**	P		Pg	02 52 59.7	+0.1
	SNR=6.6							
KSYOW	**Yeongwol**	**0.72**	**113**	P		Pg	02 52 59.7	+0.1
	SNR=6.6							
KSGWL	**Sabuk**	**0.99**	**104**	P		Pg	02 53 04.6	-0.2
	SNR=8.0							
KSGWL	**Sabuk**	**0.99**	**104**	P		Pg	02 53 04.6	-0.2
	SNR=8.0							
KSGWL				S		Sn	02 53 18.7	-0.8
KSJMJ	**Jumunjin**	**0.99**	**64**	P		Pg	02 53 04.8	-0.1
	SNR=18							
KSJMJ	**Jumunjin**	**0.99**	**64**	P		Pg	02 53 04.8	-0.1
	SNR=18							
KSEUS	**ULSEONG**	**1.39**	**142**	P		Pn	02 53 10.8	-0.3
	SNR=11							
KSEUS	**ULSEONG**	**1.39**	**142**	P		Pn	02 53 10.8	-0.3
	SNR=11							
KSULJ	**Uljin**	**1.61**	**117**	P		Pn	02 53 14.8	+0.6
	SNR=11							
KSULJ	**Uljin**	**1.61**	**117**	P		Pn	02 53 14.8	+0.6
	SNR=11							

IDC 30 02:57:19.9±3.4,30.°84S×177.°68W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=80.3km s-min=32.3km az=123.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.60**	**353**	Pn		Pg	02 57 50.5	0.0
	25nm,0.3s,baz=38,slow=21,SNR=1.3							
RAO				Sn		Sn	02 58 06.9	-3.8
	203nm,0.3s,baz=312,slow=23,SNR=7.4							
**

NEIC ***30*** *03:39:32.2S×151.61E,h50km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.00; Mθθ-1.11; Mφφ0.11; Mrθ0.62; Mrφ-0.27; Mθφ-0.02; Fault plane solution: M₀1.26000×10¹⁸ NP1:φs249.00000°, δ31.00000°,λ75.00000°. NP2:φs86.00000°,δ60.00000°, λ99.00000°. Principal axes: T 1.1757, Plg74.0000°, Azm18.0000°; N 0.1488, Plg7.0000°, Azm262.0000°; P -1.3245, Plg15.0000°, Azm170.0000°;*

DJA ***30*** *03:39:32.2±0.4,5.7S±2×15.7E±1,h85km±4km,M5.7/88, mB6.1/66,mb5.8/88,MLv6.5/2,Mw(mB)5.8/66, MwMwp5.6/40,Mwp5.7/40*

GCMT ***30*** *03:39:32.4±0.1,5.60S×151.61E,h48km,MW6.0/158, Moment Tensor Solution. s158,c367; s155,c486; Duration: 24 Moment tensor: Scale 10¹⁸Nm; Mrr1.02±.01; Mθθ-1.11±.01; Mφφ0.08±.01; Mrθ0.32±.01; Mθφ-0.35±.01; Mrφ-0.19±.01; Best double couple: M₀1.18000×10¹⁸ NP1:φs239.00000°,δ41.00000°, λ66.00000°. NP2:φs90.00000°,δ54.00000°,λ110.00000°. Principal axes: T 1.1250, Plg73.0000°, Azm54.0000°; N 0.1070, Plg16.0000°, Azm258.0000°; P -1.2350, Plg7.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *03:39:32.5S×151.69E,h49km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.04; Mθθ-1.16; Mφφ0.13; Mrθ0.31; Mθφ-0.35; Mrφ-0.20; Fault plane solution: M₀1.22000×10¹⁸ NP1:φs240.00000°, δ41.00000°,λ66.00000°. NP2:φs91.00000°,δ53.00000°, λ110.00000°. Principal axes: T 1.1406, Plg73.0000°, Azm56.0000°; N 0.1390, Plg16.0000°, Azm259.0000°; P -1.2795, Plg6.0000°, Azm167.0000°;*

ISC 30 03:39:28.0±0.3,5.39S±0.03×151.60E±0.03,h44km±2km, h45km:pP-P,n1592,σ1.979/1381,mb5.8/334,MS5.8/470, 228C-89D,Fault plane solution: NP1:φs284.28357°, δ46.92537°,λ110.88514°. **NP2:**φs75.09139°,δ46.96296°, λ69.12826°. **Principal axes:** T Plg74.9057°, Azm269.7549°; N Plg15.0942°, Azm89.6777°; P Plg0.0194°, Azm179.6829°; **Fault plane solution: NP1:**φs211.64177°,δ37.24757°,λ68.43967°. **NP2:** φs58.04036°,δ55.74266°,λ105.61112°. **Principal axes:** T Plg73.9280°, Azm11.4605°; N Plg12.8513°, Azm229.1018°; P Plg9.4879°, Azm136.9168°; **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.32**	**25**	Pn	**Pn**	**03 39 52.9**	**+2.8**
RABL				Sn	**Sn**	**03 40 11.7**	**+5.3**
MANU	**Manus Island**	**5.38**	**308**	Pn	**Pn**	**03 40 47.0**	**+1.2**
PMG	**Port Moresby**	**5.94**	**228**	P	**Pn**	**03 40 55.9**	**+2.4**
	82nm,0.3s,baz=37,slow=11,SNR=151						
PMG				S	**Sn**	**03 42 03.2**	**+2.9**
	250nm,0.3s,baz=338,slow=24,SNR=11						
PMG	**Port Moresby**	**5.94**	**228**		**Pn**	**03 40 54.0**	**+0.5**
HNR	**Honiara**	**9.20**	**116**	P	**Pn**	**03 41 41.2**	**+3.0**
	32nm,0.3s,baz=117,slow=1.2,SNR=6.7						
HNR				LR	LR	03 45 23.6	
	comp=Z,18μm,21.1s,baz=284,slow=38						
HNR	**Honiara**	**9.20**	**116**	Pn	**Pn**	**03 41 39.3**	**+1.1**
GENI	**Genyem**	**11.74**	**283**	P	Pn	03 42 19.8	+6.8
	21μm22μm826nm,1.8s						
PATS	**Pohnpei**	**13.87**	**29**	P	**Pn**	**03 42 44.2**	**+2.1**
	baz=14,SNR=4.0						
PATS	**Pohnpei**	**13.87**	**29**	Pn	**Pn**	**03 42 43.0**	**+0.8**
MTSU	**Mount Surprise**	**14.53**	**209**	P	**Pn**	**03 42 52.8**	**+1.8**
	baz=15,SNR=18						
CTA	**Charters Tower**	**15.51**	**199**	P	**Pn**	**03 43 04.7**	**+0.9**
	5.7nm,0.3s,baz=23,slow=13,SNR=12						
CTA				LR	LR	03 48 26.8	
	comp=Z,21μm,21.7s,baz=28,slow=35						
CTAO	**Charters Tower**	**15.51**	**199**	P	**Pn**	**03 43 03.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,161nm,0.9s						
CTAO	**Charters Tower**	**15.51**	**199**	Pn	**Pn**	**03 43 03.9**	**+0.1**
SRPI	**Serui, Papua**	**15.72**	**282**	P	**P**	**03 43 14.3**	**+4.3**
	comp=Z,7μmcomp=Z,370nm,1.2s						
BAKI	**Biak**	**16.02**	**285**	P	**P**	**03 43 19.1**	**+5.8**
	comp=Z,14μmcomp=Z,988nm,1.4s						
RKPI	**Ransiki, Papua**	**17.81**	**282**	P	**P**	**03 43 39.1**	**+6.0**
	comp=Z,11μmcomp=Z,496nm,1.3s						
MWPI	**Manokwari, Pap**	**18.08**	**284**	P	**Pn**	**03 43 41.4**	**+5.3**
	comp=Z,12μmcomp=Z,397nm,1.1s						
QIS	**Mount Isa**	**19.05**	**217**	P	**Pn**	**03 43 48.5**	**+0.6**
	baz=19,SNR=116						
FAKI	**Fak Fak**	**19.45**	**276**		**Pn**	**03 43 52.0**	**-0.7**
FAKI	**Fak Fak**	**19.45**	**276**	P	**Pn**	**03 43 55.7**	**+3.0**
	comp=Z,14μmcomp=Z,7μmcomp=Z,198nm,1.0s						
EIDS	**Eidsvold**	**19.87**	**181**	P	**Pn**	**03 43 57.0**	**-0.5**
	baz=20,SNR=41						
EIDS	**Eidsvold**	**19.87**	**181**	P	**P**	**03 43 56.2**	**+0.6**
EIDS				IAmb	IAmb	03 44 02.2	
	comp=Z,754nm,1.6s						
KDU	**Kakadu**	**20.22**	**248**	P	**P**	**03 44 00.2**	**+0.7**
	baz=20,SNR=159						
SAUI	**Saumlaki**	**20.32**	**262**	P	Pn	03 44 05.3	+2.3
	comp=Z,18μmcomp=Z,18μmcomp=Z,1μm,0.8s						
SIJI	**Sorong**	**20.79**	**282**	P	Pn	03 44 08.2	-0.3
	comp=Z,193nm,0.8s,baz=75,slow=9.0,SNR=11						
SIJI	**Sorong**	**20.79**	**282**	P	Pn	03 44 09.9	+1.4
	comp=Z,7μmcomp=Z,3μmcomp=Z,189nm,1.7s						
SWI	**Sorong**	**20.80**	**282**	P	Pn	03 44 09.8	+1.2
	comp=Z,12μmcomp=Z,6μmcomp=Z,395nm,1.3s						
RMQ	**Roma**	**21.15**	**187**	P	**P**	**03 44 11.2**	**+1.7**
	baz=21,SNR=88						
MTN	**Manton Dam**	**21.51**	**248**	P	**P**	**03 44 14.0**	**+0.6**
	baz=22,SNR=48						
MTN	**Manton Dam**	**21.51**	**248**	P	**P**	**03 44 13.6**	**+0.2**
MTN				IAmb	IAmb	03 44 28.3	
	comp=Z,462nm,0.8s						
DZM	**Mont Dzumac**	**21.94**	**140**	P	**P**	**03 44 20.1**	**+2.0**
	comp=Z,39nm,0.5s,baz=264,slow=5.9,SNR=36						
DZM				LR	LR	03 51 52.5	
	comp=Z,34μm,20.5s,baz=315,slow=34						
DZM	**Mont Dzumac**	**21.94**	**140**	*e*P	**P**	**03 44 18.4**	**+0.4**
	comp=Z,302nm,1.1s						
DZM				*e*S	**S**	**03 48 13.4**	**-4.7**
	comp=Z,30μm,25.5s						
DZM				*e*LR	LR	03 49 38.8	
	comp=Z,53μm,23.4s						
DZM	**Mont Dzumac**	**21.94**	**140**	P	**P**	**03 44 18.7**	**+0.7**
WB0	**Warramunga Arr**	**22.01**	**228**	P	**P**	**03 44 19.1**	**+0.2**
WB0				IAmb	IAmb	03 44 24.1	
	comp=Z,498nm,0.8s						
WR0	**Warramunga Arr**	**22.02**	**227**	P	**P**	**03 44 19.3**	**+0.4**
WRAB	**Tennant Creek**	**22.15**	**228**	*ce*P	**P**	**03 44 20.5**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,289nm,0.6s						
WRAB	**Tennant Creek**	**22.15**	**228**	P	**P**	**03 44 20.4**	**+0.2**
WB2	**Warramunga Arr**	**22.15**	**228**	P	**P**	**03 44 20.5**	**+0.2**
WRA	**Warramunga Arr**	**22.16**	**228**	P	**P**	**03 44 20.8**	**+0.4**
	comp=Z,560nm,0.7s,baz=52,slow=9.8,SNR=401						
WRA				S	**S**	**03 48 20.2**	**-1.9**
	comp=Z,138nm,1.0s,baz=58,slow=17,SNR=11						
WRA				ScP	**ScP**	**03 51 50.6**	**+0.2**
	comp=Z,75nm,1.1s,baz=39,slow=2.5,SNR=12						
WRA				LR	LR	03 53 05.6	
	comp=Z,10μm,21.1s,baz=45,slow=37						
WRA				PKiKP	**PKiKP**	**03 56 01.2**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=320,slow=1.3,SNR=7.6						
WRA	**Warramunga Arr**	**22.16**	**228**	P	**P**	**03 44 20.7**	**+0.3**
WRA				ScP	**ScP**	**03 51 49.1**	**-1.4**
QLP	**Quilpie**	**22.21**	**198**	P	**P**	**03 44 22.0**	**+1.1**
	baz=22,SNR=64						
TARA	**Tarawa**	**22.33**	**73**	P	**P**	**03 44 23.8**	**+1.5**
TARA				IAmb	IAmb	03 44 52.6	
	comp=Z,468nm,1.1s						
ANA2	**Anatahan**	**22.37**	**345**	P	**P**	**03 44 24.2**	**+1.6**
MSAI	**Masohi**	**22.70**	**274**	P	**P**	**03 44 31.4**	**+5.2**
	comp=Z,2μmcomp=Z,24nm,0.6s						
LBMI	**Labuha**	**24.52**	**280**	P	**P**	**03 44 46.9**	**+3.3**
	comp=Z,16μmcomp=Z,873nm,1.9s						
NLAI	**Namlea**	**24.52**	**274**	P	**P**	**03 44 46.4**	**+2.7**
	comp=Z,2μmcomp=Z,55nm,1.6s						
KNRA	**Kununurra**	**24.64**	**244**	P	**P**	**03 44 45.4**	**+0.7**
	baz=25,SNR=164						
KNRA	**Kununurra**	**24.64**	**244**	P	**P**	**03 44 45.3**	**+0.6**
GAMI	**Galela, Maluku**	**24.84**	**286**	P	**P**	**03 44 49.3**	**+2.7**
	comp=Z,6μmcomp=Z,268nm,1.3s						
ARMA	**Armidale**	**24.89**	**180**	P	**P**	**03 44 48.6**	**+1.6**
	baz=25,SNR=30						
ARMA	**Armidale**	**24.89**	**180**	P	**P**	**03 44 47.6**	**+0.6**
AS31	**Alice Springs**	**24.91**	**221**	P	**P**	**03 44 47.5**	**+0.4**
AS31				IAmb	IAmb	03 44 53.0	
	comp=Z,152nm,0.8s						
ASAR	**Alice Springs**	**24.91**	**221**	P	**P**	**03 44 47.7**	**+0.5**
	comp=Z,379nm,0.6s,baz=60,slow=8.7,SNR=272						
ASAR				S	**S**	**03 49 05.4**	**-2.3**
	comp=Z,15nm,0.8s,baz=50,slow=13,SNR=2.4						
ASAR				ScP	**ScP**	**03 51 58.8**	**+1.0**
	comp=Z,41nm,1.1s,baz=51,slow=2.9,SNR=11						
ASAR				LR	LR	03 54 27.6	
	comp=Z,12μm,21.4s,baz=66,slow=36						
ASAR	**Alice Springs**	**24.91**	**221**	P	**P**	**03 44 47.6**	**+0.5**
ASAR				ScP	**ScP**	**03 51 58.1**	**+0.3**
TNTI	**Ternate**	**24.96**	**283**	P	**P**	**03 44 48.6**	**+0.9**
TNTI				IAmb	IAmb	03 45 06.5	
	comp=Z,479nm,1.5s						
TNTI	**Ternate**	**24.96**	**283**	P	**P**	**03 44 50.8**	**+3.1**
	comp=Z,5μmcomp=Z,5μmcomp=Z,230nm,1.4s						
SANI	**Sanana**	**25.77**	**276**	P	**P**	**03 44 59.7**	**+4.7**
	comp=Z,7μmcomp=Z,3μmcomp=Z,136nm,1.0s						
CMSA	**Cobar Meteorol**	**26.59**	**191**	P	**P**	**03 45 02.4**	**+0.1**
	baz=27,SNR=41						
SOEI	**Soe**	**27.43**	**259**	P	**P**	**03 45 10.4**	**+0.3**
SOEI	**Soe**	**27.43**	**259**	P	**P**	**03 45 11.9**	**+1.8**
	comp=Z,10μmcomp=Z,7μmcomp=Z,346nm,0.7s						
MGCD	**Mangrove Creek**	**27.68**	**181**	P	**P**	**03 45 14.1**	**+2.2**
	baz=28,SNR=9.2						
STKA	**Stephens Creek**	**27.96**	**198**	P	**P**	**03 45 14.9**	**+0.5**
	comp=Z,17nm,0.6s,baz=20,slow=9.9,SNR=39						
STKA				ScP	**ScP**	**03 52 09.2**	**+2.6**
	comp=Z,34nm,1.2s,baz=291,slow=3.2,SNR=6.5						
STKA				LR	LR	03 56 19.1	
	comp=Z,10μm,20.6s,baz=17,slow=36						
STKA	**Stephens Creek**	**27.96**	**198**	P	**P**	**03 45 15.1**	**+0.5**
	baz=28,SNR=32						
STKA	**Stephens Creek**	**27.96**	**198**	P	**P**	**03 45 15.0**	**+0.5**
STKA	**Stephens Creek**	**27.96**	**198**	P	**P**	**03 45 14.8**	**+0.2**
STKA					**ScP**	**03 52 07.1**	**+0.5**
BATI	**Baumata**	**28.08**	**258**	P	**P**	**03 45 17.1**	**+1.3**
	comp=Z,813nm,0.9s,baz=144,slow=1.4,SNR=50						
BATI				LR	LR	03 58 40.4	
	comp=Z,20μm,21.9s,baz=112,slow=41						
BATI	**Baumata**	**28.08**	**258**	P	**P**	**03 45 18.9**	**+3.1**
	comp=Z,4μmcomp=Z,7μmcomp=Z,632nm,1.0s						
KMSI	**Cibinong**	**28.21**	**281**	P	**P**	**03 45 21.5**	**+4.5**
	comp=Z,262nm,0.9s						
DDMP	**Don Marcelino,**	**28.25**	**293**	*e*P	**P**	**03 45 15.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	**P**	**03 45 18.1**	**+0.2**
	comp=Z,395nm,0.7s,baz=63,slow=7.2,SNR=491						
FITZ				S	**S**	**03 49 58.0**	**-3.7**
	comp=Z,27nm,0.9s,baz=162,slow=23,SNR=1.2						
FITZ				LR	LR	03 58 13.3	
	comp=Z,9μm,19.3s,baz=72,slow=40						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	**P**	**03 45 18.2**	**+0.2**
	baz=28,SNR=420						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	**P**	**03 45 18.3**	**+0.4**
MSVF	**Nonsavu**	**28.62**	**118**	P	**P**	**03 45 22.6**	**+2.0**
	comp=Z,18nm,0.7s,baz=276,slow=17,SNR=7.8						
MSVF	**Nonsavu**	**28.62**	**118**	P	**P**	**03 45 21.9**	**+1.3**
MSVF				pmax	pmax		
	comp=Z,90nm,1.1s						
MSVF	**Nonsavu**	**28.62**	**118**	P	**P**	**03 45 21.9**	**+1.3**
LUWI	**Luwuk**	**29.10**	**278**	P	**P**	**03 45 25.4**	**+0.6**
LUWI				IAmb	IAmb	03 45 45.1	
	comp=Z,532nm,1.4s						
LUWI	**Luwuk**	**29.10**	**278**	P	**P**	**03 45 28.8**	**+4.0**
	comp=Z,7μmcomp=Z,5μmcomp=Z,158nm,1.2s						
MMRI	**Maumere**	**29.31**	**262**	P	**P**	**03 45 27.4**	**+0.6**
MMRI				IAmb	IAmb	03 46 13.2	
	comp=Z,279nm,1.0s						
MMRI	**Maumere**	**29.31**	**262**	P	**P**	**03 45 29.1**	**+2.3**
	comp=Z,5μmcomp=Z,8μmcomp=Z,312nm,1.0s						
SKMP	**Bagumbayan, Su**	**29.48**	**293**	*e*P	**P**	**03 45 28.5**	**+0.3**
GLSP	**General Luna,**	**29.52**	**301**	*e*P	**P**	**03 45 28.7**	**+0.1**
BUTP	**Butuan**	**29.57**	**299**	*e*P	**P**	**03 45 31.6**	**+2.6**
BUKP	**Musuan**	**29.57**	**296**	*e*P	**P**	**03 45 28.5**	**-0.6**
WRKA	**Warakurna**	**29.68**	**226**	P	**P**	**03 45 30.1**	**+0.1**
	baz=30,SNR=255						
EDFI	**Ende, Flores**	**29.86**	**262**	P	**P**	**03 45 31.2**	**-0.5**
	comp=Z,1μmcomp=Z,143nm,0.8s						
CGP	**Cagayan de Oro**	**30.15**	**297**	*e*P	**P**	**03 45 36.6**	**+2.4**
MRSI	**Marisa**	**30.19**	**280**	P	**P**	**03 45 35.9**	**+1.4**
	comp=Z,5μmcomp=Z,1μmcomp=Z,119nm,1.3s						
APSI	**Ampana**	**30.23**	**277**	P	**P**	**03 45 36.6**	**+1.8**
	comp=Z,3μmcomp=Z,113nm,1.0s						
HTT	**Hallett**	**30.29**	**201**	P	**P**	**03 45 36.6**	**+1.4**
	baz=30,SNR=42						
MSLP	**Maasin**	**30.78**	**300**	*e*P	**P**	**03 45 41.7**	**+2.0**
BBOO	**Buckleboo**	**30.89**	**206**	P	**P**	**03 45 40.5**	**0.0**
	baz=31,SNR=58						
BBOO	**Buckleboo**	**30.89**	**206**	P	**P**	**03 45 40.6**	**+0.1**
BBOO				IAMs_20	IAMs_20	03 58 02.9	
	comp=Z,17μm,21.0s						
BSSI	**Bau Bau, Buton**	**30.96**	**267**	P	P	03 45 46.5	+5.2
	comp=Z,3μmcomp=Z,1μmcomp=Z,75nm,1.0s						
PAGZ	**Pagadian**	**31.07**	**295**	*e*P	**P**	**03 45 44.2**	**+1.9**
BASI	**Baing, Sumba**	**31.09**	**259**	P	**P**	**03 45 44.3**	**+1.8**
	comp=Z,7μmcomp=Z,590nm,0.9s						
BKSI	**Bulukumba**	**31.34**	**269**	P	**P**	**03 45 46.3**	**+1.6**
	comp=Z,872nmcomp=Z,40nm,1.0s						
BNSI	**Bone**	**31.39**	**270**	P	**P**	**03 45 47.7**	**+2.6**
	comp=Z,46nm,0.9s						
TOLI2	**Tolitoli**	**31.45**	**281**	P	**P**	**03 45 45.9**	**+0.2**
TOLI2				IAmb	IAmb	03 46 03.6	
	comp=Z,97nm,1.0s						
KAPI	**Kappang**	**31.72**	**269**	P	**P**	**03 45 48.4**	**+0.4**
	comp=Z,12nm,0.4s,baz=58,slow=7.3,SNR=9.2						
KAPI				ScP	**ScP**	**03 52 19.1**	**+0.1**
	comp=Z,54nm,1.1s,baz=37,slow=1.8,SNR=8.5						
KAPI				LR	LR	04 00 48.1	
	comp=Z,3μm,21.9s,baz=86,slow=40						
KAPI	**Kappang**	**31.72**	**269**	P	**P**	**03 45 48.4**	**+0.4**
KAPI	**Kappang**	**31.72**	**269**	P	**P**	**03 45 49.1**	**+1.1**
KAPI	**Kappang**	**31.72**	**269**	P	**P**	**03 45 50.4**	**+2.4**
	comp=Z,5μmcomp=Z,756nmcomp=Z,65nm,0.8s						
TTSI	**Tana Toraja**	**31.78**	**273**	P	**P**	**03 45 51.7**	**+3.2**
	comp=Z,2μmcomp=Z,42nm,1.2s						
MPSI	**Mapaga**	**32.16**	**279**	P	**P**	**03 45 51.8**	**-0.1**
	comp=Z,5μmcomp=Z,1μmcomp=Z,104nm,0.9s						
WBSI	**Waikabubak, Su**	**32.20**	**261**	P	**P**	**03 45 53.3**	**+1.0**
	comp=Z,7μmcomp=Z,597nm,1.0s						
ARPS	**Mount Arapiles**	**32.48**	**195**	P	**P**	**03 45 55.7**	**+1.2**
	baz=33,SNR=25						
TOO	**Toolangi**	**32.51**	**189**	P	**P**	**03 45 55.4**	**+0.7**
	baz=33,SNR=4.3						
TOO	**Toolangi**	**32.51**	**189**	P	**P**	**03 45 55.2**	**+0.5**
TOO				pmax	pmax		
	comp=Z,39nm,1.0s						
TOO				MLR	MLR		
	comp=Z,11μm,19.0s						
TOO	**Toolangi**	**32.51**	**189**	P	**P**	**03 45 55.2**	**+0.5**
CNOP	**Candoni, Negro**	**32.57**	**298**	*e*P	**P**	**03 45 56.0**	**+0.5**
RCP	**Roxas**	**33.28**	**300**	*e*P	**P**	**03 46 03.8**	**+2.1**
JCJ	**Chichijima**	**33.56**	**345**	LR	LR	03 59 34.2	
	comp=Z,5μm,19.8s,baz=158,slow=36						
FORT	**Forrest**	**33.58**	**218**	P	**P**	**03 46 04.1**	**0.0**
	baz=34,SNR=162						
FORT	**Forrest**	**33.58**	**218**	P	**P**	**03 46 04.6**	**+0.5**
SCSP	**San Jose Sesim**	**33.69**	**304**	*e*P	**P**	**03 46 05.9**	**+0.7**
PLAI	**Plampang**	**33.73**	**262**	P	**P**	**03 46 06.4**	**+0.8**
	comp=Z,259nm,1.0s						
TWSI	**Taliwang, Sumb**	**34.60**	**262**	P	**P**	**03 46 13.4**	**+0.2**
	comp=Z,72nm,1.0s						
PSAC2	**Pilbara Seismi**	**34.65**	**239**	IAMs_20	IAMs_20	04 01 35.4	
	comp=Z,12μm,20.0s						
PSAA3	**Pilbara Seismi**	**34.70**	**239**	IAMs_20	IAMs_20	04 02 16.6	
	comp=Z,12μm,18.0s						
PSAA2	**Pilbara Seismi**	**34.70**	**239**	IAMs_20	IAMs_20	04 02 16.6	
	comp=Z,13μm,19.0s						
PSA00	**Pilbara Seismi**	**34.70**	**239**	P	**P**	**03 46 14.1**	**+0.1**
PSA00	**Pilbara Seismi**	**34.70**	**239**	P	**P**	**03 46 13.9**	**0.0**
PSA00				IAmb	IAmb	03 46 16.7	
	comp=Z,566nm,1.2s						
PSA00				IAMs_20	IAMs_20	04 02 16.7	
	comp=Z,12μm,19.0s						
JCNP	**Jose Panganiba**	**34.70**	**305**	*e*P	**P**	**03 46 14.2**	**+0.2**
PSAA1	**Pilbara Seismi**	**34.71**	**239**	IAMs_20	IAMs_20	04 02 25.0	
	comp=Z,13μm,18.0s						
PSAC1	**Pilbara Seismi**	**34.72**	**239**	IAMs_20	IAMs_20	04 02 07.2	
	comp=Z,13μm,19.0s						
PSAB1	**Pilbara Seismi**	**34.72**	**239**	IAMs_20	IAMs_20	04 02 17.2	
	comp=Z,12μm,19.0s						
PSAC3	**Pilbara Seismi**	**34.73**	**239**	IAMs_20	IAMs_20	04 01 46.6	
	comp=Z,13μm,21.0s						
BOAC	**Boac**	**34.98**	**303**	*e*P	**P**	**03 46 19.9**	**+3.5**
SJMP	**San Jose**	**35.11**	**301**	*e*P	**P**	**03 46 20.0**	**+2.5**
LQP	**Lukban**	**35.57**	**303**	*e*P	**P**	**03 46 23.4**	**+1.8**
PGP	**Puerto Galera**	**35.75**	**302**	*e*P	**P**	**03 46 23.3**	**+0.2**
ENPP	**El Nido**	**36.02**	**297**	*e*P	**P**	**03 46 27.2**	**+1.9**
MACP	**Maragondon, Ca**	**36.33**	**303**	*e*P	**P**	**03 46 27.5**	**-0.5**
LUBP	**Lubang**	**36.46**	**302**	*e*P	**P**	**03 46 29.2**	**0.0**
BATP	**Bataraza**	**36.53**	**293**	*e*P	**P**	**03 46 28.4**	**-1.3**
PCPH	**Palayan**	**36.69**	**305**	*e*P	**P**	**03 46 32.4**	**+1.4**
BBKI	**Banjar Baru**	**36.69**	**271**	P	**P**	**03 46 34.9**	**+3.7**
MOO	**Moorlands**	**37.10**	**185**	P	**P**	**03 46 36.8**	**+2.6**
	baz=37,SNR=4.5						
JAGI	**Jajag, Banyuwa**	**37.29**	**263**	P	**P**	**03 46 35.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**37.29**	**263**	P	**P**	**03 46 36.7**	**+0.5**
	comp=Z,3μmcomp=Z,334nm,1.0s						
CVP	**Callao Caves**	**37.29**	**309**	*e*P	**P**	**03 46 37.1**	**+1.0**
SMPP	**San Manuel, Pa**	**37.34**	**305**	*e*P	**P**	**03 46 36.8**	**+0.2**
TAU	**Tasmania Unive**	**37.55**	**185**	P	**P**	**03 46 38.7**	**+0.7**
TAU				pmax	pmax		
	comp=Z,88nm,1.1s						
TAU	**Tasmania Unive**	**37.55**	**185**	P	**P**	**03 46 38.7**	**+0.7**
TAU				IAmb	IAmb	03 47 08.0	
	comp=Z,88nm,1.1s						
TAU	**Tasmania Unive**	**37.55**	**185**	IAMs_20	IAMs_20	04 00 22.1	
	comp=Z,15μm,22.0s						
SAMP	**Sagada Mountai**	**37.67**	**307**	*e*P	**P**	**03 46 39.3**	**0.0**
SCZP	**Santa Cruz**	**37.77**	**304**	*e*P	**P**	**03 46 41.9**	**+1.7**
MEEK	**Meekatharra**	**37.90**	**233**	P	**P**	**03 46 41.5**	**+0.2**
	baz=38,SNR=117						
BOLP	**Bolinao**	**38.09**	**305**	*e*P	P	03 46 37.5	-5.4
SZP	**Santa**	**38.28**	**307**	P	**P**	**03 46 45.1**	**+0.7**
SZP				IAmb	IAmb	03 47 00.8	
	comp=Z,211nm,1.0s						
KRKI	**Karangkates**	**38.96**	**264**	P	**P**	**03 46 51.8**	**+1.5**
	comp=Z,242nm,0.9s						
JOW	**Kunigami**	**39.19**	**326**	P	**P**	**03 46 53.9**	**+1.9**
	comp=Z,308nm,0.9s,baz=138,slow=9.7,SNR=23						
JOW				LR	LR	04 00 02.9	
	comp=Z,12μm,21.9s,baz=138,slow=32						
JOW	**Kunigami**	**39.19**	**326**	P	**P**	**03 46 53.3**	**+1.3**
JOW				IAMs_20	IAMs_20	03 59 41.0	
	comp=Z,12μm,22.0s						
PWJI	**Pagerwojo**	**39.60**	**264**	P	**P**	**03 46 55.3**	**-0.3**
	comp=Z,235nm,1.0s						
SJI	**Sawahan**	**39.63**	**264**	P	**P**	**03 46 56.9**	**+0.9**
	comp=Z,12μmcomp=Z,129nm,1.2s						
JHJ	**Hachijo jima 2**	**39.91**	**344**	LR	LR	04 00 39.8	
	comp=Z,6μm,21.3s,baz=180,slow=32						
GIRL	**Giralia**	**39.94**	**241**	P	**P**	**03 46 59.4**	**+1.1**
	baz=40,SNR=38						
GIRL	**Giralia**	**39.94**	**241**	P	**P**	**03 46 58.7**	**+0.4**
GIRL				IAMs_20	IAMs_20	04 05 12.4	
	comp=Z,12μm,21.0s						
QRZ	**Quartz Range**	**39.96**	**155**	IAMs_20	IAMs_20	04 01 08.5	
	comp=Z,13μm,21.0s						
URZ	**Urewera**	**40.10**	**148**	P	**P**	**03 47 00.7**	**+1.3**
	comp=Z,14nm,0.6s,baz=120,slow=23,SNR=11						
URZ	**Urewera**	**40.10**	**148**	P	**P**	**03 47 00.0**	**+0.6**
URZ				IAMs_20	IAMs_20	04 01 07.6	
	comp=Z,11μm,20.0s						
PCJI	**Pacitan**	**40.22**	**264**	P	**P**	**03 47 00.3**	**-0.5**
	comp=Z,5μmcomp=Z,479nm,1.0s						
STKI	**Sintang**	**40.43**	**276**	P	**P**	**03 47 04.6**	**+2.1**
NNZ	**Nelson**	**40.64**	**155**	IAMs_20	IAMs_20	04 01 28.6	
	comp=Z,12μm,21.0s						
YOJ	**Yonaguni jima**	**40.69**	**318**	P	**P**	**03 47 05.4**	**+1.0**
YOJ				pmax	pmax		
	comp=Z,250nm,1.0s						
YOJ	**Yonaguni jima**	**40.69**	**318**	P	**P**	**03 47 05.4**	**+1.0**
YOJ				IAmb	IAmb	03 47 08.4	
	comp=Z,250nm,1.0s						
UGM	**Wanagama**	**40.86**	**264**	P	**P**	**03 47 06.4**	**+0.3**
UGM				IAmb	IAmb	03 47 48.5	
	comp=Z,241nm,1.0s						
UGM	**Wanagama**	**40.86**	**264**	P	P	03 47 16.3	+10
SMRI	**Semarang**	**40.94**	**265**	P	**P**	**03 47 07.2**	**+0.5**
SMRI				IAmb	IAmb	03 47 14.2	
	comp=Z,

JCJI	**Jatiwangi**	**43.10**	**266**	P	**P**	**03**	**47**	**26.7 +2.3**
	comp=Z,7µmcomp=Z,267nm,1.2s							
JWT	**Wachi**	**43.23**	**341**	P	**P**	**03**	**47**	**25.2 +0.2**
CISI	**Cisompet, Garu**	**43.55**	**265**	P	**P**	**03**	**47**	**27.6 -0.5**
CISI				IAmb	IAmb	03	47	29.8
	comp=Z,480nm,1.4s							
CISI	**Cisompet, Garu**	**43.55**	**265**	P	**P**	**03**	**47**	**27.4 -0.6**
	comp=Z,2µmcomp=Z,3µmcomp=Z,299nm,1.0s							
MJAR	**Matsushiro Arr**	**43.56**	**344**	P	**P**	**03**	**47**	**26.4 -1.3**
	comp=Z,16nm,0.9s,baz=166,slow=9.6,SNR=24							
MJAR				PcP	**PcP**	**03**	**49**	**14.8 0.0**
	comp=Z,28nm,1.0s,baz=157,slow=3.9,SNR=7.4							
MJAR				ScP	**ScP**	**03**	**53**	**03.4 +0.4**
	comp=Z,9.4nm,1.1s,baz=165,slow=5.2,SNR=6.0							
MJAR				LR	LR	04	04	25.7
	comp=Z,6µm,20.6s,baz=175,slow=34							
MJAR	**Matsushiro Arr**	**43.56**	**344**	P	**P**	**03**	**47**	**26.8 -0.9**
MJAR				pmax	pmax			
	comp=Z,29nm,1.0s							
MJAR	**Matsushiro Arr**	**43.56**	**344**	P	**P**	**03**	**47**	**26.8 -0.9**
MAJO	**Matsushiro**	**43.56**	**344**	*i* P	**P**	**03**	**47**	**26.3 -1.4**
MAJO				pmax	pmax			
	comp=Z,20nm,1.0s							
MAJO	**Matsushiro**	**43.56**	**344**	P	**P**	**03**	**47**	**27.1 -0.6**
MAT	**Matsushiro**	**43.56**	**344**	P	**P**	**03**	**47**	**25.8 -1.9**
MAT				S	**S**	**03**	**53**	**48.0 -5.9**
MJB9	**Matsu-Tunnel**	**43.56**	**344**	P	**P**	**03**	**47**	**26.8 -0.9**
LEM	**Lembang**	**43.74**	**266**	P	**P**	**03**	**47**	**29.6 -0.2**
	comp=Z,147nm,0.9s,baz=75,slow=12,SNR=18							
LEM	**Lembang**	**43.74**	**266**	P	**P**	**03**	**47**	**30.4 +0.6**
	comp=Z,2µmcomp=Z,103nm,0.9s							
JHS	**Saijyo**	**43.79**	**338**	P	**P**	**03**	**47**	**30.6 +1.0**
JHS				IAmb	IAmb	03	47	46.5
	comp=Z,238nm,1.4s							
KNMB	**Chin-men Tao**	**43.89**	**314**	P	**P**	**03**	**47**	**31.6 +1.1**
KNMB				IAmb	IAmb	03	47	35.7
	comp=Z,157nm,0.9s							
QZH	**Quanzhou**	**44.04**	**315**⇑	*i* P	**P**	**03**	**47**	**33.5 +1.8**
QZH				PP	**PcP**	**03**	**49**	**16.5 -0.2**
QZH				S	**S**	**03**	**54**	**01.0 -0.2**
QZH				pmax	pmax			
	comp=Z,210nm,0.8s							
QZH				pmax	pmax			
	comp=Z,2µm,3.0s							
QZH				L	L			
	comp=Z,3µm,20.4s							
QZH				L	L			
	comp=Z,4µm,21.8s							
QZH				L	L			
	comp=Z,6µm,20.4s							
JMM	**Marumori**	**44.20**	**348**	P	**P**	**03**	**47**	**33.0 +0.3**
CNJI	**Cibinong**	**44.23**	**265**	P	**P**	**03**	**47**	**33.8 +0.4**
	comp=Z,7µmcomp=Z,645nm,1.0s							
JOHN	**Johnston Islan**	**44.27**	**59**	IAMs_20	IAMs_20	04	02	50.6
	comp=Z,10µm,22.0s							
CBJI	**Citeko**	**44.51**	**266**	P	**P**	**03**	**47**	**37.1 +1.4**
	comp=Z,20µmcomp=Z,122nm,0.8s							
JTU	**Tsushima**	**44.89**	**334**	P	**P**	**03**	**47**	**39.8 +1.4**
JTU				IAmb	IAmb	03	47	41.3
	comp=Z,171nm,1.3s							
JSD	**Sado**	**44.95**	**345**	P	**P**	**03**	**47**	**40.0 +1.2**
JSD				IAmb	IAmb	03	47	59.2
	comp=Z,200nm,1.2s							
PPBI	**Pangkal Pinang**	**45.47**	**272**	P	**P**	**03**	**47**	**45.2 +1.9**
	comp=Z,18µmcomp=Z,44nm,0.5s							
CGJI	**Cibinong**	**45.66**	**266**	P	**P**	**03**	**47**	**43.8 -1.0**
	comp=Z,4µmcomp=Z,246nm,1.0s							
XMIS	**Christmas Isla**	**45.75**	**261**	P	**P**	**03**	**47**	**46.0 +0.4**
HKC	**Hong Kong Obse**	**45.81**	**308**	⇑P	**P**	**03**	**47**	**49.0 +3.1**
SSE	**Sheshan**	**46.48**	**323**	P	**P**	**03**	**47**	**53.5 +2.5**
SSE				S	**S**	**03**	**54**	**42.0 +5.7**
SSE				pmax	pmax			
	comp=Z,12nm,0.6s							
SSE				pmax	pmax			
	comp=Z,710nm,3.5s							
SSE				L	L			
	comp=Z,2µm,24.0s							
SSE				L	L			
	comp=Z,2µm,24.5s							
GZH	**Guangzhou**	**46.88**	**309**	P	**P**	**03**	**47**	**57.5 +3.3**
GZH				S	**S**	**03**	**54**	**46.3 +4.1**
GZH				pmax	pmax			
	comp=Z,2µm,5.0s							
GZH				L	L			
	comp=Z,2µm,20.8s							
GZH				L	L			
	comp=Z,5µm,21.8s							
KASI	**Kota Agung**	**46.88**	**267**	P	**P**	**03**	**47**	**53.6 -0.8**
	comp=Z,131nm,1.0s							
JTM	**Tenmabayashi**	**46.96**	**349**	P	**P**	**03**	**47**	**54.5 -0.1**
DSRI	**Dabo**	**47.20**	**274**	P	**P**	**03**	**47**	**57.7 +0.8**
	comp=Z,3µmcomp=Z,1µmcomp=Z,82nm,1.0s							
MDSI	**Maura Dua**	**47.24**	**269**	P	**P**	**03**	**47**	**56.5 -0.8**
	comp=Z,2µmcomp=Z,924nmcomp=Z,64nm,1.2s							
LWLI	**Liwa**	**47.34**	**268**	P	**P**	**03**	**47**	**58.9 +0.8**
	comp=Z,11µmcomp=Z,242nm,0.6s							
TJN	**Taejon**	**47.35**	**333***ce*	P	**P**	**03**	**47**	**58.6 +0.9**
QIZ	**Qiongzhong**	**47.75**	**302**	P	**P**	**03**	**48**	**02.8 +1.7**
QIZ				sP	**pP**	**03**	**48**	**14.0 +0.3**
QIZ				PP	**PP**	**03**	**49**	**53.8 +0.5**
QIZ				S	**S**	**03**	**54**	**59.3 +4.6**
QIZ				sS	**sS**	**03**	**55**	**12.5 -3.0**
QIZ				pmax	pmax			
	comp=Z,140nm,1.0s							
QIZ				pmax	pmax			
	comp=Z,1µm,2.8s							
QIZ				L	L			
	comp=Z,3µm,24.1s							
QIZ				L	L			
	comp=Z,4µm,27.5s							
QIZ				L	L			
	comp=Z,9µm,29.9s							
QIZ	**Qiongzhong**	**47.75**	**302**	P	**P**	**03**	**48**	**01.7 +0.6**
QIZ				IAmb	IAmb	03	48	04.9
	comp=Z,171nm,1.1s							
QIZ	**Qiongzhong**	**47.75**	**302**	IAMs_20	IAMs_20	04	04	42.3
	comp=Z,8µm,22.0s							
LHSI	**Lahat**	**47.94**	**270**	P	**P**	**03**	**48**	**05.6 +2.9**
	comp=Z,99nm,1.2s							
KSRS	**Korea Array**	**48.00**	**335**	P	**P**	**03**	**48**	**03.5 +0.8**
	comp=Z,34nm,1.0s,baz=151,slow=8.4,SNR=38							
KSRS				PcP	**PcP**	**03**	**49**	**31.1 +0.8**
	comp=Z,16nm,0.8s,baz=169,slow=3.2,SNR=10.0							
KSRS				ScP	**ScP**	**03**	**53**	**22.0 +0.6**
	comp=Z,3.3nm,0.8s,baz=135,slow=5.2,SNR=5.7							
KSRS				LR	LR	04	09	18.9
	comp=Z,2µm,18.1s,baz=156,slow=37							
KSAR	**Wonju Array Be**	**48.01**	**334**	P	**P**	**03**	**48**	**03.3 +0.5**
KSAR						03	49	31.6
KSAR	**Wonju Array Be**	**48.01**	**334**	P	**P**	**03**	**48**	**03.3 +0.5**
KSAR				PcP	**PcP**	**03**	**49**	**31.6 +1.3**
KS19	**Wonju Array Si**	**48.07**	**335**	P	**P**	**03**	**48**	**03.9 +0.7**
KS19				IAmb	IAmb	03	48	25.1
	comp=Z,215nm,1.7s							
BTDF	**Bukit Timah Da**	**48.24**	**277**	P	**P**	**03**	**48**	**06.6 +1.6**
	comp=Z,3µmcomp=Z,730nmcomp=Z,50nm,1.1s							
NJ2	**Nanjing**	**48.56**	**322**⇑	*i* P	**P**	**03**	**48**	**08.8 +1.7**
NJ2				pP	**pP**	**03**	**48**	**20.5 +0.9**
NJ2				sP	**sP**	**03**	**48**	**26.0 +1.2**
NJ2				PcP	**PcP**	**03**	**49**	**30.5 -2.0**
NJ2				ScP	**ScP**	**03**	**53**	**24.0 +0.1**
NJ2				S	**S**	**03**	**55**	**10.0 +4.2**
NJ2				pmax	pmax			
	comp=Z,110nm,1.1s							
NJ2				pmax	pmax			
	comp=Z,2µm,4.9s							
NJ2				L	L			
	comp=Z,7µm,21.3s							
NJ2				L	L			
	comp=Z,4µm,23.2s							
NJ2				L	L			
	comp=Z,9µm,24.2s							
INCN	**Inchon**	**48.59**	**333**	P	**P**	**03**	**48**	**08.3 +1.0**
INCN				pmax	pmax			
	comp=Z,288nm,1.1s							
INCN	**Inchon**	**48.59**	**333**	P	**P**	**03**	**48**	**08.3 +1.0**
INCN	**Inchon**	**48.59**	**333**	P	**P**	**03**	**48**	**09.1 +1.8**
INCN				P	**P**	**03**	**48**	**09.1 +1.8**
EGSI	**Enggano, Bengk**	**49.09**	**268**	P	**P**	**03**	**48**	**12.7 +1.1**
	comp=Z,100nm,1.0s							
RGRI	**Rengat**	**49.44**	**274**	P	**P**	**03**	**48**	**17.5 +3.3**
YUK	**Yuzh-Kuril'sk**	**49.47**	**355**	*e*P	**P**	**03**	**48**	**13.8 -0.1**
YUK				*e*		03	49	36.2
YUK				*e*		03	50	10.0
YUK				*e*PPP	PPP	03	51	05.1
YUK				*i* S	**S**	**03**	**55**	**12.4 -5.8**
YUK				*e*		03	58	03.7
YUK				pmax	pmax			
	comp=Z,558nm,1.4s							
YUK				pmax	pmax			
	comp=Z,459nm,1.2s							
YUK				pmax	pmax			
	comp=N,191nm,1.1s							
YUK				pmax	pmax			
	comp=E,288nm,1.0s							
JKA	**Kamikawa-asahi**	**49.94**	**352**	P	**P**	**03**	**48**	**19.1 +1.6**
JKA				IAmb	IAmb	03	48	44.8
	comp=Z,79nm,1.0s							
ASAJ	**Asahikawa**	**49.95**	**352**	P	**P**	**03**	**48**	**20.1 +2.6**
	comp=Z,30nm,0.7s,baz=180,slow=7.9,SNR=15							
ASAJ				LR	LR	04	07	15.6
	comp=Z,4µm,21.8s,baz=195,slow=33							
ASAJ	**Asahikawa**	**49.95**	**352**	P	**P**	**03**	**48**	**19.1 +1.6**
ASAJ				pmax	pmax			
	comp=Z,79nm,1.0s							
WHN	**Wuhan**	**50.47**	**317**	⇑P	**P**	**03**	**48**	**23.8 +2.1**
WHN				pP	**pP**	**03**	**48**	**32.3 -1.9**
WHN				sP	**sP**	**03**	**48**	**36.3 -3.0**
WHN				S	**S**	**03**	**55**	**35.5 +3.0**
WHN				sS	**sS**	**03**	**55**	**50.0 -3.3**
WHN				pmax	pmax			
	comp=Z,400nm,0.9s							
WHN				pmax	pmax			
	comp=Z,3µm,2.6s							
WHN				L	L			
	comp=Z,6µm,15.6s							
WHN				L	L			
	comp=Z,7µm,18.0s							
WHN				L	L			
	comp=Z,17µm,21.5s							
KUR	**Kuril'sk**	**50.51**	**357***c*	*i* P	**P**	**03**	**48**	**22.4 +0.7**
KUR				S	**S**	**03**	**55**	**33.1 +0.5**
KUR				pmax	pmax			
	comp=Z,1µm,5.6s							
KUR				pmax	pmax			
	comp=Z,315nm,1.8s							
KUR				MLR	MLR			
	comp=Z,3µm,17.0s							
BKNI	**Bangkinang**	**50.80**	**275**	P	**P**	**03**	**48**	**26.2 +1.6**
MSHR	**Mys Shultsa**	**51.23**	**341**	*i* P	**P**	**03**	**48**	**28.2 +1.0**
MSHR				pmax	pmax			
	comp=Z,16nm,1.3s							
XMAS	**Kiritimati**	**51.43**	**83**	IAMs_20	IAMs_20	04	06	02.9
	comp=Z,7µm,22.0s							
VLA	**Vladivostok**	**51.49**	**342**	*i* P	**P**	**03**	**48**	**29.8 +0.7**
VLA				pmax	pmax			
	comp=Z,34nm,1.0s							
DL2	**Dalian**	**52.08**	**330**	P	**P**	**03**	**48**	**34.8 +1.2**
DL2				S	**S**	**03**	**55**	**56.5 +2.0**
DL2				SS	**SS**	**03**	**59**	**35.3 +2.9**
DL2				pmax	pmax			
	comp=Z,140nm,1.0s							
DL2				pmax	pmax			
	comp=Z,1µm,7.0s							
DL2				L	L			
	comp=Z,3µm,21.8s							
DL2				L	L			
	comp=Z,3µm,22.6s							
DL2				L	L			
	comp=Z,6µm,26.9s							
MNSI	**Mandailing Nat**	**52.31**	**275**	P	**P**	**03**	**48**	**35.2 -0.6**
	comp=Z,3µmcomp=Z,158nm,1.1s							
SKLT	**Songkhla**	**52.38**	**283**	P	**P**	**03**	**48**	**37.2 +0.9**
	comp=Z,1µmcomp=Z,74nm,0.9s							
SKLT	**Songkhla**	**52.38**	**283**	P	**P**	**03**	**48**	**37.3 +0.9**
	comp=Z,1µmcomp=Z,74nm,0.9s							
USA0B	**Ussuriysk Arra**	**52.43**	**342**	P	**P**	**03**	**48**	**36.5 +0.4**
USA0B				pmax	pmax			
	comp=Z,285nm,1.8s							
USA0B	**Ussuriysk Arra**	**52.43**	**342**	P	**P**	**03**	**48**	**36.5 +0.4**
USA0B				IAmb	IAmb	03	49	00.3
	comp=Z,285nm,1.8s							
USRK	**Ussuriysk Ar.**	**52.43**	**342**	P	**P**	**03**	**48**	**36.5 +0.4**
	comp=Z,20nm,0.8s,baz=170,slow=8.3,SNR=49							
USRK				ScP	**ScP**	**03**	**53**	**40.4 +0.1**
	comp=Z,2.4nm,0.9s,baz=146,slow=3.7,SNR=4.2							
USRK				LR	LR	04	09	38.5
	comp=Z,4µm,20.4s,baz=153,slow=34							
TIA	**Tai'an**	**52.49**	**325**	⇑P	**P**	**03**	**48**	**36.8 0.0**
TIA				pmax	pmax			
	comp=Z,96nm,1.0s							
TIA				pmax	pmax			
	comp=Z,1µm,6.5s							
TIA				L	L			
	comp=Z,2µm,23.5s							
TIA				L	L			
	comp=Z,4µm,17.7s							
TIA				L	L			
	comp=Z,6µm,23.0s							
SISI	**Saibi**	**52.56**	**272**	P	**P**	**03**	**48**	**40.4 +2.7**
	comp=Z,82nm,0.9s							
YSS	**Yuzh-Sakhalins**	**52.70**	**352**⇓	*i* P	**P**	**03**	**48**	**34.9 -3.2**
YSS				*e**PP	**pP**	**03**	**48**	**49.9 -0.9**
YSS				*e*		03	50	31.6
YSS				*e*PPP	PPP	03	51	50.5
YSS				*e*S	**S**	**03**	**56**	**02.2 -0.6**
YSS				*e*PS	**pS**	**03**	**56**	**16.4 -0.7**
YSS				*e*SSS	SSS	04	01	16.8
YSS				pmax	pmax			
	comp=Z,800nm,9.7s							
SRAK	**Srakaew**	**52.81**	**292**	P	**P**	**03**	**48**	**38.1 -1.4**
	comp=Z,4µmcomp=Z,146nm,1.2s							
NONG	**Nongkai**	**53.17**	**297**	P	**P**	**03**	**48**	**43.3 +1.2**
	comp=Z,207nm,1.1s							
NONG	**Nongkai**	**53.17**	**297**	P	**P**	**03**	**48**	**43.0 +0.9**
	comp=Z,204nm,1.1s							
RPSI	**Rantau Prapat**	**53.23**	**277**	P	**P**	**03**	**48**	**41.1 -1.5**
PSI	**Prapat**	**53.24**	**278**	P	**P**	**03**	**48**	**41.1 -1.8**
PSI				pmax	pmax			
	comp=Z,47nm,1.0s							
PSI				MLR	MLR			
	comp=Z,2µm,22.0s							
CHAI	**Chaiyaphum**	**53.46**	**294**	P	**P**	**03**	**48**	**45.3 +1.0**
	comp=Z,855nmcomp=Z,103nm,0.9s							
CHAI	**Chaiyaphum**	**53.46**	**294**	P	**P**	**03**	**48**	**45.3 +1.0**
	comp=Z,213nmcomp=Z,26nm,0.9s							
SNY	**Shenyang**	**53.50**	**334**	⇑P	**P**	**03**	**48**	**43.5 -0.5**
SNY				S	**S**	**03**	**56**	**15.3 +1.6**
SNY				SS	**SS**	**03**	**59**	**50.0 -4.7**
SNY				pmax	pmax			
	comp=Z,35nm,2.5s							
SNY				L	L			
	comp=Z,2µm,21.8s							
SNY				L	L			
	comp=Z,2µm,23.7s							
SNY				L	L			
	comp=Z,6µm,24.0s							
MDJ	**Mudanjiang**	**53.56**	**341**	P	**P**	**03**	**48**	**45.5 +1.0**
MDJ				S	**S**	**03**	**56**	**22.5 +7.9**
MDJ				pmax	pmax			
	comp=Z,47nm,1.6s							
MDJ				pmax	pmax			
	comp=Z,1µm,11.3s							
MDJ				L	L			
	comp=Z,2µm,22.7s							
MDJ				L	L			
	comp=Z,2µm,21.5s							
MDJ				L	L			
	comp=Z,4µm,24.3s							
MDJ	**Mudanjiang**	**53.56**	**341**	P	**P**	**03**	**48**	**45.2 +0.7**
MDJ				IAmb	IAmb	03	49	08.9
	comp=Z,174nm,1.8s							
PATY	**Pattaya**	**53.58**	**290**	P	**P**	**03**	**48**	**48.0 +2.9**
	comp=Z,5µmcomp=Z,50nm,1.1s							
PATY	**Pattaya**	**53.58**	**290**	P	**P**	**03**	**48**	**48.0 +2.9**
	comp=Z,1µmcomp=Z,13nm,1.1s							
ENH	**Enshi**	**53.69**	**314**	P	**P**	**03**	**48**	**46.9 +1.1**
SLVN	**Son La**	**53.77**	**301**	P	**P**	**03**	**48**	**47.2 +0.7**
SLVN				IAmb	IAmb	03	48	50.4
	comp=Z,168nm,1.2s							
GYA	**Guiyang**	**53.81**	**308**	⇑P	**P**	**03**	**48**	**48.5 +1.7**
GYA				pP	pP	03	49	01.0 +1.4
GYA				sP	sP	03	49	06.5 +1.7
GYA				ScP	**ScP**	**03**	**53**	**48.5 +1.6**
GYA				S	**S**	**03**	**56**	**20.0 +1.2**
GYA				pmax	pmax			
	comp=Z,230nm,3.5s							
GYA				L	L			
	comp=Z,990nm,19.8s							
CN2	**Changchun**	**54.36**	**337**	*e*P	**P**	**03**	**48**	**51.3 +1.0**
CN2				PP	**PP**	**03**	**50**	**52.3 -0.5**
CN2				*e*S	**S**	**03**	**56**	**32.8 +7.4**
CN2				pmax	pmax			
	comp=Z,40nm,1.3s							
CN2				pmax	pmax			
	comp=Z,700nm,10.0s							
CN2				L	L			
	comp=Z,1µm,22.0s							
CN2				L	L			
	comp=Z,1µm,22.0s							
CN2				L	L			
	comp=Z,2µm,23.0s							
GSI	**Gunungsitoli**	**54.36**	**275**	P	**P**	**03**	**48**	**50.0 -0.9**
GSI				IAmb	IAmb	03	48	52.0
	comp=Z,136nm,1.0s							
GSI	**Gunungsitoli**	**54.36**	**275**	P	**P**	**03**	**48**	**50.1 -0.9**
	comp=Z,151nm,1.1s							
COCO	**West Island**	**54.46**	**259**	P	**P**	**03**	**48**	**51.6 0.0**
COCO				pmax	pmax			
	comp=Z,497nm,1.1s							
COCO	**West Island**	**54.46**	**259**	P	**P**	**03**	**48**	**51.6 0.0**
COCO	**West Island**	**54.46**	**259**	P	**P**	**03**	**48**	**53.1 +1.5**
SURT	**Suratani**	**54.53**	**285**	P	**P**	**03**	**48**	**54.0 +1.9**
	comp=Z,19nmcomp=Z,2.0nm,1.0s							
SURT	**Suratani**	**54.53**	**285**	P	**P**	**03**	**48**	**54.1 +1.9**
	comp=Z,19nmcomp=Z,2.0nm,1.0s							
PHET	**Kaeng Krachan**	**54.73**	**290**	P	**P**	**03**	**48**	**55.7 +2.1**
	comp=Z,672nmcomp=Z,67nm,1.0s							
PHET	**Kaeng Krachan**	**54.73**	**290**	P	**P**	**03**	**48**	**55.7 +2.1**
	comp=Z,173nmcomp=Z,17nm,1.0s							
PKDT	**Phuket**	**54.74**	**284**	P	**P**	**03**	**48**	**52.9 -0.7**
	comp=Z,2µmcomp=Z,105nm,1.0s							
PKDT	**Phuket**	**54.74**	**284**	P	**P**	**03**	**48**	**53.0 -0.7**
	comp=Z,2µmcomp=Z,105nm,1.0s							
UGL	**Uglegorsk**	**54.88**	**352**	*e*P	**P**	**03**	**48**	**55.0 +1.1**
UGL				*e*S	**S**	**03**	**56**	**34.8 +2.7**
UGL				smax	smax			
	comp=N,2µm,14.0s							
PHIT	**Phitsanulok**	**55.31**	**295**	P	**P**	**03**	**48**	**59.4 +1.7**
	comp=N,4µmcomp=N,290nm,1.0s							
PHIT	**Phitsanulok**	**55.31**	**295**	P	**P**	**03**	**48**	**59.0 +1.3**
	comp=N,1µmcomp=N,72nm,1.0s							
UTTA	**Uttaradit**	**55.37**	**296**	P	**P**	**03**	**48**	**59.6 +1.5**
	comp=N,1µmcomp=N,154nm,1.0s							
UTTA	**Uttaradit**	**55.37**	**296**	P	**P**	**03**	**48**	**59.6 +1.5**
	comp=N,330nmcomp=N,38nm,1.0s							
LHMI	**Lhok Sumawe**	**55.58**	**280**	P	**P**	**03**	**49**	**00.1 +0.3**
LHMI	**Lhok Sumawe**	**55.58**	**280**	P	**P**	**03**	**49**	**01.2 +1.5**
	comp=N,4µmcomp=N,146nm,1.0s							
UTHA	**Uthaitani**	**55.68**	**293**	P	**P**	**03**	**49**	**02.0 +1.7**
	comp=N,278nmcomp=N,34nm,0.9s							
BJT	**Baijiatuao**	**55.72**	**327**	P	**P**	**03**	**49**	**00.8 +0.6**
BJT				pmax	pmax			
	comp=Z,150nm,1.6s							
BJT	**Baijiatuao**	**55.72**	**327**	P	**P**	**03**	**49**	**00.8 +0.6**
BJT				IAmb	IAmb	03	49	03.0
	comp=Z,150nm,1.6s							
BJI	**Beijing**	**55.73**	**327**	P	**P**	**03**	**49**	**00.5 +0.2**
BJI				pP	**pP**	**03**	**49**	**11.8 -1.1**
BJI				sP	**sP**	**03**	**49**	**15.0 -3.0**
BJI				PcP	**PcP**	**03**	**50**	**00.3 +1.1**
BJI				ScP	**ScP**	**03**	**53**	**54.8 0.0**
BJI				PcS	**PcS**	**03**	**53**	**58.0 -1.3**
BJI				S	**S**	**03**	**56**	**37.0 -6.9**
BJI				SS	**SS**	**04**	**00**	**28.3 -1.7**
BJI				pmax	pmax			
	comp=Z,60nm,1.3s							
BJI				pmax	pmax			
	comp=Z,2µm,4.2s							
BJI				L	L			
	comp=Z,5µm,20.3s							
BJI				L	L			
	comp=Z,3µm,20.4s							
BJI				L	L			
	comp=Z,9µm,21.6s							
MLSI	**Meulaboh, Aceh**	**55.95**	**279**	P	**P**	**03**	**49**	**01.3 -1.1**
	comp=Z,243nm,1.0s							
SKR	**Severo-Kuril's**	**55.99**	**3**	*e*P	**P**	**03**	**48**	**57.6 -4.3**
SKR				*e*S	**S**	**03**	**56**	**39.2 -7.6**
SKR				*e*SS	**SS**	**04**	**00**	**34.7 +1.1**
SKR				*e*SSS	SSS	04	02	36.7
SKR				pmax	pmax			
	comp=Z,300nm,8.0s							
SKR				pmax	pmax			
	comp=Z,400nm,9.0s							
SKR				pmax	pmax			
	comp=Z,50nm,1.4s							
SKR				MLR	MLR			
	comp=Z,2µm,17.0s							
SKR				MLR	MLR			
	comp=Z,2µm,16.0s							
KIP	**Kipapa**	**56.11**	**60***ce*	P	**P**	**03**	**49**	**04.9 +1.5**
KIP				pmax	pmax			
	comp=Z,179nm,1.3s							
KIP	**Kipapa**	**56.11**	**60**	P	**P**	**03**	**49**	**04.8 +1.4**
KIP	**Kipapa**	**56.11**	**60**	IAMs_20	IAMs_20	04	08	01.4
	comp=Z,6µm,22.0s							
XAN	**Xi'an**	**56.23**	**317**	⇑P	**P**	**03**	**49**	**04.3 +0.2**
XAN				pP	sP	03	49	21.8 -0.4
XAN				PcP	**PcP**	**03**	**50**	**02.5 +1.1**
XAN				PP	**PP**	**03**	**51**	**09.0 -0.8**
XAN				ScP	**ScP**	**03**	**53**	**54.0 -3.3**
XAN				PcS	**PcS**	**03**	**53**	**59.0 -3.0**
XAN				S	**S**	**03**	**56**	**47.5 -3.4**
XAN				ScS	**ScS**	**03**	**58**	**50.3 +0.3**
XAN				pmax	pmax			
	comp=Z,170nm,1.4s							
XAN				pmax	pmax			
	comp=Z,2µm,7.1s							
XAN				L	L			
	comp=Z,4µm,22.6s							
XAN				L	L			
	comp=Z,3µm,22.1s							
XAN				L	L			
	comp=Z,7µm,22.1s							
TIY	**Taiyuan**	**56.27**	**323**	*e*P	**P**	**03**	**49**	**03.8 -0.5**
TIY				PP	**PP**	**03**	**51**	**16.5 +6.4**
TIY				S	**S**	**03**	**56**	**48.5 -2.8**
TIY				SS	**SS**	**04**	**00**	**39.5 +0.8**
TIY				pmax	pmax			
	comp=Z,870nm,4.5s							
TIY				L	L			
	comp=Z,4µm,20.9s							
TIY				L	L			
	comp=Z,4µm,19.9s							
TIY				L	L			
	comp=Z,8µm,22.4s							
KMI	**Kunming**	**56.33**	**305**	⇑P	**P**	**03**	**49**	**06.5 +1.3**
KMI				pP	pP	03	49	19.5 +1.5
KMI				PP	**PP**	**03**	**51**	**08.5 -2.6**
KMI				S	**S**	**03**	**56**	**53.3 +0.4**
KMI				sS	sS	03	57	12.5 -1.0
KMI				SS	**SS**	**04**	**00**	**44.5 +4.0**
KMI				pmax	pmax			
	comp=Z,120nm,1.3s							
KMI				pmax	pmax			
	comp=Z,1µm,4.2s							
KMI				L	L			
	comp=Z,2µm,22.7s	

comp=Z,87nm,1.0s,baz=114,slow=5.3,SNR=142
CMAR ScP **ScP** **03 54 01.4 +0.2**
comp=Z,2.4nm,0.5s,baz=119,slow=1.8,SNR=5.1
CMAR LR LR 04 13 33.8
comp=Z,2μm,19.6s,baz=151,slow=36
CMAR PKPPKP **P'P'df** **04 19 02.9 +1.1**
comp=Z,0.9nm,0.3s,baz=266,slow=3.5,SNR=6.6
CMAR Chiang Mai Arr 57.05 296 *ce*P **P** **03 49 12.0 +1.9**
CMAR pmax pmax
comp=Z,87nm,1.0s
CMAR Chiang Mai Arr 57.05 296 P **P** **03 49 11.4 +1.3**
KLR Kul'dur 57.08 345 P **P** **03 49 09.6 -0.2**
comp=Z,30nm,0.8s,baz=161,slow=3.7,SNR=84
KLR LR LR 04 10 50.6
comp=Z,5μm,21.4s,baz=162,slow=33
KLR Kul'dur 57.08 345 *ce*P **P** **03 49 09.4 -0.4**
KLR pmax pmax
comp=Z,39nm,0.9s
KLR MLR MLR
comp=Z,2μm,18.0s
CMMT Chiang Mai 57.16 296 P **P** **03 49 11.1 +0.2**
comp=Z,2μmcomp=Z,147nm,1.3s
CMMT Chiang Mai 57.16 296 P **P** **03 49 11.1 +0.2**
comp=Z,2μmcomp=Z,147nm,1.3s
CMMT Chiang Mai 57.16 296 P **P** **03 49 11.1 +0.2**
comp=Z,2μmcomp=Z,140nm,1.3s
CHTO Chiang Mai 57.17 296 P **P** **03 49 11.8 +0.8**
CHTO pmax pmax
comp=Z,212nm,1.3s
CHTO Chiang Mai 57.17 296 P **P** **03 49 12.1 +1.1**
comp=Z,2μmcomp=Z,149nm,1.3s
CHTO Chiang Mai 57.17 296 P **P** **03 49 11.8 +0.8**
CHTO IAmb IAmb 03 49 14.1
comp=Z,212nm,1.3s
CHTO Chiang Mai 57.17 296 P **P** **03 49 12.5 +1.5**
CHTO P **P** **03 49 12.5 +1.5**
CHTO Chiang Mai 57.17 296 P **P** **03 49 12.1 +1.1**
comp=Z,3μmcomp=Z,1μmcomp=Z,84nm,1.3s
KHLU Kahalu`u 57.30 63 P **P** **03 49 13.0 +1.1**
HUH Hualalai 57.38 63 P **P** **03 49 13.8 +1.0**
HLK Haleakala 57.40 61 P **P** **03 49 13.1 +0.3**
KHU Kahuku 57.43 63 P **P** **03 49 13.0 0.0**
KHU pmax pmax
comp=Z,763nm,1.6s
KHU Kahuku 57.43 63 P **P** **03 49 13.0 0.0**
GRNR Gornyy 57.45 349⇑ *i*P **P** **03 49 12.5 +0.2**
GRNR *e* 03 52 40.5
GRNR pmax pmax
comp=Z,6.0nm,0.7s
GRNR MLR MLR
comp=E,450nm,18.0s
GRNR MLR MLR
comp=N,740nm,20.0s
GRNR MLR MLR
comp=Z,910nm,18.0s
HPAH Hawaii Prepara 57.62 62 P **P** **03 49 14.9 +0.7**
HPAH IAmb IAmb 03 49 18.4
comp=Z,154nm,1.0s
HMH Humu'ula Sheep 57.67 63 P **P** **03 49 16.0 +1.2**
POHA Pohakuloa 57.68 63 P **P** **03 49 15.6 +0.8**
POHA IAmb IAmb 03 49 19.3
comp=Z,159nm,0.9s
MHMT Maesarieng 57.87 295 P **P** **03 49 16.6 +0.8**
comp=Z,2μmcomp=Z,93nm,1.2s
MHMT Maesarieng 57.87 295 P **P** **03 49 16.7 +0.8**
comp=Z,2μmcomp=Z,93nm,1.2s
CD2 Chengdu 58.22 311⇑ P **P** **03 49 18.8 +0.6**
CD2 sP pP 03 49 33.5 +2.4
CD2 PP **PP** **03 51 26.8 -0.8**
CD2 S **S** **03 57 17.0 -0.2**
CD2 SS **SS** **04 01 13.8 +4.1**
CD2 pmax pmax
comp=Z,250nm,0.9s
CD2 pmax pmax
comp=Z,2μm,4.6s
CD2 L L
comp=Z,4μm,23.5s
CD2 L L
comp=Z,5μm,22.6s
CD2 L L
comp=Z,8μm,22.2s
PET Petropavlovsk 58.50 5 *c i*P **P** **03 49 18.1 -1.5**
PET *e* 03 50 06.7
PET *e*S **S** **03 57 16.6 -3.3**
PET *e*SS **SS** **04 01 18.8 +5.7**
PET pmax pmax
comp=Z,1μm,7.6s
PET pmax pmax
comp=Z,1μm,14.5s
PEA0B Petropavlovsk- 58.51 4 P **P** **03 49 20.7 +1.0**
PEA0B pmax pmax
comp=Z,210nm,1.5s
PEA0B Petropavlovsk- 58.51 4 P **P** **03 49 20.7 +1.0**
PEA0B IAmb IAmb 03 49 42.4
comp=Z,210nm,1.4s
PETK Petropavlovsk- 58.51 4 P **P** **03 49 20.1 +0.4**
comp=Z,13nm,0.7s,baz=155,slow=5.5,SNR=26
PETK LR LR 04 10 56.1
comp=Z,5μm,21.4s,baz=187,slow=32
PETK Petropavlovsk- 58.51 4 P **P** **03 49 20.6 +0.9**
PETK Petropavlovsk- 58.51 4 P **P** **03 49 20.6 +0.9**
PPT Papeete 58.69 107 P **P** **03 49 24.3 +2.7**
comp=Z,34nm,0.8s,baz=227,slow=20,SNR=4.6
PPT LR LR 04 09 17.8
comp=Z,970nm,21.0s,baz=282,slow=30
PPT2 Papeete2 58.69 107 *e*P **P** **03 49 24.5 +2.8**
comp=Z,178nm,1.5s
PPT2 *e*S **S** **03 57 25.5 +1.7**
comp=Z,2μm,25.5s
PPT2 *e*LQ LQ 04 04 10.6
comp=Z,7μm,32.0s
PPT2 *e*LR LR 04 06 41.2
comp=Z,4μm,24.2s,baz=282
PAE Paea 58.69 107 *e*P **P** **03 49 24.0 +2.4**
comp=Z,35nm,1.4s
HHC Hu-ho-hao-te 58.84 325 *e*P **P** **03 49 23.5 +1.1**
HHC sP pP 03 49 35.8 +0.7
HHC S **S** **03 57 19.8 -5.2**
HHC pmax pmax
comp=Z,160nm,1.1s
HHC pmax pmax
comp=Z,690nm,6.6s
HHC L L
comp=Z,5μm,20.1s
HHC L L
comp=Z,4μm,20.3s
HHC L L
comp=Z,9μm,20.0s
TIAR Tiarei 58.91 107 *e*P **P** **03 49 25.8 +2.6**
comp=Z,52nm,1.4s
NKL Nikolayevsk 59.05 352 *e*P **P** **03 49 21.7 -1.7**
NKL *e* 03 50 10.6
NKL *e*S **S** **03 57 27.1 +0.1**
NKL *e* 03 57 39.2
NKL *e* 03 57 39.7
NKL pmax pmax
comp=N,2.0nm,0.7s
NKL pmax pmax
comp=E,83nm,1.2s
NKL pmax pmax
comp=Z,37nm,1.2s
NKL pmax pmax
comp=Z,123nm,2.0s
NKL smax smax
comp=E,34nm,2.7s
NKL smax smax
comp=N,3.0nm,0.7s
TBI Tubuai 59.41 114 *e*P **P** **03 49 28.7 +2.2**
comp=N,173nm,1.2s
TBI *e*S **S** **03 57 33.4 +0.6**
comp=N,3μm,28.0s
TBI *e*LQ LQ 04 04 29.8
comp=N,13μm,35.2s
TBI *e*LR LR 04 07 00.2
comp=N,8μm,31.5s,baz=288
BTO Baotou 59.57 324 *e*P **P** **03 49 29.3 +1.9**
PMOR Pomariorio Ree 60.15 104 *e*P **P** **03 49 34.2 +2.5**
comp=N,1μm,1.4s
VAH Vaihoa 60.42 104 *e*P **P** **03 49 35.7 +2.1**
comp=N,285nm,1.3s
LZH Lanzhou 60.83 317 *e*P **P** **03 49 37.8 +1.6**
LZH pP pP 03 49 45.0 -4.2
LZH sP sP 03 49 49.3 -5.1
LZH *e*S **S** **03 57 48.0 -2.9**
LZH sS pS 03 58 07.3 +1.4
LZH pmax pmax
comp=N,190nm,1.0s
LZH pmax pmax
comp=N,1μm,4.1s
LZH L L
comp=N,2μm,14.6s
LZH L L
comp=N,3μm,14.4s
LZH L L
comp=N,3μm,16.3s
SMY Shemya 60.97 15 IAMs_20 IAMs_20 04 10 41.4
comp=Z,7μm,22.0s
HIA Hailar 61.09 337 P **P** **03 49 37.8 +0.3**
HIA pmax pmax
comp=Z,143nm,1.3s
HIA Hailar 61.09 337 P **P** **03 49 37.8 +0.3**
HIA IAmb IAmb 03 49 39.8
comp=Z,143nm,1.3s
DGPR DIGLIPUR 61.11 288 *e*P **P** **03 49 38.8 +0.5**
DGPR IAmb IAmb 03 49 40.4
comp=Z,62nm,0.7s
ZEA Zeya 62.37 344 *e*P **P** **03 49 45.7 -0.3**
ZEA *e*S **S** **03 58 11.7 +2.3**
ZEA *e*SS **SS** **04 02 10.0 -3.8**
ZEA pmax pmax
comp=N,30nm,0.6s
ZEA pmax pmax
comp=Z,40nm,0.9s
ZEA pmax pmax
comp=Z,200nm,6.5s
ZEA smax smax
comp=E,500nm,19.4s
ZEA smax smax
comp=N,800nm,19.1s
KIWB Kanaga Island 62.95 21 P **P** **03 49 51.9 +2.0**
ADK Adak 63.15 21 P **P** **03 49 52.3 +1.1**
ADK pmax pmax
comp=Z,265nm,2.0s
ADK Adak 63.15 21 P **P** **03 49 52.3 +1.1**
ADK IAmb IAmb 03 50 47.8
comp=Z,265nm,2.0s
IMP Imphal 63.57 301⇑ *e*P **P** **03 49 54.2 -0.5**
IMP IAmb IAmb 03 49 56.0
comp=Z,140nm,0.9s
MOKO MOKOCHONG 63.61 303 *e*P **P** **03 49 55.4 +0.3**
KOHI KOHIMA 63.74 302 *e*P **P** **03 49 55.3 -0.6**
SILR SILCHAR 64.53 301 *e*P **P** **03 50 02.9 +1.9**
ITAN ITANAGAR 64.57 303 *e*P **P** **03 50 02.9 +1.7**
MA2 Magadan 64.77 360 P **P** **03 50 02.8 +1.1**
comp=Z,47nm,0.8s,baz=150,slow=6.6,SNR=21
MA2 Magadan 64.77 360 *ce*P **P** **03 50 01.4 -0.3**
MA2 pmax pmax
comp=Z,59nm,1.0s
MA2 MLR MLR
comp=Z,3μm,20.0s
MA2 Magadan 64.77 360 P **P** **03 50 03.2 +1.5**
MA2 IAmb IAmb 03 50 05.1
comp=Z,57nm,0.9s
MA2 IAMs_20 IAMs_20 04 13 35.1
comp=Z,5μm,22.0s
BRDH Bariadhala 64.87 298 P **P** **03 50 03.7 +0.5**
comp=Z,140nm,0.4s,baz=65,slow=9.3,SNR=6.1
GTA Gaotai 65.28 318⇑⇑ P **P** **03 50 06.8 +1.1**
GTA pP pP 03 50 19.3 +0.5
GTA sP sP 03 50 24.0 +0.1
GTA PP **PP** **03 52 29.5 -0.3**
GTA S **S** **03 58 47.5 +1.0**
GTA sS sS 03 59 06.5 -1.4
GTA SS **SS** **04 03 05.3 +5.1**
GTA pmax pmax
comp=Z,70nm,0.9s
GTA pmax pmax
comp=Z,1μm,10.4s
GTA L L
comp=Z,1μm,22.2s
GTA L L
comp=Z,3μm,21.8s
GTA L L
comp=Z,3μm,21.1s
SHL Shillong 65.58 301 P **P** **03 50 08.2 +0.2**
SHL pmax pmax
comp=Z,397nm,1.2s
SHL Shillong 65.58 301⇑⇑ *e*P **P** **03 50 08.9 +0.9**
SHL Shillong 65.58 301 P **P** **03 50 08.2 +0.2**
SHL Shillong 65.58 301 P **P** **03 50 08.6 +0.7**
SNR=78
CIT Chita 65.73 335 *e*P **P** **03 50 09.0 +0.8**
CIT *e* 03 50 21.3
CIT *e* 03 50 37.3
CIT *e* 03 52 29.3
CIT pmax pmax
comp=Z,380nm,2.3s
ULN Ulaanbaatar 65.87 329 *ce*P **P** **03 50 10.4 +1.0**
ULN pmax pmax
comp=Z,159nm,1.0s
ULN Ulaanbaatar 65.87 329 P **P** **03 50 10.6 +1.3**
ULN IAmb IAmb 03 50 12.5
comp=Z,169nm,1.1s
ULN Ulaanbaatar 65.87 329 IAMs_20 IAMs_20 04 17 18.1
comp=Z,5μm,22.0s
ULN Ulaanbaatar 65.87 329 P **P** **03 50 10.8 +1.4**
ULN P **P** **03 50 10.8 +1.4**
ULN Ulaanbaatar 65.87 329 P **P** **03 50 10.4 +1.0**
comp=Z,21μmcomp=Z,11μmcomp=Z,643nm,1.1s
SONM Songino Array 66.19 328 P **P** **03 50 12.4 +1.0**
comp=Z,110nm,0.8s,baz=138,slow=6.1,SNR=140
SONM PKPPKP **P'P'df** **04 18 40.7 -4.1**
comp=Z,1.1nm,0.7s,baz=188,slow=1.0,SNR=4.4
SONM PKP2ab 04 18 53.7
comp=Z,1.5nm,0.8s,baz=284,slow=1.2,SNR=7.7
SONM LR LR 04 19 14.5
comp=Z,5μm,20.4s,baz=132,slow=36
SONM Songino Array 66.19 328 P **P** **03 50 12.7 +1.3**
SONM pmax pmax
comp=Z,165nm,1.0s
SONM Songino Array 66.19 328 P **P** **03 50 12.7 +1.3**
SONM IAmb IAmb 03 50 14.5
comp=Z,165nm,1.0s
NIKH Nikolski High 67.05 25 P 03 50 14.8
baz=223
CASY Casey 67.10 197 P **P** **03 50 16.7 0.0**
CASY IAmb IAmb 03 50 19.4
comp=Z,76nm,1.1s
CASY Casey 67.10 197 IAMs_20 IAMs_20 04 16 57.4
comp=Z,6μm,20.0s
LSA Lhasa 67.59 305 P **P** **03 50 22.0 +0.9**
LSA S **S** **03 59 09.5 -6.0**
LSA pmax pmax
comp=Z,320nm,1.3s
LSA L L
comp=Z,2μm,21.4s
LSA L L
comp=Z,4μm,24.2s
LSA L L
comp=Z,7μm,21.4s
LSA Lhasa 67.59 305 P **P** **03 50 21.6 +0.5**
LSA Lhasa 67.59 305 P **P** **03 50 21.5 +0.5**
LSA pmax pmax
comp=Z,87nm,1.0s
LSA Lhasa 67.59 305 P **P** **03 50 21.5 +0.5**
LSA IAmb IAmb 03 50 24.0
comp=Z,87nm,1.0s
LSA Lhasa 67.59 305 P **P** **03 50 22.4 +1.3**
SEY Seymchan 68.14 0 P **P** **03 50 23.7 +0.5**
comp=Z,13nm,0.9s,baz=165,slow=3.9,SNR=25
SEY LR LR 04 17 36.9
comp=Z,2μm,22.0s,baz=179,slow=34
SEY Seymchan 68.14 0 *c i*P **P** **03 50 22.2 -1.0**
GTK Tadong 68.93 302 *e*P **P** **03 50 29.9 +0.8**
GTK IAmb IAmb 03 50 31.3
comp=Z,148nm,1.1s
YAK Yakutsk 69.32 349 P **P** **03 50 30.6 +0.1**
comp=Z,33nm,0.7s,baz=141,slow=0.6,SNR=13
YAK Yakutsk 69.32 349 *c i*P **P** **03 50 29.9 -0.7**
YAK *e**PP **pP** **03 50 42.1 -1.5**
YAK *e* 03 50 52.7
YAK *e*PPP PPP 03 54 49.3
YAK *e*S **S** **03 59 32.5 -1.3**
YAK *e**SS **SKiKP** **04 00 16.5 -0.1**
YAK *e*SS **SS** **04 03 56.5 -5.0**
YAK *e*SSS SSS 04 07 08.3
YAK pmax pmax
comp=Z,125nm,1.1s
YAK pmax pmax
comp=N,49nm,1.5s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=Z,293nm,4.3s
YAK pmax pmax
comp=N,210nm,3.3s
YAK pmax pmax
comp=E,54nm,3.2s
YAK smax smax
comp=N,221nm,5.6s
YAK smax smax
comp=E,121nm,3.5s
ZAK Zakamensk 69.38 329 *e*P **P** **03 50 31.6 +0.2**
ZAK *e* 03 50 41.0
ZAK pmax pmax
comp=Z,224nm,1.1s
ZAK pmax pmax
comp=Z,134nm,1.2s
SPIA Saint Paul Isl 69.63 21 P **P** **03 50 33.0 +0.4**
SPIA IAmb IAmb 03 50 36.5
comp=Z,63nm,0.6s
SPIA Saint Paul Isl 69.63 21 P 03 50 32.3
baz=221,SNR=6.5
ODAN Odare 69.82 301 *e*P **P** **03 50 35.1 +0.4**
comp=Z,318nm,0.9s
BOD Bodaibo 69.92 340 *e*P **P** **03 50 34.0 -0.4**
BOD pmax pmax
comp=Z,98nm,1.1s
TLY Talaya 70.00 331 P **P** **03 50 35.9 +0.8**
comp=Z,72nm,0.9s,baz=182,slow=3.7,SNR=42
TLY Talaya 70.00 331 *c i*P **P** **03 50 35.4 +0.4**
TLY *e* 03 53 07.9
TLY *e*S **S** **03 59 42.3 +0.1**
TLY pmax pmax
comp=Z,116nm,0.6s
TLY MLR MLR
comp=Z,5μm,19.0s
TLY Talaya 70.00 331 P **P** **03 50 35.8 +0.8**
TLY IAmb IAmb 03 50 37.8
comp=Z,92nm,0.9s
TLY Talaya 70.00 331 P **P** **03 50 36.3 +1.3**
TLY P **P** **03 50 36.3 +1.3**
IRK Irkutsk 70.04 331 *e*P **P** **03 50 34.3 -1.0**
IRK pmax pmax
comp=Z,213nm,2.8s
BOK Bokaro 70.27 297 *e*P **P** **03 50 37.8 +0.5**
BOK IAmb IAmb 03 50 39.5
comp=Z,219nm,1.2s
RAMN Ramite 70.52 301 *e*P **P** **03 50 39.5 +0.5**
FALS False Pass 70.67 26 P 03 50 37.8
baz=228
VIS Vishakhapatnam 71.15 291 *e*P **P** **03 50 42.7 0.0**
VIS IAmb IAmb 03 50 44.6
comp=Z,231nm,1.0s
MOY Mondy 71.31 329 *e*P **P** **03 50 43.9 +0.8**
MOY pmax pmax
comp=Z,299nm,1.8s
GUN Gumba 71.41 302 *e*P **P** **03 50 44.8 +0.3**
comp=Z,380nm,0.8s
PKI Pulchoki 71.71 301 *e*P **P** **03 50 46.2 -0.1**
comp=Z,490nm,1.4s
PKIN Phulchoki 71.72 301 *e*P **P** **03 50 46.1 -0.2**
comp=Z,403nm,1.3s
PALK Pallekele 71.85 279 P **P** **03 50 48.1 +1.0**
KKN Kakani 71.88 301 *e*P **P** **03 50 47.3 +0.1**
comp=Z,185nm,0.8s
SDPT Sand Point 72.28 26 P 03 50 48.0
baz=231,SNR=5.9
SDPT Sand Point 72.28 26 P **P** **03 50 48.9 +0.2**
SDPT IAmb IAmb 03 50 51.3
comp=Z,82nm,1.2s
VNDA Vanda 72.29 178 P **P** **03 50 49.4 +0.9**
comp=Z,36nm,0.8s,baz=331,slow=6.6,SNR=125
VNDA PKPPKP 04 18 26.8
comp=Z,2.6nm,1.3s,baz=310,slow=3.3,SNR=3.6
VNDA LR LR 04 21 25.9
comp=Z,2μm,18.3s,baz=12,slow=35
VNDA Vanda 72.29 178 P **P** **03 50 49.5 +1.0**
VNDA pmax pmax
comp=Z,88nm,1.1s
VNDA Vanda 72.29 178 P **P** **03 50 49.5 +1.0**
VNDA IAmb IAmb 03 50 51.8
comp=Z,88nm,1.1s
CNBA Chernabura Isl 72.34 27 P **P** **03 50 48.8 -0.3**
CNBA IAmb IAmb 03 51 32.0
comp=Z,130nm,1.8s
CHNA Chernabura Isl 72.35 27 P 03 50 48.5
baz=232
CHNA S 04 00 07.3
baz=232
GKN Gorkha 72.49 301 *e*P **P** **03 50 50.8 0.0**
comp=Z,707nm,1.2s
SBA Scott Base 72.86 177 P **P** **03 50 52.5 +0.7**
SBA pmax pmax
comp=Z,178nm,1.5s
SBA Scott Base 72.86 177 P **P** **03 50 52.5 +0.7**
SBA IAmb IAmb 03 50 56.4
comp=Z,178nm,1.4s
MDRS Chennai 73.19 285 *e*P **P** **03 50 55.2 +0.3**
MDRS IAmb IAmb 03 50 56.4
comp=Z,130nm,1.0s
KOLN Koldanda 73.31 301 *e*P **P** **03 50 55.7 0.0**
comp=Z,334nm,0.8s
DANN Dangsing 73.33 302 *e*P **P** **03 50 55.6 -0.3**
comp=Z,304nm,0.9s
PYUN Piuthan 73.92 301 *e*P **P** **03 50 59.3 0.0**
BILL Bilibino 73.99 6 *de*P **P** **03 50 58.1 -0.5**
BILL *i* 03 51 15.2
BILL *e*S **S** **04 00 32.5 +5.1**
BILL pmax pmax
comp=Z,65nm,1.3s
BILL MLR MLR
comp=Z,878nm,19.0s
GAMB Gambell 74.27 16 IAMs_20 IAMs_20 04 19 05.0
comp=Z,5μm,21.0s
GAMB Gambell 74.27 16 P 03 51 00.6
baz=218
WMQ Urumqi 75.37 318 P **P** **03 51 08.8 +1.6**
WMQ pP PcP 03 51 19.0 -1.3
WMQ PP **PP** **03 53 58.5 +1.9**
WMQ S **S** **04 00 45.3 +1.4**
WMQ sS sS 04 01 07.3 +1.6
WMQ SS **SS** **04 05 35.5 +0.5**
WMQ pmax pmax
comp=Z,160nm,1.3s
WMQ pmax pmax
comp=Z,2μm,5.1s
WMQ L L
comp=Z,2μm,18.3s
WMQ L L
comp=Z,2μm,16.5s
WMQ L L
comp=Z,6μm,26.3s
HYB Hyderabad 75.56 289 *i*P **P** **03 51 07.0 -1.7**
comp=Z,180nm,1.0s
HYB Hyderabad 75.56 289 *e*P **P** **03 51 06.6 -2.1**
HYB IAmb IAmb 03 51 08.4
comp=Z,271nm,1.1s
TRD Trivandrum 75.69 280 *e*P **P** **03 51 10.8 +1.3**
OHAK Old Harbor 76.62 27 P **P** **03 51 14.1 +0.2**
OHAK Old Harbor 76.62 27 P 03 51 13.8
baz=237,SNR=9.5
TNA Tin City 76.69 16 IAMs_20 IAMs_20 04 23 00.0
comp=Z,5μm,20.0s
TNA Tin City 76.69 16 P 03 51 13.8
baz=222
ANM Nome 76.70 18 P 03 51 14.5
baz=224
KDAK Kodiak Island 77.24 27 P **P** **03 51 18.3 +0.9**
comp=Z,33nm,0.9s,baz=286,slow=0.3,SNR=14
KDAK Kodiak Island 77.24 27 P **P** **03 51 18.5 +1.1**
KDAK pmax pmax
comp=Z,33nm,1.0s
KDAK Kodiak Island 77.24 27 P **P** **03 51 18.5 +1.1**
KDAK Kodiak Island 77.24 27 P 03 51 17.7
baz=238
KDAK S 04 01 01.6
baz=238
O18K Koktuh Hills 77.26 24 P 03 51 17.2
baz=235
N18K Kilae Creek 77.47 24 P 03 51 19.0
baz=234,SNR=15
N18K S 04 01 07.3
baz=234
BHPL Bhopal 77.69 295 *e*P **P** **03 51 18.9 -1.8**
BHPL IAmb IAmb 03 51 20.6
comp=Z,121nm,0.8s

O19K **Port Alsworth** **77.82** **24** P 03 51 19.8
baz=236
O19K S 04 01 06.8
baz=236
SVW2 **Sparrevohn** **77.84** **23** P **P** **03 51 22.1 +1.4**
SVW2 IAMs_20 IAMs_20 04 24 07.0
comp=Z,4μm,20.0s
DGZ **Jazzator, Alta** **77.84 323** *i* P **P** **03 51 21.4 +0.3**
DGZ pmax pmax
comp=Z,177nm,1.0s
N19K **Bonanza Creek** **78.11** **24** P 03 51 22.2
baz=235,SNR=12
N19K S 04 01 11.4
baz=235
TIXI **Tiksi** **78.33 353** P **P** **03 51 22.1 -1.0**
comp=Z,21nm,0.8s,baz=139,slow=5.8,SNR=15
TIXI **Tiksi** **78.33 353** P **P**
TIXI pmax pmax **03 51 21.5 -1.6**
comp=Z,26nm,1.0s
TIXI **Tiksi** **78.33 353** P **P** **03 51 21.5 -1.6**
DGAR **Diego Garcia** **78.59 264** *ce*P **P** **03 51 27.8 +2.0**
DGAR pmax pmax
comp=Z,604nm,2.5s
DGAR **Diego Garcia** **78.59 264** P **P** **03 51 26.7 +0.9**
RSO **Redoubt South** **78.62** **25** P **P** **03 51 25.8 +0.5**
HOM **Homer** **78.66** **26** P **P** **03 51 26.7 +1.5**
HOM **Homer** **78.66** **26** P 03 51 25.3
baz=238
HOM S 04 01 16.5
baz=238
L19K **White Mountain** **78.75** **23** P 03 51 25.9
baz=235,SNR=52
L19K S 04 01 20.4
baz=235
TTA **Tatalina** **78.76** **22** P **P** **03 51 26.5 +0.7**
TTA pmax pmax
comp=Z,30nm,1.2s
TTA MLR MLR
comp=Z,2μm,20.0s
TTA **Tatalina** **78.76** **22** P **P** **03 51 26.5 +0.7**
TTA **Tatalina** **78.76** **22** P 03 51 25.8
baz=234,SNR=15
TTA S 04 01 20.7
baz=234
CNPM **China Poot** **78.77** **26** P **P** **03 51 26.3 +0.4**
CNPM IAmb IAmb 03 51 29.9
comp=Z,140nm,0.7s
CNPM IAMs_20 IAMs_20 04 26 32.1
comp=Z,3μm,19.0s
M19K **Big River Lodg** **78.77** **23** P 03 51 26.2
baz=235
M19K S 04 01 21.6
baz=235
BRSE **Bradley Lake S** **79.09** **26** P 03 51 27.7
baz=239,SNR=6.4
BRSE S 04 01 22.8
baz=239
SPCR **Spurr Chakacha** **79.25** **24** P 03 51 27.8
baz=237
CAPN **Captain Cook N** **79.45** **25** P 03 51 29.7
baz=238
SMLA **Simla** **79.56 303** *e*P **P** **03 51 30.6 -0.2**
SMLA IAmb IAmb 03 51 32.0
comp=Z,257nm,1.5s
SEW **Seward** **79.83** **26** P 03 51 31.6
baz=240,SNR=8.6
SEW **Seward** **79.84** **26** P **P** **03 51 32.6 +1.0**
RDOG **Red Dog Mine** **79.87** **16** P **P** **03 51 33.5 +1.8**
RDOG **Red Dog Mine** **79.87** **16** P 03 51 32.1
baz=226,SNR=7.2
O22K **Cooper Landing** **79.91** **25** P 03 51 31.4
baz=240
O22K **Cooper Landing** **79.91** **25** P **P** **03 51 34.1 +2.1**
O22K IAmb IAmb 03 52 16.0
comp=Z,76nm,0.7s
SKT **Skwentna** **79.94** **24** P **P** **03 51 32.8 +0.6**
SKT IAMs_20 IAMs_20 04 25 13.2
comp=Z,3μm,20.0s
SKT **Skwentna** **79.94** **24** P 03 51 30.3
baz=238
SUA **Susitna One** **79.98** **24** P 03 51 31.3
baz=239
SUA **Susitna One** **79.98** **24** P **P** **03 51 34.7 +2.1**
MK31 **Makanchi Array** **79.99 319** P **P** **03 51 32.9 +0.1**
MK31 pmax pmax
comp=Z,91nm,1.1s
MK31 **Makanchi Array** **79.99 319** P **P** **03 51 32.9 +0.1**
MK31 IAmb IAmb 03 51 34.9
comp=Z,91nm,1.1s
MKAR **Makanchi Array** **79.99 319** P **P** **03 51 32.8 0.0**
comp=Z,83nm,0.9s,baz=104,slow=5.1,SNR=195
MKAR PKKPbc **PKKPbc** **04 10 17.8 -2.0**
comp=Z,2.0nm,0.8s,baz=286,slow=2.2,SNR=11
MKAR PKPPKP 04 18 17.7
comp=Z,0.3nm,0.7s,baz=11,slow=2.5,SNR=3.6
MKAR LR LR 04 25 38.0
comp=Z,3μm,21.8s,baz=97,slow=35
POO **Poona** **80.16 290** *e*P **P** **03 51 33.7 -0.6**
POO IAmb IAmb 03 51 36.1
comp=Z,138nm,0.9s
POO **Poona** **80.16 290** *e*P P 03 51 29.0 -5.3
PPLA **Purkeypile** **80.17** **23** P 03 51 32.5
baz=237
PPLA **Purkeypile** **80.18** **23** P **P** **03 51 34.2 +0.6**
PPLA IAMs_20 IAMs_20 04 22 45.4
comp=Z,4μm,21.0s
MAKZ **Makanchi** **80.19 319** P **P** **03 51 33.8 -0.1**
MAKZ pmax pmax
comp=Z,156nm,1.1s
MAKZ **Makanchi** **80.19 319** P **P** **03 51 33.8 -0.1**
MAKZ IAmb IAmb 03 51 35.9
comp=Z,156nm,1.1s
RC01 **Rabbit Creek A** **80.21** **25** P **P** **03 51 34.5 +0.9**
RC01 IAMs_20 IAMs_20 04 23 17.3
comp=Z,4μm,22.0s
RC01 **Rabbit Creek A** **80.21** **25** P 03 51 33.3
baz=240,SNR=5.4
CUT **Chulitna** **80.67** **24** P 03 51 34.6
baz=239
PWL **Port Wells** **80.69** **25** P **P** **03 51 36.8 +0.5**
PWL IAmb IAmb 03 51 56.9
comp=Z,60nm,0.9s
PMR **Palmer** **80.72** **25** P 03 51 35.7
baz=240
PMR **Palmer** **80.72** **25** P **P** **03 51 36.7 +0.4**
PMR pmax pmax
comp=Z,32nm,1.1s
PMR **Palmer** **80.72** **25** P **P** **03 51 36.7 +0.4**
SHLS **Shalkode** **80.80 315** ⇑*i*P **P** **03 51 36.0 -1.5**
comp=Z,79nm,1.2s,baz=315
SHLS *e*S **S** **04 01 38.7 -3.9**
baz=315
SHLS **Shalkode** **80.80 315** *ci*P **P** **03 51 35.9 -1.5**
SHLS *e*S **S** **04 01 38.6 -3.9**
SHLS pmax pmax
comp=Z,79nm,1.2s
GHO **Glory Hole Cre** **80.89** **25** P **P** **03 51 38.2 +0.8**
KNK **Knik Glacier** **80.91** **25** P 03 51 37.1
baz=241
KNK **Knik Glacier** **80.91** **25** P **P** **03 51 38.3 +0.9**
KNK IAmb IAmb 03 51 52.9
comp=Z,161nm,2.0s
KNK IAMs_20 IAMs_20 04 23 48.8
comp=Z,4μm,22.0s
ZALV **Zalesovo Beam** **80.98 327** P **P** **03 51 36.9 -1.0**
comp=Z,46nm,0.5s,baz=110,slow=5.2,SNR=159
ZALV PKKPbc **PKKPbc** **04 10 16.0 -1.8**
comp=Z,2.2nm,0.8s,baz=304,slow=3.4,SNR=5.2
ZALV PKPPKP 04 18 22.5
comp=Z,1.1nm,0.6s,baz=305,slow=5.2,SNR=6.9
ZALV LR LR 04 27 00.2
comp=Z,4μm,20.8s,baz=106,slow=35
ZALV **Zalesovo Beam** **80.98 327** P **P** **03 51 37.1 -0.8**
KTH **Kantishna Hill** **81.01** **22** IAMs_20 IAMs_20 04 23 21.5
comp=Z,4μm,21.0s
UZB **Uzynbulak** **81.11 315** ⇑*i*P **P** **03 51 39.0 -0.1**
comp=Z,46nm,0.8s,baz=315
UZB *e*S **S** **04 01 44.6 -1.2**
baz=315
UZB **Uzynbulak** **81.11 315** *ci*P **P** **03 51 39.0 -0.1**
UZB *e*S **S** **04 01 44.5 -1.2**
UZB pmax pmax
comp=Z,46nm,0.8s
SML **Sawmill** **81.15** **25** P 03 51 38.5
baz=241,SNR=22
TRF **Thorofare Moun** **81.20** **23** IAMs_20 IAMs_20 04 23 26.5
comp=Z,4μm,21.0s
TRF **Thorofare Moun** **81.20** **23** P 03 51 37.7
baz=239,SNR=12
GLI **Glacier Island** **81.23** **26** P **P** **03 51 40.0 +0.9**
GLI IAmb IAmb 03 51 41.5
comp=Z,118nm,1.7s
GLI **Glacier Island** **81.23** **26** P 03 51 38.2
baz=242,SNR=5.3
BPAW **Bear Paw Mtn.** **81.28** **22** P 03 51 38.2
baz=238,SNR=12
BPAW **Bear Paw Mtn.** **81.28** **22** IAMs_20 IAMs_20 04 25 29.5
comp=Z,3μm,20.0s
KPKS **Kokpek** **81.43 315** ⇑*i*P **P** **03 51 40.5 -0.3**
comp=Z,126nm,1.6s,baz=315
KPKS *e*S **S** **04 01 46.9 -2.1**
baz=315
KPKS **Kokpek** **81.43 315** *ci*P **P** **03 51 40.4 -0.3**
KPKS *e*S **S** **04 01 46.8 -2.2**
KPKS pmax pmax
comp=Z,126nm,1.6s
FID **Port Fidalgo** **81.44** **26** P **P** **03 51 40.6 +0.4**
H21K **Melozitna Rive** **81.47** **20** P 03 51 40.7
baz=236
I21K **Tanana** **81.50** **21** P 03 51 40.5
baz=237,SNR=48
WAT1 **Susitna Watana** **81.57** **24** P 03 51 40.2
baz=240
SCM **Sheep Creek Mo** **81.58** **25** P **P** **03 51 41.2 +0.1**
SCM pmax pmax
comp=Z,37nm,1.0s
SCM **Sheep Creek Mo** **81.58** **25** P **P** **03 51 41.2 +0.1**
SCM IAMs_20 IAMs_20 04 24 19.7
comp=Z,3μm,22.0s
TARG **Taragay, Kyrgy** **81.60 313** P **P** **03 51 42.7 +0.6**
TARG IAmb IAmb 03 51 44.7
comp=Z,73nm,1.0s
EYAK **Cordova Ski Ar** **81.67** **26** P **P** **03 51 42.3 +0.9**
EYAK **Cordova Ski Ar** **81.67** **26** P 03 51 42.1
baz=243
RND **Reindeer** **81.73** **23** IAMs_20 IAMs_20 04 24 03.5
comp=Z,3μm,20.0s
WAT6 **Susitna Watana** **81.77** **24** P 03 51 41.5
baz=241,SNR=12
MLY **Manley** **81.86** **21** P 03 51 41.9
baz=238,SNR=90
MCK **McKinley** **81.87** **23** P 03 51 41.1
baz=240,SNR=26
MCK **McKinley** **81.87** **23** IAMs_20 IAMs_20 04 27 51.1
comp=Z,4μm,20.0s
BWN **Browne** **81.89** **22** P **P** **03 51 43.4 +0.9**
BWN IAmb IAmb 03 52 17.2
comp=Z,83nm,1.2s
BWN IAMs_20 IAMs_20 04 23 49.3
comp=Z,3μm,21.0s
KLU **Klutina** **82.02** **25** P 03 51 43.5
baz=243,SNR=12
KLU **Klutina** **82.02** **25** P **P** **03 51 44.8 +1.4**
TDK **Taldyqorghan** **82.04 317** *e*P **P** **03 51 43.4 -0.4**
comp=Z,250nm,1.3s,baz=317
TDK *e*S **S** **04 01 52.4 -2.7**
baz=317
TDK **Taldyqorghan** **82.04 317** *e*P **P** **03 51 43.3 -0.5**
TDK *e*S **S** **04 01 52.3 -2.7**
TDK pmax pmax
comp=Z,250nm,1.3s
M24K **Tolsona, Glenn** **82.19** **25** P 03 51 44.6
baz=243
M24K **Tolsona, Glenn** **82.19** **25** P **P** **03 51 45.9 +1.6**
M24K IAMs_20 IAMs_20 04 25 57.8
comp=Z,3μm,20.0s
NEA2 **Nenana** **82.25** **22** IAMs_20 IAMs_20 04 26 38.2
comp=Z,3μm,20.0s
NEA2 **Nenana** **82.25** **22** P 03 51 43.2
baz=240,SNR=34
BMRM **Bremner River** **82.36** **26** P **P** **03 51 46.4 +1.2**
BMRM IAMs_20 IAMs_20 04 24 59.2
comp=Z,3μm,22.0s
BMRM **Bremner River** **82.36** **26** P 03 51 45.1
baz=244
KSH **Kashi** **82.41 311** P **P** **03 51 47.8 +1.8**
KSH pP pP 03 52 00.0 +0.6
KSH S **S** **04 02 06.8 +7.5**
KSH sS sS 04 02 23.5 +1.9
KSH pmax pmax
comp=Z,59nm,1.6s
KSH pmax pmax
comp=Z,700nm,5.3s
KSH L L
comp=Z,920nm,14.9s
KSH L L
comp=Z,980nm,16.2s
KSH L L
comp=Z,860nm,15.3s
I23K **Minto, Yukon-K** **82.42** **21** P 03 51 44.8
baz=239,SNR=21
MDOK **Medeo** **82.51 315** *i* P **P** **03 51 46.5 +0.1**
baz=315
MDOK *e*S **S** **04 01 58.6 -1.6**
baz=315
MDOK **Medeo** **82.51 315** *i* P **P** **03 51 46.5 +0.1**
MDOK *e*S **S** **04 01 58.6 -1.6**
WRH **Wood River Hil** **82.56** **22** IAMs_20 IAMs_20 04 26 00.3
comp=Z,4μm,20.0s
BGLC **Bering Glacier** **82.59** **27** P 03 51 46.5
baz=246
AAA **Alma-Ata** **82.61 315** *e*P **P** **03 51 46.8 -0.1**
AAA
baz=315
AAA *e*S **S** **04 01 59.7 -1.4**
baz=315
AAA **Alma-Ata** **82.61 315** *e*P **P** **03 51 46.8 -0.1**
AAA *e*S **S** **04 01 59.7 -1.4**
N25K **Chitina, Valde** **82.64** **26** P **P** **03 51 48.0 +1.4**
N25K **Chitina, Valde** **82.64** **26** P 03 51 46.8
baz=244,SNR=15
MDM **Murphy Dome** **82.74** **22** P **P** **03 51 47.0 -0.1**
CCB **Clear Creek Bu** **82.75** **22** IAMs_20 IAMs_20 04 27 14.4
comp=Z,3μm,20.0s
HARP **HAARP** **82.75** **25** P 03 51 47.6
baz=244
TCOL **CIGO, UAF Yank** **82.84** **22** P 03 51 45.8
baz=241,SNR=7.5
TCOL **CIGO, UAF Yank** **82.84** **22** P **P** **03 51 47.5 0.0**
TCOL IAmb IAmb 03 51 48.9
comp=Z,55nm,0.9s
COLA **College** **82.84** **22** *ci*P **P** **03 51 45.9 -1.5**
COLA pmax pmax
comp=Z,37nm,0.9s
COLA **College** **82.84** **22** P **P** **03 51 47.4 -0.1**
COLA IAmb IAmb 03 51 48.9
comp=Z,51nm,0.8s
COLA **College** **82.84** **22** P 03 51 46.1
baz=241
ULHL **Ulahol** **82.86 314** P **P** **03 51 48.9 +0.5**
SNR=86
PAX **Paxson** **82.88** **24** P 03 51 47.1
baz=243
GLB **Gilahina Butte** **82.91** **26** P **P** **03 51 48.7 +0.7**
CRQM **Cirque** **82.92** **27** P **P** **03 51 49.6 +1.4**
WAX **Waxell Ridge** **82.92** **27** P **P** **03 51 49.3 +1.2**
CRQE **Cirque** **82.94** **27** P 03 51 48.2
baz=246,SNR=9.7
HDA **Harding Lake** **82.96** **23** P 03 51 46.9
baz=242,SNR=15
HDA P 03 51 46.9
baz=242,SNR=15
HDA **Harding Lake** **82.96** **23** P **P** **03 51 48.2 +0.1**
HDA IAmb IAmb 03 51 49.5
comp=Z,112nm,2.0s
HDA IAMs_20 IAMs_20 04 24 42.0
comp=Z,4μm,21.0s
VRDI **Verde Repeater** **82.98** **26** P **P** **03 51 49.6 +1.1**
TGL **Tana Glacier** **83.06** **27** P **P** **03 51 49.9 +1.1**
TGL IAmb IAmb 03 52 17.6
comp=Z,93nm,1.7s
POKR **Poker Plat Res** **83.12** **22** P 03 51 47.6
baz=241
BOOM **Boomskoye usch** **83.13 314** P **P** **03 51 50.5 +0.8**
BOOM pmax pmax
comp=Z,108nm,0.9s
BOOM **Boomskoye usch** **83.13 314** P **P** **03 51 50.5 +0.8**
BOOM IAmb IAmb 03 51 51.6
comp=Z,108nm,0.8s
ILAR **Eielson Array** **83.16** **22** P **P** **03 51 47.2 -1.9**
comp=Z,26nm,0.8s,baz=248,slow=4.4,SNR=114
ILAR PKKPbc **PKKPbc** **04 10 11.5 -1.8**
comp=Z,0.8nm,0.9s,baz=348,slow=1.7,SNR=5.2
ILAR PKPPKP **P'P'df** **04 18 17.3 +3.0**
comp=Z,0.9nm,0.9s,baz=13,slow=1.9,SNR=4.7
ILAR LR LR 04 26 58.9
comp=Z,3μm,19.6s,baz=258,slow=34
KUU **Kurty** **83.19 315** ⇑*i*P **P** **03 51 49.6 -0.2**
comp=Z,213nm,0.9s,baz=315
KUU *i* S **S** **04 02 05.7 -1.2**
baz=315
KUU **Kurty** **83.19 315** *ci*P **P** **03 51 49.6 -0.2**
KUU *i* S **S** **04 02 05.6 -1.2**
KUU pmax pmax
comp=Z,213nm,0.9s
COLD **Coldfoot** **83.21** **19** P **P** **03 51 50.9 +1.6**
COLD IAMs_20 IAMs_20 04 25 23.4
comp=Z,4μm,20.0s
COLD **Coldfoot** **83.21** **19** P 03 51 49.6
baz=238,SNR=28
ISLE **Juniper Island** **83.22** **27** P **P** **03 51 50.7 +1.0**
MESA **MESA** **83.22** **27** P **P** **03 51 51.2 +1.4**
MESA IAMs_20 IAMs_20 04 30 30.1
comp=Z,3μm,19.0s
MESA **MESA** **83.22** **27** P 03 51 50.3
baz=247
MCARA **McCarthy VSAT** **83.23** **26** P 03 51 49.6
baz=246
MCARA **McCarthy VSAT** **83.23** **26** P **P** **03 51 50.9 +1.3**
H24K **Noodor Dome** **83.30** **21** P 03 51 48.6
baz=241,SNR=30
NIL **Nilore** **83.32 305** P **P** **03 51 50.7 -0.1**
NIL pmax pmax
comp=Z,255nm,1.0s
NIL MLR MLR
comp=Z,3μm,22.0s
NIL **Nilore** **83.32 305** P **P** **03 51 50.6 -0.1**
NIL **Nilore** **83.32 305** P **P** **03 51 50.8 +0.1**
NIL P **P** **03 51 50.8 +0.1**
TKM2 **Tokmak 2** **83.48 314** P **P** **03 51 51.9 +0.3**
SNR=92
KURK **Kurchatov** **83.50 322** P **P** **03 51 50.8 -0.4**
KURBB **Kurchatov Arra** **83.53 322** P **P** **03 51 50.8 -0.5**
comp=Z,81nm,1.0s,baz=106,slow=4.4,SNR=73
KURBB PP **PP** **03 55 10.9 +6.7**
comp=Z,7.1nm,0.9s,baz=106,slow=6.8,SNR=4.1
KURBB PKiKP **PKiKP** **03 57 06.2 -2.1**
comp=Z,1.5nm,0.7s,baz=101,slow=1.7,SNR=4.3
MENT **Mentasta** **83.58** **25** P **P** **03 51 52.7 +1.3**
A21K **Barrow** **83.68** **15** P 03 51 51.5
baz=232
TABL **Table Mountain** **83.70** **27** P **P** **03 51 53.5 +1.2**
BARN **Barnard Glacie** **83.70** **27** P **P** **03 51 53.5 +1.3**
DOT **Dot Lake** **83.75** **24** IAMs_20 IAMs_20 04 29 06.8
comp=Z,3μm,20.0s
CTG **Chitna Glacier** **83.81** **27** P 03 51 53.2
baz=247,SNR=15
CTGM **Chitina Glacie** **83.81** **27** P **P** **03 51 53.5 +0.7**
CTGM IAmb IAmb 03 51 57.9
comp=Z,78nm,1.4s
KBK **Karagaybulak** **83.88 314** P **P** **03 51 54.1 +0.5**
SNR=29
LOGN **Logan Glacier** **83.91** **27** P **P** **03 51 54.5 +1.2**
SCRK **Sand Creek** **83.92** **24** P 03 51 52.8
baz=244,SNR=24
SCRK **Sand Creek** **83.92** **24** P **P** **03 51 53.7 +0.5**
PCA **Pinnacle** **83.98** **28** P **P** **03 51 54.9 +1.4**
PINM **Pinnacle** **83.98** **28** P 03 51 53.8
baz=248
PRP **Porcupine Dome** **84.01** **22** P 03 51 51.5
baz=243,SNR=8.9
CHMS **Chumysh** **84.10 314** P **P** **03 51 54.8 +0.2**
SNR=74
FRU1 **Bishkek** **84.15 314** P **P** **03 51 55.8 +1.0**
FRU1 pmax pmax
comp=Z,183nm,1.1s
FRU1 **Bishkek** **84.15 314** P **P** **03 51 55.8 +1.0**
TOLK **Toolik Lake Re** **84.15** **18** P 03 51 54.3
baz=239,SNR=24
TOLK **Toolik Lake Re** **84.15** **18** P **P** **03 51 55.2 +1.0**
AAK **Ala-Archa** **84.21 314** P **P** **03 51 55.7 +0.5**
comp=Z,75nm,0.8s,baz=121,slow=4.8,SNR=96
AAK **Ala-Archa** **84.21 314** P **P** **03 51 55.7 +0.5**
SNR=48
AAK **Ala-Archa** **84.21 314** *i* P **P** **03 51 55.4 +0.2**
SNR=28
AAK **Ala-Archa** **84.21 314** *ce*P **P** **03 51 55.5 +0.2**
AAK pmax pmax
comp=Z,311nm,0.8s
AAK **Ala-Archa** **84.21 314** P **P** **03 51 56.1 +0.9**
AAK IAmb IAmb 03 51 57.6
comp=Z,120nm,1.0s
AAK **Ala-Archa** **84.21 314** P **P** **03 51 56.0 +0.8**
AAK P **P** **03 51 56.0 +0.8**
SGDS **Sogindy** **84.29 315** ⇑*i*P **P** **03 51 55.3 -0.2**
comp=Z,82nm,1.4s,baz=314
SGDS *e*S **S** **04 02 12.2 -5.8**
baz=314
SGDS **Sogindy** **84.29 315** *ci*P **P** **03 51 55.3 -0.2**
SGDS *e*S **S** **04 02 12.1 -5.9**
SGDS pmax pmax
comp=Z,82nm,1.4s
USP **Ospenovka** **84.34 314** P **P** **03 51 56.2 +0.5**
SNR=172
L27K **Beaver Creek,** **84.42** **25** P **P** **03 51 57.1 +1.4**
L27K **Beaver Creek,** **84.42** **25** P 03 51 56.0
baz=247,SNR=26
BCAR **Beaver Creek A** **84.44** **25** P **P** **03 51 56.1 +0.3**
MAW **Mawson** **84.57 203** P **P** **03 51 56.6 +0.4**
comp=Z,68nm,1.1s,baz=79,slow=5.9,SNR=48
MAW PKKPbc **PKKPbc** **04 10 06.9 -2.7**
comp=Z,1.0nm,0.5s,baz=262,slow=7.0,SNR=6.7
MAW LR LR 04 26 28.7
comp=Z,4μm,21.9s,baz=84,slow=33
MAW **Mawson** **84.57 203** P **P** **03 51 56.7 +0.4**
baz=84,SNR=31
MAW **Mawson** **84.57 203** P **P** **03 51 56.7 +0.4**
MAW pmax pmax
comp=Z,24nm,1.2s
MAW **Mawson** **84.57 203** P **P** **03 51 56.7 +0.4**
QSPA **South Pole Qui** **84.57 180** P **P** **03 51 56.4 -0.1**
comp=Z,52nm,0.8s,baz=342,slow=1.2,SNR=196
QSPA **South Pole Qui** **84.57 180** P **P** **03 51 57.0 +0.4**
QSPA IAmb IAmb 03 51 59.3
comp=Z,84nm,0.9s
FYU **Fort Yukon** **84.60** **21** P **P** **03 51 57.6 +1.2**
AML **Almayashu** **84.68 313** P **P** **03 51 58.8 +0.9**
SNR=270
AML **Almayashu** **84.68 313** *i* P **P** **03 51 58.6 +0.7**
SNR=55
AML **Almayashu** **84.68 313** P **P** **03 51 59.3 +1.4**
K27K **Chicken** **84.71** **24** P **P** **03 51 58.0 +1.0**
K27K **Chicken** **84.71** **24** P 03 51 57.9
baz=246
EKS2 **Erkin-Say** **84.73 314** P **P** **03 51 58.5 +0.6**
SNR=230
BTLS **Baital** **85.05 316** ⇑*i*P **P** **03 51 59.0 -0.2**
comp=Z,114nm,1.0s,baz=316
BTLS *i* S **SKSac** **04 02 14.6 -5.8**
baz=316
BTLS **Baital** **85.05 316** *ci*P **P** **03 51 59.0 -0.2**
BTLS *i* S **SKSac** **04 02 14.6 -5.8**
BTLS pmax pmax
comp=Z,114nm,1.0s
BMAR **Burnt Mountain** **85.21** **20** P **P** **03 52 00.6 +1.0**
EGAK **Eagle** **85.37** **23** P 03 52 00.6
baz=247,SNR=39
EGAK **Eagle** **85.37** **23** P **P** **03 52 01.4 +1.1**
EGAK IAmb IAmb 03 52 03.2
comp=Z,44nm,0.9s
SIT **Sitka** **85.40** **32** P 03 52 01.0
baz=253,SNR=5.2
SIT **Sitka** **85.40** **32** P **P** **03 52 02.2 +1.6**
SIT pmax pmax
comp=Z,27nm,1.0s
SIT **Sitka** **85.40** **32** P **P** **03 52 02.1 +1.6**
SIT IAMs_20 IAMs_20 04 23 28.8
comp=Z,4μm,21.0s
HYT **Haines Junctio** **85.51** **28** P **P** **03 52 02.6 +1.3**
HYT IAmb IAmb 03 52 06.6
comp=Z,49nm,1.0s
DAWY **Dawson** **85.81** **24** P **P** **03 52 04.4 +1.7**
DAWY IAmb IAmb 03 52 43.4
comp=Z,89nm,1.8s
DAWY IAMs_20 IAMs_20 04 24 37.5
comp=Z,3μm,21.0s
DIB **Dawson Inlet,** **85.92** **36** P **P** **03 52 05.0 +1.7**
DIB IAmb IAmb 03 52 09.1
comp=Z,41nm,1.2s

DIB IAMs_20 IAMs_20 04 22 57.8
comp=Z,3µm,21.0s
BESE Bessie Mountai 86.09 30 P P 03 52 05.5 +1.4
BESE IAmb IAmb 03 52 06.4
comp=Z,36nm,1.0s
BESE IAMs_20 IAMs_20 04 22 59.9
comp=Z,5µm,22.0s
SKAG Skagway 86.11 29 P P 03 52 05.8 +1.7
SKAG IAmb IAmb 03 52 09.2
comp=Z,47nm,1.4s
SKAG Skagway 86.11 29 P 03 52 04.8
baz=253
NRIK Noril'sk 86.14 341 P **P 03 52 03.3 -0.8**
comp=Z,66nm,0.9s,baz=120,slow=4.8,SNR=39
NRIK LR LR 04 30 35.1
comp=Z,2µm,20.7s,baz=119,slow=36
NRIK Noril'sk 86.14 341 *ce*P **P 03 52 02.9 -1.1**
NRIK pmax pmax
comp=Z,106nm,1.1s
NRIK MLR MLR
comp=Z,3µm,19.0s
NRIK Noril'sk 86.14 341 P **P 03 52 03.6 -0.5**
NRIK IAmb IAmb 03 52 06.4
comp=Z,91nm,1.1s
CRAG Craig 86.14 34 P 03 52 05.3
baz=255
CRAG Craig 86.14 34 P **P 03 52 06.0 +1.7**
CRAG IAmb IAmb 03 52 06.8
comp=Z,40nm,1.1s
CRAG IAMs_20 IAMs_20 04 24 56.4
comp=Z,4µm,20.0s
JIS Juneau Island 86.24 31 P **P 03 52 06.5 +1.7**
BTK Batken 86.41 311 P **P 03 52 06.0 -0.2**
BTK pmax pmax
comp=Z,63nm,1.1s
BTK Batken 86.41 311 P **P 03 52 06.0 -0.2**
BTK IAmb IAmb 03 52 08.0
comp=Z,63nm,1.1s
DZA Taraz 86.54 313 *e*P **P 03 52 05.7 -1.0**
baz=314
DZA *e*S **SKSac 04 02 25.5 -4.5**
baz=314
DZA Taraz 86.54 313 *e*P **P 03 52 05.7 -1.0**
DZA *e*S **SKSac 04 02 25.4 -4.5**
WHY Whitehorse 86.68 28 P **P 03 52 07.8 +0.7**
WHY Whitehorse 86.68 28 P 03 52 07.3
baz=253,SNR=22
WHY S 04 02 41.0
baz=253
WRAK Wrangell Islan 86.81 33 P **P 03 52 09.3 +1.7**
WRAK IAmb IAmb 03 52 10.0
comp=Z,42nm,1.1s
WRAK Wrangell Islan 86.81 33 IAMs_20 IAMs_20 04 25 09.0
comp=Z,5µm,20.0s
WRAK Wrangell Islan 86.81 33 P 03 52 08.3
baz=255,SNR=6.1
WRAK S 04 02 43.0
baz=255
KBL Kabul 86.92 305 P **P 03 52 07.3 -1.7**
KBL pmax pmax
comp=Z,51nm,1.3s
KBL Kabul 86.92 305 P **P 03 52 07.3 -1.7**
KBL IAmb IAmb 03 52 09.2
comp=Z,51nm,1.2s
KBL Kabul 86.92 305 P **P 03 52 07.9 -1.0**
SNR=16
BRZS Berezniki 87.01 321 ⇑*i*P **P 03 52 07.3 -1.5**
comp=Z,30nm,1.2s,baz=321
BRZS Berezniki 87.01 321 *c i*P **P 03 52 07.3 -1.5**
BRZS pmax pmax
comp=Z,30nm,1.2s
KK31 Karatay Array 87.17 314 P **P 03 52 09.4 -0.3**
KK31 pmax pmax
comp=Z,130nm,1.3s
KK31 Karatay Array 87.17 314 P **P 03 52 09.4 -0.3**
KK31 IAmb IAmb 03 52 11.6
comp=Z,130nm,1.3s
KKAR Karatay Array 87.17 314 P **P 03 52 09.2 -0.5**
KKAR pmax pmax
comp=Z,130nm,1.3s
KKAR Karatay Array 87.17 314 P **P 03 52 09.5 -0.2**
KKAR IAmb IAmb 03 52 11.6
comp=Z,130nm,1.3s
KKAR Karatay Array 87.17 314 P **P 03 52 09.2 -0.5**
EPYK Eagle Plains 87.67 23 P **P 03 52 11.8 +0.2**
EPYK IAmb IAmb 03 52 14.3
comp=Z,49nm,0.8s
EPYK IAMs_20 IAMs_20 04 28 28.4
comp=Z,3µm,20.0s
EPYK Eagle Plains 87.67 23 P 03 52 11.6
baz=251,SNR=27
EPYK S 04 02 48.5
baz=251
BBB Bella Bella 88.29 37 IAMs_20 IAMs_20 04 24 31.4
comp=Z,3µm,22.0s
DLBC Dease Lake 88.50 31 P **P 03 52 17.1 +1.3**
DLBC IAmb IAmb 03 52 18.2
comp=Z,45nm,1.3s
BVAR Borovoye Array 89.00 323 P **P 03 52 15.7 -2.4**
comp=Z,28nm,0.8s,baz=214,slow=30,SNR=75
BRVK Borovoye 89.07 323 *ce*P **P 03 52 17.4 -1.1**
BRVK pmax pmax
comp=Z,94nm,1.3s
BRVK Borovoye 89.07 323 IAMs_20 IAMs_20 04 29 23.9
comp=Z,3µm,22.0s
BRVK Borovoye 89.07 323 P **P 03 52 17.5 -0.9**
BRVK P **P 03 52 17.5 -0.9**
KBO Bosley Butte 89.28 48 P **P 03 52 21.0 +1.2**
KBO IAMs_20 IAMs_20 04 27 41.2
comp=Z,4µm,20.0s
KEBM Edson Butte 89.29 47 P **P 03 52 21.0 +1.2**
KEBM IAmb IAmb 03 52 23.1
comp=Z,91nm,1.0s
KEBM IAMs_20 IAMs_20 04 24 53.3
comp=Z,3µm,21.0s
KRMB Red Mountain 89.42 48 P **P 03 52 21.6 +1.0**
KRMB IAmb IAmb 03 52 24.9
comp=Z,77nm,1.1s
KRMB IAMs_20 IAMs_20 04 33 54.8
comp=Z,3µm,18.0s
KCPM Cahto Peak 89.43 50 P **P 03 52 21.4 +0.7**
KCPM IAmb IAmb 03 52 25.5
comp=Z,112nm,1.2s
KCPM IAMs_20 IAMs_20 04 24 22.0
comp=Z,4µm,22.0s
INK Inuvik 89.43 21 P **P 03 52 19.8 0.0**
comp=Z,16nm,0.9s,baz=246,slow=5.4,SNR=26
INK Inuvik 89.43 21 P **P 03 52 20.3 +0.5**
INK pmax pmax
comp=Z,25nm,1.0s
INK MLR MLR
comp=Z,3µm,20.0s
INK Inuvik 89.43 21 P **P 03 52 20.3 +0.5**
INK IAMs_20 IAMs_20 04 34 55.0
comp=Z,3µm,20.0s
INK Inuvik 89.43 21 P 03 52 19.3
baz=254,SNR=24
INK S 04 03 03.4
baz=254
KHMM Horse Mountain 89.47 49 P **P 03 52 21.7 +0.9**
KHMM IAmb IAmb 03 52 23.8
comp=Z,52nm,1.0s
J01E Myrtle Point 89.62 47 P 03 52 22.2
baz=262,SNR=26
J01E S 04 03 10.4
baz=262
HOPS Hopland Field 89.73 51 P **P 03 52 23.3 +1.3**
HOPS IAmb IAmb 03 52 25.1
comp=Z,92nm,1.6s
HOPS IAMs_20 IAMs_20 04 24 21.1
comp=Z,4µm,22.0s
L02E Cave Junction 89.73 48 P 03 52 23.1
baz=262,SNR=34
L02E S 04 03 10.4
baz=262
K02D Willamette Mer 89.75 47 P 03 52 23.1
baz=262,SNR=32
K02D S 04 03 13.0
baz=262
MCCM Marconi Confer 89.78 52 IAMs_20 IAMs_20 04 24 31.3
comp=Z,4µm,21.0s
I02D Swisshome 89.81 46 P 03 52 23.1
baz=262,SNR=23
I02D S 04 03 13.0
baz=262
GDXM Geysers 89.92 51 P **P 03 52 23.9 +0.9**
GDXM IAMs_20 IAMs_20 04 24 19.2
comp=Z,3µm,22.0s
O02D Mt. Diablo Mer 90.09 50 P 03 52 25.3
baz=263,SNR=44
O02D S 04 03 15.9
baz=263
I03D Drain, OR 90.11 46 P 03 52 24.6
baz=263,SNR=44
I03D S 04 03 16.3
baz=263
M02C Callahan 90.19 49 P 03 52 25.5
baz=263,SNR=86
M02C S 04 03 16.9
baz=263
NLWA Neilton Lookou 90.23 43 P **P 03 52 25.4 +1.3**
NLWA IAmb IAmb 03 52 27.2
comp=Z,66nm,1.1s
NLWA IAMs_20 IAMs_20 04 25 24.0
comp=Z,3µm,21.0s
N02D Trinity Center 90.25 49 P 03 52 25.6
baz=263,SNR=37
N02D S 04 03 16.9
baz=263
COR Corvallis 90.26 45 P **P 03 52 25.7 +1.5**
COR pmax pmax
comp=Z,44nm,0.9s
COR Corvallis 90.26 45 P **P 03 52 25.7 +1.5**
COR IAmb IAmb 03 52 27.0
comp=Z,44nm,0.8s
COR Corvallis 90.26 45 IAMs_20 IAMs_20 04 25 05.8
comp=Z,4µm,21.0s
HUMO Hull Mountain 90.26 47 P **P 03 52 25.5 +1.2**
E03A Lebam 90.33 43 P **P 03 52 25.8 +1.3**
WDC Whiskeytown Da 90.33 49 P **P 03 52 26.0 +1.3**
WDC pmax pmax
comp=Z,153nm,1.8s
WDC Whiskeytown Da 90.33 49 P **P 03 52 26.0 +1.3**
WDC IAmb IAmb 03 52 28.1
comp=Z,153nm,1.8s
WDC IAMs_20 IAMs_20 04 24 43.9
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 90.34 48 P **P 03 52 26.2 +1.4**
YBH pmax pmax
comp=Z,113nm,1.1s
YBH Yreka Blue Hor 90.34 48 P **P 03 52 26.2 +1.4**
YBH IAMs_20 IAMs_20 04 26 09.1
comp=Z,3µm,21.0s
G03D McMinnville, O 90.36 45 P 03 52 25.5
baz=263,SNR=13
G03D S 04 03 17.5
baz=263
F04D Rainier, OR 90.65 44 P 03 52 26.8
baz=263
H04D Lebanon 90.65 46 P 03 52 26.9
baz=263,SNR=36
H04D S 04 03 21.3
baz=263
PGC Sidney 90.67 41 IAmb IAmb 03 52 28.8
comp=Z,54nm,1.2s
PGC IAMs_20 IAMs_20 04 25 00.6
comp=Z,4µm,22.0s
L04D Klamath Falls 90.70 48 P 03 52 27.4
baz=263,SNR=40
L04D S 04 03 20.9
baz=263
SAO San Andreas Ge 90.75 53 P **P 03 52 27.3 +0.5**
SAO pmax pmax
comp=Z,48nm,1.3s
SAO San Andreas Ge 90.75 53 P **P 03 52 27.3 +0.5**
SAO IAmb IAmb 03 52 31.2
comp=Z,48nm,1.3s
SAO IAMs_20 IAMs_20 04 25 31.2
comp=Z,4µm,20.0s
D03D Eldon 90.77 42 P 03 52 27.5
baz=263,SNR=13
D03D S 04 03 21.6
baz=263
I04A Tendick Farm, 90.80 46 P 03 52 27.3
baz=263,SNR=38
I04A S 04 03 21.1
baz=263
O03E Paynes Creek 90.86 50 P 03 52 27.7
baz=264,SNR=44
O03E S 04 03 23.0
baz=264
D04E Lakebay 90.94 43 P 03 52 28.3
baz=263
D04E S 04 03 23.7
baz=263
J04D Umpqua Nationa 90.95 47 P 03 52 28.6
baz=264,SNR=44
M04C Macdoel 90.99 48 P 03 52 28.8
baz=264,SNR=61
M04C S 04 03 24.2
baz=264
E04D Cinebar 91.01 44 P 03 52 28.4
baz=263,SNR=19
E04D S 04 03 22.9
baz=263
H04A Detroit Lake 91.06 45 IAmb IAmb 03 52 30.6
comp=Z,77nm,1.2s
H04A IAMs_20 IAMs_20 04 25 31.1
comp=Z,3µm,22.0s
K04D Chiloquin, OR 91.15 47 P 03 52 29.3
baz=264,SNR=21
K04D S 04 03 23.5
baz=264
A04D Lummi Island 91.17 41 P 03 52 28.9
baz=263,SNR=5.2
AFDM Forest Hills D 91.35 51 IAmb IAmb 03 52 32.7
comp=Z,68nm,0.9s
AFDM IAMs_20 IAMs_20 04 25 10.1
comp=Z,4µm,22.0s
D05A Enumclaw 91.48 43 IAmb IAmb 03 52 40.2
comp=Z,84nm,1.1s
D05A IAMs_20 IAMs_20 04 28 16.0
comp=Z,3µm,20.0s
B05A Bryant 91.52 42 P 03 52 30.8
baz=264,SNR=10
B05A S 04 03 26.1
baz=264
J05D Fort Rock, OR 91.59 47 P 03 52 31.7
baz=264,SNR=137
J05D S 04 03 27.5
baz=264
A05A Maple Falls 91.61 41 IAmb IAmb 03 52 39.4
comp=Z,43nm,1.3s
A05A IAMs_20 IAMs_20 04 31 40.4
comp=Z,3µm,19.0s
I05D Terrebonne, OR 91.63 46 P 03 52 31.6
baz=264,SNR=63
I05D S 04 03 27.7
baz=264
F05D White Salmon 91.70 44 P 03 52 31.7
baz=264,SNR=5.9
F05D S 04 03 28.0
baz=264
CMB Columbia Colle 91.72 52 IAmb IAmb 03 52 34.3
comp=Z,53nm,1.1s
CMB IAMs_20 IAMs_20 04 25 52.8
comp=Z,4µm,21.0s
G05D Wamic, OR 91.73 45 P 03 52 31.7
baz=264,SNR=13
G05D S 04 03 28.5
baz=264
SMMC Simmler 91.78 55 P 03 52 33.1
baz=265,SNR=7.4
K05A Summer Lake 91.79 47 IAMs_20 IAMs_20 04 29 51.4
comp=Z,4µm,20.0s
PINE Pine Mountain 91.86 46 IAMs_20 IAMs_20 04 26 40.2
comp=Z,4µm,21.0s
PKM Mcpherson Peak 91.89 55 P 03 52 34.2
baz=265,SNR=14
PKM S 04 03 33.2
baz=265
BEKR Beckworth 91.92 50 IAmb IAmb 03 52 35.2
comp=Z,90nm,1.2s
BEKR IAMs_20 IAMs_20 04 25 30.9
comp=Z,4µm,22.0s
SBC Santa Barbara 91.93 56 P 03 52 34.6
baz=265
B06A Marblemount 91.95 42 IAmb IAmb 03 52 34.2
comp=Z,56nm,1.3s
SCZ2 Santa Cruz Isl 91.96 56 P 03 52 34.0
baz=265
SNCC San Nicolas Is 91.98 57 P 03 52 33.8
baz=265
MOD Modoc Plateau 92.15 48 IAMs_20 IAMs_20 04 33 54.9
comp=Z,3µm,18.0s
C06D Leavenworth 92.29 42 P 03 52 33.4
baz=264
VOG Valley Oaks Go 92.37 54 P 03 52 34.4
baz=265
LTY Liberty 92.38 43 IAmb IAmb 03 52 38.1
comp=Z,45nm,1.4s
LTY IAMs_20 IAMs_20 04 27 54.9
comp=Z,3µm,21.0s
VCNR Virginia City 92.41 51 IAMs_20 IAMs_20 04 26 06.0
comp=Z,4µm,22.0s
HRA Herat 92.48 304 IAmb IAmb 03 52 35.8
comp=Z,41nm,1.0s
WAKR Walker 92.51 52 IAmb IAmb 03 52 37.9
comp=Z,73nm,1.1s
VES Vestal, Richgr 92.57 54 P 03 52 35.7
baz=265,SNR=20
PAHR Pah Rah Range 92.65 51 IAMs_20 IAMs_20 04 25 51.5
comp=Z,4µm,22.0s
YERR Yerington 92.70 51 IAMs_20 IAMs_20 04 26 02.7
comp=Z,4µm,22.0s
ARVC Arvin 92.71 55 P 03 52 37.6
baz=265,SNR=8.2
SYO Syowa Base 92.71 200 ⇑*i*P **P 03 52 35.0 -0.1**
SYO Syowa Base 92.71 200 ⇓*i*PcP **PcP 03 52 36.6 +0.8**
SYO Syowa Base 92.71 200 ⇓*e*pP pP 03 52 49.0 +0.3
SYO Syowa Base 92.71 200 ⇓*e*sP sP 03 52 53.3 -0.5
OSI Osito Audit: C 92.76 56 P 03 52 37.4
baz=265
F07A Phinny Hill Vi 92.77 44 IAmb IAmb 03 52 38.9
comp=Z,101nm,1.5s
F07A IAMs_20 IAMs_20 04 25 50.2
comp=Z,3µm,22.0s
SCI2 San Clemente I 92.78 57 P 03 52 36.7
baz=265
E07A Sunnyside 92.87 44 IAmb IAmb 03 52 39.2
comp=Z,56nm,1.2s
E07A IAMs_20 IAMs_20 04 29 09.0
comp=Z,3µm,20.0s
MLAC Mammoth, Mammo 92.91 53 P 03 52 38.1
baz=265,SNR=14
I07A Izee 92.92 46 IAMs_20 IAMs_20 04 27 35.2
comp=Z,4µm,20.0s
CIS Catalina Islan 92.92 57 P 03 52 38.4
baz=265,SNR=12
C36M Paulatuk 93.00 21 IAmb IAmb 03 52 38.0
comp=Z,31nm,1.0s
C36M IAMs_20 IAMs_20 04 30 13.4
comp=Z,3µm,22.0s
C36M Paulatuk 93.00 21 P 03 52 35.6
baz=263,SNR=5.9
FMP Fort Macarthur 93.05 57 P 03 52 38.7
baz=266
ISA Isabella, Lake 93.05 55 IAmb IAmb 03 52 40.5
comp=Z,57nm,1.2s
ISA Isabella, Lake 93.05 55 P 03 52 38.3
baz=266,SNR=24
DECC Green Verdugo 93.05 56 P 03 52 39.0
baz=266,SNR=10
HAWA Hanford 93.08 44 IAmb IAmb 03 52 40.2
comp=Z,75nm,1.4s
PASC Pasadena Art C 93.17 56 IAMs_20 IAMs_20 04 25 47.0
comp=Z,3µm,22.0s
LHV Little Huntoon 93.22 52 IAMs_20 IAMs_20 04 26 30.4
comp=Z,4µm,21.0s
RYN Ryan 93.23 52 IAMs_20 IAMs_20 04 26 19.8
comp=Z,4µm,22.0s
TIN Tinemaha, Big 93.35 53 P 03 52 40.3
baz=266,SNR=20
B08A Colville Reser 93.37 42 IAmb IAmb 03 52 41.0
comp=Z,67nm,1.4s
B08A IAMs_20 IAMs_20 04 26 53.0
comp=Z,3µm,22.0s
EDW2 Edwards Air Fo 93.38 55 P 03 52 40.5
baz=266,SNR=37
NVAR Mina Array Bea 93.39 52 P **P 03 52 40.4 +1.2**
comp=Z,79nm,0.9s,baz=256,slow=6.4,SNR=225
NVAR LR LR 04 30 39.8
comp=Z,3µm,18.7s,baz=264,slow=33
G08A Pilot Rock 93.40 45 P **P 03 52 39.5 +0.5**
G08A IAmb IAmb 03 52 41.7
comp=Z,87nm,1.2s
G08A IAMs_20 IAMs_20 04 27 15.9
comp=Z,3µm,21.0s
E08A Dider Farm, El 93.42 44 IAmb IAmb 03 52 41.8
comp=Z,105nm,1.4s
E08A IAMs_20 IAMs_20 04 29 14.3
comp=Z,3µm,20.0s
CWC Cottonwood Cre 93.42 54 P 03 52 40.5
baz=266
WVOR Wild Horse Val 93.42 48 IAMs_20 IAMs_20 04 32 52.7
comp=Z,4µm,18.0s
D08A Wollman Farm, 93.55 43 IAmb IAmb 03 52 41.4
comp=Z,29nm,1.1s
D08A IAMs_20 IAMs_20 04 29 28.9
comp=Z,3µm,20.0s
KVN Kaiserville 93.59 51 IAMs_20 IAMs_20 04 26 32.3
comp=Z,4µm,22.0s
J08A Circle Bar Ran 93.61 47 IAMs_20 IAMs_20 04 27 45.5
comp=Z,3µm,22.0s
BFSC Mount Baldy Ra 93.61 56 P 03 52 41.0
baz=266,SNR=25
LRMC Laurel Mtn Rad 93.68 55 P 03 52 41.8
baz=266,SNR=57
MPMC Manual Prospec 93.87 54 P 03 52 42.6
baz=266,SNR=97
MURC Murrieta 93.95 57 P 03 52 42.8
baz=266,SNR=14
109C Camp Elliot, M 93.98 57 IAMs_20 IAMs_20 04 26 23.5
comp=Z,3µm,21.0s
109C Camp Elliot, M 93.98 57 P 03 52 43.6
baz=266,SNR=10
GRAC Grapevine Rang 94.03 53 P 03 52 43.0
baz=266,SNR=45
C09A Chrisman Ranch 94.04 43 IAmb IAmb 03 52 44.1
comp=Z,29nm,1.0s
C09A IAMs_20 IAMs_20 04 29 36.7
comp=Z,3µm,20.0s
E09A Wood Farm, Sta 94.05 44 IAMs_20 IAMs_20 04 26 41.0
comp=Z,2µm,21.0s
RRX Edison Barstow 94.20 56 P 03 52 43.5
baz=266
BBRC Big Bear Solar 94.22 56 P 03 52 44.2
baz=266,SNR=7.4
BAR Barrett 94.33 58 IAmb IAmb 03 52 47.3
comp=Z,64nm,1.3s
GSC Goldstone, Bar 94.38 55 P 03 52 44.7
baz=266,SNR=33
FURC Furnace Creek, 94.40 54 P 03 52 44.5
baz=266,SNR=101
WBK Wadi Bani Khal 94.47 292 P **P 03 52 44.0 -0.2**
SNR=6.2
BMO Blue Mountains 94.54 46 IAmb IAmb 03 52 46.8
comp=Z,91nm,1.3s
BMO IAMs_20 IAMs_20 04 27 32.1
comp=Z,4µm,22.0s
MONP2 Monument Peak 94.55 58 P 03 52 46.5
baz=266,SNR=20
PFO Pinyon Flats O 94.56 57 P **P 03 52 45.7 +1.1**
PFO pmax pmax
comp=Z,101nm,1.2s
PFO Pinyon Flats O 94.56 57 P **P 03 52 45.7 +1.1**
PFO Pinyon Flats O 94.56 57 P 03 52 45.7
baz=266,SNR=41
TPFO Pinon Flats 94.57 57 P 03 52 45.7
baz=266,SNR=47
F10A Beach Ranch, E 94.65 44 IAmb IAmb 03 52 47.1
comp=Z,104nm,1.5s
F10A IAMs_20 IAMs_20 04 26 59.1
comp=Z,3µm,22.0s
HEC Hector,Ludlow 94.74 56 P 03 52 46.3
baz=267,SNR=33
IKP In-Ko-Pah, Jac 94.80 58 P 03 52 47.5
baz=267,SNR=9.8
WSAR Wadi Sarin 94.82 293 P **P 03 52 44.7 -1.1**
comp=Z,24nm,1.0s,baz=100,slow=5.9,SNR=8.7
WSAR Wadi Sarin 94.82 293 P **P 03 52 45.0 -0.9**
SNR=8.0
RMX La Rumorosa 94.83 58 IAmb IAmb 03 52 51.2
comp=Z,87nm,1.4s
NEW Newport 94.83 42 IAmb IAmb 03 52 47.8
comp=Z,61nm,1.3s
NEW Newport 94.83 42 IAMs_20 IAMs_20 04 30 01.8
comp=Z,4µm,20.0s
NEW Newport 94.83 42 P 03 52 45.4
baz=267,SNR=27
SHOC Shoshone, Teco 94.85 55 P 03 52 46.8
baz=267,SNR=43

TPNV	Topopah Spring	94.92	53	P			03 52 47.5		
	baz=267,SNR=142								
BELC	Belle Mtn. Jos	94.97	56	P			03 52 47.7		
	baz=267,SNR=52								
SWSC	Sam W. Stewart	95.08	57	P			03 52 48.2		
	baz=267,SNR=18								
TUQ	Turquoise Moun	95.11	55	P			03 52 48.3		
	baz=267,SNR=47								
GMRC	Granite Mounta	95.29	56	P			03 52 49.1		
	baz=267,SNR=51								
BIDO	Bidbid	95.30	293	P		P	03 52 49.2	+1.2	
	SNR=5.1								
SMDO	Samad	95.34	293	P		P	03 52 46.9	-1.5	
BC3	Big Chuckawall	95.41	57	P			03 52 50.0		
	baz=267,SNR=45								
R11A	Troy Canyon, C	95.52	52	P			03 52 49.7		
	baz=267,SNR=81								
R11A	Troy Canyon, C	95.52	52	IAmb		IAmb	03 52 52.2		
	comp=Z,59nm,1.1s								
MFID	Camas Ranch	95.54	47	IAmb		IAmb	03 52 51.8		
	comp=Z,72nm,1.4s								
MFID				IAMs_20		IAMs_20	04 32 59.6		
	comp=Z,3µm,19.0s								
IRM	Iron Mountain	95.69	56	P			03 52 51.0		
	baz=267,SNR=50								
SHPR	Sheep Range	95.78	54	IAMs_20		IAMs_20	04 28 52.3		
	comp=Z,4µm,21.0s								
SFX	San Felipe	95.79	59	IAmb		IAmb	03 52 54.4		
	comp=Z,86nm,1.6s								
ELK	Elko	95.88	50	IAmb		IAmb	03 52 53.5		
	comp=Z,28nm,1.1s								
GLA	Glamis	95.90	57	P			03 52 52.3		
	baz=267,SNR=12								
PRN	Pahroc Range	95.90	53	IAMs_20		IAMs_20	04 28 15.5		
	comp=Z,4µm,22.0s								
GEYT	Alibeck	96.03	307	P		P	03 52 49.5	-1.5	
	comp=Z,73nm,0.7s,baz=177,slow=2.8,SNR=9.3								
GEYT				PP		PP	03 56 45.8	+1.7	
	comp=Z,4.0nm,0.7s,baz=79,slow=3.2,SNR=5.7								
GEYT				LR		LR	04 37 49.1		
	comp=Z,2µm,21.0s,baz=65,slow=36								
HOQ	Hoqain	96.05	293	P		P	03 52 51.0	-0.4	
ARU	Arti	96.14	326	*c iP*		P	03 52 48.7	-2.3	
ARU							03 56 41.5		
ARU				S		SKSac	04 03 20.0	-3.9	
ARU				SP		SP	04 05 26.1	+0.4	
ARU				PS		PS	04 06 09.9	+38	
ARU				SSS		SSS	04 14 21.5		
ARU				pmax		pmax			
	comp=Z,40nm,0.9s								
ARU				MLR		MLR			
	comp=Z,7µm,22.0s								
NEE2	Needles Airpor	96.15	56	P			03 52 53.2		
	baz=268								
AKTO	Aktyubinsk	96.41	320	P		P	03 52 50.5	-1.9	
	comp=Z,14nm,1.1s,baz=81,slow=6.0,SNR=25								
AKTO				PP		PP	03 56 47.8	+1.2	
	comp=Z,3.4nm,0.8s,baz=74,slow=12,SNR=4.8								
YKA	Yellowknife Ar	96.50	28	P		P	03 52 52.1	-0.4	
	comp=Z,1.6nm,0.7s,baz=269,slow=4.2,SNR=24								
YKA				PKiKP		PKiKP	03 57 29.7	-0.1	
	comp=Z,1.3nm,0.8s,baz=280,slow=1.1,SNR=8.0								
YKA				PKKPbc		PKKPbc	04 09 36.3	-3.2	
	comp=Z,2.9nm,0.9s,baz=95,slow=3.0,SNR=19								
YKA				PKPPKP		P'P'df	04 17 51.6	+1.8	
	comp=Z,0.3nm,0.8s,baz=68,slow=1.7,SNR=4.2								
YKA				LR		LR	04 30 26.8		
	comp=Z,2µm,21.9s,baz=0.0,slow=32								
SPR3	Spring Creek 3	96.52	51	IAmb		IAmb	03 52 56.8		
	comp=Z,60nm,1.0s								
PDMCI	Parker Dam,Lak	96.52	56	P			03 52 55.0		
	baz=268,SNR=22								
JTMT	Jette	96.73	43	IAMs_20		IAMs_20	04 31 28.9		
	comp=Z,3µm,20.0s								
W13A	Hualapai Mount	96.76	55	IAmb		IAmb	03 52 58.5		
	comp=Z,66nm,1.2s								
ARQ	Araqi	96.76	293	P		P	03 52 53.6	-1.0	
113A	Mohawk Valley,	96.78	58	IAmb		IAmb	03 52 58.9		
	comp=Z,24nm,1.2s								
SOHO	SOHO	96.79	294	*i* P		P	03 52 52.6	-2.1	
	SNR=8.7								
SOHO	SOHO	96.79	294	P		P	03 52 53.5	-1.3	
PSUT	Pine Spring	96.88	52	IAmb		IAmb	03 52 58.3		
	comp=Z,49nm,1.3s								
MSO	Missoula	96.95	44	IAMs_20		IAMs_20	04 33 36.9		
	comp=Z,2µm,20.0s								
MSO	Missoula	96.95	44	P			03 52 54.9		
	baz=270								
WALA	Waterton Lakes	96.98	41	IAMs_20		IAMs_20	04 28 55.6		
	comp=Z,4µm,22.0s								
BANOM	Banah	97.09	295	*i* P		P	03 52 54.5	-1.6	
	SNR=9.5								
BANOM	Banah	97.09	295	P		P	03 52 56.0	-0.1	
	SNR=9.5								
UOSS	Minazif	97.13	294	*i* P		P	03 52 54.4	-1.9	
	SNR=5.8								
UOSS	Minazif	97.13	294	P		P	03 52 54.5	-1.8	
UOSS				IAmb		IAmb	03 52 56.1		
	comp=Z,34nm,1.2s								
HATD	Hatta, Dubai	97.19	294	*i* P		P	03 52 54.7	-1.9	
	SNR=5.1								
HATD	Hatta, Dubai	97.19	294	P		P	03 52 55.1	-1.5	
ASHO	Ashiyiah	97.25	294	*i* P		P	03 52 55.3	-1.6	
	SNR=6.3								
ASHO	Ashiyiah	97.25	294	P		P	03 52 55.4	-1.5	
LCMT	Little Creek M	97.33	53	IAmb		IAmb	03 53 00.7		
	comp=Z,56nm,1.2s								
Y14A	Wickenburg	97.45	57	IAmb		IAmb	03 53 01.6		
	comp=Z,30nm,1.2s								
214A	Organ Pipe Nat	97.56	59	IAmb		IAmb	03 53 04.5		
	comp=Z,54nm,1.4s								
214A	Organ Pipe Nat	97.56	59	P			03 53 00.5		
	baz=268,SNR=18								
FAQ	Al Faqa, Dubai	97.68	294	*i* P		P	03 52 57.4	-1.4	
	SNR=5.9								
DUG	Dugway, Tooele	97.72	50	IAmb		IAmb	03 53 01.7		
	comp=Z,33nm,1.4s								
DUG	Dugway, Tooele	97.72	50	P			03 52 59.0		
	baz=269,SNR=17								
HVU	Hansel Valley	97.76	49	IAmb		IAmb	03 53 01.7		
	comp=Z,64nm,1.1s								
ASUD	Al Ashush, Dub	97.91	294	*i* P		P	03 52 59.1	-0.7	
	SNR=11								
ASUD	Al Ashush, Dub	97.91	294	P		Pdif	03 52 60.0	+0.1	
	SNR=11								
TCRU	Three Creeks R	97.99	52	IAmb		IAmb	03 54 45.2		
	comp=Z,24nm,1.4s								
SPUT	South Promonto	98.00	49	IAmb		IAmb	03 53 02.6		
	comp=Z,34nm,1.1s								
U15A	North Rim	98.09	54	IAmb		IAmb	03 53 04.5		
	comp=Z,92nm,1.6s								
U15A				IAMs_20		IAMs_20	04 29 22.4		
	comp=Z,3µm,22.0s								
NLU	North Lily Min	98.28	51	IAmb		IAmb	03 53 04.2		
	comp=Z,32nm,1.3s								
BOZ	Bozeman (W)	98.56	45	IAMs_20		IAMs_20	04 33 06.5		
	comp=Z,2µm,20.0s								
BOZ	Bozeman (W)	98.56	45	Pdiff			03 53 02.7		
	baz=271								
HWUT	Hardware Ranch	98.66	49	IAmb		IAmb	03 53 05.2		
	comp=Z,22nm,1.1s								
JLU	Jordanelle	98.76	50	IAmb		IAmb	03 53 06.2		
	comp=Z,30nm,1.1s								
X16A	Lo Mia Camp, P	98.76	56	IAmb		IAmb	03 53 08.0		
	comp=Z,23nm,1.4s								
DOK	Doka	98.77	288	P		P	03 53 02.3	-1.4	
WUAZ	Wupatki	98.82	55	IAmb		IAmb	03 53 08.0		
	comp=Z,86nm,1.5s								
WUAZ				IAMs_20		IAMs_20	04 30 04.5		
	comp=Z,3µm,21.0s								
WUAZ	Wupatki	98.82	55	Pdiff			03 53 05.8		
	baz=270								
TMUT	Trail Mountain	98.95	51	IAmb		IAmb	03 53 07.6		
	comp=Z,58nm,0.9s								
Q16A	Castle Valley	98.98	52	IAmb		IAmb	03 53 07.2		
	comp=Z,20nm,0.9s								
AHID	Auburn Hatcher	98.99	48	IAmb		IAmb	03 53 06.9		
	comp=Z,31nm,1.1s								
AHID				IAMs_20		IAMs_20	04 30 20.1		
	comp=Z,3µm,21.0s								
YMR	Madison River	99.05	46	IAmb		IAmb	03 53 08.1		
	comp=Z,27nm,1.1s								
WHFO	Wadi Hawf	99.07	287	P		Pdif	03 53 03.8	-1.4	
TPAW	Teton Pass	99.09	47	IAmb		IAmb	03 53 07.8		
	comp=Z,26nm,1.1s								
TPAW				IAMs_20		IAMs_20	04 31 35.6		
	comp=Z,3µm,21.0s								
HSIG		99.10	62	IAmb		IAmb	03 53 09.9		
	comp=Z,19nm,1.1s								
REDW	Red Top Meadow	99.16	47	IAmb		IAmb	03 53 08.1		
	comp=Z,34nm,1.3s								
REDW				IAMs_20		IAMs_20	04 37 39.6		
	comp=Z,3µm,18.0s								
SNOW	Snow King Moun	99.23	47	IAmb		IAmb	03 53 08.4		
	comp=Z,28nm,1.2s								
SNOW				IAMs_20		IAMs_20	04 33 39.4		
	comp=Z,3µm,20.0s								
YNR	Norris Junctio	99.25	46	IAmb		IAmb	03 53 09.7		
	comp=Z,27nm,1.1s								
FLWY	Flagg Ranch	99.26	46	IAmb		IAmb	03 53 08.7		
	comp=Z,47nm,1.6s								
FLWY				IAMs_20		IAMs_20	04 31 21.0		
	comp=Z,3µm,21.0s								
TUC	Tucson	99.29	58	P		Pdif	03 53 07.1	+1.2	
TUC				pmax		pmax			
	comp=Z,9.0nm,1.0s								
TUC	Tucson	99.29	58	P		Pdif	03 53 07.1	+1.2	
TUC	Tucson	99.29	58	IAMs_20		IAMs_20	04 29 24.1		
	comp=Z,3µm,22.0s								
TUC	Tucson	99.29	58	Pdiff			03 53 08.3		
	baz=269								
P17A	Butcher Ranch,	99.31	51	IAmb		IAmb	03 53 08.9		
	comp=Z,39nm,1.0s								
H17A	Grant Village	99.34	46	IAmb		IAmb	03 53 10.1		
	comp=Z,22nm,1.0s								
H17A	Grant Village	99.34	46	Pdiff			03 53 07.7		
	baz=272								
LOHW	Long Hollow	99.34	47	IAMs_20		IAMs_20	04 31 53.2		
	comp=Z,3µm,21.0s								
EGMT	Eagleton	99.77	42	IAMs_20		IAMs_20	04 33 25.3		
	comp=Z,2µm,20.0s								
EGMT	Eagleton	99.77	42	Pdiff			03 53 07.9		
	baz=273								
BW06	Boulder Array	100.13	48	IAMs_20		IAMs_20	04 31 07.1		
	comp=Z,3µm,21.0s								
BW06	Boulder Array	100.13	48	Pdiff			03 53 09.4		
	baz=272								
PDAR	Pinedale Array	100.13	48	P		Pdif	03 53 09.5	-0.1	
	comp=Z,15nm,0.9s,baz=248,slow=2.4,SNR=82								
PDAR				PKKPbc		PKKPbc	04 09 27.6	-1.3	
	comp=Z,2.5nm,0.9s,baz=128,slow=3.7,SNR=10								
W18A	Petrified Fore	100.16	55	Pdiff			03 53 11.3		
	baz=270								
RLMT	Red Lodge	100.24	45	IAMs_20		IAMs_20	04 30 20.0		
	comp=Z,3µm,22.0s								
RLMT	Red Lodge	100.24	45	Pdiff			03 53 10.8		
	baz=273								
KIRV	Kirov	100.93	329	P		Pdif	03 53 10.8	-1.6	
	comp=Z,30nm,0.7s,baz=97,slow=2.6,SNR=9.9								
KIRV	Kirov	100.93	329	*i* P		Pdif	03 53 10.9	-1.5	
MVCO	Mesa Verde	101.12	53	IAMs_20		IAMs_20	04 32 45.7		
	comp=Z,3µm,21.0s								
MVCO	Mesa Verde	101.12	53	Pdiff			03 53 15.6		
	baz=272								
O20A	White River Ci	101.22	50	IAMs_20		IAMs_20	04 31 43.2		
	comp=Z,2µm,21.0s								
O20A	White River Ci	101.22	50	Pdiff			03 53 14.7		
	baz=272								
SNAA	Sanae	101.28	188	PKKP			04 09 23.3		
SNAA	Sanae	101.28	188	Pdiff		Pdif	03 53 13.4	-0.5	
SNAA	Sanae	101.28	188	*i* P		Pdif	03 53 14.4	+0.5	
SNAA				pmax		pmax			
	comp=Z,19nm,1.2s								
ALE	Alert	101.60	4	IAMs_20		IAMs_20	04 35 19.7		
	comp=Z,3µm,21.0s								
121A	Cookes Peak, D	101.82	58	Pdiff			03 53 19.9		
	baz=271								
SMCO	Snowmass	102.24	51	IAMs_20		IAMs_20	04 31 43.3		
	comp=Z,4µm,22.0s								
LAO	LASA Array	102.26	44	Pdiff			03 53 19.3		
	baz=275								
PRGR	Permogore	102.29	332	*eP*		Pdif	03 53 14.9	-3.5	
PRGR				*eS*		SKSac	04 03 53.5	-0.8	
PRGR				pmax		pmax			
	comp=Z,8.0nm,0.6s								
K22A	Casper	102.37	48	IAMs_20		IAMs_20	04 33 31.4		
	comp=Z,2µm,21.0s								
K22A	Casper	102.37	48	Pdiff			03 53 20.0		
	baz=274								
S22A	4UR Ranch, Cre	102.43	53	Pdiff			03 53 21.2		
	baz=273								
VNA3	Neumayer Olymp	102.52	186	PKKP			04 09 16.9		
VNA3	Neumayer Olymp	102.52	186	Pdiff		Pdif	03 53 18.7	-0.7	
BELG	Belogornoye	102.77	322	P		Pdif	03 53 18.8	-2.0	
	comp=Z,20nm,0.9s,baz=302,slow=0.6,SNR=11								
BELG	Belogornoye	102.77	322	*i* P		Pdif	03 53 19.4	-1.4	
BELG				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ANMO	Albuquerque	102.86	56	*i* P		Pdif	03 53 23.8	+1.9	
ANMO				pmax		pmax			
	comp=Z,14nm,1.1s								
ANMO	Albuquerque	102.86	56	Pdiff			03 53 23.2		
	baz=272								
VNA1	Neumayer--Stat	102.92	187	PKKP			04 09 19.1		
VNA1	Neumayer--Stat	102.92	187	Pdiff		Pdif	03 53 21.4	+0.3	
N23A	Red Feather La	102.93	49	Pdiff			03 53 22.7		
	baz=274								
EPT	El Paso	102.93	59	IAMs_20		IAMs_20	04 30 56.5		
	comp=Z,3µm,22.0s								
ISCO	Idaho Springs	103.25	51	IAMs_20		IAMs_20	04 37 08.0		
	comp=Z,2µm,20.0s								
ISCO	Idaho Springs	103.25	51	Pdiff			03 53 24.0		
	baz=274								
PHWY	Pilot Hill	103.26	49	IAMs_20		IAMs_20	04 37 17.1		
	comp=Z,2µm,20.0s								
HOPEN	Hopen	103.30	349	*e*Pdif		Pdif	03 53 22.9	+0.2	
HOPEN				IVmBBB			03 53 23.5		
	comp=Z,659nm,3.0s								
HOPEN				*e*PP		PP	03 57 37.2	-0.9	
HOPEN				*e*SKSac		SKSac	04 03 54.8	-3.7	
HOPEN				*e*SP		SP	04 06 43.6	+2.0	
HOPEN				*e*SS		SS	04 12 20.4	+2.6	
HOPEN				IVMs_BB		IVMs_BB	04 37 14.8		
	comp=Z,1µm,3.4s								
DGMT	Dagmar	103.43	42	IAMs_20		IAMs_20	04 37 06.2		
	comp=Z,2µm,20.0s								
DGMT	Dagmar	103.43	42	Pdiff			03 53 24.3		
	baz=277								
SDCO	Great Sand Dun	103.48	53	Pdiff			03 53 26.2		
	baz=274								
Q24A	Divide	103.67	51	Pdiff			03 53 27.1		
	baz=274								
SPA0	Spitsbergen Ar	103.72	351	*e*Pdif		Pdif	03 53 27.4	+2.8	
SPA0				*e*PP		PKiKP	03 57 44.4	+2.0	
SPA0				*e*SKSac		SKSac	04 03 59.7	-0.8	
SPA0				*e*SP		SP	04 06 48.8	+2.8	
SPA0				IVMs_BB		IVMs_BB	04 36 06.2		
	comp=Z,837nm,22.5s								
KBS	Kingsbay	103.79	353	*e*Pdif		Pdif	03 53 21.0	-3.8	
KBS				IVmB_BB			03 53 27.9		
	comp=Z,406nm,3.4s								
KBS				*e*PP		PP	03 57 39.3	-2.4	
KBS				*e*SP		SP	04 06 45.5	-1.1	
KBS				*e*SS		SS	04 12 27.5	+3.0	
KBS				IVMs_BB		IVMs_BB	04 35 10.9		
	comp=Z,828nm,28.2s								
FFC	Flin Flon	103.85	35	IAMs_20		IAMs_20	04 36 29.7		
	comp=Z,3µm,22.0s								
MNTX	Cornudas Mount	103.89	59	IAMs_20		IAMs_20	04 35 16.9		
	comp=Z,2µm,20.0s								
MNTX	Cornudas Mount	103.89	59	Pdiff			03 53 27.8		
	baz=272								
MAK	Makhachkala	103.97	313	*eP*		Pdif	03 53 23.2	-3.1	
MAK				*i*			03 57 41.5		
MAK				*e*			04 04 01.4		
MAK				*e*			04 04 42.4		
MAK				*e*PS		PS	04 06 48.6	-7.6	
MAK				*e*SS		SS	04 12 22.7	-6.2	
MAK				*e*SSS		SSS	04 16 28.2		
MAK				pmax		pmax			
	comp=Z,132nm,1.2s								
RSSD	Black Hills	104.04	46	Pdiff			03 53 27.2		
	baz=276								
T25A	Trinidad	104.39	53	Pdiff			03 53 29.9		
	baz=274								
HSPB	Hornsund (broa	104.67	351	*e*Pdif		Pdif	03 53 29.0	+0.2	
HSPB				IVmB_BB			03 53 40.2		
	comp=Z,282nm,2.0s								
HSPB				*e*PP		PP	03 57 49.2	+1.0	
HSPB				*e*SP		SP	04 06 55.4	-0.5	
HSPB				*e*SS		SS	04 12 34.9	-1.6	
HSPB				IVMs_BB		IVMs_BB	04 39 10.3		
	comp=Z,737nm,22.6s								
LVZ	Lovozero	104.90	340	IAMs_20		IAMs_20	04 45 01.8		
	comp=Z,2µm,20.0s								
KLMR	Klimovskoe	105.34	332	*e*P		Pdif	03 53 27.2	-4.8	
KLMR				*e*PS		PS	04 06 58.8	-11	
KLMR				*e*SS		SS	04 12 45.4	-1.1	
KLMR				pmax		pmax			
	comp=Z,11nm,1.1s								
KLMR				MLR		MLR			
	comp=Z,3µm,20.0s								
KLMR	Klimovskoe	105.34	332	*e*Pdif		Pdif	03 53 27.2	-4.8	
KLMR				AMP			03 53 31.9		
	comp=Z,11nm,1.1s								
KLMR				*e*PP		PKiKP	03 57 45.7	0.0	
KLMR				*e*PS		PS	04 06 58.9	-11	
KLMR				*e*PS		PS	04 06 58.9	-11	
KLMR				*e*PKKPbc		PKKPbc	04 09 10.1	-3.8	
KLMR				*e*SS		SS	04 12 45.5	-1.0	
KLMR				*e*SS		SS	04 12 45.5	-1.0	
KLMR				LQ		LQ	04 32 16.7		
KLMR				LQ		LQ	04 32 16.7		
KLMR				LR		LR	04 37 04.5		
KLMR				AMP			04 43 14.8		
	comp=Z,3µm,19.9s								
TXAR	Lajitas Array	105.46	61	Pdiff		Pdif	03 53 36.2	+2.7	
	comp=Z,1.6nm,0.8s,baz=260,slow=4.2,SNR=14								
TXAR				PKiKP		PKiKP	03 57 47.8	+0.8	
	comp=Z,2.1nm,0.9s,baz=282,slow=1.4,SNR=11								
TXAR				PKKPbc		PKKPbc	04 09 11.7	-0.9	
	comp=Z,1.3nm,0.8s,baz=98,slow=3.8,SNR=8.7								
TXAR				PKPPKP			04 17 37.8		
	comp=Z,0.4nm,0.8s,baz=104,slow=2.6,SNR=4.7								
TULEG	Thule	105.56	9	IAMs_20		IAMs_20	04 40 55.0		
	comp=Z,3µm,21.0s								
BJO1	Bjornoya	105.73	348	*e*Pdif		Pdif	03 53 33.0	-0.5	
BJO1				*e*PP		PP	03 57 55.2	-0.9	
BJO1				*e*SKSac		SKSac	04 04 05.3	-4.3	
BJO1				*e*SP		SP	04 07 08.6	+1.6	
BJO1				*e*SS		SKKPbc	04 12 52.2	-0.9	
BJO1				IVMs_BB		IVMs_BB	04 40 49.9		
	comp=Z,1µm,23.8s								
OGNE	Ogallala	105.87	49	IAMs_20		IAMs_20	04 37 25.2		
	comp=Z,3µm,20.0s								
MSTX	Muleshoe	105.95	56	PKiKP			03 57 48.7		
	baz=274								
E28A	Huff	106.05	43	IAMs_20		IAMs_20	04 33 48.6		
	comp=Z,2µm,22.0s								
MDND	Maddock	106.56	42	IAMs_20		IAMs_20	04 40 36.1		
	comp=Z,2µm,20.0s								
ZEI	Tsey	106.62	313	*e*P		Pdif	03 53 38.0	-0.4	
ZEI				pmax		pmax			
	comp=Z,5.0nm,0.5s								
AMTX	Amarillo	106.78	55	IAMs_20		IAMs_20	04 34 14.1		
	comp=Z,2µm,21.0s								
ARCES	ARCESS Array B	107.08	343	PKiKP		PKiKP	03 57 48.5	-0.2	
	comp=Z,2.8nm,0.5s,baz=99,slow=1.5,SNR=29								
KBZ	Khabaz	107.20	314	Pdiff		Pdif	03 53 40.8	+0.1	
	comp=Z,1.0nm,0.6s,baz=51,slow=3.8,SNR=5.1								
KIV	Kislovodsk	107.32	314	*e*P		Pdif	03 53 38.9	-2.5	
KIV				*e*			03 58 06.8		
KIV				*e*			04 04 17.1		
KIV				*e*PS		PS	04 07 28.7	-2.4	
KIV				*e*SS		SS	04 13 13.5	-1.2	
KIV				pmax		pmax			
	comp=Z,23nm,1.1s								
KIV				MLR		MLR			
	comp=Z,4µm,21.0s								
SUSD	Miller	107.61	45	IAMs_20		IAMs_20	04 39 46.0		
	comp=Z,2µm,20.0s								
SUSD	Miller	107.61	45	PKiKP			03 57 51.1		
	baz=280								
CBKS	Cedar Bluff	107.89	51	PKiKP			03 57 52.0		
	baz=278								
D32A	Dogwood Acres,	108.42	42	IAMs_20		IAMs_20	04 42 11.3		
	comp=Z,3µm,20.0s								
ULM	Lac du Bonnet	108.45	39	PKiKP		PKiKP	03 57 51.4	-0.5	
	comp=Z,6.7nm,0.9s,baz=284,slow=2.6,SNR=5.7								
OBN	Obninsk	108.57	327	*i*‖ *eP*		Pdif	03 53 46.3	-0.2	
OBN				*e*			03 58 22.0		
OBN				*e*PS		PS	04 07 41.4	-1.7	
OBN				*e*SS		SS	04 13 39.8	+9.3	
OBN				pmax		pmax			
	comp=Z,9.0nm,1.1s								
OBN				pmax		pmax			
	comp=Z,26nm,1.4s								
OBN				MLR		MLR			
	comp=Z,4µm,22.0s								
ABTX	Abilene, Hawle	108.68	58	PKiKP			03 57 53.7		
	baz=276								
BGNE	Belgrade	108.71	48	IAMs_20		IAMs_20	04 39 44.2		
	comp=Z,2µm,20.0s								
BGNE	Belgrade	108.71	48	PKiKP			03 57 53.5		
	baz=280								
JCT	Junction City	108.74	60	IAMs_20		IAMs_20	04 34 53.2		
	comp=Z,3µm,22.0s								
JCT	Junction City	108.74	60	PKiKP			03 57 53.8		
	baz=275								
TRO	Tromso	108.89	344	*e*Pdif		Pdif	03 53 46.8	-0.8	
TRO				*e*PP		PP	03 58 21.1	+1.9	
TRO				*e*SKSac		SKSac	04 04 24.7	+1.2	
TRO				*e*SP		SP	04 07 39.9	+0.5	
TRO				*e*SS		SS	04 13 36.3	+2.4	
TRO				IVMs_BB		IVMs_BB	04 46 26.7		
	comp=Z,736nm,3.5s								
AGMN	Agassiz Nation	108.92	41	IAMs_20		IAMs_20	04 39 32.4		
	comp=Z,2µm,21.0s								
AGMN	Agassiz Nation	108.92	41	PKiKP			03 57 52.8		
	baz=284								
WMOK	Wichita Mounta	109.16	55	PKiKP			03 57 53.6		
	baz=277								
F33A	5 Mile Ranch,	109.

LOF					IVMs_BB	IVMs_BB	04 39 57.6		
	comp=Z,750nm,3.4s								
TUL1	**Leonard**	**111.42**	**54**	PKiKP			03 57 58.2		
	baz=279								
I37A	**Lemond, Waseca**	**111.61**	**45**	IAMs_20	IAMs_20		04 54 33.9		
	comp=Z,2µm,20.0s								
SPMN	**Marine on St.**	**111.72**	**43**	IAMs_20	IAMs_20		04 42 14.7		
	comp=Z,2µm,20.0s								
SPMN	**Marine on St.**	**111.72**	**43**	PKiKP			03 57 58.5		
	baz=285								
EYMN	**Ely**	**111.84**	**40**	PKiKP			03 57 58.5		
	baz=287								
X37A	**Clayton**	**111.97**	**55**	IAMs_20	IAMs_20		04 41 57.2		
	comp=Z,2µm,19.0s								
237A	**Washetta, Mont**	**111.98**	**58**	IAMs_20	IAMs_20		04 40 51.5		
	comp=Z,2µm,20.0s								
E38A	**The Farm, Brul**	**112.19**	**42**	IAMs_20	IAMs_20		04 44 16.0		
	comp=Z,3µm,19.0s								
VSU	**Vasula**	**112.25**	**332**	*e*P	**PKiKP**		**03 57 58.4**	**-0.4**	
K38A	**Parkersburg**	**112.38**	**46**	IAMs_20	IAMs_20		04 44 40.5		
	comp=Z,2µm,20.0s								
MEF	**Metsahovi**	**112.42**	**335**	*e*P	**PKiKP**		**03 57 58.7**	**-0.3**	
MOR8	**Moi Rana**	**112.45**	**343**	*e*Pdif	**Pdif**		**03 54 00.6**	**-3.0**	
MOR8				*e*PP	**PP**		**03 58 43.3**	**-1.7**	
MOR8				*e*SP	SP		04 08 13.5	+0.2	
MOR8				*e*SS	**SS**		**04 14 22.7**	**+1.0**	
MOR8				IVMs_BB	IVMs_BB		04 46 21.9		
	comp=Z,1µm,18.2s								
U38A	**Gravette**	**112.45**	**53**	IAMs_20	IAMs_20		04 37 42.9		
	comp=Z,3µm,22.0s								
HHAR	**Hobbs**	**112.84**	**53**	IAMs_20	IAMs_20		04 37 30.0		
	comp=Z,3µm,22.0s								
NATX	**Nacogdoches**	**112.98**	**58**	IAMs_20	IAMs_20		04 48 10.0		
	comp=Z,2µm,19.0s								
SNOP	**Sinop**	**113.08**	**313**	IAMs_20	IAMs_20		04 49 11.8		
	comp=Z,2µm,22.0s								
W39A	**Magazine**	**113.16**	**54**	IAMs_20	IAMs_20		04 43 49.6		
	comp=Z,2µm,20.0s								
W39A	**Magazine**	**113.16**	**54**	PKiKP			03 58 01.5		
	baz=280								
JMIC	**Jan Mayen**	**113.27**	**353**	*e*PP	**PP**		**03 58 48.3**	**-2.3**	
JMIC				*e*SP	SP		04 08 24.6	+4.1	
MIAR	**Mount Ida**	**113.44**	**55**	IAMs_20	IAMs_20		04 43 56.0		
	comp=Z,3µm,19.0s								
MIAR	**Mount Ida**	**113.44**	**55**	PKiKP			03 58 01.5		
	baz=280								
MNK	**Minsk**	**113.46**	**328**	*i* PKiKP	**PKiKP**		**03 58 00.9**	**-0.3**	
MNK				*i*			04 05 06.9		
MNK				*i* SS	SS		04 14 30.1	-5.7	
MNK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MNK				pmax	pmax				
	comp=E,2.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,10.0nm,0.8s								
MNK				MLR	MLR				
	comp=N,1µm,20.0s								
MNK				MLR	MLR				
	comp=E,213nm,21.0s								
MNK				MLR	MLR				
	comp=Z,3µm,22.0s								
MNK	**Minsk**	**113.46**	**328**	*i* PKP	**PKiKP**		**03 58 00.9**	**-0.2**	
	comp=E,2.0nm,0.9s								
MNK				*i* PKP	**PKiKP**		**03 58 00.9**	**-0.2**	
	comp=N,10.0nm,0.8s								
MNK				*i* PKP	**PKiKP**		**03 58 00.9**	**-0.2**	
	comp=Z,7.0nm,0.8s,baz=245								
MNK				*i* PP	**PP**		**03 58 46.7**	**-5.9**	
MNK				*i* PPP	PPP		04 01 09.8		
MNK				*i* SKS	**SKSdf**		**04 05 06.9**	**-2.8**	
MNK				*i* SS	**SS**		**04 14 30.2**	**-5.6**	
MNK				*i* SSS	SSS		04 18 42.7		
MNK				*i* LQ	LQ		04 35 47.8		
MNK				*i* LR	LR		04 40 08.4		
MNK				*i* LRM	MLR		04 45 55.8		
	comp=E,213nm,20.6s								
MNK				*i* LRM	MLR		04 45 55.8		
	comp=N,1µm,20.3s								
MNK				*i* LRM	MLR		04 45 55.8		
	comp=Z,3µm,21.6s								
I40A	**Norwalk**	**113.58**	**44**	IAMs_20	IAMs_20		04 38 22.1		
	comp=Z,3µm,22.0s								
L40A	**Anamosa**	**113.64**	**46**	IAMs_20	IAMs_20		04 41 47.8		
	comp=Z,2µm,20.0s								
P40A	**Paris**	**113.64**	**49**	IAMs_20	IAMs_20		04 41 41.0		
	comp=Z,2µm,20.0s								
U40A	**Yellville**	**113.69**	**53**	PKiKP			03 58 01.7		
	baz=281								
IDID	**Didziasalis**	**113.70**	**329**	*e*P	**PKiKP**		**03 58 01.9**	**+0.3**	
NACGM	**Naroch**	**113.86**	**329**	*i* PKP	**PKiKP**		**03 58 01.8**	**-0.1**	
IIGN	**Ignalina**	**113.94**	**329**	*e*P	**PKiKP**		**03 58 03.4**	**+1.3**	
BZK	**Bozkurt**	**113.96**	**314**	IAMs_20	IAMs_20		04 50 01.2		
	comp=Z,2µm,20.0s								
WLAR	**White Oak Lake**	**113.96**	**56**	IAMs_20	IAMs_20		04 44 30.1		
	comp=Z,2µm,20.0s								
X40A	**Basin Creek Fa**	**114.05**	**55**	IAMs_20	IAMs_20		04 40 01.3		
	comp=Z,2µm,21.0s								
JFWS	**Jewell Farm**	**114.11**	**45**	IAMs_20	IAMs_20		04 44 25.1		
	comp=Z,2µm,20.0s								
JFWS	**Jewell Farm**	**114.11**	**45**	PKiKP			03 58 02.0		
	baz=286								
KMBO	**Kilima Mbogo**	**114.11**	**266**	PKP	**PKiKP**		**03 58 04.4**	**+0.4**	
	comp=Z,5.2nm,0.9s,baz=39,slow=5.4,SNR=7.9								
KMBO				PKKPbc	**PKKPbc**		**04 08 47.3**	**+2.8**	
	comp=Z,3.2nm,1.0s,baz=356,slow=5.1,SNR=4.2								
AKASG	**Malin Array Be**	**114.27**	**324**	PKP	PKPdf		03 58 02.0	-0.8	
	comp=Z,4.3nm,0.5s,baz=60,slow=2.4,SNR=25								
AKASG				PKKPbc	**PKKPbc**		**04 08 41.9**	**-2.8**	
	comp=Z,3.8nm,1.0s,baz=263,slow=3.2,SNR=9.1								
AKBB	**Malin Array Si**	**114.27**	**324**	*c* *i*PKiKP	PKPdf		03 58 02.6	-0.2	
Z41A	**Richland Creek**	**114.29**	**56**	PKiKP			03 58 03.1		
	baz=280								
WHAR	**Wooly Hollow**	**114.34**	**54**	IAMs_20	IAMs_20		04 43 02.9		
	comp=Z,3µm,20.0s								
NSS	**Namsos**	**114.34**	**342**	*e*PKPdf	**PKiKP**		**03 58 01.7**	**-0.8**	
FCAR	**Ozark Folk Cen**	**114.36**	**53**	IAMs_20	IAMs_20		04 45 19.3		
	comp=Z,2µm,19.0s								
441A	**DeRidder**	**114.37**	**59**	IAMs_20	IAMs_20		04 38 54.0		
	comp=Z,3µm,22.0s								
W41B	**Gary Mavity, V**	**114.40**	**54**	PKiKP			03 58 03.4		
	baz=281								
ILULI	**Ilulissat**	**114.53**	**9**	IAMs_20	IAMs_20		04 44 44.8		
	comp=Z,2µm,21.0s								
CCM	**Cathedral Cave**	**114.58**	**51**	PKiKP			03 58 03.2		
	baz=283								
F42A	**Maple Grove Fa**	**114.71**	**42**	IAMs_20	IAMs_20		04 39 28.7		
	comp=Z,3µm,21.0s								
I42A	**Draeger Farm,**	**114.76**	**44**	IAMs_20	IAMs_20		04 43 30.3		
	comp=Z,3µm,21.0s								
L42A	**Oliver, Polo**	**114.77**	**46**	IAMs_20	IAMs_20		04 43 57.7		
	comp=Z,3µm,20.0s								
BRTR	**Keskin Array B**	**114.80**	**311**	PKP	**PKiKP**		**03 58 03.9**	**-0.6**	
	comp=Z,11nm,0.9s,baz=150,slow=2.1,SNR=30								
BRTR				PP	**PP**		**03 59 03.8**	**+0.9**	
	comp=Z,7.6nm,0.9s,baz=111,slow=4.4,SNR=6.9								
BRTR				PKKPbc	**PKKPbc**		**04 08 42.6**	**-0.2**	
	comp=Z,1.4nm,0.8s,baz=190,slow=3.6,SNR=8.2								
MMAI	**Mount Meron Ar**	**114.83**	**304**	PKP	**PKiKP**		**03 58 04.7**	**+0.1**	
	comp=Z,2.1nm,0.5s,baz=46,slow=3.6,SNR=7.6								
PABE	**Paberze**	**115.00**	**330**	IAMs_20	IAMs_20		04 49 06.4		
	comp=Z,2µm,20.0s								
342A	**Flagon Creek P**	**115.00**	**58**	IAMs_20	IAMs_20		04 45 05.8		
	comp=Z,2µm,19.0s								
CCAR	**Cane Creek**	**115.02**	**55**	IAMs_20	IAMs_20		04 44 43.0		
	comp=Z,2µm,20.0s								
LCAR	**Lake Charles**	**115.09**	**53**	IAMs_20	IAMs_20		04 39 01.6		
	comp=Z,2µm,22.0s								
E43A	**Lone Tree Farm**	**115.25**	**41**	IAMs_20	IAMs_20		04 47 33.0		
	comp=Z,2µm,19.0s								
H43A	**Windswept, Lux**	**115.36**	**43**	IAMs_20	IAMs_20		04 41 41.2		
	comp=Z,2µm,22.0s								
ANTO	**Ankara**	**115.39**	**312**	PKiKP	**PKiKP**		**03 58 05.0**	**-0.5**	
ANTO	**Ankara**	**115.39**	**312**	PKPdf	**PKiKP**		**03 58 05.0**	**-0.5**	
HDIL	**Hopedale**	**115.43**	**47**	IAMs_20	IAMs_20		04 42 23.4		
	comp=Z,3µm,21.0s								
HDIL	**Hopedale**	**115.43**	**47**	PKiKP			03 58 04.9		
	baz=286								
K43A	**Burlington**	**115.52**	**45**	IAMs_20	IAMs_20		04 48 24.4		
	comp=Z,2µm,19.0s								
143A	**Socs Landing,**	**115.55**	**56**	IAMs_20	IAMs_20		04 46 43.0		
	comp=Z,2µm,19.0s								
HBAR	**Harrisburg**	**115.59**	**53**	IAMs_20	IAMs_20		04 44 38.0		
	comp=Z,2µm,20.0s								
EIL	**Elat**	**115.76**	**300**	PKP	**PKiKP**		**03 58 06.7**	**+0.3**	
	comp=Z,9.2nm,0.8s,baz=69,slow=3.4,SNR=9.1								
SORM	**Soroca**	**115.78**	**322**	⇑P	**PKiKP**		**03 58 05.1**	**-0.8**	
SORM	**Soroca**	**115.78**	**322**	⇑PKiKP	**PKiKP**		**03 58 05.0**	**-0.8**	
LPAR	**Lepanto**	**115.87**	**53**	IAMs_20	IAMs_20		04 43 23.3		
	comp=Z,2µm,20.0s								
L44A	**Lake County Fo**	**115.97**	**45**	IAMs_20	IAMs_20		04 51 17.5		
	comp=Z,2µm,20.0s								
L44A	**Lake County Fo**	**115.97**	**45**	PKiKP			03 58 05.9		
	baz=287								
GNAR	**Gosnell**	**116.01**	**53**	IAMs_20	IAMs_20		04 44 25.0		
	comp=Z,2µm,21.0s								
Q44A	**Meyer Farm, Va**	**116.08**	**49**	IAMs_20	IAMs_20		04 40 51.5		
	comp=Z,3µm,22.0s								
PEBM	**Pemiscott Bayo**	**116.10**	**52**	IAMs_20	IAMs_20		04 40 29.4		
	comp=Z,2µm,22.0s								
M44A	**Midewin, Midew**	**116.11**	**46**	IAMs_20	IAMs_20		04 47 23.2		
	comp=Z,2µm,20.0s								
HQIL	**Hanson Quary C**	**116.13**	**46**	IAMs_20	IAMs_20		04 45 25.6		
	comp=Z,3µm,20.0s								
SUW	**Suwalki**	**116.14**	**329**	*e*PKiKP	**PKPdf**		**03 58 06.8**	**+0.4**	
SUW				*e*PP	**PP**		**03 59 10.9**	**-0.5**	
SUW				*e*L	L		04 44 53.2		
	comp=Z,4µm,27.4s								
SUW	**Suwalki**	**116.14**	**329**	*e*P	**PKPdf**		**03 58 06.7**	**+0.4**	
O44A	**Mansfield**	**116.15**	**48**	IAMs_20	IAMs_20		04 41 54.4		
	comp=Z,3µm,21.0s								
MET	**Memphis--Engin**	**116.26**	**53**	IAMs_20	IAMs_20		04 41 30.8		
	comp=Z,2µm,21.0s								
344A	**Westbrook Farm**	**116.33**	**58**	IAMs_20	IAMs_20		04 47 09.9		
	comp=Z,2µm,19.0s								
VBMS	**Vicksburg**	**116.37**	**57**	IAMs_20	IAMs_20		04 45 05.9		
	comp=Z,2µm,19.0s								
LNXT	**Lenox**	**116.39**	**52**	IAMs_20	IAMs_20		04 40 38.2		
	comp=Z,2µm,22.0s								
LEF	**Lefka**	**116.46**	**307**	⇓P	**PKiKP**		**03 58 08.2**	**+0.7**	
I45A	**Fountain**	**116.55**	**43**	IAMs_20	IAMs_20		04 45 39.5		
	comp=Z,3µm,20.0s								
HALT	**Halls**	**116.56**	**52**	IAMs_20	IAMs_20		04 40 31.5		
	comp=Z,3µm,22.0s								
TLCR		**116.57**	**318**	⇓PKiKP	**PKiKP**		**03 58 07.9**	**+0.5**	
SFJD	**Kangerlussuaq**	**116.62**	**10**	IAMs_20	IAMs_20		04 47 36.3		
	comp=Z,2µm,22.0s								
OLIL	**Olney**	**116.81**	**49**	IAMs_20	IAMs_20		04 41 03.0		
	comp=Z,3µm,22.0s								
OXF	**Oxford**	**116.82**	**54**	IAMs_20	IAMs_20		04 52 43.5		
	comp=Z,2µm,19.0s								
W45A	**Hickory Valley**	**116.85**	**53**	IAMs_20	IAMs_20		04 45 25.4		
	comp=Z,2µm,21.0s								
TPGR	**Topolog**	**116.95**	**318**	⇓P	**PKiKP**		**03 58 08.3**	**0.0**	
CFR	**Carcaliu**	**117.02**	**319**	⇑P	**PKPdf**		**03 58 07.5**	**-0.8**	
CFR	**Carcaliu**	**117.02**	**319**	⇑PKiKP	**PKPdf**		**03 58 07.1**	**-1.2**	
DOMB	**Dombas**	**117.05**	**341**	*e*PKPdf	**PKiKP**		**03 58 08.1**	**+0.1**	
DOMB				IVmB_BB			03 58 19.7		
	comp=Z,348nm,3.1s								
DOMB				*e*SP	SP		04 08 54.2	-1.2	
DOMB				*e*SS	**SS**		**04 15 20.6**	**-1.7**	
DOMB				IVMs_BB	IVMs_BB		04 48 39.6		
	comp=Z,2µm,21.7s								
NOA	**NORSAR Array B**	**117.05**	**340**	PKP	**PKPdf**		**03 58 07.2**	**-0.8**	
	comp=Z,9.4nm,0.9s,baz=47,slow=2.0,SNR=35								
NOA				PKKPbc	**PKKPbc**		**04 08 33.0**	**-2.4**	
	comp=Z,2.2nm,1.1s,baz=43,slow=3.5,SNR=3.4								
SFIN	**Lafayette**	**117.09**	**47**	IAMs_20	IAMs_20		04 42 42.3		
	comp=Z,2µm,22.0s								
SFIN	**Lafayette**	**117.09**	**47**	PKiKP			03 58 08.8		
	baz=287								
TIRR	**Tirgusor**	**117.09**	**318**	⇑PKiKP	**PKPdf**		**03 58 07.3**	**-1.2**	
MOL	**Molde**	**117.13**	**342**	*e*PKPdf	**PKiKP**		**03 58 08.9**	**+0.9**	
NC602	**NORSAR Array S**	**117.15**	**339**	*e*PKPdf	**PKPdf**		**03 58 07.6**	**-0.6**	
NC602				*e*SKSac	**SKSac**		**04 04 56.5**	**-0.1**	
NC602				*e*SP	SP		04 08 58.3	+1.9	
NC602				*e*SS	**SS**		**04 15 28.2**	**+4.7**	
NC602				IVMs_BB	IVMs_BB		04 45 19.2		
	comp=Z,914nm,20.6s								
L46A	**Eue Claire**	**117.17**	**45**	IAMs_20	IAMs_20		04 44 46.1		
	comp=Z,2µm,20.0s								
MFTR	**Murfatlar**	**117.18**	**317**	⇑P	**PKPdf**		**03 58 07.9**	**-0.8**	
HARR	**Harsova**	**117.33**	**318**	⇑PKiKP	**PKPdf**		**03 58 07.7**	**-1.2**	
USIN	**University of**	**117.35**	**50**	IAMs_20	IAMs_20		04 43 31.0		
	comp=Z,3µm,21.0s								
GLMI	**Grayling**	**117.36**	**42**	IAMs_20	IAMs_20		04 41 17.9		
	comp=Z,3µm,22.0s								
GLMI	**Grayling**	**117.36**	**42**	PKiKP			03 58 08.9		
	baz=291								
346A	**Big Creek Wild**	**117.41**	**57**	IAMs_20	IAMs_20		04 54 51.4		
	comp=Z,2µm,18.0s								
TESR	**Tescani**	**117.48**	**320**	⇓P	**PKPdf**		**03 58 08.1**	**-1.1**	
AKN	**Aaknes**	**117.59**	**342**	*e*PKPdf	**PKiKP**		**03 58 09.1**	**+0.2**	
AKN				IVmB_BB			03 58 12.1		
	comp=Z,627nm,3.3s								
AKN				*e*SP	SP		04 09 01.6	+1.3	
AKN				*e*SS	**SS**		**04 15 31.0**	**+1.8**	
AKN				IVMs_BB	IVMs_BB		04 42 34.6		
	comp=Z,650nm,13.7s								
LVV	**L'vov**	**117.67**	**325**	*e*PKiKP	**PKiKP**		**03 58 09.7**	**+0.2**	
LVV				*e*			03 59 20.5		
LVV				*e*			04 15 54.5		
LVV				MLR	MLR				
	comp=Z,3µm,25.0s								
VRI	**Vrincioaia**	**117.68**	**320**	⇑PKiKP	**PKPdf**		**03 58 08.8**	**-0.8**	
WVT	**Waverly**	**117.69**	**52**	IAMs_20	IAMs_20		04 41 07.6		
	comp=Z,3µm,22.0s								
WVT	**Waverly**	**117.69**	**52**	PKiKP			03 58 09.4		
	baz=284								
PLOR	**Plostina**	**117.74**	**320**	⇑P	**PKPdf**		**03 58 08.2**	**-1.5**	
PLOR	**Plostina**	**117.74**	**320**	⇑PKiKP	**PKPdf**		**03 58 07.5**	**-2.3**	
PLAL	**Pickwick Lake**	**117.78**	**53**	IAMs_20	IAMs_20		04 45 16.9		
	comp=Z,2µm,20.0s								
J47A	**Sunmer**	**117.78**	**43**	IAMs_20	IAMs_20		04 46 19.3		
	comp=Z,3µm,20.0s								
BISRR	**Bisoca**	**117.81**	**319**	⇓P	**PKPdf**		**03 58 09.7**	**-0.2**	
BURAR	**Bucovina Array**	**117.92**	**322**	⇓P	**PKiKP**		**03 58 11.0**	**+0.8**	
BURAR	**Bucovina Array**	**117.92**	**322**	PKPdf	**PKiKP**		**03 58 10.8**	**+0.7**	
N47A	**Urbana**	**117.95**	**46**	IAMs_20	IAMs_20		04 43 12.0		
	comp=Z,3µm,22.0s								
OSL	**Oslo**	**118.00**	**339**	*e*PKPdf	**PKiKP**		**03 58 10.4**	**+0.7**	
OZUR		**118.19**	**320**	⇑P	**PKiKP**		**03 58 10.8**	**+0.1**	
Z47A	**Carrollton**	**118.19**	**55**	IAMs_20	IAMs_20		04 45 43.0		
	comp=Z,2µm,22.0s								
SKAR	**Skarslia**	**118.30**	**340**	*e*PKPdf	**PKiKP**		**03 58 10.5**	**0.0**	
SKAR				*e*SKSac	**SKSac**		**04 05 02.9**	**+1.9**	
SKAR				*e*SP	SP		04 09 07.2	+0.4	
SKAR				*e*SS	**SS**		**04 15 42.3**	**+3.8**	
SKAR				IVMs_BB	IVMs_BB		04 52 15.4		
	comp=Z,1µm,18.2s								
BOSA	**Boshof**	**118.31**	**234**	PKP	**PKPdf**		**03 58 11.3**	**-0.2**	
	comp=Z,8.9nm,1.0s,baz=121,slow=0.8,SNR=13								
BOSA				PKKPbc	**PKKPbc**		**04 08 30.0**	**-0.1**	
	comp=Z,7.7nm,0.8s,baz=296,slow=2.3,SNR=10								
WCI	**Wyandotte Cave**	**118.31**	**49**	PKiKP			03 58 10.6		
	baz=287								
MLR	**Muntele Rosu**	**118.33**	**320**	⇓P	**PKPdf**		**03 58 10.4**	**-0.6**	
MLR	**Muntele Rosu**	**118.33**	**320**	⇑PKiKP	**PKPdf**		**03 58 10.2**	**-0.8**	
MLR	**Muntele Rosu**	**118.33**	**320**	IAMs_20	IAMs_20		04 52 16.3		
	comp=Z,2µm,22.0s								
BLEU	**Blekinge**	**118.38**	**334**	*i* P	**PKPdf**		**03 58 10.0**	**-0.6**	
BEL	**Belsk**	**118.49**	**328**	*e*PKiKP	**PKiKP**		**03 58 12.0**	**+1.1**	
BEL				*e*L	L		04 50 00.1		
	comp=Z,3µm,21.9s								
KWP	**Kalwaria Pacla**	**118.52**	**325**	*e*PKiKP	**PKPdf**		**03 58 11.0**	**-0.1**	
KWP				*e*PP	**PP**		**03 59 30.9**	**+2.7**	
KWP				*e*L	L		04 46 01.8		
	comp=Z,4µm,26.9s								
V48A	**Smith Brothers**	**118.58**	**52**	IAMs_20	IAMs_20		04 43 09.1		
	comp=Z,2µm,21.0s								
P48A	**Milroy**	**118.59**	**48**	IAMs_20	IAMs_20		04 42 59.1		
	comp=Z,3µm,22.0s								
KONO	**Kongsberg**	**118.61**	**339**	*c* *i*PKiKP	**PKPdf**		**03 58 09.3**	**-1.6**	
KONO				pmax	pmax				
	comp=Z,28nm,1.7s								
KONO	**Kongsberg**	**118.61**	**339**	*e*PKPdf	**PKPdf**		**03 58 10.9**	**0.0**	
KONO				IVmB_BB			03 58 12.8		
	comp=Z,301nm,2.2s								
KONO				*e*SS	SS		04 15 45.7	+3.3	
KONO				IVMs_BB	IVMs_BB		04 49 19.6		
	comp=Z,662nm,21.9s								
KONO	**Kongsberg**	**118.61**	**339**	IAMs_20	IAMs_20		04 52 26.3		
	comp=Z,2µm,21.0s								
HYA	**Hoyanger**	**118.62**	**342**	*e*PKPdf	**PKiKP**		**03 58 11.2**	**+0.3**	
FOO	**Floro**	**118.63**	**343**	*e*PKPdf	**PKiKP**		**03 58 11.0**	**+0.1**	
BORU	**Boraas**	**118.81**	**336**	*i* P	**PKPdf**		**03 58 10.8**	**-0.6**	
I49A	**Point Hope**	**118.88**	**42**	IAMs_20	IAMs_20		04 45 57.2		
	comp=Z,2µm,21.0s								
AAM	**Ann Arbor**	**118.92**	**44**	PKiKP			03 58 11.3		
	baz=291								
VOIR		**118.93**	**320**	⇑P	**PKPdf**		**03 58 11.3**	**-0.9**	
VOIR		**118.93**	**320**	⇑PKiKP	**PKiKP**		**03 58 12.6**	**+0.4**	
BMR	**Baia Mare**	**118.95**	**323**	⇑PKiKP	**PKPdf**		**03 58 09.8**	**-2.2**	
N49A	**Columbus Grove**	**119.03**	**46**	IAMs_20	IAMs_20		04 52 06.3		
	comp=Z,2µm,19.0s								
P49A	**Miami Univ. Ec**	**119.09**	**47**	IAMs_20	IAMs_20		04 46 05.2		
	comp=Z,2µm,20.0s								
P49A	**Miami Univ. Ec**	**119.09**	**47**	PKiKP			03 58 11.9		
	baz=289								
KOLS	**Kolonicke sedl**	**119.09**	**324**	*e*PKiKP	**PKiKP**		**03 58 12.6**	**+0.3**	
KOLS	**Kolonicke sedl**	**119.09**	**324**	*e*PKP	**PKiKP**		**03 58 12.6**	**+0.3**	
DEL	**Delary**	**119.11**	**335**	*i* P	**PKPdf**		**03 58 11.9**	**-0.1**	
SUE	**Sulen**	**119.14**	**342**	*e*PKPdf	**PKPdf**		**03 58 11.0**	**-0.9**	
SUE				*e*PP	**PP**		**03 59 32.0**	**+0.2**	
SUE				*e*SP	SP		04 09 14.3	+0.2	
O49A	**Covington**	**119.16**	**47**	IAMs_20	IAMs_20		04 43 35.9		
	comp=Z,2µm,22.0s								
UZH	**Uzhgorod**	**119.23**	**324**	⇓*i*PKiKP	**PKiKP**		**03 58 12.8**	**+0.3**	
UZH				*e*			03 58 18.3		
UZH				*i*			03 59 33.4		
UZH				*i* PPP	PPP		04 02 12.5		
UZH				*e*			04 05 12.8		
UZH				*i* SP	SP		04 09 16.6	+0.7	
UZH				*i* SS	**SS**		**04 15 52.3**	**+1.0**	
UZH				MLR	MLR				
	comp=N,360nm,23.0s								
UZH				MLR	MLR				
	comp=E,370nm,23.0s								
UZH				MLR	MLR				
	comp=Z,180nm,23.0s								
ARR	**Arges**	**119.23**	**320**	⇑P	**PKiKP**		**03 58 13.4**	**+0.6**	
FABU	**Falkenberg**	**119.25**	**336**	*i* P	**PKPdf**		**03 58 11.9**	**-0.3**	
ONAU	**Onsala**	**119.31**	**336**	*i* P	**PKPdf**		**03 58 11.9**	**-0.4**	
HUMR	**Humele**	**119.34**	**319**	⇓P	**PKPdf**		**03 58 11.2**	**-1.6**	
Y49A	**Blount Mountai**	**119.39**	**54**	IAMs_20	IAMs_20		04 45 33.5		
	comp=Z,2µm,21.0s								
SWET	**Sewanee**	**119.42**	**52**	IAMs_20	IAMs_20		04 43 12.3		
	comp=Z,2µm,22.0s								
ZIMR		**119.43**	**318**	⇑PKiKP	**PKPdf**		**03 58 11.9**	**-1.1**	
ODD1	**Odda**	**119.43**	**341**	*e*PKPdf	**PKiKP**		**03 58 13.4**	**+0.7**	
LBTB	**Lobatse**	**119.45**	**237**	PKiKP	**PKiKP**		**03 58 13.8**	**0.0**	
LBTB	**Lobatse**	**119.45**	**237**		**PKiKP**		**03 58 13.8**	**0.0**	
K50A	**Casco**	**119.46**	**43**	IAMs_20	IAMs_20		04 42 40.5		
	comp=Z,3µm,22.0s								
ASK	**Askoy**	**119.46**	**342**	*e*PKPdf	**PKiKP**		**03 58 13.3**	**+0.8**	
BRAL	**Brewton**	**119.48**	**57**	IAMs_20	IAMs_20		04 48 19.2		
	comp=Z,3µm,21.0s								
BRAL	**Brewton**	**119.48**	**57**	PKiKP			03 58 13.1		
	baz=282								
BER	**Bergen**	**119.49**	**342**	IVmBBB			03 58 12.3		
	comp=Z,406nm,2.0s								
BER				*e*PKPdf	**PKiKP**		**03 58 13.2**	**+0.5**	
BER	

VYHS	Vyhne				ePKIKP	PKPdf	03 58 16.2	-0.4	
VYHS	Vyhne				ePKP	PKPdf	03 58 16.2	-0.3	
M53A	WI Miller and	121.31	44	IAMs_20	IAMs_20		04 47 49.5		
	comp=Z,3μm,21.0s								
M53A	WI Miller and	121.31	44	PKiKP			03 58 16.2		
	baz=293								
MORC	Moravsky Berou	121.33	327	⇓P		PKPdf	03 58 16.6	0.0	
MORC	Moravsky Berou	121.33	327	ePKP		PKPdf	03 58 16.6	0.0	
MORC	Moravsky Berou	121.33	327	⇑PKiKP		PKPdf	03 58 16.4	-0.2	
MDVR	Moldovita	121.35	320	⇑P		PKPdf	03 58 16.7	-0.1	
NVR	Nevrokopi	121.35	316	P		PKPdf	03 58 15.7	-1.1	
O53A	New Philadelph	121.38	46	IAMs_20	IAMs_20		04 51 37.5		
	comp=Z,2μm,19.0s								
O53A	New Philadelph	121.38	46	PKiKP			03 58 16.5		
	baz=292								
KSP	Ksiaz	121.39	329	ePKiKP		PKiKP	03 58 16.8	0.0	
KSP				ePP		PP	03 59 48.6	+0.8	
KSP				eL		L	04 50 23.0		
	comp=Z,4μm,24.4s								
N53A	Lisbon	121.43	45	IAMs_20	IAMs_20		04 48 34.0		
	comp=Z,3μm,21.0s								
BANR	Banloc	121.44	321	⇓P		PKiKP	03 58 17.4	+0.5	
TGUH	Tegucigalpa,Un	121.47	77	IAMs_20	IAMs_20		04 43 45.1		
	comp=Z,2μm,20.0s								
ERPA	Erie	121.51	43	IAMs_20	IAMs_20		04 52 24.8		
	comp=Z,2μm,20.0s								
ERPA	Erie	121.51	43	PKiKP			03 58 16.4		
	baz=294								
P53A	Whipple	121.53	46	IAMs_20	IAMs_20		04 52 59.6		
	comp=Z,2μm,19.0s								
KRLC	Kraliky	121.57	328	ePKiKP		PKPdf	03 58 16.6	-0.4	
KRLC				e			03 58 27.1		
KRLC				MLR	MLR				
	comp=Z,3μm,21.7s								
KRLC	Kraliky	121.57	328	ePKPDF		PKPdf	03 58 16.6	-0.4	
KRLC				ex	x		03 58 27.1		
KRLC				ex	x		04 09 25.2		
KRLC				AMS	AMS		04 50 50.0		
	comp=Z,3μm,21.7s								
ALLY	Alegheny Colle	121.59	44	IAMs_20	IAMs_20		04 47 04.0		
	comp=Z,3μm,20.0s								
LRW	Lerwick	121.59	344	eP		PKPdf	03 58 16.1	-0.6	
OSTC	Ostas	121.60	328	ePKPDF		PKPdf	03 58 16.7	-0.3	
OSTC				ex	x		03 58 28.2		
OSTC				ex	x		04 09 25.2		
OSTC				AMS	AMS		04 50 10.0		
	comp=Z,4μm,23.3s								
SRS	Serrai	121.62	316	P		PKPdf	03 58 15.6	-1.8	
DPC	Dobruska-Polom	121.66	328	ePKiKP		PKPdf	03 58 17.1	-0.1	
DPC				e			03 58 28.4		
DPC				MLR	MLR				
	comp=Z,3μm,22.5s								
DPC	Dobruska-Polom	121.66	328	ePKPDF		PKPdf	03 58 17.1	-0.1	
DPC				ex	x		03 58 28.4		
DPC				ex	x		04 09 13.2		
DPC				AMS	AMS		04 50 10.0		
	comp=Z,3μm,22.5s								
CHVC	Chvalec	121.66	328	ePKPDF		PKPdf	03 58 16.9	-0.3	
CHVC				ex	x		04 09 34.9		
CHVC				AMS	AMS		04 50 20.0		
	comp=Z,3μm,24.1s								
CRIN	San Cristobal	121.73	78	IAMs_20	IAMs_20		04 39 36.8		
	comp=Z,2μm,22.0s								
UPC	Upice	121.73	328	ePKiKP		PKPdf	03 58 17.2	-0.1	
UPC				e			03 58 29.2		
UPC				MLR	MLR				
	comp=Z,4μm,23.4s								
UPC	Upice	121.73	328	ePKPDF		PKPdf	03 58 17.2	-0.1	
UPC				epPKP		pPKPdf	03 58 29.2	-2.1	
UPC				ex	x		04 09 10.8		
UPC				AMS	AMS		04 50 20.0		
	comp=Z,4μm,23.4s								
JAVC	Velka Javorina	121.75	326	ePKP		PKiKP	03 58 18.4	+0.8	
JAVC				ePP		PP	03 59 52.8	+2.4	
SCHQ	Schefferville	121.83	25	PKP		PKPdf	03 58 17.0	-0.3	
	comp=Z,8.1nm,0.8s,baz=2.0,slow=0.5,SNR=7.6								
SCHQ				PKKPbc		PKKPab	04 08 15.5	-0.9	
	comp=Z,4.7nm,0.7s,baz=178,slow=3.9,SNR=6.0								
BG3	Lake Jocassee	121.84	52	IAMs_20	IAMs_20		04 43 48.5		
	comp=Z,2μm,22.0s								
BOVS	Bovan	121.86	319	⇑P		PKPdf	03 58 17.1	-0.6	
GOGA	Godfrey	121.87	54	IAMs_20	IAMs_20		04 46 40.4		
	comp=Z,2μm,20.0s								
GOGA	Godfrey	121.87	54	PKiKP			03 58 17.9		
	baz=286								
553A	Crawfordville	121.90	58	IAMs_20	IAMs_20		04 50 06.2		
	comp=Z,2μm,19.0s								
SANT	Santorini	121.94	310	⇓P		PKPdf	03 58 17.2	-0.9	
N54A	Moraine State	121.97	44	IAMs_20	IAMs_20		04 51 04.1		
	comp=Z,2μm,20.0s								
N54A	Moraine State	121.97	44	PKiKP			03 58 18.1		
	baz=293								
M54A	Oil Creek Stat	121.97	44	PKiKP			03 58 17.8		
	baz=294								
O54A	Avella	122.00	45	IAMs_20	IAMs_20		04 52 15.9		
	comp=Z,2μm,19.0s								
PAIG	Paliouri	122.02	314	P		PKPdf	03 58 16.4	-1.7	
DELO	Deloro Mine	122.04	40	IAMs_20	IAMs_20		04 51 23.5		
	comp=Z,2μm,20.0s								
E55A	Montcerf-Lytto	122.08	37	PKiKP			03 58 17.5		
	baz=300								
KNT	Kendrikon	122.09	316	P		PKPdf	03 58 16.8	-1.4	
VRAC	Vranov	122.10	327	⇓P		PKiKP	03 58 18.3	+0.1	
VRAC	Vranov	122.10	327	ePKP		PKPdf	03 58 17.9	-0.1	
VRAC				ePP		PP	03 59 52.3	-0.3	
VRAC	Vranov	122.10	327	⇑PKiKP		PKiKP	03 58 18.1	-0.1	
Q54A	Coxs Mills	122.11	47	IAMs_20	IAMs_20		04 45 04.1		
	comp=Z,2μm,22.0s								
PLVO	Plevna	122.14	39	IAMs_20	IAMs_20		04 49 07.1		
	comp=Z,2μm,21.0s								
D55A	Sainte-Anne-du	122.14	36	PKiKP			03 58 17.7		
	baz=301								
MODS	Modra-Piesok	122.23	326	ePKIKP		PKiKP	03 58 18.7	+0.2	
MODS	Modra-Piesok	122.23	326	ePKP		PKiKP	03 58 18.7	+0.2	
VAY	Valandovo	122.25	316	i P		PKPdf	03 58 17.2	-1.3	
TIGA	Tifton	122.30	56	IAMs_20	IAMs_20		04 48 52.7		
	comp=Z,1μm,20.0s								
TIGA	Tifton	122.30	56	PKiKP			03 58 18.8		
	baz=285								
KRUC	Moravsky	122.35	327	ePKP		PKPdf	03 58 18.4	-0.1	
KRUC				ePP		PP	03 59 54.7	+0.4	
STIP	Stip	122.36	317	i P		PKPdf	03 58 17.1	-1.6	
FRGS	Fruska Gora	122.37	321	⇓P		PKiKP	03 58 18.9	0.0	
FRGS	Fruska Gora	122.37	321	⇑i P		PKPdf	03 58 18.1	-0.6	
154A	Montrose	122.38	55	IAMs_20	IAMs_20		04 46 46.9		
	comp=Z,2μm,20.0s								
ZST	Bratislava	122.43	326	ePKIKP		PKiKP	03 58 19.1	+0.3	
ZST	Bratislava	122.43	326	ePKP		PKiKP	03 58 19.1	+0.3	
PVCC	Panska Ves	122.47	329	ePKIKP		PKPdf	03 58 18.7	0.0	
PVCC				e			03 58 30.8		
PVCC				e			04 09 42.1		
PVCC				MLR	MLR				
	comp=Z,3μm,25.2s								
PVCC	Panska Ves	122.47	329	ePKPDF		PKPdf	03 58 18.7	0.0	
PVCC				epPKP		pPKPdf	03 58 30.8	-1.9	
PVCC				eSP	SP		04 09 42.1	-2.4	
PVCC				AMS	AMS		04 49 00.0		
	comp=Z,3μm,25.2s								
DION	Dionisos Attik	122.51	312	P		PKPdf	03 58 17.8	-1.4	
D56A	ZEC Mazanza, M	122.55	36	PKiKP			03 58 18.5		
	baz=301								
MORH	Mrgy, Hungar	122.57	323	⇑P		PKPdf	03 58 18.9	-0.1	
MORH	Mrgy, Hungar	122.57	323	⇑i P		PKPdf	03 58 18.4	-0.6	
MCWV	Mont Chateau	122.57	46	IAMs_20	IAMs_20		04 44 55.2		
	comp=Z,2μm,22.0s								
MCWV	Mont Chateau	122.57	46	PKiKP			03 58 19.0		
	baz=292								
XOR	Xorichti	122.58	314	P		PKPdf	03 58 17.6	-1.7	
BRG	Berggiesshubel	122.58	330	ePKP		PKPdf	03 58 18.9	0.0	
BRG				Amp			03 58 22.3		
	comp=Z,68nm,1.3s								
BRG				i x	x		03 58 31.8		
BRG				Amp			03 58 34.4		
	comp=Z,27nm,1.0s								
BRG	Berggiesshubel	122.58	330	PP	PP		03 59 57.0	+1.2	
BRG				SKP			04 01 52.0		
BRG				Amp			04 01 53.6		
	comp=Z,8.3nm,1.2s								
BRG	Berggiesshubel	122.58	330	PS	PS		04 09 51.0	-0.8	
BRG	Berggiesshubel	122.58	330	SS	SS		04 16 45.0	+11	
M55A	Ridgway	122.61	43	IAMs_20	IAMs_20		04 48 04.9		
	comp=Z,2μm,20.0s								
E56A	St. Veronique	122.65	37	PKiKP			03 58 19.1		
	baz=301								
TREC	Trest	122.71	327	ePKIKP		PKPdf	03 58 18.8	-0.4	
TREC				e			03 58 28.7		
TREC				MLR	MLR				
	comp=Z,4μm,23.4s								
TREC	Trest	122.71	327	ePKPDF		PKPdf	03 58 18.8	-0.4	
TREC				ex	x		03 58 28.7		
TREC				AMS	AMS		04 50 20.0		
	comp=Z,4μm,23.4s								
IDI	Anoyia	122.72	309	PKP		PKPdf	03 58 19.2	-0.5	
	comp=Z,93nm,0.9s,baz=194,slow=1.2,SNR=24								
IDI	Anoyia	122.72	309	P		PKPdf	03 58 19.6	-0.1	
IDI	Anoyia	122.72	309	⇓P		PKPdf	03 58 19.2	-0.5	
SKO	Skopje	122.75	317	i P		PKPdf	03 58 19.0	-0.5	
DIVS	Divibare	122.76	320	⇑i P		PKPdf	03 58 19.2	-0.3	
CLL	Collm	122.78	330	ePdif		Pdif	03 54 49.0	-0.8	
CLL				⇑i PKPdf		PKPdf	03 58 19.1	-0.1	
	comp=Z,47nm,1.1s								
CLL				i pPKPdf		pPKPdf	03 58 31.3	-2.0	
CLL				i			03 59 06.4		
CLL				ePP		PP	03 59 56.0	-1.1	
CLL				ePPP		PPP	04 02 31.0		
CLL				eSKSac		SKSac	04 05 18.0	+1.4	
CLL				eSKKSac		SKKSac	04 06 54.0	+1.0	
CLL				e(PKKPdf)			04 08 52.0		
CLL				ePS		PS	04 09 51.0	-2.5	
CLL				ePPS		PPS	04 11 15.0		
CLL				e			04 12 19.0		
CLL				ePPPrev			04 15 43.0		
CLL				eSS		SS	04 16 36.0	-0.3	
CLL				e			04 17 31.0		
CLL				eSSS		SSS	04 21 06.0		
CLL				eSSSS			04 24 36.0		
CLL				e			04 26 12.0		
CLL	Collm	122.78	330	⇑i PKIKP		PKPdf	03 58 19.1	-0.1	
CLL				i			03 58 31.3		
CLL				pmax	pmax				
	comp=Z,47nm,1.1s								
LIT	Litokhoron	122.80	315	P		PKPdf	03 58 17.9	-1.7	
PRU	Pruhonice	122.80	328	ePKIKP		PKPdf	03 58 19.1	-0.2	
PRU				e			03 58 30.8		
PRU				MLR	MLR				
	comp=Z,4μm,22.0s								
PRU	Pruhonice	122.80	328	ePKPDF		PKPdf	03 58 19.1	-0.2	
PRU				ex	x		03 58 30.8		
PRU				ex	x		04 09 30.0		
PRU				AMS	AMS		04 52 00.0		
	comp=Z,4μm,22.0s								
PRA	Prague	122.81	329	ePKIKP		PKiKP	03 58 19.4	-0.1	
PRA				e			04 09 46.9		
PRA				MLR	MLR				
	comp=Z,3μm,22.4s								
PRA	Prague	122.81	329	ePKPDF		PKiKP	03 58 19.4	-0.1	
PRA				eSP	SP		04 09 46.9	-0.6	
PRA				AMS	AMS		04 52 00.0		
	comp=Z,3μm,22.4s								
TEKS	Tekeris	122.84	321	⇑i P		PKPdf	03 58 18.5	-1.1	
R55A	Marlinton	122.89	47	IAMs_20	IAMs_20		04 51 00.7		
	comp=Z,2μm,19.0s								
NRS	Narsarsuaq	122.91	10	IAMs_20	IAMs_20		04 48 04.4		
	comp=Z,2μm,21.0s								
LKR	Lokris	122.99	313	P		PKPdf	03 58 18.5	-1.5	
KMSC	Kings Mountain	123.05	51	PKiKP			03 58 20.0		
	baz=289								
K56A	Middlesex	123.05	42	PKiKP			03 58 19.7		
	baz=296								
BLA	Blacksburg	123.05	49	PKiKP			03 58 20.1		
	baz=291								
255A	Hazlehurst	123.08	55	IAMs_20	IAMs_20		04 52 00.5		
	comp=Z,1μm,20.0s								
VAM	Vamos	123.22	309	P		PKPdf	03 58 20.4	-0.2	
O56A	Blue Knob Stat	123.24	45	PKiKP			03 58 20.6		
	baz=294								
BBLS	Lazići	123.24	320	⇑i P		PKPdf	03 58 20.3	-0.1	
PBCC	Pribram	123.27	328	ePKPDF		PKPdf	03 58 19.8	-0.4	
PBCC				ex	x		03 58 28.8		
CONA	Conrad Observa	123.27	326	i P		PKPdf	03 58 20.1	-0.3	
	comp=Z,55nm,1.7s,SNR=22								
CONA				i P		pPKPdf	03 58 32.4	-2.1	
	comp=Z,28nm,0.9s								
Q56A	Snyder Ridge,	123.28	46	IAMs_20	IAMs_20		04 52 09.0		
	comp=Z,2μm,20.0s								
FNA	Florina	123.30	316	P		PKPdf	03 58 19.4	-1.2	
AGG	Agios Georgios	123.33	314	P		PKPdf	03 58 19.5	-1.2	
KRND	KRANIDI	123.34	312	P		PKPdf	03 58 20.2	-0.5	
THL	Klokotos Trika	123.34	315	P		PKPdf	03 58 19.1	-1.6	
IMMV	Iera Moni Meta	123.37	309	P		PKPdf	03 58 20.5	-0.4	
RUDO	Rudo	123.38	320	⇑i P		PKPdf	03 58 19.3	-1.3	
G57A	Newington	123.40	38	PKiKP			03 58 20.7		
	baz=300								
HAPS	Han Pijesak,Bl	123.42	321	eP		PKPdf	03 58 20.6	-0.2	
H57A	Richville	123.47	39	PKiKP			03 58 20.6		
	baz=299								
LATQ	La Tuque	123.51	35	PKiKP			03 58 20.4		
	baz=303								
BEHE	Becsehely	123.54	324	⇑i P		PKPdf	03 58 20.6	-0.2	
I57A	Carthage	123.55	40	PKiKP			03 58 20.7		
	comp=Z,2μm,20.0s								
OHR	Ohrid	123.55	317	i P		PKiKP	03 58 21.8	+0.5	
SSPA	Standing Stone	123.56	44	IAMs_20	IAMs_20		04 51 27.1		
	comp=Z,2μm,20.0s								
SSPA	Standing Stone	123.56	44	PKiKP			03 58 21.2		
	baz=295								
D58A	Chemin du LacG	123.61	35	PKiKP			03 58 21.2		
	baz=303								
CKRC	Cesky Krumlov	123.61	327	ePKPDF		PKPdf	03 58 20.5	-0.4	
CKRC				ex	x		03 58 33.9		
CKRC				ex	x		04 09 54.1		
KPRO	Kipourio	123.65	315	P		PKPdf	03 58 20.3	-1.0	
656A	Willston	123.69	58	IAMs_20	IAMs_20		04 49 58.9		
	comp=Z,2μm,20.0s								
F58A	St-Lin Laurent	123.72	37	PKiKP			03 58 21.0		
	baz=302								
NKC	Novy Kostel	123.73	330	ePKIKP		PKPpre	03 58 14.7		
NKC				e			04 09 49.3		
NKC				MLR	MLR				
	comp=Z,4μm,27.8s								
NKC	Novy Kostel	123.73	330	ePKPDF		PKPpre	03 58 14.7		
NKC				ex	x		04 09 49.3		
NKC				AMS	AMS		04 51 20.0		
	comp=Z,4μm,27.8s								
BIGH	Upper Bighouse	123.73	345	eP		PKPdf	03 58 20.4	-0.3	
EVR	Evrytania	123.74	314	P		PKPdf	03 58 21.2	-0.4	
ANKY	Antikythira Is	123.75	310	P		PKiKP	03 58 22.1	+0.3	
E58A	La Victoria	123.77	36	PKiKP			03 58 21.0		
	baz=302								
KTHA	Kythira Island	123.80	310	P		PKPdf	03 58 20.9	-0.8	
KHC	Kasperske Hory	123.82	328	ePKIKP		PKPdf	03 58 21.1	-0.3	
KHC				e			03 58 34.2		
KHC				e			04 09 54.1		
KHC				MLR	MLR				
	comp=Z,4μm,21.4s								
KHC	Kasperske Hory	123.82	328	ePKPDF		PKPdf	03 58 21.1	-0.3	
KHC				epPKP		pPKPdf	03 58 34.2	-1.2	
KHC				eSP	SP		04 09 54.1	-2.4	
KHC				AMS	AMS		04 53 00.0		
	comp=Z,4μm,21.4s								
JTS	Las Juntas de	123.82	81	PKIKP		PKiKP	03 58 23.0	+0.4	
JTS	Las Juntas de	123.82	81	PKPdf		PKiKP	03 58 23.0	+0.4	
JTS	Las Juntas de	123.82	81	IAMs_20	IAMs_20		04 40 21.6		
	comp=Z,2μm,22.0s								
KLV	Kalavryta, Ach	123.83	313	P		PKPdf	03 58 21.1	-0.7	
ARSA	Arzberg	123.84	325	i P		PKPdf	03 58 20.6	-0.8	
	comp=Z,18nm,1.1s,SNR=11								
KOGS	Kog	123.86	324	ePP	PP		03 59 55.9	-8.7	
LONY	Lake Ozonia	123.89	38	PKiKP			03 58 21.4		
	baz=300								
GERES	GERESS Array B	123.92	328	PKP		PKPdf	03 58 21.4	-0.2	
	comp=Z,14nm,0.6s,baz=73,slow=1.8,SNR=122								
GERES				PKKPbc		PKKPbc	04 08 08.6	-0.8	
	comp=Z,0.2nm,0.3s,baz=241,slow=2.7,SNR=3.7								
S57A	Dark Hollow, R	123.94	48	IAMs_20	IAMs_20		04 53 34.5		
	comp=Z,2μm,18.0s								
G58A	Ormstown	123.95	38	PKiKP			03 58 21.1		
	baz=301								
PDG	Podgorica	124.00	319	⇑P		PKPdf	03 58 21.1	-0.8	
PDG	Podgorica	124.00	319	⇑i P		PKPdf	03 58 21.0	-0.8	
PDG	Podgorica	124.00	319	IAMs_20	IAMs_20		04 53 03.4		
	comp=Z,2μm,22.0s								
J58A	Remsen	124.07	40	IAMs_20	IAMs_20		04 47 01.3		
	comp=Z,2μm,22.0s								
J58A	Remsen	124.07	40	PKiKP			03 58 21.8		
	baz=299								
TIR	Tirane	124.09	317	⇑P		PKiKP	03 58 22.4	0.0	
TIR	Tirane	124.09	317	IAMs_20	IAMs_20		04 55 07.8		
	comp=Z,2μm,22.0s								
I58A	Old Forge	124.11	40	PKiKP			03 58 21.9		
	baz=299								
JAN	Janina	124.13	315	P		PKPdf	03 58 22.2	0.0	
Y57A	Sumter	124.14	52	IAMs_20	IAMs_20		04 50 34.3		
	comp=Z,2μm,19.0s								
BINY	Binghamton	124.16	42	PKiKP			03 58 21.9		
	baz=297								
E59A	St. Maurice	124.16	36	PKiKP			03 58 22.0		
	baz=303								
BLY	Banja Luka	124.19	322	⇑i P		PKPdf	03 58 21.7	-0.4	
MOA	Molln	124.20	326	i P		PKPdf	03 58 21.3	-0.8	
	comp=Z,18nm,1.3s,SNR=10								
H58A	Gabriels	124.24	38	PKiKP			03 58 22.1		
	baz=300								
257A	Skidaway Islan	124.25	55	IAMs_20	IAMs_20		04 49 30.4		
	comp=Z,2μm,22.0s								
D59A	Saint-Raymond	124.25	35	PKiKP			03 58 21.8		
	baz=304								
L58A	Harry Jones Me	124.32	42	PKiKP			03 58 22.1		
	baz=297								
ITM	Ithomi	124.32	312	P		PKPdf	03 58 22.6	-0.1	
RLS	Riolos of Patr	124.33	313	P		PKPdf	03 58 22.6	0.0	
F59A	Saint Guilaume	124.34	36	PKiKP			03 58 22.3		
	baz=302								
MCD	Coleburn Disti	124.34	344	eP		PKPdf	03 58 21.2	-0.8	
LINV	Loch Inver, As	124.36	345	eP		PKPdf	03 58 21.7	-0.3	
FRNY	Flat Rock	124.39	38	IAMs_20	IAMs_20		04 47 52.6		
	comp=Z,2μm,21.0s								
ESPN	Las Esperanzas	124.43	79	IAMs_20	IAMs_20		04 41 28.4		
	comp=Z,2μm,19.0s								
H59A	Cadyville	124.43	38	PKiKP			03 58 22.2		
	baz=301								
SOKA	Soboth	124.44	325	i P		PKPdf	03 58 22.0	-0.7	
	comp=Z,70nm,1.6s,SNR=33								
SOKA				i P		pPKPdf	03 58 35.0	-1.8	
	comp=Z,25nm,0.9s								
NCB	Newcomb	124.44	39	IAMs_20	IAMs_20		04 48 33.0		
	comp=Z,2μm,20.0s								
GCIS	Gornji Cirnik	124.54	324	i PKPdf		PKPdf	03 58 22.7	-0.1	
IGT	Igoumenitsa	124.54	315	P		PKPdf	03 58 22.2	-0.8	
NHSC	New Hope	124.60	53	IAMs_20	IAMs_20		04 54 03.4		
	comp=Z,2μm,20.0s								
NHSC	New Hope	124.60	53	PKiKP			03 58 23.2		
	baz=288								
LKD2	Lefkada island	124.62	314	P		PKPdf	03 58 22.6	-0.6	
SOR	Soroa	124.62	66	IAMs_20	IAMs_20		04 48 12.9		
	comp=Z,2μm,22.0s								
R58B	Mineral	124.65	47	IAMs_20	IAMs_20		04 52 57.2		
	comp=Z,2μm,20.0s								
CRES	Cresnjev	124.66	324	⇑i P		PKPdf	03 58 22.3	-0.7	
GRA1	Grafenberg Arr	124.68	330	IAMs_20	IAMs_20		04 53 02.5		
	comp=Z,3μm,22.0s								
GRFO	Grafenberg	124.68	330	PKIKP		PKiKP	03 58 23.8	+0.6	
GRFO				MLR	MLR				
	comp=Z,3μm,22.0s								
GRFO	Grafenberg	124.68	330			PKiKP	03 58 23.8	+0.6	
Y58A	Scranton	124.75	52	IAMs_20	IAMs_20		04 58 32.3		
	comp=Z,2μm,20.0s								
F60A	Warwick	124.76	36	PKiKP			03 58 22.8		
	baz=303								
SDMD	Soldier's Deli	124.80	45	IAMs_20	IAMs_20		04 52 07.1		
	comp=Z,1μm,19.0s								
STON	Ston	124.81	320	⇑i P		PKPdf	03 58 21.3	-2.0	
OBKA	Obir	124.81	325	i P		PKPdf	03 58 22.6	-0.8	
	comp=Z,30nm,1.4s,SNR=12								
D60A	Saint Jean D'O	124.82	34	PKiKP			03 58 23.3		
	baz=305								
E60A	Ste Agathe de	124.83	35	PKiKP			03 58 22.9		
	baz=304								
N59A	State Game Lan	124.88	43	IAMs_20	IAMs_20		04 53 03.1		
	comp=Z,2μm,19.0s								
N59A	State Game Lan	124.89	43	PKiKP			03 58 23.0		
	baz=297								
MVL	Millersville	124.89	44	IAMs_20	IAMs_20		04 48 38.4		
	comp=Z,2μm,20.0s								
CBN	Corbin Frederi	124.92	46	IAMs_20	IAMs_20		04 55 09.3		
	comp=Z,2μm,20.0s								
CBN	Corbin Frederi	124.92	46	PKiKP			03 58 23.2		
	baz=294								
DWPF	Disney Wildern	124.94	59			PKiKP	03 58 25.0	+0.6	
DWPF	Disney Wildern	124.94	59	IAMs_20	IAMs_20		04 49 09.9		
	comp=Z,2μm,22.0s								
DWPF	Disney Wildern	124.94	59	PKiKP			03 58 23.5		
	baz=284								
BOJS	Bojanci	124.96	324	e			04 23 01.1		
BOJS	Bojanci	124.96	324	i PKPdf		PKPdf	03 58 23.6	0.0	
BOJS	Bojanci	124.96	324	ePP	PP		04 00 06.7	-5.3	
BOJS	Bojanci	124.96	324	e			04 10 29.1		
KEF5	Kardakata, Kep	124.96	314	P		PKPdf	03 58 23.1	-0.7	
VLMS	Volimes, Zakyn	124.98	313	P		PKPdf	03 58 23.7	-0.2	
G60A	Masonville

baz=303
G62A West of Eustis 126.01 36 PKiKP 03 58 26.2
baz=304
LAWE Loch Awe, Argy 126.08 344 *e*P **PKPdf** **03 58 25.2 -0.2**
PAL Palisades 126.09 42 PKiKP 03 58 26.2
baz=298
Q61A Milford 126.09 45 PKiKP 03 58 26.4
baz=296
060A Indiantown 126.12 60 IAMs_20 IAMs_20 04 50 12.2
comp=Z,2µm,20.0s
L61B Northampton 126.18 40 PKiKP 03 58 26.5
baz=301
MOTA Moosalm 126.22 328 *i* P **PKPdf** **03 58 25.6 -0.6**
comp=Z,88nm,1.2s,SNR=26
SQTA Sankt Quirin 126.24 327 *i* P **PKPdf** **03 58 25.8 -0.3**
comp=Z,70nm,1.2s,SNR=19
SQTA *i* P **pPKPdf** **03 58 38.5 -1.7**
comp=Z,50nm,1.1s
EKA Eskdalemuir Ar 126.24 342 PKP **PKPdf** **03 58 25.8 +0.1**
comp=Z,29nm0,0.9s,baz=30,slow=2.9,SNR=42
GDLE Glaisdale, N Y 126.26 340 *e*P **PKiKP** **03 58 26.2 0.0**
ESK Eskdalemuir 126.27 342 PKiKP **PKiKP** **03 58 26.6 +0.4**
ESK Eskdalemuir 126.27 342 PKPdf **PKiKP** **03 58 26.6 +0.4**
ESK Eskdalemuir 126.27 342 IAMs_20 IAMs_20 04 57 09.6
comp=Z,2µm,21.0s
I62A Tamworth 126.27 38 IAMs_20 IAMs_20 04 47 25.4
comp=Z,3µm,22.0s
I62A Tamworth 126.27 38 PKiKP 03 58 26.4
baz=303
EDMD Edmundbyers 126.30 341 *e*P **PKPdf** **03 58 25.4 -0.5**
D63A Stockholm 126.30 33 PKiKP 03 58 25.9
baz=308
RETA Reutte 126.31 328 *i* P **PKiKP** **03 58 26.6 -0.1**
comp=Z,15nm,0.6s,SNR=16
RETA *i* P **pPKPdf** **03 58 38.5 -1.8**
comp=Z,21nm,1.1s
J62A Henniker 126.33 39 PKiKP 03 58 26.1
baz=302
K62A Royalston 126.35 39 IAMs_20 IAMs_20 04 54 39.7
comp=Z,2µm,19.0s
K62A Royalston 126.36 39 PKiKP 03 58 26.0
baz=301
BTNL Ternell 126.50 333 *d*PKPdf **PKPdf** **03 58 26.5 +0.1**
BTNL *dp*PKP **pPKPdf** **03 58 39.2 -1.3**
E63A Oxbow 126.50 34 PKiKP 03 58 26.5
baz=307
MEM Membach 126.54 333 *d*PKPdf **PKiKP** **03 58 26.7 -0.2**
MEM *dp*PKP **pPKPdf** **03 58 39.2 -1.3**
F63A Nahmakanta, Br 126.55 35 PKiKP 03 58 26.7
baz=306
G63A Kingsbury 126.60 36 PKiKP 03 58 27.1
baz=305
H63A New Sharon 126.61 36 PKiKP 03 58 27.0
baz=305
FETA Feichten 126.62 327 *i* P **PKPdf** **03 58 26.8 -0.1**
comp=Z,81nm,1.2s,SNR=35
FETA *i* P **pPKPdf** **03 58 38.8 -2.3**
comp=Z,44nm,1.0s
I63A Otisfield 126.63 37 PKiKP 03 58 27.4
baz=304
TRQA Tornquist 126.69 147 PKiKP **PKPdf** **03 58 27.3 +0.1**
TRQA Tornquist 126.69 147 PKPdf **PKPdf** **03 58 27.3 +0.1**
TRQA Tornquist 126.69 147 *e*P **PKPdf** **03 58 27.2 +0.1**
TRQA Tornquist 126.69 147 *e*P **PKiKP** **03 58 27.7 0.0**
PKME Peaks-Kenny Pk 126.70 35 PKiKP 03 58 27.4
baz=306
CTI Castel Tesino 126.71 326 IAMs_20 IAMs_20 04 54 44.5
comp=Z,2µm,22.0s
BHOU Houvegnez 126.72 333 *d*PKPdf **PKiKP** **03 58 27.2 -0.1**
NEWG New Galloway 126.74 343 *e*P **PKPdf** **03 58 26.2 -0.5**
BSTI Sart Tilman 126.75 334 *d*PKPdf **PKiKP** **03 58 27.3 -0.1**
BSTI *dp*PKP **pPKPdf** **03 58 40.2 -0.7**
J63A Strafford 126.75 38 PKiKP 03 58 27.6
baz=303
K63A Dunstable 126.79 39 IAMs_20 IAMs_20 04 50 31.1
comp=Z,2µm,20.0s
K63A Dunstable 126.79 39 PKiKP 03 58 27.7
baz=302
E64A Bridgewater 126.83 33 PKiKP 03 58 27.3
baz=308
KESW Keswick, Cumbr 126.86 342 *e*P **PKiKP** **03 58 27.5 +0.1**
HRV Adam Dziewonsk 126.86 39 PKiKP **PKiKP** **03 58 28.1 +0.3**
HRV MLR MLR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 126.86 39 PKPdf **PKiKP** **03 58 28.1 +0.3**
HRV Adam Dziewonsk 126.86 39 PKiKP 03 58 27.6
baz=302
F64A Sherman 126.88 34 PKiKP 03 58 27.4
baz=307
WVL Waterville 126.89 36 IAMs_20 IAMs_20 04 57 26.5
comp=Z,2µm,20.0s
DAVA Damuels 126.90 328 *i* P **PKPdf** **03 58 27.2 -0.3**
comp=Z,34nm,0.9s,SNR=17
BCLA Clavier 126.98 334 *d*PKPdf **PKPdf** **03 58 27.4 +0.1**
G64A Maxfield 127.01 35 PKiKP 03 58 28.2
baz=306
WES Weston 127.08 39 IAMs_20 IAMs_20 04 52 38.8
comp=Z,2µm,21.0s
GAL1 Galloway 127.10 343 *e*P **PKiKP** **03 58 27.7 -0.2**
H64A Troy 127.10 36 PKiKP 03 58 27.9
baz=305
BGES Gesves 127.11 334 *d*PKPdf **PKPdf** **03 58 27.1 -0.4**
UCC Uccle 127.12 334 *d*PKPdf **PKPdf** **03 58 27.5 0.0**
UCC *dp*PKP **pPKPdf** **03 58 40.4 -1.2**
WACR West Acre 127.13 338 *e*P **PKiKP** **03 58 27.8 -0.2**
WLF Walferdange 127.14 332 *d*PKPdf **PKiKP** **03 58 28.2 +0.1**
WLF *dp*PKP **pPKPdf** **03 58 40.8 -0.9**
WLF Walferdange 127.14 332 IAMs_20 IAMs_20 04 57 29.3
comp=Z,2µm,20.0s
L63A North Scituate 127.17 40 IAMs_20 IAMs_20 04 54 12.2
comp=Z,2µm,20.0s
L63A North Scituate 127.17 40 PKiKP 03 58 28.0
baz=301
BCX Boston College 127.20 39 IAMs_20 IAMs_20 04 51 52.0
comp=Z,2µm,22.0s
RCHB Rochefort 127.21 333 *d*PKPdf **PKiKP** **03 58 28.1 -0.2**
RCHB *dp*PKP **pPKPdf** **03 58 40.4 -1.4**
DAVOX Davos/Dischmat 127.22 328 PKP **PKPdf** **03 58 27.8 -0.3**
comp=Z,29nm,0.8s,baz=214,slow=2.5,SNR=43
I64A Boothbay 127.27 37 PKiKP 03 58 28.3
baz=304
BMRD Maredsous 127.31 334 *d*PKPdf **PKPdf** **03 58 27.8 -0.1**
BMRD *dp*PKP **pPKPdf** **03 58 40.9 -1.1**
CLGH Cloghs, Cushen 127.31 344 *e*P **PKiKP** **03 58 28.1 -0.2**
SNF Seneffe 127.37 334 *d*PKPdf **PKiKP** **03 58 28.4 -0.2**
SNF *dp*PKP **pPKPdf** **03 58 41.2 -0.9**
LBWR Ladybower, Pea 127.41 340 *e*P **PKiKP** **03 58 28.3 -0.2**
DOU Dourbes 127.53 334 *d*PKPdf **PKPdf** **03 58 28.4 +0.1**
M64A Tiverton 127.58 40 IAMs_20 IAMs_20 04 54 50.3
comp=Z,2µm,20.0s
M64A Tiverton 127.58 40 PKiKP 03 58 29.2
baz=301
L64A Middleborough 127.62 39 PKiKP 03 58 29.2
baz=302
H65A Eastbrook 127.64 35 PKiKP 03 58 29.0
baz=306
ECH Echery 127.67 331 IAMs_20 IAMs_20 04 55 32.5
comp=Z,3µm,22.0s
G65A Princeton 127.72 34 PKiKP 03 58 29.2
baz=307
AQU L'Aquila 127.79 321⇑ *i* P **PKPdf** **03 58 28.7 -0.5**
AQU L'Aquila 127.79 321 IAMs_20 IAMs_20 04 57 16.5
comp=Z,2µm,22.0s
CWF Charnwood Fore 127.81 339 *e*P **PKPdf** **03 58 27.9 -0.9**
M65A Busby, Falmout 127.94 40 PKiKP 03 58 29.3
baz=302
EMMW East Machias 128.08 35 IAMs_20 IAMs_20 04 54 59.9
comp=Z,3µm,22.0s
ZCCA Zocca 128.11 325 IAMs_20 IAMs_20 05 00 53.6
comp=Z,2µm,20.0s
H66A Whiting 128.11 35 PKiKP 03 58 30.3
baz=307
PRMA PARMA 128.24 325 IAMs_20 IAMs_20 04 55 56.0
comp=Z,2µm,22.0s
WME Myndd Eilian 128.25 342 *e*P **PKPdf** **03 58 29.8 +0.2**
FOEL Foel Wylfa 128.33 341 *e*P **PKPdf** **03 58 29.3 -0.5**
WLF1 Llynfaes 128.37 342 *e*P **PKiKP** **03 58 30.4 0.0**
YLL Llanberis 128.42 342 *e*P **PKiKP** **03 58 30.4 -0.2**
M66A Nantucket 128.43 40 PKiKP 03 58 31.1
baz=302
OSSC Osservatorio P 128.44 324 IAMs_20 IAMs_20 05 00 12.5
comp=Z,2µm,22.0s
TSUM Tsumeb 128.56 240 PKPdf **PKPdf** **03 58 31.4 0.0**
TSUM Tsumeb 128.56 240 IAMs_20 IAMs_20 04 52 41.4
comp=Z,2µm,19.0s
VLC Villacollemand 128.56 325 IAMs_20 IAMs_20 04 57 19.6
comp=Z,2µm,21.0s
ATAH Atahualpa 128.58 103 PKP **PKiKP** **03 58 33.2 +0.6**
comp=Z,38nm,1.1s,baz=167,slow=0.5,SNR=18
NNA Nana 128.83 110 PKP **PKiKP** **03 58 32.9 +0.3**
comp=Z,21nm,1.0s,baz=155,slow=1.9,SNR=5.1
NNA Nana 128.83 110*c* *i* PKiKP **PKiKP** **03 58 34.3 +1.7**
NNA pmax pmax
comp=Z,87nm,1.3s
NNA Nana 128.83 110 PKPdf **PKPdf** **03 58 31.8 -0.1**
SENIN Lac Senin/Sane 128.85 329 IAMs_20 IAMs_20 04 55 40.8
comp=Z,2µm,21.0s
PAC1 Pacto, Paraso 129.43 94 *e*P PKPpre 03 58 24.9
VAE Valguarnera 129.61 315 PKP **PKiKP** **03 58 34.3 +0.7**
comp=Z,11nm,0.4s,baz=3.1,slow=6.8,SNR=7.5
RSBS Rosebush, Pemb 129.62 341 *e*P **PKiKP** **03 58 32.8 -0.3**
OTAV Otavalo 129.77 94 PKiKP **PKPdf** **03 58 34.0 -0.3**
OTAV Otavalo 129.77 94 **PKPdf** **03 58 34.0 -0.3**
OTAV Otavalo 129.77 94 *e*P PKPpre 03 58 30.0
CLF Chambon-Foret 130.10 333 IAMs_20 IAMs_20 04 58 09.5
comp=Z,2µm,20.0s
HAL Halifax 130.26 33 IAMs_20 IAMs_20 04 57 38.4
comp=Z,2µm,19.0s
WDD Wied Dalam 130.30 313 PKPdf **PKPdf** **03 58 34.1 0.0**
GCUF Volcan Galeras 130.98 93 *e*P PKPpre 03 58 33.4
BBAC Balboa, Cauca 131.15 92 *e*P **PKPdf** **03 58 36.3 -0.3**
LVC Limon Verde 131.59 127 PKP **PKiKP** **03 58 39.2 +0.9**
comp=Z,17nm,0.9s,baz=265,slow=3.1,SNR=8.9
LVC Limon Verde 131.59 127 PKPdf **PKPdf** **03 58 36.7 -0.7**
LVC IAMs_20 IAMs_20 04 46 00.7
comp=Z,2µm,20.0s
VSL Villasalto 131.91 320 IAMs_20 IAMs_20 04 58 41.7
comp=Z,1µm,22.0s
PCON Cinco Dias 132.03 92 *e*P **PKPdf** **03 58 36.7 -2.0**
PLMC San Jos del P 132.32 88 *e*P PKPpre 03 58 28.3
DBBC Dabeiba 132.46 85 *e*P **PKPdf** **03 58 38.4 -0.5**
MARP Paez Belalcaza 132.51 91 *e*P **PKPdf** **03 58 36.7 -2.5**
CBOC Ciudad Bolivar 132.63 87 *e*P **PKPdf** **03 58 36.7 -2.6**
FLOC Florencia 132.70 93 *e*P PKPpre 03 58 33.4
GARC Garzon, Huila 132.91 92 *e*P PKPpre 03 58 35.0
HELC Santa Helena 133.12 87 *e*P **PKPdf** **03 58 36.7 -3.8**
GUY2C Guyana, Caldas 133.25 88 *e*P **PKPdf** **03 58 38.4 -2.5**
TOLC Tolima 133.26 89 *e*P **PKiKP** **03 58 43.5 +1.5**
ORTC Ortega, Tolima 133.29 90 *e*P **PKPdf** **03 58 38.4 -2.0**
PRAC Prado 133.64 90 *e*P PKPpre 03 58 36.7
NORC Norcasia 133.75 87 *e*P PKPpre 03 58 36.7
KEST Kesra 134.01 316 PKP **PKiKP** **03 58 42.1 -0.5**
comp=Z,59nm,1.0s,baz=304,slow=2.7,SNR=31
KEST SKPab **SKPbc** **04 02 07.1 +0.1**
comp=Z,19nm,1.0s,baz=260,slow=1.4,SNR=7.1
KEST Kesra 134.01 316 IAMs_20 IAMs_20 05 01 14.7
comp=Z,1µm,22.0s
ROSC El Rosal 134.27 89 *e*P PKPpre 03 58 38.4
MACC Macarena, Meta 134.55 92 *e*P **PKPdf** **03 58 41.8 -1.0**
MAHO Mahon 134.78 324 PKP PKPpre 03 58 35.7
MAHO Mahon 134.78 324 PP PP 04 01 19.7 +3.8
CHIC Chingaza 134.84 89 *e*P **PKPdf** **03 58 41.8 -2.0**
VILC Villavicencio, 134.85 90 *e*P PKPpre 03 58 38.4
LPAZ La Paz 135.18 119 PKhKP PKPpre 03 58 33.8
comp=Z,1.4nm,0.5s,baz=172,slow=3.0,SNR=5.0
LPAZ La Paz 135.18 119 *e*P PKPpre 03 58 40.1
LPAZ La Paz 135.18 119 *e*P **PKiKP** **03 58 46.8 +0.7**
OCAC Ocana 135.33 84 *e*P PKPpre 03 58 40.1
BARC Barichara 135.46 86 *e*P PKPpre 03 58 35.0
RUSC La Rusia 135.54 87 *e*P PKPpre 03 58 41.8
GRTK Grand Turk 135.65 65 IAMs_20 IAMs_20 04 58 20.2
comp=Z,1µm,20.0s
PLTB Pedras Altas 135.93 149 *e*P PKPpre 03 58 31.8
PLTB Pedras Altas 135.93 149 *e*P **PKiKP** **03 58 47.8 +1.4**
SDDR Presa de Saban 136.10 68 IAMs_20 IAMs_20 05 00 17.4
comp=Z,2µm,19.0s
CPSB Cacapava Do Su 137.08 148 *e*P PKPpre 03 58 28.7
CPUP Villa Florida 137.80 140 PKhKP PKPpre 03 58 39.0
comp=Z,3.1nm,1.0s,baz=297,slow=3.2,SNR=3.7
CPUP PKP **PKPdf** **03 58 48.8 +0.4**
comp=Z,18nm,1.1s,baz=308,slow=1.0,SNR=16
SDV Santo Domingo 137.97 83 PKPdf **PKPdf** **03 58 49.8 +0.5**
SDV Santo Domingo 137.97 83 *e*P PKPpre 03 58 45.1
SDV Santo Domingo 137.97 83 *e*P **PKiKP** **03 58 50.4 -0.9**
UCM Universidad Co 138.53 331 PKP PKPpre 03 58 38.4
UCM Universidad Co 138.53 331 PP PP 04 01 44.0 +4.9
PBRG Braganca 138.92 335 *e*PKPdf PKPpre 03 58 43.1
ELOV Elorza 139.14 86 *e*P **PKPdf** **03 58 50.2 -1.0**
ES19 SONSECA Array 139.32 331 IAMs_20 IAMs_20 05 03 22.8
comp=Z,2µm,22.0s
ES09 SONSECA Array 139.34 331 IAMs_20 IAMs_20 05 03 25.3
comp=Z,2µm,22.0s
ES10 SONSECA Array 139.35 331 IAMs_20 IAMs_20 05 03 26.7
comp=Z,2µm,22.0s
ES02 SONSECA Array 139.35 331 IAMs_20 IAMs_20 05 03 40.8
comp=Z,2µm,22.0s
ES03 SONSECA Array 139.36 331 IAMs_20 IAMs_20 05 03 40.9
comp=Z,2µm,22.0s
ES01 SONSECA Array 139.37 331 IAMs_20 IAMs_20 05 03 41.0
comp=Z,2µm,22.0s
CART Cartagena 139.37 326 PKP PKPpre 03 58 41.2
CART Cartagena 139.37 326 PP PP 04 01 46.9 +2.5
CART Cartagena 139.37 326 IAMs_20 IAMs_20 05 01 10.6
comp=Z,2µm,22.0s
ES11 SONSECA Array 139.37 331 IAMs_20 IAMs_20 05 03 41.1
comp=Z,2µm,22.0s
ESBB Sonseca Array 139.37 331 IAMs_20 IAMs_20 05 03 40.1
comp=Z,2µm,22.0s
ESDC Sonseca Array 139.37 331 PKhKP PKPpre 03 58 42.4
comp=Z,3.7nm,0.9s,baz=19,slow=2.7,SNR=16
ESDC PKP **PKPdf** **03 58 49.9 -1.1**
comp=Z,7.5nm,1.0s,baz=9.1,slow=2.8,SNR=13
ESDC PP **PP** **04 01 44.4 0.0**
comp=Z,16nm,1.0s,baz=27,slow=6.2,SNR=23
ESDC Sonseca Array 139.37 331 PKPdf **PKPdf** **03 58 52.0 +1.0**
ES04 SONSECA Array 139.38 331 IAMs_20 IAMs_20 05 03 41.3
comp=Z,2µm,22.0s
ES12 SONSECA Array 139.39 331 IAMs_20 IAMs_20 05 03 26.6
comp=Z,2µm,22.0s
ES13 SONSECA Array 139.39 331 IAMs_20 IAMs_20 05 03 25.7
comp=Z,2µm,22.0s
ES14 SONSECA Array 139.40 331 IAMs_20 IAMs_20 05 03 27.0
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 139.41 337 *e*PKPdf **PKPdf** **03 58 48.9 -2.1**
PGAV Gavieira, Arco 139.41 337 *e*LR LR 04 49 45.5
comp=Z,1µm,20.0s
PCAB Cabril 139.53 336 *e*PKPdf PKPpre 03 58 45.2
MVO Moncorvo 139.57 335 *e*PKPdf **PKiKP** **03 58 53.7 0.0**
MVO Moncorvo 139.57 335 *e*PP PP 04 01 47.4 +1.9
MVO Moncorvo 139.57 335 *e*LR LR 04 50 33.4
comp=Z,1µm,22.0s
PAB San Pablo 139.66 331 PKiKP **PKPdf** **03 58 52.5 +0.9**
PAB San Pablo 139.66 331 PKPdf **PKPdf** **03 58 52.5 +0.9**
PAB San Pablo 139.66 331 IAMs_20 IAMs_20 05 04 06.8
comp=Z,2µm,21.0s
POLO Lamas de Olo 139.72 336 *e*PKPdf PKPpre 03 58 45.9
POLO Lamas de Olo 139.72 336 *e*PP PP 04 01 48.1 +1.8
PVRL Vila Real 139.77 336 *e*PKPdf PKPpre 03 58 45.2
MLPR Magueyes Islan 140.25 68 PKPdf **PKPdf** **03 58 53.5 +0.5**
ITAB Concordia 140.27 146 PKPdf **PKPdf** **03 58 53.5 +0.6**
ITAB Concordia 140.27 146 *e*P **PKPdf** **03 58 53.5 +0.6**
PVIS Viseu 140.31 335 *e*PKPdf **PKPdf** **03 58 51.6 -1.1**
MTE Manteigas 140.43 335 *e*PKPdf **PKiKP** **03 58 54.3 -1.1**
MTE Manteigas 140.43 335 *e*LR LR 04 50 24.9
comp=Z,2µm,22.0s
BAUV El Baul 140.53 83 *e*P **PKPdf** **03 58 48.7 -5.0**
TER01 Tubaro-SC 140.80 150 *e*P **PKPdf** **03 58 46.9 -7.0**
TER01 Tubaro-SC 140.80 150 *e*P **PKiKP** **03 58 55.5 -1.0**
PCBR Castelo Branco 140.86 334 *e*PKPdf **PKPdf** **03 58 47.4 -6.2**
PCBR Castelo Branco 140.86 334 *e*PP PP 04 01 54.2 +0.9
SJG San Juan 141.04 68 PKhKP PKPpre 03 58 47.7
comp=Z,22nm,0.9s,baz=278,slow=7.8,SNR=3.5
SJG PKP **PKPdf** **03 58 55.0 +0.5**
comp=Z,120nm,1.1s,baz=24,slow=3.4,SNR=13
SJG PP **PP** **04 01 53.9 -2.1**
comp=Z,41nm,1.2s,baz=300,slow=7.7,SNR=4.3
SJG San Juan 141.04 68 PKPpre 03 58 47.8
PCAS Casmilo, Conde 141.12 335 *e*PKPdf **PKPdf** **03 58 49.3 -4.8**
PCAS Casmilo, Conde 141.12 335 *e*PP PP 04 01 56.6 +1.8
SIV San Ignacio 141.31 124 PKhKP PKPpre 03 58 49.3
comp=Z,14nm,0.9s,baz=253,slow=3.7,SNR=14
SIV PP **PP** **04 01 55.4 -1.9**
comp=Z,13nm,1.3s,baz=228,slow=8.1,SNR=5.0
PSBE So Bento 141.69 335 *e*PKPdf **PKPdf** **03 58 52.1 -3.1**
PESTR Estremoz 141.71 333 *e*PKPdf **PKPdf** **03 58 50.1 -5.1**
PESTR Estremoz 141.71 333 *e*PP PP 04 02 00.1 +1.6
PMTG Montargil 141.82 334 *e*PKPdf **PKPdf** **03 58 49.5 -5.8**
EMAL Malaga-Limoner 141.83 328 PKP PKPdf 03 58 43.9 -11
EMAL Malaga-Limoner 141.83 328 PP PP 04 01 59.2 -0.2
PBAR Barrancos 142.02 332 *e*PKPdf **PKPdf** **03 58 50.6 -5.1**
EVO Evora 142.17 334 PKP **PKPdf** **03 58 49.3 -6.7**
EVO Evora 142.17 334 PP PP 04 02 02.9 +1.6
EVO Evora 142.17 334 *e*PKPdf **PKPdf** **03 58 55.8 -0.2**
EVO Evora 142.17 334 *e*PP PP 04 02 02.7 +1.4
PMAFR Mafra 142.37 335 *e*PKPdf **PKPdf** **03 58 52.9 -3.4**
CDVI St. Croix 142.40 68 *e*P **PKPdf** **03 58 57.3 +0.4**
LIS Lisbon 142.51 335 *e*P **PKPdf** **03 58 52.5 -4.1**
LIS IAMs_20 IAMs_20 05 04 33.5
comp=Z,2µm,26.7s
LIS Lisbon 142.51 335 *e*PKIKP **PKPdf** **03 58 52.5 -4.1**
PBEJ Beja 142.52 333 *e*PKPdf **PKPdf** **03 58 52.5 -4.1**
PBEJ Beja 142.52 333 *e*PP PP 04 02 04.7 +1.3
ARNO Arenosillo 142.74 331 PKP **PKPdf** **03 58 51.0 -6.0**
ARNO Arenosillo 142.74 331 PP PP 04 02 01.6 -3.2
PNCL Nicolau / Gran 142.75 334 *e*PKPdf **PKPdf** **03 58 52.8 -4.2**
MESJ Messejana 142.84 333 *e*P **PKPdf** **03 58 53.3 -3.9**
MESJ IAMs_20 IAMs_20 05 04 26.5
comp=Z,2µm,21.3s
MESJ Messejana 142.84 333 *e*PKIKP **PKPdf** **03 58 53.3 -3.9**
MESJ Messejana 142.84 333 *e*PKPdf **PKPdf** **03 58 54.2 -3.0**
MESJ Messejana 142.84 333 *e*PP PP 04 02 06.4 +1.1
PCVE Castro Verde 142.92 333 *e*PKPdf **PKPdf** **03 58 57.1 -0.3**
PCVE Castro Verde 142.92 333 *e*PP PP 04 02 07.4 +1.5
PVLZ Peæn de 142.95 326 PKP PKPdf 03 58 46.8 -11
PVLZ Peæn de 142.95 326 PP PP 04 02 02.8 -3.4
PVAQ Vaqueiros 142.96 332 *e*PKPdf **PKPdf** **03 58 53.0 -4.4**
PVAQ Vaqueiros 142.96 332 *e*PP PP 04 02 07.5 +1.4
PVAQ Vaqueiros 142.96 332 *e*LR LR 04 50 48.7
comp=Z,2µm,22.0s
PVAQ Vaqueiros 142.96 332 IAMs_20 IAMs_20 05 04 41.1
comp=Z,2µm,21.0s
SFS San Fernando 142.97 330 PKP **PKPdf** **03 58 50.8 -6.6**
SFS San Fernando 142.97 330 PP PP 04 02 03.3 -3.0
CEU Ceuta 142.98 328 PKP PKPdf 03 58 49.3 -8.2
CEU Ceuta 142.98 328 PP PP 04 01 59.9 -6.4
PBDV Barranco-do-Ve 143.19 332 *e*PKPdf **PKPdf** **03 58 56.5 -1.4**
PTEO Sao Teotonio 143.30 333 *e*PKPdf PKPab 03 58 54.2 +0.3
MORF Marmelete 143.47 333 *e*P PKPab 03 58 54.1 -0.5
MORF IAMs_20 IAMs_20 05 02 14.1
comp=Z,2µm,19.4s
MORF Marmelete 143.47 333 *e*PKHKP PKPpre 03 58 54.1
MORF Marmelete 143.47 333 *e*PKPdf PKPab 03 58 54.3 -0.3
MORF Marmelete 143.47 333 *e*PP PP 04 02 10.9 +1.7
PFVI Vila Bisbo 143.69 333 *e*PKPdf PKPbc 03 58 57.2 +1.0
PFVI Vila Bisbo 143.69 333 IAMs_20 IAMs_20 05 07 03.3
comp=Z,2µm,21.0s
SEUS St. Eustatius 144.11 68 *e*P **PKPab** **03 58 51.9 -5.7**
SKI Saint Kitts 144.38 68 *e*P **PKPab** **03 58 57.3 -1.4**
IFR Ifrane 144.63 325 PKP **PKPab** **03 58 56.6 -2.7**
IFR Ifrane 144.63 325 PP PP 04 02 16.5 -0.1
FRTB Fartura 144.75 145 *e*P **PKPdf** **03 59 00.6 -0.4**
PCMB Pacaembu 145.04 141 *e*P **PKPdf** **03 59 01.3 -0.3**
ANWB Willy Bob 145.16 67 *e*P **PKPbc** **03 59 00.5 -0.8**
ANWB Willy Bob 145.16 67 IAMs_20 IAMs_20 04 59 56.5
comp=Z,2µm,21.0s
PET01 Itanhaem-SP 145.23 149 *e*P **PKPdf** **03 59 01.8 0.0**
BPA Boggy Peak 145.27 68 *e*P **PKPbc** **03 58 59.7 -2.0**
ANOC Antigua Open C 145.27 68 *e*P **PKPbc** **03 59 00.5 -1.2**
ANDO Antigua, Disas 145.28 68 *e*P **PKPbc** **03 59 01.8 0.0**
PP1B Ponte de Pedra 145.28 132 *e*P **PKPdf** **03 59 02.8 +0.7**
ANBD Bethesda, Anti 145.35 68 *e*P **PKPbc** **03 59 00.2 -1.8**
SALV Santo Antonio 145.69 128 *e*P **PKPab** **03 59 03.9 +0.5**
SPB Sao Paulo 145.72 148 IAMs_20 IAMs_20 04 56 15.7
comp=Z,1µm,19.0s
SPB Sao Paulo 145.72 148 *e*P **PKPab** **03 59 03.8 +0.4**
CBE Ff, Capester 145.75 69 *e*P **PKPab** **03 59 04.3 +0.6**
ABD La Joyeuse, An 145.76 69 *e*P **PKPdf** **03 59 01.2 -1.6**
H07N1 FLORES T-PHASB 145.77 4 *e*PKP **PKPab** **03 59 03.4 +0.3**
TBG Guadaloupe-3 145.77 70 *e*P **PKPab** **03 59 04.7 +0.9**
TDBA Terre de Bas, 145.78 70 *e*P **PKPbc** **03 59 02.3 -0.6**
AVE Averroes 146.05 328 PKP **PKPdf** **03 59 02.6 -0.3**
AVE Averroes 146.05 328 PP PP 04 02 24.0 -0.7
H07S1 FLORES T-PHASB 146.07 4 *e*PKP **PKPab** **03 59 04.5 +0.2**
DSLB Salisbury 146.07 70 *e*P **PKPdf** **03 59 02.9 -0.5**
MAGL Barre de l'ile 146.08 69 *e*P **PKPdf** **03 59 03.2 -0.1**
DLPL La Plaine 146.26 70 *e*P **PKPab** **03 59 06.1 +0.5**
GRGR Grenville 146.49 76 *e*P **PKPdf** **03 59 01.1 -3.0**
GRGR Grenville 146.49 76 IAMs_20 IAMs_20 04 55 28.1
comp=Z,1µm,22.0s
FDF Fort de France 146.49 71 *e*P **PKPdf** **03 59 02.9 -1.2**
FDF Fort de France 146.49 71 IAMs_20 IAMs_20 05 00 50.1
comp=Z,1µm,19.0s
PGRA Graciosa 146.51 359 *e*PKP **PKPdf** **03 59 03.2 -0.3**
BIM Bigot 146.61 72 *e*P **PKPdf** **03 59 04.6 +0.3**
GCMP Grenada, Carri 146.65 76 *e*P **PKPdf** **03 59 01.1 -3.3**
SVB Belmont 146.68 74 *e*P **PKPdf** **03 59 05.2 +0.7**
SVV Soufriere Volc 146.71 74 *e*P **PKPbc** **03 59 06.7 +0.4**
SSV Crater Summit 146.73 74 *e*P **PKPbc** **03 59 06.2 -0.2**
ILAM Ilet Lapin Mar 146.74 71 *e*P **PKPdf** **03 59 01.3 -3.2**
PAGU Agualva, Azore 146.76 358 *e*PKP **PKPbc** **03 59 05.1 -0.6**
SLB Belfond 146.78 73 *e*P **PKPbc** **03 59 06.3 -0.1**
SLBI Saint Lucia, B 146.81 73 *e*P **PKPbc** **03 59 06.5 +0.1**
PSCM Serra do Cume 146.82 358 *e*PKP **PKPbc** **03 59 05.7 -0.2**
ADH Angra Heroismo 146.87 358 *e*PKP **PKPbc** **03 59 06.6 +0.6**
PMAN Manadas 146.91 360 *e*PKP **PKPbc** **03 59 05.6 -0.5**
PCED Cedros 146.91 0 *e*PKP **PKPbc** **03 59 06.5 +0.4**
TRN Trinidad (W) 146.92 79 *e*P **PKPdf** **03 59 03.1 -1.7**
CALA Caldeira 146.96 0 *e*PKP **PKPab** **03 59 07.5 -0.3**
PTOPO Topo S. Jorge 146.99 359 *e*PKP **PKPbc** **03 59 06.9 +0.6**
HOR Horta 147.02 0 *e*PKP **PKPdf** **03 59 04.0 -0.4**
PICO Pico 147.04 0 *e*PKP **PKPbc** **03 59 05.3 -1.0**
PPNO Prainha do Nor 147.07 360 *e*PKP **PKPdf** **03 59 03.3 -1.3**
PCAN Candelaria 147.08 0 *e*PKP **PKPbc** **03 59 07.1 +0.5**
BB19B Bebedouro 147.11 144 *e*P **PKPbc** **03 59 06.5 -0.8**
TPR Prospect 147.47 78 *e*P **PKPbc** **03 59 08.6 +0.3**
PSET Sete Cidades 147.63 356 *e*PKP **PKPdf** **03 59 05.9 +0.4**
BART Pico Bartolome 147.63 355 *e*PKP **PKPbc** **03 59 08.5 +0.2**
CMLA Cha da Macela 147.67 356 *e*PKP **PKPbc** **03 59 08.9 +0.6**
TOSP Speyside 147.69 77 *e*P **PKPdf** **03 59 06.8 +0.7**
PDA Ponta Delgada 147.70 356 *e*PKP **PKPdf** **03 59 05.9 +0.4**
ESAR Angra dos Reis 147.70 152 *e*P **PKPdf** **03 59 03.1 -2.9**
ESAR Angra dos Reis 147.70 152 *e*P **PKPdf** **03 59 06.8 +0.8**
TIO Tiouine 147.75 324 PKP **PKPdf** **03 59 02.6 -3.4**
TIO Tiouine 147.75 324 PP PP 04 02 30.5 -4.6
BOAV Boa Vista 147.82 94 *e*P **PKPdf** **03 59 07.4 +1.0**
PTGA Pitinga 147.89 100 PKPbc **PKPbc** **03 59 08.6 -1.0**
comp=Z,158nm,0.9s,baz=259,slow=3.7,SNR=111
PTGA Pitinga 147.89 100 **PKPdf** **03 59 06.9 +0.3**
CLDB Colider 148.30 121 *e*P **PKPdf** **03 59 08.3 +1.1**
BBGH Gun Hill 148.33 74 *e*P **PKPbc** **03 59 09.2 -1.4**
PSMN Pico do Norte, 148.39 355 *e*PKP **PKPdf** **03 59 05.5 -1.2**
PSMA Santa Maria 148.40 355 *e*PKP **PKPbc** **03 59 09.6 -0.6**
ARAG Araguaiana, MT 148.75 132 *e*P **PKPdf** **03 59 09.2 +1.3**
VAS01 Vassouras-RJ 148.80 152 *e*P **PKPdf** **03 59 08.1 +0.2**
VAS01 Vassouras-RJ 148.80 152 *e*P **PKPdf** **03 59 08.5 +0.6**
SHEL Horse Pasture 149.13 226 PKiKP **PKPdf** **03 59 08.3 -0.2**
SHEL Horse Pasture 149.13 226 **PKPdf** **03 59 08.3 -0.2**
BSCB Bom Sucesso 149.24 149 *e*P **PKPdf** **03 59 10.0 +1.3**
TOC2 Torodi Ar. Sit 149.31 287 IAMs_20 IAMs_20 05 15 10.5
comp=Z,1µm,22.0s
TOC3 Torodi Ar. Sit 149.32

IPMB	Ipameri, GO	149.64	140	eP		PKPdf	03 59 10.2	+0.9
CAM01	Campos-RJ	149.99	155	eP		PKiKP	03 59 15.1	-0.5
CAM01	Campos-RJ	149.99	155	eP		PKPdf	03 59 11.0	+1.3
PMPST	Porto Santo, M	150.25	339	ePKPdf		PKiKP	03 59 15.6	-0.2
NPGB	Novo Progresso	150.40	114	eP		PKPdf	03 59 11.5	+0.9
PMAR	Madeira	150.77	340	ePKPdf		PKiKP	03 59 17.0	-0.1
PMOZ	Porto Moniz, M	150.78	340	ePKPdf		PKPbc	03 59 13.6	-2.8
PMOZ	Porto Moniz, M	150.78	340	ePP		PP	04 02 53.8	+1.8
PMOZ	Porto Moniz, M	150.78	340	eLR		LR	04 53 11.2	
	comp=Z,864nm,18.0s							
ITTB	Itaituba	151.03	109	eP		PKPdf	03 59 12.4	+0.8
SNDB	Serra Nova Dou	151.43	127	eP		PKPdf	03 59 13.0	+0.9
ALF01	Guarapari-ES	151.46	155	eP		PKiKP	03 59 19.2	+0.6
BDFB	Brasília	151.47	137	PKP		PKPdf	03 59 12.3	0.0
	comp=Z,15nm,0.9s,baz=107,slow=0.5,SNR=15							
BDFB				PKPbc		PKPbc	03 59 18.6	+0.2
	comp=Z,62nm,0.6s,baz=210,slow=1.6,SNR=69							
DIAM	Diamantina, MG	152.05	148	eP		PKPdf	03 59 14.1	+0.9
RIB01	Linhares ES	152.76	155	eP		PKPdf	03 59 15.1	+1.1
RIB01	Linhares ES	152.76	155	eP		PKPdf	03 59 13.8	-0.2
SJMB	Sao Joao De Ma	152.94	153	eP		PKPdf	03 59 15.6	+1.4
SJMB	Sao Joao De Ma	152.94	153	eP		PKPdf	03 59 14.7	+0.4
BSFB	Barra de Sao F	152.99	153	eP		PKPdf	03 59 15.3	+0.9
BSFB	Barra de Sao F	152.99	153	eP		PKPdf	03 59 14.8	+0.5
MALB	Monte Alegre	153.18	105	eP		PKPdf	03 59 17.1	+2.4
MC01	Montes Claros	153.20	145	eP		PKPdf	03 59 15.9	+1.2
PEXB	Peixe	153.66	131	eP		PKPdf	03 59 17.4	+1.9
NAN01	Guarapari, ES	154.17	154	eP		PKPdf	03 59 15.8	-0.3
JANB	Januaria	154.28	142	eP		PKPdf	03 59 16.6	+0.3
KOWA	Kowa	154.36	292			PKPdf	03 59 16.1	-0.3
MACI	Morro de la Ar	154.62	335			PKPab	03 59 40.9	+1.1
GUA01	Guaratinga, BA	155.42	153	eP		PKPdf	03 59 24.7	+6.9
GUA01	Guaratinga, BA	155.42	153	eP		PKPdf	03 59 18.7	+0.9
MCPB	Macapa, AP	155.70	103	eP		PKPdf	03 59 19.0	+0.7
PRPB	Parauapebas	155.73	118	eP		PKPdf	03 59 19.6	+1.3
SDBA	SAO DESIDERIO	155.88	137	eP		PKPdf	03 59 17.8	-0.7
KIC	Kosan Boka	156.44	274	ePKIKP		PKPdf	03 59 18.6	-0.7
	comp=Z,193nm,1.2s							
DBIC	Dimbokro	156.55	274	PKP		PKPdf	03 59 19.0	-0.3
	comp=Z,45nm,1.0s,baz=4.7,slow=1.2,SNR=21							
DBIC	Dimbokro	156.55	274	PKIKP		PKPdf	03 59 19.6	+0.2
DBIC	Dimbokro	156.55	274	PKPdf		PKPdf	03 59 19.6	+0.2
CMC01	Camacan, BA	156.62	152	eP		PKPdf	03 59 21.2	+1.8
CMC01	Camacan, BA	156.62	152	eP		PKPdf	03 59 21.4	+2.0
TIC	Toumodi	156.72	274	ePKIKP		PKPdf	03 59 19.1	-0.5
LIC	Lamto	156.73	273	ePKIKP		PKPdf	03 59 19.1	-0.5
	comp=Z,177nm,1.1s							
NBIT	Itapeh - BA	157.04	152	eP		PKPdf	03 59 22.1	+2.1
NBIT	Itapeh - BA	157.04	152	eP		PKPdf	03 59 22.2	+2.2
GDU01	Guandu, BA	158.01	150	eP		PKPdf	03 59 21.9	+0.7
GDU01	Guandu, BA	158.01	150	eP		PKPdf	03 59 21.0	-0.2
TMAB	Tom-Au,PA,Br	158.87	111	eP		PKPdf	03 59 23.5	+1.2
NBPN	Ponto Novo - B	160.04	144	eP		PKPdf	03 59 25.0	+1.4
ROSB	Rosrio	162.27	117	eP		PKPdf	03 59 27.3	+1.3
NBAN	Anadia - AL	163.11	152	eP		PKPdf	03 59 28.0	+1.2
NBMA	Muriti-CE	163.64	141	eP		PKPdf	03 59 29.1	+1.7
NBMA	Muriti-CE	163.64	141	eP		PKPdf	03 59 29.5	+2.2
NBPS	Pedro II - PI	163.74	126	eP		PKPdf	03 59 28.8	+1.2
NBPB	Pedra_Branca-C	164.42	134	eP		PKPdf	03 59 28.4	+0.4
NBPB	Pedra_Branca-C	164.42	134	eP		PKPdf	03 59 28.8	+0.7
NBMO	Morrinhos-CE	165.51	126	eP		PKPdf	03 59 19.8	-9.2
NBPA	Parau_RN	165.92	142	eP		PKPdf	03 59 30.3	+1.0
NBCL	Cascavel-CE	166.26	134	eP		PKPdf	03 59 29.8	+0.3
NBCL	Cascavel-CE	166.26	134	eP		PKPdf	03 59 30.3	+0.7
NBPV	Pedro Velho	166.40	150	eP		PKPdf	03 59 31.6	+2.0
RCBR	Riachuelo	166.57	146	eP		PKPdf	03 59 31.5	+1.6
SACV	Santiago Islan	169.38	334			PKPdf	03 59 32.2	+0.5

*IDC **30** 03:51:59.1±5.2, 13.07N×143.39E, h202km±50km, mb3.8/21,mb1 4.0/21,mb1mx3.8/44,mbtmp4.3/21 Error ellipse: s-maj=20.8km s-min=9.5km az=88.0*
*NEIC **30** 03:52:00.8±0.8, 13.1N±0.1×143.3E±0.1, h207km±8km, mb4.4/45, Error ellipse: s-maj=20.9km s-min=13.8km az=122.0*

ISC 30 03:51:53.8±0.6, 13.07N±0.09×143.4E±0.1, h150km, n74, σ0°76/74, mb4.4/44, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	23.83	350	P	P	03 56 52.0	-1.2
	2.3nm,0.6s,baz=174,slow=11,SNR=7.1						
MJAR	Matsushiro Arr	23.83	350	P	P	03 56 53.0	-0.1
KSRS	Korea Array	27.93	333	P	P	03 57 30.0	0.0
	1.4nm,0.8s,baz=137,slow=9.2,SNR=3.0						
USRK	Ussuriysk Ar.	32.52	345	P	P	03 58 11.2	+0.8
	2.0nm,0.6s,baz=161,slow=8.8,SNR=6.1						
USRK	Ussuriysk Ar.	32.52	345	P	P	03 58 10.9	+0.5
WRA	Warramunga Arr	33.98	195	P	P	03 58 23.8	+0.4
	12nm,0.7s,baz=15,slow=9.2,SNR=46						
FITZ	Fitzroy Crossi	35.57	210	P	P	03 58 36.8	-0.1
	2.8nm,0.8s,baz=21,slow=9.4,SNR=6.4						
FITZ	Fitzroy Crossi	35.57	210	P	P	03 58 37.0	+0.1
KLR	Kul'dur	37.31	347	P	P	03 58 52.4	+1.0
	0.6nm,0.2s,baz=131,slow=22,SNR=4.1						
AS31	Alice Springs	37.66	194	P	P	03 58 56.0	+1.3
ASAR	Alice Springs	37.66	194	P	P	03 58 55.2	+0.5
	3.8nm,0.7s,baz=18,slow=12,SNR=28						
ASAR	Alice Springs	37.66	194	P	P	03 58 55.1	+0.4
CMAR	Chiang Mai Arr	43.01	283	P	P	03 59 39.4	+0.6
	3.4nm,0.5s,baz=79,slow=7.0,SNR=11						
CMAR	Chiang Mai Arr	43.01	283	P	P	03 59 38.8	0.0
STKA	Stephens Creek	44.72	182	P	P	03 59 51.7	-0.4
	2.6nm,1.0s,baz=332,slow=6.8,SNR=6.6						
STKA	Stephens Creek	44.72	182	P	P	03 59 51.6	-0.5
BBOO	Buckleboo	46.15	189	P	P	04 00 02.6	-0.8
SONM	Songino Array	46.33	326	P	P	04 00 05.7	+0.9
	2.6nm,0.5s,baz=147,slow=7.8,SNR=9.9						
SEY	Seymchan	50.20	5	P	P	04 00 34.8	+0.8
	3.4nm,0.8s,baz=156,slow=7.2,SNR=9.9						
TOO	Toolangi	50.41	178	P	P	04 00 37.4	+1.5
TOO				IAmb	IAmb	04 00 37.9	
	comp=Z,10nm,1.0s						
MK31	Makanchi Array	60.85	316	P	P	04 01 50.9	+0.4
MKAR	Makanchi Array	60.85	316	P	P	04 01 50.6	+0.2
	comp=Z,1.8nm,0.5s,baz=134,slow=3.5,SNR=3.7						
MKAR	Makanchi Array	60.85	316	P	P	04 01 50.5	0.0
MAKZ	Makanchi	61.07	316	P	P	04 01 52.3	+0.4
MAKZ				IAmb	IAmb	04 01 53.2	
	comp=Z,4.4nm,0.7s						
ZALV	Zalesovo Beam	61.20	325	P	P	04 01 52.6	0.0
	comp=Z,2.3nm,0.5s,baz=111,slow=8.4,SNR=5.5						
KURBB	Kurchatov Arra	64.08	320	P	P	04 02 11.8	0.0
	comp=Z,2.5nm,0.4s,baz=105,slow=6.5,SNR=25						
KTH	Kantishna Hill	67.64	26	P	P	04 02 34.8	+0.4
KTH				IAmb	IAmb	04 02 35.2	
	comp=Z,7.6nm,1.0s						
MLY	Manley	68.14	25	P	P	04 02 37.9	+0.4
MLY				IAmb	IAmb	04 02 38.8	
	comp=Z,6.3nm,1.0s						
PWL	Port Wells	68.14	29	P	P	04 02 37.4	-0.2
I23K	Minto, Yukon-K	68.73	25	P	P	04 02 42.0	+0.9
SCM	Sheep Creek Mo	68.83	28	P	P	04 02 41.4	-0.4
COLD	Coldfoot	68.98	22	P	P	04 02 43.5	+0.9
COLD				IAmb	IAmb	04 02 44.5	
	comp=Z,6.6nm,0.9s						
MDM	Murphy Dome	69.15	25	P	P	04 02 44.6	+0.9
CCB	Clear Creek Bu	69.25	25	P	P	04 02 43.8	-0.5
CCB				IAmb	IAmb	04 02 44.4	
	comp=Z,5.9nm,1.2s						
BRVK	Borovoye	69.50	322	P	P	04 02 46.2	+0.2
IL31		69.66	25	P	P	04 02 45.7	-1.0
ILAR	Eielson Array	69.66	25	P	P	04 02 45.4	-1.4
	comp=Z,2.3nm,0.7s,baz=249,slow=5.7,SNR=26						
PAX	Paxson	69.90	27	P	P	04 02 48.5	0.0
PAX				IAmb	IAmb	04 02 49.5	
	comp=Z,9.4nm,1.2s						
CRQM	Cirque	70.63	30	P	P	04 02 53.6	+0.6
DOT	Dot Lake	70.65	27	P	P	04 02 53.2	+0.3
DOT				IAmb	IAmb	04 02 53.7	
	comp=Z,8.8nm,0.9s						
FYU	Fort Yukon	70.72	24	P	P	04 02 54.0	+0.8
FYU				IAmb	IAmb	04 02 56.7	
	comp=Z,11nm,1.1s						
BMAR	Burnt Mountain	71.14	23	P	P	04 02 56.7	+0.8
HYT	Haines Junctio	73.39	30	P	P	04 03 09.9	+0.5
BESE	Bessie Mountai	74.67	33	P	P	04 03 17.2	+0.4
WHY	Whitehorse	74.67	30	P	P	04 03 17.4	+0.6
WHY				IAmb	IAmb	04 03 18.7	
	comp=Z,11nm,1.1s						
ABKAR	Akbulak array	75.94	318	P	P	04 03 23.9	-0.3
ABKAR				IAmb	IAmb	04 03 24.1	
	comp=Z,3.7nm,0.7s						
NLWA	Neilton Lookou	82.36	43	P	P	04 03 59.9	+0.8
NLWA				IAmb	IAmb	04 04 00.7	
	comp=Z,6.2nm,0.8s						
YKA	Yellowknife Ar	83.99	27	P	P	04 04 06.7	-0.3
	comp=Z,2.8nm,0.7s,baz=287,slow=5.0,SNR=26						
H04A	Detroit Lake	84.06	46	P	P	04 04 08.0	+0.1
H04A				IAmb	IAmb	04 04 08.9	
	comp=Z,9.1nm,1.1s						
YBH	Yreka Blue Hor	84.31	49	P	P	04 04 09.4	+0.1
PINE	Pine Mountain	85.13	46	P	P	04 04 13.8	+0.4
B08A	Colville Reser	85.13	42	P	P	04 04 13.4	+0.2
RES	Resolute Bay	85.39	13	P	P	04 04 14.3	+0.4
RES				IAmb	IAmb	04 04 14.8	
	comp=Z,6.2nm,0.7s						
D08A	Wollman Farm,	85.72	43	P	P	04 04 16.2	+0.1
D08A				IAmb	IAmb	04 04 17.3	
	comp=Z,9.5nm,1.1s						
G08A	Pilot Rock	86.14	45	P	P	04 04 18.6	+0.2
G08A				IAmb	IAmb	04 04 19.5	
	comp=Z,4.3nm,1.0s						
E09A	Wood Farm, Sta	86.38	43	P	P	04 04 19.8	+0.5
E09A				IAmb	IAmb	04 04 21.5	
	comp=Z,7.7nm,1.0s						
BEKR	Beckworth	86.47	50	P	P	04 04 20.2	+0.1
BEKR				IAmb	IAmb	04 04 21.1	
	comp=Z,5.1nm,0.9s						
NEW	Newport	86.58	41	P	P	04 04 20.7	+0.3
NEW				IAmb	IAmb	04 04 21.3	
	comp=Z,7.1nm,0.9s						
ARCES	ARCESS Array B	87.12	342	P	P	04 04 21.2	-1.3
	comp=Z,1.8nm,0.6s,baz=65,slow=6.8,SNR=10						
ARCES	ARCESS Array B	87.12	342	P	P	04 04 21.6	-0.9
VCNR	Virginia City	87.15	50	P	P	04 04 23.2	-0.3
VCNR				IAmb	IAmb	04 04 24.8	
	comp=Z,5.5nm,1.0s						
BMO	Blue Mountains	87.39	45	P	P	04 04 24.5	+0.1
KVN	Kaiserville	88.37	50	P	P	04 04 29.0	-0.3
KVN				IAmb	IAmb	04 04 30.5	
	comp=Z,6.6nm,1.1s						
NVAR	Mina Array Bea	88.38	51	P	P	04 04 29.7	+0.3
	comp=Z,4.4nm,0.8s,baz=262,slow=6.2,SNR=18						
NVAR	Mina Array Bea	88.38	51	P	P	04 04 29.4	0.0
MFID	Camas Ranch	88.81	46	P	P	04 04 31.0	-0.2
ELK	Elko	90.01	48	P	P	04 04 37.0	0.0
ELK				IAmb	IAmb	04 04 38.3	
	comp=Z,4.9nm,1.1s						
TPNV	Topopah Spring	90.36	52	P	P	04 04 38.8	+0.2
TPNV				IAmb	IAmb	04 04 39.8	
	comp=Z,3.6nm,0.8s						
FINES	FINESS Array B	91.01	335	P	P	04 04 38.5	-2.3
	comp=Z,3.4nm,0.6s,baz=67,slow=5.1,SNR=18						
FFC	Flin Flon	93.03	32	P	P	04 04 50.7	+0.4
PDAR	Pinedale Array	93.36	45	P	P	04 04 51.1	-1.3
	comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=2.5						
PDAR	Pinedale Array	93.36	45	P	P	04 04 52.1	-0.4
NOA	NORSAR Array B	97.01	339	P	P	04 05 05.5	-2.9
	comp=Z,0.5nm,0.7s,baz=48,slow=4.7,SNR=3.5						
LPAZ	La Paz	149.38	100	PKPbc	PKPbc	04 11 26.2	-0.6
	comp=Z,6.1nm,0.9s,baz=345,slow=2.9,SNR=8.6						

PRU 30 03:56:27.4±0.0, 51.48N×16.35E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.91	192	ePG	Pg	03 56 43.9	-1.0
CHVC				eSG	Sg	03 56 57.2	+0.5
OSTC	Ostas	0.93	185	ePG	Pg	03 56 45.2	0.0
OSTC				eSG	Sg	03 56 56.6	-0.6
UPC	Upice	1.00	192	ePG	Pg	03 56 46.3	-0.2
UPC				eSG	Sg	03 56 59.0	-0.4
	comp=Z,2.6nm,0.5s						
DPC	Dobruska-Polom	1.13	181	ePG	Pg	03 56 48.0	-1.1
DPC				eSG	Sg	03 57 03.1	-0.6
	0.7nm,0.6s						
KRLC	Kraliky	1.43	169	ePG	Pn	03 56 53.8	-0.9
KRLC				eSG	Sg	03 57 12.9	-0.5
	comp=Z,1.3nm,0.7s						

*IDC **30** 04:24:17.6±1.3, 51.02N×176.89W, h0km, mb3.6/9, mb1 3.9/11,mb1mx3.7/38,mbtmp3.7/11, ML3.0/2, Error ellipse: s-maj=37.6km s-min=19.8km az=179.0*
*AEIC **30** 04:24:22.3±1.8, 50.98N±0.02×176.80W±0.07, h40km±7km, Error ellipse: s-maj=6.5km s-min=1.7km az=111.0*
*NEIC **30** 04:24:22.8±1.3, 50.99N±0.03×176.84W±0.07, h31km±6km, mb3.9/19, ML3.7/28(AEIC), Error ellipse: s-maj=6.4km s-min=5.0km az=87.0*

ISC 30 04:24:21.8±1.9, 50.96N±0.09×176.90W±0.04, h29km±13km, n65, σ0°99/65, mb3.8/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.83	345		Pn	04 24 37.4	-0.2
KIWB	Kanaga Island	0.91	350		Pn	04 24 38.7	0.0
ADK	Adak	0.94	8		Pn	04 24 38.6	-0.5
ADK					Sb	04 24 51.7	+0.2
KIKV	Kanaga Island	0.94	350		Pn	04 24 39.2	+0.1
KICM	Kanaga Island	0.98	349		Pn	04 24 39.9	+0.3
TAPA	Tanaga Point A	1.03	327		Pn	04 24 41.0	+0.6
TASE	Tanaga Southea	1.13	321		Pn	04 24 42.5	+0.7
TAFP	Tanaga Falls P	1.16	325		Pn	04 24 42.9	+0.7
TAFP					Sb	04 24 58.9	+0.9
GSIG	Igitkin Island	1.20	30		Pn	04 24 42.3	-0.4
GSIG					Sn	04 24 57.8	-0.1
GSTD	Great Sitkin T	1.20	23		Pn	04 24 42.5	-0.3
GSTD					Sb	04 24 59.3	+0.3
GSMY	Great Sitkin M	1.21	26		Pn	04 24 42.7	-0.1
GSTR	Great Sitkin T	1.25	24		Pn	04 24 43.5	+0.1
GAEA	Gareloi East	1.42	306		Pb	04 24 47.2	-0.5
GALAA	Gareloi Lava P	1.42	305		Pb	04 24 47.2	-0.5
ATKA	Atka Island	2.10	53		Pn	04 24 54.5	-0.5
ATKA					Sn	04 25 19.2	-0.9
KOKL	Mount Kliuchef	2.17	50		Pn	04 24 55.5	-0.6
KOFP	Korovin Flat P	2.19	52		Pn	04 24 56.4	+0.1
KOSE	Korovin Southe	2.25	51		Pn	04 24 58.2	+1.1
AMKA	Amchitka	2.43	281		Pn	04 24 59.9	+0.3
NIKH	Nikolski High	5.37	65		Pn	04 25 41.0	+1.1
OKTU	Okmok Mt. Tuli	5.97	63		Pn	04 25 49.3	+1.1
MAPS	Pakushin South	6.73	61		Pn	04 25 59.4	+0.8
SPIA	Saint Paul Isl	7.35	30		Pn	04 26 10.3	+3.2
OHAK	Old Harbor	15.16	56	Pn	Pn	04 27 53.2	-0.5
SVW2	Sparrevohn	15.57	41	Pn	Pn	04 27 59.6	+0.5
SVW2				IAmb	IAmb	04 28 11.5	
	comp=Z,5.5nm,0.9s						
KDAK	Kodiak Island	15.67	55	Pn	Pn	04 27 57.3	-3.0
	comp=Z,0.3nm,0.3s,baz=30,slow=18,SNR=1.4						
KDAK				Sn	Sn	04 30 55.4	+2.6
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=1.5						
KDAK	Kodiak Island	15.67	55		Pn	04 27 58.3	-2.0
PETK	Petropavlovsk-	15.76	288	Pn	Pn	04 28 01.4	-0.1
	comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=3.7						
PETK	Petropavlovsk-	15.76	288		Pn	04 28 01.9	+0.4
CNPM	China Poot	16.86	50	Pn	Pn	04 28 15.5	-0.1
PPLA	Purkeypile	17.87	39		P	04 28 29.9	+1.2
PPLA				IAmb	IAmb	04 28 36.5	
	comp=Z,22nm,1.5s						
KTH	Kantishna Hill	18.70	38		Pn	04 28 38.1	-0.1
KTH				IAmb	IAmb	04 28 47.9	
	comp=Z,9.7nm,0.8s						
BPAW	Bear Paw Mtn.	18.96	36	P	Pn	04 28 41.0	-0.2
BPAW				IAmb	IAmb	04 28 48.7	
	comp=Z,4.6nm,0.7s						
RND	Reindeer	19.45	39	P	P	04 28 46.0	+0.1
RND				IAmb	IAmb	04 28 54.0	
	comp=Z,6.4nm,0.8s						
MLY	Manley	19.55	34	P	P	04 28 47.3	+0.3
MLY				IAmb	IAmb	04 28 48.4	
	comp=Z,4.3nm,0.7s						
NEA2	Nenana	19.93	36	P	P	04 28 50.5	-0.5
I23K	Minto, Yukon-K	20.11	35	P	P	04 28 53.2	+0.2
I23K				IAmb	IAmb	04 29 06.6	
	comp=Z,4.0nm,0.9s						
WRH	Wood River Hil	20.24	37	P	P	04 28 51.9	-2.5
SEY	Seymchan	20.36	318	P	P	04 28 56.0	+0.3
	comp=Z,1.1nm,0.3s,baz=134,slow=7.4,SNR=4.8						
MDM	Murphy Dome	20.43	36	P	P	04 28 56.3	-0.1
HDA	Harding Lake	20.65	38	P	P	04 28 59.4	+0.5
HDA				IAmb	IAmb	04 29 09.4	
	comp=Z,3.4nm,0.6s						
IL31		20.84	37	P	P	04 29 00.5	-0.4
ILAR	Eielson Array	20.84	37	P	P	04 28 59.2	-1.7
	comp=Z,0.7nm,0.5s,baz=228,slow=9.3,SNR=13						
ILAR	Eielson Array	20.84	37	P	P	04 29 00.8	-0.1
DOT	Dot Lake	21.51	41	P	P	04 29 07.4	-0.8
DOT				IAmb	IAmb	04 29 24.7	
	comp=Z,5.4nm,1.0s						
SCRK	Sand Creek	21.66	40	P	P	04 29 08.2	-1.7
BCAR	Beaver Creek A	22.30	44	P	P	04 29 16.4	-0.2
K27K	Chicken	22.47	41	P	P	04 29 18.5	+0.1
K27K				IAmb	IAmb	04 29 24.2	
	comp=Z,5.7nm,1.0s						
BMAR	Burnt Mountain	22.94	32	P	P	04 29 23.7	+0.3
H11N2	WAKE ISLAND Hy	33.69	208	T	T	05 07 27.7	
	baz=18,slow=76,SNR=11						
H11N3	WAKE ISLAND Hy	33.70	208	T	T	05 07 32.9	
	baz=18,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	33.71	208	T	T	05 07 33.6	
	baz=18,slow=76,SNR=10						
H11S1	WAKE ISLAND Hy	34.90	208	T	T	05 09 09.2	
	baz=18,slow=76,SNR=7.7						
H11S2	WAKE ISLAND Hy	34.92	208	T	T	05 09 10.3	
	baz=18,slow=76,SNR=5.5						
H11S3	WAKE ISLAND Hy	34.92	208	T	T	05 09 08.5	
	baz=18,slow=76,SNR=3.5						
PDAR	Pinedale Array	45.29	73	P	P	04 32 37.8	+0.7
	comp=Z,1.0nm,0.8s,baz=305,slow=5.2,SNR=8.0						
PDAR	Pinedale Array	45.29	73	P	P	04 32 37.0	-0.1
SONM	Songino Array	47.90	298	P	P	04 32 58.2	+0.9
	comp=Z,1.1nm,0.7s,baz=53,slow=7.3,SNR=4.1						
SONM	Songino Array	47.90	298	P	P	04 32 57.6	+0.3
SONM				IAmb	IAmb	04 32 58.7	
	comp=Z,8.0nm,0.6s						
TXAR	Lajitas Array	57.53	82	P	P	04 34 09.4	+0.8
	comp=Z,0.2nm,0.8s,baz=303,slow=5.3,SNR=2.6						
MKAR	Makanchi Array	61.23	310	P	P	04 34 32.7	-1.2
	comp=Z,0.3nm,0.5s,baz=57,slow=6.8,SNR=4.9						
AKASG	Malin Array Be	76.31	343	P	P	04 36 06.4	-1.1
	comp=Z,0.2nm,0.3s,baz=20,slow=6.9,SNR=2.2						
WRA	Warramunga Arr	82.56	226	P	P	04 36 41.3	-0.6
	comp=Z,0.4nm,0.9s,baz=33,slow=5.7,SNR=1.9						
BRTR	Keskin Array B	85.81	337	P	P	04 36 59.2	+0.7
	comp=Z,1.1nm,0.7s,baz=44,slow=2.7,SNR=14						
BRTR	Keskin Array B	85.81	337	P	P	04 36 59.0	+0.4

*SOME **30** 04:54:28.2, 39.07N×73.73E, h0km*
*NNC **30** 04:54:34.9±2.4, 39.30N×73.63E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=21.1km s-min=13.3km az=156.0*
*KRNET **30** 04:54:37.1±0.1, 39.44N×73.38E, h12km, mb3.5*

ISC 30 04:54:37.6±1.1, 39.49N±0.05×73.33E±0.03, h10km, n52, σ2°39/84, 36C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.54	14	↑iP	Pg	04 54 48.5	+0.3
	baz=10.0						
SFK				↑iS	Sb	04 54 57.2	-0.1
	baz=10.0						
OHH	Osh	1.11	338	↓iP	Pb	04 54 59.3	+0.3
	baz=37						
OHH				↓iS	Sn	04 55 16.3	+1.5
	baz=37						
DRK	Karamyk	1.18	270	↑iP	Pb	04 55 00.0	-0.3
	baz=72						
DRK				↑iS	Sn	04 55 17.0	+0.2
	baz=72						
BTK	Batken	2.02	287	↓iP	Pb	04 55 14.6	+0.2
	baz=88						
BTK				↓iS	Sg	04 55 42.1	-0.3
	baz=88						
GAR	Garm	2.39	259	↑iP	Pb	04 55 20.3	-0.5
	baz=60						
GAR				↑iS	Sb	04 55 51.9	+1.5
	baz=60						
ARLS	Aral	2.49	17	↑iP	Pb	04 55 21.6	-0.9
	baz=16						
ARLS				↑iS	Sb	04 55 53.6	+0.4
	baz=16						
TRKS	Terek-Say	2.63	321	↑iP	Pb	04 55 23.3	-1.7
	baz=21						
TRKS				↑iS	Sb	04 55 57.3	-0.1
	baz=21						
AML	Almayashu	2.65	6	↑eP	Pb	04 55 24.4	-1.1
	baz=5.0						
AML				↑iS	Sb	04 55 58.9	+0.7
	baz=5.0						
AML	Almayashu	2.65	6	P	Pb

0.6nm,0.3s,baz=131,slow=12,SNR=16
KK31 ⇑Pg **Pg** 04 55 57.3 -0.5
2.1nm,0.4s,baz=148,slow=15,SNR=9.4
KK31 ⇑Lg Lg 04 56 54.0
4.3nm,0.4s,baz=150,slow=29,SNR=4.5
IZV Izvestkoviy 4.32 34 *e*P **Pb** 04 55 53.3 -0.5
3.6nm,0.2s
IZV *e*S **Sg** 04 56 55.6 -0.8
42nm,0.8s
IZV Izvestkoviy 4.32 34 Pg **Pb** 04 55 52.9 -0.9
6.2nm,0.8s
IZV Lg Lg 04 56 55.6
42nm,0.8s
KRBS Karabastau 4.55 22 *e*P **Pb** 04 55 57.7 0.0
9.7nm,0.9s
KRBS *e*S **Sg** 04 57 03.6 -0.3
14nm,0.7s
KRBS Karabastau 4.55 22 Pg **Pb** 04 55 57.7 0.0
9.7nm,0.9s
KRBS Lg Lg 04 57 03.6
14nm,0.7s
MDOK Medeo 4.62 36 *e*P **Pb** 04 55 59.0 +0.2
5.3nm,0.5s
MDOK *e*S **Sg** 04 57 05.5 -0.4
16nm,0.8s
MDOK Medeo 4.62 36 ⇑Pg **Pg** 04 56 02.5 -3.5
4.9nm,0.6s
MDOK Lg Lg 04 57 01.7
25nm,1.1s
MDOK Medeo 4.62 36 Pg **Pb** 04 55 59.0 +0.2
5.3nm,0.5s
MDOK Lg Lg 04 57 05.4
16nm,0.8s
KUU Kurty 4.94 26 *e*P **Pb** 04 56 04.7 +0.4
3.6nm,0.5s
KUU *e*S **Sg** 04 57 15.4 -0.9
14nm,0.6s
KUU Kurty 4.94 26 Pg **Pb** 04 56 04.7 +0.4
3.6nm,0.5s
KUU Lg Lg 04 57 15.4
14nm,0.6s
SATY Saty 5.23 45 *e*P **Pb** 04 56 09.0 -0.2
8.0nm,1.0s
SATY *e*S **Sg** 04 57 22.6 -2.9
15nm,0.9s
SATY Saty 5.23 45 Pg **Pb** 04 56 09.0 -0.2
8.0nm,1.0s
SATY Lg Lg 04 57 22.6
15nm,0.9s
KURS Kuram 5.40 41 *e*P **Pb** 04 56 10.2 -1.9
3.8nm,0.5s
KURS *e*S **Sg** 04 57 24.8 -6.2
8.4nm,0.6s
KURS Kuram 5.40 41 Pg **Pb** 04 56 10.2 -1.9
3.8nm,0.5s
KURS Lg Lg 04 57 24.8
8.4nm,0.6s
KPKS Kokpek 5.65 44 *e*P **Pb** 04 56 15.6 -0.8
8.9nm,0.8s
KPKS *e*S **Sg** 04 57 34.2 -4.8
13nm,0.6s
PDGK Podgornoye 6.01 48 Pg **Pb** 04 56 22.9 +0.4
1.5nm,0.8s
PDGK Lg Lg 04 57 46.5
4.0nm,1.0s
PDGK Podgornoye 6.01 48 ⇑Pn **Pn** 04 56 05.7 -1.0
1.4nm,0.8s
PDGK ⇑Pg **Pb** 04 56 25.0 +2.5
3.3nm,0.6s
PDGK ⇓Lg Lg 04 57 48.6
14nm,1.1s
DJR Jarkent 6.83 43 *e*P **Pb** 04 56 39.3 +2.9
0.1nm,0.2s
DJR *e*S **Sg** 04 58 15.2 -1.5
0.5nm,0.8s
DJR Jarkent 6.83 43 Pg **Pb** 04 56 39.3 +2.9
0.1nm,0.4s
DJR Lg Lg 04 58 15.2
0.3nm,0.5s
KAPS Kapalarasan 7.31 36 *e*P **Pb** 04 56 47.6 +3.0
0.1nm,0.2s
KAPS *e*S **Sg** 04 58 29.4 -2.7
0.3nm,0.4s
KAPS Kapalarasan 7.31 36 Pg **Pb** 04 56 47.6 +3.0
0.2nm,0.8s
KAPS Lg Lg 04 58 29.5
0.3nm,0.5s

*ATH **30** 05:06:30.2,39.68N×27.97E,h48km±21km,ML3.7/3,Error ellipse: s-maj=21.2km s-min=1.9km az=245.0*
*IASPEI **30** 05:06:32.5±0.9,39.66N±0.02×27.86E±0.02,h13km±5km, Error ellipse: s-maj=3.7km s-min=3.3km az=39.5,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISK **30** 05:06:32.4,39.67N×27.86E,h8km,ML3.8/23*
*SOF **30** 05:06:33.4,39.76N×27.56E,h2km,MD3.4*
*THE **30** 05:06:34.0,39.62N×27.84E,h12km±3km,ML3.5/9,Error ellipse: s-maj=3.5km s-min=1.3km az=76.0*
*CFUSG **30** 05:06:40.9,40.60N×27.70E,h10km,mb2.9/1,MD3.3/1, Sea of Marmara Magtype MSH 3.0 from 3 stations*
ISC 30 05:06:32.6±0.8,39.64N±0.02×27.85E±0.02,h14km±5km, n82,σ1§14/101,13C-4D,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.02**	**97**		**Pg**	**Pg**	**05 06 34.9**	**-0.1**
BALB					SG	**Sg**	**05 06 36.3**	**-0.4**
GONE	**Gonen-Balikesi**	**0.42**	**343**		PG	**Pg**	**05 06 40.9**	**-0.1**
GONE					SG	**Sg**	**05 06 46.7**	**0.0**
DST	**Dursunbey**	**0.59**	**94**		PG	**Pg**	**05 06 44.1**	**-0.1**
DST					SG	**Sg**	**05 06 52.6**	**+0.5**
EDC	**Edincik**	**0.70**	**1**		PG	**Pg**	**05 06 46.0**	**-0.3**
KCTX	**Karacabey (Bur**	**0.73**	**32**		PG	**Pg**	**05 06 46.2**	**-0.6**
KRBG	**Karabiga-Canak**	**0.86**	**331**		PG	**Pg**	**05 06 48.7**	**-0.6**
DKL	**Dikili**	**0.93**	**232**		PG	**Pb**	**05 06 50.6**	**+0.2**
GOMA	**Golmarmara-Man**	**0.94**	**177**		PG	**Pb**	**05 06 51.3**	**+0.7**
MRMT	**Marmara Adasi**	**0.98**	**349**		PG	**Pb**	**05 06 51.1**	**-0.3**
MAR9	**Marsite Statio**	**0.98**	**353**		PG	**Pg**	**05 06 51.0**	**-0.5**
SMAA	**Simav-Kutahya**	**1.03**	**121**		PG	**Pb**	**05 06 52.9**	**+0.7**
CAND	**Candarli**	**1.06**	**230**		PN	**Pb**	**05 06 53.4**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.07**	**47**		PG	**Pb**	**05 06 53.1**	**+0.2**
MAR2	**Marsite Statio**	**1.15**	**339**		PN	**Pb**	**05 06 54.6**	**+0.4**
MAR6	**Marsite Statio**	**1.15**	**337**		PN	**Pn**	**05 06 54.8**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.16**	**334**		PN	**Pb**	**05 06 54.7**	**+0.2**
GZKV	**Gazikoy-Tekird**	**1.17**	**340**		PN	**Pn**	**05 06 55.1**	**+0.5**
MAR3	**Marsite Statio**	**1.18**	**339**		PN	**Pn**	**05 06 55.2**	**+0.5**
EZN	**Ezine**	**1.19**	**279**		P	**Pg**	**05 06 54.8**	**-0.7**
EZN					S	**Sb**	**05 07 10.5**	**+0.3**
	2µm,0.7s							
EZN	**Ezine**	**1.19**	**279**		PN	**Pg**	**05 06 54.9**	**-0.6**
ARMT	**Armutlu**	**1.20**	**40**		PN	**Pg**	**05 06 55.2**	**-0.6**
MAR4	**Marsite Statio**	**1.22**	**340**		PN	**Pb**	**05 06 55.8**	**+0.3**
SHAP	**Saphane-Kutahy**	**1.23**	**120**		PN	**Pb**	**05 06 56.5**	**+0.8**
TVSB	**Tavsanli**	**1.26**	**98**		PN	**Pg**	**05 06 55.4**	**-1.4**
FOCM	**Foa**	**1.27**	**224**		PN	**Pn**	**05 06 57.2**	**+1.3**
PRK	**Paraskevi**	**1.29**	**253**		P	**Pn**	**05 06 57.6**	**+1.5**
PRK					S	**Sn**	**05 07 14.8**	**+1.7**
	6µm,0.7s							
PRK	**Paraskevi**	**1.29**	**253**		P	**Pg**	**05 06 55.9**	**-1.4**
PRK					S	**Sb**	**05 07 13.9**	**+0.9**
PRK					AML	AML	05 07 17.3	
	comp=N,5788µm,0.5s							
PRK					AML	AML	05 07 18.9	
	comp=E,8478µm,0.5s							
KULA	**Kula-Manisa**	**1.29**	**151**		P	**Pg**	**05 06 56.9**	**-0.5**
KULA					S	**Sg**	**05 07 13.7**	**-0.5**
KULA	**Kula-Manisa**	**1.29**	**151**		PN	**Pn**	**05 06 57.7**	**+1.4**
GEMT	**Gemlik**	**1.30**	**52**		PN	**Pb**	**05 06 57.2**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.30**	**306**		PN	**Pn**	**05 06 57.3**	**+1.0**
GEDZ	**Gediz**	**1.35**	**116**		PN	**Pg**	**05 06 58.0**	**-0.5**
BLCB	**Balcova**	**1.41**	**207**		P	**Pn**	**05 06 57.8**	**0.0**
BLCB					S	**Sg**	**05 07 15.5**	**-2.3**
GADA	**Gvkgeada**	**1.60**	**291**		P	**Pn**	**05 07 01.0**	**+0.6**
GADA					S	**Sn**	**05 07 22.0**	**+1.1**
	comp=E,1µm,0.9s							
SIGR	**SIGRI**	**1.60**	**255**		P	**Pn**	**05 07 00.7**	**+0.2**
SIGR					S	**Sn**	**05 07 21.4**	**+0.4**
	comp=E,2µm,0.5s							
SIGR	**SIGRI**	**1.60**	**255**		P	**Pn**	**05 07 00.7**	**+0.2**
SIGR					S	**Sn**	**05 07 21.9**	**+0.9**
SIGR					AML	AML	05 07 26.4	
	comp=E,3010µm,0.5s							
SIGR					AML	AML	05 07 31.6	
	comp=N,3639µm,0.6s							
ISK	**Istanbul-Kandi**	**1.69**	**33**		P	**Pn**	**05 07 01.2**	**-0.5**
ISK					S	**Sb**	**05 07 25.6**	**+0.9**
	comp=N,662nm,0.4s							
ENEZ	**Enez**	**1.70**	**311**		P	**Pn**	**05 07 02.8**	**+1.0**
ENEZ					S	**Sn**	**05 07 24.9**	**+1.6**
	comp=N,1µm,0.4s							
ALN	**Alexandroupoli**	**1.86**	**313**		P	**Pn**	**05 07 04.5**	**+0.4**
ALN					S	**Sn**	**05 07 29.1**	**+1.7**
	comp=N,690nm,0.4s							
ALN	**Alexandroupoli**	**1.86**	**313**		P	**Pn**	**05 07 04.4**	**+0.3**
CHOS	**Chios island**	**1.88**	**229**		P	**Pn**	**05 07 04.4**	**+0.1**
CHOS					S	**Sn**	**05 07 29.5**	**+1.6**
	comp=N,1µm,0.5s							
CHOS	**Chios island**	**1.88**	**229**		P	**Pn**	**05 07 04.5**	**+0.1**
CHOS					S	**Sb**	**05 07 30.7**	**+0.6**
CHOS					AML	AML	05 07 38.0	
	comp=N,2028µm,0.3s							
CHOS					AML	AML	05 07 40.9	
	comp=E,2482µm,0.8s							
SMTH	**Samothraki Isl**	**1.96**	**296**		P	**Pn**	**05 07 06.0**	**+0.6**
SMTH	**Samothraki Isl**	**1.96**	**296**		P	**Pn**	**05 07 06.0**	**+0.6**
LIA	**Limnos Island**	**2.07**	**278**		P	**Pn**	**05 07 07.6**	**+0.7**
LIA					S	**Sn**	**05 07 32.8**	**+0.3**
	comp=E,1µm,0.6s							
LIA	**Limnos Island**	**2.07**	**278**		P	**Pn**	**05 07 07.6**	**+0.7**
SMG	**Samos**	**2.09**	**203**		P	**Pn**	**05 07 08.3**	**+1.1**
SMG					S	**Sb**	**05 07 36.5**	**+0.5**
PSRA	**Psara**	**2.09**	**239**		P	**Pb**	**05 07 09.6**	**-0.7**
EFSA	**Agios Efstrati**	**2.21**	**268**		P	**Pb**	**05 07 11.3**	**-1.8**
RDO	**Rodhopi**	**2.32**	**311**		P	**Pn**	**05 07 11.1**	**+0.8**
RDO	**Rodhopi**	**2.32**	**311**		P	**Pn**	**05 07 11.5**	**+1.1**
KDZ	**Kurdzhali**	**2.73**	**318**	*i* P	**Pn**	**05 07 16.1**	**+0.1**
ISP	**Isparta**	**2.77**	**130**	P	**Pn**	**05 07 17.4**	**+0.8**
DIM	**Dimitrovgrad**	**2.98**	**325**	*e*P	**Pn**	**05 07 20.8**	**+1.4**
JMB	**Yambol**	**2.98**	**342**	*i* P	**Pn**	**05 07 21.8**	**+2.4**
APE	**Apeiranthos**	**3.15**	**216**	⇑P	**Pn**	**05 07 21.7**	**-0.1**
PLD	**Plovdiv**	**3.43**	**317**	*i* P	**Pn**	**05 07 26.1**	**+0.5**
MMB	**Musomiste**	**3.69**	**303**	*i* P	**Pn**	**05 07 30.1**	**+0.9**
PGB	**Panagyurishte**	**4.02**	**317**	*i* P	**Pn**	**05 07 34.3**	**+0.5**
KKB	**Krupnik**	**4.25**	**303**	*e*P	**Pn**	**05 07 37.7**	**+0.8**
VAY	**Valandovo**	**4.36**	**294**	*i* Pn	**Pg**	**05 07 53.9**	**-2.2**
VTS	**Vitosha**	**4.58**	**312**	⇑P	**Pn**	**05 07 42.8**	**+1.3**
VTS	**Vitosha**	**4.58**	**312**	*i* P	**Pn**	**05 07 42.6**	**+1.0**
STIP	**Stip**	**4.77**	**297**	*i* Pn	**Pn**	**05 07 43.6**	**-0.4**
TIRR	**Tirgusor**	**4.83**	**5**	⇑P	**Pn**	**05 07 45.2**	**+0.3**
HARR	**Harsova**	**5.04**	**1**	⇑P	**Pn**	**05 07 50.1**	**+2.3**
TPGR	**Topolog**	**5.23**	**4**	⇑P	**Pn**	**05 07 51.4**	**+1.1**
CFR	**Carcaliu**	**5.54**	**2**	⇓P	**Pn**	**05 07 55.1**	**+0.6**
MLR	**Muntele Rosu**	**6.01**	**347**	⇓P	**Pn**	**05 08 03.0**	**+1.8**
BOVS	**Bovan**	**6.09**	**313**	⇓P	**Pn**	**05 08 03.0**	**+0.9**
VOIR		**6.15**	**341**	⇑P	**Pn**	**05 08 03.9**	**+0.9**
ARR	**Arges**	**6.20**	**338**	⇑P	**Pn**	**05 08 05.5**	**+1.8**
PLOR	**Plostina**	**6.27**	**352**	⇑P	**Pn**	**05 08 06.4**	**+1.8**
VRI	**Vrincioaia**	**6.28**	**353**	⇑P	**Pn**	**05 08 06.7**	**+2.0**
SEV	**Sevastopol'**	**6.53**	**40**	*e*P	**Pn**	**05 08 08.3**	**+0.1**
SEV				Pm		05 08 14.2	
	comp=Z,5.0nm,0.3s						
SEV				*e*S	**Sn**	**05 09 17.0**	**-5.5**
SEV				Sm		05 09 22.5	
	comp=N,3.0nm,0.3s						
SEV				Sm		05 09 22.5	
	comp=E,3.0nm,0.2s						
DOPR	**Dopca**	**6.58**	**345**	⇑P	**Pn**	**05 08 09.1**	**+0.3**
HERR	**Herculane**	**6.61**	**324**	⇑P	**Pn**	**05 08 09.4**	**+0.2**
GZR	**Gura Zlata**	**6.86**	**329**	⇑P	**Pn**	**05 08 12.8**	**0.0**
MDVR	**Moldovita**	**6.86**	**320**	⇑P	**Pn**	**05 08 12.8**	**0.0**
ALU	**Alushta**	**7.00**	**42**	*e*S	**Sn**	**05 09 33.5**	**-0.5**
ALU				Sm		05 09 36.5	
	comp=N,17nm,0.3s						
ALU				Sm		05 09 36.5	
	comp=E,5.0nm,0.2s						
SUDU	**Sudak**	**7.45**	**43**	*e*S	**Sn**	**05 09 42.4**	**-2.8**
SUDU				Sm		05 09 46.6	
	comp=N,1.0nm,0.3s						
SUDU				Sm		05 09 46.6	
	comp=E,10.0nm,0.4s						
DRGR		**8.07**	**334**	⇓P	**Pn**	**05 08 29.7**	**+0.4**

IDC 30 05:10:19.8±2.7,5.65S×129.24E,h225km±39km,mb2.6/1, mb1 3.5/5,mb1mx3.2/31,mbtmp4.1/5,Error ellipse: s-maj=62.2km s-min=17.9km az=83.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.16**	**23**		P	Pn	05 11 36.6	-0.4
	6.6nm,0.3s,baz=197,slow=23,SNR=34							
SIJI					S	S	05 12 33.1	-4.9
	10nm,0.3s,baz=254,slow=23,SNR=11							
FITZ	**Fitzroy Crossi**	**12.86**	**196**	P		Pn	05 13 15.5	+0.7
	0.4nm,0.3s,baz=30,slow=11,SNR=12							
FITZ					S	S	05 15 30.8	-6.4
	0.1nm,0.3s,baz=218,slow=15,SNR=2.4							
WRA	**Warramunga Arr**	**15.05**	**161**	P		Pn	05 13 40.9	-0.7
	1.1nm,0.3s,baz=341,slow=13,SNR=66							
WRA					S	S	05 16 24.3	-3.8
	0.1nm,0.3s,baz=343,slow=23,SNR=2.3							
ASAR	**Alice Springs**	**18.47**	**166**	P		P	05 14 20.2	+1.1
	1.2nm,0.3s,baz=348,slow=11,SNR=66							
ASAR					S	S	05 17 35.5	-2.6
	0.1nm,0.3s,baz=347,slow=21,SNR=2.2							
MKAR	**Makanchi Array**	**66.69**	**327**	P		P	05 20 46.0	-0.6
	0.1nm,0.3s,baz=106,slow=6.9,SNR=1.9							

*IDC **30** 05:20:57.0±1.8,15.22S×177.16W,h372km±27km,mb3.1/4, mb1 3.4/6,mb1mx3.1/30,mbtmp3.9/6,Error ellipse: s-maj=106.6km s-min=17.8km az=154.0*
ISC 30 05:20:56.4±1.0,14.6S±0.3×177.4W±0.2,h350km,n6, σ1§65/6,mb3.4/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.39**	**234**	P		Pn	**05 22 21.8**	**+1.4**
	0.8nm,0.3s,baz=98,slow=7.1,SNR=1.7							
AFI	**Afiamalu**	**5.45**	**83**	P		Pn	**05 22 20.7**	**-0.4**
	5.0nm,0.3s,baz=2.3,slow=2.6,SNR=6.0							
WRA	**Warramunga Arr**	**46.31**	**256**	P		P	**05 28 47.4**	**-1.4**
	0.4nm,0.4s,baz=92,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**46.73**	**251**	P		P	**05 28 50.1**	**-1.8**
	2.3nm,0.3s,baz=85,slow=8.4,SNR=39							
ILAR	**Eielson Array**	**82.48**	**13**	P		P	**05 32 40.9**	**+0.9**
	0.5nm,0.8s,baz=224,slow=6.3,SNR=5.6							
TXAR	**Lajitas Array**	**83.39**	**58**	P		P	**05 32 45.8**	**+0.2**
	0.5nm,0.8s,baz=232,slow=6.1,SNR=4.7							

*TUL **30** 05:34:38.3±1.2,36.81N±0.04×98.54W±0.05,h6km±7km, ML2.9,mb_Lg2.8/70(NEIC),Error ellipse: s-maj=6.2km s-min=5.7km az=183.0*
*ANF **30** 05:34:38.8±0.2,36.79N×98.52W,h5km,ML3.4/7,Error ellipse: s-maj=2.5km s-min=2.1km az=101.0*
*NEIC **30** 05:34:38.9±0.9,36.79N±0.04×98.53W±0.05,h5km±2km, Error ellipse: s-maj=7.4km s-min=6.8km az=28.0*
ISC 30 05:34:39.1±0.9,36.80N±0.03×98.53W±0.03,h10km,n75, σ0§67/56,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.26**	**89**		**Pg**	**Pg**	**05 34 44.0**	**-0.4**
KAN10	**Anthony SW Sta**	**0.48**	**47**		**Pg**	**Pg**	**05 34 48.0**	**-0.4**
CROK	**Carrier**	**0.53**	**124**		**Pg**	**Pg**	**05 34 49.0**	**-0.5**
U32A	**Winter Ranch,**	**0.56**	**222**		**Pg**	**Pg**	**05 34 49.3**	**-0.7**
U32A	**Winter Ranch,**	**0.56**	**222**	P		**Pg**	**05 34 49.4**	**-0.6**
	baz=47,SNR=32							
U32A					S	**Sg**	**05 34 57.3**	**-0.2**
	baz=47							
U32A	**Winter Ranch,**	**0.56**	**222**	P			05 34 49.4	
	baz=47,SNR=32							
U32A					S		05 34 57.3	
	baz=47							
KAN08	**Anthony NE Sta**	**0.62**	**46**		**Pg**	**Pg**	**05 34 50.8**	**-0.3**
KAN12	**Harper NE Stat**	**0.66**	**41**		**Pg**	**Pg**	**05 34 50.1**	**-1.7**
KAN17	**Caldwell West**	**0.66**	**68**		**Pg**	**Pg**	**05 34 51.4**	**-0.5**
KAN09	**Caldwell North**	**0.81**	**65**		**Pg**	**Pg**	**05 34 54.0**	**-0.6**
KAN13	**South Haven SW**	**0.87**	**76**		**Pg**	**Pg**	**05 34 55.1**	**-0.8**
KS20	**Mayfield South**	**0.89**	**61**		**Pb**	**Pb**	**05 34 56.9**	**+0.2**
BLOK	**Blackwell**	**1.06**	**92**		**Pg**	**Pg**	**05 34 58.2**	**-1.3**
OK029	**Liberty Lake**	**1.33**	**139**		**Pn**	**Pn**	**05 35 03.1**	**-0.6**
BCOK	**Bluff Creek, N**	**1.36**	**147**			**Pn**	**05 35 03.5**	**-0.7**
OK025	**Westminster Rd**	**1.55**	**141**			**Pn**	**05 35 06.7**	**-0.1**
QUOK	**Quay**	**1.60**	**113**	Pn		**Pn**	**05 35 08.0**	**+0.5**
OK031	**S. Brethren Rd**	**1.61**	**121**			**Pn**	**05 35 07.8**	**+0.2**
T35A	**Sooner Cattle**	**1.62**	**85**	Pn		**Pn**	**05 35 08.1**	**+0.3**
T35B	**Sooner Cattle**	**1.62**	**85**	P		**Pn**	**05 35 08.0**	**+0.2**
	baz=265,SNR=47							
T35B					S	**Sb**	**05 35 30.0**	**+0.3**
	baz=265							
T35B	**Sooner Cattle**	**1.62**	**85**	P			05 35 08.0	
	baz=265,SNR=47							
T35B					S		05 35 30.0	
	baz=265							
R32A	**Long Quarter,**	**1.63**	**355**			**Pn**	**05 35 08.4**	**+0.6**
R32A					lAmb_Lg		05 35 30.1	
	comp=Z,54nm,0.8s							
R32A	**Long Quarter,**	**1.63**	**355**	P		**Pn**	**05 35 08.2**	**+0.4**
	baz=174,SNR=148							
R32A					S	**Sb**	**05 35 30.0**	**+0.2**
	baz=174							
R32A	**Long Quarter,**	**1.63**	**355**	P			05 35 08.2	
	baz=174,SNR=148							
R32A					S		05 35 30.0	
	baz=174							
OKCFA	**Oklahoma City**	**1.64**	**147**			**Pn**	**05 35 07.9**	**-0.1**
OKCFA	**Oklahoma City**	**1.64**	**147**	P		**Pn**	**05 35 08.1**	**+0.1**
	baz=328,SNR=10.0							
OKCFA					S	**Sb**	**05 35 30.4**	**+0.4**
	baz=328							
OKCFA	**Oklahoma City**	**1.64**	**147**	P			05 35 08.1	
	baz=328,SNR=10.0							
OKCFA					S		05 35 30.4	
	baz=328							
OKCSW	**OKLAHOMA CITY**	**1.65**	**147**			**Pn**	**05 35 08.2**	**+0.1**
OK030	**Cody Creek RV**	**1.66**	**121**			**Pn**	**05 35 08.7**	**+0.4**
FNO	**Franklin**	**1.79**	**149**			**Pn**	**05 35 10.7**	**+0.6**
WMOK	**Wichita Mounta**	**2.07**	**186**			**Pn**	**05 35 13.7**	**-0.3**
WMOK					lAmb_Lg		05 35 45.3	
	comp=Z,28nm,0.8s							
WMOK	**Wichita Mounta**	**2.07**	**186**	P		**Pn**	**05 35 13.9**	**0.0**
	baz=6.5,SNR=57							
WMOK	**Wichita Mounta**	**2.07**	**186**	P			05 35 13.9	
	baz=6.5,SNR=57							
CBKS	**Cedar Bluff**	**2.23**	**335**			**Pn**	**05 35 16.7**	**+0.6**
CBKS	**Cedar Bluff**	**2.23**	**335**	S		**Sb**	**05 35 46.9**	**-0.2**
	baz=154							
CBKS	**Cedar Bluff**	**2.23**	**335**	S			05 35 46.9	
	baz=154							
X34A	**Smith Ranch, M**	**2.27**	**165**	Pn		**Pn**	**05 35 17.6**	**+0.9**
LOOK	**Love County**	**3.01**	**158**	Pn		**Pn**	**05 35 27.5**	**+0.7**
AMTX	**Amarillo**	**3.19**	**234**	Pn		**Pn**	**05 35 29.8**	**+0.3**
AMTX					lAmb_Lg		05 36 28.0	
	comp=Z,20nm,0.7s							
AMTX	**Amarillo**	**3.19**	**234**	P		**Pn**	**05 35 30.5**	**+1.1**
	baz=53							
AMTX	**Amarillo**	**3.19**	**234**	P			05 35 30.5	
	baz=53							
U38A	**Gravette**	**3.36**	**95**			**Pn**	**05 35 32.4**	**+0.8**
U38A					lAmb_Lg		05 36 29.4	
	comp=Z,16nm,0.8s							
X37A	**Clayton**	**3.39**	**130**			**Pn**	**05 35 32.0**	**0.0**
X37A					lAmb_Lg		05 36 33.8	
	comp=Z,23nm,0.8s							
X37A	**Clayton**	**3.39**	**130**	P		**Pn**	**05 35 32.3**	**+0.2**
	baz=312,SNR=18							
X37A	**Clayton**	**3.39**	**130**	P			05 35 32.3	
	baz=312,SNR=18							
Z35A	**Perchaven, San**	**3.62**	**163**	Pn		**Pn**	**05 35 35.3**	**+0.1**
Z35A					lAmb_Lg		05 36 36.7	
	comp=Z,24nm,1.2s							
HHAR	**Hobbs**	**3.73**	**97**			**Pn**	**05 35 37.9**	**+1.1**
KSCO	**Kaye Shedlock'**	**3.92**	**306**		lAmb_Lg		05 36 47.1	
	comp=Z,13nm,0.8s							
N33A	**J Bar K, Exete**	**4.02**	**12**	Pn		**Pn**	**05 35 40.2**	**-0.6**
N33A					lAmb_Lg		05 36 56.9	
	comp=Z,25nm,0.8s							
S39A	**Bolivar**	**4.25**	**76**	Pn		**Pn**	**05 35 44.8**	**+0.9**
S39A					lAmb_Lg		05 36 58.7	
	comp=Z,20nm,0.8s							
Z38A	**Mt. Pleasant**	**4.58**	**139**		lAmb_Lg		05 37 10.5	
	comp=Z,23nm,0.8s							
U40A	**Yellville**	**4.59**	**94**			**Pn**	**05 35 49.2**	**+0.6**
U40A					lAmb_Lg		05 37 04.9	
	comp=Z,25nm,0.8s							
BGNE	**Belgrade**	**4.61**	**4**	Pn		**Pn**	**05 35 49.3**	**+0.4**
MIAR	**Mount Ida**	**4.62**	**118**	Pn		**Pn**	**05 35 49.9**	**+0.9**
T25A	**Trinidad**	**4.72**	**276**	Pn		**Pn**	**05 35 51.1**	**+0.6**
T25A					lAmb_Lg		05 37 10.1	
	comp=Z,22nm,0.8s							
P38A	**Dawn**	**4.84**	**53**	Pn		**Pn**	**05 35 52.6**	**+0.6**
OGNE	**Ogallala**	**4.96**	**328**	Pn		**Pn**	**05 35 55.0**	**+1.3**
MGMO	**Mountain Grove**	**5.03**	**84**		lAmb_Lg		05 37 19.5	
	comp=Z,11nm,0.8s							
X40A	**Basin Creek Fa**	**5.18**	**115**	Pn		**Pn**	**05 35 58.5**	**+1.8**
X40A					lAmb_Lg		05 37 24.7	
	comp=Z,13nm,0.7s							
R40A	**Maddies Statio**	**5.20**	**71**	Pn		**Pn**	**05 35 57.3**	**+0.4**
FCAR	**Ozark Folk Cen**	**5.25**	**98**	Pn		**Pn**	**05 35 58.0**	**+0.4**
WHAR	**Wooly Hollow**	**5.28**	**105**	Pn		**Pn**	**05 35 58.3**	**+0.2**
WHAR					lAmb_Lg		05 37 28.9	
	comp=Z,17nm,0.8s							
WLAR	**White Oak Lake**	**5.41**	**123**		lAmb_Lg		05 37 32.7	
	comp=Z,10nm,0.8s							
L34A	**Svendsen Farm,**	**5.42**	**17**	Pn		**Pn**	**05 35 59.7**	**-0.3**
L34A					lAmb_Lg		05 37 36.0	
	comp=Z,23nm,0.7s							
P40A	**Paris**	**5.79**	**60**		lAmb_Lg		05 37 43.6	
	comp=Z,18nm,0.8s							
K31A	**O'Neill**	**5.82**	**358**		lAmb_Lg		05 37 54.8	
	comp=Z,21nm,0.8s							
CCM	**Cathedral Cave**	**5.93**	**76**		lAmb_Lg		05 37 56.4	
	comp=Z,9.5nm,0.7s							
435B	**Jarrell**	**6.05**	**172**		lAmb_Lg		05 37 54.5	
	comp=Z,14nm,0.9s							
JCT	**Junction City**	**6.39**	**190**		lAmb_Lg		05 38 10.6	
	comp=Z,15nm,1.1s							
PBMO	**Poplar Bluff**	**6.50**	**88**		lAmb_Lg		05 38

ZKR				SG	**Sb**	**05 37 52.7**	**+0.3**
KARP	**Karpathos**	**0.50**	**36**	P	**Pg**	**05 37 45.4**	**-0.2**
KARP				S	**Sb**	**05 37 53.6**	**+0.6**
	comp=N,18μm,0.4s						
KARP	**Karpathos**	**0.50**	**36**	P	**Pg**	**05 37 45.5**	**-0.2**
KARP				S	**Sg**	**05 37 52.3**	**-0.1**
KARP				AML	AML	05 37 55.0	
	comp=E,27679μm,0.3s						
KARP				AML	AML	05 37 55.3	
	comp=N,42953μm,0.3s						
KARP	**Karpathos**	**0.50**	**36**	PG	**Pg**	**05 37 45.2**	**-0.5**
KARP				SG	**Sb**	**05 37 53.9**	**+0.9**
STIA	**Sitia Lasithi**	**0.58**	**276**	P	**Pg**	**05 37 47.0**	**-0.2**
STIA				S	**Sb**	**05 37 57.3**	**+1.9**
FRMA	**Ierapetra Chan**	**0.89**	**262**	P	**Pg**	**05 37 50.8**	**-2.0**
FRMA				S	**Sg**	**05 38 03.4**	**-1.1**
	comp=N,1μm,0.5s						
NPS	**Neapolis**	**0.98**	**277**	P	**Pb**	**05 37 54.8**	**+0.6**
NPS	**Neapolis**	**0.98**	**277**	P	**Pg**	**05 37 54.4**	**-0.3**
NPS				S	**Sg**	**05 38 07.0**	**-0.6**
NPS				AML	AML	05 38 13.2	
	comp=E,3843μm,0.6s						
NPS				AML	AML	05 38 15.3	
	comp=N,2823μm,0.5s						
LAST	**Lasithi**	**1.08**	**271**	P	**Pg**	**05 37 55.8**	**-0.8**
LAST	**Lasithi**	**1.08**	**271**	P	**Pg**	**05 37 56.5**	**-0.2**
LAST				AML	AML	05 38 19.3	
	comp=N,2291μm,0.8s						
LAST				AML	AML	05 38 20.9	
	comp=E,2227μm,0.8s						
HRKL	**Herakleio**	**1.40**	**277**	PN	**Pb**	**05 38 01.9**	**+0.6**
KSTL	**Kastelli Herak**	**1.43**	**277**	P	**Pn**	**05 37 58.9**	**-1.8**
KSTL				S	**Sn**	**05 38 14.5**	**-4.5**
IACM	**Heraklion**	**1.43**	**277**	P	**Pb**	**05 38 02.4**	**+0.7**
IACM				AML	AML	05 38 35.4	
	comp=E,8051μm,0.8s						
IACM				AML	AML	05 38 36.4	
	comp=N,4433μm,0.4s						
NIS1	**Nisyros Isl.**	**1.49**	**12**	P	**Pb**	**05 38 03.0**	**+0.1**
NIS1	**Nisyros Isl.**	**1.49**	**12**	PN	**Pn**	**05 38 02.5**	**+0.9**
NISR	**Nisiros**	**1.49**	**10**	P	**Pn**	**05 38 02.3**	**+0.7**
NISR				AML	AML	05 38 28.4	
	comp=E,2632μm,0.4s						
NISR				AML	AML	05 38 31.4	
	comp=N,1871μm,0.5s						
ARG	**Arkhangelos**	**1.52**	**45**	P	**Pn**	**05 38 03.0**	**+1.0**
ARG				S	**Sg**	**05 38 24.0**	**-0.7**
	comp=N,2μm,0.7s						
ARG	**Arkhangelos**	**1.52**	**45**	P	**Pb**	**05 38 03.6**	**+0.3**
ARG				AML	AML	05 38 29.0	
	comp=N,3304μm,0.8s						
ARG				AML	AML	05 38 30.5	
	comp=E,3162μm,0.7s						
ARG	**Arkhangelos**	**1.52**	**45**	PN	**Pn**	**05 38 03.1**	**+1.0**
ARG				SN	**Sb**	**05 38 23.5**	**+1.2**
IDI	**Anoyia**	**1.57**	**276**	P	**Pb**	**05 38 04.5**	**+0.2**
IDI	**Anoyia**	**1.57**	**276**	P	**Pb**	**05 38 04.5**	**+0.2**
IDI				AML	AML	05 38 34.2	
	comp=N,1069μm,0.6s						
IDI				AML	AML	05 38 36.4	
	comp=E,1095μm,0.5s						
IDI	**Anoyia**	**1.57**	**276**	PN	**Pn**	**05 38 04.1**	**+1.3**
KOSK	**Kos Island**	**1.61**	**5**	PN	**Pn**	**05 38 04.7**	**+1.4**
SIVA	**Sivas**	**1.64**	**266**	P	**Pb**	**05 38 05.8**	**+0.5**
SIVA				AML	AML	05 38 34.2	
	comp=E,1975μm,0.7s						
SIVA				AML	AML	05 38 36.4	
	comp=N,2288μm,0.6s						
SANT	**Santorini**	**1.64**	**319**	P	**Pn**	**05 38 05.2**	**+1.5**
SANT				AML	AML	05 38 32.0	
	comp=N,508μm,0.5s						
SANT				AML	AML	05 38 33.2	
	comp=E,1830μm,0.5s						
SANT	**Santorini**	**1.64**	**319**	PN	**Pn**	**05 38 04.5**	**+0.8**
SANT				SN	**Sb**	**05 38 26.6**	**+0.7**
THR8	**Santorini-Mono**	**1.66**	**320**	P	**Pn**	**05 38 04.3**	**+0.4**
THR8	**Santorini-Mono**	**1.66**	**320**	P	**Pb**	**05 38 05.6**	**-0.1**
THR6	**Thira Island,**	**1.67**	**317**	P	**Pn**	**05 38 05.1**	**+1.1**
THR6	**Thira Island,**	**1.67**	**317**	P	**Pb**	**05 38 05.7**	**-0.1**
THR9	**Santorini-Faro**	**1.69**	**316**	P	**Pn**	**05 38 05.8**	**+1.5**
SNT5	**Nea Kammeni, S**	**1.70**	**318**	P	**Pn**	**05 38 05.8**	**+1.3**
THR3	**Thira Island,**	**1.70**	**318**	P	**Pn**	**05 38 06.1**	**+1.6**
DAT	**Datca**	**1.71**	**21**	P	**Pn**	**05 38 05.3**	**+0.6**
DAT	**Datca**	**1.71**	**21**	PN	**Pn**	**05 38 05.5**	**+0.8**
THR2	**Thira island,**	**1.71**	**320**	P	**Pb**	**05 38 06.4**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.94**	**35**	PN	**Pn**	**05 38 08.1**	**+0.3**
BODT	**Bodrum**	**1.96**	**12**	PN	**Pn**	**05 38 07.9**	**-0.2**
TURN	**Turunc**	**2.01**	**35**	PN	**Pn**	**05 38 10.1**	**+1.4**
VAM	**Vamos**	**2.15**	**278**	P	**Pb**	**05 38 14.3**	**+0.3**
APE	**Apeiranthos**	**2.18**	**332**	AML	AML	05 38 44.0	
	comp=E,427μm,0.7s						
APE				AML	AML	05 38 44.7	
	comp=N,660μm,0.5s						
APE	**Apeiranthos**	**2.18**	**332**	PN	**Pn**	**05 38 11.9**	**+0.7**
GVDS	**Gavdos**	**2.25**	**263**	PN	**Pn**	**05 38 14.3**	**+2.3**
DALY	**Dalyan (Mula)**	**2.25**	**41**	PN	**Pn**	**05 38 13.9**	**+1.9**
GVD	**Gavdhos**	**2.25**	**263**	P	**Pb**	**05 38 16.1**	**+0.4**
GVD	**Gavdhos**	**2.25**	**263**	PN	**Pn**	**05 38 13.7**	**+1.7**
MLSB	**Milas**	**2.29**	**20**	PN	**Pn**	**05 38 13.9**	**+1.3**
YER	**Yerkesik**	**2.32**	**31**	PN	**Pn**	**05 38 14.8**	**+1.7**
IMMV	**Iera Moni Meta**	**2.33**	**279**	PN	**Pn**	**05 38 15.2**	**+2.1**
FETY	**Fethiye**	**2.38**	**51**	PN	**Pn**	**05 38 14.4**	**+0.6**
MHLO	**Agia Marina, M**	**2.49**	**309**	P	**Pb**	**05 38 19.7**	**-0.1**
AKAS	**Kas**	**2.53**	**64**	PN	**Pn**	**05 38 15.2**	**-0.8**
KNDR	**Palaiochora Ch**	**2.55**	**273**	PN	**Pn**	**05 38 18.8**	**+2.6**
GCAM	**G?zelcaml?**	**2.58**	**8**	PN	**Pn**	**05 38 17.9**	**+1.4**
CAME	**Cameli-Denizli**	**2.71**	**48**	PN	**Pn**	**05 38 19.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.93**	**17**	PN	**Pn**	**05 38 23.2**	**+1.6**
KTHA	**Kythira Island**	**3.24**	**291**	PN	**Pn**	**05 38 27.7**	**+2.0**

*IDC **30** 05:41:59.1±1.1, 11°.14S×165°.57E, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.1/54, mbtmp4.3/11, ML4.6/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/35, Error ellipse: s-maj=30.7km s-min=22.6km az=115.0*

*NEIC **30** 05:42:05.0±1.6, 11°.1S±0°.1×165°.6E±0°.1, h38km±7km, mb4.6/21, Error ellipse: s-maj=18.0km s-min=13.8km az=52.0*

ISC 30 05:42:04.3±0.7, 11°.21S±0°.10×165°.5E±0°.1, h30km, n48, σ1§07/35, mb4.5/18, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.72**	**287**	LR	LR	05 45 39.2	
	comp=Z,190nm,20.5s,baz=209,slow=38						
HNR	**Honiara**	**5.72**	**287**	Pn	**Pn**	**05 43 28.2**	**+1.0**
DZM	**Mont Dzumac**	**10.85**	**175**	Pn	**Pn**	**05 44 37.8**	**+0.1**
	4.8nm,0.3s,baz=167,slow=23,SNR=41						
DZM	**Mont Dzumac**	**10.85**	**175**		**Pn**	**05 44 37.6**	**-0.1**
ONTNC	**Ouen Toro**	**11.08**	**175**	Pn	**Pn**	**05 44 42.0**	**+1.2**
OUENC	**Ouen Island, N**	**11.23**	**173**	Pn	**Pn**	**05 44 43.5**	**+0.7**
PINNC	**Pines Island,**	**11.50**	**171**	Pn	**Pn**	**05 44 46.1**	**-0.5**
PMG	**Port Moresby**	**18.11**	**274**	LR	LR	05 53 08.4	
	comp=Z,210nm,19.3s,baz=96,slow=37						
CTA	**Charters Tower**	**20.49**	**242**	P	Pn	05 46 41.5	-0.7
	11nm,0.9s,baz=74,slow=12,SNR=6.0						
BKZ	**Black Stump Fm**	**29.52**	**162**	P	**P**	**05 48 06.5**	**+0.3**
H11S2	**WAKE ISLAND Hy**	**29.53**	**2**	T	T	06 18 51.9	
	baz=154,slow=74,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**29.54**	**2**	T	T	06 18 32.0	
H11S1	**WAKE ISLAND Hy**	**29.55**	**2**	T	T	06 18 36.5	
	baz=176,slow=74,SNR=5.5						
STKA	**Stephens Creek**	**30.14**	**223**	P	**P**	**05 48 12.1**	**+0.4**
	4.1nm,0.7s,baz=37,slow=9.9,SNR=9.4						
STKA	**Stephens Creek**	**30.14**	**223**	P	**P**	**05 48 12.9**	**+1.2**
QRZ	**Quartz Range**	**30.15**	**169**	P	**P**	**05 48 09.9**	**-1.7**
H11N1	**WAKE ISLAND Hy**	**30.75**	**3**	T	T	06 20 19.9	
	baz=182,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**30.76**	**3**	T	T	06 20 14.3	
	baz=182,slow=76,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**30.77**	**3**	T	T	06 20 19.5	
	baz=182,slow=76,SNR=3.5						
WB0	**Warramunga Arr**	**31.09**	**250**	P	**P**	**05 48 20.1**	**-0.2**
WB0				IAmb	IAmb	05 48 21.0	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**31.17**	**250**	P	**P**	**05 48 21.1**	**+0.1**
WB2				IAmb	IAmb	05 48 25.0	
	comp=Z,9.2nm,1.1s						
WRA	**Warramunga Arr**	**31.18**	**250**	P	**P**	**05 48 20.7**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=83,slow=8.9,SNR=27						
WRA	**Warramunga Arr**	**31.18**	**250**	P	**P**	**05 48 20.6**	**-0.4**
MSWZ	**Moikau Station**	**31.30**	**166**	P	**P**	**05 48 20.9**	**-0.8**
ASAR	**Alice Springs**	**32.48**	**243**	P	**P**	**05 48 31.8**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=65,slow=10,SNR=16						
OXZ	**Oxford**	**32.51**	**171**	P	**P**	**05 48 34.3**	**+2.0**
BBOO	**Buckleboo**	**34.53**	**227**	P	**P**	**05 48 48.9**	**-1.2**
BBOO				IAmb	IAmb	05 48 55.4	
	comp=Z,15nm,1.3s						
FITZ	**Fitzroy Crossi**	**39.08**	**255**	P	**P**	**05 49 29.0**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=140,slow=23,SNR=2.8						
FITZ	**Fitzroy Crossi**	**39.08**	**255**	IAmb	IAmb	05 49 51.9	
	comp=Z,9.4nm,1.4s						
PSA00	**Pilbara Seismi**	**44.83**	**251**	P	**P**	**05 50 16.9**	**+0.9**
PSA00				IAmb	IAmb	05 50 24.2	
	comp=Z,9.4nm,1.4s						
VNDA	**Vanda**	**66.33**	**181**	P	**P**	**05 52 49.1**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=355,slow=7.7,SNR=6.1						
VNDA	**Vanda**	**66.33**	**181**	IAmb	IAmb	05 53 04.0	
	comp=Z,5.2nm,1.4s						
SBA	**Scott Base**	**66.64**	**180**	P	**P**	**05 52 50.9**	**-0.7**
SBA				IAmb	IAmb	05 52 53.3	
	comp=Z,5.2nm,1.0s						
RPSI	**Rantau Prapat**	**67.61**	**278**	P	**P**	**05 52 57.0**	**-1.8**
RPSI				IAmb	IAmb	05 52 59.4	
	comp=Z,8.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**71.93**	**294**	P	**P**	**05 53 26.0**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=124,slow=3.8,SNR=5.8						
QSPA	**South Pole Qui**	**78.80**	**180**	P	**P**	**05 54 03.9**	**-0.3**
QSPA				IAmb	IAmb	05 54 07.3	
	comp=Z,7.6nm,1.1s						
RPN	**Rapa Nui**	**80.74**	**116**	LR	LR	06 23 00.3	
	comp=Z,56nm,19.6s,baz=132,slow=30						
N25K	**Chitina, Valde**	**82.39**	**22**	P	**P**	**05 54 22.6**	**-0.8**
GLB	**Gilahina Butte**	**82.58**	**22**	P	**P**	**05 54 22.7**	**-1.6**
GLB				IAmb	IAmb	05 54 23.8	
	comp=Z,3.7nm,0.6s						
MDM	**Murphy Dome**	**83.46**	**18**	P	**P**	**05 54 27.3**	**-1.4**
HDA	**Harding Lake**	**83.48**	**19**	P	**P**	**05 54 27.4**	**-1.4**
ILAR	**Eielson Array**	**83.75**	**19**	P	**P**	**05 54 29.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=236,slow=5.4,SNR=23						
L27K	**Beaver Creek,**	**84.32**	**21**	P	**P**	**05 54 32.2**	**-1.0**
MAW	**Mawson**	**84.47**	**202**	P	**P**	**05 54 34.4**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=22,slow=6.2,SNR=4.0						
MAW	**Mawson**	**84.47**	**202**	IAmb	IAmb	05 54 38.7	
	comp=Z,1.4nm,1.4s						
EGAK	**Eagle**	**85.62**	**20**	P	**P**	**05 54 38.7**	**-0.8**
EGAK				IAmb	IAmb	05 54 39.8	
	comp=Z,3.6nm,0.7s						
NV11	**Mina Array Sit**	**86.44**	**50**	P	**P**	**05 54 47.0**	**+2.6**
MKAR	**Makanchi Array**	**93.46**	**317**	P	**P**	**05 55 16.9**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=103,slow=6.3,SNR=12						

IDC 30 05:42:19.4±16.0, 17°.47N×142°.75E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/68, mbtmp3.6/5, Error ellipse: s-maj=468.3km s-min=43.2km az=178.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**57.31**	**315**	P	P	05 52 09.8	+0.7
	0.6nm,0.9s,baz=98,slow=8.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**60.37**	**319**	P	P	05 52 30.5	+0.2
	1.6nm,0.8s,baz=103,slow=6.4,SNR=9.8						
BVAR	**Borovoye Array**	**65.64**	**321**	P	P	05 53 04.6	-0.8
	0.9nm,0.7s,baz=200,slow=16,SNR=5.1						
ILAR	**Eielson Array**	**65.98**	**26**	P	P	05 53 08.4	+1.0
	0.2nm,0.6s,baz=265,slow=6.2,SNR=4.3						
YKA	**Yellowknife Ar**	**80.37**	**27**	P	P	05 54 31.2	-1.3
	0.1nm,0.4s,baz=304,slow=6.6,SNR=1.7						

*IDC **30** 05:43:08.4±1.1, 54°.72N×157°.05E, h584km±15km, mb2.6/5, mb1 2.8/6, mb1mx2.4/76, mbtmp3.6/6, Error ellipse: s-maj=27.5km s-min=22.5km az=79.0*

*KRSC **30** 05:43:13.3±2.0, 52°.95N×154°.59E, h516km±33km, ML4.0*

ISC 30 05:43:14.0±1.5, 53°.0N±0°.1×154°.4E±0°.2, h500km, n31, σ1§58/31, mb3.1/5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.61**	**115**	*eP*	**P**	**05 44 19.1**	**+1.8**
APC	**Apacha**	**1.68**	**91**	*eP*	**P**	**05 44 18.9**	**+1.4**
PETK	**Petropavlovsk-**	**2.01**	**85**	P	**P**	**05 44 20.1**	**+1.1**
	1.6nm,0.3s,baz=253,slow=1.5,SNR=24						
ALID	**Alaid**	**2.23**	**161**	*eP*	**P**	**05 44 22.4**	**+1.9**
GNL	**Ganaly**	**2.25**	**70**	*eP*	**P**	**05 44 21.8**	**+1.4**
KDTR	**Khodutka, Kamc**	**2.55**	**116**	*eP*	**P**	**05 44 22.4**	**+0.4**
KDTR				*eS*	**S**	**05 45 17.4**	**0.0**
RUS	**Russkaya**	**2.57**	**100**	*eP*	**P**	**05 44 22.9**	**+0.8**
RUS				*eS*	**S**	**05 45 18.3**	**+0.6**
KOK	**Koryaka**	**2.58**	**81**	*eP*	**P**	**05 44 24.6**	**+2.3**
KRX	**Arik**	**2.60**	**80**	*eP*	**P**	**05 44 24.0**	**+1.5**
AVH	**Avacha**	**2.64**	**82**	*eP*	**P**	**05 44 24.5**	**+1.8**
DALK	**Dalny**	**2.64**	**87**	*eP*	**P**	**05 44 24.3**	**+1.8**
KRER	**Koryakskii**	**2.65**	**81**	*eP*	**P**	**05 44 25.7**	**+2.8**
UGLR	**Uglovaya**	**2.69**	**83**	*eP*	**P**	**05 44 25.0**	**+2.0**
SDLR	**Sedlovina**	**2.73**	**82**	*eP*	**P**	**05 44 25.2**	**+1.9**
SPN	**Mys Shipunski**	**3.41**	**86**	*eP*	**P**	**05 44 28.1**	**+0.4**
SPN				*eS*	**S**	**05 45 26.2**	**-1.7**
ESO	**Esso**	**3.89**	**39**	*eP*	**P**	**05 44 32.9**	**+1.6**
KZV	**Kizimen**	**4.09**	**56**	*eP*	**P**	**05 44 33.5**	**+0.3**
TUMR	**Tumrok**	**4.11**	**53**	*eP*	**P**	**05 44 34.2**	**+1.0**
TUMD	**Tumrok D**	**4.19**	**55**	*eP*	**P**	**05 44 36.7**	**+2.9**
KMNR	**Kamenistaya**	**4.42**	**49**	*eP*	**P**	**05 44 37.2**	**+1.4**
SRDR	**Sredinnyy**	**4.56**	**41**	*eP*	**P**	**05 44 37.5**	**+0.5**
MKZ	**Mys Kozlova**	**4.64**	**67**	*eP*	**P**	**05 44 38.8**	**+1.2**
MKZ				*eS*	**S**	**05 45 45.4**	**-0.6**
BZWR	**Bezymyannyi-We**	**4.66**	**48**	*eP*	**P**	**05 44 39.2**	**+1.3**
SRKR	**Sorokina**	**5.38**	**44**	*eP*	**P**	**05 44 44.0**	**-0.4**
SMKR	**Semkarok**	**5.47**	**46**	*eP*	**P**	**05 44 46.8**	**+1.7**
SEY	**Seymchan**	**10.04**	**355**	P	P	05 45 11.6	-20
	0.5nm,0.3s,baz=225,slow=21,SNR=9.8						
KURBB	**Kurchatov Arra**	**44.92**	**299**	P	P	05 50 36.5	-6.6
	0.8nm,0.7s,baz=61,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**45.05**	**293**	P	P	05 50 38.1	-6.2
	0.3nm,0.5s,baz=58,slow=8.3,SNR=5.4						
YKA	**Yellowknife Ar**	**45.54**	**41**	P	P	05 50 18.1	-30
	0.1nm,0.3s,baz=246,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**74.67**	**200**	P	**P**	**05 54 00.1**	**-1.7**
	0.3nm,0.6s,baz=12,slow=5.8,SNR=1.9						
ASAR	**Alice Springs**	**78.37**	**199**	P	**P**	**05 54 21.1**	**-1.1**
	0.5nm,0.5s,baz=14,slow=4.9,SNR=5.9						

*MEX **30** 05:46:01.7±0.3, 27°.54N×111°.78W, h10km, MD4.0*

*ECX **30** 05:46:03.5±0.5, 27°.78N×111°.75W, h13km±12km, MD3.6*

ISC 30 05:46:01.9±3.1, 27°.7N±0°.2×111°.7W±0°.2, h15km±28km, n8, σ0§93/15, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.58**	**230**	*eP*	**Pn**	**05 46 14.5**	**-1.1**
SRIG				*i S*	**Sb**	**05 46 23.5**	**+1.7**
SRIG	**Santa Rosalia**	**0.58**	**230**	*eP*	**Pn**	**05 46 14.5**	**-1.1**
SRIG				*eS*	**Sb**	**05 46 23.5**	**+1.7**
GUYB	**Guaymas**	**0.80**	**75**	*i P*	**Pg**	**05 46 17.1**	**-0.3**
GUYB				*i S*	**Sg**	**05 46 28.2**	**+0.4**
GUYB	**Guaymas**	**0.80**	**75**	*eP*	**Pg**	**05 46 17.1**	**-0.3**
GUYB				*eS*	**Sg**	**05 46 28.1**	**+0.2**
HSIG		**1.49**	**28**	*eP*	**Pn**	**05 46 27.7**	**-0.5**
HSIG				*i S*	**Sn**	**05 46 47.0**	**-0.3**
HSIG		**1.49**	**28**	*eP*	**Pn**	**05 46 27.9**	**-0.2**
HSIG				*eS*	**Sn**	**05 46 46.6**	**-0.7**
NZIG	**Nacozari, Sono**	**3.28**	**35**	*i P*	**Pn**	**05 46 52.8**	**-0.2**
NZIG				*i S*	**Sn**	**05 47 31.9**	**+0.1**
CGIG		**4.23**	**50**	*i P*	**Pn**	**05 47 05.8**	**-0.3**

NNC 30 05:46:38.3±2.4, 37°.98N×70°.19E, h0km, mb3.8, mpv3.4, 7C-2D, Error ellipse: s-maj=22.9km s-min=15.3km az=65.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.12**	**3**	⇑Pn	Pn	05 47 55.6	-0.7
	0.5nm,0.3s,baz=184,slow=13,SNR=5.8						
KK31				⇑Pg	Pg	05 48 12.7	-3.8
	1.9nm,0.4s,baz=180,slow=16,SNR=10						
KK31				⇓Sn	Sn	05 48 57.1	+1.0
	2.2nm,0.4s						
KK31				⇑Lg	Lg	05 49 22.3	
	7.2nm,0.6s,baz=185,slow=27,SNR=7.0						
AAK	**Ala-Archa**	**5.70**	**34**	⇑Pn	Pn	05 48 04.6	+0.3
	2.5nm,0.3s						
AAK				⇓Pg	Pg	05 48 23.9	-3.5
	3.3nm,0.6s						
AAK				⇑Lg	Lg	05 49 37.6	
	6.3nm,0.7s						
TKM2	**Tokmak 2**	**6.43**	**38**	⇑Pn	Pn	05 48 13.9	-0.5
	1.4nm,0.3s						
TKM2				⇑Lg	Lg	05 50 00.7	
	2.4nm,0.7s						

TIR 30 06:07:14.3, 39°.93N×20°.23E, h6km±2km, Md1.9, Ml1.3, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.18**	**256**	P	Pg	06 07 18.5	+0.7
	baz=256						
SRN				S	Sg	06 07 21.7	+1.4
	baz=256						
SRN				AMP			
	comp=N,0.3nm,0.1s,baz=256						
IGT	**Igoumenitsa**	**0.40**	**168**	P	Pb	06 07 23.2	-0.6
	baz=168						
IGT				S	Sb	06 07 29.8	-0.3
	baz=168						

*MOS **30** 06:07:20.3±1.3, 36°.70N×21°.49E, h17km, mb5.0/25, Error ellipse: s-maj=5.9km s-min=3.1km az=73.4*

*MED_RC **30** 06:07:22.0±0.6, 36°.74N×21°.47E, h10km, MW4.5/6, Moment Tensor Solution. Mantle waves: s6,c6; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr0.16±.24; Mθθ-0.72±.23; Mφφ0.56±.19; Mrθ4.81±.61; Mθφ1.41±.45; Mφr-5.22±.50; Best double couple: Mo7.18000×10^15 NP1:φs254.00000°, δ7.00000°, λ26.00000°. NP2: φs139.00000°, δ87.00000°, λ96.00000°. Principal axes: T 6.5500, Plg48.0000°, Azm55.0000°; N 1.2600, Plg6.0000°, Azm318.0000°; P -7.8100, Plg42.0000°, Azm223.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*NEIC **30** 06:07:22.6±3.0, 36°.77N±0°.03×21°.54E±0°.07, h10km±1km, mb4.6/67, ML4.4(ATH) Error ellipse: s-maj=9.8km s-min=3.6km az=251.0*

*THE **30** 06:07:24.7, 36°.72N×21°.41E, h12km±1km, ML4.4/9, Error ellipse: s-maj=2.1km s-min=0.9km az=35.0*

*ATH **30** 06:07:24.1, 36°.69N×21°.40E, h18km±2km, ML4.4/12, Error ellipse: s-maj=2.3km s-min=1.4km az=62.0*

*PDG **30** 06:07:24.2±0.5, 36°.76N×21°.38E, h30km±1km, ML4.6/13, Error ellipse: s-maj=1.3km s-min=1.6km az=0.0*

*IDC **30** 06:07:25.4±1.7, 36°.83N×21°.69E, h39km±15km, mb4.2/27, mb1 4.3/37, mb1mx4.2/51, mbtmp4.4/37, ML3.9/9, MS3.6/21, Ms1 3.7/21, ms1mx3.4/60, Error ellipse: s-maj=12.3km s-min=10.2km az=170.0*

*BEO **30** 06:07:26.7±0.8, 37°.10N×20°.96E, h0km, ML4.3/10*

*TIR **30** 06:07:31.7, 37°.40N×21°.27E, h37km±58km, ML4.5*

*HLW **30** 06:07:31.3, 36°.40N×21°.99E, h25km±28km, Md5.1, Ml4.4*

ISC 30 06:07:24.8±0.7, 36°.78N±0°.03×21°.47E±0°.03, h35km±2km, n499, σ1§86/539, mb4.6/87, MS3.7/15, 91C-35D, Fault plane solution: NP1:φs316.07498°, δ84.54846°, λ-88.29002°. NP2:φs118.63031°, δ5.71266°, λ-107.36327°. Principal axes: T Plg39.5252°, Azm44.5074°; N Plg1.7022°, Azm135.9125°; P Plg50.4233°, Azm227.9729°; Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.25**	**61**	P	**Pb**	**06 07 31.9**	**-0.3**
PYL				S	**Sb**	**06 07 36.6**	**-0.5**
	181μm,0.4s						
PYL	**PYLOS**	**0.25**	**61**	P	**Pb**	**06 07 31.8**	**-0.3**
PYL				S	**Sb**	**06 07 36.0**	**-1.1**
PYL				AML	AML	06 07 37.1	
PYL				AML	AML	06 07 38.3	
ITM	**Ithomi**	**0.55**	**42**	P	**Pb**	**06 07 36.3**	**+0.1**
ITM				S	**Sn**	**06 07 44.9**	**+0.8**
	50μm,0.8s						
ITM	**Ithomi**	**0.55**	**42**	P	**Pb**	**06 07 36.4**	**+0.2**
ITM				S	**Sn**	**06 07 45.4**	**+1.3**
ITM				AML	AML	06 07 46.3	
ITM				AML	AML	06 07 46.8	
	comp=N,95326μm,0.2s						
ITM	**Ithomi**	**0.55**	**42**		**Pb**	**06 07 36.0**	**-0.2**
AMT	**Artemida-Makis**	**0.78**	**14**	P	**Pn**	**06 07 40.7**	**+1.3**
AMT				S	**Sn**	**06 07 53.1**	**+3.2**
	comp=N,50μm,0.6s						
AMT	**Artemida-Makis**	**0.78**	**14**	P	**Pn**	**06 07 40.7**	**+1.3**
AMT				S	**Sn**	**06 07 52.2**	**+2.3**
AMT				AML	AML	06 08 03.5	
AMT				AML	AML	06 08 05.7	
	comp=E,76232μm,0.9s						
VLX	**Vlachokerasia**	**0.94**	**51**	P	**Pb**	**06 07 42.5**	**-0.3**
VLX				S	**Sn**	**06 07 58.2**	**+4.3**
	comp=E,34μm,0.4s						
VLX	**Vlachokerasia**	**0.94**	**51**	P	**Pb**	**

TRIZ Trizonia 1.66 17 P **Pb** 06 07 54.7 0.0
EFP Efpalio 1.68 12 P **Pb** 06 07 55.2 0.0
SERG Sergoula 1.70 16 P **Pb** 06 07 55.3 -0.2
LTK Loutraki 1.72 43 P **Pn** 06 07 54.0 +1.6
ANKY Antikythira Is 1.74 121 P **Pb** 06 07 54.5 -1.6
ANKY Antikythira Is 1.74 121 P **Pb** 06 07 54.6 -1.5
ANKY AML AML 06 08 30.9
comp=N,11250µm,1.0s
ANKY AML AML 06 08 34.4
comp=E,8343µm,0.8s
LKD2 Lefkada island 2.11 343 P **Pb** **06 08 01.4 -1.1**
baz=342
AGG Agios Georgios 2.34 17 P **Pn** **06 08 03.4 +2.5**
AGG Agios Georgios 2.34 17 P **Pn** **06 08 03.4 +2.5**
NEO Neokhori 2.88 28 P **Pn** **06 08 09.4 +1.1**
IGT Igoumenitsa 2.89 342 P **Pn** **06 08 10.7 +2.3**
baz=342
IDI Anoyia 3.15 117 Pn **Pn** **06 08 12.7 +0.7**
comp=E,5.7nm,0.3s,baz=289,slow=10,SNR=30
IDI Sn **Sn** **06 08 47.0 -1.3**
comp=E,24nm,0.3s,baz=138,slow=24,SNR=6.6
IDI LR LR 06 09 37.9
comp=E,372nm,21.7s,baz=275,slow=44
IDI Anoyia 3.15 117 ⇓P **Pn** **06 08 13.2 +1.3**
IDI Anoyia 3.15 117 Pn **Pn** **06 08 13.1 +1.1**
SANT Santorini 3.24 96 ⇓P **Pn** **06 08 13.6 +0.4**
SANT Santorini 3.24 96 Pn **Pn** **06 08 13.9 +0.7**
APE Apeiranthos 3.27 84 ⇑P **Pn** **06 08 14.1 +0.5**
SRN Sarande 3.31 340 P **Pn** **06 08 16.2 +2.1**
baz=339
SRN S **Sn** **06 08 48.1 -4.1**
baz=339
SRN AMP
comp=N,2.0nm,0.4s,baz=339
LIT Litokhoron 3.42 13 P **Pn** **06 08 17.6 +2.0**
LIT Litokhoron 3.42 13 **Pn** **06 08 17.6 +2.0**
LSK Leskovik 3.44 349 P **Pn** **06 08 18.7 +2.7**
baz=350
LSK AMP
comp=E,6.0nm,1.2s,baz=350
KBN Korca 3.88 352 P **Pn** **06 08 25.7 +3.6**
baz=354
KBN S **Sn** **06 09 01.9 -4.5**
baz=354
KBN AMP
comp=N,3.7nm,1.1s,baz=354
VLO Vlora 4.00 338 P **Pn** **06 08 22.8 -0.7**
baz=337
FNA Florina 4.00 359 P **Pn** **06 08 25.7 +2.0**
FNA Florina 4.00 359 Pn **Pn** **06 08 25.7 +2.0**
FNA Florina 4.00 359 P **Pn** **06 08 26.1 +2.3**
baz=1.0
SCTE Santa Cesarea 4.05 325 Pn **Pn** **06 08 25.9 +1.6**
SCTE Santa Cesarea 4.05 325 P **Pn** **06 08 25.8 +1.6**
baz=322
SCTE S **Sn** **06 09 09.6 -0.8**
baz=322
GRG Griva 4.24 10 P **Pn** **06 08 28.8 +1.9**
SOH Sokhos 4.30 19 P **Pn** **06 08 29.5 +1.7**
OHR Ohrid 4.36 353 *i* Pn **Pn** **06 08 31.3 +2.7**
VAY Valandovo 4.62 10 *e*Pn **Pn** **06 08 34.1 +1.9**
VAY Valandovo 4.62 10 *i* Pn **Pn** **06 08 34.0 +1.9**
SRS Serrai 4.64 20 P **Pn** **06 08 33.8 +1.4**
CEL Celeste 4.67 290 Pn **Pn** **06 08 35.2 +2.3**
TIR Tirane 4.73 345 ⇑P **Pn** **06 08 35.3 +1.6**
TIR Tirane 4.73 345 P **Pn** **06 08 35.6 +1.9**
TIR Tirane 4.73 345 **Pn** **06 08 35.6 +1.9**
TIR Tirane 4.73 345 P **Pn** **06 08 34.8 +1.1**
baz=346
TIR AMP
comp=N,1.1nm,0.5s,baz=346
KARP Karpathos 4.77 103 **Pn** **06 08 35.2 +1.0**
STIP Stip 4.94 6 *i* Pn **Pn** **06 08 39.2 +2.6**
PHP Peshkopia 4.97 351 P **Pn** **06 08 38.7 +1.7**
baz=352
SKO Skopje 5.19 360 P **Pn** **06 08 41.4 +1.5**
SKO Skopje 5.19 360 *i* Pn **Pn** **06 08 41.5 +1.5**
MATE Matera 5.37 318 ⇓P **Pn** **06 08 42.9 +0.5**
ALN Alexandroupoli 5.45 40 P **Pn** **06 08 43.7 +0.2**
ALN Alexandroupoli 5.45 40 Pn **Pn** **06 08 43.7 +0.2**
ULC Ulcinj 5.46 342 ⇑*i*Pn **Pn** **06 08 44.4 +0.7**
ULC *i* Sn **Sn** **06 09 44.8 -0.5**
VAE Valguarnera 5.68 279 Pn **Pn** **06 08 49.5 +2.6**
comp=N,7.3nm,0.3s,baz=225,slow=5.3,SNR=11
VAE Sn **Sn** **06 09 53.6 +2.8**
comp=N,9.7nm,0.3s,baz=331,slow=18,SNR=1.7
DRME Dracevica, Mon 5.69 343 ⇑*i*Pn **Pn** **06 08 47.4 +0.7**
DRME Dracevica, Mon 5.69 343 ⇑*i*Pn **Pn** **06 08 47.5 +0.7**
DRME *i* Sn **Sn** **06 09 50.7 -0.1**
WDD Wied Dalam 5.69 263 Pn **Pn** **06 08 47.7 +0.9**
RAFF Raffo Rosso 5.71 277 Pn **Pn** **06 08 48.0 +0.9**
PRVS Prvonek 5.74 4 ⇑*i*Pn **Pn** **06 08 49.0 +1.4**
BOSS Bosilegrad 5.77 7 *e*Pn **Pn** **06 08 49.5 +1.7**
BALB Balikesir 5.80 59 Pn **Pn** **06 08 49.7 +1.3**
BUM Brajici-Budva 5.87 341 ⇓*i*Pn **Pn** **06 08 49.9 +0.6**
BUM *i* Sn **Sn** **06 09 54.9 -0.4**
PDG Podgorica 5.90 344 ⇑P **Pn** **06 08 50.2 +0.5**
PDG Podgorica 5.90 344 ⇑*i*Pn **Pn** **06 08 50.2 +0.5**
PDG Podgorica 5.90 344 Pn **Pn** **06 08 49.7 0.0**
TTG Podgorica 5.90 344 ⇑*i*Pn **Pn** **06 08 50.3 +0.5**
TTG *i* Sn **Sn** **06 09 56.0 -0.1**
PVY Plav 5.93 349 ⇓*i*Pn **Pn** **06 08 51.3 +1.1**
PVY *i* Sn **Sn** **06 09 56.7 -0.2**
VTS Vitosha 5.99 13 ⇑P **Pn** **06 08 52.8 +1.7**
VTS Vitosha 5.99 13 P **Pn** **06 08 52.6 +1.5**
VTS Vitosha 5.99 13 Pn **Pn** **06 08 52.6 +1.5**
BARS Barje 6.04 2 ⇑*i*Pn **Pn** **06 08 49.2 -2.4**
BARS *e*Sn **Sn** **06 09 57.5 -2.0**
CEME Cevo 6.09 342 ⇑*i*Pn **Pn** **06 08 52.6 +0.2**
CEME *i* Sn **Sn** **06 10 00.0 -0.9**
HCY Herceg Novi 6.11 339 ⇓*i*Pn **Pn** **06 08 52.7 +0.1**
HCY *i* Sn **Sn** **06 10 00.7 -0.6**
SLUM Salum 6.12 148 P **Pn** **06 08 51.6 -1.1**
baz=150
SLUM S Sn 06 09 50.3 -11
baz=150
SLUM AMP 06 10 00.0
baz=150
IVA Berane 6.21 349 ⇑*i*Pn **Pn** **06 08 55.4 +1.4**
IVA *i* Sn **Sn** **06 10 03.7 -0.1**
KOME Kolasin 6.25 347 ⇓*i*Pn **Pn** **06 08 55.9 +1.3**
KOME *i* Sn **Sn** **06 10 04.5 -0.4**
NKME Niksic 6.29 343 ⇓*i*Pn **Pn** **06 08 55.7 +0.6**
NKME *i* Sn **Sn** **06 10 05.5 -0.3**
TREB Trebinje 6.40 339 *e*Pn **Pn** **06 08 55.8 -0.8**
SELS Selova 6.44 358 ⇑*i*Pn **Pn** **06 08 57.2 0.0**
SELS *e*Sn **Sn** **06 10 05.4 -4.1**
BRY Bratogost 6.52 341 ⇑*i*Pn **Pn** **06 08 58.0 -0.3**
BRY Bratogost 6.52 341 ⇑*i*Pn **Pn** **06 08 58.1 -0.3**
BRY *i* Sn **Sn** **06 10 10.7 -0.9**
ZAPS Zavoj 6.55 7 *e*Pn **Pn** **06 09 00.3 +1.6**
SJES Sjenica 6.58 350 ⇑*i*Pn **Pn** **06 09 00.2 +1.1**
SJES *e*Sn **Sn** **06 10 07.1 -5.9**
CORL Corleone 6.60 282 **Pn** **06 09 01.9 +2.5**
CLTB Caltabellotta 6.64 279 **Pn** **06 09 01.0 +1.0**
UPM Unac-Piva 6.71 344 ⇓*i*Pn **Pn** **06 09 02.2 +1.1**
UPM *i* Sn **Sn** **06 10 15.5 -0.9**
PLE Pljevlja 6.74 347 ⇑*i*Pn **Pn** **06 09 02.8 +1.5**
PLE *i* Sn **Sn** **06 10 16.4 -0.5**
STON Ston 6.74 336 ⇑*i*Pn **Pn** **06 08 59.6 -1.7**
STON Ston 6.74 336 *i* Pn **Pn** **06 08 59.9 -1.3**
STON Sn **Sn** **06 10 11.1 -5.7**
ELL Elmali 6.78 88 P **Pn** **06 09 03.1 +1.2**
ELL Elmali 6.78 88 **Pn** **06 09 03.1 +1.2**
BOVS Bovan 6.85 1 ⇑*i*Pn **Pn** **06 09 02.7 -0.1**
BOVS *e*Sn **Sn** **06 10 16.1 -3.5**
BOVS Bovan 6.85 1 ⇑P **Pn** **06 09 03.0 +0.2**
PAOL Paolisi 6.86 310 **Pn** **06 09 03.9 +1.0**
LSTV Lastovo 6.95 331 *e*Pn **Pn** **06 09 03.8 -0.2**
LSTV Sn **Sn** **06 10 16.0 -5.7**
RUDO Rudo 7.02 347 *e*Pn **Pn** **06 09 04.4 -0.7**
ZAGS Zajecar 7.05 5 *e*Pn **Pn** **06 09 06.1 +0.6**
GRUS Gruza 7.13 356 ⇑*i*Pn **Pn** **06 09 06.8 +0.2**
GRUS *e*Sn **Sn** **06 10 21.9 -4.4**
BBLS Lazići 7.25 348 *e*Pn **Pn** **06 09 09.1 +0.7**
BBLS *e*Sn **Sn** **06 10 24.1 -5.5**
BBLS Lazići 7.25 348 *e*Pn **Pn** **06 09 08.4 0.0**
DIVS Divibare 7.40 352 *e*Pn **Pn** **06 09 10.1 -0.3**
DIVS *e*Sn **Sn** **06 10 27.7 -5.4**
DIVS Divibare 7.40 352 ⇑*i*Pn **Pn** **06 09 10.3 -0.1**
HAPS Han Pijesak,BI 7.55 346 *e*Pn **Pn** **06 09 12.0 -0.5**
INTR Introdacqua 7.85 314 **Pn** **06 09 19.1 +2.5**

TEKS Tekeris 7.90 350 *e*Pn **Pn** **06 09 16.2 -1.0**
TEKS *e*Sn **Sn** **06 10 38.2 -7.2**
TEKS Tekeris 7.90 350 ⇑*i*Pn **Pn** **06 09 16.2 -1.0**
SRE Strehaia 7.99 9 ⇑P **Pn** **06 09 18.9 +0.5**
HERR Herculane 8.13 5 ⇑P **Pn** **06 09 20.6 +0.3**
ZIRJ Zirje 8.19 329 *e*Pn **Pn** **06 09 20.6 -0.4**
ZIRJ Sn **Sn** **06 10 46.6 -5.7**
KIJV Kijevo 8.19 333 *e*Pn **Pn** **06 09 21.3 +0.2**
KIJV Sn **Sn** **06 10 47.2 -5.2**
SWA2 8.22 155 P **Pn** **06 09 20.7 -0.9**
baz=156
MGRS Mrkonjic Grad 8.33 338 ⇑*i*Pn **Pn** **06 09 24.2 +1.1**
MORI Morici 8.34 330 *e*Pn **Pn** **06 09 23.3 +0.2**
MORI Sn **Sn** **06 10 50.2 -5.8**
FRGS Fruska Gora 8.47 352 *e*Pn **Pn** **06 09 24.2 -0.8**
FRGS Fruska Gora 8.47 352 ⇑P **Pn** **06 09 24.8 -0.1**
FRGS Fruska Gora 8.47 352 ⇑*i*Pn **Pn** **06 09 24.0 -1.0**
BLY Banja Luka 8.60 339 ⇑*i*Pn **Pn** **06 09 26.7 -0.1**
GZR Gura Zlata 8.67 6 ⇑P **Pn** **06 09 28.3 +0.6**
DUGI Dugi Otok 8.71 328 *e*Pn **Pn** **06 09 27.9 -0.4**
DUGI Sn **Sn** **06 10 59.1 -6.0**
NRCA Norcia 8.82 316 **Pn** **06 09 32.7 +2.7**
BZS Buzias 8.83 1 ⇑P **Pn** **06 09 30.1 +0.1**
BZS Buzias 8.83 1 P **Pn** **06 09 29.9 -0.1**
BZS pmax pmax
comp=Z,10.0nm,0.8s
UDBI Udbina 8.87 333 *e*Pn **Pn** **06 09 31.4 +0.9**
UDBI Sn **Sn** **06 11 03.9 -5.4**
ARR Arges 8.91 15 ⇑P **Pn** **06 09 32.0 +1.0**
VOIR 9.06 16 ⇑P **Pn** **06 09 35.1 +1.9**
ISR Istrita 9.17 23 ⇓P **Pn** **06 09 36.7 +2.0**
NVLJ Novalja 9.25 329 *e*Pn **Pn** **06 09 35.9 +0.3**
NVLJ Sn **Sn** **06 11 13.1 -5.4**
TIRR Tirgusor 9.31 32 ⇑P **Pn** **06 09 37.7 +1.3**
TIRR Tirgusor 9.31 32 ⇑P **Pn** **06 09 37.7 +1.3**
MLR Muntele Rosu 9.34 20 Pn **Pn** **06 09 37.5 +0.5**
comp=Z,0.5nm,0.3s,baz=127,slow=13,SNR=4.6
MLR Lg Lg 06 12 05.1
comp=Z,0.1nm,0.3s,baz=324,slow=22,SNR=1.7
MLR LR LR 06 14 03.5
comp=Z,626nm,18.0s,baz=179,slow=43
MLR Muntele Rosu 9.34 20 ⇑P **Pn** **06 09 38.7 +1.7**
MLR Muntele Rosu 9.34 20 P **Pn** **06 09 37.3 +0.3**
MLR Muntele Rosu 9.34 20 Pn **Pn** **06 09 37.3 +0.3**
MURB Monte Urbino 9.43 316 **Pn** **06 09 38.5 +0.2**
MOSL Moslavina 9.52 340 *e*Pn **Pn** **06 09 38.3 -1.0**
TPGR Topolog 9.63 31 ⇑P **Pn** **06 09 41.4 +0.4**
MORH Mrgy, Hungar 9.66 348 ⇑P **Pn** **06 09 40.8 -0.6**
MORH Mrgy, Hungar 9.66 348 *e*Pn **Pn** **06 09 39.4 -1.9**
KEST Kesra 9.85 268 Pn **Pn** **06 09 46.4 +2.4**
comp=Z,0.3nm,0.3s,baz=356,slow=7.4,SNR=9.7
KEST Sn **Sn** **06 11 30.6 -2.8**
comp=Z,0.3nm,0.3s,baz=60,slow=20,SNR=1.4
KEST LR LR 06 13 55.1
comp=Z,270nm,21.2s,baz=12,slow=39
KEST Kesra 9.85 268 **Pn** **06 09 45.3 +1.3**
PLOR Plostina 9.87 22 ⇑P **Pn** **06 09 45.8 +1.7**
BOJS Bojanci 9.90 334 *e*Pn **Pn** **06 09 44.8 +0.3**
BOJS *e*Sn **Sn** **06 11 28.4 -5.9**
VRI Vrincioaia 9.90 22 ⇑P **Pn** **06 09 46.5 +1.8**
VSL Villasalto 9.90 290 Pn **Pn** **06 09 45.8 +1.1**
OZLJ Ozalj 9.92 335 *e*Pn **Pn** **06 09 45.5 +0.7**
PTJ Puntijarka 10.01 337 *e*Pn **Pn** **06 09 45.6 -0.6**
BR131 Keskin Array S 10.02 69 P **Pn** **06 09 47.1 +0.8**
BR131 Keskin Array S 10.02 69 **Pn** **06 09 47.1 +0.8**
BRTR Keskin Array B 10.02 69 Pn **Pn** **06 09 45.0 -1.4**
comp=Z,0.3nm,0.3s,baz=260,slow=13,SNR=13
BRTR Lg Lg 06 12 45.8
comp=Z,0.1nm,0.3s,baz=244,slow=13,SNR=1.2
BRTR LR LR 06 14 36.4
comp=Z,376nm,18.0s,baz=264,slow=44
BRTR Keskin Array B 10.02 69 *i* P **Pn** **06 09 49.0 +2.7**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 10.02 69 **Pn** **06 09 47.5 +1.2**
DRGR 10.05 5 ⇑P **Pn** **06 09 47.5 +0.8**
DRGR 10.05 5 P **Pn** **06 09 47.8 +1.1**
DRGR pmax pmax
comp=Z,8.0nm,0.9s
KALN Kalnik 10.07 340 *e*Pn **Pn** **06 09 46.7 -0.2**
GBRS Gornja Briga 10.08 332 *i* Pn **Pn** **06 09 47.4 +0.3**
CRES Cresnjev 10.11 335 ⇑*i*Pn **Pn** **06 09 46.5 -0.9**
BEHE Becsehely 10.30 342 *e*Pn **Pn** **06 09 50.1 0.0**
CEY Cerknica 10.40 332 *e*Pn **Pn** **06 09 52.3 +0.8**
RYAN Fayoum 10.65 134 P **Pn** **06 09 54.4 -0.5**
baz=134
PERS Pernice 10.93 336 *i* Pn **Pn** **06 09 57.9 -0.9**
SOKA Soboth 10.99 336 *e*Pn **Pn** **06 09 58.9 -0.7**
comp=Z,11nm,0.4s,SNR=5.5
SOKA *i* Sn **Sn** **06 11 54.2 -7.1**
comp=Z,6.6nm,0.6s
OBKA Obir 11.01 334 *e*Pn **Pn** **06 10 00.5 +0.7**
comp=Z,5.2nm,0.5s,SNR=4.8
OBKA *e*Sn **Sn** **06 11 58.0 -3.8**
comp=Z,14nm,0.4s
KOT Kottamia 11.03 125 P **Pn** **06 09 59.9 -0.2**
baz=125
BURAR Bucovina Array 11.18 13 ⇑P **Pn** **06 10 03.3 +1.1**
GLL Jalalah 11.18 127 P **Pn** **06 10 00.8 -1.4**
baz=127
PSZ Piszkesteto 11.20 355 ⇑P **Pn** **06 10 02.3 0.0**
PSZ Piszkesteto 11.20 355 P **Pn** **06 10 02.6 +0.2**
PSZ Piszkesteto 11.20 355 Pn **Pn** **06 10 02.6 +0.2**
ARSA Arzberg 11.36 339 *i* Pn **Pn** **06 10 04.6 +0.1**
comp=Z,2.5nm,0.3s
MYKA Terra Mystica 11.45 332 *i* Pn **Pn** **06 10 06.2 +0.4**
comp=Z,3.1nm,0.4s
MYKA *i* Sn **Sn** **06 12 09.4 -2.9**
comp=Z,2.8nm,0.3s
NBNS Bani Suef 11.60 132 P **Pn** **06 10 07.2 -0.6**
baz=132
ZOU Zoufplan 11.65 330 Pn **Pn** **06 10 09.8 +1.1**
KECS Kecovo 11.72 357 *e*P **Pn** **06 10 11.7 +2.2**
KECS Kecovo 11.72 357 *e*PN **Pn** **06 10 11.7 +2.2**
SUZ Suez 11.75 123 P **Pn** **06 10 09.2 -0.8**
baz=122
CTI Castel Tesino 11.83 325 P **Pn** **06 10 11.5 +0.4**
CTI Castel Tesino 11.83 325 **Pn** **06 10 11.5 +0.4**
UZH Uzhgorod 11.86 3 *e*P **Pn** **06 10 14.0 +2.6**
VYHS Vyhne 11.87 351 *e*P **Pn** **06 10 12.9 +1.4**
VYHS *e* 06 12 17.9
VYHS Vyhne 11.87 351 *e*PN **Pn** **06 10 12.9 +1.4**
VYHS Vyhne 11.87 351 *e*SN **Sn** **06 12 17.9 -4.7**
CONA Conrad Observa 11.89 341 *e*Pn **Pn** **06 10 13.5 +1.7**
comp=Z,4.9nm,0.5s
KBA Koelnbreinsper 11.93 332 *i* Pn **Pn** **06 10 13.1 +0.6**
comp=Z,0.9nm,0.2s
KBA *e*Sn **Sn** **06 12 18.6 -5.8**
comp=Z,9.3nm,0.5s
KBA Koelnbreinsper 11.93 332 P **Pn** **06 10 13.4 +0.9**
KBA pmax pmax
comp=Z,9.0nm,1.0s
ABTA Abfaltersbach 11.99 329 *i* Sn **Sn** **06 12 20.0 -5.7**
comp=Z,20nm,0.6s
MMAI Mount Meron Ar 12.04 104 Pn **Pn** **06 10 12.1 -1.9**
comp=Z,2.1nm,0.3s,baz=298,slow=12,SNR=2.5
MMAI Sn Sn 06 12 14.8 -12
comp=Z,1.3nm,0.3s,baz=288,slow=32,SNR=1.7
CRVS Cervenica-Dubn 12.12 360 *e*P **Pn** **06 10 17.3 +2.3**
CRVS Cervenica-Dubn 12.12 360 *e*PN **Pn** **06 10 17.2 +2.3**
JAVC Velka Javorina 12.39 348 *e*PN **Pn** **06 10 18.4 -0.3**
WTTA Wattenberg 12.77 328 *i* Pn **Pn** **06 10 25.4 +1.5**
comp=Z,2.8nm,0.2s
WTTA *i* Sn **Sn** **06 12 39.3 -5.5**
comp=Z,20nm,0.5s
KRUC Moravsky 12.82 345 *e*PN **Pn** **06 10 23.3 -1.3**
WATA Walderalm 12.85 328 *i* Pn **Pn** **06 10 27.0 +2.0**
comp=Z,3.0nm,0.3s
WATA *e*Sn **Sn** **06 12 41.5 -5.3**
comp=Z,7.7nm,0.3s
FETA Feichten 12.98 325 *e*Pn P 06 10 35.3 -1.6
comp=Z,3.7nm,0.5s
FETA *e*Sn **Sn** **06 12 44.9 -5.1**
comp=Z,3.0nm,0.4s
VRAC Vranov 13.02 346 LR LR 06 16 12.3
comp=Z,186nm,20.1s,baz=175,slow=40
VRAC Vranov 13.02 346 *e*PN **Pn** **06 10 26.2 -1.0**
MOTA Moosalm 13.06 327 *e*Pn **Pn** **06 10 30.4 +2.6**
comp=Z,3.1nm,0.4s
MOTA *e*Sn **Sn** **06 12 47.2 -4.7**
comp=Z,10nm,0.5s
DAVOX Davos/Dischmat 13.20 323 Pn **P** **06 10 35.2 -4.2**
comp=Z,0.8nm,0.3s,baz=137,slow=14,SNR=4.2
DAVOX Sn Sn 06 12 45.0 -10
comp=Z,0.5nm,0.3s,baz=157,slow=22,SNR=1.9
TREC Trest 13.25 343 AMS AMS 06 16 20.0
comp=Z,700nm,15.0s
TUE Stuetta 13.25 321 **Pn** **06 10 32.4 +1.7**
OKC Ostrava-Krasne 13.28 351 AMS AMS 06 16 40.0
comp=Z,400nm,16.8s
MORC Moravsky Berou 13.30 349 *e*PN **Pn** **06 10 30.2 -0.9**
EIL Elat 13.32 118 Pn **Pn** **06 10 29.4 -2.0**
comp=Z,0.6nm,0.3s,baz=244,slow=3.5,SNR=8.5
EIL Sn Sn 06 12 46.2 -12
comp=Z,1.0nm,0.3s,baz=208,slow=5.6,SNR=7.1
GERES GERESS Array B 13.33 337 Pn **Pn** **06 10 29.6 -2.0**
comp=Z,0.5nm,0.3s,baz=156,slow=13,SNR=7.1
GERES Sn Sn 06 12 49.3 -9.2
comp=Z,0.3nm,0.3s,baz=153,slow=24,SNR=2.5
GERES LR LR 06 16 54.2
comp=Z,689nm,18.2s,baz=144,slow=43
HKAT Jabal Katrina 13.37 124 P **Pn** **06 10 31.5 -0.8**
baz=124
OJC Ojcow 13.49 355 *e*P **P** **06 10 44.9 +2.5**
KHC Kasperske Hory 13.62 337 *e*P **P** **06 10 41.3 -2.6**
KHC MLR MLR
comp=Z,700nm,16.0s
KHC Kasperske Hory 13.62 337 *e*P **P** **06 10 41.3 -2.6**
KHC *ex* x 06 10 46.1
KHC AMS AMS 06 16 30.0
comp=Z,700nm,16.0s
KRLC Kraliky 13.72 347 *e*P **Pn** **06 10 37.6 +0.8**
KRLC MLR MLR
comp=Z,400nm,11.9s
KRLC Kraliky 13.72 347 *e*P **Pn** **06 10 37.6 +0.8**
KRLC *ex* x 06 10 46.4
KRLC AMS AMS 06 17 00.0
comp=Z,400nm,11.9s
PBCC Pribram 13.99 340 *e*P **P** **06 10 50.1 +2.1**
DPC Dobruska-Polom 14.07 346 *e*P **P** **06 10 48.7 -0.1**
DPC MLR MLR
comp=Z,500nm,13.5s
DPC Dobruska-Polom 14.07 346 *e*P **P** **06 10 48.7 -0.1**
DPC AMS AMS 06 17 00.0
comp=Z,500nm,13.5s
PRU Pruhonice 14.12 341 *e*P **P** **06 10 50.1 +0.7**
PRU MLR MLR
comp=Z,600nm,12.5s
PRU Pruhonice 14.12 341 *e*P **P** **06 10 50.1 +0.7**
PRU *ex* x 06 11 02.1
PRU AMS AMS 06 16 40.0
comp=Z,600nm,12.5s
PRA Prague 14.23 341 *e*P **P** **06 10 51.0 +0.4**
PRA MLR MLR
comp=Z,600nm,12.9s
PRA Prague 14.23 341 *e*P **P** **06 10 51.0 +0.4**
PRA AMS AMS 06 16 50.0
comp=Z,600nm,12.9s
UPC Upice 14.28 346 *e*P **P** **06 10 53.2 +2.1**
UPC MLR MLR
comp=Z,500nm,16.7s
UPC Upice 14.28 346 *e*P **P** **06 10 53.2 +2.1**
UPC AMS AMS 06 17 10.0
comp=Z,500nm,16.7s
OSTC Ostas 14.28 346 AMS AMS 06 17 10.0
comp=Z,500nm,16.4s
CHVC Chvalec 14.35 346 *e*P **P** **06 10 53.5 +1.6**
CHVC *ex* x 06 11 06.3
CHVC AMS AMS 06 17 10.0
comp=Z,500nm,17.8s
ANN Anapa 14.49 51 *e*P **P** **06 10 52.4 -1.1**
ANN pmax pmax
comp=Z,92nm,1.0s
KSP Ksiaz 14.54 347 *e*P **P** **06 10 56.2 +2.2**
PVCC Panska Ves 14.62 342 AMS AMS 06 17 10.0
comp=Z,500nm,14.6s
NKC Novy Kostel 14.94 337 AMS AMS 06 17 20.0
comp=Z,600nm,17.2s
AKASG Malin Array Be 14.99 19 Pn **Pn** **06 10 51.9 -2.1**
comp=Z,2.0nm,0.3s,baz=207,slow=12,SNR=20
AKASG Malin Array Be 14.99 19 P **Pn** **06 10 51.9 -2.1**
AKBB Malin Array Si 14.99 19 *ce*P **Pn** **06 10 52.3 -1.7**
AKBB Malin Array Si 14.99 19 Pn **Pn** **06 10 52.2 -1.7**
BRG Berggiesshubel 15.09 341 *e*P **Pn** **06 10 56.2 +0.9**
BRG Amp 06 10 58.3
comp=Z,2.0nm,0.6s
BRG *ex* x 06 11 01.1
BRG Amp 06 11 03.1
comp=Z,5.8nm,0.9s
BRG Amp 06 17 46.0
comp=E,0.2nm,12.6s
BRG Amp 06 17 49.0
comp=Z,0.6nm,14.0s
BRG Amp 06 17 52.0
comp=N,0.4nm,14.5s
TPSR Tuapse 15.26 56 *i* P **Pn** **06 10 58.4 +0.9**
TPSR pmax pmax
comp=Z,8.0nm,0.2s
SOC Sochi 15.50 58 *e*P **Pn** **06 11 02.7 +2.0**
SOC *e* 06 13 57.4
SOC pmax pmax
comp=Z,18nm,0.9s
SOC MLR MLR
comp=Z,110nm,16.0s
ECH Echery 15.53 322 P **Pn** **06 11 02.7 +1.6**
ECH pmax pmax
comp=Z,14nm,1.1s
ECH Echery 15.53 322 Pn **Pn** **06 11 02.7 +1.6**
MOX Moxa 15.56 336 P **P** **06 11 04.8 -0.6**
MOX pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 15.73 340 *e*P **Pn** **06 11 05.0 +1.3**
CLL *i* (sP) **P** **06 11 09.5 +2.2**
comp=Z,17nm,1.0s
CLL *e*(PPP) 06 11 22.0
CLL *i* 06 11 34.3
CLL Lmax 06 18 00.0
CLL Collm 15.73 340 P **Pn** **06 11 05.8 +2.1**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 15.73 340 Pn **Pn** **06 11 05.8 +2.1**
ARXR Arkhyz 16.57 60 *i* P **Pn** **06 11 15.1 +0.6**
WLF Walferdange 17.00 324 P **P** **06 11 22.2 +0.8**
WLF pmax pmax
comp=Z,15nm,0.8s
WLF Walferdange 17.00 324 P **P** **06 11 22.2 +0.8**
SUW Suwalki 17.28 3 *e*P **Pn** **06 11 23.1 0.0**
SUW Suwalki 17.28 3 *e*P **Pn** **06 11 22.4 -0.7**
SUW Suwalki 17.28 3 P **Pn** **06 11 22.8 -0.4**
SUW pmax pmax
comp=Z,162nm,1.0s
SUW Suwalki 17.28 3 Pn **Pn** **06 11 22.8 -0.4**
NEY Neytrino 17.50 62 *i* P **Pn** **06 11 27.2 +1.1**
NEY pmax pmax
comp=Z,3.0nm,0.9s
SHA1 Shidzhatmaz 17.58 60 *i* P **Pn** **06 11 28.2 +1.0**
KIV Kislovodsk 17.66 59 *e*P **Pn** **06 11 29.0 +0.9**
KIV pmax pmax
comp=Z,61nm,1.1s
KIV MLR MLR
comp=Z,135nm,13.0s
KIV Kislovodsk 17.66 59 P **Pn** **06 11 28.9 +0.9**
KBZ Khabaz 17.74 60 P **Pn** **06 11 27.6 -1.4**
comp=Z,1.0nm,0.3s,baz=281,slow=7.1,SNR=27
KBZ Khabaz 17.74 60 *de*P **P** **06 11 30.3 +0.8**
KBZ pmax pmax
comp=Z,24nm,0.9s
KLNR Kaliningrad 17.85 358 *i* P **Pn** **06 11 29.2 -1.0**
KLNR pmax pmax
comp=Z,45nm,0.9s
ONI Oni 17.87 64 P **Pn** **06 11 31.2 +0.6**
ONI pmax pmax
comp=Z,12nm,0.8s
ONI Oni 17.87 64 P **Pn** **06 11 31.2 +0.6**
NCK Nalchik 18.17 62 *i* P **P** **06 11 35.4 +1.0**
NCK pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 18.23 64 *e*P **Pn** **06 11 34.9 -0.3**
ZEI pmax pmax
comp=Z,29nm,1.0s
GOF Gofitskoye 18.25 56 ⇑*e*P **P** **06 11 35.3 +0.2**
MNK Minsk 18.27 12 *i* P **P** **06 11 33.0 -2.3**
MNK *i* S **Sn** **06 14 57.1 -1.1**
MNK pmax pmax
comp=N,30nm,1.1s
MNK pmax pmax
comp=Z,39nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.5s

MNK MLR MLR
comp=E,7.0nm,14.0s
MNK MLR MLR
comp=E,286nm,16.0s
MNK MLR MLR
comp=N,293nm,20.0s
MNK Minsk 18.27 12 *i* P **P 06 11 33.0 -2.2**
comp=E,1.0nm,0.5s
MNK *i* P **P 06 11 33.0 -2.2**
comp=N,30nm,1.1s
MNK *i* P **P 06 11 33.0 -2.2**
comp=Z,39nm,0.8s,baz=17
MNK *i* PP **sP 06 11 45.4 -1.8**
MNK *i* S **Sn 06 14 57.1 -1.1**
MNK *i* SS **S 06 15 12.2 +10**
MNK *i* PcP **PcP 06 15 59.1 -7.0**
MNK *i* LQ LQ 06 16 52.9
MNK *i* LR LR 06 18 05.2
MNK *i* LRM MLR 06 19 24.5
comp=E,7.0nm,14.4s
MNK *i* LRM MLR 06 19 41.6
comp=Z,286nm,16.4s
MNK *i* LRM MLR 06 19 44.2
comp=N,293nm,19.8s
KZRT Kazreti 18.37 68 P **Pn 06 11 37.7 +0.9**
NACGM Naroch 18.49 10 *i* P **P 06 11 35.9 -1.8**
GNI Garni 18.52 72 P **P 06 11 36.4 -2.0**
comp=N,0.6nm,0.3s,baz=179,slow=5.7,SNR=7.3
GNI LR LR 06 19 57.4
comp=N,155nm,19.9s,baz=284,slow=41
GNI Garni 18.52 72*ce*P **P 06 11 37.5 -0.9**
GNI pmax pmax
comp=Z,31nm,1.7s
GNI Garni 18.52 72 P **P 06 11 38.1 -0.2**
GUDG Gudauri 18.59 65 P **P 06 11 38.4 -0.8**
PABE Paberze 18.81 4 P **P 06 11 40.7 -0.5**
IIGN Ignalina 18.86 8 *e*P **Pn 06 11 42.9 +0.4**
IIGN IAmb IAmb 06 12 06.2
comp=Z,9.4nm,0.6s
BSD Bornholm Skovb 18.88 348 *i* P **P 06 11 42.8 +0.8**
BSD Bornholm Skovb 18.88 348 *i* P **P 06 11 42.7 +0.8**
IDID Didziasalis 18.89 9 *e*P **Pn 06 11 43.4 +0.6**
ISAL Salakas 19.07 8 *e*P **P 06 11 44.0 0.0**
ISAL IAmb IAmb 06 12 07.7
comp=Z,5.9nm,0.6s
NAX Nakhchivan 19.08 75 P **P 06 11 44.4 0.0**
LUNU Lund 19.64 346 *i* P **P 06 11 51.3 +1.1**
GROC Groznyy 19.68 63 *e*P **Pn 06 11 53.5 +1.1**
GROC pmax pmax
comp=Z,18nm,0.4s
GANJ Ganja 19.75 71 P **P 06 11 50.6 -1.1**
BLEU Blekinge 19.90 351 *i* P **P 06 11 52.7 -0.4**
LPSR Galich'ya Gora 20.02 32 *e*P **P 06 11 54.2 -0.3**
LPSR pmax pmax
comp=Z,100nm,0.8s
ESDC Sonseca Array 20.17 286 P Pn 06 11 58.0 -0.3
comp=Z,1.2nm,0.7s,baz=83,slow=10.0,SNR=12
MNGR Mingechevir, A 20.34 71 P **P 06 11 57.7 -0.3**
DEL Delary 20.36 348 *i* P **P 06 11 59.2 +1.2**
VRH Novokhopyorsk 20.41 39 *e*P **P 06 11 57.9 -0.7**
VRH pmax pmax
comp=Z,130nm,0.7s
SEKA Sheki 20.45 70 P **P 06 11 58.2 -1.1**
SLIT Slitere, Latvi 20.87 1 *e*P **P 06 12 03.5 -0.1**
AKT Akhty 20.87 69 *e*P **P 06 12 03.4 -0.5**
AKT *e* 06 12 22.0
AKT pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 21.05 25 P **P 06 12 04.1 -1.4**
comp=Z,13nm,0.4s,baz=6.2,slow=9.3,SNR=7.4
OBN LR LR 06 20 51.0
comp=Z,40nm,21.8s,baz=127,slow=38
OBN Obninsk 21.05 25‖ *e*P **P 06 12 04.7 -0.8**
OBN *e*S **S 06 15 51.1 -6.7**
OBN pmax pmax
comp=Z,40nm,0.6s
OBN MLR MLR
comp=Z,128nm,17.0s
OBN Obninsk 21.05 25 IAmb IAmb 06 12 08.4
comp=Z,57nm,0.5s
LKRN Lenkeran, Azer 21.66 77 P **P 06 12 11.8 -0.4**
MDT Midelt 21.75 267 P **P 06 12 14.8 +1.3**
comp=Z,2.7nm,0.8s,baz=89,slow=12,SNR=8.1
MDT LR LR 06 22 09.1
comp=Z,92nm,18.0s,baz=96,slow=40
MOS Moscow 21.91 25 *e*P **P 06 12 12.8 -2.0**
MOS *e* 06 12 52.7
MOS pmax pmax
comp=Z,133nm,0.8s
VSU Vasula 21.97 7 *e*P **P 06 12 14.8 -0.6**
VSU Vasula 21.97 7 *i* P **P 06 12 13.5 -1.9**
VSU pmax pmax
comp=Z,200nm,0.7s
PBRG Braganca 22.35 292 *e*P **P 06 12 22.6 +2.8**
comp=Z,18nm,2.0s
MVO Moncorvo 22.54 290 *e*P **P 06 12 23.4 +1.6**
comp=Z,25nm,2.0s
PBAR Barrancos 22.64 282 *e*P **P 06 12 25.4 +2.7**
comp=Z,15nm,1.3s
MTE Manteigas 22.92 288 A A 06 13 23.4
comp=Z,17nm,1.8s
UPP Uppsala 23.23 355 *e*P **P 06 12 27.8 -0.8**
PVAQ Vaqueiros 23.25 280 *e*P **P 06 12 33.6 +4.5**
comp=Z,25nm,2.0s
AAL Aland 23.44 358 *e*P **P 06 12 30.1 -0.5**
PBDV Barranco-do-Ve 23.44 280 *e*P **P 06 12 32.9 +1.9**
comp=Z,26nm,1.5s
PMTG Montargil 23.49 285 *e*P **P 06 12 32.2 +0.8**
MEF Metsahovi 23.54 4 *e*P **P 06 12 30.8 -0.8**
MESJ Messejana 23.60 282 *e*P **P 06 12 35.3 +2.9**
comp=Z,28nm,1.8s
PUL Pulkovo 23.71 11 *i* P **P 06 12 32.1 -1.2**
PUL pmax pmax
comp=Z,89nm,0.9s
HFS Hagfors 23.90 350 P **P 06 12 34.4 -0.7**
comp=Z,20nm,0.4s,baz=159,slow=13,SNR=122
HFS LR LR 06 24 10.6
comp=Z,200nm,18.4s,baz=175,slow=42
HFS Hagfors 23.90 350 P **P 06 12 34.4 -0.7**
BELG Belogornoye 24.12 41 P **P 06 12 36.5 -0.6**
comp=Z,194nm,0.7s,baz=321,slow=1.1,SNR=118
BELG LR LR 06 23 21.3
comp=Z,98nm,20.4s,baz=208,slow=40
BELG Belogornoye 24.12 41*c i*P **P 06 12 36.5 -0.6**
BELG pmax pmax
comp=Z,35nm,0.8s
KONO Kongsberg 24.14 345 *i* P **P 06 12 35.9 -1.4**
KONO pmax pmax
comp=Z,8.0nm,0.9s
OSL Oslo 24.19 347 *e*P **P 06 12 37.3 -0.4**
RAF Rauma 24.27 0 *e*P **P 06 12 36.6 -1.8**
NC602 NORSAR Array S 24.80 348 *e*P **P 06 12 43.7 +0.4**
FINES FINESS Array B 24.86 5 P **P 06 12 43.4 -0.4**
comp=Z,9.3nm,0.4s,baz=168,slow=10,SNR=96
FINES LR LR 06 23 41.2
comp=Z,333nm,20.4s,baz=203,slow=39
FINES FINESS Array B 24.86 5 *i* P **P 06 12 43.9 +0.1**
FINES pmax pmax
comp=Z,9.0nm,0.4s
FINES FINESS Array B 24.86 5 P **P 06 12 42.9 -0.9**
FIA1 FINESS Array S 24.86 5 P **P 06 12 43.3 -0.5**
EKA Eskdalemuir Ar 25.01 326 P **P 06 12 45.9 +0.7**
comp=Z,2.5nm,0.5s,baz=128,slow=9.4,SNR=26
EKA Eskdalemuir Ar 25.01 326 P **P 06 12 45.9 +0.7**
NAO01 NORSAR Array S 25.01 348 P **P 06 12 45.0 -0.2**
NC405 NORSAR Array S 25.13 349 P **P 06 12 45.8 -0.5**
NB2 NORSAR Subarra 25.14 348 P **P 06 12 46.3 -0.1**
baz=156,slow=9.3
NOA NORSAR Array B 25.14 348 P **P 06 12 46.4 -0.1**
comp=Z,13nm,0.7s,baz=158,slow=9.0,SNR=68
NOA LR LR 06 24 08.4
comp=Z,69nm,19.5s,baz=180,slow=40
NOA NORSAR Array B 25.14 348 P **P 06 12 46.4 -0.1**
NBO00 NORSAR Array S 25.20 348 P **P 06 12 47.3 +0.3**
NC303 NORSAR Array S 25.29 349 IAmb IAmb 06 12 49.0
comp=Z,12nm,0.7s
SKAR Skarslia 25.35 345 *e*P **P 06 12 50.0 +1.7**
NC204 NORSAR Array S 25.44 348 P **P 06 12 48.6 -0.5**
DOMB Dombas 26.45 347 *e*P **P 06 12 59.2 +0.9**
SUE Sulen 26.50 342 *e*P **P 06 12 59.9 +1.3**
KLMR Klimovskoe 26.68 20 *e*P **P 06 12 58.0 -2.3**
KLMR pmax pmax
comp=Z,62nm,0.9s
KLMR Klimovskoe 26.68 20 *e*P **P 06 12 58.0 -2.3**
KLMR AMP 06 13 03.3
comp=Z,62nm,0.9s
NSS Namsos 28.37 351 *e*P **P 06 13 15.6 +0.2**
KIRV Kirov 28.44 31 P **P 06 13 13.7 -2.4**
comp=Z,8.9nm,0.5s,baz=316,slow=4.5,SNR=2.4
KIRV Kirov 28.44 31*ce*P **P 06 13 15.2 -0.8**
GEYT Alibeck 29.04 77 P **P 06 13 19.5 -2.2**
comp=Z,3.3nm,0.4s,baz=293,slow=7.7,SNR=5.2
PRGR Permogore 29.12 24 *e*P **P 06 13 18.8 -3.3**
PRGR pmax pmax
comp=Z,27nm,0.7s
AKTO Aktyubinsk 29.45 51 P **P 06 13 23.9 -1.2**
comp=Z,5.8nm,0.5s,baz=265,slow=9.8,SNR=19
AKTO LR LR 06 27 54.3
comp=Z,95nm,20.2s,baz=283,slow=42
AKTO Aktyubinsk 29.45 51 P **P 06 13 23.9 -1.2**
TOA0 Torodi Ar. Sit 29.45 222 P **P 06 13 26.5 +1.0**
TORD Torodi Ar. Bea 29.45 222 P **P 06 13 26.9 +1.4**
comp=Z,2.5nm,0.6s,baz=31,slow=8.9,SNR=19
TORD LR LR 06 25 59.6
comp=Z,194nm,19.6s,baz=170,slow=38
MOR8 Moi Rana 29.72 354 *e*P **P 06 13 28.4 +1.0**
KONS Konsvik 30.16 353 *e*P **P 06 13 31.8 +0.6**
ABKAR Akbulak array 30.44 54 P **P 06 13 32.7 -1.2**
ABKAR Akbulak array 30.44 54 IAmb IAmb 06 13 33.8
comp=Z,6.2nm,0.9s
FAUS Fauske 30.86 355 *e*P **P 06 13 37.7 +0.3**
STEI Steigen 31.40 355 *e*P **P 06 13 42.5 +0.4**
APA Apatity 31.58 9‖ *i*P **P 06 13 42.6 -1.1**
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,200nm,10.0s
ARU Arti 31.63 40*c i*P **P 06 13 42.8 -1.5**
ARU 06 14 44.6
ARU S **S 06 14 51.3 +0.4**
ARU SS **SnSn 06 20 37.5 -0.8**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU Arti 31.63 40 P **P 06 13 43.3 -1.0**
LOF Lofoten 31.72 354 *e*P **P 06 13 45.0 +0.1**
KTK1 Kautokeino 32.31 1 *e*P **P 06 13 51.7 +1.6**
JETT Jettan, Norway 32.84 359 *e*P **P 06 13 56.5 +1.6**
ARA0 ARCESS Array S 32.89 3 *e*P **P 06 13 56.1 +0.9**
ARCES ARCESS Array B 32.89 3 P **P 06 13 55.0 -0.2**
comp=Z,7.0nm,0.8s,baz=191,slow=9.2,SNR=20
ARCES LR LR 06 28 40.4
comp=Z,220nm,18.1s,baz=205,slow=39
ARCES ARCESS Array B 32.89 3 P **P 06 13 55.0 -0.2**
TRO Tromso 32.94 358 *e*P **P 06 13 57.1 +1.4**
HRA Herat 33.07 82 P **P 06 13 57.1 -0.4**
HRA IAmb IAmb 06 13 58.3
comp=Z,9.0nm,0.8s
HAMF Hammerfest 33.95 1 *e*P **P 06 14 06.0 +1.6**
BRVK Borovoye 37.40 48*ce*P **P 06 14 33.9 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 37.40 48 P **P 06 14 34.2 0.0**
BRVK IAmb IAmb 06 14 35.2
comp=Z,14nm,0.8s
KK31 Karatay Array 37.69 65 IAmb IAmb 06 14 37.5
comp=Z,12nm,0.8s
KKAR Karatay Array 37.69 65 P **P 06 14 36.1 -0.7**
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 37.69 65 P **P 06 14 36.1 -0.7**
KKAR IAmb IAmb 06 14 37.5
comp=Z,12nm,0.8s
KKAR Karatay Array 37.69 65 P **P 06 14 35.5 -1.3**
GAR Garm 38.25 71 P **P 06 14 41.4 -0.4**
DBIC Dimbokro 38.41 225 P **P 06 14 44.6 +1.6**
comp=Z,4.7nm,0.8s,baz=27,slow=9.5,SNR=4.3
DBIC LR LR 06 31 44.1
comp=Z,84nm,19.0s,baz=0.0,slow=38
DBIC Dimbokro 38.41 225 P **P 06 14 44.6 +1.6**
DBIC Dimbokro 38.41 225 P **P 06 14 44.1 +1.1**
BTK Batken 38.41 70 IAmb IAmb 06 14 43.1
comp=Z,7.5nm,0.8s
AAK Ala-Archa 40.65 65*ce*P **P 06 15 02.1 +0.3**
AAK pmax pmax
comp=Z,33nm,1.0s
AAK Ala-Archa 40.65 65 P **P 06 15 01.4 -0.4**
AAK IAmb IAmb 06 15 04.5
comp=Z,9.9nm,0.9s
SPA0 Spitsbergen Ar 41.56 358 *e*P **P 06 15 10.4 +1.8**
SPITS Spitsbergen Ar 41.56 358 P **P 06 15 09.1 +0.5**
comp=Z,1.9nm,0.4s,baz=155,slow=12,SNR=18
SPITS Spitsbergen Ar 41.56 358 P **P 06 15 09.1 +0.5**
NIL Nilore 42.00 78 P **P 06 15 13.0 +0.2**
NIL pmax pmax
comp=Z,15nm,1.1s
NIL Nilore 42.00 78 P **P 06 15 13.0 +0.2**
NIL IAmb IAmb 06 15 13.8
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 43.24 65 IAmb IAmb 06 15 24.8
comp=Z,19nm,1.5s
DAG Danmarks Havn 43.82 348 *i* P **P 06 15 27.8 +0.8**
DAG Danmarks Havn 43.82 348 *i* P **P 06 15 27.7 +0.8**
MAKZ Makanchi 45.19 57 P **P 06 15 37.6 -0.7**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MAKZ Makanchi 45.19 57 P **P 06 15 37.5 -0.7**
MK31 Makanchi Array 45.41 57*c i*P **P 06 15 38.5 -1.5**
MKAR Makanchi Array 45.41 57 P **P 06 15 38.7 -1.3**
comp=Z,1.7nm,0.4s,baz=269,slow=8.1,SNR=29
MKAR Makanchi Array 45.41 57 *i* P **P 06 15 38.7 -1.3**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
ZAA0 Zalesovo Array 46.08 47 P **P 06 15 43.9 -1.2**
ZALV Zalesovo Beam 46.08 47 P **P 06 15 43.5 -1.6**
comp=Z,10nm,0.4s,baz=273,slow=8.4,SNR=40
ZALV Zalesovo Beam 46.08 47 *i* P **P 06 15 43.9 -1.2**
ZALV pmax pmax
comp=Z,10.0nm,0.4s
ZALV Zalesovo Beam 46.08 47 P **P 06 15 44.0 -1.2**
SUMG Summit 46.40 339 *i* P **P 06 15 49.8 +1.9**
SUMG IAmb IAmb 06 15 50.6
comp=Z,6.2nm,0.8s
SUMG Summit 46.40 339 P **P 06 15 48.7 +0.8**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 46.40 339 P **P 06 15 48.7 +0.8**
SUMG IAmb IAmb 06 15 51.3
comp=Z,8.3nm,1.0s
NOR Nord 46.96 353 *i* P **P 06 15 52.4 +0.7**
NOR IAmb IAmb 06 15 53.0
comp=Z,2.7nm,0.5s
NOR Nord 46.96 353 *i* P **P 06 15 52.4 +0.7**
NOR pmax pmax
comp=Z,3.0nm,0.5s
NRIK Noril'sk 47.72 26 *i* P **P 06 15 57.7 0.0**
NRIK pmax pmax
comp=Z,4.0nm,0.9s
DY2G Dye2 48.08 330 *i* P **P 06 16 01.1 +0.3**
DGZ Jazzator, Alta 48.26 53 *i* P **P 06 16 01.8 -0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
WMQ Urumqi 49.79 60 *e*P **P 06 16 17.3 +3.2**
WMQ pP pP 06 16 21.0 -3.3
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.5s
FRB Frobisher Bay 57.74 328 LR LR 06 45 06.8
comp=Z,75nm,18.6s,baz=19,slow=39
ZAK Zakamensk 57.92 48 *e*P **P 06 17 12.1 -1.3**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
GTA Gaotai 59.83 61‖ P **P 06 17 26.5 -0.4**
GTA pP pP 06 17 29.5 -7.9
GTA sP sP 06 17 32.5 -7.4
GTA pmax pmax
comp=Z,5.0nm,0.7s
SCHQ Schefferville 60.00 318 P **P 06 17 29.1 +1.4**
comp=Z,2.0nm,0.7s,baz=45,slow=12,SNR=2.3
SCHQ Schefferville 60.00 318 IAmb IAmb 06 17 30.7
comp=Z,5.2nm,1.1s
TIXI Tiksi 60.70 20 LR LR 06 47 46.3
comp=Z,105nm,18.1s,baz=327,slow=40
TIXI Tiksi 60.70 20 P **P 06 17 32.2 0.0**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 60.70 20 P **P 06 17 32.2 0.0**
TIXI IAmb IAmb 06 17 33.2
comp=Z,3.4nm,0.7s
SONM Songino Array 60.77 50 P **P 06 17 32.4 -0.8**
comp=Z,2.1nm,0.7s,baz=276,slow=9.3,SNR=7.1
SONM Songino Array 60.77 50 P **P 06 17 32.4 -0.8**
BOSA Boshof 65.14 176 P **P 06 18 02.9 +0.6**
comp=Z,2.6nm,1.0s,baz=352,slow=7.1,SNR=2.1
BOSA Boshof 65.14 176 P **P 06 18 02.9 +0.6**
CD2 Chengdu 66.59 68 P **P 06 18 11.5 -0.3**
CD2 pmax pmax
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 67.21 55 *e*P **P 06 18 16.5 +0.9**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,45nm,5.7s
XAN Xi'an 68.79 63 P **P 06 18 24.5 -1.1**
XAN pP sP 06 18 36.0 -3.0
XAN pmax pmax
comp=Z,8.0nm,1.2s
CMAR Chiang Mai Arr 69.34 82 P **P 06 18 28.0 -1.1**
comp=Z,3.2nm,0.7s,baz=305,slow=7.2,SNR=13
CMAR Chiang Mai Arr 69.34 82 *i* P **P 06 18 28.6 -0.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CM05 Chiang Mai Arr 69.37 82 P **P 06 18 30.7 +1.4**
comp=Z,4.5nm,0.9s
PHIT Phitsanulok 71.20 82 P **P 06 18 41.4 +0.9**
comp=Z,33nm,0.9s
BILL Bilibino 72.21 13 *e*P **P 06 18 46.1 +0.3**
BILL pmax pmax
comp=Z,16nm,2.1s
SEY Seymchan 73.17 21 *i* P **P 06 18 51.1 -0.5**
INK Inuvik 73.57 351 P **P 06 18 53.9 +0.1**
comp=Z,1.1nm,0.5s,baz=27,slow=2.3,SNR=6.5
INK Inuvik 73.57 351 P **P 06 18 53.9 +0.1**
CN2 Changchun 74.29 47 *e*P **P 06 18 58.3 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 74.47 40*ce*P **P 06 18 59.1 -0.3**
KLR pmax pmax
comp=Z,9.0nm,0.8s
YKA Yellowknife Ar 74.96 341 P **P 06 19 02.7 +0.7**
comp=Z,2.1nm,0.8s,baz=39,slow=5.6,SNR=29
YKA Yellowknife Ar 74.96 341 *i* P **P 06 19 03.2 +1.2**
YKA pmax pmax
comp=Z,2.0nm,0.8s
EPYK Eagle Plains 75.81 351 IAmb IAmb 06 19 08.7
comp=Z,6.2nm,0.8s
FFC Flin Flon 76.77 330 P **P 06 19 13.8 +1.3**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 76.77 330 P **P 06 19 13.8 +1.3**
FFC IAmb IAmb 06 19 15.4
comp=Z,5.0nm,0.9s
NJ2 Nanjing 76.87 60 *e*P **P 06 19 13.8 +0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
ULM Lac du Bonnet 77.27 324 P **P 06 19 17.0 +1.6**
comp=Z,5.5nm,0.9s,baz=48,slow=3.6,SNR=4.8
ULM Lac du Bonnet 77.27 324 P **P 06 19 17.0 +1.6**
ULM Lac du Bonnet 77.27 324 IAmb IAmb 06 19 17.9
comp=Z,7.2nm,1.1s
USRK Ussuriysk Ar. 77.78 44 P **P 06 19 17.2 -1.1**
comp=Z,7.1nm,0.7s,baz=290,slow=5.5,SNR=14
USRK Ussuriysk Ar. 77.78 44 P **P 06 19 17.2 -1.1**
PSI Prapat 78.28 95 P **P 06 19 21.4 -0.3**
PSI pmax pmax
comp=Z,5.0nm,0.9s
RPSI Rantau Prapat 78.34 95 P **P 06 19 21.4 -0.5**
RPSI IAmb IAmb 06 19 22.1
comp=Z,4.8nm,0.9s
DAWY Dawson 78.36 352 P **P 06 19 22.6 +1.3**
DAWY IAmb IAmb 06 19 23.8
comp=Z,3.2nm,0.8s
ILAR Eielson Array 78.37 355 P **P 06 19 20.6 -0.6**
comp=Z,0.8nm,0.7s,baz=358,slow=5.2,SNR=8.4
ILAR Eielson Array 78.37 355 P **P 06 19 20.6 -0.6**
K27K Chicken 78.69 353 IAmb IAmb 06 19 26.0
comp=Z,6.4nm,1.1s
HDA Harding Lake 78.73 355 P **P 06 19 23.9 +0.7**
HDA IAmb IAmb 06 19 25.2
comp=Z,4.5nm,0.8s
WRH Wood River Hil 78.75 355 P **P 06 19 24.1 +0.8**
WRH IAmb IAmb 06 19 25.3
comp=Z,4.2nm,0.9s
BCAR Beaver Creek A 79.60 352 P **P 06 19 29.5 +1.5**
L27K Beaver Creek, 79.61 352 P **P 06 19 29.9 +1.8**
KSAR Wonju Array Be 79.61 51 P **P 06 19 27.7 -0.8**
KSAR Wonju Array Be 79.61 51 P **P 06 19 27.7 -0.8**
KSRS Korea Array 79.63 51 P **P 06 19 27.4 -1.1**
comp=Z,5.3nm,0.8s,baz=306,slow=5.0,SNR=16
KSRS Korea Array 79.63 51 P **P 06 19 27.5 -1.1**
L40A Anamosa 80.37 316 P **P 06 19 34.7 +2.1**
L40A IAmb IAmb 06 19 35.2
comp=Z,10nm,1.1s
T47A Sharon Grove 81.24 310 P **P 06 19 38.1 +0.8**
T47A IAmb IAmb 06 19 40.2
comp=Z,8.9nm,1.1s
KNK Knik Glacier 81.81 355 P **P 06 19 42.8 +2.9**
ECSD EROS Data Cent 82.14 320 P **P 06 19 43.1 +1.1**
R40A Maddies Statio 83.48 314 IAmb IAmb 06 19 52.2
comp=Z,5.9nm,1.0s
T42A Van Buren 83.63 312 IAmb IAmb 06 19 52.8
comp=Z,3.3nm,0.8s
U40A Yellville 85.13 312 IAmb IAmb 06 20 00.3
comp=Z,3.1nm,0.8s
MJAR Matsushiro Arr 86.42 46 P **P 06 20 03.5 -0.3**
comp=Z,3.6nm,0.8s,baz=320,slow=4.8,SNR=7.0
MJAR Matsushiro Arr 86.42 46 P **P 06 20 03.5 -0.3**
T35A Sooner Cattle 86.87 315 P **P 06 20 07.8 +1.8**
YNE Yellowstone No 87.54 328 IAmb IAmb 06 20 12.7
comp=Z,3.9nm,0.9s
NEW Newport 87.64 334 P **P 06 20 10.9 +1.3**
NEW pmax pmax
comp=Z,7.0nm,1.1s
NEW Newport 87.64 334 P **P 06 20 10.9 +1.3**
C09A Chrisman Ranch 88.44 334 P **P 06 20 15.2 +1.9**
PDAR Pinedale Array 89.13 326 P **P 06 20 17.6 +0.6**
comp=Z,0.8nm,0.9s,baz=48,slow=2.4,SNR=6.2
BMO Blue Mountains 90.60 332 IAmb IAmb 06 20 39.6
comp=Z,2.8nm,1.1s
HWUT Hardware Ranch 90.95 327 IAmb IAmb 06 20 28.3
comp=Z,3.1nm,0.9s
TXAR Lajitas Array 96.48 314 P **P 06 20 49.8 -1.2**
comp=Z,0.4nm,0.8s,baz=35,slow=4.9,SNR=4.4
TXAR Lajitas Array 96.48 314 P **P 06 20 49.8 -1.2**
CPUP Villa Florida 97.06 243 LR LR 07 07 07.5
comp=Z,82nm,18.2s,baz=106,slow=37
LPAZ La Paz 99.25 257 LR LR 07 07 37.1
comp=Z,23nm,18.1s,baz=306,slow=36
WRA Warramunga Arr 119.71 94 PKP **PKPdf 06 26 10.7 -0.8**
comp=Z,0.5nm,0.8s,baz=296,slow=1.9,SNR=2.5
WRA Warramunga Arr 119.71 94 PKIKP **PKPdf 06 26 10.7 -0.8**
ASAR Alice Springs 121.26 98 PKhKP PKPpre 06 26 07.1
comp=Z,0.1nm,0.3s,baz=322,slow=1.4,SNR=1.1
ASAR PKP **PKPdf 06 26 13.8 -0.7**
comp=Z,0.5nm,0.6s,baz=343,slow=2.0,SNR=5.7
ASAR Alice Springs 121.26 98 PKIKP **PKPdf 06 26 13.8 -0.7**

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*IDC **30** 06:15:02.9±2.7, 29.˚79S×139.˚02E, h0km, mb1 3.0/3, mb1mx3.0/23, mbtmp2.8/3, ML2.7/3 Error ellipse: s-maj=105.2km s-min=15.7km az=50.0*
*AUST **30** 06:15:02.3±0.4, 30.˚49S×138.˚39E, h5km±5km, Error ellipse: s-maj=7.8km s-min=2.5km az=174.0*
ISC 30 06:15:01.1±0.9, 30.˚30S±0.˚06×138.˚36E±0.˚05, h10km, n8, σ1°25/14, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.20**	**220**	P	**Pg**	**Pg**	**06 15 04.9**	**-0.4**
	baz=0.2,SNR=774							
LCRK				S	**Sg**	**Sg**	**06 15 07.9**	**-0.2**
	baz=0.2							
HTT	**Hallett**	**3.16**	**171**	P	**Pn**	**Pn**	**06 15 50.2**	**-0.8**
	baz=3.0,SNR=8.5							
BBOO	**Buckleboo**	**3.19**	**218**	P	**Pn**	**Pn**	**06 15 51.4**	**+0.2**
	baz=3.1,SNR=41							
BBOO				S	**Sn**	**Sn**	**06 16 29.0**	**-0.3**
	baz=3.1							
STKA	**Stephens Creek**	**3.19**	**120**	Pn	**Pn**	**Pn**	**06 15 51.2**	**-0.1**
	0.3nm,0.3s,baz=302,slow=14,SNR=3.0							
STKA				Pg	**Pb**	**Pb**	**06 15 58.6**	**+0.8**
	1.2nm,0.3s,baz=301,slow=16,SNR=10.0							
STKA				Sn	**Sn**	**Sn**	**06 16 28.4**	**-1.0**
	1.8nm,0.3s,baz=190,slow=19,SNR=5.5							
STKA				Lg	Lg	Lg	06 16 40.3	

3.2nm,0.3s,baz=38,slow=16,SNR=5.2
STKA Stephens Creek 3.19 120 P **Pn 06 15 51.5 +0.2**
baz=3.1
MULG Mulgathing 3.72 269 P **Pn 06 16 00.6 +2.0**
baz=3.7,SNR=5.3
ASAR Alice Springs 7.71 328 Pn **Pn 06 16 54.2 +0.7**
0.1nm,0.3s,baz=144,slow=12,SNR=5.0
ASAR Sn **Sn 06 18 18.5 -2.4**
0.1nm,0.3s,baz=150,slow=22,SNR=3.1
WRA Warramunga Arr 10.93 340 Pn **Pn 06 17 39.2 +1.5**
0.1nm,0.3s,baz=154,slow=13,SNR=5.3
WRA Sn **Sn 06 19 38.6 -1.5**
0.1nm,0.3s,baz=157,slow=26,SNR=1.5

IDC 30 06:28:25.8±2.4, 5°58S×152°54E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/39, mbtmp3.3/3, Error ellipse: s-maj=167.7km s-min=29.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.55**	**234**	Sn	Sn	06 31 17.4	-1.6
	1.7nm,0.3s,baz=316,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**22.74**	**229**	P	P	06 33 29.3	-0.5
	0.5nm,0.7s,baz=54,slow=9.9,SNR=6.4						
ASAR	**Alice Springs**	**25.40**	**223**	P	P	06 33 55.3	0.0
	0.3nm,0.6s,baz=58,slow=9.1,SNR=4.7						
ILAR	**Eielson Array**	**82.97**	**22**	P	P	06 40 52.5	-0.1
	0.5nm,0.7s,baz=250,slow=5.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.29**	**287**	PKPbc	PKPbc	06 48 20.3	+0.1
	0.3nm,0.6s,baz=138,slow=1.8,SNR=1.9						

*IDC **30** 06:32:18.1±0.9, 71°.03N×7°.50W, h0km, mb3.4/6, mb1 3.7/11, mb1mx3.5/54, mbtmp3.5/11, ML3.4/5, MS3.3/13, Ms1 3.3/13, ms1mx3.1/42, Error ellipse: s-maj=20.2km s-min=17.0km az=52.0*
*NAO **30** 06:32:19.1±0.9, 71°.08N×7°.49W, ML4.2*
*REY **30** 06:32:21.6, 70°.99N×9°.38W, h10km*
*BER **30** 06:32:22.5±2.1, 71°.06N×8°.08W, h22km±6km, ML3.1, ML3.2(DNK), Confirmed Earthquake*
*DNK **30** 06:32:24.3±4.3, 71°.48N×8°.54W, h0km±93km, ML3.2*
ISC 30 06:32:19.8±0.5, 71°08N±0°.04×7°53W±0°.04, h20km, n134, σ26s65/169, mb3.5/7, MS3.3/10, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.27**	**251**	↓*i* P	**Pb**	**06 32 25.6**	**-0.2**
JNW	**Jan Mayen West**	**0.30**	**261**	↓*i* P	**Pb**	**06 32 26.0**	**-0.4**
JMIC	**Jan Mayen**	**0.33**	**254**	Pn	**Pb**	**06 32 26.2**	**-0.6**
	baz=67,slow=4.4						
JMIC				Sn	**Sb**	**06 32 30.4**	**-1.4**
	baz=146,slow=20,SNR=29						
JMIC	**Jan Mayen**	**0.33**	**254**	Pg	**Pb**	**06 32 26.3**	**-0.6**
JMIC				Lg	Lg	06 32 30.4	
JMIC	**Jan Mayen**	**0.33**	**254**	↓*i* P	**Pb**	**06 32 26.3**	**-0.6**
JMIC				*e*S	**Sb**	**06 32 30.6**	**-1.2**
JMIC				IAML		06 32 38.4	
	comp=Z,26μm,0.5s						
JMI	**Jan Mayen**	**0.42**	**250**	↓*i* P	**Pb**	**06 32 28.0**	**-0.4**
JMI				*e*S	**Sb**	**06 32 33.7**	**-0.6**
JMI				IAML		06 32 34.0	
	comp=Z,24μm,0.2s						
SCO	**Scoresbysund**	**4.80**	**270**	*i* P	**Pn**	**06 33 32.7**	**+1.9**
SCO				*e*		06 34 40.3	
SCO				IAML		06 34 44.0	
	comp=Z,2.6nm,0.3s						
SCO	**Scoresbysund**	**4.80**	**270**	*e*P	**Pn**	**06 33 31.4**	**+0.7**
SCO				*i*		06 33 40.5	
SCO				IAML		06 34 44.0	
	comp=Z,2.6nm,0.3s						
DBG	**Daneborg**	**4.98**	**316**	*i* P	**Pn**	**06 33 31.5**	**-1.7**
DBG				IAML		06 33 37.6	
	comp=Z,52nm,0.3s						
DBG				*i* S	**Sn**	**06 34 23.3**	**-6.8**
DBG				*i*		06 34 24.2	
DBG	**Daneborg**	**4.98**	**316**	Pn	**Pn**	**06 33 31.6**	**-1.7**
DBG				Sn	**Sn**	**06 34 23.8**	**-6.3**
DBG	**Daneborg**	**4.98**	**316**	*i* P	**Pn**	**06 33 31.5**	**-1.7**
DBG				IAML		06 33 37.6	
	comp=Z,52nm,0.3s						
DBG				*i* S	**Sn**	**06 34 23.3**	**-6.8**
DBG				*i*		06 34 24.2	
ILEI	**Leirhofn**	**5.71**	**219**	P	**Pn**	**06 33 41.3**	**-1.9**
	baz=213						
ILEI				S	**Sn**	**06 34 45.6**	**-2.3**
	baz=213						
IGIL	**Gilhagi**	**5.97**	**217**	P	**Pn**	**06 33 45.7**	**-1.1**
	baz=211						
IGIL				S	**Sn**	**06 34 52.9**	**-1.5**
	baz=211						
IHED	**Heoinshofoi**	**6.16**	**220**	P	**Pn**	**06 33 47.4**	**-2.0**
	baz=214						
IHED				S	**Sn**	**06 34 56.2**	**-2.9**
	baz=214						
IDIM	**Dimmadalss**	**6.18**	**218**	P	**Pn**	**06 33 48.3**	**-1.5**
	baz=212						
IDIM				S	**Sn**	**06 34 57.6**	**-2.2**
	baz=212						
IGHA	**Grjothals**	**6.23**	**217**	P	**Pn**	**06 33 49.2**	**-1.3**
	baz=211						
IGHA				S	**Sn**	**06 34 59.1**	**-1.9**
	baz=211						
IBRE	**Brettingsstaoi**	**6.25**	**222**	P	**Pn**	**06 33 49.5**	**-1.2**
	baz=217						
IBRE				S	**Sn**	**06 34 59.4**	**-2.0**
	baz=217						
ISKI	**Skildingahlsh**	**6.28**	**218**	P	**Pn**	**06 33 50.3**	**-0.9**
	baz=212						
IGRS	**Grimsstaoir**	**6.31**	**214**	P	**Pn**	**06 33 51.1**	**-0.5**
	baz=208						
IGRS				S	**Sn**	**06 35 02.2**	**-0.8**
	baz=208						
IGRA	**Granastaoir**	**6.36**	**220**	P	**Pn**	**06 33 50.0**	**-2.1**
	baz=215						
IGRA				S	**Sn**	**06 35 01.6**	**-2.3**
	baz=215						
IKVO	**Krokottuvotn**	**6.39**	**217**	P	**Pn**	**06 33 52.0**	**-0.6**
	baz=211						
IREN	**Reynihlio**	**6.46**	**217**	P	**Pn**	**06 33 53.5**	**0.0**
	baz=211						
ISIG	**Siglufjorour**	**6.47**	**225**	S	**Sn**	**06 35 02.9**	**-3.9**
	baz=220						
IMEL	**Melhnausar**	**6.47**	**216**	P	**Pn**	**06 33 52.8**	**-1.0**
	baz=210						
IMEL				S	**Sn**	**06 35 06.3**	**-0.6**
	baz=210						
DAG	**Danmarks Havn**	**6.49**	**337**	*i* P	**Pn**	**06 33 52.9**	**-1.0**
DAG				*i* S	**Sn**	**06 35 00.7**	**-6.4**
DAG				*i*		06 35 03.2	
DAG				IAML		06 35 06.4	
	comp=Z,47nm,0.4s						
DAG	**Danmarks Havn**	**6.49**	**337**	*i* P	**Pn**	**06 33 52.0**	**-1.9**
DAG				*i* S	**Sn**	**06 35 00.7**	**-6.4**
DAG				*i*		06 35 03.2	
DAG				IAML		06 35 06.4	
	comp=Z,47nm,0.4s						
IHRN	**Hraun**	**6.78**	**229**	P	**Pn**	**06 33 56.7**	**-1.2**
	baz=224						
IADA	**Aoalbol**	**6.79**	**210**	P	**Pn**	**06 33 58.4**	**+0.3**
	baz=204						
ISVA	**Svartarkot**	**6.80**	**217**	P	**Pn**	**06 33 57.6**	**-0.6**
	baz=211						
IASK	**Askja**	**6.94**	**214**	P	**Pn**	**06 33 59.4**	**-0.8**
	baz=208						
IMKO	**Mokollar**	**6.95**	**213**	P	**Pn**	**06 34 00.1**	**-0.3**
	baz=207						
IVSH	**V-Sauoahnukur**	**7.00**	**210**	P	**Pn**	**06 34 01.1**	**0.0**
	baz=204						
N2RO	**R st**	**7.80**	**108**	*e*P	**Pn**	**06 34 13.2**	**+1.3**
N2RO				*e*S	**Sn**	**06 35 35.9**	**-3.6**
N2SV	**S rv¥gen**	**7.87**	**104**	*e*P	**Pn**	**06 34 13.0**	**+0.2**
N2SV				*e*S	**Sn**	**06 35 37.6**	**-3.5**
N2VA	**Vr y**	**7.90**	**106**	*e*P	**Pn**	**06 34 14.1**	**+0.9**
N2VA				*e*S	**Sn**	**06 35 37.9**	**-4.0**
LOF	**Lofoten**	**7.91**	**102**	*e*P	**Pn**	**06 34 13.1**	**-0.3**
LOF				*e*S	**Sn**	**06 35 39.3**	**-2.8**
N2VI	**Vinje**	**8.02**	**100**	*e*P	**Pn**	**06 34 16.1**	**+1.2**
N2VI				*e*S	**Sn**	**06 35 40.9**	**-4.0**
BORG	**Borgarnes**	**8.19**	**226**	Pn	**Pn**	**06 34 19.5**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=282,slow=20,SNR=1.3						
BORG				Sn	**Sn**	**06 35 50.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=333,slow=0.9,SNR=1.4						
BORG				LR	LR	06 36 45.2	
	comp=Z,169nm,19.8s,baz=337,slow=33						
BJO1	**Bjornoya**	**8.52**	**54**	Pn	**Pn**	**06 34 23.9**	**+2.1**
BJO1	**Bjornoya**	**8.52**	**54**	*e*P	**Pn**	**06 34 23.7**	**+1.9**
STEI	**Steigen**	**8.56**	**101**	*e*P	**Pn**	**06 34 23.4**	**+1.1**
STEI				*e*S	**Sn**	**06 35 53.3**	**-4.8**
HSPB	**Hornsund (broa**	**8.62**	**36**	Pn	**Pn**	**06 34 25.5**	**+2.4**
HSPB	**Hornsund (broa**	**8.62**	**36**	*e*P	**Pn**	**06 34 24.7**	**+1.5**
NBB30	**Finnes**	**8.63**	**108**	*e*P	**Pn**	**06 34 24.2**	**+0.9**
NBB30				*e*S	**Sn**	**06 35 54.7**	**-5.3**
NBB08	**Skaug oppvekst**	**8.67**	**104**	*e*P	**Pn**	**06 34 24.6**	**+0.8**
NBB44	**Tonnes**	**8.71**	**112**	*e*P	**Pn**	**06 34 25.9**	**+1.6**
NBB40				*e*S	**Sn**	**06 35 56.0**	**-5.6**
N2TV	**T rnvik**	**8.72**	**103**	*e*P	**Pn**	**06 34 25.6**	**+1.1**
N2TV				*e*S	**Sn**	**06 35 56.0**	**-6.1**
NBB13	**Alf Garage**	**8.73**	**111**	*e*P	**Pn**	**06 34 25.9**	**+1.3**
NBB13	**Alf Garage**	**8.73**	**111**	*e*S	**Sn**	**06 35 58.2**	**-4.0**
NBB15	**Halsa Church**	**8.73**	**110**	*e*P	**Pn**	**06 34 26.0**	**+1.4**
NBB15	**Halsa Church**	**8.73**	**110**	*e*S	**Sn**	**06 35 57.5**	**-4.8**
KONS	**Konsvik**	**8.75**	**112**	*e*P	**Pn**	**06 34 26.1**	**+1.2**
KONS				*e*S	**Sn**	**06 35 57.5**	**-5.2**
N2IH	**Innhavet**	**8.76**	**99**	*e*P	**Pn**	**06 34 26.5**	**+1.4**
N2IH				*e*S	**Sn**	**06 35 58.6**	**-4.5**
NBB17	**Glomfjord B¥r**	**8.80**	**109**	*e*P	**Pn**	**06 34 27.2**	**+1.6**
NBB17	**Glomfjord B¥r**	**8.80**	**109**	*e*S	**Sn**	**06 35 58.4**	**-5.6**
STOK	**Stokkvaagen**	**8.83**	**113**	*e*P	**Pn**	**06 34 27.0**	**+1.0**
STOK				*e*S	**Sn**	**06 35 59.3**	**-5.3**
FAUS	**Fauske**	**8.88**	**104**	*e*P	**Pn**	**06 34 27.5**	**+0.8**
FAUS				*e*S	**Sn**	**06 36 01.5**	**-4.4**
TRO	**Tromso**	**8.99**	**87**	*e*P	**Pn**	**06 34 28.5**	**+0.3**
TRO				*e*S	**Sn**	**06 36 02.7**	**-6.0**
BRBA	**Barentsburg A**	**9.01**	**30**	Pn	**Pn**	**06 34 30.7**	**+2.3**
BRBA	**Barentsburg A**	**9.01**	**30**	*e*P	**Pn**	**06 34 28.1**	**-0.4**
BRBB	**Barentsburg B**	**9.03**	**29**	Pn	**Pn**	**06 34 30.9**	**+2.2**
BRBB	**Barentsburg B**	**9.03**	**29**	*e*P	**Pn**	**06 34 30.7**	**+2.0**
SOFL	**Sornfelli, Far**	**9.05**	**178**	*e*P	**Pn**	**06 34 27.3**	**-1.9**
KBS	**Kingsbay**	**9.28**	**24**	*i* P	**Pn**	**06 34 33.2**	**+1.2**
KBS	**Kingsbay**	**9.28**	**24**	Pn	**Pn**	**06 34 33.6**	**+1.5**
KBS				Sn	**Sn**	**06 36 12.3**	**-3.4**
KBS	**Kingsbay**	**9.28**	**24**	*e*P	**Pn**	**06 34 33.3**	**+1.2**
KBS				*e*S	**Sn**	**06 36 10.7**	**-5.0**
MOR8	**Moi Rana**	**9.37**	**111**	*e*P	**Pn**	**06 34 34.8**	**+1.4**
SPA0	**Spitsbergen Ar**	**9.43**	**31**	Pn	**Pn**	**06 34 37.2**	**+2.9**
	baz=226,slow=16						
SPA0	**Spitsbergen Ar**	**9.43**	**31**	Pn	**Pn**	**06 34 37.2**	**+2.9**
	baz=226,slow=16						
SPITS	**Spitsbergen Ar**	**9.43**	**31**	Pn	**Pn**	**06 34 37.2**	**+2.9**
	baz=221,slow=16,SNR=475						
SPITS				Sn	**Sn**	**06 36 20.1**	**+0.6**
	baz=245,slow=18,SNR=1.9						
JETT	**Jettan, Norway**	**9.50**	**86**	*e*P	**Pn**	**06 34 37.8**	**+2.6**
SUMG	**Summit**	**9.71**	**293**	*i* P	**Pn**	**06 34 38.6**	**+0.2**
SUMG				IAML		06 36 34.5	
	comp=Z,2.7nm,0.3s						
SUMG	**Summit**	**9.71**	**293**	*i* P	**Pn**	**06 34 40.0**	**+1.6**
SUMG				IAML		06 36 34.5	
	comp=Z,2.7nm,0.3s						
NSS	**Namsos**	**9.83**	**122**	*e*P	**Pn**	**06 34 41.0**	**+1.3**
NSS				*e*S	**Sn**	**06 36 21.9**	**-7.3**
KIF	**Kilpisjarvi**	**9.85**	**89**	Pn	**Pn**	**06 34 41.3**	**+1.3**
KIF				Sn	**Sn**	**06 36 27.3**	**-2.4**
KIF	**Kilpisjarvi**	**9.85**	**89**	*e*P	**Pn**	**06 34 40.8**	**+0.8**
SALU	**Saltoluokta**	**9.91**	**99**	*e*P	**Pn**	**06 34 42.6**	**+1.8**
HAMF	**Hammerfest**	**10.19**	**78**	Pn	**Pn**	**06 34 45.5**	**+0.8**
HAMF	**Hammerfest**	**10.19**	**78**	*e*P	**Pn**	**06 34 45.4**	**+0.8**
MOL	**Molde**	**10.36**	**138**	*e*P	**Pn**	**06 34 43.6**	**-3.4**
HOPEN	**Hopen**	**10.44**	**44**	Pn	**Pn**	**06 34 51.0**	**+3.0**
HOPEN	**Hopen**	**10.44**	**44**	*e*P	**Pn**	**06 34 50.8**	**+2.8**
AKN	**Aaknes**	**10.60**	**140**	Pn	**Pn**	**06 34 50.8**	**+0.6**
AKN				Sn	**Sn**	**06 36 43.2**	**-4.9**
AKN	**Aaknes**	**10.60**	**140**	Pn	**Pn**	**06 34 50.8**	**+0.6**
AKN				Sn	**Sn**	**06 36 43.2**	**-4.9**
KTK1	**Kautokeino**	**10.64**	**86**	*e*P	**Pn**	**06 34 51.8**	**+0.9**
FOO	**Floro**	**10.74**	**146**	*e*P	**Pn**	**06 34 51.8**	**-0.4**
NOR	**Nord**	**10.77**	**353**	*i* P	**Pn**	**06 34 52.2**	**-0.3**
NOR				IAML		06 36 53.6	
	comp=Z,17nm,0.4s						
NOR	**Nord**	**10.77**	**353**	Pn	**Pn**	**06 34 53.2**	**+0.7**
NOR				Sn	**Sn**	**06 36 47.3**	**-5.0**
NOR	**Nord**	**10.77**	**353**	*i* P	**Pn**	**06 34 52.1**	**-0.4**
NOR				*e*S	Sn	06 36 43.9	-8.4
NOR				IAML		06 36 53.6	
	comp=Z,17nm,0.4s						
ICESG	**Greenland Ices**	**11.05**	**275**	*i* P	**Pn**	**06 34 58.2**	**+1.5**
HEF	**Hetta**	**11.05**	**89**	*e*P	**Pn**	**06 34 56.5**	**0.0**
ARA0	**ARCESS Array S**	**11.16**	**82**	Pn	**Pn**	**06 34 59.7**	**+1.7**
	baz=291,slow=12						
ARA0	**ARCESS Array S**	**11.16**	**82**	*e*P	**Pn**	**06 34 57.9**	**-0.1**
ARCES	**ARCESS Array B**	**11.16**	**82**	Pn	**Pn**	**06 34 59.9**	**+1.9**
	baz=294,slow=12,SNR=33						
ARCES				LR	LR	06 38 52.2	
	comp=Z,51nm,18.6s,baz=30,slow=35						
DOMB	**Dombas**	**11.17**	**136**	*e*P	**Pn**	**06 34 56.7**	**-1.4**
SUE	**Sulen**	**11.20**	**148**	*e*P	**Pn**	**06 34 57.7**	**-0.7**
LRW	**Lerwick**	**11.29**	**164**	*e*P	**Pn**	**06 35 01.1**	**+1.4**
HYA	**Hoyanger**	**11.36**	**144**	*e*P	**Pn**	**06 35 01.1**	**+0.5**
ASK	**Askoy**	**11.81**	**148**	*e*P	**Pn**	**06 35 05.2**	**-1.6**
SKAR	**Skarsfja**	**12.22**	**141**	*e*P	**Pn**	**06 35 09.5**	**-3.0**
NOA	**NORSAR Array B**	**12.54**	**134**	Pn	**Pn**	**06 35 16.3**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=347,slow=14,SNR=1.6						
KMY	**Karmoy**	**13.02**	**150**	*e*P	**Pn**	**06 35 22.6**	**-0.7**
BLS5	**Blasjo**	**13.03**	**147**	*e*P	**Pn**	**06 35 23.2**	**-0.2**
NEEM	**North Greenlan**	**13.06**	**318**	*i* P	**Pn**	**06 35 20.8**	**-3.2**
HFS	**Hagfors**	**13.94**	**131**	Pn	**Pn**	**06 35 36.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=325,slow=10.0,SNR=8.3						
HFS				LR	LR	06 40 33.5	
	comp=Z,110nm,21.6s,baz=325,slow=36						
HFS	**Hagfors**	**13.94**	**131**	Pn	**Pn**	**06 35 36.8**	**+1.0**
	baz=329,slow=12						
HFS	**Hagfors**	**13.94**	**131**	Pn	**Pn**	**06 35 36.8**	**+1.0**
	baz=329,slow=12						
APA0	**Apatity Array**	**14.50**	**84**	Pn	**Pn**	**06 35 45.6**	**+2.2**
	baz=315,slow=14						
APA0	**Apatity Array**	**14.50**	**84**	Pn	**Pn**	**06 35 45.6**	**+2.2**
	baz=315,slow=14						
KULLO	**Kullorsuaq**	**14.69**	**306**	*i* P	**Pn**	**06 35 45.2**	**-0.8**
KULLO	**Kullorsuaq**	**14.69**	**306**	*i* P	**Pn**	**06 35 45.2**	**-0.8**
EKA	**Eskdalemuir Ar**	**15.92**	**171**	Pn	**Pn**	**06 36 02.7**	**+0.4**
	baz=353,slow=13,SNR=4.8						
EKA	**Eskdalemuir Ar**	**15.92**	**171**	P	**P**	**06 36 04.5**	**-1.3**
EKA	**Eskdalemuir Ar**	**15.92**	**171**	P	**P**	**06 36 04.5**	**-1.3**
FIA0	**FINESS Array S**	**16.35**	**109**	P	**P**	**06 36 10.1**	**-0.5**
	baz=320,slow=12						
FIA0	**FINESS Array S**	**16.35**	**109**	P	**P**	**06 36 10.1**	**-0.5**
	baz=320,slow=12						
FINES	**FINESS Array B**	**16.35**	**109**	Pn	**P**	**06 36 09.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=323,slow=12,SNR=9.5						
TULEG	**Thule**	**17.12**	**316**	*i* P	**Pn**	**06 36 13.8**	**-3.6**
TULEG	**Thule**	**17.12**	**316**	*i* P	**Pn**	**06 36 13.8**	**-3.6**
CLL	**Collm**	**21.93**	**144**	*e*P	**P**	**06 37 14.0**	**+2.5**
CLL				*e*S	**S**	**06 41 15.0**	**+2.5**
RES	**Resolute Bay**	**23.75**	**319**	P	**P**	**06 37 36.5**	**+6.4**
	comp=Z,6.3nm,0.7s,baz=48,slow=10,SNR=24						
RES				S	**S**	**06 41 47.1**	**+3.2**
	comp=Z,2.4nm,0.9s,baz=260,slow=9.1,SNR=4.1						
GERES	**GERESS Array B**	**24.42**	**145**	P	**P**	**06 37 39.1**	**+2.4**
	comp=Z,0.3nm,0.2s,baz=327,slow=9.5,SNR=5.3						
VRAC	**Vranov**	**24.55**	**140**	LR	LR	06 45 51.4	
	comp=Z,42nm,21.8s,baz=340,slow=33						
DAVOX	**Davos/Dischmat**	**25.76**	**152**	LR	LR	06 48 42.8	
	comp=Z,54nm,18.3s,baz=301,slow=38						
AKASG	**Malin Array Be**	**26.40**	**121**	P	**P**	**06 37 54.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=332,slow=9.0,SNR=2.0						
AKASG				LR	LR	06 47 41.2	
	comp=Z,53nm,19.7s,baz=55,slow=35						
NRIK	**Noril'sk**	**29.13**	**47**	LR	LR	06 51 46.1	
	comp=Z,84nm,19.0s,baz=145,slow=40						
BELG	**Belogornoye**	**30.55**	**98**	LR	LR	06 50 24.2	
	comp=Z,36nm,19.2s,baz=303,slow=36						
ESDC	**Sonseca Array**	**31.53**	**175**	LR	LR	06 50 26.2	
	comp=Z,67nm,21.0s,baz=5.0,slow=35						
YKA	**Yellowknife Ar**	**37.56**	**313**	P	**P**	**06 39 33.8**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=34,slow=9.0,SNR=3.4						
YKA				LR	LR	06 54 36.6	
	comp=Z,68nm,20.9s,baz=0.0,slow=36						
BRTR	**Keskin Array B**	**37.71**	**124**	LR	LR	06 56 35.2	
	comp=Z,53nm,19.1s,baz=2.5,slow=39						
ILAR	**Eielson Array**	**41.58**	**335**	P	**P**	**06 40 06.3**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=10.0,slow=7.5,SNR=2.8						
NEW	**Newport**	**50.93**	**306**	LR	LR	07 01 42.9	
	comp=Z,61nm,19.9s,baz=20,slow=35						
TORD	**Torodi Ar. Bea**	**58.17**	**169**	P	**P**	**06 42 12.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=348,slow=7.7,SNR=4.9						
TORD				LR	LR	07 07 38.8	
	comp=Z,53nm,18.5s,baz=5.0,slow=36						
TXAR	**Lajitas Array**	**64.51**	**286**	P	**P**	**06 42 56.4**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=42,slow=7.3,SNR=1.6						

IDC 30 06:36:36.2±3.1, 54°29N×87°35E, h0km, mb1 3.0/2, mb1mx2.9/52, mbtmp3.0/2, ML2.8/2, 3C-2D, Error ellipse: s-maj=26.2km s-min=17.2km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**258**	*i*		06 44 53.2	
	baz=77,slow=295,SNR=1.9						
ZAA0	**Zalesovo Array**	**1.53**	**258**	↑P	**Pn**	**06 37 03.1**	**-1.7**
	0.6nm,0.6s						
ZAA0				↑S	Sn	06 37 26.7	+1.3
	2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**1.53**	**258**	Pg	**Pn**	**06 37 02.5**	**-2.3**
	1.0nm,0.3s,baz=75,slow=14,SNR=17						
ZALV				Lg	Lg	06 37 26.0	
	2.0nm,0.3s,baz=78,slow=29,SNR=8.1						
ZALV				Rg	Rg	06 37 38.9	
	4.0nm,0.4s,baz=73,slow=27,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.52**	**239**	Pn	**Pn**	**06 38 13.3**	**-0.1**
	0.1nm,0.3s,baz=56,slow=14,SNR=4.9						
KURBB				Lg	Lg	06 40 04.0	
	0.1nm,0.3s,baz=54,slow=30,SNR=1.8						
MK31	**Makanchi Array**	**8.17**	**205**	⇑Pn	**Pn**	**06 38 34.7**	**-1.3**
	0.3nm,0.5s,baz=24,slow=12,SNR=6.4						
MK31				⇓Sn	Sn	06 40 07.3	-1.7
	1.5nm,1.1s,baz=18,slow=26						
MK31				⇓Lg	Lg	06 40 57.3	
	0.5nm,0.6s,baz=322,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**8.17**	**205**	Pn	**Pn**	**06 38 38.0**	**+2.0**
	0.3nm,0.3s,baz=28,slow=14,SNR=7.4						
MKAR				Sn	Sn	06 40 07.9	-1.1
	0.1nm,0.3s,baz=22,slow=27,SNR=5.6						

*IDC **30** 06:44:07.4±1.9, 33°.23N×88°.03W, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.4/40, mbtmp3.3/5, ML3.3/4, Error ellipse: s-maj=41.0km s-min=10.1km az=158.0*
*NEIC **30** 06:44:07.3±1.0, 32°.96N±0°.04×88°.03W±0°.03, h5km±2km, mb_Lg3.8/189, Mwr3.5/60, Error ellipse: s-maj=6.1km s-min=4.4km az=197.0*
*SLM **30** 06:44:07.2±1.3, 32°.99N±0°.04×88°.05W±0°.03, h0km±6km, Error ellipse: s-maj=5.2km s-min=3.6km az=187.0*
*NEIC **30** 06:44:07.2, 32°.95N×88°.04W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.16; $M_{\theta\theta}$1.81; $M_{\phi\phi}$-1.97; $M_{r\theta}$0.49; $M_{r\phi}$0.94; $M_{\theta\phi}$0.08; Fault plane solution: $M_0$2.17000×10^{14} NP1:φs30.92000°, δ79.49000°, λ170.72000°. NP2:φs122.63000°, δ80.88000°, λ10.64000°. Principal axes: T 2.1550, Plg14.0000°, Azm347.0000°; N 0.0356, Plg76.0000°, Azm163.0000°; P -2.1906, Plg1.0000°, Azm257.0000°;*
*ANF **30** 06:44:07.1±0.1, 32°.96N×88°.03W, h5km, ML4.3/30 Error ellipse: s-maj=1.6km s-min=1.3km az=173.0*
ISC 30 06:44:07.4±1.0, 32°99N±0°.03×88°05W±0°.03, h14km±7km, n187, σ19s31/153, Mississippi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Z47A	**Carrollton**	**0.21**	**356**	Pg	**Pg**	**06 44 11.8**	**-0.4**
Z47A				Sg	**Sg**	**06 44 16.2**	**+0.8**
Z47A	**Carrollton**	**0.21**	**356**	P	**Pg**	**06 44 11.5**	**-0.7**
	baz=175						
Z47A	**Carrollton**	**0.21**	**356**	P		06 44 11.5	
	baz=175						
146A	**Union**	**0.92**	**248**		**Pg**	**06 44 24.3**	**-0.9**
146A				Sg	**Sg**	**06 44 37.3**	**+0.2**
146A	**Union**	**0.92**	**248**	P	**Pg**	**06 44 24.2**	**-0.9**
	baz=68,SNR=162						
146A				S	**Sg**	**06 44 37.6**	**+0.5**
	baz=68						
146A	**Union**	**0.92**	**248**	P		06 44 24.2	
	baz=68,SNR=162						
146A				S		06 44 37.6	
	baz=68						
Y45A	**Yeager Farm, C**	**1.53**	**306**	Pn	**Pn**	**06 44 35.5**	**+1.3**
Y45A					**Sb**	**06 44 56.4**	**+1.8**
Y45A				lAmb_Lg		06 45 00.0	
	comp=Z,774nm,0.8s						
Y45A	**Yeager Farm, C**	**1.53**	**306**	P	**Pn**	**06 44 35.4**	**+1.3**
	baz=125,SNR=44						
Y45A				S	**Sg**	**06 44 56.8**	**+0.2**
	baz=125						
Y45A	**Yeager Farm, C**	**1.53**	**306**	P		06 44 35

baz=156,SNR=78
W45A Hickory Valley 2.36 337 P 06 44 47.5
baz=156,SNR=78
EBZ Ebenezer Churc 2.41 334 Pn **06 44 48.5 +2.2**
Z51A Franklin 2.44 81 Pn **06 44 48.1 +1.4**
Z51A Franklin 2.44 81 P Pn **06 44 48.0 +1.4**
baz=263,SNR=90
Z51A S Sn **06 45 18.6 +2.4**
baz=263
Z51A Franklin 2.44 81 P
baz=263,SNR=90 06 44 48.0
Z51A S 06 45 18.6
baz=263
FPAL Fort Paine 2.56 52 Pn **06 44 49.4 +1.0**
MET Memphis--Engin 2.64 324 IAmb_Lg 06 45 34.9
comp=Z,305nm,0.8s
152A Waverly Hall 2.82 96 Pn **06 44 54.5 +2.5**
152A IAmb_Lg 06 45 42.2
comp=Z,194nm,0.7s
143A Socs Landing, 2.84 265 Pn **06 44 53.3 +1.1**
143A IAmb_Lg 06 45 43.0
comp=Z,205nm,0.8s
143A Socs Landing, 2.84 265 P Pn **06 44 53.0 +0.8**
baz=84,SNR=15
143A Socs Landing, 2.84 265 P 06 44 53.0
baz=84,SNR=15
SWET Sewanee 2.84 38 Pn Pn **06 44 53.3 +1.1**
SWET IAmb_Lg 06 45 37.3
comp=Z,356nm,0.8s
SFTN Shelby Forest 2.88 326 Pn **06 44 54.8 +2.1**
V48A Smith Brothers 2.93 20 Pn **06 44 54.3 +0.8**
V48A Smith Brothers 2.93 20 P Pn **06 44 54.8 +1.3**
baz=200
V48A Smith Brothers 2.93 20 P 06 44 54.8
baz=200
CMGA Chestnut Mount 3.00 56 Pn **06 44 55.6 +1.1**
352A Blakely 3.04 119 Pn **06 44 53.9 -1.1**
451A Vernon 3.07 140 Pn Pn **06 44 55.0 -0.4**
451A IAmb_Lg 06 45 48.6
comp=Z,206nm,0.8s
451A Vernon 3.07 140 P Pn **06 44 55.5 +0.1**
baz=321,SNR=15
451A Vernon 3.07 140 P 06 44 55.5
baz=321,SNR=15
X51A Calhoun 3.09 58 Pn **06 44 56.8 +1.1**
X51A IAmb_Lg 06 45 53.9
comp=Z,311nm,0.8s
X51A Calhoun 3.09 58 P Pn **06 44 56.9 +1.1**
baz=240,SNR=21
X51A Calhoun 3.09 58 P
baz=240,SNR=21 06 44 56.9
X51A P 06 44 56.9
baz=240,SNR=21
HALT Halls 3.11 340 Pn **06 44 57.7 +1.8**
HALT IAmb_Lg 06 45 56.0
comp=Z,286nm,0.9s
WVT Waverly 3.14 3 Pn Pn **06 44 57.8 +1.4**
WVT IAmb_Lg 06 45 52.1
comp=Z,200nm,0.9s
WVT Waverly 3.14 3 P Pn **06 44 57.8 +1.4**
baz=183,SNR=19
WVT Waverly 3.14 3 P
baz=183,SNR=19 06 44 57.8
W50A Signal Mountai 3.17 45 Pn **06 44 58.3 +1.5**
W50A IAmb_Lg 06 45 55.9
comp=Z,396nm,0.8s
W50A Signal Mountai 3.17 45 P Pn **06 44 57.6 +0.8**
baz=226,SNR=36
W50A Signal Mountai 3.17 45 P
baz=226,SNR=36 06 44 57.6
LPAR Lepanto 3.21 325 Pn **06 44 59.1 +1.8**
LPAR IAmb_Lg 06 45 55.4
comp=Z,316nm,0.8s
CCAR Cane Creek 3.25 288 Pn Pn **06 45 00.2 +2.3**
CCAR IAmb_Lg 06 45 58.4
comp=Z,182nm,0.8s
HBAR Harrisburg 3.35 321 IAmb_Lg 06 46 02.8
comp=Z,327nm,0.9s
GMG Grassy Mountai 3.38 55 Pn **06 45 00.2 +0.5**
GNAR Gosnell 3.39 332 Pn **06 45 01.6 +1.8**
GNAR IAmb_Lg 06 46 01.6
comp=Z,174nm,0.9s
CLTN Cedars of Leba 3.41 24 Pn **06 45 01.5 +1.5**
UTMT University of 3.42 349 Pn Pn **06 45 01.7 +1.5**
GLAT Glass 3.43 343 Pn Pn **06 45 01.6 +1.2**
Y52A Lilburn 3.45 74 Pn **06 45 01.5 +0.8**
Y52A IAmb_Lg 06 46 00.0
comp=Z,168nm,0.7s
Y52A Lilburn 3.45 74 P Pn **06 45 01.4 +0.8**
baz=256,SNR=20
Y52A Lilburn 3.45 74 P
baz=256,SNR=20 06 45 01.4
Y52A P 06 45 01.4
baz=256,SNR=20
PEBM Pemiscott Bayo 3.46 335 Pn Pn **06 45 02.0 +1.3**
PEBM IAmb_Lg 06 46 06.4
comp=Z,229nm,0.9s
DYTN Dayton 3.50 44 Pn **06 45 02.2 +0.8**
HICK Hickman 3.68 345 Pn **06 45 04.9 +1.1**
PENMO Penman 3.69 340 Pn Pn **06 45 05.2 +1.2**
PENMO IAmb_Lg 06 46 10.7
comp=Z,204nm,0.8s
ETT Etowah 3.79 51 Pn **06 45 06.4 +1.0**
CPCT Cooper Cave 3.82 49 Pn **06 45 06.8 +1.0**
CPCT IAmb_Lg 06 46 16.0
comp=Z,212nm,0.9s
GOGA Godfrey 3.87 82 Pn Pn **06 45 07.1 +0.7**
GOGA IAmb_Lg 06 46 14.3
comp=Z,140nm,0.7s
GOGA Godfrey 3.87 82 P Pn **06 45 07.0 +0.6**
baz=265,SNR=14
GOGA Godfrey 3.87 82 P
baz=265,SNR=14 06 45 07.0
HENM Henderson Moun 3.90 343 Pn Pn **06 45 08.3 +1.5**
HENM IAmb_Lg 06 46 13.8
comp=Z,304nm,0.9s
PARMO Parma 3.93 340 Pn **06 45 08.6 +1.4**
PARMO IAmb_Lg 06 46 12.7
comp=Z,255nm,0.9s
U49A Red Boiling Sp 3.98 27 Pn **06 45 09.5 +1.5**
U49A IAmb_Lg 06 46 13.8
comp=Z,221nm,0.9s
U49A Red Boiling Sp 3.98 27 P Pn **06 45 09.3 +1.3**
baz=208,SNR=15
U49A Red Boiling Sp 3.98 27 P
baz=208,SNR=15 06 45 09.3
BCRT Bacon Ridge 3.99 45 Pn **06 45 09.1 +1.0**
LCAR Lake Charles 4.00 321 Pn **06 45 09.5 +1.3**
W52A Murphy 4.02 57 Pn Pn **06 45 09.9 +1.4**
W52A IAmb_Lg 06 46 14.2
comp=Z,207nm,0.9s
W52A Murphy 4.02 57 P Pn **06 45 09.7 +1.2**
baz=239,SNR=19
W52A Murphy 4.02 57 P
baz=239,SNR=19 06 45 09.7
T45B Paducah 4.05 353 P Pn **06 45 10.0 +1.1**
baz=173,SNR=17
T45B Paducah 4.05 353 P
baz=173,SNR=17 06 45 10.0
T45A Paducah 4.05 353 Pn **06 45 10.2 +1.3**
T47A Sharon Grove 4.07 11 Pn **06 45 10.4 +1.2**
T47A IAmb_Lg 06 46 15.0
comp=Z,169nm,0.7s
W41B Gary Mavity, V 4.11 303 P Pn **06 45 11.1 +1.4**
baz=121,SNR=21
W41B Gary Mavity, V 4.11 303 P
baz=121,SNR=21 06 45 11.1
V51A Loudon 4.15 46 Pn **06 45 11.6 +1.3**
V51A IAmb_Lg 06 46 28.3
comp=Z,242nm,0.7s
V51A Loudon 4.15 46 P Pn **06 45 11.0 +0.7**
baz=228,SNR=20
V51A Loudon 4.15 46 P
baz=228,SNR=20 06 45 11.0
553A Crawfordville 4.16 131 IAmb_Lg 06 46 26.7
comp=Z,155nm,0.8s
GRBT Greenback 4.17 49 Pn **06 45 13.7 +3.2**
154A Montrose 4.18 94 Pn **06 45 12.5 +1.8**
WHAR Wooly Hollow 4.20 304 Pn Pn **06 45 12.4 +1.5**
WHAR IAmb_Lg 06 46 29.6
comp=Z,139nm,0.9s
X40A Basin Creek Fa 4.26 292 Pn **06 45 13.3 +1.5**
X40A IAmb_Lg 06 46 25.6
comp=Z,130nm,0.9s
X40A Basin Creek Fa 4.26 292 P Pn **06 45 13.6 +1.9**
baz=110,SNR=13
X40A Basin Creek Fa 4.26 292 P 06 45 13.6
baz=110,SNR=13
X40A P 06 45 13.6
baz=110,SNR=13
PBMO Poplar Bluff 4.26 333 Pn **06 45 13.1 +1.4**
WLAR White Oak Lake 4.29 281 Pn Pn **06 45 13.8 +1.6**
WLAR IAmb_Lg 06 46 33.4
comp=Z,165nm,0.9s
WSNC Winespring Bal 4.30 58 Pn **06 45 15.4 +2.9**
TKL Tuckaleechee C 4.43 52 Pn Pn **06 45 14.2 +0.1**
comp=Z,0.9nm,0.3s,baz=241,slow=14,SNR=22
TKL Pg Pb **06 45 24.3 -0.7**
comp=Z,3.9nm,0.3s,baz=231,slow=18,SNR=16
TKL Sn Sn **06 46 04.0 -1.5**
comp=Z,9.3nm,0.3s,baz=321,slow=20,SNR=11
TKL Lg Lg 06 46 20.6
comp=Z,34nm,0.3s,baz=131,slow=16,SNR=7.2
TKL Tuckaleechee C 4.43 52 Pn **06 45 15.0 +0.8**
TKL Tuckaleechee C 4.43 52 IAmb_Lg 06 46 29.1
comp=Z,176nm,0.7s
TKL Tuckaleechee C 4.43 52 P Pn **06 45 14.7 +0.6**
baz=234,SNR=37
TKL Tuckaleechee C 4.43 52 P 06 45 14.7
baz=234,SNR=37
FCAR Ozark Folk Cen 4.44 312 Pn **06 45 15.4 +1.1**
CGM3 Cape Girardeau 4.50 343 Pn **06 45 16.1 +1.0**
V52A Sevierville 4.66 51 Pn **06 45 17.9 +0.6**
V52A IAmb_Lg 06 46 42.3
comp=Z,199nm,0.7s
V52A Sevierville 4.66 51 P Pn **06 45 17.8 +0.6**
baz=233,SNR=34
V52A Sevierville 4.66 51 P 06 45 17.8
baz=233,SNR=34
BG3 Lake Jocassee 4.70 63 Pn **06 45 20.0 +2.1**
T42A Van Buren 4.75 329 Pn **06 45 19.9 +1.5**
T42A Van Buren 4.75 329 P Pn **06 45 19.7 +1.3**
baz=148,SNR=15
T42A Van Buren 4.75 329 P 06 45 19.7
baz=148,SNR=15
S44A Carbondale 4.80 349 Pn **06 45 20.3 +1.1**
S44A IAmb_Lg 06 46 42.1
comp=Z,113nm,0.8s
S44A Carbondale 4.80 349 P Pn **06 45 19.9 +0.7**
baz=168,SNR=16
S44A Carbondale 4.80 349 P 06 45 19.9
baz=168,SNR=16
T50A Nancy 4.81 32 Pn **06 45 19.6 +0.2**
T50A IAmb_Lg 06 46 39.6
comp=Z,222nm,0.9s
SIUC Southern Illin 4.81 349 IAmb_Lg 06 46 51.4
comp=Z,179nm,0.8s
255A Hazlehurst 4.83 101 Pn **06 45 20.6 +1.0**
MIAR Mount Ida 4.86 290 Pn Pn **06 45 21.6 +1.6**
MIAR IAmb_Lg 06 46 51.9
comp=Z,183nm,0.8s
MIAR Mount Ida 4.86 290 P Pn **06 45 21.0 +1.0**
baz=107,SNR=12
MIAR Mount Ida 4.86 290 P 06 45 21.0
baz=107,SNR=12
USIN University of 4.98 4 IAmb_Lg 06 46 56.0
comp=Z,215nm,0.8s
HODGE Hodges 4.99 74 Pn **06 45 21.5 -0.3**
ASTN Avondale Sprin 5.03 47 Pn **06 45 22.9 +0.5**
V53A Saluda 5.09 57 Pn **06 45 24.0 +0.7**
V53A IAmb_Lg 06 46 56.2
comp=Z,150nm,0.7s
V53A Saluda 5.09 57 P Pn **06 45 23.9 +0.7**
baz=240,SNR=13
V53A Saluda 5.09 57 P
baz=240,SNR=13 06 45 23.9
V53A P 06 45 23.9
baz=240,SNR=13
TZTN Tazewell 5.13 45 Pn **06 45 24.4 +0.6**
TZTN Tazewell 5.13 45 P Pn **06 45 24.5 +0.7**
baz=227,SNR=49
TZTN Tazewell 5.13 45 P 06 45 24.5
baz=227,SNR=49
U40A Yellville 5.19 312 Pn **06 45 25.6 +1.0**
W39A Magazine 5.24 296 Pn **06 45 26.3 +1.0**
W39A IAmb_Lg 06 47 08.8
comp=Z,120nm,1.0s
MGMO Mountain Grove 5.41 321 Pn Pn **06 45 29.3 +1.7**
MGMO IAmb_Lg 06 47 06.9
comp=Z,112nm,0.9s
HAW Hawthorne Fire 5.41 84 P 06 45 27.5
baz=268,SNR=13
WCI Wyandotte Cave 5.42 15 Pn **06 45 28.5 +0.7**
PAULI Pauline 5.50 69 Pn Pn **06 45 29.4 +0.6**
CCM Cathedral Cave 5.69 334 Pn **06 45 31.9 +0.5**
CCM Cathedral Cave 5.69 334 P Pn **06 45 32.8 +1.4**
baz=152,SNR=6.7
CCM Cathedral Cave 5.69 334 P
baz=152,SNR=6.7 06 45 32.8
R49A Shelbyville 5.79 23 IAmb_Lg 06 47 11.9
comp=Z,203nm,0.8s
JSC Jenkinsville 5.81 75 Pn **06 45 32.2 -0.9**
Z38A Mt. Pleasant 5.83 275 Pn Pn **06 45 35.0 +1.7**
HHAR Hobbs 5.86 306 Pn Pn **06 45 34.9 +1.1**
HHAR IAmb_Lg 06 47 25.8
comp=Z,103nm,1.0s
SLM Saint Louis 5.91 343 Pn **06 45 35.5 +1.0**
SLM IAmb_Lg 06 47 13.8
comp=Z,112nm,1.0s
Q44A Meyer Farm, Va 5.96 353 Pn Pn **06 45 36.0 +0.9**
Q44A IAmb_Lg 06 47 34.1
comp=Z,88nm,0.8s
KMSC Kings Mountain 5.98 67 IAmb_Lg 06 47 20.5
comp=Z,91nm,0.8s
257A Skidaway Islan 6.02 98 IAmb_Lg 06 47 31.7
comp=Z,138nm,0.8s
U54A Nelsons Funny 6.22 54 Pn **06 45 39.2 +0.4**
U54A Nelsons Funny 6.22 54 P Pn **06 45 39.4 +0.6**
baz=237,SNR=11
U54A Nelsons Funny 6.22 54 P
baz=237,SNR=11 06 45 39.4
U54A P 06 45 39.4
baz=237,SNR=11
U38A Gravette 6.25 305 Pn **06 45 41.3 +2.1**
U38A IAmb_Lg 06 47 29.2
comp=Z,88nm,1.0s
BLO Bloomington 6.30 11 IAmb_Lg 06 47 36.5
comp=Z,128nm,0.8s
X37A Clayton 6.30 287 Pn **06 45 41.2 +1.3**
R40A Madison Statio 6.31 328 Pn **06 45 40.9 +1.0**
V55A Taylorsville 6.33 61 IAmb_Lg 06 47 39.2
comp=Z,100nm,0.9s
BIRD Birdtown, Kers 6.53 73 IAmb_Lg 06 47 37.6
comp=Z,118nm,1.0s
P43A Skaggs, Pawnee 6.75 350 IAmb_Lg 06 47 44.3
comp=Z,113nm,1.1s
P48A Milroy 6.80 17 Pn **06 45 46.1 -0.6**
P48A IAmb_Lg 06 47 47.3
comp=Z,108nm,1.0s
W57A Gilead 7.03 70 IAmb_Lg 06 47 51.3
comp=Z,79nm,0.9s
W57A Gilead 7.03 70 P Pn **06 45 49.3 -0.5**
baz=254,SNR=6.1
W57A Gilead 7.03 70 P
baz=254,SNR=6.1 06 45 49.3
W57A P 06 45 49.3
baz=254,SNR=6.1
P49A Miami Univ. Ec 7.07 21 IAmb_Lg 06 48 01.1
comp=Z,140nm,0.8s
U56A King 7.15 60 Pn **06 45 50.7 -0.8**
U56A IAmb_Lg 06 47 52.3
comp=Z,87nm,0.8s
O44A Mansfield 7.16 357 IAmb_Lg 06 48 00.4
comp=Z,114nm,0.7s
P40A Paris 7.29 335 IAmb_Lg 06 48 08.3
comp=Z,80nm,0.9s
S54A Dingess, Beckl 7.30 47 IAmb_Lg 06 48 09.1
comp=Z,145nm,0.8s
SFIN Lafayette 7.42 6 Pn **06 45 55.3 +0.2**
X58A Rowland 7.42 75 IAmb_Lg 06 48 20.7
comp=Z,121nm,1.1s
HDIL Hopedale 7.62 353 IAmb_Lg 06 48 29.1
comp=Z,116nm,1.0s
P51A Williamsport 7.63 30 IAmb_Lg 06 48 06.8
comp=Z,138nm,0.8s
QUOK Quay 7.81 296 IAmb_Lg 06 48 28.9
comp=Z,70nm,1.2s
V58A Windy Hill, Pi 7.90 67 IAmb_Lg 06 48 16.0
comp=Z,75nm,0.9s
N41A Harden Midland 8.03 345 IAmb_Lg 06 48 26.8
comp=Z,58nm,0.8s
T57A Hurt 8.25 59 IAmb_Lg 06 48 32.6
comp=Z,69nm,0.9s
ACSO Alum Creek Sta 8.30 28 IAmb_Lg 06 48 33.1
comp=Z,127nm,0.8s
R55A Marlinton 8.34 48 Pn **06 46 07.9 0.0**
R55A IAmb_Lg 06 48 34.7
comp=Z,72nm,0.7s
R55A Marlinton 8.34 48 P Pn **06 46 07.9 0.0**
baz=233,SNR=20
R55A Marlinton 8.34 48 P
baz=233,SNR=20 06 46 07.9
R55A P 06 46 07.9
baz=233,SNR=20
Q54A Coxs Mills 8.37 42 IAmb_Lg 06 48 37.2
comp=Z,101nm,0.8s
M44A Midewin, Midew 8.39 0 IAmb_Lg 06 48 35.5
comp=Z,101nm,1.1s
BLOK Blackwell 8.42 299 IAmb_Lg 06 48 47.7
comp=Z,59nm,1.1s
N49A Columbus Grove 8.50 20 IAmb_Lg 06 48 37.1
comp=Z,116nm,0.9s
O52A Adamsville 8.70 33 IAmb_Lg 06 48 48.3
comp=Z,118nm,1.0s
CNNC Cliffs of the 8.72 72 IAmb_Lg 06 48 47.5
comp=Z,92nm,0.9s
HQIL Hanson Quary C 8.80 1 IAmb_Lg 06 48 45.8
comp=Z,94nm,1.2s
S57A Dark Hollow, R 8.82 55 IAmb_Lg 06 48 53.3
comp=Z,110nm,1.0s
N38A Joes South For 8.83 333 IAmb_Lg 06 48 51.2
comp=Z,94nm,0.8s
KAN09 Caldwell North 8.87 301 IAmb_Lg 06 49 06.6
comp=Z,49nm,0.8s
CROK Carrier 8.89 296 IAmb_Lg 06 49 15.9
comp=Z,96nm,1.1s
KAN17 Caldwell West 8.94 300 IAmb_Lg 06 48 54.9
comp=Z,59nm,0.9s
L42A Oliver, Polo 9.09 352 IAmb_Lg 06 48 56.2
comp=Z,67nm,0.9s
WMOK Wichita Mounta 9.09 284 Pn **06 46 18.3 +0.1**
KAN08 Anthony NE Sta 9.16 300 IAmb_Lg 06 49 14.7
comp=Z,79nm,1.1s
OK032 Salt Plains WL 9.17 297 IAmb_Lg 06 49 19.6
comp=Z,56nm,1.2s
L44A Lake County Fo 9.18 1 IAmb_Lg 06 49 01.3
comp=Z,60nm,1.2s
KAN10 Anthony SW Sta 9.21 299 IAmb_Lg 06 49 06.0
comp=Z,60nm,1.2s
KAN12 Harper NE Stat 9.21 301 IAmb_Lg 06 49 02.9
comp=Z,76nm,0.9s
KSU1 Kansas State U 9.23 314 IAmb_Lg 06 49 08.5
comp=Z,108nm,1.0s
M50A Fremont 9.30 24 IAmb_Lg 06 49 11.1
comp=Z,100nm,1.1s
L48A N Adams 9.39 17 IAmb_Lg 06 49 18.9
comp=Z,92nm,0.7s
K43A Burlington 9.71 359 IAmb_Lg 06 49 08.9
comp=Z,86nm,1.2s
SCIA State Center 9.80 337 IAmb_Lg 06 49 35.8
comp=Z,48nm,0.7s
N35A Tabor 9.93 324 Pn **06 46 30.4 +0.8**
SADO Sadowa 13.65 28 Sn Sn 06 49 39.0 -13
comp=Z,0.4nm,0.3s,baz=241,slow=2.4,SNR=4.1
SADO Lg Lg 06 51 02.5
comp=Z,0.6nm,0.3s,baz=125,slow=20,SNR=4.3
TXAR Lajitas Array 13.86 259 Pn Pn **06 47 22.2 -1.2**
comp=Z,0.0nm,0.3s,baz=78,slow=17,SNR=2.3
TXAR Sn Sn **06 49 53.4 -3.8**
comp=Z,0.1nm,0.3s,baz=69,slow=20,SNR=1.4
TXAR Lg Lg 06 51 30.0
comp=Z,0.0nm,0.3s,baz=65,slow=29,SNR=2.7
ANMO Albuquerque 15.40 282 Lg Lg 06 52 17.8
comp=Z,0.1nm,0.3s,baz=350,slow=23,SNR=2.0
ULM Lac du Bonnet 18.20 344 P Pn **06 48 18.6 -0.8**
comp=Z,0.4nm,0.3s,baz=164,slow=12,SNR=4.0
ULM Lg Lg 06 53 25.1
comp=Z,0.2nm,0.3s,baz=217,slow=18,SNR=1.6
PDAR Pinedale Array 19.54 306 P P **06 48 36.0 +1.3**
comp=Z,0.1nm,0.3s,baz=105,slow=10,SNR=2.4
PDAR Lg Lg 06 54 19.2
comp=Z,0.1nm,0.3s,baz=117,slow=26,SNR=2.2
ILAR Eielson Array 47.47 330 P P **06 52 40.3 -1.0**
comp=Z,0.3nm,0.7s,baz=111,slow=7.5,SNR=3.6

IDC 30 06:52:53.7±28.0,21°.53N×142°.76E,h550km±358km, mb2.5/5,mb1 2.8/5,mb1mx2.5/29,mbtmp3.4/5,Error ellipse: s-maj=132.0km s-min=42.5km az=127.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.03**	**192**	P	P	06 59 56.6	-0.9
	0.2nm,0.6s,baz=14,slow=8.0,SNR=4.5						
ASAR	**Alice Springs**	**45.75**	**191**	P	P	07 00 27.1	+0.8
	0.2nm,0.6s,baz=19,slow=6.4,SNR=1.7						
ILAR	**Eielson Array**	**62.36**	**27**	P	P	07 02 22.0	-0.7
	0.3nm,0.6s,baz=262,slow=4.5,SNR=2.9						
YKA	**Yellowknife Ar**	**76.78**	**28**	P	P	07 03 49.5	+0.9
	0.2nm,0.5s,baz=299,slow=3.9,SNR=1.5						
FINES	**FINESS Array B**	**83.16**	**334**	P	P	07 04 21.6	-0.4
	0.5nm,0.5s,baz=72,slow=4.5,SNR=1.6						

*ISK **30** 06:57:22.5,35°.82N×35°.24E,h18km,ML3.5/33*
*NIC **30** 06:57:24.9±0.0,35°.73N×35°.10E,h4km±2km,Ml3.5/5*
*GII **30** 06:57:25.6±0.0,35°.57N×35°.41E,h2km,MD3.2/3,Mm2.9/2*
ISC 30 06:57:23.1±1.3,35°.85N±0°.03×35°.25E±0°.03,h17km±11km, n56,σ0°.77/72,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.72**	**75**	PG	**Pb**	**06 57 37.3**	**0.0**
YAYL				SG	**Sb**	**06 57 47.8**	**+0.8**
KRTS	**Karatas**	**0.73**	**8**	PG	**Pn**	**06 57 38.1**	**-0.5**
KRTS				SG	**Sn**	**06 57 48.8**	**-0.6**
TAHT	**Tahtakopru-Hat**	**0.92**	**55**	PG	**Pn**	**06 57 41.2**	**-0.1**
TAHT				SG	**Sn**	**06 57 54.0**	**-0.2**
EREN	**Erenkoy**	**0.93**	**250**	PG	**Pb**	**06 57 40.9**	**+0.1**
EREN				SG	**Sg**	**06 57 53.8**	**+0.3**
KIZK	**Mersin**	**1.09**	**305**	PN	**Pb**	**06 57 43.3**	**-0.2**
KIZK				SN	**Sn**	**06 57 58.8**	**+0.5**
MERS	**Mersin**	**1.17**	**330**	PN	**Pb**	**06 57 44.6**	**-0.4**
SILI	**Silifke-Mersin**	**1.19**	**296**	PN	**Pn**	**06 57 44.8**	**-0.2**
CEYT	**Ceyhan**	**1.23**	**19**	PN	**Pg**	**06 57 46.3**	**-0.5**
KARG	**Kargicak-Mersi**	**1.29**	**286**	PN	**Pn**	**06 57 46.4**	**0.0**
PARAL	**Paralimni**	**1.30**	**229**	P	**Pn**	**06 57 46.3**	**-0.2**
PARAL				S	**Sb**	**06 58 04.0**	**+0.4**
PARAL				AML	AML	06 58 13.9	
	3.8nm,0.8s						
PARAL				AML	AML	06 58 13.9	
	3.8nm,0.8s						
PARAL				AML	AML	06 58 14.2	
	3.3nm,0.6s						
PARAL				AML	AML	06 58 14.2	
	3.3nm,0.6s						
TISA	**Tisan-Mersin**	**1.31**	**284**	PN	**Pn**	**06 57 46.2**	**-0.4**
IKL	**Isikli**	**1.32**	**287**	PN	**Pn**	**06 57 46.4**	**-0.4**
YESI	**Yesilovacik-Me**	**1.34**	**285**	PN	**Pn**	**06 57 47.4**	**+0.3**
KEBE	**Keben-Mersin**	**1.38**	**296**	PN	**Pn**	**06 57 46.8**	**-0.8**
AKK2	**Akkuyu-Mersin**	**1.41**	**282**	PN	**Pn**	**06 57 48.0**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.41**	**283**	PN	**Pn**	**06 57 47.0**	**-1.0**
AKK1	**Akkuyu-Mersin**	**1.41**	**282**	PN	**Pn**	**06 57 48.5**	**+0.5**
KARA	**Karaisali**	**1.42**	**354**	PN	**Pn**	**06 57 48.5**	**+0.4**
TEPK	**Tepekoy-MERSIN**	**1.43**	**286**	PN	**Pn**	**06 57 48.7**	**+0.4**
OREN	**Orenkoy-Mersin**	**1.49**	**284**	PN	**Pn**	**06 57 49.5**	**+0.4**
LFK	**Lefkose**	**1.51**	**248**	PN	**Pn**	**06 57 49.4**	**0.0**
YORU	**Yoruktepe-Mers**	**1.52**	**282**	PN	**Pn**	**06 57 49.8**	**+0.2**
MVOU	**Mavrovouni**	**1.56**	**238**	P	**Pn**	**06 57 50.6**	**+0.6**
MVOU				S	**Sb**	**06 58 11.2**	**+0.2**
MVOU				AML	AML	06 58 20.2	
	3.0nm,0.8s						
MVOU				AML	AML	06 58 20.2	
	3.0nm,0.8s						
MVOU				AML	AML	06 58 23.3	
	2.0nm,1.2s						
MVOU				AML	AML	06 58 23.3	
	2.0nm,1.2s						
TEVE	**Tevekalti-Mers**	**1.57**	**292**	PN	**Pn**	**06 57 50.3**	**0.0**
ATHAL	**Athalassa**	**1.67**	**245**	S	**Sb**	**06 58 13.7**	**-0.4**
KOZT	**Kozan**	**1.69**	**16**	PN	**Pb**	**06 57 53.3**	**-0.5**
BERE	**Bereket-Mersin**	**1.71**	**287**	PN	**Pn**	**06 57 52.1**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.75**	**280**	PN	**Pn**	**06 57 52.3**	**-0.4**
CSS	**Mathiatis**	**1.80**	**241**	PN	**Pn**	**06 57 53.6**	**+0.3**
CSS	**Mathiatis**	**1.80**	**241**	P	**Pn**	**06 57 53.7**	**+0.3**
CMRD	**Camardi-Nigde**	**1.82**	**354**	PN	**Pb**	**06 57 55.2**	**-0.9**
AKDN	**Akdeniz- Kıbrı**	**1.94**	**254**	PN	**Pn**	**06 57 55.5**	**+0.2**

ASGA	**Asgata**	**1.95**	**238**	P	**Pn**	**06 57 56.9**	**+1.5**
ASGA				AML	AML	06 58 34.2	
	1.4nm,1.2s						
ASGA				AML	AML	06 58 40.2	
	1.2nm,1.0s						
LEF	**Lefka**	**2.06**	**250**	PN	**Pn**	**06 57 57.9**	**+1.0**
GAZ	**Gaziantep**	**2.06**	**50**	PN	**Pn**	**06 57 57.8**	**+0.8**
GAZ	**Gaziantep**	**2.06**	**50**	P	**Pg**	**06 58 02.8**	**+0.1**
KMRS	**Kahramanmaras**	**2.12**	**38**	PN	**Pn**	**06 57 58.3**	**+0.5**
SZAC	**Souni**	**2.22**	**241**	P	**Pn**	**06 58 00.4**	**+1.2**
SZAC				AML	AML	06 58 41.6	
	1.6nm,0.7s						
SZAC				AML	AML	06 58 44.0	
	1.9nm,1.1s						
ALFC	**Alefka**	**2.27**	**253**	P	**Pn**	**06 58 00.1**	**+0.2**
ALFC				S	**Sn**	**06 58 29.0**	**+1.6**
ALFC				AML	AML	06 58 37.1	
	1.4nm,0.9s						
ALFC				AML	AML	06 58 37.1	
	1.4nm,0.9s						
ALFC				AML	AML	06 58 42.9	
	1.5nm,0.7s						
ALFC				AML	AML	06 58 42.9	
	1.5nm,0.7s						
YESY	**Yesilyurt**	**2.27**	**328**	PN	**Pn**	**06 58 00.8**	**+0.8**
NIG	**Nigde**	**2.31**	**347**	PN	**Pn**	**06 58 01.4**	**+0.7**
AKMS	**Akamas**	**2.52**	**252**	P	**Pn**	**06 58 04.4**	**+1.1**
NATI	**Neve Ativ**	**2.61**	**171**	Pn	**Pn**	**06 58 04.6**	**0.0**
NATI				Sn	**Sn**	**06 58 34.8**	**-1.1**
GULA	**Gulagac**	**2.62**	**342**	PN	**Pn**	**06 58 04.7**	**0.0**
GEM	**Giv'at Ha'Em**	**2.66**	**172**	Pn	**Pn**	**06 58 04.9**	**-0.3**
GEM				SN	**Sn**	**06 58 34.9**	**-2.1**
SULT	**Sultanhani-AKS**	**2.72**	**330**	PN	**Pn**	**06 58 07.1**	**+0.9**
MMA0B	**Mount Meron ar**	**2.83**	**177**	Pn	**Pn**	**06 58 07.6**	**-0.1**
MMA0B				Sn	**Sn**	**06 58 39.7**	**-1.7**
URFA	**Urfa**	**3.28**	**60**	PN	**Pn**	**06 58 14.8**	**+0.9**
MMLI	**Mount Malkishu**	**3.41**	**177**	Pn	**Pn**	**06 58 16.2**	**+0.7**
MMLI				Sn	**Sn**	**06 58 54.1**	**-1.5**
MMLI	**Mount Malkishu**	**3.41**	**177**	P	**Pn**	**06 58 17.1**	**+1.6**
MALT	**Malatya**	**3.54**	**45**	PN	**Pn**	**06 58 19.1**	**+1.7**
HMDT	**Nahal Hemdat**	**3.60**	**176**	Pn	**Pn**	**06 58 18.7**	**+0.6**
HMDT				Sn	**Sn**	**06 59 00.1**	**-0.1**
SLTI	**Sal'it**	**3.60**	**183**	Pn	**Pn**	**06 58 18.5**	**+0.3**
SLTI				Sn	**Sn**	**06 58 59.4**	**-1.0**
DSI	**Dead Sea**	**4.27**	**178**	Pn	**Pn**	**06 58 27.3**	**-0.1**
DSI				Sn	**Sn**	**06 59 16.4**	**-0.4**
YTIR	**Yattir**	**4.48**	**181**	Pn	**Pn**	**06 58 31.1**	**+0.8**
YTIR				Sn	**Sn**	**06 59 21.9**	**-0.1**
MBRI	**Mt Berech**	**6.05**	**183**	Pn	**Pn**	**06 58 53.4**	**+1.5**

*IDC **30** 07:04:57.7±0.9,27°.15N×141°.19E,h87^{km}±7^{km},mb3.8/18, mb1 3.9/22,mb1mx3.8/43,mbtmp4.1/22,MS3.1/3, Ms1 3.2/3,ms1mx2.8/48,Error ellipse: s-maj=15.6km s-min=10.9km az=95.0*

*NEIC **30** 07:05:00.1±1.5,27°.12N±0°.08×141°.29E±0°.08,h99^{km}±5^{km}, mb4.7/104,Error ellipse: s-maj=11.4km s-min=10.7km az=205.0*

*JMA **30** 07:05:00.3±0.1,27°.20N×141°.88E,h120^{km},M4.4*

JMA Felt II J1.

ISC 30 07:04:58.6±0.3,27°.13N±0°.05×141°.26E±0°.06,h94^{km},n180, σ1$ 46/180,mb4.6/74,1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.83**	**92**	P	**Pn**	**07 05 17.3**	**+0.6**
CBIJ				*e*S	**Sn**	**07 05 30.3**	**0.0**
JCJ	**Chichijima**	**0.83**	**92**	P	**Pn**	**07 05 17.4**	**+0.7**
	2μm,0.3s,baz=281,slow=22,SNR=784						
JCJ				S	**Sn**	**07 05 29.6**	**-0.7**
	6μm,0.3s,baz=287,slow=19,SNR=59						
JCJ				LR	LR	07 05 46.0	
	comp=Z,1μm,21.1s,baz=315,slow=54						
JHH2	**Haha-jima-NKT2**	**0.96**	**121**	P	**Pn**	**07 05 19.2**	**+1.1**
JHH2				*e*S	**Sn**	**07 05 33.2**	**+0.4**
BSO1	**Boso 1**	**7.50**	**358**	P	**Pn**	**07 06 46.1**	**+1.3**
BSO3	**Boso 3**	**7.67**	**355**	P	**Pn**	**07 06 47.8**	**+0.5**
BSO4	**Boso 4**	**7.87**	**354**	P	**Pn**	**07 06 52.8**	**+2.6**
JMN	**Monobe**	**9.15**	**318**	Pn	**Pn**	**07 07 08.9**	**+1.1**
JHO	**Hitachi**	**9.47**	**357**	P	**Pn**	**07 07 11.7**	**-0.3**
MJAR	**Matsushiro Arr**	**9.73**	**345**	P	**Pn**	**07 07 15.4**	**-0.3**
	0.1nm,0.3s,baz=157,slow=12,SNR=1.2						
MJAR				LR	LR	07 11 18.4	
	comp=Z,39nm,20.6s,baz=145,slow=39						
MAT	**Matsushiro**	**9.73**	**345**	P	**Pn**	**07 07 17.4**	**+1.7**
MAT				*e*S	**Sn**	**07 09 05.2**	**+2.1**
JFK	**Kawauchi**	**10.21**	**358**	*e*S	Sn	07 09 05.8	-8.9
JMM	**Marumori**	**10.71**	**358**		**Pn**	**07 07 30.0**	**+1.0**
JSD	**Sado**	**11.16**	**348**	Pn	**Pn**	**07 07 36.9**	**+1.8**
KSRS	**Korea Array**	**15.25**	**316**	P	**Pn**	**07 08 27.8**	**-0.9**
	0.2nm,0.3s,baz=134,slow=11,SNR=1.8						
KSRS				LR	LR	07 13 47.8	
	comp=Z,64nm,21.8s,baz=140,slow=35						
JEW	**Eniwo**	**15.67**	**1**		**Pn**	**07 08 34.2**	**+0.3**
ASAJ	**Asahikawa**	**16.98**	**3**	P	**P**	**07 08 50.9**	**+0.3**
	0.4nm,0.3s,baz=220,slow=15,SNR=5.3						
NACB	**Ninganchiao**	**17.97**	**265**		**Pn**	**07 09 03.0**	**+0.7**
YHNB	**Yeheng**	**18.06**	**267**	P	**Pn**	**07 09 04.0**	**+0.5**
YHNB				IAmb	IAmb	07 09 07.9	
	comp=Z,32nm,0.6s						
YULB	**Yu-li**	**18.43**	**263**		**Pn**	**07 09 07.9**	**-0.1**
YULB				IAmb	IAmb	07 09 12.9	
	comp=Z,46nm,0.8s						
USRK	**Ussuriysk Ar.**	**18.60**	**339**	P	**P**	**07 09 08.4**	**+0.1**
	baz=168,slow=12,SNR=5.5						
SSLB	**Suanglung**	**18.63**	**264**		**Pn**	**07 09 10.6**	**+0.3**
SSLB				IAmb	IAmb	07 09 15.3	
	comp=Z,49nm,0.6s						
TPUB	**Ta-pu**	**19.05**	**263**	P	**Pn**	**07 09 16.1**	**+0.8**
TPUB				IAmb	IAmb	07 09 21.1	
	comp=Z,28nm,0.7s						
NJ2	**Nanjing**	**20.08**	**289**	*e*P	Pn	07 09 26.3	-0.9
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CVP	**Callao Caves**	**20.25**	**246**	*e*P	Pn	07 09 30.5	+1.2
CAUP	**Cauayan**	**20.65**	**245**	*e*P	Pn	07 09 38.7	+4.8
ABRA	**Dolores**	**21.19**	**248**	*e*P	**P**	**07 09 38.9**	**+2.3**
SZP	**Santa**	**21.45**	**248**	P	**P**	**07 09 39.2**	**-0.2**
LQP	**Lukban**	**22.50**	**239**	*e*P	**P**	**07 09 53.4**	**+2.6**
KLR	**Kul'dur**	**23.26**	**344**	P	**P**	**07 09 57.8**	**0.0**
	comp=Z,0.9nm,0.4s,baz=188,slow=4.2,SNR=4.6						
KLR				ScP	**ScP**	**07 17 10.4**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=234,slow=8.7,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**24.62**	**102**	T	T	07 35 18.5	
	baz=292,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**24.62**	**102**	T	T	07 35 13.0	
	baz=292,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**24.64**	**102**	T	T	07 35 13.9	
	baz=292,slow=74,SNR=16						
H11S3	**WAKE ISLAND Hy**	**24.93**	**105**	T	T	07 35 49.6	
	baz=296,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**24.94**	**105**	T	T	07 35 37.9	
	baz=296,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**24.95**	**105**	T	T	07 35 44.6	
	baz=296,slow=74,SNR=11						
HHC	**Hu-ho-hao-te**	**28.01**	**307**	*e*P	**P**	**07 10 43.8**	**+3.0**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,55nm,7.6s						
XAN	**Xi'an**	**28.59**	**292**	P	**P**	**07 10 46.5**	**+0.5**
XAN				pP	pP	07 10 54.8	-12
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FAKI	**Fak Fak**	**31.12**	**198**	P	**P**	**07 11 08.7**	**+0.4**
TOLI2	**Tolitoli**	**32.49**	**221**	P	**P**	**07 11 22.5**	**+2.1**
TOLI2				IAmb	IAmb	07 11 25.3	
	comp=Z,15nm,0.6s						
CD2	**Chengdu**	**32.91**	**286**	*e*P	**P**	**07 11 26.8**	**+2.8**
LUWI	**Luwuk**	**33.19**	**215**	P	**P**	**07 11 27.1**	**+0.6**
NONG	**Nongkai**	**36.21**	**264**	P	**P**	**07 11 55.8**	**+3.2**
	comp=Z,25nm,1.3s						
GTA	**Gaotai**	**36.45**	**300**	*e*P	**P**	**07 11 56.0**	**+1.4**
GTA				pP	pP	07 12 15.0	-0.4
GTA				sP	sP	07 12 24.8	-1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SEY	**Seymchan**	**36.54**	**9**	P	**P**	**07 11 54.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=185,slow=9.5,SNR=5.7						
CHAI	**Chaiyaphum**	**38.06**	**261**	P	**P**	**07 12 11.3**	**+3.0**
	comp=Z,14nm,0.5s						
SRAK	**Srakaew**	**38.80**	**258**	P	**P**	**07 12 12.6**	**-1.9**
	comp=Z,2μmcomp=Z,269nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.80**	**267**	P	**P**	**07 12 22.3**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=64,slow=6.3,SNR=1.2						
CMAR				LR	LR	07 28 35.7	
	comp=Z,82nm,18.4s,baz=188,slow=36						
SOEI	**Soe**	**40.20**	**207**	P	**P**	**07 12 24.6**	**-1.6**
BATI	**Baumata**	**40.85**	**207**	P	**P**	**07 12 31.6**	**+0.2**
	comp=Z,73nm,0.5s,baz=90,slow=2.1,SNR=9.5						
MTN	**Manton Dam**	**40.94**	**195**	P	**P**	**07 12 31.8**	**-0.2**
KNRA	**Kununurra**	**44.25**	**197**	P	**P**	**07 13 00.5**	**+1.7**
KNRA				IAmb	IAmb	07 13 01.6	
	comp=Z,8.7nm,0.9s						
TIXI	**Tiksi**	**45.09**	**354**	P	**P**	**07 13 04.8**	**-0.1**
TIXI				IAmb	IAmb	07 13 32.6	
	comp=Z,9.9nm,1.3s						
SPIA	**Saint Paul Isl**	**45.41**	**35**	P	**P**	**07 13 08.8**	**+1.2**
WMQ	**Urumqi**	**45.88**	**306**	*e*P	**P**	**07 13 15.0**	**+3.3**
WB0	**Warramunga Arr**	**47.09**	**189**	P	**P**	**07 13 21.5**	**+0.2**
CTAO	**Charters Tower**	**47.19**	**174**	P	**P**	**07 13 22.5**	**+0.6**
CTAO				IAmb	IAmb	07 13 23.6	
	comp=Z,13nm,1.0s						
RPSI	**Rantau Prapat**	**47.21**	**246**	P	**P**	**07 13 23.4**	**+1.0**
RPSI				IAmb	IAmb	07 13 24.6	
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**47.26**	**189**	P	**P**	**07 13 22.7**	**+0.1**
WRAB	**Tennant Creek**	**47.26**	**189**	P	**P**	**07 13 23.5**	**+0.9**
WB2	**Warramunga Arr**	**47.27**	**189**	P	**P**	**07 13 22.8**	**+0.1**
WRA	**Warramunga Arr**	**47.27**	**189**	P	**P**	**07 13 22.9**	**+0.3**
	comp=Z,41nm,0.7s,baz=9.6,slow=8.7,SNR=83						
WRA				ScP	**ScP**	**07 18 35.9**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=4.7,slow=4.8,SNR=4.8						
WRA				S	**S**	**07 20 04.3**	**-4.8**
	comp=Z,0.9nm,0.7s,baz=5.1,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**47.27**	**189**	P	**P**	**07 13 22.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**47.45**	**200**	P	**P**	**07 13 25.0**	**+1.1**
FITZ				IAmb	IAmb	07 13 25.6	
	comp=Z,6.0nm,0.8s						
ZALV	**Zalesovo Beam**	**48.92**	**319**	ScP	**ScP**	**07 18 42.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=97,slow=4.9,SNR=2.1						
GSI	**Gunungsitoli**	**49.11**	**246**	P	**P**	**07 13 37.9**	**+1.0**
MKAR	**Makanchi Array**	**49.81**	**310**	P	**P**	**07 13 40.6**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=91,slow=8.4,SNR=2.0						
MKAR				ScP	**ScP**	**07 18 45.9**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=91,slow=4.5,SNR=3.9						
SDPT	**Sand Point**	**50.20**	**39**	P	**P**	**07 13 45.1**	**+0.5**
ANM	**Nome**	**50.30**	**27**	P	**P**	**07 13 47.3**	**+2.0**
ANM	**Nome**	**50.30**	**27**	P		07 13 47.1	
	baz=248						
CNBA	**Chernabura Isl**	**50.62**	**40**	P	**P**	**07 13 48.1**	**+0.3**
CNBA				IAmb	IAmb	07 14 16.6	
	comp=Z,9.7nm,0.7s						
AS31	**Alice Springs**	**51.00**	**189**	P	**P**	**07 13 51.7**	**+0.7**
ASAR	**Alice Springs**	**51.00**	**189**	P	**P**	**07 13 51.0**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=11,slow=11,SNR=35						
ASAR				PcP	**PcP**	**07 15 05.8**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=15,slow=5.5,SNR=5.4						
ASAR	**Alice Springs**	**51.00**	**189**	P	**P**	**07 13 50.9**	**-0.1**
RDOG	**Red Dog Mine**	**52.52**	**23**	P		07 14 04.2	
	baz=248						
PSA00	**Pilbara Seismi**	**52.67**	**205**	P	**P**	**07 14 03.4**	**0.0**
PSA00				IAmb	IAmb	07 14 04.8	
	comp=Z,5.1nm,0.8s						
PSA00	**Pilbara Seismi**	**52.67**	**205**	P	**P**	**07 14 04.3**	**+0.9**
PSA00				IAmb	IAmb	07 14 04.8	
	comp=Z,9.1nm,0.8s						
EIDS	**Eidsvold**	**53.05**	**169**	P	**P**	**07 14 06.5**	**+0.4**
EIDS				IAmb	IAmb	07 14 14.8	
	comp=Z,12nm,1.1s						
N18K	**Kilae Creek**	**53.49**	**33**	P		07 14 11.0	
	baz=260						
O18K	**Koktuh Hills**	**53.70**	**34**	P		07 14 12.7	
	baz=262						
SVW2	**Sparrevohn**	**53.70**	**33**	P	**P**	**07 14 11.5**	**+0.9**
N19K	**Bonanza Creek**	**54.19**	**33**	P		07 14 15.5	
	baz=262						
L19K	**White Mountain**	**54.22**	**31**	P		07 14 15.8	
	baz=260						
OHAK	**Old Harbor**	**54.41**	**37**	P	**P**	**07 14 16.1**	**+0.3**
OHAK	**Old Harbor**	**54.41**	**37**	P		07 14 16.3	
	baz=265						
KDAK	**Kodiak Island**	**54.83**	**37**	P	**P**	**07 14 19.6**	**+0.8**
	comp=Z,4.9nm,0.4s,baz=300,slow=2.4,SNR=26						
KDAK	**Kodiak Island**	**54.83**	**37**	P	**P**	**07 14 19.5**	**+0.8**
KDAK	**Kodiak Island**	**54.83**	**37**	P		07 14 19.5	
	baz=266						
PPLA	**Purkeypile**	**55.55**	**31**	P		07 14 25.7	
	baz=262						
CNPM	**China Poot**	**55.66**	**35**	P	**P**	**07 14 25.1**	**+0.3**
CNPM				IAmb	IAmb	07 14 26.0	
	comp=Z,14nm,1.2s						
A21K	**Barrow**	**55.69**	**20**	P	**P**	**07 14 26.3**	**+1.6**
A21K	**Barrow**	**55.69**	**20**	P		07 14 26.5	
	baz=252						
H21K	**Melozitna Rive**	**55.71**	**27**	P		07 14 26.9	
	baz=260						
SKT	**Skwentna**	**55.74**	**32**	P	**P**	**07 14 27.2**	**+1.9**
SKT	**Skwentna**	**55.75**	**32**	P		07 14 26.7	
	baz=264						
I21K	**Tanana**	**55.97**	**28**	P		07 14 28.9	
	baz=261,SNR=14						
KTH	**Kantishna Hill**	**56.20**	**30**	P	**P**	**07 14 29.9**	**+1.2**
KTH				IAmb	IAmb	07 14 34.2	
	comp=Z,7.1nm,1.3s						
BPAW	**Bear Paw Mtn.**	**56.24**	**29**	P	**P**	**07 14 29.9**	**+1.1**
BPAW				IAmb	IAmb	07 14 31.9	
	comp=Z,4.9nm,0.5s						
BPAW	**Bear Paw Mtn.**	**56.24**	**29**	P		07 14 30.2	
	baz=263,SNR=8.6						
MLY	**Manley**	**56.47**	**28**	P	**P**	**07 14 31.5**	**+1.0**
MLY				IAmb	IAmb	07 14 33.1	
	comp=Z,6.1nm,0.7s						
MLY	**Manley**	**56.47**	**28**	P		07 14 32.1	
	baz=262,SNR=14						
TRF	**Thorofare Moun**	**56.47**	**30**	P	**P**	**07 14 31.4**	**+0.7**
TRF				IAmb	IAmb	07 14 33.7	
	comp=Z,6.1nm,0.9s						
TRF	**Thorofare Moun**	**56.47**	**30**	P		07 14 31.7	
	baz=264						
PMR	**Palmer**	**56.85**	**32**	P	**P**	**07 14 32.9**	**-0.2**
PMR				IAmb	IAmb	07 14 34.7	
	comp=Z,5.7nm,0.9s						
PMR	**Palmer**	**56.85**	**32**	P		07 14 33.9	
	baz=266						
COLD	**Coldfoot**	**56.99**	**26**	P	**P**	**07 14 35.1**	**+1.0**
COLD				IAmb	IAmb	07 14 37.0	
	comp=Z,4.0nm,0.8s						
COLD	**Coldfoot**	**56.99**	**26**	P		07 14 35.9	
	baz=261,SNR=7.0						
I23K	**Minto, Yukon-K**	**57.06**	**28**	P	**P**	**07 14 35.9**	**+1.3**
I23K				IAmb	IAmb	07 14 37.1	
	comp=Z,3.7nm,0.8s						
I23K	**Minto, Yukon-K**	**57.06**	**28**	P		07 14 36.2	
	baz=264,SNR=5.7						
MCK	**McKinley**	**57.10**	**30**	P	**P**	**07 14 35.5**	**+0.5**
MCK				IAmb	IAmb	07 14 37.1	
	comp=Z,6.9nm,0.9s						
MCK	**McKinley**	**57.10**	**30**	P		07 14 35.7	
	baz=265						
NEA2	**Nenana**	**57.13**	**29**	P	**P**	**07 14 36.1**	**+1.0**
NEA2				IAmb	IAmb	07 14 37.7	
	comp=Z,9.4nm,0.7s						
NEA2	**Nenana**	**57.13**	**29**	P		07 14 36.3	
	baz=264,SNR=18						
KNK	**Knik Glacier**	**57.16**	**33**	P		07 14 36.0	
	baz=267						
WAT1	**Susitna Watana**	**57.20**	**31**	P		07 14 36.4	
	baz=266						
SML	**Sawmill**	**57.24**	**32**	P	**P**	**07 14 36.2**	**+0.3**
SML				IAmb	IAmb	07 14 39.1	
	comp=Z,7.2nm,0.9s						
SML	**Sawmill**	**57.24**	**32**	P		07 14 36.6	
	baz=267						
TOLK	**Toolik Lake Re**	**57.44**	**24**	P	**P**	**07 14 37.6**	**+0.3**
TOLK				IAmb	IAmb	07 14 40.5	
	comp=Z,4.6nm,0.9s						
TOLK	**Toolik Lake Re**	**57.44**	**24**	P		07 14 38.9	
	baz=261						
MDM	**Murphy Dome**	**57.52**	**28**	P	**P**	**07 14 38.5**	**+0.7**
MDM				IAmb	IAmb	07 14 40.2	
	comp=Z,3.7nm,0.6s						
WRH	**Wood River Hil**	**57.54**	**29**	P	**P**	**07 14 38.5**	**+0.6**
WAT6	**Susitna Watana**	**57.56**	**31**	P		07 14 39.2	
	baz=267						
TCOL	**CIGO, UAF Yank**	**57.67**	**29**	P		07 14 40.3	
	baz=265						
CCB	**Clear Creek Bu**	**57.67**	**29**	P	**P**	**07 14 39.7**	**+0.8**
COLA	**College**	**57.67**	**29**	P		07 14 40.5	
	baz=265						
SCM	**Sheep Creek Mo**	**57.72**	**32**	P	**P**	**07 14 39.8**	**+0.4**
SCM				IAmb	IAmb	07 14 41.6	
	comp=Z,12nm,0.8s						
H24K	**Noodor Dome**	**57.75**	**27**	P		07 14 41.2	
	baz=264,SNR=6.1						
GLI	**Glacier Island**	**57.80**	**33**	P	**P**	**07 14 40.0**	**+0.2**
GLI				IAmb	IAmb	07 15 05.1	
	comp=Z,11nm,1.0s						
GLI	**Glacier Island**	**57.80**	**33**	P		07 14 40.5	
	baz=268						
POKR	**Poker Plat Res**	**57.87**	**28**		**S**	**07 22 33.6**	**+1.1**
POKR	**Poker Plat Res**	**57.87**	**28**	P		07 14 41.7	
	baz=265						
HDA	**Harding Lake**	**58.03**	**29**	P	**P**	**07 14 41.2**	**-0.2**
HDA				IAmb	IAmb	07 14 42.4	
	comp=Z,5.1nm,0.7s						
HDA	**Harding Lake**	**58.03**	**29**	P		07 14 41.4	
	baz=266,SNR=6.2						
HDA				P		07 14 41.4	
	baz=266,SNR=6.2						
IL31		**58.08**	**29**	P	**P**	**07 14 41.8**	**+0.1**
IL31				IAmb	IAmb	07 14 42.8	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**58.08**	**29**	P	**P**	**07 14 41.7**	**0.0**
	comp=Z,3.5nm,0.8s,baz=257,slow=6.1,SNR=46						
ILAR	**Eielson Array**	**58.08**	**29**	P	**P**	**07 14 42.1**	**+0.4**
M24K	**Tolsona, Glenn**	**58.27**	**32**	P	**P**	**07 14 44.0**	**+0.8**
M24K				IAmb	IAmb	07 15 07.1	
	comp=Z,8.8nm,1.1s						
M24K	**Tolsona, Glenn**	**58.27**	**32**	P		07 14 44.4	
	baz=268						
KLU	**Klutina**	**58.38**	**33**	P	**P**	**07 14 44.8**	**+0.8**
KLU				IAmb	IAmb	07 14 46.0	
	comp=Z,6.9nm,0.7s						
KLU	**Klutina**	**58.38**	**33**	P		07 14 45.0	
	baz=269,SNR=5.5						
KKAR	**Karatay Array**	**58.39**	**306**	P	**P**	**07 14 44.0**	**-0.3**
EYAK	**Cordova Ski Ar**	**58.45**	**34**	P		07 14 45.6	
	baz=270						
PAX	**Paxson**	**58.62**	**31**	P	**P**	**07 14 46.5**	**+0.8**
PAX				IAmb	IAmb	07 14 47.6	
	comp=Z,3.4nm,0.6s						
PAX	**Paxson**	**58.62**	**31**	P		07 14 46.4	
	baz=268,SNR=6.4						
STKA	**Stephens Creek**	**58.68**	**180**	P	**P**	**07 14 46.2**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=350,slow=8.9,SNR=4.4						
STKA	**Stephens Creek**	**58.68**	**180**	IAmb	IAmb	07 14 52.0	
	comp=Z,0.7nm,0.8s						
PRP	**Porcupine Dome**	**58.70**	**28**	P		07 14 46.7	
	baz=267						
HARP	**HAARP**	**58.75**	**32**	P		07 14 47.8	
	baz=269						
FYU	**Fort Yukon**	**58.87**	**27**	P	**P**	**07 14 48.2**	**+1.0**
FYU				IAmb	IAmb	07 15 11.5	
	comp=Z,7.9nm,1.0s						
FORT	**Forrest**	**58.95**	**193**	P	**P**	**07 14 48.3**	**+0.2**
N25K	**Chitina, Valde**	**59.01**	**32**	P	**P**	**07 14 49.3**	**+0.9**
N25K				IAmb	IAmb	07 14 51.3	
	comp=Z,2.9nm,0.8s						
BMRM	**Bremner River**	**59.01**	**33**	P	**P**	**07 14 49.5**	**+1.2**
N25K	**Chitina, Valde**	**59.01**	**32**	P		07 14 49.4	
	baz=270						
BMRM	**Bremner River**	**59.02**	**33**	P		07 14 49.6	
	baz=270						
BMAR	**Burnt Mountain**	**59.18**	**26**	P	**P**	**07 14 50.8**	**+1.4**
DOT	**Dot Lake**	**59.27**	**30**	P	**P**	**07 14 50.6**	**+0.6**
SCRK	**Sand Creek**	**59.30**	**30**	P	**P**	**07 14 50.8**	**+0.4**
SCRK	**Sand Creek**	**59.31**	**30**	P		07 14 51.2	
	baz=269,SNR=35						
GLB	**Gilahina Butte**	**59.39**	**33**	P	**P**	**07 14 52.2**	**+1.2**
GLB				IAmb	IAmb	07 14 53.1	
	comp=Z,5.3nm,0.8s						
VRDI	**Verde Repeater**	**59.57**	**33**	P	**P**	**07 14 53.2**	**+0.8**
VRDI				IAmb	IAmb	07 14 54.2	
	comp=Z,3.7nm,0.7s						
BGLC	**Bering Glacier**	**59.69**	**34**	P		07 14 53.2	
	baz=272						
CRQM	**Cirque**	**59.74**	**33**	P	**P**	**07 14 54.5**	**+1.0**
CRQE	**Cirque**	**59.76**	**33**	P		07 14 54.8	
	baz=272						
MCARA	**McCarthy VSAT**	**59.77**	**33**	P	**P**	**07 14 53.9**	**+0.4**
MCARA				IAmb	IAmb	07 14 56.1	
	comp=Z,10nm,0.8s						
MCARA	**McCarthy VSAT**	**59.77**	**33**	P		07 14 54.8	
	baz=272						
BBOO	**Buckleboo**	**59.82**	**185**	P	**P**	**07 14 54.1**	**0.0**
BBOO				IAmb	IAmb	07 15 11.8	
	comp=Z,11nm,1.3s						
WAX	**Waxell Ridge**	**59.89**	**34**	P	**P**	**07 14 56.0**	**+1.6**
K27K	**Chicken**	**60.15**	**30**	P	**P**	**07 14 57.1**	**+1.1**
K27K	**Chicken**	**60.15**	**30**	P		07 14 57.5	
	baz=271						
L27K	**Beaver Creek,**	**60.28**	**31**	P	**P**	**07 14 58.0**	**+1.0**
L27K				IAmb	IAmb	07 14 59.3	
	comp=Z,2.7nm,0.7s						
L27K	**Beaver Creek,**	**60.28**

	baz=294							
K02D	**Willamette Mer**	**75.62**	**49**	P			07 16 34.7	
	baz=294							
J04D	**Umppqua Nationa**	**76.44**	**48**	P			07 16 39.9	
	baz=294							
I05D	**Terrebonne, OR**	**76.49**	**47**	P			07 16 39.5	
	baz=295							
YBH	**Yreka Blue Hor**	**76.66**	**50**	P		**P**	**07 16 41.2**	**+1.8**
M02C	**Callahan**	**76.70**	**50**	P			07 16 41.0	
	baz=294							
L04D	**Klamath Falls**	**76.73**	**49**	P			07 16 41.3	
	baz=294							
N02D	**Trinity Center**	**76.98**	**51**	P			07 16 43.0	
	baz=295							
PINE	**Pine Mountain**	**76.98**	**47**	P		**P**	**07 16 41.9**	**+0.5**
J05D	**Fort Rock, OR**	**77.00**	**48**	P			07 16 43.1	
	baz=295							
M04C	**Macdoel**	**77.23**	**50**	P			07 16 44.4	
	baz=295							
O02D	**Mt. Diablo Mer**	**77.25**	**51**	P			07 16 44.5	
	baz=295							
NEW	**Newport**	**77.44**	**42**	P			07 16 44.9	
	baz=297							
K05A	**Summer Lake**	**77.47**	**48**	P		**P**	**07 16 45.5**	**+1.4**
FINES	**FINESS Array B**	**77.55**	**334**	P		**P**	**07 16 42.5**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=65,slow=4.9,SNR=16							
FINES	**FINESS Array B**	**77.55**	**334**	P		**P**	**07 16 43.3**	**-0.6**
BMO	**Blue Mountains**	**78.86**	**45**	P		**P**	**07 16 51.0**	**-0.6**
WALA	**Waterton Lakes**	**78.95**	**40**	P		**P**	**07 16 52.5**	**+0.4**
BEKR	**Beckworth**	**79.07**	**51**	P		**P**	**07 16 53.3**	**+0.3**
JTMT	**Jette**	**79.36**	**42**	P		**P**	**07 16 54.3**	**-0.1**
MFID	**Camas Ranch**	**80.47**	**46**	P		**P**	**07 17 01.2**	**+0.8**
SUMG	**Summit**	**80.56**	**360**	P		**P**	**07 17 02.1**	**+1.4**
MNK	**Minsk**	**80.66**	**327**	*i* P		P	07 16 55.8	-5.2
	comp=E,12nm,0.8s							
MNK				*i* P		P	07 16 55.8	-5.2
	comp=N,41nm,0.8s							
MNK				*i* P		P	07 16 55.8	-5.2
	comp=Z,5.0nm,0.6s,baz=235							
MNK				*i* PcP		**PcP**	**07 17 02.5**	**-5.0**
MNK				*i* pP		pP	07 17 21.7	-3.0
MNK				*i* sP		pwP	07 17 30.7	+2.8
MNK				*i* PP		**PP**	**07 20 00.2**	**-5.2**
MNK				*i* PPP		PPP	07 21 50.6	
MNK				*i* S		**S**	**07 26 52.9**	**-7.7**
MNK				*i* pS		pS	07 27 26.6	-3.1
MNK				*i* sS		sS	07 27 41.3	+0.5
MNK				*i* SS		**SS**	**07 32 09.8**	**-4.6**
MNK				*i* SSS		SSS	07 35 42.5	
MNK				*i* LQ		LQ	07 46 53.1	
MNK				*i* LR		LR	07 49 33.8	
MNK				*i* LRM		MLR	07 54 44.6	
	comp=E,74nm,15.7s							
MNK				*i* LRM		MLR	07 54 44.6	
	comp=N,714nm,14.1s							
MNK				*i* LRM		MLR	07 54 44.6	
	comp=Z,534nm,15.1s							
NVAR	**Mina Array Bea**	**81.14**	**51**	P		**P**	**07 17 05.2**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=286,slow=5.3,SNR=8.7							
HRY	**Holter Researc**	**81.33**	**42**	P		**P**	**07 17 06.8**	**+1.9**
LRM	**Limekiln Ridge**	**81.41**	**43**	P		**P**	**07 17 06.1**	**+0.6**
SBC	**Santa Barbara**	**81.97**	**56**	P			07 17 08.3	
	baz=297							
BOZ	**Bozeman (W)**	**82.02**	**43**	P		**P**	**07 17 08.7**	**+0.2**
BOZ	**Bozeman (W)**	**82.02**	**43**	P			07 17 09.4	
	baz=301							
AKASG	**Malin Array Be**	**82.10**	**323**	P		**P**	**07 17 07.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=5.5,SNR=2.0							
AKASG	**Malin Array Be**	**82.10**	**323**	IAmb		IAmb	07 17 08.6	
	comp=Z,0.7nm,0.7s							
NC405	**NORSAR Array S**	**83.05**	**338**	P		**P**	**07 17 12.9**	**-0.5**
NC405				IAmb		IAmb	07 17 34.4	
	comp=Z,28nm,1.4s							
NOA	**NORSAR Array B**	**83.27**	**338**	P		**P**	**07 17 13.8**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=47,slow=4.7,SNR=3.8							
RLMT	**Red Lodge**	**83.69**	**42**	P			07 17 18.6	
	baz=302							
PDAR	**Pinedale Array**	**84.77**	**44**	P		**P**	**07 17 22.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=296,slow=1.3,SNR=6.9							
BRTR	**Keskin Array B**	**85.37**	**312**	P		**P**	**07 17 24.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=72,slow=4.7,SNR=2.2							
TMUT	**Trail Mountain**	**85.54**	**48**	P		**P**	**07 17 25.6**	**-1.3**
RDMU	**Red Mountain**	**85.93**	**46**	P		**P**	**07 17 29.8**	**+1.2**
CRVS	**Cervenica-Dubn**	**87.21**	**325**	*eP*		**P**	**07 17 37.1**	**+2.6**
CASY	**Casey**	**96.02**	**192**	P		**P**	**07 18 11.1**	**-3.6**
TXAR	**Lajitas Array**	**96.24**	**53**	P		**P**	**07 18 17.3**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=289,slow=2.8,SNR=3.7							
SNAA	**Sanae**	**131.20**	**194**	PKPdf		**PKiKP**	**07 24 00.4**	**+0.6**
VNA1	**Neumayer--Stat**	**133.13**	**193**	PKPdf		**PKPdf**	**07 24 01.7**	**-0.6**
PLCA	**Paso Flores**	**150.50**	**126**	PKPbc		**PKPbc**	**07 24 39.1**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=292,slow=3.1,SNR=7.5							
LPAZ	**La Paz**	**150.71**	**74**	PKPbc		**PKPbc**	**07 24 41.0**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=18,slow=3.3,SNR=13							
LPAZ	**La Paz**	**150.71**	**74**			**PKiKP**	**07 24 42.6**	**+0.6**

*DJA **30** 07:17:20.2±0.6, 10°S±9°×11°E±°, h64km±14km, M3.8/7, mb4.1/2, MLv3.7/7*

ISC 30 07:17:19.2±1.8, 9.6S±0.2×116.6E±0.0, h83km±25km, n10, σ0=88/15, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**0.86**	**16**	P		**Pn**	**07 17 36.5**	**-0.3**
TWSI				S		**Sn**	**07 17 49.5**	**-0.4**
KLNI	**Mataram**	**1.25**	**335**	P		**Pn**	**07 17 42.1**	**+0.5**
KLNI				S		**Sn**	**07 17 57.8**	**-0.6**
PLAI	**Plampang**	**1.34**	**57**	P		**Pn**	**07 17 43.9**	**+1.2**
KHKI	**Kahang-Kahang**	**1.57**	**319**	P		**Pn**	**07 17 46.6**	**+1.1**
KHKI				S		**Sn**	**07 18 05.2**	**-0.2**
DNP	**Denpasar**	**1.66**	**302**	P		**Pn**	**07 17 47.5**	**+0.7**
DNP				S		**Sn**	**07 18 07.7**	**0.0**
SRBI	**Singaraja**	**2.04**	**316**	P		**Pn**	**07 17 52.7**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.68**	**294**	P		**Pn**	**07 18 00.5**	**+0.1**
JAGI				S		**Sn**	**07 18 30.3**	**-1.7**
WBSI	**Waikabubak, Su**	**2.72**	**92**	P		**Pn**	**07 18 01.4**	**+0.5**
EDFI	**Ende, Flores**	**5.05**	**81**	P		**Pn**	**07 18 32.5**	**-0.2**
	0.1nm14nm,0.5s							
BKSI	**Bulukumba**	**5.45**	**40**	P		**Pn**	**07 18 38.2**	**+0.2**

*NNC **30** 07:32:25.5±2.5, 53°72N×88°11E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=20.0km s-min=10.3km az=58.0, Suspected Mining explosion.*

*IDC **30** 07:32:26.0±2.9, 53°71N×88°07E, h0km, mb1 3.0/2, mb1mx2.9/49, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=24.4km s-min=16.0km az=53.0*

ISC 30 07:32:26.9±3.7, 53.7N±0.1×87.9E±0.2, h0km, n8, σ1=04/12, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**278**	*i*			07 44 45.3	
	baz=92,slow=304,SNR=2.6							
ZAA0	**Zalesovo Array**	**1.86**	**278**	⇑Pg		**Pn**	**07 33 00.7**	**+0.8**
	1.1nm,0.6s							
ZAA0				⇑Lg		Lg	07 33 29.2	
	3.6nm,0.5s							
ZALV	**Zalesovo Beam**	**1.86**	**278**	Pg		**Pb**	**07 33 00.8**	**-0.9**
	3.3nm,0.3s,baz=93,slow=13,SNR=14							
ZALV				Lg		Lg	07 33 28.2	
	10nm,0.3s,baz=96,slow=25,SNR=18							
KURBB	**Kurchatov Arra**	**6.57**	**246**			**Pn**	**07 34 05.8**	**+1.1**
	0.2nm,0.3s,baz=64,slow=14,SNR=13							
KURBB				Sn		**Sn**	**07 35 18.9**	**-1.3**
	0.1nm,0.3s,baz=26,slow=15,SNR=7.2							
KURBB				Lg		Lg	07 35 56.7	
	0.1nm,0.3s,baz=60,slow=31,SNR=4.9							
KURBB	**Kurchatov Arra**	**6.57**	**246**	⇑Pn		**Pn**	**07 34 05.6**	**+0.9**
	0.8nm,0.3s							
KURBB				⇑Sn		**Sn**	**07 35 20.8**	**+0.6**
	4.4nm,0.7s							
KURBB				⇑Lg		Lg	07 35 59.0	
	6.2nm,0.7s							
MK31	**Makanchi Array**	**7.83**	**210**	⇑Pn		**Pn**	**07 34 23.2**	**+1.2**
	0.2nm,0.4s,baz=30,slow=11,SNR=7.0							
MK31				⇑Sn		**Sn**	**07 35 51.5**	**+0.3**
	0.6nm,0.6s,baz=31,slow=26,SNR=4.5							
MK31				⇓Lg		Lg	07 36 35.0	
	1.3nm,0.7s							
MKAR	**Makanchi Array**	**7.83**	**210**	Pn		**Pn**	**07 34 22.2**	**+0.2**
	0.2nm,0.3s,baz=30,slow=11,SNR=8.6							
MKAR				Sn		**Sn**	**07 35 51.0**	**-0.2**
	0.2nm,0.3s,baz=27,slow=30,SNR=6.3							
MKAR				Lg		Lg	07 36 33.1	
	baz=28,slow=31,SNR=1.8							
MAKZ	**Makanchi**	**7.91**	**211**	⇓Pn		**Pn**	**07 34 21.8**	**-1.3**
	1.3nm,0.5s							
MAKZ				⇓Sn		**Sn**	**07 35 54.2**	**+1.0**
	0.7nm,0.6s							
MAKZ				⇓Lg		Lg	07 36 40.5	
	2.0nm,0.9s							

*DNK **30** 07:40:00.4±4.0, 71°12N×7°67W, h0km±213km, ML4.0*

*NEIC **30** 07:40:01.3, 71°00N×7°65W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.09; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-0.50; $M_{r\theta}$-0.07; $M_{\theta\phi}$0.88; $M_{\phi r}$0.20; Fault plane solution: $M_0$1.01000×10^{17} NP1:ϕ_s194.02000°, δ85.23000°, λ-170.60000°. NP2:ϕ_s103.23000°, δ80.63000°, λ-4.84000°. Principal axes: T 0.9474, Plg3.0000°, Azm328.0000°; N 0.1207, Plg79.0000°, Azm221.0000°; P -1.0681, Plg10.0000°, Azm59.0000°;*

*NEIC **30** 07:40:01.4±1.1, 70°98N±0°06×7°7W±0°1, h10km±1km, mb5.0/315, Mwb5.3/46 Error ellipse: s-maj=10.8km s-min=6.6km az=180.0*

*MOS **30** 07:40:01.4±1.7, 71°01N×8°08W, h14km, mb5.1/106, MS4.5/25, Error ellipse: s-maj=10.5km s-min=3.8km az=100.1*

*BJI **30** 07:40:02.0±0.0, 71°10N×7°50W, h10km, mB5.1/41, mb4.9/60, Ms5.1/43, Ms7 4.7/43*

*NAO **30** 07:40:02.3±0.8, 71°00N×7°29W, ML5.2*

*IDC **30** 07:40:02.2±0.4, 71°03N×7°82W, h0km, mb4.6/33, mb1 4.7/38, mb1mx4.6/45, mbtmp4.6/38, ML4.4/4, MS4.3/49, Ms1 4.3/49, ms1mx4.3/54, Error ellipse: s-maj=11.4km s-min=8.7km az=29.0*

*BER **30** 07:40:05.8±1.4, 71°09N×7°77W, h13km±8km, ML3.9, ML4.0(DNK), Confirmed Earthquake*

*GCMT **30** 07:40:05.4±0.1, 71°04N±0°01×7°66W±0°02, h23km, MW5.3/139, Moment Tensor Solution. s91,c129; s139,c253; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.12±.02; $M_{\theta\theta}$0.77±.02; $M_{\phi\phi}$-0.65±.02; $M_{r\theta}$-0.07±.03; $M_{\theta\phi}$0.79±.02; $M_{\phi r}$-0.03±.03; Best double couple: $M_0$1.07000×10^{17} NP1:ϕ_s201.00000°, δ87.00000°, λ178.00000°. NP2:ϕ_s291.00000°, δ88.00000°, λ3.00000°. Principal axes: T 1.1290, Plg3.0000°, Azm156.0000°; N -0.1200, Plg86.0000°, Azm329.0000°; P -1.0100, Plg0.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IEPN **30** 07:40:05.0, 71°08N×8°08W, h10km*

*REY **30** 07:40:06.5, 70°79N×8°89W, h10km*

ISC 30 07:40:02.8±0.7, 71°13N±0°03×7°83W±0°03, h6km±4km, n926, σ2=20/956, mb5.0/295, MS4.5/85, 221C-114D, Fault plane solution: NP1:ϕ_s107.50386°, δ87.42677°, λ-8.46924°. NP2:ϕ_s197.88689°, δ81.53936°, λ-177.39844°. Principal axes: T Plg4.1455°, Azm152.9780°; N Plg81.1512°, Azm270.7250°; P Plg7.8039°, Azm62.4089°; **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.21**	**227**	*eP*		**Pg**	**07 40 09.8**	**+2.9**
JNW	**Jan Mayen West**	**0.22**	**242**	⇓*i*P		**Pg**	**07 40 10.3**	**+3.2**
JMIC	**Jan Mayen**	**0.26**	**237**	Pn		**Pg**	**07 40 10.3**	**+2.4**
	baz=47,slow=5.3							
JMIC	**Jan Mayen**	**0.26**	**237**	Pg		**Pg**	**07 40 10.5**	**+2.7**
JMIC	**Jan Mayen**	**0.26**	**237**	⇓*i*P		**Pg**	**07 40 10.6**	**+2.7**
JMIC				IAML			07 40 18.4	
	comp=Z,83μm,0.5s							
JMI	**Jan Mayen**	**0.36**	**236**	⇓*i*P		**Pg**	**07 40 12.3**	**+2.6**
JMI				*eS*		**Sg**	**07 40 17.8**	**+3.5**
JMI				IAML			07 40 21.0	
	comp=Z,97μm,0.4s							
SCO	**Scoresbysund**	**4.70**	**269**	*eP*		**Pn**	**07 41 15.0**	**+0.8**
SCO				*i*			07 42 26.6	
SCO				IAML			07 42 28.5	
	comp=Z,13nm,0.4s							
SCO	**Scoresbysund**	**4.70**	**269**	P		**Pn**	**07 41 11.8**	**-2.3**
SCO	**Scoresbysund**	**4.70**	**269**	*i* P		**Pn**	**07 41 16.0**	**+1.9**
SCO				*i*			07 42 26.6	
SCO				IAML			07 42 28.5	
	comp=Z,13nm,0.4s							
SCO	**Scoresbysund**	**4.70**	**269**	Pn		**Pn**	**07 41 11.8**	**-2.3**
DBG	**Daneborg**	**4.87**	**317**	*i* P		**Pn**	**07 41 14.9**	**-1.6**
DBG				IAML			07 42 13.7	
	comp=Z,262nm,0.4s							
DBG	**Daneborg**	**4.87**	**317**	Pn		**Pn**	**07 41 16.1**	**-0.4**
DBG				Sn		**Sn**	**07 42 07.5**	**-5.6**
DBG	**Daneborg**	**4.87**	**317**	⇑*i*P		**Pn**	**07 41 15.6**	**-0.9**
DBG				*eS*		**Sn**	**07 42 06.8**	**-6.2**
DBG				IAML			07 42 13.7	
	comp=Z,262nm,0.4s							
ILEI	**Leirhofn**	**5.69**	**218**	P		**Pn**	**07 41 25.2**	**-2.5**
	baz=216							
ILEI				S		**Sn**	**07 42 27.8**	**-5.4**
	baz=216							
IGIL	**Gilhagi**	**5.95**	**216**	P		**Pn**	**07 41 29.6**	**-1.6**
	baz=214							
IGIL				S		**Sn**	**07 42 35.2**	**-4.5**
	baz=214							
IHED	**Heoinshofoi**	**6.14**	**219**	P		**Pn**	**07 41 31.3**	**-2.5**
	baz=217							
IHED				S		**Sn**	**07 42 39.1**	**-5.1**
	baz=217							
IDIM	**Dimmadalss**	**6.17**	**217**	P		**Pn**	**07 41 32.3**	**-2.0**
	baz=215							
IDIM				S		**Sn**	**07 42 41.1**	**-3.9**
	baz=215							
IGHA	**Grjothals**	**6.22**	**216**	P		**Pn**	**07 41 33.1**	**-1.8**
	baz=214							
IGHA				S		**Sn**	**07 42 42.0**	**-4.3**
	baz=214							
IBRE	**Brettingsstaoi**	**6.23**	**221**	P		**Pn**	**07 41 33.0**	**-2.0**
	baz=220							
IBRE				S		**Sn**	**07 42 41.8**	**-4.6**
	baz=220							
ISKI	**Skildingahlsh**	**6.27**	**217**	P		**Pn**	**07 41 34.2**	**-1.4**
	baz=215							
ISKI				S		**Sn**	**07 42 43.8**	**-3.6**
	baz=215							
IGRS	**Grimsstaoir**	**6.30**	**213**	P		**Pn**	**07 41 35.0**	**-1.2**
	baz=211							
IGRS				S		**Sn**	**07 42 44.7**	**-3.7**
	baz=211							
IGRA	**Granastaoir**	**6.33**	**219**	P		**Pn**	**07 41 34.5**	**-2.0**
	baz=218							
IGRA				S		**Sn**	**07 42 44.8**	**-4.3**
	baz=218							
IKVO	**Krokottuvotn**	**6.38**	**216**	P		**Pn**	**07 41 35.6**	**-1.6**
	baz=214							
IKVO				S		**Sn**	**07 42 46.5**	**-3.7**
	baz=214							
DAG	**Danmarks Havn**	**6.40**	**337**	*i* P		**Pn**	**07 41 36.8**	**-0.6**
DAG				*i* S		**Sn**	**07 42 45.9**	**-4.7**
DAG				IAML			07 42 50.1	
	comp=Z,253nm,0.3s							
DAG	**Danmarks Havn**	**6.40**	**337**	*i* P		**Pn**	**07 41 37.3**	**0.0**
DAG				*i* S		**Sn**	**07 42 45.9**	**-4.7**
DAG	**Danmarks Havn**	**6.40**	**337**	⇑*i*P		**Pn**	**07 41 37.4**	**0.0**
DAG				*eS*		**Sn**	**07 42 44.8**	**-5.8**
DAG				IAML			07 42 50.1	
	comp=Z,253nm,0.3s							
IREN	**Reynihlio**	**6.44**	**216**	P		**Pn**	**07 41 36.0**	**-2.0**
	baz=214							
IREN				S		**Sn**	**07 42 47.8**	**-4.0**
	baz=214							
ISIG	**Siglufjorour**	**6.44**	**224**	P		**Pn**	**07 41 36.3**	**-1.7**
	baz=223							
ISIG				S		**Sn**	**07 42 47.9**	**-3.8**
	baz=223							
IMEL	**Melhnausar**	**6.46**	**215**	P		**Pn**	**07 41 36.5**	**-1.8**
	baz=213							
IMEL				S		**Sn**	**07 42 48.4**	**-3.9**
	baz=213							
IHRN	**Hraun**	**6.74**	**228**	P		**Pn**	**07 41 41.2**	**-0.9**
	baz=227							
IHRN				S		**Sn**	**07 42 55.9**	**-3.2**
	baz=227							
IADA	**Aoalbol**	**6.78**	**209**	P		**Pn**	**07 41 41.5**	**-1.2**
	baz=207							
IADA				S		**Sn**	**07 42 56.2**	**-4.0**
	baz=207							
ISVA	**Svartarkot**	**6.78**	**216**	P		**Pn**	**07 41 41.6**	**-1.1**
	baz=214							
ISVA				S		**Sn**	**07 42 56.7**	**-3.5**
	baz=214							
IASK	**Askja**	**6.93**	**213**	P		**Pn**	**07 41 43.6**	**-1.2**
	baz=211							
N2RO	**R,st**	**7.91**	**108**	*eP*		**Pn**	**07 41 56.0**	**-2.1**
N2RO				*eS*		Sn	07 43 18.4	-9.4
N2SV	**S,rv¥gen**	**7.98**	**104**	*eP*		**Pn**	**07 41 56.5**	**-2.6**
N2VA	**Vr,y**	**8.01**	**106**	*eP*		**Pn**	**07 41 56.9**	**-2.5**
N2VA				*eS*		Sn	07 43 19.3	-11
LOF	**Lofoten**	**8.02**	**102**	*eP*		**Pn**	**07 41 56.9**	**-2.7**
LOF				*eS*		Sn	07 43 21.0	-9.4
N2VI	**Vinje**	**8.13**	**100**	*eP*		**Pn**	**07 41 59.0**	**-2.1**
N2VI				*eS*		Sn	07 43 22.2	-11
BORG	**Borgarnes**	**8.16**	**225**	Pn		**Pn**	**07 42 01.8**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=38,slow=6.5,SNR=10							
BORG				Sn		**Sn**	**07 43 32.2**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=242,slow=22,SNR=6.5							
BORG				LR		LR	07 44 30.0	
	comp=Z,3μm,21.9s,baz=16,slow=33							
BORG	**Borgarnes**	**8.16**	**225**	Pn		**Pn**	**07 41 59.1**	**-2.4**
BJO1	**Bjornoya**	**8.57**	**55**	Pn		**Pn**	**07 42 07.0**	**-0.1**
BJO1	**Bjornoya**	**8.57**	**55**	⇑*i*P		**Pn**	**07 42 06.8**	**-0.3**
BJO1	**Bjornoya**	**8.57**	**55**	⇑*i*P		**Pn**	**07 42 07.0**	**-0.1**
BJO1				*i* S		**Sn**	**07 43 40.0**	**-3.9**
HSPB	**Hornsund (broa**	**8.64**	**37**	*eP*		**Pn**	**07 42 08.2**	**+0.2**
HSPB	**Hornsund (broa**	**8.64**	**37**	Pn		**Pn**	**07 42 08.5**	**+0.5**
HSPB	**Hornsund (broa**	**8.64**	**37**	⇑*i*P		**Pn**	**07 42 08.6**	**+0.5**
HSPB				*eS*		Sn	07 43 37.7	-7.8
HSPB	**Hornsund (broa**	**8.64**	**37**	⇓*i*P		**Pn**	**07 42 08.3**	**+0.2**
HSPB				*eS*		**Sn**	**07 43 42.0**	**-3.6**
STEI	**Steigen**	**8.66**	**101**	*eP*		**Pn**	**07 42 06.4**	**-2.0**
STEI				*eS*		Sn	07 43 36.1	-10
NBB30	**Finnes**	**8.74**	**108**	*eP*		**Pn**	**07 42 07.0**	**-2.5**
NBB08	**Skaug oppvekst**	**8.78**	**104**	*eP*		**Pn**	**07 42 07.7**	**-2.3**
NBB05	**Inndyr**	**8.79**	**107**	*eP*		**Pn**	**07 42 07.6**	**-2.6**
NBB40	**Tonnes**	**8.81**	**111**	*eP*		**Pn**	**07 42 07.8**	**-2.7**
NBB40				*eS*		Sn	07 43 39.2	-11
N2TV	**T¥rnvik**	**8.83**	**103**	*eP*		**Pn**	**07 42 08.4**	**-2.2**
N2TV				*eS*		Sn	07 43 39.9	-10
NBB13	**Alf Garage**	**8.84**	**110**	*eP*		**Pn**	**07 42 08.3**	**-2.5**
NBB15	**Halsa Church**	**8.84**	**109**	*eP*		**Pn**	**07 42 08.5**	**-2.3**
KONS	**Konsvik**	**8.86**	**111**	Pn		**Pn**	**07 42 08.8**	**-2.3**
KONS				Sn		Sn	07 43 42.6	-8.4
KONS	**Konsvik**	**8.86**	**111**	*eP*		**Pn**	**07 42 09.3**	**-1.8**
KONS				*eS*		Sn	07 43 40.3	-11
N2IH	**Innhavet**	**8.87**	**99**	*eP*		**Pn**	**07 42 09.7**	**-1.5**
NBB17	**Glomfjord B¥r**	**8.91**	**108**	*eP*		**Pn**	**07 42 09.5**	**-2.3**
STOK	**Stokkvaagen**	**8.94**	**112**	Pn		**Pn**	**07 42 10.3**	**-1.9**
STOK	**Stokkvaagen**	**8.94**	**112**	*eP*		**Pn**	**07 42 10.7**	**-1.5**
STOK				*eS*		Sn	07 43 42.0	-11
FAUS	**Fauske**	**8.98**	**103**	⇓*i*P		**Pn**	**07 42 10.6**	**-2.2**
FAUS				*eS*		Sn	07 43 43.1	-11
BRBA	**Barentsburg A**	**9.01**	**30**	Pn		**Pn**	**07 42 13.8**	**+0.6**
BRBA	**Barentsburg A**	**9.01**	**30**	*eP*		**Pn**	**07 42 13.7**	**+0.6**
BRBB	**Barentsburg B**	**9.03**	**30**	Pn		**Pn**	**07 42 14.4**	**+0.9**
BRBB	**Barentsburg B**	**9.03**	**30**	*eP*		**Pn**	**07 42 14.5**	**+1.1**
TRO	**Tromso**	**9.09**	**87**	⇓*i*P		**Pn**	**07 42 11.6**	**-2.5**
N2ST	**Straumen**	**9.10**	**103**	*eP*		**Pn**	**07 42 12.5**	**-1.9**
N2ST				*eS*		Sn	07 43 45.9	-11
SOFL	**Sornfelli, Far**	**9.11**	**177**	*eP*		**Pn**	**07 42 12.6**	**-2.0**
NBB29	**Rokland skole**	**9.23**	**105**	*eP*		**Pn**	**07 42 15.1**	**-1.0**
KBS	**Kingsbay**	**9.27**	**24**	*i* P		**Pn**	**07 42 16.9**	**+0.2**
KBS	**Kingsbay**	**9.27**	**24**	*ceP*		**Pn**	**07 42 16.9**	**+0.2**
KBS						pmax	pmax	
	comp=Z,308nm,1.3s							
KBS	**Kingsbay**	**9.27**	**24**	Pn		**Pn**	**07 42 17.1**	**+0.5**
KBS				Sn		**Sn**	**07 43 54.8**	**-6.3**
KBS	**Kingsbay**	**9.27**	**24**	*eP*		**Pn**	**07 42 17.2**	**+0.5**
KBS				Sn		**Sn**	**07 43 54.8**	**-6.3**
KBS	**Kingsbay**	**9.27**	**24**	Pn		**Pn**	**07 42 15.8**	**-0.8**
KBS	**Kingsbay**	**9.27**	**24**	⇑*i*P		**Pn**	**07 42 15.9**	**-0.7**
KBS				*i* S		Sn	07 43 53.0	-8.0
SPA0	**Spitsbergen Ar**	**9.44**	**31**	Pn		**Pn**	**07 42 20.9**	**+1.9**
	baz=230,slow=12							
SPA0				Sn		**Sn**	**07 44 04.1**	**-1.2**
SPA0	**Spitsbergen Ar**	**9.44**	**31**	Pn		**Pn**	**07 42 20.9**	**+1.9**
	baz=230,slow=12							
SPA0				Sn		**Sn**	**07 44 04.1**	**-1.2**
SPA0	**Spitsbergen Ar**	**9.44**	**31**	⇑*i*P		**Pn**	**07 42 20.4**	**+1.3**
SPA0				*i* S		**Sn**	**07 44 01.6**	**-3.6**
SPITS	**Spitsbergen Ar**	**9.44**	**31**	Pn		**Pn**	**07 42 20.3**	**+1.3**
	baz=218,slow=14,SNR=1420							
SPITS				Sn		**Sn**	**07 44 04.0**	**-1.2**
	baz=210,slow=28,SNR=1.5							
MOR8	**Moi Rana**	**9.48**	**111**	*eP*		**Pn**	**07 42 17.2**	**-2.4**
JETT	**Jettan, Norway**	**9.60**	**86**	Pn		**Pn**	**07 42 19.5**	**-1.7**
JETT				Sn		**Sn**	**07 44 04.9**	**-4.3**
SUMG	**Summit**	**9.60**	**293**	*i* P		**Pn**

NB2	NORSAR Subarra	12.65	134		Pn		Pn	07 42 59.5 -3.5
	baz=323,slow=14							
NOA	NORSAR Array B	12.65	134		Pn		Pn	07 42 58.7 -4.4
	comp=Z,0.2nm,0.3s,baz=125,slow=23,SNR=13							
NOA					Sn		Sn	07 45 14.0 -10
	comp=Z,0.3nm,0.3s,baz=38,slow=16,SNR=4.0							
NOA					LR		LR	07 47 42.4
	comp=Z,619nm,20.5s,baz=330,slow=37							
NB201	NORSAR Array S	12.66	133				Pn	07 42 59.4 -3.8
ODD1	Odda	12.70	145	*e*P			Pn	07 43 00.4 -3.4
NC405	NORSAR Array S	12.71	132				Pn	07 42 59.7 -4.1
NAO01	NORSAR Array S	12.75	135				Pn	07 42 59.9 -4.4
BIGH	Upper Bighouse	12.80	171	*e*P			**Pn**	**07 43 03.6 -1.3**
NEEM	North Greenlan	12.96	318	*i* P			Pn	07 43 04.0 -3.4
NEEM				*i* S			Sn	07 45 20.1 -12
NEEM				IAML				07 45 29.8
	comp=Z,24nm,0.4s							
NC602	NORSAR Array S	13.00	134	*e*P			Pn	07 43 01.6 -6.1
NC602	NORSAR Array S	13.00	134				Pn	07 43 04.2 -3.5
NRA0	NORESS Array S	13.00	134		Pn		Pn	07 43 03.5 -4.2
	baz=320,slow=14							
NRA0	NORESS Array S	13.00	134		Pn		Pn	07 43 03.5 -4.2
	baz=320,slow=14							
LINV	Loch Inver, As	13.09	174	*e*P			**Pn**	**07 43 06.9 -2.0**
LINV				IAmb			IAmb	07 43 10.8
	comp=Z,81nm,0.9s							
BLS5	Blasjo	13.13	146	*e*P			Pn	07 43 06.1 -3.4
KONO	Kongsberg	13.54	139	*i* P			**Pn**	**07 43 12.7 -2.3**
KONO				pmax			pmax	
	comp=Z,63nm,1.2s							
KONO	Kongsberg	13.54	139	*e*P			Pn	07 43 10.3 -4.8
KONO	Kongsberg	13.54	139	Pn			Pn	07 43 11.3 -3.7
MCD	Coleburn Disti	13.74	170	*e*P			**Pn**	**07 43 17.7 -0.1**
KPL	Plocktorp	13.88	175	*e*P			**Pn**	**07 43 19.2 -0.5**
HFS	Hagfors	14.04	131	Pn			Pn	07 43 18.5 -3.5
	comp=Z,3.9nm,0.3s,baz=328,slow=11,SNR=93							
HFS					Sn		Sn	07 45 47.8 -10
	comp=Z,1.0nm,0.3s,baz=339,slow=14,SNR=2.0							
HFS					LR		LR	07 48 14.8
	comp=Z,2μm,21.0s,baz=330,slow=35							
HFS	Hagfors	14.04	131		Pn		**Pn**	**07 43 18.9 -3.1**
	baz=326,slow=12							
HFS	Hagfors	14.04	131		Pn		**Pn**	**07 43 18.9 -3.1**
	baz=326,slow=12							
SNART	Snartemo	14.28	146	*i* P			**Pn**	**07 43 22.2 -3.0**
SNART	Snartemo	14.28	146	*i* P			**Pn**	**07 43 22.2 -3.0**
DY2G	Dye2	14.45	270	*i* P			**Pn**	**07 43 29.0 +1.3**
DRUM	Mains of Drumt	14.46	168	*e*P			**Pn**	**07 43 26.6 -1.1**
ILULI	Ilulissat	14.57	283	*i* P			**Pn**	**07 43 27.4 -1.7**
ILULI	Ilulissat	14.57	283	P			**Pn**	**07 43 28.0 -1.1**
ILULI	Ilulissat	14.57	283				**Pn**	**07 43 28.0 -1.1**
KULLO	Kullorsuaq	14.58	306	*i* P			Pn	07 43 26.1 -3.2
APA0	Apatity Array	14.59	84	Pn			**Pn**	**07 43 26.9 -2.4**
	baz=307,slow=10							
APA0	Apatity Array	14.59	84	Pn			**Pn**	**07 43 26.9 -2.4**
	baz=307,slow=10							
HOMB	Hombersund	14.59	144	*i* P			**Pn**	**07 43 26.3 -3.1**
HOMB	Hombersund	14.59	144	*i* P			**Pn**	**07 43 26.3 -3.1**
UPNV	Upernavik	14.73	299	*i* P			**Pn**	**07 43 29.8 -1.5**
APA	Apatity	14.74	84	⇓*i* P			**Pn**	**07 43 28.7 -2.8**
APA				*i* S			**Sn**	**07 46 08.0 -6.8**
APA				pmax			pmax	
	comp=Z,28nm,1.0s							
APA				MLR			MLR	
	comp=Z,1μm,21.0s							
EDU	Dundee	14.79	170	*e*P			**Pn**	**07 43 31.9 -0.3**
LVZ	Lovozero	14.97	82	*i* P			**Pn**	**07 43 32.7 -1.9**
LVZ				pmax			pmax	
	comp=Z,203nm,1.1s							
LVZ	Lovozero	14.97	82				**Pn**	**07 43 32.1 -2.5**
UPP	Uppsala	15.29	125	*e*P			**Pn**	**07 43 37.9 -0.9**
ESY	Stoneypath	15.44	169	*e*P			**Pn**	**07 43 39.7 -1.2**
RAF	Rauma	15.49	116	*e*P			**Pn**	**07 43 39.8 -1.7**
EBL	Broad Law	15.56	170	*e*P			**Pn**	**07 43 40.9 -1.4**
SFJD	Kangerlussuaq	15.56	276	Pn			**Pn**	**07 43 41.5 -0.9**
	comp=Z,0.8nm,0.3s,baz=34,slow=12,SNR=23							
SFJD					LR		LR	07 48 47.8
	comp=Z,2μm,21.0s,baz=51,slow=34							
SFJD	Kangerlussuaq	15.56	276	*i* P			**Pn**	**07 43 41.7 -0.7**
SFJD	Kangerlussuaq	15.56	276	P			**Pn**	**07 43 41.3 -1.0**
SFJD				pmax			pmax	
	comp=Z,157nm,1.0s							
SFJD	Kangerlussuaq	15.56	276				**Pn**	**07 43 41.3 -1.0**
ZFI2	Zemlya Franca-	15.65	29	*e*P			**Pn**	**07 43 46.2 +2.8**
	comp=Z,97nm,0.8s							
ZFI2				*e*S			**Sn**	**07 46 28.7 -8.0**
AAL	Aland	15.67	120	*e*P			**Pn**	**07 43 41.7 -2.1**
EKA	Eskdalemuir Ar	15.99	170	Pn			**Pn**	**07 43 46.4 -1.5**
	baz=358,slow=13,SNR=30							
EKA					Sn		Sn	07 46 28.2 -17
	baz=355,slow=26,SNR=2.0							
EKA					LR		LR	07 49 26.4
	comp=Z,1μm,19.8s,baz=350,slow=36							
EKA	Eskdalemuir Ar	15.99	170	P			**Pn**	**07 43 46.5 -1.5**
EKA	Eskdalemuir Ar	15.99	170	P			**Pn**	**07 43 46.5 -1.5**
ESK	Eskdalemuir	16.00	170	P			**Pn**	**07 43 44.7 -3.4**
ESK				pmax			pmax	
	comp=Z,62nm,0.9s							
ESK	Eskdalemuir	16.00	170				**Pn**	**07 43 44.7 -3.4**
NEWG	New Galloway	16.15	173	*e*P			**Pn**	**07 43 49.5 -0.5**
NEWG				IAmb			IAmb	07 43 54.7
	comp=Z,365nm,1.7s							
MUD	Monsted U'grnd	16.42	145	*i* P			**Pn**	**07 43 52.0 -1.5**
MUD	Monsted U'grnd	16.42	145	*i* P			**Pn**	**07 43 52.0 -1.5**
FIA0	FINESS Array S	16.46	109	P			**Pn**	**07 43 52.3 -1.6**
	baz=324,slow=12							
FIA0	FINESS Array S	16.46	109	P			**Pn**	**07 43 52.3 -1.6**
	baz=324,slow=12							
FIA1	FINESS Array S	16.46	109				**Pn**	**07 43 50.8 -3.1**
FINES	FINESS Array B	16.46	109	Pn			**Pn**	**07 43 52.3 -1.6**
	comp=Z,2.9nm,0.3s,baz=324,slow=10,SNR=61							
FINES					Sn		Sn	07 46 40.7 -16
	comp=Z,1.1nm,0.3s,baz=328,slow=24,SNR=3.2							
FINES					LR		LR	07 49 04.8
	comp=Z,778nm,19.5s,baz=323,slow=33							
FINES	FINESS Array B	16.46	109	P			**Pn**	**07 43 51.0 -3.0**
FINES	FINESS Array B	16.46	109				**Pn**	**07 43 51.0 -3.0**
FABU	Falkenberg	16.63	138	*i* P			**Pn**	**07 43 53.1 -3.0**
FABU	Falkenberg	16.63	138	*i* P			**Pn**	**07 43 53.1 -3.0**
MEF	Metsahovi	16.92	114	*e*P			**Pn**	**07 43 58.0 -1.7**
SLVR	Solovky	17.00	89	*e*P			**Pn**	**07 43 56.7 -4.1**
	comp=Z,301nm,1.6s							
DEL	Delary	17.37	137	*i* P			**Pn**	**07 44 04.0 -1.5**
DEL	Delary	17.37	137	*i* P			**Pn**	**07 44 04.0 -1.5**
HPK	Haverah Park	17.46	168	IAmb			IAmb	07 44 08.6
	comp=Z,537nm,2.0s							
BJUU	Bjuv	17.55	139	*i* P			**Pn**	**07 44 06.4 -1.3**
BJUU	Bjuv	17.55	139	*i* P			**Pn**	**07 44 06.4 -1.3**
COP	Copenhagen	17.79	140	*i* P			**Pn**	**07 44 07.3 -3.3**
COP	Copenhagen	17.79	140	*i* P			**P**	**07 44 15.2 +3.8**
COP	Copenhagen	17.79	140	*i* P			**P**	**07 44 15.2 +3.8**
NRS	Narsarsuaq	17.82	255	P			**Pn**	**07 44 10.3 -0.7**
NRS				pmax			pmax	
	comp=Z,80nm,1.1s							
NRS	Narsarsuaq	17.82	255	P			**Pn**	**07 44 10.3 -0.7**
WPS	Cemaes, Angles	17.86	173	*e*P			**Pn**	**07 44 11.7 +0.2**
WPS				IAmb			IAmb	07 44 13.5
	comp=Z,96nm,1.3s							
WME	Myndd Eilian	17.87	173	*e*P			**Pn**	**07 44 10.8 -0.8**
DSB	Dublin	17.96	177	P			**Pn**	**07 44 10.0 -2.8**
LBWR	Ladybower, Pea	18.00	168	*e*P			**Pn**	**07 44 12.5 -0.8**
LBWR				IAmb			IAmb	07 44 16.2
	comp=Z,232nm,0.8s							
LUNU	Lund	18.05	138	*i* P			**Pn**	**07 44 13.2 -0.6**
LUNU	Lund	18.05	138	*i* P			**Pn**	**07 44 13.2 -0.6**
STNC	Stoke	18.28	169	*e*P			**Pn**	**07 44 16.7 0.0**
STNC				IAmb			IAmb	07 44 18.2
	comp=Z,255nm,1.1s							
SLIT	Slitere, Latvi	18.47	122	*e*P			**P**	**07 44 17.9 -1.0**
HLM1	Long Mynd	18.81	171	*e*P			**P**	**07 44 22.4 -0.3**
HLM1				IAmb			IAmb	07 44 24.9
	comp=Z,60nm,0.9s							
BSD	Bornholm Skovb	18.86	137	*e*P			**P**	**07 44 21.8 -1.4**
BSD	Bornholm Skovb	18.86	137	*i* P			**P**	**07 44 21.2 -1.9**
BSD	Bornholm Skovb	18.86	137	*i* P			**P**	**07 44 21.9 -1.2**
BSD	Bornholm Skovb	18.86	137	*i* P			**P**	**07 44 21.1 -2.1**
WACR	West Acre	18.86	164	*e*P			**P**	**07 44 22.1 -1.1**
WACR				IAmb			IAmb	07 44 23.3
	comp=Z,174nm,0.8s							
VSU	Vasula	19.05	114	*e*P			**P**	**07 44 25.8 +0.6**
VSU	Vasula	19.05	114	*d* iP			**P**	**07 44 25.5 +0.3**
RSBS	Rosebush, Pemb	19.30	174	*e*P			**P**	**07 44 27.6 -0.5**
MCH1	Michaelchurch	19.33	171	*e*P			**P**	**07 44 28.2 -0.1**
MCH1				IAmb			IAmb	07 44 31.0
	comp=Z,69nm,0.8s							
MONM	Monmouth	19.50	171	*e*P			**P**	**07 44 30.0 -0.1**
EUNU	Eureka	19.54	329	P			**P**	**07 44 30.1 -0.5**
LSH	Leshukonskoye	20.35	81	⇑*i* P			**P**	**07 44 38.1 -1.3**
	comp=Z,317nm,1.3s							
LSH				*e*S			S	07 48 11.2 -16
KLNR	Kaliningrad	20.59	129	*i* P			**P**	**07 44 43.2 +1.2**
KLNR				pmax			pmax	
	comp=Z,211nm,1.4s							
PABE	Paberze	20.78	122	P			**P**	**07 44 40.9 -3.2**
UCC	Uccle	21.16	158	*d*P			**P**	**07 44 47.6 -0.6**
UCC				*dx*			x	07 44 50.0
UCC				*dx*			x	07 44 56.5
KLMR	Klimovskoe	21.18	95	*e*P			**P**	**07 44 44.9 -3.5**
KLMR				*e*S			**S**	**07 48 39.9 -3.9**
KLMR				pmax			pmax	
	comp=Z,404nm,1.2s							
KLMR				MLR			MLR	
	comp=Z,1μm,14.0s							
KLMR	Klimovskoe	21.18	95	⇓*i* P			**P**	**07 44 48.4 +0.1**
	comp=Z,333nm,1.2s							
KLMR				*i* S			**S**	**07 48 34.0 -10**
KLMR	Klimovskoe	21.18	95	*e*P			**P**	**07 44 44.9 -3.5**
KLMR				AMP				07 44 49.7
	comp=Z,404nm,1.2s							
KLMR				*e*S			**S**	**07 48 40.0 -3.9**
KLMR				*e*S			**S**	**07 48 40.0 -3.9**
KLMR				LQ			LQ	07 50 10.1
KLMR				LQ			LQ	07 50 10.1
KLMR				LR			LR	07 51 24.9
KLMR				AMP				07 52 15.1
	comp=Z,1μm,13.7s							
ISAL	Salakas	21.32	119	*e*P			**P**	**07 44 50.1 +0.2**
ISAL				IAmb			IAmb	07 45 09.1
	comp=Z,36nm,1.0s							
BEBN	Eben Emael	21.32	156	*d*P			**P**	**07 44 50.0 0.0**
SNF	Seneffe	21.43	158	*d*P			**P**	**07 44 50.3 -0.9**
SNF				*dx*			x	07 44 53.7
BSTI	Sart Tilman	21.52	156	*d*P			**P**	**07 44 52.3 +0.2**
IIGN	Ignalina	21.54	119	*e*P			**P**	**07 44 52.6 +0.3**
IIGN				IAmb			IAmb	07 45 02.7
	comp=Z,26nm,0.8s							
MEM	Membach	21.55	155	*b*P			**P**	**07 44 52.4 0.0**
	comp=Z,93nm,1.1s							
MEM				*dx*			x	07 45 00.3
MEM				*d*PnPn			**PnPn**	**07 45 13.1 +0.6**
BTNL	Ternell	21.59	155	*d*P			**P**	**07 44 52.5 -0.5**
	comp=Z,79nm,1.3s							
BTNL				*d*PnPn			**PnPn**	**07 45 12.6 -0.5**
BCLA	Clavier	21.64	157	*d*P			**P**	**07 44 53.3 -0.2**
BCLA				*dp*P			**pP**	**07 44 56.0 +1.2**
BCLA				*d*PnPn			**PnPn**	**07 45 12.8 -1.0**
BGES	Gesves	21.65	157	*d*P			**P**	**07 44 52.4 -1.2**
BMRD	Maredsous	21.69	158	*d*P			**P**	**07 44 53.5 -0.5**
IDID	Didziasalis	21.72	119	*e*P			**P**	**07 44 54.0 -0.2**
IDID				IAmb			IAmb	07 45 02.6
	comp=Z,32nm,0.9s							
BHOU	Houvegnez	21.80	156	*b*P			**P**	**07 44 55.1 -0.1**
	comp=Z,76nm,1.3s							
BHOU				*dx*			x	07 44 57.8
BHOU				*d*PnPn			**PnPn**	**07 45 14.4 -1.6**
DOU	Dourbes	21.88	158	*b*P			**P**	**07 44 55.5 -0.5**
RCHB	Rochefort	21.89	157	*d*P			**P**	**07 44 54.7 -1.5**
CLL	Collm	22.03	143	⇑*i* P			**P**	**07 44 57.1 -0.5**
	comp=Z,105nm,1.5s							
CLL				*i*				07 44 59.8
	comp=Z,73nm,1.0s							
CLL				*e*				07 45 09.0
CLL				*e*(PP)				07 45 19.0
CLL				*e*S			**S**	**07 48 59.0 -1.7**
	comp=N,700nm,21.0s							
CLL				*e*S			**S**	**07 48 59.0 -1.7**
	comp=E,1μm,24.1s							
CLL				*e*SSS			SSS	07 49 48.0
CLL				Lmax				07 56 00.0
CLL	Collm	22.03	143	⇑*i* P			**P**	**07 44 57.1 -0.5**
CLL				*i*				07 44 59.8
CLL				*e*S			**S**	**07 48 59.0 -1.7**
CLL				pmax			pmax	
	comp=Z,105nm,1.5s							
CLL	Collm	22.03	143	P			**P**	**07 44 53.8 -3.8**
CLL				IAmb			IAmb	07 45 00.5
	comp=Z,68nm,1.0s							
NACGM	Naroch	22.09	119	*i* P			**P**	**07 44 57.6 -0.6**
AMDE	Amderma	22.16	60	*e*P			**P**	**07 44 58.5 -0.3**
	comp=Z,41nm,0.8s							
JSA	Saint Aubin	22.18	170	*e*P			**P**	**07 44 58.5 -0.7**
JSA				IAmb			IAmb	07 45 04.1
	comp=Z,519nm,1.7s							
WLF	Walferdange	22.50	156	*d*P			**P**	**07 45 02.6 0.0**
	comp=Z,39nm,1.7s							
WLF	Walferdange	22.50	156	P			**P**	**07 44 58.4 -4.2**
WLF				pmax			pmax	
	comp=Z,77nm,1.4s							
WLF	Walferdange	22.50	156	P			**P**	**07 44 58.4 -4.2**
WLF				IAmb			IAmb	07 45 04.3
	comp=Z,78nm,1.4s							
PRGR	Permogore	22.58	87	*e*P			**P**	**07 45 03.0 -0.4**
PRGR				pmax			pmax	
	comp=Z,243nm,1.5s							
PRGR	Permogore	22.58	87	*e*P			**P**	**07 45 03.1 -0.4**
	comp=Z,1μm,1.6s							
BRG	Berggiesshubel	22.63	142	*i* P			**P**	**07 45 03.1 -0.9**
BRG				Amp				07 45 05.8
	comp=Z,52nm,1.1s							
BRG	Berggiesshubel	22.63	142	S			**S**	**07 49 12.0 0.0**
BRG				Amp				07 56 52.0
	comp=N,0.9nm,14.1s							
BRG				Amp				07 56 56.0
	comp=E,0.7nm,13.9s							
BRG				Amp				07 56 56.0
	comp=Z,1.6nm,13.6s							
MNK	Minsk	22.75	118	*i* P			**P**	**07 45 06.8 +1.5**
MNK				*i*				07 45 30.8
MNK				*i*				07 48 58.0
MNK				*i* S			**S**	**07 49 16.0 +1.9**
MNK				*i* SS			**SnSn**	**07 49 48.1 +4.4**
MNK				pmax			pmax	
	comp=E,4.0nm,0.8s							
MNK				pmax			pmax	
	comp=Z,65nm,0.8s							
MNK				pmax			pmax	
	comp=N,31nm,0.8s							
MNK				MLR			MLR	
	comp=E,69nm,15.0s							
MNK				MLR			MLR	
	comp=N,732nm,14.0s							
MNK				MLR			MLR	
	comp=Z,542nm,15.0s							
MNK	Minsk	22.75	118	*i* P			**P**	**07 45 06.8 +1.5**
	comp=E,4.0nm,0.8s							
MNK				*i* P			**P**	**07 45 06.8 +1.5**
	comp=N,31nm,0.8s							
MNK				*i* P			**P**	**07 45 06.8 +1.5**
	comp=Z,65nm,0.8s,baz=152							
MNK				*i* PP			**PnPn**	**07 45 30.8 +1.9**
MNK				*i* PcP			**PcP**	**07 48 58.1 +1.5**
MNK				*i* S			**S**	**07 49 16.1 +1.9**
MNK				*i* SS			**SnSn**	**07 49 48.2 +4.5**
MNK				*i* LQ			LQ	07 51 43.2
MNK				*i* LR			LR	07 52 51.5
MNK				*i* LRM			MLR	07 54 48.2
	comp=E,69nm,14.9s							
MNK				*i* LRM			MLR	07 54 48.9
	comp=N,732nm,14.4s							
MNK				*i* LRM			MLR	07 54 49.5
	comp=Z,542nm,15.3s							
NKC	Novy Kostel	22.95	145	*e*P			**P**	**07 45 07.2 -0.3**
NKC				MLR			MLR	
	comp=Z,2μm,13.0s							
NKC	Novy Kostel	22.95	145	*e*P			**P**	**07 45 07.2 -0.3**
NKC				AMS			AMS	07 56 00.0
	comp=Z,2μm,13.0s							
PVCC	Panska Ves	23.08	142	*e*S			**S**	**07 49 19.8 -0.2**
PVCC				AMS			AMS	07 55 40.0
	comp=Z,1μm,12.8s							
KSP	Ksiaz	23.14	139	*e*P			**P**	**07 45 09.1 -0.3**
KSP				*e*S			**S**	**07 49 21.7 +0.7**
KSP				*e*L			L	07 56 15.5
	comp=Z,2μm,13.9s							
GRA1	Grafenberg Arr	23.25	148	P			**P**	**07 45 07.0 -3.5**
GRF	Grafenberg Arr	23.25	148	P			**P**	**07 45 07.0 -3.5**
GRF				pmax			pmax	
	comp=Z,132nm,1.2s							
GRFO	Grafenberg	23.25	148	P			**P**	**07 45 06.8 -3.7**
GRFO				pmax			pmax	
	comp=Z,122nm,1.2s							
GRFO	Grafenberg	23.25	148	P			**P**	**07 45 06.8 -3.7**
CHVC	Chvalec	23.33	139	*e*P			**P**	**07 45 11.2 -0.2**
CHVC				*e*S			**S**	**07 49 17.6 -6.6**
CHVC				AMS			AMS	07 56 40.0
	comp=Z,1μm,13.6s							
OSTC	Ostas	23.40	139	*e*P			**P**	**07 45 12.4 +0.4**
OSTC				*e*S			**S**	**07 49 25.5 +0.3**
OSTC				AMS			AMS	07 56 50.0
	comp=Z,2μm,13.2s							
UPC	Upice	23.40	139	*e*P			**P**	**07 45 11.7 -0.3**
UPC				*e*S			**S**	**07 49 20.9 -4.4**
UPC				MLR			MLR	
	comp=Z,2μm,13.1s							
UPC	Upice	23.40	139	*e*P			**P**	**07 45 11.7 -0.3**
UPC				*e*S			**S**	**07 49 20.9 -4.4**
UPC				AMS			AMS	07 56 50.0
	comp=Z,2μm,13.1s							
FRB	Frobisher Bay	23.41	282	P			**P**	**07 45 12.9 +1.0**
	comp=Z,19nm,0.8s,baz=40,slow=9.4,SNR=21							
FRB					LR		LR	07 53 45.4
	comp=Z,1μm,19.5s,baz=46,slow=35							
PRA	Prague	23.49	142	*e*P			**P**	**07 45 13.6 +0.7**
PRA				MLR			MLR	
	comp=Z,1μm,12.3s							
PRA	Prague	23.49	142	*e*P			**P**	**07 45 13.6 +0.7**
PRA				AMS			AMS	07 56 10.0
	comp=Z,1μm,12.3s							
PRU	Pruhonice	23.59	142	*e*P			**P**	**07 45 14.5 +0.6**
PRU				*e*S			**S**	**07 49 28.8 +0.5**
PRU				MLR			MLR	
	comp=Z,1μm,13.1s							
PRU	Pruhonice	23.59	142	*e*P			**P**	**07 45 14.5 +0.6**
PRU				*e*S			**S**	**07 49 28.8 +0.5**
PRU				AMS			AMS	07 55 30.0
	comp=Z,1μm,13.1s							
DPC	Dobruska-Polom	23.62	139	*e*P			**P**	**07 45 14.1 -0.1**
DPC				*e*S			**S**	**07 49 19.2 -10**
DPC				MLR			MLR	
	comp=Z,1μm,13.3s							
DPC	Dobruska-Polom	23.62	139	*e*P			**P**	**07 45 14.1 -0.1**
DPC				*e*S			**S**	**07 49 19.2 -10**
DPC				AMS			AMS	07 57 00.0
	comp=Z,1μm,13.3s							
RES	Resolute Bay	23.65	319	P			**P**	**07 45 15.5 +1.3**
	comp=Z,11nm,1.0s,baz=47,slow=10,SNR=21							
RES					S		**S**	**07 49 28.7 -0.2**
	comp=Z,12nm,0.8s,baz=252,slow=9.4,SNR=5.3							
RES					LR		LR	07 54 10.5
	comp=Z,1μm,19.0s,baz=54,slow=36							
RES	Resolute Bay	23.65	319	P			**P**	**07 45 14.0 -0.3**
CLF	Chambon-Foret	23.67	163	P			**P**	**07 45 11.6 -3.0**
PBCC	Pribram	23.77	143	*e*P			**P**	**07 45 16.3 +0.6**
KRLC	Kraliky	23.97	139	*e*P			**P**	**07 45 17.6 0.0**
KRLC				*e*S			**S**	**07 49 24.9 -10**
KRLC				MLR			MLR	
	comp=Z,1μm,13.1s							
KRLC	Kraliky	23.97	139	*e*P			**P**	**07 45 17.6 0.0**
KRLC				*e*S			**S**	**07 49 24.9 -10**
KRLC				AMS			AMS	07 56 20.0
	comp=Z,1μm,13.1s							
ECH	Echery	24.05	155	P			**P**	**07 45 14.6 -3.7**
ECH				pmax			pmax	
	comp=Z,40nm,1.0s							
ECH	Echery	24.05	155	P			**P**	**07 45 14.6 -3.7**
ECH				IAmb			IAmb	07 45 19.5
	comp=Z,40nm,1.0s							
BFO	Black Forest	24.11	153	P			**P**	**07 45 15.0 -3.9**
BFO				pmax			pmax	
	comp=Z,67nm,1.4s							
BFO	Black Forest	24.11	153	P			**P**	**07 45 15.0 -3.9**
BFO				IAmb			IAmb	07 45 21.7
	comp=Z,67nm,1.4s							
KHC	Kasperske Hory	24.22	144	*e*P			**P**	**07 45 20.4 +0.4**
KHC				*e*				07 45 27.5
KHC				*e*S			**S**	**07 49 38.8 +0.4**
KHC				MLR			MLR	
	comp=Z,2μm,13.5s							
KHC	Kasperske Hory	24.22	144	*e*P			**P**	**07 45 20.4 +0.4**
KHC				*ex*			x	07 45 27.5
KHC				*e*S			**S**	**07 49 38.8 +0.4**
KHC				AMS			AMS	07 57 40.0
	comp=Z,2μm,13.5s							
MORC	Moravsky Berou	24.42	138	⇑P			**P**	**07 45 21.9 +0.2**
MORC	Moravsky Berou	24.42	138	⇑*i* P			**P**	**07 45 21.6 -0.2**
MORC				*e*S			**S**	**07 49 43.4 +1.8**
TREC	Trest	24.44	141	*e*P			**P**	**07 45 22.7 +0.8**
TREC				MLR			MLR	
	comp=Z,2μm,13.9s							
TREC	Trest	24.44	141	*e*P			**P**	**07 45 22.7 +0.8**
TREC				*e*S			**S**	**07 49 46.1 +4.2**
TREC				AMS			AMS	07 57 30.0
	comp=Z,2μm,13.9s							
OKC	Ostrava-Krasne	24.50	137	*e*P			**P**	**07 45 22.0 -0.4**
OKC				*e*S			**S**	**07 49 44.0 +1.3**
OKC				MLR			MLR	
	comp=Z,2μm,13.4s							
OKC	Ostrava-Krasne	24.50	137	*e*P			**P**	**07 45 22.0 -0.4**
OKC				*e*S			**S**	**07 49 44.0 +1.3**
OKC				AMS			AMS	07 56 40.0
	comp=Z,2μm,13.4s							
OJC	Ojcow	24.52	134	*e*P			**P**	**07 45 22.8 +0.3**
OJC				*e*S			**S**	**07 49 49.0 +5.9**
OJC				*e*L			L	07 56 48.5

comp=Z,44nm,1.2s,SNR=22
WATA Walderalm 25.59 148 *i* P **P 07 45 33.3 +0.9**
comp=Z,76nm,1.0s,SNR=20
SQTA Sankt Quirin 25.64 149 *i* P **P 07 45 33.9 +1.0**
comp=Z,108nm,1.6s,SNR=12
WTTA Wattenberg 25.67 148 *i* P **P 07 45 34.1 +0.8**
comp=Z,139nm,1.3s,SNR=37
MODS Modra-Piesok 25.69 139 *e*P **P 07 45 34.1 +0.8**
MODS pmax pmax
comp=Z,83nm,1.2s
MODS Modra-Piesok 25.69 139 *e*P **P 07 45 34.0 +0.8**
KOLL Kolacno 25.74 137 *e*P **P 07 45 34.6 +1.0**
FETA Feichten 25.76 150 *i* P **P 07 45 34.8 +0.8**
comp=Z,32nm,1.0s,SNR=17
KWP Kalwaria Pacla 25.76 131 P **P 07 45 30.9 -3.0**
KWP pmax pmax
comp=Z,439nm,1.0s
KWP Kalwaria Pacla 25.76 131 P **P 07 45 30.9 -3.0**
CONA Conrad Observa 25.82 142 *i* P **P 07 45 35.0 +0.5**
comp=Z,77nm,2.0s,SNR=29
ZST Bratislava 25.82 140 *e*P **P 07 45 37.1 +2.7**
ZST pmax pmax
comp=Z,189nm,1.5s
ZST Bratislava 25.82 140 *e*P **P 07 45 37.1 +2.7**
DAVOX Davos/Dischmat 25.86 151 P **P 07 45 33.5 -1.4**
comp=Z,17nm,0.7s,baz=336,slow=11,SNR=30
DAVOX LR LR 07 56 15.6
comp=Z,475nm,19.0s,baz=333,slow=38
SENIN Lac Senin/Sane 25.89 156 P **P 07 45 31.4 -3.8**
SENIN IAmb IAmb 07 45 38.7
comp=Z,42nm,0.8s
VYHS Vyhne 25.91 137 *e*P **P 07 45 35.6 +0.3**
VYHS pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 25.91 137 *e*P **P 07 45 35.6 +0.3**
LVV L'vov 25.92 129 *e*P **P 07 45 33.3 -2.0**
LVV *e*S **S 07 49 58.0 -7.5**
LVV *e*SS **SnSn 07 51 03.1 +1.9**
LVV pmax pmax
comp=Z,70nm,1.2s
LVV MLR MLR
comp=Z,3μm,14.0s
TUE Stuetta 26.07 152 P **P 07 45 32.9 -4.0**
CRVS Cervenica-Dubn 26.14 133 *e*P **P 07 45 37.5 +0.2**
CRVS Cervenica-Dubn 26.14 133 *e*P **P 07 45 37.5 +0.2**
KIRV Kirov 26.14 89 P **P 07 45 35.9 -1.3**
comp=Z,24nm,0.6s,baz=332,slow=9.1,SNR=8.6
KIRV LR LR 07 55 04.4
comp=Z,219nm,18.2s,baz=326,slow=34
KIRV Kirov 26.14 89*ce*P **P 07 45 35.6 -1.6**
KBA Koelnbreinsper 26.15 146 *i* P **P 07 45 38.5 +0.9**
comp=Z,55nm,1.0s,SNR=26
KECS Kecovo 26.30 135 *e*P **P 07 45 39.4 +0.7**
KECS pmax pmax
comp=Z,18nm,0.9s
KECS Kecovo 26.30 135 *e*P **P 07 45 39.4 +0.7**
KOLS Kolonicke sedl 26.30 132 *e*P **P 07 45 39.7 +0.9**
KOLS Kolonicke sedl 26.30 132 *e*P **P 07 45 39.7 +0.9**
ABTA Abfaltersbach 26.32 147 *e*P **P 07 45 41.3 +2.2**
comp=Z,13nm,1.0s
ARSA Arzberg 26.40 143 *i* P **P 07 45 40.3 +0.6**
comp=Z,20nm,1.2s,SNR=7.1
AKASG Malin Array Be 26.51 121 P **P 07 45 39.6 -0.9**
comp=Z,16nm,0.7s,baz=334,slow=9.5,SNR=22
AKASG S **S 07 50 09.5 -5.2**
comp=Z,0.4nm,0.4s,baz=321,slow=7.4,SNR=1.5
AKASG LR LR 07 55 32.5
comp=Z,1μm,18.4s,baz=335,slow=35
AKASG Malin Array Be 26.51 121 P **P 07 45 37.5 -3.0**
AKASG S **S 07 50 09.5 -5.2**
AKASG pmax pmax
comp=Z,24nm,0.9s
AKASG Malin Array Be 26.51 121 P **P 07 45 37.5 -3.0**
AKASG IAmb IAmb 07 45 47.1
comp=Z,24nm,0.8s
AKBB Malin Array Si 26.51 121*c i*P **P 07 45 39.7 -0.8**
AKBB pmax pmax
comp=Z,33nm,0.9s
AKBB Malin Array Si 26.51 121 P **P 07 45 37.7 -2.8**
AKBB IAmb IAmb 07 45 46.6
comp=Z,37nm,1.1s
SRO2 Moca 26.51 138 *e*P **P 07 45 40.5 -0.1**
SRO2 Moca 26.51 138 *e*P **P 07 45 40.5 -0.1**
ZOU Zoufplan 26.59 147 P **P 07 45 38.2 -3.4**
UZH Uzhgorod 26.59 132 *e*P **P 07 45 39.6 -1.7**
UZH *i* 07 45 41.8
UZH *i* 07 45 48.0
UZH *i* 07 46 19.3
UZH *e*S **S 07 50 08.0 -8.0**
UZH *i* SSS SSS 07 51 21.2
UZH MLR MLR
comp=N,330nm,15.0s
UZH MLR MLR
comp=E,340nm,15.0s
UZH MLR MLR
comp=Z,200nm,15.0s
MYKA Terra Mystica 26.64 146 *i* P **P 07 45 42.8 +0.9**
comp=Z,18nm,1.1s,SNR=6.7
PSZ Piszkesteto 26.70 136 ⇑P **P 07 45 42.6 +0.2**
PSZ Piszkesteto 26.70 136 P **P 07 45 38.5 -3.9**
PSZ pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 26.70 136 P **P 07 45 38.5 -3.9**
STAL STALIGIAL 26.83 147 P **P 07 45 40.7 -2.9**
STAL IAmb IAmb 07 45 52.4
comp=Z,57nm,1.5s
CTI Castel Tesino 26.85 149 P **P 07 45 40.6 -3.3**
CTI pmax pmax
comp=Z,90nm,0.9s
CTI Castel Tesino 26.85 149 P **P 07 45 40.5 -3.3**
SOKA Soboth 26.85 144 *i* P **P 07 45 44.6 +0.8**
comp=Z,24nm,1.6s,SNR=10.0
PERS Pernice 26.91 144 *e*P **P 07 45 45.1 +0.7**
OBKA Obir 26.92 144 *i* P **P 07 45 44.6 +0.1**
comp=Z,25nm,1.7s,SNR=6.7
BNI Bardonecchia 27.09 157 P **P 07 45 42.5 -3.6**
BNI pmax pmax
comp=Z,53nm,1.4s
BNI Bardonecchia 27.09 157 P **P 07 45 42.5 -3.6**
BNI IAmb IAmb 07 46 00.1
comp=Z,53nm,1.4s
GROS Grobnik 27.15 143 *i* P **P 07 45 47.1 +0.6**
TEOL Teolo 27.52 149 P **P 07 45 46.1 -3.6**
TEOL IAmb IAmb 07 45 58.2
comp=Z,41nm,0.9s
VISS Visnje 27.66 144 *i* P **P 07 45 51.1 +0.1**
LPSR Galich'ya Gora 27.71 107 *e*P **P 07 45 51.4 0.0**
LPSR pmax pmax
comp=Z,9.0nm,0.5s
LPSR MLR MLR
comp=Z,680nm,15.0s
MORH Mrgy, Hungar 28.03 139 ⇑P **P 07 45 54.8 +0.5**
BURAR Bucovina Array 28.26 129 ⇑P **P 07 45 56.9 +0.5**
BURAR Bucovina Array 28.26 129 P **P 07 45 53.2 -3.3**
BURAR IAmb IAmb 07 46 06.6
comp=Z,14nm,0.7s
DRGR 28.41 133 ⇑P **P 07 45 58.2 +0.4**
VLC Villacollemand 28.49 152 P **P 07 45 55.2 -3.2**
VLC IAmb IAmb 07 46 08.5
comp=Z,54nm,1.3s
SORM Soroca 28.60 124 ⇑P **P 07 45 59.2 -0.1**
SIRR Siria 28.66 135 ⇑P **P 07 46 00.4 +0.6**
PRAR RASCA 28.75 128 ⇑P **P 07 46 00.7 -0.1**
NRIK Noril'sk 29.17 46 P **P 07 46 04.9 +0.7**
comp=Z,19nm,1.1s,baz=310,slow=5.0,SNR=16
NRIK LR LR 07 59 31.3
comp=Z,430nm,18.3s,baz=325,slow=40
NRIK Noril'sk 29.17 46*ce*P **P 07 46 05.5 +1.3**
NRIK pmax pmax
comp=Z,38nm,1.3s
NRIK Noril'sk 29.17 46 P **P 07 46 02.7 -1.5**
NRIK IAmb IAmb 07 46 07.0
comp=Z,37nm,1.2s
PGAV Gavieira, Arco 29.24 181 *e*P **P 07 46 06.1 +0.9**
PGAV *e*S **S 07 51 03.2 +5.1**
PGAV *e*LQ LQ 07 52 41.0
PGAV *e*LR LR 07 54 18.1
comp=Z,2μm,22.0s
VORD Divnogorie 29.25 108 *e*P **P 07 46 03.9 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
BZS Buzias 29.26 135 ⇑P **P 07 46 05.7 +0.5**
PBRG Braganca 29.41 178 *e*P P 07 46 13.2 +6.6
PCAB Cabril 29.50 180 *e*P **P 07 46 08.5 +1.1**
TESR Tescani 29.65 128 ⇑P **P 07 46 09.2 +0.6**

GZR Gura Zlata 29.74 134 ⇑P **P 07 46 10.5 +0.9**
SCHQ Schefferville 29.75 268 P **P 07 46 08.7 -0.8**
comp=Z,20nm,1.0s,baz=22,slow=3.5,SNR=5.8
SCHQ LR LR 07 56 42.2
comp=Z,2μm,21.2s,baz=38,slow=34
SCHQ Schefferville 29.75 268 P **P 07 46 08.1 -1.4**
SCHQ IAmb IAmb 07 46 16.6
comp=Z,47nm,1.2s
KIS Kishinev 29.77 125 *e*P **P 07 46 13.5 +3.8**
KIS *e*S S 07 51 16.0 +10
KIS *e*LR LR 07 55 52.0
comp=Z,400nm,18.0s
VRH Novokhopyorsk 29.80 106 *e*P **P 07 46 09.2 -0.7**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH MLR MLR
comp=Z,1μm,14.0s
OZUR 29.82 129 ⇑P **P 07 46 10.0 -0.2**
POLO Lamas de Olo 29.83 180 *e*P **P 07 46 11.6 +1.2**
comp=Z,14nm,1.7s
POLO *e*S **S 07 51 11.0 +3.7**
DOPR Dopca 29.84 130 ⇑P **P 07 46 11.4 +1.1**
LOT Lotru 29.93 132 ⇑P **P 07 46 12.1 +0.8**
MVO Moncorvo 30.04 179 *e*P **P 07 46 13.7 +1.4**
comp=Z,29nm,1.4s
MVO *e*S **S 07 51 16.8 +6.2**
MVO *e*LQ LQ 07 52 51.8
MVO *e*LR LR 07 54 37.3
comp=Z,1μm,20.0s
MDVR Moldovita 30.07 136 ⇑P **P 07 46 13.3 +0.9**
HERR Herculane 30.14 135 ⇑P **P 07 46 13.9 +0.9**
ARR Arges 30.21 131 ⇑P **P 07 46 14.9 +1.2**
NRCA Norcia 30.22 149 P P 07 46 09.8 -4.1
NRCA IAmb IAmb 07 46 22.6
comp=Z,22nm,1.0s
VOIR 30.25 131 ⇑P **P 07 46 15.3 +1.3**
PLOR Plostina 30.26 128 ⇑P **P 07 46 15.5 +1.3**
VRI Vrincioaia 30.27 128 ⇑P **P 07 46 15.0 +0.8**
DIVS Divibare 30.34 138 P P 07 46 11.2 -3.6
MLR Muntele Rosu 30.42 129 LR LR 07 59 02.2
comp=Z,3μm,20.3s,baz=342,slow=38
MLR Muntele Rosu 30.42 129 ⇑P **P 07 46 16.2 +0.6**
MLR Muntele Rosu 30.42 129 P P 07 46 12.2 -3.4
MLR pmax pmax
comp=Z,14nm,1.2s
MLR Muntele Rosu 30.42 129 P P 07 46 12.2 -3.4
PVIS Viseu 30.49 180 *e*P **P 07 46 17.7 +1.5**
comp=Z,40nm,1.6s
NEHR Nehoiu 30.57 129 ⇑P **P 07 46 17.9 +1.0**
BELG Belogornoye 30.65 98 P **P 07 46 16.6 -0.8**
comp=Z,29nm,0.9s,baz=338,slow=4.2,SNR=7.8
BELG Belogornoye 30.65 98 *i* P **P 07 46 15.9 -1.5**
BELG pmax pmax
comp=Z,9.0nm,1.2s
MTE Manteigas 30.80 180 *e*P **P 07 46 20.5 +1.5**
MTE *e*S S 07 51 36.6 +14
MTE *e*LQ LQ 07 53 27.9
MTE *e*LR LR 07 55 18.0
comp=Z,2μm,22.0s
ARU Arti 30.84 83*d i*P **P 07 46 19.9 +0.9**
ARU 07 47 18.5
ARU PPP PPP 07 47 31.2
ARU 07 49 20.5
ARU S **S 07 51 24.7 +2.1**
ARU SS **SnSn 07 53 01.0 +0.2**
ARU pmax pmax
comp=Z,52nm,1.2s
ARU MLR MLR
comp=Z,898nm,16.0s
ARU Arti 30.84 83 P **P 07 46 17.2 -1.8**
ISR Istrita 30.92 129 ⇑P **P 07 46 21.6 +1.7**
UCM Universidad Co 30.98 173 P P 07 46 14.3 -6.3
UCM S **S 07 51 30.2 +4.9**
BOVS Bovan 31.16 136 ⇑P **P 07 46 21.2 -0.8**
CFR Carcaliu 31.27 127 ⇑P **P 07 46 22.9 -0.1**
ESBB Sonseca Array 31.59 174 P P 07 46 22.5 -3.4
ESBB IAmb IAmb 07 46 34.3
comp=Z,23nm,1.3s
ESDC Sonseca Array 31.59 174 P **P 07 46 25.3 -0.6**
comp=Z,5.4nm,0.8s,baz=358,slow=9.0,SNR=34
ESDC LR LR 07 59 10.2
comp=Z,965nm,18.5s,baz=345,slow=36
ESDC Sonseca Array 31.59 174 P P 07 46 22.3 -3.6
TPGR Topolog 31.64 127 ⇑P **P 07 46 26.3 0.0**
HARR Harsova 31.67 127 ⇑P **P 07 46 26.6 +0.1**
PSBE So Bento 31.69 181 *e*P **P 07 46 28.4 +1.6**
PSBE *e*S S 07 51 51.2 +15
PAB San Pablo 31.71 175 P P 07 46 22.1 -4.9
PAB pmax pmax
comp=Z,15nm,1.1s
PAB San Pablo 31.71 175 P P 07 46 22.1 -4.9
PAB IAmb IAmb 07 46 28.4
comp=Z,15nm,1.1s
PDG Podgorica 31.78 140 ⇑P **P 07 46 27.2 -0.2**
TIRR Tirgusor 32.02 127 ⇑P **P 07 46 29.6 +0.1**
TIRR Tirgusor 32.02 127 P P 07 46 26.1 -3.4
TIRR pmax pmax
comp=Z,34nm,0.8s
TIRR Tirgusor 32.02 127 P P 07 46 26.1 -3.4
PMTG Montargil 32.13 181 *e*P **P 07 46 31.2 +0.6**
comp=Z,42nm,1.5s
PMTG *e*S S 07 52 01.8 +19
MFTR Murfatlar 32.28 127 ⇑P **P 07 46 31.4 -0.4**
PESTR Estremoz 32.34 180 *e*P **P 07 46 33.1 +0.7**
PESTR *e*S S 07 51 57.9 +12
PESTR Estremoz 32.34 180 P P 07 46 28.5 -3.9
VTS Vitosha 32.47 135 ⇑P **P 07 46 33.4 -0.3**
VTS Vitosha 32.47 135 P P 07 46 30.1 -3.6
VTS pmax pmax
comp=Z,9.0nm,0.9s
VTS Vitosha 32.47 135 P P 07 46 30.1 -3.7
EVO Evora 32.67 180 P **P 07 46 34.3 -1.0**
EVO S **S 07 51 52.0 +0.5**
VSL Villasalto 32.91 155 P P 07 46 33.9 -3.6
VSL IAmb IAmb 07 46 45.8
comp=Z,19nm,1.4s
PBAR Barrancos 33.03 179 *e*P **P 07 46 38.9 +0.5**
comp=Z,29nm,1.6s
PBAR *e*LR LR 07 56 03.1
PNCL Nicolau / Gran 33.09 181 *e*P **P 07 46 40.3 +1.3**
PNCL *e*S S 07 52 11.9 +14
PBEJ Beja 33.17 180 *e*P **P 07 46 41.0 +1.3**
comp=Z,44nm,0.4s
MESJ Messejana 33.36 181 *e*P P 07 46 48.1 +6.8
PCVE Castro Verde 33.57 180 *e*S **S 07 52 13.5 +8.0**
C36M Paulatuk 33.59 325 P **P 07 46 42.6 -0.4**
C36M Paulatuk 33.59 325 P 07 46 44.7
baz=32,SNR=11
PVAQ Vaqueiros 33.80 180 *e*S **S 07 52 10.4 +1.4**
PVAQ *e*LR LR 07 56 17.1
comp=Z,1μm,16.0s
FNA Florina 33.81 138 P P 07 46 41.1 -4.2
FNA pmax pmax
comp=Z,38nm,1.0s
FNA Florina 33.81 138 P P 07 46 41.1 -4.2
MORF Marmelete 33.90 181 *e*S S 07 52 25.5 +15
PBDV Barranco-do-Ve 33.96 180 *e*P P 07 46 52.6 +6.0
comp=Z,60nm,2.5s
PFVI Vila Bisbo 34.07 181 *e*P P 07 46 40.3 -7.2
PFVI *e*S **S 07 52 14.0 +0.7**
ANN Anapa 34.20 116 *e*P **P 07 46 50.6 +2.0**
ANN *e**PP **pP 07 46 53.6 +3.6**
ANN *e* 07 47 58.7
ANN *e*S **S 07 52 18.2 +3.1**
ANN pmax pmax
comp=Z,71nm,1.0s
ANN MLR MLR
comp=E,465nm,13.0s
ANN MLR MLR
comp=N,1μm,14.0s
ANN MLR MLR
comp=Z,2μm,13.0s
LIT Litokhoron 34.70 137 P P 07 46 49.5 -3.5
LIT pmax pmax
comp=Z,22nm,1.4s
LIT Litokhoron 34.70 137 P P 07 46 49.5 -3.5
LIT IAmb IAmb 07 47 01.0
comp=Z,22nm,1.4s
TIXI Tiksi 34.72 22 P **P 07 46 54.0 +1.1**
comp=Z,12nm,1.2s,baz=337,slow=7.5,SNR=14
TIXI Tiksi 34.72 22 P **P 07 46 51.9 -0.9**
TIXI pmax pmax
comp=Z,29nm,1.2s
TIXI Tiksi 34.72 22 P P **07 46 51.9 -0.9**
TIXI IAmb IAmb 07 47 04.1
comp=Z,29nm,1.2s
SFS San Fernando 34.74 178 S **S 07 52 29.5 +5.9**
ALN Alexandroupoli 34.77 132 P P 07 46 49.7 -3.8
ALN pmax pmax
comp=Z,6.0nm,0.8s
ALN Alexandroupoli 34.77 132 P P 07 46 49.7 -3.8
CORL Corleone 35.07 150 P P 07 46 52.6 -3.6
CORL IAmb IAmb 07 47 14.2
comp=Z,36nm,1.1s
CEU Ceuta 35.32 177 P P 07 46 47.9 -10
CEU S **S 07 52 35.8 +3.3**
GOF Gofitskoye 35.65 109⇑ *e*P **P 07 47 06.1 +5.0**
GOF pmax pmax
comp=Z,37nm,0.6s
AKTO Aktyubinsk 35.70 90 P **P 07 47 01.9 +0.4**
comp=Z,8.1nm,0.8s,baz=329,slow=8.5,SNR=24
AKTO LR LR 08 02 56.6
comp=Z,338nm,18.8s,baz=340,slow=38
AGG Agios Georgios 35.70 138 P P 07 46 58.1 -3.5
AGG pmax pmax
comp=Z,30nm,1.2s
AGG Agios Georgios 35.70 138 P P 07 46 58.1 -3.5
AGG IAmb IAmb 07 47 08.3
comp=Z,30nm,1.2s
RAFF Raffo Rosso 35.90 149 P P 07 46 59.8 -3.5
RAFF IAmb IAmb 07 47 11.7
comp=Z,24nm,1.0s
SOC Sochi 35.98 114 *e*P **P 07 47 04.7 +0.7**
SOC *e* 07 48 22.7
SOC *e*PPP PPP 07 48 39.0
SOC *e*S **S 07 52 46.3 +3.7**
SOC *e*SSS SSS 07 55 25.5
SOC MLR MLR
comp=Z,984nm,15.0s
INK Inuvik 36.17 329 P **P 07 47 04.7 -0.6**
INK pmax pmax
comp=Z,89nm,1.3s
INK Inuvik 36.17 329 P **P 07 47 04.7 -0.6**
INK Inuvik 36.17 329 P 07 47 06.3
baz=27,SNR=48
A21K Barrow 36.34 344 P 07 47 08.4
baz=16
CHGQ Chibougamau 36.38 270 P 07 47 09.3
baz=30
KIV Kislovodsk 36.54 111 ⇑P **P 07 47 11.0 +2.2**
KIV Kislovodsk 36.54 111 *e*P **P 07 47 07.6 -1.2**
KIV *e*S **S 07 52 50.6 -0.7**
KIV pmax pmax
comp=Z,76nm,1.1s
KIV pmax pmax
comp=Z,7.0nm,4.1s
KIV MLR MLR
comp=Z,1μm,16.0s
KVAR Kislovodsk Arr 36.54 111 LR LR 08 02 00.0
comp=Z,828nm,20.7s,baz=216,slow=36
KEST Kesra 36.61 156 P **P 07 47 09.3 -0.2**
comp=Z,1.4nm,0.6s,baz=296,slow=4.1,SNR=6.0
KEST LR LR 08 01 38.5
comp=Z,457nm,21.8s,baz=322,slow=36
KEST Kesra 36.61 156 P **P 07 47 06.3 -3.2**
KEST IAmb IAmb 07 47 30.3
comp=Z,20nm,1.2s
SHA1 Shidzhatmaz 36.73 111*d i*P **P 07 47 11.9 +1.3**
KBZ Khabaz 36.81 110 P **P 07 47 12.3 +1.3**
comp=Z,3.8nm,0.9s,baz=321,slow=4.4,SNR=7.5
KBZ LR LR 08 02 13.5
comp=Z,572nm,18.4s,baz=324,slow=36
KBZ Khabaz 36.81 110*ce*P **P 07 47 12.2 +1.3**
KBZ pmax pmax
comp=Z,20nm,1.1s
D62A Allapoint, All 37.12 263 P 07 47 16.6
baz=28,SNR=5.3
NCK Nalchik 37.23 110 *i* P **P 07 47 15.9 +1.2**
NCK pmax pmax
comp=Z,36nm,1.1s
E64A Bridgewater 37.31 261 P 07 47 17.2
baz=28
ABKAR Akbulak array 37.35 89 P **P 07 47 13.6 -1.9**
ABKAR IAmb IAmb 07 47 24.1
comp=Z,24nm,1.1s
D61A St Aubert, Com 37.38 264 P 07 47 17.8
baz=28
ITM Ithomi 37.38 139 P **P 07 47 12.7 -3.3**
ITM IAmb IAmb 07 47 22.4
comp=Z,32nm,0.9s
BRVK Borovoye 37.40 76*ce*P **P 07 47 17.2 +1.2**
BRVK pmax pmax
comp=Z,28nm,0.8s
BRVK Borovoye 37.40 76 P P 07 47 12.2 -3.8
BRVK IAmb IAmb 07 47 18.1
comp=Z,23nm,0.8s
YKA Yellowknife Ar 37.45 313 P **P 07 47 16.8 +0.6**
comp=Z,13nm,0.8s,baz=32,slow=8.7,SNR=127
YKA PcP **PcP 07 49 34.5 +0.1**
comp=Z,1.1nm,0.9s,baz=32,slow=3.6,SNR=2.5
YKA LR LR 08 02 21.1
comp=Z,969nm,18.3s,baz=0.0,slow=36
E63A Oxbow 37.50 262 P 07 47 18.8
baz=28
E62A Clayton Lake 37.68 263 P **P 07 47 17.4 -1.0**
E62A IAmb IAmb 07 47 25.8
comp=Z,41nm,1.5s
E62A Clayton Lake 37.68 263 P 07 47 21.0
baz=28
BRTR Keskin Array B 37.82 124 P **P 07 47 20.3 +0.5**
comp=Z,3.7nm,0.8s,baz=335,slow=5.3,SNR=9.3
BRTR LR LR 08 04 08.0
comp=Z,806nm,18.7s,baz=339,slow=38
BRTR Keskin Array B 37.82 124 *i* P **P 07 47 21.1 +1.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
LSQQ Lebel-sur-Quev 37.97 272 P 07 47 22.9
baz=30
ZEI Tsey 37.97 110 *e*P **P 07 47 23.0 +1.9**
ZEI pmax pmax
comp=Z,4.0nm,0.4s
TOLK Toolik Lake Re 38.16 338 P **P 07 47 21.4 -0.9**
TOLK IAmb IAmb 07 47 25.4
comp=Z,34nm,1.1s
TOLK Toolik Lake Re 38.16 338 P 07 47 24.6
baz=19,SNR=24
GROC Groznyy 38.18 108 *e*P **P 07 47 21.9 -0.7**
GROC 07 48 50.6
GROC pmax pmax
comp=Z,25nm,0.3s
G65A Princeton 38.31 260 P 07 47 25.5
baz=27
D58A Chemin du LacG 38.35 267 P 07 47 25.8
baz=28,SNR=5.9
EPYK Eagle Plains 38.46 330 P **P 07 47 24.3 -0.5**
EPYK IAmb IAmb 07 47 34.1
comp=Z,37nm,1.1s
EPYK Eagle Plains 38.46 330 P 07 47 25.8
baz=24,SNR=20
F62A Pittston Farm, 38.46 263 P 07 47 26.9
baz=28
E60A Ste Agathe de 38.52 265 P 07 47 27.2
baz=28
BMAR Burnt Mountain 38.66 335 P **P 07 47 26.4 -0.1**
MAK Makhachkala 38.93 106 *e*P P 07 47 23.6 -5.3
MAK *e*S **S 07 53 20.5 -6.8**
MAK *e*SS **SnSn 07 56 11.2 -5.8**
MAK pmax pmax
comp=Z,28nm,0.4s
MAK MLR MLR
comp=Z,619nm,13.0s
VLDQ Val d'Or 38.94 272 P **P 07 47 28.0 -0.9**
D56A ZEC Mazanza, M 39.00 269 P 07 47 31.4
baz=28
E58A La Victoria 39.12 267 P 07 47 32.1
baz=28
D55A Sainte-Anne-du 39.26 269 P 07 47 33.7
baz=28,SNR=6.7
G61A St-Isidore-de- 39.51 264 P 07 47 36.5
baz=27
E56A St. Veronique 39.54 268 P 07 47 36.9
baz=28
FYU Fort Yukon 39.57 335 P **P 07 47 34.4 +0.4**
COLD Coldfoot 39.58 338 P **P 07 47 33.3 -0.9**
COLD Coldfoot 39.58 338 P 07 47 35.9
baz=18,SNR=16
H63A New Sharon 39.59 262 P 07 47 37.3
baz=27
E55A Montcerf-Lytto 39.95 269 P 07 47 40.5
baz=28

RDOG Red Dog Mine 40.06 346 P **P** 07 47 37.0 -1.1
RDOG IAmb IAmb 07 47 41.9
comp=Z,25nm,1.0s
RDOG Red Dog Mine 40.06 346 P 07 47 40.7
baz=12
I63A Otisfield 40.31 262 P 07 47 42.4
baz=27
H61A Lyndonville 40.31 264 P 07 47 41.7
baz=27
AKT Akhty 40.34 107 *e*P **P** 07 47 44.2 +3.4
AKT *e* 07 49 14.5
AKT *e* 07 49 46.8
AKT pmax pmax
comp=Z,38nm,1.3s
G58A Ormstown 40.45 266 P 07 47 43.7
baz=27
H60A Morristown 40.54 265 P 07 47 44.6
baz=27
LBNH Lisbon 40.57 264 P **P** 07 47 40.9 -1.7
LBNH pmax pmax
comp=Z,30nm,1.4s
LBNH Lisbon 40.57 264 P **P** 07 47 40.9 -1.7
LBNH IAmb IAmb 07 47 46.6
comp=Z,30nm,1.4s
LBNH Lisbon 40.57 264 P 07 47 45.8
baz=27
FRNY Flat Rock 40.58 266 P **P** 07 47 40.8 -1.8
FRNY IAmb IAmb 07 47 51.9
comp=Z,37nm,1.5s
PRP Porcupine Dome 40.60 334 P **P** 07 47 41.7 -1.1
PRP Porcupine Dome 40.60 334 P 07 47 45.4
baz=20,SNR=52
H24K Noodor Dome 40.62 336 P 07 47 45.4
baz=19,SNR=41
GNI Garni 40.64 111 LR LR 08 04 51.3
comp=Z,690nm,19.2s,baz=338,slow=37
GNI Garni 40.64 111 *ce*P **P** 07 47 45.2 +1.9
GNI pmax pmax
comp=Z,26nm,1.3s
EGAK Eagle 40.65 331 P **P** 07 47 42.5 -0.5
EGAK IAmb IAmb 07 47 45.1
comp=Z,26nm,1.1s
EGAK Eagle 40.65 331 P 07 47 44.2
baz=21,SNR=22
I62A Tamworth 40.71 263 P 07 47 46.2
baz=27
H59A Cadyville 40.78 266 P 07 47 46.9
baz=27
G57A Newington 40.80 267 P 07 47 46.6
baz=27
BRZS Berezniki 40.82 77 *j*P **P** 07 47 45.5 +0.9
comp=Z,16nm,0.8s,baz=77
BRZS Berezniki 40.82 77 *d i*P **P** 07 47 45.5 +0.9
BRZS pmax pmax
comp=Z,15nm,0.8s
FFC Flin Flon 40.84 298 P **P** 07 47 43.9 -0.8
FFC pmax pmax
comp=Z,42nm,1.1s
FFC Flin Flon 40.84 298 P **P** 07 47 43.9 -0.8
FFC IAmb IAmb 07 47 54.1
comp=Z,42nm,1.1s
I61A Oroboro, Fairl 40.94 264 P 07 47 48.0
baz=27
BILL Bilibino 41.02 3 *ce*P **P** 07 47 47.6 +1.6
BILL *i* 07 47 57.8
BILL *i* 07 49 19.8
BILL *e*S **S** 07 54 06.2 +8.0
BILL pmax pmax
comp=Z,26nm,1.3s
BILL MLR MLR
comp=Z,276nm,18.0s
DAWY Dawson 41.03 330 P **P** 07 47 46.1 -0.1
ALGO Algonquin Park 41.04 271 P 07 47 48.5
baz=28
ZAA0 Zalesovo Array 41.08 64 P **P** 07 47 44.7 -2.0
ZALV Zalesovo Beam 41.08 64 P **P** 07 47 47.6 +1.0
comp=Z,7.5nm,1.0s,baz=324,slow=9.9,SNR=14
ZALV PP **PP** 07 49 25.0 +4.0
comp=Z,2.6nm,0.8s,baz=331,slow=12,SNR=2.5
ZALV LR LR 08 07 10.8
comp=Z,477nm,21.8s,baz=333,slow=40
ZALV Zalesovo Beam 41.08 64 *i*P **P** 07 47 48.0 +1.4
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 41.08 64 P **P** 07 47 45.5 -1.1
LONY Lake Ozonia 41.09 267 P 07 47 48.5
baz=27
H58A Gabriels 41.14 266 P 07 47 49.7
baz=27
POKR Poker Plat Res 41.24 335 P 07 47 50.9
baz=19,SNR=6.3
I60A Shoreham 41.37 265 P 07 47 51.9
baz=27
I23K Minto, Yukon-K 41.47 337 P **P** 07 47 49.0 -0.6
I23K Minto, Yukon-K 41.47 337 P 07 47 52.3
baz=18,SNR=54
K27K Chicken 41.49 332 P 07 47 52.3
baz=21
IL31 41.49 335 P **P** 07 47 49.0 -0.8
IL31 IAmb IAmb 07 47 53.7
comp=Z,48nm,1.2s
ILAR Eielson Array 41.49 335 P **P** 07 47 51.9 +1.9
comp=Z,19nm,0.9s,baz=12,slow=7.1,SNR=127
ILAR LR LR 08 06 23.4
comp=Z,496nm,21.2s,baz=40,slow=38
ILAR Eielson Array 41.49 335 P **P** 07 47 49.7 -0.3
H57A Richville 41.50 267 P 07 47 52.4
baz=27
MDM Murphy Dome 41.50 336 P **P** 07 47 49.1 -0.9
MDM IAmb IAmb 07 47 54.1
comp=Z,61nm,1.3s
COLA College 41.53 336 *c i*P **P** 07 47 51.5 +1.3
COLA pmax pmax
comp=Z,63nm,1.1s
COLA College 41.53 336 P **P** 07 47 48.9 -1.3
COLA College 41.53 336 P 07 47 52.7
baz=18
TCOL CIGO, UAF Yank 41.53 336 P **P** 07 47 49.3 -0.9
TCOL CIGO, UAF Yank 41.53 336 P 07 47 52.7
baz=18,SNR=15
J61A Chester 41.58 264 P 07 47 53.0
baz=26
CCB Clear Creek Bu 41.74 335 P **P** 07 47 51.5 -0.4
CCB IAmb IAmb 07 47 55.4
comp=Z,42nm,1.1s
MLY Manley 41.75 337 P **P** 07 47 51.4 -0.7
MLY IAmb IAmb 07 47 56.0
comp=Z,25nm,1.1s
MLY Manley 41.75 337 P 07 47 54.2
baz=17,SNR=27
I21K Tanana 41.76 338 P 07 47 54.7
baz=17,SNR=24
SCRK Sand Creek 41.83 333 P **P** 07 47 52.0 -0.8
SCRK Sand Creek 41.83 333 P 07 47 54.9
baz=20,SNR=12
K63A Dunstable 41.83 262 P 07 47 55.8
baz=26
HDA Harding Lake 41.85 335 P **P** 07 47 51.9 -0.9
HDA Harding Lake 41.85 335 P 07 47 55.1
baz=19,SNR=39
HDA P 07 47 55.1
baz=19,SNR=39
WRH Wood River Hil 41.94 336 P **P** 07 47 52.3 -1.3
WRH IAmb IAmb 07 47 57.2
comp=Z,39nm,1.2s
J60A Lant Hill Farm 41.95 265 P 07 47 56.2
baz=26
NEA2 Nenana 41.96 336 P **P** 07 47 52.2 -1.6
NEA2 Nenana 41.96 336 P 07 47 56.0
baz=18,SNR=35
I58A Old Forge 42.05 266 P 07 47 57.4
baz=27
I57A Carthage 42.05 267 P 07 47 57.6
baz=27
K62A Royalston 42.08 263 P 07 47 57.5
baz=26
DOT Dot Lake 42.15 333 P **P** 07 47 55.3 -0.1
DOT IAmb IAmb 07 47 59.1
comp=Z,24nm,1.0s
CSS Mathiatis 42.22 126 P P 07 47 52.8 -3.4
CSS IAmb IAmb 07 48 04.2
comp=Z,22nm,1.0s
BCAR Beaver Creek A 42.35 331 P **P** 07 47 56.3 -0.8
L27K Beaver Creek, 42.36 331 P **P** 07 47 56.1 -1.0
L27K IAmb IAmb 07 48 02.4
comp=Z,50nm,1.4s

L27K Beaver Creek, 42.36 331 P 07 47 59.9
baz=20,SNR=36
BWN Browne 42.41 336 P **P** 07 47 56.6 -0.9
K61A Williamstown 42.41 264 P 07 48 00.5
baz=26
L61B Northampton 42.42 263 P 07 48 00.7
baz=26
SADO Sadowa 42.44 271 P **P** 07 47 56.4 -1.5
SADO IAmb IAmb 07 48 06.2
comp=Z,42nm,1.5s
J58A Remsen 42.45 266 P **P** 07 47 56.1 -1.8
J58A IAmb IAmb 07 48 08.1
comp=Z,43nm,1.4s
J58A Remsen 42.45 266 P 07 48 00.7
baz=27
L63A North Scituate 42.60 262 P 07 48 01.0
baz=26
BPAW Bear Paw Mtn. 42.68 337 P **P** 07 47 58.9 -0.7
BPAW IAmb IAmb 07 48 03.2
comp=Z,45nm,1.2s
BPAW Bear Paw Mtn. 42.68 337 P 07 48 01.6
baz=17,SNR=32
E46A Sault Ste Mari 42.70 277 P **P** 07 47 58.4 -1.6
E46A IAmb IAmb 07 48 09.3
comp=Z,46nm,1.1s
MCK McKinley 42.76 336 P **P** 07 47 59.0 -1.4
MCK pmax pmax
comp=Z,83nm,1.2s
MCK McKinley 42.76 336 P **P** 07 47 59.0 -1.4
MCK McKinley 42.77 336 P 07 48 02.4
baz=18,SNR=26
MENT Mentasta 42.77 332 P **P** 07 47 59.5 -1.0
MENT IAmb IAmb 07 48 03.8
comp=Z,35nm,1.4s
SEM Semipalatinsk 42.81 70 *e*P **P** 07 48 00.0 -1.1
baz=70
SEM Semipalatinsk 42.81 70 *e*P **P** 07 48 00.0 -1.1
ULM Lac du Bonnet 42.93 290 P **P** 07 48 01.8 -0.1
comp=Z,4.2nm,0.8s,baz=18,slow=9.7,SNR=5.1
ULM LR LR 08 04 56.0
comp=Z,633nm,19.9s,baz=28,slow=35
ULM Lac du Bonnet 42.93 290 P **P** 07 48 00.0 -1.8
ULM pmax pmax
comp=Z,15nm,1.2s
ULM Lac du Bonnet 42.93 290 P **P** 07 48 00.0 -1.8
PAX Paxson 43.01 333 P **P** 07 48 00.7 -1.7
PAX pmax pmax
comp=Z,15nm,0.9s
PAX Paxson 43.01 333 P **P** 07 48 00.7 -1.7
PAX Paxson 43.01 333 P 07 48 04.3
baz=19
RND Reindeer 43.06 336 P **P** 07 48 02.3 -0.6
RND pmax pmax
comp=Z,43nm,1.4s
RND Reindeer 43.06 336 P **P** 07 48 02.3 -0.6
RND IAmb IAmb 07 48 05.8
comp=Z,43nm,1.4s
KTH Kantishna Hill 43.20 337 P **P** 07 48 03.1 -0.8
TRF Thorofare Moun 43.21 336 P **P** 07 48 04.3 +0.2
TRF Thorofare Moun 43.21 336 P 07 48 06.0
baz=17
WHY Whitehorse 43.41 325 P **P** 07 48 04.6 -1.1
WHY IAmb IAmb 07 48 15.4
comp=Z,32nm,1.4s
WHY Whitehorse 43.41 325 P 07 48 07.5
baz=22,SNR=7.0
HARP HAARP 43.50 333 P 07 48 09.0
baz=19,SNR=10.0
WAT1 Susitna Watana 43.58 335 P 07 48 08.5
baz=17
EYMN Ely 43.60 284 P **P** 07 48 06.0 -1.3
EYMN Ely 43.60 284 P 07 48 08.7
baz=28
ANM Nome 43.70 346 P 07 48 09.8
baz=10
K56A Middlesex 43.70 268 P 07 48 10.8
baz=26
WAT6 Susitna Watana 43.70 334 P 07 48 10.1
baz=18,SNR=30
BINY Binghamton 43.72 266 P 07 48 11.0
baz=26
HYT Haines Junctio 43.73 327 P **P** 07 48 06.8 -1.5
M24K Tolsona, Glenn 43.93 333 P **P** 07 48 09.2 -0.6
M24K IAmb IAmb 07 48 12.9
comp=Z,36nm,1.2s
M24K Tolsona, Glenn 43.93 333 P 07 48 12.1
baz=18
B35A Bob, Littlefor 43.94 287 P **P** 07 48 08.9 -1.0
PPLA Purkeypile 43.99 337 P **P** 07 48 09.3 -1.1
PPLA IAmb IAmb 07 48 16.8
comp=Z,37nm,1.3s
PPLA Purkeypile 43.99 337 P 07 48 12.0
baz=16,SNR=8.7
MCARA McCarthy VSAT 44.14 331 P 07 48 13.4
baz=19
N25K Chitina, Valde 44.17 332 P **P** 07 48 10.7 -1.0
N25K IAmb IAmb 07 48 15.4
comp=Z,23nm,1.1s
N25K Chitina, Valde 44.17 332 P 07 48 13.7
baz=19,SNR=11
GLB Gilahina Butte 44.20 331 P **P** 07 48 10.4 -1.6
CUT Chulitna 44.22 336 P **P** 07 48 11.3 -0.7
CUT Chulitna 44.22 336 P 07 48 12.8
baz=16,SNR=5.1
CTGM Chitina Glacie 44.26 330 P **P** 07 48 11.4 -1.1
CTGM IAmb IAmb 07 48 22.4
comp=Z,25nm,1.4s
CTG Chitna Glacier 44.26 330 P 07 48 13.4
baz=20
LOGN Logan Glacier 44.34 329 P **P** 07 48 11.8 -1.4
SCM Sheep Creek Mo 44.36 334 P **P** 07 48 12.2 -1.0
SCM pmax pmax
comp=Z,53nm,1.1s
SCM Sheep Creek Mo 44.36 334 P **P** 07 48 12.2 -1.0
WVNY West Valley, N 44.38 269 P **P** 07 48 11.2 -2.4
KLU Klutina 44.48 333 P **P** 07 48 14.1 -0.2
KLU Klutina 44.48 333 P 07 48 15.8
baz=18,SNR=6.2
COWI Conover 44.49 281 P **P** 07 48 12.9 -1.6
SML Sawmill 44.53 334 P 07 48 16.0
baz=17,SNR=14
SKAG Skagway 44.61 325 P **P** 07 48 14.2 -0.9
SKAG IAmb IAmb 07 48 18.6
comp=Z,17nm,1.0s
SKAG Skagway 44.61 325 P 07 48 17.2
baz=22
GHO Glory Hole Cre 44.64 335 P **P** 07 48 14.7 -0.8
GHO IAmb IAmb 07 48 25.0
comp=Z,31nm,1.1s
AGMN Agassiz Nation 44.66 288 P **P** 07 48 14.5 -1.2
AGMN IAmb IAmb 07 48 21.3
comp=Z,31nm,1.4s
AGMN Agassiz Nation 44.66 288 P 07 48 17.0
baz=28,SNR=10.0
CRQE Cirque 44.75 331 P 07 48 18.0
baz=19
CRQM Cirque 44.75 331 P **P** 07 48 15.3 -1.2
CRQM IAmb IAmb 07 48 21.7
comp=Z,36nm,1.2s
BMRM Bremner River 44.78 332 P **P** 07 48 15.6 -1.0
BMRM IAmb IAmb 07 48 19.6
comp=Z,28nm,1.3s
BMRM Bremner River 44.78 332 P 07 48 17.9
baz=18
N59A State Game Lan 44.80 265 P 07 48 19.6
baz=25
E38A The Farm, Brul 44.81 283 P **P** 07 48 15.4 -1.5
PMR Palmer 44.84 335 P **P** 07 48 16.5 -0.5
PMR pmax pmax
comp=Z,15nm,1.1s
PMR Palmer 44.84 335 P **P** 07 48 16.5 -0.5
PMR IAmb IAmb 07 48 27.5
comp=Z,15nm,1.1s
PMR Palmer 44.84 335 P 07 48 18.1
baz=17,SNR=6.2
YAH Yahtse 44.90 330 P **P** 07 48 16.6 -1.2
PINM Pinnacle 44.90 328 P 07 48 19.0
baz=20
GAMB Gambell 44.91 350 P 07 48 19.2
baz=7.3
KNK Knik Glacier 44.92 334 P 07 48 19.6
baz=17,SNR=6.3
L19K White Mountain 45.01 339 P 07 48 19.8
baz=14,SNR=19
MESA MESA 45.11 330 P 07 48 21.3
baz=19

M19K Big River Lodg 45.22 338 P 07 48 21.3
baz=15
GLI Glacier Island 45.24 333 P 07 48 22.0
baz=17
BESE Bessie Mountai 45.34 324 P **P** 07 48 19.6 -1.5
BESE IAmb IAmb 07 48 31.4
comp=Z,20nm,1.2s
EYAK Cordova Ski Ar 45.35 332 P 07 48 23.1
baz=18
RC01 Rabbit Creek A 45.41 335 P **P** 07 48 21.0 -0.5
RC01 Rabbit Creek A 45.41 335 P 07 48 23.0
baz=16,SNR=7.4
SEY Seymchan 45.51 13 *i*P **P** 07 48 21.9 -0.4
M54A Oil Creek Stat 45.53 269 P 07 48 24.8
baz=26
JIS Juneau Island 45.54 324 P **P** 07 48 21.6 -0.9
JIS IAmb IAmb 07 48 27.7
comp=Z,24nm,1.2s
G40A Rib Lake 45.57 281 P **P** 07 48 21.5 -1.6
G40A IAmb IAmb 07 48 41.0
comp=Z,22nm,1.2s
DGZ Jazzator, Alta 45.59 65 *i*P **P** 07 48 23.9 +0.6
DGZ pmax pmax
comp=Z,19nm,1.3s
BTLS Baital 45.62 79 *j i*P **P** 07 48 25.0 +1.6
comp=Z,9.0nm,0.6s,baz=79
BTLS Baital 45.62 79 *d i*P **P** 07 48 24.9 +1.6
BTLS pmax pmax
comp=Z,9.0nm,0.6s
SSPA Standing Stone 45.74 267 P **P** 07 48 22.6 -1.8
SSPA Standing Stone 45.74 267 P 07 48 26.6
baz=25
MVL Millersville 45.82 265 P **P** 07 48 23.2 -1.8
MVL IAmb IAmb 07 48 33.9
comp=Z,15nm,1.2s
M53A WI Miller and 45.92 270 P 07 48 27.9
baz=26
O22K Cooper Landing 45.99 335 P 07 48 28.0
baz=16
F36A Milaca 46.09 285 P **P** 07 48 25.2 -1.9
AAM Ann Arbor 46.12 274 P 07 48 29.2
baz=26
N54A Moraine State 46.13 269 P 07 48 29.7
baz=26,SNR=6.8
SVW2 Sparrevohn 46.15 339 P **P** 07 48 26.1 -1.2
SVW2 IAmb IAmb 07 48 31.0
comp=Z,31nm,1.2s
MDND Maddock 46.20 291 P **P** 07 48 26.8 -1.2
MDND Maddock 46.20 291 P 07 48 28.9
baz=27
KK31 Karatay Array 46.21 84 P P 07 48 25.0 -3.1
KK31 pmax pmax
comp=Z,27nm,1.0s
KK31 Karatay Array 46.21 84 P P 07 48 25.0 -3.1
KKAR Karatay Array 46.21 84 P **P** 07 48 26.3 -1.8
KKAR pmax pmax
comp=Z,27nm,1.0s
KKAR Karatay Array 46.21 84 P **P** 07 48 25.4 -2.7
KKAR Karatay Array 46.21 84 P **P** 07 48 26.3 -1.8
N19K Bonanza Creek 46.29 338 P 07 48 29.7
baz=14,SNR=14
O56A Blue Knob Stat 46.30 268 P 07 48 30.9
baz=25
SEW Seward 46.32 335 P **P** 07 48 28.6 -0.1
SEW Seward 46.32 335 P 07 48 30.3
baz=16
I42A Draeger Farm, 46.39 279 P **P** 07 48 27.5 -2.0
I42A IAmb IAmb 07 48 47.9
comp=Z,34nm,1.4s
RSO Redoubt South 46.42 337 P **P** 07 48 29.4 -0.3
SPMN Marine on St. 46.44 284 P 07 48 31.9
baz=27
SDMD Soldier's Deli 46.51 266 P **P** 07 48 29.0 -1.4
SDMD IAmb IAmb 07 48 37.7
comp=Z,18nm,1.2s
MAKZ Makanchi 46.53 71 P **P** 07 48 28.2 -2.4
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 46.53 71 P **P** 07 48 28.2 -2.4
MAKZ IAmb IAmb 07 48 34.0
comp=Z,9.9nm,0.8s
N53A Lisbon 46.55 270 P **P** 07 48 29.4 -1.4
N18K Kilae Creek 46.59 339 P 07 48 32.7
baz=14
MK31 Makanchi Array 46.64 71 P **P** 07 48 29.0 -2.4
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 46.64 71 P **P** 07 48 29.0 -2.4
MK31 IAmb IAmb 07 48 33.9
comp=Z,10nm,0.9s
MKAR Makanchi Array 46.64 71 P **P** 07 48 32.2 +0.7
comp=Z,6.8nm,0.7s,baz=350,slow=6.2,SNR=75
MKAR PP **PP** 07 50 19.5 -1.1
comp=Z,5.4nm,1.1s,baz=353,slow=7.6,SNR=3.8
MKAR LR LR 08 10 05.1
comp=Z,528nm,20.3s,baz=324,slow=39
MKAR Makanchi Array 46.64 71 *i*P **P** 07 48 32.5 +1.1
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 46.64 71 P **P** 07 48 29.0 -2.4
DZA Taraz 46.67 83 *e*P **P** 07 48 31.5 -0.2
baz=83
DZA Taraz 46.67 83 *e*P **P** 07 48 31.5 -0.2
L48A N Adams 46.69 274 P **P** 07 48 30.2 -1.7
L48A IAmb IAmb 07 48 40.9
comp=Z,22nm,1.1s
BRLK Bradley Lake 46.84 335 P **P** 07 48 32.9 0.0
BRSE Bradley Lake S 46.85 335 P 07 48 33.7
baz=16
SIT Sitka 46.86 324 P 07 48 34.2
baz=21
WRAK Wrangell Islan 46.87 321 P 07 48 34.7
baz=22
GEYT Alibeck 46.87 98 P **P** 07 48 34.2 +0.8
comp=Z,8.5nm,0.9s,baz=324,slow=9.8,SNR=11
GEYT PP **PP** 07 50 22.8 -0.4
comp=Z,1.5nm,0.3s,baz=322,slow=9.1,SNR=1.5
GEYT LR LR 08 07 45.3
comp=Z,706nm,18.4s,baz=5.0,slow=36
GEYT Alibeck 46.87 98 IAmb IAmb 07 48 37.3
comp=Z,136nm,1.2s
O19K Port Alsworth 46.87 338 P 07 48 33.7
baz=14
DGMT Dagmar 47.02 295 P 07 48 36.1
baz=26
CNPM China Poot 47.12 336 P **P** 07 48 34.9 -0.1
O53A New Philadelph 47.17 270 P 07 48 37.4
baz=25,SNR=6.6
SGDS Sogindy 47.23 80 *j i*P **P** 07 48 37.5 +1.3
comp=Z,7.6nm,0.7s,baz=80
SGDS Sogindy 47.23 80 *d i*P **P** 07 48 37.4 +1.3
SGDS pmax pmax
comp=Z,8.0nm,0.7s
MCWV Mont Chateau 47.26 269 P 07 48 38.1
baz=25
K43A Burlington 47.27 278 P **P** 07 48 35.2 -1.2
O18K Koktuh Hills 47.31 338 P 07 48 37.7
baz=14
USP Ospenovka 47.35 80 P **P** 07 48 38.8 +1.7
SNR=14
KUU Kurty 47.38 78 *j i*P **P** 07 48 38.4 +1.2
comp=Z,25nm,0.7s,baz=78
KUU Kurty 47.38 78 *d i*P **P** 07 48 38.4 +1.2
KUU pmax pmax
comp=Z,25nm,0.7s
N49A Columbus Grove 47.53 273 P **P** 07 48 36.9 -1.5
MOY Mondy 47.59 53 *e*P **P** 07 48 41.8 +2.9
MOY pmax pmax
comp=Z,75nm,2.7s
L44A Lake County Fo 47.61 278 P 07 48 40.8
baz=26
EKS2 Erkin-Say 47.66 81 P **P** 07 48 41.7 +2.1
SNR=18
CHMS Chumysh 47.67 80 P **P** 07 48 41.7 +2.2
SNR=9.3
E28A Huff 47.67 291 P **P** 07 48 38.5 -1.0
E28A IAmb IAmb 07 48 45.1
comp=Z,17nm,1.1s
JFWS Jewell Farm 47.70 280 P 07 48 41.8
baz=26
CRAG Craig 47.91 321 P 07 48 42.6
baz=21
AAK Ala-Archa 47.91 80 P **P** 07 48 43.9 +2.3
SNR=10
AAK Ala-Archa 47.91 80 *ce*P **P** 07 48 43.8 +2.2
AAK pmax pmax

comp=Z,113nm,1.3s
AAK Ala-Archa 47.91 80 P **P** **07 48 39.6 -1.9**
P53A Whipple 47.92 270 P **P** **07 48 39.2 -2.2**
TKM2 Tokmak 2 48.01 79 P **P** **07 48 44.4 +2.0**
SNR=28
P52A Corning 48.03 271 P 07 48 43.5
baz=25,SNR=5.8
AML Almayashu 48.11 81 P **P** **07 48 46.1 +2.7**
SNR=32
TLY Talaya 48.26 51 *e*P **P** **07 48 45.4 +1.5**
TLY *e*S S 07 55 55.5 +12
TLY *e*SS **SS** **07 59 08.2 -3.8**
TLY pmax pmax
comp=Z,20nm,1.0s
TLY MLR MLR
comp=Z,668nm,9.0s
MDOK Medeo 48.26 78 *i* P **P** **07 48 45.8 +1.5**
baz=78
MDOK Medeo 48.26 78 *i* P **P** **07 48 45.7 +1.5**
KPKS Kokpek 48.50 76⇓ *i* P **P** **07 48 47.8 +1.7**
comp=Z,17nm,0.6s,baz=76
KPKS Kokpek 48.50 76*d* *i* P **P** **07 48 47.7 +1.7**
KPKS pmax pmax
comp=Z,17nm,0.6s
MA2 Magadan 48.71 14 *i* P **P** **07 48 48.6 +1.3**
MA2 pmax pmax
comp=Z,18nm,1.2s
L40A Anamosa 48.77 280 P **P** **07 48 46.6 -1.4**
L40A IAmb IAmb 07 48 53.8
comp=Z,19nm,1.1s
SATY Saty 48.78 76⇓ *i* P **P** **07 48 49.8 +1.5**
comp=Z,21nm,1.3s,baz=76
SATY Saty 48.78 76*d* *i* P **P** **07 48 49.7 +1.5**
SATY pmax pmax
comp=Z,21nm,1.3s
ULHL Ulahol 48.83 79 P **P** **07 48 50.8 +2.1**
SNR=8.1
UZB Uzynbulak 48.90 76⇓ *i* P **P** **07 48 50.5 +1.4**
comp=Z,17nm,1.1s,baz=76
UZB Uzynbulak 48.90 76*d* *i* P **P** **07 48 50.5 +1.4**
UZB pmax pmax
comp=Z,17nm,1.1s
P49A Miami Univ. Ec 48.96 273 P **P** **07 48 47.7 -1.7**
P49A Miami Univ. Ec 48.96 273 P 07 48 50.9
baz=25
SFIN Lafayette 48.97 276 P **P** **07 48 48.0 -1.5**
SFIN Lafayette 48.97 276 P 07 48 50.9
baz=25
ECSD EROS Data Cent 48.97 286 P **P** **07 48 48.2 -1.3**
ECSD EROS Data Cent 48.97 286 P 07 48 51.0
baz=26
KDAK Kodiak Island 48.99 336 P 07 48 50.6
baz=14
EGMT Eagleton 49.02 300 P **P** **07 48 49.4 -0.5**
EGMT Eagleton 49.02 300 P 07 48 51.1
baz=25,SNR=32
SHLS Shalkode 49.03 75⇓ *i* P **P** **07 48 53.4 +3.2**
comp=Z,42nm,1.1s,baz=75
SHLS Shalkode 49.03 75*d* *i* P **P** **07 48 53.3 +3.2**
SHLS pmax pmax
comp=Z,42nm,1.1s
LAO LASA Array 49.22 296 P 07 48 53.2
baz=25
WALA Waterton Lakes 49.24 303 P **P** **07 48 50.2 -1.4**
P48A Milroy 49.26 274 P **P** **07 48 49.6 -2.2**
ZAK Zakamensk 49.35 52 *e*P **P** **07 48 53.6 +1.1**
HDIL Hopedale 49.52 278 P 07 48 55.2
baz=25
SCIA State Center 49.55 282 P 07 48 56.1
baz=25
OHAK Old Harbor 49.63 336 P **P** **07 48 53.0 -1.4**
OHAK Old Harbor 49.63 336 P 07 48 55.8
baz=14
BLA Blacksburg 49.67 268 P **P** **07 48 53.5 -1.5**
BLA pmax pmax
comp=Z,50nm,1.5s
BLA Blacksburg 49.67 268 P **P** **07 48 53.5 -1.5**
BLA Blacksburg 49.67 268 P 07 48 56.4
baz=24
P46A Rosedale 49.69 275 P **P** **07 48 54.2 -0.8**
P46A IAmb IAmb 07 48 58.9
comp=Z,13nm,0.8s
CHGR Chuyangaron 49.79 87 P **P** **07 48 53.1 -2.9**
R50A Paris 49.97 272 P **P** **07 48 55.6 -1.6**
R49A Shelbyville 50.23 273 P **P** **07 48 57.4 -1.8**
S51A Beattyville 50.32 271 P **P** **07 48 58.2 -1.6**
S51A IAmb IAmb 07 49 02.6
comp=Z,21nm,1.1s
P43A Skaggs, Pawnee 50.42 278 P **P** **07 48 59.1 -1.4**
JTMT Jette 50.53 303 P **P** **07 49 00.3 -1.2**
JTMT IAmb IAmb 07 49 10.8
comp=Z,18nm,1.2s
WCI Wyandotte Cave 50.66 274 P **P** **07 49 00.5 -1.9**
WCI pmax pmax
comp=Z,34nm,1.2s
WCI Wyandotte Cave 50.66 274 P **P** **07 49 00.5 -1.9**
WCI IAmb IAmb 07 49 11.4
comp=Z,34nm,1.2s
WCI Wyandotte Cave 50.66 274 P 07 49 03.7
baz=24
U54A Nelsons Funny 50.76 269 P **P** **07 49 00.5 -2.8**
U54A IAmb IAmb 07 49 06.1
comp=Z,16nm,0.8s
HRY Holter Researc 50.80 301 P **P** **07 49 02.3 -1.2**
NEW Newport 50.82 306 P **P** **07 49 02.5 -1.1**
NEW pmax pmax
comp=Z,10.0nm,1.2s
NEW Newport 50.82 306 P **P** **07 49 02.5 -1.1**
NEW Newport 50.83 306 P 07 49 05.1
baz=23
RSSD Black Hills 50.90 293 P **P** **07 49 02.5 -1.9**
RSSD pmax pmax
comp=Z,17nm,1.4s
RSSD Black Hills 50.90 293 P **P** **07 49 02.5 -1.9**
RSSD Black Hills 50.90 293 P 07 49 05.6
baz=25
Q44A Meyer Farm, Va 50.93 277 P **P** **07 49 02.5 -1.9**
Q44A IAmb IAmb 07 49 13.2
comp=Z,29nm,1.1s
WMQ Urumqi 50.97 68 *e*P **P** **07 49 07.0 +2.3**
WMQ pP sP 07 49 11.0 +4.2
WMQ pmax pmax
comp=Z,49nm,1.1s
WMQ pmax pmax
comp=Z,190nm,3.9s
WMQ L L
comp=Z,740nm,17.3s
WMQ L L
comp=Z,760nm,17.9s
WMQ L L
comp=Z,710nm,17.9s
GCMT Greycliff 51.03 298 P **P** **07 49 05.3 0.0**
V55A Taylorsville 51.17 268 P **P** **07 49 05.1 -1.2**
V55A IAmb IAmb 07 49 10.0
comp=Z,22nm,1.1s
KSH Kashi 51.21 81 P **P** **07 49 10.3 +3.6**
KSH sP pwP 07 49 16.5 +8.3
KSH PcS **PcS** **07 54 21.0 +1.3**
KSH S **S** **07 56 27.8 +2.5**
KSH pmax pmax
comp=Z,12nm,0.6s
KSH pmax pmax
comp=Z,160nm,4.4s
KSH L L
comp=Z,380nm,9.9s
KSH L L
comp=Z,250nm,6.8s
KSH L L
comp=Z,200nm,6.1s
MSO Missoula 51.28 302 P **P** **07 49 06.4 -0.8**
MSO IAmb IAmb 07 49 09.6
comp=Z,27nm,1.1s
MSO Missoula 51.28 302 P 07 49 08.2
baz=24,SNR=23
T50A Nancy 51.28 272 P **P** **07 49 06.0 -1.1**
T50A IAmb IAmb 07 49 09.8
comp=Z,14nm,1.1s
TZTN Tazewell 51.30 270 P 07 49 08.8
baz=24,SNR=5.3
B08A Colville Reser 51.32 307 P **P** **07 49 07.5 +0.2**
B08A IAmb IAmb 07 49 17.6
comp=Z,25nm,1.4s
ZEA Zeya 51.41 32 *e*P **P** **07 49 11.2 +3.4**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=E,100nm,14.0s
ZEA MLR MLR
comp=N,200nm,10.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
RLMT Red Lodge 51.53 298 P **P** **07 49 07.3 -1.8**
RLMT IAmb IAmb 07 49 18.9
comp=Z,22nm,1.5s
RLMT Red Lodge 51.53 298 P 07 49 10.2
baz=24
C09A Chrisman Ranch 51.55 306 P **P** **07 49 07.8 -1.2**
BOZ Bozeman (W) 51.77 300 P **P** **07 49 09.1 -1.7**
BOZ pmax pmax
comp=Z,10.0nm,1.3s
BOZ Bozeman (W) 51.77 300 P **P** **07 49 09.1 -1.7**
BOZ Bozeman (W) 51.77 300 P 07 49 11.8
baz=24,SNR=9.1
LRM Limekiln Ridge 51.79 301 P **P** **07 49 09.3 -1.8**
YNE Yellowstone No 51.84 298 P **P** **07 49 10.1 -1.4**
YNE IAmb IAmb 07 49 21.2
comp=Z,26nm,1.4s
KMSC Kings Mountain 51.86 268 P 07 49 13.2
baz=23,SNR=7.8
T47A Sharon Grove 52.05 274 P **P** **07 49 10.9 -1.9**
T47A IAmb IAmb 07 49 21.4
comp=Z,26nm,1.2s
U49A Red Boiling Sp 52.05 272 P **P** **07 49 12.0 -0.9**
U49A IAmb IAmb 07 49 21.0
comp=Z,32nm,1.3s
SIUC Southern Illin 52.07 276 P **P** **07 49 11.4 -1.6**
SIUC IAmb IAmb 07 49 21.7
comp=Z,30nm,1.1s
S44A Carbondale 52.10 276 P **P** **07 49 11.5 -1.7**
S44A IAmb IAmb 07 49 21.9
comp=Z,27nm,1.0s
YMP Mirror Lake Pl 52.13 298 P **P** **07 49 13.1 -0.7**
YMP IAmb IAmb 07 49 16.8
comp=Z,19nm,1.0s
DLMT Dillon 52.25 300 P **P** **07 49 13.2 -1.3**
YHH Holmes Hill 52.29 299 P **P** **07 49 14.7 -0.2**
D08A Wollman Farm, 52.41 306 P **P** **07 49 14.6 -0.8**
QLMT Earthquake Lak 52.41 299 P **P** **07 49 14.8 -1.0**
CCM Cathedral Cave 52.42 278 P **P** **07 49 13.7 -1.9**
CCM pmax pmax
comp=Z,17nm,1.3s
CCM Cathedral Cave 52.42 278 P **P** **07 49 13.7 -1.9**
CCM IAmb IAmb 07 49 30.0
comp=Z,17nm,1.2s
CCM Cathedral Cave 52.42 278 P 07 49 15.9
baz=24
SONM Songino Array 52.50 51 P **P** **07 49 17.2 +1.0**
comp=Z,2.2nm,0.8s,baz=336,slow=6.5,SNR=8.4
SONM LR LR 08 16 42.0
comp=Z,435nm,18.2s,baz=354,slow=42
SONM Songino Array 52.50 51 P **P** **07 49 15.6 -0.6**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 52.50 51 P **P** **07 49 15.6 -0.6**
BG3 Lake Jocassee 52.52 269 P **P** **07 49 14.7 -1.6**
BG3 IAmb IAmb 07 49 19.8
comp=Z,25nm,0.9s
H17A Grant Village 52.57 298 P 07 49 17.9
baz=24,SNR=9.6
CLTN Cedars of Leba 52.62 273 P **P** **07 49 15.1 -2.0**
ULN Ulaanbaatar 52.63 50*d* *i* P **P** **07 49 17.7 +0.5**
ULN pmax pmax
comp=Z,18nm,2.0s
ULN Ulaanbaatar 52.63 50 P **P** **07 49 14.9 -2.3**
E09A Wood Farm, Sta 52.71 306 P **P** **07 49 16.1 -1.4**
CHNA Chernabura Isl 52.74 340 P 07 49 18.2
baz=11
MCMT McKenzie Canyo 52.82 300 P **P** **07 49 17.8 -1.0**
F10A Beach Ranch, E 52.96 305 P **P** **07 49 18.4 -1.2**
E08A Dider Farm, El 52.97 306 P **P** **07 49 18.7 -0.8**
E08A IAmb IAmb 07 49 28.9
comp=Z,21nm,1.3s
K22A Casper 52.98 294 P **P** **07 49 18.5 -1.4**
K22A IAmb IAmb 07 49 28.2
comp=Z,26nm,1.1s
K22A Casper 52.98 294 P 07 49 20.2
baz=24
D03D Eldon 53.03 310 P 07 49 20.7
baz=22
W50A Signal Mountai 53.10 271 P **P** **07 49 19.5 -1.2**
E07A Sunnyside 53.12 307 P **P** **07 49 19.2 -1.5**
E07A IAmb IAmb 07 49 30.2
comp=Z,20nm,0.9s
OGNE Ogallala 53.18 289 P **P** **07 49 20.4 -1.0**
OGNE IAmb IAmb 07 49 23.6
comp=Z,23nm,1.1s
HAWA Hanford 53.19 307 P **P** **07 49 20.1 -1.0**
HAWA IAmb IAmb 07 49 33.6
comp=Z,16nm,1.2s
OGNE Ogallala 53.19 289 P 07 49 22.0
baz=24
D04E Lakebay 53.29 309 P 07 49 23.4
baz=22
SWET Sewanee 53.29 272 P **P** **07 49 21.3 -0.8**
SWET IAmb IAmb 07 49 30.2
comp=Z,35nm,1.3s
LOHW Long Hollow 53.29 298 P **P** **07 49 20.6 -1.6**
PBMO Poplar Bluff 53.32 277 P **P** **07 49 21.0 -1.2**
PBMO IAmb IAmb 07 49 30.5
comp=Z,38nm,1.5s
NHSC New Hope 53.35 265 P **P** **07 49 20.6 -1.9**
NHSC New Hope 53.35 265 P 07 49 23.7
baz=23
NLWA Neilton Lookou 53.36 310 P **P** **07 49 20.6 -1.9**
NLWA IAmb IAmb 07 49 32.9
comp=Z,18nm,1.1s
S39A Bolivar 53.42 280 P **P** **07 49 20.6 -2.3**
S39A IAmb IAmb 07 49 40.2
comp=Z,17nm,1.4s
BCYI Bear Canyon 53.45 301 P **P** **07 49 22.6 -0.8**
TPAW Teton Pass 53.51 298 P **P** **07 49 22.4 -1.5**
KBL Kabul 53.51 90 P **P** **07 49 21.5 -2.4**
KBL pmax pmax
comp=Z,27nm,1.5s
KBL Kabul 53.51 90 P **P** **07 49 21.5 -2.4**
KBL IAmb IAmb 07 49 26.2
comp=Z,27nm,1.4s
MGMO Mountain Grove 53.57 279 P **P** **07 49 22.2 -1.9**
MGMO IAmb IAmb 07 49 36.6
comp=Z,16nm,0.9s
REDW Red Top Meadow 53.59 298 P **P** **07 49 22.8 -1.7**
BW06 Boulder Array 53.77 297 P **P** **07 49 24.1 -1.7**
BW06 IAmb IAmb 07 49 34.5
comp=Z,16nm,1.4s
PD31 Pinedale Array 53.77 297 P **P** **07 49 23.9 -1.9**
PD31 IAmb IAmb 07 49 34.5
comp=Z,14nm,1.4s
PDAR Pinedale Array 53.77 297 P **P** **07 49 26.0 +0.3**
comp=Z,2.3nm,0.8s,baz=45,slow=6.5,SNR=24
PDAR LR LR 08 12 14.8
comp=Z,653nm,19.2s,baz=25,slow=36
PDAR Pinedale Array 53.77 297 P **P** **07 49 23.9 -1.9**
BW06 Boulder Array 53.77 297 P 07 49 26.3
baz=23,SNR=7.1
FPAL Fort Paine 53.80 271 P **P** **07 49 23.8 -2.1**
E04D Cinebar 53.81 309 P 07 49 26.8
baz=22,SNR=7.3
PHWY Pilot Hill 53.90 292 P **P** **07 49 25.0 -1.8**
PHWY IAmb IAmb 07 49 35.6
comp=Z,12nm,1.1s
Y52A Lilburn 53.92 270 P **P** **07 49 24.8 -1.9**
Y52A IAmb IAmb 07 49 29.9
comp=Z,21nm,0.9s
BMO Blue Mountains 54.02 304 P **P** **07 49 27.5 +0.1**
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 54.02 304 P **P** **07 49 27.5 +0.1**
BMO IAmb IAmb 07 49 29.2
comp=Z,9.9nm,0.8s
G08A Pilot Rock 54.06 306 P **P** **07 49 26.9 -0.8**
G08A IAmb IAmb 07 49 30.6
comp=Z,17nm,1.2s
RWWY Rawlins 54.07 294 P **P** **07 49 26.4 -1.5**
RWWY IAmb IAmb 07 49 35.7
comp=Z,24nm,1.4s
E03A Lebam 54.07 310 P **P** **07 49 27.5 -0.1**
GOGA Godfrey 54.14 269 P **P** **07 49 27.5 -0.8**
GOGA pmax pmax
comp=Z,24nm,1.1s
GOGA Godfrey 54.14 269 P **P** **07 49 27.5 -0.8**
GOGA IAmb IAmb 07 49 31.2
comp=Z,24nm,1.1s
GOGA Godfrey 54.14 269 P 07 49 29.3
baz=23,SNR=8.2
F05D White Salmon 54.16 308 P 07 49 29.7
baz=22
PLAL Pickwick Lake 54.20 274 P **P** **07 49 28.4 -0.3**
PLAL IAmb IAmb 07 49 36.4
comp=Z,24nm,1.4s
HIA Hailar 54.23 40 *i* P **P** **07 49 29.7 +0.9**
HIA pmax pmax
comp=Z,13nm,1.2s
X48A Hartselle 54.35 273 P **P** **07 49 28.2 -1.6**
W45A Hickory Valley 54.40 275 P **P** **07 49 30.1 0.0**
N23A Red Feather La 54.42 293 P 07 49 31.9
baz=23,SNR=14
CBKS Cedar Bluff 54.42 286 P **P** **07 49 28.7 -1.6**
CBKS pmax pmax
comp=Z,28nm,1.5s
CBKS Cedar Bluff 54.42 286 P **P** **07 49 28.7 -1.6**
CBKS IAmb IAmb 07 49 32.2
comp=Z,28nm,1.4s
CBKS Cedar Bluff 54.42 286 P 07 49 30.9
baz=24
U40A Yellville 54.49 279 P **P** **07 49 29.8 -0.9**
U40A IAmb IAmb 07 49 43.2
comp=Z,12nm,0.9s
U40A Yellville 54.49 279 P 07 49 31.5
baz=24
Y49A Blount Mountai 54.69 272 P **P** **07 49 31.3 -1.0**
Y49A IAmb IAmb 07 49 40.3
comp=Z,28nm,1.3s
G05D Wamic, OR 54.72 307 P 07 49 33.7
baz=22
154A Montrose 54.76 268 P **P** **07 49 31.4 -1.3**
Z51A Franklin 54.79 270 P **P** **07 49 32.6 -0.3**
Z51A IAmb IAmb 07 49 41.6
comp=Z,23nm,1.2s
U38A Gravette 54.90 280 P **P** **07 49 31.9 -1.9**
MFID Camas Ranch 54.95 302 P **P** **07 49 32.7 -1.5**
KSCO Kaye Shedlock' 55.14 289 P **P** **07 49 34.8 -0.8**
KSCO IAmb IAmb 07 49 41.4
comp=Z,27nm,1.4s
KSCO Kaye Shedlock' 55.14 289 P 07 49 36.5
baz=23
T35A Sooner Cattle 55.14 282 P **P** **07 49 35.0 -0.6**
T35A IAmb IAmb 07 49 51.1
comp=Z,14nm,1.1s
152A Waverly Hall 55.23 270 P **P** **07 49 34.8 -1.4**
152A IAmb IAmb 07 49 38.4
comp=Z,19nm,0.9s
G03D McMinnville, O 55.24 309 P 07 49 37.2
baz=21
I07A Izee 55.32 305 P **P** **07 49 36.5 -0.4**
ISCO Idaho Springs 55.32 292 P **P** **07 49 36.0 -1.2**
ISCO pmax pmax
comp=Z,13nm,1.3s
ISCO Idaho Springs 55.32 292 P **P** **07 49 36.0 -1.2**
ISCO Idaho Springs 55.32 292 P 07 49 38.6
baz=23,SNR=5.6
HWUT Hardware Ranch 55.42 298 P **P** **07 49 36.3 -1.4**
H04A Detroit Lake 55.46 308 P **P** **07 49 36.7 -1.1**
H04A IAmb IAmb 07 49 47.2
comp=Z,28nm,1.2s
I05D Terrebonne, OR 55.56 307 P 07 49 40.3
baz=21
HVU Hansel Valley 55.60 299 P **P** **07 49 38.0 -1.0**
HVU pmax pmax
comp=Z,10.0nm,1.1s
HVU Hansel Valley 55.60 299 P **P** **07 49 38.0 -1.0**
PETK Petropavlovsk- 55.63 11 LR LR 08 12 02.2
comp=Z,210nm,19.5s,baz=355,slow=34
NIL Nilore 55.70 86 P **P** **07 49 36.9 -2.7**
NIL pmax pmax
comp=Z,39nm,0.9s
NIL Nilore 55.70 86 P **P** **07 49 36.9 -2.7**
PET Petropavlovsk 55.77 10 *e*P **P** **07 49 41.0 +1.2**
PET *e*S **S** **07 57 23.1 -3.4**
RDMU Red Mountain 55.79 296 P **P** **07 49 38.9 -1.5**
O20A White River Ci 55.80 294 P **P** **07 49 39.8 -0.6**
O20A White River Ci 55.80 294 P 07 49 41.5
baz=23,SNR=19
W39A Magazine 55.85 279 P **P** **07 49 38.3 -2.3**
W39A IAmb IAmb 07 49 50.3
comp=Z,14nm,1.3s
W39A Magazine 55.85 279 P 07 49 41.6
baz=23
SPUT South Promonto 55.95 298 P **P** **07 49 40.1 -1.4**
SPUT IAmb IAmb 07 49 51.2
comp=Z,34nm,1.4s
Q24A Divide 55.95 291 P 07 49 42.3
baz=23
OK030 Cody Creek RV 56.14 282 P **P** **07 49 41.0 -1.7**
OK030 IAmb IAmb 07 50 05.2
comp=Z,23nm,1.3s
SMCO Snowmass 56.30 293 P **P** **07 49 42.6 -1.8**
JU Jordanelle 56.31 297 P **P** **07 49 43.1 -1.1**
I04A Tendick Farm, 56.35 308 P 07 49 45.3
baz=21
250A Grady 56.37 271 P **P** **07 49 43.6 -0.8**
MIAR Mount Ida 56.38 279 P **P** **07 49 43.6 -0.8**
MIAR pmax pmax
comp=Z,14nm,1.3s
MIAR Mount Ida 56.38 279 P **P** **07 49 43.6 -0.8**
MIAR IAmb IAmb 07 50 04.2
comp=Z,14nm,1.3s
MIAR Mount Ida 56.38 279 P 07 49 44.8
baz=23
RAYN Ar Rayn 56.39 118 P P 07 49 40.7 -3.9
RAYN pmax pmax
comp=Z,13nm,1.1s
RAYN Ar Rayn 56.39 118 P P 07 49 40.7 -3.9
RAYN IAmb IAmb 07 49 52.6
comp=Z,13nm,1.1s
352A Blakely 56.40 269 P **P** **07 49 43.8 -0.8**
I02D Swisshome 56.42 309 P 07 49 46.4
baz=21
BGU Big Grassy Mou 56.47 299 P **P** **07 49 43.6 -1.6**
BGU IAmb IAmb 07 49 54.9
comp=Z,26nm,1.5s
KLR Kul'dur 56.52 31 *i* P **P** **07 49 46.3 +1.1**
KLR pmax pmax
comp=Z,13nm,1.9s
J05D Fort Rock, OR 56.52 307 P 07 49 47.0
baz=21,SNR=9.5
146A Union 56.67 274 P **P** **07 49 44.9 -1.6**
146A IAmb IAmb 07 49 54.0
comp=Z,25nm,1.3s
I03D Drain, OR 56.68 308 P 07 49 47.7
baz=21
J04D Umpqua Nationa 56.79 307 P 07 49 48.5
baz=21,SNR=6.0
W35A Tecumseh 56.88 282 P **P** **07 49 46.8 -1.1**
K05A Summer Lake 56.95 306 P **P** **07 49 48.1 -0.5**
DUG Dugway, Tooele 57.08 298 P **P** **07 49 49.4 -0.1**
DUG pmax pmax
comp=Z,17nm,1.1s
DUG Dugway, Tooele 57.08 298 P **P** **07 49 49.4 -0.1**
DUG IAmb IAmb 07 49 52.8
comp=Z,17nm,1.1s
DUG Dugway, Tooele 57.08 298 P 07 49 51.5
baz=22,SNR=14
NLU North Lily Min 57.09 297 P **P** **07 49 48.2 -1.5**
P17A Butcher Ranch, 57.15 296 P **P** **07 49 49.0 -1.0**
SDCO Great Sand Dun 57.18 291 P **P** **07 49 47.9 -2.5**
SDCO Great Sand Dun 57.18 291 P 07 49 51.0
baz=23,SNR=5.6
ELK Elko 57.26 300 P **P** **07 49 49.0 -1.9**
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 57.26 300 P **P** **07 49 49.0 -1.9**
BRAL Brewton 57.37 271 P **P** **07 49 51.1 -0.3**
BRAL Brewton 57.37 271 P 07 49 52.7
baz=22
T25A Trinidad 57.41 290 P 07 49 52.6
baz=23
SRU San Rafael Swe 57.42 296 P **P** **07 49 50.3 -1.7**
SRU pmax pmax
comp=Z,11nm,1.0s
SRU San Rafael Swe 57.42 296 P **P** **07 49 50.3 -1.7**
SRU IAmb IAmb 07 49 54.5
comp=Z,11nm,1.0s
PV22 Blue Mesa, Par 57.44 294 P **P** **07 49 51.3 -0.9**
TMUT Trail Mountain 57.45 296 P **P** **07 49 51.6 -0.8**
PV07 Paradox Valley 57.49 294 P **P** **07 49 49.9 -2.6**
MOD Modoc Plateau 57.56 305 P **P** **07 49 51.2 -1.8**

S22A 4UR Ranch, Cre 57.58 292 P 07 49 54.3
baz=22,SNR=11
HUMO Hull Mountain 57.60 308 P P 07 49 52.3 -0.7
PV04 Paradox Valley 57.61 294 P P 07 49 51.8 -1.5
PV04 IAmb IAmb 07 50 02.6
comp=Z,13nm,1.1s
PV12 Saucer Basin, 57.65 294 P P 07 49 52.7 -0.9
PV14 Lion Creek, Pa 57.66 294 P P 07 49 52.6 -1.1
PV14 IAmb IAmb 07 50 03.1
comp=Z,20nm,1.3s
PV11 David Mesa, Pa 57.68 294 P P 07 49 52.3 -1.5
PV11 IAmb IAmb 07 50 03.2
comp=Z,19nm,1.1s
PV16 Nyswonger Mesa 57.69 294 P P 07 49 52.3 -1.6
K02D Willamette Mer 57.70 308 P 07 49 55.0
baz=20,SNR=7.6
PV03 Paradox Valley 57.72 294 P P 07 49 52.6 -1.5
PV17 East Wray Mesa 57.73 294 P P 07 49 52.4 -1.8
PV17 IAmb IAmb 07 50 03.5
comp=Z,24nm,1.4s
PV02 Paradox Valley 57.73 294 P P 07 49 53.9 -0.3
PV02 IAmb IAmb 07 50 03.8
comp=Z,21nm,1.4s
PV18 Skein Mesa, Pa 57.74 294 P P 07 49 52.3 -2.0
PV18 IAmb IAmb 07 50 03.6
comp=Z,22nm,1.3s
PV01 Paradox Valley 57.74 294 P P 07 49 52.3 -2.0
PV01 IAmb IAmb 07 50 03.9
comp=Z,28nm,1.2s
Q16A Castle Valley 57.79 296 P P 07 49 53.5 -1.1
L04D Klamath Falls 57.80 307 P 07 49 55.7
baz=20
PV13 Radium Mtn., P 57.80 294 P P 07 49 52.7 -2.0
WMOK Wichita Mounta 57.86 283 P P 07 49 53.3 -1.7
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMOK Wichita Mounta 57.86 283 P P 07 49 53.3 -1.7
WMOK Wichita Mounta 57.86 283 P 07 49 55.3
baz=23,SNR=5.1
SKR Severo-Kuril's 57.95 12 eP P 07 49 57.5 +2.3
SKR e 07 50 41.7
SKR eS S 07 58 00.7 +5.5
SKR pmax pmax
comp=Z,42nm,1.0s
SKR pmax pmax
comp=Z,200nm,4.1s
SKR MLR MLR
comp=Z,200nm,20.0s
SKR MLR MLR
comp=Z,100nm,20.0s
PV05 Paradox Valley 57.95 294 P P 07 49 54.4 -1.4
PV05 IAmb IAmb 07 50 04.5
comp=Z,20nm,1.2s
M04C Macdoel 58.08 306 P 07 49 57.9
baz=20
L02E Cave Junction 58.19 308 P 07 49 58.8
baz=20
TOA0 Torodi Ar. Sit 58.25 169 P P 07 49 54.1 -3.6
TOA0 IAmb IAmb 07 50 03.8
comp=Z,23nm,1.0s
TORD Torodi Ar. Bea 58.25 169 P P 07 49 57.5 -0.3
comp=Z,17nm,0.7s,baz=351,slow=7.5,SNR=72
TORD LR LR 08 15 05.2
comp=Z,527nm,19.2s,baz=350,slow=36
TORD Torodi Ar. Bea 58.25 169 P P 07 49 53.7 -4.0
TORD IAmb IAmb 07 50 03.8
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 58.36 307 P P 07 49 56.7 -1.7
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 58.36 307 P P 07 49 56.7 -1.7
MSU Marysvale 58.46 297 P P 07 49 58.6 -0.7
MSU Marysvale 58.46 297 P P 07 49 58.6 -0.7
GTA Gaotai 58.56 60 ⇑P P 07 50 01.5 +1.6
GTA pP pP 07 50 05.0 +3.5
GTA sP pwP 07 50 08.5 +7.0
GTA S S 07 58 08.3 +4.4
GTA pmax pmax
comp=Z,13nm,1.5s
GTA pmax pmax
comp=Z,78nm,6.4s
GTA L L
comp=Z,510nm,17.8s
GTA L L
comp=Z,430nm,17.4s
GTA L L
comp=Z,650nm,17.1s
MVCO Mesa Verde 58.58 293 P P 07 49 58.4 -1.8
MVCO Mesa Verde 58.58 293 P 07 50 01.7
baz=22,SNR=16
AMTX Amarillo 58.64 286 P 07 50 01.4
baz=22
M02C Callahan 58.71 307 P 07 50 01.8
baz=20,SNR=5.7
N02D Trinity Center 59.07 307 P 07 50 04.4
baz=20
PAHR Pah Rah Range 59.37 304 P P 07 50 04.4 -1.1
PAHR IAmb IAmb 07 50 15.6
comp=Z,27nm,1.4s
WDC Whiskeytown Da 59.39 306 P P 07 50 04.1 -1.4
WDC pmax pmax
comp=Z,9.0nm,1.2s
WDC Whiskeytown Da 59.39 306 P P 07 50 04.1 -1.4
WDC IAmb IAmb 07 50 16.6
comp=Z,9.4nm,1.1s
O03E Paynes Creek 59.47 306 P 07 50 07.1
baz=20
BEKR Beckworth 59.48 304 P P 07 50 04.8 -1.6
BEKR IAmb IAmb 07 50 09.2
comp=Z,16nm,1.4s
R11A Troy Canyon, C 59.59 300 P P 07 50 06.3 -0.8
R11A IAmb IAmb 07 50 09.9
comp=Z,12nm,0.9s
R11A Troy Canyon, C 59.59 300 P 07 50 08.1
baz=21,SNR=14
KVN Kaiserville 59.63 302 P P 07 50 05.6 -1.8
KVN pmax pmax
comp=Z,15nm,1.0s
KVN Kaiserville 59.63 302 P P 07 50 05.5 -1.8
KVN IAmb IAmb 07 50 10.2
comp=Z,15nm,1.0s
MSTX Muleshoe 59.83 287 P 07 50 09.6
baz=22
O02D Mt. Diablo Mer 59.84 307 P 07 50 09.8
baz=20
KNB Kanab 60.03 297 P P 07 50 08.3 -1.9
KNB pmax pmax
comp=Z,17nm,1.3s
KNB Kanab 60.03 297 P P 07 50 08.2 -1.9
KNB IAmb IAmb 07 50 19.9
comp=Z,18nm,1.3s
ANMO Albuquerque 60.06 290 i P P 07 50 08.4 -2.0
ANMO pmax pmax
comp=Z,8.0nm,1.4s
ANMO Albuquerque 60.06 290 P P 07 50 09.2 -1.2
ANMO Albuquerque 60.06 290 P 07 50 11.2
baz=22
ABTX Abilene, Hawle 60.09 283 P P 07 50 08.4 -2.0
ABTX IAmb IAmb 07 50 12.4
comp=Z,11nm,0.8s
ABTX Abilene, Hawle 60.09 283 P 07 50 11.5
baz=22
RYN Ryan 60.14 302 P P 07 50 09.2 -1.6
RYN IAmb IAmb 07 50 23.4
comp=Z,14nm,1.4s
LCMT Little Creek M 60.16 297 P P 07 50 10.2 -0.8
NV11 Mina Array Sit 60.23 302 P P 07 50 09.6 -1.8
NVAR Mina Array Bea 60.27 302 P P 07 50 12.8 +1.0
comp=Z,2.4nm,0.9s,baz=26,slow=4.5,SNR=19
NVAR PP PP 07 52 23.5 -0.7
comp=Z,0.8nm,0.9s,baz=356,slow=5.4,SNR=2.9
NVAR LR LR 08 16 09.5
comp=Z,575nm,18.3s,baz=14,slow=36
NVAR Mina Array Bea 60.27 302 P P 07 50 10.3 -1.5
TPH Tonopah 60.30 301 P P 07 50 10.3 -1.7
TPH pmax pmax
comp=Z,47nm,1.4s
TPH Tonopah 60.30 301 P P 07 50 10.3 -1.7
HHC Hu-ho-hao-te 60.33 50 eP P 07 50 12.5 +0.4
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.6s
U15A North Rim 60.43 296 P P 07 50 11.3 -1.6
AFDM Forest Hills D 60.51 305 P P 07 50 11.8 -1.4
AFDM IAmb IAmb 07 50 15.5
comp=Z,12nm,1.1s
CN2 Changchun 60.61 37 eP P 07 50 12.0 -1.8
CN2 eS S 07 58 34.5 +4.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,7.3s
CN2 L L
comp=Z,200nm,21.0s
CN2 L L
comp=Z,400nm,21.0s
CN2 L L
comp=Z,200nm,12.0s
BNM Barren Site 60.85 290 P P 07 50 14.2 -1.7
W18A Petrified Fore 60.89 293 P 07 50 17.2
baz=21
WUAZ Wupatki 61.00 295 P P 07 50 15.1 -1.8
WUAZ IAmb IAmb 07 50 19.3
comp=Z,9.6nm,1.1s
WUAZ Wupatki 61.01 295 P 07 50 18.1
baz=21
TPNV Topopah Spring 61.08 300 P P 07 50 15.0 -2.3
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 61.08 300 P P 07 50 15.0 -2.3
TPNV IAmb IAmb 07 50 19.7
comp=Z,11nm,0.9s
TPNV Topopah Spring 61.08 300 P 07 50 18.4
baz=21,SNR=18
CMB Columbia Colle 61.21 304 P P 07 50 17.2 -0.8
CMB pmax pmax
comp=Z,9.0nm,1.1s
CMB Columbia Colle 61.21 304 P P 07 50 17.1 -0.8
CMB IAmb IAmb 07 50 20.6
comp=Z,9.1nm,1.1s
GRAC Grapevine Rang 61.35 301 P 07 50 20.2
baz=20
USRK Ussuriysk Ar. 61.43 32 P P 07 50 20.2 +0.8
comp=Z,1.6nm,0.8s,baz=344,slow=4.8,SNR=3.7
USRK LR LR 08 17 08.0
comp=Z,212nm,20.9s,baz=339,slow=36
FURC Furnace Creek, 61.70 300 P 07 50 22.7
baz=20
X16A Lo Mia Camp, P 62.05 295 P P 07 50 22.9 -1.0
SHOC Shoshone, Teco 62.07 299 P 07 50 25.6
baz=20
CWC Cottonwood Cre 62.07 301 P 07 50 26.0
baz=20
JCT Junction City 62.12 283 P P 07 50 23.1 -1.2
JCT pmax pmax
comp=Z,18nm,1.4s
JCT Junction City 62.12 283 P P 07 50 23.1 -1.2
JCT IAmb IAmb 07 50 29.5
comp=Z,18nm,1.4s
JCT Junction City 62.12 283 P 07 50 25.2
baz=22
W13A Hualapai Mount 62.13 297 P P 07 50 22.4 -2.0
BJI Beijing 62.21 46 P P 07 50 25.8 +1.2
BJI S S 07 58 54.8 +4.5
BJI SS SS 08 02 54.0 +1.6
BJI pmax pmax
comp=Z,7.0nm,1.3s
BJI L L
comp=Z,220nm,22.8s
BJI L L
comp=Z,960nm,21.4s
BJI L L
comp=Z,1μm,15.0s
MPMC Manual Prospec 62.26 300 P 07 50 26.7
baz=20,SNR=9.8
TUQ Turquoise Moun 62.40 299 P 07 50 27.8
baz=20
121A Cookes Peak, D 62.70 291 P P 07 50 26.6 -1.6
121A IAmb IAmb 07 50 55.2
comp=Z,12nm,1.1s
121A Cookes Peak, D 62.70 291 P 07 50 29.7
baz=21,SNR=6.7
MNTX Cornudas Mount 62.74 288 P P 07 50 25.8 -2.5
MNTX Cornudas Mount 62.74 288 P 07 50 28.9
baz=21,SNR=8.3
GSC Goldstone, Bar 62.78 300 P 07 50 30.9
baz=20
LZH Lanzhou 62.79 58 eP P 07 50 30.5 +1.7
LZH pP pP 07 50 34.5 +4.1
LZH sP sP 07 50 38.0 +7.1
LZH eS S 07 59 04.8 +6.7
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.1s
LZH L L
comp=Z,370nm,13.3s
LZH L L
comp=Z,580nm,11.9s
LZH L L
comp=Z,370nm,13.8s
LRMC Laurel Mtn Rad 62.86 300 P 07 50 31.3
baz=20
ISA Isabella, Lake 62.91 301 P P 07 50 27.6 -1.9
ISA pmax pmax
comp=Z,17nm,1.1s
ISA Isabella, Lake 62.91 301 P P 07 50 27.6 -1.9
ISA IAmb IAmb 07 50 32.8
comp=Z,17nm,1.1s
ISA Isabella, Lake 62.91 301 P 07 50 31.3
baz=20,SNR=8.8
VES Vestal, Richgr 62.91 302 P 07 50 31.7
baz=20
GMRC Granite Mounta 62.93 298 P 07 50 31.7
baz=20,SNR=12
PDMCI Parker Dam,Lak 62.95 297 P 07 50 31.7
baz=20
Y14A Wickenburg 62.95 296 P P 07 50 27.9 -1.9
HEC Hector,Ludlow 63.09 299 P 07 50 32.6
baz=20
IRM Iron Mountain 63.37 298 P 07 50 34.1
baz=20,SNR=5.0
EDW2 Edwards Air Fo 63.51 300 P 07 50 35.3
baz=20
ARVC Arvin 63.51 301 P 07 50 35.5
baz=20
TIY Taiyuan 63.52 50 eP P 07 50 27.5 -6.0
TIY S S 07 59 13.3 +6.4
TIY Taiyuan 63.52 50 SS SS 08 03 20.3 +7.3
TIY pmax pmax
comp=Z,14nm,0.5s
TIY pmax pmax
comp=Z,85nm,3.7s
TIY L L
comp=Z,260nm,15.6s
TIY L L
comp=Z,710nm,16.5s
TIY L L
comp=Z,330nm,24.3s
SMMC Simmler 63.66 302 P 07 50 36.4
baz=20
BELC Belle Mtn. Jos 63.77 298 P 07 50 37.2
baz=20,SNR=9.4
TUC Tucson 63.82 293 P P 07 50 33.1 -2.4
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC Tucson 63.82 293 P P 07 50 33.1 -2.4
TUC Tucson 63.82 293 P 07 50 37.3
baz=21
BC3 Big Chuckawall 63.93 298 P 07 50 38.4
baz=20
833A Chaparral WMA, 63.99 281 P 07 50 38.5
baz=21
PKM Mcpherson Peak 64.00 302 P 07 50 38.8
baz=20
BFSC Mount Baldy Ra 64.01 300 P 07 50 39.0
baz=20
PFO Pinyon Flats O 64.26 299 P 07 50 40.2
baz=20
TPFO Pinon Flats 64.27 299 P 07 50 40.2
baz=20
113A Mohawk Valley, 64.27 296 P P 07 50 36.6 -1.8
GLA Glamis 64.32 297 P 07 50 40.8
baz=21
SBC Santa Barbara 64.40 302 P 07 50 41.3
baz=20
TX31 Lajitas Ar. Si 64.41 286 P P 07 50 37.6 -1.9
TX31 IAmb IAmb 07 50 41.3
comp=Z,12nm,0.9s
TX32 Lajitas Array 64.41 286 P P 07 50 37.8 -1.7
TXAR Lajitas Array 64.41 286 P P 07 50 40.2 +0.7
comp=Z,2.8nm,0.8s,baz=51,slow=4.7,SNR=35
TXAR LR LR 08 17 32.5
comp=Z,400nm,19.7s,baz=0.0,slow=35
TXAR Lajitas Array 64.41 286 P P 07 50 38.2 -1.2
DBIC Dimbokro 64.42 177 P P 07 50 39.1 -0.4
comp=Z,6.4nm,0.9s,baz=350,slow=11,SNR=1.9
DBIC LR LR 08 17 29.9
comp=Z,446nm,21.6s,baz=345,slow=35
MURC Murrieta 64.48 299 P 07 50 41.2
baz=20
SWSC Sam W. Stewart 64.70 298 P 07 50 43.1
baz=20
214A Organ Pipe Nat 64.75 295 P 07 50 43.0
baz=20
MONP2 Monument Peak 64.92 298 P 07 50 44.7
baz=20
CIS Catalina Islan 65.01 300 P 07 50 45.2
baz=20
IKP In-Ko-Pah, Jac 65.06 298 P 07 50 46.2
baz=20
109C Camp Elliot, M 65.12 299 P 07 50 46.1
baz=20
XAN Xi'an 66.09 54 P P 07 50 51.0 +0.7
XAN pmax pmax
comp=Z,14nm,1.3s
XAN L L
comp=Z,320nm,21.7s
XAN L L
comp=Z,960nm,18.4s
XAN L L
comp=Z,580nm,15.2s
KSRS Korea Array 67.22 37 P P 07 50 57.9 +0.6
comp=Z,0.6nm,0.4s,baz=0.0,slow=5.0,SNR=4.2
KSRS LR LR 08 22 19.8
comp=Z,201nm,20.7s,baz=348,slow=38
CD2 Chengdu 67.64 60 P P 07 51 01.5 +1.3
CD2 S S 07 59 56.0 -1.4
CD2 pmax pmax
comp=Z,30nm,1.4s
CD2 pmax pmax
comp=Z,210nm,9.4s
CD2 L L
comp=Z,460nm,17.1s
CD2 L L
comp=Z,410nm,15.2s
CD2 L L
comp=Z,540nm,20.6s
SHL Shillong 69.13 72 P P 07 51 07.2 -2.5
SHL pmax pmax
comp=Z,25nm,1.3s
SHL Shillong 69.13 72 P P 07 51 07.2 -2.5
MAJO Matsushiro 69.92 29 i P P 07 51 17.1 +2.8
MAJO pmax pmax
comp=Z,8.0nm,1.3s
MJAR Matsushiro Arr 69.92 29 P P 07 51 15.1 +0.8
comp=Z,0.7nm,0.3s,baz=2.1,slow=4.2,SNR=1.6
MJAR LR LR 08 22 25.0
comp=Z,108nm,19.1s,baz=350,slow=36
NJ2 Nanjing 70.47 46 eP P 07 51 17.5 -0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 L L
comp=Z,450nm,18.6s
NJ2 L L
comp=Z,530nm,14.7s
NJ2 L L
comp=Z,510nm,17.1s
GYA Guiyang 72.66 59 ⇓P P 07 51 31.8 +0.7
GYA pmax pmax
comp=Z,3.0nm,0.8s
KMI Kunming 72.80 63 ⇑P P 07 51 32.5 +0.4
KMI pP pP 07 51 35.5 +1.9
KMI pmax pmax
comp=Z,11nm,0.5s
JSU Suzuyama 73.48 36 P P 07 51 34.4 -1.4
CHTO Chiang Mai 77.63 68 P P 07 51 56.1 -3.6
CHTO pmax pmax
comp=Z,16nm,1.1s
CHTO Chiang Mai 77.63 68 P P 07 52 00.7 +1.0
comp=Z,16nm,1.2s
CHTO Chiang Mai 77.63 68 P P 07 51 56.1 -3.6
CHTO IAmb IAmb 07 52 01.4
comp=Z,16nm,1.1s
CMMT Chiang Mai 77.64 68 P P 07 51 59.7 0.0
comp=Z,5.2nm,1.6s
KMBO Kilima Mbogo 77.81 134 LR LR 08 28 24.0
comp=Z,88nm,18.5s,baz=42,slow=37
ROSC El Rosal 77.96 249 LR LR 08 22 37.2
comp=Z,130nm,21.4s,baz=48,slow=33
CMAR Chiang Mai Arr 77.97 68 P P 07 52 02.0 +0.4
comp=Z,2.0nm,0.3s,baz=320,slow=6.7,SNR=18
CMAR LR LR 08 31 40.4
comp=Z,83nm,19.5s,baz=28,slow=40
CMAR Chiang Mai Arr 77.97 68 i P P 07 52 02.5 +0.9
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 77.97 68 P P 07 51 57.7 -3.9
MALB Monte Alegre 78.83 228 eP P 07 52 08.1 +1.8
PTGA Pitinga 79.18 233 LR LR 08 21 51.5
comp=Z,129nm,20.4s,baz=8.0,slow=32
NONG Nongkai 79.59 65 P P 07 52 11.6 +1.1
comp=Z,9μmcomp=Z,11nm,2.0s
QIZ Qiongzhong 80.59 58 P P 07 52 16.5 +0.6
QIZ S S 08 02 25.3 +2.2
QIZ SS SS 08 07 36.3 +1.7
QIZ pmax pmax
comp=Z,210nm,5.0s
QIZ L L
comp=Z,310nm,15.2s
QIZ L L
comp=Z,370nm,21.6s
QIZ L L
comp=Z,270nm,23.5s
ITTB Itaituba 81.61 228 eP P 07 52 23.1 +1.9
OTAV Otavalo 83.58 252 P P 07 52 28.4 -3.7
OTAV pmax pmax
comp=Z,44nm,1.4s
OTAV Otavalo 83.58 252 P P 07 52 28.4 -3.8
OTAV Otavalo 83.58 252 eP P 07 52 33.6 +1.5
NPGB Novo Progresso 84.10 227 eP P 07 52 35.6 +1.5
SMTB Santa Maria do 84.12 219 eP P 07 52 36.2 +1.9
SDBA SAO DESIDERIO 87.04 216 eP P 07 52 50.9 +2.1
PEXB Peixe 87.42 219 eP P 07 52 52.6 +2.0
CLDB Colider 87.89 227 eP P 07 52 54.7 +1.9
CZSB Cruzeiro do Su 89.39 244 eP P 07 53 01.9 +1.9
ETMB Extrema 89.55 237 eP P 07 53 02.7 +2.0
ATAH Atahualpa 90.53 249 LR LR 08 31 14.3
comp=Z,71nm,21.4s,baz=12,slow=34
BDFB Brasilia 90.80 218 LR LR 08 27 30.6
comp=Z,142nm,20.4s,baz=0.3,slow=31
NAN01 Guarapari, ES 91.49 211 eP P 07 53 12.0 +2.4
NNA Nana 94.65 246 LR LR 08 30 46.9
comp=Z,60nm,21.9s,baz=351,slow=32
LPAZ La Paz 96.24 237 LR LR 08 35 25.5
comp=Z,59nm,18.6s,baz=344,slow=34
TAOE Nuku Hiva Isla 111.17 308 eLR LR 08 31 38.3
comp=Z,178nm,36.0s
PPT2 Papeete2 121.85 316 eLR LR 08 36 36.4
comp=Z,239nm,24.8s
WRA Warramunga Arr 124.22 44 PKP PKPdf 07 59 01.4 -0.5
comp=Z,0.7nm,1.1s,baz=341,slow=2.1,SNR=2.6
TBI Tubuai 127.38 314 eLR LR 08 39 03.5
comp=Z,186nm,35.2s
ASAR Alice Springs 127.71 46 PKP PKPdf 07 59 08.5 +0.1
comp=Z,0.6nm,0.9s,baz=7.5,slow=1.3,SNR=3.7
MAW Mawson 146.33 139 PKPbc PKPdf 07 59 43.1 +2.1
comp=Z,2.4nm,0.7s,baz=308,slow=1.8,SNR=9.0
MAW Mawson 146.33 139 PKP2 PKPbc 07 59 44.0 +1.7
MAW Mawson 146.33 139 PKPbc 07 59 44.0 +1.7

NAO ***30*** *07:52:25.3±3.0, 71°.20N×8°.13W, h11$^{km}_{\pm}$64^{km}, ML3.7*
BER ***30*** *07:52:25.4±0.4, 70°.84N×8°.61W, h2$^{km}_{\pm}$1^{km}, ML2.9, ML3.7(NAO), Confirmed Earthquake*
DNK ***30*** *07:52:30.2±3.0, 71°.32N×8°.98W, h31$^{km}_{\pm}$215^{km}, ML2.6*
ISC 30 07:52:24.2±0.8, 71°.24N±0°.05×8°.43W±0°.09, h20^{km}, n23, σ2^{s}00/32, 2D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.21**	**180**	⇓*i*P	**Pb**	**07 52 30.3**	**+0.8**
JNW				*e*S	**Sb**	**07 52 33.6**	**+0.5**
JNW				IAML		07 52 34.7	
JNE	**Jan Mayen East**	**0.25**	**170**	⇓*i*P	**Pb**	**07 52 30.0**	**-0.1**
JNE				*e*S	**Sb**	**07 52 33.1**	**-1.0**

JNE				IAML			07 52 35.8	
	comp=Z,8μm,0.3s							
JMIC	**Jan Mayen**	**0.25**	**186**	Pg		**Pb**	**07 52 30.6**	**+0.5**
JMIC				Lg		Lg	07 52 34.8	
JMIC	**Jan Mayen**	**0.25**	**186**	Pg		**Pb**	**07 52 30.6**	**+0.5**
JMIC				Sg		**Sb**	**07 52 34.8**	**+0.7**
JMIC				IAML			07 52 40.0	
	comp=Z,2μm,0.5s							
DBG	**Daneborg**	**4.66**	**317**	*i* P		**Pn**	**07 53 35.9**	**+2.5**
DBG				*e*S		**Sn**	**07 54 23.8**	**-3.0**
DBG				IAML			07 54 32.4	
	comp=Z,3.9nm,0.3s							
DBG	**Daneborg**	**4.66**	**317**	Pn		**Pn**	**07 53 36.0**	**+2.7**
DBG				Sn		**Sn**	**07 54 27.4**	**+0.6**
DBG	**Daneborg**	**4.66**	**317**	*i* P		**Pn**	**07 53 35.9**	**+2.5**
DBG				*e*S		**Sn**	**07 54 23.8**	**-3.0**
DBG				IAML			07 54 32.4	
	comp=Z,3.9nm,0.3s							
DAG	**Danmarks Havn**	**6.23**	**338**	*e*		**Pn**	**07 53 55.1**	**+0.3**
	baz=148,slow=18							
DAG				*i* P		Pb	07 53 57.4	-14
DAG				*e*S		**Sn**	**07 55 02.8**	**-2.4**
DAG				IAML			07 55 09.7	
	comp=Z,4.6nm,0.3s							
DAG	**Danmarks Havn**	**6.23**	**338**	*e*		**Pn**	**07 53 55.1**	**+0.3**
	baz=148,slow=18							
DAG				*i* P		Pb	07 53 57.4	-14
DAG				*e*S		**Sn**	**07 55 02.8**	**-2.4**
DAG				IAML			07 55 09.7	
	comp=Z,4.6nm,0.3s							
LOF	**Lofoten**	**8.23**	**102**	*e*P		**Pn**	**07 54 18.9**	**-3.3**
BJO1	**Bjornoya**	**8.67**	**55**	Pn		**Pn**	**07 54 28.2**	**0.0**
BJO1	**Bjornoya**	**8.67**	**55**	*e*P		**Pn**	**07 54 27.4**	**-0.8**
HSPB	**Hornsund (broa**	**8.67**	**38**	*e*P		**Pn**	**07 54 29.1**	**+0.9**
KBS	**Kingsbay**	**9.25**	**25**	*i* P		**Pn**	**07 54 37.8**	**+1.6**
KBS	**Kingsbay**	**9.25**	**25**	*e*P		**Pn**	**07 54 37.6**	**+1.4**
SPA0	**Spitsbergen Ar**	**9.45**	**32**	Pn		**Pn**	**07 54 41.6**	**+2.7**
	baz=225,slow=16							
SPA0	**Spitsbergen Ar**	**9.45**	**32**	*e*P		**Pn**	**07 54 41.8**	**+2.9**
HOPEN	**Hopen**	**10.53**	**45**	Pn		**Pn**	**07 54 55.5**	**+1.8**
HOPEN	**Hopen**	**10.53**	**45**	*e*P		**Pn**	**07 54 54.6**	**+0.9**
NOR	**Nord**	**10.58**	**353**	*i* P		**Pn**	**07 54 57.0**	**+2.7**
NOR	**Nord**	**10.58**	**353**	Pn		**Pn**	**07 54 57.5**	**+3.2**
NOR				Sn		**Sn**	**07 56 50.5**	**-1.4**
NOR	**Nord**	**10.58**	**353**	*i* P		**Pn**	**07 54 57.0**	**+2.7**
NEEM	**North Greenlan**	**12.75**	**318**	*i* P		**Pn**	**07 55 24.7**	**+0.5**

*TEH **30** 07:55:29.5,36°.62N×49°.92E,h7km,ML4.1*
*THR **30** 07:55:30.6±0.9,36°.64N×49°.83E,h15km±5km,ML4.0*
*IDC **30** 07:55:31.4±1.6,36°.94N×49°.79E,h0km,mb3.9/14,*
mb1 4.1/19,mb1mx3.9/50,mbtmp4.0/19,ML4.3/4,Error
ellipse: s-maj=30.3km s-min=15.5km az=176.0
*NNC **30** 07:55:39.4±15.0,37°.56N×50°.37E,h0km,mb4.0,Error*
ellipse: s-maj=142.6km s-min=67.1km az=44.0

ISC 30 07:55:30.7±0.5,36°.63N±0°.03×49°.90E±0°.02,h12km,n77,
α295/76,mb3.8/13,11C-1D,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCNT	**Qazvin**	**0.34**	**165**	*e*Pg	**Pg**	**07 55 36.9**	**-0.8**
IGZV	**Ghazvin**	**0.35**	**133**	*e*Pg	**Pg**	**07 55 37.8**	**-0.1**
IGZV				*e*Sg	**Sg**	**07 55 41.9**	**-0.7**
IGZV				*e*		07 55 44.5	
	comp=Z,22μm,0.3s						
QSDN	**Sirdan**	**0.60**	**259**	*e*Pg	**Pg**	**07 55 41.4**	**-1.0**
QSDN				*e*		07 55 41.8	
	comp=Z,68μm,0.4s						
QALM	**Alamut, Qazvin**	**0.63**	**107**	*e*Pg	**Pg**	**07 55 41.9**	**-1.2**
QALM				*e*Sg	**Sg**	**07 55 50.3**	**-1.2**
QALM				*e*		07 55 52.9	
	comp=Z,63μm,0.2s						
ZNJK	**Zanjan**	**0.98**	**273**	*e*Pg	**Pg**	**07 55 48.2**	**-1.4**
ZNJK	**Zanjan**	**0.98**	**273**	*e*Pg	**Pg**	**07 55 48.2**	**-1.4**
IMHD	**Mahdasht**	**1.12**	**146**	*e*Pg	**Pb**	**07 55 52.1**	**-0.1**
IMHD				*e*		07 56 10.0	
	comp=Z,46μm,0.1s						
IRAZ	**Razeghan**	**1.22**	**179**	*e*Pg	**Pn**	**07 55 53.1**	**-0.7**
IRAZ				*e*Sg	**Sb**	**07 56 09.5**	**-0.1**
IRAZ				*e*		07 56 14.9	
	comp=Z,69μm,0.5s						
CHTH	**Charan**	**1.22**	**125**	*e*Pg	**Pb**	**07 55 54.1**	**+0.2**
CHTH	**Charan**	**1.22**	**125**	*e*Pg	**Pb**	**07 55 54.1**	**+0.2**
TEH	**Tehran**	**1.49**	**126**	*e*Pg	**Pb**	**07 55 59.1**	**+0.6**
TEH				*e*		07 56 23.9	
	comp=Z,21μm,0.3s						
IHSB	**Hasanabad**	**1.63**	**136**	*e*Pg	**Pb**	**07 56 00.9**	**+0.1**
IHSB				*e*		07 56 03.3	
	comp=Z,11μm,0.3s						
HAGD	**Aghdareh**	**1.90**	**199**	*e*		07 56 34.3	
	comp=Z,16μm,0.9s						
HAGD				*e*Pn	**Pb**	**07 56 05.1**	**-0.4**
DAMV	**Damavand**	**1.95**	**120**	*e*Pg	**Pb**	**07 56 07.3**	**+1.0**
DAMV	**Damavand**	**1.95**	**120**	*e*Pg	**Pb**	**07 56 07.3**	**+1.0**
IPRN	**Peran**	**2.00**	**100**	*e*Pn	**Pb**	**07 56 07.0**	**-0.2**
IQOM	**Qom**	**2.02**	**151**	*e*		07 56 44.6	
	comp=Z,19μm,0.3s						
IQOM				*e*Pn	**Pb**	**07 56 06.6**	**-0.9**
ISRB	**Sarab**	**2.15**	**305**	*e*		07 56 12.0	
	comp=Z,26μm,0.2s						
ISRB				*e*Pn	**Pb**	**07 56 08.5**	**-1.2**
IVRN	**Varamin**	**2.20**	**137**	*e*Pn	**Pb**	**07 56 10.0**	**-0.5**
IVRN				*e*		07 56 43.5	
	comp=Z,9μm,0.3s						
IHSH	**Hashtrud**	**2.22**	**289**	*e*		07 56 43.7	
	comp=Z,20μm,0.3s						
IHSH				*e*Pn	**Pn**	**07 56 08.3**	**+0.6**
GHVR	**GHOM**	**2.42**	**152**	*e*Pn	**Pb**	**07 56 12.7**	**-1.6**
GHVR				IAML		07 56 56.9	
	comp=E,596nm,0.7s						
GHVR				IAML		07 56 57.1	
	comp=N,621nm,0.5s						
GHVR	**GHOM**	**2.42**	**152**	*e*Pn	**Pb**	**07 56 12.7**	**-1.6**
HSAM	**Samen**	**2.63**	**204**	*e*Pn	**Pb**	**07 56 15.8**	**-2.2**
HSAM				*e*		07 56 57.9	
	comp=Z,4μm,0.6s						
IBZA	**Bozab**	**2.72**	**218**	*e*Pn	**Pb**	**07 56 17.4**	**-2.1**
IBZA				*e*		07 57 00.6	
	comp=Z,6μm,0.7s						
ILAS	**Lasjerd**	**2.77**	**116**	*e*Pn	**Pn**	**07 56 17.6**	**+2.4**
IHRS	**Heris**	**2.83**	**307**	*e*Pn	**Pn**	**07 56 17.1**	**+1.1**
IHRS				*e*		07 57 02.8	
	comp=Z,10μm,0.6s						
KHMZ	**Khomeyn**	**2.88**	**179**	*e*Pn	**Pn**	**07 56 18.1**	**+1.4**
KHMZ	**Khomeyn**	**2.88**	**179**	*e*Pn	**Pn**	**07 56 18.1**	**+1.4**
ILIN	**Lien**	**2.93**	**235**	*e*Pn	**Pn**	**07 56 19.7**	**+2.3**
ILIN				*e*		07 57 12.5	
	comp=Z,3μm,0.6s						
ISFB	**Sefidab**	**2.96**	**139**	*e*Pn	**Pn**	**07 56 20.1**	**+2.4**
ISFB				*e*		07 57 07.2	
	comp=Z,5μm,0.7s						
BMDN	**Meydan**	**3.08**	**197**	*e*Pn	**Pn**	**07 56 21.9**	**+2.6**
QAMS	**Qamsar**	**3.13**	**157**	*e*Pn	**Pn**	**07 56 22.7**	**+2.5**
IDOB	**Doab**	**3.16**	**207**	*e*Pn	**Pb**	**07 56 24.0**	**-3.0**
IGLO	**Ghaloghah**	**3.17**	**91**	*e*Pn	**Pn**	**07 56 22.1**	**+1.5**
KRSH	**Karshahi**	**3.22**	**145**	*e*Pn	**Pn**	**07 56 23.0**	**+1.7**
KCHF	**Cheshme Sefid,**	**3.31**	**226**	*e*Pn	**Pn**	**07 56 24.5**	**+2.0**
MAHB	**Mahabad**	**3.37**	**274**	*e*	**Sg**	**07 57 27.0**	**+7.9**
	comp=Z,3μm,0.5s						
ITBZ	**Tabriz**	**3.39**	**299**	*e*Pn	**Pn**	**07 56 24.6**	**+1.0**
ITBZ				*e*		07 57 18.6	
	comp=Z,2μm,0.5s						
IDHR	**Dehrash**	**3.44**	**237**	*e*Pn	**Pn**	**07 56 27.6**	**+3.2**
IDHR				*e*		07 56 42.8	
	comp=Z,2μm,0.6s						
IANJ	**Anjilo**	**3.45**	**108**	*e*Pn	**Pn**	**07 56 28.1**	**+3.6**
IKFM	**Kafar-mosalman**	**3.52**	**209**	*e*Pn	**Pn**	**07 56 28.0**	**+2.8**
IKFM				*e*		07 57 40.3	
	comp=Z,2μm,0.8s						
IKLH	**Kolahrood**	**3.57**	**157**	*e*Pn	**Pn**	**07 56 29.0**	**+2.8**
IKLH				*e*		07 57 24.7	
	comp=Z,3μm,0.4s						
IMRD	**Marand**	**3.93**	**303**	*e*Pn	**Pn**	**07 56 33.6**	**+2.6**
IMRD				*e*		07 57 46.9	
	comp=Z,6μm,0.8s						
SHRO	**Shahrood**	**4.97**	**96**	*e*Pn	**Pn**	**07 56 47.8**	**+2.4**
SHRO	**Shahrood**	**4.97**	**96**	*e*Pn	**Pn**	**07 56 47.8**	**+2.4**
MRVT	**Maraveh tapeh**	**5.05**	**76**	IAML		07 57 49.2	
	comp=E,66nm,0.2s						
GNI	**Garni**	**5.37**	**313**	Pn	**Pn**	**07 56 52.5**	**+1.7**
GNI				Lg	Lg	07 58 20.0	
	comp=E,1.4nm,0.3s,baz=193,slow=5.4,SNR=2.3						
	comp=E,1.7nm,0.3s,baz=220,slow=20,SNR=1.6						
GEYT	**Alibeck**	**6.68**	**76**	Pn	**Pn**	**07 57 10.3**	**+1.6**
	comp=E,1.9nm,0.3s,baz=254,slow=19,SNR=4.7						
GEYT				Sn	**Sn**	**07 58 19.3**	**-5.5**
	comp=E,0.2nm,0.3s,baz=277,slow=18,SNR=1.7						
GYA0B	**ALIBECK ARRAY**	**6.68**	**76**	⇑P	**Pn**	**07 57 11.3**	**+2.6**
GYA0B				⇑S	**Sn**	**07 58 24.8**	**0.0**
IEMG	**Emamgholi**	**7.05**	**81**	*e*Pn	**Pn**	**07 57 15.0**	**+1.0**
AB31	**Akbulak array**	**14.59**	**27**	P	Pn	07 58 52.0	-4.9
	comp=E,0.6nm,0.4s,baz=213,slow=13,SNR=18						
AB31				⇑S	Sn	08 01 26.2	-12
	comp=E,1.6nm,0.5s,baz=204,slow=23,SNR=5.8						
AKTO	**Aktyubinsk**	**14.99**	**20**	Pn	Pn	07 58 56.7	-5.7
	comp=E,0.6nm,0.3s,baz=199,slow=12,SNR=5.5						
AKTO				Sn	Sn	08 01 34.5	-14
	comp=E,0.3nm,0.3s,baz=18,slow=22,SNR=3.0						
AKTO	**Aktyubinsk**	**14.99**	**20**	⇑P	**Pn**	**07 58 58.0**	**-4.4**
	comp=E,5.7nm,0.9s						
AKTO				⇓S	Sn	08 01 35.3	-13
	comp=E,8.3nm,0.8s						
BELG	**Belogornoye**	**15.85**	**355**	Pn	**Pn**	**07 59 09.8**	**-3.7**
	comp=E,1.3nm,0.3s,baz=198,slow=17,SNR=4.2						
BELG				Sn	Sn	08 01 49.9	-19
	comp=E,0.3nm,0.3s,baz=27,slow=21,SNR=1.8						
SORM	**Soroca**	**19.57**	**313**	⇑P	**P**	**07 59 58.4**	**0.0**
PLOR	**Plostina**	**19.71**	**305**	⇑P	**Pn**	**08 00 00.5**	**-1.0**
MLR	**Muntele Rosu**	**20.06**	**304**	P	**P**	**08 00 02.9**	**-1.0**
	comp=E,0.4nm,0.3s,baz=157,slow=14,SNR=1.8						
MLR	**Muntele Rosu**	**20.06**	**304**	⇑P	Pn	08 00 09.8	+4.1
AKASG	**Malin Array Be**	**20.44**	**320**	P	**P**	**08 00 06.3**	**-1.4**
	comp=E,8.3nm,0.8s,baz=122,slow=12,SNR=8.2						
DOPR	**Dopca**	**20.58**	**305**	⇑P	Pn	08 00 14.8	+3.2
OBN	**Obninsk**	**20.62**	**338**	P	**P**	**08 00 09.4**	**-0.3**
	comp=E,6.7nm,0.4s,baz=205,slow=18,SNR=4.3						
VOIR		**20.65**	**303**	⇑P	Pn	08 00 13.2	+0.7
BURAR	**Bucovina Array**	**21.26**	**309**	⇑P	**P**	**08 00 16.9**	**0.0**
BVAR	**Borovoye Array**	**21.79**	**35**	P	**P**	**08 00 23.3**	**+1.0**
	comp=E,1.3nm,0.4s,baz=131,slow=52,SNR=3.7						
KIRV	**Kirov**	**21.98**	**359**	P	**P**	**08 00 23.2**	**-1.0**
	comp=E,13nm,0.4s,baz=253,slow=5.4,SNR=7.9						
DRGR		**22.59**	**305**	⇑P	**P**	**08 00 33.9**	**+2.8**
KURBB	**Kurchatov Arra**	**24.82**	**47**	P	**P**	**08 00 54.6**	**+2.0**
	comp=E,4.5nm,0.7s,baz=250,slow=9.6,SNR=18						
MKAR	**Makanchi Array**	**26.06**	**57**	P	**P**	**08 01 05.7**	**+1.8**
	comp=E,1.4nm,0.7s,baz=249,slow=7.3,SNR=16						
GERES	**GERESS Array B**	**28.98**	**306**	P	**P**	**08 01 31.0**	**+0.8**
	comp=E,0.4nm,0.3s,baz=87,slow=8.1,SNR=5.5						
FINES	**FINESS Array B**	**29.01**	**336**	P	**P**	**08 01 30.5**	**+0.3**
	comp=E,1.8nm,0.8s,baz=119,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**29.66**	**43**	P	**P**	**08 01 35.8**	**-0.2**
	comp=E,0.6nm,0.4s,baz=269,slow=8.2,SNR=1.6						
NOA	**NORSAR Array B**	**34.46**	**327**	P	**P**	**08 02 17.1**	**-1.0**
	comp=E,1.0nm,0.7s,baz=119,slow=8.2,SNR=5.6						
ARCES	**ARCESS Array B**	**35.54**	**346**	P	**P**	**08 02 26.9**	**-0.3**
	comp=E,2.2nm,0.9s,baz=156,slow=9.4,SNR=4.5						
ESDC	**Sonseca Array**	**41.94**	**291**	P	**P**	**08 03 21.2**	**-0.1**
	comp=E,0.5nm,0.6s,baz=68,slow=7.6,SNR=5.2						
SUMG	**Summit**	**55.02**	**338**	*i* P	**P**	**08 05 03.8**	**+1.8**
SUMG				IAmb	IAmb	08 05 04.9	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**78.08**	**7**	P	**P**	**08 07 30.6**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=76,slow=8.5,SNR=2.8						
YKA	**Yellowknife Ar**	**80.44**	**353**	P	**P**	**08 07 42.6**	**+0.7**
	comp=Z,0.1nm,0.2s,baz=8.9,slow=5.0,SNR=4.3						

*LDG **30** 07:59:16.5±0.1,53°.38N×2°.56E,h18km,Ml3.0/15,Error*
ellipse: s-maj=3.7km s-min=1.7km az=48.0
*BGS **30** 07:59:17.7±0.6,53°.32N×2°.60E,h18km±41km,ML2.9*

ISC 30 07:59:16.4±1.2,53°.26N±0°.06×2°.40E±0°.04,h10km,n55,
α270/71,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WACR	**West Acre**	**1.20**	**244**	*e*P	**Pn**	**07 59 40.7**	**+1.6**
WACR				*e*S	**Sn**	**07 59 57.2**	**+1.8**
WACR				IAML		07 59 58.5	
	comp=E,96nm,0.3s						
WACR				IAML		07 59 59.0	
	comp=N,127nm,0.2s						
WACR	**West Acre**	**1.20**	**244**	*e*P	**Pn**	**07 59 40.7**	**+1.6**
WACR				*e*S	**Sn**	**07 59 57.2**	**+1.8**
WACR				IAML		07 59 58.5	
	comp=E,96nm,0.3s						
WACR				IAML		07 59 59.0	
	comp=N,127nm,0.2s						
LMK	**Market Rasen**	**1.65**	**278**	*e*P	**Pb**	**07 59 46.5**	**-0.3**
LMK				IAML		08 00 17.6	
	comp=E,155nm,0.3s						
LMK				IAML		08 00 19.1	
	comp=N,221nm,0.4s						
LMK	**Market Rasen**	**1.65**	**278**	*e*P	**Pb**	**07 59 46.5**	**-0.3**
LMK				IAML		08 00 17.6	
	comp=E,155nm,0.3s						
LMK				IAML		08 00 19.1	
	comp=N,221nm,0.4s						
GDLE	**Glaisdale, N Y**	**2.23**	**303**	*e*P	**Pn**	**07 59 54.5**	**+1.1**
GDLE				IAML		08 00 35.1	
	comp=E,37nm,0.4s						
GDLE				IAML		08 00 39.7	
	comp=N,86nm,0.4s						
GDLE	**Glaisdale, N Y**	**2.23**	**303**	*e*P	**Pn**	**07 59 54.5**	**+1.1**
GDLE				IAML		08 00 35.1	
	comp=E,37nm,0.4s						
GDLE				IAML		08 00 39.7	
	comp=N,86nm,0.4s						
CWF	**Charnwood Fore**	**2.30**	**258**	*e*P	**Pn**	**07 59 55.4**	**+1.1**
CWF	**Charnwood Fore**	**2.30**	**258**	*e*P	**Pn**	**07 59 55.4**	**+1.1**
LBWR	**Ladybower, Pea**	**2.48**	**275**	*e*P	**Pn**	**07 59 58.2**	**+1.4**
LBWR				IAML		08 00 39.7	
	comp=N,74nm,0.6s						
LBWR				IAML		08 00 40.0	
	comp=E,72nm,0.3s						
LBWR	**Ladybower, Pea**	**2.48**	**275**	*e*P	**Pn**	**07 59 58.2**	**+1.4**
LBWR				IAML		08 00 39.7	
	comp=N,74nm,0.6s						
LBWR				IAML		08 00 40.0	
	comp=E,72nm,0.3s						
HPK	**Haverah Park**	**2.50**	**288**	*e*P	**Pn**	**07 59 58.2**	**+1.2**
HPK				IAML		08 00 37.9	
	comp=N,66nm,0.3s						
HPK				IAML		08 00 41.9	
	comp=E,66nm,0.4s						
HPK	**Haverah Park**	**2.50**	**288**	*e*P	**Pn**	**07 59 58.2**	**+1.2**
HPK				IAML		08 00 37.9	
	comp=N,66nm,0.3s						
HPK				IAML		08 00 41.9	
	comp=E,66nm,0.4s						
EDMD	**Edmundbyers**	**3.02**	**303**	*e*P	**Pn**	**08 00 04.2**	**0.0**
EDMD				IAML		08 00 58.3	
	comp=N,13nm,0.4s						
EDMD				IAML		08 00 59.4	
	comp=E,19nm,0.6s						
EDMD	**Edmundbyers**	**3.02**	**303**	*e*P	**Pn**	**08 00 04.2**	**0.0**
EDMD				IAML		08 00 58.3	
	comp=N,13nm,0.4s						
EDMD				IAML		08 00 59.4	
	comp=E,19nm,0.6s						
HLM1	**Long Mynd**	**3.28**	**259**	*e*P	**Pn**	**08 00 09.4**	**+1.6**
HLM1				IAML		08 01 10.3	
	comp=N,14nm,0.5s						
HLM1				IAML		08 01 10.9	
	comp=E,22nm,0.4s						
HLM1	**Long Mynd**	**3.28**	**259**	*e*P	**Pn**	**08 00 09.4**	**+1.6**
HLM1				IAML		08 01 10.3	
	comp=N,14nm,0.5s						
HLM1				IAML		08 01 10.9	
	comp=E,22nm,0.4s						
BAIF	**Baives**	**3.39**	**160**	*e*P	**Pn**	**08 00 11.1**	**+1.8**
BAIF	**Baives**	**3.39**	**160**	*e*Pg	**Pb**	**08 00 20.8**	**+4.3**
BAIF				*e*Sn	**Sn**	**08 00 45.6**	**-4.0**
BAIF				*e*Sg	**Sg**	**08 01 05.0**	**-0.3**
	comp=E,14nm,0.5s						
MONM	**Monmouth**	**3.48**	**248**	IAML		08 01 10.0	
	comp=E,34nm,0.3s						
MONM				IAML		08 01 11.8	
	comp=N,32nm,0.4s						
MONM	**Monmouth**	**3.48**	**248**	IAML		08 01 10.0	
	comp=E,34nm,0.3s						
MONM				IAML		08 01 11.8	
	comp=N,32nm,0.4s						
GIVF	**Givet**	**3.50**	**154**	*e*P	**Pn**	**08 00 12.6**	**+1.8**
GIVF	**Givet**	**3.50**	**154**	*e*Pg	**Pb**	**08 00 22.8**	**+4.4**
GIVF				*e*Sn	**Sn**	**08 00 47.9**	**-4.3**
GIVF				*e*Sg	**Sg**	**08 01 08.2**	**-0.5**
	comp=N,9.1nm,0.3s						
KESW	**Keswick, Cumbr**	**3.52**	**294**	*e*P	**Pn**	**08 00 11.4**	**+0.4**
KESW				IAML		08 01 13.0	
	comp=N,16nm,0.5s						
KESW				IAML		08 01 15.9	
	comp=E,18nm,0.6s						
KESW	**Keswick, Cumbr**	**3.52**	**294**	*e*P	**Pn**	**08 00 11.4**	**+0.4**
KESW				IAML		08 01 13.0	
	comp=N,16nm,0.5s						
KESW				IAML		08 01 15.9	
	comp=E,18nm,0.6s						
MCH1	**Michaelchurch**	**3.52**	**251**	*e*P	**Pn**	**08 00 13.2**	**+2.1**
MCH1				IAML		08 01 14.4	
	comp=N,19nm,0.4s						
MCH1				IAML		08 01 15.8	
	comp=E,16nm,0.4s						
MCH1	**Michaelchurch**	**3.52**	**251**	*e*P	**Pn**	**08 00 13.2**	**+2.1**
MCH1				IAML		08 01 14.4	
	comp=N,19nm,0.4s						
MCH1				IAML		08 01 15.8	
	comp=E,16nm,0.4s						
ESK	**Eskdalemuir**	**3.88**	**304**	*e*P	**Pn**	**08 00 16.5**	**+0.5**
ESK	**Eskdalemuir**	**3.88**	**304**	*e*P	**Pn**	**08 00 16.5**	**+0.5**
EBL	**Broad Law**	**4.05**	**311**	*e*P	**Pn**	**08 00 19.8**	**+1.5**
EBL	**Broad Law**	**4.05**	**311**	*e*P	**Pn**	**08 00 19.8**	**+1.5**
FLN	**La Foliniere**	**4.85**	**203**	*e*Pn	**Pn**	**08 00 28.8**	**-0.6**
FLN	**La Foliniere**	**4.85**	**203**	*e*P	**Pn**	**08 00 32.7**	**+3.3**
	baz=18						
FLN				*e*Sg	**Sg**	**08 01 52.5**	**+0.4**
	comp=E,7.2nm,0.4s,baz=20						
LDF	**La Druitiere**	**4.93**	**200**	*e*P	**Pn**	**08 00 33.2**	**+2.7**
LDF	**La Druitiere**	**4.93**	**200**	*e*Pg	**Pg**	**08 00 51.2**	**+0.4**
LDF				*e*Sn	**Sn**	**08 01 24.8**	**-2.8**
LDF				*e*Sg	**Sg**	**08 01 55.5**	**+0.8**
	comp=E,5.0nm,0.4s						
SAVF	**Savonnieres en**	**4.96**	**159**	*e*P	**Pn**	**08 00 33.5**	**+2.7**
	baz=334						
SAVF	**Savonnieres en**	**4.96**	**159**	*e*Pg	**Pg**	**08 00 49.8**	**-1.4**
	baz=334						
SAVF				*e*Sn	**Sn**	**08 01 23.1**	**-5.0**
	comp=E,5.5nm,0.3s,baz=349						
GRR	**Gorron**	**5.29**	**204**	*e*Pn	**Pn**	**08 00 34.7**	**-0.7**
GRR	**Gorron**	**5.29**	**204**	*e*P	**Pn**	**08 00 38.7**	**+3.3**
GRR	**Gorron**	**5.29**	**204**	*e*Pg	**Pg**	**08 00 56.4**	**-1.3**
GRR				*e*Sn	**Sn**	**08 01 33.3**	**-3.1**
	comp=E,2.9nm,0.2s						
SFTF	**Sexfontaines**	**5.33**	**161**	*e*P	**Pn**	**08 00 39.1**	**+3.2**
	baz=336						
HAU	**Haudompre**	**5.83**	**153**	*e*P	**Pn**	**08 00 46.0**	**+3.2**
HAU				*e*Sn	**Sn**	**08 01 43.7**	**-5.9**
	comp=E,3.1nm,0.3s						
SGMF	**Saint Gilles**	**5.91**	**214**	*e*P	**Pn**	**08 00 48.3**	**+4.4**
SGMF				*e*Sn	**Sn**	**08 01 48.3**	**-3.4**
	comp=E,2.7nm,0.3s						
LOR	**Lormes**	**6.07**	**171**	*e*P	**Pn**	**08 00 48.9**	**+2.8**
	baz=357						
LOR	**Lormes**	**6.07**	**171**	*e*Pg	**Pg**	**08 01 10.8**	**-1.7**
	baz=350						
LOR				*e*Sn	**Sn**	**08 01 50.2**	**-5.3**
	comp=E,3.4nm,0.3s,baz=352						
ROSF	**Rostrenen**	**6.10**	**218**	*e*P	**Pn**	**08 00 50.9**	**+4.4**
ROSF				*e*Sn	**Sn**	**08 01 53.0**	**-3.2**
	comp=E,2.6nm,0.2s						
HINF	**Hinteralfeld**	**6.14**	**151**	*e*P	**Pn**	**08 00 50.2**	**+3.1**
SSF	**Saint Saulge**	**6.24**	**173**	*e*P	**Pn**	**08 00 51.1**	**+2.6**
QUIF	**Quistinic**	**6.41**	**216**	*e*Pn	**Pn**	**08 00 49.7**	**-1.1**
QUIF	**Quistinic**	**6.41**	**216**	*e*P	**Pn**	**08 00 54.6**	**+3.8**
QUIF				*e*Sn	**Sn**	**08 02 00.4**	**-3.6**
	comp=E,0.7nm,0.2s						
AVF	**Avril sur Loir**	**6.50**	**174**	*e*P	**Pn**	**08 00 55.1**	**+3.1**
SMF	**Signal de Mont**	**6.68**	**171**	*e*P	**Pn**	**08 00 58.0**	**+3.5**
BGF	**Bois d'Agland**	**6.71**	**177**	*e*P	**Pn**	**08 00 56.7**	**+1.8**
BGF				*e*Sn	**Sn**	**08 02 05.6**	**-5.8**
	comp=E,5.3nm,0.3s						
MFF	**Saint Martin d**	**6.86**	**195**	*e*Pn	**Pn**	**08 00 56.4**	**-0.5**
MFF				*e*Sn	**Sn**	**08 02 10.7**	**-4.3**
	comp=E,2.8nm,0.4s						
CABF	**La Chapelle**	**7.06**	**159**	*e*P	**Pn**	**08 01 02.8**	**+3.0**
CAF	**Calviac**	**8.34**	**182**	*e*Pn	**Pn**	**08 01 16.1**	**-1.2**

*TUL **30** 08:02:23.4±1.6,35°.74N±0°.02×97°.38W±0°.02,h5km±7km,*
ML2.9,mb_Lg2.9/80(NEIC),Error ellipse: s-maj=2.5km
s-min=2.0km az=124.0
*ANF **30** 08:02:23.2±0.2,35°.79N×97°.41W,h5km,ML3.4/11,Error*
*ellipse: s-maj=2.7km s-min=2.

WMOK	**Wichita Mounta**	**1.52**	**229**	P			08 02 51.2	
	baz=48,SNR=93							
WMOK				S			08 03 11.8	
	baz=48							
KAN08	**Anthony NE Sta**	**1.54**	**343**			Pb	08 02 52.0	-0.3
KS21	**Milan North St**	**1.55**	**352**	IAmb_Lg			08 03 15.7	
	comp=Z,52nm,0.7s							
KAN12	**Harper NE Stat**	**1.62**	**343**	Pn		Pn	08 02 52.9	+0.6
LOOK	**Love County**	**1.77**	**174**			Pn	08 02 54.9	+0.5
X37A	**Clayton**	**2.02**	**124**			Pn	08 02 58.2	+0.4
X37A				IAmb_Lg			08 03 30.1	
	comp=Z,41nm,0.7s							
X37A	**Clayton**	**2.02**	**124**	P		Pn	08 02 58.4	+0.6
	baz=306,SNR=48							
X37A				S		Sb	08 03 25.8	+0.1
	baz=306							
X37A	**Clayton**	**2.02**	**124**	P			08 02 58.4	
	baz=306,SNR=48							
X37A				S			08 03 25.8	
	baz=306							
Z35A	**Perchaven, San**	**2.42**	**177**			Pn	08 03 03.8	+0.5
Z35A	**Perchaven, San**	**2.42**	**177**	P		Pn	08 03 04.3	+1.0
	baz=358							
Z35A	**Perchaven, San**	**2.42**	**177**	P			08 03 04.3	
	baz=358							
U38A	**Gravette**	**2.53**	**73**			Pn	08 03 05.6	+0.8
U38A	**Gravette**	**2.53**	**73**	P		Pn	08 03 05.6	+0.7
	baz=255,SNR=45							
U38A	**Gravette**	**2.53**	**73**	P			08 03 05.6	
	baz=255,SNR=45							
HHAR	**Hobbs**	**2.85**	**78**	Pn		Pn	08 03 08.9	-0.3
R32A	**Long Quarter,**	**2.87**	**339**			Pn	08 03 10.1	+0.6
W39A	**Magazine**	**3.00**	**100**			Pn	08 03 11.0	-0.2
W39A				IAmb_Lg			08 04 04.2	
	comp=Z,26nm,0.8s							
W39A	**Magazine**	**3.00**	**100**	P		Pn	08 03 11.7	+0.5
	baz=282							
W39A	**Magazine**	**3.00**	**100**	P			08 03 11.7	
	baz=282							
Z38A	**Mt. Pleasant**	**3.18**	**141**			Pn	08 03 14.1	+0.3
MIAR	**Mount Ida**	**3.35**	**110**	Pn		Pn	08 03 15.4	-0.7
MIAR				IAmb_Lg			08 04 17.7	
	comp=Z,34nm,1.1s							
MIAR	**Mount Ida**	**3.35**	**110**	P		Pn	08 03 16.5	+0.4
	baz=292,SNR=16							
MIAR				S		Sn	08 03 58.5	+2.5
	baz=292							
MIAR	**Mount Ida**	**3.35**	**110**	P			08 03 16.5	
	baz=292,SNR=16							
MIAR				S			08 03 58.5	
	baz=292							
KSU1	**Kansas State U**	**3.40**	**10**	Pn		Pn	08 03 17.9	+1.2
CBKS	**Cedar Bluff**	**3.58**	**329**			Pn	08 03 20.6	+1.2
CBKS				IAmb_Lg			08 04 21.9	
	comp=Z,37nm,0.7s							
AMTX	**Amarillo**	**3.61**	**257**			Pn	08 03 19.4	-0.4
ABTX	**Abilene, Hawle**	**3.64**	**212**	Pn		Pn	08 03 20.0	0.0
ABTX				IAmb_Lg			08 04 19.8	
	comp=Z,26nm,1.1s							
U40A	**Yellville**	**3.73**	**79**	Pn		Pn	08 03 21.6	+0.3
WHTX	**Lake Whitney,**	**3.75**	**181**			Pn	08 03 20.9	-0.7
S39A	**Bolivar**	**3.80**	**58**			Pn	08 03 21.8	-0.5
S39A				IAmb_Lg			08 04 26.3	
	comp=Z,35nm,0.7s							
S39A	**Bolivar**	**3.80**	**58**	P		Pn	08 03 22.9	+0.7
	baz=240							
S39A	**Bolivar**	**3.80**	**58**	P			08 03 22.9	
	baz=240							
X40A	**Basin Creek Fa**	**3.94**	**107**			Pn	08 03 23.8	-0.4
X40A				IAmb_Lg			08 04 28.6	
	comp=Z,22nm,0.8s							
WLAR	**White Oak Lake**	**4.08**	**119**	Pn		Pn	08 03 25.5	-0.7
WLAR				IAmb_Lg			08 04 44.1	
	comp=Z,24nm,1.0s							
WHAR	**Wooly Hollow**	**4.19**	**95**	Pn		Pn	08 03 28.0	+0.4
WHAR				IAmb_Lg			08 04 36.5	
	comp=Z,20nm,0.9s							
W41B	**Gary Mavity, V**	**4.24**	**96**	P		Pn	08 03 28.4	+0.2
	baz=279,SNR=13							
W41B	**Gary Mavity, V**	**4.24**	**96**	P			08 03 28.4	
	baz=279,SNR=13							
FCAR	**Ozark Folk Cen**	**4.28**	**87**			Pn	08 03 28.4	-0.5
MGMO	**Mountain Grove**	**4.36**	**70**	Pn		Pn	08 03 29.6	-0.4
MGMO				IAmb_Lg			08 04 45.3	
	comp=Z,30nm,0.7s							
MSTX	**Muleshoe**	**4.77**	**250**			Pn	08 03 35.8	+0.1
R40A	**Maddies Statio**	**4.82**	**57**			Pn	08 03 35.9	-0.4
R40A				IAmb_Lg			08 04 57.5	
	comp=Z,21nm,0.8s							
P38A	**Dawn**	**4.93**	**37**			Pn	08 03 37.3	-0.5
P38A				IAmb_Lg			08 05 07.3	
	comp=Z,15nm,0.9s							
435B	**Jarrell**	**4.96**	**182**	Pn		Pn	08 03 38.8	+0.5
435B				IAmb_Lg			08 05 05.2	
	comp=Z,14nm,0.7s							
CCAR	**Cane Creek**	**4.97**	**110**	Pn		Pn	08 03 39.3	+0.9
N33A	**J Bar K, Exete**	**4.98**	**359**	IAmb_Lg			08 05 09.6	
	comp=Z,16nm,0.8s							
LCAR	**Lake Charles**	**5.07**	**85**			Pn	08 03 39.5	-0.3
LCAR				IAmb_Lg			08 05 10.0	
	comp=Z,18nm,1.1s							
N35A	**Tabor**	**5.28**	**15**	Pn		Pn	08 03 42.1	-0.5
KSCO	**Kaye Shedlock'**	**5.29**	**310**	Pn		Pn	08 03 42.4	-0.4
KSCO				IAmb_Lg			08 05 17.9	
	comp=Z,14nm,0.8s							
CCM	**Cathedral Cave**	**5.43**	**63**	Pn		Pn	08 03 43.8	-0.9
CCM				IAmb_Lg			08 05 18.4	
	comp=Z,24nm,0.9s							
JCT	**Junction City**	**5.63**	**202**	Pn		Pn	08 03 47.4	-0.2
JCT				IAmb_Lg			08 05 33.2	
	comp=Z,25nm,0.9s							
P40A	**Paris**	**5.67**	**47**	Pn		Pn	08 03 47.1	-0.9
BGNE	**Belgrade**	**5.68**	**354**	Pn		Pn	08 03 47.7	-0.4
PBMO	**Poplar Bluff**	**5.72**	**78**	Pn		Pn	08 03 47.9	-0.7
LPAR	**Lepanto**	**5.77**	**89**	IAmb_Lg			08 05 34.7	
	comp=Z,22nm,0.7s							
T25A	**Trinidad**	**5.83**	**286**	Pn		Pn	08 03 50.7	+0.4
T25A				IAmb_Lg			08 05 42.5	
	comp=Z,15nm,0.8s							
GNAR	**Gosnell**	**5.99**	**86**	IAmb_Lg			08 05 35.9	
	comp=Z,23nm,0.9s							
N38A	**Joes South For**	**6.00**	**32**	Pn		Pn	08 03 51.7	-0.8
PARMO	**Parma**	**6.24**	**79**	IAmb_Lg			08 05 44.4	
	comp=Z,25nm,0.8s							
L34A	**Svendsen Farm,**	**6.25**	**7**	IAmb_Lg			08 05 54.6	
	comp=Z,20nm,0.8s							
OGNE	**Ogallala**	**6.34**	**326**	IAmb_Lg			08 05 46.3	
	comp=Z,16nm,0.7s							
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg			08 05 49.7	
	comp=Z,22nm,0.7s							
LNXT	**Lenox**	**6.42**	**85**	Pn		Pn	08 03 57.6	-0.6
W45A	**Hickory Valley**	**6.72**	**93**	IAmb_Lg			08 06 07.3	
	comp=Z,13nm,0.8s							
SDCO	**Great Sand Dun**	**6.81**	**289**	Pn		Pn	08 04 04.9	+1.0
S44A	**Carbondale**	**6.81**	**71**	IAmb_Lg			08 06 06.7	
	comp=Z,18nm,0.7s							
SIUC	**Southern Illin**	**6.85**	**71**	Pn		Pn	08 04 02.8	-1.4
K31A	**O'Neill**	**6.94**	**352**	IAmb_Lg			08 06 07.1	
	comp=Z,18nm,0.7s							
SCIA	**State Center**	**6.95**	**27**	IAmb_Lg			08 06 18.8	
	comp=Z,21nm,0.8s							
ANMO	**Albuquerque**	**7.45**	**266**	Pn		Pn	08 04 12.4	-0.3
PLAL	**Pickwick Lake**	**7.65**	**93**	Pn		Pn	08 04 15.4	+0.3
ISCO	**Idaho Springs**	**7.66**	**304**	Pn		Pn	08 04 15.3	-0.3
MNTX	**Cornudas Mount**	**7.79**	**241**	Pn		Pn	08 04 16.1	-1.0
MNTX				IAmb_Lg			08 06 48.7	
	comp=Z,9.2nm,1.2s							
L40A	**Anamosa**	**7.92**	**35**	Pn		Pn	08 04 18.7	-0.2
L40A				IAmb_Lg			08 06 39.0	
	comp=Z,13nm,0.9s							
HDIL	**Hopedale**	**7.98**	**51**	Pn		Pn	08 04 19.2	-0.4
ECSD	**EROS Data Cent**	**7.99**	**4**	Pn		Pn	08 04 19.3	-0.6
TX32	**Lajitas Array**	**8.31**	**221**	Pn		Pn	08 04 24.5	+0.2
TXAR	**Lajitas Array**	**8.31**	**221**	Pn		Pn	08 04 23.6	-0.7
T47A	**Sharon Grove**	**8.39**	**79**	Pn		Pn	08 04 25.3	0.0
T47A				IAmb_Lg			08 06 57.8	
	comp=Z,14nm,1.0s							
X48A	**Hartselle**	**8.58**	**96**	Pn		Pn	08 04 28.8	+0.9
JFWS	**Jewell Farm**	**9.04**	**36**	IAmb_Lg			08 07 10.2	
	comp=Z,15nm,0.7s							
WCI	**Wyandotte Cave**	**9.22**	**71**	IAmb_Lg			08 07 16.4	
	comp=Z,8.8nm,0.8s							
BLO	**Bloomington**	**9.29**	**65**	IAmb_Lg			08 07 41.1	
	comp=Z,13nm,0.7s							
I40A	**Norwalk**	**9.65**	**31**	IAmb_Lg			08 07 36.8	
	comp=Z,7.6nm,0.8s							
K22A	**Casper**	**9.88**	**317**	IAmb_Lg			08 07 55.1	
	comp=Z,8.1nm,1.0s							

*IDC **30** 08:04:21.1±1.8, 5.°53S×152.°48E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/36, mbtmp3.8/7, ML2.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/39, Error ellipse: s-maj=76.6km s-min=22.1km az=125.0*

*NEIC **30** 08:04:23.4±1.3, 5.°63S±0.°06×152.°5E±0.°2, h12km±6km, mb4.5/19, Error ellipse: s-maj=28.1km s-min=5.2km az=104.0*

ISC 30 08:04:22.3±1.0, 5.°7S±0.°1×152.°6E±0.°2, h10km, n35, σ0s67/35, mb4.4/16, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.50**	**345**	Pn		**Pn**	**08 04 49.8**	**+0.5**
PMG	**Port Moresby**	**6.52**	**235**	Pn		**Pn**	**08 05 60.0**	**+1.6**
	3.0nm,0.3s,baz=75,slow=9.9,SNR=2.6							
PMG				Sn		**Sn**	**08 07 12.2**	**-0.6**
	2.0nm,0.3s,baz=192,slow=21,SNR=1.6							
PMG	**Port Moresby**	**6.52**	**235**			**Pn**	**08 05 58.6**	**+0.3**
HNR	**Honiara**	**8.24**	**118**	LR		LR	08 09 08.8	
	comp=Z,72nm,18.5s,baz=229,slow=34							
MTN	**Manton Dam**	**22.30**	**250**	P		**P**	**08 09 20.1**	**0.0**
MTN				IAmb		IAmb	08 09 36.7	
	comp=Z,25nm,1.4s							
WB0	**Warramunga Arr**	**22.56**	**230**	P		**P**	**08 09 22.6**	**-0.3**
WR0	**Warramunga Arr**	**22.56**	**229**	P		**P**	**08 09 22.6**	**-0.3**
WRAB	**Tennant Creek**	**22.69**	**230**	P		**P**	**08 09 23.6**	**-0.7**
WRAB				IAmb		IAmb	08 09 36.6	
	comp=Z,18nm,1.4s							
WB2	**Warramunga Arr**	**22.69**	**230**	P		**P**	**08 09 24.6**	**+0.3**
WB2				IAmb		IAmb	08 09 38.2	
	comp=Z,4.8nm,1.1s							
WRA	**Warramunga Arr**	**22.70**	**230**	P		**P**	**08 09 24.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=53,slow=10.0,SNR=9.2							
WRA	**Warramunga Arr**	**22.70**	**230**	P		**P**	**08 09 24.3**	**-0.1**
AS31	**Alice Springs**	**25.36**	**223**	P		**P**	**08 09 50.1**	**+0.3**
ASAR	**Alice Springs**	**25.36**	**223**	P		**P**	**08 09 50.2**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=57,slow=9.6,SNR=13							
FITZ	**Fitzroy Crossi**	**29.04**	**242**	P		**P**	**08 10 22.7**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=74,slow=11,SNR=2.3							
FITZ	**Fitzroy Crossi**	**29.04**	**242**	P		**P**	**08 10 22.9**	**0.0**
FITZ				IAmb		IAmb	08 10 35.6	
	comp=Z,9.9nm,1.4s							
FORT	**Forrest**	**33.98**	**220**	P		**P**	**08 11 05.3**	**-0.9**
MA2	**Magadan**	**65.03**	**359**	LR		LR	08 40 43.6	
	comp=Z,38nm,20.9s,baz=280,slow=34							
CNPM	**China Poot**	**78.58**	**26**	P		**P**	**08 16 24.0**	**0.0**
MKAR	**Makanchi Array**	**80.80**	**319**	P		**P**	**08 16 36.3**	**0.0**
	comp=Z,0.6nm,0.9s,baz=92,slow=7.2,SNR=2.9							
SML	**Sawmill**	**80.99**	**24**	P		**P**	**08 16 37.0**	**-0.1**
SML				IAmb		IAmb	08 16 39.1	
	comp=Z,6.3nm,0.8s							
RND	**Reindeer**	**81.60**	**23**	P		**P**	**08 16 40.8**	**+0.5**
RND				IAmb		IAmb	08 16 42.0	
	comp=Z,7.6nm,1.0s							
MCK	**McKinley**	**81.74**	**23**	P		**P**	**08 16 41.7**	**+0.7**
MLY	**Manley**	**81.76**	**21**	P		**P**	**08 16 41.6**	**+0.6**
MLY				IAmb		IAmb	08 16 42.9	
	comp=Z,5.8nm,1.0s							
CCB	**Clear Creek Bu**	**82.63**	**22**	P		**P**	**08 16 45.1**	**-0.4**
CCB				IAmb		IAmb	08 16 46.4	
	comp=Z,2.5nm,0.9s							
IL31		**83.03**	**22**	P		**P**	**08 16 47.3**	**-0.3**
IL31				IAmb		IAmb	08 16 48.3	
	comp=Z,3.3nm,0.8s							
ILAR	**Eielson Array**	**83.03**	**22**	P		**P**	**08 16 47.6**	**0.0**
	comp=Z,2.3nm,0.8s,baz=256,slow=5.3,SNR=20							
ILAR	**Eielson Array**	**83.03**	**22**	P		**P**	**08 16 47.4**	**-0.3**
DOT	**Dot Lake**	**83.60**	**24**	P		**P**	**08 16 50.3**	**-0.4**
DOT				IAmb		IAmb	08 16 53.2	
	comp=Z,4.7nm,1.0s							
TOLK	**Toolik Lake Re**	**84.09**	**18**	P		**P**	**08 16 53.3**	**+0.1**
TOLK				IAmb		IAmb	08 16 55.9	
	comp=Z,2.5nm,0.8s							
BCAR	**Beaver Creek A**	**84.28**	**25**	P		**P**	**08 16 54.4**	**+0.3**
KURBB	**Kurchatov Arra**	**84.31**	**322**	P		**P**	**08 16 54.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=125,slow=5.9,SNR=1.5							
BMAR	**Burnt Mountain**	**85.12**	**20**	P		**P**	**08 16 59.1**	**+0.8**
KRMB	**Red Mountain**	**88.88**	**48**	P		**P**	**08 17 17.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.32**	**287**	PKPbc		**PKPbc**	**08 24 15.8**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=86,slow=2.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**150.32**	**287**	PKPdf		**PKPdf**	**08 24 07.6**	**-2.2**
TORD						**sPKPdf**	**08 24 12.7**	**+1.0**

*IDC **30** 08:07:38.0±1.8, 5.°39S×152.°39E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/39, mbtmp4.0/6, ML2.2/1, MS4.5/1, Ms1 4.5/1, ms1mx3.0/42, Error ellipse: s-maj=85.1km s-min=22.7km az=126.0*

*NEIC **30** 08:07:45.4±1.0, 5.°41S±0.°05×152.°4E±0.°1, h50km±7km, mb4.3/18, Error ellipse: s-maj=17.3km s-min=7.5km az=92.0*

ISC 30 08:07:43.8±0.7, 5.°45S±0.°08×152.°4E±0.°1, h40km, n34, σ0s82/35, mb4.1/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.27**	**351**			**Pn**	**08 08 06.2**	**+1.2**
PMG	**Port Moresby**	**6.49**	**232**	Pn		**Pn**	**08 09 17.1**	**+0.3**
	3.0nm,0.3s,baz=61,slow=10,SNR=2.2							
PMG				Sn		**Sn**	**08 10 29.6**	**-0.1**
	6.7nm,0.3s,baz=159,slow=23,SNR=3.2							
PMG	**Port Moresby**	**6.49**	**232**			**Pn**	**08 09 18.3**	**+1.5**
EIDS	**Eidsvold**	**19.85**	**183**	P		**P**	**08 12 11.9**	**+0.5**
EIDS				IAmb		IAmb	08 12 39.5	
	comp=Z,24nm,1.2s							
FAKI	**Fak Fak**	**20.22**	**276**	P		**P**	**08 12 15.4**	**-0.1**
FAKI				IAmb		IAmb	08 12 21.8	
	comp=Z,22nm,0.9s							
LIFNC	**LIFOU**	**20.99**	**138**	P		**P**	**08 12 23.8**	**0.0**
DZM	**Mont Dzumac**	**21.42**	**142**	P		**P**	**08 12 28.8**	**+0.3**
DZM				IAmb		IAmb	08 12 52.2	
	comp=Z,36nm,1.4s							
WB0	**Warramunga Arr**	**22.55**	**229**	P		**P**	**08 12 40.7**	**+0.1**
WR0	**Warramunga Arr**	**22.55**	**229**	P		**P**	**08 12 41.2**	**+0.5**
WR0				IAmb		IAmb	08 13 06.3	
	comp=Z,7.9nm,1.4s							
WB2	**Warramunga Arr**	**22.68**	**229**	P		**P**	**08 12 41.7**	**-0.4**
WB2				IAmb		IAmb	08 12 49.8	
	comp=Z,3.6nm,0.7s							
WRA	**Warramunga Arr**	**22.69**	**229**	P		**P**	**08 12 41.0**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=54,slow=9.5,SNR=6.0							
WRA	**Warramunga Arr**	**22.69**	**229**	P		**P**	**08 12 41.4**	**-0.8**
AS31	**Alice Springs**	**25.38**	**223**	P		**P**	**08 13 07.5**	**-0.1**
ASAR	**Alice Springs**	**25.38**	**223**	P		**P**	**08 13 07.5**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=55,slow=9.2,SNR=18							
ASAR	**Alice Springs**	**25.38**	**223**	P		**P**	**08 13 07.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**28.97**	**242**	P		**P**	**08 13 40.0**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=60,slow=8.1,SNR=2.4							
BBOO	**Buckleboo**	**31.18**	**207**	P		**P**	**08 13 59.0**	**-0.2**
BBOO				IAmb		IAmb	08 14 18.5	
	comp=Z,16nm,1.4s							
JNU	**Nakatsue**	**43.44**	**333**	LR		LR	08 29 39.5	
	comp=Z,574nm,21.5s,baz=250,slow=30							
VNDA	**Vanda**	**72.20**	**178**	P		**P**	**08 19 04.5**	**+0.4**
VNDA				IAmb		IAmb	08 19 31.5	
	comp=Z,3.3nm,1.5s							
OHAK	**Old Harbor**	**76.32**	**27**	P		**P**	**08 19 28.6**	**+0.3**
CNPM	**China Poot**	**78.48**	**26**	P		**P**	**08 19 40.1**	**-0.4**
MK31	**Makanchi Array**	**80.53**	**319**	P		**P**	**08 19 51.2**	**-0.7**
MKAR	**Makanchi Array**	**80.53**	**319**	P		**P**	**08 19 51.6**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=104,slow=4.0,SNR=3.6							
MKAR	**Makanchi Array**	**80.53**	**319**	P		**P**	**08 19 51.2**	**-0.7**
SML	**Sawmill**	**80.89**	**24**	P		**P**	**08 19 54.0**	**+0.4**
MLY	**Manley**	**81.64**	**21**	P		**P**	**08 19 57.9**	**+0.5**
MLY				IAmb		IAmb	08 19 59.5	
	comp=Z,3.3nm,0.5s							
CCB	**Clear Creek Bu**	**82.51**	**22**	P		**P**	**08 20 02.2**	**+0.2**
CCB				IAmb		IAmb	08 20 03.0	
	comp=Z,2.2nm,0.8s							
IL31		**82.92**	**22**	P		**P**	**08 20 04.0**	**0.0**
IL31				IAmb		IAmb	08 20 05.3	
	comp=Z,2.4nm,0.8s							
ILAR	**Eielson Array**	**82.92**	**22**	P		**P**	**08 20 04.3**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=249,slow=5.7,SNR=20							
ILAR	**Eielson Array**	**82.92**	**22**	P		**P**	**08 20 03.8**	**-0.3**
BCAR	**Beaver Creek A**	**84.17**	**25**	P		**P**	**08 20 10.6**	**0.0**
BMAR	**Burnt Mountain**	**85.00**	**20**	P		**P**	**08 20 15.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**150.09**	**287**	PKPbc		**PKPbc**	**08 27 32.2**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=84,slow=2.2,SNR=2.3							
TORD	**Torodi Ar. Bea**	**150.09**	**287**	PKPdf		**PKPdf**	**08 27 23.3**	**-3.0**
TORD						**PKPbc**	**08 27 30.1**	**-1.2**

*IDC **30** 08:20:06.2±3.2, 53.°57N×90.°75E, h0km, mb1 3.3/3, mb1mx3.1/48, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=27.6km s-min=23.1km az=56.0*

*NNC **30** 08:20:08.9±2.6, 53.°66N×90.°46E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=20.0km s-min=12.8km az=63.0, Suspected Mining explosion.*

ISC 30 08:20:10.0±4.0, 53.°6N±0.°1×90.°4E±0.°2, h0km, n9, σ1s61/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.33**	**278**	*i*			08 41 35.0	
	baz=91,slow=299,SNR=6.2							
ZAA0	**Zalesovo Array**	**3.33**	**278**	⇓Pg		**Pb**	**08 21 09.7**	**0.0**
	2.7nm,0.8s							
ZAA0				⇓Lg		Lg	08 21 57.9	
	13nm,0.9s							
ZALV	**Zalesovo Beam**	**3.33**	**278**	Pn		**Pn**	**08 21 04.0**	**+0.8**
	1.4nm,0.3s,baz=97,slow=14,SNR=17							
ZALV				Lg		Lg	08 21 57.0	
	2.7nm,0.3s,baz=91,slow=26,SNR=9.8							
KURBB	**Kurchatov Arra**	**7.89**	**253**	Pn		**Pn**	**08 22 04.6**	**-1.3**
	0.1nm,0.3s,baz=64,slow=14,SNR=12							
KURBB				Sn		**Sn**	**08 23 35.4**	**-0.3**
	0.0nm,0.3s,baz=65,slow=27,SNR=3.6							
KURBB				Lg		Lg	08 24 25.2	
	0.1nm,0.3s,baz=67,slow=31,SNR=6.0							
KURBB	**Kurchatov Arra**	**7.89**	**253**	⇑Pn		**Pn**	**08 22 05.6**	**-0.2**
	4.0nm,0.7s							
KURBB				⇑Sn		**Sn**	**08 23 35.1**	**-0.6**
	25nm,0.8s							
KURBB				⇑Lg		Lg	08 24 20.8	
	34nm,0.9s							
MK31	**Makanchi Array**	**8.56**	**221**	⇑Pn		**Pn**	**08 22 15.4**	**+0.2**
	1.5nm,0.8s,baz=41,slow=13,SNR=7.5							
MK31				⇑Sn		**Sn**	**08 23 54.8**	**+2.4**
	1.1nm,0.6s,baz=43,slow=20,SNR=4.6							
MK31				⇓Lg		Lg	08 24 43.3	
	9.8nm,1.0s,baz=39,slow=32,SNR=5.0							
MKAR	**Makanchi Array**	**8.56**	**221**	Pn		**Pn**	**08 22 13.5**	**-1.7**
	0.2nm,0.3s,baz=33,slow=12,SNR=8.8							
MKAR				Sn		**Sn**	**08 23 50.1**	**-2.3**
	baz=38,slow=16,SNR=1.4							
MKAR				Lg		Lg	08 24 41.5	
	0.1nm,0.3s,baz=32,slow=25,SNR=3.5							
MAKZ	**Makanchi**	**8.67**	**222**	⇓Pn		**Pn**	**08 22 16.7**	**0.0**
	0.4nm,0.3s							
MAKZ				⇑Sn		**Sn**	**08 23 57.8**	**+2.6**
	3.5nm,0.8s							
MAKZ				⇓Lg		Lg	08 24 46.1	
	9.3nm,1.0s							
SONM	**Songino Array**	**11.66**	**113**	Lg		Lg	08 26 00.9	
	0.1nm,0.3s,baz=307,slow=30,SNR=7.1							

IDC 30 08:24:42.8±2.5, 4.°77S×151.°56E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/40, mbtmp3.2/3, Error ellipse: s-maj=212.9km s-min=31.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.55**	**227**	P		P	08 29 44.8	0.0
	0.2nm,0.7s,baz=53,slow=10,SNR=1.6							
ASAR	**Alice Springs**	**25.35**	**220**	P		P	08 30 11.8	0.0
	0.3nm,0.7s,baz=53,slow=9.3,SNR=2.1							
ILAR	**Eielson Array**	**82.60**	**22**	P		P	08 37 07.7	0.0
	0.4nm,0.7s,baz=250,slow=5.9,SNR=5.4							

*IDC **30** 08:43:10.7±0.5, 30.°77N×142.°11E, h0km, mb4.2/28, mb1 4.3/32, mb1mx4.2/65, mbtmp4.2/32, ML3.6/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/55, Error ellipse: s-maj=17.0km s-min=10.9km az=68.0*

*NEIC **30** 08:43:15.0±1.4, 30.°79N±0.°07×142.°1E±0.°1, h28km±5km, mb4.5/42, Error ellipse: s-maj=15.3km s-min=9.3km az=81.0*

*JMA **30** 08:43:17.1±0.8, 31.°50N×142.°28E, h0km, M4.3*

*NIED **30** 08:43:17.1, 31.°50N×142.°28E, h0km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.78; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-2.00; $M_{r\theta}$-0.83; $M_{\theta\phi}$-0.18; $M_{\phi r}$0.35; Fault plane solution: $M_0$2.11000×10^{15} NP1: ϕ_s342.00000°, δ54.00000°, λ60.00000

HHC	**Hu-ho-hao-te**	**26.61**	**301**	*e*P	**P**	**08 48 51.5**	**+0.9**	
HHC				pmax	pmax			
	comp=Z,15nm,0.8s							
HHC				pmax	pmax			
	comp=Z,110nm,5.7s							
XAN	**Xi'an**	**28.14**	**285**	P	**P**	**08 49 02.0**	**-2.4**	
XAN				pP	pP	08 49 08.0	-1.8	
XAN				pmax	pmax			
	comp=Z,6.0nm,1.8s							
XAN				L	L			
	comp=Z,210nm,16.3s							
XAN				L	L			
	comp=Z,160nm,17.3s							
XAN				L	L			
	comp=Z,220nm,19.5s							
ULN	**Ulaanbaatar**	**31.68**	**313**	P	**P**	**08 49 36.7**	**+0.9**	
ULN				IAmb	IAmb	08 49 38.3		
	comp=Z,6.2nm,0.9s							
SONM	**Songino Array**	**32.09**	**312**	P	**P**	**08 49 40.9**	**+1.6**	
	comp=Z,3.6nm,0.9s,baz=116,slow=9.4,SNR=12							
SONM	**Songino Array**	**32.09**	**312**		**P**	**08 49 40.0**	**+0.7**	
SONM				IAmb	IAmb	08 49 41.2		
	comp=Z,6.5nm,1.2s							
SEY	**Seymchan**	**32.81**	**9**	P	**P**	**08 49 45.7**	**+0.5**	
	comp=Z,2.2nm,0.8s,baz=164,slow=4.9,SNR=6.9							
TLY	**Talaya**	**35.10**	**318**	P	**P**	**08 50 06.8**	**+1.6**	
	comp=Z,5.7nm,0.7s,baz=196,slow=4.9,SNR=8.1							
TLY				S	**S**	**08 55 39.6**	**+3.1**	
	comp=Z,3.6nm,0.6s,baz=114,slow=22,SNR=6.9							
TLY	**Talaya**	**35.10**	**318**		**P**	**08 50 05.3**	**+0.1**	
GTA	**Gaotai**	**35.39**	**296**	⇑P	**P**	**08 50 08.0**	**-0.1**	
GTA				pP	pwP	08 50 20.0	-3.1	
GTA				sP	sP	08 50 24.8	+10	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,69nm,7.8s							
GTA				L	L			
	comp=Z,110nm,14.9s							
GTA				L	L			
	comp=Z,150nm,17.8s							
GTA				L	L			
	comp=Z,170nm,15.3s							
CMAR	**Chiang Mai Arr**	**40.89**	**263**	P	**P**	**08 50 53.4**	**-1.1**	
	comp=Z,1.2nm,0.4s,baz=66,slow=7.0,SNR=2.6							
WMQ	**Urumqi**	**44.44**	**303**	*e*P	**P**	**08 51 25.0**	**+1.9**	
ZAA0	**Zalesovo Array**	**46.70**	**317**	P	**P**	**08 51 40.6**	**-0.1**	
ZAA0				IAmb	IAmb	08 51 41.9		
	comp=Z,6.4nm,1.3s							
ZALV	**Zalesovo Beam**	**46.70**	**317**	P	**P**	**08 51 41.0**	**+0.3**	
	comp=Z,1.9nm,0.8s,baz=86,slow=9.7,SNR=5.2							
ZALV	**Zalesovo Beam**	**46.70**	**317**	P	**P**	**08 51 40.2**	**-0.5**	
JAGI	**Jajag, Banyuwa**	**47.38**	**219**		**S**	**08 58 39.9**	**+0.7**	
MK31	**Makanchi Array**	**48.13**	**307**	P	**P**	**08 51 51.3**	**-0.8**	
MK31				IAmb	IAmb	08 52 05.6		
	comp=Z,4.3nm,0.8s							
MKAR	**Makanchi Array**	**48.13**	**307**	P	**P**	**08 51 52.5**	**+0.4**	
	comp=Z,4.0nm,0.8s,baz=92,slow=9.4,SNR=29							
MKAR	**Makanchi Array**	**48.13**	**307**	P	**P**	**08 51 51.6**	**-0.4**	
MAKZ	**Makanchi**	**48.35**	**307**	P	**P**	**08 51 53.0**	**-0.7**	
MAKZ				IAmb	IAmb	08 51 54.5		
	comp=Z,3.9nm,0.9s							
NRIK	**Noril'sk**	**49.20**	**338**	P	**P**	**08 52 01.1**	**+1.3**	
	comp=Z,2.9nm,0.8s,baz=122,slow=8.0,SNR=4.0							
NRIK	**Noril'sk**	**49.20**	**338**	P	**P**	**08 51 59.3**	**-0.5**	
NRIK				IAmb	IAmb	08 52 01.9		
	comp=Z,6.8nm,1.1s							
KURBB	**Kurchatov Arra**	**50.46**	**312**	P	**P**	**08 52 09.9**	**+0.2**	
	comp=Z,4.0nm,0.8s,baz=87,slow=7.4,SNR=32							
CTA	**Charters Tower**	**50.76**	**175**	P	**P**	**08 52 13.9**	**+1.7**	
	comp=Z,5.7nm,1.0s,baz=62,slow=15,SNR=2.3							
WB0	**Warramunga Arr**	**50.83**	**189**	P	**P**	**08 52 11.7**	**-1.0**	
WB0				IAmb	IAmb	08 52 13.2		
	comp=Z,6.7nm,1.0s							
WR0	**Warramunga Arr**	**51.00**	**189**	P	**P**	**08 52 14.0**	**0.0**	
WRAB	**Tennant Creek**	**51.00**	**189**	P	**P**	**08 52 13.9**	**-0.1**	
WB2	**Warramunga Arr**	**51.01**	**189**	P	**P**	**08 52 13.8**	**-0.2**	
WB2				IAmb	IAmb	08 52 15.3		
	comp=Z,7.5nm,1.0s							
WRA	**Warramunga Arr**	**51.01**	**189**	P	**P**	**08 52 13.2**	**-0.9**	
	comp=Z,4.0nm,0.9s,baz=10,slow=8.2,SNR=21							
WRA	**Warramunga Arr**	**51.01**	**189**	P	**P**	**08 52 14.1**	**0.0**	
OHAK	**Old Harbor**	**51.07**	**39**	P	**P**	**08 52 15.0**	**+0.9**	
OHAK				IAmb	IAmb	08 52 28.0		
	comp=Z,12nm,1.2s							
FITZ	**Fitzroy Crossi**	**51.14**	**200**	P	**P**	**08 52 14.7**	**-0.3**	
	comp=Z,1.8nm,0.8s,baz=210,slow=12,SNR=2.8							
FITZ	**Fitzroy Crossi**	**51.14**	**200**	P	**P**	**08 52 15.2**	**+0.1**	
FITZ				IAmb	IAmb	08 52 30.7		
	comp=Z,8.0nm,1.4s							
KDAK	**Kodiak Island**	**51.47**	**38**	P	**P**	**08 52 17.4**	**+0.2**	
MLY	**Manley**	**52.90**	**29**	P	**P**	**08 52 28.7**	**+0.9**	
NEA2	**Nenana**	**53.57**	**30**	P	**P**	**08 52 34.0**	**+1.4**	
NEA2				IAmb	IAmb	08 52 50.0		
	comp=Z,4.4nm,0.8s							
IL31		**54.51**	**30**	P	**P**	**08 52 39.4**	**-0.1**	
ILAR	**Eielson Array**	**54.51**	**30**	P	**P**	**08 52 40.1**	**+0.6**	
	comp=Z,1.5nm,0.9s,baz=259,slow=6.3,SNR=11							
ILAR	**Eielson Array**	**54.51**	**30**	P	**P**	**08 52 40.2**	**+0.7**	
AS31	**Alice Springs**	**54.73**	**189**	P	**P**	**08 52 40.8**	**-0.7**	
ASAR	**Alice Springs**	**54.73**	**189**	P	**P**	**08 52 41.8**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=16,slow=9.4,SNR=9.1							
ASAR	**Alice Springs**	**54.73**	**189**	P	**P**	**08 52 40.6**	**-1.0**	
BVAR	**Borovoye Array**	**55.31**	**316**	P	**P**	**08 52 46.0**	**+0.5**	
	comp=Z,2.2nm,0.9s,baz=218,slow=17,SNR=8.1							
BRVK	**Borovoye**	**55.38**	**316**	P	**P**	**08 52 46.0**	**+0.1**	
BRVK				IAmb	IAmb	08 52 47.2		
	comp=Z,4.1nm,0.9s							
BMAR	**Burnt Mountain**	**55.56**	**27**	P	**P**	**08 52 48.4**	**+1.3**	
DOT	**Dot Lake**	**55.73**	**31**	P	**P**	**08 52 48.4**	**0.0**	
SCRK	**Sand Creek**	**55.76**	**31**	P	**P**	**08 52 48.6**	**-0.1**	
L27K	**Beaver Creek,**	**56.76**	**32**	P	**P**	**08 52 57.5**	**+1.8**	
KK31	**Karatay Array**	**56.92**	**304**	P	**P**	**08 52 57.6**	**+0.4**	
KK31				IAmb	IAmb	08 52 58.6		
	comp=Z,6.6nm,0.9s							
KKAR	**Karatay Array**	**56.92**	**304**	P	**P**	**08 52 57.4**	**+0.3**	
KKAR				IAmb	IAmb	08 52 58.6		
	comp=Z,6.6nm,0.9s							
KKAR	**Karatay Array**	**56.92**	**304**	P	**P**	**08 52 57.5**	**+0.3**	
DAWY	**Dawson**	**57.78**	**31**	P	**P**	**08 53 04.5**	**+1.6**	
GAR	**Garm**	**58.08**	**299**	P	**P**	**08 53 04.8**	**-0.7**	
GAR				IAmb	IAmb	08 53 06.7		
	comp=Z,6.9nm,1.0s							
EPYK	**Eagle Plains**	**58.69**	**28**	P	**P**	**08 53 10.5**	**+1.3**	
CHGR	**Chuyangaron**	**59.04**	**299**	P	**P**	**08 53 12.2**	**0.0**	
ARU	**Arti**	**61.49**	**321**	P	**P**	**08 53 28.6**	**+0.1**	
STKA	**Stephens Creek**	**62.34**	**181**	P	**P**	**08 53 35.0**	**+0.6**	
	comp=Z,2.1nm,0.9s,baz=312,slow=5.9,SNR=4.5							
STKA	**Stephens Creek**	**62.34**	**181**	P	**P**	**08 53 34.1**	**-0.3**	
ABKAR	**Akbulak array**	**62.50**	**313**	P	**P**	**08 53 35.5**	**0.0**	
ABKAR				IAmb	IAmb	08 53 36.6		
	comp=Z,5.9nm,0.9s							
ABKAR	**Akbulak array**	**62.50**	**313**	P	**P**	**08 53 35.3**	**-0.1**	
FORT	**Forrest**	**62.69**	**194**	P	**P**	**08 53 35.7**	**-1.0**	
AKTO	**Aktyubinsk**	**63.36**	**315**	P	**P**	**08 53 41.6**	**+0.4**	
	comp=Z,3.9nm,0.8s,baz=93,slow=4.7,SNR=10							
KIRV	**Kirov**	**65.61**	**325**	P	**P**	**08 53 56.2**	**+0.5**	
	comp=Z,11nm,0.6s,baz=146,slow=14,SNR=2.3							
BELG	**Belogornoye**	**68.81**	**319**	P	**P**	**08 54 17.4**	**+1.3**	
	comp=Z,8.4nm,0.7s,baz=44,slow=11,SNR=2.4							
YKA	**Yellowknife Ar**	**68.92**	**29**	P	**P**	**08 54 16.9**	**+0.3**	
	comp=Z,0.5nm,0.8s,baz=296,slow=5.8,SNR=7.1							
KLMR	**Klimovskoe**	**69.36**	**329**	*e*P	**P**	**08 54 18.6**	**-0.8**	
KLMR				AMP		08 54 22.8		
	comp=Z,11nm,1.2s							
FINES	**FINESS Array B**	**74.61**	**333**	P	**P**	**08 54 51.6**	**+0.8**	
	comp=Z,3.6nm,0.9s,baz=76,slow=8.0,SNR=7.6							
KBZ	**Khabaz**	**75.46**	**312**	P	**P**	**08 54 56.9**	**+0.8**	
	comp=Z,3.1nm,0.7s,baz=36,slow=6.3,SNR=6.0							
BFZ	**Birch Farm**	**77.83**	**154**	P	**P**	**08 55 10.2**	**+0.9**	
LRM	**Limekiln Ridge**	**78.22**	**44**	P	**P**	**08 55 13.3**	**+1.4**	
NVAR	**Mina Array Bea**	**78.29**	**52**	P	**P**	**08 55 13.1**	**+0.6**	
	comp=Z,0.5nm,0.6s,baz=297,slow=5.3,SNR=6.2							
NVAR	**Mina Array Bea**	**78.29**	**52**	P	**P**	**08 55 12.4**	**0.0**	
DLMT	**Dillon**	**78.38**	**44**	P	**P**	**08 55 12.5**	**-0.2**	
AKASG	**Malin Array Be**	**79.61**	**323**	P	**P**	**08 55 19.2**	**+0.2**	
	comp=Z,1.7nm,0.6s,baz=48,slow=5.9,SNR=11							
AKBB	**Malin Array Si**	**79.61**	**323**	P	**P**	**08 55 19.2**	**+0.1**	
AKBB				IAmb	IAmb	08 55 20.2		
	comp=Z,4.6nm,0.9s							
NOA	**NORSAR Array B**	**80.16**	**338**	P	**P**	**08 55 22.3**	**+0.3**	
	comp=Z,1.5nm,0.9s,baz=41,slow=5.3,SNR=4.5							
PDAR	**Pinedale Array**	**81.63**	**45**	P	**P**	**08 55 30.1**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=0.0,slow=2.2,SNR=5.3							
PDAR	**Pinedale Array**	**81.63**	**45**	P	**P**	**08 55 30.3**	**-0.2**	
RDMU	**Red Mountain**	**82.86**	**47**	P	**P**	**08 55 37.7**	**+0.8**	
RDMU				IAmb	IAmb	08 55 51.8		
	comp=Z,2.8nm,0.7s							
BRTR	**Keskin Array B**	**83.45**	**313**	P	**P**	**08 55 40.2**	**+0.4**	
	comp=Z,0.8nm,0.7s,baz=95,slow=2.6,SNR=4.3							
BRTR				LR	LR	09 36 51.9		
	comp=Z,33nm,18.8s,baz=73,slow=39							
RAYN	**Ar Rayn**	**83.61**	**293**	P	**P**	**08 55 41.0**	**+0.2**	
PV14	**Lion Creek, Pa**	**84.47**	**48**	P	**P**	**08 55 44.9**	**-0.3**	
PV14				IAmb	IAmb	08 56 01.7		
	comp=Z,4.8nm,1.0s							
TXAR	**Lajitas Array**	**93.43**	**53**	P	**P**	**08 56 29.2**	**+1.4**	
	comp=Z,0.6nm,0.8s,baz=306,slow=2.5,SNR=11							
TXAR	**Lajitas Array**	**93.43**	**53**		**P**	**08 56 25.7**	**-2.2**	
LPAZ	**La Paz**	**148.85**	**69**	PKPbc	**PKiKP**	**09 03 02.6**	**+0.2**	
	comp=Z,1.4nm,0.8s,baz=343,slow=6.1,SNR=6.0							

*BJI **30** 08:47:23.1±0.0,25.°68N×143.°19E,h35km,mB4.8/28, mb4.8/45,Ms4.2/20,Ms7 4.0/20*
*JMA **30** 08:47:23.1±0.1,26.°11N×143.°19E,h0km,M4.8*
*IDC **30** 08:47:25.1±0.4,25.°99N×142.°59E,h0km,mb4.5/37, mb1 4.6/40,mb1mx4.5/63,mbtmp4.5/40,ML3.7/3,MS3.6/19, Ms1 3.7/19,ms1mx3.5/52, Error ellipse: s-maj=13.5km s-min=8.2km az=89.0*
*NEIC **30** 08:47:30.9±1.0,26.°06N±0.°07×142.°6E±0.°1,h36km±6km, mb4.8/141,Error ellipse: s-maj=14.5km s-min=10.9km az=88.0*

ISC 30 08:47:28.5±0.5,26.°06N±0.°05×142.°65E±0.°07,h21km±5km, n284,σ1°14/297,mb4.7/129,MS3.9/24,1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.71**	**324**	P	**Pn**		**08 47 43.5**	**+0.2**
JHH2				*e*S	**Sn**		**08 47 58.0**	**+4.4**
CBIJ	**Chichi jima**	**1.12**	**338**	P	**Pn**		**08 47 48.7**	**-0.1**
CBIJ				*e*S	**Sn**		**08 48 06.9**	**+3.3**
JCJ	**Chichijima**	**1.12**	**338**	Pn	**Pb**		**08 47 49.7**	**+0.6**
	295nm,0.3s,baz=105,slow=23,SNR=68							
JCJ				Sn	**Sn**		**08 48 06.6**	**+3.0**
	2μm,0.3s,baz=270,slow=23,SNR=19							
JCJ				LR	LR		08 48 13.9	
	comp=Z,410nm,19.6s,baz=304,slow=42							
JCJ	**Chichijima**	**1.12**	**338**	Pn	**Pb**		**08 47 49.5**	**+0.4**
JHU	**Hanno**	**10.18**	**344**	P	**Pn**		**08 49 52.5**	**-0.9**
JHU				*e*S	**Sn**		**08 51 44.6**	**-2.3**
JYT	**Yasato**	**10.36**	**349**	Pn	**Pn**		**08 49 55.6**	**-0.1**
JHO	**Hitachi**	**10.67**	**351**	P	**Pn**		**08 49 57.9**	**-2.2**
JHO				*e*S	**Sn**		**08 51 51.7**	**-7.2**
JAG	**Ashikaga**	**10.69**	**346**	P	**Pn**		**08 49 58.4**	**-1.9**
JAG				*e*S	**Sn**		**08 51 55.3**	**-4.1**
MJAR	**Matsushiro Arr**	**11.12**	**341**	Pn	**Pn**		**08 50 05.7**	**-0.5**
	0.3nm,0.3s,baz=154,slow=11,SNR=8.1							
MJAR				Sn	**Sn**		**08 52 06.1**	**-3.8**
	0.0nm,0.3s,baz=221,slow=30,SNR=1.4							
MJAR	**Matsushiro Arr**	**11.12**	**341**	Pn	**Pn**		**08 50 07.4**	**+1.2**
MAJO	**Matsushiro**	**11.12**	**341**	Pn	**Pn**		**08 50 07.8**	**+1.6**
MAT	**Matsushiro**	**11.12**	**341**	P	**Pn**		**08 50 06.0**	**-0.2**
MAT				*e*S	**Sn**		**08 52 06.4**	**-3.6**
MJB9	**Matsu-Tunnel**	**11.12**	**341**		**Pn**		**08 50 06.8**	**+0.5**
JMM	**Marumori**	**11.88**	**353**		**Pn**		**08 50 16.1**	**-0.5**
JSD	**Sado**	**12.51**	**344**	Pn	**Pn**		**08 50 25.1**	**-0.1**
JOW	**Kunigami**	**12.90**	**277**	LR	LR		08 54 44.6	
	comp=Z,223nm,21.5s,baz=308,slow=34							
JTU	**Tsushima**	**14.21**	**310**	Pn	**Pn**		**08 50 48.1**	**-0.3**
JTM	**Tenmabayashi**	**14.75**	**355**	Pn	**Pn**		**08 50 55.6**	**-0.2**
ERM	**Erimo**	**15.93**	**1**	Pn	**Pn**		**08 51 11.3**	**+0.1**
JEW	**Eniwo**	**16.77**	**357**	Pn	**Pn**		**08 51 22.0**	**0.0**
JEW				IAmb	IAmb		08 51 39.5	
	comp=Z,72nm,1.0s							
KSRS	**Korea Array**	**16.89**	**316**	Pn	**P**		**08 51 25.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=133,slow=11,SNR=21							
JKA	**Kamikawa-asahi**	**18.02**	**360**		**P**		**08 51 38.1**	**+0.2**
ASAJ	**Asahikawa**	**18.02**	**360**	P	**P**		**08 51 37.8**	**0.0**
	comp=Z,0.5nm,0.3s,baz=104,slow=17,SNR=2.3							
ASAJ				S	Sn		08 54 46.1	-12
	comp=Z,0.5nm,0.3s,baz=357,slow=24,SNR=1.6							
ASAJ				LR	LR		08 58 47.4	
	comp=Z,101nm,21.3s,baz=196,slow=38							
YULB	**Yu-li**	**19.57**	**267**	P	**P**		**08 51 54.6**	**-0.5**
YULB				IAmb	IAmb		08 52 11.2	
	comp=Z,41nm,1.1s							
SSLB	**Suanglung**	**19.80**	**268**	P	**P**		**08 51 57.3**	**-0.3**
SSLB				IAmb	IAmb		08 52 06.5	
	comp=Z,26nm,0.7s							
USA0B	**Ussuriysk Arra**	**20.06**	**337**	P	**P**		**08 52 00.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**20.06**	**337**	P	**P**		**08 52 00.9**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=162,slow=9.5,SNR=9.2							
USRK	**Ussuriysk Ar.**	**20.06**	**337**		**P**		**08 51 59.8**	**-0.5**
MDJ	**Mudanjiang**	**21.31**	**334**	P	**P**		**08 52 13.5**	**-0.3**
MDJ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MDJ				pmax	pmax			
	comp=Z,120nm,4.2s							
NJ2	**Nanjing**	**21.62**	**292**	*e*P	**P**		**08 52 18.0**	**+0.8**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
DL2	**Dalian**	**21.81**	**311**	P	**P**		**08 52 24.0**	**+4.8**
DL2				pmax	pmax			
	comp=Z,40nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**23.19**	**101**	T	T		09 16 11.9	
	baz=290,slow=74,SNR=165							
H11N1	**WAKE ISLAND Hy**	**23.19**	**101**	T	T		09 16 07.5	
	baz=290,slow=74,SNR=138							
H11N3	**WAKE ISLAND Hy**	**23.21**	**101**	T	T		09 16 13.3	
	baz=290,slow=74,SNR=169							
TIA	**Tai'an**	**24.02**	**301**	*e*P	**P**		**08 52 40.5**	**-1.3**
TIA				pmax	pmax			
	comp=Z,21nm,0.8s							
TIA				L	L			
	comp=Z,190nm,15.7s							
TIA				L	L			
	comp=Z,170nm,16.2s							
TIA				L	L			
	comp=Z,290nm,17.7s							
KLR	**Kul'dur**	**24.64**	**343**	P	**P**		**08 52 47.8**	**+0.4**
	comp=Z,27nm,0.6s,baz=147,slow=7.6,SNR=87							
SIJI	**Sorong**	**28.94**	**204**	LR	LR		09 02 34.7	
	comp=Z,288nm,21.4s,baz=12,slow=32							
PEA0B	**Petropavlovsk-**	**29.28**	**19**	P	**P**		**08 53 29.7**	**+0.6**
PEA0B				IAmb	IAmb		08 53 58.3	
	comp=Z,17nm,1.3s							
PETK	**Petropavlovsk-**	**29.28**	**19**	P	**P**		**08 53 30.1**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=122,slow=7.0,SNR=2.0							
PETK				LR	LR		09 03 30.0	
	comp=Z,42nm,21.1s,baz=187,slow=33							
PETK	**Petropavlovsk-**	**29.28**	**19**	P	**P**		**08 53 28.3**	**-0.8**
HHC	**Hu-ho-hao-te**	**29.65**	**308**	*e*P	**P**		**08 53 35.0**	**+2.3**
HHC				pmax	pmax			
	comp=Z,21nm,0.7s							
HHC				pmax	pmax			
	comp=Z,67nm,6.6s							
XAN	**Xi'an**	**30.16**	**293**	P	**P**		**08 53 36.5**	**-0.6**
XAN				pP	pwP		08 53 47.8	+2.2
XAN				sP	sP		08 53 53.0	+7.8
XAN				pmax	pmax			
	comp=Z,14nm,1.2s							
XAN				L	L			
	comp=Z,220nm,18.4s							
XAN				L	L			
	comp=Z,260nm,20.6s							
XAN				L	L			
	comp=Z,190nm,21.7s							
FAKI	**Fak Fak**	**30.51**	**201**	P	**P**		**08 53 39.4**	**-0.9**
KRAI	**Karang Ratu**	**32.30**	**207**	P	**P**		**08 53 57.1**	**+1.1**
	comp=Z,3μmcomp=Z,40nm,1.1s							
MRSI	**Marisa**	**32.33**	**221**	P	**P**		**08 53 56.9**	**+0.6**
	comp=Z,39nm,0.8s							
TOLI2	**Tolitoli**	**32.53**	**224**	P	**P**		**08 53 56.6**	**-1.5**
TOLI2				IAmb	IAmb		08 54 18.2	
	comp=Z,22nm,1.1s							
CD2	**Chengdu**	**34.40**	**287**	P	**P**		**08 54 14.0**	**-0.4**
CD2				L	L			
	comp=Z,380nm,16.4s							
CD2				L	L			
	comp=Z,370nm,16.2s							
CD2				L	L			
	comp=Z,350nm,16.3s							
LZH	**Lanzhou**	**34.51**	**296**	*e*P	**P**		**08 54 15.0**	**-0.4**
LZH				pP	pwP		08 54 24.5	+0.6
LZH				sP	sP		08 54 32.3	+8.8
LZH				pmax	pmax			
	comp=Z,42nm,1.1s							
LZH				L	L			
	comp=Z,120nm,12.2s							
LZH				L	L			
	comp=Z,250nm,13.3s							
LZH				L	L			
	comp=Z,200nm,15.4s							
ULN	**Ulaanbaatar**	**35.36**	**317**	P	**P**		**08 54 22.6**	**+0.1**
ULN	**Ulaanbaatar**	**35.36**	**317**	P	**P**		**08 54 22.3**	**-0.3**
	comp=Z,23nm,1.2s							
SLVN	**Son La**	**35.70**	**271**	P	**P**		**08 54 24.2**	**-1.5**
SONM	**Songino Array**	**35.75**	**317**	P	**P**		**08 54 26.5**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=134,slow=10,SNR=5.7							
SONM				PcP	**PcP**		**08 56 53.7**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=150,slow=3.2,SNR=3.6							
KMI	**Kunming**	**35.91**	**277**	⇓P	**P**		**08 54 28.8**	**+1.2**
KMI				pP	pP		08 54 34.3	+1.0
KMI				sP	pwP		08 54 39.3	+2.5
KMI				pmax	pmax			
	comp=Z,19nm,0.8s							
KMI				L	L			
	comp=Z,160nm,16.0s							
KMI				L	L			
	comp=Z,170nm,16.3s							
KMI				L	L			
	comp=Z,220nm,14.8s							
NONG	**Nongkai**	**37.35**	**266**	P	**P**		**08 54 42.0**	**+2.3**
	comp=Z,33nm,0.6s							
NONG	**Nongkai**	**37.35**	**266**	P	**P**		**08 54 42.0**	**+2.3**
	comp=Z,33nm,0.6s							
SEY	**Seymchan**	**37.44**	**7**	P	**P**		**08 54 41.6**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=195,slow=5.1,SNR=9.0							
GTA	**Gaotai**	**38.07**	**301**	*e*P	**P**		**08 54 44.5**	**-1.2**
GTA				pP	sP		08 54 53.8	-0.4
GTA				sP	pwP		08 54 58.0	+3.7
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,74nm,6.5s							
GTA				L	L			
	comp=Z,110nm,14.9s							
GTA				L	L			
	comp=Z,140nm,17.5s							
GTA				L	L			
	comp=Z,170nm,18.5s							
TLY	**Talaya**	**39.01**	**321**	P	**P**		**08 54 53.8**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=201,slow=8.1,SNR=3.3							
TLY	**Talaya**	**39.01**	**321**	P	**P**		**08 54 53.0**	**-0.3**
CHAI	**Chaiyaphum**	**39.15**	**263**	P	**P**		**08 54 56.3**	**+1.5**
	comp=Z,22nm,0.6s							
CHAI	**Chaiyaphum**	**39.15**	**263**	P	**P**		**08 54 56.4**	**+1.5**
	comp=Z,5.4nm,0.6s							
UTTA	**Uttaradit**	**39.78**	**267**	P	**P**		**08 55 01.9**	**+1.8**
UTTA	**Uttaradit**	**39.78**	**267**	P	**P**		**08 55 01.0**	**+0.9**
SRAK	**Srakaew**	**39.83**	**261**	P	**P**		**08 54 58.2**	**-2.3**
	comp=Z,2μmcomp=Z,263nm,0.7s							
SOEI	**Soe**	**39.83**	**209**	P	**P**		**08 55 00.6**	**-0.1**
PHIT	**Phitsanulok**	**40.09**	**266**	P	**P**		**08 55 04.8**	**+2.1**
	comp=Z,1μmcomp=Z,163nm,0.8s							
PHIT	**Phitsanulok**	**40.09**	**266**	P	**P**		**08 55 04.9**	**+2.1**
	comp=Z,368nmcomp=Z,40nm,0.8s							
MTN	**Manton Dam**	**40.26**	**198**	P	**P**		**08 55 04.0**	**+0.1**
CMMT	**Chiang Mai**	**40.88**	**269**	P	**P**		**08 55 09.1**	**-0.2**
	comp=Z,24nm,0.8s							
CMMT	**Chiang Mai**	**40.88**	**269**	P	**P**		**08 55 09.1**	**-0.2**
	comp=Z,24nm,0.8s							
CMMT	**Chiang Mai**	**40.88**	**269**	P	**P**		**08 55 09.1**	**-0.2**
	comp=Z,23nm,0.8s							
CHTO	**Chiang Mai**	**40.88**	**269**	P	**P**		**08 55 10.1**	**+0.8**
	comp=Z,24nm,0.8s							
CHTO	**Chiang Mai**	**40.88**	**269**	P	**P**		**08 55 08.3**	**-1.0**
CHTO				IAmb	IAmb		08 55 11.2	
	comp=Z,18nm,0.8s							
CHTO	**Chiang Mai**	**40.88**	**269**	P	**P**		**08 55 09.5**	**+0.2**
	comp=Z,14nm,0.8s							
CM09	**Chiang Mai Arr**	**40.96**	**268**	P	**P**		**08 55 11.6**	**+1.7**
	comp=Z,16nm,0.8s							
CM09	**Chiang Mai Arr**	**40.96**	**268**	P	**P**		**08 55 11.7**	**+1.8**
	comp=Z,16nm,0.8s							
CM04	**Chiang Mai Arr**	**40.98**	**268**	P	**P**		**08 55 11.6**	**+1.5**
	comp=Z,123nmcomp=Z,18nm,0.8s							
CM04	**Chiang Mai

ZALV **Zalesovo Beam** 50.54 320 P P 08 56 24.4 -0.7
MK31 **Makanchi Array** 51.46 310 P P 08 56 31.5 -0.7
MKAR **Makanchi Array** 51.46 310 P P 08 56 31.0 -1.2
comp=Z,2.8nm,0.7s,baz=90,slow=8.2,SNR=26
MKAR PcP PcP 08 57 46.8 +0.4
comp=Z,3.3nm,0.7s,baz=84,slow=5.7,SNR=8.2
MKAR **Makanchi Array** 51.46 310 P P 08 56 31.5 -0.7
MKAR PcP PcP 08 57 45.1 -1.3
MAKZ **Makanchi** 51.67 310 P P 08 56 33.6 -0.2
PSA00 **Pilbara Seismi** 52.25 207 P P 08 56 38.6 +0.3
PSA00 IAmb IAmb 08 56 41.8
comp=Z,24nm,1.3s
NRIK **Noril'sk** 53.76 339 P P 08 56 50.0 +1.1
comp=Z,19nm,1.0s,baz=110,slow=8.8,SNR=12
NRIK **Noril'sk** 53.76 339 P P 08 56 49.1 +0.3
SVW2 **Sparrevohn** 53.95 32 P P 08 56 50.5 +0.1
OHAK **Old Harbor** 54.51 37 P P 08 56 55.5 +1.1
TARG **Taragay, Kyrgy** 54.84 304 P P 08 56 57.2 -0.4
TARG IAmb IAmb 08 56 59.5
comp=Z,5.8nm,0.8s
KDAK **Kodiak Island** 54.95 36 P P 08 56 58.3 +0.7
comp=Z,2.9nm,0.6s,baz=329,slow=8.6,SNR=4.3
KDAK **Kodiak Island** 54.95 36 P P 08 56 57.2 -0.4
CNPM **China Poot** 55.84 34 P P 08 57 04.3 +0.2
SKT **Skwentna** 56.01 31 P P 08 57 06.1 +0.8
SKT IAmb IAmb 08 57 13.8
comp=Z,9.7nm,1.1s
BOOM **Boomskoye usch** 56.14 305 P P 08 57 06.5 -0.3
BOOM IAmb IAmb 08 57 16.8
comp=Z,5.2nm,0.7s
MLY **Manley** 56.83 28 P P 08 57 11.7 +0.6
PMR **Palmer** 57.09 32 P P 08 57 12.8 -0.1
PMR IAmb IAmb 08 57 21.1
comp=Z,10.0nm,1.0s
AAK **Ala-Archa** 57.19 305 P P 08 57 13.7 -0.5
comp=Z,1.7nm,0.3s,baz=81,slow=4.6,SNR=5.0
KNK **Knik Glacier** 57.40 32 P P 08 57 15.6 +0.4
KNK IAmb IAmb 08 57 24.8
comp=Z,15nm,1.0s
I23K **Minto, Yukon-K** 57.43 28 P P 08 57 16.3 +1.1
COLD **Coldfoot** 57.43 25 P P 08 57 16.0 +0.8
COLD IAmb IAmb 08 57 25.3
comp=Z,6.8nm,1.2s
SML **Sawmill** 57.49 32 P P 08 57 16.9 +1.1
STKA **Stephens Creek** 57.62 181 P P 08 57 15.9 -1.0
comp=Z,3.3nm,0.7s,baz=344,slow=8.2,SNR=16
STKA **Stephens Creek** 57.62 181 P P 08 57 16.9 0.0
MDM **Murphy Dome** 57.88 28 P P 08 57 18.8 +0.3
SCM **Sheep Creek Mo** 57.97 32 P P 08 57 19.3 +0.1
FORT **Forrest** 58.21 195 P P 08 57 21.1 0.0
IL31 58.43 28 P P 08 57 22.1 -0.1
IL31 IAmb IAmb 08 57 29.8
comp=Z,5.7nm,0.9s
ILAR **Eielson Array** 58.43 28 P P 08 57 21.9 -0.4
comp=Z,2.2nm,0.6s,baz=264,slow=5.6,SNR=25
ILAR **Eielson Array** 58.43 28 P P 08 57 22.1 -0.2
KLU **Klutina** 58.62 32 P P 08 57 24.2 +0.4
KLU IAmb IAmb 08 57 32.4
comp=Z,8.1nm,0.8s
BBOO **Buckleboo** 58.87 186 P P 08 57 25.6 -0.1
BBOO IAmb IAmb 08 57 33.1
comp=Z,9.4nm,1.1s
BVAR **Borovoye Array** 59.09 318 P P 08 57 25.7 -1.4
comp=Z,7.1nm,0.7s,baz=144,slow=12,SNR=32
BRVK **Borovoye** 59.15 318 P P 08 57 27.5 0.0
BMRM **Bremner River** 59.24 33 P P 08 57 28.4 +0.4
N25K **Chitina, Valde** 59.26 32 P P 08 57 28.5 +0.3
N25K IAmb IAmb 08 57 36.9
comp=Z,9.3nm,1.3s
FYU **Fort Yukon** 59.28 26 P P 08 57 28.8 +0.6
FYU IAmb IAmb 08 57 38.9
comp=Z,11nm,1.0s
DOT **Dot Lake** 59.58 30 P P 08 57 30.3 0.0
DOT IAmb IAmb 08 57 38.5
comp=Z,7.4nm,0.9s
BMAR **Burnt Mountain** 59.61 25 P P 08 57 30.0 -0.5
SCRK **Sand Creek** 59.63 29 P P 08 57 30.9 +0.2
SCRK IAmb IAmb 08 57 39.0
comp=Z,9.8nm,0.8s
GLB **Gilahina Butte** 59.63 32 P P 08 57 31.4 +0.7
HYB **Hyderabad** 59.66 276 *i* P P 08 57 32.0 +0.4
NIL **Nilore** 59.67 295 P P 08 57 31.5 +0.1
CRQM **Cirque** 59.95 33 P P 08 57 33.5 +0.4
KK31 **Karatay Array** 60.03 306 P P 08 57 33.1 -0.6
KK31 IAmb IAmb 08 57 34.5
comp=Z,7.2nm,0.6s
KKAR **Karatay Array** 60.03 306 P P 08 57 33.1 -0.7
KKAR **Karatay Array** 60.03 306 P P 08 57 32.9 -0.8
KKAR IAmb IAmb 08 57 34.4
comp=Z,7.2nm,0.6s
MORW **Morawa** 60.47 207 P P 08 57 36.7 -0.1
MORW IAmb IAmb 08 57 37.7
comp=Z,7.1nm,0.8s
K27K **Chicken** 60.47 29 P P 08 57 36.7 +0.3
K27K IAmb IAmb 08 57 47.2
comp=Z,4.9nm,1.0s
L27K **Beaver Creek,** 60.57 30 P P 08 57 37.7 +0.6
L27K IAmb IAmb 08 57 45.9
comp=Z,4.7nm,1.0s
BCAR **Beaver Creek A** 60.59 30 P P 08 57 38.0 +0.7
EGAK **Eagle** 60.88 28 P P 08 57 39.1 -0.1
GAR **Garm** 60.88 302 P P 08 57 39.7 -0.1
GAR IAmb IAmb 08 57 40.9
comp=Z,12nm,1.0s
DAWY **Dawson** 61.65 29 P P 08 57 44.4 -0.1
DAWY IAmb IAmb 08 57 53.5
comp=Z,4.4nm,0.9s
CHGR **Chuyangaron** 61.84 302 P P 08 57 45.6 -0.6
EPYK **Eagle Plains** 62.69 27 P P 08 57 52.4 +1.0
HYT **Haines Junctio** 62.71 33 P P 08 57 51.6 -0.1
HYT IAmb IAmb 08 58 01.6
comp=Z,8.2nm,1.0s
KBL **Kabul** 62.86 297 P P 08 57 53.0 -0.3
KBL IAmb IAmb 08 57 55.0
comp=Z,8.7nm,0.9s
TOO **Toolangi** 63.34 177 P P 08 57 55.5 -0.4
TOO IAmb IAmb 08 58 18.0
comp=Z,14nm,1.4s
NWAO **Narrogin (SRO)** 63.45 204 P P 08 57 56.6 -0.1
comp=Z,6.8nm,0.7s,baz=36,slow=5.3,SNR=4.7
NWAO **Narrogin (SRO)** 63.45 204 P P 08 57 56.7 -0.1
NWAO IAmb IAmb 08 57 57.8
comp=Z,8.5nm,0.9s
INK **Inuvik** 63.80 24 P P 08 57 59.0 +0.4
comp=Z,1.8nm,0.6s,baz=308,slow=9.8,SNR=4.7
INK **Inuvik** 63.80 24 P P 08 57 59.0 +0.4
INK IAmb IAmb 08 58 07.7
comp=Z,11nm,1.2s
BESE **Bessie Mountai** 64.30 35 P P 08 58 02.6 +0.4
BESE IAmb IAmb 08 58 11.2
comp=Z,8.0nm,1.0s
JIS **Juneau Island** 64.59 35 P P 08 58 04.6 +0.7
ARU **Arti** 65.50 323 P P 08 58 09.5 -0.4
ABKAR **Akbulak array** 66.12 315 P P 08 58 13.7 -0.3
ABKAR **Akbulak array** 66.12 315 P P 08 58 13.7 -0.3
ABKAR IAmb IAmb 08 58 14.6
comp=Z,13nm,0.8s
H02S1 **DAWSON INLET T** 66.59 41 T T 10 10 59.3
DLBC **Dease Lake** 66.82 35 P P 08 58 19.5 +1.0
comp=Z,1.9nm,0.8s,baz=23,slow=3.4,SNR=4.5
DLBC LR LR 09 25 56.4
comp=Z,68nm,19.0s,baz=286,slow=34
DLBC **Dease Lake** 66.82 35 P P 08 58 18.7 +0.2
DLBC IAmb IAmb 08 58 27.9
comp=Z,6.4nm,1.1s
AKTO **Aktyubinsk** 67.06 316 P P 08 58 19.6 -0.6
comp=Z,8.3nm,0.7s,baz=94,slow=8.1,SNR=26
AKTO LR LR 09 27 26.9
comp=Z,39nm,18.2s,baz=72,slow=36
HRA **Herat** 68.31 299 P P 08 58 27.3 -1.2
HRA IAmb IAmb 08 58 29.9
comp=Z,5.7nm,0.7s
KIRV **Kirov** 69.78 326 P P 08 58 37.2 +0.3
comp=Z,16nm,0.7s,baz=57,slow=8.3,SNR=7.1
GEYT **Alibeck** 70.41 303 P P 08 58 42.1 +0.9
comp=Z,2.4nm,0.6s,baz=35,slow=13,SNR=4.0
GEYT LR LR 09 30 32.1
comp=Z,41nm,21.4s,baz=215,slow=37
EUNU **Eureka** 70.87 8 P P 08 58 43.5 +0.2
EUNU IAmb IAmb 08 58 44.9
comp=Z,3.6nm,0.7s
BKZ **Black Stump Fm** 72.18 153 P P 08 58 50.8 -0.9
BELG **Belogornoye** 72.72 320 P P 08 58 55.1 +0.3
comp=Z,20nm,0.8s,baz=242,slow=2.0,SNR=6.7
YKA **Yellowknife Ar** 72.86 28 P P 08 58 56.1 +0.6
comp=Z,2.4nm,0.8s,baz=291,slow=5.3,SNR=17
RES **Resolute Bay** 72.97 14 P P 08 58 56.6 +0.7
KLMR **Klimovskoe** 73.69 330 *e*P P 08 58 59.1 -1.2
KLMR AMP 08 59 10.7
comp=Z,11nm,1.1s
ARCES **ARCESS Array B** 74.66 341 P P 08 59 06.5 +0.7
comp=Z,4.8nm,0.7s,baz=69,slow=6.9,SNR=8.7
ARCES **ARCESS Array B** 74.66 341 P P 08 59 06.6 +0.7
LTY **Liberty** 75.61 44 P P 08 59 11.3 -0.6
H04A **Detroit Lake** 75.62 47 P P 08 59 12.1 +0.1
H04A IAmb IAmb 08 59 21.0
comp=Z,7.2nm,1.0s
B08A **Colville Reser** 76.01 43 P P 08 59 14.4 +0.3
B08A IAmb IAmb 08 59 22.5
comp=Z,6.1nm,0.8s
YBH **Yreka Blue Hor** 76.40 50 P P 08 59 16.8 +0.3
comp=Z,2.4nm,0.8s,baz=281,slow=4.0,SNR=10
YBH LR LR 09 27 26.9
comp=Z,46nm,19.8s,baz=292,slow=31
YBH **Yreka Blue Hor** 76.40 50 P P 08 59 16.4 -0.2
NEEM **North Greenlan** 76.40 3 *i* P P 08 59 16.9 +0.8
NEEM IAmb IAmb 08 59 19.0
comp=Z,6.9nm,0.8s
DAG **Danmarks Havn** 76.77 356 *i* P P 08 59 18.1 +0.3
DAG IAmb IAmb 08 59 18.5
comp=Z,2.5nm,0.8s
D08A **Wollman Farm,** 76.78 44 P P 08 59 18.6 +0.1
D08A IAmb IAmb 08 59 27.4
comp=Z,6.5nm,0.9s
PINE **Pine Mountain** 76.79 48 P P 08 59 19.0 +0.1
PINE IAmb IAmb 08 59 29.0
comp=Z,15nm,1.1s
C09A **Chrisman Ranch** 76.88 43 P P 08 59 19.6 +0.5
C09A IAmb IAmb 08 59 27.5
comp=Z,6.7nm,1.0s
K05A **Summer Lake** 77.25 49 P P 08 59 21.8 +0.3
NEW **Newport** 77.39 42 P P 08 59 22.2 +0.3
comp=Z,2.9nm,0.8s,baz=290,slow=4.9,SNR=7.5
NEW LR LR 09 28 57.6
comp=Z,46nm,20.2s,baz=290,slow=32
NEW **Newport** 77.39 42 P P 08 59 21.9 0.0
NEW IAmb IAmb 08 59 30.5
comp=Z,6.0nm,0.8s
G08A **Pilot Rock** 77.48 46 P P 08 59 22.5 -0.1
F10A **Beach Ranch, E** 78.30 45 P P 08 59 27.2 +0.1
J08A **Circle Bar Ran** 78.60 47 P P 08 59 28.7 -0.2
J08A IAmb IAmb 08 59 37.5
comp=Z,6.6nm,0.9s
BMO **Blue Mountains** 78.73 46 P P 08 59 29.0 -0.5
BMO IAmb IAmb 08 59 38.6
comp=Z,8.1nm,1.1s
WVOR **Wild Horse Val** 78.89 48 P P 08 59 30.8 +0.3
WALA **Waterton Lakes** 78.96 41 P P 08 59 30.8 +0.1
WALA IAmb IAmb 08 59 39.6
comp=Z,7.4nm,0.9s
KBZ **Khabaz** 79.02 313 P P 08 59 31.8 +0.9
comp=Z,15nm,0.8s,baz=95,slow=3.3,SNR=34
KBZ LR LR 09 37 17.3
comp=Z,60nm,19.5s,baz=54,slow=38
FIA1 **FINESS Array S** 79.06 334 P P 08 59 30.8 0.0
FINES **FINESS Array B** 79.06 334 P P 08 59 30.9 +0.1
comp=Z,6.9nm,0.5s,baz=81,slow=6.0,SNR=20
FINES **FINESS Array B** 79.06 334 P P 08 59 30.5 -0.3
ONI **Oni** 79.14 312 P P 08 59 31.8 +0.1
ONI IAmb IAmb 08 59 34.9
comp=Z,11nm,1.0s
DBG **Daneborg** 79.26 355 *i* P P 08 59 31.9 +0.2
DBG IAmb IAmb 08 59 32.3
comp=Z,3.2nm,0.9s
JTMT **Jette** 79.33 42 P P 08 59 32.7 -0.1
JTMT IAmb IAmb 08 59 42.0
comp=Z,12nm,1.1s
CMB **Columbia Colle** 79.52 53 P P 08 59 34.0 +0.1
CMB IAmb IAmb 08 59 42.7
comp=Z,8.2nm,1.0s
PNTR **Pine Nut** 79.64 52 P P 08 59 34.9 +0.2
PNTR IAmb IAmb 08 59 45.4
comp=Z,7.1nm,0.8s
YERR **Yerington** 79.93 52 P P 08 59 36.0 -0.3
YERR IAmb IAmb 08 59 45.3
comp=Z,7.3nm,1.1s
WAKR **Walker** 80.00 52 P P 08 59 37.2 +0.5
MFID **Camas Ranch** 80.32 46 P P 08 59 38.4 +0.2
MFID IAmb IAmb 08 59 47.3
comp=Z,6.7nm,0.8s
RYN **Ryan** 80.59 52 P P 08 59 40.4 +0.6
KVN **Kaiserville** 80.71 51 P P 08 59 41.0 +0.6
KVN IAmb IAmb 08 59 49.3
comp=Z,6.1nm,1.0s
NVAR **Mina Array Bea** 80.83 52 P P 08 59 41.7 +0.5
comp=Z,1.7nm,0.7s,baz=284,slow=5.6,SNR=17
NVAR LR LR 09 29 40.1
comp=Z,64nm,20.9s,baz=270,slow=31
NVAR **Mina Array Bea** 80.83 52 P P 08 59 41.2 0.0
HRY **Holter Researc** 81.30 42 P P 08 59 42.9 -0.4
LRM **Limekiln Ridge** 81.34 43 P P 08 59 42.8 -1.0
UMR **Umm Al-Rimmam** 81.55 299 *e*P P 08 59 43.3 -1.5
SUMG **Summit** 81.63 0 *i* P P 08 59 45.8 +0.8
SUMG IAmb IAmb 08 59 47.2
comp=Z,5.9nm,0.8s
SUMG **Summit** 81.63 0 P P 08 59 45.1 +0.1
SUMG IAmb IAmb 08 59 47.1
comp=Z,6.5nm,0.8s
MIB **Mutribah** 81.74 299 *e*P P 08 59 44.7 -1.2
TPH **Tonopah** 81.75 52 P P 08 59 46.4 +0.3
TPH IAmb IAmb 09 00 06.2
comp=Z,14nm,1.0s
ELK **Elko** 81.92 49 P P 08 59 46.8 -0.1
RDF **Al-Radifah** 81.94 298 *e*P P 08 59 45.8 -1.2
BOZ **Bozeman (W)** 81.96 43 P P 08 59 53.7 -0.3
RST **Umm Al-Ruwaisa** 82.14 299 *e*P P 08 59 47.3 -0.6
MNK **Minsk** 82.24 328 *i* P P 08 59 49.9 +1.9
MNK comp=E,2.0nm,0.8s *i* P P 08 59 49.9 +1.9
MNK comp=N,11nm,0.8s *i* P P 08 59 49.9 +1.9
MNK comp=Z,13nm,0.8s,baz=56 *i* PP PP 09 02 57.9 +2.0
MNK *i* PPP PPP 09 04 48.9
MNK *i* S S 09 10 01.3 -0.8
MNK *i* ScS ScS 09 10 18.0 +0.1
MNK *i* SS SS 09 15 23.7 +2.5
MNK *i* SSS SSS 09 19 53.7
MNK *i* LQ LQ 09 27 44.7
MNK *i* LR LR 09 31 42.3
MNK *i* LRM MLR 09 38 07.7
MNK comp=E,2.0nm,17.9s *i* LRM MLR 09 38 07.7
MNK comp=N,26nm,17.9s *i* LRM MLR 09 38 07.7
MNK comp=Z,87nm,17.9s *i* LRM MLR 09 38 07.7
FFC **Flin Flon** 82.40 32 P P 08 59 49.3 +0.5
FFC IAmb IAmb 08 59 57.4
comp=Z,6.7nm,0.8s
R11A **Troy Canyon, C** 82.78 51 P P 08 59 51.9 +0.5
TPNV **Topopah Spring** 82.95 52 P P 08 59 52.1 -0.2
TPNV IAmb IAmb 09 00 00.5
comp=Z,6.7nm,0.8s
FLWY **Flagg Ranch** 83.28 44 P P 08 59 52.8 -1.2
FLWY IAmb IAmb 09 00 04.0
comp=Z,4.4nm,0.8s
PRN **Pahroc Range** 83.59 52 P P 08 59 55.3 -0.2
RLMT **Red Lodge** 83.64 43 P P 08 59 56.1 +0.3
RLMT IAmb IAmb 09 00 04.9
comp=Z,4.8nm,0.8s
DUG **Dugway, Tooele** 83.81 48 P P 08 59 56.8 +0.2
DUG IAmb IAmb 09 00 05.1
comp=Z,4.1nm,0.9s
SHPR **Sheep Range** 83.93 52 P P 08 59 57.3 -0.1
PFO **Pinyon Flats O** 84.33 55 LR LR 09 32 03.2
comp=Z,51nm,19.3s,baz=262,slow=32
NC405 **NORSAR Array S** 84.51 338 P P 08 59 59.3 -0.2
PDAR **Pinedale Array** 84.66 45 P P 08 59 60.0 -1.0
comp=Z,0.4nm,0.5s,baz=42,slow=2.4,SNR=6.3
PDAR LR LR 09 31 29.7
comp=Z,55nm,21.9s,baz=297,slow=31
PDAR **Pinedale Array** 84.66 45 P P 09 00 00.7 -0.3
NB201 **NORSAR Array S** 84.69 338 P P 09 00 00.1 -0.4
NC204 **NORSAR Array S** 84.70 339 P P 09 00 00.6 -0.1
CCUT **Cedar City** 84.71 51 P P 09 00 00.9 -0.5
NOA **NORSAR Array B** 84.73 339 P P 09 00 00.2 -0.6
comp=Z,2.8nm,0.7s,baz=45,slow=4.9,SNR=16
LCMT **Little Creek M** 85.05 51 P P 09 00 03.3 +0.3
ICESG **Greenland Ices** 85.12 1 *i* P P 09 00 03.5 +0.6
MTPU **Mount Pierson** 85.28 50 P P 09 00 04.4 0.0
KNB **Kanab** 85.34 51 P P 09 00 04.8 +0.3
KNB IAmb IAmb 09 00 13.8
comp=Z,8.3nm,0.9s
Q16A **Castle Valley** 85.54 49 P P 09 00 05.5 0.0
Q16A IAmb IAmb 09 00 14.1
comp=Z,3.8nm,0.8s
P17A **Butcher Ranch,** 85.55 48 P P 09 00 05.7 +0.2
P17A IAmb IAmb 09 00 14.4
comp=Z,4.4nm,0.9s
RDMU **Red Mountain** 85.77 47 P P 09 00 06.9 +0.3
RDMU IAmb IAmb 09 00 15.5
comp=Z,4.8nm,0.8s
RAYN **Ar Rayn** 85.95 294 P P 09 00 07.3 -0.2
U15A **North Rim** 86.00 51 P P 09 00 07.7 -0.2
U15A IAmb IAmb 09 00 16.6
comp=Z,3.5nm,0.9s
Y14A **Wickenburg** 86.71 54 P P 09 00 11.3 +0.2
Y14A IAmb IAmb 09 00 19.6
comp=Z,5.9nm,0.8s
BRTR **Keskin Array B** 87.01 313 P P 09 00 11.2 -1.4
comp=Z,2.0nm,0.7s,baz=101,slow=3.5,SNR=9.7
BRTR **Keskin Array B** 87.01 313 P P 09 00 11.9 -0.7
PV16 **Nyswonger Mesa** 87.37 48 P P 09 00 14.5 0.0
PV16 IAmb IAmb 09 00 22.7
comp=Z,4.7nm,0.9s
BURAR **Bucovina Array** 87.63 323 P P 09 00 14.6 -0.8
ULM **Lac du Bonnet** 88.09 33 LR LR 09 36 16.8
comp=Z,21nm,21.8s,baz=334,slow=33
TXAR **Lajitas Array** 95.89 54 P P 09 00 55.8 +1.7
comp=Z,1.2nm,1.0s,baz=305,slow=2.8,SNR=8.6
TXAR LR LR 09 40 50.5
comp=Z,33nm,19.4s,baz=0.0,slow=33
SENIN **Lac Senin/Sane** 97.35 331 P P 09 00 59.4 -1.1
TORD **Torodi Ar. Bea** 125.58 311 PKP PKPdf 09 06 29.0 0.0
comp=Z,1.3nm,0.8s,baz=18,slow=2.1,SNR=4.8
PLCA **Paso Flores** 148.87 126 PKPbc PKPbc 09 07 15.3 +0.6
comp=Z,5.5nm,0.6s,baz=244,slow=2.9,SNR=36
LPAZ **La Paz** 149.77 77 PKPbc PKiKP 09 07 19.0 -0.2
comp=Z,5.9nm,0.7s,baz=316,slow=2.3,SNR=27

IDC ***30*** *08:52:27.9±1.8,20°.27S×177°.46W,h516km±21km, mb3.1/7, mb1 3.3/10,mb1mx3.0/40,mbtmp4.1/10, Error ellipse: s-maj=29.8km s-min=19.2km az=139.0*
NEIC ***30*** *08:52:28.0±0.8,20°.3S±0°.1×177°.34W±0°.10,h526km±10km, mb4.3/22, Error ellipse: s-maj=16.7km s-min=13.3km az=186.0*
ISC 30 08:52:28.2±0.6, 20°.23S±0°.08×177°.23W±0°.10, h550km, n36, σ1s98/37, mb3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.12**	**298**	P	**P**	**08 53 56.7**	**-2.4**
	1.7nm,0.3s,baz=41,slow=24,SNR=5.9						
MSVF	**Nonsavu**	**5.12**	**298**	P	**P**	**08 53 57.2**	**-1.9**
NIUE	**Niue**	**6.97**	**82**	P	**P**	**08 54 14.9**	**-1.0**
AFI	**Afiamalu**	**8.16**	**40**	P	**P**	**08 54 26.5**	**-1.2**
	1.3nm,0.3s,baz=40,slow=23,SNR=1.6						
AFI				S	**S**	**08 55 59.5**	**-6.2**
	2.2nm,0.3s,baz=294,slow=19,SNR=1.3						
MXZ	**Matakaoa Point**	**17.70**	**192**	P	**P**	**08 56 03.6**	**+0.5**
URZ	**Urewera**	**18.62**	**194**	P	**P**	**08 56 11.2**	**-0.3**
	2.0nm,0.3s,baz=121,slow=24,SNR=13						
URZ				S	**S**	**08 59 05.8**	**-7.4**
	0.1nm,0.3s,baz=120,slow=24,SNR=2.0						
URZ	**Urewera**	**18.62**	**194**	P	**P**	**08 56 11.7**	**+0.1**
URZ				IAmb	IAmb	08 56 30.6	
	comp=Z,30nm,1.3s						
BKZ	**Black Stump Fm**	**19.63**	**195**	P	**P**	**08 56 21.1**	**+0.3**
BKZ				IAmb	IAmb	08 56 31.3	
	comp=Z,41nm,1.5s						
QRZ	**Quartz Range**	**22.31**	**201**	P	**P**	**08 56 44.1**	**-0.8**
NNZ	**Nelson**	**22.40**	**199**	P	**P**	**08 56 46.1**	**+0.4**
THZ	**Tophouse**	**23.04**	**199**	P	**P**	**08 56 52.1**	**+0.7**
THZ				IAmb	IAmb	08 57 03.6	
	comp=Z,28nm,1.1s						
TARA	**Tarawa**	**23.53**	**335**	P	**P**	**08 56 56.4**	**+0.3**
ARMA	**Armidale**	**29.84**	**244**	P	**P**	**08 57 50.4**	**-1.0**
ARMA				IAmb	IAmb	08 58 15.3	
	comp=Z,18nm,1.4s						
CTA	**Charters Tower**	**34.24**	**264**	P	**P**	**08 58 28.9**	**0.0**
	comp=Z,2.7nm,0.6s,baz=101,slow=10,SNR=2.0						
CTAO	**Charters Tower**	**34.24**	**264**	P	**P**	**08 58 28.1**	**-0.8**
CTAO				IAmb	IAmb	08 58 42.8	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**38.56**	**244**	P	**P**	**08 59 05.0**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=84,slow=10,SNR=1.6						
BBOO	**Buckleboo**	**43.32**	**243**	P	**P**	**08 59 41.6**	**-0.4**
BBOO				IAmb	IAmb	08 59 52.0	
	comp=Z,5.8nm,1.1s						
POHA	**Pohakuloa**	**45.06**	**29**	P	**P**	**08 59 57.9**	**+2.1**
WR0	**Warramunga Arr**	**45.17**	**262**	P	**P**	**08 59 56.2**	**-0.3**
WR0				IAmb	IAmb	09 00 17.9	
	comp=Z,7.0nm,1.3s						
AS31	**Alice Springs**	**45.29**	**256**	P	**P**	**08 59 57.5**	**+0.1**
ASAR	**Alice Springs**	**45.29**	**256**	P	**P**	**08 59 57.8**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=94,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**45.29**	**256**	P	**P**	**08 59 57.0**	**-0.3**
WB0	**Warramunga Arr**	**45.34**	**262**	P	**P**	**08 59 57.3**	**-0.5**
WB0				IAmb	IAmb	09 00 05.0	
	comp=Z,8.0nm,1.2s						
WB2	**Warramunga Arr**	**45.35**	**262**	P	**P**	**08 59 57.4**	**-0.5**
WB2				IAmb	IAmb	09 00 17.0	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**45.36**	**262**	P	**P**	**08 59 57.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=97,slow=7.6,SNR=31						
WRA	**Warramunga Arr**	**45.36**	**262**	P	**P**	**08 59 57.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.78**	**262**	P	**P**	**09 01 00.4**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=85,slow=5.9,SNR=2.2						
FITZ	**Fitzroy Crossi**	**53.78**	**262**	P	**P**	**09 00 59.8**	**0.0**
FITZ				IAmb	IAmb	09 01 02.5	
	comp=Z,5.1nm,1.2s						
SBA	**Scott Base**	**58.19**	**184**	P	**P**	**09 01 30.8**	**+1.6**
SBA				IAmb	IAmb	09 01 47.9	
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**58.24**	**185**	P	**P**	**09 01 31.3**	**+1.7**
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**	**09 02 45.0**	**+1.4**
QSPA				IAmb	IAmb	09 02 48.4	
	comp=Z,2.7nm,0.9s						
MJAR	**Matsushiro Arr**	**70.43**	**323**	P	**P**	**09 02 48.1**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=165,slow=6.7,SNR=4.2						
MJAR	**Matsushiro Arr**	**70.43**	**323**	P	**P**	**09 02 48.7**	**+1.3**
NVAR	**Mina Array Bea**	**80.33**	**43**	P	P	09 03 48.0	+5.3
	comp=Z,0.2nm,0.6s,baz=202,slow=6.7,SNR=1.6						
NVAR	**Mina Array Bea**	**80.33**	**43**	P	**P**	**09 03 45.0**	**+2.3**
CCB	**Clear Creek Bu**	**87.60**	**12**	P	**P**	**09 04 19.5**	**+1.9**

IDC ***30*** *08:56:15.3±1.0,50°.20N×18°.83E,h0km,mb1 3.5/3, mb1mx3.2/33,mbtmp3.3/3,ML3.1/3, Error ellipse: s-maj=23.6km s-min=8.9km az=158.0*
VIE ***30*** *08:56:15.3±0.5,50°.34N×18°.82E,h0km,mb2.5/5,ml3.1/5, Error ellipse: s-maj=7.5km s-min=3.2km az=165.0 15 km NW of Katowice Suspected Mining induced.*
IPEC ***30*** *08:56:15.2±0.2,50°.39N×18°.85E,h1km,ML3.2/3,Error ellipse: s-maj=2.2km s-min=1.1km az=169.0*
BGR ***30*** *08:56:16.0±0.3,50°.40N×18°.83E,h1km,ML3.5/10,Error ellipse: s-maj=6.7km s-min=3.3km az=10.0*
PRU ***30*** *08:56:16.3±0.0,50°.36N×18°.76E,h0km*
ISC 30 08:56:14.2±0.7, 50°.38N±0°.03×18°.82E±0°.02, h0km, n61, σ1s27/113, 7C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.50**	**234**	*e*PG	**Pb**	**08 56 25.4**	**-0.5**
RAC				*e*SG	**Sb**	**08 56 32.9**	**-0.9**
OJC	**Ojcow**	**0.65**	**104**	*e*Pg	**Pg**	**08 56 27.4**	**+0.9**
OJC				*e*Sg	**Sg**	**08 56 36.5**	**+1.5**
OJC	**Ojcow**	**0.65**	**104**	*e*Pg	**Pg**	**08 56 27.5**	**+0.9**
OJC				*e*Sg	**Sg**	**08 56 36.6**	**+1.7**
OKC	**Ostrava-Krasne**	**0.70**	**219**	*e*PG	**Pb**	**08 56 29.1**	**-0.1**
OKC				*e*SG	**Sg**	**08 56 37.3**	**+0.7**
	comp=Z,194nm,0.5s						
OKC	**Ostrava-Krasne**	**0.70**	**219**	*e*Pg	**Pb**	**08 56 29.5**	**+0.3**
OKC				*e*Sg	**Sb**	**08 56 40.0**	**+0.6**
MORC	**Moravsky Berou**	**1.02**	**234**	||P	**Pn**	**08 56 36.2**	**+0.3**
MORC				||S	**Sb**	**08 56 49.0**	**+0.1**
MORC	**Moravsky Berou**	**1.02**	**234**	*e*PG	**Pb**	**08 56 35.1**	**+0.3**
MORC				*e*SG	**Sg**	**08 56 47.9**	**+0.8**
MORC	**Moravsky Berou**	**1.02**	**234**	*e*Pg	**Pb**	**08 56 35.1**	**+0.3**
	baz=53						
MORC				*e*Sg	**Sg**	**08 56 47.9**	**+0.8**
	413nm,0.8s,baz=53						

MORC	**Moravsky Berou**	**1.02**	**234**	*e*Pg	**Pb**	**08 56 35.2**	**+0.3**
MORC				*e*Sg	**Sb**	**08 56 49.8**	**+1.0**
LANS	**Liptovska Anna**	**1.30**	**161**	*e*PG	**Pb**	**08 56 40.0**	**+0.4**
LANS				*e*SG	**Sn**	**08 56 58.5**	**+0.7**
LANS				*e*LG	Lg	08 56 59.8	
KRLC	**Kraliky**	**1.35**	**258**	*e*PG	**Pg**	**08 56 40.2**	**+0.2**
KRLC				*e*Sg	**Sg**	**08 56 57.8**	**+0.3**
	comp=Z,260nm,0.4s						
NIE	**Niedzica**	**1.36**	**135**	*e*Pg	**Pg**	**08 56 41.0**	**+0.9**
NIE				*e*Sg	**Sn**	**08 56 59.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.60**	**270**	*e*PG	**Pn**	**08 56 44.8**	**+1.0**
DPC				*e*SG	**Sg**	**08 57 06.5**	**+0.9**
	comp=Z,112nm,0.4s						
DPC	**Dobruska-Polom**	**1.60**	**270**	*e*Pg	**Pb**	**08 56 44.9**	**+0.2**
DPC				*e*Sg	**Sg**	**08 57 06.5**	**+0.9**
OSTC	**Ostas**	**1.68**	**277**	*e*PG	**Pn**	**08 56 45.5**	**+0.7**
OSTC				*e*SG	**Sb**	**08 57 08.2**	**+0.6**
	comp=Z,554nm,1.5s						
KSP	**Ksiaz**	**1.68**	**287**	*e*Pb	**Pn**	**08 56 45.6**	**+0.7**
KSP				*e*Pg	**Pg**	**08 56 47.6**	**+1.2**
KSP				*e*Sg	**Sg**	**08 57 10.4**	**+2.4**
KSP	**Ksiaz**	**1.68**	**287**	*e*Pn	**Pb**	**08 56 46.3**	**+0.3**
KSP				*e*Pg	**Pg**	**08 56 47.7**	**+1.4**
KSP				*e*Sg	**Sg**	**08 57 10.5**	**+2.4**
JAVC	**Velka Javorina**	**1.70**	**207**	*e*PG	**Pb**	**08 56 46.4**	**+0.1**
JAVC	**Velka Javorina**	**1.70**	**207**	*e*Pg	**Pb**	**08 56 46.4**	**+0.1**
	baz=26						
CHVC	**Chvalec**	**1.78**	**278**	*e*PG	**Pn**	**08 56 47.2**	**+0.9**
CHVC				*e*SG	**Sg**	**08 57 11.6**	**+0.2**
	comp=Z,99nm,0.5s						
VRAC	**Vranov**	**1.80**	**234**	⇑P	**Pb**	**08 56 48.6**	**+0.6**
VRAC				⇑S	**Sn**	**08 57 10.2**	**+0.2**
VRAC	**Vranov**	**1.80**	**234**	*e*PN	**Pn**	**08 56 47.6**	**+1.0**
VRAC				*e*SG	**Sg**	**08 57 12.0**	**0.0**
VRAC	**Vranov**	**1.80**	**234**	*e*Pn	**Pn**	**08 56 47.5**	**+1.0**
	baz=53						
VRAC				*e*Sg	**Sg**	**08 57 12.0**	**0.0**
	178nm,0.6s,baz=53						
UPC	**Upice**	**1.80**	**275**	*e*PG	**Pn**	**08 56 47.4**	**+0.9**
UPC				*e*SG	**Sb**	**08 57 11.6**	**+0.4**
	comp=Z,113nm,0.9s						
VYHS	**Vyhne**	**1.89**	**180**	*e*PN	**Pn**	**08 56 48.3**	**+0.6**
VYHS				*e*SN	**Sn**	**08 57 13.3**	**+1.0**
VYHS				*e*LG	Lg	08 57 29.5	
KRUC	**Moravsky**	**2.06**	**231**	*e*PN	**Pn**	**08 56 50.7**	**+0.7**
KRUC				*e*SG	**Sg**	**08 57 19.8**	**-0.5**
KRUC	**Moravsky**	**2.06**	**231**	*e*Pn	**Pn**	**08 56 50.6**	**+0.6**
	baz=49						
KRUC				*e*Sg	**Sg**	**08 57 19.7**	**-0.5**
	106nm,0.8s,baz=49						
KECS	**Kecovo**	**2.19**	**150**	*e*SN	**Sn**	**08 57 21.1**	**+1.5**
MODS	**Modra-Piesok**	**2.25**	**207**	*e*	**Pn**	**08 56 54.1**	**+1.4**
MODS				*e*		08 57 26.7	
CRVS	**Cervenica-Dubn**	**2.27**	**130**	*e*PN	**Pb**	**08 56 56.5**	**+0.5**
CRVS				*e*SN	**Sg**	**08 57 27.8**	**+0.8**
TREC	**Trest**	**2.42**	**245**	*e*PN	**Pn**	**08 56 55.6**	**+0.6**
TREC				*e*SG	**Sg**	**08 57 30.7**	**-1.2**
	comp=Z,68nm,0.5s						
ZST	**Bratislava**	**2.46**	**208**	*e*	**Pn**	**08 56 56.5**	**+0.9**
ZST				*e*		08 57 28.2	
PSZ	**Piszkesteto**	**2.56**	**164**	⇓P	**Pn**	**08 56 58.0**	**+0.9**
PSZ				⇓S	**Sn**	**08 57 25.2**	**-3.8**
KOLS	**Kolonicke sedl**	**2.67**	**122**	*e*PG	**Pg**	**08 57 07.0**	**+1.7**
PVCC	**Panska Ves**	**2.72**	**275**	*e*PG	**Pb**	**08 57 05.4**	**+1.6**
PVCC				*e*SG	**Sg**	**08 57 41.1**	**-0.6**
	comp=Z,106nm,0.6s						
PRU	**Pruhonice**	**2.78**	**264**	*e*PN	**Pn**	**08 57 00.8**	**+0.8**
PRU				*e*PG	**Pb**	**08 57 04.6**	**-0.1**
PRU				*e*SG	**Sg**	**08 57 43.9**	**+0.4**
	comp=Z,41nm,0.7s						
PRA	**Prague**	**2.84**	**265**	*e*PG	**Pb**	**08 57 07.3**	**+1.6**
PRA				*e*SG	**Sg**	**08 57 45.4**	**+0.1**
	comp=Z,153nm,1.3s						
CONA	**Conrad Observa**	**3.13**	**220**	*i* Pn	**Pn**	**08 57 05.7**	**+0.8**
	0.9nm,0.2s						
CONA				*i* Sn	**Sn**	**08 57 43.5**	**+0.5**
	12nm,0.4s						
BRG	**Berggiesshubel**	**3.15**	**281**	Pg	**Pb**	**08 57 12.5**	**+1.5**
BRG				Sg	**Sg**	**08 57 55.3**	**0.0**
BRG				Amp		08 58 07.7	
	comp=Z,49nm,0.6s						
BRG	**Berggiesshubel**	**3.15**	**281**	*e*Pg	**Pg**	**08 57 14.4**	**-0.1**
BRG				*e*Sg	**Sg**	**08 57 55.2**	**0.0**
PBCC	**Pribram**	**3.19**	**259**	*e*SG	**Sg**	**08 57 55.9**	**-0.7**
CKRC	**Cesky Krumlov**	**3.33**	**244**	*e*PN	**Pn**	**08 57 09.3**	**+1.8**
CKRC				*e*PG	**Pb**	**08 57 15.6**	**+1.5**
CKRC				*e*SG	**Sg**	**08 57 59.8**	**-1.2**
KHC	**Kasperske Hory**	**3.62**	**252**	*e*PN	**Pn**	**08 57 12.5**	**+0.9**
KHC				*e*PG	**Pb**	**08 57 19.8**	**+0.6**
KHC				*e*SG	**Sg**	**08 58 09.6**	**-1.0**
	comp=Z,49nm,0.7s						
GEC2	**GERESS Array S**	**3.67**	**247**	*e*Pg	**Pg**	**08 57 23.3**	**-1.2**
GEC2				*e*Sg	**Sg**	**08 58 11.8**	**-0.2**
GERES	**GERESS Array B**	**3.67**	**247**	Pn	**Pn**	**08 57 11.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=66,slow=13,SNR=6.1						
GERES				Pg	**Pb**	**08 57 20.3**	**+0.3**
	comp=Z,3.6nm,0.3s,baz=62,slow=16,SNR=23						
GERES				Lg	Lg	08 58 11.0	
	comp=Z,7.6nm,0.3s,baz=62,slow=26,SNR=17						
CLL	**Collm**	**3.80**	**286**	*e*Pg	**Pg**	**08 57 28.0**	**+0.9**
CLL				*e*Sg	**Sg**	**08 58 19.0**	**+2.6**
	comp=Z,86nm,1.1s						
CLL	**Collm**	**3.80**	**286**	*e*Pg	**Pg**	**08 57 28.0**	**+0.9**
CLL				*e*Sg	**Sg**	**08 58 16.7**	**+0.3**
ARSA	**Arzberg**	**3.82**	**216**	*e*Pn	**Pn**	**08 57 15.5**	**+1.3**
	comp=Z,1.9nm,0.3s						
ARSA				Sg	**Sg**	**08 58 20.9**	**+4.1**
	comp=Z,12nm,0.5s						
MOA	**Molln**	**3.92**	**231**	*i* Sn	**Sn**	**08 58 02.3**	**-0.2**
	comp=Z,3.2nm,0.2s						
WET	**Wettzell**	**4.05**	**254**	*e*Pn	**Pn**	**08 57 19.0**	**+1.6**
WET				*e*Sg	**Sg**	**08 58 24.6**	**+0.4**
TANN	**Tannenbergstha**	**4.07**	**273**	*e*Pn	**Pn**	**08 57 20.1**	**+2.4**
TANN				*e*Pg	**Pg**	**08 57 31.8**	**-0.4**
TANN				*e*Sg	**Sg**	**08 58 24.9**	**0.0**
NKC	**Novy Kostel**	**4.09**	**270**	*e*SG	**Sg**	**08 58 25.2**	**-0.3**
	comp=Z,28nm,0.6s						
DRGR		**4.42**	**143**	⇑P	**Pn**	**08 57 23.6**	**+1.0**
MOX	**Moxa**	**4.61**	**276**	*e*Pn	**Pn**	**08 57 24.3**	**-0.8**
MOX				*e*Sg	**Sg**	**08 58 43.5**	**+1.3**
GRF	**Grafenberg Arr**	**4.95**	**265**	*e*Sg	**Sg**	**08 58 51.3**	**-1.8**
BURAR	**Bucovina Array**	**5.04**	**121**	⇑P	**Pn**	**08 57 32.8**	**+1.7**
FRGS	**Fruska Gora**	**5.27**	**172**	⇑P	**Pn**	**08 57 34.7**	**+0.5**
GZR	**Gura Zlata**	**5.65**	**150**	⇑P	**Pn**	**08 57 41.0**	**+1.5**
AKASG	**Malin Array Be**	**6.64**	**83**	Pn	**Pn**	**08 57 50.8**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=269,slow=12,SNR=1.9						
AKASG				Pg	**Pg**	**08 58 18.3**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=279,slow=15,SNR=8.9						
AKASG				Sn	**Sn**	**08 59 04.3**	**-4.9**
	comp=Z,1.5nm,0.3s,baz=267,slow=22,SNR=4.2						
AKASG				Lg	Lg	08 59 36.0	
	comp=Z,1.1nm,0.3s,baz=314,slow=22,SNR=1.7						
FINES	**FINESS Array B**	**11.80**	**17**	Pn	**Pn**	**08 59 01.6**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=198,slow=8.7,SNR=14						
FINES				Sn	Sn	09 01 04.7	-11
	comp=Z,0.3nm,0.3s,baz=196,slow=20,SNR=4.3						
ARCES	**ARCESS Array B**	**19.48**	**7**	P	**P**	**09 00 41.0**	**-1.3**
	baz=187,slow=14,SNR=6.0						

IDC 30 09:00:20.1±3.5, 52.48N×35.35E, h0km, mb1 3.9/2, mb1mx3.3/30, mbtmp3.9/2, ML3.1/3, Error ellipse: s-maj=40.0km s-min=13.7km az=113.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.73**	**15**	Lg	Lg	09 01 45.0	
	2.8nm,0.3s,baz=305,slow=23,SNR=6.8						
AKASG	**Malin Array Be**	**4.22**	**247**	Pn	Pn	09 01 22.8	-2.8
	1.1nm,0.3s,baz=58,slow=12,SNR=4.7						
AKASG				Pg	Pb	09 01 33.7	-1.4
	2.6nm,0.3s,baz=58,slow=15,SNR=6.8						
AKASG				Sn	Sn	09 02 14.4	-1.0
	2.1nm,0.3s,baz=63,slow=28,SNR=4.3						
AKASG				Lg	Lg	09 02 30.1	
	2.8nm,0.3s,baz=64,slow=29,SNR=4.2						
I43RU	**DUBNA INFRASON**	**4.38**	**14**	*i*		09 28 40.0	
	baz=197,slow=326,SNR=3.4						
FINES	**FINESS Array B**	**10.30**	**334**	Pn	Pn	09 02 45.4	-3.5
	0.3nm,0.3s,baz=154,slow=13,SNR=2.0						
FINES				Sn	Sn	09 04 34.2	-11
	0.3nm,0.3s,baz=157,slow=26,SNR=2.6						
I26DE	**FREYUNG INFRAS**	**14.18**	**264**	*i*		10 24 40.0	
	baz=68,slow=313,SNR=4.2						
ARCES	**ARCESS Array B**	**17.72**	**349**	P	Pn	09 04 28.1	+0.2
	baz=166,slow=11,SNR=9.9						
I37NO	**I37NO**	**18.42**	**341**	*i*		10 47 06.7	
	baz=152,slow=321,SNR=1.8						

IDC 30 09:02:01.1±1.9, 4.94S×151.96E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/37, Error ellipse: s-maj=115.9km s-min=26.1km az=128.0

ISC 30 09:02:10.2±2.3, 5.2S±0.7×152.0E±0.8, h70km, n7, σ0s 82/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.34**	**229**	Pn	**Pn**	**09 03 41.3**	**+0.2**
	0.9nm,0.3s,baz=302,slow=19,SNR=2.7						
PMG				Sn	**Sn**	**09 04 51.0**	**-1.1**
	3.0nm,0.3s,baz=279,slow=22,SNR=6.0						
WRA	**Warramunga Arr**	**22.56**	**229**	P	**P**	**09 07 05.2**	**+0.3**
	0.7nm,0.0s,baz=52,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**25.30**	**222**	P	**P**	**09 07 30.8**	**+0.3**
	0.5nm,0.5s,baz=58,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**28.74**	**241**	P	**P**	**09 08 02.2**	**+0.8**
	0.9nm,0.7s,baz=63,slow=9.0,SNR=1.4						
JHJ	**Hachijo jima 2**	**39.84**	**344**	LR	LR	09 21 51.7	
	comp=Z,62nm,21.7s,baz=170,slow=30						
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	**09 14 26.1**	**-0.7**
	6.1nm,0.3s,baz=246,slow=6.4,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.65**	**287**	PKPbc	**PKPbc**	**09 21 53.1**	**0.0**
	0.3nm,0.7s,baz=45,slow=3.8,SNR=1.4						

BER 30 09:07:00.9±0.5, 70.96N×7.63W, h3km±104km, ML1.5, 4D, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.22**	**278**	⇓*i*P	Pg	09 07 06.0	+0.8
JNE				*e*S	Sg	09 07 09.5	+1.5
JNW	**Jan Mayen West**	**0.27**	**285**	⇓*i*P	Pg	09 07 06.3	+0.3
JNW				IAML		09 07 13.2	
	comp=Z,44nm,0.3s						
JMIC	**Jan Mayen**	**0.29**	**276**	⇓*i*P	Pg	09 07 06.6	+0.2
JMIC				*e*S	Sg	09 07 11.2	+1.1
JMI	**Jan Mayen**	**0.36**	**265**	⇓*i*P	Pg	09 07 08.2	+0.4
JMI				*e*S	Sg	09 07 13.4	+0.9

SOME 30 09:14:39.5, 43.77N×69.72E

NNC 30 09:14:39.7±0.9, 43.65N×69.67E, h0km, mb3.8, mpv3.2, 3C-3D, Error ellipse: s-maj=6.0km s-min=4.4km az=65.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.82**	**131**	⇓P	Pg	09 14 55.5	+0.2
	1.8nm,0.4s,baz=312,slow=15,SNR=55						
KK31				⇓S	Sg	09 15 07.0	+1.1
	101nm,0.8s,baz=308,slow=30,SNR=80						
AAK	**Ala-Archa**	**3.67**	**104**	⇓Pg	Pb	09 15 46.3	+0.8
	4.1nm,0.5s						
AAK				⇑Lg	Lg	09 16 36.7	
	4.2nm,0.5s						
KRBS	**Karabastau**	**4.36**	**87**	Pg	Pb	09 15 59.5	+2.4
	2.7nm,0.3s						
KRBS				Lg	Lg	09 16 56.7	
	4.9nm,0.4s						
TKM2	**Tokmak 2**	**4.38**	**97**	⇑Pg	Pb	09 15 59.5	+1.8
	2.8nm,0.6s						
TKM2				⇑Lg	Lg	09 16 57.3	
	7.0nm,0.8s						
DGS	**Degeres**	**4.46**	**93**	Pg	Pg	09 16 03.0	-2.2
	3.1nm,0.4s						
DGS				Lg	Lg	09 17 02.4	
	5.5nm,0.5s						
KST	**Kastek**	**4.63**	**95**	Pg	Pg	09 16 05.5	-2.9
	3.5nm,0.4s						
KST				Lg	Lg	09 17 06.7	
	6.6nm,0.4s						

BER 30 09:20:43.4±1.2, 70.79N×7.58W, h3km±242km, ML1.1, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.31**	**310**	*e*P	Pg	09 20 50.2	+0.9
JMIC	**Jan Mayen**	**0.36**	**303**	*e*P	Pg	09 20 50.2	-0.2
JNW	**Jan Mayen West**	**0.37**	**311**	*e*P	Pg	09 20 50.0	-0.5
JMI	**Jan Mayen**	**0.40**	**290**	*e*P	Pg	09 20 51.8	+0.6
JMI				*e*S	Sg	09 20 56.9	+0.5
JMI				IAML		09 20 58.1	
	comp=Z,4.9nm,0.7s						

TUL 30 09:22:11.5±0.8, 35.589N±0.010×97.38W±0.01, h6km±3km, ML2.5, mb_Lg2.1/16(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=107.0

NEIC 30 09:22:11.7±1.0, 35.601N±0.010×97.39W±0.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=35.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.03**	**232**	Pg	Pg	09 22 12.9	+0.2
OK009				Sg	Sg	09 22 13.8	+0.3
OK025	**Westminster Rd**	**0.05**	**114**	Pg	Pg	09 22 13.2	+0.2
OK025				Sg	Sg	09 22 14.2	+0.3
OK001	**Jones High Sch**	**0.09**	**116**	Pg	Pg	09 22 13.8	+0.2
OK001				Sg	Sg	09 22 15.6	+0.6
BCOK	**Bluff Creek, N**	**0.19**	**287**	Pg	Pg	09 22 15.7	+0.3
BCOK				Sg	Sg	09 22 18.8	+1.0
OKCFA	**Oklahoma City**	**0.19**	**195**	Pg	Pg	09 22 15.4	-0.1
OKCFA				Sg	Sg	09 22 18.6	+0.6
OKCSW	**OKLAHOMA CITY**	**0.20**	**191**	Pg	Pg	09 22 15.6	0.0
OKCSW				Sg	Sg	09 22 18.8	+0.6
OK029	**Liberty Lake**	**0.20**	**345**	Pg	Pg	09 22 16.2	+0.5
OK029				Sg	Sg	09 22 19.5	+1.1
FNO	**Franklin**	**0.34**	**181**	Pg	Pg	09 22 18.2	-0.1
FNO				Sg	Sg	09 22 23.4	+0.5
OK031	**S. Brethren Rd**	**0.57**	**52**	Pg	Pg	09 22 22.5	-0.2
OK031				Sg	Sg	09 22 30.7	+0.6
OK030	**Cody Creek RV**	**0.59**	**56**	Pg	Pg	09 22 22.8	-0.2
OK030				Sg	Sg	09 22 31.4	+0.6
W35A	**Tecumseh**	**0.61**	**136**	Pg	Pg	09 22 23.1	-0.4
W35A				Sg	Sg	09 22 31.6	+0.1
QUOK	**Quay**	**0.80**	**44**	Pg	Pg	09 22 26.6	-0.4
QUOK				Sg	Sg	09 22 37.6	+0.3
CROK	**Carrier**	**1.02**	**332**	Pg	Pg	09 22 31.1	-0.2
X34A	**Smith Ranch, M**	**1.06**	**200**	Pg	Pg	09 22 31.8	-0.2
BLOK	**Blackwell**	**1.17**	**7**	Pg	Pg	09 22 33.6	-0.5
BLOK				Sg	Sg	09 22 49.3	+0.1
OK032	**Salt Plains WL**	**1.37**	**331**	Pn	Pn	09 22 36.9	-0.7
KAN13	**South Haven SW**	**1.41**	**357**	Pn	Pn	09 22 37.8	-0.2
WMOK	**Wichita Mounta**	**1.43**	**233**	Pn	Pn	09 22 37.1	-1.2
KAN17	**Caldwell West**	**1.47**	**348**	Pn	Pn	09 22 38.8	-0.1
T35A	**Sooner Cattle**	**1.49**	**28**	Pn	Pn	09 22 38.8	-0.4
U32A	**Winter Ranch,**	**1.52**	**301**	Pn	Pn	09 22 39.4	-0.2
KAN09	**Caldwell North**	**1.54**	**353**	Pn	Pn	09 22 40.2	+0.3
LOOK	**Love County**	**1.61**	**174**	Pn	Pn	09 22 40.0	-0.8
KAN10	**Anthony SW Sta**	**1.62**	**340**	Pn	Pn	09 22 41.2	+0.2
KS20	**Mayfield South**	**1.63**	**355**	Pn	Pn	09 22 40.1	-1.0
KS20				IAmb_Lg		09 23 07.0	
	comp=Z,15nm,0.8s						
KAN08	**Anthony NE Sta**	**1.69**	**344**		Pn	09 22 42.3	+0.4
KS21	**Milan North St**	**1.70**	**353**	IAmb_Lg		09 23 06.5	
	comp=Z,12nm,0.8s						
KAN12	**Harper NE Stat**	**1.76**	**344**	Pn	Pn	09 22 42.6	-0.3
Z35A	**Perchaven, San**	**2.27**	**177**	IAmb_Lg		09 23 27.9	
	comp=Z,9.5nm,0.8s						
U38A	**Gravette**	**2.58**	**70**		Pn	09 22 53.9	-0.2
MIAR	**Mount Ida**	**3.30**	**108**	IAmb_Lg		09 24 02.9	
	comp=Z,3.5nm,0.7s						
AMTX	**Amarillo**	**3.58**	**260**	IAmb_Lg		09 24 11.6	
	comp=Z,5.8nm,0.9s						
S39A	**Bolivar**	**3.88**	**56**	IAmb_Lg		09 24 14.3	
	comp=Z,3.9nm,1.0s						
X40A	**Basin Creek Fa**	**3.90**	**105**	IAmb_Lg		09 24 19.4	
	comp=Z,8.3nm,0.9s						
MGMO	**Mountain Grove**	**4.42**	**68**	IAmb_Lg		09 24 39.3	
	comp=Z,3.3nm,0.8s						

TUL 30 09:34:45.3±1.0, 35.588N±0.009×97.38W±0.01, h6km±2km, ML2.6, mb_Lg2.2/14(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=47.0

NEIC 30 09:34:45.7±0.9, 35.600N±0.006×97.38W±0.01, h7km±3km, Error ellipse: s-maj=1.6km s-min=0.8km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.04**	**240**		Pg	09 34 46.6	-0.6
OK009				Sg	Sg	09 34 47.8	-0.4
OK025	**Westminster Rd**	**0.04**	**118**		Pg	09 34 46.9	-0.3
OK025				Sg	Sg	09 34 48.1	-0.2
OK001	**Jones High Sch**	**0.09**	**117**	Pg	Pg	09 34 46.3	-1.5
OK001				Sg	Sg	09 34 49.5	+0.2
BCOK	**Bluff Creek, N**	**0.19**	**287**	Pg	Pg	09 34 49.1	-0.5
BCOK				Sg	Sg	09 34 52.8	+0.5
OKCFA	**Oklahoma City**	**0.19**	**197**		Pg	09 34 49.4	-0.2
OKCFA				Sg	Sg	09 34 52.4	+0.2
OKCSW	**OKLAHOMA CITY**	**0.20**	**193**		Pg	09 34 49.5	-0.2
OKCSW				Sg	Sg	09 34 52.6	+0.2
OK029	**Liberty Lake**	**0.20**	**343**		Pg	09 34 49.9	0.0
OK029				Sg	Sg	09 34 53.4	+0.8
FNO	**Franklin**	**0.34**	**182**		Pg	09 34 52.1	-0.2
FNO				Sg	Sg	09 34 57.2	+0.3
OK031	**S. Brethren Rd**	**0.56**	**51**		Pg	09 34 56.6	0.0
OK031				Sg	Sg	09 35 04.5	+0.5
OK030	**Cody Creek RV**	**0.59**	**56**		Pg	09 34 56.7	-0.3
OK030				Sg	Sg	09 35 05.2	+0.5
W35A	**Tecumseh**	**0.61**	**137**		Pg	09 34 56.9	-0.5
W35A				Sg	Sg	09 35 05.5	+0.1
QUOK	**Quay**	**0.79**	**44**	Pg	Pg	09 35 00.4	-0.5
QUOK				Sg	Sg	09 35 11.4	+0.2
CROK	**Carrier**	**1.02**	**332**		Pg	09 35 04.7	-0.7
X34A	**Smith Ranch, M**	**1.06**	**200**	Pg	Pg	09 35 05.6	-0.5
X34A				Sg	Sb	09 35 20.8	+0.3
BLOK	**Blackwell**	**1.17**	**7**	Pg	Pg	09 35 07.2	-0.9
OK032	**Salt Plains WL**	**1.38**	**331**		Pn	09 35 10.7	-0.6
KAN13	**South Haven SW**	**1.41**	**357**		Pn	09 35 11.7	-0.1
WMOK	**Wichita Mounta**	**1.43**	**233**		Pn	09 35 11.1	-0.9
KAN17	**Caldwell West**	**1.47**	**348**		Pn	09 35 12.6	-0.1
T35A	**Sooner Cattle**	**1.49**	**28**	Pn	Pn	09 35 12.7	-0.2
U32A	**Winter Ranch,**	**1.53**	**301**	Pn	Pn	09 35 13.3	0.0
KAN09	**Caldwell North**	**1.54**	**353**	Pn	Pn	09 35 13.5	-0.1
KAN10	**Anthony SW Sta**	**1.62**	**339**		Pn	09 35 14.9	+0.2
KAN08	**Anthony NE Sta**	**1.69**	**344**		Pn	09 35 15.7	+0.1
KS21	**Milan North St**	**1.70**	**352**	IAmb_Lg		09 35 40.2	
	comp=Z,12nm,0.7s						
KAN12	**Harper NE Stat**	**1.77**	**344**	Pn	Pn	09 35 17.0	+0.4
X37A	**Clayton**	**1.93**	**121**	Pn	Pn	09 35 19.1	+0.2
X37A				IAmb_Lg		09 35 49.4	
	comp=Z,6.3nm,0.8s						
U38A	**Gravette**	**2.57**	**70**		Pn	09 35 27.8	+0.1
W39A	**Magazine**	**2.97**	**97**	IAmb_Lg		09 36 25.5	
	comp=Z,6.4nm,0.8s						
AMTX	**Amarillo**	**3.59**	**260**	IAmb_Lg		09 36 39.4	
	comp=Z,3.2nm,0.9s						
S39A	**Bolivar**	**3.88**	**56**	IAmb_Lg		09 36 47.4	
	comp=Z,2.9nm,0.9s						
X40A	**Basin Creek Fa**	**3.89**	**105**	IAmb_Lg		09 36 52.8	
	comp=Z,8.9nm,0.8s						
N35A	**Tabor**	**5.43**	**14**	IAmb_Lg		09 37 38.2	
	comp=Z,7.7nm,0.8s						
T25A	**Trinidad**	**5.88**	**287**	IAmb_Lg		09 37 52.4	
	comp=Z,5.4nm,0.8s						

TUL 30 09:38:05.3±1.1, 36.116N±0.010×97.64W±0.01, h3km±7km, ML2.5, mb_Lg2.4/8(NEIC), Error ellipse: s-maj=2.1km s-min=0.7km az=51.0

NEIC 30 09:38:05.5±1.0, 36.121N±0.010×97.63W±0.01, h4km±7km, Error ellipse: s-maj=2.1km s-min=0.7km az=50.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.35**	**156**		Pg	09 38 12.5	+0.2
OK029				Sg	Sg	09 38 17.7	+0.7
BCOK	**Bluff Creek, N**	**0.46**	**178**		Pg	09 38 14.5	+0.1
BCOK				Sg	Sg	09 38 21.4	+0.9
CROK	**Carrier**	**0.48**	**323**		Pg	09 38 14.1	+0.1
CROK				Sg	Sg	09 38 21.7	+0.7
OK025	**Westminster Rd**	**0.59**	**156**		Pg	09 38 16.9	0.0
OK031	**S. Brethren Rd**	**0.66**	**104**	Pg	Pg	09 38 18.4	+0.2
OK031				Sg	Sg	09 38 27.5	+0.7
OK030	**Cody Creek RV**	**0.71**	**105**		Pg	09 38 19.1	-0.1
OK030				Sg	Sg	09 38 29.1	+0.6
OKCFA	**Oklahoma City**	**0.72**	**168**	Pg

comp=E,3678µm,0.2s
KOSK Kos Island 0.49 341 PG **Pg** **10 20 08.1 -0.4**
KOSK SG **Sg** **10 20 15.8 +0.7**
DAT Datca 0.55 36 PG **Pg** **10 20 08.5 -1.1**
DAT SG **Sg** **10 20 17.8 +0.8**
DATC Datca-Mugla 0.62 39 PG **Pg** **10 20 10.0 -0.8**
DATC SG **Sg** **10 20 19.9 +0.9**
ARG Arkhangelos 0.77 95 P **Pg** **10 20 12.5 -1.2**
ARG S **Sb** **10 20 24.6 0.0**
ARG Arkhangelos 0.77 95 P **Pg** **10 20 13.7 -0.1**
ARG S **Sb** **10 20 24.6 0.0**
ARG AML AML 10 20 27.1
comp=N,914µm,0.4s
ARG AML AML 10 20 27.5
comp=E,2230µm,0.3s
ARG Arkhangelos 0.77 95 PG **Pg** **10 20 13.4 -0.3**
MRSB Marmaris-Mugla 0.93 62 PG **Pg** **10 20 16.6 -0.2**
TURN Turunc 0.99 60 PG **Pg** **10 20 17.4 -0.5**
MLSB Milas 1.12 25 PN **Pg** **10 20 20.2 -0.2**
YER Yerkesik 1.23 46 PN **Pn** **10 20 21.9 0.0**
SANT Santorini 1.39 274 PN **Pn** **10 20 23.6 -0.4**
ZKR Zakros 1.40 214 P **Pg** **10 20 25.8 +0.1**
SMG Samos 1.45 349 P **Pb** **10 20 25.7 0.0**
SMG S **Sg** **10 20 45.7 +0.2**
APE Apeiranthos 1.54 301 P **Pb** **10 20 26.9 -0.4**
APE Apeiranthos 1.54 301 PN **Pn** **10 20 26.4 +0.3**
LAST Lasithi 1.78 231 P **Pn** **10 20 29.4 -0.1**
CAME Cameli-Denizli 1.83 68 PN **Pn** **10 20 31.1 +0.8**
AKAS Kas 1.96 91 PN **Pn** **10 20 32.1 0.0**

*IDC **30** 10:24:28.1±1.1,40˚.20S×78˚.19E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.9/32,mbtmp4.0/9,MS4.0/4,Ms1 3.9/4, ms1mx3.5/33,Error ellipse: s-maj=37.1km s-min=19.8km az=117.0*
*NEIC **30** 10:24:30.5±1.3,40˚.3S±0˚.1×78˚.2E±0˚.2,h10km±1km, mb4.5/12,Error ellipse: s-maj=30.2km s-min=19.5km az=288.0*
ISC 30 10:24:30.1±0.8,40˚.3S±0˚.1×78˚.3E±0˚.2,h10km,n33, σ0s74/26,mb4.3/13,MS4.0/4,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**28.64**	**192**	P	**P**	**10 30 26.5**	**0.0**
	3.8nm,1.0s,baz=19,slow=13,SNR=6.2						
MAW				LR	LR	10 39 57.2	
	comp=Z,180nm,18.3s,baz=56,slow=32						
MAW	**Mawson**	**28.64**	**192**	P	**P**	**10 30 27.1**	**+0.7**
H01W2	**Cape Leeuwin H**	**28.75**	**91**	T	T	11 00 39.1	
	baz=249,slow=74,SNR=168						
H01W3	**Cape Leeuwin H**	**28.76**	**91**	T	T	11 00 39.7	
	baz=249,slow=74,SNR=211						
H01W1	**Cape Leeuwin H**	**28.77**	**91**	T	T	11 00 40.4	
	baz=249,slow=74,SNR=194						
CASY	**Casey**	**31.68**	**156**	P	**P**	**10 30 51.9**	**-1.4**
CASY				IAmb	IAmb	10 30 56.6	
	comp=Z,7.5nm,1.3s						
H08S2	**Diego Garcia H**	**32.94**	**349**	T	T	11 05 23.0	
	baz=173,slow=76,SNR=10.0						
H08S1	**Diego Carcia H**	**32.94**	**349**	T	T	11 05 22.9	
	baz=173,slow=76,SNR=5.5						
H08S3	**Diego Garcia H**	**32.96**	**349**	T	T	11 05 23.4	
	baz=173,slow=76,SNR=8.9						
CISI	**Cisompet, Garu**	**41.92**	**47**	P	**P**	**10 32 20.7**	**-0.3**
BOSA	**Boshof**	**44.68**	**268**	LR	LR	10 47 04.5	
	comp=Z,234nm,22.0s,baz=178,slow=30						
ASAR	**Alice Springs**	**49.19**	**88**	P	**P**	**10 33 18.7**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=241,slow=4.7,SNR=5.9						
ASAR				PcP	**PcP**	**10 34 40.9**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=232,slow=2.7,SNR=9.6						
ASAR	**Alice Springs**	**49.19**	**88**	P	**P**	**10 33 19.2**	**+0.6**
SNAA	**Sanae**	**49.58**	**204**	P	**P**	**10 33 21.0**	**+0.1**
SNAA	**Sanae**	**49.58**	**204**	P	**P**	**10 33 21.0**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=96,slow=4.5,SNR=10						
SNAA	**Sanae**	**49.58**	**204**	P	**P**	**10 33 21.0**	**+0.1**
SNAA				IAmb	IAmb	10 33 22.2	
	comp=Z,6.1nm,1.1s						
VNDA	**Vanda**	**49.63**	**164**	P	**P**	**10 33 22.3**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=265,slow=8.7,SNR=7.3						
VNDA	**Vanda**	**49.63**	**164**	P	**P**	**10 33 21.7**	**+0.5**
VNDA				IAmb	IAmb	10 33 23.6	
	comp=Z,3.4nm,1.0s						
QSPA	**South Pole Qui**	**49.85**	**180**	P	**P**	**10 33 23.5**	**+0.2**
	comp=Z,6.9nm,1.0s,baz=287,slow=3.1,SNR=14						
QSPA	**South Pole Qui**	**49.85**	**180**	P	**P**	**10 33 24.1**	**+0.8**
STKA	**Stephens Creek**	**50.86**	**102**	P	**P**	**10 33 31.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=306,slow=8.7,SNR=4.1						
VNA2	**Neumayer--Watz**	**51.15**	**205**	P	**P**	**10 33 32.8**	**+0.1**
	baz=97,slow=8.3						
VNA1	**Neumayer--Stat**	**51.48**	**205**	P	**P**	**10 33 35.6**	**+0.3**
WRA	**Warramunga Arr**	**51.64**	**84**	P	**P**	**10 33 37.1**	**0.0**
	comp=Z,0.7nm,1.0s,baz=235,slow=8.0,SNR=2.7						
WRA				PcP	**PcP**	**10 34 49.8**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=236,slow=2.9,SNR=4.6						
WB2	**Warramunga Arr**	**51.65**	**84**	P	**P**	**10 33 37.5**	**+0.3**
WB2				IAmb	IAmb	10 33 40.1	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**51.78**	**84**	P	**P**	**10 33 38.5**	**+0.3**
WB0				IAmb	IAmb	10 34 00.4	
	comp=Z,4.8nm,1.1s						
VNA3	**Neumayer Olymp**	**51.80**	**204**	P	**P**	**10 33 37.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**61.54**	**22**	P	**P**	**10 34 47.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=208,slow=5.1,SNR=1.5						
PMSA	**Palmer Station**	**71.17**	**196**	P	**P**	**10 35 47.5**	**-1.1**
KBL	**Kabul**	**74.97**	**352**	P	**P**	**10 36 12.8**	**+1.3**
KBL				IAmb	IAmb	10 36 13.7	
	comp=Z,7.0nm,1.0s						
MMAI	**Mount Meron Ar**	**83.05**	**325**	LR	LR	11 07 34.7	
	comp=Z,72nm,21.7s,baz=90,slow=31						
MKAR	**Makanchi Array**	**86.79**	**3**	P	**P**	**10 37 13.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=163,slow=5.6,SNR=5.8						
DBIC	**Dimbokro**	**89.09**	**279**	LR	LR	11 12 12.5	
	comp=Z,105nm,19.5s,baz=322,slow=32						

*BJI **30** 10:34:07.6±0.0,52˚.14N×177˚.14E,h53km,mB5.2/54, mb5.2/75,Ms4.8/60,Ms7 4.6/60*
*MOS **30** 10:34:08.4±1.1,51˚.96N×177˚.22E,h55km,mb5.4/120, MS4.1/11,Error ellipse: s-maj=5.7km s-min=4.4km az=107.5*
*AEIC **30** 10:34:09±2.5,51˚.68N±0˚.08×177˚.10E±0˚.05,h57km±4km, Error ellipse: s-maj=11.0km s-min=4.2km az=171.0*
*NEIC **30** 10:34:10.5±2.0,51˚.95N±0˚.09×177˚.20E±0˚.07,h59km±4km, mb5.2/533,ML5.4/37(AEIC),Error ellipse: s-maj=13.4km s-min=6.0km az=188.0*
*IDC **30** 10:34:10.8±1.3,51˚.97N×177˚.25E,h63km±9km,mb4.6/35, mb1 4.7/38,mb1mx4.6/50,mbtmp4.9/38,MS4.2/28, Ms1 4.2/28,ms1mx4.1/44,Error ellipse: s-maj=13.7km s-min=8.1km az=159.0*
*GCMT **30** 10:34:11.5±0.1,51˚.89N±0˚.01×177˚.13E±0˚.01,h51km, MW5.3/139,Moment Tensor Solution. s102,c157; s139,c239; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.07±.02; Mθθ-0.81±.02; Mφφ 0.87±.02; Mrθ-0.24±.02; Mθφ-0.82±.01; Mφr-0.49±.02; Best double couple: M0 1.29600×10^17 NP1:φs113.00000°,δ65.00000°, λ-177.00000°. NP2:φs22.00000°,δ88.00000°, λ-25.00000°. Principal axes: T 1.3100, Plg16.0000°, Azm71.0000°; N -0.0290, Plg65.0000°, Azm197.0000°; P -1.2810, Plg19.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 10:34:10.7±0.3,51˚.86N±0˚.04×177˚.13E±0˚.03,h64km,2km, h64km:pP-P,n1014,σ1§43/1038,mb5.2/432,55C-33D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.86**	**84**		**Pn**	**10 34 26.6**	**-0.5**
LSNW	**Little Sitkin**	**0.86**	**82**		**Pn**	**10 34 26.6**	**-0.5**
LSPA	**Little Sitkin**	**0.90**	**83**		**Pn**	**10 34 27.2**	**-0.4**
AMKA	**Amchitka**	**1.44**	**109**		**Pn**	**10 34 33.9**	**-0.6**
CESW	**Semis' Southwe**	**1.51**	**88**		**Pn**	**10 34 35.1**	**-0.4**
CEAP	**Semis' Anvil P**	**1.52**	**84**		**Pn**	**10 34 35.5**	**-0.2**
CERAA	**Semis' Rag'd T**	**1.58**	**87**		**Pn**	**10 34 36.6**	**+0.1**
SMY	**Shemya**	**2.06**	**296**	P	**Pn**	**10 34 42.9**	**0.0**
SMY						10 35 08.0	
SMY	**Shemya**	**2.06**	**296**	Pn	**Pn**	**10 34 42.9**	**0.0**
GALAA	**Gareloi Lava P**	**2.54**	**91**		**Pn**	**10 34 50.0**	**+0.5**
GAEA	**Gareloi East**	**2.56**	**90**		**Pn**	**10 34 50.3**	**+0.5**
TASE	**Tanaga Southea**	**3.00**	**89**		**Pn**	**10 34 55.9**	**+0.2**
TAFP	**Tanaga Falls P**	**3.03**	**87**		**Sn**	**10 35 31.5**	**+0.3**
KIMD	**Kanaga Island**	**3.50**	**89**		**Pn**	**10 35 02.9**	**+0.4**
KICM	**Kanaga Island**	**3.52**	**87**		**Pn**	**10 35 03.1**	**+0.3**
KIKV	**Kanaga Island**	**3.53**	**87**		**Pn**	**10 35 03.4**	**+0.3**
KIWB	**Kanaga Island**	**3.54**	**88**		**Pn**	**10 35 03.0**	**-0.1**
ADK	**Adak**	**3.83**	**87**	P	**Pn**	**10 35 06.8**	**-0.3**
ADK						10 35 50.6	
ADK	**Adak**	**3.83**	**87**		**Pn**	**10 35 06.8**	**-0.3**
GSTD	**Great Sitkin T**	**4.16**	**85**		**Pn**	**10 35 12.1**	**+0.4**
GSTR	**Great Sitkin T**	**4.22**	**84**	Pn	**Pn**	**10 35 11.9**	**-0.5**
GSMY	**Great Sitkin M**	**4.22**	**85**		**Pn**	**10 35 12.9**	**+0.5**
KOKL	**Mount Kliuchef**	**5.36**	**82**		**Pn**	**10 35 29.0**	**+0.9**
ATKA	**Atka Island**	**5.37**	**83**	Pn	**Pn**	**10 35 27.6**	**-0.5**
KOFP	**Korovin Flat P**	**5.43**	**82**		**Pn**	**10 35 30.4**	**+1.4**
NIKH	**Nikolski High**	**8.64**	**77**	Pn	**Pn**	**10 36 12.8**	**-0.1**
NIKH	**Nikolski High**	**8.64**	**77**	P		10 36 13.0	
	baz=267,SNR=199						
OKSP	**Okmok Steeple**	**8.99**	**75**		**Pn**	**10 36 20.6**	**+2.9**
SPIA	**Saint Paul Isl**	**9.06**	**49**	Pn	**Pn**	**10 36 20.0**	**+1.5**
SPIA	**Saint Paul Isl**	**9.06**	**49**	P		10 36 19.1	
	baz=239,SNR=185						
OKSO	**Okmok South**	**9.08**	**75**		**Pn**	**10 36 21.9**	**+3.1**
OKTU	**Okmok Mt. Tuli**	**9.15**	**75**		**Pn**	**10 36 22.6**	**+2.8**
OKFG	**Magazine Ridge**	**9.23**	**74**		**Pn**	**10 36 24.4**	**+3.5**
MAPS	**Pakushin South**	**9.84**	**72**		**Pn**	**10 36 31.4**	**+2.2**
MGOD	**Makushin Gods**	**9.88**	**72**		**Pn**	**10 36 31.8**	**+2.1**
MSW	**Makushin Switc**	**9.94**	**72**		**Pn**	**10 36 32.7**	**+2.2**
MNAT	**Makushin Natee**	**9.99**	**72**		**Pn**	**10 36 33.5**	**+2.2**
AKUT	**Akutan**	**10.55**	**71**	Pn	**Pn**	**10 36 40.3**	**+1.4**
PET	**Petropavlovsk**	**11.34**	**283**	*e*P	**Pn**	**10 36 50.8**	**+1.2**
PET				*e*S	**Sn**	**10 38 55.2**	**+0.7**
PET				pmax	pmax		
	comp=Z,39nm,1.2s						
PET				pmax	pmax		
	comp=Z,200nm,14.1s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s						
PET				MLR	MLR		
	comp=Z,2µm,15.0s						
PET	**Petropavlovsk**	**11.34**	**283**		**Pn**	**10 36 50.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**11.91**	**284**	*ce*P	**Pn**	**10 36 59.0**	**+1.5**
PEA0B	**Petropavlovsk-**	**11.91**	**284**	Pn	**Pn**	**10 36 59.5**	**+2.0**
PETK	**Petropavlovsk-**	**11.91**	**284**	P	**Pn**	**10 36 58.8**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=90,slow=16,SNR=55						
PETK				S	**Sn**	**10 39 03.2**	**-5.3**
	comp=Z,8.9nm,0.3s,baz=86,slow=24,SNR=12						
PETK				LR	LR	10 41 28.4	
	comp=Z,2µm,21.6s,baz=96,slow=37						
PETK	**Petropavlovsk-**	**11.91**	**284**	P	**Pn**	**10 36 58.2**	**+0.7**
PETK	**Petropavlovsk-**	**11.91**	**284**	Pn	**Pn**	**10 36 58.1**	**+0.7**
FALS	**False Pass**	**11.99**	**68**	Pn	**Pn**	**10 37 00.0**	**+1.4**
FALS	**False Pass**	**11.99**	**68**	P		10 36 58.6	
	baz=263,SNR=15						
SKR	**Severo-Kuril's**	**13.21**	**273**	*e*P	**Pn**	**10 37 14.4**	**-0.7**
SKR				*e*S	**Sn**	**10 39 32.1**	**-7.9**
SKR				pmax	pmax		
	comp=Z,44nm,1.1s						
SKR				pmax	pmax		
	comp=Z,100nm,3.2s						
SKR				pmax	pmax		
	comp=Z,400nm,2.6s						
SKR				MLR	MLR		
	comp=Z,400nm,17.0s						
SKR				MLR	MLR		
	comp=Z,500nm,13.0s						
GAMB	**Gambell**	**13.31**	**22**	P		10 37 15.9	
	baz=211						
SDPT	**Sand Point**	**13.73**	**66**	Pn	**Pn**	**10 37 21.0**	**-1.0**
SDPT	**Sand Point**	**13.73**	**66**	P		10 37 21.1	
	baz=264,SNR=18						
CHNA	**Chernabura Isl**	**14.20**	**69**	P		10 37 25.9	
	baz=267,SNR=17						
CNBA	**Chernabura Isl**	**14.20**	**69**		**Pn**	**10 37 25.6**	**-2.7**
ANM	**Nome**	**15.64**	**29**	P	**Pn**	**10 37 46.1**	**-0.7**
ANM				pmax	pmax		
	comp=Z,48nm,1.0s						
ANM	**Nome**	**15.64**	**29**	Pn	**Pn**	**10 37 46.1**	**-0.7**
ANM	**Nome**	**15.64**	**29**	P		10 37 44.2	
	baz=224						
TNA	**Tin City**	**15.71**	**23**		**P**	**10 37 50.1**	**-0.4**
TNA				IAmb	IAmb	10 37 55.7	
	comp=Z,174nm,1.1s						
TNA	**Tin City**	**15.71**	**23**	P		10 37 46.4	
	baz=216,SNR=8.6						
MA2	**Magadan**	**16.65**	**308**	P	**P**	**10 38 01.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=159,slow=13,SNR=5.0						
MA2	**Magadan**	**16.65**	**308**	*i* P	**Pn**	**10 37 59.3**	**-0.2**
MA2				pmax	pmax		
	comp=Z,65nm,1.9s						
MA2	**Magadan**	**16.65**	**308**	P	**Pn**	**10 37 59.9**	**+0.3**
BILL	**Bilibino**	**17.07**	**346**	*ij* P	**P**	**10 38 07.4**	**+1.9**
BILL				*e*S	**Sn**	**10 41 12.0**	**-1.4**
BILL				pmax	pmax		
	comp=Z,408nm,2.0s						
BILL				MLR	MLR		
	comp=Z,818nm,22.0s						
BILL	**Bilibino**	**17.07**	**346**	P	**P**	**10 38 06.3**	**+0.8**
BILL				IAmb	IAmb	10 38 10.9	
	comp=Z,156nm,1.2s						
SEY	**Seymchan**	**17.21**	**320**	P	**P**	**10 38 08.7**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=116,slow=14,SNR=23						
SEY	**Seymchan**	**17.21**	**320**	*d* P	**Pn**	**10 38 06.1**	**-0.3**
N18K	**Kilae Creek**	**17.27**	**49**	P		10 38 08.4	
	baz=251,SNR=76						
SVW2	**Sparrevohn**	**17.55**	**48**	P	**P**	**10 38 12.2**	**+1.2**
OHAK	**Old Harbor**	**17.89**	**61**		**P**	**10 38 12.2**	**-2.4**
OHAK				IAmb	IAmb	10 38 33.6	
	comp=Z,119nm,1.0s						
OHAK	**Old Harbor**	**17.89**	**61**	P		10 38 11.6	
	baz=265,SNR=20						
N19K	**Bonanza Creek**	**17.97**	**49**	P		10 38 17.3	
	baz=252,SNR=146						
L19K	**White Mountain**	**18.26**	**45**	P		10 38 20.2	
	baz=248,SNR=64						
KDAK	**Kodiak Island**	**18.32**	**59**	P	**P**	**10 38 17.7**	**-1.7**
	comp=Z,10nm,0.3s,baz=282,slow=5.3,SNR=80						
KDAK				S	**Sn**	**10 41 36.4**	**-7.3**
	comp=Z,0.6nm,0.3s,baz=68,slow=15,SNR=2.2						
KDAK	**Kodiak Island**	**18.32**	**59**	P	**P**	**10 38 17.5**	**-1.9**
KDAK				pmax	pmax		
	comp=Z,386nm,1.7s						
KDAK	**Kodiak Island**	**18.32**	**59**		**P**	**10 38 17.5**	**-1.9**
KDAK				IAmb	IAmb	10 38 25.8	
	comp=Z,386nm,1.6s						
KDAK	**Kodiak Island**	**18.32**	**59**	P		10 38 18.0	
	baz=264						
M19K	**Big River Lodg**	**18.36**	**46**	P		10 38 19.9	
	baz=250						
RSO	**Redoubt South**	**18.70**	**51**	P	**Pn**	**10 38 26.0**	**+1.3**
RDOG	**Red Dog Mine**	**18.90**	**23**	P	**Pn**	**10 38 28.3**	**+1.3**
RDOG	**Red Dog Mine**	**18.90**	**23**	P		10 38 28.4	
	baz=221,SNR=49						
HOM	**Homer**	**19.07**	**54**	P	**P**	**10 38 26.9**	**-0.7**
HOM	**Homer**	**19.07**	**54**	P		10 38 27.2	
	baz=259,SNR=28						
SPCR	**Spurr Chakacha**	**19.14**	**49**	P		10 38 30.2	
	baz=254,SNR=39						
SPU	**Mount Spurr**	**19.21**	**49**	P	**Pn**	**10 38 30.4**	**-0.3**
CNPM	**China Poot**	**19.25**	**54**	P	**P**	**10 38 29.6**	**0.0**
BRLK	**Bradley Lake**	**19.47**	**54**	P	**P**	**10 38 31.6**	**-0.3**
CAPN	**Captain Cook N**	**19.54**	**50**	P		10 38 31.0	
	baz=257						
BRSE	**Bradley Lake S**	**19.54**	**54**	P		10 38 31.6	
	baz=260,SNR=53						
PPLA	**Purkeypile**	**19.67**	**44**		**Pn**	**10 38 35.8**	**-0.3**
PPLA	**Purkeypile**	**19.67**	**44**	P		10 38 35.1	
	baz=250,SNR=42						
SKT	**Skwentna**	**19.67**	**47**	P	**Pn**	**10 38 35.6**	**-0.4**
SKT	**Skwentna**	**19.67**	**47**	P		10 38 35.7	
	baz=253,SNR=126						
SUA	**Susitna One**	**19.89**	**49**	P	**P**	**10 38 37.3**	**+0.6**
SUA				IAmb	IAmb	10 38 43.4	
	comp=Z,184nm,1.0s						
SUA	**Susitna One**	**19.89**	**49**	P		10 38 37.2	
	baz=255,SNR=34						
O22K	**Cooper Landing**	**20.17**	**52**	P	**P**	**10 38 38.8**	**-0.6**
O22K	**Cooper Landing**	**20.17**	**52**	P		10 38 38.5	
	baz=259,SNR=34						
SEW	**Seward**	**20.24**	**53**	P	**P**	**10 38 39.2**	**-1.1**
SEW				IAmb	IAmb	10 38 43.7	
	comp=Z,129nm,0.7s						
SEW	**Seward**	**20.24**	**53**	P		10 38 39.0	
	baz=260,SNR=57						
RC01	**Rabbit Creek A**	**20.28**	**50**	P	**P**	**10 38 39.8**	**-1.0**
RC01				IAmb	IAmb	10 38 47.1	
	comp=Z,82nm,0.8s						
RC01	**Rabbit Creek A**	**20.28**	**50**	P		10 38 39.6	
	baz=258,SNR=16						
CUT	**Chulitna**	**20.36**	**46**	P	**P**	**10 38 41.8**	**+0.2**
CUT	**Chulitna**	**20.36**	**46**	P		10 38 41.3	
	baz=254,SNR=8.7						
KUR	**Kuril'sk**	**20.38**	**263**	*d* P	**P**	**10 38 43.2**	**+1.3**
KUR				*e*S	**S**	**10 42 29.5**	**+3.0**
KUR				*e*		10 42 52.9	
KUR				pmax	pmax		
	comp=Z,299nm,1.3s						
KUR				pmax	pmax		
	comp=Z,1µm,6.1s						
KUR				MLR	MLR		
	comp=Z,500nm,16.0s						
KTH	**Kantishna Hill**	**20.43**	**43**	P	Pn	10 38 43.8	-1.2
BPAW	**Bear Paw Mtn.**	**20.60**	**41**	P	**P**	**10 38 45.1**	**+0.9**
BPAW				IAmb	IAmb	10 39 17.7	
	comp=Z,67nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.60**	**41**	P		10 38 45.2	
	baz=248,SNR=58						
I21K	**Tanana**	**20.64**	**38**	P		10 38 45.7	
	baz=244,SNR=103						
TRF	**Thorofare Moun**	**20.67**	**43**	P	**P**	**10 38 46.0**	**+1.0**
TRF	**Thorofare Moun**	**20.67**	**43**	P		10 38 45.7	
	baz=251,SNR=56						
PMR	**Palmer**	**20.68**	**49**	P	**P**	**10 38 43.5**	**-1.5**
PMR				pmax	pmax		
	comp=Z,66nm,1.0s						
PMR	**Palmer**	**20.68**	**49**	P	**P**	**10 38 43.5**	**-1.5**
PMR	**Palmer**	**20.68**	**49**	P		10 38 43.6	
	baz=257,SNR=32						
GHO	**Glory Hole Cre**	**20.81**	**48**	P	**P**	**10 38 45.0**	**-1.6**
GHO				IAmb	IAmb	10 39 12.0	
	comp=Z,87nm,0.8s						
PWL	**Port Wells**	**20.91**	**51**	P	**P**	**10 38 47.7**	**+0.2**
PWL				IAmb	IAmb	10 38 53.3	
	comp=Z,170nm,1.0s						
KNK	**Knik Glacier**	**20.95**	**49**	P	**P**	**10 38 47.5**	**-0.5**
KNK	**Knik Glacier**	**20.95**	**49**	P		10 38 47.3	
	baz=258,SNR=74						
MLY	**Manley**	**21.06**	**39**	P	**P**	**10 38 50.2**	**+1.1**
MLY				IAmb	IAmb	10 39 26.0	
	comp=Z,209nm,1.7s						
MLY	**Manley**	**21.06**	**39**	P		10 38 49.5	
	baz=246,SNR=84						
SML	**Sawmill**	**21.09**	**48**	P	**P**	**10 38 48.8**	**-0.7**
SML	**Sawmill**	**21.09**	**48**	P		10 38 48.3	
	baz=257,SNR=77						
WAT1	**Susitna Watana**	**21.24**	**46**	P		10 38 50.1	
	baz=254						
RND	**Reindeer**	**21.27**	**44**	P	**P**	**10 38 50.9**	**-0.5**
RND				pmax	pmax		
	comp=Z,88nm,0.9s						
RND	**Reindeer**	**21.27**	**44**	P	**P**	**10 38 50.9**	**-0.5**
RND				IAmb	IAmb	10 39 12.9	
	comp=Z,88nm,0.9s						
MCK	**McKinley**	**21.33**	**43**	P	**P**	**10 38 51.7**	**-0.3**
MCK				pmax	pmax		
	comp=Z,69nm,0.8s						
MCK	**McKinley**	**21.33**	**43**	P	**P**	**10 38 51.7**	**-0.3**
MCK				IAmb	IAmb	10 39 20.4	
	comp=Z,68nm,0.8s						
MCK	**McKinley**	**21.33**	**43**	P		10 38 51.6	
	baz=252,SNR=19						
TYV	**Tymovskoe**	**21.44**	**281**	*e*P	**P**	**10 38 55.9**	**+2.7**
TYV				*e*S	Sn	10 42 53.2	-5.4
TYV				pmax	pmax		
	comp=Z,600nm,4.3s						
TYV				pmax	pmax		
	comp=Z,88nm,1.1s						
TYV				smax	smax		
	comp=N,2µm,5.3s						
GLI	**Glacier Island**	**21.51**	**51**	P	**P**	**10 38 53.0**	**-0.9**
GLI					**PcP**	**10 42 53.2**	**-0.7**
GLI	**Glacier Island**	**21.51**	**51**	P		10 38 52.7	
	baz=261,SNR=48						
WAT6	**Susitna Watana**	**21.54**	**47**	P		10 38 53.7	
	baz=256,SNR=123						
NEA2	**Nenana**	**21.56**	**41**	P	**P**	**10 38 53.8**	**-0.6**
NEA2				IAmb	IAmb	10 39 14.0	
	comp=Z,147nm,1.1s						
NEA2	**Nenana**	**21.56**	**41**	P		10 38 54.7	
	baz=250,SNR=124						
SCM	**Sheep Creek Mo**	**21.57**	**49**	P	**P**	**10 38 55.0**	**+0.4**
SCM				pmax	pmax		
	comp=Z,257nm,1.0s						
SCM	**Sheep Creek Mo**	**21.57**	**49**	P	**P**	**10 38 55.0**	**+0.4**
I23K	**Minto, Yukon-K**	**21.64**	**39**	P	**P**	**10 38 56.0**	**+0.8**
I23K	**Minto, Yukon-K**	**21.64**	**39**	P		10 38 55.4	
	baz=248,SNR=62						
MID	**Middleton Isla**	**21.72**	**55**	P	**P**	**10 38 57.6**	**+1.5**
MID				pmax	pmax		
	comp=Z,226nm,1.0s						
MID	**Middleton Isla**	**21.72**	**55**	P	**P**	**10 38 57.6**	**+1.5**
HIN	**Hinchinbrook I**	**21.73**	**53**	P	**P**	**10 38 55.5**	**-0.9**
FID	**Port Fidalgo**	**21.79**	**52**	P	**P**	**10 38 56.0**	**-0.9**
FID					**PcP**	**10 42 54.2**	**-0.3**
WRH	**Wood River Hil**	**21.91**	**41**	P	**P**	**10 38 57.7**	**-0.5**
WRH				IAmb	IAmb	10 39 30.1	
	comp=Z,126nm,1.4s						
MDM	**Murphy Dome**	**22.02**	**40**	P	**P**	**10 38 59.5**	**+0.1**
MDM				IAmb	IAmb	10 39 36.4	
	comp=Z,74nm,1.0s						
NKL	**Nikolayevsk**	**22.08**	**288**	*e*P	**P**	**10 39 00.9**	**+0.9**
NKL				*e*S	**S**	**10 42 59.9**	**+0.4**
NKL				pmax	pmax		
	comp=N,3.0nm,0.8s						
NKL				pmax	pmax		
	comp=Z,98nm,1.2s						
NKL				pmax	pmax		
	comp=E,45nm,0.7s						
NKL				smax	smax		
	comp=E,69nm,1.1s						
NKL				smax	smax		
	comp=N,2.0nm,1.3s						
NKL				MLR	MLR		
	comp

UGL smax smax
comp=N,2µm,10.0s
UGL MLR MLR
comp=E,1µm,21.0s
UGL MLR MLR
comp=N,1µm,17.0s
UGL MLR MLR
comp=Z,1µm,19.0s
HDA Harding Lake 22.37 42 IAmb IAmb 10 39 58.3
comp=Z,209nm,1.7s
HDA Harding Lake 22.37 42 P 10 39 01.0
baz=253,SNR=31
HDA P 10 39 01.0
baz=253,SNR=31
POKR Poker Plat Res 22.39 40 IAmb IAmb 10 39 45.8
comp=Z,86nm,1.1s
POKR Poker Plat Res 22.39 40 P 10 39 03.1
baz=250,SNR=14
H24K Noodor Dome 22.47 38 P 10 39 04.2
baz=248,SNR=177
IL31 22.50 41 P **P** **10 39 03.0 -1.5**
IL31 IAmb IAmb 10 39 42.8
comp=Z,85nm,1.2s
ILAR Eielson Array 22.50 41 P **P** **10 39 02.9 -1.6**
comp=Z,9.5nm,0.6s,baz=247,slow=8.9,SNR=97
ILAR S **S** **10 43 05.7 -1.0**
comp=Z,1.2nm,0.8s,baz=249,slow=12,SNR=2.2
ILAR ScP **ScP** **10 46 26.3 -1.3**
comp=Z,2.2nm,0.7s,baz=271,slow=2.8,SNR=8.4
ILAR LR LR 10 48 54.2
comp=Z,348nm,20.7s,baz=264,slow=40
ILAR Eielson Array 22.50 41 P **P** **10 39 02.6 -1.9**
PAX Paxson 22.64 46 P **P** **10 39 06.4 +0.2**
PAX pmax pmax
comp=Z,194nm,1.3s
PAX Paxson 22.64 46 P **P** **10 39 06.4 +0.2**
PAX Paxson 22.64 46 P 10 39 05.6
baz=258,SNR=49
HARP HAARP 22.68 48 P 10 39 05.9
baz=259,SNR=28
BMRM Bremner River 22.73 51 P 10 39 05.8
baz=263,SNR=32
YSS Yuzh-Sakhalins 22.76 271 ||| *i*P **P** **10 39 08.7 +1.3**
YSS *e**PP **pwP** **10 39 22.6 +1.8**
YSS *e**SP **sP** **10 39 29.0 +0.4**
YSS *e*S **S** **10 43 10.5 -0.7**
YSS *e* 10 43 34.0
YSS pmax pmax
comp=Z,400nm,4.1s
YSS pmax pmax
comp=Z,40nm,1.2s
YSS smax smax
comp=E,1µm,10.4s
YSS MLR MLR
comp=Z,900nm,21.0s
YSS MLR MLR
comp=E,600nm,22.0s
YSS Yuzh-Sakhalins 22.76 271 P **P** **10 39 07.8 +0.4**
A21K Barrow 22.80 22 P 10 39 06.4
baz=225,SNR=7.1
N25K Chitina, Valde 22.81 50 IAmb IAmb 10 39 09.4
comp=Z,80nm,0.7s
N25K Chitina, Valde 22.81 50 P 10 39 07.5
baz=262,SNR=56
SUCK Suckling Hills 23.06 54 P **P** **10 39 10.3 0.0**
TOLK Toolik Lake Re 23.10 31 P **P** **10 39 11.0 +0.3**
TOLK IAmb IAmb 10 39 13.3
comp=Z,60nm,0.7s
TOLK Toolik Lake Re 23.10 31 P 10 39 10.5
baz=240,SNR=77
GLB Gilahina Butte 23.16 50 P **P** **10 39 10.6 -0.8**
GLB IAmb IAmb 10 39 17.2
comp=Z,104nm,0.8s
PRP Porcupine Dome 23.28 40 IAmb IAmb 10 39 33.8
comp=Z,102nm,1.6s
PRP Porcupine Dome 23.28 40 P 10 39 10.8
baz=252,SNR=34
BGLC Bering Glacier 23.31 54 P 10 39 13.1
baz=267
VRDI Verde Repeater 23.31 51 IAmb IAmb 10 39 14.3
comp=Z,72nm,0.8s
DOT Dot Lake 23.41 45 IAmb IAmb 10 39 33.1
comp=Z,64nm,0.9s
MENT Mentasta 23.42 47 P **P** **10 39 13.1 -0.7**
CRQE Cirque 23.45 52 P 10 39 13.2
baz=265,SNR=26
SCRK Sand Creek 23.51 44 IAmb IAmb 10 39 24.0
comp=Z,43nm,0.6s
SCRK Sand Creek 23.51 44 P 10 39 13.2
baz=257,SNR=89
MCARA McCarthy VSAT 23.53 51 P **P** **10 39 15.4 +0.6**
MCARA McCarthy VSAT 23.53 51 P 10 39 14.4
baz=264,SNR=20
WAX Waxell Ridge 23.54 53 P **P** **10 39 15.4 +0.5**
ISLE Juniper Island 23.80 53 IAmb IAmb 10 39 53.9
comp=Z,103nm,1.0s
MESA MESA 23.98 54 P **P** **10 39 17.4 -1.7**
MESA MESA 23.98 54 P 10 39 18.5
baz=268,SNR=9.8
YAH Yahtse 24.09 53 P **P** **10 39 18.7 -1.3**
BARN Barnard Glacie 24.16 52 P **P** **10 39 20.7 0.0**
JKA Kamikawa-asahi 24.19 265 IAmb IAmb 10 39 25.1
comp=Z,111nm,1.2s
ASAJ Asahikawa 24.20 265 P **P** **10 39 21.9 +1.0**
comp=Z,86nm,1.1s,baz=17,slow=5.0,SNR=16
BMAR Burnt Mountain 24.27 36 P **P** **10 39 22.1 +0.7**
L27K Beaver Creek, 24.30 47 P 10 39 21.7
baz=262,SNR=397
CTG Chitna Glacier 24.32 52 P 10 39 21.7
baz=267,SNR=50
CTGM Chitina Glacie 24.32 52 P **P** **10 39 22.0 -0.1**
K27K Chicken 24.34 44 IAmb IAmb 10 39 24.8
comp=Z,58nm,0.6s
K27K Chicken 24.34 44 P 10 39 21.5
baz=259
PINM Pinnacle 24.83 54 P 10 39 25.7
baz=270,SNR=23
EGAK Eagle 24.88 43 P **P** **10 39 26.8 -0.2**
EGAK Eagle 24.88 43 P 10 39 26.4
baz=258,SNR=156
ERM Erimo 24.99 260*ce*P **P** **10 39 30.2 +2.0**
ERM pmax pmax
comp=Z,31nm,1.3s
GRNR Gornyy 25.24 284 ||| *i*P **P** **10 39 31.6 +1.2**
GRNR *e*S **S** **10 43 54.1 +2.9**
GRNR pmax pmax
comp=E,10.0nm,1.0s
GRNR pmax pmax
comp=N,5.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR smax smax
comp=N,6.0nm,0.8s
GRNR MLR MLR
comp=N,300nm,18.0s
GRNR MLR MLR
comp=E,360nm,18.0s
GRNR MLR MLR
comp=Z,400nm,16.0s
EPYK Eagle Plains 26.99 40 IAmb IAmb 10 40 06.7
comp=Z,48nm,1.0s
EPYK Eagle Plains 26.99 40 P 10 39 45.2
baz=260,SNR=33
YAK Yakutsk 27.18 311 P **P** **10 39 46.6 -1.1**
comp=Z,16nm,0.7s,baz=118,slow=1.7,SNR=10
YAK Yakutsk 27.18 311*d* *i*P **P** **10 39 46.1 -1.6**
YAK *e**PP **pP** **10 39 59.3 -3.7**
YAK *e* 10 40 36.7
YAK *e* 10 43 05.8
YAK *e*S **S** **10 44 22.3 +0.8**
YAK pmax pmax
comp=Z,86nm,1.5s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,28nm,1.5s
YAK pmax pmax
comp=Z,203nm,2.5s
YAK pmax pmax
comp=E,158nm,2.8s
YAK pmax pmax
comp=N,31nm,1.5s
YAK smax smax
comp=E,80nm,2.8s
YAK smax smax
comp=N,98nm,3.3s
YAK MLR MLR
comp=Z,790nm,20.0s
YAK MLR MLR
comp=N,475nm,16.0s
YAK MLR MLR
comp=E,512nm,17.0s
YAK Yakutsk 27.18 311 P **P** **10 39 46.8 -0.9**
YAK IAmb IAmb 10 39 48.1
comp=Z,80nm,1.1s
SKAG Skagway 27.34 55 P **P** **10 39 49.4 +0.2**
SKAG Skagway 27.34 55 P 10 39 48.5
baz=275,SNR=7.8
WHY Whitehorse 27.48 52 P **P** **10 39 50.1 -0.5**
WHY Whitehorse 27.48 52 P 10 39 50.2
baz=273
SIT Sitka 27.65 60 P **P** **10 39 51.4 -0.6**
SIT pmax pmax
comp=Z,151nm,2.0s
SIT Sitka 27.65 60 P **P** **10 39 51.4 -0.6**
SIT IAmb IAmb 10 40 46.6
comp=Z,151nm,2.0s
SIT Sitka 27.66 60 P 10 39 51.1
baz=279,SNR=7.5
BESE Bessie Mountai 27.68 57 IAmb IAmb 10 40 47.8
comp=Z,55nm,1.2s
INK Inuvik 28.54 36 P **P** **10 39 59.7 0.0**
comp=Z,11nm,0.4s,baz=77,slow=1.8,SNR=33
INK PcP **PcP** **10 43 09.9 +0.4**
comp=Z,6.7nm,0.8s,baz=278,slow=3.4,SNR=3.1
INK Inuvik 28.54 36 P 10 39 59.8
baz=260,SNR=26
KLR Kul'dur 28.60 283 P **P** **10 40 00.6 0.0**
comp=Z,39nm,1.0s,baz=64,slow=8.3,SNR=51
KLR Kul'dur 28.60 283*ce*P **P** **10 40 00.7 +0.1**
KLR pmax pmax
comp=Z,57nm,1.1s
TIXI Tiksi 28.97 331 P **P** **10 40 03.1 -0.5**
comp=Z,1.3nm,0.5s,baz=112,slow=11,SNR=7.3
TIXI PcP **PcP** **10 43 10.8 +0.3**
comp=Z,6.4nm,0.6s,baz=22,slow=1.0,SNR=5.7
CRAG Craig 29.18 63 P **P** **10 40 06.2 +0.6**
CRAG Craig 29.18 63 P 10 40 05.2
baz=284
WRAK Wrangell Islan 29.39 61 P **P** **10 40 07.8 +0.4**
WRAK Wrangell Islan 29.39 61 P 10 40 06.9
baz=282
ZEA Zeya 29.72 294 *e*P **P** **10 40 09.6 -0.8**
ZEA *e* 10 45 03.4
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,1.3s
ZEA MLR MLR
comp=Z,300nm,16.0s
DLBC Dease Lake 30.20 56 P **P** **10 40 15.7 +1.0**
JYT Yasato 30.41 254 IAmb IAmb 10 40 19.5
comp=Z,36nm,1.1s
USA0B Ussuriysk Arra 30.73 274 P **P** **10 40 19.5 +0.1**
USA0B PcP **PcP** **10 43 16.9 +1.4**
USRK Ussuriysk Ar. 30.73 274 P **P** **10 40 19.7 +0.3**
comp=Z,11nm,0.8s,baz=57,slow=8.4,SNR=41
USRK PcP **PcP** **10 43 16.6 +1.1**
comp=Z,8.3nm,0.8s,baz=64,slow=1.8,SNR=11
USRK LR LR 10 52 06.1
comp=Z,605nm,21.5s,baz=57,slow=35
VLA Vladivostok 31.35 272 *i* P **P** **10 40 25.4 +0.5**
VLA pmax pmax
comp=Z,42nm,1.0s
MAJO Matsushiro 31.39 256 *i* P **P** **10 40 26.1 +0.7**
MAJO pmax pmax
comp=Z,25nm,1.2s
MAJO Matsushiro 31.39 256 P **P** **10 40 27.1 +1.7**
MAT Matsushiro 31.39 256 P **P** **10 40 26.4 +1.0**
MAT *e*S **S** **10 45 30.6 +2.4**
MJAR Matsushiro Arr 31.39 256 P **P** **10 40 26.6 +1.2**
comp=Z,6.1nm,1.0s,baz=39,slow=7.1,SNR=15
MJAR Matsushiro Arr 31.39 256 P **P** **10 40 26.9 +1.5**
MJAR pmax pmax
comp=Z,14nm,1.5s
MJAR Matsushiro Arr 31.39 256 P **P** **10 40 26.9 +1.5**
C36M Paratuk 32.06 35 IAmb IAmb 10 40 32.8
comp=Z,80nm,1.4s
C36M Paulatuk 32.07 35 P 10 40 29.5
baz=268,SNR=13
MSHR Mys Shultsa 32.09 272*ce*P **P** **10 40 32.4 +1.0**
MSHR pmax pmax
comp=Z,29nm,1.3s
JGF Kuroka 32.53 256 P **P** **10 40 36.5 +1.1**
H11N2 WAKE ISLAND Hy 33.05 198 T T 11 15 51.2
baz=11,slow=76,SNR=602
H11N3 WAKE ISLAND Hy 33.06 198 T T 11 16 03.0
baz=11,slow=76,SNR=640
H11N1 WAKE ISLAND Hy 33.07 198 T T 11 16 03.5
baz=11,slow=76,SNR=750
JWT Wachi 33.93 257 P **P** **10 40 48.1 +0.6**
JWT IAmb IAmb 10 40 50.0
comp=Z,27nm,1.2s
H11S1 WAKE ISLAND Hy 34.28 198 T T 11 17 37.9
baz=10,slow=76,SNR=455
H11S3 WAKE ISLAND Hy 34.30 198 T T 11 17 13.7
baz=10,slow=76,SNR=534
H11S2 WAKE ISLAND Hy 34.30 198 T T 11 17 32.2
baz=10,slow=76,SNR=392
CN2 Changchun 34.97 278 *e*P **P** **10 40 56.3 -0.1**
CN2 *e*S **S** **10 46 21.8 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 L L
comp=Z,400nm,16.0s
CN2 L L
comp=Z,700nm,16.0s
CN2 L L
comp=Z,700nm,19.0s
BOD Bodaibo 35.64 305 *e*P **P** **10 41 01.3 -0.7**
BOD pmax pmax
comp=Z,94nm,1.1s
HIA Hailar 35.74 289 P **P** **10 41 02.7 -0.3**
HIA pmax pmax
comp=Z,80nm,1.5s
HIA Hailar 35.74 289 P **P** **10 41 02.7 -0.3**
KIP Kipapa 35.99 138*ce*P **P** **10 41 07.7 +2.4**
KIP pmax pmax
comp=Z,102nm,0.8s
KIP Kipapa 35.99 138 P **P** **10 41 06.0 +0.7**
YKA Yellowknife Ar 36.73 46 P **P** **10 41 11.3 +0.1**
comp=Z,29nm,0.7s,baz=282,slow=8.0,SNR=149
YKA PcP **PcP** **10 43 32.3 +0.1**
comp=Z,1.9nm,0.9s,baz=294,slow=2.7,SNR=3.8
YKA ScP **ScP** **10 47 11.8 -1.3**
comp=Z,4.7nm,0.9s,baz=292,slow=2.9,SNR=12
YKA LR LR 10 57 16.1
comp=Z,584nm,21.2s,baz=0.0,slow=38
KSRS Korea Array 37.11 267 P **P** **10 41 16.4 +1.7**
comp=Z,8.5nm,1.0s,baz=58,slow=8.1,SNR=26
KSRS PcP **PcP** **10 43 35.1 +1.3**
comp=Z,5.3nm,1.0s,baz=65,slow=3.9,SNR=7.2
KSRS LR LR 10 55 37.1
comp=Z,259nm,21.8s,baz=55,slow=35
KSAR Wonju Array Be 37.14 267 P **P** **10 41 14.9 -0.1**
KSAR 10 43 34.6
KSAR Wonju Array Be 37.14 267 P **P** **10 41 14.9 -0.1**
KSAR **PcP** **10 43 34.6 +0.7**
LLLB Lillooet 37.22 67 P **P** **10 41 16.4 +0.8**
NLWA Neilton Lookou 37.57 73 P **P** **10 41 18.2 -0.3**
NLWA IAmb IAmb 10 41 21.9
comp=Z,19nm,0.8s
A04D Lummi Island 37.61 70 P 10 41 17.6
baz=298
A05A Maple Falls 37.84 70 P **P** **10 41 20.5 -0.3**
A05A IAmb IAmb 10 41 24.8
comp=Z,19nm,0.8s
INCN Inchon 37.89 268 P **P** **10 41 22.3 +0.9**
INCN pmax pmax
comp=Z,134nm,1.6s
INCN Inchon 37.89 268 P **P** **10 41 22.3 +0.9**
D03D Eldon 37.96 72 P 10 41 21.4
baz=299,SNR=40
CIT Chita 38.07 296 *e*P **P** **10 41 23.5 +0.8**
CIT *e* 10 41 37.1
CIT pmax pmax
comp=Z,155nm,2.2s
TJN Taejon 38.14 266*ce*P **P** **10 41 24.6 +1.2**
E03A Lebam 38.17 74 P **P** **10 41 23.9 +0.3**
E03A IAmb IAmb 10 41 26.8
comp=Z,33nm,0.8s
B05A Bryant 38.19 71 P 10 41 22.4
baz=299,SNR=6.7
HPAH Hawaii Prepara 38.20 136 P **P** **10 41 26.1 +2.0**
D04E Lakebay 38.32 72 P 10 41 24.5
baz=300
B06A Marblemount 38.42 70 P **P** **10 41 25.9 +0.3**
F04D Rainier, OR 38.74 74 P 10 41 27.6
baz=301
E04D Cinebar 38.76 73 P 10 41 28.2
baz=300,SNR=18
D05A Enumclaw 38.78 72 P **P** **10 41 26.9 -1.7**
D05A IAmb IAmb 10 42 28.4
comp=Z,47nm,1.2s
G03D McMinnville, O 39.04 75 P 10 41 29.8
baz=302
I02D Swisshome 39.28 77 P 10 41 32.0
baz=303,SNR=8.6
COR Corvallis 39.35 76 P **P** **10 41 33.8 +0.3**
COR pmax pmax
comp=Z,28nm,0.7s
COR Corvallis 39.35 76 P **P** **10 41 33.8 +0.3**
COR IAmb IAmb 10 41 36.6
comp=Z,28nm,0.7s
LTY Liberty 39.52 71 P **P** **10 41 33.6 -1.3**
H04D Lebanon 39.73 76 P 10 41 34.8
baz=303,SNR=13
B08A Colville Reser 39.75 69 P **P** **10 41 35.6 -1.2**
J01E Myrtle Point 39.75 79 P 10 41 35.7
baz=304
F05D White Salmon 39.76 74 P 10 41 36.0
baz=302
I03D Drain, OR 39.81 78 P 10 41 36.9
baz=303,SNR=13
H04A Detroit Lake 39.97 76 P **P** **10 41 38.3 -0.4**
H04A IAmb IAmb 10 41 41.9
comp=Z,30nm,0.9s
DL2 Dalian 40.12 274 P **P** **10 41 40.8 +0.9**
DL2 sP **sP** **10 42 00.5 -2.3**
DL2 S **S** **10 47 45.3 +3.9**
DL2 pmax pmax
comp=Z,32nm,0.9s
DL2 pmax pmax
comp=Z,150nm,3.5s
DL2 L L
comp=Z,440nm,18.0s
DL2 L L
comp=Z,430nm,13.5s
DL2 L L
comp=Z,470nm,26.0s
K02D Willamette Mer 40.17 79 P 10 41 39.9
baz=304,SNR=6.3
G05D Wamic, OR 40.19 74 P 10 41 38.0
baz=302,SNR=17
I04A Tendick Farm, 40.32 77 P 10 41 39.5
baz=303,SNR=24
RES Resolute Bay 40.35 24 P **P** **10 41 41.5 +0.2**
comp=Z,12nm,1.1s,baz=283,slow=12,SNR=14
RES ScP **ScP** **10 47 26.1 -0.7**
comp=Z,7.9nm,1.1s,baz=298,slow=4.5,SNR=7.0
RES Resolute Bay 40.35 24 P **P** **10 41 41.3 -0.1**
RES pmax pmax
comp=Z,20nm,1.2s
RES Resolute Bay 40.35 24 P **P** **10 41 41.3 -0.1**
E07A Sunnyside 40.36 72 P **P** **10 41 40.9 -1.0**
EUNU Eureka 40.50 15 P **P** **10 41 42.9 +0.2**
L02E Cave Junction 40.52 80 P 10 41 42.7
baz=305,SNR=11
HAWA Hanford 40.64 72 P **P** **10 41 42.9 -1.3**
HAWA IAmb IAmb 10 41 45.8
comp=Z,24nm,0.7s
C09A Chrisman Ranch 40.64 69 P **P** **10 41 42.9 -1.3**
D08A Wollman Farm, 40.65 71 P **P** **10 41 42.7 -1.5**
HUMO Hull Mountain 40.65 79 P **P** **10 41 44.7 +0.4**
I05D Terrebonne, OR 40.67 75 P 10 41 43.3
baz=303,SNR=13
F07A Phinny Hill Vi 40.67 73 P **P** **10 41 43.7 -0.7**
F07A IAmb IAmb 10 41 46.2
comp=Z,29nm,0.7s
KRMB Red Mountain 40.69 81 P **P** **10 41 46.6 +1.8**
KRMB IAmb IAmb 10 42 21.5
comp=Z,37nm,1.3s
J04D Umpqua Nationa 40.81 77 P 10 41 43.9
baz=304,SNR=15
E08A Dider Farm, El 40.86 71 P **P** **10 41 44.8 -1.2**
NEW Newport 41.07 68 P **P** **10 41 46.2 -1.5**
NEW pmax pmax
comp=Z,34nm,1.1s
NEW Newport 41.07 68 P **P** **10 41 46.2 -1.5**
NEW IAmb IAmb 10 41 50.6
comp=Z,34nm,1.1s
NEW Newport 41.07 68 P 10 41 45.8
baz=300,SNR=44
KHMM Horse Mountain 41.18 81 P **P** **10 41 49.5 +0.7**
KHMM IAmb IAmb 10 41 57.0
comp=Z,82nm,1.4s
PINE Pine Mountain 41.21 76 P **P** **10 41 48.5 -0.6**
L04D Klamath Falls 41.27 79 P 10 41 48.1
baz=305,SNR=15
YBH Yreka Blue Hor 41.30 80 P **P** **10 41 49.5 -0.3**
YBH pmax pmax
comp=Z,19nm,0.7s
YBH Yreka Blue Hor 41.30 80 P **P** **10 41 49.5 -0.3**
YBH IAmb IAmb 10 41 53.6
comp=Z,19nm,0.7s
J05D Fort Rock, OR 41.31 77 P 10 41 48.3
baz=304,SNR=32
K04D Chiloquin, OR 41.37 78 P 10 41 48.7
baz=305,SNR=9.7
E09A Wood Farm, Sta 41.39 71 P **P** **10 41 48.9 -1.4**
M02C Callahan 41.41 80 P 10 41 49.6
baz=306,SNR=9.8
G08A Pilot Rock 41.57 73 P **P** **10 41 51.8 -0.1**
N02D Trinity Center 41.75 81 P 10 41 51.8
baz=306,SNR=15
M04C Macdoel 41.81 79 P 10 41 53.2
baz=305,SNR=23
K05A Summer Lake 41.84 77 P **P** **10 41 54.0 -0.2**
K05A IAmb IAmb 10 42 21.1
comp=Z,27nm,0.9s
I07A Izee 41.91 75 P **P** **10 41 53.9 -0.8**
KCPM Cahto Peak 41.98 83 P **P** **10 41 55.5 +0.2**
KCPM IAmb IAmb 10 42 13.2
comp=Z,55nm,1.0s
WDC Whiskeytown Da 42.08 81 P **P** **10 41 56.2 +0.2**
WDC pmax pmax
comp=Z,24nm,1.1s
WDC Whiskeytown Da 42.08 81 P **P** **10 41 56.2 +0.2**
O02D Mt. Diablo Mer 42.17 82 P 10 41 56.4
baz=307,SNR=11
WALA Waterton Lakes 42.49 65 P **P** **10 41 58.5 -1.0**
WALA IAmb IAmb 10 42 19.3
comp=Z,50nm,1.1s
MOD Modoc Plateau 42.67 78 IAmb IAmb 10 42 04.1
comp=Z,26nm,0.6s
NRIK Noril'sk 42.69 328 P **P** **10 41 59.8 -0.8**
comp=Z,14nm,0.9s,baz=75,slow=7.5,SNR=11
NRIK PcP **PcP** **10 43 51.9 +0.8**
comp=Z,10nm,0.8s,baz=42,slow=4.0,SNR=4.2
NRIK ScP **ScP** **10 47 37.4 +1.3**
comp=Z,4.8nm,0.6s,baz=301,slow=3.5,SNR=5.4
NRIK LR LR 11 01 27.6
comp=Z,251nm,18.9s,baz=64,slow=38
NRIK Noril'sk 42.69 328*ce*P **P** **10 42 00.0 -0.6**
NRIK pmax pmax
comp=Z,27nm,1.1s
NRIK Noril'sk 42.69 328 P **P** **10 41 59.7 -0.8**
O03E Paynes Creek 42.71 81 P 10 42 00.4
baz=307,SNR=29
BJI Beijing 42.79 279 P **P** **10 42 03.3 +1.6**
BJI PcP **PcP** **10 43 52.8 +0.9**
BJI S **S** **10 48 24.0 +3.0**
BJI pmax pmax
comp=Z,26nm,1.0s
BJI L L
comp=Z,460nm,21.1s
BJI L L
comp=Z,520nm,18.4s
BJI L L
comp=Z,760nm,21.3s
J08A Circle Bar Ran 42.93 75 P **P** **10 42 02.2 -0.8**
GDXM Geysers 43.00 83 IAmb IAmb 10 42 22.1
comp=Z,40nm,1.1s
IRK Irkutsk 43.03 301 *e*P **P** **10 42 02.9 -0.6**
IRK pmax pmax

	comp=Z,62nm,3.7s									
WVOR	**Wild Horse Val**	**43.37**	**76**		P		**P**		**10 42 05.6**	**-0.9**
WVOR					pmax		pmax			
	comp=Z,18nm,0.8s									
WVOR	**Wild Horse Val**	**43.37**	**76**		P		**P**		**10 42 05.6**	**-0.9**
TLY	**Talaya**	**43.65**	**300**		P		**P**		**10 42 09.2**	**+0.7**
	comp=Z,10nm,0.7s,baz=22,slow=7.8,SNR=6.7									
TLY	**Talaya**	**43.65**	**300**		*e*P		**P**		**10 42 08.0**	**-0.5**
TLY					*e*				10 43 53.7	
TLY					*e*S		**S**		**10 48 27.3**	**-6.0**
TLY					*e*SS		**ScS**		**10 51 58.3**	**-3.0**
TLY					pmax		pmax			
	comp=Z,68nm,1.0s									
TLY					MLR		MLR			
	comp=Z,3µm,20.0s									
TLY	**Talaya**	**43.65**	**300**		P		**P**		**10 42 07.5**	**-1.1**
TLY					IAmb		IAmb		10 42 10.3	
	comp=Z,55nm,1.4s									
MSO	**Missoula**	**43.66**	**68**		P		**P**		**10 42 07.4**	**-1.4**
MSO	**Missoula**	**43.66**	**68**		P				10 42 06.0	
	baz=303,SNR=17									
ULN	**Ulaanbaatar**	**43.76**	**294**	*ce*	P		**P**		**10 42 10.1**	**+0.4**
ULN					pmax		pmax			
	comp=Z,44nm,1.0s									
ULN	**Ulaanbaatar**	**43.76**	**294**		P		**P**		**10 42 09.5**	**-0.1**
ULN					IAmb		IAmb		10 42 11.6	
	comp=Z,36nm,0.9s									
ULN	**Ulaanbaatar**	**43.76**	**294**		P		**P**		**10 42 10.3**	**+0.6**
	comp=Z,2µmcomp=Z,172nm,1.0s									
BEKR	**Beckworth**	**43.85**	**80**		P		**P**		**10 42 10.7**	**+0.2**
AFDM	**Forest Hills D**	**44.03**	**82**		P		**P**		**10 42 11.4**	**-0.4**
AFDM					IAmb		IAmb		10 42 28.3	
	comp=Z,42nm,1.4s									
SONM	**Songino Array**	**44.15**	**294**		P		**P**		**10 42 13.3**	**+0.5**
	comp=Z,20nm,0.6s,baz=59,slow=9.2,SNR=62									
SONM					PcP		**PcP**		**10 43 57.3**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=56,slow=2.2,SNR=4.6									
SONM					LR		LR		11 01 09.6	
	comp=Z,607nm,20.9s,baz=61,slow=37									
SONM	**Songino Array**	**44.15**	**294**		P		**P**		**10 42 12.9**	**+0.1**
SONM					pmax		pmax			
	comp=Z,58nm,1.2s									
SONM	**Songino Array**	**44.15**	**294**		P		**P**		**10 42 12.9**	**+0.1**
SONM					IAmb		IAmb		10 42 14.8	
	comp=Z,58nm,1.2s									
RUBR	**Rubicon Trail**	**44.47**	**81**		P		**P**		**10 42 16.0**	**+0.4**
RUBR					IAmb		IAmb		10 42 49.7	
	comp=Z,31nm,0.9s									
MFID	**Camas Ranch**	**44.48**	**73**		P		**P**		**10 42 14.5**	**-0.9**
ZAK	**Zakamensk**	**44.51**	**299**	*e*	P		**P**		**10 42 15.7**	**+0.1**
ZAK				*e*					10 43 58.6	
ZAK					pmax		pmax			
	comp=Z,30nm,1.3s									
ZAK					pmax		pmax			
	comp=Z,12nm,1.3s									
PAHR	**Pah Rah Range**	**44.54**	**80**		IAmb		IAmb		10 42 52.1	
	comp=Z,41nm,1.2s									
TIA	**Tai'an**	**44.59**	**274**	*e*	P		**P**		**10 42 17.3**	**+1.0**
TIA					S		**S**		**10 48 45.0**	**-2.4**
TIA					SS		**ScS**		**10 51 58.0**	**-10**
TIA					pmax		pmax			
	comp=Z,37nm,1.0s									
TIA					L		L			
	comp=Z,260nm,17.7s									
TIA					L		L			
	comp=Z,300nm,22.6s									
TIA					L		L			
	comp=Z,480nm,22.1s									
VCNR	**Virginia City**	**44.63**	**80**		IAmb		IAmb		10 42 53.2	
	comp=Z,84nm,1.6s									
PNTR	**Pine Nut**	**44.79**	**81**		IAmb		IAmb		10 42 54.4	
	comp=Z,47nm,0.9s									
CMB	**Columbia Colle**	**44.96**	**82**		IAmb		IAmb		10 42 39.0	
	comp=Z,28nm,1.1s									
MOY	**Mondy**	**45.06**	**301**	*e*	P		**P**		**10 42 20.5**	**+0.5**
MOY					pmax		pmax			
	comp=Z,55nm,1.7s									
SAO	**San Andreas Ge**	**45.11**	**84**		P		**P**		**10 42 21.5**	**+1.1**
SAO					pmax		pmax			
	comp=Z,25nm,1.0s									
SAO	**San Andreas Ge**	**45.11**	**84**		P		**P**		**10 42 21.5**	**+1.1**
SAO					IAmb		IAmb		10 42 37.7	
	comp=Z,25nm,1.0s									
HHC	**Hu-ho-hao-te**	**45.11**	**283**	*e*	P		**P**		**10 42 21.8**	**+1.3**
HHC					pP		pP		10 42 38.0	+1.3
HHC					S		**S**		**10 48 55.5**	**+0.5**
HHC					SS		**ScS**		**10 52 08.3**	**-2.9**
HHC					pmax		pmax			
	comp=Z,47nm,1.2s									
HHC					pmax		pmax			
	comp=Z,100nm,6.6s									
HHC					L		L			
	comp=Z,540nm,15.6s									
HHC					L		L			
	comp=Z,480nm,17.9s									
HHC					L		L			
	comp=Z,730nm,23.5s									
WAKR	**Walker**	**45.25**	**81**		P		**P**		**10 42 21.6**	**-0.1**
DLMT	**Dillon**	**45.26**	**69**		P		**P**		**10 42 21.3**	**-0.3**
EGMT	**Eagleton**	**45.38**	**64**		P				10 42 20.4	
	baz=303,SNR=14									
BOZ	**Bozeman (W)**	**45.68**	**68**		IAmb		IAmb		10 42 25.9	
	comp=Z,19nm,0.7s									
BOZ	**Bozeman (W)**	**45.68**	**68**		P				10 42 23.0	
	baz=305,SNR=62									
KVN	**Kaiserville**	**45.73**	**80**		IAmb		IAmb		10 43 02.5	
	comp=Z,56nm,1.7s									
RYN	**Ryan**	**45.73**	**80**		IAmb		IAmb		10 42 28.1	
	comp=Z,15nm,0.7s									
PMPB	**Monarch Peak**	**45.86**	**85**		P		**P**		**10 42 26.8**	**+0.4**
FFC	**Flin Flon**	**45.90**	**53**		P		**P**		**10 42 25.1**	**-1.3**
FFC					pmax		pmax			
	comp=Z,12nm,0.7s									
FFC	**Flin Flon**	**45.90**	**53**		P		**P**		**10 42 25.1**	**-1.3**
LHV	**Little Huntoon**	**45.98**	**81**		IAmb		IAmb		10 43 03.3	
	comp=Z,52nm,1.2s									
NVAR	**Mina Array Bea**	**45.99**	**80**		P		**P**		**10 42 27.1**	**-0.5**
	comp=Z,14nm,0.8s,baz=295,slow=7.2,SNR=73									
NVAR					ScP		**ScP**		**10 47 49.2**	**-1.3**
	comp=Z,2.9nm,1.0s,baz=285,slow=3.8,SNR=6.3									
NVAR					LR		LR		10 58 49.3	
	comp=Z,294nm,20.8s,baz=298,slow=32									
NVAR	**Mina Array Bea**	**45.99**	**80**		P		**P**		**10 42 27.2**	**-0.3**
MDPB	**Devils Postpil**	**46.02**	**82**		P		**P**		**10 42 28.0**	**+0.1**
MDPB					IAmb		IAmb		10 42 45.5	
	comp=Z,40nm,1.0s									
NV11	**Mina Array Sit**	**46.08**	**80**		P		**P**		**10 42 27.7**	**-0.5**
BTO	**Baotou**	**46.19**	**284**	*e*	P		**P**		**10 42 30.5**	**+1.5**
QLMT	**Earthquake Lak**	**46.24**	**69**		P		**P**		**10 42 28.1**	**-1.3**
NJ2	**Nanjing**	**46.27**	**268**	⇑*i*	P		**P**		**10 42 30.8**	**+1.2**
NJ2					pmax		pmax			
	comp=Z,31nm,1.0s									
ELK	**Elko**	**46.42**	**76**		IAmb		IAmb		10 42 34.0	
	comp=Z,20nm,0.8s									
TIY	**Taiyuan**	**46.52**	**279**	*e*	P		**P**		**10 42 33.0**	**+1.4**
TIY					pP		**pP**		**10 42 48.0**	**+0.7**
TIY					PP		**PP**		**10 44 20.0**	**-1.5**
TIY					S		**S**		**10 49 19.0**	**+3.7**
TIY					sS		**sS**		**10 49 40.0**	**-2.5**
TIY					pmax		pmax			
	comp=Z,50nm,0.7s									
TIY					L		L			
	comp=Z,320nm,14.3s									
TIY					L		L			
	comp=Z,120nm,5.8s									
TIY					L		L			
	comp=Z,260nm,14.1s									
YHH	**Holmes Hill**	**46.60**	**69**		P		**P**		**10 42 30.7**	**-1.6**
YHH					IAmb		IAmb		10 42 34.8	
	comp=Z,18nm,0.8s									
YMR	**Madison River**	**46.60**	**69**		P		**P**		**10 42 30.5**	**-1.8**
YMR					IAmb		IAmb		10 42 58.7	
	comp=Z,30nm,1.1s									
VOG	**Valley Oaks Go**	**46.67**	**83**		P				10 42 31.1	
	baz=310									
YNR	**Norris Junctio**	**46.74**	**69**		P		**P**		**10 42 33.1**	**-0.3**
YNR					IAmb		IAmb		10 43 22.6	
	comp=Z,39nm,1.3s									
TIN	**Tinemaha, Big**	**46.91**	**82**		P				10 42 33.1	
	baz=310									
SMMC	**Simmler**	**46.95**	**85**		P				10 42 34.3	
	baz=311									
H17A	**Grant Village**	**46.99**	**69**		IAmb		IAmb		10 43 03.6	
	comp=Z,20nm,0.9s									
H17A	**Grant Village**	**46.99**	**69**		P				10 42 34.8	
	baz=306,SNR=13									

FLWY	**Flagg Ranch**	**47.10**	**69**		IAmb		IAmb		10 42 39.3	
	comp=Z,14nm,0.7s									
VES	**Vestal, Richgr**	**47.16**	**84**		P				10 42 34.7	
	baz=311,SNR=25									
TPAW	**Teton Pass**	**47.30**	**70**		P		**P**		**10 42 36.5**	**-1.3**
RLMT	**Red Lodge**	**47.31**	**68**		IAmb		IAmb		10 42 41.7	
	comp=Z,26nm,1.1s									
RLMT	**Red Lodge**	**47.31**	**68**		P				10 42 35.0	
	baz=306,SNR=16									
PKM	**Mcpherson Peak**	**47.34**	**85**		P				10 42 37.8	
	baz=311,SNR=6.2									
CWC	**Cottonwood Cre**	**47.39**	**82**		P				10 42 37.0	
	baz=310									
LOHW	**Long Hollow**	**47.43**	**70**		P		**P**		**10 42 37.5**	**-1.3**
FCC	**Fort Churchill**	**47.44**	**45**		P		**P**		**10 42 37.6**	**-0.7**
FCC					pmax		pmax			
	comp=Z,14nm,0.8s									
FCC	**Fort Churchill**	**47.44**	**45**		P		**P**		**10 42 37.6**	**-0.7**
SNOW	**Snow King Moun**	**47.44**	**70**		P		**P**		**10 42 37.6**	**-1.3**
REDW	**Red Top Meadow**	**47.44**	**70**		P		**P**		**10 42 39.1**	**+0.2**
GRAC	**Grapevine Rang**	**47.47**	**81**		P				10 42 37.6	
	baz=310,SNR=7.7									
NEEM	**North Greenlan**	**47.54**	**13**	⇑*i*	P		**P**		**10 42 39.3**	**0.0**
NEEM					IAmb		IAmb		10 42 40.5	
	comp=Z,120nm,0.9s									
BGU	**Big Grassy Mou**	**47.63**	**74**		P		**P**		**10 42 40.0**	**-0.3**
AHID	**Auburn Hatcher**	**47.65**	**71**		P		**P**		**10 42 39.8**	**-0.7**
ISA	**Isabella, Lake**	**47.66**	**83**		P		**P**		**10 42 39.3**	**-1.1**
ISA					pmax		pmax			
	comp=Z,37nm,1.3s									
ISA	**Isabella, Lake**	**47.66**	**83**		P		**P**		**10 42 39.3**	**-1.1**
ISA					IAmb		IAmb		10 42 57.0	
	comp=Z,37nm,1.3s									
ISA	**Isabella, Lake**	**47.66**	**83**		P				10 42 38.6	
	baz=311,SNR=14									
R11A	**Troy Canyon, C**	**47.70**	**79**		P		**P**		**10 42 39.6**	**-1.3**
R11A					IAmb		IAmb		10 42 43.1	
	comp=Z,17nm,0.8s									
R11A	**Troy Canyon, C**	**47.70**	**79**		P				10 42 39.4	
	baz=309,SNR=20									
ARVC	**Arvin**	**47.79**	**84**		P				10 42 39.5	
	baz=311									
MPMC	**Manual Prospec**	**48.01**	**82**		P				10 42 41.9	
	baz=311,SNR=18									
SCZ2	**Santa Cruz Isl**	**48.04**	**86**		P				10 42 41.9	
	baz=312									
SPR3	**Spring Creek 3**	**48.05**	**77**		P		**P**		**10 42 42.7**	**-1.1**
SPR3					IAmb		IAmb		10 42 47.3	
	comp=Z,13nm,0.6s									
HWUT	**Hardware Ranch**	**48.08**	**73**		P		**P**		**10 42 43.1**	**-0.8**
LAO	**LASA Array**	**48.12**	**64**		P		**P**		**10 42 42.7**	**-1.1**
LAO	**LASA Array**	**48.12**	**64**		P				10 42 42.7	
	baz=306,SNR=5.2									
FURC	**Furnace Creek,**	**48.12**	**82**		P				10 42 43.3	
	baz=310,SNR=49									
TPNV	**Topopah Spring**	**48.19**	**81**		P		**P**		**10 42 44.1**	**-0.6**
TPNV					pmax		pmax			
	comp=Z,44nm,0.8s									
TPNV	**Topopah Spring**	**48.19**	**81**		P		**P**		**10 42 44.1**	**-0.6**
TPNV	**Topopah Spring**	**48.19**	**81**		P				10 42 43.8	
	baz=310,SNR=96									
OSI	**Osito Audit: C**	**48.19**	**85**		P				10 42 43.5	
	baz=311									
DGMT	**Dagmar**	**48.19**	**61**		P		**P**		**10 42 44.0**	**-0.4**
DGMT	**Dagmar**	**48.20**	**61**		P				10 42 42.2	
	baz=305									
DUG	**Dugway, Tooele**	**48.21**	**75**		P		**P**		**10 42 43.9**	**-0.9**
DUG					pmax		pmax			
	comp=Z,39nm,1.2s									
DUG	**Dugway, Tooele**	**48.21**	**75**		P		**P**		**10 42 43.9**	**-0.9**
DUG					IAmb		IAmb		10 42 49.0	
	comp=Z,39nm,1.2s									
DUG	**Dugway, Tooele**	**48.21**	**75**		P				10 42 43.7	
	baz=306,SNR=34									
LRMC	**Laurel Mtn Rad**	**48.26**	**83**		P				10 42 44.2	
	baz=311,SNR=11									
EDW2	**Edwards Air Fo**	**48.47**	**84**		P				10 42 45.6	
	baz=311,SNR=13									
BW06	**Boulder Array**	**48.55**	**70**		P		**P**		**10 42 45.8**	**-1.7**
BW06					IAmb		IAmb		10 42 50.3	
	comp=Z,14nm,0.8s									
BW06	**Boulder Array**	**48.55**	**70**		P				10 42 45.1	
	baz=308,SNR=38									
PD31	**Pinedale Array**	**48.55**	**70**		P		**P**		**10 42 45.8**	**-1.8**
PD31					IAmb		IAmb		10 42 50.3	
	comp=Z,13nm,0.8s									
PDAR	**Pinedale Array**	**48.55**	**70**		P		**P**		**10 42 45.7**	**-1.8**
	comp=Z,13nm,0.7s,baz=301,slow=3.4,SNR=78									
PDAR					ScP		**ScP**		**10 47 59.7**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=328,slow=1.9,SNR=3.6									
PDAR					LR		LR		11 00 44.9	
	comp=Z,323nm,21.7s,baz=303,slow=33									
PDAR	**Pinedale Array**	**48.55**	**70**		P		**P**		**10 42 45.4**	**-2.0**
SNCC	**San Nicolas Is**	**48.61**	**87**		P				10 42 46.9	
	baz=312									
PRN	**Pahroc Range**	**48.62**	**79**		IAmb		IAmb		10 42 50.7	
	comp=Z,41nm,1.1s									
PSUT	**Pine Spring**	**48.63**	**77**		P		**P**		**10 42 47.0**	**-1.1**
PSUT					IAmb		IAmb		10 42 51.1	
	comp=Z,22nm,0.7s									
DECC	**Green Verdugo**	**48.67**	**85**		P				10 42 47.1	
	baz=312									
KULLO	**Kullorsuaq**	**48.76**	**17**	*i*	P		**P**		**10 42 48.0**	**-0.3**
KULLO					IAmb		IAmb		10 42 49.1	
	comp=Z,37nm,0.8s									
KULLO	**Kullorsuaq**	**48.76**	**17**	*i*	P		**P**		**10 42 48.0**	**-0.3**
KULLO					pmax		pmax			
	comp=Z,37nm,0.8s									
PASC	**Pasadena Art C**	**48.82**	**85**		P		**P**		**10 42 48.7**	**-0.6**
PASC					IAmb		IAmb		10 43 06.3	
	comp=Z,33nm,0.9s									
SHOC	**Shoshone, Teco**	**48.85**	**82**		P				10 42 48.1	
	baz=311,SNR=25									
MWC	**Mount Wilson**	**48.86**	**85**		P		**P**		**10 42 49.5**	**-0.3**
MWC					pmax		pmax			
	comp=Z,102nm,1.2s									
MWC	**Mount Wilson**	**48.86**	**85**		P		**P**		**10 42 49.5**	**-0.3**
GSC	**Goldstone, Bar**	**48.92**	**83**		P		**P**		**10 42 49.4**	**-0.8**
GSC					pmax		pmax			
	comp=Z,43nm,0.8s									
GSC	**Goldstone, Bar**	**48.92**	**83**		P		**P**		**10 42 49.4**	**-0.8**
GSC	**Goldstone, Bar**	**48.92**	**83**		P				10 42 48.8	
	baz=311,SNR=50									
MPU	**Maple Canyon**	**49.03**	**74**		P		**P**		**10 42 51.6**	**+0.5**
MPU					IAmb		IAmb		10 43 45.3	
	comp=Z,43nm,1.8s									
FMP	**Fort Macarthur**	**49.06**	**85**		P				10 42 50.2	
	baz=312									
BFSC	**Mount Baldy Ra**	**49.10**	**84**		P				10 42 50.2	
	baz=312,SNR=16									
SHPR	**Sheep Range**	**49.14**	**80**		P		**P**		**10 42 52.5**	**+0.5**
SHPR					IAmb		IAmb		10 43 23.9	
	comp=Z,19nm,1.3s									
KBS	**Kingsbay**	**49.17**	**356**	*i*	P		**P**		**10 42 51.9**	**+0.5**
KBS	**Kingsbay**	**49.17**	**356**	*ce*	P		**P**		**10 42 51.5**	**0.0**
KBS					pmax		pmax			
	comp=Z,31nm,1.7s									
KBS	**Kingsbay**	**49.17**	**356**	*e*	P		**P**		**10 42 51.4**	**0.0**
KBS	**Kingsbay**	**49.17**	**356**		P		**P**		**10 42 51.8**	**+0.3**
KBS					IAmb		IAmb		10 42 54.2	
	comp=Z,14nm,0.8s									
CIS	**Catalina Islan**	**49.19**	**86**		P				10 42 51.3	
	baz=312									
TUQ	**Turquoise Moun**	**49.37**	**82**		P				10 42 52.1	
	baz=311,SNR=7.2									
SCI2	**San Clemente I**	**49.39**	**86**		P				10 42 52.3	
	baz=312									
HEC	**Hector,Ludlow**	**49.52**	**83**		P				10 42 53.4	
	baz=312,SNR=17									
BBRC	**Big Bear Solar**	**49.54**	**84**		P				10 42 53.3	
	baz=312,SNR=21									
CCUT	**Cedar City**	**49.56**	**78**		P		**P**		**10 42 54.3**	**-0.9**
MSU	**Marysvale**	**49.66**	**76**		P		**P**		**10 42 55.1**	**-0.8**
MSU	**Marysvale**	**49.66**	**76**		P		**P**		**10 42 55.1**	**-0.8**
SPA0	**Spitsbergen Ar**	**49.69**	**355**	*e*	P		**P**		**10 42 54.8**	**-0.6**
TMUT	**Trail Mountain**	**49.74**	**75**		P		**P**		**10 42 55.9**	**-0.8**
TMUT					IAmb		IAmb		10 42 59.9	
	comp=Z,23nm,0.8s									
MURC	**Murrieta**	**49.81**	**85**		P				10 42 55.8	
	baz=312,SNR=7.7									
RDMU	**Red Mountain**	**49.91**	**73**		IAmb		IAmb		10 43 34.0	
	comp=Z,34nm,0.9s									
MTPU	**Mount Pierson**	**49.95**	**77**		IAmb		IAmb		10 43 36.0	
	comp=Z,48nm,1.7s									
GMRC	**Granite Mounta**	**49.97**	**82**		P				10 42 56.3	
	baz=312,SNR=24									

LCMT	**Little Creek M**	**49.98**	**78**		P		**P**		**10 42 57.7**	**-0.6**
LCMT					IAmb		IAmb		10 43 01.1	
	comp=Z,23nm,0.9s									
WHN	**Wuhan**	**50.10**	**270**	⇑	P		**P**		**10 43 00.0**	**+0.9**
WHN					pmax		pmax			
	comp=Z,120nm,1.3s									
KNB	**Kanab**	**50.23**	**78**		IAmb		IAmb		10 44 38.0	
	comp=Z,27nm,1.0s									
PFO	**Pinyon Flats O**	**50.26**	**84**		P		**P**		**10 42 59.8**	**-0.6**
PFO					pmax		pmax			
	comp=Z,23nm,1.1s									
PFO	**Pinyon Flats O**	**50.26**	**84**		P		**P**		**10 42 59.8**	**-0.6**
PFO					IAmb		IAmb		10 43 17.3	
	comp=Z,23nm,1.1s									
PFO	**Pinyon Flats O**	**50.26**	**84**		P				10 42 58.8	
	baz=312,SNR=12									
TPFO	**Pinon Flats**	**50.26**	**84**		P				10 42 58.8	
	baz=312,SNR=5.5									
PKCU	**Pink Cliffs**	**50.27**	**77**		P		**P**		**10 42 58.1**	**-2.6**
PKCU					IAmb		IAmb		10 43 04.0	
	comp=Z,14nm,0.7s									
SRU	**San Rafael Swe**	**50.27**	**75**		P		**P**		**10 43 00.0**	**-0.5**
SRU	**San Rafael Swe**	**50.27**	**75**		P		**P**		**10 43 00.0**	**-0.5**
SRU					IAmb		IAmb		10 43 47.4	
	comp=Z,16nm,0.8s									
BELC	**Belle Mtn. Jos**	**50.28**	**83**		P				10 42 59.2	
	baz=312,SNR=23									
109C	**Camp Elliot, M**	**50.34**	**85**		P		**P**		**10 42 59.7**	**-1.2**
109C	**Camp Elliot, M**	**50.34**	**85**		P				10 42 59.6	
	baz=313									
K22A	**Casper**	**50.39**	**69**		P		**P**		**10 42 59.9**	**-1.5**
K22A	**Casper**	**50.39**	**69**		P				10 42 59.2	
	baz=308,SNR=5.4									
NEE2	**Needles Airpor**	**50.62**	**82**		P				10 43 01.4	
	baz=312									
HOPEN	**Hopen**	**50.66**	**352**	*e*	P		**P**		**10 43 03.0**	**+0.3**
IRM	**Iron Mountain**	**50.70**	**83**		P				10 43 02.7	
	baz=312,SNR=22									
BAR	**Barrett**	**50.75**	**85**		P		**P**		**10 43 03.9**	**-0.1**
MONP2	**Monument Peak**	**50.77**	**85**		P				10 43 03.5	
	baz=313,SNR=9.2									
W13A	**Hualapai Mount**	**50.84**	**81**		P		**P**		**10 43 03.6**	**-1.3**
BC3	**Big Chuckawall**	**50.85**	**83**		P				10 43 03.6	
	baz=312,SNR=14									
TKX	**Tecate**	**50.87**	**85**		P		**P**		**10 43 03.6**	**-1.4**
HSPB	**Hornsund (broa**	**50.88**	**355**	*e*	P		**P**		**10 43 04.4**	**0.0**
RSSD	**Black Hills**	**50.89**	**66**		P		**P**		**10 43 03.1**	**-2.1**
RSSD					pmax		pmax			
	comp=Z,7.0nm,1.0s									
RSSD	**Black Hills**	**50.89**	**66**		P		**P**		**10 43 03.1**	**-2.1**
RSSD	**Black Hills**	**50.89**	**66**		P				10 43 02.9	
	baz=308									
U15A	**North Rim**	**50.94**	**78**		P		**P**		**10 43 04.8**	**-0.9**
O20A	**White River Ci**	**50.97**	**72**		P		**P**		**10 43 04.2**	**-1.6**
O20A					IAmb		IAmb		10 43 43.6	
	comp=Z,21nm,1.0s									
O20A	**White River Ci**	**50.97**	**72**		P				10 43 03.2	
	baz=310,SNR=15									
YULB	**Yu-li**	**50.97**	**258**		P		**P**		**10 43 06.3**	**+0.5**
YULB					IAmb		IAmb		10 43 16.8	
	comp=Z,38nm,1.1s									
CBX	**Cerro Bola**	**51.01**	**85**		P		**P**		**10 43 05.8**	**-0.3**
CBX					IAmb		IAmb		10 43 23.8	
	comp=Z,22nm,0.9s									
MDND	**Maddock**	**51.04**	**59**		P		**P**		**10 43 04.7**	**-1.3**
MDND	**Maddock**	**51.04**	**59**		P				10 43 04.4	
	baz=308,SNR=14									
XAN	**Xi'an**	**51.08**	**278**	⇓	P		**P**		**10 43 07.0**	**+0.5**
XAN					PcP		**PcP**		**10 44 21.5**	**0.0**
XAN					S		**S**		**10 50 18.0**	**-1.3**
XAN					pmax		pmax			
	comp=Z,27nm,1.3s									
XAN					pmax		pmax			
	comp=Z,160nm,3.9s									
XAN					L		L			
	comp=Z,280nm,19.5s									
XAN					L		L			
	comp=Z,590nm,22.8s									
XAN					L		L			
	comp=Z,810nm,24.9s									
SWSC	**Sam W. Stewart**	**51.11**	**84**		P				10 43 05.8	
	baz=313									
IKP	**In-Ko-Pah, Jac**	**51.12**	**85**		P				10 43 05.6	
	baz=313,SNR=7.2									
RMX	**La Rumorosa**	**51.17**	**85**		P		**P**		**10 43 07.7**	**+0.3**
RMX					IAmb		IAmb		10 43 25.0	
	comp=Z,30nm,1.2s									
PDMCI	**Parker Dam,Lak**	**51.22**	**82**		P				10 43 06.2	
	baz=312,SNR=12									
E28A	**Huff**	**51.23**	**61**		P		**P**		**10 43 07.4**	**0.0**
E28A					IAmb		IAmb		10 44 41.5	
	comp=Z,55nm

WUAZ Wupatki 52.10 79 P P 10 43 14.3 +0.1
WUAZ lAmb lAmb 10 43 17.0
comp=Z,36nm,1.2s
WUAZ Wupatki 52.10 79 P 10 43 13.6
baz=312,SNR=12
Y14A Wickenburg 52.16 81 P P 10 43 14.4 -0.2
Y14A lAmb lAmb 10 43 31.7
comp=Z,24nm,1.2s
SMCO Snowmass 52.33 72 P P 10 43 15.2 -1.1
SPX San Pedro Mart 52.63 86 P P 10 43 18.4 0.0
SPX lAmb lAmb 10 43 35.7
comp=Z,30nm,1.2s
MVCO Mesa Verde 52.71 75 P P 10 43 17.3 -1.6
MVCO lAmb lAmb 10 43 56.5
comp=Z,42nm,1.4s
MVCO Mesa Verde 52.72 75 P 10 43 17.7
baz=311,SNR=14
AGMN Agassiz Nation 52.73 57 P P 10 43 16.9 -1.6
AGMN lAmb lAmb 10 43 20.1
comp=Z,21nm,0.9s
AGMN Agassiz Nation 52.73 57 P 10 43 16.5
baz=309,SNR=25
ISCO Idaho Springs 52.73 71 P P 10 43 17.4 -1.6
ISCO pmax pmax
comp=Z,9.0nm,1.0s
ISCO Idaho Springs 52.73 71 P P 10 43 17.4 -1.6
ISCO Idaho Springs 52.73 71 P 10 43 17.5
baz=310,SNR=7.3
X16A Lo Mia Camp, P 52.79 80 P P 10 43 18.9 -0.5
X16A lAmb lAmb 10 43 22.9
comp=Z,13nm,0.8s
LZH Lanzhou 52.81 283 eP P 10 43 21.0 +1.5
LZH pP pP 10 43 37.0 +1.0
LZH sP sP 10 43 44.5 +1.2
LZH eS S 10 50 42.8 -0.4
LZH sS sS 10 51 10.0 -1.1
LZH SS SS 10 54 20.8 -1.3
LZH pmax pmax
comp=Z,59nm,1.2s
LZH pmax pmax
comp=Z,270nm,4.3s
LZH L L
comp=Z,640nm,14.9s
LZH L L
comp=Z,380nm,16.0s
LZH L L
comp=Z,440nm,16.5s
SFX San Felipe 53.01 85 P P 10 43 19.5 -1.3
SFX lAmb lAmb 10 43 37.6
comp=Z,16nm,1.0s
GTA Gaotai 53.02 289 ⇓P P 10 43 21.3 +0.3
GTA S S 10 50 46.8 +0.9
GTA sS sS 10 51 14.0 +0.3
GTA SS SS 10 54 26.0 +0.7
GTA pmax pmax
comp=Z,43nm,1.1s
GTA pmax pmax
comp=Z,190nm,8.7s
GTA L L
comp=Z,360nm,20.7s
GTA L L
comp=Z,470nm,19.3s
GTA L L
comp=Z,430nm,20.4s
DGZ Jazzator, Alta 53.22 306 dP P 10 43 22.1 -0.2
DGZ pmax pmax
comp=Z,53nm,1.5s
ENH Enshi 53.31 274 P P 10 43 22.9 -0.2
S22A 4UR Ranch, Cre 53.36 73 P 10 43 22.7
baz=311,SNR=13
W18A Petrified Fore 53.36 78 P P 10 43 23.2 -0.4
W18A lAmb lAmb 10 44 00.2
comp=Z,36nm,1.2s
W18A Petrified Fore 53.36 78 P 10 43 23.0
baz=312,SNR=8.1
SUMG Summit 53.41 13 iP P 10 43 23.8 +0.1
SUMG lAmb lAmb 10 43 24.7
comp=Z,40nm,0.8s
SUMG Summit 53.41 13 P P 10 43 23.8 +0.1
SUMG pmax pmax
comp=Z,39nm,0.8s
SUMG Summit 53.41 13 P P 10 43 23.8 +0.1
SUSD Miller 53.52 62 P P 10 43 23.9 -0.5
SUSD lAmb lAmb 10 43 26.1
comp=Z,37nm,1.1s
SUSD Miller 53.52 62 P 10 43 22.8
baz=310
Q24A Divide 53.55 71 P 10 43 23.3
baz=311
DBG Daneborg 53.57 6 iP P 10 43 23.1 -1.2
DBG lAmb lAmb 10 43 24.7
comp=Z,35nm,1.0s
X18A Snowflake 53.63 79 lAmb lAmb 10 43 28.4
comp=Z,41nm,1.5s
214A Organ Pipe Nat 53.63 83 lAmb lAmb 10 43 42.5
comp=Z,27nm,1.1s
214A Organ Pipe Nat 53.63 83 P 10 43 24.4
baz=314,SNR=10
B35A Bob, Littlefor 53.79 56 lAmb lAmb 10 43 27.5
comp=Z,22nm,0.7s
OGNE Ogallala 54.06 67 P P 10 43 27.4 -1.1
OGNE lAmb lAmb 10 44 36.6
comp=Z,42nm,1.2s
OGNE Ogallala 54.06 67 P 10 43 26.7
baz=311
F33A 5 Mile Ranch, 54.07 60 P P 10 43 25.9 -2.4
SDCO Great Sand Dun 54.15 73 P P 10 43 28.8 -0.6
SDCO Great Sand Dun 54.15 73 P 10 43 27.4
baz=312,SNR=15
ILULI Ilulissat 54.17 19 P P 10 43 28.6 -0.1
ILULI pmax pmax
comp=Z,18nm,0.9s
ILULI Ilulissat 54.17 19 P P 10 43 28.6 -0.1
ILULI lAmb lAmb 10 44 01.0
comp=Z,18nm,0.9s
TUC Tucson 54.63 81 P P 10 43 32.9 +0.2
TUC pmax pmax
comp=Z,38nm,1.5s
TUC Tucson 54.63 81 P P 10 43 32.9 +0.2
TUC lAmb lAmb 10 43 51.8
comp=Z,38nm,1.5s
TUC Tucson 54.63 81 P 10 43 32.0
baz=314
KSCO Kaye Shedlock' 54.99 70 P P 10 43 35.0 -0.3
KSCO lAmb lAmb 10 44 23.0
comp=Z,20nm,1.0s
KSCO Kaye Shedlock' 54.99 70 P 10 43 34.3
baz=312
T25A Trinidad 55.20 72 P P 10 43 35.2 -1.8
T25A lAmb lAmb 10 44 43.5
comp=Z,28nm,1.1s
T25A Trinidad 55.20 72 P 10 43 36.0
baz=312,SNR=19
EYMN Ely 55.20 55 P P 10 43 35.4 -1.2
EYMN lAmb lAmb 10 43 38.5
comp=Z,26nm,0.8s
EYMN Ely 55.20 55 P 10 43 35.1
baz=311,SNR=15
ECSD EROS Data Cent 55.26 62 P P 10 43 35.4 -1.7
ECSD EROS Data Cent 55.27 62 P 10 43 35.3
baz=311,SNR=11
ANMO Albuquerque 55.46 76 ceP P 10 43 38.4 -0.4
ANMO pmax pmax
comp=Z,7.0nm,1.7s
ANMO Albuquerque 55.46 76 P P 10 43 38.7 -0.1
ANMO lAmb lAmb 10 44 15.4
comp=Z,27nm,1.8s
ANMO Albuquerque 55.46 76 P 10 43 38.0
baz=313
F36A Milaca 55.52 58 P P 10 43 39.2 +0.3
LENM Lemitar 55.68 77 P P 10 43 40.0 -0.4
Y22D IRIS PASSCAL I 55.77 77 P P 10 43 40.7 -0.3
Y22D IRIS PASSCAL I 55.77 77 P 10 43 39.4
baz=313
BNM Barren Site 55.90 77 P P 10 43 41.2 -0.8
BGNE Belgrade 55.95 65 P P 10 43 41.8 -0.3
BGNE Belgrade 55.95 65 P 10 43 39.8
baz=312
319A Douglas 56.20 81 lAmb lAmb 10 44 01.6
comp=Z,46nm,1.3s
SEM Semipalatinsk 56.27 310 eP P 10 43 42.7 -1.8
comp=Z,78nm,1.7s,baz=310
SEM Semipalatinsk 56.27 310 eP P 10 43 42.6 -1.8
SEM pmax pmax
comp=Z,78nm,1.7s
121A Cookes Peak, D 56.31 79 P P 10 43 44.8 -0.1
baz=314,SNR=9.7
121A Cookes Peak, D 56.31 79 P 10 43 43.7
SPMN Marine on St. 56.32 58 lAmb lAmb 10 43 47.0
comp=Z,12nm,0.7s
SPMN Marine on St. 56.32 58 P 10 43 42.6
baz=312
ICESG Greenland Ices 56.37 15 iP P 10 43 44.7 -0.3
ICESG lAmb lAmb 10 43 45.1
comp=Z,21nm,0.7s
CD2 Chengdu 56.39 279 P P 10 43 46.0 +0.6
CD2 S S 10 51 29.5 -1.7
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,190nm,5.1s
CD2 L L
comp=Z,300nm,15.7s
CD2 L L
comp=Z,380nm,18.6s
CD2 L L
comp=Z,540nm,22.6s
L34A Svendsen Farm, 56.57 63 P P 10 43 44.5 -1.9
CBKS Cedar Bluff 56.79 68 lAmb lAmb 10 44 54.8
comp=Z,23nm,0.8s
CBKS Cedar Bluff 56.79 68 P 10 43 46.3
baz=313,SNR=6.8
N33A J Bar K, Exete 56.80 65 P P 10 43 47.2 -0.8
N33A lAmb lAmb 10 44 07.1
comp=Z,35nm,1.0s
HSIG 56.83 84 P P 10 43 47.7 -0.7
HSIG lAmb lAmb 10 44 05.5
comp=Z,35nm,1.1s
WMQ Urumqi 56.93 300 P P 10 43 50.3 +1.3
WMQ pP pP 10 44 09.0 +3.3
WMQ S S 10 51 38.5 +0.5
WMQ pmax pmax
comp=Z,59nm,0.7s
WMQ pmax pmax
comp=Z,450nm,4.7s
WMQ L L
comp=Z,1μm,25.1s
WMQ L L
comp=Z,1μm,25.5s
WMQ L L
comp=Z,2μm,24.1s
ARA0 ARCESS Array S 57.15 349 eP P 10 43 49.7 -0.4
ARCES ARCESS Array B 57.15 349 P P 10 43 49.4 -0.7
comp=Z,11nm,0.9s,baz=24,slow=8.6,SNR=22
ARCES LR LR 11 12 02.0
comp=Z,145nm,18.5s,baz=20,slow=40
SCO Scoresbysund 57.19 8 iP P 10 43 50.7 +0.4
SCO lAmb lAmb 10 43 52.0
comp=Z,28nm,1.1s
SCO Scoresbysund 57.19 8 P P 10 43 50.5 +0.2
SCO pmax pmax
comp=Z,29nm,1.1s
SCO Scoresbysund 57.19 8 P P 10 43 50.5 +0.2
SCO lAmb lAmb 10 43 52.2
comp=Z,29nm,1.1s
LVZ Lovozero 57.31 344 ceP P 10 43 50.5 -0.8
LVZ pmax pmax
comp=Z,96nm,1.7s
LVZ Lovozero 57.31 344 P P 10 43 50.7 -0.6
DY2G Dye2 57.48 19 iP P 10 43 51.3 -1.4
COWI Conover 57.63 55 lAmb lAmb 10 43 55.3
comp=Z,20nm,0.8s
R32A Long Quarter, 57.65 68 lAmb lAmb 10 43 56.4
comp=Z,14nm,0.7s
G40A Rib Lake 57.65 57 lAmb lAmb 10 43 55.5
comp=Z,12nm,0.8s
JETT Jettan, Norway 57.70 351 eP P 10 43 54.0 0.0
MK31 Makanchi Array 57.72 306 P P 10 43 53.1 -1.4
MK31 pmax pmax
comp=Z,35nm,1.4s
MK31 Makanchi Array 57.72 306 P P 10 43 53.1 -1.4
MK31 lAmb lAmb 10 43 55.2
comp=Z,35nm,1.4s
MKAR Makanchi Array 57.72 306 P P 10 43 53.5 -1.0
comp=Z,11nm,0.7s,baz=52,slow=7.9,SNR=64
MKAR LR LR 11 09 43.9
comp=Z,599nm,21.1s,baz=40,slow=37
MKAR Makanchi Array 57.72 306 P P 10 43 53.4 -1.1
GYA Guiyang 57.76 273 ⇑P P 10 43 56.0 +0.9
GYA pP pP 10 44 11.0 -0.6
GYA sP sP 10 44 20.5 +1.8
GYA S S 10 51 48.5 -0.9
GYA sS sS 10 52 17.5 +0.8
GYA pmax pmax
comp=Z,5.0nm,1.4s
GYA pmax pmax
comp=Z,36nm,3.5s
TRO Tromso 57.77 351 eP P 10 43 54.2 -0.2
APA Apatity 57.82 344 ⇑iP P 10 43 50.2 -4.6
APA pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 57.87 306 P P 10 43 54.4 -1.1
MAKZ pmax pmax
comp=Z,25nm,1.0s
MAKZ Makanchi 57.87 306 P P 10 43 54.4 -1.1
MAKZ lAmb lAmb 10 43 56.2
comp=Z,25nm,0.9s
KTK1 Kautokeino 57.91 349 eP P 10 43 55.5 0.0
K38A Parkersburg 58.08 60 P P 10 43 56.0 -1.0
K38A lAmb lAmb 10 43 58.2
comp=Z,16nm,0.8s
MSTX Muleshoe 58.33 74 P P 10 43 58.1 -0.9
MSTX Muleshoe 58.34 74 P 10 43 57.7
baz=314,SNR=7.1
SCIA State Center 58.34 61 P P 10 43 58.1 -0.8
SCIA State Center 58.34 61 P 10 43 57.2
baz=313
AMTX Amarillo 58.35 73 P P 10 43 58.0 -1.1
AMTX lAmb lAmb 10 44 37.3
comp=Z,11nm,0.8s
MNTX Cornudas Mount 58.35 78 P P 10 43 58.5 -0.5
MNTX lAmb lAmb 10 44 35.1
comp=Z,30nm,1.2s
MNTX Cornudas Mount 58.35 78 P 10 43 58.1
baz=315,SNR=35
AMTX Amarillo 58.35 73 P 10 43 57.6
baz=314
I40A Norwalk 58.37 58 P P 10 43 57.6 -1.5
I40A lAmb lAmb 10 44 00.5
comp=Z,16nm,0.8s
BRVK Borovoye 58.87 318 ceP P 10 44 02.0 -0.3
BRVK pmax pmax
comp=Z,69nm,1.0s
BRVK Borovoye 58.87 318 P P 10 44 02.4 +0.1
U32A Winter Ranch, 58.88 70 P P 10 44 02.6 -0.1
KS20 Mayfield South 59.13 68 P P 10 44 03.2 -1.2
KS20 lAmb lAmb 10 44 20.5
comp=Z,22nm,1.0s
KAN17 Caldwell West 59.14 68 P P 10 44 02.8 -1.6
KAN17 lAmb lAmb 10 44 20.5
comp=Z,36nm,1.2s
KAN09 Caldwell North 59.16 68 P P 10 44 03.1 -1.5
KAN09 lAmb lAmb 10 44 06.4
comp=Z,27nm,1.0s
JFWS Jewell Farm 59.24 59 lAmb lAmb 10 44 06.3
comp=Z,19nm,0.8s
JFWS Jewell Farm 59.24 59 P 10 44 02.6
baz=314,SNR=7.7
L40A Anamosa 59.31 60 P P 10 44 04.0 -1.6
L40A lAmb lAmb 10 44 06.9
comp=Z,24nm,0.8s
KAN13 South Haven SW 59.33 68 lAmb lAmb 10 44 21.8
comp=Z,25nm,0.9s
LOF Lofoten 59.70 353 eP P 10 44 07.5 -0.3
P38A Dawn 59.74 63 P P 10 44 06.5 -2.0
P38A lAmb lAmb 10 44 24.4
comp=Z,18nm,0.9s
STEI Steigen 59.76 352 eP P 10 44 08.0 -0.3
E46A Sault Ste Mari 59.86 52 P P 10 44 08.3 -1.0
T35A Sooner Cattle 59.95 68 P P 10 44 08.1 -1.9
T35A lAmb lAmb 10 45 15.1
comp=Z,15nm,1.1s
N2SV S_rvŸgen 59.98 353 eP P 10 44 08.9 -0.8
BRZS Berezniki 60.05 314 ⇓iP P 10 44 09.7 -0.9
comp=Z,26nm,1.0s,baz=314
BRZS eS S 10 52 17.1 -1.2
comp=Z,19nm,2.0s,baz=314
BRZS Berezniki 60.05 314 dP P 10 44 09.7 -0.9
BRZS eS S 10 52 17.0 -1.2
BRZS pmax pmax
comp=Z,26nm,1.0s
BRZS smax smax
comp=E,19nm,2.0s
G45A Suttons Bay 60.13 54 P P 10 44 09.8 -1.3
N2TV TŸrnvik 60.13 352 eP P 10 44 10.9 +0.1
WMOK Wichita Mounta 60.16 71 P P 10 44 10.4 -1.1
WMOK pmax pmax
comp=Z,10.0nm,0.9s
WMOK Wichita Mounta 60.16 71 P P 10 44 10.4 -1.1
WMOK Wichita Mounta 60.16 71 P 10 44 09.2
baz=315,SNR=17
L42A Oliver, Polo 60.18 59 P P 10 44 09.8 -1.7
L42A lAmb lAmb 10 44 12.7
comp=Z,14nm,0.8s
OK029 Liberty Lake 60.19 69 P P 10 44 10.5 -1.2
OK029 lAmb lAmb 10 44 28.2
comp=Z,32nm,1.1s
BCOK Bluff Creek, N 60.20 69 P P 10 44 10.4 -1.4
N2VA Vr,y 60.23 353 eP P 10 44 10.8 -0.6
FAUS Fauske 60.30 352 eP P 10 44 11.1 -0.8
NBB08 Skaug oppvekst 60.35 352 eP P 10 44 12.1 -0.1
K43A Burlington 60.40 58 P P 10 44 11.7 -1.3
OK031 S. Brethren Rd 60.44 69 P P 10 44 11.9 -1.5
OK031 lAmb lAmb 10 44 29.8
comp=Z,20nm,0.8s
N41A Harden Midland 60.45 61 P P 10 44 13.1 -0.4
PRGR Permogore 60.46 336 eP P 10 44 11.7 -1.4
PRGR e 10 44 53.9
PRGR pmax pmax
comp=Z,96nm,0.8s
OK030 Cody Creek RV 60.48 69 P P 10 44 12.2 -1.5
OK030 lAmb lAmb 10 44 30.1
comp=Z,18nm,0.8s
FNO Franklin 60.60 69 P P 10 44 13.4 -1.1
NBB05 Inndyr 60.74 352 eP P 10 44 14.6 -0.3
GLMI Grayling 60.80 54 P 10 44 13.4
baz=315
X34A Smith Ranch, M 60.81 70 lAmb lAmb 10 45 20.7
comp=Z,17nm,1.1s
ARU Arti 60.82 326 diP P 10 44 15.9 +0.2
ARU *SP sP 10 44 38.8 -0.6
ARU 10 44 58.6
ARU 10 46 30.4
ARU S S 10 52 30.3 +2.5
ARU 10 53 57.1
ARU SS SS 10 56 24.3 -2.4
ARU pmax pmax
comp=Z,76nm,1.2s
ARU MLR MLR
comp=Z,294nm,17.0s
ARU Arti 60.82 326 P P 10 44 15.8 +0.1
TDK Taldyqorghan 60.91 307 eP P 10 44 15.4 -1.2
baz=307
TDK Taldyqorghan 60.91 307 eP P 10 44 15.3 -1.2
L44A Lake County Fo 60.99 58 P 10 44 15.1
baz=315
TX31 Lajitas Ar. Si 61.06 79 P P 10 44 17.0 -0.9
TX32 Lajitas Array 61.06 79 P P 10 44 16.8 -1.1
TX32 lAmb lAmb 10 44 20.4
comp=Z,35nm,1.4s
TXAR Lajitas Array 61.06 79 P P 10 44 17.0 -0.9
comp=Z,8.9nm,0.7s,baz=301,slow=6.1,SNR=58
TXAR ScP ScP 10 48 55.5 -0.5
comp=Z,1.6nm,0.9s,baz=300,slow=2.7,SNR=4.3
TXAR Lajitas Array 61.06 79 P P 10 44 17.0 -0.9
TXAR Lajitas Array 61.06 79 P P 10 44 16.9 -1.0
TUL1 Leonard 61.07 68 P 10 44 16.0
baz=315
ABTX Abilene, Hawle 61.14 73 P P 10 44 17.5 -0.7
ABTX Abilene, Hawle 61.14 73 P 10 44 16.8
baz=315,SNR=6.1
KMI Kunming 61.15 275 ⇑P P 10 44 19.5 +0.8
KMI pP pwP 10 44 36.3 -1.0
KMI pmax pmax
comp=Z,19nm,0.9s
KMI L L
comp=Z,220nm,16.4s
KMI L L
comp=Z,150nm,12.7s
KMI L L
comp=Z,320nm,19.1s
SCHQ Schefferville 61.16 36 P P 10 44 17.1 -0.9
comp=Z,7.2nm,0.4s,baz=321,slow=6.3,SNR=37
SCHQ LR LR 11 12 41.6
comp=Z,303nm,20.5s,baz=316,slow=38
SCHQ Schefferville 61.16 36 P P 10 44 17.4 -0.6
SCHQ lAmb lAmb 10 44 38.7
comp=Z,17nm,0.9s
QIZ Qiongzhong 61.27 264 P P 10 44 20.0 +0.8
QIZ sP sP 10 44 43.0 0.0
QIZ pP PP 10 46 41.5 +7.0
QIZ S S 10 52 36.5 +2.1
QIZ SS SS 10 56 36.5 +1.1
QIZ pmax pmax
comp=Z,19nm,1.1s
QIZ L L
comp=Z,230nm,16.2s
QIZ L L
comp=Z,270nm,17.2s
QIZ L L
comp=Z,310nm,20.6s
SLBS Sierra La Lagu 61.29 88 P P 10 44 19.7 +0.2
SLBS lAmb lAmb 10 44 36.7
comp=Z,28nm,1.1s
KONS Konsvik 61.34 353 eP P 10 44 19.2 +0.2
HDIL Hopedale 61.40 60 P P 10 44 18.3 -1.6
HDIL lAmb lAmb 10 44 40.5
comp=Z,16nm,0.7s
HDIL Hopedale 61.40 60 P 10 44 17.8
baz=315
M44A Midewin, Midew 61.48 59 P P 10 44 19.1 -1.3
U38A Gravette 61.50 67 P P 10 44 18.2 -2.3
MOR8 Moi Rana 61.56 352 eP P 10 44 19.3 -1.2
HPIG 61.57 82 P P 10 44 20.6 -0.8
SHLS Shalkode 61.70 305 ⇓iP P 10 44 20.7 -1.3
comp=Z,41nm,1.2s,baz=304
SHLS Shalkode 61.70 305 diP P 10 44 20.7 -1.3
SHLS pmax pmax
comp=Z,41nm,1.2s
J47A Sunmer 61.83 55 P P 10 44 21.6 -1.2
VLDQ Val d'Or 61.85 47 P P 10 44 19.5 -3.2
VLDQ lAmb lAmb 10 44 53.7
comp=Z,16nm,0.9s
HHAR Hobbs 61.86 66 P P 10 44 21.8 -1.3
HHAR lAmb lAmb 10 45 06.6
comp=Z,31nm,1.7s
KPKS Kokpek 61.87 305 ⇓eP P 10 44 22.8 -0.4
comp=Z,24nm,0.7s,baz=305
KPKS Kokpek 61.87 305 deP P 10 44 22.7 -0.4
KPKS pmax pmax
comp=Z,24nm,0.7s
CHGQ Chibougamau 61.88 44 P 10 44 21.1
baz=318
UZB Uzunbulak 61.93 305 ⇓iP P 10 44 22.6 -1.0
comp=Z,22nm,1.3s,baz=305
UZB eS S 10 52 40.9 -1.7
baz=305
UZB Uzunbulak 61.93 305 diP P 10 44 22.6 -1.0
UZB eS S 10 52 40.8 -1.8
UZB pmax pmax
comp=Z,22nm,1.3s
KIRV Kirov 61.99 332 ceP P 10 44 24.2 +0.7
CCM Cathedral Cave 62.12 63 P 10 44 22.6
baz=315
O44A Mansfield 62.13 60 P P 10 44 24.1 -0.6
O44A lAmb lAmb 10 44 41.8
comp=Z,11nm,0.7s
MGMO Mountain Grove 62.19 65 P P 10 44 23.7 -1.5
X37A Clayton 62.25 69 P P 10 44 24.2 -1.4
X37A lAmb lAmb 10 45 16.8
comp=Z,22nm,1.1s
SATY Saty 62.31 305 eP P 10 44 25.6 -0.5
comp=Z,27nm,1.4s,baz=305
SATY eS S 10 52 46.4 -0.9
baz=305
SATY Saty 62.31 305 eP P 10 44 25.6 -0.5
SATY eS S 10 52 46.4 -0.9
SATY pmax pmax
comp=Z,27nm,1.4s
U40A Yellville 62.42 66 P P 10 44 24.3 -2.5
U40A lAmb lAmb 10 44 43.5
comp=Z,11nm,0.8s
U40A Yellville 62.43 66 P 10 44 23.8
baz=316,SNR=6.9
JCT Junction City 62.58 75 P P 10 44 27.5 -0.4
JCT pmax pmax

comp=Z,27nm,1.2s
JCT Junction City 62.58 75 P P 10 44 27.5 -0.4
JCT IAmb IAmb 10 44 46.1
comp=Z,27nm,1.1s
JCT Junction City 62.58 75 P 10 44 25.6
baz=316,SNR=7.2
KLMR Klimovskoe 62.62 338 eP P 10 44 25.2 -2.4
KLMR e 10 46 42.9
KLMR pmax pmax
comp=Z,45nm,1.1s
KLMR Klimovskoe 62.62 338 eP P 10 44 25.3 -2.4
KLMR AMP 10 44 29.1
comp=Z,45nm,1.1s
KLMR ePP PP 10 46 42.9 -2.5
KLMR LQ LQ 11 07 20.3
KLMR LR LR 11 09 26.9
SFIN Lafayette 62.70 59 P P 10 44 27.6 -1.0
SFIN Lafayette 62.70 59 P 10 44 26.5
baz=316,SNR=17
W39A Magazine 62.73 67 P P 10 44 27.5 -1.3
W39A IAmb IAmb 10 44 45.4
comp=Z,15nm,1.1s
W39A Magazine 62.73 67 P 10 44 27.5
baz=316
Q44A Meyer Farm, Va 62.73 61 P P 10 44 28.1 -0.6
Q44A IAmb IAmb 10 44 30.8
comp=Z,13nm,0.9s
KUU Kurty 62.74 307 ⇓ eP P 10 44 27.0 -1.8
comp=Z,30nm,0.9s,baz=307
KUU Kurty 62.74 307 deP P 10 44 27.0 -1.8
KUU pmax pmax
comp=Z,30nm,0.9s
MDOK Medeo 62.92 306 eP **P 10 44 29.2 -1.0**
baz=306
MDOK eS **S 10 52 53.9 -1.2**
baz=306
MDOK Medeo 62.92 306 eP **P 10 44 29.1 -1.0**
MDOK eS **S 10 52 53.8 -1.2**
AAA Alma-Ata 62.95 306 eP **P 10 44 30.3 0.0**
baz=306
AAA Alma-Ata 62.95 306 eP **P 10 44 30.2 0.0**
L48A N Adams 62.96 56 P P 10 44 28.8 -1.5
L48A IAmb IAmb 10 44 32.2
comp=Z,30nm,1.2s
BTLS Baital 63.02 309 eP **P 10 44 29.7 -0.9**
comp=Z,22nm,1.2s,baz=309
BTLS eS **S 10 52 54.6 -1.4**
baz=309
BTLS Baital 63.02 309 eP **P 10 44 29.7 -0.9**
BTLS eS **S 10 52 54.5 -1.4**
BTLS pmax pmax
comp=Z,22nm,1.2s
ALGO Algonquin Park 63.17 49 P 10 44 30.2
baz=318
FCAR Ozark Folk Cen 63.17 65 IAmb IAmb 10 44 47.5
comp=Z,33nm,1.1s
P46A Rosedale 63.19 59 P P 10 44 30.4 -1.5
P46A IAmb IAmb 10 44 34.6
comp=Z,19nm,0.8s
SLVN Son La 63.22 271 P P 10 44 32.8 +0.5
SLVN IAmb IAmb 10 44 34.7
comp=Z,35nm,1.1s
MIAR Mount Ida 63.31 67 P P 10 44 31.7 -1.0
MIAR pmax pmax
comp=Z,25nm,1.1s
MIAR Mount Ida 63.31 67 P P 10 44 31.7 -1.0
MIAR IAmb IAmb 10 44 49.5
comp=Z,25nm,1.1s
MIAR Mount Ida 63.31 67 P 10 44 31.1
baz=316,SNR=5.2
OLIL Olney 63.35 61 P P 10 44 32.4 -0.5
OLIL IAmb IAmb 10 44 36.5
comp=Z,28nm,1.1s
NSS Namsos 63.37 353 eP **P 10 44 32.6 +0.1**
Z38A Mt. Pleasant 63.42 69 P P 10 44 32.3 -1.1
S44A Carbondale 63.47 62 P P 10 44 32.4 -1.3
SIUC Southern Illin 63.48 62 P P 10 44 32.2 -1.5
PBMO Poplar Bluff 63.48 64 P P 10 44 31.6 -2.2
PBMO IAmb IAmb 10 45 13.8
comp=Z,16nm,0.9s
WHAR Wooly Hollow 63.51 66 P P 10 44 31.9 -2.0
SADO Sadowa 63.52 51 P P 10 44 32.4 -1.5
D55A Sainte-Anne-du 63.56 47 P 10 44 32.0
baz=319,SNR=11
W41B Gary Mavity, V 63.62 66 P 10 44 32.9
baz=316
X40A Basin Creek Fa 63.78 67 P P 10 44 34.9 -0.8
X40A Basin Creek Fa 63.78 67 P 10 44 34.8
baz=316
N49A Columbus Grove 63.84 57 P P 10 44 35.1 -0.9
N49A IAmb IAmb 10 44 39.2
comp=Z,17nm,0.9s
D56A ZEC Mazanza, M 63.86 46 P 10 44 34.1
baz=319
SGDS Sogindy 63.91 308 ⇓ iP P 10 44 36.5 -0.1
comp=Z,24nm,1.4s,baz=308
SGDS Sogindy 63.91 308 diP P 10 44 36.4 -0.1
SGDS pmax pmax
comp=Z,24nm,1.4s
BOOM Boomskoye usch 63.96 306 IAmb IAmb 10 44 39.1
comp=Z,39nm,1.0s
ULHL Ulahol 63.99 306 P P 10 44 37.6 +0.2
SNR=21
USP Ospenovka 64.11 308 P P 10 44 38.4 +0.5
SNR=36
E56A St. Veronique 64.12 47 P 10 44 35.8
baz=319
CHMS Chumysh 64.18 307 P P 10 44 39.1 +0.8
SNR=9.1
P48A Milroy 64.25 58 IAmb IAmb 10 44 40.1
comp=Z,19nm,0.7s
PLVO Plevna 64.31 49 IAmb IAmb 10 45 04.7
comp=Z,36nm,1.7s
833A Chaparral WMA, 64.38 76 P 10 44 39.6
baz=317
LATQ La Tuque 64.48 45 P 10 44 38.4
baz=320
P49A Miami Univ. Ec 64.57 58 P P 10 44 38.8 -2.1
P49A Miami Univ. Ec 64.57 58 P 10 44 38.8
baz=317
AAK Ala-Archa 64.58 307 P P 10 44 41.8 +0.7
SNR=13
AAK Ala-Archa 64.58 307 iP **P 10 44 41.5 +0.4**
SNR=13
AAK Ala-Archa 64.58 307 ceP **P 10 44 41.6 +0.5**
AAK pmax pmax
comp=Z,149nm,1.3s
AAK Ala-Archa 64.58 307 P P 10 44 40.8 -0.3
AAK IAmb IAmb 10 44 43.0
comp=Z,35nm,0.9s
D58A Chemin du LacG 64.66 45 P 10 44 39.4
baz=320
WCI Wyandotte Cave 64.69 60 P P 10 44 40.7 -1.0
WCI pmax pmax
comp=Z,36nm,1.6s
WCI Wyandotte Cave 64.69 60 P P 10 44 40.6 -1.0
WCI IAmb IAmb 10 44 57.6
comp=Z,36nm,1.6s
FIA1 FINESS Array S 64.71 345 P P 10 44 41.0 -0.4
FIA1 IAmb IAmb 10 44 42.0
comp=Z,31nm,1.1s
FINES FINESS Array B 64.71 345 P P 10 44 40.9 -0.4
comp=Z,11nm,0.7s,baz=32,slow=7.5,SNR=32
FINES LR LR 11 15 11.9
comp=Z,160nm,21.3s,baz=26,slow=38
FINES FINESS Array B 64.71 345 iP **P 10 44 41.0 -0.4**
FINES pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 64.88 287 P P 10 44 44.9 +1.3
LSA pmax pmax
comp=Z,33nm,0.9s
LSA Lhasa 64.88 287 P P 10 44 44.9 +1.3
LSA IAmb IAmb 10 44 46.4
comp=Z,32nm,0.9s
EKS2 Erkin-Say 64.91 308 P P 10 44 43.8 +0.6
SNR=35
ACSO Alum Creek Sta 64.96 56 P P 10 44 42.8 -0.7
E58A La Victoria 65.04 46 P 10 44 41.8
baz=320
MEDO Medina 65.05 51 P P 10 44 45.7 +1.7
MEDO IAmb IAmb 10 44 46.3
comp=Z,21nm,0.6s
ERPA Erie 65.08 53 P P 10 44 43.0 -1.2
ERPA IAmb IAmb 10 44 46.5
comp=Z,28nm,0.9s
ERPA Erie 65.08 53 P 10 44 43.0
baz=318
T47A Sharon Grove 65.16 61 P P 10 44 43.6 -1.1
T47A IAmb IAmb 10 44 48.2
comp=Z,22nm,0.9s
SWI Sorong 65.17 232 P P 10 44 45.5 +0.5
comp=Z,83nm,1.2s
SIJI Sorong 65.17 232 P P 10 44 45.7 +0.7
comp=Z,494nmcomp=Z,47nm,1.1s
PECO Prince Edward 65.17 50 P P 10 44 45.1 +0.4
G57A Newington 65.23 48 P 10 44 43.2
baz=319
M53A WI Miller and 65.24 54 P P 10 44 44.5 -0.8
M53A IAmb IAmb 10 45 02.5
comp=Z,23nm,0.9s
M53A WI Miller and 65.24 54 P 10 44 43.2
baz=318
J55A Hilton 65.28 51 P P 10 44 43.8 -1.7
J55A IAmb IAmb 10 44 47.5
comp=Z,20nm,1.1s
AML Almayashu 65.35 307 i P **P 10 44 47.3 +0.9**
SNR=6.9
ALLY Alegheny Colle 65.35 54 P P 10 44 45.0 -0.9
ALLY IAmb IAmb 10 44 49.7
comp=Z,27nm,0.8s
WVT Waverly 65.39 62 P P 10 44 45.0 -1.2
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT Waverly 65.39 62 P P 10 44 45.0 -1.2
WVT Waverly 65.39 62 P 10 44 44.7
baz=317
LMQ La Malbaie 65.42 43 P P 10 44 44.5 -1.8
H57A Richville 65.53 49 P 10 44 44.6
baz=319
WVNY West Valley, N 65.55 52 P P 10 44 46.3 -0.9
MOL Molde 65.62 355 eP **P 10 44 47.1 -0.1**
O52A Adamsville 65.64 56 P P 10 44 46.5 -1.3
O52A IAmb IAmb 10 45 04.5
comp=Z,32nm,1.1s
MMNY Mt. Morris Dam 65.64 51 P P 10 44 46.6 -1.2
MMNY IAmb IAmb 10 44 50.2
comp=Z,44nm,1.2s
D60A Saint Jean D'O 65.65 44 P 10 44 46.0
baz=321
F59A Saint Guilaume 65.66 46 P 10 44 45.9
baz=320
Q51A Peebles 65.67 57 IAmb IAmb 10 44 50.0
comp=Z,19nm,0.8s
M54A Oil Creek Stat 65.70 53 P P 10 44 47.5 -0.7
OXF Oxford 65.70 65 P P 10 44 47.0 -1.2
OXF pmax pmax
comp=Z,76nm,1.2s
OXF Oxford 65.70 65 P P 10 44 47.0 -1.2
M54A Oil Creek Stat 65.70 53 P 10 44 46.5
baz=318
OXF Oxford 65.70 65 P 10 44 46.7
baz=317
J56A Wolcott 65.73 50 P P 10 44 46.7 -1.6
J56A IAmb IAmb 10 44 50.5
comp=Z,19nm,0.9s
D61A St Aubert, Com 65.75 44 P 10 44 46.9
baz=321
RAF Rauma 65.75 347 eP **P 10 44 47.3 -0.8**
LONY Lake Ozonia 65.78 48 P 10 44 46.0
baz=320
I57A Carthage 65.80 49 P 10 44 47.3
baz=320
P52A Corning 65.84 56 P 10 44 47.3
baz=318
E60A Ste Agathe de 65.85 45 P 10 44 46.9
baz=321
O53A New Philadelph 65.86 55 P 10 44 47.9
baz=318
DZA Taraz 65.93 309 eP **P 10 44 49.1 -0.6**
baz=309
DZA Taraz 65.93 309 eP **P 10 44 49.1 -0.6**
F60A Warwick 65.94 46 P 10 44 47.7
baz=321
N54A Moraine State 65.94 54 P 10 44 47.7
baz=318
K56A Middlesex 65.95 51 P 10 44 47.7
baz=319,SNR=16
ABKAR Akbulak array 65.98 320 P P 10 44 49.8 -0.1
AKN Aaknes 66.04 355 eP **P 10 44 50.1 0.0**
DOMB Dombas 66.05 354 eP **P 10 44 50.0 -0.1**
H58A Gabriels 66.12 48 P 10 44 48.5
baz=320
MEF Metsahovi 66.14 346 eP **P 10 44 50.3 -0.3**
NONG Nongkai 66.14 269 P P 10 44 52.0 +0.7
comp=Z,50nm,1.1s
NONG Nongkai 66.14 269 P P 10 44 52.0 +0.7
comp=Z,50nm,1.1s
KSH Kashi 66.15 304 P P 10 44 55.8 +4.5
KSH pP sP 10 45 13.3 -2.2
KSH S **S 10 53 42.0 +7.1**
KSH pmax pmax
comp=Z,45nm,1.0s
KSH pmax pmax
comp=Z,110nm,2.6s
KSH L L
comp=Z,330nm,8.5s
KSH L L
comp=Z,240nm,8.7s
KSH L L
comp=Z,190nm,9.9s
KK31 Karatay Array 66.16 310 P P 10 44 51.0 -0.1
KK31 pmax pmax
comp=Z,41nm,1.1s
KK31 Karatay Array 66.16 310 P P 10 44 51.0 -0.1
KK31 IAmb IAmb 10 44 52.6
comp=Z,41nm,1.1s
KKAR Karatay Array 66.16 310 P P 10 44 50.8 -0.3
KKAR Karatay Array 66.16 310 P P 10 44 50.8 -0.3
H59A Cadyville 66.17 47 P 10 44 49.3
baz=320
E61A Lac Etchemin 66.22 44 P 10 44 49.3
baz=321
CLTN Cedars of Leba 66.24 62 IAmb IAmb 10 45 09.2
comp=Z,15nm,0.8s
L56A Greenwood 66.26 52 P P 10 44 50.8 -1.0
MOQ Mont Orford 66.31 46 P P 10 44 50.7 -1.4
I58A Old Forge 66.31 49 P 10 44 50.1
baz=320
K57A Scipio Center 66.31 51 IAmb IAmb 10 44 54.0
comp=Z,17nm,0.7s
D62A Allapoint, All 66.33 43 P 10 44 50.6
baz=322
F61A St Evariste 66.35 45 P 10 44 50.2
baz=321
T50A Nancy 66.36 60 P P 10 44 50.8 -1.6
T50A IAmb IAmb 10 45 34.3
comp=Z,33nm,1.4s
J58A Remsen 66.42 49 P P 10 44 51.4 -1.4
J58A Remsen 66.42 49 P 10 44 50.2
baz=320
E62A Clayton Lake 66.48 44 IAmb IAmb 10 44 54.9
comp=Z,30nm,1.2s
E62A Clayton Lake 66.49 44 P 10 44 51.3
baz=322
ZAIG Zacatecas 66.53 83 P P 10 44 53.7 -0.4
ZAIG IAmb IAmb 10 45 12.1
comp=Z,36nm,1.1s
G61A St-Isidore-de- 66.66 46 P 10 44 52.1
baz=321
NC204 NORSAR Array S 66.69 353 P P 10 44 54.4 +0.1
NC204 IAmb IAmb 10 44 55.2
comp=Z,34nm,0.8s
NC303 NORSAR Array S 66.69 353 IAmb IAmb 10 44 55.3
comp=Z,27nm,1.2s
H60A Morristown 66.69 47 P 10 44 52.5
baz=321
J59A Piesco 66.70 49 P P 10 44 52.6 -2.0
J59A IAmb IAmb 10 44 55.9
comp=Z,22nm,1.3s
FOO Floro 66.71 356 eP **P 10 44 54.5 +0.2**
D63A Stockholm 66.76 43 P 10 44 51.6
baz=322
NC405 NORSAR Array S 66.77 352 P P 10 44 54.2 -0.5
F62A Pittston Farm, 66.86 44 P 10 44 52.5
baz=322
NB2 NORSAR Subarra 66.89 353 P P 10 44 55.2 -0.3
baz=8.1,slow=6.5
NOA NORSAR Array B 66.89 353 P P 10 44 55.0 -0.4
comp=Z,5.3nm,0.5s,baz=11,slow=6.4,SNR=35
NOA LR LR 11 15 10.9
comp=Z,53nm,19.6s,baz=350,slow=37
R53A Hurricane 66.91 57 P P 10 44 54.6 -1.4
R53A IAmb IAmb 10 44 58.1
comp=Z,19nm,0.8s
BINY Binghamton 66.97 51 P P 10 44 55.1 -1.2
BINY IAmb IAmb 10 45 33.4
comp=Z,50nm,1.6s
BINY Binghamton 66.97 51 P 10 44 54.5
baz=320
H61A Lyndonville 67.06 46 P 10 44 54.6
baz=321
M57A Sunshine Farm, 67.08 52 P P 10 44 56.0 -1.0
M57A IAmb IAmb 10 44 59.3
comp=Z,23nm,0.8s
HYA Hoyanger 67.09 355 eP **P 10 44 57.1 +0.4**
SWET Sewanee 67.11 62 P P 10 44 56.8 -0.5
E63A Oxbow 67.11 43 P 10 44 54.8
baz=322
G62A West of Eustis 67.15 45 P 10 44 55.2
baz=322
ACCN Adirondack Com 67.15 48 P P 10 44 55.7 -1.7
ACCN IAmb IAmb 10 45 17.9
comp=Z,73nm,2.0s
L58A Harry Jones Me 67.16 51 P 10 44 55.1
baz=320
NC602 NORSAR Array S 67.16 352 eP **P 10 44 56.8 -0.4**
NC602 NORSAR Array S 67.16 352 P P 10 44 56.0 -1.2
O56A Blue Knob Stat 67.18 54 P 10 44 55.5
baz=319
SSPA Standing Stone 67.24 53 P P 10 44 56.8 -1.2
SSPA IAmb IAmb 10 45 00.1
comp=Z,21nm,0.6s
SSPA Standing Stone 67.24 53 P 10 44 56.7
baz=320
LBNH Lisbon 67.29 47 P 10 44 56.3
baz=321
E64A Bridgewater 67.36 43 P 10 44 56.7
baz=322
H62A Milan 67.37 46 P P 10 44 57.4 -1.4
H62A Milan 67.37 46 P 10 44 56.9
baz=321
J60A Lant Hill Farm 67.38 48 P 10 44 57.1
baz=321
F63A Nahmakanta, Br 67.39 44 P 10 44 56.5
baz=322
I61A Oroboro, Fairl 67.40 47 P 10 44 57.2
baz=321
TZTN Tazewell 67.41 59 P 10 44 57.7
baz=318
UPP Uppsala 67.41 349 eP **P 10 44 59.3 +0.5**
Z47A Carrollton 67.42 65 P P 10 44 58.7 -0.5
VSU Vasula 67.42 344 eP **P 10 44 59.0 +0.2**
VSU Vasula 67.42 344 iP **P 10 44 58.7 -0.1**
VSU pmax pmax
comp=Z,64nm,0.9s
L59A Walton 67.43 50 P P 10 44 59.5 +0.3
L59A IAmb IAmb 10 45 03.5
comp=Z,80nm,1.9s
SKAR Skarslia 67.45 354 eP **P 10 44 59.2 +0.1**
W50A Signal Mountai 67.45 62 P P 10 44 59.0 -0.5
SHL Shillong 67.47 283 P P 10 44 59.8 -0.1
SHL pmax pmax
comp=Z,71nm,1.0s
SHL Shillong 67.47 283 P P 10 44 59.8 -0.1
V51A Loudon 67.53 60 P P 10 44 58.4 -1.5
V51A IAmb IAmb 10 46 04.2
comp=Z,20nm,1.1s
F64A Sherman 67.58 43 P P 10 44 58.0 -2.1
F64A IAmb IAmb 10 45 30.1
comp=Z,43nm,1.3s
F64A Sherman 67.58 43 P 10 44 58.1
baz=322
G63A Kingsbury 67.63 45 P 10 44 58.3
baz=322
MOS Moscow 67.65 337 eP **P 10 44 56.4 -3.9**
MOS e 10 45 32.7
MOS pmax pmax
comp=Z,54nm,0.8s
MOS MLR MLR
comp=Z,700nm,22.0s
N58A Sunbury 67.66 52 P P 10 44 59.2 -1.4
N58A IAmb IAmb 10 45 03.3
comp=Z,32nm,1.1s
CPCT Cooper Cave 67.70 61 IAmb IAmb 10 45 20.9
comp=Z,24nm,1.4s
J61A Chester 67.70 48 P 10 44 58.5
baz=321
BELG Belogornoye 67.78 329 diP **P 10 45 01.7 +0.5**
BELG pmax pmax
comp=Z,19nm,0.9s
FPAL Fort Paine 67.78 62 P P 10 45 00.7 -0.9
FPAL IAmb IAmb 10 45 18.0
comp=Z,20nm,1.2s
H63A New Sharon 67.80 45 P 10 44 58.9
baz=322
ASK Askoy 67.82 356 eP **P 10 45 01.6 +0.3**
K61A Williamstown 67.89 49 P 10 45 00.1
baz=321
BER Bergen 67.91 356 eP **P 10 45 02.0 +0.1**
TKL Tuckaleechee C 67.95 60 P P 10 45 03.6 +1.1
TKL pmax pmax
comp=Z,28nm,1.5s
TKL Tuckaleechee C 67.95 60 P P 10 45 03.6 +1.1
TKL IAmb IAmb 10 45 19.3
comp=Z,28nm,1.4s
LAMP Lampang 67.97 272 P P 10 45 04.3 +1.4
comp=Z,29nm,1.0s
UTTA Uttaradit 67.99 271 P P 10 45 03.5 +0.5
comp=Z,407nmcomp=Z,48nm,0.9s
UTTA Uttaradit 67.99 271 P P 10 45 03.5 +0.5
comp=Z,102nmcomp=Z,12nm,0.9s
OSL Oslo 68.02 353 eP **P 10 45 02.6 +0.1**
I63A Otisfield 68.04 46 P 10 45 00.8
baz=322
N59A State Game Lan 68.06 51 P P 10 45 02.4 -0.8
N59A IAmb IAmb 10 45 05.8
comp=Z,47nm,1.3s
N59A State Game Lan 68.06 51 P 10 45 02.0
baz=320,SNR=8.1
J62A Henniker 68.13 47 P 10 45 02.2
baz=321
H64A Troy 68.17 45 P 10 45 02.1
baz=322
CMMT Chiang Mai 68.18 273 P P 10 45 03.9 -0.3
comp=Z,27nm,1.2s
CMMT Chiang Mai 68.18 273 P P 10 45 03.9 -0.3
comp=Z,27nm,1.2s
CMMT Chiang Mai 68.18 273 P P 10 45 03.9 -0.3
comp=Z,26nm,1.2s
CHTO Chiang Mai 68.18 273 P P 10 45 04.7 +0.5
CHTO pmax pmax
comp=Z,24nm,1.0s
CHTO Chiang Mai 68.18 273 P P 10 45 04.9 +0.7
comp=Z,27nm,1.2s
CHTO Chiang Mai 68.18 273 P P 10 45 04.7 +0.5
CHTO IAmb IAmb 10 45 05.8
comp=Z,24nm,0.9s
CHTO Chiang Mai 68.18 273 P P 10 45 04.9 +0.7
comp=Z,15nm,1.2s
W52A Murphy 68.29 61 IAmb IAmb 10 45 06.8
comp=Z,26nm,1.4s
DRK Karamyk 68.29 307 IAmb IAmb 10 45 07.2
comp=Z,51nm,1.2s
ODD1 Odda 68.32 355 eP **P 10 45 04.9 +0.4**
BTK Batken 68.33 308 P P 10 45 05.3 +0.3
BTK pmax pmax
comp=Z,65nm,1.1s
BTK Batken 68.33 308 P P 10 45 05.3 +0.3
L61B Northampton 68.34 48 P 10 45 02.5
baz=321
U54A Nelsons Funny 68.34 58 P P 10 45 04.3 -0.8
K62A Royalston 68.38 48 P 10 45 03.4
baz=321
KONO Kongsberg 68.39 353 iP **P 10 45 04.2 -0.7**
KONO pmax pmax
comp=Z,11nm,0.8s
KONO Kongsberg 68.39 353 eP **P 10 45 05.0 +0.2**
KONO Kongsberg 68.39 353 P P 10 45 04.7 -0.2
KONO IAmb IAmb 10 45 06.2
comp=Z,15nm,0.8s
J63A Strafford 68.42 47 P 10 45 03.3
baz=322
CM09 Chiang Mai Arr 68.43 273 P P 10 45 06.8 +1.0
comp=Z,159nmcomp=Z,17nm,0.8s
G65A Princeton 68.45 43 P 10 45 03.1
baz=323
CM31 Chiang Mai Arr 68.45 273 P P 10 45 06.9 +1.0
CM31 IAmb IAmb 10 45 07.8

comp=Z,33nm,1.2s
CMAR Chiang Mai Arr 68.45 273 P **P** **10 45 06.7 +0.8**
comp=Z,14nm,0.9s,baz=26,slow=6.8,SNR=58
CMAR LR LR 11 16 48.9
comp=Z,98nm,20.3s,baz=70,slow=37
CMAR Chiang Mai Arr 68.45 273 P **P** **10 45 06.2 +0.3**
V53A Saluda 68.45 60 IAmb IAmb 10 45 12.6
comp=Z,45nm,1.9s
CM02 Chiang Mai Arr 68.46 273 P **P** **10 45 06.9 +0.9**
comp=Z,178nmcomp=Z,20nm,1.2s
CM02 Chiang Mai Arr 68.46 273 P **P** **10 45 06.0 0.0**
comp=Z,178nmcomp=Z,20nm,1.2s
CM15 Chiang Mai Arr 68.46 273 P **P** **10 45 06.8 +0.8**
comp=Z,198nmcomp=Z,16nm,1.0s
CM01 Chiang Mai Arr 68.47 273 P **P** **10 45 07.0 +1.0**
comp=Z,153nmcomp=Z,21nm,1.1s
CM04 Chiang Mai Arr 68.47 273 P **P** **10 45 07.0 +1.0**
comp=Z,172nmcomp=Z,21nm,1.1s
CM04 Chiang Mai Arr 68.47 273 P **P** **10 45 07.0 +1.0**
comp=Z,172nmcomp=Z,21nm,1.1s
OBN Obninsk 68.47 337⇑ *i*P **P** **10 45 05.4 -0.1**
OBN *e* 10 47 33.3
OBN *e*S **S** **10 54 06.3 +4.4**
OBN pmax pmax
comp=Z,27nm,0.8s
MVL Millersville 68.48 52 P **P** **10 45 04.8 -1.0**
CM05 Chiang Mai Arr 68.49 273 P **P** **10 45 07.1 +0.9**
comp=Z,129nmcomp=Z,16nm,0.9s
CM05 Chiang Mai Arr 68.49 273 P **P** **10 45 07.0 +0.9**
comp=Z,129nmcomp=Z,16nm,0.9s
PHIT Phitsanulok 68.49 271 P **P** **10 45 07.5 +1.4**
comp=Z,2µmcomp=Z,69nm,1.1s
PHIT Phitsanulok 68.49 271 P **P** **10 45 07.0 +0.9**
comp=Z,414nmcomp=Z,17nm,1.1s
CHAI Chaiyaphum 68.50 268 P **P** **10 45 07.3 +1.1**
comp=Z,753nmcomp=Z,29nm,1.2s
CHAI Chaiyaphum 68.50 268 P **P** **10 45 07.3 +1.1**
comp=Z,188nmcomp=Z,7.2nm,1.2s
LUPA Lehigh Univers 68.50 51 P **P** **10 45 04.8 -1.0**
LUPA IAmb IAmb 10 45 08.1
comp=Z,21nm,0.7s
CM13 Chiang Mai Arr 68.50 273 P **P** **10 45 07.0 +0.8**
comp=Z,151nmcomp=Z,16nm,0.8s
BLA Blacksburg 68.55 57 P **P**
BLA pmax pmax **10 45 04.9 -1.4**
comp=Z,34nm,1.5s
BLA Blacksburg 68.55 57 P **P** **10 45 04.9 -1.4**
BLA IAmb IAmb 10 45 08.8
comp=Z,34nm,1.4s
BLA Blacksburg 68.55 57 P 10 45 04.8
baz=319
H65A Eastbrook 68.55 44 P 10 45 03.8
baz=323
K63A Dunstable 68.68 47 P 10 45 05.3
baz=322
SDMD Soldier's Deli 68.69 53 P **P** **10 45 07.2 0.0**
KRAI Karang Ratu 68.70 234 P **P** **10 45 08.1 +0.7**
comp=Z,2µmcomp=Z,18nm,1.6s
BLS5 Blasjo 68.81 355 *e*P **P** **10 45 07.2 -0.4**
MRSI Marisa 68.87 242 P **P** **10 45 09.2 +0.7**
comp=Z,54nm,1.0s
H66A Whiting 68.88 44 P 10 45 06.3
baz=323
PAL Palisades 68.88 50 P 10 45 06.4
baz=321
WUPA West Chester U 68.89 52 P **P** **10 45 08.0 -0.3**
BG3 Lake Jocassee 68.90 60 P **P** **10 45 07.3 -1.3**
P60A Greenville 68.97 52 P 10 45 08.0
baz=321
KMY Karmoy 69.09 356 *e*P **P** **10 45 09.6 +0.4**
MHMT Maesarieng 69.29 273 P **P** **10 45 11.4 +0.3**
comp=Z,29nm,1.1s
MHMT Maesarieng 69.29 273 P **P** **10 45 11.0 -0.1**
comp=Z,29nm,1.1s
L63A North Scituate 69.29 48 P 10 45 08.8
baz=322
T57A Hurt 69.31 56 P **P** **10 45 09.3 -1.8**
GAR Garm 69.40 307 P **P** **10 45 11.9 +0.3**
KMSC Kings Mountain 69.64 59 P **P** **10 45 11.9 -1.1**
KMSC IAmb IAmb 10 45 30.0
comp=Z,37nm,1.3s
KMSC Kings Mountain 69.64 59 P 10 45 11.3
baz=320
GOGA Godfrey 69.81 62 P 10 45 12.4
baz=319
HOMB Homborsund 69.84 354 *e*P **P** **10 45 13.9 +0.1**
HODGE Hodges 69.84 60 P **P** **10 45 13.2 -1.1**
HODGE IAmb IAmb 10 46 12.7
comp=Z,43nm,1.7s
SNART Snartemo 69.85 354 *e*P **P** **10 45 14.3 +0.3**
SRAK Srakaew 69.90 267 P **P** **10 45 14.0 -0.9**
comp=Z,6µmcomp=Z,277nm,1.1s
MPSI Mapaga 70.11 243 P **P** **10 45 17.2 +1.1**
comp=Z,35nm,1.0s
LPSR Galich'ya Gora 70.14 334 *e*P **P** **10 45 15.0 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
UMPA Umpang Tak 70.20 271 P **P** **10 45 19.2 +2.5**
comp=Z,5µmcomp=Z,44nm,1.2s
UMPA Umpang Tak 70.20 271 P **P** **10 45 19.3 +2.5**
comp=Z,1µmcomp=Z,11nm,1.2s
CHGR Chuyangaron 70.23 308 P **P** **10 45 16.7 -0.1**
JSC Jenkinsville 70.33 59 P **P** **10 45 16.8 -0.5**
JSC pmax pmax
comp=Z,31nm,1.8s
JSC Jenkinsville 70.33 59 P **P** **10 45 16.8 -0.5**
VRH Novokhopyorsk 70.61 332 *e*P **P** **10 45 17.4 -1.3**
VRH pmax pmax
comp=Z,20nm,0.8s
PABE Paberze 70.71 344 P **P** **10 45 19.0 -0.2**
PABE IAmb IAmb 10 45 20.2
comp=Z,32nm,0.7s
TAOE Nuku Hiva Isla 70.72 135 *e*T T 12 01 30.7
comp=Z,53nm,0.3s
FABU Falkenberg 70.75 351 *i*P **P** **10 45 19.0 -0.4**
NACGM Naroch 70.78 342 *i*P **P** **10 45 20.1 +0.4**
MNK Minsk 70.95 342 *i*P **P** **10 45 20.4 -0.3**
MNK *i* 10 45 39.2
MNK *i* *SP **sP** **10 45 43.6 -1.0**
MNK *i* 10 47 55.5
MNK *i* PPP PPP 10 49 42.7
MNK *i* S **S** **10 54 32.3 +1.3**
MNK *i* *SS **sS** **10 55 05.0 +6.6**
MNK *i* SS **SS** **10 59 00.5 -3.1**
MNK *i* SSS SSS 11 02 17.7
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,41nm,1.0s
MNK MLR MLR
comp=E,34nm,18.0s
MNK MLR MLR
comp=Z,154nm,19.0s
MNK MLR MLR
comp=N,279nm,18.0s
MNK Minsk 70.95 342 *i*P **P** **10 45 20.4 -0.3**
comp=E,6.0nm,0.9s
MNK *i*P **P** **10 45 20.4 -0.3**
comp=N,17nm,0.8s
MNK *i*P **P** **10 45 20.4 -0.3**
comp=Z,41nm,1.0s,baz=200
MNK *i* PcP **PcP** **10 45 39.2 -1.6**
MNK *i* sP **sP** **10 45 43.7 -1.0**
MNK *i* PP **PP** **10 47 55.6 -2.3**
MNK *i* PPP PPP 10 49 42.7
MNK *i* S **S** **10 54 32.4 +1.3**
MNK *i* pS **pS** **10 54 52.4 +1.8**
MNK *i* sS **sS** **10 55 05.1 +6.7**
MNK *i* SS **SS** **10 59 00.6 -3.0**
MNK *i* SSS SSS 11 02 17.7
MNK *i* LQ LQ 11 11 49.1
MNK *i* LR LR 11 14 58.8
MNK *i* LRM MLR 11 20 38.9
comp=E,34nm,18.2s
MNK *i* LRM MLR 11 21 29.5
comp=Z,154nm,18.8s
MNK *i* LRM MLR 11 21 41.1
comp=N,279nm,18.4s
BLEU Blekinge 71.10 349 *i*P **P** **10 45 20.7 -0.9**
DEL Delary 71.15 350 *i*P **P** **10 45 21.3 -0.6**
KHLT Khaolaem Dam 71.44 270 P **P** **10 45 26.7 +2.5**
comp=N,13nm,1.3s
KHLT Khaolaem Dam 71.44 270 P **P** **10 45 26.7 +2.5**
VORD Divnogorie 71.51 333 *e*P **P** **10 45 24.2 0.0**
VORD pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 72.03 302 P **P** **10 45 28.3 +0.7**
NIL pmax pmax
comp=Z,112nm,1.2s
NIL Nilore 72.03 302 P **P** **10 45 28.3 +0.7**
TLIG Tlapa 72.90 83 P **P** **10 45 33.6 +0.5**
TTSI Tana Toraja 72.96 242 P **P** **10 45 33.6 +0.3**
comp=Z,2µmcomp=Z,17nm,0.9s
PMOR Pomariorio Ree 73.19 145 *e*T T 12 04 43.7
comp=Z,37nm,0.2s
ESK Eskdalemuir 73.19 0 P **P** **10 45 34.5 +0.4**
ESK pmax pmax
comp=Z,27nm,0.9s
ESK Eskdalemuir 73.19 0 P **P** **10 45 34.5 +0.4**
ESK IAmb IAmb 10 45 35.5
comp=Z,27nm,0.9s
KBL Kabul 73.51 305 P **P** **10 45 35.9 -0.7**
KBL pmax pmax
comp=Z,51nm,1.0s
KBL Kabul 73.51 305 P **P** **10 45 35.9 -0.7**
BNSI Bone 73.93 241 P **P** **10 45 38.6 -0.4**
comp=Z,24nm,1.2s
DZM Mont Dzumac 74.21 190 LR LR 11 13 14.1
comp=Z,425nm,20.7s,baz=20,slow=32
AKASG Malin Array Be 74.25 339 P **P** **10 45 39.7 -0.7**
comp=Z,39nm,0.8s,baz=26,slow=6.2,SNR=55
AKASG LR LR 11 20 59.8
comp=Z,179nm,21.9s,baz=15,slow=38
AKASG Malin Array Be 74.25 339 *i*P **P** **10 45 40.5 +0.1**
AKASG pmax pmax
comp=Z,24nm,0.7s
AKASG Malin Array Be 74.25 339 P **P** **10 45 40.2 -0.2**
AKBB Malin Array Si 74.25 339 P **P** **10 45 39.9 -0.5**
AKBB pmax pmax
comp=Z,31nm,1.0s
AKBB Malin Array Si 74.25 339 P **P** **10 45 39.9 -0.5**
AKBB IAmb IAmb 10 45 41.4
comp=Z,31nm,0.9s
PPT Papeete 74.98 147 LR LR 11 13 08.4
comp=Z,300nm,19.2s,baz=312,slow=31
PPT2 Papeete2 75.00 147 *e*LR LR 11 08 41.7
comp=Z,885nm,29.5s
PPT2 Papeete2 75.00 147 *e*T T 12 07 01.8
comp=Z,15nm,0.3s
TIAR Tiarei 75.05 147 *e*T T 12 07 05.0
comp=Z,2.1nm,0.3s
GOF Gofitskoye 75.66 328⇑ *e*P **P** **10 45 49.7 +1.1**
GOF pmax pmax
comp=Z,89nm,0.8s
MTN Manton Dam 75.71 226 P **P** **10 45 49.5 +0.4**
MTN IAmb IAmb 10 45 50.6
comp=Z,46nm,1.1s
GEYT Alibeck 75.97 315 P **P** **10 45 51.0 +0.4**
comp=Z,24nm,0.5s,baz=278,slow=4.2,SNR=16
GEYT LR LR 11 22 33.7
comp=Z,325nm,20.7s,baz=10.0,slow=38
GYA0B ALIBECK ARRAY 75.97 315 P **P** **10 45 51.6 +1.0**
GYA0B IAmb IAmb 10 45 52.8
comp=Z,25nm,1.0s
MAK Makhachkala 75.97 324 *e*P **P** **10 45 52.2 +1.8**
MAK *e* 10 48 40.8
MAK *e*S **S** **10 55 31.6 +3.5**
MAK *e*SS **SS** **11 00 26.4 +5.8**
MAK pmax pmax
comp=Z,123nm,1.1s
MAK MLR MLR
comp=Z,320nm,14.0s
SKLT Songkhla 76.07 264 P **P** **10 45 54.2 +2.9**
comp=Z,17nm,1.3s
BBKI Banjar Baru 76.07 246 P **P** **10 45 50.4 -0.9**
LVV L'vov 76.14 342 *e*P **P** **10 45 51.5 +0.2**
CLL Collm 76.33 350 *e*P **P** **10 45 52.0 -0.3**
CLL *e*pPcP 10 46 23.0
CLL *e*S **S** **10 55 35.0 +3.2**
CLL *e*sS **ScS** **10 56 06.0 +4.1**
CLL *e*SS **SS** **11 00 36.0 +11**
CLL *e*SSS SSS 11 03 54.0
CLL Collm 76.33 350 *e*P **P** **10 45 52.0 -0.3**
CLL *e*S **S** **10 55 35.0 +3.2**
GROC Groznyy 76.37 326 *e*P **P** **10 45 54.2 +1.5**
GROC *e* 10 46 04.8
GROC *e**SP **sP** **10 46 14.7 -2.3**
GROC pmax pmax
comp=Z,27nm,0.4s
OJC Ojcow 76.49 345 *e*P **P** **10 45 53.9 +0.7**
OJC Ojcow 76.49 345 P **P** **10 45 53.5 +0.2**
OJC pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 76.49 345 P **P** **10 45 53.5 +0.2**
KWP Kalwaria Pacla 76.57 343 *e*P **P** **10 45 54.8 +1.1**
KWP Kalwaria Pacla 76.57 343 P **P** **10 45 54.3 +0.6**
KWP pmax pmax
comp=Z,575nm,0.9s
KWP Kalwaria Pacla 76.57 343 P **P** **10 45 54.2 +0.6**
BRG Berggiesshubel 76.65 349 *e*P **P** **10 45 55.5 +1.4**
BRG Amp 10 46 00.9
comp=Z,4.5nm,1.1s
BRG *e*x x 10 46 25.6
BRG Amp 10 46 29.0
comp=Z,6.7nm,1.3s
EDFI Ende, Flores 76.75 237 P **P** **10 45 53.4 -1.8**
comp=Z,17nm,1.2s
KIV Kislovodsk 76.76 328 *i*P **P** **10 45 56.0 +1.0**
SNR=6.0
KIV Kislovodsk 76.76 328 *e*P **P** **10 45 55.6 +0.6**
KIV *e*S **S** **10 55 37.7 +0.8**
KIV pmax pmax
comp=Z,55nm,1.0s
KIV Kislovodsk 76.76 328 P **P** **10 45 55.5 +0.6**
KIV IAmb IAmb 10 45 57.2
comp=Z,15nm,0.8s
SORM Soroca 76.87 339⇑ P **P** **10 45 55.3 -0.1**
NCK Nalchik 76.87 327 *i*P **P** **10 45 55.9 +0.4**
NCK pmax pmax
comp=Z,34nm,1.0s
DPC Dobruska-Polom 76.87 348 *e*P **P** **10 45 54.8 -0.6**
DPC *e* 10 46 12.8
DPC Dobruska-Polom 76.87 348 *e*P **P** **10 45 54.8 -0.6**
DPC *e*pP **pP** **10 46 12.8 +0.2**
KBZ Khabaz 76.89 328 P **P** **10 45 56.0 +0.5**
comp=Z,11nm,0.9s,baz=35,slow=3.9,SNR=21
KBZ LR LR 11 26 12.6
comp=Z,131nm,18.3s,baz=20,slow=41
KBZ Khabaz 76.89 328*c*e*P **P** **10 45 56.8 +1.2**
KBZ pmax pmax
comp=Z,21nm,1.0s
SHA1 Shidzhatmaz 76.96 328*d* *i*P **P** **10 45 57.3 +1.0**
BATI Baumata 76.98 234 LR LR 11 15 30.3
comp=Z,316nm,20.4s,baz=40,slow=32
HRA Herat 76.98 310 P **P** **10 45 57.2 +0.6**
KRLC Kraliky 77.08 347 *e*P **P** **10 45 56.5 -0.1**
KRLC Kraliky 77.08 347 *e*P **P** **10 45 56.5 -0.1**
AKT Akhty 77.18 323 *e*P **P** **10 45 56.5 -0.9**
AKT *e* 10 46 06.2
AKT *e**PP **pP** **10 46 13.7 -1.1**
AKT pmax pmax
comp=Z,44nm,1.1s
MORC Moravsky Berou 77.26 347 *e*P **P** **10 45 57.8 +0.2**
PBKI Pangkalan Bun 77.26 249 P P 10 46 05.7 +7.7
KOLS Kolonicke sedl 77.32 343 *e*P **P** **10 45 59.2 +1.3**
KOLS Kolonicke sedl 77.32 343 *e*P **P** **10 45 59.2 +1.3**
ZEI Tsey 77.39 327 *e*P **P** **10 45 57.1 -1.6**
ZEI pmax pmax
comp=Z,30nm,0.9s
CRVS Cervenica-Dubn 77.49 344 *e*P **P** **10 45 59.7 +0.8**
CRVS pmax pmax
comp=Z,23nm,0.9s
CRVS Cervenica-Dubn 77.49 344 *e*P **P** **10 45 59.7 +0.8**
LANS Liptovska Anna 77.58 345 *e*P **P** **10 46 01.2 +1.8**
LANS pmax pmax
comp=Z,13nm,1.1s
LANS Liptovska Anna 77.58 345 *e*P **P** **10 46 01.2 +1.8**
UZH Uzhgorod 77.61 343 *e*P **P** **10 46 01.7 +2.2**
MEM Membach 77.63 354 *d*P **P** **10 46 00.4 +0.8**
ANN Anapa 77.63 332 *e*P **P** **10 45 57.8 -1.9**
ANN pmax pmax
comp=Z,51nm,1.5s
BTNL Ternell 77.64 354 *d*P **P** **10 45 59.7 -0.1**
BSTI Sart Tilman 77.68 355 *d*P **P** **10 46 00.5 +0.6**
ONI Oni 77.72 327 P **P** **10 46 02.8 +2.5**
ONI pmax pmax
comp=Z,14nm,1.0s
ONI Oni 77.72 327 P **P** **10 46 02.8 +2.5**
VRAC Vranov 77.85 347 *e*P **P** **10 46 01.0 +0.1**
BCLA Clavier 77.86 355 *d*P **P** **10 46 01.4 +0.5**
BGES Gesves 77.91 355 *d*P **P** **10 46 01.5 +0.4**
BMRD Maredsous 78.01 355 *d*P **P** **10 46 02.0 +0.3**
BURAR Bucovina Array 78.02 341⇑ P **P** **10 46 02.8 +0.8**
SOC Sochi 78.05 330 *e*P **P** **10 45 59.5 -2.5**
SOC *e*PPP PPP 10 50 45.3
SOC *e*S **S** **10 55 48.4 -2.2**
SOC *e*SS **SS** **11 00 57.6 +5.9**
SOC pmax pmax
comp=Z,10.0nm,0.5s
SOC MLR MLR
comp=Z,328nm,22.0s
KRUC Moravsky 78.12 347 *e*P **P** **10 46 02.8 +0.4**
JAVC Velka Javorina 78.14 346 *e*P **P** **10 46 04.0 +1.4**
DOU Dourbes 78.22 355 *d*P **P** **10 45 59.4 -3.5**
VYHS Vyhne 78.32 345 *e*P **P** **10 46 04.8 +1.3**
VYHS pmax pmax
comp=Z,24nm,1.7s
VYHS Vyhne 78.32 345 *e*P **P** **10 46 04.8 +1.3**
KHC Kasperske Hory 78.41 349 *e*P **P** **10 46 04.1 +0.1**
KHC *e* 10 46 30.3
KHC Kasperske Hory 78.41 349 *e*P **P** **10 46 04.1 +0.1**
KHC *e*sP **sP** **10 46 30.3 +2.0**
MODS Modra-Piesok 78.67 346 *e*P **P** **10 46 06.0 +0.6**
MODS pmax pmax
comp=Z,11nm,1.0s
MODS Modra-Piesok 78.67 346 *e*P **P** **10 46 06.0 +0.6**
GERES GERESS Array B 78.68 349 P **P** **10 46 05.4 -0.2**
comp=Z,1.0nm,0.6s,baz=26,slow=6.5,SNR=8.1
GERES LR LR 11 25 50.2
comp=Z,105nm,18.1s,baz=12,slow=39
GERES GERESS Array B 78.68 349 P **P** **10 46 05.7 +0.1**
PSZ Piszkesteto 78.71 345⇑ P **P** **10 46 07.3 +1.6**
PSZ Piszkesteto 78.71 345 P **P** **10 46 06.8 +1.1**
PSZ pmax pmax
comp=Z,20nm,1.1s
PSZ Piszkesteto 78.71 345 P **P** **10 46 06.8 +1.1**
PSZ IAmb IAmb 10 46 08.2
comp=Z,20nm,1.1s
TESR Tescani 78.78 340⇑ P **P** **10 46 06.3 +0.2**
KNRA Kununurra 79.27 227 P **P** **10 46 09.6 +0.7**
DRGR 79.30 342⇑ P **P** **10 46 09.6 +0.6**
CONA Conrad Observa 79.30 347 *e*P **P** **10 46 09.8 +0.8**
comp=Z,11nm,1.3s,SNR=6.8
VRI Vrincioaia 79.37 339⇑ P **P** **10 46 10.4 +1.1**
PLOR Plostina 79.40 339⇑ P **P** **10 46 10.0 +0.5**
GNI Garni 79.43 325*c*e*P **P** **10 46 11.4 +1.4**
GNI pmax pmax
comp=Z,32nm,1.7s
TLCR 79.54 338⇑ P **P** **10 46 11.1 +0.9**
DOPR Dopca 79.56 340⇑ P **P** **10 46 12.0 +1.6**
CFR Carcaliu 79.71 338⇑ P **P** **10 46 11.9 +0.8**
MLR Muntele Rosu 79.90 340⇑ P **P** **10 46 13.7 +1.4**
MLR Muntele Rosu 79.90 340 P **P** **10 46 13.3 +1.0**
MLR pmax pmax
comp=Z,22nm,1.0s
MLR Muntele Rosu 79.90 340 P **P** **10 46 13.3 +1.0**
MLR IAmb IAmb 10 46 15.2
comp=Z,22nm,1.0s
ECH Echery 79.93 353 P **P** **10 46 12.5 +0.2**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 79.93 353 P **P** **10 46 12.5 +0.2**
TPGR Topolog 79.95 338⇑ P **P** **10 46 13.0 +0.5**
SIRR Siria 80.00 343⇑ P **P** **10 46 14.1 +1.4**
ARSA Arzberg 80.01 347 *i*P **P** **10 46 13.6 +0.8**
comp=Z,9.8nm,1.2s
VOIR 80.14 340⇑ P **P** **10 46 14.4 +0.9**
HARR Harsova 80.22 338⇑ P **P** **10 46 14.6 +0.7**
ARR Arges 80.29 341⇑ P **P** **10 46 15.0 +0.6**
TIRR Tirgusor 80.33 338⇑ P **P** **10 46 14.9 +0.5**
TIRR Tirgusor 80.33 338 P **P** **10 46 15.0 +0.5**
TIRR pmax pmax
comp=Z,46nm,0.9s
TIRR Tirgusor 80.33 338 P **P** **10 46 15.0 +0.5**
TLBR Topalu 80.33 338⇑ P **P** **10 46 15.5 +1.1**
RETA Reutte 80.34 351 *i*P **P** **10 46 16.5 +1.9**
comp=Z,12nm,1.6s
CLF Chambon-Foret 80.39 357 P **P** **10 46 15.7 +0.9**
WATA Walderalm 80.41 350 *i*P **P** **10 46 15.6 +0.5**
comp=Z,21nm,1.8s
TBI Tubuai 80.41 149 *e*LR LR 11 11 01.0
comp=Z,578nm,33.0s,baz=339
TBI Tubuai 80.41 149 *e*T T 12 13 48.4
comp=Z,5.2nm,0.3s
MOTA Moosalm 80.45 350 *e*P **P** **10 46 15.6 +0.3**
comp=Z,18nm,1.1s,SNR=6.8
KBA Koelnbreinsper 80.46 349 *e*P **P** **10 46 16.5 +1.1**
comp=Z,16nm,0.6s,SNR=14
WTTA Wattenberg 80.47 350 *e*P **P** **10 46 16.2 +0.7**
comp=Z,15nm,0.9s,SNR=7.2
WB0 Warramunga Arr 80.49 220 P **P** **10 46 14.6 -0.9**
SQTA Sankt Quirin 80.56 350 *i*P **P** **10 46 16.5 +0.6**
comp=Z,9.4nm,0.7s
WR0 Warramunga Arr 80.61 220 P **P** **10 46 16.3 +0.2**
DAVA Damuels 80.63 351 *i*P **P** **10 46 16.8 +0.5**
comp=Z,7.2nm,1.2s
GZR Gura Zlata 80.63 342⇑ P **P** **10 46 17.3 +1.1**
BZS Buzias 80.64 343⇑ P **P** **10 46 16.5 +0.4**
SOKA Soboth 80.64 348 *i*P **P** **10 46 17.0 +0.8**
comp=Z,11nm,0.8s,SNR=13
WRAB Tennant Creek 80.66 220*c*e*P **P** **10 46 16.6 +0.2**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 80.66 220 P **P** **10 46 16.9 +0.5**
WRAB IAmb IAmb 10 46 42.9
comp=Z,36nm,1.5s
WB2 Warramunga Arr 80.67 220 P **P** **10 46 16.6 +0.1**
WB2 IAmb IAmb 10 46 42.9
comp=Z,36nm,1.4s
WRA Warramunga Arr 80.67 220 P **P** **10 46 16.6 0.0**
comp=Z,8.1nm,1.0s,baz=35,slow=6.2,SNR=32
WRA PKKPbc **PKKPbc** **11 04 54.1 -0.6**
comp=Z,0.4nm,0.7s,baz=221,slow=2.1,SNR=4.7
WRA Warramunga Arr 80.67 220 P **P** **10 46 16.5 0.0**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 80.67 220 P **P** **10 46 16.5 0.0**
PERS Pernice 80.67 348 *e*P **P** **10 46 17.0 +0.6**
GROS Grobnik 80.79 347 *e*P **P** **10 46 17.1 +0.1**
FETA Feichten 80.81 351 *i*P **P** **10 46 17.9 +0.6**
comp=Z,7.8nm,0.9s
MYKA Terra Mystica 80.87 349 *i*P **P** **10 46 17.8 +0.4**
comp=Z,12nm,1.6s
OBKA Obir 80.87 348 *e*P **P** **10 46 18.1 +0.6**
comp=Z,11nm,0.5s,SNR=9.1
ABTA Abfaltersbach 80.89 349 *e*P **P** **10 46 17.9 +0.4**
comp=Z,14nm,1.4s,SNR=5.9
KOPT Kop Dagi 81.01 328 P **P** **10 46 18.7 +0.1**
ZOU Zoufplan 81.02 349 P **P** **10 46 18.7 +0.3**
DIKM Dikmen 81.15 332⇑ P **P** **10 46 19.4 +0.5**
HERR Herculane 81.20 342⇑ P **P** **10 46 19.2 +0.1**
FRGS Fruska Gora 81.40 344⇑ P **P** **10 46 20.6 +0.4**
MDVR Moldovita 81.42 343⇑ P **P** **10 46 20.8 +0.4**
TUE Stuetta 81.48 351 P **P** **10 46 21.1 +0.2**
TUE IAmb IAmb 10 46 22.7
comp=Z,73nm,1.9s
HYB Hyderabad 81.66 287 *i*P **P** **10 46 18.0 -4.0**
HYB *e*pP **pP** **10 46 39.0 -0.6**
CTI Castel Tesino 81.67 350 P **P** **10 46 21.9 +0.2**
CTI pmax pmax
comp=Z,12nm,1.2s
CTI Castel Tesino 81.67 350 P **P** **10 46 21.9 +0.2**
MNSI Mandailing Nat 81.69 261 P **P** **10 46 19.1 -3.0**
comp=Z,33nm,0.4s
GBRS Gornja Briga 81.80 348 *e*P **P** **10 46 22.4 0.0**
ILGA Ilgaz 82.15 333 P **P** **10 46 25.7 +1.3**
ILGA IAmb IAmb 10 46 27.1
comp=Z,24nm,1.0s
TEOL Teolo 82.35 350 P **P** **10 46 25.8 +0.7**
DIVS Divibare 82.40 344 P **P** **10 46 25.8 +0.2**
DIVS IAmb IAmb 10 46 27.2
comp=Z,19nm,1.0s
BOVS Bovan 82.53 342⇑ P **P** **10 46 26.4 +0.2**
FITZ Fitzroy Crossi 82.82 229 P **P** **10 46 29.0 +1.2**
FITZ IAmb IAmb 10 46 29.8
comp=Z,27nm,1.1s
LEM Lembang 82.94 250 LR LR 11 20 32.6
comp=Z,92nm,19.8s,baz=4.5,slow=34
MDSI Maura Dua 83.09 254 P **P** **10 46 29.6 +0.2**
comp=Z,6.5nm,1.2s
BNI Bardonecchia 83.11 353 P **P** **10 46 29.7 +0.3**
BNI pmax pmax

	comp=Z,16nm,0.9s							
BNI	**Bardonecchia**	**83.11 353**		P	**P**	**10 46 29.7**	**+0.3**	
BNI				IAmb	IAmb	10 46 31.9		
	comp=Z,16nm,0.9s							
VTS	**Vitosha**	**83.21 341**	⇑	P	**P**	**10 46 30.6**	**+0.7**	
VTS	**Vitosha**	**83.21 341**		P	**P**	**10 46 30.1**	**+0.2**	
VTS				pmax	pmax			
	comp=Z,15nm,1.0s							
VTS	**Vitosha**	**83.21 341**		P	**P**	**10 46 30.1**	**+0.2**	
BR131	**Keskin Array S**	**83.40 332**		P	**P**	**10 46 31.7**	**+0.8**	
BR131				pmax	pmax			
	comp=Z,30nm,1.2s							
BR131	**Keskin Array S**	**83.40 332**		P	**P**	**10 46 31.7**	**+0.8**	
BR131				IAmb	IAmb	10 46 32.7		
	comp=Z,30nm,1.1s							
BRTR	**Keskin Array B**	**83.40 332**		P	**P**	**10 46 31.1**	**+0.2**	
	comp=Z,8.9nm,1.0s,baz=34,slow=2.6,SNR=36							
BRTR				LR	LR	11 27 20.4		
	comp=Z,42nm,21.5s,baz=8.0,slow=38							
BRTR	**Keskin Array B**	**83.40 332**	*i*	P	**P**	**10 46 31.5**	**+0.5**	
BRTR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BRTR	**Keskin Array B**	**83.40 332**		P	**P**	**10 46 31.4**	**+0.5**	
ZCCA	**Zocca**	**83.42 350**		P	**P**	**10 46 31.9**	**+1.0**	
ZCCA				IAmb	IAmb	10 47 28.4		
	comp=Z,34nm,1.1s							
ANTO	**Ankara**	**83.50 333**		P	**P**	**10 46 32.1**	**+0.8**	
ANTO				pmax	pmax			
	comp=Z,41nm,1.2s							
ANTO	**Ankara**	**83.50 333**		P	**P**	**10 46 32.1**	**+0.8**	
ANTO				IAmb	IAmb	10 46 33.7		
	comp=Z,41nm,1.2s							
POO	**Poona**	**83.53 292**	*e*	P	**P**	**10 46 28.0**	**-3.8**	
BNN	**Bunyan**	**83.55 331**		P	**P**	**10 46 31.9**	**+0.2**	
MSSA	**Maissana**	**83.61 351**		P	**P**	**10 46 31.3**	**-0.5**	
PDG	**Podgorica**	**84.14 344**	⇑	P	**P**	**10 46 35.0**	**+0.5**	
PDG	**Podgorica**	**84.14 344**		P	**P**	**10 46 34.3**	**-0.1**	
PDG				IAmb	IAmb	10 46 35.7		
	comp=Z,20nm,0.8s							
AS31	**Alice Springs**	**84.19 219**		P	**P**	**10 46 35.5**	**+0.6**	
ASAR	**Alice Springs**	**84.19 219**		P	**P**	**10 46 35.4**	**+0.5**	
	comp=Z,4.4nm,0.9s,baz=26,slow=4.9,SNR=34							
ASAR	**Alice Springs**	**84.19 219**		P	**P**	**10 46 35.0**	**+0.2**	
ASAR	**Alice Springs**	**84.19 219**		P	**P**	**10 46 35.0**	**+0.2**	
OSSC	**Osservatorio P**	**84.21 350**		P	**P**	**10 46 34.9**	**+0.1**	
OSSC				IAmb	IAmb	10 46 36.2		
	comp=Z,39nm,1.4s							
ALN	**Alexandroupoli**	**84.25 338**		P	**P**	**10 46 34.5**	**-0.5**	
ALN				pmax	pmax			
	comp=Z,19nm,1.0s							
ALN	**Alexandroupoli**	**84.25 338**		P	**P**	**10 46 34.5**	**-0.5**	
ALN				IAmb	IAmb	10 46 36.5		
	comp=Z,19nm,1.0s							
MURB	**Monte Urbino**	**84.32 349**		P	**P**	**10 46 35.9**	**+0.5**	
GAZ	**Gaziantep**	**84.67 329**		P	**P**	**10 46 37.6**	**+0.3**	
NRCA	**Norcia**	**84.67 348**		P	**P**	**10 46 37.7**	**+0.4**	
PBRG	**Braganca**	**86.65 3**	*e*	P	**P**	**10 46 46.8**	**-0.2**	
SHME	**Shamm**	**86.82 309**	*i*	P	**P**	**10 46 47.2**	**-0.8**	
	SNR=9.8							
BANOM	**Banah**	**86.85 309**	*i*	P	**P**	**10 46 47.8**	**-0.5**	
	SNR=6.0							
POLO	**Lamas de Olo**	**87.04 4**	*e*	P	**P**	**10 46 48.8**	**-0.2**	
ELL	**Elmali**	**87.22 334**		P	**P**	**10 46 49.8**	**-0.2**	
ELL				pmax	pmax			
	comp=Z,28nm,1.0s							
ELL	**Elmali**	**87.22 334**		P	**P**	**10 46 49.8**	**-0.2**	
MVO	**Moncorvo**	**87.28 3**	*e*	P	**P**	**10 46 50.2**	**+0.1**	
	comp=Z,26nm,1.0s							
MDH	**Madha**	**87.38 309**		P	**P**	**10 46 49.6**	**-1.2**	
MSFE	**Esma-Masafi**	**87.40 309**		P	**P**	**10 46 50.0**	**-0.9**	
PVIS	**Viseu**	**87.70 4**	*e*	P	**P**	**10 46 51.5**	**-0.6**	
UOSS	**Minazif**	**87.72 309**	*i*	P	**P**	**10 46 51.5**	**-1.0**	
	SNR=6.0							
UOSS	**Minazif**	**87.72 309**		P	**P**	**10 46 51.4**	**-1.0**	
UOSS				IAmb	IAmb	10 46 52.4		
	comp=Z,21nm,0.8s							
HATD	**Hatta, Dubai**	**87.86 309**		P	**P**	**10 46 52.2**	**-0.9**	
CSS	**Mathiatis**	**87.91 331**		P	**P**	**10 46 52.7**	**-0.5**	
CSS				IAmb	IAmb	10 46 55.5		
	comp=Z,18nm,1.0s							
ASHO	**Ashiyiah**	**88.02 309**	*i*	P	**P**	**10 46 52.9**	**-1.0**	
	SNR=5.2							
MTE	**Manteigas**	**88.03 4**	*e*	P	**P**	**10 46 53.5**	**-0.2**	
	comp=Z,22nm,1.1s							
MTE	**Manteigas**	**88.03 4**		P	**P**	**10 46 53.5**	**-0.2**	
MTE				IAmb	IAmb	10 46 54.8		
	comp=Z,24nm,1.1s							
FAQ	**Al Faqa, Dubai**	**88.19 309**		P	**P**	**10 46 53.6**	**-1.0**	
SOHO	**SOHO**	**88.25 308**		P	**P**	**10 46 54.1**	**-0.8**	
PCAS	**Casmilo, Conde**	**88.33 4**	*e*	P	**P**	**10 46 54.9**	**-0.2**	
ASUD	**Al Ashush, Dub**	**88.42 309**		P	**P**	**10 46 55.1**	**-0.6**	
PSA00	**Pilbara Seismi**	**88.56 232**		P	**P**	**10 46 56.0**	**-0.1**	
PCBR	**Castelo Branco**	**88.59 4**	*e*	P	**P**	**10 46 56.0**	**-0.2**	
	comp=Z,15nm,1.6s							
ESDC	**Sonseca Array**	**88.83 1**		P	**P**	**10 46 56.7**	**-0.8**	
	comp=Z,2.9nm,0.8s,baz=356,slow=4.3,SNR=15							
ESDC	**Sonseca Array**	**88.83 1**		P	**P**	**10 46 56.9**	**-0.6**	
STKA	**Stephens Creek**	**89.02 210**		P	**P**	**10 46 59.1**	**+1.0**	
	comp=Z,8.0nm,1.0s,baz=357,slow=8.1,SNR=12							
STKA	**Stephens Creek**	**89.02 210**		P	**P**	**10 46 59.0**	**+0.9**	
STKA				pmax	pmax			
	comp=Z,4.0nm,1.2s							
STKA	**Stephens Creek**	**89.02 210**		P	**P**	**10 46 59.0**	**+0.9**	
PMTG	**Montargil**	**89.32 4**	*e*	P	**P**	**10 46 58.8**	**-0.9**	
	comp=Z,11nm,1.6s							
PESTR	**Estremoz**	**89.55 4**	*e*	P	**P**	**10 47 00.0**	**-0.8**	
	comp=Z,16nm,1.3s							
EVO	**Evora**	**89.87 4**	*e*	P	**P**	**10 47 01.5**	**-0.8**	
PBAR	**Barrancos**	**90.26 3**	*e*	P	**P**	**10 47 03.5**	**-0.6**	
	comp=Z,16nm,1.9s							
PVAQ	**Vaqueiros**	**91.01 4**	*e*	P	**P**	**10 47 07.1**	**-0.5**	
KEST	**Kesra**	**92.12 350**		P	**P**	**10 47 12.8**	**-0.1**	
	comp=Z,1.5nm,0.5s,baz=18,slow=3.2,SNR=2.4							
KEST				LR	LR	11 31 43.8		
	comp=Z,54nm,19.5s,baz=312,slow=38							
KEST	**Kesra**	**92.12 350**		P	**P**	**10 47 12.4**	**-0.5**	
KEST				IAmb	IAmb	10 47 30.1		
	comp=Z,8.9nm,1.1s							
RAYN	**Ar Rayn**	**93.83 317**	*i*	P	**P**	**10 47 20.9**	**-0.1**	
	SNR=13							
RAYN	**Ar Rayn**	**93.83 317**		P	**P**	**10 47 20.2**	**-0.7**	
RAYN				pmax	pmax			
	comp=Z,13nm,1.1s							
RAYN	**Ar Rayn**	**93.83 317**		P	**P**	**10 47 20.2**	**-0.7**	
RAYN				IAmb	IAmb	10 47 21.9		
	comp=Z,13nm,1.1s							
ROSC	**El Rosal**	**97.52 72**		LR	LR	11 33 43.2		
	comp=Z,76nm,21.0s,baz=297,slow=37							
TORD	**Torodi Ar. Bea**	**115.14 355**		PKP		**PKiKP**	**10 52 43.5**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=358,slow=2.0,SNR=7.7							
VILB	**Vilhena**	**120.07 71**	*e*	P		**PKiKP**	**10 52 57.2**	**+3.0**
PRPB	**Parauapebas**	**120.31 57**	*e*	P		**PKiKP**	**10 52 57.8**	**+3.1**
DBIC	**Dimbokro**	**121.67 2**	PKP			**PKPdf**	**10 52 56.4**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=52,slow=4.9,SNR=5.3							
LVC	**Limon Verde**	**122.18 86**	*e*	P		**PKiKP**	**10 53 01.1**	**+2.5**
PTLB	**Pontes e Lacer**	**122.67 72**	*e*	P		**PKiKP**	**10 53 02.3**	**+3.1**
SMTB	**Santa Maria do**	**123.75 57**	*e*	P		**PKiKP**	**10 53 04.2**	**+2.7**
PP1B	**Ponte de Pedra**	**126.86 70**	*e*	P		**PKiKP**	**10 53 10.1**	**+2.6**
SBA	**Scott Base**	**129.60 183**		PKIKP		**PKiKP**	**10 53 12.4**	**+1.2**
SBA	**Scott Base**	**129.60 183**				**PKiKP**	**10 53 12.4**	**+1.2**
CPUP	**Villa Florida**	**132.03 79**	PKP			**PKPdf**	**10 53 17.0**	**+0.4**
	comp=Z,3.5nm,1.1s,baz=225,slow=2.9,SNR=3.7							
CPUP				SKPbc		**SKPbc**	**10 56 36.3**	**-0.8**
	comp=Z,6.1nm,0.9s,baz=320,slow=3.9,SNR=9.7							
CPUP	**Villa Florida**	**132.03 79**				**PKPdf**	**10 53 16.8**	**+0.2**
PLCA	**Paso Flores**	**133.54 104**	PKP			**PKiKP**	**10 53 19.9**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=270,slow=5.1,SNR=5.6							
PLCA				SKPbc		**SKPbc**	**10 56 41.0**	**-0.9**
	comp=Z,6.6nm,1.0s,baz=301,slow=2.7,SNR=7.0							
RCLB	**Rio Claro- Sao**	**134.88 67**	*e*	P		**PKiKP**	**10 53 24.9**	**+1.2**
TSUM	**Tsumeb**	**143.67 326**	PKPdf			PKPbc	10 53 36.9	+1.0
MAW	**Mawson**	**145.31 218**	PKPbc			**PKPab**	**10 53 39.7**	**0.0**
	comp=Z,7.5nm,0.8s,baz=89,slow=5.1,SNR=17							
MAW	**Mawson**	**145.31 218**	PKIKP			**PKPab**	**10 53 39.8**	**+0.1**
MAW	**Mawson**	**145.31 218**	PKPdf			**PKPab**	**10 53 39.8**	**+0.1**
LBTB	**Lobatse**	**145.54 310**	PKIKP			**PKPab**	**10 53 41.8**	**-0.2**
LBTB	**Lobatse**	**145.54 310**				**PKPab**	**10 53 41.8**	**-0.2**
BOSA	**Boshof**	**148.72 307**	PKPbc			**PKPbc**	**10 53 50.5**	**0.0**
	comp=Z,14nm,0.7s,baz=40,slow=2.4,SNR=14							
BOSA	**Boshof**	**148.72 307**				**PKPbc**	**10 53 50.9**	**+0.4**
SYO	**Syowa Base**	**153.72 213**	⇑	*e*PKPdf		**PKPdf**	**10 53 53.3**	**+0.5**
SYO	**Syowa Base**	**153.72 213**	⇓	*e*PKPdf		**PKPab**	**10 54 13.0**	**-0.9**
SNAA	**Sanae**	**160.12 180**	PKPab			**PKPab**	**10 54 41.1**	**-0.4**
VNA3	**Neumayer Olymp**	**160.31 173**	PKPab			**PKPab**	**10 54 42.6**	**+0.4**
VNA2	**Neumayer--Watz**	**160.76 175**	PKPab			**PKPab**	**10 54 43.6**	**-0.6**
	baz=177,slow=3.4							
VNA1	**Neumayer--Stat**	**160.98 174**	PKPab			**PKPab**	**10 54 45.4**	**+0.2**

*KRNET **30** 10:35:16.3±0.1,41.°12N×69.°48E,mb2.8*
ISC 30 10:35:17.4±1.8,41.°09N±0.°04×69.°57E±0.°10,h10km,n7,
σ1§80/12,10C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.26**	**69**	⇓*iP*		**Pn**	**10 35 40.6**	**-0.7**
	baz=74							
TRKS				⇓*iS*		**Sg**	**10 35 59.6**	**+1.5**
	baz=74							
BTK	**Batken**	**1.40**	**137**	⇑*iP*		**Pg**	**10 35 44.2**	**-0.1**
	baz=36							
BTK				⇑*iS*		**Sg**	**10 36 03.7**	**+1.2**
	baz=36							
KK31	**Karatay Array**	**2.13**	**19**	⇓*iP*n		**Pg**	**10 35 59.4**	**+1.1**
	1.3nm,0.3s,baz=203,slow=15,SNR=56							
KK31				⇓Lg		Lg	10 36 29.9	
	6.0nm,0.3s,baz=208,slow=28,SNR=20							
GAR	**Garm**	**2.16**	**164**	⇑*iP*		**Pb**	**10 35 56.2**	**-0.6**
	baz=63							
GAR				⇑*iS*		**Sb**	**10 36 24.4**	**+0.7**
	baz=63							
MNAS	**Manas**	**2.60**	**57**	⇑*iP*		**Pb**	**10 36 02.2**	**-2.0**
	baz=58							
MNAS				⇑*iS*		**Sb**	**10 36 35.5**	**-0.8**
	baz=58							
AML	**Almayashu**	**3.26**	**70**	⇑*iP*		**Pb**	**10 36 17.1**	**+1.5**
	baz=71							
AML				⇑*iS*		**Sb**	**10 36 58.5**	**+2.9**
	baz=71							
AAK	**Ala-Archa**	**3.99**	**66**	⇑Pg		**Pg**	**10 36 31.1**	**-2.7**
	2.0nm,0.6s							
AAK				⇑Lg		Lg	10 37 22.6	
	2.5nm,0.6s							

BER 30 10:45:53.2±0.6,71.°07N×8.°07W,h0km±78km,ML1.3,5D,
Confirmed Earthquake,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.11**	**221**	*eP*		Pg	10 45 57.0	+1.7
JNE				*eS*		Sg	10 46 00.2	+3.5
JNE				IAML			10 46 01.7	
	comp=Z,103nm,0.2s							
JNE	**Jan Mayen East**	**0.11**	**221**	*eP*		Pg	10 45 57.0	+1.7
JNE				*eS*		Sg	10 46 00.2	+3.4
JNE				IAML			10 46 01.7	
	comp=Z,103nm,0.2s							
JNW	**Jan Mayen West**	**0.12**	**249**	⇓*iP*		Pg	10 45 57.4	+1.8
JNW				*eS*		Sg	10 46 00.6	+3.5
JNW				IAML			10 46 03.2	
	comp=Z,46nm,0.2s							
JNW	**Jan Mayen West**	**0.12**	**249**	⇓*eP*		Pg	10 45 57.4	+1.8
JNW				*eS*		Sg	10 46 00.6	+3.5
JNW				IAML			10 46 03.2	
	comp=Z,46nm,0.2s							
JMIC	**Jan Mayen**	**0.17**	**238**	⇓*iP*		Pg	10 45 57.6	+1.2
JMIC				*eS*		Sg	10 46 01.8	+3.3
JMIC				IAML			10 46 10.4	
	comp=Z,20nm,0.4s							
JMIC	**Jan Mayen**	**0.17**	**238**	⇓*iP*		Pg	10 45 57.6	+1.3
JMIC				*eS*		Sg	10 46 01.1	+2.6
JMIC				IAML			10 46 10.4	
	comp=Z,20nm,0.4s							
JMI	**Jan Mayen**	**0.26**	**236**	*eP*		Pg	10 45 59.3	+1.1
JMI				*eS*		Sb	10 46 04.2	-1.6
JMI				IAML			10 46 05.1	
	comp=Z,16nm,0.4s							
JMI	**Jan Mayen**	**0.26**	**236**	⇓*iP*		Pg	10 45 59.2	+1.1
JMI				*eS*		Sb	10 46 04.2	-1.6
JMI				IAML			10 46 05.1	
	comp=Z,16nm,0.4s							

*IDC **30** 10:46:54.9±0.5,21.°19S×174.°54W,h0km,mb4.6/17,*
mb1 4.9/18,mb1mx4.8/23,mbtmp4.6/18,ML5.3/2,MS4.7/31,
Ms1 4.7/31,ms1mx4.6/40,Error ellipse: s-maj=20.3km
s-min=14.6km az=121.0
*MOS **30** 10:46:54.2±1.0,21.°38S×174.°47W,h10km,mb5.3/36,*
Error ellipse: s-maj=9.7km s-min=8.4km az=65.6
*BGR **30** 10:46:55.8±0.0,21.°39S×173.°80W,h33km*
*NEIC **30** 10:46:56.6±2.5,21.°29S±0.°07×174.°13W±0.°09,h10km±1km,*
mb5.2/191,Error ellipse: s-maj=14.6km s-min=11.8km
az=115.0
*GCMT **30** 10:47:00.6±0.1,21.°42S±0.°01×173.°98W±0.°01,h18km,*
MW5.4/148,Moment Tensor Solution. s101,c167;
s148,c261; Duration: 1§2 Moment tensor: Scale 10^17
Nm; Mrr1.20±.03; Mθθ-0.23±.02; Mφφ-0.96±.02;
Mrθ0.44±.04; Mrφ-0.58±.01; Mθφ0.51±.04; Best double
couple: Mo1.41500×10^17 NP1:φ203.00000°,δ31.00000°,
λ80.00000°. NP2:φ35.00000°,δ59.00000°,λ96.00000°.
Principal axes: T 1.3770, Plg75.0000°, Azm322.0000°; N
0.0810, Plg5.0000°, Azm211.0000°; P -1.4530,
Plg14.0000°, Azm120.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 30 10:46:55.3±0.5,21.°44S±0.°05×174.°24W±0.°05,h10km±2km,
h9km:pP-P,n516,σ1§72/487,mb5.2/156,MS4.8/42,
42C-20D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.68**	**61**	P		Pn	10 47 59.6	-6.5
	baz=4.4,SNR=20							
NIUE				S		Sn	10 48 46.7	-14
	baz=4.4							
NIUE	**Niue**	**4.68**	**61**	Pn		Pn	10 47 59.7	-6.4
AFI	**Afiamalu**	**7.84**	**18**	Pn		Pn	10 48 43.2	-6.5
	9.7nm,0.3s,baz=36,slow=0.5,SNR=15							
AFI				Sn		Sn	10 50 04.1	-15
	13nm,0.3s,baz=182,slow=19,SNR=2.5							
AFI				LR		LR	10 51 26.2	
	comp=Z,4μm,19.7s,baz=194,slow=35							
AFI	**Afiamalu**	**7.84**	**18**	P		**Pn**	**10 48 45.5**	**-4.2**
AFI	**Afiamalu**	**7.84**	**18**	Pn		**Pn**	**10 48 45.5**	**-4.2**
MSVF	**Nonsavu**	**8.15**	**296**	Pn		Pn	10 48 59.3	+5.3
	8.3nm,0.3s,baz=128,slow=12,SNR=51							
MSVF				LR		LR	10 51 42.6	
	comp=Z,26μm,18.4s,baz=92,slow=37							
MSVF	**Nonsavu**	**8.15**	**296**	P		**Pn**	**10 48 54.9**	**+1.0**
MSVF	**Nonsavu**	**8.15**	**296**	Pn		**Pn**	**10 48 54.9**	**+1.0**
RAO	**Raoul Island**	**8.46**	**202**	Pn		**Pn**	**10 48 58.8**	**+0.7**
	94nm,0.3s,baz=257,slow=23,SNR=2.7							
RAO				Sn		**Sn**	**10 50 31.3**	**-2.5**
	65nm,0.3s,baz=272,slow=23,SNR=6.6							
RAO	**Raoul Island**	**8.46**	**202**	Pn		**Pn**	**10 48 59.1**	**+1.0**
RAR	**Rarotonga**	**13.48**	**92**	Pn		Pn	10 50 01.1	-5.7
	8.1nm,0.3s,baz=253,slow=10.0,SNR=36							
RAR				Sn		Sn	10 52 17.7	-19
	1.7nm,0.3s,baz=332,slow=20,SNR=1.3							
RAR				LR		LR	10 56 13.8	
	comp=Z,2μm,18.4s,baz=264,slow=41							
RAR	**Rarotonga**	**13.48**	**92**	P		**Pn**	**10 50 02.4**	**-4.4**
RAR	**Rarotonga**	**13.48**	**92**	Pn		**Pn**	**10 50 02.4**	**-4.4**
DZM	**Mont Dzumac**	**17.96**	**264**	P		**P**	**10 51 08.0**	**+2.0**
	0.9nm,0.3s,baz=64,slow=18,SNR=7.6							
DZM				LR		LR	10 56 54.2	
	comp=Z,5μm,19.7s,baz=96,slow=34							
DZM	**Mont Dzumac**	**17.96**	**264**	*eP*		**Pn**	**10 51 01.6**	**-3.9**
	229nm,1.2s							
DZM				*eS*		**Sn**	**10 54 17.6**	**-8.4**
	726nm,25.9s							
DZM				*e*LR		LR	10 55 08.7	
	comp=Z,5μm,21.1s							
DZM	**Mont Dzumac**	**17.96**	**264**	P		**Pn**	**10 51 05.2**	**-0.3**
URZ	**Urewera**	**18.35**	**202**	P		**P**	**10 51 12.5**	**+2.4**
	3.4nm,0.3s,baz=305,slow=19,SNR=11							
URZ				S		Sn	10 54 21.9	-13
	1.2nm,0.3s,baz=306,slow=24,SNR=1.8							
TBI	**Tubuai**	**22.98**	**99**	*eS*		**S**	**10 56 03.2**	**-7.7**
	922nm,23.1s							
TBI				*e*LQ		LQ	10 56 26.0	
	4μm,26.0s							
TBI				*e*LR		LR	10 57 31.7	
	comp=Z,5μm,28.2s,baz=275							
TBI	**Tubuai**	**22.98**	**99**	*e*T		T	11 15 58.7	
	5.2nm,0.3s							

PAE	**Paea**	**23.53**	**85**	*e*T		T	11 16 25.0	
	6.4nm,0.3s							
PPT2	**Papeete2**	**23.55**	**85**	*e*S		**S**	**10 56 13.4**	**-7.2**
	877nm,25.2s							
PPT2				*e*LQ		LQ	10 56 32.6	
	5μm,26.2s							
PPT2				*e*LR		LR	10 57 41.7	
	comp=Z,5μm,27.0s,baz=254							
PPT2	**Papeete2**	**23.55**	**85**	*e*T		T	11 16 25.5	
	5.1nm,0.3s							
PPT	**Papeete**	**23.55**	**85**	LR		LR	11 01 09.9	
	comp=Z,1μm,18.1s,baz=265,slow=36							
HNR	**Honiara**	**27.55**	**292**	P		**P**	**10 52 41.1**	**-1.6**
HNR				pmax		pmax		
	comp=Z,175nm,1.1s							
HNR	**Honiara**	**27.55**	**292**	P		**P**	**10 52 41.1**	**-1.6**
ARMA	**Armidale**	**31.88**	**247**	P		**P**	**10 53 22.2**	**+1.1**
	baz=32,SNR=5.2							
MGCD	**Mangrove Creek**	**32.80**	**242**	P		**P**	**10 53 30.3**	**+1.2**
	baz=33,SNR=6.0							
RMQ	**Roma**	**34.11**	**254**	P		**P**	**10 53 40.5**	**0.0**
	baz=34,SNR=7.0							
CTAO	**Charters Tower**	**36.90**	**265**	P		**P**	**10 54 04.3**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,67nm,1.7s							
CTAO	**Charters Tower**	**36.90**	**265**	P		**P**	**10 54 04.3**	**-0.4**
CTAO				IAmb		IAmb	10 54 47.7	
	comp=Z,67nm,1.7s							
CMSA	**Cobar Meteorol**	**37.07**	**246**	P		**P**	**10 54 05.6**	**-0.4**
	baz=37,SNR=8.1							
QLP	**Quilpie**	**38.16**	**254**	P		**P**	**10 54 14.6**	**-0.6**
	baz=38,SNR=9.9							
TOO	**Toolangi**	**38.24**	**236**	P		**P**	**10 54 16.0**	**+0.2**
	baz=38,SNR=9.6							
TAU	**Tasmania Unive**	**38.50**	**227**	P		**P**	**10 54 19.4**	**+1.5**
TAU				pmax		pmax		
	comp=Z,139nm,1.7s							
TAU	**Tasmania Unive**	**38.50**	**227**	P		**P**	**10 54 19.4**	**+1.5**
TAU				IAmb		IAmb	10 54 43.4	
	comp=Z,139nm,1.7s							
MCQ	**Macquarie Isla**	**38.73**	**205**	P		**P**	**10 54 20.0**	**+0.5**
MCQ				pmax		pmax		
	comp=Z,187nm,0.8s							
MCQ	**Macquarie Isla**	**38.73**	**205**	P		**P**	**10 54 20.0**	**+0.5**
PMG	**Port Moresby**	**38.98**	**282**	P		**P**	**10 54 20.3**	**-1.9**
PMG				pmax		pmax		
	comp=Z,33nm,1.0s							
PMG	**Port Moresby**	**38.98**	**282**	P		**P**	**10 54 20.3**	**-1.9**
MTSU	**Mount Surprise**	**39.06**	**267**	P		**P**	**10 54 21.7**	**-1.2**
	baz=39,SNR=3.9							
STKA	**Stephens Creek**	**40.58**	**246**	P		**P**	**10 54 34.1**	**-1.2**
	comp=Z,4.2nm,0.6s,baz=88,slow=10,SNR=17							
STKA				LR		LR	11 09 56.1	
	comp=Z,994nm,18.0s,baz=75,slow=34							
STKA	**Stephens Creek**	**40.58**	**246**	P		**P**	**10 54 34.1**	**-1.2**
	baz=41,SNR=12							
STKA	**Stephens Creek**	**40.58**	**246**	P		**P**	**10 54 34.2**	**-1.2**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
STKA	**Stephens Creek**	**40.58**	**246**	P		**P**	**10 54 34.2**	**-1.2**
ARPS	**Mount Arapiles**	**40.94**	**238**	P		**P**	**10 54 38.3**	**0.0**
	baz=41,SNR=6.2							
HTT	**Hallett**	**42.93**	**244**	P		**P**	**10 54 53.1**	**-1.6**
	baz=43,SNR=12							
BBOO	**Buckleboo**	**45.30**	**245**	P		**P**	**10 55 11.8**	**-1.9**
	baz=46,SNR=9.5							
BBOO	**Buckleboo**	**45.30**	**245**	P		**P**	**10 55 11.8**	**-1.9**
BBOO				IAmb		IAmb	10 55 16.5	
	comp=Z,60nm,1.8s							
AS31	**Alice Springs**	**47.73**	**257**	P		**P**	**10 55 31.2**	**-1.7**
ASAR	**Alice Springs**	**47.73**	**257**	P		**P**	**10 55 30.6**	**-2.4**
	comp=Z,17nm,0.8s,baz=91,slow=8.3,SNR=124							
ASAR				PcP		**PcP**	**10 57 02.9**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=106,slow=4.1,SNR=7.4							
ASAR				S		**S**	**11 02 22.6**	**-6.9**
	comp=Z,1.1nm,1.0s,baz=90,slow=17,SNR=6.1							
ASAR				LR		LR	11 14 50.9	
	comp=Z,1μm,18.3s,baz=98,slow=35							
ASAR	**Alice Springs**	**47.73**	**257**	P		**P**	**10 55 30.6**	**-2.3**
WR0	**Warramunga Arr**	**47.77**	**262**	P		**P**	**10 55 30.8**	**-2.3**
WR0				PcP		**PcP**	**10 57 03.2**	**+1.0**
WR0				IAmb		IAmb	10 57 03.7	
	comp=Z,9.7nm,0.7s							
WB0	**Warramunga Arr**	**47.94**	**262**	P		**P**	**10 55 32.7**	**-1.8**
WB0	

comp=Z,25nm,1.1s
EDFI Ende, Flores 62.77 271 P P 10 57 22.5 +0.9
comp=Z,9.7nm,0.7s
CASY Casey 64.64 206 P P 10 57 34.7 +1.8
CASY IAmb IAmb 10 57 35.6
comp=Z,13nm,0.9s
GIRL Giralia 65.69 254 P P 10 57 39.7 -0.8
baz=66,SNR=4.3
PCI Palu 67.31 278 P P 10 57 49.5 -1.6
comp=Z,881nmcomp=Z,29nm,0.8s
QSPA South Pole Qui 68.64 180 P P 10 58 00.6 +1.9
JYT Yasato 71.73 323 P 10 58 16.9 -0.9
JMM Marumori 72.57 324 P P 10 58 23.0 +0.2
JMM IAmb IAmb 11 00 28.1
comp=Z,26nm,1.1s
AMKA Amchitka 72.72 356 P P 10 58 23.8 +0.4
MJAR Matsushiro Arr 73.08 322 P P 10 58 24.7 -1.3
comp=Z,13nm,0.8s,baz=156,slow=6.2,SNR=31
MJAR LR LR 11 26 01.9
comp=Z,240nm,21.6s,baz=125,slow=32
MJAR Matsushiro Arr 73.08 322 P P 10 58 24.7 -1.3
MJAR pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 73.08 322 P 10 58 24.7 -1.3
MAJO Matsushiro 73.09 322 *c i* **P P 10 58 24.7 -1.3**
MAJO pmax pmax
comp=Z,50nm,1.9s
MAJO Matsushiro 73.09 322 P 10 58 25.8 -0.2
MAJO IAmb IAmb 10 58 26.0
comp=Z,19nm,0.8s
MAT Matsushiro 73.09 322 P P 10 58 24.6 -1.4
MAT *e*S **SKiKP 11 07 58.0 -0.9**
MJB9 Matsu-Tunnel 73.09 322 P P 10 58 25.5 -0.5
MJB9 IAmb IAmb 10 58 26.0
comp=Z,21nm,0.8s
JMN Monobe 73.83 317 P P 10 58 30.8 +0.4
JMN IAmb IAmb 10 58 31.4
comp=Z,29nm,1.0s
JWT Wachi 73.90 319 P P 10 58 30.3 -0.4
JWT IAmb IAmb 10 58 31.3
comp=Z,51nm,1.6s
JSD Sado 74.10 323 P 10 58 31.8 -0.1
JSD IAmb IAmb 10 58 32.5
comp=Z,23nm,0.9s
YUK Yuzh-Kuril'sk 74.70 331 *e*P **P 10 58 35.3 +0.1**
YUK *e*S **S 11 08 12.3 +0.9**
JHS Saijyo 75.13 318 P P 10 58 38.1 +0.1
SNCC San Nicolas Is 75.36 45 P 10 58 41.1
baz=232
SCZ2 Santa Cruz Isl 75.75 44 P 10 58 43.4
baz=231
ASAJ Asahikawa 76.27 330 LR LR 11 26 01.6
comp=Z,755nm,21.6s,baz=159,slow=31
BFSC Mount Baldy Ra 77.19 45 P 10 58 50.3
baz=233
MONP2 Monument Peak 77.22 47 P 10 58 51.2
baz=234
VES Vestal, Richgr 77.25 43 P 10 58 51.5
baz=232
RMX La Rumorosa 77.29 47 P P 10 58 49.9 -0.5
IKP In-Ko-Pah, Jac 77.29 47 P 10 58 51.2
baz=234
EDW2 Edwards Air Fo 77.36 44 P 10 58 51.4
baz=232
ISA Isabella, Lake 77.53 44 P 10 58 52.6
baz=232
ISA Isabella, Lake 77.53 44 P P 10 58 52.5 +0.9
ISA pmax pmax
comp=Z,65nm,1.9s
ISA Isabella, Lake 77.53 44 P 10 58 52.5 +0.9
ISA IAmb IAmb 10 59 04.4
comp=Z,65nm,1.9s
PFO Pinyon Flats O 77.62 46 P 10 58 54.7
baz=234
TPFO Pinon Flats 77.62 46 P 10 58 54.8
baz=234
PFO Pinyon Flats O 77.62 46 P P 10 58 53.4 +1.1
PFO pmax pmax
comp=Z,25nm,1.6s
PFO Pinyon Flats O 77.62 46 P P 10 58 53.4 +1.1
PFO IAmb IAmb 10 59 12.3
comp=Z,25nm,1.6s
SWSC Sam W. Stewart 77.68 47 P 10 58 54.2
baz=234
O02D Mt. Diablo Mer 77.80 38 P 10 58 54.0
baz=228,SNR=5.1
PET Petropavlovsk 77.80 344 *e*P **P 10 58 57.2 +4.6**
PET *e*S **S 11 08 47.5 +2.5**
PET *e*PS **PnS 11 09 27.8 +2.4**
CMB Columbia Colle 77.82 41 P P 10 58 54.3 +1.1
CMB pmax pmax
comp=Z,50nm,2.0s
CMB Columbia Colle 77.82 41 P P 10 58 54.3 +1.1
CMB IAmb IAmb 10 59 05.5
comp=Z,50nm,1.9s
LRMC Laurel Mtn Rad 77.93 44 P 10 58 55.1
baz=232
AFDM Forest Hills D 78.05 40 P 10 58 54.1 -0.3
PEA0B Petropavlovsk- 78.13 343 P P 10 58 54.1 -0.4
PEA0B pmax pmax
comp=Z,123nm,1.6s
PEA0B Petropavlovsk- 78.13 343 P 10 58 54.1 -0.4
PETK Petropavlovsk- 78.13 343 P P 10 58 53.6 -0.8
comp=Z,3.6nm,0.6s,baz=141,slow=8.3,SNR=12
PETK LR LR 11 30 56.2
comp=Z,358nm,19.2s,baz=159,slow=34
BELC Belle Mtn. Jos 78.16 46 P 10 58 55.9
baz=234
WDC Whiskeytown Da 78.21 38 P P 10 58 55.9 +0.7
WDC pmax pmax
comp=Z,21nm,1.4s
WDC Whiskeytown Da 78.21 38 P 10 58 55.9 +0.7
WDC IAmb IAmb 10 59 16.7
comp=Z,21nm,1.4s
CWC Cottonwood Cre 78.26 43 P 10 58 56.5
baz=232
BC3 Big Chuckawall 78.33 47 P 10 58 57.5
baz=234
YSS Yuzh-Sakhalins 78.35 332 *e*P **P 10 59 00.0 +4.2**
YSS *e* 10 59 09.2
YSS *e* 11 01 55.9
YSS *e*S S 11 09 02.2 +11
YSS pmax pmax
comp=Z,600nm,6.0s
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,300nm,13.0s
YSS MLR MLR
comp=E,300nm,20.0s
MDPB Devils Postpil 78.36 42 P P 10 58 56.5 0.0
N02D Trinity Center 78.37 37 P 10 58 57.6
baz=228
SPIA Saint Paul Isl 78.38 2 P 10 58 57.2
baz=184
GSC Goldstone, Bar 78.39 45 P 10 58 58.2
baz=233
GSC Goldstone, Bar 78.39 45 P P 10 58 56.7 +0.2
GSC pmax pmax
comp=Z,21nm,1.5s
GSC Goldstone, Bar 78.39 45 P 10 58 56.7 +0.2
MPMC Manual Prospec 78.40 44 P 10 58 57.7
baz=232
GLA Glamis 78.41 48 P 10 58 57.9
baz=235
HEC Hector Ludlow 78.42 45 P 10 58 57.2
baz=234
O03E Paynes Creek 78.44 38 P 10 58 57.0
baz=229,SNR=7.0
MLAC Mammoth, Mammo 78.51 42 P 10 58 58.0
baz=231
TIN Tinemaha, Big 78.54 43 P 10 58 58.2
baz=232
M02C Callahan 78.57 37 P 10 58 58.4
baz=228
L02E Cave Junction 78.67 36 P 10 58 58.9
baz=227
WAKR Walker 78.69 41 IAmb IAmb 10 59 13.7
comp=Z,17nm,1.0s
IRM Iron Mountain 78.83 46 P 10 58 59.7
baz=234
GMRC Granite Mounta 78.84 46 P 10 59 00.1
baz=234
YBH Yreka Blue Hor 78.88 37 LR LR 11 28 51.5
comp=Z,507nm,18.8s,baz=236,slow=32
PNTR Pine Nut 78.96 40 IAmb IAmb 10 59 13.0
comp=Z,21nm,0.9s
K02D Willamette Mer 79.00 35 P 10 59 00.9
baz=227
BEKR Beckworth 79.00 39 P 10 59 00.0 +0.2
GRAC Grapevine Rang 79.05 43 P 10 59 00.9
baz=232
FURC Furnace Creek, 79.05 44 P 10 59 00.8
baz=234
TUQ Turquoise Moun 79.05 45 P 10 59 01.0
baz=234
VCNR Virginia City 79.06 40 P P 10 59 01.2 +1.0
VCNR IAmb IAmb 10 59 23.5
comp=Z,22nm,1.1s
SHOC Shoshone, Teco 79.09 44 P 10 59 01.1
baz=233
LHV Little Huntoon 79.11 41 IAmb IAmb 10 59 19.6
comp=Z,25nm,1.1s
YERR Yerington 79.11 41 IAmb IAmb 10 59 12.9
comp=Z,33nm,1.4s
J01E Myrtle Point 79.18 35 P 10 59 01.8
baz=227
214A Organ Pipe Nat 79.20 49 P 10 59 01.8
baz=236
RYN Ryan 79.33 41 IAmb IAmb 10 59 23.0
comp=Z,40nm,1.4s
HUMO Hull Mountain 79.33 36 P 10 59 02.4 +1.1
NVAR Mina Array Bea 79.34 41 P P 10 59 02.6 +0.8
comp=Z,6.1nm,0.7s,baz=224,slow=8.1,SNR=70
NVAR LR LR 11 29 38.1
comp=Z,683nm,18.1s,baz=232,slow=32
NVAR Mina Array Bea 79.34 41 P P 10 59 03.4 +1.6
M04C Macdoel 79.40 37 P 10 59 02.7
baz=228
L04D Klamath Falls 79.43 37 P 10 59 02.8
baz=228,SNR=6.6
NV11 Mina Array Sit 79.43 42 P P 10 59 03.1 +0.9
NV11 IAmb IAmb 10 59 14.8
comp=Z,27nm,1.4s
PAHR Pah Rah Range 79.48 40 P 10 59 03.3 +0.9
PAHR IAmb IAmb 10 59 25.6
comp=Z,26nm,1.4s
NEE2 Needles Airpor 79.53 46 P 10 59 03.5
baz=235
TPNV Topopah Spring 79.73 44 P 10 59 04.7
baz=233
TPNV Topopah Spring 79.74 44 P P 10 59 05.8 +1.9
TPNV pmax pmax
comp=Z,20nm,1.4s
TPNV Topopah Spring 79.74 44 P 10 59 05.8 +1.9
TPH Tonopah 79.80 42 P P 10 59 05.0 +0.8
TPH pmax pmax
comp=Z,179nm,1.7s
TPH Tonopah 79.80 42 P P 10 59 05.0 +0.8
I03D Drain, OR 79.85 35 P 10 59 04.7
baz=227
I02D Swisshome 79.87 34 P 10 59 05.3
baz=227
KSRS Korea Array 79.94 317 P P 10 59 05.5 +0.7
comp=Z,12nm,1.1s,baz=139,slow=5.7,SNR=25
KSRS LR LR 11 29 11.4
comp=Z,250nm,20.1s,baz=144,slow=32
KSAR Wonju Array Be 79.96 317 P P 10 59 04.5 -0.3
KSAR Wonju Array Be 79.96 317 P 10 59 04.5 -0.3
Y14A Wickenburg 80.16 48 P P 10 59 07.2 +1.1
SHPR Sheep Range 80.18 45 P P 10 59 07.4 +1.1
J04D Umpqua Nationa 80.21 36 P 10 59 07.3
baz=228
W13A Hualapai Mount 80.22 46 P P 10 59 06.7 +0.1
OHAK Old Harbor 80.31 11 P 10 59 07.2
baz=200
MOD Modoc Plateau 80.35 38 P 10 59 07.4 +0.4
I04A Tendick Farm, 80.42 35 P 10 59 07.3
baz=228,SNR=8.2
K05A Summer Lake 80.55 37 P 10 59 08.6 +0.5
K05A IAmb IAmb 10 59 20.9
comp=Z,68nm,1.7s
MDSI Maura Dua 80.55 269 P P 10 59 08.8 +0.2
comp=Z,675nmcomp=Z,8.3nm,0.8s
J05D Fort Rock, OR 80.72 36 P 10 59 09.9
baz=229,SNR=18
H04D Lebanon 80.74 35 P 10 59 10.0
baz=228
PRN Pahroc Range 80.78 44 P P 10 59 09.8 +0.3
PRN IAmb IAmb 10 59 22.6
comp=Z,46nm,1.8s
TUC Tucson 80.83 50 P 10 59 10.2
baz=237
TUC Tucson 80.83 50 P P 10 59 08.8 -1.0
TUC pmax pmax
comp=Z,12nm,1.3s
TUC Tucson 80.83 50 P 10 59 08.8 -1.0
G03D McMinnville, O 80.93 34 P 10 59 11.2
baz=227
H04A Detroit Lake 81.14 35 P 10 59 11.0 0.0
PINE Pine Mountain 81.22 36 P 10 59 12.3 +0.6
PINE IAmb IAmb 10 59 16.0
comp=Z,15nm,0.9s
I05D Terrebonne, OR 81.36 35 P 10 59 12.4
baz=229,SNR=5.8
TYV Tymovskoe 81.38 334 *e*P P 10 59 25.2 +13
TYV pmax pmax
comp=Z,17nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.1s
X16A Lo Mia Camp, P 81.51 48 P P 10 59 14.8 +1.3
WVOR Wild Horse Val 81.64 38 P P 10 59 14.5 +0.6
WVOR pmax pmax
comp=Z,20nm,1.4s
WVOR Wild Horse Val 81.64 38 P P 10 59 14.4 +0.6
WVOR IAmb IAmb 10 59 35.1
comp=Z,20nm,1.4s
F04D Rainier, OR 81.65 33 P 10 59 14.9
baz=227
E03A Lebam 81.69 33 P 10 59 14.5 +0.7
E03A IAmb IAmb 10 59 37.6
comp=Z,18nm,1.1s
USA0B Ussuriysk Arra 81.75 324 P P 10 59 14.2 0.0
USA0B pmax pmax
comp=Z,49nm,1.4s
USA0B Ussuriysk Arra 81.75 324 P 10 59 14.2 0.0
USA0B IAmb IAmb 10 59 29.8
comp=Z,49nm,1.4s
USRK Ussuriysk Ar. 81.75 324 P P 10 59 14.5 +0.2
comp=Z,2.9nm,0.7s,baz=134,slow=4.2,SNR=15
USRK LR LR 11 30 36.9
comp=Z,413nm,21.1s,baz=123,slow=32
USRK Ussuriysk Ar. 81.75 324 P 10 59 14.2 0.0
MAW Mawson 81.85 199 P P 10 59 16.5 +2.0
comp=Z,5.0nm,0.8s,baz=132,slow=8.5,SNR=9.9
MAW LR LR 11 35 02.6
comp=Z,364nm,18.1s,baz=92,slow=35
MAW Mawson 81.85 199 P P 10 59 16.7 +2.1
baz=82,SNR=4.9
G05D Wamic, OR 81.97 35 P 10 59 16.2
baz=228
KNB Kanab 82.01 45 P P 10 59 17.2 +1.1
KNB pmax pmax
comp=Z,74nm,1.9s
KNB Kanab 82.01 45 P 10 59 17.2 +1.1
KNB IAmb IAmb 10 59 38.1
comp=Z,74nm,1.9s
U15A North Rim 82.03 46 IAmb IAmb 10 59 32.6
comp=Z,54nm,1.9s
SZCU Shurtz Canyon 82.16 45 IAmb IAmb 10 59 30.1
comp=Z,31nm,1.7s
E04D Cinebar 82.20 33 P 10 59 17.5
baz=227
I07A Izee 82.20 36 P 10 59 17.6 +0.8
J08A Circle Bar Ran 82.31 37 P P 10 59 17.9 +0.4
J08A IAmb IAmb 10 59 38.7
comp=Z,40nm,1.6s
F05D White Salmon 82.32 34 P 10 59 18.0
baz=228
D04E Lakebay 82.51 33 P 10 59 20.2
baz=227
H03S2 Juan Fernandez 82.55 123 T T 12 31 47.1
baz=248,slow=75,SNR=36
H03S1 Juan Fernandez 82.57 123 T T 12 31 49.8
baz=248,slow=75,SNR=48
H03S3 Juan Fernandez 82.57 123 T T 12 31 31.0
baz=248,slow=75,SNR=34
D03D Eldon 82.60 32 P 10 59 19.6
baz=227
ELK Elko 82.62 41 P P 10 59 18.8 -0.5
ELK pmax pmax
comp=Z,10.0nm,1.3s
ELK Elko 82.62 41 P P 10 59 18.8 -0.5
H03N2 Juan Fernandez 82.69 123 T T 12 31 33.2
baz=257,slow=71,SNR=15
H03N3 Juan Fernandez 82.69 123 T T 12 31 39.0
baz=257,slow=71,SNR=15
H03N1 Juan Fernandez 82.70 123 T T 12 31 27.7
baz=257,slow=71,SNR=8.4
HOM Homer 82.90 11 P 10 59 20.7
baz=201
MTPU Mount Pierson 83.00 45 IAmb IAmb 10 59 35.3
comp=Z,30nm,1.3s
BRLK Bradley Lake 83.14 12 P P 10 59 21.4 +0.3
BRLK IAmb IAmb 10 59 44.0
comp=Z,31nm,1.1s
BRSE Bradley Lake S 83.14 12 P 10 59 21.5
baz=202
TCRU Three Creeks R 83.15 44 P P 10 59 22.5 +0.5
TCRU IAmb IAmb 10 59 53.7
comp=Z,16nm,1.2s
N18K Kilae Creek 83.17 9 P 10 59 21.3
baz=197
NJ2 Nanjing 83.20 308 *e*P **P 10 59 22.8 +0.7**
NJ2 pmax pmax
comp=Z,17nm,0.7s
G08A Pilot Rock 83.27 36 P 10 59 22.5 +0.2
G08A IAmb IAmb 10 59 36.9
comp=Z,18nm,1.1s
MSU Marysvale 83.27 44 P P 10 59 23.7 +1.0
MSU Marysvale 83.27 44 P 10 59 23.7 +1.0
MDJ Mudanjiang 83.33 323 P P 10 59 22.5 0.0
MDJ S S **11 09 47.0 +3.6**
MDJ pmax pmax
comp=Z,31nm,1.8s
MDJ pmax pmax
comp=Z,460nm,9.2s
MDJ L L
comp=Z,230nm,17.0s
MDJ L L
comp=Z,390nm,20.9s
MDJ L L
comp=Z,640nm,20.4s
MDJ Mudanjiang 83.33 323 P 10 59 22.4 -0.2
MDJ IAmb IAmb 10 59 24.6
comp=Z,28nm,1.0s
N19K Bonanza Creek 83.51 10 P 10 59 22.3
baz=198,SNR=6.8
B05A Bryant 83.58 32 P 10 59 24.4
baz=228
E07A Sunnyside 83.60 34 IAmb IAmb 10 59 45.1
comp=Z,23nm,1.1s
SVW2 Sparrevohn 83.61 9 IAmb IAmb 10 59 24.3
comp=Z,38nm,1.9s
HAWA Hanford 83.67 35 P 10 59 24.7 +0.5
HAWA IAmb IAmb 10 59 36.7
comp=Z,46nm,1.6s
DUG Dugway, Tooele 83.81 43 P 10 59 26.0
baz=235
DUG Dugway, Tooele 83.81 43 P P 10 59 25.9 +0.6
DUG pmax pmax
comp=Z,6.0nm,1.2s
DUG Dugway, Tooele 83.81 43 P P 10 59 25.9 +0.6
MFID Camas Ranch 83.87 39 P 10 59 25.6 +0.1
MFID IAmb IAmb 10 59 40.0
comp=Z,15nm,1.1s
BMO Blue Mountains 83.90 37 P P 10 59 25.5 -0.1
BMO pmax pmax
comp=Z,27nm,1.5s
BMO Blue Mountains 83.90 37 P P 10 59 25.5 -0.1
BMO IAmb IAmb 10 59 36.8
comp=Z,27nm,1.5s
E08A Dider Farm, El 83.98 35 P 10 59 26.8 +1.0
E08A IAmb IAmb 10 59 40.3
comp=Z,9.2nm,0.9s
NLU North Lily Min 84.14 43 IAmb IAmb 10 59 39.9
comp=Z,26nm,2.0s
SPCR Spurr Chakacha 84.24 11 P 10 59 26.2
baz=201
TMUT Trail Mountain 84.34 44 IAmb IAmb 10 59 41.4
comp=Z,24nm,1.1s
D08A Wollman Farm, 84.41 34 P 10 59 28.6 +0.6
D08A IAmb IAmb 10 59 31.0
comp=Z,12nm,0.9s
QIZ Qiongzhong 84.45 293 P P 10 59 29.8 +0.9
QIZ S S **11 09 57.8 +2.0**
QIZ pmax pmax
comp=Z,160nm,8.6s
QIZ L L
comp=Z,210nm,15.5s
QIZ L L
comp=Z,270nm,18.4s
QIZ L L
comp=Z,180nm,20.1s
MNTX Cornudas Mount 84.46 53 P 10 59 28.4
baz=241
MNTX Cornudas Mount 84.46 53 P 10 59 28.9 +0.3
E09A Wood Farm, Sta 84.48 35 P P 10 59 28.8 +0.5
E09A IAmb IAmb 10 59 49.1
comp=Z,16nm,1.2s
LENM Lemitar 84.52 50 P P 10 59 28.6 -0.5
M19K Big River Lodg 84.56 9 P 10 59 27.4
baz=198,SNR=7.1
RC01 Rabbit Creek A 84.58 12 P 10 59 28.2
baz=203
TX31 Lajitas Ar. Si 84.63 56 P P 10 59 31.1 +1.4
TX32 Lajitas Array 84.63 56 P P 10 59 30.7 +1.1
TX32 IAmb IAmb 10 59 45.8
comp=Z,14nm,1.4s
TXAR Lajitas Array 84.63 56 P P 10 59 30.9 +1.2
comp=Z,1.8nm,1.0s,baz=212,slow=4.4,SNR=13
TXAR LR LR 11 31 15.7
comp=Z,274nm,18.7s,baz=0.0,slow=31
TXAR Lajitas Array 84.63 56 P 10 59 30.4 +0.7
F10A Beach Ranch, E 84.64 36 P 10 59 29.6 +0.3
F10A IAmb IAmb 10 59 43.8
comp=Z,24nm,1.1s
SIT Sitka 84.73 20 P 10 59 29.6
baz=216
P17A Butcher Ranch, 84.74 44 IAmb IAmb 10 59 42.9
comp=Z,49nm,1.8s
SUA Susitna One 84.74 11 P 10 59 29.3
baz=202
SUA Susitna One 84.75 11 P P 10 59 29.6 +0.1
SUA IAmb IAmb 10 59 31.2
comp=Z,18nm,0.7s
L19K White Mountain 84.75 9 P 10 59 28.8
baz=198,SNR=6.5
JLU Jordanelle 84.90 43 IAmb IAmb 10 59 43.4
comp=Z,15nm,1.4s
GLI Glacier Island 84.91 13 P 10 59 30.3
baz=205
B08A Colville Reser 85.03 33 P 10 59 31.6 +0.5
B08A IAmb IAmb 10 59 51.5
comp=Z,44nm,1.9s
PV05 Paradox Valley 85.07 46 P P 10 59 33.3 +1.5
PV05 IAmb IAmb 10 59 48.0
comp=Z,28nm,1.6s
SKT Skwentna 85.09 11 P 10 59 29.7
baz=201,SNR=5.7
KNK Knik Glacier 85.13 12 P 10 59 31.1
baz=204
KNK Knik Glacier 85.13 12 P P 10 59 31.6 +0.3
KNK IAmb IAmb 10 59 32.3
comp=Z,13nm,0.7s
KLR Kul'dur 85.15 328 LR LR 11 33 23.3
comp=Z,508nm,20.5s,baz=154,slow=33
KLR Kul'dur 85.15 328 *i* **P P 10 59 31.0 -0.7**
KLR pmax pmax
comp=Z,15nm,1.6s
PMR Palmer 85.16 12 P 10 59 30.4
baz=203,SNR=6.4
SNY Shenyang 85.21 318 ⇑**P P 10 59 31.5 -0.6**
SNY pmax pmax
comp=Z,20nm,1.6s
CN2 Changchun 85.21 321 *e*P **P 10 59 32.5 +0.4**
CN2 pmax pmax
comp=Z,30nm,1.5s
WRAK Wrangell Islan 85.22 22 P 10 59 32.4
baz=219
C09A Chrisman Ranch 85.23 34 IAmb IAmb 10 59 44.3
comp=Z,42nm,1.8s
PV17 East Wray Mesa 85.27 46 IAmb IAmb 10 59 48.4
comp=Z,27nm,1.6s
ANMO Albuquerque 85.28 50 *i* **P P 10 59 33.4 +0.5**
ANMO pmax pmax
comp=Z,22nm,1.8s
ANMO Albuquerque 85.28 50 P 10 59 33.2 +0.3

ANMO IAmb IAmb 10 59 53.3
comp=Z,53nm,2.0s
PV13 Radium Mtn., P 85.30 46 IAmb IAmb 10 59 45.6
comp=Z,30nm,1.7s
PV16 Nyswonger Mesa 85.31 46 IAmb IAmb 10 59 48.7
comp=Z,33nm,1.7s
PV03 Paradox Valley 85.33 46 IAmb IAmb 10 59 48.7
comp=Z,43nm,1.7s
GHO Glory Hole Cre 85.37 12 P **P** **10 59 32.8 +0.3**
GHO IAmb IAmb 10 59 33.5
comp=Z,22nm,0.8s
PV12 Saucer Basin, 85.39 46 P **P** **10 59 33.8 +0.3**
PV12 IAmb IAmb 10 59 48.3
comp=Z,24nm,1.5s
MESA MESA 85.47 16 P 10 59 33.6
baz=210
SML Sawmill 85.51 12 P 10 59 33.5
baz=204
BMRM Bremner River 85.53 14 P 10 59 33.6
baz=208
CRQM Cirque 85.69 15 IAmb IAmb 10 59 46.0
comp=Z,18nm,1.0s
CRQE Cirque 85.69 15 P 10 59 34.6
baz=209
CUT Chulitna 85.70 11 P 10 59 33.4
baz=202,SNR=6.5
CUT Chulitna 85.70 11 P **P** **10 59 34.2 +0.1**
KLU Klutina 85.72 13 P 10 59 34.5
baz=206
KLU Klutina 85.72 13 IAmb IAmb 11 00 01.5
comp=Z,37nm,1.5s
BCYI Bear Canyon 85.81 39 P **P** **10 59 36.1 +0.7**
PINM Pinnacle 85.83 16 P 10 59 35.0
baz=211
WHN Wuhan 85.84 305 ⇓P **P** **10 59 36.3 +0.7**
ANM Nome 86.00 4 P 10 59 35.8
baz=188
JIS Juneau Island 86.02 20 IAmb IAmb 10 59 38.0
comp=Z,43nm,2.0s
VRDI Verde Repeater 86.03 14 P **P** **10 59 35.1 -0.9**
VRDI IAmb IAmb 10 59 37.5
comp=Z,56nm,1.8s
PLCA Paso Flores 86.06 132 P **P** **10 59 39.5 +2.8**
comp=Z,2.5nm,0.8s,baz=260,slow=3.2,SNR=2.8
PLCA LR LR 11 31 40.2
comp=Z,267nm,18.9s,baz=257,slow=31
N25K Chitina, Valde 86.10 14 P 10 59 36.9
baz=208
NEW Newport 86.12 34 P 10 59 36.4
baz=232
NEW Newport 86.12 34 LR LR 11 34 48.0
comp=Z,634nm,18.1s,baz=186,slow=33
GLB Gilahina Butte 86.14 14 **P** **10 59 36.7 +0.3**
M24K Tolsona, Glenn 86.22 13 P 10 59 37.0
baz=206
LOGN Logan Glacier 86.27 16 IAmb IAmb 11 00 04.7
comp=Z,29nm,1.3s
CTG Chitna Glacier 86.30 15 P 10 59 37.7
baz=210
CTGM Chitina Glacie 86.31 15 IAmb IAmb 11 00 01.3
comp=Z,33nm,1.4s
BARN Barnard Glacie 86.31 15 P **P** **10 59 37.2 -0.2**
WAT6 Susitna Watana 86.33 12 P 10 59 37.0
baz=205,SNR=9.5
WAT1 Susitna Watana 86.41 12 P 10 59 37.6
baz=204
MCMT McKenzie Canyo 86.43 39 P **P** **10 59 39.0 +0.5**
TIA Tai'an 86.52 311 ⇑P **P** **10 59 38.3 -0.5**
TIA pmax pmax
comp=Z,20nm,1.3s
SYO Syowa Base 86.56 192 ⇓*e*P **P** **10 59 40.3 +1.9**
KTH Kantishna Hill 86.66 10 **P** **10 59 38.0 -0.9**
KTH IAmb IAmb 11 00 00.9
comp=Z,17nm,1.0s
TRF Thorofare Moun 86.67 11 P 10 59 38.0
baz=202,SNR=29
TRF Thorofare Moun 86.67 11 **P** **10 59 38.2 -0.9**
SKAG Skagway 86.68 19 P 10 59 39.5
baz=216
SKAG Skagway 86.69 19 P **P** **10 59 39.5 +0.5**
HARP HAARP 86.69 13 P 10 59 39.6
baz=207
MNSI Mandailing Nat 86.73 272 P **P** **10 59 39.8 -0.6**
comp=Z,30nm,0.8s
DLMT Dillon 86.89 38 IAmb IAmb 10 59 55.9
comp=Z,24nm,1.7s
VNA3 Neumayer Olymp 86.94 175 P **P** **10 59 44.1 +3.7**
SNAA Sanae 86.95 177 P **P** **10 59 42.4 +1.9**
SNAA Sanae 86.95 177 *i* P **P** **10 59 39.8 -0.7**
SNAA pmax pmax
comp=Z,18nm,1.4s
SNAA Sanae 86.95 177 P **P** **10 59 41.0 +0.5**
SNAA IAmb IAmb 10 59 54.5
comp=Z,18nm,1.3s
MSO Missoula 86.97 37 P **P** **10 59 40.5 -0.4**
SMCO Snowmass 87.06 46 **P** **10 59 42.4 +0.5**
PAX Paxson 87.14 13 P 10 59 41.1
baz=207
PAX Paxson 87.14 13 IAmb IAmb 10 59 50.6
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 87.16 10 P 10 59 40.8
baz=202
MCK McKinley 87.17 11 P 10 59 40.6
baz=204,SNR=14
MCK McKinley 87.17 11 P **P** **10 59 40.8 -0.5**
MCK pmax pmax
comp=Z,28nm,1.0s
MCK McKinley 87.17 11 P **P** **10 59 40.8 -0.5**
MCK IAmb IAmb 10 59 42.3
comp=Z,28nm,1.0s
BW06 Boulder Array 87.27 42 P 10 59 41.6
baz=237
BW06 Boulder Array 87.27 42 P **P** **10 59 43.5 +0.9**
PD31 Pinedale Array 87.27 42 P **P** **10 59 43.0 +0.4**
PDAR Pinedale Array 87.27 42 P **P** **10 59 42.9 +0.2**
comp=Z,1.1nm,0.7s,baz=210,slow=2.7,SNR=10.0
PDAR LR LR 11 34 32.5
comp=Z,391nm,18.5s,baz=253,slow=33
PDAR Pinedale Array 87.27 42 P **P** **10 59 42.6 0.0**
SDCO Great Sand Dun 87.34 48 P 10 59 42.4
baz=240
VNA2 Neumayer--Watz 87.43 176 P **P** **10 59 45.4 +2.7**
baz=211,slow=3.6
MSTX Muleshoe 87.47 52 P 10 59 42.4
baz=242
MSTX Muleshoe 87.47 52 **P** **10 59 44.3 +0.7**
MSTX IAmb IAmb 11 00 00.2
comp=Z,23nm,1.4s
MENT Mentasta 87.48 13 IAmb IAmb 10 59 54.9
comp=Z,24nm,1.2s
833A Chaparral WMA, 87.52 58 P 10 59 41.3
baz=244
DLBC Dease Lake 87.58 22 P **P** **10 59 43.4 0.0**
DLBC IAmb IAmb 10 59 45.7
comp=Z,45nm,2.0s
VNA1 Neumayer--Stat 87.63 175 P **P** **10 59 45.1 +1.5**
WHY Whitehorse 87.79 18 P 10 59 44.4
baz=216
T25A Trinidad 87.80 49 P 10 59 43.5
baz=241
NEA2 Nenana 87.94 11 P 10 59 44.5
baz=203
NEA2 Nenana 87.94 11 IAmb IAmb 10 59 47.1
comp=Z,31nm,1.6s
WRH Wood River Hil 88.00 11 P **P** **10 59 45.0 -0.2**
L27K Beaver Creek, 88.01 14 P 10 59 45.5
baz=210,SNR=9.2
I21K Tanana 88.02 9 P 10 59 45.1
baz=201
BCAR Beaver Creek A 88.02 14 **P** **10 59 45.3 -0.1**
DOT Dot Lake 88.04 13 IAmb IAmb 10 59 46.8
comp=Z,11nm,0.8s
MLY Manley 88.07 10 P 10 59 45.1
baz=202
MLY Manley 88.07 10 P **P** **10 59 45.2 -0.4**
MLY IAmb IAmb 10 59 56.3
comp=Z,18nm,1.5s
SEY Seymchan 88.12 345 LR LR 11 34 38.0
comp=Z,550nm,20.9s,baz=151,slow=33
SEY Seymchan 88.12 345 *i* P **P** **10 59 45.2 -0.6**
JCT Junction City 88.14 56 P 10 59 45.6
baz=244
HDA Harding Lake 88.15 11 P 10 59 45.6
baz=205,SNR=9.0
HDA P 10 59 45.6
baz=205,SNR=9.0
SCRK Sand Creek 88.34 13 P 10 59 46.9
baz=208,SNR=8.8
SCRK Sand Creek 88.34 13 **P** **10 59 47.3 +0.2**
SCRK IAmb IAmb 10 59 59.0
comp=Z,14nm,1.2s
I23K Minto, Yukon-K 88.40 10 P 10 59 46.4
baz=203
I23K Minto, Yukon-K 88.40 10 P **P** **10 59 47.5 +0.4**
TCOL CIGO, UAF Yank 88.41 11 P 10 59 46.8
baz=204
TCOL CIGO, UAF Yank 88.41 11 P **P** **10 59 47.5 +0.4**
COLA College 88.41 11 *c* *i*P **P** **10 59 46.3 -0.8**
COLA pmax pmax
comp=Z,45nm,1.6s
COLA College 88.41 11 P **P** **10 59 47.1 0.0**
ILAR Eielson Array 88.49 11 P **P** **10 59 47.5 -0.1**
comp=Z,3.4nm,0.7s,baz=218,slow=4.9,SNR=22
ILAR Eielson Array 88.49 11 P **P** **10 59 47.1 -0.5**
ILAR Eielson Array 88.49 11 **P** **10 59 47.1 -0.5**
POKR Poker Plat Res 88.70 11 P 10 59 48.3
baz=205
GSI Gunungsitoli 88.78 272 **P** **10 59 49.8 -0.4**
K27K Chicken 88.79 14 P 10 59 49.6
baz=210
K27K Chicken 88.80 14 P **P** **10 59 49.8 +0.8**
K27K IAmb IAmb 11 00 01.6
comp=Z,24nm,1.3s
BJI Beijing 89.05 314 P **P** **10 59 51.5 +0.7**
BJI pmax pmax
comp=Z,21nm,1.9s
BJI L L
comp=Z,230nm,19.3s
BJI L L
comp=Z,320nm,17.7s
BJI L L
comp=Z,520nm,15.7s
K22A Casper 89.12 43 P 10 59 50.7
baz=239
ABTX Abilene, Hawle 89.20 54 P 10 59 50.9
baz=244
H24K Noodor Dome 89.28 11 P 10 59 51.4
baz=204
SRAK Srakaew 89.34 285 P **P** **10 59 53.0 +0.3**
PRP Porcupine Dome 89.41 12 P 10 59 51.9
baz=207,SNR=11
DAWY Dawson 89.43 15 **P** **10 59 53.3 +1.2**
ENH Enshi 89.49 303 **P** **10 59 52.2 -1.0**
RDOG Red Dog Mine 89.62 4 P 10 59 53.2
baz=191
EGAK Eagle 89.64 14 P 10 59 53.0
baz=211,SNR=14
EGAK Eagle 89.64 14 **P** **10 59 53.9 +0.9**
NONG Nongkai 89.89 289 P **P** **10 59 57.0 +1.8**
EGMT Eagleton 89.99 37 P 10 59 55.2
baz=237
CHAI Chaiyaphum 90.10 287 P **P** **10 59 58.1 +1.8**
comp=Z,18nm,1.2s
GYA Guiyang 90.18 298 ⇓P **P** **10 59 57.0 +0.4**
GYA L L
comp=Z,58nm,18.8s
ZEA Zeya 90.18 330 *e*P **P** **10 59 56.5 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.8s
COLD Coldfoot 90.20 9 P 10 59 55.9
baz=202
BILL Bilibino 90.36 353 ⇓*e*P **P** **10 59 55.4 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.9s
SLVN Son La 90.48 293 IAmb IAmb 11 00 19.6
comp=Z,31nm,1.4s
BMAR Burnt Mountain 91.30 11 **P** **11 00 01.3 +0.6**
XAN Xi'an 91.51 306 ⇑P **P** **11 00 03.0 +0.5**
XAN pP pwP 11 00 09.5 -0.3
XAN sP sP 11 00 13.3 +8.3
XAN pmax pmax
comp=Z,48nm,1.4s
XAN L L
comp=Z,290nm,21.7s
XAN L L
comp=Z,400nm,21.7s
TOLK Toolik Lake Re 91.60 9 P 11 00 02.4
baz=203
TOLK Toolik Lake Re 91.60 9 IAmb IAmb 11 00 03.7
comp=Z,26nm,1.8s
PHIT Phitsanulok 91.98 288 P **P** **11 00 06.7 +1.8**
comp=Z,997nmcomp=Z,94nm,1.0s
EPYK Eagle Plains 91.98 14 P 11 00 04.1
baz=215
UTTA Uttaradit 92.06 288 P **P** **11 00 06.9 +1.6**
comp=Z,244nmcomp=Z,21nm,1.1s
HHC Hu-ho-hao-te 92.54 313 *e*P **P** **11 00 07.3 +0.1**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,450nm,5.7s
KMI Kunming 92.92 296 ⇓P **P** **11 00 11.0 +1.6**
KMI pP sP 11 00 14.0 +2.1
KMI sP pwP 11 00 15.5 -1.3
KMI PP **PP** **11 03 52.5 +0.2**
KMI SKS **SKSac** **11 10 46.3 +2.2**
KMI S **S** **11 11 15.3 -0.6**
KMI pmax pmax
comp=Z,18nm,0.8s
KMI L L
comp=Z,320nm,21.2s
KMI L L
comp=Z,490nm,20.1s
KMI L L
comp=Z,680nm,21.3s
DGMT Dagmar 93.41 39 P **P** **11 00 11.5 +0.6**
CM04 Chiang Mai Arr 93.69 288 P **P** **11 00 14.7 +1.8**
comp=Z,171nmcomp=Z,19nm,1.1s
CM04 Chiang Mai Arr 93.69 288 P **P** **11 00 14.7 +1.8**
comp=Z,171nmcomp=Z,19nm,1.1s
CM09 Chiang Mai Arr 93.70 288 P **P** **11 00 14.9 +2.0**
comp=Z,137nmcomp=Z,15nm,1.0s
CM09 Chiang Mai Arr 93.70 288 P **P** **11 00 14.9 +2.0**
comp=Z,137nmcomp=Z,15nm,1.0s
CM01 Chiang Mai Arr 93.72 288 P **P** **11 00 15.0 +2.0**
comp=Z,161nmcomp=Z,16nm,1.3s
CM01 Chiang Mai Arr 93.72 288 P **P** **11 00 15.0 +2.0**
comp=Z,161nmcomp=Z,16nm,1.3s
CM05 Chiang Mai Arr 93.72 288 P **P** **11 00 14.6 +1.6**
comp=Z,114nmcomp=Z,14nm,1.1s
CM05 Chiang Mai Arr 93.72 288 P **P** **11 00 14.6 +1.6**
comp=Z,114nmcomp=Z,14nm,1.1s
CM02 Chiang Mai Arr 93.73 288 P **P** **11 00 14.9 +1.8**
comp=Z,136nmcomp=Z,15nm,1.1s
CM02 Chiang Mai Arr 93.73 288 P **P** **11 00 14.9 +1.8**
comp=Z,136nmcomp=Z,15nm,1.1s
CMAR Chiang Mai Arr 93.74 288 P **P** **11 00 14.2 +1.1**
comp=Z,6.4nm,0.8s,baz=117,slow=3.0,SNR=39
CMAR LR LR 11 40 46.1
comp=Z,140nm,19.3s,baz=190,slow=35
CMAR Chiang Mai Arr 93.74 288 P **P** **11 00 12.8 -0.3**
CMAR Chiang Mai Arr 93.74 288 **P** **11 00 12.8 -0.3**
CM15 Chiang Mai Arr 93.76 288 P **P** **11 00 15.0 +1.8**
comp=Z,8.5nm,0.4s
CM15 Chiang Mai Arr 93.76 288 P **P** **11 00 15.0 +1.8**
comp=Z,8.5nm,0.4s
CM13 Chiang Mai Arr 93.76 288 P **P** **11 00 14.6 +1.4**
comp=Z,129nmcomp=Z,13nm,1.1s
CM13 Chiang Mai Arr 93.76 288 P **P** **11 00 14.6 +1.4**
comp=Z,129nmcomp=Z,13nm,1.1s
CMMT Chiang Mai 93.87 289 P **P** **11 00 13.8 +0.1**
comp=Z,24nm,1.5s
CMMT Chiang Mai 93.87 289 P **P** **11 00 13.8 +0.1**
comp=Z,22nm,1.5s
CHTO Chiang Mai 93.87 289 P **P** **11 00 12.5 -1.2**
CHTO pmax pmax
comp=Z,90nm,2.0s
CHTO Chiang Mai 93.87 289 P **P** **11 00 14.8 +1.1**
CHTO Chiang Mai 93.87 289 P **P** **11 00 14.8 +1.1**
comp=Z,24nm,1.5s
CHTO Chiang Mai 93.87 289 **P** **11 00 12.5 -1.2**
CHTO Chiang Mai 93.87 289 P **P** **11 00 14.8 +1.1**
comp=Z,13nm,1.5s
CD2 Chengdu 94.27 301 *e*P **P** **11 00 16.5 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 94.28 14 P 11 00 14.4
baz=218
INK Inuvik 94.29 14 P **P** **11 00 14.6 +0.2**
INK pmax pmax
comp=Z,49nm,2.0s
INK Inuvik 94.29 14 **P** **11 00 14.6 +0.2**
YAK Yakutsk 94.32 337 LR LR 11 38 37.8
comp=Z,195nm,19.6s,baz=89,slow=33
YAK Yakutsk 94.32 337 *i* P **P** **11 00 15.0 +0.3**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YKA Yellowknife Ar 95.92 24 P **P** **11 00 22.0 0.0**
comp=Z,1.2nm,0.8s,baz=233,slow=4.4,SNR=8.6
YKA LR LR 11 38 35.3
comp=Z,251nm,19.9s,baz=0.0,slow=32
ECSD EROS Data Cent 96.06 45 P 11 00 23.0
baz=246
ECSD EROS Data Cent 96.06 45 **P** **11 00 22.4 -0.7**
ECSD IAmb IAmb 11 00 33.6
comp=Z,18nm,1.4s
LZH Lanzhou 96.14 306 *e*P **P** **11 00 24.5 +0.6**
LZH pP sP 11 00 27.5 +1.1
LZH sP pwP 11 00 29.5 -1.7
LZH pmax pmax
comp=Z,16nm,1.1s
ULN Ulaanbaatar 98.39 318 *i* P **P** **11 00 33.1 -0.7**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 98.39 318 P **P** **11 00 30.1 -3.6**
LPAZ La Paz 98.45 111 LR LR 11 38 04.8
comp=Z,326nm,18.6s,baz=292,slow=31
SONM Songino Array 98.78 318 P **P** **11 00 33.5 -2.0**
comp=Z,0.3nm,0.3s,baz=126,slow=2.5,SNR=3.5
SONM LR LR 11 41 29.2
comp=Z,167nm,20.9s,baz=90,slow=33
ULM Lac du Bonnet 99.09 40 LR LR 11 41 38.3
comp=Z,644nm,18.6s,baz=262,slow=33
GTA Gaotai 100.30 308 ⇑P **Pdif** **11 00 37.3 -5.2**
GTA pP pP 11 00 42.0 -2.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,8.4s
GTA L L
comp=Z,150nm,18.5s
GTA L L
comp=Z,240nm,21.4s
GTA L L
comp=Z,260nm,18.5s
WMQ Urumqi 110.20 310 *e*PKP **PKiKP** **11 05 28.0 +0.3**
WMQ L L
comp=Z,500nm,19.9s
WMQ L L
comp=Z,570nm,21.7s
MK31 Makanchi Array 114.40 313 *i* PKIKP PKPdf 11 05 34.5 -1.0
MKAR Makanchi Array 114.40 313 PKP PKPdf 11 05 34.7 -0.9
comp=Z,0.6nm,0.6s,baz=80,slow=1.6,SNR=9.0
MKAR Makanchi Array 114.40 313 *i* PKIKP PKPdf 11 05 34.5 -1.0
MKAR Makanchi Array 114.40 313 PKPdf 11 05 34.5 -1.1
BRVK Borovoye 122.11 320 *i* PKIKP **PKPdf** **11 05 50.2 +0.1**
KK31 Karatay Array 122.58 308 PKIKP **PKPdf** **11 05 50.6 -0.8**
KK31 Karatay Array 122.58 308 **PKPdf** **11 05 50.5 -0.8**
KKAR Karatay Array 122.58 308 PKIKP **PKPdf** **11 05 50.7 -0.7**
KKAR 11 05 50.7
KKAR Karatay Array 122.58 308 **PKPdf** **11 05 50.7 -0.7**
DAG Danmarks Havn 123.30 7 *i* P PKiKP 11 06 00.6 +8.6
DAG IAmb IAmb 11 06 01.2
comp=Z,2.6nm,0.9s
DAG Danmarks Havn 123.30 7 *i* PKIKP PKiKP 11 06 00.5 +8.5
DAG pmax pmax
comp=Z,3.0nm,0.9s
KBL Kabul 123.43 298 PKIKP **PKiKP** **11 05 54.0 +0.2**
KBL Kabul 123.43 298 **PKiKP** **11 05 54.0 +0.2**
ICESG Greenland Ices 125.02 18 *i* P **PKiKP** **11 06 01.5 +5.4**
DBG Daneborg 125.28 8 *i* P PKiKP 11 06 05.6 +10
DBG IAmb IAmb 11 06 07.2
comp=Z,3.0nm,0.9s
ARU Arti 127.96 326 *i* PKIKP **PKPdf** **11 06 01.2 0.0**
ARU 11 08 06.0
ARU 11 13 12.1
ARU SS SS 11 25 33.9 +17
ARU MLR MLR
comp=Z,394nm,20.0s
ABKAR Akbulak array 129.18 317 **PKiKP** **11 06 04.3 -0.2**
AKTO Aktyubinsk 130.10 319 PKP **PKPdf** **11 06 05.3 -0.2**
comp=Z,1.6nm,0.6s,baz=79,slow=2.9,SNR=6.4
ARCES ARCESS Array B 130.43 351 PKP **PKPdf** **11 06 05.3 -0.2**
comp=Z,2.0nm,0.6s,baz=27,slow=2.2,SNR=11
KLMR Klimovskoe 134.11 338 *e*PKIKP **PKPdf** **11 06 09.5 -3.2**
KLMR pmax pmax
comp=Z,11nm,1.5s
KLMR Klimovskoe 134.11 338 *e*PKPdf **PKPdf** **11 06 09.6 -3.2**
KLMR AMP 11 06 26.4
comp=Z,11nm,1.5s
KLMR LR LR 12 01 06.2
BELG Belogornoye 135.43 324 *i* PKIKP **PKPdf** **11 06 14.5 -0.9**
MAK Makhachkala 139.21 312 *e*P **Pdif** **11 03 29.9 -5.3**
MAK *e*PPP PPP 11 12 13.7
MAK pmax pmax
comp=Z,113nm,1.4s
OBN Obninsk 139.21 333 *e*PKIKP **PKPdf** **11 06 21.8 -0.5**
OBN pmax pmax
comp=Z,11nm,0.5s
NOA NORSAR Array B 140.25 356 PKhKP PKPpre 11 06 16.5
comp=Z,0.6nm,0.7s,baz=3.4,slow=3.8,SNR=3.6
HFS Hagfors 140.93 354 PKhKP PKPpre 11 06 17.5
comp=Z,1.6nm,0.7s,baz=73,slow=4.8,SNR=4.0
KBZ Khabaz 142.07 315 *i* PKIKP **PKPdf** **11 06 26.6 -1.3**
KIV Kislovodsk 142.11 315 *i* PKIKP **PKiKP** **11 06 32.8 +1.7**
KIV pmax pmax
comp=Z,17nm,1.1s
SHA1 Shidzhatmaz 142.22 315 *i* PKIKP **PKPdf** **11 06 26.3 -2.2**
MNK Minsk 142.99 339 *i* PKIKP **PKiKP** **11 06 36.9 +4.5**
MNK *i* PPP PPP 11 12 55.0
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=N,214nm,20.0s
MNK MLR MLR
comp=Z,226nm,21.0s
MNK MLR MLR
comp=E,29nm,21.0s
MNK Minsk 142.99 339 *i* PKP **PKiKP** **11 06 36.9 +4.6**
comp=E,3.0nm,0.9s
MNK *i* PKP **PKiKP** **11 06 36.9 +4.6**
comp=N,6.0nm,0.9s
MNK *i* PKP **PKiKP** **11 06 36.9 +4.6**
comp=Z,15nm,0.9s,baz=36
MNK *i* PP PP 11 10 02.2 +24
MNK *i* SKP 11 10 44.1
MNK *i* PKS PKSdf 11 10 45.3 +41
MNK *i* PPP PPP 11 12 55.1
MNK *i* SKS **SKSdf** **11 13 46.7 +7.8**
MNK *i* SKKS **SKKSdf** **11 23 03.4 +6.0**
MNK *i* SS **SS** **11 28 23.9 +7.5**
MNK *i* SSS SSS 11 33 46.2
MNK *i* LQ LQ 11 51 50.0
MNK *i* LR LR 12 00 23.0
MNK *i* LRM MLR 12 09 33.0
comp=N,214nm,20.0s
MNK *i* LRM MLR 12 09 56.2
comp=Z,226nm,20.6s
MNK *i* LRM MLR 12 10 11.3
comp=E,29nm,20.6s
RAYN Ar Rayn 143.30 281 PKIKP PKPbc 11 06 29.3 +1.5
RAYN Ar Rayn 143.30 281 PKPbc 11 06 29.3 +1.5
SOC Sochi 144.21 316 *e*PKHKP PKPpre 11 06 25.4
SOC *e*SS SS 11 28 25.2 -6.7
MUD Monsted U'grnd 144.94 357 ⇑*i*P **PKPab** **11 06 31.7 0.0**
MUD IAmb IAmb 11 06 32.6
comp=Z,57nm,1.2s
MUD Monsted U'grnd 144.94 357 ⇑*i*PKIKP **PKPab** **11 06 31.6 0.0**
MUD pmax pmax
comp=Z,57nm,1.2s
ANN Anapa 145.05 319 *e*PKIKP **PKPbc** **11 06 29.6 -2.9**
ANN *i* 11 06 35.6
ANN pmax pmax
comp=Z,85nm,1.4s
ANN pmax pmax
comp=Z,74nm,1.2s
AKASG Malin Array Be 145.48 333 PKPbc **PKPdf** **11 06 33.0 -0.7**
comp=Z,17nm,0.6s,baz=39,slow=4.1,SNR=68
AKASG Malin Array Be 145.48 333 PKIKP **PKPdf** **11 06 32.2 -1.4**
AKASG Malin Array Be 145.48 333 **PKPdf** **11 06 32.2 -1.4**
AKBB Malin Array Si 145.48 333 PKIKP **PKPdf** **11 06 32.4 -1.2**
AKBB Malin Array Si 145.48 333 **PKPdf** **11 06 32.4 -1.2**

EKA	Eskdalemuir Ar	145.50	9	PKPbc	PKPab	11 06 33.7	-0.1	
	comp=Z,6.7nm,0.7s,baz=346,slow=3.1,SNR=24							
BSD	Bornholm Skovb	145.67 351	⇑	*i*P	PKPdf	11 06 33.6	-0.2	
BSD				IAmb	IAmb	11 06 34.5		
	comp=Z,37nm,0.8s							
BSD	Bornholm Skovb	145.67 351	⇑	*i*PKIKP	PKPdf	11 06 33.6	-0.2	
BSD				pmax	pmax			
	comp=Z,37nm,0.8s							
MBAR	Mbarara	147.22 231		PKPbc	PKPab	11 06 41.5	-0.3	
	comp=Z,2.9nm,0.2s,baz=135,slow=8.6,SNR=9.2							
BSEG	Bad Segeberg	147.37 355		*e*PKPbc	PKPbc	11 06 39.3	+0.2	
	baz=9.8,slow=2.4							
SORM	Soroca	147.78 331	⇑	P	PKPbc	11 06 40.2	-0.2	
SORM	Soroca	147.78 331	⇑	PKP2	PKPbc	11 06 40.2	-0.2	
GAZ	Gaziantep	148.59 307			PKPbc	11 06 42.7	-0.3	
NRDL	Niedersach Rie	148.82 355		*e*PKPbc	PKPbc	11 06 43.4	+0.4	
	baz=9.8,slow=2.4							
KWP	Kalwaria Pacla	148.82 339		PKP2	PKPbc	11 06 43.2	0.0	
KWP	Kalwaria Pacla	148.82 339			PKPbc	11 06 43.2	0.0	
FLTG	Flechtingen	148.87 353		*e*PKPbc	PKPbc	11 06 42.8	-0.4	
	baz=9.8,slow=2.4							
BNN	Bunyan	148.92 311		PKPdf	PKPdf	11 06 40.7	+0.7	
BNN				PKPbc	PKPbc	11 06 43.8	-0.2	
BNN				PKPab	sPKPbc	11 06 46.7	+0.6	
ASSE	Asse, Remlinge	149.13 354		*e*PKPbc	PKPbc	11 06 44.1	+0.3	
	baz=9.8,slow=2.4							
IBBN	Ibbenburen	149.15 358		*e*PKPbc	PKPbc	11 06 44.0	+0.1	
	baz=9.8,slow=2.4							
OJC	Ojcow	149.21 342		PKP2	PKiKP	11 06 44.8	-0.6	
OJC	Ojcow	149.21 342			PKiKP	11 06 44.8	-0.6	
ILGA	Ilgaz	149.33 316			PKPbc	11 06 44.8	-0.2	
CLZ	Clausthal	149.44 354		*e*PKPbc	PKPbc	11 06 44.4	-0.3	
	baz=9.8,slow=2.4							
BURAR	Bucovina Array	149.53 334	⇑	P	PKPbc	11 06 45.6	+0.5	
CLL	Collm	149.65 351		*e*PKPdf	PKPdf	11 06 41.0	+0.5	
CLL				*i* PKPbc	sPKPdf	11 06 44.0	+1.3	
	comp=Z,57nm,1.7s							
CLL				*i* PKPab	sPKPbc	11 06 48.9	+1.6	
	comp=Z,14nm,1.0s							
CLL				*i* pPKPab	sPKPab	11 06 54.1	+1.7	
	comp=Z,67nm,1.5s							
CLL				*e*PP	PP	11 10 23.0	+5.6	
CLL				*e*		11 21 06.0		
CLL				*e*SS	SS	11 29 30.0	-1.6	
CLL				Lm	MLR	12 16 00.0		
	comp=Z,200nm,19.6s							
CLL	Collm	149.65 351		*e*PKHKP	PKPpre	11 06 41.0		
CLL				*i*		11 06 48.9		
CLL				pmax	pmax			
	comp=Z,57nm,1.7s							
CLL				pmax	pmax			
	comp=Z,14nm,1.0s							
CLL	Collm	149.65 351			PKPbc	11 06 45.6	+0.4	
GTTG	Gottingen	149.77 355		*e*PKPbc	PKPbc	11 06 45.9	+0.4	
	baz=9.8,slow=2.4							
OSTC	Ostas	149.80 347	⇑	*e*PKP	PKPbc	11 06 45.9	+0.3	
CHVC	Chvalec	149.80 347	⇑	*e*PKP	PKPbc	11 06 45.9	+0.3	
UZH	Uzhgorod	149.81 338		*e*PKHKP	PKPpre	11 06 43.7		
UZH				*i*		11 06 45.8		
CRVS	Cervenica-Dubn	149.87 339		*e*PKP2	PKiKP	11 06 46.5	-0.3	
CRVS	Cervenica-Dubn	149.87 339		*e*PKP	PKiKP	11 06 46.5	-0.3	
UPC	Upice	149.88 347		*e*PKP2	PKiKP	11 06 46.4	-0.3	
UPC	Upice	149.88 347	⇑	*e*PKP	PKiKP	11 06 46.4	-0.3	
BRG	Berggiesshubel	149.93 350		*e*PKP	PKiKP	11 06 46.4	-0.4	
BRG				Amp		11 06 48.5		
	comp=Z,42nm,1.6s							
BRG				*ex*	x	11 06 56.3		
BRG				Amp		11 06 57.8		
	comp=Z,45nm,1.2s							
BRG	Berggiesshubel	149.93 350		*e*PKPbc	PKPbc	11 06 46.1	+0.2	
	baz=9.8,slow=2.4							
DPC	Dobruska-Polom	149.97 346		*e*PKP2	PKPbc	11 06 46.2	+0.1	
DPC	Dobruska-Polom	149.97 346	⇑	*e*PKP	PKPbc	11 06 46.2	+0.1	
CFR	Carcaliu	150.02 327	⇓	P	PKPdf	11 06 40.4	-0.9	
CFR	Carcaliu	150.02 327	⇓	PKHKP	PKPpre	11 06 40.4		
BR131	Keskin Array S	150.05 314		PKP2	PKPbc	11 06 46.9	+0.2	
BR131	Keskin Array S	150.05 314			PKPbc	11 06 46.9	+0.2	
BRTR	Keskin Array B	150.05 314		PKPbc	PKPbc	11 06 46.6	-0.1	
	comp=Z,7.9nm,0.7s,baz=131,slow=4.2,SNR=27							
BRTR	Keskin Array B	150.05 314		PKPbc	PKPbc	11 06 47.0	+0.3	
TPGR	Topolog	150.10 327	⇑	P	PKPbc	11 06 46.9	+0.4	
KRLC	Kraliky	150.12 346		*e*PKIKP	PKPbc	11 06 46.7	+0.3	
KRLC	Kraliky	150.12 346	⇑	*e*PKP	PKPbc	11 06 46.7	+0.3	
PVCC	Panska Ves	150.15 349		*e*PKIKP	PKPab	11 06 55.7	+3.4	
PVCC	Panska Ves	150.15 349		*e*PKPAB	PKPab	11 06 55.7	+3.4	
VRI	Vrincioaia	150.21 330	⇑	P	PKPab	11 06 56.6	+3.8	
MORC	Moravsky Berou	150.22 345	⇑	P	PKiKP	11 06 47.5	0.0	
MORC	Moravsky Berou	150.22 345		*e*PKP	PKPbc	11 06 46.9	+0.2	
MORC	Moravsky Berou	150.22 345	⇑	PKIKP	PKiKP	11 06 47.5	0.0	
HARR	Harsova	150.47 327	⇑	P	PKPdf	11 06 34.8	-7.2	
HARR	Harsova	150.47 327	⇑	PKIKP	PKPdf	11 06 34.8	-7.2	
OZUR		150.47 331	⇑	P	PKPbc	11 06 47.4	0.0	
UBBA	Unterbreizbach	150.49 355		*e*PKPbc	PKPbc	11 06 47.4	+0.3	
	baz=9.8,slow=2.4							
MOX	Moxa	150.49 352		*e*PKPbc	PKPbc	11 06 47.5	+0.3	
	baz=9.8,slow=2.4							
ANTO	Ankara	150.54 315		PKIKP	PKPbc	11 06 47.8	0.0	
ANTO	Ankara	150.54 315			PKPbc	11 06 47.8	0.0	
KECS	Kecovo	150.55 340		*e*PKIKP	PKiKP	11 06 48.9	+0.7	
KECS	Kecovo	150.55 340		*e*PKP	PKiKP	11 06 48.9	+0.7	
PLN	Plauen	150.57 352		*e*PKPbc	PKPbc	11 06 47.5	+0.1	
	baz=9.8,slow=2.4							
WERD	Werda	150.59 351		*e*PKPbc	PKPbc	11 06 47.4	-0.1	
	baz=9.8,slow=2.4							
TANN	Tannenbergstha	150.60 351		*e*PKPbc	PKPbc	11 06 47.6	+0.1	
	baz=9.8,slow=2.4							
GUNZ	Gunzen	150.67 351		*e*PKPbc	PKiKP	11 06 48.1	-0.3	
	baz=9.8,slow=2.4							
PRU	Pruhonice	150.67 348		*e*PKIKP	PKPbc	11 06 47.2	-0.5	
PRU	Pruhonice	150.67 348	⇑	*e*PKP	PKPbc	11 06 47.2	-0.5	
WERN	Wernitzgruen	150.74 351		*e*PKPbc	PKiKP	11 06 48.5	-0.1	
	baz=9.8,slow=2.4							
NKC	Novy Kostel	150.78 351	⇑	*e*PKP	PKPab	11 06 58.3	+3.3	
ISR	Istrita	150.85 329	⇑	P	PKPbc	11 06 48.3	0.0	
ISR	Istrita	150.85 329	⇑	PKIKP	PKPbc	11 06 48.3	0.0	
MLR	Muntele Rosu	150.85 330		PKPbc	PKPbc	11 06 48.2	-0.2	
	comp=Z,6.2nm,0.8s,baz=32,slow=2.3,SNR=13							
MLR	Muntele Rosu	150.85 330	⇑	P	PKiKP	11 06 49.1	0.0	
MLR	Muntele Rosu	150.85 330		PKIKP	PKPbc	11 06 47.2	-1.3	
MLR						11 06 54.5		
MLR	Muntele Rosu	150.85 330			PKPbc	11 06 47.2	-1.3	
MLR				PKPab	PKPab	11 06 54.5	-1.1	
VRAC	Vranov	150.88 345		PKPbc	PKiKP	11 06 48.6	-0.2	
	comp=Z,2.1nm,0.4s,baz=91,slow=4.3,SNR=10							
VRAC	Vranov	150.88 345		*e*PKP	PKPbc	11 06 48.3	+0.1	
MEM	Membach	150.88 360		*d*PKPbc	PKPbc	11 06 48.2	+0.1	
MEM				*d*PKPab	PKPab	11 06 55.3	0.0	
BTNL	Ternell	150.91 360		*d*PKP	PKPbc	11 06 48.5	+0.2	
BTNL				*dx*	x	11 06 59.0		
BSTI	Sart Tilman	150.91 0		*dx*	x	11 06 59.2		
JAVC	Velka Javorina	151.03 344		*e*PKP	PKiKP	11 06 50.1	+0.9	
VYHS	Vyhne	151.04 342		*e*PKIKP	PKiKP	11 06 49.8	+0.6	
VYHS	Vyhne	151.04 342		*e*	PKPab	11 07 00.0	+3.9	
VYHS	Vyhne	151.04 342		*e*PKP	PKiKP	11 06 49.8	+0.6	
MANZ	Manzenberg	151.07 352		*e*PKPbc	PKPbc	11 06 48.5	-0.2	
	baz=9.8,slow=2.4							
BCLA	Clavier	151.07 1		*d*PKPab	PKPab	11 06 55.9	-0.2	
BGES	Gesves	151.11 1		*d*PKPab	PKPab	11 06 55.7	-0.5	
BHOU	Houvegnez	151.14 360		*d*PKiKP	PKiKP	11 06 49.4	0.0	
BHOU				*d*PKPab	PKPab	11 06 56.2	-0.2	
TREC	Trest	151.14 347		*e*PKIKP	PKPbc	11 06 48.8	-0.1	
TREC	Trest	151.14 347	⇑	*e*PKP	PKPbc	11 06 48.8	-0.1	
KRUC	Moravsky	151.16 345		*e*PKP	PKPbc	11 06 49.1	+0.2	
BMRD	Maredsous	151.18 1		*d*PKP	PKiKP	11 06 49.5	+0.1	
BMRD				*d*PKPab	PKPab	11 06 54.6	-2.0	
TNS	Taunus Mts	151.19 356		*e*PKPbc	PKPbc	11 06 48.7	-0.3	
	baz=9.8,slow=2.4							
DRGR		151.20 335	⇑	P	PKiKP	11 06 49.6	-0.1	
DRGR		151.20 335	⇑	PKIKP	PKiKP	11 06 49.6	-0.1	
PSZ	Piszkesteto	151.23 340			PKPbc	11 06 49.1	-0.1	
PSZ				PKPab	pPKPab	11 06 59.5	+1.0	
ROTZ	Rotzenmuhle	151.27 351		*e*PKPbc	PKPbc	11 06 49.2	+0.1	
	baz=9.8,slow=2.4							
VOIR		151.30 331	⇑	P	PKPbc	11 06 49.1	-0.3	
VOIR		151.30 331	⇑	PKIKP	PKPbc	11 06 49.1	-0.3	
MMAI	Mount Meron Ar	151.33 300		PKPbc	PKiKP	11 06 50.5	+0.1	
	comp=Z,10nm,0.7s,baz=73,slow=4.8,SNR=13							
DOU	Dourbes	151.38 2		*d*PKPbc	PKiKP	11 06 49.7	-0.2	
GRF	Grafenberg Arr	151.47 353		*e*PKPbc	PKPbc	11 06 49.8	+0.2	
	baz=9.8,slow=2.4							
ARR	Arges	151.54 331	⇑	P	PKiKP	11 06 51.2	+0.8	
MODS	Modra-Piesok	151.58 344		*e*PKIKP	PKiKP	11 06 50.8	+0.5	
MODS	Modra-Piesok	151.58 344		*e*PKP	PKiKP	11 06 50.8	+0.5	
KHC	Kasperske Hory	151.67 349		*e*PKIKP	PKPbc	11 06 49.9	-0.2	
KHC				*e*		11 06 58.5		
KHC	Kasperske Hory	151.67 349	⇑	*e*PKP	PKPbc	11 06 49.9	-0.2	
KHC				*e*PKPAB	PKPab	11 06 58.5	-0.2	
KHC				*ex*	x	11 07 08.5		
WET	Wettzell	151.78 350		*e*PKPbc	PKPbc	11 06 50.0	-0.3	
	baz=9.8,slow=2.4							
WLF	Walferdange	151.83 359		*d*PKPdf	PKPdf	11 06 44.8	+0.8	
WLF	Walferdange	151.83 359		PKIKP	PKiKP	11 06 50.7	0.0	
WLF	Walferdange	151.83 359			PKPdf	11 06 43.0	-0.9	
WLF				PKPbc	PKiKP	11 06 50.7	0.0	
WLF				PKPab	pPKPab	11 06 59.1	-0.5	
CKRC	Cesky Krumlov	151.84 348		*e*PKP	PKPbc	11 06 50.5	0.0	
GEC2	GERESS Array S	151.93 349		PKPdf	PKPdf	11 06 43.1	-1.2	
GEC2					PKiKP	11 06 51.2	+0.1	
GEC2				PKPab	pPKPab	11 07 01.3	-0.1	
GEC2	GERESS Array S	151.93 349		*e*PKPbc	PKPbc	11 06 50.7	0.0	
	baz=9.8,slow=2.4							
GERES	GERESS Array B	151.93 349		PKPbc	PKiKP	11 06 51.3	+0.2	
	comp=Z,2.9nm,0.8s,baz=33,slow=2.3,SNR=21							
GERES	GERESS Array B	151.93 349		PKPdf	PKPdf	11 06 41.4	-2.9	
GERES					PKiKP	11 06 51.0	-0.1	
GERES				PKPab	PKPab	11 07 00.9	+1.0	
SIRR	Siria	152.04 336	⇑	P	PKiKP	11 06 51.6	+0.3	
EIL	Elat	152.48 293		PKPbc	PKPbc	11 06 52.8	+0.3	
	comp=Z,4.7nm,0.5s,baz=97,slow=4.2,SNR=4.7							
BZS	Buzias	152.60 335	⇑	P	PKiKP	11 06 52.5	0.0	
BZS	Buzias	152.60 335	⇑	PKIKP	PKiKP	11 06 52.5	0.0	
ECH	Echery	153.26 358		PKPdf	PKPdf	11 06 44.9	-1.3	
ECH				PKPab	PKPab	11 07 04.9	-0.5	
UBR	Ueberruh	153.58 353		*e*PKPbc	PKPbc	11 06 54.3	-0.1	
	baz=9.8,slow=2.4							
FRGS	Fruska Gora	153.67 337	⇑	P	PKPab	11 07 05.8	-1.5	
DAVOX	Davos/Dischmat	154.50 353		PKPbc	PKPbc	11 06 56.5	-0.1	
	comp=Z,1.9nm,0.5s,baz=333,slow=4.5,SNR=4.3							
DIVS	Divibare	154.50 336		PKPdf	PKPdf	11 06 46.7	-1.5	
DIVS				PKPab	PKPab	11 07 10.0	-0.9	
TUE	Stuetta	154.86 354		PKPbc	PKiKP	11 06 58.1	+0.7	
TUE					PKPab	11 07 12.4	0.0	
NRCA	Norcia	157.79 346			PKPab	11 07 25.5	+0.5	
ESDC	Sonseca Array	160.01 22		PKP	PKPdf	11 06 54.9	-0.3	
	comp=Z,0.4nm,0.5s,baz=294,slow=0.8,SNR=1.6							
ESDC				PKPab	PKPab	11 07 34.2	-0.4	
	comp=Z,0.8nm,0.7s,baz=321,slow=4.3,SNR=2.2							
TORD	Torodi Ar. Bea	170.89 154		PKP	PKPdf	11 07 04.5	-0.3	
	comp=Z,0.9nm,0.7s,baz=215,slow=2.6,SNR=4.1							
TORD				PKPab	sPKPab	11 08 25.2	+0.1	
	comp=Z,1.1nm,1.0s,baz=225,slow=3.4,SNR=2.4							
TORD	Torodi Ar. Bea	170.89 154		PKPdf	PKPdf	11 07 03.1	-1.8	
TORD					PKPab	11 08 22.6	-0.5	

*ISK **30** 11:03:36.9,34˚.32N×24˚.09E,h26km,ML3.9/9*
*ATH **30** 11:03:36.3,34˚.32N×23˚.96E,h45km±5km,ML3.5/8,Error ellipse: s-maj=7.5km s-min=2.4km az=7.0*
*HLW **30** 11:03:38.9,34˚.49N×24˚.31E,h1km±33km,Ml4.2*
*THE **30** 11:03:39.0,34˚.36N×24˚.06E,h18km±1km,ML3.5/7,Error ellipse: s-maj=2.0km s-min=1.1km az=356.0*
*IDC **30** 11:03:41.7±1.6,34˚.64N×23˚.94E,h65km±12km,mb3.6/9,mb1 3.6/10,mb1mx3.4/58,mbtmp3.9/10,Error ellipse: s-maj=24.0km s-min=17.5km az=143.0*

ISC 30 11:03:37.0±1.1,34˚.28N±0˚.04×24˚.07E±0˚.04,h33km±6km, n80,σ1°77/98,mb3.8/9,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.56	1	P	Pb		11 03 48.3	-0.1
GVD				S	Sb		11 03 56.2	0.0
	15μm,0.3s							
GVD	Gavdhos	0.56	1	P	Pb		11 03 48.1	-0.4
GVD				S	Sb		11 03 56.5	+0.2
GVD				AML	AML		11 03 59.5	
	comp=N,33184μm,0.3s							
GVD				AML	AML		11 04 00.8	
	comp=E,25757μm,0.4s							
GVD	Gavdhos	0.56	1	PG	Pb		11 03 48.9	+0.5
GVD				SG	Sb		11 03 56.3	0.0
GVDS	Gavdos	0.56	2	P	Pb		11 03 48.2	-0.3
GVDS				S	Sb		11 03 55.7	-0.6
	comp=E,15μm,0.3s							
GVDS	Gavdos	0.56	2	PG	Pb		11 03 48.4	-0.1
GVDS				SG	Sb		11 03 55.8	-0.6
SIVA	Sivas	0.95	40	P	Pb		11 03 55.7	+0.7
SIVA				S	Sb		11 04 07.6	+0.3
	comp=E,8μm,0.5s							
SIVA	Sivas	0.95	40	P	Pb		11 03 55.2	+0.2
SIVA				S	Sb		11 04 09.0	+1.7
SIVA				AML	AML		11 04 14.8	
	comp=E,17034μm,0.5s							
SIVA				AML	AML		11 04 17.5	
	comp=N,14596μm,0.6s							
TMBK	Timbaki Herakl	0.97	36	P	Pb		11 03 56.0	+0.6
TMBK				S	Sb		11 04 08.6	+0.7
	comp=N,2μm,0.4s							
KNDR	Palaiochora Ch	1.00	342	P	Pb		11 03 56.0	+0.2
KNDR				S	Sb		11 04 09.9	+1.3
	comp=N,2μm,0.6s							
KNDR	Palaiochora Ch	1.00	342	PG	Pn		11 03 55.3	+0.6
KNDR				SG	Sb		11 04 09.4	+0.8
VAM	Vamos	1.13	5	P	Pn		11 03 57.0	+0.6
VAM				S	Sn		11 04 11.8	+1.0
	comp=N,2μm,0.6s							
VAM	Vamos	1.13	5	P	Pn		11 03 56.8	+0.4
VAM				AML	AML		11 04 18.2	
	comp=E,4902μm,0.5s							
VAM				AML	AML		11 04 27.2	
	comp=N,4119μm,0.7s							
PRNS	Prines Rethymn	1.14	18	P	Pn		11 03 57.0	+0.4
IMMV	Iera Moni Meta	1.18	356	P	Pn		11 03 57.6	+0.4
IMMV	Iera Moni Meta	1.18	356	P	Pn		11 03 57.5	+0.4
IMMV				AML	AML		11 04 15.9	
	comp=E,11108μm,0.4s							
IMMV				AML	AML		11 04 16.4	
	comp=N,6343μm,0.3s							
IMMV	Iera Moni Meta	1.18	356	PN	Pn		11 03 57.8	+0.7
IMMV				SN	Sn		11 04 12.9	+0.8
IDI	Anoyia	1.21	34	P	Pb		11 03 59.1	-0.3
	comp=N,12nm,0.3s,baz=214,slow=11,SNR=88							
IDI				S	Sb		11 04 14.5	-0.2
	comp=N,97nm,0.3s,baz=328,slow=22,SNR=15							
IDI	Anoyia	1.21	34	P	Pb		11 03 59.0	-0.3
IDI				S	Sb		11 04 15.2	+0.5
IDI				AML	AML		11 04 16.0	
	comp=N,1745μm,0.4s							
IDI				AML	AML		11 04 16.6	
	comp=E,1974μm,0.3s							
IDI	Anoyia	1.21	34	PN	Pn		11 03 58.6	+1.0
IDI				SN	Sn		11 04 13.9	+1.0
HRKL	Herakleio	1.33	39	PN	Pn		11 04 13.7	+1.0
LAST	Lasithi	1.45	53	P	Pb		11 04 03.7	+0.2
LAST				S	Sb		11 04 21.4	-0.3
	comp=E,480nm,0.5s							
LAST	Lasithi	1.45	53	P	Pb		11 04 03.6	+0.1
LAST				AML	AML		11 04 28.1	
	comp=E,996μm,0.7s							
LAST				AML	AML		11 04 32.6	
	comp=N,938μm,0.5s							
NPS	Neapolis	1.60	52	P	Pb		11 04 06.0	0.0
NPS				AML	AML		11 04 34.1	
	comp=E,1041μm,0.5s							
NPS				AML	AML		11 04 42.6	
	comp=N,784μm,0.8s							
ANKY	Antikythira Is	1.70	338	P	Pn		11 04 05.8	+1.5
ANKY	Antikythira Is	1.70	338	P	Pn		11 04 05.5	+1.2
ANKY				AML	AML		11 04 34.3	
	comp=E,940μm,0.8s							
ANKY				AML	AML		11 04 35.5	
	comp=N,881μm,0.5s							
ZKR	Zakros	1.95	64	P	Pb		11 04 11.2	-0.7
ZKR	Zakros	1.95	64	PN	Pn		11 04 09.6	+1.8
KTHA	Kythira Island	2.13	338	P	Pn		11 04 11.8	+1.5
KTHA	Kythira Island	2.13	338	P	Pn		11 04 13.0	+2.7
KTHA	Kythira Island	2.13	338	PN	Pn		11 04 12.2	+1.9
KTHR	Kythira	2.16	336	P	Pn		11 04 13.1	+2.5
THR5	Thira Island,	2.37	26	P	Pn		11 04 14.4	+0.8
SANT	Santorini	2.37	28	P	Pn		11 04 14.3	+0.7
SANT	Santorini	2.37	28	PN	Pn		11 04 14.1	+0.5
SNT5	Nea Kammeni, S	2.38	27	P	Pn		11 04 14.6	+1.0
THR3	Thira Island,	2.38	27	P	Pn		11 04 14.8	+1.1
THR8	Santorini-Mono	2.41	28	P	Pn		11 04 14.6	+0.5
THR2	Thira island,	2.43	27	P	Pn		11 04 14.2	-0.2
KARP	Karpathos	2.84	63	PN	Pn		11 04 22.4	+2.4
SLUM	Salum	2.94	161	P	Pb		11 04 26.4	-2.4
	baz=165							
APE	Apeiranthos	3.02	23	PN	Pn		11 04 22.5	-0.1
ITM	Ithomi	3.38	330	PN	Pn		11 04 29.4	+2.0
NIS1	Nisyros Isl.	3.43	47	PN	Pn		11 04 29.9	+1.7
DAT	Datca	3.76	49	PN	Pn		11 04 34.2	+1.4
BODT	Bodrum	3.83	43	PN	Pn		11 04 35.2	+1.6
ARG	Arkhangelos	3.84	59	PN	Pn		11 04 35.5	+1.8
MATC	Matruh	3.96	137	P	Pn		11 04 40.0	+4.6
	baz=141							
TURN	Turunc	4.22	53	PN	Pn		11 04 40.2	+1.3
YER	Yerkesik	4.46	49	PN	Pn		11 04 44.0	+1.7
AKAS	Kas	4.93	65	PN	Pn		11 04 49.8	+1.0
CAME	Cameli-Denizli	5.02	57	PN	Pn		11 04 51.9	+1.8
SWA2		5.16	166	P	Pn		11 04 56.2	+4.3
	baz=169							
ELL	Elmali	5.36	61	PN	Pn		11 04 56.6	+1.9
HNAT	Natroun	7.24	128	P	Pn		11 05 23.7	+3.2
	baz=130							
HNAT				AMP			11 06 00.0	
	baz=130							
HNAT				S	Sn		11 06 39.3	-2.3
	baz=130							
KOT	Kottamia	7.88	121	P	Pn		11 05 32.3	+2.9
	baz=123							
KOT				S	Sn		11 06 53.1	-4.4
	baz=123							
HFRF	Wahat Farafira	7.99	152	P	Pn		11 05 34.4	+3.5
	baz=153							
HFRF				AMP			11 07 00.0	
	baz=153							
HFRF				S	Sn		11 07 00.0	-0.1
	baz=153							
TAMRE	El Minia	8.82	136	P	Pn		11 05 45.6	+3.4
	baz=138							
MMAI	Mount Meron Ar	9.53	94	P	Pn		11 05 52.5	+0.5
	comp=N,1.9nm,0.3s,baz=286,slow=12,SNR=3.4							
HDK1	Dakhla	9.86	151	P	Pn		11 06 00.1	+3.6
	baz=152							
STON	Ston	9.92	332	*e*Pn	Pn		11 05 52.7	-4.4
STON				Sn	Sn		11 07 31.9	-15
LSTV	Lastovo	10.16	329	*e*Pn	Pn		11 05 57.5	-3.0
LSTV				Sn	Sn		11 07 38.5	-15
HKAT	Jabal Katrina	10.24	121	P	Pn		11 06 03.0	+1.3
	baz=123							
EIL	Elat	10.32	113	P	Pn		11 06 04.1	+1.4
	comp=N,1.2nm,0.3s,baz=189,slow=9.7,SNR=13							
AKRG	Al Kharijah	10.37	146	P	Pn		11 06 07.0	+3.6
	baz=147							
KIJV	Kijevo	11.38	331	*e*Pn	Pn		11 06 14.1	-3.0
KIJV				Sn	Sn		11 08 08.5	-15
ZIRJ	Zirje	11.42	328	*e*Pn	Pn		11 06 14.1	-3.6
ZIRJ				Sn	Sn		11 08 10.0	-14
MORI	Morici	11.56	328	*e*Pn	Pn		11 06 16.2	-3.4
MORI				Sn	Sn		11 08 13.9	-14
DUGI	Dugi Otok	11.95	327	*e*Pn	Pn		11 06 22.6	-2.3
AKASG	Malin Array Be	16.84	11	P	Pn		11 07 29.6	-0.3
	comp=N,1.2nm,0.3s,baz=207,slow=10,SNR=2.1							
ESDC	Sonseca Array	22.98	292	P	P		11 08 38.9	+0.1
	comp=N,0.9nm,0.6s,baz=81,slow=10,SNR=5.6							
HFS	Hagfors	26.74	348	P	P		11 09 11.4	-1.8
	comp=N,1.9nm,0.4s,baz=159,slow=12,SNR=12							
FINES	FINESS Array B	27.21	2	P	P		11 09 15.2	-2.2
	comp=N,1.4nm,0.6s,baz=172,slow=11,SNR=4.9							
NOA	NORSAR Array B	28.03	347	P	P		11 09 23.4	-1.4
	comp=N,0.5nm,0.7s,baz=148,slow=9.4,SNR=3.4							
TORD	Torodi Ar. Bea	29.24	229	P	P		11 09 39.3	+3.3
	comp=N,2.0nm,0.6

FITZ	**Fitzroy Crossi**	**38.31**	**255**	P	**P**	**11 12 34.9**	**-0.9**
FITZ				IAmb	IAmb	11 12 44.5	
	comp=Z,5.4nm,0.7s						
FORT	**Forrest**	**39.22**	**234**	P	**P**	**11 12 42.7**	**-0.6**
FORT				IAmb	IAmb	11 12 57.7	
	comp=Z,20nm,1.1s						
PPT	**Papeete**	**44.88**	**104**	LR	LR	11 27 39.6	
	comp=Z,62nm,21.0s,baz=333,slow=30						
MJAR	**Matsushiro Arr**	**55.24**	**334**	P	**P**	**11 14 33.0**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=163,slow=8.9,SNR=4.2						
KSRS	**Korea Array**	**59.04**	**326**	P	**P**	**11 15 15.3**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=132,slow=7.8,SNR=4.3						
KSAR	**Wonju Array Be**	**59.05**	**326**	P	P	11 15 00.1	-15
NJ2	**Nanjing**	**61.05**	**316**	*e*P	P	11 15 18.5	-10
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**62.23**	**334**	P	**P**	**11 15 37.5**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=151,slow=9.1,SNR=4.3						
RGRI	**Rengat**	**62.68**	**275**	P	**P**	**11 15 42.3**	**+2.3**
PETK	**Petropavlovsk-**	**63.94**	**355**	P	**P**	**11 15 48.1**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=138,slow=9.4,SNR=6.7						
KLR	**Kul'dur**	**66.39**	**337**	P	**P**	**11 16 03.7**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=143,slow=1.7,SNR=5.0						
VNDA	**Vanda**	**66.70**	**181**	P	**P**	**11 16 06.2**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=357,slow=6.4,SNR=11						
HHC	**Hu-ho-hao-te**	**70.91**	**320**	*e*P	P	11 16 22.0	-10
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,66nm,6.6s						
CMAR	**Chiang Mai Arr**	**70.95**	**294**	P	**P**	**11 16 33.7**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=123,slow=4.6,SNR=8.6						
LZH	**Lanzhou**	**73.75**	**313**	*e*P	**P**	**11 16 46.5**	**-2.7**
LZH				pP	pP	11 16 50.0	-6.2
LZH				sP	sP	11 16 51.8	-7.2
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
SEY	**Seymchan**	**74.13**	**354**	P	**P**	**11 16 51.8**	**+1.2**
	comp=Z,2.1nm,1.0s,baz=134,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**77.80**	**324**	P	**P**	**11 17 13.6**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=136,slow=6.1,SNR=4.4						
ILAR	**Eielson Array**	**83.67**	**19**	P	**P**	**11 17 42.4**	**-0.6**
	comp=Z,5.2nm,1.2s,baz=238,slow=5.0,SNR=15						
ILAR				LR	LR	11 49 58.6	
	comp=Z,78nm,21.1s,baz=216,slow=32						
MAW	**Mawson**	**84.49**	**202**	P	**P**	**11 17 47.7**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=85,slow=8.5,SNR=5.6						
TIXI	**Tiksi**	**85.65**	**349**	P	**P**	**11 17 52.9**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=112,slow=6.8,SNR=4.2						
NVAR	**Mina Array Bea**	**86.77**	**50**	P	**P**	**11 17 59.2**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=238,slow=4.6,SNR=7.5						
NVAR				LR	LR	11 51 30.8	
	comp=Z,135nm,18.6s,baz=268,slow=32						
WMQ	**Urumqi**	**88.11**	**315**	*e*P	P	11 17 55.0	-10
WMQ				L	L		
	comp=Z,380nm,21.5s						
WMQ				L	L		
	comp=Z,480nm,17.1s						
MKAR	**Makanchi Array**	**92.56**	**317**	P	**P**	**11 18 25.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=96,slow=6.6,SNR=14						
ZALV	**Zalesovo Beam**	**92.69**	**324**	P	**P**	**11 18 25.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=132,slow=4.3,SNR=1.7						
PDAR	**Pinedale Array**	**94.26**	**47**	P	**P**	**11 18 34.5**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=253,slow=2.7,SNR=4.3						
YKA	**Yellowknife Ar**	**95.31**	**27**	LR	LR	11 54 16.6	
	comp=Z,124nm,21.9s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**96.75**	**62**	LR	LR	11 53 12.4	
	comp=Z,99nm,21.9s,baz=0.0,slow=30						
ESDC	**Sonseca Array**	**149.51**	**342**	PKPbc	**PKPbc**	**11 25 03.5**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=10,slow=3.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**163.08**	**280**	PKP	**PKPdf**	**11 25 17.7**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=86,slow=1.9,SNR=3.8						

IDC 30 11:09:30.1±4.5, 21°.36S×174°.50W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/36, mbtmp3.7/2, Error ellipse: s-maj=210.0km s-min=62.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.51**	**257**	P	P	11 18 07.5	+0.1
	0.8nm,0.7s,baz=102,slow=7.3,SNR=11						
ASAR				PcP	PcP	11 19 38.3	+0.6
	0.3nm,0.7s,baz=115,slow=4.4,SNR=2.0						
WRA	**Warramunga Arr**	**47.72**	**262**	P	P	11 18 08.3	-0.8
	0.7nm,0.6s,baz=101,slow=7.8,SNR=2.1						
AKASG	**Malin Array Be**	**145.30**	**333**	PKPbc	PKPbc	11 29 08.0	-1.4
	0.7nm,0.5s,baz=36,slow=3.6,SNR=2.0						

*IDC **30** 11:19:03.5±1.7, 10°.81S×164°.45E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.6/36, mbtmp3.8/6, ML4.3/2, Error ellipse: s-maj=39.9km s-min=33.9km az=121.0*
*NEIC **30** 11:19:10.5±2.1, 11°.05S±0°.1×164°.3E±0°.1, h41km±7km, mb4.3/8, Error ellipse: s-maj=21.8km s-min=15.9km az=223.0*

ISC 30 11:19:08.0±1.2, 10°.9S±0°.1×164°.4E±0°.1, h29km, n24, σ1s35/19, mb4.0/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.56**	**288**	Pn	**Pn**	**11 20 15.6**	**+0.5**
	24nm,0.3s,baz=151,slow=7.3,SNR=6.5						
HNR				Sn	**Sn**	**11 21 07.1**	**-0.1**
	5.7nm,0.3s,baz=280,slow=6.7,SNR=1.4						
HNR	**Honiara**	**4.56**	**288**	Pn	**Pn**	**11 20 16.1**	**+1.0**
LIFNC	**LIFOU**	**10.24**	**165**	Pn	**Pn**	**11 21 33.5**	**+0.4**
DZM	**Mont Dzumac**	**11.32**	**170**	Pn	**Pn**	**11 21 47.9**	**-0.1**
	1.2nm,0.3s,baz=310,slow=17,SNR=10						
ONTNC	**Ouen Toro**	**11.55**	**170**	Pn	**Pn**	**11 21 50.9**	**-0.2**
OUENC	**Ouen Island, N**	**11.73**	**169**	Pn	**Pn**	**11 21 54.0**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.27**	**5**	T	T	11 55 36.4	
	baz=184,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**29.27**	**5**	T	T	11 55 39.9	
	baz=184,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**29.28**	**5**	T	T	11 55 40.4	
	baz=184,slow=76,SNR=40						
STKA	**Stephens Creek**	**29.64**	**222**	P	**P**	**11 25 12.0**	**+0.9**
WR0	**Warramunga Arr**	**30.08**	**249**	P	**P**	**11 25 13.9**	**-1.2**
WR0				IAmb	IAmb	11 25 32.4	
	comp=Z,4.6nm,1.1s						
WB0	**Warramunga Arr**	**30.17**	**249**	P	**P**	**11 25 13.7**	**-2.2**
WB0				IAmb	IAmb	11 25 36.7	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**30.25**	**249**	P	**P**	**11 25 13.4**	**-3.2**
WRAB				IAmb	IAmb	11 25 14.6	
	comp=Z,8.9nm,1.4s						
WB2	**Warramunga Arr**	**30.25**	**249**	P	**P**	**11 25 13.7**	**-3.0**
WB2				IAmb	IAmb	11 25 31.6	
	comp=Z,9.9nm,1.5s						
WRA	**Warramunga Arr**	**30.26**	**249**	P	**P**	**11 25 17.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=81,slow=9.1,SNR=1.7						
H11N1	**WAKE ISLAND Hy**	**30.49**	**5**	T	T	11 57 05.0	
	baz=184,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**30.50**	**5**	T	T	11 57 04.5	
	baz=184,slow=76,SNR=28						
H11N2	**WAKE ISLAND Hy**	**30.51**	**5**	T	T	11 57 05.5	
	baz=184,slow=76,SNR=23						
ASAR	**Alice Springs**	**31.65**	**242**	P	**P**	**11 25 29.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=64,slow=10,SNR=4.2						
BBOO	**Buckleboo**	**33.96**	**226**	P	**P**	**11 25 49.3**	**+0.3**
KNRA	**Kununurra**	**34.93**	**258**	P	**P**	**11 25 57.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**38.10**	**255**	P	**P**	**11 26 25.2**	**+0.5**
ILAR	**Eielson Array**	**83.79**	**19**	P	**P**	**11 31 33.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=224,slow=5.0,SNR=2.5						
MKAR	**Makanchi Array**	**92.45**	**317**	P	**P**	**11 32 16.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=86,slow=6.5,SNR=3.3						

*IASPEI **30** 11:20:07.5±1.1, 35°.60N±0°.03×97°.38W±0°.03, h9km±6km, Error ellipse: s-maj=4.7km s-min=3.6km az=118.7, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ANF **30** 11:20:07.3±0.3, 35°.63N×97°.39W, h5km, ML3.9/11, Error ellipse: s-maj=3.3km s-min=2.3km az=127.0*
*TUL **30** 11:20:07.6±1.4, 35°.59N±0°.02×97°.37W±0°.03, h4km±6km, ML3.3, mb_Lg3.0/90(NEIC), Error ellipse: s-maj=3.2km s-min=2.4km az=97.0*
*NEIC **30** 11:20:07.8±1.1, 35°.61N±0°.02×97°.39W±0°.03, h5km±7km, Error ellipse: s-maj=3.3km s-min=2.5km az=125.0*

ISC 30 11:20:07.7±0.8, 35°.61N±0°.02×97°.38W±0°.02, h7km±5km, n98, σ0s57/80, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.04**	**231**		**Pg**	**11 20 09.0**	**-0.2**
OK025	**Westminster Rd**	**0.04**	**127**		**Pg**	**11 20 09.2**	**-0.1**
OK025				Sg	**Sg**	**11 20 10.4**	**0.0**
OK001	**Jones High Sch**	**0.09**	**122**	Pg	**Pg**	**11 20 09.9**	**+0.1**
OK001				Sg	**Sg**	**11 20 11.7**	**+0.3**
BCOK	**Bluff Creek, N**	**0.19**	**285**		**Pg**	**11 20 11.9**	**+0.3**
BCOK				Sg	**Sg**	**11 20 15.1**	**+0.8**
OK029	**Liberty Lake**	**0.20**	**342**		**Pg**	**11 20 11.6**	**-0.2**
OKCFA	**Oklahoma City**	**0.20**	**196**		**Pg**	**11 20 11.7**	**-0.1**
OKCFA				Sg	**Sg**	**11 20 14.6**	**+0.1**
OKCFA	**Oklahoma City**	**0.20**	**196**	P	**Pg**	**11 20 11.6**	**-0.1**
	baz=14,SNR=148						
OKCFA				S	**Sg**	**11 20 14.7**	**+0.1**
	baz=14						
OKCFA	**Oklahoma City**	**0.20**	**196**	P		11 20 11.6	
	baz=14,SNR=148						
OKCFA				S		11 20 14.7	
	baz=14						
OKCSW	**OKLAHOMA CITY**	**0.21**	**193**		**Pg**	**11 20 11.8**	**-0.1**
OKCSW				Sg	**Sg**	**11 20 14.9**	**+0.2**
FNO	**Franklin**	**0.35**	**183**	Pg	**Pg**	**11 20 14.4**	**-0.2**
FNO				Sg	**Sg**	**11 20 19.5**	**+0.3**
OK031	**S. Brethren Rd**	**0.56**	**52**		**Pg**	**11 20 18.6**	**+0.1**
OK011	**Prague**	**0.58**	**102**	Sg	**Sg**	**11 20 27.0**	**+0.4**
OK030	**Cody Creek RV**	**0.58**	**57**		**Pg**	**11 20 19.0**	**0.0**
OK030				Sg	**Sg**	**11 20 27.4**	**+0.8**
W35A	**Tecumseh**	**0.61**	**138**	IAmb_Lg		11 20 26.2	
	comp=Z,165nm,0.8s						
QUOK	**Quay**	**0.78**	**44**		**Pg**	**11 20 22.5**	**-0.3**
QUOK				Sg	**Sg**	**11 20 33.6**	**+0.6**
CROK	**Carrier**	**1.02**	**332**		**Pg**	**11 20 27.0**	**-0.3**
X34A	**Smith Ranch, M**	**1.07**	**200**		**Pg**	**11 20 27.9**	**-0.4**
BLOK	**Blackwell**	**1.16**	**7**		**Pg**	**11 20 29.5**	**-0.4**
TUL1	**Leonard**	**1.33**	**76**	P	**Pn**	**11 20 31.4**	**-1.3**
	baz=258,SNR=141						
TUL1				S	**Sg**	**11 20 50.0**	**-0.4**
	baz=258						
TUL1	**Leonard**	**1.33**	**76**	P		11 20 31.4	
	baz=258,SNR=141						
TUL1				S		11 20 50.0	
	baz=258						
OK032	**Salt Plains WL**	**1.37**	**331**		**Pn**	**11 20 32.9**	**-0.3**
KAN13	**South Haven SW**	**1.40**	**357**		**Pn**	**11 20 33.9**	**+0.2**
WMOK	**Wichita Mounta**	**1.44**	**233**		**Pn**	**11 20 32.9**	**-1.3**
WMOK	**Wichita Mounta**	**1.44**	**233**	P	**Pn**	**11 20 33.3**	**-0.9**
	baz=52,SNR=720						
WMOK	**Wichita Mounta**	**1.44**	**233**	P		11 20 33.3	
	baz=52,SNR=720						
KAN17	**Caldwell West**	**1.47**	**348**		**Pn**	**11 20 34.9**	**+0.3**
T35A	**Sooner Cattle**	**1.48**	**28**		**Pn**	**11 20 34.6**	**-0.2**
T35B	**Sooner Cattle**	**1.48**	**28**	P	**Pn**	**11 20 34.8**	**-0.1**
	baz=209,SNR=124						
T35B				S	**Sg**	**11 20 55.2**	**-0.2**
	baz=209						
T35B	**Sooner Cattle**	**1.48**	**28**	P		11 20 34.8	
	baz=209,SNR=124						
T35B				S		11 20 55.2	
	baz=209						
U32A	**Winter Ranch,**	**1.52**	**301**		**Pn**	**11 20 35.4**	**0.0**
U32A	**Winter Ranch,**	**1.52**	**301**	P	**Pn**	**11 20 35.4**	**0.0**
	baz=120,SNR=57						
U32A	**Winter Ranch,**	**1.52**	**301**	P		11 20 35.4	
	baz=120,SNR=57						
KAN09	**Caldwell North**	**1.54**	**353**		**Pn**	**11 20 35.8**	**+0.2**
KAN10	**Anthony SW Sta**	**1.62**	**339**		**Pn**	**11 20 37.1**	**+0.4**
LOOK	**Love County**	**1.62**	**174**	Pn	**Pn**	**11 20 36.7**	**0.0**
KS20	**Mayfield South**	**1.62**	**355**		**Pn**	**11 20 37.3**	**+0.6**
KS20				IAmb_Lg		11 21 00.2	
	comp=Z,88nm,0.8s						
KAN08	**Anthony NE Sta**	**1.68**	**344**		**Pn**	**11 20 38.2**	**+0.7**
KAN08				IAmb_Lg		11 21 03.4	
	comp=Z,123nm,1.1s						
KS21	**Milan North St**	**1.69**	**352**	IAmb_Lg		11 21 05.3	
	comp=Z,137nm,0.7s						
KAN12	**Harper NE Stat**	**1.76**	**344**		**Pb**	**11 20 39.7**	**-0.6**
X37A	**Clayton**	**1.94**	**121**		**Pn**	**11 20 41.5**	**+0.5**
X37A				IAmb_Lg		11 21 11.2	
	comp=Z,107nm,0.8s						
X37A	**Clayton**	**1.94**	**121**	P	**Pn**	**11 20 41.6**	**+0.5**
	baz=302						
X37A				S	**Sb**	**11 21 07.6**	**-0.1**
	baz=302						
X37A	**Clayton**	**1.94**	**121**	P		11 20 41.6	
	baz=302						
X37A				S		11 21 07.6	
	baz=302						
Z35A	**Perchaven, San**	**2.27**	**177**		**Pn**	**11 20 46.3**	**+0.6**
Z35A				IAmb_Lg		11 21 20.0	
	comp=Z,50nm,0.9s						
Z35A	**Perchaven, San**	**2.27**	**177**	P	**Pn**	**11 20 46.3**	**+0.6**
	baz=357						
Z35A	**Perchaven, San**	**2.27**	**177**	P		11 20 46.3	
	baz=357						
U38A	**Gravette**	**2.57**	**70**		**Pn**	**11 20 50.1**	**+0.4**
HHAR	**Hobbs**	**2.87**	**75**	Pn	**Pn**	**11 20 54.0**	**+0.1**
W39A	**Magazine**	**2.97**	**97**		**Pn**	**11 20 55.4**	**+0.2**
W39A	**Magazine**	**2.97**	**97**	P	**Pn**	**11 20 55.4**	**+0.2**
	baz=279,SNR=20						
W39A	**Magazine**	**2.97**	**97**	P		11 20 55.4	
	baz=279,SNR=20						
R32A	**Long Quarter,**	**3.00**	**340**	Pn	**Pn**	**11 20 56.9**	**+1.2**
Z38A	**Mt. Pleasant**	**3.07**	**139**	Pn	**Pn**	**11 20 57.3**	**+0.8**
Z38A				IAmb_Lg		11 21 48.1	
	comp=Z,38nm,0.8s						
MIAR	**Mount Ida**	**3.30**	**108**		**Pn**	**11 21 00.3**	**+0.6**
MIAR	**Mount Ida**	**3.30**	**108**	P	**Pn**	**11 21 00.4**	**+0.7**
	baz=290,SNR=26						
MIAR				S	**Sn**	**11 21 40.3**	**+1.1**
	baz=290						
MIAR	**Mount Ida**	**3.30**	**108**	P		11 21 00.4	
	baz=290,SNR=26						
MIAR				S		11 21 40.3	
	baz=290						
ABTX	**Abilene, Hawle**	**3.52**	**213**	Pn	**Pn**	**11 21 03.6**	**+0.8**
ABTX				IAmb_Lg		11 22 04.2	
	comp=Z,31nm,0.8s						
KSU1	**Kansas State U**	**3.54**	**10**	Pn	**Pn**	**11 21 02.6**	**-0.5**
AMTX	**Amarillo**	**3.59**	**260**	Pn	**Pn**	**11 21 04.8**	**+1.0**
AMTX				IAmb_Lg		11 22 07.8	
	comp=Z,37nm,0.9s						
U40A	**Yellville**	**3.75**	**77**	Pn	**Pn**	**11 21 05.8**	**-0.2**
U40A				IAmb_Lg		11 22 09.7	
	comp=Z,36nm,0.7s						
U40A	**Yellville**	**3.75**	**77**	P	**Pn**	**11 21 06.0**	**+0.1**
	baz=260,SNR=16						
U40A	**Yellville**	**3.75**	**77**	P		11 21 06.0	
	baz=260,SNR=16						
U40A				P		11 21 06.0	
	baz=260,SNR=16						
237A	**Washetta, Mont**	**3.83**	**160**	Pn	**Pn**	**11 21 05.3**	**-1.7**
237A				IAmb_Lg		11 22 15.7	
	comp=Z,36nm,1.0s						
S39A	**Bolivar**	**3.87**	**56**	Pn	**Pn**	**11 21 07.8**	**+0.2**
S39A				IAmb_Lg		11 22 14.4	
	comp=Z,29nm,0.7s						
S39A	**Bolivar**	**3.87**	**56**	P	**Pn**	**11 21 07.5**	**-0.1**
	baz=239,SNR=16						
S39A	**Bolivar**	**3.87**	**56**	P		11 21 07.5	
	baz=239,SNR=16						
X40A	**Basin Creek Fa**	**3.90**	**105**	Pn	**Pn**	**11 21 07.8**	**-0.2**
WLAR	**White Oak Lake**	**4.01**	**117**	IAmb_Lg		11 22 17.5	
	comp=Z,40nm,0.8s						
WHAR	**Wooly Hollow**	**4.17**	**93**		**Pn**	**11 21 11.6**	**-0.2**
WHAR				IAmb_Lg		11 22 28.6	
	comp=Z,33nm,0.9s						
W41B	**Gary Mavity, V**	**4.22**	**94**	P	**Pn**	**11 21 12.6**	**+0.2**
	baz=278,SNR=20						
W41B	**Gary Mavity, V**	**4.22**	**94**	P		11 21 12.6	
	baz=278,SNR=20						
FCAR	**Ozark Folk Cen**	**4.29**	**85**	Pn	**Pn**	**11 21 13.2**	**-0.2**
MGMO	**Mountain Grove**	**4.40**	**68**	Pn	**Pn**	**11 21 15.6**	**+0.6**
MGMO				IAmb_Lg		11 22 39.2	
	comp=Z,27nm,0.7s						
MSTX	**Muleshoe**	**4.73**	**251**	Pn	**Pn**	**11 21 20.0**	**+0.5**
MSTX				IAmb_Lg		11 22 40.4	
	comp=Z,20nm,0.9s						
R40A	**Maddies Statio**	**4.89**	**55**		**Pn**	**11 21 21.1**	**-0.5**
P38A	**Dawn**	**5.04**	**36**	IAmb_Lg		11 22 58.8	
	comp=Z,28nm,0.8s						
LCAR	**Lake Charles**	**5.08**	**83**	IAmb_Lg		11 22 50.8	
	comp=Z,20nm,0.8s						
N33A	**J Bar K, Exete**	**5.12**	**359**	IAmb_Lg		11 23 00.2	
	comp=Z,26nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.39**	**311**	IAmb_Lg		11 23 00.7	
	comp=Z,23nm,0.9s						
CCM	**Cathedral Cave**	**5.50**	**62**	IAmb_Lg		11 23 02.7	
	comp=Z,19nm,0.9s						
143A	**Socs Landing,**	**5.74**	**119**	IAmb_Lg		11 23 20.1	
	comp=Z,33nm,1.0s						
PBMO	**Poplar Bluff**	**5.74**	**76**	IAmb_Lg		11 23 18.5	
	comp=Z,33nm,0.7s						
SLM	**Saint Louis**	**6.46**	**60**	IAmb_Lg		11 23 43.4	
	comp=Z,23nm,0.8s						
OGNE	**Ogallala**	**6.46**	**327**	IAmb_Lg		11 23 43.6	
	comp=Z,28nm,0.7s						
OXF	**Oxford**	**6.63**	**97**	IAmb_Lg		11 23 52.6	
	comp=Z,31nm,0.9s						
735A	**Kenedy**	**6.74**	**183**	IAmb_Lg		11 23 56.1	
	comp=Z,27nm,0.8s						
S44A	**Carbondale**	**6.86**	**70**	IAmb_Lg		11 23 46.8	
	comp=Z,23nm,0.8s						
SDCO	**Great Sand Dun**	**6.86**	**290**		**Pn**	**11 21 50.4**	**+1.4**
SIUC	**Southern Illin**	**6.89**	**70**	IAmb_Lg		11 23 47.8	
	comp=Z,28nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.42**	**55**	IAmb_Lg		11 24 05.2	
	comp=Z,25nm,0.9s						
PLAL	**Pickwick Lake**	**7.63**	**92**	Pn	**Pn**	**11 22 00.4**	**+1.1**
MNTX	**Cornudas Mount**	**7.72**	**242**	Pn	**Pn**	**11 22 01.0**	**+0.4**
ISCO	**Idaho Springs**	**7.75**	**305**	Pn	**Pn**	**11 22 01.6**	**+0.5**
ISCO				IAmb_Lg		11 24 22.3	
	comp=Z,11nm,1.0s						
L40A	**Anamosa**	**8.04**	**35**	IAmb_Lg		11 24 25.4	
	comp=Z,22nm,0.8s						
HDIL	**Hopedale**	**8.06**	**50**	Pn	**Pn**	**11 22 05.0**	**-0.2**
ECSD	**EROS Data Cent**	**8.14**	**4**	Pn	**Pn**	**11 22 06.0**	**-0.3**
TX32	**Lajitas Array**	**8.20**	**222**	Pn	**Pn**	**11 22 08.0**	**+0.8**
TXAR	**Lajitas Array**	**8.20**	**222**	Pn	**Pn**	**11 22 06.7**	**-0.6**
O44A	**Mansfield**	**8.38**	**55**	IAmb_Lg		11 24 45.6	
	comp=Z,18nm,0.8s						
T47A	**Sharon Grove**	**8.41**	**78**	IAmb_Lg		11 24 44.4	
	comp=Z,23nm,1.1s						
PHWY	**Pilot Hill**	**8.51**	**314**	IAmb_Lg		11 24 44.3	
	comp=Z,14nm,1.1s						
SUSD	**Miller**	**8.91**	**353**	IAmb_Lg		11 25 05.6	
	comp=Z,19nm,0.9s						
I37A	**Lemond, Waseca**	**8.94**	**19**	IAmb_Lg		11 24 59.0	
	comp=Z,16nm,0.7s						
P46A	**Rosedale**	**9.01**	**61**	IAmb_Lg		11 24 58.8	
	comp=Z,19nm,0.8s						
JFWS	**Jewell Farm**	**9.15**	**35**	IAmb_Lg		11 25 17.6	
	comp=Z,17nm,0.7s						
WCI	**Wyandotte Cave**	**9.26**	**70**	IAmb_Lg		11 25 07.8	
	comp=Z,11nm,0.7s						
BLO	**Bloomington**	**9.34**	**64**	IAmb_Lg		11 25 05.1	
	comp=Z,16nm,0.7s						
U49A	**Red Boiling Sp**	**9.44**	**81**	IAmb_Lg		11 25 32.1	
	comp=Z,12nm,1.3s						
PV11	**David Mesa, Pa**	**9.58**	**290**	IAmb_Lg		11 25 29.2	
	comp=Z,8.1nm,1.0s						
I40A	**Norwalk**	**9.77**	**30**	IAmb_Lg		11 25 25.5	
	comp=Z,12nm,0.9s						
W50A	**Signal Mountai**	**9.86**	**89**	IAmb_Lg		11 25 38.8	
	comp=Z,10nm,0.8s						

*IDC **30** 11:39:43.3±2.3, 21°.36S×174°.50W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/28, mbtmp3.7/5, Error ellipse: s-maj=107.5km s-min=27.8km az=148.0*

ISC 30 11:39:48.0±2.2, 21°.4S±0°.6×174°.6W±0°.4, h30km, n7, σ0s76/8, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.47**	**257**	P	**P**	**11 48 20.6**	**+0.1**
	0.6nm,0.7s,baz=90,slow=7.0,SNR=9.1						
ASAR				PcP	**PcP**	**11 49 51.2**	**+0.6**
	0.4nm,0.8s,baz=101,slow=4.8,SNR=2.5						
WRA	**Warramunga Arr**	**47.68**	**262**	P	**P**	**11 48 21.6**	**-0.5**
	0.3nm,0.6s,baz=100,slow=8.4,SNR=5.9						
PETK	**Petropavlovsk-**	**77.96**	**343**	P	**P**	**11 51 42.9**	**-0.1**
	1.9nm,1.0s,baz=157,slow=7.8,SNR=2.9						
NVAR	**Mina Array Bea**	**79.47**	**42**	P	**P**	**11 51 51.2**	**-0.7**
	0.6nm,0.8s,baz=226,slow=8.8,SNR=5.9						
ILAR	**Eielson Array**	**88.47**	**11**	P	**P**	**11 52 38.0**	**+1.1**
	0.2nm,0.6s,baz=206,slow=6.3,SNR=5.0						
AKASG	**Malin Array Be**	**145.27**	**333**	PKPbc	**PKPbc**	**11 59 21.7**	**-0.6**
	0.3nm,0.3s,baz=40,slow=4.0,SNR=5.4						
BRTR	**Keskin Array B**	**149.78**	**314**	PKPbc	**PKPbc**	**11 59 35.5**	**+0.1**
	0.6nm,0.6s,baz=75,slow=3.2,SNR=2.6						

*IDC **30** 11:42:19.8±1.8, 71°.00N×7°.53W, h0km, mb3.3/3, mb1 3.7/7, mb1mx3.4/48, mbtmp3.6/7, ML2.9/2, Error ellipse: s-maj=30.1km s-min=20.8km az=56.0*
*NAO **30** 11:42:20.0±1.1, 71°.06N×7°

KBS	**Kingsbay**	**9.26**	**24**	*e*P		Pn	11 44 34.7	-0.5
KBS				*e*S		Sn	11 46 11.7	-7.5
SPA0	**Spitsbergen Ar**	**9.43**	**31**	Pn		**Pn**	**11 44 38.5**	**+0.9**
	baz=225,slow=16							
SPA0	**Spitsbergen Ar**	**9.43**	**31**	*e*P		**Pn**	**11 44 38.3**	**+0.7**
SPITS	**Spitsbergen Ar**	**9.43**	**31**	Pn		**Pn**	**11 44 38.2**	**+0.6**
	baz=232,slow=14,SNR=86							
SPITS				Sn		**Sn**	**11 46 23.9**	**+0.6**
	baz=224,slow=22,SNR=1.2							
MOR8	**Moi Rana**	**9.49**	**111**	*e*P		Pn	11 44 35.3	-3.2
NSS	**Namsos**	**9.96**	**122**	*e*P		Pn	11 44 40.5	-4.3
HOPEN	**Hopen**	**10.47**	**45**	Pn		**Pn**	**11 44 52.2**	**+0.4**
HOPEN	**Hopen**	**10.47**	**45**	*e*P		Pn	11 44 51.4	-0.3
NOR	**Nord**	**10.69**	**353**	*i* P		**Pn**	**11 44 54.3**	**-0.4**
NOR	**Nord**	**10.69**	**353**	Pn		Pn	11 44 53.5	-1.3
NOR				Sn		Sn	11 46 47.6	-6.5
NOR	**Nord**	**10.69**	**353**	*i* P		**Pn**	**11 44 54.3**	**-0.4**
AKN	**Aaknes**	**10.72**	**140**	Pn		Pn	11 44 50.2	-5.0
AKN				Sn		Sn	11 46 42.9	-12
ARCES	**ARCESS Array B**	**11.26**	**82**	Pn		Pn	11 45 00.4	-2.2
	baz=289,slow=11,SNR=3.6							
ARCES				Sn		Sn	11 47 03.4	-4.9
	baz=287,slow=19,SNR=1.5							
NEEM	**North Greenlan**	**12.94**	**318**	*i* P		Pn	11 45 21.5	-4.2
HFS	**Hagfors**	**14.06**	**131**	Pn		Pn	11 45 37.0	-3.8
	comp=Z,0.1nm,0.3s,baz=323,slow=9.3,SNR=4.1							
HFS				Sn		Sn	11 48 07.1	-9.5
	comp=Z,0.5nm,0.3s,baz=350,slow=22,SNR=8.2							
FINES	**FINESS Array B**	**16.48**	**109**	Pn		**Pn**	**11 46 11.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=323,slow=13,SNR=4.5							
FINES				Sn		Sn	11 49 06.3	-8.9
	comp=Z,0.4nm,0.3s,baz=319,slow=23,SNR=4.3							
KLMR	**Klimovskoe**	**21.19**	**95**	*e*P		**P**	**11 47 08.1**	**+1.0**
	comp=Z,17nm,1.5s							
GERES	**GERESS Array B**	**24.54**	**144**	P		**P**	**11 47 39.7**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=355,slow=11,SNR=4.1							
AKASG	**Malin Array Be**	**26.52**	**121**	P		**P**	**11 47 56.7**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=330,slow=9.3,SNR=1.7							
ILAR	**Eielson Array**	**41.48**	**335**	P		**P**	**11 50 08.5**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=16,slow=9.9,SNR=2.4							
TORD	**Torodi Ar. Bea**	**58.26**	**169**	P		**P**	**11 52 19.4**	**+3.2**
	comp=Z,0.8nm,1.0s,baz=360,slow=5.8,SNR=3.7							

*IDC **30** 11:50:16.6±2.0,21°.60N×143°.14E,h308km±19km, mb3.1/11, mb1 3.3/13, mb1mx3.1/53, mbtmp3.8/13, Error ellipse: s-maj=23.6km s-min=12.8km az=92.0*

ISC 30 11:50:16.7±0.9,21°.60N±0°.10×143°.2E±0°.2, h311km, n14, σ0$71/15, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.54**	**351**	P	**Pn**	**11 51 40.6**	**-0.3**
	9.5nm,0.3s,baz=324,slow=23,SNR=1.5						
JCJ				S	**S**	**11 52 48.4**	**-0.4**
	3.8nm,0.3s,baz=287,slow=23,SNR=2.5						
MJAR	**Matsushiro Arr**	**15.50**	**345**	P	**P**	**11 53 39.3**	**+0.7**
	0.1nm,0.3s,baz=166,slow=9.2,SNR=2.1						
KSRS	**Korea Array**	**20.59**	**323**	P	**P**	**11 54 33.2**	**+0.5**
	1.1nm,0.6s,baz=148,slow=9.1,SNR=6.3						
KLR	**Kul'dur**	**29.03**	**344**	P	**P**	**11 55 49.0**	**+0.4**
	1.2nm,0.5s,baz=168,slow=9.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.57**	**274**	P	**P**	**11 57 36.0**	**+0.9**
	0.6nm,0.4s,baz=78,slow=5.7,SNR=2.2						
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**11 57 39.6**	**-0.3**
	0.4nm,0.3s,baz=16,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**45.89**	**192**	P	**P**	**11 58 08.9**	**-0.2**
	0.1nm,0.3s,baz=7.6,slow=6.6,SNR=7.4						
MKAR	**Makanchi Array**	**54.76**	**313**	P	**P**	**11 59 14.6**	**-0.2**
	0.3nm,0.5s,baz=103,slow=7.6,SNR=4.5						
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**12 00 04.9**	**-0.1**
	0.4nm,0.6s,baz=257,slow=5.7,SNR=8.0						
BVAR	**Borovoye Array**	**62.74**	**320**	P	**P**	**12 00 08.1**	**-1.2**
	1.4nm,0.3s,baz=64,slow=12,SNR=8.7						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**12 01 33.4**	**+0.6**
	0.8nm,0.6s,baz=292,slow=5.4,SNR=5.5						
ARCES	**ARCESS Array B**	**79.01**	**342**	P	**P**	**12 01 47.2**	**+1.0**
	1.5nm,0.7s,baz=74,slow=9.0,SNR=7.0						
FINES	**FINESS Array B**	**83.26**	**334**	P	**P**	**12 02 07.5**	**-1.1**
	1.0nm,0.5s,baz=78,slow=7.8,SNR=7.8						
LPAZ	**La Paz**	**149.95**	**85**	PKPbc	**PKiKP**	**12 09 32.9**	**0.0**
	0.4nm,0.5s,baz=321,slow=6.5,SNR=2.2						

IDC 30 11:56:22.4±2.1,2°.86N×127°.94E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/50, mbtmp3.3/4, Error ellipse: s-maj=168.9km s-min=22.0km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.52**	**165**	P	P	12 01 34.0	-0.3
	0.3nm,0.3s,baz=343,slow=10.0,SNR=9.0						
ASAR	**Alice Springs**	**27.00**	**168**	P	P	12 02 05.0	-1.2
	0.1nm,0.3s,baz=351,slow=7.5,SNR=6.4						
MKAR	**Makanchi Array**	**58.95**	**325**	P	P	12 06 25.0	+1.4
	0.2nm,0.4s,baz=102,slow=7.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**63.12**	**327**	P	P	12 06 51.9	+0.1
	0.2nm,0.3s,baz=122,slow=5.3,SNR=3.4						

*BJI **30** 11:57:35.0±0.0,6°.30S×154°.50E, h35km, mB5.0/20, mb4.8/37, Ms4.4/3, Ms7 4.4/2*
*NEIC **30** 11:57:38.2±2.1,6°.26S±0°.08×154°.50E±0°.08, h48km±6km, mb4.7/64, Error ellipse: s-maj=12.4km s-min=9.7km az=222.0*
*IDC **30** 11:57:39.8±2.2,6°.21S×154°.44E, h68km±20km, mb4.0/18, mb1 4.3/22, mb1mx4.1/52, mbtmp4.4/22, MS3.9/4, Ms1 3.9/4, ms1mx3.2/43, Error ellipse: s-maj=13.9km s-min=12.8km az=168.0*
*DJA **30** 11:57:41.0±1.3,7°.5S×15°.4E±1°.9, h10km, M5.3/9, mb4.6/9, MLv5.7/1*

ISC 30 11:57:39.2±1.0,6°.24S±0°.06×154°.47E±0°.06, h63km±10km, n120, σ1$39/124, mb4.7/65, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.06**	**311**		**Pn**	**11 58 24.6**	**-0.7**
HNR	**Honiara**	**6.29**	**121**	P	**Pn**	**11 59 11.3**	**+2.0**
	19nm,0.3s,baz=215,slow=11,SNR=6.4						
HNR				S	**Sn**	**12 00 23.7**	**+3.8**
	baz=337,slow=11,SNR=2.4						
HNR	**Honiara**	**6.29**	**121**	P	**Pn**	**11 59 08.0**	**-1.4**
PMG	**Port Moresby**	**7.90**	**246**	P	**Pn**	**11 59 31.2**	**-0.1**
	11nm,0.3s,baz=54,slow=9.1,SNR=36						
PMG				S	**Sn**	**12 01 01.7**	**+2.4**
	8.6nm,0.3s,baz=183,slow=23,SNR=10						
PMG	**Port Moresby**	**7.90**	**246**	Pn	**Pn**	**11 59 31.0**	**-0.3**
MANU	**Manus Island**	**8.22**	**300**	Pn	**Pn**	**11 59 34.3**	**-1.5**
PATS	**Pohnpei**	**13.54**	**17**	Pn	**Pn**	**12 00 47.5**	**-1.0**
CTA	**Charters Tower**	**15.91**	**209**	P	**P**	**12 01 21.6**	**-0.3**
	1.1nm,0.3s,baz=31,slow=13,SNR=18						
CTAO	**Charters Tower**	**15.91**	**209**	Pn	**Pn**	**12 01 17.7**	**-1.6**
LIFNC	**LIFOU**	**19.03**	**141**	P	**P**	**12 01 53.9**	**-2.3**
DZM	**Mont Dzumac**	**19.54**	**145**	P	**P**	**12 02 02.0**	**+0.1**
	1.5nm,0.3s,baz=291,slow=9.3,SNR=10						
DZM	**Mont Dzumac**	**19.54**	**145**	P	**P**	**12 02 01.7**	**-0.2**
DZM				IAmb	IAmb	12 02 13.8	
	comp=Z,32nm,1.0s						
ONTNC	**Ouen Toro**	**19.73**	**145**	P	**P**	**12 02 02.3**	**-1.6**
ONTNC				IAmb	IAmb	12 02 09.3	
	comp=Z,53nm,0.9s						
WR0	**Warramunga Arr**	**23.68**	**233**	P	**P**	**12 02 44.7**	**-0.7**
WR0				IAmb	IAmb	12 02 46.2	
	comp=Z,20nm,0.8s						
WB0	**Warramunga Arr**	**23.70**	**234**	P	**P**	**12 02 44.7**	**-0.8**
WRAB	**Tennant Creek**	**23.82**	**233**	P	**P**	**12 02 45.0**	**-1.6**
WRAB				IAmb	IAmb	12 02 47.5	
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**23.82**	**233**	P	**P**	**12 02 46.0**	**-0.6**
WB2				IAmb	IAmb	12 02 47.6	
	comp=Z,18nm,0.8s						
WB2					**PcP**	**12 06 28.1**	**-0.5**
WRA	**Warramunga Arr**	**23.83**	**233**	P	**P**	**12 02 46.1**	**-0.6**
	comp=Z,20nm,0.9s,baz=57,slow=9.6,SNR=62						
WRA				PcP	**PcP**	**12 06 29.2**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=62,slow=2.3,SNR=14						
WRA				LR	LR	12 11 53.3	
	comp=Z,294nm,20.6s,baz=70,slow=36						
WRA	**Warramunga Arr**	**23.83**	**233**	P	**P**	**12 02 45.3**	**-1.5**
WRA					**PcP**	**12 06 29.3**	**+0.6**
MTN	**Manton Dam**	**23.92**	**252**	P	**P**	**12 02 47.2**	**-0.3**
MTN				IAmb	IAmb	12 02 59.7	
	comp=Z,34nm,1.4s						
ARMA	**Armidale**	**24.20**	**186**	P	**P**	**12 02 49.6**	**-0.5**
AS31	**Alice Springs**	**26.29**	**227**	P	**P**	**12 03 08.3**	**-0.8**
ASAR	**Alice Springs**	**26.30**	**227**	P	**P**	**12 03 08.2**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=57,slow=9.2,SNR=58						
ASAR				PcP	**PcP**	**12 06 34.6**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=57,slow=2.6,SNR=11						
ASAR				LR	LR	12 13 22.8	
	comp=Z,339nm,18.2s,baz=112,slow=36						
KNRA	**Kununurra**	**26.89**	**247**	P	**P**	**12 03 14.9**	**+0.4**
KNRA				IAmb	IAmb	12 03 21.8	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**28.20**	**204**	P	**P**	**12 03 24.7**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=36,slow=13,SNR=4.4						
STKA				PcP	**PcP**	**12 06 38.7**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=63,slow=2.7,SNR=6.6						
STKA				LR	LR	12 15 05.6	
	comp=Z,220nm,18.2s,baz=23,slow=37						
STKA	**Stephens Creek**	**28.20**	**204**	P	**P**	**12 03 24.6**	**-1.4**
SOEI	**Soe**	**30.10**	**261**	P	**P**	**12 03 43.5**	**+0.2**
SOEI				IAmb	IAmb	12 03 50.0	
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.49**	**245**	P	**P**	**12 03 45.7**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=60,slow=8.7,SNR=18						
FITZ				PcP	**PcP**	**12 06 45.3**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=346,slow=0.3,SNR=4.4						
FITZ	**Fitzroy Crossi**	**30.49**	**245**	P	**P**	**12 03 45.6**	**-0.9**
FITZ				IAmb	IAmb	12 04 03.6	
	comp=Z,11nm,0.9s						
BATI	**Baumata**	**30.73**	**261**	LR	LR	12 18 04.6	
	comp=Z,185nm,18.6s,baz=120,slow=40						
EDFI	**Ende, Flores**	**32.59**	**264**	P	P	12 04 11.3	+6.2
	comp=Z,12nm,0.8s						
URZ	**Urewera**	**37.92**	**150**	P	**P**	**12 04 49.4**	**-1.1**
YULB	**Yu-li**	**43.78**	**313**	P	**P**	**12 05 39.3**	**+0.3**
NACB	**Ninganchiao**	**44.06**	**315**	P	**P**	**12 05 40.7**	**-0.4**
NACB				IAmb	IAmb	12 05 43.1	
	comp=Z,22nm,0.8s						
TPUB	**Ta-pu**	**44.21**	**313**	P	**P**	**12 05 42.5**	**+0.1**
SSLB	**Suanglung**	**44.27**	**314**	P	**P**	**12 05 43.2**	**+0.3**
YHNB	**Yeheng**	**44.52**	**315**	P	**P**	**12 05 46.3**	**+1.3**
JHS	**Saijyo**	**45.69**	**335**	P	**P**	**12 05 53.5**	**-0.5**
JHS				IAmb	IAmb	12 05 59.9	
	comp=Z,23nm,1.3s						
JSD	**Sado**	**46.56**	**342**	P	**P**	**12 05 59.9**	**-0.8**
KSRS	**Korea Array**	**50.03**	**332**	P	**P**	**12 06 27.0**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=149,slow=8.3,SNR=14						
NJ2	**Nanjing**	**51.00**	**320**	*e*P	**P**	**12 06 37.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NONG	**Nongkai**	**56.10**	**297**	P	**P**	**12 07 14.8**	**+2.3**
	comp=Z,8μmcomp=Z,22nm,0.6s						
ENH	**Enshi**	**56.34**	**313**	P	**P**	**12 07 14.4**	**+0.4**
KLR	**Kul'dur**	**58.69**	**343**	P	**P**	**12 07 29.6**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=138,slow=5.7,SNR=9.9						
XAN	**Xi'an**	**58.80**	**316**	P	**P**	**12 07 30.8**	**-0.5**
XAN				sP	pP	12 07 43.5	-3.7
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				L	L		
	comp=Z,160nm,18.4s						
XAN				L	L		
	comp=Z,350nm,17.4s						
KMI	**Kunming**	**59.16**	**304**	||P	**P**	**12 07 36.0**	**+1.8**
KMI				pP	pP	12 07 42.8	-7.2
KMI				sP	pwP	12 07 47.3	-5.9
KMI				pmax	pmax		
	comp=Z,21nm,0.7s						
PETK	**Petropavlovsk-**	**59.18**	**2**	P	**P**	**12 07 33.3**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=145,slow=8.8,SNR=1.2						
LAMP	**Lampang**	**59.39**	**296**	P	**P**	**12 07 38.7**	**+3.1**
	comp=Z,14nm,0.8s						
CM04	**Chiang Mai Arr**	**59.94**	**295**	P	**P**	**12 07 43.6**	**+4.2**
	comp=Z,5.8nm,0.9s						
CM09	**Chiang Mai Arr**	**59.94**	**295**	P	**P**	**12 07 43.2**	**+3.8**
	comp=Z,6.8nm,0.8s						
CM05	**Chiang Mai Arr**	**59.97**	**295**	P	**P**	**12 07 43.3**	**+3.7**
	comp=Z,3.3nm,1.1s						
CM02	**Chiang Mai Arr**	**59.98**	**295**	P	**P**	**12 07 43.0**	**+3.4**
	comp=Z,6.9nm,0.9s						
CM31	**Chiang Mai Arr**	**59.99**	**295**	P	**P**	**12 07 40.9**	**+1.2**
CM31				IAmb	IAmb	12 07 43.7	
	comp=Z,8.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**59.99**	**295**	P	**P**	**12 07 41.2**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=117,slow=4.9,SNR=16						
CMAR	**Chiang Mai Arr**	**59.99**	**295**	P	**P**	**12 07 40.7**	**+0.9**
CM15	**Chiang Mai Arr**	**60.00**	**295**	P	**P**	**12 07 43.4**	**+3.6**
	comp=Z,7.5nm,0.9s						
CM13	**Chiang Mai Arr**	**60.01**	**295**	P	**P**	**12 07 43.1**	**+3.2**
	comp=Z,4.8nm,0.9s						
CMMT	**Chiang Mai**	**60.10**	**296**	P	P	12 07 51.3	+11
	comp=Z,3.1nm,0.7s						
CHTO	**Chiang Mai**	**60.10**	**296**	P	P	12 07 52.2	+12
CHTO	**Chiang Mai**	**60.10**	**296**	P	**P**	**12 07 41.3**	**+0.8**
CHTO				IAmb	IAmb	12 07 52.5	
	comp=Z,4.2nm,0.9s						
CHTO	**Chiang Mai**	**60.10**	**296**	P	P	12 07 52.2	+12
CD2	**Chengdu**	**60.93**	**310**	P	**P**	**12 07 47.0**	**+1.0**
CD2				pmax	pmax		
	comp=Z,50nm,0.7s						
HHC	**Hu-ho-hao-te**	**61.18**	**324**	*e*P	**P**	**12 07 52.3**	**+4.8**
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,61nm,6.6s						
LZH	**Lanzhou**	**63.41**	**316**	*e*P	**P**	**12 08 04.3**	**+1.7**
LZH				pP	pP	12 08 12.8	-5.9
LZH				sP	pwP	12 08 17.8	-3.9
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA	**Gaotai**	**67.83**	**317**	*e*P	**P**	**12 08 32.0**	**+0.9**
GTA				pP	pP	12 08 45.0	-2.3
GTA				sP	pwP	12 08 50.8	+0.6
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**68.42**	**327**	P	**P**	**12 08 35.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=133,slow=5.1,SNR=7.2						
SONM	**Songino Array**	**68.42**	**327**	P	**P**	**12 08 34.6**	**+0.1**
SHL	**Shillong**	**68.46**	**300**	P	**P**	**12 08 35.5**	**+0.2**
LSA	**Lhasa**	**70.41**	**304**	P	**P**	**12 08 47.7**	**0.0**
VNDA	**Vanda**	**71.35**	**178**	P	**P**	**12 08 51.9**	**0.0**
	comp=Z,1.1nm,0.8s,baz=334,slow=7.2,SNR=6.3						
VNDA	**Vanda**	**71.35**	**178**	IAmb	IAmb	12 08 53.0	
	comp=Z,2.4nm,1.0s						
SVW2	**Sparrevohn**	**77.50**	**22**	P	**P**	**12 09 28.3**	**+0.5**
WMQ	**Urumqi**	**77.92**	**317**	*e*P	**P**	**12 09 32.3**	**+1.7**
WMQ				sP	pP	12 09 47.0	-0.2
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.7s						
MCK	**McKinley**	**81.55**	**22**	P	**P**	**12 09 48.7**	**-1.1**
MCK				IAmb	IAmb	12 09 49.8	
	comp=Z,7.7nm,0.9s						
KLU	**Klutina**	**81.57**	**25**	P	**P**	**12 09 49.9**	**-0.1**
KLU				IAmb	IAmb	12 09 50.9	
	comp=Z,10nm,1.2s						
MLY	**Manley**	**81.63**	**21**	P	**P**	**12 09 49.1**	**-1.1**
NEA2	**Nenana**	**81.98**	**21**	P	**P**	**12 09 51.1**	**-0.9**
MKAR	**Makanchi Array**	**82.49**	**319**	P	**P**	**12 09 54.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=101,slow=6.3,SNR=7.7						
ILAR	**Eielson Array**	**82.87**	**22**	P	**P**	**12 09 54.8**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=250,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**83.26**	**326**	P	**P**	**12 09 57.4**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=116,slow=6.6,SNR=1.9						
DOT	**Dot Lake**	**83.38**	**23**	P	**P**	**12 09 58.9**	**-0.4**
DOT				IAmb	IAmb	12 09 59.6	
	comp=Z,5.0nm,1.0s						
SCRK	**Sand Creek**	**83.56**	**23**	P	**P**	**12 10 00.3**	**0.0**
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**12 10 01.0**	**-0.2**
QSPA				IAmb	IAmb	12 10 02.2	
	comp=Z,14nm,1.1s						
TOLK	**Toolik Lake Re**	**84.06**	**18**	P	**P**	**12 10 02.7**	**0.0**
K27K	**Chicken**	**84.33**	**23**	P	**P**	**12 10 04.7**	**+0.6**
MAW	**Mawson**	**84.89**	**203**	P	**P**	**12 10 06.9**	**0.0**
	comp=Z,4.1nm,0.6s,baz=103,slow=7.7,SNR=14						
MAW	**Mawson**	**84.89**	**203**	P	**P**	**12 10 06.7**	**-0.2**
EGAK	**Eagle**	**85.03**	**23**	P	**P**	**12 10 07.7**	**+0.1**
EGAK				IAmb	IAmb	12 10 08.8	
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**85.92**	**322**	P	**P**	**12 10 11.4**	**-0.9**
KURBB	**Kurchatov Arra**	**85.95**	**322**	P	**P**	**12 10 11.4**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=101,slow=4.9,SNR=3.3						
EPYK	**Eagle Plains**	**87.36**	**22**	P	**P**	**12 10 18.8**	**-0.3**
EPYK				IAmb	IAmb	12 10 20.2	
	comp=Z,8.6nm,0.9s						
YBH	**Yreka Blue Hor**	**88.77**	**48**	P	**P**	**12 10 27.6**	**+1.2**
YBH				IAmb	IAmb	12 10 29.1	
	comp=Z,4.6nm,1.1s						
BEKR	**Beckworth**	**90.26**	**50**	P	**P**	**12 10 33.6**	**+0.1**
BEKR				IAmb	IAmb	12 10 34.7	
	comp=Z,3.1nm,0.7s						
PNTR	**Pine Nut**	**90.74**	**51**	P	**P**	**12 10 36.8**	**+0.9**
MWC	**Mount Wilson**	**91.38**	**56**	P	**P**	**12 10 39.5**	**+0.6**
I07A	**Izee**	**91.44**	**46**	P	**P**	**12 10 38.4**	**-0.4**
I07A				IAmb	IAmb	12 10 41.2	
	comp=Z,1.9nm,0.9s						
LHV	**Little Huntoon**	**91.49**	**52**	P	**P**	**12 10 40.4**	**+1.4**
RYN	**Ryan**	**91.52**	**51**	P	**P**	**12 10 40.3**	**+0.9**
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**12 10 40.9**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=256,slow=6.7,SNR=36						
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**12 10 40.7**	**+0.5**
NV11	**Mina Array Sit**	**91.78**	**52**	P	**P**	**12 10 41.2**	**+0.6**
KVN	**Kaiserville**	**91.89**	**51**	P	**P**	**12 10 41.4**	**+0.2**
KVN				IAmb	IAmb	12 10 42.4	
	comp=Z,5.1nm,1.0s						
G08A	**Pilot Rock**	**91.98**	**45**	P	**P**	**12 10 40.8**	**-0.5**
G08A				IAmb	IAmb	12 10 41.8	
	comp=Z,2.3nm,0.9s						
TPH	**Tonopah**	**92.47**	**52**	P	**P**	**12 10 44.1**	**+0.2**
PFO	**Pinyon Flats O**	**92.64**	**57**	P	**P**	**12 10 44.8**	**+0.1**
TPNV	**Topopah Spring**	**93.13**	**53**	P	**P**	**12 10 47.4**	**+0.5**
TPNV				IAmb	IAmb	12 10 49.0	
	comp=Z,6.7nm,1.1s						
R11A	**Troy Canyon, C**	**93.78**	**52**	P	**P**	**12 10 50.7**	**+0.8**
R11A				IAmb	IAmb	12 10 51.9	
	comp=Z,3.3nm,1.1s						
SHPR	**Sheep Range**	**93.96**	**54**	P	**P**	**12 10 52.1**	**+1.4**
SHPR				IAmb	IAmb	12 10 52.7	
	comp=Z,3.6nm,0.9s						
SPR3	**Spring Creek 3**	**94.81**	**51**	P	**P**	**12 10 55.7**	**+0.9**
SPR3				IAmb	IAmb	12 10 56.2	
	comp=Z,3.2nm,0.9s						
W13A	**Hualapai Mount**	**94.89**	**55**	P	**P**	**12 10 56.1**	**+1.0**
W13A				IAmb	IAmb	12 10 57.4	
	comp=Z,3.5nm,0.9s						
LCMT	**Little Creek M**	**95.53**	**53**	P	**P**	**12 10 59.1**	**+1.2**
LCMT				IAmb	IAmb	12 11 00.6	
	comp=Z,2.4nm,1.0s						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**12 10 58.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=261,slow=4.7,SNR=4.8						
U15A	**North Rim**	**96.27**	**54**	P	**P**	**12 11 02.3**	**+0.9**
U15A				IAmb	IAmb	12 11 04.5	
	comp=Z,1.6nm,0.6s						
RDMU	**Red Mountain**	**98.55**	**50**	P	**P**	**12 11 11.1**	**-0.5**
RDMU				IAmb	IAmb	12 11 12.1	
	comp=Z,2.8nm,1.0s						
PDAR	**Pinedale Array**	**98.58**	**48**	P	**P**	**12 11 10.5**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=243,slow=2.4,SNR=9.8						
PDAR	**Pinedale Array**	**98.58**	**48**	P	**P**	**12 11 10.2**	**-1.5**
BOSA	**Boshof**	**120.08**	**232**	PKP	**PKPdf**	**12 16 23.4**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=102,slow=0.9,SNR=7.2						
GERES	**GERESS Array B**	**126.14**	**329**	PKP	**PKiKP**	**12 16 35.1**	**0.0**
	comp=Z,0.4nm,0.2s,baz=48,slow=1.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**152.32**	**286**	PKPbc	**PKPbc**	**12 17 28.7**	**-0.4**
	comp=Z,8.0nm,0.7s,baz=62,slow=1.8,SNR=36						
TORD				PKPab	**PKPab**	**12 17 39.1**	**-0.1**
	comp=Z,8.2nm,0.8s,baz=75,slow=3.5,SNR=7.8						
TORD	**Torodi Ar. Bea**	**152.32**	**286**	PKPbc	**PKPbc**	**12 17 28.3**	**-0.8**
TORD					**PKPab**	**12 17 38.8**	**-0.4**

*IDC **30** 11:59:16.7±1.4,30°.80N×142°.07E, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.7/52, mbtmp3.9/9, ML2.9/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/58, Error ellipse: s-maj=34.5km s-min=26.0km az=47.0*
*NEIC **30** 11:59:18.9±1.0,30°.87N±0°.04×142°.1E±0°.2, h10km±1km, mb4.2/6, Error ellipse: s-maj=22.1km s-min=5.5km az=83.0*
*JMA **30** 11:59:18.4±0.7,31°.29N×142°.51E, h0km, M4.2*
*NIED **30** 11:59:18.5, 31°.

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.06**	**311**	Pn	Pn	12 03 32.1	+5.8
HNR	**Honiara**	**6.29**	**121**	P	**Pn**	**12 04 09.8**	**-0.8**
	8.4nm,0.3s,baz=173,slow=6.7,SNR=2.2						
HNR				S	**Sn**	**12 05 24.7**	**+3.6**
	baz=107,slow=12,SNR=1.6						
HNR	**Honiara**	**6.29**	**121**		**Pn**	**12 04 12.3**	**+1.8**
PMG	**Port Moresby**	**7.91**	**246**	P	**Pn**	**12 04 33.5**	**+0.8**
	2.7nm,0.3s,baz=50,slow=10,SNR=10.0						
PMG				S	**Sn**	**12 06 03.0**	**+2.1**
	2.2nm,0.3s,baz=252,slow=23,SNR=5.2						
PMG	**Port Moresby**	**7.91**	**246**		**Pn**	**12 04 34.1**	**+1.4**
PATS	**Pohnpei**	**13.53**	**17**	Pn	**Pn**	**12 05 52.1**	**+2.5**
CTA	**Charters Tower**	**15.93**	**209**	P	**Pn**	**12 06 22.3**	**+1.1**
	0.3nm,0.3s,baz=45,slow=12,SNR=7.9						
CTAO	**Charters Tower**	**15.93**	**209**	Pn	**Pn**	**12 06 20.8**	**-0.4**
LIFNC	**LIFOU**	**19.04**	**141**	P	**P**	**12 06 56.2**	**-2.2**
DZM	**Mont Dzumac**	**19.54**	**145**	P	**P**	**12 07 03.4**	**-0.6**
	1.2nm,0.3s,baz=271,slow=10,SNR=7.7						
DZM				LR	LR	12 14 00.2	
	comp=Z,496nm,18.0s,baz=351,slow=35						
DZM	**Mont Dzumac**	**19.54**	**145**	P	**P**	**12 07 02.1**	**-1.9**
DZM				IAmb	IAmb	12 07 25.9	
	comp=Z,59nm,1.5s						
OUENC	**Ouen Island, N**	**20.04**	**145**	P	**P**	**12 07 08.5**	**-0.8**
OUENC				IAmb	IAmb	12 07 19.8	
	comp=Z,38nm,1.0s						
WR0	**Warramunga Arr**	**23.69**	**233**	P	**P**	**12 07 46.8**	**-1.0**
WR0				IAmb	IAmb	12 07 48.3	
	comp=Z,9.1nm,0.8s						
WB0	**Warramunga Arr**	**23.71**	**234**	P	**P**	**12 07 47.6**	**-0.3**
WB0				IAmb	IAmb	12 08 20.4	
	comp=Z,24nm,1.5s						
WB2	**Warramunga Arr**	**23.84**	**233**	P	**P**	**12 07 48.7**	**-0.4**
WRA	**Warramunga Arr**	**23.84**	**233**	P	**P**	**12 07 47.9**	**-1.3**
	comp=Z,6.6nm,0.8s,baz=58,slow=9.6,SNR=14						
WRA				PcP	**PcP**	**12 11 30.8**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=60,slow=2.3,SNR=10						
WRA	**Warramunga Arr**	**23.84**	**233**		**PcP**	**12 11 30.7**	**-0.7**
ARMA	**Armidale**	**24.22**	**186**	P	**P**	**12 07 51.1**	**-1.5**
ARMA				IAmb	IAmb	12 08 35.4	
	comp=Z,49nm,1.8s						
AS31	**Alice Springs**	**26.31**	**227**	P	**P**	**12 08 11.0**	**-0.5**
ASAR	**Alice Springs**	**26.31**	**227**	P	**P**	**12 08 10.1**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=56,slow=9.3,SNR=9.7						
ASAR				PcP	**PcP**	**12 11 36.2**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=52,slow=2.7,SNR=8.6						
STKA	**Stephens Creek**	**28.22**	**204**	P	**P**	**12 08 26.8**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=31,slow=14,SNR=1.8						
STKA				PcP	**PcP**	**12 11 40.3**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=54,slow=6.0,SNR=4.7						
STKA	**Stephens Creek**	**28.22**	**204**	P	**P**	**12 08 27.7**	**-0.8**
STKA					**PcP**	**12 11 40.0**	**-1.3**
SOEI	**Soe**	**30.11**	**261**	P	**P**	**12 08 46.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**30.50**	**245**	P	**P**	**12 08 47.6**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=75,slow=11,SNR=2.0						
FITZ	**Fitzroy Crossi**	**30.50**	**245**	P	**P**	**12 08 48.4**	**-0.5**
FITZ				IAmb	IAmb	12 09 15.7	
	comp=Z,7.5nm,1.2s						
FORT	**Forrest**	**34.80**	**222**	P	**P**	**12 09 27.8**	**+1.4**
FORT				IAmb	IAmb	12 10 18.5	
	comp=Z,12nm,1.0s						
YULB	**Yu-li**	**43.78**	**313**	P	**P**	**12 10 41.4**	**0.0**
KSRS	**Korea Array**	**50.02**	**332**	P	**P**	**12 11 28.7**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=139,slow=7.8,SNR=4.4						
PETK	**Petropavlovsk-**	**59.17**	**2**	P	**P**	**12 12 35.6**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=134,slow=8.3,SNR=2.0						
CMAR	**Chiang Mai Arr**	**59.99**	**295**	P	**P**	**12 12 42.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=120,slow=6.0,SNR=7.7						
SONM	**Songino Array**	**68.41**	**327**	P	**P**	**12 13 36.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=96,slow=3.0,SNR=3.5						
SONM	**Songino Array**	**68.41**	**327**	P	**P**	**12 13 36.3**	**-0.8**
SHL	**Shillong**	**68.46**	**300**	P	**P**	**12 13 37.2**	**-0.7**
MKAR	**Makanchi Array**	**82.49**	**319**	P	**P**	12 14 55.1	-2.6
	comp=Z,0.6nm,0.7s,baz=93,slow=5.8,SNR=5.3						
ILAR	**Eielson Array**	**82.85**	**22**	P	**P**	12 14 56.4	-2.8
	comp=Z,0.6nm,0.8s,baz=248,slow=6.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**83.26**	**326**	P	**P**	12 14 58.8	-2.7
	comp=Z,0.8nm,0.3s,baz=97,slow=4.2,SNR=1.8						
QSPA	**South Pole Qui**	**83.75**	**180**	LR	LR	12 45 03.2	
	comp=Z,165nm,21.5s,baz=260,slow=30						
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**12 15 03.1**	**-0.9**
QSPA				IAmb	IAmb	12 15 28.8	
	comp=Z,22nm,1.7s						
MAW	**Mawson**	**84.90**	**203**	P	**P**	12 15 04.5	-5.1
	comp=Z,1.6nm,0.6s,baz=101,slow=5.2,SNR=5.1						
EGAK	**Eagle**	**85.01**	**23**	P	**P**	**12 15 10.1**	**-0.1**
EGAK				IAmb	IAmb	12 16 35.1	
	comp=Z,14nm,1.9s						
EPYK	**Eagle Plains**	**87.35**	**22**	P	**P**	**12 15 20.9**	**-0.8**
EPYK				IAmb	IAmb	12 15 21.8	
	comp=Z,4.4nm,0.9s						
LHV	**Little Huntoon**	**91.47**	**52**	P	**P**	**12 15 40.8**	**-0.8**
RYN	**Ryan**	**91.50**	**51**	P	**P**	**12 15 41.2**	**-0.8**
RYN				IAmb	IAmb	12 15 43.3	
	comp=Z,3.4nm,1.0s						
NVAR	**Mina Array Bea**	**91.65**	**52**	P	**P**	**12 15 42.5**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=254,slow=6.4,SNR=18						
NVAR	**Mina Array Bea**	**91.65**	**52**	P	**P**	**12 15 41.9**	**-0.8**
NV11	**Mina Array Sit**	**91.77**	**52**	P	**P**	**12 15 42.6**	**-0.6**
NV11				IAmb	IAmb	12 15 44.2	
	comp=Z,4.0nm,0.9s						
TPH	**Tonopah**	**92.46**	**52**	P	**P**	**12 15 46.5**	**0.0**
W13A	**Hualapai Mount**	**94.88**	**55**	P	**P**	**12 15 57.7**	**0.0**
W13A				IAmb	IAmb	12 15 59.0	
	comp=Z,2.4nm,0.9s						
PDAR	**Pinedale Array**	**98.57**	**48**	P	**P**	**12 16 12.3**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=4.8						
BOSA	**Boshof**	**120.09**	**232**	PKP	**PKPdf**	**12 21 25.3**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=90,slow=1.0,SNR=3.3						
BOSA	**Boshof**	**120.09**	**232**		**PKPdf**	**12 21 25.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**152.32**	**286**	PKPbc	**PKPdf**	**12 22 29.7**	**+4.7**
	comp=Z,3.7nm,0.8s,baz=65,slow=2.3,SNR=16						
TORD	**Torodi Ar. Bea**	**152.32**	**286**		**PKPdf**	**12 22 29.9**	**+4.9**

BER 30 12:04:33.2±0.8, 71°.16N×8°.18W, h2km±135km, ML1.1, 4C-2D, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.16**	**212**	⇑*i*P	Pg	12 04 37.7	+1.5
JNW				*e*S	Sg	12 04 41.0	+2.8
JNW				IAML		12 04 44.8	
	comp=Z,22nm,0.3s						
JNW	**Jan Mayen West**	**0.16**	**212**	⇑*i*P	Pg	12 04 37.7	+1.5
JNW				*e*S	Sg	12 04 41.1	+2.8
JNW				IAML		12 04 44.8	
	comp=Z,22nm,0.3s						
JNE	**Jan Mayen East**	**0.18**	**193**	⇑*i*P	Pg	12 04 37.4	+0.8
JNE				*e*S	Sg	12 04 41.0	+2.1
JNE				IAML		12 04 41.0	
	comp=Z,52nm,0.5s						
JNE	**Jan Mayen East**	**0.18**	**193**	⇑*i*P	Pg	12 04 37.4	+0.8
JNE				*e*S	Sg	12 04 40.9	+2.0
JNE				IAML		12 04 41.0	
	comp=Z,52nm,0.5s						
JMIC	**Jan Mayen**	**0.21**	**211**	*e*P	Pg	12 04 38.0	+0.8
JMIC				*e*S	Sg	12 04 43.1	+3.3
JMIC				IAML		12 04 48.7	
	comp=Z,11nm,0.8s						
JMIC	**Jan Mayen**	**0.21**	**211**	*e*P	Pg	12 04 38.0	+0.8
JMIC				*e*S	Sg	12 04 42.2	+2.4
JMIC				IAML		12 04 48.7	
	comp=Z,11nm,0.8s						
JMI	**Jan Mayen**	**0.30**	**218**	⇓*i*P	Pg	12 04 39.5	+0.7
JMI				*e*S	Sb	12 04 45.5	-1.1
JMI				IAML		12 04 45.7	
	comp=Z,11nm,0.5s						
JMI	**Jan Mayen**	**0.30**	**218**	⇓*i*P	Pg	12 04 39.5	+0.6
JMI				*e*S	Sg	12 04 43.8	+1.1
JMI				IAML		12 04 45.7	
	comp=Z,11nm,0.5s						

*IDC **30** 12:14:50.7±4.5, 13°.65S×167°.08E, h240km±39km, mb3.3/9, mb1 3.4/10, mb1mx3.2/36, mbtmp3.9/10, Error ellipse: s-maj=28.9km s-min=25.1km az=53.0*

ISC 30 12:14:51.5±1.0, 13°.81S±0°.10×167°.2E±0°.2, h250km, n11, σ1s54/14, mb3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.25**	**185**	P	**Pn**	**12 16 49.7**	**+1.7**
	0.2nm,0.3s,baz=234,slow=23,SNR=1.0						
DZM				S	**S**	**12 18 18.4**	**-3.6**
	0.2nm,0.3s,baz=314,slow=19,SNR=1.4						
CTA	**Charters Tower**	**20.93**	**250**	P	**P**	**12 19 15.2**	**-0.4**
	5.2nm,0.9s,baz=96,slow=9.2,SNR=2.9						
STKA	**Stephens Creek**	**29.51**	**228**	P	**P**	**12 20 34.4**	**+1.5**
	1.2nm,0.3s,baz=49,slow=9.5,SNR=9.2						
WRA	**Warramunga Arr**	**31.95**	**254**	P	**P**	**12 20 53.1**	**-1.3**
	0.5nm,0.7s,baz=88,slow=9.3,SNR=4.8						
WRA				PcP	**PcP**	**12 23 38.9**	**+0.5**
	0.3nm,0.6s,baz=87,slow=3.4,SNR=2.1						
ASAR	**Alice Springs**	**32.91**	**248**	P	**P**	**12 21 02.0**	**-0.6**
	0.7nm,0.5s,baz=75,slow=9.3,SNR=21						
ASAR				PcP	**PcP**	**12 23 40.9**	**-0.1**
	0.4nm,0.6s,baz=80,slow=2.3,SNR=5.9						
QSPA	**South Pole Qui**	**76.22**	**180**	P	**P**	**12 26 13.0**	**+0.7**
	1.7nm,0.8s,baz=315,slow=1.4,SNR=10						
SONM	**Songino Array**	**81.69**	**324**	P	**P**	**12 26 42.7**	**+0.6**
	0.4nm,0.4s,baz=129,slow=4.6,SNR=1.7						
MAW	**Mawson**	**82.69**	**202**	P	**P**	**12 26 48.0**	**+1.2**
	0.8nm,0.5s,baz=104,slow=8.3,SNR=2.2						
ILAR	**Eielson Array**	**85.69**	**18**	P	**P**	**12 27 00.1**	**-1.7**
	0.3nm,0.6s,baz=227,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**96.46**	**316**	P	**P**	**12 27 52.0**	**-0.4**
	0.4nm,0.7s,baz=85,slow=5.2,SNR=4.4						
KEST	**Kesra**	**150.43**	**321**	PKPbc	**PKiKP**	**12 34 14.1**	**-0.4**
	2.4nm,0.7s,baz=72,slow=3.2,SNR=4.5						

*IDC **30** 12:19:14.9±0.4, 32°.34S×177°.88W, h0km, mb4.8/25, mb1 4.9/31, mb1mx4.8/48, mbtmp4.9/31, ML5.3/3, MS4.9/25, Ms1 4.9/25, ms1mx4.8/32, Error ellipse: s-maj=13.8km s-min=12.9km az=116.0*

*BJI **30** 12:19:15.4±0.0, 32°.05S×177°.43W, h14km, mB5.9/31, mb5.4/32, Ms5.2/31, Ms7 4.9/30*

*MOS **30** 12:19:15.4±1.2, 32°.28S×177°.84W, h10km, mb5.5/36, MS5.1/8, Error ellipse: s-maj=10.1km s-min=7.7km az=90.1*

*NEIC **30** 12:19:17.1±2.2, 32°.32S±0°.06×177°.82W±0°.07, h10km±1km, mb5.2/98, Error ellipse: s-maj=13.1km s-min=7.0km az=136.0*

*GCMT **30** 12:19:19.1±0.1, 32°.46S±0°.01×177°.51W±0°.01, h12km, MW5.3/130, Moment Tensor Solution. s82,c133; s130,c226; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.85±.02; Mθθ-0.24±.01; Mϕϕ-0.60±.01; Mrθ0.30±.04; Mϕθ-0.35±.01; Mϕr0.98±.06; Best double couple: Mo1.32500×10^17 NP1:ϕs220.00000°, δ20.00000°, λ109.00000°. NP2:ϕs21.00000°, δ71.00000°, λ83.00000°. Principal axes: T 1.3560, Plg64.0000°, Azm280.0000°; N -0.0610, Plg6.0000°, Azm23.0000°; P -1.2940, Plg25.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 12:19:16.1±0.6, 32°.36S±0°.04×177°.84W±0°.05, h10km±3km, h10km:pP-P, n401, σ1s65/431, mb5.2/92, MS5.0/43, 10C-4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.10**	**359**	Pn	**Pn**	**12 20 03.0**	**-2.1**
	272nm,0.3s,baz=84,slow=11,SNR=12						
RAO				Sn	**Sn**	**12 20 37.4**	**-4.8**
	255nm,0.3s,baz=154,slow=14,SNR=5.2						
RAO				LR	LR	12 21 24.2	
	comp=Z,20μm,19.4s,baz=149,slow=42						
MXZ	**Matakaoa Point**	**6.08**	**210**	Pn	**Pn**	**12 20 45.0**	**-1.0**
URZ	**Urewera**	**7.18**	**214**	Pn	**Pn**	**12 20 59.5**	**-1.8**
	2.4nm,0.3s,baz=121,slow=23,SNR=24						
URZ				Sn	**Sn**	**12 22 18.7**	**-4.3**
	16nm,0.3s,baz=301,slow=24,SNR=98						
URZ	**Urewera**	**7.18**	**214**		**Pn**	**12 20 59.0**	**-2.2**
OUZ	**Omahuta**	**7.67**	**246**	Pn	**Pn**	**12 21 07.3**	**-0.7**
MSVF	**Nonsavu**	**15.03**	**345**	Pn	**Pn**	**12 22 48.4**	**-0.4**
	0.8nm,0.3s,baz=142,slow=13,SNR=19						
MSVF				LR	LR	12 28 04.7	
	comp=Z,13μm,18.1s,baz=172,slow=35						
MSVF	**Nonsavu**	**15.03**	**345**	P	**Pn**	**12 22 48.1**	**-0.7**
MSVF	**Nonsavu**	**15.03**	**345**	Pn	**Pn**	**12 22 48.0**	**-0.7**
OUENC	**Ouen Island, N**	**16.81**	**302**	Pn	**Pn**	**12 23 11.2**	**-0.5**
OUENC				IAmb	IAmb	12 23 30.4	
	comp=Z,336nm,1.3s						
DZM	**Mont Dzumac**	**17.31**	**302**	P	**P**	**12 23 19.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=136,slow=15,SNR=5.2						
DZM				LR	LR	12 28 58.8	
	comp=Z,11μm,18.5s,baz=137,slow=34						
DZM	**Mont Dzumac**	**17.31**	**302**	*e*Pn	**P**	**12 23 21.6**	**+2.1**
	comp=Z,356nm,1.4s						
DZM				*e*LR	LR	12 27 23.3	
	comp=Z,12μm,23.2s						
DZM	**Mont Dzumac**	**17.31**	**302**		**Pn**	**12 23 17.8**	**-0.3**
AFI	**Afiamalu**	**19.19**	**18**	P	**P**	**12 23 40.2**	**0.0**
	comp=Z,7.2nm,0.3s,baz=38,slow=2.9,SNR=9.2						
AFI	**Afiamalu**	**19.19**	**18**	P	**P**	**12 23 40.2**	**0.0**
AFI				pmax	pmax		
	comp=Z,195nm,1.0s						
AFI	**Afiamalu**	**19.19**	**18**	P	**P**	**12 23 40.2**	**0.0**
AFI				IAmb	IAmb	12 23 43.5	
	comp=Z,195nm,1.0s						
RAR	**Rarotonga**	**19.55**	**60**	P	**P**	**12 23 42.9**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=247,slow=9.3,SNR=2.9						
RAR				LR	LR	12 30 24.1	
	comp=Z,3μm,19.3s,baz=228,slow=34						
RAR	**Rarotonga**	**19.55**	**60**	P	**P**	**12 23 43.2**	**-0.8**
RAR				IAmb	IAmb	12 23 59.2	
	comp=Z,266nm,1.5s						
MGCD	**Mangrove Creek**	**26.07**	**260**	P	**P**	**12 24 51.3**	**+1.4**
	baz=26,SNR=6.3						
ARMA	**Armidale**	**26.09**	**266**	P	**P**	**12 24 51.1**	**+0.8**
	baz=26,SNR=7.0						
ARMA	**Armidale**	**26.09**	**266**	P	**P**	**12 24 52.3**	**+2.1**
ARMA				IAmb	IAmb	12 25 24.7	
	comp=Z,62nm,1.3s						
TBI	**Tubuai**	**26.59**	**77**	*e*LQ	LQ	12 29 59.7	
	comp=Z,5μm,25.5s						
TBI				*e*LR	LR	12 31 15.8	
	comp=Z,3μm,29.5s,baz=240						
TBI	**Tubuai**	**26.59**	**77**	*e*T	T	12 51 10.5	
	comp=Z,7.3nm,0.3s						
CAN	**Canberra**	**27.63**	**255**	P	**P**	**12 25 05.8**	**+1.8**
CAN				pmax	pmax		
	comp=Z,35nm,1.2s						
CAN	**Canberra**	**27.63**	**255**	P	**P**	**12 25 05.8**	**+1.8**
CAN				IAmb	IAmb	12 25 22.6	
	comp=Z,35nm,1.2s						
EIDS	**Eidsvold**	**28.02**	**276**	P	**P**	**12 25 08.9**	**+1.3**
	baz=28,SNR=10						
EIDS	**Eidsvold**	**28.02**	**276**	P	**P**	**12 25 08.9**	**+1.3**
EIDS				IAmb	IAmb	12 25 21.2	
	comp=Z,38nm,1.1s						
PPT2	**Papeete2**	**29.43**	**67**	*e*LQ	LQ	12 31 16.2	
	comp=Z,3μm,23.5s						
PPT2				*e*LR	LR	12 32 27.3	
	comp=Z,3μm,21.0s,baz=230						
PPT	**Papeete**	**29.44**	**67**	LR	LR	12 35 20.8	
	comp=Z,3μm,20.8s,baz=245,slow=33						
RMQ	**Roma**	**29.60**	**273**	P	**P**	**12 25 22.3**	**+0.7**
	baz=30,SNR=13						
TOO	**Toolangi**	**30.36**	**250**	P	**P**	**12 25 28.8**	**+0.5**
	baz=30,SNR=5.3						
TOO	**Toolangi**	**30.36**	**250**	P	**P**	**12 25 29.7**	**+1.4**
TOO				pmax	pmax		
	comp=Z,15nm,1.0s						
TOO	**Toolangi**	**30.36**	**250**	P	**P**	**12 25 29.7**	**+1.4**
HNR	**Honiara**	**30.71**	**313**	P	**P**	**12 25 30.5**	**-0.8**
	comp=Z,76nm,0.8s,baz=187,slow=8.1,SNR=2.0						
HNR				LR	LR	12 36 24.0	
	comp=Z,2μm,19.1s,baz=181,slow=34						
HNR	**Honiara**	**30.71**	**313**	P	**P**	**12 25 30.8**	**-0.6**
CMSA	**Cobar Meteorol**	**30.86**	**262**	P	**P**	**12 25 33.8**	**+1.2**
	baz=31,SNR=57						
ARPS	**Mount Arapiles**	**33.32**	**251**	P	**P**	**12 25 55.1**	**+0.9**
	baz=33,SNR=18						
QLP	**Quilpie**	**33.39**	**270**	P	**P**	**12 25 56.0**	**+1.0**
	baz=33,SNR=5.0						
STKA	**Stephens Creek**	**34.21**	**260**	P	**P**	**12 26 03.4**	**+1.3**
	comp=Z,15nm,0.9s,baz=96,slow=9.2,SNR=28						
STKA				PcP	**PcP**	**12 28 38.5**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=100,slow=8.2,SNR=3.2						
STKA				ScP	**ScP**	**12 32 26.0**	**+2.2**
	comp=Z,5.4nm,0.9s,baz=22,slow=2.1,SNR=6.9						
STKA				LR	LR	12 40 14.7	
	comp=Z,3μm,18.4s,baz=101,slow=37						
STKA	**Stephens Creek**	**34.21**	**260**	P	**P**	**12 26 03.1**	**+1.2**
	baz=34,SNR=21						
STKA	**Stephens Creek**	**34.21**	**260**	P	**P**	**12 26 03.2**	**+1.2**
CTA	**Charters Tower**	**34.29**	**282**	P	**P**	**12 26 04.5**	**+1.7**
	comp=Z,40nm,0.7s,baz=110,slow=11,SNR=34						
CTAO	**Charters Tower**	**34.29**	**282**	P	**P**	**12 26 04.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,279nm,1.7s						
CTAO	**Charters Tower**	**34.29**	**282**	P	**P**	**12 26 04.2**	**+1.4**
HTT	**Hallett**	**36.13**	**256**	P	**P**	**12 26 18.9**	**+0.3**
	baz=36,SNR=12						
MTSU	**Mount Surprise**	**36.84**	**283**	P	**P**	**12 26 26.1**	**+1.4**
	baz=37,SNR=51						
BBOO	**Buckleboo**	**38.60**	**257**	P	**P**	**12 26 38.9**	**-0.6**
	baz=39,SNR=26						
BBOO	**Buckleboo**	**38.60**	**257**	P	**P**	**12 26 39.0**	**-0.6**
PMG	**Port Moresby**	**39.59**	**297**	P	**P**	**12 26 49.0**	**+1.1**
	comp=Z,15nm,0.9s,baz=124,slow=7.3,SNR=3.1						
PMG				PcP	**PcP**	**12 28 55.3**	**+0.1**
	comp=Z,18nm,0.9s,baz=153,slow=2.3,SNR=2.7						
PMG				LR	LR	12 41 27.9	
	comp=Z,2μm,19.1s,baz=126,slow=34						
PMG	**Port Moresby**	**39.59**	**297**	P	**P**	**12 26 48.4**	**+0.5**
QIS	**Mount Isa**	**39.63**	**277**	P	**P**	**12 26 48.4**	**+0.2**
	baz=40,SNR=8.9						
RABL	**Rabaul**	**39.67**	**309**	P	**P**	**12 26 48.9**	**+0.3**
AS31	**Alice Springs**	**43.17**	**269**	P	**P**	**12 27 16.7**	**-0.7**
ASAR	**Alice Springs**	**43.17**	**269**	P	**P**	**12 27 16.7**	**-0.7**
	comp=Z,30nm,0.6s,baz=106,slow=7.7,SNR=181						
ASAR				ScP	**ScP**	**12 32 59.6**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=120,slow=4.7,SNR=4.5						
ASAR				S	**S**	**12 33 39.2**	**-4.9**
	comp=Z,1.7nm,0.9s,baz=120,slow=16,SNR=5.2						
ASAR				LR	LR	12 44 55.5	
	comp=Z,2μm,18.4s,baz=122,slow=36						
WR0	**Warramunga Arr**	**44.16**	**274**	P	**P**	**12 27 24.4**	**-0.9**
WB2	**Warramunga Arr**	**44.33**	**274**	P	**P**	**12 27 25.9**	**-0.8**
WRAB	**Tennant Creek**	**44.33**	**274**	P	**P**	**12 27 26.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,64nm,0.6s						
WRAB	**Tennant Creek**	**44.33**	**274**	P	**P**	**12 27 25.9**	**-0.7**
WRA	**Warramunga Arr**	**44.34**	**274**	P	**P**	**12 27 25.9**	**-0.8**
	comp=Z,52nm,0.5s,baz=113,slow=7.9,SNR=362						
WRA				ScP	**ScP**	**12 33 05.5**	**+2.5**
	comp=Z,9.3nm,1.0s,baz=122,slow=4.3,SNR=14						
WRA				S	**S**	**12 33 54.8**	**-6.3**
	comp=Z,1.2nm,0.9s,baz=120,slow=13,SNR=2.8						
WRA				LR	LR	12 46 05.1	
	comp=Z,3μm,18.3s,baz=115,slow=36						
WRA	**Warramunga Arr**	**44.34**	**274**	P	**P**	**12 27 25.6**	**-1.2**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**44.34**	**274**	P	**P**	**12 27 25.6**	**-1.2**
WB0	**Warramunga Arr**	**44.37**	**274**	P	**P**	**12 27 26.2**	**-0.8**
FORT	**Forrest**	**45.70**	**257**	P	**P**	**12 27 36.5**	**-1.0**
	baz=46,SNR=104						
FORT	**Forrest**	**45.70**	**257**	P	**P**	**12 27 36.9**	**-0.5**
SBA	**Scott Base**	**46.10**	**184**	P	**P**	**12 27 42.3**	**+2.4**
SBA				pmax	pmax		
	comp=Z,31nm,1.2s						
SBA	**Scott Base**	**46.10**	**184**	P	**P**	**12 27 42.3**	**+2.4**
SBA				IAmb	IAmb	12 27 44.3	
	comp=Z,32nm,1.1s						
VNDA	**Vanda**	**46.16**	**186**	P	**P**	**12 27 40.2**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=41,slow=9.2,SNR=6.3						
VNDA				LR	LR	12 45 42.3	
	comp=Z,996nm,18.4s,baz=11,slow=34						
VNDA	**Vanda**	**46.16**	**186**	P	**P**	**12 27 39.8**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,21nm,1.5s						
VNDA	**Vanda**	**46.16**	**186**	P	**P**	**12 27 39.8**	**-0.7**
WRKA	**Warakurna**	**47.39**	**264**	P	**P**	**12 27 49.3**	**-1.6**
	baz=47,SNR=55						
KDU	**Kakadu**	**49.41**	**282**	P	**P**	**12 28 05.3**	**-1.1**
	baz=50,SNR=8.9						
MTN	**Manton Dam**	**50.44**	**280**	P	**P**	**12 28 13.4**	**-1.0**
	baz=50,SNR=9.9						
MTN	**Manton Dam**	**50.44**	**280**	P	**P**	**12 28 13.3**	**-1.0**
MTN				IAmb	IAmb	12 28 20.9	
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**51.01**	**276**	P	**P**	**12 28 18.0**	**-0.5**
	baz=51,SNR=16						
KNRA	**Kununurra**	**51.01**	**276**	P	**P**	**12 28 17.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**52.51**	**271**	P	**P**	**12 28 29.0**	**-0.8**
	comp=Z,16nm,0.8s,baz=144,slow=7.1,SNR=41						
FITZ	**Fitzroy Crossi**	**52.51**	**271**	P	**P**	**12 28 29.0**	**-0.8**
	baz=53,SNR=30						
FITZ	**Fitzroy Crossi**	**52.

MAT S S 12 41 31.6 +2.7
EFI East Falkland 81.08 147 *ce* P P 12 31 29.0 -2.4
EFI pmax pmax
comp=Z,203nm,2.5s
PLCA Paso Flores 81.08 133 P P 12 31 32.5 +0.7
comp=Z,12nm,1.1s,baz=219,slow=7.0,SNR=9.9
PLCA LR LR 13 00 17.7
comp=Z,964nm,19.4s,baz=218,slow=30
PLCA Paso Flores 81.08 133 P P 12 31 31.8 +0.1
PLCA pmax pmax
comp=Z,27nm,1.3s
PLCA Paso Flores 81.08 133 P P 12 31 31.8 +0.1
PLCA IAmb IAmb 12 31 33.5
comp=Z,27nm,1.3s
JSD Sado 81.10 326 P P 12 31 30.5 -1.0
JSD IAmb IAmb 12 31 43.5
comp=Z,34nm,1.6s
JTM Tenmabayashi 82.08 330 P P 12 31 36.2 -0.4
ERM Erimo 82.25 332 *i* P P 12 31 39.2 +1.8
ERM pmax pmax
comp=Z,71nm,1.6s
YUK Yuzh-Kuril'sk 82.94 335 *e* P P 12 31 41.0 +0.1
YUK *i* S S 12 42 04.5 +4.9
YUK pmax pmax
comp=Z,305nm,1.5s
YUK pmax pmax
comp=N,212nm,1.0s
YUK pmax pmax
comp=E,88nm,0.7s
KUR Kuril'sk 83.27 336 *e* P P 12 31 45.5 +2.9
KUR *e* S S 12 42 07.6 +4.6
KUR pmax pmax
comp=Z,700nm,5.7s
JKA Kamikawa-asahi 84.23 333 P P 12 31 47.5 -0.1
ASAJ Asahikawa 84.24 333 P P 12 31 48.8 +1.2
comp=Z,17nm,0.8s,baz=188,slow=8.8,SNR=11
ASAJ Asahikawa 84.24 333 P P 12 31 47.5 -0.1
ASAJ pmax pmax
comp=Z,36nm,1.1s
SNCC San Nicolas Is 85.31 46 P 12 31 53.9
baz=226
NIKH Nikolski High 85.33 5 P 12 31 54.1
baz=188
SCI2 San Clemente I 85.72 46 P 12 31 55.8
baz=227
SCZ2 Santa Cruz Isl 85.76 45 P 12 31 55.9
baz=226
SKR Severo-Kuril's 85.83 344 *e* P P 12 31 50.9 -4.5
SKR *e* S S 12 42 19.8 -8.4
SKR pmax pmax
comp=Z,200nm,6.0s
SKR pmax pmax
comp=Z,100nm,7.2s
SKR MLR MLR
comp=Z,300nm,15.0s
SKR MLR MLR
comp=Z,200nm,15.0s
KSRS Korea Array 85.92 320 P P 12 31 57.4 +1.1
comp=Z,3.9nm,1.0s,baz=140,slow=5.9,SNR=11
KSRS LR LR 13 05 44.6
comp=Z,239nm,21.9s,baz=115,slow=32
KSAR Wonju Array Be 85.94 320 P P 12 31 55.4 -0.9
KSAR Wonju Array Be 85.94 320 P P 12 31 55.4 -0.9
QIZ Qiongzhong 85.95 295 P P 12 31 57.0 +0.1
QIZ S S 12 42 26.5 -4.4
QIZ SS SS 12 48 07.8 -1.3
QIZ pmax pmax
comp=Z,210nm,6.3s
QIZ L L
comp=Z,150nm,15.2s
QIZ L L
comp=Z,210nm,22.6s
QIZ L L
comp=Z,430nm,36.6s
SBC Santa Barbara 86.02 45 P 12 31 57.5
baz=226
CIS Catalina Islan 86.09 46 P 12 31 57.7
baz=227
GSI Gunungsitoli 86.11 274 P P 12 31 57.2 -0.6
GSI Gunungsitoli 86.11 274 P P 12 32 00.0 +2.2
PKM Mcpherson Peak 86.27 44 P 12 31 58.8
baz=226
SMMC Simmler 86.46 44 P 12 31 59.9
baz=226
YSS Yuzh-Sakhalins 86.56 334 *e* P P 12 32 00.0 +0.8
YSS *e* SP pwP 12 32 05.4 -2.9
YSS *e* 12 42 26.7
YSS *e* S S 12 42 39.4 +3.8
YSS *e* 12 43 39.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,700nm,19.0s
YSS MLR MLR
comp=N,500nm,14.0s
YSS MLR MLR
comp=E,300nm,19.0s
YSS Yuzh-Sakhalins 86.56 334 P P 12 32 00.0 +0.8
TKX Tecate 86.65 48 P P 12 31 59.6 -0.5
TKX IAmb IAmb 12 32 30.6
comp=Z,18nm,0.6s
MURC Murrieta 86.97 47 P 12 32 02.4
baz=228
MONP2 Monument Peak 86.98 48 P 12 32 02.4
baz=228
IKP In-Ko-Pah, Jac 87.01 48 P 12 32 02.5
baz=228
ARVC Arvin 87.02 45 P 12 32 02.2
baz=226
BFSC Mount Baldy Ra 87.12 46 P 12 32 02.6
baz=227,SNR=5.5
EDW2 Edwards Air Fo 87.35 45 P 12 32 04.3
baz=227,SNR=5.9
VES Vestal, Richgr 87.36 44 P 12 32 03.9
baz=226
SWSC Sam W. Stewart 87.40 48 P 12 32 04.2
baz=228
TPFO Pinon Flats 87.43 47 P 12 32 04.9
baz=228
PFO Pinyon Flats O 87.43 47 P 12 32 05.0
baz=228
PFO Pinyon Flats O 87.44 47 P P 12 32 04.2 +0.3
PFO pmax pmax
comp=Z,29nm,1.8s
PFO Pinyon Flats O 87.44 47 P P 12 32 04.2 +0.3
PFO IAmb IAmb 12 32 18.0
comp=Z,29nm,1.8s
PET Petropavlovsk 87.46 346 *c i* P P 12 32 02.7 -0.7
PET *e* 12 35 29.1
PET *e* S S 12 42 41.2 -2.8
PET *e* SS SS 12 48 31.4 +1.3
PET *e* SSS SSS 12 52 01.8
PET pmax pmax
comp=Z,26nm,1.7s
PET pmax pmax
comp=Z,200nm,12.6s
PET MLR MLR
comp=Z,800nm,18.0s
PET MLR MLR
comp=Z,900nm,19.0s
BBRC Big Bear Solar 87.58 46 P 12 32 06.0
baz=228
ISA Isabella, Lake 87.59 45 P 12 32 05.4
baz=227,SNR=14
ISA Isabella, Lake 87.60 45 P P 12 32 05.3 +0.7
ISA pmax pmax
comp=Z,22nm,1.3s
ISA Isabella, Lake 87.60 45 P P 12 32 05.3 +0.7
ISA IAmb IAmb 12 32 07.7
comp=Z,22nm,1.2s
NJ2 Nanjing 87.62 311 *e* P P 12 32 06.0 +1.3
NJ2 S S 12 42 50.0 +3.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,430nm,3.9s
NJ2 L L
comp=Z,520nm,18.4s
NJ2 L L
comp=Z,320nm,17.3s
NJ2 L L
comp=Z,580nm,20.8s
PEA0B Petropavlovsk- 87.74 346 *ce* P P 12 32 05.6 +0.8
PEA0B Petropavlovsk- 87.74 346 P P 12 32 06.1 +1.3
PETK Petropavlovsk- 87.74 346 P P 12 32 05.4 +0.6
comp=Z,6.2nm,0.7s,baz=132,slow=7.1,SNR=13
PETK LR LR 13 10 17.1
comp=Z,568nm,18.4s,baz=154,slow=35
LRMC Laurel Mtn Rad 87.94 45 P 12 32 07.2
baz=227,SNR=13
RRX Edison Barstow 87.95 46 P 12 32 07.2
baz=228
BELC Belle Mtn. Jos 87.98 47 P 12 32 07.7
baz=228,SNR=7.3
MSHR Mys Shultsa 88.04 325 *ce* P P 12 32 07.1 +0.7
MSHR pmax pmax
comp=Z,31nm,2.5s
GLA Glamis 88.09 48 P 12 32 08.1
baz=229
BC3 Big Chuckawall 88.09 48 P 12 32 08.5
baz=228,SNR=8.7
VLA Vladivostok 88.09 326 *i* P P 12 32 05.8 -0.9
VLA pmax pmax
comp=Z,15nm,0.9s
CMB Columbia Colle 88.13 42 P P 12 32 07.0 -0.1
CMB pmax pmax
comp=Z,20nm,1.4s
CMB Columbia Colle 88.13 42 P P 12 32 07.0 -0.1
CMB IAmb IAmb 12 32 30.2
comp=Z,20nm,1.4s
CHNA Chernabura Isl 88.25 10 P 12 32 08.7
baz=195
HEC Hector,Ludlow 88.32 46 P 12 32 09.1
baz=228
O02D Mt. Diablo Mer 88.33 39 P 12 32 08.4
baz=224
GSC Goldstone, Bar 88.35 46 P 12 32 09.1
baz=228,SNR=9.6
GSC Goldstone, Bar 88.35 46 P P 12 32 08.9 +0.6
GSC pmax pmax
comp=Z,32nm,1.5s
GSC Goldstone, Bar 88.35 46 P P 12 32 08.9 +0.6
GSC IAmb IAmb 12 32 22.2
comp=Z,32nm,1.5s
CWC Cottonwood Cre 88.36 44 P 12 32 09.0
baz=227
AFDM Forest Hills D 88.44 41 P P 12 32 08.9 +0.4
AFDM IAmb IAmb 12 32 31.6
comp=Z,14nm,1.3s
MPMC Manual Prospec 88.45 45 P 12 32 09.6
baz=227,SNR=12
MDPB Devils Postpil 88.59 43 P P 12 32 10.4 +0.8
MDPB IAmb IAmb 12 32 18.1
comp=Z,26nm,1.7s
IRM Iron Mountain 88.61 47 P 12 32 10.6
baz=229,SNR=15
SDPT Sand Point 88.62 10 P 12 32 10.6
baz=195
214A Organ Pipe Nat 88.67 50 P 12 32 10.4
baz=230
GMRC Granite Mounta 88.71 47 P 12 32 11.1
baz=228,SNR=5.9
WDC Whiskeytown Da 88.75 39 P P 12 32 10.5 +0.6
WDC pmax pmax
comp=Z,20nm,1.3s
WDC Whiskeytown Da 88.75 39 P P 12 32 10.5 +0.6
WDC IAmb IAmb 12 32 35.4
comp=Z,20nm,1.3s
USA0B Ussuriysk Arra 88.86 326 P P 12 32 10.8 +0.5
USA0B pmax pmax
comp=Z,53nm,1.2s
USA0B Ussuriysk Arra 88.86 326 P P 12 32 10.8 +0.5
USRK Ussuriysk Ar. 88.86 326 P P 12 32 11.1 +0.8
comp=Z,6.9nm,0.8s,baz=154,slow=3.3,SNR=15
USRK LR LR 13 09 39.2
comp=Z,421nm,19.2s,baz=133,slow=34
USRK Ussuriysk Ar. 88.86 326 P P 12 32 10.9 +0.6
USRK Ussuriysk Ar. 88.86 326 P P 12 32 10.9 +0.6
O03E Paynes Creek 88.94 39 P 12 32 11.4
baz=224
N02D Trinity Center 88.95 38 P 12 32 11.9
baz=224
TUQ Turquoise Moun 88.98 46 P 12 32 12.0
baz=228,SNR=5.8
SHOC Shoshone, Teco 89.07 46 P 12 32 11.9
baz=229,SNR=6.4
FURC Furnace Creek, 89.10 45 P 12 32 12.7
baz=228
GRAC Grapevine Rang 89.16 44 P 12 32 13.0
baz=227,SNR=6.9
M02C Callahan 89.17 38 P 12 32 13.2
baz=224
PNTR Pine Nut 89.31 41 P P 12 32 12.6 -0.2
PNTR IAmb IAmb 12 32 44.5
comp=Z,30nm,1.2s
PDMCI Parker Dam,Lak 89.34 48 P 12 32 13.6
baz=229
NEE2 Needles Airpor 89.34 47 P 12 32 13.8
baz=229
LHV Little Huntoon 89.35 43 P P 12 32 13.8 +1.1
LHV IAmb IAmb 12 32 33.2
comp=Z,14nm,1.2s
SPIA Saint Paul Isl 89.42 4 P 12 32 14.7
baz=186
SPIA Saint Paul Isl 89.42 4 P P 12 32 14.2 +1.6
VCNR Virginia City 89.42 41 P P 12 32 13.0 -0.3
VCNR IAmb IAmb 12 32 36.6
comp=Z,25nm,1.7s
BEKR Beckworth 89.42 40 P P 12 32 13.7 +0.4
YERR Yerington 89.44 42 P P 12 32 12.5 -0.9
YERR IAmb IAmb 12 32 36.5
comp=Z,21nm,1.4s
YBH Yreka Blue Hor 89.49 38 P P 12 32 14.0 +0.5
comp=Z,4.0nm,1.0s,baz=147,slow=1.2,SNR=4.7
YBH Yreka Blue Hor 89.49 38 P P 12 32 13.9 +0.5
YBH pmax pmax
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 89.49 38 P P 12 32 13.9 +0.5
YBH IAmb IAmb 12 32 37.0
comp=Z,14nm,1.3s
NVAR Mina Array Bea 89.58 43 P P 12 32 15.0 +0.9
comp=Z,2.4nm,0.8s,baz=220,slow=6.8,SNR=22
NVAR LR LR 13 04 22.4
comp=Z,763nm,19.8s,baz=226,slow=30
NVAR Mina Array Bea 89.58 43 P P 12 32 14.6 +0.4
RYN Ryan 89.60 42 P P 12 32 13.1 -1.0
RYN IAmb IAmb 12 33 08.3
comp=Z,13nm,1.3s
NV11 Mina Array Sit 89.67 43 P P 12 32 14.4 -0.1
K02D Willamette Mer 89.70 37 P 12 32 15.5
baz=223
TPNV Topopah Spring 89.79 45 P 12 32 16.3
baz=228,SNR=8.7
TPNV Topopah Spring 89.79 45 P P 12 32 15.8 +0.8
TPNV pmax pmax
comp=Z,20nm,1.5s
TPNV Topopah Spring 89.79 45 P P 12 32 15.8 +0.8
TPNV IAmb IAmb 12 32 29.8
comp=Z,20nm,1.4s
PAHR Pah Rah Range 89.85 41 P P 12 32 15.7 +0.5
PAHR IAmb IAmb 12 32 17.0
comp=Z,16nm,1.4s
TYV Tymovskoe 89.90 336 *e* P P 12 32 16.0 +1.0
TYV *e* S S 12 43 10.7 +3.6
TYV pmax pmax
comp=Z,400nm,4.6s
TYV pmax pmax
comp=Z,24nm,0.8s
TYV smax smax
comp=E,15nm,0.8s
TYV smax smax
comp=N,2μm,9.8s
J01E Myrtle Point 89.90 36 P 12 32 16.3
baz=223
TPH Tonopah 89.97 43 P P 12 32 16.4 +0.5
TPH pmax pmax
comp=Z,91nm,1.4s
TPH Tonopah 89.97 43 P P 12 32 16.4 +0.5
M04C Macdoel 89.98 38 P 12 32 16.5
baz=224
HUMO Hull Mountain 90.00 37 P P 12 32 17.3 +1.6
HUMO IAmb IAmb 12 32 39.7
comp=Z,27nm,1.4s
W13A Hualapai Mount 90.01 47 P P 12 32 16.9 +0.7
W13A IAmb IAmb 12 32 18.7
comp=Z,12nm,1.2s
L04D Klamath Falls 90.05 38 P 12 32 17.1
baz=224
KVN Kaiserville 90.13 42 P P 12 32 17.1 +0.5
KVN pmax pmax
comp=Z,8.0nm,1.1s
KVN Kaiserville 90.13 42 P P 12 32 17.1 +0.5
SHPR Sheep Range 90.15 46 P P 12 32 17.6 +0.8
SHPR IAmb IAmb 12 32 49.0
comp=Z,14nm,1.3s
TUC Tucson 90.23 51 P 12 32 18.0
baz=231
TUC Tucson 90.23 51 P P 12 32 18.1 +0.9
TUC pmax pmax
comp=Z,15nm,1.4s
TUC Tucson 90.23 51 P P 12 32 18.1 +0.9
TUC IAmb IAmb 12 32 19.9
comp=Z,15nm,1.4s
MDJ Mudanjiang 90.31 325 P P 12 32 18.8 +1.7
MDJ pmax pmax
comp=Z,16nm,1.4s
MDJ pmax pmax
comp=Z,400nm,9.2s
MDJ L L
comp=Z,330nm,20.1s
MDJ L L
comp=Z,390nm,19.6s
MDJ L L
comp=Z,680nm,20.9s
DL2 Dalian 90.48 317 P P 12 32 21.0 +3.0
DL2 SKS SKSac 12 42 48.0 -1.3
DL2 S ScS 12 43 17.0 +0.3
DL2 pmax pmax
comp=Z,39nm,1.6s
DL2 pmax pmax
comp=Z,370nm,5.3s
DL2 L L
comp=Z,580nm,17.5s
DL2 L L
comp=Z,230nm,18.2s
DL2 L L
comp=Z,430nm,30.0s
I03D Drain, OR 90.58 36 P 12 32 19.8
baz=223
NONG Nongkai 90.61 291 P P 12 32 26.1 +7.0
I02D Swisshome 90.63 36 P 12 32 19.7
baz=223
PRN Pahroc Range 90.81 45 P P 12 32 21.5 +1.7
PRN IAmb IAmb 12 32 52.3
comp=Z,16nm,1.2s
J04D Umpqua Nationa 90.88 37 P 12 32 20.6
baz=224
R11A Troy Canyon, C 91.11 44 P 12 32 21.9
baz=228
I04A Tendick Farm, 91.12 37 P 12 32 21.6
baz=224
X16A Lo Mia Camp, P 91.12 49 P P 12 32 22.9 +1.5
X16A IAmb IAmb 12 32 24.1
comp=Z,12nm,1.2s
K05A Summer Lake 91.15 38 P P 12 32 22.1 +0.9
J05D Fort Rock, OR 91.36 38 P 12 32 23.5
baz=225
H04D Lebanon 91.48 36 P 12 32 23.6
baz=224
OHAK Old Harbor 91.62 13 P 12 32 24.3
baz=200
LCMT Little Creek M 91.64 46 P P 12 32 24.5 +0.8
CN2 Changchun 91.78 323 *e* P P 12 32 24.5 +0.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 L L
comp=Z,200nm,18.0s
CN2 L L
comp=Z,300nm,18.0s
CN2 L L
comp=Z,200nm,19.0s
WUAZ Wupatki 91.86 48 P 12 32 25.4
baz=231
WUAZ Wupatki 91.86 48 P P 12 32 24.8 +0.1
WUAZ IAmb IAmb 12 32 59.5
comp=Z,16nm,1.4s
U15A North Rim 91.86 47 P P 12 32 25.9 +1.0
U15A IAmb IAmb 12 32 57.3
comp=Z,14nm,1.3s
PINE Pine Mountain 91.87 37 P P 12 32 25.9 +1.3
PINE IAmb IAmb 12 32 48.0
comp=Z,13nm,1.0s
H04A Detroit Lake 91.88 36 P P 12 32 25.0 +0.6
H04A IAmb IAmb 12 32 47.2
comp=Z,31nm,1.6s
KNB Kanab 91.91 47 P P 12 32 26.4 +1.4
KNB pmax pmax
comp=Z,15nm,1.3s
KNB Kanab 91.91 47 P P 12 32 26.4 +1.4
KNB IAmb IAmb 12 33 06.6
comp=Z,15nm,1.3s
CCUT Cedar City 91.92 46 P P 12 32 25.3 +0.3
I05D Terrebonne, OR 92.05 37 P 12 32 25.9
baz=225
GRNR Gornyy 92.09 333 *i* P P 12 32 27.9 +2.7
GRNR pmax pmax
comp=Z,4.0nm,1.0s
SZCU Shurtz Canyon 92.12 46 P P 12 32 26.9 +1.0
SZCU IAmb IAmb 12 33 08.6
comp=Z,25nm,1.9s
WVOR Wild Horse Val 92.14 40 P P 12 32 25.8 0.0
WVOR pmax pmax
comp=Z,20nm,1.6s
WVOR Wild Horse Val 92.14 40 P P 12 32 25.8 0.0
WVOR IAmb IAmb 12 32 34.0
comp=Z,20nm,1.6s
X18A Snowflake 92.16 50 P P 12 32 27.4 +1.2
X18A IAmb IAmb 12 33 06.8
comp=Z,26nm,1.8s
SPR3 Spring Creek 3 92.28 44 P P 12 32 26.9 +0.1
KDAK Kodiak Island 92.28 13 P 12 32 27.3
baz=201
121A Cookes Peak, D 92.36 53 P 12 32 27.6
baz=233
PKCU Pink Cliffs 92.49 46 P P 12 32 28.3 +0.4
PKCU IAmb IAmb 12 33 00.4
comp=Z,19nm,1.2s
W18A Petrified Fore 92.66 50 P 12 32 28.9
baz=232
G05D Wamic, OR 92.70 36 P 12 32 29.1
baz=225
KLR Kul'dur 92.79 330 P P 12 32 28.8 +0.3
comp=Z,2.6nm,0.8s,baz=107,slow=3.8,SNR=6.7
KLR Kul'dur 92.79 330 *ce* P P 12 32 28.3 -0.2
KLR pmax pmax
comp=Z,22nm,1.3s
ENH Enshi 92.81 304 P P 12 32 29.0 -0.1
I07A Izee 92.82 38 P P 12 32 28.1 -0.8
I07A IAmb IAmb 12 32 52.0
comp=Z,8.5nm,1.2s
J08A Circle Bar Ran 92.86 39 P P 12 32 29.0 -0.1
J08A IAmb IAmb 12 33 14.0
comp=Z,25nm,1.6s
ELK Elko 92.89 42 P P 12 32 29.3 -0.2
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 92.89 42 P P 12 32 29.3 -0.2
MTPU Mount Pierson 92.95 46 P P 12 32 29.4 -0.6
MTPU IAmb IAmb 12 33 07.9
comp=Z,12nm,1.3s
E04D Cinebar 93.03 35 P 12 32 30.8
baz=224
MSU Marysvale 93.25 46 P P 12 32 30.1 -1.1
MSU Marysvale 93.25 46 P P 12 32 30.1 -1.1
TX31 Lajitas Ar. Si 93.33 57 P P 12 32 31.8 +0.1
TX32 Lajitas Array 93.33 57 P P 12 32 31.8 +0.1
TX32 IAmb IAmb 12 32 38.1
comp=Z,17nm,1.9s
TXAR Lajitas Array 93.33 57 P P 12 32 32.0 +0.4
comp=Z,1.5nm,1.0s,baz=215,slow=5.9,SNR=11
TXAR LR LR 13 06 53.4
comp=Z,954nm,20.1s,baz=0.0,slow=31
D04E Lakebay 93.38 34 P 12 32 32.5
baz=224
MNTX Cornudas Mount 93.50 55 P P 12 32 31.9 -0.4
MNTX Cornudas Mount 93.50 55 P 12 32 32.8
baz=234
G08A Pilot Rock 93.93 37 P P 12 32 34.1 +0.1
G08A IAmb IAmb 12 32 57.0
comp=Z,10nm,1.2s
CMAR Chiang Mai Arr 94.17 289 PP PP 12 36 23.2 +0.8
comp=Z,0.7nm,0.4s,baz=128,slow=7.3,SNR=4.3
CMAR LR LR 13 14 59.2
comp=Z,159nm,21.5s,baz=120,slow=36
MNMC Minye Minye 94.42 116 P P 12 32 36.6 -0.6
BMO Blue Mountains 94.49 38 P P 12 32 36.2 -0.4

BMO					pmax	pmax			
	comp=Z,12nm,1.8s								
BMO	**Blue Mountains**	**94.49**	**38**		P	**P**	**12 32 36.2**	**-0.4**	
ANMO	**Albuquerque**	**94.69**	**51**		P		12 32 38.2		
	baz=234								
ANMO	**Albuquerque**	**94.69**	**51**	*i*	P	**P**	**12 32 37.3**	**-0.6**	
ANMO					pmax	pmax			
	comp=Z,11nm,3.5s								
ANMO	**Albuquerque**	**94.69**	**51**		P	**P**	**12 32 37.2**	**-0.6**	
KMI	**Kunming**	**94.82 297**		⇑	P	**P**	**12 32 40.3**	**+1.6**	
KMI					pP	sP	12 32 43.3	+2.8	
KMI					PP	**PP**	**12 36 29.3**	**+1.5**	
KMI					S	**S**	**12 43 50.8**	**-2.1**	
KMI					sS	sS	12 43 58.5	+3.4	
KMI					pmax	pmax			
	comp=Z,8.0nm,0.5s								
KMI					L	L			
	comp=Z,210nm,20.2s								
KMI					L	L			
	comp=Z,380nm,18.6s								
KMI					L	L			
	comp=Z,310nm,19.3s								
TIY	**Taiyuan**	**95.27 312**		*e*	P	**P**	**12 32 41.8**	**+1.5**	
TIY					SKS	**SKSac**	**12 43 19.5**	**+3.3**	
TIY					S	**ScS**	**12 44 00.8**	**+3.9**	
TIY					pmax	pmax			
	comp=Z,180nm,7.3s								
TIY					L	L			
	comp=Z,210nm,13.3s								
TIY					L	L			
	comp=Z,98nm,5.2s								
TIY					L	L			
	comp=Z,190nm,20.6s								
F10A	**Beach Ranch, E**	**95.29**	**38**		P	**P**	**12 32 40.1**	**0.0**	
XAN	**Xi'an**	**95.40 307**			P	**P**	**12 32 45.3**	**+4.4**	
XAN					sP	pwP	12 32 55.5	+5.5	
XAN					SKS	**SKSac**	**12 43 16.0**	**-1.0**	
XAN					S	**ScS**	**12 43 59.0**	**+0.9**	
XAN					SS	**SS**	**12 50 21.0**	**-4.5**	
XAN					pmax	pmax			
	comp=Z,5.0nm,1.7s								
XAN					pmax	pmax			
	comp=Z,350nm,10.3s								
XAN					L	L			
	comp=Z,220nm,21.7s								
XAN					L	L			
	comp=Z,340nm,18.4s								
XAN					L	L			
	comp=Z,320nm,15.2s								
S22A	**4UR Ranch, Cre**	**96.11**	**49**		P		12 32 45.4		
	baz=234								
BCYI	**Bear Canyon**	**96.24**	**41**		P	**P**	**12 32 44.3**	**-0.4**	
LPAZ	**La Paz**	**97.22 114**			P	Pdif	12 32 51.8	+1.3	
	comp=Z,1.3nm,0.7s,baz=191,slow=4.5,SNR=5.1								
LPAZ					LR	LR	13 09 50.6		
	comp=Z,178nm,19.0s,baz=236,slow=31								
LPAZ	**La Paz**	**97.22 114**			P	**P**	**12 32 49.5**	**-0.9**	
LPAZ					pmax	pmax			
	comp=Z,18nm,2.0s								
LPAZ	**La Paz**	**97.22 114**			P	**P**	**12 32 49.5**	**-0.9**	
LPAZ					IAmb	IAmb	12 33 02.2		
	comp=Z,18nm,2.0s								
CD2	**Chengdu**	**97.24 302**		*e*	P	Pdif	12 32 49.8	+0.3	
CD2					PP	**PP**	**12 36 46.8**	**+0.6**	
CD2					SKS	**SKSac**	**12 43 27.3**	**+0.5**	
CD2					S	**ScS**	**12 44 14.0**	**+0.4**	
CD2					pmax	pmax			
	comp=Z,200nm,8.2s								
CD2					L	L			
	comp=Z,360nm,16.2s								
CD2					L	L			
	comp=Z,620nm,16.7s								
CD2					L	L			
	comp=Z,440nm,17.2s								
PDAR	**Pinedale Array**	**97.46**	**44**		P	Pdif	12 32 50.5	+0.2	
	comp=Z,0.7nm,0.9s,baz=150,slow=3.3,SNR=5.0								
PDAR					LR	LR	13 10 15.4		
	comp=Z,625nm,19.4s,baz=252,slow=31								
HHC	**Hu-ho-hao-te**	**97.69 314**		*e*	P	Pdif	12 32 53.0	+1.7	
HHC					pmax	pmax			
	comp=Z,20nm,0.8s								
HHC					pmax	pmax			
	comp=Z,170nm,7.6s								
SEY	**Seymchan**	**97.91 347**			P	**P**	**12 32 51.4**	**-0.1**	
	comp=Z,0.6nm,0.4s,baz=129,slow=8.1,SNR=4.7								
ZEA	**Zeya**	**98.02 331**		*e*	P	Pdif	12 32 53.8	+1.6	
ZEA				*e*			12 45 50.8		
ZEA					pmax	pmax			
	comp=Z,10.0nm,1.4s								
CPUP	**Villa Florida**	**98.66 129**			LR	LR	13 10 09.8		
	comp=Z,298nm,20.2s,baz=222,slow=31								
COLA	**College**	**99.72**	**13**	*i*	P	**Pdif**	**12 33 00.5**	**+1.0**	
COLA					pmax	pmax			
	comp=Z,6.0nm,1.5s								
ILAR	**Eielson Array**	**99.80**	**13**		P	**Pdif**	**12 32 59.6**	**-0.4**	
	comp=Z,0.2nm,0.8s,baz=218,slow=5.5,SNR=2.1								
ILAR					PP	**PP**	**12 37 02.3**	**-2.8**	
	comp=Z,1.7nm,1.1s,baz=216,slow=7.0,SNR=6.5								
ILAR					LR	LR	13 18 13.6		
	comp=Z,189nm,18.1s,baz=212,slow=36								
LZH	**Lanzhou**	**99.99 306**		*e*	P	**Pdif**	**12 33 05.0**	**+3.3**	
LZH					sP	pwP	12 33 13.5	+2.6	
LZH					SKS	**SKSac**	**12 43 43.3**	**+2.6**	
LZH				*e*	S	**S**	**12 44 39.3**	**+2.7**	
LZH					sS	sS	12 44 50.0	+11	
LZH					pmax	pmax			
	comp=Z,12nm,1.0s								
LZH					pmax	pmax			
	comp=Z,110nm,4.6s								
LZH					L	L			
	comp=Z,190nm,13.3s								
LZH					L	L			
	comp=Z,320nm,13.8s								
LZH					L	L			
	comp=Z,1μm,14.9s								
YKA	**Yellowknife Ar**	**107.15**	**26**		PKKPbc	PKKPbc	12 48 59.1	-1.0	
	comp=Z,0.7nm,0.8s,baz=42,slow=3.1,SNR=4.2								
WMQ	**Urumqi**	**114.53 308**		*e*	PKP	**PKiKP**	**12 37 56.5**	**+0.1**	
DGZ	**Jazzator, Alta**	**116.77 314**		*i*	PKIKP	**PKPdf**	**12 37 59.9**	**-0.7**	
MK31	**Makanchi Array**	**119.12 309**		*i*	PKIKP	**PKPdf**	**12 38 04.3**	**-0.8**	
MKAR	**Makanchi Array**	**119.12 309**			PKP	**PKPdf**	**12 38 04.1**	**-0.9**	
	comp=Z,2.2nm,0.8s,baz=81,slow=2.0,SNR=15								
MKAR					PKKPbc	**PKKPbc**	**12 48 18.9**	**-0.2**	
	comp=Z,0.6nm,0.8s,baz=319,slow=3.5,SNR=4.3								
MKAR	**Makanchi Array**	**119.12 309**			PKIKP	**PKPdf**	**12 38 04.5**	**-0.6**	
MKAR	**Makanchi Array**	**119.12 309**			PKPdf	**PKPdf**	**12 38 04.5**	**-0.6**	
ZALV	**Zalesovo Beam**	**119.58 318**			PKP	**PKPdf**	**12 38 05.6**	**0.0**	
	comp=Z,1.3nm,0.6s,baz=180,slow=1.5,SNR=5.0								
NRIK	**Noril'sk**	**121.47 335**		*i*	PKIKP	**PKPdf**	**12 38 08.8**	**0.0**	
MATP	**Matopo**	**121.77 209**			PKP	**PKiKP**	**12 38 11.9**	**+0.6**	
	comp=Z,2.4nm,1.0s,baz=137,slow=3.0,SNR=2.1								
BOOM	**Boomskoye usch**	**122.23 303**			PKIKP	**PKPdf**	**12 38 11.4**	**0.0**	
BOOM	**Boomskoye usch**	**122.23 303**				**PKPdf**	**12 38 11.4**	**0.0**	
KURK	**Kurchatov**	**122.49 313**			PKIKP	**PKiKP**	**12 38 11.6**	**+0.1**	
KURK	**Kurchatov**	**122.49 313**				**PKiKP**	**12 38 11.6**	**+0.1**	
KURBB	**Kurchatov Arra**	**122.52 313**			PKP	**PKiKP**	**12 38 11.6**	**0.0**	
	comp=Z,1.8nm,0.3s,baz=99,slow=1.8,SNR=30								
FRU1	**Bishkek**	**123.25 303**			PKIKP	**PKPdf**	**12 38 12.8**	**-0.4**	
FRU1	**Bishkek**	**123.25 303**				**PKPdf**	**12 38 12.8**	**-0.4**	
AAK	**Ala-Archa**	**123.30 303**		*i*	PKIKP	**PKPdf**	**12 38 11.6**	**-1.8**	
KK31	**Karatay Array**	**126.25 302**			PKIKP	**PKPdf**	**12 38 18.3**	**-0.6**	
KK31	**Karatay Array**	**126.25 302**			PKPdf	**PKPdf**	**12 38 18.3**	**-0.6**	
KKAR	**Karatay Array**	**126.25 302**			PKIKP	**PKPdf**	**12 38 18.3**	**-0.6**	
KKAR	**Karatay Array**	**126.25 302**				**PKPdf**	**12 38 18.3**	**-0.6**	
KKAR	**Karatay Array**	**126.25 302**			PKPdf	**PKPdf**	**12 38 17.9**	**-1.0**	
BVAR	**Borovoye Array**	**127.89 315**			PKP	**PKPdf**	**12 38 21.4**	**-0.2**	
	comp=Z,3.3nm,0.8s,baz=240,slow=17,SNR=13								
BRVK	**Borovoye**	**127.95 315**			PKIKP	**PKPdf**	**12 38 20.7**	**-1.0**	
BRVK	**Borovoye**	**127.95 315**			PKPdf	**PKPdf**	**12 38 20.7**	**-1.0**	
ARU	**Arti**	**134.67 319**		*i*	PKIKP	**PKPdf**	**12 38 34.8**	**+0.5**	
ARU							12 41 07.5		
ARU	**Arti**	**134.67 319**			PKPdf	**PKPdf**	**12 38 33.8**	**-0.5**	
AKTO	**Aktyubinsk**	**135.50 311**			PKP	**PKiKP**	**12 38 37.1**	**-0.6**	
	comp=Z,4.5nm,0.8s,baz=98,slow=4.6,SNR=14								
PRGR	**Permogore**	**139.58 330**		*e*	PKHKP	PKPpre	12 38 32.4		
PRGR					pmax	pmax			
	comp=Z,41nm,1.3s								
ARCES	**ARCESS Array B**	**140.53 347**			PKhKP	PKPpre	12 38 40.8		
	comp=Z,3.1nm,0.9s,baz=80,slow=2.7,SNR=6.3								
KLMR	**Klimovskoe**	**142.54 331**		*e*	PKHKP	PKPpre	12 38 43.3		
KLMR					pmax	pmax			
	comp=Z,43nm,1.5s								
KLMR	**Klimovskoe**	**142.54 331**		*e*	PKPdf	**PKPdf**	**12 38 43.3**	**-5.3**	
KLMR					AMP		12 38 57.0		
	comp=Z,43nm,1.5s								
KLMR					*e*PP	**PP**	**12 41 48.8**	**-7.7**	
KLMR					*e*PPP	PPP	12 44 52.0		
KLMR					LQ	LQ	13 31 04.7		
KLMR					LQ	LQ	13 31 04.7		
KLMR					LR	LR	13 39 48.5		
MAK	**Makhachkala**	**142.97 300**		*e*	P	**Pdif**	**12 36 05.6**	**-6.8**	
MAK				*e*			12 38 43.8		
MAK					pmax	pmax			
	comp=Z,77nm,0.9s								
GROC	**Groznyy**	**144.22 300**		*i*	PKIKP	**PKPdf**	**12 38 52.8**	**+0.7**	
GROC					pmax	pmax			
	comp=Z,40nm,0.6s								
GNI	**Garni**	**145.06 295**			PKIKP	**PKPdf**	**12 38 54.1**	**+0.2**	
GNI	**Garni**	**145.06 295**				**PKPdf**	**12 38 54.1**	**+0.2**	
VRH	**Novokhopyorsk**	**145.54 315**		*e*	PKIKP	**PKPdf**	**12 38 53.7**	**-0.4**	
VRH					pmax	pmax			
	comp=Z,50nm,0.9s								
ZEI	**Tsey**	**145.63 300**		*i*	PKIKP	**PKPbc**	**12 38 55.3**	**+0.1**	
ZEI					pmax	pmax			
	comp=Z,74nm,1.0s								
NCK	**Nalchik**	**145.80 301**		*i*	PKP2	**PKPdf**	**12 38 55.1**	**+0.2**	
ONI	**Oni**	**145.97 299**			PKP2	**PKPab**	**12 38 57.9**	**+1.3**	
ONI	**Oni**	**145.97 299**			PKPbc	**PKPab**	**12 38 57.9**	**+1.3**	
MOS	**Moscow**	**146.01 324**		*e*	PKIKP	**PKPdf**	**12 38 52.9**	**-1.9**	
MOS					pmax	pmax			
	comp=Z,144nm,0.9s								
MOS					MLR	MLR			
	comp=Z,800nm,22.0s								
GOF	**Gofitskoye**	**146.02 304**		⇑	*e*PKP2	**PKPab**	**12 38 57.0**	**+0.4**	
GOF					pmax	pmax			
	comp=Z,145nm,1.0s								
KBZ	**Khabaz**	**146.28 302**			PKPbc	**PKPdf**	**12 38 56.2**	**+0.6**	
	comp=Z,39nm,1.1s,baz=111,slow=2.0,SNR=37								
KIV	**Kislovodsk**	**146.41 302**		*i*	PKP2	**PKPab**	**12 38 58.0**	**-0.2**	
KIV					pmax	pmax			
	comp=Z,128nm,1.1s								
KIV	**Kislovodsk**	**146.41 302**				**PKPab**	**12 38 58.1**	**-0.2**	
NEY	**Neytrino**	**146.45 301**		*i*	PKP2	**PKPab**	**12 38 58.6**	**+0.1**	
SHA1	**Shidzhatmaz**	**146.45 302**		*i*	PKIKP	**PKPdf**	**12 38 55.1**	**-1.2**	
LPSR	**Galich'ya Gora**	**146.68 318**		*e*	PKP2	**PKPbc**	**12 38 57.3**	**-0.4**	
LPSR					pmax	pmax			
	comp=Z,70nm,0.8s								
SIRT	**Sirnak**	**146.76 290**				**PKPbc**	**12 38 58.7**	**+0.1**	
OBN	**Obninsk**	**146.84 324**		⇓	*e*PKP2	**PKPbc**	**12 38 58.5**	**+0.5**	
OBN					*e*		12 42 21.0		
OBN					*e*SS	SS	13 01 17.6	-4.2	
OBN					pmax	pmax			
	comp=Z,180nm,1.8s								
OBN	**Obninsk**	**146.84 324**				**PKPab**	**12 38 59.1**	**-0.3**	
VORR	**Voronezh**	**146.87 317**		*e*	PKIKP	**PKPdf**	**12 38 55.0**	**-1.4**	
VORR					pmax	pmax			
	comp=Z,300nm,1.4s								
FIA1	**FINESS Array S**	**147.02 339**				**PKPbc**	**12 38 58.6**	**+0.2**	
FINES	**FINESS Array B**	**147.02 339**			PKPbc	**PKPbc**	**12 38 57.9**	**-0.4**	
	comp=Z,21nm,0.7s,baz=56,slow=3.4,SNR=74								
FINES	**FINESS Array B**	**147.02 339**			PKP2	**PKPbc**	**12 38 58.2**	**-0.2**	
FINES	**FINESS Array B**	**147.02 339**				**PKPbc**	**12 38 58.2**	**-0.2**	
VSR	**Storozhevoye**	**147.05 316**		*e*	PKP2	**PKPbc**	**12 38 58.7**	**-0.1**	
VSR					pmax	pmax			
	comp=Z,60nm,0.6s								
VORD	**Divnogorie**	**147.07 315**		*e*	PKP2	**PKPbc**	**12 38 58.9**	**+0.1**	
VORD					pmax	pmax			
	comp=Z,60nm,0.7s								
GURO	**Guroymak-BITLI**	**147.13 292**				**PKPbc**	**12 39 00.4**	**+0.8**	
MEF	**Metsahovi**	**148.50 339**		*e*	P	**PKPbc**	**12 39 03.1**	**+0.7**	
SOC	**Sochi**	**148.59 302**		*i*	PKP2	**PKPbc**	**12 39 02.9**	**-0.3**	
SOC				*e*			12 42 28.9		
SOC				*e*	PPP	PPP	12 45 51.7		
RAF	**Rauma**	**148.59 342**		*e*	P	**PKPbc**	**12 39 03.0**	**+0.4**	
VSU	**Vasula**	**149.06 335**		*e*	P	**PKPbc**	**12 39 04.5**	**+0.6**	
AAL	**Aland**	**149.77 342**		*e*	P	**PKiKP**	**12 39 06.5**	**0.0**	
ANN	**Anapa**	**149.99 305**		*i*	PKIKP	**PKPbc**	**12 39 06.3**	**-0.3**	
ANN					pmax	pmax			
	comp=Z,83nm,1.1s								
NC204	**NORSAR Array S**	**150.53 352**			PKPbc	**PKiKP**	**12 39 08.5**	**+0.2**	
NC204					PKPab	**pPKPab**	**12 39 15.2**	**-0.4**	
NB201	**NORSAR Array S**	**150.68 351**				**PKPbc**	**12 39 07.5**	**-0.4**	
NB201					PKPab	**pPKPab**	**12 39 15.9**	**-0.2**	
NOA	**NORSAR Array B**	**150.70 351**			PKPbc	**PKPbc**	**12 39 07.2**	**-0.7**	
	comp=Z,2.4nm,0.5s,baz=14,slow=4.1,SNR=23								
NBO00	**NORSAR Array S**	**150.77 351**				**PKPbc**	**12 39 07.0**	**-1.0**	
NAO01	**NORSAR Array S**	**150.94 351**			PKPbc	**PKPbc**	**12 39 08.4**	**0.0**	
NAO01					PKPab	**pPKPab**	**12 39 16.5**	**-0.6**	
NC602	**NORSAR Array S**	**150.95 351**				**PKPbc**	**12 39 08.0**	**-0.4**	
NC602					PKPab	**pPKPab**	**12 39 17.0**	**-0.2**	
IDID	**Didziasalis**	**151.28 330**		*e*	P	**PKiKP**	**12 39 13.3**	**+3.4**	
MNK	**Minsk**	**151.33 328**		*i*	PKIKP	**PKPbc**	**12 39 09.7**	**+0.2**	
MNK				*i*			12 42 55.5		
MNK				*i*			12 46 03.2		
MNK				*i*	PPP	PPP	12 46 19.4		
MNK				*i*	SSS	SSS	13 07 49.4		
MNK					pmax	pmax			
	comp=N,12nm,1.0s								
MNK					pmax	pmax			
	comp=E,1.0nm,1.0s								
MNK					pmax	pmax			
	comp=Z,37nm,1.0s								
MNK	**Minsk**	**151.33 328**		*i*	PKP	**PKiKP**	**12 39 09.7**	**-0.2**	
	comp=E,1.0nm,1.0s								
MNK				*i*	PKP	**PKiKP**	**12 39 09.7**	**-0.2**	
	comp=N,12nm,1.0s								
MNK				*i*	PKP	**PKiKP**	**12 39 09.7**	**-0.2**	
	comp=Z,37nm,1.0s,baz=230								
MNK				*i*	SKP		12 42 25.4		
MNK				*i*	PKS	**PKSdf**	**12 42 42.0**	**+4.2**	
MNK				*i*	PP	**PP**	**12 42 55.6**	**+7.3**	
MNK				*i*	SKS	**SKSdf**	**12 46 03.3**	**-7.6**	
MNK				*i*	PPP	PPP	12 46 19.5		
MNK				*i*	SKKS	**SKKSdf**	**12 55 05.8**	**+5.0**	
MNK				*i*	SS	SS	13 02 24.8	+13	
MNK				*i*	SSS	SSS	13 07 49.4		
ISAL	**Salakas**	**151.36 331**		*e*	P	**PKiKP**	**12 39 12.9**	**+2.9**	
IGN	**Ignalina**	**151.47 331**		*e*	P	**PKiKP**	**12 39 13.0**	**+2.7**	
NACGM	**Naroch**	**151.54 330**		*i*	PKP	**PKiKP**	**12 39 10.8**	**+0.4**	
BNN	**Bunyan**	**151.96 293**				**PKPbc**	**12 39 09.5**	**-2.2**	
BNN					PKPab	**PKPab**	**12 39 21.1**	**+0.1**	
SNOP	**Sinop**	**152.11 300**				**PKiKP**	**12 39 12.2**	**+0.2**	
KONO	**Kongsberg**	**152.26 352**			PKIKP	**PKiKP**	**12 39 13.5**	**+1.8**	
KONO	**Kongsberg**	**152.26 352**				**PKiKP**	**12 39 13.5**	**+1.8**	
PABE	**Paberze**	**152.26 333**				**PKiKP**	**12 39 12.1**	**+0.2**	
PABE					PKPab	**pPKPab**	**12 39 22.3**	**-0.5**	
AKASG	**Malin Array Be**	**152.92 321**			PKPbc	**PKiKP**	**12 39 13.7**	**+0.3**	
	comp=Z,14nm,0.8s,baz=61,slow=2.4,SNR=14								
AKBB	**Malin Array Si**	**152.92 321**			PKIKP	**PKiKP**	**12 39 13.7**	**+0.3**	
AKBB	**Malin Array Si**	**152.92 321**				**PKiKP**	**12 39 13.7**	**+0.3**	
BR131	**Keskin Array S**	**153.60 295**			PKIKP	**PKPbc**	**12 39 14.7**	**-0.6**	
BR131							12 39 27.4		
BR131	**Keskin Array S**	**153.60 295**				**PKPbc**	**12 39 14.7**	**-0.6**	
BR131					PKPab	**PKPab**	**12 39 27.4**	**-0.5**	
BRTR	**Keskin Array B**	**153.60 295**			PKPbc	**PKiKP**	**12 39 15.6**	**+0.2**	
	comp=Z,1.8nm,0.5s,baz=145,slow=3.8,SNR=9.2								
BRTR	**Keskin Array B**	**153.60 295**				**PKPbc**	**12 39 15.3**	**0.0**	
BRTR					PKPab	**PKPab**	**12 39 27.9**	**0.0**	
DBIC	**Dimbokro**	**153.62 164**			PKPbc	**PKiKP**	**12 39 16.9**	**+0.9**	
	comp=Z,6.0nm,1.0s,baz=225,slow=2.9,SNR=2.3								
SUW	**Suwalki**	**153.67 331**		*e*	P	**PKiKP**	**12 39 15.4**	**+0.6**	
KWP	**Kalwaria Pacla**	**156.92 324**			PKP2	**PKPab**	**12 39 41.1**	**-0.5**	
KWP	**Kalwaria Pacla**	**156.92 324**				**PKPab**	**12 39 41.1**	**-0.5**	
MLR	**Muntele Rosu**	**157.42 312**			PKP2	**PKPab**	**12 39 43.8**	**-0.2**	
MLR	**Muntele Rosu**	**157.42 312**			PKPab	**PKPab**	**12 39 43.8**	**-0.2**	
UZH	**Uzhgorod**	**157.78 323**		*e*	PKP2	**PKPab**	**12 39 45.0**	**-0.2**	
CRVS	**Cervenica-Dubn**	**158.02 324**		*e*	PKP2	**PKPab**	**12 39 47.4**	**+1.1**	
LANS	**Liptovska Anna**	**158.79 327**		*e*	PKP2	**PKPab**	**12 39 50.8**	**+1.1**	
OKC	**Ostrava-Krasne**	**158.86 330**			AMS	AMS	13 51 30.0		
	comp=Z,500nm,19.8s								
OSTC	**Ostas**	**159.05 334**		*e*	PKPAB	PKPab	12 40 01.8	+11	
OSTC					AMS	AMS	13 53 30.0		
	comp=Z,2μm,65.1s								
CHVC	**Chvalec**	**159.09 335**			AMS	AMS	13 52 50.0		
	comp=Z,400nm,18.9s								
UPC	**Upice**	**159.17 335**			AMS	AMS	13 52 50.0		
	comp=Z,400nm,25.3s								
DPC	**Dobruska-Polom**	**159.18 334**		*e*	PKP2	**PKPab**	**12 39 48.8**	**-2.5**	
DPC					MLR	MLR			
	comp=Z,400nm,19.7s								
DPC	**Dobruska-Polom**	**159.18 334**		*e*	PKPAB	**PKPab**	**12 39 48.8**	**-2.5**	
DPC				*ex*		x	12 40 02.4		
DPC					AMS	AMS	13 53 50.0		
	comp=Z,400nm,19.7s								
KRLC	**Kraliky**	**159.23 333**			AMS	AMS	13 52 50.0		
	comp=Z,400nm,20.1s								
CLL	**Collm**	**159.46 340**		*e*	PKPdf	**PKPdf**	**12 39 17.0**	**+2.5**	
CLL				*e*	PKPab	**PKPab**	**12 39 53.0**	**+0.6**	
CLL				*e*			12 40 04.0		
	comp=Z,43nm,1.7s								
CLL				*e*(PKSdf)			12 42 56.0		
CLL				*e*PP		**PP**	**12 43 34.0**	**+0.7**	
CLL				*e*			12 45 48.0		
CLL				*e*PPP		PPP	12 47 24.0		
CLL				*e*SKKSac		SKKSac	12 50 21.0	-1.4	
CLL				*e*			12 51 06.0		
CLL				*e*PSKS			12 53 56.0		
CLL				*e*PPS		PPS	12 56 54.0		
CLL				*e*SS		**SS**	**13 03 42.0**	**+2.9**	
CLL				*e*SSS		SSS	13 09 48.0		
CLL				*e*			13 11 44.0		
CLL					LmV		13 57 00.0		
	comp=N,300nm,19.1s								
CLL					LmV		13 57 00.0		
	comp=E,100nm,18.1s								
CLL					LmV		13 57 00.0		
	comp=Z,500nm,19.6s								
CLL					LmH		14 08 00.0		
	comp=N,300nm,18.6s								
CLL					LmH		14 08 00.0		
	comp=E,300nm,19.9s								
CLL	**Collm**	**159.46 340**		*e*	PKIKP	**PKPdf**	**12 39 17.0**	**+2.5**	
CLL				*e*			12 39 53.0		
CLL					MLR	MLR			
	comp=Z,500nm,19.6s								
VYHS	**Vyhne**	**159.56 327**		*e*	PKP2	**PKPab**	**12 39 53.4**	**+0.4**	
PRA	**Prague**	**160.09 336**			AMS	AMS	13 58 20.0		
	comp=Z,400nm,20.1s								
PRU	**Pruhonice**	**160.12 336**		*e*	PKP2	**PKPab**	**12 39 56.4**	**+1.1**	
PRU					MLR	MLR			
	comp=Z,500nm,21.9s								
PRU	**Pruhonice**	**160.12 336**		*e*	PKPAB	**PKPab**	**12 39 56.4**	**+1.1**	
PRU				*ex*		x	12 40 06.8		
PRU					AMS	AMS	13 58 20.0		
	comp=Z,500nm,21.9s								
MODS	**Modra-Piesok**	**160.35 329**		*e*	PKP2	**PKPab**	**12 39 57.9**	**+1.5**	
TREC	**Trest**	**160.36 333**			AMS	AMS	13 57 20.0		
	comp=Z,600nm,23.1s								
NKC	**Novy Kostel**	**160.58 340**			AMS	AMS	13 55 00.0		
	comp=Z,300nm,19.0s								
TOA0	**Torodi Ar. Sit**	**160.87 179**			PKPab	**PKPab**	**12 39 58.1**	**-1.3**	
TORD	**Torodi Ar. Bea**	**160.87 179**			PKP	**PKPdf**	**12 39 17.1**	**-0.2**	
	comp=Z,2.1nm,1.1s,baz=284,slow=2.0,SNR=6.5								
TORD					PKPab	**PKPab**	**12 39 59.4**	**0.0**	
	comp=Z,10nm,1.1s,baz=194,slow=1.1,SNR=15								
TORD	**Torodi Ar. Bea**	**160.87 179**			PKPdf	**PKPdf**	**12 39 17.0**	**-0.2**	
TORD					PKPab	**PKPab**	**12 39 58.5**	**-0.9**	
KHC	**Kasperske Hory**	**161.18 336**		*e*	PKP2	**PKPab**	**12 40 00.2**	**+0.2**	
KHC					MLR	MLR			
	comp=Z,400nm,22.7s								
KHC	**Kasperske Hory**	**161.18 336**		*e*	PKPAB	**PKPab**	**12 40 00.2**	**+0.2**	
KHC				*ex*		x	12 40 10.8		
KHC					AMS	AMS	13 49 10.0		
	comp=Z,400nm,22.7s								
KHC	**Kasperske Hory**	**161.18 336**				**PKPab**	**12 40 00.5**	**+0.5**	
CKRC	**Cesky Krumlov**	**161.19 334**		*e*	PKPAB	**PKPab**	**12 40 00.1**	**+0.1**	
CKRC				*ex*		x	12 40 10.5		
CONA	**Conrad Observa**	**161.30 330**		*e*	P	**PKPab**	**12 40 00.2**	**-0.4**	
	comp=Z,31nm,1.6s								
KOWA	**Kowa**	**161.34 161**				**PKPab**	**12 40 00.2**	**-1.2**	
GEC2	**GERESS Array S**	**161.38 336**			PKPab	**PKPab**	**12 40 01.2**	**+0.2**	
GERES	**GERESS Array B**	**161.38 336**			PKPab	**PKPab**	**12 40 01.3**	**+0.3**	
	comp=Z,0.5nm,0.3s,baz=59,slow=5.1,SNR=7.0								
GERES	**GERESS Array B**	**161.38 336**				**PKPab**	**12 40 00.9**	**-0.1**	
DIVS	**Divibare**	**161.78 315

BURU					*e*S		Sg	13 06 23.5	-0.1
TOF	**Tornio**	**1.11**	**61**		*e*P		Pg	13 06 11.0	-1.3
TOF					*e*S		Sg	13 06 25.0	-1.8
OBF0	**Syolatti, Pyha**	**1.46**	**137**		*e*P		Pn	13 06 16.9	-1.6
OBF0					*e*S		Sg	13 06 37.5	-0.2
OBF4	**Vikkela, Lumij**	**1.54**	**118**		*e*P		Pn	13 06 18.1	-1.5
OBF4					*e*SN		Sg	13 06 41.0	+0.6
PAJU	**Pajala**	**1.54**	**18**		P		Pn	13 06 17.9	-1.8
PAJU					S		Sg	13 06 39.0	-1.4
PAJU	**Pajala**	**1.54**	**18**		*e*P		Pn	13 06 17.9	-1.8
PAJU					*e*SN		Sg	13 06 39.5	-0.8
DUNU	**Dundret**	**1.65**	**341**		P		Pn	13 06 20.4	-0.8
DUNU	**Dundret**	**1.65**	**341**		*e*P		Pn	13 06 20.4	-0.8
OUF	**Merijarvi**	**1.70**	**134**		*e*P		Pn	13 06 21.2	-0.6
OUF					*e*SN		Sb	13 06 44.8	-0.1
OUF					MSG			13 06 46.9	
	comp=Z,0.9nm,0.1s								
UMAU	**Umeaa**	**1.77**	**198**		*e*PN		Pn	13 06 22.8	-0.1
UMAU					*e*SN		Sn	13 06 45.9	-0.2
KLF	**Kolari**	**1.86**	**25**		*e*P		Pn	13 06 24.1	0.0
KLF					*e*SN		Sn	13 06 48.1	-0.2
KLF					MSG			13 06 51.3	
	comp=Z,0.7nm,0.1s								
MASU	**Masugnsbyn**	**1.90**	**1**		P		Pn	13 06 24.6	0.0
MASU	**Masugnsbyn**	**1.90**	**1**		*e*P		Pn	13 06 24.6	0.0
RNF	**Rovaniemi**	**1.97**	**56**		*e*PG		Pn	13 06 26.0	+0.4
RNF					*e*SG		Sn	13 06 51.5	+0.7
RNF					MSG			13 06 56.0	
	comp=Z,1.1nm,0.1s								
LANU	**Lannavaara**	**2.49**	**1**		*e*P		Pn	13 06 33.0	+0.2
LANU					*e*S		Sn	13 07 03.7	-0.2

*NDI **30** 13:15:54.9±1.0,26°.06N×90°.78E,h15km±9km, ML3.8, mb4.0(NEIC)*
*IDC **30** 13:15:56.7±3.3,26°.04N×90°.60E,h49km±38km, mb3.4/6, mb1 3.6/6,mb1mx3.2/45,mbtmp3.7/6,ML4.5/1,Error ellipse: s-maj=67.3km s-min=18.5km az=67.0*
*NEIC **30** 13:15:57.2±2.4,26°.04N±0°.08×90°.8E±0°.1,h42km±11km, mb4.0/9,Error ellipse: s-maj=15.6km s-min=8.8km az=51.0*

ISC 30 13:15:55.9±0.7,25°.99N±0°.06×90°.75E±0°.05,h35km,n26, σ1§36/28,mb3.7/8,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.10**	**112**	*e*P	**Pn**	**13 16 15.3**	**+0.3**
SHL				*e*S	**Sn**	**13 16 31.4**	**+2.3**
SHL				IAML		13 16 32.5	
	comp=N,55µm,0.2s						
SHL	**Shillong**	**1.10**	**112**		**Pn**	**13 16 15.2**	**+0.1**
SHL				Sn	**Sn**	**13 16 30.6**	**+1.4**
TEZP	**TEZPUR**	**1.94**	**71**	IAML		13 21 25.6	
	comp=E,365nm,0.2s						
GTK	**Tadong**	**2.33**	**305**	*e*P	**Pn**	**13 16 34.0**	**+2.0**
GTK				*e*S	**Sn**	**13 17 01.0**	**+1.6**
GTK				IAML		13 17 05.8	
	comp=N,421nm,0.4s						
ITAN	**ITANAGAR**	**2.90**	**66**	IAML		13 17 31.6	
	comp=E,425nm,0.5s						
KOHI	**KOHIMA**	**3.04**	**94**	*e*P	**Pn**	**13 16 43.2**	**+1.6**
KOHI				*e*S	**Sn**	**13 17 18.2**	**+1.4**
KOHI				IAML		13 17 19.4	
	comp=E,268nm,0.3s						
MOKO	**MOKOCHONG**	**3.40**	**84**	*e*P	**Pn**	**13 16 47.5**	**+0.9**
MOKO				IAML		13 17 27.9	
	comp=N,177nm,0.3s						
MOKO				IAML		13 17 28.1	
	comp=E,292nm,0.4s						
BRDH	**Bariadhala**	**3.40**	**166**	P	**Pn**	**13 16 48.4**	**+1.9**
	comp=E,45nm,0.3s,baz=242,slow=20,SNR=1.6						
BRDH				S	**Sn**	**13 17 25.0**	**-0.6**
	comp=E,67nm,0.3s,baz=256,slow=22,SNR=2.2						
LSA	**Lhasa**	**3.71**	**5**	Pn	**Pn**	**13 16 52.4**	**+1.3**
TARG	**Taragay, Kyrgy**	**18.99**	**329**	Pn	**Pn**	**13 20 16.4**	**+0.7**
TARG				IAmb	IAmb	13 20 17.7	
	comp=Z,3.2nm,0.7s						
BOOM	**Boomskoye usch**	**20.46**	**327**	P	**P**	**13 20 29.4**	**-1.2**
MK31	**Makanchi Array**	**21.82**	**344**	P	**P**	**13 20 43.1**	**-1.9**
MK31				IAmb	IAmb	13 20 59.5	
	comp=Z,2.5nm,0.8s						
MKAR	**Makanchi Array**	**21.82**	**344**	P	**P**	**13 20 43.7**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=159,slow=10,SNR=19						
MKAR	**Makanchi Array**	**21.82**	**344**	P	**P**	**13 20 43.1**	**-1.9**
MKAR				pP	**pP**	**13 20 55.4**	**+1.0**
SONM	**Songino Array**	**25.04**	**25**	P	**P**	**13 21 17.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=208,slow=10,SNR=3.6						
SONM	**Songino Array**	**25.04**	**25**	P	**P**	**13 21 16.6**	**-0.2**
KURBB	**Kurchatov Arra**	**26.32**	**342**	P	**P**	**13 21 26.8**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=158,slow=9.1,SNR=4.4						
KURK	**Kurchatov**	**26.38**	**343**	P	**P**	**13 21 26.8**	**-2.0**
ABKAR	**Akbulak array**	**33.30**	**322**	P	**P**	**13 22 28.9**	**-1.2**
ARCES	**ARCESS Array B**	**57.28**	**338**	P	**P**	**13 25 38.4**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=97,slow=7.6,SNR=4.1						
ARCES	**ARCESS Array B**	**57.28**	**338**	IAmb	IAmb	13 25 45.7	
	comp=Z,8.1nm,1.2s						
WB0	**Warramunga Arr**	**62.17**	**133**	P	**P**	**13 26 13.8**	**-0.1**
WB0				IAmb	IAmb	13 26 30.5	
	comp=Z,7.1nm,1.4s						
WRA	**Warramunga Arr**	**62.26**	**133**	P	**P**	**13 26 14.5**	**0.0**
	comp=Z,2.4nm,1.3s,baz=325,slow=7.1,SNR=3.0						
WRA	**Warramunga Arr**	**62.26**	**133**	IAmb	IAmb	13 26 17.1	
	comp=Z,0.2nm,1.2s						
WB2	**Warramunga Arr**	**62.27**	**133**	P	**P**	**13 26 14.6**	**0.0**
ASAR	**Alice Springs**	**64.66**	**136**	P	**P**	**13 26 30.5**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=320,slow=6.5,SNR=4.2						

*IDC **30** 13:15:55.2±2.5,28°.86S×177°.53W,h43km±20km,mb3.3/4, mb1 3.6/4,mb1mx3.3/28,mbtmp3.6/4,Error ellipse: s-maj=41.7km s-min=31.5km az=161.0*

ISC 30 13:15:56.6±1.2,28°.9S±0°.2×177°.6W±0°.2,h57km,n9, σ0§44/7,mb3.6/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.46**	**220**	P	**Pn**	**13 16 07.2**	**-0.6**
	baz=130,slow=16						
RAO				S	**Sn**	**13 16 16.3**	**+0.2**
	2µm,0.3s,baz=88,slow=21,SNR=22						
RAO				LR	LR	13 16 16.5	
	comp=Z,328nm,20.9s,baz=340,slow=42						
ASAR	**Alice Springs**	**43.57**	**265**	P	**P**	**13 23 55.4**	**+0.1**
	0.3nm,0.5s,baz=104,slow=6.9,SNR=8.0						
WRA	**Warramunga Arr**	**44.42**	**270**	P	**P**	**13 24 02.4**	**+0.3**
	0.2nm,0.3s,baz=110,slow=8.0,SNR=5.8						
QSPA	**South Pole Qui**	**61.21**	**180**	P	**P**	**13 26 05.7**	**+0.4**
	1.7nm,1.0s,baz=199,slow=1.4,SNR=3.5						
H03S2	**Juan Fernandez**	**80.99**	**124**	T	T	14 57 45.0	
	baz=239,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**81.00**	**124**	T	T	14 57 46.3	
	baz=239,slow=74,SNR=7.9						
H03S3	**Juan Fernandez**	**81.01**	**124**	T	T	14 57 52.0	
	baz=239,slow=74,SNR=9.3						
NVAR	**Mina Array Bea**	**86.89**	**43**	P	**P**	**13 28 35.2**	**-0.2**
	0.8nm,0.8s,baz=240,slow=5.1,SNR=5.0						
AKASG	**Malin Array Be**	**150.31**	**325**	PKPbc	**PKPbc**	**13 35 41.1**	**0.0**
	0.5nm,0.3s,baz=48,slow=3.4,SNR=3.0						

*TUL **30** 13:46:50.8±0.9,35°.82N±0°.01×97°.441W±0°.009,h5km±4km, ML2.8,mb_Lg2.3/24(NEIC), Error ellipse: s-maj=1.9km s-min=0.7km az=158.0*

NEIC 30 13:46:50.7±0.5,35°.834N±0°.005×97°.46W±0°.02,h5km±4km, Error ellipse: s-maj=1.8km s-min=0.6km az=76.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**179**	Pg	Pg	13 46 51.9	0.0
OK029				Sg	Sg	13 46 52.7	-0.1
BCOK	**Bluff Creek, N**	**0.22**	**215**	Pg	Pg	13 46 55.1	+0.2
BCOK				Sg	Sg	13 46 58.3	+0.5
OK025	**Westminster Rd**	**0.27**	**159**	Pg	Pg	13 46 56.2	+0.2
OKCFA	**Oklahoma City**	**0.42**	**180**	Pg	Pg	13 46 58.8	0.0
OKCSW	**OKLAHOMA CITY**	**0.43**	**178**	Pg	Pg	13 46 59.0	0.0
OK031	**S. Brethren Rd**	**0.51**	**76**	Pg	Pg	13 47 00.8	+0.2
OK030	**Cody Creek RV**	**0.55**	**80**	Pg	Pg	13 47 01.5	+0.1
OK030				Sg	Sg	13 47 08.7	+0.2
FNO	**Franklin**	**0.58**	**176**	Pg	Pg	13 47 01.6	-0.3
FNO				Sg	Sg	13 47 09.5	+0.2
QUOK	**Quay**	**0.69**	**61**	Pg	Pg	13 47 04.0	0.0
QUOK				Sg	Sg	13 47 13.0	-0.1
CROK	**Carrier**	**0.79**	**328**	Pg	Pg	13 47 06.4	+0.4
BLOK	**Blackwell**	**0.94**	**12**	Pg	Pg	13 47 08.8	0.0
BLOK				Sg	Sg	13 47 21.5	+0.4
OK032	**Salt Plains WL**	**1.14**	**328**	Pg	Pg	13 47 12.4	-0.3
OK032				Sg	Sb	13 47 27.9	-0.2
KAN13	**South Haven SW**	**1.18**	**359**	Pg	Pg	13 47 13.1	-0.2
KAN13				Sg	Sb	13 47 28.9	-0.2
KAN17	**Caldwell West**	**1.23**	**348**	Pg	Pg	13 47 14.1	-0.3
X34A	**Smith Ranch, M**	**1.27**	**194**	Pg	Pg	13 47 14.6	-0.5
KAN09	**Caldwell North**	**1.31**	**354**	Pn	Pn	13 47 15.4	-0.3
T35A	**Sooner Cattle**	**1.32**	**35**	Pn	Pn	13 47 15.2	-0.6
U32A	**Winter Ranch,**	**1.36**	**294**	Pn	Pn	13 47 16.5	0.0
KAN10	**Anthony SW Sta**	**1.39**	**338**	Pn	Pn	13 47 16.7	-0.1
KS20	**Mayfield South**	**1.40**	**357**	Pn	Pn	13 47 16.8	-0.1
KAN08	**Anthony NE Sta**	**1.45**	**344**	Pn	Pb	13 47 18.1	-0.1
KAN12	**Harper NE Stat**	**1.52**	**344**	Pn	Pb	13 47 19.1	-0.3
WMOK	**Wichita Mounta**	**1.54**	**225**	Pn	Pn	13 47 18.5	-0.3
LOOK	**Love County**	**1.85**	**173**	Pn	Pn	13 47 22.9	-0.2
X37A	**Clayton**	**2.11**	**125**	IAmb_Lg		13 47 59.0	
	comp=Z,13nm,0.7s						
U38A	**Gravette**	**2.56**	**75**	Pn	Pn	13 47 33.0	+0.2
U38A				IAmb_Lg		13 48 16.9	
	comp=Z,9.6nm,0.7s						
Z38A	**Mt. Pleasant**	**3.28**	**141**	IAmb_Lg		13 48 38.3	
	comp=Z,13nm,0.9s						
CBKS	**Cedar Bluff**	**3.49**	**329**	IAmb_Lg		13 48 51.4	
	comp=Z,14nm,0.9s						
ABTX	**Abilene, Hawle**	**3.68**	**210**	IAmb_Lg		13 48 49.4	
	comp=Z,6.0nm,0.8s						
X40A	**Basin Creek Fa**	**4.02**	**108**	IAmb_Lg		13 49 01.7	
	comp=Z,7.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.33**	**88**	IAmb_Lg		13 49 08.7	
	comp=Z,7.7nm,0.7s						
P38A	**Dawn**	**4.90**	**38**	IAmb_Lg		13 49 28.1	
	comp=Z,5.6nm,0.8s						
CCM	**Cathedral Cave**	**5.45**	**64**	IAmb_Lg		13 49 47.5	
	comp=Z,4.6nm,0.7s						
P40A	**Paris**	**5.66**	**48**	IAmb_Lg		13 49 54.0	
	comp=Z,6.3nm,0.9s						
PBMO	**Poplar Bluff**	**5.75**	**79**	IAmb_Lg		13 50 00.8	
	comp=Z,6.0nm,0.8s						
T25A	**Trinidad**	**5.75**	**285**	IAmb_Lg		13 49 56.1	
	comp=Z,4.6nm,0.8s						

*IDC **30** 14:15:36.2±1.4,32°.66S×177°.78W,h0km,mb4.4/4, mb1 4.6/5,mb1mx4.0/24,mbtmp4.4/5,ML3.0/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/29,Error ellipse: s-maj=49.3km s-min=26.1km az=146.0*
*NEIC **30** 14:15:38.5±0.8,32°.7S±0°.2×177°.9W±0°.2,h10km±1km, mb4.7/14,Error ellipse: s-maj=34.3km s-min=13.6km az=137.0*

ISC 30 14:15:39.3±1.3,32°.6S±0°.1×177°.8W±0°.2,h20km,n31, σ0§99/32,mb4.6/11,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.33**	**359**	LR	LR	14 18 09.9	
	comp=Z,414nm,18.3s,baz=65,slow=45						
MXZ	**Matakaoa Point**	**5.88**	**211**	Pn	**Pn**	**14 17 06.0**	**+0.7**
URZ	**Urewera**	**7.00**	**215**	Pn	**Pn**	**14 17 19.7**	**-0.8**
	0.3nm,0.3s,baz=121,slow=24,SNR=69						
URZ				Sn	**Sn**	**14 18 41.4**	**+1.9**
	6.1nm,0.3s,baz=18,slow=17,SNR=6.7						
BKZ	**Black Stump Fm**	**8.01**	**213**	Pn	**Pn**	**14 17 34.3**	**-0.3**
TUWZ	**Tuamarina**	**10.99**	**214**	Pn	**Pn**	**14 18 15.0**	**-0.3**
THZ	**Tophouse**	**11.75**	**216**	Pn	**Pn**	**14 18 25.5**	**-0.3**
KHZ	**Kahutara**	**11.95**	**212**	Pn	**Pn**	**14 18 28.1**	**-0.3**
LTZ	**Lake Taylor**	**12.83**	**215**	Pn	**Pn**	**14 18 39.1**	**-1.3**
RPZ	**Rata Peaks**	**14.11**	**215**	Pn	**Pn**	**14 18 55.5**	**-2.5**
WKZ	**Wanaka**	**15.93**	**216**	Pn	**Pn**	**14 19 19.4**	**-2.8**
CTA	**Charters Tower**	**34.34**	**282**	P	**P**	**14 22 26.6**	**+1.8**
	2.0nm,0.4s,baz=100,slow=6.1,SNR=5.9						
CTAO	**Charters Tower**	**34.34**	**282**	P	**P**	**14 22 24.8**	**0.0**
CTAO				IAmb	IAmb	14 22 44.9	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**38.55**	**257**	P	**P**	**14 23 00.5**	**-0.2**
PMG	**Port Moresby**	**39.70**	**298**	P	**P**	**14 23 10.3**	**-0.1**
PMG				IAmb	IAmb	14 23 24.8	
	comp=Z,15nm,0.9s						
AS31	**Alice Springs**	**43.17**	**269**	P	**P**	**14 23 38.5**	**-0.4**
ASAR	**Alice Springs**	**43.17**	**269**	P	**P**	**14 23 38.9**	**0.0**
	comp=Z,1.5nm,0.4s,baz=104,slow=7.5,SNR=68						
ASAR				PcP	**PcP**	**14 25 28.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=117,slow=4.5,SNR=1.6						
ASAR	**Alice Springs**	**43.17**	**269**	P	**P**	**14 23 38.5**	**-0.4**
WR0	**Warramunga Arr**	**44.18**	**274**	P	**P**	**14 23 46.7**	**-0.3**
WR0				IAmb	IAmb	14 23 59.4	
	comp=Z,4.4nm,0.5s						
WB2	**Warramunga Arr**	**44.35**	**274**	P	**P**	**14 23 48.1**	**-0.2**
WRA	**Warramunga Arr**	**44.36**	**274**	P	**P**	**14 23 48.1**	**-0.3**
	comp=Z,5.2nm,0.3s,baz=112,slow=7.9,SNR=156						
WRA	**Warramunga Arr**	**44.36**	**274**	P	**P**	**14 23 47.2**	**-1.3**
WB0	**Warramunga Arr**	**44.39**	**275**	P	**P**	**14 23 48.3**	**-0.4**
WB0				IAmb	IAmb	14 24 01.1	
	comp=Z,6.9nm,0.6s						
FORT	**Forrest**	**45.66**	**257**	P	**P**	**14 23 58.6**	**0.0**
MTN	**Manton Dam**	**50.49**	**281**	P	**P**	**14 24 36.1**	**0.0**
MTN				IAmb	IAmb	14 24 53.7	
	comp=Z,13nm,1.3s						
KNRA	**Kununurra**	**51.04**	**276**	P	**P**	**14 24 40.5**	**+0.2**
KNRA				IAmb	IAmb	14 24 44.1	
	comp=Z,6.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.52**	**271**	P	**P**	**14 24 51.5**	**+0.1**
FITZ				IAmb	IAmb	14 25 19.6	
	comp=Z,7.6nm,1.2s						
MORW	**Morawa**	**56.06**	**255**	P	**P**	**14 25 16.7**	**-0.4**
MORW				IAmb	IAmb	14 25 23.7	
	comp=Z,13nm,1.4s						
NVAR	**Mina Array Bea**	**89.75**	**43**	P	**P**	**14 28 37.2**	**+0.8**
	comp=Z,0.3nm,0.2s,baz=209,slow=7.2,SNR=3.6						
KBZ	**Khabaz**	**146.40**	**301**	PKPbc	**PKPab**	**14 35 19.4**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=100,slow=2.5,SNR=3.9						
FINES	**FINESS Array B**	**147.24**	**339**	PKPbc	**PKPbc**	**14 35 19.8**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=52,slow=3.5,SNR=14						
NOA	**NORSAR Array B**	**150.93**	**351**	PKPbc	**PKPbc**	**14 35 29.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=14,slow=4.1,SNR=4.5						

NEIC 30 14:28:12.0±0.8,37°.15N±0°.02×98°.01W±0°.02,h5km±1km, mb_Lg2.3/21,Error ellipse: s-maj=3.3km s-min=2.4km az=346.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	**Anthony SW Sta**	**0.07**	**253**	Pg	Pg	14 28 13.6	-0.1
KAN10				Sg	Sg	14 28 15.1	+0.3
KAN08	**Anthony NE Sta**	**0.09**	**21**	Pg	Pg	14 28 13.8	-0.2
KAN08				Sg	Sg	14 28 15.2	-0.1
KAN05	**Bluff City Nor**	**0.12**	**108**	Pg	Pg	14 28 14.4	0.0
KAN05				Sg	Sg	14 28 16.4	+0.4
KAN12	**Harper NE Stat**	**0.15**	**4**	Pg	Pg	14 28 17.3	+2.2
KAN17	**Caldwell West**	**0.22**	**117**	Pg	Pg	14 28 16.4	0.0
KAN17				Sg	Sg	14 28 19.7	+0.4
KAN09	**Caldwell North**	**0.31**	**91**	Pg	Pg	14 28 18.0	-0.1
KAN09				Sg	Sg	14 28 22.6	+0.3
KS20	**Mayfield South**	**0.37**	**77**	Sg	Sg	14 28 24.2	0.0
KAN13	**South Haven SW**	**0.45**	**107**	Pg	Pg	14 28 20.4	-0.2
KAN13				Sg	Sg	14 28 26.5	+0.1
CROK	**Carrier**	**0.64**	**178**	Pg	Pg	14 28 24.0	-0.3
CROK				Sg	Sg	14 28 33.1	+0.5
BLOK	**Blackwell**	**0.74**	**121**	Pg	Pg	14 28 25.8	-0.5
BLOK				Sg	Sg	14 28 35.8	-0.2
U32A	**Winter Ranch,**	**1.10**	**226**	Pg	Pg	14 28 32.6	-0.6
T35A	**Sooner Cattle**	**1.22**	**100**		Pg	14 28 34.4	-1.0
OK020	**Liberty Lake**	**1.42**	**161**	Pn	Pn	14 28 37.9	-0.6
QUOK	**Quay**	**1.43**	**132**	Pn	Pn	14 28 37.9	-0.8
OK031	**S. Brethren Rd**	**1.52**	**141**	Pn	Pn	14 28 39.4	-0.5
OK030	**Cody Creek RV**	**1.57**	**141**	Pn	Pn	14 28 40.5	0.0
X37A	**Clayton**	**3.33**	**139**	Pn	Pn	14 29 05.7	+0.9
X37A				IAmb_Lg		14 30 00.0	
	comp=Z,11nm,1.1s						
AMTX	**Amarillo**	**3.73**	**234**	IAmb_Lg		14 30 18.9	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**3.77**	**80**	Pn	Pn	14 29 10.9	+0.1
U40A	**Yellville**	**4.22**	**99**	Pn	Pn	14 29 17.3	+0.3
P38A	**Dawn**	**4.30**	**54**	Pn	Pn	14 29 17.4	-0.7
P38A				IAmb_Lg		14 30 29.2	
	comp=Z,4.8nm,0.7s						
MIAR	**Mount Ida**	**4.44**	**124**	IAmb_Lg		14 30 35.6	
	comp=Z,5.0nm,0.8s						
MGMO	**Mountain Grove**	**4.59**	**88**	IAmb_Lg		14 30 37.8	
	comp=Z,6.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.90**	**103**	IAmb_Lg		14 30 56.5	
	comp=Z,6.2nm,1.1s						
X40A	**Basin Creek Fa**	**4.97**	**121**	IAmb_Lg		14 30 59.9	
	comp=Z,5.0nm,0.8s						
T25A	**Trinidad**	**5.11**	**272**	IAmb_Lg		14 31 00.1	
	comp=Z,7.7nm,1.0s						
P40A	**Paris**	**5.26**	**61**	IAmb_Lg		14 31 12.0	
	comp=Z,5.7nm,1.1s						
CCM	**Cathedral Cave**	**5.45**	**78**	IAmb_Lg		14 31 09.2	
	comp=Z,4.7nm,0.9s						
T42A	**Van Buren**	**5.53**	**89**	IAmb_Lg		14 31 18.7	
	comp=Z,4.5nm,1.0s						

*THR **30** 14:45:32.4±0.4,27°.32N×56°.36E,h18km±3km, ML4.0*
*IDC **30** 14:45:33.3±1.5,27°.32N×56°.18E,h0km,mb3.6/8, mb1 3.7/8,mb1mx3.4/41,mbtmp3.6/8,Error ellipse: s-maj=36.0km s-min=24.7km az=165.0*
*TEH **30** 14:45:35.1,27°.48N×56°.16E,h8km,ML3.8*
*OMAN **30** 14:45:38.2±2.5,27°.63N×56°.23E,h35km±98km,ml3.3/13, Mwp4.5/3,Error ellipse: s-maj=122.1km s-min=14.3km az=353.0*

ISC 30 14:45:35.2±1.1,27°.51N±0°.03×56°.22E±0°.04,h5km±8km, n66,σ1§36/76,mb3.5/8,2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.12**	**201**	*e*Pg	**Pg**	**14 45 37.4**	**-0.3**
GENO				*e*Sg	**Sg**	**14 45 39.3**	**0.0**
BNDS	**Bandar-Abbas**	**0.12**	**202**	*e*Pg	**Pg**	**14 45 37.4**	**-0.3**
BNDS				IAML		14 45 43.1	
	comp=N,28µm,0.5s						
BNDS	**Bandar-Abbas**	**0.12**	**202**	*e*Pg	**Pg**	**14 45 37.4**	**-0.3**
IBND	**Bandar-abas**	**0.29**	**102**	*e*Pg	**Pg**	**14 45 41.2**	**+0.4**
IBND				*e*		14 45 54.7	
	comp=Z,52µm,0.3s						
KHNJ	**Kahnooj**	**1.39**	**71**	*e*Pg	**Pg**	**14 46 01.9**	**+0.1**
SHME	**Shamm**	**1.46**	**183**	*e*Pn	**Pn**	**14 46 02.3**	**+0.1**
SHME	**Shamm**	**1.46**	**183**	P	**Pn**	**14 46 02.5**	**+0.3**
	SNR=10						
SHME				P	**Pn**	**14 46 02.5**	**+0.3**
	SNR=10						
SHME				S	**Sb**	**14 46 23.1**	**+1.4**
SHME				S	**Sb**	**14 46 23.1**	**+1.4**
BANOM	**Banah**	**1.58**	**177**	*e*Pn	**Pn**	**14 46 04.5**	**+0.6**
BANOM	**Banah**	**1.58**	**177**	P	**Pn**	**14 46 04.6**	**+0.6**
	SNR=40						
BANOM				P	**Pn**	**14 46 04.6**	**+0.6**
	SNR=40						
BANOM				⇓S	**Sb**	**14 46 26.7**	**+1.3**
BANOM				⇓S	**Sb**	**14 46 26.7**	**+1.3**
LAR1	**LAR**	**1.65**	**276**	*e*		14 46 46.6	
	comp=Z,23µm,0.5s						
LAR1				*e*Pg	**Pn**	**14 46 05.4**	**+0.5**
MASF	**Masafi**	**2.13**	**181**	P	**Pn**	**14 46 13.2**	**+1.7**
	SNR=8.5						
MSFE	**Esma-Masafi**	**2.14**	**181**	*e*Pn	**Pn**	**14 46 12.5**	**+0.8**
NGRK	**Negar Kerman**	**2.17**	**12**	*e*Pn	**Pb**	**14 46 15.1**	**-0.2**
NGRK				*e*		14 46 48.5	
	comp=Z,3µm,0.5s						
MDH	**Madha**	**2.20**	**178**	*e*Pn	**Pn**	**14 46 13.2**	**+0.7**
MDH	**Madha**	**2.20**	**178**	P	**Pb**	**14 46 15.0**	**-0.6**
MDH				S	**Sb**	**14 46 43.2**	**-0.0**
KRBR	**Kerman**	**2.51**	**11**	*e*Pn	**Pn**	**14 46 16.9**	**-0.1**
KRBR				*e*Sg	**Sg**	**14 46 56.4**	**+0.6**
KRBR	**Kerman**	**2.51**	**11**	*e*Pn	**Pn**	**14 46 16.9**	**-0.1**
JHRM	**Jahrom**	**2.54**	**294**	*e*Pn	**Pn**	**14 46 17.2**	**0.0**
JHRM				*e*		14 47 21.7	
	comp=Z,9µm,0.5s						
KBAM	**BAM**	**2.55**	**50**	*e*Pn	**Pb**	**14 46 20.2**	**-1.3**
KBAM				*e*		14 47 10.9	
	comp=Z,2µm,0.4s						
UOSS	**Minazif**	**2.55**	**180**	*e*Pn	**Pn**	**14 46 17.7**	**+0.4**
UOSS	**Minazif**	**2.55**	**180**	P	**Pn**	**14 46 18.0**	**+0.7**
CHMN	**Cheshme madani**	**2.61**	**26**	*e*Pn	**Pb**	**14 46 21.4**	**-1.4**
CHMN				*e*		14 47 04.3	
	comp=Z,2µm,0.4s						
HATD	**Hatta, Dubai**	**2.67**	**182**	*e*Pn	**Pn**	**14 46 21.8**	**+2.8**
HATD	**Hatta, Dubai**	**2.67**	**182**	P	**Pn**	**14 46 20.6**	**+1.6**
LMD1	**Lamerd**	**2.72**	**267**	*e*Pn	**Pn**	**14 46 20.5**	**+0.8**
LMD1				*e*		14 47 23.1	
	comp=Z,5µm,0.7s						
FAQ	**Al Faqa, Dubai**	**2

NBG	**Las Nubes**	**1.04**	**61**	⇑*iP*		**Pn**	**15 00 48.3**	**+1.3**
NBG				*iS*		**Sn**	**15 01 05.6**	**+4.5**
HUEH	**Huehuetenango**	**1.25**	**350**	*eP*		**Pn**	**15 00 50.8**	**+1.0**
HUEH				*eS*		**Sn**	**15 01 09.5**	**+3.5**
HUEH				IAML			15 01 18.1	
	comp=Z,2µm,0.4s							
HUEH	**Huehuetenango**	**1.25**	**350**	Pn		**Pn**	**15 00 50.5**	**+0.7**
RTR	**El Retiro**	**1.60**	**96**	*eP*		**Pn**	**15 00 54.5**	**+0.2**
RTR	**El Retiro**	**1.60**	**96**	*eP*		**Pn**	**15 00 54.5**	**+0.2**
CEVE	**Cerro Verde**	**1.63**	**99**	*eP*		**Pn**	**15 00 54.5**	**-0.3**
CEVE				*eS*		**Sn**	**15 01 15.1**	**+0.1**
CEVE				IAML			15 01 20.7	
	comp=Z,5µm,0.3s							
CEVE	**Cerro Verde**	**1.63**	**99**	*eP*		**Pn**	**15 00 54.5**	**-0.3**
CEVE				*eS*		**Sn**	**15 01 15.1**	**+0.1**
CEVE				IAML			15 01 20.7	
	comp=Z,5µm,0.3s							
SBLS	**San Blas**	**1.63**	**98**	*eP*		**Pn**	**15 00 54.5**	**-0.3**
SBLS	**San Blas**	**1.63**	**98**	*eP*		**Pn**	**15 00 54.5**	**-0.3**
SNJE	**San Jose**	**1.64**	**97**	*eP*		**Pn**	**15 00 54.9**	**-0.1**
SNJE	**San Jose**	**1.64**	**97**	*eP*		**Pn**	**15 00 54.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.83**	**103**	*eP*		**Pn**	**15 00 56.5**	**-1.0**
JAYA				*eS*		**Sn**	**15 01 18.1**	**-1.6**
JAYA				IAML			15 01 21.8	
	comp=Z,2µm,0.3s							
JAYA	**Jayaque - finc**	**1.83**	**103**	*eP*		**Pn**	**15 00 56.5**	**-1.0**
JAYA				*eS*		**Sn**	**15 01 18.1**	**-1.6**
JAYA				IAML			15 01 21.8	
	comp=Z,2µm,0.3s							
TACO	**Tacachico**	**1.87**	**93**	*eP*		**Pn**	**15 00 56.9**	**-1.0**
TACO				*eS*		**Sn**	**15 01 22.0**	**+1.4**
TACO				IAML			15 01 23.6	
	comp=Z,376nm,0.4s							
TACO	**Tacachico**	**1.87**	**93**	*eP*		**Pn**	**15 00 56.9**	**-1.0**
TACO				*eS*		**Sn**	**15 01 22.0**	**+1.4**
TACO				IAML			15 01 23.6	
	comp=Z,376nm,0.4s							
MTO3	**Montecristo**	**1.89**	**80**	⇑*iP*		**Pn**	**15 00 57.3**	**-1.0**
MTO3	**Montecristo**	**1.89**	**80**	⇑*iP*		**Pn**	**15 00 57.3**	**-1.0**
MTO3	**Montecristo**	**1.89**	**80**			**Pn**	**15 00 57.1**	**-1.3**
ESQI	**Esquipulas**	**1.94**	**75**	*eP*		**Pn**	**15 00 58.4**	**-0.5**
ESQI				*eS*		**Sn**	**15 01 20.7**	**-1.6**
ESQI	**Esquipulas**	**1.94**	**75**			**Pn**	**15 00 58.1**	**-0.8**
BOQS	**Boqueron**	**1.97**	**100**	*eP*		**Pn**	**15 00 59.0**	**-0.4**
BOQS	**Boqueron**	**1.97**	**100**	*eP*		**Pn**	**15 00 59.0**	**-0.4**
SNET	**Serv Nac Est T**	**2.03**	**101**	*eP*		**Pn**	**15 00 59.6**	**-0.5**
SNET				*eS*		**Sn**	**15 01 24.2**	**-0.3**
SNET	**Serv Nac Est T**	**2.03**	**101**	*eP*		**Pn**	**15 00 59.6**	**-0.5**
SNET				*eS*		**Sn**	**15 01 24.2**	**-0.3**
SNET	**Serv Nac Est T**	**2.03**	**101**	Pn		**Pn**	**15 00 58.9**	**-1.2**
LFU	**La Fuente**	**2.13**	**99**	*eP*		**Pn**	**15 01 01.0**	**-0.5**
LFU	**La Fuente**	**2.13**	**99**	*eP*		**Pn**	**15 01 01.0**	**-0.5**
LBRS	**Las Brisas**	**2.20**	**99**	*eP*		**Pn**	**15 01 01.9**	**-0.5**
LBRS	**Las Brisas**	**2.20**	**99**	*eP*		**Pn**	**15 01 01.9**	**-0.5**
LFRS	**El Faro**	**2.20**	**102**	*iP*		**Pn**	**15 01 02.4**	**-0.1**
LFRS	**El Faro**	**2.20**	**102**	*iP*		**Pn**	**15 01 02.4**	**-0.1**
SJTE	**Alcalda de S**	**2.26**	**102**	*eP*		**Pn**	**15 01 03.1**	**-0.1**
SJTE				IAML			15 01 36.7	
	comp=Z,396nm,0.4s							
SJTE	**Alcalda de S**	**2.26**	**102**	*eP*		**Pn**	**15 01 03.1**	**-0.1**
SJTE				IAML			15 01 36.7	
	comp=Z,396nm,0.4s							
PAVA	**Las Pavas**	**2.31**	**99**	*eP*		**Pn**	**15 01 03.4**	**-0.4**
PAVA				*eS*		**Sn**	**15 01 34.4**	**+3.1**
PAVA	**Las Pavas**	**2.31**	**99**	*eP*		**Pn**	**15 01 03.4**	**-0.4**
PAVA				*eS*		**Sn**	**15 01 34.4**	**+3.1**
CCIG	**Comitan**	**2.34**	**339**	Pn		**Pn**	**15 01 04.1**	**-0.3**
COEG	**Centro de Oper**	**2.38**	**101**	*eP*		**Pn**	**15 01 04.4**	**-0.4**
COEG				*eS*		**Sn**	**15 01 34.6**	**+1.7**
COEG				IAML			15 01 39.0	
	comp=Z,1µm,0.5s							
COEG	**Centro de Oper**	**2.38**	**101**	*eP*		**Pn**	**15 01 04.4**	**-0.4**
COEG				*eS*		**Sn**	**15 01 34.6**	**+1.7**
COEG				IAML			15 01 39.0	
	comp=Z,1µm,0.5s							
COEB	**Comit de Eme**	**2.73**	**102**	*eP*		**Pn**	**15 01 09.4**	**-0.3**
COEB				*eS*		**Sn**	**15 01 42.5**	**+0.8**
COEB				IAML			15 01 48.0	
	comp=Z,643nm,0.4s							
COEB	**Comit de Eme**	**2.73**	**102**	*eP*		**Pn**	**15 01 09.4**	**-0.3**
COEB				*eS*		**Sn**	**15 01 42.5**	**+0.8**
COEB				IAML			15 01 48.0	
	comp=Z,643nm,0.4s							
TECA	**Tecapa**	**2.76**	**102**	*eP*		**Pn**	**15 01 09.9**	**-0.3**
TECA	**Tecapa**	**2.76**	**102**	*eP*		**Pn**	**15 01 09.9**	**-0.3**
JUCU	**Jucuarán**	**3.06**	**105**	*eP*		**Pn**	**15 01 14.7**	**+0.5**
JUCU				*eS*		**Sn**	**15 01 50.7**	**+1.1**
JUCU				IAML			15 02 04.4	
	comp=Z,493nm,0.7s							
JUCU	**Jucuarán**	**3.06**	**105**	*eP*		**Pn**	**15 01 14.7**	**+0.5**
JUCU				*eS*		**Sn**	**15 01 50.7**	**+1.1**
JUCU				IAML			15 02 04.4	
	comp=Z,493nm,0.7s							
PETF	**Flores**	**3.13**	**26**	*eP*		**Pn**	**15 01 15.9**	**+0.8**
PETF	**Flores**	**3.13**	**26**	Pn		**Pn**	**15 01 12.8**	**-2.3**
LCND	**La Caada**	**3.38**	**103**	*eP*		**Pn**	**15 01 17.9**	**-0.5**
LCND				IAML			15 02 04.5	
	comp=Z,466nm,0.4s							
LCND	**La Caada**	**3.38**	**103**	*eP*		**Pn**	**15 01 17.9**	**-0.5**
LCND				IAML			15 02 04.5	
	comp=Z,466nm,0.4s							
TGUH	**Tegucigalpa,Un**	**3.89**	**90**			**Pn**	**15 01 24.2**	**-1.3**
CRIN	**San Cristobal**	**4.34**	**108**	Pn		**Pn**	**15 01 32.2**	**+0.6**
CMIG	**Matias Romero**	**4.58**	**311**	P		**Pn**	**15 01 36.1**	**+1.2**
	comp=Z,7.0nm,0.3s,baz=132,slow=9.3,SNR=40							
CMIG				S		**Sn**	**15 02 27.3**	**+0.4**
	comp=Z,13nm,0.3s,baz=99,slow=15,SNR=6.7							
MASN	**Masaya**	**5.41**	**112**	Pn		**Pn**	**15 01 47.8**	**+1.5**
ACON	**Acoyapa**	**6.31**	**109**	Pn		**Pn**	**15 01 59.8**	**+1.3**
HZTE	**Horizontes, Gu**	**6.48**	**120**	Pn		**Pn**	**15 02 01.9**	**+0.9**
ORTG	**Ortega, Santa**	**6.78**	**122**			**Pn**	**15 02 05.7**	**+0.5**
JTS	**Las Juntas de**	**7.24**	**121**	P		**Pn**	**15 02 12.2**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=2.9,slow=22,SNR=3.9							
JTS				S		**Sn**	**15 03 28.8**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=232,slow=19,SNR=1.3							
TLIG	**Tlapa**	**7.82**	**297**	Pn		**Pn**	**15 02 21.7**	**+2.3**
JACO	**JACO, Garabito**	**7.83**	**123**	Pn		**Pn**	**15 02 21.6**	**+2.2**
RIMA	**Rio Macho**	**8.43**	**120**			**Pn**	**15 02 29.1**	**+1.4**
SRBA	**San Rafael, Bu**	**9.13**	**121**			**Pn**	**15 02 39.0**	**+1.7**
SOR	**Soroa**	**11.69**	**41**	Pn		**Pn**	**15 03 10.8**	**-1.3**
SJCC	**San Jacinto, C**	**16.29**	**103**	Pn		**Pn**	**15 04 11.8**	**-1.1**
SJCC				IAmb		IAmb	15 04 29.1	
	comp=Z,21nm,1.2s							
TXAR	**Lajitas Array**	**19.02**	**325**	P		**Pn**	**15 04 46.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=150,slow=11,SNR=14							
TX31	**Lajitas Ar. Si**	**19.02**	**325**	P		**Pn**	**15 04 46.3**	**-0.1**
TX31				IAmb		IAmb	15 04 47.0	
	comp=Z,12nm,1.4s							
TX32	**Lajitas Array**	**19.02**	**325**	P		**Pn**	**15 04 46.2**	**-0.1**
FLOC	**Florencia**	**19.82**	**127**	Pn		**Pn**	**15 04 57.8**	**+2.0**
FLOC				IAmb		IAmb	15 04 58.4	
	comp=Z,6.9nm,0.6s							
Y49A	**Blount Mountai**	**20.18**	**12**	P		**P**	**15 04 56.1**	**-1.4**
Y49A				IAmb		IAmb	15 04 59.8	
	comp=Z,6.7nm,0.8s							
GOGA	**Godfrey**	**20.52**	**19**	P		**P**	**15 05 00.7**	**-0.4**
FCAR	**Ozark Folk Cen**	**21.73**	**358**	P		**P**	**15 05 12.9**	**-1.2**
FCAR				IAmb		IAmb	15 05 14.4	
	comp=Z,4.4nm,0.6s							
MNTX	**Cornudas Mount**	**21.78**	**326**	P		**P**	**15 05 15.0**	**+0.3**
LCAR	**Lake Charles**	**21.90**	**0**	P		**P**	**15 05 14.2**	**-1.7**
LCAR				IAmb		IAmb	15 05 17.3	
	comp=Z,4.2nm,0.6s							
U40A	**Yellville**	**22.23**	**357**	P		**P**	**15 05 18.4**	**-1.1**
U40A				IAmb		IAmb	15 05 19.8	
	comp=Z,3.7nm,0.7s							
TKL	**Tuckaleechee C**	**22.52**	**16**	P		**P**	**15 05 21.9**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=172,slow=13,SNR=5.3							
TKL				LR		LR	15 14 21.8	
	comp=Z,30nm,19.4s,baz=82,slow=37							
TKL	**Tuckaleechee C**	**22.52**	**16**	P		**P**	**15 05 21.5**	**-1.1**
TKL				IAmb		IAmb	15 05 47.2	
	comp=Z,12nm,1.4s							
MGMO	**Mountain Grove**	**23.00**	**358**	P		**P**	**15 05 26.4**	**-1.2**
V55A	**Taylorsville**	**23.49**	**21**	P		**P**	**15 05 31.0**	**-1.3**
V55A				IAmb		IAmb	15 05 33.1	
	comp=Z,4.4nm,0.8s							
S39A	**Bolivar**	**23.59**	**356**	P		**P**	**15 05 31.0**	**-2.2**
S44A	**Carbondale**	**23.59**	**4**	P		**P**	**15 05 32.1**	**-1.0**
CCM	**Cathedral Cave**	**23.88**	**0**	P		**P**	**15 05 34.1**	**-1.6**
CCM				IAmb		IAmb	15 05 36.0	
	comp=Z,5.4nm,0.8s							
R40A	**Maddies Statio**	**24.13**	**358**	P		**P**	**15 05 35.9**	**-2.1**
R40A				IAmb		IAmb	15 05 38.4	
	comp=Z,4.9nm,0.8s							
BNM	**Barren Site**	**24.34**	**328**	P		**P**	**15 05 40.8**	**+0.5**
P40A	**Paris**	**25.36**	**359**	P		**P**	**15 05 48.0**	**-1.3**
P40A				IAmb		IAmb	15 05 49.9	
	comp=Z,7.3nm,0.8s							
HDIL	**Hopedale**	**26.43**	**3**	P		**P**	**15 05 58.5**	**-0.4**
KNB	**Kanab**	**29.85**	**324**	P		**P**	**15 06 30.9**	**+1.3**
MTPU	**Mount Pierson**	**30.22**	**326**	P		**P**	**15 06 33.9**	**+0.8**
MTPU				IAmb		IAmb	15 06 36.5	
	comp=Z,2.6nm,0.7s							
MSU	**Marysvale**	**30.56**	**327**	P		**P**	**15 06 37.5**	**+1.5**
HWUT	**Hardware Ranch**	**32.60**	**331**	P		**P**	**15 06 54.0**	**+0.2**
PDAR	**Pinedale Array**	**32.64**	**335**	LR		LR	15 22 24.4	
	comp=Z,54nm,18.2s,baz=174,slow=40							
NVAR	**Mina Array Bea**	**34.05**	**320**	P		**P**	**15 07 08.3**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=132,slow=8.2,SNR=17							
NVAR	**Mina Array Bea**	**34.05**	**320**	P		**P**	**15 07 07.9**	**+1.4**
LHV	**Little Huntoon**	**34.07**	**320**	P		**P**	**15 07 08.4**	**+2.0**
LHV				IAmb		IAmb	15 07 09.2	
	comp=Z,1.9nm,0.6s							
KVN	**Kaiserville**	**34.31**	**321**	P		**P**	**15 07 09.8**	**+1.0**
KVN				IAmb		IAmb	15 07 10.3	
	comp=Z,3.6nm,1.4s							
PNTR	**Pine Nut**	**35.26**	**320**	P		**P**	**15 07 19.0**	**+2.1**
MCMT	**McKenzie Canyo**	**35.71**	**333**	P		**P**	**15 07 21.9**	**+1.1**
F10A	**Beach Ranch, E**	**38.58**	**331**	P		**P**	**15 07 44.5**	**-0.4**
JTMT	**Jette**	**38.63**	**335**	P		**P**	**15 07 44.8**	**-0.5**
JTMT				IAmb		IAmb	15 08 03.0	
	comp=Z,2.3nm,0.9s							
H04A	**Detroit Lake**	**40.24**	**325**	P		**P**	**15 07 58.5**	**-0.1**
BCAR	**Beaver Creek A**	**60.25**	**336**	P		**P**	**15 10 28.5**	**-1.1**
KDAK	**Kodiak Island**	**63.02**	**328**	P		**P**	**15 10 47.3**	**-0.9**
ILAR	**Eielson Array**	**63.04**	**337**	P		**P**	**15 10 46.9**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=90,slow=6.3,SNR=3.1							
RND	**Reindeer**	**63.25**	**335**	P		**P**	**15 10 49.8**	**0.0**
GSTR	**Great Sitkin T**	**75.83**	**321**	P		**P**	**15 12 07.7**	**+0.2**
WRA	**Warramunga Arr**	**136.09**	**256**	PKP		**PKPdf**	**15 19 41.9**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=78,slow=2.0,SNR=2.6							
ASAR	**Alice Springs**	**136.35**	**250**	PKP		**PKPdf**	**15 19 45.3**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=95,slow=1.9,SNR=2.2							
CMAR	**Chiang Mai Arr**	**146.13**	**342**	PKPbc		**PKPdf**	**15 19 59.9**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=333,slow=3.2,SNR=16							

KRSC 30 15:08:02.3±1.9, 53°.43N×167°.15E, h40km±41km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.91**	**339**	*eS*			Sn	15 08 56.8	+1.7
KBTR	**Krutoberegovo**	**3.75**	**320**	*eP*			Pn	15 08 59.2	+1.7
SPN	**Mys Shipunski**	**4.29**	**268**	*eP*			Pn	15 09 09.0	+4.0
SPN				*eS*			Sn	15 09 58.0	+4.2
TUMD	**Tumrok D**	**4.34**	**297**	*eP*			Pn	15 09 10.7	+5.0
TUMD				*eS*			Sn	15 10 00.7	+5.8
KZV	**Kizimen**	**4.36**	**296**	*eP*			Pn	15 09 10.0	+3.9
KZV				*eS*			Sn	15 10 01.6	+5.9
TUMR	**Tumrok**	**4.50**	**297**	*eP*			Pn	15 09 12.3	+4.3
BZGR	**Bezymyannyi-Gr**	**4.51**	**306**	*eP*			Pn	15 09 12.4	+4.2
SMKR	**Semkarok**	**4.55**	**316**	*eP*			Pn	15 09 12.7	+4.1
LGNR	**Loginova**	**4.59**	**308**	*eP*			Pn	15 09 14.6	+5.2
KII	**Karymskiy**	**4.62**	**281**	*eP*			Pn	15 09 13.9	+4.4
BZWR	**Bezymyannyi-We**	**4.62**	**306**	*eP*			Pn	15 09 14.1	+4.4
BDR	**Baidarnaya**	**4.65**	**315**	*eP*			Pn	15 09 14.9	+4.9
KMNR	**Kamenistaya**	**4.65**	**303**	*eP*			Pn	15 09 14.6	+4.6
NLC	**Nalytchevo**	**4.69**	**270**	*eP*			Pn	15 09 14.8	+4.3
KIRR	**Kirishev**	**4.69**	**305**	*eP*			Pn	15 09 16.0	+5.4
SRKR	**Sorokina**	**4.72**	**316**	*eP*			Pn	15 09 15.0	+4.0
KLY	**Klyuchi**	**4.74**	**310**	*eP*			Pn	15 09 13.7	+2.6
KLY				*eS*			Sn	15 10 08.2	+3.5
SDLR	**Sedlovina**	**4.96**	**272**	*eP*			Pn	15 09 18.7	+4.5
SDLR				*eS*			Sn	15 10 16.0	+5.7
UGLR	**Uglovaya**	**5.00**	**271**	*eP*			Pn	15 09 19.6	+4.8
KRER	**Koryakskii**	**5.04**	**272**	*eP*			Pn	15 09 20.2	+4.8
AVH	**Avacha**	**5.05**	**272**	*eP*			Pn	15 09 20.3	+4.9
DALK	**Dalny**	**5.06**	**269**	*eP*			Pn	15 09 20.3	+4.7
DALK				*eS*			Sn	15 10 17.1	+4.4
KRX	**Arik**	**5.09**	**273**	*eP*			Pn	15 09 20.6	+4.5
KRX				*eS*			Sn	15 10 18.4	+4.7
KOK	**Koryaka**	**5.10**	**272**	*eP*			Pn	15 09 20.9	+4.7
PET	**Petropavlovsk**	**5.12**	**269**	*eP*			Pn	15 09 22.1	+5.7
SRDR	**Sredinnyy**	**5.18**	**307**	*eP*			Pn	15 09 22.2	+5.0
RUS	**Russkaya**	**5.32**	**263**	*eP*			Pn	15 09 23.5	+4.4
KRMR	**Karymshinskiy**	**5.47**	**267**	*eP*			Pn	15 09 26.0	+4.9
GNL	**Ganaly**	**5.50**	**276**	*eP*			Pn	15 09 26.9	+5.2
MTVR	**Mutnovka**	**5.50**	**264**	*eP*			Pn	15 09 26.1	+4.3
MTVR				*eS*			Sn	15 10 28.0	+4.1
GRL	**Gorelyy**	**5.55**	**265**	*eP*			Pn	15 09 27.6	+5.1
KDTR	**Khodutka, Kamc**	**5.76**	**257**	*eP*			Pn	15 09 28.9	+3.7
KDTR				*eS*			Sn	15 10 31.1	+1.2
APC	**Apacha**	**6.03**	**269**	*eP*			Pn	15 09 34.8	+5.9

IDC 30 15:28:16.6±1.4, 3°.35S×128°.88E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/53, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=46.1km s-min=25.6km az=78.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.43**	**44**	Pn		Pn		15 29 11.5	+0.1
	5.7nm,0.3s,baz=237,slow=23,SNR=19								
SIJI				Sn		Sn		15 29 48.8	-4.0
	0.2nm,0.3s,baz=163,slow=19,SNR=1.0								
WRA	**Warramunga Arr**	**17.33**	**163**	P		Pn		15 32 18.4	-1.8
	0.0nm,0.3s,baz=346,slow=13,SNR=3.1								
ASAR	**Alice Springs**	**20.77**	**167**	P		P		15 33 00.2	+0.8
	1.0nm,0.5s,baz=346,slow=11,SNR=21								
MKAR	**Makanchi Array**	**64.59**	**326**	P		P		15 38 56.2	+0.3
	0.1nm,0.3s,baz=122,slow=7.2,SNR=2.6								
KURBB	**Kurchatov Arra**	**68.84**	**328**	P		P		15 39 22.5	-0.4
	0.2nm,0.4s,baz=134,slow=6.6,SNR=3.0								

*IDC **30** 15:29:15.1±5.3, 3°.28S×129°.39E, h75km±65km, mb3.3/3, mb1 3.5/6, mb1mx3.2/55, mbtmp3.6/6, ML3.3/3, Error ellipse: s-maj=90.9km s-min=21.2km az=87.0*

ISC 30 15:29:11.6±1.1, 3°.4S±0°.1×129°.0E±0°.2, h35km, n6, σ0s82/7, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.37**	**43**	P		**Pn**		**15 30 00.9**	**-0.8**
	8.4nm,0.3s,baz=220,slow=23,SNR=9.7								
SIJI				S		**Sn**		**15 30 41.4**	**+0.9**
	5.4nm,0.3s,baz=139,slow=23,SNR=1.9								
FITZ	**Fitzroy Crossi**	**15.01**	**192**	P		**P**		**15 32 46.2**	**0.0**
	0.1nm,0.3s,baz=30,slow=16,SNR=1.8								
WRA	**Warramunga Arr**	**17.30**	**163**	P		**Pn**		**15 33 09.9**	**-0.6**
	0.1nm,0.3s,baz=346,slow=13,SNR=3.6								
ASAR	**Alice Springs**	**20.75**	**167**	P		**P**		**15 33 50.4**	**+0.9**
	1.4nm,0.5s,baz=347,slow=11,SNR=9.2								
MKAR	**Makanchi Array**	**64.64**	**326**	P		**P**		**15 39 46.1**	**+0.3**
	0.3nm,0.7s,baz=120,slow=7.2,SNR=3.7								
KURBB	**Kurchatov Arra**	**68.89**	**328**	P		**P**		**15 40 12.7**	**-0.1**
	0.6nm,0.7s,baz=129,slow=5.6,SNR=6.7								

*NEIC **30** 15:31:28.2±2.1, 21°.3S±0°.1×178°.45W±0°.08, h460km±8km, mb4.3/26, Error ellipse: s-maj=15.5km s-min=10.2km az=204.0*

*IDC **30** 15:31:29.4±2.1, 21°.49S×178°.45W, h481km±21km, mb3.1/10, mb1 3.4/12, mb1mx3.2/44, mbtmp4.0/12, Error ellipse: s-maj=31.7km s-min=16.4km az=149.0*

ISC 30 15:31:29.8±0.6, 21°.27S±0°.09×178°.41W±0°.09, h500km, n52, σ1s93/52, mb4.1/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**316**	P		**P**		**15 32 55.5**	**0.0**
	2.0nm,0.3s,baz=298,slow=23,SNR=7.3								
MSVF	**Nonsavu**	**4.85**	**316**	P		**P**		**15 32 53.8**	**-1.8**
AFI	**Afiamalu**	**9.67**	**42**	P		**P**		**15 33 42.4**	**-1.5**
	3.2nm,0.3s,baz=90,slow=20,SNR=1.6								
AFI				S		**S**		**15 35 27.4**	**-6.7**
	2.1nm,0.3s,baz=269,slow=21,SNR=1.2								
AFI	**Afiamalu**	**9.67**	**42**	P		**P**		**15 33 42.6**	**-1.3**
LIFNC	**LIFOU**	**13.41**	**270**	P		**P**		**15 34 19.7**	**-3.6**
OUENC	**Ouen Island, N**	**13.74**	**263**	P		**P**		**15 34 23.4**	**-3.5**
URZ	**Urewera**	**17.37**	**192**	P		**P**		**15 35 01.9**	**-2.2**
	0.4nm,0.3s,baz=121,slow=23,SNR=2.3								
URZ				S		**S**		**15 37 54.2**	**-5.2**
	0.3nm,0.3s,baz=302,slow=23,SNR=1.9								
URZ	**Urewera**	**17.37**	**192**	IAmb		IAmb		15 35 02.0	
	comp=Z,39nm,1.3s								
BKZ	**Black Stump Fm**	**18.37**	**193**	P		**P**		**15 35 11.8**	**-1.6**
BKZ				IAmb		IAmb		15 35 29.2	
	comp=Z,28nm,1.3s								
QRZ	**Quarry Range**	**20.96**	**200**	P		**P**		**15 35 38.4**	**+1.4**
TUWZ	**Tuamarina**	**21.11**	**196**	P		**P**		**15 35 36.9**	**-1.4**
THZ	**Tophouse**	**21.71**	**198**	P		**P**		**15 35 43.8**	**0.0**
EIDS	**Eidsvold**	**28.28**	**256**	P		**P**		**15 36 43.0**	**+0.8**
EIDS				IAmb		IAmb		15 36 45.7	
	comp=Z,25nm,1.5s								
ARMA	**Armidale**	**28.39**	**245**	P		**P**		**15 36 44.0**	**+0.7**
ARMA				IAmb		IAmb		15 36 56.7	
	comp=Z,11nm,1.4s								
CTA	**Charters Tower**	**33.04**	**266**	P		**P**		**15 37 24.1**	**+0.8**
	comp=Z,3.9nm,0.4s,baz=92,slow=9.6,SNR=12								
CTAO	**Charters Tower**	**33.04**	**266**	P		**P**		**15 37 24.0**	**+0.6**
CTAO				IAmb		IAmb		15 37 24.3	
	comp=Z,27nm,1.4s								
TOO	**Toolangi**	**35.13**	**234**	P		**P**		**15 37 41.5**	**+0.7**
TOO				IAmb		IAmb		15 38 01.7	
	comp=Z,16nm,1.4s								
STKA	**Stephens Creek**	**37.11**	**245**	P		**P**		**15 37 57.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=48,slow=17,SNR=2.0								
WR0	**Warramunga Arr**	**43.93**	**263**	P		**P**		**15 38 51.5**	**-0.5**
WR0				IAmb		IAmb		15 38 55.5	
	comp=Z,10nm,1.4s								
AS31	**Alice Springs**	**43.97**	**258**	P		**P**		**15 38 52.3**	**0.0**
ASAR	**Alice Springs**	**43.97**	**258**	P		**P**		**15 38 52.4**	**0.0**
	comp=Z,1.6nm,0.4s,baz=91,slow=8.4,SNR=74								
ASAR				PcP		**pwP**		**15 40 28.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=101,slow=3.9,SNR=6.8								
ASAR	**Alice Springs**	**43.97**	**258**	P		**P**		**15 38 52.0**	**-0.3**
WB0	**Warramunga Arr**	**44.10**	**263**	P		**P**		**15 38 53.0**	**-0.3**
WB2	**Warramunga Arr**	**44.10**	**263**	P		**P**		**15 38 52.9**	**-0.5**
WB2				IAmb		IAmb		15 39 09.1	
	comp=Z,8.3nm,1.4s								
WRA	**Warramunga Arr**	**44.12**	**263**	P		**P**		**15 38 53.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=95,slow=8.0,SNR=71								
WRA	**Warramunga Arr**	**44.12**	**263**	P		**P**		**15 38 52.4**	**-1.1**
FORT	**Forrest**	**48.64**	**247**	P		**P**		**15 39 27.6**	**-0.1**
FORT				IAmb		IAmb		15 39 28.5	
	comp=Z,9.1nm,0.8s								
MTN	**Manton Dam**	**48.79**	**271**	P		**P**		**15 39 28.3**	**-0.7**
MTN				IAmb		IAmb		15 39 51.8	
	comp=Z,16nm,1.3s								
MIDW	**Midway**	**49.20**	**1**	P		**P**		**15 39 31.2**	**-0.5**
KNRA	**Kununurra**	**50.23**	**267**	P		**P**		**15 39 39.7**	**+0.1**
KNRA				IAmb		IAmb		15

	comp=Z,9.3nm,1.0s						
CASY	**Casey**	**63.15**	**206**	P	**P**	**15 46 01.2**	**+0.8**
CASY				IAmb	IAmb	15 46 02.0	
	comp=Z,2.9nm,0.9s						
QSPA	**South Pole Qui**	**67.33**	**180**	P	**P**	**15 46 28.4**	**+0.7**
QSPA				IAmb	IAmb	15 46 30.4	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**73.68**	**322**	P	**P**	**15 47 06.3**	**-0.3**
GSTR	**Great Sitkin T**	**74.52**	**359**	P	**P**	**15 47 10.8**	**-0.3**
JKA	**Kamikawa-asahi**	**77.04**	**330**	P	**P**	**15 47 27.1**	**+1.4**
ASAJ	**Asahikawa**	**77.04**	**330**	P	**P**	**15 47 27.1**	**+1.4**
	comp=Z,8.0nm,1.1s,baz=225,slow=2.6,SNR=5.0						
TPUB	**Ta-pu**	**77.53**	**302**	P	**P**	**15 47 27.0**	**-1.9**
PAGB	**Antelope Grade**	**77.88**	**43**	P	**P**	**15 47 28.6**	**-2.1**
PAGB				IAmb	IAmb	15 47 46.7	
	comp=Z,13nm,1.3s						
PEA0B	**Petropavlovsk-**	**79.17**	**344**	P	**P**	**15 47 37.6**	**+0.3**
PEA0B				IAmb	IAmb	15 47 40.2	
	comp=Z,18nm,1.3s						
PETK	**Petropavlovsk-**	**79.17**	**344**	P	**P**	**15 47 37.2**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=120,slow=8.8,SNR=6.9						
PETK	**Petropavlovsk-**	**79.17**	**344**	P	**P**	**15 47 36.8**	**-0.5**
WAKR	**Walker**	**80.14**	**41**	P	**P**	**15 47 43.6**	**+0.4**
MAW	**Mawson**	**80.39**	**199**	P	**P**	**15 47 44.5**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=134,slow=6.7,SNR=4.7						
KSRS	**Korea Array**	**80.42**	**317**	P	**P**	**15 47 45.5**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=140,slow=5.3,SNR=4.4						
NVAR	**Mina Array Bea**	**80.78**	**42**	P	**P**	**15 47 47.6**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=228,slow=8.3,SNR=10.0						
NVAR	**Mina Array Bea**	**80.78**	**42**	P	**P**	**15 47 47.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**82.39**	**325**	P	**P**	**15 47 54.8**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=138,slow=2.5,SNR=11						
USRK	**Ussuriysk Ar.**	**82.39**	**325**	P	**P**	**15 47 55.1**	**+0.4**
CCUT	**Cedar City**	**83.38**	**45**	P	**P**	**15 47 59.9**	**-0.4**
CCUT				IAmb	IAmb	15 48 12.3	
	comp=Z,4.9nm,1.3s						
U15A	**North Rim**	**83.45**	**46**	P	**P**	**15 48 00.7**	**-0.1**
MTPU	**Mount Pierson**	**84.43**	**45**	P	**P**	**15 48 05.5**	**-0.3**
MTPU				IAmb	IAmb	15 48 08.5	
	comp=Z,4.5nm,1.0s						
G08A	**Pilot Rock**	**84.74**	**36**	P	**P**	**15 48 07.0**	**+0.1**
G08A				IAmb	IAmb	15 48 09.0	
	comp=Z,4.3nm,1.0s						
SNAA	**Sanae**	**85.68**	**178**	P	**P**	**15 48 11.6**	**+0.3**
VNA3	**Neumayer Olymp**	**85.70**	**175**	P	**P**	**15 48 13.0**	**+1.6**
TX31	**Lajitas Ar. Si**	**85.95**	**56**	P	**P**	**15 48 12.8**	**-0.5**
TX31				IAmb	IAmb	15 48 16.8	
	comp=Z,7.3nm,1.1s						
TX32	**Lajitas Array**	**85.95**	**56**	P	**P**	**15 48 12.9**	**-0.4**
TXAR	**Lajitas Array**	**85.95**	**56**	P	**P**	**15 48 12.6**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=205,slow=5.5,SNR=9.7						
VNA2	**Neumayer--Watz**	**86.18**	**176**	P	**P**	**15 48 13.3**	**-0.4**
VNA1	**Neumayer--Stat**	**86.39**	**176**	P	**P**	**15 48 13.2**	**-1.5**
GSI	**Gunungsitoli**	**88.12**	**272**	P	**P**	**15 48 23.1**	**-1.0**
PDAR	**Pinedale Array**	**88.77**	**42**	P	**P**	**15 48 26.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=224,slow=4.1,SNR=3.6						
ILAR	**Eielson Array**	**89.91**	**12**	P	**P**	**15 48 30.1**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=226,slow=5.6,SNR=4.4						
EPYK	**Eagle Plains**	**93.42**	**14**	P	**P**	**15 48 49.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**93.48**	**288**	P	**P**	**15 48 50.6**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=130,slow=3.3,SNR=13						
CMAR	**Chiang Mai Arr**	**93.48**	**288**	P	**P**	**15 48 49.4**	**+0.5**
MKAR	**Makanchi Array**	**114.77**	**312**	PKP	PKPdf	15 54 12.0	-1.1
	comp=Z,0.2nm,0.5s,baz=58,slow=3.6,SNR=2.6						
MKAR	**Makanchi Array**	**114.77**	**312**		PKPdf	15 54 11.1	-2.1
AKASG	**Malin Array Be**	**146.31**	**332**	PKPbc	**PKPdf**	**15 55 11.7**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=42,slow=4.1,SNR=7.6						
AKASG	**Malin Array Be**	**146.31**	**332**	PKPdf	**PKPdf**	**15 55 11.9**	**-0.1**
BRTR	**Keskin Array B**	**150.41**	**312**	PKPbc	**PKPbc**	**15 55 24.0**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=149,slow=2.6,SNR=4.4						
CLL	**Collm**	**150.82**	**350**	*e*PKPbc	**PKPbc**	**15 55 24.0**	**-0.9**
MMAI	**Mount Meron Ar**	**151.34**	**298**	PKPbc	**PKiKP**	**15 55 27.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=76,slow=7.6,SNR=1.9						
GERES	**GERESS Array B**	**153.06**	**347**	PKPbc	**PKiKP**	**15 55 32.2**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=224,slow=39,SNR=2.0						
KEST	**Kesra**	**166.52**	**345**	PKPab	**PKPab**	**15 56 39.2**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=253,slow=11,SNR=1.9						
TORD	**Torodi Ar. Bea**	**169.95**	**161**	PKPab	**PKPab**	**15 56 57.0**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=207,slow=8.1,SNR=1.9						

*IDC **30** 15:36:31.3±4.1,41°.96N×143°.32E,h63km±33km, mb3.3/2, mb1 3.5/5, mb1mx3.1/61, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=73.2km s-min=16.2km az=96.0*
*JMA **30** 15:36:31.5±0.1,42°.00N×142°.75E,h50km±2km, M3.3*
JMA Felt I J1

ISC 30 15:36:31.4±1.0,**41°.97N**±0°.05×**142°.74E**±0°.04,**h47**km±9km, **n27,σ0s.97/25,7D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.32**	**2**	P	**Pn**	**15 36 40.2**	**-0.2**
JNBK				*e*S	**Sn**	**15 36 46.9**	**+0.2**
JEM	**Erimo**	**0.32**	**81**	⇓P	**Pn**	**15 36 40.6**	**+0.3**
JEM				*e*S	**Sn**	**15 36 47.3**	**+0.6**
JSHD	**Hidakashinhida**	**0.49**	**336**	⇓P	**Pn**	**15 36 42.3**	**0.0**
JTHR	**Tokachihiroo**	**0.53**	**52**	⇓P	**Pn**	**15 36 42.7**	**-0.1**
JTHR				*e*S	**Sn**	**15 36 51.1**	**+0.2**
JCH	**Churui**	**0.80**	**35**	⇓P	**Pn**	**15 36 46.0**	**-0.3**
JCH				*e*S	**Sn**	**15 36 57.4**	**+0.3**
JBT2	**Biratori 2**	**0.86**	**341**	⇓P	**Pn**	**15 36 46.9**	**-0.2**
JIAM	**Iburiatsuma**	**0.90**	**318**	P	**Pn**	**15 36 48.6**	**+1.0**
JFR	**Furan**	**1.20**	**355**	P	**Pn**	**15 36 51.6**	**-0.2**
JOB	**Onbets**	**1.24**	**40**	⇓P	**Pn**	**15 36 53.1**	**+0.8**
JKB	**Kayabe**	**1.28**	**267**	⇓P	**Pn**	**15 36 52.7**	**0.0**
JKB				*e*S	**Sn**	**15 37 08.6**	**-0.1**
JEW	**Eniwo**	**1.29**	**313**	P	**Pn**	**15 36 53.9**	**+0.9**
JNB	**Noboribetsu**	**1.36**	**292**	P	**Pn**	**15 36 53.8**	**-0.1**
JNB				*e*S	**Sn**	**15 37 10.6**	**-0.2**
JOT	**Ohata**	**1.39**	**246**	P	**Pn**	**15 36 54.6**	**+0.2**
JOT				*e*S	**Sn**	**15 37 11.9**	**+0.3**
ASAJ	**Asahikawa**	**2.15**	**357**	P	**Pn**	**15 37 06.5**	**+1.7**
	9.3nm,0.3s,baz=191,slow=17,SNR=88						
ASAJ				S	**Sn**	**15 37 32.9**	**+2.6**
	9.7nm,0.3s,baz=7.3,slow=16,SNR=13						
MJAR	**Matsushiro Arr**	**6.46**	**214**	P	**Pn**	**15 38 05.9**	**+2.0**
	0.1nm,0.3s,baz=31,slow=15,SNR=5.3						
KSRS	**Korea Array**	**12.26**	**253**	P	Pn	15 39 28.9	+5.6
	0.2nm,0.3s,baz=65,slow=4,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**30.17**	**130**	T	T	16 14 10.8	
	baz=324,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**30.18**	**130**	T	T	16 14 11.8	
	baz=324,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**30.18**	**130**	T	T	16 14 11.2	
	baz=324,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**31.03**	**132**	T	T	16 15 17.3	
	baz=325,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**31.03**	**132**	T	T	16 15 13.4	
	baz=325,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**31.05**	**132**	T	T	16 15 15.3	
	baz=325,slow=76,SNR=19						
WRA	**Warramunga Arr**	**62.08**	**189**	P	**P**	**15 46 46.6**	**-0.6**
	0.2nm,0.6s,baz=15,slow=6.4,SNR=1.3						
FINES	**FINESS Array B**	**64.95**	**332**	P	**P**	**15 47 04.5**	**-1.3**
	1.6nm,1.0s,baz=60,slow=8.2,SNR=2.3						
H03N2	**Juan Fernandez**	**146.22**	**89**	T	T	18 39 25.9	
	baz=300,slow=76,SNR=7.8						
H03N3	**Juan Fernandez**	**146.24**	**89**	T	T	18 39 21.8	
	baz=300,slow=76,SNR=5.4						
H03N1	**Juan Fernandez**	**146.24**	**89**	T	T	18 39 21.9	
	baz=300,slow=76,SNR=6.9						

*IDC **30** 15:40:28.4±3.0,43°.86N×84°.48E,h0km,mb1 3.4/5, mb1mx3.2/74, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=39.5km s-min=24.5km az=47.0*
*NNC **30** 15:40:29.0±3.8,43°.57N×83°.73E,h0km,mb3.8,mpv3.9, Error ellipse: s-maj=31.4km s-min=15.6km az=140.0*

ISC 30 15:40:28.6±1.8,**43°.89N**±0°.09×**84°.6E**±0°.1,**h10**km,**n12, σ2s25/16,1C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**3.33**	**332**	Pn	**Pn**	**15 41 23.4**	**+2.6**
	2.9nm,0.3s,baz=151,slow=14,SNR=148						
MKAR				Pg	**Pg**	**15 41 31.8**	**-0.6**
	7.9nm,0.3s,baz=155,slow=18,SNR=34						
MKAR				Sn	**Sn**	**15 41 59.4**	**-1.0**
	6.5nm,0.3s,baz=141,slow=15,SNR=6.9						
MKAR				Lg	Lg	15 42 14.5	
	24nm,0.3s,baz=151,slow=29,SNR=12						
MAKZ	**Makanchi**	**3.45**	**329**	⇓Pn	**Pn**	**15 41 24.7**	**+2.2**
	0.9nm,0.2s						
MAKZ				⇑Pg	**Pg**	**15 41 33.9**	**-0.9**
	7.4nm,0.3s						
MAKZ				⇓Lg	Lg	15 42 20.5	
	34nm,0.6s						
KAPS	**Kapalarasan**	**4.00**	**292**	Pg	**Pn**	**15 41 32.8**	**+2.9**
	0.5nm,0.2s						
KAPS				Lg	Lg	15 42 21.8	
	3.9nm,0.3s						
TDK	**Taldyqorghan**	**4.57**	**286**	Pg	**Pn**	**15 41 40.8**	**+3.0**
	73nm,0.4s						
TDK				Lg	Lg	15 42 35.4	
	76nm,0.8s						
SATY	**Saty**	**4.58**	**262**	Pg	Pn	15 41 41.6	+3.5
	7.3nm,0.1s						
SATY				Lg	Lg	15 42 36.9	
	24nm,0.2s						
KURS	**Kuram**	**4.68**	**267**	Pg	**Pn**	**15 41 42.4**	**+3.1**
	4.5nm,0.4s						
KURS				Lg	Lg	15 42 38.2	
	11nm,0.8s						
AAK	**Ala-Archa**	**7.48**	**264**	Pg	**Pg**	**15 42 49.1**	**-2.7**
	0.6nm,0.3s,baz=144,slow=14,SNR=1.9						
AAK				Lg	Lg	15 44 20.5	
	0.4nm,0.3s,baz=293,slow=20,SNR=1.8						
KURBB	**Kurchatov Arra**	**7.90**	**331**	Pn	**Pn**	**15 42 24.6**	**+1.2**
	0.3nm,0.3s,baz=152,slow=12,SNR=31						
KURBB				Sn	**Sn**	**15 43 53.3**	**+0.6**
	0.1nm,0.3s,baz=170,slow=16,SNR=1.9						
KURBB				Lg	Lg	15 44 38.6	
	0.2nm,0.3s,baz=348,slow=32,SNR=1.9						
KURBB	**Kurchatov Arra**	**7.90**	**331**	⇓Pn	**Pn**	**15 42 24.1**	**+0.7**
	1.5nm,0.3s,baz=138,slow=12						
KURBB				⇓Lg	Lg	15 44 41.5	
	41nm,0.7s,baz=144,slow=28						
ZALV	**Zalesovo Beam**	**10.07**	**1**	Pn	**Pn**	**15 42 53.6**	**+0.5**
	0.6nm,0.3s,baz=180,slow=14,SNR=5.6						
ZALV				Sn	**Sn**	**15 44 42.3**	**-3.7**
	0.7nm,0.3s,baz=169,slow=24,SNR=5.3						
ZALV				Lg	Lg	15 45 51.3	
	0.1nm,0.3s,baz=176,slow=26,SNR=2.2						
BVAR	**Borovoye Array**	**13.11**	**319**	Pn	**Pn**	**15 43 35.7**	**+1.0**
	0.1nm,0.3s,baz=134,slow=12,SNR=3.6						
BVAR				Lg	Lg	15 47 24.9	
	0.1nm,0.3s,baz=127,slow=33,SNR=1.3						
SONM	**Songino Array**	**15.68**	**68**	Pn	**P**	**15 44 13.9**	**+0.2**
	0.3nm,0.3s,baz=276,slow=14,SNR=1.7						

*ANF **30** 15:42:54.6±0.2,42°.18N×85°.04W,h5km,ML4.2/23, Error ellipse: s-maj=2.1km s-min=1.8km az=28.0*
*NEIC **30** 15:42:54.7±0.7,42°.15N±0°.03×85°.05W±0°.04,h5km±2km, mb_Lg3.3/190, Error ellipse: s-maj=4.8km s-min=4.2km az=44.0*

ISC 30 15:42:54.7±1.4,**42°.16N**±0°.03×**85°.03W**±0°.03,**h6**km±11km, **n175,σ0s65/128,Michigan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
L48A	**N Adams**	**0.50**	**116**		**Pb**	**15 43 05.5**	**-0.3**
L48A				Sg	**Sg**	**15 43 12.2**	**+1.4**
L48A	**N Adams**	**0.50**	**116**	P	**Pb**	**15 43 05.5**	**-0.3**
	baz=294,SNR=745						
L48A				S	**Sb**	**15 43 12.4**	**-0.9**
	baz=294						
L48A				S	**Sb**	**15 43 12.4**	**-0.9**
	baz=294						
L48A	**N Adams**	**0.50**	**116**	P		15 43 05.5	
	baz=294,SNR=745						
L48A				P		15 43 05.5	
	baz=294,SNR=745						
L48A				S		15 43 12.4	
	baz=294						
L48A				S		15 43 12.4	
	baz=294						
L46A	**Eue Claire**	**0.95**	**261**		**Pn**	**15 43 14.4**	**-0.1**
L46A	**Eue Claire**	**0.95**	**261**	P	**Pn**	**15 43 14.5**	**-0.1**
	baz=81,SNR=102						
L46A	**Eue Claire**	**0.95**	**261**	P		15 43 14.5	
	baz=81,SNR=102						
L46A				P		15 43 14.5	
	baz=81,SNR=102						
AAM	**Ann Arbor**	**1.03**	**82**		**Pg**	**15 43 14.2**	**-0.2**
AAM				Sg	**Sg**	**15 43 27.7**	**-0.1**
AAM	**Ann Arbor**	**1.03**	**82**	P	**Pg**	**15 43 14.4**	**-0.1**
	baz=262,SNR=29						
AAM				S	**Sg**	**15 43 27.8**	**-0.1**
	baz=262						
AAM	**Ann Arbor**	**1.03**	**82**	P		15 43 14.4	
	baz=262,SNR=29						
AAM				S		15 43 27.8	
	baz=262						
J47A	**Sunmer**	**1.08**	**8**		**Pb**	**15 43 16.0**	**+0.1**
J47A				Sg	**Sb**	**15 43 30.3**	**+0.1**
J47A	**Sunmer**	**1.08**	**8**	P	**Pb**	**15 43 15.8**	**-0.1**
	baz=189,SNR=162						
J47A				S	**Sb**	**15 43 31.0**	**+0.7**
	baz=189						
J47A				S	**Sb**	**15 43 31.0**	**+0.7**
	baz=189						
J47A	**Sunmer**	**1.08**	**8**	P		15 43 15.8	
	baz=189,SNR=162						
J47A				P		15 43 15.8	
	baz=189,SNR=162						
J47A				S		15 43 31.0	
	baz=189						
J47A				S		15 43 31.0	
	baz=189						
N47A	**Urbana**	**1.38**	**201**		**Pn**	**15 43 20.5**	**+0.1**
N47A	**Urbana**	**1.38**	**201**	P	**Pn**	**15 43 20.4**	**+0.1**
	baz=21,SNR=46						
N47A				S	**Sn**	**15 43 39.7**	**+0.8**
	baz=21						
N47A				S	**Sn**	**15 43 39.7**	**+0.8**
	baz=21						
N47A	**Urbana**	**1.38**	**201**	P		15 43 20.4	
	baz=21,SNR=46						
N47A				P		15 43 20.4	
	baz=21,SNR=46						
N47A				S		15 43 39.7	
	baz=21						
N47A				S		15 43 39.7	
	baz=21						
N49A	**Columbus Grove**	**1.39**	**153**		**Pn**	**15 43 20.6**	**-0.1**
N49A	**Columbus Grove**	**1.39**	**153**	P	**Pn**	**15 43 20.5**	**-0.1**
	baz=332,SNR=113						
N49A	**Columbus Grove**	**1.39**	**153**	P		15 43 20.5	
	baz=332,SNR=113						
N49A				P		15 43 20.5	
	baz=332,SNR=113						
M50A	**Fremont**	**1.67**	**116**		**Pn**	**15 43 24.6**	**+0.2**
M50A	**Fremont**	**1.67**	**116**	P	**Pn**	**15 43 24.7**	**+0.3**
	baz=297,SNR=22						
M50A				S	**Sb**	**15 43 46.9**	**-0.1**
	baz=297						
M50A				S	**Sb**	**15 43 46.9**	**-0.1**
	baz=297						
M50A	**Fremont**	**1.67**	**116**	P		15 43 24.7	
	baz=297,SNR=22						
M50A				P		15 43 24.7	
	baz=297,SNR=22						
M50A				S		15 43 46.9	
	baz=297						
M50A				S		15 43 46.9	
	baz=297						
K50A	**Casco**	**1.88**	**70**		**Pn**	**15 43 27.4**	**+0.1**
K50A	**Casco**	**1.88**	**70**	P	**Pn**	**15 43 27.5**	**+0.2**
	baz=252,SNR=20						
K50A				S	**Sn**	**15 43 51.9**	**+0.5**
	baz=252						
K50A				S	**Sn**	**15 43 51.9**	**+0.5**
	baz=252						
K50A	**Casco**	**1.88**	**70**	P		15 43 27.5	
	baz=252,SNR=20						
K50A				P		15 43 27.5	
	baz=252,SNR=20						
K50A				S		15 43 51.9	
	baz=252						
K50A				S		15 43 51.9	
	baz=252						
O49A	**Covington**	**2.04**	**165**		**Pn**	**15 43 29.6**	**+0.1**
O49A				IAmb_Lg		15 44 04.3	
	comp=Z,159nm,0.8s						
O49A	**Covington**	**2.04**	**165**	P	**Pn**	**15 43 29.8**	**+0.3**
	baz=345,SNR=45						
O49A	**Covington**	**2.04**	**165**	P		15 43 29.8	
	baz=345,SNR=45						
O49A				P		15 43 29.8	
	baz=345,SNR=45						

I45A	**Fountain**	**2.07**	**335**		**Pn**	**15 43 30.0**	**+0.1**
I45A	**Fountain**	**2.07**	**335**	P	**Pn**	**15 43 29.9**	**0.0**
	baz=155,SNR=26						
I45A	**Fountain**	**2.07**	**335**	P		15 43 29.9	
	baz=155,SNR=26						
I45A				P		15 43 29.9	
	baz=155,SNR=26						
HQIL	**Hanson Quary C**	**2.13**	**261**	Pn	**Pn**	**15 43 30.7**	**-0.1**
L44A	**Lake County Fo**	**2.14**	**271**		**Pn**	**15 43 30.9**	**-0.1**
L44A	**Lake County Fo**	**2.14**	**271**	P	**Pn**	**15 43 30.8**	**-0.1**
	baz=90						
L44A				S	**Sn**	**15 43 58.3**	**+0.6**
	baz=90						
L44A	**Lake County Fo**	**2.14**	**271**	P		15 43 30.8	
	baz=90						
L44A				S		15 43 58.3	
	baz=90						
N51A	**Ashland**	**2.35**	**121**		**Pn**	**15 43 34.3**	**+0.5**
N51A				IAmb_Lg		15 44 11.1	
	comp=Z,211nm,0.8s						
N51A	**Ashland**	**2.35**	**121**	P	**Pn**	**15 43 35.6**	**+1.8**
	baz=302,SNR=27						
N51A	**Ashland**	**2.35**	**121**	P		15 43 35.6	
	baz=302,SNR=27						
N51A				P		15 43 35.6	
	baz=302,SNR=27						
SFIN	**Lafayette**	**2.37**	**222**		**Pn**	**15 43 34.4**	**+0.4**
SFIN	**Lafayette**	**2.37**	**222**	P	**Pn**	**15 43 34.5**	**+0.5**
	baz=40,SNR=57						
SFIN	**Lafayette**	**2.37**	**222**	P		15 43 34.5	
	baz=40,SNR=57						
M44A	**Midewin, Midew**	**2.38**	**252**	IAmb_Lg		15 44 13.8	
	comp=Z,217nm,0.9s						
I49A	**Point Hope**	**2.40**	**42**	Pn	**Pn**	**15 43 34.8**	**+0.2**
I49A				IAmb_Lg		15 44 17.6	
	comp=Z,116nm,0.8s						
I49A	**Point Hope**	**2.40**	**42**	P	**Pn**	**15 43 34.7**	**+0.2**
	baz=223,SNR=41						
I49A	**Point Hope**	**2.40**	**42**	P		15 43 34.7	
	baz=223,SNR=41						
I49A				P		15 43 34.7	
	baz=223,SNR=41						
ACSO	**Alum Creek Sta**	**2.47**	**141**		**Pn**	**15 43 35.7**	**+0.2**
K43A	**Burlington**	**2.50**	**284**		**Pn**	**15 43 35.6**	**-0.3**
P49A	**Miami Univ. Ec**	**2.64**	**175**		**Pn**	**15 43 37.4**	**-0.4**
P49A	**Miami Univ. Ec**	**2.64**	**175**	P	**Pn**	**15 43 37.5**	**-0.2**
	baz=355,SNR=13						
P49A	**Miami Univ. Ec**	**2.64**	**175**	P		15 43 37.5	
	baz=355,SNR=13						
GLMI	**Grayling**	**2.68**	**6**		**Pn**	**15 43 38.0**	**-0.3**
GLMI	**Grayling**	**2.68**	**6**	P	**Pn**	**15 43 38.1**	**-0.2**
	baz=187						
GLMI	**Grayling**	**2.68**	**6**	P		15 43 38.1	
	baz=187						
P48A	**Milroy**	**2.72**	**186**		**Pn**	**15 43 38.4**	**-0.4**
M52A	**Chesterland**	**2.81**	**102**	Pn	**Pn**	**15 43 40.1**	**-0.1**
G45A	**Suttons Bay**	**2.91**	**351**	Pn	**Pn**	**15 43 40.7**	**-0.8**
G45A	**Suttons Bay**	**2.91**	**351**	P	**Pn**	**15 43 41.0**	**-0.5**
	baz=171,SNR=11						
G45A	**Suttons Bay**	**2.91**	**351**	P		15 43 41.0	
	baz=171,SNR=11						
G45A				P		15 43 41.0	
	baz=171,SNR=11						
P46A	**Rosedale**	**3.03**	**214**		**Pn**	**15 43 41.9**	**-1.2**
P46A	**Rosedale**	**3.03**	**214**	P	**Pn**	**15 43 42.8**	**-0.3**
	baz=32,SNR=23						
P46A	**Rosedale**	**3.03**	**214**	P		15 43 42.8	
	baz=32,SNR=23						
H43A	**Windswept, Lux**	**3.05**	**320**	Pn	**Pn**	**15 43 42.5**	**-0.9**
H43A	**Windswept, Lux**	**3.05**	**320**	P	**Pn**	**15 43 43.0**	**-0.4**
	baz=139,SNR=20						
H43A	**Windswept, Lux**	**3.05**	**320**	P		15 43 43.0	
	baz=139,SNR=20						
P51A	**Williamsport**	**3.07**	**150**	Pn	**Pn**	**15 43 43.6**	**0.0**
P51A				IAmb_Lg		15 44 32.9	
	comp=Z,117nm,0.8s						
O52A	**Adamsville**	**3.16**	**129**	Pn	**Pn**	**15 43 45.0**	**+0.1**
O52A	**Adamsville**	**3.16**	**129**	P	**Pn**	**15 43 45.1**	**+0.1**
	baz=311,SNR=14						
O52A	**Adamsville**	**3.16**	**129**	P		15 43 45.1	
	baz=311,SNR=14						
O52A				P		15 43 45.1	
	baz=311,SNR=14						
BLO	**Bloomington**	**3.20**	**201**	Pn	**Pn**	**15 43 45.0**	**-0.4**
O44A	**Mansfield**	**3.28**	**233**	Pn	**Pn**	**15 43 46.6**	**0.0**
I42A	**Draeger Farm,**	**3.33**	**303**	Pn	**Pn**	**15 43 47.2**	**0.0**
I42A	**Draeger Farm,**	**3.33**	**303**	P	**Pn**	**15 43 47.5**	**+0.3**
	baz=120,SNR=22						
I42A	**Draeger Farm,**	**3.33**	**303**	P		15 43 47.5	
	baz=120,SNR=22						
M53A	**WI Miller and**	**3.34**	**101**	Pn	**Pn**	**15 43 47.1**	**-0.2**
P52A	**Corning**	**3.35**	**138**		**Pn**	**15 43 47.5**	**0.0**
P52A				IAmb_Lg		15 44 44.9	
	comp=Z,81nm,0.8s						
Q51A	**Peebles**	**3.39**	**157**	Pn	**Pn**	**15 43 48.0**	**-0.1**
Q51A				IAmb_Lg		15 44 44.0	
	comp=Z,82nm,0.7s						
N53A	**Lisbon**	**3.43**	**112**	Pn	**Pn**	**15 43 49.4**	**+0.7**
N53A				IAmb_Lg		15 44 43.1	
	comp=Z,134nm,0.9s						
L42A	**Oliver, Polo**	**3.45**	**269**	Pn	**Pn**	**15 43 49.0**	**0.0**
O53A	**New Philadelph**	**3.46**	**122**	Pn	**Pn**	**15 43 49.3**	**+0.3**
HDIL	**Hopedale**	**3.59**	**245**	Pn	**Pn**	**15 43 50.3**	**-0.4**
ALLY	**Alegheny Colle**	**3.68**	**96**	IAmb_Lg		15 44 52.1	
	comp=Z,122nm,0.9s						
ERPA	**Erie**	**3.75**	**89**	IAmb_Lg		15 45 02.5	
	comp=Z,68nm,0.7s						
P53A	**Whipple**	**3.84**	**133**	Pn	**Pn**

M55A			IAmb_Lg		15 45 23.6		
	comp=Z,66nm,0.8s						
M55A	**Ridgway**	**4.74 96**	P	**Pn**	**15 44 06.5**	**-0.1**	
	baz=280,SNR=7.7						
M55A	**Ridgway**	**4.74 96**	P		15 44 06.5		
	baz=280,SNR=7.7						
M55A			P		15 44 06.5		
	baz=280,SNR=7.7						
WVNY	**West Valley, N**	**4.78 85**	Pn	**Pn**	**15 44 06.4**	**-0.7**	
J54A	**Appleton**	**4.84 75**	Pn	**Pn**	**15 44 07.1**	**-0.9**	
J54A			IAmb_Lg		15 45 30.8		
	comp=Z,73nm,0.7s						
G40A	**Rib Lake**	**4.87 311**		**Pn**	**15 44 07.7**	**-0.7**	
G40A			IAmb_Lg		15 45 31.3		
	comp=Z,56nm,0.8s						
G40A	**Rib Lake**	**4.87 311**	P	**Pn**	**15 44 08.0**	**-0.4**	
	baz=128,SNR=9.7						
G40A	**Rib Lake**	**4.87 311**	P		15 44 08.0		
	baz=128,SNR=9.7						
COWI	**Conover**	**4.92 325**		**Pn**	**15 44 08.3**	**-0.9**	
COWI	**Conover**	**4.92 325**	P	**Pn**	**15 44 08.4**	**-0.7**	
	baz=142,SNR=25						
COWI	**Conover**	**4.92 325**	P		15 44 08.4		
	baz=142,SNR=25						
MEDO	**Medina**	**4.95 76**	Pn	**Pn**	**15 44 08.4**	**-1.2**	
MEDO			IAmb_Lg		15 45 33.5		
	comp=Z,85nm,0.7s						
SADO	**Sadowa**	**5.02 57**	Pn	**Pn**	**15 44 09.1**	**-1.3**	
SADO			IAmb_Lg		15 45 33.9		
	comp=Z,45nm,0.8s						
T50A	**Nancy**	**5.14 178**		**Pn**	**15 44 11.9**	**-0.2**	
S54A	**Dingess, Beckl**	**5.21 146**	Pn	**Pn**	**15 44 12.6**	**-0.6**	
S54A			IAmb_Lg		15 45 45.2		
	comp=Z,42nm,0.8s						
O56A	**Blue Knob Stat**	**5.23 109**	Pn	**Pn**	**15 44 13.1**	**-0.3**	
SLM	**Saint Louis**	**5.31 230**	IAmb_Lg		15 45 50.1		
	comp=Z,46nm,0.8s						
R55A	**Marlinton**	**5.40 134**		**Pn**	**15 44 15.2**	**-0.5**	
R55A			IAmb_Lg		15 45 50.1		
	comp=Z,58nm,0.9s						
R55A	**Marlinton**	**5.40 134**	P	**Pn**	**15 44 15.3**	**-0.5**	
	baz=317,SNR=8.6						
R55A	**Marlinton**	**5.40 134**	P		15 44 15.3		
	baz=317,SNR=8.6						
R55A			P		15 44 15.3		
	baz=317,SNR=8.6						
T47A	**Sharon Grove**	**5.41 198**	Pn	**Pn**	**15 44 14.9**	**-0.9**	
T47A			IAmb_Lg		15 45 54.0		
	comp=Z,78nm,0.8s						
J55A	**Hilton**	**5.43 76**	Pn	**Pn**	**15 44 14.6**	**-1.5**	
J55A			IAmb_Lg		15 45 55.1		
	comp=Z,67nm,0.7s						
Q56A	**Snyder Ridge,**	**5.43 123**	Pn	**Pn**	**15 44 16.3**	**+0.1**	
Q56A			IAmb_Lg		15 45 46.2		
	comp=Z,79nm,0.8s						
SIUC	**Southern Illin**	**5.49 217**	IAmb_Lg		15 45 53.1		
	comp=Z,67nm,0.7s						
S44A	**Carbondale**	**5.52 217**	Pn	**Pn**	**15 44 15.4**	**-1.9**	
L56A	**Greenwood**	**5.55 88**	Pn	**Pn**	**15 44 17.6**	**-0.3**	
L56A			IAmb_Lg		15 45 51.6		
	comp=Z,67nm,0.7s						
SSPA	**Standing Stone**	**5.58 103**	Pn	**Pn**	**15 44 17.6**	**-0.7**	
U49A	**Red Boiling Sp**	**5.67 186**	Pn	**Pn**	**15 44 19.2**	**-0.3**	
U49A			IAmb_Lg		15 45 55.0		
	comp=Z,43nm,0.9s						
TZTN	**Tazewell**	**5.73 168**	Pn	**Pn**	**15 44 20.0**	**-0.2**	
TZTN			IAmb_Lg		15 46 02.5		
	comp=Z,46nm,0.7s						
K38A	**Parkersburg**	**5.75 277**	Pn	**Pn**	**15 44 20.3**	**-0.2**	
DELO	**Deloro Mine**	**5.89 64**	Pn	**Pn**	**15 44 22.9**	**+0.5**	
P40A	**Paris**	**5.94 246**	Pn	**Pn**	**15 44 23.4**	**+0.3**	
P40A			IAmb_Lg		15 46 08.0		
	comp=Z,51nm,0.8s						
P57A	**Homestead Farm**	**5.96 114**	IAmb_Lg		15 46 06.1		
	comp=Z,46nm,1.2s						
M57A	**Sunshine Farm,**	**5.97 95**	Pn	**Pn**	**15 44 22.4**	**-1.1**	
BLA	**Blacksburg**	**6.09 143**	IAmb_Lg		15 46 14.4		
	comp=Z,44nm,0.7s						
J56A	**Wolcott**	**6.12 77**	IAmb_Lg		15 46 13.6		
	comp=Z,37nm,0.7s						
CLTN	**Cedars of Leba**	**6.15 190**	Pn	**Pn**	**15 44 25.9**	**-0.1**	
PECO	**Prince Edward**	**6.15 71**	Pn	**Pn**	**15 44 26.2**	**+0.3**	
PECO			IAmb_Lg		15 46 05.3		
	comp=Z,34nm,0.7s						
U54A	**Nelsons Funny**	**6.16 155**	IAmb_Lg		15 46 20.4		
	comp=Z,36nm,0.8s						
CCM	**Cathedral Cave**	**6.29 231**	IAmb_Lg		15 46 23.6		
	comp=Z,39nm,0.8s						
K57A	**Scipio Center**	**6.33 82**	IAmb_Lg		15 46 21.9		
	comp=Z,70nm,0.8s						
V51A	**Loudon**	**6.37 175**	IAmb_Lg		15 46 18.8		
	comp=Z,36nm,0.7s						
N58A	**Sunbury**	**6.38 99**	IAmb_Lg		15 46 15.2		
	comp=Z,54nm,0.8s						
I37A	**Lemond, Waseca**	**6.40 290**	IAmb_Lg		15 46 20.6		
	comp=Z,64nm,1.0s						
WVT	**Waverly**	**6.41 201**	IAmb_Lg		15 46 24.4		
	comp=Z,36nm,0.9s						
SPMN	**Marine on St.**	**6.41 301**	Pn	**Pn**	**15 44 28.6**	**-1.0**	
S57A	**Dark Hollow, R**	**6.41 131**	IAmb_Lg		15 46 23.0		
	comp=Z,41nm,0.9s						
E38A	**The Farm, Brul**	**6.45 316**	Pn	**Pn**	**15 44 28.8**	**-1.3**	
E38A			IAmb_Lg		15 46 22.3		
	comp=Z,46nm,1.2s						
PLVO	**Plevna**	**6.45 61**	Pn	**Pn**	**15 44 29.0**	**-1.1**	
PAGS	**Pennsylvania G**	**6.56 104**	IAmb_Lg		15 46 24.4		
	comp=Z,31nm,0.8s						
V53A	**Saluda**	**6.71 164**	Pn	**Pn**	**15 44 33.1**	**-0.6**	
BINY	**Binghamton**	**6.72 87**	IAmb_Lg		15 46 40.5		
	comp=Z,43nm,1.2s						
R40A	**Maddies Statio**	**6.75 237**	Pn	**Pn**	**15 44 34.5**	**+0.2**	
J57A	**Williamstown**	**6.76 76**	IAmb_Lg		15 46 33.4		
	comp=Z,38nm,0.8s						
PBMO	**Poplar Bluff**	**6.81 220**	IAmb_Lg		15 46 36.6		
	comp=Z,42nm,0.8s						
T57A	**Hurt**	**6.82 137**	Pn	**Pn**	**15 44 35.3**	**+0.1**	
R58B	**Mineral**	**6.91 125**	IAmb_Lg		15 46 34.5		
	comp=Z,29nm,0.9s						
MVL	**Millersville**	**6.91 105**	IAmb_Lg		15 46 35.8		
	comp=Z,34nm,0.9s						
P38A	**Dawn**	**6.92 251**	IAmb_Lg		15 46 40.3		
	comp=Z,35nm,0.7s						
KSPA	**Keystone Colle**	**6.94 92**	IAmb_Lg		15 46 37.3		
	comp=Z,62nm,0.8s						
W50A	**Signal Mountai**	**6.96 182**	IAmb_Lg		15 46 39.4		
	comp=Z,30nm,0.8s						
SWET	**Sewanee**	**6.97 186**	IAmb_Lg		15 46 37.6		
	comp=Z,33nm,0.7s						
F36A	**Milaca**	**7.15 304**	Pn	**Pn**	**15 44 38.8**	**-0.9**	
F36A			IAmb_Lg		15 46 57.9		
	comp=Z,33nm,1.1s						
EYMN	**Ely**	**7.37 324**	Pn	**Pn**	**15 44 40.1**	**-2.7**	
L59A	**Walton**	**7.42 86**	IAmb_Lg		15 47 01.5		
	comp=Z,32nm,0.8s						
LUPA	**Lehigh Univers**	**7.43 99**	IAmb_Lg		15 46 50.9		
	comp=Z,26nm,0.7s						
P60A	**Greenville**	**7.49 105**	IAmb_Lg		15 46 53.8		
	comp=Z,34nm,0.7s						
MGMO	**Mountain Grove**	**7.49 231**	IAmb_Lg		15 47 02.7		
	comp=Z,47nm,1.0s						
PLAL	**Pickwick Lake**	**7.55 199**	IAmb_Lg		15 47 03.2		
	comp=Z,42nm,0.9s						
X51A	**Calhoun**	**7.59 179**	IAmb_Lg		15 47 00.7		
	comp=Z,33nm,0.8s						
FPAL	**Fort Paine**	**7.62 184**	IAmb_Lg		15 47 04.5		
	comp=Z,43nm,0.9s						
LCAR	**Lake Charles**	**7.72 220**	IAmb_Lg		15 46 59.7		
	comp=Z,28nm,1.0s						
T59A	**Double "B" Far**	**7.76 129**	IAmb_Lg		15 47 07.8		
	comp=Z,26nm,1.0s						
S39A	**Bolivar**	**7.78 238**	IAmb_Lg		15 47 01.7		
	comp=Z,27nm,0.9s						
J59A	**Piesco**	**7.85 77**	IAmb_Lg		15 47 00.8		
	comp=Z,28nm,0.7s						
LONY	**Lake Ozonia**	**8.00 69**	IAmb_Lg		15 47 18.8		
	comp=Z,24nm,0.8s						
VLDQ	**Val d'Or**	**8.00 39**	IAmb_Lg		15 47 10.5		
	comp=Z,29nm,0.8s						
BRNJ	**Basking Ridge**	**8.00 97**	IAmb_Lg		15 47 23.3		
	comp=Z,27nm,0.8s						
W57A	**Gilead**	**8.03 149**	IAmb_Lg		15 47 22.0		
	comp=Z,28nm,1.2s						
U59A	**Littleton**	**8.07 134**	IAmb_Lg		15 47 19.9		
	comp=Z,26nm,1.1s						
Y52A	**Lilburn**	**8.32 174**	IAmb_Lg		15 47 18.0		
	comp=Z,22nm,1.0s						
FCAR	**Ozark Folk Cen**	**8.35 224**	IAmb_Lg		15 47 26.9		
	comp=Z,28nm,0.9s						
Y49A	**Blount Mountai**	**8.36 188**	IAmb_Lg		15 47 27.5		
	comp=Z,39nm,0.7s						
OXF	**Oxford**	**8.38 206**	IAmb_Lg		15 47 34.7		
	comp=Z,39nm,0.8s						
U40A	**Yellville**	**8.39 229**	IAmb_Lg		15 47 29.7		
	comp=Z,49nm,1.0s						
PAL	**Palisades**	**8.42 94**	IAmb_Lg		15 47 30.7		
	comp=Z,27nm,0.7s						
TRY	**Troy**	**8.42 82**	IAmb_Lg		15 47 24.6		
	comp=Z,30nm,0.8s						
CPNY	**Central Park**	**8.43 96**	IAmb_Lg		15 47 26.8		
	comp=Z,30nm,0.9s						
KSCT	**Kent School, K**	**8.62 89**	IAmb_Lg		15 47 35.2		
	comp=Z,30nm,0.9s						
FRNY	**Flat Rock**	**8.74 68**	IAmb_Lg		15 47 43.1		
	comp=Z,22nm,0.9s						
X58A	**Rowland**	**8.81 148**	IAmb_Lg		15 47 43.9		
	comp=Z,22nm,0.8s						
Z51A	**Franklin**	**8.83 181**	IAmb_Lg		15 47 41.9		
	comp=Z,32nm,0.9s						
VT1	**Waterbury**	**9.22 72**	IAmb_Lg		15 47 46.3		
	comp=Z,30nm,0.8s						
HNH	**Hanover**	**9.48 76**	IAmb_Lg		15 47 51.4		
	comp=Z,29nm,0.8s						
W39A	**Magazine**	**9.75 227**	IAmb_Lg		15 48 06.7		
	comp=Z,35nm,1.1s						
LBNH	**Lisbon**	**9.79 73**	IAmb_Lg		15 48 05.8		
	comp=Z,27nm,1.0s						
X40A	**Basin Creek Fa**	**9.81 221**	IAmb_Lg		15 48 15.9		
	comp=Z,21nm,0.9s						
FFD	**Franklin Falls**	**9.92 78**	IAmb_Lg		15 48 10.3		
	comp=Z,34nm,0.8s						

*IDC **30** 15:48:01.6±1.4, 11°.28N×95°.05E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/73, mbtmp3.4/7, ML3.3/1, MS3.8/3, Ms1 3.8/3, ms1mx2.9/43, Error ellipse: s-maj=53.6km s-min=22.0km az=62.0*

*NEIC **30** 15:48:07.6±1.4, 11°.2N±0°.2×94°.8E±0°.1, h45km±9km, mb4.5/11, Error ellipse: s-maj=25.8km s-min=14.1km az=211.0*

ISC 30 15:48:04.3±0.9, 11°.2N±0°.1×94°.9E±0°.1, h22km, n25, σ0s84/22, mb3.9/12, MS3.6/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.17**	**281**	Pn	Pn	15 48 40.0	+0.9
CMAR	**Chiang Mai Arr**	**8.16**	**28**	Pn	**Pn**	**15 50 00.0**	**-1.5**
	0.1nm,0.3s,baz=217,slow=14,SNR=4.4						
BKB	**Balikpapan**	**25.14**	**118**	P	**P**	**15 53 28.5**	**+0.5**
BKB				IAmb	IAmb	15 53 38.6	
	comp=Z,133nm,1.2s						
MK31	**Makanchi Array**	**37.01**	**346**	P	**P**	**15 55 13.0**	**+0.7**
MKAR	**Makanchi Array**	**37.01**	**346**	P	**P**	**15 55 13.2**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=170,slow=8.6,SNR=8.3						
MKAR	**Makanchi Array**	**37.01**	**346**	P	**P**	**15 55 12.6**	**+0.2**
SONM	**Songino Array**	**37.73**	**13**	P	**P**	**15 55 18.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=193,slow=5.9,SNR=2.6						
SONM	**Songino Array**	**37.73**	**13**	P	**P**	**15 55 19.2**	**+0.6**
SONM				IAmb	IAmb	15 55 20.2	
	comp=Z,1.9nm,1.2s						
KKAR	**Karatay Array**	**38.16**	**331**	P	**P**	**15 55 22.5**	**+0.4**
KSAR	**Wonju Array Be**	**39.43**	**43**	P	**P**	**15 55 34.4**	**+1.6**
KURBB	**Kurchatov Arra**	**41.51**	**344**	P	**P**	**15 55 50.2**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=165,slow=7.7,SNR=8.0						
KURK	**Kurchatov**	**41.57**	**344**	P	**P**	**15 55 50.2**	**-0.1**
JGF	**Kuroka**	**45.39**	**51**	P	**P**	**15 56 21.6**	**+0.1**
JGF				IAmb	IAmb	15 56 49.4	
	comp=Z,15nm,1.5s						
NWAO	**Narrogin (SRO)**	**48.82**	**155**	LR	LR	16 15 45.4	
	comp=Z,62nm,19.8s,baz=146,slow=34						
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**15 56 55.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=306,slow=8.9,SNR=2.4						
WRA	**Warramunga Arr**	**49.67**	**128**	P	**P**	**15 56 54.6**	**-0.2**
WB2	**Warramunga Arr**	**49.68**	**128**	P	**P**	**15 56 55.5**	**+0.7**
WB2				IAmb	IAmb	15 57 23.8	
	comp=Z,4.6nm,1.1s						
WR0	**Warramunga Arr**	**49.83**	**128**	P	**P**	**15 56 56.2**	**+0.2**
WR0				IAmb	IAmb	15 57 16.0	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**51.55**	**133**	P	**P**	**15 57 08.8**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=316,slow=6.7,SNR=5.2						
ASAR				LR	LR	16 20 46.1	
	comp=Z,201nm,18.3s,baz=118,slow=38						
OPO	**Ambohidratompo**	**55.62**	**238**	LR	LR	16 17 02.7	
	comp=Z,45nm,20.7s,baz=198,slow=31						
BBOO	**Buckleboo**	**58.83**	**140**	P	**P**	**15 58 00.5**	**-0.8**
BBOO				IAmb	IAmb	15 58 28.6	
	comp=Z,14nm,1.4s						
BNN	**Bunyan**	**59.02**	**309**	P	**P**	**15 58 01.6**	**-1.3**
GERES	**GERESS Array B**	**75.85**	**318**	P	**P**	**15 59 50.4**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=65,slow=5.5,SNR=2.3						
GERES	**GERESS Array B**	**75.85**	**318**	P	**P**	**15 59 49.9**	**+0.8**
KHC	**Kasperske Hory**	**75.93**	**318**	P	**P**	**15 59 48.5**	**-1.0**
KHC				IAmb	IAmb	16 00 07.8	
	comp=Z,1.1nm,0.7s						

*IDC **30** 15:54:49.7±0.9, 35°.12S×179°.30W, h0km, mb4.4/9, mb1 4.4/11, mb1mx4.2/35, mbtmp4.4/11, ML5.2/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/24, Error ellipse: s-maj=24.4km s-min=23.3km az=85.0*

*NEIC **30** 15:54:52.5±1.8, 35°.2S±0°.1×179°.3W±0°.2, h17km±6km, mb4.6/23, Error ellipse: s-maj=23.4km s-min=13.7km az=105.0*

ISC 30 15:54:55.7±0.7, 35°.20S±0°.08×179°.4W±0°.1, h43km, n61, σ0s98/58, mb4.5/20, MS3.6/5, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.01**	**218**		**Pn**	**15 55 40.5**	**-0.4**
URZ	**Urewera**	**4.16**	**222**	Pn	**Pn**	**15 55 56.3**	**-0.4**
	16nm,0.3s,baz=301,slow=24,SNR=65						
URZ				Sn	**Sn**	**15 56 44.6**	**+0.6**
	9.7nm,0.3s,baz=6.0,slow=12,SNR=4.1						
URZ	**Urewera**	**4.16**	**222**		**Pn**	**15 55 55.8**	**-0.9**
BKZ	**Black Stump Fm**	**5.16**	**219**		**Pn**	**15 56 09.6**	**-0.8**
HIZ	**Hauiti**	**5.69**	**233**	Pn	**Pn**	**15 56 18.1**	**+0.4**
SNZO	**South Karori**	**7.67**	**216**	Pn	**Pn**	**15 56 43.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**8.39**	**217**	Pn	**Pn**	**15 56 53.1**	**-1.6**
KHZ	**Kahutara**	**9.08**	**215**	Pn	**Pn**	**15 57 02.0**	**-2.1**
RPZ	**Rata Peaks**	**11.27**	**218**	Pn	**Pn**	**15 57 31.1**	**-3.0**
MSVF	**Nonsavu**	**17.55**	**352**	P	**Pn**	**15 58 56.2**	**-1.1**
	1.1nm,0.3s,baz=163,slow=13,SNR=4.1						
MSVF	**Nonsavu**	**17.55**	**352**	P	**Pn**	**15 58 56.4**	**-0.9**
DZM	**Mont Dzumac**	**18.04**	**313**	P	**P**	**15 59 04.9**	**+1.6**
	0.4nm,0.3s,baz=210,slow=8.1,SNR=2.1						
DZM	**Mont Dzumac**	**18.04**	**313**	eLR	LR	16 02 44.3	
	comp=Z,547nm,26.6s						
LIFNC	**LIFOU**	**18.59**	**317**	P	**P**	**15 59 08.1**	**-1.1**
EIDS	**Eidsvold**	**27.25**	**283**	P	**P**	**16 00 35.9**	**0.0**
EIDS				IAmb	IAmb	16 00 45.2	
	comp=Z,12nm,1.1s						
TBI	**Tubuai**	**28.52**	**74**	eLR	LR	16 07 51.8	
	comp=Z,165nm,28.5s						
PPT2	**Papeete2**	**31.76**	**64**	eLR	LR	16 09 27.4	
	comp=Z,143nm,23.8s						
STKA	**Stephens Creek**	**32.57**	**265**	P	**P**	**16 01 23.9**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=89,slow=8.8,SNR=5.2						
STKA				LR	LR	16 15 01.8	
	comp=Z,168nm,18.0s,baz=103,slow=37						
STKA	**Stephens Creek**	**32.57**	**265**	P	**P**	**16 01 23.2**	**+0.3**
CTA	**Charters Tower**	**33.78**	**287**	P	**P**	**16 01 35.4**	**+1.8**
	comp=Z,2.7nm,0.6s,baz=128,slow=9.1,SNR=9.4						
CTAO	**Charters Tower**	**33.78**	**287**	P	**P**	**16 01 34.6**	**+1.0**
BBOO	**Buckleboo**	**36.80**	**261**	P	**P**	**16 02 00.3**	**+0.8**
BBOO				IAmb	IAmb	16 02 22.9	
	comp=Z,16nm,1.4s						
RABL	**Rabaul**	**40.57**	**313**	P	**P**	**16 02 30.9**	**-0.2**
AS31	**Alice Springs**	**41.95**	**273**	P	**P**	**16 02 42.5**	**-0.1**
AS31				IAmb	IAmb	16 02 53.6	
	comp=Z,4.9nm,0.5s						
ASAR	**Alice Springs**	**41.95**	**273**	P	**P**	**16 02 43.0**	**+0.4**
	comp=Z,9.1nm,0.6s,baz=114,slow=7.7,SNR=296						
ASAR	**Alice Springs**	**41.95**	**273**	P	**P**	**16 02 42.7**	**+0.2**
WR0	**Warramunga Arr**	**43.20**	**278**	P	**P**	**16 02 52.0**	**-0.7**
WB2	**Warramunga Arr**	**43.37**	**278**	P	**P**	**16 02 53.5**	**-0.5**
WB2				IAmb	IAmb	16 03 06.3	
	comp=Z,7.6nm,0.6s						
WRAB	**Tennant Creek**	**43.37**	**278**	P	**P**	**16 02 53.7**	**-0.4**
WRAB				IAmb	IAmb	16 03 06.3	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**43.38**	**278**	P	**P**	**16 02 53.5**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=118,slow=7.6,SNR=40						
WRA	**Warramunga Arr**	**43.38**	**278**	P	**P**	**16 02 53.5**	**-0.6**
WB0	**Warramunga Arr**	**43.42**	**278**	P	**P**	**16 02 53.9**	**-0.5**
WB0				IAmb	IAmb	16 03 04.9	
	comp=Z,6.9nm,0.8s						
FORT	**Forrest**	**43.90**	**260**	P	**P**	**16 02 57.6**	**-0.6**
FORT				IAmb	IAmb	16 03 25.5	
	comp=Z,17nm,1.1s						
KNRA	**Kununurra**	**50.12**	**279**	P	**P**	**16 03 47.6**	**+0.7**
KNRA				IAmb	IAmb	16 03 52.6	
	comp=Z,14nm,1.3s						
CASY	**Casey**	**50.39**	**210**	P	**P**	**16 03 49.5**	**+1.3**
CASY				IAmb	IAmb	16 04 02.8	
	comp=Z,6.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.39**	**274**	P	**P**	**16 03 55.4**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=120,slow=7.9,SNR=5.1						
FITZ	**Fitzroy Crossi**	**51.39**	**274**	P	**P**	**16 03 56.5**	**+0.1**
FITZ				IAmb	IAmb	16 03 56.6	
	comp=Z,6.9nm,1.0s						
NWAO	**Narrogin (SRO)**	**51.77**	**253**	P	**P**	**16 03 58.3**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=162,slow=6.4,SNR=1.8						
MORW	**Morawa**	**54.20**	**257**	P	**P**	**16 04 16.0**	**-1.1**
MORW				IAmb	IAmb	16 04 31.0	
	comp=Z,4.4nm,1.0s						
PSA00	**Pilbara Seismi**	**54.42**	**267**	P	**P**	**16 04 17.5**	**-1.3**
PSA00				IAmb	IAmb	16 04 28.5	
	comp=Z,6.9nm,1.1s						
QSPA	**South Pole Qui**	**54.92**	**180**	P	**P**	**16 04 23.7**	**+1.8**
	comp=Z,2.9nm,1.0s,baz=32,slow=1.2,SNR=7.9						
QSPA	**South Pole Qui**	**54.92**	**180**	P	**P**	**16 04 23.4**	**+1.5**
QSPA				IAmb	IAmb	16 04 47.2	
	comp=Z,4.6nm,0.9s						
FAKI	**Fak Fak**	**55.10**	**294**	P	**P**	**16 04 23.2**	**-0.5**
GIRL	**Giralia**	**58.50**	**263**	P	**P**	**16 04 47.9**	**+0.1**
SNAA	**Sanae**	**73.39**	**179**	P	**P**	**16 06 21.6**	**-1.2**
VNA3	**Neumayer Olymp**	**73.60**	**177**	P	**P**	**16 06 24.1**	**+0.2**
VNA1	**Neumayer--Stat**	**74.25**	**177**	P	**P**	**16 06 27.4**	**-0.3**
KSRS	**Korea Array**	**87.29**	**321**	P	**P**	**16 07 36.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=136,slow=5.8,SNR=4.4						
KSRS				LR	LR	16 42 37.9	
	comp=Z,16nm,19.6s,baz=160,slow=33						
PETK	**Petropavlovsk-**	**90.18**	**346**	P	**P**	**16 07 51.7**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=108,slow=5.4,SNR=17						
PETK	**Petropavlovsk-**	**90.18**	**346**	P	**P**	**16 07 51.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**93.92**	**290**	LR	LR	16 53 18.1	
	comp=Z,23nm,19.1s,baz=5.0,slow=37						
MKAR	**Makanchi Array**	**119.91**	**308**	PKP	**PKPdf**	**16 13 41.1**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=97,slow=4.5,SNR=4.4						
MKAR	**Makanchi Array**	**119.91**	**308**		**PKPdf**	**16 13 40.7**	**-0.3**
ARCES	**ARCESS Array B**	**142.99**	**346**	PKhKP	PKPpre	16 14 19.7	
	comp=Z,2.2nm,0.9s,baz=29,slow=2.1,SNR=4.5						
FINES	**FINESS Array B**	**149.16**	**336**	PKPbc	**PKPbc**	**16 14 38.8**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=83,slow=4.6,SNR=24						
DBIC	**Dimbokro**	**151.16**	**169**	PKPbc	**PKPbc**	**16 14 44.9**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=212,slow=8.0,SNR=4.3						
NOA	**NORSAR Array B**	**153.27**	**349**	PKPbc	**PKPbc**	**16 14 48.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=21,slow=4.0,SNR=4.5						
BRTR	**Keskin Array B**	**153.51**	**290**	PKPbc	**PKiKP**	**16 14 50.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=145,slow=3.4,SNR=5.4						
BRTR	**Keskin Array B**	**153.51**	**290**		**PKPbc**	**16 14 49.5**	**-0.1**
AKASG	**Malin Array Be**	**154.18**	**316**	PKPbc	**PKPbc**	**16 14 49.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=45,slow=2.5,SNR=4.1						
AKASG				PKPab	**PKPab**	**16 15 05.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=54,slow=2.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**158.02**	**183**	PKPab	**PKPab**	**16 15 22.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=177,slow=3.1,SNR=3.8						

*TUL **30** 16:05:43±0.6, 36°.73N±0°.02×98°.31W±0°.03, h6km±5km, ML2.6, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=3.6km s-min=2.3km az=105.0*

NEIC 30 16:05:43.2±0.4, 36°.74N±0°.02×98°.30W±0°.03, h9km±4km, Error ellipse: s-maj=3.8km s-min=2.0km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.10**	**48**		Pg	16 05 45.6	-0.1
OK032				Sg	Sg	16 05 47.6	+0.1
CROK	**Carrier**	**0.35**	**132**	Pg	Pg	16 05 50.0	-0.1
CROK				Sg	Sg	16 05 54.8	+0.1
KAN10	**Anthony SW Sta**	**0.42**	**23**	Pg	Pg	16 05 51.6	+0.1
KAN05	**Bluff City Nor**	**0.51**	**43**	Pg	Pg	16 05 53.1

TOLI2	**Tolitoli**	**32.10**	279	P	**P**	**16 44 43.4 -0.2**
TOLI2				IAmb	IAmb	16 45 03.5
	comp=Z,12nm,1.0s					
FORT	**Forrest**	**34.88**	218	P	**P**	**16 45 06.8 -0.8**
YOJ	**Yonaguni jima**	**40.52**	316	P	**P**	**16 45 57.0 +1.8**
LTZ	**Lake Taylor**	**42.10**	158	P	**P**	**16 46 05.6 -2.4**
LTZ				IAmb	IAmb	16 46 29.1
	comp=Z,29nm,1.3s					
MJAR	**Matsushiro Arr**	**42.84**	343	LR	LR	17 03 38.8
	comp=Z,19nm,18.2s,baz=95,slow=36					
JHS	**Saijyo**	**43.19**	337	P	**P**	**16 46 16.9 0.0**
TORD	**Torodi Ar. Bea**	**149.84**	289	PKPbc	**PKPbc**	**16 58 04.2 -2.0**
	comp=Z,1.2nm,0.7s,baz=79,slow=2.3,SNR=10					

IDC 30 16:43:23.0±5.6, 11°.62S×166°.83E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/28, mbtmp3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=290.7km s-min=34.6km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**22.58**	143	LR	LR	16 56 23.8	
	comp=Z,117nm,18.3s,baz=306,slow=35						
WRA	**Warramunga Arr**	**32.30**	251	P	P	16 49 54.2	+0.2
	0.4nm,0.7s,baz=82,slow=8.8,SNR=1.8						
ASAR	**Alice Springs**	**33.50**	245	P	P	16 50 04.2	-0.3
	0.4nm,0.7s,baz=71,slow=9.6,SNR=6.0						
ILAR	**Eielson Array**	**83.72**	18	P	P	16 55 53.5	0.0
	0.6nm,0.6s,baz=234,slow=5.4,SNR=5.5						

*UPP **30** 16:51:44.4±0.1, 66°.49N×21°.62E, h0km, ML1.5, Explosion*
HEL 30 16:51:45.3±0.0, 66°.48N×21°.57E, h0km, ML1.4, ML1.5(UPP), Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HARU	**Harads**	**0.40**	218	P	Pg	16 51 52.4	-0.4
HARU	**Harads**	**0.40**	218	*i* P	Pg	16 51 52.4	-0.4
DUNU	**Dundret**	**0.76**	329	P	Pg	16 51 58.7	-1.1
DUNU				S	Sg	16 52 09.0	-0.6
DUNU	**Dundret**	**0.76**	329	*i* P	Pg	16 51 58.7	-1.1
DUNU				*i* S	Sg	16 52 09.0	-0.6
PAJU	**Pajala**	**0.82**	47	P	Pg	16 51 59.4	-1.7
PAJU				S	Sg	16 52 10.2	-1.5
PAJU	**Pajala**	**0.82**	47	*e*P	Pg	16 51 59.3	-1.7
PAJU				*e*S	Sg	16 52 10.7	-1.0
SJUU	**Sjulsmark**	**0.97**	179	P	Pg	16 52 02.8	-1.1
SJUU				S	Sg	16 52 16.2	-0.3
SJUU	**Sjulsmark**	**0.97**	179	*e*P	Pg	16 52 02.8	-1.1
SJUU				*e*S	Sg	16 52 16.2	-0.3
MASU	**Masugnsbyn**	**1.00**	10	P	Pg	16 52 03.0	-1.4
MASU	**Masugnsbyn**	**1.00**	10	*e*P	Pg	16 52 03.0	-1.4
TOF	**Tornio**	**1.18**	108	*e*P	Pg	16 52 06.6	-1.4
TOF				*e*S	Sg	16 52 22.0	-1.3
KLF	**Kolari**	**1.22**	50	*e*P	Pg	16 52 06.6	-2.0
KLF				*e*S	Sg	16 52 23.1	-1.2
LILU	**Lilltraesk**	**1.39**	211	P	Pg	16 52 10.3	-1.6
LILU	**Lilltraesk**	**1.39**	211	*e*P	Pg	16 52 10.3	-1.6
SALU	**Saltoluokta**	**1.51**	308	*e*P	Pn	16 52 12.1	-1.5
RATU	**Laukkuluspa**	**1.56**	331	P	Pn	16 52 13.1	-1.2
RATU	**Laukkuluspa**	**1.56**	331	*e*P	Pn	16 52 13.1	-1.2
LANU	**Lannavaara**	**1.59**	6	P	Pn	16 52 13.4	-1.3
LANU	**Lannavaara**	**1.59**	6	*e*P	Pn	16 52 13.5	-1.2
LANU				*e*S	Sn	16 52 34.2	-1.7
NIKU	**Nikkaluokta**	**1.71**	326	P	Pn	16 52 15.7	-0.6
NIKU	**Nikkaluokta**	**1.71**	326	*e*P	Pn	16 52 15.7	-0.6
RNF	**Rovaniemi**	**1.78**	84	*e*P	Pn	16 52 16.6	-0.7
RNF				*e*SN	Sn	16 52 40.4	-0.3
RNF				MSG		16 52 43.7	
	comp=Z,4.6nm,0.1s						
HEF	**Hetta**	**2.10**	22	*e*P	Pn	16 52 21.2	-0.5
HEF	**Hetta**	**2.10**	22	*e*P	Pn	16 52 21.7	0.0
HEF				*e*SB	Sn	16 52 49.3	+0.8
HEF				MSG		16 52 51.1	
	comp=Z,1.6nm,0.2s						
SGF	**Sodankyl**	**2.18**	61	MSG		16 52 56.8	
	comp=Z,1.6nm,0.2s						
OBF4	**Vikkela, Lumij**	**2.22**	137	MSG		16 52 56.0	
	comp=Z,1.2nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.28**	150	MSG		16 52 59.2	
	comp=Z,0.9nm,0.1s						

*TEH **30** 17:15:35.9, 28°.29N×53°.17E, h5km, ML3.4*
*IDC **30** 17:15:35.6±1.2, 28°.20N×53°.07E, h0km, mb3.5/12, mb1 3.6/14, mb1mx3.5/38, mbtmp3.5/14, ML3.2/2, MS3.1/4, Ms1 3.1/4, ms1mx2.6/53, Error ellipse: s-maj=26.4km s-min=19.5km az=24.0*
ISC 30 17:15:37.7±0.7, 28°.23N±0°.07×53°.11E±0°.07, h14km, n27, σ1§39/26, mb3.4/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHRM	**Jahrom**	**0.50**	56	*e*Pg	**Pg**	**17 15 44.9**	**-2.7**
JHRM				*e*		17 15 55.1	
	comp=Z,82μm,0.4s						
LMD1	**Lamerd**	**0.88**	177	*e*Pg	**Pn**	**17 15 55.5**	**-0.2**
LMD1				*e*		17 16 21.4	
	comp=Z,16μm,0.4s						
LAR1	**LAR**	**1.25**	116	*e*Pg	**Pb**	**17 16 01.2**	**+0.1**
LAR1				*e*Sg	**Sg**	**17 16 21.0**	**+3.0**
LAR1				*e*		17 16 41.1	
	comp=Z,22μm,0.4s						
SHI	**Shiraz**	**1.51**	340	*e*		17 16 39.2	
	comp=Z,3μm,0.8s						
SHI				*e*Pg	**Pg**	**17 16 06.2**	**-0.5**
KAZ1	**Kazerun**	**1.90**	318	*e*Pn	**Pb**	**17 16 11.2**	**-1.0**
GENO	**Geno**	**2.83**	106	*e*	Sg	17 17 25.4	+17
	comp=Z,941nm,0.8s						
KLNJ	**Kolanjah**	**3.07**	335	*e*Pn	**Pn**	**17 16 27.8**	**+1.6**
IRAM	**Ramesheh**	**3.63**	350	*e*Pn	**Pn**	**17 16 35.4**	**+1.7**
IZEF	**Zefreh**	**4.70**	352	*e*Pn	**Pn**	**17 16 50.5**	**+2.0**
KRSH	**Karshahi**	**5.79**	352	*e*Pn	**Pn**	**17 17 04.7**	**+1.4**
ISFB	**Sefidab**	**6.15**	353	*e*Pn	**Pn**	**17 17 09.8**	**+1.5**
WSAR	**Wadi Sarin**	**7.03**	134	Pn	**Pn**	**17 17 21.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=320,slow=8.5,SNR=9.4						
WSAR				Sn	**Sn**	**17 18 37.4**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=171,slow=19,SNR=2.6						
WSAR				LR	LR	17 19 47.3	
	comp=Z,70nm,20.1s,baz=227,slow=36						
GEYT	**Alibeck**	**10.55**	22	LR	LR	17 22 57.0	
	comp=Z,51nm,19.0s,baz=145,slow=42						
BRTR	**Keskin Array B**	**19.76**	311	P	**Pn**	**17 20 08.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=128,slow=13,SNR=5.8						
AKTO	**Aktyubinsk**	**22.49**	8	P	**P**	**17 20 38.2**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=189,slow=15,SNR=2.2						
AKTO				LR	LR	17 30 46.0	
	comp=Z,14nm,18.1s,baz=237,slow=40						
BVAR	**Borovoye Array**	**27.88**	23	P	**P**	**17 21 27.4**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=224,slow=8.1,SNR=2.1						
AKASG	**Malin Array Be**	**28.82**	328	P	**P**	**17 21 35.0**	**-0.2**
	comp=Z,0.1nm,0.2s,baz=128,slow=8.4,SNR=2.1						
MKAR	**Makanchi Array**	**29.40**	43	P	**P**	**17 21 40.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=224,slow=8.1,SNR=2.0						
KURBB	**Kurchatov Arra**	**29.50**	34	P	**P**	**17 21 42.0**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=232,slow=8.6,SNR=1.5						
ZALV	**Zalesovo Beam**	**34.59**	33	P	**P**	**17 22 26.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=232,slow=9.3,SNR=6.3						
FINES	**FINESS Array B**	**37.79**	339	P	**P**	**17 22 53.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=158,slow=12,SNR=4.7						
CMAR	**Chiang Mai Arr**	**42.97**	93	P	**P**	**17 23 36.5**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=289,slow=9.0,SNR=4.5						
NOA	**NORSAR Array B**	**43.06**	332	P	**P**	**17 23 35.5**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=120,slow=7.9,SNR=2.7						
SONM	**Songino Array**	**45.32**	49	P	**P**	**17 23 55.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=246,slow=7.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**50.03**	264	P	**P**	**17 24 31.9**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=45,slow=7.6,SNR=3.8						
BATI	**Baumata**	**78.09**	108	LR	LR	18 05 23.1	
	comp=Z,87nm,18.2s,baz=174,slow=38						
ASAR	**Alice Springs**	**93.34**	115	P	**P**	**17 28 52.7**	**0.0**
	comp=Z,0.4nm,1.0s,baz=311,slow=4.8,SNR=2.0						

*IDC **30** 17:31:31.1±1.1, 26°.90N×141°.33E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.4/38, mbtmp3.6/5, Error ellipse: s-maj=25.7km s-min=17.7km az=143.0*
ISC 30 17:31:36.2±1.2, 26°.9N±0°.2×141°.3E±0°.1, h35km, n9, σ0§87/7, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.78**	75	Pn	**Pn**	**17 31 49.9**	**-0.8**
	129nm,0.3s,baz=288,slow=20,SNR=48						
JCJ				Sn	**Sn**	**17 32 01.5**	**+0.3**
	104nm,0.3s,baz=252,slow=20,SNR=5.5						
KLR	**Kul'dur**	**23.50**	344	P	**P**	**17 36 42.1**	**-0.6**
	1.0nm,0.6s,baz=147,slow=9.7,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**24.50**	102	T	T	18 02 58.5	
	baz=292						
H11N1	**WAKE ISLAND Hy**	**24.50**	102	T	T	18 03 01.0	
	baz=292						
H11N3	**WAKE ISLAND Hy**	**24.52**	102	T	T	18 02 58.7	
	baz=292						
WRA	**Warramunga Arr**	**47.05**	189	P	**P**	**17 40 04.6**	**+0.1**
	1.0nm,0.5s,baz=11,slow=8.7,SNR=9.7						
ASAR	**Alice Springs**	**50.78**	189	P	**P**	**17 40 32.6**	**-0.4**
	0.2nm,0.8s,baz=13,slow=9.5,SNR=1.7						
ILAR	**Eielson Array**	**58.25**	29	P	**P**	**17 41 26.8**	**0.0**
	0.9nm,0.8s,baz=257,slow=5.9,SNR=8.7						
NVAR	**Mina Array Bea**	**81.23**	51	P	**P**	**17 43 50.3**	**+1.3**
	0.4nm,0.7s,baz=295,slow=6.9,SNR=2.9						

*IDC **30** 17:39:26.8±1.4, 57°.28N×33°.55W, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.4/50, mbtmp3.6/8, ML2.6/1, MS3.3/5, Ms1 3.3/5, ms1mx2.7/42, Error ellipse: s-maj=46.5km s-min=23.1km az=5.0*
ISC 30 17:39:28.7±1.2, 57°.3N±0°.3×33°.6W±0°.1, h14km, n13, σ0§79/9, mb3.6/7, MS3.5/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**12.55**	328	LR	LR	17 46 31.9	
	comp=Z,86nm,19.0s,baz=180,slow=34						
FRB	**Frobisher Bay**	**18.21**	305	LR	LR	17 49 33.9	
	comp=Z,50nm,18.6s,baz=9.5,slow=33						
SCHQ	**Schefferville**	**18.62**	277	P	**P**	**17 43 44.5**	**-1.0**
	0.2nm,0.3s,baz=50,slow=9.4,SNR=4.2						
ESDC	**Sonseca Array**	**26.05**	120	P	**P**	**17 45 01.6**	**+0.1**
	0.3nm,0.3s,baz=332,slow=10,SNR=3.6						
ESDC				LR	LR	17 53 10.0	
	comp=Z,45nm,18.8s,baz=295,slow=32						
AKASG	**Malin Array Be**	**36.33**	73	P	**P**	**17 46 30.6**	**-1.1**
	0.6nm,0.6s,baz=307,slow=8.5,SNR=5.7						
YKA	**Yellowknife Ar**	**38.48**	313	LR	LR	18 01 53.8	
	comp=Z,65nm,18.8s,baz=0.0,slow=35						
INK	**Inuvik**	**41.90**	327	LR	LR	18 04 33.7	
	comp=Z,62nm,18.3s,baz=307,slow=36						
BRTR	**Keskin Array B**	**45.85**	82	P	**P**	**17 47 51.0**	**+0.7**
	0.7nm,0.6s,baz=300,slow=6.2,SNR=3.6						
PDAR	**Pinedale Array**	**48.32**	287	P	**P**	**17 48 10.4**	**+0.8**
	0.2nm,0.5s,baz=36,slow=6.7,SNR=3.1						
KURBB	**Kurchatov Arra**	**58.90**	44	P	**P**	**17 49 26.7**	**-0.1**
	0.4nm,0.5s,baz=326,slow=6.8,SNR=2.8						
MKAR	**Makanchi Array**	**63.46**	44	P	**P**	**17 49 57.5**	**-0.2**
	0.3nm,0.5s,baz=329,slow=5.2,SNR=4.9						
SONM	**Songino Array**	**70.14**	27	P	**P**	**17 50 41.0**	**+0.5**
	0.3nm,0.7s,baz=328,slow=5.1,SNR=2.1						
ASAR	**Alice Springs**	**145.25**	20	PKPbc	**PKPbc**	**17 59 05.2**	**-0.2**
	0.8nm,0.9s,baz=339,slow=3.4,SNR=3.7						

*IDC **30** 17:43:43.1±2.6, 2°.42S×140°.18E, h0km, mb3.7/3, mb1 4.3/6, mb1mx3.7/46, mbtmp4.2/6, ML4.4/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/32, Error ellipse: s-maj=54.5km s-min=27.1km az=88.0*
*NEIC **30** 17:43:53.3±2.8, 2°.5S±0°.1×139°.56E±0°.04, h51km±12km, mb4.2/14, Error ellipse: s-maj=20.3km s-min=5.4km az=179.0*
ISC 30 17:43:51.3±1.3, 2°.58S±0°.09×139°.7E±0°.1, h35km, n30, σ1§85/25, mb4.3/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**7.45**	267	Pn	**Pn**	**17 45 37.5**	**0.0**
SIJI	**Sorong**	**8.60**	281	Pn	**Pn**	**17 45 55.3**	**+2.0**
	0.9nm,0.3s,baz=117,slow=18,SNR=1.3						
SIJI				LR	LR	17 49 29.8	
	comp=Z,133nm,18.1s,baz=209,slow=38						
MTN	**Manton Dam**	**13.26**	219		Pn	17 46 54.1	-3.1
KNRA	**Kununurra**	**16.90**	219	P	**Pn**	**17 47 45.2**	**0.0**
KNRA				IAmb	IAmb	17 47 52.9	
	comp=Z,45nm,1.5s						
SOEI	**Soe**	**16.91**	244	P	**P**	**17 47 48.4**	**+1.2**
BATI	**Baumata**	**17.64**	244	P	**P**	**17 47 57.3**	**+2.1**
	comp=Z,6.2nm,0.3s,baz=62,slow=1.5,SNR=10						
WB0	**Warramunga Arr**	**17.86**	196	P	**Pn**	**17 47 56.2**	**-0.9**
WR0	**Warramunga Arr**	**18.00**	196	P	**Pn**	**17 47 57.1**	**-1.8**
WR0				IAmb	IAmb	17 48 02.6	
	comp=Z,5.9nm,0.7s						
WB2	**Warramunga Arr**	**18.04**	196	P	**Pn**	**17 47 58.7**	**-0.6**
WB2				IAmb	IAmb	17 48 03.5	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**18.04**	196	P	**Pn**	**17 47 58.4**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=19,slow=12,SNR=42						
WRA				S	**Sn**	**17 51 14.8**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=10,slow=21,SNR=5.8						
WRA	**Warramunga Arr**	**18.04**	196	P	**Pn**	**17 47 57.1**	**-2.3**
TOLI2	**Tolitoli**	**19.26**	281	P	**P**	**17 48 13.3**	**+0.3**
TOLI2				IAmb	IAmb	17 48 15.7	
	comp=Z,16nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.69**	221	P	**P**	**17 48 28.7**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=42,slow=8.3,SNR=20						
FITZ				S	**S**	**17 52 16.8**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=140,slow=15,SNR=3.1						
FITZ	**Fitzroy Crossi**	**20.69**	221	P	**P**	**17 48 28.5**	**0.0**
AS31	**Alice Springs**	**21.70**	194	P	**P**	**17 48 39.9**	**+0.4**
ASAR	**Alice Springs**	**21.70**	194	P	**P**	**17 48 40.0**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=25,slow=11,SNR=36						
ASAR				S	**S**	**17 52 40.7**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=15,slow=28,SNR=4.2						
EIDS	**Eidsvold**	**25.18**	155	P	**P**	**17 49 15.6**	**+2.0**
EIDS				IAmb	IAmb	17 49 21.2	
	comp=Z,9.8nm,1.1s						
FORT	**Forrest**	**30.14**	200	P	**P**	**17 50 01.1**	**+3.1**
FORT				IAmb	IAmb	17 50 29.6	
	comp=Z,10.0nm,0.8s						
BBOO	**Buckleboo**	**30.27**	186	P	**P**	**17 50 00.4**	**+1.2**
BBOO				IAmb	IAmb	17 50 06.7	
	comp=Z,10nm,1.1s						
YULB	**Yu-li**	**31.43**	326	P	**P**	**17 50 08.1**	**-1.4**
H11S3	**WAKE ISLAND Hy**	**33.83**	51	T	T	18 25 44.4	
	baz=222,slow=74,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**33.84**	51	T	T	18 25 52.7	
	baz=222						
H11S1	**WAKE ISLAND Hy**	**33.85**	51	T	T	18 25 44.8	
	baz=222,slow=74,SNR=3.6						
MORW	**Morawa**	**34.65**	218	P	**P**	**17 50 37.3**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**34.70**	49	T	T	18 27 02.0	
	baz=233,slow=75,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**34.71**	49	T	T	18 27 04.7	
	baz=233,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**34.71**	49	T	T	18 27 12.3	
	baz=233,slow=75,SNR=5.5						
NWAO	**Narrogin (SRO)**	**36.81**	212	P	**P**	**17 50 55.0**	**-1.1**
MJAR	**Matsushiro Arr**	**38.94**	358	LR	LR	18 04 31.1	
	comp=Z,17nm,21.0s,baz=245,slow=32						
MKAR	**Makanchi Array**	**70.29**	322	P	**P**	**17 54 59.4**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=106,slow=7.5,SNR=5.1						

IDC 30 17:51:19.8±1.9, 5°.06S×145°.84E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.3/40, mbtmp3.5/5, ML2.6/2, Error ellipse: s-maj=53.3km s-min=30.7km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.51**	163	Pn	Pn	17 52 29.3	-0.1
	2.0nm,0.3s,baz=350,slow=7.1,SNR=9.4						
PMG				Sn		17 53 18.5	-4.1
	4.4nm,0.3s,baz=351,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**18.55**	216	P	P	17 55 38.3	0.0
	0.1nm,0.3s,baz=40,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**21.78**	211	P	P	17 56 14.3	+0.8
	0.7nm,0.8s,baz=44,slow=8.1,SNR=3.0						
FITZ	**Fitzroy Crossi**	**23.61**	235	P	P	17 56 31.9	-0.8
	1.9nm,1.0s,baz=60,slow=10,SNR=1.4						
H11S3	**WAKE ISLAND Hy**	**31.15**	41	T	T	18 30 54.3	
	baz=216						
H11S2	**WAKE ISLAND Hy**	**31.16**	41	T	T	18 30 55.1	
	baz=216						
H11S1	**WAKE ISLAND Hy**	**31.17**	41	T	T	18 30 52.5	
	baz=216						
ILAR	**Eielson Array**	**85.08**	23	P	P	18 03 57.4	+0.1
	0.3nm,0.7s,baz=262,slow=4.5,SNR=2.4						

*JMA **30** 18:03:03.2±0.2, 30°.25N×139°.19E, h482km, M3.9*
*IDC **30** 18:03:05.2±0.7, 30°.23N×138°.84E, h432km±10km, mb3.1/13, mb1 3.2/18, mb1mx3.0/59, mbtmp3.9/18, Error ellipse: s-maj=25.2km s-min=9.7km az=72.0*
ISC 30 18:03:05.8±0.6, 30°.22N±0°.07×139°.0E±0°.1, h450km, n33, σ1§18/40, mb3.5/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.96**	13	P	**P**	**18 04 12.2**	**-0.2**
	12nm,0.3s,baz=107,slow=18,SNR=5.5						
JHJ				S	**S**	**18 05 04.3**	**-2.4**
	53nm,0.3s,baz=252,slow=20,SNR=8.0						
CBIJ	**Chichi jima**	**4.20**	137	P	**P**	**18 04 21.9**	**-0.9**
CBIJ				*e*S	**S**	**18 05 23.7**	**-1.6**
JCJ	**Chichijima**	**4.20**	137	P	**P**	**18 04 22.2**	**-0.6**
	25nm,0.3s,baz=286,slow=18,SNR=14						
JCJ				S	**S**	**18 05 23.1**	**-2.2**
	52nm,0.3s,baz=296,slow=23,SNR=15						
JTNC	**Tanabenakahech**	**4.59**	322	P	**P**	**18 04 26.0**	**-0.2**
BSO1	**Boso 1**	**4.73**	20	P	**P**	**18 04 27.5**	**+0.7**
BSO1				*e*S	**S**	**18 05 33.0**	**0.0**
BSO3	**Boso 3**	**4.74**	15	*e*S	**S**	**18 05 32.8**	**-1.0**
JOD2	**Odawara 2**	**5.03**	1	P	**P**	**18 04 30.1**	**-0.2**
JNY	**Yasuok**	**5.21**	350	P	**P**	**18 04 32.9**	**+0.8**
JHU	**Hanno**	**5.62**	2	P	**P**	**18 04 35.0**	**-1.1**
JRY	**Ryogami san**	**5.78**	359	P	**P**	**18 04 37.4**	**-0.3**
JYT	**Yasato**	**6.07**	9	P	**P**	**18 04 39.8**	**-0.9**
JAG	**Ashikaga**	**6.20**	3	P	**P**	**18 04 40.6**	**-1.4**
MJAR	**Matsushiro Arr**	**6.33**	354	P	**P**	**18 04 42.2**	**-1.2**
	0.6nm,0.3s,baz=166,slow=11,SNR=35						
MAT	**Matsushiro**	**6.33**	354	P	**P**	**18 04 42.5**	**-0.9**
MAT				*e*S	**S**	**18 06 00.4**	**-2.9**
JHO	**Hitachi**	**6.51**	11	P	**P**	**18 04 44.5**	**-0.7**
JMK	**Ichinoseki**	**8.90**	11	P	**P**	**18 05 12.1**	**+1.4**
KSRS	**Korea Array**	**11.68**	311	P	**P**	**18 05 39.9**	**-1.1**
	0.3nm,0.3s,baz=124,slow=11,SNR=7.3						
ASAJ	**Asahikawa**	**14.16**	11	P	**P**	**18 06 10.4**	**+2.7**
	0.6nm,0.3s,baz=240,slow=8.4,SNR=8.0						
USRK	**Ussuriysk Ar.**	**15.01**	340	P	**P**	**18 06 17.1**	**+0.2**
	baz=155,slow=8.6,SNR=4.5						
SONM	**Songino Array**	**30.52**	314	P	**P**	**18 08 40.4**	**-0.3**
	0.4nm,0.4s,baz=131,slow=9.1,SNR=6.3						
CMAR	**Chiang Mai Arr**	**38.13**	261	P	**P**	**18 09 44.5**	**-0.6**
	0.8nm,0.6s,baz=67,slow=5.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**45.29**	318	P	**P**	**18 10 41.4**	**-0.2**
	0.6nm,0.3s,baz=92,slow=9.7,SNR=4.1						
ZALV				PcP	**PcP**	**18 12 12.7**	**+0.5**
	0.7nm,0.5s,baz=29,slow=3.4,SNR=2.4						
MKAR	**Makanchi Array**	**46.33**	307	P	**P**	**18 10 49.2**	**-0.5**
	1.0nm,0.6s,baz=90,slow=8.7,SNR=13						
MKAR				PcP	**PcP**	**18 12 17.0**	**+1.0**
	0.4nm,0.5s,baz=100,slow=3.2,SNR=8.3						
WRA	**Warramunga Arr**	**50.08**	186	P	**P**	**18 11 19.3**	**+1.3**
	0.3nm,0.4s,baz=0.7,slow=8.0,SNR=7.6						
ASAR	**Alice Springs**	**53.80**	186	P	**P**	**18 11 46.5**	**+1.4**
	0.2nm,0.5s,baz=353,slow=5.2,SNR=6.5						
AKTO	**Aktyubinsk**	**61.84**	314	P	**P**	**18 12 39.5**	**-0.2**
	2.0nm,0.6s,baz=127,slow=5.1,SNR=7.1						
ARCES	**ARCESS Array B**	**69.66**	340	P	**P**	**18 13 29.4**	**+0.9**
	0.9nm,0.4s,baz=67,slow=8.4,SNR=18						
KBZ	**Khabaz**	**73.83**	311	P	**P**	**18 13 54.0**	**+0.7**
	4.5nm,1.1s,baz=70,slow=5.2,SNR=4.0						
FINES	**FINESS Array B**	**73.90**	333	P	**P**	**18 13 54.1**	**+0.8**
	1.1nm,0.4s,baz=73,slow=5.0,SNR=17						
AKASG	**Malin Array Be**	**78.44**	322	P	**P**	**18 14 19.0**	**+0.2**
	0.6nm,0.4s,baz=51,slow=6.2,SNR=4.8						
NOA	**NORSAR Array B**	**79.66**	337	P	**P**	**18 14 25.1**	**0.0**
	0.5nm,0.6s,baz=45,slow=5.3,SNR=3.6						
BRTR	**Keskin Array B**	**81.83**	311	P	**P**	**18 14 37.6**	**+0.6**
	1.1nm,0.7s,baz=96,slow=3.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**120.42**	310	PKP

GSTR	**Great Sitkin T**	**1.31**	**254**			Sn	19 02 19.4	-0.9
GSMY	**Great Sitkin M**	**1.32**	**252**			Pn	19 01 57.1	-1.0
GSTD	**Great Sitkin T**	**1.37**	**254**			Pn	19 01 57.7	-1.0
GSTD						Sn	19 02 20.2	-1.3
GSSP	**Great Sitkin S**	**1.38**	**255**			Pn	19 01 57.9	-0.8
ETKA	**Kagalaska Isla**	**1.59**	**249**			Pn	19 01 59.8	-1.0
ADAG	**Mount Adagdak**	**1.66**	**254**			Pn	19 02 00.8	-0.7
ADK	**Adak**	**1.74**	**252**			Pn	19 02 01.3	-1.0
ADK						Sn	19 02 26.7	-1.3
KIWB	**Kanaga Island**	**2.02**	**254**			Pn	19 02 04.6	-0.8
KIKV	**Kanaga Island**	**2.03**	**255**			Pn	19 02 04.9	-0.6
KICM	**Kanaga Island**	**2.03**	**256**			Pn	19 02 04.8	-0.8
KIMD	**Kanaga Island**	**2.10**	**252**			Pn	19 02 05.5	-0.9
TAFP	**Tanaga Falls P**	**2.51**	**259**			Pn	19 02 10.2	-0.9
TAFP						Sn	19 02 41.6	-1.9
TASE	**Tanaga Southea**	**2.56**	**257**			Pn	19 02 11.0	-0.7
TANO	**Tanaga North**	**2.58**	**259**			Pn	19 02 11.5	-0.5
NIKH	**Nikolski High**	**3.18**	**79**			Pn	19 02 17.5	-1.8
NIKH						Sn	19 02 54.8	-3.5
OKTU	**Okmok Mt. Tuli**	**3.73**	**73**			Pn	19 02 24.7	-1.6
OKFG	**Magazine Ridge**	**3.81**	**73**			Pn	19 02 26.7	-0.6
AMKA	**Amchitka**	**4.28**	**258**			Pn	19 02 31.4	-1.9
MAPS	**Pakushin South**	**4.47**	**70**			Pn	19 02 34.0	-1.8
MAPS						Sn	19 03 24.2	-3.6
MGOD	**Makushin Gods**	**4.50**	**70**			Pn	19 02 34.5	-1.7
MREP	**Makushin Rep't**	**4.58**	**70**			Pn	19 02 35.7	-1.6
MSW	**Makushin Switc**	**4.59**	**69**			Pn	19 02 35.7	-1.6
MNAT	**Makushin Natee**	**4.64**	**69**			Pn	19 02 36.5	-1.4
LVA	**Lava Point**	**5.08**	**67**			Pn	19 02 42.2	-1.5
AKBBA	**Akutan Broad B**	**5.12**	**68**			Pn	19 02 42.8	-1.5
AKUT	**Akutan**	**5.22**	**68**	Pn		Pn	19 02 44.1	-1.5
AKSA	**Akutan Strait**	**5.26**	**68**			Pn	19 02 44.4	-1.7
WESE	**West Dahl East**	**5.38**	**67**			Pn	19 02 54.2	-1.5
ISLZ	**Isanotski Laza**	**6.54**	**66**			Pn	19 03 01.2	-1.8
FALS	**False Pass**	**6.74**	**65**	Pn		Pn	19 03 01.5	-4.1
SDPT	**Sand Point**	**8.50**	**65**			Pn	19 03 25.0	-3.9
CNBA	**Chernabura Isl**	**8.89**	**69**	Pn		Pn	19 03 29.3	-4.7
KDAK	**Kodiak Island**	**13.34**	**58**			Pn	19 04 30.9	-0.9
CNPM	**China Poot**	**14.52**	**52**	Pn		Pn	19 04 42.5	-4.1
BRLK	**Bradley Lake**	**14.77**	**51**			Pn	19 04 47.5	-2.3
BPAW	**Bear Paw Mtn.**	**16.68**	**37**	Pn		P	19 05 11.1	-1.3
MLY	**Manley**	**17.30**	**34**			P	19 05 13.8	-5.5
MLY					IAmb	IAmb	19 06 12.1	
	comp=Z,16nm,2.0s							
I23K	**Minto, Yukon-K**	**17.85**	**35**			P	19 05 22.2	-2.9
I23K					IAmb	IAmb	19 05 23.7	
	comp=Z,8.6nm,1.6s							
WRH	**Wood River Hil**	**17.95**	**38**	P		P	19 05 23.3	-3.1
WRH					IAmb	IAmb	19 06 16.6	
	comp=Z,5.6nm,1.4s							
BMRM	**Bremner River**	**18.11**	**50**	P		P	19 05 25.4	-2.8
HDA	**Harding Lake**	**18.36**	**39**	P		P	19 05 27.5	-3.3
HDA					IAmb	IAmb	19 05 29.5	
	comp=Z,4.3nm,0.6s							
IL31		**18.55**	**38**	P		P	19 05 29.4	-3.5
IL31					IAmb	IAmb	19 05 56.2	
	comp=Z,9.0nm,1.6s							
ILAR	**Eielson Array**	**18.55**	**38**	P		P	19 05 29.8	-3.1
DOT	**Dot Lake**	**19.19**	**43**	P		P	19 05 34.4	-5.4
DOT					IAmb	IAmb	19 05 37.7	
	comp=Z,7.8nm,1.4s							
SCRK	**Sand Creek**	**19.35**	**42**	P		P	19 05 38.2	-3.4
PRP	**Porcupine Dome**	**19.42**	**37**	P		P	19 05 41.1	-1.3
PRP					IAmb	IAmb	19 06 08.0	
	comp=Z,3.8nm,0.7s							
K27K	**Chicken**	**20.15**	**43**	P		P	19 05 48.4	-1.7

IDC ***30*** *19:32:18.6±0.9, 30°.33S×78°.41E, h0km, mb3.8/12, mb1 3.8/12, mb1mx3.6/58, mbtmp3.8/12, MS3.3/3, Ms1 3.3/3, ms1mx2.9/34, Error ellipse: s-maj=31.1km s-min=24.0km az=26.0*

ISC 30 19:32:20.2±0.8, 30°.4S±0°.2×78°.4E±0°.2, h10km, n20, σ0$60/12, mb3.8/12, MS3.4/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**23.28**	**345**	T	T	20 01 37.3	
	baz=168,slow=75						
H08S1	**Diego Garcia H**	**23.28**	**345**	T	T	20 01 40.5	
	baz=168,slow=75						
H08S3	**Diego Garcia H**	**23.30**	**345**	T	T	20 01 38.7	
	baz=168,slow=75						
H01W2	**Cape Leeuwin H**	**30.31**	**108**	T	T	20 10 00.6	
	baz=268,slow=74						
H01W3	**Cape Leeuwin H**	**30.32**	**108**	T	T	20 10 00.8	
	baz=268,slow=74						
H01W1	**Cape Leeuwin H**	**30.33**	**108**	T	T	20 10 02.0	
	baz=268,slow=74						
PALK	**Pallekele**	**37.49**	**4**	LR	LR	19 50 55.2	
	comp=Z,55nm,19.7s,baz=221,slow=30						
MATP	**Matopo**	**45.86**	**270**	LR	LR	19 57 27.1	
	comp=Z,29nm,19.9s,baz=133,slow=33						
LSZ	**Lusaka**	**48.30**	**276**	P	**P**	**19 41 02.8**	**+0.8**
	1.4nm,0.4s,baz=165,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	**49.47**	**96**	P	**P**	**19 41 11.3**	**+0.3**
	0.9nm,0.9s,baz=246,slow=5.8,SNR=7.2						
WRA	**Warramunga Arr**	**51.23**	**92**	P	**P**	**19 41 25.2**	**+0.9**
	0.6nm,0.9s,baz=247,slow=8.4,SNR=2.0						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**19 42 24.6**	**-0.6**
	1.0nm,0.8s,baz=236,slow=3.6,SNR=3.1						
MKAR	**Makanchi Array**	**76.88**	**3**	P	**P**	**19 44 11.4**	**-0.8**
	0.5nm,0.7s,baz=164,slow=5.6,SNR=6.1						
KURBB	**Kurchatov Arra**	**80.63**	**0**	P	**P**	**19 44 32.7**	**0.0**
	0.2nm,0.7s,baz=201,slow=5.7,SNR=3.1						
BRTR	**Keskin Array B**	**81.20**	**327**	P	**P**	**19 44 36.5**	**+0.3**
	0.7nm,0.7s,baz=156,slow=6.7,SNR=4.5						
SONM	**Songino Array**	**81.80**	**19**	P	**P**	**19 44 39.0**	**-0.2**
	0.3nm,0.5s,baz=188,slow=5.5,SNR=3.0						
AKTO	**Aktyubinsk**	**82.45**	**347**	P	**P**	**19 44 42.0**	**-0.3**
	0.9nm,0.5s,baz=160,slow=1.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**84.15**	**4**	P	**P**	**19 44 50.5**	**-0.5**
	0.5nm,0.4s,baz=160,slow=4.6,SNR=3.9						
ZALV				LR	LR	20 21 39.8	
	comp=Z,17nm,18.8s,baz=36,slow=35						
TORD	**Torodi Ar. Bea**	**85.43**	**288**	P	**P**	**19 44 58.2**	**-0.3**
	0.4nm,0.8s,baz=132,slow=3.4,SNR=1.9						
AKASG	**Malin Array Be**	**91.66**	**331**	P	**P**	**19 45 27.5**	**+0.3**
	0.1nm,0.3s,baz=144,slow=3.3,SNR=1.8						

ROM 30 19:35:00.2±0.3, 37°.281N±0°.010×16°.96E±0°.01, h36km±1km, ML2.2/7, 3C-1D, Error ellipse: s-maj=1.3km s-min=1.0km az=303.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAZ	**Palizzi**	**1.01**	**312**	P	Pn	19 35 18.9	+1.1
MPAZ				S	Sn	19 35 31.9	+1.1
MPAZ				AML	AML		
	comp=N,83μm,1.3s						
MPAZ				AML	AML		
	comp=N,83μm,1.3s						
MPAZ				AML	AML		
	comp=E,64μm,0.4s						
SOI	**Samo**	**1.07**	**318**	P	Pn	19 35 19.7	+1.1
SOI				S	Sn	19 35 33.5	+1.2
SOI				AML	AML		
	comp=N,29μm,1.1s						
SOI				AML	AML		
	comp=E,37μm,1.3s						
PLAC	**Placanica**	**1.24**	**341**	⇓P	Pn	19 35 21.6	+0.6
PLAC				S	Sn	19 35 36.9	+0.4
HAGA	**Augusta**	**1.44**	**271**	P	Pn	19 35 23.9	+0.2
HAGA				S	Sn	19 35 41.5	+0.2
HAVL	**Avola**	**1.50**	**258**	P	Pn	19 35 25.1	+0.5
HAVL				S	Sn	19 35 43.8	+0.9
HAVL				AML	AML		
	comp=E,102μm,1.3s						
HAVL				AML	AML		
	comp=N,106μm,1.1s						
SSY	**Sortino**	**1.51**	**266**	P	Pn	19 35 25.1	+0.4
SSY				S	Sn	19 35 44.2	+1.0
SSY				AML	AML		
	comp=N,118μm,1.1s						
SSY				AML	AML		
	comp=E,57μm,1.1s						
JOPP	**Joppolo**	**1.57**	**328**	P	Pn	19 35 26.6	+1.0
MEU	**Monte Lauro**	**1.63**	**264**	P	Pn	19 35 28.0	+1.6
MEU				S	Sn	19 35 48.7	+2.4
MEU				AML	AML		
	comp=E,66μm,1.5s						
MEU				AML	AML		
	comp=N,99μm,0.2s						
HLNI	**Lentini**	**1.67**	**273**	P	Pn	19 35 27.1	+0.3
HLNI				S	Sn	19 35 47.2	+0.2
HLNI				AML	AML		
	comp=N,132μm,0.3s						
HLNI				AML	AML		
	comp=E,131μm,0.8s						
RAFF	**Raffo Rosso**	**2.08**	**269**	P	Pn	19 35 33.5	+1.1
RAFF				S	Sn	19 35 57.6	+0.5
RAFF				AML	AML		
	comp=N,35μm,1.5s						
RAFF				AML	AML		
	comp=E,28μm,1.0s						
NOCI	**Noci**	**3.50**	**1**	⇑P	Pn	19 35 50.2	-1.8
NOCI				S	Sn	19 36 29.0	-3.3
AMUR	**Altamura**	**3.63**	**356**	⇑P	Pn	19 35 53.0	-0.8
MRVN	**Minervino Murg**	**3.82**	**351**	P	Pn	19 35 56.0	-0.5
LIK	**San Giovanni I**	**4.97**	**329**	P	Pn	19 36 15.7	+3.4
LSTV	**Lastovo**	**5.48**	**359**	Sn	Sn	19 37 12.8	-8.2
STON	**Ston**	**5.61**	**6**	*e*Pn	Pn	19 36 16.9	-4.1
STON				Sn	Sn	19 37 14.8	-9.4
ARRO	**Arrone**	**6.20**	**330**	⇑P	Pn	19 36 33.1	+4.0
MORI	**Morici**	**6.65**	**352**	*e*Pn	Pn	19 36 32.4	-2.8
MORI				Sn	Sn	19 37 42.9	-6.8
KIJV	**Kijevo**	**6.73**	**357**	Sn	Sn	19 37 44.1	-7.7
PE3	**Peglio**	**7.25**	**333**	P	Pn	19 36 42.3	-1.3

IDC ***30*** *19:44:44.5±0.5, 39°.36N×73°.67E, h0km, mb4.1/24, mb1 4.2/29, mb1mx4.0/63, mbtmp4.1/29, ML3.4/6, MS3.3/16, Ms1 3.3/16, ms1mx3.2/38, Error ellipse: s-maj=10.7km s-min=9.6km az=113.0*

BJI ***30*** *19:44:44.9±0.0, 39°.54N×73°.50E, h7km, mB4.4/10, mb4.3/18, ML4.2/6, Ms3.9/7, Ms7 3.6/7*

SOME ***30*** *19:44:46.5, 39°.60N×73°.63E, h0km*

ISU ***30*** *19:44:46, 39°.55N×73°.70E, h5km*

KRNET ***30*** *19:44:46.7±0.1, 39°.50N×73°.62E, h6km, mb4.4*

NEIC ***30*** *19:44:50.4, 39°.60N×73°.66E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; Mrr=1.50; Mθθ=0.19; Mφφ=1.31; Mrθ=0.70; Mθφ=0.69; Mφr=0.67; Fault plane solution: M0=1.85000×10^{15} NP1:φs216.49000°, δ60.97000°, λ-78.53000°. NP2:φs13.81000°, δ31.03000°, λ-109.71000°. Principal axes: T 1.8836, Plg15.0000°, Azm298.0000°; N -0.0766, Plg10.0000°, Azm31.0000°; P -1.8070, Plg72.0000°, Azm153.0000°;*

NEIC ***30*** *19:44:50.4±2.1, 39°.60N±0°.05×73°.66E±0°.04, h29km±4km, mb4.4/54, Mwr4.1/26 Error ellipse: s-maj=7.9km s-min=3.8km az=153.0*

MOS ***30*** *19:44:51.3±1.3, 39°.54N×73°.76E, h59km, mb4.5/13, Error ellipse: s-maj=6.8km s-min=5.1km az=97.1*

NNC ***30*** *19:44:51.8±1.1, 39°.74N×73°.81E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=9.2km s-min=7.3km az=144.0*

ISC 30 19:44:46.4±0.9, 39°.58N±0°.03×73°.82E±0°.02, h11km±5km, n275, σ1$98/315, mb4.5/59, MS3.4/16, 52C-26D, Fault plane solution: NP1:φs7.17897°, δ26.67083°, λ-87.98555°. NP2:φs184.92490°, δ63.34695°, λ-91.01157°. Principal axes: T Plg18.3410°, Azm275.6784°; N Plg0.9041°, Azm185.3787°; P Plg71.6351°, Azm92.6542°; Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.50**	**331**	⇑*i*P	**Pg**	**19 44 56.5**	**+0.3**
	baz=50						
SFK				⇑*i*S	**Sb**	**19 45 04.2**	**-0.6**
	baz=50						
SFK	**Sufi-Kurgan**	**0.50**	**331**	*e*P	**Pg**	**19 44 56.0**	**-0.2**
SFK				*e*S	**Sg**	**19 45 04.0**	**+1.1**
OHH	**Osh**	**1.23**	**320**	⇑*i*P	**Pn**	**19 45 09.6**	**-0.1**
	baz=28						
OHH				⇑*i*S	**Sg**	**19 45 26.6**	**+0.4**
	baz=28						
OHH	**Osh**	**1.23**	**320**	*e*P	**Pn**	**19 45 09.0**	**-0.7**
OHH				*e*S	**Sb**	**19 45 22.0**	**-3.8**
DRK	**Karamyk**	**1.56**	**267**	⇓*i*P	**Pn**	**19 45 13.5**	**-0.9**
	baz=70						
DRK				⇓*i*S	**Sn**	**19 45 32.8**	**-2.0**
	baz=70						
DRK	**Karamyk**	**1.56**	**267**		**Pn**	**19 45 13.6**	**-0.9**
DRK				Sn	**Sn**	**19 45 32.5**	**-2.3**
ANR	**Andizhan**	**1.62**	**317**	*e*P	**Pb**	**19 45 17.0**	**+0.6**
ANR				*e*S	**Sg**	**19 45 41.0**	**+2.4**
KSH	**Kashi**	**1.67**	**91**	Pg	**Pn**	**19 45 14.3**	**-1.4**
KSH				Sg	**Sn**	**19 45 35.5**	**-1.7**
KSH				SMN			
	3μm,0.6s						
KSH				SME			
	2μm,0.4s						
FRG	**Fergana**	**1.94**	**307**	*e*P	**Pn**	**19 45 18.0**	**-1.4**
FRG				*e*S	**Sn**	**19 45 42.0**	**-1.8**
ARLS	**Aral**	**2.31**	**9**	⇓*i*P	**Pb**	**19 45 29.9**	**+1.6**
	baz=13						
ARLS				⇓*i*S	**Sg**	**19 46 00.9**	**+0.1**
	baz=13						
BTK	**Batken**	**2.36**	**283**	⇑*i*P	**Pn**	**19 45 27.1**	**+1.9**
	baz=85						
BTK				⇑*i*S	**Sb**	**19 45 56.6**	**-1.5**
	baz=85						
BTK	**Batken**	**2.36**	**283**	PN	**Pb**	**19 45 27.9**	**-1.1**
BTK	**Batken**	**2.36**	**283**	Pn	**Pb**	**19 45 27.9**	**-1.1**
BTK				LR	LR	19 45 59.5	
BTK	**Batken**	**2.36**	**283**	*e*P	**Pb**	**19 45 29.0**	**0.0**
BTK				*e*S	**Sg**	**19 46 02.0**	**-0.2**
AML	**Almayashu**	**2.55**	**358**	⇑*i*P	**Pb**	**19 45 32.6**	**+0.1**
	baz=1.0						
AML				⇑*i*S	**Sg**	**19 46 06.5**	**-2.0**
	baz=1.0						
AML	**Almayashu**	**2.55**	**358**	P	**Pb**	**19 45 32.3**	**-0.2**
	SNR=213						
GAR	**Garm**	**2.77**	**259**	⇑*i*P	**Pn**	**19 45 32.4**	**+1.5**
	baz=60						
GAR				⇑*i*S	**Sn**	**19 46 05.4**	**+0.9**
	baz=60						
GAR	**Garm**	**2.77**	**259**	Pn	**Pn**	**19 45 33.6**	**+2.7**
TRKS	**Terek-Say**	**2.82**	**315**	⇑*i*P	**Pn**	**19 45 33.8**	**+2.2**
	baz=17						
TRKS				⇑*i*S	**Sn**	**19 46 07.8**	**+2.1**
	baz=17						
MNAS	**Manas**	**3.07**	**342**	⇓*i*P	**Pb**	**19 45 39.2**	**-2.0**
	baz=45						
MNAS				⇓*i*S	**Sb**	**19 46 17.7**	**-1.1**
	baz=45						
EKS2	**Erkin-Say**	**3.08**	**359**	⇑*i*P	**Pb**	**19 45 40.2**	**-1.2**
	baz=2.0						
EKS2				⇑*i*S	**Sb**	**19 46 18.8**	**-0.2**
	baz=2.0						
EKS2	**Erkin-Say**	**3.08**	**359**	P	**Pb**	**19 45 40.9**	**-0.5**
	SNR=37						
AAK	**Ala-Archa**	**3.10**	**9**	Pn	**Pb**	**19 45 40.9**	**-0.8**
	29nm,0.3s,baz=172,slow=6.4,SNR=82						
AAK				LR	LR	19 46 21.5	
	comp=Z,57nm,19.4s,baz=204,slow=29						
AAK				Sn	**Sg**	**19 46 23.6**	**-2.4**
	23nm,0.3s,baz=330,slow=19,SNR=3.9						
AAK				Lg	Lg	19 46 29.0	
	56nm,0.3s,baz=294,slow=20,SNR=5.5						
AAK	**Ala-Archa**	**3.10**	**9**	⇓*i*P	**Pb**	**19 45 40.8**	**-0.8**
	baz=12						
AAK				⇓*i*S	**Sb**	**19 46 19.9**	**+0.3**
	baz=12						
AAK	**Ala-Archa**	**3.10**	**9**	P	**Pb**	**19 45 41.2**	**-0.5**
	SNR=64						
AAK	**Ala-Archa**	**3.10**	**9**	⇑Pn	**Pb**	**19 45 41.0**	**-0.7**
	159nm,0.7s						
AAK				⇑Lg	Lg	19 46 23.9	
	461nm,0.6s						
AAK	**Ala-Archa**	**3.10**	**9**	Pn	**Pb**	**19 45 41.0**	**-0.7**
MRKS	**Merke**	**3.20**	**352**	*e*P	**Pb**	**19 45 45.0**	**+1.7**
	89nm,0.4s						
MRKS				*e*S	**Sg**	**19 46 27.2**	**-1.9**
	1μm,0.9s						
MRKS	**Merke**	**3.20**	**352**	Pg	**Pb**	**19 45 45.0**	**+1.7**
	89nm,0.4s						
MRKS				Lg	Lg	19 46 27.2	
	1μm,0.9s						
MRKS	**Merke**	**3.20**	**352**	*e*PN	**Pb**	**19 45 45.0**	**+1.7**
MRKS				*e*S	**Sg**	**19 46 27.2**	**-1.9**
ULHL	**Ulahol**	**3.24**	**34**	⇑*i*P	**Pb**	**19 45 42.9**	**-1.2**
	baz=35						
ULHL				⇑*i*S	**Sb**	**19 46 24.0**	**+0.4**
	baz=35						
ULHL	**Ulahol**	**3.24**	**34**	P	**Pb**	**19 45 44.1**	**+0.1**
	SNR=34						
FRU1	**Bishkek**	**3.29**	**11**	⇑*i*P	**Pb**	**19 45 43.5**	**-1.3**
	baz=12						
FRU1				⇑*i*S	**Sb**	**19 46 25.0**	**+0.1**
	baz=12						
FRU1	**Bishkek**	**3.29**	**11**	PN	**Pb**	**19 45 44.0**	**-0.8**
FRU1	**Bishkek**	**3.29**	**11**		**Pb**	**19 45 44.0**	**-0.8**
BOOM	**Boomskoye usch**	**3.33**	**28**	⇑*i*P	**Pb**	**19 45 44.4**	**-1.1**
	baz=30						
BOOM				⇑*i*S	**Sb**	**19 46 26.3**	**+0.2**
	baz=30						
BOOM	**Boomskoye usch**	**3.33**	**28**	PN	**Pb**	**19 45 44.4**	**-1.1**
BOOM	**Boomskoye usch**	**3.33**	**28**	Pn	**Pb**	**19 45 44.4**	**-1.1**
CHMS	**Chumysh**	**3.49**	**11**	⇑*i*P	**Pb**	**19 45 45.9**	**-2.3**
	baz=13						
CHMS				⇑*i*S	**Sb**	**19 46 29.4**	**-1.3**
	baz=13						
CHMS	**Chumysh**	**3.49**	**11**	P	**Pb**	**19 45 46.0**	**-2.3**
	SNR=41						
CHMG	**Chimgan**	**3.50**	**305**	*e*P	**Pb**	**19 45 46.0**	**-2.6**
CHMG				*e*S	**Sb**	**19 46 29.0**	**-2.2**
TKM2	**Tokmak 2**	**3.60**	**21**	⇑*i*P	**Pb**	**19 45 47.7**	**-2.5**
	baz=23						
TKM2				⇑*i*S	**Sb**	**19 46 32.7**	**-1.3**
	baz=23						
TKM2	**Tokmak 2**	**3.60**	**21**	P	**Pb**	**19 45 48.1**	**-2.1**
	SNR=99						
TKM2	**Tokmak 2**	**3.60**	**21**	⇓Pn	**Pb**	**19 45 48.0**	**-2.3**
	110nm,1.1s						
TKM2				Lg	Lg	19 46 40.1	
	390nm,0.8s						
KDJ	**Kajisay**	**3.61**	**44**	⇓*i*P	**Pb**	**19 45 48.8**	**-1.5**
	baz=45						
KDJ				⇓*i*S	**Sb**	**19 46 33.8**	**-0.4**
	baz=45						
KDJ	**Kajisay**	**3.61**	**44**	PN	**Pn**	**19 45 46.5**	**+4.1**
KDJ	**Kajisay**	**3.61**	**44**	Pn	**Pn**	**19 45 46.5**	**+4.1**
TARG	**Taragay, Kyrgy**	**3.72**	**53**		**Pb**	**19 45 49.3**	**-3.1**
USP	**Ospenovka**	**3.72**	**8**	⇑*i*P	**Pb**	**19 45 49.0**	**-3.2**
	baz=10.0						
USP				⇑*i*S	**Sb**	**19 46 34.3**	**-3.1**
	baz=10.0						
USP	**Ospenovka**	**3.72**	**8**	P	**Pb**	**19 45 49.3**	**-3.0**
	SNR=36						
CHGR	**Chuyangaron**	**3.74**	**257**	⇑*i*P	**Pn**	**19 45 45.8**	**+1.7**
	baz=58						
CHGR				⇑*i*S	**Sn**	**19 46 28.5**	**+0.3**
	baz=58						
CHGR	**Chuyangaron**	**3.74**	**257**	Pn	**Pn**	**19 45 46.0**	**+1.9**
DZA	**Taraz**	**3.81**	**331**	*e*P	**Pb**	**19 45 56.4**	**+2.8**
	85nm,0.2s						
DZA				*e*S	**Sg**	**19 46 46.7**	**-1.9**
	1μm,0.6s						
DZA	**Taraz**	**3.81**	**331**	*e*PN	**Pb**	**19 45 56.4**	**+2.8**
KST	**Kastek**	**3.82**	**24**	*e*P	**Pg**	**19 45 58.3**	**-1.3**
	124nm,0.5s						
KST				*e*S	**Sg**	**19 46 50.1**	**+1.0**
	452nm,0.8s						
KST	**Kastek**	**3.82**	**24**	Pg	**Pg**	**19 45 58.3**	**-1.3**
	124nm,0.5s						
KST				Lg	Lg	19 46 50.1	
	452nm,0.8s						
KST	**Kastek**	**3.82**	**24**	*e*PN	**Pg**	**19 45 58.3**	**-1.3**
SGDS	**Sogindy**	**3.92**	**9**	Pg	**Pg**	**19 45 59.9**	**-1.6**
	56nm,0.6s						
SGDS				Lg	Lg	19 46 53.0	
	363nm,0.4s						
DGS	**Degeres**	**3.95**	**21**	*e*P	**Pg**	**19 46 00.8**	**-1.2**
	158nm,0.7s						
DGS				*e*S	**Sg**	**19 46 54.6**	**+1.4**
	375nm,1.2s						
DGS	**Degeres**	**3.95**	**21**	Pg	**Pg**	**19 46 00.8**	**-1.2**
	158nm,0.7s						
DGS				Lg	Lg	19 46 54.6	
	375nm,1.2s						
DGS	**Degeres**	**3.95**	**21**	*e*PN	**Pg**	**19 46 00.8**	**-1.2**
IZV	**Izvestkoviy**	**4.05**	**30**	*e*P	**Pg**	**19 46 02.4**	**-1.5**
	93nm,0.6s						
IZV				*e*S	**Sg**	**19 46 57.3**	**+0.9**
	296nm,0.8s						
IZV	**Izvestkoviy**	**4.05**	**30**	Pg	**Pg**	**19 46 02.4**	**-1.5**
	93nm,0.6s						
IZV				Lg	Lg	19 46 57.3	
	296nm,0.8s						
IZV	**Izvestkoviy**	**4.05**	**30**	*e*PN	**Pg**	**19 46 02.4**	**-1.5**
KK31	**Karatay Array**	**4.31**	**326**	PN	**Pn**	**19 45 55.5**	**+3.5**
KK31	**Karatay Array**	**4.31**	**326**	Pn	**Pn**	**19 45 55.5**	**+3.5**
KKAR	**Karatay Array**	**4.31**	**326**	PN	**Pn**	**19 45 54.8**	**+2.8**
KKAR	**Karatay Array**	**4.31**	**326**	Pn	**Pn**	**19 45 54.8**	**+2.8**
KKAR	**Karatay Array**	**4.31**	**326**		**Pn**	**19 45 55.6**	**+3.6**
AAA	**Alma-Ata**	**4.31**	**32**	*e*P	**Pg**	**19 46 07.6**	**-1.4**
	66nm,0.3s						
AAA				*e*S	**Sg**	**19 47 06.2**	**+1.3**
	503nm,0.5s						
AAA	**Alma-Ata**	**4.31**	**32**	Pg	**Pg**	**19 46 07.6**	**-1.4**
	66nm,0.3s						
AAA				Lg	Lg	19 47 06.2	
	503nm,0.5s						
AAA	**Alma-Ata**	**4.31**	**32**	*e*PN	**Pg**	**19 46 07.6**	**-1.4**
ANVS	**Anan'yevo**	**4.33**	**41**	⇑*i*P	Pb	19 45 57.9	-4.7
	baz=42						
ANVS				⇑*i*S	**Sb**	**19 46 50.0**	**-4.8**
	baz=42						
MDOK	**Medeo**	**4.33**	**33**	*e*P	**Pg**	**19 46 07.9**	**-1.5**
	62nm,0.5s						
MDOK				*e*S	**Sg**	**19 47 06.3**	**+0.9**
	269nm,0.8s						
MDOK	**Medeo**	**4.33**	**33**	Pg	**Pg**	**19 46 07.9**	**-1.5**
	62nm,0.5s						
MDOK				Lg	Lg	19 47 06.3	
	269nm,0.8s						
MDOK	**Medeo**	**4.33**	**33**	*e*PN	**Pg**	**19 46 07.9**	**-1.5**
KRBS	**Karabastau**	**4.35**	**18

SHLS 72nm,0.5s eS Sg 19 47 54.4 +10
SHLS 178nm,0.8s **Shalkode** 5.55 48 Pg **Pg** **19 46 35.8 +3.0**
SHLS 72nm,0.5s Lg Lg 19 47 54.4
PDGK 178nm,0.8s **Podgornoye** 5.68 47 Pg **Pg** **19 46 32.7 -2.4**
PDGK 13nm,0.7s Lg Lg 19 47 49.0
CHCP 64nm,1.2s **Chirah Chowk** 5.92 184 P **Pn** **19 46 18.6 +4.5**
NIL **Nilore** 5.93 185 PN **Pn** **19 46 18.3 +4.0**
NIL **Nilore** 5.93 185 Pn **Pn** **19 46 18.3 +4.0**
CEP **Cherat** 5.94 196 P **Pn** **19 46 18.7 +4.2**
KTMS 1.4nm,0.4s **Ketmen** 6.25 50 *e*P **Pg** **19 46 43.3 -2.7**
KTMS eS **Sg** **19 48 07.0 +0.2**
KTMS 60nm,0.5s **Ketmen** 6.25 50 Pg **Pg** **19 46 43.3 -2.7**
KTMS 1.4nm,0.4s Lg Lg 19 48 07.0
KBL 60nm,0.5s **Kabul** 6.31 219 PN **Pn** **19 46 22.8 +3.2**
KBL **Kabul** 6.31 219 Pn **Pn** **19 46 22.8 +3.2**
TDK **Taldyqorghan** 6.40 31 *e*P **Pg** **19 46 45.2 -3.7**
TDK 59nm,0.8s eS **Sg** **19 48 10.7 -1.1**
TDK 269nm,0.6s **Taldyqorghan** 6.40 31 Pg **Pg** **19 46 45.2 -3.7**
TDK 59nm,0.8s Lg Lg 19 48 10.7
DJR 269nm,0.6s **Jarkent** 6.51 41 *e*P **Pg** **19 46 49.0 -2.1**
DJR 1.3nm,0.5s eS **Sg** **19 48 17.1 +1.7**
DJR 9.9nm,0.7s **Jarkent** 6.51 41 Pg **Pg** **19 46 49.0 -2.1**
DJR 1.3nm,0.5s Lg Lg 19 48 17.1
THW 9.9nm,0.7s **Thamme Wali** 6.97 195 P **Pn** **19 46 31.6 +3.1**
KAPS **Kapalarasan** 7.02 34 *e*P **Pg** **19 46 57.5 -3.3**
KAPS 2.5nm,0.6s eS **Sg** **19 48 31.9 +0.2**
KAPS 11nm,0.8s **Kapalarasan** 7.02 34 Pg **Pg** **19 46 57.5 -3.3**
KAPS 2.5nm,0.6s Lg Lg 19 48 31.9
THN 11nm,0.8s **Thein Dam** 7.29 167 *e*P **Pn** **19 46 37.0 +4.1**
THN eS **Pg** **19 47 02.5 -3.5**
DHRM **DHARAMSHALA** 7.58 164 *e*P **Pn** **19 46 38.8 +1.7**
DHRM eS **Sn** **19 48 03.2 0.0**
DHRM IAML 19 48 14.5
SMLA comp=E,215nm,0.4s **Simla** 8.86 161 *e*P **Pn** **19 46 56.7 +2.3**
SMLA eS **Sn** **19 48 27.9 -6.3**
SMLA IAML 19 48 38.4
SMLA comp=N,107nm,0.4s IAML 19 48 38.5
MAKZ comp=E,89nm,0.6s **Makanchi** 9.36 37 ⇑Pn Pn 19 47 07.3 +6.0
MAKZ comp=E,3.3nm,0.9s ⇓Lg Lg 19 49 43.4
MAKZ comp=E,18nm,1.1s **Makanchi** 9.36 37 P Pn 19 47 06.5 +5.2
MAKZ **Makanchi** 9.36 37 Pn 19 47 06.5 +5.2
MK31 **Makanchi Array** 9.50 38 P **Pn** **19 47 06.7 +3.5**
MK31 **Makanchi Array** 9.50 38 Pn **Pn** **19 47 06.7 +3.5**
MKAR **Makanchi Array** 9.50 38 Pn **Pn** **19 47 07.8 +4.6**
MKAR comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=19 Lg Lg 19 49 48.8
MKAR comp=E,0.4nm,0.3s,baz=229,slow=24,SNR=3.2 LR LR 19 51 13.7
MKAR comp=E,164nm,21.4s,baz=221,slow=40 **Makanchi Array** 9.50 38 Pn Pn 19 47 08.2 +5.0
HRA **Herat** 10.60 244 Pn **Pn** **19 47 18.6 +0.1**
KURBB **Kurchatov Arra** 11.53 15 Pn **Pn** **19 47 32.8 +1.9**
KURBB comp=E,0.1nm,0.3s,baz=206,slow=12,SNR=13 Lg Lg 19 50 48.8
KURBB comp=E,0.1nm,0.3s,baz=207,slow=43,SNR=5.3 **Kurchatov Arra** 11.53 15 ⇓Pn **Pn** **19 47 34.2 +3.3**
KURBB comp=E,2.9nm,0.7s,baz=197,slow=16 ⇑Lg Lg 19 50 54.0
KURK comp=E,153nm,1.1s,baz=194,slow=29 **Kurchatov** 11.64 15 P **Pn** **19 47 32.8 +0.4**
KURK **Kurchatov** 11.64 15 **Pn** **19 47 32.8 +0.4**
GEYT **Alibeck** 12.37 267 Pn **Pn** **19 47 40.0 -2.5**
GEYT comp=E,0.4nm,0.3s,baz=128,slow=9.5,SNR=1.9 Sn **Sn** **19 49 54.2 -6.1**
GEYT comp=E,0.3nm,0.3s,baz=136,slow=54,SNR=1.6 LR LR 19 53 04.6
GYA0B comp=E,65nm,18.8s,baz=220,slow=41 **ALIBECK ARRAY** 12.37 267 Pn **Pn** **19 47 43.6 +1.2**
BRVK **Borovoye** 13.70 351 ⇓Pn **P** **19 48 08.5 -0.8**
BRVK comp=E,22nm,0.7s ⇑Lg Lg 19 52 04.2
BRVK comp=E,63nm,1.4s **Borovoye** 13.70 351 *ce*P **Pn** **19 48 01.0 +0.5**
BRVK comp=Z,9.0nm,0.6s pmax pmax
BRVK **Borovoye** 13.70 351 Pn **Pn** **19 48 00.7 +0.1**
ABKAR **Akbulak array** 13.83 319 Pn **Pn** **19 48 02.2 -0.1**
ABKAR **Akbulak array** 13.83 319 **Pn** **19 48 01.5 -0.8**
DGZ **Jazzator, Alta** 13.99 39 *i*P **P** **19 48 10.2 -2.5**
AKTO **Aktyubinsk** 15.54 319 Pn **Pn** **19 48 25.4 -0.1**
AKTO comp=Z,0.2nm,0.3s,baz=129,slow=16,SNR=15 Sn **Sn** **19 51 13.6 -4.0**
AKTO comp=Z,0.2nm,0.3s,baz=22,slow=19,SNR=2.4 **Aktyubinsk** 15.54 319 ⇓Pn **P** **19 48 31.0 +1.2**
ZAA0 comp=Z,12nm,0.8s **Zalesovo Array** 16.20 24 Pn **P** **19 48 35.6 -1.4**
ZALV **Zalesovo Beam** 16.20 24 Pn **P** **19 48 35.9 -1.2**
ZALV comp=Z,0.9nm,0.3s,baz=215,slow=9.3,SNR=22 Lg Lg 19 53 24.1
ZALV comp=Z,0.1nm,0.3s,baz=208,slow=24,SNR=1.5 LR LR 19 55 38.5
BHPL comp=Z,54nm,21.7s,baz=206,slow=40 **Bhopal** 16.57 168 *e*P **Pn** **19 48 38.1 -0.8**
BHPL eS **Sn** **19 51 36.3 -6.5**
LSA **Lhasa** 17.31 119 P **P** **19 48 49.7 -0.3**
LSA comp=Z,6.0nm,0.8s pmax pmax
LSA **Lhasa** 17.31 119 P **P** **19 48 49.7 -0.3**
LKRN **Lenkeran, Azer** 19.43 275 P **Pn** **19 49 17.2 +3.4**
ARU **Arti** 19.63 334 *c*P **Pn** **19 49 16.9 +0.7**
ARU S **S** **19 52 54.6 -1.5**
ARU comp=Z,17nm,0.9s pmax pmax
ARU comp=Z,168nm,11.0s MLR MLR
ARU **Arti** 19.63 334 **Pn** **19 49 15.9 -0.3**
ARU IAmb IAmb 19 49 20.4
AKT comp=Z,16nm,0.9s **Akhty** 19.90 284 *e*P **Pn** **19 49 22.4 +2.8**
AKT eS **S** **19 53 01.0 -0.9**
AKT pmax pmax
AKT comp=Z,6.0nm,0.6s smax smax
AKT comp=N,12nm,0.5s smax smax
GTA comp=E,7.0nm,0.4s **Gaotai** 20.05 82 ⇑P Pn 19 49 23.5 +2.1
GTA pP sP 19 49 28.5 +2.5
GTA sP pP 19 49 31.8 +8.2
GTA comp=E,4.0nm,0.8s pmax pmax
GTA comp=E,75nm,6.7s pmax pmax
GTA comp=E,84nm,18.2s L L
GTA comp=E,73nm,17.1s L L
GTA comp=E,120nm,14.9s L L
SEKA **Sheki** 20.32 283 P Pn 19 49 24.5 0.0
MNGR **Mingechevir, A** 20.44 282 P Pn 19 49 29.6 +3.8
SHL **Shillong** 20.61 127 P Pn 19 49 27.3 -0.8
SHL comp=Z,13nm,0.8s pmax pmax
SHL **Shillong** 20.61 127 P **P** **19 49 27.3 +1.4**
SHL comp=Z,13nm,0.8s IAmb IAmb 19 49 31.8
WSAR **Wadi Sarin** 20.76 223 P **P** **19 49 24.1 -3.3**
comp=Z,5.4nm,1.1s,baz=78,slow=9.3,SNR=1.5

GANJ **Ganja** 21.03 282 P P 19 49 37.9 +7.8
GROC **Groznyy** 21.29 289 *e*P **P** **19 49 36.1 +3.2**
GROC *e**PP sP 19 49 52.9 +14
GROC *e* 19 53 39.4
GROC *e**SS **SnSn** **19 53 55.6 +4.3**
GROC comp=Z,26nm,0.8s pmax pmax
NAX **Nakhchivan** 21.86 278 P **P** **19 49 43.7 +4.5**
BELG **Belogornoye** 22.11 314 P **P** **19 49 41.5 -0.1**
comp=Z,17nm,0.8s,baz=352,slow=2.5,SNR=11
BELG **Belogornoye** 22.11 314 *i*P **P** **19 49 41.7 +0.1**
BELG comp=Z,7.0nm,0.8s pmax pmax
GNI **Garni** 22.29 281 P **P** **19 49 43.7 -0.1**
comp=Z,9.7nm,0.8s,baz=74,slow=7.4,SNR=3.9
GNI **Garni** 22.29 281 *i*P **P** **19 49 45.3 +1.5**
GNI comp=Z,27nm,1.2s pmax pmax
GNI **Garni** 22.29 281 P **P** **19 49 43.5 -0.4**
GNI IAmb IAmb 19 50 05.8
MOY comp=Z,25nm,1.1s **Mondy** 22.38 48 *e*P **P** **19 49 48.5 +3.8**
MOY comp=Z,13nm,1.4s pmax pmax
HYB **Hyderabad** 22.46 168 *i*P **P** **19 49 45.0 -0.7**
ONI **Oni** 23.02 287 P **P** **19 49 51.2 -0.3**
ONI comp=Z,15nm,0.9s pmax pmax
ONI **Oni** 23.02 287 P **P** **19 49 51.2 -0.3**
ONI comp=Z,15nm,0.9s IAmb IAmb 19 49 57.0
ZAK **Zakamensk** 23.33 53 *e*P **P** **19 49 56.9 +2.4**
ZAK comp=Z,3.0nm,1.3s pmax pmax
KBZ **Khabaz** 23.40 290 P **P** **19 49 54.1 -1.1**
comp=Z,0.9nm,0.6s,baz=102,slow=13,SNR=1.5
KBZ **Khabaz** 23.40 290 *i*P **P** **19 49 57.9 +2.7**
KBZ comp=Z,5.0nm,1.0s pmax pmax
KVAR **Kislovodsk Arr** 23.54 291 P **P** **19 49 55.2 -1.6**
comp=Z,5.3nm,1.0s,baz=236,slow=15,SNR=1.5
KIV **Kislovodsk** 23.55 291 *e*P **P** **19 49 58.1 +1.3**
KIV comp=Z,19nm,1.0s pmax pmax
KIV comp=Z,90nm,14.0s MLR MLR
KIV **Kislovodsk** 23.55 291 P **P** **19 49 57.4 +0.6**
KIV comp=Z,14nm,1.1s IAmb IAmb 19 50 38.6
SHA1 **Shidzhatmaz** 23.57 290 *e*P **P** **19 49 57.6 +0.4**
TLY **Talaya** 23.93 50 *i*P **P** **19 50 02.0 +1.6**
TLY comp=Z,2.0nm,0.8s pmax pmax
TLY **Talaya** 23.93 50 P **P** **19 50 01.7 +1.4**
KIRV **Kirov** 24.60 329 P **P** **19 50 07.6 +1.2**
comp=Z,13nm,0.6s,baz=335,slow=2.8,SNR=6.0
KIRV **Kirov** 24.60 329 *ce*P **P** **19 50 08.3 +1.9**
SONM **Songino Array** 24.81 60 P **P** **19 50 10.5 +1.9**
comp=Z,3.1nm,0.8s,baz=264,slow=10,SNR=17
SONM LR LR 20 00 56.3
comp=Z,121nm,18.2s,baz=251,slow=39
SONM **Songino Array** 24.81 60 P **P** **19 50 10.1 +1.5**
SONM comp=Z,4.0nm,1.1s pmax pmax
SONM **Songino Array** 24.81 60 P **P** **19 50 10.1 +1.5**
ULN **Ulaanbaatar** 25.25 60 *ce*P **P** **19 50 14.2 +1.6**
ULN comp=Z,4.0nm,1.0s pmax pmax
ULN **Ulaanbaatar** 25.25 60 P **P** **19 50 14.7 +2.0**
PRGR **Permogore** 28.01 331 *e*P **P** **19 50 37.9 +0.8**
PRGR comp=Z,22nm,1.3s pmax pmax
OBN **Obninsk** 29.21 315 *i*P **P** **19 50 48.4 +0.6**
OBN comp=Z,5.0nm,0.5s pmax pmax
SIM **Simferopol'** 29.65 294 *c*P **P** **19 50 53.9 +2.0**
SIM eS **S** **19 55 40.9 -6.3**
SIM eSS **SnSn** **19 57 18.4 +2.7**
SIM comp=Z,22nm,0.6s pmax pmax
SIM comp=Z,2µm,23.0s MLR MLR
KLMR **Klimovskoe** 30.02 327 *e*P **P** **19 50 55.4 +0.5**
KLMR comp=Z,11nm,1.4s pmax pmax
KLMR **Klimovskoe** 30.02 327 *e*P **P** **19 50 55.4 +0.5**
KLMR AMP 19 50 58.4
CMAR comp=Z,11nm,1.4s **Chiang Mai Arr** 30.25 127 P **P** **19 50 56.6 -0.7**
comp=Z,0.5nm,0.6s,baz=310,slow=9.9,SNR=5.7
CMAR LR LR 20 06 05.1
NRIK comp=Z,50nm,19.2s,baz=356,slow=42 **Noril'sk** 30.72 9 LR LR 20 05 20.7
NRIK comp=Z,110nm,18.9s,baz=218,slow=40 **Noril'sk** 30.72 9 *ce*P **P** **19 51 02.9 +1.9**
NRIK comp=Z,3.0nm,0.9s pmax pmax
NRIK **Noril'sk** 30.72 9 P **P** **19 51 02.7 +1.7**
NRIK comp=Z,5.1nm,1.1s IAmb IAmb 19 51 04.4
BR131 **Keskin Array S** 30.75 283 P **P** **19 51 01.9 0.0**
BR131 comp=Z,4.0nm,0.8s pmax pmax
BR131 **Keskin Array S** 30.75 283 P **P** **19 51 01.9 0.0**
BR131 comp=Z,3.5nm,0.8s IAmb IAmb 19 51 07.7
BRTR **Keskin Array B** 30.75 283 P **P** **19 51 00.8 -1.1**
comp=Z,1.8nm,0.7s,baz=83,slow=8.0,SNR=7.5
BRTR LR LR 20 05 22.2
BRTR comp=Z,27nm,21.4s,baz=103,slow=40 **Keskin Array B** 30.75 283 P **P** **19 51 01.6 -0.3**
AKASG **Malin Array Be** 32.89 305 P **P** **19 51 19.6 -0.7**
comp=Z,0.2nm,0.2s,baz=81,slow=7.3,SNR=4.9
AKASG LR LR 20 05 56.3
comp=Z,45nm,18.2s,baz=340,slow=39
AKASG **Malin Array Be** 32.89 305 *ce*P **P** **19 51 21.7 +1.4**
AKBB **Malin Array Si** 32.89 305 *ce*P **P** **19 51 19.4 -0.9**
VRI **Vrincioaia** 34.75 296 ⇑P **P** **19 51 39.3 +2.7**
PLOR **Plostina** 34.81 296 ⇓P **P** **19 51 39.6 +2.5**
MLR **Muntele Rosu** 35.34 296 ⇓P **P** **19 51 44.8 +3.0**
MLR **Muntele Rosu** 35.34 296 P **P** **19 51 43.9 +2.1**
MLR comp=Z,7.0nm,0.9s pmax pmax
MLR **Muntele Rosu** 35.34 296 P **P** **19 51 43.9 +2.1**
MLR comp=Z,6.6nm,0.9s IAmb IAmb 19 51 52.6
FIA1 comp=Z,10nm,1.3s **FINESS Array S** 36.27 323 P **P** **19 51 50.3 +0.9**
FIA1 IAmb IAmb 19 52 33.7
FINES **FINESS Array B** 36.27 323 P **P** **19 51 50.0 +0.6**
comp=Z,1.8nm,0.7s,baz=111,slow=10,SNR=10
FINES LR LR 20 07 17.6
MDVR comp=Z,94nm,20.1s,baz=106,slow=37 **Moldovita** 38.41 295 ⇓P **P** **19 52 09.9 +2.0**
ARCES **ARCESS Array B** 39.21 335 P **P** **19 52 15.2 +1.0**
comp=Z,2.4nm,0.5s,baz=108,slow=8.0,SNR=24
ARCES LR LR 20 09 20.3
ARCES comp=Z,37nm,20.1s,baz=235,slow=38 **ARCESS Array B** 39.21 335 P **P** **19 52 15.2 +1.0**
ARCES comp=Z,7.0nm,1.2s pmax pmax
ARCES comp=Z,7.4nm,1.1s **ARCESS Array B** 39.21 335 IAmb IAmb 19 52 23.8
YAK **Yakutsk** 40.17 37 *ce*P **P** **19 52 23.3 +1.0**
YAK comp=Z,5.0nm,0.6s pmax pmax
UPC **Upice** 41.30 305 *e*P P 19 52 38.0 +6.3
UPC **Upice** 41.30 305 *e*P P 19 52 38.0 +6.3
KLR **Kul'dur** 41.57 57 LR LR 20 11 35.6
KSRS comp=Z,28nm,20.6s,baz=236,slow=39 **Korea Array** 41.85 75 LR LR 20 11 59.3
TIXI comp=Z,38nm,19.0s,baz=125,slow=39 **Tiksi** 42.09 23 *ce*P **P** **19 52 38.5 +0.6**
TIXI **Tiksi** 42.09 23 P **P** **19 52 38.8 +0.9**
TIXI IAmb IAmb 19 52 40.4
GEC2 comp=Z,6.3nm,0.6s **GERESS Array S** 43.05 303 P **P** **19 52 46.2 +0.1**
GERES **GERESS Array B** 43.05 303 P **P** **19 52 46.0 -0.1**
comp=Z,0.7nm,0.7s,baz=54,slow=6.8,SNR=8.1
CLL **Collm** 43.07 307 *e*P **P** **19 52 47.0 +0.9**
CLL Lm MLR 20 12 00.0
comp=N,100nm,18.4s

CLL Lm MLR 20 12 00.0
comp=E,100nm,19.0s
CLL Lm MLR 20 12 00.0
comp=Z,100nm,21.1s
CLL **Collm** 43.07 307 P **P** **19 52 45.5 -0.6**
CLL comp=Z,2.0nm,0.7s pmax pmax
CLL **Collm** 43.07 307 P **P** **19 52 45.5 -0.6**
KHC **Kasperske Hory** 43.07 303 P **P** **19 52 46.0 -0.3**
KHC comp=Z,3.0nm,1.0s pmax pmax
KHC **Kasperske Hory** 43.07 303 *e*P **P** **19 52 46.9 +0.6**
KHC **Kasperske Hory** 43.07 303 P **P** **19 52 46.0 -0.3**
NC405 **NORSAR Array S** 43.09 321 P **P** **19 52 46.4 +0.2**
NC602 **NORSAR Array S** 43.17 321 P **P** **19 52 47.2 +0.4**
NC300 **NORSAR Array S** 43.23 321 P **P** **19 52 47.9 +0.5**
NC300 comp=Z,7.4nm,0.8s IAmb IAmb 19 52 49.5
NC303 **NORSAR Array S** 43.25 321 P **P** **19 52 47.9 +0.4**
NC303 comp=Z,7.1nm,0.9s IAmb IAmb 19 52 49.6
NB201 **NORSAR Array S** 43.29 321 P **P** **19 52 49.4 +1.6**
NB201 comp=Z,9.1nm,1.0s IAmb IAmb 19 53 31.1
NOA **NORSAR Array B** 43.33 321 P **P** **19 52 48.3 +0.2**
comp=Z,2.1nm,0.8s,baz=91,slow=7.9,SNR=11
NOA LR LR 20 11 38.2
NC204 comp=Z,90nm,18.9s,baz=240,slow=37 **NORSAR Array S** 43.55 321 P **P** **19 52 50.5 +0.6**
NC204 comp=Z,23nm,1.5s IAmb IAmb 19 52 55.6
YOJ **Yonaguni jima** 43.82 95 P **P** **19 52 53.1 +0.6**
YOJ comp=Z,131nm,1.2s pmax pmax
YOJ **Yonaguni jima** 43.82 95 P **P** **19 52 53.0 +0.6**
GSI **Gunungsitoli** 43.82 144 P **P** **19 52 53.4 +0.9**
RAFF **Raffo Rosso** 45.91 287 P **P** **19 53 07.9 -1.2**
KBS **Kingsbay** 46.13 346 *ce*P **P** **19 53 09.2 -1.0**
KBS comp=Z,16nm,1.7s pmax pmax
KBS **Kingsbay** 46.13 346 P **P** **19 53 09.3 -0.9**
ASAJ **Asahikawa** 50.08 61 P **P** **19 53 41.5 +0.2**
comp=Z,1.7nm,0.7s,baz=297,slow=4.5,SNR=1.3
PEA0B **Petropavlovsk-** 56.23 46 P **P** **19 54 24.7 -1.6**
PEA0B comp=Z,32nm,1.6s pmax pmax
PEA0B **Petropavlovsk-** 56.23 46 P **P** **19 54 24.7 -1.6**
ESDC **Sonseca Array** 58.01 297 P **P** **19 54 39.7 +0.4**
comp=Z,0.7nm,0.7s,baz=54,slow=7.3,SNR=7.5
ESDC **Sonseca Array** 58.01 297 IAmb IAmb 19 54 46.9
TOLK comp=Z,0.9nm,0.9s **Toolik Lake Re** 67.38 16 P **P** **19 55 41.8 +0.5**
TOLK IAmb IAmb 19 55 47.2
TOA0 comp=Z,3.0nm,0.7s **Torodi Ar. Sit** 68.00 269 P **P** **19 55 45.7 -0.3**
TORD **Torodi Ar. Bea** 68.00 269 P **P** **19 55 44.9 -1.1**
comp=Z,1.9nm,0.7s,baz=44,slow=5.3,SNR=23
TORD **Torodi Ar. Bea** 68.00 269 P **P** **19 55 45.2 -0.7**
TORD IAmb IAmb 19 55 49.4
COLD comp=Z,1.9nm,0.9s **Coldfoot** 68.40 17 P **P** **19 55 48.9 +1.3**
COLD IAmb IAmb 19 55 50.2
FYU comp=Z,3.1nm,0.9s **Fort Yukon** 70.03 16 P **P** **19 56 00.0 +2.3**
FYU IAmb IAmb 19 56 01.7
INK comp=Z,3.1nm,0.7s **Inuvik** 70.50 10 P **P** **19 56 02.3 +1.7**
INK comp=Z,3.0nm,1.0s pmax pmax
INK **Inuvik** 70.50 10 P **P** **19 56 02.3 +1.7**
INK comp=Z,2.5nm,0.9s IAmb IAmb 19 56 07.8
MDM **Murphy Dome** 70.73 18 P **P** **19 56 03.8 +1.7**
MDM comp=Z,6.0nm,1.6s IAmb IAmb 19 56 52.0
ILAR **Eielson Array** 71.20 17 P **P** **19 56 05.5 +0.5**
comp=Z,1.2nm,0.8s,baz=325,slow=5.8,SNR=11
ILAR **Eielson Array** 71.20 17 P **P** **19 56 05.2 +0.2**
ILAR **Eielson Array** 71.20 17 P **P** **19 56 05.2 +0.2**
SCRK **Sand Creek** 72.54 16 P **P** **19 56 14.4 +1.3**
MATP **Matopo** 73.17 224 P **P** **19 56 15.5 -1.9**
comp=Z,2.7nm,0.6s,baz=43,slow=3.8,SNR=11
SCM **Sheep Creek Mo** 73.60 19 P **P** **19 56 20.8 +1.4**
SCM comp=Z,8.0nm,0.8s pmax pmax
SCM **Sheep Creek Mo** 73.60 19 P **P** **19 56 20.8 +1.4**
L27K **Beaver Creek,** 73.81 16 P **P** **19 56 20.9 +0.3**
BCAR **Beaver Creek A** 73.81 16 P **P** **19 56 22.2 +1.6**
PSA00 **Pilbara Seismi** 74.48 136 P **P** **19 56 25.5 +0.6**
PSA00 comp=Z,8.1nm,1.6s IAmb IAmb 19 56 42.5
FITZ **Fitzroy Crossi** 75.02 129 P **P** **19 56 27.4 -0.7**
comp=Z,2.4nm,0.9s,baz=239,slow=5.9,SNR=2.5
FITZ **Fitzroy Crossi** 75.02 129 P **P** **19 56 28.8 +0.7**
KNRA **Kununurra** 75.10 125 P **P** **19 56 29.9 +1.4**
HMT **Hamilton** 75.65 18 P **P** **19 56 31.3 +0.1**
HYT **Haines Junctio** 76.72 15 P **P** **19 56 39.6 +2.1**
HYT comp=Z,3.2nm,0.8s IAmb IAmb 19 56 40.3
BCPM **Bancas Point** 77.06 17 P **P** **19 56 39.6 +0.4**
YKA **Yellowknife Ar** 78.05 4 P **P** **19 56 45.8 +1.1**
comp=Z,1.2nm,0.6s,baz=353,slow=5.5,SNR=4.4
YKA comp=Z,32nm,20.3s,baz=0.0,slow=38 LR LR 20 33 49.1
MORW **Morawa** 78.80 143 P **P** **19 56 50.4 +1.3**
MORW comp=Z,6.6nm,1.3s IAmb IAmb 19 57 17.7
WB0 **Warramunga Arr** 81.71 124 P **P** **19 57 05.8 +0.7**
WB0 comp=Z,1.1nm,1.3s IAmb IAmb 19 57 36.7
WRA **Warramunga Arr** 81.80 124 P **P** **19 57 05.9 +0.4**
comp=Z,3.6nm,0.5s,baz=324,slow=4.9,SNR=55
WRA **Warramunga Arr** 81.80 124 P **P** **19 57 05.7 +0.1**
WRA **Warramunga Arr** 81.80 124 P **P** **19 57 05.7 +0.1**
WB2 **Warramunga Arr** 81.81 124 P **P** **19 57 06.3 +0.7**
WR0 **Warramunga Arr** 81.94 124 P **P** **19 57 06.8 +0.5**
WR0 comp=Z,3.1nm,0.6s IAmb IAmb 19 57 07.3
ASAR **Alice Springs** 84.26 127 P **P** **19 57 18.4 +0.1**
comp=Z,1.7nm,0.6s,baz=314,slow=5.0,SNR=44
ASAR **Alice Springs** 84.26 127 P **P** **19 57 19.2 +1.0**
STKA **Stephens Creek** 94.87 128 P **P** **19 58 08.2 -0.2**
comp=Z,1.1nm,0.8s,baz=348,slow=8.0,SNR=3.1
STKA **Stephens Creek** 94.87 128 IAmb IAmb 19 58 11.4
PDAR comp=Z,1.2nm,1.3s **Pinedale Array** 97.98 3 LR LR 20 45 45.2
comp=Z,22nm,21.0s,baz=264,slow=37

IDC 30 19:45:05.1±2.8, 6.19S×130.25E, h128km±39km, **mb2.9**/1, **mb1 3.1**/5, **mb1mx2.9**/32, **mbtmp3.5**/5 **Error ellipse: s-maj=74.5km s-min=21.6km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.38**	**11**	P	Pn	19 46 23.6	+0.2
	1.6nm,0.3s,baz=97,slow=7.5,SNR=25						
SIJI				S	Sn	19 47 20.4	-4.0
	1.6nm,0.3s,baz=208,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**12.66**	**200**	P	Pn	19 48 00.6	-0.1
	0.1nm,0.3s,baz=29,slow=14,SNR=7.0						
FITZ				S	Sn	19 50 13.5	-6.9
	0.1nm,0.3s,baz=0.0,slow=0.0,SNR=2.6						
WRA	**Warramunga Arr**	**14.23**	**164**	P	Pn	19 48 19.3	-1.7
	0.1nm,0.3s,baz=348,slow=13,SNR=2.4						
WRA				S	Sn	19 50 48.5	-10
	0.1nm,0.3s,baz=352,slow=21,SNR=1.7						
ASAR	**Alice Springs**	**17.73**	**169**	P	Pn	19 49 04.2	+0.2
	0.1nm,0.3s,baz=349,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	19 55 48.5	-0.1
	0.2nm,0.5s,baz=114,slow=7.0,SNR=1.1						

IDC **30** *19:55:00.7±2.4, 21.64N×143.33E, h306km±20km, mb3.1/5, mb1 3.3/8, mb1mx2.9/59, mbtmp4.0/8, Error ellipse: s-maj=103.4km s-min=14.8km az=85.0*
NEIC **30** *19:55:01.7±1.5, 21.69N±0.10×143.5E±0.2, h318km±5km, mb4.0/13, Error ellipse: s-maj=23.4km s-min=12.7km az=73.0*

ISC 30 19:54:59.6±0.8, **21.59N**±0.08×**143.5E**±0.2, **h300**km, **n24**, σ0.9**90**/24, **mb3.8**/12, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.60**	**348**	P	**Pn**	**19 56 25.5**	**+1.4**

2.3nm,0.3s,baz=164,slow=19,SNR=1.9
JCJ S **S** **19 57 31.8 -0.4**
17nm,0.3s,baz=311,slow=24,SNR=6.1
JHJ Hachijo jima 2 11.94 345 P **Pn** **19 57 41.9 +0.6**
14nm,0.3s,baz=246,slow=20,SNR=1.1
JMN Monobe 14.76 327 Pn **Pn** **19 58 16.1 +0.9**
MJAR Matsushiro Arr 15.59 344 P **P** **19 58 22.3 -0.7**
0.1nm,0.3s,baz=175,slow=15,SNR=2.9
MTN Manton Dam 36.30 201 P **P** **20 01 35.2 -0.2**
MTN IAmb IAmb 20 01 51.9
comp=Z,25nm,1.5s
KNRA Kununurra 39.74 202 P **P** **20 02 03.9 0.0**
KNRA IAmb IAmb 20 02 21.9
comp=Z,24nm,1.2s
WB0 Warramunga Arr 42.05 193 P **P** **20 02 23.6 +0.9**
WB0 IAmb IAmb 20 02 32.6
comp=Z,10.0nm,1.5s
WR0 Warramunga Arr 42.21 193 P **P** **20 02 24.9 +1.0**
WR0 IAmb IAmb 20 02 45.1
comp=Z,5.8nm,1.2s
WB2 Warramunga Arr 42.23 193 P **P** **20 02 24.9 +0.8**
WB2 IAmb IAmb 20 02 31.5
comp=Z,12nm,1.5s
WRA Warramunga Arr 42.23 193 P **P** **20 02 24.6 +0.4**
comp=Z,2.2nm,0.6s,baz=13,slow=8.3,SNR=25
WRA Warramunga Arr 42.23 193 P **P** **20 02 24.7 +0.6**
FITZ Fitzroy Crossi 43.13 205 P **P** **20 02 31.9 +0.5**
JOHN Johnston Islan 44.54 88 P **P** **20 02 41.5 -1.0**
CISI Cisompet, Garu 45.41 234 P **P** **20 02 47.3 -2.1**
ASAR Alice Springs 45.94 192 P **P** **20 02 53.9 +0.6**
comp=Z,0.4nm,0.5s,baz=18,slow=12,SNR=11
STKA Stephens Creek 53.19 182 P **P** **20 03 48.9 +1.4**
FORT Forrest 54.13 196 P **P** **20 03 54.9 +0.6**
FORT IAmb IAmb 20 04 11.2
comp=Z,10nm,0.8s
MKAR Makanchi Array 54.96 313 P **P** **20 04 00.0 -0.2**
comp=Z,0.1nm,0.4s,baz=97,slow=6.7,SNR=2.2
ABKAR Akbulak array 69.81 316 P **P** **20 05 37.3 -0.6**
ABKAR IAmb IAmb 20 05 37.7
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 69.81 316 P **P** **20 05 37.5 -0.4**
ARCES ARCESS Array B 79.11 342 P **P** **20 06 31.3 +0.6**
comp=Z,1.0nm,0.6s,baz=69,slow=7.8,SNR=6.6
ARCES ARCESS Array B 79.11 342 IAmb IAmb 20 06 32.0
comp=Z,9.5nm,1.4s
FIA1 FINESS Array S 83.39 335 P **P** **20 06 52.7 -0.6**
FINES FINESS Array B 83.39 335 P **P** **20 06 52.4 -0.8**
comp=Z,0.7nm,0.5s,baz=63,slow=4.8,SNR=8.8

*IDC **30** 20:00:26.1±4.0, 19°.23S×169°.16E, h130km±35km, mb3.7/7, mb1 3.9/8, mb1mx3.5/33, mbtmp4.1/8, Error ellipse: s-maj=38.2km s-min=23.0km az=1.0*
*NEIC **30** 20:00:27.4±2.0, 19°.27S±0°.09×169°.21E±0°.08, h135km±7km, mb4.6/28, Error ellipse: s-maj=12.8km s-min=11.6km az=188.0*
ISC 30 20:00:23.5±0.7, 19°.07S±0°.08×169°.25E±0°.09, h100km, n45, σ1s42/40, mb4.7/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.54**	**228**		**Pn**	**20 01 04.9**	**+1.8**
LIFNC				Sn	**Sn**	**20 01 33.4**	**-0.1**
PINNC	**Pines Island,**	**3.91**	**205**	Pn	**Pn**	**20 01 23.0**	**+1.6**
PINNC				Sn	**Sn**	**20 02 05.0**	**-1.3**
DZM	**Mont Dzumac**	**3.98**	**221**	P	**Pn**	**20 01 24.5**	**+2.1**
	16nm,0.3s,baz=111,slow=15,SNR=142						
DZM				S	**Sn**	**20 02 07.3**	**-0.9**
	32nm,0.3s,baz=282,slow=23,SNR=14						
OUENC	**Ouen Island, N**	**4.02**	**214**		**Pn**	**20 01 24.9**	**+2.0**
ONTNC	**Ouen Toro**	**4.15**	**219**		**Pn**	**20 01 26.7**	**+2.0**
ONTNC				Sn	**Sn**	**20 02 10.2**	**-2.0**
OUZ	**Omahuta**	**16.54**	**167**		**Pn**	**20 04 10.1**	**+0.7**
OUZ				IAmb	IAmb	20 04 21.5	
	comp=Z,60nm,1.5s						
EIDS	**Eidsvold**	**17.94**	**246**	Pn	**P**	**20 04 27.8**	**+2.0**
ARMA	**Armidale**	**19.56**	**231**	Pn	**P**	**20 04 45.8**	**+2.3**
MXZ	**Matakaoa Point**	**20.06**	**159**	P	**P**	**20 04 51.0**	**+2.3**
URZ	**Urewera**	**20.31**	**162**	P	**P**	**20 04 51.1**	**-0.3**
	comp=Z,11nm,0.6s,baz=117,slow=22,SNR=6.2						
URZ	**Urewera**	**20.31**	**162**	IAmb	IAmb	20 04 52.5	
	comp=Z,17nm,0.8s						
BKZ	**Black Stump Fm**	**20.99**	**164**	P	**P**	**20 04 57.9**	**-0.8**
BKZ				IAmb	IAmb	20 05 21.1	
	comp=Z,55nm,1.6s						
CTA	**Charters Tower**	**21.69**	**263**	P	**P**	**20 05 07.4**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=92,slow=10,SNR=7.7						
CTAO	**Charters Tower**	**21.69**	**263**	P	**P**	**20 05 08.1**	**+1.7**
CTAO				IAmb	IAmb	20 05 44.7	
	comp=Z,30nm,1.6s						
NNZ	**Nelson**	**22.36**	**172**	P	**P**	**20 05 14.9**	**+1.7**
SNZO	**South Karori**	**22.66**	**169**	P	**P**	**20 05 15.0**	**-1.2**
THZ	**Tophouse**	**22.84**	**173**	P	**P**	**20 05 16.8**	**-1.3**
PLWZ	**Palliser**	**23.01**	**168**	P	**P**	**20 05 17.2**	**-2.6**
LTZ	**Lake Taylor**	**23.78**	**174**	P	**P**	**20 05 25.0**	**-1.9**
STKA	**Stephens Creek**	**27.94**	**237**	P	**P**	**20 06 03.6**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=77,slow=10,SNR=11						
BBOO	**Buckleboo**	**32.68**	**239**	P	**P**	**20 06 45.3**	**-1.1**
BBOO				IAmb	IAmb	20 06 47.5	
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**32.69**	**263**	P	P	20 06 45.0	-1.6
WR0				IAmb	IAmb	20 06 46.0	
	comp=Z,8.9nm,1.4s						
WB0	**Warramunga Arr**	**32.84**	**263**	P	P	20 06 46.4	-1.6
WRA	**Warramunga Arr**	**32.88**	**263**	P	P	20 06 46.6	-1.6
	comp=Z,0.8nm,0.4s,baz=92,slow=8.3,SNR=17						
WRA	**Warramunga Arr**	**32.88**	**263**	IAmb	IAmb	20 06 47.0	
	comp=Z,0.2nm,0.9s						
AS31	**Alice Springs**	**33.17**	**256**	P	**P**	**20 06 49.8**	**-1.0**
AS31				IAmb	IAmb	20 06 50.1	
	comp=Z,5.4nm,0.4s						
ASAR	**Alice Springs**	**33.18**	**256**	P	**P**	**20 06 49.6**	**-1.1**
	comp=Z,5.6nm,0.4s,baz=84,slow=8.9,SNR=120						
ASAR	**Alice Springs**	**33.18**	**256**	P	**P**	**20 06 49.5**	**-1.2**
MTN	**Manton Dam**	**37.11**	**274**	P	**P**	**20 07 24.7**	**+0.1**
MTN				IAmb	IAmb	20 07 25.2	
	comp=Z,9.0nm,0.7s						
KNRA	**Kununurra**	**38.73**	**269**	P	**P**	**20 07 37.6**	**-0.6**
KNRA				IAmb	IAmb	20 08 14.8	
	comp=Z,24nm,1.3s						
FORT	**Forrest**	**38.93**	**244**	P	**P**	**20 07 38.2**	**-1.5**
FORT				IAmb	IAmb	20 08 04.2	
	comp=Z,16nm,1.1s						
FAKI	**Fak Fak**	**39.57**	**289**	P	**P**	**20 07 45.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.27**	**264**	P	**P**	**20 07 59.1**	**0.0**
MORW	**Morawa**	**49.24**	**248**	P	**P**	**20 09 02.4**	**+0.2**
MORW				IAmb	IAmb	20 09 21.2	
	comp=Z,23nm,1.6s						
TOLI2	**Tolitoli**	**51.63**	**287**	P	**P**	**20 09 19.8**	**-0.4**
TOLI2				IAmb	IAmb	20 09 35.2	
	comp=Z,8.3nm,1.0s						
SBA	**Scott Base**	**58.83**	**181**	P	**P**	**20 10 09.8**	**-1.3**
QSPA	**South Pole Qui**	**70.98**	**180**	P	**P**	20 11 27.7	-2.5
RSO	**Redoubt South**	**85.00**	**18**	P	**P**	**20 12 48.4**	**+0.8**
YAH	**Yahtse**	**88.48**	**22**	P	**P**	20 13 03.2	-1.3
NVAR	**Mina Array Bea**	**88.68**	**49**	P	**P**	**20 13 06.5**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=230,slow=7.0,SNR=3.3						
ILAR	**Eielson Array**	**90.07**	**17**	P	P	20 13 10.8	-0.8
	comp=Z,0.2nm,0.4s,baz=220,slow=3.5,SNR=2.3						
PRN	**Pahroc Range**	**90.60**	**51**	P	**P**	**20 13 15.6**	**+0.7**
PRN				IAmb	IAmb	20 13 16.8	
	comp=Z,2.4nm,0.8s						
BMO	**Blue Mountains**	**92.10**	**43**	P	P	20 13 21.3	-0.3
BMO				IAmb	IAmb	20 13 23.6	
	comp=Z,5.0nm,1.4s						
ARCES	**ARCESS Array B**	**124.91**	**345**	PKP	**PKPdf**	**20 19 09.6**	**-1.6**
	comp=Z,7.0nm,1.2s,baz=67,slow=1.5,SNR=12						
GERES	**GERESS Array B**	**144.34**	**332**	PKP	**PKPab**	**20 19 46.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=36,slow=5.0,SNR=11						

*IDC **30** 20:02:06.8±2.8, 10°.81N×84°.30W, h0km, mb3.7/2, mb1 4.2/2, mb1mx3.5/40, mbtmp3.7/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=61.3km s-min=12.0km az=129.0*
*UCR **30** 20:02:09.4±1.1, 9°.99N×85°.64W, h13km, MW4.6*
ISC 30 20:02:07.2±2.5, 9°.89N±0°.07×85°.56W±0°.09, h4km±15km, n23, σ0s87/26, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUAI	**GUAI**	**0.38**	**8**	↑*i* P	**Pb**	**20 02 15.3**	**-1.2**
GUAI				*i* S	**Sg**	**20 02 20.6**	**+1.1**
JTS	**Las Juntas de**	**0.72**	**57**	Pg	**Pb**	**20 02 22.6**	**+0.3**
	177nm,0.3s,baz=17,slow=19,SNR=216						
JTS				Lg	Lg	20 02 34.4	
	378nm,0.3s,baz=94,slow=18,SNR=15						
COLC	**Colonia**	**0.84**	**25**	*i* P	**Pb**	**20 02 23.9**	**-0.6**
COLC				*i* S	**Sb**	**20 02 36.4**	**+0.3**
LIM1	**Limonal**	**0.86**	**21**	*i* P	**Pb**	**20 02 24.2**	**-0.5**
LIM1				*i* S	**Sb**	**20 02 35.9**	**-0.6**
GUAB	**Guayabo de Bag**	**0.87**	**22**	*i* P	**Pb**	**20 02 24.8**	**-0.1**
GUAB				*i* S	**Sb**	**20 02 36.1**	**-0.9**
GPS2	**Hotel Rincn d**	**0.88**	**14**	*eP*	**Pb**	**20 02 24.2**	**-0.8**
LAPC	**Finca la Perla**	**0.88**	**8**	*i* P	**Pb**	**20 02 24.1**	**-0.9**
GBS3	**Finca Las Img**	**0.89**	**7**	*i* P	**Pb**	**20 02 24.5**	**-0.7**
HORNC	**Hornillas**	**0.90**	**25**	*i* P	**Pb**	**20 02 24.8**	**-0.6**
ACAL	**Aguas Claras**	**0.90**	**35**	*i* P	**Pb**	**20 02 25.3**	**-0.1**
GB1A	**Borinquen Arri**	**0.93**	**10**	*i* P	**Pb**	**20 02 25.0**	**-1.0**
GB1A				*i* S	**Sg**	**20 02 37.0**	**-0.3**
BUAI	**Buenos Aires**	**1.00**	**13**	*i* P	**Pb**	**20 02 26.7**	**-0.5**
ARE1	**Arenal 1**	**1.00**	**56**	*eP*	**Pn**	**20 02 28.0**	**-0.1**
FORC	**Fortuna**	**1.05**	**57**	*i* P	**Pn**	**20 02 28.6**	**0.0**
SRA1	**San Ramn**	**1.08**	**80**	*eP*	**Pn**	**20 02 29.3**	**+0.1**
LCR2	**La Lucha 2**	**1.54**	**95**	*eP*	**Pb**	**20 02 36.5**	**0.0**
CVTR	**Volcan Turrial**	**1.78**	**86**	*eP*	**Pg**	**20 02 41.4**	**0.0**
DRK0	**Durika**	**2.37**	**105**	*eP*	**Pb**	**20 02 49.0**	**-1.5**
ATAH	**Atahualpa**	**18.36**	**157**	LR	LR	20 12 55.0	
	comp=Z,68nm,20.7s,baz=299,slow=34						
TKL	**Tukaleechee C**	**25.70**	**3**	LR	LR	20 17 18.8	
	comp=Z,25nm,20.7s,baz=92,slow=37						
TXAR	**Lajitas Array**	**25.71**	**321**	P	**P**	**20 07 40.5**	**+1.7**
	1.0nm,0.8s,baz=130,slow=12,SNR=3.7						
NVAR	**Mina Array Bea**	**40.84**	**319**	P	**P**	**20 09 51.2**	**+0.9**
	1.0nm,0.6s,baz=144,slow=6.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**151.48**	**351**	PKPbc	**PKPbc**	**20 22 01.9**	**-1.5**
	0.3nm,0.3s,baz=331,slow=3.5,SNR=4.5						

IDC 30 20:16:21.4±6.0, 30°.59S×178°.84W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.6/2, Error ellipse: s-maj=227.9km s-min=64.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.38**	**268**	P	P	20 24 18.8	+1.0
	0.6nm,0.7s,baz=109,slow=7.6,SNR=3.1						
WRA	**Warramunga Arr**	**43.38**	**273**	P	P	20 24 24.9	-1.1
	0.3nm,0.3s,baz=114,slow=8.1,SNR=7.4						
FINES	**FINESS Array B**	**145.07**	**339**	PKPbc	PKPbc	20 35 58.7	-0.7
	0.9nm,0.8s,baz=11,slow=2.8,SNR=1.9						

IDC 30 20:23:59.6±2.2, 7°.71S×126°.61E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=291.4km s-min=34.2km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.28**	**149**	Pn	Pn	20 27 23.0	-0.3
	0.1nm,0.3s,baz=325,slow=13,SNR=3.3						
WRA				Sn	Sn	20 29 46.8	-16
	0.2nm,0.3s,baz=329,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**17.34**	**157**	P	Pn	20 28 03.4	+0.1
	0.0nm,0.3s,baz=340,slow=11,SNR=2.3						
ASAR				S	Sn	20 31 02.4	-15
	0.1nm,0.3s,baz=319,slow=22,SNR=1.9						
MKAR	**Makanchi Array**	**67.03**	**329**	P	P	20 34 54.6	0.0
	0.1nm,0.5s,baz=135,slow=7.6,SNR=2.2						

*PRE **30** 21:07:02.1±1.4, 28°.03S×26°.81E, h2km, ML2.5*
*IDC **30** 21:07:04.4±2.2, 28°.03S×26°.73E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.3/29, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=28.8km s-min=14.6km az=128.0*
ISC 30 21:07:03.5±1.8, 28°.05S±0°.05×26°.81E±0°.05, h7km±12km, n19, σ1s45/33, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**1.22**	**24**	*eP*	**Pg**	**21 07 26.0**	**-0.9**
PRYS				*eS*	**Sg**	**21 07 42.9**	**+0.1**
PRYS				AML	AML	21 07 47.0	
	comp=Z,170nm,0.2s						
BOSA	**Boshof**	**1.48**	**247**	Pg	**Pn**	**21 07 31.7**	**+1.1**
	comp=Z,5.8nm,0.3s,baz=64,slow=16,SNR=290						
BOSA				Lg	Lg	21 07 49.7	
	comp=Z,15nm,0.3s,baz=355,slow=22,SNR=29						
BOSA	**Boshof**	**1.48**	**247**	*eP*	**Pn**	**21 07 31.5**	**+0.9**
BOSA				*eS*	**Sb**	**21 07 50.5**	**0.0**
BOSA				AML	AML	21 07 54.5	
	comp=Z,40nm,0.2s						
SWZ	**Schweizer**	**1.57**	**303**	*eP*	**Pn**	**21 07 32.6**	**+0.7**
SWZ				*eS*	**Sn**	**21 07 52.9**	**+0.3**
SWZ				AML	AML	21 07 56.1	
	comp=Z,61nm,0.2s						
WDLM	**Western Deep L**	**1.71**	**19**	*eP*	**Pn**	**21 07 34.3**	**+0.5**
WDLM				*eS*	**Sn**	**21 07 56.1**	**0.0**
WDLM				AML	AML	21 08 01.5	
	comp=Z,94nm,0.2s						
KLOF	**Kloof**	**1.84**	**23**	*eP*	**Pn**	**21 07 35.5**	**-0.1**
KLOF				*eS*	**Sn**	**21 07 59.4**	**+0.2**
KLOF				AML	AML	21 08 02.9	
	comp=Z,230nm,0.2s						
SLR	**Silverton**	**2.66**	**30**	*eP*	**Pn**	**21 07 46.1**	**-0.7**
SLR				*eS*	**Sn**	**21 08 18.7**	**-0.7**
SLR				AML	AML	21 08 33.6	
	comp=Z,31nm,0.4s						
LBTB	**Lobatse**	**3.21**	**340**	Pn	**Pn**	**21 07 55.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=167,slow=14,SNR=3.1						
LBTB				Lg	Lg	21 08 46.7	
	baz=180,slow=19						
LBTB	**Lobatse**	**3.21**	**340**	*eP*	**Pn**	**21 07 54.6**	**+0.2**
LBTB				*eS*	**Sn**	**21 08 31.7**	**-1.4**
LBTB				AML	AML	21 08 48.2	
	comp=Z,47nm,0.3s						
PKA	**Prieska**	**3.90**	**245**	*eP*	**Pn**	**21 08 04.2**	**+0.3**
PKA				*eS*	**Sn**	**21 08 49.0**	**-1.0**
PKA				AML	AML	21 09 09.7	
	comp=Z,2.6nm,0.4s						
HAGI	**HAGI**	**4.36**	**65**	*eP*	**Pn**	**21 08 10.8**	**+0.7**
HAGI				AML	AML	21 08 31.9	
	comp=Z,8.6nm,0.4s						
POGA	**Pongola**	**4.40**	**82**	*eP*	**Pn**	**21 08 11.0**	**+0.3**
POGA				*eS*	**Sn**	**21 09 00.0**	**-2.1**
POGA				AML	AML	21 09 21.1	
	comp=Z,9.5nm,0.4s						
SOE	**Somerset East**	**4.77**	**193**	*eP*	**Pn**	**21 08 17.0**	**+1.2**
SOE				*eS*	**Sn**	**21 09 10.3**	**-1.1**
SOE				AML	AML	21 09 33.9	
	comp=Z,8.6nm,0.5s						
KEIM	**Keimoes**	**5.19**	**261**	*eP*	**Pn**	**21 08 22.5**	**+0.9**
KEIM				*eS*	**Sn**	**21 09 19.6**	**-2.1**
KEIM				AML	AML	21 09 44.4	
	comp=Z,12nm,0.4s						
GRAN	**Grantham**	**5.84**	**222**	*eP*	**Pn**	**21 08 31.5**	**+1.0**
GRAN				*eS*	**Sn**	**21 09 35.5**	**-2.2**
GRAN				AML	AML	21 10 13.3	
	comp=Z,9.6nm,0.5s						
MOPA	**Mopani**	**6.12**	**44**	*eP*	**Pn**	**21 08 35.3**	**+0.9**
MOPA				*eS*	**Sn**	**21 09 40.9**	**-3.8**
MOPA				AML	AML	21 10 14.5	
	comp=Z,3.7nm,0.5s						
CVNA	**Calvinia**	**7.01**	**239**	*eP*	**Pn**	**21 08 47.3**	**+0.6**
CVNA				*eS*	**Sn**	**21 10 03.4**	**-3.3**
CVNA				AML	AML	21 10 49.0	
	comp=Z,5.7nm,0.4s						
KMBO	**Kilima Mbogo**	**28.58**	**22**	P	**P**	**21 13 03.2**	**+2.6**
	comp=Z,1.0nm,0.4s,baz=180,slow=20,SNR=2.4						
TORD	**Torodi Ar. Bea**	**47.64**	**326**	P	**P**	**21 15 40.4**	**0.0**
	comp=Z,0.4nm,0.8s,baz=150,slow=7.3,SNR=1.7						

*TUL **30** 21:29:27.7±1.0, 36°.81N±0°.03×98°.55W±0°.04, h7km±7km, ML2.9, mb_Lg2.6/45(NEIC), Error ellipse: s-maj=5.4km s-min=2.2km az=137.0*
NEIC 30 21:29:28.4±1.1, 36°.78N±0°.03×98°.51W±0°.04, h6km±7km, Error ellipse: s-maj=5.8km s-min=2.3km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK032	**Salt Plains WL**	**0.24**	**85**		Pg	21 29 33.2	0.0
KAN10	**Anthony SW Sta**	**0.48**	**44**	Pg	Pg	21 29 37.2	-0.4
KAN10				Sg	Sg	21 29 44.0	+0.2
CROK	**Carrier**	**0.51**	**123**		Pg	21 29 38.2	0.0
CROK				Sg	Sg	21 29 45.8	+0.9
U32A	**Winter Ranch,**	**0.56**	**224**	Pg	Pg	21 29 38.6	-0.6
U32A				Sg	Sg	21 29 46.6	0.0
KAN08	**Anthony NE Sta**	**0.62**	**44**	Pg	Pg	21 29 39.7	-0.6
KAN17	**Caldwell West**	**0.65**	**66**		Pg	21 29 40.5	-0.4
KAN17				Sg	Sg	21 29 49.7	+0.2
KAN12	**Harper NE Stat**	**0.66**	**39**	Pg	Pg	21 29 40.5	-0.5
KAN09	**Caldwell North**	**0.80**	**64**	Pg	Pg	21 29 43.2	-0.6
KAN13	**South Haven SW**	**0.86**	**74**		Pg	21 29 44.3	-0.6
KS20	**Mayfield South**	**0.89**	**60**	Pg	Pg	21 29 44.7	-0.8
BLOK	**Blackwell**	**1.04**	**91**		Pg	21 29 47.6	-0.8
OK029	**Liberty Lake**	**1.30**	**139**	Pn	Pn	21 29 52.4	-0.7
BCOK	**Bluff Creek, N**	**1.34**	**147**		Pn	21 29 53.0	-0.7
OK025	**Westminster Rd**	**1.53**	**141**	Pn	Pn	21 29 56.1	-0.2
QUOK	**Quay**	**1.58**	**112**	Pn	Pn	21 29 56.9	0.0
OK031	**S. Brethren Rd**	**1.58**	**121**		Pn	21 29 56.9	-0.1
T35A	**Sooner Cattle**	**1.61**	**85**		Pn	21 29 57.3	-0.1
OK030	**Cody Creek RV**	**1.64**	**121**		Pn	21 29 57.7	-0.1
R32A	**Long Quarter,**	**1.64**	**355**		Pn	21 29 57.4	-0.5
R32A				IAmb_Lg		21 30 20.2	
	comp=Z,23nm,0.9s						
WMOK	**Wichita Mounta**	**2.05**	**186**		Pn	21 30 03.4	-0.1
CBKS	**Cedar Bluff**	**2.25**	**335**	Pn	Pn	21 30 06.3	+0.1
X34A	**Smith Ranch, M**	**2.25**	**166**	Pn	Pn	21 30 07.0	+0.8
X34A				IAmb_Lg		21 30 43.0	
	comp=Z,32nm,0.8s						
AMTX	**Amarillo**	**3.20**	**235**		Pn	21 30 19.7	+0.4
AMTX				IAmb_Lg		21 31 16.8	
	comp=Z,23nm,0.8s						
U38A	**Gravette**	**3.34**	**95**		Pn	21 30 21.3	+0.1
X37A	**Clayton**	**3.37**	**130**	Pn	Pn	21 30 21.8	+0.3
X37A				IAmb_Lg		21 31 21.7	
	comp=Z,16nm,0.8s						
HHAR	**Hobbs**	**3.72**	**96**		Pn	21 30 26.4	+0.1
KSCO	**Kaye Shedlock'**	**3.94**	**306**	IAmb_Lg		21 31 41.1	
	comp=Z,15nm,0.9s						
W39A	**Magazine**	**4.15**	**111**		Pn	21 30 32.5	+0.3
W39A				IAmb_Lg		21 31 50.9	
	comp=Z,13nm,0.8s						
S39A	**Bolivar**	**4.24**	**76**		Pn	21 30 33.4	-0.1
S39A				IAmb_Lg		21 31 54.0	
	comp=Z,9.4nm,0.9s						
U40A	**Yellville**	**4.58**	**94**		Pn	21 30 38.0	-0.2
U40A				IAmb_Lg		21 31 52.2	
	comp=Z,11nm,0.7s						
MIAR	**Mount Ida**	**4.60**	**118**	Pn	Pn	21 30 38.8	+0.4
MIAR				IAmb_Lg		21 32 06.4	
	comp=Z,8.2nm,0.8s						
T25A	**Trinidad**	**4.74**	**276**	IAmb_Lg		21 31 57.4	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**4.84**	**53**	IAmb_Lg		21 32 11.7	
	comp=Z,14nm,1.2s						
WHTX	**Lake Whitney,**	**4.86**	**169**	Pn	Pn	21 30 42.4	+0.3
OGNE	**Ogallala**	**4.98**	**328**	IAmb_Lg		21 32 15.4	
	comp=Z,18nm,0.8s						
X40A	**Basin Creek Fa**	**5.16**	**115**	IAmb_Lg		21 32 14.7	
	comp=Z,8.6nm,0.8s						
R40A	**Maddies Statio**	**5.19**	**71**	IAmb_Lg		21 32 17.7	
	comp=Z,14nm,1.2s						
WHAR	**Wooly Hollow**	**5.26**	**105**	Pn	Pn	21 30 47.2	-0.3
L34A	**Svendsen Farm,**	**5.43**	**17**	IAmb_Lg		21 32 23.6	
	comp=Z,16nm,0.7s						
CCM	**Cathedral Cave**	**5.92**	**75**	IAmb_Lg		21 32 36.8	
	comp=Z,5.8nm,0.8s						
JCT	**Junction City**	**6.38**	**190**	IAmb_Lg		21 32 51.2	
	comp=Z,9.4nm,1.1s						
PBMO	**Poplar Bluff**	**6.49**	**88**	IAmb_Lg		21 32 56.5	
	comp=Z,9.0nm,0.8s						
PHWY	**Pilot Hill**	**7.04**	**312**	IAmb_Lg		21 33 06.9	
	comp=Z,8.5nm,0.8s						
S44A	**Carbondale**	**7.44**	**80**	IAmb_Lg		21 33 32.9	
	comp=Z,8.7nm,0.7s						
SIUC	**Southern Illin**	**7.47**	**80**	IAmb_Lg		21 33 23.9	
	comp=Z,6.9nm,0.7s						
MNTX	**Cornudas Mount**	**7.62**	**230**	IAmb_Lg		21 33 38.7	
	comp=Z,4.1nm,0.8s						
K22A	**Casper**	**8.51**	**316**	IAmb_Lg		21 34 12.1	
	comp=Z,6.6nm,1.0s						

REY 30 21:32:36.6, 63°.68N×23°.31W, h10km, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**0.30**	**63**	P	Pg	21 32 42.4	-0.3
	baz=63						
IRNE				S	Sg	21 32 46.8	+0.1
	baz=63						
INYL	**Nylenda**	**0.39**	**40**	S	Sg	21 32 49.2	-0.2
	baz=40						
INYL				P	Pg	21 32 43.8	-0.5
	baz=40						
IGRV	**Grindav??k**	**0.42**	**64**	P	Pg	21 32 44.2	-0.5
	baz=64						
IGRV				S	Sg	21 32 50.0	-0.3
	baz=64						
IKRI	**Krysuvik**	**0.58**	**70**	P	Pg	21 32 46.8	-1.1
	baz=70						
IKRI				S	Sg	21 32 54.9	-0.7
	baz=70						
IKAS	**Kald??rsel**	**0.73**	**61**	P	Pg	21 32 49.3	-1.4
	baz=61						
IKAS				S	Sg	21 32 59.6	-0.6
	baz=61						
IVOS	**Vogsosar**	**0.73**	**76**	P	Pg	21 32 49.5	-1.3
	baz=76						
IVOS				S	Sg	21 32 59.6	-0.7
	baz=76						
ISAN	**Sandskeio**	**

JMI IAML 21 33 46.6
comp=Z,19nm,0.6s

*TAP **30** 21:33:30.9,23.°90N×120.°73E,h27km,ML3.5,B*
*JMA **30** 21:33:30.2±0.2,23.°91N×120.°74E,h0km,M3.4*
*IASPEI **30** 21:33:31.6±0.9,23.°91N±0.°02×120.°72E±0.°02,h28km±3km, Error ellipse: s-maj=2.7km s-min=2.0km az=123.2,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ISC 30 21:33:31.8±0.8,23.°91N±0.°01×120.°71E±0.°02,h27km±3km, n108,σ0°82/189,11C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WNT1	**Nantou City** baz=280	**0.03**	**257**	⇑*iP*		**Pb**	**Sb**	**21 33 36.1**	**-0.3**
WNT1				S			**Sb**	**21 33 39.9**	**+0.3**
WNT	**Mingjian** baz=241	**0.04**	**215**	⇑*iP*		**Pb**	**Pb**	**21 33 36.1**	**-0.4**
WNT				*i* S			**Sb**	**21 33 39.9**	**+0.2**
WJS	**Zhushan** baz=184	**0.09**	**170**	⇑*iP*		**Pb**	**Pb**	**21 33 36.2**	**-0.5**
WJS				S			**Sb**	**21 33 39.9**	**-0.2**
WWF	**Wufeng** baz=347	**0.13**	**355**	⇑*iP*		**Pb**	**Pb**	**21 33 36.8**	**-0.3**
WWF				*e*S			**Sb**	**21 33 41.1**	**+0.6**
TYC	**Yuchr** baz=87	**0.13**	**94**	⇓*iP*		**Pb**	**Pb**	**21 33 36.5**	**-0.5**
TYC				*i* S			**Sb**	**21 33 40.6**	**+0.1**
SMLT	**Sun Moon Lake** baz=96	**0.18**	**100**	⇓*iP*		**Pb**	**Pb**	**21 33 37.0**	**-0.6**
SMLT				*i* S			**Sb**	**21 33 41.3**	**-0.2**
WCHH	**Zhanghua** baz=317	**0.22**	**320**	P		**Pb**	**Pb**	**21 33 37.8**	**-0.1**
WCHH				S			**Sb**	**21 33 43.2**	**+1.2**
DPDB	**Guoxing** baz=59	**0.23**	**59**	⇓*iP*		**Pb**	**Pb**	**21 33 37.5**	**-0.7**
DPDB				*i* S			**Sb**	**21 33 42.2**	**-0.2**
WCS	**Beigang Elemen** baz=52	**0.23**	**52**	⇓*iP*		**Pb**	**Pb**	**21 33 37.4**	**-0.7**
WCS				S			**Sb**	**21 33 41.7**	**-0.7**
TCU	**Taichung** baz=340	**0.23**	**352**	⇑*iP*		**Pb**	**Pb**	**21 33 38.0**	**-0.2**
TCU				S			**Sb**	**21 33 42.8**	**+0.3**
WPL	**Puli Township** baz=67	**0.25**	**66**	⇓*iP*		**Pb**	**Pb**	**21 33 37.6**	**-0.7**
WPL				S			**Sb**	**21 33 42.2**	**-0.5**
WHYT	**Xinyi Township** baz=152	**0.25**	**149**	P		**Pb**	**Pb**	**21 33 37.7**	**-0.8**
WHYT				*e*S			**Sb**	**21 33 42.3**	**-0.6**
SSLB	**Suanglung** baz=113	**0.26**	**119**	⇓*iP*		**Pb**	**Pb**	**21 33 37.5**	**-0.9**
SSLB				*i* S			**Sb**	**21 33 42.1**	**-0.9**
WGK	**Gukeng** baz=215	**0.26**	**211**	P		**Pb**	**Pb**	**21 33 38.2**	**-0.4**
WGK				S			**Sb**	**21 33 43.7**	**+0.6**
WDLH	**Douliu** baz=221	**0.27**	**215**	⇑*iP*		**Pb**	**Pb**	**21 33 38.4**	**-0.3**
WDLH				*e*S			**Sb**	**21 33 44.2**	**+0.8**
WRL	**Guolierlin Hig** baz=271	**0.31**	**268**	P		**Pb**	**Pb**	**21 33 38.8**	**-0.3**
WRL				S			**Sb**	**21 33 45.1**	**+1.1**
CHN5	**Tsauling** baz=190	**0.32**	**185**	⇓*iP*		**Pb**	**Pb**	**21 33 38.5**	**-0.8**
CHN5				*i* S			**Sb**	**21 33 44.1**	**-0.4**
WTK	**Tuku** baz=237	**0.37**	**233**	P		**Pb**	**Pb**	**21 33 39.5**	**-0.5**
WTK				S			**Sb**	**21 33 46.6**	**+1.0**
WTCT	**Ta-ch'eng** baz=265	**0.40**	**263**	⇓*iP*		**Pb**	**Pb**	**21 33 39.9**	**-0.6**
WTCT				*i* S			**Sb**	**21 33 47.1**	**+0.8**
ALS	**Alishan** baz=169	**0.41**	**168**	⇑*iP*		**Pb**	**Pb**	**21 33 40.2**	**-0.7**
ALS				*i* S			**Sb**	**21 33 46.9**	**-0.2**
WHP	**Taichung City** baz=36	**0.42**	**31**	⇓*iP*		**Pb**	**Pb**	**21 33 40.5**	**-0.5**
WHP				S			**Sb**	**21 33 47.2**	**+0.1**
OWD	**Renai** baz=82	**0.43**	**84**	⇓*iP*		**Pb**	**Pb**	**21 33 40.4**	**-0.7**
TWQ1	**Liyutan** baz=5.0	**0.44**	**7**	⇑*iP*		**Pb**	**Pb**	**21 33 41.0**	**-0.1**
TWQ1				S			**Sb**	**21 33 48.3**	**+0.8**
CHN2	**Minshiung** baz=213	**0.44**	**210**	*eP*		**Pb**	**Pb**	**21 33 40.7**	**-0.4**
CHN2				*e*S			**Sb**	**21 33 48.2**	**+0.8**
WDJ	**Dajia District** baz=349	**0.44**	**352**	*eP*		**Pb**	**Pb**	**21 33 41.2**	**+0.1**
WDJ				*e*S			**Sn**	**21 33 49.2**	**-0.1**
CHGB	**Renai** baz=68	**0.45**	**71**	⇓*iP*		**Pb**	**Pb**	**21 33 40.8**	**-0.6**
CHGB				S			**Sb**	**21 33 47.6**	**-0.4**
WMLT	**Mailiao** baz=259	**0.46**	**256**	*eP*		**Pb**	**Pb**	**21 33 40.6**	**-0.8**
CHY	**Chiayi** baz=215	**0.49**	**212**	P		**Pb**	**Pb**	**21 33 41.3**	**-0.6**
CHY				S			**Sb**	**21 33 49.3**	**+0.5**
NSY	**Sanyi** baz=4.0	**0.50**	**5**	*eP*		**Pb**	**Pb**	**21 33 42.3**	**+0.1**
NSY				*e*S			**Sn**	**21 33 50.5**	**-0.5**
WSF	**Szhu** baz=241	**0.53**	**239**	⇓*iP*		**Pb**	**Pb**	**21 33 41.7**	**-0.8**
WSF				*i* S			**Sb**	**21 33 50.2**	**+0.4**
TDCB	**Techi** baz=56	**0.53**	**50**	⇓*iP*		**Pb**	**Pb**	**21 33 42.0**	**-0.7**
TDCB				S			**Sb**	**21 33 49.4**	**-0.7**
WHF	**Hehuan Shan** baz=64	**0.56**	**65**	⇓*iP*		**Pb**	**Pb**	**21 33 43.1**	**-0.2**
WHF				*i* S			**Sb**	**21 33 51.1**	**-0.1**
CHN4	**Tsaushan** baz=193	**0.57**	**191**	⇓*iP*		**Pb**	**Pb**	**21 33 42.6**	**-0.7**
CHN4				S			**Sb**	**21 33 51.4**	**+0.4**
TPUB	**Ta-pu** baz=189	**0.61**	**187**	P		**Pb**	**Pb**	**21 33 43.1**	**-0.9**
TPUB				S			**Sb**	**21 33 51.9**	**-0.5**
NMLH	**Miaoli** baz=5.0	**0.62**	**7**	P		**Pb**	**Pb**	**21 33 44.1**	**-0.1**
NMLH				*e*S			**Sb**	**21 33 53.0**	**+0.4**
ESL	**Shilin** baz=97	**0.67**	**98**	⇓*iP*		**Pb**	**Pb**	**21 33 44.2**	**-0.7**
ESL				S			**Sb**	**21 33 53.3**	**-0.5**
WTP	**Ta-pu** baz=189	**0.67**	**188**	P		**Pb**	**Pb**	**21 33 44.0**	**-0.9**
WTP				*e*S			**Sb**	**21 33 54.4**	**+0.5**
TWK	**Hsinying** baz=199	**0.68**	**198**	*eP*		**Pb**	**Pb**	**21 33 44.1**	**-0.9**
TWK				*e*S			**Sb**	**21 33 54.2**	**+0.1**
ICHU	**Yijhu** baz=218	**0.68**	**216**	P		**Pb**	**Pb**	**21 33 44.3**	**-0.7**
ICHU				S			**Sb**	**21 33 54.7**	**+0.6**
EHY	**Hungye** baz=134	**0.69**	**126**	⇓*iP*		**Pb**	**Pb**	**21 33 44.8**	**-0.5**
EHY				*i* S			**Sb**	**21 33 54.1**	**-0.4**
EGFH	**Guangfu** baz=109	**0.70**	**110**	P		**Pb**	**Pb**	**21 33 44.6**	**-0.8**
EGFH				S			**Sb**	**21 33 54.4**	**-0.3**
ETM	**Tongmen** baz=84	**0.72**	**86**	P		**Pb**	**Pb**	**21 33 44.6**	**-1.1**
SNST	**Tainan City** baz=198	**0.72**	**196**	*eP*		**Pb**	**Pb**	**21 33 44.9**	**-0.8**
SNST				*e*S			**Sb**	**21 33 55.5**	**+0.3**
CHN8	**Yiju** baz=221	**0.73**	**219**	⇓*iP*		**Pb**	**Pb**	**21 33 45.0**	**-0.9**
CHN8				*i* S			**Sb**	**21 33 55.9**	**+0.4**
STYH	**Taoyuan** baz=173	**0.74**	**175**	*eP*		**Pb**	**Pb**	**21 33 45.4**	**-0.7**
STYH				*e*S			**Sb**	**21 33 55.4**	**-0.5**
CHN1	**Nanshi** baz=195	**0.74**	**193**	P		**Pb**	**Pb**	**21 33 45.2**	**-1.0**
CHN1				S			**Sb**	**21 33 56.0**	**0.0**
YULB	**Yu-li** baz=134	**0.75**	**134**	P		**Pb**	**Pb**	**21 33 45.2**	**-1.1**
YULB				S			**Sb**	**21 33 55.0**	**-1.1**
STYT	**Tauyuan** baz=172	**0.75**	**177**	⇑*iP*		**Pb**	**Pb**	**21 33 45.5**	**-0.8**
STYT				S			**Sn**	**21 33 56.8**	**-0.3**
NSTT	**Nanjuang** baz=19	**0.76**	**20**	P		**Pb**	**Pb**	**21 33 45.8**	**-0.7**
NSTT				S			**Sb**	**21 33 56.4**	**-0.1**
ETLH	**Xiulin Townshi** baz=66	**0.76**	**67**	P		**Pb**	**Pb**	**21 33 45.5**	**-1.0**
ETLH				*e*S			**Sb**	**21 33 56.6**	**0.0**
ELDTW	**Lidau** baz=152	**0.77**	**159**	P		**Pb**	**Pb**	**21 33 45.7**	**-1.0**
TWF1	**Yuli** baz=136	**0.78**	**136**	⇑*iP*		**Pb**	**Pb**	**21 33 45.9**	**-0.8**
TWF1				S			**Sb**	**21 33 55.9**	**-1.0**
HGSD	**Ruisui** baz=127	**0.78**	**123**	P		**Pb**	**Pb**	**21 33 46.4**	**-0.3**
HGSD				*e*S			**Sb**	**21 33 56.7**	**-0.2**
LIOB	**Emei** baz=18	**0.78**	**21**	P		**Pb**	**Pb**	**21 33 46.1**	**-0.7**
EYUL	**Yuli** baz=135	**0.79**	**135**	*eP*		**Pb**	**Pb**	**21 33 46.1**	**-0.9**
EYUL				*e*S			**Sb**	**21 33 57.0**	**-0.4**
NNS	**Nan Shan** baz=48	**0.80**	**49**	P		**Pb**	**Pb**	**21 33 46.1**	**-1.1**
TEYL	**Yanliau Villag** baz=89	**0.81**	**93**	*eP*		**Pb**	**Pb**	**21 33 46.7**	**-0.6**
TEYL				*e*S			**Sb**	**21 33 57.9**	**0.0**
HWA	**Hwalien** baz=91	**0.82**	**85**	P		**Pb**	**Pb**	**21 33 47.1**	**-0.3**
HWA				S			**Sn**	**21 33 59.5**	**+0.7**
TWD	**Chiawan** baz=84	**0.83**	**78**	⇑*iP*		**Pb**	**Pb**	**21 33 46.7**	**-0.9**
TWD				S			**Sb**	**21 33 58.0**	**-0.3**
SGST	**Jiashian** baz=189	**0.84**	**188**	P		**Pb**	**Pb**	**21 33 45.9**	**-1.8**
SGST				S			**Sb**	**21 33 58.5**	**-0.1**
NACB	**Ninganchiao** baz=60	**0.85**	**72**	⇓*iP*		**Pn**	**Pb**	**21 33 46.8**	**-1.1**
NACB				S			**Sb**	**21 33 59.0**	**0.0**
ETL	**Fush Village** baz=81	**0.87**	**73**	*eP*		**Pn**	**Pn**	**21 33 47.1**	**-1.1**
SCLT	**Jiali** baz=224	**0.88**	**213**	*eP*		**Pn**	**Pn**	**21 33 47.6**	**-0.7**
SCLT				S			**Sn**	**21 34 01.0**	**+0.9**
FULB	**Fuli** baz=143	**0.89**	**143**	P		**Pb**	**Pb**	**21 33 48.7**	**0.0**
FULB				*e*S			**Sn**	**21 34 01.7**	**+1.1**
CHN3	**Shinhua** baz=203	**0.89**	**201**	P		**Pn**	**Pn**	**21 33 48.5**	**0.0**
CHN3				S			**Sn**	**21 34 02.0**	**+1.5**
SLGT	**Liugui** baz=175	**0.92**	**184**	*eP*		**Pn**	**Pn**	**21 33 48.6**	**-0.3**
SLGT				*e*S			**Sb**	**21 34 00.5**	**-0.5**
ECS	**Chishang** baz=151	**0.94**	**150**	*eP*		**Pb**	**Pb**	**21 33 49.9**	**+0.4**
NSK	**Sanguang** baz=25	**0.96**	**38**	*eP*		**Pn**	**Pn**	**21 33 48.9**	**-0.7**
NSK				*e*S			**Sb**	**21 34 01.3**	**-0.9**
YHNB	**Yeheng** baz=26	**0.97**	**39**	*eP*		**Pn**	**Pn**	**21 33 48.9**	**-0.7**
YHNB				*e*S			**Sb**	**21 34 01.3**	**-1.1**
TAI1	**Yung-k'ang** baz=208	**0.98**	**207**	*eP*		**Pn**	**Pn**	**21 33 49.7**	**0.0**
TAI1				*e*S			**Sb**	**21 34 04.4**	**+1.8**
NDT	**Datong Townshi** baz=32	**1.00**	**47**	*eP*		**Pn**	**Pn**	**21 33 49.1**	**-0.9**
CHKT	**Chengkung** baz=144	**1.01**	**143**	*eP*		**Pn**	**Pn**	**21 33 50.3**	**+0.1**
SCST	**Cishan** baz=193	**1.04**	**191**	*eP*		**Pn**	**Pn**	**21 33 50.9**	**+0.3**
ENTT	**Nioudou** baz=34	**1.06**	**47**	*eP*		**Pn**	**Pn**	**21 33 50.7**	**-0.2**
ENTT				*e*S			**Sb**	**21 34 05.2**	**+0.1**
LONT	**Longtian** baz=149	**1.07**	**159**	*eP*		**Pn**	**Pn**	**21 33 51.0**	**0.0**
LONT				*e*S			**Sb**	**21 34 05.7**	**+0.3**
EDH	**Donghe** baz=151	**1.08**	**150**	*eP*		**Pn**	**Pn**	**21 33 51.2**	**+0.1**
EWUT	**Wuta** baz=59	**1.11**	**61**	*eP*		**Pn**	**Pn**	**21 33 51.6**	**+0.1**
EWUT				*e*S			**Sb**	**21 34 06.6**	**+0.3**
PNG	**Penghu** baz=253	**1.11**	**252**	*eP*		**Pn**	**Pn**	**21 33 49.9**	**-1.6**
PNG				*e*S			**Sn**	**21 34 05.8**	**-0.2**
PHUB	**P'eng-hu** baz=250	**1.12**	**249**	*eP*		**Pn**	**Pn**	**21 33 50.1**	**-1.5**
PHUB				*e*S			**Sn**	**21 34 05.1**	**-0.9**
TWM1	**Shoushan** baz=181	**1.12**	**194**	*eP*		**Pb**	**Pb**	**21 33 52.8**	**+0.3**
TWM1				*e*S			**Sb**	**21 34 10.8**	**+4.1**
NWLT	**Wulai** baz=28	**1.12**	**40**	*eP*		**Pn**	**Pn**	**21 33 51.4**	**-0.3**
NWLT				*e*S			**Sn**	**21 34 05.7**	**-0.6**
WDGT	**Dungji** baz=237	**1.16**	**236**	*eP*		**Pn**	**Pn**	**21 33 51.4**	**-0.8**
WDGT				*e*S			**Sn**	**21 34 07.0**	**-0.2**
NDS	**Dongshan** baz=50	**1.16**	**52**	*eP*		**Pn**	**Pn**	**21 33 52.2**	**0.0**
NDS				*e*S			**Sb**	**21 34 08.0**	**0.0**
SSD	**Sandimen** baz=185	**1.17**	**184**	P		**Pn**	**Pn**	**21 33 52.1**	**-0.1**
SSD				*e*S			**Sn**	**21 34 07.2**	**-0.1**
TWE	**Neicheng** baz=36	**1.19**	**47**	*eP*		**Pn**	**Pn**	**21 33 52.9**	**+0.3**
TWE				*e*S			**Sb**	**21 34 10.2**	**+1.6**
TSMG	**Majia** baz=185	**1.20**	**183**	*eP*		**Pn**	**Pn**	**21 33 52.5**	**-0.4**
TSMG				*e*S			**Sn**	**21 34 07.7**	**-0.6**
TWC	**Suao** baz=55	**1.25**	**56**	*eP*		**Pb**	**Pb**	**21 33 54.2**	**-0.5**
TWC				*e*S			**Sb**	**21 34 10.8**	**+0.4**
MASBT	**Mashibuluo** baz=185	**1.30**	**183**	*eP*		**Pn**	**Pn**	**21 33 53.6**	**-0.5**
MASBT				*e*S			**Sn**	**21 34 10.6**	**+0.1**
ECL	**Taimali** baz=171	**1.33**	**170**	*eP*		**Pn**	**Pn**	**21 33 54.9**	**+0.3**
ECL				*e*S			**Sn**	**21 34 11.9**	**+0.6**
NTC	**Toucheng** baz=32	**1.39**	**47**	*eP*		**Pb**	**Pb**	**21 33 56.4**	**-0.6**
LDUT	**Ludao** baz=152	**1.42**	**150**	*eP*		**Pn**	**Pn**	**21 33 54.9**	**-0.8**
EGS		**1.45**	**50**	*eP*		**Pb**	**Pb**	**21 33 57.9**	**-0.2**
YM01	**YM01** baz=15	**1.46**	**32**	*eP*		**Pn**	**Pn**	**21 33 55.8**	**-0.5**
TIPB	**Shuangxi** baz=28	**1.46**	**44**	*eP*		**Pn**	**Pn**	**21 33 56.3**	**-0.2**
EAST	**Anshuo** baz=191	**1.53**	**175**	*eP*		**Pn**	**Pn**	**21 33 57.4**	**+0.1**
SCZT	**Fangliau** baz=185	**1.54**	**183**	*eP*		**Pn**	**Pn**	**21 33 57.4**	**0.0**
SCZT				*e*S			**Sn**	**21 34 16.8**	**+0.4**
SLIU	**Shizi** baz=179	**1.69**	**177**	*eP*		**Pn**	**Pn**	**21 33 59.2**	**-0.3**
PTMZ	**Houxiangcun** baz=309	**1.83**	**308**	*eP*		**Pn**	**Pn**	**21 34 00.4**	**-1.1**
KNM	**Kinmen** baz=283	**2.14**	**284**	*eP*		**Pn**	**Pn**	**21 34 05.5**	**-0.1**
YOJ	**Yonaguni jima**	**2.17**	**75**	P		**Pn**	**Pn**	**21 34 07.1**	**+1.0**
YOJ				*e*S			**Sn**	**21 34 33.7**	**+1.6**
KNMB	**Chin-men Tao** baz=285	**2.19**	**285**	*eP*		**Pn**	**Pn**	**21 34 04.8**	**-1.6**
AXDP	**Jialang** baz=292	**2.69**	**292**	*eP*		**Pn**	**Pn**	**21 34 12.0**	**-1.2**
IRIF	**Iriomote-Funau**	**2.79**	**81**	P		**Pn**	**Pn**	**21 34 16.3**	**+1.7**
HATJ	**Hateruma jima**	**2.83**	**86**	*e*S		**Sn**	**Sn**	**21 34 49.9**	**+1.4**
JKRS	**Kuro-shima**	**3.03**	**83**	*e*S		**Sn**	**Sn**	**21 34 56.6**	**+3.3**
JIJ	**Ishigaki jima**	**3.17**	**81**	P		**Pn**	**Pn**	**21 34 20.6**	**+0.8**
JIJ				S			**Sn**	**21 34 57.2**	**+0.5**
JISG	**Ishigakijimahi**	**3.35**	**78**	P		**Pn**	**Pn**	**21 34 23.6**	**+1.2**
JISG				S			**Sn**	**21 35 01.9**	**+0.6**
JTJ	**Tarama**	**3.71**	**78**	*e*S		**Sn**	**Sn**	**21 35 12.4**	**+2.2**

*ANF **30** 21:41:59.9±0.3,35.°94N×97.°30W,h5km,ML3.4/9,Error ellipse: s-maj=2.7km s-min=2.0km az=140.0*
*TUL **30** 21:42:00.3±1.1,35.°92N±0.°02×97.°31W±0.°02,h5km±7km, ML3.2,mb_Lg2.9/77(NEIC),Error ellipse: s-maj=2.7km s-min=1.7km az=131.0*
*NEIC **30** 21:42:00.5±0.7,35.°94N±0.°01×97.°33W±0.°02,h5km±7km, Error ellipse: s-maj=2.7km s-min=1.2km az=135.0*

ISC 30 21:42:00.5±1.1,35.°94N±0.°02×97.°32W±0.°02,h3km±10km, n83,σ0°47/68,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.18**	**218**	Pg		**Pg**	**Pg**	**21 42 03.9**	**-0.1**
OK029				Sg			**Sg**	**21 42 06.6**	**+0.3**
OK005	**Luther M Schoo**	**0.30**	**160**	Pg		**Pg**	**Pg**	**21 42 06.2**	**-0.1**
OK025	**Westminster Rd**	**0.36**	**182**			**Pg**	**Pg**	**21 42 07.2**	**-0.2**
OK025				Sg			**Sg**	**21 42 12.1**	**+0.2**
OK009	**Oakdale Elemen**	**0.37**	**193**			**Pg**	**Pg**	**21 42 07.3**	**-0.2**
BCOK	**Bluff Creek, N**	**0.37**	**220**	Pg		**Pg**	**Pg**	**21 42 07.4**	**-0.1**
BCOK				Sg			**Sg**	**21 42 12.7**	**+0.4**
OK001	**Jones High Sch**	**0.38**	**176**	Pg		**Pg**	**Pg**	**21 42 07.6**	**-0.1**
OK031	**S. Brethren Rd**	**0.39**	**88**	Pg		**Pg**	**Pg**	**21 42 08.1**	**+0.1**
OK031				Sg			**Sg**	**21 42 13.6**	**+0.5**
OK030	**Cody Creek RV**	**0.43**	**91**	Pg		**Pg**	**Pg**	**21 42 08.9**	**+0.1**
OK030				Sg			**Sg**	**21 42 14.9**	**+0.5**
OKCFA	**Oklahoma City**	**0.53**	**192**			**Pg**	**Pg**	**21 42 10.4**	**-0.3**
OKCFA				Sg			**Sg**	**21 42 17.7**	**+0.2**
OKCFA	**Oklahoma City** baz=13	**0.53**	**192**	P		**Pg**	**Pg**	**21 42 10.3**	**-0.3**
OKCFA				S			**Sg**	**21 42 17.8**	**+0.2**
OKCFA	**Oklahoma City** baz=13	**0.53**	**192**	P				21 42 10.3	
OKCFA				S				21 42 17.8	
OKCSW	**OKLAHOMA CITY**	**0.54**	**190**			**Pg**	**Pg**	**21 42 10.5**	**-0.3**
OKCSW				Sg			**Sg**	**21 42 18.1**	**+0.2**
QUOK	**Quay**	**0.55**	**65**			**Pg**	**Pg**	**21 42 11.1**	**+0.1**
FNO	**Franklin**	**0.68**	**186**	Pg		**Pg**	**Pg**	**21 42 12.9**	**-0.6**
CROK	**Carrier**	**0.78**	**317**			**Pg**	**Pg**	**21 42 15.5**	**+0.1**
BLOK	**Blackwell**	**0.82**	**6**			**Pg**	**Pg**	**21 42 16.4**	**+0.1**
KAN13	**South Haven SW**	**1.08**	**353**			**Pg**	**Pg**	**21 42 21.0**	**-0.2**
OK032	**Salt Plains WL**	**1.12**	**320**			**Pg**	**Pg**	**21 42 21.6**	**-0.4**
KAN17	**Caldwell West**	**1.16**	**342**			**Pg**	**Pg**	**21 42 22.4**	**-0.3**
T35A	**Sooner Cattle**	**1.17**	**33**	Pg		**Pg**	**Pg**	**21 42 22.4**	**-0.6**
T35B	**Sooner Cattle** baz=213	**1.17**	**33**	P		**Pg**	**Pg**	**21 42 22.4**	**-0.6**
T35B				S			**Sg**	**21 42 38.3**	**+0.1**
T35B	**Sooner Cattle** baz=213	**1.17**	**33**	P				21 42 22.4	
T35B				S				21 42 38.3	
KAN09	**Caldwell North**	**1.22**	**349**	Pg		**Pg**	**Pg**	**21 42 23.5**	**-0.4**
TUL1	**Leonard** baz=271	**1.24**	**91**	P		**Pg**	**Pg**	**21 42 22.6**	**-1.6**
TUL1				S			**Sg**	**21 42 39.4**	**-0.9**
TUL1	**Leonard** baz=271	**1.24**	**91**	P				21 42 22.6	
TUL1				S				21 42 39.4	
KS20	**Mayfield South**	**1.30**	**352**			**Pn**	**Pn**	**21 42 25.0**	**-0.6**
KAN10	**Anthony SW Sta**	**1.34**	**332**			**Pn**	**Pn**	**21 42 25.4**	**-0.6**
KAN08	**Anthony NE Sta**	**1.39**	**338**			**Pn**	**Pn**	**21 42 26.4**	**-0.3**
X34A	**Smith Ranch, M**	**1.40**	**198**			**Pn**	**Pn**	**21 42 26.1**	**-0.7**
U32A	**Winter Ranch,**	**1.43**	**288**			**Pn**	**Pn**	**21 42 26.8**	**-0.5**
U32A	**Winter Ranch,** baz=108	**1.43**	**288**	P		**Pn**	**Pn**	**21 42 26.8**	**-0.5**
U32A				S			**Sg**	**21 42 47.0**	**+0.6**
U32A	**Winter Ranch,** baz=108	**1.43**	**288**	P				21 42 26.8	
U32A				S				21 42 47.0	
WMOK	**Wichita Mounta**	**1.69**	**225**			**Pn**	**Pn**	**21 42 30.5**	**-0.4**
WMOK	comp=Z,56nm,0.8s			IAmb_Lg				21 42 57.2	
WMOK	**Wichita Mounta** baz=45	**1.69**	**225**	P		**Pn**	**Pn**	**21 42 30.5**	**-0.4**
WMOK				S			**Sb**	**21 42 53.1**	**-0.7**
WMOK	**Wichita Mounta** baz=45	**1.69**	**225**	P				21 42 30.5	
WMOK				S				21 42 53.1	
LOOK	**Love County**	**1.94**	**177**			**Pn**	**Pn**	**21 42 34.5**	**+0.1**
X37A	**Clayton**	**2.09**	**130**			**Pn**	**Pn**	**21 42 36.2**	**0.0**
X37A	comp=Z,71nm,0.8s			IAmb_Lg				21 43 09.4	
X37A	**Clayton** baz=310	**2.09**	**130**	P		**Pn**	**Pn**	**21 42 36.1**	**-0.2**
X37A				S			**Sn**	**21 43 03.6**	**+0.9**
X37A	**Clayton** baz=310	**2.09**	**130**	P				21 42 36.1	
X37A				S				21 43 03.6	
U38A	**Gravette**	**2.42**	**77**			**Pn**	**Pn**	**21 42 41.4**	**+0.5**
Z35A	**Perchaven, San**	**2.60**	**179**	Pn		**Pn**	**Pn**	**21 42 42.9**	**-0.4**
R32A	**Long Quarter,** comp=Z,31nm,0.8s	**2.72**	**336**	IAmb_Lg				21 43 30.1	
HHAR	**Hobbs**	**2.76**	**82**			**Pn**	**Pn**	**21 42 45.4**	**-0.1**
W39A	**Magazine**	**2.98**	**103**			**Pn**	**Pn**	**21 42 48.3**	**-0.2**
W39A	comp=Z,42nm,0.8s			IAmb_Lg				21 43 42.4	
W39A	**Magazine** baz=285	**2.98**	**103**	P		**Pn**	**Pn**	**21 42 48.4**	**-0.1**
W39A	**Magazine** baz=285	**2.98**	**103**	P				21 42 48.4	
KSU1	**Kansas State U**	**3.21**	**10**	Pn		**Pn**	**Pn**	**21 42 52.0**	**+0.3**
Z38A	**Mt. Pleasant** comp=Z,44nm,1.1s	**3.29**	**144**	IAmb_Lg				21 43 50.1	

MIAR	**Mount Ida**	**3.36**	**113**			**Pn**	**21 42 54.4**	**+0.6**
MIAR				IAmb_Lg			21 43 50.7	
	comp=Z,23nm,0.9s							
MIAR	**Mount Ida**	**3.36**	**113**	S		**Sn**	**21 43 34.2**	**0.0**
	baz=295							
MIAR	**Mount Ida**	**3.36**	**113**	S			21 43 34.2	
	baz=295							
CBKS	**Cedar Bluff**	**3.46**	**327**			**Pn**	**21 42 54.9**	**-0.3**
CBKS				IAmb_Lg			21 43 58.6	
	comp=Z,25nm,0.9s							
U40A	**Yellville**	**3.64**	**82**			**Pn**	**21 42 57.2**	**-0.4**
U40A				IAmb_Lg			21 43 56.2	
	comp=Z,22nm,0.7s							
U40A	**Yellville**	**3.64**	**82**	P		**Pn**	**21 42 57.1**	**-0.6**
	baz=264							
U40A	**Yellville**	**3.64**	**82**	P			21 42 57.1	
	baz=264							
U40A				P			21 42 57.1	
	baz=264							
S39A	**Bolivar**	**3.65**	**60**			**Pn**	**21 42 57.9**	**+0.1**
AMTX	**Amarillo**	**3.71**	**255**	Pn		**Pn**	**21 42 59.1**	**+0.3**
AMTX				IAmb_Lg			21 43 59.7	
	comp=Z,32nm,0.9s							
WHTX	**Lake Whitney,**	**3.94**	**182**	Pn		**Pn**	**21 43 01.3**	**-0.5**
WHTX	**Lake Whitney,**	**3.94**	**182**	Sb		**Sb**	**21 43 59.7**	**+1.2**
	baz=1.7							
WHTX	**Lake Whitney,**	**3.94**	**182**	Sb			21 43 59.7	
	baz=1.7							
X40A	**Basin Creek Fa**	**3.95**	**110**			**Pn**	**21 43 01.9**	**+0.1**
WLAR	**White Oak Lake**	**4.13**	**122**	IAmb_Lg			21 44 12.7	
	comp=Z,32nm,0.7s							
WHAR	**Wooly Hollow**	**4.15**	**98**			**Pn**	**21 43 04.4**	**-0.2**
WHAR				IAmb_Lg			21 44 16.6	
	comp=Z,20nm,0.8s							
R40A	**Maddies Statio**	**4.67**	**58**	Pn		**Pn**	**21 43 11.7**	**-0.1**
P38A	**Dawn**	**4.75**	**38**			**Pn**	**21 43 13.6**	**+0.7**
P38A				IAmb_Lg			21 44 36.6	
	comp=Z,16nm,0.8s							
N33A	**J Bar K, Exete**	**4.79**	**359**	IAmb_Lg			21 44 44.1	
	comp=Z,23nm,0.8s							
MSTX	**Muleshoe**	**4.89**	**248**			**Pn**	**21 43 14.6**	**-0.3**
LCAR	**Lake Charles**	**5.00**	**87**	IAmb_Lg			21 44 42.2	
	comp=Z,17nm,0.7s							
T42A	**Van Buren**	**5.13**	**76**	Pn		**Pn**	**21 43 17.6**	**-0.5**
T42A				IAmb_Lg			21 44 48.2	
	comp=Z,23nm,1.0s							
435B	**Jarrell**	**5.15**	**183**	IAmb_Lg			21 44 48.7	
	comp=Z,19nm,0.9s							
KSCO	**Kaye Shedlock'**	**5.22**	**308**	Pn		**Pn**	**21 43 19.4**	**0.0**
KSCO				IAmb_Lg			21 44 57.0	
	comp=Z,23nm,0.8s							
BGNE	**Belgrade**	**5.50**	**353**	IAmb_Lg			21 45 11.3	
	comp=Z,31nm,0.7s							
P40A	**Paris**	**5.50**	**48**	IAmb_Lg			21 45 00.1	
	comp=Z,20nm,0.8s							
T25A	**Trinidad**	**5.83**	**284**	IAmb_Lg			21 45 09.2	
	comp=Z,21nm,0.7s							
143A	**Socs Landing,**	**5.86**	**122**	IAmb_Lg			21 45 12.5	
	comp=Z,14nm,0.8s							
OGNE	**Ogallala**	**6.22**	**325**	IAmb_Lg			21 45 28.7	
	comp=Z,18nm,0.7s							
S44A	**Carbondale**	**6.70**	**72**	IAmb_Lg			21 45 40.6	
	comp=Z,17nm,0.9s							
SIUC	**Southern Illin**	**6.74**	**72**	IAmb_Lg			21 45 34.2	
	comp=Z,13nm,0.8s							
SCIA	**State Center**	**6.76**	**27**	IAmb_Lg			21 45 39.8	
	comp=Z,24nm,0.8s							
K31A	**O'Neill**	**6.77**	**351**	IAmb_Lg			21 45 36.4	
	comp=Z,24nm,0.8s							
SDCO	**Great Sand Dun**	**6.80**	**288**	IAmb_Lg			21 45 37.9	
	comp=Z,15nm,1.1s							
ISCO	**Idaho Springs**	**7.61**	**303**	IAmb_Lg			21 46 08.8	
	comp=Z,11nm,1.1s							
OLIL	**Olney**	**7.86**	**66**	IAmb_Lg			21 46 28.7	
	comp=Z,13nm,0.9s							
O44A	**Mansfield**	**8.15**	**56**	IAmb_Lg			21 46 16.5	
	comp=Z,15nm,0.9s							
T47A	**Sharon Grove**	**8.30**	**80**	IAmb_Lg			21 46 30.5	
	comp=Z,8.7nm,0.7s							
PHWY	**Pilot Hill**	**8.32**	**313**	IAmb_Lg			21 46 42.1	
	comp=Z,9.3nm,1.1s							
L42A	**Oliver, Polo**	**8.49**	**42**	IAmb_Lg			21 46 33.9	
	comp=Z,16nm,0.9s							
V48A	**Smith Brothers**	**8.53**	**88**	IAmb_Lg			21 46 28.5	
	comp=Z,9.5nm,1.1s							
SUSD	**Miller**	**8.59**	**352**	IAmb_Lg			21 46 35.8	
	comp=Z,10nm,0.8s							
JFWS	**Jewell Farm**	**8.86**	**36**	IAmb_Lg			21 46 53.1	
	comp=Z,14nm,0.7s							
BLO	**Bloomington**	**9.16**	**66**	IAmb_Lg			21 46 57.0	
	comp=Z,12nm,0.8s							
FPAL	**Fort Paine**	**9.68**	**95**	IAmb_Lg			21 47 14.4	
	comp=Z,7.6nm,1.0s							
R49A	**Shelbyville**	**9.98**	**73**	IAmb_Lg			21 47 18.2	
	comp=Z,6.6nm,1.1s							

ECX ***30*** *21:47:43.7±0.6,32.°43N×115.°21W,h6km±2km,MD3.1, ML3.3,Fault plane solution: NP1:ϕ=52.00000°, δ74.00000°,λ38.00000°.*

NEIC ***30*** *21:47:44.9±1.4,32.°41N±0.°04×115.°20W±0.°02,h19km±3km, Error ellipse: s-maj=5.7km s-min=1.7km az=160.0*

ANF ***30*** *21:47:44.6±0.6,32.°45N×115.°22W,h27km±3km, ML2.9/8, Error ellipse: s-maj=5.7km s-min=2.7km az=167.0, Hypocentre not reviewed by the ISC*

PAS ***30*** *21:47:44.3±2.8,32.°35N±0.°02×115.°21W±0.°03,h26km±7km, ML3.2/11,ML2.9(ECX),ML3.0/44(NEIC),Error ellipse: s-maj=4.6km s-min=2.1km az=125.0*

SCEDC ***30*** *21:47:44.3,32.°35N×115.°21W,h26km,Hypocentre not reviewed by the ISC*

MEX ***30*** *21:47:46.3±1.0,32.°49N×115.°05W,h20km±14km,MD4.2*

ISC 30 21:47:43.9±0.8,**32.°41N**±0.°03×**115.°20W**±0.°02,**h16**km±4km, **n49,**σ1¶**19**/68,**11C-7D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBIG	**Mexicali**	**0.01**	**131**	*i* P		**Pg**	**21 47 45.7**	**-0.9**
MBIG				*e*P			21 47 47.0	
MBIG				*i* S		**Sg**	**21 47 47.9**	**-0.7**
MBIG				*e*S			21 47 50.8	
MBIG	**Mexicali**	**0.01**	**131**	⇓*i*P		**Pg**	**21 47 45.8**	**-0.9**
MBIG				*e*S		**Sg**	**21 47 47.8**	**-0.7**
CTLX	**Tlaxcala, TLX**	**0.08**	**38**	⇓*i*P		**Pg**	**21 47 48.0**	**+0.9**
CTLX				*e*S		**Sg**	**21 47 51.3**	**+2.0**
CPBX	**Cerro Prieto**	**0.09**	**276**	Pg		**Pg**	**21 47 47.0**	**-0.1**
CPBX	**Cerro Prieto**	**0.09**	**276**	⇑*e*P		**Pg**	**21 47 47.1**	**-0.1**
CPBX				*e*S		**Sg**	**21 47 49.2**	**-0.2**
CPBX				IAML			21 47 50.0	
	comp=E,53μm,0.5s							
CPBX				⇓*e*			21 47 50.0	
GUVIX	**Guadalupe Vict**	**0.15**	**135**	Pg		**Pb**	**21 47 49.2**	**+0.9**
GUVIX				Sg		**Sb**	**21 47 52.2**	**+1.0**
GUVIX	**Guadalupe Vict**	**0.15**	**135**	⇓*e*P		**Pb**	**21 47 49.2**	**+0.9**
GUVIX				*e*S		**Sb**	**21 47 53.0**	**+1.8**
ZC06	**Zona comercial**	**0.25**	**320**	*e*S		**Sb**	**21 47 55.6**	**+1.6**
UABX	**UABC, Campus M**	**0.30**	**318**	Pg		**Pb**	**21 47 51.7**	**+0.9**
UABX				Sg		**Sb**	**21 47 56.5**	**+1.0**
UABX	**UABC, Campus M**	**0.30**	**318**	*e*P		**Pb**	**21 47 51.8**	**+1.0**
UABX				*e*S		**Sn**	**21 47 57.7**	**-1.9**
EMSC	**East Mesa**	**0.38**	**29**	⇓*e*P		**Pn**	**21 47 53.2**	**-1.4**
EMSC				*e*S		**Sn**	**21 47 59.9**	**-1.6**
DREC	**Desert Rsrch C**	**0.45**	**332**	⇑*i*P		**Pn**	**21 47 54.8**	**-0.8**
DREC				*e*S		**Sn**	**21 48 02.7**	**-0.5**
COA	**Coachella**	**0.46**	**8**	*e*P		**Pn**	**21 47 54.6**	**-1.1**
SGL	**Mount Signal**	**0.50**	**298**	*e*P		**Pb**	**21 47 54.3**	**0.0**
WESC	**Westside Schoo**	**0.57**	**308**	⇑*e*P		**Pb**	**21 47 55.8**	**+0.4**
YUH2	**Yuha Desert**	**0.65**	**291**	⇑*e*P		**Pg**	**21 47 56.8**	**+0.1**
YUH2				*e*S		**Sg**	**21 48 05.7**	**+0.3**
GLA	**Glamis**	**0.71**	**26**			**Pn**	**21 47 58.3**	**-1.0**
GLA				Sg		**Sn**	**21 48 08.2**	**-1.8**
GLA				IAML			21 48 10.3	
	comp=E,605nm,0.5s							
GLA				IAML			21 48 16.9	
	comp=N,550nm,0.6s							
GLA	**Glamis**	**0.71**	**26**	⇓*i*P		**Pn**	**21 47 58.3**	**-1.0**
GLA				*e*S		**Sn**	**21 48 08.5**	**-1.5**
GLA	**Glamis**	**0.71**	**26**	P			21 47 58.2	
	baz=205,SNR=61							
GLA				S			21 48 07.9	
	baz=205							
SWSC	**Sam W. Stewart**	**0.73**	**317**	P			21 47 58.1	
	baz=140,SNR=23							
SWSC				S			21 48 08.1	
	baz=140							
RMX	**La Rumorosa**	**0.77**	**285**			**Pb**	**21 47 58.0**	**-0.9**
RMX				IAML			21 48 09.0	
	comp=E,445nm,0.4s							
RMX	**La Rumorosa**	**0.77**	**285**	*e*P		**Pb**	**21 47 58.5**	**-0.4**
RMX				*e*S		**Sg**	**21 48 07.7**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**0.80**	**288**	⇑*e*P		**Pb**	**21 47 59.6**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.80**	**288**	P			21 47 59.6	
	baz=111,SNR=111							
IKP				S			21 48 10.3	
	baz=111							
MONP2	**Monument Peak**	**1.14**	**295**	P			21 48 04.5	
	baz=117,SNR=54							
MONP2				S			21 48 19.4	
	baz=117							
SLH	**Sleepy Hollow**	**1.18**	**312**	⇑*e*P		**Pn**	**21 48 04.6**	**-1.1**
TKX	**Tecate**	**1.20**	**278**	Pn		**Pn**	**21 48 05.6**	**-0.3**
TKX				IAML			21 48 23.3	
	comp=N,284nm,0.3s							
TKX				IAML			21 48 23.8	
	comp=E,277nm,0.3s							
CBX	**Cerro Bola**	**1.24**	**266**	*e*P		**Pn**	**21 48 06.9**	**+0.3**
CBX				*e*S		**Sb**	**21 48 22.6**	**-0.2**
CBX	**Cerro Bola**	**1.24**	**266**			**Pn**	**21 48 06.3**	**-0.3**
CBX				IAML			21 48 27.4	
	comp=E,228nm,0.6s							
CBX				IAML			21 48 28.4	
	comp=N,264nm,0.9s							
CBX	**Cerro Bola**	**1.24**	**266**	⇑*e*P		**Pb**	**21 48 07.5**	**+0.5**
TJIG	**Tijuana**	**1.25**	**271**	*e*P		**Pb**	**21 48 07.3**	**+0.4**
TJIG				*e*S		**Sb**	**21 48 23.0**	**+0.2**
TJIG	**Tijuana**	**1.25**	**271**	⇑*e*P		**Pb**	**21 48 07.4**	**+0.4**
BC3	**Big Chuckawall**	**1.26**	**350**	P			21 48 06.1	
	baz=171							
113A	**Mohawk Valley,**	**1.26**	**73**	Pn		**Pn**	**21 48 06.3**	**-0.5**
BAR	**Barrett**	**1.27**	**283**			**Pn**	**21 48 07.4**	**+0.4**
BAR				IAML			21 48 26.8	
	comp=N,254nm,0.7s							
BAR	**Barrett**	**1.27**	**283**	⇑*e*P		**Pb**	**21 48 07.5**	**+0.1**
BAR				*e*S		**Sn**	**21 48 24.4**	**+0.7**
CCX	**Cicese**	**1.35**	**247**	Pn		**Pn**	**21 48 08.8**	**+0.7**
CCX				IAML			21 48 27.8	
	comp=N,276nm,0.3s							
SPIG	**San Pedro Mart**	**1.38**	**189**	*e*P		**Pn**	**21 48 08.9**	**+0.1**
SPIG				*e*S		**Sn**	**21 48 27.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.38**	**189**	⇓*e*P		**Pn**	**21 48 08.8**	**+0.1**
SPX	**San Pedro Mart**	**1.39**	**189**			**Pn**	**21 48 08.2**	**-0.6**
SPX	**San Pedro Mart**	**1.39**	**189**	⇓*e*P		**Pn**	**21 48 08.8**	**0.0**
SFX	**San Felipe**	**1.40**	**168**			**Pb**	**21 48 09.9**	**+0.3**
SFX	**San Felipe**	**1.40**	**168**	*e*P		**Pg**	**21 48 10.8**	**-0.1**
SFX				⇑*e*			21 48 33.2	
SFX				IAML			21 48 33.2	
	comp=E,127nm,0.3s							
TJX	**Tijuana**	**1.57**	**274**			**Pn**	**21 48 11.6**	**+0.6**
PFO	**Pinyon Flats O**	**1.60**	**319**	Pn		**Pn**	**21 48 11.2**	**-0.3**
PFO	**Pinyon Flats O**	**1.60**	**319**	P			21 48 10.5	
	baz=140,SNR=19							
109C	**Camp Elliot, M**	**1.68**	**287**			**Pb**	**21 48 14.2**	**-0.1**
109C				IAML			21 48 36.7	
	comp=E,165nm,0.5s							
109C				IAML			21 48 37.1	
	comp=N,226nm,0.5s							
109C	**Camp Elliot, M**	**1.68**	**287**	Pb			21 48 14.5	
	baz=108							
109C				Sb			21 48 35.9	
	baz=108							
214A	**Organ Pipe Nat**	**2.08**	**102**	*e*P		**Pn**	**21 48 17.4**	**-0.7**
214A				*e*S		**Sn**	**21 48 38.3**	**-5.3**
214A	**Organ Pipe Nat**	**2.08**	**102**	Pn		**Pn**	**21 48 17.5**	**-0.6**
214A				IAML			21 49 13.3	
	comp=E,88nm,0.5s							
214A				IAML			21 49 14.0	
	comp=N,102nm,1.0s							
214A	**Organ Pipe Nat**	**2.08**	**102**	P			21 48 17.4	
	baz=282,SNR=12							
Y14A	**Wickenburg**	**2.39**	**50**			**Pn**	**21 48 23.1**	**+0.7**
Y14A				IAML			21 49 35.7	
	comp=N,66nm,0.7s							
Y14A				IAML			21 49 35.8	
	comp=E,82nm,0.6s							
W13A	**Hualapai Mount**	**2.90**	**22**			**Pn**	**21 48 31.0**	**+1.5**
W13A				IAML			21 49 36.2	
	comp=E,32nm,1.0s							
X16A	**Lo Mia Camp, P**	**3.73**	**57**			**Pn**	**21 48 42.6**	**+1.7**
X16A				IAML			21 50 18.3	
	comp=E,16nm,0.9s							
X16A				IAML			21 50 21.1	
	comp=N,20nm,1.0s							
SHPR	**Sheep Range**	**4.08**	**0**	Pn		**Pn**	**21 48 46.8**	**+1.0**
SHPR				IAML			21 50 05.7	
	comp=E,26nm,0.9s							
SHPR				IAML			21 50 13.3	
	comp=N,16nm,0.9s							
U15A	**North Rim**	**4.67**	**30**			**Pn**	**21 48 57.0**	**+3.0**
U15A				IAML			21 50 39.1	
	comp=N,15nm,0.9s							
U15A				IAML			21 50 40.5	
	comp=E,15nm,1.1s							
KNB	**Kanab**	**5.00**	**22**			**Pn**	**21 48 59.4**	**+1.0**

IDC ***30*** *21:48:56.0±1.3,28.°06N×86.°72E,h0km,mb3.4/5, mb1 3.6/7,mb1mx3.4/38,mbtmp3.4/7,ML3.8/2,Error ellipse: s-maj=46.7km s-min=21.4km az=58.0*

ISC 30 21:49:00.7±1.2,**28.°1N**±0.°2×**86.°9E**±0.°2,**h35**km,**n7,**σ1¶**88**/7, **mb3.4**/5,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.67**	**128**	Pn		**Pn**	**21 52 24.1**	**-1.6**
	0.3nm,0.3s,baz=288,slow=4.7,SNR=1.9							
MKAR	**Makanchi Array**	**19.01**	**350**	P		**Pn**	**21 53 18.5**	**-1.8**
	0.1nm,0.3s,baz=174,slow=12,SNR=5.7							
KURBB	**Kurchatov Arra**	**23.37**	**347**	P		**P**	**21 54 05.2**	**-0.7**
	0.4nm,0.6s,baz=170,slow=11,SNR=4.7							
SONM	**Songino Array**	**24.89**	**32**	P		**P**	**21 54 22.5**	**+2.2**
	0.4nm,0.5s,baz=221,slow=8.6,SNR=2.3							
BRTR	**Keskin Array B**	**45.07**	**299**	P		**P**	**21 57 13.8**	**+0.3**
	0.2nm,0.4s,baz=95,slow=8.7,SNR=2.3							
WRA	**Warramunga Arr**	**66.25**	**131**	P		**P**	**21 59 46.9**	**+1.5**
	0.4nm,0.6s,baz=324,slow=6.5,SNR=5.4							
ASAR	**Alice Springs**	**68.60**	**134**	P		**P**	**22 00 01.1**	**+0.8**
	0.4nm,0.7s,baz=312,slow=6.4,SNR=4.7							

IDC 30 21:58:27.9±76.0,**20.°62S**×**167.°66W,h542**km±312km, **mb2.9**/3,**mb1 3.2**/4,**mb1mx2.8**/25,**mbtmp4.0**/4,**Error ellipse: s-maj=1006.0km s-min=134.9km az=82.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**13.80**	**280**	P		P	22 01 25.4	+0.2
	3.2nm,0.3s,baz=256,slow=23,SNR=12							
STKA	**Stephens Creek**	**46.51**	**245**	P		P	22 06 06.2	-0.5
	1.0nm,0.6s,baz=60,slow=8.1,SNR=7.2							
ASAR	**Alice Springs**	**53.89**	**255**	P		P	22 07 01.3	+0.4
	1.3nm,0.8s,baz=100,slow=8.3,SNR=13							
WRA	**Warramunga Arr**	**54.15**	**260**	P		P	22 07 02.2	-0.5
	0.9nm,0.7s,baz=100,slow=6.7,SNR=8.0							

IDC ***30*** *22:06:35.5±3.9,63.°80N×23.°22W,h0km,mb3.2/3, mb1 3.5/6,mb1mx3.3/39,mbtmp3.4/6,ML3.2/2,MS3.4/21, Ms1 3.4/21,ms1mx3.3/31,Error ellipse: s-maj=73.7km s-min=38.6km az=99.0*

REY ***30*** *22:06:36.2,63.°70N×23.°25W,h17km*

ISC 30 22:06:38.6±1.3,**63.°80N**±0.°06×**22.°95W**±0.°07,**h19**km±3km, **n42,**σ1¶**15**/32,**mb3.4**/3,**MS3.4**/16,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IRNE	**Reykjanes**	**0.11**	**79**	P		**Pg**	**22 06 41.6**	**-0.9**
	baz=64							
IRNE				S		**Sg**	**22 06 46.1**	**+0.9**
	baz=64							
INYL	**Nylenda**	**0.20**	**27**	P		**Pg**	**22 06 42.9**	**-0.8**
	baz=39							
INYL				S		**Sg**	**22 06 48.0**	**+0.8**
	baz=39							
IGRV	**Grindav??k**	**0.23**	**74**	P		**Pg**	**22 06 43.4**	**-0.7**
	baz=65							
IGRV				S		**Sg**	**22 06 49.1**	**+1.3**
	baz=65							
IKRI	**Krysuvik**	**0.40**	**78**	P		**Pg**	**22 06 45.8**	**-1.0**
	baz=70							
IKRI				S		**Sg**	**22 06 53.6**	**+1.1**
	baz=70							
IKAS	**Kald??rsel**	**0.54**	**64**	P		**Pb**	**22 06 48.1**	**-1.2**
	baz=62							
IVOS	**Vogsosar**	**0.56**	**84**	P		**Pb**	**22 06 48.4**	**-1.2**
	baz=76							
IVOS				S		**Sg**	**22 06 58.2**	**+1.0**
	baz=76							
ISAN	**Sandskeio**	**0.66**	**66**	P		**Pb**	**22 06 50.5**	**-0.9**
	baz=64							
IKUD	**Kuludalsa**	**0.71**	**41**	P		**Pb**	**22 06 50.9**	**-1.3**
	baz=44							
IKUD				S		**Sb**	**22 07 02.5**	**+1.0**
	baz=44							
IBJA	**Bjarnastaoir**	**0.74**	**78**	P		**Pb**	**22 06 51.6**	**-1.2**
	baz=73							
IBJA				S		**Sb**	**22 07 03.7**	**+1.1**
	baz=73							
IHEI	**Heioarbar**	**0.86**	**61**	S		**Sb**	**22 07 06.5**	**+0.6**
	baz=60							
IKRO	**Krokur**	**0.86**	**69**	S		**Sb**	**22 07 05.8**	**-0.2**
	baz=66							
ISOL	**Solvholt**	**0.90**	**81**	S		**Sb**	**22 07 07.5**	**+0.5**
	baz=76							
ISOL				P		**Pb**	**22 06 53.6**	**-1.9**
	baz=76							
IASM	**Asmuli**	**1.04**	**87**	S		**Sb**	**22 07 11.4**	**+0.5**
	baz=82							
IASM				P		**Pn**	**22 06 55.8**	**-2.2**
	baz=82							
ISAU	**Saurbar**	**1.14**	**79**	P		**Pn**	**22 06 57.6**	**-1.8**
	baz=76							
ISAU				S		**Sb**	**22 07 14.2**	**+0.3**
	baz=76							
BORG	**Borgarnes**	**1.19**	**36**	LR		LR	22 07 11.4	
	comp=Z,112nm,21.1s,baz=351,slow=28							
IASB	**`sbjarnarst**	**1.19**	**36**	S		**Sn**	**22 07 16.4**	**+0.7**
	baz=38							
IHAU	**Haukadalur**	**1.33**	**81**	P		**Pn**	**22 07 00.5**	**-1.5**
	baz=78							
SFJD	**Kangerlussuaq**	**11.91**	**298**	LR		LR	22 13 17.0	
	comp=Z,276nm,21.3s,baz=76,slow=34							
EKA	**Eskdalemuir Ar**	**13.08**	**121**	Pn		**Pn**	**22 09 44.7**	**+1.7**
	baz=320,slow=13,SNR=3.0							
NOA	**NORSAR Array B**	**15.94**	**84**	LR		LR	22 15 59.4	
	comp=Z,93nm,21.6s,baz=295,slow=35							
HFS	**Hagfors**	**17.44**	**85**	P		**P**	**22 10 41.8**	**+0.3**
	0.1nm,0.3s,baz=300,slow=12,SNR=2.5							
HFS				LR		LR	22 16 55.1	
	comp=Z,94nm,21.4s,baz=294,slow=35							
ARCES	**ARCESS Array B**	**19.55**	**52**	P		**P**	**22 11 05.0**	**+0.4**
	baz=276,slow=13,SNR=1.5							
ARCES				LR		LR	22 17 26.5	
	comp=Z,40nm,20.1s,baz=260,slow=33							
FRB	**Frobisher Bay**	**19.83**	**291**	LR		LR	22 18 03.0	
	comp=Z,109nm,18.9s,baz=32,slow=35							
FINES	**FINESS Array B**	**22.22**	**74**	LR		LR	22 19 32.3	
	comp=Z,95nm,21.3s,baz=287,slow=35							
GERES	**GERESS Array B**	**24.77**	**110**	P		**P**	**22 11 58.8**	**0.0**
	0.2nm,0.3s,baz=306,slow=8.4,SNR=1.7							
RES	**Resolute Bay**	**25.79**	**324**	LR		LR	22 22 17.4	
	comp=Z,54nm,18.6s,baz=88,slow=37							
ESDC	**Sonseca Array**	**26.65**	**146**	LR		LR	22 22 52.3	
	comp=Z,55nm,19.3s,baz=350,slow=37							
AKASG	**Malin Array Be**	**30.15**	**91**	LR		LR	22 24 49.5	
	comp=Z,82nm,18.7s,baz=305,slow=36							
KIRV	**Kirov**	**33.51**	**65**	LR		LR	22 26 28.9	
	comp=Z,114nm,18.5s,baz=301,slow=36							
KEST	**Kesra**	**34.28**	**129**	LR		LR	22 25 60.0	
	comp=Z,71nm,20.6s,baz=223,slow=34							
BELG	**Belogornoye**	**37.01**	**74**	LR		LR	22 28 00.4	
	comp=Z,62nm,22.0s,baz=319,slow=35							
ULM	**Lac du Bonnet**	**39.58**	**286**	LR		LR	22 29 26.6	
	comp=Z,58nm,18.3s,baz=40,slow=35							
BRTR	**Keskin Array B**	**40.63**	**99**	LR		LR	22 32 10.9	
	comp=Z,41nm,18.6s,baz=330,slow=38							
KVAR	**Kislovodsk Arr**	**41.23**	**87**	LR		LR	22 32 01.3	
	comp=Z,59nm,19.2s,baz=278,slow=37							
KBZ	**Khabaz**	**41.50**	**87**	LR		LR	22 31 54.6	
	comp=Z,84nm,21.8s,baz=328,slow=36							
AKTO	**Aktyubinsk**	**42.82**	**68**	LR		LR	22 32 28.1	
	comp=Z,71nm,18.7s,baz=332,slow=36							
GNI	**Garni**	**45.20**	**88**	LR		LR	22 34 09.1	
	comp=Z,55nm,20.7s,baz=344,slow=36							
ILAR	**Eielson Array**	**45.30**	**330**	LR		LR	22 34 14.1	
	comp=Z,38nm,18.3s,baz=268,slow=37							
PDAR	**Pinedale Array**	**51.28**	**290**	LR		LR	22 35 11.8	
	comp=Z,61nm,18.4s,baz=40,slow=34							
TORD	**Torodi Ar. Bea**	**53.44**	**150**	P		**P**	**22 15 57.5**	**+0.4**
	0.3nm,0.7s,baz=336,slow=7.8,SNR=1.6							
MKAR	**Makanchi Array**	**55.19**	**54**	P		**P**	**22 16 10.4**	**+0.9**
	0.3nm,0.8s,baz=330,slow=6.4,SNR=2.7							
TXAR	**Lajitas Array**	**60.05**	**276**	LR		LR	22 41 49.4	
	comp=Z,55nm,18.6s,baz=0.0,slow=35							

REY ***30*** *22:06:44.6,63.°66N×23.°24W,h10km*

ISC 30 22:06:46.3±1.5,**63.°75N**±0.°07×**23.°01W**±0.°06,**h19**km±3km, **n36,**σ1¶**56**/51,**mb4.0**/10,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IRNE	**Reykjanes**	**0.15**	**63**	P		**Pg**	**22 06 49.8**	**-0.8**
	baz=55							
IRNE				S		**Sg**	**22 06 54.4**

IHAU S Sn 22 07 29.0 +1.2
baz=76
SUMG Summit 10.52 334 eP Pn 22 09 14.8 -1.3
SUMG eS Sn 22 11 53.8 +40
CLL Collm 22.62 106 eP P 22 11 47.0 +1.4
comp=Z,8.0nm,1.6s
CLL Lm MLR 22 19 00.0
comp=N,100nm,20.2s
CLL Lm MLR 22 19 00.0
comp=E,100nm,20.1s
CLL Lm MLR 22 19 00.0
comp=Z,100nm,21.2s
BRG Berggiesshubel 23.35 106 eP P 22 11 55.0 +1.9
BRG Amp 22 11 56.4
comp=Z,8.3nm,1.1s
CHVC Chvalec 24.46 104 eP P 22 12 05.0 +1.3
KHC Kasperske Hory 24.51 109 eP P 22 12 05.6 +1.5
RETA Reutte 24.64 115 eP P 22 12 08.4 +3.0
comp=Z,5.4nm,1.3s
DPC Dobruska-Polom 24.75 104 eP P 22 12 07.7 +1.3
MOTA Moosalm 24.90 115 eP P 22 12 10.1 +2.3
comp=Z,5.2nm,1.3s
SQTA Sankt Quirin 25.04 115 eP P 22 12 12.0 +3.0
comp=Z,3.0nm,0.9s
CKRC Cesky Krumlov 25.05 109 eP P 22 12 11.0 +2.0
WATA Walderalm 25.09 114 eP P 22 12 12.3 +2.8
comp=Z,8.0nm,1.0s
KRLC Kraliky 25.16 104 eP P 22 12 10.6 +0.6
WTTA Wattenberg 25.18 114 eP P 22 12 12.6 +2.2
comp=Z,8.5nm,1.2s
TREC Trest 25.19 107 eP P 22 12 11.9 +1.6
KBA Koelnbreinsper 26.02 113 eP P 22 12 20.4 +2.3
comp=Z,2.2nm,0.7s
CONA Conrad Observa 26.40 108 eP P 22 12 22.8 +1.5
comp=Z,2.4nm,1.1s
OBKA Obir 26.97 112 eP P 22 12 26.6 +0.1
comp=Z,2.4nm,1.1s
SOKA Soboth 27.04 111 eP P 22 12 29.9 +2.9
comp=Z,1.2nm,0.7s
KOLS Kolonicke sedl 28.40 100 eP P 22 12 41.8 +2.7

NEIC ***30*** *22:14:35.5±1.5,21˚.20S±0˚.09×169˚.85E±0˚.10,h44km±6km, mb4.8/42, Error ellipse: s-maj=13.0km s-min=12.6km az=65.0*

IDC ***30*** *22:14:36.2±0.6,21˚.17S×169˚.80E,h57km±3km,mb4.1/15, mb1 4.4/18,mb1mx4.2/37,mbtmp4.5/18,MS3.6/21, Ms1 3.7/21,ms1mx3.6/30,Error ellipse: s-maj=15.4km s-min=9.9km az=151.0*

BGR ***30*** *22:14:37.4±0.0,20˚.49S×172˚.53E,h33km*

ISC 30 22:14:36.1±0.5,21˚.20S±0˚.06×169˚.82E±0˚.06, h57km±3km, h57km:pP-P,n178,σ1§16/180,mb4.8/41,MS3.7/20, 16C-18D,Fault plane solution: NP1:ϕ₀83.87946°, δ74.87273°,λ52.88366°. NP2:ϕ₀334.85263°,δ39.66583°, λ155.86824°. Principal axes: T Plg46.7898°, Azm315.3290°; N Plg35.6284°, Azm95.0506°; P Plg21.0872°, Azm201.0936°; **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.45	279	Op		Pn	22 15 12.7	-0.9
LIFNC				Sn		Sn	22 15 38.7	-3.7
PINNC	Pines Island,	2.62	237	P		Pn	22 15 15.4	-0.6
PINNC				Sn		Sn	22 15 44.4	-2.1
OUENC	Ouen Island, N	3.02	246	P		Pn	22 15 21.5	-0.1
OUENC				Sn		Sn	22 15 55.2	-1.3
DZM	Mont Dzumac	3.26	254	P		Pn	22 15 25.2	+0.3
	65nm,0.3s,baz=85,slow=8.5,SNR=558							
DZM				S		Sn	22 16 01.7	-0.8
	114nm,0.3s,baz=113,slow=23,SNR=19							
DZM	Mont Dzumac	3.26	254	*e*Pn		Pn	22 15 25.3	+0.3
	265nm,0.3s							
DZM				*e*Sn		Sn	22 16 00.8	-1.8
	376nm,0.2s							
DZM				*e*LR		LR	22 16 03.6	
	comp=Z,1μm,26.1s							
DZM	Mont Dzumac	3.26	254			Pn	22 15 25.1	+0.3
DZM				Sn		Sn	22 16 00.8	-1.8
ONTNC	Ouen Toro	3.32	250			Pn	22 15 25.6	-0.1
MSVF	Nonsavu	8.49	67	P		Pn	22 16 43.4	+6.8
	0.8nm,0.3s,baz=243,slow=10,SNR=9.5							
MSVF				LR		LR	22 19 18.9	
	comp=Z,463nm,19.4s,baz=163,slow=33							
OUZ	Omahuta	14.36	167			P	22 17 59.5	-2.3
HNR	Honiara	15.07	319	P		Pn	22 18 04.1	-1.6
	11nm,0.3s,baz=214,slow=4.9,SNR=2.3							
HNR				LR		LR	22 23 08.6	
	comp=Z,244nm,19.2s,baz=108,slow=34							
EIDS	Eidsvold	17.71	253	Pn		P	22 18 41.0	+2.0
URZ	Urewera	18.13	161	P		P	22 18 43.2	-0.3
	0.3nm,0.3s,baz=299,slow=23,SNR=2.5							
URZ				LR		LR	22 24 44.2	
	comp=Z,356nm,20.6s,baz=31,slow=34							
URZ	Urewera	18.13	161	P		P	22 18 43.6	+0.1
ARMA	Armidale	18.76	237			Pn	22 18 53.2	+1.6
BFZ	Birch Farm	20.18	166	P		P	22 19 06.7	+0.8
BFZ				IAmb	IAmb		22 19 13.4	
	comp=Z,115nm,1.4s							
CTA	Charters Tower	22.08	269	P		P	22 19 27.5	+0.9
	comp=Z,4.8nm,0.8s,baz=94,slow=8.6,SNR=2.6							
CTAO	Charters Tower	22.08	269	P		P	22 19 27.4	+0.8
CTAO				IAmb	IAmb		22 19 52.0	
	comp=Z,47nm,1.5s							
LBZ	Lake Benmore	23.13	179	P		P	22 19 37.5	+0.1
LBZ				IAmb	IAmb		22 19 53.4	
	comp=Z,63nm,1.5s							
PMG	Port Moresby	24.76	295	P		P	22 19 53.5	+0.9
	comp=Z,36nm,0.7s,baz=78,slow=4.9,SNR=7.9							
PMG				LR		LR	22 28 18.2	
	comp=Z,250nm,18.4s,baz=116,slow=33							
PMG	Port Moresby	24.76	295	P		P	22 19 52.9	+0.3
PMG				IAmb	IAmb		22 19 55.5	
	comp=Z,54nm,1.1s							
TOO	Toolangi	26.64	227	P		P	22 20 11.0	+1.5
STKA	Stephens Creek	27.33	241	P		P	22 20 16.7	+1.0
	comp=Z,9.7nm,0.7s,baz=73,slow=9.6,SNR=26							
STKA				PcP		PcP	22 23 34.1	+0.2
	comp=Z,4.4nm,0.8s,baz=51,slow=3.1,SNR=5.9							
STKA				LR		LR	22 29 34.4	
	comp=Z,157nm,21.5s,baz=41,slow=33							
STKA	Stephens Creek	27.33	241	P		P	22 20 16.6	+0.9
RAR	Rarotonga	28.33	96	LR		LR	22 32 16.8	
	comp=Z,77nm,18.6s,baz=270,slow=37							
BBOO	Buckleboo	32.10	242	P		P	22 20 58.3	+0.4
BBOO				IAmb	IAmb		22 20 58.9	
	comp=Z,11nm,0.8s							
WR0	Warramunga Arr	33.01	266	P		P	22 21 05.7	-0.5
WB2	Warramunga Arr	33.19	266	P		P	22 21 07.1	-0.6
WB2				IAmb	IAmb		22 21 12.1	
	comp=Z,10nm,0.9s							
WRA	Warramunga Arr	33.20	266	P		P	22 21 07.1	-0.7
	comp=Z,7.6nm,0.8s,baz=96,slow=8.5,SNR=47							
WRA				PcP		PcP	22 23 48.7	-0.8
	comp=Z,1.1nm,0.8s,baz=99,slow=4.8,SNR=3.7							
WRA	Warramunga Arr	33.20	266	P		P	22 21 07.2	-0.6
AS31	Alice Springs	33.24	259	P		P	22 21 07.9	-0.2
ASAR	Alice Springs	33.24	259	P		P	22 21 07.9	-0.2
	comp=Z,13nm,0.8s,baz=83,slow=9.0,SNR=98							
ASAR				PcP		PcP	22 23 48.8	-0.8
	comp=Z,2.2nm,0.8s,baz=106,slow=3.1,SNR=7.8							
ASAR				ScP		ScP	22 27 29.8	+0.7
	comp=Z,0.6nm,0.9s,baz=106,slow=3.3,SNR=2.6							
ASAR				LR		LR	22 34 03.6	
	comp=Z,210nm,20.5s,baz=105,slow=35							
TBI	Tubuai	37.66	101	*e*LR		LR	22 31 59.0	
	comp=Z,263nm,27.5s							
PPT2	Papeete2	38.39	92	*e*LR		LR	22 32 20.7	
	comp=Z,300nm,26.8s							
PPT	Papeete	38.40	92	LR		LR	22 34 20.8	
	comp=Z,91nm,19.1s,baz=311,slow=31							
FORT	Forrest	38.55	247	P		P	22 21 53.0	-0.3
FORT				IAmb	IAmb		22 21 54.1	
	comp=Z,19nm,0.8s							
KNRA	Kununurra	39.26	271	P		P	22 21 59.4	-0.1
KNRA				IAmb	IAmb		22 22 00.2	
	comp=Z,18nm,1.1s							
FAKI	Fak Fak	40.81	291	P		P	22 22 12.3	-0.1
FITZ	Fitzroy Crossi	41.63	266	P		P	22 22 19.6	+0.6
FITZ				IAmb	IAmb		22 22 20.6	
	comp=Z,14nm,0.8s							
PSA00	Pilbara Seismi	46.37	260	P		P	22 22 56.6	-0.5
PSA00				IAmb	IAmb		22 22 58.2	
	comp=Z,6.1nm,0.9s							
PSA00	Pilbara Seismi	46.37	260	P		P	22 22 57.1	+0.1
PSA00				IAmb	IAmb		22 22 58.2	
	comp=Z,12nm,0.8s							
NWAO	Narrogin (SRO)	47.83	244	P		P	22 23 08.3	0.0
NWAO				IAmb	IAmb		22 23 08.9	
	comp=Z,12nm,0.8s							
MORW	Morawa	48.97	249	P		P	22 23 16.8	-0.4
MORW				IAmb	IAmb		22 23 18.4	
	comp=Z,20nm,1.2s							
TOLI2	Tolitoli	52.80	289	P		P	22 23 46.5	+0.5
TOLI2				IAmb	IAmb		22 24 07.2	
	comp=Z,16nm,0.9s							
VNDA	Vanda	56.50	182	P		P	22 24 12.3	+0.4
	comp=Z,4.6nm,0.7s,baz=0.6,slow=7.5,SNR=28							
VNDA				LR		LR	22 44 34.0	
	comp=Z,97nm,20.9s,baz=11,slow=32							
VNDA	Vanda	56.50	182	P		P	22 24 12.4	+0.5
VNDA				IAmb	IAmb		22 24 12.8	
	comp=Z,5.4nm,0.8s							
SBA	Scott Base	56.72	181	P		P	22 24 14.9	+1.5
CASY	Casey	58.56	204	P		P	22 24 26.5	-0.1
JOW	Kunigami	62.44	318	LR		LR	22 49 02.8	
	comp=Z,80nm,20.5s,baz=200,slow=33							
MJAR	Matsushiro Arr	64.73	332	P		P	22 25 07.9	-0.6
	comp=Z,4.4nm,0.8s,baz=167,slow=7.3,SNR=8.9							
MJAR				LR		LR	22 54 46.6	
	comp=Z,14nm,18.6s,baz=115,slow=37							
MJAR	Matsushiro Arr	64.73	332	P		P	22 25 08.6	+0.1
JWT	Wachi	64.97	329	P		P	22 25 10.5	+0.5
JHS	Saijyo	65.86	327	P		P	22 25 15.9	+0.1
QSPA	South Pole Qui	68.87	180	P		P	22 25 34.8	+0.3
ASAJ	Asahikawa	69.62	339	LR		LR	22 51 45.0	
	comp=Z,54nm,22.0s,baz=160,slow=32							
KSRS	Korea Array	70.42	326	P		P	22 25 45.3	+1.0
	comp=Z,0.4nm,0.3s,baz=182,slow=31,SNR=4.4							
KSRS				pP		pP	22 25 59.9	+0.5
	comp=Z,1.8nm,0.8s,baz=149,slow=6.7,SNR=3.6							
KSRS				LR		LR	22 55 37.0	
	comp=Z,21nm,19.3s,baz=132,slow=35							
NJ2	Nanjing	71.99	316	*e*P		P	22 25 57.3	+3.4
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
USRK	Ussuriysk Ar.	73.72	333	P		P	22 26 04.7	+0.8
	comp=Z,1.8nm,0.9s,baz=134,slow=4.2,SNR=3.7							
USRK				pP		PcP	22 26 19.6	+0.3
	comp=Z,3.3nm,0.9s,baz=162,slow=3.7,SNR=5.9							
USRK				LR		LR	22 55 34.4	
	comp=Z,22nm,21.7s,baz=163,slow=33							
GSI	Gunungsitoli	73.96	278	P		P	22 26 05.9	-0.1
PETK	Petropavlovsk-	74.74	352	LR		LR	22 53 21.4	
	comp=Z,86nm,21.9s,baz=155,slow=31							
MAW	Mawson	76.83	202	P		P	22 26 22.7	+1.2
	comp=Z,12nm,0.7s,baz=122,slow=7.5,SNR=31							
MAW	Mawson	76.83	202	P		P	22 26 22.1	+0.6
KLR	Kul'dur	77.87	336	P		P	22 26 28.0	+0.6
	comp=Z,0.7nm,0.5s,baz=150,slow=8.1,SNR=2.4							
KLR				LR		LR	22 55 57.2	
	comp=Z,42nm,21.0s,baz=148,slow=32							
CM04	Chiang Mai Arr	79.75	294	P		pP	22 26 56.2	+2.4
	comp=Z,80nmcomp=Z,12nm,0.9s							
CM09	Chiang Mai Arr	79.76	294	P		pP	22 26 58.1	+4.2
	comp=Z,92nmcomp=Z,11nm,1.0s							
KMI	Kunming	79.77	302	⇑P		P	22 26 43.0	+4.3
KMI				pP		pP	22 26 50.3	-3.8
KMI				sP		pwP	22 26 55.3	-1.8
KMI				pmax		pmax		
	comp=Z,5.0nm,0.5s							
CM01	Chiang Mai Arr	79.78	294	P		pP	22 26 56.3	+2.3
	comp=Z,134nmcomp=Z,14nm,0.9s							
CM05	Chiang Mai Arr	79.78	294	P		pP	22 26 58.4	+4.4
	comp=Z,52nmcomp=Z,9.3nm,0.9s							
CM02	Chiang Mai Arr	79.79	294	P		pP	22 26 56.3	+2.2
	comp=Z,100nmcomp=Z,13nm,0.9s							
CMAR	Chiang Mai Arr	79.80	294	P		P	22 26 40.4	+1.7
	comp=Z,1.0nm,0.7s,baz=136,slow=3.8,SNR=6.8							
CMAR				pP		pwP	22 26 56.0	-1.1
	comp=Z,6.8nm,0.8s,baz=130,slow=3.9,SNR=15							
CMAR				LR		LR	23 04 42.4	
	comp=Z,20nm,18.0s,baz=210,slow=38							
CMAR	Chiang Mai Arr	79.80	294	P		P	22 26 40.2	+1.4
CM15	Chiang Mai Arr	79.82	294	P		pP	22 26 59.0	+4.8
	comp=Z,12nm,0.9s							
CM13	Chiang Mai Arr	79.82	294	P		pP	22 26 56.5	+2.3
	comp=Z,89nmcomp=Z,10nm,0.8s							
CHTO	Chiang Mai	79.96	295	P		pP	22 26 56.6	+1.6
	comp=Z,14nm,1.0s							
CHTO	Chiang Mai	79.96	295	P		P	22 26 41.2	+1.6
CHTO				IAmb	IAmb		22 27 00.0	
	comp=Z,11nm,0.9s							
CHTO	Chiang Mai	79.96	295	P		P	22 26 45.4	+5.8
CD2	Chengdu	81.86	307	*e*P		P	22 26 52.8	+3.3
HHC	Hu-ho-hao-te	82.06	319	*e*P		P	22 26 54.0	+3.6
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,86nm,5.7s							
SYO	Syowa Base	83.21	196	‖*e*P		P	22 26 55.4	-0.5
SYO	Syowa Base	83.21	196	‖*e*PcP		PcP	22 27 01.1	+0.8
PMSA	Palmer Station	84.89	160	P		P	22 27 04.6	+0.1
SNAA	Sanae	87.24	182	P		P	22 27 15.2	-0.8
SNAA	Sanae	87.24	182	P		P	22 27 14.9	-1.2
VNA3	Neumayer Olymp	87.81	180	P		P	22 27 18.1	-0.7
VNA2	Neumayer--Watz	88.11	181	P		P	22 27 19.8	-0.3
	baz=164,slow=4.3							
VNA1	Neumayer--Stat	88.39	181	P		P	22 27 21.2	-0.3
BEKR	Beckworth	88.95	46	P		P	22 27 25.4	+0.5
BEKR				IAmb	IAmb		22 27 26.2	
	comp=Z,3.9nm,0.9s							
SONM	Songino Array	89.11	323	P		P	22 27 26.7	+1.4
	comp=Z,0.2nm,0.4s,baz=148,slow=2.6,SNR=4.1							
SONM				pP		pP	22 27 40.7	-0.2
	comp=Z,2.3nm,0.8s,baz=142,slow=4.9,SNR=9.0							
SONM				LR		LR	23 06 54.7	
	comp=Z,23nm,18.8s,baz=63,slow=35							
SONM	Songino Array	89.11	323	P		P	22 27 26.7	+1.4
SONM				IAmb	IAmb		22 27 44.4	
	comp=Z,3.9nm,1.0s							
RYN	Ryan	89.62	48	P		P	22 27 28.2	+0.2
RYN				IAmb	IAmb		22 27 29.3	
	comp=Z,3.8nm,0.8s							
NVAR	Mina Array Bea	89.69	48	P		P	22 27 29.0	+0.7
	comp=Z,3.6nm,0.7s,baz=225,slow=8.5,SNR=22							
NVAR				pP		pP	22 27 44.4	+0.3
	comp=Z,2.5nm,0.8s,baz=222,slow=8.1,SNR=7.8							
NVAR	Mina Array Bea	89.69	48	P		P	22 27 28.6	+0.3
NV11	Mina Array Sit	89.79	48	P		P	22 27 29.3	+0.6
NV11				IAmb	IAmb		22 27 30.1	
	comp=Z,4.6nm,0.8s							
PINE	Pine Mountain	90.48	43	P		P	22 27 32.7	+0.9
I07A	Izee	91.53	43	P		P	22 27 37.5	+0.8
I07A				IAmb	IAmb		22 27 38.0	
	comp=Z,3.4nm,0.8s							
ILAR	Eielson Array	91.93	17	P		P	22 27 36.4	-1.4
	comp=Z,0.4nm,0.8s,baz=238,slow=6.1,SNR=2.3							
ILAR				LR		LR	23 04 02.6	
	comp=Z,34nm,19.1s,baz=226,slow=32							
G08A	Pilot Rock	92.44	42	P		P	22 27 41.4	+0.5
G08A				IAmb	IAmb		22 28 00.7	
	comp=Z,3.4nm,0.9s							
PLCA	Paso Flores	96.71	138	LR		LR	23 01 17.8	
	comp=Z,45nm,21.4s,baz=187,slow=29							
PDAR	Pinedale Array	97.54	47	LR		LR	23 06 57.9	
	comp=Z,21nm,19.7s,baz=260,slow=32							
BOSA	Boshof	119.82	216	PKP		PKPdf	22 33 20.1	-0.7
	comp=Z,2.7nm,0.9s,baz=338,slow=3.9,SNR=2.3							
SPITS	Spitsbergen Ar	121.59	354	PKP		PKPdf	22 33 20.8	-1.7
	comp=Z,4.4nm,0.7s,baz=113,slow=8.2,SNR=8.0							
BELG	Belogornoye	126.07	320	PKP		PKPdf	22 33 30.9	-0.7
	comp=Z,11nm,0.9s,baz=148,slow=0.6,SNR=4.9							
ARCES	ARCESS Array B	127.09	345	PKP		PKPdf	22 33 32.5	-0.7
	comp=Z,3.1nm,0.6s,baz=54,slow=1.1,SNR=33							
ARCES				pPKP		pPKPdf	22 33 51.0	+1.6
	comp=Z,0.8nm,0.5s,baz=48,slow=1.8,SNR=1.8							
KLMR	Klimovskoe	127.51	332	*e*PKPdf		PKPdf	22 33 28.8	-5.4
KLMR				AMP			22 33 34.7	
	comp=Z,10.0nm,1.4s							
FINES	FINESS Array B	132.60	337	PKP		PKPdf	22 33 43.2	-0.6
	comp=Z,2.0nm,0.8s,baz=38,slow=3.4,SNR=7.3							
FINES				pPKP		pPKPdf	22 34 01.8	+1.8
	comp=Z,1.7nm,0.9s,baz=354,slow=1.9,SNR=2.0							
FINES				SKPbc		SKPbc	22 37 04.4	-1.7
	comp=Z,11nm,0.9s,baz=90,slow=3.3,SNR=28							
AKASG	Malin Array Be	137.39	323	PKP		PKPdf	22 33 52.4	-0.7
	comp=Z,0.7nm,0.4s,baz=54,slow=3.0,SNR=5.9							
AKASG				SKPbc		SKPbc	22 37 20.3	-1.4
	comp=Z,4.8nm,0.8s,baz=46,slow=3.5,SNR=21							
AKASG	Malin Array Be	137.39	323			PKPdf	22 33 51.6	-1.5
NOA	NORSAR Array B	137.47	345	PKP		PKPdf	22 33 53.3	+0.3
	comp=Z,1.1nm,0.7s,baz=29,slow=1.9,SNR=7.9							
NOA				SKPbc		SKPbc	22 37 19.6	-2.1
	comp=Z,1.0nm,0.8s,baz=23,slow=4.5,SNR=4.0							
HFS	Hagfors	137.59	343	SKPbc		SKPbc	22 37 20.0	-1.9
	comp=Z,3.2nm,0.8s,baz=127,slow=0.7,SNR=8.3							
MMAI	Mount Meron Ar	138.05	296	SKPbc		SKPbc	22 37 24.3	0.0
	comp=Z,5.7nm,1.1s,baz=102,slow=6.1,SNR=5.8							
BRTR	Keskin Array B	138.43	306	PKP		PKPdf	22 33 56.0	+0.5
	comp=Z,0.6nm,0.7s,baz=106,slow=2.7,SNR=4.6							
BRTR				SKPbc		SKPbc	22 37 23.0	-2.3
	comp=Z,1.2nm,1.0s,baz=126,slow=2.1,SNR=6.6							
BRTR	Keskin Array B	138.43	306			PKPdf	22 33 55.6	+0.1
MLR	Muntele Rosu	141.79	318	PKhKP		PKPpre	22 33 56.2	
	comp=Z,1.5nm,0.8s,baz=189,slow=19,SNR=2.4							
MLR				SKPbc		SKPbc	22 37 32.3	-1.7
	comp=Z,2.6nm,1.0s,baz=325,slow=4.0,SNR=5.5							
KOLS	Kolonicke sedl	142.14	325	*e*PKP		PKPdf	22 34 02.8	+1.0
SIRR	Siria	143.99	322	⇑P		PKPbc	22 34 03.7	+0.5
MORC	Moravsky Berou	144.02	329	*e*PKP		PKPbc	22 34 03.0	-0.2
MORC				*e*			22 37 38.4	
OSTC	Ostas	144.10	331	*e*PKP		PKPbc	22 34 03.3	-0.1
OSTC				*e*SKP			22 37 38.9	
CHVC	Chvalec	144.15	331	*e*PKP		PKPab	22 34 02.8	-0.3
CHVC				*e*SKP			22 37 38.7	
KRLC	Kraliky	144.18	330	*e*PKP		PKPab	22 34 02.7	-0.5
KRLC				*e*SKP			22 37 39.0	
DPC	Dobruska-Polom	144.20	331	*e*PKP		PKPbc	22 34 03.7	0.0
DPC				*ep*PKP		pPKPdf	22 34 21.6	-0.1
DPC				*e*SKP			22 37 38.5	
UPC	Upice	144.23	331	*e*PKP		PKPab	22 34 03.3	-0.1
UPC				*ep*PKP		pPKPdf	22 34 18.9	-2.7
UPC				*e*SKP			22 37 39.0	
HERR	Herculane	144.27	319	‖P		PKPbc	22 34 04.2	+0.1
BZS	Buzias	144.36	321	‖P		PKPbc	22 34 04.3	0.0
KOLL	Kolacno	144.38	327	*e*PKP		PKPdf	22 34 05.7	-0.1
JAVC	Velka Javorina	144.57	328	*e*PKP		PKPdf	22 34 06.1	-0.1
JAVC				*e*			22 37 40.8	
MDVR	Moldovita	144.75	319	⇑P		PKPbc	22 34 06.0	+0.3
VRAC	Vranov	144.79	329	PKP		PKPab	22 34 05.4	-0.1
	comp=Z,3.2nm,0.7s,baz=82,slow=5.1,SNR=7.5							
VRAC	Vranov	144.79	329	⇑P		PKPbc	22 34 05.8	+0.2
VRAC	Vranov	144.79	329	*e*PKP		PKPbc	22 34 05.6	0.0
VRAC				*e*			22 37 40.0	
VTS	Vitosha	144.83	315	⇑P		PKPdf	22 34 06.7	-0.2
PVCC	Panska Ves	144.85	332	*e*PKP		PKPbc	22 34 05.7	0.0
BRG	Berggiesshubel	144.86	333	*i* PKP		PKPab	22 34 05.5	-0.1
BRG				Amp			22 34 06.5	
	comp=Z,8.4nm,0.7s							
BRG				*ex*		x	22 34 20.7	
BRG				Amp			22 34 25.3	
	comp=Z,10nm,0.9s							
BRG				SKP			22 37 40.0	
BRG				Amp			22 37 41.2	
	comp=Z,7.3nm,1.0s							
BRG	Berggiesshubel	144.86	333	*e*PKPbc		PKPab	22 34 05.5	-0.1
	baz=34,slow=2.9							
CLL	Collm	144.91	335	⇓ *i* PKPdf		PKPab	22 34 05.3	-0.5
	comp=Z,6.0nm,0.7s							
CLL				*i* (pPKPdf)			22 34 22.9	
	comp=Z,7.0nm,0.9s							
CLL				*i*			22 34 34.2	
CLL				*e*PP		PP	22 37 22.0	-2.4
CLL				*i* PKSdf		PKSdf	22 37 39.8	-2.1
CLL	Collm	144.91	335	*e*PKPbc		PKPab	22 34 05.4	-0.4
	baz=34,slow=2.9							
KRUC	Moravsky	145.06	329	*e*PKP		PKPbc	22 34 06.3	-0.1
KRUC				*e*			22 37 40.3	
MODS	Modra-Piesok	145.09	328	*e*PKP		PKPdf	22 34 07.5	+0.5
PRU	Pruhonice	145.25	332	*e*PKP		PKPbc	22 34 06.6	-0.4
PRU				*ep*PKP		pPKPab	22 34 20.6	-2.3
PRU				*e*SKP			22 37 40.9	
ZST	Bratislava	145.29	327	*e*PKP		PKPdf	22 34 07.8	+0.5
TREC	Trest	145.32	330	*e*PKP		PKPbc	22 34 06.2	-1.1
TREC				*ex*		x	22 34 24.6	
FRGS	Fruska Gora	145.68	321	⇑P		PKPab	22 34 08.9	-0.1
MORH	Mrgy, Hungar	145.73	324	⇑P		PKPdf	22 34 08.3	+0.2
TANN	Tannenbergstha	145.82	334	*e*PKPbc		PKPdf	22 34 08.5	+0.2
	baz=34,slow=2.9							
GUNZ	Gunzen	145.91	334	*e*PKPbc		PKPbc	22 34 09.2	0.0
	baz=34,slow=2.9							
WERN	Wernitzgruen	145.95	334	*e*PKPbc		PKPbc	22 34 09.4	+0.1
	baz=34,slow=2.9							
NKC	Novy Kostel	145.97	334	*e*PKP		PKPab	22 34 09.6	-0.3
NKC				*ex*		x	22 34 27.8	
MOX	Moxa	145.98	335	*e*PKPbc		PKPdf	22 34 08.7	+0.2
	baz=34,slow=2.9							
CONA	Conrad Observa	146.09	328	*e*P		PKPbc	22 34 10.0	+0.2
	comp=Z,6.8nm,0.8s,baz=8.7							
CONA				*e*P		pPKPbc	22 34 25.5	-0.4
	comp=Z,9.7nm,1.3s							
CKRC	Cesky Krumlov	146.21	330	*e*PKP		PKPdf	22 34 08.4	-0.

ATH ***30*** *22:18:21.7, 34°.98N×26°.94E, h9km±2km, ML3.0/5 Error ellipse: s-maj=4.6km s-min=1.2km az=334.0*
NIC ***30*** *22:18:21.7±0.0.0, 35°.02N×26°.91E, h12km±1km, MI3.1/4*
ISK ***30*** *22:18:21.7, 35°.05N×26°.94E, h9km, ML3.1/20*
THE ***30*** *22:18:21.9, 35°.04N×26°.88E, h0km±1km, ML3.0/5, Error ellipse: s-maj=4.8km s-min=0.6km az=149.0*
IDC ***30*** *22:18:33.3±11.0, 35°.31N×26°.67E, h121km±115km, mb3.3/6, mb1 3.4/7, mb1mx3.1/45, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=47.6km s-min=20.0km az=150.0*

ISC 30 22:18:21.4±1.3, 35°.02N±0°.05×26°.91E±0°.03, h12km±8km, n61, σ0°93/78, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**22**	P	**Pg**	**22 18 32.6**	**+0.1**
KARP				S	**Sb**	**22 18 41.7**	**+0.3**
	3μm,0.3s						
KARP	**Karpathos**	**0.57**	**22**	P	**Pg**	**22 18 32.8**	**+0.3**
KARP				S	**Sb**	**22 18 41.4**	**0.0**
KARP				AML	AML	22 18 42.8	
	comp=N,5615μm,0.2s						
KARP				AML	AML	22 18 43.0	
	comp=E,5454μm,0.3s						
KARP	**Karpathos**	**0.57**	**22**	PG	**Pg**	**22 18 32.8**	**+0.3**
KARP				SG	**Sg**	**22 18 40.3**	**+0.3**
KARP	**Karpathos**	**0.57**	**22**	P	**Pg**	**22 18 32.7**	**+0.3**
KARP				S	**Sb**	**22 18 41.6**	**+0.3**
KARP				AML	AML	22 18 42.5	
	comp=E,5.4nm,0.3s						
KARP				AML	AML	22 18 42.5	
	comp=E,5.4nm,0.3s						
KARP				AML	AML	22 18 42.6	
	comp=E,7.7nm,0.6s						
KARP				AML	AML	22 18 42.6	
	comp=E,7.7nm,0.6s						
ZKR	**Zakros**	**0.57**	**280**	P	**Pg**	**22 18 33.0**	**+0.4**
ZKR				S	**Sb**	**22 18 41.8**	**+0.3**
	comp=E,3μm,0.3s						
ZKR	**Zakros**	**0.57**	**280**	P	**Pg**	**22 18 33.1**	**+0.6**
ZKR				S	**Sb**	**22 18 41.8**	**+0.3**
ZKR				AML	AML	22 18 42.5	
	comp=N,4993μm,0.3s						
ZKR				AML	AML	22 18 42.7	
	comp=E,5711μm,0.3s						
ZKR	**Zakros**	**0.57**	**280**	PG	**Pb**	**22 18 33.5**	**+0.1**
ZKR				SG	**Sb**	**22 18 42.1**	**+0.6**
ZKR	**Zakros**	**0.57**	**280**	P	**Pg**	**22 18 33.1**	**+0.6**
ZKR				AML	AML	22 18 41.3	
	comp=E,4.3nm,0.4s						
ZKR				AML	AML	22 18 41.3	
	comp=E,4.3nm,0.4s						
ZKR				AML	AML	22 18 41.5	
	comp=E,4.9nm,0.3s						
ZKR				AML	AML	22 18 41.5	
	comp=E,4.9nm,0.3s						
ZKR				S	**Sb**	**22 18 41.9**	**+0.4**
STIA	**Sitia Lasithi**	**0.69**	**286**	P	**Pg**	**22 18 34.9**	**+0.1**
STIA				S	**Sb**	**22 18 45.7**	**+0.8**
FRMA	**Ierapetra Chan**	**0.96**	**270**	P	**Pg**	**22 18 38.2**	**-1.7**
FRMA				S	**Sg**	**22 18 51.6**	**-0.9**
	comp=E,372nm,0.4s						
NPS	**Neapolis**	**1.09**	**283**	P	**Pb**	**22 18 42.7**	**+0.5**
NPS				S	**Sn**	**22 18 58.5**	**+1.0**
	comp=E,925nm,0.5s						
NPS	**Neapolis**	**1.09**	**283**	P	**Pb**	**22 18 42.8**	**+0.7**
NPS				S	**Sb**	**22 18 57.5**	**+1.2**
NPS				AML	AML	22 19 03.0	
	comp=E,2248μm,0.5s						
NPS				AML	AML	22 19 05.0	
	comp=N,1448μm,0.5s						
LAST	**Lasithi**	**1.18**	**277**	P	**Pb**	**22 18 44.0**	**+0.2**
LAST	**Lasithi**	**1.18**	**277**	P	**Pg**	**22 18 44.4**	**+0.3**
HRKL	**Herakleio**	**1.51**	**282**	PN	**Pb**	**22 18 50.2**	**+0.9**
ARG	**Arkhangelos**	**1.56**	**39**	P	**Pn**	**22 18 49.5**	**+0.6**
ARG				S	**Sg**	**22 19 11.2**	**-0.2**
	comp=N,298nm,0.5s						
ARG	**Arkhangelos**	**1.56**	**39**	P	**Pb**	**22 18 50.4**	**+0.2**
ARG				AML	AML	22 19 16.1	
	comp=E,708μm,0.5s						
ARG				AML	AML	22 19 26.8	
	comp=N,482μm,0.5s						
ARG	**Arkhangelos**	**1.56**	**39**	PN	**Pb**	**22 18 50.0**	**-0.1**
ARG				SN	**Sb**	**22 19 10.1**	**+0.3**
NIS1	**Nisyros Isl.**	**1.60**	**8**	P	**Pn**	**22 18 49.2**	**-0.3**
NIS1				S	**Sg**	**22 19 11.9**	**-0.9**
NIS1	**Nisyros Isl.**	**1.60**	**8**	PN	**Pn**	**22 18 50.2**	**+0.7**
NISR	**Nisiros**	**1.60**	**6**	P	**Pn**	**22 18 50.4**	**+0.9**
NISR				S	**Sg**	**22 19 12.3**	**-0.6**
IDI	**Anoyia**	**1.67**	**280**	P	**Pg**	**22 18 53.5**	**0.0**
IDI				AML	AML	22 19 28.7	
	comp=E,285μm,0.7s						
IDI				AML	AML	22 19 30.2	
	comp=N,321μm,0.5s						
IDI	**Anoyia**	**1.67**	**280**	PN	**Pb**	**22 18 52.3**	**+0.1**
KOSK	**Kos Island**	**1.73**	**2**	P	**Pn**	**22 18 51.4**	**+0.1**
KOSK	**Kos Island**	**1.73**	**2**	PN	**Pn**	**22 18 52.3**	**+1.0**
SANT	**Santorini**	**1.79**	**319**	PN	**Pn**	**22 18 53.2**	**+1.0**
DAT	**Datca**	**1.79**	**18**	PN	**Pn**	**22 18 53.3**	**+1.0**
THT2	**Imerovigli**	**1.86**	**326**	PN	**Pb**	**22 18 54.7**	**-0.6**
TURN	**Turunc**	**2.06**	**31**	PN	**Pn**	**22 18 57.2**	**+1.3**
BODT	**Bodrum**	**2.07**	**9**	PN	**Pn**	**22 18 56.8**	**+0.9**
DALY	**Dalyan (Mula)**	**2.29**	**38**	PN	**Pn**	**22 19 00.2**	**+1.2**
GVDS	**Gavdos**	**2.32**	**266**	PN	**Pb**	**22 19 02.4**	**-0.8**
GVD	**Gavdhos**	**2.32**	**266**	PN	**Pn**	**22 19 01.8**	**+2.4**
APE	**Apeiranthos**	**2.33**	**332**	PN	**Pn**	**22 18 59.7**	**+0.1**
APE	**Apeiranthos**	**2.33**	**332**	P	**Pn**	**22 18 59.8**	**+0.2**
MLSB	**Milas**	**2.38**	**17**	PN	**Pn**	**22 19 01.5**	**+1.2**
YER	**Yerkesik**	**2.39**	**27**	PN	**Pn**	**22 19 01.6**	**+1.2**
FETY	**Fethiye**	**2.40**	**47**	PN	**Pn**	**22 19 00.4**	**-0.1**
IMMV	**Iera Moni Meta**	**2.43**	**281**	PN	**Pb**	**22 19 03.8**	**-1.3**
KSL	**Kastellorizon**	**2.46**	**62**	P	**Pn**	**22 19 02.2**	**+0.9**
KSL				S	**Sn**	**22 19 32.7**	**+1.5**
AKAS	**Kas**	**2.51**	**60**	PN	**Pn**	**22 19 02.3**	**+0.1**
KNDR	**Palaiochora Ch**	**2.65**	**276**	PN	**Pb**	**22 19 07.1**	**-1.6**
CAME	**Cameli-Denizli**	**2.73**	**45**	PN	**Pn**	**22 19 06.4**	**+1.2**
ELL	**Elmali**	**2.99**	**54**	PN	**Pn**	**22 19 09.9**	**+1.2**
ELL	**Elmali**	**2.99**	**54**	P	**Pn**	**22 19 09.5**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.03**	**15**	PN	**Pn**	**22 19 10.3**	**+1.0**
URLA	**Izmir**	**3.34**	**356**	PN	**Pn**	**22 19 14.9**	**+1.4**
KORT	**Korkueli**	**3.42**	**54**	PN	**Pn**	**22 19 15.3**	**+0.6**
CHOS	**Chios island**	**3.43**	**349**	PN	**Pn**	**22 19 16.0**	**+1.2**
AKMS	**Akamas**	**4.46**	**88**	P	**Pn**	**22 19 29.5**	**+0.7**
AKMS				AML	AML	22 20 21.6	
	comp=N,0.3nm,0.5s						
AKMS				AML	AML	22 20 22.1	
	comp=N,0.3nm,0.6s						
NATA	**Nata**	**4.66**	**91**	P	**Pn**	**22 19 32.3**	**+0.7**
SZAC	**Souni**	**4.92**	**91**	P	**Pn**	**22 19 36.3**	**+1.1**
SZAC				AML	AML	22 20 32.7	
	comp=N,0.3nm,0.9s						
SZAC				AML	AML	22 20 34.4	
	comp=N,0.2nm,0.4s						
ASGA	**Asgata**	**5.22**	**91**	P	**Pn**	**22 19 40.3**	**+1.0**
MVOU	**Mavrovouni**	**5.52**	**88**	P	**Pn**	**22 19 44.2**	**+0.8**
AKASG	**Malin Array Be**	**15.77**	**5**	P	**Pn**	**22 22 05.0**	**+1.9**
	comp=N,0.4nm,0.3s,baz=192,slow=11,SNR=2.9						
ESDC	**Sonseca Array**	**24.91**	**290**	P	**P**	**22 23 43.1**	**-1.2**
	comp=N,0.2nm,0.5s,baz=85,slow=9.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**31.52**	**233**	P	**P**	**22 24 43.8**	**+0.3**
	comp=N,0.3nm,0.4s,baz=33,slow=8.5,SNR=2.2						
ARCES	**ARCESS Array B**	**34.58**	**359**	P	**P**	**22 25 06.7**	**-3.0**
	comp=N,1.4nm,1.0s,baz=161,slow=8.4,SNR=1.7						
KURBB	**Kurchatov Arra**	**40.10**	**51**	P	**P**	**22 25 56.6**	**0.0**
	comp=N,1.1nm,0.5s,baz=277,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**42.66**	**57**	P	**P**	**22 26 17.7**	**-0.1**
	comp=N,1.0nm,0.6s,baz=278,slow=6.9,SNR=15						
ZALV	**Zalesovo Beam**	**44.07**	**46**	P	**P**	**22 26 28.2**	**-0.8**
	comp=N,1.5nm,0.5s,baz=270,slow=8.4,SNR=8.3						

TAP ***30*** *22:33:23.9, 24°.53N×122°.38E, h69km, ML2.9, B*
JMA ***30*** *22:33:23.4±0.1, 24°.40N×122°.37E, h80km±1km, M2.3*

ISC 30 22:33:24.0±1.3, 24°.52N±0°.03×122°.38E±0°.02, h74km±8km, n77, σ0°98/130, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.50**	**281**	P	**Pn**	**22 33 37.0**	**-0.1**
	baz=279						
TWC				S	**Sn**	**22 33 46.4**	**-0.4**
	baz=279						
JYNG	**Yonagunijimaku**	**0.52**	**97**	P	**Pn**	**22 33 37.5**	**+0.2**
JYNG				S	**Sn**	**22 33 47.6**	**+0.5**
EGS		**0.53**	**309**	*eP*	**Pn**	**22 33 37.5**	**+0.2**
	baz=308						
EWUT	**Wuta**	**0.56**	**263**	P	**Pn**	**22 33 37.8**	**+0.1**
	baz=261						
EWUT				*eS*	**Sn**	**22 33 48.5**	**+0.7**
	baz=261						
YOJ	**Yonaguni jima**	**0.57**	**95**	P	**Pn**	**22 33 38.0**	**+0.2**
YOJ				S	**Sn**	**22 33 48.8**	**+0.7**
YOJ	**Yonaguni jima**	**0.57**	**95**	P	**Pn**	**22 33 38.1**	**+0.2**
	baz=95						
YOJ				S	**Sn**	**22 33 48.0**	**0.0**
	baz=95						
NTC	**Toucheng**	**0.61**	**304**	P	**Pn**	**22 33 38.1**	**0.0**
	baz=302						
NTC				S	**Sn**	**22 33 48.5**	**-0.2**
	baz=302						
TWB1	**Santiao Chiao**	**0.61**	**324**	P	**Pn**	**22 33 37.7**	**-0.5**
	baz=323						
TWB1				S	**Sn**	**22 33 48.3**	**-0.4**
	baz=323						
NDS	**Dongshan**	**0.62**	**281**	*eP*	**Pn**	**22 33 38.3**	**0.0**
	baz=279						
NDS				*eS*	**Sn**	**22 33 48.2**	**-0.7**
	baz=279						
ILA	**Ilan**	**0.63**	**293**	*eP*	**Pn**	**22 33 38.6**	**+0.2**
	baz=292						
TIPB	**Shuangxi**	**0.68**	**312**	P	**Pn**	**22 33 38.9**	**-0.1**
	baz=311						
TIPB				S	**Sn**	**22 33 50.1**	**0.0**
	baz=311						
TWE	**Neicheng**	**0.68**	**287**	P	**Pn**	**22 33 39.1**	**+0.2**
	baz=286						
TWE				S	**Sn**	**22 33 50.2**	**+0.1**
	baz=286						
ENTT	**Nioudou**	**0.76**	**280**	*eP*	**Pn**	**22 33 40.4**	**+0.6**
	baz=278						
ENTT				*eS*	**Sn**	**22 33 52.4**	**+0.9**
	baz=278						
NWF	**Wu-fen Shan**	**0.78**	**315**	*eP*	**Pn**	**22 33 40.1**	**0.0**
	baz=314						
NWF				*eS*	**Sn**	**22 33 52.0**	**-0.1**
	baz=314						
WFSB	**Wu-fen Shan**	**0.78**	**315**	*eP*	**Pn**	**22 33 40.0**	**-0.1**
	baz=314						
WFSB				*eS*	**Sn**	**22 33 52.0**	**0.0**
	baz=314						
ETL	**Fush Village**	**0.78**	**243**	*eP*	**Pn**	**22 33 39.9**	**-0.2**
	baz=241						
ETL				*eS*	**Sn**	**22 33 52.1**	**+0.1**
	baz=241						
NACB	**Ninganchiao**	**0.80**	**245**	*eP*	**Pn**	**22 33 39.8**	**-0.4**
	baz=243						
NACB				*eS*	**Sn**	**22 33 52.0**	**-0.4**
	baz=243						
NDT	**Datong Townshi**	**0.80**	**276**	*eP*	**Pn**	**22 33 40.8**	**+0.5**
	baz=275						
NDT				*eS*	**Sn**	**22 33 53.3**	**+0.9**
	baz=275						
TNOU	**National Taiwa**	**0.84**	**319**	*eP*	**Pn**	**22 33 40.6**	**-0.1**
	baz=317						
TNOU				*eS*	**Sn**	**22 33 53.1**	**-0.1**
	baz=317						
TWD	**Chiawan**	**0.84**	**239**	*eP*	**Pn**	**22 33 40.6**	**-0.2**
	baz=237						
TWD				*eS*	**Sn**	**22 33 53.0**	**-0.2**
	baz=237						
NWLT	**Wulai**	**0.84**	**288**	*eP*	**Pn**	**22 33 41.0**	**+0.1**
	baz=287						
NWLT				*eS*	**Sn**	**22 33 53.5**	**+0.2**
	baz=287						
TWA	**Mucha**	**0.86**	**303**	*eP*	**Pn**	**22 33 40.5**	**-0.5**
	baz=301						
TWA				*eS*	**Sn**	**22 33 53.3**	**-0.4**
	baz=301						
ETLH	**Xiulin Townshi**	**0.88**	**250**	*eP*	**Pn**	**22 33 40.8**	**-0.5**
	baz=248						
ETLH				*eS*	**Sn**	**22 33 53.7**	**-0.5**
	baz=248						
NNS	**Nan Shan**	**0.93**	**265**	*eP*	**Pn**	**22 33 42.0**	**+0.1**
	baz=264						
NNS				*eS*	**Sn**	**22 33 56.0**	**+0.8**
	baz=264						
YHNB	**Yeheng**	**0.93**	**280**	*eP*	**Pn**	**22 33 42.1**	**+0.2**
	baz=278						
YHNB				*eS*	**Sn**	**22 33 55.6**	**+0.4**
	baz=278						
TEYL	**Yanliau Villag**	**0.97**	**228**	*eP*	**Pn**	**22 33 41.8**	**-0.5**
	baz=228						
TEYL				*eS*	**Sn**	**22 33 56.0**	**+0.1**
	baz=228						
YM01	**YM01**	**0.97**	**310**	*eP*	**Pn**	**22 33 42.1**	**-0.2**
	baz=309						
YM01				*eS*	**Sn**	**22 33 56.0**	**-0.1**
	baz=309						
ETM	**Tongmen**	**0.98**	**236**	*eP*	**Pn**	**22 33 42.0**	**-0.5**
	baz=235						
ETM				*eS*	**Sn**	**22 33 55.8**	**-0.4**
	baz=235						
YM08	**YM08**	**0.98**	**313**	*eP*	**Pn**	**22 33 42.2**	**-0.3**
	baz=312						
YM08				*eS*	**Sn**	**22 33 55.3**	**-1.0**
	baz=312						
TWS1	**Kuangyinshan**	**1.05**	**304**	*eP*	**Pn**	**22 33 43.1**	**-0.3**
	baz=303						
TWS1				*eS*	**Sn**	**22 33 58.0**	**+0.2**
	baz=303						
NTST	**Danshui**	**1.07**	**307**	*eS*	**Sn**	**22 33 58.1**	**0.0**
	baz=306						
WHF	**Hehuan Shan**	**1.09**	**250**	*eP*	**Pn**	**22 33 43.9**	**-0.2**
	baz=249						
WHF				*eS*	**Sn**	**22 33 58.9**	**-0.3**
	baz=249						
NTY	**Taoyuan**	**1.10**	**296**	*eS*	**Sn**	**22 33 59.9**	**+1.2**
	baz=295						
TEGC	**Jichi Village**	**1.11**	**224**	*eS*	**Sn**	**22 33 59.4**	**+0.2**
	baz=222						
ESL	**Shilin**	**1.12**	**231**	*eP*	**Pn**	**22 33 43.2**	**-0.9**
	baz=230						
ESL				*eS*	**Sn**	**22 33 58.1**	**-1.1**
	baz=230						
TWT	**Tachien**	**1.13**	**257**	*eP*	**Pn**	**22 33 45.0**	**+0.5**
	baz=255						
TWT				*eS*	**Sn**	**22 34 00.2**	**+0.4**
	baz=255						
TDCB	**Techi**	**1.15**	**257**	*eP*	**Pn**	**22 33 45.1**	**+0.4**
	baz=256						
TDCB				*eS*	**Sn**	**22 33 60.0**	**-0.2**
	baz=256						
CHGB	**Renai**	**1.19**	**248**	*eP*	**Pn**	**22 33 45.5**	**+0.2**
	baz=247						
CHGB				*eS*	**Sn**	**22 34 01.3**	**0.0**
	baz=247						
NJD	**Zhudong**	**1.20**	**281**	*eS*	**Sn**	**22 34 02.2**	**+1.1**
	baz=279						
EGFH	**Guangfu**	**1.22**	**226**	*eP*	**Pn**	**22 33 44.5**	**-0.9**
	baz=225						
EGFH				*eS*	**Sn**	**22 34 00.2**	**-1.2**
	baz=225						
OWD	**Renai**	**1.24**	**243**	*eP*	**Pn**	**22 33 45.5**	**-0.3**
	baz=242						
OWD				*eS*	**Sn**	**22 34 01.7**	**-0.4**
	baz=242						
IRIF	**Iriomote-Funau**	**1.24**	**98**	P	**Pn**	**22 33 45.6**	**-0.1**
IRIF				*eS*	**Sn**	**22 34 02.1**	**+0.1**
LIOB	**Emei**	**1.25**	**276**	*eP*	**Pn**	**22 33 46.7**	**+0.8**
	baz=275						
LIOB				*eS*	**Sn**	**22 34 02.9**	**+0.6**
	baz=275						
NSTT	**Nanjuang**	**1.27**	**275**	*eP*	**Pn**	**22 33 46.7**	**+0.7**
	baz=274						
NSTT				*eS*	**Sn**	**22 34 02.8**	**+0.2**
	baz=274						
WHP	**Taichung City**	**1.33**	**260**	*eP*	**Pn**	**22 33 48.0**	**+1.0**
	baz=259						
WHP				*eS*	**Sn**	**22 34 05.1**	**+0.8**
	baz=259						
HGSD	**Ruisui**	**1.35**	**221**	*eP*	**Pn**	**22 33 47.1**	**0.0**
	baz=220						
HGSD				*eS*	**Sn**	**22 34 03.7**	**-0.7**
	baz=220						
EHY	**Hungye**	**1.40**	**224**	*eP*	**Pn**	**22 33 46.7**	**-1.0**
	baz=223						
DPDB	**Guoxing**	**1.42**	**250**	*eS*	**Sn**	**22 34 07.1**	**+1.0**
	baz=249						
WCS	**Beigang Elemen**	**1.42**	**251**	*eS*	**Sn**	**22 34 07.5**	**+1.4**
	baz=250						
SMLT	**Sun Moon Lake**	**1.50**	**245**	*eP*	**Pn**	**22 33 50.1**	**+1.0**
	baz=244						
SMLT				*eS*	**Sn**	**22 34 09.2**	**+1.2**
	baz=244						
SSLB	**Suanglung**	**1.50**	**241**	*eP*	**Pn**	**22 33 50.3**	**+1.3**
	baz=240						
SSLB				*eS*	**Sn**	**22 34 07.8**	**-0.2**
	baz=240						
YULB	**Yu-li**	**1.50**	**222**	*eP*	**Pn**	**22 33 48.0**	**-1.1**
	baz=221						
YULB				*eS*	**Sn**	**22 34 06.2**	**-1.8**
	baz=221						
JKRS	**Kuro-shima**	**1.51**	**100**	P	**Pn**	**22 33 49.6**	**+0.5**
JKRS				*eS*	**Sn**	**22 34 08.9**	**+0.7**
TYC	**Yuchr**	**1.52**	**247**	*eP*	**Pn**	**22 33 50.5**	**+1.2**
	baz=245						
TYC				*eS*	**Sn**	**22 34 09.7**	**+1.2**
	baz=245						
JIJ	**Ishigaki jima**	**1.61**	**95**	P	**Pn**	**22 33 50.3**	**-0.2**
JIJ				S	**Sn**	**22 34 09.5**	**-1.1**
FULB	**Fuli**	**1.65**	**217**	*eS*	**Sn**	**22 34 10.8**	**-0.8**
	baz=216						
WNT	**Mingjian**	**1.68**	**248**	*eS*	**Sn**	**22 34 13.5**	**+1.3**
	baz=247						
CHKT	**Chengkung**	**1.69**	**214**	*eS*	**Sn**	**22 34 10.4**	**-2.1**
	baz=212						
JISG	**Ishigakijimahi**	**1.76**	**87**	P	**Pn**	**22 33 52.3**	**-0.1**
JISG				*eS*	**Sn**	**22 34 13.9**	**-0.1**
ALS	**Alishan**	**1.76**	**236**	*eP*	**Pn**	**22 33 53.8**	**+1.0**
	baz=234						
ALS				*eS*	**Sn**	**22 34 15.9**	**+1.3**
	baz=234						
CHN5	**Tsauling**	**1.81**	**240**	*eS*	**Sn**	**22 34 17.2**	**+1.8**
	baz=239						
ELDTW	**Lidau**	**1.82**	**224**	*eS*	**Sn**	**22 34 14.2**	**-1.6**
	baz=222						
EDH	**Donghe**	**1.83**	**213**	*eS*	**Sn**	**22 34 14.2**	**-1.6**
	baz=212						
WDLH	**Douliu**	**1.88**	**244**	*eS*	**Sn**	**22 34 18.7**	**+1.8**
	baz=243						
WRL	**Guolierlin Hig**	**1.93**	**252**	*eS*	**Sn**	**22 34 17.8**	**-0.4**
	baz=251						
STYH	**Taoyuan**	**1.99**	**228**	*eS*	**Sn**	**22 34 19.8**	**+0.1**
	baz=227						
CHN4	**Tsaushan**	**2.01**	**235**	*eP*	**Pn**	**22 33 57.2**	**+1.4**
	baz=234						
CHN4				*eS*	**Sn**	**22 34 21.8**	**+1.7**
	baz=234						
STYT	**Tauyuan**	**2.01**	**228**	*eP*	**Pn**	**22 33 57.1**	**+1.2**
	baz=227						
STYT				*eS*	**Sn**	**22 34 21.1**	**+0.9**
	baz=227						
TPUB	**Ta-pu**	**2.01**	**233**	*eS*	**Sn**	**22 34 21.6**	**+1.4**
	baz=232						
LDUT	**Ludao**	**2.02**	**205**	*eS*	**Sn**	**22 34 17.2**	**-3.1**
	baz=204						
JTJ	**Tarama**	**2.11**	**86**	P	**Pn**	**22 33 57.5**	**+0.3**
JTJ				S	**Sn**	**22 34 23.6**	**+1.0**
TWK	**Hsinying**	**2.14**	**235**	*eS*	**Sn**	**22 34 24.8**	**+1.5**
	baz=233						
CHN1	**Nanshi**	**2.16**	**232**	*eP*	**Pn**	**22 33 59.0**	**+1.2**
	baz=231						
CHN1				*eS*	**Sn**	**22 34 25.6**	**+2.0**
	baz=231						
SGST	**Jiashian**	**2.18**	**229**	*eS*	**Sn**	**22 34 26.1**	**+1.8**
	baz=228						
SLGT	**Liugui**	**2.20**	**227**	*eS*	**Sn**	**22 34 26.7**	**+2.0**
	baz=226						
VWUC	**VWUC**	**2.71**	**281**	*eP*	**Pn**	**22 34 03.2**	**-2.0**
	baz=279						
VWUC				*eS*	**Sn**	**22 34 33.2**	**-3.8**
	baz=279						
PHUB	**P'eng-hu**	**2.76**	**249**	*eS*	**Sn**	**22 34 35.4**	**-2.8**
	baz=248						

NEIC ***30*** *23:07:51.9±1.4, 15°.05S±0°.1×73°.4W±0°.1, h74km±9km, mb4.0/8, Error ellipse: s-maj=19.5km s-min=10.7km az=48.0*
IDC ***30*** *23:07:52.3±1.7, 15°.00S×73°.37W, h87km±16km, mb3.4/3, mb1 3.8/8, mb1mx3.6/27, mbtmp4.0/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/20, Error ellipse: s-maj=34.3km s-min=13.3km az=34.0*

ISC 30 23:07:52.4±0.7, 15°.18S±0°.09×73°.5W±0°.1, h98km, n41, σ1°07/41, mb3.8/5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.55**	**314**	P	**Pn**	**23 08 58.7**	**-0.4**
	11nm,0.3s,baz=128,slow=12,SNR=15						
NNA				S	**Sn**	**23 09 49.7**	**-1.2**
	14nm,0.3s,baz=17,slow=18,SNR=6.2						
NNA	**Nana**	**4.55**	**314**		**Pn**	**23 08 57.0**	**-2.1**
LPAZ	**La Paz**	**5.28**	**103**	P	**Pn**	**23 09 10.3**	**+0.9**
	3.3nm,0.3s,baz=306,slow=4.1,SNR=73						
LPAZ	**La Paz**	**5.28**	**103**	Pn	**Pn**	**23 09 11.4**	**+2.0**
MNMC	**Minye Minye**	**5.41**	**137**	Pn	**Pn**	**23 09 11.2**	**+0.3**
PSGCX	**Pisagua**	**5.44**	**144**		**Pn**	**23 09 11.2**	**0.0**
PB11	**IPOC Station P**	**5.84**	**142**		**Pn**	**23 09 16.6**	**0.0**
TA02	**Huaiquique**	**5.99**	**148**		**Pn**	**23 09 19.1**	**+0.6**
TA01	**Diego Aracena**	**6.21**	**150**	Pn	**Pn**	**23 09 21.8**	**+0.2**
PB08	**IPOC Station P**	**6.43**	**141**	Pn	**Pn**	**23 09 25.4**	**+0.4**
PB01	**IPOC Station P**	**6.96**	**147**		**Pn**	**23 09 31.7**	**-0.1**
PB07	**IPOC Station P**	**7.35**	**153**	Pn	**Pn**	**23 09 37.1**	**-0.1**
PB09	**IPOC Station P**	**7.71**	**149**	Pn	**Pn**	**23 09 43.6**	**+1.4**
PB04	**IPOC Station P**	**7.79**	**157**	Pn	**Pn**	**23 09 42.9**	**-0.2**
PB06	**IPOC Station P**	**8.35**	**154**	Pn	**Pn**	**23 09 50.5**	**-0.3**
LVC	**Limon Verde**	**8.57**	**150**	P	**Pn**	**23 09 54.6**	**+0.7**
	2.6nm,0.3s,baz=359,slow=8.5,SNR=70						
LVC				S	**Sn**	**23 11 27.4**	**-1.7**
	1.1nm,0.3s,baz=129,slow=22,SNR=2.8						
LVC	**Limon Verde**	**8.57**	**150**		**Pn**	**23 09 54.9**	**+0.9**
PB15	**IPOC Station P**	**8.84**	**155**	Pn	**Pn**	**23 09 57.7**	**+0.2**
PB14	**IPOC Station P**	**9.83**	**163**	Pn	**Pn**	23 10 09.5	-1.7
GO02	**Mina Guanaco**	**10.58**	**160**	Pn	**Pn**	**23 10 21.5**	**+0.2**
SIV	**San Ignacio**	**11.99**	**96**	P	**Pn**	**23 10 37.7**	**-2.4**
	0.9nm,0.3s,baz=312,slow=9.4,SNR=17						
AC02	**Maricunga**	**12.29**	**161**	Pn	**Pn**	**23 10 44.9**	**+0.5**
PTGA	**Pitinga**	**19.61**	**44**	P	**P**	**23 12 11.8**	**-1.3**
	0.6nm,0.3s,baz=300,slow=22,SNR=6.3						
PTGA	**Pitinga**	**19.61**	**44**	P	**P**	**23 12 12.1**	**-1.0**
PTGA

OK025					Sg	Sg	23 48 47.6	+0.3	
BCOK	**Bluff Creek, N**	**0.36**	**221**			Pg	23 48 42.9	0.0	
BCOK					Sg	Sg	23 48 48.0	+0.4	
OK031	**S. Brethren Rd**	**0.39**	**86**			Pg	23 48 43.5	0.0	
OK031					Sg	Sg	23 48 49.0	+0.3	
OK030	**Cody Creek RV**	**0.43**	**90**			Pg	23 48 44.3	0.0	
OK030					Sg	Sg	23 48 50.3	+0.2	
OKCFA	**Oklahoma City**	**0.52**	**192**		Pg	Pg	23 48 45.6	-0.4	
OKCFA					Sg	Sg	23 48 53.1	+0.3	
OKCSW	**OKLAHOMA CITY**	**0.53**	**191**		Pg	Pg	23 48 45.7	-0.4	
OKCSW					Sg	Sg	23 48 53.4	+0.4	
QUOK	**Quay**	**0.55**	**64**			Pg	23 48 46.5	-0.1	
QUOK					Sg	Sg	23 48 53.9	+0.1	
FNO	**Franklin**	**0.67**	**186**		Pg	Pg	23 48 48.4	-0.5	
FNO					Sg	Sg	23 48 57.7	+0.1	
CROK	**Carrier**	**0.79**	**317**			Pg	23 48 51.0	-0.1	
CROK					Sg	Sg	23 49 01.9	+0.6	
BLOK	**Blackwell**	**0.83**	**6**			Pg	23 48 51.8	-0.2	
W35A	**Tecumseh**	**0.85**	**155**			Pg	23 48 51.3	-1.0	
W35A					lAmb_Lg		23 49 02.9		
	comp=Z,49nm,0.7s								
W35A					Sg	Sg	23 49 03.0	-0.4	
KAN13	**South Haven SW**	**1.09**	**353**		Pg	Pg	23 48 56.4	-0.4	
KAN13					Sg	Sg	23 49 11.3	+0.3	
OK032	**Salt Plains WL**	**1.13**	**321**		Pg	Pg	23 48 57.1	-0.5	
KAN17	**Caldwell West**	**1.17**	**342**		Pg	Pg	23 48 57.8	-0.6	
T35A	**Sooner Cattle**	**1.18**	**33**			Pg	23 48 57.8	-0.8	
KAN09	**Caldwell North**	**1.23**	**349**		Pg	Pg	23 48 58.9	-0.6	
KAN05	**Bluff City Nor**	**1.26**	**339**		Pg	Pn	23 48 59.5	-0.6	
KS20	**Mayfield South**	**1.31**	**352**			Pn	23 49 00.4	-0.4	
KAN10	**Anthony SW Sta**	**1.35**	**333**		Pn	Pn	23 49 01.0	-0.2	
X34A	**Smith Ranch, M**	**1.39**	**198**			Pn	23 49 01.7	-0.1	
U32A	**Winter Ranch,**	**1.43**	**289**			Pn	23 49 02.3	-0.1	
U32A					lAmb_Lg		23 49 24.7		
	comp=Z,28nm,0.7s								
WMOK	**Wichita Mounta**	**1.69**	**226**			Pn	23 49 06.0	+0.2	
LOOK	**Love County**	**1.94**	**177**		Pn	Pn	23 49 09.9	+0.6	
LOOK					lAmb_Lg		23 49 38.8		
	comp=Z,16nm,0.7s								
X37A	**Clayton**	**2.08**	**129**		Pn	Pn	23 49 11.7	+0.4	
X37A					lAmb_Lg		23 49 45.9		
	comp=Z,16nm,0.8s								
W39A	**Magazine**	**2.97**	**103**		Pn	Pn	23 49 24.0	+0.4	
W39A					lAmb_Lg		23 50 14.6		
	comp=Z,14nm,0.7s								
MIAR	**Mount Ida**	**3.36**	**113**		Pn	Pn	23 49 29.5	+0.7	
U40A	**Yellville**	**3.64**	**82**		Pn	Pn	23 49 32.9	+0.2	
S39A	**Bolivar**	**3.66**	**60**		Pn	Pn	23 49 33.9	+0.9	
AMTX	**Amarillo**	**3.71**	**255**		lAmb_Lg		23 50 39.8		
	comp=Z,14nm,1.0s								
X40A	**Basin Creek Fa**	**3.94**	**110**		lAmb_Lg		23 50 40.9		
	comp=Z,8.0nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.22**	**89**		lAmb_Lg		23 50 55.1		
	comp=Z,7.4nm,0.7s								
MGMO	**Mountain Grove**	**4.25**	**72**		lAmb_Lg		23 51 01.8		
	comp=Z,5.5nm,0.7s								
R40A	**Maddies Statio**	**4.67**	**58**		Pn	Pn	23 49 48.1	+1.1	
LCAR	**Lake Charles**	**5.00**	**87**		lAmb_Lg		23 51 18.7		
	comp=Z,8.8nm,0.9s								
T42A	**Van Buren**	**5.14**	**76**		lAmb_Lg		23 51 26.3		
	comp=Z,7.1nm,1.0s								
KSCO	**Kaye Shedlock'**	**5.22**	**308**		lAmb_Lg		23 51 26.5		
	comp=Z,8.2nm,1.0s								
CCM	**Cathedral Cave**	**5.31**	**65**		lAmb_Lg		23 51 23.9		
	comp=Z,4.2nm,0.8s								
P40A	**Paris**	**5.51**	**48**		lAmb_Lg		23 51 39.3		
	comp=Z,6.0nm,0.9s								
T25A	**Trinidad**	**5.84**	**284**		lAmb_Lg		23 51 44.2		
	comp=Z,6.8nm,0.9s								
SDCO	**Great Sand Dun**	**6.81**	**288**		lAmb_Lg		23 52 13.3		
	comp=Z,4.8nm,1.1s								
N41A	**Harden Midland**	**6.97**	**45**		lAmb_Lg		23 52 21.7		
	comp=Z,6.3nm,0.7s								

ISC Computed Locations for June 2015

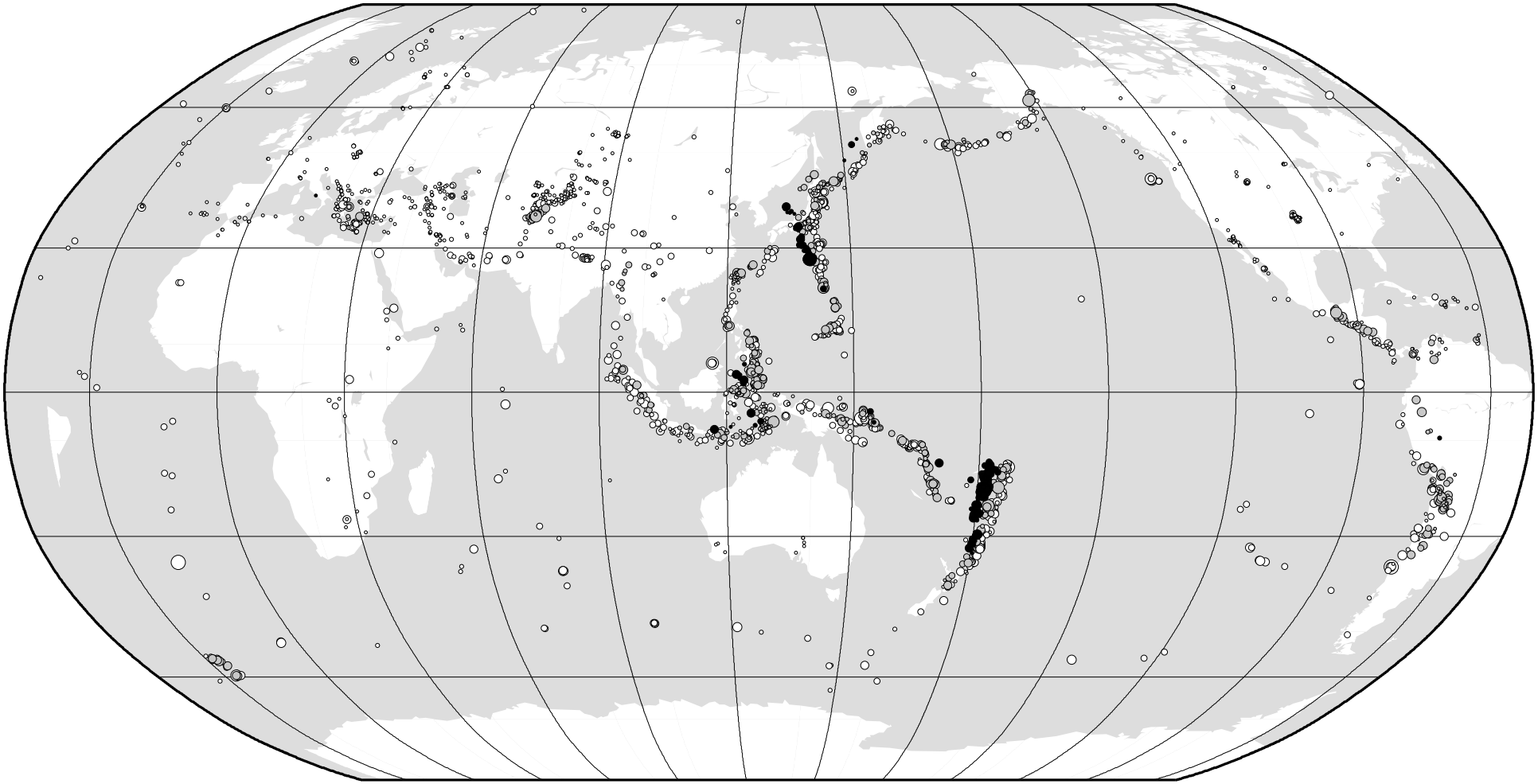

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2643 Events